The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf of Commission 20 of the International Astronomical Union, usually in batches on the 1st of each month, by:

Minor Planet Center
Smithsonian Astrophysical Observatory
Cambridge, MA 02138, U.S.A.

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EDITORIAL NOTICE.

The next MPCs will be published on or about Oct. 1. No MPCs will be issued in September.

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 5394.

Object		Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	N Obs.
A923 RQ	*	1923 09	09.16597	21 32 06.16	-13 31 16.7	A923 PB	15.0	754
A923 RQ		1923 09	13.15110	21 29 19.93	-13 33 54.5	A923 PB		754
A923 RQ		1923 09	14.17623	21 28 39.50	-13 34 25.2	A923 PB		754
A923 RQ		1923 09	15.17824	21 28 00.75	-13 34 52.3	A923 PB		754
A923 RQ		1923 10	05.08044	21 19 07.38	-13 28 52.8	A923 PB		754
A923 RQ		1923 10	06.18907	21 18 51.54	-13 27 41.9	A923 PB		754
A923 RQ		1923 10	09.10126	21 18 18.43	-13 24 08.7	A923 PB		754
A923 RQ		1923 10	31.14447	21 19 58.39	-12 35 50.9	A923 PB		754
A923 RQ		1923 11	06.06822	21 22 05.20	-12 15 33.3	A923 PB		754
A923 RQ		1923 11	09.00952	21 23 22.32	-12 06 01.2	A923 PB		754
1932 FE	*	1932 03	25.92290	11 48 14.47	+02 07 30.9	1932 DD		012
1932 FF	*	1932 03	25.96	11 42.5	+03 26	1932 DD		012
1953 VU3	*	1953 11	10.19	01 54.7	+04 00	1953 TB2	16.9	760
1954 BG	*	1954 01	30.64	10 58.0	+07 05	1954 CF	13.8	1 388
1954 BG		1954 01	30.64167	10 58 02.75	+07 04 54.7	1954 CF		1 388
1954 BG		1954 01	30.66944	10 58 01.74	+07 04 54.7	1954 CF		1 388
1954 CQ	*	1954 02	07.95299	06 56 25.81	+12 33 54.8	1950 DH	14.5	024
1955 KN	*	1955 05	18.23380	14 22 55.72	-14 45 10.9	1955 HT	17.1	760
1955 KN		1955 05	18.26853	14 22 54.18	-14 44 59.2	1955 HT		760
1956 TB1	*	1956 10	01.89792	23 29 02.22	-00 32 37.9	1956 RA	14.3	024
1956 TB1		1956 10	01.89792	23 29 02.17	-00 32 37.5	1956 RA		024
1956 TB1		1956 10	10.91596	23 23 32.43	-01 05 28.0	1956 RA	14.4	024
1956 TB1		1956 10	10.91596	23 23 32.47	-01 05 28.7	1956 RA		024
1973 GL1	*	1973 04	01.89527	12 31 44.10	-01 11 51.1	1973 FV1	17.0	095
1973 GL1		1973 04	04.90166	12 29 28.66	-00 59 21.8	1973 FV1	17.0	095
1975 JP	*	1975 05	08.07838	12 12 05.20	+03 00 48.0	1798		805
1976 JG3	*	1976 05	02.92441	14 31 13.40	-16 08 10.5	1976 GZ3	16.0	095

Note 1: the Indiana discovery observation designated 1954 CF on MPC 1087 is to be deleted.

IDENTIFICATIONS.

The following list of identifications with numbered minor planets continues that on MPC 5395.

	Note		Note		Note
A923 LB = (300)	1	A923 RQ = (778)	2	1944 SD = (1290)	3
1970 HM = (2264)	4	1976 GZ3 = (2264)	4	1976 SE = (2270)	4
1977 RS1 = (2264)	4	1977 SV1 = (2270)	4		

Note 1: identification by C. M. Bardwell; the contrary remark in Veroff. Astron. Rechen-Inst. No. 9 should be ignored. 2: identification by Bardwell. 3: identification by E. Bowell; the new measures on MPC 5399 indicate that the original RI 2569 identification is correct (see MPC 1275). 4: identification by T. Urata (from NOC 1116 and 1123).

* * * * *

OBSERVATIONS MADE AT THE ZIMMERWALD STATION OF THE BERNE ASTRONOMICAL INSTITUTE BY P. WILD.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1980d	1980 06	04.89792	13 02 14.64	+07 45 48.7	15.8T		026
/1980d	1980 06	11.91250	13 03 25.48	+06 28 12.8		1	026
192	1979 02	26.87569	06 34 24.75	+29 48 55.8	11.8		026
192	1979 02	27.86053	06 34 42.24	+29 44 24.3			026
621	1979 01	25.93021	06 26 15.46	+25 33 00.5	15.5		026
737	1978 08	10.99896	19 03 49.84	-01 51 32.6	11.5		026
737	1978 08	11.99236	19 03 34.60	-02 01 53.1			026
737	1978 08	25.84219	19 03 24.80	-04 33 01.5	11.8		026
753	1978 11	08.11875	03 11 42.09	+13 58 50.9	14		026
753	1978 11	19.81632	02 58 41.08	+13 45 57.9	14.2		026
1040	1978 08	28.92917	22 54 41.38	+17 20 54.8	16.5		026
1040	1978 09	02.92813	22 50 37.46	+17 17 24.4			026
1040	1978 09	02.93924	22 50 36.76	+17 17 23.0			026
1040	1978 09	05.06944	22 48 50.70	+17 14 14.2	16.2		026
1176	1978 08	12.00833	22 39 45.20	+01 19 23.4	15.5		026
1176	1978 08	15.07813	22 37 31.61	+01 15 07.9			026
1176	1978 08	28.89306	22 26 10.12	+00 38 31.6	16		026
1269	1978 11	08.11875	03 09 13.68	+13 53 28.0	15		026
1269	1978 11	19.81632	03 01 27.18	+13 22 08.8	15.2		026
1522	1978 11	08.11875	03 06 27.48	+15 10 35.8	15.2		026
1522	1978 11	19.81632	02 53 57.33	+14 54 29.0	15.5		026
1596	1978 10	28.87500	00 23 39.39	+19 34 41.0	14.2		026
1596	1978 11	07.97986	00 19 51.22	+17 53 58.9			026
1596	1978 11	09.05252	00 19 36.05	+17 43 40.6			026
1596	1978 11	24.77118	00 19 25.45	+15 29 52.5	15.5		026
1596	1978 11	24.85278	00 19 26.27	+15 29 16.6			026
1596	1978 12	02.76528	00 21 49.91	+14 37 38.9	15.5		026
1596	1978 12	02.80486	00 21 50.75	+14 37 25.4			026
1844	1980 04	11.07708	13 21 56.05	+10 32 45.4	16.5		026
1844	1980 04	11.94201	13 21 15.26	+10 35 50.9			026
1844	1980 04	12.90417	13 20 29.96	+10 39 06.8			026
1844	1980 05	07.86337	13 03 31.51	+10 59 51.3	16.8		026
1844	1980 05	07.90104	13 03 30.40	+10 59 46.1		2	026
1844	1980 05	11.88333	13 01 38.85	+10 51 19.3			026
1853	1978 11	24.88229	02 44 32.66	+38 12 54.1	15.5		026
1891	1978 10	27.80064	23 47 34.94	+14 06 52.8	17		026
1891	1978 10	28.83090	23 47 05.33	+14 02 40.4			026
2033	1978 10	28.87500	00 22 43.14	+17 00 53.8	16.8		026
2033	1978 11	07.97986	00 16 19.86	+16 06 59.1			026
2033	1978 11	09.05252	00 15 51.32	+16 01 37.5			026

2033		1978	11	24.85278	00	13	44.82	+14 59 37.9	17.5	026
2034		1978	10	12.04896	00	46	02.22	+03 42 08.6	15.8	026
2034		1978	10	27.81736	00	29	24.06	+03 42 02.1		026
2034		1978	10	27.90625	00	29	19.10	+03 42 06.7	16.2	026
2088		1979	02	26.87569	06	34	43.39	+30 12 42.8	16.2	026
2088		1979	02	27.86053	06	35	11.93	+30 07 46.8		026
1978 TD	*	1978	10	12.04896	00	37	21.67	+06 33 41.3	16	026

Note 1: weak image. 2: exposure ended by clouds.

OBSERVATIONS MADE AT TAUTENBURG BY F. BORNGEN AND K. KIRSCH.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
208		1980	04 12.89583	12 02 00.86	-00 24 28.7	13.0	033
208		1980	04 12.91736	12 01 59.94	-00 24 24.1		033
468		1980	04 12.89583	11 58 48.93	+00 18 28.4	14.5	033
468		1980	04 12.91736	11 58 48.82	+00 18 33.4		033
788		1980	04 13.93264	13 03 16.38	+01 25 59.7	11.5	033
788		1980	04 13.95208	13 03 15.57	+01 26 10.7		033
906		1980	04 13.93264	12 56 17.66	+01 44 40.4	13.0	033
906		1980	04 13.95208	12 56 16.65	+01 44 42.4		033
940		1980	04 13.93264	13 04 31.40	+00 17 17.4	15.5	033
940		1980	04 13.95208	13 04 30.23	+00 17 24.8		033
1980 GU	*	1980	04 13.93264	12 52 42.60	-00 10 35.5	15.0	033

OBSERVATIONS MADE AT BELGRADE BY V. PROTITCH-BENISHEK.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
/1979l	1980	01 31.77853	03 11 09.46	-10 47 58.5	057
/1979l	1980	01 31.79519	03 11 13.20	-10 43 08.6	057
/1979l	1980	02 04.76915	03 20 52.42	+02 38 06.7	057
/1979l	1980	02 07.81394	03 25 22.33	+08 22 50.7	057
/1979l	1980	02 07.83200	03 25 23.37	+08 24 31.7	057
/1979l	1980	02 09.76672	03 27 39.40	+11 00 10.9	057
/1979l	1980	02 10.84415	03 28 45.57	+12 12 58.0	057

OBSERVATIONS MADE AT TRAUNSTEIN (CODE 065) BY R. BENDEL AND AT REINTAL (CODE 556) BY F. SEILER. COMMUNICATED BY F. FREVERT.

Object	Date	UT	R. A. (1950)	Decl.	O - C		Obs.
177	1980	03 04.78958	07 51 52.09	+22 07 52.0	0.1+	0	556
177	1980	03 04.79167	07 51 52.12	+22 07 53.7	0.1+	0	556
177	1980	03 04.82222	07 51 51.76	+22 07 51.5	0.1+	0	556
177	1980	03 05.79236	07 51 41.38	+22 07 37.0	0.1+	0	556
177	1980	03 05.79514	07 51 41.38	+22 07 36.5	0.1+	0	556
177	1980	03 05.83681	07 51 41.03	+22 07 35.2	0.1+	0	556
579	1980	02 19.86389	07 49 57.56	+31 08 24.8	0.0	0	065
579	1980	02 19.87569	07 49 57.13	+31 08 26.0	0.0	0	065
579	1980	02 19.87986	07 49 56.96	+31 08 26.0	0.0	0	065
579	1980	02 19.90347	07 49 56.12	+31 08 27.6	0.0	0	065
579	1980	02 20.85972	07 49 23.79	+31 09 31.9	0.0	0	065
579	1980	02 20.87292	07 49 23.29	+31 09 32.2	0.0	0	065
579	1980	02 20.88889	07 49 22.75	+31 09 34.8	0.0	0	065
579	1980	02 20.89306	07 49 22.61	+31 09 34.2	0.0	0	065
579	1980	02 22.92361	07 48 18.06	+31 11 29.7	0.0	0	065
579	1980	02 22.93056	07 48 17.84	+31 11 29.0	0.0	0	065
579	1980	02 22.94167	07 48 17.54	+31 11 30.1	0.0	0	065
579	1980	02 22.94861	07 48 17.27	+31 11 30.3	0.0	0	065
579	1980	02 23.78611	07 47 52.63	+31 12 06.7	0.1-	0	556
579	1980	02 23.78819	07 47 52.56	+31 12 07.3	0.1-	0	556
579	1980	02 23.85556	07 47 50.58	+31 12 10.6	0.1-	0	556
579	1980	02 24.84444	07 47 22.48	+31 12 49.8	0.1+	1-	065
579	1980	02 24.85069	07 47 22.28	+31 12 50.6	0.1+	0	065

579	1980 02 24.86111	07 47 21.93	+31 12 50.6	0.1+	1-			065
579	1980 02 24.87153	07 47 21.67	+31 12 51.7	0.1+	0			065
579	1980 03 04.77500	07 44 14.42	+31 13 56.2	0.1+	1-			556
579	1980 03 04.77778	07 44 14.35	+31 13 55.3	0.1+	1-			556
579	1980 03 04.81944	07 44 13.67	+31 13 54.2	0.1+	1-			556
579	1980 03 05.85694	07 43 59.48	+31 13 31.2	0.0	0			065
579	1980 03 05.86458	07 43 59.46	+31 13 31.4	0.0	0			065
579	1980 03 05.87847	07 43 59.29	+31 13 31.1	0.0	0			065
579	1980 03 05.88194	07 43 59.27	+31 13 31.5	0.0	0			065
579	1980 03 18.80486	07 43 20.88	+31 00 52.1	0.1-	0			556
579	1980 03 18.80764	07 43 21.05	+31 00 51.6	0.1-	0			556
579	1980 03 18.85000	07 43 21.21	+31 00 48.2	0.1-	0			556

OBSERVATION MADE AT THE CRIMEAN ASTROPHYSICAL OBSERVATORY.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1974 SA1	1974 09 21.93451	23 55 11.38	-04 53 08.0		095

OBSERVATIONS MADE AT BYURAKAN (CODE 123) BY L. K. ERASTOVA, K. I. CHURYUMOV AND V. P. TARASHUK; AT ENGELHARDT ORBSERVATORY, KAZAN (CODE 136), BY M. I. KIBARDINA, L. A. URASIN AND G. V. ZHUKOV; AT TARTU (CODE 075) BY H. K. RAUDSAAR; AND AT KITAB (CODE 186) BY EH. RAKHMATOV AND EH. MIRMAKHMUDOV. FROM KIEV KOMET. TSIRK. NOS. 260-263.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
/1978 XIV	1978 09 05.00104	00 32 04.97	+01 13 41.3		3	123
/1978 XIV	1978 09 05.00452	00 32 04.86	+01 13 41.3		3	123
/1978 XIV	1978 09 05.00782	00 32 04.69	+01 13 41.5		3	123
/1978 XIV	1978 09 07.96405	00 30 12.83	+01 24 38.8		1	123
/1978 XIV	1978 09 07.96826	00 30 12.71	+01 24 39.2		1	123
/1978 XIV	1978 09 07.97127	00 30 12.54	+01 24 40.3		1	123
/1979l	1980 02 17.65423	03 34 47.65	+17 27 30.6			136
/1979l	1980 02 19.64658	03 36 21.81	+18 30 06.1			136
/1979l	1980 02 19.65144	03 36 21.95	+18 30 11.6			136
15	1976 08 29.92340	20 53 07.41	-07 07 24.6			075
22	1976 11 25.71823	04 04 15.25	+19 34 28.4			075
40	1977 09 06.97894	04 43 19.42	+18 31 17.9			136
40	1977 11 13.01650	05 01 41.82	+19 11 07.2			136
40	1977 11 15.86540	04 59 12.97	+19 11 10.7			136
40	1978 01 03.88162	04 11 53.10	+19 28 57.2			136
40	1978 01 10.78839	04 09 28.93	+19 40 39.2			136
40	1978 01 13.70176	04 08 59.18	+19 46 37.3			136
40	1978 01 29.82953	04 11 33.60	+20 29 52.9			136
40	1978 02 04.77350	04 14 37.06	+20 49 25.4			136
40	1978 03 01.72234	04 37 34.54	+22 20 53.3			136
40	1978 03 06.73467	04 43 48.58	+22 39 12.0			136
51	1979 08 13.76530	20 26 29.81	-07 21 45.4			186
51	1979 08 13.76807	20 26 29.80	-07 21 45.5			186
51	1979 08 13.77084	20 26 29.79	-07 21 45.9			186
51	1979 08 14.76945	20 25 40.02	-07 30 12.8			186
51	1979 08 14.77222	20 25 40.00	-07 30 12.9			186
51	1979 08 14.77499	20 25 39.98	-07 30 13.1			186
51	1979 08 16.73417	20 24 07.23	-07 45 46.9			186
51	1979 08 16.73694	20 24 07.12	-07 45 48.2			186
51	1979 08 16.73970	20 24 06.99	-07 45 49.6			186
51	1979 08 17.73009	20 23 21.65	-07 53 35.5			186
51	1979 08 17.73281	20 23 21.51	-07 53 36.6			186
51	1979 08 17.73558	20 23 21.41	-07 53 38.5			186
51	1979 08 17.76813	20 23 19.77	-07 53 55.2			186
51	1979 08 17.77159	20 23 19.70	-07 53 55.7			186
51	1979 08 17.77505	20 23 19.65	-07 53 56.1			186

258	1976 10 14.85856	01 03 33.34	+10 44 33.0			075
258	1976 10 15.87170	01 02 54.48	+10 29 31.9			075
389	1978 01 03.91438	08 04 56.16	+17 45 15.4			136
389	1978 01 10.85864	07 58 05.94	+17 39 52.8			136
389	1978 01 11.75016	07 57 11.04	+17 39 17.7			136
389	1978 01 29.84987	07 38 32.88	+17 30 00.8			136
389	1978 03 01.79285	07 20 33.19	+17 11 02.0			136
389	1978 03 06.74829	07 20 17.44	+17 06 34.4			136
393	1977 10 06.80035	00 15 16.00	+13 13 06.0			075
393	1977 10 08.75868	00 14 03.51	+12 44 17.4			075

Note 1: observatory code 123, Long. and Parallax 44.29, -326, -275 (see MPC 4766). 2: time changed by +1 day. 3 = 1 + 2.

