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EDITORIAL NOTICE.

The next MPCs will be published on or about 1990 June 8. No MPCs will be issued in May.

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ERRATA.

MPC	Line	
15946	-21	For Shoenaker read Shoemaker
15983	8	Replace H. Bohnhardt by M. Hoffmann and H. Rebhan
15983	9	Remove R. Galas
16007	22	For Obs. 15 read Obs. 116
16027	16	For 1989 obs. read 1990 obs.
16050	-25	Add (1988k)

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1950 PA *	1950 08	03.86131	20 33 56	-18 51.2	MPC 488	14.0	7 078
1950 PC1 *	1950 08	03.86131	20 50 01	-17 03.2	MPC 6575	14.0	1 078
1953 YC	1953 12	31.93794	05 50 17.54	+25 02 56.6	MPC 1323	14.0	8 020
1989 WK2	1989 12	27.49196	04 59 31.83	-19 10 07.5	MPC15796	16 V	413
1989 YM	1990 01	17.48403	08 05 51.10	+20 20 42.2	MPC15787		372
4265 T-2	1989 11	29.79120	02 05 36.16	+18 07 10.3	MPC15782		2 046
4265 T-2	1989 11	29.80532	02 05 35.61	+18 07 10.2	MPC15782		2 046
3045 T-3	1989 11	29.79120	02 08 31.22	+17 43 07.6	MPC15782	16.6	2 046
3045 T-3	1989 11	29.80532	02 08 30.46	+17 43 07.7	MPC15782		2 046
20	1968 10	14.99465	00 57 22.87	+06 19 12.8	MPC 2978		5 012
29	1960 04	21.12	11 35.6	+00 43	MPC 2065	10.0	4 760
120	1960 04	21.12	11 19.7	+00 29	MPC 2065	13.0	4 760
135	1989 11	29.79120	02 05 06.17	+16 18 21.7	MPC15783		2 046
135	1989 11	29.80532	02 05 05.69	+16 18 18.6	MPC15783		2 046
139	1960 04	21.12	11 21.7	+02 41	MPC 2065	11.7	4 760
215	1950 08	03.86131	20 33 50	-21 31.1	MPC 488	13.0	1 078
230	1989 11	29.79120	01 59 54.46	+15 42 33.6	MPC15783		2 046
230	1989 11	29.80532	01 59 54.07	+15 42 28.9	MPC15783		2 046
377	1968 10	14.99465	00 48 17.83	+07 54 42.6	MPC 2978		5 012
417	1968 10	14.99465	01 07 19.41	+07 12 57.1	MPC 2978		5 012

477	1960	04	21.12	11	38.7	+02	53	MPC	2065	15.3	4 760
493	1960	04	21.12105	11	25 23.68	+02	21 02.1	MPC	4140		4 760
493	1960	04	21.16480	11	25 22.32	+02	21 05.9	MPC	4140		4 760
576	1956	05	18.02431	17	23 38.20	-34	46 58.1	MPC	1538	12.8	076
805	1969	11	02.22876	01	21 37.37	-06	33 13.5	MPC	3581		3 805
808	1955	08	24.22	20	27.4	-13	55	MPC	1312	15.8	760
822	1960	04	21.12105	11	38 28.54	+01	52 47.3	MPC	2154	15.9	4 760
822	1960	04	21.16480	11	38 27.52	+01	52 55.3	MPC	2154	15.9	4 760
824	1964	09	10.87334	22	55 15.56	-12	08 28.6	MPC	2599		095
829	1941	09	26.931	23	44.4	+00	08	RI	2387	13.2	078
829	1960	04	21.12	11	22.2	+01	26	MPC	2065	15.9	4 760
829	1962	11	19.44	01	57.3	+23	48	MPC	2550	14.2	388
830	1950	08	03.86131	20	49 50	-20	50.0	MPC	488	12.5	1 078
830	1968	10	14.99465	00	51 33.82	+09	05 57.4	MPC	2978		5 012
836	1971	08	17.89841	21	51 31.52	-04	16 41.2	MPC	3320		046
836	1971	08	17.92064	21	51 30.54	-04	16 46.6	MPC	3320		046
840	1971	08	18.88038	22	14 55.36	+02	57 18.4	MPC	3320		046
844	1949	06	29.84818	18	48 02	-35	38.2	MPC	273	12.5	078
844	1967	10	26.89950	00	00 41.13	+05	31 34.0	MPC	3342		020
844	1967	10	26.91064	00	00 40.81	+05	31 33.3	MPC	3342		020
846	1965	08	29.11	20	51.7	-17	17	MPC	2554	15.2	760
847	1956	07	11.14	16	44.2	-22	45	MPC	1581	16.0	760
847	1957	08	31.90	00	05.4	+04	48	MPC	1818		020
849	1948	09	11.95887	23	28 39.75	+22	39 50.2	MPC	2341		047
849	1953	07	08.91	18	48.9	+03	41	MPC	2344		056
849	1959	08	22.91452	21	59 44.22	+19	14 45.7	MPC	2536		073
851	1951	11	28.94	06	19.3	+19	47	MPC	720	13.2	020
851	1959	03	12.20139	10	20 43	+12	01.4	MPC	3274	13.5	690
857	1967	01	12.89080	06	01 38.30	+25	59 39.2	MPC	3342		020
860	1947	07	17.913	20	16.2	-24	22	MPC	6	12.5	078
860	1961	07	10.53208	20	02.5	-26	51	MPC	2126		414
863	1958	04	15.53092	13	10 29.04	+30	37 44.2	MPC	1845		330
865	1966	03	17.31	11	36.3	+01	35	MPC	2656		760
873	1943	08	05.883	20	19.0	-15	52	RI	2532	13.2	078
877	1954	08	29.15	20	55.7	-20	34	MPC	1141	16.1	760
884	1951	07	30.24213	19	42.2	-22	20	MPC	673	17.8	760
885	1966	10	17.81550	01	04 04.67	+02	26 31.3	MPC	3342		020
885	1966	10	17.82970	01	04 04.23	+02	26 29.7	MPC	3342		020
888	1954	03	23.46	09	48.1	+24	26	MPC	1481	12.7	388
888	1974	08	11.87500	21	19 07.82	-20	48 04.0	MPC	3801	14.3	076
891	1958	10	15.10	00	04.6	-20	46	MPC	1881	14.8	760
894	1952	08	26.61442	23	27 11	+05	12.1	MPC	874		377
1284	1950	08	03.86131	20	40 39	-16	27.9	MPC	488	13.5	1 078
1295	1960	04	21.12	11	41.4	+02	02	MPC	2065	16.6	4 760
1470	1989	11	29.79120	02	09 03.66	+16	28 35.2	MPC	15784		2 046
1470	1989	11	29.80532	02	09 03.20	+16	28 31.8	MPC	15784		2 046
1479	1989	11	29.79120	02	07 15.59	+19	35 11.5	MPC	15784		2 046
1479	1989	11	29.80532	02	07 15.02	+19	35 10.2	MPC	15784		2 046
2012	1989	11	29.79120	02	06 15.26	+16	35 47.2	MPC	15784		2 046
2012	1989	11	29.80532	02	06 14.70	+16	35 42.5	MPC	15784		2 046
3489	1989	11	29.79120	02	02 00.74	+18	18 19.9	MPC	15785		2 046
3489	1989	11	29.80532	02	02 00.28	+18	18 17.1	MPC	15785		2 046
4350	1989	11	29.79120	01	58 03.42	+17	17 23.3	MPC	15785	16.9	2 046
4350	1989	11	29.80532	01	58 02.69	+17	17 23.5	MPC	15785		2 046

Note 1: time originally given as 40 min earlier. 2: given as 1 hour earlier. 3: date corrected by +1 month. 4: corrected by +1 day. 5: corrected by -1 day. 6: 1950 PA = (1349). 7 = 1 + 6. 8: 1953 YC = (857).

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1978 SH1	1990 02	20.63877	11 12 44.57	+20 35 19.1	MPC15998	887
1978 SH1	1990 02	20.65243	11 12 43.85	+20 35 20.3	MPC15998	887
1988 UA	1988 10	07.59977	01 19 16.78	+10 15 57.6	MPC13802	399
1988 UA	1988 10	07.61603	01 19 15.86	+10 15 53.8	MPC13802	399
802	1954 04	01.90	11 05.2	+07 54	MPC 1151	020
803	1941 03	19.84511	11 00 48.41	+17 41 06.1	MPC 3220	020
803	1941 03	19.87982	11 00 47.67	+17 41 16.7	MPC 3220	020
803	1961 02	19.08577	10 59 15.52	-06 24 52.7	MPC 2161	076
804	1949 03	28.90231	13 53 08	-26 31.7	MPC 239	078
806	1961 05	13.90472	13 35 37.12	-05 18 10.5	MPC 2123	020
806	1967 05	30.91633	14 37 39.22	-17 26 47.8	MPC 3341	020
806	1967 05	30.93019	14 37 38.04	-17 26 46.1	MPC 3341	020
806	1967 06	10.89451	14 31 58.38	-17 28 02.5	MPC 3341	020
806	1969 10	03.97633	00 15 51.72	-13 37 44.1	MPC 3443	020
806	1969 10	03.99365	00 15 50.53	-13 37 42.9	MPC 3443	020
806	1969 10	06.96190	00 13 26.44	-13 43 03.2	MPC 3443	020
806	1969 10	06.97922	00 13 25.38	-13 43 01.0	MPC 3443	020
807	1941 03	19.86247	11 16 19.17	+15 35 30.5	MPC 3220	020
807	1941 03	19.86247	11 16 12.38	+15 33 20.3	MPC 3220	020
808	1940 04	10.97245	13 27 20.68	-06 21 01.1	MPC 3220	020
808	1940 04	11.00529	13 27 19.47	-06 20 46.8	MPC 3220	020
808	1969 08	22.02499	22 50 28.31	-04 16 57.4	MPC 3443	020
808	1969 08	22.04023	22 50 27.66	-04 16 56.6	MPC 3443	020
808	1973 08	07.92062	19 24 11.22	-15 52 53.8	MPC 4880	020
808	1973 08	07.93377	19 24 10.69	-15 52 51.4	MPC 4880	020
809	1936 12	02.82814	02 40 01.10	+02 20 19.5	MPC 3220	020
810	1966 04	23.11435	16 09 17.07	-16 40 29.5	MPC 3342	020
810	1966 04	23.12740	16 09 16.37	-16 40 35.5	MPC 3342	020
810	1966 04	23.14125	16 09 16.25	-16 40 35.8	MPC 3342	020
810	1966 04	27.00808	16 06 38.90	-16 27 04.7	MPC 3342	020
810	1966 04	27.04582	16 06 37.66	-16 26 52.8	MPC 3342	020
810	1966 05	21.01042	15 44 28.73	-14 56 16.5	MPC 3342	020
810	1966 05	21.04887	15 44 26.19	-14 56 16.1	MPC 3342	020
810	1966 06	07.91833	15 25 56.85	-13 58 14.8	MPC 3342	020
810	1966 06	07.93911	15 25 54.56	-13 58 12.0	MPC 3342	020
810	1968 01	18.75993	06 22 00.55	+20 06 29.3	MPC 3443	020
810	1968 01	18.77378	06 21 59.79	+20 06 41.3	MPC 3443	020
810	1968 01	23.77303	06 17 45.42	+20 16 32.0	MPC 3443	020
810	1968 01	23.79450	06 17 44.51	+20 16 41.5	MPC 3443	020
810	1968 01	25.75740	06 16 25.62	+20 22 30.0	MPC 3443	020
810	1968 01	25.77887	06 16 25.28	+20 22 40.6	MPC 3443	020
811	1967 02	11.89638	08 45 51.83	+18 16 30.7	MPC 3342	020
815	1969 05	23.98661	15 45 22.80	-21 20 13.8	MPC 3443	020
815	1969 05	24.00530	15 45 21.64	-21 20 23.6	MPC 3443	020
816	1954 06	29.05	19 31.7	-14 14	MPC 1151	020
816	1954 07	28.00	19 09.1	-16 39	MPC 1152	020
818	1951 04	03.97208	13 36 54.81	+09 16 22.8	MPC 628	012
818	1961 01	16.50	07 09.9	+35 57	MPC 2548	388
819	1966 09	24.06	00 50.6	+11 09	MPC 2702	020
819	1966 10	06.93	00 37.0	+10 15	MPC 2702	020
819	1969 09	05.92776	21 36 41.93	-14 21 59.7	MPC 3444	020
819	1969 09	05.93884	21 36 41.38	-14 21 55.4	MPC 3444	020
819	1976 11	19.96626	02 33 16.49	+23 28 55.1	MPC 6234	020
819	1976 11	19.97145	02 33 16.26	+23 28 55.9	MPC 6234	020

820	1954	02	22.47500	08	27	27.33	+21	04	20.2	MPC 2299 388
820	1966	04	14.89751	12	55	54.82	+03	14	13.3	MPC 3342 020
820	1966	04	18.87722	12	53	09.73	+03	30	35.9	MPC 3342 020
820	1966	04	18.91196	12	53	09.52	+03	30	53.5	MPC 3342 020
820	1966	04	21.85	12	51.1		+03	43		MPC 2650 020
820	1966	05	16.92	12	39.5		+04	21		MPC 2702 020
820	1935	09	28.99381	02	01	33.49	+03	13	35.5	RI 1237 012
821	1949	07	19.90	19	45.4		-12	02		MPC 451 020
822	1971	06	19.03985	18	58	37.90	-21	48	21.5	MPC 6380 020
822	1971	06	19.05300	18	58	37.03	-21	48	21.0	MPC 6380 020
824	1939	03	12.97435	09	42	21.77	+15	51	00.8	MPC 3220 020
824	1939	03	13.02422	09	42	20.19	+15	51	14.7	MPC 3220 020
824	1972	04	10.78795	11	25	12.45	+11	34	21.7	MPC 5166 073
824	1972	04	10.80041	11	25	12.31	+11	34	26.6	MPC 5166 073
825	1943	06	22.94800	18	21	32.0	-22	16	18	RI 2517 006
825	1949	03	01.90000	10	21	06.83	+15	54	07.6	MPC 3221 020
830	1951	11	30.83190	01	44	55.62	+19	07	19.5	MPC 764 990
830	1951	12	03.85560	01	43	06.76	+18	57	50.1	MPC 764 990
832	1969	09	01.92449	21	25	07.80	-13	44	28.8	MPC 3444 020
832	1969	09	01.93211	21	25	06.64	-13	44	37.8	MPC 3444 020
833	1973	09	03.93215	21	03	18.19	-24	56	20.6	MPC 4880 020
833	1973	09	03.94669	21	03	17.45	-24	56	19.5	MPC 4880 020
834	1951	12	21.42153	04	21	05.23	+16	37	28.7	MPC 2158 388
834	1972	08	21.92051	21	54	12.10	-08	51	45.3	MPC 5736 020
834	1972	08	21.92675	21	54	11.06	-08	51	51.2	MPC 5736 020
837	1970	02	03.85757	06	54	19.07	+11	54	58.8	MPC 6380 020
837	1970	02	03.87696	06	54	18.50	+11	55	03.6	MPC 6380 020
838	1969	05	23.98661	15	20	19.28	-19	30	39.4	MPC 3444 020
838	1969	05	24.00530	15	20	18.26	-19	30	35.0	MPC 3444 020
838	1973	04	02.79951	10	42	15.76	-06	08	43.6	MPC 5166 073
838	1973	04	02.81406	10	42	15.02	-06	08	33.3	MPC 5166 073
840	1954	07	25.00	20	09.2		-12	48		MPC 1152 020
840	1955	11	05.42000	01	20	15	+22	05.1		MPC 1395 388
840	1966	10	21.95162	01	08	10.22	+21	40	43.8	MPC 3342 020
840	1966	10	21.96270	01	08	08.99	+21	40	36.0	MPC 3342 020
841	1969	04	23.98158	13	30	47.18	-13	36	52.4	MPC 3444 020
841	1969	04	23.99613	13	30	46.60	-13	36	45.2	MPC 3444 020
842	1956	09	09.60625	22	50	02.16	-18	29	37.7	MPC 2646 388
845	1936	10	16.91587	02	51	44.26	+14	22	19.9	MPC 3221 020
845	1971	11	11.68575	00	39	03.45	-03	16	46.8	MPC 5117 073
845	1971	11	11.69545	00	39	03.35	-03	16	46.5	MPC 5117 073
849	1953	07	15.99222	18	42	34.65	+03	56	47.1	MPC 993 990
849	1953	07	16.89931	18	42	16.59	+03	57	53.5	MPC 993 990
850	1979	05	25.98649	17	05	19.50	-03	29	08.5	MPC 4815 542
850	1979	05	25.99071	17	05	19.49	-03	29	07.1	MPC 4815 542
850	1979	05	25.99520	17	05	19.38	-03	29	06.5	MPC 4815 542
857	1939	06	19.00102	17	10	01.52	-22	54	31.5	MPC 3221 020
857	1939	07	08.89872	16	50	28.17	-23	32	04.8	MPC 3221 020
857	1939	07	08.93750	16	50	26.72	-23	32	09.2	MPC 3221 020
859	1966	05	24.02544	16	36	04.82	-32	35	22.5	MPC 3342 020
859	1966	05	24.03928	16	36	02.95	-32	35	19.0	MPC 3342 020
862	1966	06	23.07163	20	15	06.91	-23	07	42.8	MPC 3342 020
862	1966	06	23.09726	20	15	04.95	-23	07	42.7	MPC 3342 020
863	1955	11	13.59583	03	18	29.55	-16	52	18.0	MPC 2587 388
866	1943	11	27.98805	06	19	18.51	+22	09	06.5	MPC 3221 020
866	1953	09	29.01319	00	10	52.16	-12	29	48.1	MPC 993 990
866	1957	04	23.98823	15	38	58.36	-10	46	55.2	MPC 1821 020
868	1946	12	01.02182	06	41	06.97	+18	36	39.0	MPC 4 006
870	1955	01	17.59097	09	30	33.34	+16	41	08.4	MPC 2299 388

871		1937	05	03.94185	16	28	07.95	-13	33	38.0	MPC 3221	020
872		1971	03	30.07541	14	03	07.65	-10	42	35.8	MPC 6380	020
872		1971	03	30.08441	14	03	06.55	-10	42	28.8	MPC 6380	020
872		1972	08	21.90735	21	30	59.23	-05	26	22.3	MPC 5736	020
872		1972	08	21.91359	21	30	59.13	-05	26	23.8	MPC 5736	020
872		1972	09	04.79774	21	21	31.47	-06	59	22.0	MPC 5166	073
872		1972	09	04.80882	21	21	31.03	-06	59	22.3	MPC 5167	073
874		1953	11	29.52917	04	01	49.15	+08	09	27.3	MPC 2299	388
875		1950	06	09.10	18	45.1		+01	15		MPC 548	020
875		1971	11	11.71484	00	56	57.44	+01	09	59.1	MPC 5117	073
875		1971	11	11.72938	00	56	57.33	+01	09	59.9	MPC 5117	073
877		1954	08	17.88681	21	01.6		-19	54		MPC 1207	990
877		1954	08	18.86875	21	00.9		-20	03		MPC 1207	990
882		1955	05	23.06659	17	38	35.21	-23	29	29.0	MPC 1754	020
882		1955	06	16.90	17	17.9		-22	38		MPC 1354	020
885		1960	08	23.87824	20	25	06.05	-17	56	52.7	MPC 2060	020
885		1971	08	27.98446	20	55	27.96	-16	30	07.1	MPC 6381	020
885		1971	08	27.99069	20	55	27.60	-16	30	09.5	MPC 6381	020
886		1966	05	16.98913	15	30	47.09	-16	18	38.4	MPC 3342	020
886		1966	05	17.00853	15	30	46.48	-16	18	40.2	MPC 3342	020
886		1966	05	23.93020	15	24	48.11	-16	22	16.4	MPC 3342	020
886		1966	05	23.95998	15	24	46.72	-16	22	10.9	MPC 3342	020
886		1966	05	26.96772	15	21	50.02	-16	22	11.5	MPC 3342	020
886		1966	05	26.98399	15	21	49.48	-16	21	57.8	MPC 3342	020
886		1966	05	27.00166	15	21	48.43	-16	21	46.1	MPC 3342	020
886		1966	06	07.90708	15	12	10.21	-16	31	50.4	MPC 3342	020
886		1966	06	07.92769	15	12	09.25	-16	31	47.2	MPC 3342	020
888		1954	03	25.44	09	46.5		+24	37		MPC 1481	388
889		1954	07	28.00	19	26.7		-18	00		MPC 1152	020
889		1956	02	08.49583	07	42	21.27	+19	17	43.4	MPC 2587	388
890		1955	03	21.54028	11	57	27.02	+05	05	37.8	MPC 2612	388
891		1954	12	17.59387	05	28	08	+14	59.4		MPC 1250	377
891		1954	12	25.51181	05	20	28.08	+15	29	12.7	MPC 2299	388
891		1971	06	15.94070	14	19	02.71	+02	17	53.3	MPC 6381	020
891		1971	06	15.94451	14	19	02.57	+02	17	58.0	MPC 6381	020
892		1955	09	18.20166	01	10	30.51	+02	32	20.2	MPC 3957	760
892		1956	12	09.76528	06	47	02.56	-06	56	04.7	MPC 2646	388
893		1954	01	28.61319	10	48	20.34	+09	50	33.2	MPC 2299	388
897		1950	06	08.90	16	31.2		-24	15		MPC 548	020
897		1961	02	09.88810	07	08	10.74	+08	40	47.3	MPC 2060	020
898		1967	03	11.87329	11	39	29.90	-13	21	43.3	MPC 3343	020
898		1967	03	11.88714	11	39	28.57	-13	21	29.5	MPC 3343	020
898		1967	03	15.94480	11	35	21.90	-13	03	08.1	MPC 3343	020
898		1967	03	15.95520	11	35	20.91	-13	03	07.5	MPC 3343	020
898		1968	10	22.96313	01	59	04.09	+20	55	26.4	MPC 3444	020
898		1968	10	22.98252	01	59	02.92	+20	55	27.3	MPC 3444	020
898		1968	11	26.89865	01	35	15.49	+15	54	11.6	MPC 3444	020
898		1968	11	26.92566	01	35	14.91	+15	54	05.6	MPC 3444	020
899		1966	03	17.03300	13	06	03.43	-22	11	47.1	MPC 3343	020
899		1968	09	24.99667	01	25	46.53	+27	17	34.9	MPC 3444	020
899		1968	09	25.01329	01	25	46.03	+27	17	31.3	MPC 3444	020
962		1950	08	03.83381	21	00	20	-16	01.0		MPC 488	078

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 15942-15944.

Object		Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
A903 BH	*	1903 01	22.98722	08 34 33.45	+18 59 23.6	A903 BF		024
A904 JC	*	1904 05	13.97947	15 53 00.49	-03 59 28.5	A904 JB	13.4	024
A919 EB	*	1919 03	07.98819	09 29 03.10	+02 44 08.3	840		024
A919 KC	*	1919 05	29.95270	16 55 48.63	-06 50 21.7	890		024
A919 QC	*	1919 08	20.92554	21 35 09.63	-13 42 20.4	893		024
A920 EC	*	1920 03	10.92153	09 55 15.36	+06 48 29.1	805		024
A921 DA	*	1921 02	24.80097	09 13 18.91	+19 25 38.7	820		024
A921 RE	*	1921 09	08.97833	22 37 11.75	-12 42 40.0	833		024
A921 UE	*	1921 10	25.90344	02 31 03.58	+14 40 05.5	848		024
A922 FA	*	1922 03	16.85937	10 24 27.20	+32 28 22.0	818		024
A923 VE	*	1923 11	09.32300	02 40 01.96	+20 51 42.8	898		754
A923 VE		1923 11	11.25600	02 38 13.84	+20 45 27.3	898		754
1926 QF	*	1926 08	29.89340	00 03 12.45	+10 51 07.4	826		024
1938 GN	*	1938 04	06.99480	13 38 39.21	+07 04 21.5	1938 GH		062
1939 UR	*	1939 10	17.95	02 46.9	-04 39	891	13.0	119
1940 GG1	*	1940 04	08.0059	11 41.5	+12 44	861	13.4	029
1940 PG	*	1940 08	07.91	22 29.7	-07 32	832	13.1	119
1940 QO	*	1940 08	30.90	22 08.3	-05 18	884	13.7	119
1940 QO		1940 09	07.86747	22 02 11.84	-05 42 16.8	884		012
1941 HT	*	1941 04	17.91	12 50.0	+01 55	877	14.0	012
1942 CM	*	1942 02	12.91667	08 10.6	+14 50	1942 BG	16.0	053
1942 QD	*	1942 08	18.88840	19 42 28.94	-11 20 18.2	854		012
1943 MG	*	1943 06	22.948	18 21 32	-22 16.3	825		006
1943 YE	*	1943 12	27.93	06 01.7	+20 23	877	12.3	119
1947 BP	*	1947 01	18.92	07 01.7	+27 09	830		990
1947 BP		1947 01	24.97	06 56.9	+27 08	830		990
1948 PH1	*	1948 08	11.87271	20 40.7	-05 23	826	13.0	094
1948 PJ1	*	1948 08	11.87271	20 41.5	-05 18	667	13.0	094
1949 KF1	*	1949 05	20.85421	15 59 39	-26 04.4	830	12.5	078
1949 QM2	*	1949 08	16.91800	21 16 32.23	-25 01 45.0	857		119
1949 QN2	*	1949 08	16.924	21 26.6	-26 02	422	11.0	119
1949 SW1	*	1949 09	27.83229	22 19.7	-14 15	876	13.2	094
1949 UN1	*	1949 10	22.16894	03 42 53.14	+20 00 45.8	826		012
1950 BW1	*	1950 01	19.89445	06 29 39.37	+20 52 48.9	738		012
1950 BX1	*	1950 01	19.89445	06 29 57.12	+20 49 26.1	861		012
1950 JW	*	1950 05	07.80864	15 01 49.24	-17 07 38.5	867	14.0	078
1950 RQ1	*	1950 09	12.26320	23 06 15.1	-11 08 36	824	15.4	711
1950 RR1	*	1950 09	11.30760	22 59 24.5	-11 51 08	580	14.4	711
1951 HC	*	1951 04	30.87263	14 47 17.41	-27 16 55.6	833	15.5	074
1951 NP	*	1951 07	10.96420	19 53 44	-22 07.1	884	13.5	078
1951 PQ	*	1951 08	01.87090	21 22 59	-36 18.4	806	14.5	078
1951 UB1	*	1951 10	27.94454	02 04 46.7	+18 17 18	830	11.0	085
1951 UB1		1951 10	28.78034	02 04 05.5	+18 08 18	830	11.0	085
1951 UB1		1951 10	31.81542	02 01 40.6	+17 41 59	830	11.0	085
1951 UB1		1951 11	01.76846	02 00 52.5	+17 25 47	830	11.0	085
1951 WS2	*	1951 11	30.55139	04 35 51	+17 10.2	834	13.2	388
1951 WS2		1951 12	02.10	04 34.0	+17 05	834		020
1952 HJ4	*	1952 04	20.80833	14 20 04	-13 47.7	848	14.0	078
1952 SV1	*	1952 09	22.9608	01 22.0	-03 20	806	13.8	094
1953 FU1	*	1953 03	17.7965	10 16.1	+14 40	844	11.4	094
1953 MB	*	1953 06	16.92847	17 30 52.45	-23 56 49.7	880	15.0	078
1953 UE1	*	1953 10	28.78	02 12.8	+00 37	785		056
1953 UF1	*	1953 10	28.78	02 17.1	+01 05	870		056
1954 HM	*	1954 04	30.87198	14 36 43.92	-26 13 14.9	844	13.5	078
1954 UM3	*	1954 10	20.09176	00 01 01.73	-02 58 24.4	1954 RH	17.7	760
1954 UM3		1954 10	20.13690	00 01 01.14	-02 58 32.2	1954 RH		760
1954 YN	*	1954 12	24.13	03 44.2	+18 49	848	16.0	760
1955 BJ1	*	1955 01	31.05903	08 54 10.16	+22 34 23.5	841		057

1956 KD	*	1956 05	18.02431	17 52	30.96	-34 22	39.2	806		13.8		076
1956 NE	*	1956 07	07.30890	18 46	27.20	-29 12	02.1	841		14.5		839
1956 RY	*	1956 09	06.04757	23 57	25.18	-16 03	21.5	817		12.5		076
1957 BN1	*	1957 01	23.89707	06 53	21.05	+19 34	58.2	885				012
1957 LR	*	1957 06	02.74	14 20	.0	-13 44		813		15.7		076
1959 JU	*	1959 05	06.95530	14 42	22.94	-10 45	43.3	885				024
1959 OF	*	1959 07	25.51640	20 17	02.76	-18 33	48.3	811				414
1967 CN	*	1967 02	08.98510	10 25	29.25	+08 13	41.1	832				095
1967 CN		1967 03	09.88465	10 02	35.59	+10 38	41.0	832				095
1970 EV3	*	1970 03	13.81667	13 50	16.54	-30 40	58.1	897		15.2		076
1971 QQ3	*	1971 08	24.88756	21 07	55.20	-13 06	28.0	1971	OW	16.5		095
1971 SG4	*	1971 09	22.81931	21 28	25.12	-08 43	57.3	836				095
1972 GG2	*	1972 04	12.71597	15 49	54.98	-31 17	44.5	833				323
1972 PC	*	1972 08	14.93646	21 40	18.70	-04 07	53.2	872				056
1972 PC		1972 08	15.00590	21 40	15.59	-04 08	10.7	872				056
1974 QT3	*	1974 08	18.11025	18 52	54.10	-37 28	45.6	2900		17.5		809
1974 SH5	*	1974 09	19.80790	21 23	16.61	-17 19	17.8	811				095
1976 FH	*	1976 03	21.46021	09 41	53.98	+14 34	55.2	828				414
1976 FH		1976 03	21.47689	09 41	54.08	+14 34	55.6	828				414
1977 KD2	*	1977 05	19.86458	15 31	51.07	-31 40	29.0	844		15.0		076
1977 QP5	*	1977 08	18.83160	19 17	31.25	-18 08	23.6	871				095
1978 NK8	*	1978 07	10.3431	20 38	39.9	-20 31	34	2950		17		675
1978 NK8		1978 07	11.4247	20 37	52.9	-20 38	28	2950				675
1978 RB17	*	1978 09	06.08576	22 50	02.41	-07 40	57.2	1978	RL3			809
1978 TS9	*	1978 10	08.19840	22 26	05.54	-10 59	52.2	1978	TG9			805
1979 SS12	*	1979 09	28.83354	22 46	31.84	+01 17	09.1	1979	RM1	16.0		095
1980 DF6	*	1980 02	20.78223	08 27	38.20	+22 31	03.2	1980	BG5	16.5		095
1982 WO	*	1982 11	18.87610	23 49	37.06	-10 49	22.7	1982	WN			491
1984 GG1	*	1984 04	03.77432	10 51	46.86	+07 19	20.0	1984	FB2	17.5		095
1986 JY1	*	1986 05	14.61944	13 57	44.65	-10 34	39.5	1985	BB	19.5		372
1986 JY1		1986 05	14.63403	13 57	43.80	-10 34	33.2	1985	BB			372
1988 VD11	*	1988 11	03.65799	02 34	41.87	+13 51	12.1	1985	BB	20		372

* * * * *

ERRONEOUS IDENTIFICATIONS.

The following identifications are erroneous:

		Note			Note			Note
A908 ED	= (817)	1	1947 ND	= (837)	2	1955 SB1	= (892)	3

Note 1: cf. AN 203, 377. 2: cf. MPC 10. 3: cf. MPC 4657.

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IDENTIFICATIONS.

The following list of identifications with numbered minor planets, by G. V. Williams except as noted, continues that on MPC 15944-15945.

	Note		Note		Note
A899 PG	= (2553)	A903 BH	= (1607)	A904 HA	= (1816)
A904 JB	= (1754)	A904 RE	= (1818)	A905 CD	= (2464)
A905 CE	= (3141)	A905 CJ	= (2137)	A907 TG	= (1796)
A907 UD	= (1796)	A908 VB	= (2162)	A912 XB	= (3811)
A915 CC	= (1717)	A921 WF	= (2483)	A922 BC	= (1748)
1930 QF	= (2216)	1933 FB1	= (2190)	1933 MC	= (2183)
1934 LQ	= (1939)	1934 NC1	= (2625)	1934 XH	= (2003)

1935 GN	= (1739)		1935 SW	= (2880)		1935 SN1	= (2309)				
1937 AB1	= (2839)		1937 RG	= (3925)		1937 SA	= (3925)				
1938 EF	= (2407)		1938 GH	= (3003)		1938 QQ	= (1896)				
1938 RE	= (1754)		1938 UG	= (3951)		1939 GR	= (1789)				
1940 AM	= (2222)		1940 PG	= (778)	1	1941 HS	= (2019)				
1942 CM	= (2911)		1942 RG1	= (3128)		1942 VZ	= (1772)				
1943 FA	= (3736)		1945 AC	= (2776)		1947 BP	= (214)	1			
1947 ND	= (1490)	1	1948 EJ1	= (2309)		1948 PH1	= (667)	1			
1948 PJ1	= (826)	1	1949 AD	= (2762)		1949 KE1	= (1936)				
1949 QM2	= (422)	1	1949 QN2	= (93)	1	1949 SD1	= (3024)				
1949 SU1	= (2256)		1949 SW1	= (693)	1	1949 WR	= (2030)				
1950 BU1	= (1790)		1950 BW1	= (861)	1	1950 BX1	= (738)	1			
1950 RQ1	= (580)	1	1950 RR1	= (824)	1	1950 VR	= (1729)				
1950 XW	= (1771)		1951 AY1	= (2266)		1951 CA2	= (1985)				
1951 GK1	= (2426)		1951 NP	= (2058)	1	1951 UB1	= (631)	1			
1951 WS2	= (496)	1	1951 XD	= (1748)		1952 HJ4	= (1419)	1			
1952 JE	= (3128)		1953 UE1	= (870)	1	1953 UF1	= (785)	1			
1953 XB	= (3293)		1954 JH	= (4077)		1954 RH	= (3716)				
1954 YN	= (3899)		1956 VP	= (3024)		1955 RP1	= (3062)				
1957 TL	= (3032)		1957 WB1	= (4024)	4	1958 PD	= (1607)				
1959 JU	= (2185)	1	1959 OF	= (415)	1	1959 XF	= (278)				
1961 CP	= (2528)		1964 CE	= (2268)		1967 CN	= (993)	1			
1970 GT1	= (2268)		1970 GO2	= (2722)		1972 PC	= (102)	1			
1974 MS	= (2012)		1974 QF3	= (2900)	3	1975 WB2	= (2052)				
1976 GA4	= (4116)		1977 EX4	= (3048)		1977 JD1	= (3492)				
1977 LE	= (2417)		1977 LK	= (2545)		1977 RZ7	= (2016)				
1977 VK	= (4123)		1978 HA	= (2364)		1978 ND5	= (2803)				
1978 NU5	= (2950)		1978 NZ6	= (2417)		1978 PC5	= (1717)				
1978 VU16	= (2667)		1978 WH	= (3689)		1979 DU	= (2459)				
1979 HN1	= (3481)		1979 KH1	= (2505)		1979 KJ1	= (3153)				
1979 RM1	= (2661)		1979 WP3	= (4357)		1979 YL6	= (2732)				
1980 DC6	= (2391)		1980 JA1	= (3019)		1980 TK15	= (2560)				
1981 AU	= (2344)		1981 CF1	= (2397)		1981 TN4	= (2558)				
1981 TO4	= (2752)		1982 BB8	= (4186)		1981 UH10	= (2908)				
1982 BS8	= (3334)		1982 BG9	= (3327)		1982 BZ10	= (3377)				
1982 BO12	= (2306)		1982 FD2	= (2386)		1982 HH	= (2275)				
1982 HZ2	= (3010)		1982 KQ2	= (2971)		1982 SZ12	= (1979)				
1982 WN	= (3105)		1983 CZ1	= (2802)		1983 RP9	= (3763)				
1983 VR1	= (2697)		1983 VB4	= (3748)		1984 FB2	= (3543)				
1984 GE1	= (3583)		1984 HY1	= (2877)		1984 HN2	= (2889)				
1984 KV	= (3437)		1984 OC	= (2284)		1985 DL1	= (3253)				
1985 UL3	= (2058)		1985 XU	= (3634)		1986 TL6	= (3583)				
1986 TA15	= (3543)		1986 WT1	= (3566)		1986 XF4	= (3349)				
1987 BN2	= (2509)		1987 HM	= (3648)		1987 HQ	= (2925)				
1987 SD18	= (4000)		1987 UK5	= (3840)		1988 BJ3	= (2525)				
1988 CN1	= (2455)		1988 CJ6	= (3347)		1988 DY	= (3623)				
1988 DE1	= (3282)		9528 P-L	= (3282)		3110 T-3	= (2501)				

Note 1: identification by C. M. Bardwell. 2: used in the orbit on MPC 8058 but not explicitly stated. 3 = 1 + 2. 4: contrary to MPC 10885.

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INDEX TO ORBITAL ELEMENTS.

The following index to orbital elements continues that on MPC 15122-15130 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
/1984 XV	15214	/1987 IV	15672	/1987 V	15672	/1987 XXX	15379
/1988 XIII	15672	/1988g	15379	/1989r	15520	/1989s	16001
/1989t	15521	/1989u	15215	/1989v	15857	/1989w	15520
/1989y	15857	/1989z	15521	/1989a1	15857	/1989b1	15520
/1989c1	16001	/1989e1	15857	/1989f1	15857	/1990a	16001

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
(13)	15523	(16)	15523	(21)	15523	(28)	15523	(32)	15524
(35)	15524	(37)	16003	(47)	15524	(49)	15524	(51)	16003
(55)	15524	(61)	15524	(71)	15524	(72)	15524	(77)	15524
(79)	15384	(80)	15524	(81)	15524	(82)	15524	(83)	15525
(84)	15525	(85)	15525	(88)	15525	(91)	15525	(92)	15525
(97)	15525	(98)	15525	(99)	15525	(100)	15525	(102)	15525
(107)	15525	(108)	15526	(111)	15526	(113)	15526	(115)	15526
(116)	15526	(118)	15526	(119)	15526	(120)	15526	(122)	15526
(125)	15526	(129)	15526	(136)	15526	(145)	15527	(146)	15527
(148)	15527	(158)	15527	(165)	15217	(172)	15527	(174)	15527
(176)	15527	(183)	15527	(186)	15527	(188)	15527	(194)	15527
(195)	15527	(196)	15528	(199)	15528	(201)	15528	(204)	15528
(215)	15528	(216)	15384	(219)	15528	(222)	15528	(224)	15528
(227)	16003	(232)	15528	(234)	15528	(239)	16003	(240)	16004
(244)	16004	(265)	16004	(272)	16004	(294)	16004	(308)	16004
(319)	16004	(322)	16004	(349)	16004	(361)	16004	(366)	16004
(388)	16004	(394)	16005	(399)	16005	(402)	16005	(420)	16005
(424)	15528	(427)	15528	(429)	15529	(434)	15529	(435)	15529
(439)	15529	(440)	15529	(442)	15529	(449)	15384	(451)	15529
(459)	15529	(460)	15529	(470)	16005	(472)	15529	(497)	16005
(500)	16005	(501)	16005	(511)	15384	(513)	16005	(514)	16005
(521)	15384	(538)	16005	(562)	16005	(601)	16006	(610)	15859
(612)	16006	(621)	16006	(624)	16006	(626)	15217	(633)	16006
(637)	16006	(671)	16006	(708)	16006	(742)	15859	(759)	16006
(761)	16006	(770)	15859	(792)	15859	(795)	15859	(812)	16006
(834)	16006	(853)	15529	(865)	15860	(869)	15529	(892)	15530
(901)	15530	(909)	15530	(917)	15530	(926)	15530	(933)	15530
(935)	15530	(936)	15530	(941)	15530	(950)	15530	(954)	16007
(966)	15530	(975)	15530	(976)	15531	(977)	15531	(978)	16007
(989)	15531	(1009)	15531	(1079)	15860	(1130)	15860	(1187)	15531
(1269)	16007	(1369)	15860	(1423)	15531	(1442)	15860	(1444)	15860
(1452)	15531	(1480)	15384	(1482)	15860	(1517)	15860	(1603)	15531
(1619)	15531	(1620)	15531	(1626)	15531	(1630)	15531	(1632)	16007
(1637)	15532	(1640)	16007	(1673)	15532	(1680)	15532	(1686)	15532
(1687)	16007	(1717)	15532	(1732)	15532	(1737)	15532	(1803)	16007
(1822)	16007	(1837)	16007	(1841)	16007	(1843)	15532	(1844)	15532
(1851)	15532	(1852)	15532	(1858)	15532	(1865)	16007	(1868)	15533
(1875)	15533	(1876)	15533	(1878)	15533	(1881)	15533	(1883)	15533
(1885)	15533	(1889)	16007	(1902)	15533	(1903)	16008	(1924)	15533
(1950)	15533	(1954)	15533	(1955)	15533	(1964)	15534	(1968)	15534
(1970)	15534	(1975)	16008	(1979)	15534	(1982)	15534	(1983)	15534
(1985)	15534	(1992)	15534	(1995)	15534	(1996)	15534	(1997)	15534
(1998)	15534	(1999)	15535	(2000)	15535	(2002)	16008	(2003)	15535
(2004)	15535	(2006)	15535	(2007)	15535	(2010)	15535	(2011)	15535
(2013)	15535	(2019)	15535	(2023)	15535	(2025)	15535	(2026)	15536
(2027)	15536	(2031)	15536	(2033)	15536	(2043)	15536	(2046)	15536
(2047)	15536	(2048)	15536	(2057)	15536	(2058)	15536	(2062)	15536
(2065)	15536	(2068)	15537	(2073)	15537	(2090)	15537	(2103)	15537
(2104)	15537	(2107)	15537	(2114)	15537	(2116)	15537	(2127)	15860
(2153)	15217	(2174)	15217	(2315)	15860	(2357)	16008	(2362)	15217
(2376)	15860	(2410)	15860	(2416)	15861	(2441)	15861	(2447)	15861

(2461) 15861	(2472) 16008	(2508) 15861	(2518) 15861	(2599) 16008
(2603) 15861	(2622) 15861	(2666) 15218	(2708) 15218	(2731) 15218
(2760) 15218	(2815) 15218	(2833) 16008	(2863) 15218	(2894) 15861
(2898) 15861	(2904) 15218	(2922) 16008	(2953) 16008	(2962) 15218
(2985) 15861	(3008) 15218	(3014) 15218	(3015) 15218	(3016) 15218
(3018) 15219	(3023) 15219	(3045) 15861	(3074) 15862	(3080) 15219
(3091) 15862	(3104) 15219	(3113) 15219	(3187) 15219	(3214) 16008
(3426) 16008	(3451) 16008	(3453) 15537	(3485) 15537	(3516) 15537
(3538) 15386	(3541) 15862	(3549) 15538	(3613) 16009	(3643) 15862
(3657) 15538	(3661) 15862	(3665) 15386	(3668) 16009	(3735) 15538
(3770) 15538	(3837) 15386	(3851) 15862	(3871) 15538	(3921) 15862
(4169) 15219	(4177) 15386	(4181) 15219	(4182) 15220	(4183) 15220
(4184) 15220	(4185) 15221	(4186) 15221	(4187) 15221	(4188) 15222
(4189) 15222	(4190) 15222	(4191) 15223	(4192) 15223	(4193) 15224
(4194) 15224	(4195) 15224	(4196) 15225	(4197) 15225	(4198) 15226
(4199) 15226	(4200) 15227	(4201) 15227	(4202) 15228	(4203) 15228
(4204) 15229	(4205) 15229	(4206) 15230	(4207) 15230	(4208) 15231
(4209) 15231	(4210) 15232	(4211) 15233	(4212) 15233	(4213) 15234
(4214) 15234	(4215) 15234	(4216) 15235	(4217) 15235	(4218) 15235
(4219) 15236	(4220) 15236	(4221) 15236	(4222) 15237	(4223) 15237
(4224) 15237	(4225) 15238	(4226) 15238	(4227) 15386	(4228) 15386
(4229) 15387	(4230) 15387	(4231) 15387	(4232) 15388	(4233) 15388
(4234) 15388	(4235) 15389	(4236) 15389	(4237) 15390	(4238) 15390
(4239) 15390	(4240) 15391	(4241) 15391	(4242) 15391	(4243) 15392
(4244) 15392	(4245) 15393	(4246) 15393	(4247) 15393	(4248) 15394
(4249) 15394	(4250) 15394	(4251) 15395	(4252) 15395	(4253) 15396
(4254) 15396	(4255) 15396	(4256) 15397	(4257) 15397	(4258) 15397
(4259) 15398	(4260) 15398	(4261) 15398	(4262) 15399	(4263) 15399
(4264) 15399	(4265) 15400	(4266) 15538	(4267) 15538	(4268) 15539
(4269) 15539	(4270) 15539	(4271) 15540	(4272) 15540	(4273) 15540
(4274) 15541	(4275) 15541	(4276) 15541	(4277) 15542	(4278) 15542
(4279) 15542	(4280) 15543	(4281) 15543	(4282) 15543	(4283) 15544
(4284) 15544	(4285) 15544	(4286) 15545	(4287) 15545	(4288) 15545
(4289) 15546	(4290) 15546	(4291) 15546	(4292) 15547	(4293) 15547
(4294) 15547	(4295) 15548	(4296) 15676	(4297) 15676	(4298) 15677
(4299) 15677	(4300) 15677	(4301) 15678	(4302) 15678	(4303) 15678
(4304) 15679	(4305) 15679	(4306) 15679	(4307) 15680	(4308) 15680
(4309) 15680	(4310) 15681	(4311) 15681	(4312) 15681	(4313) 15682
(4314) 15682	(4315) 15682	(4316) 15683	(4317) 15683	(4318) 15683
(4319) 15684	(4320) 15684	(4321) 15684	(4322) 15685	(4323) 15685
(4324) 15685	(4325) 15686	(4326) 15686	(4327) 15687	(4328) 15687
(4329) 15687	(4330) 15688	(4331) 15688	(4332) 15688	(4333) 15689
(4334) 15689	(4335) 15689	(4336) 15690	(4337) 15690	(4338) 15690
(4339) 15691	(4340) 15691	(4341) 15692	(4342) 15692	(4343) 15692
(4344) 15693	(4345) 15693	(4346) 15693	(4347) 15694	(4348) 15694
(4349) 15694	(4350) 15695	(4351) 15695	(4352) 15696	(4353) 15696
(4354) 15696	(4355) 15697	(4356) 15697	(4357) 15697	(4358) 15862
(4359) 15862	(4360) 15863	(4361) 15863	(4362) 15864	(4363) 15864
(4364) 15864	(4365) 15865	(4366) 15865	(4367) 15865	(4368) 15866
(4369) 15866	(4370) 15866	(4371) 15867	(4372) 15867	(4373) 15867
(4374) 15868	(4375) 15868	(4376) 15868	(4377) 15869	(4378) 15869
(4379) 15870	(4380) 15870	(4381) 15870	(4382) 15870	(4383) 15871
(4384) 15871	(4385) 15871	(4386) 15872	(4387) 15872	(4388) 16009
(4389) 16009	(4390) 16010	(4391) 16010	(4392) 16010	(4393) 16011
(4394) 16011	(4395) 16011	(4396) 16012	(4397) 16012	(4398) 16012
(4399) 16013	(4400) 16013	(4401) 16014	(4402) 16014	(4403) 16014
(4404) 16015	(4405) 16015	(4406) 16015	(4407) 16016	(4408) 16016
(4409) 16016	(4410) 16017	(4411) 16017	(4412) 16017	(4413) 16018
(4414) 16018	(4415) 16019	(4416) 16019		

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
A917 SG	15872	1925 BA	15548	1931 UD	15873	1931 VS	15548
1938 HA	15873	1941 UN	16019	1943 DL	15873	1952 HJ2	16019
1952 QW	16020	1961 BC	16020	1962 SR	15549	1967 GM1	16020
1967 UQ	15549	1968 OF	15400	1969 LB	15239	1969 QR	15400
1969 TB3	15401	1971 QW1	15549	1971 SS1	15401	1971 SN2	15401
1972 HL	15239	1973 RF	15698	1973 ST	15401	1973 SK1	15698
1973 SB6	15873	1973 SD6	15874	1973 UB5	15698	1974 ME	15874
1974 VS	15239	1975 SJ	15549	1975 TM2	15874	1975 TX2	15699
1975 TK6	15402	1975 XF	15699	1975 YE	15550	1976 GU3	15550
1976 GX3	15239	1976 GM7	15550	1976 SA	15402	1976 SM2	15550
1976 SA6	15875	1976 UP2	15699	1976 UR15	15551	1977 AL1	15551
1977 DQ3	16021	1977 DS4	15699	1977 DY8	15403	1977 EL	16021
1977 RD2	15240	1977 RD3	15240	1977 RJ3	15699	1977 RZ8	15875
1978 NQ1	15875	1978 PD3	15403	1978 PX3	16021	1978 RN	15700
1978 RK1	16021	1978 RZ9	15875	1978 RD10	15700	1978 SB3	15700
1978 SP5	15403	1978 SX6	15404	1978 SN7	15700	1978 SS7	15701
1978 TA7	15876	1978 UL2	15404	1978 VZ3	15551	1978 VT4	15404
1978 VD5	15404	1978 VE5	15405	1978 VG5	15405	1978 VL5	16021
1978 VC6	15876	1978 VV6	15701	1978 VJ8	15405	1978 VG10	15701
1978 VP10	15551	1978 VT10	15876	1978 VU10	15876	1978 VG11	16022
1978 VP11	15552	1978 VE15	15405	1979 HE5	15877	1979 KO1	15877
1979 MH6	15701	1979 MS6	15406	1979 OK15	15406	1979 QT8	15877
1979 SD9	15702	1979 UH	15877	1979 UQ	15552	1979 UD1	15552
1979 UD2	15878	1980 FV1	15702	1980 FF3	16022	1980 FH5	15702
1980 JC	15406	1980 PW	16022	1980 RU	15878	1980 TG4	15702
1980 TL13	15552	1980 VX1	16022	1980 XZ	16023	1981 DB1	15703
1981 DM1	15878	1981 DC2	15406	1981 EQ	15553	1981 EK4	15878
1981 EA7	15241	1981 EK7	15879	1981 EK8	15241	1981 EV8	15241
1981 ES9	15879	1981 EE14	15241	1981 EN17	15879	1981 EP18	15703
1981 ED19	15407	1981 EP19	15242	1981 EL20	15407	1981 EK22	15407
1981 ET23	15703	1981 ED24	15408	1981 EH24	15408	1981 EW24	15880
1981 EK26	15880	1981 EM26	15880	1981 EO26	15408	1981 ED27	15409
1981 EA28	15880	1981 EX28	15242	1981 EZ28	15409	1981 EU29	15409
1981 EY30	15704	1981 EB31	15704	1981 EW31	15704	1981 EH34	15410
1981 EL34	15704	1981 EP40	15705	1981 EK41	15881	1981 EA42	15705
1981 GN1	15242	1981 JG	15553	1981 JX1	15706	1981 JE3	15706
1981 QE3	15243	1981 TJ3	15881	1981 UA	15706	1981 UB10	15410
1981 US14	15881	1981 UT15	15410	1981 WM4	15706	1981 YS1	15553
1982 FG3	15243	1982 FK3	16023	1982 JR1	16023	1982 OF	15882
1982 SG4	15244	1982 TD2	15882	1982 UE	15554	1982 UF2	15707
1982 UT5	15882	1982 UM6	15882	1982 UE7	15882	1982 VB1	15410
1982 XV	15707	1983 AA	15883	1983 BH	15707	1983 BM	15244
1983 CO3	15708	1983 DC	15708	1983 RS5	15673	1983 SB	15883
1983 TU	15883	1983 TE1	15411	1983 VN7	15411	1983 XH1	16024
1984 DE	15708	1984 EY	15708	1984 FU	15554	1984 HR1	15709
1984 SM	15554	1984 SG1	15555	1984 SR2	15244	1984 SO5	15709
1984 UR	15521	1984 UB3	15884	1984 UT3	15884	1984 YE4	15411
1985 CP1	15555	1985 GM1	15884	1985 KC	15412	1985 PL	15709
1985 PG2	15412	1985 QP5	16024	1985 RG	15555	1985 RQ	15884
1985 RE4	15710	1985 TM1	15412	1985 TY1	15245	1985 TZ1	15710
1985 UH3	15710	1985 UV4	15245	1985 UF5	15885	1985 VN	15412
1985 VF1	15885	1985 WA	15556	1985 XR	15556	1986 AO2	15413
1986 CG	15556	1986 CC2	15413	1986 EL	15413	1986 EZ	16024
1986 JT	15711	1986 QO	15885	1986 RP1	15245	1986 RU2	15885
1986 RJ4	16024	1986 RF7	15413	1986 TL	15886	1986 TK1	15886
1986 TJ2	15557	1986 TO3	15245	1986 UQ	15414	1986 WL1	15557
1987 BB	15673	1987 BC2	15414	1987 CH	15673	1987 CJ	15246
1987 DD	16025	1987 DM6	15886	1987 DU6	16025	1987 GK	15557

1987 HA	15886	1987 OT	15215	1987 PL	15246	1987 PM	15215
1987 QG	15380	1987 QL	15246	1987 QM	15414	1987 QQ	15380
1987 QR	15887	1987 QS	15414	1987 QT	15380	1987 QG1	15215
1987 QL1	15247	1987 QS1	16025	1987 QV3	15380	1987 QS5	15380
1987 QD6	15415	1987 QZ6	15215	1987 QH7	15521	1987 QJ7	15215
1987 QN7	15558	1987 QA8	15215	1987 QA9	15215	1987 QG10	15215
1987 QH10	15380	1987 QQ10	15215	1987 QU10	15247	1987 QV10	15380
1987 QW10	15247	1987 QY10	15215	1987 QQ11	15247	1987 QR11	15215
1987 RB	15380	1987 RD	15380	1987 RF	15215	1987 RW	15215
1987 RX	15215	1987 RZ	15887	1987 RE1	15215	1987 RG1	15215
1987 RQ2	15215	1987 RA3	15380	1987 RN3	15215	1987 RO3	15248
1987 RP3	15248	1987 RR3	15248	1987 RT3	15215	1987 RU3	15215
1987 RV3	15215	1987 RX3	15249	1987 RO5	15521	1987 RT5	15521
1987 RU5	15521	1987 RY5	15521	1987 RB6	15887	1987 RF6	15521
1987 RG6	15558	1987 RN6	15521	1987 SC	15380	1987 SD	15380
1987 SN	15380	1987 SQ	15380	1987 SU	15380	1987 SB1	15711
1987 SC1	15521	1987 SJ1	15558	1987 SK1	15521	1987 SL1	15521
1987 SP1	15521	1987 SR1	15380	1987 SU1	15380	1987 SG2	15887
1987 SH2	15521	1987 SJ2	15521	1987 SZ2	15521	1987 SB3	15521
1987 SC3	15521	1987 SD3	15521	1987 SE3	15521	1987 SG3	15380
1987 SH3	15380	1987 SJ3	15888	1987 SL3	15380	1987 SQ3	15249
1987 SZ3	15521	1987 SA4	15521	1987 SF4	15380	1987 SM4	15215
1987 SQ4	15380	1987 SR4	15380	1987 SJ5	15415	1987 SO5	16026
1987 SC6	15521	1987 SE6	15521	1987 SF6	15521	1987 SZ6	15415
1987 SE7	15249	1987 SO9	15521	1987 SP11	15521	1987 SQ11	15521
1987 ST11	15521	1987 SN12	15380	1987 SP12	15380	1987 SR12	15888
1987 SA13	15521	1987 SD13	15521	1987 SE13	15380	1987 SG13	15558
1987 SA14	15215	1987 SD14	15215	1987 SP15	15380	1987 SM17	15215
1987 SN17	15216	1987 SO17	15216	1987 SP17	15216	1987 SQ17	16026
1987 SR17	15216	1987 SS17	15249	1987 ST17	15250	1987 SU17	15216
1987 SV17	15250	1987 SX17	15415	1987 SS28	15521	1987 SZ28	15521
1987 TA	15380	1987 TG	15380	1987 UB	15380	1987 UT	15216
1987 UZ	15381	1987 UA1	15216	1987 UM1	15415	1987 UT1	15381
1987 UU1	15381	1987 UW1	15216	1987 UE2	15381	1987 UP2	15416
1987 UU2	15216	1987 UQ3	15416	1987 UD4	15216	1987 US4	15711
1987 UU4	15250	1987 UF5	15250	1987 VB	15381	1987 VF	15216
1987 VQ	15216	1987 VR	15216	1987 VT	16026	1987 VU	16026
1987 VA1	15522	1987 VB1	15522	1987 VC1	15888	1987 WP	15381
1987 WJ1	15250	1987 WU2	15251	1988 BN	15559	1988 BE5	15416
1988 CN2	15711	1988 CX4	15889	1988 DR	16027	1988 EL	15712
1988 EM1	15889	1988 FS2	15673	1988 JP	15712	1988 JV	15251
1988 LH	15889	1988 MF	16027	1988 PK	15381	1988 PP	15559
1988 PX	15381	1988 PY	16027	1988 PC1	15216	1988 PG1	15522
1988 PL1	15216	1988 PM1	15889	1988 PN1	15381	1988 PX1	15522
1988 PM2	16027	1988 PX2	15890	1988 QA	15522	1988 QE	16028
1988 QV	15522	1988 QC1	15381	1988 RK	15559	1988 RT	16028
1988 RB1	15673	1988 RM1	16028	1988 RA2	15381	1988 RB2	15381
1988 RE2	15381	1988 RJ3	15381	1988 RN3	15381	1988 RR3	15381
1988 RS3	15381	1988 RT3	15381	1988 RU3	16028	1988 RW3	15381
1988 RX3	15381	1988 RY3	15381	1988 RJ4	15381	1988 RM4	15381
1988 RO4	15381	1988 RP4	15381	1988 RQ4	15381	1988 RS4	15381
1988 RT4	15381	1988 RV4	15381	1988 RF5	15712	1988 RK5	15381
1988 RR5	15381	1988 RZ5	15381	1988 RE6	15381	1988 RJ6	15381
1988 RK6	15381	1988 RS6	15381	1988 RT6	15417	1988 RM7	15381
1988 RM8	15381	1988 RU9	16001	1988 RE10	15381	1988 RG10	15890
1988 RH10	15381	1988 RJ10	15381	1988 RK10	15381	1988 RL10	15890
1988 RN10	15891	1988 RO10	15891	1988 RP10	15381	1988 RQ10	15381
1988 RR10	15560	1988 RS10	15891	1988 RV10	15381	1988 RW10	15381
1988 RX10	15381	1988 RY10	15713	1988 RZ10	15382	1988 RA11	15382

1988 RB11	15382	1988 RC11	15382	1988 RD11	15382	1988 RE11	15382
1988 RH11	15713	1988 RJ11	15382	1988 RK11	15417	1988 RM11	15713
1988 RN11	15891	1988 RO11	15382	1988 RR11	15382	1988 RT11	15382
1988 RV11	15382	1988 RX11	15714	1988 RY11	15892	1988 RZ11	15522
1988 RA12	15382	1988 RB12	15418	1988 RD12	15560	1988 RE12	15560
1988 RG12	15382	1988 RH12	15714	1988 RJ12	15382	1988 RL12	15382
1988 RM12	15382	1988 RN12	15382	1988 RO12	15382	1988 RP12	15714
1988 RQ12	15382	1988 RR12	15382	1988 RS12	15714	1988 RT12	15715
1988 RV12	15715	1988 RW12	15382	1988 RX12	15382	1988 RY12	15382
1988 RZ12	15382	1988 RA13	15382	1988 RE13	15382	1988 RF13	15382
1988 RG13	15382	1988 RH13	15715	1988 RJ13	15382	1988 RK13	15382
1988 RL13	15715	1988 SA	15522	1988 SC	15522	1988 SD	15522
1988 SM	15716	1988 SQ	15382	1988 SH1	15382	1988 SL1	15382
1988 SN1	15382	1988 SO1	15382	1988 SU1	15382	1988 SV1	15382
1988 SW1	15716	1988 SX1	15382	1988 SY1	15382	1988 SA2	15382
1988 SB2	15383	1988 SD2	15383	1988 SE2	15383	1988 SG2	15383
1988 SH2	15383	1988 SJ2	15383	1988 SK2	15716	1988 SL2	15383
1988 SM2	15383	1988 SO2	15418	1988 SP2	15560	1988 SQ2	15383
1988 SR2	15383	1988 SS2	15383	1988 ST2	15383	1988 SU2	15383
1988 SW2	15383	1988 SX2	15383	1988 SY2	15383	1988 SZ2	15383
1988 SA3	15561	1988 SD3	15383	1988 SE3	15383	1988 SF3	15383
1988 SG3	15892	1988 SH3	15383	1988 SJ3	15892	1988 SL3	15561
1988 TP1	16029	1988 TQ1	15216	1988 TC2	15561	1988 TN2	15216
1988 TU2	15892	1988 TA3	15893	1988 UO	15216	1988 UQ	15522
1988 VW	15418	1988 VB3	15561	1988 VO3	15216	1988 VR3	15216
1988 VD5	16029	1988 VR5	15216	1988 VN7	15216	1988 XE	15216
1988 XK	15216	1988 XU	15383	1988 XE2	15216	1988 XL2	15216
1989 AQ	15418	1989 AE1	15562	1989 AX1	15893	1989 AN3	15522
1989 AO3	15893	1989 AL5	15893	1989 AO6	15251	1989 AP6	15894
1989 AY6	15216	1989 AE7	15894	1989 BA	15673	1989 BG	15894
1989 BT	15419	1989 BE1	15522	1989 BS1	15562	1989 BU1	15522
1989 CL	15251	1989 CM	15562	1989 CN	15216	1989 CX	15216
1989 CZ	15716	1989 CW1	15216	1989 CV2	15216	1989 CX2	15716
1989 CL3	15562	1989 CH4	15252	1989 CH5	15216	1989 CB8	15216
1989 CC8	15216	1989 CD8	15216	1989 CE8	15216	1989 CJ8	15216
1989 CL8	15216	1989 CU8	15563	1989 DJ	15216	1989 DK	15216
1989 DL	15216	1989 DM	15216	1989 EE	15522	1989 EE1	15216
1989 EO1	15252	1989 EW1	15216	1989 EX1	15252	1989 EC3	15894
1989 EF6	15216	1989 FB	15717	1989 FW	15253	1989 GH3	16001
1989 JA	15253	1989 KB	15419	1989 KE	15857	1989 LW	16029
1989 MH	15216	1989 ML	15419	1989 NE	15383	1989 NX	15383
1989 NY	15857	1989 NE1	15254	1989 NH1	15254	1989 OB	15717
1989 OC	15522	1989 OG	15254	1989 OL	16029	1989 OM	15522
1989 PA	15563	1989 PC	15254	1989 PE	15216	1989 PF	15216
1989 PK	15216	1989 PT	16001	1989 PU	15216	1989 QE	15255
1989 QF	15420	1989 QG	15420	1989 QH	15383	1989 QK	15383
1989 QL	15383	1989 QO	16001	1989 QS	15383	1989 QT	16001
1989 QV	15383	1989 RA	16001	1989 RB	15563	1989 RC	15895
1989 RF	15217	1989 RG	15383	1989 RJ	15383	1989 RL	15383
1989 RS	15217	1989 RT	15383	1989 RU	15217	1989 RW	15383
1989 RX	15383	1989 RY	15217	1989 RZ	15895	1989 RC1	16001
1989 RD1	16030	1989 RG1	16001	1989 RJ1	15217	1989 RK1	15217
1989 RL1	15217	1989 RN1	15217	1989 RP1	15383	1989 RQ1	15383
1989 RS1	15895	1989 RT1	15383	1989 RY1	15383	1989 RB2	15420
1989 RD2	15255	1989 RH2	15383	1989 RJ2	16001	1989 RM2	15420
1989 RN2	15522	1989 RO2	15857	1989 SA	15420	1989 SB	15421
1989 SC	15522	1989 SD	15421	1989 SE	15564	1989 SF	15522
1989 SH	15564	1989 SJ	15564	1989 SK	15421	1989 SL	15673
1989 SO	15383	1989 SP	15857	1989 SQ	15522	1989 SR	15522

1989 SS	15421	1989 ST	15522	1989 SU	15522	1989 SX	15522
1989 SY	15522	1989 SZ	15895	1989 SB1	16001	1989 SC1	15564
1989 SD1	15673	1989 SF1	15673	1989 SG1	15673	1989 SJ1	15673
1989 SK1	15673	1989 SL1	15673	1989 SM1	15673	1989 SO1	15673
1989 SP1	15673	1989 SQ1	15673	1989 SR1	15673	1989 SS1	15673
1989 ST1	15673	1989 SU1	15717	1989 SV1	15673	1989 SX1	15673
1989 SY1	16001	1989 SZ1	16030	1989 SA2	15673	1989 SC2	15673
1989 SE2	15673	1989 SF2	15673	1989 SH2	15673	1989 SJ2	15673
1989 SK2	15673	1989 SL2	15673	1989 SM2	15673	1989 SN2	15673
1989 SO2	15673	1989 SP2	15673	1989 SQ2	15673	1989 SR2	15673
1989 SS2	15673	1989 ST2	15673	1989 SU2	15673	1989 SV2	15673
1989 SW2	15673	1989 SX2	15673	1989 SY2	15673	1989 SZ2	15673
1989 SA3	15895	1989 SB3	16001	1989 SC3	15673	1989 SD3	15673
1989 SE3	15674	1989 SF3	15674	1989 SG3	15674	1989 SH3	15674
1989 SJ3	15674	1989 SK3	15674	1989 SL3	15674	1989 SM3	15674
1989 SN3	15674	1989 SO3	15674	1989 SP3	15674	1989 SQ3	15674
1989 SR3	15674	1989 ST3	15674	1989 SU3	15674	1989 SV3	15674
1989 SX3	15674	1989 SY3	15674	1989 SZ3	16001	1989 SA4	16001
1989 SB4	15674	1989 SC4	15674	1989 SD4	16001	1989 SE4	15674
1989 SF4	15674	1989 SG4	16001	1989 SH4	15674	1989 SK4	15674
1989 SL4	15674	1989 SM4	16001	1989 SN4	15674	1989 SO4	16001
1989 SP4	16001	1989 SQ4	15674	1989 SR4	16001	1989 SS4	16001
1989 ST4	15674	1989 SU4	15674	1989 SX4	16001	1989 SY4	15674
1989 SZ4	16001	1989 SC5	16001	1989 SD5	16001	1989 SE5	16001
1989 SF5	16001	1989 SG5	16001	1989 SH5	16001	1989 SJ5	16001
1989 SL5	15422	1989 SN5	15522	1989 SO5	15522	1989 SQ5	15674
1989 SR5	16002	1989 SS5	16002	1989 SV5	15674	1989 SX5	16002
1989 SC6	16002	1989 SD6	16002	1989 SC7	15857	1989 TC	15522
1989 TD	15565	1989 TE	15422	1989 TG	16002	1989 TK	15674
1989 TN	15674	1989 TO	15522	1989 TP	15522	1989 TQ	15384
1989 TS	15565	1989 TT	15674	1989 TV	15522	1989 TW	16002
1989 TY	16002	1989 TB1	15422	1989 TC1	15565	1989 TH1	15422
1989 TJ1	15857	1989 TM1	15522	1989 TN1	15522	1989 TP1	15566
1989 TS1	15566	1989 TT1	15522	1989 TU1	15674	1989 TW1	15522
1989 TA2	15522	1989 TJ2	15522	1989 TN2	16002	1989 TQ2	15674
1989 TR2	15674	1989 TS2	15858	1989 TT2	15674	1989 TV2	16002
1989 TX2	15674	1989 TY2	15674	1989 TA3	16002	1989 TB3	16002
1989 TC3	15858	1989 TD3	16002	1989 TE3	16002	1989 TF3	16002
1989 TH3	15858	1989 TQ3	16002	1989 TR3	16002	1989 TU3	15674
1989 TV3	16002	1989 TW3	15674	1989 TZ3	16002	1989 TA4	15674
1989 TC4	15674	1989 TD4	16002	1989 TF4	15858	1989 TH4	16002
1989 TM4	15858	1989 TN4	16002	1989 TQ4	15674	1989 TS4	16002
1989 TU4	15674	1989 TW4	16002	1989 TY4	16002	1989 TA5	15674
1989 TB5	16002	1989 TE5	16002	1989 TH5	16002	1989 TM5	16002
1989 TO5	15674	1989 TR5	15674	1989 TU5	15674	1989 TV5	15674
1989 TA6	15674	1989 TH6	16002	1989 TK6	16002	1989 TM6	16002
1989 TN6	15674	1989 TP6	16002	1989 TR6	16002	1989 TS6	16002
1989 TW6	16002	1989 TX6	15674	1989 TY6	16002	1989 TZ6	15675
1989 TP7	16002	1989 TQ7	16002	1989 TR7	16002	1989 TS7	16002
1989 TL8	16002	1989 TU10	15858	1989 TB11	16002	1989 TO11	15858
1989 TP11	15858	1989 TR11	15896	1989 TT11	15896	1989 TX11	15858
1989 UA	15896	1989 UD	15566	1989 UE	15675	1989 UF	15675
1989 UG	15858	1989 UL	15522	1989 UM	15566	1989 UN	15675
1989 UO	15675	1989 UP	15718	1989 UQ	15896	1989 UR	15718
1989 US	15567	1989 UT	15675	1989 UY	15567	1989 UZ	15675
1989 UA1	15675	1989 UD1	15522	1989 UE1	15522	1989 UF1	15675
1989 UH1	15675	1989 UK1	15675	1989 UL1	15675	1989 UM1	15675
1989 UN1	15858	1989 UO1	15675	1989 UP1	15675	1989 UQ1	15568
1989 US1	15858	1989 UU1	15718	1989 UV1	15858	1989 UY1	15675

1989 UZ1	15675	1989 UD2	15523	1989 UG2	15675	1989 UH2	15675
1989 UK2	15718	1989 UN2	15719	1989 UO2	15858	1989 US2	15523
1989 UT2	15719	1989 UW2	15675	1989 UY2	15858	1989 UA3	15675
1989 UB3	15675	1989 UD3	15523	1989 UF3	15523	1989 UG3	15896
1989 UJ3	15523	1989 UL3	15719	1989 UO3	15568	1989 UP3	15858
1989 UQ3	15675	1989 UR3	15719	1989 US3	15523	1989 UT3	15523
1989 UU3	15858	1989 UW3	15675	1989 UY3	15720	1989 UE4	15568
1989 UM4	15523	1989 UN4	15523	1989 UO4	15523	1989 UP4	15858
1989 UQ4	15523	1989 UR4	15523	1989 US4	15523	1989 UV4	15523
1989 UW4	15858	1989 UX4	15523	1989 UZ4	15720	1989 UA5	15858
1989 UC5	15675	1989 UE5	15675	1989 UO5	15675	1989 UP5	16002
1989 UQ5	16002	1989 UU5	15675	1989 UX5	15858	1989 UA6	15858
1989 UC6	15675	1989 UF6	15675	1989 UZ6	15858	1989 UA7	16030
1989 UB7	15858	1989 UC7	15858	1989 UD7	15858	1989 UE7	15897
1989 UF7	15858	1989 UH7	15858	1989 UJ7	15858	1989 UK7	15858
1989 UL7	15858	1989 UN7	15858	1989 UO7	15858	1989 UP7	15858
1989 UQ7	15858	1989 UR7	15858	1989 UV7	15858	1989 VA	16030
1989 VB	15720	1989 VF	15675	1989 VJ	15675	1989 VK	15720
1989 VM	15569	1989 VP	15675	1989 VR	15720	1989 VV	15721
1989 VW	15858	1989 VX	15721	1989 VD1	15858	1989 VJ1	15858
1989 VM1	15858	1989 VP1	15858	1989 VQ1	15858	1989 VR1	15858
1989 VS1	15675	1989 VT1	15721	1989 WB	15721	1989 WC	15675
1989 WD	15675	1989 WE	15858	1989 WF	15722	1989 WG	15858
1989 WH	15858	1989 WJ	15858	1989 WK	15722	1989 WL	15722
1989 WM	15897	1989 WR	15723	1989 WS	15858	1989 WT	15675
1989 WU	15858	1989 WV	15723	1989 WW	15675	1989 WX	15723
1989 WZ	15723	1989 WA1	15858	1989 WB1	15675	1989 WE1	15897
1989 WF1	15858	1989 WG1	15675	1989 WH1	15724	1989 WJ1	15724
1989 WL1	15858	1989 WM1	15676	1989 WN1	15724	1989 WO1	15858
1989 WQ1	15725	1989 WR1	15676	1989 WT1	15858	1989 WU1	15858
1989 WV1	15725	1989 WZ1	15676	1989 WA2	15858	1989 WB2	15725
1989 WC2	15725	1989 WF2	15676	1989 WG2	15676	1989 WJ2	15676
1989 WK2	15859	1989 WL2	15859	1989 WM2	15859	1989 WN2	15859
1989 WR2	15676	1989 WS2	15859	1989 WZ2	15676	1989 WA3	15676
1989 WB3	16002	1989 WC3	15859	1989 WD3	15676	1989 WH3	15676
1989 WM3	15726	1989 WV3	15859	1989 WW3	15859	1989 WY3	15859
1989 WZ3	15859	1989 WA4	15859	1989 WD4	15859	1989 WE4	15859
1989 WG4	15859	1989 WH4	15859	1989 WK4	15897	1989 WR4	16002
1989 WS4	16002	1989 WT4	16002	1989 WU4	16002	1989 WW4	16002
1989 XA	15897	1989 XB	15898	1989 XC	15726	1989 XD	15726
1989 XF	16030	1989 XH	15859	1989 XL	15676	1989 XM	15898
1989 XO	15898	1989 XC1	15859	1989 XD1	16031	1989 XN1	15859
1989 XR1	15859	1989 XW1	15859	1989 XD2	15859	1989 YB	15899
1989 YC	16002	1989 YF	15859	1989 YG	15859	1989 YH	15899
1989 YK	15899	1989 YM	16002	1989 YN	15899	1989 YO	16031
1989 YP	16031	1989 YR	15900	1989 YT	16002	1989 YY	16002
1989 YF1	16002	1989 YH1	16031	1989 YZ1	16002	1989 YA2	15900
1989 YO2	16002	1989 YA4	16003	1989 YP6	16003	1989 YQ6	15859
1989 YR6	15859	1989 YS6	15859	1990 AD	16003	1990 AE	16003
1990 BA	15900	1990 BB	16003	1990 BE	16031	1990 BF	16032
1990 BG	16032	1990 BH	16003	1990 BK	16003	1990 BN	16003
1990 BO	16003	1990 BQ	16003	1990 BT	16003	1990 BV	16003
1990 BW	16003	1990 BX	16003	1990 BY	16003	1990 BC1	16032
1990 BG1	16003	1990 BH1	16032	1990 BO1	16003	1990 BQ1	16003
1990 BR1	16003	1990 BT1	16003	1990 BZ1	16033	1990 BC2	16003
1990 BE2	16003	1990 BF2	16003	1990 BJ2	16003	1990 CA	16003
1990 CD	16003	1990 CE	16003	1990 CF	16003	1990 DA	16033
2012 P-L	15901	2019 P-L	15901	2023 P-L	15569	2050 P-L	15570
2064 P-L	16033	2093 P-L	15726	2532 P-L	16033	2547 P-L	16033

2562 P-L	15901	2666 P-L	16034	2716 P-L	15901	2768 P-L	15902
2780 P-L	15423	2785 P-L	16034	2796 P-L	15902	2799 P-L	16034
3016 P-L	15902	3034 P-L	15423	3083 P-L	15902	3097 P-L	15423
3509 P-L	15903	3523 P-L	15256	4018 P-L	15570	4027 P-L	15903
4041 P-L	15903	4089 P-L	15903	4119 P-L	15423	4206 P-L	16034
4257 P-L	16035	4511 P-L	15904	4600 P-L	15570	4601 P-L	15727
4667 P-L	15904	4817 P-L	15904	5023 P-L	15905	5565 P-L	15905
6012 P-L	16035	6040 P-L	15570	6217 P-L	15905	6297 P-L	16035
6313 P-L	16036	6555 P-L	15727	6564 P-L	16036	6837 P-L	15905
7063 P-L	15424	9073 P-L	15571	9099 P-L	16036	9509 P-L	16036
9540 P-L	15571	1010 T-2	15906	1041 T-2	15424	1107 T-2	15256
1169 T-2	15906	1212 T-2	16037	2040 T-2	15424	2086 T-2	15257
2108 T-2	15425	2114 T-2	15727	2150 T-2	16037	2155 T-2	15728
2200 T-2	15571	2249 T-2	16037	2272 T-2	15257	2285 T-2	15571
2314 T-2	15906	3025 T-2	15257	3102 T-2	15728	3211 T-2	15728
3285 T-2	15257	3288 T-2	15729	3306 T-2	15572	3347 T-2	16038
4053 T-2	15906	4170 T-2	15258	4216 T-2	15729	4265 T-2	15572
4314 T-2	15729	5006 T-2	16038	5030 T-2	15258	5061 T-2	15258
5066 T-2	15259	5148 T-2	15259	5161 T-2	16038	5162 T-2	15907
5482 T-2	15259	5485 T-2	15259	1142 T-3	15907	2400 T-3	15907
2496 T-3	16038	3045 T-3	15572	3100 T-3	15260	3105 T-3	15425
3108 T-3	15908	3197 T-3	15908	3241 T-3	16039	3474 T-3	16039
4035 T-3	15425	4045 T-3	15908	4074 T-3	15908	4092 T-3	16039
4094 T-3	15909	4101 T-3	15909	4118 T-3	15425	4179 T-3	15909
4317 T-3	15426	4369 T-3	15426	5041 T-3	16039	5111 T-3	16040
5166 T-3	15910	5174 T-3	15910				

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

009 Uecht. 0.25-m Schmidt telescope. Observer W. Bruhin. Measured by U. Hugentobler.
026 Zimmerwald. 0.4-m Schmidt telescope. Observers P. Wild and T. Schildknecht. Measured by U. Hugentobler.
046 Klet. Observers A. Mrkos and Z. Vavrova.
364 JPCM Kagoshima Station. 0.25-m f/4.2 Wright Schmidt telescope. Observer M. Mukai. Measured by M. Takeishi. From JCPM Hamatonbetsu Report.
372 Geisei. Observer T. Seki.
373 JCPM Oishi Station. 0.31-m f/4.2 reflector. Observer M. Tsumura. From JCPM Hamatonbetsu Station Report.
413 Siding Spring. Uppsala Southern Schmidt. Observer R. H. McNaught.
415 Kambah, near Canberra. Observer D. Herald.
474 Mt. John University Observatory. 0.6-m reflector. Observer A. C. Gilmore. Measured by P. M. Kilmartin.
480 Cockfield. Observer M. Mobberley. Long. and Parallax 0.77, -262, -335 (see MPC 11200). Communicated by G. M. Hurst.
503 Cambridge. Observer J. D. Shanklin.
657 Victoria. Observers J. Tatum and D. Balam.
675 Palomar. 0.46-m Schmidt. Observers E. Helin, K. Lawrence and B. Roman.
801 Oak Ridge. 1.5-m reflector + CCD. Observers R. E. McCrosky, C.-Y. Shao, B. G. Marsden and G. V. Williams.
897 YGCO Chiyoda Station. Observer T. Kojima. 0.25-m f/3.4 Wright-Schmidt camera.
978 Conder Brow. Observer D. Buczynski. Communicated by G. M. Hurst.
996 Oxford. Observer G. Waddington.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Gunn					
/1982 X	1989	03 10.70272	15 19 12.42	-10 01 13.9			373
/1982 X	1989	03 10.71638	15 19 12.56	-10 01 14.6			373
/1982 X	1989	04 05.64578	15 19 27.71	-10 16 03.7			373
/1982 X	1989	05 02.59722	15 03 29.57	-10 18 18.4			373
/1982 X	1989	05 27.57307	14 43 49.91	-10 48 23.1			373
/1982 X	1989	05 30.62425	14 41 51.00	-10 55 41.0			373
		Periodic Comet Shoemaker-Holt 2					
/1988 XI	1989	05 02.50949	10 34 47.28	+29 58 03.1			373
		Periodic Comet Helin-Roman-Crockett					
/1988 XIII	1989	03 10.49479	08 00 19.81	+23 56 56.8	16.5T		373
/1988 XIII	1989	03 10.50573	08 00 19.59	+23 56 57.4			373
/1988 XIII	1989	03 29.50444	08 01 54.40	+23 48 30.0			373
/1988 XIII	1989	03 29.51638	08 01 54.65	+23 48 27.1			373
		Comet Yanaka (1988 XX)					
/1988 XX	1989	03 10.66869	15 17 54.32	+37 26 03.3			373
/1988 XX	1989	04 05.62118	15 17 05.85	+46 04 01.3			373
/1988 XX	1989	04 05.63183	15 17 05.63	+46 04 17.2			373
/1988 XX	1989	05 02.56979	14 59 07.08	+49 55 52.8			373
		Comet Shoemaker (1988 XXI)					
/1988 XXI	1989	03 10.56389	08 52 47.03	+51 15 30.4			373
/1988 XXI	1989	03 10.57465	08 52 47.22	+51 15 26.3			373
		Comet Yanaka (1988 XXIV)					
/1988 XXIV	1989	02 27.48912	07 28 23.55	-29 42 59.7	15.5T		373
		Comet Shoemaker (1989e)					
/1989e	1989	03 10.52326	08 16 33.22	+51 29 04.6			373
/1989e	1989	03 10.53414	08 16 31.94	+51 29 12.9			373
/1989e	1989	04 05.51441	07 39 51.23	+56 20 42.4			373
/1989e	1989	04 05.52500	07 39 50.92	+56 20 42.8			373
		Periodic Comet Gehrels 2					
/1989n	1989	09 29.27738	02 38 58.68	+16 59 57.5			801
/1989n	1989	09 29.28234	02 38 58.79	+16 59 56.5			801
/1989n	1989	12 29.02961	02 18 18.09	+10 17 39.3			801
		Periodic Comet Brorsen-Metcalf					
/1989o	1989	07 13.78212	00 59 58.10	+17 59 34.0			373
		Periodic Comet Lovas 1					
/1989p	1989	12 02.31664	07 12 57.91	+46 28 40.4			801
		Comet Helin-Roman-Alu (1989v)					
/1989v	1989	11 24.96748	20 10 09.92	+36 12 39.4			801
/1989v	1989	11 28.03297	20 01 40.06	+37 38 38.8			801
/1989v	1989	12 28.95609	18 47 57.75	+49 10 05.4			801
		Periodic Comet Helin-Roman-Alu 2					
/1989y	1990	02 27.04203	04 17 26.93	+13 36 27.2			801
/1989y	1990	02 27.09277	04 17 31.74	+13 36 48.4			801

Comet Austin (1989c1)

/1989c1	1990	02	13.45784	00	52	42.67	-29	19	41.5		415
/1989c1	1990	02	16.40799	00	55	53.49	-27	22	56.1		372
/1989c1	1990	02	16.41510	00	55	54.01	-27	22	39.0		372
/1989c1	1990	02	19.45489	00	59	19.13	-25	18	02.4		415
/1989c1	1990	02	20.43820	01	00	27.53	-24	36	48.9		415
/1989c1	1990	02	27.37440	01	08	50.19	-19	30	58.1		474
/1989c1	1990	02	27.37613	01	08	50.39	-19	30	53.1		474
/1989c1	1990	03	01.12975	01	11	02.66	-18	09	06.9		675
/1989c1	1990	03	02.35924	01	12	37.06	-17	10	16.2		474
/1989c1	1990	03	02.36063	01	12	37.11	-17	10	10.8		474
/1989c1	1990	03	05.40875	01	16	33.70	-14	40	05.2		413
/1989c1	1990	03	09.41323	01	21	49.77	-11	11	37.1		413
/1989c1	1990	03	12.42257	01	25	49.30	-08	25	36.6	8 T	372
/1989c1	1990	03	16.39605	01	31	03.09	-04	31	54.2		413
/1989c1	1990	03	17.39172	01	32	20.74	-03	30	35.9		413
/1989c1	1990	03	17.39397	01	32	21.02	-03	30	30.7		413

Periodic Comet Schwassmann-Wachmann 3

/1989d1	1990	02	23.43201	15	02	30.21	+02	41	22.3		657
/1989d1	1990	02	23.50771	15	02	43.75	+02	40	56.1		657
/1989d1	1990	02	23.52924	15	02	47.64	+02	40	49.2		657
/1989d1	1990	02	26.55000	15	12	08.56	+02	24	06.9		657
/1989d1	1990	03	01.74002	15	22	35.08	+02	05	42.4		413
/1989d1	1990	03	01.75391	15	22	37.39	+02	05	38.7		413
/1989d1	1990	03	04.70345	15	32	51.68	+01	47	09.9		413
/1989d1	1990	03	04.71734	15	32	54.60	+01	47	04.2		413
/1989d1	1990	03	07.76381	15	44	09.05	+01	26	24.4		413
/1989d1	1990	03	07.77770	15	44	11.90	+01	26	19.3		413
/1989d1	1990	02	26.37895	15	11	36.22	+02	25	04.0		801
/1989d1	1990	02	26.38384	15	11	37.12	+02	25	01.4		801
/1989d1	1990	02	27.41060	15	14	54.05	+02	19	10.8		801

Comet Skorichenko-George (1989e1)

/1989e1	1990	01	08.37326	20	36	29.2	+28	32	49	11 T	897
/1989e1	1990	01	08.38588	20	36	30.99	+28	32	54.7		897
/1989e1	1990	01	27.41111	21	27	18.99	+32	27	48.8	8.5T	364
/1989e1	1990	02	17.75596	22	40	35.77	+37	28	48.3		046
/1989e1	1990	02	17.75799	22	40	36.20	+37	28	50.2		046
/1989e1	1990	02	20.74977	22	52	24.99	+38	08	58.8		046
/1989e1	1990	02	20.75139	22	52	25.34	+38	08	58.6		046
/1989e1	1990	02	21.74751	22	56	26.49	+38	21	59.0		046
/1989e1	1990	02	21.74907	22	56	26.81	+38	22	02.4		046
/1989e1	1990	02	22.75069	23	00	31.83	+38	34	56.6		046
/1989e1	1990	02	22.75226	23	00	32.22	+38	34	58.3		046
/1989e1	1990	02	23.76887	23	04	43.50	+38	47	49.8		046
/1989e1	1990	02	26.56528	23	16	28.16	+39	22	01.2		657
/1989e1	1990	02	26.43510	23	15	54.92	+39	20	29.2		801
/1989e1	1990	02	26.43828	23	15	55.67	+39	20	31.9		801

Comet McKenzie-Russell (1989f1)

/1989f1	1990	01	20.44365	02	56	28.20	-01	33	50.2		413
/1989f1	1990	01	21.40255	02	54	32.24	-01	35	52.7		897
/1989f1	1990	01	21.45301	02	54	25.92	-01	35	55.8		897

Periodic Comet Wild 4

/1990a	1990	01	29.83229	09	28	52.27	+21	09	44.4	14 T	372
/1990a	1990	02	17.79404	09	12	21.16	+22	10	51.5		046
/1990a	1990	02	17.80822	09	12	20.47	+22	10	53.2		046

/1990a	1990	02	17.86458	09	12	17.51	+22	11	02.3		026
/1990a	1990	02	17.96840	09	12	11.88	+22	11	14.2		978
/1990a	1990	02	18.03576	09	12	08.30	+22	11	23.1		978
/1990a	1990	02	20.03472	09	10	26.09	+22	15	31.2		026
/1990a	1990	02	20.51285	09	10	02.43	+22	16	26.6		364
/1990a	1990	02	20.52675	09	10	01.75	+22	16	27.5		364
/1990a	1990	02	20.77622	09	09	49.38	+22	16	52.5		046
/1990a	1990	02	20.79051	09	09	48.68	+22	16	54.9		046
/1990a	1990	02	20.91042	09	09	42.56	+22	17	08.9		026
/1990a	1990	02	21.77760	09	09	00.06	+22	18	36.1		046
/1990a	1990	02	21.79172	09	08	59.39	+22	18	37.6		046
/1990a	1990	02	22.83160	09	08	08.91	+22	20	16.9		996
/1990a	1990	02	22.83264	09	08	08.92	+22	20	17.3		996
/1990a	1990	02	22.84896	09	08	08.12	+22	20	16.8		009
/1990a	1990	02	22.85856	09	08	07.64	+22	20	19.9		996
/1990a	1990	02	22.86076	09	08	07.42	+22	20	20.9		996
/1990a	1990	02	22.86597	09	08	07.38	+22	20	19.8		996
/1990a	1990	02	22.98264	09	08	01.42	+22	20	29.5		026
/1990a	1990	02	23.30007	09	07	46.33	+22	20	54.9		657
/1990a	1990	02	23.32437	09	07	45.28	+22	20	57.0		657
/1990a	1990	02	23.78264	09	07	23.99	+22	21	36.4		046
/1990a	1990	02	23.78981	09	07	23.64	+22	21	35.8		046
/1990a	1990	02	23.85347	09	07	20.58	+22	21	42.1		026
/1990a	1990	02	24.76898	09	06	38.36	+22	22	49.8		046
/1990a	1990	02	24.77344	09	06	38.17	+22	22	50.4		046
/1990a	1990	02	25.09698	09	06	22.90	+22	23	14.6		978
/1990a	1990	02	25.12743	09	06	21.26	+22	23	14.2		978
/1990a	1990	02	27.28826	09	04	46.90	+22	25	13.0		657
/1990a	1990	03	02.00534	09	02	56.42	+22	26	39.9		978
/1990a	1990	03	02.02081	09	02	55.98	+22	26	41.1		978
/1990a	1990	03	02.29833	09	02	45.48	+22	26	45.3		657
/1990a	1990	03	02.95538	09	02	20.87	+22	26	54.4		996
/1990a	1990	03	02.95764	09	02	20.75	+22	26	52.8		996
/1990a	1990	03	02.95856	09	02	20.73	+22	26	52.9		996
/1990a	1990	03	02.95949	09	02	20.90	+22	26	51.8		996
/1990a	1990	03	04.07708	09	01	39.83	+22	26	55.5	13.2T	026
/1990a	1990	03	05.64028	09	00	47.29	+22	26	36.4	13 T	881
/1990a	1990	03	05.87639	09	00	39.68	+22	26	29.8		026
/1990a	1990	02	21.23395	09	09	26.32	+22	17	42.1		801
/1990a	1990	02	21.27519	09	09	24.24	+22	17	46.2		801
/1990a	1990	02	26.17907	09	05	34.79	+22	24	20.3		801
/1990a	1990	02	26.20945	09	05	33.45	+22	24	21.6		801

Comet Cernis-Kiuchi-Nakamura (1990b)

/1990b	1990	03	17.47188	01	08	49.19	+44	40	22.1	9.2T	372
/1990b	1990	03	17.85880	01	11	01.90	+44	53	40.7		480
/1990b	1990	03	18.44410	01	14	26.17	+45	13	39.7	8.5T	372
/1990b	1990	03	18.82685	01	16	41.72	+45	26	34.7		480
/1990b	1990	03	19.20590	01	18	57.68	+45	39	15.4		657
/1990b	1990	03	19.42465	01	20	16.56	+45	46	36.3	8 T	897
/1990b	1990	03	19.42795	01	20	17.73	+45	46	43.3		897
/1990b	1990	03	19.43530	01	20	20.37	+45	46	57.0		897
/1990b	1990	03	19.84236	01	22	48.89	+46	00	22.3		978
/1990b	1990	03	22.00020	01	36	28.66	+47	09	21.1		801
/1990b	1990	03	23.03462	01	43	20.74	+47	40	48.3		801
/1990b	1990	03	23.03577	01	43	21.18	+47	40	50.0		801
/1990b	1990	03	23.99167	01	49	53.20	+48	08	53.2		801
/1990b	1990	03	24.00135	01	49	57.21	+48	09	10.2		801
/1990b	1990	03	24.00341	01	49	58.12	+48	09	13.6		801

/1990b	1990 03 24.00547	01 49 58.96	+48 09 16.7	801
/1990b	1990 03 24.90719	01 56 18.85	+48 34 39.6	503
/1990b	1990 03 27.00287	02 11 38.51	+49 29 32.1	801
/1990b	1990 03 27.00505	02 11 39.53	+49 29 34.9	801

* * * * *

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.

