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TWX 710-320-6842 ASTROGRAM CAM ** Brian G. Marsden, Director
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ERRATA.

MPC	Line			
9161	- 2	For	K. Hurukawa	read S. Nakano
9161	- 1	For	S. Nakano	read K. Hurukawa
9205	9	For	(MPC 7814)	read (MPC 7614)

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object		Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
169		1963 11	11.08	00 56.5	+12 06	MPC 2310	13.4	1 760
343		1963 11	11.08	00 48.4	+04 11	MPC 2310	14.3	1 760
1963 VA	*	1963 11	11.08	00 53.7	+10 21	MPC 2310	16.1	3 760
1963 VB	*	1963 11	11.07675	00 45 47.00	+09 35 30.3	MPC 2869	16.7	1 760
1963 VB		1963 11	11.10593	00 45 45.89	+09 35 16.5	MPC 2869		1 760
1963 VC	*	1963 11	11.07675	00 43 51.49	+05 22 43.8	MPC 2643	16	1 760
1963 VC		1963 11	11.10593	00 43 50.87	+05 22 38.3	MPC 2643		1 760
1984 WA	*	1984 11	21.55208	04 26 19.34	+21 16 59.5	MPC 9286	14.5	881
1984 WA		1984 11	21.58542	04 26 17.44	+21 16 43.6	MPC 9286		881

Note 1: date originally erroneously given as one day earlier. 2: 1963 VA = (1308). 3 = 1 + 2.

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
806	1983 02	18.11667	07 12 17.58	+40 52 39.5	MPC 7819	688

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

010 Caussols. 0.9-m Schmidt. Reduction by R. Chemin.
026 Zimmerwald. Observer P. Wild.
046 Klet. Observers A. Mrkos, Z. Vavrova and A. Mahrova.
071 Bulgarian National Observatory. 2-m reflector. Observers V. Shkodrov and T. Bonev.
372 Geisei. Observer T. Seki.

391 Sendai Observatory, Ayashi Station. 0.2-m reflector. Observer M. Koishikawa. Measured by S. Kasahara.
474 Mt. John University Observatory. Observer A. C. Gilmore. Measured by P. M. Kilmartin (assisted by R. McIntosh and W. M. Kissling).
494 Stakenbridge. Observer B. Manning.
567 Osservatorio Chaonis. Observer J. M. Baur.
657 Victoria. Observer D. D. Balam.
662 Lick Observatory. Observer E. A. Harlan. Measured by S. Francic and A. R. Klemola.
675 Palomar. Observations of comet 1984i by C. S. Shoemaker and E. M. Shoemaker (0.46-m Schmidt). Observations of comets 1983m, 1984u and 1984v by J. Gibson (1.2-m Schmidt).
688 Lowell Observatory, Anderson Mesa Station. Observers B. A. Skiff and E. Bowell.
707 Chamberlin Observatory field station. Observers E. and L. Everhart.
801 Oak Ridge Observatory. Observers R. E. McCrosky, G. Schwartz, C.-Y. Shao and J. Huchra (assisted by C. M. Bardwell).
809 European Southern Observatory. Observers H.-E. Schuster and K. Jockers. 1-m Schmidt. Measured by M. Geffert.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Halley					
/1982i	1984	11 26.97354	06 21 48.88	+11 56 58.3			071
/1982i	1984	11 27.10954	06 21 41.80	+11 56 55.6			071
		Periodic Comet Kopff					
/1982k	1983	03 20.60708	15 33 59.29	-11 42 36.9			474
/1982k	1983	03 20.63602	15 34 00.66	-11 42 36.3			474
		Comet IRAS-Araki-Alcock (1983d)					
/1983d	1983	05 09.85069	15 50 59.76	+73 00 05.6			026
/1983d	1983	05 09.90382	15 39 18.47	+73 18 33.4			026
/1983d	1983	05 10.07356	14 55 02.67	+74 01 15.3			026
/1983d	1983	05 10.08299	14 52 17.95	+74 02 35.8			026
/1983d	1983	05 10.09618	14 48 25.10	+74 04 23.0			026
/1983d	1983	05 11.84340	08 55 24.84	+26 21 56.1			026
/1983d	1983	05 11.88155	08 53 11.78	+24 48 24.0			026
		Periodic Comet Johnson					
/1983h	1984	11 21.22410	03 53 13.87	+02 48 29.8		1	801
		Periodic Comet IRAS					
/1983j	1983	09 08.13780	01 10 00.19	+17 02 24.2			026
/1983j	1983	09 26.81285	00 17 08.34	+30 45 23.4			026
/1983j	1983	09 28.80486	00 10 38.08	+31 56 18.5			026
/1983j	1983	10 12.85625	23 26 33.27	+38 02 15.6			026
		Comet Cernis (1983l)					
/1983l	1983	09 08.09444	02 09 59.94	-03 57 20.9		2	026
/1983l	1984	10 25.39352	20 58 36.65	-64 26 21.2			474
/1983l	1984	10 25.41574	20 58 35.43	-64 26 13.6			474
/1983l	1984	11 25.40707	20 46 22.12	-61 17 04.4			474
/1983l	1984	11 25.42918	20 46 22.22	-61 16 56.9			474
		Periodic Comet Wolf					
/1983m	1984	09 06.41460	03 44 00.06	+12 53 38.1			675
/1983m	1984	11 03.40835	03 42 51.80	-00 17 43.7			675
/1983m	1984	11 23.22326	03 29 20.21	-04 08 41.8			707

Periodic Comet Crommelin

/1983n	1984	02	13.76094	00	26	34.48	+02	05	05.9	026
/1983n	1984	03	04.80002	02	19	09.93	-05	19	00.8	026
/1983n	1984	03	04.81458	02	19	15.35	-05	19	24.8	026
/1983n	1984	03	05.81236	02	25	17.41	-05	47	01.8	026

Comet Shoemaker (1983p)

/1983p	1983	10	12.92153	22	43	25.25	+05	02	39.5	026
/1983p	1983	10	27.82604	22	22	51.08	-01	03	25.0	026
/1983p	1984	10	24.39097	19	01	01.62	-56	02	39.9	474
/1983p	1984	10	24.41979	19	01	01.37	-56	02	33.2	474

Periodic Comet Wild 2

/1983s	1984	03	04.82986	04	14	16.38	+18	48	09.5		3	026
/1983s	1984	03	05.83021	04	15	24.79	+18	52	34.5			026
/1983s	1984	04	19.84792	05	29	15.11	+21	58	21.1		4	026
/1983s	1984	04	24.85972	05	39	52.95	+22	11	26.0		4	026
/1983s	1984	04	27.85694	05	46	27.16	+22	17	57.8			026

Periodic Comet Clark

/1983w	1984	01	30.60653	15	32	25.07	-13	27	33.2	474
/1983w	1984	01	30.64617	15	32	30.41	-13	27	54.3	474
/1983w	1984	06	04.32083	20	21	35.10	-31	40	07.0	809
/1983w	1984	06	04.36285	20	21	38.56	-31	40	37.0	809

Periodic Comet Neujmin 1

/1984c	1984	10	25.35891	20	32	05.14	-19	24	43.6	474
/1984c	1984	10	25.36818	20	32	06.58	-19	24	30.2	474
/1984c	1984	11	19.95592	21	38	00.89	-09	35	42.1	801
/1984c	1984	11	25.95720	21	53	03.12	-07	22	36.5	801

Periodic Comet Wolf-Harrington

/1984g	1984	10	26.47222	09	03	26.82	+07	48	09.9	688
/1984g	1984	10	26.49097	09	03	29.17	+07	47	45.4	688
/1984g	1984	11	20.42727	09	45	16.74	-01	38	18.3	801
/1984g	1984	11	20.43096	09	45	17.16	-01	38	26.0	688
/1984g	1984	11	20.45243	09	45	18.80	-01	38	55.2	688
/1984g	1984	11	26.42718	09	52	59.16	-03	53	35.5	801

Periodic Comet Faye

/1984h	1984	07	25.76944	05	11	10.84	+19	15	11.9	474
/1984h	1984	11	20.41225	09	14	06.94	+04	18	32.9	801
/1984h	1984	11	27.44388	09	18	23.32	+03	28	21.1	801

Comet Austin (1984i)

/1984i	1984	10	30.96263	02	45	56.41	+44	41	29.1			010
/1984i	1984	11	01.17361	02	35	28.77	+43	45	51.6			662
/1984i	1984	11	20.18333	01	00	21.03	+29	11	18.8			688
/1984i	1984	11	21.17986	00	57	51.91	+28	35	06.0	16	T	675
/1984i	1984	11	24.10262	00	51	27.28	+26	56	00.7			801
/1984i	1984	11	24.15069	00	51	21.87	+26	54	30.4			675
/1984i	1984	11	26.04639	00	47	50.30	+25	55	40.5			801
/1984i	1984	11	27.02806	00	46	11.16	+25	26	50.4			801

Periodic Comet Takamizawa

/1984j	1984	08	17.87986	21	07	25.82	-22	20	45.2	026
/1984j	1984	08	19.90104	21	07	02.36	-22	39	16.3	026
/1984j	1984	09	01.91667	21	06	28.56	-24	07	29.6	026
/1984j	1984	09	02.90671	21	06	35.39	-24	12	00.9	046

/1984j	1984	10	24.45185	21	43	10.03	-22	40	53.3		474
/1984j	1984	10	24.47726	21	43	11.85	-22	40	44.0		474
/1984j	1984	10	25.45231	21	44	19.40	-22	34	42.0		474
/1984j	1984	10	25.47975	21	44	21.30	-22	34	30.8		474
/1984j	1984	11	25.46656	22	24	10.80	-18	38	29.9	5	474
/1984j	1984	11	25.51691	22	24	14.34	-18	38	07.9	5	474

Periodic Comet Arend-Rigaux

/1984k	1984	10	26.46042	07	06	02.85	-02	09	58.6		688
/1984k	1984	10	26.48142	07	06	06.06	-02	10	01.7		688
/1984k	1984	11	20.37385	08	01	19.94	-01	58	03.3		801
/1984k	1984	11	20.42014	08	01	25.55	-01	57	49.1		688
/1984k	1984	11	20.44167	08	01	28.02	-01	57	42.6		688
/1984k	1984	11	26.41069	08	12	58.51	-01	23	01.5		801
/1984k	1984	11	27.56818	08	15	06.88	-01	14	03.2		474
/1984k	1984	11	27.59110	08	15	09.35	-01	13	52.8		474
/1984k	1984	12	05.53279	08	28	46.27	+00	04	45.4		657

Periodic Comet Schaumasse

/1984m	1984	11	20.43792	11	37	27.10	+11	16	54.5	6	801
/1984m	1984	12	03.50394	12	29	42.88	+07	36	01.5		657

Periodic Comet Tsuchinshan 1

/1984p	1984	09	22.72604	06	14	28.71	+16	19	08.8	19.7N	372
/1984p	1984	11	20.39015	08	36	15.43	+16	58	30.8		801
/1984p	1984	11	27.42099	08	52	52.03	+17	16	54.8		801
/1984p	1984	12	05.55755	09	11	29.70	+17	49	47.4		657

Periodic Comet Shoemaker 1

/1984q	1984	10	14.75319	22	56	55.31	+19	40	34.7		026
/1984q	1984	10	15.82361	22	56	09.19	+19	47	54.6		026
/1984q	1984	10	16.79653	22	55	29.70	+19	54	23.4		026
/1984q	1984	10	17.80208	22	54	51.95	+20	00	50.9		026
/1984q	1984	10	18.80141	22	54	16.33	+20	07	09.0	13.5T	046
/1984q	1984	10	18.81600	22	54	15.95	+20	07	13.2		046
/1984q	1984	10	20.85069	22	53	11.62	+20	19	28.7		046
/1984q	1984	10	20.86510	22	53	11.43	+20	19	32.2		046
/1984q	1984	10	24.73299	22	51	39.19	+20	41	08.6		046
/1984q	1984	10	24.74230	22	51	39.02	+20	41	11.2		046
/1984q	1984	10	24.91661	22	51	35.56	+20	42	06.8		494
/1984q	1984	10	25.91250	22	51	18.38	+20	47	21.9		494
/1984q	1984	11	13.74688	22	53	34.84	+22	15	21.7		046
/1984q	1984	11	13.75544	22	53	35.08	+22	15	24.9		046
/1984q	1984	11	18.81981	22	56	26.47	+22	38	30.8		046
/1984q	1984	11	18.82844	22	56	26.85	+22	38	32.5		046
/1984q	1984	11	23.74184	23	00	00.82	+23	01	45.0		046
/1984q	1984	11	23.75041	23	00	01.62	+23	01	47.2		046
/1984q	1984	11	24.73160	23	00	49.82	+23	06	32.8		046
/1984q	1984	11	24.74045	23	00	50.21	+23	06	35.1		046
/1984q	1984	11	24.77812	23	00	51.96	+23	06	45.8		494
/1984q	1984	11	25.94090	23	01	51.26	+23	12	29.3		801
/1984q	1984	11	27.83600	23	03	32.71	+23	21	56.1		046
/1984q	1984	11	27.84456	23	03	33.18	+23	22	00.3		046
/1984q	1984	11	28.73333	23	04	22.99	+23	26	30.3		046
/1984q	1984	11	28.74201	23	04	23.54	+23	26	30.8		046

Comet Shoemaker (1984r)

/1984r	1984	11	20.17073	02	46	24.04	+15	51	47.6		801
/1984r	1984	11	22.22338	02	43	38.25	+15	39	05.6		801

/1984r	1984	11	24.88517	02	40	06.90	+15	22	37.7		494
/1984r	1984	11	26.22177	02	38	22.28	+15	14	28.6		801
/1984r	1984	11	27.86586	02	36	15.08	+15	04	24.0		046
/1984r	1984	11	27.88021	02	36	14.38	+15	04	20.5		046
/1984r	1984	11	28.86644	02	34	59.45	+14	58	17.8	17 T	046
/1984r	1984	11	28.88056	02	34	58.49	+14	58	16.5		046

Comet Shoemaker (1984s)

/1984s	1984	11	13.82847	02	01	06.90	+10	32	36.5	13 T	026
/1984s	1984	11	24.21209	02	08	29.96	+04	24	36.4		801
/1984s	1984	11	26.20360	02	10	36.36	+03	09	40.9		801
/1984s	1984	11	27.89097	02	12	36.14	+02	05	42.4		026
/1984s	1984	11	27.90075	02	12	36.75	+02	05	19.8	9.0T	046
/1984s	1984	11	27.91215	02	12	37.54	+02	04	53.6		046
/1984s	1984	11	28.83177	02	13	47.94	+01	29	55.1		046
/1984s	1984	11	28.84323	02	13	48.71	+01	29	31.0		046
/1984s	1984	12	19.23926	02	55	47.71	-10	37	30.6		657

Comet Levy-Rudenko (1984t)

/1984t	1984	11	19.94463	18	45	22.83	+12	49	47.7		801
/1984t	1984	11	21.93874	18	44	36.78	+13	53	37.7		801
/1984t	1984	11	23.69566	18	43	56.45	+14	49	49.4	8.5T	046
/1984t	1984	11	23.69884	18	43	56.26	+14	49	54.4		046
/1984t	1984	11	24.69647	18	43	33.25	+15	21	49.3		046
/1984t	1984	11	24.69954	18	43	33.15	+15	21	54.6		046
/1984t	1984	11	24.74826	18	43	32.01	+15	23	29.6		494
/1984t	1984	11	25.92989	18	43	04.37	+16	01	18.3		801
/1984t	1984	11	28.69942	18	41	58.46	+17	29	58.1		046
/1984t	1984	11	28.70278	18	41	58.35	+17	30	04.9		046
/1984t	1984	11	28.73993	18	41	57.42	+17	31	15.4		494
/1984t	1984	11	29.70064	18	41	33.68	+18	02	00.4		046
/1984t	1984	11	29.70382	18	41	33.55	+18	02	09.2		046
/1984t	1984	11	30.70445	18	41	08.66	+18	34	13.1		046
/1984t	1984	11	30.70716	18	41	08.49	+18	34	20.9		046
/1984t	1984	12	03.37188	18	39	59.67	+20	00	08.2		391
/1984t	1984	12	03.41354	18	39	58.57	+20	01	21.4		391
/1984t	1984	12	05.09466	18	39	12.64	+20	55	38.0		657
/1984t	1984	12	06.38785	18	38	35.94	+21	37	30.2		391
/1984t	1984	12	08.69896	18	37	27.67	+22	52	33.6		567
/1984t	1984	12	08.70590	18	37	27.37	+22	52	44.4		567
/1984t	1984	12	08.71076	18	37	27.31	+22	52	52.8		567
/1984t	1984	12	08.71910	18	37	27.01	+22	53	10.0		567
/1984t	1984	12	17.36632	18	32	30.65	+27	39	12.4		391
/1984t	1984	12	19.36563	18	31	12.33	+28	47	16.8		391
/1984t	1984	12	20.07153	18	30	43.56	+29	11	34.5		707
/1984t	1984	12	20.36424	18	30	31.26	+29	21	42.8	8.5T	391

Periodic Comet Shoemaker 2

/1984u	1984	11	30.35880	02	57	13.92	+23	39	48.4		675
/1984u	1984	11	30.37616	02	57	12.94	+23	40	21.9		675
/1984u	1984	12	20.27708	02	53	09.26	+31	16	10.8	19 T	707

Comet Hartley (1984v)

/1984v	1984	11	25.33368	04	59	46.23	-12	03	46.0		707
/1984v	1984	12	02.38474	04	53	15.12	-13	27	44.5		675

Note 1: comet image very weak; inkdot measured. 2: time uncertain. 3: image very weak. 4: image weak. 5: comet very diffuse; second image very weak. 6: comet weak and diffuse.

OBSERVATIONS MADE AT THE FABRA OBSERVATORY BY J. M. CODINA, J. NUNEZ AND N. TORRAS.

Plates taken with the 0.38-m f/11 Mailhat astrograph, measured with the Zeiss PEK II monocomparator. Reductions by the Turner first-order method with six AGK3 (or SAO south of declination -2) reference stars. Contact: J. M. Codina, Fabra Observatory, E-08023 Barcelona, Spain.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1	1981 02	06.82911	07 08 30.87	+32 12 56.0	006
1	1981 02	06.83663	07 08 30.57	+32 12 57.3	006
1	1981 02	14.81016	07 04 15.35	+32 23 56.6	006
1	1981 02	14.81721	07 04 15.16	+32 23 57.1	006
1	1981 02	25.80834	07 01 44.22	+32 26 34.0	006
1	1981 02	25.81532	07 01 44.18	+32 26 34.2	006
1	1981 03	13.85017	07 05 05.72	+32 10 35.3	006
1	1981 03	13.85781	07 05 05.92	+32 10 34.2	006
3	1981 06	05.86493	13 38 36.83	+02 44 09.1	006
3	1981 06	05.88021	13 38 36.61	+02 44 08.8	006
4	1981 05	26.86458	10 28 58.93	+17 37 59.4	006
4	1981 05	26.87222	10 28 59.38	+17 37 55.7	006
5	1981 11	17.84340	00 21 49.01	-04 25 33.8	006
5	1981 11	17.85833	00 21 48.79	-04 25 34.1	006
6	1981 01	20.86111	03 29 30.83	+00 44 50.6	006
6	1981 01	20.86979	03 29 31.16	+00 44 57.4	006
6	1981 01	20.87674	03 29 31.44	+00 45 03.4	006
6	1981 01	27.86215	03 34 46.82	+02 20 07.3	006
6	1981 01	27.86979	03 34 47.17	+02 20 13.4	006
6	1981 01	27.87674	03 34 47.51	+02 20 19.0	006
7	1981 01	02.80057	00 31 00.20	+07 32 17.0	006
7	1981 01	02.80953	00 31 01.15	+07 32 21.0	006
9	1981 07	06.91840	16 11 24.90	-22 37 29.0	006
9	1981 07	06.93125	16 11 24.42	-22 37 29.3	006
9	1981 07	06.94063	16 11 24.12	-22 37 29.3	006
11	1981 09	15.88576	19 26 21.50	-22 57 13.5	006
11	1981 09	15.90174	19 26 22.03	-22 57 13.9	006
15	1981 12	07.87118	05 24 05.32	+34 45 17.8	006
15	1981 12	07.87813	05 24 04.79	+34 45 15.1	006
15	1981 12	07.88438	05 24 04.36	+34 45 13.0	006
15	1981 12	15.84375	05 14 54.32	+33 52 17.8	006
15	1981 12	15.85139	05 14 53.79	+33 52 14.4	006
15	1981 12	31.80764	04 59 15.78	+31 41 56.6	006
15	1981 12	31.81771	04 59 15.28	+31 41 51.1	006
16	1981 02	21.82962	04 38 09.00	+19 05 56.6	006
16	1981 02	21.84201	04 38 09.55	+19 05 58.9	006
18	1981 09	08.82813	21 50 34.78	-15 16 12.4	006
18	1981 09	08.83194	21 50 34.66	-15 16 15.1	006
18	1981 09	08.83542	21 50 34.51	-15 16 17.6	006
18	1981 09	16.92564	21 46 49.96	-16 46 20.4	006
18	1981 09	16.93466	21 46 49.75	-16 46 25.7	006
18	1981 09	17.86522	21 46 31.47	-16 55 41.7	006
18	1981 09	17.87355	21 46 31.27	-16 55 46.6	006
18	1981 10	31.81216	22 06 37.73	-19 13 40.6	006
18	1981 10	31.82049	22 06 38.31	-19 13 38.9	006
18	1981 11	05.82708	22 12 49.02	-18 55 01.7	006
18	1981 11	05.83646	22 12 49.74	-18 54 59.1	006
18	1981 11	11.83403	22 21 00.16	-18 25 06.7	006
18	1981 11	11.84514	22 21 01.09	-18 25 02.8	006
18	1981 12	02.86875	22 54 50.76	-15 43 55.8	006
18	1981 12	02.88194	22 54 52.10	-15 43 47.9	006
18	1981 12	07.80972	23 03 42.34	-14 55 10.2	006

18		1981	12	07.82083	23	03	43.50	-14	55	03.6	006
18		1981	12	15.80417	23	18	33.22	-13	29	09.1	006
18		1981	12	15.81597	23	18	34.54	-13	29	01.1	006
21		1981	10	29.91111	00	10	42.92	-03	59	59.9	006
21		1981	10	29.92257	00	10	42.68	-04	00	00.0	006
21		1981	10	29.93229	00	10	42.45	-03	59	59.7	006
22		1981	11	26.95486	04	25	51.39	+21	58	21.1	006
22		1981	11	26.96250	04	25	50.88	+21	58	22.6	006
22		1981	12	04.79861	04	17	36.58	+22	23	23.9	006
22		1981	12	04.81042	04	17	35.87	+22	23	26.0	006
22		1981	12	12.83333	04	09	32.07	+22	47	10.2	006
22		1981	12	12.84479	04	09	31.39	+22	47	12.3	006
23		1981	02	16.85207	05	22	55.87	+32	55	13.2	006
23		1981	02	16.86415	05	22	56.30	+32	55	13.4	006
39		1981	06	05.86493	13	43	51.23	+02	14	46.7	006
39		1981	06	05.88021	13	43	51.00	+02	14	45.9	006
51		1981	03	18.84549	04	48	31.12	+12	47	51.5	006
51		1981	03	18.86528	04	48	32.71	+12	47	58.7	006
59		1981	11	17.90417	03	16	07.71	+04	59	48.6	006
59		1981	11	17.91736	03	16	07.02	+04	59	45.2	006
59		1981	11	26.88194	03	08	53.75	+04	27	01.5	006
59		1981	11	26.89653	03	08	53.10	+04	26	59.0	006
59		1981	11	26.90764	03	08	52.57	+04	26	56.9	006
85		1981	07	02.92014	16	11	53.70	-05	21	09.1	006
85		1981	07	02.93750	16	11	53.23	-05	21	09.0	006
129		1981	07	13.94756	18	18	32.74	-11	14	27.3	006
129		1981	07	13.96154	18	18	32.14	-11	14	33.6	006
230		1981	08	04.92223	19	38	10.95	-06	47	01.5	006
230		1981	08	04.93058	19	38	10.47	-06	47	02.5	006
387		1981	06	30.90069	15	37	30.34	+05	23	49.1	006
387		1981	06	30.91528	15	37	30.12	+05	23	37.8	006

OBSERVATIONS MADE AT CAUSSOLS.
Plates taken by J.-L. Heudier, T. Laverge, C. Pollas and J. D. Strich with the 0.9-m Schmidt, measured and reduced by Heudier and R. Chemin.
Contact: J.-L. Heudier, CERGA, Avenue Copernic, F-06130 Grasse, France.

Object		Date	UT	R. A. (1950)	Decl.	N Obs.
255		1984	11 20.03368	05 22 58.64	+35 36 30.7	010
255		1984	11 20.09120	05 22 55.44	+35 36 41.3	010
255		1984	11 21.01782	05 22 06.41	+35 39 39.7	010
255		1984	11 22.05618	05 21 09.71	+35 42 52.8	010
1984 WL	*	1984	11 27.96778	04 32 48.82	+28 46 02.6	1 010
1984 WL		1984	11 28.00956	04 32 45.79	+28 44 44.7	010
1984 WL		1984	12 14.89653	04 16 07.83	+19 39 34.2	010
1984 WL		1984	12 14.91389	04 16 06.90	+19 39 04.3	010
1984 WE1	*	1984	11 20.03368	05 21 58.44	+33 08 42.2	2 010
1984 WE1		1984	11 20.09120	05 21 56.15	+33 09 35.6	010
1984 WE1		1984	11 21.01782	05 21 19.31	+33 24 38.9	010
1984 WE1		1984	11 22.05618	05 20 35.02	+33 41 32.0	010
1984 WF1	*	1984	11 20.03368	05 22 06.70	+36 37 10.3	2 010
1984 WF1		1984	11 20.09120	05 22 03.64	+36 37 05.5	010
1984 WG1	*	1984	11 20.03368	05 24 33.42	+36 12 04.5	2 010
1984 WG1		1984	11 20.09120	05 24 30.88	+36 12 12.2	010
1984 WH1	*	1984	11 20.03368	05 30 15.47	+32 29 54.1	2 010
1984 WH1		1984	11 20.09120	05 30 12.48	+32 29 55.1	010
1984 WH1		1984	11 22.05618	05 28 30.05	+32 30 23.9	010
1984 WJ1	*	1984	11 20.03368	05 34 59.76	+35 48 03.7	2 010
1984 WJ1		1984	11 20.09120	05 34 56.44	+35 48 34.1	010

1984 WJ1 1984 11 21.01782 05 34 04.09 +35 56 42.6 010
1984 WJ1 1984 11 22.05618 05 33 02.51 +36 05 40.3 010
Note 1: discoverer J. Ciffreo. 2: discoverer C. Pollas.

OBSERVATIONS MADE AT ZIMMERWALD BY P. WILD.

Films taken with the 0.4-m Schmidt. Measured by Wild, T. Schildknecht and J. Utzinger. Contact: P. Wild, Astronomisches Insitut der Universitat, Sidlerstrasse 5, CH-3012 Berne, Switzerland.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
57	1981 07	01.95104	17 35 04.61	-03 25 07.0	12		026
57	1981 07	04.93264	17 33 02.01	-03 26 12.3			026
60	1982 09	12.88611	21 37 03.93	-10 30 02.5	13		026
60	1982 09	12.92622	21 37 02.20	-10 30 15.0			026
132	1983 07	09.95122	18 56 56.55	-04 49 15.2	13		026
132	1983 07	12.94306	18 53 52.50	-04 41 16.8			026
132	1983 07	29.90590	18 38 30.99	-04 18 53.7	14		026
275	1984 04	19.84792	05 30 53.95	+21 06 29.3	15.5		026
275	1984 04	21.85557	05 34 09.99	+21 11 25.1			026
275	1984 04	24.85972	05 39 07.78	+21 18 11.8			026
275	1984 04	27.85694	05 44 09.66	+21 24 22.7			026
329	1982 05	26.05625	15 56 12.27	+03 48 27.9	12.5		026
381	1983 09	08.09444	02 16 43.05	-02 49 55.2	14		026
451	1983 07	11.93958	18 23 15.77	-27 22 34.7	11.5		026
489	1983 01	18.78194	06 39 30.02	+06 43 25.6			026
513	1982 10	21.13507	02 19 27.48	+06 27 59.7		1	026
513	1982 10	21.94479	02 18 52.52	+06 21 57.3	13.8		026
520	1983 01	10.03819	09 37 02.84	+31 04 10.2	15		026
528	1982 11	20.97222	01 20 48.82	+02 13 00.5	15		026
528	1982 12	05.77569	01 15 56.56	+02 44 37.4			026
602	1983 04	15.99792	12 58 52.51	-23 51 28.4	14		026
614	1983 01	10.06458	09 41 05.85	+02 48 54.8	15		026
619	1981 07	01.95104	17 28 47.12	-01 09 34.3	13.5		026
619	1981 07	04.93264	17 26 26.78	-01 14 37.2			026
619	1983 01	05.96181	02 39 59.97	+00 23 16.2			026
619	1983 01	09.92604	02 41 39.54	+00 42 13.2	14.8		026
665	1982 11	22.09375	02 35 32.04	+34 51 15.1	13.8		026
665	1982 11	23.93194	02 34 06.01	+34 40 15.9			026
665	1982 11	24.00868	02 34 02.35	+34 39 47.7		2	026
665	1982 12	14.04549	02 22 15.15	+32 29 47.4	14.2		026
903	1982 09	12.88611	21 43 54.59	-11 19 34.7	15.5		026
903	1982 09	12.92622	21 43 53.19	-11 19 48.6			026
915	1979 02	27.92083	07 47 34.60	+28 44 18.5	17		026
915	1979 02	27.93958	07 47 34.31	+28 44 13.9			026
927	1981 11	01.89861	01 24 59.40	+17 08 14.6	14.2		026
927	1981 11	02.93611	01 24 09.56	+17 06 04.8			026
1034	1983 09	28.93542	00 01 11.17	+08 41 12.2	14		026
1066	1982 10	20.92812	01 22 03.15	+15 39 13.3	13.8		026
1066	1982 10	21.84653	01 21 10.87	+15 36 40.7			026
1114	1982 11	20.97222	01 17 08.31	+03 30 23.2	14.8		026
1114	1982 12	05.77569	01 15 08.24	+02 49 23.3			026
1224	1983 09	28.83889	00 08 48.86	+18 19 33.9	14		026
1224	1983 10	04.90000	00 03 59.02	+17 33 41.9			026
1264	1982 07	15.98958	19 21 34.51	+14 01 14.2	14		026
1264	1982 07	21.95139	19 16 23.23	+14 14 17.6			026
1323	1982 10	21.13507	02 19 09.51	+07 32 13.7	16		026
1323	1982 10	21.94479	02 18 29.11	+07 31 28.6			026
1343	1978 12	02.78681	03 46 35.55	+23 30 21.3	16		026
1343	1978 12	02.83472	03 46 32.80	+23 30 17.4			026
1432	1981 07	02.04028	19 29 23.50	-16 47 53.1			026

1432	1981	07	04.96528	19	26	57.13	-17	08	46.3	15.5	026
1432	1981	07	08.00767	19	24	16.55	-17	31	40.6		026
1478	1983	12	01.94028	04	35	41.41	+34	49	46.4	16.2	026
1478	1983	12	06.11806	04	30	45.46	+34	34	32.1		026
1540	1983	01	10.03819	09	28	35.99	+33	12	42.0	14.8	026
1552	1983	12	01.94028	04	37	05.36	+35	44	29.2	16.2	026
1552	1983	12	06.11806	04	32	36.92	+35	43	41.7		026
1572	1982	10	20.90000	23	20	43.62	-05	13	52.7	14.8	026
1620	1983	03	05.88127	10	14	29.79	-06	09	33.0		026
1620	1983	03	05.88889	10	14	26.26	-06	10	29.0		026
1620	1983	03	07.90313	09	58	22.81	-10	24	37.2		026
1620	1983	03	07.91285	09	58	17.41	-10	26	00.3		026
1620	1983	03	08.91215	09	49	19.96	-12	43	52.1		026
1620	1983	03	08.92187	09	49	14.23	-12	45	15.3		026
1620	1983	03	10.90104	09	29	20.41	-17	38	38.4		026
1620	1983	03	10.91007	09	29	14.29	-17	40	02.7		026
1708	1980	02	12.92889	06	51	09.19	+13	22	15.0	15.8	026
1727	1983	04	16.05833	13	14	50.02	+34	49	49.3	15.2	026
1747	1983	10	02.92569	23	13	16.51	+43	36	50.4		026
1747	1983	10	10.89410	23	05	30.74	+41	33	23.9	16	026
1748	1982	11	24.99896	02	33	32.42	+10	26	24.8	17	026
1838	1979	02	28.12604	09	18	35.60	+47	41	16.7	16.5	026
1838	1980	04	11.09444	14	23	32.61	-06	20	30.0	16	026
1838	1980	04	12.92085	14	21	58.05	-06	21	40.8		026
1838	1983	12	01.94028	04	25	54.40	+36	27	46.9	15.8	026
1838	1983	12	06.11806	04	21	11.08	+36	39	23.0		026
1862	1982	04	16.04028	14	36	25.41	-11	45	14.8	15.5	026
1862	1982	04	19.01042	14	31	28.34	-12	02	43.4	15.2	026
1891	1980	02	12.91458	07	19	32.95	+28	36	04.0	15.5	026
1892	1983	11	06.95347	03	58	50.75	+44	26	02.3	16	026
1892	1983	11	08.86944	03	56	45.59	+44	26	34.5		026
1892	1983	12	01.90451	03	28	55.22	+42	50	25.7	15.5	026
1927	1979	02	28.14722	10	12	11.27	+31	53	15.4	16	026
1933	1981	08	28.92431	22	04	13.82	-08	53	35.8	16.2	026
1936	1983	01	09.95139	07	21	01.40	+14	56	43.2		026
1936	1983	01	11.94514	07	18	56.88	+14	51	34.0	15	026
1936	1983	01	17.97222	07	12	44.74	+14	37	30.2		026
1938	1981	07	02.04028	19	15	48.32	-15	55	54.3		026
1938	1981	07	04.96528	19	12	55.58	-16	03	42.8	15.5	026
1938	1981	07	08.00767	19	09	53.55	-16	12	37.1		026
1951	1980	02	20.20903	13	40	08.43	+48	56	16.8		026
1951	1980	02	20.94514	13	41	39.92	+49	38	05.1		026
1980	1979	05	28.99028	16	03	26.29	-21	59	14.2		026
2033	1981	08	28.92431	21	55	23.80	-10	04	39.6	3	026
2040	1983	12	01.94028	04	28	29.93	+33	49	41.4	15.8	026
2040	1983	12	06.11806	04	23	48.16	+34	01	13.3		026
2080	1979	03	02.92850	07	35	26.60	+27	29	34.7		026
2086	1983	09	08.05226	01	18	03.80	-00	33	32.9	15.8	026
2100	1981	08	05.95625	23	11	13.56	+49	00	10.2		026
2100	1981	08	26.95000	21	10	49.23	+19	04	21.5		026
2100	1981	08	28.86403	21	03	09.11	+15	34	42.9		026
2100	1981	08	28.87070	21	03	07.47	+15	33	59.8		026
2100	1981	08	30.84549	20	55	56.20	+12	02	02.2		026
2100	1981	08	30.84965	20	55	55.21	+12	01	35.4		026
2100	1981	08	30.85382	20	55	54.24	+12	01	08.4		026
2152	1980	01	19.01910	08	42	10.06	+00	49	32.9	15.5	026
2152	1980	02	19.96007	08	16	58.00	+01	51	59.4	16	026
2218	1979	11	24.06597	06	32	41.27	+18	27	35.0	16.2	026
2218	1979	11	29.14462	06	29	59.73	+18	53	16.5	16	026

2218		1980	01	13.85833	05	50	18.40	+23	29	59.8		026
2218		1980	01	18.85764	05	46	52.61	+23	57	38.6	16	026
2218		1980	02	08.87083	05	40	06.54	+25	38	52.1	16.5	026
2307		1983	01	10.06458	09	36	25.64	+04	16	18.7	16.5	026
2378		1982	10	20.96215	01	18	51.06	-00	18	26.4	15.2	026
2378		1982	10	21.90260	01	18	11.19	-00	27	10.6		026
2763		1982	10	19.80486	21	44	23.88	-09	26	37.2	16.5	026
2763		1982	10	20.87882	21	45	14.12	-09	22	15.9		026
2793		1983	09	08.14167	01	16	13.48	+17	36	54.3	17	026
2843		1983	01	12.92778	05	39	02.44	+19	46	48.5	16	026
2843		1983	01	17.95139	05	35	24.34	+19	33	50.2		026
2848		1983	01	11.92708	06	22	10.70	+24	31	58.9	16	026
2848		1983	01	12.84097	06	21	26.11	+24	32	02.4		026
3063		1984	08	31.99514	23	06	53.91	+08	36	30.7	16.5	026
3063		1984	09	30.84097	22	52	46.57	+07	17	20.3		026
3063		1984	10	02.93212	22	51	55.62	+07	10	46.0		026
3063		1984	10	14.76806	22	47	50.80	+06	33	58.7		026
3063		1984	10	15.77222	22	47	33.54	+06	30	56.4	16.8	026
3115		1983	01	09.95139	07	14	33.16	+13	15	20.3		026
3115		1983	01	11.94514	07	12	28.03	+13	10	02.8	14.5	026
3115		1983	01	17.97222	07	06	21.64	+12	56	32.4		026
1981	YC	1983	07	09.93542	18	14	21.49	+07	56	03.1	16	026
1981	YC	1983	07	11.90035	18	12	10.89	+08	19	06.2		026
1983	SA	1983	10	13.88403	22	39	27.82	+18	52	09.7	15.5	026
1984	QM1 *	1984	08	31.99514	23	11	40.54	+08	07	13.2	15.8	026
1984	SM4 *	1984	09	30.89132	00	05	34.86	-02	03	25.5	16.8	026
1984	SM4	1984	10	02.94861	00	04	01.67	-02	16	32.4		026
1984	SM4	1984	10	15.80764	23	55	17.68	-03	28	59.0		026
1984	SM4	1984	10	17.85208	23	54	08.11	-03	38	32.2	17	026
1984	SM4	1984	10	29.88785	23	49	03.08	-04	20	11.6		026
1984	SM4	1984	10	30.90035	23	48	46.27	-04	22	33.2		026

Note 1: interference from fog. 2: clouds. 3: very weak image.

OBSERVATIONS MADE AT TAUTENBURG BY F. BORNGEN, H. MEUSINGER AND R. ZIENER.