OBSERVATIONS MADE AT THE TOKYO OBSERVATORY'S KISO STATION BY H. KOSAI AND K. HURUKAWA. FROM NIHONDAIRA OBS. CIRC. NO. 1120.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1976 UV5 *	1976 10	22.52097	01 47 58.31	+05 43 25.4	17.8	381
1976 UV5	1976 10	22.57580	01 47 55.46	+05 43 08.8	17.8	381
1976 UV5	1976 10	24.65222	01 46 10.99	+05 32 51.2	17.8	381
1976 UV5	1976 10	24.72768	01 46 07.16	+05 32 29.6	17.8	381
1976 UV5	1976 11	18.50501	01 28 52.52	+04 05 00.1	18.2	381
1976 UV5	1976 11	18.61820	01 28 49.04	+04 04 47.6	18.2	381

OBSERVATIONS MADE AT MESCHEDE (CODE 519) BY R. HEMPEL AND AT FALKENSEE (C0DE 542) BY M. GRESSMANN. COMMUNICATED BY L. D. SCHMADEL.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
115	1980 04	13.98681	13 00 18.58	-25 15 50.1		519
115	1980 04	13.99375	13 00 18.18	-25 15 49.2		519
115	1980 04	14.00069	13 00 17.69	-25 15 47.0		519
115	1980 04	14.00417	13 00 17.48	-25 15 45.1		519
326	1980 04	13.87569	10 58 58.90	+31 13 27.5		519
326	1980 04	13.87847	10 58 58.75	+31 13 25.6		519
326	1980 04	13.88125	10 58 58.62	+31 13 23.7		519
326	1980 04	13.88681	10 58 58.34	+31 13 18.9		519
362	1980 04	13.92847	12 04 15.16	+03 54 58.7		519
362	1980 04	13.93542	12 04 14.75	+03 54 59.9		519
362	1980 04	13.94236	12 04 14.44	+03 55 00.2		519
362	1980 04	13.94931	12 04 14.08	+03 55 01.5		519
363	1980 04	13.96181	13 25 07.87	-02 17 56.6		519
363	1980 04	13.96597	13 25 07.63	-02 17 54.9		519
363	1980 04	13.97431	13 25 07.20	-02 17 53.6		519
363	1980 04	13.97847	13 25 06.97	-02 17 52.8		519
488	1980 04	13.89722	12 42 52.32	+14 08 10.6		519
488	1980 04	13.90139	12 42 52.15	+14 08 11.2		519
488	1980 04	13.92083	12 42 51.30	+14 08 11.5		519
488	1980 04	13.92292	12 42 51.19	+14 08 11.7		519
1022	1980 04	15.02547	15 23 25.40	+16 40 03.2		542
1022	1980 04	15.03184	15 23 25.02	+16 40 06.9		542
1022	1980 04	16.00344	15 22 50.47	+16 45 54.1		542
1022	1980 04	16.00957	15 22 50.31	+16 45 55.9		542
1022	1980 04	16.01568	15 22 50.37	+16 45 56.0		542
1022	1980 05	05.96522	15 07 15.61	+17 43 34.2		542
1022	1980 05	05.97116	15 07 15.33	+17 43 34.3		542
1022	1980 05	05.97747	15 07 14.97	+17 43 34.8		542
1022	1980 05	10.92231	15 02 51.78	+17 36 23.7		542
1022	1980 05	10.93450	15 02 50.94	+17 36 21.4		542
1022	1980 05	10.94090	15 02 50.57	+17 36 23.2	1	542
1022	1980 05	12.93977	15 01 04.67	+17 30 53.6		542
1022	1980 05	12.94597	15 01 04.29	+17 30 47.8		542

1022	1980	05	14.92113	14	59	21.06	+17	23	47.8		542
1022	1980	05	14.92742	14	59	20.71	+17	23	47.5		542
1022	1980	05	14.93552	14	59	20.09	+17	23	47.5		542
1107	1980	04	14.89447	11	32	42.79	+13	04	42.9		542
1107	1980	04	14.90039	11	32	42.31	+13	04	44.9	2	542
1107	1980	04	14.90595	11	32	42.43	+13	04	45.0		542
1107	1980	04	15.86442	11	32	18.24	+13	05	47.0		542
1107	1980	04	15.87859	11	32	18.34	+13	05	47.3	2	542
1303	1980	04	15.97149	14	12	42.63	+09	33	47.7	2	542
1303	1980	04	15.97731	14	12	42.49	+09	33	51.2	2	542
1303	1980	04	15.99480	14	12	41.60	+09	33	47.9		542
1303	1980	05	05.89922	13	55	22.63	+09	02	57.0		542
1303	1980	05	05.90664	13	55	22.13	+09	02	53.7		542
1303	1980	05	05.91289	13	55	21.82	+09	02	53.2		542
1303	1980	05	10.89288	13	51	30.70	+08	42	49.4		542
1303	1980	05	10.89928	13	51	30.22	+08	42	48.6		542
1303	1980	05	10.90604	13	51	30.06	+08	42	48.3		542
1303	1980	05	12.91290	13	50	02.83	+08	33	17.6		542
1303	1980	05	12.91903	13	50	02.73	+08	33	15.5		542
1303	1980	05	12.92490	13	50	02.44	+08	33	17.0		542
1303	1980	05	14.90476	13	48	40.33	+08	23	11.1		542
1303	1980	05	14.91084	13	48	40.36	+08	23	09.3		542

Note 1: only two reference stars. 2: measurement uncertain.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION
BY E. BOWELL.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
228	1980 07	14.37569	22 20 46.16	-10 39 56.6			688
271	1980 07	05.28264	20 16 04.91	-23 18 10.1			688
333	1980 07	05.28264	20 27 47.00	-24 04 34.4			688
359	1980 07	05.31806	20 44 47.02	-29 04 49.5			688
359	1980 07	14.33264	20 37 51.63	-29 35 03.1			688
383	1980 07	05.28264	20 20 02.05	-21 06 56.3			688
449	1980 07	14.37569	22 30 35.53	-13 09 57.9			688
459	1980 07	05.31806	20 33 55.15	-35 14 14.9			688
459	1980 07	14.33264	20 25 30.97	-36 02 29.7			688
460	1980 07	05.30069	20 16 22.10	-12 09 21.9			688
460	1980 07	14.30278	20 09 20.06	-12 23 28.8			688
483	1980 07	05.23889	19 59 47.87	+02 24 56.0			688
483	1980 07	05.26875	19 59 46.73	+02 24 52.9			688
515	1980 07	14.37569	22 28 18.64	-10 37 24.1			688
554	1980 07	14.35486	22 05 16.72	-10 07 30.4		1	688
743	1980 07	05.30069	20 17 11.92	-12 46 30.1			688
743	1980 07	14.30278	20 10 06.77	-12 57 05.0			688
876	1980 06	11.35313	20 30 06.12	-08 48 45.2		4	688
876	1980 07	05.30069	20 20 45.60	-09 36 58.1			688
876	1980 07	14.30278	20 14 38.90	-10 16 12.9			688
1000	1980 07	14.37569	22 21 33.91	-13 10 35.3			688
1017	1980 07	14.37569	21 59 05.82	-15 41 53.2			688
1032	1980 07	05.31806	20 39 36.87	-28 17 10.4			688
1032	1980 07	14.33264	20 33 18.45	-29 13 45.1			688
1157	1980 07	05.31806	20 19 46.34	-29 47 28.2			688
1157	1980 07	14.33264	20 12 06.38	-29 54 14.6			688
1162	1980 07	05.28264	20 09 53.56	-22 41 55.8			688
1402	1980 07	05.30069	20 34 39.44	-05 26 44.5	17.0		688
1714	1980 07	14.35486	21 59 16.16	-09 13 46.2			688
1721	1980 07	14.37569	22 06 18.06	-11 12 57.7			688
1825	1980 07	14.35486	22 05 11.87	-08 46 32.6		3	688
1952	1980 07	05.31806	20 38 42.27	-31 49 56.2	16.8	3	688

1952		1980	07	14.33264	20	32	03.79	-32	50	55.9	16.5 688
1963		1980	07	05.28264	20	05	57.29	-24	58	36.7	688
2111		1980	07	14.35486	22	05	06.58	-04	12	30.0	3 688
2136		1980	07	05.30069	20	14	15.88	-11	14	41.4	688
2136		1980	07	14.30278	20	07	47.93	-11	52	27.8	688
1972	TL2	1980	07	05.28264	20	21	31.98	-24	13	23.0	16.5 688
1980	LA	1980	07	05.23889	20	02	01.27	+02	35	52.6	688
1980	LA	1980	07	05.26875	20	01	59.50	+02	36	38.8	15.5 688
1980	LA	1980	07	14.28819	19	52	22.04	+06	21	10.3	16.0 688
1980	LB	1980	07	05.28264	20	21	37.28	-27	24	04.2	15.5 2 688
1980	LB	1980	07	05.31806	20	21	35.60	-27	24	44.9	16.0 688
1980	LB	1980	07	14.33264	20	12	58.64	-30	33	51.9	16.0 688
1980	LC	1980	07	05.30069	20	17	15.09	-07	56	01.5	16.5 1 688
1980	LC	1980	07	14.30278	20	09	00.90	-08	15	09.9	688
1980	LD	1980	07	05.28264	20	14	32.34	-22	57	42.7	16.5 688
1980	LE	1980	07	05.28264	20	15	08.10	-23	05	03.8	16.5 688
1980	MA	1980	07	05.31806	20	35	17.60	-30	49	43.3	16.0 688
1980	MA	1980	07	05.35243	20	35	16.13	-30	50	00.8	688
1980	MA	1980	07	14.33264	20	27	57.86	-32	03	18.4	15.5 688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2. 4: correction to MPC 5401.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY. MEASURED BY M. L. KANTZ. COMMUNICATED BY H. L. GICLAS.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1929 XP	1929 11	27.25556	05 08 14.15	+25 24 57.8	690
1929 XP	1929 12	03.23611	05 02 25.30	+25 48 53.9	690

OBSERVATIONS MADE AT THE GOETHE LINK OBSERVATORY, MEASURED AND REDUCED AT INDIANA UNIVERSITY.

Object	Date	UT	R. A. (1950)	Decl.	N Obs.
50	1954 02	09.39825	10 51 00.10	+05 56 43.6	1 760
50	1954 02	09.42673	10 50 58.86	+05 56 51.9	1 760
1952 PF	1952 08	02.29966	22 21 40.65	-09 27 50.9	760
1952 PF	1952 08	02.34827	22 21 38.55	-09 27 58.6	760
1952 RA	1952 09	13.13376	21 49 58.79	-11 42 53.7	760
1952 RA	1952 09	13.21014	21 49 55.74	-11 43 06.0	760
1953 RH	1953 09	13.17327	23 02 56.71	-10 30 33.4	1 760
1953 RH	1953 09	13.24479	23 02 53.44	-10 30 55.2	1 760
1953 RH	1953 09	17.22292	22 59 51.65	-10 51 09.4	1 760
1953 RH	1953 09	17.27363	22 59 49.22	-10 51 24.3	1 760
1953 TB2	1953 10	09.25900	02 31 45.67	+06 46 54.1	1 760
1953 TB2	1953 10	09.30761	02 31 43.52	+06 46 39.2	1 760
1953 UP	1953 10	18.39223	03 01 09.58	+09 50 37.0	760
1953 UP	1953 10	18.43189	03 01 07.67	+09 50 22.0	760
1953 VU3	1953 11	10.19442	01 54 56.09	+03 59 25.3	1 760
1953 VU3	1953 11	10.23887	01 54 54.13	+03 59 07.4	1 760
1954 LC	1954 06	07.23531	17 17 44.30	-23 55 57.5	760
1954 LC	1954 06	07.27073	17 17 41.64	-23 56 01.0	760
1955 QF	1955 08	20.31076	23 15 41.11	+03 59 12.8	760
1955 QF	1955 08	20.34964	23 15 40.26	+03 58 59.7	760
1955 SF1	1955 09	18.27995	01 35 09.43	+12 57 11.4	760
1955 SF1	1955 09	18.31050	01 35 08.73	+12 57 04.8	760
1956 ES	1956 03	09.19630	11 23 59.65	+09 05 33.9	760
1956 ES	1956 03	09.23657	11 23 57.44	+09 05 54.9	760
1961 TH1	1961 10	11.06875	00 00 48.88	-02 07 44.0	760
1961 TH1	1961 10	11.11250	00 00 46.69	-02 07 54.6	760
1961 UJ	1961 10	18.25762	01 50 53.95	+11 33 30.1	760
1961 UJ	1961 10	18.29998	01 50 51.97	+11 33 11.8	760

1962	QC	1962	08	29.30533	22	12	55.95	-03	20	50.9			760
1962	QC	1962	08	29.35062	22	12	53.10	-03	21	12.2			760
1963	DN	1963	02	27.26208	10	10	43.68	+04	08	09.8			760
1963	DN	1963	02	27.30548	10	10	41.09	+04	08	22.7			760
1965	UH	1965	10	25.20462	02	30	07.27	+25	27	17.3			760
1965	UH	1965	10	25.25046	02	30	04.50	+25	27	05.5			760

Note 1: reduced at the Smithsonian Astrophysical Observatory.

OBSERVATIONS MADE AT THE HARVARD COLLEGE OBSERVATORY AGASSIZ STATION BY R. E. MC CROSKY, C.-Y. SHAO, G. SCHWARTZ AND J. BULGER (WITH ASSISTANCE FROM C. M. BARDWELL AND B. G. MARSDEN).