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

1989 OB	1989 10 03.84861	22 21 25.38	+31 33 41.3	15		026
1989 SY	1989 11 17.82361	01 42 51.23	+19 07 08.8	15.0		026
1989 SY	1989 11 18.80764	01 41 59.48	+19 11 52.6			026
1989 SY	1989 11 19.84861	01 41 07.08	+19 16 51.9			026

180	1989	11	18.87604	05	55	03.66	+24	35	42.2	13.8	026
298	1989	11	08.00764	01	46	44.66	+16	41	33.9	13.7	026
298	1989	11	18.80764	01	36	55.24	+16	06	05.9		026
298	1989	11	19.84861	01	36	07.64	+16	02	59.3		026
463	1989	10	23.83125	23	21	22.11	-17	25	00.0	14.4	026
463	1989	10	24.86806	23	21	08.55	-17	10	11.1		026
726	1989	11	19.84861	01	29	06.59	+20	12	55.0	12.8	026
748	1989	11	18.87604	05	54	42.69	+23	46	18.3	14.5	026
826	1989	10	23.94444	02	17	03.06	+16	39	52.0	15.9	026
826	1989	10	24.92396	02	16	12.00	+16	33	41.6		026
895	1989	12	27.95347	06	03	38.42	+17	04	12.9	12.0	026
1166	1989	12	01.16458	11	25	29.72	+17	11	52.6	15.2	026
1166	1989	12	05.17014	11	29	23.36	+17	15	39.0		026
1314	1989	11	18.87604	05	37	00.11	+25	46	27.0	15.7	026
1573	1989	09	07.97361	23	25	05.22	+24	48	06.4	14.2	026
1573	1989	09	21.87500	23	18	20.53	+19	47	36.3	14.0	026
1573	1989	10	05.91632	23	13	37.36	+13	20	59.8	14.2	026
1838	1989	12	27.93264	05	55	01.75	+47	14	44.6	15.5	026
1917	1989	09	20.80208	19	58	04.10	+22	23	13.0	14	026
1938	1989	11	19.92986	06	39	17.50	+18	12	34.4	17	026
1938	1989	12	27.95347	06	04	30.00	+18	03	48.8	16.0	026
1960	1989	10	23.94444	02	19	06.88	+17	08	57.1	15.3	026
1960	1989	10	24.92396	02	18	05.03	+17	07	15.3		026
1960	1989	11	08.08611	02	03	23.28	+16	36	48.6		026
1960	1989	11	19.89236	01	53	00.28	+16	10	05.9	15.7	026
2067	1989	11	19.92986	06	34	11.41	+19	32	35.4	16.5	026
2067	1989	12	27.95347	06	10	55.71	+19	44	46.4	15.0	026
2151	1989	10	03.91875	23	33	18.28	-17	02	49.1	15.2	026
2151	1989	10	04.90694	23	32	23.06	-17	00	48.2		026
2151	1989	10	23.83125	23	18	52.30	-15	45	38.8	15.6	026
2151	1989	10	24.86806	23	18	23.38	-15	39	39.9		026
2152	1989	09	07.97361	23	28	01.54	+20	10	31.8	15.2	026
2152	1989	09	21.87500	23	17	57.94	+19	04	00.3	14.0	026
2152	1989	10	05.91632	23	09	01.86	+17	15	20.0	14.6	026
2308	1989	12	01.02708	06	24	27.69	+39	30	36.4	16.5	026
2961	1989	11	19.92986	06	39	46.75	+18	06	27.5	16.0	026
2961	1989	12	27.95347	06	08	48.87	+16	18	06.6	15.5	026
3036	1989	11	08.00764	01	46	52.64	+18	48	18.1	14.3	026
3036	1989	11	17.82361	01	38	17.68	+18	53	42.0	14.6	026
3036	1989	11	18.80764	01	37	31.70	+18	54	11.2		026
3036	1989	11	19.84861	01	36	44.33	+18	54	42.4		026
3398	1989	12	01.02708	06	23	16.85	+38	32	41.2	15.2	026
3398	1989	12	27.93264	05	44	55.04	+49	44	36.9	14.8	026
3489	1989	11	19.89236	02	09	04.47	+18	35	43.5	16.0	026

033 Tautenburg
S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg,
Democratic Republic of Germany
Observer F. Borngen
1.3-m Schmidt telescope
SAOC

1984 SO5	1989	12	25.86458	04	20	28.38	+14	37	58.1	17.8	033
1984 SO5	1989	12	25.92569	04	20	25.99	+14	38	02.0		033
1984 SO5	1989	12	26.86458	04	19	50.55	+14	39	02.0		033
1985 UF5	1990	01	24.87014	07	01	06.00	+14	54	15.7	17.8	033
1985 UF5	1990	01	24.97083	07	01	01.16	+14	54	33.4		033
1985 VF1	1990	01	24.92188	08	03	52.72	+19	11	24.8	18.3	033
1985 VF1	1990	01	25.00347	08	03	47.38	+19	11	36.8		033
1989 UE4	1990	01	29.74618	03	18	54.69	+14	14	03.0	18.1	033

1989	UE4		1990	01	29.79479	03	18	56.97	+14	14	08.1		033
1989	YM		1990	02	23.81563	07	33	49.19	+17	56	42.2	17.3	033
1989	YM		1990	02	23.86944	07	33	47.99	+17	56	30.2		033
1989	YM		1990	02	24.83924	07	33	29.20	+17	52	41.2		033
1989	YU5		1990	01	24.89583	06	32	14.16	+22	07	48.0	19.2 I	033
1989	YU5		1990	01	24.94618	06	32	11.89	+22	07	47.1		033
1989	YH7		1990	01	24.89583	06	27	57.79	+22	04	15.9	18.1 I	033
1989	YH7		1990	01	24.94618	06	27	55.54	+22	04	30.6		033
1989	YB8	*	1989	12	25.86458	04	21	23.03	+14	09	19.5	18.1	033
1989	YB8		1989	12	25.92569	04	21	20.54	+14	09	25.9		033
1989	YB8		1989	12	26.86458	04	20	42.13	+14	11	13.2		033
1989	YC8	*	1989	12	25.86458	04	24	44.55	+17	06	18.2	19.0	033
1989	YC8		1989	12	25.92569	04	24	41.83	+17	06	04.1		033
1989	YC8		1989	12	26.86458	04	24	02.53	+17	02	21.5		033
1989	YD8	*	1989	12	25.86458	04	26	37.61	+15	13	14.7	17.4	033
1989	YD8		1989	12	25.92569	04	26	35.27	+15	12	57.3		033
1989	YD8		1989	12	26.86458	04	26	03.37	+15	08	41.7		033
1989	YE8	*	1989	12	25.86458	04	28	30.75	+15	50	51.8	18.2	033
1989	YE8		1989	12	25.92569	04	28	27.61	+15	50	19.6		033
1989	YE8		1989	12	26.86458	04	27	38.44	+15	41	36.3		033
1989	YF8	*	1989	12	25.86458	04	30	04.26	+14	45	27.9	17.6	033
1989	YF8		1989	12	25.92569	04	30	01.26	+14	45	28.1		033
1989	YF8		1989	12	26.86458	04	29	18.88	+14	45	25.9		033
1990	BW		1990	01	24.92188	08	02	44.09	+17	09	24.7	17.9	033
1990	BW		1990	01	25.00347	08	02	37.73	+17	11	00.0		033
100			1989	12	25.86458	04	27	05.98	+14	40	15.6	13.8	033
100			1989	12	25.92569	04	27	03.46	+14	40	17.8		033
100			1989	12	26.86458	04	26	26.70	+14	40	50.1		033
369			1990	01	29.74618	03	25	23.16	+13	25	13.7	13.5 E	033
369			1990	01	29.79479	03	25	24.76	+13	25	36.1	E	033
824			1990	01	24.92188	07	56	43.99	+16	21	09.6	15.9	033
824			1990	01	25.00347	07	56	39.49	+16	21	31.8		033
824			1990	02	23.81563	07	35	45.99	+18	28	37.0	16.4	033
824			1990	02	23.86944	07	35	44.56	+18	28	49.2		033
824			1990	02	24.83924	07	35	20.62	+18	32	16.3		033
885			1990	01	24.92188	08	02	12.83	+18	13	47.5	16.4	033
885			1990	01	25.00347	08	02	08.51	+18	14	02.8		033
929			1990	01	24.87014	07	04	25.66	+16	53	28.3	16.8	033
929			1990	01	24.97083	07	04	19.43	+16	53	39.2		033
1082			1990	02	23.81563	07	34	13.47	+20	40	19.2	17.0	033
1082			1990	02	23.86944	07	34	12.15	+20	40	23.9		033
1082			1990	02	24.83924	07	33	50.15	+20	41	44.8		033
1198			1990	01	24.92188	07	58	17.79	+17	46	41.3	19.6	033
1198			1990	01	25.00347	07	58	12.01	+17	46	55.5		033
1214			1990	01	24.89583	06	32	16.27	+23	09	04.6	16.5	033
1214			1990	01	24.94618	06	32	13.89	+23	08	58.2		033
1447			1989	12	25.76528	03	49	41.62	+24	48	29.1	15.8	033
1447			1989	12	25.83750	03	49	38.82	+24	48	23.5		033
1666			1990	01	24.92188	08	00	37.55	+17	43	01.4	16.9	033
1666			1990	01	25.00347	08	00	31.76	+17	43	14.6		033
1666			1990	02	23.81563	07	35	02.00	+18	44	44.5	17.5	033
1666			1990	02	23.86944	07	35	00.52	+18	44	48.8		033
1666			1990	02	24.83924	07	34	36.50	+18	45	59.6		033
1802			1990	01	24.92188	07	51	59.19	+19	17	30.6	16.3	033
1802			1990	01	25.00347	07	51	54.56	+19	17	47.1		033
1802			1990	02	23.81563	07	32	13.73	+20	39	20.1	17.4	033
1802			1990	02	23.86944	07	32	12.63	+20	39	16.0		033
1802			1990	02	24.83924	07	31	54.99	+20	41	11.7		033
1830			1989	12	25.86458	04	21	41.62	+14	52	05.1	16.1	033

1830		1989 12 25.92569	04	21	38.62	+14	52	07.7		033
1830		1989 12 26.86458	04	20	55.68	+14	52	55.5		033
2041		1990 01 24.92188	08	02	58.62	+19	23	48.1	17.2	033
2041		1990 01 25.00347	08	02	54.24	+19	24	05.4		033
2071		1990 02 23.81563	07	41	40.02	+20	48	05.5	18.7	033
2071		1990 02 23.86944	07	41	38.14	+20	48	06.9		033
2158		1990 01 24.92188	07	53	15.26	+18	51	03.1	17.5	033
2158		1990 01 25.00347	07	53	11.00	+18	51	15.3		033
2158		1990 02 23.81563	07	33	32.98	+19	51	32.1	18.0	033
2158		1990 02 23.86944	07	33	31.58	+19	51	37.1		033
2542		1989 12 25.86458	04	18	19.51	+15	09	14.7	17.2	033
2542		1989 12 25.92569	04	18	17.14	+15	09	13.7		033
2542		1989 12 26.86458	04	17	41.60	+15	09	06.3		033
2814		1990 01 29.74618	03	13	41.61	+15	05	30.8	18.8	033
2814		1990 01 29.79479	03	13	43.10	+15	05	39.4		033
3016		1990 01 24.89583	06	31	10.39	+21	37	33.8	17.6	033
3016		1990 01 24.94618	06	31	08.26	+21	37	39.0		033
3108		1989 12 25.86458	04	22	29.34	+15	18	36.0	17.1	033
3108		1989 12 25.92569	04	22	26.84	+15	18	39.5		033
3108		1989 12 26.86458	04	21	52.89	+15	19	34.6		033
3214		1989 12 25.86458	04	20	02.16	+14	11	31.8	17.0	033
3214		1989 12 25.92569	04	19	59.53	+14	11	39.4		033
3214		1989 12 26.86458	04	19	21.47	+14	13	42.8		033
3356		1990 01 24.89583	06	32	43.15	+23	14	59.5	18.0	033
3356		1990 01 24.94618	06	32	40.32	+23	15	06.9		033
3370		1990 01 24.87014	07	07	27.27	+15	48	05.1	17.3	033
3370		1990 01 24.97083	07	07	21.78	+15	48	50.5		033
4028		1990 01 24.92188	07	57	37.27	+16	26	40.0	17.0	033
4028		1990 01 25.00347	07	57	32.36	+16	26	59.2		033
4028		1990 02 23.81563	07	38	19.98	+18	11	52.1	17.7	033
4028		1990 02 23.86944	07	38	19.19	+18	12	01.2		033
4028		1990 02 24.83924	07	38	07.76	+18	14	32.4		033
4387		1990 01 24.89583	06	28	24.06	+21	43	31.7	17.0	033
4387		1990 01 24.94618	06	28	21.71	+21	43	39.5		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

1988	SH	1990 02 21.87986	09	48	03.13	+18	31	00.1		046
1988	SH	1990 02 21.89410	09	48	02.25	+18	31	01.8		046
1988	SH	1990 02 22.84381	09	47	07.99	+18	32	41.4		046
1988	SH	1990 02 22.85793	09	47	07.08	+18	32	43.0		046
1989	WM	1990 02 20.88021	09	25	26.79	+24	33	40.4		046
1989	WM	1990 02 20.89444	09	25	27.16	+24	33	33.8		046
1989	WM	1990 02 21.81354	09	26	03.44	+24	25	44.4		046
1989	WM	1990 02 21.82772	09	26	03.86	+24	25	38.8		046
1989	WM	1990 02 22.77269	09	26	41.45	+24	17	25.1		046
1989	WM	1990 02 22.78698	09	26	41.94	+24	17	17.6		046
1990	BT1	1990 02 21.81354	09	34	02.92	+25	18	50.6	16.7	046
1990	BT1	1990 02 21.82772	09	34	02.32	+25	18	54.4		046
1990	BT1	1990 02 22.77269	09	33	10.82	+25	24	26.6		046
1990	BT1	1990 02 22.78698	09	33	09.99	+25	24	32.6		046
1990	BJ2	1990 02 17.86065	08	52	30.64	+17	55	08.2		046
1990	BJ2	1990 02 17.87477	08	52	30.20	+17	55	11.2		046
1990	CH	1990 02 23.92020	10	29	31.13	+07	30	50.1	16.7	046
1990	CH	1990 02 23.93472	10	29	30.18	+07	30	52.2		046
1990	CH	1990 02 24.92031	10	28	27.28	+07	33	35.6		046

1990	CH		1990	02	24.93449	10	28	26.22	+07	33	40.4		I 046
1990	DE1	*	1990	02	17.79404	09	16	54.20	+22	33	03.5	16.8	046
1990	DE1		1990	02	17.80822	09	16	53.33	+22	33	07.8		046
1990	DE1		1990	02	20.77622	09	13	53.88	+22	51	03.8		046
1990	DE1		1990	02	20.79051	09	13	52.90	+22	51	07.5		046
1990	DE1		1990	02	21.77760	09	12	54.91	+22	56	43.9		046
1990	DE1		1990	02	21.79172	09	12	54.19	+22	56	48.5		046
1990	DF1	*	1990	02	20.91354	09	34	10.14	+18	38	33.3	16.6	046
1990	DF1		1990	02	20.92778	09	34	09.26	+18	38	32.2		046
1990	DF1		1990	02	21.84670	09	33	09.17	+18	38	06.0		046
1990	DF1		1990	02	21.86082	09	33	08.26	+18	38	06.2		046
1990	DF1		1990	02	22.81140	09	32	06.60	+18	37	36.7		046
1990	DF1		1990	02	22.82564	09	32	05.75	+18	37	33.5		046
1990	DG1	*	1990	02	20.91354	09	35	22.35	+18	18	55.7	16.9	046
1990	DG1		1990	02	20.92778	09	35	21.35	+18	18	56.8		046
1990	DG1		1990	02	21.84670	09	34	23.15	+18	19	41.2		046
1990	DG1		1990	02	21.86082	09	34	22.16	+18	19	42.9		046
1990	DG1		1990	02	22.81140	09	33	22.73	+18	20	21.8		046
1990	DG1		1990	02	22.82564	09	33	21.83	+18	20	24.0		046
1990	DH1	*	1990	02	20.91354	09	36	51.73	+18	14	27.4	17.0	046
1990	DH1		1990	02	20.92778	09	36	50.80	+18	14	33.7		046
1990	DH1		1990	02	22.81140	09	35	14.74	+18	15	51.1		046
1990	DH1		1990	02	22.82564	09	35	14.07	+18	16	00.6		046
1990	DJ1	*	1990	02	20.91354	09	39	04.54	+18	48	39.9	16.9	046
1990	DJ1		1990	02	20.92778	09	39	03.92	+18	48	42.7		046
1990	DJ1		1990	02	21.84670	09	38	07.21	+18	53	18.5		046
1990	DJ1		1990	02	21.86082	09	38	06.51	+18	53	26.1		u 046
1990	DK1	*	1990	02	20.91354	09	40	37.75	+19	06	29.0		046
1990	DK1		1990	02	20.92778	09	40	37.10	+19	06	30.9		046
1990	DK1		1990	02	22.81140	09	38	52.15	+19	15	20.4		046
1990	DK1		1990	02	22.82564	09	38	51.34	+19	15	23.7		046
1990	DL1	*	1990	02	20.94844	09	42	43.70	+12	57	25.6	17.0	046
1990	DL1		1990	02	20.96273	09	42	43.00	+12	57	40.3		046
1990	DL1		1990	02	21.91470	09	41	52.26	+13	07	36.2		046
1990	DL1		1990	02	21.92882	09	41	51.63	+13	07	51.0		046
1990	DM1	*	1990	02	20.94844	09	48	05.60	+12	19	27.0	16.7	046
1990	DM1		1990	02	20.96273	09	48	04.66	+12	19	30.7		046
1990	DM1		1990	02	22.87934	09	46	09.10	+12	26	55.4		046
1990	DM1		1990	02	22.89554	09	46	08.03	+12	26	58.6		046
1990	DN1	*	1990	02	21.87986	09	45	34.95	+17	35	54.8	17.0	046
1990	DN1		1990	02	21.89410	09	45	33.97	+17	36	03.0		046
1990	DN1		1990	02	22.84381	09	44	35.63	+17	39	57.1		d 046
1990	DN1		1990	02	22.85793	09	44	35.08	+17	40	00.1		046
1990	DO1	*	1990	02	21.87986	09	49	27.37	+17	38	49.9	16.9	046
1990	DO1		1990	02	21.89410	09	49	26.62	+17	38	54.5		046
1990	DO1		1990	02	22.84381	09	48	39.43	+17	43	15.8		046
1990	DO1		1990	02	22.85793	09	48	38.67	+17	43	21.4		046
1990	DP1	*	1990	02	21.87986	09	50	54.74	+19	34	56.0	16.7	046
1990	DP1		1990	02	21.89410	09	50	54.10	+19	35	00.2		046
1990	DP1		1990	02	22.84381	09	49	58.55	+19	39	41.4		046
1990	DP1		1990	02	22.85793	09	49	57.83	+19	39	44.4		046
1990	DQ1	*	1990	02	21.91470	09	51	23.48	+13	20	18.5	16.6	046
1990	DQ1		1990	02	21.92882	09	51	22.73	+13	20	31.8		046
1990	DQ1		1990	02	22.87934	09	50	38.94	+13	35	54.5		046
1990	DQ1		1990	02	22.89554	09	50	38.14	+13	36	11.1		046
1990	DR1	*	1990	02	23.92020	10	30	56.55	+07	33	42.1	16.8	046
1990	DR1		1990	02	23.93472	10	30	55.56	+07	33	49.3		046
1990	DR1		1990	02	24.92031	10	29	55.53	+07	39	10.7		046
1990	DR1		1990	02	24.93449	10	29	54.51	+07	39	17.0		046

1990	DS1	*	1990	02	23.92020	10	40	30.77	+06	37	28.1	16.9	046
1990	DS1		1990	02	23.93472	10	40	30.04	+06	37	35.4		046
1990	DS1		1990	02	24.92031	10	39	33.82	+06	42	52.1		046
1990	DS1		1990	02	24.93449	10	39	32.89	+06	42	56.8		046
1990	DT1	*	1990	02	23.92020	10	41	00.64	+07	59	57.3	16.8	046
1990	DT1		1990	02	23.93472	10	40	59.93	+07	59	59.4		046
1990	DT1		1990	02	24.92031	10	40	13.83	+08	04	59.3		046
1990	DT1		1990	02	24.93449	10	40	12.90	+08	05	03.0		046
37			1990	02	20.91354	09	34	46.68	+18	02	37.3		046
37			1990	02	20.92778	09	34	45.83	+18	02	40.0		046
37			1990	02	21.84670	09	33	55.22	+18	05	18.2		046
37			1990	02	21.86082	09	33	54.35	+18	05	20.1		046
37			1990	02	22.81140	09	33	02.81	+18	08	02.1		046
37			1990	02	22.82564	09	33	02.00	+18	08	03.3		046
68			1990	02	23.84549	10	35	07.24	+20	30	05.1		046
68			1990	02	23.85966	10	35	06.47	+20	30	08.9		046
124			1990	02	24.88461	10	11	00.87	+08	21	28.0		046
124			1990	02	24.89902	10	11	00.12	+08	21	33.7		046
203			1990	02	23.88003	10	44	58.22	+08	51	28.4		046
203			1990	02	23.89421	10	44	57.55	+08	51	31.9		046
231			1990	02	21.87986	09	47	40.13	+16	33	49.7		046
231			1990	02	21.89410	09	47	39.35	+16	33	53.5		046
231			1990	02	22.84381	09	46	49.00	+16	36	39.8		046
231			1990	02	22.85793	09	46	48.26	+16	36	42.5		046
270			1990	02	24.88461	10	17	25.06	+06	31	31.3		046
270			1990	02	24.89902	10	17	24.13	+06	31	37.1		046
317			1990	02	20.94844	09	41	10.87	+13	37	37.9		046
317			1990	02	20.96273	09	41	09.96	+13	37	43.5		046
317			1990	02	21.91470	09	40	13.41	+13	43	14.4		046
317			1990	02	21.92882	09	40	12.57	+13	43	19.4		046
317			1990	02	22.87934	09	39	16.69	+13	48	47.1		046
317			1990	02	22.89554	09	39	15.68	+13	48	52.2		046
458			1990	02	20.91354	09	31	39.78	+17	56	42.9		046
458			1990	02	20.92778	09	31	39.05	+17	56	49.4		046
458			1990	02	21.84670	09	30	56.61	+18	03	41.3		046
458			1990	02	21.86082	09	30	55.86	+18	03	47.3		046
458			1990	02	22.81140	09	30	12.57	+18	10	49.8		046
458			1990	02	22.82564	09	30	11.94	+18	10	55.9		046
495			1990	02	20.94844	09	41	33.11	+11	21	52.6		046
495			1990	02	20.96273	09	41	32.25	+11	21	56.3		046
495			1990	02	21.91470	09	40	39.95	+11	27	16.7		046
495			1990	02	21.92882	09	40	39.18	+11	27	22.1		046
495			1990	02	22.87934	09	39	47.42	+11	32	38.3		046
495			1990	02	22.89554	09	39	46.54	+11	32	44.7		046
499			1990	02	17.82743	08	40	45.08	+15	48	11.7		046
499			1990	02	17.84155	08	40	44.47	+15	48	14.2		046
499			1990	02	20.80955	08	39	00.46	+15	55	03.7		046
499			1990	02	20.82373	08	38	59.93	+15	55	05.3		046
604			1990	02	21.87986	09	53	31.50	+17	36	37.9		046
604			1990	02	21.89410	09	53	30.83	+17	36	40.5		046
604			1990	02	22.84381	09	52	43.58	+17	39	33.8		046
604			1990	02	22.85793	09	52	42.90	+17	39	36.8		046
749			1990	02	20.91354	09	32	29.88	+20	28	55.4		046
749			1990	02	20.92778	09	32	29.00	+20	29	02.0		046
749			1990	02	21.84670	09	31	31.68	+20	35	28.1		046
749			1990	02	21.86082	09	31	30.69	+20	35	35.4		046
749			1990	02	22.81140	09	30	31.60	+20	42	11.5		046
749			1990	02	22.82564	09	30	30.75	+20	42	17.9		046
749			1990	02	24.84878	09	28	27.60	+20	55	48.5		046

749	1990	02	24.86291	09	28	26.69	+20	55	52.8		046
781	1990	02	21.87986	09	43	46.72	+17	20	44.5		046
781	1990	02	21.89410	09	43	46.16	+17	20	50.5		046
781	1990	02	22.84381	09	43	05.63	+17	27	55.0		046
781	1990	02	22.85793	09	43	04.97	+17	28	01.4		046
781	1990	02	23.82274	09	42	24.21	+17	35	10.6		046
1174	1990	02	20.88021	09	26	18.46	+24	46	40.9		046
1174	1990	02	20.89444	09	26	17.81	+24	46	40.5		046
1174	1990	02	21.81354	09	25	30.45	+24	47	39.0		046
1174	1990	02	21.82772	09	25	29.58	+24	47	39.6		046
1174	1990	02	22.77269	09	24	41.20	+24	48	32.6		046
1174	1990	02	22.78698	09	24	40.53	+24	48	32.8		046
1188	1990	02	20.91354	09	44	44.80	+18	59	02.0		046
1188	1990	02	20.92778	09	44	43.77	+18	59	04.1		046
1188	1990	02	21.87986	09	43	40.09	+19	02	08.9		046
1188	1990	02	21.89410	09	43	39.11	+19	02	12.5		046
1188	1990	02	22.84381	09	42	35.98	+19	05	12.6		046
1188	1990	02	22.85793	09	42	34.94	+19	05	15.4		046
1191	1990	02	21.87986	09	51	40.06	+19	37	31.4		046
1191	1990	02	21.89410	09	51	39.33	+19	37	41.3		046
1191	1990	02	22.84381	09	50	54.80	+19	47	13.0		046
1191	1990	02	22.85793	09	50	54.12	+19	47	21.4		046
1231	1990	02	17.79404	09	15	34.99	+23	08	06.2		046
1231	1990	02	17.80822	09	15	34.26	+23	08	06.3		046
1231	1990	02	20.77622	09	12	32.15	+23	06	33.4		046
1231	1990	02	20.79051	09	12	31.31	+23	06	33.5		046
1231	1990	02	21.77760	09	11	32.32	+23	05	46.4		046
1231	1990	02	21.79172	09	11	31.43	+23	05	45.2		046
1376	1990	02	17.82743	08	39	26.51	+15	47	25.5	16.8	046
1376	1990	02	17.84155	08	39	25.55	+15	47	29.7		046
1476	1990	02	23.92020	10	36	09.52	+07	36	02.9		046
1476	1990	02	23.93472	10	36	08.73	+07	36	05.2		046
1476	1990	02	24.92031	10	35	06.31	+07	39	52.4		046
1476	1990	02	24.93449	10	35	05.36	+07	40	02.1		046
1497	1990	02	23.88003	10	46	43.98	+06	43	12.7		046
1497	1990	02	23.89421	10	46	43.31	+06	43	16.8		046
1639	1990	02	24.88461	10	10	39.98	+08	52	47.7		046
1639	1990	02	24.89902	10	10	39.06	+08	52	44.5		046
1754	1990	02	24.88461	10	16	11.16	+08	02	02.6		046
1754	1990	02	24.89902	10	16	10.60	+08	02	07.7		046
2379	1990	02	21.91470	09	44	02.86	+13	34	21.2		046
2379	1990	02	21.92882	09	44	02.09	+13	34	25.0		046
2457	1990	02	17.82743	08	36	05.91	+17	39	29.6	16.7	046
2457	1990	02	17.84155	08	36	05.28	+17	39	32.8		046
2457	1990	02	20.80955	08	33	52.59	+17	55	26.7		046
2457	1990	02	20.82373	08	33	52.05	+17	55	30.6		046
2479	1990	02	17.86065	08	51	07.06	+17	08	05.4		046
2479	1990	02	17.87477	08	51	06.41	+17	08	05.2		046
2479	1990	02	20.84520	08	48	48.31	+17	10	34.3		046
2479	1990	02	20.85990	08	48	47.61	+17	10	36.0		046
2496	1990	02	23.88003	10	45	36.40	+07	42	10.0		046
2496	1990	02	23.89421	10	45	35.34	+07	42	15.7		046
2749	1990	02	20.84520	08	50	25.50	+18	00	35.0		046
2749	1990	02	20.85990	08	50	25.01	+18	00	37.2		046
2766	1990	02	23.92020	10	32	21.07	+07	56	00.1		046
2766	1990	02	23.93472	10	32	20.19	+07	56	01.3		046
2766	1990	02	24.92031	10	31	20.18	+07	57	36.0		046
2766	1990	02	24.93449	10	31	19.37	+07	57	37.0		046

2839		1990	02	24.84878	09	37	05.86	+23	03	25.3	046
2839		1990	02	24.86291	09	37	05.07	+23	03	26.7	046
3034		1990	02	20.91354	09	33	36.45	+20	17	09.2	046
3034		1990	02	20.92778	09	33	35.47	+20	17	13.2	046
3034		1990	02	21.84670	09	32	38.68	+20	20	11.2	046
3034		1990	02	21.86082	09	32	37.71	+20	20	14.9	046
3034		1990	02	22.81140	09	31	39.20	+20	23	20.7	046
3034		1990	02	22.82564	09	31	38.37	+20	23	23.3	046
3034		1990	02	24.84878	09	29	36.16	+20	29	29.7	046
3034		1990	02	24.86291	09	29	35.43	+20	29	31.4	046
3045		1990	02	22.84381	09	53	25.79	+17	29	31.0	046
3045		1990	02	22.85793	09	53	25.29	+17	29	33.8	046
3251		1990	02	20.94844	09	45	15.13	+13	36	21.0	046
3251		1990	02	20.96273	09	45	14.36	+13	36	25.2	046
3251		1990	02	22.87934	09	43	45.53	+13	44	19.8	046
3251		1990	02	22.89554	09	43	44.87	+13	44	23.4	046
3463		1990	02	20.91354	09	32	33.70	+20	18	48.7	046
3463		1990	02	20.92778	09	32	32.80	+20	18	51.0	046
3463		1990	02	21.84670	09	31	41.34	+20	21	57.9	046
3463		1990	02	21.86082	09	31	40.65	+20	22	02.4	046
3463		1990	02	22.81140	09	30	48.24	+20	25	12.0	046
3463		1990	02	22.82564	09	30	47.32	+20	25	15.4	046
3463		1990	02	24.84878	09	28	59.18	+20	31	26.0	046
3463		1990	02	24.86291	09	28	58.28	+20	31	27.6	046
3917		1990	02	17.86065	08	50	49.03	+17	45	50.5	046
3917		1990	02	17.87477	08	50	48.21	+17	45	52.9	046

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DK-4340 Tollose, Denmark
Observer R. Florentin
Measurer P. Jensen
0.45-m Schmidt

1990	DG	*	1990	02	17.05813	10	00	04.98	+56	27	33.2	054
1990	DG		1990	02	23.95222	09	52	01.88	+56	42	44.9	15	054

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Observers V. Moorthy, R. Rajamohan
0.45-m f/3 Schmidt
SAOC

1990	BC2		1990	02	21.66806	08	02	20.56	+11	00	28.1	16.0	220
1990	BC2		1990	02	21.70208	08	02	19.02	+11	00	39.1		220
1990	DB1	*	1990	02	21.77639	09	54	54.50	+11	31	54.1	15.9	220
1990	DB1		1990	02	21.81042	09	54	52.58	+11	32	16.2		220
1990	DB1		1990	02	22.67431	09	54	05.91	+11	39	09.9		220
1990	DC1	*	1990	02	21.77639	09	56	46.91	+12	13	02.8	15.9	220
1990	DC1		1990	02	21.81042	09	56	44.60	+12	13	09.9		220
1990	DC1		1990	02	22.67431	09	55	39.54	+12	16	15.5		220
1990	DD1	*	1990	02	23.81944	10	16	59.70	+11	32	57.3	15.7	220
1990	DD1		1990	02	24.76806	10	16	05.15	+11	41	12.2		220
1990	DD1		1990	02	24.80417	10	16	02.56	+11	41	35.3		220
2456			1990	02	21.77639	09	57	41.98	+11	57	23.7	15.6	220
2456			1990	02	21.81042	09	57	40.76	+11	57	28.1		220
2456			1990	02	22.67431	09	57	11.67	+11	58	39.7		220
3807			1990	02	23.67014	10	04	51.31	+10	35	27.1	15.6	220
3807			1990	02	23.70208	10	04	49.28	+10	35	41.1		220
3807			1990	02	24.67708	10	03	50.78	+10	42	51.4		220

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Q. Wang, Purple Mountain Observatory, Nanking, Peoples Republic of China
Observers Q. Wang, Y.-l. Ge

1990 DP	*	1990	02	25.58285	10	08	30.42	+15 34 25.3	16	327
1990 DP		1990	02	25.61236	10	08	28.96	+15 35 06.5	16	327
1990 DP		1990	02	26.75194	10	07	33.55	+16 00 41.2	16	327
1990 DP		1990	02	26.77671	10	07	32.40	+16 01 14.7	16	327

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

1985 BB		1989	12	20.64236	08	49	55.00	+20 24 21.9	19	372
1985 BB		1989	12	20.65486	08	49	54.60	+20 24 25.4		372
1985 BB		1990	01	21.62604	08	27	49.44	+22 09 47.7	18.5	372
1985 BB		1990	01	21.63924	08	27	48.68	+22 09 51.3		372
1985 BB		1990	01	25.60799	08	24	15.01	+22 23 14.1	18.5	372
1985 BB		1990	01	25.61910	08	24	14.15	+22 23 16.8		372
1989 YH		1990	02	16.43542	08	05	33.71	+20 10 26.7	17.5	372
1989 YH		1990	02	16.44792	08	05	33.07	+20 10 25.8		372
1989 YM		1990	02	01.63785	07	49	12.13	+19 24 29.2	16.5	372
1989 YM		1990	02	01.64549	07	49	11.61	+19 24 26.8		372
1989 YP6		1990	01	17.50278	08	25	11.78	+22 01 41.0	18.5	372
1989 YP6		1990	01	17.51562	08	25	09.02	+22 01 44.1		372
1989 YP6		1990	01	24.57951	08	18	24.37	+22 23 54.6	17	372
1989 YP6		1990	01	24.58924	08	18	23.83	+22 23 54.9		372
1990 BZ		1990	01	29.68125	08	22	57.24	+21 22 09.3	17.5	372
1990 BZ		1990	01	29.69479	08	22	55.85	+21 22 08.0		372
1990 BA1		1990	02	01.74201	09	33	36.24	+30 42 18.2	18	372
1990 BA1		1990	02	01.75312	09	33	35.65	+30 42 18.2		372
1990 BA1		1990	02	01.76354	09	33	36.08	+30 42 21.3	17	372
1990 BA1		1990	02	01.77396	09	33	34.41	+30 42 22.2		372
1990 BA1		1990	02	17.57465	09	15	55.85	+30 54 22.0	18	372
1990 BA1		1990	02	17.58542	09	15	55.27	+30 54 21.7		372
1990 BB1		1990	02	01.74201	09	36	52.56	+30 22 21.7	17.5	372
1990 BB1		1990	02	01.75312	09	36	51.83	+30 22 24.1		372
1990 BB1		1990	02	17.63785	09	22	12.98	+31 14 53.5	17.5	372
1990 BB1		1990	02	17.69271	09	22	09.84	+31 14 58.6		372
1990 BX2	*	1990	01	25.70365	09	10	04.05	+18 47 15.5	17.5	372
1990 BX2		1990	01	25.71667	09	10	03.12	+18 47 15.7		372
1990 BX2		1990	01	29.74166	09	06	42.28	+18 47 18.7	17.5	372
1990 BX2		1990	01	29.75139	09	06	41.77	+18 47 18.8		372
1990 DU1	*	1990	02	16.51494	08	54	23.95	+21 58 48.1	16.5	372
1990 DU1		1990	02	17.62500	08	54	23.09	+21 58 48.8	16.5	372
1990 DV1	*	1990	02	20.75382	11	05	16.94	+18 01 39.8	15.5	372
1990 DV1		1990	02	20.76423	11	05	16.44	+18 01 46.2		372
1990 DV1		1990	02	27.70139	11	00	12.39	+18 58 25.0	16	372
1990 DV1		1990	02	27.78021	11	00	08.96	+18 58 59.5		372
1990 DV1		1990	03	03.74444	10	57	08.28	+19 29 14.3	16.5	372
1990 DV1		1990	03	04.68403	10	56	25.30	+19 36 21.0	16.5	372
1990 DW1	*	1990	02	20.79792	13	17	20.95	-08 26 04.9	18	372
1990 DW1		1990	02	20.80938	13	17	21.11	-08 26 04.2		372
1990 DW1		1990	03	04.76562	13	21	23.96	-08 12 59.9	17.5	372
1990 DW1		1990	03	04.77812	13	21	24.19	-08 12 59.5		372
2985		1990	02	16.50938	08	52	04.77	+21 34 48.1	17	372
2985		1990	02	16.52049	08	52	04.13	+21 34 49.1		372
2985		1990	02	17.61424	08	51	09.92	+21 37 41.0	17	372
2985		1990	02	17.62500	08	51	09.49	+21 37 41.6		372
2985		1990	02	20.66667	08	48	44.50	+21 44 56.7	17	372

2985	1990 02 20.67778	08 48 44.04	+21 45 00.2		372
4399	1989 12 02.76667	07 49 20.65	+10 31 44.6	18	372
4399	1989 12 02.78125	07 49 20.28	+10 31 40.8		372
4399	1990 01 03.65833	07 25 59.35	+09 08 57.0	17.5	372
4399	1990 01 03.67101	07 25 58.40	+09 08 57.0		372
4399	1990 01 21.52535	07 08 45.69	+09 07 56.1	17.5	372
4399	1990 01 21.53646	07 08 44.89	+09 07 57.3		372
4411	1990 02 01.67431	08 06 22.37	+23 01 10.1	16	372
4411	1990 02 01.68472	08 06 21.60	+23 01 13.5		372

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

1990 DD	1990 02 17.65764	10 28 11.53	+09 30 38.7	15.0	374
1990 DD	1990 02 20.69375	10 24 35.31	+09 30 08.3	14.5	374

391 Sendai Observatory, Ayashi Station
M. Koishikawa, Sendai Municipal Observatory, 1-1 Sakuragaoka-koen, Sendai 980, Japan
Observer M. Koishikawa
Measurer S. Kasahara
0.20-m reflector

1990 DA	1990 02 24.59722	08 34 17.00	+24 08 32.3		391
1990 DA	1990 02 24.61111	08 34 17.93	+24 09 15.2		391

399 Kushiro
H. Kaneda, Taiyo MS 2-H, 2 chome 2-15, kawazoe 8 jo, Minami-ku, Sapporo 005, Japan
Observer S. Ueda
Measurer H. Kaneda
0.16-m f/3.8 Wright-Schmidt camera

1985 BB	1988 11 08.60498	02 33 58.16	+13 52 06.3	17	399
1985 BB	1988 11 08.61979	02 33 57.25	+13 52 02.8		399
1985 BB	1988 11 11.62575	02 31 26.69	+13 42 20.9	16.5	399
1985 BB	1988 11 11.64213	02 31 26.00	+13 42 17.4		399
1985 BB	1988 11 11.66149	02 31 25.00	+13 42 15.1		399
1987 RX3	1990 02 16.55498	09 58 33.02	+08 40 38.9	16.5	399
1987 RX3	1990 02 16.56944	09 58 32.35	+08 40 42.1		399
1987 RX3	1990 02 16.58495	09 58 31.76	+08 40 46.6		399
1988 LK	1988 05 24.65625	17 00 09.22	-05 32 02.2	16	399
1988 LK	1988 05 24.67083	17 00 08.48	-05 32 00.8		399
1988 LK	1988 05 24.68762	17 00 07.68	-05 31 58.6		399
1988 TK1	1990 03 18.61962	11 58 59.75	-04 33 47.3	15.5	399
1988 TK1	1990 03 18.63403	11 58 58.88	-04 33 43.5		399
1988 TK1	1990 03 18.64942	11 58 58.00	-04 33 39.2		399
1988 UA	1988 10 05.55069	01 21 13.89	+10 29 01.4	16.5	399
1988 UA	1988 10 05.56528	01 21 13.02	+10 28 57.1		399
1988 UA	1988 10 05.58229	01 21 12.46	+10 28 52.3		399
1988 UA	1988 10 31.45382	01 00 32.17	+08 06 21.7	16.5	399
1988 UA	1988 10 31.47436	01 00 31.43	+08 06 17.1		399
1988 UA	1988 10 31.49242	01 00 30.50	+08 06 10.2		399
1988 UA	1988 11 06.44965	00 57 21.34	+07 40 50.8	16.5	399
1988 UA	1988 11 06.46632	00 57 20.90	+07 40 44.8		399
1988 VW	1990 01 21.59167	09 10 04.60	+15 44 31.0	17	399
1988 VW	1990 01 21.60625	09 10 04.04	+15 44 34.7		399
1988 VW	1990 01 23.66076	09 08 28.56	+15 51 10.5	17	399
1988 VW	1990 01 23.67535	09 08 27.84	+15 51 10.2		399
1988 VW	1990 01 23.69097	09 08 26.82	+15 51 15.2		399
1988 VW	1990 01 30.66354	09 02 48.94	+16 14 18.2	17	399
1988 VW	1990 01 30.67813	09 02 48.43	+16 14 18.3		399

1988	VW		1990	01	30.69444	09	02	47.54	+16	14	22.1	399
1988	VW		1990	02	01.65868	09	01	10.59	+16	20	54.8	17 399
1988	VW		1990	02	01.67431	09	01	09.64	+16	20	56.4	399
1988	VW		1990	02	01.69109	09	01	08.58	+16	21	03.1	399
1988	XA		1990	02	28.73704	11	01	37.03	-08	38	39.7	16 399
1988	XA		1990	02	28.75197	11	01	36.14	-08	38	35.6	399
1988	XA		1990	03	02.65764	11	00	09.27	-08	30	01.6	16 399
1988	XA		1990	03	02.67465	11	00	08.54	-08	29	57.2	399
1988	XA		1990	03	02.69311	11	00	07.56	-08	29	51.8	399
1988	XA		1990	03	18.56875	10	48	17.09	-07	00	48.5	16.5 399
1988	XA		1990	03	18.58351	10	48	16.47	-07	00	41.2	399
1988	XA		1990	03	18.59936	10	48	15.85	-07	00	34.4	399
1989	TJ2		1989	10	03.61834	00	54	03.85	+13	41	01.3	16.5 399
1989	TJ2		1989	10	03.63472	00	54	03.03	+13	40	55.9	399
1989	UJ2		1989	10	29.59861	02	53	55.34	+14	34	25.9	16.5 399
1989	UJ2		1989	10	29.63403	02	53	53.27	+14	34	50.2	399
1989	UW7		1989	10	29.66250	02	11	01.56	-09	56	42.1	16 399
1989	UW7		1989	10	29.67743	02	11	00.71	-09	56	47.1	399
1989	UW7		1989	10	29.69688	02	10	59.77	-09	56	49.6	399
1989	WL1		1989	12	23.61597	03	58	27.66	+13	20	50.9	16 399
1989	WL1		1989	12	23.63785	03	58	27.08	+13	20	40.8	399
1989	WL1		1989	12	23.65764	03	58	26.37	+13	20	35.5	399
1990	BY1		1990	02	18.54601	09	15	22.11	+10	03	36.4	16.0 399
1990	BY1		1990	02	18.56753	09	15	21.25	+10	03	38.3	399
1990	BY1		1990	02	28.56319	09	07	37.71	+10	46	44.0	16.0 399
1990	BY1		1990	02	28.58333	09	07	36.91	+10	46	46.8	399
1990	BZ1		1990	02	28.56319	09	10	10.84	+11	36	57.2	16.0 399
1990	BZ1		1990	02	28.58333	09	10	10.09	+11	37	02.7	399
1990	BA2		1990	02	28.56319	09	10	32.27	+09	14	54.7	16.5 399
1990	BA2		1990	02	28.58333	09	10	31.51	+09	14	53.5	399
1990	BB2		1990	02	18.52431	09	18	29.77	+09	08	55.7	16.0 399
1990	BB2		1990	02	18.54601	09	18	28.17	+09	08	53.7	399
1990	BB2		1990	02	28.56319	09	09	09.98	+09	05	17.8	16.5 399
1990	BB2		1990	02	28.58333	09	09	08.96	+09	05	15.9	399
1990	BJ2		1990	01	28.64826	09	08	12.08	+16	18	59.6	16.5 399
1990	BJ2		1990	01	28.66389	09	08	11.27	+16	19	03.3	399
1990	BJ2		1990	02	18.49797	08	52	03.38	+17	57	51.8	16.5 399
1990	BJ2		1990	02	18.51528	08	52	02.56	+17	57	58.5	399
1990	BJ2		1990	02	18.60347	08	51	58.77	+17	58	21.4	399
1990	BJ2		1990	02	28.56377	08	45	40.96	+18	37	01.7	16.5 399
1990	BJ2		1990	02	28.58090	08	45	40.34	+18	37	05.4	399
1990	BJ2		1990	02	28.59954	08	45	39.89	+18	37	08.0	399
1990	BP2		1990	02	28.65816	09	24	18.70	+14	26	26.3	16.5 399
1990	BP2		1990	02	28.68021	09	24	17.74	+14	26	34.6	399
1990	DQ	*	1990	02	18.52431	09	14	49.94	+08	29	40.4	16.0 399
1990	DQ		1990	02	18.54601	09	14	48.59	+08	29	44.4	399
1990	DQ		1990	02	18.56753	09	14	47.91	+08	29	56.2	399
1990	DQ		1990	02	28.56319	09	08	01.88	+09	41	44.5	16.5 399
1990	DQ		1990	02	28.58333	09	08	01.33	+09	41	47.7	399
1990	DR	*	1990	02	18.64589	11	08	15.73	+05	35	58.0	16.0 399
1990	DR		1990	02	18.66667	11	08	14.66	+05	36	07.1	399
1990	DR		1990	02	28.74572	10	59	17.48	+07	03	40.0	16.5 399
1990	DR		1990	02	28.76302	10	59	16.51	+07	03	48.0	399
1990	DR		1990	03	16.56007	10	44	07.31	+09	26	29.0	16.0 399
1990	DR		1990	03	16.57222	10	44	06.58	+09	26	34.1	399
1990	DV	*	1990	02	28.73704	11	00	25.96	-07	34	54.0	16 399
1990	DV		1990	02	28.75197	11	00	25.12	-07	34	53.2	399
1990	DV		1990	03	02.65764	10	58	55.59	-07	26	35.4	16 399
1990	DV		1990	03	02.67465	10	58	54.74	-07	26	28.8	399

1990	DV		1990	03	02.69311	10	58	53.92	-07	26	26.9		399
1990	DW	*	1990	02	18.64589	11	02	29.30	+04	38	44.0	16.5	399
1990	DW		1990	02	18.66667	11	02	28.27	+04	38	46.1		399
1990	DW		1990	03	01.63125	10	51	27.59	+05	09	48.2	16.0	399
1990	DW		1990	03	01.64844	10	51	26.33	+05	09	51.0		399
1990	EJ	*	1990	03	02.71516	11	41	30.47	+00	40	45.9	16.5	399
1990	EJ		1990	03	02.73090	11	41	29.52	+00	40	46.7		399
1990	EJ		1990	03	02.74803	11	41	28.89	+00	40	48.2		399
1990	EJ		1990	03	05.74549	11	39	03.03	+00	44	55.8	16.5	399
1990	EJ		1990	03	05.76042	11	39	02.30	+00	44	56.7		399
1990	EJ		1990	03	05.77604	11	39	01.27	+00	44	57.6		399
1990	FA	*	1990	03	16.51510	11	41	07.74	+09	19	30.4	16.0	399
1990	FA		1990	03	17.58802	11	40	07.45	+09	22	40.1	16.0	399
1990	FA		1990	03	17.61259	11	40	06.07	+09	22	41.3		399
97			1990	02	28.74572	10	59	20.77	+07	17	17.1	10.5	399
97			1990	02	28.76302	10	59	19.87	+07	17	25.6		399
1256			1990	02	28.56319	09	05	05.52	+11	07	24.1	15.5	399
1256			1990	02	28.58333	09	05	04.87	+11	07	27.5		399
3063			1990	03	18.56875	10	47	34.95	-06	46	47.5	16	399
3063			1990	03	18.58351	10	47	34.33	-06	46	45.1		399
3063			1990	03	18.59936	10	47	34.04	-06	46	42.5		399
3918			1990	03	16.56007	10	43	37.38	+09	06	45.2	16.5	399
3918			1990	03	16.57222	10	43	36.88	+09	06	54.7		399
4389			1990	02	18.49797	08	55	39.51	+17	43	21.7	16.5	399
4389			1990	02	18.51528	08	55	38.65	+17	43	24.4		399

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

1987	WS		1990	03	18.60000	12	42	47.89	-00	13	19.2	17	400
1987	WS		1990	03	18.61806	12	42	47.32	-00	13	17.7		400
1987	WS		1990	03	21.61042	12	40	23.87	-00	06	28.9	17	400
1987	WS		1990	03	21.62778	12	40	22.95	-00	06	23.6		400
1988	RP		1990	02	28.55694	10	46	14.69	+04	32	14.2	16.0	400
1988	RP		1990	02	28.57431	10	46	13.61	+04	32	18.5		400
1988	RP		1990	03	02.54410	10	44	06.15	+04	41	15.4	16.0	400
1988	RP		1990	03	02.56007	10	44	05.21	+04	41	20.3		400
1990	CH	*	1990	02	15.54028	10	38	10.27	+07	09	45.3	16.0	400
1990	CH		1990	02	15.55833	10	38	08.97	+07	09	47.6		400
1990	CH		1990	02	28.50903	10	24	37.84	+07	43	28.2	16.0	400
1990	CH		1990	02	28.52639	10	24	36.83	+07	43	31.4		400
1990	CH		1990	03	02.50451	10	22	31.41	+07	48	58.1	16.0	400
1990	CH		1990	03	02.52118	10	22	30.49	+07	49	00.5		400
1990	DS	*	1990	02	28.50903	10	18	04.89	+02	31	53.6	16.5	400
1990	DS		1990	02	28.52639	10	18	04.17	+02	31	53.6		400
1990	DS		1990	03	02.50451	10	16	07.88	+02	32	21.5	16.5	400
1990	DS		1990	03	02.52118	10	16	06.80	+02	32	20.1		400
1990	DS		1990	03	16.49965	10	03	23.95	+02	37	30.9	16.5	400
1990	DS		1990	03	16.51944	10	03	23.09	+02	37	31.9		400
1990	DS		1990	03	18.44931	10	01	49.83	+02	38	18.7	16.5	400
1990	DS		1990	03	18.46667	10	01	48.93	+02	38	19.7		400
1990	DT	*	1990	02	28.50903	10	22	52.93	+03	55	12.2	16.5	400
1990	DT		1990	02	28.52639	10	22	51.81	+03	55	13.3		400
1990	DT		1990	03	02.50451	10	20	41.67	+03	59	44.8	16.5	400
1990	DT		1990	03	02.52118	10	20	40.50	+03	59	49.5		400

1990	DU	*	1990	02	28.65694	11	23	30.24	+03	49	24.7	16.5	400
1990	DU		1990	02	28.67500	11	23	29.18	+03	49	25.2		400
1990	DU		1990	03	02.63889	11	21	40.68	+03	50	38.9	16.5	400
1990	DU		1990	03	02.65764	11	21	39.69	+03	50	38.6		400
1990	DU		1990	03	17.57569	11	07	33.75	+04	01	52.0	16.5	400
1990	DU		1990	03	17.59653	11	07	32.67	+04	01	52.5		400
1990	DY	*	1990	02	28.55694	10	44	22.97	+01	45	05.1	16.0	400
1990	DY		1990	02	28.57431	10	44	21.91	+01	45	10.9		400
1990	DY		1990	03	02.54410	10	42	30.04	+01	57	26.6	16.0	400
1990	DY		1990	03	02.56007	10	42	29.48	+01	57	30.2		400
1990	DY		1990	03	16.56875	10	30	37.64	+03	23	55.7	16.5	400
1990	DY		1990	03	16.58611	10	30	36.80	+03	23	59.9		400
1990	DZ	*	1990	02	28.62500	11	07	22.42	+03	47	37.9	16.5	400
1990	DZ		1990	02	28.64306	11	07	21.17	+03	47	41.0		400
1990	DZ		1990	03	02.60625	11	05	33.26	+03	49	29.0	16.5	400
1990	DZ		1990	03	02.62500	11	05	32.05	+03	49	30.0		400
1990	DZ		1990	03	17.53681	10	51	48.17	+04	05	06.6	16.5	400
1990	DZ		1990	03	17.55347	10	51	47.15	+04	05	08.1		400
1990	DA1	*	1990	02	28.62500	11	13	08.99	+02	58	16.4	16.5	400
1990	DA1		1990	02	28.64306	11	13	07.76	+02	58	22.2		400
1990	DA1		1990	03	02.62500	11	10	56.56	+03	04	23.8		400
1990	DA1		1990	03	17.53681	10	53	58.87	+03	54	00.6	16.5	400
1990	DA1		1990	03	17.55347	10	53	57.78	+03	54	04.4		400
1990	EK	*	1990	03	02.63889	11	18	42.31	+00	15	04.2	16.5	400
1990	EK		1990	03	02.65764	11	18	41.32	+00	15	14.7		400
1990	EK		1990	03	17.57569	11	05	40.28	+02	34	34.1	16.5	400
1990	EK		1990	03	17.59653	11	05	39.12	+02	34	45.1		400
1990	FB	*	1990	03	18.60000	12	46	43.81	-01	29	08.0	16.0	400
1990	FB		1990	03	18.61806	12	46	43.05	-01	28	57.5		400
1990	FB		1990	03	21.61042	12	44	47.32	-00	54	53.3	16.0	400
1990	FB		1990	03	21.62778	12	44	46.59	-00	54	42.8		400
1246	T-2		1990	03	16.56875	10	26	57.15	+03	23	45.6	17	400
1246	T-2		1990	03	16.58611	10	26	56.28	+03	23	53.9		400
212			1990	03	17.53681	10	49	12.72	+03	51	31.7	13.0	400
212			1990	03	17.55347	10	49	11.97	+03	51	35.4		400
555			1990	03	18.60000	12	48	10.76	-01	33	44.0	14.5	400
555			1990	03	18.61806	12	48	10.03	-01	33	37.6		400
555			1990	03	21.61042	12	46	04.95	-01	17	52.4	14.5	400
555			1990	03	21.62778	12	46	04.18	-01	17	46.5		400
578			1990	03	18.60000	12	49	26.97	-01	19	22.7	13.0	400
578			1990	03	18.61806	12	49	26.06	-01	19	19.1		400
578			1990	03	21.61042	12	46	59.36	-01	08	27.8	13.5	400
578			1990	03	21.62778	12	46	58.46	-01	08	25.4		400
1338			1990	03	17.53681	10	51	48.27	+03	33	25.3	15.5	400
1338			1990	03	17.55347	10	51	47.25	+03	33	30.4		400
2707			1990	03	18.60000	12	46	48.63	-01	07	30.1	16.0	400
2707			1990	03	18.61806	12	46	47.76	-01	07	23.7		400
2707			1990	03	21.61042	12	44	43.17	-00	53	52.2	16.5	400
2707			1990	03	21.62778	12	44	42.48	-00	53	47.3		400
3049			1990	03	18.60000	12	45	15.79	-00	50	00.5	16.0	400
3049			1990	03	18.61806	12	45	15.23	-00	49	57.6		400
3049			1990	03	21.61042	12	43	10.03	-00	35	28.1	16.5	400
3049			1990	03	21.62778	12	43	09.32	-00	35	22.4		400
4354			1990	03	16.56875	10	31	10.28	+03	19	26.9	16.5	400
4354			1990	03	16.58611	10	31	09.69	+03	19	35.6		400

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

1990	BS1		1990	02	13.48333	09	43	37.36	+29	33	01.2	16.5	402
1990	BS1		1990	02	13.49792	09	43	36.87	+29	33	09.6		402
1990	BS1		1990	02	27.58056	09	32	41.17	+31	18	38.7	16.0	402
1990	BW2	*	1990	01	21.71389	10	00	59.52	+25	34	53.8	17.0	402
1990	BW2		1990	01	21.73125	10	00	58.76	+25	35	04.6		402
1990	BW2		1990	02	01.71597	09	52	22.31	+27	34	51.1		402
1990	BW2		1990	02	01.73681	09	52	21.47	+27	35	01.2		402
1990	DA		1990	02	27.48368	08	37	37.71	+26	18	18.7	15.0	402
1990	DA		1990	02	27.49826	08	37	38.59	+26	18	53.8		402
1990	DA		1990	03	04.58924	08	43	57.35	+29	27	03.7		402
1990	DA		1990	03	04.60174	08	43	58.16	+29	27	27.7		402
1990	DA		1990	03	21.50000	09	08	19.86	+35	12	42.3	15.5	402
1990	DA		1990	03	21.52465	09	08	21.88	+35	12	57.6		402
1990	EA	*	1990	03	04.73889	11	16	01.37	+10	36	15.5	17.0	402
1990	EA		1990	03	04.75278	11	16	00.59	+10	36	24.5		402
1990	EA		1990	03	05.75000	11	15	08.96	+10	47	01.6		402
1990	EA		1990	03	05.76302	11	15	08.32	+10	47	07.7		402
1990	EA		1990	03	21.60208	11	02	03.29	+13	15	21.0	17.0	402
1990	EA		1990	03	21.61944	11	02	02.40	+13	15	31.0		402
1990	EA		1990	03	22.60972	11	01	19.89	+13	22	57.8		402
1990	EA		1990	03	22.62708	11	01	18.95	+13	23	04.6		402
1990	EB	*	1990	03	04.73889	11	24	36.67	+10	51	32.9	16.5	402
1990	EB		1990	03	04.75278	11	24	35.85	+10	51	44.6		402
1990	EB		1990	03	05.75000	11	23	52.18	+11	05	41.3		402
1990	EB		1990	03	05.76302	11	23	51.40	+11	05	53.9		402
1990	EB		1990	03	21.60208	11	12	02.21	+14	32	12.9	16.5	402
1990	EB		1990	03	21.61944	11	12	01.29	+14	32	24.1		402
1990	EC	*	1990	03	04.73889	11	25	23.52	+09	53	59.9	17.0	402
1990	EC		1990	03	04.75278	11	25	22.86	+09	54	07.1		402
1990	EC		1990	03	05.75000	11	24	40.57	+10	01	33.4		402
1990	EC		1990	03	05.76302	11	24	39.95	+10	01	39.7		402
1990	EC		1990	03	21.60208	11	13	20.60	+11	52	45.6	17.5	402
1990	EC		1990	03	21.61944	11	13	19.80	+11	52	49.8		402
1990	EC		1990	03	22.60972	11	12	39.11	+11	59	05.7		402
1990	EC		1990	03	22.62708	11	12	38.48	+11	59	12.6		402
1990	EL	*	1990	03	05.78056	11	47	57.07	+16	43	01.4	16.5	402
1990	EL		1990	03	05.80017	11	47	56.14	+16	43	13.1		402
1990	EL		1990	03	21.57156	11	36	05.02	+19	02	02.5		402
1990	EL		1990	03	21.58958	11	36	04.21	+19	02	09.5		402
1990	EL		1990	03	22.57917	11	35	19.28	+19	09	34.7		402
1990	EL		1990	03	22.59653	11	35	18.52	+19	09	43.0		402
1990	FC	*	1990	03	21.57156	11	33	56.82	+18	06	02.9	17.0	402
1990	FC		1990	03	21.58958	11	33	55.94	+18	06	02.9		402
1990	FC		1990	03	22.57917	11	33	02.53	+18	07	05.1		402
1990	FC		1990	03	22.59653	11	33	01.56	+18	07	05.9		402

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

1989	YM		1990	01	23.62500	07	58	51.47	+19	58	33.7		403
1989	YM		1990	01	23.63762	07	58	50.40	+19	58	29.7		403
1990	BM		1990	01	17.54444	07	52	57.1	+25	04	51		403
1990	BM		1990	01	17.56736	07	52	55.6	+25	05	04		403
1990	BM		1990	01	26.54826	07	43	37.30	+26	17	16.5		403
1990	BM		1990	01	26.55938	07	43	36.59	+26	17	19.7		403
1990	BM		1990	02	01.55972	07	38	09.13	+26	57	25.3		403
1990	BM		1990	02	01.57240	07	38	08.44	+26	57	27.3		403
1990	BE1		1990	02	01.61458	09	48	33.8	+18	25	59	16.5	403

1990	BE1		1990	02	01.62731	09	48	33.1	+18	26	06	403
1990	DM		1990	02	24.62257	10	44	59.8	+17	11	47	16.0 403
1990	DM		1990	02	27.53438	10	42	47.57	+17	33	59.1	403
1990	DM		1990	02	27.54549	10	42	46.98	+17	34	04.0	403
1990	DN	*	1990	02	24.53993	10	31	55.1	+16	55	40	16.0 403
1990	DN		1990	02	24.56285	10	31	54.1	+16	55	50	403
1990	DN		1990	02	27.51076	10	29	32.25	+17	21	26.2	403
1990	DN		1990	02	27.52188	10	29	31.88	+17	21	33.5	403
1990	DO	*	1990	02	24.59757	10	50	58.2	+16	22	25	16.0 403
1990	DO		1990	02	24.62257	10	50	56.81	+16	22	26.6	403
1990	DO		1990	02	27.53438	10	47	45.18	+16	26	10.8	403
1990	DO		1990	02	27.54549	10	47	44.30	+16	26	11.9	403
1154			1990	02	24.53993	10	31	02.1	+15	50	09	16.0 403
1154			1990	02	24.56285	10	31	01.1	+15	50	16	403
1154			1990	02	27.51076	10	28	51.42	+16	03	24.7	403
1154			1990	02	27.52188	10	28	51.08	+16	03	27.8	403

413 Siding Spring
R. D. Wolstencroft, Royal Observatory, Blackford Hill, Edinburgh EH9 3HJ, Scotland
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia
Observers M. R. S. Hawkins, R. H. McNaught, K. S. Russell
Measurers M. R. S. Hawkins, R. H. McNaught, Q. A. Parker
1.2-m U.K. Schmidt telescope

1980	PU2	*	1980	08	04.6027	21	18	17.76	-45	30	49.9	413
1980	PU2		1980	08	06.5444	21	16	08.10	-45	37	44.0	413
1980	PU2		1980	08	08.5617	21	13	52.68	-45	43	16.8	413
1980	PU2		1980	08	09.5562	21	12	45.95	-45	45	24.8	413
1980	PU2		1980	08	10.5541	21	11	39.39	-45	47	07.7	413
1980	PU2		1980	08	11.4951	21	10	37.01	-45	48	23.5	413
1980	PV2	*	1980	08	04.6027	21	20	56.57	-46	29	04.4	413
1980	PV2		1980	08	05.5680	21	19	50.13	-46	58	57.9	413
1980	PV2		1980	08	06.5444	21	18	42.63	-47	28	07.3	413
1980	PW2	*	1980	08	04.6027	21	22	56.46	-44	31	57.8	413
1980	PW2		1980	08	05.5680	21	21	58.90	-44	35	44.2	413
1980	PW2		1980	08	06.5444	21	21	00.08	-44	39	08.8	413
1980	PW2		1980	08	08.5617	21	18	57.27	-44	44	58.2	413
1980	PW2		1980	08	09.5562	21	17	56.30	-44	47	13.6	413
1980	PW2		1980	08	10.5541	21	16	55.21	-44	49	03.0	413
1980	PW2		1980	08	11.4951	21	15	57.60	-44	50	18.1	413
1980	PW2		1980	08	12.4979	21	14	56.33	-44	51	18.6	413
1980	PX2	*	1980	08	04.6027	21	32	36.80	-46	27	14.7	413
1980	PX2		1980	08	05.5680	21	31	43.05	-46	34	28.0	413
1980	PX2		1980	08	06.5444	21	30	47.90	-46	41	32.0	413
1980	PX2		1980	08	08.5617	21	28	52.05	-46	55	06.7	413
1980	PX2		1980	08	09.5562	21	27	54.73	-47	01	15.1	413
1980	PX2		1980	08	10.5541	21	26	56.49	-47	07	10.1	413
1980	PX2		1980	08	11.4951	21	26	01.85	-47	12	23.1	413
1980	PX2		1980	08	12.4979	21	25	03.09	-47	17	39.7	413
1980	PY2	*	1980	08	04.6027	21	33	30.99	-42	53	47.4	413
1980	PY2		1980	08	05.5680	21	32	24.68	-42	58	00.5	413
1980	PY2		1980	08	06.5444	21	31	17.49	-43	01	55.3	413
1980	PY2		1980	08	08.5617	21	28	55.75	-43	09	13.2	413
1980	PY2		1980	08	09.5562	21	27	45.10	-43	12	16.1	413
1980	PY2		1980	08	11.4951	21	25	27.59	-43	17	17.2	413
1980	PY2		1980	08	15.6000	21	20	34.94	-43	23	32.6	413
1980	PY2		1980	08	16.5617	21	19	27.23	-43	24	07.5	413
1980	PY2		1980	08	18.6326	21	17	03.02	-43	24	14.5	413

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1980 PZ2 * 1980 08 04.6027   21 38 04.19  -46 47 42.9                  413
1980 PZ2   1980 08 05.5680   21 36 18.80  -46 43 17.0                  413
1980 PZ2   1980 08 06.5444   21 34 32.18  -46 38 22.6                  413
1980 PZ2   1980 08 09.5562   21 29 06.21  -46 20 40.8                  413
1980 PZ2   1980 08 10.5541   21 27 19.41  -46 13 57.3                  413
1980 PZ2   1980 08 11.4951   21 25 39.46  -46 07 12.8                  413
1980 PZ2   1980 08 17.5680   21 15 22.97  -45 15 10.4                  413
1980 PZ2   1980 08 18.6326   21 13 40.84  -45 04 34.8                  413
1980 PA3 * 1980 08 05.5680   21 25 33.20  -43 58 10.9                  413
1980 PA3   1980 08 06.5444   21 23 26.08  -43 50 35.3                  413
1980 PA3   1980 08 08.5617   21 19 03.63  -43 33 02.2                  413
1980 PA3   1980 08 11.4951   21 12 46.10  -43 03 43.9                  413
1980 PB3 * 1980 08 08.5617   21 44 17.47  -43 35 24.6                  413
1980 PB3   1980 08 11.4951   21 41 34.35  -43 46 55.8                  413
1980 PB3   1980 08 15.6000   21 37 43.50  -43 59 54.3                  413
1980 PB3   1980 08 16.5617   21 36 49.46  -44 02 24.8                  413
1980 PB3   1980 08 17.5680   21 35 53.28  -44 04 49.2                  413
1980 PB3   1980 08 18.6326   21 34 53.70  -44 07 07.7                  413
1980 PB3   1980 08 22.7756   21 31 05.59  -44 13 43.0                  413
1980 PC3 * 1980 08 08.5617   21 45 28.09  -44 32 24.9                  413
1980 PC3   1980 08 09.5562   21 44 35.12  -44 40 12.4                  413
1980 PC3   1980 08 10.5541   21 43 41.63  -44 47 35.6                  413
1980 PC3   1980 08 12.4979   21 41 55.22  -45 00 47.8                  413
1980 PC3   1980 08 15.6000   21 39 01.96  -45 18 25.6                  413
1980 PC3   1980 08 16.5617   21 38 08.20  -45 22 58.4                  413
1980 PC3   1980 08 17.5680   21 37 12.14  -45 27 15.6                  413
1980 PC3   1980 08 22.7756   21 32 26.91  -45 41 48.1                  413
1980 PD3 * 1980 08 15.6000   21 42 45.87  -42 32 20.2                  413
1980 PD3   1980 08 16.5617   21 41 47.57  -42 33 39.9                  413
1980 PD3   1980 08 17.5680   21 40 46.92  -42 34 44.5                  413
1980 PD3   1980 08 18.6326   21 39 43.02  -42 35 28.5                  413
1980 PD3   1980 08 22.7756   21 35 38.11  -42 35 01.5                  413
1980 PE3 * 1980 08 15.6000   21 42 54.40  -42 11 11.7                  413
1980 PE3   1980 08 16.5617   21 41 54.39  -42 14 52.2                  413
1980 PE3   1980 08 17.5680   21 40 51.71  -42 18 20.9                  413
1980 PE3   1980 08 18.6326   21 39 45.86  -42 21 34.6                  413
1980 PE3   1980 08 22.7756   21 35 35.37  -42 29 55.8                  413
1988 NH1 * 1988 07 15.52528  20 31 05.16  -05 51 19.0          17      413
1988 NH1   1988 07 15.59125  20 31 02.04  -05 51 37.8                  413
1989 WK2   1988 07 15.52528  20 27 58.23  -05 43 30.8          18  V   413
1989 WK2   1988 07 15.59125  20 27 55.29  -05 43 54.8              F   413
1989 WK2   1990 02 15.46616  05 08 59.18  +00 13 19.0              F   413
1989 WK2   1990 02 15.47392  05 08 59.58  +00 13 28.3              F   413
1990 ED  * 1990 03 04.73045  14 49 51.27  -30 02 46.4          18  V   413
1990 ED    1990 03 04.77559  14 49 52.21  -30 03 01.9                  413
1990 ED    1990 03 07.71049  14 50 57.74  -30 21 29.8              b   413
1990 ED    1990 03 07.75215  14 50 58.52  -30 21 44.6              b   413
1990 EE  * 1990 03 04.73045  15 13 19.91  -33 38 26.7          18  V   413
1990 EE    1990 03 04.77559  15 13 21.70  -33 38 50.1                  413
1990 EE    1990 03 07.71049  15 15 25.03  -34 04 45.3              b   413
1990 EE    1990 03 07.75215  15 15 26.61  -34 05 07.6              b   413
1990 EF  * 1990 03 04.73045  15 14 31.39  -31 35 43.0          18  V   413
1990 EF    1990 03 04.77559  15 14 32.09  -31 35 53.8                  413
1990 EF    1990 03 07.71049  15 15 32.80  -31 49 46.4              b   413
1990 EF    1990 03 07.75215  15 15 34.59  -31 50 15.1              b   413
1990 EG  * 1990 03 04.77559  14 52 20.16  -34 15 27.7          17.5V   413
1990 EG    1990 03 07.71049  14 52 10.81  -34 35 38.7              b   413
1990 EG    1990 03 07.75215  14 52 10.54  -34 35 54.9              b   413
3568       1980 08 05.5680   21 42 59.45  -47 16 54.9                  413
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3568		1980	08	06.5444	21	42	05.87	-47	23	11.4		413
3568		1980	08	08.5617	21	40	12.95	-47	35	06.6		413
3568		1980	08	09.5562	21	39	16.60	-47	40	29.9		413
3568		1980	08	10.5541	21	38	19.24	-47	45	33.2		413
3568		1980	08	11.4951	21	37	24.80	-47	50	01.6		413
3568		1980	08	12.4979	21	36	26.32	-47	54	20.1		413
3568		1980	08	15.6000	21	33	24.08	-48	05	31.1		413

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

1990	EH	*	1990	03	15.90733	11	10	12.94	+09	41	03.2	17	494
1990	EH		1990	03	18.01704	11	09	06.21	+09	52	43.5		494
1958			1990	03	01.90098	10	20	27.54	+13	06	06.4	16.5	494
1958			1990	03	02.91582	10	19	37.68	+13	08	26.3		494
2883			1990	03	01.90098	10	18	42.35	+13	12	37.4	16	494
2883			1990	03	02.91582	10	17	41.56	+13	17	49.1		494

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E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium
0.6-m Schmidt

1981	US14	1989	12	28.90278	05	51	35.14	+24	27	44.3	511
1981	US14	1990	01	03.03819	05	46	12.57	+24	31	42.1	511
1981	US14	1990	01	03.06250	05	46	10.99	+24	31	41.3	511
1981	US14	1990	01	04.01111	05	45	14.62	+24	32	20.0	511
1981	US14	1990	01	04.03611	05	45	13.43	+24	32	21.8	511
1985	RR	1990	01	03.03819	05	58	53.26	+23	47	31.2	511
1985	RR	1990	01	03.06250	05	58	51.77	+23	47	32.0	511
1985	RR	1990	01	04.01111	05	57	49.65	+23	48	07.1	511
1985	RR	1990	01	04.03611	05	57	48.34	+23	48	08.9	511
1989	YD5	1989	12	28.90278	05	50	38.85	+25	14	26.7	511
1989	YD5	1990	01	03.03819	05	46	09.22	+25	14	47.8	511
1989	YD5	1990	01	03.06250	05	46	07.89	+25	14	45.5	511
1989	YD5	1990	01	04.01111	05	45	20.50	+25	14	45.6	511
1989	YD5	1990	01	04.03611	05	45	19.45	+25	14	45.3	511
1989	YF5	1989	12	28.90278	05	53	46.77	+26	26	11.0	511
1989	YF5	1990	01	03.03819	05	48	19.71	+25	58	09.4	511
1989	YF5	1990	01	03.06250	05	48	18.22	+25	58	02.1	511
1989	YF5	1990	01	04.01111	05	47	20.64	+25	52	48.5	511
1989	YF5	1990	01	04.03611	05	47	19.34	+25	52	41.2	511
1989	YG5	1989	12	28.90278	05	54	31.28	+24	42	21.7	511
1989	YG5	1990	01	03.03819	05	49	40.72	+25	03	08.0	511
1989	YG5	1990	01	03.06250	05	49	39.39	+25	03	13.4	511
1989	YG5	1990	01	04.01111	05	48	47.11	+25	06	56.8	511
1989	YG5	1990	01	04.03611	05	48	45.97	+25	07	03.0	511
1989	YH5	1989	12	28.90278	05	55	49.41	+23	51	50.5	511
1989	YJ5	1989	12	28.90278	05	56	45.10	+23	21	10.4	511
1989	YJ5	1990	01	03.03819	05	52	01.41	+23	26	10.7	511
1989	YJ5	1990	01	03.06250	05	51	59.90	+23	26	12.8	511
1989	YJ5	1990	01	04.01111	05	51	09.68	+23	27	04.7	511
1989	YJ5	1990	01	04.03611	05	51	08.51	+23	27	06.9	511
1989	YK5	1989	12	28.90278	05	59	36.70	+23	23	52.3	511
1989	YK5	1990	01	03.03819	05	54	25.46	+23	32	14.8	511
1989	YK5	1990	01	03.06250	05	54	23.96	+23	32	16.0	511
1989	YK5	1990	01	04.01111	05	53	29.86	+23	33	44.6	511
1989	YK5	1990	01	04.03611	05	53	28.66	+23	33	47.1	511
1989	YL5	1989	12	28.90278	06	00	28.23	+25	40	01.9	511
1989	YL5	1990	01	03.03819	05	55	08.53	+25	33	06.2	511
1989	YL5	1990	01	03.06250	05	55	06.88	+25	33	03.0	511

1989	YL5		1990	01	04.01111	05	54	11.12	+25	31	38.1	511
1989	YL5		1990	01	04.03611	05	54	09.84	+25	31	36.5	511
1989	YM5		1989	12	28.90278	06	01	16.03	+24	21	55.8	511
1989	YN5		1989	12	28.90278	06	03	43.72	+24	24	00.9	511
1989	YN5		1990	01	03.03819	05	58	21.42	+23	56	09.7	511
1989	YN5		1990	01	03.06250	05	58	19.82	+23	56	02.2	511
1989	YN5		1990	01	04.01111	05	57	22.54	+23	50	49.8	511
1989	YN5		1990	01	04.03611	05	57	21.00	+23	50	41.2	511
1989	YO5		1989	12	28.90278	06	03	49.21	+23	23	30.3	511
1989	YO5		1990	01	03.03819	05	59	19.61	+23	26	50.4	511
1989	YO5		1990	01	03.06250	05	59	18.40	+23	26	52.8	511
1989	YO5		1990	01	04.01111	05	58	29.79	+23	27	26.8	511
1989	YO5		1990	01	04.03611	05	58	28.79	+23	27	28.0	511
1989	YG8	*	1989	12	28.88264	06	01	56.65	+24	17	58.1	17.5 511
1989	YG8		1989	12	28.90278	06	01	55.21	+24	18	01.1	511
1989	YG8		1990	01	03.03819	05	56	07.59	+24	35	38.5	511
1989	YG8		1990	01	03.06250	05	56	06.04	+24	35	43.3	511
1989	YG8		1990	01	04.01111	05	55	04.55	+24	38	47.8	511
1989	YG8		1990	01	04.03611	05	55	03.18	+24	38	52.9	511
1990	AG	*	1990	01	03.03819	05	49	54.47	+23	11	57.8	17.5 511
1990	AG		1990	01	03.06250	05	49	53.00	+23	12	07.1	511
1990	AG		1990	01	04.01111	05	48	54.65	+23	19	31.5	511
1990	AG		1990	01	04.03611	05	48	53.41	+23	19	43.3	511
295			1989	12	28.90278	05	48	58.99	+23	47	54.3	511
295			1990	01	03.03819	05	44	18.83	+23	39	00.5	511
295			1990	01	03.06250	05	44	17.54	+23	38	57.1	511
295			1990	01	04.01111	05	43	28.97	+23	37	17.5	511
295			1990	01	04.03611	05	43	27.89	+23	37	15.1	511
974			1989	12	28.90278	05	52	38.92	+24	19	41.3	511
974			1990	01	03.03819	05	47	23.48	+24	31	18.3	511
974			1990	01	03.06250	05	47	22.03	+24	31	20.3	511
974			1990	01	04.01111	05	46	26.69	+24	33	21.7	511
974			1990	01	04.03611	05	46	25.40	+24	33	25.6	511
1383			1989	12	28.90278	05	58	05.99	+23	22	27.0	511
1383			1990	01	03.03819	05	53	32.03	+23	22	01.1	511
1383			1990	01	03.06250	05	53	30.76	+23	22	00.9	511
1383			1990	01	04.01111	05	52	42.24	+23	21	53.1	511
1383			1990	01	04.03611	05	52	41.22	+23	21	53.8	511
1851			1989	12	28.90278	05	52	51.10	+25	43	53.8	511
1851			1990	01	03.03819	05	48	16.35	+25	42	41.9	511
1851			1990	01	03.06250	05	48	15.13	+25	42	41.9	511
1851			1990	01	04.01111	05	47	26.67	+25	42	22.4	511
1851			1990	01	04.03611	05	47	25.58	+25	42	22.6	511
1947			1989	12	28.90278	06	00	04.30	+23	43	42.0	511
1947			1990	01	03.03819	05	55	29.22	+23	58	54.8	511
1947			1990	01	03.06250	05	55	27.91	+23	58	57.5	511
1947			1990	01	04.01111	05	54	38.49	+24	01	42.2	511
1947			1990	01	04.03611	05	54	37.42	+24	01	47.0	511
2439			1989	12	28.90278	06	04	03.62	+23	17	31.2	511

552 San Vittore
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Observers C. Vacchi, G. Sassi
Measurers C. Vacchi, V. Goretti, E. Colombini
AGK3, SAOC
0.45-m f/5 reflector and (1) 0.25-m f/2.5 Schmidt

1990	DD		1990	02	24.94514	10	19	32.82	+09	29	26.2	15.5 1 552
1990	DD		1990	02	24.98264	10	19	30.12	+09	29	25.7	1 552
1990	DD		1990	03	02.88056	10	12	42.70	+09	27	58.1	15.5 552

1990	DD		1990	03	02.89861	10	12	41.45	+09	27	57.6	552
1990	DL	*	1990	02	24.94514	10	23	36.39	+10	37	19.2	16.0 1 552
1990	DL		1990	02	24.98264	10	23	33.84	+10	37	26.9	1 552
1990	DL		1990	03	02.94306	10	17	07.16	+10	52	49.1	16.0 552
1990	DL		1990	03	02.96250	10	17	05.79	+10	52	52.7	552
1990	DL		1990	03	03.92708	10	16	04.98	+10	55	08.3	16.0 552
1990	DL		1990	03	03.94306	10	16	03.91	+10	55	10.5	552
1990	DL		1990	03	16.89583	10	04	01.51	+11	17	19.0	17.0 552
1990	DL		1990	03	16.91389	10	04	00.81	+11	17	21.0	552

565 Bassano Bresciano
U. Quadri, Osservatorio Astronomico 'Brixia', Via S. Michele 4,
I-25020 Bassano Bresciano (Brescia), Italy
Observers U. Quadri, L. Strabla
0.15-m astrometric reflector
SAOC

1989	WM		1990	02	22.88567	09	26	45.46	+24	16	30.7	565
1989	WM		1990	02	22.92608	09	26	46.77	+24	16	10.2	565
1989	WM		1990	02	28.85375	09	30	59.02	+23	20	25.8	565
1989	WM		1990	02	28.89285	09	31	00.76	+23	20	04.2	565
1989	WM		1990	03	01.87222	09	31	45.93	+23	10	11.1	565
1989	WM		1990	03	01.91235	09	31	47.33	+23	09	45.3	565
749			1990	02	28.85375	09	24	36.12	+21	20	14.2	565
749			1990	02	28.89285	09	24	33.86	+21	20	28.2	565
749			1990	03	01.87222	09	23	40.19	+21	25	55.8	565
749			1990	03	01.91235	09	23	38.00	+21	26	10.8	565
1509			1990	02	16.86042	06	27	21.66	+10	13	11.3	565
1509			1990	02	16.91215	06	27	20.78	+10	12	43.9	565
1509			1990	02	16.94612	06	27	20.41	+10	12	25.8	565
1950			1990	02	28.85375	09	38	12.49	+22	30	08.2	565
1950			1990	02	28.89285	09	38	10.17	+22	30	16.8	565
1950			1990	03	01.87222	09	37	18.29	+22	33	09.9	565
1950			1990	03	01.91235	09	37	16.02	+22	33	13.9	565
2333			1990	02	19.85515	08	00	05.95	+40	04	47.9	565
2333			1990	02	19.90061	08	00	04.23	+40	04	38.0	565
2839			1990	02	28.85375	09	33	10.94	+23	12	00.9	565
2839			1990	02	28.89285	09	33	08.50	+23	12	04.6	565
2839			1990	03	01.87222	09	32	14.50	+23	13	38.9	565
2839			1990	03	01.91235	09	32	12.27	+23	13	42.4	565

567 Osservatorio Chaonis
J. M. Baur, Via Zara 20, I-33083 Chions, Italy
Observers J. M. Baur, G. Carniel
Measurer J. M. Baur
0.6-m f/3 Wright-Schmidt reflector
AGK3

1989	XA		1990	02	17.77361	03	53	24.47	+22	04	26.2	567
1989	XA		1990	02	17.79305	03	53	25.29	+22	04	29.6	567
1989	XA		1990	02	18.75694	03	54	07.10	+22	06	31.1	567
1989	XA		1990	02	18.77534	03	54	07.82	+22	06	33.7	567
1989	XA		1990	02	18.79305	03	54	08.62	+22	06	35.9	567
1989	XA		1990	02	22.77222	03	57	12.07	+22	15	22.2	567
1989	XA		1990	02	22.78889	03	57	12.89	+22	15	24.6	567
1989	XA		1990	02	22.80417	03	57	13.62	+22	15	27.1	567
1989	XA		1990	02	24.76944	03	58	50.45	+22	20	00.7	567
1989	XA		1990	02	24.78750	03	58	51.36	+22	20	03.3	567
1989	XA		1990	02	24.80417	03	58	52.20	+22	20	05.5	567
1989	YF		1990	02	17.86805	07	29	43.52	+21	52	29.5	567
1989	YF		1990	02	17.88611	07	29	42.80	+21	52	33.1	567

1989	YF	1990	02	18.82917	07	29	07.76	+21	56	23.4	567
1989	YF	1990	02	18.84722	07	29	07.02	+21	56	27.5	567
1989	YF	1990	02	22.82777	07	26	56.62	+22	11	39.8	567
1989	YF	1990	02	22.84583	07	26	56.09	+22	11	43.8	567
1989	YF	1990	02	24.83055	07	26	02.11	+22	18	44.1	567
1989	YF	1990	02	24.84861	07	26	01.63	+22	18	47.9	567

657 Victoria, Climenhaga Observatory
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Observers J. B. Tatum, D. D. Balam

1967	DB	1990	02	23.35562	11	48	06.82	+13	06	36.8	657
1967	DB	1990	02	23.39590	11	48	05.35	+13	07	03.3	657
1967	DB	1990	03	02.39556	11	43	44.59	+14	27	07.7	657
1982	KN1	1990	03	02.37750	10	31	40.51	+29	36	05.4	657
1982	KN1	1990	03	02.41708	10	31	38.23	+29	36	22.2	657
1989	WM	1990	03	02.32125	09	32	06.44	+23	05	34.2	657
1989	WM	1990	03	02.36083	09	32	07.87	+23	05	08.5	657
1990	DA	1990	03	02.30528	08	41	03.01	+28	08	34.8	657
1990	DA	1990	03	02.32819	08	41	04.57	+28	09	23.1	657
277		1990	02	27.31535	09	07	54.45	+14	44	15.8	657
277		1990	02	27.37333	09	07	51.94	+14	44	24.8	657
535		1990	02	23.35562	11	43	03.69	+13	37	01.7	657
2284		1990	02	27.37333	09	09	17.18	+16	15	36.3	657

675 Palomar
J. Gibson, OAO Corporation and Jet Propulsion Laboratory, MS 238-332, Pasadena, CA 91109, U.S.A. (1)
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Observers T. Gehrels (4, L), J. Gibson (1, C), E. Helin (2, S), H. E. Holt (3, S), K. Lawrence (2, S), D. Levy (3, S), B. Roman (2, S), C. S. Shoemaker (2, S), E. M. Shoemaker (2, S)
Measurers E. Dyer (3), J. Gibson (1), K. Lawrence (2), B. Roman (2), C. S. Shoemaker (3), C. J. van Houten (4), I. van Houten-Groeneveld (4), A. Wisse (4)
1.5-m reflector + CCD (C), 1.2-m (L) and 0.46-m (S) Schmidt telescopes

1981	ED37	1989	09	03.36319	23	51	44.19	-07	12	02.2	16.8 3 675
1981	ED37	1989	09	04.41719	23	50	51.61	-07	15	00.4	3 675
1983	SB	1989	04	29.39549	15	28	36.74	-18	32	43.4	17.0 2 675
1983	SB	1989	04	29.41823	15	28	35.40	-18	32	37.9	2 675
1983	SB	1989	05	03.39531	15	24	47.58	-18	12	58.2	2 675
1983	SB	1989	05	03.42378	15	24	45.92	-18	12	49.3	2 675
1987	SY	1989	09	10.42483	03	57	41.60	+28	04	58.4	1 675
1987	SY	1989	09	10.43003	03	57	41.57	+28	04	59.6	1 675
1987	SY	1989	09	10.44700	03	57	41.55	+28	05	04.0	1 675
1987	SY	1989	09	10.45329	03	57	41.54	+28	05	05.6	1 675
1987	SY	1989	09	11.39697	03	57	41.10	+28	08	54.4	1 675
1987	SY	1989	09	11.43823	03	57	40.95	+28	09	04.0	1 675
1987	SY	1989	09	11.45639	03	57	40.89	+28	09	08.9	1 675
1987	SY	1989	10	18.45593	03	23	11.45	+28	44	51.7	1 675
1987	SY	1989	10	18.46183	03	23	10.83	+28	44	50.7	1 675
1987	SY	1989	10	18.47677	03	23	09.14	+28	44	47.1	1 675
1987	SY	1989	10	19.43800	03	21	25.00	+28	41	15.0	1 675
1987	SY	1989	10	19.44403	03	21	24.37	+28	41	13.6	1 675
1987	SY	1989	10	19.45061	03	21	23.57	+28	41	12.1	1 675

1987	SY		1989	11	09.29247	02	39	57.33	+26	14	15.8	1 675
1987	SY		1989	11	09.29924	02	39	56.50	+26	14	12.0	1 675
1987	SY		1989	11	09.30525	02	39	55.75	+26	14	08.3	1 675
1987	SY		1989	11	10.31644	02	37	57.48	+26	04	13.0	1 675
1987	SY		1989	11	10.32598	02	37	56.28	+26	04	07.7	1 675
1987	SY		1989	11	10.33388	02	37	55.46	+26	04	02.5	1 675
1988	JN		1989	08	29.29236	21	35	53.45	-12	10	29.2	17.5 3 675
1988	JN		1989	08	29.35035	21	35	51.09	-12	11	04.8	3 675
1988	JN		1989	09	24.13472	21	24	17.73	-15	57	10.3	17.9 3 675
1988	JN		1989	09	24.16892	21	24	17.13	-15	57	26.4	3 675
1988	MF		1990	03	01.26875	09	21	36.22	+46	51	36.0	16.0 2 675
1988	MF		1990	03	01.28559	09	21	35.31	+46	51	46.3	2 675
1988	ND		1990	02	26.48854	13	25	05.95	+23	53	27.6	16.5 2 675
1988	ND		1990	02	26.50087	13	25	05.65	+23	53	44.9	2 675
1988	ND		1990	02	28.49236	13	24	47.78	+24	38	50.3	2 675
1988	ND		1990	02	28.52014	13	24	47.45	+24	39	28.4	2 675
1988	RV		1988	10	08.13211	22	14	21.20	-15	47	46.9	18.1 3 675
1988	RV		1988	10	08.15885	22	14	20.67	-15	47	45.2	3 675
1988	TZ1		1988	11	04.19288	23	37	28.62	+30	04	23.9	18 3 675
1988	TZ1		1988	11	06.24774	23	36	59.18	+29	53	41.7	3 675
1989	BL		1989	02	01.35469	08	58	19.21	+26	05	07.7	3 675
1989	BB1		1989	03	08.20763	07	52	15.95	+36	07	07.2	18.8 3 675
1989	BB1		1989	03	08.24444	07	52	15.68	+36	07	03.9	3 675
1989	BB1		1990	01	30.50364	10	46	30.78	+28	21	25.7	18.5 3 675
1989	BB1		1990	01	30.54688	10	46	29.69	+28	21	39.4	3 675
1989	BB1		1990	02	20.34409	10	36	08.64	+29	43	24.6	18.2 3 675
1989	BB1		1990	02	22.40694	10	34	59.68	+29	49	58.8	3 675
1989	CQ1		1990	02	20.37864	10	46	40.15	+02	29	44.5	17.7 3 675
1989	CQ1		1990	02	22.38984	10	45	35.07	+02	32	46.9	3 675
1989	EO11	*	1989	03	09.23975	09	05	25.69	+14	52	01.4	17.9 3 675
1989	EO11		1989	03	09.27708	09	05	24.88	+14	52	10.1	3 675
1989	ON1	*	1989	07	31.39097	21	56	20.00	-07	04	13.3	17.2 3 675
1989	ON1		1989	08	01.42743	21	55	32.09	-07	09	32.2	3 675
1990	BG		1990	02	28.17378	04	46	48.87	+49	57	46.7	16.0 2 675
1990	BG		1990	02	28.20174	04	46	44.34	+49	58	13.3	2 675
1990	BG		1990	03	01.20347	04	44	10.72	+50	13	55.0	2 675
1990	BG		1990	03	01.22778	04	44	06.94	+50	14	17.1	2 675
1990	BJ		1990	02	28.18906	06	11	10.02	+18	16	43.1	17.0 2 675
1990	BJ		1990	02	28.21510	06	11	11.05	+18	16	29.2	2 675
1990	BW		1990	02	27.29688	07	32	51.56	+26	35	36.0	17.0 2 675
1990	BW		1990	02	27.32135	07	32	51.13	+26	35	55.2	2 675
1990	BL1		1990	02	27.23194	07	38	12.40	+07	12	23.1	17.0 2 675
1990	BL1		1990	02	27.25625	07	38	12.32	+07	12	38.3	2 675
1990	BM1		1990	02	27.19583	06	17	50.82	+24	52	08.7	16.0 2 675
1990	BM1		1990	02	27.21875	06	17	51.82	+24	52	29.3	2 675
1990	BM1		1990	03	01.22153	06	19	32.76	+25	21	41.4	2 675
1990	BM1		1990	03	01.24722	06	19	34.02	+25	22	02.7	2 675
1990	BN2		1990	02	28.28472	08	26	11.22	+36	10	03.0	17.0 2 675
1990	BN2		1990	02	28.30938	08	26	10.56	+36	10	04.2	2 675
1990	DH	*	1990	02	26.42778	11	14	53.11	+36	13	08.6	16.0 2 675
1990	DH		1990	02	26.45851	11	14	52.03	+36	13	46.1	2 675
1990	DH		1990	02	28.48611	11	13	28.00	+37	03	44.7	2 675
1990	DH		1990	02	28.51424	11	13	26.73	+37	04	25.5	2 675
1990	DJ	*	1990	02	27.30868	08	33	46.71	+13	06	42.9	15.5 2 675
1990	DJ		1990	02	28.29618	08	33	11.96	+13	33	57.2	2 675
1990	DJ		1990	03	01.26285	08	32	40.71	+14	00	14.9	2 675
1990	DK		1990	01	26.46927	10	54	07.23	-02	33	23.6	18.1 3 675
1990	DK		1990	01	28.48680	10	53	27.66	-02	32	14.9	3 675
1990	DK	*	1990	02	20.37864	10	43	35.46	-01	54	52.2	18 3 675

1990	DK		1990	02	22.38984	10	42	34.93	-01	49	42.1	3 675
2165	P-L	*	1960	09	26.37010	01	00	44.52	+11	07	36.8	16.4 4 675
2165	P-L		1960	09	28.45140	00	59	20.12	+10	40	31.1	4 675
2165	P-L		1960	09	29.44510	00	58	39.13	+10	27	23.1	4 675
2789	P-L	*	1960	09	26.37988	01	00	36.01	+02	10	49.8	17.6 4 675
2789	P-L		1960	09	28.43822	00	59	07.78	+02	01	25.0	4 675
2789	P-L		1960	09	29.39514	00	58	26.22	+01	56	59.7	4 675
4118	P-L	*	1960	09	24.37573	00	25	06.62	+04	55	33.9	20.4 4 675
4118	P-L		1960	09	25.39444	00	24	08.35	+04	49	46.4	4 675
4118	P-L		1960	09	25.42780	00	24	06.57	+04	49	35.8	4 675
4118	P-L		1960	09	26.30558	00	23	16.84	+04	44	36.8	4 675
4118	P-L		1960	09	26.32569	00	23	15.60	+04	44	28.2	4 675
4118	P-L		1960	09	28.36808	00	21	19.09	+04	32	41.1	4 675
4118	P-L		1960	09	28.38750	00	21	17.91	+04	32	34.4	4 675
6294	P-L	*	1960	09	24.31111	00	08	39.52	+02	40	06.2	19.8 4 675
6294	P-L		1960	09	24.33613	00	08	38.13	+02	39	54.3	4 675
6294	P-L		1960	09	25.29097	00	07	47.45	+02	33	11.4	4 675
6294	P-L		1960	09	26.25556	00	06	56.01	+02	26	21.3	4 675
6294	P-L		1960	09	28.30764	00	05	06.70	+02	11	46.9	4 675
6294	P-L		1960	09	28.32780	00	05	05.49	+02	11	37.8	4 675
6372	P-L	*	1960	09	24.33613	00	07	50.87	+04	08	16.4	19.3 4 675
6372	P-L		1960	09	25.32502	00	07	02.07	+04	01	51.9	4 675
6372	P-L		1960	09	26.27573	00	06	15.27	+03	55	40.7	4 675
6372	P-L		1960	09	28.32780	00	04	34.69	+03	42	17.9	4 675
7606	P-L	*	1960	10	17.28198	00	06	07.14	-05	58	33.4	19.2 4 675
7606	P-L		1960	10	22.23406	00	04	15.52	-05	52	41.6	4 675
7606	P-L		1960	10	25.25350	00	03	30.68	-05	46	07.4	4 675
7606	P-L		1960	10	26.31531	00	03	19.01	-05	43	18.5	4 675
1038	T-2		1973	09	25.30729	00	01	08.76	+01	52	50.7	4 675
1038	T-2	*	1973	09	29.25330	23	57	39.38	+01	24	46.2	20.0 4 675
1038	T-2		1973	09	29.31806	23	57	35.80	+01	24	17.4	4 675
1038	T-2		1973	09	30.21007	23	56	49.46	+01	17	59.9	4 675
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1038	T-2		1973	10	04.28958	23	53	22.67	+00	49	29.0	4 675
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1038	T-2		1973	10	05.31684	23	52	32.89	+00	42	31.6	4 675
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2145	T-2		1973	09	19.19948	00	36	43.18	+05	42	59.1	4 675
2145	T-2		1973	09	19.25006	00	36	41.42	+05	42	21.5	4 675
2145	T-2		1973	09	20.26458	00	36	05.24	+05	30	04.0	4 675
2145	T-2		1973	09	24.36181	00	33	32.32	+04	39	08.4	4 675
2145	T-2		1973	09	24.42847	00	33	29.52	+04	38	16.8	4 675
2145	T-2		1973	09	25.25642	00	32	57.97	+04	27	44.6	4 675
2145	T-2		1973	09	25.32031	00	32	55.36	+04	26	58.3	4 675
2145	T-2		1973	09	29.26632	00	30	19.21	+03	35	58.5	4 675
2145	T-2	*	1973	09	29.33073	00	30	16.33	+03	35	06.9	17.9 4 675
2145	T-2		1973	09	30.22257	00	29	40.75	+03	23	30.5	4 675
2145	T-2		1973	09	30.28785	00	29	37.97	+03	22	38.8	4 675
2145	T-2		1973	10	04.30208	00	26	56.58	+02	30	15.3	4 675
2145	T-2		1973	10	04.36476	00	26	53.88	+02	29	25.1	4 675
2145	T-2		1973	10	05.32917	00	26	15.70	+02	16	53.1	4 675
2145	T-2		1973	10	05.39132	00	26	12.92	+02	16	05.5	4 675
2222	T-2		1973	09	19.19948	00	42	56.51	+01	51	19.1	4 675
2222	T-2		1973	09	19.22500	00	42	55.65	+01	51	10.7	4 675
2222	T-2		1973	09	19.25006	00	42	54.54	+01	51	05.1	4 675
2222	T-2		1973	09	19.27865	00	42	53.67	+01	50	56.1	4 675
2222	T-2		1973	09	20.26458	00	42	16.88	+01	45	58.4	4 675
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2222	T-2		1973	09	24.36181	00	39	40.67	+01	25	07.0	4 675