Plates taken with the 1.34-m (134/200/400 cm) Schmidt. Reductions by Borngen and Kirsch, using the SAO Catalog. Contact: S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1005		1976	02 28.93264	09 22 10.87	+29 07 07.7	15.3	033
1005		1976	02 29.92431	09 21 19.81	+29 04 13.2		033
2116		1984	10 30.09097	06 39 13.08	+11 18 43.3	17.4	033
2116		1984	10 30.14931	06 39 13.68	+11 18 28.4		033
1976	DS *	1976	02 28.93264	09 19 23.48	+30 25 15.3	17.8	033
1976	DS	1976	02 29.92431	09 18 38.53	+30 25 20.7		033
1976	DT *	1976	02 28.93264	09 20 19.77	+29 31 14.8	18.7	033
1976	DT	1976	02 29.92431	09 19 23.71	+29 28 11.9		033
1976	DU *	1976	02 28.93264	09 20 52.13	+30 31 48.9	18.0	033
1976	DU	1976	02 29.92431	09 20 08.52	+30 33 51.8		033
1976	DV *	1976	02 28.93264	09 22 11.04	+30 45 59.4	17.7	033
1976	DV	1976	02 29.92431	09 21 27.69	+30 46 25.0		033
1976	DW *	1976	02 28.93264	09 25 52.08	+28 44 05.6	18.4	033
1976	DW	1976	02 29.92431	09 24 54.15	+28 42 14.2		033
1976	DX *	1976	02 28.93264	09 27 42.71	+30 19 11.7	18.2	033
1976	DX	1976	02 29.92431	09 27 01.14	+30 24 49.5		033
1976	DY *	1976	02 29.92431	09 25 50.64	+28 55 35.1	17.3	033
1984	UL3 *	1984	10 30.09097	06 32 04.28	+10 51 14.8	19.5	033
1984	UL3	1984	10 30.14931	06 32 05.94	+10 50 58.9		033
1984	UM3 *	1984	10 30.09097	06 44 19.60	+11 30 11.7	17.1	033
1984	UM3	1984	10 30.14931	06 44 20.28	+11 30 07.4		033

OBSERVATIONS MADE AT KLET BY A. MRKOS.

Plates with the 0.6-m Maksutov reflector. Contact: A. Mrkos, Department of Astronomy and Astrophysics, Charles University, Svedska 8, C-15000 Prague 5, Czechoslovakia.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
344		1984	11 27.86586	02 39 00.39	+16 27 40.8			046
344		1984	11 27.88021	02 38 59.55	+16 27 41.2			046
344		1984	11 28.86644	02 38 05.15	+16 28 37.1			046
344		1984	11 28.88056	02 38 04.39	+16 28 37.7			046
344		1984	11 30.95874	02 36 13.91	+16 30 39.4			046
344		1984	11 30.97297	02 36 13.08	+16 30 41.6			046
1185		1984	12 01.02888	04 41 41.75	+21 58 19.9			046
1185		1984	12 01.04311	04 41 40.83	+21 58 21.4			046
1486		1984	11 27.86586	02 33 53.80	+15 14 21.3			046
1486		1984	11 27.88021	02 33 53.00	+15 14 18.3			046
1486		1984	11 28.86644	02 33 09.91	+15 10 50.3			046
1486		1984	11 28.88056	02 33 09.21	+15 10 48.0			046
1757		1984	11 27.86586	02 33 45.35	+16 22 37.6			046
1757		1984	11 27.88021	02 33 44.55	+16 22 35.2			046
1757		1984	11 28.86644	02 32 54.56	+16 19 58.6			046
1757		1984	11 28.88056	02 32 53.70	+16 19 54.3			046
2288		1984	11 27.90075	02 17 32.71	+01 55 06.4			046
2288		1984	11 27.91215	02 17 32.84	+01 55 07.0			046
2288		1984	11 28.83177	02 16 55.79	+01 56 46.9			046
2288		1984	11 28.84323	02 16 55.30	+01 56 48.6			046
2442		1984	11 27.97824	04 07 54.49	+14 09 11.4			046
2442		1984	11 27.99242	04 07 53.78	+14 09 08.7			046
2442		1984	11 30.99520	04 04 48.91	+13 58 07.4			046
2442		1984	12 01.00943	04 04 48.10	+13 58 06.9			046
2667		1984	11 27.86586	02 42 16.74	+15 07 14.5			046
2667		1984	11 27.88021	02 42 16.16	+15 07 13.0			046
2667		1984	11 28.86644	02 41 38.88	+15 05 17.8			046
2667		1984	11 28.88056	02 41 38.35	+15 05 16.9			046
2808		1984	11 27.93762	03 41 46.61	+33 12 34.5			046
2808		1984	11 27.95208	03 41 45.65	+33 12 30.1			046
2808		1984	11 28.79549	03 40 57.56	+33 08 41.8			046
2808		1984	11 28.80961	03 40 56.75	+33 08 37.3			046
2828		1984	11 27.86586	02 39 26.55	+13 13 09.2	16.8		046
2828		1984	11 27.88021	02 39 25.83	+13 13 06.3			046
2894		1984	12 01.02888	04 35 37.52	+20 54 22.9			046
2894		1984	12 01.04311	04 35 36.73	+20 54 20.9			046
2936		1984	11 27.93762	03 46 38.72	+33 14 58.8			046
2936		1984	11 27.95208	03 46 37.86	+33 14 52.5			046
1984	SM1	1984	09 20.94560	00 12 51.17	+05 37 44.6	16.4		046
1984	SM1	1984	09 20.96019	00 12 50.54	+05 37 44.6			046
1984	SW1	1984	09 20.98848	00 58 48.79	+09 25 32.8	16.7		046
1984	SW1	1984	09 21.00278	00 58 48.16	+09 25 29.9			046
1984	SL4 *	1984	09 27.92532	00 08 28.02	+05 23 56.1		1	046
1984	SL4	1984	09 27.93956	00 08 27.16	+05 23 52.4			046
1984	SL4	1984	09 29.91238	00 06 27.32	+05 17 13.8			046
1984	SL4	1984	09 29.92656	00 06 26.12	+05 17 08.9			046
1984	SL4	1984	09 30.91406	00 05 27.40	+05 13 46.5			046
1984	SL4	1984	09 30.92824	00 05 26.76	+05 13 44.4			046
1984	UT	1984	11 27.86586	02 30 12.47	+15 10 39.1	16.6		046
1984	UT	1984	11 27.88021	02 30 12.16	+15 10 28.6			046
1984	UT	1984	11 28.86644	02 29 45.20	+14 57 56.8			046
1984	UT	1984	11 28.88056	02 29 44.82	+14 57 45.6			046
1984	UT	1984	11 30.95874	02 28 52.97	+14 32 04.4			046
1984	UT	1984	11 30.97297	02 28 52.53	+14 31 54.1			046

1984	UO1		1984	10	28.96862	02	49	23.88	+21 05 13.7		046
1984	WA1	*	1984	11	27.86586	02	37	44.93	+15 59 49.1	16.6	046
1984	WA1		1984	11	27.88021	02	37	43.78	+16 00 06.0		046
1984	WA1		1984	11	28.86644	02	36	22.42	+16 20 05.4		046
1984	WA1		1984	11	28.88056	02	36	21.07	+16 20 24.7		046
1984	WA1		1984	11	30.95874	02	33	37.88	+17 01 49.7		046
1984	WA1		1984	11	30.97297	02	33	36.66	+17 02 07.7		046
1984	WB1	*	1984	11	27.86586	02	41	48.11	+16 02 03.5		046
1984	WB1		1984	11	27.88021	02	41	47.30	+16 02 05.1		046
1984	WC1	*	1984	11	27.97824	04	06	39.62	+14 38 33.9	17.0	046
1984	WC1		1984	11	27.99242	04	06	38.91	+14 38 33.6		046
1984	WC1		1984	11	30.99520	04	03	56.11	+14 40 12.4		046
1984	WC1		1984	12	01.00943	04	03	55.17	+14 40 13.8		046
1984	WD1	*	1984	11	27.97824	04	09	33.63	+13 49 52.2	17.0	046
1984	WD1		1984	11	27.99242	04	09	32.85	+13 49 52.5		046
1984	WD1		1984	11	30.99520	04	06	47.04	+13 54 48.8		046
1984	WD1		1984	12	01.00943	04	06	46.42	+13 54 50.1		046
1984	XA	*	1984	12	01.02888	04	37	56.62	+20 58 24.8	16.9	046
1984	XA		1984	12	01.04311	04	37	56.00	+20 58 28.1		046
1984	XB	*	1984	12	01.02888	04	38	40.13	+20 56 58.0	17.0	046
1984	XB		1984	12	01.04311	04	38	38.94	+20 56 57.8		046
1984	XC	*	1984	12	01.02888	04	39	57.58	+21 50 54.6	16.7	046
1984	XC		1984	12	01.04311	04	39	56.62	+21 50 53.7		046
1984	XD	*	1984	12	01.02888	04	41	06.93	+21 01 44.0	2	046
1984	XD		1984	12	01.04311	04	41	06.18	+21 01 44.7	16.8	046
1984	XE	*	1984	12	01.02888	04	41	27.61	+21 08 15.7	17.0	046
1984	XE		1984	12	01.04311	04	41	26.60	+21 08 13.5		046

Note 1: near edge of plate. 2: image diffuse.

OBSERVATIONS MADE AT BRORFELDE BY K. AUGUSTESEN AND P. JENSEN.

Observations made with the 0.45-m (45/77/150 cm) Schmidt. Contact: P. Jensen, Copenhagen University Observatory, Brorfelde, DK-4340 Tollose, Denmark.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1955 RS	1984 12	17.76439	04 29 52.06	+42 37 47.0	16.5	054
1955 RS	1984 12	18.89037	04 28 30.24	+42 35 27.1	16.5	054
1984 WH	1984 12	17.76439	04 39 52.50	+42 52 24.5	16.5	054
1984 WH	1984 12	18.89037	04 38 30.76	+42 56 05.4	16.5	054

OBSERVATIONS MADE AT BUCHAREST.

Contact: G. Bocsa, Observatoire Astronomique, 5 Rue Cutitul Argint, R-75212 Bucharest, Roumania.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
3	1982 05	24.90553	18 30 05.64	-05 31 26.3	1	073
3	1982 05	24.91592	18 30 05.29	-05 31 24.2	1	073
3	1982 05	28.88457	18 27 50.88	-05 19 55.7	1	073
3	1982 05	28.89565	18 27 50.50	-05 19 53.6	1	073
3	1982 08	27.80024	17 36 37.48	-08 56 13.3	1	073
4	1982 08	27.87815	21 11 55.84	-24 23 40.0	1	073
4	1982 08	27.88473	21 11 55.50	-24 23 41.1	1	073
4	1982 10	21.71758	21 12 35.97	-23 48 57.3	1	073
4	1982 10	21.72728	21 12 36.34	-23 48 54.3	1	073
6	1982 05	31.78980	11 39 44.26	+16 27 23.9	1	073
6	1982 05	31.80850	11 39 44.63	+16 27 18.6	1	073
11	1980 04	24.78320	10 46 24.10	+13 05 03.7	2	073
11	1980 04	24.79411	10 46 24.08	+13 05 03.5	2	073
39	1982 09	06.76219	20 02 07.77	-14 43 56.9	1	073
39	1982 09	06.77743	20 02 07.61	-14 44 02.6	1	073
133	1980 07	17.02337	21 54 08.22	-13 29 43.8	2	073

133	1980 07 17.03382	21 54 07.85	-13 29 44.3			2	073
354	1982 02 12.72216	08 58 21.55	+15 15 36.6				073
354	1982 02 12.72987	08 58 21.08	+15 15 42.8				073
389	1980 09 19.95843	23 10 29.07	+07 47 22.8			2	073
389	1980 09 19.97991	23 10 28.05	+07 47 16.7			2	073
532	1982 04 02.73726	08 26 11.37	+32 36 47.3			1	073
532	1982 04 02.74557	08 26 11.62	+32 36 46.2			1	073
554	1980 07 17.05280	22 04 07.07	-10 09 05.7			2	073
554	1980 07 17.06249	22 04 06.81	-10 09 06.4			2	073

Note 1: correction to MPC 8713-8714. 2: correction to MPC 6666-6667.

OBSERVATIONS MADE AT GEISEI BY T. SEKI.

Copied in part from Nihondaira Obs. Circ. Nos. 1485 and 1486. Contact: T. Seki, Kamimachi 2-9-35, Kochi, Japan.

Object	Date	UT	R. A. (1950)	Decl.	Mag.		Obs.
1984 VA	1984 11	21.56215	02 54 51.81	+16 40 37.6	17		372
1984 VA	1984 11	21.57292	02 54 51.33	+16 40 37.2			372
1984 VA	1984 11	27.68924	02 50 20.40	+16 29 44.3	17		372
1984 VA	1984 11	27.70104	02 50 19.94	+16 29 42.9			372
1984 VA	1984 11	30.65868	02 48 24.95	+16 25 20.9	17		372
1984 WA	1984 11	28.72882	04 19 55.01	+20 19 09.1		1	372
1984 WA	1984 11	28.73924	04 19 54.40	+20 19 04.6		1	372
1984 WA	1984 12	15.50764	04 05 04.86	+17 58 08.4			372
1984 WA	1984 12	15.51563	04 05 04.31	+17 58 06.6			372
1984 WC	1984 12	02.74340	02 57 21.07	+21 01 59.4	16.5		372
1984 WC	1984 12	02.75035	02 57 20.77	+21 01 54.7			372

Note 1: measured by T. Urata.

OBSERVATIONS MADE AT MOUNT JOHN UNIVERSITY OBSERVATORY.

Plates taken with the 0.6-m f/14 Cassegrain reflector by A. C. Gilmore, measured by P. M. Kilmartin. Computational support from R. McIntosh and W. M. Kissling. Reductions using field plates from the Carter Observatory, AGK3, SAO Catalog and Cape Photographic Catalogue. Contact: A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
2100	1984 09	21.43242	19 03 44.15	-13 35 32.1		474
2100	1984 09	21.47391	19 03 48.84	-13 36 53.9		474
2745	1984 01	02.47648	01 12 28.20	-20 08 01.6		474
2745	1984 01	02.50183	01 12 30.05	-20 07 34.9		474
2995	1984 01	30.44200	05 32 33.85	+02 23 14.8		474
2995	1984 01	30.46365	05 32 33.57	+02 23 26.8		474
1979 WO	1984 08	25.59573	22 07 40.54	-27 47 56.7		474
1979 WO	1984 08	25.61402	22 07 39.57	-27 47 58.8		474
1981 AD	1984 11	26.54399	03 36 46.84	-05 14 10.4		474
1981 AD	1984 11	26.56269	03 36 45.75	-05 14 04.8		474
1981 LA	1984 09	21.56216	02 02 10.88	-38 08 00.1		474
1981 LA	1984 09	21.57733	02 02 10.09	-38 08 11.4		474
1981 LA	1984 10	25.64444	01 19 48.15	-39 43 14.9		474
1981 LA	1984 10	25.65903	01 19 47.18	-39 43 08.1		474
1981 LA	1984 11	27.52513	00 56 51.83	-31 13 02.2		474
1981 LA	1984 11	27.53797	00 56 51.77	-31 12 45.7		474
1981 YH1	1984 11	26.50360	02 35 20.77	-05 08 38.5		474
1981 YH1	1984 11	26.52177	02 35 19.50	-05 08 26.9		474
1981 YR1	1984 09	22.59330	00 23 03.08	-39 34 25.8	17.0	474
1981 YR1	1984 09	22.63612	00 23 00.27	-39 34 42.0		474
1981 YR1	1984 10	24.51644	23 52 50.46	-39 31 33.5		474
1981 YR1	1984 11	27.46598	23 49 13.09	-33 25 59.7		474
1981 YR1	1984 11	27.49758	23 49 13.77	-33 25 34.0		474
1982 DA	1984 11	25.61737	05 26 50.41	-37 05 10.2		474

1982 RA	1984 08 25.66807	23 00 03.74	-28 40 08.7			474
1982 RA	1984 08 25.67247	23 00 02.15	-28 39 50.8			474
1983 RB	1983 09 16.43170	22 19 46.01	-08 33 07.9			474
1983 RB	1983 09 16.45404	22 19 47.93	-08 34 13.5			474
1984 KB	1984 06 13.36274	16 39 54.95	-03 28 33.4			474
1984 KB	1984 06 13.40314	16 39 50.47	-03 29 52.3			474
1984 KB	1984 06 13.43751	16 39 46.62	-03 30 56.3			474
1984 KB	1984 06 15.38867	16 36 40.95	-04 27 53.7			474
1984 KB	1984 06 15.42385	16 36 37.60	-04 28 54.0			474
1984 KB	1984 06 18.39133	16 32 51.09	-05 44 13.5			474
1984 KB	1984 06 18.40337	16 32 50.24	-05 44 31.0			474
1984 KB	1984 06 23.39133	16 28 27.99	-07 28 42.5			474
1984 KB	1984 06 23.40453	16 28 27.42	-07 28 57.3			474
1984 KD	1984 06 23.35800	07 28 01.07	-67 25 38.7			474
1984 KD	1984 06 23.35956	07 27 54.73	-67 25 32.5			474
1984 KD	1984 06 23.73036	07 04 42.21	-66 59 11.4			474
1984 KD	1984 06 23.73265	07 04 33.96	-66 59 01.5			474
1984 KD	1984 09 20.61124	02 01 11.44	-34 56 33.9			474
1984 KD	1984 09 20.63994	02 01 07.14	-34 56 12.2			474
1984 KD	1984 10 27.46992	00 57 43.86	-23 07 27.7			474
1984 KD	1984 10 27.54133	00 57 39.95	-23 05 49.3			474

OBSERVATIONS MADE AT THE OSSERVATORIO CHAONIS BY C. R. BAUR AND J. M. BAUR.
Plates taken with the 0.40-m f/4.5 reflector, blinked by G. Carniel. Measured and reduced by J. M. Baur using four or five SAO or AGK3 reference stars. Contact: M. Baur, Via Zara 20, I-33083 Chions, Italy.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1975 SF	1984 12 22.82569	03 56 42.06	+04 59 45.2		15.9	567
1975 SF	1984 12 22.83541	03 56 41.71	+04 59 49.9			567
1975 SF	1984 12 22.84583	03 56 41.41	+04 59 54.8			567
1977 RA6	1984 12 24.83681	05 34 52.58	+30 08 01.9		15.8	567
1977 RA6	1984 12 24.84792	05 34 51.91	+30 08 00.1			567
1977 RA6	1984 12 24.85764	05 34 51.17	+30 07 59.1			567
1978 TZ6	1984 12 24.88958	05 40 57.84	+19 44 47.6		16.3	567
1978 TZ6	1984 12 24.90000	05 40 57.14	+19 44 51.0			567
1978 TZ6	1984 12 24.91042	05 40 56.57	+19 44 53.2			567
1980 TX5	1984 12 22.95833	06 44 29.39	+18 49 06.1		16.6	567
1980 TX5	1984 12 22.97083	06 44 28.96	+18 49 04.4			567
1980 TX5	1984 12 22.98194	06 44 27.99	+18 49 02.6			567
1982 BL1	1984 12 24.96597	07 15 32.51	+17 56 32.8		16.7	567
1982 BL1	1984 12 24.97638	07 15 31.98	+17 56 35.9			567
1982 BL1	1984 12 24.99097	07 15 30.91	+17 56 39.5			567
1982 BL1	1984 12 24.99861	07 15 30.61	+17 56 41.7			567

OBSERVATIONS MADE AT MAUNA KEA BY E. TEDESCO, D. THOLEN, AND C. KAMINSKI.
Observations made using the encoders at the Infrared Telescope Facility. Contact: E. F. Tedesco, Jet Propulsion Laboratory, MS 183-501, 4800 Oak Grove Drive, Pasadena, CA 91109, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.		Obs.
3122	1984 12 21.25764	22 51 24.11	+44 11 00.5			568
3122	1984 12 22.30139	22 56 46.18	+44 31 51.9			568
3122	1984 12 23.23194	23 01 36.09	+44 49 46.8			568
1983 TB	1984 12 21.29306	01 19 34.70	+22 08 34.8			568
1983 TB	1984 12 21.32083	01 19 12.87	+22 04 57.0			568
1983 TB	1984 12 22.26319	01 07 17.55	+20 00 44.2			568
1983 TB	1984 12 22.36042	01 06 03.88	+19 47 43.0			568
1983 TB	1984 12 23.31319	00 54 28.93	+17 39 49.1			568
1983 TB	1984 12 23.39028	00 53 33.13	+17 29 22.4			568

OBSERVATIONS MADE AT THE LICK OBSERVATORY BY A. R. KLEMOLA.

Plates taken with the 0.51-m Carnegie double astrograph, AGK3R reference stars. Positions are ends of trails. Contact: A. R. Klemola, Lick Observatory, University of California, Santa Cruz, CA 95064, U.S.A.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1984 YC	*	1984 12	22.40657	08 44 30.65	+13 03 14.8	15.5		662
1984 YC		1984 12	22.49028	08 44 26.42	+13 01 42.2		1	662
1984 YC		1984 12	23.40278	08 43 39.77	+12 43 47.6			662
1984 YC		1984 12	23.42431	08 43 38.74	+12 43 25.5			662
1984 YC		1984 12	24.43750	08 42 44.39	+12 23 30.4			662
1984 YC		1984 12	24.44444	08 42 44.01	+12 23 23.3			662
1984 YC		1984 12	24.45139	08 42 43.55	+12 23 14.3			662
1984 YC		1984 12	24.45834	08 42 43.18	+12 23 05.8			662

Note 1: time uncertain.

OBSERVATIONS MADE AT PALOMAR BY C. S. SHOEMAKER AND E. SHOEMAKER.

Four-minute exposures with the 0.46-m Schmidt telescope. Film pairs scanned by C. Shoemaker with a stereomicroscope; measured by her with a Mann comparator at the U.S. Geological Survey. Reference stars from the SAO Catalog. Contact: C. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
801	1984 10	25.16319	23 33 46.06	-02 49 49.8	17.5	675
801	1984 10	26.15833	23 33 27.46	-02 56 28.5		675
801	1984 10	27.13680	23 33 10.34	-03 02 52.2		675
1983 RL4	1983 09	08.41597	01 08 55.16	-01 44 48.7	17	675
1983 RL4	1983 09	09.47291	01 08 58.04	-02 03 36.5		675
1983 RL4	1983 09	09.48541	01 08 58.06	-02 03 50.1		675
1984 SW3	1984 11	21.17986	00 58 37.38	+26 07 39.2	16.1	675
1984 SW3	1984 11	24.15069	00 59 22.39	+25 40 18.4		675
1984 UL2	1984 11	21.17986	01 06 27.91	+29 23 00.6	16	675
1984 UL2	1984 11	24.15069	01 05 57.22	+28 49 18.3		675
1984 WK	1984 10	25.44305	02 24 07.71	+45 51 38.0		675
1984 WK	1984 10	26.40208	02 22 54.36	+45 43 06.7		675
1984 WK *	1984 11	21.22292	01 55 07.95	+39 03 51.3	17	675
1984 WK	1984 11	21.24306	01 55 07.05	+39 03 27.7		675

OBSERVATIONS MADE WITH THE 1.2-M SCHMIDT AT PALOMAR BY E. HELIN AND R. S. DUNBAR.

Contact: E. Helin, Jet Propulsion Laboratory, MS 183-501, 4800 Oak Grove Drive, Pasadena, CA 91109, U.S.A.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1984 RB		1984 09	20.16505	22 04 00.58	-17 25 12.7		1	675
1984 RB		1984 09	20.17847	22 04 00.24	-17 25 23.8		1	675
1984 RB		1984 09	21.13727	22 03 26.76	-17 42 21.1		1	675
1984 RB		1984 09	21.15116	22 03 26.24	-17 42 35.9		1	675
1984 RB		1984 09	24.18657	22 01 51.02	-18 33 50.5		1	675
1984 RB		1984 09	24.20046	22 01 50.52	-18 34 04.5		1	675
1984 WB		1984 11	29.45972	04 57 48.75	+21 24 17.0		1	675
1984 WB		1984 11	30.38125	04 56 31.39	+21 03 18.6		1	675
1984 WB		1984 12	17.31806	04 32 57.05	+14 30 44.2	14	1	675
1984 WB		1984 12	17.34583	04 32 55.13	+14 30 09.1		1	675
1984 WJ	*	1984 11	29.49306	05 29 20.31	+16 24 30.9	18		675
1984 WJ		1984 11	29.52083	05 29 18.80	+16 24 06.2			675
1984 YA	*	1984 12	17.31806	04 39 04.54	+15 24 04.7	16	1	675
1984 YA		1984 12	17.34583	04 39 02.09	+15 24 34.8		1	675
1984 YB	*	1984 12	17.31806	04 51 14.36	+16 47 45.4	16.5	1	675
1984 YB		1984 12	17.34583	04 51 12.52	+16 47 20.6		1	675

Note 1: measurer D. Steele.

OBSERVATIONS MADE WITH THE 1.2-M SCHMIDT AT PALOMAR BY J. GIBSON.
Coordination with J. G. Williams and with the Minor Planet Center. AGK3 and SAO reference stars. Contact: J. Gibson, Jet Propulsion Laboratory, MS 264-781, Pasadena, CA 91109, U.S.A.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
1983 TB		1984 12	01.33102	05 11 18.10	+40 12 11.9			675
1983 TB		1984 12	02.36703	05 03 57.71	+40 12 19.9			675
1984 RK		1984 09	05.39099	03 42 28.35	+13 33 25.2		1	675
1984 RK	*	1984 09	06.41640	03 43 32.21	+13 39 28.0	16		675
1984 RL		1984 09	05.39099	03 42 58.29	+13 55 16.6		1	675
1984 RL	*	1984 09	06.41460	03 44 35.57	+13 59 01.2	17.5		675
1984 WB		1984 12	02.40974	04 53 38.85	+20 16 45.5			675
1984 WB		1984 12	15.30696	04 35 32.21	+15 16 06.5			675
1984 WL		1984 12	02.40071	04 28 01.18	+26 25 48.0	16.5		675
1984 WL		1984 12	03.23127	04 27 09.02	+25 58 58.3			675
1984 WL		1984 12	15.31668	04 15 47.73	+19 26 17.7			675

Note 1: star and planet trails curved.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY'S ANDERSON MESA STATION.
Plates with the 0.33-m photographic telescope. Observers B. A. Skiff and N. G. Thomas. Measured by E. Bowell, S. J. Bus and Skiff using a PDS scanning microdensitometer. SAO reference stars, global solutions. Contact: E. L. G. Bowell, Lowell Observatory, P.O. Box 1269, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
3	1983 10	09.37847	02 21 45.06	-00 46 00.5		2	688
23	1984 11	18.25347	02 47 29.13	+10 19 12.1			688
23	1984 11	18.30625	02 47 25.67	+10 19 13.8			688
23	1984 11	27.16875	02 38 43.42	+10 28 27.7			688
23	1984 11	27.21806	02 38 40.94	+10 28 33.4			688
24	1984 11	24.29097	02 22 28.85	+14 21 55.7			688
32	1983 10	09.39514	02 40 03.18	+16 36 54.0			688
32	1983 11	04.26389	02 18 45.98	+14 07 27.7			688
32	1983 11	04.30972	02 18 43.42	+14 07 09.9			688
32	1983 11	07.22847	02 16 09.51	+13 48 30.9			688
32	1983 11	07.26944	02 16 07.31	+13 48 14.9			688
44	1983 11	04.24861	02 05 39.22	+05 52 02.6			688
44	1983 11	04.29444	02 05 36.54	+05 51 49.6			688
48	1984 11	27.10903	02 05 51.46	+06 33 36.4			688
48	1984 11	27.15347	02 05 50.15	+06 33 28.6			688
80	1983 11	04.26389	02 03 17.28	+12 57 10.3			688
80	1983 11	04.30972	02 03 14.97	+12 56 36.9			688
80	1983 11	07.22847	02 01 07.78	+12 22 04.3			688
80	1983 11	07.26944	02 01 05.95	+12 21 35.8			688
83	1984 11	20.14583	01 15 39.47	+08 54 57.5			688
83	1984 11	20.22986	01 15 36.63	+08 54 49.1			688
86	1984 05	03.37917	16 27 28.98	-18 55 06.8			688
90	1984 11	27.30000	04 25 42.83	+21 29 15.0			688
90	1984 11	27.34583	04 25 40.35	+21 29 10.7			688
100	1983 10	09.37847	02 13 02.35	+03 26 52.9		2	688
100	1983 11	04.24861	01 53 28.84	+01 33 58.1			688
100	1983 11	04.29444	01 53 26.78	+01 33 49.0			688
111	1983 09	12.23194	22 24 09.24	-05 16 09.1			688
112	1984 11	20.16806	01 11 33.09	+12 00 03.7			688
112	1984 11	20.25208	01 11 31.35	+11 59 49.7			688
112	1984 11	27.08681	01 10 11.27	+11 43 41.6			688
112	1984 11	27.13125	01 10 10.89	+11 43 36.9			688
114	1984 05	03.37917	16 25 55.43	-14 06 28.1			688
144	1984 11	24.29097	02 29 50.91	+10 37 27.7			688

145	1984	05	03.34792	16	05	17.68	-13	13	22.9			688
159	1984	11	20.20364	00	29	30.21	-04	41	48.7			688
187	1984	11	20.28611	03	25	47.14	+27	44	11.9			688
187	1984	11	20.31667	03	25	45.31	+27	44	08.2			688
187	1984	11	27.18750	03	18	51.94	+27	30	39.4			688
187	1984	11	27.23333	03	18	49.19	+27	30	33.1			688
195	1984	11	20.28611	03	33	14.38	+27	43	37.7			688
195	1984	11	20.31667	03	33	12.61	+27	43	34.0			688
195	1984	11	27.18750	03	26	27.78	+27	29	06.9			688
195	1984	11	27.23333	03	26	25.11	+27	29	00.8			688
197	1984	09	21.21181	22	53	27.33	-23	12	18.4			688
204	1984	11	18.25347	02	57	17.62	+11	44	15.6			688
204	1984	11	18.30625	02	57	14.85	+11	43	58.9			688
204	1984	11	27.16875	02	50	13.02	+11	00	24.8			688
204	1984	11	27.21806	02	50	10.90	+11	00	12.3			688
205	1984	05	03.34792	16	15	29.65	-14	14	49.2			688
206	1984	11	27.39514	05	55	41.09	+18	09	38.9			688
206	1984	11	27.46042	05	55	38.03	+18	09	37.0			688
223	1983	10	09.39514	02	24	34.91	+13	26	56.1			688
223	1983	11	04.26389	02	04	32.56	+11	58	47.3			688
223	1983	11	04.30972	02	04	30.18	+11	58	37.2			688
223	1983	11	07.22847	02	02	10.40	+11	48	11.2			688
223	1983	11	07.26944	02	02	08.38	+11	48	02.7			688
225	1983	11	04.24861	02	11	51.30	+03	02	50.2			688
225	1983	11	04.29444	02	11	49.39	+03	02	27.3			688
227	1984	11	20.28611	03	33	48.80	+31	54	37.9			688
227	1984	11	20.31667	03	33	47.37	+31	54	32.9			688
227	1984	11	27.18750	03	27	46.01	+31	33	00.7			688
227	1984	11	27.23333	03	27	43.60	+31	32	51.3			688
229	1984	11	27.30000	04	26	30.00	+23	38	44.6			688
229	1984	11	27.34583	04	26	27.58	+23	38	40.3			688
235	1984	05	03.34792	16	11	16.58	-18	45	21.2			688
253	1984	11	27.10903	02	11	36.13	+04	44	49.2			688
253	1984	11	27.15347	02	11	35.04	+04	44	43.2			688
262	1984	11	18.23472	02	32	47.38	+17	47	13.0			688
262	1984	11	18.28750	02	32	44.27	+17	47	16.1			688
263	1984	11	20.14583	01	14	48.59	+08	01	53.6			688
263	1984	11	20.22986	01	14	46.66	+08	01	39.8			688
278	1984	05	03.34792	16	10	55.34	-19	39	06.3			688
284	1984	11	18.23472	02	22	02.51	+16	08	27.0			688
284	1984	11	18.28750	02	21	59.80	+16	08	00.9			688
288	1984	11	24.29097	02	15	09.38	+07	22	07.4			688
289	1984	05	03.34792	15	55	16.62	-12	35	58.4			688
293	1984	11	18.25347	02	45	40.10	+09	40	01.8			688
293	1984	11	18.30625	02	45	36.96	+09	40	04.5			688
293	1984	11	24.29097	02	40	08.17	+09	47	54.6			688
293	1984	11	27.16875	02	37	40.43	+09	52	45.8			688
293	1984	11	27.21806	02	37	38.20	+09	52	53.3			688
309	1984	11	18.23472	02	30	41.56	+19	33	16.7		15.5	688
309	1984	11	18.28750	02	30	38.73	+19	33	03.5			688
313	1983	10	09.37847	02	34	34.79	+04	17	45.6		2	688
313	1983	11	04.24861	02	13	20.86	-00	00	32.3			688
313	1983	11	04.29444	02	13	18.18	-00	00	56.8			688
322	1984	11	27.39514	05	51	47.64	+21	56	26.7			688
322	1984	11	27.46042	05	51	44.13	+21	56	10.3			688
344	1984	11	18.25347	02	48	50.94	+16	20	04.7			688
344	1984	11	18.30625	02	48	47.29	+16	20	07.3			688
344	1984	11	27.16875	02	39	39.55	+16	27	06.8			688
344	1984	11	27.21806	02	39	37.16	+16	27	06.8			688

346	1984	05	03.37917	16	46	30.09	-16	07	57.8		688
351	1984	11	27.39514	05	52	23.74	+18	20	00.5		688
351	1984	11	27.46042	05	52	20.71	+18	20	10.6		688
355	1984	09	19.17083	22	15	42.87	-12	11	03.3		688
358	1984	11	20.33194	05	03	03.24	+17	06	00.4		688
358	1984	11	20.37778	05	03	01.04	+17	05	54.3		688
358	1984	11	27.31597	04	57	16.19	+16	50	10.3		688
358	1984	11	27.36076	04	57	13.73	+16	50	04.1		688
384	1983	10	09.39514	02	26	24.29	+11	16	23.0		688
384	1983	11	04.26389	02	03	10.11	+10	25	20.9		688
384	1983	11	04.30972	02	03	07.30	+10	25	15.9		688
425	1984	11	20.36250	05	29	14.94	+24	40	07.3		688
425	1984	11	20.40833	05	29	12.70	+24	40	11.2		688
443	1983	10	09.39514	02	29	22.71	+10	31	14.5		688
443	1983	11	04.26389	02	05	20.87	+07	31	19.7		688
443	1983	11	04.30972	02	05	18.05	+07	31	01.9		688
443	1983	11	07.22847	02	02	31.56	+07	12	30.2		688
443	1983	11	07.26944	02	02	29.16	+07	12	15.4		688
464	1984	11	20.33194	05	01	32.10	+13	33	19.5		688
464	1984	11	20.37778	05	01	29.50	+13	33	23.0		688
464	1984	11	27.31597	04	54	55.56	+13	43	45.7		688
464	1984	11	27.36076	04	54	52.83	+13	43	50.2		688
477	1984	11	27.18750	03	31	32.98	+26	20	21.0		688
477	1984	11	27.23333	03	31	29.88	+26	20	13.2		688
488	1983	10	09.37847	02	23	19.77	+00	07	09.4	2	688
488	1983	11	04.24861	02	03	39.85	-01	08	23.2		688
488	1983	11	04.29444	02	03	37.66	-01	08	28.1		688
535	1984	11	18.26875	04	11	24.42	+16	37	54.2		688
535	1984	11	18.32153	04	11	21.12	+16	37	52.9		688
535	1984	11	24.27222	04	05	15.78	+16	35	32.3		688
535	1984	11	24.30972	04	05	13.38	+16	35	31.7		688
540	1984	11	24.29097	02	16	31.86	+09	39	33.5		688
553	1984	11	27.39514	05	58	49.20	+24	27	45.6		688
553	1984	11	27.46042	05	58	45.58	+24	28	01.6		688
557	1983	09	11.24792	22	16	49.23	-07	37	52.2		688
557	1983	09	11.30069	22	16	46.50	-07	38	07.0		688
557	1983	09	12.23194	22	15	59.33	-07	42	20.2		688
568	1984	11	20.28611	03	26	32.46	+26	13	21.6		688
568	1984	11	20.31667	03	26	30.87	+26	12	59.1		688
568	1984	11	27.18750	03	20	42.74	+24	46	27.2		688
568	1984	11	27.23333	03	20	40.45	+24	45	51.3		688
586	1984	11	27.39514	06	12	11.81	+22	04	09.1		688
586	1984	11	27.46042	06	12	09.05	+22	04	07.3		688
636	1984	11	20.14583	01	13	58.15	+07	30	29.9		688
636	1984	11	20.22986	01	13	55.99	+07	30	33.6		688
673	1984	11	24.29097	02	19	20.62	+14	00	06.4		688
680	1983	11	04.26389	02	13	49.60	+12	00	17.3		688
680	1983	11	04.30972	02	13	47.01	+12	00	15.9		688
680	1983	11	07.22847	02	11	06.57	+11	58	55.7		688
680	1983	11	07.26944	02	11	04.25	+11	58	55.1		688
709	1983	09	11.24792	22	05	19.07	-05	05	00.7		688
709	1983	09	11.30069	22	05	16.20	-05	04	57.8		688
709	1983	09	12.23194	22	04	27.46	-05	03	56.6		688
735	1984	11	18.23472	02	26	59.76	+17	13	08.7		688
735	1984	11	18.28750	02	26	56.29	+17	13	28.9		688
742	1984	11	27.10903	02	09	45.64	+06	49	54.7		688
742	1984	11	27.15347	02	09	44.05	+06	50	00.1		688
751	1984	11	20.33194	04	53	14.59	+16	57	18.8		688
751	1984	11	20.37778	04	53	11.53	+16	57	36.4		688