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
/1978 XX	1978 11	29.22484	03 31 09.20	-04 00 19.2	18	N	801
/1980h	1980 07	14.29247	02 12 55.60	+63 41 52.2	20	N	801
/1980h	1980 07	18.31530	02 27 12.57	+64 39 38.7		1	801
/1980h	1980 07	19.27623	02 30 45.30	+64 52 59.9	20	N	801
432	1979 01	24.34426	11 18 48.26	+21 36 16.3		2	801
432	1979 02	04.31198	11 14 52.19	+23 24 58.9			801
487	1980 06	11.22497	16 23 21.83	-10 31 27.3			801
905	1980 06	13.19286	17 15 03.99	-29 38 23.9			801
1058	1980 07	08.11390	13 35 46.44	-08 50 43.7			801
1221	1980 06	14.26082	19 08 30.16	+15 01 14.0			801
1591	1978 11	29.22484	03 31 44.41	-03 49 10.6		2	801
1951	1980 07	18.19016	14 43 04.60	+36 24 56.9			801
2201	1980 07	14.25034	21 21 48.22	-19 08 10.9			801
2219	1980 06	09.15101	15 06 34.19	-14 35 10.9			801
2260	1980 01	26.42759	14 47 04.23	-00 12 23.0			801
2267	1980 06	12.25437	18 43 10.01	-26 32 37.8			801
2268	1980 06	18.10921	14 00 46.34	-09 14 42.5			801
1929	PC 1980 07	09.19311	17 29 16.96	-10 26 32.2			801
1932	BH 1980 07	09.22936	20 30 59.85	-20 24 00.8			801
1933	QA 1980 06	09.09367	13 18 15.66	-07 31 20.2			801
1950	DS 1980 06	11.22497	16 23 13.80	-10 45 04.4			801
1950	DS 1980 07	09.13090	16 06 01.79	-12 57 06.7			801
1953	GE 1980 06	12.17036	14 28 29.35	-15 21 38.1			801
1953	GE 1980 06	12.18346	14 28 29.03	-15 21 40.0			801
1968	DL 1980 06	09.21124	16 55 01.85	-17 37 01.1			801
1968	DL 1980 07	09.16644	16 34 04.76	-17 54 28.7			801
1971	QX1 1980 04	17.25049	14 05 11.94	+00 31 34.7			801
1971	QX1 1980 05	10.25331	13 49 12.97	+02 19 51.7			801
1971	SL2 1980 06	14.13669	15 34 17.44	-15 17 49.5			801
1971	UQ1 1980 05	21.18961	16 06 49.56	-19 10 55.1			801
1971	UQ1 1980 06	12.20581	15 44 43.85	-17 48 54.3			801
1971	UQ1 1980 06	14.16387	15 43 09.34	-17 43 00.3			801
1972	FA 1980 07	08.19718	16 04 59.38	+18 48 38.5			801
1972	TL2 1980 07	14.22225	20 12 49.54	-23 58 09.5			801
1975	BU 1980 06	14.11351	12 19 20.75	+18 45 11.4			801
1975	EV1 1980 07	14.19315	20 13 13.02	-20 25 16.7			801
1975	EV1 1980 07	19.20840	20 08 20.21	-20 40 53.0			801
1976	EA 1980 06	12.13321	14 03 43.81	-16 18 20.6			801
1976	EA 1980 06	13.12597	14 03 56.06	-16 18 25.3			801
1977	CB 1980 06	06.29869	19 05 15.46	+02 04 32.6			801
1977	CB 1980 06	09.23596	19 02 55.65	+01 45 45.5			801
1977	QK3 1980 06	11.25060	16 50 13.00	-19 26 26.6			801
1977	QK3 1980 06	18.17029	16 43 01.80	-19 43 58.0			801
1977	QK3 1980 07	09.10937	16 28 06.36	-20 49 48.4			801
1977	RA 1980 07	19.08572	17 34 23.12	-23 04 46.5			801
1979	BA 1980 07	08.25929	22 13 15.34	+06 24 13.6			801
1979	BA 1980 07	13.26448	22 12 06.20	+04 52 16.1			801

1979	FK	1980	07	07.15891	17	36	39.89	+03	07	16.4	801
1979	FK	1980	07	08.16072	17	36	00.71	+03	05	06.7	801
1980	CO	1980	04	14.10760	10	01	04.21	+15	59	07.3	801
1980	EB	1980	04	20.16007	10	44	48.39	+08	06	20.9	801
1980	EB	1980	05	16.15943	10	53	00.48	+06	51	33.9	3 801
1980	EB	1980	05	17.15883	10	53	40.34	+06	46	43.8	3 801
1980	GC	1980	06	09.17902	14	24	24.46	+07	02	43.0	801
1980	GC	1980	06	11.10126	14	23	56.91	+07	01	54.7	801
1980	GC	1980	06	13.25236	14	23	28.85	+07	00	31.7	801
1980	LB	1980	06	19.25617	20	31	21.09	-22	19	46.3	801
6521	P-L	1980	07	09.25362	20	57	11.80	-13	47	22.0	801
6567	P-L	1980	03	12.27609	11	11	31.64	+03	49	01.0	801
6567	P-L	1980	04	20.22883	10	49	59.05	+06	50	28.4	801

Note 1: very weak image, poor sky. 2: trailed image. 3: measurement difficult.

OBSERVATIONS MADE WITH THE 0.5-M DOUBLE ASTROGRAPH AT THE ESTACION ASTRONOMICA DE ALTURA EL LEONCITO OF THE OBSERVATORIO ASTRONOMICO FELIX AGUILAR BY M. R. CESCO, H. MIRA, G. SANCHEZ AND J. G. SANGUIN, WITH C. U. CESCO AS SCIENTIFIC COORDINATOR. REDUCTIONS UNDER THE DIRECTION OF A. ZARAGOZA AT THE UNIVERSIDAD NACIONAL DE SAN JUAN.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
78	1974 05	18.24181	17 16 21.93	-35 52 32.0			808
78	1974 05	18.28580	17 16 19.62	-35 52 35.3			808
255	1974 10	10.10288	23 39 27.63	-05 38 23.4			808
255	1974 10	10.14028	23 39 25.89	-05 38 26.3			808
255	1974 10	17.09792	23 34 36.29	-05 45 21.5			808
255	1974 10	19.08516	23 33 23.42	-05 46 15.8			808
255	1974 10	19.12189	23 33 22.06	-05 46 16.6			808
350	1974 10	11.24538	02 20 13.32	-23 54 52.2			808
350	1974 10	11.27397	02 20 11.93	-23 54 57.4			808
371	1974 07	19.23288	19 28 22.17	-19 56 05.9			808
371	1974 07	19.26474	19 28 20.32	-19 56 03.8			808
371	1974 08	15.10307	19 08 17.79	-19 26 59.9			808
371	1974 08	15.13493	19 08 16.90	-19 26 57.3			808
371	1974 08	21.10051	19 06 04.37	-19 19 45.8			808
371	1974 08	21.13239	19 06 03.74	-19 19 43.2			808
455	1974 07	26.20113	18 57 28.03	-36 06 00.5			808
455	1974 07	26.22986	18 57 26.45	-36 06 09.4			808
455	1974 08	08.06909	18 47 47.60	-37 04 13.0			808
455	1974 08	08.09898	18 47 46.54	-37 04 18.8			808
612	1974 12	17.17516	06 20 54.08	-03 12 36.0		1	808
710	1974 09	21.24788	23 30 24.58	-04 43 05.8			808
710	1974 09	21.27628	23 30 23.33	-04 43 13.3			808
710	1974 10	10.10288	23 18 29.20	-06 02 45.2			808
710	1974 10	10.14028	23 18 28.03	-06 02 53.7			808
710	1974 10	19.08516	23 14 31.23	-06 28 03.6			808
710	1974 10	19.12189	23 14 30.43	-06 28 07.7			808
866	1974 07	16.09392	17 07 01.57	-22 18 07.6			808
866	1974 07	16.12784	17 07 01.25	-22 18 10.7			808
907	1974 10	10.21507	02 27 08.21	+07 05 19.0			808
907	1974 10	10.24553	02 27 06.54	+07 05 20.1			808
907	1974 10	12.23246	02 25 19.55	+07 06 44.2			808
907	1974 10	12.26212	02 25 17.92	+07 06 46.0			808
907	1974 11	09.12969	01 56 26.64	+07 36 34.2			808
907	1974 11	09.16432	01 56 24.48	+07 36 38.4			808
1018	1974 07	26.20113	19 14 32.08	-36 02 03.7			808
1018	1974 07	26.22986	19 14 30.34	-36 01 59.0			808
1050	1975 06	08.14226	16 09 27.19	-39 54 26.2			808

1050	1975	06	08.18935	16	09	23.95	-39	54	18.1	808
1050	1975	06	10.16582	16	07	15.63	-39	47	26.4	808
1050	1975	06	10.21222	16	07	12.55	-39	47	14.2	808
1050	1975	06	13.11954	16	04	09.11	-39	39	56.1	808
1050	1975	06	13.16594	16	04	06.42	-39	39	32.0	808
1057	1974	07	19.23288	19	41	06.22	-17	58	00.4	808
1057	1974	07	19.26474	19	41	04.39	-17	58	02.3	808
1057	1974	08	15.10307	19	19	38.36	-18	23	52.9	808
1057	1974	08	15.13493	19	19	37.26	-18	23	54.1	808
1057	1974	08	21.10051	19	16	46.71	-18	28	19.8	808
1057	1974	08	21.13239	19	16	45.91	-18	28	20.1	808
1160	1974	10	10.10288	23	40	48.69	-01	42	05.1	808
1160	1974	10	10.14028	23	40	46.58	-01	42	02.4	808
1164	1974	10	10.29643	04	11	21.70	-14	50	54.8	808
1164	1974	10	10.32760	04	11	21.54	-14	51	18.4	808
1173	1974	07	19.23288	19	38	28.50	-19	56	19.8	808
1173	1974	07	19.26474	19	38	27.31	-19	56	20.2	808
1173	1974	08	15.10307	19	24	38.02	-20	04	09.8	808
1173	1974	08	15.13493	19	24	37.22	-20	04	09.5	808
1173	1974	08	21.10051	19	22	27.09	-20	04	33.7	808
1173	1974	08	21.13239	19	22	26.44	-20	04	33.6	808
1276	1974	06	13.13137	16	01	40.97	+04	52	26.5	808
1276	1974	06	13.15648	16	01	39.86	+04	52	19.6	808
1361	1974	11	12.26971	06	24	48.39	-04	30	29.2	808
1361	1974	11	12.30503	06	24	47.77	-04	30	43.1	808
1451	1974	02	27.24820	11	37	36.41	+00	52	49.2	808
1451	1974	02	27.28188	11	37	34.79	+00	53	04.3	808
1575	1974	12	12.26971	06	08	55.93	-11	59	18.2	808
1575	1974	12	12.30503	06	08	53.93	-11	59	36.2	808
1591	1974	10	11.24538	02	28	14.96	-24	02	47.9	808
1591	1974	10	11.27397	02	28	13.24	-24	02	54.6	808
1711	1974	07	19.23288	19	30	15.02	-15	27	20.4	808
1711	1974	07	19.26474	19	30	13.39	-15	27	29.4	808
1711	1974	08	15.10307	19	11	44.68	-17	46	52.4	808
1711	1974	08	15.13493	19	11	43.72	-17	47	01.6	808
1711	1974	08	21.10051	19	09	16.57	-18	15	54.4	808
1711	1974	08	21.13239	19	09	15.87	-18	16	03.0	808
1735	1974	04	19.13521	12	14	26.69	-02	24	07.8	808
1735	1974	04	19.15668	12	14	25.74	-02	24	06.7	808
1837	1974	05	27.23630	17	58	30.34	-26	19	16.8	808
1837	1974	05	27.26192	17	58	29.08	-26	19	13.6	808
1867	1974	07	19.07497	16	51	57.92	-34	07	13.9	808
1867	1974	07	19.10477	16	51	57.08	-34	07	03.7	808
1867	1975	06	07.25993	19	55	36.92	-16	36	57.1	808
1867	1975	06	07.28902	19	55	36.32	-16	36	52.1	808
1867	1975	06	14.22416	19	52	51.12	-16	19	30.8	808
1867	1975	06	14.25947	19	52	50.18	-16	19	26.7	808
2017	1974	09	21.24788	23	49	08.98	-02	19	21.0	808
2017	1974	09	21.27628	23	49	07.49	-02	19	37.8	808
2017	1974	10	10.10288	23	36	04.38	-04	54	51.9	808
2017	1974	10	10.14028	23	36	03.14	-04	55	05.8	808
2017	1974	10	17.09792	23	33	14.55	-05	33	12.6	808
2017	1974	10	19.08516	23	32	42.33	-05	41	46.2	808
2017	1974	10	19.12189	23	32	41.70	-05	41	52.6	808
2124	1974	07	26.20113	19	21	23.37	-37	27	43.4	808
2124	1974	07	26.22986	19	21	21.82	-37	27	45.1	808
2173	1974	09	21.24788	23	34	34.04	-02	45	47.1	808
2173	1974	09	21.27628	23	34	32.91	-02	46	03.7	808
2173	1974	10	10.10288	23	24	15.81	-05	39	28.5	808

2173			1974	10	10.14028	23	24	14.80	-05	39	46.7	808
2173			1974	10	17.09792	23	21	45.72	-06	31	02.0	808
2173			1974	10	19.08516	23	21	13.61	-06	44	00.2	808
2173			1974	10	19.12189	23	21	13.07	-06	44	13.7	808
1974	DC2	*	1974	02	27.24820	11	38	00.58	-02	00	16.0	808
1974	DC2		1974	02	27.28188	11	37	58.63	-02	00	17.6	808
1974	DD2	*	1974	02	27.24820	11	43	03.47	-01	50	11.3	808
1974	DD2		1974	02	27.28188	11	43	02.30	-01	50	00.0	808
1974	DE2	*	1974	02	28.20566	11	37	08.20	-02	00	51.6	808
1974	FY1	*	1974	03	24.21317	12	30	58.71	-07	33	39.9	808
1974	FY1		1974	03	24.23325	12	30	57.87	-07	33	32.5	808
1974	HR		1974	04	19.13521	12	04	03.16	-04	51	12.1	808
1974	HR		1974	04	19.15668	12	04	02.47	-04	51	04.7	808
1974	HP3	*	1974	04	18.30376	16	56	58.39	-40	54	48.5	808
1974	HP3		1974	04	18.33426	16	56	57.78	-40	54	55.8	808
1974	HP3		1974	04	22.30324	16	55	32.95	-41	10	54.9	808
1974	HP3		1974	04	22.33371	16	55	32.01	-41	11	01.4	808
1974	KM	*	1974	05	18.24181	17	33	43.46	-36	56	44.2	808
1974	KM		1974	05	18.28580	17	33	41.95	-36	57	02.6	808
1974	KN	*	1974	05	26.08321	14	53	06.39	-24	01	10.1	808
1974	KN		1974	05	26.10764	14	53	05.02	-24	01	04.2	808
1974	KO	*	1974	05	26.20374	17	26	44.55	-37	44	25.5	808
1974	KO		1974	05	26.24042	17	26	42.38	-37	44	37.2	808
1974	KP	*	1974	05	27.17119	14	52	08.15	-23	57	01.4	808
1974	KP		1974	05	27.19958	14	52	06.65	-23	56	53.2	808
1974	KQ	*	1974	05	27.23630	17	57	50.69	-24	53	40.4	808
1974	KQ		1974	05	27.26192	17	57	49.58	-24	53	44.3	808
1974	KR	*	1974	05	27.23630	18	00	32.04	-27	45	13.0	808
1974	KR		1974	05	27.26192	18	00	30.78	-27	45	14.3	808
1974	LD	*	1974	06	11.05588	14	37	31.74	-21	29	20.9	808
1974	LD		1974	06	11.08358	14	37	21.15	-21	29	19.9	808
1974	LE	*	1974	06	12.05391	14	41	06.89	-22	58	28.7	808
1974	LE		1974	06	12.08681	14	41	07.10	-22	58	39.0	808
1974	MH		1974	07	20.19466	19	11	10.75	-33	11	32.9	808
1974	MH		1974	07	20.22339	19	11	08.84	-33	11	27.2	808
1974	MJ		1974	08	08.06909	18	49	12.06	-33	43	18.4	808
1974	MJ		1974	08	08.09898	18	49	10.88	-33	43	13.8	808
1974	MP	*	1974	06	17.05292	14	31	58.82	-21	20	23.9	808
1974	MP		1974	06	17.08133	14	31	58.26	-21	20	19.7	808
1974	MQ	*	1974	06	17.16373	17	38	54.62	-22	53	29.2	808
1974	MQ		1974	06	17.19211	17	38	52.71	-22	53	23.9	808
1974	MR	*	1974	06	22.05556	14	44	43.40	-21	51	16.8	808
1974	MR		1974	06	22.08533	14	44	42.73	-21	51	17.6	808
1974	OF		1974	07	19.23288	19	42	26.05	-17	51	57.9	808
1974	OF		1974	07	19.26474	19	42	24.40	-17	52	18.3	808
1974	OV	*	1974	07	16.09392	17	00	59.57	-22	49	45.2	808
1974	OV		1974	07	16.12784	17	00	58.68	-22	49	45.7	808
1974	OV		1974	07	17.08565	17	00	36.11	-22	50	19.5	808
1974	OV		1974	07	17.11957	17	00	35.26	-22	50	21.3	808
1974	OW	*	1974	07	16.09392	17	19	09.51	-24	46	44.1	808
1974	OW		1974	07	16.12784	17	19	08.24	-24	46	53.4	808
1974	OW		1974	07	17.08565	17	18	35.27	-24	51	14.8	808
1974	OW		1974	07	17.11957	17	18	34.11	-24	51	23.9	808
1974	OX	*	1974	07	16.09392	17	21	06.08	-21	42	28.4	808
1974	OX		1974	07	16.12784	17	21	04.85	-21	42	27.3	808
1974	OX		1974	07	17.08565	17	20	33.16	-21	42	00.6	808
1974	OX		1974	07	17.11957	17	20	32.08	-21	42	00.3	808
1974	OY	*	1974	07	16.17667	19	08	17.10	-37	12	36.7	808
1974	OY		1974	07	16.20435	19	08	15.21	-37	12	36.7	808