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3033	T-2		1973	09	24.44167	00	02	51.86	-04	43	14.9	4 675
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3282       1960 10 26.27157  23 26 56.55  -05 52 24.6                  4 675
```

685 Williams
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observer P. E. Roques
Measurer S. J. Bus
0.4-m f/4.5 reflector

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1990 DA    1990 02 28.11248  08 38 23.09  +26 44 12.9                  685
1990 DA    1990 02 28.12690  08 38 24.08  +26 44 48.2                  685
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688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers S. J. Bus, L. M. Sauter
Measurer S. J. Bus
1.8-m reflector + CCD

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1981 EQ40  1990 01 25.43171  08 56 25.45  +15 04 07.2                  688
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1981 EQ40  1990 01 28.19936  08 53 20.57  +15 17 47.9                  688
1981 EQ40  1990 01 28.22888  08 53 18.47  +15 17 56.9                  688
1985 TT    1990 01 25.34502  11 24 22.78  -00 12 00.3                  688
1985 TT    1990 01 25.35486  11 24 22.65  -00 11 59.4                  688
1986 AE    1990 01 25.09965  00 05 01.05  +28 00 49.8                  688
1987 SB    1990 01 25.28553  06 32 41.37  +25 13 48.4                  688
1987 SB    1990 01 25.29306  06 32 40.71  +25 13 49.4                  688
1987 SB    1990 01 25.30069  06 32 40.07  +25 13 50.4                  688
1988 JJ    1990 01 25.26910  05 52 21.24  -10 03 45.4                  688
1988 JJ    1990 01 25.27963  05 52 20.87  -10 03 42.4                  688
1989 BQ    1990 01 25.40428  13 06 44.91  +12 21 52.6                  688
1989 BQ    1990 01 25.42176  13 06 45.12  +12 21 57.7                  688
1989 FB    1990 01 25.46007  13 31 07.64  +31 42 25.1                  688
1989 FB    1990 01 25.46597  13 31 07.60  +31 42 29.5                  688
1989 OB    1990 01 25.24861  03 17 37.50  +23 19 10.6                  688
1989 OB    1990 01 25.25845  03 17 38.62  +23 19 10.5                  688
1989 TS2   1990 01 28.17366  01 57 22.44  +00 52 05.8                  688
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1989 TO11 1990 01 25.11713 00 41 58.84 +03 40 21.3 688
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1989 UX5 1990 01 28.16527 01 40 40.34 +07 36 44.3 688
1989 UX5 1990 01 28.18027 01 40 40.75 +07 36 47.3 688

698 Mt. Bigelow
S. J. Bus, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers E. S. Bus, M. Nolan
Measurers E. S. Bus, S. J. Bus
1.5-m reflector + CCD
SAOC primary net
1989 UP 1989 11 19.44922 10 21 19.15 +17 22 51.3 698
1989 UP 1989 11 19.45385 10 21 20.97 +17 22 52.0 698

801 Oak Ridge
R. E. McCrosky, Harvard-Smithsonian Center for Astrophysics,
60 Garden Street, Cambridge, MA 02138, U.S.A.
Observers R. E. McCrosky, C.-Y. Shao
1.5-m reflector + CCD
1931 GC 1989 12 27.40806 08 34 39.92 +30 53 07.4 801
1931 GC 1989 12 27.43330 08 34 39.12 +30 53 14.5 801
1931 GC 1989 12 29.29392 08 33 18.64 +30 59 52.3 801
1931 GC 1989 12 29.31730 08 33 17.56 +30 59 57.5 801
1932 HD 1989 12 27.22274 06 20 12.44 +23 01 04.3 801
1932 HD 1989 12 29.23561 06 18 16.42 +23 01 44.7 801
1932 HD 1989 12 29.25762 06 18 15.07 +23 01 45.2 801
1935 SP1 1990 02 27.34002 12 59 28.25 -08 24 38.0 801
1935 SP1 1990 02 27.36723 12 59 27.13 -08 24 46.0 801
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1936 PB 1989 11 25.18116 03 16 12.92 +28 14 04.5 801
1936 PB 1989 11 25.22247 03 16 10.32 +28 13 50.2 801
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1942 AC 1990 02 21.33768 11 49 28.75 +28 04 11.8 801
1949 GH 1989 10 26.28047 03 26 39.10 +04 05 39.1 801
1949 GH 1989 11 25.15384 03 06 22.62 +01 02 49.7 801
1949 GH 1989 11 25.18623 03 06 21.34 +01 02 41.1 801
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1971 UK 1989 10 29.99561 22 24 53.61 -04 12 34.7 801
1971 UK 1989 10 30.02648 22 24 54.85 -04 12 36.6 801

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1978	OK	1989	12	29.17142	05	27	35.13	+22	31	59.4	801
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1978	SS2	1989	09	28.18650	23	22	42.46	+01	32	51.4	801
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1982	SA4	1989	11	25.19884	03	12	09.23	+21	34	46.5	801
1982	SV5	1989	10	29.29268	03	51	25.95	+09	38	49.2	801
1982	SV5	1989	10	29.31756	03	51	24.89	+09	38	37.8	801
1982	UE	1989	12	29.08114	03	11	39.56	+16	10	38.2	801
1982	UE	1989	12	29.10871	03	11	39.73	+16	10	45.9	801
1982	UQ5	1989	10	28.31291	04	51	27.73	+26	05	43.3	801
1982	UQ5	1989	10	28.37106	04	51	26.58	+26	05	44.7	801
1982	UQ5	1989	12	02.19496	04	20	09.09	+25	33	02.7	801
1982	UQ5	1989	12	02.23063	04	20	06.49	+25	32	55.4	801
1982	VD5	1989	12	29.16503	05	05	36.82	+18	49	17.1	801
1982	VD5	1989	12	29.18313	05	05	35.90	+18	49	14.7	801
1983	AG2	1990	02	21.14503	08	10	54.25	+32	00	42.9	801
1983	AG2	1990	02	21.20341	08	10	51.54	+31	59	11.6	801
1983	AG2	1990	02	26.18671	08	08	04.23	+29	52	28.4	801
1983	AG2	1990	02	26.19710	08	08	03.91	+29	52	13.0	801
1983	AG2	1990	03	23.06741	08	12	18.17	+20	56	42.6	801
1983	AG2	1990	03	23.07198	08	12	18.37	+20	56	37.9	801
1983	DE	1989	12	29.17548	05	33	56.15	+22	51	06.7	801
1983	DE	1989	12	29.19428	05	33	54.98	+22	51	09.1	801
1983	RY3	1989	10	28.23468	02	12	37.20	+21	35	04.0	801
1983	RY3	1989	10	28.28883	02	12	34.23	+21	34	57.7	801
1983	WR	1989	12	02.39485	06	43	00.65	+33	22	50.2	801
1983	WR	1989	12	29.24298	06	17	37.07	+35	10	54.4	I 801
1983	WR	1989	12	29.26246	06	17	35.81	+35	10	55.5	801
1984	QF	1989	12	02.18601	04	15	21.19	+00	29	50.4	801
1984	QF	1989	12	02.22035	04	15	19.15	+00	29	47.9	801
1984	QF	1989	12	29.09248	03	55	38.04	+02	19	09.3	801
1984	QF	1989	12	29.11328	03	55	37.56	+02	19	17.1	801
1984	UT	1990	02	27.16075	06	51	59.29	+00	13	17.9	801
1984	UT	1990	02	27.22352	06	52	00.10	+00	13	39.1	801
1984	UW	1989	12	29.13295	04	47	32.48	+27	18	57.0	801
1984	UW	1989	12	29.14816	04	47	31.74	+27	18	52.7	801
1984	YV	1989	12	02.06867	00	50	58.96	+39	02	38.2	801
1984	YV	1989	12	02.10671	00	50	59.52	+39	01	54.8	801
1984	YV	1989	12	28.98190	01	12	59.23	+31	49	22.7	801
1984	YV	1989	12	28.99453	01	13	00.14	+31	49	13.1	801
1985	CP1	1990	02	21.34695	13	06	08.96	-03	39	19.1	801
1985	CP1	1990	02	21.42674	13	06	08.45	-03	39	01.3	801
1985	CP1	1990	02	26.34653	13	05	26.09	-03	18	51.7	801
1985	CP1	1990	02	26.38921	13	05	25.33	-03	18	40.7	S 801
1985	RL1	1989	09	28.35602	02	35	11.09	+17	33	00.1	801
1985	RL1	1989	10	28.20830	02	14	16.27	+12	49	29.1	801
1985	RD4	1989	12	29.32485	08	53	02.91	+22	51	59.3	801
1985	RD4	1989	12	29.34761	08	53	01.94	+22	52	02.6	801
1985	SA	1989	10	29.29692	03	55	34.69	+08	28	52.7	801
1985	SA	1989	10	29.32451	03	55	33.22	+08	28	46.6	801
1985	SA	1989	11	25.16385	03	28	26.54	+07	19	35.1	801
1985	SA	1989	11	25.19085	03	28	24.83	+07	19	33.6	801
1985	UY4	1990	02	21.24877	10	55	36.21	+07	19	19.2	801
1985	UY4	1990	02	21.28984	10	55	33.89	+07	19	41.8	801
1985	VN	1989	12	29.00334	01	25	40.76	+03	37	30.2	801
1985	VN	1989	12	29.01540	01	25	41.46	+03	37	31.6	801
1986	EO	1990	02	21.30819	12	18	40.94	+27	49	00.9	801
1986	EO	1990	02	21.33354	12	18	40.01	+27	49	16.3	801

1986	EJ1	1990	02	27.29593	11	13	07.68	+19	45	37.7	801
1986	EJ1	1990	02	27.30974	11	13	06.79	+19	45	38.9	801
1986	GU	1989	11	27.41090	10	41	27.04	+34	20	26.7	801
1986	GU	1989	11	27.42800	10	41	29.32	+34	20	38.0	801
1986	GU	1989	12	27.44594	11	47	17.83	+41	17	59.0	801
1986	GU	1989	12	29.38708	11	51	09.29	+41	50	49.6	801
1986	GU	1989	12	29.39136	11	51	09.81	+41	50	54.0	801
1986	RC2	1989	10	28.33526	05	09	17.14	-15	40	49.9	801
1986	RC2	1989	10	28.35079	05	09	16.95	-15	41	13.2	801
1986	RC2	1989	10	30.36727	05	08	51.85	-16	31	13.1	801
1986	RC2	1989	10	30.38556	05	08	51.52	-16	31	40.3	801
1986	UU	1989	09	30.08121	19	59	42.52	-10	11	30.6	801
1986	UU	1989	09	30.11100	19	59	44.94	-10	11	32.9	801
1986	UU	1989	10	30.02090	20	51	59.31	-09	42	34.6	801
1987	RX3	1990	02	27.23658	09	50	01.34	+09	14	38.3	801
1987	RX3	1990	02	27.26576	09	49	59.96	+09	14	44.0	801
1987	WS	1990	02	27.39823	12	55	20.54	-00	48	54.4	801
1987	WS	1990	02	27.42105	12	55	19.92	-00	48	53.2	801
1988	AK	1989	12	29.37903	11	30	50.14	+27	37	50.1	801
1988	AK	1989	12	29.43417	11	30	50.64	+27	38	04.6	801
1988	AK	1990	02	27.29042	11	16	27.25	+32	51	54.0	801
1988	AK	1990	02	27.31424	11	16	26.44	+32	51	59.6	801
1988	FJ	1989	10	28.08709	23	33	35.15	+03	18	08.4	801
1988	FJ	1989	10	28.10581	23	33	34.27	+03	18	13.1	801
1988	JO	1989	10	28.32358	05	37	03.76	+03	55	33.3	801
1988	JO	1989	10	28.37486	05	37	02.37	+03	55	38.1	801
1988	RN	1989	12	29.36781	10	00	45.30	+18	16	08.6	801
1988	RN	1989	12	29.40878	10	00	44.69	+18	16	00.4	801
1988	RP	1990	02	21.24444	10	53	58.74	+04	00	55.1	801
1988	RP	1990	02	21.28588	10	53	56.11	+04	01	04.7	801
1988	RP1	1990	02	27.33328	12	49	07.27	-02	13	08.7	801
1988	RP1	1990	02	27.37159	12	49	05.80	-02	13	03.4	801
1988	TG1	1989	12	29.32083	08	46	05.11	+10	09	25.6	801
1988	TG1	1989	12	29.34366	08	46	04.26	+10	09	23.1	801
1988	VC	1990	02	27.24150	09	50	01.11	+14	48	21.6	801
1988	VC	1990	02	27.27033	09	49	59.57	+14	48	24.0	801
1988	VP	1990	02	21.30364	12	42	44.27	+16	21	07.9	801
1988	VP	1990	02	21.32925	12	42	43.39	+16	21	16.8	I 801
1988	VP	1990	02	26.29011	12	39	46.02	+16	50	14.1	801
1988	VP	1990	02	26.32376	12	39	44.52	+16	50	28.5	S 801
1988	VU1	1990	02	21.26839	11	04	58.24	-03	26	42.2	801
1988	VU1	1990	02	21.29421	11	04	57.03	-03	26	36.4	801
1988	XA	1990	01	28.35131	11	19	32.37	-09	22	48.8	r 801
1988	XA	1990	01	28.39670	11	19	31.49	-09	22	51.7	r 801
1989	BO	1990	02	27.39310	15	10	52.59	-03	53	38.4	801
1989	BO	1990	02	27.42608	15	10	53.38	-03	53	34.1	801
1989	BQ	1990	02	21.35228	13	06	50.51	+14	53	26.5	801
1989	BQ	1990	02	21.38623	13	06	50.08	+14	53	39.4	801
1989	BQ	1990	02	27.35771	13	05	23.79	+15	31	45.2	801
1989	BQ	1990	02	27.38135	13	05	23.40	+15	31	54.2	801
1989	FB	1989	11	27.43612	12	07	55.24	+28	05	31.2	U 801
1989	FB	1989	11	27.43879	12	07	55.64	+28	05	31.6	801
1989	FB	1989	11	27.44148	12	07	55.94	+28	05	32.0	801
1989	FB	1990	02	21.32102	12	51	11.66	+38	09	45.9	801
1989	FB	1990	02	21.34179	12	51	07.74	+38	10	00.8	801
1989	FB	1990	02	26.30553	12	33	45.12	+39	00	23.8	801
1989	FB	1990	02	26.31197	12	33	43.47	+39	00	24.4	801
1989	OB	1989	09	28.11351	22	07	25.72	+29	56	18.7	801
1989	OB	1989	09	28.14646	22	07	29.75	+29	56	57.5	801

1989	OB	1989	10	28.08167	23	36	07.52	+32	53	52.7	801
1989	OB	1989	10	28.09987	23	36	10.98	+32	53	46.1	801
1989	OB	1989	12	29.05663	02	21	29.01	+24	08	08.7	801
1989	OB	1989	12	29.06123	02	21	29.60	+24	08	06.8	801
1989	PA	1989	10	29.04475	20	10	53.27	+04	19	44.1	801
1989	UY3	1989	12	29.04326	02	40	05.03	+07	44	11.1	801
1989	UY3	1989	12	29.07284	02	40	05.66	+07	43	40.6	801
1989	VA	1989	11	25.09062	01	15	07.77	-15	06	11.1	801
1989	VA	1989	11	25.10293	01	15	04.58	-15	06	54.3	801
1989	VP	1989	12	29.01100	01	29	59.24	+05	21	40.0	801
1989	VP	1989	12	29.01939	01	29	59.61	+05	21	35.9	801
1989	VW	1989	12	29.08786	03	25	19.09	+21	18	10.4	801
1989	VW	1989	12	29.11768	03	25	18.48	+21	18	09.9	801
1989	WM	1989	12	27.34886	08	33	19.18	+26	13	17.9	801
1989	WM	1989	12	27.37124	08	33	21.31	+26	13	19.9	801
1989	WM	1989	12	29.34012	08	36	34.26	+26	17	35.7	801
1989	WM	1989	12	29.35222	08	36	35.29	+26	17	37.0	801
1989	WM	1990	02	21.23991	09	25	39.71	+24	30	41.6	801
1989	WM	1990	02	21.27885	09	25	40.97	+24	30	21.6	801
1989	WM	1990	02	26.24000	09	29	03.05	+23	45	51.1	801
1989	WM	1990	02	26.25629	09	29	03.55	+23	45	42.8	801
1989	WK2	1990	02	27.10042	05	22	20.78	+04	33	04.9	801
1989	WK2	1990	02	28.05590	05	23	35.59	+04	53	10.6	801
1989	WK2	1990	02	28.06759	05	23	36.44	+04	53	24.6	801
1990	BA	1990	02	21.16756	07	38	33.26	+19	03	55.6	801
1990	BA	1990	02	21.18839	07	38	36.44	+19	03	36.8	801
1990	BA	1990	02	27.14194	07	54	50.47	+17	39	21.3	801
1990	BA	1990	02	27.15576	07	54	52.58	+17	39	09.2	801
1990	BG	1990	02	27.11395	04	49	36.84	+49	40	42.8	801
1990	BG	1990	02	28.08432	04	47	02.82	+49	56	18.9	801
1990	BG	1990	02	28.09220	04	47	01.48	+49	56	25.5	801
6047	P-L	1990	02	27.24659	10	02	52.79	+04	39	20.7	801
6047	P-L	1990	02	27.27525	10	02	51.19	+04	39	33.5	801
1276	T-2	1990	02	27.22944	09	33	57.07	+19	13	20.9	801
1276	T-2	1990	02	27.26097	09	33	55.39	+19	13	25.0	801
1276	T-2	1990	02	28.14487	09	33	10.27	+19	15	33.5	U 801
1276	T-2	1990	02	28.17188	09	33	08.93	+19	15	35.6	r 801
449		1989	12	28.99874	02	35	13.80	+13	17	00.8	801
449		1989	12	29.04645	02	35	13.80	+13	17	06.8	801
449		1990	02	27.07328	03	24	20.04	+18	15	57.7	801
449		1990	02	27.08700	03	24	21.21	+18	16	02.9	801
951		1989	09	30.35274	08	06	10.39	+18	57	50.4	801
951		1989	09	30.36780	08	06	11.96	+18	57	44.0	801
951		1989	11	27.37514	09	17	57.31	+12	11	12.5	801
951		1989	11	27.38332	09	17	57.59	+12	11	10.4	801
951		1989	11	27.40234	09	17	58.13	+12	11	04.2	801
951		1989	12	27.39094	09	20	12.02	+10	27	20.3	801
951		1989	12	27.42812	09	20	11.07	+10	27	19.2	801
951		1989	12	29.29790	09	19	18.40	+10	25	36.0	801
951		1989	12	29.33526	09	19	17.22	+10	25	34.6	801
951		1990	02	21.15447	08	28	05.55	+12	44	06.2	801
951		1990	02	21.18196	08	28	04.34	+12	44	11.9	I 801
951		1990	02	26.16937	08	24	35.10	+13	01	23.0	801
951		1990	02	26.20378	08	24	33.77	+13	01	29.9	801
951		1990	02	27.18892	08	23	57.93	+13	04	42.2	801
951		1990	02	27.20484	08	23	57.34	+13	04	45.3	801
1126		1989	09	29.21363	23	43	15.86	-02	04	23.0	801
1126		1989	09	29.21680	23	43	15.60	-02	04	23.3	801
1126		1989	09	29.22002	23	43	15.41	-02	04	24.5	801

1126	1989	09	29.23887	23	43	14.20	-02	04	28.5	801
1862	1989	11	27.35701	07	32	39.63	+34	13	06.2	801
1862	1989	11	27.36324	07	32	38.40	+34	13	12.0	801
1862	1989	12	29.21197	05	45	03.84	+36	49	02.6	801
1862	1989	12	29.21648	05	45	03.05	+36	49	00.6	801
1865	1989	10	29.30031	04	19	32.15	+09	47	33.6	801
1865	1989	10	29.32036	04	19	31.25	+09	46	23.3	801
1865	1989	10	30.33708	04	18	51.30	+08	45	22.3	801
1865	1989	10	30.35832	04	18	50.22	+08	44	03.6	801
2825	1989	11	27.35199	08	53	33.22	+21	23	04.3	801
2825	1989	11	27.39048	08	53	34.51	+21	22	59.5	801
2825	1989	12	01.36496	08	55	36.07	+21	15	34.3	801
2825	1989	12	01.41552	08	55	37.29	+21	15	29.4	801
2825	1989	12	27.39689	08	53	28.51	+21	16	42.7	801
2825	1989	12	27.42305	08	53	27.54	+21	16	44.8	801
4221	1989	09	28.13298	21	42	26.66	-01	17	42.4	801
4221	1989	09	30.10077	21	42	01.27	-01	37	05.4	801
4221	1989	09	30.13137	21	42	00.87	-01	37	23.2	801
4228	1989	09	29.09292	20	26	29.20	-11	14	10.4	801
4231	1989	09	29.20034	23	22	54.65	+13	12	37.3	801
4231	1989	09	29.23337	23	22	52.96	+13	12	20.4	801
4253	1989	09	29.13490	22	27	03.16	-07	43	55.6	801
4253	1989	09	29.16488	22	27	01.87	-07	43	47.3	801
4254	1989	09	29.19487	23	11	45.52	+04	52	03.8	801
4254	1989	09	29.23072	23	11	44.06	+04	51	39.4	801
4273	1989	10	30.15690	01	00	20.86	-00	08	21.1	801
4273	1989	10	30.18423	01	00	19.87	-00	08	24.7	801
4278	1989	10	29.21042	02	40	14.43	+04	11	26.1	801
4278	1989	10	29.24009	02	40	37.17	+04	08	38.6	801
4281	1989	11	27.12886	02	35	55.11	+14	19	47.9	801
4281	1989	11	27.15928	02	35	53.76	+14	19	41.2	801
4299	1989	09	28.18971	23	38	12.00	-13	32	27.1	801
4299	1989	09	28.25474	23	38	08.75	-13	32	45.0	801
4299	1989	11	25.01120	23	41	14.96	-10	00	15.8	801
4299	1989	11	25.04360	23	41	16.64	-09	59	56.2	801
4303	1989	09	29.26314	01	44	29.25	+09	23	37.0	801
4303	1989	09	29.29648	01	44	27.68	+09	23	32.1	801
4315	1989	10	28.12094	23	42	45.76	-12	17	17.7	801
4315	1989	10	28.15143	23	42	44.98	-12	17	03.5	801
4319	1989	09	29.22732	23	49	39.83	+11	21	42.8	801
4319	1989	09	29.24577	23	49	38.51	+11	21	40.3	801
4324	1989	11	29.16649	04	47	00.40	+32	16	39.2	801
4324	1989	11	29.19289	04	46	58.65	+32	16	31.2	801
4324	1989	12	02.19990	04	43	44.72	+31	59	37.0	801
4324	1989	12	02.23652	04	43	42.27	+31	59	24.0	801
4329	1989	09	28.31672	02	27	26.81	+17	45	12.3	801
4329	1989	09	28.34587	02	27	25.87	+17	45	16.5	801
4330	1989	12	02.13960	02	33	39.89	+12	22	21.7	801
4330	1989	12	02.16997	02	33	38.84	+12	22	10.9	801
4358	1989	10	28.14097	23	52	48.81	-02	18	49.9	801
4358	1989	10	28.16197	23	52	48.10	-02	18	47.2	801
4358	1989	10	30.09411	23	51	49.27	-02	14	08.9	801
4358	1989	10	30.13319	23	51	48.13	-02	14	01.6	801
4358	1989	11	24.98714	23	48	29.33	-00	30	08.8	801
4358	1989	11	25.02781	23	48	29.77	-00	29	55.3	801
4360	1989	09	29.22423	23	42	09.50	+00	26	51.6	801
4360	1989	10	30.06793	23	25	06.58	-01	04	11.4	801
4360	1989	10	30.12128	23	25	06.01	-01	04	14.0	801
4362	1989	12	01.17972	03	56	23.71	+24	34	34.2	801

4362		1989	12	01.19741	03	56	22.37	+24	34	32.0	801
4363		1989	12	29.03662	02	21	09.95	+08	51	26.9	801
4363		1989	12	29.06862	02	21	11.00	+08	51	47.5	801
4372		1989	09	30.21252	00	43	26.35	+04	26	20.9	801
4372		1989	09	30.31213	00	43	21.44	+04	25	55.1	801
4374		1989	12	01.18749	04	16	06.62	+11	42	48.8	801
4374		1989	12	01.20109	04	16	05.68	+11	42	46.2	801
4375		1989	12	29.15560	04	51	07.69	+14	39	33.7	801
4375		1989	12	29.17953	04	51	06.34	+14	39	35.9	801
4376		1989	12	27.33751	07	51	07.27	+19	27	41.8	801
4376		1989	12	27.35947	07	51	05.92	+19	27	44.0	801
4376		1989	12	29.30369	07	49	14.48	+19	31	34.2	801
4379		1989	12	01.21547	04	47	47.20	+01	12	52.5	801
4379		1989	12	01.23901	04	47	45.97	+01	12	42.4	801
4380		1989	12	29.24698	06	18	22.64	+37	24	26.7	801
4380		1989	12	29.26644	06	18	21.25	+37	24	25.2	801
4385		1989	10	30.35388	04	33	54.64	+21	56	17.9	801
4385		1989	10	30.39490	04	33	53.25	+21	56	15.4	801
4387		1989	12	01.33111	07	16	58.65	+19	12	57.0	801
4387		1989	12	01.38718	07	16	57.16	+19	13	01.8	801
4388		1989	09	28.24792	23	14	10.24	+25	53	59.3	801
4398		1989	09	30.19863	00	37	35.01	-05	04	07.9	801
4400		1989	09	28.32037	02	34	58.59	+19	38	18.3	801
4400		1989	09	28.35102	02	34	57.78	+19	38	22.6	801
4403		1989	12	29.20160	05	53	27.58	+28	11	19.3	801
4403		1989	12	29.22350	05	53	25.91	+28	11	19.9	801
4414		1989	12	29.13680	04	42	53.64	+36	26	04.6	801
4414		1989	12	29.15207	04	42	52.83	+36	26	00.0	801

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J. G. Sanguin, Felix Aguilar Observatory, Benavidez 8175 (Oeste),
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Observers M. R. Cesco, C. E. Lopez, H. S. Lopez, H. Mira, J. G. Sanguin,
J. E. Torres, J. A. Vicentela

11		1988	04	12.19508	13	22	18.30	-00	44	04.7	808
11		1988	04	12.23525	13	22	16.00	-00	43	49.6	808
40		1987	11	20.13049	01	46	48.64	+04	41	34.2	808
40		1987	11	20.14919	01	46	47.90	+04	41	33.6	808
45		1983	08	04.15121	19	13	30.96	-16	54	23.4	c 808
45		1983	08	04.19623	19	13	29.07	-16	54	35.8	c 808
50		1982	09	10.15618	22	22	41.19	-08	46	07.9	808
50		1982	09	10.19011	22	22	39.77	-08	46	21.0	808
71		1988	05	12.05638	11	09	23.08	-30	12	53.0	808
71		1988	05	12.10071	11	09	23.29	-30	12	38.0	808
71		1989	07	02.36656	22	34	55.78	-06	39	12.5	808
71		1989	07	02.40119	22	34	55.28	-06	38	58.9	808
80		1989	05	30.06330	13	42	10.96	-09	39	42.7	808
80		1989	05	30.09100	13	42	10.25	-09	39	31.9	808
135		1988	04	16.18693	13	47	51.50	-13	59	13.5	808
135		1988	04	16.21463	13	47	49.77	-13	59	05.8	808
135		1988	04	18.17740	13	45	53.52	-13	50	06.9	808
182		1988	05	23.23203	16	55	29.02	-20	46	29.6	808
184		1988	08	12.26226	22	33	07.19	-09	08	19.0	808
184		1988	08	12.28858	22	33	06.11	-09	08	24.2	808
218		1988	04	22.28066	15	47	16.06	+01	20	26.1	808
218		1988	04	22.29867	15	47	15.49	+01	20	37.3	808
230		1988	05	23.23203	16	54	56.58	-19	47	55.7	808
252		1989	03	12.16127	11	24	47.18	-03	47	55.3	808
252		1989	03	12.20282	11	24	45.42	-03	47	42.4	808

313	1989	05	31.30573	17	55	15.94	-05	02	27.8		808
319	1982	04	25.21995	13	31	45.31	-04	51	14.9	p	808
393	1989	01	30.10562	08	32	54.68	-01	51	10.0		808
468	1982	09	10.15618	22	28	38.52	-10	04	32.6		808
468	1982	09	10.19011	22	28	37.05	-10	04	40.4		808
469	1982	09	10.15618	22	24	14.34	-08	52	34.4		808
469	1982	09	10.19011	22	24	12.82	-08	52	38.4		808
470	1983	05	07.09920	13	14	31.74	+00	23	25.9		808
470	1983	05	07.14144	13	14	30.26	+00	23	38.3		808
471	1989	06	25.03455	15	29	09.50	-11	50	23.9		808
471	1989	06	25.07541	15	29	08.14	-11	50	28.9		808
475	1988	04	12.19508	13	14	57.27	+00	35	26.2		808
475	1988	04	12.23525	13	14	54.73	+00	35	30.9		808
492	1989	03	07.35291	17	08	21.69	-23	17	53.0		808
492	1989	03	07.37126	17	08	22.67	-23	17	55.2		808
559	1989	01	30.05160	06	25	22.40	+22	12	53.1	d	808
559	1989	01	30.07515	06	25	21.42	+22	12	59.1	d	808
599	1989	05	09.14211	13	57	08.70	-08	04	51.2		808
599	1989	05	09.16288	13	57	07.51	-08	04	50.5		808
599	1989	05	27.98912	13	41	42.10	-08	16	47.2		808
599	1989	05	28.02374	13	41	40.81	-08	16	50.0		808
599	1989	05	30.06330	13	40	24.31	-08	20	08.8		808
599	1989	05	30.09100	13	40	23.38	-08	20	16.8		808
601	1989	05	31.26556	17	58	38.91	+00	21	49.7		808
601	1989	05	31.30573	17	58	37.29	+00	21	57.1		808
619	1989	05	31.26556	17	55	32.28	-02	12	31.8		808
619	1989	05	31.30573	17	55	30.32	-02	12	20.0		808
660	1982	08	22.09621	19	33	58.35	-09	23	43.8	p	808
660	1982	08	22.12876	19	33	57.67	-09	24	04.7	p	808
682	1982	04	25.21995	13	26	42.59	-03	35	57.7	B	808
698	1988	04	12.19508	13	12	47.35	-00	16	38.7		808
698	1988	04	12.23525	13	12	45.04	-00	16	41.3		808
729	1982	08	16.03676	19	22	07.45	-20	25	20.7		808
747	1983	08	04.15121	19	06	50.45	-15	15	35.3	c	808
747	1983	08	04.19623	19	06	48.32	-15	15	53.3	c	808
822	1982	11	07.13078	01	23	36.55	+08	43	40.5		808
822	1982	11	07.17095	01	23	34.53	+08	43	27.9		808
822	1982	11	09.14818	01	22	02.89	+08	33	23.7		808
822	1982	11	09.18765	01	22	01.00	+08	33	11.5		808
846	1988	11	08.24845	03	55	18.12	+20	33	16.1		808
846	1988	11	08.26507	03	55	17.25	+20	33	13.2		808
879	1989	05	03.26860	16	48	23.43	-31	55	05.6		808
879	1989	05	03.29700	16	48	22.28	-31	55	01.2		808
879	1989	05	31.15406	16	22	49.85	-29	41	19.7	p	808
879	1989	05	31.18176	16	22	48.11	-29	41	09.3	p	808
879	1989	06	02.14375	16	20	44.30	-29	27	25.2		808
879	1989	06	02.17284	16	20	42.35	-29	27	13.2		808
894	1989	05	10.10202	13	21	28.36	-02	19	34.2	G	808
894	1989	05	10.12972	13	21	27.51	-02	19	24.7		808
932	1988	04	18.17740	13	55	22.72	-15	40	39.6		808
967	1983	03	10.25514	14	04	34.54	-04	22	54.7		808
967	1983	03	10.29392	14	04	34.08	-04	22	49.7		808
967	1983	03	13.27465	14	03	44.32	-04	12	16.3		808
967	1983	03	13.31343	14	03	43.55	-04	12	03.9		808
967	1983	03	18.19832	14	01	46.60	-03	52	22.4		808
967	1983	03	18.24126	14	01	45.16	-03	52	12.9		808
967	1983	03	20.22333	14	00	45.29	-03	43	28.3		808
967	1983	03	20.27458	14	00	43.49	-03	43	14.2		808
967	1983	05	07.09920	13	17	23.82	-00	14	41.3		808

967	1983	05	07.14144	13	17	21.61	-00	14	37.2		808
967	1983	06	06.03598	13	04	54.33	-00	59	33.6		808
967	1983	06	06.07823	13	04	54.30	-00	59	44.9		808
974	1983	03	10.25514	14	01	31.52	-04	38	06.5		808
974	1983	03	10.29392	14	01	30.92	-04	38	02.1		808
974	1983	03	13.27465	14	00	22.51	-04	27	10.9		808
974	1983	03	13.31343	14	00	21.52	-04	27	02.4		808
974	1983	03	18.19832	13	58	01.78	-04	07	31.7		808
974	1983	03	18.24126	13	58	00.18	-04	07	22.3		808
974	1983	03	20.22333	13	56	54.10	-03	58	53.4		808
974	1983	03	20.27458	13	56	52.23	-03	58	39.3		808
974	1983	05	07.09920	13	18	16.63	-00	44	09.6		808
974	1983	05	07.14144	13	18	14.75	-00	44	04.6		808
1034	1989	03	12.16127	11	33	47.77	-02	18	15.1		808
1034	1989	03	12.20282	11	33	45.10	-02	18	02.6		808
1066	1982	11	06.12243	01	08	50.65	+14	50	00.8		808
1066	1982	11	06.15429	01	08	49.46	+14	49	55.5		808
1066	1982	11	09.05330	01	07	09.84	+14	41	31.8	G	808
1066	1982	11	09.09762	01	07	08.62	+14	41	26.2	G	808
1102	1989	01	31.11813	08	23	56.56	-03	23	01.9		808
1102	1989	01	31.14167	08	23	55.41	-03	22	57.5		808
1114	1988	12	08.19008	05	29	24.49	+08	35	39.3		808
1114	1988	12	08.23856	05	29	21.87	+08	35	31.2		808
1130	1988	04	12.09743	11	47	57.48	-00	31	15.5		808
1130	1988	04	12.13899	11	47	55.36	-00	30	59.0		808
1252	1988	10	06.19242	01	56	57.03	-30	37	42.0		808
1294	1988	04	11.17634	12	02	31.13	+12	49	21.2		808
1294	1988	04	11.21097	12	02	29.62	+12	49	25.3		808
1310	1988	05	12.13568	13	44	22.13	-35	35	26.7		808
1310	1988	05	12.15992	13	44	20.48	-35	35	19.9		808
1333	1988	12	08.19008	05	19	44.89	+07	40	04.6		808
1333	1988	12	08.23856	05	19	41.85	+07	40	17.2		808
1334	1988	04	22.21314	14	55	30.52	+01	58	05.9		808
1334	1988	04	22.23807	14	55	29.41	+01	58	14.6		808
1352	1983	08	04.15121	19	07	53.72	-17	07	14.4	c	808
1352	1983	08	04.19623	19	07	51.76	-17	07	21.5	c	808
1372	1988	03	20.17409	10	54	12.95	-03	58	23.6		808
1372	1988	03	20.20525	10	54	11.20	-03	58	19.8		808
1372	1988	04	09.01040	10	39	48.24	-03	19	57.3		808
1372	1988	04	09.04503	10	39	47.10	-03	19	54.4		808
1383	1988	08	12.26226	22	33	42.78	-09	00	13.3		808
1383	1988	08	12.28858	22	33	41.71	-09	00	18.6		808
1483	1983	06	06.03598	13	04	32.87	-02	57	49.1		808
1483	1983	06	06.07823	13	04	32.42	-02	58	00.9		808
1514	1983	07	14.20613	19	21	51.17	-16	14	53.6		808
1514	1983	07	14.24630	19	21	48.73	-16	15	05.9		808
1514	1983	07	16.19097	19	20	03.91	-16	25	36.6		808
1514	1983	07	16.23114	19	20	01.56	-16	25	49.5		808
1514	1983	08	04.15121	19	05	28.30	-18	17	26.9	c	808
1514	1983	08	04.19623	19	05	26.63	-18	17	41.8	c	808
1536	1988	10	07.06504	22	57	39.75	-05	42	38.3		808
1536	1988	10	07.09274	22	57	39.18	-05	42	43.8		808
1574	1989	03	13.23368	12	27	22.76	-21	23	43.5		808
1574	1989	03	13.27177	12	27	21.24	-21	23	36.4		808
1574	1989	04	11.08317	12	08	43.91	-18	46	49.4	G	808
1574	1989	04	11.11433	12	08	42.79	-18	46	35.7	G	808
1613	1988	03	13.07512	09	46	42.51	+09	35	48.3		808
1613	1988	03	13.11667	09	46	40.82	+09	35	49.2		808
1723	1989	05	28.06183	13	59	44.79	+03	10	16.3		808

1723	1989	05	28.08815	13	59	44.12	+03	10	16.0		808
1723	1989	06	01.09385	13	58	18.88	+03	07	36.8		808
1723	1989	06	01.13263	13	58	18.05	+03	07	34.6		808
1811	1982	09	10.15618	22	19	07.17	-07	59	59.3		808
1811	1982	09	10.19011	22	19	05.85	-08	00	12.5		808
1829	1988	08	17.19736	22	07	28.45	-04	32	35.8		808
1829	1988	08	17.22507	22	07	26.60	-04	32	39.7		808
1829	1988	09	11.12425	21	42	43.36	-05	49	13.8		808
1829	1988	09	11.13949	21	42	42.57	-05	49	16.4		808
1839	1983	03	13.27465	13	55	46.41	-03	40	23.6		808
1839	1983	03	13.31343	13	55	45.32	-03	40	28.4		808
1888	1983	07	14.20613	19	18	03.36	-15	50	19.0		808
1888	1983	07	14.24630	19	18	00.99	-15	50	21.3		808
1888	1983	07	16.19097	19	16	10.31	-15	51	58.4		808
1888	1983	07	16.23114	19	16	07.98	-15	51	58.5		808
1901	1988	12	07.16996	05	40	17.13	+15	50	31.1		808
1901	1988	12	07.20043	05	40	15.51	+15	50	38.5		808
1988	1989	05	10.10202	13	26	27.34	-01	36	42.3	G	808
1988	1989	05	10.12972	13	26	26.04	-01	36	37.9		808
2010	1988	04	10.07935	11	54	18.10	+00	54	33.5		808
2010	1988	04	10.12021	11	54	16.53	+00	54	43.7		808
2010	1988	04	12.09743	11	53	03.01	+01	01	36.0		808
2010	1988	04	12.13899	11	53	01.40	+01	01	43.2		808
2035	1983	06	06.12601	14	59	22.08	+01	56	09.4		808
2035	1983	06	06.15579	14	59	19.41	+01	55	18.9		808
2187	1983	09	03.23794	22	36	38.61	-17	33	26.0		808
2187	1983	09	03.27707	22	36	36.99	-17	33	44.1		808
2187	1983	09	09.17065	22	32	17.60	-18	38	49.0		808
2187	1983	09	09.20459	22	32	16.06	-18	39	10.0		808
2189	1983	12	07.17713	04	45	49.10	+01	38	47.4		808
2189	1983	12	07.21211	04	45	46.72	+01	38	55.7		808
2191	1982	08	18.09778	19	41	14.45	-10	29	04.0		808
2191	1982	08	18.13726	19	41	13.02	-10	29	09.2		808
2234	1986	05	17.33085	20	43	27.37	-55	41	10.5	p	808
2234	1986	05	17.37102	20	43	30.57	-55	41	33.0	p	808
2308	1983	03	10.25514	13	59	42.18	-03	28	15.0		808
2308	1983	03	10.29392	13	59	41.38	-03	28	17.6		808
2308	1983	03	13.27465	13	58	33.73	-03	32	22.5		808
2308	1983	03	13.31343	13	58	32.79	-03	32	28.8		808
2308	1983	03	18.19832	13	56	05.39	-03	38	17.6		808
2308	1983	03	18.24126	13	56	03.72	-03	38	20.9		808
2308	1983	03	20.22333	13	54	51.08	-03	40	25.4		808
2308	1983	03	20.27458	13	54	48.97	-03	40	28.2		808
2399	1988	08	12.26226	22	30	04.04	-09	37	51.6		808
2399	1988	08	12.28858	22	30	03.02	-09	38	04.9		808
2490	1989	04	08.06746	11	14	12.89	-06	14	52.1		808
2490	1989	04	08.09932	11	14	11.88	-06	14	31.6		808
2499	1982	09	10.15618	22	17	58.67	-09	55	12.4	p	808
2499	1982	09	10.19011	22	17	57.30	-09	55	19.6	p	808
2507	1988	04	11.17634	12	09	22.09	+13	40	16.9		808
2507	1988	04	11.21097	12	09	20.62	+13	40	25.7		808
2555	1988	04	10.07935	11	48	29.61	-00	08	53.2		808
2555	1988	04	10.12021	11	48	27.93	-00	08	42.5		808
2606	1988	12	08.19008	05	19	26.85	+06	33	28.1		808
2606	1988	12	08.23856	05	19	24.05	+06	33	17.5		808
2629	1989	05	24.98692	11	02	56.41	-73	40	38.0		808
2629	1989	05	25.02709	11	02	51.33	-73	40	30.9		808
2652	1983	03	10.25514	14	00	27.98	-04	26	55.0		808
2652	1983	03	10.29392	14	00	27.09	-04	26	48.4		808

2652	1983	03	13.27465	13	59	19.18	-04	18	31.9		808
2652	1983	03	13.31343	13	59	18.18	-04	18	26.5		808
2652	1983	03	18.19832	13	56	59.40	-04	03	18.3		808
2652	1983	03	18.24126	13	56	57.89	-04	03	10.9		808
2652	1983	03	20.22333	13	55	52.31	-03	56	33.1		808
2652	1983	03	20.27458	13	55	50.34	-03	56	20.9		808
2676	1989	08	01.31720	23	21	11.83	+01	32	46.7		808
2676	1989	08	01.35737	23	21	11.17	+01	32	53.8		808
2687	1982	04	25.21995	13	33	38.45	-03	02	58.9	p	808
2692	1982	05	27.12426	15	50	33.52	-18	20	53.5		808
2695	1988	11	10.23260	03	31	04.07	+14	06	00.2		808
2695	1988	11	10.26169	03	31	02.17	+14	06	03.5		808
2695	1988	11	14.20021	03	26	48.52	+14	14	13.1		808
2695	1988	11	14.22930	03	26	46.46	+14	14	16.0		808
2706	1988	04	23.18340	14	10	00.73	-07	44	39.9		808
2706	1988	04	23.21457	14	09	59.05	-07	44	37.1		808
2741	1988	12	08.19008	05	24	55.75	+08	52	42.6		808
2741	1988	12	08.23856	05	24	52.87	+08	52	40.7		808
2742	1988	11	10.23260	03	27	03.49	+13	57	24.7		808
2742	1988	11	10.26169	03	27	01.85	+13	57	19.8		808
2742	1988	11	14.20021	03	23	34.97	+13	45	39.3		808
2742	1988	11	14.22930	03	23	33.23	+13	45	34.6		808
2773	1988	04	23.18340	14	12	47.38	-07	34	32.4		808
2773	1988	04	23.21457	14	12	45.47	-07	34	22.8		808
2840	1988	04	12.19508	13	18	02.82	+01	31	31.6		808
2840	1988	04	12.23525	13	18	00.15	+01	31	39.6		808
2915	1989	08	01.16068	20	26	10.46	-38	03	31.0		808
2915	1989	08	01.19670	20	26	07.68	-38	03	24.6		808
3018	1982	05	27.12426	16	01	37.43	-18	09	29.0		808
3198	1989	06	25.03455	15	34	50.48	-12	16	54.5		808
3198	1989	06	25.07541	15	34	48.82	-12	17	14.5		808
3209	1989	06	25.03455	15	33	06.20	-11	36	06.5		808
3209	1989	06	25.07541	15	33	05.10	-11	36	14.7		808
3257	1989	06	02.14375	16	22	32.35	-28	55	42.9		808
3257	1989	06	02.17284	16	22	30.20	-28	55	45.2		808
3347	1988	03	13.07512	09	52	27.24	+08	26	39.6		808
3347	1988	03	13.11667	09	52	25.75	+08	26	51.8		808
3353	1988	05	23.23203	17	01	48.08	-20	06	58.6		808
3383	1989	05	07.35568	17	44	20.94	-02	32	41.6	s	808
3383	1989	05	07.37992	17	44	20.48	-02	32	36.1	s	808
3416	1989	05	29.98643	13	26	34.82	-38	26	04.9		808
3416	1989	05	30.02105	13	26	29.48	-38	26	09.6		808
3438	1988	04	10.07935	11	49	32.38	+00	46	15.2		808
3438	1988	04	10.12021	11	49	30.69	+00	46	19.4		808
3438	1988	04	12.09743	11	48	07.24	+00	49	34.2		808
3438	1988	04	12.13899	11	48	05.49	+00	49	39.1		808
3532	1989	05	10.10202	13	26	42.68	-01	57	36.8	G	808
3532	1989	05	10.12972	13	26	41.56	-01	57	37.0		808
3551	1986	09	06.99461	19	28	03.66	-03	45	19.0		808
3551	1986	09	07.01816	19	28	05.73	-03	46	25.9		808
3551	1986	12	01.10187	03	08	50.34	-18	35	08.9		808
3551	1986	12	01.13373	03	08	52.78	-18	34	05.6		808
3626	1989	03	12.16127	11	28	49.11	-02	26	32.8		808
3626	1989	03	12.20282	11	28	47.24	-02	26	23.5		808
3745	1983	09	03.23794	22	33	02.09	-16	11	05.0	p	808
3745	1983	09	03.27707	22	33	00.21	-16	10	56.5	p	808
3763	1983	09	03.23794	22	36	55.98	-18	04	44.7	p	808
3763	1983	09	03.27707	22	36	53.83	-18	04	48.5	p	808
3793	1989	03	03.08196	08	37	53.51	-04	51	39.6		808

3793		1989	03	03.10551	08	37	53.00	-04	51	32.2	808
3793		1989	04	08.00652	08	33	51.27	-01	42	17.5	808
3793		1989	04	08.03561	08	33	51.45	-01	42	09.0	808
3803		1989	03	13.23368	12	29	12.72	-21	45	16.2	808
3803		1989	03	13.27177	12	29	11.07	-21	45	09.5	808
3803		1989	04	11.08317	12	08	23.16	-18	54	40.5	G 808
3803		1989	04	11.11433	12	08	21.95	-18	54	25.7	G 808
3813		1989	05	31.15406	16	19	57.26	-29	43	43.3	808
3813		1989	05	31.18176	16	19	55.31	-29	43	38.6	808
3813		1989	06	02.14375	16	17	42.04	-29	37	01.0	808
3813		1989	06	02.17284	16	17	39.93	-29	36	55.1	808
4004		1982	11	06.12243	01	14	30.97	+13	44	45.7	808
4004		1982	11	06.15429	01	14	29.32	+13	44	48.2	808
4004		1982	11	09.09762	01	12	09.54	+13	49	20.8	G 808
4024		1988	11	08.24845	04	01	01.72	+20	46	45.2	808
4024		1988	11	08.26507	04	01	00.42	+20	46	46.6	808
4074		1989	03	12.16127	11	26	32.68	-01	00	40.9	808
4074		1989	03	12.20282	11	26	30.94	-01	00	24.0	808
4108		1988	04	10.07935	11	56	08.12	+00	05	29.7	808
4108		1988	04	10.12021	11	56	06.42	+00	05	43.2	808
4108		1988	04	12.09743	11	54	52.77	+00	15	29.4	808
4108		1988	04	12.13899	11	54	51.15	+00	15	39.9	808
4147		1988	08	17.19736	22	05	56.65	-04	51	21.8	808
4147		1988	08	17.22507	22	05	54.95	-04	51	26.2	808

809 European Southern Observatory
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GPO 0.4-m astrograph

1975	VD	1989	10	04.26736	00	29	47.92	+04	47	58.5	16.5 3 809
1975	VD	1989	10	04.27708	00	29	47.36	+04	47	58.4	3 809
1975	VD	1989	10	04.28680	00	29	46.81	+04	47	58.3	3 809
1975	VD	1989	10	05.02743	00	29	05.02	+04	47	55.7	3 809
1975	VD	1989	10	05.03750	00	29	04.44	+04	47	55.6	3 809
1975	VD	1989	10	05.04757	00	29	03.86	+04	47	55.5	3 809
1975	VD	1989	10	06.27430	00	27	53.21	+04	47	50.2	3 809
1975	VD	1989	10	06.28403	00	27	52.63	+04	47	49.9	3 809
1975	VD	1989	10	06.29375	00	27	52.07	+04	47	49.8	3 809
1975	VD	1989	10	08.25278	00	26	02.79	+04	47	41.9	3 809
1975	VD	1989	10	08.26284	00	26	02.23	+04	47	41.8	3 809
1975	VD	1989	10	08.27291	00	26	01.67	+04	47	41.7	3 809
1977	QU2	1989	09	29.36250	02	09	03.51	+12	43	01.4	17.5 3 809
1977	QU2	1989	09	29.37361	02	09	03.14	+12	42	57.6	3 809
1977	QU2	1989	09	29.38472	02	09	02.80	+12	42	53.9	3 809
1977	QU2	1989	09	30.35139	02	08	32.25	+12	37	31.9	3 809
1977	QU2	1989	09	30.36389	02	08	31.84	+12	37	27.6	3 809
1977	QU2	1989	09	30.37639	02	08	31.44	+12	37	23.2	3 809
1978	RK1	1989	09	21.06354	23	19	24.08	-08	53	31.7	15.8 3 809
1978	RK1	1989	09	21.06840	23	19	23.88	-08	53	32.9	3 809
1978	RK1	1989	09	21.07326	23	19	23.69	-08	53	33.9	3 809
1978	RK1	1989	09	23.15868	23	17	56.32	-09	02	20.6	3 809
1978	RK1	1989	09	23.16389	23	17	56.10	-09	02	21.9	3 809
1978	RK1	1989	09	23.16909	23	17	55.88	-09	02	23.1	3 809
1978	RK1	1989	09	24.16076	23	17	14.93	-09	06	24.7	3 809
1978	RK1	1989	09	24.16562	23	17	14.73	-09	06	26.0	3 809
1978	RK1	1989	09	24.17048	23	17	14.53	-09	06	27.5	3 809
1978	RJ2	1989	09	30.09479	23	40	11.44	-00	18	18.6	17.2 3 809

1978	RJ2	1989	09	30.10798	23	40	10.80	-00	18	22.1		3 809
1978	RJ2	1989	09	30.12118	23	40	10.13	-00	18	25.8		3 809
1978	RJ2	1989	10	01.07291	23	39	23.69	-00	22	33.1		3 809
1978	RJ2	1989	10	01.08542	23	39	23.08	-00	22	36.4		3 809
1978	RJ2	1989	10	01.09792	23	39	22.47	-00	22	39.5		3 809
1978	SP6	1989	09	28.22569	23	21	49.58	-06	14	17.1	17.0	3 809
1978	SP6	1989	09	28.23819	23	21	49.08	-06	14	20.0		3 809
1978	SP6	1989	09	28.25069	23	21	48.57	-06	14	23.1		3 809
1978	SP6	1989	09	29.14514	23	21	11.29	-06	17	50.6		3 809
1978	SP6	1989	09	29.15764	23	21	10.76	-06	17	53.6		3 809
1978	SP6	1989	09	29.17014	23	21	10.24	-06	17	56.4		3 809
1979	XQ	1989	10	11.16944	01	22	43.34	+06	31	54.4	16.8	3 809
1979	XQ	1989	10	11.17917	01	22	42.76	+06	31	52.7		3 809
1979	XQ	1989	10	11.18889	01	22	42.17	+06	31	50.9		3 809
1979	XQ	1989	10	11.19861	01	22	41.59	+06	31	49.0		3 809
1979	XQ	1989	10	12.08993	01	21	48.12	+06	29	04.3		3 809
1979	XQ	1989	10	12.09965	01	21	47.53	+06	29	02.5		3 809
1979	XQ	1989	10	12.11423	01	21	46.66	+06	28	59.8		3 809
1979	XQ	1989	10	12.12396	01	21	46.07	+06	28	58.1		3 809
1980	VX1	1989	09	24.27118	00	20	11.67	+03	14	56.6	16.5	3 809
1980	VX1	1989	09	24.27604	00	20	11.39	+03	14	55.8		3 809
1980	VX1	1989	09	24.28090	00	20	11.12	+03	14	55.1		3 809
1980	VX1	1989	09	25.32569	00	19	13.53	+03	12	14.0		3 809
1980	VX1	1989	09	25.33819	00	19	12.84	+03	12	12.1		3 809
1980	VX1	1989	09	25.35069	00	19	12.15	+03	12	10.2		3 809
1980	VX1	1989	09	26.26875	00	18	21.48	+03	09	46.2		3 809
1980	VX1	1989	09	26.28125	00	18	20.79	+03	09	44.3		3 809
1980	VX1	1989	09	26.29375	00	18	20.09	+03	09	42.3		3 809
1980	VX1	1989	09	28.26805	00	16	30.19	+03	04	27.2		3 809
1980	VX1	1989	09	28.28055	00	16	29.47	+03	04	25.4		3 809
1980	VX1	1989	09	28.29305	00	16	28.78	+03	04	23.4		3 809
1980	VX1	1989	09	29.24653	00	15	35.53	+03	01	47.8		3 809
1980	VX1	1989	09	29.25903	00	15	34.83	+03	01	45.7		3 809
1980	VX1	1989	09	29.27153	00	15	34.14	+03	01	43.6		3 809
1982	TF2	1989	09	30.13541	23	39	12.76	+01	00	38.8	17.6	3 809
1982	TF2	1989	09	30.14792	23	39	12.19	+01	00	35.2		3 809
1982	TF2	1989	09	30.16042	23	39	11.61	+01	00	31.5		3 809
1982	TF2	1989	10	01.11250	23	38	27.92	+00	55	44.9		3 809
1982	TF2	1989	10	01.12500	23	38	27.36	+00	55	41.3		3 809
1982	TF2	1989	10	01.13750	23	38	26.79	+00	55	37.6		3 809
1984	UB3	1989	10	02.20555	00	49	04.62	+06	32	26.4	17.4	3 809
1984	UB3	1989	10	02.21840	00	49	04.02	+06	32	22.9		3 809
1984	UB3	1989	10	02.23159	00	49	03.41	+06	32	19.0		3 809
1984	UB3	1989	10	03.26250	00	48	15.52	+06	27	10.7		3 809
1984	UB3	1989	10	03.27361	00	48	15.01	+06	27	07.6		3 809
1984	UB3	1989	10	03.28472	00	48	14.49	+06	27	04.4		3 809
1984	VA	1989	09	26.17500	23	30	28.00	-06	32	24.4		3 809
1984	VA	1989	09	26.18750	23	30	27.41	-06	32	27.8		3 809
1984	VA	1989	09	26.20000	23	30	26.82	-06	32	31.2		3 809
1984	VA	1989	09	28.22569	23	28	51.33	-06	41	03.5		3 809
1984	VA	1989	09	28.23819	23	28	50.75	-06	41	06.6		3 809
1984	VA	1989	09	28.25069	23	28	50.16	-06	41	09.7		3 809
1985	RL1	1989	10	02.33264	02	33	30.78	+17	03	34.4	17.1	3 809
1985	RL1	1989	10	02.34236	02	33	30.51	+17	03	29.6		3 809
1985	RL1	1989	10	02.35208	02	33	30.23	+17	03	24.8		3 809
1985	RL1	1989	10	03.34305	02	33	00.91	+16	55	30.8		3 809
1985	RL1	1989	10	03.35555	02	33	00.54	+16	55	24.7		3 809
1985	RL1	1989	10	03.36805	02	33	00.18	+16	55	18.6		3 809
1987	DW6	1989	09	29.14514	23	21	48.22	-05	12	18.0	17.7	3 809

1987	DW6		1989	09	29.15764	23	21	47.70	-05	12	21.2	3 809
1987	DW6		1989	09	29.17014	23	21	47.16	-05	12	24.6	3 809
1988	FJ		1989	09	30.26875	00	07	41.65	+01	45	29.6	17.4 3 809
1988	FJ		1989	09	30.28125	00	07	40.49	+01	45	31.7	3 809
1988	FJ		1989	09	30.29375	00	07	39.35	+01	45	33.9	3 809
1988	FJ		1989	10	01.25833	00	06	11.31	+01	48	18.2	3 809
1988	FJ		1989	10	01.27083	00	06	10.17	+01	48	20.4	3 809
1988	FJ		1989	10	01.28333	00	06	09.02	+01	48	22.6	3 809
1988	FJ		1989	10	02.12639	00	04	52.82	+01	50	46.7	3 809
1988	FJ		1989	10	02.13889	00	04	51.69	+01	50	48.8	3 809
1988	FJ		1989	10	02.15208	00	04	50.50	+01	50	51.0	3 809
1988	JQ2		1988	05	17.12708	14	34	06.73	-09	41	53.3	2 809
1988	JQ2		1988	05	17.13750	14	34	06.23	-09	41	51.7	2 809
1988	JR2		1988	05	10.16794	14	38	38.50	-08	27	26.2	2 809
1988	JR2		1988	05	10.17523	14	38	38.11	-08	27	25.3	2 809
1988	JR2		1988	05	10.18252	14	38	37.69	-08	27	26.1	2 809
1988	JV2		1988	05	15.24132	14	37	06.25	-09	46	12.0	2 809
1988	JV2	*	1988	05	15.24618	14	37	06.09	-09	46	10.8	16.9 2 809
1988	JV2		1988	05	15.25104	14	37	06.02	-09	46	08.4	2 809
1988	JV2		1988	05	16.25660	14	36	22.81	-09	43	18.3	17.2 2 809
1988	JW2		1988	05	10.16794	14	43	45.82	-09	42	24.8	2 809
1988	JW2		1988	05	10.17523	14	43	45.79	-09	42	25.5	2 809
1988	JW2		1988	05	10.18252	14	43	45.69	-09	42	24.3	2 809
1988	JW2		1988	05	15.24132	14	40	19.24	-09	43	35.8	2 809
1988	JW2	*	1988	05	15.24618	14	40	19.09	-09	43	36.1	2 809
1988	JW2		1988	05	15.25104	14	40	18.94	-09	43	36.3	2 809
1988	KJ1		1988	05	10.16794	14	41	10.65	-09	51	02.4	2 809
1988	KJ1		1988	05	10.17523	14	41	10.15	-09	51	00.9	2 809
1988	KJ1		1988	05	10.18252	14	41	09.65	-09	50	58.4	2 809
1989	RH		1989	09	23.27465	23	15	00.55	-03	39	21.4	16.6 3 809
1989	RH		1989	09	23.27951	23	15	00.35	-03	39	24.2	3 809
1989	RH		1989	09	23.28437	23	15	00.13	-03	39	27.1	3 809
1989	RH		1989	09	24.11632	23	14	24.20	-03	47	31.3	3 809
1989	RH		1989	09	24.13090	23	14	23.57	-03	47	39.8	3 809
1989	RH		1989	09	24.14549	23	14	22.94	-03	47	48.2	3 809
1989	RH		1989	09	25.07465	23	13	42.82	-03	56	51.0	3 809
1989	RH		1989	09	25.08923	23	13	42.18	-03	56	59.4	3 809
1989	RH		1989	09	25.10382	23	13	41.54	-03	57	07.9	3 809
1989	RH		1989	09	26.04028	23	13	01.84	-04	06	07.5	3 809
1989	RH		1989	09	26.05278	23	13	01.31	-04	06	14.7	3 809
1989	RH		1989	09	26.06528	23	13	00.79	-04	06	22.0	3 809
1989	RS		1989	09	28.00972	23	16	54.53	-00	25	53.7	16.0 3 809
1989	RS		1989	09	28.02222	23	16	54.12	-00	25	59.8	3 809
1989	RS		1989	09	28.03472	23	16	53.71	-00	26	05.6	3 809
1989	RS		1989	09	29.01944	23	16	21.10	-00	33	41.9	3 809
1989	RS		1989	09	29.03194	23	16	20.70	-00	33	47.9	3 809
1989	RS		1989	09	29.04444	23	16	20.30	-00	33	53.8	3 809
1989	RS		1989	09	30.01250	23	15	48.81	-00	41	20.2	3 809
1989	RS		1989	09	30.02500	23	15	48.40	-00	41	25.9	3 809
1989	RS		1989	09	30.03750	23	15	47.98	-00	41	31.5	3 809
1989	RS		1989	10	01.00000	23	15	17.32	-00	48	53.1	3 809
1989	RS		1989	10	01.00972	23	15	17.01	-00	48	57.6	3 809
1989	RS		1989	10	01.01944	23	15	16.70	-00	49	02.0	3 809
1989	RU		1989	09	29.01944	23	14	55.89	-00	08	01.6	17.9 3 809
1989	RU		1989	09	29.03194	23	14	55.39	-00	08	08.2	3 809
1989	RU		1989	09	29.04444	23	14	54.89	-00	08	14.8	3 809
1989	RU		1989	09	30.01250	23	14	16.37	-00	16	42.1	3 809
1989	RU		1989	09	30.02500	23	14	15.89	-00	16	48.6	3 809
1989	RU		1989	09	30.03750	23	14	15.38	-00	16	55.2	3 809

1989	RU		1989	10	01.00000	23	13	37.73	-00	25	21.1	3 809
1989	RU		1989	10	01.00972	23	13	37.35	-00	25	25.9	3 809
1989	RU		1989	10	01.01944	23	13	36.98	-00	25	31.0	3 809
1989	RP1		1989	10	03.07847	23	51	12.14	-09	32	03.4	17.6 3 809
1989	RP1		1989	10	03.09027	23	51	11.76	-09	32	10.4	3 809
1989	RP1		1989	10	03.10208	23	51	11.39	-09	32	17.7	3 809
1989	RP1		1989	10	07.02430	23	49	05.69	-10	11	08.3	3 809
1989	RP1		1989	10	07.03403	23	49	05.39	-10	11	13.8	3 809
1989	RP1		1989	10	07.04375	23	49	05.08	-10	11	19.6	3 809
1989	RP1		1989	10	08.03055	23	48	36.02	-10	20	21.1	3 809
1989	RP1		1989	10	08.04028	23	48	35.72	-10	20	26.5	3 809
1989	RP1		1989	10	08.05000	23	48	35.43	-10	20	31.8	3 809
1989	RT1		1989	09	25.28715	00	02	20.02	+02	58	01.9	17.2 3 809
1989	RT1		1989	09	25.29930	00	02	19.11	+02	58	09.6	3 809
1989	RT1		1989	09	25.31180	00	02	18.20	+02	58	17.2	3 809
1989	RT1		1989	09	26.12500	00	01	18.86	+03	06	37.6	3 809
1989	RT1		1989	09	26.13750	00	01	17.93	+03	06	45.3	3 809
1989	RT1		1989	09	26.15000	00	01	17.02	+03	06	52.9	3 809
1989	RV2		1989	10	07.02430	23	45	45.47	-09	49	19.0	17.0 3 809
1989	RV2		1989	10	07.03403	23	45	45.02	-09	49	18.1	3 809
1989	RV2		1989	10	07.04375	23	45	44.58	-09	49	17.3	3 809
1989	RV2		1989	10	08.03055	23	45	00.34	-09	47	39.9	3 809
1989	RV2		1989	10	08.04028	23	44	59.91	-09	47	38.9	3 809
1989	RV2		1989	10	08.05000	23	44	59.47	-09	47	37.9	3 809
1989	SB		1989	09	23.31493	00	03	19.46	+02	00	34.8	15.2 3 809
1989	SB		1989	09	23.31979	00	03	19.18	+02	00	34.1	3 809
1989	SB		1989	09	23.32465	00	03	18.88	+02	00	33.3	3 809
1989	SB		1989	09	25.28715	00	01	25.54	+01	54	38.8	3 809
1989	SB		1989	09	25.29930	00	01	24.84	+01	54	36.6	3 809
1989	SB		1989	09	25.31180	00	01	24.12	+01	54	34.4	3 809
1989	SB		1989	09	26.12500	00	00	38.12	+01	52	07.2	3 809
1989	SB		1989	09	26.13750	00	00	37.40	+01	52	04.6	3 809
1989	SB		1989	09	26.15000	00	00	36.70	+01	52	02.2	3 809
1989	SC		1989	09	30.17361	23	49	11.20	+00	57	23.0	17.6 3 809
1989	SC		1989	09	30.18611	23	49	10.41	+00	57	22.2	3 809
1989	SC		1989	09	30.19861	23	49	09.64	+00	57	21.3	3 809
1989	SC		1989	10	01.15139	23	48	10.90	+00	56	16.1	3 809
1989	SC		1989	10	01.16389	23	48	10.13	+00	56	15.4	3 809
1989	SC		1989	10	01.17639	23	48	09.34	+00	56	14.4	3 809
1989	SE		1989	09	28.26805	00	23	50.67	+01	49	58.4	16.9 3 809
1989	SE		1989	09	28.28055	00	23	49.90	+01	49	59.4	3 809
1989	SE		1989	09	28.29305	00	23	49.16	+01	50	00.8	3 809
1989	SG		1989	09	30.21319	23	48	01.46	-00	12	38.0	17.5 3 809
1989	SG		1989	09	30.22569	23	48	00.71	-00	12	40.0	3 809
1989	SG		1989	09	30.23819	23	47	59.95	-00	12	42.1	3 809
1989	SG		1989	10	01.20625	23	47	01.40	-00	15	13.6	3 809
1989	SG		1989	10	01.21875	23	47	00.64	-00	15	15.6	3 809
1989	SG		1989	10	01.23125	23	46	59.89	-00	15	17.5	3 809
1989	SC1		1989	09	30.13541	23	39	00.73	+01	11	21.5	17.1 3 809
1989	SC1		1989	09	30.14792	23	39	00.15	+01	11	17.6	3 809
1989	SC1		1989	09	30.16042	23	38	59.57	+01	11	13.6	3 809
1989	SC1		1989	10	01.11250	23	38	15.28	+01	06	07.9	3 809
1989	SC1		1989	10	01.12500	23	38	14.70	+01	06	03.9	3 809
1989	SC1		1989	10	01.13750	23	38	14.12	+01	05	59.8	3 809
1989	SO8		1989	09	23.15868	23	14	56.13	-08	54	57.0	3 809
1989	SO8		1989	09	23.16389	23	14	55.84	-08	54	59.4	3 809
1989	SO8		1989	09	23.16909	23	14	55.69	-08	55	00.6	3 809
1989	SV8	*	1989	09	23.27465	23	12	45.17	-03	58	49.9	16.6 3 809
1989	SV8		1989	09	23.27951	23	12	44.98	-03	58	50.8	3 809

1989	SV8		1989	09	23.28437	23	12	44.79	-03	58	51.7		3 809
1989	SV8		1989	09	24.11632	23	12	11.39	-04	01	22.3		3 809
1989	SV8		1989	09	24.13090	23	12	10.81	-04	01	25.0		3 809
1989	SV8		1989	09	24.14549	23	12	10.23	-04	01	27.6		3 809
1989	SV8		1989	09	25.07465	23	11	28.47	-04	04	11.4		3 809
1989	SV8		1989	09	25.08923	23	11	27.81	-04	04	13.8		3 809
1989	SV8		1989	09	25.10382	23	11	27.16	-04	04	16.5		3 809
1989	SV8		1989	09	26.04028	23	10	46.22	-04	06	56.1		3 809
1989	SV8		1989	09	26.05278	23	10	45.68	-04	06	58.3		3 809
1989	SV8		1989	09	26.06528	23	10	45.13	-04	07	00.4		3 809
1989	SW8	*	1989	09	23.29965	00	02	29.66	+01	18	04.5	16.5	3 809
1989	SW8		1989	09	23.30451	00	02	29.48	+01	18	00.5		3 809
1989	SW8		1989	09	23.30937	00	02	29.30	+01	17	56.5		3 809
1989	SW8		1989	09	24.21284	00	01	55.17	+01	05	49.1		3 809
1989	SW8		1989	09	24.22743	00	01	54.62	+01	05	37.4		3 809
1989	SW8		1989	09	24.24201	00	01	54.07	+01	05	25.8		3 809
1989	SW8		1989	09	25.23715	00	01	16.17	+00	51	59.3		3 809
1989	SW8		1989	09	25.25174	00	01	15.62	+00	51	47.5		3 809
1989	SW8		1989	09	25.26632	00	01	15.04	+00	51	35.7		3 809
1989	SW8		1989	10	08.10139	23	53	39.16	-01	56	34.0	17.5	3 809
1989	SW8		1989	10	08.11111	23	53	38.84	-01	56	41.1		3 809
1989	SW8		1989	10	08.12083	23	53	38.51	-01	56	47.6		3 809
1989	SX8	*	1989	09	23.29965	00	04	40.50	+00	55	11.5	16.9	3 809
1989	SX8		1989	09	23.30451	00	04	40.30	+00	55	09.4		3 809
1989	SX8		1989	09	23.30937	00	04	40.11	+00	55	07.2		3 809
1989	SX8		1989	09	24.21284	00	04	02.74	+00	48	31.2		3 809
1989	SX8		1989	09	24.22743	00	04	02.14	+00	48	24.7		3 809
1989	SX8		1989	09	24.24201	00	04	01.54	+00	48	18.3		3 809
1989	SY8	*	1989	09	24.11632	23	12	03.69	-02	58	12.0	17.0	3 809
1989	SY8		1989	09	24.13090	23	12	03.15	-02	58	17.6		3 809
1989	SY8		1989	09	24.14549	23	12	02.62	-02	58	23.1		3 809
1989	SY8		1989	09	25.07465	23	11	28.05	-03	04	15.7		3 809
1989	SY8		1989	09	25.08923	23	11	27.50	-03	04	21.5		3 809
1989	SY8		1989	09	25.10382	23	11	26.97	-03	04	27.0		3 809
1989	SY8		1989	09	26.04028	23	10	52.97	-03	10	19.1		3 809
1989	SY8		1989	09	26.05278	23	10	52.51	-03	10	23.8		3 809
1989	SY8		1989	09	26.06528	23	10	52.06	-03	10	28.5		3 809
1989	SZ8	*	1989	09	24.11632	23	13	13.33	-03	07	11.4	17.0	3 809
1989	SZ8		1989	09	24.13090	23	13	12.46	-03	07	12.1		3 809
1989	SZ8		1989	09	24.14549	23	13	11.59	-03	07	12.8		3 809
1989	SZ8		1989	09	25.07465	23	12	16.43	-03	08	01.1		3 809
1989	SZ8		1989	09	25.08923	23	12	15.56	-03	08	01.9		3 809
1989	SZ8		1989	09	25.10382	23	12	14.70	-03	08	02.7		3 809
1989	SZ8		1989	09	26.04028	23	11	19.69	-03	08	47.1		3 809
1989	SZ8		1989	09	26.05278	23	11	18.95	-03	08	47.7		3 809
1989	SZ8		1989	09	26.06528	23	11	18.22	-03	08	48.3		3 809
1989	SA9	*	1989	09	24.18229	01	52	39.32	+12	19	04.0	17.5	3 809
1989	SA9		1989	09	24.18924	01	52	39.08	+12	19	03.9		3 809
1989	SA9		1989	09	24.19618	01	52	38.85	+12	19	03.9		3 809
1989	SA9		1989	09	25.36666	01	51	59.10	+12	18	55.5		3 809
1989	SA9		1989	09	25.37882	01	51	58.69	+12	18	55.4		3 809
1989	SA9		1989	09	25.39097	01	51	58.29	+12	18	55.4		3 809
1989	SB9	*	1989	09	24.21284	00	01	04.49	+00	11	31.3	17.4	3 809
1989	SB9		1989	09	24.22743	00	01	03.47	+00	11	34.6		3 809
1989	SB9		1989	09	24.24201	00	01	02.45	+00	11	38.0		3 809
1989	SB9		1989	09	25.23715	23	59	52.75	+00	15	24.1		3 809
1989	SB9		1989	09	25.25174	23	59	51.73	+00	15	27.4		3 809
1989	SB9		1989	09	25.26632	23	59	50.70	+00	15	30.7		3 809
1989	SC9	*	1989	09	24.21284	00	01	21.43	+00	23	42.5	17.0	3 809

1989	SC9		1989	09	24.22743	00	01	20.59	+00	23	40.1	3 809
1989	SC9		1989	09	24.24201	00	01	19.76	+00	23	37.7	3 809
1989	SC9		1989	09	25.23715	00	00	22.84	+00	20	56.2	3 809
1989	SC9		1989	09	25.25174	00	00	21.99	+00	20	53.9	3 809
1989	SC9		1989	09	25.26632	00	00	21.16	+00	20	51.5	3 809
1989	SD9	*	1989	09	24.21284	00	03	11.56	+00	36	37.9	16.8 3 809
1989	SD9		1989	09	24.22743	00	03	10.90	+00	36	33.3	3 809
1989	SD9		1989	09	24.24201	00	03	10.25	+00	36	29.0	3 809
1989	SD9		1989	09	25.23715	00	02	25.77	+00	31	26.2	3 809
1989	SD9		1989	09	25.25174	00	02	25.13	+00	31	21.8	3 809
1989	SD9		1989	09	25.26632	00	02	24.48	+00	31	17.3	3 809
1989	SE9	*	1989	09	24.21284	00	03	31.40	+00	38	26.1	17.2 3 809
1989	SE9		1989	09	24.22743	00	03	30.65	+00	38	22.4	3 809
1989	SE9		1989	09	24.24201	00	03	29.88	+00	38	18.8	3 809
1989	SE9		1989	09	25.23715	00	02	38.30	+00	34	07.1	3 809
1989	SE9		1989	09	25.25174	00	02	37.54	+00	34	03.4	3 809
1989	SE9		1989	09	25.26632	00	02	36.78	+00	33	59.7	3 809
1989	SF9	*	1989	09	24.21284	00	06	33.19	+01	27	29.3	17.5 3 809
1989	SF9		1989	09	24.22743	00	06	32.52	+01	27	19.0	3 809
1989	SF9		1989	09	24.24201	00	06	31.85	+01	27	08.8	3 809
1989	SF9		1989	09	25.23715	00	05	46.23	+01	15	29.5	3 809
1989	SF9		1989	09	25.25174	00	05	45.56	+01	15	19.2	3 809
1989	SF9		1989	09	25.26632	00	05	44.89	+01	15	08.6	3 809
1989	SG9	*	1989	09	24.27118	00	18	25.52	+03	09	16.7	16.6 3 809
1989	SG9		1989	09	24.27604	00	18	25.34	+03	09	14.1	3 809
1989	SG9		1989	09	24.28090	00	18	25.17	+03	09	11.5	3 809
1989	SG9		1989	09	25.32569	00	17	48.30	+02	59	54.0	3 809
1989	SG9		1989	09	25.33819	00	17	47.86	+02	59	47.4	3 809
1989	SG9		1989	09	25.35069	00	17	47.42	+02	59	40.8	3 809
1989	SG9		1989	09	26.26875	00	17	15.24	+02	51	30.0	3 809
1989	SG9		1989	09	26.28125	00	17	14.80	+02	51	23.3	3 809
1989	SG9		1989	09	26.29375	00	17	14.36	+02	51	16.6	3 809
1989	SG9		1989	09	28.26805	00	16	04.54	+02	33	38.0	3 809
1989	SG9		1989	09	28.28055	00	16	04.10	+02	33	31.2	3 809
1989	SG9		1989	09	28.29305	00	16	03.66	+02	33	24.7	3 809
1989	SG9		1989	09	29.24653	00	15	30.21	+02	24	53.5	3 809
1989	SG9		1989	09	29.25903	00	15	29.77	+02	24	47.0	3 809
1989	SG9		1989	09	29.27153	00	15	29.35	+02	24	40.5	3 809
1989	SH9	*	1989	09	24.27118	00	19	28.67	+02	23	04.5	16.7 3 809
1989	SH9		1989	09	24.27604	00	19	28.39	+02	23	03.2	3 809
1989	SH9		1989	09	24.28090	00	19	28.10	+02	23	01.8	3 809
1989	SH9		1989	09	25.32569	00	18	27.28	+02	18	00.8	3 809
1989	SH9		1989	09	25.33819	00	18	26.55	+02	17	57.3	3 809
1989	SH9		1989	09	25.35069	00	18	25.82	+02	17	53.8	3 809
1989	SH9		1989	09	26.26875	00	17	32.53	+02	13	29.4	3 809
1989	SH9		1989	09	26.28125	00	17	31.80	+02	13	25.8	3 809
1989	SH9		1989	09	26.29375	00	17	31.09	+02	13	22.2	3 809
1989	SH9		1989	09	29.24653	00	14	40.33	+01	59	13.1	3 809
1989	SH9		1989	09	29.25903	00	14	39.63	+01	59	09.8	3 809
1989	SH9		1989	09	29.27153	00	14	38.91	+01	59	06.5	3 809
1989	SJ9	*	1989	09	25.07465	23	11	29.27	-03	31	48.8	17.1 3 809
1989	SJ9		1989	09	25.08923	23	11	28.62	-03	31	53.5	3 809
1989	SJ9		1989	09	25.10382	23	11	27.96	-03	31	58.1	3 809
1989	SJ9		1989	09	26.04028	23	10	45.58	-03	36	54.7	3 809
1989	SJ9		1989	09	26.05278	23	10	45.00	-03	36	58.7	3 809
1989	SJ9		1989	09	26.06528	23	10	44.44	-03	37	02.6	3 809
1989	SK9	*	1989	09	25.07465	23	14	00.80	-03	47	00.0	17.4 3 809
1989	SK9		1989	09	25.08923	23	14	00.20	-03	47	09.4	3 809
1989	SK9		1989	09	25.10382	23	13	59.59	-03	47	18.8	3 809

1989	SK9		1989	09	26.04028	23	13	19.64	-03	57	21.9	3 809
1989	SK9		1989	09	26.05278	23	13	19.11	-03	57	30.0	3 809
1989	SK9		1989	09	26.06528	23	13	18.57	-03	57	38.1	3 809
1989	SL9	*	1989	09	25.28715	23	59	43.31	+02	01	52.9	17.4 3 809
1989	SL9		1989	09	25.29930	23	59	42.56	+02	01	54.4	3 809
1989	SL9		1989	09	25.31180	23	59	41.79	+02	01	55.8	3 809
1989	SL9		1989	09	26.12500	23	58	51.32	+02	03	36.0	3 809
1989	SL9		1989	09	26.13750	23	58	50.56	+02	03	37.6	3 809
1989	SL9		1989	09	26.15000	23	58	49.78	+02	03	39.1	3 809
1989	SM9	*	1989	09	25.28715	00	00	43.45	+03	09	38.9	17.2 3 809
1989	SM9		1989	09	25.29930	00	00	42.84	+03	09	34.9	3 809
1989	SM9		1989	09	25.31180	00	00	42.20	+03	09	30.9	3 809
1989	SM9		1989	09	26.12500	00	00	02.16	+03	05	08.8	3 809
1989	SM9		1989	09	26.13750	00	00	01.55	+03	05	04.8	3 809
1989	SM9		1989	09	26.15000	00	00	00.94	+03	05	00.8	3 809
1989	SN9	*	1989	09	25.28715	00	03	08.75	+02	46	51.8	17.6 3 809
1989	SN9		1989	09	25.29930	00	03	08.02	+02	46	47.8	3 809
1989	SN9		1989	09	25.31180	00	03	07.30	+02	46	43.8	3 809
1989	SN9		1989	09	26.12500	00	02	19.94	+02	42	24.4	3 809
1989	SN9		1989	09	26.13750	00	02	19.21	+02	42	20.4	3 809
1989	SN9		1989	09	26.15000	00	02	18.49	+02	42	16.5	3 809
1989	SO9	*	1989	09	25.32569	00	20	49.19	+01	21	03.5	16.8 3 809
1989	SO9		1989	09	25.33819	00	20	48.60	+01	20	57.0	3 809
1989	SO9		1989	09	25.35069	00	20	48.02	+01	20	50.6	3 809
1989	SO9		1989	09	29.28611	00	17	44.88	+00	46	54.4	3 809
1989	SO9		1989	09	29.29861	00	17	44.28	+00	46	48.0	3 809
1989	SO9		1989	09	29.31111	00	17	43.70	+00	46	41.5	3 809
1989	SO9		1989	09	30.30764	00	16	57.36	+00	38	08.9	3 809
1989	SO9		1989	09	30.32014	00	16	56.79	+00	38	02.4	3 809
1989	SO9		1989	09	30.33264	00	16	56.20	+00	37	56.1	3 809
1989	SO9		1989	10	01.29652	00	16	11.79	+00	29	45.1	3 809
1989	SO9		1989	10	01.30625	00	16	11.34	+00	29	40.1	3 809
1989	SP9	*	1989	09	25.32569	00	21	53.11	+02	20	51.4	17.0 3 809
1989	SP9		1989	09	25.33819	00	21	52.55	+02	20	46.0	3 809
1989	SP9		1989	09	25.35069	00	21	51.98	+02	20	40.6	3 809
1989	SP9		1989	09	26.26875	00	21	10.50	+02	13	59.3	3 809
1989	SP9		1989	09	26.28125	00	21	09.94	+02	13	53.9	3 809
1989	SP9		1989	09	26.29375	00	21	09.37	+02	13	48.4	3 809
1989	SP9		1989	09	28.26805	00	19	39.62	+01	59	23.2	3 809
1989	SP9		1989	09	28.28055	00	19	39.05	+01	59	18.0	3 809
1989	SP9		1989	09	28.29305	00	19	38.47	+01	59	12.5	3 809
1989	SP9		1989	09	29.24653	00	18	55.01	+01	52	14.2	3 809
1989	SP9		1989	09	29.25903	00	18	54.44	+01	52	08.7	3 809
1989	SP9		1989	09	29.27153	00	18	53.87	+01	52	03.3	3 809
1989	SQ9	*	1989	09	25.32569	00	22	22.85	+02	37	01.1	16.9 3 809
1989	SQ9		1989	09	25.33819	00	22	22.20	+02	36	56.4	3 809
1989	SQ9		1989	09	25.35069	00	22	21.55	+02	36	51.6	3 809
1989	SQ9		1989	09	26.26875	00	21	33.75	+02	31	01.9	3 809
1989	SQ9		1989	09	26.28125	00	21	33.10	+02	30	57.1	3 809
1989	SQ9		1989	09	26.29375	00	21	32.45	+02	30	52.4	3 809
1989	SQ9		1989	09	28.26805	00	19	49.41	+02	18	17.8	3 809
1989	SQ9		1989	09	28.28055	00	19	48.75	+02	18	13.0	3 809
1989	SQ9		1989	09	28.29305	00	19	48.08	+02	18	08.3	3 809
1989	SQ9		1989	09	29.24653	00	18	58.47	+02	12	04.7	3 809
1989	SQ9		1989	09	29.25903	00	18	57.82	+02	12	00.1	3 809
1989	SQ9		1989	09	29.27153	00	18	57.18	+02	11	55.3	3 809
1989	SR9	*	1989	09	25.32569	00	25	10.25	+01	57	57.6	17.8 3 809
1989	SR9		1989	09	25.33819	00	25	09.69	+01	57	54.0	3 809
1989	SR9		1989	09	25.35069	00	25	09.12	+01	57	50.4	3 809

1989	SR9		1989	09	28.26805	00	22	56.54	+01	43	51.2	3 809
1989	SR9		1989	09	28.28055	00	22	55.97	+01	43	47.6	3 809
1989	SR9		1989	09	28.29305	00	22	55.41	+01	43	43.7	3 809
1989	SS9	*	1989	09	26.04028	23	16	09.50	-03	09	38.4	16.7 3 809
1989	SS9		1989	09	26.05278	23	16	08.79	-03	09	38.0	3 809
1989	SS9		1989	09	26.06528	23	16	08.08	-03	09	37.6	3 809
1989	SS9		1989	09	28.05139	23	14	14.32	-03	08	42.2	3 809
1989	SS9		1989	09	28.06389	23	14	13.60	-03	08	41.8	3 809
1989	SS9		1989	09	28.07638	23	14	12.88	-03	08	41.5	3 809
1989	ST9	*	1989	09	26.17500	23	32	51.46	-04	54	40.6	17.4 3 809
1989	ST9		1989	09	26.18750	23	32	50.91	-04	54	42.2	3 809
1989	ST9		1989	09	26.20000	23	32	50.35	-04	54	43.6	3 809
1989	ST9		1989	09	28.09305	23	31	25.73	-04	58	42.6	3 809
1989	ST9		1989	09	28.10555	23	31	25.18	-04	58	44.2	3 809
1989	ST9		1989	09	28.11805	23	31	24.63	-04	58	45.8	3 809
1989	ST9		1989	09	30.05555	23	30	01.97	-05	02	18.5	3 809
1989	ST9		1989	09	30.06805	23	30	01.44	-05	02	19.9	3 809
1989	ST9		1989	09	30.08056	23	30	00.91	-05	02	21.5	3 809
1989	SU9	*	1989	09	26.17500	23	36	35.96	-04	56	03.1	17.8 3 809
1989	SU9		1989	09	26.18750	23	36	35.30	-04	56	08.0	3 809
1989	SU9		1989	09	26.20000	23	36	34.64	-04	56	12.8	3 809
1989	SU9		1989	09	28.09305	23	34	54.38	-05	08	39.7	3 809
1989	SU9		1989	09	28.10555	23	34	53.72	-05	08	44.6	3 809
1989	SU9		1989	09	28.11805	23	34	53.05	-05	08	49.6	3 809
1989	SU9		1989	09	30.05555	23	33	12.28	-05	21	11.3	3 809
1989	SU9		1989	09	30.06805	23	33	11.64	-05	21	16.1	3 809
1989	SU9		1989	09	30.08056	23	33	11.01	-05	21	20.9	3 809
1989	SV9	*	1989	09	26.17500	23	36	46.92	-06	08	54.9	17.5 3 809
1989	SV9		1989	09	26.18750	23	36	46.33	-06	08	57.6	3 809
1989	SV9		1989	09	26.20000	23	36	45.73	-06	09	00.5	3 809
1989	SV9		1989	09	28.09305	23	35	14.76	-06	15	40.3	3 809
1989	SV9		1989	09	28.10555	23	35	14.15	-06	15	42.9	3 809
1989	SV9		1989	09	28.11805	23	35	13.54	-06	15	45.6	3 809
1989	SW9	*	1989	09	26.17500	23	37	39.81	-05	43	21.4	16.6 3 809
1989	SW9		1989	09	26.18750	23	37	39.22	-05	43	22.4	3 809
1989	SW9		1989	09	26.20000	23	37	38.63	-05	43	23.5	3 809
1989	SW9		1989	09	28.09305	23	36	08.86	-05	45	57.2	3 809
1989	SW9		1989	09	28.10555	23	36	08.27	-05	45	58.0	3 809
1989	SW9		1989	09	28.11805	23	36	07.68	-05	45	59.1	3 809
1989	SX9	*	1989	09	26.21389	23	31	05.81	-03	54	47.4	16.4 3 809
1989	SX9		1989	09	26.22639	23	31	05.24	-03	54	51.3	3 809
1989	SX9		1989	09	26.23889	23	31	04.67	-03	54	55.2	3 809
1989	SX9		1989	09	28.13194	23	29	38.49	-04	05	03.9	3 809
1989	SX9		1989	09	28.14444	23	29	37.92	-04	05	07.9	3 809
1989	SX9		1989	09	28.15694	23	29	37.35	-04	05	12.0	3 809
1989	SX9		1989	09	28.17500	23	29	36.38	-04	05	17.0	17.3 3 809
1989	SX9		1989	09	28.18750	23	29	35.80	-04	05	21.0	3 809
1989	SX9		1989	09	28.20000	23	29	35.26	-04	05	25.0	3 809
1989	SX9		1989	09	29.10278	23	28	55.56	-04	10	08.2	3 809
1989	SX9		1989	09	29.11528	23	28	54.99	-04	10	12.1	3 809
1989	SX9		1989	09	29.12778	23	28	54.44	-04	10	16.1	3 809
1989	SX9		1989	09	29.18750	23	28	51.43	-04	10	32.5	3 809
1989	SX9		1989	09	29.20000	23	28	50.88	-04	10	36.4	3 809
1989	SX9		1989	09	29.21250	23	28	50.32	-04	10	40.2	3 809
1989	SY9	*	1989	09	26.21389	23	32	03.78	-03	32	45.0	17.6 3 809
1989	SY9		1989	09	26.22639	23	32	03.25	-03	32	49.0	3 809
1989	SY9		1989	09	26.23889	23	32	02.72	-03	32	52.9	3 809
1989	SY9		1989	09	28.13194	23	30	41.61	-03	42	47.8	3 809
1989	SY9		1989	09	28.14444	23	30	41.07	-03	42	51.6	3 809

1989	SY9	1989	09	28.15694	23	30	40.53	-03	42	55.5		3 809
1989	SY9	1989	09	29.10278	23	30	00.65	-03	47	48.5		3 809
1989	SY9	1989	09	29.11528	23	30	00.12	-03	47	52.3		3 809
1989	SY9	1989	09	29.12778	23	29	59.60	-03	47	56.5		3 809
1989	SZ9 *	1989	09	26.21389	23	37	30.88	-04	27	34.9	17.0	3 809
1989	SZ9	1989	09	26.22639	23	37	30.11	-04	27	36.0		3 809
1989	SZ9	1989	09	26.23889	23	37	29.34	-04	27	37.2		3 809
1989	SZ9	1989	09	28.13194	23	35	33.14	-04	30	42.6		3 809
1989	SZ9	1989	09	28.14444	23	35	32.37	-04	30	43.7		3 809
1989	SZ9	1989	09	28.15694	23	35	31.61	-04	30	44.9		3 809
1989	SZ9	1989	09	29.10278	23	34	34.50	-04	32	12.1		3 809
1989	SZ9	1989	09	29.11528	23	34	33.74	-04	32	13.3		3 809
1989	SZ9	1989	09	29.12778	23	34	32.98	-04	32	14.5		3 809
1989	SZ9	1989	09	30.05555	23	33	37.65	-04	33	36.4		3 809
1989	SZ9	1989	09	30.06805	23	33	36.91	-04	33	37.5		3 809
1989	SZ9	1989	09	30.08056	23	33	36.17	-04	33	38.5		3 809
1989	SA10*	1989	09	26.21389	23	38	28.75	-04	03	20.8	17.0	3 809
1989	SA10	1989	09	26.22639	23	38	27.98	-04	03	22.3		3 809
1989	SA10	1989	09	26.23889	23	38	27.20	-04	03	23.7		3 809
1989	SA10	1989	09	28.13194	23	36	29.54	-04	07	13.2		3 809
1989	SA10	1989	09	28.14444	23	36	28.74	-04	07	14.6		3 809
1989	SA10	1989	09	28.15694	23	36	27.96	-04	07	16.2		3 809
1989	SA10	1989	09	30.05555	23	34	32.45	-04	10	47.2		3 809
1989	SA10	1989	09	30.06805	23	34	31.70	-04	10	48.6		3 809
1989	SA10	1989	09	30.08056	23	34	30.96	-04	10	50.0		3 809
1989	SB10*	1989	09	26.26875	00	17	15.97	+03	20	04.3	17.3	3 809
1989	SB10	1989	09	26.28125	00	17	15.31	+03	19	59.3		3 809
1989	SB10	1989	09	26.29375	00	17	14.65	+03	19	54.4		3 809
1989	SB10	1989	09	29.24653	00	14	36.58	+03	00	53.0		3 809
1989	SB10	1989	09	29.25903	00	14	35.91	+03	00	48.0		3 809
1989	SB10	1989	09	29.27153	00	14	35.24	+03	00	43.2		3 809
1989	SC10*	1989	09	26.26875	00	19	36.86	+02	03	45.8	17.3	3 809
1989	SC10	1989	09	26.28125	00	19	36.16	+02	03	45.6		3 809
1989	SC10	1989	09	26.29375	00	19	35.46	+02	03	45.4		3 809
1989	SC10	1989	09	28.26805	00	17	46.38	+02	03	15.7		3 809
1989	SC10	1989	09	28.28055	00	17	45.69	+02	03	15.6		3 809
1989	SC10	1989	09	28.29305	00	17	45.00	+02	03	15.4		3 809
1989	SC10	1989	09	29.24653	00	16	52.38	+02	03	01.4		3 809
1989	SC10	1989	09	29.25903	00	16	51.71	+02	03	01.2		3 809
1989	SC10	1989	09	29.27153	00	16	51.02	+02	03	01.0		3 809
1989	SD10*	1989	09	26.26875	00	21	17.09	+02	02	00.4	17.7	3 809
1989	SD10	1989	09	26.28125	00	21	16.39	+02	02	00.5		3 809
1989	SD10	1989	09	26.29375	00	21	15.68	+02	02	00.7		3 809
1989	SD10	1989	09	28.26805	00	19	24.80	+02	02	10.8		3 809
1989	SD10	1989	09	28.28055	00	19	24.09	+02	02	11.0		3 809
1989	SD10	1989	09	28.29305	00	19	23.39	+02	02	11.0		3 809
1989	SE10*	1989	09	28.00972	23	15	23.04	-01	43	37.8	17.4	3 809
1989	SE10	1989	09	28.02222	23	15	22.41	-01	43	40.2		3 809
1989	SE10	1989	09	28.03472	23	15	21.77	-01	43	42.3		3 809
1989	SE10	1989	09	29.01944	23	14	31.72	-01	46	27.9		3 809
1989	SE10	1989	09	29.03194	23	14	31.08	-01	46	30.0		3 809
1989	SE10	1989	09	29.04444	23	14	30.44	-01	46	32.1		3 809
1989	SF10*	1989	09	28.00972	23	17	03.89	-01	19	30.7	17.5	3 809
1989	SF10	1989	09	28.02222	23	17	03.24	-01	19	35.2		3 809
1989	SF10	1989	09	28.03472	23	17	02.60	-01	19	39.7		3 809
1989	SF10	1989	09	29.01944	23	16	12.15	-01	25	39.4		3 809
1989	SF10	1989	09	29.03194	23	16	11.50	-01	25	43.9		3 809
1989	SF10	1989	09	29.04444	23	16	10.86	-01	25	48.4		3 809
1989	SG10*	1989	09	28.00972	23	17	04.21	-00	49	34.7	17.7	3 809

1989	SG10	1989	09	28.02222	23	17	03.72	-00	49	38.8		3 809
1989	SG10	1989	09	28.03472	23	17	03.21	-00	49	42.9		3 809
1989	SG10	1989	09	29.01944	23	16	23.44	-00	55	05.4		3 809
1989	SG10	1989	09	29.03194	23	16	22.93	-00	55	09.4		3 809
1989	SG10	1989	09	29.04444	23	16	22.43	-00	55	13.4		3 809
1989	SH10*	1989	09	28.00972	23	19	23.04	-00	25	43.3	17.9	3 809
1989	SH10	1989	09	28.02222	23	19	22.52	-00	25	48.7		3 809
1989	SH10	1989	09	28.03472	23	19	22.00	-00	25	53.9		3 809
1989	SH10	1989	09	29.01944	23	18	41.08	-00	32	52.9		3 809
1989	SH10	1989	09	29.03194	23	18	40.55	-00	32	58.2		3 809
1989	SH10	1989	09	29.04444	23	18	40.04	-00	33	03.5		3 809
1989	SH10	1989	09	30.01250	23	18	01.12	-00	39	46.0		3 809
1989	SH10	1989	09	30.02500	23	18	00.61	-00	39	51.1		3 809
1989	SH10	1989	09	30.03750	23	18	00.12	-00	39	56.3		3 809
1989	SH10	1989	10	01.00000	23	17	22.76	-00	46	33.4		3 809
1989	SH10	1989	10	01.00972	23	17	22.36	-00	46	37.4		3 809
1989	SH10	1989	10	01.01944	23	17	21.98	-00	46	41.3		3 809
1989	SJ10*	1989	09	28.00972	23	20	20.50	-01	52	21.0	17.6	3 809
1989	SJ10	1989	09	28.02222	23	20	19.86	-01	52	23.2		3 809
1989	SJ10	1989	09	28.03472	23	20	19.23	-01	52	25.7		3 809
1989	SJ10	1989	09	29.01944	23	19	29.72	-01	55	39.5		3 809
1989	SJ10	1989	09	29.03194	23	19	29.09	-01	55	42.1		3 809
1989	SJ10	1989	09	29.04444	23	19	28.47	-01	55	44.6		3 809
1989	SK10*	1989	09	28.05139	23	16	32.87	-03	27	26.8	17.2	3 809
1989	SK10	1989	09	28.06389	23	16	32.34	-03	27	30.3		3 809
1989	SK10	1989	09	28.07638	23	16	31.80	-03	27	33.9		3 809
1989	SK10	1989	09	29.06041	23	15	49.88	-03	32	13.0		3 809
1989	SK10	1989	09	29.07291	23	15	49.35	-03	32	16.5		3 809
1989	SK10	1989	09	29.08542	23	15	48.80	-03	32	20.0		3 809
1989	SK10	1989	10	01.03194	23	14	29.24	-03	41	09.8		3 809
1989	SK10	1989	10	01.04444	23	14	28.73	-03	41	13.2		3 809
1989	SK10	1989	10	01.05694	23	14	28.22	-03	41	16.6		3 809
1989	SL10*	1989	09	28.05139	23	17	02.77	-03	30	50.5	17.8	3 809
1989	SL10	1989	09	28.06389	23	17	02.23	-03	30	55.2		3 809
1989	SL10	1989	09	28.07638	23	17	01.67	-03	30	59.9		3 809
1989	SL10	1989	09	29.06041	23	16	17.86	-03	37	07.5		3 809
1989	SL10	1989	09	29.07291	23	16	17.31	-03	37	12.1		3 809
1989	SL10	1989	09	29.08542	23	16	16.76	-03	37	16.7		3 809
1989	SL10	1989	10	01.03194	23	14	53.32	-03	49	02.4		3 809
1989	SL10	1989	10	01.04444	23	14	52.77	-03	49	06.9		3 809
1989	SL10	1989	10	01.05694	23	14	52.24	-03	49	11.5		3 809
1989	SM10*	1989	09	28.05139	23	19	56.91	-03	16	06.0	17.4	3 809
1989	SM10	1989	09	28.06389	23	19	56.35	-03	16	10.1		3 809
1989	SM10	1989	09	28.07638	23	19	55.80	-03	16	14.1		3 809
1989	SM10	1989	09	29.06041	23	19	12.20	-03	21	22.3		3 809
1989	SM10	1989	09	29.07291	23	19	11.63	-03	21	26.4		3 809
1989	SM10	1989	09	29.08542	23	19	11.08	-03	21	30.3		3 809
1989	SM10	1989	10	01.03194	23	17	47.91	-03	31	23.1		3 809
1989	SM10	1989	10	01.04444	23	17	47.37	-03	31	26.9		3 809
1989	SM10	1989	10	01.05694	23	17	46.84	-03	31	30.7		3 809
1989	SN10*	1989	09	28.05139	23	20	20.94	-03	37	00.5	17.4	3 809
1989	SN10	1989	09	28.06389	23	20	20.35	-03	37	01.0		3 809
1989	SN10	1989	09	28.07638	23	20	19.75	-03	37	01.5		3 809
1989	SN10	1989	09	29.06041	23	19	32.62	-03	37	42.8		3 809
1989	SN10	1989	09	29.07291	23	19	32.02	-03	37	43.3		3 809
1989	SN10	1989	09	29.08542	23	19	31.42	-03	37	43.8		3 809
1989	SN10	1989	10	01.03194	23	18	01.53	-03	38	52.8		3 809
1989	SN10	1989	10	01.04444	23	18	00.96	-03	38	53.2		3 809
1989	SN10	1989	10	01.05694	23	18	00.39	-03	38	53.6		3 809

1989	SO10*	1989	09	28.17500	23	21	47.88	-02	40	19.2	17.3	3 809
1989	SO10	1989	09	28.18750	23	21	47.37	-02	40	25.8		3 809
1989	SO10	1989	09	28.20000	23	21	46.84	-02	40	32.5		3 809
1989	SO10	1989	09	29.18750	23	21	06.56	-02	49	07.4		3 809
1989	SO10	1989	09	29.20000	23	21	06.03	-02	49	14.2		3 809
1989	SO10	1989	09	29.21250	23	21	05.50	-02	49	21.0		3 809
1989	SP10*	1989	09	28.17500	23	22	47.64	-04	06	48.7	17.5	3 809
1989	SP10	1989	09	28.18750	23	22	47.18	-04	06	54.2		3 809
1989	SP10	1989	09	28.20000	23	22	46.73	-04	06	59.6		3 809
1989	SP10	1989	09	29.06041	23	22	15.87	-04	13	18.2		3 809
1989	SP10	1989	09	29.07291	23	22	15.39	-04	13	23.5		3 809
1989	SP10	1989	09	29.08542	23	22	14.91	-04	13	29.0		3 809
1989	SP10	1989	09	29.18750	23	22	10.93	-04	14	12.9		3 809
1989	SP10	1989	09	29.20000	23	22	10.48	-04	14	18.5		3 809
1989	SP10	1989	09	29.21250	23	22	10.04	-04	14	23.8		3 809
1989	SP10	1989	10	01.03194	23	21	08.28	-04	27	10.7		3 809
1989	SP10	1989	10	01.04444	23	21	07.87	-04	27	15.9		3 809
1989	SP10	1989	10	01.05694	23	21	07.46	-04	27	21.0		3 809
1989	SQ10*	1989	09	28.17500	23	23	02.79	-03	52	34.6	17.4	3 809
1989	SQ10	1989	09	28.18750	23	23	02.22	-03	52	42.9		3 809
1989	SQ10	1989	09	28.20000	23	23	01.65	-03	52	51.0		3 809
1989	SQ10	1989	09	29.06041	23	22	22.54	-04	02	21.9		3 809
1989	SQ10	1989	09	29.07291	23	22	21.94	-04	02	30.1		3 809
1989	SQ10	1989	09	29.08542	23	22	21.34	-04	02	38.3		3 809
1989	SQ10	1989	09	29.18750	23	22	16.41	-04	03	46.0		3 809
1989	SQ10	1989	09	29.20000	23	22	15.85	-04	03	54.2		3 809
1989	SQ10	1989	09	29.21250	23	22	15.29	-04	04	02.3		3 809
1989	SQ10	1989	10	01.03194	23	20	54.52	-04	23	56.0		3 809
1989	SQ10	1989	10	01.04444	23	20	53.98	-04	24	03.8		3 809
1989	SQ10	1989	10	01.05694	23	20	53.43	-04	24	11.8		3 809
1989	SR10*	1989	09	28.17500	23	24	38.41	-03	55	48.1	17.4	3 809
1989	SR10	1989	09	28.18750	23	24	37.67	-03	55	48.2		3 809
1989	SR10	1989	09	28.20000	23	24	36.93	-03	55	48.2		3 809
1989	SR10	1989	09	29.18750	23	23	38.35	-03	55	51.0		3 809
1989	SR10	1989	09	29.20000	23	23	37.62	-03	55	51.1		3 809
1989	SR10	1989	09	29.21250	23	23	36.88	-03	55	51.1		3 809
1989	SS10*	1989	09	28.17500	23	24	42.51	-04	40	31.9	17.7	3 809
1989	SS10	1989	09	28.18750	23	24	41.84	-04	40	34.8		3 809
1989	SS10	1989	09	28.20000	23	24	41.18	-04	40	37.7		3 809
1989	SS10	1989	09	28.22569	23	24	39.81	-04	40	43.5		3 809
1989	SS10	1989	09	28.23819	23	24	39.13	-04	40	46.3		3 809
1989	SS10	1989	09	28.25069	23	24	38.47	-04	40	49.3		3 809
1989	SS10	1989	09	29.14514	23	23	50.46	-04	44	12.4		3 809
1989	SS10	1989	09	29.15764	23	23	49.79	-04	44	15.1		3 809
1989	SS10	1989	09	29.17014	23	23	49.12	-04	44	18.0		3 809
