

ELEMENTS AND OPPOSITION DATES OF SOME UNUSUAL MINOR PLANETS

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	<i>q</i>	<i>Q</i>	<i>T</i>	Oppos.	<i>V</i>
944 Hidalgo	10.77	X	330.08950	56.68190	21.42209	42.52357	0.6609138	0.07163685	5.74	1.95	9.54	Jc	9 18.3	17.0
1922 Zulu	12.3	X	221.75902	31.40403	226.53338	35.44871	0.4818321	0.16935604	3.24	1.68	4.79	Ja	12 28.6	18.8
1951 Lick	14.1	X	221.31827	140.52084	130.75050	39.09148	0.0615540	0.60113955	1.39	1.30	1.48	Mc	—	—
2335 James	13.4	X	272.12101	79.43875	19.99257	36.32058	0.3599891	0.31853214	2.12	1.36	2.89	Mc	9 16.1	17.0
3040 Kozai	13.8	X	213.40985	290.18706	143.50944	46.63983	0.2004366	0.39468936	1.84	1.47	2.21	Mc	6 16.5	17.7
3552 Don Quixote	12.9	X	332.46512	316.42068	350.02584	31.09155	0.7088912	0.11213128	4.26	1.24	7.28	Jc	3 12.5	18.7
3688 Navajo	15.1	X	114.79653	137.90681	19.96850	2.55946	0.4785150	0.17047898	3.22	1.68	4.76	Ja	7 30.7	20.9
4587 Rees	15.3	X	96.16209	83.93932	180.40425	24.62797	0.5085724	0.22728630	2.66	1.31	4.01	Mc	11 22.1	20.8
5164 Mullo	13.0	X	228.13118	67.67350	53.76590	19.26615	0.4980609	0.13869472	3.70	1.86	5.54	Jc	8 19.9	20.2
5201 Ferraz-Mello	14.7	X	296.74515	114.74143	17.45768	3.28365	0.4576544	0.15947345	3.37	1.83	4.91	Ja	10 14.9	19.0
5261 Eureka	16.1	X	99.67772	95.54182	245.04453	20.28178	0.0648413	0.52411652	1.52	1.42	1.62	MT	—	—
5324 Lyapunov	15.5	X	325.28236	320.99189	352.32190	19.60276	0.6045226	0.19098504	2.99	1.18	4.79	Ja	3 17.2	20.4
5335 Pamlac	13.3	X	236.35557	191.26353	314.13619	61.87489	0.4664033	0.02423575	11.83	1.57	22.08	Jc	8 10.6	26.5
5349 Paulharris	12.9	X	53.39071	80.53910	1.84932	28.52473	0.8664033	0.21175375	2.79	1.49	4.09	Mc	—	—
5370 Taranis	15.2	X	27.91423	161.27417	177.84522	19.13119	0.6358663	0.16235731	3.33	1.21	5.44	Jc	—	—
6130 Hutton	16.6	X	159.64459	189.65748	139.34307	23.74709	0.5417035	0.19223266	2.97	1.36	4.58	Mc	1 25.0	22.5
6144 Kondojiro	11.6	X	91.61110	96.26312	117.13197	19.60276	0.3621358	0.09498585	4.76	3.03	6.48	Jc	9 7.6	18.6
6564 Asher	16.1	X	301.86355	330.52307	194.58016	45.29846	0.2660059	0.38181661	1.88	1.38	2.38	Mc	—	—
6909 Levison	13.7	X	17.04299	75.62527	308.27670	38.01074	0.4671258	0.21929449	2.72	1.45	4.00	Mc	—	—
7096 Napier	15.1	X	132.16909	255.44425	148.48011	11.18219	0.50341882	0.21251769	2.78	1.38	4.18	Mc	4 1.9	20.2
7604 Kridsadaporn	13.2	X	337.37324	266.26294	147.23978	20.44972	0.5740299	0.17939668	3.11	1.33	4.90	Ja	8 23.3	15.2