1974	OY		1974	07	17.19608	19	07	13.84	-37	12	30.5	808
1974	OY		1974	07	17.22379	19	07	12.01	-37	12	30.0	808
1974	OY		1974	07	20.19466	19	04	11.46	-37	10	53.0	808
1974	OY		1974	07	20.22339	19	04	09.59	-37	10	50.6	808
1974	OY		1974	07	26.20113	18	58	32.23	-37	01	53.3	808
1974	OY		1974	07	26.22986	18	58	30.73	-37	01	48.4	808
1974	OZ	*	1974	07	16.17667	19	09	33.22	-38	37	16.6	808
1974	OZ		1974	07	16.20435	19	09	31.55	-38	37	17.0	808
1974	OZ		1974	07	17.19608	19	08	32.98	-38	37	36.4	808
1974	OZ		1974	07	17.22379	19	08	31.26	-38	37	37.1	808
1974	OZ		1974	07	20.19466	19	05	39.47	-38	37	28.5	808
1974	OZ		1974	07	20.22339	19	05	37.71	-38	37	27.4	808
1974	OA1	*	1974	07	16.17667	19	29	11.64	-36	43	47.6	808
1974	OA1		1974	07	16.20435	19	29	09.57	-36	43	44.7	808
1974	OA1		1974	07	17.19608	19	27	56.61	-36	41	43.2	808
1974	OA1		1974	07	17.22379	19	27	54.56	-36	41	38.1	808
1974	OA1		1974	07	20.19466	19	24	17.03	-36	34	23.0	808
1974	OA1		1974	07	20.22339	19	24	14.89	-36	34	18.2	808
1974	OA1		1974	07	26.20113	19	17	11.63	-36	14	12.9	808
1974	OA1		1974	07	26.22986	19	17	09.66	-36	14	05.1	808
1974	OB1	*	1974	07	19.23288	19	27	42.17	-16	44	44.6	17.2 808
1974	OB1		1974	07	19.26474	19	27	40.08	-16	44	44.8	808
1974	OC1	*	1974	07	19.23288	19	28	29.78	-14	28	12.0	16.0 808
1974	OC1		1974	07	19.26474	19	28	28.02	-14	28	10.1	808
1974	OD1	*	1974	07	19.23288	19	29	57.78	-15	51	19.0	15.5 808
1974	OD1		1974	07	19.26474	19	29	56.18	-15	51	24.4	808
1974	OE1	*	1974	07	19.23288	19	34	56.58	-14	56	26.2	16.0 808
1974	OE1		1974	07	19.26474	19	34	54.48	-14	56	29.1	808
1974	OF1	*	1974	07	19.23288	19	35	28.37	-18	29	36.3	808
1974	OF1		1974	07	19.26474	19	35	26.66	-18	29	41.7	808
1974	OG1	*	1974	07	19.23288	19	35	42.87	-16	59	24.7	15.8 808
1974	OG1		1974	07	19.26474	19	35	41.07	-16	59	40.4	808
1974	OH1	*	1974	07	19.23288	19	35	46.81	-17	00	17.4	808
1974	OH1		1974	07	19.26474	19	35	45.06	-17	00	23.0	808
1974	OJ1	*	1974	07	19.23288	19	40	04.39	-19	28	42.7	808
1974	OJ1		1974	07	19.26474	19	40	02.57	-19	28	38.6	808
1974	OK1	*	1974	07	19.23288	19	40	28.85	-16	24	37.4	808
1974	OK1		1974	07	19.26474	19	40	27.22	-16	24	44.0	808
1974	OL1	*	1974	07	19.23288	19	40	36.78	-19	46	27.2	808
1974	OL1		1974	07	19.26474	19	40	35.02	-19	46	30.5	808
1974	OM1	*	1974	07	19.23288	19	41	27.38	-19	38	13.4	808
1974	OM1		1974	07	19.26474	19	41	25.43	-19	38	11.1	808
1974	ON1	*	1974	07	19.23288	19	41	28.18	-18	03	45.5	808
1974	ON1		1974	07	19.26474	19	41	26.20	-18	03	55.7	808
1974	OO1	*	1974	07	19.23288	19	44	13.02	-19	06	10.4	808
1974	OO1		1974	07	19.26474	19	44	11.24	-19	06	14.5	808
1974	OP1	*	1974	07	19.23288	19	48	00.94	-16	37	37.5	808
1974	OP1		1974	07	19.26474	19	47	58.96	-16	37	37.1	808
1974	OQ1	*	1974	07	19.23288	19	51	19.43	-14	03	21.3	808
1974	OQ1		1974	07	19.26474	19	51	17.46	-14	03	33.2	808
1974	OR1	*	1974	07	20.19466	19	06	10.62	-37	12	19.7	808
1974	OR1		1974	07	20.22339	19	06	08.78	-37	12	30.6	808
1974	OS1	*	1974	07	26.20113	18	59	21.84	-38	52	36.4	808
1974	OS1		1974	07	26.22986	18	59	19.78	-38	52	33.7	808
1974	OT1	*	1974	07	26.20113	19	06	10.85	-38	59	46.2	808
1974	OT1		1974	07	26.22986	19	06	09.38	-38	59	44.2	808
1974	OU1	*	1974	07	26.20113	19	09	06.54	-37	01	57.7	808
1974	OU1		1974	07	26.22986	19	09	05.03	-37	01	53.6	808
1974	OV1	*	1974	07	26.20113	19	16	03.32	-38	11	11.5	808

1974	OV1		1974	07	26.22986	19	16	01.67	-38	11	11.2	808
1974	OW1	*	1974	07	26.20113	19	21	18.74	-35	25	42.7	808
1974	OW1		1974	07	26.22986	19	21	16.75	-35	25	39.8	808
1974	PG	*	1974	08	08.06909	19	03	59.21	-36	12	24.5	808
1974	PG		1974	08	08.09898	19	03	58.07	-36	12	15.9	808
1974	PH	*	1974	08	15.10307	19	16	25.43	-19	38	33.3	808
1974	PH		1974	08	15.13493	19	16	24.55	-19	38	37.3	808
1974	PJ	*	1974	08	15.10307	19	17	58.47	-19	40	53.4	808
1974	PJ		1974	08	15.13493	19	17	57.24	-19	40	50.3	808
1974	PK	*	1974	08	15.10307	19	20	12.12	-18	26	30.9	808
1974	PK		1974	08	15.13493	19	20	11.18	-18	26	27.4	808
1974	PL	*	1974	08	15.10307	19	32	18.67	-16	20	23.6	808
1974	PL		1974	08	15.13493	19	32	17.43	-16	20	20.0	808
1974	QQ2	*	1974	08	16.08162	18	37	05.35	-29	24	40.1	808
1974	QQ2		1974	08	16.10898	18	37	04.68	-29	24	42.0	808
1974	QR2	*	1974	08	16.08162	18	44	53.47	-32	28	16.9	808
1974	QR2		1974	08	16.10898	18	44	52.87	-32	28	14.2	808
1974	QS2	*	1974	08	16.08162	18	46	24.44	-32	12	38.6	808
1974	QS2		1974	08	16.10898	18	46	23.75	-32	12	35.5	808
1974	QT2	*	1974	08	16.08162	18	51	58.95	-32	52	33.4	808
1974	QT2		1974	08	16.10898	18	51	58.13	-32	52	32.7	808
1974	QT2		1974	08	18.08585	18	51	01.99	-32	51	37.5	808
1974	QT2		1974	08	18.11909	18	51	00.97	-32	51	36.9	808
1974	QU2	*	1974	08	16.08162	18	57	02.45	-29	06	09.9	808
1974	QU2		1974	08	16.10898	18	57	01.63	-29	06	10.1	808
1974	QV2	*	1974	08	16.08162	18	57	31.26	-29	01	25.5	808
1974	QV2		1974	08	16.10898	18	57	30.66	-29	01	24.7	808
1974	QW2	*	1974	08	18.08585	18	25	57.22	-31	32	01.0	808
1974	QW2		1974	08	18.11909	18	25	57.18	-31	31	59.7	808
1974	QX2	*	1974	08	18.08585	18	36	29.26	-27	18	25.6	808
1974	QX2		1974	08	18.11909	18	36	28.64	-27	18	17.9	808
1974	QY2	*	1974	08	18.08585	18	44	23.31	-32	24	39.6	808
1974	QY2		1974	08	18.11909	18	44	22.83	-32	24	35.4	808
1974	QZ2	*	1974	08	18.08585	18	45	46.74	-32	08	47.6	808
1974	QZ2		1974	08	18.11909	18	45	46.15	-32	08	43.5	808
1974	QA3	*	1974	08	21.10051	19	05	11.48	-22	23	18.4	808
1974	QA3		1974	08	21.13239	19	05	10.68	-22	23	20.3	808
1974	QB3	*	1974	08	21.10051	19	05	28.98	-18	39	23.5	808
1974	QB3		1974	08	21.13239	19	05	28.16	-18	39	30.1	808
1974	QC3	*	1974	08	21.10051	19	14	38.78	-19	32	13.5	808
1974	QC3		1974	08	21.13239	19	14	37.79	-19	32	09.8	808
1974	RP1		1974	09	21.24788	23	30	32.45	-05	41	02.3	808
1974	RP1		1974	09	21.27628	23	30	30.88	-05	41	05.4	808
1974	RY1		1974	09	21.24788	23	28	30.27	-02	27	36.9	808
1974	RY1		1974	09	21.27628	23	28	28.97	-02	27	50.8	808
1974	RY1		1974	10	19.08516	23	16	27.72	-04	56	00.4	808
1974	RY1		1974	10	19.12189	23	16	27.55	-04	56	04.4	808
1974	RA2		1974	09	21.24788	23	35	31.18	-02	02	50.9	808
1974	RA2		1974	09	21.27628	23	35	29.74	-02	02	58.5	808
1974	RA2		1974	10	19.08516	23	19	06.64	-04	04	45.0	808
1974	RA2		1974	10	19.12189	23	19	06.00	-04	04	50.0	808
1974	SF		1974	09	21.24788	23	38	24.18	-00	02	22.9	808
1974	SF		1974	09	21.27628	23	38	23.01	-00	02	37.1	808
1974	SF		1974	10	19.08516	23	27	55.62	-03	50	26.0	808
1974	SF		1974	10	19.12189	23	27	55.40	-03	50	35.9	808
1974	SG		1974	09	21.24788	23	38	13.36	-01	09	45.8	808
1974	SG		1974	09	21.27628	23	38	11.91	-01	09	55.5	808
1974	SH		1974	09	21.24788	23	40	01.79	-03	55	44.0	808
1974	SH		1974	10	10.10288	23	23	50.28	-05	43	14.4	808

1974	SH		1974	10	10.14028	23	23	48.55	-05	43	24.4	808
1974	SH		1974	10	19.08516	23	18	42.94	-06	14	28.4	808
1974	SH		1974	10	19.12189	23	18	41.97	-06	14	33.8	808
1974	SJ		1974	09	21.24788	23	41	11.72	-03	48	38.4	808
1974	SJ		1974	09	21.27628	23	41	10.33	-03	48	52.2	808
1974	SJ		1974	10	10.10288	23	26	49.93	-06	28	28.9	808
1974	SJ		1974	10	10.14028	23	26	48.53	-06	28	44.4	808
1974	SJ		1974	10	19.08516	23	22	27.02	-07	21	51.1	808
1974	SJ		1974	10	19.12189	23	22	26.10	-07	22	02.0	808
1974	SP		1974	09	21.24788	23	45	48.33	-03	27	21.1	808
1974	SP		1974	09	21.27628	23	45	47.10	-03	27	38.9	808
1974	SP		1974	10	10.10288	23	34	41.40	-06	19	14.8	808
1974	SP		1974	10	10.14028	23	34	40.18	-06	19	32.3	808
1974	ST		1974	09	21.24788	23	48	27.52	-05	08	45.1	808
1974	ST		1974	09	21.27628	23	48	26.24	-05	08	53.5	808
1974	ST		1974	10	10.10288	23	35	51.47	-06	25	24.7	808
1974	ST		1974	10	10.14028	23	35	50.25	-06	25	32.1	808
1974	ST		1974	10	19.08516	23	31	43.44	-06	45	41.0	808
1974	ST		1974	10	19.12189	23	31	42.57	-06	45	43.6	808
1974	SU		1974	09	21.24788	23	49	02.23	+00	25	37.6	808
1974	SU		1974	09	21.27628	23	49	00.59	+00	25	29.0	808
1974	SU		1974	10	19.08516	23	30	17.29	-02	16	00.2	808
1974	SU		1974	10	19.12189	23	30	16.44	-02	16	07.0	808
1974	SU4		1974	10	10.21507	02	18	34.32	+09	42	04.4	808
1974	SU4		1974	10	10.24553	02	18	33.07	+09	41	56.9	808
1974	SU4		1974	10	12.23246	02	17	14.34	+09	33	53.9	808
1974	SU4		1974	10	12.26212	02	17	13.16	+09	33	46.8	808
1974	SU4		1974	11	09.12969	01	56	13.26	+07	39	46.6	808
1974	SU4		1974	11	09.16432	01	56	11.71	+07	39	40.0	808
1974	SV4		1974	10	10.21507	02	22	39.56	+11	41	38.4	808
1974	SV4		1974	10	10.24553	02	22	38.06	+11	41	24.8	808
1974	SV4		1974	10	12.23246	02	21	01.80	+11	26	25.0	808
1974	SV4		1974	10	12.26212	02	21	00.35	+11	26	12.4	808
1974	SB5		1974	09	21.24788	23	47	14.81	-04	07	16.7	808
1974	SB5		1974	09	21.27628	23	47	13.54	-04	07	23.6	808
1974	SB5		1974	10	19.08516	23	30	11.00	-05	30	49.1	808
1974	SB5		1974	10	19.12189	23	30	10.12	-05	30	51.3	808
1974	SC5	*	1974	09	21.24788	23	41	50.25	-03	39	52.9	808
1974	SC5		1974	09	21.27628	23	41	48.89	-03	39	57.6	808
1974	SD5	*	1974	09	21.24788	23	43	19.76	-05	26	09.7	808
1974	SD5		1974	09	21.27628	23	43	18.08	-05	26	06.3	808
1974	SD5		1974	10	10.10288	23	26	15.21	-04	36	19.8	808
1974	SD5		1974	10	10.14028	23	26	13.45	-04	36	12.8	808
1974	SD5		1974	10	19.08516	23	20	32.99	-04	01	54.0	808
1974	SD5		1974	10	19.12189	23	20	31.79	-04	01	44.6	808
1974	TT	*	1974	10	10.10288	23	29	26.50	-06	41	31.3	808
1974	TT		1974	10	10.14028	23	29	24.88	-06	41	31.0	808
1974	TV	*	1974	10	10.10288	23	41	11.74	-06	14	49.6	808
1974	TV		1974	10	10.14028	23	41	10.15	-06	14	59.7	808
1974	TW	*	1974	10	10.10288	23	41	25.48	-07	20	41.8	808
1974	TW		1974	10	10.14028	23	41	23.36	-07	20	40.3	808
1974	TW		1974	10	17.09792	23	35	59.98	-07	08	43.8	808
1974	TW		1974	10	19.08516	23	34	44.27	-07	03	24.1	808
1974	TW		1974	10	19.12189	23	34	42.89	-07	03	17.8	808
1974	TX	*	1974	10	10.21507	02	10	02.80	+09	29	11.6	808
1974	TX		1974	10	10.24553	02	10	01.12	+09	29	02.3	808
1974	TX		1974	10	12.23246	02	08	16.55	+09	18	45.5	808
1974	TX		1974	10	12.26212	02	08	14.96	+09	18	36.0	808
1974	TY	*	1974	10	10.21507	02	11	09.54	+08	35	38.6	808