1989	SS10	1989	09	29.18750	23	23	48.19	-04	44	22.1		3 809
1989	SS10	1989	09	29.20000	23	23	47.53	-04	44	25.0		3 809
1989	SS10	1989	09	29.21250	23	23	46.86	-04	44	28.0		3 809
1989	ST10*	1989	09	28.17500	23	25	29.63	-04	11	45.7	16.2	3 809
1989	ST10	1989	09	28.18750	23	25	29.17	-04	11	53.5		3 809
1989	ST10	1989	09	28.20000	23	25	28.71	-04	12	01.4		3 809
1989	ST10	1989	09	29.18750	23	24	53.91	-04	21	54.9		3 809
1989	ST10	1989	09	29.20000	23	24	53.45	-04	22	02.4		3 809
1989	ST10	1989	09	29.21250	23	24	53.01	-04	22	10.0		3 809
1989	SU10*	1989	09	28.17500	23	26	09.17	-02	46	38.4	17.5	3 809
1989	SU10	1989	09	28.18750	23	26	08.54	-02	46	41.9		3 809
1989	SU10	1989	09	28.20000	23	26	07.91	-02	46	45.3		3 809
1989	SU10	1989	09	29.18750	23	25	18.20	-02	51	07.8		3 809
1989	SU10	1989	09	29.20000	23	25	17.57	-02	51	11.2		3 809

1989	SU10	1989	09	29.21250	23	25	16.95	-02	51	14.7		3 809
1989	SV10*	1989	09	28.17500	23	26	30.70	-03	19	44.7	17.7	3 809
1989	SV10	1989	09	28.18750	23	26	30.14	-03	19	49.7		3 809
1989	SV10	1989	09	28.20000	23	26	29.58	-03	19	54.5		3 809
1989	SV10	1989	09	29.18750	23	25	47.27	-03	26	11.9		3 809
1989	SV10	1989	09	29.20000	23	25	46.71	-03	26	16.9		3 809
1989	SV10	1989	09	29.21250	23	25	46.15	-03	26	21.9		3 809
1989	SW10*	1989	09	28.17500	23	27	05.61	-02	51	24.2	16.9	3 809
1989	SW10	1989	09	28.18750	23	27	05.04	-02	51	27.0		3 809
1989	SW10	1989	09	28.20000	23	27	04.47	-02	51	29.7		3 809
1989	SW10	1989	09	29.18750	23	26	21.84	-02	55	03.0		3 809
1989	SW10	1989	09	29.20000	23	26	21.27	-02	55	05.8		3 809
1989	SW10	1989	09	29.21250	23	26	20.71	-02	55	08.6		3 809
1989	SX10*	1989	09	28.17500	23	27	53.99	-02	46	47.9	17.2	3 809
1989	SX10	1989	09	28.18750	23	27	53.48	-02	46	51.6		3 809
1989	SX10	1989	09	28.20000	23	27	52.98	-02	46	55.3		3 809
1989	SX10	1989	09	29.18750	23	27	14.88	-02	51	33.6		3 809
1989	SX10	1989	09	29.20000	23	27	14.38	-02	51	37.3		3 809
1989	SX10	1989	09	29.21250	23	27	13.90	-02	51	40.6		3 809
1989	SY10*	1989	09	28.17500	23	28	30.01	-03	57	04.6	17.3	3 809
1989	SY10	1989	09	28.18750	23	28	29.32	-03	57	05.2		3 809
1989	SY10	1989	09	28.20000	23	28	28.64	-03	57	05.7		3 809
1989	SY10	1989	09	29.18750	23	27	34.70	-03	57	44.3		3 809
1989	SY10	1989	09	29.20000	23	27	34.02	-03	57	44.8		3 809
1989	SY10	1989	09	29.21250	23	27	33.34	-03	57	45.3		3 809
1989	SZ10*	1989	09	28.17500	23	29	12.91	-04	35	47.5	16.9	3 809
1989	SZ10	1989	09	28.18750	23	29	12.44	-04	35	53.2		3 809
1989	SZ10	1989	09	28.20000	23	29	11.97	-04	35	59.0		3 809
1989	SZ10	1989	09	29.18750	23	28	36.21	-04	43	11.4		3 809
1989	SZ10	1989	09	29.20000	23	28	35.73	-04	43	17.1		3 809
1989	SZ10	1989	09	29.21250	23	28	35.26	-04	43	22.8		3 809
1989	SA11*	1989	09	28.22569	23	24	38.68	-05	49	07.4	17.6	3 809
1989	SA11	1989	09	28.23819	23	24	38.26	-05	49	16.1		3 809
1989	SA11	1989	09	28.25069	23	24	37.84	-05	49	24.7		3 809
1989	SA11	1989	09	29.14514	23	24	07.88	-05	59	55.4		3 809
1989	SA11	1989	09	29.15764	23	24	07.46	-06	00	04.1		3 809
1989	SA11	1989	09	29.17014	23	24	07.04	-06	00	12.9		3 809
1989	SB11*	1989	09	28.35278	02	02	07.51	+11	49	07.6	17.0	3 809
1989	SB11	1989	09	28.36528	02	02	07.08	+11	49	05.6		3 809
1989	SB11	1989	09	28.37778	02	02	06.66	+11	49	03.6		3 809
1989	SB11	1989	09	29.36250	02	01	32.99	+11	46	27.7		3 809
1989	SB11	1989	09	29.37361	02	01	32.61	+11	46	25.9		3 809
1989	SB11	1989	09	29.38472	02	01	32.22	+11	46	24.1		3 809
1989	SB11	1989	09	30.35139	02	00	58.20	+11	43	45.1		3 809
1989	SB11	1989	09	30.36389	02	00	57.77	+11	43	43.3		3 809
1989	SB11	1989	09	30.37639	02	00	57.33	+11	43	41.0		3 809
1989	SC11*	1989	09	28.35278	02	04	26.87	+12	24	49.9	17.0	3 809
1989	SC11	1989	09	28.36528	02	04	26.33	+12	24	46.8		3 809
1989	SC11	1989	09	28.37778	02	04	25.80	+12	24	43.7		3 809
1989	SC11	1989	09	29.36250	02	03	42.78	+12	20	38.2		3 809
1989	SC11	1989	09	29.37361	02	03	42.30	+12	20	35.4		3 809
1989	SC11	1989	09	29.38472	02	03	41.81	+12	20	32.7		3 809
1989	SC11	1989	09	30.35139	02	02	58.38	+12	16	24.0		3 809
1989	SC11	1989	09	30.36389	02	02	57.84	+12	16	20.6		3 809
1989	SC11	1989	09	30.37639	02	02	57.29	+12	16	17.3		3 809
1989	SD11*	1989	09	29.06041	23	20	21.92	-04	29	32.1	17.8	3 809
1989	SD11	1989	09	29.07291	23	20	21.15	-04	29	31.7		3 809
1989	SD11	1989	09	29.08542	23	20	20.38	-04	29	31.6		3 809
1989	SD11	1989	10	01.03194	23	18	19.01	-04	28	38.9		3 809

1989	SD11	1989	10	01.04444	23	18	18.23	-04	28	38.5		3 809
1989	SD11	1989	10	01.05694	23	18	17.43	-04	28	38.1		3 809
1989	SE11*	1989	09	29.06041	23	20	34.71	-04	59	45.6	16.6	3 809
1989	SE11	1989	09	29.07291	23	20	34.10	-04	59	49.3		3 809
1989	SE11	1989	09	29.08542	23	20	33.49	-04	59	52.9		3 809
1989	SE11	1989	10	01.03194	23	18	57.47	-05	09	01.8		3 809
1989	SE11	1989	10	01.04444	23	18	56.85	-05	09	05.4		3 809
1989	SE11	1989	10	01.05694	23	18	56.24	-05	09	08.7		3 809
1989	SF11*	1989	09	29.06041	23	20	51.28	-04	48	21.5	17.6	3 809
1989	SF11	1989	09	29.07291	23	20	50.68	-04	48	26.1		3 809
1989	SF11	1989	09	29.08542	23	20	50.08	-04	48	30.7		3 809
1989	SF11	1989	09	29.14514	23	20	46.91	-04	48	52.0	17.6	3 809
1989	SF11	1989	09	29.15764	23	20	46.20	-04	48	57.5		3 809
1989	SF11	1989	09	29.17014	23	20	45.49	-04	49	02.4		3 809
1989	SF11	1989	10	01.03194	23	19	16.17	-05	00	26.7		3 809
1989	SF11	1989	10	01.04444	23	19	15.57	-05	00	31.4		3 809
1989	SF11	1989	10	01.05694	23	19	14.97	-05	00	36.1		3 809
1989	SG11*	1989	09	29.24653	00	11	43.24	+02	43	57.8	17.5	3 809
1989	SG11	1989	09	29.25903	00	11	42.79	+02	43	55.4		3 809
1989	SG11	1989	09	29.27153	00	11	42.34	+02	43	53.0		3 809
1989	SG11	1989	09	30.26875	00	11	05.71	+02	40	34.2		3 809
1989	SG11	1989	09	30.28125	00	11	05.26	+02	40	31.9		3 809
1989	SG11	1989	09	30.29375	00	11	04.80	+02	40	29.6		3 809
1989	SH11*	1989	09	29.28611	00	15	06.00	+00	32	16.7	17.7	3 809
1989	SH11	1989	09	29.29861	00	15	05.46	+00	32	09.5		3 809
1989	SH11	1989	09	29.31111	00	15	04.90	+00	32	02.4		3 809
1989	SH11	1989	09	30.30764	00	14	21.04	+00	22	31.7		3 809
1989	SH11	1989	09	30.32014	00	14	20.49	+00	22	24.9		3 809
1989	SH11	1989	09	30.33264	00	14	19.94	+00	22	17.6		3 809
1989	SH11	1989	10	01.29652	00	13	37.83	+00	13	10.6		3 809
1989	SH11	1989	10	01.30625	00	13	37.39	+00	13	05.6		3 809
1989	SH11	1989	10	02.17083	00	13	00.34	+00	04	56.2		3 809
1989	SH11	1989	10	02.18055	00	12	59.93	+00	04	50.7		3 809
1989	SH11	1989	10	02.19028	00	12	59.51	+00	04	45.3		3 809
1989	SJ11*	1989	09	29.28611	00	16	39.37	-00	05	06.5	17.7	3 809
1989	SJ11	1989	09	29.29861	00	16	38.67	-00	05	09.7		3 809
1989	SJ11	1989	09	29.31111	00	16	37.97	-00	05	12.9		3 809
1989	SJ11	1989	09	30.30764	00	15	42.99	-00	09	27.1		3 809
1989	SJ11	1989	09	30.32014	00	15	42.29	-00	09	30.2		3 809
1989	SJ11	1989	09	30.33264	00	15	41.60	-00	09	33.0		3 809
1989	SK11*	1989	09	30.01250	23	16	08.35	+00	39	57.4	17.3	3 809
1989	SK11	1989	09	30.02500	23	16	07.89	+00	39	54.3		3 809
1989	SK11	1989	09	30.03750	23	16	07.41	+00	39	51.3		3 809
1989	SK11	1989	10	01.00000	23	15	31.36	+00	35	51.4		3 809
1989	SK11	1989	10	01.00972	23	15	30.99	+00	35	48.9		3 809
1989	SK11	1989	10	01.01944	23	15	30.64	+00	35	46.3		3 809
1989	SL11*	1989	09	30.01250	23	16	38.68	+01	00	20.1	17.0	3 809
1989	SL11	1989	09	30.02500	23	16	38.24	+01	00	17.5		3 809
1989	SL11	1989	09	30.03750	23	16	37.83	+01	00	14.8		3 809
1989	SL11	1989	10	01.00000	23	16	05.81	+00	56	52.9		3 809
1989	SL11	1989	10	01.00972	23	16	05.49	+00	56	50.8		3 809
1989	SL11	1989	10	01.01944	23	16	05.16	+00	56	48.7		3 809
1989	SM11*	1989	09	30.01250	23	17	06.19	+01	13	32.5	17.4	3 809
1989	SM11	1989	09	30.02500	23	17	05.77	+01	13	25.5		3 809
1989	SM11	1989	09	30.03750	23	17	05.35	+01	13	18.7		3 809
1989	SM11	1989	10	01.00000	23	16	33.04	+01	04	23.7		3 809
1989	SM11	1989	10	01.00972	23	16	32.71	+01	04	18.4		3 809
1989	SM11	1989	10	01.01944	23	16	32.36	+01	04	13.3		3 809
1989	SN11*	1989	09	30.01250	23	18	30.98	+00	03	03.7	17.0	3 809

1989	SN11	1989	09	30.02500	23	18	30.42	+00	03	01.6		3 809
1989	SN11	1989	09	30.03750	23	18	29.86	+00	02	59.6		3 809
1989	SN11	1989	10	01.00000	23	17	46.15	+00	00	28.7		3 809
1989	SN11	1989	10	01.00972	23	17	45.69	+00	00	27.5		3 809
1989	SN11	1989	10	01.01944	23	17	45.25	+00	00	26.0		3 809
1989	SO11*	1989	09	30.09479	23	38	36.66	-01	22	14.0	16.9	3 809
1989	SO11	1989	09	30.10798	23	38	36.12	-01	22	21.2		3 809
1989	SO11	1989	09	30.12118	23	38	35.58	-01	22	28.2		3 809
1989	SO11	1989	10	01.07291	23	37	56.70	-01	30	55.2		3 809
1989	SO11	1989	10	01.08542	23	37	56.19	-01	31	01.7		3 809
1989	SO11	1989	10	01.09792	23	37	55.68	-01	31	08.4		3 809
1989	SP11*	1989	09	30.09479	23	39	10.08	-01	02	04.6	17.5	3 809
1989	SP11	1989	09	30.10798	23	39	09.52	-01	02	07.9		3 809
1989	SP11	1989	09	30.12118	23	39	08.93	-01	02	11.5		3 809
1989	SP11	1989	10	01.07291	23	38	27.86	-01	06	31.4		3 809
1989	SP11	1989	10	01.08542	23	38	27.32	-01	06	34.8		3 809
1989	SP11	1989	10	01.09792	23	38	26.78	-01	06	38.3		3 809
1989	SQ11*	1989	09	30.09479	23	44	34.38	-00	45	46.9	17.3	3 809
1989	SQ11	1989	09	30.10798	23	44	33.66	-00	45	49.7		3 809
1989	SQ11	1989	09	30.12118	23	44	32.93	-00	45	52.8		3 809
1989	SQ11	1989	10	01.07291	23	43	41.18	-00	49	30.4		3 809
1989	SQ11	1989	10	01.08542	23	43	40.47	-00	49	33.2		3 809
1989	SQ11	1989	10	01.09792	23	43	39.78	-00	49	36.1		3 809
1989	SR11*	1989	09	30.09479	23	44	48.16	-00	37	51.3	17.1	3 809
1989	SR11	1989	09	30.10798	23	44	47.59	-00	37	55.3		3 809
1989	SR11	1989	09	30.12118	23	44	47.00	-00	37	59.3		3 809
1989	SR11	1989	10	01.07291	23	44	05.60	-00	42	57.3		3 809
1989	SR11	1989	10	01.08542	23	44	05.05	-00	43	01.3		3 809
1989	SR11	1989	10	01.09792	23	44	04.50	-00	43	05.1		3 809
1989	SS11*	1989	09	30.13541	23	41	21.59	+00	44	15.2	16.5	3 809
1989	SS11	1989	09	30.14792	23	41	21.07	+00	44	07.4		3 809
1989	SS11	1989	09	30.16042	23	41	20.54	+00	43	59.7		3 809
1989	SS11	1989	10	01.11250	23	40	41.13	+00	34	09.3		3 809
1989	SS11	1989	10	01.12500	23	40	40.62	+00	34	01.5		3 809
1989	SS11	1989	10	01.13750	23	40	40.10	+00	33	53.7		3 809
1989	ST11*	1989	09	30.13541	23	42	38.46	+01	28	26.3	16.9	3 809
1989	ST11	1989	09	30.14792	23	42	37.96	+01	28	22.4		3 809
1989	ST11	1989	09	30.16042	23	42	37.46	+01	28	18.3		3 809
1989	ST11	1989	10	01.11250	23	41	59.60	+01	23	06.7		3 809
1989	ST11	1989	10	01.12500	23	41	59.11	+01	23	02.6		3 809
1989	ST11	1989	10	01.13750	23	41	58.62	+01	22	58.6		3 809
1989	SU11*	1989	09	30.13541	23	44	12.23	+01	23	40.3	16.4	3 809
1989	SU11	1989	09	30.14792	23	44	11.72	+01	23	31.6		3 809
1989	SU11	1989	09	30.16042	23	44	11.20	+01	23	22.9		3 809
1989	SU11	1989	10	01.11250	23	43	32.15	+01	12	18.0		3 809
1989	SU11	1989	10	01.12500	23	43	31.64	+01	12	09.3		3 809
1989	SU11	1989	10	01.13750	23	43	31.13	+01	12	00.5		3 809
1989	SV11*	1989	09	30.17361	23	47	23.79	+02	02	46.0	16.3	3 809
1989	SV11	1989	09	30.18611	23	47	22.98	+02	02	48.8		3 809
1989	SV11	1989	09	30.19861	23	47	22.18	+02	02	51.5		3 809
1989	SV11	1989	10	01.15139	23	46	20.42	+02	06	19.9		3 809
1989	SV11	1989	10	01.16389	23	46	19.61	+02	06	22.7		3 809
1989	SV11	1989	10	01.17639	23	46	18.80	+02	06	25.4		3 809
1989	SW11*	1989	09	30.17361	23	47	43.69	+00	41	33.8	15.9	3 809
1989	SW11	1989	09	30.18611	23	47	43.05	+00	41	30.4		3 809
1989	SW11	1989	09	30.19861	23	47	42.40	+00	41	26.7		3 809
1989	SW11	1989	10	01.15139	23	46	52.82	+00	37	02.8		3 809
1989	SW11	1989	10	01.16389	23	46	52.16	+00	36	59.1		3 809
1989	SW11	1989	10	01.17639	23	46	51.50	+00	36	55.5		3 809

1989	SX11*	1989	09	30.17361	23	51	17.14	+01	02	34.8	17.7	3 809
1989	SX11	1989	09	30.18611	23	51	16.63	+01	02	28.4		3 809
1989	SX11	1989	09	30.19861	23	51	16.12	+01	02	22.4		3 809
1989	SX11	1989	10	01.15139	23	50	37.60	+00	54	30.5		3 809
1989	SX11	1989	10	01.16389	23	50	37.10	+00	54	24.0		3 809
1989	SX11	1989	10	01.17639	23	50	36.60	+00	54	17.8		3 809
1989	SY11*	1989	09	30.17361	23	52	20.32	+01	07	26.7	17.4	3 809
1989	SY11	1989	09	30.18611	23	52	19.78	+01	07	21.2		3 809
1989	SY11	1989	09	30.19861	23	52	19.23	+01	07	15.4		3 809
1989	SY11	1989	10	01.15139	23	51	37.74	+01	00	09.1		3 809
1989	SY11	1989	10	01.16389	23	51	37.19	+01	00	03.2		3 809
1989	SY11	1989	10	01.17639	23	51	36.65	+00	59	57.6		3 809
1989	SZ11*	1989	09	30.17361	23	52	44.57	+00	34	03.0	17.0	3 809
1989	SZ11	1989	09	30.18611	23	52	43.85	+00	34	04.3		3 809
1989	SZ11	1989	09	30.19861	23	52	43.13	+00	34	05.3		3 809
1989	SZ11	1989	10	01.15139	23	51	47.77	+00	35	49.8		3 809
1989	SZ11	1989	10	01.16389	23	51	47.05	+00	35	51.2		3 809
1989	SZ11	1989	10	01.17639	23	51	46.32	+00	35	52.8		3 809
1989	SA12*	1989	09	30.17361	23	52	55.39	+01	44	59.6	17.3	3 809
1989	SA12	1989	09	30.18611	23	52	54.76	+01	44	57.9		3 809
1989	SA12	1989	09	30.19861	23	52	54.13	+01	44	56.2		3 809
1989	SA12	1989	10	01.15139	23	52	06.34	+01	42	44.1		3 809
1989	SA12	1989	10	01.16389	23	52	05.71	+01	42	42.3		3 809
1989	SA12	1989	10	01.17639	23	52	05.07	+01	42	40.6		3 809
1989	SB12*	1989	09	30.21319	23	46	27.19	-01	08	45.6	15.6	3 809
1989	SB12	1989	09	30.22569	23	46	26.56	-01	08	51.6		3 809
1989	SB12	1989	09	30.23819	23	46	25.93	-01	08	57.7		3 809
1989	SB12	1989	10	01.20625	23	45	37.01	-01	16	45.2		3 809
1989	SB12	1989	10	01.21875	23	45	36.37	-01	16	51.1		3 809
1989	SB12	1989	10	01.23125	23	45	35.74	-01	16	57.0		3 809
1989	SC12*	1989	09	30.21319	23	51	07.48	-01	15	15.0	16.5	3 809
1989	SC12	1989	09	30.22569	23	51	06.72	-01	15	16.0		3 809
1989	SC12	1989	09	30.23819	23	51	05.97	-01	15	17.0		3 809
1989	SC12	1989	10	01.20625	23	50	08.64	-01	16	39.2		3 809
1989	SC12	1989	10	01.21875	23	50	07.89	-01	16	40.1		3 809
1989	SC12	1989	10	01.23125	23	50	07.15	-01	16	41.3		3 809
1989	SD12*	1989	09	30.21319	23	52	04.63	+00	06	25.8	17.1	3 809
1989	SD12	1989	09	30.22569	23	52	04.07	+00	06	20.8		3 809
1989	SD12	1989	09	30.23819	23	52	03.52	+00	06	15.8		3 809
1989	SD12	1989	10	01.20625	23	51	20.48	-00	00	09.5		3 809
1989	SD12	1989	10	01.21875	23	51	19.90	-00	00	14.4		3 809
1989	SD12	1989	10	01.23125	23	51	19.35	-00	00	19.4		3 809
1989	SE12*	1989	09	30.21319	23	52	52.39	+00	02	16.4	17.6	3 809
1989	SE12	1989	09	30.22569	23	52	51.65	+00	02	07.3		3 809
1989	SE12	1989	09	30.23819	23	52	50.91	+00	01	58.2		3 809
1989	SE12	1989	10	01.20625	23	51	54.31	-00	09	35.6		3 809
1989	SE12	1989	10	01.21875	23	51	53.58	-00	09	44.6		3 809
1989	SE12	1989	10	01.23125	23	51	52.84	-00	09	53.8		3 809
1989	SF12*	1989	09	30.21319	23	53	47.23	-00	19	37.8	17.5	3 809
1989	SF12	1989	09	30.22569	23	53	46.60	-00	19	40.6		3 809
1989	SF12	1989	09	30.23819	23	53	45.97	-00	19	43.5		3 809
1989	SF12	1989	10	01.20625	23	52	56.81	-00	23	24.0		3 809
1989	SF12	1989	10	01.21875	23	52	56.17	-00	23	26.8		3 809
1989	SF12	1989	10	01.23125	23	52	55.54	-00	23	29.7		3 809
1989	SG12*	1989	09	30.26875	00	04	10.59	+02	34	49.1	17.0	3 809
1989	SG12	1989	09	30.28125	00	04	09.91	+02	34	46.3		3 809
1989	SG12	1989	09	30.29375	00	04	09.23	+02	34	43.5		3 809
1989	SG12	1989	10	02.12639	00	02	29.73	+02	27	30.7		3 809
1989	SG12	1989	10	02.13889	00	02	29.05	+02	27	27.7		3 809

1989	SG12	1989	10	02.15208	00	02	28.34	+02	27	24.5		3 809
1989	SH12*	1989	09	30.26875	00	04	53.24	+02	15	59.2	17.1	3 809
1989	SH12	1989	09	30.28125	00	04	52.65	+02	15	55.4		3 809
1989	SH12	1989	09	30.29375	00	04	52.05	+02	15	51.8		3 809
1989	SH12	1989	10	01.25833	00	04	06.15	+02	11	04.9		3 809
1989	SH12	1989	10	01.27083	00	04	05.55	+02	11	01.1		3 809
1989	SH12	1989	10	01.28333	00	04	04.96	+02	10	57.4		3 809
1989	SH12	1989	10	02.12639	00	03	25.20	+02	06	47.4		3 809
1989	SH12	1989	10	02.13889	00	03	24.61	+02	06	43.7		3 809
1989	SH12	1989	10	02.15208	00	03	23.99	+02	06	39.8		3 809
1989	SJ12*	1989	09	30.26875	00	05	48.84	+01	52	43.0	16.7	3 809
1989	SJ12	1989	09	30.28125	00	05	48.08	+01	52	43.7		3 809
1989	SJ12	1989	09	30.29375	00	05	47.33	+01	52	44.4		3 809
1989	SJ12	1989	10	01.25833	00	04	48.23	+01	53	36.5		3 809
1989	SJ12	1989	10	01.27083	00	04	47.47	+01	53	37.2		3 809
1989	SJ12	1989	10	01.28333	00	04	46.70	+01	53	37.9		3 809
1989	SJ12	1989	10	02.12639	00	03	55.41	+01	54	23.2		3 809
1989	SJ12	1989	10	02.13889	00	03	54.65	+01	54	23.9		3 809
1989	SJ12	1989	10	02.15208	00	03	53.85	+01	54	24.6		3 809
1989	SK12*	1989	09	30.26875	00	06	49.88	+02	53	35.9	17.0	3 809
1989	SK12	1989	09	30.28125	00	06	49.33	+02	53	31.9		3 809
1989	SK12	1989	09	30.29375	00	06	48.79	+02	53	27.7		3 809
1989	SK12	1989	10	01.25833	00	06	07.09	+02	48	11.7		3 809
1989	SK12	1989	10	01.27083	00	06	06.53	+02	48	07.7		3 809
1989	SK12	1989	10	01.28333	00	06	05.97	+02	48	03.5		3 809
1989	SL12*	1989	09	30.26875	00	07	37.73	+01	58	55.4	16.8	3 809
1989	SL12	1989	09	30.28125	00	07	37.15	+01	58	51.4		3 809
1989	SL12	1989	09	30.29375	00	07	36.55	+01	58	47.7		3 809
1989	SL12	1989	10	01.25833	00	06	49.95	+01	53	54.7		3 809
1989	SL12	1989	10	01.27083	00	06	49.34	+01	53	51.2		3 809
1989	SL12	1989	10	01.28333	00	06	48.72	+01	53	47.7		3 809
1989	SL12	1989	10	02.12639	00	06	08.37	+01	49	32.7		3 809
1989	SL12	1989	10	02.13889	00	06	07.78	+01	49	28.8		3 809
1989	SL12	1989	10	02.15208	00	06	07.14	+01	49	24.8		3 809
1989	TP1	1989	09	28.31319	01	43	25.48	+10	21	49.3	17.9	3 809
1989	TP1	1989	09	28.32569	01	43	25.06	+10	21	46.3		3 809
1989	TP1	1989	09	28.33819	01	43	24.60	+10	21	43.5		3 809
1989	TP1	1989	09	29.32708	01	42	49.83	+10	18	02.2		3 809
1989	TP1	1989	09	29.33819	01	42	49.45	+10	17	59.5		3 809
1989	TP1	1989	09	29.34930	01	42	49.03	+10	17	57.0		3 809
1989	TP1	1989	10	01.36111	01	41	35.56	+10	10	12.3		3 809
1989	TP1	1989	10	01.37361	01	41	35.10	+10	10	09.8		3 809
1989	TS1	1989	09	30.26875	00	10	37.18	+02	36	29.4	16.6	3 809
1989	TS1	1989	09	30.28125	00	10	36.65	+02	36	27.9		3 809
1989	TS1	1989	09	30.29375	00	10	36.13	+02	36	26.3		3 809
1989	TT1	1989	09	24.30382	01	58	31.27	+15	51	47.6	16.9	3 809
1989	TT1	1989	09	24.31840	01	58	30.88	+15	51	44.0		3 809
1989	TT1	1989	09	24.33298	01	58	30.49	+15	51	40.4		3 809
1989	TT1	1989	09	25.13437	01	58	08.12	+15	48	22.2		3 809
1989	TT1	1989	09	25.14896	01	58	07.73	+15	48	18.6		3 809
1989	TT1	1989	09	25.16354	01	58	07.30	+15	48	15.0		3 809
1989	TT1	1989	09	26.31111	01	57	32.58	+15	43	16.5		3 809
1989	TT1	1989	09	26.32361	01	57	32.20	+15	43	13.3		3 809
1989	TT1	1989	09	26.33611	01	57	31.82	+15	43	10.0		3 809
1989	TD2	1989	10	01.32153	00	52	49.37	+03	10	42.3	17.6	3 809
1989	TD2	1989	10	01.33403	00	52	48.79	+03	10	35.2		3 809
1989	TD2	1989	10	01.34653	00	52	48.21	+03	10	28.1		3 809
1989	TD2	1989	10	02.28958	00	52	04.69	+03	01	31.7		3 809
1989	TD2	1989	10	02.30208	00	52	04.11	+03	01	24.5		3 809

1989	TD2	1989	10	02.31458	00	52	03.55	+03	01	17.4		3 809
1989	TD2	1989	10	09.27430	00	46	39.24	+01	56	08.0	16.5	3 809
1989	TD2	1989	10	09.28403	00	46	38.78	+01	56	02.6		3 809
1989	TD2	1989	10	09.29375	00	46	38.33	+01	55	57.3		3 809
1989	TD2	1989	10	10.20903	00	45	56.27	+01	47	37.6		3 809
1989	TD2	1989	10	10.21875	00	45	55.82	+01	47	32.3		3 809
1989	TD2	1989	10	10.22916	00	45	55.34	+01	47	26.6		3 809
1989	TD2	1989	10	10.23889	00	45	54.90	+01	47	21.3		3 809
1989	TU10	1989	10	04.18680	00	31	53.87	+01	00	51.1	17.0	3 809
1989	TU10	1989	10	04.19653	00	31	53.44	+01	00	44.9		3 809
1989	TU10	1989	10	04.20625	00	31	53.00	+01	00	38.6		3 809
1989	TU10	1989	10	07.23680	00	29	43.37	+00	28	10.1		3 809
1989	TU10	1989	10	07.24653	00	29	42.97	+00	28	03.7		3 809
1989	TU10	1989	10	07.25625	00	29	42.55	+00	27	57.6		3 809
1989	TU10	1989	10	08.22014	00	29	01.91	+00	17	45.3		3 809
1989	TU10	1989	10	08.22986	00	29	01.50	+00	17	39.3		3 809
1989	TU10	1989	10	08.23958	00	29	01.09	+00	17	33.2		3 809
1989	TW10	1989	10	12.15590	01	21	10.42	+07	20	50.1		3 809
1989	TW10	1989	10	12.16562	01	21	09.89	+07	20	45.9		3 809
1989	TW10	1989	10	12.17326	01	21	09.46	+07	20	42.6		3 809
1989	TW10	1989	10	12.18298	01	21	08.93	+07	20	38.5		3 809
1989	TX10	1989	10	07.05902	23	58	06.33	-04	51	53.9	17.4	3 809
1989	TX10	1989	10	07.06875	23	58	05.91	-04	51	56.7		3 809
1989	TX10	1989	10	07.07847	23	58	05.49	-04	51	59.3		3 809
1989	TX10	1989	10	08.06632	23	57	22.82	-04	56	31.5		3 809
1989	TX10	1989	10	08.07604	23	57	22.41	-04	56	34.2		3 809
1989	TX10	1989	10	08.08576	23	57	21.98	-04	56	37.0		3 809
1989	TY10	1989	10	11.21389	01	28	25.59	+08	40	52.6	17.2	3 809
1989	TY10	1989	10	11.22361	01	28	25.12	+08	40	46.1		3 809
1989	TY10	1989	10	11.23402	01	28	24.61	+08	40	39.1		3 809
1989	TY10	1989	10	11.24375	01	28	24.14	+08	40	32.7		3 809
1989	TM11	1989	09	30.13541	23	40	14.33	+01	10	43.0	16.1	3 809
1989	TM11	1989	09	30.14792	23	40	13.67	+01	10	42.4		3 809
1989	TM11	1989	09	30.16042	23	40	13.00	+01	10	41.7		3 809
1989	TM11	1989	10	01.11250	23	39	22.85	+01	09	43.1		3 809
1989	TM11	1989	10	01.12500	23	39	22.18	+01	09	42.3		3 809
1989	TM11	1989	10	01.13750	23	39	21.53	+01	09	41.6		3 809
1989	TN11	1989	10	04.29896	00	35	31.82	+03	53	29.1	16.8	3 809
1989	TN11	1989	10	04.30903	00	35	31.19	+03	53	28.9		3 809
1989	TN11	1989	10	04.31910	00	35	30.57	+03	53	28.7		3 809
1989	TN11	1989	10	06.30972	00	33	28.20	+03	52	30.7		3 809
1989	TN11	1989	10	06.31944	00	33	27.60	+03	52	30.4		3 809
1989	TN11	1989	10	06.32917	00	33	27.00	+03	52	30.2		3 809
1989	TN11	1989	10	08.25278	00	31	30.46	+03	51	39.1		3 809
1989	TN11	1989	10	08.26284	00	31	29.85	+03	51	38.9		3 809
1989	TN11	1989	10	08.27291	00	31	29.24	+03	51	38.7		3 809
1989	TO11	1989	10	03.18958	00	42	16.65	+06	34	46.9	17.1	3 809
1989	TO11	1989	10	03.19930	00	42	16.36	+06	34	44.1		3 809
1989	TO11	1989	10	03.20903	00	42	16.07	+06	34	41.3		3 809
1989	TO11	1989	10	03.26250	00	42	14.54	+06	34	25.4		3 809
1989	TO11	1989	10	03.27361	00	42	14.21	+06	34	22.3		3 809
1989	TO11	1989	10	03.28472	00	42	13.90	+06	34	19.2		3 809
1989	TO11	1989	10	06.24305	00	40	50.81	+06	20	35.3		3 809
1989	TO11	1989	10	06.25278	00	40	50.54	+06	20	32.8		3 809
1989	TO11	1989	10	06.26250	00	40	50.27	+06	20	30.0		3 809
1989	TP11	1989	10	03.23194	00	42	32.25	+04	33	09.7	17.7	3 809
1989	TP11	1989	10	03.24167	00	42	31.76	+04	33	05.0		3 809
1989	TP11	1989	10	03.25139	00	42	31.28	+04	33	00.4		3 809
1989	TP11	1989	10	04.29896	00	41	39.10	+04	24	39.8		3 809

1989	TP11	1989	10	04.30903	00	41	38.59	+04	24	35.0		3 809
1989	TP11	1989	10	04.31910	00	41	38.09	+04	24	30.0		3 809
1989	TP11	1989	10	06.30972	00	39	59.46	+04	08	40.0		3 809
1989	TP11	1989	10	06.31944	00	39	58.98	+04	08	35.5		3 809
1989	TP11	1989	10	06.32917	00	39	58.52	+04	08	31.0		3 809
1989	TP11	1989	10	08.28542	00	38	22.79	+03	53	05.6		3 809
1989	TP11	1989	10	08.29513	00	38	22.31	+03	53	01.2		3 809
1989	TP11	1989	10	08.30486	00	38	21.83	+03	52	56.5		3 809
1989	TR11	1989	10	02.25555	00	49	18.13	+03	51	08.2	16.6	3 809
1989	TR11	1989	10	02.26527	00	49	17.50	+03	51	09.3		3 809
1989	TR11	1989	10	02.27500	00	49	16.87	+03	51	10.3		3 809
1989	TR11	1989	10	03.23194	00	48	14.12	+03	52	51.6		3 809
1989	TR11	1989	10	03.24167	00	48	13.48	+03	52	52.9		3 809
1989	TR11	1989	10	03.25139	00	48	12.84	+03	52	54.0		3 809
1989	TU11	1989	10	04.18680	00	30	52.65	+01	25	23.1	17.3	3 809
1989	TU11	1989	10	04.19653	00	30	52.05	+01	25	23.2		3 809
1989	TU11	1989	10	04.20625	00	30	51.46	+01	25	23.3		3 809
1989	TU11	1989	10	06.21111	00	28	51.50	+01	25	48.0		3 809
1989	TU11	1989	10	06.22083	00	28	50.92	+01	25	48.1		3 809
1989	TU11	1989	10	06.23055	00	28	50.33	+01	25	48.2		3 809
1989	TU11	1989	10	07.26875	00	27	48.70	+01	26	06.4		3 809
1989	TU11	1989	10	07.27847	00	27	48.13	+01	26	06.7		3 809
1989	TU11	1989	10	07.28819	00	27	47.55	+01	26	06.7		3 809
1989	TV11	1989	10	04.18680	00	31	43.10	+02	12	16.6	17.4	3 809
1989	TV11	1989	10	04.19653	00	31	42.59	+02	12	15.2		3 809
1989	TV11	1989	10	04.20625	00	31	42.09	+02	12	13.8		3 809
1989	TV11	1989	10	06.21111	00	29	59.62	+02	07	25.6		3 809
1989	TV11	1989	10	06.22083	00	29	59.12	+02	07	24.3		3 809
1989	TV11	1989	10	06.23055	00	29	58.64	+02	07	23.0		3 809
1989	TV11	1989	10	07.26875	00	29	05.80	+02	04	56.4		3 809
1989	TV11	1989	10	07.27847	00	29	05.30	+02	04	55.1		3 809
1989	TV11	1989	10	07.28819	00	29	04.81	+02	04	54.0		3 809
1989	TC14*	1989	10	01.32153	00	52	50.75	+03	36	17.9	17.6	3 809
1989	TC14	1989	10	01.33403	00	52	50.13	+03	36	14.1		3 809
1989	TC14	1989	10	01.34653	00	52	49.52	+03	36	10.2		3 809
1989	TC14	1989	10	02.28958	00	52	03.08	+03	31	21.5		3 809
1989	TC14	1989	10	02.30208	00	52	02.47	+03	31	17.6		3 809
1989	TC14	1989	10	02.31458	00	52	01.85	+03	31	13.8		3 809
1989	TD14*	1989	10	01.32153	00	54	40.22	+04	13	12.0	16.6	3 809
1989	TD14	1989	10	01.33403	00	54	39.62	+04	13	08.2		3 809
1989	TD14	1989	10	01.34653	00	54	39.00	+04	13	04.3		3 809
1989	TD14	1989	10	02.28958	00	53	53.07	+04	08	15.9		3 809
1989	TD14	1989	10	02.30208	00	53	52.46	+04	08	12.1		3 809
1989	TD14	1989	10	02.31458	00	53	51.86	+04	08	08.3		3 809
1989	TE14*	1989	10	01.32153	00	56	42.45	+04	51	20.4	16.7	3 809
1989	TE14	1989	10	01.33403	00	56	41.81	+04	51	17.5		3 809
1989	TE14	1989	10	01.34653	00	56	41.18	+04	51	14.7		3 809
1989	TE14	1989	10	02.28958	00	55	53.25	+04	47	37.9		3 809
1989	TE14	1989	10	02.30208	00	55	52.59	+04	47	34.7		3 809
1989	TE14	1989	10	02.31458	00	55	51.95	+04	47	31.9		3 809
1989	TF14*	1989	10	02.08611	23	53	09.73	-06	21	48.4	16.8	3 809
1989	TF14	1989	10	02.09896	23	53	09.12	-06	21	51.6		3 809
1989	TF14	1989	10	02.11181	23	53	08.48	-06	21	54.4		3 809
1989	TF14	1989	10	03.11667	23	52	18.80	-06	26	01.0		3 809
1989	TF14	1989	10	03.12917	23	52	18.18	-06	26	04.0		3 809
1989	TF14	1989	10	03.14167	23	52	17.56	-06	26	07.1		3 809
1989	TF14	1989	10	04.09097	23	51	31.46	-06	29	53.1		3 809
1989	TF14	1989	10	04.10069	23	51	30.99	-06	29	55.4		3 809
1989	TF14	1989	10	04.11042	23	51	30.51	-06	29	57.8		3 809

1989	TG14*	1989	10	02.08611	23	53	18.49	-06	12	29.8	17.5	3 809
1989	TG14	1989	10	02.09896	23	53	17.63	-06	12	26.0		3 809
1989	TG14	1989	10	02.11181	23	53	16.76	-06	12	22.2		3 809
1989	TG14	1989	10	03.11667	23	52	08.80	-06	07	21.2		3 809
1989	TG14	1989	10	03.12917	23	52	07.96	-06	07	17.5		3 809
1989	TG14	1989	10	03.14167	23	52	07.11	-06	07	13.8		3 809
1989	TG14	1989	10	04.09097	23	51	04.19	-06	02	25.5		3 809
1989	TG14	1989	10	04.10069	23	51	03.54	-06	02	22.5		3 809
1989	TG14	1989	10	04.11042	23	51	02.90	-06	02	19.5		3 809
1989	TH14*	1989	10	02.08611	23	53	34.60	-05	33	31.1	16.8	3 809
1989	TH14	1989	10	02.09896	23	53	34.04	-05	33	33.0		3 809
1989	TH14	1989	10	02.11181	23	53	33.47	-05	33	34.9		3 809
1989	TH14	1989	10	03.11667	23	52	49.10	-05	36	04.0		3 809
1989	TH14	1989	10	03.12917	23	52	48.54	-05	36	05.9		3 809
1989	TH14	1989	10	03.14167	23	52	47.98	-05	36	07.7		3 809
1989	TH14	1989	10	04.09097	23	52	06.56	-05	38	22.3		3 809
1989	TH14	1989	10	04.10069	23	52	06.12	-05	38	23.6		3 809
1989	TH14	1989	10	04.11042	23	52	05.68	-05	38	25.0		3 809
1989	TJ14*	1989	10	02.08611	23	54	35.27	-06	22	30.7	17.2	3 809
1989	TJ14	1989	10	02.09896	23	54	34.81	-06	22	39.3		3 809
1989	TJ14	1989	10	02.11181	23	54	34.35	-06	22	47.6		3 809
1989	TJ14	1989	10	03.11667	23	53	58.32	-06	33	40.9		3 809
1989	TJ14	1989	10	03.12917	23	53	57.88	-06	33	49.1		3 809
1989	TJ14	1989	10	03.14167	23	53	57.43	-06	33	57.3		3 809
1989	TJ14	1989	10	04.09097	23	53	23.83	-06	44	08.8		3 809
1989	TJ14	1989	10	04.10069	23	53	23.48	-06	44	15.0		3 809
1989	TJ14	1989	10	04.11042	23	53	23.14	-06	44	21.6		3 809
1989	TK14*	1989	10	02.08611	23	55	36.43	-06	43	41.7	17.1	3 809
1989	TK14	1989	10	02.09896	23	55	35.79	-06	43	44.3		3 809
1989	TK14	1989	10	02.11181	23	55	35.14	-06	43	46.8		3 809
1989	TK14	1989	10	03.11667	23	54	43.25	-06	47	08.5		3 809
1989	TK14	1989	10	03.12917	23	54	42.61	-06	47	11.0		3 809
1989	TK14	1989	10	03.14167	23	54	41.95	-06	47	13.5		3 809
1989	TK14	1989	10	04.09097	23	53	53.97	-06	50	15.4		3 809
1989	TK14	1989	10	04.10069	23	53	53.49	-06	50	17.2		3 809
1989	TK14	1989	10	04.11042	23	53	52.99	-06	50	19.1		3 809
1989	TL14*	1989	10	02.08611	23	56	42.92	-05	50	24.1	16.9	3 809
1989	TL14	1989	10	02.09896	23	56	42.28	-05	50	26.2		3 809
1989	TL14	1989	10	02.11181	23	56	41.63	-05	50	28.5		3 809
1989	TL14	1989	10	03.11667	23	55	50.97	-05	53	41.7		3 809
1989	TL14	1989	10	03.12917	23	55	50.34	-05	53	44.0		3 809
1989	TL14	1989	10	03.14167	23	55	49.71	-05	53	46.7		3 809
1989	TL14	1989	10	04.09097	23	55	02.83	-05	56	38.5		3 809
1989	TL14	1989	10	04.10069	23	55	02.35	-05	56	40.2		3 809
1989	TL14	1989	10	04.11042	23	55	01.88	-05	56	42.0		3 809
1989	TM14*	1989	10	02.17083	00	09	59.22	-01	13	27.0	17.3	3 809
1989	TM14	1989	10	02.18055	00	09	58.64	-01	13	27.6		3 809
1989	TM14	1989	10	02.19028	00	09	58.06	-01	13	28.2		3 809
1989	TM14	1989	10	03.15555	00	09	00.77	-01	14	23.6		3 809
1989	TM14	1989	10	03.16528	00	09	00.20	-01	14	24.5		3 809
1989	TM14	1989	10	03.17500	00	08	59.62	-01	14	25.4		3 809
1989	TM14	1989	10	04.12291	00	08	03.80	-01	15	15.9		3 809
1989	TM14	1989	10	04.13264	00	08	03.23	-01	15	16.4		3 809
1989	TM14	1989	10	04.14236	00	08	02.66	-01	15	16.9		3 809
1989	TN14*	1989	10	02.17083	00	11	20.63	-00	31	44.5	17.2	3 809
1989	TN14	1989	10	02.18055	00	11	20.20	-00	31	49.1		3 809
1989	TN14	1989	10	02.19028	00	11	19.80	-00	31	54.0		3 809
1989	TN14	1989	10	03.15555	00	10	37.85	-00	40	01.9		3 809
1989	TN14	1989	10	03.16528	00	10	37.43	-00	40	06.8		3 809

1989	TN14	1989	10	03.17500	00	10	37.01	-00	40	11.7		3 809
1989	TO14*	1989	10	02.17083	00	12	57.90	-01	35	48.2	16.8	3 809
1989	TO14	1989	10	02.18055	00	12	57.43	-01	35	50.4		3 809
1989	TO14	1989	10	02.19028	00	12	57.00	-01	35	53.0		3 809
1989	TO14	1989	10	03.15555	00	12	13.56	-01	40	08.0		3 809
1989	TO14	1989	10	03.16528	00	12	13.12	-01	40	10.3		3 809
1989	TO14	1989	10	03.17500	00	12	12.69	-01	40	13.1		3 809
1989	TO14	1989	10	04.12291	00	11	30.30	-01	44	18.7		3 809
1989	TO14	1989	10	04.13264	00	11	29.86	-01	44	21.2		3 809
1989	TO14	1989	10	04.14236	00	11	29.43	-01	44	23.7		3 809
1989	TP14*	1989	10	02.17083	00	14	41.17	-01	34	34.7	17.3	3 809
1989	TP14	1989	10	02.18055	00	14	40.59	-01	34	34.8		3 809
1989	TP14	1989	10	02.19028	00	14	40.02	-01	34	34.9		3 809
1989	TP14	1989	10	03.15555	00	13	43.72	-01	34	50.2		3 809
1989	TP14	1989	10	03.16528	00	13	43.16	-01	34	50.4		3 809
1989	TP14	1989	10	03.17500	00	13	42.59	-01	34	50.6		3 809
1989	TP14	1989	10	04.12291	00	12	47.46	-01	35	00.1		3 809
1989	TP14	1989	10	04.13264	00	12	46.89	-01	35	00.2		3 809
1989	TP14	1989	10	04.14236	00	12	46.31	-01	35	00.2		3 809
1989	TQ14*	1989	10	02.17083	00	15	13.45	-01	43	13.9	17.5	3 809
1989	TQ14	1989	10	02.18055	00	15	13.03	-01	43	16.8		3 809
1989	TQ14	1989	10	02.19028	00	15	12.61	-01	43	19.9		3 809
1989	TQ14	1989	10	03.15555	00	14	31.37	-01	48	11.8		3 809
1989	TQ14	1989	10	03.16528	00	14	30.95	-01	48	14.7		3 809
1989	TQ14	1989	10	03.17500	00	14	30.54	-01	48	17.7		3 809
1989	TQ14	1989	10	04.12291	00	13	50.30	-01	52	58.6		3 809
1989	TQ14	1989	10	04.13264	00	13	49.89	-01	53	01.5		3 809
1989	TQ14	1989	10	04.14236	00	13	49.48	-01	53	04.3		3 809
1989	TR14*	1989	10	02.20555	00	45	50.94	+06	39	44.3	16.2	3 809
1989	TR14	1989	10	02.21840	00	45	50.34	+06	39	40.4		3 809
1989	TR14	1989	10	02.23159	00	45	49.72	+06	39	36.5		3 809
1989	TR14	1989	10	03.26250	00	45	01.63	+06	34	25.6		3 809
1989	TR14	1989	10	03.27361	00	45	01.12	+06	34	22.6		3 809
1989	TR14	1989	10	03.28472	00	45	00.60	+06	34	19.2		3 809
1989	TS14*	1989	10	02.20555	00	46	24.40	+05	57	38.1	17.0	3 809
1989	TS14	1989	10	02.21840	00	46	23.67	+05	57	33.0		3 809
1989	TS14	1989	10	02.23159	00	46	22.93	+05	57	27.7		3 809
1989	TS14	1989	10	03.26250	00	45	24.42	+05	50	34.1		3 809
1989	TS14	1989	10	03.27361	00	45	23.80	+05	50	29.6		3 809
1989	TS14	1989	10	03.28472	00	45	23.16	+05	50	25.3		3 809
1989	TT14*	1989	10	02.20555	00	47	59.16	+05	58	27.6	17.5	3 809
1989	TT14	1989	10	02.21840	00	47	58.41	+05	58	26.4		3 809
1989	TT14	1989	10	02.23159	00	47	57.69	+05	58	25.2		3 809
1989	TT14	1989	10	03.26250	00	46	58.86	+05	56	49.1		3 809
1989	TT14	1989	10	03.27361	00	46	58.23	+05	56	48.1		3 809
1989	TT14	1989	10	03.28472	00	46	57.59	+05	56	46.2		3 809
1989	TU14*	1989	10	02.20555	00	48	39.40	+06	43	08.7	17.7	3 809
1989	TU14	1989	10	02.21840	00	48	38.81	+06	42	59.8		3 809
1989	TU14	1989	10	02.23159	00	48	38.22	+06	42	50.8		3 809
1989	TU14	1989	10	03.26250	00	47	51.39	+06	31	06.3		3 809
1989	TU14	1989	10	03.27361	00	47	50.88	+06	30	58.7		3 809
1989	TU14	1989	10	03.28472	00	47	50.39	+06	30	51.2		3 809
1989	TV14*	1989	10	02.20555	00	50	19.64	+05	18	33.5	17.2	3 809
1989	TV14	1989	10	02.21840	00	50	19.17	+05	18	25.3		3 809
1989	TV14	1989	10	02.23159	00	50	18.69	+05	18	16.7		3 809
1989	TV14	1989	10	03.26250	00	49	41.20	+05	07	15.5		3 809
1989	TV14	1989	10	03.27361	00	49	40.79	+05	07	08.6		3 809
1989	TV14	1989	10	03.28472	00	49	40.39	+05	07	01.2		3 809
1989	TW14*	1989	10	02.25555	00	44	53.23	+03	57	58.1	16.6	3 809

1989	TW14	1989	10	02.26527	00	44	52.77	+03	57	55.2		3 809
1989	TW14	1989	10	02.27500	00	44	52.32	+03	57	52.2		3 809
1989	TW14	1989	10	03.23194	00	44	07.99	+03	53	05.7		3 809
1989	TW14	1989	10	03.24167	00	44	07.54	+03	53	02.7		3 809
1989	TW14	1989	10	03.25139	00	44	07.09	+03	52	59.8		3 809
1989	TW14	1989	10	04.29896	00	43	18.04	+03	47	45.1		3 809
1989	TW14	1989	10	04.30903	00	43	17.56	+03	47	42.1		3 809
1989	TW14	1989	10	04.31910	00	43	17.10	+03	47	39.0		3 809
1989	TX14*	1989	10	02.25555	00	45	34.98	+04	49	23.3	16.7	3 809
1989	TX14	1989	10	02.26527	00	45	34.44	+04	49	19.7		3 809
1989	TX14	1989	10	02.27500	00	45	33.89	+04	49	15.9		3 809
1989	TX14	1989	10	03.23194	00	44	39.65	+04	43	26.3		3 809
1989	TX14	1989	10	03.24167	00	44	39.10	+04	43	22.8		3 809
1989	TX14	1989	10	03.25139	00	44	38.54	+04	43	19.4		3 809
1989	TY14*	1989	10	02.25555	00	51	11.60	+04	24	53.3	17.2	3 809
1989	TY14	1989	10	02.26527	00	51	10.80	+04	24	46.5		3 809
1989	TY14	1989	10	02.27500	00	51	09.99	+04	24	39.8		3 809
1989	TY14	1989	10	03.23194	00	49	50.48	+04	13	34.6		3 809
1989	TY14	1989	10	03.24167	00	49	49.66	+04	13	27.9		3 809
1989	TY14	1989	10	03.25139	00	49	48.83	+04	13	21.2		3 809
1989	TZ14*	1989	10	02.28958	00	57	25.69	+04	36	34.6	16.8	3 809
1989	TZ14	1989	10	02.30208	00	57	25.07	+04	36	29.0		3 809
1989	TZ14	1989	10	02.31458	00	57	24.46	+04	36	23.6		3 809
1989	TZ14	1989	10	03.30000	00	56	36.21	+04	29	13.6		3 809
1989	TZ14	1989	10	03.31250	00	56	35.61	+04	29	08.3		3 809
1989	TZ14	1989	10	03.32500	00	56	35.00	+04	29	03.0		3 809
1989	TA15*	1989	10	02.28958	00	57	40.85	+03	54	54.3	17.3	3 809
1989	TA15	1989	10	02.30208	00	57	40.32	+03	54	50.4		3 809
1989	TA15	1989	10	02.31458	00	57	39.80	+03	54	46.6		3 809
1989	TA15	1989	10	03.30000	00	56	57.38	+03	49	59.6		3 809
1989	TA15	1989	10	03.31250	00	56	56.84	+03	49	55.9		3 809
1989	TA15	1989	10	03.32500	00	56	56.30	+03	49	52.2		3 809
1989	TB15*	1989	10	02.28958	00	58	45.19	+03	25	22.5	17.4	3 809
1989	TB15	1989	10	02.30208	00	58	44.61	+03	25	18.2		3 809
1989	TB15	1989	10	02.31458	00	58	44.03	+03	25	13.9		3 809
1989	TB15	1989	10	03.30000	00	57	58.31	+03	19	18.1		3 809
1989	TB15	1989	10	03.31250	00	57	57.73	+03	19	13.7		3 809
1989	TB15	1989	10	03.32500	00	57	57.15	+03	19	09.2		3 809
1989	TC15*	1989	10	03.07847	23	53	10.08	-07	31	56.6	16.8	3 809
1989	TC15	1989	10	03.09027	23	53	09.65	-07	31	58.3		3 809
1989	TC15	1989	10	03.10208	23	53	09.21	-07	31	59.9		3 809
1989	TC15	1989	10	04.06041	23	52	34.10	-07	33	59.7		3 809
1989	TC15	1989	10	04.07014	23	52	33.74	-07	34	00.7		3 809
1989	TC15	1989	10	04.07986	23	52	33.38	-07	34	01.7		3 809
1989	TD15*	1989	10	03.11667	23	52	51.23	-05	19	10.3	17.4	3 809
1989	TD15	1989	10	03.12917	23	52	50.68	-05	19	16.4		3 809
1989	TD15	1989	10	03.14167	23	52	50.14	-05	19	22.6		3 809
1989	TD15	1989	10	04.09097	23	52	08.67	-05	27	09.1		3 809
1989	TD15	1989	10	04.10069	23	52	08.24	-05	27	13.9		3 809
1989	TD15	1989	10	04.11042	23	52	07.82	-05	27	18.8		3 809
1989	TE15*	1989	10	03.11667	23	55	05.20	-06	11	28.9	17.5	3 809
1989	TE15	1989	10	03.12917	23	55	04.73	-06	11	34.3		3 809
1989	TE15	1989	10	03.14167	23	55	04.24	-06	11	40.0		3 809
1989	TE15	1989	10	04.09097	23	54	28.04	-06	18	39.5		3 809
1989	TE15	1989	10	04.10069	23	54	27.67	-06	18	43.8		3 809
1989	TE15	1989	10	04.11042	23	54	27.30	-06	18	48.0		3 809
1989	TF15*	1989	10	03.11667	23	57	52.47	-05	31	24.5	17.4	3 809
1989	TF15	1989	10	03.12917	23	57	51.96	-05	31	27.6		3 809
1989	TF15	1989	10	03.14167	23	57	51.45	-05	31	30.7		3 809

1989	TF15	1989	10	04.09097	23	57	12.88	-05	35	24.8		3 809
1989	TF15	1989	10	04.10069	23	57	12.49	-05	35	27.3		3 809
1989	TF15	1989	10	04.11042	23	57	12.11	-05	35	29.7		3 809
1989	TG15*	1989	10	03.11667	23	58	25.02	-06	54	00.9	17.5	3 809
1989	TG15	1989	10	03.12917	23	58	24.43	-06	54	03.0		3 809
1989	TG15	1989	10	03.14167	23	58	23.85	-06	54	05.1		3 809
1989	TG15	1989	10	04.09097	23	57	40.06	-06	56	42.5		3 809
1989	TG15	1989	10	04.10069	23	57	39.61	-06	56	44.2		3 809
1989	TG15	1989	10	04.11042	23	57	39.17	-06	56	45.7		3 809
1989	TH15*	1989	10	03.15555	00	08	03.07	-00	36	52.6	17.5	3 809
1989	TH15	1989	10	03.16528	00	08	02.63	-00	36	54.8		3 809
1989	TH15	1989	10	03.17500	00	08	02.19	-00	36	56.8		3 809
1989	TH15	1989	10	04.12291	00	07	19.09	-00	40	23.0		3 809
1989	TH15	1989	10	04.13264	00	07	18.65	-00	40	25.1		3 809
1989	TH15	1989	10	04.14236	00	07	18.21	-00	40	27.2		3 809
1989	TJ15*	1989	10	03.15555	00	08	24.16	-01	20	11.4	17.3	3 809
1989	TJ15	1989	10	03.16528	00	08	23.75	-01	20	14.0		3 809
1989	TJ15	1989	10	03.17500	00	08	23.34	-01	20	16.1		3 809
1989	TJ15	1989	10	04.12291	00	07	43.04	-01	24	16.7		3 809
1989	TJ15	1989	10	04.13264	00	07	42.61	-01	24	19.1		3 809
1989	TJ15	1989	10	04.14236	00	07	42.19	-01	24	21.5		3 809
1989	TK15*	1989	10	03.15555	00	13	53.30	-02	12	26.5	17.5	3 809
1989	TK15	1989	10	03.16528	00	13	52.84	-02	12	28.3		3 809
1989	TK15	1989	10	03.17500	00	13	52.37	-02	12	30.0		3 809
1989	TK15	1989	10	04.12291	00	13	07.36	-02	15	30.1		3 809
1989	TK15	1989	10	04.13264	00	13	06.88	-02	15	31.8		3 809
1989	TK15	1989	10	04.14236	00	13	06.41	-02	15	33.4		3 809
1989	TL15*	1989	10	03.18958	00	35	32.82	+05	56	06.9	17.5	3 809
1989	TL15	1989	10	03.19930	00	35	32.30	+05	56	03.9		3 809
1989	TL15	1989	10	03.20903	00	35	31.79	+05	56	00.9		3 809
1989	TL15	1989	10	05.06180	00	33	53.69	+05	46	42.4		3 809
1989	TL15	1989	10	05.07153	00	33	53.18	+05	46	39.5		3 809
1989	TL15	1989	10	06.24305	00	32	50.51	+05	40	45.2		3 809
1989	TL15	1989	10	06.25278	00	32	50.00	+05	40	42.3		3 809
1989	TL15	1989	10	06.26250	00	32	49.48	+05	40	39.5		3 809
1989	TL15	1989	10	07.30416	00	31	54.24	+05	35	22.4		3 809
1989	TL15	1989	10	07.31389	00	31	53.73	+05	35	19.3		3 809
1989	TL15	1989	10	07.32361	00	31	53.21	+05	35	16.3		3 809
1989	TM15*	1989	10	03.18958	00	35	44.24	+05	19	50.6	17.5	3 809
1989	TM15	1989	10	03.19930	00	35	43.72	+05	19	45.4		3 809
1989	TM15	1989	10	03.20903	00	35	43.21	+05	19	40.1		3 809
1989	TM15	1989	10	05.06180	00	34	05.56	+05	02	57.8		3 809
1989	TM15	1989	10	05.07153	00	34	05.04	+05	02	52.5		3 809
1989	TN15*	1989	10	03.18958	00	36	38.89	+06	50	18.2	17.7	3 809
1989	TN15	1989	10	03.19930	00	36	38.32	+06	50	16.4		3 809
1989	TN15	1989	10	03.20903	00	36	37.76	+06	50	14.5		3 809
1989	TN15	1989	10	05.06180	00	34	51.24	+06	43	38.8		3 809
1989	TN15	1989	10	05.07153	00	34	50.67	+06	43	36.9		3 809
1989	TN15	1989	10	06.24305	00	33	42.71	+06	39	23.2		3 809
1989	TN15	1989	10	06.25278	00	33	42.15	+06	39	20.9		3 809
1989	TN15	1989	10	06.26250	00	33	41.59	+06	39	18.4		3 809
1989	TN15	1989	10	07.30416	00	32	41.81	+06	35	29.5		3 809
1989	TN15	1989	10	07.31389	00	32	41.25	+06	35	27.3		3 809
1989	TN15	1989	10	07.32361	00	32	40.68	+06	35	25.2		3 809
1989	TO15*	1989	10	03.18958	00	36	39.27	+04	53	37.4	17.6	3 809
1989	TO15	1989	10	03.19930	00	36	38.77	+04	53	32.9		3 809
1989	TO15	1989	10	03.20903	00	36	38.26	+04	53	28.3		3 809
1989	TO15	1989	10	04.29896	00	35	43.04	+04	44	59.7		3 809
1989	TO15	1989	10	04.30903	00	35	42.52	+04	44	54.9		3 809

1989	TO15	1989	10	04.31910	00	35	42.01	+04	44	50.0		3 809
1989	TO15	1989	10	06.30972	00	34	01.29	+04	29	12.8		3 809
1989	TO15	1989	10	06.31944	00	34	00.80	+04	29	08.4		3 809
1989	TO15	1989	10	06.32917	00	34	00.30	+04	29	04.1		3 809
1989	TO15	1989	10	08.25278	00	32	23.60	+04	13	55.2		3 809
1989	TO15	1989	10	08.26284	00	32	23.09	+04	13	50.5		3 809
1989	TO15	1989	10	08.27291	00	32	22.59	+04	13	45.9		3 809
1989	TO15	1989	10	08.28542	00	32	21.89	+04	13	40.0		3 809
1989	TO15	1989	10	08.29513	00	32	21.39	+04	13	35.4		3 809
1989	TO15	1989	10	08.30486	00	32	20.91	+04	13	30.8		3 809
1989	TP15*	1989	10	03.18958	00	36	41.33	+05	26	43.9	16.8	3 809
1989	TP15	1989	10	03.19930	00	36	40.88	+05	26	39.3		3 809
1989	TP15	1989	10	03.20903	00	36	40.44	+05	26	34.6		3 809
1989	TP15	1989	10	05.06180	00	35	15.44	+05	11	39.5		3 809
1989	TP15	1989	10	05.07153	00	35	14.99	+05	11	35.3		3 809
1989	TP15	1989	10	06.24305	00	34	20.95	+05	02	07.3		3 809
1989	TP15	1989	10	06.25278	00	34	20.51	+05	02	02.6		3 809
1989	TP15	1989	10	06.26250	00	34	20.06	+05	01	57.9		3 809
1989	TP15	1989	10	07.30416	00	33	32.76	+04	53	35.5		3 809
1989	TP15	1989	10	07.31389	00	33	32.32	+04	53	30.8		3 809
1989	TP15	1989	10	07.32361	00	33	31.88	+04	53	26.2		3 809
1989	TQ15*	1989	10	03.18958	00	38	24.13	+05	25	05.3	17.1	3 809
1989	TQ15	1989	10	03.19930	00	38	23.68	+05	25	01.2		3 809
1989	TQ15	1989	10	03.20903	00	38	23.23	+05	24	57.0		3 809
1989	TQ15	1989	10	05.06180	00	36	57.91	+05	11	43.2		3 809
1989	TQ15	1989	10	05.07153	00	36	57.45	+05	11	39.3		3 809
1989	TQ15	1989	10	06.24305	00	36	02.87	+05	03	16.3		3 809
1989	TQ15	1989	10	06.25278	00	36	02.40	+05	03	12.2		3 809
1989	TQ15	1989	10	06.26250	00	36	01.95	+05	03	07.9		3 809
1989	TQ15	1989	10	07.30416	00	35	14.19	+04	55	40.6		3 809
1989	TQ15	1989	10	07.31389	00	35	13.74	+04	55	36.6		3 809
1989	TQ15	1989	10	07.32361	00	35	13.29	+04	55	32.5		3 809
1989	TR15*	1989	10	03.18958	00	41	46.60	+06	05	29.5	17.1	3 809
1989	TR15	1989	10	03.19930	00	41	45.95	+06	05	27.7		3 809
1989	TR15	1989	10	03.20903	00	41	45.30	+06	05	25.8		3 809
1989	TR15	1989	10	05.06180	00	39	38.18	+05	59	21.1		3 809
1989	TR15	1989	10	05.07153	00	39	37.48	+05	59	19.2		3 809
1989	TR15	1989	10	06.24305	00	38	17.19	+05	55	28.7		3 809
1989	TR15	1989	10	06.25278	00	38	16.51	+05	55	26.4		3 809
1989	TR15	1989	10	06.26250	00	38	15.86	+05	55	24.5		3 809
1989	TR15	1989	10	07.30416	00	37	05.38	+05	51	57.6		3 809
1989	TR15	1989	10	07.31389	00	37	04.71	+05	51	55.6		3 809
1989	TR15	1989	10	07.32361	00	37	04.05	+05	51	53.4		3 809
1989	TS15*	1989	10	03.18958	00	42	25.07	+06	39	59.4	17.7	3 809
1989	TS15	1989	10	03.19930	00	42	24.63	+06	39	54.2		3 809
1989	TS15	1989	10	03.20903	00	42	24.18	+06	39	48.8		3 809
1989	TS15	1989	10	03.26250	00	42	21.42	+06	39	19.9		3 809
1989	TS15	1989	10	03.27361	00	42	20.92	+06	39	13.9		3 809
1989	TS15	1989	10	03.28472	00	42	20.41	+06	39	07.9		3 809
1989	TS15	1989	10	05.06180	00	40	58.43	+06	22	56.0		3 809
1989	TS15	1989	10	05.07153	00	40	57.95	+06	22	50.9		3 809
1989	TS15	1989	10	06.24305	00	40	03.27	+06	12	08.5		3 809
1989	TS15	1989	10	06.25278	00	40	02.82	+06	12	03.2		3 809
1989	TS15	1989	10	06.26250	00	40	02.37	+06	11	57.8		3 809
1989	TS15	1989	10	07.30416	00	39	13.94	+06	02	23.8		3 809
1989	TS15	1989	10	07.31389	00	39	13.49	+06	02	18.4		3 809
1989	TS15	1989	10	07.32361	00	39	13.04	+06	02	13.0		3 809
1989	TT15*	1989	10	03.30000	01	01	17.02	+03	31	45.6	17.4	3 809
1989	TT15	1989	10	03.31250	01	01	16.41	+03	31	42.6		3 809

1989	TT15	1989	10	03.32500	01	01	15.80	+03	31	39.7		3 809
1989	TT15	1989	10	04.33541	01	00	26.21	+03	27	34.8		3 809
1989	TT15	1989	10	04.34514	01	00	25.73	+03	27	32.5		3 809
1989	TT15	1989	10	04.35486	01	00	25.25	+03	27	30.2		3 809
1989	TU15*	1989	10	03.30000	01	01	43.95	+04	46	49.6	16.8	3 809
1989	TU15	1989	10	03.31250	01	01	43.27	+04	46	46.2		3 809
1989	TU15	1989	10	03.32500	01	01	42.59	+04	46	43.1		3 809
1989	TU15	1989	10	04.33541	01	00	48.78	+04	42	29.3		3 809
1989	TU15	1989	10	04.34514	01	00	48.26	+04	42	27.0		3 809
1989	TU15	1989	10	04.35486	01	00	47.76	+04	42	24.6		3 809
1989	TV15*	1989	10	04.15590	00	27	29.16	+00	37	15.3	16.9	3 809
1989	TV15	1989	10	04.16562	00	27	28.75	+00	37	09.5		3 809
1989	TV15	1989	10	04.17535	00	27	28.34	+00	37	03.7		3 809
1989	TV15	1989	10	07.23680	00	25	16.97	+00	06	26.9		3 809
1989	TV15	1989	10	07.24653	00	25	16.55	+00	06	21.1		3 809
1989	TV15	1989	10	07.25625	00	25	16.13	+00	06	15.3		3 809
1989	TV15	1989	10	08.22014	00	24	35.90	-00	03	08.6		3 809
1989	TV15	1989	10	08.22986	00	24	35.48	-00	03	14.3		3 809
1989	TV15	1989	10	08.23958	00	24	35.07	-00	03	20.0		3 809
1989	TW15*	1989	10	04.15590	00	30	28.60	+00	00	53.9	17.7	3 809
1989	TW15	1989	10	04.16562	00	30	28.02	+00	00	52.1		3 809
1989	TW15	1989	10	04.17535	00	30	27.44	+00	00	50.3		3 809
1989	TW15	1989	10	07.23680	00	27	23.98	-00	08	43.5		3 809
1989	TW15	1989	10	07.24653	00	27	23.39	-00	08	45.6		3 809
1989	TW15	1989	10	07.25625	00	27	22.81	-00	08	47.4		3 809
1989	TW15	1989	10	08.22014	00	26	25.94	-00	11	39.5		3 809
1989	TW15	1989	10	08.22986	00	26	25.37	-00	11	41.5		3 809
1989	TW15	1989	10	08.23958	00	26	24.80	-00	11	43.3		3 809
1989	TX15*	1989	10	04.18680	00	29	47.42	+01	57	52.9	17.9	3 809
1989	TX15	1989	10	04.19653	00	29	46.82	+01	57	50.8		3 809
1989	TX15	1989	10	04.20625	00	29	46.22	+01	57	48.6		3 809
1989	TX15	1989	10	06.21111	00	27	41.40	+01	49	59.0		3 809
1989	TX15	1989	10	06.22083	00	27	40.80	+01	49	56.4		3 809
1989	TX15	1989	10	06.23055	00	27	40.19	+01	49	54.5		3 809
1989	TX15	1989	10	07.26875	00	26	35.89	+01	45	55.4		3 809
1989	TX15	1989	10	07.27847	00	26	35.28	+01	45	53.0		3 809
1989	TX15	1989	10	07.28819	00	26	34.68	+01	45	50.5		3 809
1989	TY15*	1989	10	04.18680	00	30	12.31	+02	04	37.6	17.8	3 809
1989	TY15	1989	10	04.19653	00	30	11.71	+02	04	34.7		3 809
1989	TY15	1989	10	04.20625	00	30	11.10	+02	04	31.7		3 809
1989	TY15	1989	10	07.26875	00	27	00.47	+01	48	48.6		3 809
1989	TY15	1989	10	07.27847	00	26	59.87	+01	48	45.6		3 809
1989	TY15	1989	10	07.28819	00	26	59.27	+01	48	42.5		3 809
1989	TZ15*	1989	10	04.22708	00	26	03.90	+06	46	00.1	17.3	3 809
1989	TZ15	1989	10	04.23680	00	26	03.39	+06	45	58.1		3 809
1989	TZ15	1989	10	04.24653	00	26	02.88	+06	45	56.0		3 809
1989	TZ15	1989	10	05.02743	00	25	21.58	+06	43	29.4		3 809
1989	TZ15	1989	10	05.03750	00	25	21.05	+06	43	27.5		3 809
1989	TZ15	1989	10	05.04757	00	25	20.52	+06	43	25.5		3 809
1989	TZ15	1989	10	07.09236	00	23	32.25	+06	36	59.5		3 809
1989	TZ15	1989	10	07.10208	00	23	31.74	+06	36	57.6		3 809
1989	TZ15	1989	10	07.11181	00	23	31.23	+06	36	55.8		3 809
1989	TZ15	1989	10	08.17430	00	22	35.40	+06	33	34.5		3 809
1989	TZ15	1989	10	08.18403	00	22	34.89	+06	33	32.7		3 809
1989	TZ15	1989	10	08.19861	00	22	34.13	+06	33	30.0		3 809
1989	TA16*	1989	10	04.22708	00	28	37.36	+06	03	31.3	17.6	3 809
1989	TA16	1989	10	04.23680	00	28	36.87	+06	03	27.5		3 809
1989	TA16	1989	10	04.24653	00	28	36.38	+06	03	23.7		3 809
1989	TA16	1989	10	05.02743	00	27	57.20	+05	58	18.7		3 809

1989	TA16	1989	10	05.03750	00	27	56.70	+05	58	14.5		3 809
1989	TA16	1989	10	05.04757	00	27	56.19	+05	58	10.6		3 809
1989	TA16	1989	10	08.17430	00	25	20.08	+05	37	48.0		3 809
1989	TA16	1989	10	08.18403	00	25	19.59	+05	37	44.6		3 809
1989	TA16	1989	10	08.19861	00	25	18.86	+05	37	39.2		3 809
1989	TB16*	1989	10	04.22708	00	29	32.48	+05	25	29.0	17.5	3 809
1989	TB16	1989	10	04.23680	00	29	31.92	+05	25	27.3		3 809
1989	TB16	1989	10	04.24653	00	29	31.36	+05	25	25.6		3 809
1989	TB16	1989	10	05.02743	00	28	46.44	+05	23	09.2		3 809
1989	TB16	1989	10	05.03750	00	28	45.86	+05	23	07.3		3 809
1989	TB16	1989	10	05.04757	00	28	45.28	+05	23	05.5		3 809
1989	TB16	1989	10	07.09236	00	26	47.01	+05	17	08.2		3 809
1989	TB16	1989	10	07.10208	00	26	46.45	+05	17	06.7		3 809
1989	TB16	1989	10	07.11181	00	26	45.89	+05	17	04.9		3 809
1989	TC16*	1989	10	04.22708	00	29	48.51	+06	23	11.5	17.6	3 809
1989	TC16	1989	10	04.23680	00	29	47.97	+06	23	07.8		3 809
1989	TC16	1989	10	04.24653	00	29	47.44	+06	23	04.0		3 809
1989	TC16	1989	10	05.02743	00	29	04.79	+06	18	03.6		3 809
1989	TC16	1989	10	05.03750	00	29	04.24	+06	17	59.7		3 809
1989	TC16	1989	10	05.04757	00	29	03.69	+06	17	55.8		3 809
1989	TD16*	1989	10	04.22708	00	31	38.73	+05	25	43.3	16.8	3 809
1989	TD16	1989	10	04.23680	00	31	38.21	+05	25	40.7		3 809
1989	TD16	1989	10	04.24653	00	31	37.71	+05	25	38.1		3 809
1989	TD16	1989	10	05.02743	00	30	57.55	+05	22	21.5		3 809
1989	TD16	1989	10	05.03750	00	30	57.04	+05	22	19.0		3 809
1989	TD16	1989	10	05.04757	00	30	56.52	+05	22	16.5		3 809
1989	TD16	1989	10	07.09236	00	29	11.08	+05	13	40.8		3 809
1989	TD16	1989	10	07.10208	00	29	10.59	+05	13	38.7		3 809
1989	TD16	1989	10	07.11181	00	29	10.08	+05	13	36.4		3 809
1989	TD16	1989	10	08.17430	00	28	15.70	+05	09	09.6		3 809
1989	TD16	1989	10	08.18403	00	28	15.20	+05	09	07.2		3 809
1989	TD16	1989	10	08.19861	00	28	14.45	+05	09	03.6		3 809
1989	TE16*	1989	10	04.22708	00	33	22.93	+05	14	56.7	17.4	3 809
1989	TE16	1989	10	04.23680	00	33	22.28	+05	14	58.2		3 809
1989	TE16	1989	10	04.24653	00	33	21.63	+05	14	59.7		3 809
1989	TE16	1989	10	05.02743	00	32	29.63	+05	17	03.6		3 809
1989	TE16	1989	10	05.03750	00	32	28.98	+05	17	05.2		3 809
1989	TE16	1989	10	05.04757	00	32	28.30	+05	17	06.8		3 809
1989	TE16	1989	10	07.09236	00	30	11.77	+05	22	29.5		3 809
1989	TE16	1989	10	07.10208	00	30	11.12	+05	22	30.9		3 809
1989	TE16	1989	10	07.11181	00	30	10.49	+05	22	32.4		3 809
1989	TE16	1989	10	08.17430	00	28	59.77	+05	25	18.3		3 809
1989	TE16	1989	10	08.18403	00	28	59.13	+05	25	19.8		3 809
1989	TE16	1989	10	08.19861	00	28	58.16	+05	25	22.1		3 809
1989	TF16*	1989	10	04.26736	00	30	43.37	+04	22	49.2	16.9	3 809
1989	TF16	1989	10	04.27708	00	30	42.93	+04	22	45.0		3 809
1989	TF16	1989	10	04.28680	00	30	42.50	+04	22	40.8		3 809
1989	TF16	1989	10	06.27430	00	29	13.63	+04	08	22.0		3 809
1989	TF16	1989	10	06.28403	00	29	13.19	+04	08	17.8		3 809
1989	TF16	1989	10	06.29375	00	29	12.76	+04	08	13.6		3 809
1989	TF16	1989	10	08.25278	00	27	46.92	+03	54	13.1		3 809
1989	TF16	1989	10	08.26284	00	27	46.49	+03	54	08.8		3 809
1989	TF16	1989	10	08.27291	00	27	46.04	+03	54	04.2		3 809
1989	TG16*	1989	10	04.26736	00	31	01.93	+03	31	53.9	17.5	3 809
1989	TG16	1989	10	04.27708	00	31	01.45	+03	31	50.4		3 809
1989	TG16	1989	10	04.28680	00	31	00.98	+03	31	46.5		3 809
1989	TG16	1989	10	06.27430	00	29	24.20	+03	19	40.9		3 809
1989	TG16	1989	10	06.28403	00	29	23.71	+03	19	37.3		3 809
1989	TG16	1989	10	06.29375	00	29	23.25	+03	19	33.7		3 809

1989	TG16	1989	10	08.25278	00	27	50.08	+03	07	51.4		3 809
1989	TG16	1989	10	08.26284	00	27	49.59	+03	07	47.8		3 809
1989	TG16	1989	10	08.27291	00	27	49.09	+03	07	44.2		3 809
1989	TH16*	1989	10	04.29896	00	36	34.70	+04	35	25.0	17.2	3 809
1989	TH16	1989	10	04.30903	00	36	34.18	+04	35	20.7		3 809
1989	TH16	1989	10	04.31910	00	36	33.65	+04	35	16.3		3 809
1989	TH16	1989	10	06.30972	00	34	48.79	+04	21	01.2		3 809
1989	TH16	1989	10	06.31944	00	34	48.28	+04	20	57.3		3 809
1989	TH16	1989	10	06.32917	00	34	47.77	+04	20	53.1		3 809
1989	TH16	1989	10	08.28542	00	33	06.06	+04	07	01.6		3 809
1989	TH16	1989	10	08.29513	00	33	05.56	+04	06	57.5		3 809
1989	TH16	1989	10	08.30486	00	33	05.06	+04	06	53.3		3 809
1989	TJ16*	1989	10	04.29896	00	37	37.33	+03	58	52.8	17.5	3 809
1989	TJ16	1989	10	04.30903	00	37	36.90	+03	58	49.8		3 809
1989	TJ16	1989	10	04.31910	00	37	36.43	+03	58	47.1		3 809
1989	TJ16	1989	10	06.30972	00	36	05.15	+03	49	22.4		3 809
1989	TJ16	1989	10	06.31944	00	36	04.70	+03	49	20.0		3 809
1989	TJ16	1989	10	06.32917	00	36	04.25	+03	49	17.2		3 809
1989	TK16*	1989	10	04.29896	00	38	01.40	+02	58	22.3	17.6	3 809
1989	TK16	1989	10	04.30903	00	38	00.87	+02	58	18.0		3 809
1989	TK16	1989	10	04.31910	00	38	00.32	+02	58	13.8		3 809
1989	TK16	1989	10	06.30972	00	36	12.70	+02	44	20.8		3 809
1989	TK16	1989	10	06.31944	00	36	12.18	+02	44	16.6		3 809
1989	TK16	1989	10	06.32917	00	36	11.65	+02	44	12.4		3 809
1989	TK16	1989	10	08.28542	00	34	27.68	+02	30	47.8		3 809
1989	TK16	1989	10	08.29513	00	34	27.16	+02	30	43.8		3 809
1989	TK16	1989	10	08.30486	00	34	26.64	+02	30	39.8		3 809
1989	TL16*	1989	10	04.29896	00	38	11.68	+03	23	15.8	17.7	3 809
1989	TL16	1989	10	04.30903	00	38	11.12	+03	23	12.8		3 809
1989	TL16	1989	10	04.31910	00	38	10.55	+03	23	09.7		3 809
1989	TL16	1989	10	06.30972	00	36	17.21	+03	13	19.1		3 809
1989	TL16	1989	10	06.31944	00	36	16.65	+03	13	16.2		3 809
1989	TL16	1989	10	06.32917	00	36	16.11	+03	13	13.4		3 809
1989	TL16	1989	10	08.28542	00	34	24.29	+03	03	55.4		3 809
1989	TL16	1989	10	08.29513	00	34	23.73	+03	03	52.6		3 809
1989	TL16	1989	10	08.30486	00	34	23.18	+03	03	49.8		3 809
1989	TM16*	1989	10	04.29896	00	38	46.41	+03	52	17.7	17.8	3 809
1989	TM16	1989	10	04.30903	00	38	45.97	+03	52	16.0		3 809
1989	TM16	1989	10	04.31910	00	38	45.52	+03	52	14.2		3 809
1989	TM16	1989	10	06.30972	00	37	16.35	+03	46	09.4		3 809
1989	TM16	1989	10	06.31944	00	37	15.91	+03	46	07.5		3 809
1989	TM16	1989	10	06.32917	00	37	15.48	+03	46	05.7		3 809
1989	TM16	1989	10	08.28542	00	35	49.99	+03	40	00.9		3 809
1989	TM16	1989	10	08.29513	00	35	49.57	+03	39	59.0		3 809
1989	TM16	1989	10	08.30486	00	35	49.14	+03	39	57.1		3 809
1989	TN16*	1989	10	04.29896	00	40	08.38	+04	16	06.6	17.5	3 809
1989	TN16	1989	10	04.30903	00	40	07.78	+04	16	02.3		3 809
1989	TN16	1989	10	04.31910	00	40	07.21	+04	15	57.8		3 809
1989	TN16	1989	10	06.30972	00	38	12.19	+04	01	25.1		3 809
1989	TN16	1989	10	06.31944	00	38	11.64	+04	01	20.9		3 809
1989	TN16	1989	10	06.32917	00	38	11.09	+04	01	16.7		3 809
1989	TN16	1989	10	08.28542	00	36	18.52	+03	46	57.5		3 809
1989	TN16	1989	10	08.29513	00	36	17.95	+03	46	53.2		3 809
1989	TN16	1989	10	08.30486	00	36	17.40	+03	46	49.0		3 809
1989	TO16*	1989	10	04.33541	01	03	25.80	+03	48	10.2	16.6	3 809
1989	TO16	1989	10	04.34514	01	03	25.29	+03	48	03.7		3 809
1989	TO16	1989	10	04.35486	01	03	24.78	+03	47	56.9		3 809
1989	TO16	1989	10	06.34097	01	01	41.45	+03	25	35.5		3 809
1989	TO16	1989	10	06.35069	01	01	40.94	+03	25	28.9		3 809

1989	TO16	1989	10	06.36042	01	01	40.44	+03	25	22.4		3 809
1989	TP16*	1989	10	04.33541	01	04	02.31	+04	44	08.1	17.0	3 809
1989	TP16	1989	10	04.34514	01	04	01.87	+04	44	05.4		3 809
1989	TP16	1989	10	04.35486	01	04	01.43	+04	44	03.0		3 809
1989	TP16	1989	10	06.34097	01	02	29.96	+04	35	41.4		3 809
1989	TP16	1989	10	06.35069	01	02	29.50	+04	35	38.9		3 809
1989	TP16	1989	10	06.36042	01	02	29.03	+04	35	36.5		3 809
1989	TP16	1989	10	09.30694	01	00	11.94	+04	23	10.9	17.7	3 809
1989	TP16	1989	10	09.31667	01	00	11.49	+04	23	08.3		3 809
1989	TP16	1989	10	09.32638	01	00	11.03	+04	23	05.9		3 809
1989	TP16	1989	10	10.30972	00	59	25.10	+04	18	58.7		3 809
1989	TP16	1989	10	10.31944	00	59	24.65	+04	18	56.2		3 809
1989	TP16	1989	10	10.32917	00	59	24.19	+04	18	53.8		3 809
1989	TQ16*	1989	10	04.33541	01	06	58.82	+03	56	19.2	17.7	3 809
1989	TQ16	1989	10	04.34514	01	06	58.22	+03	56	18.8		3 809
1989	TQ16	1989	10	04.35486	01	06	57.62	+03	56	18.5		3 809
1989	TQ16	1989	10	06.34097	01	04	55.84	+03	55	08.2		3 809
1989	TQ16	1989	10	06.35069	01	04	55.24	+03	55	07.8		3 809
1989	TQ16	1989	10	06.36042	01	04	54.66	+03	55	07.4		3 809
1989	TR16*	1989	10	04.33541	01	07	06.07	+03	31	48.1	17.3	3 809
1989	TR16	1989	10	04.34514	01	07	05.51	+03	31	42.8		3 809
1989	TR16	1989	10	04.35486	01	07	04.95	+03	31	37.4		3 809
1989	TR16	1989	10	06.34097	01	05	11.18	+03	13	31.3		3 809
1989	TR16	1989	10	06.35069	01	05	10.60	+03	13	25.9		3 809
1989	TR16	1989	10	06.36042	01	05	10.07	+03	13	20.6		3 809
1989	TS16*	1989	10	07.02430	23	44	50.68	-11	12	37.3	17.7	3 809
1989	TS16	1989	10	07.03403	23	44	50.22	-11	12	37.7		3 809
1989	TS16	1989	10	07.04375	23	44	49.79	-11	12	38.1		3 809
1989	TS16	1989	10	08.03055	23	44	05.38	-11	13	14.5		3 809
1989	TS16	1989	10	08.04028	23	44	04.96	-11	13	14.8		3 809
1989	TS16	1989	10	08.05000	23	44	04.51	-11	13	15.1		3 809
1989	TT16*	1989	10	07.02430	23	47	06.80	-10	54	39.0	17.2	3 809
1989	TT16	1989	10	07.03403	23	47	06.49	-10	54	42.7		3 809
1989	TT16	1989	10	07.04375	23	47	06.19	-10	54	46.6		3 809
1989	TT16	1989	10	08.03055	23	46	35.38	-11	01	12.0		3 809
1989	TT16	1989	10	08.04028	23	46	35.08	-11	01	15.9		3 809
1989	TT16	1989	10	08.05000	23	46	34.80	-11	01	19.7		3 809
1989	TU16*	1989	10	07.02430	23	49	00.99	-10	08	55.9	17.4	3 809
1989	TU16	1989	10	07.03403	23	49	00.49	-10	08	58.4		3 809
1989	TU16	1989	10	07.04375	23	49	00.00	-10	09	00.9		3 809
1989	TU16	1989	10	08.03055	23	48	09.83	-10	13	13.8		3 809
1989	TU16	1989	10	08.04028	23	48	09.34	-10	13	16.3		3 809
1989	TU16	1989	10	08.05000	23	48	08.85	-10	13	18.8		3 809
1989	TV16*	1989	10	07.20208	23	56	33.68	-01	55	59.2	17.6	3 809
1989	TV16	1989	10	07.21180	23	56	33.23	-01	56	02.8		3 809
1989	TV16	1989	10	07.22153	23	56	32.79	-01	56	06.5		3 809
1989	TV16	1989	10	08.10139	23	55	52.94	-02	01	39.7		3 809
1989	TV16	1989	10	08.11111	23	55	52.50	-02	01	43.4		3 809
1989	TV16	1989	10	08.12083	23	55	52.06	-02	01	47.1		3 809
1989	TW16*	1989	10	07.20208	23	57	57.77	-01	41	17.7	17.0	3 809
1989	TW16	1989	10	07.21180	23	57	57.21	-01	41	18.7		3 809
1989	TW16	1989	10	07.22153	23	57	56.66	-01	41	19.9		3 809
1989	TW16	1989	10	08.10139	23	57	07.00	-01	42	53.3		3 809
1989	TW16	1989	10	08.11111	23	57	06.45	-01	42	54.4		3 809
1989	TW16	1989	10	08.12083	23	57	05.90	-01	42	55.5		3 809
1989	TX16*	1989	10	07.20208	00	01	28.71	-00	50	24.4	17.6	3 809
1989	TX16	1989	10	07.21180	00	01	28.38	-00	50	32.3		3 809
1989	TX16	1989	10	07.22153	00	01	28.03	-00	50	40.2		3 809
1989	TX16	1989	10	08.10139	00	00	56.47	-01	02	30.9		3 809

1989	TX16	1989	10	08.11111	00	00	56.13	-01	02	39.0		3 809
1989	TX16	1989	10	08.12083	00	00	55.79	-01	02	47.0		3 809
1989	TY16*	1989	10	07.20208	00	01	42.73	-02	42	13.3	16.6	3 809
1989	TY16	1989	10	07.21180	00	01	42.31	-02	42	17.2		3 809
1989	TY16	1989	10	07.22153	00	01	41.89	-02	42	21.2		3 809
1989	TY16	1989	10	08.10139	00	01	03.90	-02	48	10.1		3 809
1989	TY16	1989	10	08.11111	00	01	03.46	-02	48	14.0		3 809
1989	TY16	1989	10	08.12083	00	01	03.04	-02	48	17.7		3 809
1989	TY16	1989	10	09.04340	00	00	24.61	-02	54	16.8		3 809
1989	TY16	1989	10	09.04965	00	00	24.34	-02	54	19.3		3 809
1989	TY16	1989	10	09.05590	00	00	24.07	-02	54	22.0		3 809
1989	TZ16*	1989	10	07.23680	00	27	14.37	-00	09	22.2	17.7	3 809
1989	TZ16	1989	10	07.24653	00	27	13.91	-00	09	27.0		3 809
1989	TZ16	1989	10	07.25625	00	27	13.45	-00	09	31.8		3 809
1989	TZ16	1989	10	08.22014	00	26	27.83	-00	17	31.0		3 809
1989	TZ16	1989	10	08.22986	00	26	27.37	-00	17	35.9		3 809
1989	TZ16	1989	10	08.23958	00	26	26.91	-00	17	40.7		3 809
1989	TA17*	1989	10	07.23680	00	29	19.58	+00	36	16.7	17.7	3 809
1989	TA17	1989	10	07.24653	00	29	18.97	+00	36	15.1		3 809
1989	TA17	1989	10	07.25625	00	29	18.38	+00	36	13.5		3 809
1989	TA17	1989	10	08.22014	00	28	19.07	+00	33	33.6		3 809
1989	TA17	1989	10	08.22986	00	28	18.47	+00	33	32.0		3 809
1989	TA17	1989	10	08.23958	00	28	17.87	+00	33	30.3		3 809
1989	TB17*	1989	10	07.34305	02	59	48.31	+14	14	57.0	17.2	3 809
1989	TB17	1989	10	07.35902	02	59	47.94	+14	14	57.9		3 809
1989	TB17	1989	10	07.37500	02	59	47.56	+14	14	58.9		3 809
1989	TB17	1989	10	09.34305	02	59	01.44	+14	16	55.3		3 809
1989	TB17	1989	10	09.35555	02	59	01.16	+14	16	56.0		3 809
1989	TB17	1989	10	09.36805	02	59	00.87	+14	16	56.7		3 809
1989	TC17*	1989	10	09.23437	00	44	46.08	-00	11	25.8	17.5	3 809
1989	TC17	1989	10	09.24062	00	44	45.81	-00	11	30.5		3 809
1989	TC17	1989	10	09.24687	00	44	45.54	-00	11	35.2		3 809
1989	TC17	1989	10	10.15833	00	44	06.72	-00	23	15.9		3 809
1989	TC17	1989	10	10.16805	00	44	06.27	-00	23	23.8		3 809
1989	TD17*	1989	10	09.23437	00	47	33.84	-00	39	24.6	17.5	3 809
1989	TD17	1989	10	09.24062	00	47	33.55	-00	39	26.4		3 809
1989	TD17	1989	10	09.24687	00	47	33.26	-00	39	28.2		3 809
1989	TD17	1989	10	10.15833	00	46	50.61	-00	43	57.0		3 809
1989	TD17	1989	10	10.16805	00	46	50.15	-00	43	59.8		3 809
1989	TD17	1989	10	10.17917	00	46	49.63	-00	44	03.1		3 809
1989	TD17	1989	10	10.18924	00	46	49.16	-00	44	06.0		3 809
1989	TE17*	1989	10	09.23437	00	49	24.64	-00	22	12.9	17.7	3 809
1989	TE17	1989	10	09.24062	00	49	24.29	-00	22	14.9		3 809
1989	TE17	1989	10	09.24687	00	49	23.95	-00	22	16.8		3 809
1989	TE17	1989	10	10.15833	00	48	33.74	-00	26	47.7		3 809
1989	TE17	1989	10	10.16805	00	48	33.21	-00	26	50.6		3 809
1989	TE17	1989	10	10.17917	00	48	32.62	-00	26	53.8		3 809
1989	TE17	1989	10	10.18924	00	48	32.06	-00	26	57.0		3 809
1989	TF17*	1989	10	09.23437	00	50	51.59	-01	08	07.9	17.4	3 809
1989	TF17	1989	10	09.24062	00	50	51.18	-01	08	08.7		3 809
1989	TF17	1989	10	09.24687	00	50	50.78	-01	08	09.5		3 809
1989	TF17	1989	10	10.15833	00	49	55.06	-01	10	12.5		3 809
1989	TF17	1989	10	10.16805	00	49	54.46	-01	10	13.8		3 809
1989	TF17	1989	10	10.17917	00	49	53.78	-01	10	15.3		3 809
1989	TF17	1989	10	10.18924	00	49	53.17	-01	10	16.6		3 809
1989	TG17*	1989	10	09.27430	00	43	43.45	+00	45	33.1	16.3	3 809
1989	TG17	1989	10	09.28403	00	43	43.06	+00	45	28.2		3 809
1989	TG17	1989	10	09.29375	00	43	42.66	+00	45	23.2		3 809
1989	TG17	1989	10	10.20903	00	43	05.13	+00	37	49.4		3 809

1989	TG17	1989	10	10.21875	00	43	04.73	+00	37	44.6		3 809
1989	TG17	1989	10	10.22916	00	43	04.31	+00	37	39.5		3 809
1989	TG17	1989	10	10.23889	00	43	03.91	+00	37	34.6		3 809
1989	TH17*	1989	10	09.27430	00	44	50.80	+01	29	24.2	16.9	3 809
1989	TH17	1989	10	09.28403	00	44	50.31	+01	29	21.1		3 809
1989	TH17	1989	10	09.29375	00	44	49.82	+01	29	18.1		3 809
1989	TH17	1989	10	10.20903	00	44	03.65	+01	24	29.0		3 809
1989	TH17	1989	10	10.21875	00	44	03.13	+01	24	25.9		3 809
1989	TH17	1989	10	10.22916	00	44	02.59	+01	24	22.6		3 809
1989	TH17	1989	10	10.23889	00	44	02.09	+01	24	19.5		3 809
1989	TJ17*	1989	10	09.27430	00	46	06.08	+01	07	28.6	16.7	3 809
1989	TJ17	1989	10	09.28403	00	46	05.63	+01	07	25.9		3 809
1989	TJ17	1989	10	09.29375	00	46	05.20	+01	07	23.0		3 809
1989	TJ17	1989	10	10.20903	00	45	24.65	+01	03	05.1		3 809
1989	TJ17	1989	10	10.21875	00	45	24.22	+01	03	02.4		3 809
1989	TJ17	1989	10	10.22916	00	45	23.76	+01	02	59.4		3 809
1989	TJ17	1989	10	10.23889	00	45	23.33	+01	02	56.6		3 809
1989	TK17*	1989	10	09.27430	00	47	02.71	+01	46	48.8	17.5	3 809
1989	TK17	1989	10	09.28403	00	47	02.18	+01	46	46.7		3 809
1989	TK17	1989	10	09.29375	00	47	01.67	+01	46	44.7		3 809
1989	TK17	1989	10	10.20903	00	46	14.37	+01	43	21.5		3 809
1989	TK17	1989	10	10.21875	00	46	13.88	+01	43	19.4		3 809
1989	TK17	1989	10	10.22916	00	46	13.33	+01	43	17.1		3 809
1989	TK17	1989	10	10.23889	00	46	12.84	+01	43	14.9		3 809
1989	TL17*	1989	10	09.30694	00	58	33.93	+05	10	48.6	17.5	3 809
1989	TL17	1989	10	09.31667	00	58	33.51	+05	10	44.6		3 809
1989	TL17	1989	10	09.32638	00	58	33.10	+05	10	40.7		3 809
1989	TL17	1989	10	10.30972	00	57	51.62	+05	04	02.9		3 809
1989	TL17	1989	10	10.31944	00	57	51.21	+05	03	58.9		3 809
1989	TL17	1989	10	10.32917	00	57	50.80	+05	03	54.8		3 809
1989	TM17*	1989	10	09.30694	00	58	36.61	+05	01	46.7	17.2	3 809
1989	TM17	1989	10	09.31667	00	58	36.05	+05	01	46.2		3 809
1989	TM17	1989	10	09.32638	00	58	35.50	+05	01	46.0		3 809
1989	TM17	1989	10	10.30972	00	57	39.15	+05	01	17.5		3 809
1989	TM17	1989	10	10.31944	00	57	38.60	+05	01	17.3		3 809
1989	TM17	1989	10	10.32917	00	57	38.04	+05	01	17.1		3 809
1989	TN17*	1989	10	09.30694	01	00	20.98	+05	05	19.9	17.5	3 809
1989	TN17	1989	10	09.31667	01	00	20.52	+05	05	16.6		3 809
1989	TN17	1989	10	09.32638	01	00	20.06	+05	05	13.3		3 809
1989	TN17	1989	10	10.30972	00	59	33.51	+04	59	42.0		3 809
1989	TN17	1989	10	10.31944	00	59	33.04	+04	59	38.7		3 809
1989	TN17	1989	10	10.32917	00	59	32.57	+04	59	35.4		3 809
1989	TO17*	1989	10	09.30694	01	03	04.75	+05	52	55.4	17.6	3 809
1989	TO17	1989	10	09.31667	01	03	04.25	+05	52	50.8		3 809
1989	TO17	1989	10	09.32638	01	03	03.75	+05	52	46.1		3 809
1989	TO17	1989	10	10.30972	01	02	12.96	+05	44	57.8		3 809
1989	TO17	1989	10	10.31944	01	02	12.46	+05	44	53.2		3 809
1989	TO17	1989	10	10.32917	01	02	11.95	+05	44	48.5		3 809
1989	TP17*	1989	10	09.30694	01	05	20.80	+04	29	49.6	17.6	3 809
1989	TP17	1989	10	09.31667	01	05	20.22	+04	29	47.7		3 809
1989	TP17	1989	10	09.32638	01	05	19.63	+04	29	45.8		3 809
1989	TP17	1989	10	10.30972	01	04	20.46	+04	26	37.0		3 809
1989	TP17	1989	10	10.31944	01	04	19.88	+04	26	35.4		3 809
1989	TP17	1989	10	10.32917	01	04	19.29	+04	26	33.4		3 809
1989	TQ17*	1989	10	09.30694	01	05	26.55	+05	47	55.2	17.7	3 809
1989	TQ17	1989	10	09.31667	01	05	25.91	+05	47	54.5		3 809
1989	TQ17	1989	10	09.32638	01	05	25.25	+05	47	53.7		3 809
1989	TQ17	1989	10	10.30972	01	04	18.16	+05	46	33.9		3 809
1989	TQ17	1989	10	10.31944	01	04	17.50	+05	46	33.1		3 809

1989	TQ17	1989	10	10.32917	01	04	16.84	+05	46	32.3		3 809
1989	TR17*	1989	10	10.09930	01	10	02.91	+05	07	57.6	17.1	3 809
1989	TR17	1989	10	10.10902	01	10	02.28	+05	07	57.9		3 809
1989	TR17	1989	10	10.12014	01	10	01.55	+05	07	58.1		3 809
1989	TR17	1989	10	10.12986	01	10	00.92	+05	07	58.4		3 809
1989	TR17	1989	10	11.08958	01	08	58.43	+05	08	18.3		3 809
1989	TR17	1989	10	11.09930	01	08	57.80	+05	08	18.5		3 809
1989	TS17*	1989	10	10.34514	02	57	56.30	+16	14	24.9	17.4	3 809
1989	TS17	1989	10	10.35763	02	57	55.79	+16	14	26.5		3 809
1989	TS17	1989	10	10.37014	02	57	55.28	+16	14	28.1		3 809
1989	TS17	1989	10	11.35069	02	57	13.30	+16	16	30.5		3 809
1989	TS17	1989	10	11.36319	02	57	12.77	+16	16	32.0		3 809
1989	TS17	1989	10	11.37569	02	57	12.24	+16	16	33.7		3 809
1989	TS17	1989	10	12.34653	02	56	28.80	+16	18	29.8		3 809
1989	TS17	1989	10	12.35902	02	56	28.25	+16	18	31.4		3 809
1989	TS17	1989	10	12.37153	02	56	27.69	+16	18	33.0		3 809
1989	UA	1989	10	07.34305	03	00	37.73	+13	07	20.4	17.1	3 809
1989	UA	1989	10	07.35902	03	00	37.13	+13	07	22.0		3 809
1989	UA	1989	10	07.37500	03	00	36.52	+13	07	23.7		3 809
1989	UA	1989	10	09.34305	02	59	22.34	+13	11	00.1		3 809
1989	UA	1989	10	09.35555	02	59	21.87	+13	11	01.5		3 809
1989	UA	1989	10	09.36805	02	59	21.39	+13	11	02.8		3 809
1989	UN	1989	10	02.33264	02	28	41.18	+16	06	52.0	16.2	3 809
1989	UN	1989	10	02.34236	02	28	40.84	+16	06	52.4		3 809
1989	UN	1989	10	02.35208	02	28	40.50	+16	06	52.7		3 809
1989	UN	1989	10	03.34305	02	28	05.38	+16	07	26.4		3 809
1989	UN	1989	10	03.35555	02	28	04.93	+16	07	26.8		3 809
1989	UN	1989	10	03.36805	02	28	04.49	+16	07	27.1		3 809
1989	UN	1989	10	04.36805	02	27	26.88	+16	07	49.6		3 809
1989	UN	1989	10	04.37500	02	27	26.62	+16	07	49.8		3 809
1989	UN	1989	10	04.38194	02	27	26.35	+16	07	49.9		3 809
1989	UD1	1989	09	24.27118	00	21	33.58	+02	46	44.8	16.4	3 809
1989	UD1	1989	09	24.27604	00	21	33.29	+02	46	44.2		3 809
1989	UD1	1989	09	24.28090	00	21	33.00	+02	46	43.6		3 809
1989	UD1	1989	09	25.32569	00	20	29.13	+02	44	44.8		3 809
1989	UD1	1989	09	25.33819	00	20	28.36	+02	44	43.4		3 809
1989	UD1	1989	09	25.35069	00	20	27.60	+02	44	41.9		3 809
1989	UD1	1989	09	26.26875	00	19	31.25	+02	42	55.5		3 809
1989	UD1	1989	09	26.28125	00	19	30.48	+02	42	54.0		3 809
1989	UD1	1989	09	26.29375	00	19	29.72	+02	42	52.6		3 809
1989	UD1	1989	09	28.26805	00	17	27.86	+02	38	57.6		3 809
1989	UD1	1989	09	28.28055	00	17	27.10	+02	38	56.3		3 809
1989	UD1	1989	09	28.29305	00	17	26.32	+02	38	54.8		3 809
1989	UD1	1989	09	29.24653	00	16	27.37	+02	37	00.7		3 809
1989	UD1	1989	09	29.25903	00	16	26.60	+02	36	59.2		3 809
1989	UD1	1989	09	29.27153	00	16	25.83	+02	36	57.6		3 809
1989	UE1	1989	10	04.22708	00	26	56.77	+06	33	59.8	17.3	3 809
1989	UE1	1989	10	04.23680	00	26	56.32	+06	33	56.8		3 809
1989	UE1	1989	10	04.24653	00	26	55.88	+06	33	53.7		3 809
1989	UE1	1989	10	05.02743	00	26	20.61	+06	29	46.7		3 809
1989	UE1	1989	10	05.03750	00	26	20.15	+06	29	43.4		3 809
1989	UE1	1989	10	05.04757	00	26	19.71	+06	29	40.2		3 809
1989	UE1	1989	10	07.09236	00	24	46.64	+06	18	50.5		3 809
1989	UE1	1989	10	07.10208	00	24	46.19	+06	18	47.5		3 809
1989	UE1	1989	10	07.11181	00	24	45.76	+06	18	44.4		3 809
1989	UE1	1989	10	08.17430	00	23	58.09	+06	13	05.6		3 809
1989	UE1	1989	10	08.18403	00	23	57.65	+06	13	02.4		3 809
1989	UE1	1989	10	08.19861	00	23	57.00	+06	12	57.8		3 809
1989	UF1	1989	09	25.13437	01	52	07.56	+15	07	02.6	17.2	3 809

1989	UF1	1989	09	25.14896	01	52	07.21	+15	07	01.0		3 809
1989	UF1	1989	09	25.16354	01	52	06.83	+15	06	59.7		3 809
1989	UF1	1989	09	26.31111	01	51	38.59	+15	05	13.1		3 809
1989	UF1	1989	09	26.32361	01	51	38.29	+15	05	11.9		3 809
1989	UF1	1989	09	26.33611	01	51	37.98	+15	05	10.8		3 809
1989	UV1	1989	10	04.29896	00	38	52.91	+03	58	26.7	16.9	3 809
1989	UV1	1989	10	04.30903	00	38	52.47	+03	58	24.0		3 809
1989	UV1	1989	10	04.31910	00	38	52.00	+03	58	21.2		3 809
1989	UV1	1989	10	06.30972	00	37	20.73	+03	49	24.4		3 809
1989	UV1	1989	10	06.31944	00	37	20.27	+03	49	21.7		3 809
1989	UV1	1989	10	06.32917	00	37	19.83	+03	49	19.1		3 809
1989	UV1	1989	10	08.28542	00	35	51.16	+03	40	38.8		3 809
1989	UV1	1989	10	08.29513	00	35	50.72	+03	40	36.1		3 809
1989	UV1	1989	10	08.30486	00	35	50.27	+03	40	33.4		3 809
1989	UJ5	1989	09	26.35000	01	49	23.69	+11	15	03.4	17.2	3 809
1989	UJ5	1989	09	26.36250	01	49	23.16	+11	15	02.4		3 809
1989	UJ5	1989	09	26.37500	01	49	22.61	+11	15	01.6		3 809
1989	UL5	1989	09	26.35000	01	48	01.01	+11	29	17.7	17.4	3 809