8373 Stephengould	14.0	X	97.62897	55.94979	88.86633	40.79131	0.55407237	0.16601600	3.28	1.46	5.10	Jc	7 6.7	19.9
9082 Leonardmartin	14.0	X	43.53660	281.02664	51.46925	30.33828	0.4270109	0.21775779	2.74	1.57	3.90	Mc	12 15.2	18.1
9767 Midsomer Norton	16.4	X	28.85174	231.09979	331.37483	21.49732	0.5698884	0.15846415	3.38	1.45	5.31	Jc	6 16.7	18.5
9969 Braille	15.8	X	16.88042	356.11384	241.95471	28.99867	0.4334423	0.27516623	2.34	1.33	3.36	Mc	2 8.5	18.7
14222 1999 WS ₁	14.0	X	125.76147	84.85826	229.18266	17.17626	0.5444212	0.18076015	3.10	1.41	4.78	Ja	—	—
15504 1999 RG ₃₃	12.1	X	239.63814	273.54412	23.67885	34.89154	0.7727530	0.03424318	9.39	2.13	16.65	Jc	2 13.7	24.2
16724 1995 YV ₃	13.9	X	282.86691	276.45881	118.90332	29.82069	0.4389094	0.21130688	2.79	1.57	4.02	Mc	6 13.5	19.1
16868 1998 AK ₈	16.6	X	46.51970	11.77881	126.79534	48.22878	0.1820713	0.40885158	1.80	1.47	2.13	Mc	—	—
16958 Klaasen	14.9	X	335.90374	53.59502	152.40285	41.95508	0.2888610	0.34638700	2.01	1.43	2.59	Mc	—	—
17493 Wildcat	14.5	X	238.51143	175.05136	274.18207	44.37969	0.4423095	0.21777566	2.74	1.53	3.95	Mc	7 6.2	20.0
18916 2000 OG ₄₄	14.5	X	74.83319	98.66203	301.59513	7.40556	0.5851641	0.13040533	3.85	1.60	6.10	Jc	2 27.2	19.6
20086 1994 LW	16.8	X	25.17872	57.85609	237.24078	21.78014	0.6226847	0.17344205	3.18	1.20	5.17	Jc	11 7.9	20.0
20461 Dioretsa	13.8	X	55.01240	102.90688	297.53537	160.41922	0.8989683	0.00845304	23.87	2.41	45.32	Jc	11 4.1	28.6
20898 Fountainhills	11.1	X	305.73818	234.76641	293.19336	45.51881	0.4654996	0.11355776	4.22	2.26	6.19	Jc	12 11.1	16.7
26166 1995 QN ₃	16.8	X	263.87108	62.80101	185.75774	14.79463	0.6451429	0.16442502	3.30	1.17	5.43	Jc	—	—
30512 2001 HO ₈	12.7	X	96.26368	43.40387	128.47981	25.72642	0.3239517	0.13090010	3.84	2.60	5.09	Jc	7 19.8	18.6
32511 2001 NX ₁₇	12.8	X	160.57389	345.40382	185.74271	8.94246	0.4279460	0.08735395	5.03	2.88	7.18	Jc	12 18.8	21.2
34759 2001 QL ₁₅₁	13.8	X	185.63038	81.99307	350.83629	28.15481	0.4261691	0.22004395	2.72	1.56	3.88	Mc	5 16.1	19.8
37117 Narcissus	13.1	X	332.86148	180.22005	248.52479	13.80396	0.5535270	0.05463834	6.88	3.07	10.69	Jc	8 31.5	19.6
37384 2001 WU ₁	14.8	X	262.56737	81.75770	63.10197	20.50832	0.5651722	0.17568257	3.16	1.37	4.94	Ja	10 1.3	20.8
39774 1997 GO ₂₇	18.4	X	259.08191	139.33844	188.84509	17.89769	0.0709614	0.58158134	1.42	1.32	1.52	Mc	—	—
40245 1998 WO ₇	16.3	X	25.10891	330.57671	78.25646	45.79083	0.3043599	0.31652306	2.13	1.48	2.78	Mc	—	—