1974	TY		1974	10	10.24553	02	11	08.17	+08	35	30.2	808
1974	TY		1974	10	12.23246	02	09	40.39	+08	26	15.2	808
1974	TY		1974	10	12.26212	02	09	39.06	+08	26	07.3	808
1974	TZ	*	1974	10	10.21507	02	13	34.88	+11	28	18.0	808
1974	TZ		1974	10	10.24553	02	13	33.56	+11	28	05.5	808
1974	TZ		1974	10	12.23246	02	12	09.98	+11	14	27.0	808
1974	TZ		1974	10	12.26212	02	12	08.70	+11	14	15.8	808
1974	TA1	*	1974	10	10.21507	02	15	41.84	+06	09	10.8	808
1974	TA1		1974	10	10.24553	02	15	40.72	+06	09	02.2	808
1974	TA1		1974	10	12.23246	02	14	30.06	+05	59	40.6	808
1974	TA1		1974	10	12.26212	02	14	28.99	+05	59	32.2	808
1974	TA1		1974	11	09.12969	01	56	31.99	+04	00	03.5	808
1974	TA1		1974	11	09.16432	01	56	30.70	+03	59	56.8	808
1974	TA1		1974	11	17.08913	01	52	02.08	+03	36	32.8	808
1974	TA1		1974	11	17.12308	01	52	00.99	+03	36	26.8	808
1974	TB1	*	1974	10	10.21507	02	19	38.19	+06	38	04.4	808
1974	TB1		1974	10	10.24553	02	19	36.86	+06	37	46.5	808
1974	TC1	*	1974	10	10.21507	02	26	20.37	+10	30	28.9	808
1974	TC1		1974	10	10.24553	02	26	19.15	+10	30	21.6	808
1974	TD1	*	1974	10	10.21507	02	27	02.32	+11	16	09.6	808
1974	TD1		1974	10	10.24553	02	27	01.14	+11	15	58.5	808
1974	TD1		1974	10	12.23246	02	25	44.18	+11	03	16.8	808
1974	TD1		1974	10	12.26212	02	25	42.96	+11	03	05.2	808
1974	TE1	*	1974	10	10.21507	02	27	27.93	+08	27	45.7	808
1974	TE1		1974	10	10.24553	02	27	26.39	+08	27	44.8	808
1974	TE1		1974	10	12.23246	02	25	47.27	+08	26	42.3	808
1974	TE1		1974	10	12.26212	02	25	45.77	+08	26	39.8	808
1974	TF1	*	1974	10	10.21507	02	27	31.98	+11	48	17.8	808
1974	TF1		1974	10	10.24553	02	27	30.62	+11	48	04.8	808
1974	TF1		1974	10	12.23246	02	26	03.41	+11	32	08.3	808
1974	TF1		1974	10	12.26212	02	26	02.09	+11	31	53.9	808
1974	TG1	*	1974	10	10.21507	02	28	59.58	+06	32	36.2	808
1974	TG1		1974	10	10.24553	02	28	58.15	+06	32	24.7	808
1974	TG1		1974	10	12.23246	02	27	23.86	+06	19	41.4	808
1974	TG1		1974	10	12.26212	02	27	22.34	+06	19	30.6	808
1974	TG1		1974	11	09.12969	02	01	41.50	+03	37	28.4	808
1974	TG1		1974	11	09.16432	02	01	39.66	+03	37	19.5	808
1974	TG1		1974	11	17.08913	01	55	14.20	+03	08	58.6	808
1974	TG1		1974	11	17.12308	01	55	12.66	+03	08	52.5	808
1974	TH1	*	1974	10	11.24538	02	28	55.23	-25	24	47.0	808
1974	TH1		1974	10	11.27397	02	28	53.32	-25	24	40.2	808
1974	TJ1	*	1974	10	12.23246	02	06	14.60	+09	15	12.8	808
1974	TJ1		1974	10	12.26212	02	06	13.26	+09	15	08.1	808
1974	TK1	*	1974	10	12.23246	02	07	40.94	+10	15	26.8	808
1974	TK1		1974	10	12.26212	02	07	39.61	+10	15	17.8	808
1974	TL1	*	1974	10	12.23246	02	08	20.07	+08	40	29.4	808
1974	TL1		1974	10	12.26212	02	08	19.16	+08	40	13.1	808
1974	TM1	*	1974	10	12.23246	02	08	48.36	+10	11	43.3	808
1974	TM1		1974	10	12.26212	02	08	46.88	+10	11	41.0	808
1974	TN1	*	1974	10	12.23246	02	12	46.79	+11	05	14.0	808
1974	TN1		1974	10	12.26212	02	12	45.48	+11	05	05.1	808
1974	TO1	*	1974	10	12.23246	02	23	56.04	+07	08	19.1	808
1974	TO1		1974	10	12.26212	02	23	54.56	+07	08	10.1	808
1974	UP	*	1974	10	19.08516	23	24	39.61	-06	32	16.2	808
1974	UP		1974	10	19.12189	23	24	38.65	-06	32	12.1	808
1974	UQ	*	1974	10	19.08516	23	36	39.78	-06	48	22.8	808
1974	UQ		1974	10	19.12189	23	36	38.85	-06	48	28.2	808
1974	UR	*	1974	10	19.08516	23	16	44.40	-06	43	15.3	808
1974	UR		1974	10	19.12189	23	16	43.50	-06	43	14.2	808

1974	VS2	*	1974	11	09.12969	01	47	19.54	+06	21	52.8	808
1974	VS2		1974	11	09.16432	01	47	18.02	+06	21	46.2	808
1974	VT2	*	1974	11	09.12969	01	50	17.61	+05	54	41.0	808
1974	VT2		1974	11	09.16432	01	50	15.79	+05	54	36.4	808
1974	VU2	*	1974	11	09.12969	01	51	44.51	+03	16	00.4	808
1974	VU2		1974	11	09.16432	01	51	42.62	+03	15	55.4	808
1974	VV2	*	1974	11	09.12969	01	51	57.20	+04	32	41.8	808
1974	VV2		1974	11	09.16432	01	51	56.04	+04	32	30.1	808
1974	VW2	*	1974	11	09.12969	01	54	03.64	+05	11	51.4	808
1974	VW2		1974	11	09.16432	01	54	01.78	+05	11	51.3	808
1974	VX2	*	1974	11	09.12969	01	58	57.94	+05	18	37.9	808
1974	VX2		1974	11	09.16432	01	58	56.22	+05	18	34.5	808
1974	VY2	*	1974	11	09.12969	01	59	36.46	+03	07	46.1	808
1974	VY2		1974	11	09.16432	01	59	34.63	+03	07	43.1	808
1974	VZ2	*	1974	11	09.12969	02	00	40.65	+03	46	02.9	808
1974	VZ2		1974	11	09.16432	02	00	38.53	+03	46	01.2	808
1974	VA3	*	1974	11	09.12969	02	01	01.70	+03	17	36.4	808
1974	VA3		1974	11	09.16432	02	00	59.79	+03	17	28.4	808
1974	VB3	*	1974	11	09.12969	02	01	05.87	+04	28	31.7	808
1974	VB3		1974	11	09.16432	02	01	04.06	+04	28	26.6	808
1974	VC3	*	1974	11	09.12969	02	01	28.35	+06	50	06.4	808
1974	VC3		1974	11	09.16432	02	01	26.56	+06	49	59.0	808
1974	VD3	*	1974	11	09.12969	02	01	35.54	+03	08	18.0	808
1974	VD3		1974	11	09.16432	02	01	33.69	+03	08	12.0	808
1974	VE3	*	1974	11	09.12969	02	05	07.15	+01	29	58.5	808
1974	VE3		1974	11	09.16432	02	05	05.56	+01	30	00.5	808
1974	VF3	*	1974	11	09.21349	04	08	02.76	-24	32	28.7	808
1974	VF3		1974	11	09.24327	04	08	00.81	-24	32	30.4	808
1974	VF3		1974	11	12.18383	04	04	57.69	-24	32	44.7	808
1974	VF3		1974	11	12.21361	04	04	55.62	-24	32	43.7	808
1974	VF3		1974	11	14.19707	04	02	45.89	-24	30	12.4	808
1974	VF3		1974	11	14.22685	04	02	43.75	-24	30	08.9	808
1974	VF3		1974	11	16.19159	04	00	31.24	-24	25	24.0	808
1974	VF3		1974	11	16.21999	04	00	29.23	-24	25	19.3	808
1974	VF3		1974	11	19.20522	03	57	01.93	-24	13	44.5	808
1974	VF3		1974	11	19.23465	03	56	59.80	-24	13	36.1	808
1974	VF3		1974	11	20.21599	03	55	50.59	-24	08	36.5	808
1974	VF3		1974	11	21.20012	03	54	40.80	-24	03	00.7	808
1974	VF3		1974	11	21.22989	03	54	38.59	-24	02	50.8	808
1974	VF3		1974	12	12.17013	03	31	30.57	-19	47	29.9	808
1974	VF3		1974	12	12.20199	03	31	28.74	-19	46	55.2	808
1974	VF3		1974	12	13.05867	03	30	43.13	-19	31	20.3	808
1974	VF3		1974	12	13.09052	03	30	41.42	-19	30	44.0	808
1974	VF3		1974	12	14.15394	03	29	45.99	-19	10	56.9	808
1974	VF3		1974	12	17.10349	03	27	24.19	-18	13	20.7	808
1974	VF3		1974	12	17.13257	03	27	22.81	-18	12	46.5	808
1974	VG3	*	1974	11	15.20404	03	45	26.81	-10	53	46.4	808
1974	VG3		1974	11	15.23520	03	45	24.97	-10	54	05.4	808
1974	WF		1974	11	17.08913	01	48	50.32	+06	52	02.8	808
1974	WF		1974	11	17.12308	01	48	48.80	+06	51	51.1	808
1974	WN1	*	1974	11	17.08913	01	54	14.36	+02	53	50.8	808
1974	WN1		1974	11	17.12308	01	54	12.28	+02	53	46.2	808
1974	WO1	*	1974	11	17.08913	01	59	37.65	+01	40	21.0	808
1974	WO1		1974	11	17.12308	01	59	36.30	+01	40	24.5	808
1974	WP1	*	1974	11	17.08913	01	59	59.39	+05	07	36.8	808
1974	WP1		1974	11	17.12308	01	59	57.72	+05	07	39.7	808
1975	LY	*	1975	06	08.14226	16	09	05.08	-40	18	56.4	808
1975	LY		1975	06	08.18935	16	09	01.84	-40	18	36.9	808
1975	LY		1975	06	10.16582	16	07	01.04	-40	03	32.4	808

1975 LY		1975 06 10.21222	16 06 57.94	-40 03 12.4		808
1975 LZ	*	1975 06 08.14226	16 17 00.07	-38 56 39.8		808
1975 LZ		1975 06 08.18935	16 16 56.61	-38 56 43.3		808
1975 LA1	*	1975 06 10.16582	16 11 39.37	-39 06 20.5		808
1975 LA1		1975 06 10.21222	16 11 36.77	-39 04 41.0		808

Note 1: correction to MPC 4916.

OBSERVATIONS MADE AT THE EUROPEAN SOUTHERN OBSERVATORY BY H.-E. SCHUSTER. MEASURED BY R. M. WEST.

Object	Date UT	R. A. (1950)	Decl.	Mag.	Obs.
/1980f	1980 06 13.31250	22 06 47.87	-05 44 02.8	19 T	809
/1980g	1980 06 13.35278	01 27 32.92	-08 25 00.4	18 T	809
/1980g	1980 06 19.37674	01 37 23.40	-07 43 26.5	18 T	809
495	1980 06 13.31250	22 13 59.09	-08 18 13.4		809
618	1980 06 13.35278	01 17 57.87	-07 15 17.7		809
648	1980 06 13.31250	22 18 12.46	-05 02 29.9		809
777	1980 06 13.31250	22 01 55.67	-03 44 49.5		809
1461	1980 06 13.35278	01 14 34.73	-06 41 59.9		809
1494	1980 06 13.31250	22 11 41.46	-07 45 06.7		809
1652	1980 06 13.31250	22 06 57.07	-07 47 23.4		809
2105	1980 05 11.08913	13 09 29.36	-47 07 46.8		809
2111	1980 06 13.31250	22 04 17.99	-04 08 01.2		809

OBSERVATIONS MADE AT TOKAI BY T. FURUTA. FROM NIHONDAIRA OBS. CIRC. NO. 1116.

Object	Date UT	R. A. (1950)	Decl.	Mag.	Obs.
1977 PL1	1980 05 10.49583	11 56 59.24	-09 18 23.0	16	879
1977 PL1	1980 05 10.52326	11 56 58.86	-09 18 12.7		879

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ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers and authors of double designations are B = C. M. Bardwell, E = E. Bowell, F = E. Fogelin, M = B. G. Marsden, P = O. Kippes. For further information see MPC 4499.

Planet	B(1,0)	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
A909 TF	14.0	091021	73.72	257.98	15.77	13.47	0.1729	2.6232	7	6		B
1930 XL	13.0	301210	70.34	0.12	335.90	7.71	0.1805	2.1648	3	2	1	M
1933 UR	13.5	331015	18.74	334.89	19.03	2.60	0.2073	2.8028	19	3		M
1950 DH	13.0	500228	102.23	217.20	169.75	8.26	0.1985	2.6659	18	3		M
1972 KE	13.5	720523	273.72	230.96	117.26	10.39	0.0802	2.5788	24	3	2	B
1974 HR	12.0	740423	173.30	167.12	208.06	9.48	0.1102	3.3696	6	5		B
1974 OZ		740712	21.17	240.65	20.14	10.16	0.0973	2.9889	4	6		F
1974 OA1		740712	287.21	56.02	330.57	13.64	0.2208	2.6256	10	8		F
1974 RY1	15.5	740930	25.50	134.77	183.41	2.71	0.2262	2.3475	34	7		B
1974 RA2	14.5	740930	357.18	164.75	197.54	0.78	0.1606	2.5693	34	5		B
1974 SF	16.0	740930	358.45	175.90	187.12	5.01	0.2461	2.3836	16	5		B
1974 SJ	14.0	740930	301.64	259.58	167.65	6.32	0.1004	2.3007	29	8		B
1974 SP	14.0	740930	7.47	177.83	170.53	9.87	0.1697	2.7983	20	7		B
1974 ST	13.5	740930	38.66	195.28	104.42	2.36	0.2224	3.1678	29	8		B
1974 SU4	12.5	740930	309.84	326.93	124.25	2.63	0.1431	3.1610	44	7		B
1974 SY4	12.5	740930	126.59	60.67	198.31	9.61	0.0426	2.9648	16	5		B
1974 SB5	13.0	740930	351.56	318.62	53.33	1.77	0.2101	3.0778	29	7		F
1974 SD5		740930	5.54	346.53	2.64	15.32	0.2036	3.0490	28	6		B
1974 TW		741020	329.34	24.62	26.46	6.60	0.1700	2.2174	9	5		B
1974 VF3		741129	327.91	354.27	111.83	27.00	0.2466	2.4044	38	0		B

1976 GC1	15.0	760412	61.29	266.58	179.35	4.42	0.3069	2.1620	3 3 3	M
1980 EB	15.0	800411	330.33	209.85	2.23	2.03	0.0889	2.4450	68 6	M
1980 LA	13.9	800610	329.55	71.50	265.46	21.80	0.3033	2.3228	30 9	E
1980 LB	12.4	800610	313.89	263.63	108.70	41.45	0.3370	3.1353	33 0	E
1980 LD	12.4	800610	168.47	16.96	104.38	11.10	0.0544	3.0019	24 7	E
1980 LE	14.6	800610	2.60	328.25	310.52	5.03	0.1596	2.3837	21 7	E
1980 MA	12.4	800630	284.44	312.54	76.11	11.48	0.1601	2.6231	26 5	E

Note 1: e assumed. 2: double designations 1972 KE = 1972 LJ (B), 1976 GC1 = 1976 GC4 (P). 3 = 1 + 2.

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ORBITAL ELEMENTS BY S. NAKANO, SUMOTO, AND T. URATA, SHIMIZU, JAPAN.

The following orbital elements are from NOC 1120, 1125, 1126 and 1129. The identifications are by T. Urata unless otherwise stated.

(2271)* 1976 UV5 = 1976 SC6 = 1928 DB1 = 1942 EG = 1951 EF2 = 1952 LA = 1952 MN = 1953 TP2 = 1956 GH = 1960 EB = 1965 FA = 1972 WA = 1972 XM2 = 1974 ES

Discovered 1976 Oct. 22 by H. Kosai and K. Hurukawa at the Tokyo Observatory's Kiso Station. The identification 1928 DB1 = 1974 ES was also suggested by E. Bowell. The double designations 1976 UV5 = 1976 SC6 and 1952 LA = 1952 MN are by K. Hurukawa and by O. Kippes (MPC 1750), respectively.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	35.21857	(1950.0)	P	Q
n	0.21501890	Peri.	178.07812	+0.69849025	+0.71445256
a	2.7594231	Node	136.22464	-0.65732126	+0.66310977
e	0.0608197	Incl.	3.38525	-0.28291364	+0.22325537
P	4.58	B(1,0)	12.0		

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

280221	024(0.03-	0.01-)X	531031	760	1.8+	1.6-	740319	095	1.7+	0.6+
280226	024	3.0+	0.2+	531031	760	0.6+	1.1-	760924	095	0.6-	0.0
280317	024	1.9+	1.7-	560412	760(54.9+	24.4-)X	761022	381	0.3+	0.1+
420313	031(36.8+	8.0-)X	600301	760	2.6-	1.1+	761022	381	0.3+	0.0
420313	031(56.7+	32.8+)X	600301	760	2.4-	1.1+	761024	381	0.3+	0.3+
510311	711	5.2-	1.9- Y	600323	760(12.0+	8.9-)	761024	381	1.2+	0.9+
520612	078 (2.1-	6.0+)X	650331	760(96.1-	21.5+)X	761118	381	0.3+	0.0
520626	760(27.6+	1.1-)X	721129	330(29.9-	1.1+)	761118	381	0.2-	0.3-
531014	760	2.2-	1.4+	721208	330	1.6+	0.8+					
531014	760	1.8-	0.9-	740315	095	2.2+	0.0					

1974 RV1 = 1969 AX = 1975 XP5

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	336.91938	(1950.0)	P	Q
n	0.27557848	Peri.	325.44385	-0.02187161	+0.99855152
a	2.3386939	Node	303.25589	-0.90344039	-0.04079778
e	0.1683607	Incl.	3.37008	-0.42815545	+0.03507707
P	3.58	B(1,0)	13.5		

Residuals in seconds of arc

690115	095	0.1+	0.3+	740919	095	1.5-	0.4+	740923	095	3.9+	1.7-
740914	095	0.9-	3.7+	740921	095	1.6-	2.4-	751204	095	0.0	0.1-

1977 PZ1 = 1969 RX = 1973 QP1
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	323.68268	(1950.0)	P	Q
n	0.24350056	Peri. 345.97245	+0.38488873	+0.91932135
a	2.5398239	Node 306.60136	-0.83661662	+0.31002588
e	0.2321516	Incl. 5.85593	-0.38978621	+0.24234728
P	4.05	B(1,0) 14.0		

Residuals in seconds of arc

690910	095	(26.5+	12.9+)	730902	095	0.2+	0.9+	770821 095 1.1- 0.2+
730829	095	0.3-	0.9-	770814	095	0.8+	0.0	770909 095 0.3+ 0.2-

1977 QX2 = 1972 TC4 = 1974 CM1 = 1979 BE
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	133.15520	(1950.0)	P	Q
n	0.17859328	Peri. 339.16124	-0.03457903	-0.99939169
a	3.1229151	Node 112.82016	+0.91758301	-0.03354525
e	0.1672375	Incl. 0.28179	+0.39603750	-0.00953809
P	5.52	B(1,0) 12.5		

Residuals in seconds of arc

721005	095	1.2+	4.1-	770823	095	0.2-	0.3+	790124 688 0.0 3.0+
740215	095	0.1-	0.3-	770909	095	0.1+	1.1+	
770821	095	1.3-	0.3+	771007	095	0.2-	2.0+	

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ORBITAL ELEMENTS BY B. G. MARSDEN, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by B. G. Marsden unless otherwise stated.

