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

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ERRATA.

MPC	Line	
15388	2	For by M. R. Cesco read at the Estacion Astronomica Dr. Carlos U. Cesco
16441	-13	For (2766) Leuwenhoek read (2766) Leeuwenhoek
16441	-11	For Leuwenhoek read Leeuwenhoek
16518	18 to 21	The observations of 1989 YW5 should be specified as belonging to 1978 TA7 (identification on MPC 15876).
16553	16	Add note D and footnote 1990 EA5 = 1990 GQ (G. Williams)
16588	22	For 1990 HM1 read 1990 HM1 = 1990 JJ1

* * * * *

OBSERVATORY CODES.

The following listing of observatory codes is a revision of that on MPC 11200-11207. The longitudes are measured in degrees eastward from Greenwich, and the parallax constants xy and Z are in units of 0.0000001 AU. The Minor Planet Center would be pleased to learn of any errors in the list.

Obs.	Long.	Parallax		
000	0.00	-266	-332	Greenwich
001	0.15	-268	-330	Crowborough (Roberts)
002	0.62	-265	-333	Rayleigh (Van Looy)
003	3.90	-309	-293	Montpellier
004	1.46	-309	-293	Toulouse
005	2.23	-281	-319	Meudon
006	2.13	-320	-281	Fabra Observatory, Barcelona
007	2.34	-281	-319	Paris
008	3.04	-342	-254	Algiers
009	7.45	-292	-310	Berne-Uecht
010	6.93	-309	-293	Caussols (CERGA)
011	8.80	-290	-312	Wetzikon (Locher)
012	4.36	-270	-329	Uccle
013	4.48	-262	-335	Leiden
014	5.39	-311	-291	Marseilles
015	5.13	-263	-335	Utrecht
016	5.99	-290	-312	Besancon
017	6.85	-274	-326	Hoher List
018	6.76	-268	-331	Dusseldorf-Bilk
019	6.96	-291	-310	Neuchatel
020	7.30	-309	-293	Nice
021	8.38	-280	-320	Karlsruhe
022	7.78	-302	-300	Pino Torinese

023	8.26	-274	-325	Wiesbaden (Landgraf)
024	8.72	-278	-322	Heidelberg-Konigstuhl
025	9.20	-281	-319	Stuttgart
026	7.47	-292	-310	Berne-Zimmerwald
027	9.19	-300	-302	Milan
028	9.94	-276	-324	Wurzburg
029	10.24	-254	-341	Hamburg-Bergedorf
030	11.26	-308	-293	Arcetri Observatory, Florence
031	11.19	-272	-327	Sonneberg
032	11.58	-269	-329	Jena
033	11.71	-269	-330	Karl Schwarzschild Observatory, Tautenburg
034	12.45	-318	-283	Monte Mario Observatory, Rome
035	12.58	-241	-351	Copenhagen
036	12.65	-319	-282	Castel Gandolfo
037	13.73	-314	-287	Collurania Observatory, Teramo
038	13.77	-299	-303	Trieste
039	13.19	-241	-351	Lund
040	13.73	-269	-330	Lohrmann Institute, Dresden
041	11.38	-290	-312	Innsbruck
042	13.06	-261	-336	Potsdam
043	11.53	-297	-305	Asiago Astrophysical Observatory, Padua
044	14.26	-323	-277	Capodimonte Observatory, Naples
045	16.34	-285	-316	Vienna (since 1879)
046	14.29	-281	-319	Klet Observatory, Ceske Budejovice
047	16.88	-261	-336	Poznan
048	15.83	-273	-326	Hradec Kralove
049	17.61	-217	-366	Uppsala-Kvistaberg
050	18.06	-218	-365	Stockholm (before 1931)
051	18.48	-354	+237	Cape
052	18.31	-218	-365	Stockholm-Saltsjobaden
053	18.96	-289	-313	Konkoly Observatory, Budapest (since 1934)
054	11.67	-241	-350	Brorfelde
055	19.96	-274	-325	Cracow
056	20.24	-279	-321	Skalnate Pleso
057	20.51	-303	-299	Belgrade
058	20.50	-247	-346	Kaliningrad
059	20.20	-279	-321	Lomnicky Stit
060	21.42	-263	-335	Warsaw-Ostrowik
061	22.30	-282	-318	Uzhgorod
062	22.23	-211	-369	Turku
063	22.44	-211	-369	Turku-Tuorla
064	22.75	-211	-369	Turku-Kevola
065	12.63	-287	-315	Traunstein (Bendel)
066	23.72	-337	-261	Athens
067	24.03	-276	-324	Lvov University Observatory
068	24.02	-276	-324	Lvov Polytechnic Institute
069	24.41	-234	-355	Baldone, near Riga
070	25.25	-247	-346	Vilnius (before 1939)
071	24.72	-319	-282	Smolyan
072	7.17	-268	-330	Scheuren Observatory (Gussow)
073	26.10	-305	-297	Bucharest
074	26.40	-373	+206	Boyden Observatory, Bloemfontein
075	26.72	-224	-362	Tartu
076	27.88	-384	+184	Johannesburg-Hartbeespoort
077	28.03	-383	+187	Yale-Columbia Station, Johannesburg
078	28.08	-383	+187	Johannesburg
079	28.23	-384	+184	Radcliffe Observatory, Pretoria
080	28.97	-322	-278	Istanbul
081	28.07	-383	+187	Leiden Station, Johannesburg

082	15.63	-285	-316	St. Polten (Klauser)
083	30.50	-273	-327	Golosseevo-Kiev
084	30.33	-215	-367	Pulkovo
085	30.50	-272	-327	Kiev
086	30.76	-294	-308	Odessa
087	31.34	-370	-211	Helwan
088	31.82	-370	-213	Kottomia
089	31.98	-291	-310	Nikolaev
090	8.25	-275	-325	Mainz (Riemann, Landgraf)
091	4.21	-300	-302	St. Etienne (Chanal)
092	18.56	-257	-340	Torun-Piwnice
093	20.37	-151	-397	Skibotn
094	34.00	-305	-297	Crimea-Simeis
095	34.02	-303	-299	Crimea-Nauchnij
096	9.40	-298	-304	Merate
097	34.76	-367	-216	Wise Observatory, Mitzpeh Ramon
098	11.60	-298	-304	Cima Ekar
099	25.53	-206	-372	Lahti (Salmi)
100	24.13	-197	-377	Ahtari (Kapanen)
101	36.23	-275	-325	Kharkov
102	36.59	-241	-351	Zvenigorod
105	37.57	-240	-351	Moscow
110	39.15	-232	-356	Rostov
114	41.44	-309	-293	Engelhardt Observatory, Zelenchukskaya Station
115	41.44	-309	-293	Zelenchukskaya
119	42.82	-319	-283	Abastuman
123	44.29	-326	-275	Byurakan
125	44.90	-315	-286	Tbilisi
128	46.10	-267	-332	Saratov
129	45.88	-331	-268	Ordubad
135	49.12	-240	-351	Kasan
136	48.82	-240	-351	Engelhardt Observatory, Kasan
168	59.50	-233	-356	Kourovskaya
186	66.88	-331	-268	Kitab
188	66.88	-333	-265	Shokin Majdanak
190	68.68	-334	-264	Gissar
191	68.78	-334	-264	Dushanbe
192	69.29	-321	-280	Tashkent
193	69.22	-335	-263	Sanglok
210	76.96	-311	-290	Alma-Ata
217	77.88	-311	-291	Assah
218	78.45	-407	-127	Hyderabad
219	78.73	-408	-125	Japal-Rangapur
220	78.83	-416	-092	Kavalur
223	80.25	-415	-096	Madras
236	84.95	-236	-354	Tomsk
286	102.79	-387	-179	Yunnan Observatory
292	285.13	-327	-273	Burlington, New Jersey (Handley)
293	285.59	-328	-271	Burlington remote site (Handley)
299	107.62	-423	+050	Bosscha Observatory, Lembang
302	288.88	-422	-064	University of the Andes station
303	289.13	-422	-065	Merida
304	289.30	-373	+206	Las Campanas Observatory
305	109.53	-405	-132	Purple Mountain, Hainan Island station
312	112.33	-408	-123	Tsingtao field station, Xisha Islands
323	116.14	-362	+225	Perth Observatory, Bickley
324	116.33	-327	-273	Peking Observatory, Shaho Station
327	117.57	-325	-275	Peking Observatory, Xinglong Station
330	118.82	-362	-225	Purple Mountain Observatory, Nanking

334	120.32	-345	-250	Tsingtao
337	121.19	-365	-219	Zo-Se
363	130.78	-356	-234	Yamada (Otsubo)
364	130.57	-363	-222	YCPM Kagoshima Station (Mukai)
368	138.81	-346	-248	Ochiai (Hioki)
369	139.15	-346	-249	Chichibu (Sato)
370	133.53	-356	-234	Kochi (Seki)
371	133.60	-351	-241	Tokyo-Okayama
372	133.83	-356	-234	Geisei (Seki)
373	135.34	-353	-238	Oishi (Tsumura)
374	134.72	-349	-244	Minami-Oda Observatory (Sugano)
375	134.87	-350	-243	Uzurano (Einaga)
376	139.04	-347	-247	Uenohara (Kawasato)
377	135.79	-350	-243	Kwasan Observatory, Kyoto
378	136.01	-351	-241	Murou (Kumamori)
379	137.77	-351	-241	Hamamatsu (Wakuta)
380	137.03	-350	-242	Ishiki (Kojima)
381	137.63	-346	-248	Tokyo-Kiso
382	137.56	-345	-250	Tokyo-Norikura
383	137.89	-342	-254	Chirorin (Sei)
384	138.18	-350	-242	Shimada
385	138.47	-350	-243	Nihondaira Observatory (Urata)
386	138.32	-346	-249	Yatsugatake-Kobuchizawa
387	139.20	-345	-249	Tokyo-Dodaira
388	139.54	-347	-247	Tokyo-Mitaka
389	139.74	-347	-247	Tokyo (before 1938)
390	139.92	-343	-252	Utsunomiya (Kurosaki)
391	140.78	-335	-263	Sendai Observatory, Ayashi Station
392	141.38	-312	-290	JCPM Sapporo Station
393	140.13	-345	-250	JCPM Sakura Station
394	142.32	-301	-301	JCPM Hamatonbetsu Station
395	142.36	-308	-294	Tokyo-Asahikawa
396	142.42	-308	-293	Asahikawa (Tsuchiya)
397	141.48	-312	-289	Sapporo Science Center
398	139.11	-345	-250	Nagatoro (Kawasato)
399	144.61	-312	-290	Kushiro (Ueda)
400	143.78	-308	-293	Kitami (Yanai)
401	139.42	-345	-250	Oosato (Yamagishi)
402	136.31	-349	-244	Dynic Astronomical Observatory
403	137.06	-348	-246	Kani (Mizuno)
404	140.93	-337	-260	Yamamoto (Otomo)
405	139.33	-344	-251	Kamihoriguchi (Shimoda)
406	141.82	-311	-291	Bibai (Saito)
407	140.31	-334	-264	Kahoku (Okazaki)
413	149.07	-365	+220	Siding Spring Observatory
414	149.00	-348	+245	Mount Stromlo
415	149.06	-348	+246	Kambah, near Canberra (Herald)
416	149.13	-348	+245	Barton, near Canberra (Herald)
418	150.94	-366	+218	Tamworth (Garradd)
419	150.83	-355	+235	Windsor (Tebbutt)
420	151.20	-354	+236	Sydney
425	152.93	-382	+189	Taylor Range Observatory, Brisbane
474	170.46	-307	+295	Mount John Observatory, Lake Tekapo
480	0.77	-262	-335	Cockfield (Mobberley)
481	7.93	-254	-341	Moorwarfen
482	357.18	-237	-353	St. Andrews
483	173.80	-319	+282	Carter Observatory, Black Birch Station
484	174.75	-321	+280	Happy Valley, Wellington (Gilmore)
485	174.76	-321	+280	Carter Observatory, Wellington

486	175.47	-326	+274	Palmerston North (Munford)
487	355.45	-242	-350	Macnairston Observatory
488	358.37	-245	-348	Newcastle-upon-Tyne (D. S. Brown)
489	359.87	-261	-336	Hemingford Abbots (Young)
490	358.00	-270	-329	Wimborne Minster (Swan)
491	356.91	-324	-276	Centro Astronomico de Yebes
492	358.47	-258	-339	Mickleover (Baguley)
493	357.45	-340	-257	Estacion Astronomica de Calar Alto
494	357.84	-261	-336	Stakenbridge (Manning)
495	357.66	-255	-341	Altrincham (Scott)
496	358.69	-269	-330	Bishopstoke (Arbour)
497	359.30	-267	-331	Ascot-Loudwater (Armstrong)
498	359.26	-261	-336	Northampton (Hurst)
499	359.79	-267	-331	Cheam (Birtwhistle)
500	0.00	0	0	Geocentric
501	0.34	-270	-329	Herstmonceux
502	0.85	-263	-334	Colchester (Hendrie)
503	0.10	-262	-335	Cambridge
504	4.44	-292	-309	Le Creusot (Merlin)
505	4.56	-265	-333	Simon Stetin
506	9.96	-255	-340	Bendestorf (Ressel)
507	5.22	-263	-334	Nyenheim (Son)
508	5.29	-263	-334	Zeist (Son)
509	5.87	-312	-290	La Seyne sur Mer
510	8.03	-269	-329	Siegen
511	5.71	-308	-294	Haute Provence
512	4.49	-262	-335	Leiden (before 1860)
513	4.78	-298	-304	Lyons
514	8.43	-278	-322	Mundenheim (1907-1913)
515	7.48	-277	-323	Volkssternwarte Dhaun, near Kirn
516	9.97	-254	-341	Hamburg (before 1909)
517	6.15	-296	-306	Geneva
518	9.97	-254	-341	Marine Observatory, Hamburg
519	8.29	-267	-331	Meschede (Hempel)
520	7.10	-270	-329	Bonn
521	10.89	-275	-325	Bamberg
522	7.77	-283	-318	Strasbourg
523	8.65	-274	-326	Frankfurt
524	8.46	-278	-323	Mannheim
525	8.77	-270	-329	Marburg
526	10.15	-249	-345	Kiel
527	9.94	-254	-341	Altona
528	9.94	-266	-332	Gottingen
529	10.72	-214	-367	Christiania
530	10.69	-252	-343	Lubeck
531	12.48	-318	-283	Collegio Romano, Rome
532	11.61	-285	-316	Munich
533	11.87	-300	-302	Padua
534	12.39	-267	-331	Leipzig (since 1861)
535	13.36	-336	-262	Palermo
536	13.11	-261	-336	Berlin-Babelsberg
537	13.36	-260	-337	Urania Observatory, Berlin
538	13.85	-303	-299	Pola
539	14.13	-286	-316	Kremsmunster
540	14.27	-283	-318	Linz
541	14.40	-274	-325	Prague
542	13.04	-259	-337	Falkensee (Gressmann)
543	11.66	-241	-350	Leipzig (before 1861)
544	13.42	-260	-337	Wilhelm Foerster Observatory, Berlin

545	16.38	-285	-316	Vienna (before 1879)
546	16.35	-285	-316	Oppolzer Observatory, Vienna
547	17.04	-268	-330	Breslau
548	13.40	-260	-337	Berlin (1835-1913)
549	17.63	-215	-367	Uppsala
550	11.42	-253	-342	Schwerin
551	18.19	-287	-315	O'Gyalla
552	11.34	-305	-297	Osservatorio S. Vittore, Bologna
553	18.99	-273	-326	Chorzow
554	8.40	-272	-328	Burgsolms Observatory, Wetzlar
555	19.83	-274	-325	Cracow-Fort Skala
556	11.26	-288	-313	Reintal, near Munich (Seiler)
557	14.78	-275	-325	Ondrejov
558	21.03	-262	-335	Warsaw
559	14.98	-338	-259	Serra La Nave
560	10.93	-300	-302	Madonna di Dossobuono (Luciano)
561	20.02	-286	-315	Piszkesteto
562	15.92	-285	-316	Figl Observatory, Vienna
563	13.60	-286	-315	Seewalchen (Bressler)
564	11.19	-286	-316	Herrsching (Stattmayer)
565	10.14	-300	-302	Brescia
566	203.74	-399	-150	Haleakala
567	12.71	-298	-305	Chions
568	204.53	-401	-144	Mauna Kea
569	24.96	-213	-368	Helsinki
570	25.29	-247	-346	Vilnius (since 1939)
571	10.63	-300	-302	Cavriana
572	6.89	-269	-329	Cologne
573	9.66	-262	-335	Eldagsen (Bonk)
574	10.27	-300	-302	Gottolengo (Mattarozzi)
575	6.81	-291	-311	La Chaux de Fonds (Behrend)
576	0.38	-269	-330	Burwash (Young)
577	7.50	-289	-313	Metzerlen Observatory
578	27.99	-383	+187	Linden Observatory (Hers)
579	8.85	-303	-299	Novi Ligure (Balbi)
580	15.50	-291	-311	Graz (Ornig)
581	22.80	-354	+237	Sedgefield (Hers)
582	1.22	-263	-334	Orwell Park
583	30.27	-295	-307	Odessa-Mayaki
584	30.30	-214	-367	Leningrad
585	30.53	-272	-327	Kiev comet station
586	0.14	-313	-289	Pic du Midi
587	9.23	-297	-305	Sormano
588	11.25	-305	-297	Eremo di Tizzano
589	12.64	-315	-287	Santa Lucia Stroncone
590	7.46	-289	-313	Metzerlen
591	9.63	-260	-337	Resse Observatory (Ehring)
656	236.48	-284	-317	Victoria (Newton)
657	236.68	-283	-318	Climenhaga Observatory, Victoria
660	237.74	-337	-260	Leuschner Observatory, Berkeley
662	238.36	-339	-257	Lick Observatory, Mount Hamilton
668	240.82	-350	-242	San Emigdio Peak
669	240.82	-352	-240	Ojai
671	242.00	-353	-239	Stony Ridge
672	241.94	-353	-238	Mount Wilson
673	242.32	-352	-239	Table Mountain Observatory, Wrightwood
674	242.39	-352	-240	Ford Observatory, Wrightwood
675	243.14	-357	-233	Palomar Mountain
680	244.78	-355	-236	Los Angeles (Hutson)

685	247.84	-348	-245	Williams, AZ (Roques)
686	249.21	-360	-227	U. of Minn. Infrared Obs., Mt. Lemmon
687	248.35	-349	-244	Northern Arizona University, Flagstaff
688	248.46	-349	-244	Lowell Observatory, Mesa Station
689	248.26	-349	-244	U.S. Naval Observatory, Flagstaff
690	248.34	-349	-245	Lowell Observatory, Flagstaff
691	248.40	-362	-224	Steward Observatory, Kitt Peak
692	249.05	-361	-226	Steward Observatory, Tucson
693	249.28	-360	-227	Catalina Station, Tucson
694	249.00	-361	-226	Tumamoc Hill, Tucson
695	248.40	-362	-224	Kitt Peak
696	249.12	-363	-223	Whipple Observatory (Mt. Hopkins)
697	248.40	-362	-224	Kitt Peak (McGraw-Hill)
698	249.28	-360	-227	Mt. Bigelow
702	252.81	-354	-237	Joint Obs. for cometary research, Socorro
704	253.34	-355	-236	Lincoln Laboratory ETS, New Mexico
707	254.56	-330	-270	Chamberlin field station (Everhart)
708	255.05	-329	-271	Chamberlin Observatory, Denver
711	255.98	-367	-216	McDonald Observatory, Fort Davis
724	260.80	-402	-141	National Observatory, Tacubaya
741	266.85	-305	-297	Goodsell Observatory, Northfield
754	271.44	-314	-287	Yerkes Observatory, Williams Bay
756	272.33	-317	-284	Dearborn Observatory, Evanston
759	273.20	-345	-250	Nashville (Barnard)
760	273.60	-329	-270	Goethe Link Observatory, Brooklyn
765	275.58	-331	-268	Cincinnati
766	275.52	-314	-288	Michigan State University Obs., East Lansing
767	276.27	-316	-285	Ann Arbor
768	277.08	-313	-288	Dearborn (McEldery)
769	276.99	-327	-273	McMillin Observatory, Columbus
771	277.57	-393	-166	Boyeros Observatory, Havana
773	278.43	-320	-281	Warner and Swasey Observatory, Cleveland
774	278.93	-319	-282	Warner and Swasey Nassau Station, Chardon
777	280.60	-309	-293	Toronto
778	279.98	-325	-275	Allegheny Observatory, Pittsburgh
779	280.58	-308	-294	David Dunlap Observatory, Richmond Hill
780	281.48	-336	-261	Leander McCormick Observatory, Charlottesville
781	281.51	-426	-002	Quito
782	281.65	-426	000	Quito (comet astrograph station)
783	282.02	-334	-265	Rixeyville (Chester)
784	282.28	-315	-286	Alfred University Observatory
785	285.34	-325	-275	Princeton
786	282.94	-332	-266	U.S. Naval Obs., Washington (since 1893)
787	282.95	-332	-266	U.S. Naval Obs., Washington (before 1893)
788	284.37	-328	-271	Mount Cuba Observatory, Wilmington
789	284.59	-312	-290	Litchfield Observatory, Clinton
790	284.28	-300	-302	Dominion Observatory, Ottawa
791	284.52	-327	-273	Flower and Cook Observatory, Philadelphia
792	288.30	-321	-280	U. of Rhode Island, Quonochontaug
793	286.22	-314	-287	Dudley Observatory, Albany (before 1893)
794	278.90	-319	-282	Vassar College Observatory, Poughkeepsie
795	286.01	-324	-277	Rutherford
796	286.45	-322	-279	Stamford
797	287.07	-321	-280	Yale Observatory, New Haven
798	287.02	-320	-281	Yale Observatory, Bethany
799	288.86	-315	-286	Winchester (Metcalf)
800	288.45	-409	+119	Harvard Observatory, Arequipa
801	288.44	-315	-287	Oak Ridge Observatory
802	288.87	-315	-286	Harvard Observatory, Cambridge

803	288.92	-318	-283	Taunton (Metcalf)
804	289.31	-356	+235	Santiago-San Bernardo
805	288.97	-358	+231	Santiago-Cerro El Roble
806	289.45	-356	+233	Santiago-Cerro Calan
807	289.19	-369	+213	Cerro Tololo Observatory, La Serena
808	290.67	-363	+223	El Leoncito
809	289.27	-372	+207	European Southern Observatory, La Silla
810	288.52	-314	-287	Wallace Observatory, Westford
811	289.90	-321	-280	Maria Mitchell Observatory, Nantucket
812	288.42	-358	+231	Vina del Mar (Liller)
813	289.31	-360	+228	Santiago-Quinta Normal
820	295.37	-397	+156	Tarija
821	295.45	-364	+222	Cordoba-Bosque Alegre
822	295.80	-364	+221	Cordoba
839	302.07	-350	+243	La Plata
864	130.70	-359	-230	Kumamoto (Miyamoto)
869	133.42	-356	-234	Tosa (Ike)
870	313.17	-398	+153	Campinas
871	134.40	-351	-242	Akou (Kawanishi)
872	134.24	-353	-238	Tokushima (Iwamoto)
873	133.77	-351	-241	Kurashiki Observatory (Honda)
874	314.42	-394	+162	Itajuba
875	139.24	-345	-250	Yorii (Arai, Mori)
876	139.15	-344	-251	Honjo (Mitsuma)
877	139.08	-346	-248	Okutama (Hioki)
878	136.91	-350	-243	Kagiya (Furuta)
879	137.35	-349	-243	Tokai (Furuta)
880	316.78	-393	+165	Rio de Janeiro
881	137.26	-349	-244	Toyota (Suzuki)
882	137.36	-349	-244	JCPM Oi Station
883	138.42	-350	-243	Shizuoka
884	138.08	-349	-244	Kawane (Iwahana)
885	138.46	-350	-243	JCPM Yakiimo Station
886	138.93	-349	-244	Mishima (Akiyama)
887	139.34	-345	-250	Ojima (Niijima)
888	139.00	-349	-244	Gekko (Oshima)
889	140.15	-342	-253	Karasuyama (Inoda)
890	140.25	-346	-249	JCPM Tone Station
891	140.86	-335	-263	JCPM Kimachi Station
892	139.46	-345	-250	YGCO Hoshikawa and Nagano Stations
893	140.87	-335	-263	Sendai Municipal Observatory
894	138.45	-346	-249	Kiyosato (Miyasaka)
895	140.72	-335	-263	Hatamae (Sato)
896	138.37	-346	-248	Astro Village Observatory
897	139.49	-344	-250	YGCO Chiyoda Station
898	138.19	-350	-240	Fujieda (Shiozawa)
899	142.55	-308	-294	Toma (Tsuchiya)
950	342.12	-374	-204	La Palma
972	357.58	-232	-357	Dun Echt
973	359.67	-265	-332	Harrow
974	8.94	-305	-297	Genoa (Alfano)
975	359.98	-330	-270	Valencia
976	358.48	-261	-336	Leamington Spa (Johnstone)
977	351.55	-250	-344	Markree
978	358.25	-249	-345	Conder Brow (Greenwood)
979	358.75	-268	-330	South Wonston (Arbour)
980	357.20	-251	-343	Lancaster (Buczynski)
981	353.35	-249	-345	Armagh
982	353.66	-255	-341	Dunsink Observatory, Dublin

983	353.79	-343	-252	San Fernando
984	357.26	-269	-330	Eastfield (Ridley)
985	357.53	-259	-337	Telford (McAdam)
986	358.75	-266	-332	Ascot (Waterfield)
987	355.37	-250	-344	Archallagan Observatory (Soper)
988	355.71	-240	-351	Glasgow
989	357.69	-256	-340	Wilfred Hall Observatory, Preston
990	356.31	-325	-275	Madrid
991	356.93	-255	-341	Liverpool (since 1867)
992	357.00	-255	-341	Liverpool (before 1867)
993	357.50	-269	-330	Woolston Observatory (Waterfield)
994	359.39	-268	-331	Godalming (Ridley)
995	358.42	-247	-347	Durham
996	358.75	-264	-333	Oxford
997	359.15	-264	-334	Hartwell
998	359.76	-265	-333	London-Mill Hill
999	359.47	-303	-299	Bordeaux-Floirac

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1952 UJ	1952 10	25.14104	00 21 03.02	-08 47 47.5	MPC 3958	16.4	760
1952 UJ	1952 10	25.18097	00 21 01.64	-08 47 42.4	MPC 3958		760
1952 UL	1952 10	25.14104	00 17 11.03	-11 00 21.8	MPC 5484	17.1	760
1952 UL	1952 10	25.18097	00 17 09.63	-11 00 33.5	MPC 5484		760
1990 HK1	1990 04	29.63867	14 57 28.16	-33 21 43.9	MPC16507		1 413
134	1968 12	16.97218	06 19 34.57	+42 41 38.5	MPC 2979		2 012
165	1961 12	28.65764	07 35 10.87	+26 07 28.9	MPC 2214		3 330
344	1968 12	16.97218	06 11 50.28	+40 58 52.6	MPC 2979		2 012
501	1973 08	23.12758	20 27 23.22	-43 17 42.5	MPC 3803		4 839
502	1959 07	07.15	16 35.6	+08 58	MPC 1956	15.0	760
503	1953 04	10.95678	13 29 19.57	-02 55 22.4	MPC 978		5 006
503	1972 06	14.91528	19 14 52.76	-26 01 21.1	MPC 3472	14.3	076
505	1957 01	06.66753	08 03 47.63	+27 02 14.4	MPC 1618		3 330
505	1973 10	24.08731	23 47 03.31	-18 26 31.2	MPC 3803		6 839
507	1950 07	11.97153	19 32 41.82	-22 49 12.4	MPC 559		990
507	1968 10	21.05579	02 59 08.30	+30 56 24.2	MPC 2979		012
508	1968 12	16.97218	06 27 11.03	+37 30 03.1	MPC 2979		2 012
510	1971 07	30.02461	23 11 51.65	+07 43 15.7	MPC 5115		5 073
510	1971 07	30.03465	23 11 51.54	+07 43 15.8	MPC 5115		5 073
511	1950 10	17.03644	00 35 45.09	-20 44 41.1	MPC 539		804
511	1956 11	03.86806	02 32.4	-09 22	MPC 1562		990
512	1952 11	08.9028	02 58 33.08	-01 26 35.4	MPC 879		990
522	1939 01	19.98437	09 45 45.83	+15 26 12.8	MPC 3215		7 020
522	1939 01	20.01291	09 45 44.84	+15 26 23.2	MPC 3215		7 020
522	1939 01	28.04968	09 40 55.60	+15 58 30.0	MPC 3215		7 020
522	1939 01	28.08581	09 40 54.36	+15 58 40.9	MPC 3215		7 020
522	1939 02	08.90181	09 32 56.48	+16 48 05.8	MPC 3215		7 020
522	1939 02	08.93158	09 32 55.34	+16 48 12.5	MPC 3215		7 020
522	1939 02	14.96365	09 28 43.88	+17 12 40.2	MPC 3215		7 020
522	1939 02	14.99551	09 28 42.69	+17 12 49.4	MPC 3215		7 020
523	1935 03	25.87067	10 54 40.93	-00 07 10.6	MPC 3215		020
524	1940 07	30.96507	21 19 49.49	-19 03 45.5	MPC 3215		2 020
524	1940 07	30.99486	21 19 47.71	-19 03 46.5	MPC 3215		2 020
524	1968 02	27.90897	09 05 29.51	+17 38 59.4	MPC 3438		020

524		1968	02	27.92213	09	05	28.86	+17	39	00.1	MPC	3438	020
532		1941	05	15.02051	14	21	36.66	+12	45	15.6	MPC	394	804
532		1941	05	16.03993	14	20	52.54	+12	40	15.5	MPC	394	804
532		1941	05	17.03788	14	20	10.93	+12	35	07.0	MPC	394	804
532		1960	06	19.00703	19	02	46.50	-18	20	58.4	MPC	2119	5 006
532		1964	04	01.81944	14	09	56.19	+16	49	28.1	MPC	2737	075
532		1973	05	08.96548	11	15	33.10	+27	44	13.4	MPC	4876	020
532		1973	05	08.96721	11	15	33.11	+27	44	14.0	MPC	4876	020
532		1974	07	21.94126	19	53	26.53	-24	52	25.6	MPC	4722	6 999
532		1974	07	21.94749	19	53	26.15	-24	52	28.2	MPC	4722	6 999
532		1974	07	21.95441	19	53	25.80	-24	52	31.1	MPC	4722	6 999
532		1974	07	22.93159	19	52	31.54	-24	59	35.0	MPC	4722	6 999
532		1974	07	22.93851	19	52	31.17	-24	59	38.3	MPC	4722	6 999
532		1974	07	22.94544	19	52	30.77	-24	59	41.1	MPC	4722	6 999
532		1974	07	25.90748	19	49	47.77	-25	20	33.8	MPC	4722	6 999
532		1974	07	25.91442	19	49	47.41	-25	20	36.8	MPC	4722	6 999
532		1974	07	25.92133	19	49	46.98	-25	20	39.0	MPC	4722	6 999
532		1974	07	26.90474	19	48	53.49	-25	27	24.9	MPC	4722	6 999
532		1974	07	26.91167	19	48	53.15	-25	27	28.0	MPC	4722	6 999
532		1974	07	26.91859	19	48	52.72	-25	27	30.8	MPC	4722	6 999
539		1941	11	30.14444	05	53	59.93	+26	20	42.4	RI	2324	028
541		1936	05	13.89233	13	24	36.31	-16	44	11.3	MPC	3216	020
541		1936	05	13.92765	13	24	35.40	-16	43	57.2	MPC	3216	020
542		1951	01	14.1	09	54	.8	+07	54		MPC	692	020
542		1973	08	26.06682	20	30	31.98	-13	15	50.6	MPC	3803	8 839
552		1947	07	23.995	20	59	.5	-09	13		MPC	174	022
554		1939	05	23.8552	16	11	.3	-24	51		RI	2006	11.9 078
554		1973	09	04.06893	01	10	05.20	+12	23	14.4	MPC	4877	9 020
556		1969	10	06.92589	23	12	24.05	+03	40	17.3	MPC	3438	A 020
556		1969	10	06.93905	23	12	23.47	+03	40	12.4	MPC	3438	A 020
556		1969	10	08.97174	23	11	00.78	+03	29	09.5	MPC	3438	A 020
556		1969	10	08.98490	23	11	00.26	+03	29	05.8	MPC	3438	A 020
558		1936	05	16.01779	17	19	57.83	-11	30	56.0	MPC	3216	020
558		1938	12	30.9	04	34	.4	+10	42		RI	1910	12.0 008
563		1961	12	28.65764	07	42	15.26	+27	47	23.8	MPC	2219	3 330
563		1976	03	04.07760	12	42	32.56	+11	53	40.3	MPC	4317	B 012
563		1976	03	04.11223	12	42	32.62	+11	54	09.6	MPC	4317	B 012
567		1969	12	09.05305	06	40	23.40	+30	27	29.3	MPC	3439	C 020
567		1969	12	09.06413	06	40	23.76	+30	27	30.6	MPC	3439	C 020
568		1974	10	19.01042	01	28	08.42	+30	54	45.4	MPC	3857	D 056
568		1974	10	19.05208	01	28	06.53	+30	54	22.0	MPC	3857	D 056
568		1974	11	01.85903	01	17	47.18	+28	17	03.3	MPC	3857	D 056
568		1974	11	12.86042	01	11	42.54	+25	52	00.1	MPC	3857	D 056
568		1974	11	12.92187	01	11	40.88	+25	51	11.7	MPC	3857	D 056
568		1974	11	16.99375	01	10	10.42	+24	56	45.9	MPC	3857	D 056
568		1974	11	17.04653	01	10	09.48	+24	56	03.6	MPC	3857	D 056
568		1974	12	15.79097	01	12	58.68	+19	32	05.4	MPC	3857	D 056
568		1974	12	15.83889	01	13	00.04	+19	31	40.3	MPC	3857	D 056
568		1974	12	16.74583	01	13	27.96	+19	24	05.5	MPC	3857	D 056
568		1974	12	16.78472	01	13	29.05	+19	23	45.9	MPC	3857	D 056
570		1968	07	31.89619	19	12	20.84	-20	07	27.5	MPC	3439	020
571		1935	10	30.75413	00	33	26.84	+07	52	00.2	MPC	4319	078
576		1957	11	12.8	01	30	.3	+26	17		MPC	1819	020
577		1960	09	28.03767	00	55	57.56	+11	53	52.1	MPC	2036	E 012
577		1968	01	27.97369	07	37	43.45	+25	37	00.5	MPC	3439	B 020
577		1968	01	27.99516	07	37	42.46	+25	37	08.7	MPC	3439	B 020
580		1973	10	01.52361	21	52	31.74	-17	18	23.7	MPC	3942	F 323
583		1936	03	19.98644	12	46	52.50	-17	37	10.6	MPC	3217	020
583		1936	03	20.03111	12	46	51.18	-17	37	01.7	MPC	3217	020

584		1970 07 31.92019	19 53 54.72	-13 04 10.8	MPC 3798		5	006
586		1943 02 06.04405	08 57 51.51	+14 39 47.9	MPC 3217		6	020
586		1951 08 30.1	23 23.6	-01 39	MPC 695			020
588		1951 11 29.61670	03 55 04.30	+33 11 39.1	MPC 2157			388
589		1952 07 19.97756	19 12 21.85	-07 49 20.5	MPC 878			012
592		1948 02 18.19491	11 36 16.09	+01 44 23.1	MPC 111	13.0		012
593		1973 05 30.82778	14 56 00.59	-05 54 36.4	MPC 3641	14.0		076
596		1953 10 13.64037	01 17 08	-10 51.3	MPC 1074			377
597		1976 05 25.87049	14 50 24.03	-22 27 44.2	MPC 4138	14.3		076
598		1972 08 02.88472	21 21 37.91	-29 55 25.1	MPC 3472	12.3		076
599		1952 04 17.31596	15 58.0	-04 19	MPC 821	13.9		760
1866		1972 12 15.25382	01 54 41.44	+51 14 24.6	MPC 3485			688
1866		1972 12 15.27188	01 54 39.42	+51 14 51.0	MPC 3485			688
2102		1976 01 04.10625	21 25 01.55	+58 40 35.1	MPC 3918			688
2102		1976 01 04.12292	21 24 57.56	+58 38 58.4	MPC 3918			688
2202		1972 09 15.26562	23 36 12.12	-05 05 01.8	MPC 3381			688
2202		1972 09 15.28681	23 36 15.71	-05 05 53.0	MPC 3381			688
2202		1972 10 02.25417	00 45 54.75	-18 14 04.9	MPC 3381	15.6		688
4352		1952 10 25.14104	00 17 08.94	-14 37 37.6	MPC 3958	16.4		760

Note 1: time corrected. 2: date changed by -1 day. 3: time changed by +4 hours. 4: time changed by -36 hours. 5: date changed by +1 day. 6: date changed by +1 month. 7: year originally given as 1938. 8: time changed by +36 hours. 9: originally given as (547). A: originally given as (526). B: time changed by -1 month. C: originally given as (587). D: originally given as (586). E: originally given as (507). F: year originally given as 1971.

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object		Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1990 EF	*	1990 03 04.73045	15 14 31.39	-31 35 43.0	MPC16141		413
1990 EF		1990 03 04.77559	15 14 32.09	-31 35 53.8	MPC16141		413
1990 EF		1990 03 07.71049	15 15 32.80	-31 49 46.4	MPC16141		413
1990 EF		1990 03 07.75215	15 15 34.59	-31 50 15.1	MPC16141		413
1990 EF5	*	1990 03 04.73045	14 52 10.87	-34 35 38.8	MPC16506		413
1990 EF5		1990 03 04.77559	14 52 10.58	-34 35 54.6	MPC16506		413
1990 EF5		1990 03 07.75215	14 52 20.14	-34 15 27.4	MPC16506		413
502		1967 07 12.01683	21 37 12.85	-12 46 04.8	MPC 3336		020
502		1967 07 12.02514	21 37 12.35	-12 46 17.3	MPC 3336		020
503		1957 02 28.49827	08 54 37.16	+25 37 08.0	MPC 3061		388
503		1968 09 22.87745	21 00 43.97	-23 55 11.6	MPC 3437		020
503		1968 09 22.89268	21 00 43.36	-23 55 47.7	MPC 3437		020
504		1966 12 21.08279	07 20 25.55	+21 08 31.5	MPC 3336		020
507		1966 05 23.97833	15 17 48.98	-29 59 00.0	MPC 3336		020
507		1966 05 24.00881	15 17 47.59	-29 58 59.1	MPC 3336		020
508		1937 05 05.96611	14 56 06.97	-18 28 20.4	MPC 3215		020
508		1937 05 05.99952	14 56 05.86	-18 27 54.3	MPC 3215		020
508		1962 12 17.60938	03 56 18.21	+20 41 08.9	MPC 2317		334
511		1954 05 29.02292	17 18 15.59	-11 23 45.8	MPC 1145		990
511		1954 05 29.94514	17 17 41.56	-11 24 24.9	MPC 1145		990
511		1956 11 06.59426	02 30 44.98	-09 23 51.8	MPC 1573		330
511		1968 11 01.11934	07 03 31.17	+14 50 20.3	MPC 3302		057
511		1975 01 13.10123	09 27 56.89	+23 55 38.9	MPC 3879		012
513		1956 11 06.89028	03 39.1	+08 03	MPC 1562		990
513		1956 11 07.84028	03 37.8	+07 55	MPC 1562		990

514	1956	09	06.57153	21	32	17.90	-09	27	15.9	MPC 2645 388
514	1957	11	25.0	03	35.8		+22	23		MPC 1820 020
514	1971	06	28.91177	15	57	39.12	-22	07	44.2	MPC 6375 020
514	1971	06	28.93394	15	57	38.59	-22	07	43.3	MPC 6375 020
517	1956	04	09.52986	11	22	38.80	-00	58	15.7	MPC 2645 388
517	1969	06	20.01086	18	47	26.24	-22	46	02.3	MPC 3438 020
517	1969	06	20.02402	18	47	25.66	-22	45	59.2	MPC 3438 020
518	1971	06	24.83112	16	25	21.26	-11	23	59.5	MPC 5115 073
518	1971	06	24.84635	16	25	21.13	-11	23	57.6	MPC 5115 073
519	1967	06	10.87235	14	35	36.04	-17	56	55.0	MPC 3337 020
519	1967	06	10.89451	14	35	35.81	-17	56	59.5	MPC 3337 020
521	1953	12	11.86109	06	10	11.94	+22	01	19.0	MPC 1061 057
521	1954	01	07.50556	05	45	06.97	+25	56	59.2	MPC 2298 388
522	1964	11	10.86806	02	17	27.10	+07	02	00.7	MPC 2599 095
523	1967	07	04.98398	17	14	27.86	-22	36	40.9	MPC 3337 020
523	1967	07	08.86017	17	11	49.51	-22	24	21.9	MPC 3337 020
523	1967	07	08.87610	17	11	48.08	-22	24	20.0	MPC 3337 020
524	1967	07	05.99357	18	38	29.05	+00	11	46.8	MPC 3337 020
524	1967	07	06.00673	18	38	28.31	+00	11	46.7	MPC 3337 020
526	1953	01	14.57500	07	46	34.94	+19	15	38.9	MPC 2204 388
527	1954	05	30.01250	18	04	01.02	-13	20	26.5	MPC 1145 990
527	1954	07	24.9	17	16.8		-17	02		MPC 1152 020
527	1954	07	31.9	17	14.5		-17	37		MPC 1319 020
527	1957	02	28.59827	08	43	54.41	+22	04	45.5	MPC 3061 388
529	1967	05	09.95706	12	52	46.16	+05	40	30.6	MPC 3337 020
529	1967	05	09.96329	12	52	45.38	+05	40	30.2	MPC 3337 020
529	1969	09	22.05411	23	46	31.67	-19	05	39.2	MPC 3438 020
529	1969	09	22.07558	23	46	30.25	-19	05	39.0	MPC 3438 020
532	1950	03	07.82789	12	33	18.53	+24	44	41.8	MPC 526 021
532	1950	03	15.86944	12	28	01.30	+25	14	18.0	MPC 526 021
532	1969	05	17.05510	17	35	01.07	-08	07	46.3	MPC 3302 057
532	1973	03	07.85590	11	34	47.03	+28	44	17.3	MPC 3872 990
532	1973	03	07.86979	11	34	46.52	+28	44	23.8	MPC 3872 990
532	1978	05	09.8920	15	18	50.8	+06	57	49	MPC 4696 002
532	1978	05	09.9455	15	18	48.0	+06	57	49	MPC 4696 002
533	1972	09	07.75077	20	38	31.00	-12	22	38.8	MPC 5165 073
533	1972	09	07.76323	20	38	30.45	-12	22	46.0	MPC 5165 073
535	1955	10	13.90625	03	09.0		+09	24		MPC 1382 990
535	1971	10	19.83836	23	18	12.12	-15	13	11.2	MPC 6375 020
535	1971	10	19.85325	23	18	11.55	-15	13	02.0	MPC 6375 020
536	1967	02	01.83657	06	27	38.74	+41	30	50.3	MPC 3337 020
537	1955	01	22.42569	05	53	22.37	+17	54	14.3	MPC 2298 388
537	1971	01	06.91229	05	21	13.47	+15	46	27.1	MPC 6375 020
537	1971	01	06.92130	05	21	12.89	+15	46	29.1	MPC 6375 020
538	1957	02	02.53785	06	54	59.47	+17	35	25.7	MPC 3061 388
538	1966	08	25.01319	22	48	08.78	-10	29	21.3	MPC 3337 020
539	1967	07	04.98398	17	12	25.08	-24	23	59.5	MPC 3337 020
539	1967	07	08.86017	17	09	02.20	-24	13	29.1	MPC 3337 020
539	1967	07	08.87610	17	09	01.75	-24	13	22.7	MPC 3337 020
540	1943	04	05.92269	13	57	47.23	-11	39	13.0	RI 2524 028
540	1943	04	06.00718	13	57	43.47	-11	38	28.8	RI 2524 028
542	1939	10	17.95	02	48.2		-00	25		RI 2089 119
542	1969	12	01.86784	04	47	56.27	+03	29	27.1	MPC 3438 020
542	1969	12	01.87096	04	47	56.02	+03	29	29.5	MPC 3438 020
543	1966	04	18.86757	13	03	54.28	-19	41	13.4	MPC 3337 020
543	1966	04	18.89520	13	03	52.35	-19	41	00.6	MPC 3337 020
543	1966	04	21.83821	13	02	09.53	-19	28	41.6	MPC 3337 020
543	1966	04	21.88598	13	02	06.67	-19	28	34.6	MPC 3337 020
543	1966	05	16.86551	12	47	14.69	-17	10	02.7	MPC 3337 020

543	1966	05	16.89461	12	47	13.73	-17	09	52.5	MPC 3337 020
545	1953	03	12.92080	12	04	54.10	-08	21	40.1	MPC 917 990
545	1957	01	20.82775	05	54	06.59	+35	48	46.8	MPC 1820 020
550	1964	02	12.47	08	01.7		+11	40		MPC 2607 388
550	1964	02	12.51	08	01.7		+11	40		MPC 2607 388
552	1966	12	21.08279	07	18	35.90	+19	28	25.5	MPC 3337 020
553	1947	09	19.0	01	29.9		+00	12		MPC 55 020
553	1966	04	23.11	15	59.7		-16	51		MPC 2651 020
553	1966	04	27.01	15	56.3		-16	47		MPC 2651 020
553	1966	05	16.99	15	35.8		-16	15		MPC 2701 020
553	1966	05	20.96	15	31.5		-16	09		MPC 2701 020
553	1966	05	23.93	15	28.6		-16	08		MPC 2701 020
553	1966	05	26.96	15	25.3		-15	58		MPC 2701 020
553	1966	06	07.91	15	14.1		-15	44		MPC 2701 020
553	1966	06	13.88	15	09.5		-15	47		MPC 2701 020
554	1942	03	13.01319	11	58.2		-04	28		RI 2346 031
554	1942	03	13.95938	11	57.3		-04	24		RI 2346 031
554	1951	08	30.2	00	38.1		+09	06		MPC 695 020
554	1954	06	28.96111	18	44	32.82	-24	22	34.7	MPC 1145 990
554	1962	10	05.81735	00	32	36.52	+09	29	41.4	MPC 2865 073
554	1962	10	05.84228	00	32	36.51	+09	29	41.2	MPC 2865 073
555	1971	12	23.76408	03	33	36.71	+15	39	50.9	MPC 6376 020
555	1971	12	23.78970	03	33	35.77	+15	39	50.9	MPC 6376 020
557	1967	07	04.98398	17	01	54.80	-24	36	48.0	MPC 3337 020
557	1967	07	08.86017	16	59	20.06	-24	23	19.3	MPC 3337 020
557	1967	07	08.87610	16	59	19.71	-24	23	15.4	MPC 3337 020
557	1968	09	02.10065	00	29	04.72	+06	58	16.1	MPC 3439 020
557	1968	09	02.11866	00	29	03.27	+06	58	14.9	MPC 3439 020
557	1968	09	04.96488	00	26	56.55	+06	49	04.9	MPC 3439 020
557	1968	09	04.97874	00	26	54.93	+06	49	12.4	MPC 3439 020
557	1968	09	22.92039	00	12	07.61	+05	32	55.3	MPC 3439 020
557	1968	09	22.94324	00	12	04.95	+05	32	37.4	MPC 3439 020
563	1956	10	09.64688	00	54	45.95	-13	00	14.6	MPC 2645 388
563	1962	01	28.76146	07	12	21.89	+31	21	21.4	MPC 2362 075
564	1964	03	11.107	13	35.9		+16	22		MPC 2317 031
564	1964	03	12.013	13	35.3		+16	27		MPC 2317 031
564	1964	03	17.077	13	32.3		+17	01		MPC 2317 031
564	1964	03	18.024	13	31.7		+17	07		MPC 2317 031
564	1964	03	19.067	13	30.9		+17	13		MPC 2317 031
565	1966	04	27.01	15	53.5		-18	56		MPC 2701 020
565	1966	05	20.96	15	32.8		-15	22		MPC 2701 020
565	1966	05	26.96	15	28.2		-14	39		MPC 2701 020
566	1956	09	08.58681	22	24	46.43	-17	22	24.8	MPC 2645 388
566	1956	09	09.60625	22	23	50.55	-17	25	38.7	MPC 2645 388
566	1967	05	10.02042	15	29	55.52	-15	41	36.3	MPC 3338 020
566	1967	05	10.03462	15	29	55.38	-15	41	23.4	MPC 3338 020
568	1975	01	09.75303	01	31	48.54	+17	04	32.5	MPC 4877 020
568	1975	01	09.75869	01	31	48.56	+17	04	32.7	MPC 4877 020
569	1953	09	30.86736	01	36	26.83	+12	18	40.8	MPC 993 990
569	1953	10	08.87222	01	31	50.75	+11	59	52.4	MPC 1018 990
570	1943	08	04.94200	21	39	45.0	-11	28	36	RI 2517 006
572	1971	05	19.03238	15	30	02.78	-07	45	51.5	MPC 6376 020
572	1971	05	19.03826	15	30	02.29	-07	45	53.5	MPC 6376 020
572	1972	11	01.72586	00	54	45.71	+01	37	41.8	MPC 5165 073
572	1972	11	01.73833	00	54	45.66	+01	37	41.8	MPC 5165 073
573	1966	05	16.86551	12	49	05.43	-15	10	54.4	MPC 3338 020
573	1966	05	16.89461	12	49	04.01	-15	10	33.7	MPC 3338 020
577	1957	01	06.61771	07	57	13.09	+25	02	26.2	MPC 3061 388
577	1957	01	07.64202	07	56	24.10	+25	05	41.6	MPC 3061 388

579	1944	03	04.12616	11	22	26.77	+21	15	10.5	RI 2548	028
579	1944	03	04.18426	11	22	23.16	+21	15	34.8	RI 2548	028
580	1951	11	27.73333	05	28	08.96	+20	57	50.2	MPC 2157	388
582	1978	06	03.96632	12	21	48.37	+25	28	06.8	MPC 5460	056
584	1959	08	10.83646	19	20	03.94	-14	42	23.2	MPC 2383	073
586	1971	06	03.03471	17	15	13.11	-21	59	04.7	MPC 6376	020
586	1971	06	03.04580	17	15	12.50	-21	59	01.0	MPC 6376	020
589	1961	02	13.51	08	57.6		+06	30		MPC 2548	388
590	1939	08	14.96500	21	10	32.0	-24	34	42	RI 2081	006
592	1971	07	30.92933	19	54	42.94	-09	46	32.5	MPC 6376	020
592	1971	08	09.91518	19	47	17.40	-10	35	07.5	MPC 6376	020
592	1972	10	02.95190	02	25	22.34	+04	14	34.9	MPC 5165	073
592	1972	10	02.96090	02	25	22.12	+04	14	33.7	MPC 5165	073
593	1962	11	27.62122	03	24	52.86	+10	57	38.6	MPC 2317	334
600	1957	01	31.64063	09	39	14.41	+13	33	41.8	MPC 3061	388

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IDENTIFICATION CHANGES.

Continuation to MPC 16478-16479.

Object		Date	UT	R. A. (1950)			Decl.			Old desig.	Mag.	Obs.
A905 UP	*	1905	10 25.87396	00	16	18.43	+00	46	12.9	572		024
A905 UQ	*	1905	10 26.98257	03	27	49.20	+04	31	31.8	537		024
A911 OB	*	1911	07 21.96191	20	07	22.45	-17	23	16.4	570		024
A912 YB	*	1912	12 31.77478	04	39	02.54	+33	27	42.8	597		024
A920 VB	*	1920	11 10.74133	00	05	38.42	+04	28	48.3	571		045
A921 PB	*	1921	08 09.99052	22	56	09.20	-01	56	44.0	549		024
1928 DK1	*	1928	02 28.09062	11	19	51.16	+07	05	32.4	555		024
1928 QQ	*	1928	08 24.96963	22	00	51.50	-12	45	28.0	526		024
1939 DO	*	1939	02 19.01021	09	20	00.91	+16	24	07.6	555		020
1939 US	*	1939	10 21.98	02	33.9		+09	17		580	13.5	119
1940 UF	*	1940	10 31.9	02	00.7		+09	15		526	13.4	008
1942 QE	*	1942	08 18.92283	22	42	53.58	-06	28	12.0	516		057
1942 VC1	*	1942	11 01.90053	01	18	57.62	+02	58	04.2	585		020
1943 WC	*	1943	11 20.97	04	26.8		+24	49		552	12.6	119
1946 OL	*	1946	07 24.00535	19	11	26.22	-13	03	26.6	533		012
1946 US	*	1946	10 20.81449	01	42	25.9	+12	57	16	546		085
1947 OG	*	1947	07 27.06131	21	40	22.97	-04	39	32.4	540		012
1948 PL1	*	1948	08 08.98118	22	21.5		-02	35		506	12.8	094
1948 VT	*	1948	11 06.8549	01	10.4		+03	36		555	14.0	094
1949 MX	*	1949	06 27.96803	17	16	43.42	-20	35	41.0	526		024
1949 OR1	*	1949	07 16.86756	19	14	25	-40	09.4		508	11.5	078
1949 QO2	*	1949	08 17.875	21	55.1		-06	58		585	11.0	119
1949 WS	*	1949	11 26.151	05	19.3		+24	53		596		012
1949 WT	*	1949	11 26.15102	05	21	58.90	+25	01	11.2	569		012
1950 LL1	*	1950	06 12.90842	17	58	14	-23	56.1		514	12.0	078
1950 TS4	*	1950	10 06.67206	00	43	17.99	-20	26	43.6	511		330
1950 TT4	*	1950	10 11.785	01	38.3		+24	05		544	12.0	094
1950 WH	*	1950	11 16.90946	02	24	03.0	+21	19	44	556		085
1950 XZ	*	1950	12 13.92382	05	32.5		+28	55		577	13.6	094
1951 LA1	*	1951	06 10.99217	16	13	14.26	-08	52	41.7	504		024
1952 KM1	*	1952	05 17.87222	16	15	52	-21	06.1		529	13.5	078
1953 EA2	*	1953	03 05.0	09	55.9		+20	49		578		020
1953 EB2	*	1953	03 10.867	10	45.7		+12	38		580		210
1953 GB2	*	1953	04 10.91822	10	45	56.65	+05	04	32.8	513		012
1953 JS	*	1953	05 14.90903	16	59	16.49	-15	32	09.1	598	13.0	078

1953	SL	*	1953	09	29.85243	22	49	13.37	+05	14	01.8	552	119
1955	BK1	*	1955	01	25.00203	08	13	19.83	+25	32	57.9	524	059
1955	KQ	*	1955	05	18.96389	16	56	27.30	-21	34	38.1	586	12.8 076
1958	GY	*	1958	04	12.18	11	57.6		+04	17		578	15.8 760
1959	CH1	*	1959	02	01.28472	09	07	52	+21	27.5		566	690
1959	CH1		1959	02	02.27917	09	07	03	+21	33.7		566	690
1959	GC1	*	1959	04	02.91193	13	55	18.46	-22	15	25.4	583	12.8 076
1960	HE	*	1960	04	29.88194	14	30	35.00	-18	43	57.4	514	14.0 076
1961	EJ	*	1961	03	09.87461	09	45	54.85	-06	49	41.8	509	012
1962	DB	*	1962	02	26.53	10	46.9		+08	03		551	14.2 388
1962	DC	*	1962	02	26.53	10	49.8		+07	45		177	14.5 388
1962	HJ	*	1962	04	28.85625	13	25	44.57	-26	30	34.6	568	14.3 076
1962	MB	*	1962	06	25.80972	17	55	11.86	-22	20	36.1	523	14.8 076
1963	OA	*	1963	07	19.01209	17	51	59.74	-27	14	09.6	553	822
1963	OA		1963	07	19.03251	17	51	58.75	-27	14	08.2	553	822
1963	QF	*	1963	08	27.31	21	58.5		-01	26		539	14.8 760
1964	NA	*	1964	07	04.29463	21	12	52.32	-06	38	25.2	585	760
1966	DX	*	1966	02	20.12	11	06.4		+21	40		519	760
1966	QW	*	1966	08	22.89533	20	16	16.70	-24	45	28.2	560	095
1967	TQ	*	1967	10	07.00208	23	24	59.84	+07	02	21.0	583	056
1967	TQ		1967	10	07.02118	23	24	59.18	+07	02	12.6	583	056
1967	TQ		1967	10	12.84931	23	22	12.23	+06	27	30.5	583	056
1967	TQ		1967	10	12.89097	23	22	11.17	+06	27	17.2	583	056
1970	EW3	*	1970	03	02.14044	10	55	04.52	+09	29	02.5	526	805
1970	EW3		1970	03	02.15083	10	55	03.89	+09	29	11.9	526	805
1970	EW3		1970	03	02.16122	10	55	03.39	+09	29	18.5	526	805
1970	FL	*	1970	03	16.20968	11	12	46.38	+00	02	43.4	514	805
1970	FL		1970	03	16.22007	11	12	45.91	+00	02	47.8	514	805
1970	FL		1970	03	16.23045	11	12	45.42	+00	02	52.4	514	805
1971	WB	*	1971	11	19.93507	03	37	55.19	+06	54	32.1	521	073
1971	WB		1971	11	19.94046	03	37	55.78	+06	54	33.1	521	073
1972	EQ	*	1972	03	14.78801	08	37	16.13	+07	53	30.4	584	095
1972	XT2	*	1972	12	15.71736	07	53	06.12	-01	25	58.9	502	323
1973	YN4	*	1973	12	28.93877	06	19	28.93	+37	24	35.3	545	020
1973	YN4		1973	12	28.94258	06	19	28.64	+37	24	34.9	545	020
1973	YO4	*	1973	12	28.93877	06	20	20.61	+36	26	04.0	161	020
1973	YO4		1973	12	28.94258	06	20	20.17	+36	26	04.2	161	020
1990	GX	*	1990	04	15.99826	11	07	24.76	+02	46	52.3	1990 EA5 20.0	809
1990	GX		1990	04	16.01563	11	07	24.08	+02	46	52.4	1990 EA5	809
1990	GX		1990	04	16.03299	11	07	23.45	+02	46	53.6	1990 EA5	809
1990	GX		1990	04	16.98715	11	06	57.43	+02	47	46.9	1990 EA5 20.0	809
1990	GX		1990	04	17.00451	11	06	56.79	+02	47	47.3	1990 EA5	809
1990	GX		1990	04	17.02188	11	06	56.29	+02	47	47.9	1990 EA5	809
1990	JK1	*	1990	05	15.52666	13	53	00.53	-00	16	46.9	1990 HM1 16	898
1990	JK1		1990	05	15.55104	13	52	59.22	-00	16	52.8	1990 HM1	898
1990	KO1	*	1990	05	19.67177	13	49	43.5	-00	31	54	1990 JJ1 17	898
1990	KO1		1990	05	19.68353	13	49	43.2	-00	32	00	1990 JJ1 17	898

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ERRONEOUS IDENTIFICATION.

The following identification is erroneous:

			Note
1930	UA1	= (591)	1

Note 1: cf. JO 30, 15.

IDENTIFICATIONS.

The following list of identifications with numbered minor planets, by G. V. Williams, continues that on MPC 16479.