52007 2002 EQ ₄₇	13.4	X	20.34833	53.77683	348.41443	15.15518	0.2223119	0.11141856	4.28	3.33	5.23	Jc	12 25.5	18.7
65407 2002 RP ₁₂₀	12.3	X	13.38572	357.90218	39.29836	118.91516	0.9547155	0.00245768	54.38	2.46	106.30	Jc	5 22.7	27.0
79512 1998 KE ₃	15.4	X	227.68606	130.61747	62.92407	47.93292	0.2528197	0.33607990	2.05	1.53	2.57	Mc	11 25.8	18.0
85490 1997 SE ₅	14.7	X	284.88108	93.60470	248.27724	2.55299	0.6631037	0.13515455	3.76	1.27	6.25	Jc	3 26.9	21.7
96177 1984 BC	16.1	X	46.10122	43.70633	129.44553	21.35570	0.5338189	0.15093689	3.49	1.63	5.36	Jc	6 21.3	19.8
101058 1998 RN ₃	15.4	X	112.73120	83.27895	349.27978	21.15392	0.5120058	0.17640363	3.15	1.54	4.76	Ja	4 14.6	21.1
101429 1998 VF ₃₁	17.1	X	255.68629	310.54807	221.31259	31.29799	0.1003208	0.52376433	1.52	1.37	1.68	MT	—	—
101795 1999 HX ₂	15.1	X	57.53789	156.46780	135.61124	19.43764	0.5481118	0.17666758	3.15	1.42	4.87	Ja	12 2.3	20.4
102528 1999 US ₃	13.6	X	314.90467	181.63102	268.21141	29.08660	0.5228003	0.21579952	2.75	1.31	4.19	Ja	8 19.1	17.6
115916 2003 WB ₈	14.1	X	92.99281	351.96507	124.98472	20.28024	0.5551725	0.16916678	3.24	1.44	5.04	Jc	6 8.9	19.7
118624 2000 HR ₂₄	13.1	X	207.06022	353.51951	223.34563	15.54068	0.1757910	0.08960114	4.95	4.08	5.82	Jc	11 24.3	20.4
119039 2001 FZ ₉₁	13.6	X	258.75944	185.43116	27.71371	11.77590	0.2406653	0.10813123	4.36	3.31	5.41	Jc	12 29.8	20.0
121514 1999 UJ ₇	17.0	X	184.05647	48.40573	347.37358	16.74882	0.0392048	0.52360072	1.52	1.46	1.58	MT	—	—
136620 1994 JC	15.1	X	288.76421	138.27592	37.28356	31.24346	0.5198942	0.16095032	3.35	1.61	5.09	Jc	11 11.9	20.1
137184 1999 JG ₆₃	14.1	X	191.45762	248.14118	50.25232	8.01982	0.5575807	0.19373091	2.96	1.31	4.61	Mc	1 7.1	20.3
139359 2001 ME ₁	16.6	X	259.88406	301.80702	85.03662	5.90598	0.8693253	0.22941399	2.64	0.35	4.94	Ja	4 26.2	23.1
143243 2002 YA ₂₆	14.0	X	240.64110	233.60554	107.29553	19.04232	0.4467825	0.16480716	3.29	1.82	4.77	Ja	3 22.9	20.6
144870 2004 MA ₈	14.5	X	116.13753	185.42674	32.72199	13.16368	0.5473914	0.16667368	3.27	1.48	5.06	Jc	10 12.2	20.9
144908 2004 YH ₃₂	12.9	X	186.59400	348.85252	47.72605	78.97454	0.5648762	0.04226445	8.16	3.55	12.77	Jc	5 9.4	23.9
145485 2005 UN ₃₉₈	14.3	X	79.50522	233.72528	141.17793	11.54998	0.5180088	0.10008320	4.59	2.21	6.97	Jc	2 2.8	20.5
145627 2006 RY ₁₀₂	11.1	X	193.70251	346.35161	94.64272	18.74773	0.2749457	0.06144842	6.36	4.61	8.11	Jc	6 18.1	20.0