(1685) Toro
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	52.20870	(1950.0)	P	Q
n	0.61655489	Peri. 126.73248	+0.74888417	-0.64248094
a	1.3671670	Node 273.84259	+0.54416465	+0.73607898
e	0.4359106	Incl. 9.37052	+0.37822920	+0.21308677
P	1.60	B(1,0) 16.2		

From 91 observations 1948-1976, mean residual 1".2.

(2272)* 1972 FA
Discovered 1972 Mar. 16 by T. Gehrels at Palomar.
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	231.20821	(1950.0)	P	Q
n	0.38643453	Peri. 277.88869	-0.05884309	-0.99763353
a	1.8667469	Node 175.04885	+0.99819509	-0.05837318
e	0.0901802	Incl. 24.33515	-0.01200156	+0.03633066
P	2.55	B(1,0) 16.0		

Residuals in seconds of arc

720316	675	3.5-	5.1+	720410	675	1.7+	1.1+	731004 675 0.3- 0.1+
720317	675	0.4-	0.2-	720414	026	2.6+	1.9-	800418 801 0.2+ 0.1-
720319	688	0.8+	3.5-	720416	029	1.3-	0.4-	800510 801 0.2+ 0.5+
720321	688	0.4+	1.0-	730930	675	0.5+	0.6-	800708 801 0.1- 0.1-

(2273)* 1975 EV1 = 1958 XB = 1971 FO = 1977 TH8

Discovered 1975 Mar. 6 by L. Chernykh at the Crimean Astrophysical Observatory. The key identification 1975 EV1 = 1977 TH8 is by E. Bowell (MPC 5317).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 237.20662		(1950.0)	P	Q
n 0.25665277	Peri.	40.81544	-0.28982734	-0.95705796
a 2.4522914	Node	66.03304	+0.87624607	-0.26800671
e 0.1618628	Incl.	0.39738	+0.38495834	-0.11050998
P 3.84	B(1,0)	14.0		

Residuals in seconds of arc

581203 024	0.3+	1.7-	750315 095	0.7+	3.7-	800714 801	0.2+	0.2-
710319 095	0.9+	1.3+	750317 095	1.3-	2.1+	800719 801	0.2+	1.1-
750306 095	1.5-	1.3+	771007 095	0.7-	1.3-			
750308 095	0.7+	1.7-	771017 095	0.5+	1.6+			

(2274)* 1976 EA

Discovered 1976 Mar. 2 by C.-I. Lagerkvist at Kvistaberg.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 91.47503		(1950.0)	P	Q
n 0.26366168	Peri.	187.16767	-0.99662384	-0.08170608
a 2.4086371	Node	348.13666	+0.07713780	-0.89818668
e 0.2301057	Incl.	2.24807	+0.02811889	-0.43195462
P 3.74	B(1,0)	14.5		

Residuals in seconds of arc

760302 049	0.2-	0.7+	760321 414	0.0	1.5-	781028 801	1.1+	1.8+
760302 049	0.1+	1.1+	760322 414	0.3-	0.4-	781030 801	1.7-	1.1+
760303 049	0.3-	0.8+	760322 414	0.4-	0.7-	781127 801	0.6-	0.2+
760303 049	0.8-	0.6+	760323 414	0.0	0.3-	800126 801	0.2+	0.8+
760304 049	1.0+	0.2+	760323 414	0.9+	0.4-	800510 801	0.7-	1.2+
760304 049	1.3+	0.4-	760429 414	0.4-	0.1+	800612 801	1.0+	0.6+
760321 414	0.4-	0.2+	760429 414	0.9-	0.6+	800613 801	1.1+	1.0+
760321 414	0.0	0.2-	760501 414	1.0-	0.1+			
760321 414	0.1+	0.2+	760501 414	1.0+	1.0-			

(2275)* 1979 MH = 1931 XS = 1948 PX = 1955 QF = 1969 TH = 1972 LS = 1976 WF

Discovered 1979 June 16 by H.-E. Schuster at the European Southern Observatory. The key identification 1979 MH = 1969 TH is by E. Bowell (MPC 5352).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 94.62856		(1950.0)	P	Q
n 0.28336638	Peri.	153.21947	+0.98419296	+0.17414238
a 2.2956403	Node	196.84514	-0.17577573	+0.93831864
e 0.1704385	Incl.	6.38525	-0.02161252	+0.29871818
P 3.48	B(1,0)	15.5		

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

311205 690	0.6+	2.2-	550820 760	2.7+	0.2-	761126 026	1.2+	0.1-
311206 690	0.6-	2.1+	691007 095	0.6+	2.0+	790616 809	0.8-	0.5-
311207 690	0.1+	2.6-	691016 095	0.1-	0.2+	790617 809	0.2+	0.1-
480812 094(0.05-	0.03+)X	720606 095	0.8+	1.2-	790618 809	0.6-	1.0-
550820 760	2.9-	0.5+	761126 026	1.5-	2.2-	790721 809	0.3+	0.7-

1965 LA = 1974 OY

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M 134.21067		(1950.0)	P	Q
n 0.22057810	Peri.	314.47006	+0.81532470	+0.57843364
a 2.7128679	Node	10.28092	-0.48189585	+0.70251267
e 0.1841701	Incl.	8.27711	-0.32097043	+0.41459675
P 4.47	B(1,0)	14.5		

Residuals in seconds of arc

650610	808	0.3-	1.6-	Y	740716	808	1.3-	0.4-	740720	808	0.6+ 0.7+
650626	808	0.1+	1.2-	Y	740716	808	2.2-	0.4-	740726	808	0.0 0.6-
650628	808	(12.8-	4.8-)	Y	740717	808	0.5+	0.4-	740726	808	1.0+ 0.4+
650630	808	0.3-	2.4+	Y	740717	808	0.1+	0.4-			
650705	808	0.5+	1.2+	Y	740720	808	1.4+	0.0			

1979 BA

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	324.73322		(1950.0)	P	Q
n	0.39463894	Peri.	290.26347	+0.11146053	-0.89206883
a	1.8407874	Node	142.96385	+0.93444552	+0.24406083
e	0.2008961	Incl.	46.64273	-0.33821310	+0.38032554
P	2.50	B(1,0)	17.0		

Residuals in seconds of arc

790123	807	0.1-	1.3-		790301	801	0.7-	2.8+	790523	801	1.0- 0.4-
790124	807	0.6+	1.4+		790304	688	0.5+	0.4-	800708	801	0.4+ 0.9+
790131	807	1.1-	0.1+		790327	801	0.1+	0.1-	800713	801	0.3- 0.5-
790228	688	0.0	2.7-		790502	801	1.8+	0.9+			

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ORBITAL ELEMENTS BY C. M. BARDWELL, SMITHSONIAN ASTROPHYSICAL OBSERVATORY.

The identifications are by C. M. Bardwell unless otherwise stated.

(2276)* 1933 QA = 1951 MB = 1977 RK3

Discovered 1933 Aug. 18 by E. Delporte at Uccle. The key identification 1933 QA = 1977 RK3 is by E. Bowell (MPC 5275).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	22.44922		(1950.0)	P	Q
n	0.26931713	Peri.	54.34686	-0.01146708	+0.99962958
a	2.3747983	Node	215.02084	-0.93072127	-0.01969382
e	0.1694216	Incl.	2.46503	-0.36554946	+0.01878439
P	3.66	B(1,0)	14.0		

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

330818	012	4.2+	0.6-		330915	012	(0.00+	0.06+)	800511	046	0.3- 0.6-
330819	094	(47.9-	20.3-)	X	330917	012	2.6+	2.2-	800511	046	0.5- 0.3+
330820	012	4.2+	1.8-		510624	078	(1.3-	14.8+)	Y 800515	046	0.5- 1.0+
330821	012	1.0+	2.7+		770912	095	1.7-	1.5+	800515	046	1.0- 0.2-
330825	012	(7.0+	5.0+)		770918	095	0.8+	0.8+	800516	046	0.8+ 0.3+
330826	012	4.8-	1.5-		800510	046	1.9+	0.0	800516	046	2.2- 1.5-
330828	012	4.6-	1.2+		800510	046	0.7+	0.9+	800609	801	0.0 0.5+

(2277)* 1950 DS = 1978 YB

Discovered 1950 Feb. 18 by S. Arend at Uccle.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	111.90588		(1950.0)	P	Q
n	0.23489456	Peri.	67.25017	-0.97288370	-0.12620467
a	2.6014815	Node	105.06033	+0.05358068	-0.93819504
e	0.1225559	Incl.	11.57926	+0.22500315	-0.32227697
P	4.20	B(1,0)	13.7		

Residuals in seconds of arc

500218	012	3.5-	4.5+		781229	330	1.7-	1.3+	800510	688	0.1+ 0.6-
500221	012	0.7+	2.2-		790104	330	0.5-	0.3-	800611	801	0.2- 0.1-
500307	012	3.1+	0.4-		790118	330	2.5+	1.5-	800709	801	0.6- 1.2-
781223	330	1.2+	0.2-		790122	330	1.4-	0.5-			

(2278)* 1953 GE = 1953 GR1 = 1976 GE2 = 1976 JG

Discovered 1953 Apr. 7 by K. Reinmuth at Heidelberg. The identification 1953 GE = 1976 GE2 is by E. Bowell (MPC 5223). The double designations 1953 GE = 1953 GR1 (MPC 1227) and 1976 GE2 = 1976 JG (MPC 5223) are by O. Kippes. The identification 1953 GE = 1931 TQ (MPC 1189) is invalid (cf. MPC 5333).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	36.32351	(1950.0)	P	Q
n	0.25684979	Peri. 204.98104	-0.20559703	+0.97685507
a	2.4510373	Node 53.20836	-0.88499810	-0.15984067
e	0.1520791	Incl. 4.22692	-0.41774181	-0.14214476
P	3.84	B(1,0) 14.0		

Residuals in seconds of arc

530407	210(51.8-	75.7-)X	760401	095	0.9+	0.7+	800515	801	0.4+	0.5-
530407	024	3.1- 1.6-	760404	095	0.8+	0.8+	800612	801	0.3+	1.0+
530412	024	3.4+ 0.8-	760502	095	0.6-	1.7+	800612	801	1.2-	0.1+
530416	210(20.1+	58.9-)X	800420	801	0.1-	0.4-				
530419	024	1.6- 0.0	800510	801	0.4-	0.8-				

(2279)* 1968 DL = 1949 KA1 = 1969 QS = 1976 JJ2

Discovered 1968 Feb. 25 by L. Chernykh at the Crimean Astrophysical Observatory. The key identification 1968 DL = 1976 JJ2 is by B. G. Marsden (MPC 4742).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	91.26945	(1950.0)	P	Q
n	0.25581349	Peri. 62.91051	-0.92291442	+0.38353092
a	2.4576522	Node 139.61734	-0.36906324	-0.85641402
e	0.1595271	Incl. 2.97806	-0.10964166	-0.34562850
P	3.85	B(1,0) 14.0		

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

490518	094(0.04+	0.00+)X	690823	095	0.1+	0.5-	800523	801	0.1+	0.6+
680225	095	0.1+ 2.4+	760502	095	2.0-	0.9-	800609	801	0.4+	0.3+
680325	095	1.8- 0.3+	760525	095	0.4+	0.0	800709	801	0.5-	0.4-
680327	095	1.6+ 3.0-	760530	095	1.7+	0.7+				

(2280)* 1971 SL2 = 1970 GY1

Discovered 1971 Sept. 26 by T. Smirnova at the Crimean Astrophysical Observatory. The identification is by T. Urata (NOC 839).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	311.36109	(1950.0)	P	Q
n	0.30648841	Peri. 263.69205	+0.98349649	-0.17075396
a	2.1786795	Node 106.12770	+0.18060053	+0.90666337
e	0.1416543	Incl. 3.56981	+0.01086719	+0.38575201
P	3.22	B(1,0) 14.8		

Residuals in seconds of arc

700412	805	0.2+ 1.4-	710926	095	1.4-	0.7-	770618	474	0.5+	0.1-
700412	805	1.2- 1.5-	711013	095	0.9+	0.5-	770618	474	0.1-	1.3-
700412	805	0.6- 0.9-	711014	095	0.2-	1.0-	800420	801	0.5+	0.6-
710926	805	0.2+ 2.5+	711015	095	0.4+	1.1-	800516	801	0.3-	2.5+
710926	805	0.4+ 0.2-	711020	095	0.4+	1.4-	800614	801	0.0	0.1-

(2281)* 1971 UQ1 = 1974 SU

Discovered 1971 Oct. 26 by L. Kohoutek at Bergedorf.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M	8.78720	(1950.0)	P	Q
n	0.30447227	Peri. 109.00435	+0.70920573	+0.70490900
a	2.1882867	Node 206.17735	-0.65614702	+0.65404550
e	0.1447377	Incl. 1.48403	-0.25787265	+0.27445907
P	3.24	B(1,0) 14.7		

Residuals in seconds of arc

711026	029	2.8+	0.6-	740921	808	1.8+	1.6-	741019	808	0.9+	0.1-
711110	029	2.6-	0.3+	740921	808	1.6+	2.0+	741019	808	0.0	0.7+
711111	029	0.4+	0.1-	740921	095	0.8-	0.5-	800521	801	0.2+	0.6-
711119	029	0.4-	0.2-	740923	095	0.0	1.1+	800612	801	0.0	0.3-
740919	095	1.5-	0.1+	741009	095	2.0-	1.5-	800614	801	0.2-	0.7+

(2282)* 1974 FE = 1974 HO = 1951 EH2 = 1962 QC = 1979 YL

Discovered 1974 Mar. 22 by C. Torres at the University of Chile's Cerro El Roble Astronomical Station.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

			(1950.0)	P	Q
M	115.29982				
n	0.30134924	Peri.	237.96457	+0.08220694	-0.99581331
a	2.2033796	Node	207.40475	+0.94112634	+0.09076418
e	0.0798172	Incl.	4.98226	+0.32790734	-0.01085000
P	3.27	B(1,0)	15.0		

Residuals in seconds of arc

510311	711	0.5-	2.7+ Y	791219	809	0.1-	0.4-	791224	809	0.3-	0.2+
510313	711	3.2+	5.4+ Y	791220	809	0.2-	0.4-	791225	809	1.1-	0.3+
620829	760	0.7+	3.2+	791220	809	0.0	0.7-	791225	809	0.8-	0.1+
620829	760	2.1-	1.5+	791220	809	0.3+	0.6-	791225	809	2.3-	0.4+
740322	805	0.8-	0.6-	791221	809	0.7+	0.1-	791226	809	0.5-	0.3-
740323	805	0.5-	0.2+	791221	809	0.9+	0.1-	791226	809	0.0	0.3-
740422	805	0.6-	1.7-	791221	809	0.4+	0.4-	791228	809	0.6-	0.2-
740424	805	0.9+	0.7-	791222	809	0.5+	0.3+	791228	809	0.3+	0.2-
740425	805	0.4+	1.5-	791222	809	0.2-	0.4+	791229	809	0.0	0.4+
791216	809	1.0+	0.0	791222	809	0.1+	0.6+	791229	809	0.1-	0.3+
791216	809	1.3+	0.1-	791222	809	0.6+	1.5+	791229	809	0.1-	0.0
791216	809	0.7+	0.1+	791223	809	0.6-	4.6-	791229	809	1.8-	0.3-
791218	809	0.5+	0.2+	791223	809	0.9-	4.9-	791230	809	1.0+	0.1+
791218	809	0.2-	0.3+	791224	809	0.1-	0.5+	791230	809	0.8+	1.1-
791219	809	0.1+	0.1+	791224	809	0.3+	0.1+				