751		1984	11	27.31597	04	45	26.75	+17	40	39.2	688
751		1984	11	27.36076	04	45	23.51	+17	40	56.3	688
752		1984	11	20.12361	00	34	26.72	-04	21	14.9	688
752		1984	11	20.20364	00	34	25.76	-04	20	59.3	688
755		1984	11	18.25347	02	52	04.29	+12	55	17.4	688
755		1984	11	18.30625	02	52	01.92	+12	55	05.8	688
755		1984	11	27.16875	02	45	50.63	+12	26	47.7	688
755		1984	11	27.21806	02	45	48.73	+12	26	40.0	688
825		1984	11	20.33194	05	05	49.51	+19	49	32.0	688
825		1984	11	20.37778	05	05	46.63	+19	49	31.0	688
825		1984	11	27.31597	04	58	27.27	+19	45	43.3	688
825		1984	11	27.36076	04	58	24.15	+19	45	42.0	688
827		1984	05	03.37917	16	37	52.63	-16	58	24.2	1 688
828		1984	09	19.17083	22	08	04.29	-12	12	34.4	688
834		1984	11	27.10903	01	53	20.95	+08	22	34.9	688
834		1984	11	27.15347	01	53	19.77	+08	22	27.6	688
841		1984	11	18.23472	02	38	43.40	+21	23	02.8	688
841		1984	11	18.28750	02	38	39.91	+21	22	48.2	688
851		1984	11	18.25347	02	48	23.69	+11	46	54.5	688
851		1984	11	18.30625	02	48	20.28	+11	46	40.9	688
851		1984	11	27.16875	02	40	00.57	+11	14	22.0	688
851		1984	11	27.21806	02	39	58.16	+11	14	13.7	688
858		1983	09	11.28403	01	14	55.89	-04	16	46.4	688
858		1983	09	11.31597	01	14	54.71	-04	16	55.8	688
858		1983	09	12.38542	01	14	16.40	-04	21	41.5	688
858		1983	09	12.41667	01	14	15.17	-04	21	50.3	688
897		1984	11	27.39514	05	51	29.75	+22	29	59.6	688
897		1984	11	27.46042	05	51	25.95	+22	29	38.7	688
905		1984	11	18.23472	02	34	26.93	+17	32	56.6	688
905		1984	11	18.28750	02	34	23.69	+17	32	54.7	688
920		1983	11	04.24861	01	47	17.51	+04	12	32.4	688
920		1983	11	04.29444	01	47	15.37	+04	12	08.4	688
956		1984	11	24.29097	02	22	14.76	+07	55	22.3	688
958		1984	11	18.23472	02	34	47.03	+22	43	59.2	688
958		1984	11	18.28750	02	34	44.76	+22	43	48.9	688
959		1984	11	27.10903	01	50	23.77	+09	12	33.0	688
959		1984	11	27.15347	01	50	22.61	+09	12	33.2	688
968		1984	11	20.14583	01	13	38.94	+06	59	18.5	688
968		1984	11	20.22986	01	13	36.86	+06	58	49.7	688
984		1983	09	11.24792	22	12	04.17	-03	44	52.7	688
984		1983	09	11.30069	22	12	01.44	-03	44	55.9	688
984		1983	09	12.23194	22	11	15.50	-03	45	40.1	688
988		1984	11	20.36250	05	31	44.64	+24	34	42.9	688
988		1984	11	20.40833	05	31	42.30	+24	34	43.7	688
995		1983	11	07.22847	02	12	50.89	+14	20	15.4	688
995		1983	11	07.26944	02	12	48.90	+14	19	46.8	688
1004		1984	05	03.37917	16	42	25.87	-18	15	11.6	688
1015		1984	10	29.08681	21	50	07.28	-20	46	09.7	688
1015		1984	10	29.11875	21	50	07.93	-20	46	05.5	688
1058		1984	11	20.14583	01	30	01.93	+09	40	20.6	688
1058		1984	11	20.22986	01	29	59.87	+09	39	57.1	688
1079		1984	11	27.30000	04	21	32.00	+23	22	28.1	688
1079		1984	11	27.34583	04	21	29.31	+23	22	20.8	688
1097		1984	11	20.12361	00	17	35.44	-00	25	17.0	688
1097		1984	11	20.20364	00	17	36.65	-00	25	04.6	688
1109		1984	11	27.39514	06	08	46.23	+23	47	41.3	688
1109		1984	11	27.46042	06	08	43.67	+23	47	38.3	688
1113		1983	09	11.24792	22	06	21.04	-07	23	54.6	688
1113		1983	09	11.30069	22	06	18.50	-07	23	58.7	688

1113		1983	09	12.23194	22	05	35.43	-07	25	12.5	688
1142		1984	11	24.29097	02	33	05.60	+12	01	10.9	688
1155		1984	11	27.20269	03	07	40.37	+20	30	57.1	17.2 688
1155		1984	11	27.24861	03	07	37.60	+20	30	52.0	688
1236		1984	11	24.29097	02	14	36.14	+13	34	07.9	688
1251		1984	05	03.37917	16	26	07.94	-12	38	07.0	688
1257		1983	09	11.24792	22	22	24.83	-04	39	10.6	688
1257		1983	09	11.30069	22	22	22.22	-04	39	31.6	688
1257		1983	09	12.23194	22	21	38.45	-04	45	23.4	688
1270		1983	09	11.28403	01	08	52.16	-06	37	36.7	688
1270		1983	09	11.31597	01	08	51.40	-06	37	50.0	688
1270		1983	09	12.38542	01	08	27.48	-06	45	10.1	688
1270		1983	09	12.41667	01	08	26.64	-06	45	22.9	688
1299		1984	11	20.12361	00	35	36.86	-04	16	26.2	688
1299		1984	11	20.20364	00	35	36.72	-04	16	26.7	688
1311		1984	11	18.23472	02	33	53.38	+16	37	09.6	688
1311		1984	11	18.28750	02	33	50.56	+16	36	50.8	688
1328		1984	11	18.25347	02	59	03.27	+15	58	05.3	688
1328		1984	11	18.30625	02	59	00.88	+15	57	49.7	688
1328		1984	11	27.16875	02	53	03.30	+15	16	17.1	688
1328		1984	11	27.21806	02	53	01.52	+15	16	05.1	688
1352		1984	11	27.10903	02	12	05.17	+09	27	12.9	688
1352		1984	11	27.15347	02	12	03.68	+09	27	06.3	688
1389		1984	11	18.26875	04	10	56.59	+18	10	24.6	688
1389		1984	11	18.32153	04	10	53.69	+18	10	14.8	688
1389		1984	11	24.27222	04	05	31.51	+17	53	32.3	688
1389		1984	11	24.30972	04	05	29.30	+17	53	26.4	688
1427		1984	11	27.39514	05	59	22.14	+24	16	42.5	688
1427		1984	11	27.46042	05	59	18.87	+24	16	53.3	688
1445		1984	05	03.34792	16	12	55.79	-19	29	15.6	1 688
1448		1984	11	20.14583	01	21	05.56	+07	04	57.4	16.8 688
1448		1984	11	20.22986	01	21	02.40	+07	04	56.5	688
1486		1984	11	18.23472	02	42	18.13	+15	53	48.2	688
1486		1984	11	18.28750	02	42	14.90	+15	53	32.1	688
1505		1984	11	18.23472	02	32	29.58	+23	09	01.1	688
1505		1984	11	18.28750	02	32	26.86	+23	08	34.3	688
1535		1984	11	27.20269	02	47	17.89	+21	18	54.9	688
1535		1984	11	27.24861	02	47	15.83	+21	18	41.3	688
1543		1984	11	20.27083	02	28	30.27	+31	02	53.5	688
1543		1984	11	20.30139	02	28	28.67	+31	02	36.7	688
1548		1984	11	27.28472	04	22	52.05	+01	37	35.8	688
1548		1984	11	27.33090	04	22	49.73	+01	37	36.8	688
1559		1984	09	19.17083	22	09	51.38	-10	13	47.8	688
1561		1984	11	20.36250	05	18	50.28	+20	51	26.2	688
1561		1984	11	20.40833	05	18	48.25	+20	51	22.3	688
1567		1984	11	27.10903	01	59	02.37	+07	03	03.8	688
1567		1984	11	27.15347	01	59	00.85	+07	03	08.0	688
1617		1984	11	27.28472	04	22	37.81	+02	38	36.7	688
1617		1984	11	27.33090	04	22	35.43	+02	38	30.3	688
1635		1984	11	20.14583	01	31	45.85	+08	08	08.8	16.2 688
1635		1984	11	20.22986	01	31	43.35	+08	07	54.8	688
1654		1984	11	20.34722	05	12	27.36	+34	22	01.6	688
1654		1984	11	20.39306	05	12	24.75	+34	22	10.7	688
1654		1984	11	27.37650	05	05	45.90	+34	39	07.9	688
1654		1984	11	27.44167	05	05	42.01	+34	39	14.5	688
1670		1984	11	27.30000	04	25	33.40	+24	06	56.9	688
1670		1984	11	27.34583	04	25	30.54	+24	07	02.6	688
1676		1983	09	11.28403	01	01	19.90	-02	32	06.3	16.5 688
1676		1983	09	11.31597	01	01	18.30	-02	32	14.7	688

1676	1983	09	12.38542	01	00	25.24	-02	37	21.5	16.5	688
1676	1983	09	12.41667	01	00	23.51	-02	37	29.4		688
1684	1984	11	20.12361	00	14	22.63	-03	26	56.0	17.0	688
1684	1984	11	20.20364	00	14	22.18	-03	26	51.4		688
1706	1984	11	27.20269	02	55	40.12	+19	05	01.7	17.2	688
1706	1984	11	27.24861	02	55	37.38	+19	04	46.8		688
1715	1984	11	20.28611	03	31	20.53	+24	42	45.1		688
1715	1984	11	20.31667	03	31	18.40	+24	42	43.3		688
1715	1984	11	27.18750	03	23	35.73	+24	34	07.8		688
1715	1984	11	27.23333	03	23	32.66	+24	34	03.8		688
1743	1984	11	20.33194	05	03	02.17	+14	01	11.4		688
1743	1984	11	20.37778	05	02	59.79	+14	01	01.6		688
1743	1984	11	27.36076	04	56	32.03	+13	34	32.2		688
1757	1984	11	18.28750	02	42	48.42	+16	51	14.3		688
1781	1984	11	18.26875	03	51	29.09	+23	21	45.5		688
1781	1984	11	18.32153	03	51	25.17	+23	21	47.9		688
1781	1984	11	24.27222	03	44	32.46	+23	25	35.3		688
1781	1984	11	24.30972	03	44	29.69	+23	25	35.9		688
1810	1983	09	11.24792	22	02	22.30	-04	34	50.7		688
1810	1983	09	11.30069	22	02	19.25	-04	35	10.1		688
1810	1983	09	12.23194	22	01	31.94	-04	40	27.3		688
1841	1984	11	18.25347	03	01	42.09	+17	29	43.3	17.0	688
1841	1984	11	18.30625	03	01	39.65	+17	29	35.4		688
1841	1984	11	27.16875	02	55	12.94	+17	07	03.2	17.0	688
1841	1984	11	27.21806	02	55	11.10	+17	06	56.8		688
1890	1983	11	04.24861	01	52	05.65	+01	38	14.9		688
1890	1983	11	04.29444	01	52	03.47	+01	38	11.8		688
1909	1984	11	24.29097	02	18	55.21	+13	58	39.7		688
1940	1984	11	27.20269	02	50	49.69	+21	41	19.5		688
1940	1984	11	27.24861	02	50	47.69	+21	41	04.2		688
1968	1984	11	20.14583	01	25	42.03	+04	40	54.5		688
1968	1984	11	20.22986	01	25	39.23	+04	40	49.7		688
1984	1983	09	11.24792	22	05	08.32	-07	55	58.0		688
1984	1983	09	11.30069	22	05	06.20	-07	56	14.3		688
1984	1983	09	12.23194	22	04	31.68	-08	01	26.5		688
2024	1984	11	18.25347	02	49	28.35	+11	25	25.6		688
2024	1984	11	18.30625	02	49	24.87	+11	25	29.0		688
2024	1984	11	27.16875	02	41	10.57	+11	38	10.9		688
2024	1984	11	27.21806	02	41	08.20	+11	38	17.0		688
2064	1984	11	27.20269	02	52	52.84	+26	10	42.0	16.8	688
2064	1984	11	27.24861	02	52	49.97	+26	10	20.1		688
2099	1984	10	29.33646	01	32	34.67	+18	15	11.6		688
2099	1984	10	29.30938	01	32	34.44	+18	16	42.6		688
2159	1984	11	18.23472	02	19	45.74	+18	36	36.8		688
2159	1984	11	18.28750	02	19	42.86	+18	36	22.6		688
2195	1984	11	20.12361	00	29	15.60	-04	31	38.1		688
2195	1984	11	20.20364	00	29	15.98	-04	31	12.4		688
2203	1984	09	19.17083	22	13	37.84	-13	34	33.1		688
2206	1984	11	20.36250	05	24	01.01	+26	10	55.8	16.5	688
2206	1984	11	20.40833	05	23	58.80	+26	11	02.5		688
2238	1983	11	04.26389	02	07	28.08	+12	59	58.0		688
2238	1983	11	04.30972	02	07	25.71	+12	59	46.3		688
2238	1983	11	07.22847	02	05	06.28	+12	48	55.2		688
2238	1983	11	07.26944	02	05	04.45	+12	48	44.4		688
2249	1984	11	27.15347	01	51	07.98	+05	57	15.6		688
2280	1984	11	24.29097	02	16	48.67	+07	29	10.1		688
2287	1984	11	24.29097	02	33	00.16	+08	20	01.0		688
2308	1984	11	20.12361	00	22	36.15	-02	18	08.8	17.0	688
2308	1984	11	20.20364	00	22	35.15	-02	17	41.9		688

2313		1984	11	18.26875	03	51	18.43	+19	39	08.1	688
2313		1984	11	18.32153	03	51	14.80	+19	38	55.6	688
2313		1984	11	24.27222	03	44	58.39	+19	13	36.2	688
2313		1984	11	24.30972	03	44	55.97	+19	13	28.2	688
2333		1984	11	20.14583	01	35	02.72	+08	48	43.5	688
2333		1984	11	20.22986	01	34	59.03	+08	48	47.2	688
2344		1984	11	18.26875	04	07	24.30	+16	55	20.2	688
2344		1984	11	18.32153	04	07	21.13	+16	55	15.7	688
2344		1984	11	24.27222	04	01	29.40	+16	46	12.6	688
2344		1984	11	24.30972	04	01	27.15	+16	46	09.6	688
2349		1984	09	21.19236	22	51	33.17	-23	46	31.8	688
2349		1984	09	21.21181	22	51	32.62	-23	46	39.0	688
2354		1983	11	04.26389	02	13	29.72	+09	37	44.8	688
2354		1983	11	04.30972	02	13	27.31	+09	37	30.0	688
2354		1983	11	07.22847	02	11	03.46	+09	22	29.9	688
2354		1983	11	07.26944	02	11	01.39	+09	22	18.1	688
2360		1984	11	20.36250	05	35	03.87	+26	40	05.8	688
2360		1984	11	20.40833	05	35	01.60	+26	40	09.6	688
2393		1984	11	20.33194	05	01	52.23	+16	48	19.9	688
2393		1984	11	20.37778	05	01	50.19	+16	48	09.1	688
2393		1984	11	27.31597	04	56	15.86	+16	20	49.2	688
2393		1984	11	27.36076	04	56	13.53	+16	20	37.5	688
2396		1983	09	11.28403	01	10	21.06	-01	53	32.3	688
2396		1983	09	11.31597	01	10	20.06	-01	53	46.2	688
2396		1983	09	12.38542	01	09	47.89	-02	02	24.1	688
2396		1983	09	12.41667	01	09	46.92	-02	02	40.7	688
2421		1984	09	21.19236	22	49	58.39	-23	17	31.4	688
2421		1984	09	21.21181	22	49	57.54	-23	17	34.8	688
2424		1984	11	20.28611	03	21	25.34	+25	54	32.3	16.5 688
2424		1984	11	20.31667	03	21	23.06	+25	54	33.5	688
2424		1984	11	27.18750	03	13	06.59	+25	54	54.2	688
2424		1984	11	27.23333	03	13	03.37	+25	54	52.0	688
2435		1983	11	04.24861	02	11	39.20	+06	00	05.9	688
2435		1983	11	04.29444	02	11	36.71	+05	59	50.0	688
2439		1983	11	04.26389	02	09	18.84	+12	36	30.1	688
2439		1983	11	04.30972	02	09	16.53	+12	36	18.4	688
2439		1983	11	07.22847	02	06	57.68	+12	24	18.7	688
2439		1983	11	07.26944	02	06	55.76	+12	24	08.7	688
2461		1984	11	20.33194	05	00	21.08	+20	08	29.1	688
2461		1984	11	20.37778	05	00	18.72	+20	08	25.1	688
2530		1984	11	20.14583	01	38	15.00	+05	24	39.5	688
2530		1984	11	20.22986	01	38	12.76	+05	24	16.1	688
2538		1984	11	20.12361	00	19	19.51	-01	07	12.0	688
2538		1984	11	20.20364	00	19	19.49	-01	06	50.0	688
2542		1983	11	04.26389	02	18	12.61	+07	16	04.3	688
2542		1983	11	04.30972	02	18	10.52	+07	15	52.4	688
2542		1983	11	07.22847	02	15	59.42	+07	04	24.9	688
2554		1984	11	27.20269	03	02	21.00	+24	20	32.5	688
2554		1984	11	27.24861	03	02	18.09	+24	20	14.9	688
2560		1984	09	19.17083	22	16	15.03	-12	45	23.3	688
2564		1984	11	18.25347	03	06	41.01	+13	37	58.4	688
2564		1984	11	18.30625	03	06	37.54	+13	37	44.3	688
2564		1984	11	27.16875	02	58	07.84	+13	04	13.3	688
2564		1984	11	27.21806	02	58	05.24	+13	04	04.3	688
2567		1984	09	19.17083	22	14	31.10	-15	55	06.8	688
2575		1984	11	27.20269	02	49	46.93	+24	13	41.8	17.0 688
2575		1984	11	27.24861	02	49	44.25	+24	13	28.3	688
2616		1983	11	04.26389	02	21	08.03	+11	15	04.8	688
2616		1983	11	04.30972	02	21	05.07	+11	14	50.4	688

2616	1983	11	07.22847	02	18	06.44	+10	59	34.9	688
2616	1983	11	07.26944	02	18	03.89	+10	59	22.8	688
2633	1984	11	27.10903	01	51	00.77	+09	43	25.6	17.0 688
2633	1984	11	27.15347	01	50	59.62	+09	43	27.2	688
2642	1984	11	27.28472	04	14	55.91	+02	43	34.8	15.8 688
2642	1984	11	27.33090	04	14	53.27	+02	43	14.4	688
2656	1984	11	27.39514	06	06	06.49	+21	58	34.4	17.0 688
2667	1984	11	18.25347	02	49	10.73	+15	29	44.8	688
2667	1984	11	18.30625	02	49	08.10	+15	29	35.3	688
2667	1984	11	27.16875	02	42	43.87	+15	08	40.6	16.8 688
2667	1984	11	27.21806	02	42	42.04	+15	08	35.9	688
2678	1984	11	27.30000	04	17	41.64	+22	44	59.5	688
2678	1984	11	27.34583	04	17	38.44	+22	44	56.0	688
2683	1984	11	18.23472	02	33	19.36	+17	12	40.5	688
2683	1984	11	18.28750	02	33	16.90	+17	12	27.6	688
2692	1984	11	18.26875	03	56	44.91	+19	35	22.0	688
2692	1984	11	18.32153	03	56	41.62	+19	35	03.3	688
2692	1984	11	24.27222	03	50	49.83	+18	57	36.9	688
2692	1984	11	24.30972	03	50	47.57	+18	57	23.8	688
2704	1983	09	11.24792	22	04	46.46	-05	46	18.9	688
2704	1983	09	11.30069	22	04	43.86	-05	46	38.3	688
2723	1984	11	24.29097	02	36	54.17	+12	02	38.6	688
2734	1984	11	20.14583	01	33	03.02	+08	30	22.1	688
2734	1984	11	20.22986	01	32	59.51	+08	30	26.1	688
2776	1983	09	11.24792	22	17	15.12	-06	50	21.2	688
2776	1983	09	11.30069	22	17	12.32	-06	50	43.3	688
2776	1983	09	12.23194	22	16	26.43	-06	56	49.2	688
2814	1984	11	24.29097	02	24	04.40	+10	38	03.6	17.2 688
2828	1984	11	18.25347	02	48	30.83	+13	30	40.4	16.8 688
2828	1984	11	18.30625	02	48	27.29	+13	30	32.5	688
2828	1984	11	27.16875	02	40	01.55	+13	14	05.1	16.8 688
2828	1984	11	27.21806	02	39	59.20	+13	14	00.4	688
2873	1983	11	04.24861	01	48	54.92	+01	22	09.4	688
2873	1983	11	04.29444	01	48	52.47	+01	22	01.7	688
2894	1984	11	27.34583	04	38	56.56	+20	57	51.8	688
2928	1983	09	11.24792	21	59	56.87	-05	55	28.0	16.8 688
2928	1983	09	11.30069	21	59	54.56	-05	55	35.8	688
2931	1984	11	20.36250	05	21	16.09	+25	34	40.2	17.5 688
2931	1984	11	20.40833	05	21	13.69	+25	34	41.8	688
2934	1983	11	04.26389	02	20	39.19	+10	31	43.9	688
2934	1983	11	04.30972	02	20	37.15	+10	31	27.4	688
2934	1983	11	07.22847	02	18	30.07	+10	14	40.0	688
2934	1983	11	07.26944	02	18	28.16	+10	14	25.6	688
2956	1984	11	18.26875	03	50	49.02	+16	36	34.0	688
2956	1984	11	18.32153	03	50	45.92	+16	36	27.6	688
2956	1984	11	24.27222	03	45	16.30	+16	21	53.9	17.0 688
2956	1984	11	24.30972	03	45	14.21	+16	21	47.9	688
2958	1984	11	20.36250	05	16	56.47	+24	08	42.2	688
2958	1984	11	20.40833	05	16	54.36	+24	08	43.2	688
2959	1984	11	20.33194	04	49	06.35	+16	06	06.6	688
2959	1984	11	20.37778	04	49	04.35	+16	06	04.9	688
2959	1984	11	27.31597	04	43	59.79	+16	01	48.4	688
2959	1984	11	27.36076	04	43	57.67	+16	01	47.6	688
2971	1983	09	11.28403	01	02	53.77	-06	37	31.5	17.5 688
2971	1983	09	11.31597	01	02	52.53	-06	37	42.6	688
2971	1983	09	12.38542	01	02	12.91	-06	44	07.7	17.0 688
2971	1983	09	12.41667	01	02	11.61	-06	44	19.5	688
2978	1984	11	18.26875	04	02	50.65	+22	33	40.0	688
2978	1984	11	18.32153	04	02	47.70	+22	33	33.4	688

2978		1984	11	24.27222	03	57	23.83	+22	19	11.1		16.8	688
2978		1984	11	24.30972	03	57	21.56	+22	19	05.6			688
3016		1984	11	20.36250	05	23	00.31	+19	31	33.8			688
3016		1984	11	20.40833	05	22	58.06	+19	31	31.7			688
3114		1984	05	03.37917	16	29	33.38	-18	10	36.8			688
3116		1984	05	03.34792	16	11	39.62	-17	06	16.1			688
3134		1984	11	18.26875	03	52	56.02	+23	40	14.7		16.0	688
3134		1984	11	18.32153	03	52	53.48	+23	40	00.6			688
3134		1984	11	24.27222	03	48	29.40	+23	13	18.1			688
3134		1984	11	24.30972	03	48	27.61	+23	13	08.0			688
1934	RP	1984	11	20.36250	05	29	23.82	+24	41	43.0		17.0	688
1934	RP	1984	11	20.40833	05	29	21.59	+24	41	45.4			688
1938	DH2	1984	11	20.33194	04	50	42.53	+12	31	53.5		17.2	688
1938	DH2	1984	11	20.37778	04	50	39.82	+12	31	51.8			688
1938	DH2	1984	11	27.36076	04	43	20.59	+12	33	15.4		17.2	688
1938	SL	1984	11	20.12361	00	27	24.83	-00	45	21.3		16.8	688
1938	SL	1984	11	20.20364	00	27	26.64	-00	44	28.7			688
1949	PP	1984	11	18.26875	04	10	37.26	+18	05	17.4		17.5	688
1949	PP	1984	11	18.32153	04	10	34.45	+18	05	08.3			688
1949	PP	1984	11	24.27222	04	05	31.14	+17	52	33.1		17.2	688
1949	PP	1984	11	24.30972	04	05	29.13	+17	52	31.4			688
1972	RU2	1984	11	20.34722	04	52	51.45	+33	30	55.4		16.8	688
1972	RU2	1984	11	20.39306	04	52	48.54	+33	30	52.8			688
1972	RU2	1984	11	27.37650	04	45	00.26	+33	20	12.2		17.0	3 688
1972	RU2	1984	11	27.44167	04	44	56.26	+33	20	08.0			3 688
1975	SF	1984	11	27.28472	04	18	17.33	+02	20	49.0		16.0	688
1975	SF	1984	11	27.33090	04	18	14.41	+02	20	59.2			688
1977	NQ	1984	11	20.36250	05	26	17.71	+24	07	34.4		17.2	688
1977	NQ	1984	11	20.40833	05	26	15.74	+24	07	35.5			688
1977	QA5	1984	11	20.36250	05	14	22.32	+25	42	37.8		16.2	688
1977	QA5	1984	11	20.40833	05	14	19.52	+25	42	43.2			688
1978	QO2	1984	11	27.16875	03	02	46.85	+16	37	59.6		17.0	688
1978	QO2	1984	11	27.21806	03	02	44.78	+16	37	53.1			688
1978	RH	1984	11	24.29097	02	27	40.38	+11	28	44.6		17.0	688
1978	RX	1984	11	27.10903	01	47	56.86	+07	55	23.6		17.5	688
1978	RX	1984	11	27.15347	01	47	55.84	+07	55	21.4			688
1979	SS11	1984	11	20.14583	01	30	21.95	+09	56	32.7		17.2	688
1979	SS11	1984	11	20.22986	01	30	19.30	+09	56	20.9			688
1980	RK	1984	11	20.31667	03	26	11.58	+30	12	56.0		17.5	688
1980	VN1	1984	11	27.10903	02	09	49.45	+06	28	13.8		16.8	688
1980	VN1	1984	11	27.15347	02	09	47.96	+06	28	29.0			688
1981	EY17	1983	11	04.26389	02	18	51.12	+10	26	41.3		17.0	688
1981	EY17	1983	11	04.30972	02	18	48.67	+10	26	25.7			688
1981	EY17	1983	11	07.22847	02	16	14.36	+10	10	50.1		17.2	688
1981	EY17	1983	11	07.26944	02	16	12.30	+10	10	38.1			688
1981	JM	1984	11	20.33194	05	05	34.35	+19	45	58.8		17.2	688
1981	JM	1984	11	20.37778	05	05	32.09	+19	45	55.3			688
1981	JM	1984	11	27.31597	04	59	58.94	+19	37	41.8		17.2	1 688
1981	JM	1984	11	27.36076	04	59	56.45	+19	37	39.4			688
1981	JZ	1983	11	04.24861	01	54	13.82	-01	11	25.4		16.2	688
1981	JZ	1983	11	04.29444	01	54	11.52	-01	11	25.1			688
1981	WY	1984	11	20.12361	00	33	08.26	-06	51	17.0		17.0	688
1981	WY	1984	11	20.20364	00	33	08.36	-06	50	38.5			688
1981	XF2	1984	11	20.14583	01	36	47.75	+05	49	01.8		16.8	688
1981	XF2	1984	11	20.22986	01	36	44.95	+05	49	02.7			688
1982	BG1	1984	11	20.34722	04	52	52.65	+30	13	14.4		16.8	688
1982	BG1	1984	11	20.39306	04	52	49.65	+30	13	05.8			688
1982	BG1	1984	11	27.37650	04	45	14.95	+29	51	17.9		16.8	688
1982	BG1	1984	11	27.44167	04	45	10.86	+29	51	06.4			1 688

1982	BH1		1984	11	27.39514	05	56	09.10	+22	01	35.3	16.8	688
1982	BH1		1984	11	27.46042	05	56	06.00	+22	01	29.3		688
1982	DJ		1984	11	20.28611	03	29	59.23	+27	03	13.1	16.5	688
1982	DJ		1984	11	20.31667	03	29	57.16	+27	03	11.3		688
1982	DJ		1984	11	27.18750	03	22	00.51	+26	51	38.5	16.8	688
1982	DJ		1984	11	27.23333	03	21	57.47	+26	51	33.0	1	688
1983	CB3		1984	09	28.23194	23	30	33.98	+05	23	07.5	17.2	688
1983	CB3		1984	09	28.26250	23	30	32.01	+05	22	57.2		688
1983	QE		1983	09	11.24792	22	00	34.46	-06	25	03.8	16.5	688
1983	QE		1983	09	11.30069	22	00	32.90	-06	25	47.8		688
1983	RG4	*	1983	09	11.24792	22	18	50.74	-02	20	26.8	17.2	4 688
1983	RG4		1983	09	11.30069	22	18	48.58	-02	20	35.2		688
1983	RH4	*	1983	09	11.28403	00	53	05.18	-02	53	10.2	16.2	4 688
1983	RH4		1983	09	11.31597	00	53	03.84	-02	53	07.4		688
1983	RH4		1983	09	12.38542	00	52	21.24	-02	51	31.5	16.2	688
1983	RH4		1983	09	12.41667	00	52	19.88	-02	51	27.9		688
1983	RJ4	*	1983	09	11.28403	00	56	30.99	-06	31	31.1	16.8	4 688
1983	RJ4		1983	09	11.31597	00	56	29.75	-06	31	29.2		688
1983	RJ4		1983	09	12.38542	00	55	50.41	-06	30	12.1	16.5	688
1983	RJ4		1983	09	12.41667	00	55	49.08	-06	30	09.1		688
1983	RK4	*	1983	09	11.28403	01	07	35.54	-05	06	49.6	17.2	4 688
1983	RK4		1983	09	11.31597	01	07	33.87	-05	06	52.5		688
1983	RK4		1983	09	12.38542	01	06	45.16	-05	06	46.7	16.8	688
1983	RK4		1983	09	12.41667	01	06	43.51	-05	06	46.7		688
1983	RL4	*	1983	09	11.28403	01	08	59.39	-02	36	34.5	16.8	4 688
1983	RL4		1983	09	11.31597	01	08	59.24	-02	37	09.3		688
1983	RL4		1983	09	12.38542	01	08	56.91	-02	56	55.1	16.8	688
1983	RL4		1983	09	12.41667	01	08	56.69	-02	57	32.4		688
1983	VD7		1983	11	04.26389	02	07	03.73	+13	17	45.0	15.8	688
1983	VD7		1983	11	04.30972	02	07	00.41	+13	17	53.9		688
1983	VD7		1983	11	07.22847	02	03	46.01	+13	27	56.0	16.0	688
1983	VD7		1983	11	07.26944	02	03	43.21	+13	28	05.1		688
1983	VE7	*	1983	11	04.24861	02	04	12.05	+00	04	54.1	16.2	4 688
1983	VE7		1983	11	04.29444	02	04	10.50	+00	04	25.5		688
1983	VF7	*	1983	11	04.26389	02	06	36.74	+13	41	26.6	16.5	4 688
1983	VF7		1983	11	04.30972	02	06	33.45	+13	41	34.3		688
1983	VF7		1983	11	07.22847	02	03	30.03	+13	51	05.5	16.5	1 688
1983	VF7		1983	11	07.26944	02	03	27.67	+13	51	13.0		688
1983	VG7	*	1983	11	04.26389	02	06	45.74	+11	07	56.4	15.8	4 688
1983	VG7		1983	11	04.30972	02	06	42.75	+11	07	55.3		688
1983	VG7		1983	11	07.22847	02	03	45.93	+11	06	40.3	16.0	688
1983	VG7		1983	11	07.26944	02	03	43.44	+11	06	39.8		688
1983	VH7	*	1983	11	04.26389	02	07	18.94	+11	52	34.2	16.2	4 688
1983	VH7		1983	11	04.30972	02	07	16.51	+11	52	10.9		688
1983	VH7		1983	11	07.22847	02	05	00.60	+11	27	10.8	16.5	688
1983	VH7		1983	11	07.26944	02	04	58.53	+11	26	49.7		688
1983	VJ7	*	1983	11	04.26389	02	08	17.67	+11	17	05.8	16.5	5 688
1983	VJ7		1983	11	04.30972	02	08	14.70	+11	16	56.0		688
1983	VJ7		1983	11	07.22847	02	05	19.18	+11	06	24.1	16.8	688
1983	VJ7		1983	11	07.26944	02	05	16.50	+11	06	14.7		688
1983	VK7	*	1983	11	04.26389	02	08	44.61	+08	10	22.1	16.8	4 688
1983	VK7		1983	11	04.30972	02	08	41.78	+08	10	14.6		688
1983	VK7		1983	11	07.22847	02	05	56.02	+08	01	46.2	16.8	1 688
1983	VK7		1983	11	07.26944	02	05	53.68	+08	01	37.5		688
1983	VL7	*	1983	11	04.26389	02	11	19.79	+11	56	46.0	16.8	4 688
1983	VL7		1983	11	04.30972	02	11	17.26	+11	56	44.4		688
1983	VL7		1983	11	07.22847	02	08	40.47	+11	53	11.5	17.2	688
1983	VL7		1983	11	07.26944	02	08	38.55	+11	53	09.9		688
1983	VM7	*	1983	11	04.26389	02	14	18.19	+09	47	01.3	16.2	4 688

1983	VM7		1983	11	04.30972	02	14	15.18	+09	46	55.7		688
1983	VM7		1983	11	07.22847	02	11	22.92	+09	41	48.9	16.5	688
1983	VM7		1983	11	07.26944	02	11	20.39	+09	41	45.0		688
1983	VN7	*	1983	11	04.26389	02	15	07.23	+10	50	51.5	16.5 4	688
1983	VN7		1983	11	04.30972	02	15	04.88	+10	50	39.1		688
1983	VN7		1983	11	07.22847	02	12	49.51	+10	38	48.5	16.8	688
1983	VN7		1983	11	07.26944	02	12	47.73	+10	38	41.7		688
1984	SK3		1984	10	29.20972	00	02	37.80	-01	46	17.3		688
1984	SK3		1984	10	29.13472	00	02	40.28	-01	46	31.3	16.5	688
1984	SU3		1984	11	20.14583	01	20	59.37	+07	44	51.1	17.0	688
1984	SU3		1984	11	20.22986	01	20	58.27	+07	45	12.9		688
1984	UD		1984	11	20.16806	01	28	13.52	+13	14	43.0	16.8	688
1984	UD		1984	11	20.25208	01	28	10.69	+13	14	55.4		688
1984	UG		1984	10	29.36528	02	50	21.23	+15	09	02.8	17.0	688
1984	UG		1984	10	29.39306	02	50	19.90	+15	08	57.8		688
1984	UO		1984	11	20.12361	00	33	37.65	-05	09	39.1	17.2	688
1984	UO		1984	11	20.20364	00	33	37.41	-05	09	32.2		688
1984	UR		1984	11	20.14583	01	15	38.52	+05	23	41.9	16.8	688
1984	UR		1984	11	20.22986	01	15	36.83	+05	24	04.4		688
1984	UV		1984	11	18.25347	02	55	25.71	+15	13	55.2	16.8	688
1984	UV		1984	11	27.16875	02	48	34.70	+14	53	21.1	16.8	688
1984	UV		1984	11	27.21806	02	48	32.64	+14	53	16.6		688
1984	UW		1984	11	20.28611	03	21	34.24	+27	12	05.0	16.8	688
1984	UW		1984	11	20.31667	03	21	32.72	+27	11	54.5		688
1984	UW		1984	11	27.18750	03	15	51.58	+26	31	18.6	17.0	688
1984	UW		1984	11	27.23333	03	15	49.56	+26	30	59.1		688
1984	UX		1984	11	20.28611	03	21	31.30	+30	08	35.5	15.8	688
1984	UX		1984	11	20.31667	03	21	29.55	+30	08	37.1		688
1984	UX		1984	11	27.23333	03	15	10.61	+30	08	46.0	16.0	688
1984	UA2		1984	11	24.29097	02	23	50.87	+07	51	03.3	17.0	688
1984	UC2		1984	11	24.29097	02	33	42.13	+07	37	11.9	16.8	688
1984	UV2		1984	11	20.16806	01	19	28.71	+17	07	07.7	16.8	688
1984	UV2		1984	11	20.25208	01	19	26.74	+17	07	04.9		688
1984	UX2		1984	11	20.16806	01	22	55.47	+17	00	48.1	16.8	688
1984	UX2		1984	11	20.25208	01	22	52.52	+17	00	49.3		688
1984	UX2		1984	11	27.08681	01	19	56.92	+17	02	28.7	17.0	688
1984	UX2		1984	11	27.13125	01	19	56.03	+17	02	31.6		688
1984	VA		1984	11	18.25347	02	57	32.20	+16	47	14.3	16.5	688
1984	VA		1984	11	18.30625	02	57	29.41	+16	47	08.2		688
1984	VA		1984	11	27.16875	02	50	42.08	+16	30	32.0	17.0	688
1984	VA		1984	11	27.21806	02	50	40.06	+16	30	25.3		688
1984	WA		1984	11	27.30000	04	21	14.60	+20	31	00.9	14.5	688
1984	WA		1984	11	27.34583	04	21	11.94	+20	30	38.2		688
1984	WC		1984	11	27.20269	03	01	04.36	+22	02	40.0	16.0	688
1984	WC		1984	11	27.24861	03	01	02.29	+22	02	09.9		688
1984	WM	*	1984	11	18.26875	03	49	07.80	+16	01	10.1	17.0 6	688
1984	WM		1984	11	18.32153	03	49	04.34	+16	00	49.9		688
1984	WN	*	1984	11	18.26875	03	49	34.01	+22	35	19.2	16.8 6	688
1984	WN		1984	11	18.32153	03	49	31.04	+22	35	00.1		688
1984	WN		1984	11	24.27222	03	44	22.17	+21	58	25.3	16.8	688
1984	WN		1984	11	24.30972	03	44	20.14	+21	58	10.9		688
1984	WO	*	1984	11	18.26875	03	53	52.30	+22	29	11.4	16.8 6	688
1984	WO		1984	11	18.32153	03	53	48.30	+22	29	23.4		688
1984	WO		1984	11	24.27222	03	46	39.36	+22	50	33.2	16.8	688
1984	WO		1984	11	24.30972	03	46	36.50	+22	50	40.6		688
1984	WP	*	1984	11	18.26875	04	00	08.51	+21	57	32.3	16.5 6	688
1984	WP		1984	11	18.32153	04	00	05.45	+21	57	30.8		688
1984	WP		1984	11	24.27222	03	54	41.47	+21	51	30.7	16.2	688
1984	WP		1984	11	24.30972	03	54	39.22	+21	51	28.3		688

1984	WQ	*	1984	11	18.26875	04	03	56.04	+22	20	21.3		17.0	6 688
1984	WQ		1984	11	18.32153	04	03	53.18	+22	20	02.3			688
1984	WQ		1984	11	24.27222	03	58	51.77	+21	42	38.4		16.8	688
1984	WQ		1984	11	24.30972	03	58	49.83	+21	42	24.4			688
1984	WR	*	1984	11	18.26875	04	13	50.18	+20	23	05.5		17.0	6 688
1984	WR		1984	11	18.32153	04	13	46.20	+20	23	11.5			688
1984	WR		1984	11	24.27222	04	06	37.44	+20	36	09.4		16.8	688
1984	WR		1984	11	24.30972	04	06	34.66	+20	36	14.8			688
1984	WS	*	1984	11	18.26875	04	13	54.95	+18	08	45.2		16.5	6 688
1984	WS		1984	11	18.32153	04	13	51.70	+18	08	31.4			688
1984	WS		1984	11	24.27222	04	08	06.22	+17	45	09.0		16.8	688
1984	WS		1984	11	24.30972	04	08	03.61	+17	45	00.6			688
1984	WT	*	1984	11	20.33194	04	45	15.04	+18	34	31.6		16.5	6 688
1984	WT		1984	11	20.37778	04	45	12.80	+18	34	09.5			688
1984	WT		1984	11	27.31597	04	39	33.94	+17	36	43.0		16.8	688
1984	WT		1984	11	27.36076	04	39	31.35	+17	36	20.8			688
1984	WU	*	1984	11	20.33194	04	46	56.64	+15	04	39.8		16.5	6 688
1984	WU		1984	11	20.37778	04	46	53.85	+15	04	39.8			688
1984	WU		1984	11	27.31597	04	40	03.61	+15	07	56.5		16.2	688
1984	WU		1984	11	27.36076	04	40	00.71	+15	07	58.5			688
1984	WV	*	1984	11	20.33194	04	53	11.80	+13	02	53.3		16.2	6 688
1984	WV		1984	11	20.37778	04	53	09.33	+13	02	38.0			688
1984	WV		1984	11	27.31597	04	46	41.86	+12	26	59.0		16.5	688
1984	WV		1984	11	27.36076	04	46	39.21	+12	26	46.4			688
1984	WW	*	1984	11	20.33194	05	04	27.77	+14	38	19.1		16.5	6 688
1984	WW		1984	11	20.37778	05	04	25.61	+14	38	20.0			688
1984	WW		1984	11	27.31597	04	58	40.82	+14	41	24.1		16.5	688
1984	WW		1984	11	27.36076	04	58	38.49	+14	41	25.7			688
1984	WX	*	1984	11	20.33194	05	06	40.95	+12	55	14.9		17.0	6 688
1984	WX		1984	11	20.37778	05	06	38.98	+12	55	14.4			688
1984	WX		1984	11	27.31597	05	00	59.50	+12	56	05.6		17.2	688
1984	WX		1984	11	27.36076	05	00	57.49	+12	56	04.8			1 688
1984	WY	*	1984	11	20.33194	05	07	42.39	+13	36	54.6		16.8	6 688
1984	WY		1984	11	20.37778	05	07	40.17	+13	36	59.3			688
1984	WY		1984	11	27.31597	05	01	56.49	+13	48	28.3		16.8	688
1984	WY		1984	11	27.36076	05	01	53.84	+13	48	32.6			1 688
1984	WZ	*	1984	11	20.33194	05	08	15.00	+14	39	38.5		16.8	6 688
1984	WZ		1984	11	20.37778	05	08	12.16	+14	39	54.8			688
1984	WZ		1984	11	27.31597	05	01	21.74	+15	22	30.5		16.5	688
1984	WZ		1984	11	27.36076	05	01	18.75	+15	22	46.7			688
1984	WK1	*	1984	11	20.14583	01	15	46.94	+09	03	47.7		17.2	6 688
1984	WK1		1984	11	20.22986	01	15	44.19	+09	03	37.5			688
1984	WL1	*	1984	11	20.16806	01	21	03.86	+17	18	50.2		17.2	6 688
1984	WL1		1984	11	20.25208	01	21	00.78	+17	18	25.1			688
1984	WL1		1984	11	27.08681	01	18	03.68	+16	46	57.1		17.2	2 688
1984	WL1		1984	11	27.13125	01	18	03.00	+16	46	45.0			688
1984	WM1	*	1984	11	20.28611	03	23	00.05	+29	55	48.7		17.0	6 688
1984	WM1		1984	11	20.31667	03	22	58.10	+29	55	43.0			688
1984	WM1		1984	11	27.18750	03	15	12.34	+29	25	44.5		16.8	688
1984	WM1		1984	11	27.23333	03	15	09.45	+29	25	30.3			688
1984	WN1	*	1984	11	20.34722	04	49	47.55	+29	38	52.9		17.2	6 688
1984	WN1		1984	11	20.39306	04	49	45.19	+29	38	52.1			688
1984	WO1	*	1984	11	20.34722	04	52	21.30	+34	06	12.2		17.0	6 688
1984	WO1		1984	11	20.39306	04	52	17.89	+34	06	32.1			688
1984	WP1	*	1984	11	20.34722	05	10	43.91	+34	12	50.8		17.0	6 688
1984	WP1		1984	11	20.39306	05	10	41.75	+34	12	58.7			688
1984	WQ1	*	1984	11	20.36250	05	21	09.32	+26	29	28.4		16.8	4 688
1984	WQ1		1984	11	20.40833	05	21	06.97	+26	29	25.6			688

1984 WR1 *	1984	11	20.36250	05 33 43.44	+19 45 28.3		17.2	4	688
1984 WR1	1984	11	20.40833	05 33 40.48	+19 45 21.0				688

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2. 4: discoverer Skiff. 5 = 1 + 4. 6: discoverer Bowell.