A911 OB = (76)	A912 YB = (574)	1928 DK1 = (811)
1939 DO = (765)	1940 UF = (2046)	1942 VC1 = (1012)
1943 WC = (1181)	1947 OG = (490)	1948 OK = (3118)
1948 PL1 = (1346)	1948 VT = (1245)	1949 MX = (486)
1949 QO2 = (38)	1949 WS = (569)	1949 WT = (596)
1950 JW = (4064)	1950 TT4 = (220)	1950 XZ = (2670)
1951 HC = (2883)	1952 KM1 = (1517)	1953 JS = (1291)
1953 SL = (2892)	1955 BK1 = (297)	1955 KQ = (1765)
1958 GY = (1378)	1959 CH1 = (3754)	1960 HE = (796)
1962 DB = (177)	1962 DC = (551)	1962 HJ = (1264)
1962 MB = (1131)	1963 OA = (82)	1963 QF = (614)
1966 DX = (2364)	1967 TQ = (882)	1970 EW3 = (4285)
1970 FL = (3028)	1971 WB = (199)	1973 YN4 = (161)
1973 YO4 = (545)		

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IDENTIFICATIONS WITH SATELLITES.

The following objects given minor-planet designations have been identified with satellites:

	Note		Note		Note
A924 KA = J VI	1	1929 WP = J VI	2	1929 XN = J VI	2

Note 1: identification by G. V. Williams. 2: identification by E. Bowell and C. M. Olmstead.

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

006 Fabra Observatory. 0.38-m f/11 Mailhat astrograph. Observers J. M. Codina, J. Nunez and N. Torras.
046 Klet. Observers A. Mrkos and Z. Vavrova.
372 Geisei. Observer T. Seki.
391 Sendai Observatory, Ayashi Station. 0.15-m f/5.5 reflector. Observer M. Koishikawa. Communicated by H. Kosai.
394 JCPM Hamatonbetsu Station. Observer M. Takeishi.
413 Siding Spring. U.K. and Uppsala Schmidt telescopes. Observers S. M. Hughes and R. H. McNaught. Measured by R. H. McNaught.
415 Kambah, near Canberra. Observer D. Herald.
474 Mt. John. Observer A. C. Gilmore. Measured by P. M. Kilmartin.
503 Cambridge. Observer J. D. Shanklin.
540 Linz. Observers E. Meyer and H. Raab.
657 Victoria. Observers J. Tatum and D. Balam.
672 Mt. Wilson. 0.6-m reflector. Observer L. E. Cunningham. Measurers A. G. Mowbray, K. L. Franklin, J. L. Brady, B. J. Franklin, A. Q. Howard and L. R. Cotter.
675 Palomar. 1.2-m Schmidt, 0.46-cm Schmidt and 1.5-m reflector + CCD. Observers J. Gibson, R. G. Harrington, E. Helin, K. Lawrence, B. Roman and A. G. Wilson. Measured by J. Gibson, K. Lawrence and A. G. Mowbray.

801 Oak Ridge Observatory. 1.5-m reflector + CCD. Observers R. E. McCrosky, C.-Y. Shao and J. M. Zajac.
899 Toma. Observer K. Tsuchiya. Measured by H. Kosai.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Comet Wirtanen (1947 VIII)					
/1947 VIII	1950	07 22.30972	20 14 18.99	-20 04 09.3			672
/1947 VIII	1950	07 22.33923	20 14 17.94	-20 04 14.7			672
/1947 VIII	1950	08 16.27430	19 59 48.20	-21 08 30.5			672
/1947 VIII	1950	08 17.28850	19 59 15.70	-21 10 51.1			672
		Comet Wilson-Harrington (1949 III)					
/1949 III	1949	11 19.12778	00 12 20.54	+13 32 17.0			675
/1949 III	1949	11 19.13611	00 12 24.03	+13 32 28.7			675
/1949 III	1949	11 19.14236	00 12 27.02	+13 32 39.2			675
/1949 III	1949	11 19.17361	00 12 40.37	+13 33 23.2			675
/1949 III	1949	11 21.10764	00 26 39.58	+14 17 09.3			675
/1949 III	1949	11 21.11597	00 26 42.75	+14 17 20.7			675
/1949 III	1949	11 21.14722	00 26 55.79	+14 17 59.7			675
/1949 III	1949	11 21.17847	00 27 08.39	+14 18 41.9			675
/1949 III	1949	11 22.12202	00 33 36.58	+14 37 48.3			675
/1949 III	1949	11 25.12639	00 52 47.56	+15 30 46.3			675
/1949 III	1949	11 25.13681	00 52 50.88	+15 30 55.3			675
		Comet Johnson (1950 I)					
/1950 I	1951	03 08.19589	03 45 05.40	+57 35 55.3			672
/1950 I	1951	03 08.20753	03 45 05.53	+57 35 48.1			672
		Periodic Comet Arend-Rigaux					
/1950 VII	1951	02 08.24650	07 25 04.65	+24 47 30.1			672
		Comet Pajdusakova (1951 II)					
/1951 II	1951	02 06.57578	20 39 35.59	+17 36 03.0			672
/1951 II	1951	02 06.57709	20 39 35.82	+17 36 09.4			672
/1951 II	1951	04 02.14443	05 09 22.04	+48 45 28.3			672
/1951 II	1951	04 02.14790	05 09 23.20	+48 45 18.3			672
/1951 II	1951	05 05.20876	06 55 20.89	+30 27 09.4			672
		Periodic Comet Tuttle-Giacobini-Kresak					
/1951 IV	1951	05 02.23325	09 10 33.95	+32 36 14.8			672
/1951 IV	1951	05 03.31103	09 15 22.60	+32 51 34.6			672
/1951 IV	1951	05 04.28777	09 19 49.57	+33 04 51.5			672
/1951 IV	1951	05 04.29026	09 19 50.03	+33 04 53.1			672
/1951 IV	1951	05 04.29182	09 19 50.65	+33 04 54.6			672
/1951 IV	1951	05 04.29460	09 19 51.41	+33 04 56.2			672
/1951 IV	1951	05 04.29634	09 19 51.84	+33 04 57.6			672
/1951 IV	1951	05 05.23880	09 24 13.77	+33 17 06.4			672
/1951 IV	1951	05 05.24157	09 24 14.58	+33 17 08.4			672
/1951 IV	1951	07 10.27718	14 45 09.19	+13 41 46.9			672
		Periodic Comet Neujmin 3					
/1951 V	1951	05 05.47387	21 30 56.42	-11 44 36.3			672
/1951 V	1951	05 05.48341	21 30 57.44	-11 44 32.1	18.6N		672
		Periodic Comet Kopff					
/1951 VII	1951	05 03.33342	11 55 47.54	-09 57 40.9			672
/1951 VII	1951	05 03.34592	11 55 47.09	-09 57 34.6			672

Periodic Comet Arend

/1951 X	1951	10	27.21575	00	33	31.39	+28	51	15.3	15.9N	672
/1951 X	1951	10	27.21888	00	33	31.16	+28	51	17.8		672
/1951 X	1951	12	23.26968	00	39	53.46	+34	50	36.1	17.8N	672
/1951 X	1952	01	27.24951	01	45	59.57	+38	13	24.1	18.3N	672
/1951 X	1952	02	19.25972	02	43	18.27	+40	09	48.1	19.3N	672

Comet Wilson-Harrington (1952 I)

/1952 I	1951	08	31.16613	16	43	15.20	-10	35	32.8		672

Periodic Comet Comas Sola

/1952 VII	1951	08	05.38384	00	24	59.45	-15	08	59.0		672
/1952 VII	1951	08	05.39825	00	24	59.31	-15	09	01.8		672
/1952 VII	1951	08	06.40677	00	24	51.37	-15	13	33.7		672
/1952 VII	1951	08	06.41441	00	24	51.31	-15	13	36.2		672
/1952 VII	1951	08	07.42986	00	24	42.15	-15	18	14.8		672
/1952 VII	1951	08	09.38611	00	24	21.30	-15	27	25.7		672

Comet Harrington (1953 I)

/1953 I	1952	09	25.16324	23	06	59.81	+63	03	59.9		672
/1953 I	1952	10	17.13817	23	00	53.98	+53	39	48.1		672
/1953 I	1952	11	24.13492	23	37	31.49	+21	12	18.0		672
/1953 I	1953	01	18.14965	01	21	02.97	-10	49	12.4		672
/1953 I	1953	01	18.15278	01	21	03.35	-10	49	15.7		672

Comet Mrkos-Honda (1953 III)

/1953 III	1953	04	14.47241	21	16	03.36	+18	59	12.4	16.2N	672
/1953 III	1953	04	14.50644	21	16	08.78	+19	01	52.2		672

Periodic Comet Harrington-Abell

/1954 XIII	1955	04	24.33264	11	12	20.29	+22	19	58.8		675
/1954 XIII	1955	04	25.23160	11	12	48.31	+22	17	51.1		675
/1954 XIII	1955	04	25.26285	11	12	49.26	+22	17	48.7		675

Comet Haro-Chavira (1956 I)

/1956 I	1955	02	24.18646	03	52	39.07	+27	49	45.2		672

Comet Shoemaker-Holt-Rodriquez (1988h)

/1988h	1990	01	26.58576	07	01	11.33	-57	34	30.7	17.5N	474
/1988h	1990	01	26.59763	07	01	09.99	-57	34	16.0		474
/1988h	1990	02	27.49054	06	26	24.76	-44	38	15.9	17.6N	474
/1988h	1990	02	27.50351	06	26	24.53	-44	37	55.2		474
/1988h	1990	03	25.37228	06	25	01.58	-34	04	23.8	18.0N	474
/1988h	1990	03	25.39034	06	25	01.85	-34	04	01.0		474

Comet Aarseth-Brewington (1989a1)

/1989a1	1990	01	30.40314	22	17	29.17	-34	27	09.5		474
/1989a1	1990	01	30.40453	22	17	29.54	-34	27	05.1		474

Comet Austin (1989c1)

/1989c1	1990	04	23.14514	00	46	36.54	+35	30	56.9		006
/1989c1	1990	04	23.16597	00	46	30.51	+35	31	14.1		006
/1989c1	1990	04	24.16736	00	41	34.78	+35	42	48.3		006
/1989c1	1990	04	24.17292	00	41	33.23	+35	42	51.7		006
/1989c1	1990	04	28.14583	00	21	13.27	+35	58	41.5		006
/1989c1	1990	04	28.15799	00	21	09.35	+35	58	40.5		006
/1989c1	1990	04	29.14306	00	15	52.32	+35	55	37.5		006
/1989c1	1990	04	29.14722	00	15	51.04	+35	55	35.0		006
/1989c1	1990	05	01.15625	00	04	41.99	+35	41	23.6		006

/1989c1	1990	05	01.16146	00	04	40.25	+35	41	20.7		006
/1989c1	1990	05	02.12396	23	59	06.26	+35	30	31.2		006
/1989c1	1990	05	02.12951	23	59	04.31	+35	30	27.3		006
/1989c1	1990	05	05.14757	23	40	26.40	+34	38	59.8		006
/1989c1	1990	05	05.15382	23	40	23.95	+34	38	52.0		006
/1989c1	1990	06	13.45038	16	17	15.04	-31	15	12.7		415
/1989c1	1990	06	15.44638	16	07	33.53	-32	05	15.5		415
/1989c1	1990	06	17.45921	15	59	14.50	-32	45	25.7		415
/1989c1	1990	06	18.43967	15	55	38.33	-33	01	56.2	1	415
/1989c1	1990	06	19.39784	15	52	23.91	-33	16	34.2		415

Comet Levy (1990c)

/1990c	1990	06	05.75729	00	02	30.63	+28	22	51.3	9.5T	372
/1990c	1990	06	17.94134	00	06	08.94	+28	59	50.2		540
/1990c	1990	06	17.94792	00	06	08.96	+28	59	50.3		540
/1990c	1990	06	17.96216	00	06	09.09	+28	59	53.4		540
/1990c	1990	06	17.96810	00	06	09.24	+28	59	54.3		540
/1990c	1990	06	17.98299	00	06	09.34	+28	59	57.2		540
/1990c	1990	06	17.98889	00	06	09.43	+28	59	58.2		540
/1990c	1990	06	20.01215	00	06	28.67	+29	05	41.8		046
/1990c	1990	06	20.01354	00	06	28.68	+29	05	40.3		046
/1990c	1990	06	21.37125	00	06	38.17	+29	09	22.6		657
/1990c	1990	06	21.39208	00	06	38.27	+29	09	24.4		657
/1990c	1990	06	21.99348	00	06	41.65	+29	11	01.2		046
/1990c	1990	06	21.99927	00	06	41.71	+29	11	02.6		046
/1990c	1990	06	23.91842	00	06	48.14	+29	15	56.3		540
/1990c	1990	06	23.93924	00	06	48.15	+29	16	00.5		540
/1990c	1990	06	23.95586	00	06	48.18	+29	16	02.6		503
/1990c	1990	06	23.96007	00	06	48.23	+29	16	03.6		540
/1990c	1990	06	23.98160	00	06	48.23	+29	16	06.5		540
/1990c	1990	06	24.01806	00	06	48.37	+29	16	13.3		046
/1990c	1990	06	24.02361	00	06	48.42	+29	16	14.1		046
/1990c	1990	06	25.00000	00	06	49.16	+29	18	38.1		046
/1990c	1990	06	25.00208	00	06	49.17	+29	18	38.0		046
/1990c	1990	06	26.46389	00	06	47.23	+29	22	04.8		675
/1990c	1990	06	26.97223	00	06	45.48	+29	23	14.3		046
/1990c	1990	06	26.97391	00	06	45.52	+29	23	14.8		046
/1990c	1990	07	01.98815	00	06	00.72	+29	33	09.2		503
/1990c	1990	07	01.98815	00	06	00.72	+29	33	09.2		503
/1990c	1990	07	02.96012	00	05	45.34	+29	34	40.1		540
/1990c	1990	07	02.97052	00	05	45.13	+29	34	42.1		540
/1990c	1990	07	02.98091	00	05	44.96	+29	34	42.9		540
/1990c	1990	07	02.99153	00	05	44.77	+29	34	44.0		540
/1990c	1990	07	04.78903	00	05	09.84	+29	37	16.6	8.9T	372
/1990c	1990	07	08.36007	00	03	33.61	+29	40	30.9		657
/1990c	1990	07	09.34201	00	02	59.97	+29	40	56.6		657
/1990c	1990	07	14.39479	23	59	10.71	+29	39	13.7		657
/1990c	1990	07	15.37743	23	58	13.68	+29	37	57.6		657
/1990c	1990	07	16.31979	23	57	14.52	+29	36	21.8		657
/1990c	1990	07	17.99811	23	55	17.68	+29	32	39.5		503
/1990c	1990	07	17.99811	23	55	17.68	+29	32	39.5		503
/1990c	1990	07	20.96541	23	51	11.63	+29	22	36.7		503
/1990c	1990	07	20.96541	23	51	11.63	+29	22	36.7		503

Periodic Comet Peters-Hartley

/1990d	1990	06	25.21927	13	05	32.17	-25	58	31.7		675
/1990d	1990	06	25.25417	13	05	37.30	-25	57	44.9		675
/1990d	1990	06	26.18802	13	08	07.77	-25	35	59.2		675

Periodic Comet Honda-Mrkos-Pajdusakova

/1990f	1990	06	17.42902	22	24	10.48	-13	46	41.5		21	N		675
/1990f	1990	06	17.43586	22	24	11.49	-13	46	38.3					675
/1990f	1990	06	18.43466	22	26	43.43	-13	38	19.0				2	675
/1990f	1990	06	18.44069	22	26	44.27	-13	38	16.2				2	675
/1990f	1990	06	18.44622	22	26	45.13	-13	38	13.3				2	675
/1990f	1990	06	18.45188	22	26	45.94	-13	38	10.3					675
/1990f	1990	07	15.46236	00	21	32.35	-06	43	40.7					675
/1990f	1990	07	15.46582	00	21	33.92	-06	43	34.5					675
/1990f	1990	07	15.46927	00	21	35.40	-06	43	28.3					675
/1990f	1990	07	15.47306	00	21	37.05	-06	43	21.8					675

Comet McNaught-Hughes (1990g)

/1990g	1990	06	19.55397	17	38	50.97	-65	32	04.5		17	T		413
/1990g	1990	06	19.59078	17	38	42.06	-65	31	49.8					413
/1990g	1990	06	20.61933	17	33	45.04	-65	23	29.6					413
/1990g	1990	06	20.63221	17	33	41.34	-65	23	23.1					413
/1990g	1990	06	21.38729	17	30	06.04	-65	16	42.4					413
/1990g	1990	06	21.78733	17	28	11.57	-65	12	59.9					413
/1990g	1990	06	22.39919	17	25	19.13	-65	07	01.7					413
/1990g	1990	06	22.68414	17	23	57.85	-65	04	10.2					413
/1990g	1990	06	22.79450	17	23	26.65	-65	03	01.1					413
/1990g	1990	06	23.44047	17	20	26.13	-64	56	14.9					413
/1990g	1990	06	29.72269	16	52	27.78	-63	32	53.0				3	413
/1990g	1990	07	21.43634	15	43	59.44	-55	59	03.4					413
/1990g	1990	07	21.44653	15	43	57.83	-55	58	47.4					413

Periodic Comet Johnson

/1990h	1990	05	26.71597	19	12	41.20	-13	52	41.6		19	N	4	372
/1990h	1990	05	26.72948	19	12	41.14	-13	52	42.2				4	372
/1990h	1990	06	17.37291	19	06	08.34	-15	15	42.3		18	N	5	675
/1990h	1990	06	17.38258	19	06	08.01	-15	15	45.8				5	675
/1990h	1990	06	18.34399	19	05	36.27	-15	20	58.5				5	675
/1990h	1990	06	18.35634	19	05	35.81	-15	21	02.9				5	675
/1990h	1990	06	18.37122	19	05	35.29	-15	21	07.9				5	675

Comet Tsuchiya-Kiuchi (1990i)

/1990i	1990	07	13.52222	12	31	42.87	+31	13	42.3		8	T		899
/1990i	1990	07	13.54826	12	31	40.23	+31	12	59.1					899
/1990i	1990	07	17.24972	12	23	12.38	+29	42	20.2					657
/1990i	1990	07	17.26014	12	23	10.89	+29	42	04.1					657
/1990i	1990	07	17.50590	12	22	39.81	+29	36	08.2		9	T		391
/1990i	1990	07	17.51667	12	22	38.67	+29	35	51.4		9	T		391
/1990i	1990	07	18.09282	12	21	25.94	+29	21	54.4					801
/1990i	1990	07	18.09755	12	21	25.42	+29	21	47.3					801
/1990i	1990	07	18.24208	12	21	07.18	+29	18	15.2					657
/1990i	1990	07	18.24764	12	21	06.72	+29	18	10.1					657
/1990i	1990	07	18.25632	12	21	05.64	+29	17	58.1					657
/1990i	1990	07	19.06980	12	19	26.4	+28	58	21					801
/1990i	1990	07	19.07434	12	19	26.0	+28	58	15					801
/1990i	1990	07	19.24660	12	19	05.16	+28	54	05.0					657
/1990i	1990	07	19.25285	12	19	04.53	+28	53	56.5					657
/1990i	1990	07	19.26118	12	19	03.39	+28	53	44.8					657
/1990i	1990	07	19.55521	12	18	28.38	+28	46	40.0		9	T		394
/1990i	1990	07	20.06213	12	17	29.02	+28	34	34.4					801
/1990i	1990	07	20.06694	12	17	28.46	+28	34	28.0					801
/1990i	1990	07	20.25840	12	17	06.28	+28	29	50.2					657
/1990i	1990	07	21.37963	12	14	59.08	+28	03	20.6					413
/1990i	1990	07	22.10129	12	13	39.83	+27	46	11.5					801

Note 1: poor image. 2: possibly a very faint fantail 15" long in p.a. 260 . 3: possible 0′.4 tail in p.a. 100 . 4: prerecovery images. 5: images stellar within the limits of seeing.

* * * * *

OBSERVATIONS OF MINOR PLANETS.

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

A earlier approximate position inferior
a sense of motion ambiguous
B black or dark plate
b bad seeing
C correction to earlier position
c crowded star field
D declination uncertain
d diffuse image
E at or near edge of plate
F faint image
f involved with emulsion or plate flaw
G poor guiding
g no guiding
I involved with star
i inkdot measured
M measurement difficult
N near edge of plate, measurement uncertain
O image out of focus
o plate measured in one direction only
P position uncertain
p poor image
R right ascension uncertain
r poor distribution of reference stars
S poor sky
s streaked image
T time uncertain
t trailed image
U uncertain image
u unconfirmed image
V very faint image
W weak image
w weak solution

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
033 Tautenburg							
S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany							
Observer F. Borngen							
1.3-m Schmidt telescope							
SAOC							
1989 AP6	1990 02	24.12014	13 43 18.68	+03 43 01.7	18.9		033
1989 AP6	1990 05	18.87986	12 57 20.32	+09 26 24.3		V	033
1989 AP6	1990 05	18.94861	12 57 18.84	+09 26 18.9	18.8		033
1989 AP6	1990 05	19.88472	12 57 00.72	+09 25 03.4			033
1990 HR	1990 05	19.93611	14 46 04.53	-13 45 49.4	17.1		033

1990	HR		1990	05	19.95833	14	46	03.28	-13	45	51.5	033
1990	HR		1990	05	20.90694	14	45	13.64	-13	47	15.1	033
1990	KP1	*	1990	05	19.93611	14	49	46.14	-13	17	04.0	16.5 033
1990	KP1		1990	05	19.95833	14	49	44.95	-13	17	03.7	033
1990	KP1		1990	05	20.90694	14	48	56.63	-13	16	19.7	033
561			1990	05	19.93611	14	58	21.51	-14	50	06.8	17.5 033
561			1990	05	19.95833	14	58	20.53	-14	50	03.3	033
561			1990	05	20.90694	14	57	39.17	-14	47	05.3	N 033
1502			1990	05	19.93611	14	57	52.53	-13	58	57.5	16.8 033
1502			1990	05	19.95833	14	57	51.41	-13	58	51.4	033
1502			1990	05	20.90694	14	57	06.16	-13	54	39.0	033
1511			1990	05	19.93611	14	48	37.33	-12	10	49.4	16.2 033
1511			1990	05	19.95833	14	48	36.10	-12	10	47.8	033
1511			1990	05	20.90694	14	47	45.79	-12	09	40.0	033
1615			1990	05	19.93611	14	53	02.94	-14	13	35.5	17.6 033
1615			1990	05	19.95833	14	53	02.07	-14	13	30.5	I 033
1615			1990	05	20.90694	14	52	21.32	-14	10	35.7	V 033
1845			1990	05	18.87986	12	52	50.65	+08	05	25.0	033
1845			1990	05	18.94861	12	52	49.64	+08	05	21.9	17.7 033
1845			1990	05	19.88472	12	52	37.10	+08	04	34.8	033
4029			1990	05	19.93611	14	53	24.04	-13	34	30.0	16.7 033
4029			1990	05	19.95833	14	53	22.96	-13	34	20.9	033
4029			1990	05	20.90694	14	52	39.92	-13	28	20.3	033

046 Klet
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Observers A. Mrkos, Z. Vavrova
0.6-m Maksutov reflector

1986	UT		1990	06	19.93677	16	27	54.51	-21	41	09.2	046
1986	UT		1990	06	19.94950	16	27	53.84	-21	41	04.7	046
1986	UT		1990	06	24.92847	16	24	41.90	-21	17	44.7	046
1986	UT		1990	06	24.95174	16	24	40.98	-21	17	39.0	046
1987	XD		1990	06	19.96806	16	52	16.56	-12	53	56.0	046
1987	XD		1990	06	19.98090	16	52	15.89	-12	53	59.9	046
1987	XD		1990	06	23.97812	16	49	11.80	-13	03	31.6	046
1987	XD		1990	06	23.99236	16	49	10.91	-13	03	35.1	046
1990	KA		1990	06	19.90616	15	39	58.96	-05	01	55.4	046
1990	KA		1990	06	19.91750	15	40	00.20	-05	02	13.0	046
1990	KV		1990	05	29.96530	16	05	45.53	-16	45	43.7	17.0 046
1990	KV		1990	05	29.97815	16	05	44.91	-16	45	35.1	046
1990	KX		1990	05	29.96530	16	08	29.04	-13	34	42.9	15.0 046
1990	KX		1990	05	29.97815	16	08	28.30	-13	34	43.7	046
898			1990	06	19.96806	16	53	06.56	-14	29	39.8	046
898			1990	06	19.98090	16	53	06.02	-14	29	32.2	046
898			1990	06	23.97812	16	50	53.47	-13	46	01.6	046
898			1990	06	23.99236	16	50	52.93	-13	45	52.3	046
898			1990	06	26.90806	16	49	30.36	-13	16	13.0	046
898			1990	06	26.92235	16	49	29.92	-13	16	04.3	046
1120			1990	05	29.96530	15	56	36.58	-13	22	56.7	046
1120			1990	05	29.97815	15	56	35.64	-13	22	54.3	046
1286			1990	06	26.94428	17	42	02.70	-09	12	50.3	046
1286			1990	06	26.95713	17	42	02.09	-09	12	50.2	046
1952			1990	05	29.96530	15	58	35.43	-14	58	58.0	046
1952			1990	05	29.97815	15	58	34.85	-14	58	58.0	046
2287			1990	05	29.96530	15	58	19.12	-15	19	01.8	046
2287			1990	05	29.97815	15	58	18.29	-15	19	04.3	046
2633			1990	06	19.93677	16	31	46.72	-23	37	14.9	046
2633			1990	06	19.94950	16	31	45.91	-23	37	14.9	046

2633		1990	06	23.94583	16	27	58.39	-23	36	07.1	046
2633		1990	06	23.95868	16	27	57.65	-23	36	08.8	046
2633		1990	06	24.92847	16	27	05.25	-23	35	47.9	046
2633		1990	06	24.95174	16	27	04.30	-23	35	49.4	046
3454		1990	05	29.96530	16	08	20.38	-14	00	21.7	046
3454		1990	05	29.97815	16	08	19.35	-14	00	14.6	046
3788		1990	06	26.94428	17	37	11.57	-11	39	43.2	046
3788		1990	06	26.95713	17	37	11.09	-11	39	45.1	046
4188		1990	06	19.96806	16	56	09.67	-13	49	22.1	046
4188		1990	06	19.98090	16	56	08.86	-13	49	24.6	046
4528		1990	06	19.90616	15	38	20.57	-06	11	21.1	046
4528		1990	06	19.91750	15	38	20.12	-06	11	21.6	046

071 Bulgarian National Observatory
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Observers V. G. Shkodrov, V. G. Ivanova, Ch. Dinev, V. I. Umlenski,
A. Stoev
Measurer V. I. Umlenski

1977	HH1		1989	09	02.85388	22	08	07.40	-11	49	45.2	071
1977	HH1		1989	09	02.93478	22	08	03.80	-11	50	03.2	071
1977	HH1		1989	09	03.86764	22	07	24.50	-11	53	32.2	071
1977	HH1		1989	09	03.90567	22	07	22.90	-11	53	40.5	071
1979	OK15		1989	08	06.94591	22	18	17.30	-08	29	10.3	071
1979	OK15		1989	08	06.96547	22	18	16.60	-08	29	20.2	071
1986	UG		1989	09	03.86764	22	11	32.30	-13	17	23.0	071
1986	UG		1989	09	03.90567	22	11	30.10	-13	17	38.7	071
1987	CJ		1989	09	02.85388	22	01	46.50	-11	03	35.0	071
1987	CJ		1989	09	02.93478	22	01	43.00	-11	04	08.2	071
1987	CJ		1989	09	03.86764	22	01	04.80	-11	10	23.1	071
1987	CJ		1989	09	03.90567	22	01	03.30	-11	10	38.5	071
1989	PV1	*	1989	08	05.86698	18	51	25.90	-14	54	18.0	071
1989	PV1		1989	08	05.90274	18	51	25.20	-14	54	29.2	071
1989	PW1	*	1989	08	06.88804	21	45	17.00	-07	13	45.0	071
1989	PW1		1989	08	06.92578	21	45	13.50	-07	13	24.9	071
1989	PX1	*	1989	08	06.88804	21	46	42.90	-09	34	22.3	071
1989	PX1		1989	08	06.92578	21	46	39.90	-09	34	16.6	071
1989	RM4	*	1989	09	02.83266	21	34	31.00	-15	49	44.5	071
1989	RM4		1989	09	02.87433	21	34	29.40	-15	50	05.6	071
1989	RM4		1989	09	03.84884	21	33	54.20	-15	58	17.1	071
1989	RM4		1989	09	03.88690	21	33	52.90	-15	58	35.5	071
1989	RN4	*	1989	09	02.85388	22	00	00.60	-09	46	59.6	071
1989	RN4		1989	09	02.93478	21	59	56.80	-09	47	20.0	071
1989	RN4		1989	09	03.86764	21	59	16.20	-09	50	51.7	071
1989	RN4		1989	09	03.90567	21	59	14.30	-09	51	00.9	071
1989	RO4	*	1989	09	02.85388	22	05	55.60	-14	06	01.1	071
1989	RO4		1989	09	02.93478	22	05	51.50	-14	06	12.5	071
1989	RO4		1989	09	03.86764	22	05	08.70	-14	08	26.7	071
1989	RO4		1989	09	03.90567	22	05	06.80	-14	08	31.3	071
1989	RP4	*	1989	09	02.85388	22	06	02.50	-10	36	41.3	071
1989	RP4		1989	09	02.93478	22	05	58.90	-10	38	09.0	071
1989	RP4		1989	09	03.90567	22	04	50.80	-10	46	27.6	071
1989	RQ4	*	1989	09	02.85388	22	09	37.00	-09	56	03.5	071
1989	RQ4		1989	09	02.93478	22	09	32.80	-09	56	19.9	071
1989	RQ4		1989	09	03.86764	22	08	45.30	-09	59	07.1	071
1989	RQ4		1989	09	03.90567	22	08	43.30	-09	59	14.1	071
1989	RR4	*	1989	09	02.85388	22	13	42.50	-12	33	29.7	071
1989	RR4		1989	09	02.93478	22	13	39.40	-12	34	14.9	071
1989	RS4	*	1989	09	02.85388	22	15	59.40	-10	37	42.5	071

1989	RS4		1989	09	02.93478	22	15	54.30	-10	37 29.9	071
1989	RT4	*	1989	09	02.85388	22	17	08.60	-11	50 51.5	071
1989	RT4		1989	09	02.93478	22	17	04.90	-11	51 09.7	071
1989	RT4		1989	09	03.86764	22	16	22.80	-11	54 34.6	071
1989	RT4		1989	09	03.90567	22	16	21.00	-11	54 43.0	071
1989	WC3		1989	12	22.85427	04	03	00.08	+19	22 08.3	071
21			1989	12	22.85427	04	06	52.33	+20	20 39.3	071
226			1989	08	05.84834	18	17	50.20	-12	29 20.9	071
226			1989	08	05.88353	18	17	49.60	-12	29 47.2	071
299			1989	12	01.93083	04	34	08.82	+21	33 00.7	071
299			1989	12	02.00919	04	34	03.58	+21	32 46.4	071
380			1989	12	22.85427	04	16	11.64	+17	56 42.7	071
568			1989	12	01.93083	04	36	05.35	+21	46 37.1	071
568			1989	12	02.00919	04	36	00.68	+21	45 45.2	071
568			1989	12	22.85427	04	18	26.46	+18	01 45.7	071
596			1989	12	01.93083	04	43	25.04	+22	37 21.2	071
596			1989	12	02.00919	04	43	20.40	+22	37 28.1	071
673			1989	12	22.85427	04	09	16.89	+19	04 42.2	071
717			1989	09	02.83266	21	35	45.20	-15	06 12.7	071
717			1989	09	02.87433	21	35	43.50	-15	06 18.6	071
717			1989	09	03.84884	21	35	04.10	-15	08 38.9	071
717			1989	09	03.88690	21	35	02.60	-15	08 43.5	071
799			1989	08	05.92149	18	56	57.70	-16	27 27.4	071
799			1989	08	05.96212	18	56	56.30	-16	27 36.3	071
940			1989	12	01.93083	04	48	17.29	+22	53 43.5	071
940			1989	12	02.00919	04	48	13.06	+22	53 44.4	071
1251			1989	08	05.94059	20	00	29.60	-17	41 45.8	071
1251			1989	08	05.98069	20	00	27.70	-17	41 59.9	071
1295			1989	12	22.85427	04	14	32.88	+17	23 25.9	071
1303			1989	12	22.85427	04	02	09.13	+20	06 42.0	071
1363			1989	08	05.94059	19	42	09.70	-19	38 16.4	071
1363			1989	08	05.98069	19	42	08.00	-19	38 20.9	071
1621			1989	08	06.94591	22	13	04.60	-07	20 56.5	071
1621			1989	08	06.96547	22	13	03.70	-07	21 02.4	071
1621			1989	08	07.92693	22	12	18.10	-07	26 06.3	071
1621			1989	08	07.97159	22	12	15.90	-07	26 20.1	071
1621			1989	08	08.90908	22	11	30.40	-07	31 25.9	071
1621			1989	08	08.95016	22	11	28.20	-07	31 39.4	071
2233			1989	12	01.93083	04	29	19.65	+21	33 32.3	071
2233			1989	12	02.00919	04	29	14.19	+21	33 10.9	071
2467			1989	08	07.92693	22	23	30.20	-06	30 49.3	071
2467			1989	08	07.97159	22	23	28.00	-06	30 43.2	071
2467			1989	08	08.90908	22	22	42.60	-06	29 09.5	071
2467			1989	08	08.95016	22	22	40.60	-06	29 06.8	071
2595			1989	09	02.83266	21	40	29.20	-14	06 47.3	071
2595			1989	09	02.87433	21	40	27.40	-14	07 04.6	071
2595			1989	09	03.84884	21	39	45.80	-14	14 02.2	071
2595			1989	09	03.88690	21	39	44.20	-14	14 15.4	071
2616			1989	09	02.83266	21	29	29.70	-15	00 51.1	071
2616			1989	09	02.87433	21	29	27.70	-15	01 03.4	071
2616			1989	09	03.84884	21	28	43.40	-15	05 37.9	071
2616			1989	09	03.88690	21	28	41.70	-15	05 48.8	071
2817			1989	08	06.88804	21	46	55.00	-08	57 42.4	071
2817			1989	08	06.92578	21	46	53.10	-08	57 50.3	071
2870			1989	12	01.95560	04	22	39.45	+19	09 21.4	071
2870			1989	12	22.85427	04	03	23.23	+19	22 58.9	071
2884			1989	09	02.85388	22	13	48.10	-13	52 21.3	071
2884			1989	09	02.93478	22	13	44.30	-13	52 42.0	071
2884			1989	09	03.86764	22	13	01.20	-13	56 16.4	071

2884		1989 09 03.90567	22 12 59.60	-13 56 26.0						071
3591		1989 09 02.85388	22 00 50.00	-13 43 55.1						071
3591		1989 09 02.93478	22 00 46.50	-13 44 11.2						071
3591		1989 09 03.86764	22 00 06.70	-13 47 20.1						071
3639		1989 12 22.85427	04 18 44.39	+19 11 26.9						071
4030		1989 09 02.85388	22 13 08.70	-12 36 12.3						071
4030		1989 09 02.93478	22 13 03.80	-12 36 20.8						071
4030		1989 09 03.86764	22 12 10.40	-12 37 39.7						071
4030		1989 09 03.90567	22 12 08.30	-12 37 43.8						071

095 Crimean Astrophysical Observatory
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Observers N. S. Chernykh, L. I. Chernykh, L. G. Karachkina, L. V. Zhuravleva

3553	P-L	1990 03 20.85816	10 57 31.14	-02 53 24.1				16.3	V	095
3553	P-L	1990 03 20.87853	10 57 29.99	-02 53 18.7				16.3	V	095

323 Perth
M. P. Candy, Perth Observatory, Bickley, WA 6076, Australia
Observer G. Lowe
0.3-m astrograph

1990	MA	1990 06 24.54514	15 52 22.98	-14 03 26.4						323
1990	MA	1990 06 25.61597	15 50 13.18	-14 51 03.7						323
1990	MA	1990 06 26.51806	15 48 27.56	-15 30 43.3						323

413 Siding Spring
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia
Observers M. Hartley, P. McGee, R. H. McNaught, K. S. Russell
Measurer R. H. McNaught
1.2-m U.K. Schmidt and Uppsala Southern Schmidt

1927	TC	1990 06 19.79962	22 06 36.53	-27 25 33.4						413
1927	TC	1990 06 20.82594	22 08 43.38	-27 14 46.6				14	V	413
1927	TC	1990 06 22.78465	22 12 43.56	-26 53 33.7				14	V	413
1927	TC	1990 07 21.67546	23 02 52.45	-19 33 25.3				14.5	V	413
1975	VV2	1980 07 19.66483	22 05 21.86	-40 17 36.6				17	V	413
1975	VV2	1980 07 19.70997	22 05 20.36	-40 17 56.9						413
1980	OM *	1980 07 19.66483	22 03 44.31	-40 39 45.2				16.5	V	413
1980	OM	1980 07 19.70997	22 03 42.23	-40 39 56.9						413
1980	PB3	1980 07 19.66483	22 00 25.83	-41 39 15.6				17	V	413
1980	PB3	1980 07 19.70997	22 00 24.06	-41 39 35.0						413
1980	PC3	1980 07 19.66483	21 57 55.07	-40 51 22.4				17	V	413
1980	PC3	1980 07 19.70997	21 57 54.17	-40 51 58.6						413
1980	PE3	1980 07 19.66483	22 06 11.26	-38 26 53.2				17	V	413
1980	PE3	1980 07 19.70997	22 06 09.72	-38 27 24.6						413
1990	FR	1990 05 19.48661	13 11 29.99	+18 03 35.0						413
1990	FR	1990 05 19.56215	13 11 30.20	+18 02 37.0						413
1990	FS1	1990 05 19.47304	12 01 24.34	+18 18 05.6						413
1990	HK1	1990 05 19.63885	14 37 19.80	-33 33 53.4						413
1990	HL1	1990 05 19.65752	14 54 09.72	-22 40 37.0						413
1990	HL1	1990 05 19.67219	14 54 09.30	-22 40 09.8						413
1990	HL1	1990 06 28.49864	14 57 35.14	-07 30 00.4						413
1990	HL1	1990 06 28.52975	14 57 36.41	-07 29 35.6						413
1990	HL1	1990 06 29.41301	14 58 15.27	-07 18 05.8					V	413
1990	HL1	1990 06 29.44411	14 58 16.40	-07 17 44.2					V	413
1990	KG	1990 06 15.50771	15 39 36.18	+02 21 51.4						413

1990	KJ		1990	06	15.50771	15	33	59.81	+02	28	34.2			413
1990	KO		1990	06	29.43203	16	37	57.97	+02	20	15.3			413
1990	KO		1990	06	29.52111	16	37	54.45	+02	21	30.4	15.5V		413
1990	KO		1990	06	29.58361	16	37	51.84	+02	22	22.2			413
1990	KO		1990	06	29.67426	16	37	48.29	+02	23	36.9			413
1990	KR		1990	06	15.50771	15	38	00.91	+01	17	43.3			413
1990	LA		1990	06	15.50771	15	41	07.80	+01	57	54.8			413
1990	LA		1990	06	29.58685	15	36	06.71	+01	18	13.3			413
1990	LA		1990	06	29.64921	15	36	05.84	+01	17	58.0			413
1990	MA	*	1990	06	22.49108	15	56	41.27	-12	30	50.2	15 V		413
1990	MA		1990	06	22.53274	15	56	35.74	-12	32	42.0			413
1990	MA		1990	06	28.50874	15	44	43.00	-16	56	42.4	16 V		413
1990	MA		1990	06	29.42223	15	43	05.16	-17	35	26.8			413
1990	MA		1990	06	29.66061	15	42	39.10	-17	45	24.3			413
1990	MB		1990	06	29.43203	16	41	25.40	+01	27	30.3	17 V	V	413
1990	MB		1990	06	29.67426	16	41	10.82	+01	32	54.7		p	413
1990	MF		1990	06	14.54385	16	30	48.23	-09	35	30.6	14.3V		413
1990	MF		1990	06	22.63575	16	25	39.75	-02	49	43.5	15.5V		413
1990	MF		1990	06	22.64964	16	25	39.01	-02	48	53.7			413
1990	MF		1990	06	28.48843	16	21	28.99	+06	14	45.4		p	413
1990	MF		1990	06	28.51763	16	21	26.20	+06	18	29.1			413
1990	MF		1990	06	29.39873	16	20	48.02	+08	16	32.3			413
1990	MF		1990	06	29.40035	16	20	47.89	+08	16	46.0			413
1990	MF		1990	06	29.40278	16	20	47.70	+08	17	06.5			413
1990	MF		1990	06	29.59387	16	20	28.79	+08	44	30.6			413
1990	MF		1990	06	29.59572	16	20	28.63	+08	44	46.6			413
1990	MF		1990	06	29.68472	16	20	21.19	+08	57	38.6			413
1990	MF		1990	06	29.68646	16	20	21.05	+08	57	53.4			413
1990	MH	*	1990	06	20.67797	20	42	48.72	-43	43	51.2	16 V		413
1990	MH		1990	06	20.74047	20	42	46.79	-43	44	13.2			413
1990	MH		1990	06	22.71219	20	41	50.93	-43	55	59.2			413
1990	MK		1990	06	29.52111	16	29	09.85	-02	45	52.8	16.5V		413
1990	MK		1990	06	29.58361	16	29	07.53	-02	46	23.2			413
1990	MT	*	1990	06	23.77851	21	18	04.15	-43	53	58.7	17 V		413
1990	MT		1990	06	23.82017	21	18	03.96	-43	54	16.8			413
1990	MT		1990	06	29.73096	21	17	03.30	-44	43	28.9			413
1990	MT		1990	06	29.79346	21	17	02.07	-44	43	55.2			413
1990	MU	*	1990	06	23.77851	21	32	05.17	-42	59	58.8	17 V		413
1990	MU		1990	06	23.82017	21	32	00.43	-43	01	06.7			413
1990	MU		1990	06	29.73096	21	19	31.38	-45	40	54.8		F	413
1990	MU		1990	06	29.79346	21	19	22.07	-45	42	30.4		V	413
1990	OA		1990	07	21.66250	20	39	58.85	-12	40	05.5	15.5V		413
1990	OA		1990	07	21.66597	20	39	59.12	-12	40	10.7			413
1990	OA		1990	07	21.66944	20	39	59.33	-12	40	16.9			413
2506	P-L		1990	06	29.60259	19	25	25.49	-44	01	01.9		F	413
2506	P-L		1990	06	29.64426	19	25	23.04	-44	01	08.0			413
2045	T-2		1990	06	29.60259	19	30	05.73	-44	03	55.5			413
2045	T-2		1990	06	29.64426	19	30	03.10	-44	04	01.6		p	413
181			1990	06	29.52111	16	34	44.34	+01	16	21.8			413
181			1990	06	29.58361	16	34	42.20	+01	16	09.6			413
191			1990	06	29.46417	15	05	26.44	-02	00	30.7			413
745			1990	06	29.43292	14	47	53.52	+00	23	25.7			413
745			1990	06	29.49542	14	47	52.94	+00	23	05.9			413
1579			1990	06	14.54385	16	38	59.89	-10	59	01.0			413
1659			1990	06	29.60259	19	38	08.56	-43	36	23.8			413
1659			1990	06	29.64426	19	38	05.80	-43	36	26.1			413
1817			1990	06	29.43292	15	08	09.51	-02	15	58.4			413
1817			1990	06	29.49542	15	08	08.55	-02	17	22.6			413
1874			1990	06	22.49108	15	58	11.03	-13	21	59.8			413

1874		1990 06 22.53274	15 58 09.37	-13 21 57.4					413
2303		1990 06 29.46417	15 08 16.36	+01 35 09.6					413
2906		1990 06 19.41200	14 16 42.13	+13 58 20.9					413
2906		1990 06 19.45367	14 16 41.32	+13 57 57.9					413
3389		1990 06 14.54385	16 36 59.73	-11 55 50.6					413
3394		1990 06 14.54385	16 31 07.72	-10 21 09.1					413
3524		1990 06 29.52111	16 32 32.33	-02 15 43.2					413
3897		1990 06 14.54385	16 32 53.55	-11 19 44.5					413

474 Mount John
A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand
Observer A. C. Gilmore
Measurer P. M. Kilmartin
0.25-m astrograph (1) and 0.6-m f/14 Cassegrain reflector
AGK3, SAOC, CPZ, field plates from Carter Observatory

1969	GD	1990 03 25.47459	11 15 25.11	-15 21 34.8			16.1		474
1969	GD	1990 03 25.48466	11 15 24.62	-15 21 31.8					474
1977	FT	1990 03 02.43181	07 05 34.74	-09 07 23.1			18.3		474
1977	FT	1990 03 02.46334	07 05 34.95	-09 06 57.9					474
1982	FN	1990 02 27.52677	10 23 02.96	-07 03 31.0			17.0		474
1982	FN	1990 02 27.53939	10 23 02.48	-07 03 16.9					474
1987	OC	1990 03 23.67367	12 42 59.14	-43 31 38.5			18.2		474
1987	OC	1990 03 23.69867	12 42 57.46	-43 31 38.0					474
1988	NF	1990 01 26.63484	10 37 05.54	-23 17 21.7			18.8		474
1988	NF	1990 01 26.65000	10 37 04.84	-23 17 24.9					474
1988	NF	1990 02 27.56624	10 06 12.92	-23 09 55.7			17.8		474
1988	NF	1990 02 27.57909	10 06 12.00	-23 09 51.3					474
1988	NF	1990 03 23.41175	09 44 48.38	-20 07 07.5			18.4		474
1988	NF	1990 03 23.43015	09 44 47.69	-20 06 57.9					474
1989	BA1	1990 01 30.63057	11 22 37.92	-44 39 56.2			19.1		474
1989	BA1	1990 01 30.65927	11 22 37.16	-44 40 10.7					474
1989	BA1	1990 03 23.46279	10 39 12.63	-44 15 29.3			18.7		474
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4451		1990 01 30.52918	05 49 39.50	-09 36 06.1			17.7		474
4451		1990 01 30.55256	05 49 38.85	-09 35 56.8					474

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From Acta Astronomica

1	1979 09 27.86493	01 14 19.02	-08 19 27.2			553
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420	1979	10	15.00353	02	47	42.98	+20	25	14.0	553
420	1979	10	26.93900	02	39	46.49	+19	36	36.2	553
420	1979	10	26.98831	02	39	44.47	+19	36	24.9	553
433	1981	10	26.89083	02	39	40.67	+53	08	39.7	553
433	1981	10	26.94361	02	39	35.47	+53	09	26.7	553
433	1981	11	02.87639	02	28	06.85	+54	29	12.2	553
433	1981	11	02.94514	02	27	58.54	+54	29	51.0	553
433	1981	11	06.87161	02	20	24.10	+54	56	21.7	553
433	1981	11	06.90219	02	20	19.84	+54	56	34.2	553
433	1982	01	14.73689	02	46	08.73	+33	09	19.0	553
433	1982	01	14.77265	02	46	14.95	+33	08	20.5	553
433	1982	01	15.75382	02	49	18.73	+32	41	48.9	553
433	1982	01	15.79340	02	49	25.77	+32	40	42.2	553
433	1982	01	15.83588	02	49	33.70	+32	39	37.6	553
433	1982	01	16.80874	02	52	38.18	+32	13	19.6	553
433	1982	01	16.85093	02	52	45.83	+32	12	07.0	553
433	1982	01	17.74306	02	55	38.14	+31	48	05.3	553
433	1982	01	17.77222	02	55	43.36	+31	47	25.3	553
433	1982	01	17.79722	02	55	48.08	+31	46	38.5	553
433	1982	01	18.75868	02	58	55.07	+31	20	43.1	553
433	1982	01	18.80208	02	59	03.27	+31	19	32.4	553
433	1982	01	18.84520	02	59	11.58	+31	18	22.4	553
433	1982	02	04.77569	03	58	12.09	+23	54	47.8	553
433	1982	02	05.74792	04	01	44.97	+23	30	13.2	553
433	1982	02	05.77917	04	01	51.52	+23	29	27.1	553
433	1982	02	14.73912	04	34	49.22	+19	49	28.2	553
433	1982	02	14.77662	04	34	57.13	+19	48	33.1	553
433	1982	02	15.74479	04	38	32.08	+19	25	28.7	553
433	1982	02	15.77326	04	38	38.07	+19	24	48.5	553
433	1982	02	15.81215	04	38	46.53	+19	23	53.3	553
433	1982	03	08.77352	05	55	29.11	+11	47	34.3	553
433	1982	03	08.81772	05	55	38.44	+11	46	39.7	553
433	1982	03	12.78409	06	09	48.84	+10	29	56.6	553
433	1982	03	12.81100	06	09	53.05	+10	31	27.6	553
433	1982	03	26.78138	06	58	37.42	+06	22	29.9	553
433	1982	03	26.81882	06	58	44.70	+06	21	46.3	553
433	1982	03	27.82411	07	02	10.96	+06	05	21.5	553
433	1982	03	27.85421	07	02	17.14	+06	04	56.1	553
433	1988	10	03.91335	00	51	49.20	+37	50	05.5	553
433	1988	10	03.92914	00	51	47.25	+37	50	14.8	553
433	1988	10	03.94196	00	51	45.92	+37	50	18.6	553
433	1988	10	04.91024	00	49	58.31	+37	58	27.6	553
433	1988	10	04.92451	00	49	56.66	+37	58	31.7	553
433	1988	10	04.93788	00	49	54.43	+37	58	40.2	553
433	1988	10	04.95098	00	49	53.33	+37	58	44.6	553
532	1977	02	17.82396	05	10	03.66	+19	51	13.3	553
532	1977	03	22.82569	05	33	35.16	+22	59	05.6	553
532	1982	01	15.90625	08	59	35.88	+25	17	52.7	553
532	1982	01	15.94653	08	59	34.10	+25	18	18.3	553
532	1982	01	15.99120	08	59	31.83	+25	18	52.6	553

532		1982 01 16.91228	08	58	49.93	+25	29	42.7		553
532		1982 01 16.96389	08	58	47.63	+25	30	15.7		553
532		1982 01 16.99241	08	58	46.19	+25	30	30.9		553
532		1982 01 17.03090	08	58	44.44	+25	31	02.7		553
532		1982 01 17.95625	08	58	01.41	+25	41	50.6		553
532		1982 01 17.98056	08	58	00.13	+25	42	07.8		553
532		1982 01 18.93889	08	57	14.28	+25	53	24.8		553
532		1982 01 18.95909	08	57	13.31	+25	53	33.8		553
532		1982 01 18.98403	08	57	12.01	+25	53	51.9		553
532		1982 01 19.90660	08	56	26.99	+26	04	40.7		553
532		1982 01 19.94201	08	56	25.08	+26	05	04.7		553
532		1982 01 19.98368	08	56	23.00	+26	05	35.2		553
532		1982 01 20.01979	08	56	21.14	+26	06	00.5		553
532		1982 01 20.97431	08	55	33.32	+26	17	10.0		553
532		1982 02 04.88472	08	41	55.24	+29	01	39.8		553
532		1982 02 04.91319	08	41	53.57	+29	01	57.0		553
532		1982 02 04.95903	08	41	51.04	+29	02	26.2		553
532		1982 02 05.87019	08	41	00.08	+29	11	25.2		553
532		1982 02 05.89236	08	40	58.99	+29	11	43.9		553
532		1982 02 05.89722	08	40	58.70	+29	11	44.1		553
532		1982 02 05.93750	08	40	56.37	+29	12	08.6		553
532		1982 02 15.86771	08	32	13.09	+30	39	27.2		553
532		1982 02 15.89201	08	32	11.89	+30	39	37.4		553
532		1982 02 15.93021	08	32	09.97	+30	39	55.0		553
674		1983 10 08.02558	02	11	48.08	+00	39	13.5		553
674		1983 10 08.05856	02	11	46.41	+00	39	07.1		553
674		1983 10 08.08461	02	11	45.01	+00	39	09.1		553
704		1980 12 05.89888	04	31	07.81	+35	00	03.2		553
704		1980 12 05.94749	04	31	05.21	+34	59	42.4		553
704		1980 12 06.03603	04	30	59.49	+34	58	57.7		553
779		1977 09 13.83681	22	15	32.97	+15	35	24.4		553
790		1977 08 06.88021	20	09	32.92	+06	59	31.1		553

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

1990 MF		1990 06 29.36181	16	20	44.36	+08	09	28.0		568
1990 MF		1990 06 29.36528	16	20	43.92	+08	09	56.9		568
1990 OA		1990 07 21.48230	20	39	45.01	-12	35	07.6	15.6V	568
1990 OA		1990 07 21.59870	20	39	52.76	-12	38	37.9		568

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

124		1990 03 18.88102	09	54	10.44	+10	22	40.3		591
124		1990 03 18.88802	09	54	10.19	+10	22	42.2		591
164		1990 04 01.08342	11	54	19.21	+36	26	52.5		591
164		1990 04 01.09607	11	54	18.51	+36	26	52.7		591
326		1990 02 01.98964	05	58	22.02	+55	20	49.8		591
326		1990 02 01.99798	05	58	21.60	+55	20	46.6		591
432		1990 03 18.92724	11	12	48.00	+26	43	13.7		591
432		1990 03 18.93428	11	12	47.59	+26	43	15.6		591
432		1990 04 01.04139	11	01	21.10	+27	11	35.2		591
432		1990 04 01.04845	11	01	20.79	+27	11	35.2		591
729		1990 03 18.90656	10	00	47.44	+27	38	54.8		591
729		1990 03 18.91950	10	00	47.02	+27	38	58.8		591
907		1990 04 01.06337	11	02	28.34	+33	20	16.9		591
907		1990 04 01.07235	11	02	27.93	+33	20	12.3		591

657 Victoria, Climenhaga Observatory
J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700, Victoria, BC V8W 2Y2, Canada
Observers J. B. Tatum, D. D. Balam

1990 KA		1990 06 21.26153	15 42 10.71	-05 54 04.0					657
1990 MF		1990 07 08.33090	16 04 56.64	+49 39 51.0					657
753		1990 01 18.15424	04 23 14.15	+26 57 43.1					657
839		1990 01 17.23757	08 59 13.30	+27 38 37.6					657
839		1990 01 17.25840	08 59 12.02	+27 38 40.5					657
839		1990 01 18.24486	08 58 11.50	+27 40 38.0					657
839		1990 01 18.25875	08 58 10.59	+27 40 41.6					657
1288		1990 03 29.22958	11 21 50.14	-06 18 04.9					657
2512		1990 01 18.24486	09 08 42.21	+26 56 46.1					657
2512		1990 01 18.25875	09 08 41.44	+26 56 53.3					657
3793		1990 03 29.22958	11 17 05.49	-07 15 43.0					657
4324		1990 01 17.12854	04 17 42.55	+26 35 32.0					657
4324		1990 01 18.15424	04 17 56.77	+26 29 51.8					657
4509		1990 06 21.31812	18 50 58.33	-04 40 00.1					657
4509		1990 06 21.35285	18 50 56.67	-04 39 56.6					657
4509		1990 06 27.31535	18 46 03.14	-04 33 13.9					657
4509		1990 06 27.33687	18 46 02.08	-04 33 12.5					657
4535		1990 06 21.28757	16 12 30.49	-09 19 19.6					657
4535		1990 06 21.32507	16 12 28.99	-09 19 26.2					657

672 Mount Wilson
L. E. Cunningham, Department of Astronomy, University of California, Berkeley, CA 91120, U.S.A.
Observer L. E. Cunningham
Measurers A. G. Mowbray, J. L. Brady, K. L. Franklin, B. J. Franklin, A. Q. Howard, L. R. Cotter
0.6-m reflector

1951 SY		1951 12 21.22047	02 48 34.35	-16 09 38.0					672
1951 SY		1951 12 22.24061	02 48 51.63	-15 58 46.3					672
1951 SY		1951 12 22.25918	02 48 51.85	-15 58 34.6				18.8	672
1952 SU1		1952 09 23.27730	03 06 45.91	+37 54 38.9					672
1952 SW1	*	1952 09 22.42990	03 19 48.99	+18 07 56.4					672
1952 SW1		1952 09 23.33270	03 19 35.37	+18 10 33.7					672
1952 SW1		1952 09 23.35042	03 19 35.10	+18 10 36.9					672
1952 SW1		1952 09 23.36814	03 19 34.78	+18 10 40.0					672
1952 SW1		1952 09 24.39205	03 19 17.57	+18 13 35.4					672
1952 SW1		1952 09 24.40351	03 19 17.41	+18 13 36.0					672
1952 SW1		1952 09 25.49618	03 18 56.85	+18 16 40.0					672
1952 SW1		1952 10 17.40640	03 05 36.03	+18 59 47.3					672
1952 SW1		1952 10 17.41838	03 05 35.33	+18 59 48.3					672
1952 SW1		1952 10 18.40848	03 04 43.09	+19 00 52.1					672
1952 SW1		1952 10 18.41821	03 04 42.53	+19 00 52.7				18.6	672
1952 SW1		1952 11 21.37050	02 29 49.74	+18 58 33.4					672
1952 SW1		1952 11 21.37874	02 29 49.25	+18 58 33.3					672
538		1951 11 26.46756	10 16 53.15	+09 53 07.8				16.3	672
538		1951 11 26.47363	10 16 53.32	+09 53 07.2					672
1915		1953 04 10.25940	14 37 20.74	+46 54 24.7					672
1915		1953 04 10.26652	14 37 20.98	+46 54 19.3					672
1915		1953 04 10.27572	14 37 21.22	+46 54 13.9				18.9	672
1915		1953 04 12.24602	14 38 31.39	+46 28 23.9					672
1915		1953 04 12.25800	14 38 31.71	+46 28 13.7					672
1915		1953 04 12.26911	14 38 32.01	+46 28 06.3				19.0	672
1951		1952 01 26.35090	08 14 26.96	+06 36 02.7					672
1951		1952 01 26.35298	08 14 26.75	+06 36 11.3					672
4362		1952 09 22.42990	03 19 11.93	+18 11 37.8					672

4362		1952 09 23.33270	03 19 04.40	+18 12 42.1						672
4362		1952 09 23.35042	03 19 04.31	+18 12 42.8						672
4362		1952 09 23.36814	03 19 04.00	+18 12 44.7						672
4362		1952 09 24.39205	03 18 53.36	+18 13 51.9						672
4362		1952 09 24.40351	03 18 53.30	+18 13 51.3				17.7		672
4362		1952 09 25.49618	03 18 39.47	+18 14 57.0						672
4362		1952 10 15.52410	03 07 59.37	+18 12 56.1						672
4362		1952 10 15.53035	03 07 59.09	+18 12 54.9						672
4362		1952 10 15.53521	03 07 58.81	+18 12 55.1				16.8		672
4362		1952 10 17.36438	03 06 26.04	+18 10 36.6						672
4362		1952 10 17.37289	03 06 25.54	+18 10 35.9						672
4362		1952 11 21.39116	02 29 23.48	+16 38 56.5				17.0		672
4362		1952 11 21.39619	02 29 23.17	+16 38 54.9						672

675 Palomar
J. Gibson, OAO Corporation and Jet Propulsion Laboratory, MS 238-332, Pasadena, CA 91109, U.S.A. (1)
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L. E. Cunningham, Dept. of Astronomy, University of California, Berkeley, CA 95420, U.S.A. (8)
9 = 3 + 6
Observers T. Gehrels (4, L), J. Gibson (1, C), R. G. Harrington (8, L), E. Helin (2, S), H. E. Holt (3, S), K. Lawrence (2, S), J. Michaud (3, S), J. Michaud (2, S), B. Roman (2, S), A. R. Sandage (8, R), A. G. Wilson (8, L)
Measurers J. Gibson (1), K. Lawrence (2), J. Michaud (2), A. G. Mowbray (8), C. M. Olmstead (6), B. Roman (2), C. J. van Houten (4), I. van Houten-Groeneveld (4), A. Wisse (4)
1.5-m reflector + CCD (C), 1.2-m (L), 0.46-m (S) Schmidt telescopes, 5-m reflector (R)