(2283)* 1974 SV4 = 1974 WF = 1929 JG = 1939 GD = 1952 BB1 = 1976 GE6 = 1977 QN3 = 1977 SJ = 1980 LC

Discovered 1974 Sept. 26 by L. Zhuravleva at the Crimean Astrophysical Observatory. The Apr. 12 position of 1939 GD (RI 1959) was changed by +1 degree in declination.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

			(1950.0)	P	Q
M	154.14297				
n	0.29223145	Peri.	346.21917	-0.99845311	+0.04460490
a	2.2489756	Node	196.44612	-0.03299537	-0.95585683
e	0.0872671	Incl.	6.73304	-0.04475146	-0.29042748
P	3.37	B(1,0)	13.7		

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

290510	094	(41.8+	6.8+)X	520128	711	6.6+	0.4- Y	770823	095	1.0-	1.0+
290512	094	(28.4+	26.3+)X	740926	095	1.6-	2.5-	770918	095	3.3+	2.6+
390410	057	(0.01+	0.04-)Y	741010	808	0.7-	0.6+	800611	688	0.9+	1.1+
390412	057	(4.2+	9.7+)Y	741010	808	0.6-	0.6+	800614	688	1.1-	1.7+
390413	057	(32.2+	10.7+)Y	741012	808	0.7-	0.2-	800617	688	0.7-	0.4+
390415	057	(23.5-	32.9+)Y	741012	808	0.6+	0.8+	800617	688	1.2-	1.3+
390416	057	(6.6-	12.2+)Y	741116	095	3.5+	1.1-	800618	688	0.8-	0.6+
390420	057	(14.8+	16.5-)Y	741117	808	1.3-	0.1+	800705	688	0.0	0.3-
390425	057	(11.8-	17.1-)Y	741117	808	1.3-	0.4+	800714	688	0.1+	0.1-
520126	711	6.0-	7.3+ Y	760402	095	0.8+	0.1-				

(2284)* 1974 TG1 = 1951 CV = 1969 ET = 1970 QJ = 1976 GP = 1977 RT3
Discovered 1974 Oct. 10 at the Estacion Astronomica de Altura El Leoncito of the Observatorio Astronomico Felix Aguilar.
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

		(1950.0)	P	Q
M	86.82338			
n	0.27794150	Peri. 66.74373	-0.84307434	+0.53526910
a	2.3254149	Node 145.55410	-0.52091223	-0.78868981
e	0.0502732	Incl. 5.28329	-0.13370153	-0.30241588
P	3.55	B(1,0) 14.0		

Residuals in seconds of arc

510207	012	0.4+	0.8+	741010	808	0.4-	0.6+	741117	808	0.9-	0.0
510207	119(74.0-	22.7-)X		741010	808	0.3+	0.7+	741117	808	0.5-	0.3-
690312	095	1.5-	1.4+	741012	808	0.7+	1.0+	760401	095	2.3+	2.6+
700828	095	4.7+	4.7+	741012	808	0.5+	1.7+	760404	095	0.7+	1.7+
700829	095	2.4-	3.2-	741109	808	1.1-	0.1-	770907	095	2.5-	3.4+
700831	095	0.4+	4.1-	741109	808	0.3-	0.1-	770912	095	0.8-	2.9+

(2285)* 1976 QB
Discovered 1976 Aug. 27 by S. J. Bus at Palomar.
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

		(1950.0)	P	Q
M	107.73590			
n	0.29802977	Peri. 182.07057	+0.93674939	+0.34818287
a	2.2197102	Node 157.45187	-0.31975329	+0.89274349
e	0.2079496	Incl. 5.33097	-0.14233202	+0.28596809
P	3.31	B(1,0) 15.0		

Residuals in seconds of arc

760826	095	2.4-	1.3+	760830	675	0.3+	1.0+	780311	801	0.9-	0.5+
760827	675	2.0+	1.4-	760927	675	0.7+	2.9+	780407	801	0.0	1.8+
760827	675	1.7-	0.3+	760927	675	1.0+	0.2+	780501	801	3.4+	1.4+
760828	675	1.4+	0.1+	761023	801	0.2+	0.5+	790615	801	1.8-	2.7+
760828	675	0.6-	0.4-	761116	801	0.7-	1.4+	790823	801	2.4+	2.0-

(2286)* 1977 NH = 1954 LC = 1958 VS = 1961 TH1 = 1973 FV1
Discovered 1977 July 14 by N. Chernykh at the Crimean Astrophysical Observatory. The key identification 1977 NH = 1958 VS is by E. Bowell.
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

		(1950.0)	P	Q
M	355.21773			
n	0.30356101	Peri. 278.53081	+0.92468370	+0.38020027
a	2.1926638	Node 59.12529	-0.33939073	+0.84714655
e	0.0939338	Incl. 1.34819	-0.17255138	+0.37120138
P	3.25	B(1,0) 14.5		

Residuals in seconds of arc

540607	760	1.9+	3.0+	581119	760	(3.3+	10.2-)	770719	095	2.1+	2.5-
540607	760	0.7-	1.0-	611011	760	2.0-	0.7-	770722	095	0.4+	0.5+
581111	760	1.4+	0.2+	611011	760	2.3-	0.8-	770814	095	2.5-	2.4+
581111	760	1.7+	1.2+	730328	095	2.0-	0.0	770819	095	0.1-	1.9-
581119	760 (7.7+	9.0-)		770714	095	2.5+	0.5+				

(2287)* 1977 QK3 = 1977 TK1 = 1950 OH = 1957 UA
Discovered 1977 Aug. 22 by N. Chernykh at the Crimean Astrophysical Observatory. The double designation 1977 QK3 = 1977 TK1 was found by E. Bowell. The 1970 prediscovery position and the 1979 recovery observation were obtained using unpublished elements and ephemerides by N. V. Ashkova, Institute for Theoretical Astronomy.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 21.93645		(1950.0)	P	Q
n 0.29393321	Peri.	214.20063	+0.60118241	+0.79379403
a 2.2402868	Node	92.92548	-0.71098229	+0.58390050
e 0.1699302	Incl.	5.28770	-0.36480665	+0.17015065
P 3.35	B(1,0)	14.5		

Residuals in seconds of arc

500717 078 (6.8- 13.9-)Y	770907 095 1.0- 0.2+	800517 801 1.3- 0.4-
571020 024 1.0- 0.3+	771003 095 0.6- 0.6-	800611 801 1.0+ 0.3+
700610 095 1.1+ 0.7-	771006 095 0.7- 1.0-	800618 801 0.4- 0.2-
770822 095 1.6+ 0.4+	790124 095 0.7+ 1.2+	800709 801 0.9+ 1.5+
770824 095 1.0+ 0.9+	800516 801 1.3- 0.4+	

(2288)* 1979 UZ = 1937 GL = 1942 HJ = 1952 HN1 = 1952 KJ = 1972 LD

Discovered 1979 Oct. 19 by L. Brozek at the Klet Observatory. The key identification 1979 UZ = 1972 LD is by E. Bowell.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 315.73101		(1950.0)	P	Q
n 0.19880529	Peri.	99.89413	-0.96665091	-0.07923343
a 2.9074846	Node	75.86822	-0.03771389	-0.89652612
e 0.1608976	Incl.	14.54454	+0.25330551	-0.43584742
P 4.96	B(1,0)	12.0		

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

370409 094 2.6+ 0.2-	520520 711 0.6- 8.0- Y	791020 046 1.0+ 0.3-
370413 094 0.8+ 3.4+	520527 760(25.6+ 21.9-)X	791025 046 0.3+ 1.0+
420422 078(0.03+ 0.02-)X	720608 095 1.0+ 3.0+	791025 046 1.0+ 0.9+
420506 078(78.9- 43.6-)X	720616 095 1.2+ 1.3+	791112 046 0.3- 1.0-
420520 078(28.7+ 6.4+)X	791019 046 0.3+ 0.2+	791112 046 1.2- 0.5-
520430 760 1.5- 0.7-	791019 046 1.4- 0.0	
520430 760 2.3- 0.7+	791020 046 0.5+ 0.4-	

(2289)* 6567 P-L = 1978 VZ4

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels. The identification is by O. Kippes (MPC 5225).

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5

M 19.36554		(1950.0)	P	Q
n 0.23028161	Peri.	40.16611	-0.64686736	+0.76257730
a 2.6361081	Node	189.53369	-0.70889996	-0.60429332
e 0.1405691	Incl.	2.14630	-0.28111111	-0.23087970
P 4.28	B(1,0)	14.6		

Residuals in seconds of arc

600924 675 0.5+ 0.7-	601024 675 1.1- 0.7+	781129 675 0.2+ 0.9-
600926 675 0.2+ 2.0-	601026 675 0.7- 0.5+	781130 675 0.0 0.5-
600927 675 2.1+ 0.6-	781105 675 0.9- 0.6-	800312 801 1.0+ 1.3-
600928 675 1.1+ 1.3-	781106 675 0.6+ 0.6+	800420 801 2.3- 1.6-
601017 675 0.4- 0.4+	781107 675 0.0 1.2+	
601022 675 0.8- 0.2+	781108 675 0.1+ 0.5+	

1950 DL = 1969 LE = 1977 SF = 1980 JN

The key identification 1950 DL = 1980 JN is by E. Bowell.

Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M 38.92994		(1950.0)	P	Q
n 0.26658121	Peri.	49.99814	-0.34000202	+0.93991432
a 2.3910238	Node	200.18987	-0.88782872	-0.33167428
e 0.1461893	Incl.	5.14977	-0.31009479	-0.08095204
P 3.70	B(1,0)	14.0		

Residuals in seconds of arc

500217 024	4.5-	3.7+	500322 024	2.6-	3.3-	800514 046	2.7+	5.2+
500223 024	4.9+	1.4-	690611 095	1.0-	6.2-	800516 046	0.1-	1.5-
500307 024	2.3+	0.5-	770918 095	0.5-	1.7+	800516 046	2.4-	0.8-
500315 024	0.7-	0.1-	800514 046	1.8+	4.4+			

1964 VY = 1964 VG2 = 1974 SH = 1976 GB6
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	233.33546		(1950.0)	P	Q
n	0.28636195	Peri.	312.65054	+0.24848432	-0.96850345
a	2.2796073	Node	122.95497	+0.89415571	+0.22298717
e	0.1647541	Incl.	1.09388	+0.37247968	+0.11080515
P	3.44	B(1,0)	15.0		

Residuals in seconds of arc

641106 760	0.3-	0.4+	641225 330	1.4+	0.5-	741010 808	0.2+	0.8+
641106 760	2.6-	2.3+	740919 095	4.2-	1.6-	741019 808	0.9-	0.9+
641111 330	0.5+	0.2+	740921 808	1.1+	0.4+	741019 808	0.4+	1.1+
641127 330	1.2+	0.5+	741010 808	1.3+	1.0+	760402 095	1.8+	4.4+

1974 TA1 = 1972 KH = 1972 LM = 1976 AE
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	16.97814		(1950.0)	P	Q
n	0.14213407	Peri.	173.82928	+0.88139477	+0.47040980
a	3.6363983	Node	157.94945	-0.43814166	+0.84820555
e	0.0368512	Incl.	6.59275	-0.17656481	+0.24343777
P	6.93	B(1,0)	11.5		

Residuals in seconds of arc

720517 095	1.1-	0.9-	741012 808	0.2+	0.6+	741117 808	0.9-	0.0
720606 095	0.7+	2.3-	741012 808	0.7+	0.6+	741117 808	0.8-	0.9-
741010 808	1.2+	0.3-	741109 808	0.5-	0.7-	760107 026	1.4-	1.5-
741010 808	0.9+	0.3-	741109 808	0.3-	0.4-	760110 026	1.4+	1.6-

1975 RB
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	182.38136		(1950.0)	P	Q
n	0.28176170	Peri.	43.01090	+0.99631229	+0.02303530
a	2.3043526	Node	315.46435	-0.05950461	+0.87949414
e	0.3309548	Incl.	6.76776	+0.06181443	+0.47535189
P	3.50	B(1,0)	16.5		

Residuals in seconds of arc

750904 049	0.3-	0.3+	750906 049	0.3-	0.0	751205 049	1.6-	0.6+
750904 049	0.1+	0.1-	750928 049	0.6+	0.5+	751206 693	(6.7+	0.5+)Y
750904 049	0.1-	0.1-	750928 049	0.7+	0.0	751206 049	3.0+	1.0+
750905 049	0.9-	0.9-	750929 049	0.9+	0.6+	751206 049	2.3-	0.3-
750905 049	0.7-	0.9-	750929 049	1.1+	0.2-	751230 801	0.0	0.8-
750905 049	1.2-	0.7-	751103 801	0.5-	0.2-	751231 691	1.6-	0.1-
750905 049	0.1+	0.1-	751104 049	0.3+	0.1-	760126 691	0.1+	0.6+
750905 049	0.2+	0.3+	751104 049	0.8+	0.0	800121 801	1.8-	0.5-
750906 049	0.1-	0.2+	751106 801	0.3+	0.6+	800122 801	1.3+	0.9-

1975 WL1 = 1974 SA1
Epoch 1980 Dec. 27.0 ET = JDE 2444600.5 (J-P)

M	290.57855		(1950.0)	P	Q
n	0.17128106	Peri.	26.31205	-0.40109785	-0.91472902
a	3.2111753	Node	87.36799	+0.83153519	-0.38597372
e	0.1378743	Incl.	2.80591	+0.38427820	-0.11956210
P	5.75	B(1,0)	12.5		

Residuals in seconds of arc

740919	095	0.8-	2.1-	751129	330	1.1-	1.1+	751222	330	0.1-	0.2+
740921	095	0.8+	2.2+	751202	330	1.6-	0.8-	751224	330	0.1+	0.7-
751126	330	2.2+	1.1-	751211	330	0.4+	0.3+	760105	330	0.1+	0.3+

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NEW NAMES OF MINOR PLANETS.

(1596) Itzigsohn = 1951 EV

Discovered 1951 Mar. 8 by M. Itzigsohn at La Plata.

Named by the La Plata Observatory in memory of Miguel Itzigsohn, some time professor of spherical and practical astronomy and head of the department of extrameridian astronomy at the La Plata Observatory. He was in charge of the work on minor planets at La Plata and contributed extensively to the development of astrometry in Argentina.

(1605) Milankovitch = 1936 GA

Discovered 1936 Apr. 13 by P. Djurkovic at Uccle.

Named in memory of M. Milankovitch (1879-1958), famous Yugoslav astronomer, celestial mechanician and mathematician, known for his astronomical theory of long-term changes in the earth’s climate and for numerous papers on the history of astronomy.

(1608) Munoz = 1951 RZ

Discovered 1951 Sept. 1 by M. Itzigsohn at La Plata.

Named in memory of F. A. Munoz, an assistant in the department of extrameridian astronomy at the La Plata Observatory and involved for many years in computational and observational work on minor planets at La Plata; he also took an active part in site testing for the 2.15-m Argentine telescope.

(1688) Wilkens = 1951 EQ1

Discovered 1951 Mar. 3 by M. Itzigsohn at La Plata.

Named in memory of Alexander Wilkens, researcher in many branches of astronomy, most notably celestial mechanics. He worked for many years in Germany, then at the La Plata Observatory, where he produced two generations of celestial mechanicians before returning to his native country.

(1700) Zvezdara = 1940 QC

Discovered 1940 Aug. 27 by P. Djurkovic at Belgrade.

The Serbian word for Observatory, this is the name of the section of the city of Belgrade in which the Observatory, founded in 1934, is located.

(1757) Porvoo = 1939 FC

Discovered 1939 Mar. 17 by Y. Vaisala at Turku.

Named for the second oldest (after Turku) town in Finland. At the Porvoo Diet in 1809 the Russian czar confirmed that Finland was annexed to the Russian empire as an autonomous nation.

(1758) Naantali = 1942 DK

Discovered 1942 Feb. 18 by L. Oterma at Turku.

Named for an idyllic small town near Turku, founded in the early fifteenth century around a convent and monastery. The summer residence of the Finnish president is located there.

(1786) Raahe = 1948 TL

Discovered 1948 Oct. 9 by H. Alikoski at Turku.

Named for a Finnish town, founded by Per Brahe in 1649 on an ancient market place near Oulu.