152667 1998 FR ₁₁														

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ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	<i>q</i>	<i>Q</i>	<i>T</i>	Oppos.	<i>V</i>
214088 2004 JN ₁₃	15.3	X	212.71610	278.87255	85.53518	13.29515	0.6926766	0.20071461	2.89	0.89	4.89	Ja	3 31.5	22.0
219844 2002 CQ ₁₄₈	13.5	X	226.92224	169.47974	233.60234	2.37002	0.0780477	0.08711432	5.04	4.65	5.43	Jc	6 7.9	20.4
228862 2003 GX ₃₁	14.3	X	194.37761	136.00261	48.96638	10.73889	0.2270604	0.10383432	4.48	3.47	5.50	Jc	10 13.1	21.5
237838 2002 EV ₇₁	14.8	X	299.85866	132.12603	353.97635	10.95235	0.3142262	0.11138587	4.28	2.93	5.62	Jc	10 26.8	20.3
248083 2004 QU ₂₄	16.1	X	34.44292	270.87456	189.58405	23.34249	0.6137840	0.16256430	3.32	1.28	5.37	Jc	—	—
248590 2006 CS	16.3	X	103.19871	346.42909	172.40304	52.35957	0.6982747	0.19842628	2.91	0.88	4.94	Ja	8 11.2	22.6
249047 2007 TC ₉₁	14.1	X	224.36696	4.42053	202.61022	16.06705	0.0934773	0.10794119	4.37	3.96	4.78	Ja	12 5.9	20.6
250706 2005 RR ₆	18.5	X	115.85182	58.95514	28.10800	6.95221	0.6961687	0.19229919	2.97	0.90	5.04	Jc	5 23.7	24.4
267494 2002 JB ₉	15.9	X	129.46825	277.94429	70.32868	46.75758	0.7845460	0.22006290	2.72	0.59	4.85	Ja	3 9.3	22.3
275618 2000 AU ₂₄₂	13.9	X	226.39674	335.95700	207.99774	9.47303	0.4894490	0.09344788	4.81	2.46	7.16	Jc	10 17.9	22.0
301964 2000 EJ ₃₇	13.5	X	235.14637	115.62305	178.41836	10.05700	0.7052037	0.09890028	4.63	1.37	7.90	Jc	1 20.8	22.3
303226 2004 NY ₃₀	14.6	X	18.56516	288.04975	114.22006	20.53054	0.4564928	0.16327589	3.32	1.80	4.83	Ja	—	—
306173 2010 NK ₈₃	13.7	X	155.39810	342.26786	103.20308	11.32868	0.5861633	0.06915217	5.88	2.43	9.32	Jc	6 7.2	23.1
306418 1998 KK ₅₆	16.3	X	143.14277	128.87817	104.16703	26.11912	0.4962876	0.17197175	3.20	1.61	4.79	Ja	11 14.9	23.2
306918 2001 UQ ₁₁	17.1	X	277.58918	234.88052	55.86653	3.87409	0.5080874	0.22614423	2.67	1.31	4.02	Mc	1 30.9	22.5
307005 2001 XP ₁	18.0	X	53.80139	246.37551	268.06608	39.21579	0.7527532	0.20056121	2.89	0.71	5.07	Jc	7 5.8	21.8
307286 2002 PA ₉₆	15.3	X	153.08955	69.06192	319.66889	23.05378	0.4926240	0.16230750	3.33	1.69	4.97	Jc	3 17.3	21.9
307660 2003 SB ₂₂₀	15.8	X	255.80922	315.72499	87.06169	5.22716	0.5503304	0.19277258	2.97	1.33	4.60	Mc	5 25.0	21.8
308306 Dainere	16.2	X	56.05645	250.18655	84.97512	23.07804	0.5536387	0.17674957	3.14	1.40	4.89	Ja	—	—
308607 2005 WY ₃	13.5	X	198.71271	309.30722	190.01863	29.46394	0.7350050	0.05663965	6.72	1.78	11.65	Jc	8 12.7	24.2
