Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448001 2008 CS_{207}	16.9	X	151.56126	66.23700	172.13754	4.71596	0.0175536	0.21343902	2.7730232	20	12 1.7	20.8
448002 2008 CV_{213}	16.9	X	68.36729	319.86407	283.47709	1.82588	0.1628945	0.18846779	3.0128531	20	9 11.5	21.1
448003 2008 DE	19.6	X	131.39875	179.18371	55.94098	14.76068	0.4136376	0.43914579	1.7142082	20	12 1.1	22.5
448004 2008 DR_{2}	16.8	X	351.63544	265.32208	150.32767	11.69540	0.0612363	0.22183441	2.7026104	20	12 30.9	20.4
448005 2008 DH_{3}	17.4	X	262.17722	262.59918	266.72879	1.10354	0.1421034	0.22235152	2.6984185	20	—	—
448006 2008 DS_{17}	16.8	X	320.25636	294.60166	154.78675	5.28672	0.1343171	0.21969060	2.7201638	20	12 30.1	19.7
448007 2008 DK_{18}	17.1	X	284.87176	0.53393	148.48920	11.00008	0.0965729	0.22282386	2.6946038	20	—	—
448008 2008 DW_{21}	16.8	X	221.85414	307.76986	213.36681	12.47850	0.1737444	0.20960087	2.8067732	20	10 30.7	20.9
448009 2008 DC_{32}	16.8	X	10.56345	272.00826	121.82107	6.33468	0.1523838	0.21671204	2.7450316	20	—	—
448010 2008 DP_{33}	16.8	X	186.94076	159.09263	358.50354	13.29238	0.1586425	0.20377621	2.8600068	20	9 22.8	21.4
448011 2008 DL_{38}	16.3	X	125.56070	159.41147	1.34225	6.50242	0.2436276	0.18609063	3.0384566	20	8 8.1	21.5
448012 2008 DY_{43}	16.6	X	344.62863	284.25341	2.91019	11.65015	0.1130828	0.18359735	3.0659033	20	6 25.4	20.5
448013 2008 DT_{45}	17.3	X	314.07674	50.41529	35.63754	5.11831	0.0870318	0.21238820	2.7821623	20	12 12.2	20.6
448014 2008 DQ_{53}	17.2	X	283.71851	307.53495	185.84527	8.24121	0.2279641	0.21865929	2.7287102	20	12 13.9	20.1
448015 2008 DF_{61}	17.4	X	276.56196	353.69408	132.33814	4.18050	0.1251130	0.21631227	2.7484127	20	12 4.8	20.7
448016 2008 DG_{69}	17.4	X	329.58001	166.79230	295.51786	4.16627	0.2225573	0.22560064	2.6724474	20	—	—
448017 2008 DB_{73}	17.4	X	260.47017	339.04704	163.74199	4.05115	0.1130866	0.21722684	2.7406930	20	12 4.7	20.9
448018 2008 DY_{80}	17.3	X	344.28152	299.11644	173.58621	12.58929	0.2120266	0.23013398	2.6372353	20	—	—
448019 2008 DT_{86}	16.3	X	341.07016	123.46552	161.15424	27.10316	0.1791122	0.17986347	3.1081889	20	6 14.5	20.4
448020 2008 DO_{89}	16.9	X	324.71077	291.22271	181.94267	12.70667	0.2188828	0.22460510	2.6803385	20	—	—
448021 2008 EF_{11}	16.8	X	322.30244	343.07187	100.11239	5.96962	0.0935843	0.21580279	2.7527368	20	12 23.1	20.0
448022 2008 ET_{14}	17.1	X	283.60022	261.30791	177.14645	7.86960	0.0578043	0.20274257	2.8697193	20	10 20.2	20.8
448023 2008 EV_{25}	17.2	X	225.51582	20.10063	165.30041	7.74519	0.1789917	0.21755057	2.7379734	20	12 4.9	21.3
448024 2008 EF_{26}	16.8	X	268.85226	357.36016	171.72468	14.31143	0.1877493	0.22407802	2.6845400	20	—	—
448025 2008 EV_{38}	16.2	X	177.83134	133.32788	34.61459	6.37922	0.0153307	0.20047917	2.8912781	20	10 4.8	20.3
448026 2008 EK_{39}	16.5	X	49.63878	180.74302	134.41605	8.59077	0.1451514	0.20111472	2.8851838	20	11 20.5	20.6
448027 2008 ED_{42}	16.6	X	252.16534	112.15003	50.27447	8.48468	0.2953440	0.21696795	2.7428727	20	11 19.7	20.2
448028 2008 EC_{47}	16.1	X	17.09738	250.82120	43.00749	11.94256	0.1572648	0.18274817	3.0753935	20	9 9.3	20.0
448029 2008 EX_{50}	16.6	X	93.85318	216.40369	337.90899	4.37474	0.1973621	0.18479885	3.0525998	20	8 14.9	21.3
448030 2008 EJ_{55}	16.3	X	222.45253	111.50514	28.82033	15.49718	0.0941169	0.20333762	2.8641179	20	10 15.3	20.5
448031 2008 EQ_{55}	16.5	X	76.19208	164.36185	147.24607	13.13407	0.1186169	0.21419503	2.7664944	20	12 14.2	20.8
448032 2008 EO_{59}	17.0	X	172.28066	198.16795	354.91222	15.62895	0.0801986	0.20395848	2.8583026	20	10 19.9	21.5
448033 2008 EP_{69}	16.8	X	204.25136	175.61379	350.99423	10.45040	0.1005761	0.20618189	2.8377167	20	10 22.1	21.1
448034 2008 EB_{89}	16.2	X	148.37967	154.00244	34.07590	12.22315	0.0589290	0.19874731	2.9080501	20	9 27.5	20.6
448035 2008 ER_{100}	17.1	X	329.31104	282.35823	190.25680	13.16423	0.2263838	0.22814067	2.6525744	20	—	—
448036 2008 EV_{113}	16.6	X	355.55223	353.03748	337.02908	5.37721	0.0910755	0.19514724	2.9437060	20	9 10.9	20.1
448037 2008 EX_{115}	17.2	X	278.16858	299.73703	180.48624	13.17963	0.1558213	0.21368804	2.7708684	20	11 26.2	20.7
448038 2008 EV_{116}	17.2	X	304.68408	86.92786	19.37301	12.85985	0.1806645	0.21558438	2.7545957	20	12 20.9	20.2
448039 2008 ER_{143}	16.0	X	0.78125	197.81075	68.14414	16.25651	0.2359190	0.17487614	3.1670069	20	6 25.3	19.1
448040 2008 ER_{153}	17.0	X	158.84792	337.77764	185.65616	2.68987	0.0833175	0.19281582	2.9673876	20	9 2.9	21.5
448041 2008 EX_{156}	17.1	X	159.50227	114.72482	95.23045	3.24042	0.0092752	0.20357262	2.8619133	20	11 4.4	21.1
448042 2008 EA_{159}	15.9	X	359.60910	243.30495	32.01940	27.55810	0.2760138	0.17420151	3.1751782	20	7 13.7	19.5
448043 2008 EQ_{162}	16.5	X	111.60470	5.93758	190.81398	11.34118	0.1055605	0.18917188	3.0053726	20	8 24.2	21.2
448044 2008 EA_{168}	16.7	X	65.01442	274.26355	345.54051	4.17706	0.0623178	0.19058614	2.9904865	20	9 14.7	20.9
448045 2008 FH_{6}	16.3	X	76.06983	243.45023	331.48520	9.02731	0.2819704	0.18307658	3.0717145	20	8 30.8	20.9
448046 2008 FU_{19}	16.6	X	305.53480	245.42979	169.69546	2.22423	0.0304347	0.20405642	2.8573880	20	10 22.3	20.3
448047 2008 FY_{41}	16.9	X	295.56543	256.19757	196.95269	3.73636	0.0691383	0.21059310	2.7979500	20	11 24.9	20.4
448048 2008 FK_{45}	17.7	X	286.03059	101.11187	23.30383	3.52577	0.1441668	0.21736842	2.7395028	20	12 15.2	20.8
448049 2008 FE_{47}	16.1	X	225.70472	147.19265	42.97933	14.35007	0.1392620	0.21122200	2.7923935	20	12 11.7	20.2
448050 2008 FR_{61}	15.4	X	43.62912	77.73399	189.39277	16.23992	0.2080746	0.17972019	3.1098406	20	9 14.7	19.5
448051 Pepisensi	16.2	X	238.36520	355.08242	152.44726	26.60079	0.1036170	0.21345381	2.7728951	20	11 18.2	20.6
448052 2008 FS_{65}	15.8	X	55.29032	53.31963	203.18425	16.99553	0.1748299	0.18225432	3.0809466	20	9 10.3	20.2
448053 2008 FL_{66}	15.6	X	31.59486	204.74225	37.20542	16.02150	0.1254490	0.17428571	3.1741555	20	7 16.7	19.9
448054 2008 FZ_{83}	16.3	X	2.77043	250.27784	43.76108	8.98815	0.1192444	0.18036636	3.1024088	20	8 8.9	20.2
448055 2008 FG_{88}	16.7	X	76.54955	72.46313	192.33281	10.01533	0.0818824	0.19224739	2.9732340	20	10 8.7	20.7
448056 2008 FV_{94}	16.9	X	29.81202	87.61675	182.93456	9.70649	0.2005607	0.17849612	3.1240419	20	8 27.3	20.8
448057 2008 FW_{100}	16.5	X	20.99286	172.78060	116.11323	5.99283	0.0947235	0.18249506	3.0782364	20	8 27.7	20.4
448058 2008 FC_{117}	16.7	X	268.70935	277.78682	206.26680	14.58406	0.1084327	0.20615574	2.8379567	20	11 20.6	20.4
448059 2008 FS_{131}	14.1	X	213.57761	157.11578	192.47684	16.58268	0.0366851	0.08309173	5.2011277	20	4 6.6	21.1
448060 2008 FK_{134}	16.4	X	14.05929	172.71864	123.90055	2.98554	0.1722924	0.17960561	3.1111631	20	9 3.2	19.9
448061 2008 FX_{137}	18.5	X	216.16394	63.99124	226.68052	4.57057	0.2073005	0.30562967	2.1827586	20	1 5.6	22.0
448062 2008 GT_{24}	16.5	X	303.78813	155.09877	174.90587	11.24018	0.1565301	0.17649476	3.1476143	20	6 10.9	20.7
448063 2008 GG_{39}	15.9	X	34.23220	58.52728	209.64048	13.87558	0.2504984	0.17606691	3.1527114	20	9 5.7	20.0
448064 2008 GY_{39}	16.8	X	94.23928	225.31379	31.88538	6.09582	0.0904231	0.20195764	2.8771502	20	10 22.0	21.0
448065 2008 GB_{50}	16.4	X	63.84523	24.63055	199.16375	12.63491	0.1668759	0.17896807	3.1185473	20	8 8.9	21.0
448066 2008 GY_{51}	16.7	X	43.96806	226.51481	38.76570	2.76154	0.1800822	0.18382180	3.0634070	20	9 11.9	20.6
448067 2008 GV_{55}	17.1	X	327.64839	68.81438	25.55555	15.58478	0.2418332	0.21910529	2.7250061	20	—	—
448068 2008 GU_{70}	16.5	X	214.62974	135.57912	4.11458	14.89905	0.0848206	0.20345556	2.8630109	20	10 3.9	20.7
448069 2008 GT_{73}	16.7	X	342.96404	257.74099	61.00181	11.03157	0.1043232	0.18298840	3.0727013	20	8 8.9	20.6
448070 2008 GV_{80}	16.8	X	258.71140	123.84217	38.30914	12.56750	0.1897418	0.21580560	2.7527129	20	12 12.9	20.4
448071 2008 GC_{84}	17.5	X	270.56462	20.41879	114.06385	2.93904	0.1678170	0.21416017	2.7667946	20	11 29.8	20.7
448072 2008 GW_{87}	15.5	X	89.14657	89.01609	162.50537	11.38563	0.0501001	0.19253486	2.9702737	20	10 5.1	19.8
448073 2008 GA_{91}	17.6	X	236.31975	295.65365	45.46827	4.98165	0.1997317	0.32364539	2.1009857	20	3 27.6	20.7
448074 2008 GQ_{93}	16.8	X	55.71140	167.15503	70.87646	1.52410	0.1423304	0.18654744	3.0334943	20	8 17.8	20.9
448075 2008 GC_{121}	17.0	X	136.19104	125.29426	123.19140	3.08238	0.0165343	0.20298263	2.8674563	20	11 23.5	21.0
448076 2008 GW_{132}	16.8	X	55.41915	175.00989	114.67845	11.45383	0.1428602	0.18626821	3.0365252	20	10 26.7	21.2
448077 2008 GF_{138}	18.9	X	220.87148	113.51449	176.37707	3.85627	0.2412155	0.30429100	2.1891557	20	1 8.9	22.6
448078 2008 GL_{139}	16.6	X	77.33697	44.44199	187.40602	11.24114	0.0833283	0.18362636	3.0655803	20	8 25.8	21.1
448079 2008 GV_{139}	16.4	X	321.91736	310.38950	30.41061	14.48775	0.2837703	0.17571471	3.1569229	20	7 10.1	19.9
448080 2008 GY_{139}	16.6	X	12.81607	87.06366	213.03752	9.32088	0.0694015	0.18323216	3.0699756	20	8 22.5	20.7

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448081 2008 HA_{16}	16.1	X	61.59580	54.69864	206.57150	15.71975	0.0801699	0.18261850	3.0768491	20	9 10.4	20.5
448082 2008 HZ_{20}	18.0	X	205.58657	189.87101	88.68839	6.29347	0.1820967	0.29917452	2.2140443	20	—	—
448083 2008 HD_{29}	16.9	X	64.89651	244.22333	38.10522	4.88690	0.0686011	0.19342478	2.9611561	20	10 15.4	21.0
448084 2008 HN_{29}	16.7	X	110.99634	15.54365	197.20837	13.84799	0.0763093	0.18775653	3.0204572	20	9 9.6	21.2
448085 2008 HF_{36}	16.7	X	28.25615	100.62455	199.79714	11.20640	0.1356418	0.18403353	3.0610569	20	9 25.3	20.6
448086 2008 HW_{50}	16.7	X	347.95751	107.62213	214.35506	8.84579	0.0683357	0.17898724	3.1183247	20	8 13.4	20.9
448087 2008 HO_{52}	16.4	X	199.66622	19.09493	93.69069	11.30347	0.0518489	0.18409319	3.0603955	20	8 19.5	21.0
448088 2008 JT_{15}	18.8	X	260.60041	235.51799	49.62519	2.77756	0.1450951	0.31754811	2.1277946	20	2 10.8	21.8
448089 2008 JQ_{22}	16.3	X	344.72906	176.02300	151.53849	9.37417	0.0586169	0.18082085	3.0972081	20	8 19.3	20.1
448090 2008 JK_{23}	18.4	X	244.45426	205.39947	73.76251	5.42872	0.1738533	0.30852903	2.1690623	20	1 17.1	21.7
448091 2008 JD_{24}	16.4	X	80.70668	101.15403	115.79121	10.77654	0.0492203	0.17912716	3.1167006	20	8 9.0	20.7
448092 2008 JP_{33}	16.5	X	42.38685	118.38594	164.49479	16.08575	0.2059390	0.18029618	3.1032139	20	10 7.2	20.7
448093 2008 JB_{37}	15.5	X	8.21900	66.86198	239.11777	24.73218	0.2383933	0.17590710	3.1546206	20	8 29.9	19.4
448094 2008 JK_{38}	18.7	X	278.46810	60.66578	190.79442	5.49202	0.1374413	0.31142146	2.1556109	20	1 15.7	21.7
448095 2008 KL_{4}	16.7	X	21.97792	162.84834	138.32326	10.33964	0.1323692	0.17883618	3.1200804	20	9 19.5	20.6
448096 2008 KB_{5}	15.6	X	300.38701	261.00064	92.35289	19.49839	0.1629403	0.17069354	3.2185332	20	7 4.3	19.7
448097 2008 KQ_{8}	16.1	X	53.62414	83.50414	220.34031	10.78281	0.0353890	0.19015802	2.9949732	20	10 21.4	20.2
448098 2008 KR_{12}	18.2	X	211.67270	205.53718	74.12242	4.06262	0.1891655	0.30124331	2.2038961	20	—	—
448099 2008 KF_{13}	16.8	X	61.93265	164.52923	76.38713	2.09936	0.1321176	0.17966949	3.1104256	20	8 27.9	21.1
448100 2008 KM_{16}	16.0	X	330.84951	204.68271	108.62000	13.72852	0.0653713	0.17191998	3.2032080	20	7 10.0	19.9
448101 2008 KA_{18}	16.4	X	3.44232	146.88610	173.47959	5.17288	0.1194128	0.18037485	3.1023114	20	9 10.6	20.0
448102 2008 KJ_{18}	15.9	X	45.07990	96.69460	146.95657	13.80821	0.2622526	0.17475831	3.1684303	20	8 27.5	20.0
448103 2008 KQ_{33}	16.5	X	40.50932	186.01006	118.97907	10.29183	0.0824539	0.18618599	3.0374191	20	10 17.6	20.8
448104 2008 KU_{37}	16.3	X	11.44773	150.13587	177.85600	12.31582	0.0739003	0.18547343	3.0451936	20	10 1.1	20.1
448105 2008 KC_{39}	16.0	X	87.42759	6.14508	203.03229	17.70567	0.0565230	0.17571911	3.1568702	20	8 2.4	20.8
448106 2008 KV_{39}	16.2	X	314.67012	264.40897	99.60208	16.70205	0.2754433	0.17364832	3.1819181	20	7 28.1	19.7
448107 2008 LH_{13}	16.0	X	114.12460	50.50113	132.39035	10.79388	0.0748911	0.17946250	3.1128169	20	8 8.5	20.7
448108 2008 MY_{4}	15.6	X	28.83994	248.09625	27.59091	26.05701	0.2767553	0.17656334	3.1467992	20	9 26.8	19.6
448109 2008 NZ_{1}	17.8	X	227.44723	174.29342	108.75166	11.59018	0.2941031	0.29947154	2.2125802	20	1 6.4	21.7
448110 2008 NF_{5}	17.3	X	167.84193	86.60713	259.10875	5.54885	0.2751804	0.29130538	2.2537395	20	2 5.9	21.1
448111 2008 NL_{5}	17.1	X	203.39678	51.30306	251.88388	8.66734	0.2111984	0.29249726	2.2476129	20	1 11.2	20.9
448112 2008 OA_{25}	18.0	X	122.44653	73.58219	324.66148	5.85118	0.2477447	0.28851637	2.2682404	20	2 29.3	21.2
448113 2008 PR_{7}	17.7	X	153.93942	80.19633	272.59728	5.71705	0.1477140	0.29199893	2.2501694	20	1 23.0	20.7
448114 2008 PD_{15}	18.3	X	192.88690	176.96638	139.60597	2.79782	0.1743108	0.29450302	2.2373961	20	1 18.3	21.7
448115 2008 QU	16.0	X	98.80237	353.33097	339.41002	25.43201	0.2381469	0.27287951	2.3540848	20	—	—
448116 2008 QG_{12}	17.7	X	105.70380	348.33943	340.06161	4.50694	0.2058661	0.27444304	2.3451353	20	—	—
448117 2008 RU_{1}	18.1	X	171.74328	284.04387	0.21605	1.96427	0.1994174	0.28049959	2.3112551	20	—	—
448118 2008 RU_{5}	18.0	X	26.47566	76.43990	19.45865	5.73634	0.1226065	0.27729482	2.3290289	20	—	—
448119 2008 RU_{73}	18.0	X	144.14849	39.48260	340.42380	5.36165	0.1692683	0.29112469	2.2546719	20	2 20.6	21.2
448120 2008 RF_{80}	17.1	X	117.51076	268.84603	93.28990	22.58246	0.3648529	0.28196378	2.3032469	20	1 26.5	20.5
448121 2008 RE_{103}	18.6	X	96.89764	200.62244	195.62437	9.49090	0.2732733	0.28080459	2.3095813	20	1 28.4	21.3
448122 2008 RE_{115}	17.7	X	147.57405	290.35460	36.79897	3.44406	0.1662834	0.27549104	2.3391841	20	—	—
448123 2008 RN_{127}	17.7	X	351.38717	133.74890	6.64684	6.60935	0.0603503	0.28306056	2.2972934	20	—	—
448124 2008 RG_{128}	18.4	X	96.02534	204.89443	202.89838	1.71723	0.1629048	0.28472612	2.2883257	20	1 26.1	20.7
448125 2008 RM_{139}	18.3	X	101.75177	35.60469	358.08904	6.08605	0.1816501	0.28308954	2.2971367	20	1 20.9	20.9
448126 2008 SJ_{10}	17.4	X	112.18350	321.39423	357.57269	7.05025	0.1420129	0.27224231	2.3577566	20	—	—
448127 2008 SF_{15}	18.4	X	147.82140	132.81390	177.44505	3.99978	0.2467189	0.28273576	2.2990525	20	—	—
448128 2008 SR_{16}	17.8	X	146.89263	39.95748	325.88464	5.37097	0.1576755	0.29101043	2.2552620	20	2 4.0	20.7
448129 2008 SA_{18}	17.7	X	70.90797	152.42463	315.59189	5.09647	0.1491285	0.29538296	2.2329505	20	3 6.8	19.7
448130 2008 SO_{22}	17.9	X	108.88106	242.07553	186.20579	4.64742	0.2547737	0.29077873	2.2564599	20	3 26.7	20.8
448131 2008 SS_{22}	18.6	X	139.59073	341.27255	327.40571	2.08420	0.2350717	0.27975328	2.3153639	20	—	—
448132 2008 SX_{40}	18.3	X	136.80621	216.91685	152.78777	2.89887	0.2284258	0.28692866	2.2766001	20	2 6.1	21.5
448133 2008 SG_{59}	17.7	X	143.56403	231.58230	45.56640	5.86296	0.1405078	0.26578933	2.3957657	20	—	—
448134 2008 SJ_{75}	17.9	X	142.28532	145.13723	233.13579	2.55664	0.1851229	0.28918354	2.2647504	20	2 16.8	21.1
448135 2008 SF_{82}	18.1	X	119.43246	241.31543	153.87530	5.24127	0.1464856	0.28636623	2.2795800	20	2 8.2	20.9
448136 2008 SW_{101}	17.9	X	56.25144	234.69288	210.54483	6.50009	0.0874809	0.27846943	2.3224749	20	1 3.6	20.3
448137 2008 SV_{115}	17.2	X	31.30841	68.38807	51.46109	6.81162	0.0470739	0.28366819	2.2940117	20	1 12.6	19.7
448138 2008 SN_{117}	18.1	X	160.80689	294.52644	9.43674	2.56104	0.2065432	0.27841219	2.3227932	20	—	—
448139 2008 SB_{125}	17.7	X	113.48627	159.08798	208.32839	6.54344	0.0672031	0.27687927	2.3313587	20	—	—
448140 2008 SM_{128}	17.8	X	249.38850	0.52564	236.81399	5.66714	0.1067520	0.27813229	2.3243513	20	—	—
448141 2008 SH_{135}	18.6	X	143.84485	214.75984	151.66690	4.83347	0.2402755	0.28875529	2.2669890	20	2 9.9	22.0
448142 2008 SG_{137}	18.1	X	181.45676	334.18404	19.91558	6.38563	0.2884359	0.29122170	2.2541712	20	3 1.9	22.1
448143 2008 SJ_{153}	18.2	X	208.90783	296.70268	9.30102	4.38885	0.1813913	0.29299257	2.2450791	20	1 21.2	21.8
448144 2008 SS_{158}	17.9	X	114.94311	235.04991	187.13506	3.48936	0.1748456	0.29059666	2.2574023	20	3 14.0	20.6
448145 2008 SE_{159}	17.6	X	149.32377	14.39940	351.79680	7.39876	0.1393527	0.28820030	2.2698984	20	2 7.1	20.7
448146 2008 SS_{161}	18.2	X	139.36202	325.45399	35.04183	3.41518	0.2157221	0.28504720	2.2866070	20	1 28.2	21.4
448147 2008 SY_{177}	18.7	X	56.24409	73.97475	343.55708	2.40520	0.1659129	0.27082700	2.3659637	20	—	—
448148 2008 SD_{184}	17.9	X	99.58653	254.97815	80.28453	2.85788	0.2045270	0.26944041	2.3740738	20	—	—
448149 2008 SM_{189}	17.9	X	151.60401	354.66666	321.01962	1.80952	0.2272352	0.27955117	2.3164797	20	—	—
448150 2008 SZ_{197}	17.7	X	72.94678	241.88817	194.09925	11.16402	0.1750808	0.27855242	2.3220136	20	1 27.6	20.1
448151 2008 ST_{203}	18.6	X	116.57190	222.64370	162.89412	3.90494	0.2332319	0.28094490	2.3088123	20	2 5.1	21.5
448152 2008 SN_{205}	17.8	X	135.31486	300.78888	58.92738	7.70226	0.1416285	0.28029934	2.3123558	20	1 13.7	20.8
448153 2008 SC_{214}	18.8	X	166.42539	112.00174	186.71902	4.82102	0.2048305	0.28151755	2.3056802	20	—	—
448154 2008 SQ_{222}	18.1	X	147.73344	357.55492	341.71556	6.87438	0.1466519	0.28341093	2.2953997	20	1 1.6	21.3
448155 2008 SA_{241}	18.0	X	188.47292	277.57260	43.36740	4.34775	0.1575525	0.28966079	2.2622620	20	1 20.7	21.5
448156 2008 SB_{241}	18.1	X	80.22386	264.02709	101.34469	2.35674	0.2050342	0.27194439	2.3594783	20	—	—
448157 2008 SM_{243}	17.7	X	160.99252	102.07950	180.39890	5.10337	0.2090602	0.27083928	2.3658922	20	—	—
448158 2008 SB_{254}	18.3	X	136.01749	186.09476	152.52214	5.20595	0.2499804	0.28017968	2.3130142	20	—	—
448159 2008 SV_{300}	18.0	X	182.97227	320.62201	9.26371	3.05506	0.1686951	0.29220506	2.2491110	20	1 26.9	21.4
448160 2008 TX_{14}	18.1	X	190.62718	51.46213	226.69561	2.07097	0.1529743	0.28097483	2.3086483	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448161 2008 TG_{24}	18.0	X	37.37448	88.81502	346.29115	4.17309	0.1383643	0.27342989	2.3509247	20	—	—
448162 2008 TT_{30}	17.8	X	342.56772	143.05332	24.61523	24.34087	0.1695472	0.28050080	2.3112485	20	—	—
448163 2008 TN_{36}	18.4	X	119.09706	80.97071	335.81403	2.42059	0.1861642	0.28930353	2.2641241	20	3 13.5	21.2
448164 2008 TO_{45}	17.8	X	313.40627	136.44056	39.31673	4.01102	0.1248834	0.27306731	2.3530053	20	—	—
448165 2008 TP_{46}	17.7	X	174.11653	228.89605	78.02254	4.82353	0.1520309	0.27870308	2.3211767	20	—	—
448166 2008 TY_{52}	18.0	X	164.50061	190.28841	148.66550	1.66267	0.0855111	0.28490882	2.2873474	20	1 12.1	20.8
448167 2008 TU_{53}	17.5	X	314.55996	154.04098	34.89752	6.98645	0.0619175	0.28290598	2.2981302	20	—	—
448168 2008 TN_{57}	18.1	X	179.55297	242.95695	45.82822	1.59696	0.1705365	0.27929803	2.3178792	20	—	—
448169 2008 TH_{64}	17.7	X	291.75459	174.71317	30.57615	4.72265	0.0569117	0.27989989	2.3145553	20	—	—
448170 2008 TX_{67}	17.2	X	304.55773	117.58901	57.93651	6.20915	0.1113242	0.27304191	2.3531513	20	—	—
448171 2008 TC_{71}	17.8	X	5.48521	274.03887	189.19664	11.01454	0.2047897	0.26758487	2.3850364	20	—	—
448172 2008 TS_{108}	17.9	X	109.12120	0.53906	49.07566	4.88651	0.2176202	0.28495983	2.2870744	20	2 28.6	20.7
448173 2008 TM_{129}	17.8	X	103.24866	193.94695	173.81281	6.10802	0.1222188	0.27573937	2.3377794	20	—	—
448174 2008 TJ_{147}	18.2	X	12.42727	92.70368	44.22498	3.42454	0.0518816	0.28418958	2.2912050	20	1 6.4	20.6
448175 2008 TC_{148}	18.4	X	76.44398	267.33786	167.03832	3.99813	0.1189521	0.28335170	2.2957196	20	1 24.9	20.6
448176 2008 TS_{158}	17.6	X	45.19396	236.72319	217.67186	5.69935	0.1498993	0.28011979	2.3133439	20	—	—
448177 2008 TB_{163}	18.5	X	74.96413	287.94334	94.24879	6.04109	0.2543192	0.27232315	2.3572900	20	—	—
448178 2008 TG_{167}	18.3	X	116.67256	91.03220	292.26869	5.64565	0.1932839	0.28226435	2.3016115	20	1 27.3	21.1
448179 2008 TW_{168}	18.3	X	75.29678	44.26706	19.03684	1.56386	0.1598906	0.27491195	2.3424678	20	1 15.5	20.3
448180 2008 TB_{171}	17.5	X	148.04639	236.40748	87.67722	3.08418	0.2337083	0.27590113	2.3368656	20	—	—
448181 2008 TO_{186}	18.7	X	95.29794	20.76972	33.73847	3.02589	0.1815897	0.28118890	2.3074764	20	2 9.3	21.2
448182 2008 UO_{4}	18.8	X	46.46714	142.67862	227.06341	31.33529	0.2161891	0.43154895	1.7342672	20	—	—
448183 2008 UT_{7}	17.8	X	97.03270	236.02471	201.20150	5.80260	0.1184631	0.28993343	2.2608436	20	2 28.9	20.4
448184 2008 UA_{15}	17.6	X	183.87201	41.15429	196.47584	5.75488	0.0905060	0.26775372	2.3840336	20	—	—
448185 2008 UK_{17}	18.3	X	49.49428	274.66407	197.26716	5.27814	0.1086464	0.28415163	2.2914090	20	1 29.9	20.6
448186 2008 UA_{39}	16.9	X	229.66455	350.51992	238.06296	11.76226	0.1446698	0.26637845	2.3922322	20	—	—
448187 2008 UH_{39}	17.2	X	111.40833	273.53258	38.92541	8.48493	0.3018009	0.26700425	2.3884928	20	—	—
448188 2008 UT_{40}	18.0	X	234.22051	40.96758	206.43102	6.43778	0.0870490	0.27496930	2.3421421	20	—	—
448189 2008 US_{41}	17.9	X	58.44794	227.59466	228.55683	4.50144	0.1818012	0.27728778	2.3290683	20	1 31.7	19.9
448190 2008 UW_{46}	17.7	X	100.16260	148.90958	247.59181	5.07228	0.1345941	0.27668908	2.3324269	20	1 13.2	20.2
448191 2008 UV_{47}	17.3	X	303.66030	136.96171	32.59419	6.84999	0.0520616	0.26798990	2.3826327	20	—	—
448192 2008 UQ_{80}	17.9	X	142.61522	17.80319	282.19928	5.92313	0.1192746	0.26730221	2.3867175	20	—	—
448193 2008 UP_{85}	17.7	X	74.48507	237.73976	221.64317	6.47591	0.0595629	0.28829961	2.2693771	20	2 15.9	20.3
448194 2008 UN_{88}	17.4	X	323.10369	106.23945	61.02690	6.06741	0.0990927	0.27834733	2.3231540	20	—	—
448195 2008 UT_{101}	18.3	X	121.88678	345.88727	320.25427	1.76249	0.2399359	0.26989131	2.3714289	20	—	—
448196 2008 US_{115}	17.6	X	112.69328	129.16291	274.79851	4.65133	0.1565898	0.28198069	2.3031549	20	2 12.2	20.3
448197 2008 US_{130}	17.8	X	149.69577	290.04071	33.71115	2.52001	0.2306255	0.27841006	2.3228051	20	—	—
448198 2008 UY_{131}	17.9	X	187.28983	263.53246	17.34381	2.19903	0.2027533	0.27553218	2.3389512	20	—	—
448199 2008 UC_{135}	18.7	X	76.72503	189.28046	224.34328	4.80667	0.1072446	0.27571164	2.3379362	20	—	—
448200 2008 UP_{135}	17.3	X	289.61606	153.75592	44.08269	5.80879	0.1142604	0.27378541	2.3488891	20	—	—
448201 2008 UD_{143}	17.5	X	94.12021	205.10399	219.21462	11.86098	0.0844678	0.28143313	2.3061413	20	1 30.5	20.5
448202 2008 UF_{151}	18.1	X	96.74452	151.85935	234.26351	3.75898	0.1447346	0.27409281	2.3471326	20	—	—
448203 2008 UH_{167}	15.7	X	140.33643	264.24901	177.90796	2.86538	0.1916585	0.12418843	3.9787682	20	5 13.9	21.9
448204 2008 UV_{174}	18.0	X	13.01345	62.41296	31.47866	1.74316	0.1560314	0.26634200	2.3924504	20	—	—
448205 2008 US_{188}	17.8	X	131.14513	131.66868	211.09141	4.33657	0.1805720	0.27729987	2.3290006	20	—	—
448206 2008 UA_{193}	17.6	X	129.56865	276.61159	66.52069	7.66310	0.1499892	0.27608736	2.3358146	20	—	—
448207 2008 UM_{206}	17.6	X	348.76297	123.17562	345.80290	4.45905	0.1793193	0.26136017	2.4227566	20	—	—
448208 2008 UG_{212}	17.9	X	168.91893	320.47072	350.41834	4.38989	0.1174897	0.27811081	2.3244710	20	—	—
448209 2008 UF_{227}	17.8	X	105.59934	15.53884	26.80096	4.66461	0.1568325	0.27833104	2.3232447	20	2 4.5	20.5
448210 2008 UP_{233}	17.5	X	245.16614	233.42047	3.38427	6.87431	0.0673435	0.27378169	2.3489104	20	—	—
448211 2008 UH_{247}	18.3	X	70.20534	10.19072	53.74049	3.82758	0.1977322	0.27334171	2.3514303	20	1 12.5	20.1
448212 2008 UK_{248}	18.4	X	6.38955	306.86475	165.09388	1.23256	0.1417978	0.26653783	2.3912784	20	—	—
448213 2008 UO_{258}	17.9	X	3.99196	252.18156	241.38785	3.96454	0.1745535	0.27079636	2.3661422	20	—	—
448214 2008 UK_{262}	17.6	X	90.21598	24.53120	12.69753	7.51926	0.0971093	0.27287189	2.3541286	20	—	—
448215 2008 UF_{274}	17.8	X	328.66882	118.67516	22.21930	1.49050	0.0711843	0.26790632	2.3831282	20	—	—
448216 2008 UO_{276}	18.5	X	99.22704	160.35904	225.21706	0.81598	0.1951894	0.27665298	2.3326298	20	1 7.2	20.9
448217 2008 UY_{276}	18.7	X	60.03801	242.33991	208.10290	2.41961	0.1878232	0.27802951	2.3249241	20	1 27.7	20.5
448218 2008 UA_{283}	18.2	X	343.78467	328.71187	172.83305	2.42146	0.1279511	0.27217233	2.3581607	20	—	—
448219 2008 UW_{294}	17.4	X	237.19929	320.48645	242.53588	5.76146	0.1310502	0.26251005	2.4156764	20	—	—
448220 2008 UJ_{327}	16.6	X	116.52452	340.88085	87.54101	25.67168	0.2191119	0.28694196	2.2765298	20	4 16.1	20.5
448221 2008 UH_{329}	18.0	X	135.94124	127.43933	245.46674	3.66783	0.1482209	0.28271670	2.2991558	20	1 29.9	21.1
448222 2008 UO_{354}	18.3	X	81.63241	303.16584	120.40885	1.86158	0.1551568	0.27700067	2.3306774	20	1 25.8	20.4
448223 2008 UK_{355}	18.6	X	10.84359	254.19063	198.87925	2.03765	0.1689424	0.26493370	2.4009212	20	—	—
448224 2008 UK_{357}	18.2	X	43.47680	357.70703	35.49733	6.16482	0.2484503	0.26335070	2.4105329	20	—	—
448225 2008 VP_{3}	17.9	X	124.01215	316.13189	49.25655	12.25215	0.2891755	0.27922897	2.3182614	20	1 30.9	21.4
448226 2008 VV_{6}	18.1	X	159.18953	205.37063	116.89892	3.74581	0.1850435	0.27714032	2.3298944	20	—	—
448227 2008 VL_{20}	17.6	X	108.56716	326.86706	70.13867	7.16517	0.1399410	0.27833826	2.3232045	20	1 29.7	20.4
448228 2008 VM_{24}	17.2	X	29.71696	13.69175	74.20865	10.66648	0.2352562	0.26704323	2.3882604	20	—	—
448229 2008 VJ_{46}	18.1	X	45.98022	22.21355	47.39952	2.22208	0.1664553	0.26913837	2.3758497	20	—	—
448230 2008 VY_{68}	16.5	X	217.82024	122.23981	97.38890	13.16362	0.1119366	0.24223436	2.5486618	20	—	—
448231 2008 VY_{71}	18.1	X	64.44456	338.86043	73.18430	6.52632	0.2136883	0.27076651	2.3663160	20	—	—
448232 2008 VC_{73}	17.6	X	304.36419	92.24712	90.86751	7.15178	0.0551114	0.27145512	2.3623125	20	—	—
448233 2008 WN_{8}	17.2	X	282.66713	130.60051	63.27062	5.78439	0.1627907	0.27033865	2.3688122	20	—	—
448234 2008 WY_{22}	18.0	X	54.35927	20.49994	51.41574	2.84294	0.1836462	0.27246755	2.3564571	20	—	—
448235 2008 WT_{23}	18.2	X	134.99419	326.57783	17.00735	1.70996	0.2079675	0.27646431	2.3336909	20	1 1.1	21.4
448236 2008 WS_{28}	17.9	X	151.31057	110.94715	221.16094	3.99289	0.2498298	0.27915784	2.3186551	20	1 7.0	21.4
448237 2008 WF_{30}	18.2	X	338.83000	153.50737	336.03901	1.84430	0.1406454	0.26229929	2.4169703	20	—	—
448238 2008 WK_{31}	18.3	X	34.62720	65.72345	14.14988	1.64030	0.1709544	0.26648140	2.3916160	20	—	—
448239 2008 WK_{40}	18.1	X	107.83552	307.68984	71.06021	3.21744	0.2149928	0.27572372	2.3378679	20	1 14.8	20.7
448240 2008 WK_{42}	18.3	X	85.10767	21.27218	35.42196	3.06528	0.1549741	0.27560256	2.3385530	20	1 23.1	20.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448241 2008 WL_{43}	17.9	X	153.63385	285.93031	55.96942	6.35393	0.1852018	0.27805520	2.3247810	20	1 16.8	21.3
448242 2008 WX_{48}	17.6	X	58.47115	245.50431	219.01776	5.17627	0.1745397	0.27879913	2.3206436	20	2 12.1	19.5
448243 2008 WR_{51}	18.6	X	123.42087	61.10002	316.77004	1.72872	0.2197933	0.28120620	2.3073818	20	2 1.9	21.4
448244 2008 WK_{65}	17.8	X	198.33297	248.50960	31.35072	7.48709	0.1223739	0.27589283	2.3369124	20	—	—
448245 2008 WS_{68}	18.5	X	87.91919	267.63737	158.74842	2.03593	0.1964710	0.27769835	2.3267721	20	2 16.0	20.8
448246 2008 WH_{91}	17.9	X	236.30955	210.83724	42.73420	7.05768	0.0739780	0.27993276	2.3143742	20	—	—
448247 2008 WJ_{92}	18.4	X	103.47583	63.96223	308.45913	0.63853	0.1894069	0.27321205	2.3521742	20	—	—
448248 2008 WY_{104}	17.7	X	112.70061	278.05414	75.15510	8.19858	0.1351835	0.26908880	2.3761415	20	—	—
448249 2008 WQ_{111}	18.2	X	79.43005	144.19581	294.08177	1.40811	0.1667369	0.27745631	2.3281251	20	2 13.8	20.3
448250 2008 WC_{115}	18.1	X	139.71527	265.41562	65.87249	2.26560	0.2241556	0.27337345	2.3512483	20	—	—
448251 2008 WU_{117}	17.3	X	294.15952	281.38166	242.99448	3.85488	0.1289589	0.25983965	2.4321990	20	—	—
448252 2008 WA_{140}	17.7	X	24.02674	297.10388	166.08210	1.34331	0.1487582	0.26080021	2.4262232	20	—	—
448253 2008 WG_{141}	18.7	X	71.92547	80.13134	327.25145	3.37805	0.1859664	0.27098610	2.3650375	20	—	—
448254 2008 XF_{6}	17.5	X	36.15753	159.78313	287.60367	11.28717	0.2001174	0.26820183	2.3813774	20	—	—
448255 2008 XJ_{17}	17.9	X	58.15969	225.79739	213.74976	2.61107	0.1438168	0.27223431	2.3578028	20	1 4.7	19.9
448256 2008 XK_{50}	17.5	X	357.89921	22.15125	93.77442	3.21185	0.1514433	0.25770925	2.4455847	20	—	—
448257 2008 XG_{52}	17.2	X	78.16097	12.30075	68.64132	5.13195	0.1249403	0.27720544	2.3295295	20	2 11.8	19.6
448258 2008 YV	18.4	X	49.52812	347.04110	107.94529	3.27259	0.2521552	0.26851275	2.3795387	20	1 20.2	19.7
448259 2008 YZ_{6}	17.7	X	321.82266	332.46882	163.62580	2.73107	0.1316401	0.25467216	2.4649895	20	—	—
448260 2008 YE_{14}	17.6	X	340.43028	22.18196	111.24744	9.89321	0.2169560	0.25845015	2.4409086	20	—	—
448261 2008 YX_{16}	17.0	X	118.41918	113.65276	113.58780	11.99760	0.2126882	0.22223077	2.6993959	20	10 25.7	21.7
448262 2008 YC_{19}	18.2	X	16.98950	3.88335	98.44297	3.51421	0.1566022	0.26088727	2.4256834	20	—	—
448263 2008 YQ_{46}	18.6	X	51.38954	9.75548	56.11351	2.61427	0.1750249	0.26414211	2.4057156	20	—	—
448264 2008 YD_{51}	17.9	X	23.33949	20.35404	100.13159	5.58314	0.0858230	0.26574643	2.3960236	20	1 2.1	20.1
448265 2008 YW_{52}	18.4	X	63.15682	359.50950	62.93246	3.54229	0.1430701	0.26386948	2.4073724	20	—	—
448266 2008 YK_{56}	17.8	X	51.29911	5.35217	75.66091	3.40871	0.1909489	0.26767800	2.3844832	20	—	—
448267 2008 YM_{58}	17.8	X	53.49108	10.95015	70.09686	1.85032	0.1676454	0.26800249	2.3825581	20	—	—
448268 2008 YF_{62}	17.9	X	89.86811	305.85827	126.52709	7.36068	0.1515804	0.27386206	2.3484508	20	2 22.4	20.4
448269 2008 YA_{83}	17.9	X	87.72468	336.58243	81.05389	2.41254	0.1731796	0.27214030	2.3583457	20	2 1.2	20.2
448270 2008 YO_{99}	18.4	X	54.56282	143.11166	277.21826	0.54218	0.1546989	0.26297772	2.4128116	20	—	—
448271 2008 YS_{99}	15.7	X	196.86671	307.66588	110.77804	3.75758	0.2321462	0.12455470	3.9709642	20	5 30.9	22.3
448272 2008 YG_{102}	18.4	X	48.55710	231.69068	206.10862	0.99672	0.1539141	0.26483522	2.4015164	20	—	—
448273 2008 YJ_{108}	18.1	X	60.23984	338.93815	96.14970	2.27354	0.1600442	0.26598499	2.3945907	20	1 5.8	20.0
448274 2008 YB_{111}	18.0	X	328.21506	85.32030	72.77575	5.21391	0.1093781	0.26670694	2.3902675	20	—	—
448275 2008 YN_{123}	17.8	X	11.55817	302.46645	156.27339	2.39148	0.1867695	0.26038978	2.4287721	20	—	—
448276 2008 YP_{141}	18.0	X	29.01110	32.49964	27.35310	1.53670	0.1676443	0.25720369	2.4487884	20	—	—
448277 2008 YA_{146}	18.1	X	53.05313	293.47241	121.80866	3.23124	0.1067823	0.25839713	2.4412425	20	—	—
448278 2008 YW_{152}	18.0	X	77.33848	251.33846	173.73853	2.79434	0.1579448	0.26860582	2.3789890	20	1 22.0	20.2
448279 2008 YB_{153}	17.5	X	313.35746	17.16078	146.27391	3.08746	0.1198774	0.25634726	2.4542395	20	—	—
448280 2008 YB_{158}	17.6	X	40.56881	284.49965	117.66188	7.48336	0.1156390	0.25141648	2.4862238	20	—	—
448281 2008 YH_{160}	17.7	X	20.53062	295.58673	168.74682	4.63529	0.1916141	0.26238482	2.4164450	20	—	—
448282 2008 YG_{164}	16.6	X	237.35854	199.27938	286.63495	13.30784	0.0939085	0.23353520	2.6115669	20	10 11.6	20.5
448283 2008 YJ_{170}	17.8	X	116.98983	244.35057	135.65296	5.35750	0.1845600	0.26764263	2.3846932	20	1 24.6	20.7
448284 2009 AH_{8}	15.8	X	192.09046	8.96730	57.36013	3.95251	0.2233000	0.12569868	3.9468345	20	6 4.9	22.3
448285 2009 AA_{12}	18.6	X	354.67366	135.86863	348.74833	0.98221	0.1317728	0.26012778	2.4304026	20	—	—
448286 2009 AR_{20}	17.7	X	89.29434	170.90801	193.60271	1.96900	0.2176654	0.26125126	2.4234298	20	—	—
448287 2009 AK_{23}	18.6	X	353.92919	138.94103	338.02426	0.76341	0.1471217	0.25882378	2.4385590	20	—	—
448288 2009 AM_{26}	17.9	X	31.55005	156.69686	304.12399	3.72165	0.1559248	0.26448192	2.4036546	20	—	—
448289 2009 BA_{8}	17.3	X	313.79827	203.08723	292.58975	6.48497	0.1184978	0.25253226	2.4788950	20	—	—
448290 2009 BS_{11}	17.1	X	311.91905	327.04696	182.82688	6.32088	0.0820393	0.25401272	2.4692538	20	—	—
448291 2009 BV_{13}	16.6	X	307.70804	143.19034	311.03368	12.72205	0.2599084	0.24193360	2.5507736	20	12 21.8	18.5
448292 2009 BH_{14}	18.4	X	65.98849	129.28976	290.37768	3.78741	0.2166477	0.26721765	2.3872210	20	—	—
448293 2009 BQ_{18}	18.4	X	3.42011	311.12450	141.42171	1.50879	0.1347511	0.25710737	2.4493999	20	—	—
448294 2009 BB_{21}	18.1	X	87.62954	286.64662	120.36441	2.69069	0.2172701	0.26943291	2.3741180	20	1 24.2	20.3
448295 2009 BS_{21}	17.3	X	258.41295	322.48225	265.35488	3.74763	0.0391566	0.26086934	2.4257946	20	—	—
448296 2009 BE_{30}	18.2	X	328.88939	149.97631	347.47750	2.12200	0.1402445	0.25486673	2.4637348	20	—	—
448297 2009 BL_{33}	17.8	X	208.81227	199.40541	19.53776	2.32335	0.0705921	0.24352996	2.5396144	20	—	—
448298 2009 BG_{35}	18.1	X	47.18911	27.49450	43.76400	2.66717	0.1685420	0.26120524	2.4237145	20	—	—
448299 2009 BR_{42}	18.4	X	26.53419	328.35899	127.88973	3.14831	0.1603676	0.26005298	2.4308687	20	—	—
448300 2009 BN_{60}	17.6	X	107.86576	319.64413	75.38697	6.42894	0.1671497	0.27802318	2.3249594	20	1 30.2	20.4
448301 2009 BE_{62}	16.9	X	238.64998	327.04940	149.88035	14.11575	0.1238378	0.22671401	2.6636908	20	10 7.0	20.7
448302 2009 BN_{72}	16.9	X	241.66628	266.08524	255.22101	4.19217	0.1338242	0.23779944	2.5802522	20	12 4.2	20.2
448303 2009 BM_{82}	17.5	X	337.45634	94.08889	65.96602	8.23899	0.2047630	0.25974998	2.4327587	20	—	—
448304 2009 BD_{98}	17.4	X	43.11319	56.42443	44.57728	2.93870	0.1423471	0.26712625	2.3877655	20	1 9.1	19.5
448305 2009 BL_{101}	17.1	X	10.57629	72.26335	31.57443	7.82787	0.0498313	0.25798239	2.4438583	20	—	—
448306 2009 BH_{126}	17.8	X	16.82332	135.02939	331.84687	1.53562	0.1708436	0.25953440	2.4341057	20	—	—
448307 2009 BW_{131}	17.7	X	77.46764	194.50270	247.31636	5.74096	0.1062121	0.27186242	2.3599525	20	2 5.3	20.3
448308 2009 BP_{136}	18.3	X	13.69218	121.90463	289.77673	2.39610	0.0964631	0.24733949	2.5134702	20	—	—
448309 2009 BL_{141}	17.9	X	44.98092	301.92392	111.30289	2.87866	0.1679166	0.25613994	2.4555636	20	—	—
448310 2009 BQ_{141}	16.9	X	210.95010	85.79013	131.38402	16.09661	0.1099372	0.24128055	2.5553742	20	—	—
448311 2009 BV_{163}	16.8	X	225.19175	198.79708	15.43461	5.31944	0.0565970	0.24487390	2.5303138	20	—	—
448312 2009 BA_{173}	17.4	X	47.38565	107.12511	329.64997	4.19514	0.1321483	0.26206205	2.4184287	20	—	—
448313 2009 BX_{184}	17.3	X	301.59050	345.45257	178.82183	7.36969	0.1661669	0.25306735	2.4753995	20	—	—
448314 2009 BX_{185}	16.8	X	262.73008	74.22087	75.38086	10.35633	0.1445344	0.23827621	2.5768092	20	12 17.6	19.6
448315 2009 CJ_{1}	17.5	X	21.34467	271.37385	15.18145	20.88539	0.0691103	0.38844236	1.8603086	20	9 27.8	19.0
448316 2009 CJ_{25}	17.8	X	24.20384	47.55378	50.34082	1.91779	0.1554640	0.25853341	2.4403845	20	—	—
448317 2009 CU_{54}	17.5	X	58.30644	99.75321	339.07906	4.53735	0.1926442	0.26435005	2.4044539	20	1 12.1	19.3
448318 2009 CU_{65}	17.4	X	193.85082	163.19866	64.41907	3.33480	0.0849660	0.23595442	2.5936855	20	—	—
448319 2009 DV_{11}	16.8	X	323.05186	98.36861	328.15660	28.24211	0.1968735	0.23897462	2.5717862	20	12 16.1	19.9
448320 2009 DY_{51}	18.1	X	0.76567	339.15272	143.39316	6.43129	0.1266040	0.25911249	2.4367472	20	—	—