1951 SY	*	1951 09 30.42014	03 14 28.40	-06 18 15.2					8	675
1951 SY		1951 09 30.44861	03 14 28.75	-06 18 52.3					8	675
1951 SY		1951 10 02.40208	03 14 53.91	-07 02 00.7					8	675
1951 SY		1951 10 04.39514	03 15 10.36	-07 46 00.2					8	675
1951 SY		1951 10 05.40972	03 15 15.35	-08 08 18.8					8	675
1951 SY		1951 10 07.42361	03 15 18.20	-08 52 25.6					8	675
1954 XA		1954 12 11.39236	06 18 42.63	-30 01 43.8					8	675
1987 QL		1990 06 25.23125	15 30 34.76	-04 55 36.6					2	675
1987 QL		1990 06 25.26163	15 30 34.28	-04 55 42.9					2	675
1987 QL		1990 06 27.22743	15 30 05.31	-05 04 07.6					2	675
1987 QL		1990 06 27.25226	15 30 04.82	-05 04 14.4					2	675
1988 VS4		1990 06 25.23125	15 29 58.33	-08 36 29.8				16.0	2	675
1988 VS4		1990 06 25.26163	15 29 57.85	-08 36 14.5					2	675
1988 VS4		1990 06 27.22743	15 29 35.93	-08 20 49.4					2	675
1988 VS4		1990 06 27.25226	15 29 35.64	-08 20 37.5					2	675
1989 AM		1990 06 27.24028	15 52 57.77	-21 59 55.4					2	675
1989 AM		1990 06 27.26441	15 52 55.92	-22 00 17.8					2	675
1989 AM		1990 06 28.26806	15 51 46.00	-22 16 00.6					2	675
1989 AM		1990 06 28.29375	15 51 44.18	-22 16 23.7					2	675
1989 FW		1990 06 21.41493	21 56 13.91	-18 09 14.7				18.5	9	675
1989 FW		1990 06 21.45955	21 56 14.21	-18 09 29.6					9	675
1989 FW		1990 06 23.40451	21 56 30.76	-18 20 37.5				18.5	9	675
1989 FW		1990 06 23.45555	21 56 31.05	-18 20 54.4					9	675

1990	KA		1990	06	25.24601	15	49	02.86	-08	27	38.3	16.0	2	675
1990	KA		1990	06	27.27326	15	52	46.81	-09	45	20.5		2	675
1990	KA		1990	06	27.29878	15	52	49.47	-09	46	16.5		2	675
1990	KG		1990	06	26.19497	15	35	12.82	+00	13	28.4	16.3	2	675
1990	KG		1990	06	26.22101	15	35	12.45	+00	13	08.7		2	675
1990	KG		1990	06	28.26215	15	34	44.70	-00	13	12.4		2	675
1990	KG		1990	06	28.28733	15	34	44.23	-00	13	33.1		2	675
1990	KJ		1990	06	24.24340	15	27	26.45	-00	29	50.5		2	675
1990	KJ		1990	06	24.27049	15	27	25.68	-00	30	24.3		2	675
1990	KJ		1990	06	27.22083	15	25	50.39	-01	32	54.7		2	675
1990	KJ		1990	06	27.24635	15	25	49.46	-01	33	25.8		2	675
1990	KK		1990	06	25.23837	15	33	20.29	-13	32	27.2		2	675
1990	KK		1990	06	27.23368	15	31	43.83	-14	02	33.7		2	675
1990	KK		1990	06	27.25833	15	31	42.58	-14	02	56.6		2	675
1990	KL		1990	06	25.29740	16	05	18.85	-02	18	14.2		2	675
1990	KL		1990	06	25.35868	16	05	17.30	-02	18	04.6		2	675
1990	KL		1990	06	28.27413	16	04	22.03	-02	13	52.6		2	675
1990	KL		1990	06	28.30000	16	04	21.51	-02	13	52.4		2	675
1990	KM		1990	06	26.20816	16	02	35.18	+03	35	24.4	16.5	2	675
1990	KM		1990	06	26.23385	16	02	34.40	+03	35	26.6		2	675
1990	KM		1990	06	27.28594	16	02	07.68	+03	37	14.7		2	675
1990	KM		1990	06	27.31111	16	02	06.91	+03	37	15.3		2	675
1990	KO		1990	06	26.26163	16	40	04.82	+01	33	39.2	15.7	2	675
1990	KO		1990	06	26.28819	16	40	03.55	+01	34	03.9		2	675
1990	KO		1990	06	28.31302	16	38	40.30	+02	04	16.9		2	675
1990	KO		1990	06	28.36458	16	38	38.11	+02	05	01.1		2	675
1990	KT		1990	06	26.21510	16	18	38.18	+12	21	01.0		2	675
1990	KT		1990	06	26.24010	16	18	37.47	+12	21	02.3		2	675
1990	KT		1990	06	27.29236	16	18	13.18	+12	21	19.4		2	675
1990	KT		1990	06	27.31701	16	18	12.35	+12	21	20.5		2	675
1990	KB1		1990	06	25.29740	16	07	03.63	-05	15	23.5		2	675
1990	KB1		1990	06	25.35868	16	07	01.68	-05	16	05.0		2	675
1990	KB1		1990	06	28.27413	16	05	45.36	-05	49	08.1		2	675
1990	KB1		1990	06	28.30000	16	05	44.62	-05	49	25.9		2	675
1990	LA		1990	06	26.19497	15	36	52.10	+01	31	32.6	16.3	2	675
1990	LA		1990	06	26.22101	15	36	51.84	+01	31	26.2		2	675
1990	LA		1990	06	28.26215	15	36	22.40	+01	23	35.0		2	675
1990	LA		1990	06	28.28733	15	36	21.92	+01	23	30.8		2	675
1990	LB		1990	06	26.19497	15	37	41.44	+00	19	19.2	16.7	2	675
1990	LB		1990	06	26.22101	15	37	40.80	+00	19	16.0		2	675
1990	LB		1990	06	28.26215	15	37	10.80	+00	14	27.2		2	675
1990	LB		1990	06	28.28733	15	37	10.45	+00	14	24.1		2	675
1990	MB	*	1990	06	20.26631	16	51	35.45	-02	32	05.7	17.0	9	675
1990	MB		1990	06	20.30486	16	51	32.24	-02	30	57.1		9	675
1990	MB		1990	06	22.22014	16	49	08.53	-01	35	30.4	17.0	9	675
1990	MB		1990	06	22.26163	16	49	05.28	-01	34	20.1		9	675
1990	MB		1990	06	23.21111	16	47	57.07	-01	07	54.2	17.0	9	675
1990	MB		1990	06	23.26631	16	47	52.87	-01	06	23.6		9	675
1990	MB		1990	06	26.26163	16	44	31.75	+00	12	07.5	16.2	2	675
1990	MB		1990	06	26.28819	16	44	29.85	+00	12	45.9		2	675
1990	MB		1990	07	14.29858	16	33	23.09	+05	32	31.4		1	675
1990	MB		1990	07	14.30428	16	33	23.01	+05	32	35.2		1	675
1990	MB		1990	07	14.31539	16	33	22.85	+05	32	42.4		1	675
1990	MB		1990	07	14.32331	16	33	22.75	+05	32	47.7		1	675
1990	MC	*	1990	06	18.37014	17	19	42.08	+01	01	09.6	16.5	9	675
1990	MC		1990	06	22.27951	17	16	45.37	+01	14	35.3	16.5	9	675
1990	MC		1990	06	22.32222	17	16	43.32	+01	14	42.9		9	675
1990	MC		1990	06	23.29497	17	16	00.44	+01	17	16.0	16.5	9	675
1990	MC		1990	06	23.34688	17	15	57.97	+01	17	23.4		9	675

1990	MD	*	1990	06	22.28906	17	26	09.28	-08	57	14.3	17.5	9 675
1990	MD		1990	06	22.33111	17	26	06.91	-08	57	05.1		9 675
1990	MD		1990	06	23.23559	17	25	17.75	-08	53	49.5		9 675
1990	MD		1990	06	23.27569	17	25	15.39	-08	53	33.7		9 675
1990	ME	*	1990	06	22.28906	17	31	36.20	-04	33	00.8	16.5	9 675
1990	ME		1990	06	22.33111	17	31	33.96	-04	33	04.3		9 675
1990	ME		1990	06	23.23559	17	30	47.88	-04	34	35.8		9 675
1990	ME		1990	06	23.27569	17	30	45.75	-04	34	40.1		9 675
1990	MF	*	1990	06	26.24809	16	23	11.09	+02	03	35.2	15.2	2 675
1990	MF		1990	06	26.27535	16	23	08.81	+02	06	15.1		2 675
1990	MF		1990	06	27.21372	16	22	28.97	+03	43	02.8	15.0	2 675
1990	MF		1990	06	27.37101	16	22	15.64	+04	00	18.1		2 675
1990	MF		1990	06	28.21563	16	21	42.42	+05	38	36.6		2 675
1990	MF		1990	06	28.32118	16	21	32.64	+05	51	33.0		2 675
1990	MF		1990	06	29.25590	16	20	49.60	+07	54	05.9	15.0	2 675
1990	MF		1990	06	29.35000	16	20	40.69	+08	07	11.7		2 675
1990	MG	*	1990	06	21.41493	21	52	48.35	-16	09	06.8	18.0	9 675
1990	MG		1990	06	21.45955	21	52	49.98	-16	09	05.9		9 675
1990	MG		1990	06	23.40451	21	54	16.85	-16	10	05.9	18.0	9 675
1990	MG		1990	06	23.45555	21	54	18.85	-16	10	07.0		9 675
1990	MJ	*	1990	06	28.40781	20	24	07.11	+09	21	56.9	16.2	2 675
1990	MJ		1990	06	28.43247	20	24	06.14	+09	22	44.4		2 675
1990	MJ		1990	06	29.41649	20	23	29.81	+09	55	45.7		2 675
1990	MK	*	1990	06	26.25469	16	31	03.99	-02	20	20.8	16.5	2 675
1990	MK		1990	06	26.28142	16	31	02.90	-02	20	32.2		2 675
1990	MK		1990	06	28.30642	16	29	50.23	-02	36	14.6		2 675
1990	ML	*	1990	06	27.39219	19	03	54.82	-12	38	08.8	17.0	2 675
1990	ML		1990	06	27.41198	19	03	53.57	-12	38	08.5		2 675
1990	ML		1990	06	29.35642	19	02	00.87	-12	38	10.2		2 675
1990	ML		1990	06	29.37847	19	01	59.44	-12	38	10.8		2 675
1990	MM	*	1990	06	27.39219	19	11	24.34	-09	23	37.7	16.5	2 675
1990	MM		1990	06	27.41198	19	11	23.36	-09	23	41.1		2 675
1990	MM		1990	06	29.35642	19	10	01.14	-09	30	43.7		2 675
1990	MM		1990	06	29.37847	19	10	00.15	-09	30	48.2		2 675
1990	MN	*	1990	06	27.39219	18	58	46.04	-11	57	19.5	16.0	2 675
1990	MN		1990	06	27.41198	18	58	44.96	-11	57	26.1		2 675
1990	MN		1990	06	29.35642	18	57	08.36	-12	09	45.6		2 675
1990	MN		1990	06	29.37847	18	57	07.28	-12	09	53.3		2 675
1990	MO	*	1990	06	18.34115	17	58	36.57	-04	01	28.3	17.0	9 675
1990	MO		1990	06	18.38542	17	58	34.46	-04	01	19.5		9 675
1990	MO		1990	06	23.25573	17	54	50.18	-03	46	48.6	17.0	9 675
1990	MO		1990	06	23.28594	17	54	48.70	-03	46	45.4		9 675
1990	MP	*	1990	06	18.34115	18	07	03.19	-06	03	33.2	17.8	9 675
1990	MP		1990	06	18.38542	18	07	01.00	-06	03	21.1		9 675
1990	MP		1990	06	23.25573	18	03	08.19	-05	42	14.6	17.8	9 675
1990	MP		1990	06	23.28594	18	03	06.74	-05	42	07.9		9 675
1990	MQ	*	1990	06	18.43194	20	22	08.04	-12	19	26.0	18.5	9 675
1990	MQ		1990	06	18.47049	20	22	07.20	-12	19	33.2		9 675
1990	MQ		1990	06	21.36285	20	20	59.24	-12	30	40.7	18.5	9 675
1990	MQ		1990	06	21.42413	20	20	57.60	-12	30	56.6		9 675
1990	MR	*	1990	06	18.43194	20	22	37.48	-11	06	40.8	17.5	9 675
1990	MR		1990	06	18.47049	20	22	36.63	-11	06	25.7		9 675
1990	MR		1990	06	21.36285	20	21	38.69	-10	48	21.5	17.5	9 675
1990	MR		1990	06	21.42413	20	21	37.15	-10	47	59.6		9 675
1990	MS	*	1990	06	18.43194	20	31	11.40	-11	30	53.5	18.0	9 675
1990	MS		1990	06	18.47049	20	31	10.52	-11	30	45.9		9 675
1990	MS		1990	06	21.36285	20	30	07.93	-11	21	47.5	18.5	9 675
1990	MS		1990	06	21.42413	20	30	06.41	-11	21	37.2		9 675
1990	MV	*	1990	06	27.38559	18	57	40.43	-25	43	14.5	15.0	2 675

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1990 MV     1990 06 27.40556  18 57 39.25  -25 43 29.8                2 675
1990 MV     1990 06 29.31441  18 56 01.97  -26 08 02.2                2 675
1990 MV     1990 06 29.33628  18 56 00.72  -26 08 18.8                2 675
1990 MW   * 1990 06 27.37899  18 03 07.58  -20 47 23.0          16.0  2 675
1990 MW     1990 06 27.39896  18 03 06.38  -20 47 25.0                2 675
1990 MW     1990 06 29.26753  18 01 21.70  -20 53 05.9                2 675
1990 MW     1990 06 29.29063  18 01 20.32  -20 53 07.4                2 675
1990 MX   * 1990 06 27.38559  18 48 27.77  -27 24 00.7          16.0  2 675
1990 MX     1990 06 27.40556  18 48 26.48  -27 24 07.1                2 675
1990 MX     1990 06 29.31441  18 46 25.81  -27 33 45.8                2 675
1990 MX     1990 06 29.33628  18 46 24.42  -27 33 50.4                2 675
1990 OA   * 1990 07 19.37031  20 36 54.47  -11 31 18.0          15.5  2 675
1990 OA     1990 07 19.40226  20 36 56.73  -11 32 16.8                2 675
1990 OA     1990 07 20.35330  20 38 15.06  -12 01 02.2                2 675
1990 OA     1990 07 20.45365  20 38 22.08  -12 04 03.2                2 675
1990 OA     1990 07 21.24583  20 39 27.77  -12 28 00.5                2 675
1990 OA     1990 07 21.45764  20 39 42.13  -12 34 27.5                2 675
6097 P-L  * 1960 09 24.33613  00 08 01.37  +03 38 47.3          17.9  4 675
6097 P-L    1960 09 25.32502  00 07 08.63  +03 32 59.2                4 675
6097 P-L    1960 09 26.27573  00 06 18.13  +03 27 23.2                4 675
6097 P-L    1960 09 28.32780  00 04 30.00  +03 15 18.0                4 675
6097 P-L    1960 10 17.27085  23 51 01.83  +01 36 13.4                4 675
6097 P-L    1960 10 22.15559  23 48 59.47  +01 18 16.1                4 675
6097 P-L    1960 10 24.18787  23 48 21.20  +01 12 05.0                4 675
6097 P-L    1960 10 26.26113  23 47 50.18  +01 06 33.1                4 675
 323        1989 07 07.20087  14 56 23.38  +03 15 26.0                9 675
 323        1989 07 07.24155  14 56 22.92  +03 15 01.6                9 675
 943        1989 07 07.20087  14 44 44.78  -03 04 32.0                9 675
 943        1989 07 07.24155  14 44 44.89  -03 04 43.2                9 675
1754        1983 04 15.37361  13 17 47.83  +02 19 22.4                2 675
1754        1983 04 15.39583  13 17 46.99  +02 19 30.1                2 675
1754        1983 04 16.27222  13 17 16.28  +02 24 13.2                2 675
1754        1983 04 16.29792  13 17 15.26  +02 24 20.0                2 675
1915        1953 03 14.29307  12 41 03.35  +46 31 06.7                8 675
1915        1953 03 15.33092  12 54 20.50  +47 21 03.7                8 675
1915        1953 03 17.32016  13 15 52.48  +48 23 55.1                8 675
1915        1953 03 19.41321  13 33 46.04  +48 59 18.7          16.2  8 675
1915        1953 06 05.25828  14 45 53.03  +27 48 27.9                8 675
4201        1990 06 27.39219  19 14 56.56  -11 40 53.7          15.5  2 675
4201        1990 06 27.41198  19 14 55.63  -11 40 47.9                2 675
4201        1990 06 29.37847  19 13 24.68  -11 35 42.7                2 675
4502        1989 07 07.20087  14 52 59.20  +00 38 41.0          17.5  9 675
4502        1989 07 07.24155  14 52 59.75  +00 38 27.3                9 675
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From Minor Planet Bulletin