310574 2001 SH ₂₆₂	17.0	X	82.73162	297.46153	148.43848	3.59780	0.5063944	0.20606282	2.84	1.40	4.28	Mc	4 9.1	20.3
310770 2002 RO ₂₅₁	15.7	X	329.95145	276.41752	79.23405	5.15827	0.2200185	0.12754284	3.91	3.05	4.77	Ja	7 25.9	20.4
311999 2007 NS ₂	18.1	X	344.01456	176.82600	282.48193	18.61970	0.0540152	0.52400521	1.52	1.44	1.61	MT	—	—
312978 1999 JG ₂₉	15.0	X	303.90504	327.30040	221.52191	19.70804	0.4089931	0.15088018	3.49	2.07	4.92	Ja	—	—
316720 1998 BE ₇	14.6	X	228.66635	303.02953	99.57201	14.97667	0.5143697	0.18299630	3.07	1.49	4.65	Mc	5 18.0	21.0
317958 2003 XG	15.3	X	204.70259	54.35734	308.21236	7.12696	0.5173422	0.17648855	3.15	1.52	4.78	Ja	3 18.6	21.8
318875 2005 TS ₁₀₀	13.8	X	286.29203	53.35876	23.49807	8.53582	0.1654107	0.07504921	5.57	4.65	6.49	Jc	9 9.9	20.9
322713 2000 KD ₄₁	16.8	X	261.67164	155.67963	150.67915	5.46085	0.5841723	0.15802296	3.39	1.41	5.37	Jc	2 11.5	23.6
323137 2003 BM ₈₀	15.3	X	190.26841	271.11619	9.35378	5.80992	0.1893624	0.11250842	4.25	3.44	5.05	Jc	11 20.9	22.1
329774 2004 LE	16.6	X	3.86735	185.20048	211.53476	40.46002	0.8375581	0.22917382	2.64	0.43	4.86	Ja	—	—
330759 2008 SO ₂₁₈	12.8	X	119.71615	354.60458	348.50297	170.31379	0.5653421	0.04265376	8.11	3.53	12.70	Jc	4 9.5	23.3
333948 1999 XG ₁₃₅	16.4	X	153.99582	36.53481	86.87643	11.38905	0.5044041	0.19382119	2.96	1.47	4.45	Mc	7 11.8	22.4
337074 1998 HU ₁₀₈	17.0	X	84.48232	195.87415	63.05637	9.27839	0.5135264	0.21730557	2.74	1.33	4.15	Mc	11 8.5	21.9
347449 2012 TW ₂₃₆	12.5	X	42.60901	325.79625	180.28359	11.90037	0.5707999	0.05337880	6.99	3.00	10.97	Jc	6 2.2	19.7
351370 2005 EY	17.2	X	30.70335	185.72990	62.42374	17.24129	0.8909053	0.24689802	2.52	0.27	4.76	Ja	11 9.2	21.0
355256 2007 KN ₄	16.8	X	249.92387	51.16790	232.44805	12.54170	0.6308417	0.16142871	3.34	1.23	5.45	Jc	1 11.0	23.9
361861 2008 ED ₆₉	17.0	X	309.16187	173.21717	149.56627	36.32677	0.7391761	0.19826171	2.91	0.76	5.07	Jc	3 8.7	22.8
363135 2001 QK ₁₉₉	12.8	X	97.67785	193.56378	121.98096	42.54060	0.4288483	0.08018008	5.33	3.04	7.61	Jc	3 14.2	20.7
365246 2009 NE	15.9	X	289.00515	198.80336	230.43759	35.15245	0.8652195	0.22562464	2.67	0.36	4.98	Jc	6 11.2	22.0
365756 ISON	14.3	X	159.06057	268.54599	220.01498	19.97523	0.5242593	0.07197608	5.72	2.72	8.72	Jc	7 17.8	23.7
366343 1994 LC ₁	16.6	X	310.92751	317.94030	14.53426	12.54192	0.5166741	0.20677133	2.83	1.37	4.30	Mc	4 6.4	21.4