1989	UL5	1989	09	26.36250	01	48	00.50	+11	29	16.9		3 809
1989	UL5	1989	09	26.37500	01	48	00.01	+11	29	16.0		3 809
1989	UL5	1989	09	28.31319	01	46	43.28	+11	27	25.4		3 809
1989	UL5	1989	09	28.32569	01	46	42.79	+11	27	24.7		3 809
1989	UL5	1989	09	28.33819	01	46	42.30	+11	27	24.0		3 809
1989	UT5	1989	09	28.35278	02	07	04.06	+12	37	50.4	16.6	3 809
1989	UT5	1989	09	28.36528	02	07	03.67	+12	37	42.1		3 809
1989	UT5	1989	09	28.37778	02	07	03.28	+12	37	33.7		3 809
1989	UT5	1989	09	29.36250	02	06	32.79	+12	26	39.5		3 809
1989	UT5	1989	09	29.37361	02	06	32.44	+12	26	32.1		3 809
1989	UT5	1989	09	29.38472	02	06	32.08	+12	26	24.8		3 809
1989	UT5	1989	09	30.35139	02	06	00.72	+12	15	32.4		3 809
1989	UT5	1989	09	30.36389	02	06	00.31	+12	15	23.9		3 809
1989	UT5	1989	09	30.37639	02	05	59.90	+12	15	15.5		3 809
1989	VM	1989	10	10.34514	03	03	48.67	+14	56	13.6	17.1	3 809
1989	VM	1989	10	10.35763	03	03	48.30	+14	56	09.1		3 809
1989	VM	1989	10	10.37014	03	03	47.94	+14	56	04.6		3 809
1989	VM	1989	10	12.34653	03	02	50.05	+14	44	10.4		3 809
1989	VM	1989	10	12.35902	03	02	49.68	+14	44	05.9		3 809
1989	VM	1989	10	12.37153	03	02	49.31	+14	44	01.4		3 809
4119	P-L	1989	09	25.07465	23	09	28.37	-02	25	40.2	17.3	3 809
4119	P-L	1989	09	25.08923	23	09	27.92	-02	25	48.3		3 809
4119	P-L	1989	09	25.10382	23	09	27.48	-02	25	56.5		3 809
4119	P-L	1989	09	26.04028	23	08	58.97	-02	34	33.4		3 809
4119	P-L	1989	09	26.05278	23	08	58.59	-02	34	40.3		3 809
4119	P-L	1989	09	26.06528	23	08	58.22	-02	34	47.2		3 809
6040	P-L	1989	09	24.30382	01	56	50.64	+14	34	59.0	16.9	3 809
6040	P-L	1989	09	24.31840	01	56	50.31	+14	34	58.2		3 809
6040	P-L	1989	09	24.33298	01	56	49.97	+14	34	57.3		3 809
6040	P-L	1989	09	25.13437	01	56	30.81	+14	34	09.6		3 809
6040	P-L	1989	09	25.14896	01	56	30.46	+14	34	08.7		3 809
6040	P-L	1989	09	25.16354	01	56	30.13	+14	34	07.9		3 809
6040	P-L	1989	09	26.31111	01	55	58.55	+14	32	44.0		3 809
6040	P-L	1989	09	26.32361	01	55	58.21	+14	32	42.8		3 809
6040	P-L	1989	09	26.33611	01	55	57.87	+14	32	41.9		3 809
1304	T-2	1989	09	23.27465	23	14	21.98	-03	21	24.1	16.6	3 809
1304	T-2	1989	09	23.27951	23	14	21.75	-03	21	25.5		3 809
1304	T-2	1989	09	23.28437	23	14	21.54	-03	21	26.5		3 809
1304	T-2	1989	09	24.11632	23	13	47.23	-03	25	27.4		3 809
1304	T-2	1989	09	24.13090	23	13	46.64	-03	25	31.6		3 809
1304	T-2	1989	09	24.14549	23	13	46.03	-03	25	36.1		3 809

1304	T-2	1989	09	25.07465	23	13	07.81	-03	30	02.9		3 809
1304	T-2	1989	09	25.08923	23	13	07.20	-03	30	07.1		3 809
1304	T-2	1989	09	25.10382	23	13	06.59	-03	30	11.3		3 809
1304	T-2	1989	09	26.04028	23	12	28.80	-03	34	36.6		3 809
1304	T-2	1989	09	26.05278	23	12	28.27	-03	34	40.3		3 809
1304	T-2	1989	09	26.06528	23	12	27.77	-03	34	43.7		3 809
4059	T-3	1989	10	02.08611	23	54	52.73	-07	01	32.0	17.2	3 809
4059	T-3	1989	10	02.09896	23	54	52.09	-07	01	34.6		3 809
4059	T-3	1989	10	02.11181	23	54	51.44	-07	01	37.6		3 809
4059	T-3	1989	10	03.11667	23	54	00.26	-07	05	20.8		3 809
4059	T-3	1989	10	03.12917	23	53	59.62	-07	05	23.6		3 809
4059	T-3	1989	10	03.14167	23	53	58.97	-07	05	26.4		3 809
4059	T-3	1989	10	04.09097	23	53	11.39	-07	08	51.2		3 809
4059	T-3	1989	10	04.10069	23	53	10.90	-07	08	53.2		3 809
4059	T-3	1989	10	04.11042	23	53	10.41	-07	08	55.1		3 809
5		1989	09	21.06354	23	13	04.75	-09	13	12.8		3 809
5		1989	09	21.06840	23	13	04.50	-09	13	14.6		3 809
5		1989	09	21.07326	23	13	04.25	-09	13	16.4		3 809
5		1989	09	23.15868	23	11	24.81	-09	25	44.9		3 809
5		1989	09	23.16389	23	11	24.55	-09	25	46.9		3 809
5		1989	09	23.16909	23	11	24.29	-09	25	48.9		3 809
24		1989	09	24.27118	00	23	08.73	+01	54	06.8		3 809
24		1989	09	24.27604	00	23	08.53	+01	54	05.3		3 809
24		1989	09	24.28090	00	23	08.32	+01	54	04.0		3 809
24		1989	09	25.32569	00	22	22.95	+01	49	19.2		3 809
24		1989	09	25.33819	00	22	22.42	+01	49	15.6		3 809
24		1989	09	25.35069	00	22	21.86	+01	49	12.4		3 809
24		1989	09	26.26875	00	21	41.83	+01	45	01.0		3 809
24		1989	09	26.28125	00	21	41.29	+01	44	57.5		3 809
24		1989	09	26.29375	00	21	40.73	+01	44	53.8		3 809
24		1989	09	28.26805	00	20	14.38	+01	35	52.3		3 809
24		1989	09	28.28055	00	20	13.84	+01	35	49.0		3 809
24		1989	09	28.29305	00	20	13.27	+01	35	45.5		3 809
24		1989	09	29.24653	00	19	31.48	+01	31	24.2		3 809
24		1989	09	29.25903	00	19	30.94	+01	31	20.9		3 809
24		1989	09	29.27153	00	19	30.40	+01	31	17.4		3 809
34		1989	10	10.09930	01	09	01.65	+05	15	06.7		3 809
34		1989	10	10.10902	01	09	01.18	+05	15	02.9		3 809
34		1989	10	10.12014	01	09	00.64	+05	14	58.5		3 809
34		1989	10	10.12986	01	09	00.18	+05	14	54.7		3 809
34		1989	10	11.08958	01	08	13.55	+05	08	24.4		3 809
34		1989	10	11.09930	01	08	13.09	+05	08	20.5		3 809
47		1989	09	23.29965	00	06	01.91	+00	19	50.1		3 809
47		1989	09	23.30451	00	06	01.68	+00	19	49.3		3 809
47		1989	09	23.30937	00	06	01.43	+00	19	48.4		3 809
47		1989	09	24.21284	00	05	15.18	+00	16	52.5		3 809
47		1989	09	24.22743	00	05	14.43	+00	16	49.5		3 809
47		1989	09	24.24201	00	05	13.69	+00	16	47.0		3 809
47		1989	09	25.23715	00	04	22.70	+00	13	31.3		3 809
47		1989	09	25.25174	00	04	21.96	+00	13	28.5		3 809
47		1989	09	25.26632	00	04	21.22	+00	13	25.8		3 809
90		1989	10	11.16944	01	29	05.99	+06	34	36.8		3 809
90		1989	10	11.17917	01	29	05.52	+06	34	34.4		3 809
90		1989	10	11.18889	01	29	05.06	+06	34	32.1		3 809
90		1989	10	11.19861	01	29	04.60	+06	34	29.7		3 809
218		1989	09	26.17500	23	36	55.06	-05	09	39.8		3 809
218		1989	09	26.18750	23	36	54.52	-05	09	47.0		3 809
218		1989	09	26.20000	23	36	54.00	-05	09	54.2		3 809
218		1989	09	28.09305	23	35	33.53	-05	28	01.9		3 809

218		1989	09	28.10555	23	35	32.99	-05	28	09.3		3 809
218		1989	09	28.11805	23	35	32.45	-05	28	16.6		3 809
261		1989	10	03.11667	23	57	04.27	-06	47	20.6		3 809
261		1989	10	03.12917	23	57	03.62	-06	47	24.3		3 809
261		1989	10	03.14167	23	57	02.97	-06	47	28.3		3 809
261		1989	10	04.09097	23	56	12.26	-06	52	20.5		3 809
261		1989	10	04.10069	23	56	11.75	-06	52	23.4		3 809
261		1989	10	04.11042	23	56	11.22	-06	52	26.4		3 809
321		1989	09	28.35278	02	05	21.41	+11	31	48.4		3 809
321		1989	09	28.36528	02	05	20.95	+11	31	46.5		3 809
321		1989	09	28.37778	02	05	20.49	+11	31	44.5		3 809
321		1989	09	29.36250	02	04	45.19	+11	29	14.7		3 809
321		1989	09	29.37361	02	04	44.78	+11	29	12.8		3 809
321		1989	09	29.38472	02	04	44.38	+11	29	10.9		3 809
321		1989	09	30.35139	02	04	08.55	+11	26	39.2		3 809
321		1989	09	30.36389	02	04	08.08	+11	26	37.2		3 809
321		1989	09	30.37639	02	04	07.61	+11	26	35.4		3 809
365		1989	10	04.18680	00	29	38.62	+01	38	25.1		3 809
365		1989	10	04.19653	00	29	38.23	+01	38	18.3		3 809
365		1989	10	04.20625	00	29	37.82	+01	38	11.9		3 809
365		1989	10	06.21111	00	28	16.00	+01	15	47.6		3 809
365		1989	10	06.22083	00	28	15.61	+01	15	41.2		3 809
365		1989	10	06.23055	00	28	15.22	+01	15	35.0		3 809
365		1989	10	07.26875	00	27	33.09	+01	04	04.5		3 809
365		1989	10	07.27847	00	27	32.70	+01	03	57.9		3 809
365		1989	10	07.28819	00	27	32.30	+01	03	51.3		3 809
475		1989	10	07.34305	03	00	31.25	+12	34	16.6		3 809
475		1989	10	07.35902	03	00	30.17	+12	34	29.8		3 809
475		1989	10	07.37500	03	00	29.10	+12	34	43.0		3 809
475		1989	10	09.34305	02	58	20.66	+13	01	42.3		3 809
475		1989	10	09.35555	02	58	19.81	+13	01	52.5		3 809
475		1989	10	09.36805	02	58	18.96	+13	02	02.4		3 809
531		1989	10	11.31354	01	16	24.58	+06	08	31.0	16.9	3 809
531		1989	10	11.32569	01	16	24.20	+06	08	23.1		3 809
531		1989	10	11.33541	01	16	23.91	+06	08	16.9		3 809
531		1989	10	12.22465	01	15	56.45	+05	58	39.2		3 809
531		1989	10	12.23437	01	15	56.15	+05	58	32.9		3 809
755		1989	10	02.25555	00	44	42.46	+03	37	51.2		3 809
755		1989	10	02.26527	00	44	42.08	+03	37	48.6		3 809
755		1989	10	02.27500	00	44	41.67	+03	37	45.5		3 809
755		1989	10	03.23194	00	44	01.25	+03	32	50.4		3 809
755		1989	10	03.24167	00	44	00.84	+03	32	47.4		3 809
755		1989	10	03.25139	00	44	00.43	+03	32	44.6		3 809
755		1989	10	04.29896	00	43	16.11	+03	27	20.6		3 809
755		1989	10	04.30903	00	43	15.69	+03	27	17.5		3 809
755		1989	10	04.31910	00	43	15.27	+03	27	14.4		3 809
810		1989	09	21.06354	23	12	50.41	-07	17	16.3		3 809
810		1989	09	21.06840	23	12	50.23	-07	17	18.2		3 809
810		1989	09	21.07326	23	12	50.04	-07	17	19.8		3 809
810		1989	09	23.15868	23	11	23.86	-07	31	15.1		3 809
810		1989	09	23.16389	23	11	23.67	-07	31	17.0		3 809
810		1989	09	23.16909	23	11	23.46	-07	31	18.9		3 809
826		1989	10	02.36389	02	33	37.07	+18	34	18.1		3 809
826		1989	10	02.37361	02	33	36.73	+18	34	15.5		3 809
826		1989	10	02.38333	02	33	36.38	+18	34	13.2		3 809
833		1989	09	24.06562	23	04	43.61	-06	36	28.1		3 809
833		1989	09	24.08021	23	04	42.92	-06	36	28.9		3 809
833		1989	09	24.09479	23	04	42.23	-06	36	29.8		3 809
833		1989	09	25.01146	23	03	58.15	-06	37	24.7		3 809

833	1989	09	25.02604	23	03	57.44	-06	37	25.4		3 809
833	1989	09	25.04062	23	03	56.74	-06	37	26.0		3 809
993	1989	09	28.35278	02	05	12.06	+11	46	07.2		3 809
993	1989	09	28.36528	02	05	11.63	+11	46	04.6		3 809
993	1989	09	28.37778	02	05	11.19	+11	46	01.8		3 809
993	1989	09	29.36250	02	04	37.66	+11	42	17.1		3 809
993	1989	09	29.37361	02	04	37.28	+11	42	14.3		3 809
993	1989	09	29.38472	02	04	36.88	+11	42	11.6		3 809
993	1989	09	30.35139	02	04	02.84	+11	38	24.8		3 809
993	1989	09	30.36389	02	04	02.40	+11	38	21.8		3 809
993	1989	09	30.37639	02	04	01.96	+11	38	19.3		3 809
1045	1989	10	04.29896	00	35	26.00	+04	20	22.3		3 809
1045	1989	10	04.30903	00	35	25.46	+04	20	18.6		3 809
1045	1989	10	04.31910	00	35	24.93	+04	20	15.0		3 809
1045	1989	10	06.30972	00	33	33.64	+04	08	17.1		3 809
1045	1989	10	06.31944	00	33	33.11	+04	08	13.9		3 809
1045	1989	10	06.32917	00	33	32.58	+04	08	10.4		3 809
1045	1989	10	08.25278	00	31	45.69	+03	56	39.6		3 809
1045	1989	10	08.26284	00	31	45.14	+03	56	36.1		3 809
1045	1989	10	08.27291	00	31	44.59	+03	56	32.2		3 809
1045	1989	10	08.28542	00	31	43.90	+03	56	28.1		3 809
1045	1989	10	08.29513	00	31	43.37	+03	56	24.6		3 809
1045	1989	10	08.30486	00	31	42.83	+03	56	21.0		3 809
1121	1989	10	04.22708	00	32	19.46	+06	09	14.5		3 809
1121	1989	10	04.23680	00	32	18.89	+06	09	13.1		3 809
1121	1989	10	04.24653	00	32	18.32	+06	09	11.8		3 809
1121	1989	10	05.02743	00	31	33.24	+06	07	27.0		3 809
1121	1989	10	05.03750	00	31	32.66	+06	07	26.0		3 809
1121	1989	10	05.04757	00	31	32.07	+06	07	24.4		3 809
1121	1989	10	07.09236	00	29	33.12	+06	02	45.0		3 809
1121	1989	10	07.10208	00	29	32.56	+06	02	43.6		3 809
1121	1989	10	07.11181	00	29	31.99	+06	02	42.4		3 809
1121	1989	10	08.17430	00	28	30.42	+06	00	16.5		3 809
1121	1989	10	08.18403	00	28	29.86	+06	00	15.4		3 809
1121	1989	10	08.19861	00	28	29.04	+06	00	13.4		3 809
1121	1989	10	08.99930	00	27	43.56	+05	58	21.3		3 809
1121	1989	10	09.00486	00	27	43.26	+05	58	20.4		3 809
1121	1989	10	09.01041	00	27	42.92	+05	58	20.0		3 809
1142	1989	10	07.20208	23	56	46.65	-02	34	52.8		3 809
1142	1989	10	07.21180	23	56	46.27	-02	34	55.2		3 809
1142	1989	10	07.22153	23	56	45.88	-02	34	57.8		3 809
1142	1989	10	08.10139	23	56	11.67	-02	38	48.5		3 809
1142	1989	10	08.11111	23	56	11.28	-02	38	51.1		3 809
1142	1989	10	08.12083	23	56	10.88	-02	38	53.7		3 809
1142	1989	10	09.04340	23	55	35.55	-02	42	49.9		3 809
1142	1989	10	09.04965	23	55	35.30	-02	42	51.3		3 809
1142	1989	10	09.05590	23	55	35.04	-02	42	53.0		3 809
1229	1989	10	01.25833	00	05	02.99	+01	00	29.1		3 809
1229	1989	10	01.27083	00	05	02.49	+01	00	25.5		3 809
1229	1989	10	01.28333	00	05	01.99	+01	00	21.9		3 809
1229	1989	10	02.12639	00	04	26.65	+00	56	10.7		3 809
1229	1989	10	02.13889	00	04	26.15	+00	56	07.0		3 809
1229	1989	10	02.15208	00	04	25.62	+00	56	03.0		3 809
1267	1989	10	12.15590	01	19	12.01	+07	39	44.6	16.4	3 809
1267	1989	10	12.16562	01	19	11.41	+07	39	42.3		3 809
1267	1989	10	12.17326	01	19	10.93	+07	39	40.5		3 809
1267	1989	10	12.18298	01	19	10.33	+07	39	38.2		3 809
1340	1989	09	24.27118	00	21	47.53	+02	34	06.4		3 809
1340	1989	09	24.27604	00	21	47.33	+02	34	04.9		3 809

1340	1989	09	24.28090	00	21	47.11	+02	34	03.4		3	809
1340	1989	09	25.32569	00	21	02.42	+02	29	21.4		3	809
1340	1989	09	25.33819	00	21	01.88	+02	29	18.0		3	809
1340	1989	09	25.35069	00	21	01.34	+02	29	14.6		3	809
1340	1989	09	26.26875	00	20	22.05	+02	25	04.9		3	809
1340	1989	09	26.28125	00	20	21.51	+02	25	01.8		3	809
1340	1989	09	26.29375	00	20	20.98	+02	24	58.4		3	809
1340	1989	09	28.26805	00	18	56.36	+02	16	00.5		3	809
1340	1989	09	28.28055	00	18	55.81	+02	15	57.2		3	809
1340	1989	09	28.29305	00	18	55.29	+02	15	53.8		3	809
1340	1989	09	29.24653	00	18	14.43	+02	11	33.7		3	809
1340	1989	09	29.25903	00	18	13.88	+02	11	30.6		3	809
1340	1989	09	29.27153	00	18	13.37	+02	11	27.1		3	809
1381	1989	09	23.31493	00	05	44.77	+02	15	21.6		3	809
1381	1989	09	23.31979	00	05	44.50	+02	15	20.9		3	809
1381	1989	09	23.32465	00	05	44.23	+02	15	20.2		3	809
1381	1989	09	25.28715	00	03	54.55	+02	10	46.8		3	809
1381	1989	09	25.29930	00	03	53.87	+02	10	45.2		3	809
1381	1989	09	25.31180	00	03	53.17	+02	10	43.4		3	809
1381	1989	09	26.12500	00	03	08.14	+02	08	48.9		3	809
1381	1989	09	26.13750	00	03	07.44	+02	08	47.0		3	809
1381	1989	09	26.15000	00	03	06.73	+02	08	45.1		3	809
1475	1989	10	03.18958	00	38	00.53	+05	43	48.4		3	809
1475	1989	10	03.19930	00	38	00.08	+05	43	42.9		3	809
1475	1989	10	03.20903	00	37	59.61	+05	43	37.5		3	809
1475	1989	10	05.06180	00	36	30.66	+05	27	09.2		3	809
1475	1989	10	05.07153	00	36	30.19	+05	27	03.9		3	809
1475	1989	10	06.24305	00	35	33.17	+05	16	35.4		3	809
1475	1989	10	06.25278	00	35	32.68	+05	16	30.0		3	809
1475	1989	10	06.26250	00	35	32.22	+05	16	24.7		3	809
1475	1989	10	07.30416	00	34	42.09	+05	07	04.1		3	809
1475	1989	10	07.31389	00	34	41.62	+05	06	59.0		3	809
1475	1989	10	07.32361	00	34	41.15	+05	06	53.9		3	809
1512	1989	10	04.36805	02	23	35.26	+17	41	33.6		3	809
1512	1989	10	04.37500	02	23	35.04	+17	41	33.0		3	809
1512	1989	10	04.38194	02	23	34.83	+17	41	32.6		3	809
1783	1989	09	23.31493	00	05	04.02	+03	08	16.6		3	809
1783	1989	09	23.31979	00	05	03.78	+03	08	14.0		3	809
1783	1989	09	23.32465	00	05	03.56	+03	08	11.4		3	809
1783	1989	09	25.28715	00	03	33.08	+02	51	16.4		3	809
1783	1989	09	25.29930	00	03	32.49	+02	51	10.0		3	809
1783	1989	09	25.31180	00	03	31.91	+02	51	03.5		3	809
1783	1989	09	26.12500	00	02	54.67	+02	44	00.6		3	809
1783	1989	09	26.13750	00	02	54.10	+02	43	54.1		3	809
1783	1989	09	26.15000	00	02	53.52	+02	43	47.7		3	809
1792	1988	05	23.21197	14	40	03.46	-09	52	05.9	16.0	2	809
1792	1988	05	25.29826	14	38	30.96	-09	49	34.3	16.7	2	809
1793	1989	09	30.09479	23	43	20.91	+00	09	43.2		3	809
1793	1989	09	30.10798	23	43	20.23	+00	09	38.2		3	809
1793	1989	09	30.12118	23	43	19.54	+00	09	33.1		3	809
1793	1989	10	01.07291	23	42	27.57	+00	03	13.9		3	809
1793	1989	10	01.08542	23	42	26.90	+00	03	08.9		3	809
1793	1989	10	01.09792	23	42	26.24	+00	03	03.9		3	809
1855	1989	09	23.29965	00	03	37.30	+01	22	35.4		3	809
1855	1989	09	23.30451	00	03	37.02	+01	22	33.3		3	809
1855	1989	09	23.30937	00	03	36.76	+01	22	31.2		3	809
1855	1989	09	24.21284	00	02	46.25	+01	15	43.2		3	809
1855	1989	09	24.22743	00	02	45.44	+01	15	36.6		3	809
1855	1989	09	24.24201	00	02	44.62	+01	15	30.0		3	809

1855	1989	09	25.23715	00	01	48.59	+01	07	58.0		3 809
1855	1989	09	25.25174	00	01	47.77	+01	07	51.4		3 809
1855	1989	09	25.26632	00	01	46.96	+01	07	45.0		3 809
1856	1989	10	10.09930	01	10	53.72	+05	39	47.1		3 809
1856	1989	10	10.10902	01	10	53.18	+05	39	42.6		3 809
1856	1989	10	10.12014	01	10	52.57	+05	39	37.4		3 809
1856	1989	10	10.12986	01	10	52.01	+05	39	32.8		3 809
1928	1988	05	24.20625	14	47	16.98	-10	09	28.4	15.7	2 809
1932	1989	10	01.25833	00	08	33.18	+01	10	13.4		3 809
1932	1989	10	01.27083	00	08	32.52	+01	10	08.4		3 809
1932	1989	10	01.28333	00	08	31.85	+01	10	03.4		3 809
1932	1989	10	02.12639	00	07	45.81	+01	04	22.1		3 809
1932	1989	10	02.13889	00	07	45.15	+01	04	17.3		3 809
1932	1989	10	02.15208	00	07	44.45	+01	04	12.1		3 809
1989	1989	10	07.05902	00	02	58.08	-04	37	56.3	16.7	3 809
1989	1989	10	07.06875	00	02	57.51	-04	37	57.4		3 809
1989	1989	10	07.07847	00	02	56.95	-04	37	58.6		3 809
1989	1989	10	08.06632	00	01	59.44	-04	39	54.5		3 809
1989	1989	10	08.07604	00	01	58.88	-04	39	55.7		3 809
1989	1989	10	08.08576	00	01	58.32	-04	39	56.9		3 809
1989	1989	10	09.02326	00	01	04.68	-04	41	38.8		3 809
1989	1989	10	09.02951	00	01	04.32	-04	41	39.4		3 809
1989	1989	10	09.03576	00	01	03.96	-04	41	39.9		3 809
2018	1989	09	30.21319	23	48	16.61	-00	53	50.7		3 809
2018	1989	09	30.22569	23	48	16.06	-00	53	56.6		3 809
2018	1989	09	30.23819	23	48	15.50	-00	54	02.1		3 809
2018	1989	10	01.20625	23	47	35.10	-01	01	20.4		3 809
2018	1989	10	01.21875	23	47	34.66	-01	01	25.4		3 809
2018	1989	10	01.23125	23	47	34.23	-01	01	30.4		3 809
2030	1989	10	07.20208	23	56	20.54	-01	39	21.9	17.2	3 809
2030	1989	10	07.21180	23	56	20.06	-01	39	25.6		3 809
2030	1989	10	07.22153	23	56	19.58	-01	39	29.5		3 809
2030	1989	10	08.10139	23	55	35.88	-01	45	11.9		3 809
2030	1989	10	08.11111	23	55	35.40	-01	45	15.7		3 809
2030	1989	10	08.12083	23	55	34.92	-01	45	19.5		3 809
2030	1989	10	09.04340	23	54	49.69	-01	51	07.9		3 809
2030	1989	10	09.04965	23	54	49.38	-01	51	10.3		3 809
2030	1989	10	09.05590	23	54	49.08	-01	51	12.6		3 809
2114	1989	09	30.21319	23	48	57.55	-01	12	51.6		3 809
2114	1989	09	30.22569	23	48	57.01	-01	12	55.0		3 809
2114	1989	09	30.23819	23	48	56.47	-01	12	58.6		3 809
2114	1989	10	01.20625	23	48	16.51	-01	17	09.5		3 809
2114	1989	10	01.21875	23	48	16.04	-01	17	12.7		3 809
2114	1989	10	01.23125	23	48	15.56	-01	17	16.1		3 809
2155	1989	10	07.20208	00	02	06.83	-02	12	30.7	16.4	3 809
2155	1989	10	07.21180	00	02	06.40	-02	12	32.8		3 809
2155	1989	10	07.22153	00	02	05.96	-02	12	35.0		3 809
2155	1989	10	08.10139	00	01	26.20	-02	15	50.2		3 809
2155	1989	10	08.11111	00	01	25.76	-02	15	52.3		3 809
2155	1989	10	08.12083	00	01	25.31	-02	15	54.4		3 809
2155	1989	10	09.04340	00	00	44.39	-02	19	14.1		3 809
2155	1989	10	09.04965	00	00	44.11	-02	19	15.5		3 809
2155	1989	10	09.05590	00	00	43.83	-02	19	16.9		3 809
2207	1989	10	09.23437	00	47	20.62	+00	02	00.3		3 809
2207	1989	10	09.24062	00	47	20.43	+00	01	58.9		3 809
2207	1989	10	09.24687	00	47	20.25	+00	01	57.7		3 809
2207	1989	10	10.15833	00	46	54.23	-00	01	18.1		3 809
2207	1989	10	10.16805	00	46	53.95	-00	01	20.3		3 809
2207	1989	10	10.17917	00	46	53.63	-00	01	22.7		3 809

2207	1989	10	10.18924	00	46	53.34	-00	01	24.9		3	809
2353	1989	10	09.30694	01	00	59.14	+05	12	41.9		3	809
2353	1989	10	09.31667	01	00	58.64	+05	12	40.1		3	809
2353	1989	10	09.32638	01	00	58.12	+05	12	38.1		3	809
2353	1989	10	10.30972	01	00	06.17	+05	09	23.0		3	809
2353	1989	10	10.31944	01	00	05.67	+05	09	21.2		3	809
2353	1989	10	10.32917	01	00	05.15	+05	09	19.4		3	809
2357	1989	09	28.35278	02	04	30.34	+10	58	32.6		3	809
2357	1989	09	28.36528	02	04	30.06	+10	58	30.9		3	809
2357	1989	09	28.37778	02	04	29.77	+10	58	29.1		3	809
2385	1989	10	09.23437	00	46	52.25	-00	54	31.0		3	809
2385	1989	10	09.24062	00	46	51.92	-00	54	33.9		3	809
2385	1989	10	09.24687	00	46	51.62	-00	54	36.8		3	809
2385	1989	10	10.15833	00	46	06.60	-01	01	24.7		3	809
2385	1989	10	10.16805	00	46	06.12	-01	01	29.4		3	809
2385	1989	10	10.17917	00	46	05.56	-01	01	34.4		3	809
2385	1989	10	10.18924	00	46	05.05	-01	01	39.1		3	809
2461	1989	10	04.15590	00	29	44.27	-00	52	20.7		3	809
2461	1989	10	04.16562	00	29	43.86	-00	52	23.7		3	809
2461	1989	10	04.17535	00	29	43.44	-00	52	26.5		3	809
2461	1989	10	07.23680	00	27	30.57	-01	06	53.5		3	809
2461	1989	10	07.24653	00	27	30.15	-01	06	56.3		3	809
2461	1989	10	07.25625	00	27	29.73	-01	06	59.0		3	809
2461	1989	10	08.22014	00	26	48.63	-01	11	21.9		3	809
2461	1989	10	08.22986	00	26	48.21	-01	11	24.6		3	809
2461	1989	10	08.23958	00	26	47.80	-01	11	27.3		3	809
2466	1989	10	07.05902	23	59	34.18	-04	20	58.2		3	809
2466	1989	10	07.06875	23	59	33.79	-04	21	02.1		3	809
2466	1989	10	07.07847	23	59	33.42	-04	21	06.1		3	809
2466	1989	10	08.06632	23	58	54.85	-04	27	30.9		3	809
2466	1989	10	08.07604	23	58	54.48	-04	27	34.6		3	809
2466	1989	10	08.08576	23	58	54.09	-04	27	38.6		3	809
2466	1989	10	09.02326	23	58	18.51	-04	33	33.7		3	809
2466	1989	10	09.02951	23	58	18.26	-04	33	36.1		3	809
2466	1989	10	09.03576	23	58	18.01	-04	33	38.5		3	809
2480	1989	10	11.21389	01	26	48.31	+07	30	41.0	16.8	3	809
2480	1989	10	11.22361	01	26	47.75	+07	30	38.9		3	809
2480	1989	10	11.23402	01	26	47.11	+07	30	36.6		3	809
2480	1989	10	11.24375	01	26	46.51	+07	30	34.7		3	809
2480	1989	10	12.15590	01	25	52.12	+07	27	17.0		3	809
2480	1989	10	12.16562	01	25	51.54	+07	27	14.5		3	809
2480	1989	10	12.17326	01	25	51.07	+07	27	12.5		3	809
2480	1989	10	12.18298	01	25	50.49	+07	27	10.6		3	809
2492	1989	10	12.15590	01	20	21.31	+08	27	54.7	17.2	3	809
2492	1989	10	12.16562	01	20	20.84	+08	27	52.0		3	809
2492	1989	10	12.17326	01	20	20.48	+08	27	49.9		3	809
2492	1989	10	12.18298	01	20	20.02	+08	27	47.2		3	809
2508	1989	10	02.20555	00	46	05.93	+05	03	31.1		3	809
2508	1989	10	02.21840	00	46	05.29	+05	03	24.0		3	809
2508	1989	10	02.23159	00	46	04.64	+05	03	16.4		3	809
2508	1989	10	03.26250	00	45	11.93	+04	53	40.8		3	809
2508	1989	10	03.27361	00	45	11.37	+04	53	34.7		3	809
2508	1989	10	03.28472	00	45	10.81	+04	53	28.6		3	809
2589	1989	09	26.17500	23	32	06.76	-05	05	15.7		3	809
2589	1989	09	26.18750	23	32	06.22	-05	05	19.9		3	809
2589	1989	09	26.20000	23	32	05.69	-05	05	23.8		3	809
2589	1989	09	28.09305	23	30	44.37	-05	15	35.3		3	809
2589	1989	09	28.10555	23	30	43.82	-05	15	39.6		3	809
2589	1989	09	28.11805	23	30	43.28	-05	15	43.9		3	809

2589	1989	09	30.05555	23	29	22.32	-05	25	47.5		3 809
2589	1989	09	30.06805	23	29	21.79	-05	25	51.7		3 809
2589	1989	09	30.08056	23	29	21.24	-05	25	55.8		3 809
2603	1989	09	28.35278	02	02	34.20	+11	11	09.5		3 809
2603	1989	09	28.36528	02	02	33.76	+11	11	07.5		3 809
2603	1989	09	28.37778	02	02	33.32	+11	11	05.6		3 809
2603	1989	09	29.36250	02	01	55.09	+11	08	30.7		3 809
2603	1989	09	29.37361	02	01	54.74	+11	08	29.3		3 809
2603	1989	09	29.38472	02	01	54.39	+11	08	27.7		3 809
2603	1989	09	30.35139	02	01	15.46	+11	05	51.1		3 809
2603	1989	09	30.36389	02	01	15.08	+11	05	49.1		3 809
2603	1989	09	30.37639	02	01	14.69	+11	05	47.1		3 809
2644	1989	09	23.27465	23	16	07.11	-03	59	54.5		3 809
2644	1989	09	23.27951	23	16	06.85	-03	59	55.5		3 809
2644	1989	09	23.28437	23	16	06.59	-03	59	56.4		3 809
2644	1989	09	24.11632	23	15	22.46	-04	02	49.6		3 809
2644	1989	09	24.13090	23	15	21.71	-04	02	52.4		3 809
2644	1989	09	24.14549	23	15	20.95	-04	02	55.1		3 809
2644	1989	09	25.07465	23	14	32.10	-04	06	04.9		3 809
2644	1989	09	25.08923	23	14	31.38	-04	06	07.9		3 809
2644	1989	09	25.10382	23	14	30.66	-04	06	10.9		3 809
2644	1989	09	26.04028	23	13	42.73	-04	09	14.6		3 809
2644	1989	09	26.05278	23	13	42.10	-04	09	17.4		3 809
2644	1989	09	26.06528	23	13	41.47	-04	09	20.0		3 809
2746	1989	10	07.20208	00	01	58.73	-00	55	44.2	17.3	3 809
2746	1989	10	07.21180	00	01	58.23	-00	55	48.5		3 809
2746	1989	10	07.22153	00	01	57.74	-00	55	52.9		3 809
2746	1989	10	08.10139	00	01	12.75	-01	02	23.3		3 809
2746	1989	10	08.11111	00	01	12.26	-01	02	27.6		3 809
2746	1989	10	08.12083	00	01	11.76	-01	02	32.0		3 809
2795	1989	09	24.30382	01	58	49.52	+14	36	24.4		3 809
2795	1989	09	24.31840	01	58	49.00	+14	36	19.4		3 809
2795	1989	09	24.33298	01	58	48.50	+14	36	14.8		3 809
2795	1989	09	25.13437	01	58	22.18	+14	32	00.8		3 809
2795	1989	09	25.14896	01	58	21.67	+14	31	56.1		3 809
2795	1989	09	25.16354	01	58	21.16	+14	31	51.4		3 809
2795	1989	09	26.31111	01	57	40.82	+14	25	35.0		3 809
2795	1989	09	26.32361	01	57	40.39	+14	25	30.6		3 809
2795	1989	09	26.33611	01	57	39.95	+14	25	26.1		3 809
2924	1989	10	03.11667	23	57	47.24	-05	13	51.9		3 809
2924	1989	10	03.12917	23	57	46.70	-05	13	55.1		3 809
2924	1989	10	03.14167	23	57	46.17	-05	13	58.4		3 809
2924	1989	10	04.09097	23	57	04.23	-05	18	19.1		3 809
2924	1989	10	04.10069	23	57	03.81	-05	18	21.5		3 809
2924	1989	10	04.11042	23	57	03.38	-05	18	24.0		3 809
3011	1989	09	30.01250	23	12	25.66	+00	17	22.8		3 809
3011	1989	09	30.02500	23	12	25.22	+00	17	18.0		3 809
3011	1989	09	30.03750	23	12	24.77	+00	17	13.1		3 809
3011	1989	10	01.00000	23	11	49.80	+00	11	00.6		3 809
3011	1989	10	01.00972	23	11	49.45	+00	10	56.9		3 809
3011	1989	10	01.01944	23	11	49.11	+00	10	53.3		3 809
3056	1989	09	29.28611	00	14	47.74	+00	15	33.4		3 809
3056	1989	09	29.29861	00	14	47.00	+00	15	31.5		3 809
3056	1989	09	29.31111	00	14	46.26	+00	15	29.8		3 809
3056	1989	09	30.30764	00	13	47.50	+00	13	08.3		3 809
3056	1989	09	30.32014	00	13	46.74	+00	13	06.3		3 809
3056	1989	09	30.33264	00	13	46.01	+00	13	04.8		3 809
3056	1989	10	01.29652	00	12	49.40	+00	10	50.6		3 809
3056	1989	10	01.30625	00	12	48.85	+00	10	49.0		3 809

3074	1989	10	02.20555	00	48	45.69	+06	58	34.6		3 809
3074	1989	10	02.21840	00	48	44.96	+06	58	30.6		3 809
3074	1989	10	02.23159	00	48	44.18	+06	58	26.6		3 809
3074	1989	10	03.26250	00	47	43.82	+06	53	16.8		3 809
3074	1989	10	03.27361	00	47	43.17	+06	53	13.5		3 809
3074	1989	10	03.28472	00	47	42.51	+06	53	10.1		3 809
3170	1989	09	28.35278	02	03	59.59	+12	24	54.7		3 809
3170	1989	09	28.36528	02	03	59.19	+12	24	53.1		3 809
3170	1989	09	28.37778	02	03	58.79	+12	24	51.6		3 809
3170	1989	09	29.36250	02	03	23.73	+12	22	23.2		3 809
3170	1989	09	29.37361	02	03	23.41	+12	22	22.0		3 809
3170	1989	09	29.38472	02	03	23.06	+12	22	20.6		3 809
3170	1989	09	30.35139	02	02	47.58	+12	19	49.8		3 809
3170	1989	09	30.36389	02	02	47.18	+12	19	48.2		3 809
3170	1989	09	30.37639	02	02	46.78	+12	19	46.6		3 809
3174	1989	09	21.06354	23	16	00.98	-08	30	22.8		3 809
3174	1989	09	21.06840	23	16	00.80	-08	30	23.8		3 809
3174	1989	09	21.07326	23	16	00.59	-08	30	24.9		3 809
3458	1989	10	11.16944	01	23	07.09	+06	07	05.4	17.2	3 809
3458	1989	10	11.17917	01	23	06.56	+06	07	01.7		3 809
3458	1989	10	11.18889	01	23	06.04	+06	06	58.2		3 809
3458	1989	10	11.19861	01	23	05.52	+06	06	54.4		3 809
3458	1989	10	12.08993	01	22	17.38	+06	01	01.2		3 809
3458	1989	10	12.09965	01	22	16.86	+06	00	57.4		3 809
3458	1989	10	12.11423	01	22	16.06	+06	00	51.6		3 809
3458	1989	10	12.12396	01	22	15.54	+06	00	47.9		3 809
3659	1989	10	02.25555	00	43	25.55	+04	33	52.0	16.5	3 809
3659	1989	10	02.26527	00	43	25.05	+04	33	47.6		3 809
3659	1989	10	02.27500	00	43	24.56	+04	33	43.5		3 809
3659	1989	10	03.23194	00	42	35.96	+04	26	52.4		3 809
3659	1989	10	03.24167	00	42	35.47	+04	26	48.2		3 809
3659	1989	10	03.25139	00	42	34.98	+04	26	43.8		3 809
3659	1989	10	04.29896	00	41	41.48	+04	19	15.4		3 809
3659	1989	10	04.30903	00	41	40.97	+04	19	11.3		3 809
3659	1989	10	04.31910	00	41	40.46	+04	19	07.1		3 809
3659	1989	10	06.30972	00	39	58.70	+04	04	48.4		3 809
3659	1989	10	06.31944	00	39	58.20	+04	04	44.2		3 809
3659	1989	10	06.32917	00	39	57.71	+04	04	40.0		3 809
3659	1989	10	08.28542	00	38	17.97	+03	50	37.4		3 809
3659	1989	10	08.29513	00	38	17.47	+03	50	33.2		3 809
3659	1989	10	08.30486	00	38	16.98	+03	50	29.1		3 809
3697	1989	09	30.09479	23	40	48.86	-00	12	25.6	16.7	3 809
3697	1989	09	30.10798	23	40	48.11	-00	12	28.2		3 809
3697	1989	09	30.12118	23	40	47.36	-00	12	30.8		3 809
3697	1989	10	01.07291	23	39	53.19	-00	15	35.2		3 809
3697	1989	10	01.08542	23	39	52.47	-00	15	37.6		3 809
3697	1989	10	01.09792	23	39	51.76	-00	15	40.1		3 809
3717	1989	09	26.17500	23	37	44.27	-06	05	04.9		3 809
3717	1989	09	26.18750	23	37	43.76	-06	05	08.2		3 809
3717	1989	09	26.20000	23	37	43.26	-06	05	11.4		3 809
3717	1989	09	28.09305	23	36	25.81	-06	13	18.3		3 809
3717	1989	09	28.10555	23	36	25.30	-06	13	21.2		3 809
3717	1989	09	28.11805	23	36	24.80	-06	13	24.4		3 809
3836	1989	10	09.27430	00	44	12.36	+01	04	45.7		3 809
3836	1989	10	09.28403	00	44	11.79	+01	04	42.6		3 809
3836	1989	10	09.29375	00	44	11.22	+01	04	39.4		3 809
3836	1989	10	10.20903	00	43	17.32	+00	59	48.4		3 809
3836	1989	10	10.21875	00	43	16.75	+00	59	45.4		3 809
3836	1989	10	10.22916	00	43	16.14	+00	59	42.1		3 809

3836	1989	10	10.23889	00	43	15.57	+00	59	38.9		3 809
3851	1989	10	04.22708	00	26	34.39	+06	57	17.1	16.9	3 809
3851	1989	10	04.23680	00	26	33.79	+06	57	14.8		3 809
3851	1989	10	04.24653	00	26	33.18	+06	57	12.2		3 809
3851	1989	10	07.09236	00	23	32.02	+06	45	35.1		3 809
3851	1989	10	07.10208	00	23	31.40	+06	45	32.6		3 809
3851	1989	10	07.11181	00	23	30.79	+06	45	30.3		3 809
3851	1989	10	08.17430	00	22	23.51	+06	41	07.1		3 809
3851	1989	10	08.18403	00	22	22.90	+06	41	04.6		3 809
3851	1989	10	08.19861	00	22	21.98	+06	41	01.0		3 809
3851	1989	10	08.99930	00	21	32.45	+06	37	39.6		3 809
3851	1989	10	09.00486	00	21	32.11	+06	37	38.2		3 809
3851	1989	10	09.01041	00	21	31.76	+06	37	36.8		3 809
3851	1989	10	10.02743	00	20	28.86	+06	33	22.9		3 809
3851	1989	10	10.03229	00	20	28.56	+06	33	21.7		3 809
3851	1989	10	10.03715	00	20	28.26	+06	33	20.4		3 809
3882	1989	09	28.35278	02	03	17.53	+11	32	20.0	17.5	3 809
3882	1989	09	28.36528	02	03	17.03	+11	32	15.8		3 809
3882	1989	09	28.37778	02	03	16.50	+11	32	11.4		3 809
3882	1989	09	29.36250	02	02	36.33	+11	26	22.1		3 809
3882	1989	09	29.37361	02	02	35.86	+11	26	18.1		3 809
3882	1989	09	29.38472	02	02	35.40	+11	26	14.2		3 809
3882	1989	09	30.35139	02	01	54.70	+11	20	24.7		3 809
3882	1989	09	30.36389	02	01	54.18	+11	20	20.5		3 809
3882	1989	09	30.37639	02	01	53.68	+11	20	16.0		3 809
4197	1989	10	02.20555	00	46	20.98	+05	08	18.1	16.5	3 809
4197	1989	10	02.21840	00	46	18.64	+05	08	18.1		3 809
4197	1989	10	02.23159	00	46	16.24	+05	08	18.1		3 809
4197	1989	10	03.18958	00	43	22.20	+05	08	18.6		3 809
4197	1989	10	03.19930	00	43	20.30	+05	08	18.7		3 809
4197	1989	10	03.20903	00	43	18.40	+05	08	18.7		3 809
4197	1989	10	03.26250	00	43	08.04	+05	08	18.8		3 809
4197	1989	10	03.27361	00	43	05.88	+05	08	18.8		3 809
4197	1989	10	03.28472	00	43	03.71	+05	08	19.1		3 809
4197	1989	10	05.06180	00	37	15.37	+05	08	05.6		3 809
4197	1989	10	05.07153	00	37	13.29	+05	08	05.5		3 809
4197	1989	10	06.24305	00	33	02.76	+05	07	47.5		3 809
4197	1989	10	06.25278	00	33	00.57	+05	07	47.4		3 809
4197	1989	10	06.26250	00	32	58.35	+05	07	47.2		3 809
4197	1989	10	08.17430	00	25	37.70	+05	06	59.8		3 809
4197	1989	10	08.18403	00	25	35.32	+05	06	59.6		3 809
4197	1989	10	08.19861	00	25	31.65	+05	06	59.1		3 809
4197	1989	10	08.99930	00	22	14.78	+05	06	31.4		3 809
4197	1989	10	09.00486	00	22	13.41	+05	06	31.1		3 809
4197	1989	10	09.01041	00	22	12.05	+05	06	30.8		3 809
4197	1989	10	10.00382	00	17	54.74	+05	05	53.3		3 809
4197	1989	10	10.00660	00	17	53.98	+05	05	53.2		3 809
4197	1989	10	10.00937	00	17	53.23	+05	05	53.1		3 809
4197	1989	10	10.02743	00	17	48.36	+05	05	52.2		3 809
4197	1989	10	10.03229	00	17	47.03	+05	05	52.1		3 809
4197	1989	10	10.03715	00	17	45.72	+05	05	52.0		3 809
4197	1989	10	11.05104	00	13	09.15	+05	05	05.4		3 809
4197	1989	10	11.05382	00	13	08.39	+05	05	05.2		3 809
4197	1989	10	11.05659	00	13	07.64	+05	05	04.9		3 809
4197	1989	10	12.04479	00	08	24.67	+05	04	13.4		3 809
4197	1989	10	12.04826	00	08	23.64	+05	04	13.2		3 809
4197	1989	10	12.05174	00	08	22.57	+05	04	13.0		3 809
4197	1989	10	12.06076	00	08	19.85	+05	04	12.5		3 809
4197	1989	10	12.06424	00	08	18.85	+05	04	12.5		3 809

4197	1989	10	13.20538	00	02	33.29	+05	03	03.8		3	809
4197	1989	10	13.20954	00	02	31.97	+05	03	03.6		3	809
4197	1989	10	13.22812	00	02	26.05	+05	03	02.4		3	809
4238	1989	10	11.31354	01	19	30.07	+05	44	28.0	17.1	3	809
4238	1989	10	11.32569	01	19	29.40	+05	44	23.9		3	809
4238	1989	10	11.33541	01	19	28.85	+05	44	20.5		3	809
4296	1989	09	23.36528	01	55	47.39	+12	25	44.8	15.8	3	809
4296	1989	09	23.37222	01	55	47.17	+12	25	46.2		3	809
4296	1989	09	23.37917	01	55	46.96	+12	25	47.3		3	809
4296	1989	09	24.18229	01	55	21.58	+12	27	58.0		3	809
4296	1989	09	24.18924	01	55	21.36	+12	27	59.4		3	809
4296	1989	09	24.19618	01	55	21.15	+12	28	00.6		3	809
4296	1989	09	25.36666	01	54	40.53	+12	31	01.7		3	809
4296	1989	09	25.37882	01	54	40.12	+12	31	03.7		3	809
4296	1989	09	25.39097	01	54	39.67	+12	31	05.6		3	809
4296	1989	09	26.35000	01	54	04.71	+12	33	26.2		3	809
4296	1989	09	26.36250	01	54	04.24	+12	33	27.8		3	809
4296	1989	09	26.37500	01	54	03.78	+12	33	29.4		3	809
4303	1989	09	29.32708	01	44	26.19	+09	23	39.3	15.8	3	809
4303	1989	09	29.33819	01	44	25.68	+09	23	37.3		3	809
4303	1989	09	29.34930	01	44	25.19	+09	23	35.5		3	809
4303	1989	10	01.36111	01	42	53.49	+09	18	24.8		3	809
4303	1989	10	01.37361	01	42	52.95	+09	18	22.9		3	809
4322	1989	10	02.25555	00	43	57.71	+03	02	05.4	17.0	3	809
4322	1989	10	02.26527	00	43	57.11	+03	02	04.4		3	809
4322	1989	10	02.27500	00	43	56.52	+03	02	03.2		3	809
4322	1989	10	03.23194	00	42	58.61	+03	00	06.4		3	809
4322	1989	10	03.24167	00	42	58.03	+03	00	05.2		3	809
4322	1989	10	03.25139	00	42	57.45	+03	00	04.0		3	809
4322	1989	10	04.29896	00	41	53.97	+02	57	53.2		3	809
4322	1989	10	04.30903	00	41	53.36	+02	57	52.0		3	809
4322	1989	10	04.31910	00	41	52.75	+02	57	50.7		3	809
4322	1989	10	06.30972	00	39	53.08	+02	53	51.6		3	809
4322	1989	10	06.31944	00	39	52.49	+02	53	50.7		3	809
4322	1989	10	06.32917	00	39	51.90	+02	53	49.8		3	809
4322	1989	10	08.28542	00	37	55.75	+02	50	03.8		3	809
4322	1989	10	08.29513	00	37	55.17	+02	50	02.6		3	809
4322	1989	10	08.30486	00	37	54.59	+02	50	01.4		3	809
4328	1989	10	11.21389	01	22	02.26	+07	27	35.4	17.4	3	809
4328	1989	10	11.22361	01	22	01.72	+07	27	31.4		3	809
4328	1989	10	11.23402	01	22	01.15	+07	27	26.9		3	809
4328	1989	10	11.24375	01	22	00.61	+07	27	22.7		3	809
4328	1989	10	12.15590	01	21	10.42	+07	20	50.1		3	809
4328	1989	10	12.16562	01	21	09.89	+07	20	45.9		3	809
4328	1989	10	12.17326	01	21	09.46	+07	20	42.6		3	809
4328	1989	10	12.18298	01	21	08.93	+07	20	38.5		3	809
4334	1989	10	09.30694	01	05	42.50	+04	58	33.3		3	809
4334	1989	10	09.31667	01	05	42.03	+04	58	30.8		3	809
4334	1989	10	09.32638	01	05	41.58	+04	58	28.4		3	809
4334	1989	10	10.09930	01	05	06.15	+04	55	09.6		3	809
4334	1989	10	10.10902	01	05	05.70	+04	55	07.2		3	809
4334	1989	10	10.12014	01	05	05.20	+04	55	04.4		3	809
4334	1989	10	10.12986	01	05	04.76	+04	55	01.9		3	809
4360	1989	09	30.13541	23	41	23.25	+00	22	59.0	17.6	3	809
4360	1989	09	30.14792	23	41	22.62	+00	22	55.8		3	809
4360	1989	09	30.16042	23	41	22.01	+00	22	52.5		3	809
4360	1989	10	01.07291	23	40	36.29	+00	18	53.8		3	809
4360	1989	10	01.08542	23	40	35.64	+00	18	50.5		3	809
4360	1989	10	01.09792	23	40	35.01	+00	18	47.2		3	809

4360	1989	10	01.11250	23	40	34.26	+00	18	43.4	3 809
4360	1989	10	01.12500	23	40	33.63	+00	18	40.0	3 809
4360	1989	10	01.13750	23	40	32.98	+00	18	36.8	3 809
4372	1989	10	04.29896	00	40	09.83	+04	08	29.8	16.5 3 809
4372	1989	10	04.30903	00	40	09.34	+04	08	27.0	3 809
4372	1989	10	04.31910	00	40	08.85	+04	08	24.3	3 809
4372	1989	10	06.30972	00	38	32.77	+03	59	35.9	3 809
4372	1989	10	06.31944	00	38	32.31	+03	59	33.4	3 809
4372	1989	10	06.32917	00	38	31.85	+03	59	30.8	3 809
4372	1989	10	08.28542	00	36	57.99	+03	50	55.1	3 809
4372	1989	10	08.29513	00	36	57.52	+03	50	52.7	3 809
4372	1989	10	08.30486	00	36	57.05	+03	50	50.3	3 809

875 Yorii
M. Arai, 2695, Tomita, Saitama, 369-12 Japan
Observers M. Arai, H. Mori

1988 VS	1990	01	21.58194	08	50	44.25	+10	07	31.1	17 875
1988 VS	1990	01	21.60972	08	50	43.10	+10	07	35.0	875
1988 VS	1990	02	17.54444	08	32	39.57	+11	23	51.8	17 875
1988 VS	1990	02	17.56285	08	32	38.80	+11	23	54.5	875
1990 BN	1990	01	27.60012	08	41	29.22	+11	26	03.3	16.5 875
1990 BN	1990	01	27.61944	08	41	28.21	+11	26	11.6	875
1990 BN	1990	02	17.57297	08	24	55.97	+14	05	23.2	17 875
1990 BN	1990	02	17.59132	08	24	55.40	+14	05	28.7	875
1990 BS	1990	01	27.63692	09	17	41.72	+21	34	50.1	16.5 875
1990 BS	1990	01	27.65903	09	17	40.26	+21	34	57.0	875
1990 BG1	1990	02	17.68542	09	04	13.64	+26	10	40.9	17.5 875
1990 BG1	1990	02	17.70521	09	04	12.48	+26	10	43.6	875
3668	1990	02	17.57297	08	25	50.51	+14	27	41.9	16 875
3668	1990	02	17.59132	08	25	49.70	+14	27	50.5	875

881 Toyota
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers K. Suzuki, T. Urata

1990 DX *	1990	02	27.58507	11	27	22.98	-02	09	35.2	16.5 881
1990 DX	1990	02	27.60868	11	27	21.89	-02	09	32.4	881
1990 DX	1990	03	05.65903	11	21	59.31	-01	51	35.0	16.5 881
1990 DX	1990	03	05.68194	11	21	58.19	-01	51	30.5	881
1990 DX	1990	03	19.54583	11	08	50.09	-00	55	46.9	16.5 881
1990 DX	1990	03	19.58333	11	08	47.98	-00	55	37.5	881
901	1990	02	27.58507	11	28	32.74	-02	25	12.5	15.5 881
901	1990	02	27.60868	11	28	31.55	-02	25	06.6	881
901	1990	03	05.65903	11	22	44.97	-01	52	48.3	15.5 881
901	1990	03	05.68194	11	22	43.58	-01	52	40.9	881
1143	1990	02	27.59688	11	32	05.14	-00	12	30.0	15.5 881
1143	1990	02	27.62049	11	32	04.39	-00	12	26.6	881

887 Ojima
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers T. Niijima, T. Urata

1989 YH1	1990	02	20.53785	07	56	53.03	+21	17	37.1	16.5 887
1989 YH1	1990	02	20.55606	07	56	52.29	+21	17	37.6	887

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

1931 GC	1989	12	28.77340	08	33	41.74	+30	58	01.4	894
1931 GC	1989	12	28.78684	08	33	41.09	+30	58	04.1	894
1931 GC	1989	12	29.73936	08	32	58.54	+31	01	23.7	894
1931 GC	1989	12	29.78642	08	32	56.30	+31	01	35.5	894

1932	HD		1989 12 29.70005	06 17 49.31	+23 01 53.8					F	894
1932	HD		1989 12 29.70809	06 17 48.99	+23 01 53.2						894
1932	HD		1989 12 29.75289	06 17 46.46	+23 01 53.5						894
1932	HD		1990 01 27.60995	05 55 07.74	+23 03 38.9						894
1932	HD		1990 01 27.66027	05 55 06.33	+23 03 37.0						894

896 Yatsugatake South Base Observatory
O. Muramatsu, 119-1, 2-8 Sakurazutsumi, Musashino, Tokyo 180, Japan
Observers M. Inoue, R. Kushida, Y. Kushida, O. Muramatsu, C. Murotani, S. Izumikawa

1990	BK		1990 02 16.53819	08 34 17.37	+21 46 14.5						896
1990	BK		1990 02 16.57778	08 34 15.6	+21 46 17					w	896
1990	BY		1990 02 16.55069	08 49 36.17	+22 41 21.7						896
1990	BY		1990 02 16.59306	08 49 33.94	+22 41 33.0						896
1990	DA		1990 02 20.54792	08 29 56.37	+20 35 36.7						896
1990	DA		1990 02 20.57222	08 29 57.71	+20 36 59.8						896
1990	DM	*	1990 02 20.66910	10 47 55.7	+16 40 44			15.8		w	896
1990	DM		1990 02 21.55122	10 47 17.2	+16 47 45					w	896
1990	DM		1990 02 21.58576	10 47 15.28	+16 48 03.4						896
1990	DM		1990 02 24.53750	10 45 03.78	+17 11 09.3			16.0			896
2562	P-L		1990 01 24.65660	08 58 50.7	+20 02 43			16.0		r	896
2562	P-L		1990 01 24.68646	08 58 48.9	+20 02 52					r	896
2562	P-L		1990 01 25.64826	08 57 49.9	+20 07 20					r	896
2562	P-L		1990 01 25.67604	08 57 48.4	+20 07 26					r	896
2562	P-L		1990 02 16.53819	08 35 10.63	+21 32 42.5						896
2562	P-L		1990 02 16.57778	08 35 08.5	+21 32 48					w	896

898 Fujieda
M. Kizawa, 1458-10, Minami Numagami, Shizuoka 420, Japan
Observer H. Shiozawa
Measurer M. Kizawa

1990	DA		1990 02 20.59105	08 29 58.64	+20 38 04.9			14		F	898
1990	DA		1990 02 20.59580	08 29 58.89	+20 38 18.3			14		F	898
1990	DA		1990 02 20.60457	08 29 59.39	+20 38 51.8			14		F	898
1990	DA		1990 02 21.50237	08 30 56.38	+21 29 12.7			14			898
1990	DA		1990 02 21.50666	08 30 56.43	+21 29 25.7			14			898
1990	DA		1990 02 21.51106	08 30 56.73	+21 29 41.8			14			898
183			1990 01 27.71501	09 25 06.69	+09 31 12.7						898
183			1990 01 27.72594	09 25 06.10	+09 31 23.6						898
3955			1990 02 17.56366	11 13 27.91	+17 17 31.1			15.5			898
3955			1990 02 17.57572	11 13 27.28	+17 17 32.1			15.5			898
3955			1990 02 17.58653	11 13 26.88	+17 17 35.0			15.5			898

* * * * *

ORBITAL ELEMENTS.

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The name of the orbit computer is shown on the line giving T for a comet and Epoch for a displayed minor-planet orbit; for many of the minor planets (O-C) residuals are shown in full (in R.A. and Decl.); observations are identified by date and observatory code, X referring to an approximate and Y to a semiaccurate position. For displayed minor planets "Id." shows those involved in establishing the identifications (generally with the principal contributors first), "k" indicating key identifications and "d" (only) double (or multiple) designations; no identifier is shown if only the orbit computer is involved and the results were not previously published. 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 Yanaka (1988 XX)
Epoch 1988 Nov. 15.0 ET = JDE 2447480.5

				Nakano
T 1988 Oct. 31.80245 ET				
q 1.8945830		(1950.0)	P	Q
z +0.0006771	Peri.	351.55640	-0.87050932	-0.37615608
+/-0.0000298	Node	156.39202	+0.48501493	-0.76511082
e 0.9987171	Incl.	52.41661	+0.08351071	+0.52260122

From 69 observations 1989 Jan. 2-July 9, mean residual 1".25.

Comet Shoemaker (1989e)
Epoch 1989 Mar. 15.0 ET = JDE 2447600.5

				Nakano
T 1989 Feb. 26.09198 ET				
q 2.6395068		(1950.0)	P	Q
z +0.0018259	Peri.	19.10495	-0.65896746	+0.31156763
+/-0.0001749	Node	136.43957	+0.49288596	-0.50866369
e 0.9951804	Incl.	96.55995	+0.56817719	+0.80261252

From 53 observations 1989 Jan. 13-Apr. 5, mean residual 1".16.

Comet McKenzie-Russell (1989f1)

				Nakano
T 1989 Nov. 7.56733 ET				
q 1.9750781		(1950.0)	P	Q
	Peri.	191.68612	-0.21032298	+0.92735759
	Node	293.19113	+0.92186396	+0.29351194
e 1.0	Incl.	160.32555	+0.32547056	-0.23207465

From 35 observations 1989 Dec. 2-1990 Jan. 21.

Comet Cernis-Kiuchi-Nakamura (1990b)
T 1990 Mar. 17.29593 ET Marsden

		(1950.0)	P	Q
q 1.0684862	Peri.	100.58778	-0.04010391	-0.98657486
	Node	347.72725	+0.33262019	+0.13621869
e 1.0	Incl.	48.13786	+0.94220777	-0.09008055

From 17 observations 1990 Mar. 17-27.

Comet Austin (1989c1)
Epoch 1990 Apr. 19.0 ET = JDE 2448000.5
T 1990 Apr. 9.97076 ET Marsden

		(1950.0)	P	Q
q 0.3498538	Peri.	61.56255	-0.31698985	-0.46173334
z -0.0008607	Node	75.22232	+0.22877953	-0.88492318
+/-0.0000899	Incl.	58.95741	+0.92042238	+0.06093673
e 1.0003011				

From 49 observations 1989 Dec. 7-1990 Mar. 17, mean residual 0".9.

Comet Skorichenko-George (1989e1)
T 1990 Apr. 11.93889 ET Nakano

		(1950.0)	P	Q
q 1.5690008	Peri.	137.84825	+0.21750119	-0.48138558
	Node	279.31182	+0.49221170	+0.80530343
e 1.0	Incl.	59.36521	+0.84286468	-0.34605535

From 55 observations 1989 Dec. 20-1990 Feb. 26.

Periodic Comet Wild 4 (1990a)
T 1990 July 2.49449 ET Marsden

		(1950.0)	P	Q
q 1.9887686	Peri.	170.47033	-0.97825486	+0.20604680
n 0.16007899	Node	21.46485	-0.19429571	-0.87041065
a 3.3592823	Incl.	3.71495	-0.07257137	-0.44713535
e 0.4079781				
P 6.16				

From 83 observations 1990 Jan. 21-Mar. 5.

Periodic Comet Van Biesbroeck (1989h1)
Epoch 1991 Apr. 14.0 ET = 2448360.5
T 1991 Apr. 24.69864 ET Forti

		(1950.0)	P	Q
q 2.4009116	Peri.	134.14758	0.22042882	+0.97353523
n 0.0792678	Node	148.43962	-0.92455839	+0.22824884
a 5.3670821	Incl.	6.61951	-0.31081010	+0.01147274
e 0.5526598				
P 12.4				

From 68 observations 1965-1989, mean residual 1".1. Nongravitational parameters A1 = 0.00 +/- 0.00, A2 = -0.0443 +/- 0.0024.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1980 PU2		800720	6.21	248.53	47.53	15.61	0.1543	2.5496	7	6		W
1980 PV2		800720	34.73	135.84	109.61	30.05	0.2819	1.9532	2	3	E	W
1980 PW2		800809	345.31	296.21	41.64	14.13	0.2645	2.6714	8	8		W
1980 PX2		800809	347.03	262.59	68.97	20.99	0.1653	3.0527	8	8		W
1980 PY2		800809	307.47	342.24	36.97	15.75	0.1402	2.5541	14	9		W
1980 PZ2		800809	63.78	223.96	355.84	23.57	0.2324	2.3316	14	8		W
1980 PA3		800809	241.78	92.23	341.59	25.84	0.0615	1.9280	6	5		W
1980 PB3		800809	136.52	114.19	55.32	20.81	0.1211	3.2506	14	7		W
1980 PC3		800809	344.46	277.12	64.43	15.78	0.2496	2.6129	14	8		W
1980 PD3		800809	354.44	281.38	41.62	16.78	0.1711	3.0646	7	5		W
1980 PE3		800809	30.98	209.18	64.64	15.72	0.1604	2.5563	7	5		W

1988	LK	11.0	880608	358.85	107.15	147.32	11.35	0.0656	2.9927	50	7		N
1988	RV	10.0	880827	214.00	129.80	352.30	14.85	0.0409	5.2183	53	6		B
1988	TZ1	10.0	881006	45.92	22.02	295.19	24.97	0.1117	5.2794	53	6		B
1988	UA	13.0	881026	24.60	93.14	255.78	1.08	0.1879	2.4771	32	0		N
1989	RS	11.5	890911	11.22	152.73	185.69	13.46	0.0596	3.4033	28	0		N
1989	RP1	14.5	891001	27.48	155.03	162.13	12.90	0.2329	2.6443	33	0		N
1989	RT1	16.0	891001	9.12	350.11	357.34	13.18	0.2908	2.3686	28	0		N
1989	RV2	14.5	890911	2.62	304.27	44.32	5.59	0.1829	2.2685	30	0		N
1989	SC	15.0	891001	48.92	290.43	354.75	7.74	0.2680	2.3213	8	0		N
1989	SG	13.0	891001	309.91	74.82	356.30	5.94	0.1898	2.3879	13	0	D	N
1989	SO8	12.5	891001	45.40	217.44	72.94	2.45	0.1776	3.1278	3	9	E	N
1989	SV8	14.0	891001	350.84	32.15	340.20	1.95	0.2304	2.3999	2	9		N
1989	SW8	14.5	891001	352.60	191.51	182.65	12.71	0.1929	2.6332	15	0		N
1989	SY8	14.5	891001	346.86	183.73	198.23	2.39	0.2913	2.6341	2	9		N
1989	SZ8	13.0	891001	275.56	99.53	348.10	12.21	0.0729	2.4961	2	9	E	N
1989	SG9	15.5	891001	10.47	157.96	189.75	3.18	0.2606	2.1711	5	0		N
1989	SO9	14.5	891001	9.47	174.81	177.16	3.57	0.1791	2.2710	6	0		N
1989	SP9	13.5	891001	358.88	183.44	183.91	3.88	0.1521	2.7001	4	0		N
1989	SQ9	13.5	891001	46.89	113.67	188.91	1.20	0.1702	2.5148	4	0		N
1989	ST9	15.5	891001	1.14	338.09	20.22	2.07	0.2281	2.2714	4	9		N
1989	SU9	15.0	891001	325.02	292.00	132.80	1.54	0.3257	2.4720	4	9		N
1989	SX9	15.0	891001	338.90	252.22	144.26	0.61	0.2668	2.3930	3	0		N
1989	SY9	13.0	891001	304.02	262.02	166.31	1.93	0.1487	3.0674	3	9		N
1989	SZ9	13.5	891001	275.57	84.57	3.98	8.90	0.0505	2.3533	4	0		N
1989	SA10	13.5	891001	292.86	69.58	4.29	7.42	0.0718	2.2802	4	9		N
1989	SC10	12.5	891001	40.10	309.55	4.51	16.08	0.1334	3.2126	3	9		N
1989	SH10	15.5	891001	12.24	122.03	220.31	2.55	0.1496	2.1997	3	0		N
1989	SK10	14.0	891001	4.72	81.52	269.05	0.61	0.1436	2.4961	3	9		N
1989	SL10	14.5	891001	1.63	163.97	190.74	2.19	0.0695	2.3948	3	9		N
1989	SM10	14.5	891001	334.81	174.56	222.23	0.71	0.2185	2.5474	3	9		N
1989	SN10	13.5	891001	40.82	289.38	353.19	9.09	0.3247	3.0256	3	9		N
1989	SP10	15.0	891001	36.38	121.80	176.84	3.60	0.2650	2.2986	3	0		N
1989	SQ10	14.5	891001	319.66	254.25	177.20	8.49	0.3294	2.5535	3	0		N
1989	SB11	12.0	891001	25.20	314.55	37.74	1.56	0.1132	3.2348	2	9		N
1989	SC11	12.0	891001	227.44	341.40	193.81	0.83	0.2803	2.2870	2	9		N
1989	SH11	15.0	891001	23.42	150.29	179.68	5.94	0.2024	2.4701	3	0		N
1989	SH12	12.0	891001	218.32	198.86	314.58	1.44	0.1299	2.8131	2	9		N
1989	SJ12	12.0	891001	359.78	2.38	1.76	22.00	0.0355	3.0039	2	9	E	N
1989	SL12	12.5	891001	283.29	138.72	314.43	0.89	0.1078	2.8364	2	9		N
1989	TT1	13.5	891001	321.42	204.61	223.17	5.09	0.1026	2.4020	41	0		N
1989	TD2	14.0	891001	5.89	183.86	178.34	5.41	0.1578	2.3577	9	0		N
1989	TJ2	13.5	891021	319.08	108.37	323.50	4.95	0.1291	2.2738	25	0		N
1989	TU10	15.0	891001	335.35	229.12	179.28	6.02	0.2447	2.3561	7	0		N
1989	TX10	13.0	891001	322.32	298.98	115.58	2.82	0.1754	2.8852	3	8		N
1989	TN11	14.5	891001	8.34	346.90	9.88	6.62	0.1742	2.3458	6	0		N
1989	TP11	14.5	891001	26.29	143.46	190.35	3.63	0.1579	2.4223	30	0		N
1989	TU11	14.0	891001	16.99	328.91	14.36	10.08	0.1777	2.6827	6	0		N
1989	TV11	12.5	891001	117.90	227.57	12.89	10.75	0.1040	2.9758	6	0		N
1989	TF14	13.0	891001	330.08	324.97	73.16	3.13	0.1132	2.5737	2	9		N
1989	TH14	12.0	891001	330.08	10.16	29.95	5.97	0.1496	3.3251	2	9		N
1989	TJ14	12.0	891001	303.77	262.56	172.68	26.81	0.1726	3.4511	2	9		N
1989	TK14	13.5	891001	56.35	221.00	61.11	3.79	0.2092	2.4917	2	9		N
1989	TM14	14.5	891001	332.69	30.42	13.66	7.34	0.1875	2.5147	2	9		N
1989	TO14	13.5	891001	340.21	327.83	75.86	1.57	0.3190	3.0051	2	9		N
1989	TP14	15.5	891001	335.62	39.97	19.05	5.78	0.3784	2.6288	2	9		N
1989	TQ14	13.0	891001	359.45	235.65	129.77	2.35	0.1624	3.1690	2	9	E	N
1989	TW14	14.5	891001	350.08	277.34	109.04	0.38	0.2453	2.5225	2	9		N
1989	TL15	14.5	891001	331.60	89.92	319.50	1.32	0.1759	2.4915	4	0		N

1989	TN15	15.5	891001	349.72	37.51	345.92	3.15	0.1492	2.2901	4	0		N
1989	TO15	15.5	891001	328.10	220.38	199.20	2.47	0.2371	2.2834	5	0		N
1989	TP15	11.5	891001	104.49	41.25	194.35	12.90	0.3067	2.8110	4	0		N
1989	TQ15	15.0	891001	1.77	161.69	204.72	2.15	0.2080	2.3401	4	0		N
1989	TR15	14.5	891001	62.00	277.65	3.29	5.88	0.2398	2.2186	4	0		N
1989	TS15	14.5	891001	348.55	184.84	200.61	6.24	0.1382	2.5163	4	0		N
1989	TV15	13.0	891001	44.80	113.36	181.57	10.99	0.2718	2.8203	4	9		N
1989	TW15	14.0	891001	105.85	232.36	24.47	6.35	0.0442	2.3776	4	9		N
1989	TX15	14.5	891001	236.95	124.04	15.72	5.56	0.0980	2.2776	3	9		N
1989	TZ15	13.5	891001	349.63	33.24	347.94	5.96	0.0935	2.7674	4	0		N
1989	TA16	14.0	891001	45.29	75.15	233.49	2.24	0.1575	2.5681	4	9		N
1989	TB16	15.0	891001	356.84	17.25	355.52	4.21	0.1419	2.3439	3	9		N
1989	TD16	12.5	891001	67.67	304.24	351.12	3.62	0.0558	2.7341	4	0		N
1989	TE16	12.5	891001	337.08	28.06	8.38	33.04	0.0786	3.3404	4	0		N
1989	TF16	15.5	891001	351.17	179.54	202.64	1.79	0.2171	2.1558	4	9		N
1989	TG16	16.0	891001	7.60	161.34	195.26	0.71	0.1963	2.1772	4	9		N
1989	TH16	14.0	891001	53.08	106.47	197.85	2.53	0.1196	2.4127	4	9		N
1989	TK16	15.5	891001	29.79	157.66	171.21	1.54	0.1518	2.2063	4	9		N
1989	TM16	16.0	891001	13.47	326.21	15.88	1.31	0.3157	2.5191	4	9	E	N
1989	TN16	15.0	891001	357.73	182.24	189.78	1.67	0.0278	2.1599	4	9	E	N
1989	TP16	13.5	891001	343.89	340.07	56.20	1.77	0.1705	3.0843	6	0		N
1989	TY16	14.0	891001	357.66	206.24	161.05	3.02	0.1472	2.2642	2	9	E	N
1989	TS17	14.0	891021	332.39	33.69	35.41	8.17	0.0860	2.2671	2	9		N
1989	UN	13.5	891021	9.99	6.06	12.55	3.47	0.1240	2.1634	33	0		N
1989	UD1	14.0	891001	335.43	35.41	1.55	6.34	0.1202	2.3507	35	0		N
1989	UE1	14.5	891021	4.98	94.62	274.37	1.50	0.2352	2.3603	31	0		N
1989	UF1	14.0	891021	356.63	123.06	269.20	1.79	0.2167	2.4109	69	0		N
1989	UV1	13.5	891021	25.24	316.00	19.61	0.75	0.2201	3.1105	33	0		N
1989	VP	11.0	891130	359.91	176.51	222.75	35.82	0.1628	2.7614	54	0		B
1989	VW	11.5	891130	336.45	44.92	47.70	6.34	0.1500	4.0071	54	0		B
1989	VU1	14.0	891001	1.15	163.53	203.93	2.37	0.2049	2.4204	47	0		N
1989	WL1	12.0	891130	10.18	178.54	234.00	12.33	0.1474	2.5788	28	0		N
1989	YF	12.5	900109	223.59	140.20	124.25	7.77	0.1844	2.2731	57	0		W
1989	YM	13.0	900109	4.46	171.64	298.23	12.66	0.1217	2.6301	62	0		N
1989	YD5	13.5	891220	341.39	78.39	42.41	1.44	0.2575	3.1971	6	9		M
1989	YF5	13.5	891220	323.09	217.36	282.97	8.90	0.1726	2.5851	6	9	E	M
1989	YG5	12.5	891220	306.34	76.36	87.92	13.64	0.1982	3.2188	6	9		M
1989	YJ5	14.0	891220	335.20	40.54	93.99	1.93	0.2895	3.0483	6	9	E	M
1989	YK5	14.5	891220	36.51	300.65	93.58	2.67	0.2238	2.5062	6	9	E	M
1989	YL5	15.5	891220	339.84	165.69	315.96	1.53	0.2227	2.3028	6	9		M
1989	YN5	14.0	891220	322.04	230.08	276.27	10.43	0.2048	2.7543	6	9		M
1989	YO5	12.0	891220	157.60	197.35	93.39	2.61	0.0697	3.0922	6	9		M
1989	YU5	15.0	900109	55.76	108.50	270.95	1.94	0.2626	2.2585	27	6		G
1989	YG8		891220	57.27	296.00	88.91	6.40	0.0818	2.3052	6	5	E	M
1990	BN	12.5	900129	354.61	342.75	152.50	9.85	0.0999	2.7840	27	0		N
1990	BS	13.0	900129	79.54	346.90	52.69	3.18	0.1119	2.2509	6	5		N
1990	BW	14.0	900129	209.23	150.53	125.44	23.40	0.0477	1.9257	37	0		M
1990	BZ	14.0	900129	40.46	124.33	310.70	12.00	0.1171	2.4893	8	6		N
1990	BA1	13.5	900129	310.29	181.24	4.04	12.48	0.0315	2.6528	27	8		N
1990	BE1	12.5	900129	64.27	275.75	125.45	12.78	0.2836	2.6005	8	6		N
1990	BG1	13.5	900129	344.98	79.32	74.80	6.05	0.1771	2.8861	22	0		N
1990	BL1	12.5	900129	35.25	258.02	176.88	12.90	0.1610	2.6202	37	6		W
1990	BM1	13.0	900129	20.09	316.80	119.88	25.30	0.2424	2.3605	38	8		M
1990	BS1	11.0	900129	23.81	357.31	109.12	18.23	0.1427	3.1404	37	7		N
1990	BY1	12.5	900218	30.11	217.79	243.76	3.10	0.1637	2.4743	29	8		N
1990	BA2	12.0	900129	6.62	186.94	301.93	10.56	0.1558	3.0341	29	6		N
1990	BB2	12.5	900218	8.20	188.63	304.69	11.14	0.1072	2.5948	29	8		N
1990	BC2	12.0	900129	336.10	310.49	203.47	5.96	0.0681	2.4229	29	9		M

1990 DJ	13.0	900218	70.88	269.32	147.23	31.94	0.0975	1.9493	2	3	E M
1990 DK	10.5	900129	33.08	228.68	253.50	7.45	0.0509	5.1387	27	4	B
1990 DL	13.0	900218	342.36	194.23	337.66	5.43	0.0514	2.2708	20	8	M
1990 DY	13.0	900310	44.98	189.08	249.44	3.22	0.3670	2.7092	16	6	N
1990 DZ	12.0	900310	327.02	231.76	338.22	10.99	0.1488	2.9940	17	6	N
1990 DA1	12.5	900310	257.49	318.04	337.08	8.76	0.2550	2.2355	17	5	N
1990 DE1	12.5	900218	128.89	242.98	110.83	8.28	0.2354	2.2239	4	6	M
1990 DF1	12.0	900218	184.63	346.93	332.33	17.16	0.1272	2.5377	2	6	M
1990 DG1	13.0	900218	65.42	68.59	341.40	7.70	0.2490	2.4738	2	6	M
1990 DV1	11.5	900310	212.28	188.42	122.17	13.07	0.0267	2.9828	12	5	N
1990 EA	14.0	900310	29.04	348.65	141.25	6.88	0.1202	2.2303	18	8	N
1990 EB	13.5	900310	335.63	51.74	149.05	11.60	0.1525	2.3458	17	6	N

1989 SG = 1989 TV10 (S. Nakano)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(23) Thalia Obs. 213 M 90.35053 Peri. 59.12034
H 7.07 G 0.37 Opp. 27 n 0.23117671 Node 66.68719
rms res. 0".90 (M-P) 1939-1988 e 0.2303868 Incl. 10.15210

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(67) Asia Obs. 129 M 79.66484 Peri. 105.16347
H 8.36 G 0.25 Opp. 29 n 0.26181694 Node 202.35229
rms res. 0".85 (M-P) 1907-1986 e 0.1867000 Incl. 6.01598

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(157) Dejanira Obs. 30 M 236.92047 Peri. 47.04808
H 11.2 G 0.25 Opp. 13 n 0.23768751 Node 61.60313
rms res. 1".09 (M-P) 1922-1987 e 0.1957352 Incl. 12.14054

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(214) Aschera Obs. 146 M 131.06288 Peri. 132.10866
H 9.45 G 0.48 Opp. 32 n 0.23354681 Node 341.77201
rms res. 1".08 (M-P) 1901-1987 e 0.0288447 Incl. 3.42833

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(482) Petrina Obs. 90 M 298.02748 Peri. 90.74805
H 9.09 G 0.25 Opp. 18 n 0.18987933 Node 178.99929
rms res. 1".11 (M-P) 1908-1987 e 0.0991136 Incl. 14.45756

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(492) Gismonda Obs. 85 M 32.66221 Peri. 289.91142
H 10.26 G 0.25 Opp. 25 n 0.17955581 Node 46.39022
rms res. 1".11 (M-P) 1902-1989 e 0.1781730 Incl. 1.62962

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(525) Adelaide Obs. 81 M 78.33286 Peri. 263.67263
H 12.55 G 0.25 Opp. 14 n 0.29304973 Node 202.94821
rms res. 0".90 (M-P) 1908-1985 e 0.1026121 Incl. 5.99641

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(534) Nassovia Obs. 56 M 12.50351 Peri. 338.60600
H 9.81 G 0.25 Opp. 24 n 0.20122654 Node 93.86473
rms res. 1".34 (M-P) 1904-1987 e 0.0579585 Incl. 3.27820

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(535) Montague Obs. 97 M 70.61514 Peri. 69.72939
H 9.50 G 0.15 Opp. 29 n 0.23936532 Node 84.30641
rms res. 1".15 (M-P) 1904-1988 e 0.0232425 Incl. 6.78248

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(540) Rosamunde Obs. 80 M 162.56295 Peri. 337.31060
H 10.75 G 0.25 Opp. 23 n 0.29816464 Node 201.70610
rms res. 1".19 (M-P) 1904-1987 e 0.0894585 Incl. 5.57871

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(541) Deborah Obs. 78 M 147.63030 Peri. 356.05433
H 10.22 G 0.15 Opp. 22 n 0.20881116 Node 267.56004
rms res. 1".12 (M-P) 1904-1988 e 0.0515773 Incl. 5.99606

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(543) Charlotte Obs. 39 M 359.32752 Peri. 110.49264
H 9.57 G 0.15 Opp. 24 n 0.18380725 Node 294.86008
rms res. 1".21 (M-P) 1904-1989 e 0.1449484 Incl. 8.48193

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(552) Sigelinde Obs. 67 M 300.83579 Peri. 349.19212
H 9.76 G 0.15 Opp. 23 n 0.17562664 Node 267.15301
rms res. 1".10 (M-P) 1908-1988 e 0.0729177 Incl. 7.68892

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(554) Peraga Obs. 149 M 203.95484 Peri. 127.06237
H 8.89 G 0.15 Opp. 31 n 0.26933615 Node 295.11841
rms res. 1".07 (M-P) 1907-1986 e 0.1528892 Incl. 2.93841

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(555) Norma Obs. 158 M 90.45733 Peri. 349.36264
H 10.53 G 0.15 Opp. 23 n 0.17469756 Node 130.34761
rms res. 1".04 (M-P) 1905-1989 e 0.1699403 Incl. 2.64529

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(557) Violetta Obs. 115 M 173.36082 Peri. 194.00966
H 12.21 G 0.25 Opp. 20 n 0.25823806 Node 292.67867
rms res. 1".09 (M-P) 1905-1989 e 0.1018575 Incl. 2.49690

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1056) Azalea Obs. 84 M 206.00832 Peri. 212.10803
H 11.62 G 0.25 Opp. 13 n 0.29591318 Node 103.71866
rms res. 0".83 (M-P) 1928-1985 e 0.1778515 Incl. 5.42931

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(1607) Mavis Obs. 72 M 306.54349 Peri. 235.00004
H 11.76 G 0.15 Opp. 13 n 0.24237004 Node 122.46365
rms res. 1".07 (M-P) 1903-1982 e 0.3092189 Incl. 8.59777

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(1748) Mauderli Obs. 77 M 61.74135 Peri. 201.28738
H 10.52 G 0.15 Opp. 18 n 0.12723708 Node 125.59908
rms res. 1".14 (M-P) 1922-1989 e 0.2324728 Incl. 3.29775

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(1754) Cunningham Obs. 48 M 287.90643 Peri. 112.05850
H 9.74 G 0.15 Opp. 16 n 0.12551592 Node 162.65705
rms res. 1".26 (M-P) 1904-1986 e 0.1673550 Incl. 12.12012

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(1772) Gagarin Obs. 28 M 209.54946 Peri. 90.85702
H 12.93 G 0.15 Opp. 10 n 0.24525238 Node 88.06348
rms res. 1".35 (M-P) 1940-1986 e 0.1030389 Incl. 5.74865

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1817) Katanga Obs. 24 M 47.66210 Peri. 140.31472
H 12.2 G 0.25 Opp. 8 n 0.26977321 Node 88.31387
rms res. 0".98 (M-P) 1939-1989 e 0.1903633 Incl. 25.71599

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1848) Delvaux Obs. 50 M 315.40055 Peri. 313.89202
H 11.41 G 0.25 Opp. 15 n 0.20268125 Node 331.72710
rms res. 1".11 (M-P) 1933-1989 e 0.0457171 Incl. 1.44062

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1855) Korolev Obs. 41 M 300.92791 Peri. 348.65235
H 12.7 G 0.25 Opp. 11 n 0.29243375 Node 190.56717
rms res. 1".12 (M-P) 1961-1989 e 0.0846242 Incl. 3.07861

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1860) Barbarossa Obs. 37 M 122.48340 Peri. 162.11261
H 11.5 G 0.25 Opp. 8 n 0.23987678 Node 132.44263
rms res. 1".13 (M-P) 1911-1985 e 0.2049626 Incl. 9.95070

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1904) Massevitch Obs. 27 M 255.26599 Peri. 259.88299
H 11.7 G 0.25 Opp. 11 n 0.21687126 Node 106.09951
rms res. 0".67 (M-P) 1949-1980 e 0.0747128 Incl. 12.83075

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1977) Shura Obs. 17 M 200.96015 Peri. 307.67919
H 11.3 G 0.25 Opp. 8 n 0.21216944 Node 332.00244
rms res. 1".06 (M-P) 1968-1987 e 0.0716469 Incl. 7.75621

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1978) Patrice Obs. 43 M 300.50002 Peri. 268.12334
H 13.1 G 0.25 Opp. 10 n 0.30331639 Node 53.94363
rms res. 0".91 (M-P) 1955-1988 e 0.2147869 Incl. 4.34331

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2439) Ulugbek Obs. 30 M 57.30578 Peri. 337.67461
H 11.5 G 0.25 Opp. 8 n 0.17861451 Node 112.92307
rms res. 0".92 (M-P) 1974-1989 e 0.1685940 Incl. 0.28064

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2442) Corbett Obs. 35 M 337.45180 Peri. 104.35758
H 12.73 G 0.25 Opp. 8 n 0.26716537 Node 190.14989
rms res. 0".94 (M-P) 1942-1987 e 0.1186326 Incl. 5.08692

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(2464) Nordenskiold Obs. 47 M 105.39534 Peri. 78.83393
H 11.92 G 0.15 Opp. 11 n 0.17583887 Node 7.97329
rms res. 1".61 (M-P) 1905-1988 e 0.2204880 Incl. 0.85877

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(3003) 1983 YH Obs. 26 M 170.12925 Peri. 283.03600
H 11.38 G 0.15 Opp. 6 n 0.18785411 Node 103.64005
rms res. 1".20 (M-P) 1937-1987 e 0.1233470 Incl. 11.60441

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(3128) Obruchev Obs. 34 M 308.55077 Peri. 191.11031
H 11.34 G 0.15 Opp. 9 n 0.17972814 Node 101.96864
rms res. 1".32 (M-P) 1942-1986 e 0.1627245 Incl. 2.94015

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(3141) 1984 RH Obs. 19 M 259.10470 Peri. 134.33186
H 10.3 G 0.25 Opp. 6 n 0.15654363 Node 321.67067
rms res. 1".20 (M-P) 1905-1984 e 0.0710989 Incl. 10.89965

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(3282) Spencer Jones Obs. 47 M 283.02246 Peri. 18.98038
H 13.5 G 0.25 Opp. 7 n 0.30415652 Node 161.87848
rms res. 1".36 (M-P) 1933-1988 e 0.0428400 Incl. 3.16947

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(3736) Rokoske Obs. 24 M 282.75102 Peri. 150.74771
H 11.2 G 0.25 Opp. 10 n 0.18809761 Node 144.94041
rms res. 1".03 (M-P) 1943-1987 e 0.0856026 Incl. 11.31489

(4417)* 1931 GC = 1983 RW4 = 1986 EK5
Discovered 1931 Apr. 8 by K. Reinmuth at Heidelberg.
Id. T. Kobayashi (MPC 14340)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 332.60240 (1950.0) P Q
n 0.21512751 Peri. 223.57848 -0.77014260 +0.63777787
a 2.7584943 Node 356.00130 -0.53368728 -0.65365583
e 0.1033168 Incl. 9.02875 -0.34936837 -0.40739838
P 4.58 H 11.6 G 0.25
Residuals in seconds of arc

310318	024	1.4-	0.4-	701125	017	2.4-	0.3-	891227	801	2.3-	1.0-
310408	024	3.0+	1.9+	701125	017	(4.4-	1.5+)	891227	801	1.3+	0.9+
310412	024	2.1+	2.5+	701126	017	2.5-	1.2+	891228	894	1.2+	1.1-
310420	024	0.7-	0.5-	830903	095	1.5+	0.5+	891228	894	0.7+	1.2-
701119	017	(5.4-	0.0)	830910	095	0.5+	0.6-	891229	801	0.5-	1.1-
701122	017	0.9+	0.2-	830913	095	(5.9+	2.4+)	891229	801	0.4-	0.9-
701123	017	1.0+	2.7+	860306	809	(5.3+	3.2+)	891229	894	(0.0	5.0-)
701123	017	1.9-	2.4+	860306	809	(4.3+	2.8+)	891229	894	(0.3-	3.0-)
701125	017	(4.0-	1.2+)	860307	809	0.7+	2.1+	900128	801	0.0	2.3-
701125	017	1.0-	2.6+	860307	809	0.4-	0.9+	900128	801	0.5-	2.3-

(4418)* 1931 TR1 = 1987 BR3 = 1988 GE
Discovered 1931 Oct. 9 by K. Reinmuth at Heidelberg.
Id. B. G. Marsden (MPC 13305)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 164.04766 (1950.0) P Q
n 0.23759901 Peri. 82.57163 +0.26778869 +0.95951946
a 2.5817031 Node 203.53088 -0.94750158 +0.24584469
e 0.1566691 Incl. 12.62241 -0.17472826 +0.13741468
P 4.15 H 12.6 G 0.25
Residuals in seconds of arc

311009	024	2.9+	9.9-	880415	552	0.2-	0.8+	880602	552	0.3-	1.7-
311017	024	4.5+	4.3+	880415	552	0.4+	0.6+	880602	552	0.5-	0.6-
311020	024	1.3-	3.5+	880416	552	0.0	1.5+	880611	552	2.6-	1.5-
311103	024	5.5-	4.1-	880416	552	0.1-	3.2+	880611	552	0.6-	1.2-
870130	010	1.6-	1.5-	880506	552	1.5-	0.8-	890827	801	0.9+	1.0+
870130	010	0.0	0.4-	880506	552	0.8-	0.8-	891005	046	1.8-	0.8-
870131	010	1.0+	0.0	880517	552	0.7+	0.6+	891005	046	1.2+	2.3+
880414	552	1.3+	1.2-	880517	552	0.6+	1.2+	891026	801	0.0	0.3+
880414	552	1.1-	0.7-	880522	552	3.2+	1.2-	891028	807	0.7-	0.5+
880414	552	1.0-	0.6-	880522	552	2.1+	1.0-	891031	807	0.1+	0.4+

(4419)* 1932 HD = 1953 DH = 1985 CK

Discovered 1932 Apr. 24 by K. Reinmuth at Heidelberg.

Id. T. Kobayashi (MPC 14341)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	11.26618	(1950.0)	P	Q
n	0.18434163	Peri. 283.77168	-0.95318585	-0.30233306
a	3.0576453	Node 238.63079	+0.27989600	-0.87512407
e	0.2144293	Incl. 0.37637	+0.11443326	-0.37782613
P	5.35	H 13.1	G 0.25	

Residuals in seconds of arc

320424	024	3.8-	2.5+	850213	046	0.7+	1.5-	891229	801	1.2+	1.1+
320428	024	3.7+	1.1-	850213	054	0.4-	2.9+	891229	801	0.6+	1.3+
320505	024	0.5+	0.4-	850215	046	2.7+	0.6-	891229	894	2.2-	1.5+
530217	012	0.7+	2.0+	850215	046	2.0+	0.4+	891229	894	0.1-	0.8+
850212	046	2.8-	0.7-	850218	054	0.6+	1.2-	891229	894	1.5+	0.6+
850212	046	1.6-	1.8-	850219	054	1.4-	1.5+	900127	894	1.8-	1.1-
850213	046	0.5-	2.1-	891227	801	1.2+	0.4-	900127	894	0.5-	2.5-

(4420)* 1936 PB = 1949 OB = 1958 TL = 1967 TD = 1971 OD1 = 1971 QB = 1987 DY1

Discovered 1936 Aug. 15 by G. N. Neujmin at Simeis.

Id. T. Kobayashi (MPC 11856), S. Nakano (unpublished)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	155.06827	(1950.0)	P	Q
n	0.22507806	Peri. 0.81659	+0.54497563	+0.83220513
a	2.6765823	Node 302.21244	-0.76990979	+0.44844775
e	0.3186464	Incl. 6.93497	-0.33202481	+0.32608166
P	4.38	H 11.8	G 0.25	

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

360815	094	1.9-	1.9+	581017	760	(3.5-	0.4-)	870223	010	1.8-	0.4+
360818	094	(0.00-	0.03+)	581017	760	1.8-	1.0+	891027	801	0.2-	0.2-
360820	094	0.4-	1.5+	671004	095	0.0	1.1+	891029	801	0.7+	0.2-
360824	012	2.3+	1.0+	710728	095	2.5+	2.0-	891029	801	0.0	0.4-
360826	012	1.5-	1.2-	710825	056	2.0-	0.4-	891125	801	0.2+	0.1+
490716	078	(29.6+	7.6-)Y	710825	056	1.1+	0.5-	891125	801	0.5-	0.1+
581011	760	(27.9-	12.3-)	870223	010	1.5+	0.3-				
581011	760	1.8+	2.2-	870223	010	0.1+	0.4-				

(4421)* 1942 AC = 1981 BW

Discovered 1942 Jan. 14 by K. Reinmuth at Heidelberg.

Id. T. Kobayashi (MPC 13690)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	104.23688	(1950.0)	P	Q
n	0.22713200	Peri. 359.98423	-0.09965411	-0.95516582
a	2.6604218	Node 95.73439	+0.91290077	-0.19922993
e	0.1957402	Incl. 16.27204	+0.39582982	+0.21901069
P	4.34	H 12.8	G 0.25	

Residuals in seconds of arc

420114	024	0.8-	3.2-	420209	024	0.8-	1.7+	881008	372	1.8-	0.5-
420116	024	0.3-	1.7+	420218	024	1.3+	0.5+	900123	801	0.2+	0.0
420120	024	1.3+	0.9-	420411	024	0.9+	1.7+	900123	801	0.4+	0.2+
420120	024	0.1+	0.1+	420411	024	1.4+	1.6+	900221	801	0.5-	1.1+
420122	024	0.1+	0.8-	810130	095	0.7+	1.5+	900221	801	0.0	0.7+
420205	062	0.8-	1.7-	881007	372	0.8-	1.2+				
420205	062	1.8-	1.1-	881007	372	1.6+	1.4+				

(4422)* 1942 UA = 1978 JS = 1979 YW3 = 1981 EY1 = 1982 QD3 = 1984 DG2 = 1989 UQ1

Discovered 1942 Oct. 17 by L. Boyer at Algiers.

Id. G. V. Williams, K. Ichikawa (MPC 15568)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	135.24362	(1950.0)	P	Q
n	0.29433907	Peri. 213.74077	+0.99740065	-0.05816894
a	2.2382269	Node 149.50876	+0.06898090	+0.94137768
e	0.1797589	Incl. 4.80743	-0.02082248	+0.33230173
P	3.35	H 13.0	G 0.25	

Residuals in seconds of arc

421017	008	1.2-	1.2-	810308	809	0.4-	0.4-	891029	403	(4.6+	1.6-)Y
421018	008	1.3-	0.0	810308	809	0.6-	0.2+	891103	809	1.5+	0.9+
421020	008	1.4-	0.4-	820817	095	0.7+	0.4-	891103	809	1.2+	1.2+
421026	008	1.5+	0.0	840226	095	1.3+	0.0	891103	809	0.3+	1.4+
421028	008	1.2+	0.5+	891028	017	2.0-	0.1-	891104	403	0.5-	0.5-
421103	008	2.1+	0.7-	891028	017	2.7-	1.8+	891104	403	0.4-	0.6-
780505	095	0.1-	0.8+	891028	403	(8.0-	2.1+)Y	891110	403	0.7+	1.2-
791218	095	0.4+	0.8-	891028	403	(3.4-	3.4+)Y	891110	403	0.7+	1.0-
810308	809	0.5-	1.2-	891029	403	(2.1+	1.1-)Y				

(4423)* 1949 GH = 1982 QR3

Discovered 1949 Apr. 4 at the Goethe Link Observatory, Indiana University.

Id. C. M. Bardwell (MPC 13588)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	158.05963	(1950.0)	P	Q
n	0.15816867	Peri. 102.86763	+0.43166716	+0.89875454
a	3.3862765	Node 193.51316	-0.90108360	+0.42573856
e	0.1038562	Incl. 19.19740	-0.04137412	+0.10481868
P	6.23	H 11.3	G 0.25	

Residuals in seconds of arc

490404	760	1.5-	0.0	490425	760	0.3-	0.7+	881107	801	0.6+	1.9-
490404	760	0.6+	0.7+	820828	095	0.6+	2.7+	891026	801	0.6+	0.7-
490420	760	1.2+	1.6-	820829	095	0.1-	2.1+	891125	801	0.5-	0.2+
490420	760	0.6-	0.3+	820920	095	1.1-	0.7-	891125	801	0.4-	0.1-
490425	760	0.7+	0.5-	881012	801	0.4+	2.5-				

(4424)* 1967 DB = 1935 EE = 1949 FG = 1972 BP

Discovered 1967 Feb. 16 by T. M. Smirnova at the Crimean Astrophysical Observatory.

Id. T. Kobayashi (MPC 14183)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	66.97091	(1950.0)	P	Q
n	0.21529061	Peri. 13.46095	-0.87462412	-0.45413824
a	2.7571009	Node 138.14894	+0.41789156	-0.88365385
e	0.0772452	Incl. 14.73311	+0.24576265	-0.11364126
P	4.58	H 11.1	G 0.25	

Residuals in seconds of arc

350308	012	(57.9-	20.4-)X	670303	095	4.0-	1.8-	891229	801	0.2+	1.2+
490328	062	0.5-	0.4+	670307	095	2.3+	3.9+	900128	801	0.2+	0.3+
490328	062	0.9+	0.6-	720126	805	0.1-	0.2+	900128	801	0.3+	0.5+
670208	095	2.9+	0.5+	720126	805	0.9-	0.1-	900223	657	(0.9+	3.8-)
670216	095	1.4+	1.1+	870828	095	0.2-	2.0+	900223	657	(0.2+	4.9-)
670218	095	2.6-	1.9-	891229	801	0.4-	0.1-	900302	657	0.2+	1.3-

(4425)* 1967 UQ = 1983 EQ1 = 1985 VE3

Discovered 1967 Oct. 30 by L. Kohoutek at Bergedorf.

Id. T. Kobayashi (MPC 12581, MPC 15549)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	88.88519	(1950.0)	P	Q
n	0.27206320	Peri. 51.26494	-0.48009747	-0.87559099
a	2.3587913	Node 67.50542	+0.78580420	-0.45630665
e	0.1647086	Incl. 3.31065	+0.38989509	-0.15850760
P	3.62	H 13.9	G 0.25	

Residuals in seconds of arc

671013 029	0.0	0.6+	671031 029	0.2+	0.3+	900128 801	0.2-	0.3-
671014 029	0.4+	0.1-	671031 029	0.4+	0.3+	900128 801	0.2-	0.1-
671014 029	0.5-	0.0	830311 381	0.5-	0.3-	900226 801	0.5+	0.5+
671030 029	0.1-	0.4+	830311 381	0.2-	1.1-	900226 801	0.1+	1.0+
671030 029	0.0	0.2-	851110 095	0.8+	1.3-			
671031 029	0.3-	0.5-	851120 095	0.4-	0.1-			

(4426)* 1969 TB6 = 1936 LD = 1972 GF = 1974 VB1 = 1978 RW4 = 1978 TK3 = 1979 YM7 = 1981 GV = 1986 LP1 = 1987 SP

Discovered 1969 Oct. 15 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. B. G. Marsden (MPC 12710), A. Lowe (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	300.41897	(1950.0)	P	Q
n	0.21585959	Peri. 56.85633	+0.40104782	+0.91554913
a	2.7522539	Node 236.81649	-0.85210028	+0.36061711
e	0.0688561	Incl. 2.08870	-0.33628226	+0.17811537