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 115        1989 12 04.14583  03 54 00.02  +40 49 00.3          10.0V  680
 115        1989 12 04.16904  03 53 58.20  +40 48 56.2          10.0V  680
 115        1990 01 01.16875  03 38 42.07  +35 29 46.6          10.5V  680
 115        1990 01 01.18681  03 38 41.89  +35 29 41.6          10.5V  680
 230        1989 12 04.08958  01 58 37.59  +15 09 34.4          10.8V  680
 230        1989 12 04.10139  01 58 38.06  +15 09 30.2          10.8V  680
 230        1990 01 01.11875  02 04 04.44  +13 11 40.3          11.0V  680
 230        1990 01 01.13194  02 04 04.78  +13 11 38.1          11.0V  680
```

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0.33-m photographic telescope and 0.12-m f/7 Brashear camera
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

1931	DV	1931	02	17.36875	09	57	27.57	+02	11	49.2	R 690
1931	DV	1931	02	19.28819	09	55	23.37	+02	17	11.1	R 690
1931	DV	1931	02	24.40208	09	49	58.43	+02	33	35.5	R 690
1931	TD3	1931	10	10.27778	00	51	43.92	-04	18	32.5	P 690
1931	TD3	1931	10	12.27083	00	49	33.58	-04	14	01.8	P 690
1931	TD3	1931	10	14.23958	00	47	28.63	-04	08	52.8	P 690
8		1906	12	20.35764	08	03	50.70	+19	10	42.0	690
15		1931	02	17.36875	09	51	51.27	+01	46	32.5	690
15		1931	02	19.28819	09	49	58.51	+01	50	51.0	690
15		1931	02	24.40208	09	45	04.07	+02	03	43.0	690
21		1906	12	17.34375	09	26	49.55	+17	52	18.7	690
21		1906	12	21.31250	09	26	02.12	+18	02	18.7	690
102		1931	02	17.36875	10	12	35.99	+04	16	47.6	690
102		1931	02	19.28819	10	10	58.36	+04	26	54.3	690
102		1931	02	24.40208	10	06	39.15	+04	54	41.1	690
111		1931	02	17.36875	09	53	03.80	+09	36	15.7	690
111		1931	02	19.28819	09	51	12.11	+09	41	37.3	R 690
111		1931	02	24.40208	09	46	21.33	+09	55	51.7	R 690
113		1931	10	12.27083	00	58	38.45	-02	08	40.0	E 690
113		1931	10	14.23958	00	56	51.06	-02	20	07.6	690
165		1906	12	17.34375	09	19	14.53	+15	43	21.6	690
165		1906	12	21.31250	09	18	09.94	+15	38	42.5	690
212		1906	12	20.35764	08	05	32.08	+23	13	26.7	p 690
263		1930	10	16.27083	01	17	09.41	+08	46	13.7	P 690
263		1930	10	18.23958	01	15	34.61	+08	35	40.3	D 690
351		1906	12	20.35764	08	20	18.37	+21	48	14.6	p 690
361		1929	09	29.24097	00	02	47.80	-06	00	14.7	D 690
408		1931	02	17.36875	10	10	05.00	+03	52	08.9	690
408		1931	02	19.28819	10	08	30.49	+03	57	01.2	690
408		1931	02	24.40208	10	04	20.21	+04	10	50.2	690
514		1930	10	16.27083	01	06	28.07	+13	00	38.1	690
514		1930	10	18.23958	01	04	57.24	+12	50	08.1	690
557		1930	10	16.27083	01	17	10.87	+12	37	58.0	P 690
557		1930	10	18.23958	01	15	18.39	+12	26	50.1	R 690
642		1930	10	16.27083	00	51	39.18	+07	38	07.1	690
666		1931	02	17.36875	10	06	35.62	+00	26	48.8	690
666		1931	02	19.28819	10	04	52.55	+00	38	22.7	690
666		1931	02	24.40208	10	00	20.19	+01	10	44.1	P 690
671		1930	10	16.27083	01	03	09.06	+10	47	53.8	P 690
671		1930	10	18.23958	01	01	31.27	+10	42	20.1	690
721		1931	10	10.27778	00	32	35.25	-03	35	14.3	690
721		1931	10	12.27083	00	31	08.39	-03	38	53.7	P 690
721		1931	10	14.23958	00	29	44.01	-03	42	12.1	R 690
758		1931	10	10.27778	00	58	00.27	-02	56	20.2	690
758		1931	10	12.27083	00	56	32.06	-03	05	11.2	690
758		1931	10	14.23958	00	55	05.57	-03	13	33.2	690
797		1930	10	16.27083	01	02	54.43	+11	35	17.4	690
797		1930	10	18.23958	01	01	13.32	+11	21	41.1	690
834		1931	02	17.36875	09	50	54.97	+09	33	27.4	690
834		1931	02	19.28819	09	49	27.53	+09	42	29.1	690
861		1931	10	10.27778	00	35	56.74	-08	34	16.6	R 690
861		1931	10	12.27083	00	34	32.35	-08	42	18.7	690
861		1931	10	14.23958	00	33	10.72	-08	49	39.8	690
866		1931	10	10.27778	00	56	35.71	-07	50	22.6	690

866	1931	10	12.27083	00	55	04.55	-07	57	18.3	690
866	1931	10	14.23958	00	53	35.36	-08	03	34.9	690
951	1931	02	17.36875	09	53	41.33	+05	39	02.9	P 690
951	1931	02	19.28819	09	51	38.57	+05	49	31.3	P 690
951	1931	02	24.40208	09	46	19.21	+06	18	02.6	690
963	1931	10	10.27778	01	00	59.55	-06	13	21.0	R 690
963	1931	10	12.27083	00	58	52.95	-06	17	25.8	P 690
963	1931	10	14.23958	00	56	48.62	-06	20	39.4	690
1007	1906	12	21.31250	09	05	20.04	+17	19	02.7	O 690
1062	1930	10	16.27083	00	50	58.03	+10	51	34.8	690
1062	1930	10	18.23958	00	49	22.84	+10	44	11.6	690
1119	1931	10	10.27778	00	47	44.90	-05	01	10.0	R 690
1119	1931	10	12.27083	00	45	54.41	-05	05	47.3	690
1119	1931	10	14.23958	00	44	07.36	-05	09	44.1	R 690
1146	1930	10	16.27083	01	14	05.81	+14	20	25.2	690
1146	1930	10	18.23958	01	12	38.85	+14	01	45.9	D 690
1356	1931	10	10.27778	00	44	10.24	-06	33	58.8	690
1356	1931	10	12.27083	00	42	37.15	-06	39	28.9	690
1356	1931	10	14.23958	00	41	06.52	-06	44	22.5	690
1400	1930	10	18.23958	00	53	33.84	+11	46	48.2	690
1415	1906	12	17.34375	09	12	50.76	+19	15	59.4	690
1415	1906	12	21.31250	09	12	25.28	+19	17	02.7	690
1478	1906	12	21.31250	09	24	49.94	+19	52	44.8	p 690
1491	1930	10	16.27083	01	05	10.30	+12	24	06.3	690
1491	1930	10	18.23958	01	03	38.01	+12	15	26.1	R 690
1577	1931	10	10.27778	01	03	43.11	-02	47	10.1	690
1577	1931	10	12.27083	01	02	00.54	-02	59	43.7	P 690
1577	1931	10	14.23958	01	00	19.97	-03	11	20.0	P 690
1655	1906	12	20.35764	08	07	14.96	+18	30	29.1	R 690
1778	1906	12	20.35764	08	13	16.16	+20	09	35.0	P 690
1824	1906	12	17.34375	09	16	30.66	+18	33	12.4	690
1824	1906	12	21.31250	09	15	51.27	+18	38	46.3	690
1842	1929	09	29.24097	23	59	54.92	-05	04	50.3	D 690
2184	1930	10	16.27083	00	51	43.97	+12	57	13.1	R 690
2195	1931	10	10.27778	00	44	18.95	-05	04	44.8	C 690
2195	1931	10	14.23958	00	40	41.88	-05	22	54.9	C 690
2232	1930	10	16.27083	01	16	32.81	+10	04	13.4	690
2342	1906	12	17.34375	09	14	29.93	+15	35	09.6	R 690
3110	1930	10	16.27083	01	11	58.94	+09	58	15.2	C 690
4066	1930	10	16.27083	00	42	30.85	+12	53	34.0	P 690
4066	1930	10	18.23958	00	41	06.77	+12	34	04.1	690
4262	1931	10	14.23958	01	00	37.99	-07	52	02.1	690
4353	1931	10	10.27778	01	02	06.09	-08	47	27.7	P 690
4353	1931	10	12.27083	01	00	06.01	-08	53	24.6	P 690
4353	1931	10	14.23958	00	58	09.27	-08	58	27.8	690

760 Goethe Link
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Measurer C. M. Olmstead
0.25-m refractor
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

1949 SJ1	1949	09	25.22564	23	09	49.73	-02	43	29.4	760
1949 SJ1	1949	09	25.27046	23	09	47.45	-02	43	35.3	760
1949 SK1	1949	09	25.22564	23	11	48.15	-03	42	58.1	760
1949 SK1	1949	09	25.27046	23	11	45.43	-03	43	00.3	R 760

1949	SL1	1949	09	25.22564	23	10	51.14	-04	53	23.3	16.2	R 760
1949	SL1	1949	09	25.27046	23	10	48.66	-04	53	32.7		R 760
1949	SM1	1949	09	25.22565	22	57	17.11	-06	02	55.7		760
1949	SM1	1949	09	25.27046	22	57	15.17	-06	02	58.0		760
1959	VH	1959	11	10.38462	05	21	18.52	+18	48	31.8		P 760
1959	VH	1959	11	10.42907	05	21	16.44	+18	48	26.4		P 760
34		1949	09	25.22564	22	58	40.76	-04	19	21.3	13.8	760
34		1949	09	25.27046	22	58	38.77	-04	19	38.5		760
91		1949	09	25.22565	22	55	49.02	-08	09	46.7	13.2	760
91		1949	09	25.27046	22	55	46.60	-08	09	58.0		760
122		1959	09	07.30362	23	50	20.21	-00	48	31.8	13.6	760
122		1959	09	07.34667	23	50	18.47	-00	48	42.5		760
191		1952	10	25.14104	00	10	43.10	-08	40	48.5	13.6	760
191		1952	10	25.18097	00	10	42.09	-08	40	56.1		760
196		1959	11	10.38462	05	17	06.75	+22	37	24.7	12.0	760
196		1959	11	10.42907	05	17	05.20	+22	37	27.4		760
229		1959	11	10.38462	05	14	12.75	+24	54	06.6	15.2	760
229		1959	11	10.42907	05	14	11.06	+24	54	07.3		760
270		1959	11	10.38462	05	22	02.64	+23	43	21.2	12.1	760
270		1959	11	10.42907	05	22	00.66	+23	43	16.6		760
275		1959	09	07.30362	00	09	13.52	-03	53	57.3	14.3	760
275		1959	09	07.34667	00	09	11.66	-03	54	12.7		760
358		1959	09	07.30362	00	00	26.55	-00	06	47.1	13.6	760
358		1959	09	07.34667	00	00	24.75	-00	07	02.4		760
373		1959	09	07.30362	00	01	41.23	-05	05	13.8	13.6	760
373		1959	09	07.34667	00	01	38.94	-05	05	13.4		760
460		1949	09	25.22564	22	58	17.22	-01	57	14.2	14.8	760
460		1949	09	25.27046	22	58	15.24	-01	57	35.1		760
461		1949	09	25.22565	23	04	23.28	-06	26	41.1	15.6	760
461		1949	09	25.27046	23	04	21.29	-06	26	54.7		760
555		1959	09	07.30362	00	07	45.47	-02	01	16.0	16.0	760
555		1959	09	07.34667	00	07	43.86	-02	01	28.0		760
596		1959	11	10.38462	05	22	41.94	+23	31	08.2	14.1	760
596		1959	11	10.42907	05	22	40.29	+23	31	14.9		760
1071		1959	09	07.30362	00	11	22.48	-06	35	22.7	14.8	760
1071		1959	09	07.34667	00	11	20.39	-06	35	32.8		760
2305		1955	04	22.27426	11	58	09.82	+03	32	54.6		760
2305		1955	04	22.31454	11	58	08.55	+03	32	54.7		R 760
2466		1959	09	07.30362	00	09	52.64	-01	19	44.6		C 760
2466		1959	09	07.34667	00	09	51.08	-01	20	02.7		C 760
3261		1949	09	25.22565	22	56	04.16	-08	50	18.0		760
3261		1959	09	07.30362	23	55	07.49	-02	50	48.7		760
3261		1959	09	07.34667	23	55	05.59	-02	51	05.9		760
4352		1952	10	25.18097	00	17	07.29	-14	37	31.1		760

801 Oak Ridge
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60 Garden Street, Cambridge, MA 02138, U.S.A.
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0.4-m astrograph (1) and 1.5-m reflector + CCD

1933	OB	1990	06	26.30684	22	25	32.01	-06	26	55.9	801
1933	OB	1990	06	26.32377	22	25	32.63	-06	26	50.7	801
1977	DS2	1990	06	25.19407	18	14	45.15	-05	51	57.2	801
1977	DS2	1990	06	25.21452	18	14	44.14	-05	52	00.9	801
1977	DS2	1990	06	26.18207	18	13	58.71	-05	54	46.4	801
1978	PT4	1990	06	25.11237	16	23	47.56	-05	25	25.5	801
1978	PT4	1990	06	25.12307	16	23	47.07	-05	25	28.4	801
1979	MC	1990	06	26.08581	14	06	36.08	+05	34	25.8	801
1979	MC	1990	06	26.09233	14	06	36.17	+05	34	22.5	801

1979	MC	1990	06	26.13602	14	06	36.72	+05	34	02.2		801
1979	UD2	1990	06	26.23536	19	38	31.07	-19	17	26.1		801
1979	UD2	1990	06	26.25864	19	38	29.95	-19	17	24.9		801
1980	CG	1990	06	26.12569	17	19	29.48	-09	29	14.1		801
1980	CG	1990	06	26.15940	17	19	27.43	-09	29	17.7		801
1980	JC	1990	06	26.30303	22	25	35.45	-12	43	12.5		801
1980	JC	1990	06	26.31994	22	25	36.14	-12	43	08.2		801
1982	RH	1990	06	25.17813	18	32	26.07	-01	08	55.5		801
1982	RH	1990	06	25.19741	18	32	25.08	-01	08	57.4		801
1983	RR4	1990	06	25.16549	17	41	48.73	+00	19	34.2		801
1983	RR4	1990	06	25.18431	17	41	47.62	+00	19	32.8		801
1983	RR4	1990	06	26.16849	17	40	50.67	+00	18	07.5		801
1983	RR4	1990	06	26.19326	17	40	49.18	+00	18	05.1		801
1985	GV1	1990	06	25.27886	20	34	23.06	+04	03	53.8		801
1985	GV1	1990	06	25.31143	20	34	22.14	+04	04	01.7		801
1985	GV1	1990	06	26.27535	20	33	55.68	+04	07	52.2		801
1985	GV1	1990	06	26.29075	20	33	55.22	+04	07	55.9		801
1985	RY3	1990	06	26.23114	19	37	08.59	-19	30	43.7		801
1985	RY3	1990	06	26.25385	19	37	07.62	-19	30	45.7		801
1986	RP1	1990	06	25.20682	18	49	55.21	-15	09	51.1		801
1986	RP1	1990	06	25.22747	18	49	54.14	-15	09	52.4		801
1986	YB	1990	06	25.24721	20	08	31.48	-17	36	00.1		801
1986	YB	1990	06	25.29503	20	08	29.62	-17	35	56.9		801
1987	QW10	1990	06	25.10438	15	52	20.24	-15	04	52.6		801
1987	QW10	1990	06	25.12980	15	52	19.25	-15	04	54.9		801
1987	RM1	1990	06	25.25808	20	33	22.63	-15	08	37.6		801
1987	RM1	1990	06	25.30312	20	33	21.20	-15	08	44.1		801
1987	SR12	1990	06	25.10884	16	14	57.04	-12	55	35.1		801
1987	SR12	1990	06	25.13360	16	14	56.10	-12	55	35.2		801
1990	KA	1990	06	20.15318	15	40	22.93	-05	11	22.5		801
1990	KA	1990	06	20.15882	15	40	23.42	-05	11	34.9		801
1990	KA	1990	06	25.11597	15	48	48.82	-08	22	39.1		801
1990	KA	1990	06	25.11945	15	48	49.16	-08	22	47.1		801
1990	MF	1990	07	03.06581	16	17	06.04	+19	23	25.2		801
1990	MF	1990	07	03.07032	16	17	05.47	+19	24	28.9		801
1990	MF	1990	07	03.07335	16	17	05.03	+19	25	10.8		801
1990	MF	1990	07	03.07691	16	17	04.58	+19	26	00.9		801
1990	MF	1990	07	03.07901	16	17	04.29	+19	26	30.6		801
1990	MF	1990	07	03.09450	16	17	02.25	+19	30	08.7		801
1990	MF	1990	07	03.10084	16	17	01.40	+19	31	36.6		801
1990	MF	1990	07	03.10300	16	17	01.12	+19	32	08.5		801
353		1937	12	11.17506	04	59	10.06	+17	23	21.3	12.1 1	801
353		1937	12	24.14171	04	49	20.70	+18	24	53.0	13.3 1	801
353		1937	12	24.16248	04	49	19.76	+18	24	59.1	13.3 1	801
353		1938	01	19.04477	04	44	40.99	+20	47	01.1	14.8 1	801
353		1938	02	02.01336	04	52	28.17	+22	04	40.6	15.1 1	801
353		1938	02	02.04769	04	52	29.77	+22	04	52.6	15.1 1	801
1951		1990	06	22.32924	21	09	00.30	+32	37	48.8		801
1951		1990	06	22.33471	21	09	00.28	+32	37	43.3		801
1951		1990	06	25.31737	21	09	15.06	+31	33	25.8		801
1951		1990	06	25.32239	21	09	15.03	+31	33	18.4		801

983 San Fernando
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Measurers P. Rodriguez, P. Rodriguez
Reductions F. Cano

1	1988	08	19.07465	00	22	57.35	-14	00	29.3	983
1	1988	08	19.07882	00	22	57.25	-14	00	30.9	983
1	1988	08	19.08299	00	22	57.14	-14	00	32.4	983
1	1988	11	29.88438	23	35	58.03	-15	07	17.0	983
1	1988	11	29.88863	23	35	58.11	-15	07	15.0	983
1	1988	11	29.89271	23	35	58.22	-15	07	13.3	983
2	1988	07	13.97535	20	28	18.46	+17	52	46.7	983
2	1988	07	13.98229	20	28	18.14	+17	52	45.4	983
2	1988	07	13.98646	20	28	17.94	+17	52	44.5	983
2	1988	08	16.89340	20	02	35.44	+13	50	26.6	983
2	1988	08	16.89757	20	02	35.29	+13	50	24.3	983
2	1988	08	16.90174	20	02	35.12	+13	50	21.2	983
2	1988	09	15.85764	19	50	48.27	+07	55	55.6	983
2	1988	09	15.86146	19	50	48.26	+07	55	53.3	983
2	1988	09	15.86563	19	50	48.22	+07	55	50.1	983
3	1989	03	03.98785	09	57	18.47	+06	27	11.2	983
3	1989	03	03.99201	09	57	18.27	+06	27	13.6	983
3	1989	03	03.99618	09	57	18.08	+06	27	16.2	983
4	1988	02	12.96285	07	53	54.32	+25	21	46.7	983
4	1988	02	12.96701	07	53	54.11	+25	21	47.6	983
4	1988	02	12.97118	07	53	53.87	+25	21	48.6	983
4	1988	03	07.89618	07	42	35.95	+26	17	05.6	983
4	1988	03	07.90035	07	42	35.92	+26	17	05.5	983
4	1988	03	07.90451	07	42	35.90	+26	17	06.0	983
5	1988	05	19.08090	18	37	09.14	-16	48	51.9	983
5	1988	05	19.08646	18	37	08.96	-16	48	51.7	983
5	1988	05	19.09201	18	37	08.81	-16	48	51.6	983
5	1988	07	07.92778	17	55	48.68	-17	31	58.9	983
5	1988	07	07.93264	17	55	48.42	-17	31	59.1	983
5	1988	07	07.93750	17	55	48.16	-17	32	00.1	983
6	1988	12	16.03750	08	51	56.56	+08	23	26.3	983
6	1988	12	16.04201	08	51	56.46	+08	23	27.3	983
6	1988	12	16.04618	08	51	56.40	+08	23	28.2	983
6	1989	02	08.96563	08	08	23.05	+15	45	02.0	983
6	1989	02	08.96979	08	08	22.86	+15	45	04.3	983
6	1989	02	08.97396	08	08	22.63	+15	45	06.7	983
6	1989	03	03.93507	07	55	49.18	+18	50	04.5	983
6	1989	03	03.93924	07	55	49.12	+18	50	05.9	983
6	1989	03	03.94340	07	55	49.04	+18	50	07.8	983
7	1989	03	03.94896	09	00	26.46	+08	22	28.0	983
7	1989	03	03.95313	09	00	26.27	+08	22	29.0	983
7	1989	03	03.95729	09	00	26.15	+08	22	30.4	983
8	1989	03	09.97187	11	04	24.19	+14	46	43.0	983
8	1989	03	09.97604	11	04	23.93	+14	46	44.3	983
8	1989	03	09.98021	11	04	23.66	+14	46	46.0	983
9	1988	03	22.11094	14	41	05.92	-09	48	12.9	983
9	1988	03	22.11545	14	41	05.81	-09	48	12.2	983
9	1988	03	22.11997	14	41	05.66	-09	48	11.7	983
9	1988	04	13.02882	14	25	41.98	-08	42	41.4	983
9	1988	04	13.03299	14	25	41.76	-08	42	40.3	983
9	1988	04	13.03715	14	25	41.54	-08	42	39.6	983
9	1988	05	09.96076	13	59	51.44	-07	19	27.0	983
9	1988	05	09.96493	13	59	51.20	-07	19	26.3	983
9	1988	05	09.96910	13	59	50.99	-07	19	26.1	983
10	1988	03	14.97465	10	06	23.60	+06	45	35.5	983
10	1988	03	14.97882	10	06	23.43	+06	45	36.2	983
10	1988	03	14.98299	10	06	23.27	+06	45	37.2	983
10	1988	04	06.90556	09	56	19.64	+07	50	01.9	983
10	1988	04	06.91042	09	56	19.60	+07	50	02.4	983

11		1988	03	17.04705	13	42	25.00	-03 25 40.3	983
11		1988	03	17.05156	13	42	24.83	-03 25 39.0	983
11		1988	03	17.05608	13	42	24.69	-03 25 37.2	983
11		1988	04	13.01285	13	21	34.20	-00 39 16.6	983
11		1988	04	13.01701	13	21	33.96	-00 39 15.4	983
11		1988	04	13.02118	13	21	33.74	-00 39 13.8	983
11		1988	05	09.94288	13	00	42.37	+01 11 08.5	983
11		1988	05	09.94740	13	00	42.22	+01 11 08.6	983
11		1988	05	09.95191	13	00	42.05	+01 11 09.2	983
12		1988	02	13.01285	10	28	35.88	-04 04 36.7	983
12		1988	02	13.01840	10	28	35.57	-04 04 35.8	983
12		1988	02	13.02396	10	28	35.28	-04 04 34.4	983
12		1988	03	14.95694	10	00	07.31	-01 02 17.6	983
12		1988	03	14.96181	10	00	07.07	-01 02 15.4	983
12		1988	03	14.96667	10	00	06.83	-01 02 13.4	983
12		1988	04	06.88646	09	47	57.93	+01 30 27.9	983
12		1988	04	06.89201	09	47	57.82	+01 30 29.9	983
12		1988	04	06.89757	09	47	57.75	+01 30 31.7	983
13		1989	06	05.95972	14	51	03.91	-23 23 22.5	983
13		1989	06	05.96458	14	51	03.65	-23 23 23.0	983
13		1989	06	05.96944	14	51	03.40	-23 23 23.1	983
14		1988	03	14.98993	11	59	37.56	+18 17 18.1	983
14		1988	03	14.99410	11	59	37.31	+18 17 19.9	983
14		1988	03	14.99826	11	59	37.10	+18 17 21.1	983
14		1988	04	12.92743	11	37	52.96	+19 10 43.2	983
14		1988	04	12.93160	11	37	52.84	+19 10 42.8	983
14		1988	04	12.93576	11	37	52.69	+19 10 42.2	983
16		1988	03	22.14340	15	28	47.55	-15 06 08.4	983
16		1988	03	22.14896	15	28	47.49	-15 06 07.6	983
16		1988	03	22.15451	15	28	47.45	-15 06 07.3	983
16		1988	05	18.94792	14	54	26.98	-12 05 06.6	983
16		1988	05	18.95278	14	54	26.75	-12 05 06.0	983
16		1988	05	18.95764	14	54	26.54	-12 05 04.8	983
17		1988	03	17.03056	12	53	06.99	+03 15 55.9	983
17		1988	03	17.03542	12	53	06.78	+03 15 58.2	983
17		1988	03	17.04028	12	53	06.57	+03 16 00.2	983
17		1988	04	12.99653	12	30	40.51	+06 23 18.5	983
17		1988	04	13.00139	12	30	40.27	+06 23 19.8	983
17		1988	04	13.00625	12	30	40.02	+06 23 21.6	983
17		1988	05	09.92188	12	16	27.81	+07 19 14.4	983
17		1988	05	09.92743	12	16	27.71	+07 19 13.9	983
17		1988	05	09.93299	12	16	27.64	+07 19 13.6	983
18		1988	08	19.00382	22	59	07.80	-08 01 05.7	983
18		1988	08	19.00799	22	59	07.68	-08 01 08.8	983
18		1988	08	19.01215	22	59	07.56	-08 01 12.4	983
18		1988	11	29.87118	23	20	52.19	-15 02 45.2	983
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18		1988	11	29.87951	23	20	52.91	-15 02 40.2	983
19		1988	03	16.98681	12	34	15.24	-04 51 27.9	983
19		1988	03	16.99167	12	34	14.97	-04 51 26.3	983
19		1988	03	16.99653	12	34	14.72	-04 51 24.5	983
19		1988	04	12.97847	12	10	57.34	-02 07 07.1	983
19		1988	04	12.98438	12	10	57.10	-02 07 05.1	983
19		1988	04	12.98993	12	10	56.83	-02 07 03.2	983
19		1988	05	09.87708	11	57	34.70	-00 22 15.5	983
19		1988	05	09.88333	11	57	34.60	-00 22 14.9	983
19		1988	05	09.89028	11	57	34.53	-00 22 14.1	983
20		1989	06	05.94288	14	46	05.39	-15 29 08.0	983
20		1989	06	05.94740	14	46	05.21	-15 29 07.2	983

20	1989	06	05.95191	14	46	05.02	-15	29	06.2	983
21	1988	05	19.01875	16	47	49.91	-21	07	15.1	983
21	1988	05	19.02361	16	47	49.64	-21	07	14.8	983
21	1988	05	19.02847	16	47	49.36	-21	07	14.7	983
22	1988	03	15.00417	12	05	05.15	+20	44	19.4	983
22	1988	03	15.00903	12	05	04.89	+20	44	20.3	983
22	1988	03	15.01389	12	05	04.65	+20	44	21.6	983
22	1988	04	12.94062	11	42	01.11	+21	19	01.1	983
22	1988	04	12.94618	11	42	00.92	+21	19	00.4	983
22	1988	04	12.95174	11	42	00.69	+21	19	00.0	983
22	1989	06	06.01806	16	17	13.34	-22	30	51.0	983
22	1989	06	06.02292	16	17	13.09	-22	30	51.6	983
22	1989	06	06.02778	16	17	12.78	-22	30	51.9	983
23	1988	11	29.89826	00	41	49.07	-04	55	40.3	983
23	1988	11	29.90382	00	41	49.04	-04	55	38.6	983
23	1988	11	29.90937	00	41	49.00	-04	55	36.6	983
24	1988	07	13.99549	20	44	25.39	-19	11	24.6	983
24	1988	07	14.00243	20	44	25.09	-19	11	25.7	983
24	1988	07	14.00937	20	44	24.77	-19	11	26.8	983
24	1988	08	16.91146	20	18	46.24	-20	41	48.8	983
24	1988	08	16.91840	20	18	46.04	-20	41	49.7	983
24	1988	08	16.92535	20	18	45.78	-20	41	50.6	983
24	1988	09	15.87326	20	06	02.41	-21	14	57.0	983
24	1988	09	15.88021	20	06	02.36	-21	14	57.6	983
24	1988	09	15.88715	20	06	02.32	-21	14	57.2	983
27	1988	03	22.12708	15	02	52.04	-15	04	56.7	983
27	1988	03	22.13194	15	02	51.92	-15	04	55.8	983
27	1988	03	22.13681	15	02	51.83	-15	04	54.9	983
27	1988	05	09.97552	14	23	52.59	-12	07	52.7	983
27	1988	05	09.98003	14	23	52.31	-12	07	51.8	983
28	1988	02	12.97951	09	05	30.07	+14	52	28.4	983
28	1988	02	12.98368	09	05	29.87	+14	52	30.4	983
28	1988	02	12.98785	09	05	29.64	+14	52	32.5	983
28	1988	03	07.91111	08	51	20.06	+17	50	30.9	983
28	1988	03	07.91597	08	51	19.98	+17	50	32.5	983
28	1988	03	07.92153	08	51	19.85	+17	50	34.2	983
28	1988	04	06.86701	08	55	06.81	+19	27	59.0	983
28	1988	04	06.87257	08	55	06.97	+19	27	59.2	983
28	1988	04	06.87813	08	55	07.14	+19	27	59.1	983
29	1988	02	10.93924	07	14	36.46	+30	19	11.0	983
29	1988	02	10.94340	07	14	36.30	+30	19	10.1	983
29	1988	02	10.94757	07	14	36.14	+30	19	09.6	983
29	1988	03	07.85660	07	10	21.65	+28	46	35.1	983
29	1988	03	07.86076	07	10	21.70	+28	46	34.2	983
29	1988	03	07.86493	07	10	21.75	+28	46	33.0	983
30	1988	05	18.98611	15	30	11.33	-22	18	16.4	983
30	1988	05	18.99097	15	30	10.97	-22	18	15.2	983
30	1988	05	18.99583	15	30	10.67	-22	18	13.9	983
31	1988	11	29.82465	23	04	48.14	-23	28	10.0	983
31	1988	11	29.83160	23	04	48.24	-23	28	05.7	983
31	1988	11	29.83854	23	04	48.44	-23	28	00.9	983
37	1988	08	19.01736	23	16	31.17	-07	13	45.6	983
37	1988	08	19.02222	23	16	31.00	-07	13	46.5	983
37	1988	08	19.02708	23	16	30.79	-07	13	47.9	983
39	1988	12	16.02205	08	02	20.31	+09	06	06.2	983
39	1988	12	16.02656	08	02	20.14	+09	06	06.3	983
39	1988	12	16.03108	08	02	19.98	+09	06	06.7	983
39	1989	02	08.94583	07	19	30.85	+12	56	01.3	983
39	1989	02	08.95069	07	19	30.71	+12	56	02.4	983

39	1989	02	08.95556	07	19	30.49	+12	56	04.4	983
39	1989	03	03.91528	07	12	33.64	+14	57	14.9	983
39	1989	03	03.92014	07	12	33.61	+14	57	16.3	983
39	1989	03	03.92500	07	12	33.61	+14	57	17.6	983
40	1989	03	10.04080	12	06	41.71	+07	06	02.7	983
40	1989	03	10.04531	12	06	41.45	+07	06	04.4	983
40	1989	03	10.04983	12	06	41.20	+07	06	06.4	983
42	1988	02	10.92083	06	46	15.76	+28	49	38.4	983
42	1988	02	10.92708	06	46	15.55	+28	49	38.8	983
42	1988	02	10.93333	06	46	15.34	+28	49	38.9	983
42	1988	03	07.83438	06	41	57.59	+28	52	34.9	983
42	1988	03	07.84132	06	41	57.62	+28	52	34.6	983
42	1988	03	07.84896	06	41	57.72	+28	52	34.5	983
44	1988	02	10.82361	04	25	09.69	+18	41	47.7	983
44	1988	02	10.82847	04	25	09.91	+18	41	49.1	983
44	1988	02	10.83333	04	25	10.17	+18	41	50.5	983
45	1988	08	19.03368	23	29	10.90	-06	01	57.0	983
45	1988	08	19.03924	23	29	10.70	-06	01	59.4	983
45	1988	08	19.04479	23	29	10.49	-06	02	01.4	983
45	1988	11	29.80110	23	01	54.45	-10	45	46.6	983
45	1988	11	29.80799	23	01	54.70	-10	45	44.6	983
45	1988	11	29.81493	23	01	54.99	-10	45	42.8	983
51	1989	03	10.00799	11	42	35.83	+00	51	23.5	983
51	1989	03	10.01215	11	42	35.62	+00	51	26.2	983
51	1989	03	10.01632	11	42	35.42	+00	51	29.3	983
52	1988	02	10.83958	04	25	24.08	+15	41	46.1	983
52	1988	02	10.84583	04	25	24.25	+15	41	48.0	983
52	1988	02	10.85208	04	25	24.40	+15	41	49.8	983
52	1989	03	10.02431	11	43	30.77	+10	03	18.2	983
52	1989	03	10.02917	11	43	30.55	+10	03	20.0	983
52	1989	03	10.03403	11	43	30.33	+10	03	21.9	983
63	1988	08	18.96979	21	45	56.85	-16	05	00.2	983
63	1988	08	18.97396	21	45	56.57	-16	05	00.7	983
63	1988	08	18.97813	21	45	56.32	-16	05	00.9	983
63	1988	09	15.92083	21	23	29.75	-16	07	41.5	983
63	1988	09	15.92569	21	23	29.57	-16	07	41.3	983
63	1988	09	15.93056	21	23	29.46	-16	07	40.8	983
88	1988	02	10.86076	05	10	08.78	+23	06	21.4	983
88	1988	02	10.86771	05	10	08.84	+23	06	20.9	983
88	1988	02	10.87465	05	10	08.85	+23	06	20.8	983
88	1989	03	04.00243	10	12	10.03	+04	05	56.6	983
88	1989	03	04.00799	10	12	09.76	+04	05	58.1	983
88	1989	03	04.01354	10	12	09.46	+04	05	59.5	983
97	1988	09	15.93889	22	34	34.81	-10	19	30.7	983
97	1988	09	15.94375	22	34	34.58	-10	19	33.6	983
97	1988	09	15.94861	22	34	34.36	-10	19	36.2	983
129	1988	12	15.99792	05	52	23.36	+10	26	21.2	983
129	1988	12	16.00417	05	52	23.05	+10	26	21.8	983
129	1988	12	16.01042	05	52	22.69	+10	26	22.0	983
148	1988	03	14.93750	09	49	45.61	+19	12	26.8	983
148	1988	03	14.94375	09	49	45.40	+19	12	30.0	983
148	1988	03	14.95000	09	49	45.16	+19	12	33.5	983
148	1988	04	12.90313	09	42	55.30	+21	58	57.8	983
148	1988	04	12.91076	09	42	55.34	+21	58	58.9	983
148	1988	04	12.91771	09	42	55.36	+21	59	00.3	983
148	1989	06	05.92118	14	42	09.31	+18	51	29.0	983
148	1989	06	05.92813	14	42	09.08	+18	51	27.9	983
148	1989	06	05.93507	14	42	08.84	+18	51	25.6	983
196	1988	02	10.95451	07	25	08.65	+29	17	59.7	983

196	1988	02	10.96007	07	25	08.42	+29	18	00.1	983
196	1988	02	10.96563	07	25	08.20	+29	18	00.4	983
196	1988	03	07.87083	07	17	02.85	+29	15	54.8	983
196	1988	03	07.87708	07	17	02.84	+29	15	54.2	983
196	1988	03	07.88333	07	17	02.82	+29	15	53.9	983
216	1988	05	18.96493	15	08	56.96	-12	20	08.8	983
216	1988	05	18.97187	15	08	56.61	-12	20	06.3	983
216	1988	05	18.97882	15	08	56.26	-12	20	03.9	983
230	1988	05	19.03542	16	58	44.81	-20	12	34.4	983
230	1988	05	19.04028	16	58	44.57	-20	12	32.5	983
230	1988	05	19.04514	16	58	44.30	-20	12	31.0	983
324	1988	02	10.88299	05	43	50.57	+33	58	27.1	983
324	1988	02	10.88854	05	43	50.63	+33	58	24.8	983
324	1988	02	10.89410	05	43	50.70	+33	58	22.6	983
324	1989	03	09.98611	11	22	24.30	-02	47	08.6	983
324	1989	03	09.99236	11	22	24.00	-02	47	07.5	983
324	1989	03	09.99861	11	22	23.66	-02	47	06.3	983
389	1988	07	14.01736	21	01	17.59	-11	34	37.0	983
389	1988	07	14.02361	21	01	17.24	-11	34	36.7	983
389	1988	07	14.02986	21	01	16.97	-11	34	36.8	983
389	1988	08	16.93264	20	30	41.89	-12	04	13.4	983
389	1988	08	16.93889	20	30	41.52	-12	04	14.3	983
389	1988	08	16.94514	20	30	41.23	-12	04	14.9	983
389	1988	09	15.89618	20	15	42.32	-12	40	03.1	983
389	1988	09	15.90313	20	15	42.23	-12	40	03.1	983
389	1988	09	15.91007	20	15	42.17	-12	40	03.3	983
471	1988	05	09.90000	12	12	42.33	+18	19	45.2	983
471	1988	05	09.90625	12	12	42.16	+18	19	43.9	983
471	1988	05	09.91250	12	12	42.09	+18	19	42.2	983
471	1989	06	05.99583	15	42	04.76	-11	21	13.4	983
471	1989	06	06.00208	15	42	04.45	-11	21	13.5	983
471	1989	06	06.00903	15	42	04.10	-11	21	13.8	983
480	1988	08	19.05243	23	44	28.32	+28	50	03.9	983
480	1988	08	19.05938	23	44	28.10	+28	50	04.8	983
480	1988	08	19.06632	23	44	27.91	+28	50	05.3	983
480	1988	11	29.84965	23	15	09.37	+13	54	12.1	983
480	1988	11	29.85660	23	15	09.64	+13	54	09.2	983
480	1988	11	29.86354	23	15	09.95	+13	54	06.1	983
511	1988	07	13.94271	16	27	58.66	-11	34	11.1	983
511	1988	07	13.94965	16	27	58.48	-11	34	13.1	983
511	1988	07	13.95660	16	27	58.30	-11	34	14.5	983
532	1988	08	18.95208	20	33	32.35	-28	49	49.1	983
532	1988	08	18.95694	20	33	32.12	-28	49	50.8	983
532	1988	08	18.96181	20	33	31.90	-28	49	52.0	983

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

Comet Tsuchiya-Kiuchi (1990i)

T 1990 Sept. 28.68731 ET				Marsden
q 1.0934258		(1950.0)	P	Q
	Peri.	180.93399	-0.86018488	+0.41613216
	Node	330.09506	+0.47162825	+0.86904701
e 1.0	Incl.	143.74852	+0.19403293	-0.26756556

From 17 observations 1990 July 13-22.

Comet Levy (1990c)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				
T 1990 Oct. 24.62774 ET				Marsden
q 0.9387787		(1950.0)	P	Q
z -0.0013499	Peri.	242.63277	-0.04433259	-0.86832207
+/-0.0003594	Node	138.65615	-0.42041048	+0.46479898
e 1.0012672	Incl.	131.59507	-0.90625032	-0.17314354

From 79 observations 1990 May 21-July 20, mean residual 0".8.

Comet McNaught-Hughes (1990g)

T 1991 Feb. 27.72691 ET				Marsden
q 2.6831444		(1950.0)	P	Q
	Peri.	18.15701	-0.74631903	-0.32242483
	Node	232.50572	-0.66445146	+0.30980339
e 1.0	Incl.	132.78634	-0.03888643	+0.89446302

From 11 observations 1990 June 20-July 21.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1931 TD3		311006	34.57	270.02	43.66	8.36	0.2672	2.2730	4	3		W
1952 SW1	13.5	521015	179.60	184.01	36.67	14.14	0.1019	2.5919	60	0		W

1980	PC3	14.5	800809	344.22	277.65	64.35	15.81	0.2508	2.6211	34 0	m
1980	PE3	13.0	800809	30.80	209.46	64.63	15.71	0.1601	2.5542	34 7	m
1990	HL1	14.0	900529	358.32	1.08	239.64	22.12	0.2741	2.3960	62 0	W
1990	KJ	13.0	900529	335.84	179.94	93.19	24.22	0.1788	2.3073	38 0	M
1990	KK	14.0	900529	139.64	20.99	80.07	23.45	0.0309	1.9089	37 7	M
1990	KL	14.0	900529	331.70	102.62	198.97	9.85	0.3309	2.4424	38 8	M
1990	KM	13.0	900529	351.61	47.50	209.24	19.38	0.0799	2.3399	37 8	M
1990	KO	13.0	900529	327.76	69.68	234.97	23.03	0.2479	2.2907	38 0	M
1990	KT		900529	352.25	57.11	202.93	21.57	0.1852	2.3816	37 7	M
1990	KV	14.0	900509	356.35	10.57	233.20	9.80	0.2442	2.7307	9 6	W
1990	KX	13.0	900509	335.83	164.12	105.17	5.25	0.1477	2.1771	9 6	W
1990	MC	13.2	900618	337.19	116.87	192.30	13.34	0.3365	2.8824	5 5	E
1990	MK	12.5	900618	29.63	81.71	135.24	13.28	0.1354	2.4856	3 5	M

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Yeomans
(66) Maja Obs. 107 M 158.61757 Peri. 42.84763
H 9.39 G 0.15 Opp. 33 n 0.22920300 Node 7.38355
rms res. 1".28 (M-P) 1902-1988 e 0.1746304 Incl. 3.04704

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(147) Protogeneia Obs. 88 M 204.58815 Peri. 120.25682
H 8.76 G 0.15 Opp. 30 n 0.17763214 Node 248.51455
rms res. 1".10 (M-P) 1898-1990 e 0.0368287 Incl. 1.93419

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(191) Kolga Obs. 88 M 247.67505 Peri. 225.32284
H 8.98 G 0.15 Opp. 31 n 0.20003946 Node 159.08638
rms res. 1".09 (M-P) 1902-1990 e 0.0895427 Incl. 11.50766

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(211) Isolda Obs. 77 M 311.40107 Peri. 175.55032
H 7.84 G 0.03 Opp. 31 n 0.18549397 Node 263.41769
rms res. 1".01 (M-P) 1912-1989 e 0.1556633 Incl. 3.87533

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(212) Medea Obs. 137 M 140.42314 Peri. 101.74663
H 8.22 G 0.15 Opp. 40 n 0.17994587 Node 313.19239
rms res. 1".16 (M-P) 1888-1990 e 0.1186219 Incl. 4.27608

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(351) Yrsa Obs. 69 M 67.09332 Peri. 30.17618
H 9.12 G 0.25 Opp. 29 n 0.21424328 Node 98.94519
rms res. 1".11 (M-P) 1894-1987 e 0.1530726 Incl. 9.20280

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(436) Patricia Obs. 62 M 20.50620 Peri. 28.16808
H 9.91 G 0.15 Opp. 16 n 0.17193862 Node 351.02963
rms res. 0".79 (M-P) 1898-1987 e 0.0558794 Incl. 18.50847

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(465) Alekto Obs. 56 M 99.33660 Peri. 285.57059
H 9.77 G 0.15 Opp. 18 n 0.18158562 Node 300.15031
rms res. 1".11 (M-P) 1901-1988 e 0.2112476 Incl. 4.65514

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(558) Carmen Obs. 74 M 149.87177 Peri. 310.30445
H 9.07 G 0.25 Opp. 22 n 0.19874575 Node 143.47089
rms res. 0".98 (M-P) 1905-1987 e 0.0400753 Incl. 8.35997

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(848) Inna Obs. 138 M 268.68006 Peri. 126.61216
H 11.09 G 0.15 Opp. 16 n 0.18060152 Node 207.55421
rms res. 0".73 (M-P) 1915-1989 e 0.1744382 Incl. 1.04872

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1076) Viola Obs. 74 M 110.29041 Peri. 303.04315
H 12.51 G 0.50 Opp. 20 n 0.25318887 Node 143.41266
rms res. 1".25 (M-P) 1926-1988 e 0.1429269 Incl. 3.31912

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1167) Dubiago Obs. 64 M 232.81154 Peri. 57.33705
H 9.94 G 0.15 Opp. 19 n 0.15663453 Node 224.37008
rms res. 0".89 (M-P) 1930-1988 e 0.0814715 Incl. 5.73040

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1295) Deflotte Obs. 96 M 24.35789 Peri. 279.92731
H 10.5 G 0.25 Opp. 22 n 0.15698080 Node 184.66644
rms res. 0".92 (M-P) 1939-1989 e 0.1127529 Incl. 2.86572

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1298) Nocturna Obs. 69 M 197.72182 Peri. 61.97638
H 10.90 G 0.15 Opp. 14 n 0.17881542 Node 299.53292
rms res. 0".93 (M-P) 1904-1987 e 0.1547108 Incl. 5.49974

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1336) Zeelandia Obs. 78 M 271.26306 Peri. 219.21383
H 10.93 G 0.25 Opp. 23 n 0.20492457 Node 97.08727
rms res. 1".00 (M-P) 1934-1987 e 0.0642038 Incl. 3.19773

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1345) Potomac Obs. 39 M 180.61818 Peri. 335.41754
H 9.74 G 0.15 Opp. 13 n 0.12370510 Node 136.99466
rms res. 0".84 (M-P) 1932-1989 e 0.1800614 Incl. 11.39338

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1347) Patria Obs. 30 M 91.98909 Peri. 199.61404
H 11.73 G 0.15 Opp. 14 n 0.23912010 Node 228.94281
rms res. 0".92 (M-P) 1931-1988 e 0.0692878 Incl. 11.89106

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2012) Guo Shou-Jing Obs. 29 M 169.02996 Peri. 36.16783
H 13.2 G 0.25 Opp. 9 n 0.27703635 Node 276.78900
rms res. 1".13 (M-P) 1964-1989 e 0.1776991 Incl. 2.90507

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2136) Jugta Obs. 25 M 65.31913 Peri. 65.45784
H 11.6 G 0.25 Opp. 8 n 0.18770892 Node 148.63436
rms res. 0".89 (M-P) 1933-1989 e 0.0458765 Incl. 10.58490

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2193) Jackson Obs. 32 M 262.05394 Peri. 224.30756
H 10.96 G 0.15 Opp. 7 n 0.17953819 Node 36.40037
rms res. 1".02 (M-P) 1942-1988 e 0.0599760 Incl. 11.65958

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2275) 1979 MH Obs. 25 M 34.22883 Peri. 153.33598
H 13.60 G 0.25 Opp. 11 n 0.28330423 Node 196.79865
rms res. 0".95 (M-P) 1931-1987 e 0.1692787 Incl. 6.38655

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2292) Seili Obs. 37 M 160.98027 Peri. 128.93577
H 11.8 G 0.25 Opp. 6 n 0.23228699 Node 172.02158
rms res. 0".75 (M-P) 1942-1985 e 0.2398002 Incl. 14.49401

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2305) King Obs. 20 M 37.03046 Peri. 356.91436
H 11.8 G 0.25 Opp. 10 n 0.21201776 Node 25.01587
rms res. 1".02 (M-P) 1929-1985 e 0.0280909 Incl. 7.45886

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2312) Duboshin Obs. 37 M 81.57232 Peri. 347.09863
H 10.24 G 0.15 Opp. 10 n 0.12371948 Node 61.56002
rms res. 1".08 (M-P) 1943-1990 e 0.1431204 Incl. 5.17962

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2353) 1975 UD Obs. 56 M 125.13624 Peri. 298.50310
H 11.9 G 0.25 Opp. 9 n 0.20964559 Node 24.60080
rms res. 0".92 (M-P) 1970-1989 e 0.1114305 Incl. 4.78855

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2432) Soomana Obs. 34 M 322.12473 Peri. 80.29064
H 13.08 G 0.25 Opp. 8 n 0.27337346 Node 7.52386
rms res. 0".79 (M-P) 1941-1986 e 0.1124816 Incl. 6.76511

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2466) Golson Obs. 40 M 98.52981 Peri. 194.42679
H 12.1 G 0.25 Opp. 9 n 0.22983800 Node 159.30346
rms res. 0".92 (M-P) 1951-1989 e 0.1636941 Incl. 5.08782

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2512) Tavastia Obs. 24 M 118.19938 Peri. 14.27599
H 12.8 G 0.25 Opp. 11 n 0.29329849 Node 69.08889
rms res. 0".94 (M-P) 1940-1990 e 0.1209102 Incl. 6.38101

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2572) 1950 DL Obs. 15 M 278.09976 Peri. 50.46468
H 13.4 G 0.25 Opp. 9 n 0.26639942 Node 199.98492
rms res. 1".26 (M-P) 1950-1989 e 0.1447439 Incl. 5.14603

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2578) Saint-Exupery Obs. 19 M 322.95460 Peri. 334.51468
H 11.70 G 0.25 Opp. 5 n 0.18925117 Node 55.47817
rms res. 1".39 (M-P) 1952-1985 e 0.0901790 Incl. 10.55629

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2612) Kathryn Obs. 26 M 155.84754 Peri. 359.97187
H 11.20 G 0.15 Opp. 5 n 0.19963495 Node 132.42597
rms res. 1".28 (M-P) 1971-1982 e 0.1607558 Incl. 20.15792

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2723) Gorshkov Obs. 18 M 45.26125 Peri. 227.11349
H 12.93 G 0.15 Opp. 5 n 0.17770603 Node 152.66946
rms res. 0".96 (M-P) 1951-1984 e 0.1833161 Incl. 2.06405

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2859) Paganini Obs. 26 M 88.87050 Peri. 340.49241
H 13.5 G 0.25 Opp. 6 n 0.29427492 Node 164.83617
rms res. 0".91 (M-P) 1978-1990 e 0.1183015 Incl. 3.55598

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2924) Mitake-Mura Obs. 28 M 133.64222 Peri. 192.97012
H 11.9 G 0.25 Opp. 6 n 0.20086344 Node 110.47542
rms res. 0".77 (M-P) 1955-1989 e 0.0470068 Incl. 3.14102

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2931) Mayakovsky Obs. 36 M 193.21941 Peri. 289.34771
H 11.82 G 0.25 Opp. 6 n 0.20199287 Node 24.97051
rms res. 0".97 (M-P) 1969-1988 e 0.0573733 Incl. 2.21702

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2996) Bowman Obs. 33 M 0.26719 Peri. 304.48678
H 11.87 G 0.15 Opp. 9 n 0.21236599 Node 334.08654
rms res. 0".90 (M-P) 1949-1989 e 0.0333027 Incl. 3.66569

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3022) Dobermann Obs. 24 M 227.98250 Peri. 247.04938
H 13.5 G 0.25 Opp. 5 n 0.36724253 Node 180.31869
rms res. 0".95 (M-P) 1980-1988 e 0.1035872 Incl. 23.52316

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3105) A907 PB Obs. 57 M 151.51292 Peri. 198.40528
H 13.0 G 0.25 Opp. 7 n 0.28952539 Node 140.02509
rms res. 0".83 (M-P) 1907-1989 e 0.1933039 Incl. 6.47960

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3138) Ciney Obs. 51 M 98.20910 Peri. 319.56351
H 13.07 G 0.25 Opp. 9 n 0.29678059 Node 224.83071
rms res. 0".86 (M-P) 1950-1986 e 0.0740177 Incl. 4.61441

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3241) 1978 WH14 Obs. 47 M 77.13304 Peri. 312.00014
H 12.09 G 0.15 Opp. 6 n 0.18590131 Node 126.82648
rms res. 0".97 (M-P) 1978-1988 e 0.1639817 Incl. 1.64702

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3261) Tvardovskij Obs. 27 M 129.94598 Peri. 182.33285
H 11.77 G 0.15 Opp. 9 n 0.19887131 Node 142.63004
rms res. 1".06 (M-P) 1949-1989 e 0.0737796 Incl. 2.74884

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3290) Azabu Obs. 33 M 232.01932 Peri. 116.93879
H 11.5 G 0.25 Opp. 5 n 0.12448351 Node 74.89407
rms res. 0".90 (M-P) 1973-1986 e 0.1223324 Incl. 2.76771

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3444) 1980 RJ2 Obs. 52 M 133.79619 Peri. 81.41003
H 12.8 G 0.25 Opp. 5 n 0.24148675 Node 342.91560
rms res. 0".97 (M-P) 1980-1990 e 0.2671248 Incl. 6.44583

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3449) Abell Obs. 26 M 85.85842 Peri. 335.60963
H 12.7 G 0.25 Opp. 5 n 0.18275528 Node 81.06151
rms res. 0".54 (M-P) 1978-1988 e 0.1630619 Incl. 2.04748

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3557) 1977 QE1 Obs. 28 M 264.94501 Peri. 125.18659
H 10.8 G 0.25 Opp. 4 n 0.12293164 Node 185.79839
rms res. 0".82 (M-P) 1977-1990 e 0.1741709 Incl. 6.03747

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3649) 1976 HQ Obs. 13 M 236.52227 Peri. 87.80666
H 11.7 G 0.25 Opp. 6 n 0.17745721 Node 118.21216
rms res. 0".97 (M-P) 1976-1989 e 0.0635500 Incl. 7.15185

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(4231) 1976 WD Obs. 17 M 137.20634 Peri. 76.62268
H 12.9 G 0.15 Opp. 5 n 0.28996197 Node 260.62277
rms res. 0".90 (M-P) 1976-1989 e 0.0654264 Incl. 8.59058

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(4362) 1978 PR4 Obs. 51 M 327.02980 Peri. 171.32193
H 13.4 G 0.25 Opp. 6 n 0.29432245 Node 33.94991
rms res. 1".04 (M-P) 1952-1989 e 0.1013988 Incl. 4.71551

(4550)* 1977 HH1 = 1978 QR = 1984 UV1
Discovered 1977 Apr. 24 by S. J. Bus at Palomar.
Id. A. Lowe (k, MPC 11049), B. G. Marsden (ibid.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 83.33094 (1950.0) P Q
n 0.17911328 Peri. 308.07074 +0.80338062 +0.59546448
a 3.1168616 Node 15.38364 -0.54478074 +0.73586379
e 0.2126963 Incl. 0.27631 -0.24040284 +0.32237639
P 5.50 H 12.8 G 0.25
Residuals in seconds of arc

770424	675	0.8-	1.2-	841031	688	1.2+	1.2-	890903	071	0.5-	1.0-
770425	675	0.4-	1.7-	841031	688	1.6-	0.1-	890903	071	0.4+	0.9-
780831	095	0.6-	0.3+	870202	688	0.1+	0.3-	891029	801	0.2-	1.0+
780905	095	0.3+	0.8+	870202	688	0.1-	0.2-	891029	801	0.3-	1.4+
841029	688	0.5+	0.5-	890902	071	0.5+	0.6-				
841029	688	0.9+	1.6-	890902	071	0.4+	0.4-				

(4551)* 1979 MC = 1979 QC
Discovered 1979 June 28 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Id. B. G. Marsden (d, MPC 5009)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 348.16608 (1950.0) P Q
n 0.26049209 Peri. 160.76253 +0.62672164 +0.77111393
a 2.4281361 Node 147.75733 -0.73965726 +0.63401262
e 0.2694159 Incl. 12.14741 -0.24520831 +0.05840646
P 3.78 H 14.1 G 0.25
Residuals in seconds of arc

790628	688	0.3-	1.7-	790823	675	0.3-	1.1+	871019	801	1.3-	0.7-
790702	688	0.2+	1.0+	790823	675	0.2-	3.2+	900528	801	0.5-	0.8-
790702	688	0.5+	0.8-	830912	688	0.4-	1.8-	900528	801	1.0-	0.7-
790723	688	0.4-	0.8-	830914	688	2.0-	0.9-	900626	801	0.9+	0.4-
790730	688	0.8+	2.6+	830914	688	0.1-	1.8+	900626	801	0.9+	0.6-
790731	095	0.5-	2.2+	831009	688	2.9+	0.6-	900626	801	0.1-	0.1+
790822	675	0.5+	3.6-	831012	688	0.2+	1.0+				
790822	675	0.8-	2.4-	831012	688	1.5+	1.0-				

(4552)* 1980 JC = 1949 SL1 = 1987 SX1 = 1987 ST9 = 1989 CO8
Discovered 1980 May 11 by A. Mrkos at Klet.
Id. S. Nakano (MPC 14344, 15406), T. Kobayashi (ibid.), K. Ichikawa (MPC 15406)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	38.38744	(1950.0)	P	Q
n	0.31200934	Peri. 318.56663	+0.62084240	+0.78390517
a	2.1529023	Node 349.80457	-0.70858256	+0.55738770
e	0.1556461	Incl. 2.22909	-0.33535871	+0.27351717
P	3.16	H 13.8	G 0.25	

Residuals in seconds of arc

490925	760	2.2+	1.6-	870923	095	0.5-	0.9-	890212	809	0.3+	0.5+
490925	760	0.0	2.6-	870926	688	1.1+	1.1+	890212	809	0.7+	0.6+
800511	046	(2.4-	6.1-)Y	870926	688	3.0-	0.2+	890213	809	0.5-	1.1-
800511	046	(3.4-	2.5-)Y	870927	399	2.0-	1.3+	890213	809	0.2-	1.3-
800513	046	1.4+	0.5-	870927	399	0.4-	1.3+	890213	809	0.1+	1.3-
800513	046	0.4-	2.4+	870927	399	1.4+	2.2+	900529	413	(3.4+	2.3-)
800514	046	1.5-	0.5-	871023	095	1.1+	0.9-	900529	413	0.2-	1.5+
800514	046	0.3-	0.5-	890211	809	0.3-	0.2+	900626	801	0.7+	0.4-
870903	095	0.7-	0.9-	890211	809	0.1-	0.2+	900626	801	0.7+	0.2-
870921	071	(4.4-	0.6+)	890211	809	0.3+	0.1-				
870921	071	(3.7-	0.5-)	890212	809	0.2+	0.8+				

(4553)* 1982 RH = 1951 EJ = 1981 ET49

Discovered 1982 Sept. 15 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. R. H. McNaught (k, MPC 14783), C. M. Bardwell (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	26.15966	(1950.0)	P	Q
n	0.23271480	Peri. 113.43714	+0.21150456	+0.97635994
a	2.6177011	Node 168.50201	-0.95833773	+0.21612705
e	0.1390007	Incl. 12.92228	-0.19197557	-0.00321982
P	4.24	H 12.8	G 0.25	

Residuals in seconds of arc

510313	024	0.2+	2.1+	820921	688	1.8+	0.3+	900423	801	0.3-	0.1-
810306	413	0.8+	0.8-	820921	095	(2.4-	5.5+)	900525	801	0.5+	0.8+
810306	413	1.0-	1.9-	820922	688	0.3+	0.6-	900525	801	0.4+	1.0+
820915	688	0.4-	1.6-	820922	688	0.9-	2.1-	900625	801	0.4-	0.0
820915	688	0.0	0.1+	821017	688	0.3-	2.7+	900625	801	0.4-	0.0
820916	095	(1.9-	3.5+)	821017	688	0.4-	1.1+				

(4554)* 1986 UT = 1974 SQ3 = 1976 YE = 1978 JF1 = 1984 JU = 1985 KG

Discovered 1986 Oct. 28 by A. Mrkos at Klet.

Id. T. Kobayashi (MPC 11743)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	16.01511	(1950.0)	P	Q
n	0.17321638	Peri. 10.40155	-0.07946089	+0.98472776
a	3.1872056	Node 255.17050	-0.92566225	-0.13055826
e	0.1186143	Incl. 9.22129	-0.36991264	+0.11517721
P	5.69	H 11.4	G 0.25	

Residuals in seconds of arc

740922	095	2.3-	2.6+	850519	691	1.3+	0.6+	880111	033	1.3-	0.1-
741010	095	1.1-	2.8+	861028	046	1.6+	3.0-	890307	413	0.3+	0.9+
761227	801	1.2+	0.6+	861028	046	(0.0	4.1-)	890307	413	0.3+	0.9+
780506	095	0.5-	0.6+	861103	046	(4.3+	4.4-)	900619	046	0.9+	2.0-
840503	688	0.7+	0.5-	861103	046	(4.4+	4.7-)	900619	046	0.9-	1.2-
840503	688	0.8+	0.1-	861107	046	0.5+	1.3-	900624	046	0.1-	0.6+
850519	691	0.1-	0.4-	861107	046	0.4+	1.2-	900624	046	0.9-	0.1-
850519	691	0.3-	0.3-	880111	033	0.3-	0.3-				

(4555)* 1987 QL = 1953 QL = 1970 QL

Discovered 1987 Aug. 24 by S. Singer-Brewster at Palomar.

Id. S. Nakano (MPC 15246)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	6.66521		(1950.0)		P		Q				
n	0.29060359	Peri.	141.49074		+0.49198723		+0.86925101				
a	2.2573665	Node	157.85231		-0.82720066		+0.48410108				
e	0.1999522	Incl.	7.38994		-0.27145465		+0.10024385				
P	3.39	H	13.8	G	0.25						

Residuals in seconds of arc

530816	024	0.4-	6.1+	870922	095	2.3+	0.3+	900523	675	0.4-	0.2+
700828	095	0.3-	1.7-	870924	413	1.5-	2.3-	900625	675	0.1+	0.9-
700829	095	0.8-	2.5-	870924	413	0.4-	0.4-	900625	675	2.0+	0.2+
700831	095	(4.6-	11.5+)	870925	095	0.7-	0.1-	900627	675	1.3+	0.6-
870824	675	0.8+	0.6-	900521	675	0.2-	0.7-	900627	675	0.3-	0.7-
870826	675	1.1-	0.4+	900521	675	1.7-	0.5-				
870901	095	2.2+	0.6+	900523	675	0.6-	0.8+				

(4556)* 1987 QW10 = 1980 TJ1 = 1984 YR2 = 1984 YK3

Discovered 1987 Aug. 27 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 15247), F. N. Bowman (d, ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	342.21817		(1950.0)		P		Q				
n	0.28060315	Peri.	212.90888		+0.81089641		+0.58007947				
a	2.3106865	Node	111.44554		-0.51735966		+0.77226812				
e	0.1454690	Incl.	4.75571		-0.27347027		+0.25905552				
P	3.51	H	13.3	G	0.25						

Residuals in seconds of arc

801005	809	0.1-	0.2+	870902	095	1.9-	0.3+	900527	801	0.7+	0.5-
801005	809	0.1-	0.4+	870903	095	0.7-	2.7+	900625	801	0.5-	0.5-
841223	095	0.2+	1.3-	870920	095	0.9+	2.2-	900625	801	0.6-	0.2-
841227	095	(23.5-	1.6+)	870922	095	1.1+	1.4-				
870827	095	0.9+	0.2-	900527	801	0.1-	0.3-				

(4557)* 1987 XD = 1966 WN = 1983 AL4

Discovered 1987 Dec. 14 by M. Yanai and K. Watanabe at Kitami.

Id. S. Nakano (MPC 14354)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	125.03391		(1950.0)		P		Q				
n	0.18725167	Peri.	40.91944		-0.88456947		-0.43014460				
a	3.0258838	Node	112.74714		+0.36049954		-0.87584228				
e	0.0421838	Incl.	11.27508		+0.29593400		-0.21880569				
P	5.26	H	11.2	G	0.25						

Residuals in seconds of arc

661123	095	(0.7-	16.4+)	871217	400	0.3+	0.1-	890409	801	0.8+	0.5+
830106	095	0.3-	2.7+	871221	400	0.9+	0.1-	890504	801	0.4+	0.5-
871214	400	1.7+	0.5+	871221	400	0.1+	0.5+	890505	801	1.7-	1.2-
871214	400	0.7+	0.8-	871221	400	0.6-	0.4+	900619	046	1.1+	0.7+
871214	400	2.4+	0.6+	880110	400	0.4+	1.0-	900619	046	0.4+	1.4-
871217	400	1.9-	1.5-	880110	400	(0.6-	3.2-)	900623	046	1.8-	0.6-
871217	400	1.7-	0.8-	880110	400	1.3-	2.0-	900623	046	(5.3-	2.0-)

(4558)* 1988 NF = 1975 XG2 = 1978 NW3

Discovered 1988 July 12 by A. Maury and J. Mueller at Palomar.

Id. S. Nakano (MPC 13858)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	242.11293		(1950.0)		P		Q
n	0.30259293	Peri.	93.88998		+0.90862888		+0.20500572
a	2.1973380	Node	254.56319		-0.31545120		+0.90783198
e	0.3630339	Incl.	22.17507		+0.27364961		+0.36580563
P	3.26	H	12.3	G	0.25		

Residuals in seconds of arc

751202	095	1.8-	0.5-		880820	675	0.1+	1.5+		881011	657	0.5-	1.6-
780707	095	2.6+	1.5+		880820	675	1.8-	0.9-		881012	801	0.7+	0.3-
880712	675	(3.2-	5.1+)		880903	568	1.7-	0.2+		881015	293	0.1-	0.2-
880712	675	(3.7-	3.3+)		880904	568	0.2-	0.1-		881015	293	1.0+	1.3-
880713	675	(1.1-	3.8-)		880908	657	0.8-	0.1+		881102	871	2.2+	2.1+
880713	675	1.0-	2.0-		880908	657	0.6-	0.1-		881102	871	1.3+	1.2+
880719	675	1.2-	1.5-		880912	657	0.9-	1.5-		881105	801	1.0+	1.0+
880720	675	0.5-	1.4-		880912	657	0.5+	0.0		881110	801	0.4+	0.4+
880720	675	0.3-	2.1+		880915	801	0.3+	0.6-		900126	474	0.9+	0.0
880720	675	2.1-	1.4-		880915	801	0.0	0.9-		900126	474	0.7+	0.8+
880720	675	0.3-	0.6+		881006	801	1.2-	0.1-		900227	474	0.2+	0.3+
880724	675	1.2+	2.6+		881007	568	1.6+	2.3+		900227	474	1.1-	0.7+
880724	675	0.2-	0.8+		881010	054	1.1+	0.1+		900323	474	1.5-	1.9+
880809	801	0.2+	0.2+		881010	054	0.0	0.5+		900323	474	0.4-	0.9+

(4559)* 1989 AP6 = 1972 YO = 1982 VW12

Discovered 1989 Jan. 11 by F. Borngen at Tautenburg.