371522 2006 UG ₁₈₅	14.0	X	50.29702	302.27124	131.74865	20.04449	0.1272180	0.09348979	4.81	4.20	5.42	Jc	1 10.6	20.0
376764 1999 XS ₁₆	15.4	X	149.30631	99.14430	77.37568	10.08000	0.5366420	0.19553287	2.94	1.36	4.52	Mc	9 13.3	21.6
380199 2000 YQ ₂₉	15.9	X	261.54303	106.72543	116.47833	13.88443	0.5080529	0.22404659	2.68	1.32	4.05	Mc	12 25.3	20.1
380282 2002 AO ₁₄₈	13.0	X	40.63040	209.13042	328.67794	19.12374	0.2674539	0.07190416	5.73	4.20	7.26	Jc	5 5.8	19.8
381050 2006 WR ₃	15.8	X	208.65030	154.77286	275.14749	48.75907	0.4366348	0.14327598	3.62	2.04	5.20	Jc	6 13.4	22.6
385268 2001 RC ₁₂	15.7	X	270.43962	185.42775	208.93807	27.37084	0.6412328	0.17073394	3.22	1.15	5.28	Jc	5 17.8	22.2
385571 Otrera	8.8	X	355.58253	3.46763	34.75857	1.43342	0.0233489	0.00598971	30.03	29.33	30.73	NT	10 27.4	23.4
385695 2005 TO ₇₄	8.3	X	281.28178	308.46103	169.45912	5.25942	0.0520888	0.00599201	30.02	28.46	31.58	NT	10 28.3	23.0
389820 2011 WU ₉₂	13.1	X	55.18200	22.76038	101.26991	6.44332	0.3739105	0.03723091	8.88	5.56	12.20	Ja	4 29.3	21.8
391151 2005 YY ₉₃	17.1	X	272.47953	311.68876	296.72249	24.16388	0.8833227	0.23787502	2.58	0.30	4.86	Ja	12 22.6	22.2
393348 1988 RO ₁	17.4	X	231.70548	155.64430	181.22779	11.64157	0.5093646	0.22515190	2.68	1.31	4.04	Mc	2 27.8	23.1
393350 1992 RN ₁	16.5	X	137.48691	210.76519	138.61870	6.04809	0.5113249	0.17228240	3.20	1.56	4.83	Ja	2 5.3	22.3
394130 2006 HY ₅₁	17.2	X	238.93973	341.88318	40.78757	33.19501	0.9695224	0.23576483	2.60	0.08	5.11	Jc	4 20.4	24.0
397237 2006 KZ ₁₁₂	16.7	X	305.70738	358.18652	166.29294	37.78365	0.8868676	0.24565143	2.52	0.29	4.76	Ja	10 3.6	21.0
397262 2006 RN ₁₆	14.3	X	71.91631	89.70496	245.74155	12.78568	0.3983344	0.10509224	4.45	2.68	6.22	Jc	—	—
399457 2002 PD ₄₃	19.1	X	298.55131	210.82179	315.16034	26.04817	0.9560081	0.24799015	2.51	0.11	4.91	Ja	9 9.9	24.3
401857 2000 PG ₃	16.1	X	185.35986	141.15424	323.62882	22.00777	0.8556277	0.20780691	2.82	0.41	5.24	Jc	7 10.1	23.2
402138 2004 PC ₉₇	17.2	X	227.16274	338.62000	7.34311	23.11125	0.5312545	0.19668596	2.93	1.37	4.48	Mc	3 15.5	23.4
402267 2005 QE ₁₆₆	17.0	X	207.12782	234.36903	188.86799	12.95369	0.5281210	0.21600549	2.75	1.30	4.20	Jc	5 27.9	23.0
405058 2001 TX ₁₆	14.1	X	109.16225	53.36471	69.46881	8.13680	0.5980642	0.14555476	3.58	1.44	5.72	Jc	6 26.0	20.6
406803 2008 UX ₆₄	16.4	X	147.78046	180.84117	239.43254	8.81181	0.4812436	0.15940629	3.37	1.75	4.99	Jc	4 27.7	22.7
408825 2001														