P	4.57	H 12.5	G 0.25	

Residuals in seconds of arc

360614 078	0.0	1.1+	810407 688	0.4+	1.5-	870916 095	0.2-	2.0-
691015 095	0.2+	1.6+	810407 688	0.6-	0.3+	870919 688	0.6-	1.1-
691017 095	2.7+	1.4+	810409 688	1.1-	0.7-	870919 688	0.7-	1.8-
720414 095	(8.1-	3.9-)	810409 688	0.1+	1.1-	870926 688	0.2-	0.6-
741112 095	1.0-	0.4+	860601 805	1.1-	1.8+	870926 688	1.1+	0.4-
741117 095	4.6-	2.5-	860601 805	0.2-	1.1+	881229 046	0.6-	0.8-
780906 095	0.1-	0.0	860601 805	0.3+	0.9-	881229 046	0.4+	0.3+
781004 095	0.5+	0.8+	860601 805	0.9+	2.0-	881230 046	0.9+	0.6+
791223 095	1.2-	1.6-	870828 095	0.6+	0.4+	881230 046	3.7+	1.8+

(4427)* 1971 QP1 = 1973 AM = 1982 VT1 = 1984 CG

Discovered 1971 Aug. 30 by T. M. Smirnova at the Crimean Astrophysical Observatory.

Id. B. G. Marsden (MPC 9469)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	199.88965	(1950.0)	P	Q
n	0.18758176	Peri. 72.25387	+0.85568919	-0.50715937
a	3.0223330	Node 318.05964	+0.39697749	+0.77085387
e	0.1084705	Incl. 8.85519	+0.33197120	+0.38545259
P	5.25	H 12.5	G 0.25	

Residuals in seconds of arc

710830 095	0.7+	0.1+	840212 372	1.0-	0.1-	890113 400	1.1+	1.3+
710916 095	3.2-	2.4+	840212 372	0.5+	0.1+	890113 400	0.5+	2.2+
730101 095	0.1-	1.7-	870830 010	1.0+	1.3-	890113 400	2.1+	0.1-
730103 095	0.4+	1.0-	870830 010	1.9+	0.7-	890115 400	0.8-	2.4+
821114 033	0.1-	1.3-	870830 010	1.4+	0.3+	890115 400	1.4-	1.0+
840208 372	1.4-	1.5-	870926 095	0.5-	0.3+	890115 400	0.9-	0.1-
840208 372	1.9+	1.6-	871123 801	1.4-	0.1-			

(4428)* 1977 SN = 1955 QS1 = 1981 UG18

Discovered 1977 Sept. 18 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 11146), G. V. Williams (contrary to MPC 14012)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 255.30856 (1950.0) P Q
n 0.27057451 Peri. 212.67131 +0.45368472 +0.88725827
a 2.3674353 Node 84.43037 -0.79855159 +0.44626080
e 0.2375879 Incl. 4.80240 -0.39558252 +0.11672217
P 3.64 H 13.5 G 0.25
Residuals in seconds of arc

550825	420	0.5+	0.5-	811024	095	1.0+	1.7-	881006	801	1.5+	2.5+
770918	095	0.9+	0.7+	870225	801	0.4-	0.0	881015	293	2.2-	0.8-
770922	095	0.6-	0.4-	870329	801	1.0+	1.9+	881015	293	0.6-	0.6+
771007	095	0.7-	0.4-	880912	657	1.2+	0.9+				
771017	095	0.8-	1.3-	880912	657	0.9-	1.0+				

(4429)* 1978 RJ2 = 1978 RN1 = 1978 RR4 = 1980 FP2 = 1980 FX6 = 1987 DL2
Discovered 1978 Sept. 12 by N. S. Chernykh at the Crimean Astrophysical Observatory.
Id. N. S. Chernykh (d, MPC 5835), C. M. Bardwell (MPC 6206), K. Hurukawa (JAM 1848), S. Nakano (MPC 13156)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 86.49016 (1950.0) P Q
n 0.26833289 Peri. 66.73103 +0.83155904 -0.55526299
a 2.3806019 Node 326.99299 +0.49981404 +0.75894925
e 0.2143444 Incl. 1.45973 +0.24227152 +0.34011623
P 3.67 H 14.6 G 0.25
Residuals in seconds of arc

780901	095	0.4+	2.4+	800317	809	0.6+	0.0	890928	801	0.3+	0.3-
780905	095	0.4+	0.5-	800317	809	0.4+	0.2+	890928	801	0.4+	0.5-
780907	095	0.6-	0.3+	800317	809	0.7+	0.1-	890930	809	1.0-	0.8-
780912	095	0.6-	0.6+	800323	809	0.3-	1.1+	890930	809	0.2-	0.8-
780928	095	0.1+	2.1+	800323	809	0.7+	0.6+	890930	809	0.2+	1.0-
781004	095	1.4-	1.5+	821116	801	1.1+	1.3-	891001	809	0.3+	0.5-
781009	095	1.5-	0.8+	821218	801	0.9-	0.5+	891001	809	0.8+	0.6-
800316	809	0.7-	0.0	870223	010	2.4+	1.1-	891001	809	1.4+	0.4-
800316	809	0.0	0.5+	870223	010	0.4+	0.4+				
800317	809	0.3-	0.3-	870223	010	2.8-	1.5+				

(4430)* 1978 SX6 = 1985 BH2 = 1988 TV4
Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.
Id. S. J. Bus (MPC 15404), B. G. Marsden (ibid.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 82.57534 (1950.0) P Q
n 0.19096155 Peri. 76.41731 +0.35654192 -0.93383706
a 2.9865659 Node 352.50349 +0.74911319 +0.30412798
e 0.1758059 Incl. 12.72758 +0.55830752 +0.18829369
P 5.16 H 12.5 G 0.25
Residuals in seconds of arc

780926	095	0.9+	0.6+	881004	807	0.2-	0.2-	891201	801	0.8-	0.4-
781002	095	1.1-	1.3+	881005	807	0.1+	0.4+	891201	801	1.5-	0.1-
781008	095	0.2-	0.5-	881007	807	0.2+	0.4-	891202	801	2.0+	1.3-
781101	095	1.8-	1.5+	881008	807	1.1+	1.4-	891202	801	0.5-	0.5-
850121	688	1.1+	0.9-	881103	807	0.3+	0.8-				
850121	688	0.8-	1.3+	881105	807	0.7+	0.9-				

(4431)* 1978 WU14 = 1962 XO1 = 1962 YC = 1972 RM1 = 1988 RM
Discovered 1978 Nov. 28 at the Purple Mountain Observatory.
Id. B. G. Marsden (MPC 13680)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M	67.91547	(1950.0)	P	Q
n	0.18437389	Peri. 218.72773	+0.15062543	-0.98012353
a	3.0572886	Node 223.05554	+0.94752646	+0.18038260
e	0.1097622	Incl. 10.90128	+0.28196735	-0.08258319
P	5.35	H 11.3	G 0.25	

Residuals in seconds of arc

621203	760	1.3- 0.0	880907	054	0.4- 0.2+	881002	054	0.2+ 0.9+
621203	760	0.8+ 0.4+	880908	054	0.5- 0.4+	881010	054	0.8+ 0.9+
621230	760	(10.1- 8.6-)X	880909	054	0.7+ 0.6+	881010	054	0.5+ 2.3-
720910	095	1.1+ 0.9-	880909	054	0.9- 1.0-	900227	801	0.4+ 1.2-
781128	330	0.2- 1.1-	880916	054	1.1- 0.4-	900227	801	0.6- 1.1-
781202	330	3.2+ 0.3-	880920	054	0.1- 0.4+			
781206	330	2.6- 2.9+	880920	054	0.3+ 0.2-			

(4432)* 1981 ER22 = 1964 TV

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

Id. D. W. E. Green (MPC 11043)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Green

M	34.88282	(1950.0)	P	Q
n	0.26736049	Peri. 246.09060	+0.99990855	-0.01137058
a	2.3863707	Node 114.56021	+0.01333758	+0.91867087
e	0.2121504	Incl. 0.46123	-0.00223701	+0.39486016
P	3.69	H 14.8	G 0.25	

Residuals in seconds of arc

641008	330	0.7- 1.8+	810303	413	0.4- 2.0+	810426	413	(1.8+ 3.8-)
770213	675	0.0 0.7-	810307	413	1.9+ 0.3-	810502	413	0.5- 1.3+
770213	675	0.8- 0.6-	810311	413	(2.5- 1.1+)	860907	095	0.5- 0.5-
810209	413	0.4+ 0.3-	810311	413	0.1+ 0.3-	860912	095	0.3+ 0.6-
810213	413	0.3- 1.3-	810316	413	0.2- 0.5-	861101	801	0.9+ 0.3-
810302	413	0.1- 0.7+	810329	413	(3.5+ 1.2-)			
810302	413	1.9+ 1.9-	810408	413	1.8- 2.3+			

(4433)* 1981 QP = 1951 WH2 = 1984 KK

Discovered 1981 Aug. 30 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. C. M. Bardwell (MPC 10308)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	176.64148	(1950.0)	P	Q
n	0.25970898	Peri. 250.06451	+0.84013821	+0.51850536
a	2.4330147	Node 78.40573	-0.41670581	+0.80486609
e	0.1350312	Incl. 9.34838	-0.34716575	+0.28869148
P	3.80	H 13.0	G 0.25	

Residuals in seconds of arc

511129	711	(8.0+ 12.4+)Y	840526	046	2.1- 2.5-	851120	095	1.2- 2.1-
810830	688	0.1+ 0.7-	840526	046	0.4+ 3.3-	870227	801	0.3- 3.9-
810830	688	0.1- 0.4-	851022	095	0.8- 1.1+	870402	801	2.7- 2.3-
810928	688	1.9+ 0.3+	851109	095	0.9- 1.0+	891201	801	0.2+ 1.6+
810928	688	1.0+ 2.0-	851111	095	0.0 0.0	891201	801	1.2+ 1.5-
811004	688	0.9- 3.4-	851114	054	1.4+ 0.6+	891229	801	0.0 1.0-
811004	688	2.8+ 1.5-	851115	054	0.9- 0.0	891229	801	0.6+ 1.0-

(4434)* 1981 RD5 = 1977 RL1 = 1985 UG4

Discovered 1981 Sept. 8 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Id. G. R. Kastel’ (k, MPC 12313), B. G. Marsden (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M	131.39894	(1950.0)	P	Q
n	0.25838014	Peri. 208.94661	+0.96778016	-0.25055913
a	2.4413496	Node 165.49955	+0.24591278	+0.91923809
e	0.1336794	Incl. 5.71504	+0.05411539	+0.30367987
P	3.81	H 13.3	G 0.25	

Residuals in seconds of arc

770908 095	0.5-	0.1+	851021 095	1.2-	1.1-	891201 801	0.0	0.2-
810908 095	0.3-	0.9+	851111 095	0.3-	0.2-	891202 801	0.3-	0.0
810928 095	0.6-	0.4+	891129 801	0.2-	0.2+	891202 801	0.4-	0.6+
811005 095	0.4-	1.0+	891129 801	0.4+	0.0	891229 801	0.3+	0.5+
811026 095	2.8+	1.8-	891201 801	0.2+	0.2-	891229 801	0.6+	0.5+

(4435)* 1983 AG2 = 1978 PZ2

Discovered 1983 Jan. 13 by C. S. Shoemaker at Palomar.

Id. C. M. Bardwell (MPC 8061), W. Landgraf (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	99.76158	(1950.0)	P	Q
n	0.27956594	Peri. 109.93905	+0.13226137	-0.97407109
a	2.3163982	Node 330.52582	+0.71102504	+0.22225671
e	0.3353042	Incl. 21.90418	+0.69061590	-0.04227836
P	3.53	H 13.2	G 0.25	

Residuals in seconds of arc

780808 095	1.0-	0.3-	830215 675	0.0	1.0+	830312 046	0.7-	0.9-
830113 675	0.5-	0.2-	830215 688	0.1+	1.2-	830313 330	1.7+	0.9+
830113 675	0.3+	0.4-	830215 704	0.7+	2.5+	850818 801	1.5+	0.1+
830114 675	0.6+	0.9+	830215 688	0.4+	1.2-	850820 688	1.2-	0.4+
830114 675	0.0	0.6-	830216 704	0.6-	1.4+	850820 688	0.0	0.0
830122 688	0.2+	1.0-	830216 704	1.2+	0.2-	850822 688	1.0+	0.4+
830122 688	1.4+	1.1-	830217 675	1.0-	1.1+	850822 688	0.9+	2.4-
830211 688	1.1+	1.0-	830218 675	0.5-	1.1+	850824 293	1.8-	0.6+
830211 688	0.7+	0.0	830218 675	0.1+	1.3+	850824 293	0.8+	1.1+
830211 704	(1.2+	4.5+)	830218 330	2.1-	0.6-	850908 413	0.6+	0.3+
830211 704	(0.9+	3.8+)	830219 688	0.9-	1.8-	850908 413	0.9+	0.4-
830211 704	(3.1+	7.1+)	830219 688	0.3+	1.5-	850912 688	(5.0+	1.1-)
830212 704	(2.2+	5.2+)	830304 046	1.3-	1.2-	850912 688	(5.0+	1.8-)
830212 704	(4.8+	4.1+)	830304 046	0.0	1.4-	850917 801	0.4-	1.3-
830212 704	(3.1+	2.4+)	830305 330	1.9-	0.6-	851115 801	(4.1-	0.7-)
830212 704	(1.9+	3.7+)	830305 046	0.3+	1.1-	900221 801	0.8+	0.6-
830213 704	0.1+	1.5+	830305 046	0.5+	0.5-	900221 801	0.6+	0.6-
830213 704	0.7-	0.6+	830308 046	0.5-	1.9+	900226 801	0.4-	0.0
830214 704	(1.5+	4.8+)	830308 046	0.8+	1.2+	900226 801	0.7-	0.2+
830214 704	(0.3+	3.0+)	830309 046	(2.8+	3.8+)	900323 801	0.6-	1.0+
830215 704	(0.6+	4.3+)	830309 046	(3.2+	4.4+)	900323 801	0.1-	1.3+
830215 675	0.5-	0.5+	830312 046	0.8-	1.6-			

(4436)* 1983 EX = 1959 CY = 1972 JL1 = 1975 XB2 = 1981 YK1

Discovered 1983 Mar. 9 by E. Barr at the Anderson Mesa Station of the Lowell Observatory.

Id. D. W. E. Green (MPC 14189)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Green

M	187.36538	(1950.0)	P	Q
n	0.16818172	Peri. 6.75973	-0.11779549	-0.94685943
a	3.2505002	Node 90.31660	+0.89645873	-0.23105000
e	0.0555701	Incl. 17.41593	+0.42718377	+0.22377023
P	5.86	H 11.2	G 0.25	

Residuals in seconds of arc

590212 760	0.7+	0.4-	720512 805	0.5-	0.1-	720512 805	0.3-	0.7-
590212 760	(1.7+	4.8+)	720512 805	0.3-	0.2-	751201 095	0.4-	1.8-

811228 033 0.1- 0.5+ 830311 675 0.5- 0.8- 830410 095 0.8+ 1.1+
811228 033 0.2+ 1.1+ 830313 675 0.3+ 0.1- 830412 095 (1.4- 3.9+)
830309 688 (0.8- 3.0-) 830313 675 1.8- 1.8+ 890402 801 (2.2- 6.9+)
830309 688 (0.1- 4.9-) 830315 675 0.1- 1.3- 890504 801 2.5+ 1.2+
830311 675 1.1- 0.4- 830315 675 0.3+ 0.6-

(4437)* 1983 GA2 = 1972 LC = 1975 EY5 = 1984 SW

Discovered 1983 Apr. 10 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. D. W. E. Green (MPC 14190)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Green

M	11.00144	(1950.0)	P	Q
n	0.26321631	Peri. 350.94026	-0.85144929	+0.52193530
a	2.4113534	Node 220.65546	-0.47608400	-0.81017485
e	0.1364136	Incl. 4.50407	-0.21995027	-0.26683376
P	3.74	H 12.5	G 0.25	

Residuals in seconds of arc

720607 095 0.6- 2.1- 830411 095 0.3- 1.0- 840930 046 0.1- 2.5-
720614 095 0.4+ 1.4- 830512 095 0.2+ 0.3- 840930 046 (1.6- 3.2-)
750303 688 (1.2- 3.6-) 830602 095 2.5+ 1.2+ 900128 801 0.2- 0.8-
750305 688 0.5- 3.3- 840920 046 0.6+ 1.1- 900128 801 0.7- 0.9-
830410 095 2.1- 0.5- 840920 046 1.5+ 1.3-

(4438)* 1983 WR = 1971 TA = 1977 TN5 = 1987 KB5

Discovered 1983 Nov. 29 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. T. Kobayashi (MPC 14019)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	132.58510	(1950.0)	P	Q
n	0.17297585	Peri. 292.51069	+0.96193539	+0.19438007
a	3.1901595	Node 56.78019	-0.07367903	+0.86134040
e	0.2380861	Incl. 13.27405	-0.26315719	+0.46937096
P	5.70	H 11.6	G 0.25	

Residuals in seconds of arc

711010 808 1.0+ 1.1- 831201 688 1.7- 0.9- 870530 413 0.7- 1.2-
771008 095 0.5- 2.4+ 831206 801 (3.5- 7.6+) 870530 413 0.6- 0.7-
831129 688 1.2+ 0.3- 840102 688 1.3+ 2.4- 891202 801 0.7+ 1.0+
831129 688 0.1+ 0.4- 840104 688 0.1- 1.6- 891229 801 0.9+ 1.6+
831201 688 0.7- 0.2- 840104 688 0.8- 0.6- 891229 801 0.6+ 0.1-

(4439)* 1984 VA = 1975 EN1 = 1980 BH3

Discovered 1984 Nov. 2 by T. Seki at Geisei.

Id. S. Nakano (MPC 9361)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	27.45791	(1950.0)	P	Q
n	0.18302285	Peri. 18.74294	+0.33289659	-0.94243151
a	3.0723157	Node 51.82483	+0.85987811	+0.28961077
e	0.2771024	Incl. 2.30853	+0.38702648	+0.16717790
P	5.39	H 13.1	G 0.25	

Residuals in seconds of arc

750306 095 0.6+ 0.0 841103 372 1.0- 0.5+ 841121 372 0.0 0.6+
750315 095 0.3- 1.0+ 841103 372 1.0- 1.1+ 841127 688 2.2- 1.6-
800117 330 1.1+ 2.7+ 841112 372 1.1- 1.9- 841127 688 (0.2- 3.7-)
800117 330(27.6+ 6.3-) 841112 372 0.8- 1.6- 841127 372 0.8+ 0.8+
841101 688 1.7+ 1.8- 841118 688 1.4+ 0.5- 841127 372 1.4+ 0.7+
841101 688 0.7+ 1.6- 841118 688 0.7+ 0.1- 841130 372 0.6+ 1.5-
841102 372 0.5+ 2.4+ 841121 372 0.8- 0.3- 870530 413 0.0 1.1-

870530 413 1.0- 1.0- 890926 809 1.1+ 1.3+ 890928 809 0.9- 0.0
890926 809 0.3+ 1.7+ 890928 809 1.4- 0.1+
890926 809 0.7+ 1.5+ 890928 809 1.1- 0.0

(4440)* 1984 YV
Discovered 1984 Dec. 23 by F. Dossin at Haute Provence.
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	33.41631	(1950.0)		P	Q
n	0.37018409	Peri.	224.51160	-0.79464028	-0.49244273
a	1.9209861	Node	282.79339	+0.60689528	-0.65883589
e	0.0769428	Incl.	21.35030	-0.01499798	-0.56871383
P	2.66	H	12.9	G 0.25	

Residuals in seconds of arc
841223 511 1.8+ 1.2- 850130 511 1.4- 0.3+ 861129 801 0.1- 0.2+
841223 511 0.0 0.6- 850219 801 0.5- 0.3+ 880114 474 0.3- 0.0
841226 511 0.4+ 2.1- 850221 511 0.0 1.3+ 880114 474 0.9+ 0.6+
841228 511 0.1- 0.3+ 850221 511 0.2- 0.2+ 880318 474 0.9- 0.2+
841229 511 0.0 2.3+ 850317 511 1.8- 1.0+ 880318 474 1.5+ 0.6+
841230 511 0.7- 0.9- 850320 801 0.3- 0.7- 880411 474 0.9+ 0.8-
850118 675 1.0- 1.6- 860704 801 1.8- 0.5+ 880411 474 1.4- 1.0+
850124 511 1.5+ 1.5- 860804 801 0.4+ 0.1+ 891202 801 0.3- 0.6-
850124 511 1.3+ 0.3- 860810 801 0.5- 1.2+ 891202 801 0.1+ 0.6-
850124 511 0.8+ 3.0+ 860903 010 (4.8- 4.9+) 891228 801 0.2+ 0.3+
850129 511 0.2- 0.2+ 860903 010 (0.5- 5.7+) 891228 801 0.0 0.3+

(4441)* 1985 BB = 1986 LU1 = 1987 OM1 = 1988 UK = 1988 VL9
Discovered 1985 Jan. 26 by T. Seki at Geisei.
Id. T. Kobayashi, S. Nakano (d)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	227.88893	(1950.0)		P	Q
n	0.19379328	Peri.	248.02977	+0.64312622	+0.76493257
a	2.9574012	Node	62.04535	-0.68683183	+0.59676682
e	0.0437825	Incl.	2.30930	-0.33860109	+0.24237888
P	5.09	H	13.3	G 0.25	

Residuals in seconds of arc (or two decimals in units of degrees)
850126 372 0.3+ 1.8- 860606 675 (4.3- 0.1-) 881111 399 1.9- 0.5-
850126 372 0.8- 0.7+ 860606 675 2.8- 1.1+ 881111 399 0.2+ 0.8-
850131 372 2.0+ 1.6- 870728 010 (4.0+ 1.6+) 881111 399 0.1- 0.6+
850131 372 0.3- 1.4- 870728 010 2.8+ 0.7- 891220 372 1.9+ 2.0-
850210 372 (3.9- 1.6+) 881018 372 1.5- 1.0- Y 891220 372 0.4+ 0.4-
850210 372 1.4+ 1.0+ 881019 372(0.05+ 0.07+)Y 900121 372 0.0 0.0
850224 372 0.4- 1.4+ 881102 372 0.0 1.3+ 900121 372 0.5- 0.9+
850224 372 1.2- 0.7+ 881102 372 0.3+ 1.5+ 900125 372 0.3- 0.2+
860604 675(38.3- 0.1-) 881108 399 1.2+ 0.6- 900125 372 (3.7- 0.7+)
860604 675(37.2- 1.7+) 881108 399 0.9- 1.2-

(4442)* 1985 RB1 = 1988 BC5
Discovered 1985 Sept. 14 by Spacewatch at Kitt Peak.
Id. R. H. McNaught (MPC 13681)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	168.93431	(1950.0)		P	Q
n	0.19004395	Peri.	264.72610	-0.94825762	+0.19561825
a	2.9961716	Node	286.37669	-0.06449499	-0.88991089
e	0.2497021	Incl.	15.10906	-0.31088241	-0.41205839
P	5.19	H	12.5	G 0.25	

Residuals in seconds of arc
780314 413 0.4+ 0.2- 780502 413 0.6+ 0.1+ 850914 691 0.2- 0.2+
780314 413 0.1- 0.4+ 840531 413 0.2- 1.3+ 850914 691 0.9- 1.0+
780502 413 0.9- 0.1+ 840531 413 0.2+ 0.2- 850914 691 0.8- 0.6+

850916	691	0.0	0.2+	880128	413	0.5-	0.9-	880312	413	0.1+	0.3+
850916	691	0.2-	0.1-	880128	413	0.9+	1.3+	880316	413	0.8-	0.7+
850921	691	0.4+	0.1-	880223	413	0.7-	0.9-	880316	413	1.1+	0.5+
850921	691	0.0	0.0	880223	413	0.2+	0.5+				
850921	691	0.2+	0.4+	880312	413	0.9+	0.3+				

(4443)* 1985 RD4 = 1972 XO = 1977 FY2 = 1978 NE6 = 1980 DF6

Discovered 1985 Sept. 10 by H. Debehogne at the European Southern Observatory.

Id. B. G. Marsden (MPC 14021), G. V. Williams

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	126.28712		(1950.0)	P	Q
n	0.29495830	Peri.	84.38148	+0.32639664	-0.94511895
a	2.2350932	Node	346.54036	+0.84031120	+0.29724118
e	0.1178670	Incl.	3.61511	+0.43283059	+0.13563865
P	3.34	H	13.5	G 0.25	

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

721202	095	0.0	1.1-	850910	809	(0.10-	0.12-)	891229	801	0.3-	0.5+
721206	095	0.8+	1.3-	850910	809	(0.10-	0.12-)	900121	886	0.8-	1.6+
770326	095	0.5+	0.4+	850910	809	(0.10-	0.12-)	900121	886	1.6-	0.4+
780710	675	(7.2+	4.1-)Y	850915	095	0.1-	0.3+	900124	376	2.9+	0.1+
780711	675	(10.0-	0.1+)Y	850916	809	0.0	0.8+	900124	376	1.0+	1.2-
780713	675	(8.8+	0.4+)Y	850916	809	0.3+	1.1+	900128	801	0.6-	0.1+
800220	095	0.5-	0.9+	850916	809	0.7+	1.4+	900128	801	0.3-	0.1+
850814	095	0.7+	1.9-	850920	095	2.4-	1.6+				
850818	095	0.8-	0.7-	891229	801	0.7+	0.5+				

(4444)* 1985 SA

Discovered 1985 Sept. 16 by H. U. Norgaard-Nielsen, L. Hansen and P. R. Christensen at the European Southern Observatory.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Green

M	194.64634		(1950.0)	P	Q
n	0.27800471	Peri.	181.45776	+0.53445935	+0.83794252
a	2.3250624	Node	120.86180	-0.77410382	+0.53777820
e	0.1343599	Incl.	7.39459	-0.33928818	+0.09298897
P	3.55	H	13.1	G 0.25	

Residuals in seconds of arc

850813	095	2.8-	0.8+	850920	809	1.6+	1.8-	870101	809	0.4-	0.9+
850819	095	(2.6-	4.7+)	850920	809	1.0-	0.2-	870102	809	0.2+	1.3+
850824	095	1.6-	0.8+	850921	809	0.6-	0.1+	870103	809	(3.9-	0.9-)
850916	809	0.4+	0.4+	850921	809	0.2-	0.3-	880213	809	0.0	0.0
850916	809	0.4-	0.5+	850922	809	0.0	0.2-	880213	809	0.1-	0.0
850917	809	0.3+	0.8+	850922	809	0.7+	0.6-	880213	809	0.1-	1.0+
850917	809	0.3+	0.5-	850923	809	0.4+	0.5+	880612	801	1.0+	0.9+
850918	809	(4.0-	0.0)	850923	809	0.4-	0.7+	891029	801	0.2+	0.5-
850918	809	2.7-	0.6-	851022	809	0.4+	0.1+	891029	801	0.0	0.4-
850919	809	1.9+	0.2-	860105	809	1.1+	1.5+	891125	801	0.1-	0.2+
850919	809	2.1+	0.1+	860105	809	1.0+	1.8+	891125	801	0.3-	0.2+

(4445)* 1985 TC = 1937 PC = 1951 WL1 = 1978 PE2

Discovered 1985 Oct. 15 by K. Suzuki and T. Urata at Toyota.

Id. K. Hurukawa (MPC 10402), H. Oishi (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Urata

M	181.17109		(1950.0)	P	Q
n	0.28884669	Peri.	155.96454	+0.98110409	-0.19134640
a	2.2665108	Node	215.10493	+0.16845074	+0.91762539
e	0.1905745	Incl.	2.85648	+0.09517933	+0.34835356
P	3.41	H	14.0	G 0.25	

Residuals in seconds of arc

370803	024	0.4+	1.2-		851018	095	0.7-	1.8+		851112	372	0.6+	0.6+	
511129	711	0.0	0.4+	Y	851019	372	1.0+	1.3-		851112	881	0.5-	0.0	
780808	095	1.1-	1.3+		851019	372	1.3+	0.5-		851112	881	0.2+	0.8+	
850921	095	0.3-	2.0+		851019	881	0.6+	0.1-		851112	095	0.3-	1.8+	
851008	881	2.5-	1.2+		851019	881	1.1+	0.3-		851114	889	1.2-	0.1+	
851008	881	2.6-	0.4+		851019	881	1.2+	0.0		851114	889	1.3+	0.4-	
851012	881	0.7-	1.3-		851022	372	1.4+	0.2-		851115	881	0.0	0.2-	
851012	881	(3.6+	1.2-)		851022	372	1.9+	2.0+		870227	887	(1.7-	3.8-)	Y
851015	688	0.7-	1.7-		851022	881	0.1-	0.0		870227	887	2.0+	1.4+	Y
851015	688	2.3-	1.5-		851107	688	0.1-	0.1+		900125	889	1.5-	0.3+	Y
851015	881	0.8+	0.4-		851107	688	0.6+	0.0		900125	889	1.0-	0.7+	
851015	881	1.1+	0.9-		851112	372	0.6-	1.0-		900125	889	0.7+	1.5-	

(4446)* 1985 TT = 1977 RC6

Discovered 1985 Oct. 15 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. K. Hurukawa (MPC 10634), L. D. Schmadel (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	274.82995	(1950.0)	P	Q	
n	0.12422541	Peri.	117.67460	+0.59239398	+0.80542096
a	3.9779784	Node	188.72885	-0.77643854	+0.56441477
e	0.2829891	Incl.	7.24649	-0.21497108	+0.18092275
P	7.93	H	11.1	G 0.25	

Residuals in seconds of arc

770909	095	0.3+	0.8+		851018	095	1.4-	0.3+		851112	095	(3.9-	0.2-)	
770918	095	0.5-	0.1+		851020	688	1.0+	1.0+		860109	801	0.5-	0.2+	
850915	095	(0.1+	2.0+)		851020	688	1.0+	0.6+		861128	801	0.4+	0.5-	
850920	095	0.1+	0.3+		851024	049	(1.9-	1.8-)		861228	801	0.5-	0.6+	
850922	095	1.1-	0.7-		851024	049	(3.4-	0.3+)		900125	688	0.1-	0.1+	
851015	688	0.1+	0.1-		851107	688	0.1-	0.3-		900125	688	0.2+	0.0	
851015	688	0.8+	0.4-		851107	688	0.0	1.9-						

(4447)* 1985 VE1 = 1974 HO2 = 1976 YV2 = 1980 RK4

Discovered 1985 Nov. 7 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. S. Nakano (MPC 11639)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	55.90893	(1950.0)	P	Q	
n	0.20428816	Peri.	190.35952	+0.92568796	+0.37744059
a	2.8552266	Node	147.42902	-0.34360540	+0.86691628
e	0.0725335	Incl.	2.69432	-0.15823126	+0.32556837
P	4.82	H	12.7	G 0.25	

Residuals in seconds of arc

740424	805	0.0	1.0+		851018	095	0.0	0.3+		851024	049	(2.9-	7.2+)	
740425	805	0.3-	2.4+		851020	688	0.6-	1.4+		851024	049	(5.0+	5.3+)	
761216	095	0.5+	1.3+		851020	688	0.6-	0.8-		851024	049	(4.3+	7.0+)	
800907	095	0.8+	1.3+		851020	049	(3.2+	5.3+)		851107	688	0.7-	0.1+	
830314	095	0.7+	0.7+		851020	049	(6.0+	6.6+)		851107	688	0.2-	1.3-	
850921	095	0.4+	1.7-		851020	049	0.7-	2.6+		851112	095	1.0+	0.2+	
851016	049	(6.6+	1.7+)		851020	049	1.0-	0.5+		890707	675	1.2+	1.2-	
851016	049	(2.5+	4.0+)		851024	049	(2.1-	3.9+)		890707	675	0.7-	0.9+	

(4448)* 1986 EO = 1964 WH = 1972 XA2 = 1976 YB4

Discovered 1986 Mar. 5 by C. S. Shoemaker at Palomar.

Id. C. M. Bardwell (MPC 10768)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	91.54779	(1950.0)	P	Q
n	0.24237780	Peri. 46.82035	-0.60657424	-0.74147760
a	2.5476562	Node 82.78329	+0.61938169	-0.66693054
e	0.0811998	Incl. 16.80606	+0.49843156	-0.07358412
P	4.07	H 11.9	G 0.25	

Residuals in seconds of arc

641129	760	0.1-	0.0	860305	675	0.6+	0.7-	900123	801	0.0	0.1-
641129	760	1.5+	0.4-	860305	675	0.1+	0.6+	900123	801	0.3+	0.2-
641203	330	0.8-	1.2+	860404	675	0.1+	0.5-	900221	801	0.2-	0.6-
721201	095	0.7-	0.9+	860405	675	1.4-	0.7+	900221	801	0.4-	0.7-
761218	095	1.7-	0.2+	870626	809	0.3+	0.2+				
761220	095	(2.5-	6.4-)	881112	293	2.2+	2.7-				

(4449)* 1987 RX3 = 1953 PT = 1973 EJ = 1981 SP3

Discovered 1987 Sept. 3 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	311.07105	(1950.0)	P	Q
n	0.17645546	Peri. 313.28867	-0.29962666	+0.95111796
a	3.1480816	Node 299.13575	-0.84860579	-0.30152853
e	0.0805330	Incl. 4.91410	-0.43599550	-0.06674712
P	5.59	H 11.3	G 0.25	

Residuals in seconds of arc

530811	024	1.0+	2.9-	870903	095	0.0	1.2+	900216	399	0.6-	1.6-
730307	029	0.9+	0.2+	870923	095	1.9+	1.4+	900216	399	0.0	1.1-
730307	029	0.1-	0.7-	870926	095	2.0-	2.1-	900216	399	2.7+	0.5+
730309	029	0.2-	0.7+	900128	801	0.9-	0.7-	900227	801	1.0-	0.5+
810925	095	0.1+	0.7+	900128	801	0.9-	0.4-	900227	801	0.9-	0.7+

(4450)* 1987 SY

Discovered 1987 Sept. 25 by C. S. and E. M. Shoemaker at Palomar.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	334.69087	(1950.0)	P	Q
n	0.56928138	Peri. 291.34026	-0.45201531	+0.88910294
a	1.4418433	Node 311.57894	-0.77857350	-0.43261605
e	0.5863995	Incl. 5.52020	-0.43532226	-0.14946342
P	1.73	H 17.2	G 0.25	

Residuals in seconds of arc

870925	675	0.1+	0.2-	871221	691	1.0+	0.5-	881220	675	0.0	0.2-
870926	675	1.5+	0.5+	871221	691	2.6+	0.7+	881220	675	0.9-	0.3+
870930	675	0.2-	0.1+	871221	691	0.4+	1.1-	881224	675	0.4-	1.5-
871001	675	2.0-	1.1+	871221	691	0.8+	0.1+	881224	675	0.7-	0.3-
871001	675	0.9-	0.8+	871222	691	0.4-	0.5-	881224	675	1.0-	1.4-
871002	675	0.1-	0.1+	871222	691	0.1-	0.6-	890117	675	1.0+	0.8+
871002	675	0.8-	0.0	871222	691	1.1+	0.2-	890117	675	1.3+	0.9+
871015	691	0.4+	0.6-	871227	675	0.1-	1.3+	890117	675	0.5+	1.0+
871015	691	0.3+	0.5-	871227	675	0.3-	0.5+	890118	675	0.1+	0.5+
871015	691	0.1+	0.6-	871227	675	1.1-	0.3-	890118	675	0.8+	0.7+
871017	675	0.5+	0.4+	871227	675	0.1-	0.3+	890118	675	0.1-	0.8+
871018	675	1.2-	2.3+	880108	675	0.5-	0.6+	890910	675	0.1+	0.5-
871019	801	0.4+	1.0+	880108	675	0.7-	1.1+	890910	675	0.2-	0.6-
871019	675	2.6-	0.9+	880108	675	0.8-	1.1+	890910	675	0.1-	0.5-
871116	691	0.3+	0.9+	880109	675	0.3+	0.4+	890910	675	0.1-	0.5-
871116	691	0.4+	0.7+	880109	675	0.3+	0.4+	890911	675	0.6-	0.5+
871116	691	0.4-	0.4+	880109	675	0.4+	0.6+	890911	675	0.5-	0.2-
871117	688	0.2+	0.5-	880115	688	2.3+	0.1-	890911	675	0.2-	0.3+
871117	688	0.1+	0.5-	880115	688	2.4+	0.5-	891018	675	0.1-	1.2-
871221	691	0.3+	0.5-	881220	675	0.1+	0.1+	891018	675	0.3+	0.9-

891018 675 0.2- 1.2- 891109 675 0.3+ 0.2- 891110 675 0.9- 0.2+
891019 675 0.2- 1.0- 891109 675 0.1+ 0.1- 891110 675 0.7+ 0.3-
891019 675 0.4+ 1.0- 891109 675 0.3- 0.2-
891019 675 0.4- 0.9- 891110 675 0.1- 0.2-

(4451)* 1988 JJ = 1971 GF = 1980 VE1
Discovered 1988 May 9 by C. S. Shoemaker at Palomar.
Id. S. Nakano (MPC 13451)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 161.90355 (1950.0) P Q
n 0.23447347 Peri. 109.33770 +0.78566267 +0.54414020
a 2.6045953 Node 219.32152 -0.57494296 +0.81787966
e 0.3853886 Incl. 27.67949 +0.22841797 +0.18704092
P 4.20 H 12.6 G 0.25
Residuals in seconds of arc
710402 805 0.2- 0.3+ 880511 400 (3.2- 0.4+) 880614 675 (1.9- 4.0-)
801107 675 0.0 2.1- 880513 675 2.2+ 0.4+ 880717 675 0.5+ 0.9+
801107 675 0.1+ 0.4- 880514 400 (0.2+ 4.9-) 880718 675 0.4+ 0.5-
880509 675 0.5- 0.3- 880514 400 1.2- 2.0- 891129 688 0.2- 1.3-
880509 675 0.4+ 0.2+ 880514 400 2.1- 0.2- 891129 688 0.3- 1.2-
880511 675 0.9+ 0.3- 880517 675 (0.9- 18.1-) 900125 688 0.2- 0.0
880511 400 (1.1+ 3.3-) 880517 675 (4.2- 6.7-) 900125 688 0.1- 0.1-
880511 400 0.6+ 2.2- 880609 675 0.0 0.2+

(4452)* 1988 RN = 1952 DQ1 = 1973 AG4
Discovered 1988 Sept. 7 by P. Jensen at Brorfelde.
Id. B. G. Marsden (MPC 13682)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 94.47079 (1950.0) P Q
n 0.23301317 Peri. 135.43793 -0.14990290 -0.97739469
a 2.6154660 Node 322.43143 +0.82503726 -0.04056039
e 0.1321633 Incl. 14.15412 +0.54483268 -0.20749574
P 4.23 H 11.7 G 0.25
Residuals in seconds of arc
520219 711 1.7+ 7.1- Y 880909 054 0.7- 2.5- 881010 054 0.3- 0.9-
520219 711 6.4- 0.4+ Y 880909 054 1.4- 2.4- 891229 801 0.8+ 1.8-
730103 095 2.2+ 2.9+ 880916 054 0.4- 0.5- 891229 801 1.0+ 1.7-
880907 054 0.2- 0.3+ 880920 054 0.1- 0.5+ 900128 801 0.6+ 0.2+
880907 567 0.8+ 1.3+ 880920 054 1.5+ 1.5- 900128 801 0.3- 0.1+
880907 567 1.7+ 2.3+ 881002 054 0.1- 0.8- 900221 385 0.5+ 1.4+
880908 054 0.9+ 0.0 881010 054 0.8+ 1.0+ 900221 385 1.7- 2.8+

(4453)* 1988 VC = 1959 CR = 1980 FX5 = 1985 DW2
Discovered 1988 Nov. 3 by P. Jensen at Brorfelde.
Id. B. G. Marsden (MPC 14024; unpublished)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 132.54969 (1950.0) P Q
n 0.19117072 Peri. 75.89678 +0.61834398 -0.78300987
a 2.9843869 Node 335.51644 +0.64355669 +0.55372056
e 0.1123367 Incl. 9.36335 +0.45109368 +0.28335326
P 5.16 H 12.1 G 0.25
Residuals in seconds of arc
590215 024 0.3- 0.5- 850227 675 3.3+ 0.6+ 881113 054 1.9+ 0.2+
800323 809 0.4- 0.7- 881103 054 0.5+ 0.5+ 881113 054 1.1+ 1.0+
800323 808 1.8- 0.9- 881103 054 0.6+ 0.4- 900123 801 0.0 0.5-
800323 808 1.7- 0.3- 881104 054 0.1- 1.1+ 900123 801 0.7- 0.6-
850224 675 (8.9- 0.0) 881107 054 0.2+ 0.1- 900227 801 0.9- 0.3+
850224 675 (7.6- 0.4-) 881107 054 2.7- 1.4- 900227 801 1.1- 0.4+
850227 675 3.2+ 1.7+ 881109 054 1.3- 1.2-

(4454)* 1988 VW = 1976 SP6 = 1982 ST11
Discovered 1988 Nov. 2 by S. Ueda and H. Kaneda at Kushiro.
Id. H. Kaneda (MPC 15418)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 118.18406		(1950.0)	P	Q
n 0.17300760	Peri.	133.59234	+0.62841842	-0.77778022
a 3.1897692	Node	277.47014	+0.71006674	+0.57995877
e 0.1004953	Incl.	0.70353	+0.31764055	+0.24229269
P 5.70	H	12.3	G 0.25	

Residuals in seconds of arc

760925	095	0.3- 0.8+	881108	399	1.4- 0.7-	900123	399	2.4+ 2.6+
820928	095	0.1+ 0.0	881108	399	0.1- 0.6-	900123	399	2.2+ 0.5-
881102	399	0.2+ 0.6+	881110	046	(0.0 4.9-)	900123	399	1.6- 1.5+
881102	399	0.5- 0.6+	881111	399	0.0 1.6+	900129	046	1.7- 1.8-
881102	399	3.0+ 1.5+	881111	399	0.7- 0.3-	900129	046	0.2+ 0.4-
881104	033	1.8+ 0.2-	881111	399	1.2- 0.8-	900130	399	2.7- 2.1+
881104	046	(0.9- 4.9-)	881111	399	(3.3- 0.2-)	900130	399	0.5+ 0.7-
881104	046	(2.8- 6.5-)	881111	046	(0.9+ 3.7-)	900130	399	0.4- 0.1-
881104	033	1.0+ 0.4+	881111	046	1.0- 1.7-	900130	046	2.3+ 1.1-
881105	046	(2.7+ 4.9-)	881114	399	1.1- 2.1-	900130	046	0.8- 0.4+
881105	046	(3.6+ 3.7-)	881114	399	1.0- 2.5-	900201	399	1.8+ 0.8-
881106	399	1.1+ 0.8+	881114	399	1.2+ 1.5+	900201	399	0.4- 2.3-
881106	399	0.5- 0.0	900121	399	1.7- 0.5+	900201	399	(3.4- 1.0+)
881106	399	0.8- 1.3+	900121	399	0.1+ 1.4+			

(4455)* 1988 XA = 1972 TL4 = 1972 VQ = 1982 UO5
Discovered 1988 Dec. 2 by S. Ueda and H. Kaneda at Kushiro.
Id. S. Nakano (MPC 14202)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 103.52097		(1950.0)	P	Q
n 0.18843776	Peri.	221.16951	-0.24809624	-0.95760529
a 3.0131732	Node	243.66475	+0.92605232	-0.19006761
e 0.0487640	Incl.	9.40326	+0.28438593	-0.21648651
P 5.23	H	11.0	G 0.25	

Residuals in seconds of arc

721005	095	1.5+ 1.2-	881207	399	1.0- 0.1-	900128	801	0.1- 0.5-
721108	095	1.4- 1.1+	881207	399	2.2- 0.4+	900128	801	0.5- 1.0+
821020	095	0.5- 1.6+	881210	888	(0.8- 5.9+)	900228	399	1.2+ 0.3-
881130	399	0.2- 0.8-	881210	888	(8.6- 3.4+)	900228	399	1.7- 0.2-
881130	399	1.1+ 0.1+	881211	400	0.8- 1.2-	900302	399	0.2- 0.0
881130	399	1.6+ 0.1+	881211	400	0.8- 2.4-	900302	399	0.9+ 0.3-
881202	399	0.1- 0.6+	881211	400	(1.5- 3.2-)	900302	399	0.8- 0.1-
881202	399	1.7+ 1.0+	881230	400	0.9+ 0.8+	900318	399	0.1+ 0.9-
881202	399	0.2- 0.7-	881230	400	0.1- 1.7+	900318	399	0.3+ 0.8+
881202	399	0.7- 0.1+	890104	399	0.5+ 0.6-	900318	399	1.2+ 1.6+
881207	399	(2.9- 1.8-)	890104	399	1.5+ 0.6+			
881207	399	1.0- 0.2-	890104	399	(3.0+ 0.9-)			

(4456)* 1989 OG = 1938 UZ
Discovered 1989 July 27 by R. H. McNaught at Siding Spring.
Id. B. G. Marsden (MPC 15254)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M 103.72433		(1950.0)	P	Q
n 0.26895131	Peri.	345.64388	+0.95903055	+0.28313391
a 2.3769513	Node	357.83429	-0.22763505	+0.74958087
e 0.2759905	Incl.	14.99523	-0.16864963	+0.59830068
P 3.66	H	13.4	G 0.25	

Residuals in seconds of arc

381022	062	0.2-	2.0-		850511	413	1.4-	0.2+		890903	413	0.1-	0.4+
381023	062	0.7+	1.4+		890727	413	0.9-	0.3+		890903	413	0.0	0.6+
840401	413	0.5+	0.9+		890727	413	0.5+	0.2+		890904	413	0.1+	0.4-
840401	413	0.1+	0.5-		890803	413	0.7-	0.2+		890921	413	0.1-	0.6-
850417	413	1.6+	0.3+		890803	413	0.4+	0.9-		891003	413	0.3-	0.3+
850417	413	0.8+	0.3-		890811	413	0.2+	0.7+					
850511	413	1.4-	1.1-		890812	413	0.5+	0.0					

(4457)* 1989 RU = 1970 EQ1 = 1970 GL1 = 1976 SJ8 = 1981 UO15 = 1985 SA5 = 1985 VV

Discovered 1989 Sept. 3 by E. W. Elst at Haute Provence.

Id. S. Nakano, B. G. Marsden (d)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	283.15345	(1950.0)	P	Q
n	0.22694063	Peri. 338.37663	-0.96539635	-0.25925956
a	2.6619172	Node 186.78527	+0.26022976	-0.95062904
e	0.1294817	Incl. 13.80110	+0.01704009	-0.17055469
P	4.34	H 12.3	G 0.25	

Residuals in seconds of arc

700302	805	0.8+	1.6+		850922	095	0.4-	0.0		890929	809	(0.7-	3.0-)
700302	805	(4.2- | 0.9+)		851109	801	0.6+	1.4+		890929	809	(0.5- | 3.0-)
700302	805	1.9-	1.3+		890903	511	2.3-	2.0-		890929	809	(0.2-	3.0-)
700411	805	0.1-	0.3-		890903	511	2.2-	0.8-		890930	809	0.2+	0.8+
700411	805	0.5+	1.3-		890904	511	0.7-	2.3-		890930	809	0.6+	0.9+
700411	805	0.8+	0.7-		890904	511	1.5+	1.0+		890930	809	0.6+	0.9+
760928	095	1.3-	5.1+		890905	511	0.5+	0.7-		891001	809	0.2+	0.2-
811023	095	1.3-	0.7-		890908	511	(1.3-	7.4-)		891001	809	0.3+	0.0
850920	095	2.8+	3.0-		890908	511	(0.8+	5.5-)		891001	809	0.6+	0.0

(4458)* 1990 BY = 1954 UV1 = 1981 WE8 = 1985 YA = 3293 T-2

Discovered 1990 Jan. 21 by Y. Kushida and O. Muramatsu at the Yatsugatake South Base Observatory.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	108.69451	(1950.0)	P	Q
n	0.25823317	Peri. 344.50783	+0.12486265	-0.98940826
a	2.4422758	Node 98.27657	+0.91802309	+0.08690565
e	0.1488055	Incl. 4.29032	+0.37635478	+0.11626994
P	3.82	H 13.3	G 0.25	

Residuals in seconds of arc

541025	760	0.6-	1.0-		731005	675	1.9+	1.0+		900121	896	1.3+	0.6+	
541025	760	1.3+	0.7-		731005	675	1.3+	2.0+		900124	896	1.0+	1.7+	Y
730929	675	0.4-	2.1+		811125	095	0.5+	3.1-		900124	896	(0.4+	3.5+)	Y
730929	675	1.2-	0.1+		851218	688	1.1+	1.6-		900125	896	0.2+	1.3+	
730930	675	2.0-	1.5+		851218	688	(9.2+	1.1-)		900216	896	0.9-	1.0+	
730930	675	2.6-	0.7+		860111	688	0.3-	0.3-		900216	896	0.8-	1.4+	
731004	675	(1.8-	3.2+)		860111	688	0.0	0.3-						
731004	675	(1.0-	3.3+)		900121	896	0.3+	0.9+						

(4459)* 1990 BP2 = A924 WF = 1978 PN3 = 1978 RL3 = 1978 RD13 = 1978 TS9 = 1985 SZ4

Discovered 1990 Jan. 30 by M. Matsuyama and K. Watanabe at Kushiro.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	129.34613	(1950.0)	P	Q
n	0.29123126	Peri. 282.42160	+0.18622251	-0.98232016
a	2.2541218	Node 156.81933	+0.91927354	+0.16730997
e	0.1181086	Incl. 2.79444	+0.34678140	+0.08399094
P	3.38	H 13.5	G 0.25	

Residuals in seconds of arc

241117	024	0.4-	1.0+		850920	095	1.1+	1.8-		900130	399	0.8+	1.5+
780808	095	2.2-	3.0+		850922	095	0.0	1.4-		900216	399	1.6+	0.6-
780903	095	1.8-	1.1+		900130	399	0.6-	0.3+		900216	399	1.9+	2.4+
780906	809	2.3+	1.0+		900130	399	1.5-	0.1+		900228	399	1.3-	0.2-
781008	805	0.7-	1.4+		900130	399	(3.2-	5.6+)		900228	399	0.3+	0.7+

(4460)* 1990 DS = 1937 PF = 1942 PF = 1947 PB = 1970 ES2 = 1980 BF3 = 1980 FH9 = 1987 QG

Discovered 1990 Feb. 28 by K. Endate and K. Watanabe at Kitami.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	203.31416		(1950.0)	P	Q
n	0.19743549	Peri.	30.16651	+0.96699397	+0.01426010
a	2.9209172	Node	325.98250	-0.19433174	+0.68703133
e	0.1827385	Incl.	27.04791	+0.16479637	+0.72648785
P	4.99	H	11.0	G 0.25	

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

370801	078	(8.7+ | 94.7+)X		700306	805	1.7-	1.2-		900228	400	2.5+	0.3-
370809	078	(25.6+ | 15.1-)X		700306	805	1.6-	0.8-		900302	400	1.9+	2.5+
420805	078	(73.5+ | 77.8+)X		700306	805	(4.0- | 1.9-)		900302	400	0.5+	0.9+
420812	078	(0.03+ | 0.04+)X		800124	095	0.4+	0.7+		900316	400	2.6-	0.4-
420818	078	(0.00- | 0.05+)X		800316	095	0.4+	2.2-		900316	400	0.5-	0.1+
420829	078	(77.1- | 85.1+)X		870823	675	3.5-	2.4-		900318	400	2.1+	0.1+
420909	078	(0.02+ | 0.04+)X		870825	675	(15.3+ | 2.4-)		900318	400	1.2+	0.7+
470810	078	(0.10- | 0.01-)X		870827	095	3.4+	2.6+					
470813	078	(17.6- | 4.2-)X		900228	400	2.4-	0.1-					

(4461)* 1990 EL = 1932 EJ = 1942 FA = 1975 BN = 1977 QC3 = 1980 EL = 1987 VP = 1988 VG7 = 1988 XC3

Discovered 1990 Mar. 5 by A. Sugie at the Dynic Astronomical Observatory.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	310.59147		(1950.0)	P	Q
n	0.20467064	Peri.	149.98379	+0.23851575	+0.94995543
a	2.8516683	Node	132.97956	-0.93680797	+0.27980864
e	0.1292466	Incl.	16.00606	-0.25593174	-0.13889496
P	4.82	H	11.9	G 0.25	

Residuals in seconds of arc

320305	024	(11.3-	10.2+)		871115	010	0.8-	0.5+		900305	402	1.2+	0.0
420315	062	0.0	0.1-		871115	010	1.7+	0.1+		900305	402	0.1+	0.3+
420315	062	0.6-	0.6-		871115	010	0.1+	0.6+		900321	402	0.8-	2.0+
420317	062	0.5+	0.1-		881105	033	0.4-	0.2-		900321	402	0.2-	0.7+
750117	095	0.0	1.9-		881106	033	0.1-	0.2+		900322	402	0.3-	0.3+
770822	095	0.4+	1.5+		881106	033	0.4-	0.2-		900322	402	0.5+	0.8+
770824	095	1.5-	0.2-		881207	033	0.1+	0.6+					
800315	095	0.5+	0.0		881207	033	0.1-	0.4+					

1934 GA = 1934 GB = 1990 DG

Id. O. Kippes (d, MPC 936), G. V. Williams

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

M	56.41526		(1950.0)	P	Q
n	0.22749172	Peri.	76.82459	-0.73617363	-0.55593731
a	2.6576165	Node	68.06806	+0.33617394	-0.79535141
e	0.2140326	Incl.	24.58833	+0.58739719	-0.24155712
P	4.33	H	11.0	G 0.25	

Residuals in seconds of arc

340403	012	0.4+	0.9+		340406	012	(6.7+ | 1.6+)		340418	012	1.4-	1.4-
340405	012	(5.5+ | 1.3+)		340411	012	(5.8- | 2.0-)		340507	012	0.5+	0.6-

340510 012 2.3+ 1.8+ 340520 012 0.6+ 0.1+ 900223 054 1.1- 0.1+
340514 012 1.2- 0.3- 340520 012 1.6+ 0.2-
340517 012 2.6- 0.4- 900217 054 1.1+ 0.1-

1939 VD = 1966 UE = 1974 WE1 = 1983 AQ
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 82.30638		(1950.0)	P	Q
n 0.25441835	Peri.	305.68306	+0.98442247	-0.09363769
a 2.4666286	Node	60.12186	+0.15376354	+0.86894662
e 0.2596078	Incl.	9.88205	-0.08525944	+0.48596683
P 3.87	H 13.2		G 0.25	

Residuals in seconds of arc
391106 012(31.1- 0.4+)X 741118 095 0.9- 1.5+ 830112 688 2.8- 3.0-
391108 057 1.6- 0.2- 830110 675 1.7- 1.0- 830112 675 1.9- 3.1+
391108 057 (3.7+ 37.8-)Y 830110 675 0.2+ 0.8- 830116 688 2.1+ 0.1+
391110 057(11.3+ 23.1+)Y 830111 675 1.4+ 1.0+ 830116 688 2.7+ 0.5+
391110 057 3.0+ 1.2+ 830111 675 1.6- 0.9- 830121 688 0.7+ 1.3+
391117 057 2.3- 0.8+ 830112 688 0.6- 2.9- 830121 688 1.0- 1.6+
391117 057 (8.9+ 4.5-)Y 830112 688 1.2+ 0.7- 830215 688 1.2+ 0.5+
661017 095 1.4+ 2.2- 830112 688 0.3- 0.6- 830215 688 0.6+ 0.7-

1966 CM = 1985 QH6 = 1985 RG5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 276.61069		(1950.0)	P	Q
n 0.22973096	Peri.	356.67628	-0.82745919	-0.54750692
a 2.6403188	Node	149.07161	+0.52059931	-0.83121844
e 0.1107793	Incl.	14.04019	+0.21044632	-0.09649912
P 4.29	H 12.8		G 0.25	

Residuals in seconds of arc
660213 330 0.6- 0.5+ 660225 330 2.0+ 0.1- 850911 095 0.4- 0.9-
660214 330 1.4- 0.2- 850824 095 0.4+ 1.2+

1976 US1 = 1949 GF = 1949 HN = 1974 FS1
Id. O. Kippes (d, MPC 1330), H. Kaneda
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 44.22284		(1950.0)	P	Q
n 0.23491405	Peri.	88.65170	-0.41359018	-0.90245745
a 2.6013376	Node	26.81399	+0.69233781	-0.39767087
e 0.0606528	Incl.	15.48984	+0.59127957	-0.16561532
P 4.20	H 13.0		G 0.25	

Residuals in seconds of arc
490404 760 1.3- 0.6+ 740321 095 0.3- 0.4- 761026 095 0.1- 0.6+
490404 760 1.7+ 0.8+ 761022 381 0.9+ 0.3- 761118 381 0.3- 0.2+
490425 760 0.2- 1.1- 761022 381 0.2- 0.2- 761118 381 0.2+ 0.4+
490425 760 (4.7+ 6.4-) 761024 381 0.5- 0.7-

1978 VX3 = 1971 DF1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 147.32970		(1950.0)	P	Q
n 0.22481941	Peri.	304.17019	-0.95449620	+0.29200222
a 2.6786348	Node	252.87239	-0.24846110	-0.89101396
e 0.1863036	Incl.	3.63537	-0.16493663	-0.34760442
P 4.38	H 14.6		G 0.25	

Residuals in seconds of arc
710218 095 1.0- 1.0+ 781107 675 0.4- 0.4+ 781130 675 2.5- 0.5-
710223 095 1.0+ 0.9- 781108 675 0.3- 0.3+ 781130 675 0.4- 0.7-
781105 675 0.6- 0.5+ 781129 675 2.4+ 1.3+
781106 675 0.3+ 0.8- 781129 675 1.6+ 0.6-

1980 FH1 = 1990 DU
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 57.13693 (1950.0) P Q
n 0.19598271 Peri. 170.03116 -0.91278130 -0.40524419
a 2.9353342 Node 345.73189 +0.35900769 -0.73637710
e 0.1060837 Incl. 11.95754 +0.19479164 -0.54178032
P 5.03 H 12.6 G 0.25
Residuals in seconds of arc

800316	809	0.0	0.5+	800317	809	0.2+	0.2+	900228 400 1.2- 0.0
800316	809	0.6+	0.5-	800317	809	0.0	0.3-	900302 400 1.4+ 0.2-
800316	809	0.5+	0.6+	800323	809	0.2-	0.2+	900302 400 2.7+ 1.3-
800316	809	0.2+	0.5-	800323	808	1.2-	0.1-	900317 400 1.9- 0.7+
800317	809	0.0	0.0	800323	808	0.2-	0.2+	900317 400 0.4- 0.3+
800317	809	0.2+	0.0	900228	400	0.6-	0.2+	

1980 FH12 = 1983 BV = 1990 DT
Id. S. Nakano, W. Landgraf
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 10.91791 (1950.0) P Q
n 0.28783874 Peri. 272.41782 -0.69902897 +0.70848479
a 2.2718034 Node 312.71597 -0.59231789 -0.64965490
e 0.0636909 Incl. 7.58598 -0.40064701 -0.27567701
P 3.42 H 13.5 G 0.25
Residuals in seconds of arc

800320	323	0.9-	0.2+	800409	323	0.8+	0.6-	900228 400 0.5+ 1.2-
800320	323	0.0	0.5+	800411	323	0.7-	0.6-	900302 400 0.1+ 1.1-
800321	323	2.2+	0.4+	830120	801	0.3+	0.5+	900302 400 0.6- 1.3+
800324	323	1.1-	0.8+	900228	400	0.5-	0.1+	

1980 TH = 1985 PX1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 257.66150 (1950.0) P Q
n 0.19029245 Peri. 121.79434 -0.11698816 -0.99034644
a 2.9935626 Node 334.60564 +0.84242307 -0.05930932
e 0.0748482 Incl. 9.98373 +0.52596307 -0.12528498
P 5.18 H 12.3 G 0.25
Residuals in seconds of arc

801003	046	1.6+	1.6-	801012	095	0.3+	0.9+	850824 010 0.1+ 0.5-
801003	046	1.8-	1.6-	850814	010	3.3+	1.8+	
801008	095	0.0	2.2+	850816	010	3.4-	1.2-	

1981 EO20 = 1989 TV16
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 167.19085 (1950.0) P Q
n 0.27508877 Peri. 113.42735 +0.20964864 +0.97773107
a 2.3414686 Node 168.66217 -0.91369402 +0.19934266
e 0.2196023 Incl. 2.75687 -0.34815324 +0.06560844
P 3.58 H 15.0 G 0.25
Residuals in seconds of arc

810209	413	0.6-	0.0	810311	413	1.6+	1.4-	810502 413 0.5- 0.1-
810213	413	1.8-	0.1+	810316	413	1.6-	1.2+	810503 413 0.7- 0.0
810213	413	1.0-	0.1-	810329	413	0.8-	0.4-	891007 809 0.1+ 0.7+
810302	413	1.2-	0.7+	810329	413	1.6+	1.0-	891007 809 0.5+ 0.8+
810302	413	(7.7+	4.0-)	810407	413	2.8+	2.3-	891007 809 0.9+ 0.8+
810303	413	1.8+	0.8-	810407	413	0.2+	0.6-	891008 809 0.8- 0.9-
810307	413	0.6+	0.5+	810408	413	1.2-	1.5+	891008 809 0.4- 1.0-
810307	413	0.1+	1.8+	810411	413	(5.3-	2.2+)	891008 809 0.1- 1.1-

1981 ED37
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell
M 137.13824 (1950.0) P Q
n 0.27918620 Peri. 290.88027 +0.75750514 +0.65195158
a 2.3185027 Node 28.46321 -0.56943421 +0.68519988
e 0.2149340 Incl. 4.07154 -0.31926579 +0.32474645
P 3.53 H 14.5 G 0.25
Residuals in seconds of arc

750930	675	0.2-	0.3-	810316	413	1.6-	0.5-	810411	413	1.0+	0.7-
751001	675	2.3-	0.6+	810316	413	0.4+	0.4+	810502	413	0.7-	1.1-
751002	675	2.7+	0.6-	810329	413	1.6-	0.4+	810503	413	1.3+	0.1+
810209	413	0.9-	0.8+	810329	413	2.4+	0.8-	890903	675	0.1+	0.9-
810213	413	1.2-	0.3+	810408	413	1.4-	0.3+	890904	675	0.1+	0.5+
810311	413	3.1+	1.7-	810408	413	0.3-	1.1+				
810311	413	1.0+	0.8-	810411	413	2.4-	1.3+				

1981 EA39 = 4118 P-L
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 173.19019 (1950.0) P Q
n 0.26798569 Peri. 289.12913 -0.50149811 +0.86491889
a 2.3826577 Node 310.75456 -0.78327768 -0.46390750
e 0.1657177 Incl. 1.54092 -0.36739041 -0.19158585
P 3.68 H 16.3 G 0.25
Residuals in seconds of arc

600924	675	2.3+	0.2+	600928	675	0.4-	0.9-	810307	413	2.7-	0.1+
600925	675	2.4-	0.7-	600928	675	1.0-	0.8-	810311	413	(6.4-	1.2+)
600925	675	0.3+	0.2+	810209	413	0.0	0.2+	810316	413	1.9+	0.7+
600926	675	1.0+	2.0+	810302	413	0.2-	1.1+				
600926	675	0.2+	0.3+	810303	413	1.2+	1.8-				

1981 EQ40 = 1985 PF1
Id. E. Bowell (MPC 10167)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 240.66253 (1950.0) P Q
n 0.31192076 Peri. 148.30460 +0.84723096 +0.53122468
a 2.1533099 Node 179.60699 -0.49345646 +0.78713996
e 0.2149579 Incl. 1.72926 -0.19672425 +0.31338637
P 3.16 H 15.4 G 0.25
Residuals in seconds of arc

810209	413	(1.9+	2.1-)	850906	809	0.1-	0.2+	850914	809	1.0+	0.8-
810213	413	0.5+	0.4+	850906	809	0.1-	0.0	850914	688	1.2+	0.7-
810302	413	0.6-	1.4-	850906	809	0.3+	0.0	850914	688	0.6+	0.5-
810306	413	(8.5+	3.6-)	850908	809	0.2-	0.1+	850915	809	0.6-	0.8+
810311	413	0.9-	1.7-	850908	809	0.0	0.1+	850915	809	0.5-	0.8+
810311	413	0.4-	1.5-	850908	809	0.3+	0.2+	850915	809	0.2-	0.8+
810311	413	0.7+	0.1+	850910	809	1.4-	0.4-	850915	095	0.4-	0.2-
810316	413	(0.1-	2.4-)	850910	809	0.9-	0.3-	850918	688	(3.7+	1.1+)
810502	413	(0.7-	3.0+)	850910	809	0.5-	0.4-	850918	688	1.8+	0.8+
810502	413	1.5-	0.8-	850914	809	0.8-	0.8-	850920	095	1.3+	1.1+
850815	688	0.4+	0.7-	850914	809	0.5-	0.9-	900125	688	0.7+	1.4-
850815	688	0.7+	0.5-	850914	809	0.3-	0.9-	900125	688	0.5+	0.9-
850818	095	(2.6-	1.3-)	850914	809	0.3+	0.8-	900128	688	0.3-	0.2+
850823	095	0.1-	0.4-	850914	809	0.6+	0.8-	900128	688	1.4-	0.2+

1981 JE2 = 1980 CH = 1989 TL14
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano

M 144.77773		(1950.0)	P	Q
n 0.26635159	Peri.	243.47608	+0.58131766	+0.81234505
a 2.3923978	Node	62.14443	-0.72650892	+0.54394515
e 0.2079103	Incl.	3.01694	-0.36640764	+0.21028360
P 3.70	H 14.0	G 0.25		

Residuals in seconds of arc

800209 801	0.4+	1.9+	810510 675	1.4+	1.2+	891003 809	0.6+	0.2+
810411 675	1.8-	0.1+	891002 809	1.1-	0.7+	891003 809	1.1+	0.2-
810411 675	0.5+	0.3-	891002 809	0.4-	1.1+	891004 809	0.9-	0.5-
810505 675	0.6+	0.7+	891002 809	0.2+	1.4+	891004 809	0.6-	0.4-
810506 675	0.2-	0.2+	891003 809	0.2+	0.2+	891004 809	0.1-	0.5-

1981 JS2 = 1989 SH9
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell

M 157.05632		(1950.0)	P	Q
n 0.26638388	Peri.	294.68888	+0.41066045	+0.91178830
a 2.3922044	Node	359.55715	-0.82243741	+0.37028106
e 0.2005307	Incl.	2.13888	-0.39364287	+0.17757822
P 3.70	H 14.5	G 0.25		

Residuals in seconds of arc

810411 675	0.6+	0.1+	890924 809	0.3-	0.4+	890926 809	0.3-	0.3-
810411 675	0.9-	0.4-	890924 809	0.2-	0.4+	890926 809	0.4+	0.3-
810505 675	0.1-	0.6+	890925 809	0.0	0.5-	890929 809	0.4-	0.0
810506 675	0.5-	0.9+	890925 809	0.3+	0.3-	890929 809	0.4+	0.3+
810511 675	0.8+	1.0-	890925 809	0.6+	0.2-	890929 809	0.8+	0.6+
890924 809	0.5-	0.3+	890926 809	0.7-	0.3-			

1981 JB3 = 1968 KF = 1984 DY2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 316.46213		(1950.0)	P	Q
n 0.30253327	Peri.	188.03655	-0.47349905	+0.87781227
a 2.1976268	Node	53.73142	-0.80299486	-0.39642882
e 0.1146052	Incl.	5.15323	-0.36193632	-0.26886765
P 3.26	H 14.9	G 0.25		

Residuals in seconds of arc

680522 095	0.2-	0.4-	810506 675	0.9-	0.3+	810511 675	0.2-	0.3-
810411 675	0.8+	0.3+	810506 675	0.9-	1.1+	840226 095	0.1-	0.2-
810505 675	1.4+	0.2-	810510 675	0.0	0.6-			

1981 QT = 1988 RK4 = 1990 DR1
Id. T. Kobayashi (MPC 14347), S. Nakano
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 188.74001		(1950.0)	P	Q
n 0.28302509	Peri.	92.86516	+0.89605676	-0.44332022
a 2.2974854	Node	293.45172	+0.39645932	+0.82286416
e 0.1337751	Incl.	1.46415	+0.19975559	+0.35547398
P 3.48	H 13.5	G 0.25		

Residuals in seconds of arc

810824 046	(3.4+	0.1+)	880901 809	0.7+	0.6+	880908 809	0.5-	0.2-
810824 046	0.1-	2.0-	880901 809	0.6+	0.8+	880908 809	0.3-	0.1-
810828 046	0.1+	0.1+	880901 809	0.8+	0.7+	880911 809	0.1+	0.5-
810828 046	0.0	0.6+	880903 809	0.3-	0.1+	880911 809	0.1+	0.2-
810902 095	0.2+	1.1+	880903 809	0.0	0.2+	880911 809	0.3+	0.4-
810904 046	(2.5+	2.3-)	880903 809	0.3+	0.4+	880914 809	0.5-	0.0
810904 046	(0.2-	2.3-)	880906 809	0.2-	0.7-	880914 809	0.4-	0.3+
810905 046	(1.3+	3.8-)	880906 809	0.4-	0.6-	880914 809	0.1-	0.2+
810905 046	(2.8+	3.7-)	880908 809	0.8-	0.1+	880914 095	0.7+	1.0+

880914 095 (2.3- 0.5-) 880920 809 0.3- 0.5- 900223 046 0.3+ 0.0
880916 095 (2.3+ 2.8+) 880920 809 0.3- 0.4- 900223 046 (0.9- 2.5+)
880916 095 0.0 1.0+ 880920 809 0.3- 0.4- 900224 046 1.0+ 0.5-
880918 809 0.3- 0.1+ 881004 807 0.9+ 0.5- 900224 046 1.0- 1.2+
880918 809 0.0 0.0 881005 807 0.1+ 0.1+
880918 809 0.0 0.1+ 881008 807 0.3- 0.4-

1982 RW1 = 1989 TZ13
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 111.37507 (1950.0) P Q
n 0.27969515 Peri. 343.72962 +0.99513002 +0.09717682
a 2.3156847 Node 10.73432 -0.07762468 +0.87587113
e 0.1838094 Incl. 5.08850 -0.06075068 +0.47265890
P 3.52 H 14.8 G 0.25
Residuals in seconds of arc
820915 046 (0.1+ 6.5-) 820917 046 1.3- 0.6+ 891006 809 0.3- 0.3-
820915 046 1.9+ 0.8- 820917 046 1.3+ 0.6+ 891007 809 0.1+ 0.2-
820915 046 0.2+ 0.3- 820920 095 2.4- 0.1+ 891007 809 0.3+ 0.1-
820915 046 0.7+ 1.0- 891002 809 0.5+ 1.1+ 891007 809 0.2- 0.5-
820916 046 (5.2+ 1.2+) 891002 809 1.2- 0.8+ 891008 809 0.2+ 0.5-
820916 046 (4.0+ 0.1+) 891002 809 0.3- 0.6+ 891008 809 0.5+ 0.0

1982 ST7 = 1986 ON
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 332.99705 (1950.0) P Q
n 0.23888394 Peri. 56.68717 +0.87720817 -0.47898005
a 2.5724370 Node 331.89036 +0.41396648 +0.78931035
e 0.2863423 Incl. 4.00690 +0.24318218 +0.38414487
P 4.13 H 14.3 G 0.25
Residuals in seconds of arc
820918 095 0.5- 0.6+ 860727 413 0.3- 0.1+ 860801 413 0.9+ 0.3+
820920 095 0.1- 0.6- 860727 413 0.6+ 0.3+
820926 095 0.6+ 0.0 860801 413 1.1- 0.7-

1983 AC1 = 1990 DH
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 93.83753 (1950.0) P Q
n 0.28745604 Peri. 357.62163 -0.59707308 -0.71048758
a 2.2738193 Node 128.75878 +0.74361732 -0.66435794
e 0.2024402 Incl. 28.52981 +0.30089370 +0.23202570
P 3.43 H 14.0 G 0.25
Residuals in seconds of arc
830112 688 (2.1- 9.1+) 830211 688 0.5- 0.7+ 900228 675 0.4+ 0.6-
830112 688 0.1+ 0.1+ 830211 688 0.1- 0.4- 900228 675 0.3+ 0.4+
830122 688 1.3+ 0.9- 900226 675 (4.0- 8.8+)
830122 688 0.8- 0.5+ 900226 675 0.7- 0.1+

1983 PY = 1979 KB1 = 1987 US7
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 332.38519 (1950.0) P Q
n 0.26209433 Peri. 131.33526 +0.75460584 +0.65594131
a 2.4182301 Node 187.73186 -0.63435319 +0.72236930
e 0.2660823 Incl. 7.53229 -0.16782744 +0.21891459
P 3.76 H 14.3 G 0.25
Residuals in seconds of arc
790526 095 0.1- 0.0 830901 095 0.6+ 4.0+ 871023 095 0.2+ 1.0-
830804 095 0.3+ 0.6- 830905 095 0.2+ 0.0
830806 095 0.9- 2.9- 830911 095 0.2- 0.1+

1983 RK3 = 1965 AE = 1989 YP6
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 121.35771 (1950.0) P Q
n 0.19904591 Peri. 4.02503 +0.81692598 -0.57653125
a 2.9051410 Node 31.19836 +0.52827975 +0.73714718
e 0.1991725 Incl. 1.72682 +0.23141401 +0.35245674
P 4.95 H 13.5 G 0.25
Residuals in seconds of arc

650101	330	0.2+	2.8+	830904	809	0.0	1.7+	830916	809	1.7-	0.8-
830901	809	0.6+	0.6-	830906	809	(0.9+	3.9+)	830916	809	1.6-	0.7-
830901	809	0.5+	0.7-	830906	809	(1.1+	3.9+)	891229	372	0.1+	0.7-
830901	809	0.3+	0.3-	830906	809	(1.3+	4.0+)	891229	372	0.2+	1.3-
830902	809	0.2-	1.2-	830908	809	(1.8+	5.6+)	900105	372	1.8-	0.5+
830902	809	0.1-	0.6-	830908	809	(2.1+	5.5+)	900105	372	1.2-	2.2+
830902	809	1.3+	0.3-	830908	809	(2.2+	5.4+)	900117	372	(13.4+	0.2+)
830903	809	0.0	0.7+	830909	809	(1.9+	4.5+)	900117	372	(14.6-	0.7+)
830903	809	1.0+	0.7-	830909	809	(1.8+	4.4+)	900117	372	1.7-	0.6-
830903	809	1.1+	0.4+	830909	809	(1.8+	4.5+)	900117	372	0.1+	0.1-
830904	809	0.2-	1.5+	830914	809	0.1-	0.5-	900124	372	1.5+	1.2-
830904	809	0.0	1.5+	830914	809	0.3-	0.7-	900124	372	2.0+	2.6-

1985 UC = 1981 SK7 = 1989 TG14
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 131.10959 (1950.0) P Q
n 0.23809367 Peri. 294.00332 +0.56449076 +0.82368810
a 2.5781261 Node 10.86135 -0.61491464 +0.46306080
e 0.2351026 Incl. 16.57077 -0.55066338 +0.32728062
P 4.14 H 14.0 G 0.25
Residuals in seconds of arc

810929	095	(32.4-	8.5+)	851015	688	2.0+	2.2-	891003	809	0.4-	0.7+
850920	095	0.6+	0.4+	851020	688	1.3-	1.9+	891003	809	0.1+	0.6+
850922	095	0.6-	0.3-	851020	688	0.7-	0.7-	891003	809	0.4+	0.5+
851011	010	(2.9-	5.5-)	891002	809	1.2-	0.2+	891004	809	0.2+	0.9-
851011	010	(1.9-	3.6-)	891002	809	0.4-	0.2+	891004	809	0.4+	0.8-
851015	688	0.0	0.8+	891002	809	0.1+	0.3+	891004	809	0.8+	0.8-

1987 DW6 = 1976 GG6 = 1982 KS
Id. C. M. Bardwell (MPC 13313)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 212.44312 (1950.0) P Q
n 0.17636445 Peri. 181.14756 -0.92196011 +0.38715567
a 3.1491708 Node 21.63850 -0.35509294 -0.83473332
e 0.1516197 Incl. 1.55439 -0.15459161 -0.39157474
P 5.59 H 12.5 G 0.25
Residuals in seconds of arc

760402	095	2.0+	4.3+	870228	809	0.3+	0.4+	870305	809	0.2+	0.2+
820521	688	1.2-	0.9-	870228	809	0.4+	0.2+	870306	809	0.1+	0.7-
820521	688	0.8+	1.0-	870302	809	0.3+	0.5-	870306	809	0.6+	0.7-
870226	809	0.4-	0.2+	870302	809	0.5+	0.5-	870306	809	0.6+	0.4-
870226	809	0.4-	0.2+	870302	809	0.4+	0.5-	870308	809	0.1-	0.2+
870226	809	0.2-	0.3+	870303	809	0.4-	0.5-	870308	809	0.0	0.1+
870226	809	0.3-	0.6-	870303	809	0.2-	0.1-	870308	809	0.0	0.1-
870226	809	0.2-	0.7-	870303	809	0.0	0.1-	870311	809	0.0	0.2-
870226	809	0.4-	0.7-	870304	809	0.7-	0.5+	870311	809	0.3-	0.3-
870227	809	0.3-	0.3-	870304	809	0.5-	0.5+	870311	809	0.1-	0.3-
870227	809	0.2-	0.3-	870304	809	0.5-	0.5+	890929	809	0.3+	0.4+
870227	809	0.1-	0.2+	870305	809	0.1-	0.0	890929	809	0.1+	0.0
870228	809	0.1+	0.1+	870305	809	0.1+	0.3+	890929	809	0.3-	0.6-

1987 HW = 1973 GP = 1980 XU1 = 1984 SG7 = 1989 UJ5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano

M	320.98161	(1950.0)	P	Q
n	0.21090772	Peri. 132.61717	-0.88986316	-0.45262347
a	2.7951724	Node 20.67369	+0.35653150	-0.76818516
e	0.0939623	Incl. 9.32944	+0.28465567	-0.45279528
P	4.67	H 12.0	G 0.25	

Residuals in seconds of arc

730401	095	2.0+	2.0+	870424	046	1.4+	1.4-	890926 809 0.8+ 0.3-
801210	095	0.3-	1.1-	870424	046	0.9+	2.8-	890926 809 0.7+ 0.3-
840924	071	1.4-	0.4-	870427	046	2.3-	2.9-	891030 807 0.7+ 0.7-
870423	046	0.4-	2.1+	870427	046	2.3-	0.4-	891101 807 1.0+ 0.8-
870423	046	1.1-	0.1+	890926	809	0.6+	0.2-	

1987 HE1 = 1971 OW = 1990 DR
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	350.11360	(1950.0)	P	Q
n	0.30043210	Peri. 106.18628	-0.09381139	+0.99499098
a	2.2078615	Node 158.34133	-0.94541384	-0.07815789
e	0.1592891	Incl. 5.36845	-0.31207706	-0.06232413
P	3.28	H 13.4	G 0.25	

Residuals in seconds of arc

710726	095	0.2+	1.0+	870424	046	1.7+	0.7-	900228 399 0.1- 1.3-
710818	095	(0.6+	6.0-)	870427	046	1.1-	0.0	900228 399 0.5+ 2.8-
710819	808	0.5-	0.3+	870427	046	0.4-	0.4-	900316 399 0.5+ 1.9+
870423	046	0.3-	0.4+	900218	399	0.0	2.2+	900316 399 0.1- 0.8+
870423	046	0.1-	0.1-	900218	399	0.4-	1.2+	

1987 SB = 1974 DN1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	14.98477	(1950.0)	P	Q
n	0.30219404	Peri. 168.40107	-0.33576894	+0.94048047
a	2.1992712	Node 81.96260	-0.86836039	-0.28746382
e	0.6619584	Incl. 3.03900	-0.36497869	-0.18127616
P	3.26	H 15.5	G 0.25	

Residuals in seconds of arc

740216	095	0.2+	0.7+	871017	675	1.0-	0.8+	871223 691 0.5- 0.7-
870920	675	(3.4+	1.7+)	871018	675	0.9-	1.5+	871223 691 0.2- 0.1-
870920	675	(4.6+	0.9+)	871019	801	0.1-	2.4+	871223 691 0.7- 0.2-
870922	071	0.6+	0.9-	871019	675	0.1+	0.5+	880114 688 0.3+ 0.5+
870923	071	2.0+	0.7-	871022	413	1.6+	0.6-	880114 688 0.3+ 0.5+
870923	071	(4.0-	2.9+)	871022	413	1.8+	0.1-	880115 688 0.5+ 0.4+
870923	071	0.8-	0.7+	871117	809	0.7-	0.5-	880115 688 0.6+ 0.2+
870924	071	(4.2-	0.2-)	871119	688	0.1+	0.8-	900125 688 0.1+ 0.8-
870925	071	1.5-	2.3-	871119	688	0.2+	1.0-	900125 688 0.1- 0.4-
870927	675	0.1-	0.1+	871221	688	0.9-	0.1-	900125 688 0.1+ 0.1-
870930	675	0.8-	1.0+	871221	688	0.1+	0.1+	

1988 JN
Id. C. S. Shoemaker (1989 obs.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell

M	133.35183	(1950.0)	P	Q
n	0.17033910	Peri. 104.15494	-0.23775858	+0.95132283
a	3.2230028	Node 149.80243	-0.97128097	-0.23094571
e	0.1196902	Incl. 22.94681	-0.00917279	-0.20408076
P	5.79	H 12.0	G 0.25	

Residuals in seconds of arc

880511	675	0.8-	1.4-	880609	675	0.3+	1.1+	890829	675	1.7+	0.5-
880513	675	0.9-	0.1+	880611	675	0.4+	1.2+	890829	675	0.6+	0.7-
880514	675	1.1+	1.1-	880717	675	0.6-	0.4+	890924	675	0.5-	1.3+
880608	675	(5.9+	2.5+)	880718	675	0.2+	0.1+	890924	675	2.1-	0.4-

1988 UJ = 1977 TZ5 = 1990 BB1
Id. T. Kobayashi, S. Nakano
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano

M	80.10819		(1950.0)	P	Q
n	0.18533409	Peri.	58.94898	-0.20241860	-0.97189078
a	3.0467258	Node	43.26269	+0.82800377	-0.23540672
e	0.0642584	Incl.	10.10361	+0.52291154	-0.00346352
P	5.32	H	12.0	G 0.25	

Residuals in seconds of arc

771008	095	1.1+	1.8-	881102	399	1.9+	1.3+	881111	046	0.2-	0.2-
881013	372	(3.0+	2.8+)	881102	399	2.3+	0.1-	881114	399	0.6+	1.3+
881013	372	(4.2-	0.3-)	881102	399	2.4+	1.9+	881114	399	1.5-	1.6-
881018	372	0.2+	0.7+	881104	046	0.8+	1.7-	881114	399	1.6-	0.2-
881018	372	0.6+	0.7-	881104	046	0.1+	0.7-	900121	372	1.8-	1.6-
881019	402	0.4-	1.5+	881105	046	0.4-	1.3-	900121	372	1.9-	0.7+
881019	372	(0.6+	2.7-)	881105	046	0.6-	0.7-	900125	372	0.5+	1.0+
881019	402	0.5-	1.7+	881110	046	0.7-	1.9-	900125	372	2.0+	1.7+
881021	372	1.1-	0.0	881110	046	0.4+	1.2-	900201	372	0.1+	1.9-
881022	402	(1.2+	3.8+)	881111	399	0.6-	1.8+	900201	372	1.4-	2.4-
881022	372	0.8-	0.3-	881111	399	0.5+	0.0	900217	372	1.7+	1.4+
881022	402	0.4-	2.6+	881111	399	0.2+	0.3+	900217	372	0.5+	0.6+
881022	372	0.4-	0.7+	881111	399	2.1-	0.5-				
881101	372	0.0	0.4- Y	881111	046	0.5+	0.9-				

1988 XE1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	115.56488		(1950.0)	P	Q
n	0.26768078	Peri.	255.17126	-0.78141364	-0.61622945
a	2.3844667	Node	246.68922	+0.60572570	-0.71121137
e	0.0696738	Incl.	6.14171	+0.14996365	-0.33828929
P	3.68	H	12.5	G 0.25	

From 11 observations 1988 Sept. 10-Dec. 10, mean residual 1".5.

1989 BQ
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell

M	61.89174		(1950.0)	P	Q
n	0.08374198	Peri.	353.42954	-0.48027623	-0.83280274
a	5.1741789	Node	124.91882	+0.81921185	-0.53804633
e	0.2529825	Incl.	19.61581	+0.31341137	+0.13017579
P	11.77	H	10.0	G 0.25	

Residuals in seconds of arc

890129	872	0.2+	0.2+	890210	872	2.6+	0.2-	890403	801	0.0	0.2+
890129	872	0.9+	0.8-	890210	872	3.6+	1.6-	890508	801	0.1-	1.4+
890204	872	1.6-	1.9+	890227	872	1.1+	3.0+	900125	688	0.1+	0.4+
890204	872	3.2-	0.3+	890227	872	0.6+	0.7-	900125	688	0.1+	0.7+
890205	872	3.3-	1.4-	890328	402	0.5-	0.7-	900221	801	0.1+	0.1+
890205	872	0.2-	0.7+	890329	402	0.3+	1.3-	900221	801	0.1+	0.1+
890206	881	0.2-	0.2+	890401	888	1.2-	0.7+	900227	801	0.4-	0.7-
890206	881	1.1+	1.7-	890401	888	0.6-	0.4+	900227	801	0.0	0.8-

1989 BB1
Id. C. S. Shoemaker (1990 obs.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell
M 279.44832 (1950.0) P Q
n 0.08337436 Peri. 193.42365 -0.17848877 +0.95110230
a 5.1893772 Node 66.77080 -0.87547347 -0.03657662
e 0.0759089 Incl. 15.92160 -0.44909683 -0.30670273
P 11.82 H 10.5 G 0.25
Residuals in seconds of arc

890130	675	0.4-	0.6+	890308	675	1.2-	0.1+	900130	675	1.0+	2.0+
890130	675	0.2-	0.1-	890308	675	1.9+	0.9-	900220	675	0.2-	0.6-
890202	675	0.1-	1.2+	900130	675	0.7+	0.5-	900222	675	1.4-	0.1-

1989 GQ1 = 1979 TO2 = 1979 WV
Id. H. Kaneda, N. S. Chernykh (d)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 58.49669 (1950.0) P Q
n 0.27014519 Peri. 72.29548 +0.77295045 +0.63355607
a 2.3699429 Node 248.37756 -0.59505840 +0.70532267
e 0.1933838 Incl. 2.09444 -0.22012065 +0.31800414
P 3.65 H 15.1 G 0.25
Residuals in seconds of arc

791014	095	0.1+	0.2+	890405	809	2.1+	1.1-	890408	809	0.1-	0.1+
791116	095	0.1-	0.0	890405	809	1.7+	1.4-	890410	809	0.2+	0.3-
890403	809	1.1-	0.1-	890405	809	0.4+	0.4+	890410	809	0.8-	0.2-
890403	809	1.4-	0.5+	890408	809	0.8+	0.9+	890410	809	0.3+	0.2+
890403	809	1.5-	0.5-	890408	809	0.6-	1.7+				

1989 OB
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 89.40991 (1950.0) P Q
n 0.22148490 Peri. 71.27960 +0.99138295 -0.01573468
a 2.7054528 Node 289.45624 -0.04295764 +0.89881116
e 0.5553642 Incl. 7.92769 +0.12375176 +0.43805355
P 4.45 H 16.4 G 0.25
From 61 observations 1989 July 7-1990 Jan. 25, mean residual 0".77.

1989 RH = 1983 EE4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 340.29465 (1950.0) P Q
n 0.23491972 Peri. 303.17940 -0.47767821 -0.87831475
a 2.6013009 Node 175.22591 +0.86399992 -0.47371246
e 0.1092387 Incl. 13.66745 +0.15914667 -0.06449578
P 4.20 H 13.0 G 0.25
Residuals in seconds of arc

830315	095	0.9-	0.1+	890923	809	0.3+	0.9-	890925	809	1.2-	0.8-
830318	095	0.9+	0.2-	890923	809	0.6+	0.8-	890925	809	1.1-	0.9-
890902	511	0.5-	0.1+	890923	809	0.6+	0.9-	890926	809	0.9-	0.1+
890902	511	0.7-	0.5-	890924	809	1.1+	1.6+	890926	809	0.7-	0.1+
890902	511	0.7+	0.3-	890924	809	1.5+	1.6+	890926	809	0.3-	0.0
890904	511	0.5+	0.7-	890924	809	1.9+	1.7+				
890904	511	0.6-	1.5+	890925	809	1.3-	0.9-				

1989 SG5 = 1950 HC = 1969 LF = 1980 DR4 = 1981 SG9 = 1985 RT4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 258.13918 (1950.0) P Q
n 0.26085499 Peri. 65.22240 -0.76114649 +0.64727628
a 2.4258836 Node 155.05095 -0.62467085 -0.71456573
e 0.1467297 Incl. 5.59196 -0.17447738 -0.26538506
P 3.78 H 13.8 G 0.25

Residuals in seconds of arc

500418	078	(1.9+	18.6-)X	850914	809	0.1+	1.3+	890926	809	0.1+	2.0-
500420	078	(35.4-	20.0+)X	850915	809	0.1+	1.9+	890926	809	0.1+	2.8-
690611	095	1.0-	2.1-	850915	809	0.1+	1.7+	890928	809	0.6+	0.0
800221	095	0.5-	1.9-	850915	809	0.2+	1.7+	890928	809	0.1+	0.1-
810926	688	0.0	1.5-	850916	809	0.2-	0.0	890928	809	1.1-	0.2-
810926	688	0.3-	2.1-	850916	809	0.2+	0.0	891003	809	0.4-	0.9-
850914	809	0.0	1.2+	850916	809	0.0	0.5-	891003	809	0.2-	0.7-
850914	809	0.0	1.2+	890926	809	0.9+	1.5-	891003	809	0.1+	0.8-

1989 TS2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Bowell	
M 109.56089		(1950.0)		P	Q
n 0.08142358	Peri.	158.35891	+0.61039272	+0.78565658	
a 5.2719254	Node	148.99371	-0.75239577	+0.61487314	
e 0.0411664	Incl.	11.28648	-0.24763145	+0.06837220	
P 12.10	H	11.3	G 0.25		

From 7 observations 1989 Oct. 3-1990 Jan. 28, mean residual 0".28.

1989 TU5

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Bowell	
M 154.92653		(1950.0)		P	Q
n 0.08369099	Peri.	139.52268	-0.39417985	+0.91847443	
a 5.1762699	Node	107.24072	-0.85158475	-0.35191666	
e 0.0973314	Incl.	1.92287	-0.34558019	-0.18044220	
P 11.78	H	10.5	G 0.25		

From 5 observations 1989 Oct. 2-1990 Jan. 28, mean residual 0".12.

1989 TB11 = 1976 UL1 = 1980 RO

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Kaneda	
M 94.33815		(1950.0)		P	Q
n 0.22605135	Peri.	34.33096	+0.98360020	-0.17807076	
a 2.6688939	Node	335.87807	+0.14570681	+0.87816674	
e 0.1325748	Incl.	4.02148	+0.10630224	+0.44397520	
P 4.36	H	12.9	G 0.25		

Residuals in seconds of arc

761026	095	0.6-	1.2+	890928	675	1.0+	1.0-	891004	374	3.0-	1.4+
800902	688	0.5-	1.7-	890928	675	0.8+	0.2-	891004	374	0.3+	0.2-
800907	095	0.2+	2.5+	890929	675	0.2+	0.4-				
890927	675	1.3+	0.2-	890929	675	0.2+	1.3-				

1989 TO11

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Williams	
M 104.82357		(1950.0)		P	Q
n 0.08441071	Peri.	94.33398	+0.36955513	+0.92636175	
a 5.1468045	Node	197.89148	-0.91842315	+0.35226302	
e 0.0725155	Incl.	13.68529	-0.14116630	+0.13328416	
P 11.68	H	10.0	G 0.25		

From 17 observations 1989 Oct. 2-1990 Jan. 28, mean residual 0".35.

1989 UP

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Bowell	
M 133.18404		(1950.0)		P	Q
n 0.38741811	Peri.	17.21680	+0.34197791	-0.93817415	
a 1.8635860	Node	52.81843	+0.85399562	+0.28644757	
e 0.4728388	Incl.	3.86250	+0.39210022	+0.19436323	
P 2.54	H	20.7	G 0.25		

From 43 observations 1989 Oct. 27-1990 Jan. 25, mean residual 0".65.

1989 UY3
Epoch 1989 Nov. 10.0 ET = JDE 2447840.5 Bardwell
M 330.67136 (1950.0) P Q
n 0.21765295 Peri. 245.05800 -0.51472336 -0.79427196
a 2.7371148 Node 239.79236 +0.85735215 -0.47567387
e 0.4763902 Incl. 21.93207 +0.00267296 -0.37797676
P 4.53 H 14.0 G 0.25
From 8 observations 1989 Oct. 27-Dec. 29.

1989 UL5 = 1969 EA1 = 1978 RN16
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 342.55369 (1950.0) P Q
n 0.17392656 Peri. 105.18590 -0.56932476 -0.81992662
a 3.1785299 Node 19.87591 +0.67025269 -0.50512635
e 0.1408737 Incl. 10.14997 +0.47605741 -0.26938396
P 5.67 H 11.5 G 0.25
Residuals in seconds of arc
690312 095 0.3- 2.0+ 890926 809 0.0 0.3+ 890928 809 0.4+ 0.1+
690323 095 0.3+ 1.9- 890926 809 0.2- 0.2+ 890928 809 0.9+ 0.1+
780908 010 0.1+ 0.2- 890926 809 0.0 0.0 891030 807 0.4- 0.2-
780909 010 (0.2+ 20.3+) 890928 809 0.1- 0.0 891101 807 0.6- 0.3-

1989 UT5 = 1985 VP4 = 2165 P-L
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 133.39442 (1950.0) P Q
n 0.23830882 Peri. 124.01806 +0.80521425 +0.58747657
a 2.5765792 Node 200.37778 -0.59110621 +0.78439702
e 0.2195854 Incl. 13.38883 -0.04715351 +0.19897887
P 4.14 H 13.0 G 0.25
Residuals in seconds of arc
600926 675 0.2+ 1.0+ 890928 809 0.2- 0.9- 890930 809 0.4- 0.8-
600928 675 0.6- 1.5+ 890928 809 0.0 1.0- 890930 809 0.0 0.7-
600929 675 0.4- 2.4+ 890929 809 0.1- 1.0- 890930 809 0.5+ 0.5-
851111 095 0.2+ 1.7+ 890929 809 0.3+ 0.9- 891030 807 0.1+ 0.3+
890928 809 0.4- 0.9- 890929 809 0.5+ 0.7- 891101 807 0.1+ 0.6+

1989 UX5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 348.88254 (1950.0) P Q
n 0.08633016 Peri. 358.12654 +0.26419880 -0.96174747
a 5.0702301 Node 76.54887 +0.88580421 +0.21227444
e 0.0296128 Incl. 4.26877 +0.38151001 +0.17315125
P 11.42 H 10.7 G 0.25
From 8 observations 1989 Oct. 4-1990 Jan. 28, mean residual 0".14.

1989 WK2
Id. R. H. McNaught (1988 obs.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden
M 65.92146 (1950.0) P Q
n 0.21313689 Peri. 300.02172 +0.06737577 -0.96457724
a 2.7756487 Node 143.26932 +0.99727581 +0.05741498
e 0.3277100 Incl. 25.24366 +0.03002433 +0.25747675
P 4.62 H 13.5 G 0.25
Residuals in seconds of arc
880715 413 1.5- 0.1+ 891125 413 0.7+ 0.3- 900215 413 0.1- 0.5-
880715 413 1.8+ 1.1+ 891206 413 0.3+ 0.4+ 900227 801 0.2- 0.2-
891124 413 0.0 0.9- 891206 413 0.3+ 0.5+ 900228 801 0.1+ 0.5+
891124 413 0.1+ 0.5- 891227 413 0.0 1.2+ 900228 801 0.7- 0.1-
891125 413 1.2- 0.3- 900215 413 0.6+ 1.1+

1989 YZ1 = 1932 YO = 1966 VH = 1972 YN = 1983 YG = 1988 UF1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	97.90748	(1950.0)	P	Q
n	0.17566035	Peri. 14.91107	+0.48248578	-0.87565728
a	3.1575742	Node 46.24608	+0.80061244	+0.43126500
e	0.1565216	Incl. 1.64853	+0.35528467	+0.21733576
P	5.61	H 12.0	G 0.25	

Residuals in seconds of arc

321223	024	0.9-	0.6+	881017	071	0.3+	0.8-	
661112	095	1.9+	0.1+	881017	071	(0.3+	11.7+)	
721229	095	(0.9+	7.8+)	891230	413	1.0-	1.8+	
831228	046	0.9-	0.2+	891230	413	0.7+	1.9+	
831228	046	0.5-	0.3-	891231	413	0.6-	0.0	
891231	413	1.6+	1.7+					
900121	372	(2.7-	4.7-)					
900121	372	0.3+	2.8-					
900124	372	0.3-	1.2-					
900124	372	0.2-	1.5-					

1989 YH7 = 1975 XL6 = 1986 EV1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Green

M	53.52553	(1950.0)	P	Q
n	0.21887250	Peri. 5.50928	-0.44259419	-0.87974461
a	2.7269434	Node 110.86014	+0.81542378	-0.47542478
e	0.0580326	Incl. 10.71056	+0.37308772	-0.00454902
P	4.50	H 14.0	G 0.25	

Residuals in seconds of arc

751206	809	0.2-	0.3+	860306	688	0.3-	0.1+	
751206	809	0.5+	0.0	860306	688	0.3+	0.2-	
751207	809	0.0	0.1-	891225	033	0.3-	0.4+	
751207	809	0.3-	0.4-	891226	033	0.4+	0.3+	
891226	033	0.4+	0.0					
900124	033	0.0	0.2-					
900124	033	0.4-	0.5-					

1990 BA
Epoch 1990 Jan. 29.0 ET = JDE 2447920.5 Bardwell

M	0.85730	(1950.0)	P	Q
n	0.42961434	Peri. 170.70849	-0.52877430	-0.84836005
a	1.7394697	Node 311.20924	+0.77643746	-0.47104954
e	0.3376668	Incl. 1.99075	+0.34284489	-0.24165588
P	2.29	H 17.5	G 0.25	

From 17 observations 1990 Jan. 21-Feb. 27.

1990 BG
Epoch 1990 Jan. 29.0 ET = JDE 2447920.5 Bardwell

M	300.34275	(1950.0)	P	Q
n	0.54210570	Peri. 135.65741	-0.28477170	+0.77763672
a	1.4896357	Node 109.86870	-0.95781511	-0.25441365
e	0.5708936	Incl. 36.58400	+0.03866899	-0.57493898
P	1.82	H 14.0	G 0.25	

From 15 observations 1990 Jan. 21-Mar. 1.

1990 BJ = 1983 AD2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	120.92690	(1950.0)	P	Q
n	0.27624456	Peri. 106.33566	+0.74098078	-0.56861039
a	2.3349330	Node 289.70909	+0.37273174	+0.79077816
e	0.2864120	Incl. 22.30174	+0.55858619	+0.22661006
P	3.57	H 13.5	G 0.25	

Residuals in seconds of arc

830110	675	1.2-	1.7-	900122	675	0.8+	1.0+	
830112	675	0.2+	0.8+	900122	675	0.4-	0.2-	
830112	675	1.0+	1.0+	900124	675	0.0	0.4-	
900124	675	0.4-	0.4-					
900228	675	0.2-	0.2+					
900228	675	0.1+	0.4-					

1990 BK = 2789 P-L
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 88.95855 (1950.0) P Q
n 0.17646145 Peri. 347.94720 +0.27361184 -0.96070787
a 3.1480166 Node 86.15992 +0.88626744 +0.23296914
e 0.1752314 Incl. 2.68028 +0.37371993 +0.15088327
P 5.59 H 12.5 G 0.25
Residuals in seconds of arc

600926	675	0.6+	0.6-	900117	896	1.1+	1.0-	900126	896	0.2+	1.6+
600928	675	0.7-	0.6+	900121	896	0.5+	2.6- Y	900216	896	0.4+	1.5+
600929	675	0.1+	0.1-	900121	896	2.3-	1.5- Y	900216	896	0.2-	2.2- Y
900117	896	0.3-	2.3+	900126	896	0.7+	1.9+ Y				

1990 BM = 1989 WS3 = 1931 UQ = 1985 QN6 = 1985 RH5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 110.70059 (1950.0) P Q
n 0.29078570 Peri. 339.38565 +0.17045776 -0.97691312
a 2.2564283 Node 100.62640 +0.92137416 +0.11169042
e 0.1667073 Incl. 7.52909 +0.34930475 +0.18211536
P 3.39 H 13.0 G 0.25
Residuals in seconds of arc

311017	690	2.7+	1.3-	891202	033	0.3-	1.9+	900123	403	0.7+	1.0-
311018	690	1.8-	0.9-	900117	403	2.7-	1.3+ Y	900126	403	1.8+	0.4-
850824	095	0.3-	0.8-	900117	403	2.2-	2.1+ Y	900126	403	1.5+	2.1-
850911	095	0.1+	1.6+	900121	403	(4.1+	6.6-)Y	900201	403	0.3+	1.7+
891129	033	1.3-	1.8+	900121	403	2.0+	3.0- Y	900201	403	0.1+	0.9-
891129	033	0.4-	2.0+	900123	403	0.2+	1.3-				

1990 BV = 1990 BO2 = 1979 AB = 1979 BJ1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 125.15432 (1950.0) P Q
n 0.27086084 Peri. 315.76283 +0.56306509 -0.80642783
a 2.3657666 Node 99.15906 +0.79987157 +0.47685067
e 0.2247449 Incl. 10.54314 +0.20775750 +0.34969644
P 3.64 H 13.5 G 0.25
Residuals in seconds of arc

790104	330	0.6-	0.0	900121	402	(0.3+	5.8+)	900124	877	0.1+	1.1+
790124	095	0.6+	0.2-	900121	877	1.9+	1.0+	900124	877	1.2+	0.3-
900121	675	0.8-	1.4-	900121	877	0.7-	0.6+	900127	877	0.8+	0.5+