Id. T. Kobayashi (MPC 15894)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Schmadel

M	239.55206	(1950.0)	P	Q	
n	0.18787478	Peri.	240.52136	+0.98574712	-0.01589814
a	3.0191897	Node	119.92891	+0.06663524	+0.95100063
e	0.1103741	Incl.	11.14263	-0.15447444	+0.30877993
P	5.25	H	12.3	G 0.25	

Residuals in seconds of arc

721229	095	0.0	0.1+		890114	033	0.2+	0.5+		900224	033	0.7-	0.5+
821114	095	0.2-	0.6+		890202	033	0.0	0.2-		900518	033	0.8+	0.2+
890111	033	0.9-	0.4-		890203	033	0.4+	0.1-		900518	033	0.0	0.1+
890111	033	0.6-	0.3+		890205	033	0.9+	0.7-		900519	033	0.1+	0.0

A923 RH = 1940 TE = 1982 UK11 = 1983 AK2 = 1986 TG2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	17.63584	(1950.0)	P	Q	
n	0.23535551	Peri.	341.96018	+0.95710521	+0.28968811
a	2.5980837	Node	1.24115	-0.22441985	+0.75323393
e	0.1656550	Incl.	14.74910	-0.18326304	+0.59052472
P	4.19	H	12.5	G 0.25	

Residuals in seconds of arc

230913	024	0.9+	0.8-		401008	690	1.0+	1.4-		830107	033	0.3+	0.5-
230914	024	0.4-	0.5+		821016	095	0.7-	2.4+		861007	688	0.2+	0.5+
401007	690	0.0	0.8-		830107	033	0.6+	0.8-		861007	688	1.2-	0.7+

1933 UM1 = 1971 QD = 1986 TV10 = 1990 HK2

Id. A. Lowe (k), B. G. Marsden

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

M	306.12630	(1950.0)	P	Q	
n	0.20479848	Peri.	58.45688	+0.93079100	-0.36535290
a	2.8504872	Node	322.96853	+0.32821660	+0.84979255
e	0.0788352	Incl.	1.14713	+0.16094091	+0.37996037
P	4.81	H	12.5	G 0.25	

Residuals in seconds of arc

331019	024	0.9+	0.1+		861003	095	1.3-	0.1+		900427	413	3.5+	0.2+
331020	024	0.3-	1.7-		861008	095	0.6+	1.7+		900430	413	0.8-	0.1-
710816	095	0.2+	0.2-		900427	413	0.5-	0.5+		900430	413	2.4-	0.3-

1951 SY
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 149.62111 (1950.0) P Q
n 0.23678237 Peri. 200.03651 +0.98328679 -0.16938938
a 2.5876357 Node 169.05468 +0.17318472 +0.98330313
e 0.3017965 Incl. 20.57931 -0.05616172 +0.06649956
P 4.16 H 15.0 G 0.25
From 9 observations 1951 Sept. 30-Dec. 22, mean residual 0".75.

1971 OV = 1971 QM = 1982 SL4
Id. T. Urata (d, NOC 1029), C. M. Bardwell (MPC 8785)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 104.51612 (1950.0) P Q
n 0.27195542 Peri. 143.49552 +0.91641546 +0.39982917
a 2.3594145 Node 192.97277 -0.38344650 +0.86432042
e 0.3311411 Incl. 4.56574 -0.11467991 +0.30510138
P 3.62 H 14.8 G 0.25
Residuals in seconds of arc

710726 095	0.1-	1.0+	810212 413	0.2-	0.1-	890615 675	0.4-	0.0
710801 095	1.3-	1.7-	810501 413	0.8-	2.3-	890615 675	0.4-	0.1+
710818 095	0.5+	0.3+	810503 413	0.1+	0.5-	890615 675	0.5+	0.1+
710824 095	0.7-	1.3+	820920 095	(3.1-	3.1+)	890615 675	0.3+	0.1+
710830 095	1.8+	1.5-	820926 095	0.2+	1.2-			

1973 SY = 1990 EP
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 137.55232 (1950.0) P Q
n 0.08447134 Peri. 209.06293 +0.72388020 -0.68708111
a 5.1443415 Node 194.87294 +0.67069316 +0.72206934
e 0.0654076 Incl. 14.11283 +0.16176572 +0.08084187
P 11.67 H 10.5 G 0.25
Residuals in seconds of arc

730919 675	0.0	0.5-	730929 675	0.7+	1.3+	731005 675	1.0-	1.5+
730919 675	0.3+	0.8+	730929 675	0.2-	0.8+	900302 809	1.7+	0.0
730920 675	0.5-	0.3-	730930 675	0.1-	1.2-	900302 809	0.3+	0.3+
730924 675	(3.1-	0.6-)	730930 675	0.3-	0.3+	900302 809	0.4-	0.5-
730924 675	0.8+	0.6-	731004 675	0.6+	1.4-	900304 809	0.3-	0.6+
730925 675	1.1-	0.3-	731004 675	0.2-	1.0+	900304 809	0.4-	0.4-
730925 675	0.0	0.4+	731005 675	0.9+	1.8-	900304 809	0.9-	0.0

1973 SM1 = 1990 ED2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 133.06652 (1950.0) P Q
n 0.08534112 Peri. 219.18473 +0.59154404 -0.80404092
a 5.1093284 Node 194.86683 +0.78593722 +0.59162197
e 0.0359218 Incl. 13.51213 +0.17993981 +0.05917476
P 11.55 H 11.4 G 0.25
Residuals in seconds of arc

730919 675	0.9+	0.6+	730929 675	0.1+	0.4+	731005 675	1.9-	0.4+
730919 675	0.8+	1.0+	730929 675	0.3+	1.1+	900302 809	0.3+	0.5+
730920 675	1.0-	0.9-	730930 675	0.4+	1.1-	900302 809	0.3+	0.2-
730924 675	2.2-	0.4+	730930 675	0.5+	0.7+	900302 809	0.9-	0.0
730924 675	0.2-	0.8-	731004 675	1.0+	1.0-	900304 809	0.8-	0.4+
730925 675	0.8+	1.8-	731004 675	0.1+	1.0+	900304 809	0.2+	0.3-
730925 675	0.1-	0.5+	731005 675	0.6+	0.3-	900304 809	1.0+	0.3-

1975 VD9 = 1954 ET = 1980 TN2 = 1986 RL13 = 1986 TL15 = 1990 HK1
Id. R. H. McNaught (k), G. V. Williams, N. S. Chernykh (d)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	223.59883		(1950.0)		P		Q
n	0.16889568	Peri.	20.69584		+0.78953139		-0.60312767
a	3.2413398	Node	17.87430		+0.49814405		+0.52180638
e	0.0315961	Incl.	21.69828		+0.35845877		+0.60328692
P	5.84	H	11.5	G	0.25		

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

540308	210(71.7+	13.7+)X	751128	095 (3.4+	4.3+)	900428 413	0.1-	0.4+
540309	210(45.1+	12.0-)X	801005	809 0.8+	0.6-	900429 413	0.3-	0.2+
751108	095 0.1+	0.8+	860910	095(0.03-	0.00+)	900429 413	0.2+	0.6+
751112	095 1.5+	0.1+	860914	095 0.7+	2.5-	900519 413	0.9+	0.1-
751127	095 0.2-	1.2-	861006	095 1.7-	3.3+			
751127	095 1.5-	0.3+	900428	413 0.3-	0.7-			

1977 EF1 = 1990 LB
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden

M	58.76988		(1950.0)		P		Q
n	0.23415305	Peri.	29.66517		-0.81210315		+0.58293737
a	2.6069760	Node	186.18651		-0.57145483		-0.80352257
e	0.0964315	Incl.	13.92414		-0.11801631		-0.12056325
P	4.21	H	13.5	G	0.25		

Residuals in seconds of arc

770313	095 0.4-	1.3-	770410	381 0.5-	0.3-	900626 675	0.7+	0.4-
770325	095 1.0-	1.2+	900614	413 1.5-	0.1+	900626 675	1.8-	0.2-
770326	095 2.2+	1.0+	900614	413 0.6+	0.6+	900628 675	0.2+	0.5-
770410	381 0.4-	0.7-	900615	413 1.1+	0.2+	900628 675	0.6+	0.3+

1979 PA = 1987 OU
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	284.67373		(1950.0)		P		Q
n	0.24104233	Peri.	65.74006		+0.37609382		+0.91366867
a	2.5570576	Node	227.27697		-0.90788099		+0.33011221
e	0.2626072	Incl.	12.11260		-0.18521755		+0.23714024
P	4.09	H	14.8	G	0.25		

Residuals in seconds of arc

790814	046 0.3+	0.6-	790815	046 (2.1+	2.4+)	870728 675	0.0	0.1+
790814	046 0.7-	0.2+	790819	046 0.1-	0.2-			
790815	046 0.5+	0.6+	870726	675 0.0	0.1-			

1980 TM = 1980 TX9 = 1954 CG = 1985 WF = 1989 TV13
Id. B. G. Marsden (d, MPC 9203), H. Kaneda
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	88.69487		(1950.0)		P		Q
n	0.21130830	Peri.	320.53263		+0.96078146		+0.27569215
a	2.7916332	Node	23.51565		-0.23169540		+0.85728378
e	0.1085415	Incl.	4.29476		-0.15236872		+0.43480843
P	4.66	H	12.5	G	0.25		

Residuals in seconds of arc

540201 024	0.7+	4.6+	851117 054	0.4-	1.1+	891003 809	0.2-	1.1+
801003 046	1.6+	2.8-	891002 809	1.0-	1.4+	891004 809	0.8-	0.6+
801003 046	0.2-	0.3+	891002 809	0.8-	1.1+	891004 809	0.5-	0.4+
801005 046	2.8+	2.1-	891002 809	0.4-	1.3+	891004 809	0.1-	0.2+
801005 046	1.6-	2.4-	891002 809	0.1-	1.1+			
801013 095	0.2+	0.1-	891003 809	0.0	1.1+			

1981 EF37 = 1990 MH

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5		(J-P)		Williams
M 23.93527		(1950.0)	P	Q
n 0.24238721	Peri.	296.75915	+0.46983664	+0.88273300
a 2.5475953	Node	1.31094	-0.68771920	+0.37028350
e 0.1227745	Incl.	15.20035	-0.55343999	+0.28926214
P 4.07	H	13.0	G 0.25	

Residuals in seconds of arc

810209 413	1.6-	0.7-	810329 413	0.9+	0.3+	810430 413	0.1+	0.7-
810212 413	(4.5+	0.5-)	810407 413	1.3-	0.3+	810502 413	0.9+	0.5-
810213 413	1.0+	0.6+	810407 413	1.3+	0.6+	900620 413	0.4+	0.5-
810311 413	1.8-	0.2+	810408 413	1.1-	0.2-	900620 413	0.9-	0.1+
810316 413	0.1+	0.5-	810408 413	2.0+	0.2+	900622 413	0.6+	0.3+
810316 413	0.7+	0.6+	810411 413	0.9-	0.1-			
810329 413	1.3-	0.4-	810411 413	1.2+	0.3+			

1981 WF9 = 1988 TK2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Kaneda
M 229.67612		(1950.0)	P	Q
n 0.27575877	Peri.	142.03746	+0.97574650	+0.21375907
a 2.3376698	Node	205.73863	-0.21783256	+0.92685987
e 0.1349602	Incl.	6.23693	-0.02162758	+0.30860630
P 3.57	H	14.8	G 0.25	

Residuals in seconds of arc

811116 323	0.5+	0.4-	881004 046	1.9-	1.3-	881011 046	1.4+	2.1+
811117 323	1.2+	0.4+	881004 046	0.1-	0.3-			
811123 323	1.7-	0.1-	881011 046	0.5+	0.4-			

1982 BP2 = 1989 AB2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Kaneda
M 204.80358		(1950.0)	P	Q
n 0.28092922	Peri.	205.96131	-0.04015554	-0.99847003
a 2.3088981	Node	246.35986	+0.92377340	-0.02259713
e 0.0810798	Incl.	2.37830	+0.38082836	-0.05046754
P 3.51	H	14.2	G 0.25	

Residuals in seconds of arc

820119 095	1.0+	1.8-	820121 046	(3.7-	1.1+)	890104 046	1.1+	0.5+
820120 046	0.3-	1.6-	820127 046	1.0-	0.5+	890104 046	0.5+	0.2+
820120 095	0.0	0.9+	820127 046	1.9+	2.7+	890109 046	0.5+	0.3+
820120 046	1.8-	2.2-	890103 046	2.4-	1.0-	890109 046	0.2-	1.2+
820121 046	(5.6-	3.3+)	890103 046	0.8+	0.2+			

1983 CF1 = 1990 KA1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Lowe

M 288.64168	(1950.0)	P	Q	
n 0.17629965	Peri. 225.07913	+0.95881464	+0.15253550	
a 3.1499361	Node 124.68328	-0.09700694	+0.96869793	
e 0.0506557	Incl. 16.94013	-0.26695344	+0.19585007	
P 5.59	H 10.9	G 0.25		

Residuals in seconds of arc

830211 688	0.5-	0.6+	830219 688	1.7-	0.9+	900523 675	0.1+	0.7+
830211 688	0.5+	0.8-	900521 675	1.4+	0.4-	900523 675	1.7-	0.5-
830219 688	1.6+	0.7-	900521 675	0.2+	0.2+			

1984 SQ4 = 1949 KO = 1977 KN
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 97.66296	(1950.0)	P	Q	
n 0.17462776	Peri. 71.55213	+0.28811350	+0.94294553	
a 3.1700092	Node 216.55185	-0.94976807	+0.25915054	
e 0.1316561	Incl. 16.27145	-0.12219338	+0.20903282	
P 5.64	H 12.3	G 0.25		

Residuals in seconds of arc

490529 760	0.2+	1.7-	840926 809	0.1-	0.1-	840929 809	0.1+	0.6+
490529 760	(0.3+	5.2-)	840927 809	0.7-	0.2+	840930 809	0.0	0.0
770519 095	1.4-	0.0	840927 809	0.7-	0.8+	840930 809	0.1+	0.2+
770523 095	1.3+	2.2+	840927 809	1.1-	0.5+	840930 809	0.3+	0.4+
840924 809	0.3-	0.9-	840928 809	0.8+	0.3+	841001 809	0.8+	0.4-
840924 809	0.3-	1.1-	840928 809	1.0+	0.4+	841001 809	0.1-	0.6-
840924 809	0.2+	1.0-	840928 809	1.2+	0.5+	841001 809	0.1+	0.5-
840926 809	0.4-	0.2-	840929 809	0.6-	1.0+			
840926 809	0.4-	0.2-	840929 809	0.2-	1.0+			

1985 CS1 = 1951 JW = 1989 PV1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell

M 163.28726	(1950.0)	P	Q	
n 0.28710106	Peri. 76.55177	-0.35698408	+0.93404258	
a 2.2756932	Node 172.50408	-0.88692535	-0.33514355	
e 0.2147978	Incl. 4.95244	-0.29313102	-0.12346365	
P 3.43	H 14.0	G 0.25		

Residuals in seconds of arc

510504 711	0.2-	1.0-	Y	850216 809	0.4-	0.1+	850224 809	0.1+	0.7+
850210 809	0.5-	1.0-		850216 809	0.4-	0.2+	850224 809	0.3+	0.7+
850210 809	0.1-	1.2-		850217 809	0.8-	1.0+	850224 809	0.6+	0.6+
850210 809	0.1-	1.6-		850217 809	0.6-	0.5+	850225 809	0.2-	0.2+
850211 809	0.1-	1.0-		850217 809	0.7-	0.5+	850225 809	0.2+	0.0
850211 809	0.1+	1.2-		850218 809	0.2-	1.7+	850225 809	0.5+	0.1+
850211 809	0.3+	1.4-		850218 809	0.3-	1.6+	850226 809	0.8+	0.2-
850212 809	0.1-	1.0-		850218 809	0.3+	1.5+	850226 809	0.5+	0.1-
850212 809	0.2+	1.1-		850219 809	0.3-	0.2-	850226 809	0.5+	0.2-
850212 809	0.3+	1.1-		850219 809	0.3-	0.0	850227 809	0.7-	0.2-
850214 809	0.7+	0.7-		850219 809	0.2-	0.1+	850227 809	0.7-	0.2-
850214 809	0.9+	0.7-		850220 809	0.9-	0.3-	850228 809	0.3+	0.0
850214 809	0.8+	0.7-		850220 809	0.5-	0.0	850228 809	1.3+	0.1+
850215 809	0.0	0.1+		850220 809	0.2-	0.1+	890805 071	0.1+	0.1+
850215 809	0.3-	0.0		850221 809	0.2+	1.7+	890805 071	0.2-	1.1+
850215 809	0.2-	0.0		850221 809	0.2+	1.7+			
850216 809	0.5-	0.1-		850221 809	0.6+	2.0+			

1985 JJ = 1981 SV2
Id. S. Nakano (MPC 13449)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 286.81898 (1950.0) P Q
n 0.18983082 Peri. 148.96562 +0.91537324 +0.40185001
a 2.9984138 Node 187.46708 -0.39722380 +0.89145452
e 0.1148445 Incl. 10.94113 -0.06561311 +0.20934522
P 5.19 H 12.0 G 0.25
Residuals in seconds of arc

810928	095	(2.7+	2.7-)	850515	688	0.6-	1.7-	900427	801	0.2+	0.9+
810929	511	0.1+	0.4-	850518	688	0.3+	0.8-	900520	801	0.0	0.1-
810929	511	0.3-	0.4-	850518	688	1.0+	0.0	900520	801	0.5-	0.5+
810929	511	0.4+	0.3-	850521	688	0.1-	0.7+	900525	801	0.1+	0.2+
850515	688	0.8-	0.3-	860906	095	0.2-	1.3+	900525	801	0.3+	0.4+

1985 RJ5 = 1989 UT3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 104.20258 (1950.0) P Q
n 0.26071311 Peri. 337.50184 +0.86863549 -0.49391147
a 2.4267636 Node 52.15495 +0.46174059 +0.77844967
e 0.2499138 Incl. 2.83349 +0.17963296 +0.38738555
P 3.78 H 14.6 G 0.25
Residuals in seconds of arc

850911	095	0.3-	0.8+	891028	403	0.1+	0.5- Y	891029	403	(3.8-	0.0)Y
850919	095	0.7-	1.4-	891028	403	0.1-	1.8+ Y	891101	364	0.6+	0.1-
850920	095	1.0+	0.4+	891029	403	0.8-	0.3- Y	891101	364	0.2+	0.9-

1987 BS2 = 1982 VX10 = 1989 SU9
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 22.35809 (1950.0) P Q
n 0.26590499 Peri. 314.75286 -0.18442853 -0.98253086
a 2.3950710 Node 145.85211 +0.91376244 -0.18073484
e 0.1628984 Incl. 2.54081 +0.36197282 -0.04436249
P 3.71 H 14.5 G 0.25
Residuals in seconds of arc

821112	095	0.3+	1.6-	870131	809	1.0-	0.1+	890926	809	0.2+	0.5+
870128	809	0.5-	1.0+	870131	809	0.6-	0.1+	890928	809	0.0	0.2-
870128	809	1.5+	0.1-	870201	809	0.3-	0.3+	890928	809	0.4+	0.2-
870129	809	0.6-	0.6+	870202	809	0.9-	0.3+	890928	809	0.6+	0.3-
870129	809	0.5+	0.5-	870202	809	0.2-	0.5-	890930	809	0.7-	0.6+
870130	809	0.5+	0.7-	870203	809	0.3+	0.7+	890930	809	0.3-	0.6+
870130	809	0.5+	0.2-	870203	809	0.4-	0.6+	890930	809	0.3+	0.5+
870130	809	0.4-	0.1+	890926	809	0.9-	0.2+				
870130	809	2.1+	0.2-	890926	809	0.3-	0.3+				

1987 OC = 1989 CG6
Id. A. C. Gilmore (1990 obs.), S. Nakano, G. V. Williams
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 322.07181 (1950.0) P Q
n 0.27501388 Peri. 47.51697 +0.68911438 +0.60133438
a 2.3418937 Node 271.25705 -0.72457068 +0.58016903
e 0.2092175 Incl. 23.85800 +0.01089495 +0.54936404
P 3.58 H 13.5 G 0.25
Residuals in seconds of arc

870727	675	(5.3+	1.2+)	870919	675	1.1-	1.6-	890203	033	0.7+	1.8+
870729	675	0.5-	1.4+	870919	675	2.6-	0.6+	900323	474	0.3+	0.1+
870823	675	1.3+	2.2+	871119	801	0.5-	1.6-	900323	474	0.1-	0.5+
870825	675	1.0+	0.1-	890203	033	0.8+	0.8+				

1988 CD4 = 1985 QR3 = 1990 MS
Id. E. Bowell (k), B. G. Marsden

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

M	340.01474	(1950.0)		P	Q
n	0.18767091	Peri.	93.65637	+0.97913585	+0.13988288
a	3.0213818	Node	258.34372	-0.18533349	+0.91219287
e	0.1315114	Incl.	8.65592	+0.08333359	+0.38514536
P	5.25	H	12.0	G 0.25	

Residuals in seconds of arc

850823	675	0.6- 0.2-	880221	809	1.1- 0.9+	880225	413	0.5- 0.4+
850823	675	0.6+ 0.3+	880221	809	0.9- 0.9+	880225	413	1.3+ 0.3+
880213	809	0.6+ 0.3-	880221	809	1.1- 1.0+	900618	675	0.8+ 0.0
880215	809	0.5+ 1.4-	880223	809	0.4+ 0.4-	900618	675	0.1- 0.1+
880216	809	0.5+ 0.4-	880223	809	0.0 0.6-	900621	675	0.6- 0.2+
880216	809	0.2+ 0.4-	880223	809	0.2- 1.0-	900621	675	0.1- 0.3-
880216	809	0.1+ 0.4-	880223	413	0.2+ 1.2+			

1988 CF5 = 1959 PA = 1968 QN = 1977 RB5 = 1986 VG9

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	335.28321	(1950.0)		P	Q
n	0.22063984	Peri.	181.82455	+0.98424805	-0.17533203
a	2.7123564	Node	188.37678	+0.16410501	+0.95378657
e	0.2912679	Incl.	8.95693	+0.06576715	+0.24402840
P	4.47	H	12.7	G 0.25	

Residuals in seconds of arc

590806	024	1.8- 1.9+	880215	809	1.4+ 1.5-	880221	809	1.6+ 0.9+
590807	024	0.2+ 0.9+	880216	809	0.2+ 0.7-	880223	809	2.9- 0.1+
680827	095	2.4+ 4.5-	880216	809	0.2- 1.1-	880223	809	2.6- 0.2+
770909	095	0.7- 2.0+	880216	809	0.9+ 1.2-	880223	809	2.4- 0.1+
861104	095	0.4- 0.3+	880221	809	1.4+ 0.8+			
880213	809	0.9+ 1.2+	880221	809	1.8+ 1.1+			

1988 ER2 = 1989 SF10

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	296.95399	(1950.0)		P	Q
n	0.29162367	Peri.	280.71558	-0.99709319	-0.06951128
a	2.2520993	Node	255.30388	+0.07617681	-0.91758741
e	0.0919502	Incl.	1.84833	-0.00150648	-0.39140966
P	3.38	H	13.8	G 0.25	

Residuals in seconds of arc

880315	809	0.2+ 0.0	880321	809	0.5- 1.3+	890928	809	0.2- 0.1-
880315	809	0.2- 0.2+	880321	809	0.5+ 1.2+	890928	809	0.2+ 0.0
880316	809	0.4- 0.9-	880322	809	0.1+ 0.6-	890929	809	0.0 0.0
880316	809	0.5+ 0.0	880322	809	0.3+ 0.6-	890929	809	0.1+ 0.1+
880321	809	0.5- 0.5-	890928	809	0.4- 0.2-	890929	809	0.3+ 0.1+

1988 WE = 1978 YE = 1981 RL5 = 1981 SV6

Id. H. Kaneda, N. S. Chernykh (d)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	223.82416	(1950.0)		P	Q
n	0.28781384	Peri.	274.81441	+0.91640276	-0.39224756
a	2.2719299	Node	108.29752	+0.39237879	+0.84108628
e	0.1688290	Incl.	4.81371	+0.07902449	+0.37244561
P	3.42	H	14.1	G 0.25	

Residuals in seconds of arc

781223	330	1.4- 0.0	881129	897	0.0 1.0+	881210	897	1.0+ 0.5+
781229	330	1.4+ 0.9-	881129	897	0.1- 3.1+	881210	897	0.3- 0.3-
810908	095	1.4+ 1.1-	881201	897	1.0- 1.8-			
810928	095	1.1- 0.4+	881201	897	0.1+ 1.6-			

1989 BA1 = 1988 VK6 = 1988 XP2
Id. B. G. Marsden (d, MPC 14359)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	158.51277	(1950.0)	P	Q
n	0.21376522	Peri. 166.26849	+0.56813709	-0.61751788
a	2.7702070	Node 246.08899	+0.68758867	+0.71938604
e	0.1630243	Incl. 36.51456	+0.45215270	-0.31804936
P	4.61	H 13.0	G 0.25	

Residuals in seconds of arc

881103	033	0.4-	0.2+	881213	010	0.3+	1.1+	890131	010	0.4-	0.2+
881104	033	0.3+	0.8-	881213	010	0.5-	1.1+	890206	010	(3.1+	2.8-)
881104	033	0.5+	0.1-	890109	413	0.5+	1.6-	890206	010	(5.5-	2.5+)
881208	010	(2.8-	5.2+)	890109	413	0.4+	1.4-	900130	474	0.1+	0.0
881209	010	(6.0-	3.2-)	890125	010	2.3-	1.1+	900130	474	0.3+	0.1-
881209	010	(5.0-	5.5+)	890125	010	0.6-	0.5+	900323	474	0.1+	0.1+
881209	010	(9.6-	14.3+)	890131	010	0.8+	1.6-	900323	474	0.3-	0.6+
881213	010	1.0+	1.1+	890131	010	0.6-	0.4-				

1989 GP6 = 1975 XV6
Id. B. G. Marsden (MPC 14957)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	54.27132	(1950.0)	P	Q
n	0.18499958	Peri. 141.71041	+0.12301761	+0.97872006
a	3.0503913	Node 134.66865	-0.95788902	+0.16036809
e	0.0851007	Incl. 13.35208	-0.25945192	-0.12802000
P	5.33	H 12.4	G 0.25	

Residuals in seconds of arc

751206	809	0.2+	0.5+	751207	809	0.1+	0.0	890411	809	0.7+	0.7-
751206	809	0.4+	0.1-	890405	809	0.4+	0.2-	890413	809	0.7-	0.6+
751207	809	0.7-	0.4-	890407	809	0.4-	0.3+	900529	413	0.0	0.0

1989 UU1 = 1931 DV = 1977 AR = 1979 SS10
Id. T. Kobayashi (MPC 15718)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	61.13459	(1950.0)	P	Q
n	0.29813983	Peri. 182.03014	-0.20448708	-0.97214325
a	2.2191639	Node 279.78319	+0.89968135	-0.14054265
e	0.0959724	Incl. 6.67539	+0.38569224	-0.18757736
P	3.31	H 13.0	G 0.25	

Residuals in seconds of arc

310217	690	0.1+	2.2-	790929	095	(25.9+	15.0+)	891029	400	0.8+	1.3-
310219	690	0.3-	0.0	891029	897	0.1-	1.2+	891102	897	0.2+	1.2+
310224	690	0.4-	1.3+	891029	897	0.3-	1.6+	891102	897	0.9-	1.2+
770113	095	0.3+	0.7+	891029	400	0.7+	0.8-	891121	897	0.1-	0.9-
770120	095	0.0	0.7+	891029	400	0.2-	2.0-	891121	897	0.3+	1.3-

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

M	92.40148	(1950.0)	P	Q
n	0.54343688	Peri. 135.67152	-0.28590931	+0.77878355
a	1.4872021	Node 109.85661	-0.95754693	-0.25461055
e	0.5702061	Incl. 36.41590	+0.03687456	-0.57329718
P	1.81	H 14.0	G 0.25	

From 19 observations 1990 Jan. 21-Mar. 27, mean residual 0".8.

1990 HR = 1986 VZ5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 327.13835 (1950.0) P Q
n 0.17115196 Peri. 251.78094 +0.53178309 +0.81175156
a 3.2127835 Node 52.78595 -0.61613147 +0.56639007
e 0.1366735 Incl. 17.64393 -0.58102389 +0.14234357
P 5.76 H 11.4 G 0.25
Residuals in seconds of arc

861106	688	1.8+	0.2-	900429	403	1.7-	1.4+	Y	900519	033	0.8+ 0.6-
861106	688	1.1-	0.1+	900429	403	0.2+	0.4+	Y	900519	033	0.1+ 0.7-
861204	688	0.6+	0.3+	900430	403	0.8-	1.5+	Y	900520	033	2.1+ 0.8-
861204	688	2.0-	0.5+	900430	403	0.1-	0.4-				

1990 KB1 = 1952 PA = 1976 GT6 = 1984 YS2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 19.62988 (1950.0) P Q
n 0.28402078 Peri. 168.46777 +0.34937683 +0.92451699
a 2.2921127 Node 121.81326 -0.87325220 +0.38021482
e 0.2666776 Incl. 10.32661 -0.33965634 -0.02655218
P 3.47 H 13.0 G 0.25
Residuals in seconds of arc

520810	078(12.6+	4.6+)Y		900521	675	2.1-	1.6-		900625	675	1.4+ 0.9-
760403	095	0.5+	1.4+	900523	675	0.0	1.2+		900628	675	1.5+ 0.5-
841223	095	0.9+	2.9-	900523	675	0.6-	0.5+		900628	675	0.7+ 0.2-
900521	675	2.1-	2.0-	900625	675	0.6+	0.4+				

1990 LA = 1987 SN10
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 70.38759 (1950.0) P Q
n 0.23437119 Peri. 24.69594 -0.93590945 +0.35180318
a 2.6053581 Node 175.78355 -0.34961655 -0.92171249
e 0.1107820 Incl. 13.81035 -0.04291591 -0.16334202
P 4.21 H 12.0 G 0.25
Residuals in seconds of arc

870929	033	0.3-	0.2+	900614	413	1.5-	0.3-		900626	675	1.5+ 0.6-
870929	033	0.2+	0.3+	900614	413	1.6+	1.1+		900628	675	1.0+ 2.2-
870930	033	0.1+	0.1-	900615	413	0.2-	0.1+		900628	675	0.7- 0.3-
870930	033	0.4-	0.3-	900615	413	0.3+	0.0		900629	413	0.7+ 0.7+
871001	033	0.5+	0.1-	900626	675	1.6-	0.1+		900629	413	1.3- 1.5+

1990 MA
Epoch 1990 June 18.0 ET = JDE 2448060.5 Williams
M 351.18067 (1950.0) P Q
n 0.36998175 Peri. 184.89577 -0.07859732 +0.75410894
a 1.9216864 Node 81.79770 -0.89077376 +0.24053636
e 0.1500147 Incl. 41.20599 -0.44759867 -0.61111535
P 2.66 H 13.5 G 0.25
From 8 observations 1990 June 22-29.

1990 MB
Epoch 1990 June 18.0 ET = JDE 2448060.5 Marsden
M 290.10757 (1950.0) P Q
n 0.52455938 Peri. 95.48046 +0.88382621 +0.34867389
a 1.5226717 Node 244.43778 -0.42764394 +0.87246659
e 0.0654605 Incl. 20.22669 +0.18966259 +0.34238659
P 1.88 H 16.0 G 0.25
From 13 observations 1990 June 20-July 14.

1990 MF
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M	38.20502	(1950.0)	P	Q
n	0.43586574	Peri. 113.75269	+0.80547810	+0.59241032
a	1.7227975	Node 209.92639	-0.55468962	+0.74415623
e	0.4480193	Incl. 1.83445	-0.20862516	+0.30867706
P	2.26	H 17.0	G 0.25	

From 33 observations 1990 June 22-July 8, mean residual 1".1.

1990 OA
Epoch 1990 July 8.0 ET = JDE 2448080.5 Marsden

M	2.79159	(1950.0)	P	Q
n	0.31025573	Peri. 152.86481	+0.19778971	+0.97438861
a	2.1610070	Node 128.34755	-0.92225467	+0.22195968
e	0.4236467	Incl. 7.84054	-0.33215290	-0.03606563
P	3.18	H 17.5	G 0.25	

From 13 observations 1990 July 19-22.

6097 P-L = 1989 RN4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	129.73284	(1950.0)	P	Q
n	0.27046558	Peri. 37.59916	+0.68207454	+0.73095029
a	2.3680757	Node 275.41848	-0.67616698	+0.61889943
e	0.2081698	Incl. 1.26888	-0.27851847	+0.28753291
P	3.64	H 15.5	G 0.25	

Residuals in seconds of arc

600924	675	0.1-	0.6+	601017	675	0.2+	0.3+	890902 071	0.8- 1.7+
600925	675	0.7+	0.3+	601022	675	0.5+	0.4-	890902 071	0.1- 0.2-
600926	675	0.7-	0.2-	601024	675	0.3-	0.3+	890903 071	1.5+ 0.6-
600928	675	0.4-	0.2+	601026	675	0.0	1.0-	890903 071	0.5- 1.2-

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EPHEMERIDES.

Comet Tsuchiya-Kiuchi (1990i) Elements MPC 16684

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990	07 28	12 03.96	+25 30.6	1.904	1.482	50.5	31.9	8.6
1990	08 02	11 57.03	+23 40.6					
1990	08 07	11 51.04	+21 55.0	2.007	1.384	39.5	27.8	8.4
1990	08 12	11 45.77	+20 13.5					
1990	08 17	11 41.08	+18 35.3	2.085	1.294	28.9	22.2	8.2

1990 MA a,e,i = 1.92, 0.15, 41 Elements MPC 16700

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	07 28	15 18.80	-33 26.1	0.966	1.636	111.2	35.4	15.8
1990	08 07	15 21.88	-37 20.8					
1990	08 17	15 29.96	-40 42.9	1.184	1.644	96.6	37.7	16.3
1990	08 27	15 42.59	-43 39.7					
1990	09 06	15 59.40	-46 15.5	1.402	1.659	85.3	37.3	16.7
1990	09 16	16 20.17	-48 31.6					
1990	09 26	16 44.78	-50 27.7	1.605	1.679	76.3	35.5	16.9
1990	10 06	17 13.01	-52 01.6					
1990	10 16	17 44.56	-53 10.2	1.787	1.705	68.9	33.1	17.1

Comet McNaught-Hughes (1990g) Elements MPC 16684

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990	07 28	15 31.83	-53 20.4	2.915	3.470	115.1	15.4	16.7
1990	08 07	15 19.09	-49 23.2					

1990 08 17	15 11.70	-45 42.1	3.112	3.348	94.6	17.5	16.7
1990 08 27	15 08.24	-42 23.6					
1990 09 06	15 07.67	-39 29.2	3.359	3.233	74.2	17.5	16.7
1990 09 16	15 09.22	-36 57.7					
1990 09 26	15 12.38	-34 46.6	3.595	3.125	54.8	15.2	16.7
1990 10 06	15 16.71	-32 52.7					
1990 10 16	15 21.93	-31 12.8	3.773	3.026	36.2	11.2	16.7

1990 MB a,e,i = 1.52, 0.07, 20 Elements MPC 16700

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 07 28	16 35.65	+07 08.4	0.681	1.461	117.5	38.1	17.3
1990 08 07	16 42.55	+07 23.9					
1990 08 17	16 53.14	+07 09.2	0.802	1.447	105.2	42.5	17.8
1990 08 27	17 06.93	+06 34.6					
1990 09 06	17 23.50	+05 48.6	0.921	1.436	96.1	44.3	18.1
1990 09 16	17 42.43	+04 57.5					
1990 09 26	18 03.50	+04 06.0	1.034	1.428	89.0	44.6	18.4
1990 10 06	18 26.44	+03 18.8					
1990 10 16	18 51.00	+02 38.9	1.144	1.424	83.1	44.0	18.6
1990 10 26	19 16.99	+02 09.5					
1990 11 05	19 44.18	+01 52.6	1.253	1.423	77.7	42.9	18.7
1990 11 15	20 12.32	+01 49.7					
1990 11 25	20 41.21	+02 01.7	1.367	1.426	72.6	41.3	18.9
1990 12 05	21 10.59	+02 28.4					
1990 12 15	21 40.27	+03 09.0	1.489	1.433	67.3	39.3	19.0

1990 OA a,e,i = 2.16, 0.42, 8 Elements MPC 16701

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 07 28	20 47.78	-15 49.2	0.264	1.279	173.7	5.0	15.5
1990 08 02	20 53.29	-18 09.1					
1990 08 07	20 58.35	-20 15.6	0.291	1.304	176.2	3.0	15.7
1990 08 12	21 03.07	-22 05.6					
1990 08 17	21 07.55	-23 37.4	0.330	1.336	167.1	9.7	16.3
1990 08 22	21 11.95	-24 50.3					
1990 08 27	21 16.41	-25 44.7	0.383	1.374	158.6	15.6	16.9
1990 09 01	21 21.02	-26 21.7					
1990 09 06	21 25.84	-26 43.2	0.448	1.416	150.8	20.3	17.4

1990 BG a,e,i = 1.49, 0.57, 36 Elements MPC 16699

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 07 28	04 09.92	-20 41.1	0.929	1.176	74.3	56.2	16.0
1990 08 07	04 26.86	-24 19.6					
1990 08 17	04 40.10	-27 53.1	1.014	1.358	84.1	47.9	16.3
1990 08 27	04 49.25	-31 27.4					
1990 09 06	04 53.77	-35 02.5	1.068	1.523	94.3	41.3	16.5
1990 09 16	04 53.02	-38 34.2					
1990 09 26	04 46.23	-41 53.1	1.110	1.671	104.4	35.5	16.6
1990 10 06	04 32.92	-44 43.1					
1990 10 16	04 13.40	-46 45.6	1.166	1.803	112.7	30.7	16.8
1990 10 26	03 49.25	-47 41.3					
1990 11 05	03 23.57	-47 18.9	1.258	1.918	116.5	27.6	17.0
1990 11 15	02 59.79	-45 40.9					
1990 11 25	02 40.48	-43 00.8	1.405	2.018	113.9	26.6	17.3
1990 12 05	02 26.70	-39 38.2					
1990 12 15	02 18.27	-35 51.9	1.605	2.103	106.1	26.7	17.7
1990 12 25	02 14.49	-31 56.1					
1991 01 04	02 14.53	-28 01.1	1.847	2.174	95.5	26.8	18.1
1991 01 14	02 17.59	-24 12.8					
1991 01 24	02 23.08	-20 34.5	2.113	2.232	83.8	26.0	18.4

1991 02 03	02 30.48	-17 08.2				
1991 02 13	02 39.43	-13 54.5	2.383	2.277	71.8	24.3	18.7
1991 02 23	02 49.64	-10 53.4				
1991 03 05	03 00.88	-08 04.8	2.638	2.309	60.1	21.8	18.9
1991 03 15	03 13.00	-05 28.2				
1991 03 25	03 25.87	-03 03.3	2.863	2.328	48.6	18.8	19.0
1991 04 04	03 39.37	-00 49.8				
1991 04 14	03 53.43	+01 12.8	3.046	2.335	37.7	15.2	19.0

1990 MF a,e,i = 1.72, 0.45, 2 Elements MPC 16701

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 07 28	04 42.43	+41 52.7	0.091	0.962	52.1	123.6	16.7
1990 08 02	04 44.52	+37 21.5					
1990 08 07	04 48.13	+34 20.9	0.139	0.951	59.5	113.3	16.8
1990 08 12	04 52.76	+32 12.8					
1990 08 17	04 58.02	+30 37.2	0.185	0.955	66.9	102.8	16.8
1990 08 22	05 03.59	+29 22.8					
1990 08 27	05 09.20	+28 22.6	0.229	0.973	74.2	92.7	16.8
1990 09 01	05 14.64	+27 32.2					
1990 09 06	05 19.72	+26 48.7	0.266	1.004	81.6	83.2	16.8
1990 09 16	05 27.93	+25 34.4					
1990 09 26	05 32.00	+24 29.8	0.320	1.097	98.5	64.7	16.8
1990 10 06	05 30.51	+23 29.1					
1990 10 16	05 22.42	+22 28.2	0.353	1.214	120.5	45.0	16.7
1990 10 26	05 07.49	+21 22.9					
1990 11 05	04 47.35	+20 11.4	0.393	1.343	148.7	22.6	16.6
1990 11 15	04 25.19	+18 56.7					
1990 11 25	04 04.86	+17 48.4	0.488	1.474	177.0	2.0	16.5

Comet Levy (1990c) Elements MPC 16684

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990 08 07	23 00.44	+25 19.5	0.768	1.615	129.4	29.0	5.5
1990 08 12	22 29.89	+21 43.8					
1990 08 17	21 47.10	+15 31.0	0.524	1.492	150.7	19.4	4.3
1990 08 22	20 50.32	+05 34.2					
1990 08 27	19 43.54	-07 13.6	0.430	1.373	141.4	27.4	3.5
1990 09 01	18 37.77	-18 55.6					
1990 09 06	17 42.88	-26 53.5	0.555	1.259	103.6	51.1	3.7
1990 09 11	17 01.31	-31 39.5					
1990 09 16	16 30.73	-34 30.6	0.786	1.155	79.3	58.8	4.1
1990 09 21	16 07.99	-36 18.6					
1990 09 26	15 50.59	-37 31.1	1.037	1.065	62.9	56.9	4.4
1990 10 01	15 36.77	-38 22.6					
1990 10 06	15 25.39	-39 00.5	1.275	0.995	50.1	50.4	4.5
1990 10 11	15 15.68	-39 28.8					
1990 10 16	15 07.17	-39 50.0	1.482	0.951	39.3	41.6	4.6
1990 10 21	14 59.51	-40 05.7					
1990 10 26	14 52.49	-40 16.9	1.646	0.939	30.6	32.6	4.8

Periodic Comet Skiff-Kosai (1976 XVI) Elements MPC 13042

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1990 08 17	02 50.74	+13 27.2	3.115	3.423	-0.65	-3.6	20.8
1990 08 27	02 55.06	+13 42.0					
1990 09 06	02 57.69	+13 49.4	2.803	3.376	-0.74	-4.0	20.5
1990 09 16	02 58.46	+13 49.0					
1990 09 26	02 57.23	+13 40.8	2.535	3.331	-0.83	-4.5	20.2
1990 10 06	02 54.01	+13 25.3					

1990 10 16	02 48.99	+13 03.4	2.341	3.286	-0.90	-5.0	20.0
1990 10 26	02 42.57	+12 36.8					
1990 11 05	02 35.35	+12 08.3	2.252	3.243	-0.93	-5.3	19.9
1990 11 15	02 28.08	+11 41.2					
1990 11 25	02 21.52	+11 19.1	2.279	3.200	-0.90	-5.3	19.8
1990 12 05	02 16.35	+11 04.9					
1990 12 15	02 13.03	+11 00.8	2.409	3.159	-0.82	-5.1	19.9
1990 12 25	02 11.83	+11 08.0					
1991 01 04	02 12.82	+11 26.2	2.611	3.120	-0.75	-4.6	20.0
1991 01 14	02 15.92	+11 54.8					
1991 01 24	02 21.02	+12 32.4	2.849	3.082	-0.68	-4.2	20.2
1991 02 03	02 27.92	+13 17.5					
1991 02 13	02 36.44	+14 08.5	3.095	3.046	-0.64	-3.8	20.3
1991 02 23	02 46.40	+15 03.7					
1991 03 05	02 57.63	+16 01.6	3.325	3.013	-0.62	-3.4	20.4
1991 03 15	03 09.99	+17 00.7					
1991 03 25	03 23.35	+17 59.5	3.527	2.982	-0.60	-3.0	20.5
1991 04 04	03 37.60	+18 56.8					
1991 04 14	03 52.63	+19 51.5	3.689	2.954	-0.61	-2.6	20.5

Periodic Comet Taylor Elements MPC 12136

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 08 17	05 12.31	+07 07.2	2.438	2.237	66.6	24.5	20.4
1990 08 27	05 30.68	+07 27.1					
1990 09 06	05 48.70	+07 40.6	2.174	2.164	76.1	26.9	20.0
1990 09 16	06 06.22	+07 49.2					
1990 09 26	06 23.01	+07 54.6	1.911	2.100	86.3	28.5	19.6
1990 10 06	06 38.88	+07 59.4					
1990 10 16	06 53.55	+08 07.0	1.655	2.045	97.8	28.9	19.2
1990 10 26	07 06.71	+08 21.4					
1990 11 05	07 18.02	+08 48.1	1.416	2.002	111.3	27.5	18.8
1990 11 15	07 27.08	+09 32.8					
1990 11 25	07 33.46	+10 42.3	1.206	1.971	127.7	23.3	18.4
1990 12 05	07 36.81	+12 22.8					
1990 12 15	07 36.89	+14 37.8	1.049	1.954	147.9	15.5	18.0
1990 12 25	07 33.79	+17 26.2					
1991 01 04	07 28.17	+20 38.8	0.973	1.951	171.9	4.1	17.8
1991 01 14	07 21.20	+23 59.6					
1991 01 24	07 14.54	+27 09.9	1.000	1.963	163.0	8.4	17.9
1991 02 03	07 09.86	+29 55.0					
1991 02 13	07 08.35	+32 07.7	1.125	1.988	140.4	18.4	18.2
1991 02 23	07 10.63	+33 47.2					
1991 03 05	07 16.73	+34 56.0	1.321	2.027	121.8	24.6	18.7
1991 03 15	07 26.25	+35 38.0					
1991 03 25	07 38.67	+35 56.3	1.560	2.077	106.6	27.4	19.1
1991 04 04	07 53.38	+35 53.8					
1991 04 14	08 09.78	+35 32.9	1.823	2.138	93.8	27.9	19.6
1991 04 24	08 27.40	+34 55.4					
1991 05 04	08 45.79	+34 03.4	2.100	2.207	82.5	26.9	20.0
1991 05 14	09 04.61	+32 58.4					
1991 05 24	09 23.60	+31 42.2	2.380	2.284	72.2	25.0	20.5
1991 06 03	09 42.57	+30 16.5					
1991 06 13	10 01.37	+28 42.9	2.657	2.366	62.5	22.4	20.9

Periodic Comet Harrington-Abell Elements MPC 13045

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 09 06	01 22.26	+17 28.4	2.278	3.088	136.4	13.0	20.6
1990 09 16	01 17.57	+17 47.5					
1990 09 26	01 10.80	+17 52.8	2.028	2.977	157.0	7.6	20.1

1990 10 06	01 02.38	+17 43.5					
1990 10 16	00 53.04	+17 20.3	1.881	2.865	168.9	3.8	19.8
1990 10 26	00 43.71	+16 46.2					
1990 11 05	00 35.44	+16 06.5	1.845	2.753	150.7	10.1	19.8
1990 11 15	00 29.06	+15 27.4					
1990 11 25	00 25.20	+14 55.0	1.906	2.641	129.0	16.9	20.0
1990 12 05	00 24.16	+14 34.0					
1990 12 15	00 25.96	+14 27.0	2.028	2.529	109.2	21.6	20.2
1990 12 25	00 30.53	+14 35.5					
1991 01 04	00 37.64	+14 59.3	2.176	2.419	92.0	24.0	20.3
1991 01 14	00 47.08	+15 37.4					
1991 01 24	00 58.64	+16 28.5	2.321	2.311	77.1	24.5	20.4
1991 02 03	01 12.14	+17 30.6					
1991 02 13	01 27.43	+18 41.7	2.449	2.208	64.3	23.8	20.4
1991 02 23	01 44.42	+19 59.6					
1991 03 05	02 03.02	+21 21.8	2.550	2.110	53.1	22.1	20.3
1991 03 15	02 23.19	+22 45.8					
1991 03 25	02 44.90	+24 08.7	2.624	2.020	43.5	19.8	20.2
1991 04 04	03 08.11	+25 27.7					
1991 04 14	03 32.77	+26 39.7	2.674	1.940	35.0	17.3	20.1

Comet Skorichenko-George (1989e1) Elements MPC 16378

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 09 06	08 31.73	-02 44.1	3.209	2.482	37.2	14.2	15.5
1990 09 16	08 42.65	-06 04.9					
1990 09 26	08 52.35	-09 28.5	3.214	2.671	49.3	16.5	15.8
1990 10 06	09 00.73	-12 54.6					
1990 10 16	09 07.68	-16 22.7	3.193	2.864	62.0	17.9	16.1
1990 10 26	09 13.02	-19 51.5					
1990 11 05	09 16.55	-23 19.4	3.158	3.058	75.2	18.3	16.4
1990 11 15	09 18.07	-26 43.8					
1990 11 25	09 17.34	-30 01.2	3.127	3.252	88.4	17.7	16.6
1990 12 05	09 14.19	-33 07.1					
1990 12 15	09 08.50	-35 56.2	3.122	3.446	100.9	16.3	16.8
1990 12 25	09 00.35	-38 22.6					
1991 01 04	08 50.05	-40 20.5	3.164	3.639	111.3	14.6	17.1
1991 01 14	08 38.19	-41 45.6					
1991 01 24	08 25.62	-42 35.6	3.270	3.831	117.9	13.1	17.4
1991 02 03	08 13.32	-42 51.4					
1991 02 13	08 02.19	-42 36.8	3.447	4.021	119.1	12.4	17.7
1991 02 23	07 52.93	-41 57.4					
1991 03 05	07 45.95	-41 00.4	3.692	4.210	115.2	12.3	18.1
1991 03 15	07 41.37	-39 52.5					
1991 03 25	07 39.12	-38 39.9	3.990	4.397	107.7	12.5	18.4
1991 04 04	07 39.02	-37 27.7					
1991 04 14	07 40.78	-36 19.5	4.327	4.583	98.4	12.5	18.8
1991 04 24	07 44.15	-35 18.3					
1991 05 04	07 48.86	-34 26.0	4.683	4.766	88.6	12.2	19.1
1991 05 14	07 54.67	-33 43.5					
1991 05 24	08 01.38	-33 11.8	5.041	4.948	78.9	11.6	19.5

Periodic Comet Wild 2 (1989t) Elements MPC 12125

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1990 09 26	10 02.91	+11 45.4	2.522	1.773	33.4	18.2	17.5
1990 10 06	10 29.34	+09 29.1					
1990 10 16	10 56.08	+07 02.3	2.345	1.694	39.2	21.8	17.1
1990 10 26	11 23.12	+04 27.3					
1990 11 05	11 50.46	+01 46.8	2.182	1.633	44.6	25.3	16.8
1990 11 15	12 18.08	-00 56.2					

1990 11 25	12 45.93	-03 37.9	2.039	1.593	49.9	28.3	16.6
1990 12 05	13 13.96	-06 14.8					
1990 12 15	13 42.07	-08 43.2	1.914	1.578	55.4	30.9	16.4
1990 12 25	14 10.10	-10 59.6					
1991 01 04	14 37.86	-13 01.1	1.804	1.589	61.4	32.9	16.3
1991 01 14	15 05.11	-14 45.5					
1991 01 24	15 31.53	-16 11.5	1.703	1.624	68.4	34.3	16.3
1991 02 03	15 56.80	-17 18.7					
1991 02 13	16 20.58	-18 07.7	1.604	1.681	76.8	34.9	16.3
1991 02 23	16 42.46	-18 40.1					
1991 03 05	17 02.08	-18 57.9	1.502	1.757	87.0	34.3	16.3
1991 03 15	17 19.08	-19 04.0					
1991 03 25	17 33.03	-19 01.3	1.398	1.848	99.6	32.1	16.4
1991 04 04	17 43.62	-18 53.1					
1991 04 14	17 50.50	-18 42.2	1.299	1.950	115.1	27.8	16.5
1991 04 24	17 53.43	-18 31.3					
1991 05 04	17 52.39	-18 22.5	1.226	2.059	134.1	20.6	16.6
1991 05 14	17 47.65	-18 16.9					
1991 05 24	17 39.87	-18 14.9	1.209	2.174	156.1	10.9	16.8
1991 06 03	17 30.23	-18 16.3					
1991 06 13	17 20.08	-18 21.0	1.278	2.291	175.2	2.1	17.1
1991 06 23	17 10.82	-18 29.1					
1991 07 03	17 03.52	-18 40.8	1.445	2.410	156.2	9.8	17.6
1991 07 13	16 58.77	-18 56.3					
1991 07 23	16 56.83	-19 15.3	1.699	2.530	135.9	16.2	18.2
1991 08 02	16 57.60	-19 37.1					
1991 08 12	17 00.82	-20 00.7	2.019	2.648	117.8	19.8	18.8
1991 08 22	17 06.22	-20 25.0					
1991 09 01	17 13.45	-20 48.8	2.379	2.765	101.6	20.9	19.3
1991 09 11	17 22.25	-21 11.0					
1991 09 21	17 32.34	-21 30.6	2.760	2.881	86.6	20.4	19.8
1991 10 01	17 43.49	-21 46.8					
1991 10 11	17 55.51	-21 58.9	3.141	2.994	72.4	18.5	20.2
1991 10 21	18 08.23	-22 06.3					
1991 10 31	18 21.47	-22 08.7	3.506	3.105	58.5	15.8	20.6

1989 GP6 a,e,i = 3.05, 0.09, 13 Elements MPC 16699

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 07 28	21 54.28	-14 07.3	1.880	2.848	158.2	7.6	16.5
1990 08 07	21 47.95	-15 29.3					
1990 08 17	21 40.79	-16 53.3	1.848	2.860	176.8	1.1	16.2
1990 08 27	21 33.63	-18 12.6					
1990 09 06	21 27.35	-19 21.4	1.926	2.872	155.1	8.5	16.6
1990 09 16	21 22.67	-20 16.0					
1990 09 26	21 20.07	-20 54.7	2.101	2.886	133.6	14.6	17.0
1990 10 06	21 19.80	-21 17.4					
1990 10 16	21 21.85	-21 25.1	2.344	2.900	114.3	18.3	17.4

A923 RH a,e,i = 2.60, 0.17, 15 Elements MPC 16692

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 08 17	00 03.85	-08 52.1	1.259	2.168	145.0	15.5	15.4
1990 08 27	23 56.65	-08 27.8					
1990 09 06	23 46.88	-08 04.4	1.174	2.169	167.3	5.9	14.9
1990 09 16	23 35.68	-07 38.0					
1990 09 26	23 24.51	-07 04.7	1.186	2.174	166.6	6.1	15.0
1990 10 06	23 14.90	-06 22.1					
1990 10 16	23 07.90	-05 29.7	1.296	2.183	144.1	15.5	15.5
1990 10 26	23 04.11	-04 27.7					
1990 11 05	23 03.64	-03 16.9	1.482	2.196	124.0	22.0	16.0

1989 EK2 a,e,i = 2.56, 0.18, 8 Elements MPC 14624

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 41.84	-04 45.4	1.470	2.300	134.9	18.2	16.5
1990	08 27	00 37.83	-05 05.7					
1990	09 06	00 31.08	-05 34.2	1.378	2.336	156.3	10.0	16.1
1990	09 16	00 22.27	-06 05.4					
1990	09 26	00 12.44	-06 32.7	1.377	2.374	172.5	3.1	15.8
1990	10 06	00 02.87	-06 49.8					
1990	10 16	23 54.70	-06 52.6	1.479	2.413	153.6	10.6	16.4
1990	10 26	23 48.80	-06 39.1					
1990	11 05	23 45.60	-06 09.7	1.673	2.453	132.4	17.4	16.9

1978 GJ a,e,i = 2.40, 0.11, 5 Elements MPC 13599

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 37.92	+10 22.1	1.550	2.336	130.2	19.3	17.0
1990	08 27	00 35.14	+10 06.2					
1990	09 06	00 29.76	+09 28.1	1.426	2.361	151.5	11.8	16.6
1990	09 16	00 22.31	+08 29.6					
1990	09 26	00 13.71	+07 15.7	1.387	2.386	173.4	2.8	16.2
1990	10 06	00 05.13	+05 54.5					
1990	10 16	23 57.71	+04 35.2	1.453	2.411	159.0	8.5	16.5
1990	10 26	23 52.33	+03 26.4					
1990	11 05	23 49.53	+02 34.0	1.616	2.435	136.8	16.2	17.0

1988 GH a,e,i = 3.06, 0.07, 10 Elements MPC 13154

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 40.00	-02 05.7	2.493	3.284	134.6	12.7	16.7
1990	08 27	00 36.06	-02 23.6					
1990	09 06	00 30.34	-02 48.7	2.337	3.284	156.1	7.1	16.4
1990	09 16	00 23.23	-03 17.9					
1990	09 26	00 15.30	-03 47.5	2.283	3.283	175.0	1.5	16.0
1990	10 06	00 07.28	-04 13.4					
1990	10 16	23 59.92	-04 31.8	2.345	3.281	156.0	7.1	16.4
1990	10 26	23 53.84	-04 40.0					
1990	11 05	23 49.52	-04 36.5	2.511	3.278	133.9	12.6	16.7

1986 SC2 a,e,i = 2.46, 0.18, 11 Elements MPC 14790

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 37.59	+19 34.2	1.472	2.219	125.5	21.8	16.5
1990	08 27	00 35.50	+19 37.0					
1990	09 06	00 30.66	+19 10.1	1.356	2.257	145.0	14.8	16.2
1990	09 16	00 23.65	+18 12.7					
1990	09 26	00 15.41	+16 47.5	1.315	2.296	163.9	6.9	15.9
1990	10 06	00 07.21	+15 02.6					
1990	10 16	00 00.23	+13 09.4	1.374	2.335	159.7	8.5	16.0
1990	10 26	23 55.38	+11 19.8					
1990	11 05	23 53.20	+09 43.9	1.532	2.376	139.6	15.7	16.6

1983 AA3 a,e,i = 2.67, 0.14, 9 Elements MPC 13311

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 45.17	-01 49.5	2.065	2.856	133.3	15.0	17.6
1990	08 27	00 41.53	-02 04.3					
1990	09 06	00 35.63	-02 27.9	1.886	2.831	154.7	8.7	17.2
1990	09 16	00 27.85	-02 57.4					
1990	09 26	00 18.84	-03 28.1	1.804	2.804	174.9	1.8	16.7
1990	10 06	00 09.52	-03 54.9					
1990	10 16	00 00.88	-04 13.0	1.835	2.777	156.4	8.3	17.0
1990	10 26	23 53.77	-04 18.9					
1990	11 05	23 48.84	-04 10.7	1.967	2.749	134.0	15.0	17.4

9086 P-L a,e,i = 2.23, 0.31, 5 Elements MPC 6106

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 13.94	+11 01.8	0.708	1.594	135.0	26.7	18.3
1990	08 27	00 19.09	+11 33.8					
1990	09 06	00 21.15	+11 29.0	0.598	1.562	152.0	17.7	17.7
1990	09 16	00 20.33	+10 44.6					
1990	09 26	00 17.51	+09 24.2	0.545	1.544	171.1	5.8	17.0
1990	10 06	00 14.26	+07 40.9					
1990	10 16	00 12.23	+05 53.4	0.559	1.540	162.8	11.0	17.3
1990	10 26	00 12.81	+04 20.9					
1990	11 05	00 16.77	+03 16.9	0.640	1.553	143.4	22.4	17.9

1979 FD3 a,e,i = 2.24, 0.12, 3 Elements MPC 14780

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 46.44	+01 28.8	1.582	2.381	131.9	18.4	18.2
1990	08 27	00 43.22	+00 48.1					
1990	09 06	00 37.31	-00 08.2	1.457	2.403	153.8	10.7	17.8
1990	09 16	00 29.22	-01 15.4					
1990	09 26	00 19.82	-02 26.2	1.423	2.424	175.5	1.8	17.4
1990	10 06	00 10.33	-03 32.0					
1990	10 16	00 01.88	-04 25.4	1.496	2.442	156.5	9.4	17.9
1990	10 26	23 55.43	-05 01.0					
1990	11 05	23 51.56	-05 16.6	1.664	2.459	134.1	16.8	18.3

1978 VG8 a,e,i = 2.56, 0.27, 4 Elements MPC 12696

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 37.79	-04 21.9	0.997	1.862	135.8	22.3	17.3
1990	08 27	00 38.23	-04 38.4					
1990	09 06	00 35.27	-05 07.2	0.902	1.865	155.2	13.1	16.8
1990	09 16	00 29.43	-05 41.5					
1990	09 26	00 21.80	-06 12.3	0.880	1.878	172.1	4.2	16.4
1990	10 06	00 13.97	-06 30.2					
1990	10 16	00 07.46	-06 28.9	0.943	1.899	156.4	12.1	16.9
1990	10 26	00 03.42	-06 05.6					
1990	11 05	00 02.50	-05 20.9	1.085	1.929	136.5	20.7	17.5

4170 T-2 a,e,i = 2.26, 0.12, 7 Elements MPC 15258

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 44.54	+00 37.3	1.509	2.318	132.7	18.7	17.1
1990	08 27	00 43.07	-00 17.3					
1990	09 06	00 38.82	-01 30.6	1.342	2.290	153.8	11.2	16.5
1990	09 16	00 32.10	-02 57.8					
1990	09 26	00 23.68	-04 30.5	1.263	2.262	173.3	3.0	16.0
1990	10 06	00 14.70	-05 58.0					
1990	10 16	00 06.45	-07 10.3	1.287	2.234	155.8	10.6	16.4
1990	10 26	00 00.08	-07 59.8					
1990	11 05	23 56.40	-08 23.2	1.401	2.205	133.6	19.0	16.8

1988 EM1 a,e,i = 2.65, 0.20, 12 Elements MPC 15889

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 44.72	+04 14.4	2.293	3.058	131.3	14.4	17.9
1990	08 27	00 42.07	+03 24.8					
1990	09 06	00 37.45	+02 20.3	2.101	3.034	153.0	8.7	17.5
1990	09 16	00 31.17	+01 03.7					
1990	09 26	00 23.77	-00 20.1	2.007	3.008	175.8	1.4	17.1
1990	10 06	00 16.01	-01 44.2					
1990	10 16	00 08.71	-03 02.1	2.028	2.979	158.7	7.0	17.4
1990	10 26	00 02.62	-04 07.5					
1990	11 05	23 58.35	-04 56.5	2.157	2.949	135.7	13.6	17.7

1977 RJ6 a,e,i = 2.20, 0.17, 6 Elements MPC 12567

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 55.03	+00 42.5	1.299	2.100	130.2	21.6	16.6
1990	08 27	00 51.87	+00 34.7					
1990	09 06	00 45.45	+00 12.2	1.197	2.139	151.8	12.9	16.2
1990	09 16	00 36.37	-00 20.8					
1990	09 26	00 25.69	-00 58.1	1.177	2.177	175.1	2.2	15.8
1990	10 06	00 14.89	-01 31.8					
1990	10 16	00 05.39	-01 55.3	1.258	2.216	158.6	9.5	16.3
1990	10 26	23 58.29	-02 03.9					
1990	11 05	23 54.20	-01 55.7	1.431	2.253	136.2	17.7	16.9

1983 CA1 a,e,i = 2.78, 0.16, 7 Elements MPC 14189

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 49.17	+09 28.6	2.450	3.177	128.2	14.5	18.7
1990	08 27	00 45.77	+09 35.2					
1990	09 06	00 40.39	+09 29.0	2.255	3.163	149.3	9.4	18.3
1990	09 16	00 33.34	+09 10.2					
1990	09 26	00 25.17	+08 40.6	2.154	3.148	171.0	2.8	17.9
1990	10 06	00 16.63	+08 03.6					
1990	10 16	00 08.52	+07 23.6	2.168	3.132	162.1	5.6	18.1
1990	10 26	00 01.61	+06 45.4					
1990	11 05	23 56.49	+06 13.8	2.292	3.114	139.6	11.9	18.4

1979 QC1 a,e,i = 2.35, 0.17, 12 Elements MPC 11518

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 49.46	+14 48.2	1.221	1.989	125.6	24.4	16.4
1990	08 27	00 48.63	+16 39.5					
1990	09 06	00 44.29	+18 14.6	1.067	1.969	143.3	17.8	15.9
1990	09 16	00 36.63	+19 27.3					
1990	09 26	00 26.44	+20 11.6	0.982	1.955	160.1	10.1	15.5
1990	10 06	00 15.24	+20 25.9					
1990	10 16	00 04.84	+20 13.7	0.984	1.946	158.3	10.9	15.5
1990	10 26	23 56.92	+19 44.1					
1990	11 05	23 52.60	+19 09.0	1.070	1.941	140.6	18.9	15.9

2314 T-2 a,e,i = 2.26, 0.07, 4 Elements MPC 15906

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 48.74	+03 58.5	1.476	2.268	130.5	19.8	18.2
1990	08 27	00 46.71	+03 23.4					
1990	09 06	00 41.84	+02 29.5	1.344	2.283	151.9	12.0	17.8
1990	09 16	00 34.57	+01 20.7					
1990	09 26	00 25.76	+00 03.9	1.297	2.298	175.4	2.0	17.3
1990	10 06	00 16.62	-01 11.6					
1990	10 16	00 08.39	-02 16.9	1.353	2.312	159.0	8.9	17.7
1990	10 26	00 02.12	-03 04.9					
1990	11 05	23 58.48	-03 31.8	1.504	2.325	136.4	17.1	18.2

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

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 42.13	+23 16.5	1.640	2.345	122.5	21.3	18.6
1990	08 27	00 41.68	+23 53.8					
1990	09 06	00 38.55	+24 05.0	1.450	2.316	140.2	16.2	18.2
1990	09 16	00 32.99	+23 45.6					
1990	09 26	00 25.64	+22 53.1	1.330	2.289	157.5	9.6	17.8
1990	10 06	00 17.62	+21 29.7					
1990	10 16	00 10.18	+19 42.8	1.303	2.264	159.6	8.8	17.7
1990	10 26	00 04.49	+17 44.1					
1990	11 05	00 01.43	+15 46.8	1.372	2.242	142.5	15.6	18.0

1989 KK a,e,i = 2.67, 0.12, 13 Elements MPC 15070

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 46.58	+11 47.7	2.092	2.827	127.7	16.5	17.6
1990	08 27	00 44.12	+11 13.1					
1990	09 06	00 39.54	+10 19.3	1.936	2.848	149.0	10.5	17.3
1990	09 16	00 33.25	+09 07.9					
1990	09 26	00 25.87	+07 43.0	1.872	2.868	171.8	2.9	16.9
1990	10 06	00 18.25	+06 11.2					
1990	10 16	00 11.23	+04 40.0	1.922	2.887	162.4	6.0	17.1
1990	10 26	00 05.58	+03 17.0					
1990	11 05	00 01.84	+02 07.8	2.079	2.905	139.5	12.8	17.6

1980 LY a,e,i = 2.17, 0.16, 5 Elements MPC 13152

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 53.16	-02 00.0	1.213	2.030	131.4	22.0	17.9
1990	08 27	00 51.10	-02 50.0					
1990	09 06	00 45.73	-03 55.1	1.119	2.067	152.5	13.0	17.5
1990	09 16	00 37.62	-05 08.0					
1990	09 26	00 27.84	-06 18.7	1.107	2.104	171.3	4.2	17.2
1990	10 06	00 17.89	-07 16.5					
1990	10 16	00 09.18	-07 53.9	1.192	2.141	155.8	11.0	17.6
1990	10 26	00 02.84	-08 06.9					
1990	11 05	23 59.47	-07 55.7	1.365	2.178	134.5	18.9	18.2

5568 P-L a,e,i = 2.64, 0.12, 8 Elements MPC 14797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 51.42	-02 51.6	1.510	2.314	132.1	18.9	17.6
1990	08 27	00 49.27	-02 57.4					
1990	09 06	00 44.27	-03 12.9	1.373	2.316	152.8	11.5	17.1
1990	09 16	00 36.82	-03 34.2					
1990	09 26	00 27.76	-03 55.6	1.322	2.320	173.1	3.0	16.7
1990	10 06	00 18.30	-04 10.8					
1990	10 16	00 09.68	-04 14.6	1.372	2.327	158.2	9.2	17.1
1990	10 26	00 02.97	-04 03.6					
1990	11 05	23 58.89	-03 36.7	1.516	2.337	136.5	17.0	17.5

1987 WR a,e,i = 2.26, 0.02, 2 Elements MPC 12944

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 51.46	+09 04.3	1.516	2.282	127.8	20.5	16.1
1990	08 27	00 49.88	+09 04.2					
1990	09 06	00 45.42	+08 43.8	1.357	2.278	148.6	13.3	15.6
1990	09 16	00 38.40	+08 03.6					
1990	09 26	00 29.58	+07 06.8	1.277	2.274	171.7	3.7	15.1
1990	10 06	00 20.14	+06 00.2					
1990	10 16	00 11.39	+04 52.6	1.299	2.270	162.4	7.6	15.3
1990	10 26	00 04.49	+03 52.9					
1990	11 05	00 00.26	+03 08.1	1.418	2.265	139.5	16.5	15.8

1979 SO11 a,e,i = 3.15, 0.20, 1 Elements MPC 10830

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 45.82	+04 15.2	1.731	2.515	131.1	17.7	17.0