ELEMENTS AND OPPOSITION DATES OF SOME UNUSUAL MINOR PLANETS

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	<i>q</i>	<i>Q</i>	<i>T</i>	Oppos.	<i>V</i>
434762 2006 HA ₁₅₃	14.3 ^m	X	48.05204	186.04433	61.57727	17.29681	0.0724636	0.10219422	4.53	4.20	4.86	Ja	7 21.9	20.5
437313 2013 EK ₇₃	13.2	X	29.78092	49.53705	141.17612	8.99231	0.5868480	0.02089612	13.05	5.39	20.72	Jc	7 5.7	22.6
437994 2003 UL ₁₂	17.3	X	106.18233	274.80685	193.15163	19.73827	0.7006156	0.16524041	3.29	0.98	5.59	Jc	6 14.5	23.9
440680 2005 YW ₃₆	17.9	X	128.78255	207.44438	189.29721	23.13646	0.5362022	0.19905376	2.91	1.35	4.46	Mc	3 22.9	23.2
441525 2008 SK ₂₂₀	15.4	X	49.84759	195.96449	205.91283	8.21867	0.2421668	0.13146061	3.83	2.90	4.76	Ja	—	—
441952 2010 LR ₆₈	18.3	X	105.97472	294.70567	113.63784	4.57623	0.6076437	0.18524232	3.05	1.20	4.90	Ja	4 1.8	23.5
442037 2010 PR ₆₆	19.3	X	158.66776	319.45723	292.77958	17.57361	0.6866789	0.19661243	2.93	0.92	4.94	Ja	12 3.3	26.1
446816 2000 EE ₃₈	17.5	X	87.31444	285.14557	199.63233	2.70350	0.5135362	0.18165126	3.09	1.50	4.67	Mc	6 4.6	22.2
450161 2000 YE ₂₉	17.0	X	78.33132	48.67425	109.16363	14.39846	0.5219385	0.19295229	2.97	1.42	4.51	Mc	7 6.9	21.2
450795 2007 TE ₃₀₀	16.3	X	97.34752	356.28669	40.32270	5.89762	0.2211004	0.12760997	3.91	3.04	4.77	Ja	2 2.9	21.7
450807 2007 UC ₉	15.2	X	101.28138	14.95633	25.15966	19.81809	0.3131198	0.13126040	3.83	2.63	5.04	Jc	3 1.7	21.0
451124 2009 KC ₃	18.0	X	145.41203	337.24154	340.09132	10.00934	0.6986751	0.17159604	3.21	0.97	5.45	Jc	1 19.4	24.5
451217 2009 XE ₁₁	16.9	X	67.67542	107.69048	99.86438	14.06504	0.6122686	0.16353512	3.31	1.28	5.34	Jc	9 12.8	22.4
452561 2005 AB	17.5	X	55.14300	63.71728	126.27058	8.15875	0.6558186	0.17086329	3.22	1.11	5.33	Jc	8 13.6	21.9
452691 2005 YW ₃	15.2	X	7.28116	66.41008	115.98999	22.51091	0.5396921	0.17949413	3.11	1.43	4.79	Ja	—	—
452773 2006 DM ₁₄	17.2	X	149.70614	110.29510	317.20982	11.78413	0.5212677	0.19802778	2.92	1.40	4.43	Mc	5 2.9	23.2
455157 1997 YM ₃	17.1	X	140.44389	77.57645	300.22595	3.86371	0.6615938	0.16490021	3.29	1.11	5.47	Jc	3 17.2	23.8
455185 2000 EB ₁₀₇	17.2	X	98.76161	43.45757	177.46281	25.23369	0.5832417	0.18612870	3.04	1.27	4.81	Ja	10 9.2	23.1
455426 2003 MT ₉	18.6	X	171.25757	200.64319	233.34162	6.82878	0.9212379	0.24392155	2.54	0.20	4.87	Ja	6 1.3	25.1
461363 2000 GQ ₁₄₈	13.2	X	77.72560	129.33664	353.65343	16.74912	0.1428102	0.07059719	5.80	4.97	6.63	Jc	4 11.6	20.5