900121	675	0.4+	1.1-	900124	675	0.9-	1.1+	900127	877	2.0-	2.4-
900121	402	0.1+	1.1+	900124	675	0.1-	0.1+				

1990 BR1 = 1958 TQ = 1980 XP2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 103.19676 (1950.0) P Q
n 0.22762288 Peri. 292.01834 +0.20497490 -0.97155245
a 2.6565955 Node 145.47161 +0.95733356 +0.17378417
e 0.1704836 Incl. 12.08004 +0.20370993 +0.16088783
P 4.33 H 12.7 G 0.25
Residuals in seconds of arc

581013	760	0.4-	0.4+	900125	889	0.5-	0.2+	900202	402	1.5-	1.9+
581013	760	0.1+	0.9+	900125	889	2.6-	0.6+	900202	402	1.5-	0.8+
801210	095	0.4+	1.4-	900125	889	0.4+	1.1-	900216	402	0.5-	0.6+
900121	402	1.1+	0.9-	900201	402	2.2+	1.3-	900216	402	0.1+	0.0
900121	402	0.6+	0.4+	900201	402	2.2+	0.1+				

1990 BT1 = 1984 YY2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5		(J-P)		Marsden	
M 121.12033		(1950.0)		P	Q
n 0.21418254	Peri.	282.14496		+0.82710437	-0.52638956
a 2.7666075	Node	109.91326		+0.56168120	+0.76145562
e 0.3884129	Incl.	12.09522		+0.02031220	+0.37828478
P 4.60	H	12.0	G	0.25	

Residuals in seconds of arc

841223 095	1.5+	0.7-	900131 400	0.6+	0.7+	900221 046	1.1+	0.9+
841227 095	(15.7-	9.9+)	900131 400	0.7+	3.2+	900222 046	0.5+	0.1-
841230 095	1.5-	0.8+	900214 400	0.2-	2.0-	900222 046	0.1-	0.8+
900127 400	0.3+	0.1-	900214 400	0.2-	3.4-			
900127 400	1.3-	2.4-	900221 046	1.5-	2.2+			

1990 BJ2 = 1976 UR20 = 1985 HK1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Kaneda	
M 11.90151		(1950.0)		P	Q
n 0.17301080	Peri.	39.67117		-0.99133558	-0.11562883
a 3.1897298	Node	133.56970		+0.08762699	-0.93559892
e 0.0576711	Incl.	4.93429		+0.09785339	-0.33359352
P 5.70	H	11.7	G	0.25	

Residuals in seconds of arc

761023 808	0.2+	1.1-	900129 046	0.7+	0.9-	900218 399	1.7-	1.3-
761023 808	0.2+	0.0	900129 046	1.7+	2.2-	900218 399	2.6-	0.9+
850423 688	0.6+	0.5-	900130 399	0.0	2.3+	900218 399	1.6-	1.2+
850423 688	0.9-	0.4-	900130 399	1.2-	1.2+	900220 372	0.5-	2.0-
900123 399	1.0+	0.8+	900130 399	1.3-	0.9+	900220 372	0.3+	1.4-
900123 399	1.3-	2.2-	900130 046	0.5+	1.0-	900228 399	1.3-	0.7+
900123 399	2.1+	0.8-	900130 046	2.0+	1.2-	900228 399	1.8-	0.8+
900128 399	1.7+	2.8+	900217 046	0.6-	0.1+	900228 399	0.8+	0.4-
900128 399	0.9+	2.0+	900217 046	2.0+	0.6-			

1990 BN2 = 1977 AF2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5		(J-P)		Marsden	
M 81.12348		(1950.0)		P	Q
n 0.22922535	Peri.	16.25950		-0.25916807	-0.93374278
a 2.6442052	Node	89.27606		+0.85631072	-0.34038035
e 0.1335053	Incl.	14.29492		+0.44672571	+0.11075035
P 4.30	H	13.0	G	0.25	

Residuals in seconds of arc

770113 095	0.1+	0.6-	900121 402	1.4+	0.9-	900228 675	0.3-	0.1+
770120 095	0.1-	0.8+	900121 402	0.3+	0.7+	900228 675	0.1+	0.2+
900121 675	0.4-	0.9+	900124 675	0.4+	1.8-			
900121 675	1.0-	0.8+	900124 675	0.6-	0.0			

1990 CH = 1970 SR

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Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Kaneda	
M 16.07529		(1950.0)		P	Q
n 0.27543114	Peri.	249.69770		-0.81284882	+0.57951759
a 2.3395232	Node	325.64449		-0.48809467	-0.73260244
e 0.0608111	Incl.	5.96228		-0.31786850	-0.35700563
P 3.58	H	13.1	G	0.25	

Residuals in seconds of arc

700927 095	1.1+	2.0+	900223 046	0.3+	1.0-	900228 400	1.4-	0.1-
701001 095	1.1-	1.9-	900223 046	0.3+	1.3-	900228 400	0.5+	0.2+
900215 400	0.5+	0.5+	900224 046	0.9+	1.0+	900302 400	0.5-	0.4+
900215 400	2.5-	0.3+	900224 046	(1.0-	3.5+)	900302 400	1.9+	0.1+

1990 DA
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 100.15661 (1950.0) P Q
n 0.30960895 Peri. 305.50569 -0.01422281 -0.96521457
a 2.1640156 Node 142.56099 +0.99854603 -0.02728822
e 0.4561737 Incl. 25.43288 +0.05199562 +0.26003113
P 3.18 H 13.5 G 0.25
From 43 observations 1990 Jan. 30-Mar. 21, mean residual 0".71.

1990 DD = 1971 BB = 1975 EB2 = 1988 QX
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 131.11976 (1950.0) P Q
n 0.26290019 Peri. 98.18423 +0.32833990 -0.93908925
a 2.4132908 Node 331.98000 +0.75896760 +0.32627214
e 0.1745774 Incl. 12.47890 +0.56228205 +0.10797159
P 3.75 H 12.5 G 0.25
Residuals in seconds of arc
710120 095 0.3- 0.1- 880824 046 0.2+ 1.9- 900218 399 (4.5- 1.6-)
750317 095 2.3+ 2.8+ 900216 399 1.4+ 2.2- 900220 374 1.1- 0.3+
880817 046 1.7+ 1.3- 900216 399 1.8- 1.2- 900224 552 0.2+ 0.3+
880817 046 0.2- 1.2- 900216 399 (3.8- 1.0-) 900224 552 0.6+ 0.2+
880818 046 2.2+ 0.8- 900217 374 1.2- 1.9- 900302 552 1.3- 0.5-
880818 046 1.1+ 1.8- 900218 399 2.5- 1.6- 900302 552 1.4- 0.7-
880824 046 0.1- 0.4- 900218 399 0.3+ 2.4-

1990 DM = 1974 CN = 1977 VC1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 42.32067 (1950.0) P Q
n 0.18745751 Peri. 38.84331 -0.94297428 -0.29718939
a 3.0236744 Node 123.23360 +0.24270965 -0.92211842
e 0.0574295 Incl. 10.32567 +0.22779711 -0.24774199
P 5.26 H 11.5 G 0.25
Residuals in seconds of arc
740214 095 1.1+ 1.0- 900220 896 0.4- 0.5+ Y 900224 403 0.3+ 2.1- Y
740218 095 1.2- 1.1+ 900221 896 0.6+ 0.7+ Y 900227 403 0.0 0.5+
771111 805 0.3+ 0.0 900221 896 (4.4- 2.6+) 900227 403 1.0- 0.4+
771112 805 0.3- 0.0 900224 896 0.5+ 0.1-

1990 DX = 1984 WO3 = 1986 EY1 = 1987 SB23
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Urata
M 10.59262 (1950.0) P Q
n 0.24628858 Peri. 294.74182 -0.53279595 +0.84387023
a 2.5206201 Node 302.91637 -0.74656204 -0.50395921
e 0.1914837 Incl. 4.32700 -0.39846405 -0.18414167
P 4.00 H 13.0 G 0.25
Residuals in seconds of arc
841127 010 0.7- 1.5+ 870923 095 0.2+ 0.5- 900305 881 1.6+ 0.1+
841128 010 0.7+ 1.3- 900227 881 2.0- 0.0 900319 881 0.3+ 0.5+
860306 688 1.9+ 0.1- 900227 881 0.3+ 0.8- 900319 881 1.3+ 0.1-
860306 688 2.0- 0.0 900305 881 1.5- 0.2+

1990 EC = 1955 RO = 1971 SF = 1982 UM1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 277.80191 (1950.0) P Q
n 0.18771196 Peri. 157.65043 +0.55170947 +0.82727953
a 3.0209412 Node 145.57268 -0.79073098 +0.55922694
e 0.0954934 Incl. 10.80117 -0.26525683 +0.05360798
P 5.25 H 12.0 G 0.25

Residuals in seconds of arc

550913	760	0.3+	1.4+	710926	805	0.5-	0.7-	900305	402	0.0	0.6+
550913	760	0.3-	1.1+	821024	688	0.3-	0.3-	900321	402	0.7+	0.8+
710925	808	0.3+	0.4+	821024	688	0.5+	0.8+	900321	402	0.2-	1.6-
710925	808	0.2-	0.8-	900304	402	0.2+	0.4-	900322	402	0.9-	1.0+
710925	808	0.2+	0.2-	900304	402	0.7-	0.6+	900322	402	0.6+	1.5+
710926	805	0.2-	1.0+	900305	402	0.8+	0.1+				

6372 P-L = 1978 WP1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	29.41179	(1950.0)		P	Q
n	0.22652477	Peri.	70.92136	+0.35981662	+0.93243731
a	2.6651741	Node	220.21672	-0.87408870	+0.32448539
e	0.1217355	Incl.	2.93452	-0.32634482	+0.15896506
P	4.35	H	15.0	G 0.25	

Residuals in seconds of arc

600924	675	0.1+	0.2+	600926	675	0.4-	0.4-	781129	675	0.4+	0.8+
600925	675	0.3+	0.0	600928	675	0.0	0.2+	781130	675	0.4-	0.8-

7606 P-L = 1978 WJ7

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	196.98158	(1950.0)		P	Q
n	0.27829123	Peri.	248.95529	+0.88049385	+0.47111984
a	2.3234663	Node	82.90504	-0.41281622	+0.81664069
e	0.2621577	Incl.	3.04388	-0.23305223	+0.33338278
P	3.54	H	16.7	G 0.25	

Residuals in seconds of arc

601017	675	0.5+	0.4+	601025	675	0.5+	0.6+	781129	675	0.3+	0.1-
601022	675	1.2-	1.0-	601026	675	0.2+	0.0	781130	675	0.3-	0.1+

1038 T-2 = 6294 P-L

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	69.05603	(1950.0)		P	Q
n	0.30300761	Peri.	184.81105	+0.81878239	-0.57393440
a	2.1953328	Node	210.22747	+0.52762484	+0.76185211
e	0.1463161	Incl.	1.58828	+0.22629060	+0.30030095
P	3.25	H	17.4	G 0.25	

Residuals in seconds of arc

600924	675	0.0	1.7+	600928	675	1.1-	0.0	730930	675	0.6-	0.7-
600924	675	0.4+	0.3+	730925	675	0.7+	0.0	731004	675	0.2+	1.1-
600925	675	0.8+	0.3+	730929	675	0.1+	0.2-	731004	675	1.8-	1.6-
600926	675	0.9-	0.5-	730929	675	0.6+	1.4-	731005	675	2.2+	1.1+
600928	675	0.0	0.5+	730930	675	0.6-	0.8+	731005	675	0.1+	0.9+

2145 T-2 = 1988 DZ1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	338.66868	(1950.0)		P	Q
n	0.22915723	Peri.	197.12349	+0.90901330	-0.41561148
a	2.6447239	Node	187.65493	+0.40442554	+0.89762499
e	0.1620743	Incl.	13.46388	+0.10067178	+0.14675313
P	4.30	H	14.4	G 0.25	

Residuals in seconds of arc

730919	675	1.0+	0.9+	730929	675	1.7+	0.3+	731005	675	0.2-	0.8+
730919	675	2.4+	0.4-	730929	675	0.3-	1.0-	880216	809	0.3-	0.4+
730920	675	1.0-	2.3-	730930	675	0.0	0.3+	880216	809	0.4-	0.8+
730924	675	1.8-	0.3+	730930	675	0.1-	0.4-	880216	809	0.3+	0.3-
730924	675	2.9-	0.5-	731004	675	0.8+	0.7+	880223	809	0.5+	0.7-
730925	675	1.3-	0.3-	731004	675	0.1+	0.5-	880223	809	0.2+	0.3-
730925	675	0.8-	2.3+	731005	675	2.3+	0.1-	880223	809	0.3-	0.0

2222 T-2 = 1977 EV4 = 1977 FV = 1986 TR10
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 344.97344 (1950.0) P Q
n 0.15490187 Peri. 100.15174 -0.18018977 +0.98331443
a 3.4337205 Node 159.41646 -0.92797091 -0.16151419
e 0.0800680 Incl. 4.07566 -0.32619264 -0.08370123
P 6.36 H 11.7 G 0.25
Residuals in seconds of arc

730919	675	0.2-	0.5+	730925	675	(1.7+ 3.7-)	730930	675	2.5+	2.2-
730919	675	1.3+	0.3-	730925	675	1.9- 0.4+	730930	675	1.6+	0.9+
730919	675	1.2-	1.6+	730925	675	(1.9+ 3.3-)	731004	675	2.5-	1.4+
730919	675	2.0+	1.2+	730925	675	1.7- 0.8+	731004	675	2.3-	1.4+
730920	675	1.7-	0.5+	730929	675	0.7+ 1.1-	731005	675	1.3-	0.2+
730920	675	0.5-	1.6+	730929	675	1.6+ 1.3-	731005	675	(3.0-	0.1+)
730924	675	0.4+	0.7+	730929	675	0.8+ 2.5-	770315	381	0.4-	0.7+
730924	675	0.2-	0.4-	730929	675	1.8+ 2.7-	770315	381	0.6-	0.3-
730924	675	0.6-	0.5+	730930	675	(2.0+ 3.5-)	770322	095	1.4+	0.7+
730924	675	0.5-	0.6-	730930	675	1.7+ 0.5+	861003	095	0.1-	0.3+

3033 T-2 = 1989 YV3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 204.68586 (1950.0) P Q
n 0.20241620 Peri. 260.41801 +0.90624372 +0.41973089
a 2.8728031 Node 74.75050 -0.36442462 +0.83613743
e 0.0670387 Incl. 2.99926 -0.21428258 +0.35312913
P 4.87 H 13.5 G 0.25
Residuals in seconds of arc

730919	675	1.3-	0.6+	730925	675	1.7+ 1.4-	731005	675	0.3-	0.1+
730919	675	0.3+	1.2+	730929	675	0.4+ 0.3-	731005	675	0.4+	0.6-
730920	675	0.1-	0.6+	730930	675	0.6- 0.0	891230	413	0.6-	0.8+
730924	675	0.8+	0.4-	730930	675	0.8- 0.7+	891231	413	1.3-	1.1-
730924	675	0.3+	0.6-	731004	675	0.8- 1.0+	891231	413	1.9+	0.3+
730925	675	0.3+	1.5-	731004	675	0.2+ 0.6+				

2078 T-3 = 1979 BH1 = 1989 SJ10
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Nakano
M 229.84405 (1950.0) P Q
n 0.23986864 Peri. 227.59449 -0.85311223 +0.52051732
a 2.5653971 Node 343.67062 -0.43383178 -0.74555423
e 0.1455462 Incl. 7.25659 -0.28980946 -0.41618578
P 4.11 H 13.0 G 0.25
Residuals in seconds of arc

771007	675	2.2+	0.3-	771016	675	0.5+ 1.2-	771022	675	0.5+	1.0+
771011	675	0.5+	0.5+	771017	675	0.1- 0.6-	790124	095	0.0	0.2+
771011	675	0.4-	1.0+	771017	675	1.3- 0.7+	890928	809	1.0-	0.9-
771012	675	0.7-	0.3-	771017	675	1.1- 2.6-	890928	809	0.8-	0.6-
771012	675	1.1-	0.1-	771017	675	1.3- 1.3+	890928	809	0.5-	0.6-
771016	675	0.1-	0.1+	771021	675	0.2- 0.4-	890929	809	0.5+	1.0+
771016	675	0.3+	1.3-	771021	675	0.7+ 0.7+	890929	809	0.6+	0.9+
771016	675	1.6+	0.1+	771022	675	0.3+ 0.8+	890929	809	0.9+	0.8+

3104 T-3 = 1989 SS4
Id. G. V. Williams, H. Kaneda
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 157.61271 (1950.0) P Q
n 0.08306543 Peri. 56.25701 -0.33883491 +0.93720613
a 5.2022357 Node 194.63971 -0.93453386 -0.34542169
e 0.1005424 Incl. 19.09436 -0.10879964 +0.04825482
P 11.87 H 10.5 G 0.25

Residuals in seconds of arc

771007	675	1.0+	0.3-	771017	675	1.8-	0.9+	890928	809	0.3-	0.7+
771011	675	1.4-	0.9-	771021	675	0.5-	0.5-	890928	809	0.7+	0.3-
771011	675	1.2-	0.0	771021	675	0.3-	0.4-	890928	809	0.2+	0.1-
771012	675	0.0	0.1+	771022	675	1.5-	1.0-	891003	809	0.5+	0.0
771012	675	1.3-	0.0	771022	675	1.8-	0.8-	891003	809	0.7+	0.8+
771016	675	0.8-	1.5+	890926	809	1.4-	1.0-	891003	809	0.5+	0.5+
771016	675	0.2-	0.6-	890926	809	1.0-	0.3-				
771017	675	1.4-	1.3+	890926	809	0.3+	0.6-				

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NEW NAMES OF MINOR PLANETS.

(2978) Roudebush = 1978 SR

Discovered 1978 Sept. 26 at the Harvard College Observatory's Agassiz Station.

Named in honor of Susan Horner Roudebush, in appreciation of her outstanding work as administrator for the Planetary Sciences division of the Harvard-Smithsonian Center for Astrophysics, through which both the Minor Planet Center and the Oak Ridge Observatory (formerly the Agassiz Station) are also administered. She has in the past also served with distinction as head of the Smithsonian Astrophysical Observatory's travel office.

(3085) Donna = 1980 DA

Discovered 1980 Feb. 18 at the Harvard College Observatory's Agassiz Station.

Named in honor of Donna Marie Thompson, who as administrative assistant for the Minor Planet Center and the Central Bureau for Astronomical Telegrams is in charge of handling subscriptions. Her official position as secretary for the Planetary Sciences division of the Harvard-Smithsonian Center for Astrophysics scarcely describes her talents, which include serving as timekeeper and deputy administrator, setting up audio-visual aids at meetings and maintaining laser printers.

(3139) Shantou = 1980 VL1

Discovered 1980 Nov. 11 at the Purple Mountain Observatory.

Named for an open city on the coast of southeast China. A fine seaport, it is also a flourishing industrial and agricultural center.

(3143) Genecampbell = 1980 UA

Discovered 1980 Oct. 31 at the Harvard College Observatory's Agassiz Station.

Named in honor of I. Gene Campbell, systems programmer in the central computing facility at the Harvard-Smithsonian Center for Astrophysics. Ever helpful and always patient, he has quickly and quietly resolved many problems over the years, both for the observing program at Oak Ridge and for the Minor Planet Center and Central Bureau for Astronomical Telegrams. It is a rare magnetic tape that he cannot salvage and decipher, and fixing recalcitrant modems is second nature to him. When it became necessary to dispense with the teletype machines for the MPC/CBAT TWX number, he did the necessary programming for operating EASYLINK from the CFAPS2 MicroVAX and arranged for the automatic receipt there of TWX/telex messages.

(3202) Graff = A908 AA

Discovered 1908 Jan. 3 by M. Wolf at Heidelberg.

Named in honor of Gareth Vaughan Williams, of Leighton Buzzard, England, where he has during the past three years identified several low-numbered minor planets among objects that had been given provisional designations. During 1990 January-April he has been at the Minor Planet Center, where he continued this work with ingenuity and success, has made excellent progress on the daunting task of correcting the MPC files of old observations of low-numbered minor planets, and has generally been improving the efficiency of the whole MPC operation. Name proposed by B. G. Marsden and C. M. Bardwell, the identification of this Hilda-type object having been made by the latter.

(3206) Wuhan = 1980 VN1

Discovered 1980 Nov. 13 at the Purple Mountain Observatory.

Named for the largest city in central China. Located at the confluence of the Han and Yangtse rivers, Wuhan has served as an inland commercial center since the third century AD.

(3363) Bowen = 1960 EE

Discovered 1960 Mar. 6 at the Goethe Link Observatory, Indiana University.

Named in memory of Ira S. Bowen (1898-1973), whose investigation of the ultraviolet spectra of highly ionized atoms led to his identification of the mysterious 'nebulium' spectral lines of gaseous nebulae as forbidden lines of ionized oxygen and nitrogen; he soon explained most of the spectral lines of gaseous nebulae. As director of the Mount Wilson and Palomar Observatories from 1948 to 1964 he oversaw the completion of the 5-m reflector and 1.2-m Schmidt and designed many of their instruments, including a novel spectrograph. He also initiated the baking of photographic plates to improve their sensitivity. Name proposed by F. K. Edmonson. Citation prepared by J. S. Tenn.

(3617) Eicher = 1984 LJ

Discovered 1984 June 2 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of David J. Eicher, founder and editor-in-chief of 'Deep Sky' magazine. In June 1977, as a high-school student, Eicher began 'Deep Sky Monthly', designed to promote amateur deep-sky observing. After more than fifty issues, the monthly became a quarterly in 1982, and Eicher became an assistant editor of 'Astronomy' magazine. Through his magazine and two books on viewing, Eicher has worked tirelessly to encourage amateur astronomers to make high-quality observations of galaxies, clusters and nebulae. Name proposed and citation provided by D. H. Levy.

(3637) O'Meara = 1984 UQ

Discovered 1984 Oct. 23 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Stephen James O'Meara. Well known for his fine drawings of solar system objects, O'Meara joined 'Sky and Telescope' in 1979 and in 1989 was promoted to associate editor. His unique visual observations have included pre-Voyager sightings of spokes in Saturn's B ring and a determination of Uranus' rotation period. In January 1985 he made an apparent visual observation of P/Halley at magnitude 19.6 using a 0.6-m telescope on Mauna Kea. O'Meara's writing and remarkable visual skill inspires other observers to improve the quality of their observations. An energetic speaker, he has taught introductory classes in astronomy in Massachusetts and Hawaii and is regularly sought for astronomy talks in the U.S. and abroad. Name suggested and citation provided by D. H. Levy.

(3684) Berry = 1983 AK

Discovered 1983 Jan. 9 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Richard Berry, since 1979 editor-in-chief of 'Astronomy'. He has actively promoted amateur astronomy by means of books on beginning astronomy and telescope making as well as editorship of the technical journal 'Telescope Making'. He was also a pioneer in increasing awareness of light pollution by mapping its extent in southern Ontario in the 1970s. Citation prepared by D. H. Levy and S. J. Edberg at the request of the discoverer.

(3706) Sinnott = 1984 SE3

Discovered 1984 Sept. 28 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Roger W. Sinnott, associate editor of 'Sky and Telescope'. His extensive telescope-making experience began with a first mirror ground when he was aged 13 and has culminated in his conducting the 'Gleanings for ATMs' department of the magazine for many years. He also created (with Alan Hirshfeld) the two-volume Sky Catalogue 2000.0 and edited NGC 2000.0 using computer databases. This led to the far-ranging magazine column 'Astronomical Computing'. Citation provided by D. H. Levy, S. J. Edberg and J. K. Beatty at the request of the discoverer.

(3819) Robinson = 1983 AR

Discovered 1983 Jan. 12 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Leif J. Robinson, editor of 'Sky and Telescope'. Robinson's career as an observer began with a series of planetary drawings and observations of the rapidly changing variable stars in the Orion Nebula. He worked at the Griffith Planetarium in Los Angeles before joining the staff of the magazine in 1962 as an editorial assistant, and he succeeded the late Joseph Ashbrook as editor in 1980. Robinson has been an active promoter of professional-amateur cooperation in astronomy, and retains interests in solar-eclipse viewing and bird-watching. Citation provided by D. H. Levy, S. J. Edberg and J. K. Beatty at the request of the discoverer.

(3841) Dicicco = 1983 VG7

Discovered 1983 Nov. 4 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Dennis di Cicco, since 1974 a staff member and since 1983 an associate editor of 'Sky and Telescope'. An imaginative and outstanding astrophotographer, he has participated in many expeditions, specifically to observe eclipses and comets, although his best-known work is probably the analemma showing the sun from the same spot at the same mean time every few days throughout the year. Particularly meticulous and appropriately cautious in all his writings, he regularly conducts the 'Observer's Page' column in the magazine. Citation prepared by B. G. Marsden at the request of the discoverer.

(4039) Souseki = 1987 SH

Discovered 1987 Sept. 17 by T. Seki at Geisei.

Named in memory of Souseki Natsume (1867-1916), a distinguished Japanese scholars in English literature who has left an indelible mark on the history of Japanese modern literature with Ougai Mori in the Meiji era, and whose brain is still kept in the medical department of Tokyo University. Many of his articles are still widely read and have been made into movies. One of the best known articles, Botchan, which means a greenhorn in English, is set in Shikoku, the island on which the Geisei station is located.

(4069) Blakee = 1978 VL7

Discovered 1978 Nov. 7 by E. F. Helin and S. J. Bus at Palomar.

Named in honor of Lawrence E. Blakee, who for 37 years has worked diligently in many capacities at the Palomar Observatory and at the Mount Wilson Observatory to support the researchers using those facilities. The many astronomers who have worked at Mount Wilson and Palomar have benefited from his conscientiousness and dedication.

(4091) Lowe = 1986 TL2

Discovered 1986 Oct. 7 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Andrew Lowe, a Canadian professional geophysicist and amateur astronomer in Calgary who has particular interests in computational astronomy involving minor planets and occultations. In recent years, he has opened up a new area of identification research by establishing several cases of linkages of orbits where the observations of the minor planets involved were made on only two nights at individual oppositions.

(4101) Ruikou = 1988 CE

Discovered 1988 Feb. 8 by T. Seki at Geisei.

Named in memory of Ruikou Kuroiwa (1862-1920), a great scholar, translator and commentator of the Meiji and Taisho eras. Among the best of his translations of western works are "Mask of red-hot iron", "Ghost tower" and "King of Cavern". He was born in Aki city, on the western side of which the Geisei Station is situated. The name Geisei actually means "West side of Aki city".

(4110) Keats = 1977 CZ

Discovered 1977 Feb. 13 by E. Bowell on plates taken at Palomar.

Named after the English poet John Keats (1795-1821), who wrote of the thrill he experienced when he opened a folio edition of Chapman’s translation of Homer. His poem "On First Looking Into Chapman’s Homer", written in 1816, includes the words: "Then felt I like some watcher of the skies/ When a new planet swims into his ken". Name suggested and citation provided by J. B. Tatum.

(4113) Rascana = 1982 BQ

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

Named to commemorate the centenary of the Royal Astronomical Society of Canada. Incorporated in 1890 under the name The Astronomical and Physical Society of Toronto, the RASC received the Royal Charter in March 1903. Its Journal has been published continuously since Volume 1 in 1907. The members of the Society have always included both professional and amateur astronomers. The masthead of the Journal reads "devoted to the advancement of astronomy and allied sciences". Citation prepared by the Council of the RASC at the request of the discoverer.

(4147) Lennon = 1983 AY

Discovered 1983 Jan. 12 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in memory of John Lennon (1940-1980), musician and ex-Beatle. With Paul McCartney, he wrote the early songs that helped make The Beatles the most popular group of their generation. Perhaps the most famous Beatles album is Sergeant Pepper’s Lonely Hearts Club Band, which represents the Lennon-McCartney partnership at its most fertile and innovative. From his solo recording career, the song that will probably best be remembered is ’Imagine’. Violently anti-war, John, and his wife Yoko, also made many public demonstrations of their desire for a peaceful world.

(4148) McCartney = 1983 NT

Discovered 1983 July 11 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Paul McCartney (1942-), musician and ex-Beatle. A talented composer, he was responsible for some of The Beatles' best loved songs--both 'Yesterday' and 'Michelle' have become classics of the popular repertoire, and have each been covered by several hundred artists. Paul was instrumental in the setting up of the Apple Corps, a philanthropic organization that helped to launch the careers of several young musicians. Paul was the only member of The Beatles to continue regular live performances after the group split up in 1970. He is still a popular performer, and many of his solo recordings have topped the charts around the world.

(4149) Harrison = 1984 EZ

Discovered 1984 Mar. 9 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of George Harrison (1943-), the quiet Beatle. Although overshadowed by John and Paul as composers while in The Beatles, George wrote several songs for the group, including 'While My Guitar Gently Weeps' and 'Something'. Since The Beatles disbanded, George has undertaken many projects in addition to his solo recording career; notably his film company, HandMade Films. In 1971 he organized a star-studded charity concert for the relief of famine in Bangladesh, and many of his songs have reflected his concern for the environment.

(4150) Starr = 1984 QC1

Discovered 1984 Aug. 31 by B. A. Skiff at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Ringo Starr (Richard Starkey: 1940-), a Liverpudlian of lively personality and deadpan humor who occasionally sat in as drummer with The Beatles during their early days in Hamburg. Ringo actually joined the group in 1962, after the original drummer, Pete Best, left. Ringo's solo career has encompassed several albums and a variety of film roles.

(4216) Neunkirchen = 1988 AF5

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

Named to honor the birthplace of Herman Haupt and Gerhard Hahn, two Austrian astronomers and colleagues of the discoverer, active in minor planet research during the past decades. Neunkirchen, situated 60 km south of Vienna, is a district capital and a major center for education and commerce.

(4276) Clifford = 1981 XA

Discovered 1981 Dec. 2 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Clifford J. Cunningham, Canadian amateur astronomer and writer, whose interest in minor planets has encompassed positional measurements and photometry. Cunningham's book "Introduction to Asteroids", published in 1988, has justifiably earned praise from both readers and reviewers. He has recently been working on a bibliographic database on minor planets that currently comprises more than 10 000 references dating back to the year 1789.

(4289) Biwako = 1989 UA2

Discovered 1989 Oct. 29 by A. Sugie at the Dynic Astronomical Observatory.

Named for a largest lake in Japan, 235 km in circumference and up to 104 m in depth. Like the Dynic Astronomical Observatory, the lake is located in Shiga prefecture. Lake Biwa, whose shape resembles the old Japanese instrument "Biwa", is one of the oldest lakes in the world and has played an important role in politics, economy, culture, transportation, and so on. It is a quasi-national park, surrounded by a spacious resort zone.

(4305) Clapton = 1976 EC

Discovered 1976 Mar. 7 at the Harvard College Observatory's Agassiz Station.

Named in honor of Eric Clapton (1945-), singer, composer and guitarist extraordinaire. He is the most remarkable bluesman ever to come out of England and his rock career has spanned more than 25 years. In the mid-60s, graffito on a brick wall in London proclaimed: 'Eric is God'. He remains a musical megastar today, and is probably best known for the rock classic 'Layla' and the ballad 'Wonderful Tonight'.

(4335) Verona = 1983 VC7

Discovered 1983 Nov. 1 at the Giordano Bruno Observatory, Cavriana.

Named for the Italian city, founded in the fourth century B.C., and situated at the foot of the Alps. Verona knew moments of splendor during the ancient Roman Epoca and still conserves the Arena, as well as thirteenth-century masterpieces from the reign of the Scaligeri family. Shakespeare's 'Romeo and Juliet' was sited in Verona, which is also the city in which the Cavriana observers, Luciano Lai, Ivano Rocchetti and Giordano Vesentini, were born and raised.

(4352) Kyoto = 1989 UW1

Discovered 1989 Oct. 29 by A. Sugie at the Dynic Astronomical Observatory.

Named for the 1200th anniversary, in 1994, of the establishment by Emperor Kammu of Kyoto as the former capital of Japan. Home for many old national treasures and historical spots, Kyoto has been prosperous as a center of Japanese politics, economy and culture and nowadays attracts more than forty million visiters each year from all over the world. The Dynic Corporation, which built Dynic Astronomical Observatory, is headquartered in Kyoto.

(4353) Onizaki = 1989 WK1

Discovered 1989 Nov. 25 by Y. Mizuno and T. Furuta at Kani.

Named for the town where the second discoverer spent his boyhood. Since the name vanished when neighboring towns were united, it is particularly appropriate to revive it so that it can be the name of some location in the universe for ever. The town was situatet on the Chita Peninsula in the central part Japan and is famous for its beautiful yacht harbor.

(4380) Geyer = 1988 PB2

Discovered 1988 Aug. 14 by E. W. Elst at Haute Provence.

Named in honor of Edward H. Geyer, since 1965 the head of the Hoher List Observatory, on the occasion of his 60th birthday. Geyer has left his mark in many fields of astronomy, spanning from instrumental development via stellar systems to variable stars and solar-like activity. His work in solar system astronomy has included, for example, the detection of the splitting of the nucleus of Comet West (1976 VI). He is also an enthusiastic teacher, especially in the field of observational astronomy. Like many other visiting astronomers at Hoher List, the discoverer has often been supported by Geyer, long a friend of minor planets. Citation prepared by M. Geffert at the request of the discoverer.

EPHEMERIDES.

Comet Cernis-Kiuchi-Nakamura (1990b) Elements MPC 16205

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990	03 30	02 35.00	+50 36.0	1.319	1.089	53.9	47.8	8.5
1990	04 04	03 17.17	+51 48.6					
1990	04 09	04 01.76	+52 04.5	1.299	1.133	57.3	48.1	8.6
1990	04 14	04 46.28	+51 19.9					
1990	04 19	05 28.29	+49 39.1	1.322	1.197	60.1	46.7	8.9
1990	04 24	06 06.19	+47 13.2					
1990	04 29	06 39.38	+44 16.2	1.392	1.277	61.9	44.1	9.3
1990	05 04	07 08.05	+41 01.3					
1990	05 09	07 32.73	+37 39.0	1.502	1.369	62.5	40.8	9.7
1990	05 14	07 54.10	+34 17.2					
1990	05 19	08 12.77	+31 00.8	1.646	1.471	61.9	37.4	10.3
1990	05 24	08 29.27	+27 52.7					
1990	05 29	08 44.04	+24 54.4	1.814	1.578	60.2	33.9	10.8
1990	06 03	08 57.39	+22 06.4					
1990	06 08	09 09.61	+19 28.6	1.999	1.690	57.7	30.5	11.3
1990	06 13	09 20.88	+17 00.4					
1990	06 18	09 31.39	+14 41.2	2.194	1.805	54.5	27.3	11.8

1990 BG a,e,i = 1.49, 0.57, 37 Elements MPC 16238

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	03 30	03 53.99	+56 48.0	0.746	0.982	66.7	69.0	15.5
1990	04 09	03 37.09	+58 48.0					
1990	04 19	03 12.20	+60 01.1	0.701	0.794	51.9	84.2	15.5
1990	04 29	02 36.55	+59 03.0					
1990	05 09	01 59.11	+53 36.0	0.587	0.660	38.4	108.0	15.8
1990	05 19	01 39.08	+42 09.5					
1990	05 29	01 43.34	+26 49.2	0.537	0.659	36.0	115.4	16.1

1990 BA a,e,i = 1.74, 0.34, 2 Elements MPC 16238

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	03 30	09 16.42	+11 04.8	0.389	1.281	129.5	37.0	17.3
1990	04 09	09 40.82	+09 07.7					
1990	04 19	10 04.19	+07 12.9	0.529	1.362	122.3	38.5	18.2
1990	04 29	10 26.67	+05 18.9					
1990	05 09	10 48.45	+03 24.5	0.705	1.452	114.6	39.2	18.9
1990	05 19	11 09.60	+01 30.0					
1990	05 29	11 30.26	-00 25.0	0.913	1.545	106.5	39.0	19.6

Comet Aarseth-Brewington (1989a1) Elements MPC 15857

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990	04 19	00 13.24	-12 26.6	3.078	2.295	32.5	13.6	18.5
1990	04 29	00 19.78	-11 13.9					
1990	05 09	00 25.11	-10 14.7	3.166	2.587	47.1	16.6	19.1
1990	05 19	00 29.14	-09 28.4					
1990	05 29	00 31.76	-08 54.8	3.166	2.865	63.7	18.5	19.6
1990	06 08	00 32.82	-08 34.1					
1990	06 18	00 32.15	-08 26.2	3.105	3.131	82.1	18.7	19.9
1990	06 28	00 29.59	-08 31.3					
1990	07 08	00 25.00	-08 48.7	3.018	3.388	102.6	17.0	20.2
1990	07 18	00 18.31	-09 17.7					
1990	07 28	00 09.54	-09 56.5	2.954	3.636	125.3	13.2	20.5
1990	08 07	23 58.91	-10 42.2					
1990	08 17	23 46.83	-11 31.1	2.970	3.877	149.6	7.6	20.7
1990	08 27	23 33.86	-12 19.0					
1990	09 06	23 20.74	-13 01.7	3.112	4.111	171.3	2.1	21.1

Comet Austin (1989c1) Elements MPC 16205

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	m1
1990 04 19	01 06.17 +34 04.2	0.810	0.434	24.9	103.5	2.8
1990 04 24	00 42.48 +35 42.3					
1990 04 29	00 16.72 +35 58.0	0.601	0.625	35.5	110.5	3.4
1990 05 04	23 47.82 +35 04.4					
1990 05 09	23 13.08 +32 50.4	0.418	0.830	53.2	103.0	3.5
1990 05 14	22 28.19 +28 29.0					
1990 05 19	21 28.10 +20 18.7	0.273	1.029	85.9	78.7	3.3
1990 05 24	20 11.89 +06 41.0					
1990 05 29	18 50.83 -09 16.4	0.250	1.219	141.8	31.0	3.6
1990 06 03	17 42.28 -21 00.3					
1990 06 08	16 52.88 -27 32.4	0.388	1.401	174.9	3.7	5.0
1990 06 13	16 19.44 -30 58.8					
1990 06 18	15 57.05 -32 51.8	0.595	1.576	155.0	15.8	6.4
1990 06 23	15 42.04 -33 57.7					
1990 06 28	15 32.05 -34 38.8	0.832	1.744	141.1	21.5	7.4
1990 07 03	15 25.60 -35 06.5					
1990 07 08	15 21.67 -35 26.7	1.085	1.906	130.1	24.1	8.3
1990 07 13	15 19.64 -35 42.5					
1990 07 18	15 19.04 -35 55.8	1.349	2.062	120.7	25.1	9.0
1990 07 23	15 19.58 -36 07.9					
1990 07 28	15 21.04 -36 19.3	1.622	2.215	112.1	25.1	9.6
1990 08 02	15 23.24 -36 30.5					
1990 08 07	15 26.05 -36 41.7	1.901	2.363	104.1	24.6	10.2
1990 08 12	15 29.36 -36 53.1					
1990 08 17	15 33.11 -37 04.6	2.183	2.507	96.4	23.7	10.7

1990 DA a,e,i = 2.16, 0.46, 25 Elements MPC 16241

Date ET	R. A. (1950) Decl.	Delta	r	Elong.	Phase	V
1990 05 09	10 30.74 +33 34.6	1.361	1.807	98.3	33.6	16.7
1990 05 19	10 47.97 +31 54.4					
1990 05 29	11 05.04 +30 02.8	1.662	1.925	88.5	31.8	17.2
1990 06 08	11 21.91 +28 03.6					
1990 06 18	11 38.57 +25 59.4	1.969	2.039	79.2	29.3	17.6
1990 06 28	11 55.05 +23 52.3					
1990 07 08	12 11.38 +21 44.1	2.273	2.149	70.0	26.4	18.0
1990 07 18	12 27.56 +19 36.2					
1990 07 28	12 43.64 +17 29.6	2.567	2.254	60.8	23.2	18.3
1990 08 07	12 59.65 +15 25.5					
1990 08 17	13 15.59 +13 24.8	2.843	2.353	51.7	19.7	18.5

Periodic Comet Chernykh (1978 IV) Elements MPC 14592

Date ET	R. A. (1950) Decl.	Delta	r	Variation		m2
1990 05 29	19 09.04 -19 20.3	4.141	4.965	-0.42	-0.3	21.0
1990 06 08	19 05.07 -19 26.7					
1990 06 18	19 00.01 -19 35.6	3.894	4.868	-0.44	-0.2	20.8
1990 06 28	18 54.11 -19 46.4					
1990 07 08	18 47.77 -19 58.5	3.756	4.770	-0.45	-0.1	20.7
1990 07 18	18 41.40 -20 11.2					
1990 07 28	18 35.47 -20 24.0	3.737	4.671	-0.44	+0.1	20.6
1990 08 07	18 30.38 -20 36.5					
1990 08 17	18 26.48 -20 48.3	3.822	4.571	-0.42	+0.2	20.5
1990 08 27	18 24.01 -20 59.5					
1990 09 06	18 23.12 -21 09.8	3.982	4.470	-0.39	+0.2	20.5
1990 09 16	18 23.87 -21 19.1					
1990 09 26	18 26.23 -21 27.1	4.182	4.368	-0.38	+0.2	20.5
1990 10 06	18 30.15 -21 33.5					
1990 10 16	18 35.52 -21 37.9	4.387	4.265	-0.37	+0.2	20.5

1990 10 26	18 42.22	-21 39.8					
1990 11 05	18 50.13	-21 38.7	4.570	4.162	-0.37	+0.1	20.5
1990 11 15	18 59.10	-21 34.2					
1990 11 25	19 09.02	-21 25.8	4.707	4.058	-0.37	-0.1	20.4

1988 EG a,e,i = 1.27, 0.50, 3 Elements MPC 13167

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1990 05 29		19 56.04	-13 56.4	0.894	1.717	-2.63	-6.6	20.0
1990 06 08		19 53.08	-13 13.9					
1990 06 18		19 44.24	-12 41.6	0.670	1.628	-3.76	-9.6	19.0
1990 06 28		19 28.32	-12 23.6					
1990 07 08		19 04.96	-12 21.6	0.509	1.520	-4.84	-11.9	17.9
1990 07 18		18 35.50	-12 34.9					
1990 07 28		18 03.64	-13 00.5	0.433	1.394	-4.24	-11.1	17.9
1990 08 07		17 34.26	-13 35.3					
1990 08 17		17 10.70	-14 18.3	0.423	1.248	-1.66	-9.2	18.2

(4341) 1987 KF a,e,i = 1.84, 0.68, 12 Elements MPC 15692

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29		20 04.45	-18 42.6	1.957	2.697	127.5	17.4	20.1
1990 06 08		19 56.44	-19 24.7					
1990 06 18		19 45.54	-20 14.9	1.842	2.776	151.3	10.1	19.8
1990 06 28		19 32.38	-21 08.9					
1990 07 08		19 17.98	-22 01.7	1.831	2.846	177.0	1.1	19.4
1990 07 18		19 03.62	-22 48.9					
1990 07 28		18 50.53	-23 28.2	1.943	2.907	157.4	7.7	19.9
1990 08 07		18 39.74	-23 58.9					
1990 08 17		18 31.78	-24 22.2	2.164	2.958	133.9	14.3	20.4

Periodic Comet Wolf-Harrington Elements MPC 13057

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 05 29		22 52.21	+11 56.0	3.111	3.070	78.3	18.9	20.8
1990 06 08		22 59.92	+13 45.7					
1990 06 18		23 06.61	+15 36.1	2.748	2.958	91.8	20.1	20.4
1990 06 28		23 12.03	+17 25.9					
1990 07 08		23 15.96	+19 13.3	2.393	2.845	105.9	20.1	19.9
1990 07 18		23 18.14	+20 55.8					
1990 07 28		23 18.27	+22 30.1	2.068	2.730	120.7	18.7	19.4
1990 08 07		23 16.14	+23 51.6					
1990 08 17		23 11.66	+24 54.8	1.791	2.613	135.6	15.7	18.9
1990 08 27		23 04.93	+25 33.2					
1990 09 06		22 56.45	+25 41.0	1.586	2.495	147.5	12.5	18.5
1990 09 16		22 47.06	+25 14.4					
1990 09 26		22 37.91	+24 13.7	1.467	2.377	148.1	12.9	18.1
1990 10 06		22 30.29	+22 44.4					
1990 10 16		22 25.21	+20 56.1	1.435	2.261	136.0	17.9	17.8
1990 10 26		22 23.40	+19 00.4					
1990 11 05		22 25.17	+17 08.4	1.474	2.146	119.8	23.7	17.7
1990 11 15		22 30.47	+15 28.4					
1990 11 25		22 39.13	+14 06.0	1.556	2.035	104.1	28.1	17.5
1990 12 05		22 50.81	+13 04.3					
1990 12 15		23 05.19	+12 23.7	1.657	1.931	90.2	30.7	17.5
1990 12 25		23 21.96	+12 03.8					
1991 01 04		23 40.83	+12 02.8	1.763	1.835	78.2	31.6	17.4
1991 01 14		00 01.55	+12 18.3					
1991 01 24		00 23.94	+12 47.4	1.864	1.752	68.0	31.4	17.3
1991 02 03		00 47.82	+13 26.8					
1991 02 13		01 13.02	+14 13.1	1.961	1.685	59.2	30.2	17.2
1991 02 23		01 39.44	+15 02.7					

1991 03 05	02 06.92	+15 51.8	2.054	1.637	51.7	28.4	17.2
1991 03 15	02 35.32	+16 36.8					
1991 03 25	03 04.48	+17 14.4	2.149	1.611	45.3	26.1	17.2
1991 04 04	03 34.21	+17 41.5					
1991 04 14	04 04.31	+17 55.6	2.250	1.610	39.7	23.4	17.3
1991 04 24	04 34.56	+17 54.9					
1991 05 04	05 04.72	+17 38.2	2.359	1.634	34.7	20.5	17.5
1991 05 14	05 34.58	+17 05.0					
1991 05 24	06 03.93	+16 15.6	2.479	1.680	30.0	17.5	17.7

Periodic Comet Schwassmann-Wachmann 1 Elements MPC 11510

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 05 29	01 17.91	+16 25.3	6.478	5.781	43.2	6.9	(19.2)
1990 06 08	01 24.18	+17 13.4					
1990 06 18	01 29.93	+17 59.5	6.243	5.783	58.8	8.6	(19.1)
1990 06 28	01 35.04	+18 42.9					
1990 07 08	01 39.43	+19 23.2	5.962	5.784	75.1	9.8	(19.0)
1990 07 18	01 42.99	+19 59.9					
1990 07 28	01 45.62	+20 32.4	5.658	5.787	92.2	10.1	(18.9)
1990 08 07	01 47.23	+21 00.1					
1990 08 17	01 47.76	+21 22.3	5.359	5.789	110.3	9.4	(18.8)
1990 08 27	01 47.16	+21 38.3					
1990 09 06	01 45.46	+21 47.6	5.097	5.791	129.5	7.7	(18.7)
1990 09 16	01 42.72	+21 49.5					
1990 09 26	01 39.08	+21 43.8	4.908	5.794	149.5	5.0	(18.6)
1990 10 06	01 34.77	+21 30.9					
1990 10 16	01 30.07	+21 11.4	4.820	5.796	167.1	2.2	(18.5)
1990 10 26	01 25.30	+20 46.7					
1990 11 05	01 20.81	+20 18.6	4.852	5.799	161.2	3.2	(18.6)
1990 11 15	01 16.89	+19 49.2					
1990 11 25	01 13.80	+19 20.7	4.999	5.802	141.2	6.1	(18.6)
1990 12 05	01 11.74	+18 55.2					
1990 12 15	01 10.81	+18 34.3	5.240	5.805	120.7	8.4	(18.7)
1990 12 25	01 11.04	+18 19.1					
1991 01 04	01 12.44	+18 10.5	5.541	5.808	100.9	9.6	(18.9)
1991 01 14	01 14.93	+18 08.6					
1991 01 24	01 18.45	+18 13.4	5.863	5.811	82.2	9.7	(19.0)
1991 02 03	01 22.89	+18 24.5					
1991 02 13	01 28.14	+18 41.3	6.172	5.815	64.4	8.8	(19.1)
1991 02 23	01 34.11	+19 03.3					
1991 03 05	01 40.69	+19 29.7	6.440	5.819	47.6	7.2	(19.2)
1991 03 15	01 47.79	+19 59.8					
1991 03 25	01 55.31	+20 32.9	6.647	5.822	31.7	5.2	(19.3)

Periodic Comet Encke Elements MPC 12577

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 05 29	01 27.48	+15 00.1	3.016	2.352	41.3	16.5	21.5
1990 06 08	01 42.71	+16 47.2					
1990 06 18	01 58.84	+18 38.6	2.630	2.160	52.1	21.8	21.2
1990 06 28	02 16.13	+20 35.0					
1990 07 08	02 34.94	+22 37.2	2.211	1.949	61.8	27.4	20.8
1990 07 18	02 55.87	+24 46.4					
1990 07 28	03 19.77	+27 03.4	1.779	1.716	69.8	33.7	20.2
1990 08 02	03 33.25	+28 14.9					
1990 08 07	03 48.06	+29 28.1	1.565	1.591	72.6	37.5	19.8
1990 08 12	04 04.52	+30 42.7					
1990 08 17	04 23.02	+31 57.4	1.359	1.458	74.3	41.9	19.4
1990 08 22	04 44.06	+33 10.2					

1990 08 27	05 08.24	+34 17.6	1.166	1.317	74.1	47.5	19.0
1990 09 01	05 36.24	+35 13.7					
1990 09 06	06 08.75	+35 49.2	0.996	1.167	71.2	54.9	18.6
1990 09 11	06 46.21	+35 50.3					
1990 09 16	07 28.44	+34 59.6	0.866	1.007	64.6	64.4	18.3
1990 09 21	08 14.31	+32 59.4					
1990 09 26	09 01.68	+29 38.7	0.800	0.835	53.8	75.6	18.0
1990 10 01	09 48.06	+25 01.0					
1990 10 06	10 31.53	+19 25.0	0.824	0.653	40.5	84.4	17.9
1990 10 11	11 11.40	+13 16.5					
1990 10 16	11 48.24	+06 56.8	0.949	0.469	27.7	81.8	17.4

Periodic Comet Sanguin (1989z) Elements MPC 15521

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 05 29	01 58.69	+09 18.1	2.630	1.906	36.0	18.2	20.9
1990 06 08	02 22.39	+10 09.8					
1990 06 18	02 45.36	+10 48.0	2.580	1.978	43.9	20.9	21.0
1990 06 28	03 07.47	+11 11.9					
1990 07 08	03 28.56	+11 21.2	2.516	2.066	52.7	23.1	21.2
1990 07 18	03 48.49	+11 16.0					
1990 07 28	04 07.10	+10 56.5	2.436	2.166	62.7	24.6	21.3
1990 08 07	04 24.19	+10 23.2					
1990 08 17	04 39.61	+09 36.8	2.338	2.277	74.0	25.3	21.4

2222 T-2 a,e,i = 3.43, 0.08, 4 Elements MPC 16243

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 03 30	13 54.29	-07 28.9	2.316	3.267	158.9	6.3	16.5
1990 04 09	13 48.18	-06 42.1					
1990 04 19	13 41.41	-05 54.0	2.253	3.255	175.0	1.5	16.2
1990 04 29	13 34.67	-05 09.2					
1990 05 09	13 28.67	-04 31.9	2.304	3.244	154.3	7.8	16.6
1990 05 19	13 23.95	-04 05.1					
1990 05 29	13 20.89	-03 50.7	2.454	3.232	133.2	13.2	16.9
1990 06 08	13 19.71	-03 49.4					
1990 06 18	13 20.42	-04 00.7	2.671	3.222	114.1	16.7	17.2

1983 PY a,e,i = 2.42, 0.27, 8 Elements MPC 16231

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 03 30	14 09.27	-09 30.5	1.593	2.533	154.9	9.6	17.9
1990 04 09	14 02.08	-08 13.6					
1990 04 19	13 53.36	-06 49.0	1.474	2.477	175.4	1.8	17.3
1990 04 29	13 44.13	-05 24.4					
1990 05 09	13 35.57	-04 08.5	1.464	2.419	155.5	10.0	17.6
1990 05 19	13 28.67	-03 08.4					
1990 05 29	13 24.16	-02 28.5	1.546	2.359	133.3	18.2	17.9
1990 06 08	13 22.43	-02 10.6					
1990 06 18	13 23.52	-02 13.7	1.689	2.299	114.0	23.8	18.2

1988 XE1 a,e,i = 2.38, 0.07, 6 Elements MPC 16234

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1990 03 30	14 13.67	-20 34.1	1.384	2.302	-2.32	+6.3	15.7
1990 04 09	14 06.37	-19 47.1					
1990 04 19	13 57.54	-18 41.7	1.318	2.316	-2.48	+7.7	15.2
1990 04 29	13 48.45	-17 24.3					
1990 05 09	13 40.40	-16 04.1	1.354	2.331	-2.34	+8.2	15.5
1990 05 19	13 34.40	-14 49.9					
1990 05 29	13 31.03	-13 49.1	1.484	2.346	-2.02	+7.5	16.0
1990 06 08	13 30.53	-13 05.7					
1990 06 18	13 32.78	-12 40.8	1.682	2.361	-1.69	+6.2	16.4

1987 ST17 a,e,i = 2.43, 0.16, 9 Elements MPC 15250

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 03.68	-19 28.1	1.838	2.612	131.3	16.8	17.7
1990	04 29	17 01.06	-18 43.7					
1990	05 09	16 55.68	-17 53.3	1.646	2.584	152.5	10.4	17.2
1990	05 19	16 47.96	-16 58.6					
1990	05 29	16 38.63	-16 02.3	1.545	2.554	173.0	2.8	16.7
1990	06 08	16 28.79	-15 08.4					
1990	06 18	16 19.59	-14 21.2	1.549	2.522	158.5	8.5	17.0
1990	06 28	16 12.04	-13 44.4					
1990	07 08	16 06.89	-13 20.5	1.650	2.490	136.8	16.2	17.3

1981 UB1 a,e,i = 3.10, 0.18, 1 Elements MPC 13152

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 02.12	-21 24.2	2.896	3.641	131.6	11.9	18.2
1990	04 29	16 58.48	-21 16.2					
1990	05 09	16 53.03	-21 05.6	2.711	3.641	153.1	7.2	17.9
1990	05 19	16 46.12	-20 52.5					
1990	05 29	16 38.30	-20 37.4	2.627	3.638	175.6	1.2	17.6
1990	06 08	16 30.24	-20 21.4					
1990	06 18	16 22.62	-20 05.8	2.658	3.635	161.2	5.2	17.8
1990	06 28	16 16.04	-19 52.4					
1990	07 08	16 11.00	-19 42.7	2.797	3.630	139.4	10.5	18.1

1981 EW21 a,e,i = 2.63, 0.13, 1 Elements MPC 11045

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 05.91	-22 19.0	1.525	2.309	130.6	19.3	17.1
1990	04 29	17 04.69	-22 10.4					
1990	05 09	17 00.33	-21 57.3	1.381	2.318	151.4	12.0	16.7
1990	05 19	16 53.32	-21 39.8					
1990	05 29	16 44.52	-21 18.7	1.320	2.330	174.3	2.5	16.2
1990	06 08	16 35.20	-20 55.9					
1990	06 18	16 26.68	-20 34.2	1.357	2.345	162.2	7.6	16.5
1990	06 28	16 20.04	-20 16.9					
1990	07 08	16 16.05	-20 06.5	1.486	2.361	140.7	15.8	17.0

1979 KO a,e,i = 3.18, 0.19, 19 Elements MPC 13691

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 07.60	-07 01.1	2.992	3.715	129.7	12.0	17.4
1990	04 29	17 04.11	-06 46.0					
1990	05 09	16 58.91	-06 35.2	2.797	3.700	149.2	8.0	17.1
1990	05 19	16 52.29	-06 30.6					
1990	05 29	16 44.72	-06 33.6	2.699	3.684	163.9	4.4	16.8
1990	06 08	16 36.80	-06 45.6					
1990	06 18	16 29.14	-07 06.8	2.715	3.666	156.0	6.5	16.9
1990	06 28	16 22.32	-07 37.1					
1990	07 08	16 16.86	-08 15.4	2.836	3.647	137.1	10.9	17.2

1986 UT a,e,i = 3.19, 0.12, 9 Elements MPC 11743

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 05.52	-25 44.5	2.079	2.834	130.3	15.7	16.1
1990	04 29	17 03.67	-25 21.2					
1990	05 09	16 59.34	-24 50.5	1.899	2.826	151.2	9.9	15.7
1990	05 19	16 52.95	-24 12.6					
1990	05 29	16 45.17	-23 28.2	1.809	2.819	173.8	2.2	15.3
1990	06 08	16 36.95	-22 39.7					
1990	06 18	16 29.26	-21 50.3	1.827	2.814	163.1	6.0	15.5
1990	06 28	16 22.95	-21 03.9					
1990	07 08	16 18.68	-20 23.8	1.945	2.811	141.3	13.1	15.9

1017 T-3 a,e,i = 2.78, 0.14, 8 Elements MPC 12700

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 08.20	-30 22.5	1.845	2.597	129.0	17.5	17.2
1990	04 29	17 06.80	-30 24.0					
1990	05 09	17 02.43	-30 16.3	1.650	2.570	149.2	11.6	16.8
1990	05 19	16 55.45	-29 57.3					
1990	05 29	16 46.60	-29 25.6	1.539	2.544	170.0	4.0	16.3
1990	06 08	16 37.02	-28 42.0					
1990	06 18	16 27.96	-27 49.7	1.531	2.519	162.7	6.9	16.4
1990	06 28	16 20.57	-26 53.7					
1990	07 08	16 15.69	-25 59.6	1.619	2.496	141.4	14.7	16.8

1989 EC3 a,e,i = 2.57, 0.12, 9 Elements MPC 15894

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 12.13	-12 56.9	2.050	2.796	129.2	16.2	18.8
1990	04 29	17 09.24	-12 10.8					
1990	05 09	17 03.92	-11 25.1	1.895	2.812	149.6	10.5	18.4
1990	05 19	16 56.60	-10 42.4					
1990	05 29	16 47.95	-10 05.9	1.830	2.827	166.8	4.7	18.1
1990	06 08	16 38.89	-09 38.5					
1990	06 18	16 30.36	-09 22.2	1.873	2.840	157.8	7.8	18.3
1990	06 28	16 23.18	-09 18.2					
1990	07 08	16 17.96	-09 26.4	2.015	2.852	137.9	13.8	18.7

1978 PT4 a,e,i = 2.59, 0.16, 16 Elements MPC 12949

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 12.72	-05 18.8	2.132	2.864	128.2	16.0	17.2
1990	04 29	17 09.88	-04 49.5					
1990	05 09	17 04.61	-04 26.3	1.939	2.840	147.1	11.1	16.8
1990	05 19	16 57.26	-04 12.6					
1990	05 29	16 48.41	-04 11.6	1.835	2.814	161.4	6.6	16.5
1990	06 08	16 38.90	-04 25.6					
1990	06 18	16 29.68	-04 55.2	1.835	2.787	154.5	9.0	16.6
1990	06 28	16 21.65	-05 39.5					
1990	07 08	16 15.54	-06 36.6	1.933	2.758	136.2	14.8	16.9

1987 SE4 a,e,i = 2.35, 0.13, 6 Elements MPC 12450

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 11.97	-24 00.7	1.636	2.399	129.1	19.0	16.8
1990	04 29	17 10.67	-23 38.3					
1990	05 09	17 06.19	-23 08.6	1.443	2.371	149.9	12.3	16.3
1990	05 19	16 58.85	-22 31.2					
1990	05 29	16 49.39	-21 46.9	1.333	2.343	173.1	3.0	15.7
1990	06 08	16 39.03	-20 58.1					
1990	06 18	16 29.14	-20 08.9	1.324	2.314	162.7	7.5	15.9
1990	06 28	16 20.98	-19 24.3					
1990	07 08	16 15.49	-18 48.5	1.410	2.286	140.2	16.5	16.3

1989 BY a,e,i = 2.38, 0.18, 3 Elements MPC 14359

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 20.25	-20 17.8	2.033	2.761	127.4	16.8	17.5
1990	04 29	17 17.20	-20 13.2					
1990	05 09	17 11.44	-20 07.1	1.862	2.776	148.8	10.8	17.2
1990	05 19	17 03.35	-19 59.4					
1990	05 29	16 53.63	-19 50.4	1.780	2.788	172.0	2.9	16.7
1990	06 08	16 43.27	-19 40.7					
1990	06 18	16 33.35	-19 31.9	1.808	2.797	163.5	5.9	16.9
1990	06 28	16 24.84	-19 25.8					
1990	07 08	16 18.48	-19 24.3	1.939	2.804	141.1	13.2	17.4

1983 EM1 a,e,i = 2.22, 0.08, 4 Elements MPC 14189

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 21.14	-27 26.5	1.500	2.249	126.6	21.0	17.5
1990	04 29	17 19.54	-27 56.0					
1990	05 09	17 14.28	-28 21.0	1.351	2.267	147.3	13.9	17.1
1990	05 19	17 05.75	-28 38.4					
1990	05 29	16 54.83	-28 45.1	1.281	2.284	169.2	4.7	16.7
1990	06 08	16 42.99	-28 39.8					
1990	06 18	16 31.81	-28 23.9	1.309	2.301	163.4	7.3	16.9
1990	06 28	16 22.71	-28 01.8					
1990	07 08	16 16.65	-27 38.6	1.432	2.317	141.7	15.8	17.4

1971 UD1 a,e,i = 2.21, 0.13, 2 Elements MPC 9465

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 18.24	-21 40.5	1.647	2.398	127.8	19.3	18.3
1990	04 29	17 16.68	-21 38.8					
1990	05 09	17 11.87	-21 34.5	1.455	2.376	148.7	12.7	17.9
1990	05 19	17 04.07	-21 27.3					
1990	05 29	16 53.97	-21 16.9	1.345	2.353	172.1	3.4	17.3
1990	06 08	16 42.78	-21 03.9					
1990	06 18	16 31.90	-20 50.2	1.335	2.327	163.5	7.1	17.4
1990	06 28	16 22.66	-20 38.7					
1990	07 08	16 16.10	-20 32.3	1.422	2.301	140.7	16.2	17.8

1981 GG a,e,i = 2.65, 0.18, 14 Elements MPC 10544

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 23.45	-32 26.5	1.759	2.480	125.4	19.3	17.6
1990	04 29	17 21.11	-33 44.0					
1990	05 09	17 15.30	-34 57.1	1.623	2.518	145.1	13.3	17.2
1990	05 19	17 06.39	-36 00.3					
1990	05 29	16 55.23	-36 47.9	1.571	2.557	162.8	6.7	17.0
1990	06 08	16 43.18	-37 16.3					
1990	06 18	16 31.74	-37 25.3	1.620	2.595	159.4	7.9	17.1
1990	06 28	16 22.24	-37 18.5					
1990	07 08	16 15.62	-37 01.6	1.766	2.634	140.9	14.1	17.5

1977 QH4 a,e,i = 2.24, 0.11, 6 Elements MPC 12143

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 27.94	-31 25.0	1.706	2.422	124.6	20.0	17.5
1990	04 29	17 26.98	-31 59.0					
1990	05 09	17 22.48	-32 27.9	1.512	2.406	144.5	14.1	17.0
1990	05 19	17 14.64	-32 47.9					
1990	05 29	17 04.11	-32 54.6	1.396	2.390	164.9	6.3	16.5
1990	06 08	16 52.13	-32 45.2					
1990	06 18	16 40.27	-32 20.1	1.379	2.371	163.6	6.9	16.5
1990	06 28	16 30.03	-31 43.0					
1990	07 08	16 22.63	-31 00.4	1.459	2.351	143.0	15.1	16.9

1943 DL a,e,i = 2.60, 0.13, 12 Elements MPC 15873

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 31.64	-38 56.1	2.180	2.848	122.4	17.3	17.3
1990	04 29	17 29.32	-39 51.3					
1990	05 09	17 23.77	-40 39.3	2.007	2.864	141.2	12.8	17.0
1990	05 19	17 15.28	-41 15.1					
1990	05 29	17 04.57	-41 33.9	1.916	2.879	157.8	7.6	16.7
1990	06 08	16 52.78	-41 32.5					
1990	06 18	16 41.27	-41 10.9	1.925	2.893	158.1	7.5	16.7
1990	06 28	16 31.28	-40 32.7					
1990	07 08	16 23.79	-39 43.8	2.036	2.905	141.9	12.5	17.0

1986 RD1 a,e,i = 2.80, 0.20, 8 Elements MPC 13159

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 25.73	-33 12.4	2.316	3.004	124.8	15.9	17.5
1990	04 29	17 23.98	-33 34.1					
1990	05 09	17 19.46	-33 49.9	2.087	2.968	144.7	11.3	17.1
1990	05 19	17 12.41	-33 56.8					
1990	05 29	17 03.35	-33 52.1	1.942	2.931	164.3	5.4	16.7
1990	06 08	16 53.21	-33 34.1					
1990	06 18	16 43.08	-33 03.3	1.903	2.893	163.8	5.6	16.6
1990	06 28	16 34.05	-32 22.6					
1990	07 08	16 27.06	-31 36.5	1.969	2.854	143.9	12.1	16.9

6519 P-L a,e,i = 3.05, 0.18, 3 Elements MPC 9302

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 25.55	-25 54.8	2.617	3.306	125.8	14.3	18.6
1990	04 29	17 22.87	-26 05.2					
1990	05 09	17 17.95	-26 12.7	2.442	3.333	146.9	9.5	18.3
1990	05 19	17 11.13	-26 16.2					
1990	05 29	17 02.95	-26 14.9	2.359	3.360	169.1	3.3	18.0
1990	06 08	16 54.15	-26 08.5					
1990	06 18	16 45.56	-25 57.9	2.387	3.384	166.8	3.9	18.1
1990	06 28	16 37.94	-25 44.8					
1990	07 08	16 31.92	-25 31.2	2.525	3.408	145.0	9.9	18.4

2277 T-2 a,e,i = 2.71, 0.10, 3 Elements MPC 14966

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 23.99	-25 53.8	2.026	2.741	126.2	17.2	19.0
1990	04 29	17 22.77	-26 10.7					
1990	05 09	17 18.74	-26 24.9	1.820	2.721	146.7	11.8	18.6
1990	05 19	17 12.13	-26 35.0					
1990	05 29	17 03.48	-26 39.3	1.698	2.700	168.8	4.2	18.1
1990	06 08	16 53.74	-26 36.9					
1990	06 18	16 44.04	-26 28.2	1.681	2.679	166.4	5.1	18.1
1990	06 28	16 35.48	-26 15.3					
1990	07 08	16 29.02	-26 01.2	1.765	2.658	144.4	12.9	18.5

1979 SL7 a,e,i = 2.57, 0.21, 6 Elements MPC 12697

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 28.13	-19 15.9	2.359	3.054	125.6	15.5	18.0
1990	04 29	17 25.45	-18 51.4					
1990	05 09	17 20.38	-18 25.1	2.175	3.069	146.7	10.4	17.7
1990	05 19	17 13.27	-17 57.6					
1990	05 29	17 04.65	-17 30.0	2.081	3.081	168.7	3.7	17.3
1990	06 08	16 55.34	-17 03.8					
1990	06 18	16 46.21	-16 40.7	2.098	3.091	165.2	4.8	17.4
1990	06 28	16 38.10	-16 22.6					
1990	07 08	16 31.69	-16 10.9	2.223	3.098	143.3	11.3	17.8

6552 P-L a,e,i = 2.27, 0.11, 7 Elements MPC 9761

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 30.42	-13 35.3	1.787	2.500	124.8	19.3	18.1
1990	04 29	17 28.91	-12 55.5					
1990	05 09	17 24.47	-12 16.5	1.615	2.509	144.9	13.4	17.7
1990	05 19	17 17.38	-11 40.9					
1990	05 29	17 08.27	-11 11.6	1.524	2.515	164.5	6.2	17.3
1990	06 08	16 58.14	-10 51.5					
1990	06 18	16 48.15	-10 42.6	1.534	2.520	161.9	7.2	17.4
1990	06 28	16 39.38	-10 46.1					
1990	07 08	16 32.74	-11 01.8	1.644	2.523	141.8	14.4	17.8

1986 YA a,e,i = 3.10, 0.18, 17 Elements MPC 11633

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	04 19	17 27.12	-28 16.3	2.494	3.181	125.2	14.9	15.7
1990	04 29	17 25.35	-27 51.5					
1990	05 09	17 21.17	-27 19.7	2.259	3.147	146.0	10.3	15.3
1990	05 19	17 14.86	-26 39.8					
1990	05 29	17 06.90	-25 51.8	2.113	3.113	168.4	3.8	14.9
1990	06 08	16 58.07	-24 56.7					
1990	06 18	16 49.27	-23 56.9	2.077	3.078	167.8	4.0	14.8
1990	06 28	16 41.37	-22 56.0					
1990	07 08	16 35.12	-21 57.9	2.151	3.043	145.4	10.9	15.2

1982 BQ2 a,e,i = 2.30, 0.15, 4 Elements MPC 14473

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 26.41	-17 19.8	1.753	2.645	145.2	12.6	18.0
1990	05 19	17 19.11	-17 03.9					
1990	05 29	17 09.79	-16 49.7	1.651	2.649	167.4	4.8	17.6
1990	06 08	16 59.42	-16 38.2					
1990	06 18	16 49.11	-16 30.8	1.654	2.650	165.7	5.4	17.6
1990	06 28	16 39.95	-16 28.9					
1990	07 08	16 32.83	-16 33.6	1.761	2.649	143.7	13.1	18.0
1990	07 18	16 28.27	-16 45.4					
1990	07 28	16 26.48	-17 04.1	1.947	2.645	123.4	18.7	18.4

1986 QB1 a,e,i = 2.86, 0.01, 3 Elements MPC 12133

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 23.17	-24 13.7	1.946	2.840	145.9	11.5	16.8
1990	05 19	17 16.90	-24 20.4					
1990	05 29	17 08.77	-24 23.7	1.839	2.839	168.4	4.1	16.4
1990	06 08	16 59.65	-24 23.1					
1990	06 18	16 50.55	-24 18.9	1.837	2.839	168.1	4.2	16.4
1990	06 28	16 42.45	-24 12.7					
1990	07 08	16 36.20	-24 06.6	1.940	2.839	145.9	11.6	16.8
1990	07 18	16 32.29	-24 02.7					
1990	07 28	16 30.96	-24 02.3	2.125	2.839	125.6	16.9	17.2

1988 XT a,e,i = 2.25, 0.10, 1 Elements MPC 14203

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 28.34	-23 16.6	1.432	2.331	144.8	14.4	16.8
1990	05 19	17 21.00	-23 06.4					
1990	05 29	17 11.25	-22 51.9	1.350	2.351	168.0	5.1	16.4
1990	06 08	17 00.29	-22 33.5					
1990	06 18	16 49.54	-22 12.8	1.368	2.371	167.8	5.2	16.4
1990	06 28	16 40.32	-21 52.8					
1990	07 08	16 33.62	-21 36.6	1.484	2.389	145.0	14.1	17.0
1990	07 18	16 29.95	-21 26.5					
1990	07 28	16 29.42	-21 23.6	1.676	2.405	124.9	20.3	17.4

1987 XD a,e,i = 3.02, 0.04, 11 Elements MPC 14354

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 24.47	-12 22.3	2.152	3.034	144.9	11.0	15.7
1990	05 19	17 18.53	-12 20.0					
1990	05 29	17 11.03	-12 23.6	2.052	3.042	164.8	5.0	15.3
1990	06 08	17 02.70	-12 34.0					
1990	06 18	16 54.36	-12 51.5	2.059	3.050	164.5	5.1	15.4
1990	06 28	16 46.82	-13 16.1					
1990	07 08	16 40.78	-13 47.2	2.172	3.058	144.7	11.1	15.7
1990	07 18	16 36.70	-14 23.8					
1990	07 28	16 34.83	-15 05.0	2.370	3.066	124.9	15.8	16.1

1987 QG2 a,e,i = 2.30, 0.11, 6 Elements MPC 14351

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 36.92	-32 53.6	1.657	2.526	141.4	14.4	17.3
1990	05 19	17 29.87	-33 08.9					
1990	05 29	17 20.08	-33 12.6	1.530	2.514	162.2	7.1	16.9
1990	06 08	17 08.62	-33 01.5					
1990	06 18	16 56.87	-32 35.2	1.501	2.500	166.4	5.5	16.8
1990	06 28	16 46.28	-31 56.5					
1990	07 08	16 38.08	-31 11.0	1.574	2.485	146.2	13.1	17.1
1990	07 18	16 32.95	-30 24.4					
1990	07 28	16 31.18	-29 41.4	1.728	2.468	126.1	19.4	17.5

(4188) 1979 HX4 a,e,i = 2.34, 0.15, 6 Elements MPC 15222

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 32.72	-14 25.2	1.547	2.432	143.3	14.4	16.5
1990	05 19	17 26.84	-14 06.4					
1990	05 29	17 18.48	-13 52.6	1.409	2.400	164.1	6.6	16.0
1990	06 08	17 08.52	-13 45.9					
1990	06 18	16 58.14	-13 47.8	1.369	2.367	165.8	6.0	15.9
1990	06 28	16 48.60	-13 59.2					
1990	07 08	16 41.06	-14 20.6	1.428	2.334	144.9	14.5	16.2
1990	07 18	16 36.27	-14 51.2					
1990	07 28	16 34.59	-15 29.9	1.562	2.300	125.0	21.2	16.6

1989 CD4 a,e,i = 2.23, 0.14, 4 Elements MPC 14794

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 38.70	-29 07.3	1.661	2.533	141.9	14.2	17.8
1990	05 19	17 31.54	-29 13.7					
1990	05 29	17 21.74	-29 11.6	1.539	2.528	164.1	6.3	17.4
1990	06 08	17 10.35	-28 59.0					
1990	06 18	16 58.68	-28 35.9	1.517	2.521	168.9	4.5	17.3
1990	06 28	16 48.11	-28 04.9					
1990	07 08	16 39.81	-27 30.5	1.598	2.511	146.8	12.8	17.7
1990	07 18	16 34.45	-26 57.3					
1990	07 28	16 32.31	-26 28.9	1.762	2.499	126.2	19.1	18.1

(4039) Souseki a,e,i = 2.42, 0.06, 5 Elements MPC 14338

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 35.99	-26 32.2	1.666	2.544	142.8	13.9	16.7
1990	05 19	17 29.64	-26 18.4					
1990	05 29	17 20.87	-25 57.6	1.543	2.537	165.4	5.8	16.3
1990	06 08	17 10.63	-25 29.5					
1990	06 18	17 00.17	-24 55.4	1.521	2.529	170.3	3.9	16.1
1990	06 28	16 50.73	-24 18.3					
1990	07 08	16 43.39	-23 42.1	1.602	2.520	147.5	12.5	16.6
1990	07 18	16 38.77	-23 10.5					
1990	07 28	16 37.16	-22 45.8	1.765	2.510	126.8	18.9	17.0

(4064) 2126 P-L a,e,i = 2.47, 0.04, 7 Elements MPC 14469

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 40.22	-34 16.4	1.704	2.564	140.4	14.5	17.4
1990	05 19	17 33.59	-34 40.4					
1990	05 29	17 24.28	-34 52.6	1.589	2.567	160.5	7.6	17.0
1990	06 08	17 13.31	-34 49.6					
1990	06 18	17 02.04	-34 30.5	1.572	2.569	165.8	5.6	16.9
1990	06 28	16 51.86	-33 57.6					
1990	07 08	16 43.95	-33 16.0	1.657	2.571	147.2	12.4	17.3
1990	07 18	16 38.98	-32 31.4					
1990	07 28	16 37.23	-31 48.6	1.824	2.572	127.5	18.3	17.7

1943 EN a,e,i = 2.23, 0.10, 7 Elements MPC 14342

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 42.52	-32 45.9	1.193	2.072	140.3	18.1	15.8
1990	05 19	17 36.53	-33 35.9					
1990	05 29	17 27.01	-34 13.8	1.108	2.091	160.5	9.3	15.4
1990	06 08	17 15.29	-34 33.8					
1990	06 18	17 03.19	-34 33.3	1.111	2.111	165.9	6.7	15.3
1990	06 28	16 52.60	-34 14.8					
1990	07 08	16 45.01	-33 44.6	1.205	2.133	147.3	14.9	15.8
1990	07 18	16 41.18	-33 09.6					
1990	07 28	16 41.26	-32 35.4	1.372	2.155	128.4	21.7	16.3

1987 SV a,e,i = 2.39, 0.11, 4 Elements MPC 12449

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 40.47	-28 27.1	1.698	2.566	141.6	14.1	16.9
1990	05 19	17 34.25	-28 30.6					
1990	05 29	17 25.41	-28 26.8	1.561	2.549	163.6	6.4	16.4
1990	06 08	17 14.90	-28 13.8					
1990	06 18	17 03.93	-27 51.6	1.524	2.531	170.3	3.9	16.2
1990	06 28	16 53.82	-27 22.3					
1990	07 08	16 45.77	-26 49.8	1.590	2.511	148.1	12.3	16.7
1990	07 18	16 40.48	-26 18.4					
1990	07 28	16 38.33	-25 51.4	1.739	2.490	127.5	18.9	17.0

(4369) 1982 OR a,e,i = 2.61, 0.25, 12 Elements MPC 15866

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 41.77	-35 42.0	1.979	2.826	139.7	13.4	16.0
1990	05 19	17 35.29	-35 46.4					
1990	05 29	17 26.22	-35 38.1	1.804	2.778	159.7	7.3	15.6
1990	06 08	17 15.40	-35 14.2					
1990	06 18	17 04.01	-34 33.7	1.730	2.727	166.0	5.2	15.3
1990	06 28	16 53.35	-33 38.9					
1990	07 08	16 44.61	-32 34.9	1.762	2.675	147.4	11.8	15.6
1990	07 18	16 38.58	-31 27.8					
1990	07 28	16 35.64	-30 23.1	1.881	2.622	127.1	18.0	15.9

1980 FY a,e,i = 2.16, 0.04, 2 Elements MPC 13152

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 41.54	-26 31.8	1.191	2.079	141.6	17.6	16.8
1990	05 19	17 36.10	-26 35.4					
1990	05 29	17 27.37	-26 32.2	1.089	2.081	163.8	7.8	16.3
1990	06 08	17 16.54	-26 20.6					
1990	06 18	17 05.24	-26 00.5	1.074	2.084	171.2	4.3	16.1
1990	06 28	16 55.20	-25 35.0					
1990	07 08	16 47.85	-25 08.5	1.153	2.088	148.6	14.7	16.6
1990	07 18	16 43.96	-24 45.5					
1990	07 28	16 43.79	-24 28.7	1.304	2.093	128.6	22.3	17.1

1978 SM5 a,e,i = 2.67, 0.03, 4 Elements MPC 14471

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 41.31	-25 37.7	1.716	2.585	141.7	14.0	16.9
1990	05 19	17 35.88	-25 55.5					
1990	05 29	17 28.02	-26 10.0	1.596	2.585	163.7	6.3	16.5
1990	06 08	17 18.57	-26 19.4					
1990	06 18	17 08.68	-26 22.8	1.575	2.585	171.8	3.2	16.3
1990	06 28	16 59.54	-26 21.1					
1990	07 08	16 52.24	-26 16.3	1.657	2.585	149.6	11.5	16.8
1990	07 18	16 47.48	-26 11.1					
1990	07 28	16 45.62	-26 07.7	1.823	2.586	129.1	17.7	17.2

1981 EG1 a,e,i = 2.61, 0.07, 4 Elements MPC 14614

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 43.14	-27 42.1	1.562	2.432	141.1	15.1	17.1
1990	05 19	17 38.02	-28 02.3					
1990	05 29	17 30.20	-28 17.1	1.447	2.433	162.7	7.1	16.7
1990	06 08	17 20.60	-28 24.1					
1990	06 18	17 10.48	-28 22.4	1.426	2.436	171.3	3.6	16.5
1990	06 28	17 01.18	-28 13.0					
1990	07 08	16 53.90	-27 58.7	1.506	2.440	149.9	12.1	17.0
1990	07 18	16 49.40	-27 43.2					
1990	07 28	16 48.01	-27 29.5	1.668	2.445	129.7	18.6	17.4

1977 RY6 a,e,i = 2.77, 0.17, 9 Elements MPC 12568

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 45.45	-35 39.7	1.993	2.833	139.0	13.5	17.9
1990	05 19	17 39.77	-36 18.9					
1990	05 29	17 31.47	-36 49.0	1.833	2.799	158.2	7.7	17.5
1990	06 08	17 21.30	-37 05.5					
1990	06 18	17 10.38	-37 06.1	1.772	2.765	164.7	5.6	17.3
1990	06 28	16 59.99	-36 51.0					
1990	07 08	16 51.36	-36 23.2	1.814	2.730	148.0	11.4	17.6
1990	07 18	16 45.32	-35 47.7					
1990	07 28	16 42.34	-35 09.6	1.943	2.695	128.5	17.1	17.9

(3999) 1989 AL a,e,i = 2.46, 0.12, 3 Elements MPC 14180

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 47.00	-26 07.7	1.648	2.510	140.4	14.9	16.2
1990	05 19	17 40.86	-26 05.0					
1990	05 29	17 32.21	-25 57.2	1.550	2.536	162.9	6.8	15.8
1990	06 08	17 22.01	-25 43.3					
1990	06 18	17 11.50	-25 23.6	1.550	2.561	172.7	2.9	15.7
1990	06 28	17 01.91	-25 00.3					
1990	07 08	16 54.31	-24 36.3	1.654	2.585	150.0	11.3	16.2
1990	07 18	16 49.34	-24 14.8					
1990	07 28	16 47.27	-23 58.0	1.843	2.608	129.3	17.5	16.6

(4229) 1971 BK a,e,i = 2.37, 0.18, 5 Elements MPC 15387

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 47.31	-15 42.0	1.736	2.592	140.0	14.5	17.2
1990	05 19	17 41.01	-15 21.2					
1990	05 29	17 32.47	-15 04.3	1.641	2.623	161.7	7.0	16.8
1990	06 08	17 22.58	-14 52.6					
1990	06 18	17 12.40	-14 47.1	1.647	2.651	168.9	4.2	16.7
1990	06 28	17 03.02	-14 48.5					
1990	07 08	16 55.39	-14 57.3	1.757	2.677	148.4	11.5	17.2
1990	07 18	16 50.11	-15 13.3					
1990	07 28	16 47.48	-15 35.6	1.954	2.701	128.0	17.2	17.6

(4126) Mashu a,e,i = 3.21, 0.14, 3 Elements MPC 14776

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 44.07	-21 38.0	2.812	3.654	141.2	10.0	17.2
1990	05 19	17 38.85	-21 37.8					
1990	05 29	17 32.13	-21 37.1	2.676	3.658	163.2	4.6	16.9
1990	06 08	17 24.46	-21 35.7					
1990	06 18	17 16.46	-21 33.6	2.649	3.660	173.7	1.7	16.7
1990	06 28	17 08.81	-21 31.5					
1990	07 08	17 02.17	-21 30.1	2.736	3.662	151.5	7.6	17.1
1990	07 18	16 57.00	-21 30.2					
1990	07 28	16 53.64	-21 32.6	2.920	3.661	130.5	12.2	17.4

1981 QP3 a,e,i = 2.88, 0.05, 3 Elements MPC 14472

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 45.92	-23 15.2	1.917	2.773	140.8	13.3	17.3
1990	05 19	17 41.07	-23 23.7					
1990	05 29	17 33.99	-23 31.1	1.782	2.767	162.8	6.2	16.9
1990	06 08	17 25.41	-23 36.4					
1990	06 18	17 16.27	-23 39.2	1.748	2.761	174.0	2.2	16.6
1990	06 28	17 07.61	-23 40.0					
1990	07 08	17 00.43	-23 40.0	1.820	2.755	151.3	10.2	17.1
1990	07 18	16 55.41	-23 40.9					
1990	07 28	16 52.96	-23 43.9	1.980	2.751	130.6	16.3	17.5

1986 GZ a,e,i = 2.34, 0.25, 23 Elements MPC 12313

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 42.56	+06 08.6	1.246	2.076	133.7	20.6	18.5
1990	05 19	17 39.68	+09 19.2					
1990	05 29	17 33.92	+12 14.2	1.125	2.021	141.7	18.1	18.1
1990	06 08	17 26.00	+14 38.6					
1990	06 18	17 17.05	+16 20.1	1.079	1.968	139.8	19.5	18.0
1990	06 28	17 08.43	+17 11.2					
1990	07 08	17 01.54	+17 11.6	1.100	1.919	130.0	23.9	18.1
1990	07 18	16 57.39	+16 27.1					
1990	07 28	16 56.59	+15 06.2	1.168	1.875	118.1	28.5	18.3

1987 SG2 a,e,i = 2.57, 0.17, 7 Elements MPC 15887

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 49.51	-13 55.5	2.152	2.990	139.2	12.7	18.1
1990	05 19	17 43.92	-13 31.5					
1990	05 29	17 36.41	-13 11.8	2.022	2.995	160.0	6.6	17.8
1990	06 08	17 27.63	-12 57.7					
1990	06 18	17 18.40	-12 50.3	1.996	2.997	168.0	4.0	17.6
1990	06 28	17 09.60	-12 50.5					
1990	07 08	17 02.06	-12 58.6	2.078	2.997	149.2	10.0	17.9
1990	07 18	16 56.39	-13 14.0					
1990	07 28	16 52.94	-13 36.2	2.252	2.995	128.8	15.3	18.3

(4103) Chahine a,e,i = 2.38, 0.19, 27 Elements MPC 14610

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 06.97	-55 49.2	1.577	2.335	127.7	20.0	15.1
1990	05 19	18 01.71	-58 42.5					
1990	05 29	17 50.13	-61 19.3	1.442	2.291	137.2	17.5	14.8
1990	06 08	17 32.38	-63 23.3					
1990	06 18	17 10.36	-64 40.3	1.384	2.248	138.4	17.5	14.7
1990	06 28	16 47.91	-65 03.4					
1990	07 08	16 29.49	-64 37.9	1.401	2.205	130.9	20.4	14.7
1990	07 18	16 17.97	-63 37.7					
1990	07 28	16 14.19	-62 17.2	1.474	2.162	119.4	24.1	14.9

1979 FQ2 a,e,i = 3.00, 0.05, 11 Elements MPC 14472

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 49.96	-27 58.8	1.999	2.843	139.6	13.3	16.5
1990	05 19	17 44.94	-28 41.8					
1990	05 29	17 37.57	-29 21.9	1.868	2.845	160.8	6.7	16.1
1990	06 08	17 28.57	-29 56.2					
1990	06 18	17 18.90	-30 22.3	1.839	2.847	171.3	3.1	15.9
1990	06 28	17 09.64	-30 39.5					
1990	07 08	17 01.83	-30 48.9	1.916	2.850	151.3	9.8	16.2
1990	07 18	16 56.23	-30 52.9					
1990	07 28	16 53.27	-30 54.0	2.083	2.854	130.9	15.6	16.6

1979 MS6 a,e,i = 2.42, 0.08, 6 Elements MPC 15406

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 56.08	-22 00.1	1.590	2.439	138.4	15.9	16.7
1990	05 19	17 50.97	-21 31.7					
1990	05 29	17 43.20	-21 01.3	1.476	2.455	160.6	7.9	16.3
1990	06 08	17 33.65	-20 29.7					
1990	06 18	17 23.46	-19 58.3	1.458	2.471	174.4	2.3	16.0
1990	06 28	17 13.89	-19 29.3					
1990	07 08	17 06.07	-19 05.1	1.543	2.487	152.0	11.1	16.5
1990	07 18	17 00.72	-18 47.8					
1990	07 28	16 58.24	-18 38.2	1.714	2.502	131.1	17.8	17.0

(4436) 1983 EX a,e,i = 3.25, 0.06, 17 Elements MPC 16217

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 52.59	-18 01.4	2.591	3.418	139.0	11.2	16.5
1990	05 19	17 47.57	-18 25.5					
1990	05 29	17 40.83	-18 52.9	2.448	3.422	160.9	5.6	16.2
1990	06 08	17 32.88	-19 22.7					
1990	06 18	17 24.41	-19 54.0	2.412	3.425	174.6	1.6	16.0
1990	06 28	17 16.15	-20 26.0					
1990	07 08	17 08.84	-20 58.2	2.490	3.427	153.0	7.7	16.3
1990	07 18	17 03.04	-21 30.4					
1990	07 28	16 59.16	-22 02.8	2.667	3.429	131.8	12.8	16.7

1953 TS2 a,e,i = 2.26, 0.16, 4 Elements MPC 12784

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 53.37	-22 16.5	1.234	2.103	139.1	18.3	16.4
1990	05 19	17 50.23	-22 34.7					
1990	05 29	17 43.65	-22 55.0	1.086	2.069	160.6	9.4	15.8
1990	06 08	17 34.34	-23 15.7					
1990	06 18	17 23.59	-23 34.8	1.023	2.037	175.7	2.1	15.3
1990	06 28	17 13.05	-23 51.3					
1990	07 08	17 04.44	-24 05.8	1.051	2.008	152.3	13.6	15.8
1990	07 18	16 58.99	-24 20.1					
1990	07 28	16 57.36	-24 35.9	1.155	1.981	131.6	22.5	16.2

(4175) 1985 GX a,e,i = 2.69, 0.18, 14 Elements MPC 15059

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 55.94	-04 45.9	2.193	2.995	135.3	13.7	17.2