OBSERVATIONS MADE AT THE LOWELL OBSERVATORY.

Plates with the 0.33-m photographic telescope. Observers R. Burnham, C. Slaughter and C. W. Tombaugh. Measured by E. Bowell using a PDS scanning microdensitometer. SAO reference stars, global solutions. Contact: E. L. G. Bowell, Lowell Observatory, P.O. Box 1269, Flagstaff, AZ 86002, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
260	1931	10 13.21875	00 34 05.61	-00 24 41.3		690
260	1931	10 17.24444	00 31 38.19	-00 46 06.3		690
260	1931	10 18.26146	00 31 02.35	-00 51 16.3		690
378	1947	06 14.27539	16 27 42.16	-18 08 34.4		690
378	1947	06 15.22751	16 26 55.01	-18 05 19.6		690
521	1947	06 14.27539	16 35 03.92	-17 39 27.5		690
521	1947	06 15.22751	16 34 12.97	-17 39 58.6		690
560	1947	06 14.27539	16 42 44.09	-15 48 07.9		690
560	1947	06 15.22751	16 41 54.33	-15 48 52.0		690
803	1958	10 10.31944	00 58 13.50	+17 10 45.8		690
803	1958	10 11.30903	00 57 30.20	+17 04 56.0		690
803	1958	10 14.27222	00 55 21.22	+16 46 54.9		690
1595	1947	06 14.27539	16 23 57.51	-17 08 22.4		690
1595	1947	06 15.22751	16 23 08.82	-17 08 26.0		690
2144	1947	06 14.27539	16 34 03.41	-18 08 26.5		690
2144	1947	06 15.22751	16 33 16.44	-18 07 26.4	1	690
2389	1958	10 10.31944	01 00 54.05	+17 36 23.6		690
2389	1958	10 11.30903	00 59 50.43	+17 33 19.4		690
2389	1958	10 14.27222	00 56 41.84	+17 25 00.2	3	690
2957	1958	10 11.30903	00 52 44.92	+16 56 08.5		690
2957	1958	10 14.27222	00 50 30.81	+16 36 03.4		690
3132	1929	11 27.25556	05 02 50.19	+18 18 21.4		690
1931 TB4	1931	10 13.21875	00 34 49.98	-01 26 12.0		690
1931 TB4	1931	10 17.24444	00 31 26.54	-01 23 05.7		690
1931 TB4	1931	10 18.26146	00 30 37.79	-01 21 57.9		690
1947 LF	1947	06 14.27539	16 21 39.46	-12 37 10.3	1	690
1947 LF	1947	06 15.22751	16 20 54.24	-12 39 31.8		690
1947 LG	1947	06 14.27539	16 29 12.39	-14 36 20.2		690
1947 LG	1947	06 15.22751	16 28 19.09	-14 36 50.1		690
1947 LJ	1947	06 14.27539	16 37 51.14	-16 58 45.9		690
1947 LJ	1947	06 15.22751	16 37 02.76	-16 57 06.8		690
1947 LK	1947	06 14.27539	16 41 47.15	-15 42 47.6		690
1947 LK	1947	06 15.22751	16 40 56.25	-15 39 06.4		690

Note 1: right ascension uncertain. 2: declination uncertain. 3 = 1 + 2.

OBSERVATIONS MADE AT THE GOETHE LINK OBSERVATORY.

Plates measured and reduced at Indiana University under the direction of D. Owings in response to requests from the Minor Planet Center. Contact: F. K. Edmondson, Swain Hall West 319A, Indiana University, Bloomington, IN 47401, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	N	Obs.
1158	1954	10 24.28272	01 18 11.86	+28 24 59.2		760
1158	1954	10 24.32716	01 18 08.61	+28 24 55.0		760
1182	1959	09 05.14979	21 17 32.38	-18 22 30.7		760
1182	1959	09 05.19250	21 17 30.08	-18 22 24.6		760
1211	1954	05 23.20947	13 35 27.68	+08 20 57.1	1	760
1244	1958	10 07.18093	23 11 58.54	+09 47 02.3	2	760
1247	1965	08 03.29964	21 15 37.46	-14 30 47.5	3	760

1247		1965	08	03.34304	21	15	35.54	-14	30	58.3	3 760
1248		1961	01	13.15306	06	59	53.27	+29	21	09.4	4 760
1248		1961	01	13.19820	06	59	50.41	+29	21	18.7	4 760
1254		1957	11	26.37330	04	41	16.67	+28	37	57.2	5 760
1254		1957	11	26.41359	04	41	14.40	+28	37	50.1	5 760
1269		1963	11	24.27637	04	54	30.99	+19	17	15.8	760
1269		1963	11	24.32081	04	54	29.09	+19	17	13.5	760
1278		1952	10	21.14523	00	34	19.03	-18	49	41.6	760
1278		1952	10	21.18340	00	34	17.26	-18	49	25.8	760
1310		1964	10	03.32587	01	35	17.25	+29	22	57.2	6 760
1351		1962	10	04.11384	22	14	56.44	-17	48	14.2	7 760
1351		1962	10	04.15619	22	14	55.22	-17	48	08.8	7 760
1637		1963	11	11.07676	00	42	30.82	+04	49	27.5	8 760
1637		1963	11	11.10594	00	42	29.01	+04	49	27.0	8 760

Note 1: rough position on MPC 1106 in error. 2: likewise that on MPC 1881. 3: likewise on MPC 2554. 4: likewise on MPC 2137. 5: likewise on MPC 1776. 6: likewise on MPC 2353 (1964 TC). 7: likewise on MPC 2229. 8: date erroneously given as one day earlier on MPC 2310.

OBSERVATIONS MADE AT OAK RIDGE OBSERVATORY BY R. E. McCROSKY, C.-Y. SHAO AND G. SCHWARTZ.

Plates with the 1.5-m reflector, reduced using the Astrographic Catalogue. Coordination and verification by, and assistance with identifications from, C. M. Bardwell. Contact: R. E. McCrosky, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1212	1984	11 20.03663	22 25 26.95	-12 21 34.2	17	801
1389	1984	11 25.23473	04 04 38.66	+17 50 54.0		801
1538	1984	11 25.34142	05 52 41.92	+39 46 47.2		801
2060	1984	11 25.26206	04 17 54.98	+16 51 01.8		801
2698	1984	11 21.06402	00 26 14.07	+03 09 55.1		801
3122	1984	11 20.95917	20 39 23.98	+28 06 42.2		801
3131	1984	11 20.03663	22 25 54.33	-12 03 47.8		801
1931 VP	1984	11 20.05624	23 39 19.54	+02 49 03.4		801
1931 VP	1984	11 26.94988	23 42 47.29	+04 48 37.3		801
1934 RP	1984	11 27.31950	05 23 14.06	+24 48 15.4		801
1938 DH2	1984	11 27.26974	04 43 26.52	+12 33 12.0		801
1949 PP	1984	11 25.23473	04 04 41.69	+17 50 36.1	18	801
1971 SC	1984	11 20.10171	00 33 53.33	-15 56 02.7		801
1973 SD3	1984	11 24.02419	00 42 06.88	+03 47 46.0		801
1976 GQ3	1984	10 18.22561	01 19 51.48	+05 38 27.8		801
1976 GQ3	1984	11 24.08135	01 02 00.66	+01 00 28.6		801
1977 NQ	1984	11 26.34514	05 21 37.81	+24 05 31.6		801
1977 TO3	1984	11 22.16277	02 00 04.25	+17 24 49.6		801
1977 TO3	1984	11 26.07461	01 57 39.35	+17 05 59.0		801
1978 QO2	1984	11 20.18775	03 08 13.48	+16 57 06.4		801
1978 RH	1984	11 24.22427	02 23 52.08	+11 07 00.0		801
1978 RY	1984	10 25.31010	04 36 43.00	+31 08 51.7		801
1978 RY	1984	11 21.25032	04 15 36.14	+31 51 27.1		801
1978 RF6	1984	11 25.31438	05 37 36.26	+11 20 33.8		801
1978 SR6	1984	11 20.34467	06 45 54.24	+36 45 52.5		801
1979 MO6	1984	11 27.15861	01 50 14.28	-09 37 55.3		801
1979 SS11	1984	11 22.14433	01 29 22.88	+09 52 00.0		801
1979 WO	1984	11 19.97529	21 56 11.33	-22 02 45.9	17	801
1980 RK	1984	11 26.25132	03 19 25.50	+29 46 45.2		801
1980 VN1	1984	10 21.28352	02 42 30.04	+05 02 52.5		801
1980 VN1	1984	11 26.09377	02 10 25.06	+06 22 48.0		801
1980 XM	1984	11 21.95075	21 25 41.99	-22 56 46.8		801
1981 AD	1984	11 25.21740	03 38 02.09	-05 20 59.7		801

1981	JM		1984	11	25.28066	05	01	40.13	+19	40	08.5	801
1981	WY		1983	02	14.33574	10	56	30.79	+19	51	06.0	801
1981	WY		1984	11	22.05921	00	33	18.21	-06	35	49.9	801
1981	YH1		1984	11	27.18377	02	34	35.06	-05	01	42.0	801
1982	BY1		1984	11	21.15363	01	46	00.72	+09	33	28.4	801
1982	DJ		1984	11	26.26995	03	23	01.69	+26	53	31.7	801
1982	HL		1984	11	27.13434	01	41	24.95	+07	19	21.4	801
1982	KD1		1984	11	26.32494	04	29	28.90	+22	43	18.2	801
1982	KD1		1984	11	27.35635	04	28	29.02	+22	44	20.1	801
1983	CB3		1984	11	21.03949	23	15	29.98	+02	38	54.8	801
1983	EW		1984	10	21.19575	00	53	11.46	+02	31	50.6	801
1983	EW		1984	11	24.05099	00	36	04.95	+00	36	39.2	801
1983	NJ		1984	11	22.18643	02	00	22.22	-08	43	20.0	801
1983	TB		1984	11	20.29661	06	01	57.22	+38	59	13.8	801
1983	TB		1984	11	26.38786	05	39	23.31	+39	49	11.1	801
1984	UN3	*	1984	10	18.22561	01	19	53.18	+05	35	20.6	17	801
6560	P-L		1984	11	27.10427	01	25	57.07	+04	21	38.4	801
6565	P-L		1984	08	24.21898	21	38	52.17	-17	41	10.8	801
6565	P-L		1984	11	21.00353	21	44	27.98	-16	37	54.7	801
6611	P-L		1984	08	27.22857	23	45	08.73	-00	10	38.7	801
6611	P-L		1984	11	22.00503	23	16	07.05	-05	29	14.4	801

OBSERVATIONS MADE AT THE EUROPEAN SOUTHERN OBSERVATORY BY H. DEBEHOGNE.
Plates taken with the GPO 0.4-m astrograph at La Silla, measured on the Optronics system at Garching. Contact: H. Debehogne, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
120	1984 09	21.15972	23 09 32.59	-03 38 12.0		809
120	1984 09	21.16528	23 09 32.38	-03 38 12.8		809
120	1984 09	21.17083	23 09 32.10	-03 38 13.8		809
120	1984 09	24.11806	23 07 22.49	-03 46 53.4		809
120	1984 09	24.12361	23 07 22.24	-03 46 54.7		809
120	1984 09	24.12917	23 07 21.99	-03 46 55.5		809
120	1984 09	27.08750	23 05 17.00	-03 55 14.8		809
120	1984 09	27.09306	23 05 16.71	-03 55 15.0		809
120	1984 09	27.09861	23 05 16.46	-03 55 16.7		809
120	1984 10	01.05694	23 02 38.74	-04 05 38.2		809
120	1984 10	01.06319	23 02 38.46	-04 05 37.9		809
366	1984 09	21.15972	23 10 17.90	-04 06 36.9		809
366	1984 09	21.16528	23 10 17.64	-04 06 37.1		809
366	1984 09	21.17083	23 10 17.36	-04 06 37.9		809
366	1984 09	24.11806	23 07 58.73	-04 11 21.7		809
366	1984 09	24.12361	23 07 58.50	-04 11 22.3		809
366	1984 09	24.12917	23 07 58.21	-04 11 22.6		809
366	1984 09	27.08750	23 05 44.80	-04 15 43.4		809
366	1984 09	27.09306	23 05 44.50	-04 15 43.2		809
366	1984 09	27.09861	23 05 44.26	-04 15 44.3		809
366	1984 10	01.05694	23 02 56.50	-04 20 45.4		809
366	1984 10	01.06319	23 02 56.21	-04 20 44.5		809
659	1984 09	21.15972	23 12 24.29	-05 13 34.8		809
659	1984 09	21.16528	23 12 24.12	-05 13 35.1		809
659	1984 09	21.17083	23 12 24.00	-05 13 36.6		809
659	1984 09	24.11806	23 10 56.61	-05 20 49.3		809
659	1984 09	24.12361	23 10 56.43	-05 20 50.3		809
659	1984 09	24.12917	23 10 56.29	-05 20 51.3		809
659	1984 09	27.08750	23 09 31.28	-05 27 49.2		809
659	1984 09	27.09306	23 09 31.06	-05 27 50.1		809
659	1984 09	27.09861	23 09 30.92	-05 27 50.4		809
659	1984 10	01.05694	23 07 42.41	-05 36 34.7		809

659	1984	10	01.06319	23	07	42.26	-05	36	35.9	809
883	1984	09	21.35000	00	50	34.52	+16	00	46.7	809
883	1984	09	21.35556	00	50	34.22	+16	00	45.4	809
883	1984	09	21.36111	00	50	33.97	+16	00	44.1	809
883	1984	09	24.31806	00	48	00.25	+15	50	50.3	809
883	1984	09	24.32361	00	47	59.93	+15	50	49.3	809
883	1984	09	24.32917	00	47	59.62	+15	50	47.8	809
883	1984	09	27.20556	00	45	23.26	+15	38	54.1	809
883	1984	09	27.21111	00	45	22.90	+15	38	52.6	809
883	1984	09	27.21667	00	45	22.57	+15	38	50.9	809
883	1984	10	01.28472	00	41	33.65	+15	18	27.1	809
883	1984	10	01.29028	00	41	33.36	+15	18	25.6	809
883	1984	10	01.29583	00	41	33.05	+15	18	23.8	809
1254	1984	09	21.35000	00	48	21.09	+16	02	04.5	809
1254	1984	09	21.35556	00	48	20.83	+16	02	03.5	809
1254	1984	09	21.36111	00	48	20.55	+16	02	02.6	809
1254	1984	09	23.31319	00	46	57.58	+15	56	10.2	809
1254	1984	09	23.31875	00	46	57.34	+15	56	09.4	809
1254	1984	09	23.32430	00	46	57.06	+15	56	08.6	809
1254	1984	09	24.31806	00	46	14.17	+15	52	56.4	809
1254	1984	09	24.32361	00	46	13.92	+15	52	55.7	809
1254	1984	09	24.32917	00	46	13.67	+15	52	54.4	809
1254	1984	09	27.20556	00	44	07.03	+15	42	58.1	809
1254	1984	09	27.21111	00	44	06.73	+15	42	56.8	809
1254	1984	09	27.21667	00	44	06.52	+15	42	55.3	809
1254	1984	10	01.28472	00	41	02.91	+15	27	05.0	809
1254	1984	10	01.29028	00	41	02.62	+15	27	03.0	809
1254	1984	10	01.29583	00	41	02.40	+15	27	01.5	809
1273	1984	09	21.35000	00	44	54.76	+15	31	52.2	809
1273	1984	09	21.35556	00	44	54.50	+15	31	51.0	809
1273	1984	09	21.36111	00	44	54.23	+15	31	49.9	809
1273	1984	09	23.31319	00	43	14.53	+15	27	11.0	809
1273	1984	09	23.31875	00	43	14.22	+15	27	10.4	809
1273	1984	09	23.32430	00	43	13.92	+15	27	09.3	809
1273	1984	09	24.31806	00	42	21.91	+15	24	27.0	809
1273	1984	09	24.32361	00	42	21.63	+15	24	25.3	809
1273	1984	09	24.32917	00	42	21.35	+15	24	23.9	809
1273	1984	09	26.33750	00	40	33.88	+15	18	08.5	809
1273	1984	09	26.34167	00	40	33.65	+15	18	07.6	809
1273	1984	09	26.34722	00	40	33.35	+15	18	06.5	809
1273	1984	09	27.20556	00	39	47.17	+15	15	12.5	809
1273	1984	09	27.21111	00	39	46.87	+15	15	11.3	809
1273	1984	09	27.21667	00	39	46.55	+15	15	10.0	809
1273	1984	09	29.22569	00	37	55.95	+15	07	35.4	809
1273	1984	09	29.23125	00	37	55.69	+15	07	34.4	809
1273	1984	09	29.23680	00	37	55.34	+15	07	33.2	809
1273	1984	10	01.30764	00	36	00.25	+14	58	53.6	809
1273	1984	10	01.31319	00	35	59.93	+14	58	51.5	809
1273	1984	10	01.31875	00	35	59.57	+14	58	50.0	809
1280	1984	09	21.35000	00	47	00.64	+14	50	26.9	809
1280	1984	09	21.35556	00	47	00.40	+14	50	25.7	809
1280	1984	09	21.36111	00	47	00.17	+14	50	24.8	809
1280	1984	09	23.31319	00	45	40.97	+14	45	02.6	809
1280	1984	09	23.31875	00	45	40.74	+14	45	01.8	809
1280	1984	09	23.32430	00	45	40.52	+14	45	00.6	809
1280	1984	09	24.31806	00	44	59.46	+14	42	05.0	809
1280	1984	09	24.32361	00	44	59.23	+14	42	03.5	809
1280	1984	09	24.32917	00	44	59.03	+14	42	02.6	809
1280	1984	09	27.20556	00	42	58.00	+14	32	52.3	809

1280			1984	09	27.21111	00	42	57.77	+14	32	51.4	809
1280			1984	09	27.21667	00	42	57.56	+14	32	50.4	809
1280			1984	10	01.28472	00	40	02.02	+14	18	15.0	809
1280			1984	10	01.29028	00	40	01.75	+14	18	13.4	809
1280			1984	10	01.29583	00	40	01.49	+14	18	12.2	809
2759			1984	09	21.15972	23	15	00.46	-04	23	42.5	809
2759			1984	09	21.16528	23	15	00.30	-04	23	44.0	809
2759			1984	09	21.17083	23	15	00.18	-04	23	46.2	809
2759			1984	09	24.11806	23	13	45.38	-04	38	10.2	809
2759			1984	09	24.12361	23	13	45.26	-04	38	11.1	809
2759			1984	09	24.12917	23	13	45.18	-04	38	12.3	809
2759			1984	09	27.08750	23	12	31.92	-04	52	28.0	809
2759			1984	09	27.09306	23	12	31.73	-04	52	29.5	809
2759			1984	09	27.09861	23	12	31.56	-04	52	31.5	809
1984	SN4	*	1984	09	21.15972	23	13	14.42	-04	12	19.3	17.8 809
1984	SN4		1984	09	21.16528	23	13	14.21	-04	12	20.5	809
1984	SN4		1984	09	21.17083	23	13	13.95	-04	12	21.6	809
1984	SN4		1984	09	24.11806	23	11	04.19	-04	23	03.2	809
1984	SN4		1984	09	24.12361	23	11	03.97	-04	23	04.5	809
1984	SN4		1984	09	24.12917	23	11	03.75	-04	23	05.5	809
1984	SN4		1984	09	27.08750	23	09	02.18	-04	33	03.4	809
1984	SN4		1984	09	27.09306	23	09	01.96	-04	33	04.6	809
1984	SN4		1984	09	27.09861	23	09	01.74	-04	33	05.7	809
1984	SN4		1984	10	01.05694	23	06	35.67	-04	44	53.9	809
1984	SN4		1984	10	01.06319	23	06	35.54	-04	44	55.2	809
1984	SO4	*	1984	09	21.35000	00	49	54.86	+15	35	29.7	17.0 809
1984	SO4		1984	09	21.35556	00	49	54.59	+15	35	28.3	809
1984	SO4		1984	09	21.36111	00	49	54.30	+15	35	27.2	809
1984	SO4		1984	09	24.31806	00	47	19.48	+15	25	41.6	809
1984	SO4		1984	09	24.32361	00	47	19.20	+15	25	40.4	809
1984	SO4		1984	09	24.32917	00	47	18.86	+15	25	38.9	809
1984	SO4		1984	09	27.20556	00	44	41.54	+15	14	05.5	809
1984	SO4		1984	09	27.21111	00	44	41.24	+15	14	03.8	809
1984	SO4		1984	09	27.21667	00	44	40.96	+15	14	02.2	809
1984	SO4		1984	10	01.28472	00	40	50.24	+14	54	30.4	809
1984	SO4		1984	10	01.29028	00	40	49.95	+14	54	28.8	809
1984	SO4		1984	10	01.29583	00	40	49.64	+14	54	27.2	809
1984	SP4	*	1984	09	23.31319	00	41	36.12	+14	47	22.6	17.2 809
1984	SP4		1984	09	23.31875	00	41	35.85	+14	47	22.5	809
1984	SP4		1984	09	23.32430	00	41	35.60	+14	47	21.9	809
1984	SP4		1984	09	26.33750	00	39	16.95	+14	44	07.4	809
1984	SP4		1984	09	26.34167	00	39	16.69	+14	44	06.4	809
1984	SP4		1984	09	26.34722	00	39	16.40	+14	44	05.1	809
1984	SP4		1984	09	29.22569	00	36	58.26	+14	38	58.6	809
1984	SP4		1984	09	29.23125	00	36	58.00	+14	38	58.0	809
1984	SP4		1984	09	29.23680	00	36	57.69	+14	38	57.1	809
1984	SP4		1984	10	01.30764	00	35	15.44	+14	34	07.2	809
1984	SP4		1984	10	01.31319	00	35	15.20	+14	34	06.1	809
1984	SP4		1984	10	01.31875	00	35	14.88	+14	34	05.3	809
1984	SQ4	*	1984	09	24.31806	00	47	31.86	+16	09	14.8	18.0 809
1984	SQ4		1984	09	24.32361	00	47	31.63	+16	09	12.1	809
1984	SQ4		1984	09	24.32917	00	47	31.44	+16	09	09.6	809
1984	SQ4		1984	09	27.20556	00	45	36.17	+15	46	48.5	809
1984	SQ4		1984	09	27.21111	00	45	35.94	+15	46	46.4	809
1984	SQ4		1984	09	27.21667	00	45	35.68	+15	46	43.5	809
1984	SQ4		1984	10	01.28472	00	42	48.90	+15	13	11.2	809
1984	SQ4		1984	10	01.29028	00	42	48.60	+15	13	08.1	809
1984	SQ4		1984	10	01.29583	00	42	48.38	+15	13	05.4	809

OBSERVATIONS MADE AT THE EUROPEAN SOUTHERN OBSERVATORY BY V. ZAPPALA AND W. FERRERI.

Plates taken with the 0.40-m GPO astrograph. Reductions by G. De Sanctis using the SAO Catalog. Contact: V. Zappala, Osservatorio Astronomico di Torino, I-10025 Pino Torinese, Italy.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
79	1984 04	23.29896	14 56 25.23	-14 53 55.2		809
79	1984 04	23.31840	14 56 24.20	-14 53 49.0		809
79	1984 04	24.25382	14 55 35.22	-14 48 52.1		809
79	1984 04	24.27674	14 55 34.03	-14 48 44.3		809
79	1984 04	29.29688	14 51 03.56	-14 21 36.3		809
79	1984 04	29.31771	14 51 02.37	-14 21 29.3		809
645	1984 04	23.02361	12 37 31.56	-07 15 17.4		809
645	1984 04	23.05069	12 37 30.48	-07 15 12.1		809
645	1984 04	24.04896	12 36 51.96	-07 12 21.2		809
645	1984 04	24.06910	12 36 51.16	-07 12 17.6		809
645	1984 04	28.98715	12 33 54.07	-06 59 03.9		809
645	1984 04	29.00938	12 33 53.28	-06 59 00.7		809
645	1984 04	29.01701	12 33 53.04	-06 59 00.4		809
645	1984 04	29.04410	12 33 52.08	-06 58 55.8		809
929	1984 04	29.26424	14 17 31.15	-15 37 31.8		809
929	1984 04	29.28646	14 17 29.86	-15 37 21.2		809
929	1984 05	02.21632	14 14 47.89	-15 14 51.6		809
929	1984 05	02.24132	14 14 46.43	-15 14 39.5		809
929	1984 05	06.09271	14 11 19.40	-14 44 57.0		809
929	1984 05	06.11493	14 11 18.22	-14 44 46.5		809
1188	1984 04	23.02361	12 35 48.78	-05 51 55.5		809
1188	1984 04	23.05069	12 35 47.30	-05 51 48.7		809
1188	1984 04	24.04896	12 34 55.41	-05 47 45.4		809
1188	1984 04	24.06910	12 34 54.36	-05 47 40.6		809
1188	1984 04	28.98715	12 30 56.80	-05 29 07.0		809
1188	1984 04	29.00938	12 30 55.76	-05 29 02.5		809
1188	1984 04	29.01701	12 30 55.44	-05 29 00.9		809
1188	1984 04	29.04410	12 30 54.16	-05 28 54.9		809
1268	1984 04	23.02361	12 36 43.37	-06 39 43.1		809
1268	1984 04	23.05069	12 36 42.47	-06 39 38.1		809
1268	1984 04	24.04896	12 36 10.53	-06 36 46.3		809
1268	1984 04	24.06910	12 36 09.86	-06 36 42.6		809
1268	1984 04	28.98715	12 33 42.72	-06 23 20.4		809
1268	1984 04	29.00938	12 33 42.06	-06 23 16.9		809
1268	1984 04	29.01701	12 33 41.86	-06 23 16.4		809
1268	1984 04	29.04410	12 33 41.06	-06 23 11.8		809
2056	1984 04	29.12118	13 50 20.20	-12 48 06.3		809
2056	1984 04	29.14514	13 50 18.78	-12 47 56.0		809
2056	1984 05	02.04549	13 47 32.83	-12 27 25.7		809
2056	1984 05	02.06840	13 47 31.41	-12 27 15.2		809
2056	1984 05	06.11910	13 43 49.31	-11 59 12.0		809
2056	1984 05	06.13438	13 43 48.06	-11 59 02.7		809
2278	1984 04	25.33681	17 31 37.33	-24 22 44.6		809
2278	1984 04	25.35347	17 31 37.43	-24 22 47.0		809
2278	1984 04	26.31146	17 31 46.65	-24 25 43.6		809
2278	1984 04	26.33785	17 31 46.78	-24 25 47.5		809
2364	1984 04	27.21146	16 34 37.15	-26 32 21.9		809
2364	1984 04	27.23368	16 34 36.41	-26 32 26.5		809
2364	1984 04	28.21944	16 34 04.63	-26 35 53.1		809
2364	1984 04	28.24792	16 34 03.63	-26 35 59.1		809
2364	1984 05	06.29826	16 28 52.98	-27 01 53.4		809
2364	1984 05	06.32118	16 28 51.94	-27 01 57.8		809

2364		1984	05	06.33056	16	28	51.34	-27	01	59.2		809
2496		1984	04	23.29896	14	54	22.40	-15	11	33.0		809
2496		1984	04	23.31840	14	54	21.16	-15	11	27.0		809
2496		1984	04	24.25382	14	53	26.42	-15	07	00.8		809
2496		1984	04	24.27674	14	53	25.10	-15	06	53.5		809
2496		1984	04	29.29688	14	48	20.10	-14	42	15.1		809
2496		1984	04	29.31771	14	48	18.76	-14	42	08.6		809
2961		1984	04	27.13438	14	01	08.29	-13	14	18.6		809
2961		1984	04	27.15590	14	01	07.00	-13	14	09.3		809
2961		1984	04	28.18229	14	00	07.79	-13	06	54.8		809
2961		1984	04	28.20729	14	00	06.58	-13	06	44.6		809
2975		1984	04	23.26875	15	05	39.25	-20	55	19.6		809
2975		1984	04	23.28889	15	05	38.16	-20	55	09.8		809
2975		1984	04	24.29132	15	04	48.52	-20	47	36.7		809
2975		1984	04	24.30868	15	04	47.53	-20	47	27.8		809
2975		1984	04	30.27049	14	59	32.60	-19	59	20.4		809
2975		1984	04	30.29479	14	59	31.58	-19	59	07.8		809
1984	GA	1984	04	23.02361	12	32	49.08	-05	54	58.1	17.5	809
1984	GA	1984	04	23.05069	12	32	47.61	-05	54	51.3		809
1984	GA	1984	04	24.04896	12	32	00.58	-05	51	23.9		809
1984	GA	1984	04	24.06910	12	31	59.56	-05	51	19.9		809
1984	GA	1984	04	28.98715	12	28	32.48	-05	36	14.2		809
1984	GA	1984	04	29.00938	12	28	31.51	-05	36	09.9		809
1984	GA	1984	04	29.01701	12	28	31.28	-05	36	08.7		809
1984	GA	1984	04	29.04410	12	28	30.16	-05	36	03.7		809
1984	GR	1984	04	23.02361	12	39	01.91	-06	31	48.1	17.2	809
1984	GR	1984	04	23.05069	12	39	00.79	-06	31	41.5		809
1984	GR	1984	04	24.04896	12	38	23.53	-06	27	58.5		809
1984	GR	1984	04	24.06910	12	38	22.75	-06	27	54.0		809
1984	GR	1984	04	28.98715	12	35	31.78	-06	10	36.9		809
1984	GR	1984	04	28.98715	12	35	31.78	-06	10	36.9		809
1984	GR	1984	04	29.00938	12	35	31.05	-06	10	32.9		809
1984	GR	1984	04	29.01701	12	35	30.78	-06	10	31.3		809
1984	GR	1984	04	29.04410	12	35	29.87	-06	10	25.4		809
1984	HX1 *	1984	04	23.29896	14	56	52.36	-14	50	00.8	18.0	809
1984	HX1	1984	04	23.31840	14	56	51.56	-14	49	56.4		809
1984	HX1	1984	04	24.25382	14	56	09.84	-14	47	18.8		809
1984	HX1	1984	04	24.27674	14	56	08.80	-14	47	14.0		809
1984	HY1 *	1984	04	23.29896	14	57	49.31	-14	36	32.4	17.0	809
1984	HY1	1984	04	23.31840	14	57	48.37	-14	36	28.8		809
1984	HY1	1984	04	24.25382	14	57	06.41	-14	33	44.4		809
1984	HY1	1984	04	24.27674	14	57	05.34	-14	33	39.8		809
1984	HZ1 *	1984	04	27.13438	13	58	21.76	-13	20	33.3	16.7	809
1984	HZ1	1984	04	27.15590	13	58	20.74	-13	20	25.9		809
1984	HZ1	1984	04	28.18229	13	57	34.22	-13	14	48.0		809
1984	HZ1	1984	04	28.20729	13	57	33.59	-13	14	40.0		809
1984	HA2 *	1984	04	27.21146	16	31	19.62	-26	43	15.2	16.6	809
1984	HA2	1984	04	27.23368	16	31	19.29	-26	43	09.8		809
1984	HA2	1984	04	28.21944	16	31	05.04	-26	39	03.3		809
1984	HA2	1984	04	28.24792	16	31	04.51	-26	38	55.8		809
1984	HA2	1984	05	06.29826	16	28	01.68	-25	59	42.5		809
1984	HA2	1984	05	06.32118	16	28	00.97	-25	59	35.1		809
1984	HA2	1984	05	06.33056	16	28	00.56	-25	59	29.1		809
1984	JL1 *	1984	05	02.04549	13	43	29.79	-11	46	42.3	17.2	809
1984	JL1	1984	05	02.06840	13	43	28.62	-11	46	34.4		809
1984	JL1	1984	05	06.11910	13	40	21.14	-11	23	12.9		809
1984	JL1	1984	05	06.13438	13	40	20.05	-11	23	05.3		809

OBSERVATIONS MADE AT TOYOTA BY K. SUZUKI.

Plates measured by T. Urata, reduced using five or six AGK3 reference stars. Copied in part from Nihondaira Obs. Circ. No. 1486. Contact: T. Urata, Nishitaka-cho 8-23, Shimizu, Shizuoka 424, Japan.

Object		Date	UT	R. A. (1950)	Decl.	Mag.	Obs.
1984 WA		1984 11	26.54514	04 21 56.40	+20 37 14.3	14.5	881
1984 WA		1984 11	26.56181	04 21 55.23	+20 37 06.5		881
1984 WA		1984 11	27.54063	04 21 01.54	+20 29 01.5	14.5	881
1984 WA		1984 11	27.54861	04 21 01.03	+20 28 57.2		881
1984 WA		1984 11	27.56875	04 20 59.88	+20 28 47.3		881
1984 WA		1984 12	17.54861	04 03 34.72	+17 42 02.5	15.0	881
1984 WA		1984 12	17.55347	04 03 34.45	+17 41 58.1		881
1984 YD	*	1984 12	23.59444	05 58 08.2	+26 11 25	16.5	881
1984 YD		1984 12	23.61111	05 58 07.6	+26 11 26		881
1984 YE	*	1984 12	23.58542	05 53 01.1	+27 50 55	17	881
1984 YE		1984 12	23.60278	05 52 59.5	+27 51 00		881

OBSERVATIONS MADE AT KARASUYAMA BY K. INODA.

Contact: T. Urata, Nishitaka-cho 8-23, Shimizu, Shizuoka 424, Japan.

Object	Date	UT	R. A. (1950)	Decl.	Obs.
1984 WA	1984 11	27.60400	04 20 57.83	+20 28 29.7	889
1984 WA	1984 11	27.64197	04 20 55.60	+20 28 10.8	889

* * * * *

ORBITAL ELEMENTS OF ONE-OPPOSITION MINOR PLANETS.

The orbit computers are B = C. M. Bardwell, E = E. Bowell, G = D. W. E. Green, M = B. G. Marsden, N = S. Nakano. See also MPC 7828.