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448321 2009 DW_{53}	18.1	X	37.96715	68.05538	8.84609	1.36864	0.1619746	0.25739302	2.4475874	20	—	—
448322 2009 DG_{56}	17.5	X	201.47929	99.65728	116.83705	3.38592	0.1326674	0.23413150	2.6071308	20	12 24.9	21.3
448323 2009 DK_{58}	17.6	X	251.70284	54.34259	149.56800	6.68731	0.0346166	0.24484274	2.5305285	20	—	—
448324 2009 DN_{70}	17.7	X	232.94122	42.36857	167.75191	3.51052	0.0556459	0.24310755	2.5425554	20	—	—
448325 2009 DQ_{72}	17.8	X	262.04501	195.42275	339.24964	4.09168	0.0844266	0.24246887	2.5470182	20	—	—
448326 2009 DU_{108}	17.5	X	232.12794	44.46004	137.31914	10.94480	0.0514281	0.23563457	2.5960320	20	12 29.9	21.0
448327 2009 DQ_{110}	15.9	X	149.19943	142.68287	121.15512	18.54947	0.1323887	0.23032597	2.6357696	20	12 30.2	20.1
448328 2009 DW_{110}	17.6	X	58.77237	78.97354	0.07661	20.89250	0.2837547	0.26643106	2.3919172	20	2 5.1	19.7
448329 2009 DJ_{124}	16.6	X	134.13127	256.01176	355.12853	14.99912	0.0858543	0.22451881	2.6810252	20	11 24.7	21.0
448330 2009 DZ_{136}	17.1	X	143.18274	106.36576	159.00229	12.90640	0.2553308	0.22896423	2.6462099	20	12 23.8	22.0
448331 2009 DX_{141}	17.3	X	208.19891	194.69700	342.84158	16.88333	0.1206590	0.23146719	2.6270989	20	11 7.7	21.5
448332 2009 DF_{142}	16.7	X	116.10947	240.61433	29.36132	11.20236	0.1608349	0.22235428	2.6983962	20	12 3.9	21.2
448333 2009 EC_{17}	18.6	X	334.27073	324.01951	336.75391	16.55426	0.0658052	0.37912099	1.8906777	20	7 18.0	20.2
448334 2009 EG_{30}	17.8	X	231.91106	35.45258	4.35372	20.67465	0.0493527	0.37820094	1.8937427	20	7 3.3	20.3
448335 2009 EJ_{30}	17.3	X	268.42387	289.38079	204.37058	3.82075	0.0509558	0.23061481	2.6335683	20	12 15.5	20.7
448336 2009 FU_{15}	17.9	X	299.90779	310.33321	189.72020	5.33366	0.1479718	0.24376167	2.5380048	20	—	—
448337 2009 FA_{24}	16.7	X	231.39676	170.01574	7.31569	11.36929	0.0339529	0.23165230	2.6256992	20	12 24.9	20.4
448338 2009 FP_{24}	16.7	X	161.69397	200.48263	16.66498	18.01685	0.1729234	0.22232452	2.6986370	20	11 7.6	21.3
448339 2009 FQ_{31}	18.0	X	120.41204	210.45702	346.10030	20.26184	0.1039626	0.38392663	1.8748674	20	9 23.1	20.3
448340 2009 FM_{38}	16.3	X	152.05875	180.89297	38.59483	13.52251	0.1237208	0.22034209	2.7147994	20	11 6.8	20.7
448341 2009 FO_{46}	17.6	X	260.37570	33.49522	29.26828	22.28644	0.0668970	0.38422057	1.8739110	20	10 3.6	19.2
448342 2009 FS_{46}	16.4	X	132.79398	234.06782	29.07054	13.63928	0.1492584	0.22362287	2.6881814	20	12 10.3	20.9
448343 2009 FJ_{48}	17.2	X	91.19853	241.66920	63.35317	4.30757	0.0557277	0.22558461	2.6725740	20	12 17.3	20.8
448344 2009 FX_{57}	17.1	X	129.52720	274.86667	298.77647	1.64755	0.1248960	0.21070867	2.7969268	20	10 7.9	21.6
448345 2009 FN_{58}	17.8	X	325.97935	79.65411	24.56409	2.30919	0.0368400	0.23696437	2.5863106	20	—	—
448346 2009 FK_{59}	16.9	X	117.76460	260.06103	1.71085	4.59715	0.0886564	0.21759046	2.7376388	20	11 22.7	21.1
448347 2009 FZ_{62}	16.8	X	286.68522	89.24907	15.99900	13.61214	0.0907168	0.22511089	2.6763221	20	11 24.9	20.3
448348 2009 FB_{64}	16.8	X	75.64273	298.31342	29.28438	6.45396	0.0922817	0.22658833	2.6646757	20	12 31.9	20.7
448349 2009 FU_{65}	18.1	X	216.50741	315.16481	150.61065	23.30005	0.0852546	0.39657799	1.8347785	20	9 24.7	19.9
448350 2009 FA_{72}	17.0	X	138.06216	351.31370	205.87966	8.04458	0.1130913	0.20899239	2.8122185	20	9 24.9	21.4
448351 2009 GR	17.8	X	106.68614	352.35804	220.44302	20.68660	0.0407593	0.37745274	1.8962445	20	9 25.7	20.2
448352 2009 GY	16.6	X	74.39768	254.46930	58.27679	4.99428	0.0647948	0.21352921	2.7722423	20	12 5.7	20.6
448353 2009 HE_{1}	17.3	X	243.85244	164.37252	27.92061	34.47167	0.1925145	0.23481237	2.6020885	20	—	—
448354 2009 HN_{9}	16.3	X	24.45405	292.20037	90.42599	15.33875	0.1121882	0.22286509	2.6942715	20	—	—
448355 2009 HL_{12}	16.9	X	149.97135	350.29153	202.12935	8.41629	0.0846543	0.20951506	2.8075396	20	10 1.2	21.1
448356 2009 HS_{13}	16.5	X	262.13146	155.00994	24.39429	22.92812	0.0941870	0.23551950	2.5968776	20	—	—
448357 2009 HV_{14}	16.8	X	62.55783	240.09847	152.72179	9.17963	0.1306516	0.24274089	2.5451151	20	—	—
448358 2009 HD_{18}	16.8	X	127.76511	259.31183	1.22761	3.54680	0.1464966	0.21891354	2.7265971	20	12 3.4	21.2
448359 2009 HZ_{21}	18.1	X	319.88600	218.69022	191.34997	22.21884	0.0264440	0.39687373	1.8338669	20	12 25.1	20.4
448360 2009 HS_{27}	17.0	X	80.51571	62.19751	209.00734	8.37321	0.1287469	0.20931345	2.8093421	20	10 29.8	21.0
448361 2009 HA_{44}	17.4	X	270.47121	350.56475	146.68742	3.61575	0.0368204	0.22599479	2.6693392	20	12 23.0	20.9
448362 2009 HX_{47}	16.5	X	183.81862	46.25301	192.85808	13.80302	0.0227177	0.22893800	2.6464120	20	—	—
448363 2009 HA_{48}	16.8	X	264.30528	332.60586	191.77164	13.03442	0.1152350	0.23276574	2.6173191	20	—	—
448364 2009 HO_{51}	16.9	X	111.79538	82.46891	189.48169	12.40867	0.1729764	0.21517167	2.7581168	20	12 4.7	21.6
448365 2009 HB_{52}	16.6	X	80.34233	179.15087	49.91742	14.48118	0.1587036	0.20079594	2.8882366	20	9 17.2	21.1
448366 2009 HF_{60}	18.1	X	174.46991	85.23674	74.62631	26.57895	0.0552663	0.38441551	1.8732775	20	10 31.6	20.6
448367 2009 HB_{65}	17.3	X	183.00121	203.37331	40.62328	3.98550	0.0057842	0.23135673	2.6279350	20	—	—
448368 2009 HV_{71}	17.0	X	322.52985	294.70771	189.90270	11.33739	0.1421599	0.23482881	2.6019671	20	—	—
448369 2009 HH_{74}	16.7	X	211.93799	128.46196	85.33000	15.72463	0.1298200	0.22968249	2.6406902	20	—	—
448370 2009 HX_{97}	16.7	X	168.40974	146.39724	80.36181	12.67345	0.0660270	0.22133204	2.7066983	20	12 5.7	20.7
448371 2009 JK_{12}	16.8	X	227.24694	164.05914	49.99639	10.79038	0.1328858	0.23269602	2.6178419	20	—	—
448372 2009 KJ_{1}	17.6	X	100.07199	129.17407	57.89678	23.74426	0.0332784	0.37072934	1.9191021	20	8 22.6	20.4
448373 2009 KM_{4}	15.5	X	305.43588	184.65090	189.41985	28.72041	0.1802264	0.17370571	3.1812172	20	8 2.6	20.0
448374 2009 KL_{5}	17.2	X	260.66362	328.57671	195.90052	13.37294	0.1831821	0.23059782	2.6336977	20	12 25.4	20.6
448375 2009 KB_{11}	16.6	X	328.04660	213.40643	106.19458	16.46802	0.2015981	0.18586176	3.0409505	20	7 2.7	19.7
448376 2009 KL_{14}	18.0	X	34.06143	46.66454	211.58971	20.25790	0.0469589	0.36997766	1.9217006	20	8 11.4	20.4
448377 2009 KC_{16}	16.9	X	221.86546	18.86007	150.73876	5.19040	0.0559134	0.21890653	2.7266553	20	11 27.8	20.7
448378 2009 KL_{24}	16.5	X	22.03296	96.09046	156.01767	13.01305	0.1302264	0.18775315	3.0204934	20	7 12.2	20.3
448379 2009 LV_{1}	16.9	X	5.67426	120.80516	193.99012	8.26784	0.2312744	0.19273310	2.9682366	20	9 20.1	19.8
448380 2009 LX_{1}	16.1	X	59.51845	131.05234	213.38121	12.87075	0.2025355	0.21325907	2.7745829	20	—	—
448381 2009 ML_{10}	15.8	X	318.44157	273.21524	114.21199	22.03737	0.2256972	0.18238728	3.0794491	20	9 24.8	19.4
448382 2009 OD	16.2	X	349.66633	16.45244	297.26327	10.58234	0.1995947	0.18107801	3.0942750	20	8 7.9	19.5
448383 2009 OX_{10}	15.8	X	348.89844	91.72475	254.95800	10.41651	0.1753477	0.18326825	3.0695725	20	9 18.5	19.3
448384 2009 OH_{14}	15.4	X	314.47004	107.70131	266.14761	15.02009	0.2244789	0.17813117	3.1283075	20	8 10.7	19.1
448385 2009 PS_{8}	15.0	X	341.92969	342.04003	338.85308	18.96951	0.1533371	0.17360579	3.1824377	20	8 9.0	18.7
448386 2009 PP_{17}	16.8	X	36.15667	65.64481	208.30860	10.27321	0.2684293	0.18435570	3.0574897	20	9 22.5	20.7
448387 2009 PW_{19}	15.5	X	323.83342	195.71987	156.11144	27.96890	0.1201606	0.17829804	3.1263553	20	8 15.2	19.4
448388 2009 QS_{7}	16.7	X	11.78359	109.18925	188.06000	15.28974	0.2562538	0.17912415	3.1167355	20	9 7.2	20.1
448389 2009 QX_{14}	16.0	X	229.45615	121.67352	346.36481	8.75815	0.0382536	0.17816493	3.1279123	20	9 14.7	20.5
448390 2009 QJ_{16}	16.1	X	312.44534	19.68832	359.60830	8.01238	0.0853770	0.17669952	3.1451821	20	9 7.4	20.2
448391 2009 QM_{17}	16.0	X	301.75285	82.14681	293.79140	8.06533	0.1052282	0.17561146	3.1581602	20	8 12.2	20.1
448392 2009 QK_{19}	16.4	X	350.74010	172.15046	159.88571	9.94394	0.3064126	0.17839964	3.1251683	20	9 14.4	18.8
448393 2009 QM_{28}	16.4	X	337.79995	357.05394	329.96683	8.99925	0.1148613	0.17657413	3.1466709	20	8 7.5	20.2
448394 2009 QP_{37}	16.3	X	352.75238	166.93894	162.65557	10.33074	0.0826706	0.17748900	3.1358486	20	9 3.3	20.2
448395 2009 QM_{45}	16.4	X	322.76160	325.53304	25.52339	8.70219	0.2296295	0.17394635	3.1782825	20	8 5.1	19.9
448396 2009 QN_{45}	15.6	X	357.41944	144.41433	170.58657	23.21748	0.2792770	0.17569091	3.1572080	20	9 1.8	18.4
448397 2009 QV_{60}	15.6	X	23.93831	127.17600	162.42037	27.23976	0.1815351	0.17824431	3.1269835	20	9 11.7	19.2
448398 2009 RD_{3}	16.1	X	311.49896	179.43062	198.51651	17.50551	0.2053844	0.17532842	3.1615581	20	8 15.0	20.1
448399 2009 RF_{10}	16.2	X	293.20389	202.67850	190.18231	11.04512	0.0686846	0.17260397	3.1947401	20	8 25.5	20.6
448400 2009 RL_{11}	16.5	X	36.56995	127.47959	185.64421	11.79650	0.1465884	0.18269256	3.0760175	20	10 27.9	20.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448401 2009 RV_{17}	16.5	X	266.71074	44.57558	24.63218	11.46134	0.0710821	0.17306247	3.1890950	20	9 12.1	21.0
448402 2009 RD_{61}	17.7	X	273.31423	132.90139	208.47507	21.82900	0.0898907	0.34361139	2.0187894	20	5 23.2	20.1
448403 2009 RQ_{65}	15.5	X	333.08593	277.83630	60.56184	22.19458	0.1884689	0.17417796	3.1754644	20	8 19.6	19.5
448404 2009 RY_{67}	16.1	X	42.43102	67.48801	199.08874	26.00053	0.1975665	0.17228156	3.1987246	20	9 7.4	20.6
448405 2009 RV_{74}	16.1	X	294.77972	181.00520	211.28588	16.50244	0.1266993	0.17359181	3.1826086	20	8 16.4	20.6
448406 2009 SZ_{3}	16.6	X	37.37464	347.70420	310.09188	3.73205	0.1955161	0.18220282	3.0815270	20	10 13.3	20.6
448407 2009 SS_{10}	15.7	X	263.92591	270.19641	151.76549	25.95176	0.1821384	0.16940004	3.2348965	20	8 8.7	20.6
448408 2009 SJ_{16}	16.4	X	326.12956	200.89888	184.57436	7.60094	0.1573609	0.18164518	3.0878305	20	10 3.4	19.8
448409 2009 SB_{26}	15.8	X	14.77426	111.45949	190.91374	26.23806	0.0861086	0.17288740	3.1912475	20	8 28.4	20.3
448410 2009 SL_{66}	16.1	X	230.01426	297.14367	196.94027	25.30166	0.2032678	0.17386223	3.1793077	20	9 26.7	21.2
448411 2009 SR_{91}	17.1	X	7.41012	175.03855	155.05615	2.89637	0.1450787	0.18152624	3.0891793	20	10 3.9	20.7
448412 2009 SS_{109}	16.3	X	305.79188	222.25542	173.55731	10.62208	0.2155510	0.17461609	3.1701505	20	8 31.1	19.9
448413 2009 SE_{138}	16.8	X	328.00730	165.84614	204.91505	11.84262	0.1032210	0.17350556	3.1836632	20	9 14.7	20.9
448414 2009 SE_{139}	16.0	X	23.10660	106.89190	188.08203	15.45187	0.1307304	0.17551713	3.1592916	20	9 7.4	20.1
448415 2009 SQ_{139}	15.7	X	317.73658	179.39540	202.94341	22.34133	0.1250870	0.17612240	3.1520491	20	9 10.9	19.8
448416 2009 SK_{152}	16.5	X	331.10250	204.40918	178.66462	16.80253	0.2208427	0.18188258	3.0851431	20	10 9.5	19.5
448417 2009 SQ_{157}	16.3	X	215.55155	290.43648	213.89812	9.09270	0.1827954	0.17536661	3.1610991	20	9 26.8	21.5
448418 2009 SA_{168}	15.7	X	332.93188	2.62373	352.36321	16.62109	0.1335953	0.17570350	3.1570572	20	9 6.1	19.4
448419 2009 SP_{207}	15.5	X	293.70135	116.45300	275.15799	17.67153	0.1898619	0.17157905	3.2074498	20	8 3.7	19.8
448420 2009 SZ_{220}	15.4	X	310.20533	165.44364	228.54123	21.75414	0.0795106	0.17736509	3.1373089	20	9 15.6	19.9
448421 2009 SD_{255}	16.0	X	338.63996	267.76852	73.78766	16.89928	0.2189219	0.17778725	3.1323406	20	9 3.6	19.5
448422 2009 SJ_{255}	15.5	X	336.46436	237.96877	113.54145	17.51677	0.1914387	0.17805001	3.1292580	20	9 10.6	19.1
448423 2009 SG_{270}	15.4	X	8.18337	286.19275	21.59793	25.48671	0.2136089	0.17456199	3.1708055	20	9 21.6	19.1
448424 2009 SY_{273}	15.6	X	165.32582	133.57133	16.66699	8.36977	0.0240877	0.16982530	3.2294937	20	8 26.0	20.3
448425 2009 SV_{279}	15.9	X	258.01764	44.91619	27.95830	17.64900	0.1922389	0.16895114	3.2406239	20	8 23.8	20.9
448426 2009 SY_{346}	16.2	X	306.54879	215.78317	175.02536	9.47069	0.0880320	0.17368900	3.1814212	20	9 11.0	20.2
448427 2009 UZ_{51}	18.7	X	189.28969	277.30244	28.69829	2.69799	0.1736578	0.30911343	2.1663276	20	—	—
448428 2009 UF_{82}	18.0	X	138.62058	350.21302	358.66724	4.33902	0.1487443	0.30394902	2.1907974	20	—	—
448429 2009 UK_{105}	16.9	X	270.39803	187.14866	215.91336	4.47636	0.1425157	0.16023004	3.3571707	20	7 28.2	21.7
448430 2009 UB_{116}	16.3	X	22.88434	270.67230	37.09189	9.61886	0.0820152	0.17515935	3.1635922	20	9 23.8	20.5
448431 2009 VV_{48}	15.6	X	331.66828	268.47570	88.78997	26.11817	0.2796893	0.17264978	3.1941750	20	9 8.1	19.2
448432 2009 VJ_{115}	15.6	X	241.50207	45.71438	52.19607	15.88265	0.2924078	0.16179685	3.3354621	20	8 23.9	21.2
448433 2009 WM_{46}	16.4	X	30.21609	106.95903	209.09824	9.70296	0.0682328	0.17439220	3.1728632	20	10 7.8	20.8
448434 2009 WA_{72}	18.0	X	184.56056	270.40837	72.72375	7.43335	0.0427347	0.31044217	2.1601417	20	2 5.9	20.7
448435 2009 WM_{76}	18.1	X	319.23285	201.72556	24.24871	5.88396	0.0768853	0.31097565	2.1576705	20	2 15.1	20.4
448436 2009 WX_{85}	18.3	X	167.54830	81.31520	291.20112	4.56794	0.1136561	0.31374023	2.1449767	20	2 26.2	21.2
448437 2009 WS_{86}	16.1	X	290.85969	343.90241	41.74163	10.51028	0.0549526	0.16014877	3.3583064	20	8 21.2	20.9
448438 2009 WL_{113}	16.2	X	8.18170	112.91562	211.04027	14.17327	0.1082266	0.17497543	3.1658087	20	9 18.1	20.3
448439 2009 WE_{177}	17.8	X	346.02761	157.63537	5.72136	6.42555	0.0996326	0.30098231	2.2051700	20	—	—
448440 2009 WU_{235}	18.1	X	169.73673	42.76273	250.12272	3.81967	0.1241212	0.29586182	2.2305404	20	—	—
448441 2009 WP_{245}	17.7	X	58.74147	173.52091	306.19902	5.32566	0.0881814	0.29958244	2.2120341	20	2 22.9	19.7
448442 2009 WF_{254}	17.6	X	256.62754	40.44280	268.87068	5.26320	0.0700282	0.31742334	2.1283521	20	3 13.0	20.2
448443 2009 YL_{24}	18.6	X	88.18760	120.24865	305.35654	4.77182	0.2561848	0.30048919	2.2075819	20	2 20.9	20.7
448444 2010 AP_{96}	16.2	X	296.25431	177.47098	215.98939	27.34529	0.1615862	0.17072723	3.2181098	20	8 11.5	20.9
448445 2010 BU_{74}	16.9	X	148.81663	334.95557	282.93392	10.58505	0.1466848	0.24436133	2.5338509	20	12 24.5	20.9
448446 2010 CL_{183}	17.5	X	358.67689	0.56286	152.27694	6.10387	0.1068073	0.28332464	2.2958657	20	—	—
448447 2010 DA_{45}	17.1	X	289.18689	196.25300	342.00329	6.54575	0.0512224	0.27143795	2.3624122	20	—	—
448448 2010 DU_{57}	17.5	X	112.80045	210.27611	80.66206	31.87297	0.2576777	0.23553499	2.5967637	20	12 29.9	22.2
448449 2010 DX_{75}	18.1	X	102.59393	282.86359	163.62035	5.16498	0.0474499	0.29477670	2.2360111	20	3 11.3	20.7
448450 2010 DB_{77}	16.5	X	322.81598	61.22368	118.74390	23.57652	0.1564613	0.28102568	2.3083698	20	—	—
448451 2010 DX_{77}	17.1	X	242.28016	214.52838	350.94166	12.19027	0.1236522	0.26321167	2.4113817	20	—	—
448452 2010 EX_{29}	17.4	X	254.25641	178.28196	40.99810	5.78551	0.1782347	0.27038850	2.3685210	20	—	—
448453 2010 ES_{44}	17.3	X	320.69010	113.90975	78.03196	8.31338	0.0655241	0.28007539	2.3135883	20	1 5.4	20.0
448454 2010 EW_{70}	17.6	X	102.63941	62.22558	194.91237	8.71035	0.1445166	0.23472075	2.6027656	20	11 10.5	21.6
448455 2010 EG_{71}	17.9	X	164.56656	286.00309	353.50062	1.08070	0.1609970	0.26071936	2.4267248	20	—	—
448456 2010 ET_{79}	18.1	X	3.46016	359.68206	145.99247	4.27299	0.0802590	0.28371907	2.2937374	20	1 1.1	20.6
448457 2010 EZ_{84}	18.0	X	276.45969	38.16155	182.81941	5.57711	0.1185737	0.27569278	2.3380428	20	—	—
448458 2010 EC_{87}	18.0	X	342.06334	13.89666	152.02071	2.51818	0.1489903	0.27961086	2.3161500	20	—	—
448459 2010 EY_{107}	17.0	X	211.15712	233.13337	34.51331	6.51047	0.1082850	0.26618376	2.3933985	20	—	—
448460 2010 EO_{109}	17.8	X	257.71900	258.96049	2.97802	1.93980	0.0630739	0.28479631	2.2879497	20	1 18.6	20.8
448461 2010 ER_{110}	17.4	X	243.77585	25.55830	200.53641	3.84008	0.1673837	0.26481859	2.4016169	20	—	—
448462 2010 EH_{129}	17.4	X	104.42691	269.50519	17.81141	3.85583	0.2448293	0.23753028	2.5822011	20	12 22.0	21.9
448463 2010 EB_{130}	17.9	X	288.23174	5.76610	197.48148	6.59098	0.1373774	0.27258713	2.3557678	20	—	—
448464 2010 EK_{137}	16.5	X	314.96818	345.01112	201.54915	24.14869	0.1837102	0.27409629	2.3471127	20	—	—
448465 2010 ES_{143}	17.0	X	139.93878	31.54328	200.15346	12.97420	0.2174396	0.23579626	2.5948451	20	11 14.7	21.5
448466 2010 FJ_{20}	17.5	X	113.72944	70.26942	168.24958	13.39191	0.2137682	0.23459230	2.6037156	20	11 3.6	22.0
448467 2010 FQ_{29}	17.7	X	259.14995	71.56351	168.00677	1.21741	0.1464456	0.27134474	2.3629531	20	—	—
448468 2010 FR_{29}	17.8	X	277.90709	153.00766	49.38623	2.03216	0.1159079	0.26872548	2.3782827	20	—	—
448469 2010 FH_{47}	18.1	X	320.16271	9.85299	171.24596	4.31411	0.1858575	0.27832019	2.3233051	20	—	—
448470 2010 GP_{25}	17.0	X	139.87670	255.30514	346.99710	7.28274	0.1692558	0.23899311	2.5716536	20	11 24.6	21.4
448471 2010 GA_{28}	17.4	X	310.67608	7.95154	201.80870	23.75717	0.1429839	0.27676689	2.3319897	20	1 1.1	21.1
448472 2010 GP_{29}	17.3	X	228.98679	228.09555	30.41131	5.40651	0.1355677	0.26597843	2.3946301	20	—	—
448473 2010 GO_{30}	18.1	X	178.62918	196.15553	49.09815	3.71460	0.1862135	0.25126920	2.4871953	20	—	—
448474 2010 GV_{65}	17.1	X	282.93243	121.13918	60.05226	9.49961	0.1005492	0.26709410	2.3879571	20	—	—
448475 2010 GZ_{97}	17.6	X	201.38520	98.27192	165.51219	6.53280	0.0932597	0.26255431	2.4154049	20	—	—
448476 2010 GJ_{103}	17.1	X	84.68101	218.66616	62.68466	14.89729	0.1737538	0.23009470	2.6375355	20	11 23.2	21.2
448477 2010 GG_{107}	18.4	X	328.01568	269.00976	254.43290	0.46175	0.1285344	0.27408498	2.3471773	20	—	—
448478 2010 GM_{112}	16.9	X	87.69055	247.87325	46.54537	16.16052	0.3540385	0.23154464	2.6265131	20	12 21.3	21.9
448479 2010 GU_{119}	17.0	X	89.22992	112.63932	189.69103	28.69123	0.3547589	0.23622954	2.5916713	20	12 30.9	22.4
448480 2010 GZ_{141}	17.8	X	226.21503	38.50841	188.18209	6.05992	0.0736369	0.26361057	2.4089484	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448481 2010 GM_{145}	16.9	X	340.42923	201.95094	181.84505	9.40633	0.0702700	0.23272380	2.6176335	20	11 8.2	20.1
448482 2010 HJ_{55}	16.6	X	91.07824	263.11148	75.37572	12.88619	0.1271147	0.23213646	2.6220470	20	—	—
448483 2010 JP_{45}	17.3	X	70.21675	176.32792	169.09693	4.42015	0.2568275	0.23723020	2.5843782	20	—	—
448484 2010 JQ_{68}	16.2	X	135.13537	184.06971	124.96352	17.39529	0.1979002	0.23620186	2.5918737	20	—	—
448485 2010 JR_{73}	17.1	X	56.81561	284.21551	49.51293	15.89013	0.0964973	0.23725063	2.5842298	20	12 19.3	20.9
448486 2010 JU_{73}	17.6	X	222.85326	12.59746	219.80029	1.92961	0.1392867	0.25743245	2.4473374	20	—	—
448487 2010 JN_{75}	17.8	X	68.46589	112.45941	205.67472	12.03166	0.2818779	0.22822533	2.6519184	20	12 29.7	22.4
448488 2010 JG_{78}	16.7	X	36.35361	95.06693	191.97898	3.06747	0.1742789	0.21707414	2.7419781	20	10 2.9	20.0
448489 2010 JS_{80}	16.9	X	207.08689	61.99229	142.35661	13.78880	0.0832212	0.24651899	2.5190442	20	12 25.9	20.6
448490 2010 JG_{120}	17.0	X	28.21222	234.12162	89.21408	12.45658	0.1696313	0.22258942	2.6964955	20	11 12.6	20.5
448491 2010 JM_{135}	16.1	X	148.59675	352.75589	276.86738	14.60512	0.1600988	0.23125413	2.6287123	20	—	—
448492 2010 JQ_{153}	16.9	X	53.84397	184.01261	76.88601	10.00958	0.1576593	0.21656969	2.7462344	20	9 25.7	20.7
448493 2010 JV_{154}	16.7	X	345.96403	308.26132	76.31696	10.65684	0.0694756	0.23177590	2.6247656	20	11 17.3	19.8
448494 2010 KY_{9}	16.9	X	265.30108	13.83421	135.45529	15.08566	0.0199850	0.24573284	2.5244140	20	—	—
448495 2010 KD_{49}	17.5	X	32.09233	179.67472	182.40054	8.42893	0.2726623	0.21447211	2.7641111	20	—	—
448496 2010 KX_{119}	17.0	X	38.02997	174.40338	148.08449	5.13215	0.1962835	0.20890342	2.8130169	20	11 23.1	20.8
448497 2010 KR_{128}	16.8	X	172.95421	27.31772	209.30149	6.84529	0.1614447	0.24214065	2.5493194	20	12 19.6	20.8
448498 2010 LK_{31}	16.2	X	75.84677	4.41785	313.73613	14.23660	0.1634177	0.21806672	2.7336513	20	12 26.9	20.6
448499 2010 LE_{35}	16.9	X	309.88885	36.68497	137.17839	7.46657	0.0521350	0.26400799	2.4065303	20	—	—
448500 2010 LM_{77}	16.7	X	36.07295	14.81743	343.42214	10.61094	0.1576031	0.21438998	2.7648170	20	12 30.8	20.6
448501 2010 LO_{82}	16.9	X	27.96082	334.99879	14.02991	8.44420	0.1466640	0.21028141	2.8007143	20	12 3.3	20.7
448502 2010 LZ_{112}	16.6	X	76.69661	244.33414	105.26346	12.80954	0.2784809	0.23795782	2.5791072	20	—	—
448503 2010 LW_{116}	16.5	X	57.74381	329.91062	348.45610	7.72093	0.2177937	0.21246984	2.7814496	20	12 11.8	20.8
448504 2010 LE_{119}	16.5	X	292.64142	24.30045	330.28748	6.95683	0.2202867	0.18345969	3.0674367	20	6 16.1	20.6
448505 2010 MJ_{4}	17.0	X	25.84892	236.53598	140.70822	10.99963	0.2707821	0.21714047	2.7414197	20	—	—
448506 2010 MZ_{45}	16.5	X	15.35037	32.65693	278.21394	11.10102	0.1435315	0.19671599	2.9280351	20	9 16.8	20.3
448507 2010 MY_{82}	16.9	X	17.19486	356.34343	9.50321	4.26881	0.0816830	0.20864795	2.8153126	20	11 30.9	20.5
448508 2010 MX_{84}	16.0	X	227.99589	61.78610	348.26827	21.33155	0.2043056	0.17415017	3.1758022	20	6 16.1	21.6
448509 2010 ME_{100}	16.3	X	332.88077	306.79795	5.54688	9.86995	0.1096231	0.18319220	3.0704220	20	7 11.9	20.2
448510 2010 MF_{102}	16.2	X	41.02388	282.83945	21.27191	12.64563	0.1426556	0.20153908	2.8811323	20	10 22.7	20.0
448511 2010 NU_{13}	16.6	X	263.13311	215.71062	168.65556	10.16602	0.2155497	0.17793347	3.1306243	20	6 18.7	21.5
448512 2010 NT_{16}	17.1	X	343.58553	129.18979	210.12626	4.05043	0.1015275	0.19184529	2.9773870	20	9 2.6	20.7
448513 2010 NU_{45}	16.6	X	43.88878	140.56397	195.46902	21.58238	0.2872838	0.21001145	2.8031139	20	12 25.6	21.2
448514 2010 NV_{46}	16.6	X	254.18717	218.11681	209.73235	11.76690	0.1953569	0.18425073	3.0586508	20	8 1.2	21.3
448515 2010 NH_{56}	16.9	X	310.72030	329.89798	8.40728	4.69802	0.1682223	0.18203588	3.0834108	20	7 1.3	20.6
448516 2010 OG_{3}	16.4	X	53.68672	50.31960	232.64127	8.02987	0.1695936	0.19784382	2.9168967	20	10 15.1	20.5
448517 2010 OP_{10}	16.4	X	275.16162	172.34238	184.29974	4.83748	0.1625253	0.17477937	3.1681758	20	6 5.0	20.9
448518 2010 OV_{15}	15.5	X	242.48777	202.31334	196.99172	27.81752	0.1892320	0.17396601	3.1780431	20	6 16.6	21.0
448519 2010 ON_{23}	15.8	X	216.36449	107.61738	10.78936	26.21967	0.2092751	0.18450242	3.0558685	20	9 7.9	21.0
448520 2010 OA_{43}	16.4	X	295.71247	91.20550	294.93423	7.88973	0.1534973	0.18566116	3.0431405	20	8 11.1	20.2
448521 2010 OL_{49}	16.8	X	288.28611	198.66709	163.31623	12.84681	0.2798701	0.17937855	3.1137880	20	6 11.8	21.3
448522 2010 OU_{50}	16.2	X	349.00726	324.18743	21.10675	29.45299	0.1561586	0.19290795	2.9664427	20	10 2.2	19.6
448523 2010 OM_{59}	16.3	X	61.22772	68.53318	233.78053	11.04285	0.0093066	0.19859056	2.9095801	20	10 26.3	20.4
448524 2010 OO_{73}	15.8	X	215.13118	34.42452	36.28247	17.60372	0.0884073	0.17309144	3.1887391	20	7 9.9	20.9
448525 2010 OM_{89}	16.0	X	253.08400	238.34455	197.34751	16.74653	0.1498711	0.18378433	3.0638234	20	8 15.4	20.8
448526 2010 OJ_{93}	16.6	X	317.16667	177.15724	235.71411	10.35150	0.0875662	0.19800205	2.9153425	20	10 30.1	20.1
448527 2010 OO_{99}	16.2	X	256.61928	54.13246	354.85294	26.42752	0.1781881	0.17750669	3.1356402	20	7 27.7	21.3
448528 2010 OO_{110}	16.6	X	298.39179	36.98595	57.36051	27.49351	0.1913074	0.20108071	2.8855091	20	11 17.2	19.5
448529 2010 OO_{111}	16.3	X	338.78527	269.03801	38.45956	21.89912	0.2521913	0.18271512	3.0757643	20	7 3.5	19.7
448530 2010 PK_{2}	16.0	X	86.84892	209.87347	136.42406	15.42787	0.0695229	0.23283409	2.6168068	20	—	—
448531 2010 PL_{10}	16.3	X	47.24199	21.73083	317.87184	8.85735	0.2039660	0.21434475	2.7652059	20	12 26.5	20.4
448532 2010 PT_{10}	16.2	X	117.78440	333.96673	299.29179	14.79873	0.1057705	0.22259681	2.6964359	20	12 9.4	20.5
448533 2010 PD_{33}	17.0	X	45.20824	3.14697	302.61052	10.61004	0.0514318	0.22746480	2.6578263	20	10 17.4	20.8
448534 2010 PP_{33}	16.1	X	2.32589	67.89134	280.75781	9.23252	0.1515526	0.19528738	2.9422976	20	10 18.7	19.6
448535 2010 PY_{36}	16.7	X	329.37813	44.82186	348.46078	15.69352	0.2074887	0.19510266	2.9441545	20	10 15.6	19.9
448536 2010 PP_{51}	16.0	X	249.93659	36.58841	26.92820	14.39022	0.0703999	0.17954336	3.1118822	20	8 17.9	20.7
448537 2010 PV_{60}	16.5	X	94.36599	153.95096	169.08478	7.03477	0.1075512	0.22419306	2.6836216	20	—	—
448538 2010 PO_{68}	16.8	X	296.20638	61.69346	2.75640	15.11431	0.2133481	0.19130679	2.9829717	20	9 26.4	20.3
448539 2010 PW_{70}	15.9	X	222.35133	36.84318	37.20344	19.93511	0.1936428	0.17129794	3.2109580	20	7 13.7	21.4
448540 2010 PZ_{79}	16.6	X	31.73665	42.06975	300.01408	3.94640	0.1684555	0.21082123	2.7959312	20	12 4.2	20.3
448541 2010 RL_{10}	17.2	X	357.05982	171.11111	226.97736	2.68907	0.0998567	0.21037460	2.7998870	20	12 17.0	20.5
448542 2010 RN_{11}	17.1	X	35.94054	90.96688	194.03499	18.46663	0.1790792	0.20064813	2.8896548	20	9 26.3	20.8
448543 2010 RM_{12}	15.5	X	234.41453	63.82552	341.51956	15.91014	0.2075966	0.17702312	3.1413481	20	6 16.3	20.9
448544 2010 RQ_{13}	16.7	X	339.83499	47.13971	346.49002	13.39891	0.1908673	0.20543214	2.8446169	20	11 12.3	19.9
448545 2010 RV_{36}	17.8	X	294.18429	166.83402	165.51082	23.51756	0.0712265	0.38210829	1.8808107	20	6 18.9	20.2
448546 2010 RH_{57}	16.8	X	275.23302	202.73489	275.06255	3.99241	0.0789374	0.21176958	2.7875778	20	11 25.5	20.4
448547 2010 RF_{61}	16.6	X	14.95839	318.06748	8.91110	9.14782	0.1106582	0.19599563	2.9352051	20	10 9.4	20.1
448548 2010 RJ_{61}	16.5	X	5.93853	133.11212	195.65656	10.57218	0.0924313	0.19326844	2.9627529	20	9 25.1	20.2
448549 2010 RU_{67}	16.9	X	320.82343	265.54483	110.49476	0.91087	0.2635633	0.18786908	3.0192507	20	9 1.1	19.5
448550 2010 RQ_{73}	16.5	X	89.95510	272.78835	8.65107	11.26367	0.1866009	0.21448963	2.7639606	20	11 23.5	21.1
448551 2010 RT_{83}	17.2	X	335.56521	54.86793	355.19253	9.86043	0.1242719	0.21001387	2.8030923	20	11 27.6	20.5
448552 2010 RZ_{91}	17.1	X	48.21752	12.16532	310.03355	6.10297	0.1177143	0.20977625	2.8052086	20	11 21.5	21.0
448553 2010 RJ_{100}	16.7	X	214.65244	123.82875	329.84807	4.86278	0.0882558	0.18265784	3.0764073	20	8 6.6	21.3
448554 2010 RM_{102}	17.4	X	63.72072	113.97480	222.68751	3.27552	0.1064197	0.21401197	2.7680717	20	12 27.9	21.3
448555 2010 RY_{105}	16.7	X	334.22857	291.68284	9.24608	12.99473	0.1139825	0.17861779	3.1226231	20	6 26.2	20.8
448556 2010 RQ_{108}	16.9	X	5.86180	252.31252	193.59531	21.62913	0.0707092	0.22582858	2.6706488	20	—	—
448557 2010 RT_{108}	16.5	X	38.72786	311.14661	3.89745	14.88761	0.1512963	0.20333329	2.8641586	20	10 31.2	20.5
448558 2010 RD_{118}	16.7	X	333.25164	350.30233	53.74659	6.61139	0.0657405	0.20364413	2.8612433	20	11 14.8	20.3
448559 2010 RD_{124}	16.8	X	284.56184	23.48763	350.31019	9.88253	0.0064649	0.18823867	3.0152973	20	8 4.5	21.0
448560 2010 RZ_{124}	16.6	X	48.02956	247.71666	64.28960	2.97305	0.0556186	0.20331245	2.8643543	20	10 31.3	20.4