(1853) McElroy = 1957 XE
Discovered 1957 Dec. 15 at the Goethe Link Observatory, Indiana University.
Named in honor of William David McElroy, distinguished biologist and biochemist, chairman of the biology department at Johns Hopkins University during 1956-1969, later director of the National Science Foundation (1969-1972) and chancellor of the University of California at San Diego (1972-1980). During his tenure as director of N.S.F. the U.S. government decided to fund the Very Large Array, which will be the pre-eminent instrument for radio astronomy for many years to come.

(1882) Rauma = 1941 UJ
Discovered 1941 Oct. 15 by L. Oterma at Turku.
Named for a Finnish town, famous for its seafaring and lace-making, that developed around a monastery in the first part of the fifteenth century. The area was already populated in the bronze age.

(1883) Rimito = 1942 XA
Discovered 1942 Dec. 4 by Y. Vaisala at Turku.
Named for Rymattyla, a Finnish country commune near Turku, already inhabited in the bronze age. Comprising about 400 islands with numerous summer cottages, it is also the center for winter seine-fishing in Finland.

(1927) Suvanto = 1936 FP
Discovered 1936 Mar. 18 by R. Suvanto at Turku.
Named in memory of Rafael Suvanto, an assistant of Y. Vaisala. Later, as rector of a school in Naantali, he continued to participate in orbit calculations. He fell near Summa in the last days of the Finnish winter war of 1939-40.

(1928) Summa = 1938 SO
Discovered 1938 Sept. 21 by Y. Vaisala at Turku.
Named for a village on the Karelian isthmus, scene of violent battles during the Finnish winter war.

(1929) Kollaa = 1939 BS
Discovered 1939 Jan. 20 by Y. Vaisala at Turku.
Named for a river in Karelia, scene of violent battles during the Finnish winter war.

(1947) Iso-Heikkila = 1935 EA
Discovered 1935 Mar. 4 by Y. Vaisala at Turku.
Named for the farm, owned by Turku University, that became the site of the Turku Observatory. This minor planet was the first one to be discovered there.

(2020) Ukko = 1936 FR
Discovered 1936 Mar. 18 by Y. Vaisala at Turku.
Named for the supreme god in Finnish folklore. Ukko means "old man"; ukkonen means "thunder".

(2091) Sampo = 1941 HO
Discovered 1941 Apr. 26 by Y. Vaisala at Turku.
Named for the wonder-object in Kalevala, the Finnish national epic. Sampo was to produce every kind of fortune. When Kalevala and Pohjola (the North) were fighting for its possession, out at sea, it broke into pieces, and only tiny fragments could be found.

(2096) Vaino = 1939 UC
Discovered 1939 Oct. 18 by Y. Vaisala at Turku.
Named for Vainamoinen, an old and wise magician, a central figure in Finnish folklore and Kalevala. This minor planet also honors Vaino Vaisala, brother of the discoverer.

(2107) Ilmari = 1941 VA
Discovered 1941 Nov. 12 by L. Oterma at Turku.
Named for the master-smith Ilmarinen, who forged Sampo, the wonder-object in Kalevala. Ilmari is a common boy's name in Finland.

(2181) Fogelin = 1942 YA
Discovered 1942 Dec. 28 by K. Reinmuth at Heidelberg.
Named in honor of Eric S. Fogelin, an assistant at the Minor Planet Center during 1979-1980 who has helped extensively in the production of the Minor Planet Circulars and in the preparation of computerized data relevant to the Minor Planet Center. Name proposed by C. M. Bardwell and B. G. Marsden.

(2193) Jackson = 1926 KB
Discovered 1926 May 18 by H. E. Wood at Johannesburg.
Named in honor of Cyril Jackson, whose 67 discoveries of numbered minor planets constitute a record for the southern hemisphere. After working at the former Union Observatory in Johannesburg he was subsequently associated with the Yale-Columbia Southern Station at its successive locations. Name proposed by C. M. Bardwell and B. G. Marsden.

(2226) Cunitza = 1936 QC1
Discovered 1936 Aug. 26 by A. Bohrmann at Heidelberg.
Named by the discoverer for the family of his sister-in-law, Lydia Cunitz.

(2251) Tikhov = 1971 SU1
Discovered 1971 Sept. 19 by N. Chernykh at the Crimean Astrophysical Observatory.
Named in memory of Gavriil Adrianovich Tikhov (1875-1960), active on the staff of the Pulkovo Observatory during 1906-1941 and from 1947 head of the astrobotanical department of the Kazakh Academy of Sciences. His principal scientific work was concerned with stellar and planetary photometry and colorimetry and with atmospheric optics. He was also known for his research on the physical nature of Mars.

(2252) CERGA = 1978 VT
Discovered 1978 Nov. 1 by K. Tomita at Caussols.
Named for the Centre d'Etudes et de Recherches Geodynamiques et Astronomiques, which operates the 0.9-m Schmidt telescope at Caussols-Cipieres with which this minor planet was discovered.

(2264) Sabrina = 1979 YK
Discovered 1979 Dec. 16 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Named for a legendary English princess, daughter of King Locrine. Along with her mother, Sabrina was drowned in the River Severn by Locrine's angry widow. Sabrina became the Roman name for the River Severn.

(2267) Agassiz = 1977 RF
Discovered 1977 Sept. 9 at Harvard College Observatory, Agassiz Station.

Named in memory of Jean Louis Rodolphe Agassiz (1807-1873), Swiss-born naturalist, later a professor at Harvard, where he was the leading U.S. opponent of Darwin; his son Alexander Agassiz (1835-1910), marine zoologist and oceanographer; and his grandson George Russell Agassiz (1862-1951), for many years a friend and benefactor of the Harvard Observatory and for whom the Agassiz Station is named.

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EPHEMERIDES.

(1685) Toro Elements MPC 5441

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 08 09	00 59.84	+65 50.1	0.155	1.020	88.1	83.2	14.1
1980 08 11	01 53.50	+69 28.7					
1980 08 13	03 00.43	+71 39.9	0.163	0.993	78.2	92.5	14.4
1980 08 15	04 12.48	+72 08.5					
1980 08 17	05 17.31	+71 06.0	0.177	0.966	69.7	100.4	14.7
1980 08 19	06 08.34	+69 03.0					
1980 08 21	06 46.27	+66 29.0	0.195	0.939	63.0	106.4	15.0
1980 08 23	07 14.34	+63 43.3					
1980 08 25	07 35.56	+60 56.6	0.217	0.914	57.8	110.6	15.2
1980 08 27	07 52.05	+58 14.3					
1980 08 29	08 05.26	+55 38.8	0.242	0.889	54.0	113.3	15.5
1980 08 31	08 16.15	+53 11.0					
1980 09 02	08 25.36	+50 50.9	0.269	0.867	51.4	114.6	15.7
1980 09 04	08 33.35	+48 38.2					
1980 09 06	08 40.43	+46 32.3	0.299	0.846	49.6	114.8	15.9
1980 09 08	08 46.82	+44 32.6					
1980 09 10	08 52.70	+42 38.4	0.330	0.827	48.6	114.0	16.0
1980 09 12	08 58.20	+40 49.2					
1980 09 14	09 03.41	+39 04.5	0.362	0.810	48.1	112.5	16.1
1980 09 16	09 08.40	+37 23.7					
1980 09 18	09 13.24	+35 46.4	0.396	0.796	48.0	110.3	16.2
1980 09 20	09 17.98	+34 12.2					
1980 09 22	09 22.65	+32 40.9	0.431	0.785	48.2	107.6	16.3
1980 09 24	09 27.28	+31 12.0					
1980 09 26	09 31.89	+29 45.5	0.467	0.777	48.6	104.6	16.4
1980 09 28	09 36.50	+28 21.0					
1980 09 30	09 41.11	+26 58.4	0.504	0.772	49.2	101.3	16.5
1980 10 02	09 45.75	+25 37.5					
1980 10 04	09 50.40	+24 18.3	0.541	0.771	49.8	97.8	16.6
1980 10 06	09 55.08	+23 00.6					
1980 10 08	09 59.78	+21 44.0	0.578	0.774	50.5	94.2	16.6
1980 10 18	10 23.46	+15 42.0					
1980 10 28	10 47.11	+10 08.7	0.747	0.833	55.0	77.7	17.0
1980 11 07	11 10.18	+05 01.7					
1980 11 17	11 32.15	+00 19.8	0.870	0.948	60.9	65.7	17.3
1980 11 27	11 52.68	-03 58.5					
1980 12 07	12 11.52	-07 54.9	0.933	1.087	68.9	57.8	17.6
1980 12 17	12 28.37	-11 30.9					
1980 12 27	12 42.91	-14 47.7	0.938	1.228	79.4	51.9	17.7
1981 01 06	12 54.69	-17 46.4					
1981 01 16	13 03.09	-20 26.4	0.895	1.362	92.8	46.2	17.7
1981 01 26	13 07.38	-22 46.0					
1981 02 05	13 06.69	-24 41.0	0.824	1.485	109.8	38.7	17.5
1981 02 15	13 00.21	-26 02.7					
1981 02 25	12 47.71	-26 39.4	0.758	1.593	131.0	28.0	17.3

1980 LB Elements MPC 5440

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 07 20	20 06.65	-32 33.4	1.524	2.527	168.0	4.8	15.4
1980 07 30	19 54.49	-35 55.6					
1980 08 09	19 42.25	-38 54.6	1.533	2.461	149.5	12.1	15.6
1980 08 19	19 31.54	-41 22.2					
1980 08 29	19 23.75	-43 16.9	1.645	2.398	127.6	19.5	15.8
1980 09 08	19 19.78	-44 42.3					
1980 09 18	19 20.05	-45 43.2	1.816	2.338	108.6	24.0	16.1
1980 09 28	19 24.56	-46 24.6					
1980 10 08	19 33.01	-46 49.9	2.008	2.283	92.6	25.9	16.3
1980 10 18	19 45.05	-47 00.8					
1980 10 28	20 00.19	-46 58.2	2.194	2.232	79.2	25.9	16.4
1980 11 07	20 17.97	-46 41.8					
1980 11 17	20 37.96	-46 11.2	2.357	2.188	68.0	24.8	16.5
1980 11 27	20 59.70	-45 25.7					
1980 12 07	21 22.76	-44 24.6	2.493	2.149	58.5	23.0	16.6
1980 12 17	21 46.80	-43 07.7					
1980 12 27	22 11.45	-41 35.1	2.599	2.119	50.8	21.1	16.6

(2271) 1976 UV5 Elements MPC 5440

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 07 20	21 53.94	-12 40.6	1.657	2.592	150.7	11.1	15.4
1980 07 30	21 47.91	-13 26.7					
1980 08 09	21 40.36	-14 20.2	1.583	2.592	173.5	2.5	15.0
1980 08 19	21 32.18	-15 15.3					
1980 08 29	21 24.44	-16 06.0	1.612	2.594	163.0	6.5	15.2
1980 09 08	21 18.08	-16 47.7					
1980 09 18	21 13.84	-17 17.2	1.740	2.597	140.8	14.2	15.6
1980 09 28	21 12.15	-17 33.3					
1980 10 08	21 13.09	-17 35.9	1.942	2.601	120.9	19.2	16.0
1980 10 18	21 16.59	-17 25.7					
1980 10 28	21 22.39	-17 03.6	2.191	2.606	103.3	21.8	16.3
1980 11 07	21 30.19	-16 30.3					
1980 11 17	21 39.71	-15 46.7	2.459	2.612	87.6	22.2	16.5
1980 11 27	21 50.63	-14 53.7					
1980 12 07	22 02.70	-13 52.1	2.726	2.618	73.3	21.1	16.8
1980 12 17	22 15.71	-12 42.5					
1980 12 27	22 29.45	-11 25.9	2.978	2.626	59.9	18.9	16.9

1979 BA Elements MPC 5443

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 07 20	22 09.10	+02 19.2	1.072	1.963	140.1	19.4	19.1
1980 07 30	22 01.51	-02 35.9					
1980 08 09	21 50.31	-08 48.5	0.912	1.916	168.7	6.0	18.3
1980 08 19	21 36.41	-15 52.4					
1980 08 29	21 21.58	-22 58.7	0.889	1.867	159.0	11.2	18.4
1980 09 08	21 08.02	-29 18.6					
1980 09 18	20 57.84	-34 24.6	0.998	1.816	130.1	25.0	18.9
1980 09 28	20 52.43	-38 14.6					
1980 10 08	20 52.25	-40 59.6	1.179	1.765	107.9	32.6	19.3
1980 10 18	20 57.22	-42 53.1					
1980 10 28	21 06.85	-44 06.5	1.374	1.713	91.2	35.4	19.7
1980 11 07	21 20.49	-44 47.2					
1980 11 17	21 37.57	-45 00.2	1.550	1.662	78.4	35.6	19.9
1980 11 27	21 57.48	-44 48.2					
1980 12 07	22 19.71	-44 12.5	1.687	1.614	68.7	34.6	20.0
1980 12 17	22 43.83	-43 13.5					
1980 12 27	23 09.42	-41 51.6	1.780	1.571	61.5	33.4	20.0

1974 TA1 Elements MPC 5448

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 07 20	22 29.18	-07 30.3	2.657	3.503	140.8	10.6	16.6
1980 07 30	22 25.40	-08 03.8					
1980 08 09	22 20.29	-08 46.4	2.523	3.503	162.4	5.0	16.3
1980 08 19	22 14.26	-09 35.3					
1980 08 29	22 07.91	-10 26.6	2.496	3.502	174.8	1.5	16.0
1980 09 08	22 01.82	-11 16.2					
1980 09 18	21 56.60	-12 00.5	2.582	3.503	152.3	7.7	16.4
1980 09 28	21 52.74	-12 36.6					
1980 10 08	21 50.56	-13 02.9	2.766	3.503	130.9	12.4	16.7
1980 10 18	21 50.21	-13 18.3					
1980 10 28	21 51.73	-13 22.8	3.020	3.504	111.2	15.3	17.0
1980 11 07	21 55.02	-13 16.7					
1980 11 17	21 59.95	-13 00.7	3.309	3.505	93.2	16.4	17.2
1980 11 27	22 06.32	-12 35.6					
1980 12 07	22 13.94	-12 02.0	3.604	3.507	76.5	15.9	17.4
1980 12 17	22 22.63	-11 20.8					
1980 12 27	22 32.22	-10 32.8	3.881	3.509	60.8	14.2	17.5

1975 WL1 Elements MPC 5448

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 07 20	01 16.03	+04 43.6	3.030	3.322	97.7	17.6	17.9
1980 07 30	01 20.26	+05 00.2					
1980 08 09	01 22.85	+05 06.5	2.737	3.297	115.0	16.2	17.6
1980 08 19	01 23.62	+05 01.8					
1980 08 29	01 22.45	+04 46.0	2.484	3.271	134.4	12.7	17.3
1980 09 08	01 19.34	+04 19.6					
1980 09 18	01 14.44	+03 44.0	2.302	3.245	155.9	7.3	17.0
1980 09 28	01 08.10	+03 02.1					
1980 10 08	01 00.89	+02 17.6	2.222	3.219	176.1	1.2	16.6
1980 10 18	00 53.52	+01 35.1					
1980 10 28	00 46.73	+00 59.3	2.257	3.193	156.5	7.1	16.9
1980 11 07	00 41.17	+00 33.7					
1980 11 17	00 37.34	+00 20.9	2.396	3.166	134.2	12.9	17.2
1980 11 27	00 35.52	+00 22.0					
1980 12 07	00 35.78	+00 36.6	2.609	3.139	113.8	16.7	17.5
1980 12 17	00 38.09	+01 04.1					
1980 12 27	00 42.28	+01 43.1	2.862	3.113	95.4	18.3	17.7

(2285) 1976 QB Elements MPC 5446

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1980 10 28	07 55.93	+15 02.4	1.983	2.312	96.2	25.3	18.9
1980 11 07	08 02.29	+14 29.5					
1980 11 17	08 05.86	+14 04.4	1.779	2.356	113.6	22.6	18.6
1980 11 27	08 06.37	+13 49.5					
1980 12 07	08 03.62	+13 47.1	1.606	2.398	134.1	17.1	18.3
1980 12 17	07 57.65	+13 58.2					
1980 12 27	07 48.89	+14 22.5	1.500	2.438	157.5	8.9	18.0
1981 01 06	07 38.18	+14 57.6					
1981 01 16	07 26.79	+15 39.6	1.497	2.475	172.4	3.0	17.8
1981 01 26	07 16.14	+16 24.2					
1981 02 05	07 07.43	+17 07.7	1.607	2.510	150.0	11.3	18.3
1981 02 15	07 01.51	+17 47.5					
1981 02 25	06 58.73	+18 22.1	1.810	2.541	128.0	17.9	18.7
1981 03 07	06 59.05	+18 50.8					
1981 03 17	07 02.26	+19 13.0	2.071	2.570	108.8	21.5	19.1
1981 03 27	07 07.98	+19 28.5					
1981 04 06	07 15.83	+19 36.8	2.357	2.595	92.2	22.7	19.5