1990	08 27	00 44.80	+04 01.8					
1990	09 06	00 41.40	+03 33.3	1.582	2.515	151.7	11.0	16.6
1990	09 16	00 35.97	+02 52.1					
1990	09 26	00 29.18	+02 02.8	1.520	2.520	174.5	2.2	16.1
1990	10 06	00 21.98	+01 11.8					
1990	10 16	00 15.35	+00 25.7	1.561	2.528	161.9	7.1	16.4
1990	10 26	00 10.19	-00 09.4					
1990	11 05	00 07.15	-00 29.5	1.701	2.539	139.7	14.6	16.9

1988 BJ1 a,e,i = 2.47, 0.15, 5 Elements MPC 14792

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 56.04	+02 27.8	2.057	2.810	129.4	16.2	17.1
1990	08 27	00 53.00	+02 13.4					
1990	09 06	00 47.62	+01 47.0	1.875	2.799	150.8	10.1	16.7
1990	09 16	00 40.20	+01 10.8					
1990	09 26	00 31.36	+00 28.8	1.786	2.785	174.1	2.1	16.2
1990	10 06	00 21.99	-00 13.6					
1990	10 16	00 13.08	-00 51.0	1.809	2.770	160.8	6.8	16.4
1990	10 26	00 05.54	-01 18.3					
1990	11 05	00 00.06	-01 32.0	1.938	2.753	137.6	14.0	16.8

1931 FC a,e,i = 2.26, 0.13, 5 Elements MPC 15062

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 59.96	+07 05.7	1.722	2.465	126.7	19.2	17.5
1990	08 27	00 56.96	+07 11.2					
1990	09 06	00 51.20	+07 01.0	1.569	2.483	148.1	12.4	17.1
1990	09 16	00 43.05	+06 36.0					
1990	09 26	00 33.26	+05 58.9	1.502	2.498	171.8	3.3	16.7
1990	10 06	00 22.94	+05 15.4					
1990	10 16	00 13.29	+04 31.7	1.542	2.512	162.8	6.7	16.9
1990	10 26	00 05.36	+03 54.6					
1990	11 05	23 59.89	+03 29.1	1.685	2.523	139.5	14.8	17.4

1978 NY7 a,e,i = 3.19, 0.19, 3 Elements MPC 11146

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 51.58	+01 25.3	1.915	2.687	130.8	16.6	16.8
1990	08 27	00 49.75	+01 00.8					
1990	09 06	00 45.70	+00 24.4	1.785	2.714	151.6	10.2	16.5
1990	09 16	00 39.78	-00 20.7					
1990	09 26	00 32.66	-01 09.5	1.745	2.743	173.4	2.4	16.1
1990	10 06	00 25.21	-01 55.8					
1990	10 16	00 18.31	-02 34.2	1.813	2.774	160.9	6.7	16.5
1990	10 26	00 12.76	-03 00.2					
1990	11 05	00 09.13	-03 11.2	1.983	2.807	138.9	13.4	16.9

1975 DB a,e,i = 2.64, 0.21, 11 Elements MPC 15062

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 56.74	+20 50.7	2.431	3.078	121.1	16.4	17.6
1990	08 27	00 54.24	+21 15.4					
1990	09 06	00 49.58	+21 23.0	2.210	3.054	140.3	12.2	17.3
1990	09 16	00 42.98	+21 11.0					
1990	09 26	00 34.95	+20 38.6	2.070	3.028	159.1	6.8	16.9
1990	10 06	00 26.26	+19 47.2					
1990	10 16	00 17.79	+18 41.0	2.037	2.999	161.7	6.0	16.8
1990	10 26	00 10.41	+17 26.4					
1990	11 05	00 04.85	+16 10.9	2.114	2.969	143.4	11.5	17.1

1985 CN1 a,e,i = 2.30, 0.10, 3 Elements MPC 10029

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 02.36	+05 23.4	1.768	2.509	126.8	18.8	18.7
1990	08 27	01 00.30	+05 18.6					
1990	09 06	00 55.53	+04 58.8	1.588	2.500	147.9	12.4	18.2
1990	09 16	00 48.31	+04 25.1					
1990	09 26	00 39.25	+03 40.9	1.493	2.489	171.6	3.4	17.7
1990	10 06	00 29.37	+02 52.0					
1990	10 16	00 19.84	+02 05.2	1.504	2.477	163.6	6.5	17.9
1990	10 26	00 11.78	+01 27.1					
1990	11 05	00 06.04	+01 02.8	1.619	2.463	140.1	15.0	18.3

1975 UE a,e,i = 2.42, 0.21, 2 Elements MPC 13151

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 54.06	+06 30.1	1.162	1.958	128.3	23.9	17.3
1990	08 27	00 54.71	+06 19.2					
1990	09 06	00 52.07	+05 45.6	1.053	1.983	148.4	15.5	16.8
1990	09 16	00 46.51	+04 52.0					
1990	09 26	00 38.90	+03 44.6	1.015	2.013	171.7	4.1	16.4
1990	10 06	00 30.60	+02 33.2					
1990	10 16	00 23.06	+01 28.3	1.070	2.047	164.0	7.7	16.7
1990	10 26	00 17.49	+00 39.0					
1990	11 05	00 14.70	+00 10.6	1.214	2.085	141.7	17.2	17.3

1982 DU a,e,i = 2.98, 0.22, 18 Elements MPC 11842

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 04.22	+16 52.4	2.527	3.175	121.5	15.8	18.3
1990	08 27	01 01.33	+17 43.6					
1990	09 06	00 56.23	+18 23.0	2.288	3.136	141.0	11.7	17.9
1990	09 16	00 49.09	+18 48.4					
1990	09 26	00 40.34	+18 58.1	2.134	3.096	160.2	6.3	17.5
1990	10 06	00 30.71	+18 52.3					
1990	10 16	00 21.08	+18 33.1	2.089	3.054	162.4	5.7	17.4
1990	10 26	00 12.38	+18 04.6					
1990	11 05	00 05.41	+17 32.5	2.155	3.012	143.6	11.3	17.7

1975 BF a,e,i = 3.16, 0.16, 1 Elements MPC 10756

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 55.51	+05 48.3	2.203	2.940	128.3	15.7	17.3
1990	08 27	00 54.17	+05 35.8					
1990	09 06	00 50.74	+05 09.8	1.999	2.909	148.9	10.3	16.9
1990	09 16	00 45.44	+04 31.8					
1990	09 26	00 38.74	+03 44.7	1.883	2.879	171.7	2.9	16.4
1990	10 06	00 31.38	+02 53.2					
1990	10 16	00 24.18	+02 03.1	1.877	2.850	164.6	5.3	16.5
1990	10 26	00 17.99	+01 19.8					
1990	11 05	00 13.51	+00 48.2	1.977	2.823	141.7	12.6	16.9

1977 TQ6 a,e,i = 2.67, 0.19, 13 Elements MPC 12578

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 03.54	-13 49.6	1.353	2.159	131.3	20.6	16.7
1990	08 27	01 02.57	-14 23.4					
1990	09 06	00 58.31	-14 59.4	1.234	2.161	148.9	14.0	16.3
1990	09 16	00 51.12	-15 29.5					
1990	09 26	00 41.87	-15 44.4	1.193	2.167	161.4	8.5	16.1
1990	10 06	00 31.89	-15 36.3					
1990	10 16	00 22.62	-15 01.5	1.245	2.178	152.4	12.2	16.3
1990	10 26	00 15.31	-14 00.6					
1990	11 05	00 10.76	-12 37.2	1.384	2.194	134.2	18.9	16.8

1981 EB23 a,e,i = 2.44, 0.21, 3 Elements MPC 9752

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	00 55.78	+03 07.2	1.118	1.925	129.2	24.1	16.5
1990	08 27	00 56.87	+03 22.0					
1990	09 06	00 54.55	+03 19.6	0.995	1.929	148.7	15.8	16.0
1990	09 16	00 49.09	+03 01.8					
1990	09 26	00 41.27	+02 33.3	0.941	1.938	171.4	4.4	15.4
1990	10 06	00 32.51	+02 01.7					
1990	10 16	00 24.34	+01 35.2	0.976	1.955	164.4	7.9	15.7
1990	10 26	00 18.19	+01 21.1					
1990	11 05	00 14.99	+01 23.9	1.097	1.977	142.3	17.9	16.3

1985 XB a,e,i = 1.97, 0.22, 29 Elements MPC 14475

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 24.83	-39 42.3	1.632	2.363	125.0	20.5	18.3
1990	08 27	01 21.33	-41 54.3					
1990	09 06	01 13.51	-43 53.5	1.539	2.339	132.3	18.6	18.1
1990	09 16	01 01.69	-45 25.0					
1990	09 26	00 46.90	-46 14.3	1.515	2.311	132.1	18.8	18.1
1990	10 06	00 31.05	-46 11.7					
1990	10 16	00 16.26	-45 15.5	1.562	2.278	124.3	21.2	18.2
1990	10 26	00 04.28	-43 30.9					
1990	11 05	23 56.16	-41 07.8	1.668	2.241	112.3	24.2	18.4

4092 T-3 a,e,i = 2.67, 0.10, 13 Elements MPC 16039

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 00.13	+06 19.9	2.210	2.933	127.0	16.0	18.3
1990	08 27	00 58.55	+05 31.4					
1990	09 06	00 54.86	+04 26.5	2.025	2.931	148.2	10.4	17.9
1990	09 16	00 49.30	+03 07.9					
1990	09 26	00 42.38	+01 39.9	1.932	2.927	171.3	3.0	17.5
1990	10 06	00 34.84	+00 09.6					
1990	10 16	00 27.51	-01 16.0	1.952	2.922	163.6	5.5	17.7
1990	10 26	00 21.19	-02 29.9					
1990	11 05	00 16.54	-03 27.4	2.081	2.915	140.4	12.5	18.1

1988 BV a,e,i = 2.33, 0.20, 3 Elements MPC 12945

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 00.29	+01 25.0	1.403	2.184	128.7	21.2	16.8
1990	08 27	01 00.84	+01 07.8					
1990	09 06	00 58.37	+00 33.6	1.214	2.139	148.5	14.2	16.3
1990	09 16	00 52.93	-00 15.2					
1990	09 26	00 45.03	-01 13.1	1.100	2.095	170.4	4.6	15.7
1990	10 06	00 35.75	-02 11.4					
1990	10 16	00 26.48	-03 00.6	1.081	2.053	162.3	8.5	15.7
1990	10 26	00 18.70	-03 32.1					
1990	11 05	00 13.58	-03 40.6	1.153	2.014	139.7	18.6	16.2

1976 GM7 a,e,i = 3.24, 0.06, 11 Elements MPC 15550

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	08 17	01 03.12	+04 25.9	2.688	3.396	127.0	13.8	17.4
1990	08 27	01 01.62	+03 46.8					
1990	09 06	00 58.35	+02 55.6	2.492	3.389	147.9	9.1	17.1
1990	09 16	00 53.53	+01 54.7					
1990	09 26	00 47.55	+00 47.5	2.389	3.381	170.0	2.9	16.7
1990	10 06	00 40.98	-00 20.9					
1990	10 16	00 34.48	-01 25.3	2.401	3.374	164.8	4.4	16.8
1990	10 26	00 28.69	-02 20.9					
1990	11 05	00 24.18	-03 03.9	2.526	3.365	142.3	10.4	17.1

1982 UX10 a,e,i = 2.58, 0.11, 14 Elements MPC 14785

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 05.25	+23 48.2	1.651	2.477	136.0	16.4	16.3
1990	09 16	01 00.04	+23 13.7					
1990	09 26	00 52.92	+22 10.9	1.551	2.500	156.0	9.4	16.0
1990	10 06	00 44.83	+20 42.6					
1990	10 16	00 36.87	+18 55.9	1.548	2.524	165.1	5.8	15.9
1990	10 26	00 30.12	+17 00.8					
1990	11 05	00 25.42	+15 08.7	1.651	2.548	148.2	11.8	16.2
1990	11 15	00 23.19	+13 28.5					
1990	11 25	00 23.59	+12 06.6	1.846	2.572	127.8	17.6	16.7

1979 OB9 a,e,i = 2.32, 0.18, 5 Elements MPC 10633

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 03.01	+11 59.1	1.032	1.936	143.2	18.2	16.5
1990	09 16	00 59.86	+11 18.3					
1990	09 26	00 54.04	+10 11.3	0.935	1.922	165.2	7.7	16.0
1990	10 06	00 46.66	+08 44.9					
1990	10 16	00 39.16	+07 10.2	0.924	1.913	169.6	5.4	15.8
1990	10 26	00 33.07	+05 40.7					
1990	11 05	00 29.59	+04 28.7	1.001	1.910	146.8	16.5	16.4
1990	11 15	00 29.32	+03 40.9					
1990	11 25	00 32.38	+03 20.0	1.150	1.913	126.9	24.4	16.9

1989 ME a,e,i = 3.19, 0.13, 28 Elements MPC 15070

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 16.65	+40 48.5	2.114	2.788	122.4	17.8	16.7
1990	09 16	01 09.26	+42 34.9					
1990	09 26	00 59.17	+43 53.8	1.991	2.795	135.4	14.6	16.4
1990	10 06	00 47.26	+44 39.3					
1990	10 16	00 34.82	+44 49.1	1.948	2.804	142.3	12.5	16.3
1990	10 26	00 23.35	+44 25.2					
1990	11 05	00 14.18	+43 35.1	1.995	2.816	138.5	13.5	16.4
1990	11 15	00 08.13	+42 28.5					
1990	11 25	00 05.55	+41 15.7	2.123	2.828	126.9	16.2	16.7

1986 VE a,e,i = 2.55, 0.18, 13 Elements MPC 13467

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 04.65	+26 31.1	1.277	2.108	134.3	20.0	17.0
1990	09 16	01 01.54	+26 29.8					
1990	09 26	00 55.92	+25 52.1	1.155	2.096	152.4	12.8	16.6
1990	10 06	00 48.76	+24 37.6					
1990	10 16	00 41.39	+22 51.4	1.115	2.088	162.8	8.1	16.3
1990	10 26	00 35.22	+20 45.1					
1990	11 05	00 31.43	+18 34.1	1.168	2.086	149.8	13.8	16.6
1990	11 15	00 30.63	+16 32.5					
1990	11 25	00 33.04	+14 50.5	1.305	2.088	130.8	21.0	17.1

1983 JQ a,e,i = 3.21, 0.17, 3 Elements MPC 14190

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 08.39	+03 18.5	2.266	3.148	145.4	10.5	17.4
1990	09 16	01 03.11	+02 36.7					
1990	09 26	00 56.50	+01 49.1	2.193	3.180	167.8	3.8	17.0
1990	10 06	00 49.23	+01 00.3					
1990	10 16	00 42.02	+00 15.2	2.232	3.213	167.3	3.9	17.1
1990	10 26	00 35.59	-00 21.9					
1990	11 05	00 30.53	-00 47.5	2.384	3.244	144.8	10.2	17.5
1990	11 15	00 27.23	-01 00.1					
1990	11 25	00 25.88	-00 59.0	2.625	3.276	123.6	14.5	17.9

1982 BQ4 a,e,i = 3.01, 0.03, 11 Elements MPC 13157

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 10.12	-09 01.9	2.194	3.086	146.7	10.3	16.7
1990	09 16	01 04.57	-09 56.5					
1990	09 26	00 57.57	-10 47.9	2.117	3.090	163.0	5.4	16.5
1990	10 06	00 49.78	-11 30.0					
1990	10 16	00 42.00	-11 58.1	2.149	3.093	157.4	7.1	16.6
1990	10 26	00 35.00	-12 08.8					
1990	11 05	00 29.46	-12 01.1	2.285	3.096	138.2	12.3	16.9
1990	11 15	00 25.79	-11 35.8					
1990	11 25	00 24.22	-10 54.7	2.503	3.098	118.5	16.3	17.2

2083 T-2 a,e,i = 3.16, 0.15, 1 Elements MPC 14964

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 10.08	+06 52.0	2.619	3.484	143.8	9.8	18.4
1990	09 16	01 05.13	+06 18.6					
1990	09 26	00 58.86	+05 37.1	2.480	3.463	166.4	3.9	18.0
1990	10 06	00 51.81	+04 50.7					
1990	10 16	00 44.60	+04 03.4	2.454	3.441	170.0	2.9	17.9
1990	10 26	00 37.91	+03 19.6					
1990	11 05	00 32.36	+02 43.4	2.545	3.418	146.8	9.2	18.2
1990	11 15	00 28.39	+02 17.7					
1990	11 25	00 26.26	+02 04.2	2.730	3.393	125.0	13.8	18.5

1981 EX38 a,e,i = 2.48, 0.19, 7 Elements MPC 14346

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 18.24	+20 49.9	1.374	2.208	135.4	18.7	18.3
1990	09 16	01 13.03	+20 50.0					
1990	09 26	01 05.36	+20 22.9	1.294	2.247	155.9	10.5	17.9
1990	10 06	00 56.29	+19 30.4					
1990	10 16	00 47.13	+18 18.5	1.304	2.287	167.3	5.5	17.8
1990	10 26	00 39.19	+16 56.8					
1990	11 05	00 33.53	+15 36.2	1.414	2.328	150.2	12.2	18.2
1990	11 15	00 30.68	+14 25.7					
1990	11 25	00 30.77	+13 31.3	1.612	2.370	129.9	18.6	18.7

1979 SU11 a,e,i = 3.14, 0.17, 3 Elements MPC 11739

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 17.14	+04 08.0	1.754	2.631	143.1	13.3	16.5
1990	09 16	01 12.89	+03 34.8					
1990	09 26	01 06.75	+02 53.3	1.657	2.639	165.1	5.6	16.1
1990	10 06	00 59.47	+02 08.4					
1990	10 16	00 51.96	+01 26.2	1.662	2.650	170.0	3.8	16.0
1990	10 26	00 45.17	+00 52.3					
1990	11 05	00 39.94	+00 31.2	1.773	2.663	147.5	11.5	16.5
1990	11 15	00 36.80	+00 25.4					
1990	11 25	00 36.02	+00 35.5	1.971	2.679	126.6	17.2	16.9

1984 QS a,e,i = 3.18, 0.21, 2 Elements MPC 12455

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 19.62	+05 49.7	1.902	2.767	141.9	13.0	17.8
1990	09 16	01 14.76	+05 19.4					
1990	09 26	01 08.17	+04 40.4	1.825	2.804	164.4	5.5	17.4
1990	10 06	01 00.59	+03 57.2					
1990	10 16	00 52.88	+03 15.1	1.853	2.843	171.3	3.0	17.4
1990	10 26	00 45.92	+02 39.3					
1990	11 05	00 40.46	+02 14.1	1.991	2.883	148.4	10.4	17.9
1990	11 15	00 36.96	+02 02.0					
1990	11 25	00 35.66	+02 04.1	2.220	2.924	127.1	15.6	18.3

1989 GB3 a,e,i = 2.57, 0.20, 6 Elements MPC 14795

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 25.42	+09 31.7	1.764	2.612	139.3	14.6	18.0
1990	09 16	01 19.22	+09 18.1					
1990	09 26	01 10.99	+08 52.2	1.681	2.654	162.3	6.6	17.7
1990	10 06	01 01.58	+08 17.4					
1990	10 16	00 52.02	+07 38.6	1.702	2.694	172.9	2.6	17.6
1990	10 26	00 43.37	+07 01.8					
1990	11 05	00 36.49	+06 32.2	1.834	2.733	149.1	10.7	18.1
1990	11 15	00 31.91	+06 13.6					
1990	11 25	00 29.85	+06 08.2	2.058	2.771	127.3	16.5	18.6

1977 DL3 a,e,i = 2.37, 0.21, 5 Elements MPC 14613

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 22.82	+08 54.1	1.248	2.123	140.1	17.7	17.4
1990 09 16	01 18.81	+09 02.5					
1990 09 26	01 11.80	+08 55.9	1.102	2.079	162.1	8.5	16.8
1990 10 06	01 02.54	+08 36.7					
1990 10 16	00 52.32	+08 09.7	1.044	2.037	173.0	3.4	16.4
1990 10 26	00 42.72	+07 42.0					
1990 11 05	00 35.28	+07 21.8	1.082	1.999	149.1	14.8	16.9
1990 11 15	00 30.99	+07 15.1					
1990 11 25	00 30.32	+07 25.7	1.197	1.964	127.9	23.4	17.3

1979 MR5 a,e,i = 2.32, 0.14, 2 Elements MPC 5847

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 22.46	+12 20.6	1.148	2.019	138.8	19.2	18.7
1990 09 16	01 18.65	+12 07.4					
1990 09 26	01 11.96	+11 32.5	1.056	2.030	160.8	9.4	18.2
1990 10 06	01 03.39	+10 40.1					
1990 10 16	00 54.35	+09 37.7	1.051	2.045	173.4	3.2	17.9
1990 10 26	00 46.34	+08 35.4					
1990 11 05	00 40.63	+07 43.2	1.141	2.063	150.5	13.7	18.5
1990 11 15	00 37.93	+07 07.6					
1990 11 25	00 38.48	+06 52.1	1.310	2.083	129.6	21.4	19.1

1955 EH a,e,i = 2.38, 0.15, 7 Elements MPC 13169

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 20.55	+01 43.0	1.297	2.188	142.9	16.1	16.0
1990 09 16	01 17.33	+00 25.4					
1990 09 26	01 11.47	-01 05.0	1.176	2.157	163.9	7.4	15.5
1990 10 06	01 03.79	-02 38.6					
1990 10 16	00 55.44	-04 04.3	1.148	2.129	166.0	6.5	15.4
1990 10 26	00 47.77	-05 11.1					
1990 11 05	00 42.03	-05 51.7	1.215	2.103	144.4	15.9	15.8
1990 11 15	00 39.01	-06 03.6					
1990 11 25	00 39.07	-05 47.6	1.357	2.080	124.3	23.1	16.2

1971 TF a,e,i = 2.44, 0.18, 2 Elements MPC 14613

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 23.44	+09 52.3	1.147	2.023	139.6	18.8	16.2
1990 09 16	01 20.29	+09 52.9					
1990 09 26	01 14.17	+09 35.9	1.037	2.012	161.3	9.2	15.6
1990 10 06	01 05.98	+09 04.5					
1990 10 16	00 57.04	+08 24.9	1.012	2.006	174.2	2.9	15.3
1990 10 26	00 48.91	+07 45.7					
1990 11 05	00 42.97	+07 15.4	1.081	2.006	150.9	13.9	15.9
1990 11 15	00 40.05	+07 00.1					
1990 11 25	00 40.50	+07 03.1	1.227	2.010	130.1	22.0	16.4

1982 UE12 a,e,i = 2.52, 0.02, 10 Elements MPC 13595

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 29.61	+20 09.2	1.672	2.477	133.5	17.2	16.4
1990 09 16	01 24.50	+20 43.6					
1990 09 26	01 16.83	+20 58.0	1.535	2.474	153.7	10.3	16.0
1990 10 06	01 07.36	+20 51.0					
1990 10 16	00 57.18	+20 24.2	1.490	2.471	166.8	5.3	15.7
1990 10 26	00 47.57	+19 42.4					
1990 11 05	00 39.73	+18 53.5	1.550	2.469	151.7	11.0	16.0
1990 11 15	00 34.46	+18 05.8					
1990 11 25	00 32.17	+17 26.2	1.702	2.467	131.2	17.5	16.4

(4160) 1989 LE a,e,i = 2.45, 0.09, 5 Elements MPC 14941

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 27.09	+08 52.3	1.804	2.649	139.2	14.4	17.2
1990	09 16	01 22.29	+08 04.3					
1990	09 26	01 15.42	+07 02.5	1.685	2.657	162.0	6.7	16.8
1990	10 06	01 07.18	+05 51.8					
1990	10 16	00 58.51	+04 38.8	1.670	2.662	173.3	2.5	16.6
1990	10 26	00 50.43	+03 31.1					
1990	11 05	00 43.87	+02 35.3	1.766	2.667	149.3	10.9	17.1
1990	11 15	00 39.44	+01 55.6					
1990	11 25	00 37.47	+01 34.3	1.953	2.670	127.3	17.1	17.5

(4196) 1982 SA13 a,e,i = 3.90, 0.07, 1 Elements MPC 15225

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 22.24	+07 50.1	2.799	3.635	140.7	10.1	16.5
1990	09 16	01 18.40	+07 22.6					
1990	09 26	01 13.25	+06 47.4	2.667	3.636	162.6	4.7	16.2
1990	10 06	01 07.26	+06 07.3					
1990	10 16	01 00.97	+05 25.6	2.644	3.637	174.2	1.6	16.0
1990	10 26	00 54.99	+04 46.2					
1990	11 05	00 49.89	+04 12.8	2.737	3.639	151.4	7.5	16.4
1990	11 15	00 46.10	+03 48.3					
1990	11 25	00 43.91	+03 34.4	2.931	3.641	129.6	12.1	16.7

1987 BC a,e,i = 2.93, 0.21, 2 Elements MPC 14791

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 24.42	+08 11.8	1.451	2.316	140.0	16.2	15.5
1990	09 16	01 21.41	+07 39.9					
1990	09 26	01 16.06	+06 53.7	1.348	2.322	161.9	7.7	15.1
1990	10 06	01 09.12	+05 58.3					
1990	10 16	01 01.65	+05 00.6	1.338	2.332	174.1	2.5	14.8
1990	10 26	00 54.79	+04 08.4					
1990	11 05	00 49.59	+03 29.0	1.430	2.347	151.0	11.8	15.4
1990	11 15	00 46.69	+03 06.3					
1990	11 25	00 46.44	+03 02.4	1.607	2.366	130.0	18.7	15.8

1983 RP2 a,e,i = 2.27, 0.17, 4 Elements MPC 11843

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 24.69	+04 25.2	0.995	1.890	141.2	19.5	17.2
1990	09 16	01 22.75	+03 26.2					
1990	09 26	01 17.68	+02 11.1	0.904	1.885	162.5	9.2	16.7
1990	10 06	01 10.41	+00 49.6					
1990	10 16	01 02.33	-00 26.3	0.896	1.886	170.0	5.3	16.5
1990	10 26	00 55.06	-01 24.6					
1990	11 05	00 49.99	-01 57.1	0.976	1.893	148.3	16.0	17.1
1990	11 15	00 47.93	-02 01.1					
1990	11 25	00 49.19	-01 37.7	1.126	1.905	128.5	23.9	17.6

4239 T-2 a,e,i = 2.25, 0.12, 4 Elements MPC 15086

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 39.03	+06 32.9	1.494	2.336	137.1	17.1	17.0
1990	09 16	01 33.65	+06 09.6					
1990	09 26	01 25.64	+05 34.5	1.394	2.361	160.0	8.4	16.6
1990	10 06	01 15.82	+04 52.5					
1990	10 16	01 05.38	+04 09.6	1.391	2.385	174.2	2.4	16.3
1990	10 26	00 55.62	+03 32.8					
1990	11 05	00 47.69	+03 08.0	1.496	2.408	150.4	11.7	16.9
1990	11 15	00 42.31	+02 58.5					
1990	11 25	00 39.82	+03 05.7	1.689	2.429	128.5	18.6	17.4

1989 GT3 a,e,i = 2.24, 0.14, 1 Elements MPC 14795

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 32.12	+11 26.0	1.064	1.929	137.0	20.9	16.5
1990 09 16	01 29.34	+11 14.1					
1990 09 26	01 23.32	+10 40.9	0.969	1.938	158.8	10.8	16.0
1990 10 06	01 14.99	+09 50.5					
1990 10 16	01 05.76	+08 50.5	0.957	1.953	176.3	1.9	15.6
1990 10 26	00 57.26	+07 51.2					
1990 11 05	00 50.97	+07 02.9	1.036	1.971	152.7	13.4	16.2
1990 11 15	00 47.72	+06 32.3					
1990 11 25	00 47.85	+06 22.9	1.195	1.992	131.6	21.8	16.8

1982 UD7 a,e,i = 2.57, 0.21, 7 Elements MPC 11438

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 29.03	+13 14.7	1.195	2.051	137.0	19.6	16.0
1990 09 16	01 26.97	+12 25.6					
1990 09 26	01 22.11	+11 12.9	1.106	2.073	158.8	10.1	15.6
1990 10 06	01 15.34	+09 42.7					
1990 10 16	01 07.86	+08 04.7	1.103	2.099	176.8	1.5	15.2
1990 10 26	01 01.02	+06 30.8					
1990 11 05	00 56.03	+05 12.0	1.198	2.130	153.2	12.1	15.9
1990 11 15	00 53.59	+04 15.0					
1990 11 25	00 54.00	+03 42.7	1.377	2.165	132.0	19.8	16.4

(4009) 1977 EN1 a,e,i = 3.13, 0.15, 2 Elements MPC 14327

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 33.55	+06 55.6	2.471	3.293	138.3	11.7	17.2
1990 09 16	01 29.04	+06 26.4					
1990 09 26	01 22.96	+05 49.3	2.355	3.318	160.6	5.8	16.9
1990 10 06	01 15.83	+05 07.5					
1990 10 16	01 08.30	+04 25.0	2.347	3.342	174.9	1.5	16.6
1990 10 26	01 01.08	+03 46.1					
1990 11 05	00 54.86	+03 14.7	2.457	3.365	152.0	7.9	17.1
1990 11 15	00 50.14	+02 53.6					
1990 11 25	00 47.23	+02 44.6	2.667	3.387	130.0	12.9	17.4

1979 ME8 a,e,i = 2.28, 0.14, 4 Elements MPC 5847

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 37.16	+10 34.2	1.485	2.320	136.2	17.5	19.0
1990 09 16	01 33.93	+09 57.1					
1990 09 26	01 27.94	+09 01.3	1.327	2.290	158.4	9.3	18.5
1990 10 06	01 19.81	+07 50.5					
1990 10 16	01 10.53	+06 31.5	1.262	2.259	176.8	1.4	17.9
1990 10 26	01 01.42	+05 13.5					
1990 11 05	00 53.79	+04 06.4	1.302	2.227	152.2	12.0	18.4
1990 11 15	00 48.60	+03 17.3					
1990 11 25	00 46.42	+02 50.3	1.429	2.196	129.9	20.2	18.9

(4017) 1980 DL5 a,e,i = 2.59, 0.10, 3 Elements MPC 14330

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 06	01 38.33	+08 13.9	1.509	2.348	136.8	17.1	16.5
1990 09 16	01 34.53	+08 00.7					
1990 09 26	01 28.13	+07 34.6	1.394	2.357	158.8	8.8	16.1
1990 10 06	01 19.86	+06 59.4					
1990 10 16	01 10.76	+06 20.4	1.373	2.369	176.7	1.4	15.7
1990 10 26	01 02.08	+05 44.2					
1990 11 05	00 54.96	+05 17.2	1.456	2.382	152.9	10.9	16.3
1990 11 15	00 50.18	+05 03.7					
1990 11 25	00 48.17	+05 06.0	1.629	2.397	131.2	18.1	16.8

1976 WC1 a,e,i = 2.32, 0.11, 13 Elements MPC 14780

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 43.98	-10 50.3	1.575	2.422	138.3	16.1	16.2
1990	09 16	01 38.58	-11 59.6					
1990	09 26	01 30.61	-13 04.1	1.498	2.444	155.2	9.9	15.9
1990	10 06	01 20.89	-13 54.5					
1990	10 16	01 10.55	-14 23.0	1.517	2.465	157.0	9.1	15.9
1990	10 26	01 00.82	-14 25.1					
1990	11 05	00 52.81	-14 00.0	1.636	2.485	140.9	14.6	16.3
1990	11 15	00 47.20	-13 10.6					
1990	11 25	00 44.34	-12 00.9	1.835	2.503	122.1	19.5	16.7

1979 SU9 a,e,i = 3.12, 0.17, 0 Elements MPC 12010

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 34.36	+09 56.1	1.803	2.633	137.1	15.1	16.1
1990	09 16	01 31.33	+09 40.0					
1990	09 26	01 26.11	+09 11.0	1.660	2.620	158.8	8.0	15.7
1990	10 06	01 19.29	+08 31.9					
1990	10 16	01 11.67	+07 47.3	1.614	2.611	177.7	0.9	15.2
1990	10 26	01 04.27	+07 03.2					
1990	11 05	00 58.06	+06 25.6	1.675	2.604	154.1	9.6	15.8
1990	11 15	00 53.76	+05 59.4					
1990	11 25	00 51.84	+05 47.8	1.831	2.600	132.3	16.3	16.2

1980 RO2 a,e,i = 2.22, 0.17, 2 Elements MPC 10158

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 33.60	+14 00.6	0.982	1.843	135.6	22.5	16.2
1990	09 16	01 32.60	+14 02.3					
1990	09 26	01 28.13	+13 38.8	0.873	1.836	156.3	12.7	15.7
1990	10 06	01 20.96	+12 52.1					
1990	10 16	01 12.44	+11 48.5	0.838	1.834	176.1	2.1	15.2
1990	10 26	01 04.31	+10 38.8					
1990	11 05	00 58.24	+09 35.8	0.892	1.839	155.2	13.1	15.7
1990	11 15	00 55.28	+08 49.2					
1990	11 25	00 55.91	+08 24.9	1.021	1.850	134.2	22.5	16.3

5006 T-2 a,e,i = 3.15, 0.21, 9 Elements MPC 16038

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 38.17	+22 34.7	1.943	2.709	130.6	16.4	17.6
1990	09 16	01 35.16	+23 07.3					
1990	09 26	01 29.80	+23 21.8	1.759	2.674	149.9	10.8	17.2
1990	10 06	01 22.56	+23 16.5					
1990	10 16	01 14.23	+22 51.4	1.665	2.642	165.6	5.4	16.8
1990	10 26	01 05.87	+22 09.5					
1990	11 05	00 58.59	+21 16.9	1.675	2.612	155.9	8.9	16.9
1990	11 15	00 53.27	+20 21.2					
1990	11 25	00 50.51	+19 30.0	1.783	2.584	135.8	15.4	17.3

1984 SM1 a,e,i = 3.21, 0.06, 15 Elements MPC 13158

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 45.25	+19 45.1	2.275	3.029	130.6	14.6	16.9
1990	09 16	01 40.76	+20 23.0					
1990	09 26	01 34.17	+20 47.3	2.120	3.035	150.9	9.2	16.6
1990	10 06	01 25.98	+20 56.9					
1990	10 16	01 16.94	+20 52.1	2.062	3.043	167.6	4.0	16.3
1990	10 26	01 07.95	+20 35.3					
1990	11 05	00 59.96	+20 10.9	2.116	3.051	156.4	7.5	16.5
1990	11 15	00 53.69	+19 44.2					
1990	11 25	00 49.62	+19 20.3	2.275	3.060	135.6	13.0	16.9

1988 BH5 a,e,i = 2.58, 0.12, 12 Elements MPC 14354

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 44.37	+26 19.9	2.117	2.844	127.4	16.4	18.2
1990	09 16	01 40.56	+26 29.7					
1990	09 26	01 34.42	+26 18.6	1.938	2.833	147.1	11.1	17.8
1990	10 06	01 26.49	+25 44.9					
1990	10 16	01 17.56	+24 49.4	1.849	2.820	163.7	5.7	17.5
1990	10 26	01 08.65	+23 35.8					
1990	11 05	01 00.83	+22 11.4	1.869	2.805	156.2	8.2	17.6
1990	11 15	00 54.90	+20 44.7					
1990	11 25	00 51.38	+19 23.8	1.993	2.789	136.0	14.2	17.9

3233 T-2 a,e,i = 3.15, 0.12, 6 Elements MPC 15084

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 40.65	+02 20.8	2.180	3.005	137.9	13.0	15.8
1990	09 16	01 37.50	+01 33.5					
1990	09 26	01 32.46	+00 39.0	2.026	2.983	158.8	7.0	15.4
1990	10 06	01 25.98	-00 18.3					
1990	10 16	01 18.72	-01 12.7	1.975	2.962	170.3	3.3	15.1
1990	10 26	01 11.50	-01 58.6					
1990	11 05	01 05.15	-02 31.3	2.035	2.942	151.0	9.4	15.4
1990	11 15	01 00.30	-02 47.8					
1990	11 25	00 57.43	-02 47.2	2.191	2.922	129.7	15.1	15.8

(4149) Harrison a,e,i = 2.66, 0.13, 13 Elements MPC 14937

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 44.26	-00 45.2	2.086	2.910	137.6	13.5	17.0
1990	09 16	01 40.46	-02 05.0					
1990	09 26	01 34.70	-03 30.4	1.973	2.926	157.8	7.4	16.7
1990	10 06	01 27.52	-04 54.8					
1990	10 16	01 19.65	-06 11.1	1.965	2.940	165.3	4.9	16.6
1990	10 26	01 11.94	-07 12.7					
1990	11 05	01 05.23	-07 55.1	2.068	2.953	147.4	10.4	16.9
1990	11 15	01 00.15	-08 16.6					
1990	11 25	00 57.10	-08 17.4	2.265	2.964	126.8	15.5	17.3

1978 VZ2 a,e,i = 2.57, 0.08, 2 Elements MPC 16575

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 45.70	+08 44.4	1.694	2.509	134.9	16.5	18.4
1990	09 16	01 42.55	+08 24.0					
1990	09 26	01 36.85	+07 50.6	1.539	2.491	156.7	9.2	18.0
1990	10 06	01 29.15	+07 07.3					
1990	10 16	01 20.32	+06 19.1	1.478	2.474	177.8	0.9	17.4
1990	10 26	01 11.46	+05 32.5					
1990	11 05	01 03.75	+04 54.3	1.524	2.457	154.8	9.9	17.9
1990	11 15	00 58.06	+04 29.5					
1990	11 25	00 54.97	+04 21.3	1.664	2.441	132.4	17.4	18.3

1987 DS6 a,e,i = 3.14, 0.07, 9 Elements MPC 13313

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 41.43	+07 08.7	2.279	3.088	136.4	13.0	16.9
1990	09 16	01 38.43	+06 18.5					
1990	09 26	01 33.61	+05 17.6	2.121	3.074	158.1	7.0	16.5
1990	10 06	01 27.41	+04 10.2					
1990	10 16	01 20.48	+03 01.1	2.066	3.060	174.5	1.8	16.2
1990	10 26	01 13.56	+01 56.6					
1990	11 05	01 07.45	+01 02.0	2.126	3.047	153.6	8.3	16.6
1990	11 15	01 02.76	+00 21.5					
1990	11 25	00 59.94	-00 02.7	2.287	3.034	131.6	14.1	16.9

1932 CY a,e,i = 3.12, 0.14, 1 Elements MPC 13683

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 45.66	+09 22.7	2.776	3.558	134.7	11.6	17.6
1990	09 16	01 41.83	+08 57.1					
1990	09 26	01 36.42	+08 22.8	2.613	3.556	156.6	6.4	17.3
1990	10 06	01 29.81	+07 42.1					
1990	10 16	01 22.56	+06 58.1	2.555	3.552	178.4	0.4	16.9
1990	10 26	01 15.32	+06 14.7					
1990	11 05	01 08.74	+05 36.0	2.618	3.547	156.2	6.5	17.3
1990	11 15	01 03.37	+05 05.4					
1990	11 25	00 59.61	+04 45.4	2.787	3.541	133.7	11.6	17.6

7072 P-L a,e,i = 1.95, 0.08, 21 Elements MPC 14630

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 45.37	+16 09.5	1.213	2.032	132.2	21.6	18.4
1990	09 16	01 43.86	+14 05.0					
1990	09 26	01 39.09	+11 21.3	1.062	2.016	155.0	12.1	17.8
1990	10 06	01 31.66	+08 05.1					
1990	10 16	01 22.70	+04 31.7	1.003	1.998	176.0	2.0	17.2
1990	10 26	01 13.71	+01 02.9					
1990	11 05	01 06.26	-01 59.7	1.051	1.980	151.6	13.8	17.8
1990	11 15	01 01.45	-04 22.5					
1990	11 25	00 59.89	-06 00.4	1.187	1.962	128.6	23.2	18.3

1967 GM1 a,e,i = 3.01, 0.06, 11 Elements MPC 16020

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 48.58	-04 47.2	2.271	3.085	137.0	12.9	17.4
1990	09 16	01 44.60	-05 34.2					
1990	09 26	01 38.72	-06 22.4	2.152	3.095	156.2	7.5	17.1
1990	10 06	01 31.44	-07 06.5					
1990	10 16	01 23.46	-07 41.2	2.135	3.105	163.8	5.1	17.0
1990	10 26	01 15.56	-08 02.0					
1990	11 05	01 08.54	-08 06.2	2.230	3.114	147.9	9.8	17.3
1990	11 15	01 03.01	-07 53.1					
1990	11 25	00 59.40	-07 23.4	2.420	3.123	127.8	14.5	17.6

1977 KL1 a,e,i = 3.14, 0.05, 12 Elements MPC 12324

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 50.56	-01 01.1	2.508	3.309	136.0	12.2	16.8
1990	09 16	01 46.54	-01 30.4					
1990	09 26	01 40.74	-02 02.8	2.362	3.306	156.6	6.9	16.5
1990	10 06	01 33.59	-02 34.4					
1990	10 16	01 25.69	-03 01.1	2.320	3.302	168.4	3.5	16.3
1990	10 26	01 17.77	-03 19.0					
1990	11 05	01 10.58	-03 25.0	2.393	3.298	151.5	8.2	16.6
1990	11 15	01 04.72	-03 17.7					
1990	11 25	01 00.63	-02 56.7	2.567	3.294	130.4	13.2	16.9

4017 T-3 a,e,i = 2.19, 0.05, 5 Elements MPC 12702

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 56.58	+06 40.5	1.414	2.227	132.9	19.4	17.9
1990	09 16	01 52.88	+06 26.3					
1990	09 26	01 46.08	+06 00.1	1.289	2.238	154.9	11.0	17.4
1990	10 06	01 36.81	+05 25.9					
1990	10 16	01 26.16	+04 49.4	1.253	2.249	176.1	1.7	16.9
1990	10 26	01 15.54	+04 17.3					
1990	11 05	01 06.35	+03 56.3	1.321	2.258	154.9	10.7	17.5
1990	11 15	00 59.63	+03 50.4					
1990	11 25	00 55.93	+04 01.7	1.481	2.268	132.5	18.7	18.0

(4171) Carrasco a,e,i = 2.24, 0.08, 4 Elements MPC 15057

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 54.45	+10 52.6	1.612	2.407	132.1	18.1	17.4
1990	09 16	01 51.25	+10 14.5					
1990	09 26	01 45.30	+09 19.7	1.470	2.413	154.3	10.4	16.9
1990	10 06	01 37.17	+08 12.1					
1990	10 16	01 27.78	+06 57.5	1.421	2.418	177.7	1.0	16.4
1990	10 26	01 18.32	+05 44.2					
1990	11 05	01 10.04	+04 40.7	1.481	2.421	156.1	9.6	16.9
1990	11 15	01 03.84	+03 53.3					
1990	11 25	01 00.30	+03 25.5	1.636	2.422	133.3	17.3	17.4

1985 FU1 a,e,i = 2.34, 0.11, 4 Elements MPC 9767

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 57.05	+06 23.2	1.795	2.589	132.9	16.6	17.6
1990	09 16	01 53.63	+05 39.7					
1990	09 26	01 47.69	+04 44.5	1.648	2.591	154.7	9.5	17.2
1990	10 06	01 39.73	+03 42.0					
1990	10 16	01 30.56	+02 38.3	1.597	2.590	173.6	2.4	16.8
1990	10 26	01 21.26	+01 40.6					
1990	11 05	01 12.93	+00 55.5	1.657	2.588	154.7	9.4	17.2
1990	11 15	01 06.43	+00 27.3					
1990	11 25	01 02.36	+00 18.1	1.814	2.584	132.3	16.4	17.6

1981 EN a,e,i = 2.37, 0.16, 10 Elements MPC 10768

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 54.99	+04 38.2	1.836	2.637	133.8	16.0	18.7
1990	09 16	01 52.13	+03 30.5					
1990	09 26	01 46.81	+02 10.0	1.668	2.613	155.2	9.3	18.2
1990	10 06	01 39.46	+00 42.3					
1990	10 16	01 30.83	-00 45.2	1.598	2.587	170.4	3.7	17.9
1990	10 26	01 21.94	-02 03.8					
1990	11 05	01 13.88	-03 05.7	1.639	2.559	152.3	10.4	18.2
1990	11 15	01 07.55	-03 46.4					
1990	11 25	01 03.57	-04 03.6	1.775	2.529	130.4	17.3	18.6

1985 CR2 a,e,i = 2.26, 0.06, 1 Elements MPC 12708

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 56.70	+12 51.7	1.482	2.274	130.9	19.6	17.5
1990	09 16	01 54.43	+12 42.5					
1990	09 26	01 49.12	+12 16.0	1.324	2.261	152.4	11.9	17.0
1990	10 06	01 41.26	+11 33.6					
1990	10 16	01 31.74	+10 39.4	1.252	2.248	176.5	1.5	16.4
1990	10 26	01 21.87	+09 40.3					
1990	11 05	01 13.08	+08 45.0	1.283	2.235	158.4	9.4	16.8
1990	11 15	01 06.48	+08 01.2					
1990	11 25	01 02.82	+07 34.3	1.408	2.222	135.5	18.1	17.3

1979 MR3 a,e,i = 2.32, 0.14, 8 Elements MPC 12785

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 58.32	-00 01.1	1.358	2.182	134.0	19.4	18.2
1990	09 16	01 55.56	-01 10.4					
1990	09 26	01 49.79	-02 27.5	1.266	2.213	154.3	11.3	17.9
1990	10 06	01 41.68	-03 43.4					
1990	10 16	01 32.31	-04 48.8	1.263	2.244	166.4	6.0	17.7
1990	10 26	01 22.99	-05 34.8					
1990	11 05	01 15.04	-05 56.2	1.359	2.276	150.5	12.4	18.1
1990	11 15	01 09.35	-05 51.8					
1990	11 25	01 06.43	-05 23.4	1.542	2.307	130.3	19.0	18.6

1987 DX5 a,e,i = 3.02, 0.11, 9 Elements MPC 13302

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 56.78	+24 37.3	1.952	2.671	125.9	17.8	16.4
1990	09 16	01 54.44	+25 15.2					
1990	09 26	01 49.56	+25 35.3	1.787	2.672	145.1	12.4	16.0
1990	10 06	01 42.57	+25 35.1					
1990	10 16	01 34.21	+25 14.2	1.706	2.675	162.9	6.3	15.7
1990	10 26	01 25.52	+24 34.6					
1990	11 05	01 17.64	+23 41.9	1.728	2.680	159.5	7.4	15.8
1990	11 15	01 11.49	+22 43.6					
1990	11 25	01 07.73	+21 47.3	1.853	2.686	140.1	13.6	16.2

1988 BA a,e,i = 2.42, 0.03, 6 Elements MPC 12944

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 03.09	+11 51.4	1.603	2.378	129.8	19.0	16.8
1990	09 16	02 00.45	+12 02.7					
1990	09 26	01 54.87	+12 00.9	1.445	2.373	151.2	11.8	16.3
1990	10 06	01 46.78	+11 46.8					
1990	10 16	01 37.03	+11 23.1	1.373	2.368	175.0	2.1	15.8
1990	10 26	01 26.83	+10 54.3					
1990	11 05	01 17.54	+10 26.6	1.407	2.364	160.0	8.3	16.1
1990	11 15	01 10.27	+10 06.0					
1990	11 25	01 05.74	+09 57.2	1.540	2.360	137.0	16.6	16.6

1989 KA a,e,i = 2.32, 0.19, 5 Elements MPC 14797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 06.08	+15 53.3	1.980	2.716	127.7	17.1	18.0
1990	09 16	02 02.72	+15 31.4					
1990	09 26	01 56.85	+14 53.4	1.819	2.732	149.6	10.7	17.7
1990	10 06	01 48.94	+14 00.5					
1990	10 16	01 39.74	+12 56.1	1.751	2.744	173.5	2.3	17.2
1990	10 26	01 30.24	+11 45.6					
1990	11 05	01 21.51	+10 36.4	1.798	2.754	161.0	6.7	17.5
1990	11 15	01 14.44	+09 35.0					
1990	11 25	01 09.62	+08 46.9	1.951	2.761	137.5	14.0	18.0

1982 FP3 a,e,i = 3.17, 0.13, 2 Elements MPC 11052

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 00.70	+10 00.2	2.844	3.587	131.0	12.3	18.7
1990	09 16	01 57.42	+09 40.4					
1990	09 26	01 52.45	+09 12.3	2.671	3.591	152.6	7.4	18.4
1990	10 06	01 46.14	+08 37.6					
1990	10 16	01 38.99	+07 59.1	2.599	3.594	175.4	1.3	18.0
1990	10 26	01 31.62	+07 20.3					
1990	11 05	01 24.70	+06 45.0	2.647	3.596	160.3	5.3	18.3
1990	11 15	01 18.81	+06 16.5					
1990	11 25	01 14.40	+05 57.4	2.806	3.597	137.5	10.7	18.6

1979 HW6 a,e,i = 2.25, 0.13, 0 Elements MPC 14780

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 07.25	+13 24.8	1.619	2.380	128.3	19.4	18.3
1990	09 16	02 04.27	+13 10.3					
1990	09 26	01 58.36	+12 39.7	1.482	2.404	150.1	12.0	17.9
1990	10 06	01 50.05	+11 54.6					
1990	10 16	01 40.23	+10 59.2	1.433	2.427	174.6	2.2	17.4
1990	10 26	01 30.12	+09 59.9					
1990	11 05	01 21.00	+09 04.4	1.492	2.448	160.4	7.8	17.8
1990	11 15	01 13.87	+08 19.4					
1990	11 25	01 09.38	+07 49.7	1.651	2.468	137.1	15.8	18.3

1985 UB5 a,e,i = 3.01, 0.11, 11 Elements MPC 12317

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 58.49	+14 48.5	1.921	2.681	129.8	16.8	16.3
1990	09 16	01 57.14	+14 08.7					
1990	09 26	01 53.47	+13 11.7	1.759	2.680	151.0	10.4	15.9
1990	10 06	01 47.89	+11 59.7					
1990	10 16	01 41.06	+10 37.5	1.688	2.682	174.5	2.0	15.5
1990	10 26	01 33.89	+09 11.6					
1990	11 05	01 27.34	+07 50.3	1.727	2.685	161.3	6.8	15.8
1990	11 15	01 22.23	+06 40.3					
1990	11 25	01 19.14	+05 46.9	1.870	2.690	138.5	14.1	16.2

1981 EA43 a,e,i = 2.36, 0.20, 1 Elements MPC 10825

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	01 58.99	+13 52.7	1.155	1.962	130.1	23.2	19.2
1990	09 16	01 59.89	+14 13.7					
1990	09 26	01 57.34	+14 16.2	1.003	1.936	149.7	15.1	18.7
1990	10 06	01 51.61	+14 00.3					
1990	10 16	01 43.51	+13 27.8	0.923	1.916	172.5	3.9	18.1
1990	10 26	01 34.48	+12 44.8					
1990	11 05	01 26.28	+12 00.2	0.933	1.902	162.5	9.0	18.3
1990	11 15	01 20.37	+11 23.6					
1990	11 25	01 17.76	+11 02.5	1.027	1.894	140.2	19.5	18.8

1973 SO3 a,e,i = 2.25, 0.18, 5 Elements MPC 14942

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 15.53	+14 25.8	1.426	2.178	126.1	22.0	17.4
1990	09 16	02 12.72	+14 41.7					
1990	09 26	02 06.55	+14 41.6	1.309	2.221	147.5	14.0	17.0
1990	10 06	01 57.56	+14 25.8					
1990	10 16	01 46.77	+13 56.6	1.272	2.263	171.6	3.7	16.6
1990	10 26	01 35.57	+13 19.1					
1990	11 05	01 25.49	+12 40.5	1.340	2.305	162.4	7.5	16.9
1990	11 15	01 17.65	+12 07.9					
1990	11 25	01 12.75	+11 46.8	1.507	2.345	139.2	16.0	17.5

1979 SJ11 a,e,i = 3.11, 0.14, 4 Elements MPC 10627

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 04.94	+17 48.5	2.159	2.883	127.2	16.2	17.2
1990	09 16	02 03.33	+17 50.4					
1990	09 26	01 59.43	+17 37.9	1.959	2.858	147.8	10.8	16.8
1990	10 06	01 53.57	+17 11.0					
1990	10 16	01 46.29	+16 30.9	1.847	2.833	169.8	3.6	16.4
1990	10 26	01 38.42	+15 41.2					
1990	11 05	01 30.93	+14 47.1	1.844	2.810	164.0	5.6	16.5
1990	11 15	01 24.69	+13 54.8					
1990	11 25	01 20.38	+13 10.1	1.948	2.788	141.4	12.8	16.8

2777 P-L a,e,i = 2.41, 0.17, 3 Elements MPC 14627

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 12.34	+10 39.4	1.784	2.533	128.1	18.3	18.1
1990	09 16	02 09.59	+10 07.9					
1990	09 26	02 04.18	+09 22.8	1.649	2.566	149.8	11.3	17.7
1990	10 06	01 56.56	+08 27.2					
1990	10 16	01 47.52	+07 25.9	1.604	2.597	173.3	2.6	17.3
1990	10 26	01 38.10	+06 25.3					
1990	11 05	01 29.44	+05 32.4	1.671	2.627	160.7	7.2	17.7
1990	11 15	01 22.45	+04 52.5					
1990	11 25	01 17.74	+04 29.0	1.841	2.655	137.6	14.5	18.2

(4108) 3439 T-3 a,e,i = 2.64, 0.13, 1 Elements MPC 14612

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 11.29	+13 04.2	2.213	2.938	127.5	15.8	18.6
1990	09 16	02 08.86	+12 47.0					
1990	09 26	02 04.14	+12 17.2	2.020	2.925	148.9	10.2	18.2
1990	10 06	01 57.45	+11 36.3					
1990	10 16	01 49.36	+10 46.9	1.919	2.910	172.6	2.5	17.8
1990	10 26	01 40.68	+09 53.4					
1990	11 05	01 32.39	+09 01.6	1.932	2.895	163.0	5.8	17.9
1990	11 15	01 25.32	+08 16.7					
1990	11 25	01 20.14	+07 43.4	2.054	2.877	139.5	12.9	18.3

1988 CT5 a,e,i = 2.58, 0.17, 13 Elements MPC 16429

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 16.28	+31 06.8	1.638	2.301	118.9	22.5	16.3
1990	09 16	02 14.59	+32 29.6					
1990	09 26	02 09.49	+33 31.6	1.503	2.335	136.6	17.2	16.0
1990	10 06	02 01.33	+34 07.0					
1990	10 16	01 51.00	+34 11.6	1.437	2.371	153.4	10.9	15.8
1990	10 26	01 39.86	+33 44.3					
1990	11 05	01 29.53	+32 50.4	1.465	2.408	156.7	9.4	15.8
1990	11 15	01 21.33	+31 39.0					
1990	11 25	01 16.14	+30 21.6	1.590	2.445	142.1	14.3	16.2

1972 GL a,e,i = 2.24, 0.10, 8 Elements MPC 12948

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 17.89	+07 30.9	1.710	2.458	127.6	19.0	17.5
1990	09 16	02 15.31	+07 23.1					
1990	09 26	02 09.75	+07 05.0	1.537	2.451	148.9	12.2	17.0
1990	10 06	02 01.55	+06 39.1					
1990	10 16	01 51.43	+06 09.3	1.451	2.442	172.0	3.3	16.5
1990	10 26	01 40.50	+05 40.7					
1990	11 05	01 30.10	+05 19.2	1.473	2.431	160.7	7.7	16.8
1990	11 15	01 21.39	+05 09.3					
1990	11 25	01 15.24	+05 14.3	1.598	2.418	137.4	16.0	17.2

1979 SX2 a,e,i = 2.37, 0.16, 4 Elements MPC 13464

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 08.56	+18 22.2	1.243	2.010	126.2	23.9	16.0
1990	09 16	02 09.19	+18 23.2					
1990	09 26	02 06.38	+18 00.8	1.113	2.025	146.2	16.0	15.5
1990	10 06	02 00.49	+17 15.1					
1990	10 16	01 52.42	+16 08.9	1.056	2.043	169.1	5.3	15.1
1990	10 26	01 43.54	+14 49.6					
1990	11 05	01 35.45	+13 27.9	1.092	2.066	164.9	7.2	15.2
1990	11 15	01 29.42	+12 14.7					
1990	11 25	01 26.30	+11 18.6	1.222	2.092	142.2	16.8	15.8

1981 ET8 a,e,i = 2.40, 0.06, 4 Elements MPC 10769

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 14.61	+15 00.8	1.820	2.547	126.1	18.6	18.7
1990	09 16	02 12.90	+14 42.5					
1990	09 26	02 08.46	+14 08.1	1.647	2.549	147.3	12.3	18.3
1990	10 06	02 01.63	+13 18.6					
1990	10 16	01 53.09	+12 17.1	1.559	2.549	171.2	3.4	17.8
1990	10 26	01 43.84	+11 09.1					
1990	11 05	01 35.05	+10 02.2	1.581	2.549	163.9	6.2	17.9
1990	11 15	01 27.76	+09 03.5					
1990	11 25	01 22.73	+08 18.8	1.707	2.547	140.3	14.3	18.4

(4210) 1987 DY5 a,e,i = 2.99, 0.08, 10 Elements MPC 15232

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 12.61	+04 11.4	2.153	2.902	129.7	15.5	16.6
1990	09 16	02 11.34	+03 13.5					
1990	09 26	02 07.88	+02 05.7	1.975	2.887	149.9	10.0	16.2
1990	10 06	02 02.50	+00 52.2					
1990	10 16	01 55.74	-00 21.1	1.891	2.873	167.6	4.3	15.9
1990	10 26	01 48.34	-01 27.6					
1990	11 05	01 41.20	-02 21.0	1.918	2.859	157.5	7.6	16.1
1990	11 15	01 35.11	-02 57.0					
1990	11 25	01 30.73	-03 13.2	2.047	2.846	136.6	13.8	16.4

1982 FX3 a,e,i = 3.17, 0.11, 5 Elements MPC 13856

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 17.00	+15 07.7	2.763	3.448	125.5	13.8	17.6
1990	09 16	02 14.30	+15 08.4					
1990	09 26	02 09.69	+14 59.4	2.578	3.460	146.7	9.2	17.3
1990	10 06	02 03.47	+14 41.4					
1990	10 16	01 56.11	+14 15.5	2.487	3.472	169.6	3.0	16.9
1990	10 26	01 48.25	+13 44.5					
1990	11 05	01 40.63	+13 11.8	2.512	3.482	166.1	3.9	17.0
1990	11 15	01 33.93	+12 41.1					
1990	11 25	01 28.68	+12 16.1	2.652	3.492	143.1	9.8	17.4

1988 HB a,e,i = 3.18, 0.06, 16 Elements MPC 13162

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 17.20	-07 15.6	2.487	3.229	130.1	13.8	16.2
1990	09 16	02 14.58	-08 06.5					
1990	09 26	02 09.97	-08 58.1	2.347	3.241	148.0	9.4	16.0
1990	10 06	02 03.68	-09 45.2					
1990	10 16	01 56.26	-10 22.5	2.301	3.252	159.1	6.3	15.8
1990	10 26	01 48.39	-10 45.3					
1990	11 05	01 40.86	-10 50.3	2.364	3.263	150.3	8.7	16.0
1990	11 15	01 34.33	-10 36.6					
1990	11 25	01 29.36	-10 04.8	2.529	3.274	132.1	12.9	16.3

1981 EP20 a,e,i = 2.37, 0.22, 2 Elements MPC 12452

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 09.46	+12 14.7	1.050	1.851	128.2	25.3	17.2
1990	09 16	02 11.79	+12 45.6					
1990	09 26	02 10.42	+13 00.5	0.917	1.842	147.3	17.1	16.6
1990	10 06	02 05.52	+12 59.7					
1990	10 16	01 57.86	+12 45.2	0.850	1.840	169.9	5.4	16.1
1990	10 26	01 48.87	+12 21.9					
1990	11 05	01 40.39	+11 57.8	0.869	1.846	165.8	7.6	16.2
1990	11 15	01 34.04	+11 40.8					
1990	11 25	01 30.92	+11 37.3	0.971	1.859	143.4	18.5	16.8

(4472) 1980 TY14 a,e,i = 2.24, 0.15, 6 Elements MPC 16407

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 17.55	+15 06.5	1.193	1.958	125.4	24.8	16.6
1990	09 16	02 18.73	+16 01.1					
1990	09 26	02 16.20	+16 42.6	1.034	1.941	144.6	17.4	16.0
1990	10 06	02 10.04	+17 08.7					
1990	10 16	02 00.90	+17 18.1	0.943	1.927	166.8	6.8	15.4
1990	10 26	01 50.11	+17 12.0					
1990	11 05	01 39.57	+16 55.6	0.941	1.918	166.1	7.1	15.4
1990	11 15	01 31.05	+16 36.5					
1990	11 25	01 25.85	+16 23.1	1.028	1.913	143.5	17.9	16.0

1988 AK1 a,e,i = 2.39, 0.06, 5 Elements MPC 14791

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 22.22	+17 41.7	1.584	2.299	123.5	21.5	16.7
1990	09 16	02 21.21	+18 10.0					
1990	09 26	02 17.01	+18 23.1	1.426	2.312	143.7	14.9	16.3
1990	10 06	02 09.91	+18 19.7					
1990	10 16	02 00.60	+17 59.8	1.343	2.324	166.4	5.8	15.9
1990	10 26	01 50.26	+17 26.3					
1990	11 05	01 40.32	+16 45.0	1.363	2.338	166.3	5.8	15.9
1990	11 15	01 32.05	+16 03.2					
1990	11 25	01 26.39	+15 28.1	1.484	2.351	143.4	14.5	16.4

6647 P-L a,e,i = 2.41, 0.23, 3 Elements MPC 13314

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 19.90	+11 52.8	1.145	1.919	125.9	25.2	17.7
1990	09 16	02 20.59	+12 10.6					
1990	09 26	02 17.53	+12 12.9	1.036	1.949	145.9	16.8	17.3
1990	10 06	02 11.07	+12 00.9					
1990	10 16	02 02.15	+11 37.6	0.996	1.984	169.3	5.3	16.9
1990	10 26	01 52.20	+11 08.7					
1990	11 05	01 42.96	+10 41.7	1.048	2.025	166.0	6.8	17.1
1990	11 15	01 35.81	+10 23.3					
1990	11 25	01 31.67	+10 18.5	1.192	2.068	143.1	16.6	17.7

1972 HR a,e,i = 3.11, 0.15, 6 Elements MPC 13690

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 22.58	+08 40.9	2.331	3.037	126.2	15.5	17.0
1990	09 16	02 20.36	+08 28.3					
1990	09 26	02 15.96	+08 07.4	2.175	3.066	147.2	10.2	16.7
1990	10 06	02 09.70	+07 40.3					
1990	10 16	02 02.13	+07 10.0	2.109	3.095	169.6	3.3	16.4
1990	10 26	01 53.97	+06 40.2					
1990	11 05	01 46.08	+06 14.9	2.157	3.123	164.5	4.9	16.5
1990	11 15	01 39.20	+05 57.7					
1990	11 25	01 33.95	+05 51.0	2.316	3.152	141.9	11.2	16.9

1936 YD a,e,i = 2.74, 0.12, 15 Elements MPC 13155

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 06	02 24.76	-07 57.2	1.678	2.434	128.2	19.0	15.9
1990	09 16	02 23.67	-08 43.6					
1990	09 26	02 19.66	-09 31.0	1.532	2.426	145.6	13.5	15.5
1990	10 06	02 13.02	-10 11.6					
1990	10 16	02 04.42	-10 37.9	1.467	2.420	158.0	8.9	15.3
1990	10 26	01 54.87	-10 42.4					
1990	11 05	01 45.61	-10 21.1	1.500	2.417	151.3	11.4	15.4
1990	11 15	01 37.76	-09 33.6					
1990	11 25	01 32.17	-08 22.5	1.626	2.416	133.7	17.2	15.8

1969 TC2 a,e,i = 3.02, 0.12, 12 Elements MPC 11746

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 21.83	+09 51.0	1.809	2.696	145.4	12.2	16.1
1990	10 06	02 15.29	+09 53.4					
1990	10 16	02 06.95	+09 50.9	1.724	2.708	168.5	4.2	15.7
1990	10 26	01 57.70	+09 46.3					
1990	11 05	01 48.60	+09 43.2	1.748	2.723	166.9	4.7	15.7
1990	11 15	01 40.64	+09 45.0					
1990	11 25	01 34.62	+09 54.6	1.880	2.739	143.7	12.3	16.2
1990	12 05	01 31.03	+10 13.9					
1990	12 15	01 29.99	+10 43.5	2.098	2.756	122.6	17.5	16.6

1989 NG1 a,e,i = 3.02, 0.06, 9 Elements MPC 15072

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 19.58	+20 35.5	2.148	3.004	142.2	11.8	17.2
1990	10 06	02 14.15	+19 59.3					
1990	10 16	02 07.20	+19 09.1	2.043	3.015	164.5	5.1	16.8
1990	10 26	01 59.46	+18 07.7					
1990	11 05	01 51.82	+17 00.4	2.047	3.026	169.0	3.6	16.8
1990	11 15	01 45.13	+15 52.9					
1990	11 25	01 40.05	+14 51.4	2.165	3.037	146.5	10.3	17.2
1990	12 05	01 37.03	+14 00.6					
1990	12 15	01 36.24	+13 23.2	2.376	3.048	124.9	15.3	17.5

(4089) 1986 JG a,e,i = 2.19, 0.13, 1 Elements MPC 14605

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 28.90	+16 32.1	1.359	2.235	141.8	16.1	16.2
1990	10 06	02 21.84	+16 04.8					
1990	10 16	02 12.35	+15 22.2	1.285	2.264	165.6	6.3	15.7
1990	10 26	02 01.62	+14 28.7					
1990	11 05	01 51.15	+13 31.6	1.312	2.292	168.7	4.9	15.8
1990	11 15	01 42.27	+12 39.0					
1990	11 25	01 35.98	+11 58.0	1.442	2.319	144.7	14.3	16.3
1990	12 05	01 32.76	+11 33.0					
1990	12 15	01 32.64	+11 25.4	1.653	2.344	123.5	20.5	16.8

(4180) 6092 P-L a,e,i = 2.61, 0.19, 11 Elements MPC 15062

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 24.80	+11 19.9	2.202	3.073	144.4	11.0	18.0
1990	10 06	02 18.88	+10 16.3					
1990	10 16	02 11.47	+09 05.5	2.103	3.084	167.4	4.0	17.6
1990	10 26	02 03.26	+07 52.2					
1990	11 05	01 55.10	+06 42.3	2.120	3.092	166.5	4.3	17.6
1990	11 15	01 47.80	+05 41.4					
1990	11 25	01 42.02	+04 53.8	2.251	3.099	143.2	11.0	18.0
1990	12 05	01 38.22	+04 21.9					
1990	12 15	01 36.57	+04 06.2	2.472	3.102	121.5	15.7	18.4

1973 TP a,e,i = 2.61, 0.15, 15 Elements MPC 14944

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 22.81	+15 40.4	1.395	2.280	143.5	15.2	15.7
1990	10 06	02 18.32	+13 57.0					
1990	10 16	02 11.73	+11 57.2	1.318	2.300	167.0	5.6	15.3
1990	10 26	02 04.04	+09 50.3					
1990	11 05	01 56.50	+07 48.0	1.344	2.322	167.5	5.3	15.4
1990	11 15	01 50.22	+06 01.4					
1990	11 25	01 46.07	+04 38.3	1.475	2.347	144.0	14.3	15.9
1990	12 05	01 44.51	+03 42.0					
1990	12 15	01 45.61	+03 11.9	1.686	2.373	123.2	20.3	16.4

1988 CO a,e,i = 2.47, 0.01, 4 Elements MPC 12952

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 30.81	+15 04.0	1.634	2.501	141.9	14.3	16.3
1990	10 06	02 24.64	+14 52.7					
1990	10 16	02 16.23	+14 30.2	1.526	2.502	165.1	5.9	15.8
1990	10 26	02 06.48	+13 59.2					