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448561 2010 RN_{128}	15.9	X	314.86298	33.02020	338.40419	13.91236	0.0397454	0.19276523	2.9679067	20	9 4.6	19.8
448562 2010 RZ_{143}	18.6	X	44.83223	138.14799	186.76244	18.34196	0.1490387	0.41107649	1.7913796	20	—	—
448563 2010 RO_{150}	16.8	X	320.40627	85.41001	350.15043	8.71775	0.1424685	0.20953223	2.8073862	20	12 6.7	20.1
448564 2010 RC_{151}	16.6	X	116.31863	116.73325	186.21765	12.60669	0.1240030	0.22297728	2.6933676	20	—	—
448565 2010 RY_{151}	16.7	X	40.27095	176.31237	152.06444	2.45301	0.0720195	0.20496815	2.8489083	20	11 13.8	20.5
448566 2010 RP_{152}	17.4	X	346.62595	42.29438	18.57545	6.06617	0.0655899	0.21345765	2.7728619	20	12 28.8	20.9
448567 2010 RB_{174}	17.1	X	275.07222	14.48417	3.80129	2.18319	0.1316175	0.18386173	3.0629635	20	7 7.3	21.4
448568 2010 SL_{2}	16.4	X	227.25879	109.18245	15.89910	11.24193	0.0960630	0.19054182	2.9909502	20	9 29.6	20.6
448569 2010 SR_{5}	16.5	X	162.95299	200.85721	345.80149	9.67423	0.1041279	0.19614365	2.9337282	20	10 3.7	21.1
448570 2010 SL_{7}	15.9	X	0.58782	247.43576	349.95574	10.02951	0.1848022	0.17642571	3.1484355	20	5 10.6	19.5
448571 2010 SZ_{14}	16.9	X	37.47480	281.31302	40.88722	2.57032	0.0633926	0.20319772	2.8654323	20	10 31.0	20.6
448572 2010 SB_{18}	16.8	X	239.88571	67.88306	4.22136	13.90780	0.1814964	0.18299828	3.0725907	20	8 1.5	21.7
448573 2010 SJ_{24}	16.2	X	286.44570	327.72493	13.99797	9.77904	0.1164993	0.17769728	3.1333977	20	6 4.9	20.6
448574 2010 ST_{40}	17.0	X	40.06231	191.63181	159.65706	4.82082	0.1066457	0.20918588	2.8104841	20	12 17.5	20.8
448575 2010 TA_{9}	17.0	X	14.56343	114.57821	237.04497	1.06552	0.0753141	0.20405384	2.8574120	20	11 7.9	20.5
448576 2010 TH_{12}	17.2	X	26.99840	126.43914	250.16228	4.98980	0.0586099	0.21264018	2.7799640	20	12 26.0	21.0
448577 2010 TG_{17}	16.6	X	258.32428	267.69116	214.84653	14.29889	0.1094285	0.20246800	2.8723132	20	11 2.6	20.4
448578 2010 TC_{18}	16.7	X	287.65270	26.16742	324.12074	8.17284	0.1731274	0.18083840	3.0970076	20	6 10.5	21.0
448579 2010 TD_{18}	17.2	X	333.68567	53.29924	329.88694	9.14754	0.1115573	0.20138408	2.8826104	20	10 14.5	20.8
448580 2010 TV_{19}	16.1	X	318.72779	305.04204	358.54957	11.11144	0.1355961	0.17855909	3.1233075	20	5 29.5	20.3
448581 2010 TE_{22}	17.0	X	12.54278	320.14520	37.54439	2.46847	0.0791857	0.20283650	2.8688333	20	11 12.9	20.7
448582 2010 TG_{28}	17.3	X	28.50446	71.11858	291.36463	2.46759	0.0604397	0.21076990	2.7963851	20	12 10.1	20.9
448583 2010 TQ_{38}	16.3	X	358.88379	86.83118	277.40792	13.44900	0.1650828	0.20449783	2.8532747	20	11 7.9	19.7
448584 2010 TE_{44}	17.1	X	5.39301	139.07193	186.87275	11.79374	0.0598415	0.19442678	2.9509737	20	9 18.1	20.8
448585 2010 TU_{44}	16.5	X	264.99117	194.31687	208.91864	9.30212	0.1057806	0.18169724	3.0872407	20	7 27.2	21.0
448586 2010 TC_{53}	17.1	X	34.17836	267.88182	72.09320	3.13498	0.0736028	0.20362941	2.8613812	20	11 19.8	20.8
448587 2010 TA_{68}	16.6	X	277.42790	192.73804	205.04374	11.91221	0.0504870	0.18746119	3.0236288	20	8 13.2	21.0
448588 2010 TR_{71}	16.5	X	50.87401	44.07259	201.96517	11.37011	0.0472705	0.18288609	3.0738471	20	8 3.1	20.9
448589 2010 TK_{77}	16.7	X	304.91841	71.30677	20.93384	15.13858	0.1221130	0.20596990	2.8396635	20	11 28.7	20.2
448590 2010 TH_{82}	16.3	X	359.03888	156.76299	209.48389	14.58423	0.1436948	0.20395442	2.8583405	20	11 12.5	19.6
448591 2010 TC_{90}	17.4	X	282.78947	317.25678	133.88543	2.82694	0.0291555	0.20371893	2.8605429	20	11 7.3	21.1
448592 2010 TA_{95}	17.3	X	347.02130	225.46255	150.04486	2.67350	0.0790539	0.20177275	2.8789074	20	10 30.4	20.7
448593 2010 TU_{96}	16.7	X	10.03417	288.87742	65.68336	3.04356	0.0776685	0.20303991	2.8669170	20	11 5.9	20.4
448594 2010 TH_{99}	17.0	X	313.46353	178.12398	145.25669	1.59684	0.1895102	0.18109843	3.0940423	20	6 11.9	20.6
448595 2010 TR_{101}	16.8	X	13.72134	289.99801	32.92052	9.43316	0.1857527	0.19834076	2.9120225	20	10 14.5	20.1
448596 2010 TW_{114}	15.9	X	278.67770	357.40237	15.03073	17.85777	0.2093913	0.17692392	3.1425222	20	6 21.3	20.6
448597 2010 TU_{124}	16.9	X	332.24788	286.82697	66.49559	6.47185	0.1726289	0.19164120	2.9795005	20	9 5.4	20.1
448598 2010 TT_{143}	17.3	X	230.46592	130.30863	327.66462	4.50097	0.1176939	0.18334565	3.0687086	20	8 25.6	21.9
448599 2010 TZ_{145}	15.9	X	344.54216	291.88591	21.90883	16.09936	0.1647625	0.18260263	3.0770274	20	8 7.5	19.6
448600 2010 TH_{146}	16.4	X	260.22225	56.26441	16.57692	11.29359	0.0302137	0.18709293	3.0275951	20	9 14.9	20.6
448601 2010 TM_{156}	16.3	X	206.47749	263.05408	212.19837	11.36028	0.1246571	0.18273641	3.0755254	20	8 17.2	21.3
448602 2010 TQ_{168}	18.4	X	278.10015	10.46882	16.07307	19.67573	0.0914950	0.38583544	1.8686787	20	9 2.6	20.1
448603 2010 TN_{180}	16.7	X	347.88191	173.37292	214.33192	7.50026	0.1279125	0.20398801	2.8580268	20	11 20.4	19.9
448604 2010 UX_{9}	16.7	X	301.06933	194.42146	215.65171	8.14518	0.1608342	0.19129711	2.9830723	20	9 20.5	20.2
448605 2010 UK_{14}	17.7	X	289.56875	130.53228	295.40349	1.04980	0.0684735	0.19468901	2.9483232	20	10 7.5	21.6
448606 2010 UG_{25}	15.6	X	334.49778	305.92408	62.26185	13.89919	0.2855792	0.18979256	2.9988167	20	10 4.1	18.3
448607 2010 UA_{31}	16.7	X	349.11515	91.04794	235.25213	11.09646	0.1441431	0.18550694	3.0448269	20	8 21.0	20.4
448608 2010 UT_{34}	16.4	X	346.16667	12.38033	348.49039	6.18132	0.1763696	0.19415548	2.9537220	20	10 9.5	19.4
448609 2010 UE_{36}	16.5	X	302.88645	109.45370	266.47727	10.61602	0.1526740	0.17978407	3.1091040	20	8 6.1	20.6
448610 2010 UT_{36}	16.3	X	317.31625	125.16033	263.08711	9.43591	0.0834174	0.18562748	3.0435086	20	9 21.7	20.4
448611 2010 UG_{45}	17.0	X	303.80781	51.37853	322.43766	5.29647	0.1400655	0.18369350	3.0648333	20	8 11.1	20.6
448612 2010 UH_{47}	16.5	X	227.55891	206.83164	229.95142	8.97530	0.0564875	0.17809160	3.1287708	20	7 30.3	21.2
448613 2010 UX_{52}	16.4	X	264.19321	71.17510	300.98848	3.75170	0.1929247	0.17213174	3.2005804	20	6 6.7	21.2
448614 2010 UL_{53}	16.1	X	205.32676	204.83213	248.96261	7.65498	0.0497467	0.17399315	3.1777125	20	7 26.9	20.9
448615 2010 UK_{57}	16.7	X	289.62041	15.27799	17.07583	4.89433	0.0184955	0.17832740	3.1260122	20	8 31.3	21.0
448616 2010 UW_{58}	15.5	X	265.60699	155.36357	251.63140	7.86797	0.0515126	0.17509107	3.1644146	20	8 8.9	20.1
448617 2010 UB_{63}	15.6	X	268.17618	352.55960	31.31797	12.00837	0.0615502	0.17308396	3.1888310	20	7 17.8	20.3
448618 2010 UN_{67}	17.1	X	246.80433	51.96566	51.37419	8.22884	0.1553612	0.18442430	3.0567314	20	9 19.4	21.6
448619 2010 UL_{70}	15.8	X	246.07782	224.03529	224.71725	14.49650	0.2465430	0.18050621	3.1008062	20	8 10.4	20.9
448620 2010 UF_{71}	16.1	X	296.41964	10.53678	44.46258	11.79556	0.0735034	0.18929059	3.0041160	20	10 6.5	20.1
448621 2010 UN_{75}	15.8	X	6.50865	270.16801	30.21898	15.16798	0.0327181	0.17688649	3.1429654	20	8 21.9	20.3
448622 2010 UE_{78}	16.5	X	320.95498	55.51305	276.05738	8.91217	0.1127958	0.17778404	3.1323783	20	7 14.5	20.4
448623 2010 UJ_{88}	16.0	X	235.34903	19.75942	31.55429	16.30272	0.1695879	0.16955764	3.2328916	20	6 27.5	21.3
448624 2010 UY_{89}	17.0	X	324.90861	256.95804	203.85056	12.45173	0.1802472	0.21039733	2.7996854	20	—	—
448625 2010 UE_{91}	16.1	X	278.50173	139.59975	232.77578	8.56156	0.0895019	0.17463457	3.1699268	20	7 8.2	20.6
448626 2010 UZ_{94}	16.5	X	263.65579	348.86517	74.37208	6.42397	0.2485384	0.18155107	3.0888976	20	8 4.3	21.0
448627 2010 UP_{101}	16.1	X	328.78013	295.55782	32.11784	10.76619	0.0786425	0.18027710	3.1034328	20	7 29.5	20.3
448628 2010 VF_{1}	20.4	X	238.23731	334.28202	216.37392	22.13827	0.6531260	0.71023370	1.2441379	20	—	—
448629 2010 VH_{16}	16.2	X	207.99525	132.56514	6.25459	11.93090	0.0811372	0.18902837	3.0068936	20	9 25.7	20.7
448630 2010 VB_{19}	17.4	X	288.07534	297.06653	73.47079	23.96408	0.0782382	0.38140982	1.8831062	20	8 27.4	19.7
448631 2010 VR_{22}	16.2	X	312.72710	117.79288	257.74684	3.36493	0.1630713	0.18390644	3.0624671	20	8 23.8	19.8
448632 2010 VR_{28}	15.6	X	265.54997	354.49386	62.00406	17.66478	0.1024262	0.18207780	3.0829374	20	8 25.9	20.2
448633 2010 VT_{37}	16.0	X	252.11622	21.16289	74.64747	13.33062	0.1606731	0.18601460	3.0392845	20	9 19.1	20.6
448634 2010 VF_{46}	15.8	X	43.65823	30.62179	246.07778	18.92220	0.0746782	0.17902888	3.1178411	20	8 30.4	20.4
448635 2010 VP_{52}	16.8	X	252.45135	248.49805	214.30065	8.26423	0.2063331	0.18650172	3.0339901	20	9 11.9	21.3
448636 2010 VD_{57}	17.0	X	330.35783	234.60655	148.17705	2.36848	0.0953268	0.19152989	2.9806547	20	10 11.8	20.5
448637 2010 VG_{65}	16.0	X	207.04803	92.52163	43.65485	12.66821	0.1011162	0.18128842	3.0918803	20	9 23.9	20.8
448638 2010 VG_{70}	16.7	X	318.66643	136.11524	239.50857	9.70873	0.1294389	0.18677541	3.0310255	20	9 4.0	20.5
448639 2010 VZ_{74}	16.2	X	276.06914	34.87763	18.79455	10.30268	0.0882504	0.18199528	3.0838693	20	9 2.9	20.4
448640 2010 VW_{82}	16.0	X	255.41635	61.01150	49.84005	9.33409	0.0833226	0.18946758	3.0022449	20	10 18.5	20.1

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448641 2010 VD_{83}	15.7	X	9.00047	61.12872	235.29411	17.94380	0.1190474	0.17969171	3.1101693	20	8 10.6	19.9
448642 2010 VK_{84}	16.0	X	337.61746	271.62377	61.14989	17.21363	0.2536528	0.18193604	3.0845387	20	8 16.7	19.3
448643 2010 VH_{85}	16.8	X	229.50210	46.26478	69.78019	4.34675	0.1282014	0.18187345	3.0852463	20	9 17.1	21.5
448644 2010 VU_{87}	17.0	X	267.58968	151.53929	265.69316	3.90097	0.0905818	0.18005587	3.1059743	20	8 20.7	21.3
448645 2010 VV_{95}	16.6	X	341.03900	53.31441	263.47252	2.31313	0.1564031	0.17868376	3.1218546	20	7 27.1	20.1
448646 2010 VO_{96}	16.4	X	335.57932	314.22591	66.27451	1.35889	0.2516673	0.19101312	2.9860283	20	10 18.1	18.7
448647 2010 VP_{101}	17.1	X	271.95929	1.91928	52.91835	1.93281	0.1571691	0.18053701	3.1004534	20	8 16.1	21.4
448648 2010 VA_{102}	16.1	X	6.30976	69.72723	240.92951	9.50721	0.0881572	0.17843114	3.1248004	20	8 26.1	20.3
448649 2010 VK_{103}	17.5	X	272.54466	228.75457	187.46687	1.12256	0.2479430	0.18037936	3.1022598	20	8 3.8	21.8
448650 2010 VD_{104}	16.6	X	277.28860	171.32106	228.82359	3.03636	0.1719921	0.17767272	3.1336865	20	7 30.8	20.8
448651 2010 VW_{106}	16.1	X	0.71155	256.68733	60.14368	11.11472	0.0232848	0.18307361	3.0717477	20	9 2.7	20.5
448652 2010 VK_{110}	16.4	X	29.47166	201.33503	100.56614	5.58505	0.1604033	0.18984718	2.9982415	20	10 8.2	20.2
448653 2010 VM_{112}	16.7	X	306.16213	289.30620	97.44265	3.58706	0.1385844	0.18470970	3.0535820	20	9 3.3	20.4
448654 2010 VG_{119}	17.2	X	275.92580	292.95345	137.97804	1.59776	0.1646159	0.18532013	3.0468727	20	9 10.3	21.1
448655 2010 VD_{130}	15.6	X	231.78782	20.17723	49.47593	22.45912	0.1113047	0.17268993	3.1936798	20	7 28.0	20.8
448656 2010 VX_{131}	16.2	X	17.17362	248.51912	48.98487	10.82007	0.1821165	0.18662236	3.0326824	20	9 17.7	19.9
448657 2010 VA_{132}	16.3	X	354.60928	105.29582	222.00986	14.67210	0.1015018	0.18580988	3.0415165	20	8 30.4	20.3
448658 2010 VV_{147}	15.9	X	286.39400	322.93133	70.52149	12.03939	0.0873341	0.17964264	3.1107355	20	8 22.9	20.3
448659 2010 VG_{152}	16.6	X	320.79395	159.81383	228.44685	7.56657	0.1740675	0.18700670	3.0285258	20	9 24.0	20.0
448660 2010 VM_{152}	16.2	X	192.75853	40.26778	93.42737	12.10275	0.0459609	0.17513872	3.1638406	20	9 8.3	21.0
448661 2010 VL_{163}	16.1	X	315.14394	101.49904	249.84105	16.24035	0.1837735	0.17875778	3.1209927	20	7 19.1	20.1
448662 2010 VB_{165}	16.6	X	266.87871	60.50982	11.16274	5.02771	0.1242180	0.18450735	3.0558141	20	9 5.9	20.8
448663 2010 VB_{170}	15.8	X	175.55175	100.60586	62.05916	17.34953	0.0359696	0.18149892	3.0894892	20	9 30.1	20.6
448664 2010 VW_{177}	15.6	X	228.88423	258.28523	235.39011	20.42398	0.1709800	0.18683586	3.0303716	20	9 25.6	20.6
448665 2010 VO_{178}	16.3	X	317.79959	154.32089	237.64922	4.25693	0.1545247	0.18984995	2.9982123	20	9 26.6	19.8
448666 2010 VU_{178}	16.8	X	323.88835	311.90068	53.79546	4.27379	0.1223578	0.18476594	3.0529623	20	9 7.1	20.5
448667 2010 VP_{179}	16.8	X	319.21103	169.52004	237.08872	10.00618	0.0838886	0.19249420	2.9706920	20	10 23.4	20.6
448668 2010 VH_{181}	15.5	X	232.35747	38.46162	68.86057	18.02450	0.0819595	0.18114811	3.0934767	20	9 23.2	20.3
448669 2010 VO_{184}	16.9	X	18.85513	52.93668	259.13473	1.22027	0.1694735	0.18601739	3.0392542	20	10 1.6	20.4
448670 2010 VT_{190}	16.3	X	313.10187	288.68447	86.34185	12.67128	0.1188483	0.18414184	3.0598565	20	9 5.6	20.3
448671 2010 VL_{192}	16.2	X	265.19621	96.88839	13.61331	12.74066	0.2003044	0.19139877	2.9820159	20	10 10.8	20.1
448672 2010 VN_{193}	16.6	X	11.32163	132.39889	183.22245	11.73051	0.1167370	0.18762113	3.0219102	20	9 17.8	20.4
448673 2010 VJ_{197}	16.4	X	245.08829	10.58107	113.72397	15.69838	0.1646934	0.17422276	3.1749201	20	10 13.9	21.3
448674 2010 VN_{203}	16.2	X	259.86664	163.58385	238.17310	10.01991	0.0520494	0.17926140	3.1151445	20	7 25.9	20.8
448675 2010 VY_{204}	16.2	X	275.04966	10.82477	47.18029	11.42686	0.1162959	0.18383717	3.0632363	20	9 5.3	20.5
448676 2010 VH_{208}	16.8	X	356.46593	81.61453	251.33478	2.02878	0.1174352	0.18896488	3.0075670	20	9 16.3	20.4
448677 2010 VR_{208}	15.6	X	122.15442	299.23255	238.01423	9.12143	0.0720825	0.17779588	3.1322392	20	8 6.4	20.4
448678 2010 VO_{210}	16.8	X	314.71574	151.44268	296.68683	8.19724	0.1030291	0.20503724	2.8482682	20	12 13.9	20.2
448679 2010 VU_{219}	16.3	X	320.04031	138.95560	230.23608	7.95774	0.0110930	0.18443156	3.0566512	20	9 6.6	20.7
448680 2010 WV	16.2	X	225.09588	207.57691	245.71988	9.62438	0.0305259	0.17914943	3.1164423	20	8 19.0	20.8
448681 2010 WF_{4}	16.2	X	27.62788	38.61510	224.73878	9.93277	0.0460036	0.17449234	3.1716491	20	7 24.1	20.6
448682 2010 WV_{9}	16.6	X	327.94013	351.28867	29.60336	7.89702	0.1504178	0.19002843	2.9963347	20	10 4.2	19.9
448683 2010 WB_{13}	16.6	X	342.83786	285.60774	79.61934	7.74538	0.1160189	0.18988450	2.9978486	20	10 11.9	20.2
448684 2010 WY_{31}	16.0	X	132.93212	123.22209	69.87063	11.87562	0.0225431	0.17810125	3.1286579	20	9 14.0	20.7
448685 2010 WH_{33}	17.1	X	19.56498	237.32702	103.31112	2.47337	0.0587026	0.18995990	2.9970553	20	10 28.1	21.0
448686 2010 WP_{36}	16.2	X	335.30870	108.72793	235.46990	9.24906	0.1798833	0.18201120	3.0836895	20	8 18.9	19.8
448687 2010 WB_{37}	16.0	X	338.23570	262.00063	71.55835	22.31230	0.2265730	0.18184572	3.0855600	20	8 22.8	19.6
448688 2010 WH_{41}	15.3	X	318.51044	62.98773	261.90071	14.12349	0.0670229	0.16815770	3.2508096	20	7 5.2	19.7
448689 2010 WN_{47}	16.9	X	219.38370	60.89425	56.46512	2.03599	0.1256268	0.17776582	3.1325923	20	9 6.5	21.7
448690 2010 WM_{58}	17.4	X	253.27026	253.27726	207.26442	1.11958	0.2205379	0.18323460	3.0699483	20	9 10.0	21.8
448691 2010 WC_{64}	15.9	X	305.41520	301.05286	80.88753	12.45881	0.1175998	0.17983125	3.1085601	20	9 1.8	20.0
448692 2010 WP_{71}	15.7	X	184.11255	278.13786	241.62129	14.65172	0.2318489	0.17609255	3.1524053	20	9 11.6	21.4
448693 2010 XO_{2}	16.4	X	343.94570	116.52604	234.80394	4.90046	0.1425189	0.18491496	3.0513218	20	9 18.2	19.8
448694 2010 XP_{8}	16.0	X	134.69300	119.75500	98.50750	15.76443	0.1688395	0.17975705	3.1094155	20	10 24.1	21.4
448695 2010 XQ_{22}	15.6	X	107.88459	129.53829	63.88370	14.11616	0.1027095	0.16978870	3.2299578	20	8 22.8	20.7
448696 2010 XK_{23}	16.5	X	70.97990	190.98341	106.65939	11.52635	0.0659377	0.19015621	2.9949923	20	11 12.9	20.9
448697 2010 XV_{26}	15.6	X	11.89663	29.02341	254.90217	14.24579	0.1101808	0.17149690	3.2084740	20	7 30.7	19.8
448698 2010 XX_{31}	16.6	X	343.09151	233.23457	79.81113	4.52398	0.2270280	0.17717183	3.1395900	20	7 24.6	19.6
448699 2010 XP_{32}	16.8	X	302.99108	78.07516	295.57925	8.61309	0.1362483	0.17822894	3.1271634	20	8 7.7	20.8
448700 2010 XQ_{33}	16.5	X	286.92574	3.49728	76.40190	13.86301	0.1102315	0.18910013	3.0061329	20	10 22.4	20.5
448701 2010 XW_{35}	15.9	X	24.14832	223.92469	81.44660	11.17465	0.0601696	0.17952095	3.1121411	20	9 23.1	20.2
448702 2010 XQ_{44}	15.7	X	243.33238	188.87865	273.75838	14.24447	0.1183734	0.18211192	3.0825524	20	9 7.1	20.6
448703 2010 XB_{47}	16.9	X	248.85278	336.63695	121.80718	2.60929	0.1569269	0.17926532	3.1150990	20	9 11.7	21.3
448704 2010 XK_{50}	16.4	X	350.66401	284.46001	42.73591	1.24073	0.1648211	0.18112450	3.0937455	20	8 31.3	19.6
448705 2010 XP_{57}	16.2	X	229.39754	204.51660	259.13191	9.26558	0.1857561	0.17527211	3.1622352	20	8 19.5	21.3
448706 2010 XQ_{58}	15.7	X	301.88022	291.02346	98.39032	19.59526	0.2579926	0.18215438	3.0820733	20	8 14.6	19.5
448707 2010 XV_{76}	16.7	X	171.45394	304.23928	194.04827	3.71801	0.2139461	0.16653187	3.2719336	20	8 12.3	22.3
448708 2010 XT_{79}	17.4	X	284.65393	285.99222	149.49351	4.80547	0.2985152	0.18764781	3.0216237	20	9 8.2	20.9
448709 2010 XP_{83}	15.8	X	322.66819	136.90557	232.14829	9.34175	0.1431725	0.18056636	3.1001175	20	8 31.4	19.6
448710 2010 XV_{87}	16.9	X	332.19885	254.18476	71.37186	2.26836	0.1818039	0.17679811	3.1440128	20	7 21.3	20.2
448711 2010 YT_{3}	15.6	X	244.37572	17.62114	76.45385	19.36840	0.0526744	0.18147959	3.0897086	20	9 25.9	20.4
448712 2011 AU_{10}	16.0	X	225.75591	343.91560	116.40267	9.93495	0.0559740	0.16807063	3.2519323	20	8 31.6	20.8
448713 2011 AJ_{23}	16.2	X	203.34536	64.06529	117.56209	17.24792	0.1717457	0.17962003	3.1109966	20	11 8.4	21.5
448714 2011 AY_{24}	15.7	X	269.01907	116.84124	291.37047	25.41433	0.2047329	0.17105015	3.2140582	20	7 23.4	20.3
448715 2011 AR_{38}	16.1	X	320.26572	302.67092	96.99827	12.43357	0.1897804	0.18254260	3.0777019	20	10 16.6	19.6
448716 2011 AN_{65}	16.5	X	259.44556	4.33791	121.24039	16.59606	0.1380887	0.18102293	3.0949026	20	11 5.9	21.1
448717 2011 AU_{70}	16.8	X	328.83967	65.80527	304.63885	8.80249	0.1178077	0.17457962	3.1705920	20	9 13.7	20.8
448718 2011 AL_{72}	15.8	X	175.50545	49.03873	118.61232	17.41125	0.0814920	0.17064141	3.2191886	20	9 30.4	21.0
448719 2011 AA_{76}	16.5	X	241.35670	159.98954	306.33199	3.00818	0.2022075	0.17450221	3.1715296	20	9 5.1	21.4
448720 2011 BE_{19}	15.5	X	250.36244	38.05628	59.86707	28.18481	0.1794420	0.17383189	3.1796775	20	9 26.4	20.7

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448721 2011 BN_{24}	20.9	X	226.46920	61.81436	195.76951	3.93493	0.4121172	0.51361670	1.5442228	20	—	—
448722 2011 BZ_{26}	16.1	X	278.00929	275.03132	135.29098	13.62237	0.2886431	0.17227912	3.1987549	20	7 27.4	20.7
448723 2011 BX_{30}	15.8	X	240.98011	141.91509	321.49644	13.78827	0.1028978	0.17066675	3.2188700	20	9 9.5	20.6
448724 2011 BB_{45}	19.4	X	170.55099	351.27390	304.84406	17.12244	0.3047049	0.51507843	1.5412999	20	—	—
448725 2011 BS_{50}	15.8	X	239.65672	347.70371	138.83707	16.98725	0.1745570	0.17439156	3.1728709	20	10 7.3	20.8
448726 2011 BW_{55}	15.8	X	270.37452	289.29624	136.32474	16.99919	0.2200097	0.17434048	3.1734907	20	8 17.6	20.3
448727 2011 BT_{80}	15.9	X	281.51691	288.85803	121.20983	10.88374	0.2150073	0.17407483	3.1767185	20	8 13.6	20.1
448728 2011 BC_{107}	16.3	X	288.20565	67.06201	345.70573	10.73483	0.1265035	0.17216909	3.2001175	20	9 7.8	20.6
448729 2011 BU_{117}	16.3	X	276.86727	333.39355	89.79913	11.97150	0.1988863	0.17689747	3.1428354	20	8 30.7	20.7
448730 2011 BN_{153}	15.9	X	8.38456	40.49004	268.76220	10.38828	0.0997415	0.18672555	3.0315650	20	8 28.8	20.0
448731 2011 DQ_{24}	17.8	X	207.90972	106.02922	347.57237	18.39880	0.0922109	0.36433877	1.9414779	20	8 19.1	20.0
448732 2011 EJ_{18}	17.0	X	302.45221	293.07360	135.96087	12.55329	0.3229409	0.18254873	3.0776330	20	9 29.9	20.2
448733 2011 EN_{37}	17.9	X	219.36139	67.97632	147.57100	9.07331	0.1875466	0.28626999	2.2800909	20	—	—
448734 2011 EJ_{45}	17.6	X	244.90557	147.71475	72.34885	4.88570	0.0993839	0.29719130	2.2238833	20	—	—
448735 2011 EK_{82}	16.8	X	237.89794	97.31640	9.36817	8.87886	0.2624572	0.16668485	3.2699313	20	8 29.9	22.0
448736 2011 FY_{13}	18.3	X	211.52935	116.84267	155.54738	3.88185	0.2384109	0.29341931	2.2429018	20	—	—
448737 2011 HS_{11}	18.1	X	183.11697	195.37508	82.04037	5.35713	0.1501843	0.28351336	2.2948468	20	—	—
448738 2011 HD_{23}	18.0	X	257.69122	28.45884	285.55706	1.40012	0.1061412	0.32097730	2.1126124	20	3 18.9	20.7
448739 2011 HD_{30}	18.1	X	216.28006	54.48559	220.84371	4.70011	0.1777209	0.29455789	2.2371183	20	—	—
448740 2011 HX_{83}	17.5	X	237.23703	55.55655	222.05721	6.46662	0.1684139	0.30223474	2.1990737	20	1 7.7	21.0
448741 2011 HT_{84}	17.8	X	230.98942	218.21057	51.47748	8.56998	0.1214616	0.29649095	2.2273840	20	—	—
448742 2011 JP_{2}	15.1	X	188.25271	147.68988	12.99133	35.65673	0.3574239	0.16878418	3.2427607	20	9 25.7	21.2
448743 2011 JK_{4}	18.0	X	157.32854	130.18916	139.49132	6.47202	0.1400703	0.27486108	2.3427568	20	—	—
448744 2011 JG_{16}	18.1	X	257.46690	57.07172	203.20539	6.60749	0.1099232	0.30399046	2.1905983	20	1 7.9	21.2
448745 2011 JF_{26}	18.1	X	201.00915	215.19713	83.50796	5.19658	0.1701583	0.29388376	2.2405380	20	1 3.7	21.4
448746 2011 ON_{10}	17.9	X	131.07071	101.19220	215.62818	1.35620	0.1853192	0.26385280	2.4074739	20	—	—
448747 2011 OV_{19}	17.6	X	146.33433	34.07397	280.55170	1.41808	0.2114815	0.26853936	2.3793815	20	—	—
448748 2011 OC_{24}	17.8	X	163.25390	241.68644	52.29498	6.77881	0.1604009	0.27079056	2.3661759	20	—	—
448749 2011 OV_{30}	18.0	X	221.32176	266.48406	343.69079	6.55644	0.1478836	0.27849616	2.3223263	20	—	—
448750 2011 OO_{31}	17.9	X	191.91947	247.84424	18.89248	4.61481	0.2031255	0.27530414	2.3402427	20	—	—
448751 2011 PB_{10}	17.4	X	181.69249	162.14324	133.82471	7.87267	0.2061946	0.27660078	2.3329232	20	—	—
448752 2011 PV_{10}	17.9	X	136.09933	305.85027	53.26086	7.27731	0.1359717	0.27580387	2.3374149	20	1 13.9	21.0
448753 2011 QE_{7}	17.9	X	89.51869	120.84617	274.79592	4.70167	0.1145628	0.27079914	2.3661260	20	—	—
448754 2011 QR_{10}	17.6	X	173.73619	285.89055	329.24035	5.94911	0.0992632	0.25565489	2.4586685	20	—	—
448755 2011 QE_{11}	17.7	X	196.74522	341.02091	326.21589	7.17314	0.1214852	0.27710985	2.3300652	20	1 11.6	21.2
448756 2011 QA_{12}	17.8	X	200.17010	39.79813	202.64801	5.57668	0.2026754	0.26387382	2.4073460	20	—	—
448757 2011 QV_{12}	17.9	X	177.15309	56.00063	239.62607	6.35817	0.2614957	0.27358786	2.3500197	20	—	—
448758 2011 QG_{15}	17.1	X	80.07918	296.14702	338.68127	13.53198	0.1867701	0.23563526	2.5960269	20	11 7.2	21.3
448759 2011 QN_{24}	18.0	X	114.72438	46.44792	310.48549	0.66609	0.1989904	0.26431929	2.4046404	20	—	—
448760 2011 QD_{66}	18.0	X	170.49502	141.25268	149.32625	6.15362	0.2231121	0.26985271	2.3716551	20	—	—
448761 2011 QO_{74}	17.1	X	273.28235	273.18045	287.83584	6.91553	0.0679980	0.26829668	2.3808161	20	—	—
448762 2011 QJ_{85}	17.9	X	72.46059	358.55054	299.91815	3.30107	0.1221402	0.23643785	2.5901488	20	11 26.9	21.8
448763 2011 QL_{91}	18.1	X	96.61053	196.17452	206.55573	2.02514	0.2123852	0.26659473	2.3909382	20	1 31.4	20.9
448764 2011 QP_{97}	15.7	X	337.74246	81.81430	34.56164	28.40935	0.1835568	0.23746432	2.5826792	20	—	—
448765 2011 RQ_{3}	17.9	X	75.16714	144.11691	272.93959	5.56538	0.0992077	0.27032928	2.3688669	20	—	—
448766 2011 RG_{8}	17.8	X	76.84854	127.44189	276.64408	5.58280	0.2351471	0.26300997	2.4126143	20	1 4.2	19.6
448767 2011 RV_{13}	18.2	X	78.19406	116.45632	180.29243	8.96147	0.1625985	0.23874907	2.5734057	20	12 6.8	22.3
448768 2011 SR_{33}	17.3	X	75.47488	326.90784	96.59945	7.67129	0.3826402	0.25744084	2.4472843	20	3 2.9	19.9
448769 2011 SH_{53}	16.9	X	54.46888	307.96522	9.46989	14.43561	0.1161175	0.23126620	2.6286208	20	11 24.8	20.8
448770 2011 SZ_{68}	17.1	X	41.16788	132.96219	166.26947	16.81230	0.3400560	0.22777269	2.6554306	20	11 23.5	21.3
448771 2011 SR_{77}	17.8	X	95.37241	294.69634	354.72186	1.77982	0.2068173	0.24110081	2.5566441	20	12 16.1	22.1
448772 2011 SL_{78}	17.6	X	47.57977	260.40400	190.47859	4.47976	0.2045336	0.26307718	2.4122035	20	1 5.5	19.4
448773 2011 SH_{84}	17.9	X	8.67918	37.09707	17.63762	9.16142	0.1695415	0.23797308	2.5789969	20	—	—
448774 2011 SW_{85}	17.5	X	74.64452	288.26161	39.31578	15.80804	0.1869879	0.23754785	2.5820738	20	—	—
448775 2011 SE_{91}	17.5	X	67.67285	17.03848	302.19962	2.75536	0.2213980	0.23485100	2.6018032	20	12 27.7	21.4
448776 2011 SW_{92}	17.6	X	110.03595	146.40386	215.89435	5.90945	0.1287428	0.26108016	2.4244885	20	—	—
448777 2011 SW_{112}	17.6	X	103.17652	333.61983	50.59937	2.87134	0.1949018	0.26197803	2.4189458	20	1 15.1	20.3
448778 2011 SK_{114}	16.5	X	345.84796	290.02426	74.34571	5.86308	0.1748628	0.22047391	2.7137171	20	10 25.6	19.2
448779 2011 SP_{114}	17.6	X	19.58765	2.67042	42.94550	4.90896	0.3130810	0.23736346	2.5834108	20	—	—
448780 2011 SG_{118}	15.9	X	162.17448	271.53868	346.46815	12.56099	0.1385608	0.24285386	2.5443257	20	—	—
448781 2011 SP_{130}	17.6	X	162.02462	252.96962	51.34033	6.20043	0.1231451	0.25874844	2.4390323	20	—	—
448782 2011 ST_{131}	16.3	X	286.35410	49.93925	37.72422	10.17274	0.0318828	0.22134695	2.7065768	20	11 9.2	19.7
448783 2011 SQ_{141}	17.3	X	17.62291	156.63711	174.52796	2.27539	0.1014178	0.22071018	2.7117801	20	10 24.5	20.6
448784 2011 SW_{143}	18.1	X	108.36033	242.75405	51.12904	2.23753	0.1841581	0.24132853	2.5550355	20	12 31.5	22.3
448785 2011 SN_{149}	17.7	X	114.13352	166.67345	173.62716	7.40244	0.1455774	0.25721807	2.4486971	20	—	—
448786 2011 SG_{162}	16.4	X	291.66195	212.09695	217.58905	7.20050	0.1589225	0.21871556	2.7282422	20	10 8.4	19.4
448787 2011 SK_{162}	17.6	X	38.11256	109.23187	222.92358	11.06386	0.2363303	0.23063712	2.6333985	20	12 14.3	21.4
448788 2011 SJ_{165}	18.3	X	6.92730	230.42306	188.82034	5.78490	0.2407706	0.23756459	2.5819525	20	—	—
448789 2011 SV_{168}	16.7	X	351.87877	214.10213	199.91073	21.68260	0.0437745	0.23512539	2.5997786	20	12 28.7	20.5
448790 2011 SX_{168}	17.0	X	312.52011	199.86782	205.26432	4.90634	0.1187446	0.21942608	2.7223496	20	10 16.6	20.1
448791 2011 SW_{182}	16.9	X	28.13655	345.11109	5.71352	5.78934	0.0494004	0.22605420	2.6688715	20	11 25.8	20.5
448792 2011 SW_{187}	17.5	X	210.82312	14.71092	263.55496	3.51930	0.1675147	0.27049842	2.3678793	20	—	—
448793 2011 SL_{212}	17.1	X	124.88634	164.65503	193.46108	13.33778	0.1462222	0.26222169	2.4174471	20	—	—
448794 2011 SM_{215}	17.5	X	2.85678	26.89668	27.84126	14.74333	0.2643852	0.23293160	2.6160765	20	—	—
448795 2011 SM_{227}	17.3	X	320.82998	143.65587	283.56428	4.38296	0.0540373	0.22892389	2.6465207	20	12 2.7	20.5
448796 2011 SM_{235}	17.7	X	6.58026	57.50542	349.16117	4.88599	0.2482582	0.23474252	2.6026047	20	—	—
448797 2011 SV_{238}	17.7	X	106.56209	16.62047	340.75886	0.67928	0.1997573	0.25938753	2.4350244	20	—	—
448798 2011 SF_{249}	16.1	X	41.42959	310.88959	36.29738	32.58245	0.2874250	0.23089243	2.6314568	20	—	—
448799 2011 SX_{259}	17.8	X	84.51310	115.78951	213.59987	6.02740	0.1294537	0.23911763	2.5707607	20	—	—
448800 2011 SA_{261}	17.3	X	301.38007	72.23438	36.07138	12.80444	0.2328915	0.22642260	2.6659758	20	12 17.3	19.7

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448801 2011 SW_{272}	17.5	X	74.66430	176.90397	138.41474	9.76875	0.1639209	0.23939847	2.5687498	20	12 25.5	21.6
448802 2011 SK_{273}	17.2	X	191.52318	159.97755	132.99600	7.30781	0.2204933	0.27219870	2.3580084	20	—	—
448803 2011 SU_{273}	17.2	X	354.10176	252.14470	102.70103	5.61680	0.1519437	0.22106761	2.7088564	20	10 26.5	20.1
448804 2011 TF_{2}	17.2	X	36.13058	140.98335	224.44901	33.12790	0.3151557	0.23623167	2.5916556	20	—	—
448805 2011 TG_{6}	16.7	X	118.92922	256.47724	76.15064	8.53268	0.2128970	0.25869912	2.4393423	20	—	—
448806 2011 TH_{16}	17.0	X	37.27712	282.05192	46.06153	13.18376	0.2903835	0.23123846	2.6288310	20	12 14.4	20.9
448807 2011 TB_{17}	17.9	X	105.81052	308.85393	33.42996	1.68365	0.2022285	0.25605936	2.4560787	20	—	—
448808 2011 UD_{7}	17.8	X	317.27038	238.97401	216.77255	3.90849	0.2186680	0.22695764	2.6617842	20	—	—
448809 2011 UK_{7}	16.9	X	132.45029	209.57236	45.12381	9.41253	0.0729052	0.22529364	2.6748746	20	11 30.4	20.9
448810 2011 UO_{7}	18.0	X	68.75393	188.86932	161.30453	0.52262	0.2726196	0.24144799	2.5541927	20	—	—
448811 2011 UT_{9}	17.5	X	314.12069	50.42288	49.14845	4.01250	0.0948906	0.22921657	2.6442675	20	—	—
448812 2011 UZ_{9}	17.5	X	6.64040	227.22142	206.78167	4.00177	0.1887179	0.23813886	2.5777999	20	—	—
448813 2011 UJ_{12}	17.2	X	72.83562	296.49381	107.77480	2.46833	0.1750651	0.25706353	2.4496784	20	—	—
448814 2011 UO_{16}	17.6	X	74.31387	310.84879	35.84134	12.24244	0.2002364	0.24043818	2.5613392	20	—	—
448815 2011 UQ_{16}	17.6	X	26.92815	195.35636	203.73153	0.75497	0.1769713	0.23655803	2.5892715	20	—	—
448816 2011 UT_{16}	16.3	X	102.62665	305.49384	227.33976	9.64712	0.0177704	0.18565446	3.0432137	20	7 4.4	20.7
448817 2011 UD_{18}	18.9	X	18.64409	35.53562	9.86085	1.21661	0.3175492	0.23768290	2.5810956	20	—	—
448818 2011 UU_{20}	18.0	X	27.14462	137.09933	355.18487	21.98742	0.5286752	0.25259004	2.4785170	20	—	—
448819 2011 UK_{24}	17.3	X	28.63106	158.19773	222.01853	12.46574	0.1816645	0.23455936	2.6039594	20	—	—
448820 2011 UZ_{26}	18.4	X	45.31878	337.43079	62.29056	3.04897	0.2019837	0.24412917	2.5354571	20	—	—
448821 2011 UT_{28}	17.7	X	317.07305	127.99197	327.31579	3.84744	0.1529555	0.22842349	2.6503844	20	—	—
448822 2011 UJ_{29}	17.2	X	357.67209	12.15676	1.81245	4.75575	0.1257002	0.22065309	2.7122479	20	11 20.8	20.3
448823 2011 UV_{30}	17.4	X	52.09776	166.11937	215.89807	3.65075	0.1434646	0.23980566	2.5658412	20	—	—
448824 2011 UT_{43}	16.4	X	72.06746	5.88265	232.40702	9.36452	0.0399014	0.20604521	2.8389715	20	8 21.5	20.5
448825 2011 US_{50}	17.5	X	67.89795	295.45134	48.10958	14.81824	0.1907194	0.23764611	2.5813620	20	—	—
448826 2011 UR_{54}	16.8	X	110.11283	270.76105	45.36390	11.06098	0.2043510	0.24140579	2.5544903	20	—	—
448827 2011 UE_{56}	16.9	X	350.91237	346.14083	36.96583	6.37841	0.0517185	0.21921674	2.7240824	20	11 15.5	20.4
448828 2011 UL_{56}	16.6	X	326.87994	211.94049	239.88821	8.44142	0.0248350	0.23245442	2.6196555	20	—	—
448829 2011 UT_{59}	18.5	X	72.69078	125.80582	230.46353	10.67009	0.3316401	0.24482119	2.5306770	20	—	—
448830 2011 UA_{66}	17.4	X	165.94147	58.14418	184.01136	10.73164	0.0917529	0.23722966	2.5843821	20	12 23.0	21.4
448831 2011 UF_{72}	17.6	X	344.29275	74.37147	355.93945	3.96067	0.1751398	0.23281750	2.6169311	20	—	—
448832 2011 UH_{73}	17.6	X	345.96574	33.05059	52.79798	5.26866	0.1932692	0.23379513	2.6096308	20	—	—
448833 2011 UK_{73}	17.6	X	35.91370	238.18875	148.15304	0.92155	0.1921150	0.23676210	2.5877834	20	—	—
448834 2011 UP_{73}	17.2	X	56.05340	322.48985	47.48770	5.33152	0.1972129	0.23961657	2.5671908	20	—	—
448835 2011 US_{73}	16.7	X	164.73280	353.51794	221.57358	11.59976	0.0708291	0.21998372	2.7177470	20	11 16.9	20.8
448836 2011 UU_{76}	17.1	X	343.58190	94.65751	308.96210	2.88972	0.1532489	0.22517451	2.6758180	20	12 12.8	19.9
448837 2011 UA_{81}	17.4	X	301.28735	77.84726	47.03279	5.19914	0.1532724	0.23031450	2.6358571	20	—	—
448838 2011 UU_{81}	17.5	X	9.01624	230.50080	189.68620	2.49218	0.1982611	0.23590712	2.5940321	20	—	—
448839 2011 UN_{83}	17.5	X	339.51849	95.58488	22.15336	5.03677	0.2079628	0.23822217	2.5771989	20	—	—
448840 2011 UE_{86}	17.2	X	354.31411	241.91667	189.12038	12.04969	0.1484460	0.23641738	2.5902983	20	—	—
448841 2011 UH_{90}	17.1	X	326.49828	44.97834	53.61294	12.49413	0.0890270	0.23311675	2.6146911	20	—	—
448842 2011 UH_{95}	17.9	X	298.45419	338.42863	144.92300	0.51450	0.1194044	0.23533777	2.5982143	20	—	—
448843 2011 UT_{98}	16.7	X	283.21747	64.14243	359.40349	7.34648	0.2212577	0.20984767	2.8045721	20	9 6.8	20.1
448844 2011 US_{100}	17.6	X	69.25718	141.08851	188.40362	7.01975	0.1906920	0.23779479	2.5802859	20	—	—
448845 2011 UV_{101}	16.8	X	75.16583	157.92882	211.52099	15.03745	0.1234331	0.24363348	2.5388950	20	—	—
448846 2011 UX_{103}	16.9	X	320.60293	52.50717	30.19676	9.90165	0.0679674	0.22746316	2.6578390	20	12 22.5	20.3
448847 2011 UM_{107}	17.5	X	10.58855	152.71802	243.27108	1.84360	0.2647322	0.23326131	2.6136108	20	—	—
448848 2011 UF_{118}	16.9	X	355.42721	81.89934	339.73192	21.96995	0.0452587	0.23692930	2.5865658	20	—	—
448849 2011 UC_{122}	18.1	X	3.19951	225.52079	197.92208	3.77903	0.1550455	0.23814958	2.5777225	20	—	—
448850 2011 UB_{126}	17.2	X	339.37154	106.00456	356.51011	6.79147	0.0837402	0.23936829	2.5689657	20	—	—
448851 2011 US_{126}	16.4	X	154.76071	200.03580	30.99117	9.41928	0.1227242	0.22311855	2.6922306	20	11 22.8	20.7
448852 2011 UM_{127}	16.7	X	276.93084	33.03581	70.14822	9.04894	0.1880414	0.21540760	2.7561025	20	10 28.9	19.9
448853 2011 UO_{128}	17.2	X	86.71331	297.11792	26.96993	8.79275	0.1776391	0.23778842	2.5803319	20	—	—
448854 2011 UB_{133}	16.6	X	27.41613	1.09672	32.75901	13.20603	0.1554657	0.23644489	2.5900974	20	—	—
448855 2011 UJ_{136}	17.2	X	358.41719	76.95125	324.02642	2.51516	0.1191268	0.22844439	2.6502228	20	12 31.1	20.3
448856 2011 UG_{137}	16.9	X	153.27927	327.64062	258.93960	3.82921	0.0524631	0.22121874	2.7076225	20	11 18.6	20.7
448857 2011 UO_{139}	16.6	X	294.09865	23.92362	47.81932	13.70406	0.1008074	0.21384642	2.7695002	20	10 25.3	20.0
448858 2011 UK_{144}	16.8	X	305.88770	65.96687	22.27981	8.95854	0.0974150	0.22129615	2.7069910	20	12 3.2	20.1
448859 2011 UL_{146}	17.6	X	38.28367	55.75598	351.90079	1.57181	0.1148990	0.23934967	2.5690989	20	—	—
448860 2011 UF_{147}	16.6	X	317.78903	7.71581	38.00150	9.54421	0.2261780	0.21558852	2.7545604	20	10 21.5	18.8
448861 2011 UJ_{150}	17.7	X	41.34438	137.78328	214.33018	4.86668	0.0325621	0.23458744	2.6037515	20	12 15.7	21.2
448862 2011 UT_{152}	18.2	X	16.43087	224.83757	185.32395	1.83561	0.2488045	0.23382133	2.6094359	20	—	—
448863 2011 UH_{156}	17.1	X	49.69686	275.12565	65.63170	13.20543	0.2888485	0.23160819	2.6260326	20	—	—
448864 2011 UQ_{161}	16.9	X	33.05853	11.97090	23.04988	5.82985	0.2536662	0.23730819	2.5838120	20	—	—
448865 2011 UY_{161}	17.8	X	6.07228	73.87356	24.42829	3.23317	0.1904070	0.24141211	2.5544457	20	—	—
448866 2011 UT_{166}	17.4	X	26.48590	353.69523	68.96166	3.66384	0.2052842	0.23996854	2.5646800	20	—	—
448867 2011 UQ_{179}	17.3	X	86.44493	298.22243	36.95534	15.34043	0.2809312	0.24125390	2.5555624	20	—	—
448868 2011 UZ_{179}	17.3	X	4.97602	109.38159	303.88691	1.76194	0.0991969	0.23051529	2.6343262	20	—	—
448869 2011 UT_{182}	16.7	X	149.96335	280.82468	24.73767	9.19737	0.1196806	0.24635610	2.5201545	20	—	—
448870 2011 UB_{183}	16.6	X	10.14269	332.01013	39.24256	10.75661	0.1005926	0.22095596	2.7097688	20	12 2.9	20.0
448871 2011 UM_{185}	17.6	X	47.73208	233.31995	124.54419	6.42520	0.1710909	0.23494842	2.6010839	20	—	—
448872 2011 UQ_{199}	17.9	X	63.58059	347.03165	2.09020	3.74502	0.2185115	0.23492378	2.6012658	20	—	—
448873 2011 UG_{204}	18.1	X	9.27465	257.86931	200.08500	3.84431	0.1618355	0.24253740	2.5465385	20	—	—
448874 2011 UT_{204}	18.4	X	356.50190	258.82250	171.44905	1.61089	0.1232379	0.23215802	2.6218847	20	—	—
448875 2011 UE_{206}	17.9	X	56.49000	281.84033	83.37244	5.99565	0.1496051	0.24231869	2.5480705	20	—	—
448876 2011 UR_{221}	17.0	X	335.47332	319.70158	40.07533	4.65088	0.0883587	0.21362083	2.7714496	20	9 24.5	20.2
448877 2011 UY_{238}	18.1	X	24.35280	34.52918	45.97675	15.61818	0.0897170	0.24575674	2.5242503	20	—	—
448878 2011 UH_{239}	17.7	X	342.51970	24.02474	21.30282	1.00298	0.1022290	0.22301673	2.6930500	20	12 7.9	20.6
448879 2011 UZ_{239}	17.0	X	281.34157	232.17631	232.42385	8.88216	0.1521626	0.21761444	2.7374377	20	11 9.7	20.0
448880 2011 UN_{240}	16.9	X	123.51915	245.65129	33.98135	8.34258	0.1092239	0.23109181	2.6299431	20	12 24.2	21.1