Planet	B(1,0)	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1931 TC4	14.0	311006	17.62	310.69	30.83	8.47	0.2320	2.8156	12	6	1	N
1979 SG10	12.0	791014	348.29	121.96	273.00	1.11	0.0541	3.4181	49	4	1	N
1983 QE	14.5	830903	16.45	139.98	170.04	13.82	0.2028	2.5370	10	0		B
1983 RL4	15.0	830903	346.47	216.42	166.13	17.72	0.2718	2.6161	4	7		M
1983 VD7	14.5	831112	34.29	304.66	36.44	11.67	0.2841	2.5238	5	6		M
1984 GR	13.0	840410	317.57	260.97	339.31	2.35	0.0249	3.1581	24	0		M
1984 HA2	14.5	840430	3.14	334.76	254.81	7.87	0.3024	3.0088	9	6		M
1984 RB	14.5	840917	261.30	295.52	155.17	23.10	0.0987	1.9360	22	0		M
1984 SM1	12.5	840917	21.63	346.33	354.02	16.93	0.0121	3.2006	10	8		M
1984 SW1	13.0	840917	236.01	169.18	336.49	3.45	0.1380	2.6587	10	6		M
1984 SU3	15.0	841007	11.36	314.95	42.92	5.78	0.3094	2.6454	53	8		E
1984 SL4		840917	33.84	325.41	337.13	3.95	0.2699	2.1729	3	6	2	M
1984 SM4	14.0	841007	325.33	243.86	161.28	4.05	0.0820	2.7829	30	6		M
1984 SN4	16.0	840917	12.37	353.91	337.86	1.58	0.2095	2.6475	10	0		M
1984 SO4	15.0	840917	22.95	50.16	286.49	4.94	0.1299	2.2767	10	0		M
1984 SP4	16.0	840917	349.10	80.82	302.76	5.09	0.2536	2.5345	8	0		M
1984 SQ4	14.0	840917	42.83	82.92	220.00	13.88	0.2426	3.3127	7	9		M
1984 UD	14.5	841027	348.03	24.70	27.01	9.19	0.2480	2.7417	33	0		B
1984 UG	13.0	841027	53.55	271.75	61.40	2.29	0.1424	3.1988	11	6	2	M
1984 UR	14.8	841027	23.73	305.60	48.02	7.25	0.1846	2.3355	25	6		E
1984 UT	14.0	841027	339.25	202.00	231.92	16.21	0.2296	2.7833	36	0		M
1984 UW	14.8	841027	15.95	77.83	298.34	5.07	0.3094	2.8758	32	6		E
1984 UX	14.8	841027	6.84	21.48	9.97	6.87	0.3182	2.5394	32	5		E
1984 UX2	13.7	841027	36.78	323.06	15.33	11.96	0.1982	2.6824	32	6		E
1984 WB	14.0	841206	291.81	267.28	249.57	23.29	0.1336	1.8902	26	5		M
1984 WC	13.5	841116	357.80	166.67	248.45	12.14	0.1487	2.5930	6	9		B

1984 WK	15.5	841116	61.66	61.36	275.89	17.57	0.0769	1.9439	27	4		M
1984 WL	16.0	841206	351.20	192.90	253.97	24.41	0.2680	2.2861	17	7		B
1984 WA1	15.5	841116	16.11	325.37	53.89	27.57	0.2887	2.4565	3	6		M
1984 WE1		841116	338.59	58.76	48.39	13.23	0.3009	2.3779	2	4	2	B
1984 WJ1		841116	21.21	10.90	33.39	10.67	0.1035	2.1748	2	4		B
1984 YC	13.0	841226	338.25	225.63	288.23	33.75	0.2824	2.7726	2	5	2	G

Note 1: double designation 1931 TC4 = 1931 TB4 (N); triple designation 1979 SG10 = 1979 US3 = 1979 VL (N). 2: e assumed.

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ORBITAL ELEMENTS BY W. LANDGRAF, ASTRONOMISCHE ARBEITSGEMEINSCHAFT, MAINZ.

(29) Amphitrite
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	219.79592				
n	0.24150586	Peri.	63.05200	+0.51436457	-0.85753903
a	2.5537846	Node	355.96925	+0.74421592	+0.45069002
e	0.0735917	Incl.	6.10620	+0.42611236	+0.24800266
P	4.08	B(1,0)	7.1		

From 379 observations at 47 oppositions 1854-1982, mean residual 0".9 for observations 1901-1982. 1854-1858 observations given low weights.

(457) Alleghenia
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	228.74274				
n	0.18194842	Peri.	130.10373	+0.92451975	-0.31823066
a	3.0843988	Node	249.38155	+0.24410941	+0.91703711
e	0.1838064	Incl.	12.94985	+0.29270092	+0.24035843
P	5.42	B(1,0)	13.0		

From 45 observations at 8 oppositions 1900-1983, mean residual 0".8.

(649) Josefa
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	81.83553				
n	0.24202295	Peri.	348.31263	+0.96709729	+0.25412978
a	2.5501458	Node	356.88910	-0.21220734	+0.78006889
e	0.2728454	Incl.	12.63353	-0.14032417	+0.57176095
P	4.07	B(1,0)	14.2		

From 26 observations at 10 oppositions 1907-1982, mean residual 1".5.

(1038) Tuckia
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	328.79078				
n	0.12484463	Peri.	307.12236	+0.98741911	-0.08115127
a	3.9648140	Node	57.91204	+0.13634466	+0.87163492
e	0.2339390	Incl.	9.21755	-0.08008515	+0.48339118
P	7.89	B(1,0)	11.7		

From 30 observations at 9 oppositions 1924-1984, mean residual 1".0.

(1161) Thessalia
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	358.46573				
n	0.17504796	Peri.	298.08741	+0.97133329	-0.18005467
a	3.1649342	Node	72.63418	+0.23097950	+0.86923956
e	0.0978660	Incl.	9.35951	-0.05621482	+0.46043772
P	5.63	B(1,0)	12.8		

From 30 observations at 8 oppositions 1929-1982, mean residual 1".1.

ORBITAL ELEMENTS BY D. K. YEOMANS, JET PROPULSION LABORATORY.

Periodic Comet Giacobini-Zinner (1984e)
Epoch 1985 Sept. 12.0 ET = JDE 2446320.5
T 1985 Sept. 5.24907 ET

		(1950.0)	P	Q
q 1.0282614				
n 0.14951019	Peri.	172.48887	+0.98712094	-0.08728309
a 3.5157840	Node	194.70595	+0.10493112	+0.98584384
e 0.7075300	Incl.	31.87829	+0.12075476	-0.14315576
P 6.59				

From 84 observations 1972-1984, mean residual 1".2. Nongravitational parameters A1 = -0.05, A2 = -0.0465.

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

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

Periodic Comet Shoemaker 2 (1984u)
T 1984 Sept. 26.68508 ET

		(1950.0)	P	Q
q 1.3196287				
n 0.12558821	Peri.	317.56221	+0.93813363	-0.17217351
a 3.9491485	Node	54.81828	+0.32036354	+0.76085377
e 0.6658448	Incl.	21.56659	-0.13142485	+0.62566589
P 7.85				

From 9 observations 1984 Nov. 18-Dec. 20.

Comet Levy-Rudenko (1984t)
T 1984 Dec. 14.25458 ET

		(1950.0)	P	Q
q 0.9181183				
	Peri.	82.73409	+0.31110653	-0.83739855
	Node	330.46110	-0.09145636	+0.44431062
e 1.0	Incl.	65.72342	+0.94596430	+0.31835788

From 49 observations 1984 Nov. 14-Dec. 20.

Comet Hartley (1984v)
T 1985 Sept. 26.63406 ET

		(1950.0)	P	Q
q 4.0154909				
	Peri.	254.85073	+0.08178629	-0.33982083
	Node	249.55029	+0.61193791	-0.72489002
e 1.0	Incl.	89.39688	-0.78666574	-0.59921303

From 7 observations 1984 Nov. 17-Dec. 4

(3167)* 1955 RS = 1955 SC2 = 1943 TH = 1966 FF = 1971 QL1 = 1971 SB4 = 1974 FS = 1974 HB1 = 1979 SX1

Discovered 1955 Sept. 13 at the Goethe Link Observatory, Indiana University. The double designation 1955 RS = 1955 SC2 is by S. Kanda and O. Kippes (MPC 1453), who found it independently. The identification 1955 RS = 1974 HB1 is by E. Bowell (MPC 9071).
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

		(1950.0)	P	Q
M 247.65993				
n 0.24329035	Peri.	254.54842	+0.02464822	+0.99641707
a 2.5412816	Node	17.47737	-0.78237395	+0.06960570
e 0.1047227	Incl.	15.62768	-0.62232103	-0.04804238
P 4.05	B(1,0)	12.5		

Residuals in seconds of arc

431005	062	1.5+	0.5+		550918	760	1.1-	3.3+		740422	805	0.4-	1.9-
431005	062	0.6+	0.4-		550919	024	1.8-	0.3+		740424	805	0.3-	1.7-
431005	062	0.6-	0.7-		550920	024	0.9-	1.7+		790922	095	0.1+	3.2-
431006	062	0.7-	1.0-		660329	760	(94.7-	10.3-)X		841125	054	1.3-	0.7+
550913	760	0.2-	0.6+		710824	095	0.6-	0.9-		841130	054	1.8+	0.1+
550913	760	0.3+	0.6+		710922	095	3.8+	0.5-		841217	054	0.7+	0.8-
550918	760	1.3-	0.7-		740319	095	0.7+	3.5+		841218	054	0.1-	2.2-

(3168)* 1980 XM = 1952 HA3

Discovered 1980 Dec. 1 by A. Mrkos at Klet.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	97.23398		(1950.0)	P	Q
n	0.19049457	Peri.	282.70099	+0.57268832	+0.81673026
a	2.9914447	Node	22.68211	-0.66301047	+0.51208206
e	0.0983384	Incl.	10.54446	-0.48212571	+0.26593916
P	5.17	B(1,0)	12.5		

Residuals in seconds of arc

520426	711	2.2+	1.8+	Y	801208	046	0.6+	0.2+		830506	688	0.5-	0.3-
520426	711	3.4-	3.7-	Y	801230	046	1.1-	0.1+		830515	688	0.0	0.9-
801013	095	0.3+	1.9-		801230	046	0.2+	0.5-		830515	688	1.1+	0.3+
801201	046	0.3-	1.9-		830418	688	0.2+	1.1-		840826	474	0.2+	1.1-
801201	046	0.0	0.4-		830418	688	0.3+	1.1-		840826	474	0.4+	1.2-
801208	046	1.7+	0.4-		830506	688	2.1-	1.2+		841121	801	0.0	0.2+

(3169)* 1981 LA

Discovered 1981 June 4 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	46.96587		(1950.0)	P	Q
n	0.37877393	Peri.	32.26070	-0.56821653	-0.70823681
a	1.8918324	Node	95.88100	+0.63676921	-0.70093237
e	0.0669982	Incl.	24.90914	+0.52120528	+0.08422840
P	2.60	B(1,0)	13.5		

Residuals in seconds of arc

810604	688	0.5+	0.4+		821204	675	0.3-	1.3-		830409	491	1.1+	1.5+
810604	688	0.3+	0.8-		821205	675	0.6-	0.4-		830412	491	6.3-	4.5+
810606	688	0.2+	2.1-		830121	801	3.7+	1.9+		840921	474	0.1-	0.4-
810606	688	0.8+	1.3+		830220	801	0.3+	0.0		840921	474	0.0	0.8-
810609	688	0.9+	0.4+		830307	491	0.4-	0.1+		841025	474	0.2-	2.1+
810609	688	0.8+	0.2+		830308	491	0.4-	0.4+		841025	474	1.6+	1.9+
810703	688	1.9-	0.6+		830309	688	0.9+	3.7-		841127	474	1.3-	0.3-
810703	688	1.3-	0.4-		830309	688	0.2-	2.7-		841127	474	1.3-	0.2-
810725	688	0.0	0.1+		830309	491	0.0	0.2+					
820929	675	1.0+	1.5-		830408	491	0.8+	1.4+					

1978 UF2 = 1984 WH

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	67.15079		(1950.0)	P	Q
n	0.17477577	Peri.	27.93845	+0.34204291	-0.90498172
a	3.1682256	Node	43.43266	+0.77885968	+0.12239597
e	0.1897099	Incl.	21.59329	+0.52572259	+0.40746450
P	5.64	B(1,0)	13.0		

Residuals in seconds of arc

781028	330	0.3+	0.5-		841125	054	0.7-	0.2+		841218	054	0.4+	0.3+
781103	330	1.5-	0.6+		841130	054	0.7-	0.2-					
781107	330	1.2+	0.1-		841217	054	1.1+	0.1-					

1981 JZ = 1932 YF = 1941 HP

The 1983 observations were identified by E. Bowell.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	245.41612	(1950.0)	P	Q
n	0.17178328	Peri. 208.02499	-0.07437337	+0.96300245
a	3.2049135	Node 58.79339	-0.84891787	+0.07515461
e	0.0726051	Incl. 17.62871	-0.52326575	-0.25880123
P	5.74	B(1,0) 12.5		

Residuals in seconds of arc

321223	024	1.7+	1.8-	810509	046	1.2-	0.5+	810602	046	0.5+	1.3-
410423	062	1.5+	1.0-	810509	046	0.7-	1.2+	810602	046	0.5+	0.6+
410427	062	0.1-	2.4+	810531	046	1.3-	0.9-	810605	046	1.6-	5.6-
410430	062	1.5+	3.8+	810531	046	0.8-	0.5+	810605	046	0.1+	0.6-
810508	046	0.7+	0.0	810601	046	0.2+	1.2-	831104	688	0.2+	0.3-
810508	046	0.2+	0.1+	810601	046	2.0-	2.1-	831104	688	0.3+	1.4-

* * * * *

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

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

(3170)* 1979 SS11 = 1966 DV = 1971 DW = 1974 ST4

Discovered 1979 Sept. 24 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	13.07099	(1950.0)	P	Q
n	0.19660756	Peri. 78.85999	-0.26925955	-0.96293594
a	2.9291115	Node 26.77666	+0.86917929	-0.25009880
e	0.0880080	Incl. 2.02600	+0.41476095	-0.10101963
P	5.01	B(1,0) 13.0		

Residuals in seconds of arc

660225	330	0.8-	2.9-	841021	801	1.2+	0.5-	841029	567	1.9-	3.8+
710218	095	0.9+	3.1+	841028	046	0.5+	0.1+	841030	046	0.5+	1.7-
740926	095	1.0-	0.3-	841028	046	1.1-	0.3+	841030	046	1.7-	2.4-
790924	095	0.3-	1.0-	841029	046	1.0+	0.9+	841120	688	1.4+	2.3-
791014	095	1.9+	0.7-	841029	567	0.9-	2.6+	841120	688	2.2+	2.0-
791116	095	1.0+	0.4-	841029	046	0.1-	0.5-	841122	801	0.2-	0.4+
791122	095	0.0	0.4-	841029	567	2.4-	3.7+				

(3171)* 1979 WO = 1942 EP = 1962 WF = 1970 EZ

Discovered 1979 Nov. 19 at the Purple Mountain Observatory.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	9.41741	(1950.0)	P	Q
n	0.17278308	Peri. 19.51633	+0.63060476	-0.76917193
a	3.1925318	Node 31.64275	+0.68323099	+0.48692545
e	0.1280633	Incl. 11.37821	+0.36814813	+0.41385764
P	5.70	B(1,0) 12.0		

Residuals in seconds of arc

420323	024	(4.4+	7.0+)	791014	095	0.2+	0.4-	830522	474	1.5-	0.5-
621124	760	0.5-	2.6-	791116	095	0.6-	2.3-	830522	474	1.9-	0.2-
621124	760	0.8+	1.2+	791119	330	0.3+	1.7+	840825	474	1.6+	0.8+
700307	095	1.5+	1.2-	791122	095	1.8-	0.3+	840825	474	1.6+	1.1+
790924	095	1.0-	0.9+	791123	330	1.2+	0.2-	841119	801	0.3-	1.0-

(3172)* 1981 WW = 1954 NW = 1977 TC3

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

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M 64.71261	(1950.0)	P	Q	
n 0.26074325	Peri. 271.04595	+0.99254241	+0.10424973	
a 2.4265765	Node 82.97223	-0.07005750	+0.91197501	
e 0.2226210	Incl. 3.64975	-0.09975727	+0.39677898	
P 3.78	B(1,0) 14.5			

540709 760	0.1-	1.3-	811202 688	0.9+	0.9-	830215 801	0.6+	0.3-
771007 095	0.1+	1.6+	811220 688	0.1+	1.8-	840526 801	0.9-	1.2-
811124 688	1.1-	0.1+	811220 688	0.3+	1.4-	840601 688	0.3-	1.1-
811124 688	0.1+	0.2-	811230 688	0.8+	0.7-	840601 688	0.1-	1.5-
811202 688	0.8+	0.8-	811230 688	0.1+	0.9-			

(3173)* 1981 WY = 1951 ND = 1977 KT

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

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M 178.49574	(1950.0)	P	Q	
n 0.30115454	Peri. 218.63218	+0.45712809	+0.87937140	
a 2.2043291	Node 78.93555	-0.77854628	+0.46804098	
e 0.2100015	Incl. 7.79989	-0.42999954	+0.08742753	
P 3.27	B(1,0) 14.0			

Residuals in seconds of arc

510702 078	(5.6+	4.4-)Y	811202 688	0.3-	1.3-	841029 688	0.1-	3.4-
510704 711	0.1+	1.3- Y	811220 688	2.8+	0.3-	841029 688	0.8+	1.5-
770519 095	0.3-	1.2-	811220 688	2.5+	0.8-	841120 688	0.9-	1.1-
770523 095	0.8-	1.8-	830121 801	(23.8-	2.6+)	841120 688	0.9-	0.2-
811124 688	1.8-	2.3-	830214 801	0.7+	2.2+	841122 801	0.2+	2.2+
811124 688	0.3+	0.5-	840926 801	0.1+	6.5+			
811202 688	0.5+	1.3-	841019 801	1.6-	0.1+			

(3174)* 1984 UV = 1962 YD = 1969 BB = 1973 YO1 = 1975 EO3 = 1978 RB1 = 1978 TJ3 = 1979 YR8 = 1980 AH = 1981 GF

Discovered 1984 Oct. 26 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M 45.08306	(1950.0)	P	Q	
n 0.17602129	Peri. 7.57179	+0.18225341	-0.98246282	
a 3.1532562	Node 71.93343	+0.89988595	+0.15052939	
e 0.1675962	Incl. 2.37379	+0.39621834	+0.11003508	
P 5.60	B(1,0) 13.0			

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

621230 760	(0.01-	0.03+)X	780912 095	0.4-	0.0	810405 688	0.8-	0.4+
690120 095	3.0-	2.3-	781004 095	1.8-	0.5+	841026 688	0.5-	1.6+
731220 095	2.6+	1.4+	791224 095	0.6-	0.5+	841026 688	0.3-	1.9+
731221 095	0.9+	6.5-	800114 330	1.3-	3.6+	841118 688	0.1-	1.1-
750314 095	1.3+	1.9+	800117 330	2.8+	2.0+	841127 688	1.0-	0.9-
780901 095	0.7+	0.3+	810405 688	1.3+	1.9-	841127 688	0.6+	0.5+

1974 VG = 1976 DV

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M 330.00182	(1950.0)	P	Q	
n 0.17486877	Peri. 14.50499	+0.44931699	-0.88316814	
a 3.1671021	Node 48.98949	+0.80080526	+0.33135358	
e 0.0838356	Incl. 10.27832	+0.39601158	+0.33199222	
P 5.64	B(1,0) 13.0			

Residuals in seconds of arc

741112 095	0.6-	0.5+	741117 095	0.9+	0.7-	760228 033	1.1-	0.1-
741115 095	(2.2-	10.5+)	741210 095	0.3-	0.2+	760229 033	1.1+	0.1+

1977 QA5 = 1953 EH1 = 1976 GW5

The 1984 observations were identified by E. Bowell. The identification 1977 QA5 = 1976 GW5 is by B. G. Marsden.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	141.82830		(1950.0)	P	Q
n	0.30368478	Peri.	349.07146	+0.82933807	-0.55718933
a	2.1920724	Node	44.87376	+0.51696986	+0.73687789
e	0.1182122	Incl.	3.38786	+0.21199178	+0.38281983
P	3.25	B(1,0)	14.5		

Residuals in seconds of arc

530308	012	0.5+	1.1+	770907	095	1.2+	1.1+	841120 688	0.2-	1.1+
760402	095	1.1+	2.4+	770912	095	0.1-	0.3+			
770822	095	2.0-	1.6+	841120	688	0.0	0.7+			

1978 TO7 = 1929 AG = 1955 SL = 1980 BL5 = 1984 WY

The identification 1978 TO7 = 1984 WY was independently found by E. Bowell.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	88.75545		(1950.0)	P	Q
n	0.17556935	Peri.	300.44033	+0.74234919	-0.63663425
a	3.1586713	Node	99.94917	+0.66410771	+0.65785673
e	0.1269880	Incl.	12.24131	+0.08876160	+0.40239452
P	5.61	B(1,0)	12.5		

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

290108	029(0.02- 0.07+)X		781101	095	1.5+	0.1-	841127 688	0.8+	0.1-
550917	760	0.0	0.4-	800122	095	0.4+	0.0	841127 688	2.7-	0.9-
781002	095	0.8-	0.1-	841120	688	0.7+	0.1-			
781008	095	0.4-	0.9+	841120	688	0.6+	0.6+			

1981 YC

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	342.78711		(1950.0)	P	Q
n	0.38765354	Peri.	34.45213	+0.12895092	+0.93264806
a	1.8628351	Node	245.08441	-0.97273507	+0.05291353
e	0.0844907	Incl.	21.81030	-0.19276445	+0.35688618
P	2.54	B(1,0)	14.5		

Residuals in seconds of arc

811127	330	0.9+	1.3-	811230	688	0.3+	2.0+	830709 026	0.8-	0.5-
811201	330	0.3-	1.5+	811230	688	1.2-	0.5-	830711 026	0.8+	0.4+
811220	688	0.8-	1.5-	820116	688	1.3+	1.0-			
811220	688	0.4+	0.5+	820116	688	0.6-	0.4+			

1982 CD = 1972 XR2 = 1984 UO

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	82.95074		(1950.0)	P	Q
n	0.24231983	Peri.	244.77222	+0.82094128	-0.56792880
a	2.5480676	Node	149.73004	+0.55701808	+0.77365926
e	0.0717361	Incl.	6.75194	+0.12564340	+0.28090606
P	4.07	B(1,0)	14.0		

Residuals in seconds of arc

721202	095	0.3-	1.0+	820220	046	1.2-	1.3-	841023 688	0.2+	1.1-
820214	046	0.4+	0.1+	820220	046	0.1+	0.0	841029 688	0.2+	0.9-
820214	046	0.6+	0.4+	820221	046	0.3+	0.1+	841029 688	0.6-	0.5+
820216	046	0.1+	0.0	820221	046	1.1-	0.8+	841120 688	0.1-	0.3+
820216	046	0.6+	1.0-	841023	688	1.6+	0.5-	841120 688	1.1-	0.4+

1983 CB3
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M 238.79717		(1950.0)	P	Q
n 0.29169025	Peri.	286.56534	-0.59460219	+0.79993508
a 2.2517611	Node	306.67018	-0.69379318	-0.56135645
e 0.1278054	Incl.	5.79204	-0.40632406	-0.21209148
P 3.38	B(1,0)	14.5		

Residuals in seconds of arc

830215 688	0.1-	2.2-	830310 046	1.6+	1.7+	830405 046	0.0	0.9-
830215 688	0.6+	1.0-	830312 046	1.1-	1.2+	830405 046	0.1+	0.9-
830309 046	2.6-	1.4+	830312 046	1.4+	1.2-	840928 688	1.6+	1.1-
830309 046	(5.6-	0.1+)	830313 046	0.0	0.0	840928 688	1.0-	1.5-
830310 046	1.0+	2.7+	830313 046	1.3-	2.3-	841121 801	0.0	2.0+

1984 SW3 = 1947 UF = 1969 PE
The identifications were independently found by K. Hurukawa.
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M 104.83501		(1950.0)	P	Q
n 0.26651463	Peri.	99.32714	+0.82035009	-0.55127886
a 2.3914219	Node	294.26989	+0.43696709	+0.77579023
e 0.2558852	Incl.	9.60091	+0.36889767	+0.30698718
P 3.70	B(1,0)	14.0		

Residuals in seconds of arc

471021 062	1.0-	0.9+	840927 675	0.5+	1.8+	841121 675	0.1+	0.3+
471021 062	0.0	0.6+	840928 675	0.7+	0.4+	841124 675	1.8+	0.0
690811 095	1.0+	0.1+	841023 675	0.8-	0.4-			
690821 095	0.5-	0.8-	841026 675	1.4-	2.3-			

1984 UA2 = 1957 UV = 1977 RL3 = 1983 FH
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M 181.59102		(1950.0)	P	Q
n 0.29288859	Peri.	180.25275	+0.67795424	+0.73370099
a 2.2456149	Node	132.43172	-0.67430366	+0.64528615
e 0.1913795	Incl.	3.52631	-0.29273299	+0.21281126
P 3.37	B(1,0)	14.5		

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

571020 760	(0.04-	0.00+)X	830316 688	1.3-	0.2+	841031 688	0.2-	0.3-
770912 095	0.1-	0.3+	841029 688	0.4-	0.6+	841031 688	0.4+	0.7-
830316 688	1.4+	0.2+	841029 688	0.1-	0.2-	841124 688	0.4+	0.7+

1984 UC2 = 1950 NF = 1962 XW1 = 1968 HW = 1969 TJ3 = 1972 HA1 = 1980 TK8
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M 159.38976		(1950.0)	P	Q
n 0.26523026	Peri.	232.10783	+0.83338285	+0.54371909
a 2.3991360	Node	94.74718	-0.47065649	+0.79225612
e 0.1872625	Incl.	5.71333	-0.28975074	+0.27694727
P 3.72	B(1,0)	14.0		

Residuals in seconds of arc

500706 078	(1.6+	46.5+)Y	691009 095	0.8-	2.4-	841031 688	1.4+	0.4+
621203 033	0.6-	0.5+	720419 095	1.1-	1.8-	841031 688	1.3-	0.1+
621204 033	0.7+	0.7+	801012 095	0.7+	0.8+	841124 688	1.4+	0.7+
621205 033	2.4+	0.6+	841029 688	1.7-	0.5+			
680422 095	0.8+	0.5+	841029 688	1.8-	0.9+			

1984 UL2 = 1973 YF2 = 1977 UJ
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	73.01839		(1950.0)	P	Q
n	0.26263482	Peri.	153.22802	+0.12765755	-0.97172092
a	2.4149161	Node	288.88862	+0.86815580	+0.20632624
e	0.2249694	Incl.	12.11981	+0.47959259	-0.11483875
P	3.75	B(1,0)	13.5		

Residuals in seconds of arc

731220	095	0.0	0.2+	771020	809	2.0-	0.5+	841027	675	1.0-	0.2+
771016	809	0.1+	0.2-	841023	675	0.2-	1.1-	841121	675	0.3-	0.7+
771017	809	1.9+	0.7-	841023	675	1.3+	0.8+	841124	675	0.1-	0.4+

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ORBITAL ELEMENTS BY K. HURUKAWA, TOKYO ASTRONOMICAL OBSERVATORY.

The identifications are by K. Hurukawa unless otherwise stated.

(3175)* 1979 YP = 1933 DJ = 1939 XB = 1946 TB = 1951 AM1 = 1977 ES6
Discovered 1979 Dec. 16 by H. Debehogne and E. Rangel Netto at the European Southern Observatory. The identification 1979 YP = 1946 TB was independently suggested by E. Bowell.
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	260.85632		(1950.0)	P	Q
n	0.27127439	Peri.	189.76145	+0.79205023	-0.61043350
a	2.3633617	Node	207.86149	+0.56080728	+0.73099106
e	0.2133885	Incl.	0.64140	+0.24114649	+0.30499674
P	3.63	B(1,0)	14.5		

Residuals in seconds of arc

330220	024	0.4+	2.2+	791220	809	0.9+	0.1-	840227	809	0.2+	0.9-
391214	029	(16.6+	86.2+)X	791220	809	0.9+	0.0	840229	809	0.4-	0.3-
461003	062	0.1+	1.1-	791220	809	0.6+	0.3+	840229	809	0.3-	0.6-
461003	062	1.1+	1.0-	791221	809	0.0	0.1-	840229	809	0.1-	0.3-
461003	062	0.2+	0.9-	791221	809	0.1-	0.2-	840301	809	0.0	0.7-
461004	062	0.2+	2.8-	791222	809	0.1+	0.3+	840301	809	0.0	0.7-
461006	062	1.8+	2.1-	791222	809	0.9-	0.4+	840301	809	0.1+	0.7-
510108	711	1.4+	4.7+ Y	791222	809	1.1+	0.4-	840301	801	2.7+	0.5+
510108	711	0.7+	4.8+ Y	791223	809	0.7+	0.6-	840302	809	0.1-	0.9-
770312	381	1.0-	0.3+	791223	809	0.7+	0.1-	840302	809	0.2-	0.7-
770312	381	0.3+	0.8-	791224	809	0.8+	0.6-	840302	809	0.0	0.4-
770314	381	0.1-	0.2-	791224	809	0.1-	0.4-	840304	809	0.3+	1.3-
770314	381	0.6+	1.2-	791224	809	0.1-	0.3-	840304	809	0.4+	0.8-
770315	381	0.5-	1.2-	791225	809	0.2+	0.4+	840304	809	0.7+	0.6-
770315	381	1.2-	0.4-	791225	809	0.6-	0.3+	840305	809	0.9-	0.3-
791117	095	(3.4+	6.3+)	791225	809	0.4-	0.6-	840305	809	0.6-	0.2-
791212	330	(5.3+	0.3-)	791226	809	0.5+	0.4+	840305	809	0.4-	0.2-
791214	330	3.2-	0.6-	791226	809	0.3+	0.7+	840306	809	0.3-	0.3-
791216	809	0.5-	0.4-	791228	809	0.7-	0.6-	840306	809	0.2-	0.1+
791216	809	1.6-	0.2+	791228	809	0.3+	0.2+	840306	809	0.2-	0.1+
791216	809	0.2-	0.5+	791229	809	0.1-	0.1+	840307	809	0.7-	0.0
791217	809	0.5+	0.6+	791229	809	1.1+	0.6+	840307	809	0.6-	0.1+
791217	809	0.5-	0.7+	840201	801	0.5+	2.2+	840307	809	0.4-	0.2+
791217	809	1.0-	0.9+	840208	801	0.2-	0.8+	840309	809	0.0	0.8-
791217	809	0.0	0.6+	840225	809	0.2-	0.1+	840309	809	0.0	0.7-
791217	809	0.4+	0.3+	840225	809	0.1-	0.2+	840309	809	0.0	0.8-
791217	809	0.0	0.9+	840225	809	0.3+	0.2+	840311	809	0.5-	0.1+
791219	809	1.4+	0.5+	840227	809	0.0	0.9-	840311	809	0.5-	0.2+
791219	809	0.6-	0.1+	840227	809	0.0	0.8-	840311	809	0.7-	0.3-

(3176)* 1980 VR1 = A902 WG = 1931 UP = 1941 WC = 1941 WG1 = 1951 XF1 = 1965 UD = 1968 HM1 = 1975 XU = 1978 JG = 1978 LQ

Discovered 1980 Nov. 13 by Z. Knezevic at Piszkesteto. The key identification 1980 VR1 = 1978 LQ is by W. Landgraf (MPC 8061). The identification 1980 VR1 = 1975 XU and the double designation 1978 JG = 1978 LQ are by C. M. Bardwell (MPC 8061). The double designation 1941 WC = 1941 WG1 is by B. G. Marsden (MPC 9041).

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	348.16149	(1950.0)	P	Q
n	0.20216894	Peri. 23.67420	+0.24639137	-0.93683306
a	2.8751450	Node 52.99910	+0.83208267	+0.07314037
e	0.0299558	Incl. 18.11132	+0.49692023	+0.34204431
P	4.88	B(1,0) 12.0		

Residuals in seconds of arc

021121	024	2.1+	2.8-	511222	711	(10.1+	2.9-)Y	780606	119	0.1+	0.6-
311017	690	0.9+	0.4-	651026	095	1.9+	2.4-	801018	095	0.0	1.0+
311018	690	3.0-	1.1-	680426	095	1.9-	3.6-	801113	330	0.2-	1.7-
411116	062	1.0+	0.7+	751201	095	0.5+	2.3+	801113	561	4.0-	0.2-
411117	062	0.6+	0.4+	751203	095	5.1+	1.2+	801113	561	0.3-	0.8-
411117	119	(14.4-	14.6+)X	780506	330	0.9-	3.1+	801209	330	1.5-	0.7-
411117	020	(5.8+	7.7+)X	780506	095	2.2-	0.2-	830506	688	0.5+	1.7-
511205	711	(10.9+	20.9-)Y	780606	119	0.2-	0.4-	830506	688	2.0+	1.4-

1982 UJ8 = 1982 TN = 1952 HP3 = 1975 XF1 = 1978 PJ4 = 1978 SZ1

The key identification and double designation 1982 UJ8 = 1978 PJ4 = 1978 SZ1 are by T. Furuta (JAM 1631). The identification 1982 UJ8 = 1978 SZ1 was independently found by W. Landgraf (MPC 9032). The identifications 1982 UJ8 = 1952 HP3 = 1975 XF1 were independently found by S. Nakano.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	120.90389	(1950.0)	P	Q
n	0.27372908	Peri. 328.14795	-0.78693378	+0.60828689
a	2.3492160	Node 249.67026	-0.54037592	-0.76040348
e	0.0672334	Incl. 6.33994	-0.29787429	-0.22753814
P	3.60	B(1,0) 13.5		

Residuals in seconds of arc

520427	711	0.2-	5.6-	Y	781002	095	1.7-	3.0+	821109	095	0.8+	1.1-
751201	095	1.3-	4.8+		821013	688	0.8+	1.9-	821111	095	0.3-	0.2-
780809	095	0.4+	1.1-		821013	688	1.3+	1.7-	821114	095	1.7+	1.6+
780926	095	0.7-	1.8+		821021	095	1.4-	4.4-				

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ORBITAL ELEMENTS BY S. NAKANO, TOKYO.

The identifications are by S. Nakano unless otherwise stated.

(3177)* 1934 AK = 1937 VC = 1952 HC = 1967 UL = 1971 TG1 = 1984 US

Discovered 1934 Jan. 8 by H. L. Giclas at the Lowell Observatory. The identification 1934 AK = 1984 US was also suggested by E. Bowell and F. N. Bowman.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	67.01241	(1950.0)	P	Q
n	0.23058944	Peri. 39.70251	+0.27969988	-0.94707348
a	2.6337615	Node 34.89667	+0.79591651	+0.13696193
e	0.1497335	Incl. 15.98451	+0.53692168	+0.29033299
P	4.27	B(1,0) 13.0		

Residuals in seconds of arc

340108	690	1.8+	0.4+	711011	095	0.5-	0.9+	841030	046	0.1-	1.9+
340110	690	0.4-	2.0+	841026	688	1.7+	0.8-	841031	046	0.3-	1.9+
340113	690	1.5+	0.4+	841026	688	1.3+	1.1-	841031	688	3.2+	2.3+
371104	094(76.7-	2.9-)X		841028	046	0.6-	0.3+	841031	688	0.4+	0.8-
520418	024	0.6-	0.2+	841028	046	0.1+	0.2+	841118	688	1.6-	0.2-
671031	095	2.9-	5.9-	841029	046	0.2-	1.3+	841118	688	0.0	0.3-
671105	095	2.7-	4.3-	841029	046	1.1-	2.1+				

(3178)* 1984 WA = 1966 TM = 1966 VB = 1975 XS1

Discovered 1984 Nov. 21 by K. Suzuki and T. Urata at Toyota.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

			(1950.0)	P	Q
M	55.10248				
n	0.22044526	Peri.	241.11368	-0.53822544	-0.83627425
a	2.7139523	Node	241.82133	+0.80868214	-0.47745381
e	0.3780843	Incl.	6.82052	+0.23737430	-0.26959830
P	4.47	B(1,0)	13.5		

Residuals in seconds of arc

661013	095	0.4+	0.1-	841126	881	0.2+	1.0+	841128	372	1.7-	0.5-
661017	095	0.2-	0.9+	841127	688	0.4+	0.6-	841128	372	1.8-	0.3+
661111	095	1.3+	2.2-	841127	688	0.6+	0.5-	841215	372	3.3+	0.4+
751201	095	0.2+	0.5+	841127	881	0.0	0.5-	841215	372	1.0+	2.4+
751202	095	2.6-	3.6+	841127	881	0.6-	0.9-	841217	881	0.6+	0.2-
841121	881	1.4-	0.8+	841127	881	0.3-	0.9-	841217	881	0.1-	2.4-
841121	881	3.1-	0.1+	841127	889	0.3+	0.9-				
841126	881	3.2+	0.7+	841127	889	0.2+	0.9-				

1951 AB = 1951 CB = 1951 CU = 1984 DL

The triple designation 1951 AB = 1951 CB = 1951 CU was found by B. Potter (MPC 640, 674)

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

			(1950.0)	P	Q
M	31.11128				
n	0.23966363	Peri.	141.55085	+0.19334568	+0.96691116
a	2.5668599	Node	138.82178	-0.95104015	+0.22638913
e	0.0455058	Incl.	14.64233	-0.24112256	-0.11760433
P	4.11	B(1,0)	13.5		

Residuals in seconds of arc

510109	024	0.6+	0.7+	840227	809	1.1-	0.0	840308	809	0.8+	0.3+
510207	012	2.0-	0.9+	840227	809	0.9-	0.1+	840308	809	0.7+	0.5+
510210	760	0.3+	2.2-	840227	809	0.6-	0.0	840308	809	0.8+	0.7+
510210	760	1.1+	0.7+	840303	809	0.5-	0.2-	840309	809	0.7+	0.1-
840226	688	0.6-	0.9-	840303	809	0.3-	0.0	840309	809	0.8+	0.1+
840226	688	0.1-	0.7-	840303	809	0.5-	0.2+	840309	809	0.9+	0.1+

1952 JH = 1952 KB = 1972 YQ1 = 1978 JH2 = 1980 TD15 = 1982 FR1

The double designation 1952 JH = 1952 KB is by O. Kippes (MPC 1968).

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

			(1950.0)	P	Q
M	310.18613				
n	0.22654732	Peri.	302.12949	-0.98463373	-0.12750095
a	2.6650025	Node	230.82906	+0.15848158	-0.93941582
e	0.1635509	Incl.	8.85434	-0.07334854	-0.31818456
P	4.35	B(1,0)	13.5		

Residuals in seconds of arc

520501	760	1.1-	1.9+	520524	711	(0.1+	14.8-)Y	801015	095	1.6-	1.8-
520501	760	4.0-	2.0-	520525	711	4.7+	2.7- Y	801017	095	0.2-	0.6-
520517	078	2.0-	1.4-	721230	095	4.8+	2.2-	820326	046	1.7-	0.7+
520517	078	0.4-	1.8+	780506	095	5.5+	0.2-	820326	046	4.1-	1.0+

1953 PR = 1953 QF = 1930 OJ = 1930 PA = 1934 TH = 1976 SP5 = 1976 UE15

The double designations 1953 PR = 1953 QF and 1930 OJ = 1930 PA are by O. Kippes (MPC 1330 and 1331). The double designation 1976 SP5 = 1976 UX14 (MPC 9064) is invalid.

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5

M	167.95407		(1950.0)		P	Q
n	0.25865729	Peri.	154.85379	+0.90185699		+0.43203413
a	2.4396053	Node	179.54776	-0.40964472		+0.85562377
e	0.3291998	Incl.	5.00152	-0.13727769		+0.28505172
P	3.81	B(1,0)	15.5			

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

300722	078	5.8+	15.6-	X	530818	760	2.4+	2.1+		760924	095	(9.6- 0.7-)
300729	078	(0.04+	0.02+)	X	530818	760	0.2+	1.9-		761022	381	0.8- 0.8+
300802	094	6.9-	22.0+	X	530905	024	1.0-	2.0-		761022	381	0.2- 0.8+
341005	094	(0.05+	0.00-)	X	530909	760	2.0-	1.0-		761024	381	0.0 0.6+
530811	024	1.3-	3.9-		530909	760	4.2+	1.2-		761024	381	0.3+ 0.4+

1982 VZ = 1984 EQ1

The identification is by T. Furuta (JAM 1693).