1990	05 19	17 50.80	-04 06.0					
1990	05 29	17 43.83	-03 36.5	2.083	3.021	152.9	8.8	16.9
1990	06 08	17 35.63	-03 20.2					
1990	06 18	17 26.96	-03 18.7	2.072	3.045	159.6	6.7	16.8
1990	06 28	17 18.65	-03 32.4					
1990	07 08	17 11.44	-04 00.2	2.166	3.067	146.8	10.5	17.1
1990	07 18	17 05.92	-04 39.7					
1990	07 28	17 02.43	-05 28.4	2.349	3.088	128.7	14.9	17.4

(4170) 1980 PT a,e,i = 3.02, 0.09, 10 Elements MPC 15057

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 52.34	-08 44.3	1.954	2.782	137.4	14.2	15.9
1990	05 19	17 48.53	-08 03.0					
1990	05 29	17 42.68	-07 29.8	1.817	2.772	155.6	8.7	15.5
1990	06 08	17 35.38	-07 07.7					
1990	06 18	17 27.43	-06 58.9	1.775	2.764	163.2	6.1	15.4
1990	06 28	17 19.73	-07 04.3					
1990	07 08	17 13.14	-07 23.7	1.834	2.756	149.1	10.9	15.6
1990	07 18	17 08.34	-07 55.2					
1990	07 28	17 05.75	-08 36.5	1.981	2.751	130.5	16.3	16.0

1980 CG a,e,i = 2.53, 0.29, 10 Elements MPC 11423

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 57.57	-10 19.1	1.869	2.693	136.5	14.9	17.2
1990	05 19	17 53.21	-09 50.6					
1990	05 29	17 46.39	-09 29.3	1.675	2.634	156.0	9.0	16.8
1990	06 08	17 37.62	-09 18.0					
1990	06 18	17 27.71	-09 18.8	1.576	2.572	165.5	5.7	16.4
1990	06 28	17 17.72	-09 32.9					
1990	07 08	17 08.78	-10 00.3	1.580	2.509	149.4	11.9	16.6
1990	07 18	17 01.81	-10 39.5					
1990	07 28	16 57.47	-11 28.7	1.671	2.444	129.4	18.7	16.9

1983 TE1 a,e,i = 2.47, 0.15, 6 Elements MPC 15411

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 58.73	-17 22.8	1.833	2.666	137.5	14.8	17.9
1990	05 19	17 54.18	-16 50.9					
1990	05 29	17 47.16	-16 20.4	1.669	2.639	158.8	8.0	17.4
1990	06 08	17 38.29	-15 52.7					
1990	06 18	17 28.50	-15 29.4	1.602	2.611	171.5	3.3	17.1
1990	06 28	17 18.85	-15 12.2					
1990	07 08	17 10.46	-15 02.6	1.639	2.581	151.9	10.7	17.4
1990	07 18	17 04.17	-15 01.3					
1990	07 28	17 00.50	-15 08.4	1.766	2.550	131.0	17.5	17.8

(4056) 1985 FZ1 a,e,i = 2.65, 0.10, 13 Elements MPC 14466

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 58.73	-06 07.1	1.941	2.750	135.1	15.0	16.9
1990	05 19	17 53.97	-05 41.1					
1990	05 29	17 47.10	-05 26.4	1.825	2.769	153.5	9.4	16.6
1990	06 08	17 38.75	-05 25.5					
1990	06 18	17 29.78	-05 39.6	1.803	2.787	162.0	6.5	16.4
1990	06 28	17 21.11	-06 08.6					
1990	07 08	17 13.64	-06 50.7	1.885	2.805	148.9	10.8	16.7
1990	07 18	17 08.02	-07 43.2					
1990	07 28	17 04.66	-08 43.1	2.056	2.821	130.3	15.9	17.1

1989 CL1 a,e,i = 3.08, 0.21, 2 Elements MPC 14360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 59.39	-23 42.6	2.311	3.132	137.7	12.5	18.0
1990	05 19	17 54.29	-23 48.1					
1990	05 29	17 47.26	-23 52.6	2.202	3.172	159.7	6.4	17.6
1990	06 08	17 38.94	-23 55.1					
1990	06 18	17 30.10	-23 55.1	2.196	3.211	177.1	0.9	17.4
1990	06 28	17 21.61	-23 53.0					
1990	07 08	17 14.28	-23 49.6	2.302	3.249	154.5	7.7	17.9
1990	07 18	17 08.67	-23 46.3					
1990	07 28	17 05.15	-23 44.3	2.505	3.286	133.3	13.0	18.2

1984 YE4 a,e,i = 2.36, 0.14, 7 Elements MPC 15411

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 04.51	-23 46.7	1.857	2.681	136.5	15.0	18.0
1990	05 19	17 59.37	-24 09.4					
1990	05 29	17 51.53	-24 32.4	1.702	2.672	158.7	7.9	17.6
1990	06 08	17 41.64	-24 53.7					
1990	06 18	17 30.68	-25 11.0	1.646	2.661	176.8	1.2	17.2
1990	06 28	17 19.84	-25 23.7					
1990	07 08	17 10.34	-25 32.3	1.698	2.648	153.7	9.8	17.6
1990	07 18	17 03.09	-25 38.5					
1990	07 28	16 58.66	-25 44.4	1.842	2.632	132.0	16.7	18.0

1981 EO42 a,e,i = 2.53, 0.14, 6 Elements MPC 10543

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 04.28	-30 49.2	1.939	2.756	136.1	14.7	18.4
1990	05 19	17 59.46	-31 15.8					
1990	05 29	17 51.88	-31 37.7	1.773	2.735	157.1	8.3	17.9
1990	06 08	17 42.18	-31 51.2					
1990	06 18	17 31.35	-31 54.0	1.704	2.713	171.1	3.3	17.6
1990	06 28	17 20.61	-31 45.3					
1990	07 08	17 11.21	-31 26.9	1.742	2.689	153.2	9.8	17.9
1990	07 18	17 04.10	-31 02.6					
1990	07 28	16 59.86	-30 36.2	1.871	2.663	132.4	16.4	18.3

1987 SC4 a,e,i = 2.25, 0.23, 5 Elements MPC 14950

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 02.83	-27 24.3	1.411	2.255	136.8	17.8	17.8
1990	05 19	17 59.39	-27 18.5					
1990	05 29	17 52.47	-27 07.0	1.228	2.202	158.2	9.8	17.2
1990	06 08	17 42.67	-26 47.1					
1990	06 18	17 31.16	-26 17.4	1.133	2.148	176.1	1.8	16.6
1990	06 28	17 19.51	-25 39.0					
1990	07 08	17 09.48	-24 55.7	1.134	2.093	153.5	12.5	17.0
1990	07 18	17 02.37	-24 12.8					
1990	07 28	16 58.96	-23 35.0	1.216	2.040	131.9	21.7	17.4

5148 T-2 a,e,i = 2.30, 0.22, 6 Elements MPC 15259

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 03.69	-31 54.4	1.389	2.229	136.1	18.3	17.3
1990	05 19	18 00.54	-32 07.5					
1990	05 29	17 53.73	-32 12.3	1.211	2.179	156.5	10.7	16.7
1990	06 08	17 43.87	-32 04.3					
1990	06 18	17 32.19	-31 40.0	1.118	2.128	171.4	4.1	16.2
1990	06 28	17 20.40	-30 59.1					
1990	07 08	17 10.35	-30 05.9	1.119	2.078	153.3	12.7	16.5
1990	07 18	17 03.40	-29 07.2					
1990	07 28	17 00.34	-28 09.6	1.201	2.030	132.5	21.7	16.9

1987 VC1 a,e,i = 2.59, 0.08, 5 Elements MPC 15888

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 04.28	-28 31.7	1.920	2.740	136.4	14.7	17.7
1990	05 19	17 59.67	-28 57.0					
1990	05 29	17 52.40	-29 19.3	1.763	2.728	157.7	8.1	17.3
1990	06 08	17 43.09	-29 35.5					
1990	06 18	17 32.71	-29 43.3	1.704	2.716	173.3	2.5	17.0
1990	06 28	17 22.43	-29 42.2					
1990	07 08	17 13.45	-29 33.6	1.751	2.702	154.0	9.5	17.3
1990	07 18	17 06.67	-29 20.1					
1990	07 28	17 02.66	-29 05.1	1.890	2.687	133.0	16.0	17.7

(4074) 1981 UN11 a,e,i = 3.02, 0.04, 10 Elements MPC 14600

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	17 58.31	-10 44.9	2.076	2.893	136.5	13.9	16.5
1990	05 19	17 54.44	-10 02.4					
1990	05 29	17 48.58	-09 26.1	1.940	2.893	155.5	8.3	16.2
1990	06 08	17 41.29	-08 58.5					
1990	06 18	17 33.32	-08 41.5	1.901	2.895	165.2	5.2	16.0
1990	06 28	17 25.52	-08 36.6					
1990	07 08	17 18.74	-08 43.7	1.965	2.896	150.9	9.8	16.2
1990	07 18	17 13.61	-09 01.7					
1990	07 28	17 10.57	-09 29.0	2.120	2.899	131.9	15.1	16.6

1983 RT1 a,e,i = 2.39, 0.14, 6 Elements MPC 14474

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 04.07	-33 06.1	1.388	2.226	135.8	18.4	17.3
1990	05 19	18 01.17	-33 50.1					
1990	05 29	17 54.63	-34 27.9	1.235	2.198	155.5	11.0	16.8
1990	06 08	17 45.10	-34 53.5					
1990	06 18	17 33.86	-35 02.1	1.166	2.170	168.2	5.5	16.4
1990	06 28	17 22.58	-34 51.6					
1990	07 08	17 13.10	-34 24.6	1.190	2.145	152.8	12.5	16.7
1990	07 18	17 06.71	-33 47.0					
1990	07 28	17 04.13	-33 05.1	1.294	2.122	133.2	20.4	17.1

1989 AZ5 a,e,i = 2.49, 0.15, 4 Elements MPC 14954

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 06.64	-20 07.3	1.904	2.721	135.9	15.0	17.3
1990	05 19	18 01.58	-20 10.9					
1990	05 29	17 54.10	-20 16.4	1.777	2.743	158.0	8.0	16.9
1990	06 08	17 44.84	-20 23.3					
1990	06 18	17 34.76	-20 30.7	1.749	2.764	176.6	1.2	16.6
1990	06 28	17 24.90	-20 38.5					
1990	07 08	17 16.33	-20 47.2	1.830	2.783	154.7	9.0	17.1
1990	07 18	17 09.81	-20 57.3					
1990	07 28	17 05.79	-21 09.7	2.004	2.799	133.2	15.3	17.5

1987 SQ17 a,e,i = 2.26, 0.20, 5 Elements MPC 16026

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 05.35	-32 14.0	1.345	2.185	135.7	18.8	16.3
1990	05 19	18 02.57	-32 49.0					
1990	05 29	17 55.99	-33 18.4	1.172	2.137	155.7	11.3	15.7
1990	06 08	17 46.16	-33 36.2					
1990	06 18	17 34.30	-33 37.5	1.082	2.089	169.6	5.0	15.2
1990	06 28	17 22.18	-33 19.9					
1990	07 08	17 11.78	-32 46.1	1.084	2.043	153.0	13.1	15.5
1990	07 18	17 04.58	-32 02.4					
1990	07 28	17 01.45	-31 15.7	1.165	1.998	132.7	21.9	15.9

1981 JE3 a,e,i = 2.67, 0.15, 1 Elements MPC 15706

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 02.29	-21 41.5	1.459	2.302	137.0	17.4	17.7
1990	05 19	17 59.15	-21 31.7					
1990	05 29	17 53.11	-21 22.4	1.342	2.315	158.3	9.3	17.3
1990	06 08	17 44.94	-21 13.4					
1990	06 18	17 35.75	-21 04.7	1.314	2.330	177.2	1.2	16.9
1990	06 28	17 26.84	-20 57.1					
1990	07 08	17 19.46	-20 51.9	1.385	2.347	155.4	10.4	17.4
1990	07 18	17 14.49	-20 50.2					
1990	07 28	17 12.41	-20 52.9	1.540	2.368	134.7	17.7	17.9

(4194) 1982 RE a,e,i = 2.70, 0.04, 8 Elements MPC 15224

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 03.47	-12 51.0	1.906	2.721	135.7	15.0	16.4
1990	05 19	17 59.34	-12 28.0					
1990	05 29	17 52.94	-12 11.4	1.773	2.730	155.9	8.7	16.0
1990	06 08	17 44.89	-12 02.8					
1990	06 18	17 36.03	-12 03.1	1.735	2.738	168.6	4.2	15.8
1990	06 28	17 27.31	-12 12.9					
1990	07 08	17 19.70	-12 31.7	1.802	2.746	153.0	9.7	16.1
1990	07 18	17 13.94	-12 58.5					
1990	07 28	17 10.48	-13 31.8	1.960	2.754	133.0	15.7	16.5

1076 T-3 a,e,i = 2.25, 0.18, 7 Elements MPC 15088

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 10.63	-31 38.4	1.547	2.368	134.7	17.6	17.6
1990	05 19	18 06.79	-31 50.4					
1990	05 29	17 59.47	-31 55.3	1.369	2.330	155.5	10.4	17.1
1990	06 08	17 49.26	-31 49.0					
1990	06 18	17 37.33	-31 28.1	1.279	2.290	171.8	3.6	16.6
1990	06 28	17 25.24	-30 52.4					
1990	07 08	17 14.68	-30 05.2	1.289	2.248	154.2	11.4	16.9
1990	07 18	17 06.91	-29 12.4					
1990	07 28	17 02.71	-28 20.1	1.385	2.206	133.0	19.7	17.3

1981 ES33 a,e,i = 2.55, 0.16, 7 Elements MPC 12796

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 07.11	-32 26.6	1.580	2.405	135.3	17.2	18.7
1990	05 19	18 04.00	-32 44.1					
1990	05 29	17 57.61	-32 54.6	1.410	2.370	155.5	10.2	18.2
1990	06 08	17 48.55	-32 53.8					
1990	06 18	17 37.94	-32 38.8	1.328	2.336	170.7	4.0	17.8
1990	06 28	17 27.23	-32 08.9					
1990	07 08	17 17.98	-31 27.3	1.344	2.304	154.6	10.9	18.1
1990	07 18	17 11.37	-30 39.0					
1990	07 28	17 08.09	-29 49.7	1.446	2.273	134.2	18.7	18.4

1978 UV a,e,i = 2.67, 0.26, 6 Elements MPC 12949

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 10.61	-28 03.4	2.455	3.248	135.0	12.7	18.2
1990	05 19	18 05.71	-28 26.6					
1990	05 29	17 58.53	-28 47.9	2.266	3.221	156.6	7.2	17.8
1990	06 08	17 49.57	-29 05.0					
1990	06 18	17 39.56	-29 15.7	2.179	3.192	174.1	1.9	17.4
1990	06 28	17 29.42	-29 19.3					
1990	07 08	17 20.12	-29 16.3	2.206	3.159	155.5	7.7	17.7
1990	07 18	17 12.48	-29 08.4					
1990	07 28	17 07.06	-28 58.2	2.333	3.125	134.0	13.5	18.0

1982 DQ6 a,e,i = 2.31, 0.09, 6 Elements MPC 10387

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 14.09	-31 21.1	1.698	2.507	134.0	16.8	17.4
1990	05 19	18 09.51	-31 59.2					
1990	05 29	18 01.72	-32 32.9	1.555	2.509	154.8	9.9	17.0
1990	06 08	17 51.40	-32 57.6					
1990	06 18	17 39.67	-33 09.2	1.503	2.510	170.2	3.9	16.7
1990	06 28	17 27.96	-33 06.5					
1990	07 08	17 17.74	-32 51.1	1.555	2.510	154.2	10.2	17.0
1990	07 18	17 10.09	-32 27.4					
1990	07 28	17 05.63	-32 00.0	1.698	2.508	133.5	17.1	17.4

(4100) 1988 BF a,e,i = 3.01, 0.11, 11 Elements MPC 14609

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 07.06	-20 39.2	2.416	3.218	135.8	12.6	16.3
1990	05 19	18 02.84	-20 59.0					
1990	05 29	17 56.58	-21 21.5	2.242	3.202	157.5	6.9	15.9
1990	06 08	17 48.73	-21 45.4					
1990	06 18	17 39.97	-22 09.6	2.170	3.186	178.7	0.4	15.5
1990	06 28	17 31.12	-22 33.1					
1990	07 08	17 23.05	-22 55.6	2.211	3.169	156.5	7.4	15.9
1990	07 18	17 16.47	-23 17.0					
1990	07 28	17 11.92	-23 38.1	2.351	3.151	134.9	13.2	16.2

1988 BL2 a,e,i = 2.94, 0.09, 19 Elements MPC 12962

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 14.71	-43 54.7	2.189	2.953	131.2	14.9	16.3
1990	05 19	18 10.28	-45 22.0					
1990	05 29	18 02.63	-46 40.9	2.030	2.935	147.3	10.8	16.0
1990	06 08	17 52.28	-47 44.4					
1990	06 18	17 40.22	-48 26.5	1.964	2.916	154.9	8.5	15.8
1990	06 28	17 27.85	-48 43.7					
1990	07 08	17 16.71	-48 36.9	1.997	2.898	146.2	11.2	15.9
1990	07 18	17 08.05	-48 10.6					
1990	07 28	17 02.64	-47 31.1	2.117	2.879	130.2	15.6	16.2

(4123) 1986 QP1 a,e,i = 2.83, 0.06, 3 Elements MPC 14775

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 09.27	-24 56.2	2.192	2.996	135.4	13.7	18.1
1990	05 19	18 05.12	-25 07.7					
1990	05 29	17 58.67	-25 18.4	2.030	2.990	157.0	7.6	17.7
1990	06 08	17 50.47	-25 26.8					
1990	06 18	17 41.28	-25 31.8	1.967	2.983	177.8	0.7	17.3
1990	06 28	17 32.06	-25 32.8					
1990	07 08	17 23.77	-25 30.5	2.014	2.975	156.7	7.8	17.7
1990	07 18	17 17.21	-25 26.4					
1990	07 28	17 12.91	-25 22.1	2.158	2.967	135.2	14.0	18.0

1989 EY2 a,e,i = 2.30, 0.14, 6 Elements MPC 15069

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 07.25	-22 10.0	1.276	2.120	135.9	19.4	16.5
1990	05 19	18 05.13	-21 29.4					
1990	05 29	17 59.61	-20 45.6	1.125	2.094	156.8	11.0	16.0
1990	06 08	17 51.32	-19 59.6					
1990	06 18	17 41.41	-19 13.3	1.056	2.070	175.8	2.0	15.4
1990	06 28	17 31.38	-18 29.9					
1990	07 08	17 22.84	-17 53.2	1.080	2.049	155.6	11.8	15.9
1990	07 18	17 16.99	-17 26.1					
1990	07 28	17 14.53	-17 10.0	1.184	2.031	134.7	20.8	16.3

1977 SG3 a,e,i = 2.27, 0.13, 8 Elements MPC 12570

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 14.63	-25 48.9	1.696	2.506	134.2	16.8	17.4
1990	05 19	18 10.45	-26 29.2					
1990	05 29	18 03.14	-27 11.0	1.530	2.489	155.8	9.6	17.0
1990	06 08	17 53.22	-27 50.6					
1990	06 18	17 41.70	-28 24.0	1.457	2.470	175.0	2.1	16.5
1990	06 28	17 29.91	-28 48.7					
1990	07 08	17 19.32	-29 04.4	1.489	2.450	155.4	10.0	16.9
1990	07 18	17 11.09	-29 12.9					
1990	07 28	17 06.00	-29 17.3	1.612	2.427	133.7	17.6	17.3

1983 OD a,e,i = 2.36, 0.23, 14 Elements MPC 12786

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 07.72	-04 56.5	1.461	2.270	132.6	19.1	17.5
1990	05 19	18 05.22	-04 25.9					
1990	05 29	17 59.72	-04 10.1	1.278	2.216	150.3	13.1	16.9
1990	06 08	17 51.64	-04 14.6					
1990	06 18	17 41.83	-04 43.0	1.176	2.163	161.3	8.6	16.5
1990	06 28	17 31.51	-05 36.6					
1990	07 08	17 22.12	-06 53.2	1.165	2.111	150.6	13.7	16.6
1990	07 18	17 14.91	-08 27.7					
1990	07 28	17 10.76	-10 14.0	1.236	2.060	132.2	21.4	16.9

1987 SW1 a,e,i = 2.33, 0.16, 11 Elements MPC 12560

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 09	18 10.64	-13 05.7	1.672	2.482	134.0	17.0	17.9
1990 05 19	18 07.05	-12 01.3					
1990 05 29	18 00.71	-10 59.8	1.500	2.450	153.7	10.6	17.4
1990 06 08	17 52.15	-10 04.6					
1990 06 18	17 42.27	-09 19.6	1.419	2.417	165.9	5.9	17.1
1990 06 28	17 32.19	-08 48.3					
1990 07 08	17 23.17	-08 32.5	1.439	2.383	151.8	11.6	17.3
1990 07 18	17 16.18	-08 32.5					
1990 07 28	17 11.91	-08 46.7	1.545	2.349	132.0	18.7	17.6

1964 VT1 a,e,i = 2.76, 0.07, 4 Elements MPC 11739

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 09	18 12.14	-26 14.0	2.132	2.932	134.8	14.1	17.7
1990 05 19	18 08.05	-26 31.2					
1990 05 29	18 01.54	-26 47.2	1.970	2.927	156.3	8.0	17.3
1990 06 08	17 53.14	-27 00.1					
1990 06 18	17 43.66	-27 08.1	1.906	2.920	176.2	1.3	16.9
1990 06 28	17 34.08	-27 10.5					
1990 07 08	17 25.45	-27 08.0	1.950	2.913	157.0	7.9	17.3
1990 07 18	17 18.60	-27 02.1					
1990 07 28	17 14.11	-26 55.0	2.092	2.905	135.5	14.2	17.6

(4213) 1987 ST4 a,e,i = 2.39, 0.08, 3 Elements MPC 15234

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 09	18 14.63	-23 04.4	1.727	2.536	134.2	16.6	17.2
1990 05 19	18 10.44	-22 51.8					
1990 05 29	18 03.44	-22 38.2	1.585	2.545	156.0	9.3	16.8
1990 06 08	17 54.27	-22 23.2					
1990 06 18	17 43.93	-22 06.3	1.537	2.553	178.7	0.5	16.3
1990 06 28	17 33.62	-21 48.5					
1990 07 08	17 24.57	-21 31.1	1.594	2.559	156.7	9.0	16.8
1990 07 18	17 17.68	-21 16.4					
1990 07 28	17 13.51	-21 05.8	1.744	2.565	135.0	16.3	17.2

(4200) 1983 WA a,e,i = 2.73, 0.22, 8 Elements MPC 15227

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 09	18 14.33	-20 08.3	2.314	3.103	134.1	13.5	18.5
1990 05 19	18 09.50	-19 44.2					
1990 05 29	18 02.60	-19 20.7	2.181	3.134	155.9	7.6	18.2
1990 06 08	17 54.21	-18 58.0					
1990 06 18	17 45.07	-18 36.6	2.149	3.162	175.2	1.5	17.8
1990 06 28	17 36.03	-18 17.6					
1990 07 08	17 27.92	-18 01.8	2.230	3.189	156.8	7.2	18.2
1990 07 18	17 21.39	-17 50.2					
1990 07 28	17 16.88	-17 43.4	2.412	3.214	135.3	12.8	18.6

1989 AW6 a,e,i = 2.43, 0.14, 2 Elements MPC 14955

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 09	18 16.69	-24 10.1	1.877	2.677	133.7	15.8	18.8
1990 05 19	18 12.15	-24 18.7					
1990 05 29	18 04.91	-24 27.1	1.740	2.696	155.7	8.9	18.4
1990 06 08	17 55.61	-24 33.5					
1990 06 18	17 45.20	-24 36.5	1.697	2.713	178.6	0.5	17.9
1990 06 28	17 34.79	-24 35.6					
1990 07 08	17 25.54	-24 31.7	1.763	2.728	157.1	8.3	18.4
1990 07 18	17 18.34	-24 26.6					
1990 07 28	17 13.73	-24 22.0	1.924	2.741	135.3	15.1	18.8

(4014) 1979 SG10 a,e,i = 3.42, 0.05, 1 Elements MPC 14329

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 12.28	-23 41.9	2.763	3.547	134.7	11.7	17.6
1990	05 19	18 08.57	-23 41.2					
1990	05 29	18 03.06	-23 40.1	2.591	3.541	156.1	6.7	17.3
1990	06 08	17 56.17	-23 38.0					
1990	06 18	17 48.48	-23 34.3	2.520	3.535	178.6	0.4	16.8
1990	06 28	17 40.68	-23 29.0					
1990	07 08	17 33.50	-23 22.7	2.562	3.529	158.9	6.0	17.2
1990	07 18	17 27.54	-23 16.1					
1990	07 28	17 23.27	-23 10.2	2.707	3.523	137.4	11.2	17.5

1983 RR4 a,e,i = 2.37, 0.18, 14 Elements MPC 14018

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 13.89	-02 45.4	1.657	2.436	130.4	18.4	17.4
1990	05 19	18 11.16	-01 35.8					
1990	05 29	18 05.71	-00 37.4	1.482	2.395	146.9	13.4	16.9
1990	06 08	17 57.97	+00 03.7					
1990	06 18	17 48.73	+00 22.3	1.389	2.354	156.2	10.0	16.6
1990	06 28	17 39.05	+00 15.0					
1990	07 08	17 30.15	-00 18.3	1.388	2.313	147.9	13.5	16.7
1990	07 18	17 23.07	-01 14.6					
1990	07 28	17 18.59	-02 28.8	1.469	2.271	131.3	19.6	17.0

1989 CN1 a,e,i = 2.46, 0.16, 4 Elements MPC 14478

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 21.22	-27 50.3	2.009	2.794	132.7	15.4	18.0
1990	05 19	18 16.70	-28 11.1					
1990	05 29	18 09.47	-28 29.9	1.862	2.810	154.3	9.0	17.6
1990	06 08	18 00.13	-28 44.1					
1990	06 18	17 49.55	-28 51.3	1.811	2.823	174.3	2.1	17.3
1990	06 28	17 38.86	-28 50.4					
1990	07 08	17 29.21	-28 42.4	1.869	2.835	157.6	7.9	17.6
1990	07 18	17 21.52	-28 29.5					
1990	07 28	17 16.37	-28 14.5	2.025	2.844	136.0	14.4	18.0

1968 OH a,e,i = 2.71, 0.17, 11 Elements MPC 14779

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 15.14	-26 32.3	1.655	2.466	134.1	17.1	16.8
1990	05 19	18 12.55	-25 55.3					
1990	05 29	18 06.98	-25 11.9	1.476	2.433	155.2	10.1	16.3
1990	06 08	17 58.97	-24 21.6					
1990	06 18	17 49.46	-23 24.9	1.386	2.402	178.4	0.7	15.7
1990	06 28	17 39.68	-22 24.5					
1990	07 08	17 30.95	-21 24.0	1.399	2.373	158.1	9.2	16.1
1990	07 18	17 24.35	-20 27.9					
1990	07 28	17 20.58	-19 39.5	1.503	2.346	136.5	17.3	16.5

1987 UG a,e,i = 2.42, 0.21, 2 Elements MPC 12943

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 21.55	-21 24.4	1.936	2.722	132.5	15.9	18.4
1990	05 19	18 18.05	-21 16.3					
1990	05 29	18 11.82	-21 09.3	1.738	2.686	154.0	9.5	17.9
1990	06 08	18 03.29	-21 02.9					
1990	06 18	17 53.22	-20 56.4	1.633	2.648	176.5	1.3	17.3
1990	06 28	17 42.65	-20 49.9					
1990	07 08	17 32.80	-20 43.9	1.636	2.608	158.5	8.2	17.7
1990	07 18	17 24.68	-20 39.5					
1990	07 28	17 19.08	-20 38.2	1.735	2.566	136.2	15.9	18.0

1987 US4 a,e,i = 2.37, 0.21, 3 Elements MPC 15711

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 25.72	-27 12.3	1.777	2.562	131.7	17.1	18.4
1990	05 19	18 22.85	-27 27.1					
1990	05 29	18 16.84	-27 41.4	1.577	2.521	152.8	10.6	17.9
1990	06 08	18 08.08	-27 52.2					
1990	06 18	17 57.38	-27 56.8	1.465	2.478	174.3	2.3	17.3
1990	06 28	17 45.91	-27 53.2					
1990	07 08	17 35.15	-27 41.6	1.457	2.433	159.0	8.6	17.6
1990	07 18	17 26.35	-27 24.3					
1990	07 28	17 20.44	-27 04.8	1.543	2.388	136.9	16.9	17.9

1971 SX1 a,e,i = 2.94, 0.03, 2 Elements MPC 11637

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 22.63	-20 29.8	2.188	2.962	132.2	14.6	16.8
1990	05 19	18 19.64	-20 23.8					
1990	05 29	18 14.35	-20 19.8	2.015	2.956	153.3	8.9	16.4
1990	06 08	18 07.18	-20 17.5					
1990	06 18	17 58.83	-20 16.5	1.936	2.950	175.1	1.7	16.0
1990	06 28	17 50.12	-20 16.7					
1990	07 08	17 42.01	-20 18.0	1.965	2.943	160.5	6.6	16.3
1990	07 18	17 35.31	-20 21.0					
1990	07 28	17 30.62	-20 26.1	2.095	2.937	138.9	13.1	16.6

(4300) 1955 SG1 a,e,i = 2.33, 0.10, 4 Elements MPC 15677

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 24.46	-19 00.1	1.548	2.343	131.6	18.8	16.8
1990	05 19	18 22.39	-18 34.4					
1990	05 29	18 17.21	-18 11.1	1.376	2.321	152.3	11.7	16.3
1990	06 08	18 09.34	-17 51.1					
1990	06 18	17 59.63	-17 34.9	1.287	2.299	172.9	3.1	15.8
1990	06 28	17 49.30	-17 23.5					
1990	07 08	17 39.75	-17 17.7	1.298	2.277	159.2	9.1	16.1
1990	07 18	17 32.18	-17 18.3					
1990	07 28	17 27.43	-17 25.4	1.398	2.256	137.8	17.6	16.5

1979 TA a,e,i = 2.44, 0.22, 2 Elements MPC 8402

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 24.47	-25 50.6	1.577	2.374	132.0	18.4	17.7
1990	05 19	18 22.86	-25 53.4					
1990	05 29	18 17.96	-25 55.4	1.378	2.325	152.7	11.5	17.1
1990	06 08	18 10.11	-25 54.9					
1990	06 18	18 00.11	-25 49.4	1.262	2.276	175.3	2.1	16.5
1990	06 28	17 49.19	-25 37.9					
1990	07 08	17 38.91	-25 20.7	1.244	2.227	160.1	8.9	16.7
1990	07 18	17 30.66	-25 00.3					
1990	07 28	17 25.46	-24 39.9	1.316	2.180	138.0	18.2	17.1

(3991) Basilevsky a,e,i = 2.25, 0.17, 4 Elements MPC 14177

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 19.86	-26 57.7	1.048	1.887	133.0	23.0	15.7
1990	05 19	18 20.89	-26 44.7					
1990	05 29	18 17.87	-26 27.4	0.912	1.871	152.7	14.4	15.2
1990	06 08	18 11.28	-26 04.1					
1990	06 18	18 02.24	-25 33.5	0.847	1.861	175.0	2.7	14.5
1990	06 28	17 52.43	-24 56.3					
1990	07 08	17 43.83	-24 15.4	0.865	1.857	161.3	10.1	14.9
1990	07 18	17 37.99	-23 35.4					
1990	07 28	17 35.82	-23 00.3	0.961	1.859	140.3	20.4	15.4

1987 QH3 a,e,i = 2.28, 0.14, 6 Elements MPC 14197

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 32.56	-32 21.2	1.714	2.486	130.0	18.1	18.0
1990	05 19	18 29.87	-32 57.1					
1990	05 29	18 23.73	-33 30.7	1.531	2.463	150.2	11.8	17.5
1990	06 08	18 14.51	-33 57.2					
1990	06 18	18 03.09	-34 11.4	1.434	2.437	168.3	4.9	17.1
1990	06 28	17 50.81	-34 09.9					
1990	07 08	17 39.29	-33 52.4	1.437	2.410	158.0	9.1	17.2
1990	07 18	17 29.95	-33 22.6					
1990	07 28	17 23.74	-32 45.5	1.534	2.382	137.3	16.8	17.6

(4136) 1968 FJ a,e,i = 2.35, 0.13, 3 Elements MPC 14933

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 27.61	-18 07.7	1.307	2.109	130.8	21.2	16.5
1990	05 19	18 26.12	-17 54.1					
1990	05 29	18 21.19	-17 46.4	1.187	2.132	151.3	13.2	16.1
1990	06 08	18 13.41	-17 45.3					
1990	06 18	18 03.81	-17 50.3	1.145	2.157	172.5	3.5	15.7
1990	06 28	17 53.75	-18 01.0					
1990	07 08	17 44.75	-18 16.5	1.198	2.183	160.7	8.9	16.0
1990	07 18	17 37.99	-18 36.1					
1990	07 28	17 34.21	-18 59.1	1.338	2.211	139.6	17.3	16.6

2196 P-L a,e,i = 2.27, 0.15, 1 Elements MPC 14480

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 34.46	-23 56.8	1.831	2.594	129.7	17.4	18.7
1990	05 19	18 30.99	-23 57.6					
1990	05 29	18 24.54	-23 59.3	1.668	2.602	151.2	10.8	18.3
1990	06 08	18 15.61	-24 00.1					
1990	06 18	18 05.01	-23 58.5	1.595	2.608	174.8	2.0	17.8
1990	06 28	17 53.88	-23 53.5					
1990	07 08	17 43.52	-23 45.4	1.628	2.611	161.2	7.2	18.1
1990	07 18	17 34.98	-23 35.8					
1990	07 28	17 29.03	-23 26.7	1.761	2.612	138.8	14.8	18.5

(4262) 1989 CO a,e,i = 2.30, 0.22, 7 Elements MPC 15399

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 19.53	-12 51.9	1.149	1.971	131.8	22.4	15.6
1990	05 19	18 20.53	-12 35.6					
1990	05 29	18 18.06	-12 31.2	0.981	1.929	150.4	15.0	15.0
1990	06 08	18 12.37	-12 42.6					
1990	06 18	18 04.20	-13 11.8	0.884	1.890	168.6	6.1	14.4
1990	06 28	17 54.85	-13 58.9					
1990	07 08	17 46.07	-15 01.0	0.870	1.857	159.8	10.9	14.5
1990	07 18	17 39.44	-16 13.7					
1990	07 28	17 36.17	-17 32.0	0.933	1.831	139.8	21.0	15.0

3025 T-2 a,e,i = 2.30, 0.18, 2 Elements MPC 15257

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 31.61	-20 53.4	1.657	2.433	130.1	18.5	18.9
1990	05 19	18 29.71	-20 53.3					
1990	05 29	18 24.67	-20 57.0	1.457	2.394	151.0	11.9	18.3
1990	06 08	18 16.78	-21 03.9					
1990	06 18	18 06.75	-21 12.8	1.342	2.354	174.0	2.6	17.7
1990	06 28	17 55.69	-21 22.3					
1990	07 08	17 45.06	-21 31.7	1.327	2.313	161.4	8.1	17.9
1990	07 18	17 36.17	-21 41.4					
1990	07 28	17 30.05	-21 52.2	1.406	2.271	138.9	17.1	18.3

1989 GL5 a,e,i = 3.19, 0.06, 8 Elements MPC 14796

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 30.07	-20 05.1	2.586	3.330	130.4	13.3	16.9
1990	05 19	18 27.06	-20 15.6					
1990	05 29	18 22.03	-20 29.3	2.411	3.337	151.5	8.3	16.5
1990	06 08	18 15.32	-20 45.5					
1990	06 18	18 07.51	-21 03.2	2.332	3.343	173.7	1.9	16.2
1990	06 28	17 59.28	-21 21.4					
1990	07 08	17 51.42	-21 39.4	2.364	3.349	162.9	5.1	16.4
1990	07 18	17 44.64	-21 56.9					
1990	07 28	17 39.50	-22 14.0	2.503	3.355	141.1	11.0	16.7

1975 YD a,e,i = 2.56, 0.25, 12 Elements MPC 14779

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 36.05	-11 26.4	2.413	3.132	127.6	14.8	18.6
1990	05 19	18 32.78	-10 38.7					
1990	05 29	18 27.33	-09 55.0	2.208	3.109	147.3	10.1	18.3
1990	06 08	18 20.00	-09 17.6					
1990	06 18	18 11.36	-08 48.4	2.095	3.084	163.9	5.3	17.9
1990	06 28	18 02.11	-08 29.0					
1990	07 08	17 53.14	-08 20.5	2.091	3.055	157.6	7.3	18.0
1990	07 18	17 45.23	-08 22.8					
1990	07 28	17 39.04	-08 34.9	2.189	3.024	138.3	12.9	18.3

1983 TD2 a,e,i = 2.47, 0.20, 8 Elements MPC 13301

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 38.11	-13 12.7	2.183	2.909	127.5	16.0	17.8
1990	05 19	18 35.26	-12 42.7					
1990	05 29	18 29.99	-12 17.8	1.984	2.892	147.6	10.8	17.4
1990	06 08	18 22.61	-11 59.8					
1990	06 18	18 13.73	-11 49.7	1.874	2.871	166.3	4.8	17.0
1990	06 28	18 04.12	-11 48.4					
1990	07 08	17 54.79	-11 56.0	1.871	2.848	160.1	7.0	17.1
1990	07 18	17 46.61	-12 11.9					
1990	07 28	17 40.33	-12 35.0	1.970	2.823	139.8	13.4	17.4

6048 P-L a,e,i = 2.45, 0.09, 5 Elements MPC 12699

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 41.14	-29 30.2	1.927	2.672	128.3	17.2	17.9
1990	05 19	18 38.65	-29 49.6					
1990	05 29	18 33.12	-30 08.2	1.747	2.667	148.9	11.3	17.5
1990	06 08	18 24.92	-30 22.8					
1990	06 18	18 14.79	-30 30.0	1.653	2.659	169.9	3.9	17.0
1990	06 28	18 03.81	-30 27.4					
1990	07 08	17 53.30	-30 14.7	1.665	2.651	162.2	6.7	17.2
1990	07 18	17 44.42	-29 53.9					
1990	07 28	17 38.03	-29 28.2	1.776	2.641	140.7	14.1	17.6

1969 TQ1 a,e,i = 3.15, 0.17, 3 Elements MPC 11746

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 35.79	-24 17.7	2.729	3.459	129.4	13.0	18.4
1990	05 19	18 33.01	-24 28.4					
1990	05 29	18 28.14	-24 40.4	2.516	3.434	150.4	8.4	18.1
1990	06 08	18 21.50	-24 52.4					
1990	06 18	18 13.58	-25 03.2	2.397	3.407	172.7	2.2	17.7
1990	06 28	18 05.04	-25 11.5					
1990	07 08	17 56.70	-25 16.8	2.391	3.380	164.1	4.7	17.8
1990	07 18	17 49.30	-25 19.2					
1990	07 28	17 43.48	-25 19.7	2.492	3.352	142.1	10.7	18.1

1984 SH a,e,i = 2.16, 0.16, 3 Elements MPC 9826

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 28.27	-19 55.2	1.035	1.859	130.8	24.3	16.4
1990	05 19	18 30.47	-19 56.4					
1990	05 29	18 28.78	-20 05.2	0.888	1.837	149.9	16.1	15.8
1990	06 08	18 23.40	-20 21.9					
1990	06 18	18 15.13	-20 45.5	0.808	1.820	172.0	4.5	15.2
1990	06 28	18 05.40	-21 13.5					
1990	07 08	17 56.19	-21 43.3	0.809	1.808	164.0	8.9	15.4
1990	07 18	17 49.25	-22 13.1					
1990	07 28	17 45.85	-22 42.1	0.886	1.802	142.6	20.0	15.9

1985 CE2 a,e,i = 2.55, 0.10, 5 Elements MPC 12697

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 40.26	-15 48.3	1.985	2.719	127.4	17.1	18.0
1990	05 19	18 37.76	-15 32.4					
1990	05 29	18 32.68	-15 22.2	1.821	2.734	148.0	11.3	17.6
1990	06 08	18 25.38	-15 18.3					
1990	06 18	18 16.54	-15 20.9	1.744	2.747	168.6	4.2	17.2
1990	06 28	18 07.04	-15 29.8					
1990	07 08	17 57.93	-15 44.3	1.772	2.760	162.7	6.3	17.4
1990	07 18	17 50.14	-16 03.6					
1990	07 28	17 44.40	-16 26.8	1.902	2.770	141.6	13.2	17.8

1977 DS2 a,e,i = 3.15, 0.08, 16 Elements MPC 13463

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 39.40	-05 56.4	2.563	3.254	125.4	14.7	17.3
1990	05 19	18 37.26	-05 35.5					
1990	05 29	18 33.12	-05 23.6	2.364	3.239	144.0	10.6	17.0
1990	06 08	18 27.28	-05 22.9					
1990	06 18	18 20.17	-05 34.7	2.250	3.224	160.0	6.2	16.7
1990	06 28	18 12.42	-05 59.7					
1990	07 08	18 04.76	-06 37.0	2.241	3.208	158.4	6.7	16.7
1990	07 18	17 57.91	-07 24.8					
1990	07 28	17 52.46	-08 20.6	2.336	3.193	141.3	11.5	17.0

3557 P-L a,e,i = 2.27, 0.11, 5 Elements MPC 14628

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 51.03	-27 57.0	1.779	2.510	126.1	19.0	18.1
1990	05 19	18 48.96	-28 05.5					
1990	05 29	18 43.62	-28 14.2	1.606	2.517	146.8	12.7	17.7
1990	06 08	18 35.35	-28 20.2					
1990	06 18	18 24.87	-28 20.3	1.516	2.521	169.2	4.3	17.2
1990	06 28	18 13.34	-28 12.4					
1990	07 08	18 02.15	-27 55.8	1.529	2.524	164.8	6.1	17.3
1990	07 18	17 52.59	-27 32.7					
1990	07 28	17 45.60	-27 06.1	1.643	2.525	142.5	14.2	17.8

1981 GC a,e,i = 2.62, 0.18, 1 Elements MPC 10831

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 45.67	-24 25.7	1.506	2.264	127.2	20.8	17.1
1990	05 19	18 45.18	-24 25.8					
1990	05 29	18 41.34	-24 28.1	1.373	2.293	147.4	13.8	16.7
1990	06 08	18 34.55	-24 31.0					
1990	06 18	18 25.63	-24 32.5	1.317	2.324	170.0	4.3	16.3
1990	06 28	18 15.77	-24 30.9					
1990	07 08	18 06.39	-24 25.7	1.357	2.357	166.4	5.8	16.4
1990	07 18	17 58.71	-24 17.9					
1990	07 28	17 53.60	-24 09.0	1.492	2.392	144.4	14.3	17.0

1988 BK4 a,e,i = 3.13, 0.14, 19 Elements MPC 13451

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 09	18 44.74	-03 08.9	2.892	3.548	123.3	13.8	18.2
1990	05 19	18 42.32	-02 44.2					
1990	05 29	18 38.10	-02 28.5	2.690	3.539	141.4	10.3	18.0
1990	06 08	18 32.32	-02 24.1					
1990	06 18	18 25.38	-02 32.3	2.574	3.530	156.7	6.5	17.7
1990	06 28	18 17.83	-02 54.1					
1990	07 08	18 10.31	-03 28.9	2.562	3.519	156.7	6.6	17.7
1990	07 18	18 03.43	-04 15.0					
1990	07 28	17 57.76	-05 10.0	2.656	3.507	141.3	10.4	17.9

1977 EV a,e,i = 2.55, 0.08, 15 Elements MPC 14343

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 54.10	-41 54.1	1.579	2.457	141.8	14.8	15.7
1990	06 08	18 45.61	-42 05.8					
1990	06 18	18 34.43	-41 58.5	1.500	2.474	158.5	8.7	15.4
1990	06 28	18 21.96	-41 27.9					
1990	07 08	18 09.95	-40 34.0	1.516	2.490	158.6	8.6	15.4
1990	07 18	17 59.91	-39 21.4					
1990	07 28	17 52.87	-37 57.4	1.628	2.507	141.9	14.5	15.8
1990	08 07	17 49.33	-36 29.6					
1990	08 17	17 49.24	-35 03.5	1.818	2.524	123.7	19.5	16.2

1974 SP1 a,e,i = 3.20, 0.15, 2 Elements MPC 13169

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 44.02	-24 20.3	2.663	3.555	146.8	9.0	18.4
1990	06 08	18 38.00	-24 31.4					
1990	06 18	18 30.61	-24 42.0	2.535	3.538	168.9	3.2	18.0
1990	06 28	18 22.43	-24 50.9					
1990	07 08	18 14.20	-24 57.1	2.519	3.520	168.1	3.4	18.0
1990	07 18	18 06.66	-25 00.5					
1990	07 28	18 00.44	-25 01.5	2.613	3.501	145.9	9.3	18.4
1990	08 07	17 56.02	-25 00.9					
1990	08 17	17 53.66	-24 59.6	2.796	3.480	125.3	13.7	18.6

(4065) 2820 P-L a,e,i = 2.27, 0.08, 5 Elements MPC 14470

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 55.19	-30 23.3	1.505	2.401	144.1	14.3	17.7
1990	06 08	18 47.73	-30 59.9					
1990	06 18	18 37.61	-31 30.6	1.414	2.411	165.3	6.1	17.3
1990	06 28	18 25.96	-31 50.5					
1990	07 08	18 14.28	-31 56.7	1.422	2.419	165.3	6.1	17.3
1990	07 18	18 04.07	-31 50.0					
1990	07 28	17 56.46	-31 33.3	1.528	2.426	144.3	14.1	17.7
1990	08 07	17 52.14	-31 10.7					
1990	08 17	17 51.27	-30 45.8	1.710	2.432	124.5	20.1	18.2

2041 T-3 a,e,i = 2.80, 0.04, 3 Elements MPC 12572

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 50.41	-20 45.4	1.839	2.732	145.0	12.3	16.7
1990	06 08	18 44.38	-20 36.9					
1990	06 18	18 36.49	-20 30.7	1.739	2.739	167.1	4.7	16.2
1990	06 28	18 27.53	-20 25.9					
1990	07 08	18 18.55	-20 22.1	1.742	2.747	168.9	4.1	16.2
1990	07 18	18 10.55	-20 19.2					
1990	07 28	18 04.37	-20 17.7	1.849	2.755	146.8	11.7	16.7
1990	08 07	18 00.55	-20 17.8					
1990	08 17	17 59.34	-20 19.5	2.038	2.763	126.5	17.1	17.0

(4198) 1983 CK1 a,e,i = 3.13, 0.11, 2 Elements MPC 15226

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 50.23	-22 00.1	2.344	3.228	145.2	10.3	17.9
1990	06 08	18 44.29	-22 10.8					
1990	06 18	18 36.85	-22 22.9	2.248	3.247	167.4	3.9	17.5
1990	06 28	18 28.56	-22 34.8					
1990	07 08	18 20.26	-22 45.7	2.261	3.266	169.6	3.2	17.5
1990	07 18	18 12.72	-22 55.0					
1990	07 28	18 06.61	-23 02.7	2.383	3.284	147.4	9.6	17.9
1990	08 07	18 02.42	-23 09.2					
1990	08 17	18 00.40	-23 15.0	2.594	3.301	126.8	14.2	18.3

1120 T-3 a,e,i = 2.79, 0.15, 7 Elements MPC 13162

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 53.02	-27 39.5	2.158	3.043	144.8	11.1	18.7
1990	06 08	18 46.47	-27 38.9					
1990	06 18	18 38.03	-27 34.9	2.021	3.019	166.8	4.4	18.3
1990	06 28	18 28.44	-27 25.5					
1990	07 08	18 18.69	-27 10.1	1.990	2.993	168.5	3.9	18.2
1990	07 18	18 09.76	-26 49.3					
1990	07 28	18 02.51	-26 24.7	2.068	2.967	146.3	10.9	18.5
1990	08 07	17 57.55	-25 58.6					
1990	08 17	17 55.17	-25 32.8	2.232	2.939	125.6	16.3	18.9

1988 CC a,e,i = 3.00, 0.12, 10 Elements MPC 14355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 48.74	-08 47.3	2.240	3.102	142.0	11.6	16.3
1990	06 08	18 43.36	-08 32.1					
1990	06 18	18 36.44	-08 27.1	2.104	3.080	160.2	6.4	16.0
1990	06 28	18 28.56	-08 33.4					
1990	07 08	18 20.49	-08 50.8	2.072	3.057	162.6	5.7	15.9
1990	07 18	18 13.04	-09 18.3					
1990	07 28	18 06.91	-09 54.0	2.144	3.034	145.2	11.0	16.2
1990	08 07	18 02.65	-10 35.7					
1990	08 17	18 00.58	-11 21.0	2.303	3.010	125.9	15.8	16.5

1051 T-2 a,e,i = 2.73, 0.10, 13 Elements MPC 15075

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 50.95	-04 13.6	2.088	2.934	139.5	13.0	17.6
1990	06 08	18 45.10	-03 45.6					
1990	06 18	18 37.68	-03 31.7	1.987	2.944	156.1	8.0	17.3
1990	06 28	18 29.34	-03 33.5					
1990	07 08	18 20.93	-03 51.1	1.985	2.954	158.4	7.3	17.3
1990	07 18	18 13.28	-04 22.9					
1990	07 28	18 07.08	-05 06.4	2.084	2.962	143.4	11.8	17.6
1990	08 07	18 02.86	-05 58.1					
1990	08 17	18 00.88	-06 54.6	2.268	2.969	125.2	16.2	17.9

1982 RH a,e,i = 2.62, 0.14, 13 Elements MPC 14783

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 49.36	-01 57.0	1.400	2.263	138.7	17.2	16.3
1990	06 08	18 44.86	-01 19.3					
1990	06 18	18 38.15	-01 03.9	1.300	2.257	153.9	11.4	16.0
1990	06 28	18 30.09	-01 14.4					
1990	07 08	18 21.83	-01 51.0	1.284	2.254	156.7	10.3	15.9
1990	07 18	18 14.53	-02 50.7					
1990	07 28	18 09.18	-04 08.2	1.356	2.254	143.4	15.6	16.2
1990	08 07	18 06.49	-05 36.7					
1990	08 17	18 06.73	-07 09.5	1.502	2.258	126.7	21.1	16.6

1979 QW3 a,e,i = 2.43, 0.15, 1 Elements MPC 11991

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 56.07	-21 16.6	1.228	2.132	143.7	16.3	16.7
1990	06 08	18 50.47	-21 21.3					
1990	06 18	18 42.22	-21 29.9	1.156	2.156	166.0	6.5	16.2
1990	06 28	18 32.41	-21 40.2					
1990	07 08	18 22.58	-21 50.4	1.175	2.184	170.1	4.6	16.2
1990	07 18	18 14.15	-21 59.6					
1990	07 28	18 08.23	-22 07.8	1.287	2.213	147.8	14.2	16.8
1990	08 07	18 05.46	-22 15.4					
1990	08 17	18 05.97	-22 22.5	1.473	2.244	128.1	20.8	17.3

1987 UQ3 a,e,i = 2.32, 0.12, 6 Elements MPC 15416

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 56.19	-23 52.4	1.297	2.199	144.0	15.7	16.0
1990	06 08	18 51.03	-24 38.5					
1990	06 18	18 42.88	-25 29.2	1.173	2.173	166.1	6.5	15.5
1990	06 28	18 32.65	-26 19.4					
1990	07 08	18 21.80	-27 04.0	1.141	2.148	169.2	5.1	15.3
1990	07 18	18 11.95	-27 39.9					
1990	07 28	18 04.56	-28 06.4	1.202	2.125	146.6	15.3	15.8
1990	08 07	18 00.60	-28 24.9					
1990	08 17	18 00.45	-28 37.1	1.336	2.104	126.6	22.7	16.2

3241 T-3 a,e,i = 2.24, 0.21, 2 Elements MPC 16039

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 59.94	-25 43.5	1.410	2.303	143.2	15.3	17.9
1990	06 08	18 54.17	-26 07.9					
1990	06 18	18 45.33	-26 33.1	1.258	2.256	165.4	6.5	17.3
1990	06 28	18 34.26	-26 54.9					
1990	07 08	18 22.39	-27 09.5	1.200	2.207	169.3	4.9	17.1
1990	07 18	18 11.33	-27 15.5					
1990	07 28	18 02.59	-27 13.7	1.238	2.158	146.3	15.1	17.5
1990	08 07	17 57.25	-27 06.7					
1990	08 17	17 55.77	-26 57.2	1.350	2.108	125.7	23.0	17.8

1986 RK1 a,e,i = 2.76, 0.12, 5 Elements MPC 14788

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	18 57.42	-16 27.4	2.016	2.887	142.5	12.3	17.5
1990	06 08	18 51.97	-16 24.4					
1990	06 18	18 44.61	-16 27.5	1.874	2.864	163.8	5.7	17.0
1990	06 28	18 35.98	-16 36.3					
1990	07 08	18 27.00	-16 49.8	1.835	2.840	169.3	3.8	16.9
1990	07 18	18 18.60	-17 07.1					
1990	07 28	18 11.66	-17 27.2	1.902	2.816	148.2	11.0	17.2
1990	08 07	18 06.84	-17 49.3					
1990	08 17	18 04.51	-18 12.3	2.056	2.792	127.6	16.7	17.6

1978 VR4 a,e,i = 2.20, 0.11, 4 Elements MPC 14945

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 03.92	-18 13.5	1.560	2.436	141.4	15.0	17.6
1990	06 08	18 57.28	-17 59.1					
1990	06 18	18 48.18	-17 49.7	1.451	2.442	163.6	6.7	17.2
1990	06 28	18 37.52	-17 45.0					
1990	07 08	18 26.55	-17 44.2	1.439	2.446	169.7	4.3	17.1
1990	07 18	18 16.55	-17 46.8					
1990	07 28	18 08.61	-17 52.6	1.530	2.448	147.5	12.9	17.5
1990	08 07	18 03.47	-18 01.4					
1990	08 17	18 01.40	-18 12.4	1.702	2.448	126.9	19.3	18.0

1987 YK a,e,i = 2.58, 0.21, 5 Elements MPC 14620

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 00.53	-25 47.9	1.626	2.511	143.1	14.0	16.8
1990	06 08	18 55.34	-26 22.5					
1990	06 18	18 47.49	-26 58.7	1.471	2.466	164.8	6.2	16.2
1990	06 28	18 37.69	-27 32.5					
1990	07 08	18 27.16	-28 00.2	1.414	2.422	169.8	4.2	16.0
1990	07 18	18 17.24	-28 19.5					
1990	07 28	18 09.22	-28 30.4	1.457	2.377	147.6	13.2	16.4
1990	08 07	18 04.07	-28 34.4					
1990	08 17	18 02.27	-28 33.7	1.579	2.334	127.0	20.3	16.7

1989 GB4 a,e,i = 2.84, 0.08, 1 Elements MPC 14795

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 02.22	-24 37.0	1.890	2.765	142.7	12.8	16.8
1990	06 08	18 56.97	-24 47.1					
1990	06 18	18 49.56	-24 57.6	1.757	2.749	164.6	5.6	16.3
1990	06 28	18 40.69	-25 06.3					
1990	07 08	18 31.38	-25 11.5	1.724	2.734	171.8	3.0	16.1
1990	07 18	18 22.70	-25 12.4					
1990	07 28	18 15.63	-25 09.5	1.796	2.719	149.4	11.0	16.5
1990	08 07	18 10.90	-25 03.8					
1990	08 17	18 08.87	-24 56.7	1.954	2.705	128.7	17.0	16.9

1979 QK4 a,e,i = 3.23, 0.16, 1 Elements MPC 13151

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 01.08	-23 49.3	2.505	3.369	142.9	10.5	16.7
1990	06 08	18 55.89	-23 59.0					
1990	06 18	18 49.02	-24 09.5	2.349	3.340	164.7	4.6	16.3
1990	06 28	18 41.02	-24 19.1					
1990	07 08	18 32.62	-24 26.6	2.300	3.310	172.3	2.4	16.1
1990	07 18	18 24.64	-24 31.3					
1990	07 28	18 17.81	-24 33.1	2.362	3.280	149.9	8.9	16.5
1990	08 07	18 12.74	-24 32.7					
1990	08 17	18 09.80	-24 30.8	2.517	3.250	128.9	14.0	16.8

1987 SE7 a,e,i = 2.22, 0.19, 5 Elements MPC 15249

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 04.89	-26 48.6	1.194	2.089	142.1	17.3	17.8
1990	06 08	19 00.36	-26 43.0					
1990	06 18	18 52.39	-26 34.3	1.049	2.045	163.8	8.0	17.1
1990	06 28	18 41.85	-26 19.3					
1990	07 08	18 30.31	-25 55.6	0.991	2.002	171.4	4.4	16.8
1990	07 18	18 19.59	-25 23.9					
1990	07 28	18 11.38	-24 47.1	1.022	1.960	148.4	15.7	17.3
1990	08 07	18 06.85	-24 09.3					
1990	08 17	18 06.42	-23 33.3	1.124	1.922	128.2	24.5	17.7

6242 P-L a,e,i = 2.46, 0.08, 6 Elements MPC 14630

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 06.17	-15 59.3	1.667	2.532	140.4	14.8	18.4
1990	06 08	19 00.37	-15 37.9					
1990	06 18	18 52.34	-15 23.4	1.561	2.546	161.7	7.2	18.0
1990	06 28	18 42.86	-15 16.1					
1990	07 08	18 33.03	-15 15.5	1.553	2.559	169.4	4.2	17.8
1990	07 18	18 24.00	-15 20.9					
1990	07 28	18 16.72	-15 31.6	1.648	2.572	149.0	11.7	18.3
1990	08 07	18 11.91	-15 46.3					
1990	08 17	18 09.85	-16 03.8	1.827	2.584	128.7	17.8	18.7

(4406) 1987 YD1 a,e,i = 3.16, 0.12, 2 Elements MPC 16015

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 03.41	-22 18.4	2.179	3.044	142.2	11.8	17.6
1990	06 08	18 58.12	-22 30.8					
1990	06 18	18 51.07	-22 45.1	2.077	3.067	164.2	5.2	17.3
1990	06 28	18 42.90	-22 59.6					
1990	07 08	18 34.47	-23 12.9	2.079	3.090	172.9	2.3	17.2
1990	07 18	18 26.64	-23 23.9					
1990	07 28	18 20.18	-23 32.4	2.189	3.113	150.5	9.2	17.6
1990	08 07	18 15.66	-23 38.8					
1990	08 17	18 13.38	-23 43.6	2.391	3.137	129.8	14.4	18.0

(4225) 1989 BN a,e,i = 2.24, 0.11, 3 Elements MPC 15238

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 06.16	-25 15.6	1.184	2.078	141.8	17.6	16.0
1990	06 08	19 02.01	-25 51.7					
1990	06 18	18 54.53	-26 30.9	1.065	2.059	163.4	8.1	15.4
1990	06 28	18 44.58	-27 08.2					
1990	07 08	18 33.72	-27 38.2	1.031	2.042	171.3	4.3	15.2
1990	07 18	18 23.68	-27 58.2					
1990	07 28	18 16.07	-28 07.9	1.088	2.028	149.1	14.9	15.6
1990	08 07	18 11.99	-28 09.4					
1990	08 17	18 11.83	-28 05.2	1.218	2.016	129.2	22.9	16.1

1988 CN2 a,e,i = 3.15, 0.13, 1 Elements MPC 15711

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 04.25	-21 29.8	2.670	3.523	141.9	10.2	18.1
1990	06 08	18 58.88	-21 36.0					
1990	06 18	18 52.01	-21 44.1	2.544	3.531	163.8	4.6	17.8
1990	06 28	18 44.16	-21 52.9					
1990	07 08	18 36.03	-22 01.3	2.526	3.537	173.2	1.9	17.7
1990	07 18	18 28.32	-22 08.6					
1990	07 28	18 21.69	-22 14.6	2.621	3.543	150.9	8.0	18.0
1990	08 07	18 16.67	-22 19.5					
1990	08 17	18 13.56	-22 23.6	2.812	3.547	129.8	12.7	18.4

1986 VD1 a,e,i = 2.87, 0.14, 11 Elements MPC 14790

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 09.43	-33 26.5	2.030	2.887	140.8	12.8	16.5
1990	06 08	19 03.61	-33 35.9					
1990	06 18	18 55.43	-33 38.7	1.878	2.858	161.0	6.6	16.1
1990	06 28	18 45.61	-33 31.3					
1990	07 08	18 35.22	-33 11.6	1.828	2.829	167.5	4.5	15.9
1990	07 18	18 25.43	-32 39.7					
1990	07 28	18 17.31	-31 58.1	1.883	2.799	148.5	10.9	16.2
1990	08 07	18 11.63	-31 10.4					
1990	08 17	18 08.79	-30 20.1	2.026	2.770	128.3	16.7	16.5

1983 CO3 a,e,i = 3.09, 0.16, 14 Elements MPC 15708

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 09.20	-25 06.6	2.497	3.347	141.1	11.0	18.2
1990	06 08	19 03.11	-24 50.2					
1990	06 18	18 55.39	-24 32.6	2.385	3.371	163.3	5.0	17.9
1990	06 28	18 46.66	-24 12.7					
1990	07 08	18 37.70	-23 50.4	2.382	3.394	173.5	1.9	17.7
1990	07 18	18 29.32	-23 26.0					
1990	07 28	18 22.20	-23 00.6	2.493	3.416	151.0	8.3	18.2
1990	08 07	18 16.88	-22 35.4					
1990	08 17	18 13.63	-22 11.4	2.699	3.437	129.9	13.1	18.5

A917 SG a,e,i = 2.76, 0.27, 11 Elements MPC 15872

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 03.84	-06 02.3	1.683	2.525	137.5	15.7	15.8
1990	06 08	18 59.89	-05 17.7					
1990	06 18	18 53.64	-04 46.7	1.510	2.466	154.7	10.1	15.3
1990	06 28	18 45.63	-04 32.9					
1990	07 08	18 36.80	-04 38.5	1.425	2.409	160.8	8.0	15.1
1990	07 18	18 28.22	-05 03.6					
1990	07 28	18 20.99	-05 46.1	1.436	2.352	146.8	13.7	15.2
1990	08 07	18 16.04	-06 41.9					
1990	08 17	18 13.92	-07 46.2	1.526	2.298	128.5	20.2	15.5

1986 RP1 a,e,i = 2.75, 0.02, 5 Elements MPC 15245

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 07.79	-15 20.7	1.854	2.708	139.8	14.0	17.0
1990	06 08	19 02.96	-15 10.1					
1990	06 18	18 56.04	-15 07.0	1.727	2.707	160.8	7.1	16.6
1990	06 28	18 47.68	-15 11.3					
1990	07 08	18 38.82	-15 22.3	1.699	2.706	170.5	3.6	16.4
1990	07 18	18 30.46	-15 38.8					
1990	07 28	18 23.52	-15 59.4	1.774	2.706	150.7	10.6	16.8
1990	08 07	18 18.71	-16 22.7					
1990	08 17	18 16.42	-16 47.4	1.937	2.705	130.3	16.6	17.2

1985 RV4 a,e,i = 3.19, 0.20, 0 Elements MPC 11515

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 07.94	-22 58.3	2.004	2.865	141.2	12.8	17.4
1990	06 08	19 03.71	-23 06.1					
1990	06 18	18 57.37	-23 16.1	1.842	2.829	162.8	6.1	16.9
1990	06 28	18 49.47	-23 26.7					
1990	07 08	18 40.90	-23 36.0	1.781	2.794	174.3	2.1	16.6
1990	07 18	18 32.64	-23 42.8					
1990	07 28	18 25.65	-23 46.8	1.825	2.761	151.7	10.0	17.0
1990	08 07	18 20.73	-23 48.4					
1990	08 17	18 18.32	-23 48.1	1.957	2.730	130.9	16.3	17.3

(4317) 1980 DA1 a,e,i = 4.00, 0.16, 10 Elements MPC 15683

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 07.96	-32 53.5	3.613	4.448	141.2	8.2	16.8
1990	06 08	19 02.98	-33 21.4					
1990	06 18	18 56.73	-33 46.1	3.494	4.465	160.7	4.3	16.6
1990	06 28	18 49.65	-34 05.6					
1990	07 08	18 42.27	-34 18.5	3.484	4.481	167.2	2.9	16.5
1990	07 18	18 35.18	-34 24.0					
1990	07 28	18 28.90	-34 22.6	3.589	4.497	150.0	6.5	16.8
1990	08 07	18 23.88	-34 15.2					
1990	08 17	18 20.43	-34 03.1	3.792	4.512	130.2	9.9	17.0

1952 QW a,e,i = 2.30, 0.30, 6 Elements MPC 16020

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 13.59	-18 58.2	1.422	2.288	139.3	16.8	18.2
1990	06 08	19 09.61	-19 20.9					
1990	06 18	19 02.48	-19 54.0	1.233	2.219	161.1	8.5	17.6
1990	06 28	18 52.66	-20 35.8					
1990	07 08	18 41.26	-21 22.6	1.134	2.148	174.3	2.7	17.1
1990	07 18	18 29.77	-22 10.3					
1990	07 28	18 19.81	-22 55.7	1.132	2.076	150.4	14.0	17.5
1990	08 07	18 12.80	-23 37.0					
1990	08 17	18 09.57	-24 13.7	1.208	2.005	128.9	23.1	17.8

1987 YH a,e,i = 2.78, 0.20, 8 Elements MPC 12951

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29	19 18.18	-13 21.8	2.505	3.318	136.9	12.1	18.7
1990 06 08	19 13.31	-13 22.2					
1990 06 18	19 06.69	-13 30.2	2.343	3.306	157.7	6.7	18.4
1990 06 28	18 58.78	-13 45.5					
1990 07 08	18 50.25	-14 07.2	2.285	3.292	170.8	2.8	18.1
1990 07 18	18 41.87	-14 34.0					
1990 07 28	18 34.35	-15 04.2	2.339	3.277	153.1	8.1	18.4
1990 08 07	18 28.36	-15 36.3					
1990 08 17	18 24.31	-16 09.1	2.492	3.259	132.2	13.3	18.7

1980 FF12 a,e,i = 2.17, 0.09, 3 Elements MPC 9589

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29	19 23.21	-27 10.0	1.127	1.999	138.1	19.8	17.1
1990 06 08	19 19.51	-27 30.9					
1990 06 18	19 12.13	-27 52.2	1.027	2.009	159.3	10.3	16.6
1990 06 28	19 01.97	-28 08.8					
1990 07 08	18 50.63	-28 15.9	1.009	2.022	173.4	3.3	16.3
1990 07 18	18 39.96	-28 11.4					
1990 07 28	18 31.61	-27 56.6	1.081	2.036	152.5	13.3	16.9
1990 08 07	18 26.70	-27 34.7					
1990 08 17	18 25.61	-27 09.0	1.229	2.052	132.3	21.4	17.4

2024 P-L a,e,i = 2.27, 0.08, 5 Elements MPC 12585

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29	19 28.01	-29 33.1	1.383	2.235	137.1	18.0	17.5
1990 06 08	19 23.18	-30 02.4					
1990 06 18	19 15.02	-30 30.0	1.279	2.254	158.2	9.6	17.1
1990 06 28	19 04.36	-30 50.2					
1990 07 08	18 52.66	-30 58.3	1.263	2.273	171.2	3.9	16.8
1990 07 18	18 41.52	-30 52.4					
1990 07 28	18 32.43	-30 34.2	1.346	2.292	152.0	12.0	17.3
1990 08 07	18 26.42	-30 07.1					
1990 08 17	18 23.90	-29 35.2	1.511	2.311	131.6	19.1	17.8

1985 CG a,e,i = 2.39, 0.17, 3 Elements MPC 15066

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29	19 26.42	-21 49.5	1.968	2.794	136.8	14.4	17.9
1990 06 08	19 21.30	-22 09.6					
1990 06 18	19 13.74	-22 34.1	1.816	2.788	159.0	7.5	17.5
1990 06 28	19 04.32	-23 00.7					
1990 07 08	18 53.95	-23 26.2	1.764	2.779	177.3	1.0	17.1
1990 07 18	18 43.70	-23 48.4					
1990 07 28	18 34.65	-24 06.1	1.821	2.768	153.8	9.3	17.6
1990 08 07	18 27.70	-24 19.3					
1990 08 17	18 23.36	-24 28.6	1.972	2.754	132.0	15.8	17.9

(4131) Stasik a,e,i = 3.16, 0.11, 12 Elements MPC 14778

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 05 29	19 24.87	-23 50.3	2.347	3.168	137.4	12.5	16.4
1990 06 08	19 20.30	-23 31.9					
1990 06 18	19 13.73	-23 13.6	2.176	3.146	159.0	6.6	16.0
1990 06 28	19 05.65	-22 54.3					
1990 07 08	18 56.83	-22 33.3	2.108	3.124	178.1	0.6	15.6
1990 07 18	18 48.10	-22 10.4					
1990 07 28	18 40.33	-21 46.2	2.151	3.102	155.2	7.9	16.0
1990 08 07	18 34.23	-21 21.6					
1990 08 17	18 30.27	-20 57.6	2.292	3.080	133.7	13.7	16.3

1980 TB12 a,e,i = 3.17, 0.04, 9 Elements MPC 14614

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 24.82	-11 36.8	2.310	3.109	134.8	13.4	17.0
1990	06 08	19 21.02	-11 06.7					
1990	06 18	19 15.37	-10 44.5	2.154	3.102	154.5	8.1	16.6
1990	06 28	19 08.31	-10 31.1					
1990	07 08	19 00.54	-10 26.8	2.094	3.095	167.8	4.0	16.4
1990	07 18	18 52.79	-10 31.2					
1990	07 28	18 45.85	-10 43.4	2.142	3.089	154.5	8.1	16.6
1990	08 07	18 40.39	-11 01.6					
1990	08 17	18 36.85	-11 24.0	2.286	3.084	134.7	13.5	16.9

1981 SA5 a,e,i = 2.86, 0.09, 1 Elements MPC 14947

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 26.94	-19 49.7	1.910	2.735	136.4	14.8	16.8
1990	06 08	19 23.41	-19 50.3					
1990	06 18	19 17.54	-19 56.4	1.752	2.719	157.6	8.2	16.4
1990	06 28	19 09.81	-20 06.6					
1990	07 08	19 01.07	-20 19.1	1.688	2.704	177.5	0.9	15.9
1990	07 18	18 52.31	-20 32.3					
1990	07 28	18 44.55	-20 44.8	1.729	2.690	156.2	8.8	16.4
1990	08 07	18 38.69	-20 56.0					
1990	08 17	18 35.26	-21 05.6	1.864	2.676	134.9	15.5	16.7

(4201) 1984 JA1 a,e,i = 3.16, 0.23, 9 Elements MPC 15227

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 29.56	-13 38.7	1.651	2.468	134.3	17.1	14.9
1990	06 08	19 26.76	-12 49.7					
1990	06 18	19 21.54	-12 09.2	1.534	2.487	153.9	10.3	14.6
1990	06 28	19 14.48	-11 39.2					
1990	07 08	19 06.48	-11 20.5	1.505	2.510	168.7	4.5	14.3
1990	07 18	18 58.58	-11 12.9					
1990	07 28	18 51.78	-11 15.3	1.575	2.537	156.0	9.4	14.7
1990	08 07	18 46.91	-11 25.8					
1990	08 17	18 44.44	-11 41.8	1.735	2.567	136.6	15.7	15.1

1978 RU a,e,i = 2.57, 0.25, 4 Elements MPC 11836

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 26.11	-29 29.9	1.062	1.935	137.5	20.7	16.5
1990	06 08	19 26.29	-30 05.0					
1990	06 18	19 22.75	-30 40.7	0.947	1.922	156.5	12.1	15.9
1990	06 28	19 16.05	-31 11.2					
1990	07 08	19 07.53	-31 29.8	0.907	1.918	171.1	4.7	15.6
1990	07 18	18 58.92	-31 32.1					
1990	07 28	18 52.00	-31 17.8	0.950	1.922	155.7	12.6	16.0
1990	08 07	18 48.18	-30 49.6					
1990	08 17	18 48.06	-30 11.8	1.068	1.934	136.7	21.1	16.5

1982 SJ1 a,e,i = 2.66, 0.21, 7 Elements MPC 13583

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 34.05	-12 02.9	2.159	2.943	132.8	14.6	18.1
1990	06 08	19 30.36	-11 50.4					
1990	06 18	19 24.47	-11 47.2	1.964	2.907	153.1	9.1	17.7
1990	06 28	19 16.77	-11 54.1					
1990	07 08	19 07.92	-12 10.6	1.863	2.869	169.6	3.7	17.3
1990	07 18	18 58.79	-12 35.6					
1990	07 28	18 50.30	-13 07.2	1.870	2.829	156.3	8.3	17.5
1990	08 07	18 43.34	-13 43.0					
1990	08 17	18 38.51	-14 20.9	1.975	2.788	135.5	14.8	17.8

1980 PF a,e,i = 2.26, 0.16, 8 Elements MPC 9469

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 39.57	-31 01.6	1.187	2.031	134.6	20.8	16.8
1990	06 08	19 38.10	-30 59.2					
1990	06 18	19 32.67	-30 53.0	1.035	2.000	154.4	12.7	16.2
1990	06 28	19 23.75	-30 38.0					
1990	07 08	19 12.60	-30 08.7	0.961	1.973	172.3	4.0	15.7
1990	07 18	19 01.04	-29 23.2					
1990	07 28	18 51.01	-28 23.6	0.975	1.948	156.5	12.0	16.0
1990	08 07	18 44.13	-27 15.2					
1990	08 17	18 41.20	-26 03.9	1.068	1.928	135.9	21.4	16.5

2506 P-L a,e,i = 2.66, 0.21, 12 Elements MPC 14959

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 41.62	-40 44.3	1.425	2.246	133.5	19.1	18.4
1990	06 08	19 40.62	-41 55.7					
1990	06 18	19 35.71	-43 02.1	1.277	2.213	149.5	13.5	17.9
1990	06 28	19 27.24	-43 54.2					
1990	07 08	19 16.38	-44 22.0	1.207	2.183	158.1	10.0	17.7
1990	07 18	19 04.90	-44 19.3					
1990	07 28	18 54.77	-43 45.2	1.223	2.157	148.9	14.1	17.8
1990	08 07	18 47.69	-42 44.7					
1990	08 17	18 44.56	-41 25.8	1.317	2.136	132.6	20.4	18.1

1987 UX1 a,e,i = 2.31, 0.17, 5 Elements MPC 12688

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 43.60	-18 35.5	1.521	2.326	132.3	18.8	17.1
1990	06 08	19 41.31	-18 10.0					
1990	06 18	19 35.91	-17 50.6	1.336	2.288	152.9	11.7	16.6
1990	06 28	19 27.75	-17 37.2					
1990	07 08	19 17.67	-17 29.0	1.236	2.250	174.1	2.7	16.0
1990	07 18	19 06.93	-17 25.0					
1990	07 28	18 56.95	-17 24.0	1.233	2.211	158.9	9.5	16.2
1990	08 07	18 49.08	-17 25.2					
1990	08 17	18 44.23	-17 28.1	1.319	2.173	137.0	18.5	16.6

1968 QE a,e,i = 2.39, 0.22, 2 Elements MPC 11145

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 37.81	-21 19.0	1.239	2.077	134.1	20.5	16.9
1990	06 08	19 37.51	-21 08.4					
1990	06 18	19 33.82	-21 04.2	1.071	2.034	154.1	12.6	16.3
1990	06 28	19 27.02	-21 05.5					
1990	07 08	19 18.02	-21 10.0	0.979	1.994	176.7	1.7	15.6
1990	07 18	19 08.25	-21 14.9					
1990	07 28	18 59.36	-21 18.4	0.975	1.959	159.6	10.4	16.0
1990	08 07	18 52.93	-21 19.3					
1990	08 17	18 49.96	-21 17.6	1.052	1.929	138.3	20.4	16.4

2045 T-2 a,e,i = 2.69, 0.15, 13 Elements MPC 15081

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 48.59	-41 17.3	1.470	2.277	132.1	19.3	16.5
1990	06 08	19 46.73	-42 21.4					
1990	06 18	19 40.96	-43 18.5	1.355	2.284	148.5	13.4	16.1
1990	06 28	19 31.81	-43 59.5					
1990	07 08	19 20.58	-44 16.0	1.319	2.294	158.1	9.5	16.0
1990	07 18	19 09.02	-44 03.6					
1990	07 28	18 58.97	-43 23.0	1.373	2.307	149.7	12.8	16.2
1990	08 07	18 51.85	-42 19.9					
1990	08 17	18 48.38	-41 02.0	1.508	2.324	133.4	18.4	16.6

1988 BZ1 a,e,i = 3.22, 0.14, 1 Elements MPC 13450

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 42.90	-20 22.5	2.870	3.635	132.8	11.8	17.7
1990	06 08	19 39.20	-20 29.7					
1990	06 18	19 33.78	-20 40.8	2.701	3.642	154.1	7.0	17.4
1990	06 28	19 26.97	-20 54.7					
1990	07 08	19 19.32	-21 09.8	2.631	3.647	176.4	1.0	17.0
1990	07 18	19 11.46	-21 24.6					
1990	07 28	19 04.05	-21 37.9	2.677	3.650	160.7	5.3	17.3
1990	08 07	18 57.75	-21 48.9					
1990	08 17	18 52.99	-21 57.5	2.828	3.653	139.0	10.5	17.7

1985 RP2 a,e,i = 3.09, 0.19, 1 Elements MPC 11420

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 42.50	-20 49.6	2.189	2.974	133.0	14.4	17.8
1990	06 08	19 39.85	-20 55.8					
1990	06 18	19 34.95	-21 07.4	1.990	2.937	153.9	8.8	17.4
1990	06 28	19 28.09	-21 23.0					
1990	07 08	19 19.93	-21 40.5	1.884	2.900	176.5	1.2	16.8
1990	07 18	19 11.29	-21 57.8					
1990	07 28	19 03.12	-22 12.9	1.886	2.863	160.5	6.8	17.1
1990	08 07	18 56.33	-22 25.0					
1990	08 17	18 51.62	-22 33.6	1.987	2.827	138.6	13.7	17.4

1973 UC a,e,i = 2.68, 0.28, 8 Elements MPC 14779

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 46.13	-32 02.6	1.749	2.552	133.2	16.8	18.0
1990	06 08	19 44.15	-32 52.0					
1990	06 18	19 38.99	-33 44.2	1.545	2.491	152.5	10.9	17.5
1990	06 28	19 30.89	-34 33.6					
1990	07 08	19 20.59	-35 13.3	1.428	2.429	166.9	5.4	17.1
1990	07 18	19 09.33	-35 37.2					
1990	07 28	18 58.63	-35 42.0	1.410	2.368	154.7	10.6	17.2
1990	08 07	18 50.00	-35 28.4					
1990	08 17	18 44.48	-34 59.9	1.481	2.308	134.7	18.2	17.5

1986 RT5 a,e,i = 2.76, 0.12, 5 Elements MPC 14476

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 46.54	-22 20.8	1.873	2.663	132.3	16.3	17.3
1990	06 08	19 44.02	-22 14.3					
1990	06 18	19 38.85	-22 12.0	1.691	2.638	153.2	10.0	16.8
1990	06 28	19 31.40	-22 12.1					
1990	07 08	19 22.41	-22 12.6	1.598	2.613	176.0	1.5	16.3
1990	07 18	19 12.90	-22 11.6					
1990	07 28	19 04.00	-22 08.0	1.609	2.589	160.7	7.5	16.6
1990	08 07	18 56.79	-22 01.3					
1990	08 17	18 51.99	-21 52.3	1.717	2.566	138.8	15.1	17.0

1987 UP2 a,e,i = 2.24, 0.27, 3 Elements MPC 15416

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 49.77	-17 48.6	1.593	2.381	130.7	18.8	17.2
1990	06 08	19 47.65	-17 29.9					
1990	06 18	19 42.40	-17 18.5	1.380	2.322	151.3	12.1	16.7
1990	06 28	19 34.21	-17 14.6					
1990	07 08	19 23.80	-17 17.1	1.249	2.261	173.1	3.1	16.0
1990	07 18	19 12.29	-17 24.3					
1990	07 28	19 01.14	-17 34.4	1.217	2.198	159.9	9.1	16.2
1990	08 07	18 51.85	-17 45.7					
1990	08 17	18 45.52	-17 57.4	1.276	2.134	137.3	18.8	16.5

1980 YC a,e,i = 2.41, 0.12, 7 Elements MPC 15063

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 54.93	-27 22.7	1.879	2.657	131.1	16.7	17.8
1990	06 08	19 52.16	-28 08.6					
1990	06 18	19 46.47	-28 59.8	1.703	2.642	151.7	10.5	17.4
1990	06 28	19 38.15	-29 51.8					
1990	07 08	19 27.95	-30 38.9	1.617	2.625	170.5	3.7	16.9
1990	07 18	19 16.98	-31 15.9					
1990	07 28	19 06.53	-31 39.5	1.637	2.607	158.3	8.3	17.2
1990	08 07	18 57.86	-31 49.2					
1990	08 17	18 51.82	-31 46.9	1.753	2.588	137.1	15.4	17.5

4379 T-3 a,e,i = 2.28, 0.10, 6 Elements MPC 14361

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 54.18	-14 01.6	1.696	2.460	128.7	18.8	17.9
1990	06 08	19 51.43	-13 59.3					
1990	06 18	19 45.87	-14 09.0	1.542	2.471	149.4	12.1	17.5
1990	06 28	19 37.86	-14 30.4					
1990	07 08	19 28.21	-15 01.9	1.473	2.481	170.7	3.8	17.1
1990	07 18	19 17.98	-15 40.3					
1990	07 28	19 08.38	-16 22.2	1.506	2.490	161.4	7.5	17.3
1990	08 07	19 00.53	-17 04.3					
1990	08 17	18 55.20	-17 44.2	1.637	2.496	139.6	15.2	17.8

1979 UD2 a,e,i = 2.47, 0.14, 3 Elements MPC 15878

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 48.34	-20 04.5	1.335	2.145	131.5	20.7	15.8
1990	06 08	19 47.76	-19 41.8					
1990	06 18	19 43.91	-19 25.7	1.184	2.133	151.5	13.1	15.3
1990	06 28	19 37.13	-19 16.1					
1990	07 08	19 28.32	-19 11.2	1.111	2.125	173.6	3.0	14.7
1990	07 18	19 18.79	-19 09.3					
1990	07 28	19 10.00	-19 08.7	1.131	2.120	162.1	8.5	15.0
1990	08 07	19 03.34	-19 08.3					
1990	08 17	18 59.66	-19 07.4	1.236	2.119	140.7	17.6	15.5

1985 RY3 a,e,i = 3.16, 0.18, 1 Elements MPC 11509

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 47.81	-19 11.6	2.013	2.789	131.4	15.8	16.3
1990	06 08	19 46.13	-19 12.3					
1990	06 18	19 42.08	-19 19.8	1.821	2.759	151.9	10.0	15.9
1990	06 28	19 35.92	-19 33.4					
1990	07 08	19 28.30	-19 51.2	1.717	2.731	174.0	2.2	15.4
1990	07 18	19 20.04	-20 10.8					
1990	07 28	19 12.15	-20 30.2	1.718	2.704	162.7	6.4	15.6
1990	08 07	19 05.60	-20 47.6					
1990	08 17	19 01.13	-21 02.1	1.816	2.679	140.9	13.8	15.9

1982 UX5 a,e,i = 2.73, 0.09, 4 Elements MPC 14784

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 54.89	-19 58.3	2.177	2.933	130.0	15.4	18.3
1990	06 08	19 51.97	-19 52.6					
1990	06 18	19 46.69	-19 52.2	1.993	2.923	150.9	9.7	17.9
1990	06 28	19 39.37	-19 56.1					
1990	07 08	19 30.64	-20 02.6	1.900	2.913	173.6	2.2	17.4
1990	07 18	19 21.36	-20 09.7					
1990	07 28	19 12.48	-20 16.1	1.916	2.901	162.7	6.0	17.6
1990	08 07	19 04.92	-20 20.8					
1990	08 17	18 59.38	-20 23.4	2.034	2.888	140.6	12.9	18.0

1981 ES14 a,e,i = 2.58, 0.13, 4 Elements MPC 10616

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 54.44	-23 26.4	1.459	2.255	130.7	19.9	18.5
1990	06 08	19 53.12	-23 17.7					
1990	06 18	19 48.58	-23 13.8	1.322	2.265	151.1	12.5	18.0
1990	06 28	19 41.25	-23 12.7					
1990	07 08	19 32.04	-23 11.4	1.265	2.279	173.8	2.8	17.6
1990	07 18	19 22.22	-23 07.4					
1990	07 28	19 13.18	-22 59.3	1.305	2.294	162.7	7.6	17.9
1990	08 07	19 06.17	-22 47.1					
1990	08 17	19 01.95	-22 31.7	1.436	2.313	141.0	16.0	18.4

2155 T-2 a,e,i = 2.30, 0.11, 4 Elements MPC 15728

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 51.81	-14 11.2	1.256	2.053	129.3	22.5	18.0
1990	06 08	19 51.32	-13 47.9					
1990	06 18	19 47.48	-13 38.1	1.125	2.063	148.9	14.8	17.6
1990	06 28	19 40.67	-13 43.0					
1990	07 08	19 31.81	-14 01.7	1.067	2.075	169.4	5.2	17.1
1990	07 18	19 22.21	-14 31.4					
1990	07 28	19 13.36	-15 08.4	1.100	2.090	162.2	8.5	17.3
1990	08 07	19 06.62	-15 48.1					
1990	08 17	19 02.84	-16 27.0	1.219	2.107	141.4	17.4	17.9

1986 TU a,e,i = 2.76, 0.36, 31 Elements MPC 13306

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 53.52	+17 44.0	2.859	3.409	114.7	15.7	18.7
1990	06 08	19 50.39	+18 55.5					
1990	06 18	19 45.37	+19 51.2	2.646	3.361	127.4	13.9	18.4
1990	06 28	19 38.69	+20 26.2					
1990	07 08	19 30.79	+20 36.3	2.500	3.311	136.4	12.2	18.2
1990	07 18	19 22.28	+20 18.9					
1990	07 28	19 13.86	+19 33.5	2.438	3.258	137.4	12.2	18.1
1990	08 07	19 06.29	+18 22.6					
1990	08 17	19 00.18	+16 50.7	2.461	3.202	129.6	14.1	18.2

1986 QY a,e,i = 2.74, 0.15, 5 Elements MPC 12942

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 59.09	-27 29.2	2.320	3.073	130.2	14.6	18.0
1990	06 08	19 56.10	-27 56.0					
1990	06 18	19 50.68	-28 25.9	2.130	3.057	150.8	9.3	17.6
1990	06 28	19 43.09	-28 55.8					
1990	07 08	19 33.98	-29 21.8	2.032	3.040	170.7	3.1	17.2
1990	07 18	19 24.19	-29 40.5					
1990	07 28	19 14.71	-29 49.8	2.044	3.021	160.7	6.4	17.4
1990	08 07	19 06.53	-29 49.2					
1990	08 17	19 00.39	-29 40.1	2.159	3.001	139.4	12.7	17.7

(4093) Bennett a,e,i = 3.02, 0.03, 9 Elements MPC 14607

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 57.44	-15 44.5	2.363	3.097	128.4	14.9	17.0
1990	06 08	19 54.65	-15 17.1					
1990	06 18	19 49.75	-14 55.7	2.183	3.098	148.8	9.8	16.7
1990	06 28	19 43.04	-14 40.5					
1990	07 08	19 35.10	-14 31.2	2.094	3.098	169.3	3.5	16.4
1990	07 18	19 26.65	-14 27.0					
1990	07 28	19 18.51	-14 27.2	2.113	3.099	163.2	5.4	16.5
1990	08 07	19 11.49	-14 30.6					
1990	08 17	19 06.17	-14 36.0	2.236	3.099	142.2	11.6	16.8

1981 EZ17 a,e,i = 2.57, 0.13, 15 Elements MPC 14472

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 56.79	-00 03.1	1.710	2.417	123.0	20.6	17.0
1990	06 08	19 55.15	+00 39.6					
1990	06 18	19 50.92	+01 03.3	1.574	2.443	140.3	15.4	16.7
1990	06 28	19 44.44	+01 04.0					
1990	07 08	19 36.43	+00 39.7	1.509	2.471	155.5	9.8	16.4
1990	07 18	19 27.81	-00 08.7					
1990	07 28	19 19.62	-01 17.8	1.538	2.499	155.8	9.6	16.5
1990	08 07	19 12.87	-02 41.2					
1990	08 17	19 08.27	-04 12.1	1.660	2.527	140.8	14.7	16.8

1989 CS2 a,e,i = 2.34, 0.07, 7 Elements MPC 14622

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	19 58.24	-10 35.4	1.443	2.204	126.7	21.6	17.9
1990	06 08	19 57.36	-09 55.6					
1990	06 18	19 53.41	-09 29.4	1.296	2.212	145.8	15.0	17.5
1990	06 28	19 46.71	-09 19.3					
1990	07 08	19 38.03	-09 26.2	1.224	2.221	164.7	6.9	17.1
1990	07 18	19 28.50	-09 49.0					
1990	07 28	19 19.43	-10 24.7	1.244	2.231	161.7	8.2	17.2
1990	08 07	19 12.07	-11 08.8					
1990	08 17	19 07.31	-11 56.7	1.355	2.242	142.2	16.1	17.7

1988 BK5 a,e,i = 3.21, 0.14, 18 Elements MPC 14355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 04.34	-28 40.0	2.907	3.632	129.1	12.5	18.3
1990	06 08	20 00.64	-28 38.1					
1990	06 18	19 54.92	-28 36.3	2.709	3.624	149.9	8.1	18.0
1990	06 28	19 47.48	-28 32.5					
1990	07 08	19 38.86	-28 24.4	2.608	3.614	170.5	2.7	17.6
1990	07 18	19 29.74	-28 10.4					
1990	07 28	19 20.89	-27 50.0	2.621	3.604	162.8	4.8	17.7
1990	08 07	19 13.06	-27 23.4					
1990	08 17	19 06.82	-26 52.0	2.744	3.592	141.4	10.1	18.0

(4027) 1982 DN a,e,i = 2.36, 0.17, 2 Elements MPC 14334

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 04.69	-17 33.0	1.396	2.165	127.2	21.9	16.9
1990	06 08	20 03.49	-17 25.8					
1990	06 18	19 58.97	-17 29.8	1.275	2.200	147.5	14.3	16.6
1990	06 28	19 51.54	-17 44.2					
1990	07 08	19 42.07	-18 06.2	1.228	2.237	170.3	4.4	16.1
1990	07 18	19 31.82	-18 32.2					
1990	07 28	19 22.19	-18 58.6	1.278	2.274	165.0	6.6	16.4
1990	08 07	19 14.47	-19 22.6					
1990	08 17	19 09.47	-19 42.8	1.422	2.312	143.0	15.3	16.9

1984 DA a,e,i = 1.92, 0.06, 23 Elements MPC 11996

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 04.43	+12 30.0	1.309	1.968	115.3	27.7	17.6
1990	06 08	20 04.01	+13 29.1					
1990	06 18	20 00.25	+13 56.9	1.170	1.980	129.7	23.3	17.3
1990	06 28	19 53.36	+13 44.0					
1990	07 08	19 44.07	+12 42.7	1.080	1.991	143.4	17.7	17.0
1990	07 18	19 33.54	+10 50.8					
1990	07 28	19 23.25	+08 13.0	1.063	2.001	148.5	15.4	16.9
1990	08 07	19 14.71	+05 02.3					
1990	08 17	19 09.00	+01 35.6	1.132	2.009	139.0	19.3	17.1

4157 T-3 a,e,i = 2.28, 0.10, 6 Elements MPC 14480

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 09.97	-12 27.7	1.697	2.420	124.5	20.2	18.5
1990	06 08	20 08.43	-12 17.7					
1990	06 18	20 04.01	-12 21.0	1.536	2.437	144.7	14.0	18.1
1990	06 28	19 56.96	-12 38.1					
1990	07 08	19 47.93	-13 07.9	1.453	2.452	166.1	5.7	17.7
1990	07 18	19 37.90	-13 47.7					
1990	07 28	19 28.04	-14 33.6	1.469	2.465	165.4	5.9	17.7
1990	08 07	19 19.56	-15 21.5					
1990	08 17	19 13.35	-16 07.8	1.585	2.477	144.0	13.9	18.2

1986 TM a,e,i = 2.87, 0.33, 33 Elements MPC 12960

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 40.03	-61 20.4	2.921	3.546	120.6	14.2	18.3
1990	06 08	20 36.65	-62 54.4					
1990	06 18	20 28.67	-64 22.3	2.757	3.507	130.9	12.6	18.1
1990	06 28	20 15.96	-65 35.7					
1990	07 08	19 59.18	-66 25.3	2.669	3.466	135.3	11.9	18.0
1990	07 18	19 40.02	-66 43.8					
1990	07 28	19 20.90	-66 27.8	2.663	3.423	131.6	12.8	18.0
1990	08 07	19 04.37	-65 39.5					
1990	08 17	18 52.07	-64 25.0	2.735	3.377	121.6	14.8	18.1

1989 FJ a,e,i = 2.77, 0.14, 7 Elements MPC 14625

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 15.66	-28 21.3	2.210	2.929	126.6	16.1	16.8
1990	06 08	20 13.53	-28 59.8					
1990	06 18	20 08.79	-29 42.6	2.051	2.954	146.8	10.9	16.5
1990	06 28	20 01.69	-30 26.0					
1990	07 08	19 52.83	-31 05.1	1.980	2.978	166.4	4.6	16.2
1990	07 18	19 43.07	-31 35.6					
1990	07 28	19 33.44	-31 54.4	2.016	3.001	162.7	5.8	16.3
1990	08 07	19 24.95	-32 00.5					
1990	08 17	19 18.41	-31 55.1	2.156	3.022	142.4	11.8	16.7

1981 EY17 a,e,i = 2.45, 0.16, 2 Elements MPC 9690

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	05 29	20 12.51	-17 08.1	1.961	2.677	125.3	18.0	18.4
1990	06 08	20 11.30	-17 05.6					
1990	06 18	20 07.42	-17 12.6	1.750	2.651	145.5	12.5	18.0
1990	06 28	20 01.00	-17 28.7					
1990	07 08	19 52.54	-17 52.2	1.619	2.622	167.9	4.6	17.5
1990	07 18	19 42.84	-18 20.4					
1990	07 28	19 32.95	-18 50.1	1.592	2.592	167.5	4.9	17.4
1990	08 07	19 24.05	-19 18.4					
1990	08 17	19 17.10	-19 43.4	1.667	2.561	144.8	13.2	17.8

(4234) 1978 JT1 a,e,i = 3.20, 0.17, 2 Elements MPC 15388

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 05.76	-22 39.3	1.751	2.662	147.1	12.0	16.2
1990	06 28	20 00.43	-23 02.3					
1990	07 08	19 53.29	-23 27.5	1.667	2.671	168.9	4.2	15.8
1990	07 18	19 45.17	-23 51.5					
1990	07 28	19 37.08	-24 11.2	1.683	2.683	167.7	4.6	15.8
1990	08 07	19 30.07	-24 24.4					
1990	08 17	19 24.96	-24 30.8	1.799	2.698	145.9	12.1	16.3
1990	08 27	19 22.27	-24 30.4					
1990	09 06	19 22.22	-24 24.0	1.997	2.715	126.0	17.5	16.7

5119 T-3 a,e,i = 2.28, 0.23, 23 Elements MPC 14797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 11.51	+10 39.2	2.038	2.802	130.1	16.1	18.0
1990	06 28	20 05.15	+11 05.4					
1990	07 08	19 57.03	+11 05.7	1.906	2.793	144.0	12.4	17.8
1990	07 18	19 47.84	+10 37.7					
1990	07 28	19 38.43	+09 41.4	1.861	2.780	148.8	10.9	17.7
1990	08 07	19 29.76	+08 20.4					
1990	08 17	19 22.65	+06 40.8	1.913	2.764	139.7	13.7	17.8
1990	08 27	19 17.72	+04 50.1					
1990	09 06	19 15.30	+02 55.6	2.048	2.744	124.1	17.7	18.1

(4186) 1977 DT1 a,e,i = 3.11, 0.06, 24 Elements MPC 15221

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 08.86	-01 32.9	2.372	3.203	138.3	12.2	16.5
1990	06 28	20 03.76	-02 03.5					
1990	07 08	19 57.24	-02 51.5	2.234	3.193	156.6	7.3	16.2
1990	07 18	19 49.85	-03 55.8					
1990	07 28	19 42.26	-05 13.7	2.200	3.183	162.4	5.5	16.1
1990	08 07	19 35.24	-06 41.0					
1990	08 17	19 29.43	-08 12.7	2.275	3.172	146.9	10.0	16.4
1990	08 27	19 25.36	-09 44.2					
1990	09 06	19 23.36	-11 11.5	2.446	3.161	127.4	14.7	16.7

1986 YB a,e,i = 3.00, 0.10, 9 Elements MPC 11522

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 12.77	-17 44.2	2.093	2.979	144.4	11.4	16.1
1990	06 28	20 06.94	-17 32.0					
1990	07 08	19 59.39	-17 24.2	1.963	2.960	166.3	4.7	15.7
1990	07 18	19 50.81	-17 19.7					
1990	07 28	19 42.05	-17 17.0	1.937	2.941	169.4	3.6	15.6
1990	08 07	19 34.03	-17 14.9					
1990	08 17	19 27.53	-17 12.5	2.018	2.922	147.4	10.8	15.9
1990	08 27	19 23.15	-17 09.2					
1990	09 06	19 21.19	-17 04.4	2.187	2.904	126.7	16.2	16.3

1985 RZ2 a,e,i = 3.07, 0.17, 3 Elements MPC 11515

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 10.89	-19 57.9	1.975	2.870	145.4	11.6	17.1
1990	06 28	20 05.81	-20 24.8					
1990	07 08	19 58.90	-20 57.0	1.837	2.838	167.4	4.5	16.6
1990	07 18	19 50.79	-21 31.4					
1990	07 28	19 42.37	-22 04.8	1.802	2.806	169.5	3.8	16.5
1990	08 07	19 34.66	-22 34.1					
1990	08 17	19 28.50	-22 57.5	1.871	2.775	147.0	11.5	16.9
1990	08 27	19 24.57	-23 14.2					
1990	09 06	19 23.24	-23 24.1	2.025	2.746	126.4	17.2	17.2

1984 JA2 a,e,i = 3.02, 0.06, 11 Elements MPC 14616

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	06 18	20 14.19	-32 50.3	1.948	2.843	145.4	11.7	16.8
1990	06 28	20 08.36	-33 53.1					
1990	07 08	20 00.46	-34 50.8	1.860	2.847	162.8	6.1	16.5
1990	07 18	19 51.31	-35 37.4					
1990	07 28	19 41.98	-36 08.6	1.873	2.851	160.5	6.8	16.6
1990	08 07	19 33.62	-36 22.6					
1990	08 17	19 27.17	-36 20.2	1.987	2.855	142.3	12.5	16.9
1990	08 27	19 23.25	-36 04.1					
1990	09 06	19 22.17	-35 37.4	2.180	2.861	123.4	17.1	17.3