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448881 2011 UE_{242}	17.6	X	68.36872	290.56970	30.37783	1.37732	0.2929178	0.23282662	2.6168628	20	—	—
448882 2011 UH_{250}	18.1	X	21.28921	208.40518	208.65102	3.74382	0.1756520	0.23702020	2.5859045	20	—	—
448883 2011 UL_{250}	17.5	X	64.77425	147.55169	216.78935	6.70508	0.2121264	0.23936855	2.5689638	20	—	—
448884 2011 UW_{252}	16.8	X	114.92295	61.29111	198.57632	4.69315	0.0853416	0.21732330	2.7398820	20	11 19.1	20.8
448885 2011 UF_{266}	17.0	X	112.24054	267.44186	65.60716	5.60491	0.1547754	0.24397836	2.5365018	20	—	—
448886 2011 UB_{267}	17.3	X	352.50936	147.88556	229.53914	10.05056	0.0309026	0.22210096	2.7004476	20	11 10.1	20.7
448887 2011 UW_{267}	16.8	X	327.20487	8.85874	85.77641	6.15121	0.1783980	0.23121547	2.6290053	20	—	—
448888 2011 UH_{269}	17.9	X	33.69146	133.15129	266.44333	3.00625	0.1946484	0.23642748	2.5902246	20	—	—
448889 2011 UQ_{269}	17.9	X	65.68350	333.56962	24.01900	4.45998	0.1841642	0.23887643	2.5724909	20	—	—
448890 2011 UV_{277}	16.7	X	211.18197	282.41423	260.39983	3.81582	0.0499655	0.22070040	2.7118603	20	12 1.3	20.4
448891 2011 UV_{286}	17.6	X	8.99051	62.85252	359.62396	6.71340	0.0775597	0.23950384	2.5679963	20	—	—
448892 2011 UE_{287}	16.8	X	10.03619	97.30970	263.14315	4.83123	0.0138426	0.22170582	2.7036553	20	11 9.1	20.3
448893 2011 UJ_{293}	17.4	X	74.19143	278.22141	74.87073	4.58484	0.2291212	0.24088443	2.5581749	20	—	—
448894 2011 UY_{293}	17.3	X	302.21769	239.84034	192.12664	4.11686	0.0501177	0.21602679	2.7508335	20	11 9.9	20.7
448895 2011 UZ_{293}	17.0	X	88.08831	236.22825	69.86811	12.39732	0.1543366	0.22809149	2.6529557	20	12 23.4	21.2
448896 2011 US_{295}	16.4	X	201.18110	117.05663	36.94891	17.04740	0.1354471	0.21143100	2.7905530	20	10 9.5	20.8
448897 2011 UV_{295}	16.8	X	356.10812	195.68299	218.15072	10.33884	0.0425756	0.23262357	2.6183854	20	—	—
448898 2011 UN_{298}	18.2	X	345.93731	78.06804	9.11472	5.81891	0.2408840	0.23320770	2.6140113	20	—	—
448899 2011 UV_{298}	17.8	X	333.61973	174.91819	294.11273	3.28366	0.0927589	0.23812542	2.5778969	20	—	—
448900 2011 UM_{299}	17.3	X	61.43781	271.29122	60.25250	5.91579	0.1522794	0.23006017	2.6377994	20	12 28.4	21.1
448901 2011 UJ_{300}	16.6	X	335.82179	338.91692	70.76769	7.82168	0.0262967	0.22074922	2.7114604	20	11 28.7	19.9
448902 2011 UT_{300}	17.4	X	59.68495	358.14156	349.88056	9.69138	0.2118161	0.23659169	2.5890259	20	—	—
448903 2011 UH_{315}	16.6	X	236.67083	323.93991	209.09474	12.62245	0.1179392	0.22644393	2.6658084	20	12 12.3	20.3
448904 2011 UO_{317}	16.8	X	5.32346	4.98018	51.46249	4.76412	0.0160724	0.23185159	2.6241943	20	—	—
448905 2011 UH_{318}	18.5	X	345.99926	103.00750	349.94488	1.74251	0.1671992	0.23720846	2.5845361	20	—	—
448906 2011 UT_{318}	17.4	X	218.05925	117.27569	66.75511	5.15486	0.0237293	0.22457096	2.6806101	20	12 15.7	21.1
448907 2011 UB_{322}	17.0	X	289.47629	267.94502	184.83366	8.11405	0.2055775	0.21734916	2.7396647	20	11 1.9	19.9
448908 2011 UQ_{326}	17.7	X	41.11164	317.09392	95.76866	2.29444	0.0992940	0.24542794	2.5265044	20	—	—
448909 2011 UN_{331}	18.5	X	1.26191	80.06899	331.86985	5.60305	0.2992528	0.23130241	2.6283465	20	—	—
448910 2011 UP_{334}	18.4	X	0.08498	95.01437	310.82011	4.75494	0.3093096	0.23394010	2.6085526	20	—	—
448911 2011 UN_{339}	17.6	X	32.05068	217.10104	194.04434	14.78012	0.1115958	0.24315797	2.5422038	20	—	—
448912 2011 UY_{342}	17.2	X	36.97961	128.07001	230.86982	17.52393	0.2186356	0.23055094	2.6340547	20	—	—
448913 2011 UK_{364}	16.1	X	241.54480	119.13298	38.00889	26.75412	0.0218598	0.23062156	2.6335169	20	12 6.7	20.1
448914 2011 UP_{365}	17.9	X	38.00233	258.58502	108.72900	1.60630	0.1252638	0.23561729	2.5961590	20	—	—
448915 2011 UM_{368}	17.1	X	83.43428	215.59451	58.22817	7.26633	0.0194880	0.21527620	2.7572239	20	10 25.7	20.9
448916 2011 UV_{378}	18.0	X	101.62220	200.61077	169.63397	6.76340	0.1420400	0.25595966	2.4567165	20	—	—
448917 2011 UD_{379}	17.5	X	327.43665	198.03923	271.51370	4.24656	0.2336864	0.23084239	2.6318371	20	—	—
448918 2011 UU_{379}	17.7	X	358.54371	146.95264	235.66360	0.61231	0.1957609	0.22163568	2.7042257	20	12 14.9	20.6
448919 2011 UO_{382}	17.2	X	72.36492	318.09241	40.89432	5.79661	0.2391414	0.24091318	2.5579714	20	—	—
448920 2011 UT_{386}	17.0	X	76.58827	265.40388	140.14663	8.19767	0.0956542	0.25510902	2.4621745	20	—	—
448921 2011 UZ_{387}	17.4	X	351.23445	283.45704	174.34987	8.75622	0.1265427	0.23964062	2.5670191	20	—	—
448922 2011 UR_{394}	18.2	X	75.00796	24.74507	339.08157	1.72232	0.1340171	0.24613752	2.5216463	20	—	—
448923 2011 UH_{397}	17.4	X	359.73983	31.21078	50.97058	12.24849	0.1594222	0.24315990	2.5421904	20	—	—
448924 2011 UJ_{397}	16.8	X	274.77898	191.80176	277.91493	3.96774	0.1294638	0.22325364	2.6911445	20	11 9.9	20.0
448925 2011 UL_{407}	17.4	X	76.42453	56.04939	304.91042	10.93816	0.1178723	0.24474044	2.5312336	20	—	—
448926 2011 VG_3	16.7	X	315.84005	185.58740	298.42277	10.99412	0.0621328	0.23961838	2.5671779	20	—	—
448927 2011 VG_4	17.3	X	341.51451	84.31107	14.21431	12.77737	0.2368547	0.23505425	2.6003031	20	—	—
448928 2011 VQ_6	16.7	X	56.78763	222.31392	80.34644	15.44322	0.3171042	0.22658094	2.6647336	20	12 6.6	21.0
448929 2011 VC_8	17.1	X	322.81271	313.83885	104.44975	8.81974	0.1679889	0.22034014	2.7148154	20	11 24.8	19.9
448930 2011 VH_{11}	16.9	X	3.52696	124.26999	230.80968	16.68811	0.1165866	0.21798252	2.7343553	20	11 3.8	20.2
448931 2011 VN_{16}	17.0	X	69.83118	102.64205	252.89860	11.40204	0.1870954	0.23834602	2.5763060	20	—	—
448932 2011 VS_{17}	16.4	X	11.18624	323.27604	81.00097	12.46838	0.1823859	0.23287153	2.6165264	20	—	—
448933 2011 VL_{18}	18.2	X	83.68142	308.90794	60.79997	9.69368	0.2313688	0.25161792	2.4848967	20	—	—
448934 2011 WN_1	16.7	X	296.13119	33.42034	66.97005	8.59160	0.0783672	0.21954457	2.7213700	20	12 6.0	20.1
448935 2011 WC_2	16.7	X	121.54049	86.26210	242.50136	12.20444	0.1689812	0.24396577	2.5365891	20	—	—
448936 2011 WD_4	16.5	X	13.99494	309.92403	70.11560	14.75701	0.2866107	0.22740897	2.6582612	20	—	—
448937 2011 WC_9	17.4	X	297.77501	90.62488	41.03047	3.45120	0.0836432	0.23207355	2.6225209	20	—	—
448938 2011 WT_9	17.4	X	58.20265	303.16040	56.02034	4.06108	0.1088670	0.23434408	2.6055539	20	—	—
448939 2011 WY_{15}	16.0	X	332.20458	252.36389	239.45649	16.12505	0.1655559	0.23732434	2.5836947	20	—	—
448940 2011 WE_{16}	16.9	X	54.71963	254.20987	150.30572	2.64996	0.1913493	0.24340683	2.5404708	20	—	—
448941 2011 WM_{17}	17.5	X	332.43676	29.39112	65.56066	4.87035	0.1473390	0.22895749	2.6462618	20	—	—
448942 2011 WL_{31}	16.4	X	80.58734	32.56003	284.36826	12.22804	0.1788474	0.22876493	2.6477466	20	—	—
448943 2011 WL_{32}	16.3	X	70.60501	217.14167	63.02202	10.54366	0.1427860	0.21528866	2.7571176	20	11 3.4	20.3
448944 2011 WJ_{34}	17.1	X	56.67976	64.95928	243.14344	4.62828	0.0653623	0.21641319	2.7475582	20	11 9.3	20.7
448945 2011 WJ_{43}	17.0	X	55.20033	167.03680	224.71806	2.10910	0.1465432	0.24019252	2.5630853	20	—	—
448946 2011 WR_{43}	16.7	X	90.60724	130.35892	231.06780	5.35378	0.1283329	0.24339106	2.5405806	20	—	—
448947 2011 WL_{52}	17.4	X	321.01613	15.45363	35.48169	1.33394	0.0661764	0.21461086	2.7629196	20	11 8.0	20.6
448948 2011 WN_{56}	17.5	X	4.53888	19.74759	69.00661	18.55164	0.1342324	0.23975372	2.5662117	20	—	—
448949 2011 WG_{62}	16.3	X	232.57950	12.32380	79.04909	12.22789	0.0615733	0.19746111	2.9206645	20	9 3.3	20.7
448950 2011 WC_{66}	16.4	X	82.70625	274.92213	77.32218	15.45361	0.1751484	0.23534177	2.5981848	20	—	—
448951 2011 WT_{66}	17.2	X	35.67965	339.63986	80.79876	11.85293	0.1040193	0.24335837	2.5408080	20	—	—
448952 2011 WZ_{71}	18.1	X	319.28222	64.44558	20.38204	3.10344	0.1546551	0.22189426	2.7021244	20	12 23.6	20.9
448953 2011 WE_{72}	17.3	X	56.40665	2.32191	40.15475	5.10113	0.1251702	0.24234297	2.5479003	20	—	—
448954 2011 WF_{73}	16.3	X	224.16531	262.21967	253.51840	8.23507	0.0509793	0.21591710	2.7517651	20	11 11.2	20.1
448955 2011 WU_{82}	16.8	X	162.31631	198.07662	71.09653	16.53934	0.0832578	0.23538876	2.5978390	20	—	—
448956 2011 WB_{84}	17.3	X	259.35413	60.02011	82.05900	10.04913	0.1050115	0.21953777	2.7214261	20	12 3.8	20.8
448957 2011 WL_{88}	17.5	X	327.02053	173.25952	251.55792	2.22063	0.0887383	0.21893584	2.7264119	20	12 7.1	20.4
448958 2011 WF_{91}	16.8	X	268.03121	105.73610	68.72763	13.63613	0.1706399	0.22235381	2.6984000	20	—	—
448959 2011 WN_{97}	16.9	X	88.12469	81.07596	246.34499	10.79887	0.1027795	0.23260865	2.6184974	20	—	—
448960 2011 WM_{102}	16.9	X	58.74956	214.63218	110.56711	5.03030	0.1002283	0.22183739	2.7025862	20	12 9.9	20.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
448961 2011 WD_{116}	17.0	X	76.14246	309.68868	58.67365	2.01540	0.2049328	0.24228169	2.5483299	20	—	—
448962 2011 WN_{120}	16.4	X	67.15166	257.08613	104.43043	15.62683	0.1668631	0.24036998	2.5618236	20	—	—
448963 2011 WN_{123}	17.4	X	240.66063	107.98788	42.60455	1.79577	0.0091526	0.22057536	2.7128850	20	12 3.2	21.1
448964 2011 WT_{123}	17.0	X	115.70980	242.29882	60.54236	6.82455	0.0795742	0.22910579	2.6451198	20	—	—
448965 2011 WK_{129}	17.2	X	11.49925	117.63023	255.32783	4.52597	0.0523343	0.21879945	2.7275449	20	12 1.8	20.7
448966 2011 WY_{129}	17.0	X	350.96116	220.10959	218.64429	14.01293	0.0714425	0.23192368	2.6236506	20	—	—
448967 2011 WY_{133}	17.8	X	53.72535	61.25789	297.93492	2.64513	0.2639556	0.23497336	2.6008999	20	—	—
448968 2011 WE_{134}	17.6	X	9.64087	342.25414	52.87089	2.80364	0.1508234	0.22567290	2.6718769	20	—	—
448969 2011 WS_{153}	16.6	X	7.78455	241.32514	168.29711	11.87108	0.0693307	0.22931073	2.6435435	20	—	—
448970 2011 XL	16.7	X	76.25397	264.22927	96.36234	12.34790	0.2124504	0.24126085	2.5555133	20	—	—
448971 2011 YA_{13}	17.4	X	10.74271	139.87864	275.21718	2.75096	0.1969083	0.23182575	2.6243894	20	—	—
448972 2011 YV_{15}	17.2	X	260.15887	162.46833	1.88206	5.96752	0.5454590	0.20571082	2.8420473	20	10 24.9	21.7
448973 2011 YR_{20}	15.7	X	94.61995	291.16598	283.71791	9.11788	0.0706932	0.17830391	3.1262867	20	8 21.7	20.3
448974 2011 YR_{21}	16.6	X	340.73464	6.46437	107.72622	19.79937	0.2385812	0.22881277	2.6473775	20	—	—
448975 2011 YT_{23}	16.2	X	145.36932	53.91483	94.53898	10.85118	0.0760122	0.17526664	3.1623010	20	8 1.2	21.0
448976 2011 YX_{26}	17.3	X	4.46727	35.72036	26.25650	6.09381	0.1813680	0.22791970	2.6542885	20	—	—
448977 2011 YL_{29}	16.7	X	240.58599	320.14949	118.72139	10.87253	0.0759669	0.18850163	3.0124925	20	8 21.0	21.0
448978 2011 YM_{50}	16.3	X	170.64783	231.13498	274.58843	5.95300	0.1285288	0.18270821	3.0758418	20	8 21.0	21.2
448979 2011 YU_{50}	17.4	X	7.89770	44.17335	47.14260	13.60437	0.2889790	0.23585235	2.5944337	20	—	—
448980 2011 YX_{53}	16.8	X	356.02307	186.74139	262.53588	11.89788	0.2495542	0.22905710	2.6454946	20	—	—
448981 2011 YO_{68}	16.7	X	8.24972	267.09529	144.13587	13.24112	0.1804167	0.22075215	2.7114364	20	—	—
448982 2011 YB_{73}	17.0	X	350.95925	90.37446	314.16517	8.28401	0.1626710	0.21559073	2.7545415	20	12 25.5	20.2
448983 2011 YN_{75}	16.9	X	345.92526	55.34382	75.58567	31.57502	0.2815110	0.23210815	2.6222602	20	—	—
448984 2011 YH_{78}	15.3	X	35.69103	156.65674	91.53556	14.77153	0.0084893	0.16941210	3.2347428	20	7 14.6	19.8
448985 2012 AN_{6}	17.5	X	30.67302	279.78995	137.53451	6.73840	0.2443383	0.23238250	2.6201959	20	—	—
448986 2012 AO_{9}	16.9	X	326.07399	228.20994	171.07220	5.77982	0.0813067	0.20053172	2.8907731	20	10 29.6	20.4
448987 2012 AP_{12}	17.5	X	300.17471	62.55782	70.27179	3.57068	0.1134037	0.22126256	2.7072650	20	—	—
448988 2012 AS_{14}	16.3	X	89.51924	87.84635	230.64507	10.30766	0.0827144	0.22415745	2.6839058	20	—	—
448989 2012 BK_{21}	15.9	X	181.81444	341.57872	129.69852	27.28607	0.0926615	0.17485256	3.1672916	20	7 23.3	20.8
448990 2012 BD_{23}	15.9	X	170.72739	65.41998	88.50202	9.44066	0.1965361	0.17796225	3.1302867	20	9 5.3	21.3
448991 2012 BO_{23}	17.4	X	25.16095	257.56541	165.24856	12.95684	0.2708943	0.22907287	2.6453732	20	—	—
448992 2012 BL_{26}	16.5	X	204.74354	106.24832	12.03692	8.39616	0.0396245	0.18586487	3.0409166	20	9 2.1	20.9
448993 2012 BP_{28}	16.7	X	277.38064	10.58058	107.87010	6.46685	0.0706432	0.21064079	2.7975277	20	12 1.6	20.3
448994 2012 BT_{28}	16.0	X	350.07928	103.37845	288.65573	7.83051	0.0466103	0.20879231	2.8140149	20	11 22.4	19.7
448995 2012 BB_{29}	17.1	X	345.26086	274.73390	123.26967	1.58443	0.0773010	0.20858008	2.8159234	20	11 26.9	20.7
448996 2012 BN_{30}	17.2	X	16.13848	228.85992	147.86253	4.08787	0.2043429	0.21675083	2.7447041	20	—	—
448997 2012 BE_{36}	16.4	X	5.27932	252.90715	130.64834	5.58874	0.0648278	0.21023501	2.8011263	20	12 6.9	20.1
448998 2012 BH_{47}	16.5	X	234.18897	180.98133	306.35842	5.60924	0.1406359	0.19157348	2.9802026	20	9 30.8	20.9
448999 2012 BV_{49}	17.1	X	26.52652	95.65101	260.95809	1.40762	0.1839150	0.21048145	2.7989394	20	12 18.2	20.5
449000 2012 BY_{53}	15.9	X	209.55869	320.86591	140.59297	18.55827	0.1607359	0.17657075	3.1467111	20	8 3.9	20.9
449001 2012 BO_{54}	16.8	X	272.98243	121.24067	358.51316	4.96480	0.0738739	0.20034539	2.8925651	20	11 21.8	20.6
449002 2012 BT_{54}	17.4	X	236.17519	146.05564	343.12962	9.82541	0.2015471	0.19242124	2.9714428	20	9 28.2	21.9
449003 2012 BX_{54}	16.0	X	169.88562	64.28297	133.04074	8.95420	0.1430979	0.18611350	3.0382077	20	10 26.9	21.0
449004 2012 BY_{59}	16.8	X	201.69813	178.67461	314.35673	9.47733	0.0456740	0.18812282	3.0165352	20	9 10.5	21.2
449005 2012 BX_{75}	16.3	X	73.55739	127.16027	115.93428	16.98245	0.1140137	0.17935923	3.1140116	20	9 16.3	21.0
449006 2012 BE_{78}	17.4	X	260.80799	100.46460	357.11564	2.83636	0.1348181	0.19573673	2.9377928	20	9 29.5	21.2
449007 2012 BX_{80}	16.5	X	17.28991	165.36012	111.53402	10.29854	0.0900601	0.17060804	3.2196084	20	8 3.4	20.6
449008 2012 BG_{81}	16.1	X	241.21899	99.86746	315.51231	7.69734	0.0481222	0.17495339	3.1660746	20	7 24.3	20.6
449009 2012 BW_{89}	16.0	X	248.99537	105.25248	321.37708	9.05202	0.0680258	0.17987974	3.1080015	20	8 14.1	20.4
449010 2012 BD_{95}	16.0	X	328.51709	129.77372	195.58803	8.76723	0.0984143	0.17375019	3.1806742	20	7 18.2	20.2
449011 2012 BU_{95}	17.1	X	350.62154	49.63589	27.44584	11.22507	0.2459842	0.22337241	2.6901905	20	—	—
449012 2012 BV_{104}	15.7	X	136.43248	179.64759	357.82338	11.49533	0.1569644	0.17206625	3.2013924	20	9 1.3	20.8
449013 2012 BG_{107}	16.5	X	34.84509	151.68623	139.78900	11.95820	0.0581952	0.17871229	3.1215223	20	9 16.1	20.8
449014 2012 BJ_{109}	16.3	X	340.02893	243.18755	123.42560	10.21114	0.0590044	0.18994695	2.9971915	20	10 8.9	20.3
449015 2012 BR_{110}	15.9	X	230.98552	313.33277	135.73283	11.21826	0.0668097	0.17886767	3.1197143	20	8 21.7	20.3
449016 2012 BF_{112}	17.3	X	217.01149	250.19329	201.06976	0.92280	0.1582233	0.17658893	3.1464951	20	7 29.9	22.4
449017 2012 BR_{112}	17.3	X	348.93263	295.82352	147.84977	7.24145	0.1935901	0.21880952	2.7274611	20	—	—
449018 2012 BN_{127}	15.9	X	119.64828	245.41044	307.59270	10.62373	0.0424549	0.17779375	3.1322642	20	8 21.7	20.5
449019 2012 BB_{133}	17.0	X	344.92608	159.10205	306.24838	14.09182	0.2331570	0.22694449	2.6618870	20	—	—
449020 2012 BC_{134}	16.9	X	326.10202	89.26492	1.42786	12.41732	0.1915383	0.21485282	2.7608449	20	—	—
449021 2012 BJ_{136}	16.6	X	198.87158	121.15458	347.05654	6.80545	0.0709592	0.17926531	3.1150992	20	8 9.5	21.2
449022 2012 BA_{138}	16.1	X	328.01636	43.13162	291.17468	8.96064	0.1388951	0.17872872	3.1213309	20	7 27.8	19.8
449023 2012 BT_{138}	16.6	X	325.21870	95.99703	299.46483	9.99503	0.1033475	0.19777624	2.9175612	20	10 15.1	20.4
449024 2012 BX_{139}	16.2	X	143.09968	26.34806	166.49759	12.01413	0.0775042	0.17979508	3.1089771	20	9 22.5	20.9
449025 2012 BD_{140}	16.6	X	181.05805	154.58408	22.54676	2.57809	0.2217293	0.18294806	3.0731529	20	10 6.6	21.9
449026 2012 BR_{144}	16.4	X	297.63719	63.55892	318.47243	10.72415	0.0222771	0.17920913	3.1157502	20	8 24.9	20.7
449027 2012 BQ_{148}	16.5	X	306.63788	123.37509	276.70175	3.96341	0.1085990	0.19094810	2.9867061	20	9 22.3	20.2
449028 2012 BS_{151}	16.7	X	13.73493	107.11270	307.32747	11.76978	0.1681903	0.22540119	2.6740237	20	—	—
449029 2012 CX_{2}	16.0	X	283.06199	67.58090	318.38986	10.13081	0.0224316	0.17321290	3.1872483	20	8 11.7	20.3
449030 2012 CF_{7}	15.7	X	166.07195	217.01526	312.27795	13.10368	0.0624738	0.18262600	3.0767649	20	9 11.9	20.5
449031 2012 CB_{10}	16.1	X	86.33453	91.50346	154.15288	11.75094	0.0948535	0.17763414	3.1341403	20	9 28.2	20.7
449032 2012 CF_{16}	16.0	X	44.53406	310.89891	327.56674	10.46356	0.1041154	0.17479658	3.1679678	20	9 12.9	20.3
449033 2012 CU_{18}	15.7	X	198.27320	259.42986	240.41425	9.55570	0.1215786	0.18371108	3.0646378	20	9 7.9	20.7
449034 2012 CO_{28}	16.2	X	234.59646	107.14865	315.19937	19.99008	0.2355759	0.17549666	3.1595372	20	7 8.2	21.5
449035 2012 CT_{36}	16.9	X	247.38598	322.89855	145.32365	10.48665	0.0645264	0.19102872	2.9858657	20	10 9.2	21.2
449036 2012 CX_{37}	16.8	X	323.65911	322.58697	134.12955	8.07271	0.0542259	0.21273971	2.7790968	20	—	—
449037 2012 CX_{42}	16.6	X	182.53385	34.30115	132.04695	10.14493	0.0906444	0.18432286	3.0578529	20	10 4.3	21.4
449038 2012 CB_{46}	16.1	X	251.71607	282.66507	147.92297	7.99927	0.0884203	0.17788719	3.1311673	20	8 19.4	20.3
449039 2012 CF_{47}	16.1	X	293.99471	278.84104	136.90890	11.78197	0.0518910	0.18453217	3.0555401	20	10 5.5	20.3
449040 2012 CL_{50}	15.8	X	323.39554	74.15222	319.01447	11.05076	0.0850431	0.19008674	2.9957220	20	10 7.5	19.8

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449041 2012 CA_{57}	17.0	X	13.38225	127.54211	287.58639	9.80837	0.2903882	0.22536894	2.6742787	20	—	—
449042 2012 DO_{5}	16.4	X	323.96331	21.82715	8.04878	9.14375	0.0254784	0.18638286	3.0352798	20	10 10.3	20.4
449043 2012 DE_{7}	17.2	X	347.21662	294.83975	138.03257	9.84893	0.1426749	0.21314065	2.7756105	20	—	—
449044 2012 DL_{13}	16.8	X	215.18041	353.76217	170.38051	14.28432	0.1847980	0.18949380	3.0019680	20	10 26.3	21.6
449045 2012 DQ_{21}	16.2	X	253.62057	287.30066	163.78254	12.61618	0.0886457	0.18218601	3.0817166	20	9 18.1	20.4
449046 2012 DZ_{23}	16.4	X	197.91883	178.25299	3.36226	6.12469	0.2064088	0.18695128	3.0291243	20	10 24.9	21.5
449047 2012 DU_{27}	16.5	X	186.75057	151.81655	13.31456	9.74532	0.2532693	0.18149768	3.0895033	20	9 26.6	21.9
449048 2012 DJ_{53}	16.0	X	213.37970	298.96445	166.84074	13.66855	0.1596289	0.17121499	3.2119950	20	8 11.3	21.2
449049 2012 DX_{56}	16.7	X	326.78346	252.65849	173.18012	12.12461	0.0382737	0.19793943	2.9159574	20	12 3.2	20.8
449050 2012 DH_{58}	16.4	X	251.54221	322.42258	144.28505	11.44804	0.0716678	0.18040347	3.1019833	20	10 10.1	20.9
449051 2012 DP_{67}	16.1	X	241.60251	345.55881	161.26061	14.46685	0.0621300	0.18841280	3.0134393	20	11 18.6	20.6
449052 2012 DO_{69}	16.1	X	340.96483	204.25708	152.48327	11.58448	0.0921334	0.18420059	3.0592059	20	9 24.3	19.9
449053 2012 DK_{78}	15.8	X	185.52730	137.97825	23.84229	18.19463	0.1350968	0.18004121	3.1061430	20	9 29.8	20.8
449054 2012 DL_{79}	15.5	X	178.43487	169.17705	351.36558	27.71575	0.1047216	0.18067442	3.0988813	20	9 16.8	20.4
449055 2012 DR_{89}	15.6	X	244.18470	119.20081	339.57529	22.76349	0.1219297	0.18059821	3.0997530	20	9 8.2	20.0
449056 2012 DB_{93}	16.7	X	231.83196	102.98679	341.87119	11.36896	0.0629972	0.17284211	3.1918049	20	8 18.4	21.4
449057 2012 DS_{94}	16.5	X	269.34904	94.62299	339.94979	10.02736	0.1695669	0.18790670	3.0188477	20	9 4.9	20.6
449058 2012 EM_{2}	16.1	X	184.46533	23.32266	165.33663	10.86640	0.0545098	0.18952957	3.0015901	20	11 4.2	20.6
449059 2012 EZ_{4}	15.9	X	246.90839	47.38099	21.02595	10.12935	0.0323763	0.17043084	3.2218397	20	8 22.3	20.6
449060 2012 EE_{16}	15.8	X	195.82152	92.55918	38.86825	12.13039	0.0547868	0.17039768	3.2222576	20	9 8.6	20.7
449061 2012 FN_{4}	16.7	X	204.59240	273.57675	232.37226	2.43638	0.1482183	0.18335191	3.0686387	20	9 22.9	21.5
449062 2012 FO_{6}	16.5	X	273.97813	234.35609	200.40243	8.47443	0.1333099	0.18865484	3.0108612	20	9 15.6	20.6
449063 2012 FN_{8}	16.3	X	263.69036	257.55245	172.73294	11.96862	0.0912552	0.17888713	3.1194880	20	9 1.8	20.6
449064 2012 FL_{16}	16.7	X	278.64497	23.93265	33.17599	3.89963	0.1407796	0.17822502	3.1272092	20	8 31.2	20.8
449065 2012 FH_{17}	16.4	X	231.84173	280.17769	152.93793	4.98065	0.0892741	0.16626493	3.2754347	20	7 28.6	21.3
449066 2012 FD_{24}	16.3	X	219.59137	95.85524	29.89773	16.63697	0.2279917	0.17860089	3.1228201	20	9 14.2	21.6
449067 2012 FN_{31}	15.8	X	192.06421	95.20773	26.04558	25.85700	0.2593199	0.17547631	3.1597815	20	8 22.2	21.7
449068 2012 FG_{37}	16.3	X	285.92027	292.52417	127.62218	9.03718	0.0881040	0.17599918	3.1535202	20	9 23.2	20.5
449069 2012 FS_{43}	15.8	X	233.78975	103.21674	349.28810	16.41426	0.0763185	0.17383331	3.1796602	20	8 29.6	20.4
449070 2012 FP_{46}	16.8	X	248.98710	300.20571	146.10942	1.71595	0.1567226	0.17824216	3.1270087	20	8 26.8	21.4
449071 2012 FO_{51}	15.8	X	271.64944	71.97937	15.95573	14.96104	0.0757392	0.18360452	3.0658234	20	10 8.6	19.7
449072 2012 FS_{56}	16.6	X	241.82236	304.63942	176.24266	16.43786	0.0817104	0.18415062	3.0597592	20	10 13.2	21.0
449073 2012 FL_{59}	16.5	X	252.92965	35.97959	73.58794	3.48292	0.1404920	0.18801517	3.0176866	20	10 4.6	20.7
449074 2012 FR_{62}	19.2	X	351.96527	274.37519	206.80093	39.52116	0.2626554	0.45997997	1.6620475	20	—	—
449075 2012 FX_{68}	17.0	X	292.44680	259.59867	147.11173	12.62274	0.0769261	0.17461510	3.1701624	20	9 15.1	21.2
449076 2012 GN_{9}	15.9	X	233.54658	101.06746	7.65403	16.91250	0.1692500	0.17663643	3.1459310	20	9 9.6	20.8
449077 2012 HV_{7}	16.0	X	250.14948	57.31530	66.86667	27.22019	0.1813016	0.17941085	3.1134143	20	10 24.0	20.9
449078 2012 HT_{40}	15.7	X	231.53777	249.08307	226.36782	14.93711	0.1964678	0.17862092	3.1225866	20	9 2.8	20.9
449079 2012 HG_{55}	15.9	X	258.98911	280.92015	203.89664	16.35593	0.1540804	0.18237157	3.0796259	20	10 27.2	20.2
449080 2012 HF_{75}	15.5	X	219.23865	60.48307	49.61010	18.65257	0.2335516	0.17163498	3.2067530	20	8 27.2	21.1
449081 2012 JS_{25}	16.1	X	242.37676	257.90749	231.09624	20.74603	0.3154829	0.18158822	3.0884763	20	9 16.2	21.5
449082 2012 KX_{1}	16.0	X	222.19328	267.57189	201.95382	16.14055	0.2747109	0.17201222	3.2020628	20	8 12.3	21.7
449083 2012 PY_{17}	17.7	X	223.96799	118.72045	330.62329	16.71607	0.0646851	0.37515938	1.9039645	20	9 2.0	19.4
449084 2012 QX_{14}	18.0	X	283.48699	143.38394	175.18865	26.18195	0.1644997	0.34964214	1.9955083	20	4 22.7	20.6
449085 2012 QV_{29}	18.3	X	195.43504	55.82862	339.18063	17.06349	0.0175676	0.34128520	2.0279524	20	4 19.4	21.0
449086 2012 RY_{16}	18.9	X	193.94078	300.63490	3.91500	4.51591	0.3032619	0.31534191	2.1377074	20	1 8.5	22.6
449087 2012 RU_{34}	17.9	X	75.94725	214.91620	208.64362	4.94838	0.1256545	0.29806723	2.2195243	20	1 5.2	19.9
449088 2012 SN	18.1	X	3.90316	111.43632	204.80245	20.93856	0.1055718	0.37276932	1.9120941	20	10 14.7	19.4
449089 2012 SC_{22}	20.1	X	289.42525	167.45660	344.36303	12.60573	0.6319413	0.65100172	1.3185035	20	—	—
449090 2012 TX_{102}	18.0	X	237.34512	355.02113	256.70103	2.43032	0.1075589	0.30053830	2.2073414	20	—	—
449091 2012 TK_{143}	17.8	X	46.53562	51.58383	196.11605	21.78788	0.0474627	0.35683593	1.9685978	20	8 15.9	20.3
449092 2012 TT_{143}	18.0	X	86.19679	179.61665	16.10520	19.75971	0.0416115	0.35352820	1.9808580	20	8 12.0	20.6
449093 2012 TM_{193}	18.7	X	156.25368	304.66549	40.85545	5.59191	0.2278479	0.30378249	2.1915980	20	1 25.4	21.9
449094 2012 TY_{226}	17.4	X	227.74088	147.86414	59.60920	6.81010	0.0679762	0.27843868	2.3226459	20	—	—
449095 2012 TL_{247}	18.1	X	357.27583	248.77330	278.41667	6.08637	0.0628601	0.30520740	2.1847714	20	1 19.0	20.4
449096 2012 UB_{28}	17.5	X	131.49052	249.55711	53.97754	5.62343	0.1421514	0.27932979	2.3177035	20	—	—
449097 2012 UT_{68}	9.6	X	26.53418	5.48195	43.86062	15.42185	0.3750458	0.01089167	20.1561010	20	1 5.5	21.1
449098 2012 UN_{89}	18.3	X	58.12794	40.42384	51.28784	9.31378	0.1508880	0.29216436	2.2493199	20	1 21.3	20.3
449099 2012 UU_{91}	17.8	X	223.49191	320.32266	326.63160	6.73352	0.0997281	0.30366782	2.1921497	20	1 8.8	20.9
449100 2012 UH_{147}	18.7	X	194.50391	88.58047	242.69947	2.93624	0.1619634	0.31076052	2.1586662	20	2 4.0	21.9
449101 2012 UO_{162}	17.9	X	147.91425	336.86327	38.86292	8.15537	0.1240044	0.30414191	2.1898710	20	2 16.1	20.9
449102 2012 UQ_{167}	17.0	X	37.46905	77.23869	343.64866	22.56560	0.2321196	0.27817743	2.3240999	20	—	—
449103 2012 VJ_{10}	18.1	X	20.41816	235.56944	248.91220	5.04095	0.1542358	0.28918834	2.2647253	20	—	—
449104 2012 VH_{35}	17.9	X	58.77679	38.61604	58.44356	8.53040	0.0902841	0.29688923	2.2253915	20	1 24.5	20.1
449105 2012 VQ_{35}	18.1	X	44.46674	300.86303	198.25406	4.33907	0.0853657	0.30582741	2.1818176	20	2 25.7	20.1
449106 2012 VR_{70}	18.1	X	130.51386	252.11138	73.72789	6.83463	0.1796496	0.28474245	2.2882382	20	—	—
449107 2012 VJ_{82}	19.7	X	199.96864	271.77215	257.45742	15.72183	0.3900347	0.62203896	1.3591195	20	—	—
449108 2012 WS_{1}	18.6	X	151.55985	3.85232	49.26831	3.83444	0.1116095	0.31474889	2.1403916	20	4 6.3	21.3
449109 2012 WR_{13}	18.6	X	83.95408	274.40841	185.83167	2.99489	0.0450201	0.30573729	2.1822464	20	2 29.6	21.0
449110 2012 WP_{32}	17.9	X	3.96692	23.54501	130.75974	2.68059	0.1655371	0.28475311	2.2881811	20	1 3.1	19.7
449111 2012 XJ_{45}	17.7	X	3.95109	272.39119	264.74381	4.40874	0.0958389	0.29806707	2.2195251	20	2 10.4	20.0
449112 2012 XN_{53}	16.5	X	190.33445	123.48724	105.15776	17.54476	0.0964497	0.24191035	2.5509371	20	—	—
449113 2012 XQ_{60}	18.0	X	310.68849	140.27373	72.35645	4.57094	0.0834608	0.29997798	2.2100892	20	1 13.8	20.5
449114 2012 XO_{83}	17.3	X	38.07550	90.98631	308.44491	6.19321	0.1057951	0.25961171	2.4336224	20	—	—
449115 2012 XY_{93}	17.4	X	119.55486	284.81485	40.38007	6.37850	0.1611176	0.27969800	2.3156690	20	—	—
449116 2012 XF_{96}	17.7	X	357.12550	270.10467	231.32588	5.18387	0.1451638	0.28057396	2.3108467	20	—	—
449117 2012 XE_{118}	18.2	X	81.93005	355.26110	56.63112	6.39863	0.0864735	0.28026701	2.3125337	20	—	—
449118 2012 XJ_{141}	18.4	X	125.98308	168.32013	242.85743	5.07804	0.1067129	0.30502671	2.1856342	20	2 28.0	21.2
449119 2012 YJ_{1}	17.5	X	221.04160	265.53763	283.72420	5.72735	0.1657184	0.23139413	2.6276519	20	12 7.9	21.1
449120 2012 YP_{1}	16.9	X	58.64930	308.04543	141.01158	24.95491	0.3169399	0.28383571	2.2931090	20	2 10.5	17.9