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	182.68189		(1950.0)		P	Q
n	0.17400932	Peri.	298.84180	+0.38647565		-0.92195684
a	3.1775220	Node	128.40086	+0.85694051		+0.34887497
e	0.1876641	Incl.	1.83852	+0.34101252		+0.16817206
P	5.66	B(1,0)	13.5			

Residuals in seconds of arc

821115	688	0.6+	0.0		840302	809	0.2-	0.1-		840305	809	0.0 0.4-
821115	688	0.1+	1.3-		840302	809	0.1+	0.1+		840306	809	0.3+ 0.5+
821213	381	0.6-	0.2+		840304	809	0.7-	0.2-		840306	809	0.4+ 0.3+
821213	381	0.1+	0.4+		840304	809	0.8-	0.1+		840306	809	0.4+ 0.4+
821214	381	0.2-	0.8+		840304	809	0.5-	0.2+		840308	809	0.7+ 0.3-
821214	381	0.0	0.0		840305	809	0.5-	0.0		840308	809	0.7+ 0.1-
840302	809	0.1-	0.1-		840305	809	0.7-	0.4-		840308	809	0.9+ 0.1-

1984 DV = 1979 FN1 = 1982 UR8 = 1982 VP9

The identification and double designation 1984 DV = 1982 UR8 = 1982 VP9 are by T. Furuta (JAM 1694).

Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	216.55287		(1950.0)		P	Q
n	0.18946724	Peri.	74.37645	+0.81156677		-0.57456905
a	3.0022544	Node	320.52549	+0.45151913		+0.73188974
e	0.1142885	Incl.	9.59543	+0.37079624		+0.36634386
P	5.20	B(1,0)	13.5			

Residuals in seconds of arc

790323	095	0.1+	0.1+		840229	809	0.0	0.2-		840305	809	0.1- 0.1-
821021	095	1.1-	0.6+		840229	809	0.2+	0.3-		840305	809	0.0 0.3-
821111	095	1.1+	0.5-		840229	809	0.2+	0.2-		840305	809	0.1+ 0.5-
840225	809	0.1-	0.1-		840301	809	0.3+	0.0		840306	809	0.3- 0.3-
840225	809	0.1+	0.1+		840301	809	0.5+	0.1-		840306	809	0.1- 0.3-
840225	809	0.6+	0.2+		840301	809	0.9+	0.2-		840306	809	0.0 0.2-
840227	809	1.0-	0.5+		840302	809	0.1+	0.6+		840308	809	0.4+ 0.4-
840227	809	0.7-	0.3+		840302	809	0.2-	0.5+		840308	809	0.3+ 0.3-
840227	809	0.6-	0.3+		840302	809	0.3+	0.6+		840308	809	0.3+ 0.0
840228	809	0.7-	0.0		840304	809	0.9+	0.1+		840309	809	0.6- 0.1-
840228	809	0.9-	0.1-		840304	809	0.8+	0.2+		840309	809	0.5- 0.1-
840228	809	0.6-	0.1-		840304	809	0.8+	0.4+		840309	809	0.4- 0.1-

1984 VA = 1975 EN1 = 1980 BH3
Epoch 1985 Dec. 1.0 ET = JDE 2446400.5 (J-P)

M	58.19707	(1950.0)	P	Q	
n	0.18285597	Peri.	18.51427	+0.33599564	-0.94132980
a	3.0741908	Node	51.86499	+0.85892810	+0.29242467
e	0.2751697	Incl.	2.31005	+0.38645756	+0.16848150
P	5.39	B(1,0)	14.5		

Residuals in seconds of arc

750306	095	1.0+	0.4-	841103	372	1.1-	0.7+	841121	372	0.0	1.2+
750315	095	0.9-	0.7+	841103	372	1.1-	1.3+	841127	688	2.3-	0.8-
800117	330	(26.5-	8.8+)	841112	372	0.9-	1.4-	841127	688	0.3-	2.9-
800117	330	0.0	0.2-	841112	372	0.7-	1.1-	841127	372	0.7+	1.7+
841101	688	1.5+	1.6-	841118	688	1.5+	0.1+	841127	372	1.3+	1.5+
841101	688	0.6+	1.4-	841118	688	0.8+	0.5+	841130	372	0.4+	0.6-
841102	372	0.4+	2.6+	841121	372	0.8-	0.4+				

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EPHEMERIDES.

Periodic Comet Shoemaker 2 (1984u) Elements MPC 9351

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1985	01 15	03 13.69	+36 09.1	1.138	1.838	119.9	27.6	16.9
1985	01 25	03 27.10	+37 19.0					
1985	02 04	03 42.59	+38 14.3	1.467	1.988	106.7	28.3	17.8
1985	02 14	03 59.64	+38 57.9					
1985	02 24	04 17.88	+39 31.3	1.824	2.142	94.5	27.4	18.6
1985	03 06	04 36.99	+39 55.7					
1985	03 16	04 56.69	+40 11.4	2.197	2.297	82.9	25.5	19.3
1985	03 26	05 16.77	+40 18.8					
1985	04 05	05 37.04	+40 18.3	2.574	2.450	71.6	22.8	19.9
1985	04 15	05 57.32	+40 10.1					
1985	04 25	06 17.50	+39 54.5	2.943	2.602	60.6	19.7	20.5

1981 VA a,e,i = 2.46, 0.74, 22 Elements MPC 6702

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	02 04	12 18.88	-33 48.9	1.657	2.226	-1.63	+6.9	21.4
1985	02 14	12 17.55	-36 07.1					
1985	02 24	12 12.10	-38 16.9	1.295	2.041	-2.17	+11.4	20.6
1985	03 06	12 01.56	-40 07.6					
1985	03 16	11 45.14	-41 23.0	0.989	1.843	-2.59	+20.0	19.8
1985	03 26	11 22.81	-41 39.2					
1985	04 05	10 56.15	-40 29.9	0.753	1.630	-2.20	+30.6	19.0
1985	04 15	10 28.28	-37 35.2					
1985	04 25	10 02.86	-32 49.9	0.589	1.403	-0.78	+31.9	18.5
1985	05 05	09 42.31	-26 26.3					
1985	05 15	09 26.78	-18 36.9	0.477	1.164	+1.02	+12.0	18.1
1985	05 25	09 14.47	-09 16.7					
1985	06 04	09 01.17	+02 11.9	0.386	0.921	+3.65	-38.7	17.9
1985	06 14	08 38.96	+16 43.7					
1985	06 24	07 55.59	+32 59.4	0.357	0.710	+10.48	-122.1	18.3
1985	07 04	06 49.15	+44 20.2					
1985	07 14	05 55.39	+47 00.9	0.533	0.629	+17.35	-47.3	18.4

1982 RB a,e,i = 2.10, 0.39, 25 Elements MPC 7602

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	02 04	15 43.00	+00 05.1	1.958	2.061	-1.39	+2.5	21.7
1985	02 14	16 01.73	+01 16.2					
1985	02 24	16 20.24	+02 52.4	1.661	1.964	-1.71	+3.5	21.3

1985 03 06	16 38.38	+04 55.3					
1985 03 16	16 55.96	+07 26.0	1.391	1.864	-2.15	+5.2	20.8
1985 03 26	17 12.74	+10 24.8					
1985 04 05	17 28.47	+13 49.8	1.159	1.762	-2.77	+7.5	20.3
1985 04 15	17 42.87	+17 37.3					
1985 04 25	17 55.58	+21 41.1	0.970	1.661	-3.65	+9.8	19.8
1985 05 05	18 06.28	+25 51.6					
1985 05 15	18 14.64	+29 57.2	0.823	1.562	-4.87	+9.9	19.4
1985 05 25	18 20.33	+33 43.9					
1985 06 04	18 23.27	+36 55.9	0.705	1.471	-6.32	+4.7	19.0
1985 06 14	18 23.61	+39 17.9					
1985 06 24	18 21.91	+40 32.8	0.603	1.390	-7.52	-6.9	18.6
1985 07 04	18 19.41	+40 23.9					
1985 07 14	18 17.64	+38 33.9	0.506	1.327	-7.87	-19.7	18.1
1985 07 24	18 18.41	+34 42.2					
1985 08 03	18 23.44	+28 28.8	0.419	1.286	-7.50	-21.5	17.6
1985 08 13	18 33.80	+19 41.7					
1985 08 23	18 50.14	+08 38.5	0.372	1.272	-7.04	+0.5	17.3
1985 09 02	19 12.44	-03 24.7					
1985 09 12	19 39.86	-14 34.3	0.408	1.287	-6.76	+29.3	17.5
1985 09 22	20 11.12	-23 22.8					
1985 10 02	20 44.46	-29 24.6	0.531	1.328	-6.34	+33.2	18.2
1985 10 12	21 18.07	-32 58.2					
1985 10 22	21 50.66	-34 35.2	0.707	1.392	-5.48	+22.7	18.9
1985 11 01	22 21.42	-34 46.2					
1985 11 11	22 50.06	-33 55.2	0.915	1.473	-4.38	+12.5	19.6
1985 11 21	23 16.69	-32 20.3					
1985 12 01	23 41.55	-30 15.0	1.144	1.565	-3.37	+5.9	20.2

Periodic Comet Russell 1 (1979 V) Elements MPC 8289

Date ET	R. A. (1950) Decl.	Delta	r	Variation		m2
1985 02 24	10 45.65 -32 41.4	1.182	2.024	-2.87	+13.3	20.4
1985 03 06	10 38.46 -32 31.6					
1985 03 16	10 31.12 -31 25.2	1.035	1.923	-3.03	+17.3	19.9
1985 03 26	10 25.25 -29 22.5					
1985 04 05	10 22.40 -26 32.9	0.958	1.831	-2.89	+18.0	19.5
1985 04 15	10 23.53 -23 12.2					
1985 04 25	10 29.06 -19 38.6	0.948	1.751	-2.67	+14.1	19.3
1985 05 05	10 38.92 -16 09.8					
1985 05 15	10 52.65 -12 59.0	0.992	1.686	-2.52	+8.0	19.3
1985 05 25	11 09.70 -10 14.6					
1985 06 04	11 29.44 -08 01.3	1.078	1.640	-2.44	+2.5	19.3
1985 06 14	11 51.24 -06 19.6					
1985 06 24	12 14.62 -05 08.0	1.196	1.615	-2.37	-1.3	19.5
1985 07 04	12 39.10 -04 23.8					
1985 07 14	13 04.32 -04 02.7	1.338	1.614	-2.28	-3.5	19.7
1985 07 24	13 30.01 -04 00.8					
1985 08 03	13 55.97 -04 13.7	1.502	1.636	-2.14	-4.8	20.0
1985 08 13	14 22.02 -04 37.2					
1985 08 23	14 48.09 -05 07.3	1.686	1.679	-1.98	-5.4	20.4

Periodic Comet Giclas (1978 XXII) Elements MPC 8289

Date ET	R. A. (1950) Decl.	Delta	r	Variation		m2
1985 03 16	21 42.76 -15 36.4	3.270	2.485	-0.86	-2.9	20.0
1985 03 26	22 01.72 -14 15.5					
1985 04 05	22 20.74 -12 49.8	3.027	2.386	-0.95	-3.9	19.7
1985 04 15	22 39.84 -11 19.9					
1985 04 25	22 59.01 -09 46.9	2.765	2.290	-1.06	-5.0	19.3
1985 05 05	23 18.24 -08 11.9					

1985 05 15	23 37.55	-06 35.8	2.494	2.198	-1.19	-6.2	18.9
1985 05 25	23 56.93	-05 00.1					
1985 06 04	00 16.37	-03 26.0	2.222	2.113	-1.34	-7.5	18.5
1985 06 14	00 35.86	-01 55.1					
1985 06 24	00 55.32	-00 29.0	1.959	2.036	-1.53	-9.0	18.0
1985 07 04	01 14.67	+00 50.5					
1985 07 14	01 33.80	+02 02.0	1.711	1.968	-1.77	-10.5	17.6
1985 07 24	01 52.53	+03 03.6					
1985 08 03	02 10.60	+03 53.6	1.483	1.913	-2.05	-12.3	17.2
1985 08 13	02 27.74	+04 31.0					
1985 08 23	02 43.51	+04 54.5	1.280	1.872	-2.40	-14.5	16.8
1985 09 02	02 57.49	+05 04.3					
1985 09 12	03 09.17	+05 00.9	1.108	1.846	-2.83	-17.1	16.4
1985 09 22	03 17.98	+04 46.2					
1985 10 02	03 23.50	+04 23.8	0.976	1.838	-3.31	-19.6	16.1
1985 10 12	03 25.47	+03 58.8					
1985 10 22	03 24.00	+03 38.0	0.899	1.847	-3.69	-21.1	15.9
1985 11 01	03 19.79	+03 29.0					
1985 11 11	03 13.99	+03 37.9	0.896	1.872	-3.71	-20.2	16.0
1985 11 21	03 08.13	+04 08.8					
1985 12 01	03 03.64	+05 01.6	0.978	1.913	-3.32	-17.6	16.3
1985 12 11	03 01.54	+06 13.1					
1985 12 21	03 02.34	+07 38.7	1.139	1.969	-2.77	-14.5	16.7
1985 12 31	03 06.15	+09 13.4					
1986 01 10	03 12.72	+10 52.4	1.363	2.036	-2.27	-11.7	17.3
1986 01 20	03 21.77	+12 32.3					
1986 01 30	03 32.92	+14 10.0	1.632	2.114	-1.89	-9.2	17.8
1986 02 09	03 45.80	+15 43.1					
1986 02 19	04 00.14	+17 10.0	1.932	2.199	-1.61	-7.0	18.4
1986 03 01	04 15.65	+18 29.2					
1986 03 11	04 32.08	+19 39.8	2.248	2.290	-1.39	-5.2	18.9
1986 03 21	04 49.27	+20 41.0					
1986 03 31	05 07.00	+21 32.3	2.570	2.386	-1.22	-3.6	19.3
1986 04 10	05 25.12	+22 13.4					
1986 04 20	05 43.51	+22 44.4	2.884	2.486	-1.07	-2.2	19.8
1986 04 30	06 02.02	+23 05.2					
1986 05 10	06 20.54	+23 16.2	3.181	2.587	-0.95	-1.2	20.1
1986 05 20	06 38.99	+23 17.7					
1986 05 30	06 57.25	+23 10.3	3.451	2.689	-0.84	-0.3	20.5

(3178) 1984 WA a,e,i = 2.71, 0.38, 7 Elements MPC 9359

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984 12 26	03 58.66	+16 41.6	0.930	1.835	146.9	17.0	15.1
1985 01 05	03 56.42	+15 47.7					
1985 01 15	03 58.36	+15 15.2	1.012	1.779	126.2	26.5	15.4
1985 01 25	04 04.48	+15 03.1					
1985 02 04	04 14.47	+15 07.6	1.135	1.736	109.7	32.3	15.7
1985 02 14	04 27.84	+15 23.6					
1985 02 24	04 44.15	+15 46.0	1.277	1.705	96.8	35.2	16.0
1985 03 06	05 02.95	+16 09.7					
1985 03 16	05 23.79	+16 30.1	1.429	1.690	86.4	36.0	16.2
1985 03 26	05 46.30	+16 43.5					
1985 04 05	06 10.11	+16 46.7	1.589	1.690	77.8	35.4	16.5
1985 04 15	06 34.86	+16 37.4					
1985 04 25	07 00.25	+16 14.1	1.755	1.705	70.4	33.8	16.7
1985 05 05	07 25.97	+15 36.1					
1985 05 15	07 51.76	+14 43.6	1.929	1.736	63.7	31.5	16.8
1985 05 25	08 17.43	+13 37.0					
1985 06 04	08 42.80	+12 17.6	2.112	1.779	57.2	28.6	17.0

1978 TO7 a,e,i = 3.16, 0.13, 12 Elements MPC 9355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	04 37.19	+15 08.5	1.900	2.822	155.1	8.4	16.3
1985	01 05	04 31.04	+15 47.8					
1985	01 15	04 27.27	+16 31.7	2.073	2.838	133.2	14.6	16.7
1985	01 25	04 26.09	+17 19.2					
1985	02 04	04 27.53	+18 09.2	2.317	2.855	113.4	18.5	17.0
1985	02 14	04 31.42	+19 00.5					
1985	02 24	04 37.52	+19 51.7	2.600	2.874	95.8	20.0	17.3
1985	03 06	04 45.58	+20 41.7					
1985	03 16	04 55.31	+21 29.2	2.893	2.893	80.1	19.8	17.6

1978 UF2 a,e,i = 3.17, 0.19, 22 Elements MPC 9352

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	04 30.48	+43 12.3	1.674	2.575	150.4	10.9	16.4
1985	01 05	04 21.75	+43 18.1					
1985	01 15	04 16.67	+43 10.8	1.823	2.585	131.8	16.5	16.7
1985	01 25	04 15.55	+42 57.2					
1985	02 04	04 18.28	+42 42.3	2.037	2.597	113.8	20.3	17.1
1985	02 14	04 24.46	+42 28.9					
1985	02 24	04 33.65	+42 17.8	2.287	2.612	97.8	22.0	17.4
1985	03 06	04 45.42	+42 08.7					
1985	03 16	04 59.34	+42 00.3	2.548	2.631	83.6	22.1	17.6

1977 QA5 a,e,i = 2.19, 0.12, 3 Elements MPC 9355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	04 34.82	+25 54.4	1.062	2.003	156.7	11.2	16.4
1985	01 05	04 28.27	+25 46.5					
1985	01 15	04 25.76	+25 41.5	1.211	2.025	134.4	20.3	16.9
1985	01 25	04 27.33	+25 41.7					
1985	02 04	04 32.65	+25 47.4	1.419	2.049	115.7	25.7	17.4
1985	02 14	04 41.19	+25 57.4					
1985	02 24	04 52.45	+26 09.5	1.659	2.074	100.0	28.0	17.8
1985	03 06	05 05.95	+26 21.6					
1985	03 16	05 21.27	+26 31.2	1.912	2.100	86.5	28.2	18.2

1953 PR a,e,i = 2.44, 0.33, 5 Elements MPC 9360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	06 00.64	+15 21.2	1.584	2.560	171.1	3.4	18.5
1985	01 05	05 50.10	+15 32.0					
1985	01 15	05 41.53	+15 48.2	1.727	2.627	150.3	10.7	19.0
1985	01 25	05 35.63	+16 08.9					
1985	02 04	05 32.70	+16 32.9	1.965	2.691	128.5	16.7	19.5
1985	02 14	05 32.68	+16 59.0					
1985	02 24	05 35.32	+17 25.7	2.264	2.752	109.1	19.9	19.9
1985	03 06	05 40.33	+17 51.6					
1985	03 16	05 47.33	+18 15.6	2.591	2.810	92.1	20.7	20.3

1981 JZ a,e,i = 3.20, 0.07, 18 Elements MPC 9353

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	06 03.36	+37 05.3	2.474	3.436	166.0	4.0	17.2
1985	01 05	05 53.37	+37 28.0					
1985	01 15	05 44.53	+37 38.1	2.551	3.434	149.3	8.4	17.4
1985	01 25	05 37.64	+37 37.7					
1985	02 04	05 33.22	+37 30.1	2.731	3.432	128.4	13.0	17.7
1985	02 14	05 31.48	+37 18.4					
1985	02 24	05 32.38	+37 05.1	2.977	3.428	108.9	15.8	17.9
1985	03 06	05 35.77	+36 51.7					
1985	03 16	05 41.37	+36 38.8	3.255	3.424	91.3	16.9	18.1

1981 YC a,e,i = 1.86, 0.08, 22 Elements MPC 9355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1984	12 26	09 25.28	-15 53.6	1.324	2.001	119.5	25.3	17.2
1985	01 05	09 20.60	-18 38.8					
1985	01 15	09 12.31	-20 54.9	1.187	1.990	132.7	21.3	16.9
1985	01 25	09 00.99	-22 29.1					
1985	02 04	08 47.95	-23 11.1	1.118	1.978	140.1	18.7	16.7
1985	02 14	08 35.01	-22 58.2					
1985	02 24	08 24.02	-21 55.5	1.124	1.963	136.3	20.4	16.7
1985	03 06	08 16.45	-20 16.1					
1985	03 16	08 12.98	-18 15.8	1.198	1.946	124.9	24.8	16.9
1985	03 26	08 13.74	-16 08.7					
1985	04 05	08 18.44	-14 06.2	1.318	1.928	111.8	28.8	17.2
1985	04 15	08 26.56	-12 15.6					
1985	04 25	08 37.62	-10 41.3	1.465	1.909	99.5	31.3	17.5
1985	05 05	08 51.10	-09 25.8					
1985	05 15	09 06.56	-08 29.5	1.624	1.889	88.4	32.3	17.7
1985	05 25	09 23.65	-07 52.2					
1985	06 04	09 42.05	-07 33.2	1.785	1.868	78.4	32.1	17.9

1981 AA a,e,i = 2.33, 0.30, 24 Elements MPC 7154

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	01 15	13 23.77	+17 51.7	1.990	2.383	101.1	23.9	17.9
1985	01 25	13 31.39	+19 27.5					
1985	02 04	13 36.33	+21 22.7	1.838	2.447	116.9	21.1	17.7
1985	02 14	13 38.28	+23 33.0					
1985	02 24	13 36.99	+25 51.3	1.734	2.509	132.2	17.0	17.6
1985	03 06	13 32.47	+28 07.0					
1985	03 16	13 25.06	+30 08.0	1.705	2.567	142.6	13.6	17.5
1985	03 26	13 15.51	+31 42.4					
1985	04 05	13 04.97	+32 41.3	1.765	2.623	141.4	13.8	17.6
1985	04 15	12 54.68	+33 01.2					
1985	04 25	12 45.78	+32 43.5	1.912	2.675	130.3	16.7	17.9
1985	05 05	12 39.07	+31 53.5					
1985	05 15	12 34.91	+30 38.0	2.125	2.723	116.0	19.5	18.3
1985	05 25	12 33.33	+29 03.8					
1985	06 04	12 34.19	+27 16.5	2.380	2.769	101.6	21.0	18.6
1985	06 14	12 37.18	+25 20.8					
1985	06 24	12 42.02	+23 19.9	2.655	2.810	88.0	21.2	18.9

1979 SV9 a,e,i = 2.30, 0.14, 5 Elements MPC 7137

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	01 15	13 15.26	-09 42.0	2.278	2.532	-0.96	+4.2	18.8
1985	01 25	13 22.94	-10 18.3					
1985	02 04	13 28.69	-10 41.0	1.995	2.512	-1.13	+4.7	18.5
1985	02 14	13 32.20	-10 48.1					
1985	02 24	13 33.14	-10 37.8	1.741	2.490	-1.32	+5.6	18.1
1985	03 06	13 31.33	-10 08.7					
1985	03 16	13 26.80	-09 20.7	1.546	2.465	-1.52	+6.7	17.7
1985	03 26	13 19.87	-08 15.6					
1985	04 05	13 11.29	-06 58.3	1.441	2.440	-1.61	+7.4	17.1
1985	04 15	13 02.13	-05 36.2					
1985	04 25	12 53.54	-04 18.1	1.444	2.413	-1.56	+7.2	17.4
1985	05 05	12 46.61	-03 12.3					
1985	05 15	12 42.04	-02 24.3	1.543	2.384	-1.39	+6.3	17.7
1985	05 25	12 40.20	-01 56.7					
1985	06 04	12 41.13	-01 49.7	1.710	2.354	-1.21	+5.3	18.0
1985	06 14	12 44.67	-02 01.8					
1985	06 24	12 50.57	-02 30.6	1.911	2.324	-1.07	+4.5	18.3

1984 DV a,e,i = 3.00, 0.11, 10 Elements MPC 9360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 04	13 59.72	-21 45.0	3.027	3.328	99.1	17.0	18.9
1985	02 14	14 02.30	-22 36.5					
1985	02 24	14 02.84	-23 19.1	2.757	3.334	117.7	15.2	18.7
1985	03 06	14 01.20	-23 50.9					
1985	03 16	13 57.42	-24 10.2	2.534	3.339	137.8	11.5	18.4
1985	03 26	13 51.65	-24 15.2					
1985	04 05	13 44.34	-24 05.1	2.393	3.342	158.1	6.4	18.1
1985	04 15	13 36.14	-23 40.4					
1985	04 25	13 27.80	-23 03.4	2.359	3.344	166.1	4.1	18.0
1985	05 05	13 20.13	-22 18.4					
1985	05 15	13 13.79	-21 30.3	2.437	3.345	149.1	8.9	18.3
1985	05 25	13 09.24	-20 44.3					
1985	06 04	13 06.74	-20 04.5	2.610	3.345	129.2	13.6	18.5
1985	06 14	13 06.32	-19 33.8					
1985	06 24	13 07.91	-19 13.8	2.847	3.344	110.7	16.5	18.8
1985	07 04	13 11.38	-19 04.9					
1985	07 14	13 16.51	-19 06.8	3.116	3.341	93.8	17.7	19.0

1981 ET25 a,e,i = 2.42, 0.10, 6 Elements MPC 8135

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	02 04	14 08.88	-11 55.5	2.023	2.406	-1.20	+4.4	19.0
1985	02 14	14 16.63	-12 08.7					
1985	02 24	14 22.19	-12 06.4	1.758	2.384	-1.41	+5.1	18.6
1985	03 06	14 25.20	-11 47.5					
1985	03 16	14 25.41	-11 11.5	1.534	2.361	-1.65	+6.1	18.2
1985	03 26	14 22.72	-10 18.5					
1985	04 05	14 17.35	-09 11.1	1.377	2.339	-1.86	+7.1	17.7
1985	04 15	14 09.91	-07 54.2					
1985	04 25	14 01.35	-06 35.1	1.315	2.318	-1.92	+7.6	17.4
1985	05 05	13 52.92	-05 22.6					
1985	05 15	13 45.75	-04 24.5	1.355	2.297	-1.80	+7.0	17.7
1985	05 25	13 40.73	-03 46.0					
1985	06 04	13 38.40	-03 29.4	1.479	2.277	-1.58	+5.9	18.1
1985	06 14	13 38.88	-03 33.9					
1985	06 24	13 42.09	-03 57.5	1.658	2.258	-1.37	+5.0	18.4
1985	07 04	13 47.81	-04 37.3					
1985	07 14	13 55.76	-05 30.1	1.864	2.241	-1.21	+4.3	18.7

1981 EX26 a,e,i = 2.43, 0.25, 3 Elements MPC 8135

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	02 04	14 17.12	-14 14.1	1.882	2.241	-1.41	+6.0	19.7
1985	02 14	14 27.75	-14 56.5					
1985	02 24	14 36.61	-15 26.4	1.595	2.183	-1.72	+6.9	19.3
1985	03 06	14 43.26	-15 42.5					
1985	03 16	14 47.30	-15 43.4	1.340	2.127	-2.12	+8.3	18.8
1985	03 26	14 48.32	-15 27.8					
1985	04 05	14 46.16	-14 55.0	1.139	2.072	-2.54	+10.2	18.2
1985	04 15	14 40.98	-14 06.2					
1985	04 25	14 33.41	-13 04.6	1.017	2.020	-2.81	+11.9	17.5
1985	05 05	14 24.69	-11 57.2					
1985	05 15	14 16.29	-10 53.1	0.986	1.971	-2.74	+12.0	17.7
1985	05 25	14 09.67	-10 01.3					
1985	06 04	14 05.92	-09 28.9	1.039	1.928	-2.44	+10.5	18.0
1985	06 14	14 05.56	-09 18.9					
1985	06 24	14 08.71	-09 31.1	1.150	1.889	-2.10	+8.7	18.3
1985	07 04	14 15.19	-10 03.3					
1985	07 14	14 24.67	-10 51.9	1.295	1.858	-1.86	+7.2	18.6

1977 DT4 a,e,i = 2.35, 0.25, 3 Elements MPC 7228

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 04	14 50.60	-13 26.5	2.747	2.925	90.4	19.7	19.8
1985	02 14	14 56.57	-13 47.6					
1985	02 24	15 00.61	-13 59.6	2.461	2.924	108.1	18.8	19.5
1985	03 06	15 02.42	-14 02.0					
1985	03 16	15 01.82	-13 54.7	2.202	2.920	127.8	15.6	19.2
1985	03 26	14 58.66	-13 37.6					
1985	04 05	14 53.03	-13 11.3	2.004	2.912	149.8	10.0	18.9
1985	04 15	14 45.30	-12 37.3					
1985	04 25	14 36.07	-11 58.1	1.900	2.901	173.1	2.4	18.4
1985	05 05	14 26.25	-11 17.6					
1985	05 15	14 16.80	-10 40.4	1.909	2.886	161.7	6.3	18.6
1985	05 25	14 08.61	-10 10.6					
1985	06 04	14 02.35	-09 51.5	2.025	2.869	139.0	13.4	18.9
1985	06 14	13 58.38	-09 44.9					
1985	06 24	13 56.84	-09 51.2	2.216	2.847	118.7	18.3	19.2
1985	07 04	13 57.67	-10 09.8					
1985	07 14	14 00.70	-10 39.4	2.450	2.823	100.8	20.7	19.5

1982 VZ a,e,i = 3.18, 0.19, 2 Elements MPC 9360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 24	15 10.93	-15 39.7	3.252	3.639	105.2	15.2	19.2
1985	03 06	15 12.49	-15 40.0					
1985	03 16	15 12.13	-15 32.7	2.996	3.659	125.0	12.9	19.0
1985	03 26	15 09.83	-15 17.8					
1985	04 05	15 05.70	-14 56.1	2.801	3.677	146.4	8.7	18.8
1985	04 15	15 00.01	-14 28.4					
1985	04 25	14 53.19	-13 56.6	2.700	3.693	169.0	3.0	18.5
1985	05 05	14 45.81	-13 23.0					
1985	05 15	14 38.50	-12 50.4	2.715	3.708	167.4	3.4	18.5
1985	05 25	14 31.87	-12 21.7					
1985	06 04	14 26.42	-11 59.4	2.842	3.721	145.3	8.9	18.8
1985	06 14	14 22.49	-11 45.2					
1985	06 24	14 20.26	-11 39.9	3.060	3.733	124.7	12.9	19.1
1985	07 04	14 19.79	-11 43.7					
1985	07 14	14 21.02	-11 56.1	3.335	3.744	105.9	15.1	19.3
1985	07 24	14 23.87	-12 16.3					
1985	08 03	14 28.19	-12 43.3	3.636	3.753	88.7	15.7	19.5

1980 KO a,e,i = 2.95, 0.01, 3 Elements MPC 8384

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 24	15 28.40	-16 33.8	2.556	2.911	100.9	19.5	18.7
1985	03 06	15 33.29	-16 49.5					
1985	03 16	15 36.00	-16 57.7	2.294	2.911	119.1	17.4	18.4
1985	03 26	15 36.32	-16 58.4					
1985	04 05	15 34.17	-16 51.6	2.078	2.911	139.3	12.9	18.1
1985	04 15	15 29.67	-16 38.0					
1985	04 25	15 23.15	-16 18.4	1.939	2.911	161.5	6.3	17.8
1985	05 05	15 15.26	-15 54.7					
1985	05 15	15 06.83	-15 29.7	1.904	2.912	174.6	1.9	17.5
1985	05 25	14 58.76	-15 06.5					
1985	06 04	14 51.90	-14 48.6	1.977	2.912	152.1	9.4	17.9
1985	06 14	14 46.87	-14 38.5					
1985	06 24	14 44.01	-14 37.8	2.142	2.913	131.1	15.2	18.2
1985	07 04	14 43.47	-14 47.2					
1985	07 14	14 45.19	-15 06.2	2.370	2.914	112.5	18.8	18.5
1985	07 24	14 49.05	-15 33.7					
1985	08 03	14 54.85	-16 08.5	2.631	2.915	95.9	20.3	18.8

1981 QJ a,e,i = 3.12, 0.19, 1 Elements MPC 7360

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 24	15 50.62	-20 26.3	3.462	3.682	94.9	15.5	19.9
1985	03 06	15 54.36	-20 39.9					
1985	03 16	15 56.32	-20 48.3	3.157	3.670	113.6	14.4	19.7
1985	03 26	15 56.33	-20 51.1					
1985	04 05	15 54.34	-20 48.0	2.892	3.657	133.8	11.4	19.4
1985	04 15	15 50.40	-20 38.9					
1985	04 25	15 44.71	-20 23.9	2.702	3.642	155.7	6.5	19.1
1985	05 05	15 37.69	-20 03.5					
1985	05 15	15 29.91	-19 38.9	2.615	3.626	178.5	0.4	18.6
1985	05 25	15 22.03	-19 12.1					
1985	06 04	15 14.73	-18 45.7	2.645	3.608	158.5	5.9	19.0
1985	06 14	15 08.59	-18 22.3					
1985	06 24	15 04.03	-18 04.1	2.780	3.589	136.7	11.2	19.3
1985	07 04	15 01.32	-17 52.9					
1985	07 14	15 00.53	-17 49.3	2.992	3.568	116.8	14.7	19.5
1985	07 24	15 01.66	-17 53.6					
1985	08 03	15 04.61	-18 05.2	3.247	3.545	98.7	16.4	19.7

(3175) 1979 YP a,e,i = 2.36, 0.21, 1 Elements MPC 9357

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	02 24	15 55.67	-20 12.9	2.625	2.866	93.8	20.2	19.3
1985	03 06	16 01.63	-20 28.1					
1985	03 16	16 05.44	-20 36.6	2.343	2.862	111.5	18.9	19.1
1985	03 26	16 06.83	-20 38.1					
1985	04 05	16 05.60	-20 32.3	2.094	2.855	131.3	15.3	18.7
1985	04 15	16 01.67	-20 18.8					
1985	04 25	15 55.21	-19 57.6	1.909	2.844	153.4	9.1	18.4
1985	05 05	15 46.70	-19 29.0					
1985	05 15	15 36.90	-18 54.8	1.821	2.831	177.2	1.0	17.8
1985	05 25	15 26.80	-18 17.6					
1985	06 04	15 17.48	-17 41.7	1.845	2.814	158.8	7.5	18.2
1985	06 14	15 09.78	-17 10.8					
1985	06 24	15 04.31	-16 48.4	1.969	2.795	136.4	14.5	18.5
1985	07 04	15 01.39	-16 36.4					
1985	07 14	15 01.05	-16 35.3	2.165	2.773	116.6	19.1	18.8
1985	07 24	15 03.20	-16 44.7					
1985	08 03	15 07.63	-17 03.4	2.398	2.748	99.1	21.4	19.1

1984 AC1 a,e,i = 2.25, 0.25, 7 Elements MPC 9030

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	02 24	16 11.52	-13 22.4	2.587	2.792	-0.72	+3.1	19.3
1985	03 06	16 17.92	-13 18.6					
1985	03 16	16 22.22	-13 07.7	2.319	2.801	-0.81	+3.4	19.0
1985	03 26	16 24.15	-12 50.4					
1985	04 05	16 23.47	-12 27.6	2.078	2.806	-0.93	+3.9	18.7
1985	04 15	16 20.11	-12 00.6					
1985	04 25	16 14.13	-11 31.2	1.896	2.808	-1.04	+4.5	18.4
1985	05 05	16 05.91	-11 01.7					
1985	05 15	15 56.15	-10 34.9	1.806	2.805	-1.10	+4.9	18.0
1985	05 25	15 45.76	-10 13.7					
1985	06 04	15 35.78	-10 01.2	1.827	2.799	-1.06	+5.0	18.2
1985	06 14	15 27.14	-09 59.2					
1985	06 24	15 20.54	-10 08.8	1.951	2.789	-0.96	+4.7	18.5
1985	07 04	15 16.37	-10 29.7					
1985	07 14	15 14.75	-11 00.8	2.149	2.775	-0.84	+4.2	18.8
1985	07 24	15 15.63	-11 40.7					
1985	08 03	15 18.84	-12 27.6	2.387	2.758	-0.74	+3.8	19.1

1984 EL a,e,i = 3.19, 0.10, 6 Elements MPC 8779

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	16 57.74	-22 38.8	2.811	3.129	-0.78	+2.5	18.2
1985	03 26	17 02.28	-22 58.1					
1985	04 05	17 04.64	-23 15.3	2.560	3.147	-0.87	+2.6	18.0
1985	04 15	17 04.68	-23 30.5					
1985	04 25	17 02.31	-23 43.6	2.351	3.166	-0.97	+2.8	17.7
1985	05 05	16 57.66	-23 53.9					
1985	05 15	16 51.07	-24 00.9	2.219	3.185	-1.04	+3.3	17.5
1985	05 25	16 43.09	-24 03.9					
1985	06 04	16 34.52	-24 02.9	2.190	3.204	-1.06	+3.8	17.1
1985	06 14	16 26.20	-23 59.0					
1985	06 24	16 18.92	-23 53.8	2.273	3.222	-1.01	+4.0	17.6
1985	07 04	16 13.32	-23 49.3					
1985	07 14	16 09.76	-23 47.2	2.453	3.241	-0.91	+3.9	17.9
1985	07 24	16 08.44	-23 48.8					
1985	08 03	16 09.35	-23 54.8	2.702	3.259	-0.82	+3.5	18.2
1985	08 13	16 12.37	-24 05.0					
1985	08 23	16 17.35	-24 19.0	2.989	3.276	-0.74	+3.0	18.5

1975 VD a,e,i = 2.31, 0.23, 5 Elements MPC 7614

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	16 53.57	-27 23.0	2.102	2.471	99.6	23.4	19.8
1985	03 26	17 01.78	-28 04.9					
1985	04 05	17 07.66	-28 45.4	1.811	2.423	116.0	21.8	19.4
1985	04 15	17 10.77	-29 24.9					
1985	04 25	17 10.70	-30 02.7	1.556	2.372	134.6	17.6	18.9
1985	05 05	17 07.16	-30 36.7					
1985	05 15	17 00.18	-31 03.8	1.364	2.321	155.2	10.5	18.4
1985	05 25	16 50.23	-31 19.7					
1985	06 04	16 38.41	-31 20.8	1.260	2.268	170.9	4.1	18.0
1985	06 14	16 26.26	-31 06.5					
1985	06 24	16 15.46	-30 39.7	1.256	2.214	153.9	11.7	18.2
1985	07 04	16 07.44	-30 06.4					
1985	07 14	16 03.01	-29 33.0	1.336	2.160	132.9	20.2	18.5
1985	07 24	16 02.49	-29 04.6					
1985	08 03	16 05.80	-28 43.9	1.471	2.106	114.6	26.0	18.8
1985	08 13	16 12.61	-28 31.0					
1985	08 23	16 22.58	-28 24.9	1.633	2.054	99.2	29.1	19.0