1990	11 05	01 56.61	+13 24.7	1.521	2.503	170.0	4.0	15.7
1990	11 15	01 47.82	+12 52.3					
1990	11 25	01 41.10	+12 27.6	1.624	2.504	146.0	12.7	16.2
1990	12 05	01 37.06	+12 14.8					
1990	12 15	01 35.91	+12 15.8	1.812	2.504	124.5	18.9	16.6

(4008) 1977 BY a,e,i = 2.36, 0.21, 25 Elements MPC 14327

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 27.24	-09 33.8	1.566	2.448	143.7	14.0	16.9
1990	10 06	02 22.45	-12 24.3					
1990	10 16	02 15.41	-15 07.6	1.472	2.403	152.8	11.0	16.6
1990	10 26	02 06.92	-17 29.2					
1990	11 05	01 58.13	-19 16.7	1.480	2.356	144.1	14.3	16.7
1990	11 15	01 50.24	-20 23.7					
1990	11 25	01 44.27	-20 49.1	1.575	2.309	127.1	19.9	17.0
1990	12 05	01 40.93	-20 36.7					
1990	12 15	01 40.48	-19 52.9	1.724	2.261	110.2	24.1	17.2

(4154) 1985 NE a,e,i = 2.54, 0.20, 7 Elements MPC 14939

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 35.51	+20 27.6	2.094	2.925	138.9	13.0	18.0
1990	10 06	02 28.78	+20 24.2					
1990	10 16	02 20.16	+20 07.8	1.985	2.947	161.5	6.2	17.7
1990	10 26	02 10.42	+19 39.5					
1990	11 05	02 00.58	+19 02.8	1.984	2.967	170.5	3.2	17.5
1990	11 15	01 51.62	+18 22.5					
1990	11 25	01 44.37	+17 43.9	2.100	2.984	148.1	10.1	18.0
1990	12 05	01 39.39	+17 12.1					
1990	12 15	01 36.88	+16 50.2	2.311	2.999	126.2	15.4	18.3

1986 VV6 a,e,i = 2.56, 0.20, 5 Elements MPC 13694

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 31.44	+07 18.1	1.379	2.266	143.6	15.2	15.9
1990	10 06	02 26.77	+06 51.3					
1990	10 16	02 19.47	+06 19.5	1.248	2.226	165.2	6.5	15.4
1990	10 26	02 10.38	+05 48.1					
1990	11 05	02 00.80	+05 23.7	1.213	2.190	166.6	6.0	15.2
1990	11 15	01 52.11	+05 12.3					
1990	11 25	01 45.56	+05 18.1	1.276	2.156	144.2	15.5	15.6
1990	12 05	01 41.96	+05 42.8					
1990	12 15	01 41.61	+06 25.7	1.416	2.125	123.6	22.7	16.0

(4090) 1986 RH1 a,e,i = 2.36, 0.21, 1 Elements MPC 14606

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 36.37	+17 06.9	1.642	2.495	140.0	15.0	17.2
1990	10 06	02 29.61	+16 36.5					
1990	10 16	02 20.70	+15 52.8	1.565	2.537	163.6	6.4	16.8
1990	10 26	02 10.60	+14 59.4					
1990	11 05	02 00.56	+14 02.2	1.593	2.577	171.0	3.4	16.8
1990	11 15	01 51.73	+13 08.2					
1990	11 25	01 45.00	+12 23.5	1.731	2.614	146.9	11.9	17.3
1990	12 05	01 40.88	+11 52.4					
1990	12 15	01 39.51	+11 36.6	1.958	2.650	125.1	17.7	17.8

1986 XH a,e,i = 2.61, 0.12, 12 Elements MPC 12005

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 31.47	+30 39.7	1.626	2.438	134.7	17.0	17.3
1990	10 06	02 26.94	+30 37.1					
1990	10 16	02 19.85	+30 08.5	1.478	2.416	154.3	10.3	16.8
1990	10 26	02 11.07	+29 12.7					
1990	11 05	02 01.90	+27 52.8	1.423	2.395	165.0	6.1	16.6
1990	11 15	01 53.67	+26 16.5					
1990	11 25	01 47.56	+24 34.7	1.472	2.376	149.4	12.2	16.9
1990	12 05	01 44.33	+22 58.3					
1990	12 15	01 44.22	+21 35.5	1.611	2.358	129.1	18.9	17.2

1989 TS1 a,e,i = 5.15, 0.05, 19 Elements MPC 15566

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 27.49	+28 16.1	4.202	4.981	136.8	7.9	16.7
1990 10 06	02 22.82	+28 30.3					
1990 10 16	02 17.17	+28 35.3	4.060	4.986	155.9	4.7	16.5
1990 10 26	02 10.94	+28 31.2					
1990 11 05	02 04.58	+28 18.8	4.028	4.992	165.0	2.9	16.4
1990 11 15	01 58.55	+27 59.9					
1990 11 25	01 53.28	+27 37.0	4.116	4.999	150.5	5.6	16.6
1990 12 05	01 49.15	+27 12.8					
1990 12 15	01 46.35	+26 50.0	4.309	5.005	130.5	8.6	16.8

1981 EZ27 a,e,i = 2.44, 0.12, 1 Elements MPC 12706

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 36.48	+14 14.2	1.534	2.397	140.9	15.3	18.1
1990 10 06	02 30.52	+13 47.9					
1990 10 16	02 22.26	+13 10.6	1.449	2.423	164.2	6.4	17.7
1990 10 26	02 12.64	+12 26.3					
1990 11 05	02 02.93	+11 40.9	1.466	2.450	170.9	3.7	17.6
1990 11 15	01 54.33	+11 00.7					
1990 11 25	01 47.83	+10 31.4	1.589	2.476	146.9	12.6	18.1
1990 12 05	01 44.01	+10 16.4					
1990 12 15	01 43.01	+10 16.9	1.798	2.501	125.4	18.7	18.6

1976 GJ1 a,e,i = 3.12, 0.10, 1 Elements MPC 12199

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 31.19	+13 45.0	2.463	3.313	142.2	10.7	17.1
1990 10 06	02 26.17	+13 16.5					
1990 10 16	02 19.62	+12 40.4	2.324	3.297	164.9	4.5	16.8
1990 10 26	02 12.12	+11 59.4					
1990 11 05	02 04.40	+11 17.3	2.298	3.281	171.0	2.7	16.6
1990 11 15	01 57.23	+10 38.2					
1990 11 25	01 51.28	+10 06.1	2.387	3.263	147.5	9.3	17.0
1990 12 05	01 47.07	+09 44.0					
1990 12 15	01 44.88	+09 33.6	2.572	3.246	125.6	14.3	17.3

1989 LA a,e,i = 2.65, 0.18, 4 Elements MPC 14958

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 35.70	+08 58.4	1.913	2.775	142.3	12.8	17.3
1990 10 06	02 29.73	+08 13.8					
1990 10 16	02 21.95	+07 24.5	1.836	2.810	164.8	5.3	16.9
1990 10 26	02 13.17	+06 35.1					
1990 11 05	02 04.34	+05 51.1	1.868	2.844	167.5	4.3	17.0
1990 11 15	01 56.42	+05 17.1					
1990 11 25	01 50.15	+04 56.6	2.011	2.876	145.0	11.3	17.4
1990 12 05	01 46.05	+04 51.2					
1990 12 15	01 44.28	+05 00.5	2.244	2.907	123.7	16.4	17.8

2272 T-2 a,e,i = 2.24, 0.09, 7 Elements MPC 15257

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 42.08	+20 08.0	1.553	2.391	137.6	16.4	17.1
1990 10 06	02 35.99	+20 22.6					
1990 10 16	02 27.07	+20 22.1	1.415	2.376	160.0	8.2	16.6
1990 10 26	02 16.19	+20 06.2					
1990 11 05	02 04.70	+19 37.7	1.375	2.360	171.2	3.7	16.4
1990 11 15	01 54.06	+19 02.0					
1990 11 25	01 45.57	+18 26.7	1.443	2.343	148.5	12.7	16.8
1990 12 05	01 40.09	+17 58.5					
1990 12 15	01 37.94	+17 42.4	1.598	2.324	126.6	19.9	17.2

1976 YF5 a,e,i = 2.33, 0.04, 2 Elements MPC 13167

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 38.82	+18 13.8	1.389	2.245	139.0	17.0	16.8
1990	10 06	02 33.64	+18 05.8					
1990	10 16	02 25.70	+17 41.9	1.277	2.246	161.7	8.0	16.3
1990	10 26	02 15.94	+17 04.2					
1990	11 05	02 05.75	+16 17.9	1.261	2.247	172.4	3.4	16.0
1990	11 15	01 56.58	+15 30.2					
1990	11 25	01 49.66	+14 48.8	1.347	2.250	148.7	13.2	16.6
1990	12 05	01 45.73	+14 20.1					
1990	12 15	01 45.04	+14 07.2	1.517	2.253	127.2	20.4	17.1

1982 US6 a,e,i = 2.54, 0.16, 8 Elements MPC 11431

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 39.66	+10 03.8	1.275	2.150	141.1	17.0	17.0
1990	10 06	02 34.36	+10 11.5					
1990	10 16	02 26.25	+10 13.5	1.185	2.160	163.7	7.4	16.5
1990	10 26	02 16.32	+10 12.7					
1990	11 05	02 06.04	+10 13.5	1.190	2.174	170.8	4.2	16.4
1990	11 15	01 56.89	+10 20.0					
1990	11 25	01 50.08	+10 36.0	1.295	2.192	147.4	14.0	17.0
1990	12 05	01 46.34	+11 03.7					
1990	12 15	01 45.84	+11 43.3	1.480	2.213	126.6	20.9	17.5

1989 NB1 a,e,i = 3.18, 0.11, 18 Elements MPC 15072

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 34.06	-09 11.6	2.360	3.212	142.2	11.0	16.5
1990	10 06	02 29.15	-10 28.0					
1990	10 16	02 22.79	-11 35.5	2.304	3.233	154.7	7.6	16.3
1990	10 26	02 15.58	-12 28.1					
1990	11 05	02 08.29	-13 01.3	2.352	3.254	150.7	8.6	16.4
1990	11 15	02 01.62	-13 12.9					
1990	11 25	01 56.20	-13 02.6	2.502	3.274	134.8	12.3	16.7
1990	12 05	01 52.47	-12 32.5					
1990	12 15	01 50.64	-11 45.6	2.731	3.294	116.8	15.5	17.0

3076 T-2 a,e,i = 3.11, 0.11, 2 Elements MPC 14967

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 36.38	+13 11.5	2.387	3.230	141.2	11.2	17.5
1990	10 06	02 31.50	+12 47.7					
1990	10 16	02 24.97	+12 16.8	2.241	3.210	163.7	5.0	17.2
1990	10 26	02 17.35	+11 41.2					
1990	11 05	02 09.41	+11 04.6	2.206	3.191	172.0	2.5	17.0
1990	11 15	02 01.93	+10 31.1					
1990	11 25	01 55.65	+10 04.5	2.286	3.170	148.5	9.4	17.3
1990	12 05	01 51.13	+09 47.9					
1990	12 15	01 48.69	+09 42.8	2.463	3.150	126.5	14.5	17.7

(4252) 1985 RG4 a,e,i = 2.65, 0.14, 14 Elements MPC 15395

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 39.28	+01 49.7	2.153	3.008	142.1	11.8	17.5
1990	10 06	02 34.17	+00 30.7					
1990	10 16	02 27.36	-00 48.6	2.054	3.014	160.9	6.2	17.2
1990	10 26	02 19.47	-02 01.9					
1990	11 05	02 11.33	-03 02.9	2.065	3.018	160.5	6.3	17.2
1990	11 15	02 03.78	-03 46.9					
1990	11 25	01 57.56	-04 11.3	2.186	3.020	141.3	11.8	17.5
1990	12 05	01 53.20	-04 15.7					
1990	12 15	01 50.95	-04 01.7	2.394	3.021	121.0	16.2	17.9

1988 PB1 a,e,i = 5.21, 0.05, 26 Elements MPC 14951

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1990	09 26	02 34.57	+37 06.8	4.288	4.996	-0.53	+0.3	17.2
1990	10 06	02 30.57	+36 58.2					
1990	10 16	02 25.53	+36 37.1	4.118	4.993	-0.55	+0.1	17.0
1990	10 26	02 19.82	+36 03.3					
1990	11 05	02 13.93	+35 17.7	4.050	4.990	-0.54	-0.1	16.8
1990	11 15	02 08.34	+34 22.4					
1990	11 25	02 03.51	+33 20.6	4.098	4.987	-0.52	-0.2	16.9
1990	12 05	01 59.80	+32 15.9					
1990	12 15	01 57.46	+31 12.0	4.257	4.984	-0.48	-0.3	17.1

1985 TP a,e,i = 2.86, 0.06, 2 Elements MPC 15066

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 42.47	+14 18.9	1.984	2.822	139.4	13.4	16.9
1990	10 06	02 37.71	+13 48.0					
1990	10 16	02 31.00	+13 07.9	1.868	2.834	162.1	6.2	16.5
1990	10 26	02 23.00	+12 21.9					
1990	11 05	02 14.63	+11 34.6	1.858	2.845	173.3	2.3	16.3
1990	11 15	02 06.85	+10 51.0					
1990	11 25	02 00.50	+10 16.1	1.961	2.857	149.7	10.0	16.8
1990	12 05	01 56.17	+09 53.3					
1990	12 15	01 54.17	+09 44.1	2.158	2.868	127.8	15.7	17.2

1988 CT2 a,e,i = 2.47, 0.11, 3 Elements MPC 14951

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 47.14	+11 25.8	1.729	2.571	139.0	14.8	17.5
1990	10 06	02 41.78	+10 48.7					
1990	10 16	02 34.15	+10 03.8	1.626	2.592	161.8	6.9	17.1
1990	10 26	02 25.04	+09 15.6					
1990	11 05	02 15.53	+08 29.5	1.627	2.611	171.3	3.3	16.9
1990	11 15	02 06.73	+07 51.1					
1990	11 25	01 59.61	+07 25.2	1.738	2.629	148.3	11.4	17.4
1990	12 05	01 54.83	+07 14.5					
1990	12 15	01 52.65	+07 19.3	1.940	2.646	126.5	17.4	17.9

1977 RJ3 a,e,i = 2.63, 0.29, 12 Elements MPC 15699

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 43.80	+30 38.2	1.059	1.887	132.5	23.1	15.5
1990	10 06	02 41.79	+32 39.7					
1990	10 16	02 35.86	+34 18.8	0.946	1.872	148.9	16.0	15.0
1990	10 26	02 26.72	+35 25.9					
1990	11 05	02 16.07	+35 55.2	0.908	1.867	158.9	11.0	14.7
1990	11 15	02 06.09	+35 47.9					
1990	11 25	01 58.85	+35 13.0	0.952	1.872	149.8	15.4	15.0
1990	12 05	01 55.71	+34 24.2					
1990	12 15	01 57.05	+33 33.9	1.069	1.886	133.4	22.3	15.5

1988 CH2 a,e,i = 2.31, 0.13, 7 Elements MPC 13477

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 45.11	+03 21.9	1.136	2.014	140.6	18.4	16.0
1990	10 06	02 41.57	+02 10.7					
1990	10 16	02 35.02	+00 58.1	1.056	2.022	160.0	9.7	15.6
1990	10 26	02 26.42	-00 05.9					
1990	11 05	02 17.22	-00 51.3	1.064	2.033	163.1	8.2	15.6
1990	11 15	02 08.94	-01 11.4					
1990	11 25	02 02.83	-01 03.5	1.164	2.048	144.3	16.3	16.1
1990	12 05	01 59.68	-00 29.3					
1990	12 15	01 59.72	+00 27.2	1.336	2.066	125.1	23.0	16.6

2158 T-3 a,e,i = 2.18, 0.13, 2 Elements MPC 14631

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 52.88	+19 22.9	1.393	2.222	135.5	18.4	17.8
1990	10 06	02 47.47	+19 05.7					
1990	10 16	02 39.10	+18 31.6	1.293	2.251	158.5	9.4	17.4
1990	10 26	02 28.73	+17 42.9					
1990	11 05	02 17.79	+16 45.0	1.289	2.278	175.1	2.1	17.1
1990	11 15	02 07.75	+15 45.5					
1990	11 25	01 59.87	+14 52.8	1.390	2.304	151.1	12.0	17.7
1990	12 05	01 54.94	+14 13.4					
1990	12 15	01 53.20	+13 50.4	1.580	2.329	129.0	19.2	18.2

3137 T-2 a,e,i = 3.11, 0.06, 6 Elements MPC 14968

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 44.96	+09 51.1	2.475	3.306	139.9	11.3	17.7
1990	10 06	02 40.54	+09 09.6					
1990	10 16	02 34.51	+08 23.1	2.343	3.304	161.7	5.4	17.3
1990	10 26	02 27.38	+07 35.0					
1990	11 05	02 19.87	+06 49.4	2.320	3.302	170.5	2.9	17.2
1990	11 15	02 12.69	+06 10.4					
1990	11 25	02 06.55	+05 41.5	2.414	3.299	148.9	8.9	17.5
1990	12 05	02 01.99	+05 25.0					
1990	12 15	01 59.31	+05 21.6	2.606	3.295	127.2	13.8	17.9

1980 PV1 a,e,i = 2.79, 0.18, 7 Elements MPC 16423

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 49.82	+25 11.2	2.462	3.239	133.9	12.9	18.5
1990	10 06	02 44.56	+25 03.6					
1990	10 16	02 37.44	+24 42.3	2.319	3.253	155.5	7.3	18.2
1990	10 26	02 29.04	+24 07.3					
1990	11 05	02 20.19	+23 21.1	2.282	3.265	171.1	2.7	17.9
1990	11 15	02 11.76	+22 27.5					
1990	11 25	02 04.53	+21 31.8	2.363	3.275	153.3	7.8	18.2
1990	12 05	01 59.14	+20 39.4					
1990	12 15	01 55.88	+19 54.7	2.549	3.283	131.3	13.0	18.6

1978 PW3 a,e,i = 2.46, 0.15, 6 Elements MPC 12948

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 49.73	+09 48.2	1.489	2.338	138.7	16.4	17.5
1990	10 06	02 45.13	+08 45.0					
1990	10 16	02 38.04	+07 34.4	1.406	2.371	160.8	7.9	17.1
1990	10 26	02 29.31	+06 23.0					
1990	11 05	02 20.14	+05 18.6	1.423	2.404	169.1	4.5	17.0
1990	11 15	02 11.75	+04 28.1					
1990	11 25	02 05.15	+03 56.5	1.544	2.437	147.7	12.5	17.5
1990	12 05	02 01.01	+03 45.4					
1990	12 15	01 59.59	+03 54.0	1.752	2.469	126.6	18.7	18.0

1988 QE a,e,i = 5.14, 0.05, 8 Elements MPC 16028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 40.56	+19 45.8	4.121	4.913	138.1	7.8	17.0
1990	10 06	02 37.13	+19 27.1					
1990	10 16	02 32.73	+19 01.9	3.964	4.911	159.6	4.1	16.8
1990	10 26	02 27.68	+18 31.3					
1990	11 05	02 22.39	+17 56.9	3.921	4.910	175.6	0.9	16.5
1990	11 15	02 17.27	+17 21.0					
1990	11 25	02 12.71	+16 46.1	3.999	4.909	154.5	5.0	16.8
1990	12 05	02 09.08	+16 14.4					
1990	12 15	02 06.61	+15 47.8	4.187	4.908	132.7	8.5	17.1

1983 RM3 a,e,i = 2.23, 0.14, 7 Elements MPC 12964

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 51.21	+27 39.5	1.208	2.025	132.6	21.4	16.9
1990 10 06	02 48.46	+28 26.5					
1990 10 16	02 42.01	+28 51.4	1.062	1.998	152.1	13.5	16.3
1990 10 26	02 32.53	+28 48.9					
1990 11 05	02 21.49	+28 17.9	0.995	1.973	166.6	6.7	15.9
1990 11 15	02 10.81	+27 22.8					
1990 11 25	02 02.39	+26 14.2	1.021	1.951	152.7	13.4	16.2
1990 12 05	01 57.55	+25 05.0					
1990 12 15	01 56.80	+24 05.8	1.128	1.934	132.4	22.1	16.6

1989 GQ1 a,e,i = 2.37, 0.19, 2 Elements MPC 16235

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 55.83	+19 06.3	1.290	2.120	134.9	19.6	18.1
1990 10 06	02 51.50	+18 45.0					
1990 10 16	02 44.12	+18 06.8	1.206	2.162	157.6	10.1	17.8
1990 10 26	02 34.63	+17 14.5					
1990 11 05	02 24.50	+16 14.3	1.214	2.204	176.8	1.4	17.4
1990 11 15	02 15.21	+15 14.1					
1990 11 25	02 08.03	+14 22.2	1.324	2.248	152.8	11.6	18.1
1990 12 05	02 03.72	+13 44.7					
1990 12 15	02 02.52	+13 24.3	1.523	2.292	131.0	18.9	18.7

1982 UM2 a,e,i = 2.52, 0.14, 2 Elements MPC 11438

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 51.11	+13 31.9	1.344	2.191	137.6	18.0	17.0
1990 10 06	02 48.27	+13 00.9					
1990 10 16	02 42.52	+12 18.0	1.220	2.182	159.5	9.2	16.5
1990 10 26	02 34.58	+11 27.4					
1990 11 05	02 25.67	+10 35.6	1.188	2.177	174.5	2.5	16.1
1990 11 15	02 17.18	+09 50.1					
1990 11 25	02 10.43	+09 17.7	1.255	2.175	151.5	12.5	16.6
1990 12 05	02 06.35	+09 03.0					
1990 12 15	02 05.33	+09 07.2	1.407	2.176	130.1	20.2	17.1

1981 CB1 a,e,i = 2.31, 0.15, 6 Elements MPC 8683

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 57.61	+15 34.0	1.354	2.186	135.6	18.7	17.2
1990 10 06	02 54.10	+15 47.0					
1990 10 16	02 47.30	+15 49.7	1.199	2.154	157.6	10.2	16.6
1990 10 26	02 37.79	+15 42.7					
1990 11 05	02 26.82	+15 28.7	1.133	2.124	177.5	1.2	16.1
1990 11 15	02 15.97	+15 12.3					
1990 11 25	02 06.85	+14 59.6	1.168	2.095	152.7	12.5	16.6
1990 12 05	02 00.69	+14 56.5					
1990 12 15	01 58.08	+15 06.6	1.289	2.069	130.5	21.2	17.0

1989 SZ a,e,i = 5.17, 0.02, 27 Elements MPC 15895

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 09 26	02 53.62	+47 32.1	4.655	5.243	121.1	9.4	17.0
1990 10 06	02 48.96	+48 09.0					
1990 10 16	02 42.85	+48 33.5	4.477	5.244	136.4	7.5	16.8
1990 10 26	02 35.67	+48 43.4					
1990 11 05	02 27.96	+48 38.2	4.388	5.245	146.7	6.0	16.7
1990 11 15	02 20.34	+48 18.1					
1990 11 25	02 13.42	+47 45.2	4.403	5.246	145.4	6.1	16.7
1990 12 05	02 07.72	+47 02.6					
1990 12 15	02 03.60	+46 14.0	4.520	5.246	133.5	7.8	16.9

(4061) Martelli a,e,i = 3.11, 0.14, 2 Elements MPC 14468

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 55.75	+17 10.1	2.535	3.325	135.6	12.2	16.3
1990	10 06	02 51.17	+16 54.9					
1990	10 16	02 44.84	+16 31.5	2.403	3.348	158.0	6.4	16.0
1990	10 26	02 37.30	+16 01.3					
1990	11 05	02 29.24	+15 27.0	2.379	3.370	178.1	0.6	15.6
1990	11 15	02 21.44	+14 52.1					
1990	11 25	02 14.62	+14 20.3	2.473	3.390	154.3	7.2	16.1
1990	12 05	02 09.36	+13 55.1					
1990	12 15	02 06.00	+13 38.8	2.673	3.410	131.9	12.4	16.4

1984 SQ4 a,e,i = 3.17, 0.13, 16 Elements MPC 16696

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 53.98	+17 44.4	2.434	3.229	135.8	12.5	17.4
1990	10 06	02 49.94	+16 49.2					
1990	10 16	02 44.19	+15 43.3	2.306	3.254	158.3	6.5	17.1
1990	10 26	02 37.25	+14 29.8					
1990	11 05	02 29.85	+13 13.1	2.287	3.278	177.2	0.8	16.8
1990	11 15	02 22.74	+11 58.7					
1990	11 25	02 16.63	+10 51.7	2.388	3.301	153.5	7.7	17.3
1990	12 05	02 12.08	+09 56.2					
1990	12 15	02 09.39	+09 14.5	2.593	3.324	131.1	12.9	17.6

1050 T-2 a,e,i = 3.13, 0.24, 11 Elements MPC 14962

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 51.18	+07 56.7	1.825	2.661	138.7	14.4	17.1
1990	10 06	02 48.68	+06 44.6					
1990	10 16	02 43.97	+05 24.4	1.665	2.621	159.1	7.8	16.7
1990	10 26	02 37.54	+04 02.0					
1990	11 05	02 30.24	+02 45.0	1.606	2.582	167.3	4.9	16.5
1990	11 15	02 23.05	+01 40.5					
1990	11 25	02 16.95	+00 54.8	1.653	2.546	148.3	11.8	16.7
1990	12 05	02 12.74	+00 31.0					
1990	12 15	02 10.89	+00 29.2	1.789	2.513	127.5	18.1	17.1

1985 PM a,e,i = 2.72, 0.19, 6 Elements MPC 11350

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 03.68	+24 44.3	1.788	2.562	131.2	17.1	17.0
1990	10 06	02 59.14	+24 57.3					
1990	10 16	02 51.96	+24 54.7	1.676	2.603	152.7	10.1	16.7
1990	10 26	02 42.85	+24 35.7					
1990	11 05	02 32.93	+24 02.0	1.659	2.643	171.3	3.3	16.4
1990	11 15	02 23.39	+23 18.1					
1990	11 25	02 15.36	+22 30.3	1.752	2.684	155.8	8.7	16.8
1990	12 05	02 09.64	+21 45.4					
1990	12 15	02 06.62	+21 08.6	1.946	2.723	134.0	15.1	17.3

1988 CK a,e,i = 2.33, 0.13, 9 Elements MPC 13160

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 03.35	+29 52.5	1.366	2.145	129.2	21.2	16.7
1990	10 06	03 00.89	+30 53.6					
1990	10 16	02 54.77	+31 35.4	1.208	2.122	148.2	14.3	16.3
1990	10 26	02 45.46	+31 52.1					
1990	11 05	02 34.26	+31 40.2	1.131	2.101	163.7	7.6	15.9
1990	11 15	02 22.91	+31 01.2					
1990	11 25	02 13.32	+30 02.8	1.148	2.082	154.3	11.8	16.0
1990	12 05	02 06.93	+28 56.7					
1990	12 15	02 04.43	+27 54.0	1.252	2.066	134.6	19.8	16.4

1988 JN a,e,i = 3.22, 0.12, 23 Elements MPC 16233

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	02 59.79	-10 15.8	2.690	3.479	135.8	11.6	17.5
1990	10 06	02 55.92	-11 41.9					
1990	10 16	02 50.47	-13 01.1	2.602	3.495	149.0	8.4	17.3
1990	10 26	02 43.89	-14 07.6					
1990	11 05	02 36.78	-14 56.1	2.617	3.509	149.7	8.2	17.3
1990	11 15	02 29.82	-15 23.5					
1990	11 25	02 23.64	-15 28.8	2.736	3.523	137.0	11.0	17.5
1990	12 05	02 18.78	-15 12.8					
1990	12 15	02 15.56	-14 38.1	2.939	3.536	120.0	13.9	17.8

(4447) 1985 VE1 a,e,i = 2.86, 0.07, 3 Elements MPC 16221

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 02.73	+13 38.9	1.923	2.725	134.8	15.1	17.0
1990	10 06	02 59.14	+13 10.2					
1990	10 16	02 53.27	+12 33.2	1.792	2.737	156.9	8.2	16.7
1990	10 26	02 45.68	+11 50.8					
1990	11 05	02 37.24	+11 07.3	1.760	2.750	175.8	1.5	16.3
1990	11 15	02 28.96	+10 27.5					
1990	11 25	02 21.78	+09 56.3	1.841	2.764	154.3	8.9	16.8
1990	12 05	02 16.49	+09 37.1					
1990	12 15	02 13.49	+09 31.6	2.020	2.777	132.1	15.2	17.2

1988 CK4 a,e,i = 2.69, 0.16, 12 Elements MPC 14951

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 08.38	+33 42.5	2.140	2.852	126.5	16.4	18.7
1990	10 06	03 03.89	+33 58.9					
1990	10 16	02 56.82	+33 56.6	1.997	2.880	146.3	11.1	18.4
1990	10 26	02 47.81	+33 33.0					
1990	11 05	02 37.84	+32 48.1	1.945	2.907	162.6	5.9	18.2
1990	11 15	02 28.08	+31 45.3					
1990	11 25	02 19.61	+30 30.8	2.005	2.932	155.5	8.0	18.3
1990	12 05	02 13.27	+29 12.7					
1990	12 15	02 09.51	+27 58.4	2.169	2.955	135.8	13.4	18.7

1985 RS a,e,i = 2.67, 0.14, 12 Elements MPC 14350

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 09.80	+27 40.7	2.316	3.046	128.8	14.9	17.5
1990	10 06	03 05.01	+28 11.9					
1990	10 16	02 57.80	+28 30.3	2.142	3.044	149.6	9.5	17.1
1990	10 26	02 48.65	+28 33.8					
1990	11 05	02 38.41	+28 21.7	2.066	3.041	167.0	4.2	16.8
1990	11 15	02 28.12	+27 55.8					
1990	11 25	02 18.84	+27 20.3	2.106	3.035	156.1	7.6	17.0
1990	12 05	02 11.46	+26 40.9					
1990	12 15	02 06.50	+26 03.5	2.252	3.028	134.9	13.3	17.3

(4182) 1951 JQ a,e,i = 2.80, 0.13, 8 Elements MPC 15220

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 09.52	+25 45.5	2.102	2.849	129.6	15.7	16.8
1990	10 06	03 05.73	+25 34.8					
1990	10 16	02 59.57	+25 09.0	1.961	2.875	151.1	9.6	16.5
1990	10 26	02 51.61	+24 27.9					
1990	11 05	02 42.74	+23 33.7	1.916	2.901	171.7	2.8	16.2
1990	11 15	02 33.95	+22 30.6					
1990	11 25	02 26.25	+21 24.7	1.985	2.925	158.3	7.2	16.5
1990	12 05	02 20.41	+20 22.5					
1990	12 15	02 16.86	+19 29.1	2.161	2.950	136.0	13.4	16.9

1988 DR a,e,i = 2.27, 0.17, 8 Elements MPC 16027

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 04.54	+10 24.3	1.265	2.098	135.0	19.7	16.6
1990	10 06	03 03.51	+09 07.3					
1990	10 16	02 59.25	+07 35.5	1.110	2.060	155.6	11.5	16.0
1990	10 26	02 52.18	+05 55.9					
1990	11 05	02 43.39	+04 18.9	1.041	2.023	168.9	5.4	15.6
1990	11 15	02 34.30	+02 56.2					
1990	11 25	02 26.47	+01 58.0	1.069	1.990	150.7	14.0	15.9
1990	12 05	02 21.18	+01 29.8					
1990	12 15	02 19.13	+01 31.9	1.176	1.959	129.8	22.7	16.4

1986 QQ2 a,e,i = 2.34, 0.09, 8 Elements MPC 13456

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 07.97	+05 18.4	1.330	2.157	134.8	19.3	16.6
1990	10 06	03 05.89	+04 15.6					
1990	10 16	03 00.67	+03 07.7	1.203	2.147	154.6	11.5	16.2
1990	10 26	02 52.88	+02 02.5					
1990	11 05	02 43.63	+01 08.9	1.164	2.139	165.7	6.6	15.9
1990	11 15	02 34.31	+00 34.7					
1990	11 25	02 26.34	+00 25.4	1.222	2.133	149.7	13.5	16.3
1990	12 05	02 20.82	+00 42.0					
1990	12 15	02 18.32	+01 22.3	1.363	2.130	129.6	20.9	16.7

1980 YB a,e,i = 2.29, 0.07, 5 Elements MPC 14782

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 12.17	+09 56.3	1.519	2.324	133.2	18.3	17.1
1990	10 06	03 09.17	+09 24.0					
1990	10 16	03 03.13	+08 44.4	1.367	2.308	154.7	10.7	16.6
1990	10 26	02 54.56	+08 01.8					
1990	11 05	02 44.49	+07 21.7	1.306	2.292	171.8	3.5	16.2
1990	11 15	02 34.22	+06 50.6					
1990	11 25	02 25.14	+06 33.8	1.350	2.276	153.3	11.2	16.5
1990	12 05	02 18.38	+06 34.7					
1990	12 15	02 14.57	+06 53.9	1.485	2.259	131.3	19.1	17.0

2249 T-2 a,e,i = 3.12, 0.08, 2 Elements MPC 16037

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 07.90	+16 04.4	2.432	3.201	133.1	13.2	17.7
1990	10 06	03 04.56	+15 43.6					
1990	10 16	02 59.24	+15 14.7	2.255	3.186	155.0	7.6	17.4
1990	10 26	02 52.35	+14 39.1					
1990	11 05	02 44.56	+13 59.8	2.179	3.170	177.8	0.7	16.9
1990	11 15	02 36.65	+13 20.2					
1990	11 25	02 29.44	+12 44.6	2.221	3.154	157.2	7.0	17.3
1990	12 05	02 23.66	+12 16.7					
1990	12 15	02 19.78	+11 59.0	2.369	3.138	134.5	12.9	17.6

1977 EM5 a,e,i = 2.39, 0.21, 10 Elements MPC 14945

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 00.88	+08 54.2	1.046	1.901	136.1	21.4	16.4
1990	10 06	03 01.47	+07 13.4					
1990	10 16	02 58.65	+05 18.7	0.938	1.891	155.5	12.6	15.9
1990	10 26	02 53.00	+03 21.0					
1990	11 05	02 45.73	+01 34.5	0.910	1.887	166.1	7.3	15.6
1990	11 15	02 38.36	+00 12.2					
1990	11 25	02 32.44	-00 36.5	0.970	1.891	150.0	15.1	16.1
1990	12 05	02 29.11	-00 49.3					
1990	12 15	02 28.92	-00 28.9	1.105	1.901	130.9	23.0	16.6

(4016) 1979 XK a,e,i = 2.41, 0.22, 1 Elements MPC 14330

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 13.01	+16 47.3	1.658	2.442	131.7	17.9	18.0
1990	10 06	03 10.55	+16 34.7					
1990	10 16	03 05.08	+16 10.3	1.459	2.392	153.4	10.8	17.4
1990	10 26	02 56.97	+15 35.1					
1990	11 05	02 47.08	+14 52.1	1.351	2.342	177.6	1.0	16.7
1990	11 15	02 36.64	+14 06.1					
1990	11 25	02 27.07	+13 23.9	1.350	2.291	156.9	9.7	17.1
1990	12 05	02 19.65	+12 52.0					
1990	12 15	02 15.16	+12 34.9	1.445	2.240	133.6	18.6	17.5

1987 SJ3 a,e,i = 1.99, 0.10, 25 Elements MPC 15888

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 39.43	+33 17.8	1.121	1.847	120.8	27.8	16.5
1990	10 06	03 35.68	+36 59.8					
1990	10 16	03 26.00	+40 34.1	1.005	1.866	137.5	21.1	16.1
1990	10 26	03 10.18	+43 41.6					
1990	11 05	02 49.56	+46 01.2	0.965	1.886	149.2	15.6	15.9
1990	11 15	02 27.21	+47 19.1					
1990	11 25	02 07.12	+47 37.4	1.016	1.909	144.7	17.4	16.0
1990	12 05	01 52.45	+47 13.3					
1990	12 15	01 44.45	+46 28.5	1.144	1.932	130.2	22.9	16.5

(4333) Sinton a,e,i = 2.24, 0.15, 4 Elements MPC 15689

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 15.85	+11 38.8	1.260	2.070	132.1	21.1	17.0
1990	10 06	03 13.05	+10 55.5					
1990	10 16	03 06.87	+10 02.8	1.162	2.103	153.7	12.1	16.6
1990	10 26	02 58.00	+09 06.0					
1990	11 05	02 47.76	+08 12.3	1.150	2.137	172.4	3.5	16.2
1990	11 15	02 37.64	+07 29.2					
1990	11 25	02 29.10	+07 02.6	1.239	2.171	154.4	11.3	16.8
1990	12 05	02 23.19	+06 55.8					
1990	12 15	02 20.39	+07 08.6	1.417	2.206	132.7	19.1	17.3

1981 EP26 a,e,i = 2.39, 0.09, 6 Elements MPC 13310

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 15.65	+11 58.7	1.816	2.597	132.1	16.7	18.1
1990	10 06	03 12.35	+11 10.5					
1990	10 16	03 06.44	+10 13.3	1.665	2.598	153.8	9.7	17.7
1990	10 26	02 58.41	+09 11.1					
1990	11 05	02 49.13	+08 09.4	1.611	2.596	172.2	3.0	17.4
1990	11 15	02 39.71	+07 14.5					
1990	11 25	02 31.24	+06 32.0	1.668	2.594	154.5	9.4	17.7
1990	12 05	02 24.68	+06 06.1					
1990	12 15	02 20.57	+05 58.0	1.824	2.590	132.2	16.3	18.1

1981 RP2 a,e,i = 2.62, 0.18, 12 Elements MPC 13152

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 20.18	+34 49.8	2.107	2.792	123.8	17.4	16.2
1990	10 06	03 16.17	+35 13.9					
1990	10 16	03 09.35	+35 19.8	1.961	2.824	143.4	12.1	15.9
1990	10 26	03 00.28	+35 04.2					
1990	11 05	02 49.95	+34 26.0	1.901	2.855	160.7	6.6	15.6
1990	11 15	02 39.54	+33 27.5					
1990	11 25	02 30.28	+32 14.6	1.950	2.884	157.0	7.7	15.7
1990	12 05	02 23.12	+30 55.3					
1990	12 15	02 18.59	+29 37.8	2.106	2.912	137.9	13.1	16.1

1987 YJ a,e,i = 2.24, 0.09, 5 Elements MPC 12951

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 21.26	+26 06.0	1.512	2.263	127.1	20.7	17.6
1990	10 06	03 19.44	+26 32.6					
1990	10 16	03 14.14	+26 43.4	1.336	2.241	147.5	13.8	17.1
1990	10 26	03 05.67	+26 35.1					
1990	11 05	02 55.03	+26 06.2	1.240	2.220	168.5	5.1	16.6
1990	11 15	02 43.68	+25 18.8					
1990	11 25	02 33.31	+24 19.6	1.246	2.199	159.8	8.9	16.7
1990	12 05	02 25.41	+23 18.2					
1990	12 15	02 20.83	+22 23.6	1.348	2.178	137.5	17.8	17.2

1985 QN a,e,i = 2.76, 0.13, 2 Elements MPC 10302

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 23.61	+15 07.1	1.876	2.631	129.6	17.1	16.8
1990	10 06	03 20.85	+14 46.8					
1990	10 16	03 15.50	+14 18.0	1.741	2.659	151.3	10.4	16.4
1990	10 26	03 08.02	+13 43.0					
1990	11 05	02 59.26	+13 05.2	1.698	2.687	174.2	2.1	16.0
1990	11 15	02 50.24	+12 28.7					
1990	11 25	02 42.04	+11 58.3	1.767	2.715	159.6	7.3	16.4
1990	12 05	02 35.55	+11 38.0					
1990	12 15	02 31.34	+11 29.8	1.940	2.743	136.9	14.2	16.8

1989 TO11 a,e,i = 5.15, 0.07, 14 Elements MPC 16236

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1990	09 26	03 13.72	+11 23.0	4.515	5.246	-0.37	-0.3	17.4
1990	10 06	03 11.16	+10 50.5					
1990	10 16	03 07.57	+10 14.9	4.345	5.257	-0.39	-0.4	17.2
1990	10 26	03 03.18	+09 37.8					
1990	11 05	02 58.31	+09 01.2	4.283	5.267	-0.39	-0.5	16.9
1990	11 15	02 53.31	+08 27.0					
1990	11 25	02 48.55	+07 57.0	4.344	5.277	-0.39	-0.5	17.1
1990	12 05	02 44.38	+07 33.0					
1990	12 15	02 41.08	+07 15.9	4.520	5.287	-0.37	-0.5	17.4

1986 PK6 a,e,i = 2.25, 0.16, 4 Elements MPC 14948

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 29.92	+22 55.3	1.835	2.558	126.2	18.4	17.7
1990	10 06	03 26.73	+22 45.5					
1990	10 16	03 20.57	+22 21.9	1.673	2.574	148.0	11.8	17.3
1990	10 26	03 11.88	+21 43.9					
1990	11 05	03 01.57	+20 53.1	1.600	2.586	172.0	3.1	16.9
1990	11 15	02 50.84	+19 53.5					
1990	11 25	02 40.95	+18 51.6	1.641	2.596	161.5	6.9	17.1
1990	12 05	02 33.02	+17 54.5					
1990	12 15	02 27.71	+17 07.7	1.787	2.603	137.9	14.7	17.6

1978 RL1 a,e,i = 3.22, 0.16, 2 Elements MPC 11051

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 22.50	+16 11.6	2.116	2.862	129.6	15.7	17.7
1990	10 06	03 20.07	+15 54.1					
1990	10 16	03 15.33	+15 28.5	1.973	2.887	151.1	9.6	17.3
1990	10 26	03 08.71	+14 56.5					
1990	11 05	03 00.93	+14 21.0	1.925	2.913	174.2	2.0	17.0
1990	11 15	02 52.86	+13 45.5					
1990	11 25	02 45.44	+13 14.3	1.989	2.940	160.9	6.3	17.3
1990	12 05	02 39.47	+12 50.9					
1990	12 15	02 35.48	+12 38.0	2.160	2.968	138.3	12.8	17.7

(4217) 1988 BO2 a,e,i = 2.31, 0.21, 23 Elements MPC 15235

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 46.92	+44 29.9	1.332	1.976	114.9	27.4	15.7
1990	10 06	03 45.68	+47 41.3					
1990	10 16	03 38.82	+50 33.9	1.235	2.019	129.2	22.5	15.4
1990	10 26	03 26.11	+52 53.2					
1990	11 05	03 08.68	+54 24.0	1.200	2.064	140.5	17.8	15.3
1990	11 15	02 49.24	+54 56.9					
1990	11 25	02 31.38	+54 33.7	1.243	2.111	142.1	16.7	15.4
1990	12 05	02 18.12	+53 28.4					
1990	12 15	02 10.79	+51 59.5	1.363	2.159	133.1	19.4	15.7

1983 WL a,e,i = 2.33, 0.09, 10 Elements MPC 10039

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 31.57	+09 22.3	1.433	2.203	128.6	20.8	16.9
1990	10 06	03 30.01	+09 27.2					
1990	10 16	03 25.03	+09 29.5	1.269	2.186	149.3	13.5	16.4
1990	10 26	03 16.88	+09 32.0					
1990	11 05	03 06.44	+09 38.0	1.187	2.171	170.9	4.2	15.9
1990	11 15	02 55.04	+09 50.8					
1990	11 25	02 44.29	+10 13.4	1.206	2.158	159.2	9.3	16.1
1990	12 05	02 35.66	+10 47.9					
1990	12 15	02 30.09	+11 34.6	1.321	2.146	136.7	18.3	16.6

1985 HG1 a,e,i = 2.29, 0.13, 3 Elements MPC 13039

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 30.97	+14 21.4	1.693	2.442	128.0	18.9	17.9
1990	10 06	03 29.08	+14 02.3					
1990	10 16	03 24.13	+13 34.2	1.505	2.416	149.3	12.2	17.4
1990	10 26	03 16.39	+12 58.8					
1990	11 05	03 06.64	+12 19.6	1.403	2.389	172.2	3.2	16.9
1990	11 15	02 56.00	+11 41.3					
1990	11 25	02 45.87	+11 09.5	1.409	2.361	160.1	8.2	17.1
1990	12 05	02 37.51	+10 49.5					
1990	12 15	02 31.82	+10 44.5	1.516	2.332	136.7	16.8	17.5

1988 FB a,e,i = 2.40, 0.15, 3 Elements MPC 13858

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 30.38	+18 24.1	1.655	2.399	127.3	19.4	16.9
1990	10 06	03 29.09	+18 28.7					
1990	10 16	03 24.66	+18 23.4	1.458	2.365	148.3	12.8	16.4
1990	10 26	03 17.28	+18 08.1					
1990	11 05	03 07.70	+17 43.9	1.345	2.332	172.3	3.3	15.8
1990	11 15	02 57.08	+17 13.8					
1990	11 25	02 46.86	+16 42.8	1.337	2.298	162.5	7.4	15.9
1990	12 05	02 38.46	+16 16.9					
1990	12 15	02 32.82	+16 01.1	1.429	2.264	138.8	16.7	16.3

1987 DW6 a,e,i = 3.15, 0.15, 2 Elements MPC 16232

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 28.37	+19 34.6	2.892	3.592	127.5	12.8	18.2
1990	10 06	03 25.38	+19 28.2					
1990	10 16	03 20.48	+19 14.5	2.689	3.581	149.1	8.2	17.9
1990	10 26	03 13.97	+18 53.7					
1990	11 05	03 06.37	+18 27.2	2.584	3.569	172.4	2.1	17.5
1990	11 15	02 58.34	+17 57.0					
1990	11 25	02 50.61	+17 25.9	2.599	3.557	163.5	4.5	17.7
1990	12 05	02 43.89	+16 57.4					
1990	12 15	02 38.70	+16 34.3	2.729	3.542	140.3	10.2	18.0

1928 RB a,e,i = 2.57, 0.25, 14 Elements MPC 14181

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 26.67	+03 44.8	1.264	2.059	130.2	21.8	16.5
1990	10 06	03 26.10	+01 48.2					
1990	10 16	03 22.21	-00 11.7	1.188	2.103	148.5	14.3	16.2
1990	10 26	03 15.60	-02 03.8					
1990	11 05	03 07.36	-03 36.4	1.194	2.151	159.6	9.2	16.1
1990	11 15	02 58.80	-04 40.3					
1990	11 25	02 51.27	-05 10.6	1.294	2.202	149.4	13.2	16.4
1990	12 05	02 45.79	-05 07.9					
1990	12 15	02 42.94	-04 36.5	1.479	2.255	131.5	19.1	17.0

1982 UC11 a,e,i = 2.52, 0.21, 3 Elements MPC 12452

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 24.74	+21 45.1	1.234	2.011	127.7	23.2	17.6
1990	10 06	03 25.42	+21 38.5					
1990	10 16	03 22.48	+21 14.8	1.110	2.025	148.0	15.1	17.2
1990	10 26	03 16.29	+20 34.1					
1990	11 05	03 07.93	+19 39.5	1.059	2.045	171.5	4.1	16.7
1990	11 15	02 58.86	+18 36.8					
1990	11 25	02 50.71	+17 34.8	1.105	2.071	163.6	7.7	17.0
1990	12 05	02 44.84	+16 42.1					
1990	12 15	02 42.01	+16 04.6	1.243	2.100	140.9	17.2	17.6

(4109) 1969 OW a,e,i = 2.26, 0.16, 2 Elements MPC 14770

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 36.35	+17 54.2	1.549	2.287	126.0	20.8	16.9
1990	10 06	03 34.05	+17 35.8					
1990	10 16	03 28.46	+17 06.0	1.418	2.323	147.7	13.3	16.6
1990	10 26	03 20.04	+16 25.9					
1990	11 05	03 09.78	+15 38.9	1.371	2.357	172.2	3.3	16.1
1990	11 15	02 58.99	+14 50.1					
1990	11 25	02 49.07	+14 05.6	1.432	2.391	162.1	7.3	16.4
1990	12 05	02 41.23	+13 31.3					
1990	12 15	02 36.15	+13 10.8	1.595	2.422	138.6	15.6	17.0

(4142) 1981 KE a,e,i = 1.91, 0.15, 26 Elements MPC 14935

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 54.35	-05 03.0	1.118	1.865	123.1	26.8	16.6
1990	10 06	03 52.04	-04 27.8					
1990	10 16	03 44.84	-03 33.3	0.935	1.827	142.1	19.6	15.9
1990	10 26	03 32.53	-02 09.4					
1990	11 05	03 15.84	-00 07.9	0.821	1.790	161.8	10.0	15.3
1990	11 15	02 56.61	+02 32.1					
1990	11 25	02 37.59	+05 42.1	0.809	1.755	155.3	13.6	15.3
1990	12 05	02 21.55	+09 07.8					
1990	12 15	02 10.24	+12 35.5	0.896	1.722	132.5	24.9	15.9

1981 ES35 a,e,i = 3.21, 0.05, 10 Elements MPC 15064

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 34.02	+28 17.1	2.524	3.191	123.6	15.2	17.8
1990	10 06	03 31.57	+28 52.6					
1990	10 16	03 26.72	+29 18.6	2.321	3.181	143.8	10.7	17.4
1990	10 26	03 19.74	+29 32.9					
1990	11 05	03 11.22	+29 34.1	2.208	3.172	163.8	5.0	17.1
1990	11 15	03 01.98	+29 22.2					
1990	11 25	02 53.01	+28 59.1	2.206	3.163	162.8	5.3	17.1
1990	12 05	02 45.25	+28 28.9					
1990	12 15	02 39.42	+27 56.6	2.316	3.154	142.3	11.0	17.4

1976 QZ1 a,e,i = 2.25, 0.06, 7 Elements MPC 13477

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 38.78	+14 31.4	1.442	2.189	126.1	21.7	17.2
1990	10 06	03 37.21	+14 39.6					
1990	10 16	03 32.13	+14 41.1	1.297	2.202	147.2	14.2	16.8
1990	10 26	03 23.86	+14 36.9					
1990	11 05	03 13.30	+14 29.1	1.231	2.216	171.2	3.9	16.3
1990	11 15	03 01.83	+14 20.6					
1990	11 25	02 51.04	+14 15.4	1.269	2.230	162.6	7.6	16.5
1990	12 05	02 42.35	+14 17.8					
1990	12 15	02 36.65	+14 30.6	1.405	2.245	139.2	16.7	17.1

1988 HF a,e,i = 2.56, 0.13, 8 Elements MPC 13451

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 34.85	+10 35.9	1.988	2.719	127.6	17.0	17.0
1990	10 06	03 33.20	+09 46.5					
1990	10 16	03 28.97	+08 49.4	1.796	2.696	148.3	11.2	16.5
1990	10 26	03 22.39	+07 48.0					
1990	11 05	03 14.12	+06 47.2	1.695	2.672	167.5	4.6	16.1
1990	11 15	03 05.05	+05 52.8					
1990	11 25	02 56.24	+05 10.6	1.704	2.647	158.3	7.9	16.3
1990	12 05	02 48.74	+04 44.7					
1990	12 15	02 43.30	+04 36.9	1.817	2.621	136.6	15.0	16.6

1159 T-2 a,e,i = 2.58, 0.04, 14 Elements MPC 15076

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 34.25	+10 50.0	1.940	2.674	127.7	17.2	17.4
1990	10 06	03 32.68	+09 33.5					
1990	10 16	03 28.53	+08 07.3	1.773	2.673	148.4	11.3	17.0
1990	10 26	03 22.13	+06 36.2					
1990	11 05	03 14.16	+05 06.6	1.698	2.671	166.3	5.0	16.7
1990	11 15	03 05.53	+03 45.9					
1990	11 25	02 57.29	+02 40.7	1.734	2.669	156.6	8.4	16.8
1990	12 05	02 50.41	+01 55.6					
1990	12 15	02 45.57	+01 32.3	1.873	2.666	135.5	15.0	17.2

1987 DJ a,e,i = 3.02, 0.12, 11 Elements MPC 12001

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 39.82	+08 40.0	2.006	2.726	126.6	17.2	16.0
1990	10 06	03 37.97	+08 28.9					
1990	10 16	03 33.56	+08 15.3	1.849	2.740	147.1	11.4	15.6
1990	10 26	03 26.89	+08 02.0					
1990	11 05	03 18.62	+07 52.2	1.779	2.756	167.4	4.5	15.3
1990	11 15	03 09.63	+07 48.9					
1990	11 25	03 00.95	+07 54.8	1.820	2.773	161.1	6.6	15.5
1990	12 05	02 53.56	+08 11.6					
1990	12 15	02 48.15	+08 39.8	1.968	2.791	139.6	13.2	15.9

1985 QO6 a,e,i = 2.70, 0.08, 5 Elements MPC 14474

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 41.37	+13 20.9	2.035	2.743	125.7	17.3	17.0
1990	10 06	03 39.57	+12 53.8					
1990	10 16	03 35.19	+12 19.9	1.870	2.758	146.7	11.4	16.7
1990	10 26	03 28.53	+11 41.6					
1990	11 05	03 20.23	+11 02.1	1.794	2.773	168.7	4.0	16.3
1990	11 15	03 11.20	+10 25.5					
1990	11 25	03 02.46	+09 56.1	1.829	2.787	162.7	6.0	16.5
1990	12 05	02 55.00	+09 37.3					
1990	12 15	02 49.51	+09 31.3	1.973	2.801	140.2	13.0	16.9

1986 AH a,e,i = 1.93, 0.12, 24 Elements MPC 13170

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 41.12	-26 53.9	0.950	1.706	121.7	30.0	16.7
1990	10 06	03 43.10	-29 46.5					
1990	10 16	03 40.35	-32 10.3	0.903	1.704	127.4	27.7	16.5
1990	10 26	03 33.21	-33 46.6					
1990	11 05	03 22.98	-34 19.4	0.898	1.707	129.1	26.8	16.5
1990	11 15	03 11.55	-33 39.9					
1990	11 25	03 01.08	-31 48.3	0.938	1.714	125.8	27.8	16.6
1990	12 05	02 53.35	-28 54.5					
1990	12 15	02 49.26	-25 14.3	1.025	1.726	118.5	30.1	16.9

1983 EV a,e,i = 2.72, 0.11, 4 Elements MPC 8213

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 42.37	+22 08.6	2.149	2.830	123.6	17.2	17.7
1990	10 06	03 40.86	+22 20.9					
1990	10 16	03 36.68	+22 24.5	1.936	2.808	144.5	11.9	17.3
1990	10 26	03 30.01	+22 18.4					
1990	11 05	03 21.41	+22 02.6	1.810	2.786	167.6	4.4	16.9
1990	11 15	03 11.77	+21 38.1					
1990	11 25	03 02.19	+21 07.9	1.793	2.763	166.7	4.7	16.8
1990	12 05	02 53.80	+20 36.8					
1990	12 15	02 47.44	+20 09.4	1.888	2.740	143.2	12.4	17.2

1937 QC a,e,i = 2.31, 0.17, 5 Elements MPC 13049

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 35.06	+27 00.5	1.197	1.943	123.8	25.4	16.9
1990	10 06	03 37.79	+27 41.5					
1990	10 16	03 36.62	+28 06.5	1.040	1.929	142.4	18.4	16.3
1990	10 26	03 31.53	+28 11.4					
1990	11 05	03 23.26	+27 53.1	0.948	1.920	163.5	8.4	15.8
1990	11 15	03 13.24	+27 11.7					
1990	11 25	03 03.43	+26 12.7	0.943	1.916	166.0	7.1	15.7
1990	12 05	02 55.76	+25 06.3					
1990	12 15	02 51.48	+24 03.7	1.028	1.918	144.7	17.2	16.3

1988 BB4 a,e,i = 2.33, 0.08, 6 Elements MPC 14792

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 44.30	+26 37.6	1.742	2.428	122.0	20.5	17.0
1990	10 06	03 43.84	+26 45.0					
1990	10 16	03 40.11	+26 38.3	1.546	2.413	142.3	14.6	16.6
1990	10 26	03 33.27	+26 15.0					
1990	11 05	03 24.00	+25 34.2	1.427	2.398	165.0	6.1	16.1
1990	11 15	03 13.42	+24 37.2					
1990	11 25	03 02.97	+23 29.2	1.411	2.383	166.7	5.5	16.0
1990	12 05	02 54.10	+22 18.2					
1990	12 15	02 47.82	+21 12.6	1.502	2.367	143.5	14.3	16.5

1972 HL a,e,i = 3.10, 0.25, 17 Elements MPC 15239

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	09 26	03 42.36	+15 43.5	2.831	3.504	125.0	13.6	18.2
1990	10 06	03 39.71	+14 54.7					
1990	10 16	03 35.17	+13 58.9	2.666	3.541	146.6	8.9	17.9
1990	10 26	03 29.01	+12 57.8					
1990	11 05	03 21.77	+11 54.6	2.598	3.576	168.6	3.1	17.6
1990	11 15	03 14.06	+10 52.9					
1990	11 25	03 06.59	+09 56.6	2.651	3.609	163.5	4.5	17.7
1990	12 05	03 00.02	+09 09.3					
1990	12 15	02 54.84	+08 33.1	2.822	3.640	141.0	9.8	18.1

1988 DO a,e,i = 2.31, 0.14, 9 Elements MPC 14355

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 41.85	+33 28.6	1.367	2.218	139.0	17.2	17.7
1990	10 26	03 35.55	+33 39.5					
1990	11 05	03 26.16	+33 25.4	1.232	2.187	158.8	9.4	17.2
1990	11 15	03 14.89	+32 43.7					
1990	11 25	03 03.52	+31 36.9	1.191	2.156	163.3	7.5	17.0
1990	12 05	02 53.92	+30 13.7					
1990	12 15	02 47.42	+28 45.7	1.249	2.126	144.1	15.7	17.4
1990	12 25	02 44.75	+27 24.2					
1991	01 04	02 46.04	+26 16.7	1.385	2.099	123.9	22.9	17.8

1975 XH a,e,i = 2.42, 0.21, 11 Elements MPC 12199

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 41.96	+05 13.5	1.461	2.347	144.8	14.2	17.4
1990	10 26	03 35.44	+04 44.2					
1990	11 05	03 26.39	+04 21.5	1.331	2.300	163.7	7.0	16.9
1990	11 15	03 15.78	+04 10.8					
1990	11 25	03 04.97	+04 17.0	1.303	2.253	159.1	9.0	16.9
1990	12 05	02 55.41	+04 42.9					
1990	12 15	02 48.25	+05 28.5	1.373	2.206	138.1	17.3	17.2
1990	12 25	02 44.22	+06 32.0					
1991	01 04	02 43.60	+07 50.2	1.516	2.161	118.1	23.7	17.6

1988 BL a,e,i = 2.25, 0.12, 5 Elements MPC 12945

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 39.80	+09 33.9	1.121	2.023	145.6	16.2	15.5
1990	10 26	03 34.22	+08 42.1					
1990	11 05	03 25.89	+07 51.9	1.034	2.011	165.9	6.9	15.0
1990	11 15	03 16.04	+07 10.6					
1990	11 25	03 06.30	+06 45.6	1.041	2.001	161.2	9.2	15.1
1990	12 05	02 58.30	+06 41.8					
1990	12 15	02 53.16	+07 00.3	1.138	1.995	139.9	18.5	15.6
1990	12 25	02 51.48	+07 39.8					
1991	01 04	02 53.36	+08 36.6	1.302	1.992	120.6	25.1	16.1

1981 EK25 a,e,i = 2.44, 0.18, 2 Elements MPC 14345

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 44.01	+22 49.1	1.661	2.528	142.8	13.8	18.3
1990	10 26	03 36.42	+22 30.3					
1990	11 05	03 26.79	+22 00.0	1.590	2.564	166.5	5.2	17.9
1990	11 15	03 16.20	+21 20.4					
1990	11 25	03 05.97	+20 36.0	1.626	2.599	167.6	4.7	18.0
1990	12 05	02 57.31	+19 52.7					
1990	12 15	02 51.02	+19 15.9	1.773	2.632	143.8	12.8	18.5
1990	12 25	02 47.56	+18 49.6					
1991	01 04	02 46.99	+18 35.6	2.004	2.663	122.4	18.2	19.0

(4125) 1987 MO a,e,i = 1.92, 0.12, 20 Elements MPC 14776

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 54.01	+49 13.7	1.124	1.909	128.2	24.2	16.4
1990	10 26	03 44.84	+48 55.9					
1990	11 05	03 31.50	+47 47.6	1.037	1.938	145.7	16.8	16.0
1990	11 15	03 16.41	+45 43.9					
1990	11 25	03 02.48	+42 51.6	1.028	1.967	154.7	12.4	15.9
1990	12 05	02 52.08	+39 30.1					
1990	12 15	02 46.26	+36 03.3	1.116	1.994	143.3	17.2	16.2
1990	12 25	02 45.13	+32 51.7					
1991	01 04	02 48.20	+30 07.2	1.288	2.020	125.0	23.5	16.8

1976 GU3 a,e,i = 3.19, 0.14, 2 Elements MPC 15550

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 39.51	+19 12.0	2.755	3.615	144.7	9.2	18.0
1990	10 26	03 33.59	+18 55.3					
1990	11 05	03 26.35	+18 33.4	2.633	3.608	167.8	3.3	17.7
1990	11 15	03 18.42	+18 07.9					
1990	11 25	03 10.49	+17 41.2	2.628	3.599	168.2	3.2	17.7
1990	12 05	03 03.30	+17 16.1					
1990	12 15	02 57.44	+16 55.5	2.741	3.590	144.7	9.1	18.0
1990	12 25	02 53.33	+16 41.5					
1991	01 04	02 51.21	+16 35.6	2.950	3.579	122.8	13.4	18.3

1987 CJ a,e,i = 3.01, 0.05, 10 Elements MPC 15246

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 42.62	+05 33.3	2.156	3.025	144.7	11.0	17.7
1990	10 26	03 37.20	+04 37.8					
1990	11 05	03 30.22	+03 46.1	2.054	3.015	162.6	5.7	17.4
1990	11 15	03 22.37	+03 02.8					
1990	11 25	03 14.49	+02 32.1	2.063	3.005	159.0	6.8	17.4
1990	12 05	03 07.44	+02 17.0					
1990	12 15	03 01.91	+02 18.4	2.180	2.996	139.4	12.4	17.7
1990	12 25	02 58.38	+02 36.0					
1991	01 04	02 57.08	+03 07.7	2.379	2.986	119.4	16.7	18.0

1981 EE9 a,e,i = 3.12, 0.27, 6 Elements MPC 10381

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 44.72	+27 53.8	1.437	2.298	140.9	15.9	17.4
1990	10 26	03 40.88	+27 46.0					
1990	11 05	03 34.49	+27 20.6	1.321	2.285	162.1	7.7	16.9
1990	11 15	03 26.50	+26 38.3					
1990	11 25	03 18.30	+25 42.8	1.300	2.277	169.3	4.6	16.7
1990	12 05	03 11.31	+24 41.2					
1990	12 15	03 06.63	+23 41.4	1.380	2.276	148.1	13.2	17.2
1990	12 25	03 04.92	+22 50.2					
1991	01 04	03 06.41	+22 12.0	1.544	2.281	127.7	19.9	17.6

1986 QR3 a,e,i = 2.30, 0.09, 5 Elements MPC 14787

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 55.77	+22 42.1	1.554	2.406	140.2	15.4	17.1
1990	10 26	03 48.73	+22 47.3					
1990	11 05	03 39.06	+22 41.8	1.454	2.422	163.7	6.6	16.7
1990	11 15	03 27.84	+22 25.8					
1990	11 25	03 16.49	+22 02.1	1.458	2.436	170.0	4.1	16.6
1990	12 05	03 06.47	+21 35.5					
1990	12 15	02 58.88	+21 11.6	1.570	2.449	146.0	13.0	17.1
1990	12 25	02 54.36	+20 55.2					
1991	01 04	02 53.11	+20 49.1	1.768	2.460	124.3	19.3	17.5

1989 GT4 a,e,i = 2.26, 0.18, 3 Elements MPC 14956

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 55.15	+17 14.4	1.357	2.225	141.4	16.2	17.2
1990	10 26	03 48.15	+16 31.3					
1990	11 05	03 38.63	+15 41.7	1.294	2.267	165.2	6.4	16.8
1990	11 15	03 27.80	+14 49.9					
1990	11 25	03 17.14	+14 02.0	1.333	2.308	168.1	5.1	16.8
1990	12 05	03 08.09	+13 24.0					
1990	12 15	03 01.59	+13 00.0	1.477	2.347	144.3	14.2	17.4
1990	12 25	02 58.15	+12 51.9					
1991	01 04	02 57.84	+12 59.1	1.701	2.386	123.2	20.2	17.9

1986 RJ4 a,e,i = 2.36, 0.23, 26 Elements MPC 16024

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 06.16	+63 42.8	1.136	1.825	117.5	29.0	17.0
1990	10 26	04 02.17	+66 35.4					
1990	11 05	03 49.66	+68 41.0	1.074	1.836	125.4	26.1	16.8
1990	11 15	03 30.02	+69 43.5					
1990	11 25	03 08.38	+69 32.5	1.056	1.855	130.4	23.9	16.7
1990	12 05	02 51.45	+68 12.7					
1990	12 15	02 43.07	+66 00.9	1.090	1.881	130.0	23.6	16.8
1990	12 25	02 43.62	+63 17.4					
1991	01 04	02 51.47	+60 20.6	1.180	1.913	124.1	25.2	17.1

1983 RX a,e,i = 2.22, 0.17, 4 Elements MPC 14616

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 58.31	+27 35.4	1.430	2.272	138.2	17.0	16.9
1990	10 26	03 50.82	+27 34.4					
1990	11 05	03 40.51	+27 16.3	1.349	2.310	161.1	8.0	16.5
1990	11 15	03 28.64	+26 40.9					
1990	11 25	03 16.84	+25 52.1	1.369	2.346	168.9	4.6	16.4
1990	12 05	03 06.69	+24 57.1					
1990	12 15	02 59.30	+24 04.0	1.496	2.380	146.5	13.2	16.9
1990	12 25	02 55.23	+23 19.4					
1991	01 04	02 54.56	+22 47.4	1.708	2.412	125.1	19.5	17.4

1981 GQ a,e,i = 3.12, 0.28, 14 Elements MPC 9965

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 53.48	+31 52.8	2.460	3.266	137.5	11.9	18.7
1990	10 26	03 47.12	+32 25.6					
1990	11 05	03 38.63	+32 46.7	2.275	3.215	157.7	6.7	18.3
1990	11 15	03 28.66	+32 53.8					
1990	11 25	03 18.18	+32 46.4	2.199	3.162	164.7	4.7	18.1
1990	12 05	03 08.29	+32 26.5					
1990	12 15	02 59.95	+31 58.3	2.238	3.108	146.7	10.0	18.3
1990	12 25	02 53.92	+31 27.2					
1991	01 04	02 50.61	+30 58.3	2.374	3.054	125.7	15.2	18.5

(4219) 1988 DB a,e,i = 2.47, 0.12, 3 Elements MPC 15236

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 53.21	+15 40.6	1.887	2.742	142.1	12.9	17.2
1990	10 26	03 46.98	+15 09.5					
1990	11 05	03 38.65	+14 34.0	1.762	2.732	165.1	5.3	16.8
1990	11 15	03 29.02	+13 56.9					
1990	11 25	03 19.17	+13 22.3	1.746	2.720	168.1	4.3	16.7
1990	12 05	03 10.23	+12 54.3					
1990	12 15	03 03.10	+12 36.5	1.843	2.706	144.5	12.2	17.1
1990	12 25	02 58.42	+12 31.1					
1991	01 04	02 56.46	+12 38.5	2.028	2.690	122.8	17.9	17.5

1988 CS2 a,e,i = 2.25, 0.17, 4 Elements MPC 13478

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 54.24	+27 39.4	1.052	1.920	139.0	19.9	16.3
1990	10 26	03 49.03	+27 42.7					
1990	11 05	03 40.37	+27 25.2	0.978	1.942	161.0	9.6	15.8
1990	11 15	03 29.67	+26 46.8					
1990	11 25	03 18.90	+25 52.3	0.990	1.969	169.3	5.3	15.7
1990	12 05	03 10.00	+24 51.0					