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449121 2013 AZ_4	17.3	X	216.53372	273.84635	280.98928	3.72122	0.1753808	0.23834376	2.5763223	20	12 10.2	20.9
449122 2013 AG_6	17.6	X	324.27441	279.36613	252.89390	1.80581	0.1681950	0.27821506	2.3238903	20	—	—
449123 2013 AL_8	17.3	X	300.17766	217.17766	294.58933	5.44488	0.1012304	0.25316828	2.4747416	20	—	—
449124 2013 AE_{12}	17.9	X	45.25170	86.49625	47.45635	7.00925	0.1680769	0.28891848	2.2661353	20	3 5.8	19.7
449125 2013 AZ_{13}	17.8	X	350.76654	37.83365	115.49559	3.25107	0.1548697	0.27160283	2.3614560	20	—	—
449126 2013 AA_{14}	18.2	X	119.52592	298.58380	114.35738	3.72389	0.1485025	0.29082957	2.2561969	20	3 5.3	20.9
449127 2013 AS_{15}	17.9	X	113.87581	276.06184	168.53871	4.63448	0.1270965	0.30001286	2.2099179	20	4 6.6	20.5
449128 2013 AK_{16}	18.0	X	9.90760	109.68455	342.14870	2.79659	0.1502014	0.26690041	2.3891123	20	—	—
449129 2013 AQ_{18}	17.2	X	224.71312	218.03828	307.31337	8.13752	0.0247303	0.23328343	2.6134455	20	12 1.5	20.8
449130 2013 AL_{24}	17.5	X	26.15672	240.01691	278.72307	4.22189	0.0800561	0.29764012	2.2216471	20	2 23.3	19.6
449131 2013 AV_{29}	16.3	X	219.33020	213.68788	349.73070	9.19562	0.1697717	0.24298157	2.5434342	20	12 26.7	20.0
449132 2013 AR_{31}	18.1	X	69.55299	223.32957	182.72011	5.85825	0.2055277	0.28139315	2.3063597	20	—	—
449133 2013 AG_{36}	18.0	X	35.69722	42.81285	77.43030	6.01909	0.0861809	0.28141335	2.3062493	20	1 20.1	20.3
449134 2013 AD_{40}	16.4	X	111.68424	357.74420	308.56557	14.86389	0.2040604	0.24038258	2.5617341	20	—	—
449135 2013 AS_{47}	17.8	X	355.08647	70.84120	51.67786	2.78489	0.1649881	0.26300935	2.4126181	20	—	—
449136 2013 AQ_{53}	17.5	X	339.73884	79.43627	84.13795	6.64189	0.1601151	0.27054868	2.3675860	20	—	—
449137 2013 AP_{54}	18.0	X	309.06994	173.40919	348.90757	1.04293	0.1260347	0.25991952	2.4317007	20	—	—
449138 2013 AV_{56}	16.8	X	181.77708	129.39293	108.05738	10.53669	0.1641537	0.23776728	2.5804849	20	12 28.0	20.7
449139 2013 AX_{56}	18.7	X	9.66861	114.43417	359.92596	2.42139	0.1472516	0.26947253	2.3738852	20	—	—
449140 2013 AE_{57}	17.5	X	227.14317	191.38045	75.69700	3.45123	0.0839629	0.26998383	2.3708871	20	—	—
449141 2013 AK_{58}	17.0	X	171.24541	141.96126	95.97433	4.71441	0.1513492	0.23226983	2.6210432	20	12 18.5	21.0
449142 2013 AC_{62}	17.6	X	137.77511	326.51408	51.60760	7.03353	0.1224737	0.28951456	2.2630238	20	2 7.9	20.6
449143 2013 AH_{68}	16.8	X	107.77987	308.52682	290.42786	7.66619	0.0804013	0.21007524	2.8025463	20	10 10.5	21.1
449144 2013 AG_{71}	17.6	X	331.66475	49.82943	125.34414	7.62485	0.0437330	0.27404043	2.3474317	20	1 2.2	20.3
449145 2013 AZ_{77}	17.9	X	24.55350	6.36263	57.82342	5.29891	0.0968088	0.25980903	2.4323901	20	—	—
449146 2013 AL_{80}	17.6	X	239.50041	98.93258	117.74445	6.97854	0.0849462	0.25434809	2.4670828	20	—	—
449147 2013 AZ_{87}	18.7	X	37.61078	144.09698	314.09971	5.35870	0.1910839	0.27760007	2.3273212	20	—	—
449148 2013 AZ_{91}	17.5	X	42.46731	32.36077	81.51759	6.65582	0.0492183	0.29164331	2.2519982	20	1 19.7	19.9
449149 2013 AX_{93}	16.3	X	115.09384	298.20320	291.51076	8.27249	0.0619259	0.21262826	2.7800678	20	10 5.5	20.6
449150 2013 AM_{94}	17.6	X	5.24744	200.14458	293.32816	4.47551	0.2016751	0.27863377	2.3215616	20	—	—
449151 2013 AD_{95}	17.3	X	329.43723	184.94549	321.88400	4.53367	0.0867074	0.26511146	2.3998479	20	—	—
449152 2013 AT_{95}	17.5	X	299.46337	121.47781	50.20938	2.84027	0.1478523	0.25660686	2.4525839	20	—	—
449153 2013 AK_{98}	18.1	X	127.02314	66.30865	336.28188	7.88059	0.1180207	0.29220610	2.2491057	20	2 23.7	20.7
449154 2013 AT_{116}	18.0	X	341.59403	68.98991	106.45509	9.30843	0.1626022	0.27351762	2.3504220	20	—	—
449155 2013 AP_{120}	17.0	X	241.76057	60.94183	111.57022	5.31452	0.0646124	0.23882153	2.5728851	20	12 29.5	20.1
449156 2013 AZ_{121}	17.3	X	273.71232	6.53804	113.55928	9.80304	0.0223236	0.23355214	2.6114405	20	12 9.9	20.7
449157 2013 AP_{122}	17.6	X	37.58205	3.81368	100.82920	6.50270	0.0963177	0.27563445	2.3383727	20	—	—
449158 2013 AH_{123}	18.3	X	63.54961	230.97158	217.68637	2.05682	0.1286053	0.28029007	2.3124068	20	1 24.9	20.3
449159 2013 AW_{123}	17.9	X	139.84207	299.47474	92.28734	6.06946	0.1887027	0.29283056	2.2459071	20	3 7.0	21.1
449160 2013 AH_{126}	17.0	X	36.05131	327.89631	164.86992	23.40181	0.1600635	0.28393884	2.2925537	20	2 5.6	19.2
449161 2013 AK_{130}	17.2	X	345.00300	41.83253	96.32895	7.77107	0.0533419	0.26675777	2.3899638	20	—	—
449162 2013 AB_{131}	18.2	X	55.07362	341.44671	129.31301	7.13150	0.1039328	0.28047462	2.3113924	20	2 10.2	20.5
449163 2013 AB_{132}	15.4	X	33.03399	294.90068	324.83795	25.30082	0.2900312	0.17587525	3.1550015	20	8 28.9	19.3
449164 2013 AE_{156}	17.1	X	129.41362	63.69063	189.62337	9.17110	0.0865135	0.22952197	2.6419213	20	11 28.9	21.1
449165 2013 AY_{156}	17.8	X	23.77443	223.10241	231.24464	7.59714	0.0659389	0.26854478	2.3793495	20	—	—
449166 2013 AS_{174}	16.9	X	315.32843	167.25948	231.64759	12.71438	0.0189677	0.22149743	2.7053508	20	10 15.6	20.6
449167 2013 BD_8	18.1	X	76.66485	342.95823	71.42062	5.82761	0.1479989	0.27832721	2.3232660	20	1 1.9	20.3
449168 2013 BA_{23}	16.9	X	63.56297	197.37925	263.02605	11.24770	0.0411885	0.28272803	2.2990944	20	1 29.6	19.7
449169 2013 BA_{26}	17.9	X	83.66846	298.95507	104.14506	2.90062	0.1937930	0.27215797	2.3582437	20	1 6.8	20.0
449170 2013 BV_{29}	16.9	X	157.72702	211.54763	31.97479	4.18353	0.1057049	0.23439342	2.6051883	20	12 14.8	20.9
449171 2013 BB_{35}	17.3	X	31.84054	152.38934	288.77109	5.88130	0.0791572	0.26754221	2.3852899	20	—	—
449172 2013 BC_{41}	16.9	X	129.96457	313.12505	315.32077	10.95003	0.1425921	0.22804922	2.6532835	20	12 17.1	21.2
449173 2013 BK_{56}	18.2	X	69.99682	158.72285	278.98139	4.83232	0.1210929	0.28118739	2.3074846	20	1 19.5	20.4
449174 2013 BM_{61}	18.1	X	346.59692	97.71309	46.01112	2.44640	0.1377728	0.26565408	2.3965789	20	—	—
449175 2013 BL_{63}	17.5	X	273.15890	175.28598	316.51282	3.67871	0.2065268	0.23499828	2.6007160	20	11 29.7	20.2
449176 2013 BU_{63}	18.1	X	91.96051	79.15040	331.38758	4.03982	0.1551085	0.27646644	2.3336789	20	1 25.2	20.4
449177 2013 BM_{65}	18.7	X	118.54220	256.89291	157.70300	2.01382	0.2264894	0.29286687	2.2457214	20	3 15.8	21.6
449178 2013 BG_{66}	16.4	X	132.03922	131.02594	132.98770	12.56060	0.1619423	0.22263784	2.6961045	20	12 14.1	21.0
449179 2013 BA_{68}	17.3	X	193.26535	191.02325	51.95658	3.40007	0.1532481	0.24590531	2.5232335	20	—	—
449180 2013 BH_{75}	17.6	X	6.77552	8.14586	100.85079	7.25345	0.0927275	0.26435665	2.4044138	20	—	—
449181 2013 BA_{80}	18.2	X	110.22508	283.32846	137.64430	6.47018	0.1483731	0.29195023	2.2504196	20	3 3.8	20.7
449182 2013 CV_1	18.5	X	20.20862	243.98125	233.42048	3.71933	0.1775836	0.27237329	2.3570007	20	—	—
449183 2013 CW_1	17.3	X	317.55580	22.23428	171.45266	6.71840	0.0545732	0.27354162	2.3502845	20	1 5.6	20.3
449184 2013 CY_8	18.1	X	121.96542	286.70805	157.42027	7.10725	0.0522985	0.29758747	2.2219091	20	4 6.9	20.7
449185 2013 CT_{11}	17.0	X	185.84439	134.41287	113.17279	8.64560	0.1673678	0.23741098	2.5830660	20	—	—
449186 2013 CN_{12}	16.7	X	248.37703	7.03345	125.77192	15.43846	0.0396603	0.22477335	2.6790008	20	11 22.2	20.6
449187 2013 CX_{12}	17.9	X	289.16746	159.06257	336.87715	5.01235	0.0373325	0.24227086	2.5484059	20	—	—
449188 2013 CW_{14}	18.1	X	44.28075	112.69523	358.91869	4.20583	0.1686844	0.27765073	2.3270381	20	1 26.9	19.8
449189 2013 CV_{18}	17.4	X	331.03055	31.94891	122.37313	6.52387	0.0732077	0.25761409	2.4461869	20	—	—
449190 2013 CM_{23}	16.7	X	245.17666	213.37286	309.48283	9.85805	0.0685882	0.23465988	2.6032157	20	12 20.4	20.1
449191 2013 CO_{23}	18.1	X	334.61327	308.77889	188.75128	2.02323	0.1323241	0.25971117	2.4330010	20	—	—
449192 2013 CQ_{23}	17.8	X	16.00367	293.25003	176.46264	2.13472	0.1444170	0.26727330	2.3868896	20	—	—
449193 2013 CN_{24}	16.0	X	81.66175	233.00403	339.29915	13.08434	0.1253445	0.18353704	3.0665748	20	8 16.6	20.4
449194 2013 CM_{27}	17.4	X	50.04206	183.00064	270.21257	6.24182	0.0909519	0.27884816	2.3203715	20	1 5.1	19.6
449195 2013 CY_{28}	17.7	X	269.23043	312.06667	241.31673	1.47859	0.1240945	0.25229190	2.4804693	20	—	—
449196 2013 CN_{34}	16.8	X	254.11100	294.54251	155.85269	9.45672	0.1746636	0.21299416	2.7768830	20	9 9.2	20.5
449197 2013 CV_{36}	16.6	X	251.16364	4.21872	152.85870	12.42514	0.1273408	0.23290661	2.6162637	20	12 13.1	20.1
449198 2013 CV_{44}	17.4	X	75.21023	12.94169	356.85110	5.46026	0.0236338	0.24762876	2.5115124	20	—	—
449199 2013 CE_{50}	17.7	X	32.66072	72.36390	29.15315	5.16685	0.1498322	0.26643179	2.3919128	20	—	—
449200 2013 CU_{51}	18.0	X	5.06211	118.84612	328.19183	5.74188	0.1152318	0.25480745	2.4641169	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449201 2013 CG_{53}	17.9	X	65.06313	131.02727	287.18883	8.83410	0.1899355	0.27104344	2.3647040	20	—	—
449202 2013 CR_{55}	16.9	X	213.37877	185.06585	345.66522	10.71793	0.0619412	0.22230583	2.6987883	20	11 13.9	20.9
449203 2013 CX_{55}	17.5	X	32.36734	214.35362	266.22518	4.19161	0.0898997	0.27490148	2.3425273	20	1 14.7	19.7
449204 2013 CS_{56}	17.2	X	321.83597	57.53812	326.81613	3.19507	0.1102032	0.21491619	2.7603022	20	10 1.9	20.3
449205 2013 CT_{57}	16.4	X	165.93357	261.89386	280.46547	9.72516	0.0824965	0.21004169	2.8028447	20	10 1.2	20.8
449206 2013 CQ_{58}	16.5	X	101.91078	302.45502	340.51558	9.53025	0.0771751	0.22174871	2.7033067	20	12 1.3	20.6
449207 2013 CZ_{64}	17.8	X	27.69765	128.65268	305.67634	5.45159	0.1185709	0.25896425	2.4376771	20	—	—
449208 2013 CD_{69}	16.9	X	123.23182	340.41369	257.44678	2.36893	0.1320344	0.21069960	2.7970071	20	10 31.7	21.3
449209 2013 CW_{69}	17.6	X	294.83253	150.29358	18.67364	6.62352	0.0681170	0.26259780	2.4151382	20	—	—
449210 2013 CX_{70}	17.0	X	182.13446	13.52524	216.20996	4.90004	0.1010516	0.23447842	2.6045586	20	12 23.6	20.9
449211 2013 CB_{74}	18.1	X	24.74624	345.80265	126.02872	7.80869	0.1365531	0.26959389	2.3731727	20	—	—
449212 2013 CT_{74}	16.9	X	172.04158	197.19726	79.85485	5.92721	0.1390518	0.24527803	2.5275337	20	—	—
449213 2013 CB_{75}	17.9	X	16.97661	285.86962	189.06767	2.41629	0.1597819	0.26811699	2.3818797	20	—	—
449214 2013 CM_{76}	17.1	X	63.45495	333.44532	132.09676	7.42037	0.0621201	0.27845823	2.3225372	20	2 13.1	19.4
449215 2013 CO_{81}	16.9	X	47.95085	58.38882	304.99445	14.11945	0.1263995	0.23712519	2.5851411	20	—	—
449216 2013 CB_{83}	16.8	X	247.13275	201.46294	301.25033	11.04729	0.1103403	0.23258608	2.6186668	20	11 16.9	20.5
449217 2013 CZ_{83}	17.6	X	244.61634	77.27208	108.78521	3.48429	0.1340492	0.23600106	2.5933437	20	—	—
449218 2013 CY_{86}	16.9	X	257.63326	125.62766	18.41334	2.35125	0.1395429	0.22930923	2.6435551	20	11 30.5	20.1
449219 2013 CQ_{92}	18.3	X	85.94288	124.85297	303.33777	1.59082	0.0574476	0.27624930	2.3349016	20	1 25.3	20.8
449220 2013 CK_{97}	18.4	X	28.72307	269.03104	186.24330	0.78283	0.1592046	0.26683943	2.3894762	20	—	—
449221 2013 CS_{98}	17.1	X	162.43141	35.51133	176.43139	2.72126	0.1880961	0.21382408	2.7696931	20	11 6.3	21.8
449222 2013 CO_{106}	18.0	X	72.87315	303.96547	141.48867	7.16098	0.0768949	0.27787431	2.3257897	20	1 31.2	20.6
449223 2013 CN_{107}	17.6	X	80.95198	264.38113	134.73883	4.85907	0.1267898	0.26562086	2.3967787	20	—	—
449224 2013 CR_{107}	16.2	X	272.70532	213.05712	141.54612	11.29968	0.0253495	0.17925683	3.1151974	20	6 19.7	20.8
449225 2013 CE_{109}	16.1	X	23.28000	175.67470	114.77044	14.34632	0.1935880	0.19183934	2.9774485	20	9 21.5	19.9
449226 2013 CT_{109}	17.4	X	69.92794	49.76354	8.48451	5.55899	0.0874260	0.26734010	2.3864920	20	—	—
449227 2013 CF_{117}	17.3	X	31.82697	6.15206	122.64115	7.27858	0.2148752	0.27580685	2.3373981	20	1 24.2	18.5
449228 2013 CJ_{119}	18.1	X	358.23948	82.27356	58.20600	3.29530	0.1664568	0.26441422	2.4040648	20	—	—
449229 2013 CX_{120}	18.0	X	26.63797	323.30149	112.76177	2.56675	0.1494402	0.25506367	2.4624664	20	—	—
449230 2013 CO_{130}	17.9	X	13.34918	136.26278	334.45502	1.86557	0.1601554	0.26285625	2.4135548	20	—	—
449231 2013 CR_{130}	16.6	X	314.53968	134.87368	338.31626	17.13953	0.1037771	0.23898527	2.5717098	20	—	—
449232 2013 CN_{134}	15.8	X	237.52407	131.80785	357.12072	24.70820	0.1615851	0.22101025	2.7093250	20	10 4.5	19.9
449233 2013 CJ_{136}	16.3	X	170.23187	117.27675	68.44144	8.70620	0.1504184	0.20912945	2.8109897	20	10 16.2	20.9
449234 2013 CS_{137}	17.0	X	68.71435	262.33382	155.58261	6.62612	0.1242216	0.26318135	2.4115669	20	—	—
449235 2013 CR_{142}	17.3	X	55.59352	50.74067	34.93447	3.63446	0.1165469	0.27479610	2.3431262	20	1 7.2	19.5
449236 2013 CR_{160}	16.8	X	214.41686	148.70201	359.87773	3.65605	0.0409529	0.21218029	2.7839795	20	10 21.9	20.6
449237 2013 CP_{163}	16.4	X	108.73411	135.56524	159.44920	9.20287	0.1355504	0.21969400	2.7201358	20	12 27.2	20.8
449238 2013 CR_{164}	17.9	X	353.27962	340.57045	174.02172	2.47306	0.1233263	0.26597945	2.3946240	20	—	—
449239 2013 CW_{166}	16.6	X	44.61002	194.25267	137.00581	8.99064	0.0797955	0.21737754	2.7394262	20	11 28.2	20.4
449240 2013 CL_{169}	16.6	X	118.66370	169.69199	69.81535	4.30848	0.0975360	0.20925171	2.8098947	20	10 28.9	20.8
449241 2013 CB_{174}	17.0	X	202.40615	63.87600	158.55805	12.88457	0.0446691	0.23332343	2.6131468	20	—	—
449242 2013 CR_{174}	16.7	X	303.56997	78.51024	328.83600	6.00452	0.0419519	0.20849376	2.8167006	20	10 6.3	20.5
449243 2013 CS_{175}	17.2	X	66.57556	263.75193	171.55203	4.58672	0.1148336	0.26966191	2.3727737	20	1 11.8	19.7
449244 2013 CS_{177}	17.7	X	15.53193	204.16391	260.66933	1.79409	0.1422532	0.26395922	2.4068267	20	—	—
449245 2013 CQ_{180}	17.4	X	206.65342	268.18643	284.13660	4.54182	0.0283898	0.22803833	2.6533680	20	12 12.3	21.0
449246 2013 CR_{183}	17.3	X	265.61546	344.74069	188.24932	13.40060	0.2050423	0.23499626	2.6007309	20	—	—
449247 2013 CU_{183}	17.5	X	218.85156	205.81156	359.64909	8.74949	0.1059020	0.23867923	2.5739076	20	—	—
449248 2013 CT_{187}	17.1	X	195.89273	143.20931	104.35113	6.62875	0.1035306	0.24287645	2.5441679	20	—	—
449249 2013 CO_{195}	17.7	X	345.85203	193.50173	320.60919	2.34346	0.0265605	0.26725139	2.3870200	20	—	—
449250 2013 CH_{202}	16.9	X	132.20135	107.05343	135.78060	7.92432	0.1783090	0.21276368	2.7788881	20	11 19.0	21.6
449251 2013 CV_{212}	16.3	X	112.16347	203.09998	137.62220	15.78083	0.1341459	0.24378161	2.5378664	20	—	—
449252 2013 DP_{3}	18.3	X	53.74910	20.07112	29.93596	4.26907	0.2187309	0.26328555	2.4109305	20	—	—
449253 2013 DP_{5}	18.4	X	2.13310	146.32899	310.37566	5.66288	0.1042022	0.25424413	2.4677553	20	—	—
449254 2013 DE_{12}	16.8	X	140.81215	70.96792	192.75723	11.67286	0.1447534	0.22408515	2.6844830	20	12 20.1	21.3
449255 2013 DF_{12}	17.5	X	8.52373	259.92996	208.18144	7.52399	0.0927181	0.26020415	2.4299271	20	—	—
449256 2013 DL_{15}	17.7	X	5.51090	202.68733	249.06349	5.41151	0.1028231	0.25383970	2.4703758	20	—	—
449257 2013 DP_{15}	17.6	X	242.74922	345.38716	190.46924	9.09149	0.0385108	0.23498007	2.6008503	20	—	—
449258 2013 DR_{16}	16.1	X	256.24958	215.92956	293.88343	11.64447	0.1014650	0.23065604	2.6332544	20	12 12.6	19.5
449259 2013 EF	17.0	X	107.09586	7.65918	59.68757	26.41146	0.2302171	0.28731462	2.2745609	20	4 6.1	20.6
449260 2013 EJ_{1}	16.8	X	228.25404	5.77844	176.82268	13.35169	0.1368009	0.22871601	2.6481241	20	12 12.6	20.7
449261 2013 ED_{2}	17.1	X	239.30732	171.52748	341.50408	3.44483	0.0575435	0.22458592	2.6804911	20	11 27.8	20.6
449262 2013 EO_{10}	17.2	X	53.73958	73.06689	3.86898	6.49259	0.1037290	0.26789036	2.3832229	20	—	—
449263 2013 EC_{12}	17.1	X	271.11882	348.68653	105.61531	4.63647	0.1635225	0.21808670	2.7334843	20	10 11.9	20.5
449264 2013 EZ_{13}	17.7	X	212.33319	67.77674	161.52636	10.67857	0.0915518	0.23849705	2.5752182	20	—	—
449265 2013 EF_{15}	17.3	X	204.52816	209.54050	344.78844	2.64768	0.0366269	0.22475206	2.6791700	20	12 10.1	20.9
449266 2013 ER_{17}	17.7	X	24.88565	19.60773	87.23794	5.96754	0.1946878	0.26156746	2.4214764	20	—	—
449267 2013 ED_{18}	17.1	X	30.17754	226.01174	71.80468	2.04492	0.0945818	0.19066087	2.9897050	20	9 22.8	20.9
449268 2013 EL_{24}	17.1	X	275.68883	130.52734	20.39720	13.29237	0.1436745	0.23510811	2.5999060	20	—	—
449269 2013 EV_{24}	17.4	X	37.47293	291.21301	166.57316	4.11962	0.1888234	0.26621755	2.3931960	20	—	—
449270 2013 EC_{26}	17.3	X	329.29545	300.53976	149.51107	3.55976	0.0725700	0.23180477	2.6245477	20	—	—
449271 2013 EP_{30}	17.1	X	157.58026	95.25379	168.68650	8.28304	0.0282831	0.22833211	2.6510916	20	—	—
449272 2013 EL_{31}	16.5	X	14.25618	27.15273	16.91543	18.18026	0.1930475	0.23242694	2.6198620	20	—	—
449273 2013 EA_{33}	16.8	X	304.77972	202.01955	291.42411	11.65683	0.1901657	0.24295803	2.5435984	20	—	—
449274 2013 EM_{38}	16.8	X	68.40414	225.03761	37.09183	8.04848	0.1408128	0.18945220	3.0024073	20	10 5.3	21.1
449275 2013 EM_{45}	18.6	X	11.57986	255.50093	202.31345	1.48219	0.1602635	0.25597488	2.4566191	20	—	—
449276 2013 EJ_{46}	18.3	X	40.87537	212.58024	208.88756	1.96645	0.1808454	0.25442283	2.4665996	20	—	—
449277 2013 ET_{46}	18.0	X	91.49302	143.55980	285.74106	1.50432	0.1905401	0.27713958	2.3298985	20	2 24.5	20.4
449278 2013 EH_{48}	18.6	X	13.92218	205.26402	256.01031	0.42557	0.1500645	0.25730749	2.4481297	20	—	—
449279 2013 ED_{49}	17.2	X	178.76211	228.11800	333.42687	3.42855	0.0407935	0.21428890	2.7656863	20	11 15.1	21.2
449280 2013 EF_{59}	17.4	X	7.26644	18.24484	357.49740	5.64717	0.0386141	0.21718414	2.7410522	20	11 26.3	21.1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449281 2013 EN_{62}	17.6	X	337.48175	79.16144	9.40978	2.64566	0.0706561	0.23529590	2.5985225	20	—	—
449282 2013 EQ_{67}	16.0	X	49.90994	209.89644	36.28473	10.64811	0.0249611	0.17666566	3.1455840	20	8 6.1	20.5
449283 2013 EO_{68}	17.0	X	136.78075	210.97347	30.56190	4.17343	0.0465131	0.21165488	2.7885848	20	11 16.5	21.1
449284 2013 EH_{72}	16.9	X	55.57410	288.24009	58.28172	3.71279	0.1115210	0.22513282	2.6761483	20	—	—
449285 2013 EM_{80}	17.0	X	185.10240	158.29726	30.78232	5.57182	0.0904484	0.21244090	2.7817022	20	11 3.4	21.2
449286 2013 EW_{80}	17.3	X	337.73751	293.43561	153.88326	14.96961	0.1490491	0.23878807	2.5731255	20	—	—
449287 2013 EE_{83}	17.2	X	290.66900	108.40238	29.46929	8.72407	0.0356796	0.23415700	2.6069415	20	—	—
449288 2013 EO_{85}	16.7	X	40.36258	217.29653	52.63907	1.61883	0.1409099	0.18047705	3.1011401	20	9 5.9	20.7
449289 2013 ER_{85}	16.2	X	59.31518	149.03403	102.91628	8.33747	0.1122334	0.18358138	3.0660811	20	9 7.6	20.5
449290 2013 EP_{86}	16.4	X	269.98639	124.73751	16.99971	13.13814	0.0986614	0.22970600	2.6405100	20	12 21.5	19.9
449291 2013 ER_{90}	17.1	X	241.12480	167.15908	22.56129	13.86841	0.1988074	0.23378090	2.6097367	20	12 29.9	20.7
449292 2013 EU_{92}	16.8	X	221.99239	286.40661	276.77537	11.45185	0.2060584	0.22633059	2.6666983	20	12 20.3	20.6
449293 2013 EC_{94}	15.7	X	62.07085	279.30556	331.42347	16.34652	0.2453968	0.18057592	3.1000081	20	9 19.1	20.3
449294 2013 EK_{94}	15.7	X	323.44055	276.11594	67.44046	12.69384	0.0158301	0.18595499	3.0399340	20	8 17.7	20.1
449295 2013 EQ_{98}	16.9	X	140.03579	52.23069	162.36399	2.23474	0.0376461	0.20253450	2.8716844	20	10 17.5	21.1
449296 2013 EU_{105}	16.2	X	89.38049	330.43683	332.65656	14.09724	0.0931297	0.22284954	2.6943968	20	12 15.7	20.5
449297 2013 ET_{110}	17.2	X	272.59338	305.64234	192.95771	6.44032	0.1178610	0.23118526	2.6292343	20	12 20.0	20.3
449298 2013 EX_{111}	16.0	X	13.34091	198.87914	97.93140	6.43861	0.1929373	0.17308430	3.1888268	20	9 5.6	19.6
449299 2013 EY_{111}	17.0	X	353.62423	284.49521	129.16696	7.28204	0.0424322	0.22002276	2.7174255	20	12 28.7	20.5
449300 2013 EZ_{111}	16.4	X	73.74803	197.44508	43.83733	10.91371	0.1195136	0.18010333	3.1054286	20	9 14.8	21.0
449301 2013 EC_{114}	16.4	X	268.98277	38.15283	53.77728	15.24006	0.1477465	0.21296487	2.7771376	20	10 11.4	20.1
449302 2013 EF_{114}	15.7	X	110.39823	138.79484	44.35161	16.67985	0.1644487	0.18006222	3.1059013	20	8 21.6	20.9
449303 2013 EC_{115}	17.5	X	228.43536	141.74468	37.58850	2.79836	0.1330681	0.22470729	2.6795258	20	12 7.1	21.0
449304 2013 EL_{120}	17.0	X	132.34352	337.63699	231.02431	0.89079	0.0506273	0.19457522	2.9494725	20	9 29.6	21.2
449305 2013 EQ_{120}	16.6	X	121.29291	356.92986	196.86990	13.28977	0.0640841	0.18519916	3.0481994	20	8 26.4	21.3
449306 2013 EV_{123}	17.2	X	214.83228	114.04925	54.21865	5.15057	0.1356390	0.21261120	2.7802165	20	11 5.9	21.4
449307 2013 EH_{127}	16.4	X	355.51920	284.22811	171.39255	21.85516	0.0939240	0.24003543	2.5642035	20	—	—
449308 2013 EL_{147}	17.5	X	310.12077	41.89426	357.42053	4.19113	0.1155956	0.21091321	2.7951183	20	10 2.1	20.7
449309 2013 FZ	17.5	X	45.51008	82.82898	75.99076	22.27796	0.2265272	0.28956533	2.2627592	20	5 3.1	19.7
449310 2013 FJ_{2}	16.6	X	38.92678	322.46911	64.19084	13.31164	0.1271660	0.23279718	2.6170835	20	—	—
449311 2013 FK_{5}	17.4	X	337.34386	93.98408	10.22027	14.65744	0.1578787	0.24100436	2.5573261	20	—	—
449312 2013 FT_{5}	16.4	X	118.10702	128.95787	131.09104	14.41773	0.0405901	0.21154171	2.7895793	20	11 22.8	20.7
449313 2013 FA_{6}	16.9	X	262.08851	18.11873	98.81937	10.47214	0.1581113	0.22000533	2.7175690	20	11 1.3	20.5
449314 2013 FQ_{6}	16.4	X	240.10259	304.66324	123.15961	10.07711	0.0696219	0.18794490	3.0184386	20	8 5.7	20.7
449315 2013 FY_{6}	15.3	X	304.96709	53.09825	168.75584	7.82917	0.1587416	0.12563069	3.9482582	20	2 2.5	20.7
449316 2013 FB_{7}	15.8	X	250.45965	336.45722	46.85380	16.38062	0.0764433	0.17532755	3.1615685	20	6 18.5	20.6
449317 2013 FD_{7}	17.1	X	336.87396	311.78318	141.11406	3.25326	0.0488345	0.23095686	2.6309674	20	—	—
449318 2013 FP_{9}	17.0	X	41.18294	131.76210	183.69046	8.99817	0.0822695	0.19949577	2.9007719	20	10 30.9	20.9
449319 2013 FV_{9}	17.7	X	51.08393	258.02708	165.80901	2.25216	0.1778735	0.25474005	2.4645515	20	—	—
449320 2013 FP_{10}	16.3	X	9.96768	71.71964	213.02133	5.37131	0.0330728	0.17203894	3.2017313	20	7 27.5	20.8
449321 2013 FW_{11}	17.3	X	78.41412	307.68330	106.04497	6.41622	0.1767079	0.26133784	2.4228946	20	1 12.9	19.4
449322 2013 FD_{12}	16.6	X	272.16527	9.78611	171.09713	27.36368	0.0514678	0.23980338	2.5658574	20	—	—
449323 2013 FJ_{12}	15.9	X	286.02548	344.47327	49.42147	11.46348	0.0899273	0.19103293	2.9858219	20	8 24.6	20.0
449324 2013 FL_{14}	16.4	X	39.73247	272.66608	93.25545	7.27933	0.0481379	0.22101224	2.7093087	20	12 29.7	19.9
449325 2013 FS_{14}	15.9	X	117.65294	139.34418	31.26105	22.71176	0.0776189	0.17790273	3.1309849	20	8 6.8	21.0
449326 2013 FF_{15}	17.1	X	317.00112	318.87875	171.96246	7.84139	0.1084590	0.24085271	2.5583995	20	—	—
449327 2013 FJ_{16}	15.6	X	65.00790	221.13351	13.74388	17.54528	0.1947651	0.17364700	3.1819342	20	9 7.3	20.3
449328 2013 FF_{21}	17.0	X	208.89051	184.91822	323.61838	1.38417	0.0175399	0.20149289	2.8815726	20	10 16.4	21.1
449329 2013 FG_{21}	17.2	X	3.58459	227.13675	200.84735	6.91111	0.1382902	0.23481538	2.6020663	20	—	—
449330 2013 FQ_{21}	16.9	X	127.42633	195.30678	18.59278	13.94355	0.0917026	0.19262934	2.9693024	20	10 4.3	21.4
449331 2013 FE_{22}	16.5	X	11.40947	301.51463	8.87457	8.29060	0.0501855	0.18697940	3.0288205	20	9 7.7	20.6
449332 2013 FJ_{23}	17.7	X	345.27674	312.24570	191.09485	2.10108	0.1437280	0.25489735	2.4635375	20	—	—
449333 2013 FU_{24}	16.3	X	14.92807	286.27289	5.40096	8.41542	0.1261533	0.17610745	3.1522276	20	8 25.4	20.2
449334 2013 FW_{24}	16.3	X	56.55483	57.61664	183.24419	5.22173	0.1017738	0.17355846	3.1830162	20	8 13.2	20.6
449335 2013 FX_{25}	16.0	X	79.50461	148.27528	128.35546	9.88333	0.1951549	0.19878696	2.9076633	20	11 12.7	20.7
449336 2013 FG_{26}	16.4	X	357.74126	277.65912	137.87883	14.00771	0.0823390	0.22815315	2.6524777	20	—	—
449337 2013 GC_{1}	15.8	X	79.09488	190.87048	40.09853	16.80411	0.0713533	0.18040761	3.1019358	20	9 5.5	20.5
449338 2013 GZ_{3}	16.9	X	206.53231	333.55134	183.51368	1.86369	0.0244183	0.20694041	2.8307782	20	10 25.3	20.9
449339 2013 GP_{5}	17.0	X	115.80179	192.21333	44.83483	6.83968	0.0289198	0.19968839	2.8989063	20	10 16.9	21.2
449340 2013 GP_{6}	16.6	X	107.02354	176.76899	51.57143	12.97625	0.1503945	0.18904470	3.0067204	20	10 8.8	21.4
449341 2013 GU_{6}	15.6	X	177.98021	106.08188	12.31513	16.15714	0.0546541	0.17578760	3.1560501	20	8 4.4	20.6
449342 2013 GM_{10}	17.4	X	254.33283	326.58140	160.52189	4.60332	0.0573784	0.21197833	2.7857474	20	11 13.8	21.1
449343 2013 GR_{12}	17.1	X	275.05480	45.58006	115.54941	19.37455	0.1415947	0.23489157	2.6015036	20	—	—
449344 2013 GJ_{15}	16.8	X	33.55757	228.39986	188.02104	12.47787	0.0833477	0.24041240	2.5615223	20	—	—
449345 2013 GZ_{16}	15.6	X	337.94163	138.20469	179.98681	20.66763	0.0974134	0.17674301	3.1446661	20	7 23.3	19.9
449346 2013 GT_{18}	16.5	X	19.13013	273.29219	103.73104	10.15954	0.1302542	0.22070315	2.7118377	20	12 28.9	19.8
449347 2013 GW_{18}	16.2	X	52.06191	122.35417	112.39025	11.00565	0.0499048	0.17413336	3.1760066	20	7 24.4	20.5
449348 2013 GM_{20}	16.3	X	137.33153	26.81626	176.32435	10.43904	0.0421483	0.19306765	2.9648066	20	9 28.8	20.5
449349 2013 GE_{21}	15.8	X	87.30237	121.29158	140.49222	26.48802	0.2919544	0.18118145	3.0930971	20	11 13.1	21.5
449350 2013 GX_{26}	16.3	X	221.15233	318.50479	155.28594	13.17065	0.0388636	0.19493249	2.9458676	20	9 16.1	20.5
449351 2013 GW_{34}	17.5	X	324.52945	101.20463	13.37871	12.56536	0.2013914	0.23825969	2.5769283	20	—	—
449352 2013 GT_{40}	16.9	X	240.61532	140.27476	29.58871	14.00109	0.1322714	0.22120912	2.7077010	20	12 7.4	20.7
449353 2013 GW_{41}	17.7	X	327.39195	106.53477	26.62583	13.93075	0.1058741	0.24191627	2.5508955	20	—	—
449354 2013 GH_{42}	17.3	X	285.64376	316.81700	190.65081	11.40456	0.0903681	0.22939581	2.6428898	20	—	—
449355 2013 GX_{45}	15.8	X	330.80965	137.19631	201.18407	8.24863	0.0861139	0.17444925	3.1721714	20	8 8.4	20.0
449356 2013 GL_{52}	16.5	X	91.88259	167.56498	97.59511	11.78460	0.0713856	0.19073542	2.9889259	20	10 30.2	21.0
449357 2013 GY_{52}	16.4	X	358.84337	205.10149	129.98311	4.39294	0.0824964	0.18421544	3.0590415	20	9 22.9	20.2
449358 2013 GW_{55}	16.5	X	262.78073	22.91017	75.97606	3.18901	0.0229594	0.20394257	2.8584513	20	10 22.9	20.3
449359 2013 GH_{56}	16.7	X	265.39390	320.15321	151.32405	4.59752	0.0581927	0.20970253	2.8058660	20	11 8.2	20.4
449360 2013 GL_{57}	16.0	X	67.65668	265.76129	102.56844	13.93417	0.1149253	0.23609035	2.5926898	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449361 2013 GK_{58}	17.3	X	355.85577	294.99025	138.12456	2.54184	0.0855104	0.23103231	2.6303946	20	—	—
449362 2013 GX_{72}	16.9	X	297.42268	249.28799	165.76354	2.26373	0.0577461	0.20328581	2.8646045	20	10 8.4	20.4
449363 2013 GL_{74}	17.3	X	261.02173	6.60841	144.41583	8.93154	0.0635056	0.22313513	2.6920972	20	12 24.0	20.9
449364 2013 GW_{74}	15.6	X	49.33157	230.02317	125.18768	26.12094	0.1839480	0.21720286	2.7408947	20	—	—
449365 2013 GG_{76}	17.1	X	105.39405	249.35227	330.34875	0.61531	0.1354271	0.19049807	2.9914080	20	9 20.4	21.6
449366 2013 GG_{77}	16.4	X	283.73135	130.76989	47.88230	10.16990	0.1466625	0.23711113	2.5852433	20	—	—
449367 2013 GU_{85}	17.2	X	344.50690	272.54246	180.67902	11.18917	0.0413678	0.22427234	2.6829891	20	—	—
449368 2013 GF_{86}	15.4	X	229.56220	19.17071	68.10366	17.09758	0.0569395	0.17910796	3.1169234	20	8 25.9	20.2
449369 2013 GY_{87}	16.7	X	211.28574	140.27899	55.55245	21.63895	0.1867721	0.21660721	2.7459172	20	11 28.4	20.9
449370 2013 GM_{90}	16.3	X	46.17108	143.95125	112.59972	11.82622	0.1784377	0.17260429	3.1947361	20	9 4.5	20.6
449371 2013 GR_{90}	15.8	X	349.91515	156.76643	152.53552	10.65869	0.0544980	0.17199547	3.2022708	20	8 1.3	20.0
449372 2013 GA_{93}	16.3	X	156.51219	96.32830	38.35410	16.50160	0.0514556	0.17364156	3.1820006	20	7 30.0	21.3
449373 2013 GN_{93}	17.6	X	321.95810	283.40633	199.73880	10.69097	0.1863636	0.24137375	2.5547164	20	—	—
449374 2013 GQ_{93}	16.7	X	61.29578	77.76825	190.45490	15.96008	0.1877729	0.18001783	3.1064119	20	10 7.7	21.2
449375 2013 GG_{94}	16.4	X	115.20392	356.01615	208.04447	8.58047	0.1205076	0.18467635	3.0539495	20	9 6.9	21.3
449376 2013 GV_{95}	16.0	X	69.36405	33.66327	192.25051	9.35070	0.0424227	0.17417337	3.1755202	20	8 1.1	20.5
449377 2013 GM_{96}	16.2	X	77.17681	51.52934	186.14997	10.29122	0.1821434	0.17759708	3.1345762	20	9 15.8	20.9
449378 2013 GP_{97}	16.5	X	143.35978	154.60272	33.43588	9.03330	0.2074487	0.18680617	3.0306927	20	9 23.4	21.7
449379 2013 GK_{98}	16.6	X	153.58906	197.67211	48.36290	13.49367	0.1033000	0.21077284	2.7963592	20	12 7.9	21.0
449380 2013 GU_{98}	15.9	X	166.30473	304.99575	191.73406	15.48863	0.0308668	0.17518854	3.1632408	20	8 3.9	20.8
449381 2013 GD_{101}	15.8	X	121.17786	7.92831	191.42261	15.52892	0.0656027	0.18007002	3.1058116	20	9 2.4	20.5
449382 2013 GP_{102}	16.8	X	208.62387	95.66469	61.97803	3.05422	0.0511699	0.20499452	2.8486639	20	10 25.5	20.9
449383 2013 GA_{103}	16.6	X	203.26991	122.10574	96.86692	9.99655	0.1329255	0.22263858	2.6960986	20	12 27.2	20.3
449384 2013 GJ_{105}	15.7	X	179.85763	286.03106	235.37291	9.80133	0.0341928	0.19271354	2.9684374	20	9 21.5	20.1
449385 2013 GQ_{105}	16.2	X	126.40045	204.07572	354.74251	16.47834	0.1389474	0.19148721	2.9810977	20	9 16.4	21.0
449386 2013 GE_{106}	16.7	X	302.13013	55.02547	40.78169	0.90433	0.0285864	0.21500184	2.7595691	20	12 10.4	20.2
449387 2013 GG_{106}	17.8	X	311.45612	128.85277	17.42380	12.53801	0.1882854	0.24329582	2.5412435	20	—	—
449388 2013 GT_{106}	16.2	X	54.15637	242.49213	14.81809	11.46876	0.0724763	0.17799765	3.1298717	20	9 2.0	20.6
449389 2013 GL_{107}	16.0	X	47.04611	233.62221	43.86393	18.85449	0.0413493	0.18169069	3.0873149	20	9 20.5	20.6
449390 2013 GV_{108}	15.9	X	36.62255	69.73501	206.43711	10.84424	0.0662726	0.17746108	3.1361775	20	8 24.5	20.3
449391 2013 GW_{109}	17.5	X	317.60961	311.60003	192.46086	7.62233	0.1645802	0.24359123	2.5391885	20	—	—
449392 2013 GO_{110}	15.9	X	129.87816	343.31891	213.46810	16.51254	0.1415453	0.18228932	3.0805521	20	9 12.1	21.0
449393 2013 GF_{112}	15.4	X	68.98331	218.45089	29.53238	22.74813	0.0829889	0.17589906	3.1547167	20	9 17.7	20.1
449394 2013 GZ_{114}	15.8	X	74.59892	304.31106	57.51077	14.44307	0.1909472	0.23833556	2.5763814	20	—	—
449395 2013 GT_{116}	16.3	X	143.25273	216.51321	313.53716	7.39018	0.0596125	0.18711698	3.0273357	20	8 23.3	20.8
449396 2013 GP_{123}	17.2	X	249.32120	100.55305	48.74117	5.83224	0.0647397	0.21780200	2.7358659	20	12 3.7	20.9
449397 2013 GB_{124}	17.1	X	34.76671	340.19035	16.74675	4.47341	0.0796184	0.20934934	2.8090210	20	12 13.4	20.9
449398 2013 GH_{125}	17.2	X	341.80226	16.53076	81.95102	13.43362	0.1564960	0.23034413	2.6356310	20	—	—
449399 2013 GS_{127}	16.3	X	16.45268	228.46137	91.74705	11.50804	0.0961414	0.18059047	3.0998416	20	10 5.5	20.5
449400 2013 GL_{131}	15.6	X	33.25475	215.88093	66.96829	15.89734	0.0959074	0.17764496	3.1340129	20	9 14.2	20.0
449401 2013 GW_{132}	16.4	X	76.54330	218.82267	23.78070	14.35515	0.0170592	0.18337353	3.0683975	20	9 6.8	20.9
449402 2013 GH_{134}	17.4	X	254.51431	112.63733	25.50739	7.81884	0.1623115	0.21687898	2.7436228	20	11 10.9	21.0
449403 2013 GF_{135}	16.5	X	109.58614	25.19828	202.14473	11.06084	0.0952339	0.18483206	3.0522342	20	9 28.7	21.0
449404 2013 HL_{1}	16.8	X	351.75498	242.50307	196.09658	13.47494	0.1369685	0.23277657	2.6172379	20	—	—
449405 2013 HL_{3}	16.1	X	260.13468	268.90776	157.51211	10.16063	0.1044723	0.18132926	3.0914160	20	8 22.2	20.4
449406 2013 HP_{8}	16.3	X	191.09902	168.36848	61.45753	13.63505	0.1384965	0.22305356	2.6927535	20	12 26.6	20.5
449407 2013 HQ_{8}	17.2	X	284.17426	15.96174	145.94285	13.54930	0.1037659	0.23765887	2.5812696	20	—	—
449408 2013 HS_{8}	15.7	X	8.43164	147.82165	145.82007	11.52627	0.0850220	0.17205064	3.2015861	20	8 10.3	19.7
449409 2013 HP_{16}	17.5	X	1.96395	329.57636	179.52559	7.73514	0.1613677	0.26139297	2.4225539	20	—	—
449410 2013 HV_{17}	16.8	X	326.45904	287.62663	187.14579	29.05007	0.2634753	0.23868717	2.5738506	20	—	—
449411 2013 HL_{21}	17.5	X	264.03315	314.11073	199.56844	7.75787	0.1328089	0.22166364	2.7039982	20	12 21.6	20.9
449412 2013 HH_{25}	16.7	X	156.33875	110.83375	123.32263	12.70285	0.1617122	0.20459692	2.8523534	20	11 28.6	21.5
449413 2013 HZ_{25}	16.0	X	107.60413	193.91205	84.86756	16.44442	0.1137813	0.20474964	2.8509348	20	12 4.3	20.5
449414 2013 HV_{28}	15.8	X	114.85926	138.16386	101.02748	10.35739	0.0532870	0.18635657	3.0355653	20	10 21.8	20.4
449415 2013 HE_{32}	16.3	X	13.90772	61.42723	281.98155	6.86795	0.0938098	0.19471141	2.9480971	20	10 24.9	20.2
449416 2013 HP_{32}	17.6	X	353.93119	133.42570	310.73763	4.99546	0.2137391	0.23743645	2.5828813	20	—	—
449417 2013 HG_{35}	16.4	X	83.93651	0.44825	230.71074	8.31193	0.0288837	0.17998443	3.1067961	20	8 23.6	20.9
449418 2013 HM_{41}	17.1	X	126.33364	200.11184	338.62910	3.96915	0.1026952	0.17789584	3.1310658	20	8 19.3	21.7
449419 2013 HZ_{43}	16.9	X	64.57904	35.44064	270.34937	4.95548	0.0933353	0.19661408	2.9290467	20	11 15.4	21.2
449420 2013 HF_{45}	16.1	X	264.10796	174.72394	262.94479	6.51520	0.0497689	0.19098731	2.9862973	20	9 16.9	20.4
449421 2013 HZ_{48}	16.2	X	7.69473	103.72007	216.84652	17.36262	0.1306246	0.17828384	3.1265213	20	9 13.9	20.3
449422 2013 HK_{53}	16.9	X	353.97139	130.10597	314.10983	4.47605	0.0723242	0.23134246	2.6280431	20	—	—
449423 2013 HA_{59}	16.8	X	146.75936	302.71109	253.12905	4.89015	0.0668083	0.19208850	2.9748733	20	9 27.9	21.4
449424 2013 HB_{63}	16.1	X	51.21822	53.66490	217.93662	8.78684	0.0515704	0.18165792	3.0876863	20	9 6.2	20.5
449425 2013 HG_{68}	16.1	X	14.86491	85.33590	223.66898	10.05337	0.0354708	0.18193101	3.0845956	20	9 2.4	20.4
449426 2013 HM_{74}	16.6	X	295.31912	207.62171	228.76556	4.67958	0.0535743	0.20408510	2.8571203	20	11 1.8	20.3
449427 2013 HW_{74}	16.8	X	351.46171	102.73850	215.59802	8.39036	0.0935721	0.17406256	3.1768678	20	8 13.8	20.9
449428 2013 HP_{83}	16.6	X	296.28429	10.56744	351.37724	2.20637	0.0694323	0.17111014	3.2133070	20	7 23.7	20.8
449429 2013 HZ_{96}	17.7	X	342.50057	206.02245	180.94612	1.84426	0.0736939	0.20202640	2.8764973	20	11 6.7	21.3
449430 2013 HJ_{100}	16.6	X	359.03928	292.73000	42.26655	3.12489	0.1796778	0.18181374	3.0859218	20	9 29.2	19.8
449431 2013 HV_{103}	16.6	X	148.86631	292.23208	213.43646	4.04865	0.0688350	0.17467459	3.1694427	20	7 29.4	21.5
449432 2013 HP_{108}	16.7	X	314.62916	203.18374	177.51282	3.35025	0.0687066	0.18770852	3.0209722	20	9 14.1	20.6
449433 2013 HL_{109}	16.6	X	39.80211	54.48614	205.70575	5.18673	0.1033214	0.17092924	3.2155738	20	8 14.1	20.9
449434 2013 HX_{109}	17.3	X	83.05175	242.73769	46.14511	0.86863	0.0549406	0.19967220	2.8990630	20	11 12.7	21.4
449435 2013 HB_{116}	17.8	X	67.07349	273.60650	40.02808	2.52225	0.0525499	0.20285440	2.8686645	20	11 24.4	21.9
449436 2013 HN_{118}	16.9	X	343.20220	282.14873	62.04787	3.58257	0.0137611	0.18391485	3.0623737	20	9 10.3	21.0
449437 2013 HS_{122}	17.1	X	338.04997	283.53602	74.48748	2.01050	0.1640554	0.18362884	3.0655527	20	9 19.6	20.3
449438 2013 HZ_{122}	16.9	X	281.17177	306.90793	91.44051	2.49622	0.1612579	0.18224316	3.0810724	20	8 6.5	21.0
449439 2013 HL_{134}	17.2	X	336.76007	70.22726	18.01043	6.96934	0.1191054	0.22650429	2.6653485	20	—	—
449440 2013 HE_{139}	17.2	X	293.03666	52.51196	32.47293	4.99980	0.0901882	0.20892682	2.8128069	20	11 7.0	20.5