1979 FU2 a,e,i = 3.12, 0.08, 14 Elements MPC 8908

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	16 59.61	-25 10.9	2.583	2.902	98.5	19.8	17.3
1985	03 26	17 05.50	-26 03.1					
1985	04 05	17 09.17	-26 56.1	2.313	2.894	115.9	18.1	17.0
1985	04 15	17 10.35	-27 50.3					
1985	04 25	17 08.83	-28 44.8	2.085	2.887	135.2	14.2	16.7
1985	05 05	17 04.59	-29 37.9					
1985	05 15	16 57.83	-30 27.0	1.929	2.882	155.9	8.2	16.4
1985	05 25	16 49.10	-31 08.8					
1985	06 04	16 39.27	-31 40.7	1.872	2.877	170.6	3.3	16.1
1985	06 14	16 29.44	-32 01.7					
1985	06 24	16 20.67	-32 12.9	1.922	2.874	154.7	8.7	16.4
1985	07 04	16 13.90	-32 17.1					
1985	07 14	16 09.66	-32 17.7	2.067	2.872	134.4	14.6	16.7
1985	07 24	16 08.22	-32 17.8					
1985	08 03	16 09.58	-32 19.7	2.279	2.871	115.8	18.6	17.0
1985	08 13	16 13.58	-32 24.4					
1985	08 23	16 20.00	-32 32.2	2.529	2.871	99.2	20.3	17.3

1984 EA1 a,e,i = 3.11, 0.02, 13 Elements MPC 8779

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	17 07.68	-08 42.0	2.887	3.181	-0.72	+2.2	18.2
1985	03 26	17 12.48	-08 09.1					
1985	04 05	17 15.30	-07 32.6	2.623	3.180	-0.80	+2.5	18.0
1985	04 15	17 16.02	-06 54.2					
1985	04 25	17 14.56	-06 16.2	2.400	3.178	-0.88	+2.7	17.7
1985	05 05	17 10.99	-05 41.2					
1985	05 15	17 05.56	-05 12.3	2.248	3.177	-0.95	+3.0	17.5
1985	05 25	16 58.70	-04 52.2					
1985	06 04	16 51.03	-04 43.5	2.193	3.175	-0.98	+3.0	17.3
1985	06 14	16 43.29	-04 47.5					
1985	06 24	16 36.21	-05 04.5	2.244	3.172	-0.95	+2.9	17.5
1985	07 04	16 30.44	-05 33.9					
1985	07 14	16 26.40	-06 13.7	2.390	3.170	-0.87	+2.8	17.7
1985	07 24	16 24.37	-07 02.0					
1985	08 03	16 24.43	-07 56.4	2.605	3.167	-0.79	+2.6	18.0
1985	08 13	16 26.54	-08 54.7					
1985	08 23	16 30.59	-09 54.9	2.861	3.164	-0.71	+2.4	18.2

(2966) 1977 EB2 a,e,i = 2.45, 0.14, 3 Elements MPC 8388

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	16 49.35	-22 27.6	1.690	2.120	101.1	27.4	18.4
1985	03 26	17 00.22	-22 56.8					
1985	04 05	17 08.57	-23 21.9	1.467	2.112	116.5	25.1	18.0
1985	04 15	17 13.95	-23 44.0					
1985	04 25	17 15.95	-24 03.9	1.279	2.108	134.3	20.0	17.6
1985	05 05	17 14.37	-24 21.5					
1985	05 15	17 09.32	-24 35.7	1.147	2.107	155.1	11.7	17.2
1985	05 25	17 01.37	-24 44.9					
1985	06 04	16 51.71	-24 48.1	1.097	2.111	177.2	1.4	16.6
1985	06 14	16 41.87	-24 45.5					
1985	06 24	16 33.40	-24 39.4	1.139	2.117	158.3	10.2	17.1
1985	07 04	16 27.57	-24 33.4					
1985	07 14	16 25.02	-24 30.5	1.265	2.128	137.4	18.9	17.6
1985	07 24	16 25.96	-24 32.5					
1985	08 03	16 30.27	-24 39.9	1.451	2.141	119.5	24.4	18.0
1985	08 13	16 37.58	-24 51.4					
1985	08 23	16 47.55	-25 05.6	1.673	2.158	104.3	27.0	18.4

1981 EK19 a,e,i = 2.32, 0.15, 5 Elements MPC 7933

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	16 44.78	-28 15.0	1.647	2.086	-1.84	+3.2	18.8
1985	03 26	16 56.68	-29 07.1					
1985	04 05	17 06.14	-29 55.3	1.413	2.060	-2.25	+2.4	18.4
1985	04 15	17 12.67	-30 40.1					
1985	04 25	17 15.72	-31 20.9	1.212	2.037	-2.76	+2.4	17.9
1985	05 05	17 14.93	-31 55.9					
1985	05 15	17 10.26	-32 21.4	1.065	2.017	-3.25	+3.7	17.5
1985	05 25	17 02.20	-32 32.7					
1985	06 04	16 51.99	-32 25.9	0.995	2.002	-3.46	+6.4	17.1
1985	06 14	16 41.40	-32 00.6					
1985	06 24	16 32.28	-31 20.7	1.013	1.990	-3.21	+8.1	17.3
1985	07 04	16 26.19	-30 33.8					
1985	07 14	16 23.88	-29 47.0	1.110	1.982	-2.73	+7.5	17.7
1985	07 24	16 25.56	-29 05.6					
1985	08 03	16 31.02	-28 32.1	1.264	1.979	-2.30	+5.6	18.1
1985	08 13	16 39.82	-28 05.9					
1985	08 23	16 51.51	-27 45.6	1.454	1.980	-1.97	+3.3	18.5

1984 KF a,e,i = 5.19, 0.13, 28 Elements MPC 9025

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 09.74	+05 39.5	4.433	4.676	98.0	12.2	16.4
1985	03 26	17 12.25	+06 23.9					
1985	04 05	17 13.37	+07 09.5	4.166	4.664	114.0	11.3	16.2
1985	04 15	17 13.06	+07 54.0					
1985	04 25	17 11.34	+08 35.1	3.945	4.652	129.6	9.6	16.0
1985	05 05	17 08.32	+09 09.7					
1985	05 15	17 04.19	+09 35.3	3.796	4.640	142.6	7.6	15.9
1985	05 25	16 59.23	+09 49.3					
1985	06 04	16 53.80	+09 50.0	3.739	4.629	147.8	6.7	15.8
1985	06 14	16 48.30	+09 36.6					
1985	06 24	16 43.15	+09 09.0	3.782	4.619	141.3	7.9	15.9
1985	07 04	16 38.70	+08 28.5					
1985	07 14	16 35.25	+07 36.9	3.915	4.609	127.9	10.0	16.0
1985	07 24	16 33.01	+06 36.3					
1985	08 03	16 32.10	+05 29.1	4.119	4.600	112.2	11.8	16.2
1985	08 13	16 32.57	+04 17.8					
1985	08 23	16 34.40	+03 04.3	4.368	4.591	96.4	12.6	16.3

4657 P-L a,e,i = 3.02, 0.10, 1 Elements MPC 9301

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 12.66	-22 07.8	3.014	3.268	95.8	17.6	20.0
1985	03 26	17 17.74	-22 11.6					
1985	04 05	17 20.84	-22 13.0	2.725	3.259	113.7	16.3	19.7
1985	04 15	17 21.78	-22 12.3					
1985	04 25	17 20.42	-22 09.7	2.474	3.248	133.4	13.0	19.4
1985	05 05	17 16.81	-22 05.1					
1985	05 15	17 11.13	-21 58.3	2.293	3.237	154.9	7.6	19.1
1985	05 25	17 03.81	-21 49.3					
1985	06 04	16 55.50	-21 38.2	2.211	3.225	177.6	0.8	18.6
1985	06 14	16 46.99	-21 26.0					
1985	06 24	16 39.09	-21 14.0	2.242	3.212	159.2	6.4	19.0
1985	07 04	16 32.55	-21 03.9					
1985	07 14	16 27.86	-20 57.3	2.374	3.199	137.5	12.4	19.3
1985	07 24	16 25.33	-20 55.3					
1985	08 03	16 25.08	-20 58.4	2.582	3.184	117.8	16.4	19.6
1985	08 13	16 27.03	-21 06.3					
1985	08 23	16 31.08	-21 18.5	2.832	3.169	100.0	18.3	19.8

1975 TV2 a,e,i = 2.37, 0.13, 10 Elements MPC 9024

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	16 58.25	-20 55.5	1.648	2.058	99.3	28.5	16.8
1985	03 26	17 09.19	-21 50.6					
1985	04 05	17 17.52	-22 46.4	1.441	2.066	114.5	26.2	16.5
1985	04 15	17 22.80	-23 44.7					
1985	04 25	17 24.55	-24 46.6	1.264	2.078	132.3	21.0	16.1
1985	05 05	17 22.49	-25 51.5					
1985	05 15	17 16.67	-26 56.9	1.142	2.094	153.0	12.6	15.7
1985	05 25	17 07.61	-27 58.3					
1985	06 04	16 56.53	-28 50.4	1.102	2.112	173.0	3.3	15.3
1985	06 14	16 45.09	-29 29.9					
1985	06 24	16 35.03	-29 56.6	1.156	2.133	158.2	10.2	15.7
1985	07 04	16 27.77	-30 13.6					
1985	07 14	16 24.04	-30 25.2	1.295	2.157	137.5	18.6	16.2
1985	07 24	16 24.08	-30 35.0					
1985	08 03	16 27.73	-30 45.3	1.496	2.183	119.6	23.9	16.6
1985	08 13	16 34.58	-30 56.6					
1985	08 23	16 44.24	-31 08.5	1.733	2.210	104.2	26.3	17.0

1981 DE1 a,e,i = 2.26, 0.10, 6 Elements MPC 7614

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 10.80	-26 20.6	2.167	2.475	95.9	23.6	18.9
1985	03 26	17 19.14	-26 24.7					
1985	04 05	17 25.02	-26 23.7	1.910	2.472	112.5	22.0	18.6
1985	04 15	17 28.08	-26 18.0					
1985	04 25	17 28.01	-26 07.1	1.683	2.466	131.4	17.8	18.2
1985	05 05	17 24.69	-25 50.3					
1985	05 15	17 18.25	-25 26.4	1.515	2.459	153.0	10.8	17.8
1985	05 25	17 09.20	-24 54.5					
1985	06 04	16 58.55	-24 14.8	1.437	2.450	176.5	1.5	17.3
1985	06 14	16 47.58	-23 29.3					
1985	06 24	16 37.62	-22 42.1	1.462	2.439	159.1	8.5	17.7
1985	07 04	16 29.82	-21 57.9					
1985	07 14	16 24.85	-21 20.7	1.583	2.427	136.9	16.6	18.0
1985	07 24	16 22.99	-20 52.9					
1985	08 03	16 24.25	-20 35.1	1.770	2.413	117.5	21.9	18.4
1985	08 13	16 28.36	-20 26.4					
1985	08 23	16 35.07	-20 25.1	1.992	2.398	100.8	24.5	18.7

1983 AM a,e,i = 3.01, 0.12, 9 Elements MPC 7781

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 15.86	-31 32.9	3.065	3.292	94.3	17.5	18.4
1985	03 26	17 21.52	-31 54.5					
1985	04 05	17 25.08	-32 14.1	2.772	3.279	111.9	16.5	18.2
1985	04 15	17 26.33	-32 31.2					
1985	04 25	17 25.11	-32 44.7	2.515	3.265	131.0	13.5	17.9
1985	05 05	17 21.39	-32 53.0					
1985	05 15	17 15.38	-32 54.0	2.325	3.249	151.5	8.5	17.6
1985	05 25	17 07.49	-32 45.5					
1985	06 04	16 58.47	-32 26.4	2.230	3.233	169.5	3.3	17.3
1985	06 14	16 49.18	-31 57.0					
1985	06 24	16 40.57	-31 19.2	2.246	3.215	159.0	6.5	17.4
1985	07 04	16 33.45	-30 36.6					
1985	07 14	16 28.37	-29 53.0	2.365	3.197	138.4	12.2	17.7
1985	07 24	16 25.66	-29 11.7					
1985	08 03	16 25.41	-28 35.2	2.562	3.178	118.9	16.2	17.9
1985	08 13	16 27.51	-28 04.6					
1985	08 23	16 31.82	-27 40.1	2.804	3.159	101.1	18.3	18.2

(3075) 1981 EY15 a,e,i = 2.27, 0.13, 10 Elements MPC 8898

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 04.69	-34 17.5	2.016	2.345	96.4	24.9	18.9
1985	03 26	17 15.41	-35 20.1					
1985	04 05	17 23.77	-36 22.0	1.754	2.316	111.5	23.7	18.6
1985	04 15	17 29.29	-37 23.4					
1985	04 25	17 31.41	-38 23.1	1.522	2.287	128.4	20.2	18.2
1985	05 05	17 29.71	-39 18.0					
1985	05 15	17 24.03	-40 03.1	1.343	2.257	146.7	14.2	17.7
1985	05 25	17 14.67	-40 31.2					
1985	06 04	17 02.71	-40 35.3	1.242	2.227	161.4	8.4	17.4
1985	06 14	16 49.81	-40 11.9					
1985	06 24	16 37.95	-39 22.7	1.233	2.197	155.1	11.2	17.4
1985	07 04	16 28.88	-38 15.4					
1985	07 14	16 23.59	-36 59.6	1.310	2.167	137.0	18.7	17.7
1985	07 24	16 22.45	-35 44.1					
1985	08 03	16 25.35	-34 34.6	1.450	2.138	119.3	24.5	18.0
1985	08 13	16 31.86	-33 33.4					
1985	08 23	16 41.53	-32 40.7	1.627	2.110	103.7	27.7	18.3

1982 TQ a,e,i = 2.42, 0.18, 5 Elements MPC 9032

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 12.38	-21 52.3	2.369	2.662	95.9	21.8	19.5
1985	03 26	17 20.03	-21 44.2					
1985	04 05	17 25.50	-21 31.0	2.077	2.630	112.7	20.5	19.2
1985	04 15	17 28.50	-21 13.3					
1985	04 25	17 28.73	-20 51.4	1.817	2.596	131.5	16.9	18.8
1985	05 05	17 26.04	-20 25.9					
1985	05 15	17 20.52	-19 56.8	1.619	2.560	152.7	10.4	18.3
1985	05 25	17 12.52	-19 24.9					
1985	06 04	17 02.84	-18 51.4	1.511	2.523	174.7	2.1	17.8
1985	06 14	16 52.56	-18 18.4					
1985	06 24	16 42.89	-17 48.8	1.508	2.484	159.2	8.3	18.1
1985	07 04	16 34.96	-17 25.6					
1985	07 14	16 29.55	-17 10.9	1.600	2.445	137.2	16.4	18.3
1985	07 24	16 27.07	-17 06.0					
1985	08 03	16 27.64	-17 10.4	1.758	2.404	117.7	21.9	18.6
1985	08 13	16 31.12	-17 22.9					
1985	08 23	16 37.32	-17 41.5	1.952	2.363	100.9	24.8	18.9

1981 WO1 a,e,i = 1.79, 0.08, 19 Elements MPC 8393

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	17 08.20	-27 10.8	1.407	1.811	-1.85	-9.3	18.3
1985	03 26	17 21.28	-25 56.2					
1985	04 05	17 31.08	-24 20.7	1.215	1.832	-2.14	-10.7	17.9
1985	04 15	17 37.14	-22 23.8					
1985	04 25	17 38.96	-20 05.2	1.045	1.852	-2.56	-11.1	17.5
1985	05 05	17 36.33	-17 26.2					
1985	05 15	17 29.41	-14 30.8	0.926	1.871	-2.99	-10.1	17.1
1985	05 25	17 18.92	-11 28.2					
1985	06 04	17 06.37	-08 32.5	0.889	1.888	-3.14	-8.8	16.8
1985	06 14	16 53.62	-05 59.1					
1985	06 24	16 42.53	-04 00.4	0.947	1.903	-2.85	-8.6	17.1
1985	07 04	16 34.46	-02 41.1					
1985	07 14	16 30.04	-01 58.7	1.083	1.917	-2.35	-8.5	17.6
1985	07 24	16 29.37	-01 47.2					
1985	08 03	16 32.23	-01 58.9	1.267	1.927	-1.89	-8.0	18.1
1985	08 13	16 38.19	-02 26.6					
1985	08 23	16 46.86	-03 04.4	1.474	1.936	-1.56	-7.2	18.5

(3140) 1983 AO a,e,i = 3.01, 0.11, 11 Elements MPC 9209

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 20.82	-15 19.8	2.948	3.182	94.4	18.2	17.3
1985	03 26	17 26.36	-15 18.6					
1985	04 05	17 30.00	-15 16.0	2.653	3.163	111.8	17.1	17.0
1985	04 15	17 31.55	-15 13.1					
1985	04 25	17 30.85	-15 11.0	2.392	3.143	130.9	14.0	16.7
1985	05 05	17 27.86	-15 11.0					
1985	05 15	17 22.73	-15 14.0	2.196	3.123	151.7	8.8	16.4
1985	05 25	17 15.76	-15 20.7					
1985	06 04	17 07.56	-15 31.6	2.095	3.102	171.4	2.8	16.0
1985	06 14	16 58.88	-15 47.0					
1985	06 24	16 50.55	-16 07.0	2.105	3.081	160.3	6.4	16.2
1985	07 04	16 43.39	-16 31.6					
1985	07 14	16 37.99	-17 00.7	2.218	3.059	139.1	12.6	16.4
1985	07 24	16 34.76	-17 34.0					
1985	08 03	16 33.86	-18 10.8	2.408	3.037	119.4	16.9	16.7
1985	08 13	16 35.30	-18 50.4					
1985	08 23	16 38.98	-19 31.9	2.644	3.015	101.6	19.2	16.9

1979 SN11 a,e,i = 2.30, 0.19, 2 Elements MPC 9028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 24.11	-23 50.0	2.482	2.723	93.1	21.4	19.6
1985	03 26	17 31.19	-23 54.2					
1985	04 05	17 36.00	-23 55.7	2.213	2.725	110.2	20.2	19.4
1985	04 15	17 38.26	-23 55.0					
1985	04 25	17 37.70	-23 52.3	1.973	2.724	129.3	16.6	19.0
1985	05 05	17 34.22	-23 47.4					
1985	05 15	17 27.92	-23 39.5	1.792	2.721	151.0	10.4	18.7
1985	05 25	17 19.21	-23 27.7					
1985	06 04	17 08.90	-23 11.6	1.702	2.714	174.6	2.0	18.2
1985	06 14	16 58.03	-22 51.7					
1985	06 24	16 47.78	-22 29.9	1.722	2.705	161.4	6.9	18.5
1985	07 04	16 39.22	-22 09.1					
1985	07 14	16 33.04	-21 51.8	1.842	2.692	138.9	14.4	18.8
1985	07 24	16 29.64	-21 40.1					
1985	08 03	16 29.11	-21 35.0	2.036	2.677	118.8	19.4	19.1
1985	08 13	16 31.32	-21 36.2					
1985	08 23	16 36.05	-21 42.9	2.270	2.659	101.2	21.9	19.4

(3105) A907 PB a,e,i = 2.26, 0.19, 6 Elements MPC 9066

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 05.50	-15 08.4	1.947	2.307	98.1	25.3	18.0
1985	03 26	17 15.29	-14 50.3					
1985	04 05	17 22.95	-14 25.7	1.671	2.264	113.5	23.9	17.6
1985	04 15	17 28.10	-13 56.3					
1985	04 25	17 30.36	-13 24.0	1.427	2.219	130.8	20.1	17.2
1985	05 05	17 29.44	-12 51.4					
1985	05 15	17 25.27	-12 21.6	1.237	2.174	150.4	13.3	16.7
1985	05 25	17 18.08	-11 57.8					
1985	06 04	17 08.65	-11 43.6	1.126	2.129	168.0	5.7	16.2
1985	06 14	16 58.16	-11 41.9					
1985	06 24	16 48.09	-11 54.7	1.108	2.084	157.7	10.7	16.3
1985	07 04	16 39.92	-12 22.3					
1985	07 14	16 34.65	-13 03.4	1.175	2.041	137.2	19.8	16.6
1985	07 24	16 32.87	-13 55.8					
1985	08 03	16 34.75	-14 56.3	1.301	2.000	118.9	26.4	16.9
1985	08 13	16 40.13	-16 01.6					
1985	08 23	16 48.74	-17 08.8	1.460	1.961	103.5	30.1	17.2

1984 CF a,e,i = 2.79, 0.10, 10 Elements MPC 8664

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	17 22.42	-16 58.5	2.536	2.786	-0.85	+3.5	18.2
1985	03 26	17 29.09	-17 05.3					
1985	04 05	17 33.58	-17 11.0	2.290	2.807	-0.95	+3.7	18.0
1985	04 15	17 35.68	-17 16.8					
1985	04 25	17 35.18	-17 23.8	2.074	2.827	-1.07	+4.0	17.7
1985	05 05	17 32.06	-17 33.1					
1985	05 15	17 26.47	-17 45.1	1.920	2.847	-1.19	+4.5	17.4
1985	05 25	17 18.82	-17 59.6					
1985	06 04	17 09.84	-18 16.7	1.857	2.867	-1.25	+5.0	17.1
1985	06 14	17 00.44	-18 35.7					
1985	06 24	16 51.59	-18 56.8	1.904	2.886	-1.21	+5.2	17.3
1985	07 04	16 44.18	-19 20.0					
1985	07 14	16 38.83	-19 45.6	2.052	2.904	-1.10	+5.0	17.7
1985	07 24	16 35.88	-20 13.9					
1985	08 03	16 35.45	-20 44.6	2.278	2.922	-0.97	+4.6	18.0
1985	08 13	16 37.45	-21 17.4					
1985	08 23	16 41.72	-21 51.5	2.548	2.939	-0.86	+4.0	18.3

(3066) 1984 EO a,e,i = 2.53, 0.13, 16 Elements MPC 8792

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 18.16	-07 37.6	2.399	2.683	95.4	21.7	17.0
1985	03 26	17 25.66	-06 32.5					
1985	04 05	17 31.11	-05 19.2	2.128	2.658	111.1	20.6	16.7
1985	04 15	17 34.27	-03 59.6					
1985	04 25	17 34.90	-02 36.6	1.892	2.632	127.8	17.6	16.4
1985	05 05	17 32.92	-01 14.3					
1985	05 15	17 28.40	+00 02.2	1.715	2.605	144.4	13.1	16.1
1985	05 25	17 21.67	+01 07.0					
1985	06 04	17 13.38	+01 54.0	1.622	2.577	154.8	9.6	15.8
1985	06 14	17 04.41	+02 18.7					
1985	06 24	16 55.79	+02 18.7	1.624	2.548	148.8	11.9	15.9
1985	07 04	16 48.48	+01 54.5					
1985	07 14	16 43.22	+01 09.2	1.713	2.519	133.1	17.1	16.1
1985	07 24	16 40.45	+00 07.1					
1985	08 03	16 40.37	-01 06.7	1.866	2.490	116.5	21.4	16.3
1985	08 13	16 42.93	-02 27.8					
1985	08 23	16 48.00	-03 52.3	2.057	2.461	101.1	23.8	16.6

1964 UO a,e,i = 3.14, 0.24, 9 Elements MPC 8793

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 29.08	-22 16.4	3.404	3.580	92.0	16.1	19.8
1985	03 26	17 34.11	-22 03.0					
1985	04 05	17 37.37	-21 46.5	3.079	3.547	109.9	15.4	19.5
1985	04 15	17 38.69	-21 27.2					
1985	04 25	17 37.94	-21 05.3	2.787	3.512	129.4	12.8	19.2
1985	05 05	17 35.09	-20 40.9					
1985	05 15	17 30.26	-20 14.3	2.561	3.476	150.5	8.2	18.9
1985	05 25	17 23.74	-19 45.8					
1985	06 04	17 16.03	-19 16.1	2.431	3.439	172.3	2.3	18.5
1985	06 14	17 07.80	-18 46.5					
1985	06 24	16 59.75	-18 18.5	2.414	3.400	163.2	5.0	18.6
1985	07 04	16 52.63	-17 53.8					
1985	07 14	16 47.00	-17 34.0	2.506	3.360	141.3	10.9	18.9
1985	07 24	16 43.25	-17 20.0					
1985	08 03	16 41.60	-17 12.4	2.680	3.319	121.0	15.2	19.1
1985	08 13	16 42.08	-17 10.7					
1985	08 23	16 44.65	-17 14.3	2.903	3.276	102.6	17.5	19.3

1978 PX2 a,e,i = 2.39, 0.20, 2 Elements MPC 8797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 20.61	-25 29.9	2.279	2.546	93.8	22.9	19.8
1985	03 26	17 30.04	-25 48.0					
1985	04 05	17 37.41	-26 03.8	1.985	2.506	109.7	22.1	19.5
1985	04 15	17 42.38	-26 18.2					
1985	04 25	17 44.54	-26 31.6	1.717	2.464	127.6	18.9	19.1
1985	05 05	17 43.60	-26 43.8					
1985	05 15	17 39.43	-26 53.6	1.504	2.421	148.0	12.8	18.6
1985	05 25	17 32.19	-26 59.1					
1985	06 04	17 22.51	-26 58.0	1.371	2.377	170.4	4.1	18.1
1985	06 14	17 11.49	-26 48.8					
1985	06 24	17 00.54	-26 31.9	1.338	2.333	164.3	6.8	18.1
1985	07 04	16 51.12	-26 10.2					
1985	07 14	16 44.34	-25 47.6	1.401	2.288	141.8	15.9	18.4
1985	07 24	16 40.86	-25 27.8					
1985	08 03	16 40.92	-25 13.3	1.534	2.243	122.0	22.6	18.7
1985	08 13	16 44.39	-25 04.8					
1985	08 23	16 51.03	-25 01.8	1.707	2.199	105.1	26.4	19.0

(3057) 1981 EG a,e,i = 2.26, 0.07, 7 Elements MPC 8789

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 17.39	-19 41.9	1.790	2.121	94.9	27.9	18.0
1985	03 26	17 28.75	-20 07.8					
1985	04 05	17 37.70	-20 32.4	1.572	2.131	109.9	26.2	17.7
1985	04 15	17 43.84	-20 58.0					
1985	04 25	17 46.73	-21 26.2	1.378	2.143	127.3	21.9	17.4
1985	05 05	17 46.07	-21 58.3					
1985	05 15	17 41.78	-22 34.1	1.232	2.156	147.8	14.5	17.0
1985	05 25	17 34.12	-23 11.9					
1985	06 04	17 23.96	-23 49.0	1.162	2.170	171.1	4.2	16.5
1985	06 14	17 12.65	-24 22.5					
1985	06 24	17 01.79	-24 50.7	1.188	2.185	164.7	7.0	16.7
1985	07 04	16 52.92	-25 14.4					
1985	07 14	16 47.03	-25 35.2	1.306	2.201	142.4	16.3	17.2
1985	07 24	16 44.65	-25 55.2					
1985	08 03	16 45.82	-26 15.9	1.493	2.218	123.2	22.5	17.6
1985	08 13	16 50.28	-26 37.3					
1985	08 23	16 57.70	-26 59.1	1.722	2.234	106.7	25.7	18.0

1975 TJ6 a,e,i = 2.37, 0.18, 12 Elements MPC 8674

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 37.48	-11 42.7	2.557	2.752	90.5	21.2	19.2
1985	03 26	17 44.37	-11 20.2					
1985	04 05	17 49.17	-10 55.1	2.304	2.767	107.0	20.2	19.0
1985	04 15	17 51.64	-10 28.9					
1985	04 25	17 51.56	-10 03.9	2.074	2.779	125.3	17.2	18.7
1985	05 05	17 48.83	-09 42.2					
1985	05 15	17 43.53	-09 26.2	1.898	2.788	145.2	11.9	18.4
1985	05 25	17 35.96	-09 18.3					
1985	06 04	17 26.75	-09 20.3	1.807	2.795	163.7	5.9	18.1
1985	06 14	17 16.74	-09 33.1					
1985	06 24	17 06.93	-09 56.9	1.822	2.799	160.1	7.1	18.2
1985	07 04	16 58.30	-10 31.0					
1985	07 14	16 51.56	-11 13.5	1.940	2.800	140.5	13.4	18.5
1985	07 24	16 47.18	-12 02.7					
1985	08 03	16 45.39	-12 56.4	2.137	2.799	121.0	18.1	18.8
1985	08 13	16 46.14	-13 52.9					
1985	08 23	16 49.30	-14 50.3	2.382	2.794	103.3	20.6	19.1

1979 HP a,e,i = 3.12, 0.12, 2 Elements MPC 8675

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 33.37	-21 12.8	2.823	3.010	91.1	19.3	18.1
1985	03 26	17 40.32	-21 13.3					
1985	04 05	17 45.24	-21 11.9	2.569	3.033	108.1	18.3	17.9
1985	04 15	17 47.95	-21 09.5					
1985	04 25	17 48.28	-21 06.8	2.344	3.056	127.0	15.3	17.6
1985	05 05	17 46.19	-21 04.1					
1985	05 15	17 41.79	-21 01.5	2.176	3.079	147.8	10.1	17.4
1985	05 25	17 35.41	-20 58.9					
1985	06 04	17 27.63	-20 56.1	2.098	3.102	170.1	3.2	17.0
1985	06 14	17 19.22	-20 53.2					
1985	06 24	17 11.02	-20 50.7	2.128	3.125	166.4	4.4	17.2
1985	07 04	17 03.86	-20 49.5					
1985	07 14	16 58.35	-20 50.4	2.264	3.148	144.6	10.8	17.5
1985	07 24	16 54.91	-20 54.3					
1985	08 03	16 53.71	-21 01.6	2.484	3.170	124.4	15.3	17.8
1985	08 13	16 54.75	-21 12.1					
1985	08 23	16 57.92	-21 25.4	2.759	3.193	106.2	17.7	18.1

1978 SY6 a,e,i = 2.44, 0.15, 5 Elements MPC 8797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	03 16	17 23.06	-21 32.6	2.244	2.509	93.5	23.3	19.3
1985	03 26	17 32.70	-21 18.1					
1985	04 05	17 40.27	-20 57.8	1.960	2.477	109.3	22.4	18.9
1985	04 15	17 45.45	-20 32.5					
1985	04 25	17 47.91	-20 03.1	1.704	2.446	127.0	19.2	18.5
1985	05 05	17 47.41	-19 30.3					
1985	05 15	17 43.87	-18 55.1	1.501	2.413	147.2	13.1	18.1
1985	05 25	17 37.49	-18 18.5					
1985	06 04	17 28.89	-17 42.0	1.377	2.381	168.8	4.7	17.6
1985	06 14	17 19.06	-17 07.5					
1985	06 24	17 09.24	-16 37.8	1.353	2.348	164.5	6.6	17.6
1985	07 04	17 00.73	-16 15.4					
1985	07 14	16 54.51	-16 02.4	1.424	2.316	142.7	15.4	17.9
1985	07 24	16 51.21	-15 59.5					
1985	08 03	16 51.09	-16 06.1	1.567	2.284	123.0	21.9	18.3
1985	08 13	16 54.07	-16 20.5					
1985	08 23	16 59.97	-16 40.7	1.753	2.254	106.1	25.5	18.6

1981 EU19 a,e,i = 2.31, 0.14, 5 Elements MPC 7933

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	03 16	17 07.12	-28 48.4	1.698	2.062	-1.79	+2.4	18.4
1985	03 26	17 21.12	-29 38.4					
1985	04 05	17 32.98	-30 25.5	1.465	2.042	-2.16	+1.2	18.0
1985	04 15	17 42.21	-31 11.0					
1985	04 25	17 48.26	-31 55.5	1.259	2.024	-2.64	+0.3	17.6
1985	05 05	17 50.62	-32 38.5					
1985	05 15	17 49.00	-33 17.5	1.099	2.011	-3.19	+0.6	17.1
1985	05 25	17 43.41	-33 48.2					
1985	06 04	17 34.58	-34 04.8	1.005	2.000	-3.56	+2.8	16.7
1985	06 14	17 23.88	-34 02.8					
1985	06 24	17 13.20	-33 41.1	0.997	1.994	-3.47	+5.5	16.7
1985	07 04	17 04.49	-33 03.8					
1985	07 14	16 59.07	-32 17.9	1.073	1.992	-3.01	+6.1	17.0
1985	07 24	16 57.60	-31 30.2					
1985	08 03	17 00.17	-30 45.7	1.216	1.994	-2.51	+4.8	17.5
1985	08 13	17 06.41	-30 06.2					
1985	08 23	17 15.90	-29 31.6	1.403	2.001	-2.11	+2.8	17.9

(3050) 1972 NW a,e,i = 2.23, 0.19, 1 Elements MPC 8787

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	17 40.87	-23 23.6	1.561	2.111	109.1	26.6	18.2
1985	04 15	17 49.76	-23 20.4					
1985	04 25	17 55.86	-23 13.9	1.317	2.067	125.2	23.4	17.7
1985	05 05	17 58.74	-23 05.3					
1985	05 15	17 58.07	-22 55.3	1.117	2.025	144.1	17.0	17.2
1985	05 25	17 53.72	-22 43.9					
1985	06 04	17 46.11	-22 30.5	0.984	1.983	166.0	7.1	16.6
1985	06 14	17 36.22	-22 14.9					
1985	06 24	17 25.59	-21 57.5	0.936	1.945	170.0	5.2	16.4
1985	07 04	17 16.09	-21 40.5					
1985	07 14	17 09.24	-21 27.1	0.974	1.909	147.2	16.8	16.7
1985	07 24	17 06.05	-21 19.6					
1985	08 03	17 06.93	-21 19.2	1.079	1.878	127.5	25.4	17.1
1985	08 13	17 11.78	-21 25.0					
1985	08 23	17 20.29	-21 34.8	1.225	1.851	111.4	30.6	17.5
1985	09 02	17 32.03	-21 45.9					
1985	09 12	17 46.53	-21 55.1	1.392	1.830	98.2	33.0	17.8

1981 DQ2 a,e,i = 2.27, 0.13, 6 Elements MPC 8538

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 05.47	-22 41.7	2.024	2.457	103.4	23.3	19.5
1985	04 15	18 10.78	-22 19.6					
1985	04 25	18 13.22	-21 55.7	1.802	2.478	121.2	20.3	19.2
1985	05 05	18 12.58	-21 30.7					
1985	05 15	18 08.79	-21 05.0	1.624	2.496	141.5	14.6	18.9
1985	05 25	18 02.04	-20 38.6					
1985	06 04	17 52.90	-20 11.9	1.522	2.513	164.2	6.3	18.5
1985	06 14	17 42.33	-19 45.1					
1985	06 24	17 31.53	-19 19.6	1.520	2.528	170.5	3.8	18.4
1985	07 04	17 21.76	-18 57.4					
1985	07 14	17 14.01	-18 40.1	1.621	2.540	147.8	12.3	18.9
1985	07 24	17 08.92	-18 29.3					
1985	08 03	17 06.78	-18 25.2	1.806	2.550	127.1	18.5	19.2
1985	08 13	17 07.53	-18 27.3					
1985	08 23	17 11.00	-18 34.3	2.044	2.558	109.0	22.0	19.6
1985	09 02	17 16.90	-18 44.5					
1985	09 12	17 24.94	-18 56.2	2.306	2.564	93.0	23.1	19.9

(3137) 1982 SM1 a,e,i = 2.40, 0.19, 2 Elements MPC 9205

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 08.35	-25 03.3	2.456	2.849	102.8	20.0	19.3
1985	04 15	18 12.60	-25 03.0					
1985	04 25	18 14.35	-25 02.8	2.187	2.839	121.0	17.7	19.0
1985	05 05	18 13.38	-25 02.8					
1985	05 15	18 09.62	-25 02.6	1.965	2.827	141.4	12.9	18.6
1985	05 25	18 03.16	-25 01.1					
1985	06 04	17 54.45	-24 56.8	1.822	2.812	164.0	5.7	18.3
1985	06 14	17 44.25	-24 48.5					
1985	06 24	17 33.58	-24 35.8	1.784	2.794	171.9	2.9	18.0
1985	07 04	17 23.59	-24 19.9					
1985	07 14	17 15.26	-24 02.6	1.854	2.773	148.8	11.0	18.4
1985	07 24	17 09.30	-23 46.4					
1985	08 03	17 06.10	-23 33.1	2.012	2.750	127.5	17.0	18.7
1985	08 13	17 05.73	-23 23.9					
1985	08 23	17 08.10	-23 18.8	2.226	2.725	108.8	20.6	19.0
1985	09 02	17 12.98	-23 17.1					
1985	09 12	17 20.12	-23 17.8	2.465	2.697	92.2	21.9	19.2

1980 RP a,e,i = 3.12, 0.21, 17 Elements MPC 5638

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	04 05	17 59.12	-43 31.6	2.383	2.798	-1.41	-1.7	18.2
1985	04 15	18 06.44	-44 34.5					
1985	04 25	18 10.98	-45 37.9	2.119	2.757	-1.67	-2.5	17.9
1985	05 05	18 12.34	-46 39.8					
1985	05 15	18 10.20	-47 36.6	1.901	2.718	-1.97	-2.6	17.5
1985	05 25	18 04.50	-48 22.4					
1985	06 04	17 55.66	-48 50.5	1.754	2.681	-2.21	-1.4	17.2
1985	06 14	17 44.63	-48 54.6					
1985	06 24	17 32.89	-48 30.7	1.694	2.645	-2.23	+0.4	17.1
1985	07 04	17 22.13	-47 39.9					
1985	07 14	17 13.75	-46 27.4	1.728	2.612	-2.03	+1.7	17.2
1985	07 24	17 08.69	-45 00.8					
1985	08 03	17 07.28	-43 28.0	1.842	2.581	-1.75	+1.6	17.4
1985	08 13	17 09.43	-41 55.1					
1985	08 23	17 14.84	-40 25.6	2.014	2.552	-1.51	+0.6	17.7
1985	09 02	17 23.09	-39 01.2					
1985	09 12	17 33.74	-37 41.8	2.219	2.527	-1.32	-0.8	17.9

1982 SQ2 a,e,i = 2.29, 0.18, 6 Elements MPC 7656

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	04 05	17 48.07	-18 02.7	1.652	2.173	-1.69	+0.1	18.9
1985	04 15	17 56.54	-17 23.6					
1985	04 25	18 02.35	-16 39.1	1.407	2.133	-2.03	-0.2	18.4
1985	05 05	18 05.13	-15 51.3					
1985	05 15	18 04.62	-15 02.4	1.205	2.094	-2.43	-0.2	17.9
1985	05 25	18 00.75	-14 15.4					
1985	06 04	17 53.89	-13 33.6	1.069	2.057	-2.76	+0.0	17.4
1985	06 14	17 44.89	-13 00.6					
1985	06 24	17 35.04	-12 39.7	1.019	2.022	-2.82	+0.3	17.2
1985	07 04	17 25.94	-12 33.3					
1985	07 14	17 18.98	-12 41.8	1.057	1.990	-2.58	+0.4	17.5
1985	07 24	17 15.14	-13 04.0					
1985	08 03	17 14.93	-13 37.4	1.164	1.961	-2.22	+0.3	17.8
1985	08 13	17 18.35	-14 18.2					
1985	08 23	17 25.23	-15 02.9	1.316	1.936	-1.92	+0.1	18.2
1985	09 02	17 35.22	-15 47.8					
1985	09 12	17 47.92	-16 29.5	1.491	1.916	-1.71	-0.4	18.5