1990	12 15	03 04.28	+23 53.0	1.097	1.999	147.6	15.3	16.3
1990	12 25	03 02.37	+23 06.4					
1991	01 04	03 04.26	+22 35.1	1.279	2.031	127.3	22.7	16.9

(4036) 1987 DW5 a,e,i = 2.80, 0.15, 5 Elements MPC 14337

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 52.87	+13 42.9	1.860	2.718	142.3	13.0	16.7
1990	10 26	03 47.81	+13 04.8					
1990	11 05	03 40.62	+12 23.5	1.718	2.687	164.3	5.7	16.2
1990	11 15	03 32.05	+11 42.5					
1990	11 25	03 23.09	+11 06.3	1.683	2.655	167.2	4.7	16.1
1990	12 05	03 14.86	+10 39.2					
1990	12 15	03 08.30	+10 24.6	1.758	2.624	144.8	12.5	16.5
1990	12 25	03 04.09	+10 24.3					
1991	01 04	03 02.57	+10 38.2	1.918	2.594	123.5	18.4	16.8

3104 T-3 a,e,i = 5.20, 0.10, 19 Elements MPC 16243

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 43.87	+06 15.2	4.847	5.688	144.4	5.9	18.1
1990	10 26	03 40.17	+05 36.3					
1990	11 05	03 35.78	+04 59.1	4.740	5.693	162.3	3.0	17.9
1990	11 15	03 31.01	+04 25.3					
1990	11 25	03 26.17	+03 56.7	4.752	5.697	161.6	3.1	17.9
1990	12 05	03 21.60	+03 34.6					
1990	12 15	03 17.61	+03 19.9	4.883	5.701	143.2	5.9	18.1
1990	12 25	03 14.45	+03 12.9					
1991	01 04	03 12.31	+03 13.6	5.112	5.705	122.8	8.3	18.3

3108 T-3 a,e,i = 5.22, 0.08, 2 Elements MPC 15908

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 45.51	+20 28.8	4.579	5.409	143.0	6.4	17.1
1990	10 26	03 41.43	+20 18.0					
1990	11 05	03 36.57	+20 04.0	4.455	5.419	165.1	2.7	16.9
1990	11 15	03 31.24	+19 47.5					
1990	11 25	03 25.82	+19 29.8	4.449	5.428	172.1	1.4	16.8
1990	12 05	03 20.72	+19 12.2					
1990	12 15	03 16.28	+18 56.3	4.566	5.438	149.5	5.3	17.1
1990	12 25	03 12.79	+18 43.3					
1991	01 04	03 10.46	+18 34.4	4.789	5.447	127.7	8.2	17.3

1980 TX3 a,e,i = 2.84, 0.08, 2 Elements MPC 14016

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 54.34	+19 21.1	1.843	2.694	141.3	13.4	17.2
1990	10 26	03 48.88	+18 57.2					
1990	11 05	03 41.34	+18 26.3	1.740	2.708	164.4	5.7	16.8
1990	11 15	03 32.57	+17 50.8					
1990	11 25	03 23.62	+17 14.2	1.744	2.723	171.0	3.3	16.7
1990	12 05	03 15.60	+16 41.0					
1990	12 15	03 09.38	+16 15.0	1.858	2.738	147.2	11.2	17.1
1990	12 25	03 05.52	+15 59.3					
1991	01 04	03 04.29	+15 55.1	2.063	2.754	125.6	16.9	17.6

1981 DZ1 a,e,i = 3.22, 0.07, 22 Elements MPC 10614

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 51.21	+08 35.3	2.406	3.257	142.8	10.7	18.6
1990	10 26	03 46.38	+07 08.5					
1990	11 05	03 40.04	+05 41.3	2.286	3.243	161.8	5.5	18.2
1990	11 15	03 32.78	+04 18.8					
1990	11 25	03 25.34	+03 06.6	2.281	3.230	160.7	5.8	18.2
1990	12 05	03 18.50	+02 08.9					
1990	12 15	03 12.90	+01 28.4	2.390	3.216	141.1	11.1	18.5
1990	12 25	03 09.04	+01 05.8					
1991	01 04	03 07.19	+01 00.1	2.586	3.202	120.7	15.3	18.8

(4133) 1942 DB a,e,i = 2.58, 0.12, 12 Elements MPC 14932

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 01.50	+37 43.1	2.080	2.859	133.5	14.7	16.5
1990	10 26	03 54.87	+38 10.5					
1990	11 05	03 45.63	+38 19.4	1.932	2.849	152.5	9.2	16.1
1990	11 15	03 34.64	+38 06.5					
1990	11 25	03 23.18	+37 31.3	1.885	2.838	161.3	6.4	16.0
1990	12 05	03 12.65	+36 37.5					
1990	12 15	03 04.19	+35 32.1	1.948	2.825	147.0	10.9	16.2
1990	12 25	02 58.56	+34 23.0					
1991	01 04	02 56.10	+33 17.8	2.106	2.810	127.1	16.2	16.5

1986 RS2 a,e,i = 2.42, 0.21, 4 Elements MPC 11349

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 57.03	+15 13.4	1.089	1.968	141.2	18.5	16.5
1990	10 26	03 52.56	+14 21.8					
1990	11 05	03 45.08	+13 25.8	1.028	1.998	163.5	8.1	16.1
1990	11 15	03 35.83	+12 31.4					
1990	11 25	03 26.44	+11 46.0	1.057	2.033	168.2	5.7	16.1
1990	12 05	03 18.51	+11 15.7					
1990	12 15	03 13.19	+11 03.9	1.180	2.072	146.2	15.3	16.7
1990	12 25	03 11.07	+11 11.1					
1991	01 04	03 12.26	+11 35.1	1.380	2.114	126.1	22.1	17.3

1978 RW a,e,i = 3.21, 0.21, 1 Elements MPC 10951

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 56.75	+18 23.3	2.140	2.981	140.9	12.2	16.7
1990	10 26	03 51.20	+18 02.9					
1990	11 05	03 43.90	+17 37.6	2.056	3.021	163.9	5.2	16.3
1990	11 15	03 35.60	+17 09.4					
1990	11 25	03 27.17	+16 41.2	2.081	3.061	171.5	2.7	16.3
1990	12 05	03 19.56	+16 16.3					
1990	12 15	03 13.47	+15 57.6	2.223	3.102	148.1	9.7	16.7
1990	12 25	03 09.42	+15 47.3					
1991	01 04	03 07.62	+15 46.4	2.458	3.142	126.3	14.6	17.2

(4251) 1985 JK1 a,e,i = 2.40, 0.18, 3 Elements MPC 15395

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 04.29	+16 21.3	1.967	2.799	139.3	13.4	18.4
1990	10 26	03 57.94	+15 56.5					
1990	11 05	03 49.44	+15 27.6	1.849	2.811	162.6	6.1	18.0
1990	11 15	03 39.57	+14 56.7					
1990	11 25	03 29.35	+14 27.2	1.841	2.820	170.7	3.3	17.9
1990	12 05	03 19.91	+14 02.7					
1990	12 15	03 12.15	+13 46.5	1.950	2.827	147.0	10.9	18.3
1990	12 25	03 06.72	+13 40.7					
1991	01 04	03 03.92	+13 46.2	2.151	2.830	124.8	16.6	18.7

1966 CM a,e,i = 2.64, 0.11, 14 Elements MPC 16227

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 59.85	+00 03.5	1.825	2.662	139.5	14.1	16.9
1990	10 26	03 54.96	-01 11.1					
1990	11 05	03 47.94	-02 17.9	1.706	2.639	155.1	9.1	16.6
1990	11 15	03 39.47	-03 09.8					
1990	11 25	03 30.55	-03 40.8	1.688	2.615	154.8	9.3	16.6
1990	12 05	03 22.25	-03 47.3					
1990	12 15	03 15.51	-03 29.1	1.771	2.592	138.5	14.6	16.8
1990	12 25	03 11.02	-02 48.3					
1991	01 04	03 09.12	-01 49.0	1.933	2.568	119.9	19.4	17.1

1078 T-3 a,e,i = 2.61, 0.07, 14 Elements MPC 12701

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 01.43	+23 50.3	1.782	2.615	138.6	14.6	18.6
1990	10 26	03 56.44	+22 52.3					
1990	11 05	03 49.07	+21 40.1	1.639	2.599	161.9	6.8	18.1
1990	11 15	03 40.13	+20 16.6					
1990	11 25	03 30.73	+18 47.2	1.601	2.584	173.1	2.6	17.8
1990	12 05	03 22.11	+17 19.3					
1990	12 15	03 15.29	+16 00.3	1.677	2.568	148.5	11.6	18.3
1990	12 25	03 10.97	+14 55.9					
1991	01 04	03 09.47	+14 08.7	1.846	2.553	126.2	18.1	18.7

1978 PO3 a,e,i = 2.44, 0.13, 1 Elements MPC 11504

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 06.13	+21 24.9	1.681	2.513	138.1	15.3	17.4
1990	10 26	04 00.02	+21 12.9					
1990	11 05	03 51.40	+20 52.2	1.580	2.540	161.5	7.1	17.0
1990	11 15	03 41.20	+20 24.0					
1990	11 25	03 30.64	+19 51.3	1.584	2.567	173.3	2.6	16.8
1990	12 05	03 21.05	+19 18.6					
1990	12 15	03 13.47	+18 50.7	1.699	2.592	148.9	11.3	17.3
1990	12 25	03 08.57	+18 31.5					
1991	01 04	03 06.61	+18 23.1	1.905	2.615	126.8	17.5	17.8

1989 JC a,e,i = 1.86, 0.07, 19 Elements MPC 14957

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 05.22	+27 34.1	0.946	1.806	136.8	22.2	15.6
1990	10 26	04 01.27	+25 02.8					
1990	11 05	03 53.24	+21 50.8	0.823	1.790	160.9	10.5	14.9
1990	11 15	03 42.44	+18 07.4					
1990	11 25	03 30.92	+14 13.4	0.794	1.775	170.8	5.1	14.6
1990	12 05	03 20.94	+10 35.9					
1990	12 15	03 14.11	+07 36.3	0.864	1.762	144.7	18.8	15.3
1990	12 25	03 11.29	+05 25.0					
1991	01 04	03 12.61	+04 00.9	1.006	1.750	123.2	28.0	15.8

1972 JJ a,e,i = 3.04, 0.03, 9 Elements MPC 13480

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 03.54	+14 23.3	2.243	3.071	139.7	12.1	17.0
1990	10 26	03 58.16	+14 16.4					
1990	11 05	03 50.90	+14 08.2	2.119	3.078	162.1	5.7	16.7
1990	11 15	03 42.41	+14 00.2					
1990	11 25	03 33.52	+13 54.6	2.105	3.084	171.0	2.9	16.5
1990	12 05	03 25.18	+13 53.6					
1990	12 15	03 18.17	+13 58.8	2.208	3.090	148.4	9.6	16.9
1990	12 25	03 13.10	+14 11.8					
1991	01 04	03 10.31	+14 32.9	2.407	3.095	126.6	14.8	17.3

1988 RM1 a,e,i = 5.10, 0.05, 9 Elements MPC 16028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 55.01	+18 09.7	4.186	5.003	141.3	7.2	17.8
1990	10 26	03 51.20	+17 45.7					
1990	11 05	03 46.49	+17 19.0	4.052	5.010	163.3	3.3	17.5
1990	11 15	03 41.19	+16 50.7					
1990	11 25	03 35.73	+16 22.5	4.036	5.017	173.1	1.4	17.4
1990	12 05	03 30.52	+15 55.9					
1990	12 15	03 25.96	+15 32.7	4.142	5.024	150.8	5.5	17.7
1990	12 25	03 22.37	+15 14.2					
1991	01 04	03 19.98	+15 01.3	4.355	5.032	128.9	8.7	17.9

1985 RH a,e,i = 2.61, 0.15, 14 Elements MPC 12967

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 12.83	+38 16.1	2.238	2.990	131.2	14.5	17.8
1990	10 26	04 06.19	+38 58.5					
1990	11 05	03 56.88	+39 24.7	2.095	2.997	150.3	9.4	17.5
1990	11 15	03 45.68	+39 30.8					
1990	11 25	03 33.79	+39 15.2	2.052	3.001	160.5	6.3	17.4
1990	12 05	03 22.55	+38 40.0					
1990	12 15	03 13.15	+37 50.9	2.122	3.003	148.1	10.0	17.6
1990	12 25	03 06.41	+36 55.0					
1991	01 04	03 02.73	+35 59.5	2.290	3.003	128.6	14.8	17.9

1973 SJ1 a,e,i = 3.97, 0.12, 3 Elements MPC 13164

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	03 59.34	+17 57.2	3.496	4.311	140.3	8.5	18.4
1990	10 26	03 54.96	+17 38.0					
1990	11 05	03 49.39	+17 15.7	3.341	4.297	162.6	4.0	18.1
1990	11 15	03 43.04	+16 51.4					
1990	11 25	03 36.40	+16 26.8	3.301	4.283	173.2	1.6	17.9
1990	12 05	03 30.05	+16 04.0					
1990	12 15	03 24.47	+15 44.6	3.384	4.269	150.5	6.5	18.2
1990	12 25	03 20.09	+15 30.6					
1991	01 04	03 17.19	+15 23.0	3.572	4.253	128.4	10.4	18.5

1981 QX a,e,i = 2.59, 0.29, 11 Elements MPC 15065

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 10.91	+08 33.0	2.071	2.890	137.9	13.4	18.1
1990	10 26	04 04.93	+07 30.4					
1990	11 05	03 57.05	+06 29.9	1.994	2.939	158.5	7.1	17.8
1990	11 15	03 48.01	+05 36.0					
1990	11 25	03 38.71	+04 53.2	2.026	2.986	163.6	5.4	17.8
1990	12 05	03 30.12	+04 24.9					
1990	12 15	03 22.99	+04 12.5	2.173	3.031	144.8	10.8	18.2
1990	12 25	03 17.87	+04 15.9					
1991	01 04	03 15.02	+04 33.5	2.412	3.072	124.0	15.4	18.6

1988 BX3 a,e,i = 2.35, 0.07, 6 Elements MPC 13468

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 13.43	+21 35.9	1.694	2.512	136.4	15.9	17.4
1990	10 26	04 08.32	+21 01.2					
1990	11 05	04 00.51	+20 16.3	1.559	2.512	159.6	7.9	17.0
1990	11 15	03 50.82	+19 23.2					
1990	11 25	03 40.39	+18 25.7	1.526	2.511	175.1	1.9	16.6
1990	12 05	03 30.60	+17 29.5					
1990	12 15	03 22.58	+16 40.5	1.606	2.509	150.4	11.2	17.1
1990	12 25	03 17.14	+16 03.3					
1991	01 04	03 14.68	+15 40.4	1.778	2.505	127.9	18.0	17.6

1976 QE1 a,e,i = 3.39, 0.20, 18 Elements MPC 11638

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 13.73	+41 53.1	3.342	4.048	129.4	11.0	17.3
1990	10 26	04 07.94	+42 26.7					
1990	11 05	04 00.24	+42 47.7	3.173	4.043	147.3	7.6	17.0
1990	11 15	03 51.17	+42 53.5					
1990	11 25	03 41.50	+42 43.1	3.107	4.037	157.5	5.4	16.9
1990	12 05	03 32.12	+42 17.3					
1990	12 15	03 23.85	+41 39.1	3.156	4.029	148.6	7.3	17.0
1990	12 25	03 17.33	+40 53.0					
1991	01 04	03 12.98	+40 03.8	3.310	4.020	130.6	10.7	17.2

(4191) 1980 KH a,e,i = 2.63, 0.14, 12 Elements MPC 15223

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 13.50	+21 07.5	2.094	2.900	136.5	13.7	17.4
1990	10 26	04 08.19	+20 19.2					
1990	11 05	04 00.76	+19 22.4	1.968	2.919	159.7	6.8	17.0
1990	11 15	03 51.91	+18 19.5					
1990	11 25	03 42.57	+17 14.5	1.951	2.936	174.9	1.7	16.8
1990	12 05	03 33.79	+16 12.3					
1990	12 15	03 26.43	+15 17.7	2.052	2.951	150.8	9.4	17.3
1990	12 25	03 21.15	+14 34.5					
1991	01 04	03 18.27	+14 04.5	2.253	2.964	128.2	15.1	17.7

1981 ET7 a,e,i = 2.33, 0.09, 4 Elements MPC 10381

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 13.51	+27 31.4	1.325	2.149	135.0	19.1	18.6
1990	10 26	04 09.95	+27 34.4					
1990	11 05	04 02.90	+27 21.9	1.191	2.138	156.8	10.5	18.1
1990	11 15	03 53.23	+26 52.0					
1990	11 25	03 42.36	+26 06.3	1.145	2.129	173.2	3.1	17.7
1990	12 05	03 32.14	+25 10.2					
1990	12 15	03 24.11	+24 12.1	1.201	2.122	152.2	12.5	18.2
1990	12 25	03 19.37	+23 20.2					
1991	01 04	03 18.35	+22 40.4	1.342	2.117	130.5	20.7	18.7

(4239) 1980 OE a,e,i = 2.17, 0.19, 1 Elements MPC 15390

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 21.95	+23 28.0	1.310	2.128	134.2	19.6	17.4
1990	10 26	04 16.34	+23 17.8					
1990	11 05	04 07.32	+22 56.0	1.223	2.172	157.4	10.1	17.0
1990	11 15	03 55.99	+22 23.0					
1990	11 25	03 43.94	+21 41.7	1.229	2.215	176.3	1.7	16.7
1990	12 05	03 32.91	+20 58.1					
1990	12 15	03 24.28	+20 18.8	1.342	2.257	151.7	11.9	17.3
1990	12 25	03 18.88	+19 49.1					
1991	01 04	03 16.98	+19 32.2	1.543	2.297	129.5	19.3	17.9

1989 RB2 a,e,i = 2.79, 0.17, 7 Elements MPC 15420

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 15.63	+28 48.3	2.482	3.256	134.2	12.7	18.2
1990	10 26	04 10.34	+28 45.5					
1990	11 05	04 02.97	+28 32.2	2.319	3.251	156.2	7.1	17.8
1990	11 15	03 54.10	+28 07.7					
1990	11 25	03 44.59	+27 32.9	2.263	3.244	172.2	2.4	17.6
1990	12 05	03 35.41	+26 50.4					
1990	12 15	03 27.45	+26 04.5	2.328	3.236	153.0	7.9	17.9
1990	12 25	03 21.41	+25 19.7					
1991	01 04	03 17.69	+24 40.2	2.497	3.225	130.7	13.4	18.2

1988 TA3 a,e,i = 5.30, 0.11, 11 Elements MPC 15893

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 03.57	+08 07.1	5.048	5.844	139.7	6.3	17.6
1990	10 26	04 00.19	+07 42.1					
1990	11 05	03 56.03	+07 18.3	4.910	5.847	159.1	3.5	17.4
1990	11 15	03 51.35	+06 57.0					
1990	11 25	03 46.45	+06 39.6	4.888	5.850	165.8	2.4	17.3
1990	12 05	03 41.67	+06 27.2					
1990	12 15	03 37.33	+06 20.6	4.987	5.852	148.9	5.0	17.5
1990	12 25	03 33.69	+06 20.3					
1991	01 04	03 30.99	+06 26.3	5.192	5.854	128.4	7.6	17.7

(4432) 1981 ER22 a,e,i = 2.39, 0.21, 0 Elements MPC 16216

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 17.39	+20 35.7	1.141	1.981	135.7	20.6	17.5
1990	10 26	04 13.59	+20 25.1					
1990	11 05	04 06.26	+20 05.7	1.062	2.017	158.3	10.5	17.0
1990	11 15	03 56.47	+19 38.9					
1990	11 25	03 45.83	+19 08.4	1.071	2.057	176.6	1.6	16.7
1990	12 05	03 36.16	+18 39.6					
1990	12 15	03 28.85	+18 17.9	1.179	2.100	152.2	12.6	17.4
1990	12 25	03 24.79	+18 07.3					
1991	01 04	03 24.24	+18 09.3	1.370	2.146	130.8	20.3	18.0

1978 RG1 a,e,i = 3.21, 0.25, 2 Elements MPC 12443

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 15.53	+18 44.2	1.924	2.734	136.4	14.6	17.3
1990	10 26	04 11.00	+18 26.1					
1990	11 05	04 04.27	+18 03.3	1.831	2.780	159.0	7.3	17.0
1990	11 15	03 56.05	+17 37.3					
1990	11 25	03 47.31	+17 11.0	1.841	2.827	175.6	1.5	16.8
1990	12 05	03 39.11	+16 47.4					
1990	12 15	03 32.34	+16 29.6	1.965	2.874	152.5	9.1	17.3
1990	12 25	03 27.64	+16 20.1					
1991	01 04	03 25.33	+16 19.8	2.187	2.923	130.5	14.8	17.8

5191 T-3 a,e,i = 5.23, 0.13, 13 Elements MPC 14029

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 08.12	+05 40.2	4.507	5.294	138.4	7.2	17.9
1990	10 26	04 04.66	+05 13.4					
1990	11 05	04 00.31	+04 49.0	4.386	5.313	157.0	4.2	17.7
1990	11 15	03 55.37	+04 28.4					
1990	11 25	03 50.17	+04 13.3	4.378	5.332	163.5	3.0	17.6
1990	12 05	03 45.10	+04 04.8					
1990	12 15	03 40.51	+04 03.7	4.490	5.351	148.2	5.6	17.8
1990	12 25	03 36.70	+04 10.1					
1991	01 04	03 33.91	+04 23.8	4.706	5.370	128.2	8.3	18.0

1979 QC2 a,e,i = 2.95, 0.10, 2 Elements MPC 10307

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 16.26	+18 02.7	1.844	2.656	136.3	15.0	17.7
1990	10 26	04 12.52	+17 41.4					
1990	11 05	04 06.36	+17 15.1	1.707	2.655	158.5	7.9	17.3
1990	11 15	03 58.40	+16 45.8					
1990	11 25	03 49.62	+16 16.3	1.670	2.655	175.2	1.8	16.9
1990	12 05	03 41.15	+15 50.2					
1990	12 15	03 34.01	+15 31.0	1.744	2.657	152.6	9.8	17.4
1990	12 25	03 29.01	+15 21.4					
1991	01 04	03 26.61	+15 22.7	1.914	2.661	130.6	16.3	17.8

1988 EB1 a,e,i = 2.43, 0.14, 3 Elements MPC 13161

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 23.57	+21 22.5	1.832	2.626	134.2	15.8	17.7
1990	10 26	04 19.05	+21 22.2					
1990	11 05	04 11.73	+21 15.4	1.661	2.602	156.8	8.6	17.2
1990	11 15	04 02.19	+21 02.0					
1990	11 25	03 51.44	+20 43.0	1.590	2.577	178.2	0.7	16.7
1990	12 05	03 40.80	+20 21.2					
1990	12 15	03 31.52	+20 00.5	1.632	2.550	153.3	10.0	17.2
1990	12 25	03 24.61	+19 45.1					
1991	01 04	03 20.66	+19 38.3	1.772	2.522	130.3	17.3	17.6

(4184) 1969 TJ1 a,e,i = 2.58, 0.04, 9 Elements MPC 15220

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 24.88	+27 18.6	1.700	2.486	132.6	17.2	16.8
1990	10 26	04 20.47	+28 02.0					
1990	11 05	04 12.94	+28 36.8	1.554	2.484	154.2	10.0	16.4
1990	11 15	04 02.93	+28 59.5					
1990	11 25	03 51.60	+29 08.3	1.504	2.484	171.2	3.5	16.1
1990	12 05	03 40.47	+29 04.0					
1990	12 15	03 30.95	+28 50.5	1.563	2.484	153.6	10.1	16.4
1990	12 25	03 24.15	+28 33.4					
1991	01 04	03 20.64	+28 18.4	1.719	2.485	131.8	17.1	16.8

1977 UP a,e,i = 2.18, 0.15, 3 Elements MPC 5520

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 26.99	+26 12.4	1.113	1.931	132.5	22.4	17.6
1990	10 26	04 23.57	+26 37.1					
1990	11 05	04 16.04	+26 48.8	1.018	1.959	154.3	12.7	17.2
1990	11 15	04 05.37	+26 44.5					
1990	11 25	03 53.27	+26 24.2	1.005	1.990	174.0	3.0	16.8
1990	12 05	03 41.86	+25 52.2					
1990	12 15	03 32.92	+25 15.8	1.090	2.022	154.2	12.2	17.4
1990	12 25	03 27.59	+24 43.1					
1991	01 04	03 26.26	+24 19.7	1.260	2.056	132.5	20.6	18.0

1988 RT a,e,i = 5.30, 0.06, 7 Elements MPC 16028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 14.35	+26 48.9	4.278	5.033	135.0	8.0	16.6
1990	10 26	04 10.86	+26 42.2					
1990	11 05	04 06.26	+26 30.2	4.113	5.038	156.5	4.5	16.3
1990	11 15	04 00.87	+26 13.2					
1990	11 25	03 55.10	+25 51.8	4.060	5.044	174.6	1.1	16.1
1990	12 05	03 49.41	+25 27.3					
1990	12 15	03 44.25	+25 01.3	4.130	5.049	156.8	4.4	16.3
1990	12 25	03 39.99	+24 35.7					
1991	01 04	03 36.93	+24 12.3	4.313	5.055	134.9	7.9	16.6

1976 GR2 a,e,i = 2.16, 0.10, 3 Elements MPC 11341

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 28.78	+16 51.4	1.588	2.386	133.5	17.7	17.7
1990	10 26	04 24.21	+16 23.9					
1990	11 05	04 16.58	+15 51.6	1.446	2.386	156.1	9.7	17.2
1990	11 15	04 06.56	+15 16.7					
1990	11 25	03 55.30	+14 42.6	1.400	2.384	174.1	2.4	16.9
1990	12 05	03 44.26	+14 13.8					
1990	12 15	03 34.79	+13 54.2	1.465	2.380	152.1	11.1	17.3
1990	12 25	03 27.91	+13 47.1					
1991	01 04	03 24.18	+13 53.4	1.623	2.373	129.6	18.6	17.8

1986 PE a,e,i = 2.29, 0.09, 9 Elements MPC 14786

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 28.53	+27 14.3	1.414	2.208	131.9	19.6	16.8
1990	10 26	04 24.80	+26 42.6					
1990	11 05	04 17.66	+25 55.2	1.292	2.227	154.3	11.1	16.4
1990	11 15	04 07.94	+24 52.1					
1990	11 25	03 57.02	+23 36.7	1.260	2.247	176.9	1.4	15.9
1990	12 05	03 46.55	+22 15.9					
1990	12 15	03 37.99	+20 58.4	1.336	2.266	154.9	10.6	16.5
1990	12 25	03 32.33	+19 51.8					
1991	01 04	03 30.02	+19 00.9	1.505	2.286	132.3	18.5	17.0

(4221) Picasso a,e,i = 2.62, 0.12, 17 Elements MPC 15236

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 24.91	+04 49.1	2.158	2.940	134.1	14.1	17.3
1990	10 26	04 20.72	+03 24.7					
1990	11 05	04 14.41	+02 02.3	2.020	2.936	152.6	8.9	17.0
1990	11 15	04 06.51	+00 47.7					
1990	11 25	03 57.79	-00 13.1	1.986	2.930	159.2	6.9	16.9
1990	12 05	03 49.20	-00 55.6					
1990	12 15	03 41.60	-01 17.4	2.063	2.922	144.7	11.2	17.1
1990	12 25	03 35.73	-01 18.3					
1991	01 04	03 32.03	-01 00.5	2.232	2.913	125.3	16.0	17.4

4831 P-L a,e,i = 2.61, 0.16, 13 Elements MPC 12572

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 30.57	+35 08.7	1.638	2.395	129.2	18.8	18.8
1990	10 26	04 27.34	+36 32.6					
1990	11 05	04 20.38	+37 46.2	1.465	2.365	148.1	12.8	18.4
1990	11 15	04 10.12	+38 42.5					
1990	11 25	03 57.68	+39 14.6	1.380	2.336	161.3	7.8	18.0
1990	12 05	03 44.88	+39 19.9					
1990	12 15	03 33.62	+39 01.5	1.397	2.309	151.4	11.8	18.2
1990	12 25	03 25.47	+38 27.2					
1991	01 04	03 21.32	+37 46.5	1.504	2.285	132.3	18.6	18.5

1982 OF a,e,i = 2.43, 0.23, 4 Elements MPC 15882

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 31.45	+27 55.3	1.280	2.076	131.1	21.2	16.6
1990	10 26	04 27.88	+28 00.6					
1990	11 05	04 20.62	+27 51.6	1.190	2.122	153.0	12.2	16.3
1990	11 15	04 10.59	+27 26.6					
1990	11 25	03 59.34	+26 46.7	1.187	2.171	173.8	2.8	15.9
1990	12 05	03 48.67	+25 56.9					
1990	12 15	03 40.12	+25 04.7	1.286	2.221	155.8	10.5	16.5
1990	12 25	03 34.69	+24 17.5					
1991	01 04	03 32.75	+23 40.5	1.477	2.272	133.9	18.2	17.1

(4230) 1973 ST1 a,e,i = 3.95, 0.13, 3 Elements MPC 15387

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 21.15	+17 45.9	3.477	4.243	135.2	9.5	18.3
1990	10 26	04 17.43	+17 29.3					
1990	11 05	04 12.32	+17 10.2	3.294	4.225	157.1	5.2	18.0
1990	11 15	04 06.18	+16 49.5					
1990	11 25	03 59.47	+16 28.5	3.222	4.207	175.9	1.0	17.7
1990	12 05	03 52.77	+16 08.9					
1990	12 15	03 46.62	+15 52.4	3.273	4.188	155.5	5.6	18.0
1990	12 25	03 41.51	+15 40.6					
1991	01 04	03 37.81	+15 34.6	3.434	4.169	133.2	9.9	18.2

1983 PB a,e,i = 2.21, 0.23, 6 Elements MPC 11237

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 37.26	+18 12.5	1.335	2.130	131.3	20.6	18.2
1990	10 26	04 32.08	+18 20.2					
1990	11 05	04 23.39	+18 24.4	1.248	2.184	154.4	11.3	17.8
1990	11 15	04 12.07	+18 25.0					
1990	11 25	03 59.59	+18 23.3	1.251	2.238	177.8	0.9	17.4
1990	12 05	03 47.67	+18 21.6					
1990	12 15	03 37.80	+18 23.1	1.363	2.290	154.3	10.7	18.1
1990	12 25	03 30.96	+18 30.7					
1991	01 04	03 27.57	+18 46.4	1.568	2.340	131.7	18.3	18.7

1973 SK1 a,e,i = 3.97, 0.13, 9 Elements MPC 15698

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 22.55	+10 38.5	3.559	4.323	135.1	9.4	18.0
1990	10 26	04 18.85	+10 08.0					
1990	11 05	04 13.88	+09 37.9	3.414	4.337	155.7	5.4	17.7
1990	11 15	04 07.99	+09 10.0					
1990	11 25	04 01.62	+08 46.4	3.380	4.351	168.2	2.7	17.6
1990	12 05	03 55.29	+08 28.7					
1990	12 15	03 49.51	+08 18.2	3.467	4.364	152.5	6.0	17.8
1990	12 25	03 44.70	+08 15.8					
1991	01 04	03 41.19	+08 21.5	3.662	4.376	131.5	9.7	18.1

1975 QC a,e,i = 2.35, 0.14, 7 Elements MPC 14779

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 33.21	+12 13.8	1.416	2.215	132.5	19.4	16.8
1990	10 26	04 29.71	+11 19.8					
1990	11 05	04 23.07	+10 25.1	1.313	2.245	153.8	11.3	16.5
1990	11 15	04 14.04	+09 34.7					
1990	11 25	04 03.81	+08 54.1	1.301	2.276	168.3	5.0	16.2
1990	12 05	03 53.84	+08 28.3					
1990	12 15	03 45.44	+08 19.9	1.393	2.307	151.7	11.7	16.7
1990	12 25	03 39.56	+08 29.6					
1991	01 04	03 36.69	+08 55.5	1.575	2.338	130.7	18.6	17.2

1985 CS1 a,e,i = 2.28, 0.21, 5 Elements MPC 16696

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 36.04	+15 55.6	1.972	2.739	131.8	15.7	18.4
1990	10 26	04 31.25	+15 21.1					
1990	11 05	04 23.86	+14 43.0	1.823	2.750	154.3	9.0	18.0
1990	11 15	04 14.47	+14 03.5					
1990	11 25	04 03.98	+13 25.9	1.776	2.758	172.8	2.6	17.7
1990	12 05	03 53.54	+12 53.8					
1990	12 15	03 44.25	+12 30.6	1.847	2.763	153.6	9.1	18.1
1990	12 25	03 36.98	+12 18.6					
1991	01 04	03 32.28	+12 18.8	2.019	2.764	130.9	15.6	18.5

1978 SS2 a,e,i = 3.12, 0.17, 9 Elements MPC 13463

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 29.19	+14 43.9	2.776	3.537	133.5	11.8	17.6
1990	10 26	04 25.07	+14 06.3					
1990	11 05	04 19.22	+13 26.7	2.629	3.554	155.2	6.7	17.3
1990	11 15	04 12.08	+12 47.0					
1990	11 25	04 04.26	+12 09.9	2.589	3.569	171.5	2.3	17.1
1990	12 05	03 56.49	+11 38.0					
1990	12 15	03 49.46	+11 13.5	2.671	3.582	154.1	6.9	17.4
1990	12 25	03 43.74	+10 58.0					
1991	01 04	03 39.75	+10 52.3	2.860	3.594	132.1	11.7	17.7

1973 RF a,e,i = 2.58, 0.14, 16 Elements MPC 15698

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 42.06	+39 57.6	1.600	2.324	125.3	20.5	17.2
1990	10 26	04 38.57	+41 36.5					
1990	11 05	04 30.94	+43 00.7	1.477	2.348	143.2	14.7	16.9
1990	11 15	04 19.73	+44 01.5					
1990	11 25	04 06.30	+44 31.3	1.437	2.373	156.0	9.8	16.7
1990	12 05	03 52.69	+44 28.0					
1990	12 15	03 40.93	+43 56.1	1.496	2.400	150.1	11.8	16.9
1990	12 25	03 32.54	+43 05.0					
1991	01 04	03 28.26	+42 05.8	1.646	2.428	133.3	17.1	17.3

1966 CF a,e,i = 2.37, 0.09, 9 Elements MPC 13055

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 34.61	+09 52.8	1.625	2.410	132.1	17.9	16.3
1990	10 26	04 31.31	+09 24.1					
1990	11 05	04 25.02	+08 57.3	1.465	2.391	152.9	10.9	15.8
1990	11 15	04 16.23	+08 36.3					
1990	11 25	04 05.90	+08 25.2	1.398	2.372	167.8	5.1	15.5
1990	12 05	03 55.36	+08 27.4					
1990	12 15	03 45.95	+08 44.8	1.438	2.353	152.0	11.3	15.8
1990	12 25	03 38.78	+09 17.6					
1991	01 04	03 34.57	+10 04.3	1.571	2.334	130.6	18.6	16.2

1989 LM a,e,i = 2.29, 0.15, 5 Elements MPC 14958

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 41.03	+27 37.0	1.754	2.505	129.1	18.0	17.5
1990	10 26	04 36.68	+27 33.2					
1990	11 05	04 29.19	+27 18.2	1.612	2.528	151.4	10.8	17.1
1990	11 15	04 19.19	+26 50.7					
1990	11 25	04 07.81	+26 10.8	1.565	2.548	174.0	2.3	16.7
1990	12 05	03 56.49	+25 21.8					
1990	12 15	03 46.57	+24 29.1	1.631	2.567	157.3	8.5	17.1
1990	12 25	03 39.12	+23 39.1					
1991	01 04	03 34.69	+22 57.0	1.799	2.583	134.2	15.8	17.6

1981 ER21 a,e,i = 3.23, 0.12, 6 Elements MPC 16576

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 31.48	+14 09.9	2.143	2.915	132.9	14.5	18.0
1990	10 26	04 28.27	+13 40.2					
1990	11 05	04 22.86	+13 09.1	2.006	2.932	154.3	8.4	17.7
1990	11 15	04 15.75	+12 39.1					
1990	11 25	04 07.70	+12 12.9	1.969	2.949	171.4	2.9	17.4
1990	12 05	03 59.65	+11 53.5					
1990	12 15	03 52.47	+11 43.0	2.046	2.968	155.0	8.1	17.7
1990	12 25	03 46.93	+11 42.8					
1991	01 04	03 43.49	+11 53.2	2.226	2.987	133.3	13.9	18.1

1983 TU a,e,i = 2.26, 0.19, 6 Elements MPC 15883

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 42.50	+23 32.3	1.255	2.040	129.5	22.2	17.1
1990	10 26	04 39.00	+24 06.7					
1990	11 05	04 31.56	+24 34.4	1.157	2.083	151.7	13.1	16.7
1990	11 15	04 20.92	+24 52.3					
1990	11 25	04 08.55	+24 58.9	1.143	2.128	175.1	2.3	16.3
1990	12 05	03 56.36	+24 55.5					
1990	12 15	03 46.10	+24 46.3	1.232	2.173	157.2	10.1	16.8
1990	12 25	03 39.00	+24 36.8					
1991	01 04	03 35.62	+24 31.9	1.414	2.218	134.7	18.4	17.4

4271 T-3 a,e,i = 5.23, 0.11, 9 Elements MPC 14028

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 26.85	+20 49.4	4.011	4.752	133.5	8.8	16.9
1990	10 26	04 23.56	+20 51.7					
1990	11 05	04 19.03	+20 51.5	3.845	4.764	155.2	5.0	16.7
1990	11 15	04 13.58	+20 49.1					
1990	11 25	04 07.60	+20 45.0	3.789	4.775	178.0	0.4	16.4
1990	12 05	04 01.57	+20 40.0					
1990	12 15	03 55.96	+20 35.3	3.856	4.788	159.0	4.2	16.7
1990	12 25	03 51.20	+20 32.0					
1991	01 04	03 47.61	+20 31.2	4.037	4.800	136.7	8.1	16.9

1989 NJ a,e,i = 2.35, 0.14, 9 Elements MPC 15071

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 38.97	+18 27.5	1.896	2.658	130.9	16.5	17.3
1990	10 26	04 34.88	+17 40.5					
1990	11 05	04 28.09	+16 47.1	1.746	2.669	153.3	9.6	16.9
1990	11 15	04 19.17	+15 49.7					
1990	11 25	04 09.04	+14 51.9	1.695	2.678	173.9	2.3	16.5
1990	12 05	03 58.90	+13 58.5					
1990	12 15	03 49.86	+13 13.9	1.760	2.685	155.2	8.9	16.9
1990	12 25	03 42.85	+12 41.7					
1991	01 04	03 38.42	+12 23.7	1.927	2.690	132.3	15.7	17.3

(4216) Neunkirchen a,e,i = 2.36, 0.17, 4 Elements MPC 15235

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 42.62	+18 51.0	1.992	2.741	130.0	16.2	18.5
1990	10 26	04 38.53	+18 21.9					
1990	11 05	04 31.77	+17 47.6	1.832	2.750	152.5	9.6	18.1
1990	11 15	04 22.85	+17 09.6					
1990	11 25	04 12.64	+16 30.2	1.772	2.756	174.8	1.8	17.6
1990	12 05	04 02.28	+15 52.9					
1990	12 15	03 52.90	+15 21.2	1.828	2.760	156.7	8.1	18.0
1990	12 25	03 45.43	+14 58.6					
1991	01 04	03 40.48	+14 46.8	1.990	2.761	133.6	15.0	18.4

6573 P-L a,e,i = 2.60, 0.08, 4 Elements MPC 12700

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 40.75	+17 14.1	1.866	2.626	130.6	16.8	17.7
1990	10 26	04 37.93	+16 57.3					
1990	11 05	04 32.33	+16 37.4	1.690	2.610	152.3	10.2	17.3
1990	11 15	04 24.37	+16 15.7					
1990	11 25	04 14.87	+15 54.2	1.609	2.593	174.0	2.3	16.8
1990	12 05	04 05.00	+15 35.8					
1990	12 15	03 55.94	+15 23.3	1.639	2.576	157.4	8.4	17.1
1990	12 25	03 48.76	+15 19.5					
1991	01 04	03 44.18	+15 25.7	1.770	2.559	134.6	15.9	17.5

1989 UX5 a,e,i = 5.07, 0.03, 4 Elements MPC 16237

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1990	10 16	04 33.16	+20 35.7	4.200	4.924	-0.40	-1.4	17.8
1990	10 26	04 30.14	+20 32.0					
1990	11 05	04 25.91	+20 26.0	4.015	4.923	-0.42	-1.6	17.6
1990	11 15	04 20.73	+20 18.0					
1990	11 25	04 14.98	+20 08.6	3.937	4.922	-0.43	-1.7	17.2
1990	12 05	04 09.10	+19 58.6					
1990	12 15	04 03.54	+19 49.1	3.982	4.922	-0.42	-1.8	17.5
1990	12 25	03 58.72	+19 41.4					
1991	01 04	03 54.99	+19 36.4	4.144	4.921	-0.40	-1.8	17.7

1988 PY a,e,i = 5.17, 0.12, 7 Elements MPC 16027

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 36.42	+29 50.4	4.001	4.699	129.6	9.4	17.2
1990	10 26	04 33.39	+29 53.7					
1990	11 05	04 28.98	+29 51.4	3.825	4.714	150.5	5.9	17.0
1990	11 15	04 23.48	+29 43.1					
1990	11 25	04 17.33	+29 28.8	3.753	4.728	170.2	2.0	16.8
1990	12 05	04 11.04	+29 09.0					
1990	12 15	04 05.14	+28 45.4	3.802	4.744	161.1	3.9	16.9
1990	12 25	04 00.08	+28 19.7					
1991	01 04	03 56.26	+27 54.1	3.967	4.759	139.6	7.7	17.2

(4128) UKSTU a,e,i = 2.55, 0.14, 13 Elements MPC 14777

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 51.67	+36 10.2	2.190	2.878	124.8	16.5	18.8
1990	10 26	04 47.83	+36 22.6					
1990	11 05	04 41.01	+36 22.5	2.017	2.889	145.4	11.2	18.4
1990	11 15	04 31.69	+36 06.2					
1990	11 25	04 20.79	+35 31.6	1.935	2.898	164.3	5.3	18.1
1990	12 05	04 09.58	+34 39.6					
1990	12 15	03 59.33	+33 34.1	1.967	2.904	158.4	7.2	18.2
1990	12 25	03 51.12	+32 21.9					
1991	01 04	03 45.62	+31 09.9	2.108	2.909	137.4	13.2	18.6

1983 BM a,e,i = 2.66, 0.10, 11 Elements MPC 15244

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 50.91	+37 48.5	2.108	2.795	124.4	17.1	16.8
1990	10 26	04 48.02	+38 32.7					
1990	11 05	04 41.88	+39 06.0	1.914	2.777	143.8	12.2	16.5
1990	11 15	04 32.86	+39 23.3					
1990	11 25	04 21.81	+39 20.3	1.808	2.758	160.6	6.8	16.1
1990	12 05	04 10.09	+38 55.3					
1990	12 15	03 59.16	+38 10.8	1.809	2.739	156.2	8.3	16.2
1990	12 25	03 50.33	+37 12.6					
1991	01 04	03 44.50	+36 08.9	1.915	2.719	137.0	14.3	16.5

1966 CL a,e,i = 2.38, 0.17, 3 Elements MPC 11624

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 50.19	+18 48.2	2.037	2.767	128.2	16.4	18.5
1990	10 26	04 46.78	+18 34.5					
1990	11 05	04 40.62	+18 17.2	1.852	2.757	150.4	10.2	18.1
1990	11 15	04 32.09	+17 57.0					
1990	11 25	04 21.95	+17 35.1	1.762	2.745	173.9	2.2	17.6
1990	12 05	04 11.32	+17 13.8					
1990	12 15	04 01.35	+16 55.8	1.788	2.730	159.2	7.4	17.9
1990	12 25	03 53.11	+16 44.1					
1991	01 04	03 47.33	+16 40.7	1.921	2.713	135.7	14.7	18.3

1986 RO1 a,e,i = 2.23, 0.08, 2 Elements MPC 14788

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 51.32	+25 03.5	1.646	2.385	127.3	19.4	17.3
1990	10 26	04 48.80	+25 03.5					
1990	11 05	04 42.86	+24 55.5	1.473	2.379	149.1	12.4	16.9
1990	11 15	04 33.89	+24 38.0					
1990	11 25	04 22.83	+24 10.6	1.388	2.371	173.4	2.7	16.3
1990	12 05	04 11.15	+23 35.1					
1990	12 15	04 00.37	+22 55.9	1.412	2.362	160.3	8.1	16.6
1990	12 25	03 51.86	+22 18.5					
1991	01 04	03 46.50	+21 48.2	1.537	2.351	136.7	16.7	17.1

(4223) Shikoku a,e,i = 3.01, 0.10, 9 Elements MPC 15237

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 47.61	+28 54.2	2.139	2.856	127.4	16.1	16.3
1990	10 26	04 44.82	+28 43.4					
1990	11 05	04 39.38	+28 22.9	1.980	2.875	148.9	10.3	16.0
1990	11 15	04 31.78	+27 51.7					
1990	11 25	04 22.81	+27 10.0	1.914	2.894	171.4	2.9	15.6
1990	12 05	04 13.56	+26 20.0					
1990	12 15	04 05.11	+25 25.8	1.964	2.914	161.5	6.2	15.8
1990	12 25	03 58.37	+24 32.2					
1991	01 04	03 53.95	+23 43.9	2.123	2.934	138.7	12.8	16.2

1979 MJ5 a,e,i = 2.25, 0.07, 4 Elements MPC 13455

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 49.00	+16 41.7	1.399	2.166	128.6	21.1	17.3
1990	10 26	04 48.01	+16 07.1					
1990	11 05	04 43.49	+15 27.9	1.238	2.152	149.6	13.5	16.8
1990	11 15	04 35.80	+14 46.7					
1990	11 25	04 25.86	+14 07.5	1.159	2.140	171.0	4.2	16.3
1990	12 05	04 15.14	+13 34.8					
1990	12 15	04 05.25	+13 13.2	1.182	2.128	158.4	9.8	16.6
1990	12 25	03 57.62	+13 06.1					
1991	01 04	03 53.18	+13 14.6	1.297	2.118	136.0	18.8	17.0

1988 CU7 a,e,i = 2.34, 0.04, 6 Elements MPC 14621

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 56.30	+30 28.1	1.665	2.383	125.2	20.0	16.9
1990	10 26	04 54.02	+31 06.0					
1990	11 05	04 48.13	+31 35.7	1.504	2.392	146.1	13.4	16.5
1990	11 15	04 38.98	+31 53.0					
1990	11 25	04 27.55	+31 54.1	1.428	2.400	167.0	5.3	16.1
1990	12 05	04 15.36	+31 38.1					
1990	12 15	04 04.06	+31 07.7	1.458	2.407	160.2	8.0	16.2
1990	12 25	03 55.13	+30 29.1					
1991	01 04	03 49.46	+29 49.6	1.590	2.414	138.2	15.7	16.7

1978 SN4 a,e,i = 3.20, 0.18, 2 Elements MPC 11051

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 54.55	+22 33.1	2.320	3.025	126.9	15.3	17.0
1990	10 26	04 51.78	+22 33.0					
1990	11 05	04 46.62	+22 28.9	2.169	3.059	148.6	9.7	16.7
1990	11 15	04 39.46	+22 20.5					
1990	11 25	04 30.98	+22 08.2	2.113	3.094	172.4	2.4	16.3
1990	12 05	04 22.11	+21 52.9					
1990	12 15	04 13.78	+21 36.8	2.173	3.128	163.3	5.2	16.5
1990	12 25	04 06.83	+21 22.3					
1991	01 04	04 01.88	+21 11.7	2.345	3.163	140.1	11.5	17.0

5166 T-3 a,e,i = 2.60, 0.17, 13 Elements MPC 15910

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 58.30	+05 53.3	2.124	2.827	126.0	16.6	18.6
1990	10 26	04 55.37	+04 52.5					
1990	11 05	04 49.99	+03 54.6	1.982	2.854	145.4	11.4	18.3
1990	11 15	04 42.56	+03 04.1					
1990	11 25	04 33.75	+02 25.7	1.931	2.879	160.0	6.7	18.1
1990	12 05	04 24.49	+02 03.2					
1990	12 15	04 15.75	+01 58.5	1.991	2.902	152.8	8.9	18.2
1990	12 25	04 08.39	+02 11.7					
1991	01 04	04 03.05	+02 41.0	2.155	2.923	133.9	14.0	18.6

(4116) Elachi a,e,i = 1.87, 0.08, 24 Elements MPC 14772

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 56.32	-06 12.9	1.129	1.880	124.3	26.0	16.0
1990	10 26	04 57.03	-10 06.6					
1990	11 05	04 53.82	-13 57.0	1.019	1.860	135.3	22.0	15.6
1990	11 15	04 46.92	-17 24.9					
1990	11 25	04 37.20	-20 08.9	0.982	1.840	138.3	20.9	15.5
1990	12 05	04 26.22	-21 53.3					
1990	12 15	04 15.81	-22 31.6	1.014	1.820	131.2	24.0	15.6
1990	12 25	04 07.65	-22 06.8					
1991	01 04	04 02.91	-20 49.9	1.100	1.801	119.5	28.4	15.9

1988 LF a,e,i = 2.55, 0.06, 16 Elements MPC 13470

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 00.91	+04 52.2	1.709	2.425	125.2	19.6	16.0
1990	10 26	04 59.19	+04 34.5					
1990	11 05	04 54.42	+04 24.4	1.541	2.418	144.5	13.8	15.5
1990	11 15	04 46.88	+04 26.2					
1990	11 25	04 37.28	+04 43.9	1.455	2.413	161.7	7.4	15.2
1990	12 05	04 26.76	+05 19.8					
1990	12 15	04 16.61	+06 13.7	1.475	2.408	156.2	9.5	15.3
1990	12 25	04 08.08	+07 23.5					
1991	01 04	04 02.09	+08 45.5	1.595	2.405	136.4	16.4	15.7

1081 T-3 a,e,i = 2.61, 0.22, 12 Elements MPC 14971

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 03.84	+21 26.3	1.833	2.538	124.8	18.8	17.2
1990	10 26	05 01.29	+20 34.6					
1990	11 05	04 55.77	+19 35.9	1.699	2.586	146.7	12.1	16.9
1990	11 15	04 47.75	+18 31.9					
1990	11 25	04 38.10	+17 25.7	1.654	2.632	170.3	3.6	16.5
1990	12 05	04 28.00	+16 21.5					
1990	12 15	04 18.61	+15 24.1	1.723	2.678	162.3	6.4	16.8
1990	12 25	04 10.97	+14 37.7					
1991	01 04	04 05.75	+14 04.7	1.901	2.722	139.2	13.7	17.3

5010 T-3 a,e,i = 5.13, 0.01, 12 Elements MPC 14206

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 55.20	+08 15.3	4.443	5.105	127.0	9.0	17.3
1990	10 26	04 52.98	+07 49.5					
1990	11 05	04 49.57	+07 25.0	4.249	5.106	146.7	6.1	17.1
1990	11 15	04 45.19	+07 03.5					
1990	11 25	04 40.12	+06 46.3	4.156	5.108	163.0	3.2	16.9
1990	12 05	04 34.74	+06 34.7					
1990	12 15	04 29.45	+06 29.6	4.181	5.109	158.5	4.1	17.0
1990	12 25	04 24.63	+06 31.6					
1991	01 04	04 20.62	+06 40.7	4.322	5.111	139.6	7.2	17.2

1978 PJ2 a,e,i = 3.13, 0.15, 5 Elements MPC 11632

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 01.22	+17 28.3	1.960	2.667	125.7	17.7	17.0
1990	10 26	05 00.55	+16 59.1					
1990	11 05	04 57.19	+16 27.0	1.785	2.668	146.4	11.9	16.6
1990	11 15	04 51.41	+15 53.7					
1990	11 25	04 43.84	+15 21.4	1.697	2.671	168.2	4.3	16.2
1990	12 05	04 35.43	+14 53.0					
1990	12 15	04 27.25	+14 31.1	1.718	2.677	163.6	5.9	16.3
1990	12 25	04 20.35	+14 18.3					
1991	01 04	04 15.51	+14 15.7	1.845	2.685	141.5	13.2	16.7

(4250) Perun a,e,i = 3.16, 0.12, 3 Elements MPC 15394

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 06.51	+23 03.1	2.580	3.246	124.1	14.7	16.8
1990	10 26	05 04.17	+23 06.2					
1990	11 05	04 59.53	+23 06.4	2.401	3.267	145.6	9.9	16.5
1990	11 15	04 52.88	+23 02.9					
1990	11 25	04 44.77	+22 55.8	2.314	3.288	169.1	3.2	16.2
1990	12 05	04 36.00	+22 45.4					
1990	12 15	04 27.43	+22 32.9	2.344	3.309	166.5	4.0	16.3
1990	12 25	04 19.91	+22 20.4					
1991	01 04	04 14.12	+22 10.1	2.490	3.329	143.1	10.2	16.7

1989 QE a,e,i = 3.15, 0.14, 12 Elements MPC 15255

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 11.12	+38 10.9	2.613	3.235	120.5	15.4	16.4
1990	10 26	05 08.70	+38 47.6					
1990	11 05	05 03.52	+39 16.2	2.437	3.260	140.1	11.3	16.1
1990	11 15	04 55.90	+39 33.0					
1990	11 25	04 46.47	+39 34.8	2.346	3.284	158.4	6.3	15.9
1990	12 05	04 36.21	+39 20.0					
1990	12 15	04 26.22	+38 49.3	2.366	3.308	159.9	5.9	15.9
1990	12 25	04 17.57	+38 06.4					
1991	01 04	04 11.04	+37 16.4	2.499	3.331	142.2	10.4	16.2

1979 SJ a,e,i = 2.33, 0.21, 5 Elements MPC 12143

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 16.42	+29 55.3	1.436	2.129	121.1	23.7	18.4
1990	10 26	05 15.69	+30 35.5					
1990	11 05	05 10.83	+31 08.9	1.312	2.178	141.6	16.4	18.1
1990	11 15	05 02.13	+31 31.3					
1990	11 25	04 50.58	+31 38.1	1.262	2.227	164.0	7.0	17.7
1990	12 05	04 37.82	+31 27.2					
1990	12 15	04 25.73	+31 00.5	1.313	2.277	164.5	6.6	17.8
1990	12 25	04 15.96	+30 24.2					
1991	01 04	04 09.56	+29 45.7	1.467	2.326	142.6	14.9	18.4

1986 SF a,e,i = 2.26, 0.18, 4 Elements MPC 14949

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 17.18	+28 14.1	1.957	2.615	121.1	19.0	17.9
1990	10 26	05 15.00	+28 32.8					
1990	11 05	05 09.52	+28 46.3	1.776	2.633	142.5	13.3	17.5
1990	11 15	05 00.98	+28 51.9					
1990	11 25	04 50.09	+28 47.0	1.679	2.647	165.8	5.2	17.1
1990	12 05	04 38.06	+28 30.4					
1990	12 15	04 26.26	+28 03.8	1.694	2.659	165.7	5.2	17.1
1990	12 25	04 16.08	+27 31.0					
1991	01 04	04 08.51	+26 57.4	1.821	2.668	142.3	13.0	17.6

3051 P-L a,e,i = 2.61, 0.17, 12 Elements MPC 15074

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 11.47	+19 08.3	2.047	2.724	123.2	17.8	18.0
1990	10 26	05 09.33	+18 17.5					
1990	11 05	05 04.43	+17 21.7	1.887	2.757	144.7	12.0	17.7
1990	11 15	04 57.12	+16 22.7					
1990	11 25	04 48.08	+15 23.3	1.817	2.788	167.3	4.5	17.4
1990	12 05	04 38.33	+14 27.2					
1990	12 15	04 28.92	+13 38.2	1.861	2.819	163.5	5.7	17.5
1990	12 25	04 20.88	+12 59.8					
1991	01 04	04 14.93	+12 33.8	2.017	2.847	140.8	12.6	18.0

2170 T-2 a,e,i = 2.55, 0.14, 14 Elements MPC 14965

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 09.49	+07 34.2	2.225	2.895	123.4	16.7	18.8
1990	10 26	05 07.45	+06 24.7					
1990	11 05	05 02.93	+05 15.6	2.044	2.897	142.8	11.9	18.5
1990	11 15	04 56.20	+04 11.0					
1990	11 25	04 47.82	+03 15.8	1.954	2.897	159.0	7.0	18.2
1990	12 05	04 38.63	+02 34.6					
1990	12 15	04 29.58	+02 10.6	1.973	2.895	154.9	8.3	18.3
1990	12 25	04 21.61	+02 05.2					
1991	01 04	04 15.46	+02 17.7	2.099	2.891	136.3	13.6	18.6

(4348) 1988 RU a,e,i = 5.24, 0.10, 8 Elements MPC 15694

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	04 59.87	+18 33.2	4.216	4.869	126.0	9.5	16.2
1990	10 26	04 57.80	+18 14.8					
1990	11 05	04 54.41	+17 54.8	4.018	4.880	147.1	6.3	16.0
1990	11 15	04 49.92	+17 33.9					
1990	11 25	04 44.65	+17 13.0	3.920	4.892	168.7	2.3	15.7
1990	12 05	04 39.01	+16 52.9					
1990	12 15	04 33.45	+16 34.9	3.943	4.904	166.0	2.8	15.8
1990	12 25	04 28.39	+16 19.9					
1991	01 04	04 24.23	+16 08.9	4.086	4.917	144.1	6.7	16.1

(4470) 1978 QP1 a,e,i = 3.13, 0.17, 2 Elements MPC 16407

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 09.46	+20 20.6	2.549	3.210	123.6	15.0	17.3
1990	10 26	05 07.15	+20 14.0					
1990	11 05	05 02.55	+20 05.3	2.378	3.241	145.1	10.1	17.0
1990	11 15	04 55.97	+19 54.7					
1990	11 25	04 47.93	+19 42.5	2.299	3.273	168.5	3.4	16.7
1990	12 05	04 39.24	+19 29.7					
1990	12 15	04 30.74	+19 17.7	2.337	3.303	166.6	4.0	16.8
1990	12 25	04 23.25	+19 08.2					
1991	01 04	04 17.45	+19 02.8	2.492	3.332	143.2	10.2	17.2

1981 EX41 a,e,i = 3.17, 0.17, 1 Elements MPC 12796

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 02.16	+21 26.6	1.772	2.647	145.2	12.4	17.0
1990	11 15	04 56.37	+21 11.7					
1990	11 25	04 48.63	+20 53.7	1.684	2.659	168.4	4.3	16.6
1990	12 05	04 39.94	+20 34.0					
1990	12 15	04 31.41	+20 14.6	1.705	2.673	167.0	4.7	16.7
1990	12 25	04 24.15	+19 58.2					
1991	01 04	04 19.02	+19 47.3	1.834	2.690	143.8	12.5	17.1
1991	01 14	04 16.45	+19 43.3					
1991	01 24	04 16.64	+19 46.8	2.046	2.709	122.9	17.8	17.5

(4080) 1983 PW a,e,i = 2.19, 0.21, 4 Elements MPC 14602

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 12.01	+20 41.5	1.354	2.227	142.9	15.6	16.4
1990	11 15	05 03.56	+20 07.3					
1990	11 25	04 52.63	+19 29.7	1.300	2.274	167.4	5.4	16.0
1990	12 05	04 40.67	+18 51.3					
1990	12 15	04 29.27	+18 15.8	1.352	2.319	165.9	5.9	16.2
1990	12 25	04 19.86	+17 47.5					
1991	01 04	04 13.40	+17 29.3	1.510	2.363	141.9	14.9	16.8
1991	01 14	04 10.23	+17 22.5					
1991	01 24	04 10.36	+17 26.6	1.745	2.404	120.9	20.6	17.3

1978 SB3 a,e,i = 2.47, 0.21, 4 Elements MPC 15700

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 09.91	+30 08.1	1.231	2.104	142.1	16.8	16.4
1990	11 15	05 02.70	+30 15.4					
1990	11 25	04 52.56	+30 08.1	1.176	2.144	164.6	7.0	16.0
1990	12 05	04 41.10	+29 45.3					
1990	12 15	04 30.15	+29 09.6	1.218	2.186	166.2	6.2	16.0
1990	12 25	04 21.38	+28 27.2					
1991	01 04	04 15.86	+27 45.0	1.359	2.231	144.0	15.0	16.6
1991	01 14	04 13.98	+27 08.7					
1991	01 24	04 15.66	+26 40.9	1.578	2.277	123.7	21.1	17.2

1983 CE a,e,i = 2.65, 0.11, 14 Elements MPC 14189

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 11.96	+05 48.8	1.909	2.751	140.9	13.2	16.8
1990	11 15	05 05.74	+05 27.7					
1990	11 25	04 57.46	+05 17.5	1.784	2.729	159.2	7.4	16.4
1990	12 05	04 47.97	+05 21.5					
1990	12 15	04 38.27	+05 41.2	1.765	2.708	159.1	7.5	16.4
1990	12 25	04 29.46	+06 16.8					
1991	01 04	04 22.47	+07 06.6	1.855	2.685	140.2	13.5	16.7
1991	01 14	04 17.91	+08 07.9					
1991	01 24	04 16.09	+09 17.6	2.028	2.662	120.2	18.6	17.0

1981 EW45 a,e,i = 3.24, 0.11, 5 Elements MPC 12715

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 10.68	+18 25.1	2.177	3.030	143.2	11.3	18.2
1990	11 15	05 05.01	+17 59.5					
1990	11 25	04 57.65	+17 33.6	2.081	3.048	165.9	4.5	17.9
1990	12 05	04 49.39	+17 09.0					
1990	12 15	04 41.12	+16 47.6	2.097	3.066	167.7	3.9	17.9
1990	12 25	04 33.74	+16 31.4					
1991	01 04	04 28.02	+16 21.9	2.228	3.085	145.0	10.5	18.3
1991	01 14	04 24.39	+16 19.8					
1991	01 24	04 23.10	+16 25.3	2.449	3.104	123.7	15.3	18.6

1988 TU2 a,e,i = 5.14, 0.02, 26 Elements MPC 15892

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 05.25	+23 48.9	4.294	5.132	144.2	6.5	16.1
1990	11 15	05 00.57	+23 16.8					
1990	11 25	04 55.06	+22 41.8	4.169	5.135	166.8	2.5	15.9
1990	12 05	04 49.10	+22 04.8					
1990	12 15	04 43.14	+21 27.0	4.166	5.138	170.0	1.9	15.9
1990	12 25	04 37.62	+20 50.0					
1991	01 04	04 32.92	+20 15.2	4.289	5.142	147.1	6.0	16.1
1991	01 14	04 29.34	+19 43.9					
1991	01 24	04 27.08	+19 17.1	4.515	5.145	125.2	9.0	16.4

1986 RW2 a,e,i = 2.36, 0.16, 2 Elements MPC 11519

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 19.14	+24 17.4	1.331	2.193	141.0	16.5	16.6
1990	11 15	05 12.12	+24 21.7					
1990	11 25	05 02.20	+24 19.9	1.261	2.229	165.0	6.6	16.2
1990	12 05	04 50.74	+24 11.5					
1990	12 15	04 39.38	+23 57.5	1.291	2.266	169.3	4.6	16.2
1990	12 25	04 29.74	+23 41.5					
1991	01 04	04 22.97	+23 27.4	1.426	2.303	145.3	14.1	16.8
1991	01 14	04 19.60	+23 18.6					
1991	01 24	04 19.72	+23 16.7	1.642	2.341	124.1	20.4	17.3

1979 YO a,e,i = 2.40, 0.07, 8 Elements MPC 12941

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 18.36	+11 55.4	1.686	2.532	140.8	14.3	16.9
1990	11 15	05 11.78	+11 35.4					
1990	11 25	05 02.88	+11 22.0	1.584	2.542	162.2	6.8	16.5
1990	12 05	04 52.63	+11 17.2					
1990	12 15	04 42.21	+11 22.9	1.589	2.550	164.2	6.0	16.5
1990	12 25	04 32.88	+11 39.8					
1991	01 04	04 25.67	+12 07.5	1.702	2.557	143.0	13.4	16.9
1991	01 14	04 21.16	+12 44.7					
1991	01 24	04 19.61	+13 29.5	1.900	2.563	122.1	19.0	17.3

(4019) 1981 EK14 a,e,i = 2.34, 0.13, 2 Elements MPC 14331

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 19.08	+24 32.0	1.180	2.048	141.0	17.7	17.6
1990	11 15	05 13.75	+24 14.8					
1990	11 25	05 05.15	+23 50.2	1.089	2.057	164.4	7.4	17.1
1990	12 05	04 54.62	+23 18.6					
1990	12 15	04 43.88	+22 42.9	1.093	2.070	170.3	4.6	17.0
1990	12 25	04 34.74	+22 07.9					
1991	01 04	04 28.55	+21 38.6	1.195	2.086	146.3	15.2	17.6
1991	01 14	04 25.96	+21 18.6					
1991	01 24	04 27.10	+21 09.1	1.374	2.104	125.5	22.4	18.2

1983 AD a,e,i = 2.56, 0.12, 10 Elements MPC 11619

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 20.73	+21 22.5	1.575	2.426	140.8	15.0	17.6
1990	11 15	05 14.93	+21 56.5					
1990	11 25	05 06.24	+22 31.2	1.436	2.401	164.3	6.4	17.1
1990	12 05	04 55.59	+23 04.6					
1990	12 15	04 44.30	+23 34.9	1.401	2.377	170.5	3.9	16.9
1990	12 25	04 33.92	+24 01.9					
1991	01 04	04 25.82	+24 27.0	1.475	2.355	146.0	13.5	17.4
1991	01 14	04 20.85	+24 52.2					
1991	01 24	04 19.44	+25 19.3	1.632	2.334	124.4	20.4	17.8

1982 RK1 a,e,i = 2.40, 0.21, 4 Elements MPC 11154

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 24.89	+27 14.6	1.750	2.584	139.4	14.5	18.5
1990	11 15	05 17.37	+27 08.5					
1990	11 25	05 07.38	+26 54.2	1.663	2.623	163.2	6.3	18.1
1990	12 05	04 56.03	+26 31.1					
1990	12 15	04 44.66	+26 00.6	1.685	2.660	170.2	3.6	18.1
1990	12 25	04 34.61	+25 26.2					
1991	01 04	04 26.91	+24 52.4	1.821	2.695	146.3	11.7	18.6
1991	01 14	04 22.09	+24 23.1					
1991	01 24	04 20.34	+24 00.7	2.047	2.727	124.4	17.3	19.0

(4192) 1981 DH a,e,i = 3.20, 0.17, 1 Elements MPC 15223

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 17.75	+22 41.7	2.392	3.227	141.5	11.0	16.2
1990	11 15	05 11.73	+22 33.5					
1990	11 25	05 04.04	+22 22.4	2.297	3.260	164.8	4.6	15.9
1990	12 05	04 55.42	+22 08.8					
1990	12 15	04 46.73	+21 53.7	2.317	3.293	170.9	2.7	15.9
1990	12 25	04 38.84	+21 38.8					
1991	01 04	04 32.48	+21 26.0	2.455	3.324	147.2	9.2	16.3
1991	01 14	04 28.13	+21 17.0					
1991	01 24	04 26.04	+21 12.9	2.689	3.355	125.3	13.9	16.7

1983 TN1 a,e,i = 2.24, 0.04, 3 Elements MPC 13170

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 05	05 22.57	+22 31.6	1.297	2.156	140.4	17.1	16.0
1990	11 15	05 16.62	+22 05.2					
1990	11 25	05 07.55	+21 33.7	1.196	2.162	164.0	7.2	15.5
1990	12 05	04 56.57	+20 58.2					
1990	12 15	04 45.32	+20 21.6	1.192	2.169	170.2	4.4	15.4
1990	12 25	04 35.48	+19 48.5					
1991	01 04	04 28.39	+19 23.0	1.292	2.177	145.8	14.7	16.0
1991	01 14	04 24.73	+19 07.9					
1991	01 24	04 24.71	+19 03.8	1.470	2.185	124.6	21.8	16.5