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449441 2013 HK_{140}	17.1	X	34.76466	301.24817	34.97699	5.45445	0.0588616	0.19987135	2.8971369	20	11 12.2	21.0
449442 2013 HU_{145}	17.5	X	359.67924	40.45841	8.27975	2.97608	0.2082339	0.22294730	2.6936091	20	—	—
449443 2013 HG_{146}	17.7	X	299.58622	274.35456	211.28005	3.46735	0.0940693	0.22751976	2.6573982	20	—	—
449444 2013 JH	15.2	X	101.90236	102.93454	75.48156	16.82776	0.0081822	0.16917240	3.2377976	20	7 10.2	19.9
449445 2013 JM	17.1	X	232.34767	73.20585	116.80563	11.78868	0.1489046	0.22243813	2.6977181	20	12 23.2	20.8
449446 2013 JH_{21}	16.6	X	110.21957	91.30259	166.95437	11.22750	0.0404309	0.19000166	2.9966162	20	11 6.2	21.1
449447 2013 JM_{21}	15.6	X	13.20771	219.95269	79.92687	18.26801	0.1175234	0.17099020	3.2148094	20	9 7.4	20.0
449448 2013 JX_{22}	15.6	X	41.57222	224.45665	42.26988	16.99970	0.0619360	0.17219217	3.1998316	20	8 31.0	20.3
449449 2013 JY_{30}	16.2	X	68.23926	156.00617	112.36114	10.63379	0.0586803	0.17544336	3.1601771	20	10 2.3	20.8
449450 2013 JA_{32}	15.9	X	116.08018	30.17457	168.89475	13.70752	0.0843912	0.17038211	3.2224540	20	8 29.8	20.7
449451 2013 JW_{33}	15.6	X	15.80814	238.76626	84.73558	12.06373	0.0352958	0.17940215	3.1135149	20	10 2.7	20.0
449452 2013 JA_{37}	16.3	X	143.32070	155.15423	50.64476	18.05227	0.1792999	0.18987360	2.9979634	20	10 16.8	21.4
449453 2013 JJ_{40}	15.9	X	20.01315	190.37360	124.82404	10.20220	0.0828400	0.17434393	3.1734488	20	9 29.5	20.2
449454 2013 JM_{42}	16.3	X	22.08016	244.42739	210.25077	27.72337	0.2212617	0.23949673	2.5680471	20	—	—
449455 2013 JS_{49}	16.7	X	213.90107	281.86189	200.02594	7.95725	0.0514666	0.18535532	3.0464872	20	9 11.6	21.1
449456 2013 JE_{54}	15.7	X	50.82061	218.55097	36.00962	14.01131	0.0825828	0.17234561	3.1979320	20	8 28.8	20.3
449457 2013 KU_{8}	16.0	X	77.10661	210.63447	47.60843	17.48441	0.0381685	0.18261538	3.0768842	20	10 2.0	20.6
449458 2013 KC_{17}	15.8	X	42.06900	192.52731	147.70501	14.65826	0.0668677	0.19041357	2.9922930	20	11 29.4	20.2
449459 2013 LB_{3}	15.5	X	51.09182	221.01498	71.41644	17.85455	0.0761997	0.17730623	3.1380033	20	10 17.3	20.1
449460 2013 LJ_{4}	16.3	X	303.04307	25.08675	70.54240	16.20647	0.1102580	0.20487979	2.8497273	20	12 4.3	19.7
449461 2013 LX_{7}	16.2	X	84.26415	25.74700	234.03111	8.37338	0.0500557	0.17848237	3.1242024	20	10 2.6	20.8
449462 2013 LE_{8}	16.0	X	139.19924	122.54432	74.64744	18.56803	0.1451233	0.18096553	3.0955570	20	10 5.5	21.3
449463 2013 LR_{11}	15.3	X	245.05135	251.32877	142.96412	16.87416	0.0597577	0.15096402	3.4931755	20	6 29.7	20.6
449464 2013 LH_{24}	16.0	X	137.00046	338.74385	230.80405	15.94842	0.0379910	0.17850633	3.1239228	20	9 29.3	20.8
449465 2013 LT_{33}	17.9	X	306.42343	79.46192	236.47456	3.89866	0.2916733	0.27643762	2.3338411	20	4 30.2	20.5
449466 2013 ME_{2}	16.4	X	170.43495	35.91560	165.80789	10.42930	0.0413109	0.18913270	3.0057877	20	11 5.0	20.9
449467 2014 BZ_{28}	17.8	X	332.69726	311.98620	304.19945	15.44222	0.0859224	0.34820408	2.0009987	20	4 3.8	20.1
449468 2014 BN_{60}	18.0	X	326.78915	148.45646	168.24543	22.92334	0.0983403	0.37200389	1.9147161	20	7 20.3	19.8
449469 2014 CL_{14}	18.8	X	171.57815	141.50004	9.33845	20.50143	0.0770992	0.39082162	1.8527507	20	9 28.4	20.4
449470 2014 CP_{21}	16.7	X	95.75866	242.57972	327.45721	12.55268	0.2469559	0.21235281	2.7824714	20	9 8.9	21.2
449471 2014 DR_{25}	18.4	X	283.05815	200.09539	70.02283	4.32542	0.1638611	0.31939069	2.1196031	20	2 13.8	21.1
449472 2014 DK_{36}	17.8	X	165.46256	157.63862	120.57277	2.02530	0.1663570	0.27308117	2.3529257	20	—	—
449473 2014 DY_{50}	17.7	X	208.58427	205.78382	69.01694	3.63386	0.1693456	0.28606465	2.2811819	20	—	—
449474 2014 DX_{74}	18.0	X	154.10082	103.54513	9.67677	19.98363	0.0638861	0.35880315	1.9613957	20	7 5.9	20.9
449475 2014 DZ_{79}	17.6	X	237.72795	181.48780	57.69409	7.42350	0.0720972	0.28594102	2.2818394	20	—	—
449476 2014 DN_{87}	17.7	X	214.81668	283.13254	267.56488	0.47755	0.1254346	0.26155431	2.4215576	20	12 15.1	20.9
449477 2014 DN_{90}	17.9	X	247.88720	101.87245	146.91322	6.87391	0.1314049	0.28864615	2.2675604	20	—	—
449478 2014 DW_{96}	17.9	X	203.13068	227.44942	55.00258	4.42517	0.2038144	0.28568684	2.2831927	20	—	—
449479 2014 DV_{119}	18.0	X	165.56024	265.18320	359.55729	2.33747	0.1653430	0.26251506	2.4156457	20	—	—
449480 2014 DG_{140}	17.3	X	284.00730	126.44892	4.86434	6.81287	0.0604966	0.26744345	2.3858771	20	—	—
449481 2014 EZ_{3}	18.1	X	223.68664	271.72131	161.71898	23.07739	0.0942705	0.37461077	1.9058229	20	8 2.2	20.4
449482 2014 EQ_{43}	16.7	X	113.81016	290.89727	325.63205	10.66462	0.2730046	0.22942923	2.6426331	20	11 20.5	21.6
449483 2014 EW_{48}	17.8	X	73.67604	333.26209	196.33191	24.06448	0.1339927	0.34904989	1.9977649	20	6 13.6	20.5
449484 2014 FP_{2}	17.5	X	225.19358	140.65965	100.68036	8.95206	0.1018518	0.28218030	2.3020685	20	—	—
449485 2014 FX_{3}	17.1	X	71.03559	266.26614	31.48746	14.62703	0.2003117	0.23526008	2.5987862	20	11 30.2	21.2
449486 2014 FG_{7}	17.6	X	190.63770	359.78939	260.89062	5.57443	0.2728308	0.27630733	2.3345747	20	—	—
449487 2014 FP_{11}	17.4	X	178.87178	335.51181	258.93909	4.63751	0.1107442	0.26738268	2.3862386	20	—	—
449488 2014 FB_{33}	18.5	X	130.19279	149.02857	37.38340	20.10016	0.0533774	0.38237361	1.8799405	20	10 4.3	20.7
449489 2014 FP_{46}	16.4	X	160.57489	205.56826	35.33748	13.56127	0.1071283	0.24207072	2.5498103	20	12 14.5	20.5
449490 2014 FD_{47}	16.5	X	40.74472	245.75332	31.61839	9.07865	0.1004501	0.21296118	2.7771697	20	9 18.0	20.1
449491 2014 FL_{47}	17.6	X	204.65289	59.48352	169.29094	8.67452	0.1580315	0.25487331	2.4636924	20	—	—
449492 2014 FN_{51}	16.9	X	94.18108	40.50251	195.55970	6.03753	0.0238319	0.21590542	2.7518643	20	9 18.5	20.6
449493 2014 FT_{52}	18.0	X	53.33526	235.79835	28.98275	20.95077	0.0423213	0.37538671	1.9031957	20	10 8.5	19.8
449494 2014 FZ_{53}	17.2	X	173.87346	17.61973	204.69089	4.44843	0.2223209	0.24001379	2.5643576	20	11 29.9	21.4
449495 2014 FK_{55}	16.6	X	170.32564	218.00717	43.66174	14.17898	0.1563993	0.24737192	2.5132505	20	—	—
449496 2014 FS_{57}	15.9	X	346.91760	276.81690	349.53675	15.46945	0.2090029	0.17854163	3.1235110	20	5 19.9	19.6
449497 2014 FT_{65}	17.0	X	145.69932	210.24619	75.83834	6.38095	0.1797280	0.25809618	2.4431399	20	—	—
449498 2014 FF_{66}	18.0	X	227.69549	108.62916	153.73739	3.50745	0.1331594	0.28469806	2.2884761	20	—	—
449499 2014 GJ_{3}	16.6	X	55.27748	25.83556	203.24321	8.25542	0.1822442	0.19661169	2.9290705	20	8 9.2	20.6
449500 2014 GD_{14}	17.8	X	199.82711	146.88405	111.25460	2.20902	0.1551095	0.26758881	2.3850130	20	—	—
449501 2014 GO_{15}	16.5	X	47.30331	270.01351	22.03410	13.08537	0.0754502	0.22160617	2.7044658	20	10 11.1	19.9
449502 2014 GZ_{15}	17.3	X	127.06864	218.15986	45.46602	6.01707	0.2846942	0.23577814	2.5949780	20	12 10.9	22.0
449503 2014 GW_{17}	18.2	X	328.51576	254.81523	307.24765	2.46811	0.1543757	0.30935311	2.1652085	20	1 10.2	20.6
449504 2014 GQ_{26}	17.1	X	204.88580	266.60382	5.05243	6.54327	0.1448260	0.27370673	2.3493393	20	—	—
449505 2014 GP_{30}	18.2	X	230.65560	68.24259	163.02621	1.34386	0.1403857	0.27200506	2.3591274	20	—	—
449506 2014 GC_{31}	18.5	X	266.70248	245.64674	63.03289	1.06742	0.1033412	0.32008293	2.1165460	20	3 24.5	20.9
449507 2014 GW_{33}	17.6	X	161.89629	188.09258	85.04812	4.16270	0.1447655	0.25471370	2.4647214	20	—	—
449508 2014 GY_{36}	17.5	X	84.62863	145.77549	102.54260	4.68031	0.1473923	0.21772489	2.7365118	20	10 11.3	21.6
449509 2014 GV_{38}	16.8	X	264.08002	87.98890	9.86856	9.90889	0.0619916	0.23131884	2.6282220	20	10 19.9	20.1
449510 2014 GW_{39}	18.2	X	216.19073	65.50184	179.67112	1.09589	0.1506906	0.27362504	2.3498068	20	—	—
449511 2014 GA_{40}	17.5	X	233.38407	187.97147	53.61464	8.89620	0.1717659	0.27662235	2.3328020	20	—	—
449512 2014 GL_{44}	17.7	X	323.17546	21.87176	125.61230	6.19784	0.1002902	0.28558334	2.2837443	20	—	—
449513 2014 GM_{45}	17.2	X	135.29439	46.38257	194.67793	4.16254	0.2747822	0.23264844	2.6181988	20	11 21.3	21.9
449514 2014 GS_{48}	16.7	X	31.97179	100.45424	144.68337	15.41062	0.2797709	0.18491307	3.0513426	20	8 11.6	20.0
449515 2014 GE_{49}	16.3	X	169.10040	40.40322	175.53264	32.72976	0.1828211	0.23270711	2.6177587	20	11 21.7	21.2
449516 2014 HF	18.1	X	120.12646	270.94523	135.53427	5.54481	0.1010095	0.30385864	2.1912318	20	2 16.1	20.5
449517 2014 HT_{2}	18.1	X	182.47351	281.68241	192.16817	22.95226	0.1260313	0.36893170	1.9253310	20	8 3.0	21.2
449518 2014 HB_{5}	17.5	X	153.64839	43.48190	75.09968	23.29819	0.0859053	0.35594819	1.9718696	20	7 9.8	20.2
449519 2014 HU_{9}	17.0	X	86.01641	85.98595	195.19013	8.75540	0.2855603	0.21873131	2.7281112	20	12 1.6	21.7
449520 2014 HA_{10}	17.8	X	199.15627	104.99149	132.29470	2.26473	0.1514569	0.25923241	2.4359957	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449521 2014 HL_{11}	17.4	X	130.41225	217.92771	98.78603	2.98479	0.2089552	0.26203568	2.4185910	20	—	—
449522 2014 HP_{13}	17.2	X	199.33137	70.90428	85.21362	3.32937	0.0265969	0.22453689	2.6808812	20	10 19.2	20.8
449523 2014 HX_{14}	17.9	X	139.36388	292.31170	38.97025	4.24995	0.2074753	0.26829598	2.3808202	20	—	—
449524 2014 HT_{18}	17.4	X	93.17304	308.03596	29.95655	6.67820	0.1400864	0.25363289	2.4717185	20	—	—
449525 2014 HX_{20}	18.0	X	275.19249	323.20695	268.76004	1.61776	0.1076773	0.29186646	2.2508502	20	—	—
449526 2014 HL_{21}	17.2	X	165.84404	342.27658	279.01598	1.78706	0.1620128	0.25237540	2.4799221	20	—	—
449527 2014 HK_{26}	15.9	X	9.80860	164.63964	112.22695	17.02883	0.1485032	0.18138686	3.0907615	20	7 27.4	19.4
449528 2014 HW_{32}	16.5	X	163.00509	162.38939	46.25280	14.49876	0.1549475	0.23251058	2.6192337	20	11 6.1	20.8
449529 2014 HD_{36}	17.1	X	126.80901	211.93215	68.93135	11.49208	0.0539644	0.24519530	2.5281022	20	12 31.9	20.7
449530 2014 HL_{38}	16.8	X	61.21932	209.04901	76.74691	9.38126	0.1182269	0.21440445	2.7646926	20	10 28.5	20.7
449531 2014 HN_{39}	16.8	X	81.54559	277.14815	59.74726	17.29096	0.2888493	0.23794591	2.5791933	20	—	—
449532 2014 HW_{40}	17.7	X	165.80385	272.82389	79.60193	7.28719	0.1496126	0.29073688	2.2566764	20	2 7.7	21.0
449533 2014 HK_{42}	17.8	X	196.86213	246.79811	29.11758	3.73398	0.1427845	0.26831351	2.3807165	20	—	—
449534 2014 HY_{42}	16.9	X	109.76408	83.90718	166.51046	15.05170	0.3191998	0.21579113	2.7528359	20	11 16.7	22.1
449535 2014 HN_{56}	17.9	X	185.36339	116.37572	186.82505	6.36277	0.1218944	0.28060836	2.3106579	20	—	—
449536 2014 HQ_{72}	17.6	X	111.47855	182.92187	185.27536	6.68551	0.2803482	0.27471347	2.3435960	20	1 14.2	20.5
449537 2014 HR_{91}	16.6	X	91.68891	194.05297	49.71663	15.34548	0.1326144	0.21342836	2.7731155	20	10 13.9	20.9
449538 2014 HL_{100}	17.1	X	82.36095	263.57033	47.73783	15.01527	0.1815481	0.23291969	2.6161657	20	12 27.2	21.4
449539 2014 HW_{109}	17.1	X	237.87444	332.64727	178.18889	9.07954	0.0567463	0.24151049	2.5537520	20	11 29.6	20.5
449540 2014 HK_{114}	16.9	X	6.93283	110.82217	180.32868	9.68735	0.3126819	0.18353424	3.0666060	20	8 27.3	19.6
449541 2014 HE_{123}	17.1	X	116.30118	279.42435	345.63579	4.10386	0.1924098	0.22941684	2.6427284	20	12 1.7	21.5
449542 2014 HT_{124}	17.6	X	175.61754	157.69935	128.76822	3.54698	0.1791397	0.26956921	2.3733176	20	—	—
449543 2014 HN_{128}	18.2	X	199.65303	243.29410	58.81674	3.34332	0.1627703	0.28369874	2.2938470	20	1 7.9	21.7
449544 2014 HE_{146}	16.2	X	326.97176	247.51113	41.71092	14.88325	0.2498681	0.17472567	3.1688249	20	5 9.9	19.8
449545 2014 HZ_{146}	17.0	X	299.14130	288.48794	163.95533	5.77146	0.0818220	0.24229815	2.5482145	20	12 7.7	19.9
449546 2014 HN_{148}	17.8	X	221.19455	204.78371	78.61574	2.96348	0.1419706	0.29012217	2.2598629	20	1 3.2	21.0
449547 2014 HY_{158}	17.2	X	233.18889	238.31741	29.63508	7.16328	0.0877680	0.29067889	2.2569766	20	—	—
449548 2014 HU_{160}	16.7	X	335.02721	180.65010	167.15606	10.97386	0.1198841	0.20386449	2.8591811	20	9 2.4	19.9
449549 2014 HD_{163}	17.1	X	82.24235	235.90924	64.78145	14.40488	0.2672104	0.22493475	2.6777191	20	12 19.1	21.7
449550 2014 HG_{164}	17.7	X	199.03732	206.36835	57.67508	6.89894	0.1651222	0.27090175	2.3655284	20	—	—
449551 2014 HF_{167}	17.4	X	189.68147	138.37361	140.76890	6.53749	0.1178648	0.26796124	2.3828026	20	—	—
449552 2014 HT_{171}	17.9	X	320.96795	76.16247	141.78125	2.11428	0.0317786	0.30205429	2.1999495	20	2 12.1	20.1
449553 2014 HN_{172}	16.5	X	173.48483	16.23511	193.78882	13.02445	0.1054576	0.23541787	2.5976249	20	11 21.9	20.5
449554 2014 HO_{175}	16.2	X	287.86068	325.41581	33.06658	14.17940	0.1469410	0.18247964	3.0784098	20	6 25.6	20.6
449555 2014 HE_{180}	17.9	X	208.23455	176.31240	80.72595	6.46149	0.1044973	0.27575987	2.3376635	20	—	—
449556 2014 HB_{183}	17.9	X	240.47872	40.70994	173.82290	4.69874	0.1718915	0.26502019	2.4003988	20	—	—
449557 2014 HX_{183}	17.2	X	111.14588	134.73257	172.23573	13.38159	0.1621501	0.23934532	2.5691300	20	—	—
449558 2014 HY_{186}	17.2	X	149.74228	168.88836	79.12538	9.07546	0.1766262	0.23633997	2.5908639	20	12 11.0	21.4
449559 2014 HZ_{186}	17.6	X	232.90237	87.88099	182.53438	6.94907	0.1135469	0.28295339	2.2978735	20	—	—
449560 2014 HN_{188}	18.2	X	130.07052	131.84274	182.11888	1.79459	0.1049109	0.25970716	2.4330261	20	—	—
449561 2014 JJ	18.1	X	304.94134	157.18776	80.82864	4.69997	0.0419779	0.30603326	2.1808391	20	2 17.5	20.6
449562 2014 JK	17.8	X	239.09748	96.42527	154.73776	5.58523	0.1969769	0.27777727	2.3263314	20	—	—
449563 2014 JM	16.0	X	16.44583	42.98233	234.06856	15.63421	0.2148853	0.18321202	3.0702005	20	8 9.1	19.7
449564 2014 JX	16.4	X	78.94439	30.15176	266.64350	13.16541	0.1080032	0.22412885	2.6841341	20	11 28.1	20.3
449565 2014 JR_{1}	17.4	X	137.92558	103.69044	172.19539	4.07833	0.1105796	0.24448490	2.5329971	20	—	—
449566 2014 JC_{2}	17.6	X	267.68082	134.50568	99.21925	4.27245	0.1303118	0.28415240	2.2914049	20	—	—
449567 2014 JD_{4}	18.1	X	175.51612	102.74830	214.42161	5.92526	0.1352865	0.27819629	2.3239949	20	1 1.5	21.6
449568 2014 JL_{6}	17.2	X	106.66512	82.58137	203.14153	7.20732	0.1803121	0.22803693	2.6533788	20	12 17.9	21.6
449569 2014 JG_{9}	17.2	X	117.54503	32.40602	215.69684	15.41084	0.0916741	0.22305694	2.6927264	20	11 8.6	21.1
449570 2014 JS_{9}	17.4	X	158.19373	179.77018	114.91913	3.01823	0.1860086	0.25603487	2.4562353	20	—	—
449571 2014 JT_{10}	16.2	X	338.23771	88.43821	216.12423	13.99237	0.2629125	0.17326979	3.1865505	20	6 24.3	19.5
449572 2014 JK_{11}	17.8	X	191.64290	237.82063	73.41493	7.68625	0.1304401	0.27910464	2.3189498	20	1 11.1	21.3
449573 2014 JZ_{15}	17.9	X	223.89683	65.69045	218.08609	3.97428	0.1526620	0.28917657	2.2647867	20	1 5.7	21.4
449574 2014 JS_{17}	17.7	X	217.61927	94.43514	136.03386	3.13426	0.2157425	0.26623307	2.3931030	20	—	—
449575 2014 JM_{18}	17.5	X	167.08993	141.34174	130.78487	2.91644	0.1868324	0.25837931	2.4413548	20	—	—
449576 2014 JJ_{21}	17.2	X	139.44206	215.47159	47.71755	9.43236	0.0942821	0.23991113	2.5650891	20	12 21.6	21.1
449577 2014 JA_{22}	16.9	X	131.16909	152.69132	75.19311	13.26058	0.1188376	0.21862926	2.7289601	20	11 1.8	21.3
449578 2014 JV_{22}	17.0	X	105.06512	83.50932	218.01205	12.07077	0.1856190	0.23003290	2.6380078	20	—	—
449579 2014 JD_{24}	16.8	X	347.32319	83.40563	213.18433	14.83304	0.2253503	0.17512400	3.1640179	20	7 6.1	20.3
449580 2014 JP_{27}	15.7	X	354.73193	131.40564	149.26244	17.32175	0.0864274	0.17958712	3.1113766	20	7 3.5	19.9
449581 2014 JB_{29}	15.7	X	21.43613	146.29726	100.43514	16.25278	0.1728172	0.17206690	3.2013844	20	7 8.0	19.4
449582 2014 JO_{31}	17.4	X	306.12825	78.15748	145.81250	7.26510	0.0736139	0.29657838	2.2269462	20	1 24.1	20.0
449583 2014 JQ_{31}	17.7	X	295.47855	14.35635	208.87919	8.00630	0.0981120	0.29948949	2.2124917	20	1 4.7	20.6
449584 2014 JP_{33}	17.8	X	354.97641	49.71179	44.86326	6.83306	0.0923086	0.27002720	2.3706333	20	—	—
449585 2014 JF_{34}	17.3	X	59.38750	133.33686	202.04306	6.23574	0.1001300	0.22780182	2.6552042	20	12 23.9	21.1
449586 2014 JV_{35}	17.2	X	40.71071	258.41575	66.84434	9.14723	0.2888925	0.21040674	2.7996020	20	12 11.1	21.2
449587 2014 JR_{37}	17.8	X	140.81133	240.06795	125.56409	4.45661	0.1647698	0.28117346	2.3075609	20	1 29.7	21.0
449588 2014 JD_{39}	17.8	X	321.84850	38.20740	192.58922	4.79144	0.1191266	0.30710723	2.1757518	20	2 15.1	20.1
449589 2014 JA_{41}	17.6	X	7.24397	36.78441	63.51667	7.43416	0.0846655	0.27212614	2.3584276	20	—	—
449590 2014 JJ_{42}	17.2	X	167.54805	110.78359	149.07778	8.93596	0.1697928	0.24393923	2.5367731	20	—	—
449591 2014 JU_{42}	17.0	X	180.27714	30.02236	193.63313	8.92447	0.1115651	0.23920752	2.5701166	20	12 14.7	21.0
449592 2014 JZ_{42}	15.9	X	332.91752	240.90866	73.30829	27.77976	0.2621663	0.17262482	3.1944828	20	6 24.2	19.2
449593 2014 JX_{43}	16.0	X	10.52375	207.82528	95.06807	11.88008	0.0821284	0.19113086	2.9848018	20	9 2.5	19.9
449594 2014 JK_{44}	17.8	X	216.33912	244.32778	55.91684	5.48821	0.1511378	0.28722960	2.2750097	20	1 21.2	21.4
449595 2014 JB_{45}	18.3	X	313.05154	203.93765	55.37198	1.66700	0.0820490	0.31751361	2.1279487	20	3 22.1	20.2
449596 2014 JP_{45}	17.6	X	146.54860	247.66597	44.38672	3.33133	0.1806276	0.25167824	2.4844996	20	—	—
449597 2014 JK_{46}	15.9	X	305.80321	250.70081	84.23651	16.10671	0.0665755	0.17896260	3.1186109	20	7 1.8	20.0
449598 2014 JN_{46}	17.8	X	226.95023	140.47986	137.31864	6.48428	0.0892171	0.28099989	2.3085110	20	1 3.2	21.0
449599 2014 JH_{47}	17.6	X	85.47686	13.05115	322.44276	3.76494	0.1066045	0.24219206	2.5489586	20	—	—
449600 2014 JG_{48}	16.8	X	13.69412	254.26889	108.16852	7.18591	0.0408753	0.21978939	2.7193487	20	11 21.9	20.4

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449601 2014 JM_{48}	17.2	X	107.28803	228.60614	70.31032	9.07127	0.1368419	0.23870594	2.5737156	20	—	—
449602 2014 JV_{51}	17.6	X	242.05813	174.75719	69.40763	7.42011	0.0841969	0.27745165	2.3281512	20	—	—
449603 2014 JC_{59}	17.7	X	358.77294	111.09766	53.53096	8.29255	0.0309872	0.29764159	2.2216398	20	1 26.3	20.3
449604 2014 JK_{62}	17.6	X	137.87834	198.97537	112.36770	5.83810	0.1255143	0.25309763	2.4752021	20	—	—
449605 2014 JN_{62}	16.6	X	310.30638	185.49989	156.59530	6.12744	0.2432071	0.17461771	3.1701309	20	6 23.4	20.4
449606 2014 JX_{63}	17.5	X	185.95869	36.08627	224.60912	6.35169	0.0918388	0.25883337	2.4384988	20	—	—
449607 2014 JA_{69}	17.3	X	122.14681	324.61594	314.63829	1.88661	0.1706550	0.23392773	2.6086446	20	12 24.2	21.6
449608 2014 JK_{70}	17.9	X	225.39036	38.18260	210.09699	1.40743	0.1227191	0.27070479	2.3666757	20	—	—
449609 2014 JL_{70}	18.3	X	189.01502	218.83205	34.41043	1.88201	0.1553005	0.25537693	2.4604522	20	—	—
449610 2014 JU_{70}	18.1	X	256.20012	205.40417	15.80501	2.77371	0.1365222	0.27496713	2.3421544	20	—	—
449611 2014 JV_{70}	17.8	X	223.22723	246.59976	26.57764	2.91168	0.1507781	0.27762409	2.3271870	20	—	—
449612 2014 JE_{71}	17.1	X	227.16647	208.34686	28.54057	7.37662	0.1917127	0.26716904	2.3875105	20	—	—
449613 2014 JA_{73}	16.1	X	319.44341	122.07377	225.00783	9.97794	0.1187026	0.18804098	3.0174104	20	7 30.6	19.9
449614 2014 JB_{73}	17.9	X	315.13464	15.73612	218.13100	5.98454	0.1275713	0.30500154	2.1857544	20	2 7.5	20.5
449615 2014 JO_{73}	17.9	X	242.29127	354.73583	209.06132	5.79131	0.0773863	0.26043006	2.4285216	20	—	—
449616 2014 JP_{75}	17.2	X	131.20459	247.94205	38.55807	13.69501	0.1686581	0.23963802	2.5670376	20	—	—
449617 2014 JJ_{76}	17.3	X	60.31771	62.95657	241.54166	4.15025	0.1377232	0.21603661	2.7507501	20	11 19.3	21.1
449618 2014 JT_{78}	17.1	X	159.49901	185.93604	63.69312	3.44556	0.2407887	0.24033382	2.5620806	20	12 19.2	21.4
449619 2014 JC_{79}	16.8	X	161.75605	165.80750	93.37966	14.40757	0.2173974	0.24088393	2.5581784	20	—	—
449620 2014 JJ_{79}	16.1	X	9.33693	221.35163	39.53141	10.84570	0.1923888	0.17538278	3.1609049	20	7 7.2	19.7
449621 2014 JN_{79}	16.1	X	44.69790	136.61804	84.74504	20.42214	0.3057278	0.17884829	3.1199396	20	8 8.6	20.3
449622 2014 KQ	16.9	X	96.58268	150.07622	90.16263	9.19928	0.1668829	0.21220255	2.7837848	20	10 16.8	21.4
449623 2014 KS	16.8	X	67.31767	233.11445	58.56746	15.29144	0.1890025	0.21587603	2.7521141	20	11 17.9	20.7
449624 2014 KC_{3}	16.8	X	158.91023	143.64358	71.40751	12.51441	0.1322183	0.23289166	2.6163756	20	11 12.7	20.9
449625 2014 KP_{3}	16.1	X	13.82394	67.76838	230.54535	14.56665	0.1332957	0.18982201	2.9985066	20	8 25.6	20.1
449626 2014 KN_{5}	17.9	X	233.78293	190.99190	59.23262	3.20796	0.1561861	0.27788891	2.3257083	20	—	—
449627 2014 KQ_{6}	16.2	X	204.55731	66.03063	43.43733	4.85702	0.0637896	0.20891304	2.8129306	20	8 21.3	20.3
449628 2014 KN_{12}	17.2	X	89.74302	253.20014	88.87952	3.64039	0.1907120	0.23999062	2.5645226	20	—	—
449629 2014 KU_{16}	17.6	X	120.76039	88.42638	220.99734	8.30085	0.1929268	0.24134857	2.5548941	20	—	—
449630 2014 KC_{17}	16.3	X	346.92585	227.17392	83.11361	10.22104	0.1309354	0.18344506	3.0675998	20	8 1.9	19.9
449631 2014 KL_{17}	16.5	X	351.76101	78.27484	212.23122	10.26517	0.0938688	0.17849745	3.1240265	20	7 9.6	20.6
449632 2014 KR_{17}	17.5	X	104.19690	147.17897	182.77887	5.88273	0.1914243	0.24154767	2.5534899	20	—	—
449633 2014 KE_{18}	17.2	X	90.61851	72.06345	212.26678	12.16205	0.1510642	0.21988024	2.7185996	20	11 29.2	21.5
449634 2014 KS_{20}	16.8	X	113.58458	53.14416	202.20490	15.33065	0.1166404	0.21935184	2.7229638	20	11 14.9	21.1
449635 2014 KW_{20}	16.7	X	337.53841	194.25371	178.51335	12.78038	0.1655953	0.20441704	2.8540264	20	10 15.3	19.7
449636 2014 KZ_{23}	17.0	X	95.63641	192.50238	111.81065	14.57522	0.1729764	0.23343977	2.6122785	20	12 31.1	21.2
449637 2014 KY_{24}	17.3	X	132.73695	243.35146	88.00022	4.22624	0.0814016	0.26273904	2.4142727	20	—	—
449638 2014 KW_{26}	16.6	X	94.73483	273.34895	71.27232	15.03525	0.1707774	0.25529494	2.4609790	20	—	—
449639 2014 KJ_{27}	16.3	X	15.88829	193.92580	138.20333	18.69301	0.1319536	0.20360766	2.8615849	20	10 30.1	20.2
449640 2014 KM_{27}	16.4	X	20.01570	256.18791	40.49433	13.67748	0.2483150	0.18037818	3.1022733	20	9 30.1	20.0
449641 2014 KY_{28}	17.7	X	136.27041	208.86114	161.38704	4.53182	0.1562952	0.27689323	2.3312803	20	1 29.3	20.9
449642 2014 KE_{29}	16.5	X	4.05284	79.91026	220.43087	15.24133	0.2440652	0.18180745	3.0859930	20	8 19.8	19.9
449643 2014 KF_{29}	17.3	X	88.05053	114.62820	193.89088	8.55870	0.0269201	0.23068090	2.6330653	20	12 16.7	21.1
449644 2014 KK_{31}	17.1	X	112.92197	242.55967	70.77984	25.60545	0.2021787	0.24016332	2.5632931	20	—	—
449645 2014 KX_{34}	16.7	X	8.30886	194.19082	128.83054	10.32468	0.1295521	0.20512169	2.8474864	20	10 2.8	20.2
449646 2014 KN_{41}	16.5	X	148.63177	347.05329	255.64716	6.82471	0.1675111	0.23216626	2.6218227	20	12 3.3	20.8
449647 2014 KK_{42}	16.0	X	351.26918	198.93488	100.37753	18.31920	0.1220487	0.18210564	3.0826233	20	7 23.9	19.7
449648 2014 KC_{43}	16.6	X	351.24485	130.28926	179.39964	22.66294	0.2050179	0.18032976	3.1028285	20	8 4.1	20.2
449649 2014 KX_{50}	18.0	X	266.00675	161.62289	98.77625	2.56626	0.0914263	0.29106451	2.2549827	20	1 22.5	20.8
449650 2014 KT_{51}	16.9	X	57.66752	163.05271	142.82332	13.87964	0.1750941	0.21027650	2.8007578	20	11 25.3	21.2
449651 2014 KV_{51}	16.8	X	23.78881	82.22675	188.92152	16.32289	0.2358104	0.18133793	3.0913175	20	8 21.6	20.5
449652 2014 KK_{52}	17.3	X	138.22676	161.61251	121.87313	6.18049	0.1200714	0.24094317	2.5577591	20	—	—
449653 2014 KU_{55}	17.0	X	80.96904	122.81196	215.26228	14.28120	0.1698339	0.23397180	2.6083170	20	—	—
449654 2014 KS_{57}	17.8	X	200.52449	154.57874	157.81302	6.54816	0.1131752	0.27917785	2.3185444	20	1 19.4	21.3
449655 2014 KP_{58}	16.8	X	107.42162	74.60584	207.34107	12.15183	0.0673904	0.22585165	2.6704669	20	12 8.3	20.8
449656 2014 KG_{62}	17.3	X	260.71694	217.21135	48.70931	7.48458	0.1454026	0.29114789	2.2545522	20	1 20.8	20.7
449657 2014 KS_{70}	16.1	X	293.49247	237.99349	112.96295	11.71625	0.1307476	0.17413438	3.1759942	20	6 26.6	20.4
449658 2014 KP_{71}	16.3	X	339.05047	226.98623	102.69611	12.07539	0.0970810	0.18546034	3.0453370	20	8 16.4	20.1
449659 2014 KR_{73}	17.3	X	112.52144	75.25745	211.57933	11.85743	0.0757835	0.23177004	2.6248099	20	12 20.5	21.3
449660 2014 KP_{74}	17.7	X	304.25431	15.28402	163.07849	6.31722	0.0625465	0.27308470	2.3529054	20	—	—
449661 2014 KS_{77}	17.3	X	104.04056	134.47672	160.32231	11.68475	0.1817843	0.22473962	2.6792688	20	12 25.9	21.9
449662 2014 KB_{79}	17.3	X	172.03715	353.97744	253.51114	6.42665	0.0929099	0.24520689	2.5280225	20	—	—
449663 2014 KA_{80}	17.3	X	161.03615	331.29627	57.51183	5.98607	0.0180130	0.30399873	2.1905586	20	3 8.9	19.9
449664 2014 KT_{80}	17.4	X	240.74645	304.10616	244.89901	5.19151	0.0762493	0.25389790	2.4699983	20	—	—
449665 2014 KW_{80}	17.3	X	197.57184	214.78950	56.22659	7.89881	0.0924471	0.27009494	2.3702369	20	—	—
449666 2014 KH_{81}	16.3	X	92.08162	123.96676	223.75022	2.51742	0.2699429	0.24092864	2.5578619	20	—	—
449667 2014 KH_{83}	17.0	X	70.62907	251.44059	70.67576	10.73046	0.1393816	0.22295515	2.6935459	20	12 23.2	21.0
449668 2014 KS_{83}	16.4	X	134.01517	322.79389	289.21015	6.19061	0.1856427	0.22903554	2.6456606	20	11 30.9	20.8
449669 2014 KS_{84}	17.9	X	141.40648	73.87936	85.64989	23.59319	0.0416187	0.35482860	1.9760153	20	9 6.9	20.8
449670 2014 KO_{85}	16.5	X	78.50118	101.24539	164.05878	20.31617	0.2161923	0.21084002	2.7957651	20	11 3.2	21.2
449671 2014 KR_{85}	16.6	X	172.65108	109.29704	105.24862	9.66707	0.1146907	0.23395025	2.6084772	20	11 26.2	20.7
449672 2014 KW_{85}	17.5	X	274.44030	125.95481	96.02649	3.55256	0.1111108	0.27983373	2.3149201	20	—	—
449673 2014 KX_{85}	17.5	X	286.52283	4.44715	201.17841	4.74988	0.1975804	0.28079768	2.3096192	20	—	—
449674 2014 KV_{90}	17.0	X	175.41114	3.02202	216.06246	7.20215	0.1444577	0.23414181	2.6070542	20	12 1.0	21.0
449675 2014 KW_{92}	16.3	X	14.07522	260.99660	67.40878	12.46025	0.2156989	0.19650118	2.9301686	20	10 29.3	19.7
449676 2014 KW_{93}	15.7	X	29.77762	170.39297	80.13144	12.23286	0.0192887	0.17689868	3.1428211	20	7 11.4	20.0
449677 2014 KX_{94}	15.7	X	324.38163	214.82022	97.35105	20.12082	0.1364533	0.17161355	3.2070200	20	6 22.5	19.5
449678 2014 KQ_{97}	16.9	X	64.06499	62.45225	236.33304	5.38582	0.1506752	0.21512134	2.7585470	20	11 17.9	20.7
449679 2014 KK_{100}	17.2	X	101.23667	253.92343	76.72219	8.09069	0.0883321	0.24376260	2.5379984	20	—	—
449680 2014 KC_{101}	17.8	X	287.22692	331.66123	267.44666	3.37076	0.1336283	0.29200561	2.2501351	20	1 13.6	20.7