2103 P-L a,e,i = 2.66, 0.14, 3 Elements MPC 9298

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 01.21	-21 41.2	1.889	2.347	104.4	24.4	18.8
1985	04 15	18 08.32	-21 23.1					
1985	04 25	18 12.63	-21 03.5	1.681	2.365	121.3	21.3	18.5
1985	05 05	18 13.88	-20 43.6					
1985	05 15	18 12.01	-20 24.4	1.515	2.385	140.7	15.6	18.1
1985	05 25	18 07.13	-20 06.5					
1985	06 04	17 59.78	-19 50.2	1.420	2.407	162.5	7.3	17.8
1985	06 14	17 50.85	-19 35.9					
1985	06 24	17 41.48	-19 23.9	1.419	2.430	172.5	3.1	17.7
1985	07 04	17 32.95	-19 15.3					
1985	07 14	17 26.26	-19 11.0	1.518	2.455	150.7	11.7	18.1
1985	07 24	17 22.11	-19 11.6					
1985	08 03	17 20.81	-19 17.1	1.700	2.482	130.5	18.1	18.5
1985	08 13	17 22.35	-19 26.6					
1985	08 23	17 26.57	-19 39.1	1.938	2.509	112.7	21.8	18.9
1985	09 02	17 33.21	-19 52.8					
1985	09 12	17 41.93	-20 06.2	2.209	2.537	97.1	23.2	19.3

(3095) 1980 RT2 a,e,i = 3.50, 0.07, 3 Elements MPC 9022

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 15.35	-25 19.5	3.398	3.724	101.2	15.3	18.4
1985	04 15	18 18.40	-25 19.5					
1985	04 25	18 19.52	-25 20.0	3.115	3.719	119.8	13.6	18.1
1985	05 05	18 18.64	-25 20.8					
1985	05 15	18 15.77	-25 21.7	2.882	3.714	140.0	10.1	17.9
1985	05 25	18 11.04	-25 22.0					
1985	06 04	18 04.78	-25 20.8	2.732	3.708	161.7	4.9	17.6
1985	06 14	17 57.46	-25 17.3					
1985	06 24	17 49.70	-25 11.1	2.688	3.702	175.4	1.3	17.3
1985	07 04	17 42.20	-25 02.5					
1985	07 14	17 35.60	-24 52.1	2.759	3.696	153.4	7.1	17.7
1985	07 24	17 30.41	-24 41.2					
1985	08 03	17 27.01	-24 30.8	2.928	3.689	132.4	11.7	17.9
1985	08 13	17 25.55	-24 21.8					
1985	08 23	17 26.09	-24 14.7	3.167	3.681	112.9	14.7	18.2
1985	09 02	17 28.57	-24 09.5					
1985	09 12	17 32.86	-24 05.7	3.444	3.673	95.1	15.8	18.4

1984 CN1 a,e,i = 3.12, 0.09, 8 Elements MPC 8684

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 12.33	-15 46.9	2.611	2.977	101.6	19.2	17.4
1985	04 15	18 16.83	-15 09.0					
1985	04 25	18 19.11	-14 30.2	2.371	2.993	119.2	17.1	17.1
1985	05 05	18 19.06	-13 52.1					
1985	05 15	18 16.69	-13 16.3	2.177	3.009	138.5	12.9	16.9
1985	05 25	18 12.15	-12 44.5					
1985	06 04	18 05.81	-12 18.4	2.060	3.026	158.4	7.1	16.6
1985	06 14	17 58.28	-11 59.4					
1985	06 24	17 50.28	-11 48.6	2.042	3.043	167.6	4.1	16.5
1985	07 04	17 42.67	-11 46.3					
1985	07 14	17 36.18	-11 52.5	2.132	3.060	150.9	9.3	16.8
1985	07 24	17 31.39	-12 06.2					
1985	08 03	17 28.65	-12 26.2	2.313	3.078	131.2	14.4	17.1
1985	08 13	17 28.11	-12 50.9					
1985	08 23	17 29.76	-13 18.5	2.559	3.095	112.8	17.5	17.4
1985	09 02	17 33.49	-13 47.4					
1985	09 12	17 39.10	-14 16.1	2.840	3.112	96.1	18.8	17.7

1981 ED25 a,e,i = 2.25, 0.23, 4 Elements MPC 8793

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	17 51.42	-20 04.1	1.572	2.092	106.7	27.3	19.2
1985	04 15	18 01.64	-19 34.1					
1985	04 25	18 09.37	-18 58.4	1.317	2.037	121.9	24.8	18.7
1985	05 05	18 14.20	-18 18.8					
1985	05 15	18 15.75	-17 37.2	1.103	1.984	139.5	19.3	18.1
1985	05 25	18 13.75	-16 55.9					
1985	06 04	18 08.35	-16 17.4	0.949	1.932	159.6	10.6	17.6
1985	06 14	18 00.18	-15 44.5					
1985	06 24	17 50.43	-15 20.1	0.874	1.884	170.9	4.9	17.2
1985	07 04	17 40.86	-15 06.7					
1985	07 14	17 33.14	-15 05.8	0.883	1.841	151.3	15.4	17.4
1985	07 24	17 28.61	-15 17.5					
1985	08 03	17 28.04	-15 40.2	0.961	1.802	131.7	24.9	17.8
1985	08 13	17 31.57	-16 10.8					
1985	08 23	17 39.04	-16 45.5	1.083	1.771	115.4	31.0	18.1
1985	09 02	17 50.07	-17 20.4					
1985	09 12	18 04.18	-17 51.5	1.230	1.747	102.3	34.3	18.4

(3015) 1980 VN a,e,i = 3.40, 0.16, 17 Elements MPC 8670

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 18.25	-35 33.3	2.941	3.276	100.6	17.5	17.8
1985	04 15	18 23.62	-36 34.4					
1985	04 25	18 26.80	-37 40.1	2.652	3.246	117.8	15.9	17.5
1985	05 05	18 27.52	-38 49.6					
1985	05 15	18 25.58	-40 00.9	2.412	3.216	135.9	12.6	17.2
1985	05 25	18 20.92	-41 10.4					
1985	06 04	18 13.75	-42 13.3	2.249	3.186	152.9	8.3	17.0
1985	06 14	18 04.60	-43 04.7					
1985	06 24	17 54.34	-43 40.0	2.184	3.156	159.6	6.5	16.8
1985	07 04	17 44.11	-43 57.0					
1985	07 14	17 35.03	-43 56.6	2.223	3.128	147.4	10.1	16.9
1985	07 24	17 28.06	-43 41.8					
1985	08 03	17 23.83	-43 16.8	2.351	3.100	129.7	14.6	17.1
1985	08 13	17 22.57	-42 46.1					
1985	08 23	17 24.29	-42 12.9	2.543	3.073	112.3	17.7	17.4
1985	09 02	17 28.83	-41 39.5					
1985	09 12	17 35.89	-41 06.8	2.768	3.046	96.2	19.2	17.6

1978 SL7 a,e,i = 2.56, 0.14, 8 Elements MPC 8675

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 21.54	-31 51.2	2.235	2.602	99.9	22.3	18.3
1985	04 15	18 28.17	-32 26.6					
1985	04 25	18 32.05	-33 04.7	2.016	2.630	117.0	19.9	18.1
1985	05 05	18 32.88	-33 45.2					
1985	05 15	18 30.49	-34 26.4	1.836	2.658	136.1	15.3	17.8
1985	05 25	18 24.87	-35 04.8					
1985	06 04	18 16.43	-35 36.0	1.725	2.685	156.2	8.8	17.5
1985	06 14	18 05.97	-35 55.3					
1985	06 24	17 54.65	-35 59.4	1.710	2.711	167.1	4.8	17.4
1985	07 04	17 43.86	-35 48.2					
1985	07 14	17 34.77	-35 24.2	1.800	2.735	151.3	10.3	17.7
1985	07 24	17 28.26	-34 51.7					
1985	08 03	17 24.77	-34 15.5	1.979	2.759	131.5	16.0	18.1
1985	08 13	17 24.33	-33 39.2					
1985	08 23	17 26.80	-33 04.7	2.222	2.781	113.3	19.5	18.4
1985	09 02	17 31.88	-32 33.1					
1985	09 12	17 39.23	-32 04.0	2.498	2.801	96.8	20.9	18.7

1981 EC16 a,e,i = 2.36, 0.21, 4 Elements MPC 7768

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	17 48.01	-26 16.5	1.351	1.906	107.3	30.1	17.6
1985	04 15	18 00.67	-26 11.1					
1985	04 25	18 10.41	-25 59.6	1.154	1.889	121.9	26.9	17.2
1985	05 05	18 16.74	-25 43.6					
1985	05 15	18 19.27	-25 24.1	0.994	1.879	139.2	20.6	16.7
1985	05 25	18 17.82	-25 01.1					
1985	06 04	18 12.71	-24 34.3	0.891	1.876	159.9	10.7	16.3
1985	06 14	18 04.85	-24 03.1					
1985	06 24	17 55.73	-23 28.4	0.864	1.880	177.1	1.6	15.8
1985	07 04	17 47.23	-22 52.4					
1985	07 14	17 40.92	-22 18.7	0.921	1.890	154.6	13.4	16.4
1985	07 24	17 37.88	-21 50.3					
1985	08 03	17 38.55	-21 28.9	1.051	1.907	134.9	22.2	16.9
1985	08 13	17 42.83	-21 13.8					
1985	08 23	17 50.42	-21 03.4	1.232	1.930	118.4	27.4	17.4
1985	09 02	18 00.85	-20 54.9					
1985	09 12	18 13.64	-20 45.8	1.447	1.959	104.5	29.8	17.8

(3080) 1935 TE a,e,i = 2.61, 0.20, 14 Elements MPC 8902

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 15.20	-29 56.1	2.233	2.619	101.3	22.0	17.3
1985	04 15	18 22.78	-30 54.6					
1985	04 25	18 28.03	-31 59.9	1.948	2.577	117.9	20.2	17.0
1985	05 05	18 30.56	-33 12.8					
1985	05 15	18 29.99	-34 32.4	1.707	2.535	136.1	16.0	16.5
1985	05 25	18 26.06	-35 56.0					
1985	06 04	18 18.82	-37 18.1	1.535	2.492	155.0	9.9	16.1
1985	06 14	18 08.75	-38 31.7					
1985	06 24	17 56.88	-39 29.2	1.457	2.449	163.8	6.7	15.9
1985	07 04	17 44.79	-40 06.0					
1985	07 14	17 34.09	-40 21.3	1.478	2.407	149.1	12.5	16.0
1985	07 24	17 26.19	-40 18.7					
1985	08 03	17 21.94	-40 03.9	1.582	2.366	130.1	19.2	16.3
1985	08 13	17 21.64	-39 42.1					
1985	08 23	17 25.19	-39 17.1	1.741	2.326	112.7	23.6	16.6
1985	09 02	17 32.30	-38 50.9					
1985	09 12	17 42.52	-38 23.7	1.928	2.288	97.5	25.9	16.8

1978 VW6 a,e,i = 2.57, 0.15, 13 Elements MPC 8384

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 26.30	-19 46.0	2.615	2.934	98.5	19.7	20.7
1985	04 15	18 31.16	-19 02.4					
1985	04 25	18 33.77	-18 16.2	2.338	2.923	116.1	18.0	20.4
1985	05 05	18 33.94	-17 28.6					
1985	05 15	18 31.59	-16 40.3	2.101	2.911	135.6	14.1	20.1
1985	05 25	18 26.74	-15 52.5					
1985	06 04	18 19.70	-15 06.6	1.937	2.896	156.6	8.0	19.7
1985	06 14	18 11.01	-14 24.0					
1985	06 24	18 01.46	-13 46.6	1.873	2.880	170.2	3.4	19.5
1985	07 04	17 52.01	-13 16.0					
1985	07 14	17 43.60	-12 53.6	1.919	2.862	152.9	9.3	19.7
1985	07 24	17 36.96	-12 39.8					
1985	08 03	17 32.62	-12 34.5	2.059	2.841	132.2	15.4	20.0
1985	08 13	17 30.78	-12 36.5					
1985	08 23	17 31.48	-12 44.3	2.264	2.820	113.2	19.2	20.3
1985	09 02	17 34.60	-12 56.0					
1985	09 12	17 39.93	-13 09.7	2.502	2.796	96.2	21.0	20.5

(3037) 1944 BA a,e,i = 2.68, 0.19, 19 Elements MPC 8781

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 33.72	-13 15.5	2.910	3.178	96.2	18.2	18.2
1985	04 15	18 37.78	-13 12.5					
1985	04 25	18 39.81	-13 13.0	2.630	3.176	114.0	16.8	18.0
1985	05 05	18 39.67	-13 18.7					
1985	05 15	18 37.24	-13 31.1	2.388	3.172	133.7	13.3	17.7
1985	05 25	18 32.55	-13 51.3					
1985	06 04	18 25.81	-14 19.7	2.217	3.165	154.9	7.8	17.4
1985	06 14	18 17.46	-14 55.9					
1985	06 24	18 08.16	-15 38.6	2.147	3.157	172.2	2.5	17.1
1985	07 04	17 58.75	-16 26.1					
1985	07 14	17 50.06	-17 16.3	2.191	3.146	155.8	7.6	17.4
1985	07 24	17 42.84	-18 07.7					
1985	08 03	17 37.64	-18 58.8	2.338	3.133	134.4	13.4	17.6
1985	08 13	17 34.75	-19 48.8					
1985	08 23	17 34.27	-20 37.1	2.558	3.118	114.6	17.1	17.9
1985	09 02	17 36.15	-21 23.0					
1985	09 12	17 40.24	-22 06.2	2.817	3.101	96.7	18.8	18.1

(3047) 6091 P-L a,e,i = 2.64, 0.03, 2 Elements MPC 8785

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 26.03	-24 57.4	2.361	2.701	98.8	21.5	19.0
1985	04 15	18 32.84	-24 56.4					
1985	04 25	18 37.28	-24 56.4	2.103	2.697	115.8	19.6	18.7
1985	05 05	18 39.09	-24 58.2					
1985	05 15	18 38.11	-25 02.1	1.882	2.693	135.0	15.4	18.4
1985	05 25	18 34.27	-25 07.3					
1985	06 04	18 27.84	-25 12.7	1.728	2.689	156.5	8.7	18.0
1985	06 14	18 19.34	-25 16.3					
1985	06 24	18 09.67	-25 16.5	1.668	2.684	178.1	0.7	17.5
1985	07 04	17 59.95	-25 12.5					
1985	07 14	17 51.31	-25 04.9	1.714	2.679	157.0	8.5	18.0
1985	07 24	17 44.64	-24 55.2					
1985	08 03	17 40.58	-24 45.1	1.855	2.674	135.5	15.4	18.3
1985	08 13	17 39.33	-24 36.1					
1985	08 23	17 40.92	-24 28.6	2.062	2.669	116.3	19.9	18.7
1985	09 02	17 45.17	-24 22.6					
1985	09 12	17 51.80	-24 17.3	2.306	2.664	99.4	21.9	18.9

1982 SA4 a,e,i = 2.27, 0.19, 5 Elements MPC 9067

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 08.80	-26 43.7	1.721	2.172	102.7	26.7	18.4
1985	04 15	18 19.68	-27 12.8					
1985	04 25	18 28.20	-27 44.8	1.462	2.128	117.9	24.7	17.9
1985	05 05	18 33.91	-28 21.4					
1985	05 15	18 36.33	-29 03.7	1.240	2.084	135.3	19.9	17.4
1985	05 25	18 35.05	-29 50.7					
1985	06 04	18 29.99	-30 39.7	1.075	2.041	155.3	12.0	16.9
1985	06 14	18 21.52	-31 25.2					
1985	06 24	18 10.67	-32 00.5	0.990	2.001	171.4	4.4	16.4
1985	07 04	17 59.23	-32 20.6					
1985	07 14	17 49.14	-32 24.3	0.994	1.963	155.1	12.6	16.6
1985	07 24	17 42.09	-32 14.4					
1985	08 03	17 39.12	-31 55.9	1.075	1.929	134.8	21.9	17.0
1985	08 13	17 40.54	-31 33.0					
1985	08 23	17 46.19	-31 08.3	1.208	1.899	117.4	28.2	17.4
1985	09 02	17 55.65	-30 42.1					
1985	09 12	18 08.37	-30 13.2	1.370	1.874	103.0	31.5	17.7

1982 TF2 a,e,i = 2.35, 0.17, 2 Elements MPC 8777

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	04 05	18 18.06	-24 37.0	1.956	2.355	-1.40	-0.9	18.9
1985	04 15	18 27.28	-24 32.8					
1985	04 25	18 34.13	-24 28.1	1.685	2.315	-1.67	-1.7	18.5
1985	05 05	18 38.23	-24 24.3					
1985	05 15	18 39.26	-24 22.3	1.448	2.276	-1.99	-2.2	18.0
1985	05 25	18 36.93	-24 22.1					
1985	06 04	18 31.31	-24 22.8	1.272	2.236	-2.32	-1.9	17.5
1985	06 14	18 22.85	-24 22.6					
1985	06 24	18 12.49	-24 19.4	1.180	2.197	-2.48	-0.8	16.8
1985	07 04	18 01.68	-24 12.1					
1985	07 14	17 51.99	-24 01.3	1.185	2.158	-2.36	+0.3	17.3
1985	07 24	17 44.75	-23 48.9					
1985	08 03	17 40.87	-23 37.2	1.275	2.121	-2.07	+0.7	17.6
1985	08 13	17 40.66	-23 27.7					
1985	08 23	17 44.10	-23 20.7	1.423	2.087	-1.78	+0.3	18.0
1985	09 02	17 50.94	-23 15.2					
1985	09 12	18 00.77	-23 09.5	1.601	2.054	-1.56	-0.5	18.2

(3076) 1982 RB1 a,e,i = 2.24, 0.19, 8 Elements MPC 8899

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 19.07	-15 49.2	1.926	2.319	100.0	25.1	18.8
1985	04 15	18 27.86	-14 57.1					
1985	04 25	18 34.35	-14 00.5	1.656	2.277	115.5	23.5	18.4
1985	05 05	18 38.19	-13 01.3					
1985	05 15	18 39.10	-12 02.0	1.420	2.234	132.9	19.4	18.0
1985	05 25	18 36.83	-11 05.7					
1985	06 04	18 31.46	-10 16.1	1.242	2.190	151.9	12.6	17.5
1985	06 14	18 23.39	-09 36.9					
1985	06 24	18 13.49	-09 12.1	1.146	2.146	165.7	6.7	17.1
1985	07 04	18 03.08	-09 04.2					
1985	07 14	17 53.60	-09 13.8	1.142	2.101	153.5	12.5	17.2
1985	07 24	17 46.34	-09 39.5					
1985	08 03	17 42.21	-10 18.2	1.220	2.058	133.9	20.8	17.5
1985	08 13	17 41.61	-11 05.8					
1985	08 23	17 44.59	-11 58.5	1.353	2.016	116.3	26.7	17.8
1985	09 02	17 50.97	-12 52.1					
1985	09 12	18 00.41	-13 43.3	1.515	1.976	101.2	30.0	18.1

(3065) 1984 CV a,e,i = 2.72, 0.06, 4 Elements MPC 8792

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 32.01	-26 48.6	2.436	2.751	97.5	21.1	18.1
1985	04 15	18 38.69	-26 47.3					
1985	04 25	18 42.97	-26 47.1	2.190	2.764	114.6	19.3	17.9
1985	05 05	18 44.60	-26 48.3					
1985	05 15	18 43.45	-26 51.0	1.979	2.777	133.8	15.2	17.6
1985	05 25	18 39.48	-26 54.2					
1985	06 04	18 32.97	-26 56.1	1.835	2.789	155.2	8.8	17.2
1985	06 14	18 24.46	-26 54.7					
1985	06 24	18 14.82	-26 48.4	1.785	2.801	176.3	1.3	16.8
1985	07 04	18 05.14	-26 36.6					
1985	07 14	17 56.47	-26 20.2	1.843	2.812	158.0	7.8	17.2
1985	07 24	17 49.68	-26 01.0					
1985	08 03	17 45.36	-25 41.1	1.998	2.822	136.5	14.3	17.6
1985	08 13	17 43.71	-25 22.4					
1985	08 23	17 44.75	-25 05.5	2.224	2.832	117.2	18.5	17.9
1985	09 02	17 48.31	-24 50.7					
1985	09 12	17 54.13	-24 37.3	2.489	2.842	100.0	20.4	18.2

1971 QP a,e,i = 2.33, 0.20, 2 Elements MPC 8907

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 13.45	-23 16.9	1.792	2.221	101.6	26.2	18.6
1985	04 15	18 23.88	-23 02.2					
1985	04 25	18 32.00	-22 45.1	1.525	2.174	116.9	24.4	18.2
1985	05 05	18 37.39	-22 27.1					
1985	05 15	18 39.68	-22 09.6	1.294	2.128	134.4	19.8	17.7
1985	05 25	18 38.55	-21 53.4					
1985	06 04	18 33.99	-21 39.0	1.119	2.083	154.9	11.9	17.1
1985	06 14	18 26.37	-21 25.7					
1985	06 24	18 16.63	-21 13.2	1.024	2.040	177.1	1.4	16.4
1985	07 04	18 06.25	-21 01.0					
1985	07 14	17 56.90	-20 49.9	1.020	2.000	158.1	10.9	16.8
1985	07 24	17 50.05	-20 41.4					
1985	08 03	17 46.71	-20 36.8	1.097	1.963	136.7	20.8	17.1
1985	08 13	17 47.23	-20 36.2					
1985	08 23	17 51.61	-20 38.8	1.229	1.930	118.7	27.4	17.5
1985	09 02	17 59.56	-20 42.5					
1985	09 12	18 10.65	-20 45.0	1.392	1.902	103.8	30.9	17.8

1951 AB a,e,i = 2.57, 0.05, 15 Elements MPC 9359

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 25.74	-07 34.7	2.120	2.463	97.7	23.7	17.6
1985	04 15	18 33.29	-06 51.5					
1985	04 25	18 38.55	-06 09.3	1.883	2.459	113.1	22.1	17.3
1985	05 05	18 41.29	-05 31.2					
1985	05 15	18 41.33	-05 00.9	1.678	2.456	130.2	18.3	17.0
1985	05 25	18 38.57	-04 42.6					
1985	06 04	18 33.23	-04 40.1	1.530	2.453	148.5	12.5	16.7
1985	06 14	18 25.76	-04 56.3					
1985	06 24	18 16.96	-05 32.6	1.464	2.451	162.0	7.4	16.4
1985	07 04	18 07.90	-06 28.0					
1985	07 14	17 59.68	-07 39.0	1.496	2.450	153.9	10.5	16.6
1985	07 24	17 53.26	-09 00.9					
1985	08 03	17 49.33	-10 28.5	1.620	2.450	135.6	16.8	16.9
1985	08 13	17 48.20	-11 57.2					
1985	08 23	17 49.93	-13 23.5	1.811	2.451	117.7	21.4	17.2
1985	09 02	17 54.40	-14 44.7					
1985	09 12	18 01.36	-15 58.7	2.044	2.453	101.5	23.7	17.5

(3079) 2578 P-L a,e,i = 2.69, 0.22, 4 Elements MPC 8900

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 40.29	-18 56.7	2.792	3.049	95.1	19.1	19.6
1985	04 15	18 45.06	-18 37.0					
1985	04 25	18 47.68	-18 18.6	2.546	3.079	112.8	17.5	19.4
1985	05 05	18 47.98	-18 02.6					
1985	05 15	18 45.90	-17 50.0	2.335	3.108	132.4	13.9	19.1
1985	05 25	18 41.48	-17 41.1					
1985	06 04	18 34.97	-17 36.3	2.192	3.135	153.9	8.2	18.9
1985	06 14	18 26.87	-17 35.2					
1985	06 24	18 17.85	-17 37.5	2.146	3.159	173.8	2.0	18.5
1985	07 04	18 08.76	-17 42.7					
1985	07 14	18 00.43	-17 50.4	2.214	3.181	158.4	6.8	18.9
1985	07 24	17 53.56	-18 00.3					
1985	08 03	17 48.67	-18 12.4	2.383	3.201	136.9	12.5	19.2
1985	08 13	17 45.99	-18 26.2					
1985	08 23	17 45.60	-18 41.3	2.628	3.218	117.2	16.2	19.5
1985	09 02	17 47.43	-18 56.9					
1985	09 12	17 51.29	-19 12.3	2.915	3.233	99.2	17.9	19.8

1981 EM18 a,e,i = 2.28, 0.10, 6 Elements MPC 7932

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	04 05	18 29.27	-30 22.8	1.808	2.188	-1.50	-2.1	18.6
1985	04 15	18 39.59	-30 41.9					
1985	04 25	18 47.04	-31 02.7	1.602	2.210	-1.73	-3.4	18.3
1985	05 05	18 51.21	-31 26.1					
1985	05 15	18 51.76	-31 51.7	1.426	2.232	-2.03	-4.1	18.0
1985	05 25	18 48.46	-32 17.6					
1985	06 04	18 41.50	-32 39.6	1.306	2.255	-2.34	-3.7	17.6
1985	06 14	18 31.56	-32 52.6					
1985	06 24	18 19.84	-32 52.0	1.269	2.278	-2.46	-1.9	17.3
1985	07 04	18 08.04	-32 35.9					
1985	07 14	17 57.76	-32 06.3	1.330	2.300	-2.29	-0.2	17.7
1985	07 24	17 50.22	-31 27.7					
1985	08 03	17 46.12	-30 45.5	1.480	2.322	-1.96	+0.4	18.1
1985	08 13	17 45.55	-30 03.6					
1985	08 23	17 48.35	-29 24.2	1.693	2.344	-1.63	+0.1	18.5
1985	09 02	17 54.13	-28 47.8					
1985	09 12	18 02.47	-28 13.6	1.943	2.364	-1.38	-0.6	18.9

1982 UH a,e,i = 2.38, 0.19, 2 Elements MPC 7470

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 37.87	-23 08.4	2.435	2.728	96.0	21.4	19.6
1985	04 15	18 44.84	-22 55.7					
1985	04 25	18 49.59	-22 43.8	2.147	2.701	112.8	20.1	19.3
1985	05 05	18 51.85	-22 33.7					
1985	05 15	18 51.38	-22 26.1	1.891	2.673	131.8	16.4	18.9
1985	05 25	18 48.02	-22 21.2					
1985	06 04	18 41.86	-22 18.4	1.697	2.642	153.2	10.0	18.5
1985	06 14	18 33.29	-22 16.5					
1985	06 24	18 23.05	-22 14.3	1.594	2.609	176.4	1.4	17.9
1985	07 04	18 12.27	-22 10.6					
1985	07 14	18 02.13	-22 05.5	1.597	2.574	159.4	8.0	18.2
1985	07 24	17 53.76	-21 59.8					
1985	08 03	17 47.98	-21 54.8	1.697	2.536	137.1	15.8	18.5
1985	08 13	17 45.19	-21 51.5					
1985	08 23	17 45.49	-21 50.2	1.866	2.497	117.3	21.1	18.8
1985	09 02	17 48.78	-21 50.6					
1985	09 12	17 54.79	-21 51.6	2.071	2.457	100.1	23.8	19.1

6787 P-L a,e,i = 2.17, 0.09, 1 Elements MPC 9303

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 20.01	-22 24.7	1.546	1.983	100.0	29.8	18.9
1985	04 15	18 31.87	-22 15.6					
1985	04 25	18 40.97	-22 06.1	1.347	1.990	114.8	27.3	18.6
1985	05 05	18 46.88	-21 58.6					
1985	05 15	18 49.24	-21 55.2	1.175	2.000	132.2	22.0	18.2
1985	05 25	18 47.75	-21 57.2					
1985	06 04	18 42.51	-22 04.3	1.055	2.012	153.0	13.2	17.7
1985	06 14	18 34.10	-22 15.0					
1985	06 24	18 23.64	-22 26.7	1.011	2.026	176.4	1.8	17.2
1985	07 04	18 12.82	-22 37.4					
1985	07 14	18 03.31	-22 46.0	1.058	2.042	159.7	9.9	17.7
1985	07 24	17 56.50	-22 53.1					
1985	08 03	17 53.19	-22 59.7	1.188	2.059	138.3	19.1	18.2
1985	08 13	17 53.55	-23 06.2					
1985	08 23	17 57.44	-23 12.4	1.378	2.078	120.1	24.9	18.7
1985	09 02	18 04.51	-23 17.4					
1985	09 12	18 14.28	-23 19.6	1.604	2.097	104.6	27.7	19.1

1982 TC2 a,e,i = 2.74, 0.20, 9 Elements MPC 9029

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 45.99	-17 53.0	3.014	3.236	93.7	18.0	18.9
1985	04 15	18 50.55	-17 19.2					
1985	04 25	18 53.11	-16 45.6	2.747	3.251	111.3	16.8	18.6
1985	05 05	18 53.53	-16 13.3					
1985	05 15	18 51.73	-15 43.3	2.514	3.264	130.7	13.6	18.4
1985	05 25	18 47.73	-15 16.6					
1985	06 04	18 41.75	-14 53.9	2.347	3.275	151.5	8.5	18.1
1985	06 14	18 34.19	-14 35.8					
1985	06 24	18 25.64	-14 22.9	2.278	3.284	170.1	3.1	17.8
1985	07 04	18 16.86	-14 15.3					
1985	07 14	18 08.63	-14 13.0	2.321	3.291	159.1	6.3	18.0
1985	07 24	18 01.62	-14 15.8					
1985	08 03	17 56.38	-14 23.1	2.469	3.295	138.2	11.8	18.3
1985	08 13	17 53.19	-14 34.1					
1985	08 23	17 52.18	-14 47.9	2.694	3.297	118.4	15.6	18.6
1985	09 02	17 53.32	-15 03.4					
1985	09 12	17 56.48	-15 19.2	2.964	3.297	100.4	17.5	18.9

1983 AR a,e,i = 2.77, 0.13, 11 Elements MPC 7766

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		Mag.
1985	04 05	18 41.86	-29 55.7	2.756	3.021	-0.88	+0.7	18.5
1985	04 15	18 48.53	-30 30.4					
1985	04 25	18 53.10	-31 10.1	2.469	3.002	-1.01	+0.4	18.3
1985	05 05	18 55.28	-31 55.2					
1985	05 15	18 54.84	-32 45.3	2.217	2.981	-1.17	+0.4	17.9
1985	05 25	18 51.61	-33 38.7					
1985	06 04	18 45.67	-34 31.9	2.030	2.959	-1.32	+0.8	17.6
1985	06 14	18 37.35	-35 20.6					
1985	06 24	18 27.35	-35 59.9	1.938	2.936	-1.40	+1.7	17.3
1985	07 04	18 16.70	-36 26.2					
1985	07 14	18 06.58	-36 38.0	1.952	2.912	-1.36	+2.7	17.5
1985	07 24	17 58.07	-36 36.3					
1985	08 03	17 52.01	-36 24.3	2.065	2.887	-1.24	+3.1	17.7
1985	08 13	17 48.82	-36 05.5					
1985	08 23	17 48.65	-35 43.1	2.249	2.862	-1.09	+2.9	18.0
1985	09 02	17 51.40	-35 19.2					
1985	09 12	17 56.83	-34 54.9	2.475	2.835	-0.98	+2.3	18.2

6519 P-L a,e,i = 3.04, 0.18, 3 Elements MPC 9302

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 48.43	-25 57.6	3.239	3.452	93.8	16.8	19.8
1985	04 15	18 53.09	-26 03.7					
1985	04 25	18 55.79	-26 12.6	2.973	3.473	111.7	15.6	19.6
1985	05 05	18 56.36	-26 24.4					
1985	05 15	18 54.73	-26 39.0	2.741	3.492	131.3	12.6	19.4
1985	05 25	18 50.90	-26 55.5					
1985	06 04	18 45.08	-27 12.3	2.578	3.509	152.5	7.7	19.1
1985	06 14	18 37.64	-27 27.7					
1985	06 24	18 29.17	-27 39.6	2.513	3.526	173.7	1.8	18.8
1985	07 04	18 20.42	-27 46.9					
1985	07 14	18 12.15	-27 49.1	2.563	3.540	161.2	5.3	19.1
1985	07 24	18 05.07	-27 46.7					
1985	08 03	17 59.72	-27 40.9	2.719	3.553	139.6	10.7	19.4
1985	08 13	17 56.40	-27 33.1					
1985	08 23	17 55.26	-27 24.5	2.955	3.564	119.5	14.3	19.6
1985	09 02	17 56.26	-27 15.7					
1985	09 12	17 59.28	-27 07.1	3.240	3.574	101.1	16.0	19.9

1984 AQ a,e,i = 2.54, 0.18, 11 Elements MPC 9030

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 40.67	-15 03.3	1.913	2.230	94.7	26.6	17.3
1985	04 15	18 50.39	-14 53.8					
1985	04 25	18 57.63	-14 48.0	1.712	2.263	110.0	24.7	17.0
1985	05 05	19 02.10	-14 49.0					
1985	05 15	19 03.57	-14 59.3	1.535	2.298	127.8	20.4	16.7
1985	05 25	19 01.86	-15 21.1					
1985	06 04	18 57.09	-15 55.2	1.409	2.334	148.4	13.2	16.4
1985	06 14	18 49.68	-16 40.9					
1985	06 24	18 40.43	-17 35.6	1.363	2.371	170.5	4.0	16.1
1985	07 04	18 30.52	-18 35.3					
1985	07 14	18 21.23	-19 35.8	1.417	2.409	163.6	6.9	16.3
1985	07 24	18 13.70	-20 33.9					
1985	08 03	18 08.74	-21 27.5	1.568	2.448	141.9	14.8	16.8
1985	08 13	18 06.71	-22 15.6					
1985	08 23	18 07.70	-22 57.9	1.793	2.487	122.4	20.1	17.2
1985	09 02	18 11.52	-23 34.1					
1985	09 12	18 17.88	-24 04.1	2.064	2.525	105.4	22.6	17.6

(3078) 1984 FG a,e,i = 3.16, 0.09, 7 Elements MPC 8899

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 52.46	-28 44.3	2.972	3.187	93.1	18.3	17.8
1985	04 15	18 58.84	-29 02.5					
1985	04 25	19 03.18	-29 24.4	2.713	3.204	110.3	17.1	17.6
1985	05 05	19 05.27	-29 50.4					
1985	05 15	19 04.97	-30 20.0	2.486	3.220	129.1	14.1	17.3
1985	05 25	19 02.21	-30 52.2					
1985	06 04	18 57.12	-31 24.5	2.321	3.236	149.4	9.2	17.1
1985	06 14	18 50.04	-31 54.0					
1985	06 24	18 41.56	-32 17.6	2.250	3.252	168.5	3.6	16.8
1985	07 04	18 32.52	-32 32.8					
1985	07 14	18 23.82	-32 38.6	2.287	3.267	161.6	5.6	17.0
1985	07 24	18 16.31	-32 35.5					
1985	08 03	18 10.67	-32 25.1	2.429	3.282	141.3	11.2	17.3
1985	08 13	18 07.28	-32 09.9					
1985	08 23	18 06.30	-31 51.7	2.652	3.297	121.6	15.1	17.6
1985	09 02	18 07.72	-31 32.1					
1985	09 12	18 11.37	-31 11.9	2.926	3.311	103.6	17.2	17.8

(3113) 1978 RO a,e,i = 2.43, 0.08, 5 Elements MPC 9075

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 47.89	-17 41.1	2.256	2.519	93.2	23.4	18.8
1985	04 15	18 56.74	-17 06.2					
1985	04 25	19 03.47	-16 30.8	1.991	2.504	108.9	22.3	18.5
1985	05 05	19 07.81	-15 56.9					
1985	05 15	19 09.52	-15 26.4	1.752	2.489	126.4	19.1	18.1
1985	05 25	19 08.38	-15 01.3					
1985	06 04	19 04.38	-14 43.3	1.565	2.474	146.3	13.1	17.7
1985	06 14	18 57.78	-14 33.7					
1985	06 24	18 49.14	-14 33.0	1.457	2.457	166.9	5.4	17.4
1985	07 04	18 39.44	-14 41.0					
1985	07 14	18 29.85	-14 56.5	1.448	2.441	164.0	6.6	17.4
1985	07 24	18 21.52	-15 18.2					
1985	08 03	18 15.44	-15 44.3	1.536	2.424	142.9	14.6	17.7
1985	08 13	18 12.16	-16 13.1					
1985	08 23	18 11.92	-16 42.9	1.699	2.408	123.3	20.6	18.0
1985	09 02	18 14.69	-17 11.9					
1985	09 12	18 20.23	-17 38.3	1.908	2.391	106.1	23.9	18.3

1932 WB a,e,i = 2.25, 0.08, 4 Elements MPC 9206

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 52.94	-24 46.4	2.107	2.374	92.7	24.9	18.1
1985	04 15	19 02.59	-24 28.7					
1985	04 25	19 09.84	-24 11.7	1.870	2.386	108.4	23.6	17.8
1985	05 05	19 14.36	-23 57.1					
1985	05 15	19 15.87	-23 45.9	1.656	2.397	126.3	19.9	17.5
1985	05 25	19 14.13	-23 38.4					
1985	06 04	19 09.14	-23 34.2	1.491	2.407	147.0	13.3	17.1
1985	06 14	19 01.21	-23 31.6					
1985	06 24	18 51.06	-23 28.5	1.407	2.415	170.2	4.1	16.7
1985	07 04	18 39.89	-23 22.9					
1985	07 14	18 29.04	-23 14.0	1.423	2.421	165.7	6.0	16.8
1985	07 24	18 19.82	-23 02.4					
1985	08 03	18 13.21	-22 49.7	1.538	2.426	142.9	14.6	17.2
1985	08 13	18 09.69	-22 37.3					
1985	08 23	18 09.39	-22 25.9	1.728	2.429	122.8	20.5	17.6
1985	09 02	18 12.16	-22 15.6					
1985	09 12	18 17.69	-22 05.5	1.962	2.431	105.4	23.5	17.9

(3041) 1980 GD a,e,i = 2.59, 0.15, 15 Elements MPC 8782

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	Mag.
1985	04 05	18 59.21	-23 11.7	2.765	2.958	91.1	19.8	18.5
1985	04 15	19 06.17	-23 33.6					
1985	04 25	19 11.18	-24 01.3	2.480	2.951	108.0	18.9	18.3
1985	05 05	19 13.97	-24 36.2					
1985	05 15	19 14.31	-25 19.1	2.223	2.942	126.8	16.0	17.9
1985	05 25	19 12.02	-26 09.9					
1985	06 04	19 07.08	-27 07.0	2.024	2.931	147.6	10.7	17.6
1985	06 14	18 59.69	-28 07.3					
1985	06 24	18 50.36	-29 06.7	1.915	2.919	169.0	3.8	17.3
1985	07 04	18 39.96	-30 00.5					
1985	07 14	18 29.53	-30 45.2	1.915	2.904	163.6	5.7	17.3
1985	07 24	18 20.17	-31 19.2					
1985	08 03	18 12.83	-31 42.9	2.021	2.888	141.9	12.5	17.6
1985	08 13	18 08.08	-31 58.1					
1985	08 23	18 06.21	-32 06.9	2.208	2.870	121.6	17.5	17.9
1985	09 02	18 07.24	-32 11.3					
1985	09 12	18 11.01	-32 12.2	2.442	2.851	103.5	20.1	18.2