Planet		H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
		m		°	°	°	°		°				
449681	2014 LC_3	18.2	X	49.69625	345.08403	112.87898	5.54568	0.0614373	0.28816900	2.2700628	20	1 8.5	20.5
449682	2014 LF_3	17.6	X	112.62645	211.46328	107.50974	5.42074	0.1582733	0.24344086	2.5402341	20	—	—
449683	2014 LZ_6	17.7	X	244.55308	75.59118	177.36337	5.33738	0.1315958	0.28014286	2.3132168	20	—	—
449684	2014 LE_7	18.0	X	296.35547	102.58373	116.95716	4.30249	0.1649692	0.29297084	2.2451901	20	—	—
449685	2014 LP_{12}	17.0	X	127.29386	35.30472	250.83108	14.00952	0.0909169	0.23537043	2.5979739	20	—	—
449686	2014 LK_{14}	18.1	X	253.89990	307.11586	278.72899	0.76581	0.1360030	0.27675838	2.3320375	20	—	—
449687	2014 LK_{16}	15.8	X	337.42180	96.45431	213.52407	18.63608	0.1940951	0.17571231	3.1569515	20	7 4.4	19.6
449688	2014 LS_{18}	17.7	X	178.65392	209.19931	52.05681	2.77900	0.1547869	0.25471834	2.4646915	20	—	—
449689	2014 LA_{19}	16.8	X	166.03958	256.99282	59.97587	7.78013	0.1395805	0.27209437	2.3586112	20	—	—
449690	2014 LD_{19}	17.8	X	276.17208	351.97932	186.09642	5.44215	0.0459514	0.26071965	2.4267230	20	—	—
449691	2014 LK_{19}	17.4	X	154.91488	59.55363	208.46016	5.70465	0.1205370	0.24225125	2.5485434	20	—	—
449692	2014 LS_{20}	16.6	X	51.27805	166.36950	168.18701	7.21134	0.1309406	0.21788457	2.7351747	20	12 15.9	20.6
449693	2014 LE_{22}	16.2	X	345.37169	242.95456	63.11030	14.48217	0.2919303	0.17509040	3.1644227	20	7 17.8	19.1
449694	2014 LJ_{22}	17.4	X	180.72328	183.77153	64.99502	5.05990	0.1245567	0.24605485	2.5222111	20	—	—
449695	2014 LX_{22}	16.4	X	336.48526	93.60203	246.42137	25.05078	0.2170650	0.18171164	3.0870776	20	8 4.9	20.2
449696	2014 LD_{23}	15.7	X	8.89798	198.01015	67.60072	18.00136	0.1757790	0.17586538	3.1551195	20	7 11.2	19.4
449697	2014 LU_{23}	16.5	X	158.86492	10.83675	220.37664	13.58219	0.1997492	0.23015260	2.6370931	20	11 27.7	20.9
449698	2014 LK_{24}	16.2	X	178.74453	217.82332	59.37352	15.94732	0.1581250	0.24413830	2.5353939	20	—	—
449699	2014 MJ	17.7	X	173.06343	176.81508	119.05034	9.54432	0.1046503	0.26314412	2.4117943	20	—	—
449700	2014 MH_1	17.3	X	232.59327	168.99691	99.10804	7.48912	0.1273270	0.27614519	2.3354885	20	—	—
449701	2014 MM_1	16.5	X	40.64614	134.69079	181.65576	15.43104	0.1068660	0.20947811	2.8078697	20	11 6.9	20.4
449702	2014 MF_2	17.9	X	224.44424	341.36656	271.95837	0.98369	0.1381445	0.26638971	2.3921647	20	—	—
449703	2014 MT_6	17.4	X	143.70781	105.00538	164.65215	12.18197	0.2372621	0.23404857	2.6077466	20	12 29.6	22.1
449704	2014 MC_9	16.4	X	43.26575	30.16993	259.59046	3.59674	0.1162331	0.18426091	3.0585382	20	9 29.8	20.5
449705	2014 MB_{11}	16.0	X	343.80855	171.78810	278.15185	21.31152	0.0525148	0.22952583	2.6418917	20	—	—
449706	2014 MR_{14}	16.6	X	138.52278	31.27160	211.27383	13.32620	0.2074258	0.22456268	2.6806760	20	11 24.2	21.3
449707	2014 MQ_{24}	16.5	X	47.99331	227.20388	112.96442	8.09363	0.0122419	0.20913999	2.8108952	20	12 1.3	20.4
449708	2014 MT_{31}	15.8	X	256.45649	299.03596	123.01108	11.06426	0.0653019	0.16937052	3.2352723	20	8 18.3	20.4
449709	2014 MH_{35}	16.2	X	355.59391	237.69318	93.20750	10.37478	0.1405551	0.18965767	3.0002384	20	9 20.6	19.8
449710	2014 MS_{35}	17.0	X	146.37009	332.18050	277.25332	3.31385	0.1039060	0.22989690	2.6390481	20	12 10.1	20.9
449711	2014 MD_{36}	15.8	X	31.52161	189.58297	124.85808	17.11203	0.2378986	0.18321914	3.0701210	20	11 10.4	20.1
449712	2014 MJ_{38}	15.5	X	286.87012	287.39425	138.69537	16.45190	0.0607182	0.17758454	3.1347238	20	10 7.8	19.9
449713	2014 MQ_{38}	16.4	X	56.84120	202.27816	127.87730	12.85394	0.0607920	0.19880716	2.9074664	20	12 5.3	20.7
449714	2014 MV_{43}	16.6	X	242.79012	244.68578	278.28253	15.12215	0.0868001	0.22330078	2.6907658	20	12 11.5	20.2
449715	2014 ME_{46}	16.2	X	15.34963	349.18259	325.78671	8.60844	0.1009863	0.18341017	3.0679888	20	9 18.6	20.1
449716	2014 MS_{48}	15.3	X	80.52931	335.00251	264.55751	16.86565	0.1158462	0.17977823	3.1091713	20	9 5.4	20.2
449717	2014 MG_{51}	16.4	X	280.19788	204.74353	256.40715	21.21214	0.0225010	0.23077544	2.6323461	20	11 21.9	19.9
449718	2014 MP_{54}	15.6	X	275.39223	289.76864	51.95948	10.16059	0.0744388	0.14596128	3.5725442	20	5 28.7	20.7
449719	2014 MS_{65}	16.5	X	331.69781	254.66886	142.31402	10.39576	0.1020495	0.19211043	2.9746469	20	11 4.8	20.3
449720	2014 ML_{66}	15.8	X	272.10704	142.10505	284.62641	12.62868	0.0904117	0.17273395	3.1931372	20	9 2.1	20.4
449721	2014 NU	16.6	X	54.47288	71.93832	229.35968	10.43948	0.1736431	0.20353216	2.8622926	20	11 11.0	20.6
449722	2014 NY_1	15.9	X	100.56063	158.11569	202.78601	11.19243	0.1952793	0.24635883	2.5201359	20	—	—
449723	2014 NQ_2	15.7	X	68.28517	132.02025	250.22814	24.14135	0.3350687	0.23748005	2.5825652	20	—	—
449724	2014 NO_{16}	16.1	X	34.56738	75.16216	242.79660	13.81470	0.1557375	0.20462423	2.8520996	20	11 3.2	19.9
449725	2014 NX_{16}	16.6	X	324.89296	241.59654	102.45036	17.72550	0.2442783	0.17959010	3.1113423	20	7 26.5	19.8
449726	2014 NP_{19}	15.8	X	213.63596	264.75251	211.90325	12.35859	0.0917292	0.17308597	3.1888063	20	8 28.2	20.9
449727	2014 NR_{19}	16.5	X	293.78947	298.82967	197.32583	12.32822	0.1025786	0.22201002	2.7011850	20	—	—
449728	2014 NQ_{21}	15.7	X	247.66696	191.52035	243.77548	18.33619	0.1025879	0.16959818	3.2323764	20	8 9.7	20.8
449729	2014 NN_{23}	16.4	X	116.96785	118.61464	133.89521	11.08183	0.1114707	0.20571901	2.8419718	20	11 14.7	21.0
449730	2014 NR_{25}	16.5	X	36.43587	159.47614	138.07947	8.28737	0.1379628	0.18468734	3.0538284	20	10 8.7	20.6
449731	2014 NB_{30}	16.5	X	225.63894	309.37155	276.45613	13.71632	0.0485433	0.23950099	2.5680167	20	—	—
449732	2014 NC_{30}	16.4	X	324.02779	240.91313	146.99622	11.03875	0.1220548	0.18413229	3.0599624	20	10 8.4	20.1
449733	2014 NN_{30}	15.9	X	15.26313	173.60899	133.19003	17.74571	0.1944855	0.17580902	3.1557938	20	9 25.9	19.8
449734	2014 NQ_{31}	16.9	X	78.94581	160.24766	126.20168	10.18509	0.1169236	0.19782543	2.9170775	20	11 15.4	21.4
449735	2014 NE_{33}	16.5	X	347.27995	219.98092	145.94314	5.70454	0.1083250	0.18697390	3.0288799	20	10 17.6	20.2
449736	2014 NF_{38}	15.5	X	344.82229	109.49236	248.92124	10.10720	0.0827592	0.18237565	3.0795799	20	9 25.0	19.6
449737	2014 NG_{39}	15.9	X	27.07631	105.10965	225.82756	10.08969	0.0556733	0.18713448	3.0271470	20	10 23.0	20.0
449738	2014 NC_{46}	16.2	X	252.46896	228.80361	233.65192	8.47327	0.0573055	0.18298271	3.0727650	20	10 1.9	20.6
449739	2014 NG_{48}	16.0	X	241.41286	235.83338	207.47154	15.09834	0.0725570	0.17162377	3.2068927	20	8 19.9	20.9
449740	2014 NR_{52}	15.7	X	350.13660	225.05640	98.01719	10.23456	0.0913197	0.17384476	3.1795207	20	8 24.8	19.8
449741	2014 NM_{54}	16.1	X	78.04807	223.43627	41.67629	5.56213	0.1077846	0.18444565	3.0564956	20	10 13.9	20.5
449742	2014 NG_{58}	15.9	X	222.36150	64.20324	58.23548	7.84087	0.0662138	0.17715797	3.1397538	20	9 25.1	20.5
449743	2014 NM_{60}	15.8	X	25.73499	195.89657	126.81726	18.72175	0.1661438	0.17886911	3.1196975	20	11 1.9	20.2
449744	2014 NL_{61}	16.4	X	139.38853	347.13236	295.34195	13.66791	0.1019871	0.22988151	2.6391659	20	—	—
449745	2014 OU_4	15.8	X	152.93002	242.79006	317.71951	8.81746	0.0212348	0.18567935	3.0429418	20	10 7.1	20.4
449746	2014 OG_6	15.4	X	293.31132	290.16361	106.96802	11.52604	0.0244769	0.18099966	3.0951679	20	9 13.9	19.8
449747	2014 OJ_6	16.2	X	99.15392	119.23374	127.52248	10.56517	0.0963405	0.18376759	3.0640094	20	10 16.9	20.9
449748	2014 ON_8	16.9	X	10.62923	243.36512	146.29597	6.14834	0.0826803	0.21099064	2.7944344	20	12 23.8	20.6
449749	2014 OF_{16}	18.0	X	298.57436	283.98182	224.32636	0.71226	0.0299367	0.23648111	2.5898329	20	—	—
449750	2014 OO_{17}	16.8	X	317.39689	140.86856	290.64721	8.11826	0.1140209	0.20462443	2.8520977	20	11 24.9	20.3
449751	2014 OK_{22}	16.6	X	322.83478	314.69424	135.87755	7.32356	0.1041096	0.21638966	2.7477574	20	—	—
449752	2014 OH_{32}	16.7	X	18.94502	294.80700	16.42479	2.65434	0.0557698	0.18031616	3.1029846	20	9 17.3	20.9
449753	2014 OO_{32}	16.4	X	74.75904	150.14517	111.55337	11.98212	0.0987989	0.18693321	3.0293194	20	10 9.9	21.0
449754	2014 ON_{33}	17.2	X	266.78671	59.32788	108.69974	12.76677	0.1166190	0.23367795	2.6105032	20	—	—
449755	2014 OV_{33}	16.7	X	295.15236	346.95490	69.26187	2.95943	0.0772909	0.18605478	3.0388470	20	10 2.3	20.6
449756	2014 OP_{37}	17.5	X	307.13233	16.16174	119.85274	5.41007	0.0815318	0.23268512	2.6179237	20	—	—
449757	2014 OT_{38}	17.4	X	177.17703	282.01560	314.00637	4.24941	0.0949636	0.22236857	2.6982806	20	12 24.2	21.5
449758	2014 OD_{39}	16.7	X	148.26897	167.30230	39.85364	2.33094	0.0071476	0.19116215	2.9844762	20	10 15.2	20.9
449759	2014 OQ_{40}	17.1	X	356.91130	17.54775	49.46509	2.15498	0.0541879	0.21964134	2.7205706	20	—	—
449760	2014 OG_{49}	16.1	X	316.27607	279.54688	94.43386	6.49150	0.0561113	0.17825368	3.1268740	20	9 10.7	20.3

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449761 2014 OD_{53}	16.6	X	62.36469	164.33129	103.67746	1.30254	0.1853439	0.18424884	3.0586718	20	10 9.2	20.8
449762 2014 OT_{65}	16.2	X	215.30465	175.76498	342.54003	6.29489	0.1542486	0.20429032	2.8552065	20	10 19.2	20.5
449763 2014 OC_{67}	16.9	X	209.21455	131.78323	16.13370	3.42394	0.0253846	0.18933655	3.0036298	20	10 13.5	21.1
449764 2014 OM_{67}	16.4	X	234.82181	83.66251	18.78779	4.85484	0.1043811	0.17826050	3.1267943	20	9 7.9	21.1
449765 2014 OO_{70}	15.9	X	273.32549	294.38703	145.28576	18.77014	0.1578159	0.17598044	3.1537441	20	9 20.6	20.3
449766 2014 OG_{71}	16.5	X	100.83737	118.80411	118.37078	6.99834	0.0545509	0.17969385	3.1101446	20	9 30.7	21.1
449767 2014 OX_{79}	17.1	X	12.50680	82.34656	323.40664	11.44748	0.0992471	0.21956762	2.7211795	20	—	—
449768 2014 OJ_{80}	16.1	X	247.13648	5.07612	87.91188	10.42892	0.1020576	0.18534195	3.0466337	20	9 15.5	20.6
449769 2014 OD_{85}	16.5	X	36.44509	199.17237	85.69924	10.17170	0.1235391	0.18040357	3.1019822	20	9 22.0	20.7
449770 2014 OE_{88}	16.1	X	350.49893	184.07724	142.38695	10.15604	0.0747422	0.17439973	3.1727718	20	8 26.9	20.2
449771 2014 OC_{91}	15.6	X	279.89388	115.13285	280.82780	14.01140	0.0102248	0.17271513	3.1933691	20	8 16.3	20.3
449772 2014 OV_{92}	16.9	X	92.35998	84.27847	194.37562	6.00258	0.0452125	0.20012630	2.8946759	20	11 10.9	21.0
449773 2014 OP_{105}	16.6	X	319.36481	261.21182	115.88419	9.98009	0.0772257	0.17777454	3.1324899	20	9 18.6	20.7
449774 2014 OA_{107}	15.8	X	109.84677	259.36595	315.19800	10.02959	0.0697761	0.18391578	3.0623633	20	9 8.6	20.3
449775 2014 OK_{107}	16.2	X	323.17806	252.34467	127.37800	12.15288	0.1647333	0.17616078	3.1515913	20	9 22.6	19.9
449776 2014 OL_{113}	16.7	X	33.46640	186.21786	112.87516	12.17535	0.1316676	0.18373740	3.0643450	20	10 8.2	20.9
449777 2014 OW_{122}	16.9	X	158.63043	173.07427	84.93220	3.06221	0.0423245	0.22121824	2.7076266	20	—	—
449778 2014 OX_{122}	15.2	X	217.63166	263.64951	118.95903	12.05146	0.2119976	0.12592434	3.9421177	20	5 10.4	21.7
449779 2014 OT_{134}	15.9	X	293.23584	109.96471	309.17156	14.27476	0.0844915	0.18804017	3.0174191	20	9 23.5	20.1
449780 2014 OM_{136}	16.4	X	276.99603	117.75797	315.26968	10.02029	0.1148898	0.18531647	3.0469129	20	9 17.2	20.7
449781 2014 OG_{155}	17.3	X	67.65608	257.56256	69.00005	6.51293	0.0386515	0.21130238	2.7916853	20	12 11.1	21.1
449782 2014 OU_{155}	17.3	X	93.74649	308.40860	3.20403	5.43205	0.0202871	0.21711197	2.7416597	20	12 23.4	21.2
449783 2014 OQ_{158}	17.5	X	22.31283	347.52176	31.88973	7.05077	0.0542187	0.21289907	2.7777098	20	12 22.9	21.3
449784 2014 OG_{159}	15.6	X	83.60757	143.60466	96.12064	15.38751	0.0299791	0.17943977	3.1130797	20	9 13.9	20.3
449785 2014 OK_{161}	17.3	X	20.44219	320.86561	67.76988	7.20261	0.0227683	0.21642338	2.7474719	20	12 28.9	20.9
449786 2014 OT_{162}	16.3	X	27.60079	196.00035	101.43709	10.74125	0.0572951	0.17886079	3.1197943	20	9 16.1	20.6
449787 2014 OL_{176}	16.1	X	66.52194	165.34605	80.94695	10.59290	0.0450445	0.17640424	3.1486910	20	8 31.3	20.7
449788 2014 OU_{181}	15.6	X	245.63148	3.14201	94.29007	11.94075	0.0979698	0.17563266	3.1579060	20	9 19.2	20.3
449789 2014 OZ_{205}	16.3	X	286.81698	325.73137	106.81435	7.36519	0.1366661	0.18557527	3.0440794	20	10 5.9	20.3
449790 2014 OB_{209}	16.6	X	342.87530	63.87721	312.30248	3.60099	0.1109047	0.18918935	3.0051876	20	10 20.3	20.2
449791 2014 OQ_{216}	18.0	X	291.72255	166.75075	49.46210	5.27903	0.0704778	0.26900234	2.3766506	20	1 1.5	21.2
449792 2014 OK_{222}	15.8	X	312.16326	321.03159	77.21663	10.14068	0.0700066	0.18498806	3.0505180	20	10 8.4	19.9
449793 2014 OR_{224}	16.8	X	334.04730	21.67958	8.61024	5.00975	0.0590696	0.19353068	2.9600758	20	10 25.7	20.7
449794 2014 OG_{233}	16.0	X	318.65402	301.78160	66.37253	6.63639	0.1248818	0.17542270	3.1604253	20	9 1.1	19.9
449795 2014 ON_{235}	16.6	X	70.34172	115.99863	204.76107	13.37666	0.1465304	0.22455485	2.6807384	20	12 21.9	20.8
449796 2014 OQ_{236}	16.9	X	4.99070	89.85886	200.08699	12.11769	0.1497422	0.17821370	3.1273416	20	8 1.2	20.7
449797 2014 OH_{254}	16.6	X	156.02404	184.94221	4.75701	5.43690	0.1137870	0.19253018	2.9703218	20	10 2.5	21.2
449798 2014 OY_{258}	15.9	X	287.00560	1.52305	62.54700	8.43234	0.1209151	0.18237372	3.0796016	20	9 27.4	20.0
449799 2014 OL_{259}	16.3	X	54.44366	177.06719	94.36016	9.59427	0.0404171	0.17742137	3.1366455	20	9 16.1	20.8
449800 2014 OJ_{272}	16.8	X	142.12386	225.78703	77.16747	9.80139	0.1241726	0.23176696	2.6248331	20	—	—
449801 2014 OC_{285}	16.0	X	5.02125	228.79205	103.81841	11.66733	0.1228164	0.17469587	3.1691853	20	10 5.2	20.1
449802 2014 OH_{301}	16.6	X	281.51881	285.65178	124.21585	7.84479	0.1597663	0.17364260	3.1819879	20	8 21.9	20.8
449803 2014 OA_{305}	16.5	X	48.06820	181.31003	109.44411	12.45928	0.1293734	0.18459855	3.0548076	20	10 17.5	20.9
449804 2014 OO_{306}	16.8	X	296.99107	280.74767	126.74966	11.86108	0.0975405	0.17962520	3.1109369	20	9 23.2	20.9
449805 2014 OE_{310}	16.9	X	264.47832	334.54553	106.12236	2.71256	0.0425693	0.18598554	3.0396012	20	9 26.5	21.1
449806 2014 OX_{310}	17.2	X	349.50740	287.03501	124.35848	6.65378	0.0474700	0.21011309	2.8022097	20	12 18.3	20.8
449807 2014 OH_{324}	16.8	X	323.31140	68.11614	327.38419	1.70911	0.1040011	0.18860878	3.0113514	20	10 14.6	20.5
449808 2014 OJ_{327}	16.8	X	172.88709	110.92819	119.40664	5.47262	0.0463769	0.21574680	2.7532130	20	12 15.1	20.8
449809 2014 OJ_{331}	17.1	X	305.57615	97.03353	333.88278	1.26990	0.0320540	0.19930370	2.9026353	20	11 9.3	20.8
449810 2014 OO_{337}	16.0	X	32.82305	253.10915	55.55841	8.97570	0.1892383	0.18275214	3.0753490	20	10 23.9	19.9
449811 2014 OH_{344}	16.3	X	92.30338	169.00082	129.61785	15.57101	0.1453873	0.20490118	2.8495290	20	12 15.8	21.0
449812 2014 OL_{346}	16.6	X	82.87719	14.97973	225.76042	7.43776	0.0270776	0.17901152	3.1180427	20	9 3.6	21.1
449813 2014 OW_{348}	16.4	X	68.52291	113.05985	226.14846	5.49085	0.0590965	0.21489563	2.7604783	20	12 30.7	20.3
449814 2014 OO_{353}	16.4	X	323.83017	219.29340	159.27205	8.42281	0.0925375	0.17982004	3.1086893	20	9 24.1	20.2
449815 2014 OF_{357}	16.5	X	7.39623	175.15343	143.82295	10.25127	0.0844745	0.17488924	3.1668487	20	9 13.7	20.5
449816 2014 OT_{362}	16.5	X	318.19679	313.62216	90.51456	2.94715	0.1149593	0.18842661	3.0132921	20	10 19.2	20.0
449817 2014 OS_{372}	15.7	X	274.69646	118.09167	313.15499	10.52082	0.0840066	0.17719194	3.1393524	20	9 14.8	20.1
449818 2014 OL_{379}	17.5	X	244.59783	220.22361	7.55434	3.60727	0.1012640	0.25572665	2.4582086	20	—	—
449819 2014 OJ_{384}	15.9	X	44.53414	191.97414	123.31183	18.50910	0.1177457	0.18519055	3.0482939	20	11 11.9	20.5
449820 2014 PG	15.5	X	295.81098	343.84041	59.62401	12.24425	0.0932834	0.18059544	3.0997847	20	9 19.6	19.7
449821 2014 PX_{1}	17.2	X	113.48678	203.07873	132.09674	15.29346	0.1020662	0.23451028	2.6043227	20	—	—
449822 2014 PG_{7}	15.5	X	102.69872	307.05747	288.92572	8.31952	0.0183644	0.18236331	3.0797188	20	9 20.0	20.0
449823 2014 PK_{14}	16.8	X	52.75673	85.45508	245.93558	0.92839	0.0366858	0.19766376	2.9186679	20	11 25.8	20.9
449824 2014 PZ_{18}	15.9	X	289.67087	301.84545	135.63082	18.68106	0.1313344	0.18247737	3.0784354	20	10 20.0	20.2
449825 2014 PA_{36}	16.8	X	260.39678	5.36683	123.48101	6.84905	0.0423751	0.19898428	2.9057408	20	11 23.4	20.8
449826 2014 PT_{44}	16.0	X	27.66093	161.21014	135.43189	12.14183	0.1030582	0.17933696	3.1142694	20	9 19.1	20.1
449827 2014 PD_{53}	16.0	X	60.48510	293.88494	339.63758	14.26590	0.1359765	0.17367231	3.1816251	20	9 29.8	20.6
449828 2014 PZ_{56}	15.4	X	72.74003	182.94245	98.86749	18.15665	0.0624495	0.17839445	3.1252288	20	10 28.8	20.2
449829 2014 QR_{1}	16.3	X	36.51869	124.52877	187.49125	15.93774	0.2152989	0.17931330	3.1145434	20	11 5.4	20.5
449830 2014 QY_{34}	16.7	X	355.72886	250.29744	157.33562	6.09737	0.0321132	0.21264408	2.7799299	20	12 20.9	20.4
449831 2014 QN_{36}	16.9	X	303.66061	142.26133	282.42890	4.00021	0.1166180	0.18899442	3.0072536	20	10 19.3	20.5
449832 2014 QH_{97}	15.9	X	51.00616	14.45315	298.28981	8.63833	0.0806578	0.18869324	3.0104528	20	11 1.8	20.2
449833 2014 QS_{101}	16.9	X	250.31078	300.00887	193.21339	5.50791	0.0231809	0.19762810	2.9190190	20	11 17.6	20.9
449834 2014 QR_{241}	16.0	X	83.35380	119.50241	145.16824	15.94254	0.0796580	0.17481861	3.1677017	20	10 18.4	20.9
449835 2014 QL_{271}	16.6	X	170.42248	193.28709	21.79646	13.10465	0.0895002	0.21391206	2.7689335	20	11 17.3	20.9
449836 2014 QS_{277}	16.6	X	22.69617	352.10358	7.41304	1.72143	0.1067914	0.19632854	2.9318861	20	12 1.4	20.4
449837 2014 QG_{310}	15.9	X	342.65510	294.13781	69.02971	12.97362	0.0794167	0.18563536	3.0434225	20	10 9.9	19.9
449838 2014 QR_{337}	16.3	X	338.34716	193.83959	163.40850	10.18646	0.0734931	0.17582678	3.1555812	20	9 17.9	20.4
449839 2014 QC_{341}	16.6	X	259.73923	151.71405	284.02933	3.43302	0.1123484	0.16831300	3.2488097	20	8 29.9	21.1
449840 2014 QP_{341}	16.3	X	68.64707	126.88919	154.42166	11.12124	0.1196645	0.18560246	3.0437821	20	10 27.0	20.8

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449841 2014 QR_{378}	16.1	X	132.15520	28.81293	187.94452	12.81549	0.0952757	0.17039330	3.2223128	20	10 9.1	20.9
449842 2014 QS_{405}	15.8	X	268.90222	279.61009	180.35154	18.06715	0.0347026	0.18122914	3.0925545	20	10 27.7	20.2
449843 2014 QK_{418}	16.0	X	195.32036	338.67193	194.53762	18.83461	0.1253983	0.17210958	3.2008551	20	10 18.5	20.9
449844 2014 QZ_{421}	16.4	X	61.40824	106.65568	183.80177	10.33660	0.0982662	0.17874924	3.1210921	20	10 23.7	20.8
449845 2014 SJ_{86}	15.5	X	131.27635	35.64067	196.76075	15.20095	0.0398432	0.17657886	3.1466148	20	10 25.6	20.1
449846 2014 SX_{126}	16.2	X	239.16379	315.12726	190.92550	11.00045	0.1854078	0.17950838	3.1122864	20	10 25.6	20.9
449847 2014 SW_{198}	15.9	X	62.24236	132.96427	159.59770	17.71710	0.1331490	0.17463476	3.1699245	20	11 3.2	20.7
449848 2014 SL_{227}	16.1	X	354.92832	202.24156	157.09355	16.61912	0.1701109	0.17924514	3.1153329	20	10 26.7	19.9
449849 2014 SF_{289}	16.0	X	36.94087	159.12160	306.97776	12.47455	0.1214622	0.23409257	2.6074198	20	1 13.9	18.7
449850 2014 UB_{213}	15.8	X	326.11640	341.82119	114.48424	10.17857	0.1121905	0.18849341	3.0125801	20	—	—
449851 2014 UU_{213}	15.8	X	92.63516	240.45282	102.11019	17.87202	0.1198488	0.20352494	2.8623602	20	—	—
449852 2015 KV_{36}	17.3	X	27.12352	219.03991	102.19538	4.42480	0.1877129	0.22797366	2.6538697	20	11 9.9	20.5
449853 2015 KF_{37}	17.0	X	51.59319	21.94753	268.56532	3.03768	0.1774037	0.23010532	2.6374543	20	10 29.6	20.5
449854 2015 LV_{28}	15.3	X	223.95983	105.24872	289.42857	21.36218	0.1224131	0.17502958	3.1651557	20	5 31.1	20.4
449855 2015 LP_{32}	16.6	X	64.92544	156.08305	92.98698	10.03815	0.1080978	0.21636870	2.7479348	20	9 16.6	20.5
449856 2015 LO_{33}	18.0	X	105.61698	252.65886	82.56726	3.08378	0.2289841	0.27359894	2.3499562	20	—	—
449857 2015 MS_{6}	18.0	X	114.85690	29.59188	257.53158	4.91336	0.1829433	0.26331782	2.4107336	20	—	—
449858 2015 MM_{8}	17.3	X	152.87503	52.46936	236.18426	6.39568	0.1233355	0.28262573	2.2996491	20	—	—
449859 2015 ME_{9}	16.2	X	146.57551	290.08206	278.50851	12.35155	0.1056075	0.23793087	2.5793020	20	10 17.4	20.5
449860 2015 ML_{45}	16.7	X	34.99470	242.89180	101.94878	16.12459	0.1483488	0.23468088	2.6030604	20	12 16.3	20.3
449861 2015 MM_{45}	17.5	X	70.13829	312.99141	67.95011	8.00107	0.1262668	0.27259355	2.3557308	20	—	—
449862 2015 ML_{47}	16.4	X	3.20476	240.79209	111.35958	14.27421	0.2341070	0.21670453	2.7450950	20	11 20.6	19.5
449863 2015 ME_{49}	17.6	X	85.48206	262.66150	23.29559	8.88833	0.1571598	0.23767055	2.5811850	20	11 27.4	21.6
449864 2015 MT_{50}	16.9	X	20.61113	276.49043	103.07016	15.59091	0.1428415	0.23874918	2.5734049	20	—	—
449865 2015 MO_{52}	15.1	X	313.49270	175.47740	127.38972	29.00010	0.1704445	0.17549416	3.1595673	20	5 28.2	19.7
449866 2015 MQ_{57}	16.5	X	340.88139	221.30125	120.44197	5.71000	0.1314088	0.21035791	2.8000352	20	9 8.4	19.5
449867 2015 MS_{57}	17.2	X	69.97564	176.92128	110.50587	6.05720	0.1673139	0.23717920	2.5847486	20	11 18.0	21.0
449868 2015 MN_{58}	16.6	X	93.09813	309.12627	314.08110	3.43958	0.1207278	0.23822404	2.5771854	20	11 4.5	20.5
449869 2015 MR_{58}	17.2	X	36.95858	85.66038	300.83833	10.47010	0.1774567	0.25989196	2.4318726	20	—	—
449870 2015 MS_{58}	16.1	X	291.89666	223.03427	117.51822	11.46142	0.2356250	0.17761508	3.1343645	20	5 28.1	20.5
449871 2015 MY_{58}	15.8	X	310.78598	201.24021	114.45955	11.98040	0.1057153	0.17956249	3.1116612	20	6 10.5	19.9
449872 2015 MZ_{58}	16.7	X	25.78028	232.61789	110.43271	13.01782	0.2089377	0.23133296	2.6281150	20	12 10.8	20.1
449873 2015 MG_{66}	16.5	X	79.91902	143.56871	134.67239	16.08766	0.1263825	0.23743507	2.5828914	20	11 16.5	20.6
449874 2015 MK_{66}	16.3	X	313.68378	76.74097	237.42071	4.31501	0.1851597	0.18124419	3.0923833	20	5 31.4	19.8
449875 2015 ML_{66}	16.8	X	61.44798	142.27089	141.02377	5.56099	0.1469103	0.22985782	2.6393472	20	10 31.1	20.5
449876 2015 MP_{67}	17.5	X	129.64286	4.84972	280.36001	1.87873	0.2127792	0.27078554	2.3662052	20	—	—
449877 2015 MQ_{67}	17.0	X	127.18287	211.11191	89.93297	7.47690	0.1158690	0.27426772	2.3461346	20	—	—
449878 2015 MA_{73}	17.4	X	94.10919	166.73311	140.46778	7.41855	0.1345258	0.25968911	2.4331388	20	—	—
449879 2015 MT_{80}	18.1	X	131.56873	73.99438	280.38612	5.61966	0.0891545	0.30263168	2.1971504	20	—	—
449880 2015 MH_{81}	16.9	X	19.15944	97.13804	152.58710	3.80037	0.1044255	0.18851780	3.0123202	20	7 2.3	20.5
449881 2015 MG_{82}	17.4	X	167.89454	332.36484	251.37670	7.57563	0.1281341	0.26097327	2.4251505	20	12 4.9	21.1
449882 2015 MC_{84}	16.4	X	303.50861	98.96608	269.95799	10.16373	0.1440159	0.19839025	2.9115382	20	8 1.5	20.0
449883 2015 MW_{84}	16.3	X	251.00763	87.16230	282.78303	7.81085	0.0802140	0.17355613	3.1830448	20	6 3.2	20.9
449884 2015 MC_{85}	16.5	X	320.93075	63.57437	264.41831	2.90137	0.1311078	0.19050173	2.9913698	20	7 9.1	20.1
449885 2015 MY_{88}	17.8	X	138.82945	45.81451	230.71963	2.30921	0.1628231	0.27046954	2.3680478	20	—	—
449886 2015 MC_{90}	17.2	X	104.47278	64.18525	223.31850	12.70997	0.1786414	0.24350612	2.5397802	20	12 20.0	21.4
449887 2015 MH_{90}	16.9	X	20.66440	172.75431	217.68948	13.73341	0.2616349	0.23241078	2.6199834	20	—	—
449888 2015 MW_{90}	17.3	X	86.49785	115.67768	190.26894	14.39978	0.1450626	0.23862868	2.5742712	20	12 23.1	21.6
449889 2015 MX_{97}	16.7	X	31.70378	356.97756	281.62910	6.24299	0.2488325	0.21302041	2.7766549	20	9 22.2	20.1
449890 2015 MT_{98}	17.6	X	78.62385	138.71203	240.14749	4.40192	0.1752488	0.27855258	2.3220127	20	—	—
449891 2015 MM_{103}	16.2	X	285.85936	250.28855	84.90444	5.45916	0.2046282	0.17253903	3.1955416	20	5 16.5	20.7
449892 2015 MQ_{103}	17.4	X	140.16106	175.69630	83.40001	5.47997	0.1556877	0.26352205	2.4094879	20	12 21.1	21.1
449893 2015 MR_{103}	17.8	X	87.57110	276.81815	99.44339	7.47734	0.1150331	0.28632531	2.2797972	20	—	—
449894 2015 MU_{103}	16.6	X	345.36745	252.11574	109.26621	14.33295	0.1319990	0.22005907	2.7171265	20	10 22.8	19.9
449895 2015 ML_{106}	18.2	X	123.56228	334.68866	309.42400	2.13662	0.2313402	0.26708052	2.3880380	20	—	—
449896 2015 MO_{106}	17.8	X	120.03508	141.10525	140.96902	2.13961	0.1591799	0.26341157	2.4101616	20	12 30.9	21.6
449897 2015 MC_{109}	16.8	X	338.49157	270.98001	84.40611	2.99436	0.1221102	0.21619679	2.7493913	20	9 24.2	19.8
449898 2015 MP_{109}	16.6	X	314.93034	256.27426	104.50580	12.98866	0.0755881	0.20618884	2.8376530	20	8 24.8	20.3
449899 2015 MN_{110}	16.6	X	29.63896	293.52613	310.22870	7.79133	0.2340247	0.19820777	2.9133249	20	7 30.7	19.5
449900 2015 MQ_{111}	16.8	X	74.52561	169.50302	111.50613	11.06042	0.0920972	0.23358455	2.6111990	20	11 8.3	20.7
449901 2015 MX_{112}	16.9	X	158.03297	228.64373	319.60519	2.07823	0.0305535	0.22798720	2.6537646	20	10 7.8	20.7
449902 2015 MZ_{112}	17.4	X	210.64860	186.45330	339.43051	3.61305	0.0050385	0.24423144	2.5347492	20	11 19.4	20.7
449903 2015 MH_{113}	17.1	X	9.53640	96.32696	185.24182	10.40222	0.2299671	0.19912551	2.9043667	20	8 9.9	20.0
449904 2015 MN_{115}	16.9	X	350.43462	277.90183	10.17423	3.55868	0.1509170	0.19064610	2.9898594	20	7 6.9	20.2
449905 2015 MT_{117}	17.4	X	151.03375	242.73340	22.69219	1.48914	0.1627511	0.27156008	2.3617038	20	—	—
449906 2015 MY_{125}	16.6	X	336.72559	181.15042	95.56061	2.45261	0.2161105	0.18002741	3.1063016	20	5 18.4	19.9
449907 2015 MK_{127}	17.0	X	330.26676	25.02522	326.54825	5.54466	0.0611326	0.20826074	2.8188012	20	9 1.7	20.4
449908 2015 MQ_{127}	15.3	X	308.16804	219.14239	106.12767	11.52790	0.0746798	0.18146322	3.0898944	20	6 22.2	19.3
449909 2015 MF_{128}	16.5	X	14.91852	302.37445	103.57404	6.95241	0.1057139	0.25887193	2.4382566	20	—	—
449910 2015 MZ_{128}	16.7	X	29.04654	236.32095	103.91423	15.76977	0.1447188	0.23166148	2.6256298	20	12 3.2	20.2
449911 2015 NB_{3}	15.1	X	355.12220	27.92551	266.10421	27.29164	0.1738115	0.17581464	3.1557265	20	7 15.4	18.9
449912 2015 NB_{4}	17.6	X	122.89302	194.80389	117.06119	7.74216	0.1463510	0.27921679	2.3183288	20	—	—
449913 2015 NO_{4}	16.5	X	213.85596	250.84276	279.38512	11.57419	0.0648269	0.24668763	2.5178961	20	11 21.0	20.0
449914 2015 NS_{8}	18.3	X	100.18287	77.82459	284.62101	4.29115	0.2552311	0.27959690	2.3162271	20	—	—
449915 2015 NP_{9}	18.5	X	168.92060	103.87894	176.98037	1.72786	0.2059417	0.28992947	2.2608642	20	—	—
449916 2015 NQ_{15}	17.1	X	107.95821	309.94305	312.99044	4.21967	0.1907624	0.24299679	2.5433279	20	11 23.9	21.3
449917 2015 NH_{17}	16.1	X	32.40749	103.04883	133.15721	12.91321	0.1979716	0.18373193	3.0644059	20	7 17.4	19.7
449918 2015 NB_{24}	17.4	X	75.38475	309.42983	354.55727	4.04902	0.1280794	0.24486192	2.5303963	20	12 9.3	21.1
449919 2015 NR_{24}	17.4	X	116.03058	186.08504	118.86560	6.43259	0.1157441	0.26978869	2.3720302	20	—	—
449920 2015 NT_{24}	17.6	X	117.13768	139.26776	154.56985	4.18972	0.2022778	0.26329109	2.4108967	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
449921 2015 OD_2	16.7	X	68.39861	113.07697	227.45765	1.94228	0.2193137	0.25359037	2.4719948	20	—	—
449922 Bailey	15.8	X	278.61414	218.68524	140.85442	24.34767	0.1354840	0.18186287	3.0853660	20	6 20.1	20.5
449923 2015 OH_{13}	16.9	X	284.34934	317.77407	44.85539	4.25944	0.1867259	0.18113992	3.0935699	20	6 20.3	21.0
449924 2015 OJ_{13}	16.7	X	24.91501	210.84261	94.88171	7.10012	0.0418987	0.21524101	2.7575244	20	9 25.8	20.4
449925 2015 OY_{14}	18.1	X	207.22327	175.40744	110.54152	5.10774	0.1840336	0.31125630	2.1563733	20	—	—
449926 2015 OL_{15}	16.5	X	261.05306	290.35010	107.81281	9.99819	0.1421323	0.18551414	3.0447481	20	7 13.5	20.8
449927 2015 OX_{18}	17.8	X	136.51843	310.63718	340.30034	0.73946	0.1789136	0.27365881	2.3496135	20	—	—
449928 2015 OJ_{23}	17.4	X	152.38099	165.84869	145.64507	4.85765	0.1684062	0.28831019	2.2693217	20	—	—
449929 2015 OT_{23}	17.6	X	130.65915	127.54864	151.40729	2.69436	0.1859555	0.26784647	2.3834832	20	—	—
449930 2015 OB_{24}	16.6	X	113.35520	92.38583	189.26453	6.39097	0.0886794	0.25475746	2.4644392	20	12 20.9	20.3
449931 2015 OK_{24}	17.3	X	50.38130	126.03125	185.54834	6.88763	0.2045719	0.23208848	2.6224084	20	11 29.8	21.1
449932 2015 OM_{24}	17.1	X	32.50652	83.79588	198.40235	2.27386	0.1581595	0.21124194	2.7922178	20	9 16.5	20.5
449933 2015 OU_{24}	17.6	X	161.04044	326.01203	291.72373	1.37538	0.1990271	0.27316186	2.3524623	20	—	—
449934 2015 OX_{25}	16.5	X	151.73289	278.32398	294.66266	11.46336	0.1227175	0.23599497	2.5933883	20	10 28.2	20.7
449935 2015 ON_{33}	16.3	X	326.37884	220.53906	60.53103	6.40563	0.1495620	0.17468209	3.1693519	20	5 13.3	20.0
449936 2015 OW_{35}	18.0	X	190.22405	340.77994	297.33827	2.93053	0.1576708	0.29250121	2.2475927	20	—	—
449937 2015 OJ_{36}	17.2	X	59.83266	156.14010	166.76351	3.59623	0.1683981	0.23568064	2.5956937	20	12 19.3	21.0
449938 2015 OB_{41}	17.3	X	89.38106	153.13854	185.24565	2.21500	0.1276397	0.25507726	2.4623789	20	—	—
449939 2015 OB_{43}	16.6	X	0.55147	354.38209	320.92408	8.74058	0.1457211	0.20971860	2.8057227	20	9 3.8	19.7
449940 2015 OK_{44}	16.6	X	65.62878	201.44570	51.05665	5.48491	0.0179380	0.21329993	2.7742286	20	9 5.6	20.4
449941 2015 OX_{44}	16.6	X	290.95293	68.81178	320.54109	13.94668	0.1572208	0.20281885	2.8689997	20	8 11.4	20.0
449942 2015 OE_{45}	16.6	X	345.86359	293.66227	62.67517	7.17689	0.0309576	0.22433376	2.6824993	20	10 7.9	20.1
449943 2015 OF_{45}	17.0	X	329.55225	335.52252	21.73605	5.47069	0.1300060	0.21042891	2.7994053	20	9 9.3	20.0
449944 2015 OT_{45}	16.8	X	29.84982	286.96134	65.10562	6.12850	0.0459432	0.24520896	2.5280083	20	12 5.0	20.1
449945 2015 OD_{46}	16.0	X	33.96125	269.87274	327.10179	11.68669	0.1232818	0.19144184	2.9815686	20	7 13.9	19.8
449946 2015 OY_{52}	17.1	X	11.22185	325.98481	33.74910	7.73264	0.0541552	0.23155990	2.6263977	20	11 16.5	20.5
449947 2015 OC_{67}	17.4	X	59.93420	107.28575	235.59085	3.74139	0.0959561	0.25565034	2.4586977	20	—	—
449948 2015 OJ_{68}	17.5	X	43.46218	61.77656	282.83059	6.02530	0.1740924	0.24347538	2.5399940	20	12 30.8	20.9
449949 2015 OT_{73}	17.5	X	34.29413	215.28270	161.68703	9.14995	0.1633060	0.24038813	2.5616947	20	—	—
449950 2015 OB_{75}	16.4	X	319.51731	11.08150	336.21631	10.88005	0.1538324	0.18193173	3.0845875	20	8 2.0	20.0
449951 2015 OW_{75}	17.3	X	9.60474	67.24848	319.16636	10.51908	0.1958382	0.22547706	2.6734238	20	—	—
449952 2015 OL_{76}	15.8	X	16.61698	289.45783	342.46738	10.77364	0.1230697	0.17697031	3.1419730	20	8 1.4	19.7
449953 2015 OS_{76}	17.6	X	104.28093	212.82907	132.13940	1.84297	0.1875110	0.26560013	2.3969034	20	—	—
449954 2015 OW_{76}	16.1	X	292.48359	204.06546	193.80082	4.08803	0.1320271	0.18596914	3.0397799	20	8 25.5	20.0
449955 2015 OX_{76}	17.4	X	62.30215	55.37246	319.13461	1.32100	0.1727599	0.25201879	2.4822610	20	—	—
449956 2015 OA_{78}	17.7	X	122.37715	260.48820	76.81233	0.35788	0.2618368	0.27366108	2.3496005	20	—	—
449957 2015 PD_1	16.4	X	49.12875	308.18149	326.19667	12.33399	0.1912293	0.21946496	2.7220280	20	9 30.9	20.2
449958 2015 PG_2	16.9	X	48.30756	130.25559	153.84525	13.43435	0.1702394	0.21735134	2.7396463	20	10 19.0	20.8
449959 2015 PS_2	16.9	X	31.23176	233.62216	121.10294	13.96006	0.1787640	0.23461869	2.6035203	20	12 27.9	20.4
449960 2015 PU_2	17.4	X	118.24933	170.76834	159.03671	6.84961	0.1412368	0.27511559	2.3413117	20	—	—
449961 2015 PX_2	17.2	X	27.98660	187.19820	166.45409	13.42049	0.2554733	0.22989026	2.6390989	20	12 31.5	21.0
449962 2015 PF_3	16.3	X	293.62671	8.89183	331.86955	5.50381	0.1901700	0.17212158	3.2007063	20	6 3.2	20.6
449963 2015 PT_3	17.0	X	91.04570	319.79896	357.78950	4.71468	0.2576362	0.25395564	2.4696238	20	—	—
449964 2015 PW_4	16.5	X	198.97892	255.99667	273.70150	10.26226	0.1352187	0.24278197	2.5448279	20	10 22.7	20.5
449965 2015 PZ_4	16.6	X	276.01420	211.45561	158.90616	14.30723	0.1213786	0.18316238	3.0707552	20	6 29.4	21.2
449966 2015 PW_7	17.6	X	77.40510	109.10359	188.45265	11.84238	0.2999437	0.24041636	2.5614942	20	12 17.4	22.2
449967 2015 PA_8	16.6	X	337.10675	85.31027	304.07757	13.96855	0.2764341	0.21148723	2.7900583	20	11 8.4	19.1
449968 2015 PU_{12}	18.1	X	147.70595	71.85742	236.83385	9.25948	0.2819673	0.28343350	2.2952778	20	—	—
449969 2015 PN_{30}	17.7	X	149.33504	102.21115	191.99967	5.24057	0.2006020	0.27778759	2.3262738	20	—	—
449970 2015 PV_{30}	15.8	X	325.22353	329.09147	328.28526	26.23460	0.1758317	0.17195297	3.2027984	20	5 23.4	20.3
449971 2015 PV_{35}	16.4	X	273.60519	42.15638	351.14357	9.42421	0.0888088	0.19030839	2.9933954	20	8 3.5	20.5
449972 2015 PX_{35}	16.3	X	31.99186	256.96460	354.25506	9.54343	0.0634978	0.18608975	3.0384663	20	7 23.0	20.4
449973 2015 PM_{37}	17.0	X	352.20341	49.50207	12.65872	6.49713	0.1988174	0.24382895	2.5375379	20	—	—
449974 2015 PW_{37}	16.9	X	40.95170	321.35337	334.03213	12.35249	0.1048210	0.21593719	2.7515945	20	10 4.1	20.7
449975 2015 PY_{37}	17.9	X	147.06058	317.67960	337.60848	6.85165	0.1183834	0.27678856	2.3318680	20	—	—
449976 2015 PG_{39}	16.3	X	13.42977	301.89403	336.81283	13.79392	0.2343731	0.19638253	2.9313487	20	8 19.3	19.1
449977 2015 PU_{44}	16.6	X	306.47581	343.07865	14.46489	10.83594	0.1209476	0.18716572	3.0268101	20	7 31.2	20.5
449978 2015 PA_{47}	16.8	X	81.74107	168.45092	96.48728	5.69725	0.0565200	0.21917449	2.7244325	20	10 18.8	20.6
449979 2015 PX_{47}	16.4	X	289.54524	38.32753	5.90804	8.64833	0.1410530	0.19956095	2.9001403	20	9 2.8	20.0
449980 2015 PB_{48}	17.2	X	49.25940	271.51338	78.11507	6.01580	0.1629911	0.24248916	2.5468762	20	—	—
449981 2015 PQ_{75}	16.5	X	341.87552	329.14445	309.62428	9.09705	0.0534749	0.17899359	3.1182510	20	6 11.5	20.7
449982 2015 PH_{77}	16.0	X	261.49346	249.47304	134.83666	15.76474	0.1512279	0.18201455	3.0836516	20	6 25.8	20.7
449983 2015 PJ_{97}	18.0	X	53.06113	278.12799	101.67487	2.30705	0.2072204	0.26124958	2.4234402	20	—	—
449984 2015 PN_{116}	17.2	X	63.43345	316.15933	327.80697	12.48217	0.2609159	0.23079165	2.6322229	20	11 10.1	21.5
449985 2015 PS_{122}	16.7	X	358.76954	336.50592	346.85665	5.23215	0.0516232	0.20809353	2.8203110	20	9 7.5	20.3
449986 2015 PX_{127}	16.2	X	308.54944	184.53577	133.35709	19.40857	0.0869396	0.17648782	3.1476968	20	6 14.2	20.7
449987 2015 PE_{132}	17.8	X	27.59059	306.62382	131.41209	5.85902	0.1851655	0.27841918	2.3227543	20	—	—
449988 2015 PK_{132}	18.4	X	192.06653	295.33421	328.98813	1.99305	0.1439902	0.29110931	2.2547513	20	—	—
449989 2015 PU_{143}	16.6	X	57.57794	216.72208	116.91114	12.79485	0.0706299	0.24552590	2.5258322	20	12 21.2	20.1
449990 2015 PS_{153}	16.8	X	20.68044	314.04049	3.05448	3.94525	0.0924538	0.21543388	2.7558783	20	10 6.8	20.3
449991 2015 PB_{165}	18.7	X	21.64644	23.75706	350.26938	5.58236	0.2437804	0.23893267	2.5720872	20	—	—
449992 2015 PF_{171}	18.6	X	145.64186	270.13669	24.96793	2.43610	0.2366929	0.27923706	2.3182166	20	—	—
449993 2015 PV_{202}	15.5	X	29.79012	120.77080	123.06001	12.58537	0.0312915	0.17595840	3.1540074	20	7 3.5	19.8
449994 2015 PG_{221}	16.2	X	274.61173	165.03101	220.51428	9.78654	0.1066131	0.17833480	3.1259256	20	7 16.8	20.7
449995 2015 PR_{229}	16.5	X	338.89010	73.86028	244.80176	14.93152	0.2139915	0.18628167	3.0363789	20	7 18.9	19.9
449996 2015 PB_{230}	17.4	X	77.89025	177.68580	167.07672	1.55967	0.1945030	0.25344248	2.4729563	20	—	—
449997 2015 PD_{230}	17.2	X	81.74291	337.36791	333.97674	7.53660	0.2540005	0.24258115	2.5462323	20	—	—
449998 2015 PD_{237}	16.1	X	235.53140	273.43390	115.37929	10.31621	0.0828964	0.17398805	3.1777747	20	6 10.2	20.8
449999 2015 PN_{257}	16.1	X	261.88760	70.46004	297.17955	9.80929	0.0905126	0.17827296	3.1266485	20	6 12.4	20.6
450000 2015 PB_{278}	18.2	X	113.72048	338.98660	16.78751	3.97327	0.1145638	0.28320093	2.2965343	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450001 2015 PA_{281}	17.3	X	72.49209	200.75476	151.17453	4.33601	0.2092426	0.25813231	2.4429119	20	—	—
450002 2015 PT_{286}	16.1	X	326.88311	288.75900	75.99418	8.77430	0.1062991	0.19926048	2.9030550	20	9 17.2	19.7
450003 2015 PT_{291}	19.7	X	207.54427	156.90751	176.84388	4.82996	0.3182919	0.32449849	2.0973018	20	2 19.6	23.6
450004 2015 PJ_{293}	17.2	X	109.77713	176.43269	167.45592	6.42842	0.1407989	0.27184517	2.3600524	20	—	—
450005 2015 PM_{293}	17.7	X	93.69693	100.87119	183.68568	7.84574	0.2344983	0.24022244	2.5628725	20	12 11.1	22.1
450006 2015 PW_{293}	15.3	X	298.17907	3.78301	343.63617	17.73487	0.1196659	0.17178718	3.2048587	20	7 3.3	19.8
450007 2015 PZ_{293}	17.3	X	126.05964	331.48149	331.08314	5.66125	0.1372872	0.26086581	2.4258165	20	—	—
450008 2015 PK_{300}	17.6	X	88.43647	242.50518	128.97472	11.34819	0.2101871	0.27073725	2.3664865	20	—	—
450009 2015 PQ_{307}	17.1	X	59.42544	130.19573	186.58543	13.87379	0.1940690	0.23623188	2.5916541	20	12 14.7	21.2
450010 2015 PR_{307}	17.7	X	88.59662	65.21416	276.12577	4.77404	0.2299030	0.25769020	2.4457052	20	—	—
450011 2015 PB_{308}	16.9	X	21.64699	219.75834	175.74929	13.52320	0.2576520	0.23329296	2.6133743	20	—	—
450012 2015 PH_{308}	15.9	X	291.06697	126.62525	281.69828	15.75671	0.1057571	0.20347634	2.8628160	20	9 4.5	19.9
450013 2015 PY_{308}	16.1	X	324.26327	149.22558	182.90321	16.46047	0.1787141	0.18290254	3.0736628	20	7 12.9	19.9
450014 2015 PU_{309}	17.8	X	124.33400	107.64043	203.52765	2.70152	0.2319055	0.26730451	2.3867038	20	—	—
450015 2015 PY_{309}	17.5	X	146.96938	216.06415	103.03019	7.57690	0.1508825	0.28354311	2.2946862	20	—	—
450016 2015 PA_{310}	17.2	X	95.39198	331.06024	1.24944	5.32630	0.1774429	0.25911233	2.4367482	20	—	—
450017 2015 PF_{310}	15.7	X	343.14629	169.43482	130.52320	15.34366	0.1043437	0.17524365	3.1625776	20	7 9.7	19.8
450018 2015 PN_{310}	17.5	X	129.39017	283.23370	68.37116	6.38133	0.2155300	0.28454431	2.2893004	20	1 4.7	20.4
450019 2015 QN	17.9	X	60.05376	152.40440	260.14374	3.91221	0.2313218	0.26754135	2.3852950	20	—	—
450020 2015 QR	15.7	X	330.86440	337.60789	344.80010	12.12548	0.1173626	0.17679370	3.1440650	20	7 22.5	19.6
450021 2015 QG_{2}	16.2	X	306.22684	18.03761	298.64226	14.60673	0.0718555	0.17914545	3.1164884	20	6 8.1	20.6
450022 2015 QG_{3}	17.9	X	151.65985	340.79979	326.72881	4.44904	0.2134080	0.28588356	2.2821452	20	—	—
450023 2015 QY_{3}	17.7	X	114.23610	64.64422	236.62740	3.97077	0.2311099	0.26039139	2.4287620	20	—	—
450024 2015 QF_{4}	17.5	X	128.12032	58.92854	271.43979	6.82924	0.1974483	0.27685365	2.3315025	20	—	—
450025 2015 QM_{8}	18.0	X	81.70430	223.35088	161.67132	6.75262	0.2461588	0.27293128	2.3537871	20	—	—
450026 2015 QL_{10}	18.3	X	158.28592	322.51385	15.21906	1.96343	0.1651882	0.29599064	2.2298932	20	1 10.9	21.4
450027 2015 QS_{10}	16.1	X	275.43528	206.26267	182.04064	10.11353	0.1311203	0.17828885	3.1264628	20	7 18.4	20.6
450028 2015 QT_{10}	17.0	X	322.97826	66.15515	304.74287	4.94674	0.2454876	0.19547595	2.9404051	20	8 31.2	19.6
450029 2015 QE_{11}	18.2	X	88.28035	114.20923	270.36341	2.82035	0.2947519	0.27122824	2.3636297	20	1 5.9	20.2
450030 2015 RK	16.4	X	343.53461	150.56129	166.21682	12.14147	0.1237644	0.18632579	3.0358995	20	8 1.2	20.0
450031 2015 RN	17.0	X	62.18971	345.51016	344.78658	5.85055	0.0761495	0.23790827	2.5794653	20	12 20.5	20.6
450032 2015 RZ	16.8	X	285.89022	210.47045	155.00659	1.10638	0.2131331	0.17274242	3.1930329	20	6 21.9	21.0
450033 2015 RA_{1}	15.4	X	212.72943	92.50816	346.58401	14.83414	0.0729390	0.17261448	3.1946104	20	7 21.5	20.3
450034 2015 RD_{1}	15.8	X	293.45497	198.62680	166.86065	9.82522	0.0992462	0.17438087	3.1730006	20	7 18.6	20.2
450035 2015 RM_{1}	16.9	X	62.78349	100.87533	211.24493	12.20228	0.1872863	0.22584614	2.6705104	20	12 9.4	21.0
450036 2015 RN_{1}	15.7	X	0.80757	11.34962	290.92225	8.39842	0.0922574	0.17885241	3.1198918	20	8 9.4	19.5
450037 2015 RZ_{2}	16.7	X	81.96145	278.75087	316.39859	7.17207	0.1474197	0.21422888	2.7662030	20	9 16.2	20.9
450038 2015 RF_{3}	16.8	X	33.26173	187.21279	183.22164	13.50061	0.1546019	0.23674111	2.5879364	20	—	—
450039 2015 RT_{18}	17.0	X	352.24890	68.49294	324.82161	12.24404	0.1899676	0.22203741	2.7009629	20	12 18.2	20.1
450040 2015 RS_{19}	16.6	X	322.78056	23.14651	327.62952	4.25706	0.1736895	0.18282968	3.0744794	20	8 8.8	20.1
450041 2015 RK_{20}	17.4	X	119.96476	318.89416	354.08058	2.28810	0.1920219	0.26549618	2.3975290	20	—	—
450042 2015 RY_{22}	17.3	X	24.82631	97.33110	246.31102	1.38442	0.0892571	0.22275869	2.6951294	20	11 18.3	20.5
450043 2015 RG_{24}	16.6	X	331.83584	149.51259	184.44121	9.89317	0.0675013	0.18714221	3.0270636	20	8 6.7	20.7
450044 2015 RK_{24}	15.9	X	309.46479	34.30818	306.81640	6.90519	0.0531545	0.17816351	3.1279289	20	7 17.5	20.1
450045 2015 RL_{24}	17.9	X	27.88641	56.15343	323.17276	6.36522	0.2037118	0.23876873	2.5732644	20	—	—
450046 2015 RN_{25}	16.0	X	317.03608	85.56182	277.55256	8.43574	0.0900923	0.18452432	3.0556268	20	8 19.8	19.9
450047 2015 RR_{25}	15.8	X	307.16536	166.74206	163.55593	27.51881	0.1451457	0.17457750	3.1706176	20	6 19.8	20.5
450048 2015 RH_{26}	16.0	X	351.38065	357.23082	295.83908	5.83340	0.2053796	0.18031640	3.1029818	20	7 14.5	19.0
450049 2015 RX_{26}	18.0	X	114.91186	214.47050	152.21677	5.36345	0.2423493	0.27657365	2.3330758	20	1 11.2	20.9
450050 2015 RB_{27}	17.1	X	81.73126	299.84476	10.88332	13.50746	0.2045141	0.23312809	2.6146064	20	12 29.0	21.6
450051 2015 RC_{27}	18.0	X	181.47797	161.86164	170.64725	6.54765	0.2090830	0.30204455	2.1999968	20	1 27.8	21.5
450052 2015 RF_{27}	18.1	X	101.76371	187.95605	160.63143	0.80819	0.2114605	0.26207735	2.4183346	20	—	—
450053 2015 RH_{27}	16.9	X	25.41618	219.55525	189.91082	17.74665	0.1066454	0.24196052	2.5505844	20	—	—
450054 2015 RO_{27}	17.0	X	47.37722	137.81669	200.76424	12.67617	0.1707507	0.22484764	2.6784106	20	12 22.2	21.0
450055 2015 RC_{29}	17.4	X	224.38283	296.14917	307.70526	5.57983	0.1448021	0.28454931	2.2892735	20	—	—
450056 2015 RY_{29}	16.6	X	111.53825	273.65814	6.52024	12.10140	0.1560448	0.23662244	2.5888016	20	12 15.1	21.0
450057 2015 RA_{30}	17.8	X	166.52456	142.80485	154.06480	3.55891	0.2031342	0.28077697	2.3097327	20	—	—
450058 2015 RQ_{30}	17.0	X	11.24318	46.11659	356.39246	14.26089	0.2254971	0.22645328	2.6657350	20	—	—
450059 2015 RT_{30}	16.6	X	80.25924	324.07438	350.80783	15.18738	0.2235179	0.23336392	2.6128446	20	—	—
450060 2015 RY_{40}	17.3	X	204.15665	310.16153	233.83436	2.49286	0.1280531	0.22872926	2.6480219	20	11 17.2	20.9
450061 2015 RQ_{43}	17.4	X	75.37142	26.61182	266.43936	0.93980	0.1873559	0.22636688	2.6664132	20	11 28.7	21.3
450062 2015 RX_{44}	18.2	X	213.32628	101.88158	176.09198	3.44784	0.1815176	0.29895849	2.2151108	20	—	—
450063 2015 RQ_{45}	16.9	X	118.33801	289.36999	332.28889	2.10456	0.0614113	0.22571697	2.6715291	20	11 24.1	20.8
450064 2015 RF_{46}	17.5	X	285.13859	223.10857	326.10793	4.59684	0.1668043	0.27887804	2.3202058	20	—	—
450065 2015 RP_{46}	16.8	X	130.76520	2.20706	194.50325	9.03967	0.0463799	0.19188636	2.9769622	20	9 10.9	21.1
450066 2015 RQ_{46}	17.5	X	97.60416	80.39118	224.78728	3.43414	0.0846768	0.23939314	2.5687879	20	12 29.7	21.2
450067 2015 RC_{47}	17.3	X	39.96500	83.96079	237.31643	3.25562	0.0670979	0.21315937	2.7754480	20	11 4.3	21.0
450068 2015 RK_{47}	17.6	X	335.61954	172.99730	329.95325	5.66251	0.0971121	0.27443704	2.3451695	20	—	—
450069 2015 RM_{47}	17.0	X	59.28577	141.59440	183.12823	15.21574	0.2069857	0.23097597	2.6308223	20	12 23.8	21.3
450070 2015 RV_{48}	18.0	X	274.79290	242.28346	330.89006	6.51421	0.0450379	0.28694051	2.2765375	20	—	—
450071 2015 RZ_{48}	17.3	X	102.09896	91.10910	195.70315	6.75000	0.1642934	0.23759520	2.5817307	20	12 16.3	21.6
450072 2015 RT_{50}	18.1	X	148.84295	57.95492	270.51319	3.84544	0.0477038	0.27993564	2.3143583	20	—	—
450073 2015 RY_{50}	16.3	X	157.56567	239.05944	345.09110	13.78285	0.0620325	0.22506930	2.6766518	20	11 16.4	20.6
450074 2015 RL_{52}	18.1	X	190.10584	25.39601	239.33985	2.02271	0.1406853	0.27405513	2.3473477	20	—	—
450075 2015 RB_{53}	17.3	X	174.22875	314.21865	329.07103	4.31581	0.1484969	0.27512993	2.3412304	20	—	—
450076 2015 RP_{58}	17.0	X	32.14486	135.42398	175.66624	5.56954	0.0553636	0.20148939	2.8816060	20	10 9.1	20.7
450077 2015 RL_{62}	17.6	X	290.58948	320.64550	169.61146	4.99988	0.0816085	0.24094214	2.5577664	20	—	—
450078 2015 RM_{73}	17.5	X	137.16450	119.79192	172.87792	3.27037	0.1482894	0.25609949	2.4558221	20	—	—
450079 2015 RZ_{73}	18.3	X	54.82860	280.75916	157.97777	3.82080	0.1675998	0.27416315	2.3467311	20	—	—
450080 2015 RX_{75}	16.1	X	11.93120	339.90095	359.86171	4.02656	0.1149661	0.20450756	2.8531842	20	10 23.6	19.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450081 2015 RH_{76}	17.6	X	137.21353	299.60786	4.10429	1.86844	0.2142328	0.26561619	2.3968068	20	—	—
450082 2015 RL_{78}	17.6	X	167.57254	311.33837	336.90147	5.21842	0.2030452	0.27669948	2.3323684	20	—	—
450083 2015 RU_{81}	16.0	X	315.71251	173.68717	177.99597	9.74313	0.0799038	0.17800627	3.1297707	20	8 4.3	20.2
450084 2015 RL_{84}	16.5	X	27.36298	75.29622	247.71566	11.89768	0.1459153	0.21604595	2.7506709	20	10 31.0	20.0
450085 2015 RT_{85}	16.7	X	357.12641	72.76837	305.99164	13.53080	0.2694449	0.21518067	2.7580399	20	12 16.9	19.7
450086 2015 RG_{88}	17.4	X	212.08052	321.30854	314.30376	6.53721	0.1254923	0.29403812	2.2397538	20	—	—
450087 2015 RD_{90}	15.8	X	349.00794	307.35844	0.93886	9.94976	0.2207478	0.17837736	3.1254284	20	8 4.2	19.0
450088 2015 RY_{90}	16.3	X	310.33417	217.77919	189.38686	18.53132	0.2440888	0.19141137	2.9818851	20	9 24.9	19.3
450089 2015 RD_{91}	15.4	X	43.91277	263.30022	343.76559	8.56288	0.0397081	0.17409596	3.1764615	20	7 29.9	19.8
450090 2015 RE_{91}	16.2	X	297.82133	121.45517	228.36622	11.12039	0.1512359	0.17725855	3.1385659	20	6 26.9	20.4
450091 2015 RR_{91}	16.9	X	1.28199	108.68132	196.16721	12.99615	0.2417614	0.19642907	2.9308857	20	8 25.7	19.9
450092 2015 RB_{92}	17.8	X	153.69336	134.58856	171.94695	2.97499	0.2072280	0.28566354	2.2833168	20	—	—
450093 2015 RS_{92}	17.6	X	126.15899	0.00533	292.88424	2.59459	0.1679368	0.26124328	2.4234792	20	—	—
450094 2015 RU_{92}	17.9	X	9.59468	85.90991	306.32694	10.15305	0.3118976	0.22915780	2.6447195	20	—	—
450095 2015 RW_{92}	15.9	X	294.81932	60.03342	309.51971	9.83386	0.0892686	0.18308168	3.0716575	20	7 29.6	20.0
450096 2015 RB_{93}	18.4	X	175.52567	122.24212	176.13166	23.18653	0.2810425	0.29528945	2.2334219	20	—	—
450097 2015 RA_{94}	16.1	X	346.83600	137.22632	165.65319	15.33975	0.1782939	0.18273693	3.0755196	20	7 17.7	19.7
450098 2015 RD_{94}	16.2	X	342.30802	128.48240	167.84631	12.82006	0.1616595	0.17683239	3.1436065	20	6 30.4	20.0
450099 2015 RZ_{94}	18.3	X	141.29366	96.00243	282.99185	4.80901	0.2037626	0.30290281	2.1958391	20	2 16.7	21.4
450100 2015 RY_{95}	16.6	X	34.63375	60.87721	257.87408	4.93078	0.0568554	0.21271615	2.7793020	20	10 22.1	20.3
450101 2015 RN_{97}	17.5	X	29.22292	281.83236	149.11452	4.44400	0.1833826	0.26121545	2.4236513	20	—	—
450102 2015 RJ_{100}	16.4	X	282.31453	283.74199	97.37191	3.16297	0.1915766	0.17439639	3.1728123	20	7 10.8	20.5
450103 2015 RS_{101}	17.1	X	10.41028	194.76777	174.52839	15.45186	0.1600133	0.21845218	2.7304347	20	12 11.5	20.7
450104 2015 RZ_{102}	17.0	X	341.47240	102.59265	289.40763	5.47625	0.2303087	0.21826354	2.7320077	20	11 26.9	19.6
450105 2015 RA_{104}	16.6	X	294.13074	115.13805	305.62722	8.13407	0.1240223	0.20452010	2.8530675	20	9 28.6	20.2
450106 2015 RP_{104}	17.8	X	122.18773	161.29220	170.95788	6.63717	0.1657723	0.27288123	2.3540749	20	—	—
450107 2015 RW_{104}	18.4	X	164.36607	99.34688	202.39364	4.41961	0.1795775	0.28434354	2.2903779	20	—	—
450108 2015 RH_{105}	17.4	X	292.78995	129.78917	255.56212	2.11800	0.2409651	0.18044582	3.1014980	20	7 23.4	21.2
450109 2015 RK_{105}	17.2	X	307.90427	216.81728	176.59105	19.84893	0.1536668	0.19613328	2.9338316	20	9 13.2	20.6
450110 2015 RO_{105}	16.2	X	228.59696	259.41389	175.82002	11.15942	0.0621972	0.17586342	3.1551429	20	7 29.9	21.0
450111 2015 RZ_{105}	18.1	X	61.98201	318.15067	66.47661	1.92194	0.2438904	0.25731011	2.4481131	20	—	—
450112 2015 RG_{106}	18.0	X	46.46025	211.79151	186.46628	3.23849	0.2267616	0.25287524	2.4766531	20	—	—
450113 2015 RR_{106}	16.1	X	306.92461	52.42682	331.84450	9.61593	0.0727456	0.19222302	2.9734852	20	9 6.4	20.0
450114 2015 RL_{107}	17.9	X	70.45739	230.70214	144.52067	3.78205	0.1845974	0.25653122	2.4530660	20	—	—
450115 2015 RU_{107}	17.8	X	87.92984	59.89646	311.52376	1.96516	0.1956078	0.26290231	2.4132730	20	—	—
450116 2015 RP_{108}	17.0	X	42.56160	200.93490	170.48438	12.63694	0.2092126	0.23438712	2.6052349	20	—	—
450117 2015 RB_{109}	15.7	X	348.06616	116.66366	197.23463	15.31385	0.1925787	0.17531869	3.1616750	20	8 1.4	19.4
450118 2015 RD_{110}	17.2	X	17.50474	173.82650	175.43667	9.16241	0.1415908	0.22022609	2.7157526	20	11 24.1	20.6
450119 2015 RS_{114}	16.3	X	197.43261	344.94225	130.07169	9.56642	0.0407766	0.18434085	3.0576539	20	8 18.1	20.8
450120 2015 RE_{117}	17.0	X	0.77770	313.15046	72.61673	8.87973	0.2049732	0.21560078	2.7544560	20	12 22.1	20.0
450121 2015 RF_{121}	18.0	X	165.13949	346.65515	299.45642	3.52326	0.2276289	0.27849872	2.3223121	20	—	—
450122 2015 RW_{124}	16.1	X	21.36667	293.71442	342.15507	10.14627	0.0273978	0.18213218	3.0823238	20	8 5.3	20.3
450123 2015 RK_{131}	17.5	X	331.47102	142.69441	354.70515	4.74932	0.0434099	0.27652434	2.3333532	20	—	—
450124 2015 RB_{139}	16.2	X	250.80895	352.21262	48.91877	0.51842	0.0689718	0.16898262	3.2402214	20	7 14.2	20.8
450125 2015 RV_{198}	16.1	X	334.21548	164.55788	162.81642	11.00413	0.2193153	0.17819956	3.1275071	20	7 23.2	19.4
450126 2015 RJ_{213}	17.4	X	55.21684	101.47513	193.08027	5.27078	0.2195760	0.22299775	2.6932028	20	11 14.1	21.3
450127 2015 RS_{213}	15.8	X	355.43119	345.69949	314.08676	8.97132	0.0714255	0.17729136	3.1381787	20	7 30.2	19.6
450128 2015 RT_{243}	16.8	X	135.15160	270.51068	356.43323	30.79324	0.1218778	0.24431871	2.5341456	20	12 25.0	21.5
450129 2015 RD_{245}	15.9	X	126.93748	326.23789	278.21842	27.67306	0.1390300	0.23656403	2.5892277	20	11 14.7	20.5
450130 2015 SP_3	16.5	X	96.78816	14.39963	277.35829	15.47456	0.2424348	0.23653728	2.5894229	20	12 21.5	20.9
450131 2015 SE_5	16.0	X	351.27112	3.66692	337.49828	9.89907	0.0771428	0.19266479	2.9689381	20	9 16.6	19.8
450132 2015 SO_5	17.7	X	152.28095	38.38332	313.30280	6.31384	0.1407927	0.29216190	2.2493325	20	1 20.5	20.8
450133 2015 SW_5	16.6	X	27.17314	157.24415	206.28263	5.89086	0.0967326	0.22337727	2.6901515	20	12 18.3	20.1
450134 1994 WH_4	17.2	X	7.48423	305.92799	141.04728	5.24076	0.2321739	0.23447018	2.6046196	20	—	—
450135 1995 SW_{20}	15.5	X	182.19873	270.48323	284.89228	13.84128	0.0953827	0.20545290	2.8444253	20	11 2.9	20.1
450136 1995 SZ_{57}	17.4	X	15.08290	344.98626	0.16871	5.86112	0.0704539	0.20035049	2.8925161	20	10 28.3	21.1
450137 1996 AF_6	18.0	X	4.19255	156.13373	319.74529	6.52836	0.0571853	0.28307689	2.2972051	20	—	—
450138 1998 BO_{26}	17.1	X	21.87284	198.56178	326.59687	4.39529	0.3889644	0.26800881	2.3825206	20	2 24.5	16.6
450139 1998 SR_{148}	17.1	X	99.38253	109.62200	259.64889	3.75515	0.3055786	0.24031135	2.5622403	20	1 10.8	20.3
450140 1998 TL_{27}	17.9	X	77.74731	314.60687	17.43352	4.26653	0.2665259	0.23474242	2.6026054	20	—	—
450141 1998 VH_{43}	17.8	X	0.83624	201.67781	224.83709	5.25284	0.1782586	0.23107315	2.6300847	20	—	—
450142 1998 XN_2	19.9	X	228.09813	126.93001	255.25256	1.78914	0.5419391	0.34892123	1.9982560	20	4 24.5	24.0
450143 1999 ED_5	19.6	X	28.70852	274.01855	5.54079	18.18200	0.4662625	0.42733350	1.7456537	20	11 22.4	22.6
450144 1999 RJ_{30}	16.0	X	335.29299	49.56341	325.25755	21.01187	0.2942251	0.18760088	3.0221276	20	9 23.5	18.9
450145 1999 RU_{140}	16.2	X	355.20296	13.32187	332.29678	8.85433	0.3170788	0.18953364	3.0015472	20	10 17.9	18.9
450146 1999 TZ_{70}	17.6	X	132.11449	293.26552	25.42585	14.45181	0.0400634	0.24785392	2.5099912	20	—	—
450147 1999 TT_{84}	17.1	X	306.96178	19.68398	21.97161	3.35417	0.1873311	0.18501875	3.0501806	20	9 18.2	20.4
450148 1999 TJ_{170}	16.9	X	338.19421	163.23691	205.94965	12.72235	0.2882049	0.18633903	3.0357558	20	10 4.8	19.4
450149 1999 VZ_{109}	16.4	X	308.51820	164.33524	235.99992	10.89863	0.1814216	0.18333974	3.0687744	20	9 13.6	20.2
450150 1999 VA_{119}	16.9	X	350.16748	321.52900	0.56118	5.09652	0.1891365	0.18329815	3.0692386	20	8 25.0	20.0
450151 1999 VK_{129}	16.7	X	342.49897	120.71167	225.97594	14.14452	0.2258221	0.18489756	3.0515133	20	9 5.8	20.0
450152 1999 VA_{147}	17.4	X	68.93409	163.77907	227.06190	6.40224	0.1252353	0.24653144	2.5189594	20	—	—
450153 2000 AL_{48}	16.8	X	54.63725	102.48329	303.17537	3.33030	0.2528539	0.24314645	2.5422842	20	—	—
450154 2000 AM_{49}	18.0	X	280.41911	113.12545	283.09083	19.00876	0.3202273	0.36984294	1.9221672	20	7 18.3	19.5
450155 2000 AK_{126}	15.6	X	252.28439	240.66296	286.07100	14.11307	0.3247862	0.18172847	3.0868870	20	11 11.8	20.4
450156 2000 AT_{210}	17.2	X	65.57988	79.16154	309.98486	4.21587	0.1692792	0.24182403	2.5515441	20	—	—
450157 2000 DE_{65}	17.8	X	346.80383	321.28405	165.90335	5.23945	0.2656095	0.23852240	2.5750358	20	—	—
450158 2000 DW_{98}	15.8	X	75.16072	53.21885	356.55497	12.36469	0.3474427	0.24515651	2.5283688	20	2 8.4	18.3
450159 2000 JJ_5	18.9	X	241.56961	50.79965	59.92424	9.44644	0.7021482	0.37327659	1.9103615	20	8 10.7	22.6
450160 2000 RM_{12}	16.7	X	50.46621	102.01723	354.43279	57.26406	0.6676303	0.25986970	2.4320115	20	3 21.7	19.3

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450161 2000 YE_{29}	17.0	X	271.33859	48.64926	109.14853	14.39413	0.5213249	0.19281061	2.9674410	20	11 5.3	21.4
450162 2001 KJ_{33}	15.9	X	97.09148	48.65633	250.28348	31.73591	0.3689693	0.22483777	2.6784890	20	12 27.9	21.2
450163 2001 ML_{31}	17.6	X	213.62765	5.34489	292.99896	5.74128	0.2441776	0.29142005	2.2531482	20	1 15.4	21.3
450164 2001 OP_{2}	17.2	X	161.91223	109.40447	243.58852	9.16592	0.1957337	0.28902333	2.2655872	20	2 2.8	20.8
450165 2001 QL_{189}	16.8	X	72.50102	114.22240	193.42816	22.87090	0.3182233	0.21857988	2.7293711	20	12 22.0	21.9
450166 2001 RP_{122}	16.5	X	52.84111	2.66908	0.32046	11.49559	0.1585268	0.21938640	2.7226778	20	—	—
450167 2001 RW_{149}	17.1	X	28.64887	223.40489	156.03987	8.69185	0.2353605	0.21755293	2.7379536	20	—	—
450168 2001 SS_{140}	16.8	X	73.40810	325.23976	2.06240	7.33140	0.2264351	0.21787591	2.7352471	20	—	—
450169 2001 SB_{198}	17.4	X	26.84496	5.95394	15.54792	3.48730	0.2043792	0.21715925	2.7412617	20	—	—
450170 2001 SV_{201}	19.0	X	150.28710	353.96297	1.82673	5.81694	0.2379995	0.28539824	2.2847316	20	2 4.9	22.4
450171 2001 SW_{317}	16.7	X	52.98290	289.43659	16.05498	13.16629	0.2117222	0.21285429	2.7780994	20	11 17.7	20.8
450172 2001 SV_{332}	17.2	X	59.45586	297.26028	49.68065	3.11859	0.2020173	0.21777256	2.7361124	20	—	—
450173 2001 TZ_{9}	16.8	X	56.49030	116.14163	200.78429	31.14367	0.3549905	0.21497929	2.7597620	20	12 21.1	21.9
450174 2001 TD_{19}	17.7	X	167.55415	98.66145	243.53937	4.60114	0.2651805	0.28502983	2.2866999	20	2 1.8	21.5
450175 2001 TZ_{96}	18.0	X	138.12738	43.57136	336.21806	2.29826	0.2621950	0.28428595	2.2906872	20	2 24.3	21.3
450176 2001 TV_{99}	16.8	X	359.14480	184.41350	236.17983	7.99846	0.1683770	0.21523806	2.7575496	20	—	—
450177 2001 TQ_{161}	18.2	X	157.98141	348.88689	359.14252	6.00745	0.1865337	0.28510929	2.2862750	20	1 28.8	21.6
450178 2001 TV_{251}	18.7	X	104.61190	352.09075	76.26366	3.22310	0.1960320	0.28526022	2.2854685	20	3 15.3	21.4
450179 2001 TW_{259}	16.9	X	41.36228	204.27058	152.61695	10.49934	0.1882844	0.21701211	2.7425007	20	—	—
450180 2001 TR_{260}	17.2	X	102.70656	229.62498	56.32598	7.87573	0.1176837	0.21532968	2.7567674	20	12 8.4	21.4
450181 2001 VH_{63}	17.0	X	354.48029	197.70379	251.86733	8.19933	0.2790509	0.21466793	2.7624299	20	—	—
450182 2001 VY_{73}	15.9	X	41.84211	39.95474	292.36050	12.36597	0.2177513	0.21140942	2.7907429	20	12 12.2	19.9
450183 2001 VX_{83}	16.9	X	18.60504	95.41938	277.13431	12.01116	0.3254622	0.21263178	2.7800371	20	—	—
450184 2001 VY_{88}	16.6	X	314.14614	202.80605	256.02173	13.75173	0.1557818	0.21111831	2.7933077	20	12 27.8	19.5
450185 2001 WJ_{2}	19.9	X	270.16696	297.96254	57.18726	27.33309	0.2440765	0.56685026	1.4459629	20	5 11.6	20.2
450186 2001 WA_{21}	16.2	X	299.98312	41.11656	50.59652	14.97062	0.0800836	0.20941632	2.8084220	20	11 26.3	19.8
450187 2001 WC_{56}	18.0	X	77.32295	346.93642	41.56166	3.06053	0.1925481	0.27502062	2.3418508	20	—	—
450188 2001 XB_{33}	17.2	X	328.28290	226.08262	233.14427	8.54369	0.1835310	0.21219883	2.7838172	20	—	—
450189 2001 XY_{72}	17.0	X	345.99723	198.18785	234.61725	8.66252	0.2688601	0.21187776	2.7866289	20	—	—
450190 2001 XJ_{104}	17.5	X	292.62429	85.90672	262.08344	17.27958	0.0672128	0.35178740	1.9873874	20	7 7.3	19.4
450191 2001 XA_{223}	17.5	X	122.58828	330.35025	62.06522	7.60814	0.1065254	0.28060213	2.3106921	20	2 6.9	20.5
450192 2001 XQ_{228}	18.2	X	106.19188	357.50527	61.29861	7.50321	0.1584800	0.28092818	2.3089039	20	3 1.2	21.1
450193 2001 XD_{229}	18.2	X	95.28569	16.55515	55.10384	3.44239	0.1824777	0.28070254	2.3101410	20	3 5.3	20.7
450194 2002 CN_{38}	17.3	X	303.66290	166.93684	332.09662	9.29133	0.1477594	0.25998790	2.4312743	20	—	—
450195 2002 CZ_{195}	18.5	X	2.50468	11.20082	134.77409	3.26539	0.1563819	0.26991026	2.3713179	20	—	—
450196 2002 CZ_{288}	17.0	X	108.07840	99.68740	328.51015	21.77924	0.3299765	0.28110417	2.3079400	20	3 24.6	20.7
450197 2002 EG_{24}	17.4	X	197.79291	272.97371	350.00716	5.10097	0.1365342	0.25751646	2.4468051	20	—	—
450198 2002 EW_{119}	17.9	X	357.12036	171.10869	327.38466	3.47468	0.1657374	0.26613383	2.3936978	20	—	—
450199 2002 GN_{120}	15.7	X	26.10103	260.75797	23.50437	15.77800	0.2226658	0.17581027	3.1557788	20	9 19.3	19.6
450200 2002 GW_{189}	16.3	X	76.84986	241.52781	33.97839	8.75126	0.0613690	0.18535755	3.0464627	20	10 19.1	20.5
450201 2002 JC_{116}	17.1	X	134.32678	358.61015	250.56207	11.91922	0.2689340	0.24041022	2.5615378	20	11 30.2	21.6
450202 2002 JH_{128}	16.5	X	252.13511	189.35725	58.64890	26.37226	0.0706936	0.25971325	2.4329881	20	—	—
450203 2002 NA_{31}	20.0	X	86.10938	219.89669	125.50373	19.97369	0.2885064	0.45831565	1.6660688	20	—	—
450204 2002 ND_{36}	17.1	X	107.27231	119.53289	203.88879	3.75595	0.2916987	0.23880603	2.5729965	20	—	—
450205 2002 OP_{2}	16.6	X	67.37358	93.51710	285.28295	10.45664	0.3844234	0.23488497	2.6015523	20	—	—
450206 2002 ON_{15}	17.4	X	30.85307	63.36153	268.88375	11.71152	0.2773920	0.22754388	2.6572104	20	12 11.2	20.9
450207 2002 OC_{30}	17.1	X	103.25067	58.61470	274.21148	12.22915	0.1676194	0.23787184	2.5797287	20	—	—
450208 2002 PS_{31}	18.3	X	230.26423	68.97462	260.86162	1.96533	0.1871321	0.31318628	2.1475052	20	3 5.7	21.5
450209 2002 PZ_{34}	17.5	X	41.82296	199.07309	188.75183	3.32517	0.1564713	0.23550104	2.5970133	20	—	—
450210 2002 PR_{175}	17.4	X	94.05998	335.56650	357.08819	4.48326	0.2495086	0.23698380	2.5861693	20	—	—
450211 2002 PW_{180}	17.3	X	162.30790	253.62187	32.60340	3.17213	0.1057376	0.24250903	2.5467370	20	—	—
450212 2002 QE_{71}	17.8	X	42.52273	35.03922	351.26940	3.78400	0.3066003	0.23389795	2.6088660	20	—	—
450213 2002 QB_{83}	17.4	X	41.35637	96.22407	300.79622	6.84272	0.2204846	0.23545893	2.5973229	20	—	—
450214 2002 RQ_{109}	17.4	X	51.04036	159.76121	218.13426	4.90352	0.2658102	0.23242653	2.6198650	20	—	—
450215 2002 RY_{136}	17.4	X	42.83764	74.98335	305.47919	9.90817	0.3227691	0.23136562	2.6278677	20	—	—
450216 2002 RG_{182}	16.4	X	62.35601	163.89075	219.46024	14.77763	0.1946901	0.23551791	2.5968892	20	—	—
450217 2002 RE_{268}	18.3	X	254.43747	133.66168	161.42441	7.60313	0.1995442	0.31261421	2.1501243	20	2 11.9	21.4
450218 2002 SW_{1}	17.6	X	38.89314	351.92913	35.00793	2.88193	0.2205929	0.23138865	2.6276933	20	—	—
450219 2002 SV_{34}	17.2	X	89.19454	333.19237	11.21400	5.08218	0.1796344	0.23482273	2.6020120	20	—	—
450220 2002 TC_{2}	18.2	X	244.42921	205.92068	197.37262	21.43151	0.1259744	0.37606418	1.9009093	20	7 7.7	20.9
450221 2002 TP_{4}	17.1	X	21.73284	30.35996	33.38791	14.10595	0.2401444	0.23111485	2.6297683	20	—	—
450222 2002 TF_{60}	17.3	X	89.84708	128.53971	205.80612	30.67404	0.2754574	0.23460660	2.6036098	20	—	—
450223 2002 TG_{154}	16.3	X	85.34084	17.52771	328.44623	14.89421	0.1462202	0.23540091	2.5977497	20	—	—
450224 2002 TW_{189}	18.2	X	197.70470	75.86030	270.08392	4.08707	0.2003276	0.30718368	2.1753908	20	2 25.9	21.7
450225 2002 TR_{199}	16.7	X	56.51539	155.28656	231.35757	12.94635	0.1942394	0.23329546	2.6133557	20	—	—
450226 2002 TA_{220}	18.1	X	204.97242	12.05483	315.65740	3.90619	0.2332591	0.30576065	2.1821352	20	2 11.7	21.5
450227 2002 TS_{303}	18.0	X	357.35645	279.56086	149.68354	5.97554	0.1739404	0.22902360	2.6457525	20	—	—
450228 2002 TD_{332}	17.6	X	98.39974	159.60869	153.82096	3.70286	0.0708414	0.23072409	2.6327367	20	—	—
450229 2002 TX_{367}	17.3	X	50.18796	294.21435	87.81275	8.50197	0.0884467	0.23098024	2.6307899	20	—	—
450230 2002 TQ_{368}	17.4	X	24.71877	269.84379	135.74120	8.78212	0.0791031	0.22981629	2.6396652	20	—	—
450231 2002 TQ_{376}	17.3	X	30.17016	106.73861	292.13581	10.28114	0.3070343	0.22922679	2.6441889	20	—	—
450232 2002 UJ_{46}	18.3	X	201.64993	124.22443	222.29743	4.74154	0.2110657	0.30604445	2.1807860	20	3 1.2	22.0
450233 2002 UH_{79}	17.3	X	7.36702	336.43363	73.90657	6.27617	0.1595428	0.22509561	2.6764432	20	—	—
450234 2002 VN_{117}	17.4	X	69.96158	142.48788	206.23519	2.35681	0.2336632	0.22879381	2.6475237	20	—	—
450235 2002 VW_{140}	16.5	X	327.33944	328.21768	88.27288	15.36960	0.0449657	0.21953221	2.7214721	20	11 28.2	20.0
450236 2002 WO_{24}	18.1	X	356.51943	201.05225	226.52986	1.37127	0.1944454	0.22520460	2.6755796	20	—	—
450237 2002 XY_{38}	22.9	X	187.36763	119.48718	159.36310	2.10135	0.2172825	1.13370998	0.9108945	20	—	—
450238 2002 XN_{40}	18.2	X	142.06684	216.32731	271.05339	25.64763	0.4251823	0.30774529	2.1727434	20	7 14.8	22.7
450239 2002 XA_{119}	18.1	X	358.42896	230.89476	220.14628	3.68588	0.2339084	0.22783338	2.6549590	20	—	—
450240 2003 AO_{53}	16.3	X	301.23420	196.15892	308.70008	11.68034	0.2461725	0.22035957	2.7146558	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450241 2003 AQ_{85}	17.4	X	20.24042	209.95515	211.00953	8.03763	0.2891405	0.22750225	2.6575345	20	—	—
450242 2003 DG	16.6	X	247.80433	224.44944	320.90611	17.47288	0.2331819	0.21427904	2.7657713	20	12 23.9	20.5
450243 2003 EF_{46}	17.3	X	278.91110	94.48343	140.39758	5.17874	0.1690085	0.28053512	2.3110600	20	—	—
450244 2003 FA_{68}	16.1	X	113.52826	91.06638	142.31869	9.37062	0.0587955	0.19716060	2.9236314	20	10 13.7	20.5
450245 2003 GX_{21}	18.2	X	60.10746	176.08974	24.46392	20.95618	0.0489107	0.35469418	1.9765145	20	6 26.3	20.7
450246 2003 HP_{46}	17.3	X	257.94621	175.62134	65.78608	5.84283	0.1611330	0.27432146	2.3458281	20	—	—
450247 2003 SY_{112}	16.7	X	3.64082	89.55529	210.26402	14.06320	0.2280163	0.17322849	3.1870571	20	8 16.2	20.3
450248 2003 SF_{338}	17.8	X	199.51399	327.81254	307.25969	2.90375	0.0752178	0.25694487	2.4504325	20	—	—
450249 2003 SQ_{360}	16.5	X	287.22595	256.57578	172.36167	11.59698	0.0627315	0.17438111	3.1729977	20	10 7.3	20.8
450250 2003 SL_{379}	17.2	X	269.09366	263.81982	171.33205	5.63330	0.1675003	0.17200374	3.2021681	20	9 3.4	21.6
450251 2003 TO_{3}	15.6	X	299.72563	23.17507	36.80638	15.19302	0.2547175	0.17292320	3.1908070	20	9 23.9	19.4
450252 2003 UC_{310}	17.0	X	312.74316	302.58311	214.18681	13.36931	0.0140323	0.24766263	2.5112834	20	—	—
450253 2003 UO_{335}	16.6	X	253.50545	262.45998	182.34914	3.27026	0.1446422	0.17142778	3.2093364	20	8 30.4	21.1
450254 2003 UU_{348}	16.3	X	285.48425	23.70051	26.03863	18.26932	0.0887919	0.17061001	3.2195836	20	9 13.6	20.8
450255 2003 UX_{370}	16.3	X	325.65390	119.59904	228.37457	14.81637	0.1064791	0.17379375	3.1801427	20	8 8.1	20.7
450256 2003 UO_{373}	16.8	X	10.35283	98.22598	208.95081	10.02175	0.1414460	0.17360535	3.1824431	20	9 2.3	20.8
450257 2003 WA	19.9	X	46.21466	190.58777	232.54387	11.82940	0.4217730	0.24725765	2.5140248	20	—	—
450258 2003 WD_{5}	18.3	X	37.16777	337.19772	28.38317	7.84640	0.2277479	0.23960526	2.5672716	20	—	—
450259 2003 WQ_{7}	19.6	X	266.27021	100.09073	38.63947	17.79168	0.4539693	0.40811118	1.8000465	20	—	—
450260 2003 WC_{21}	16.3	X	62.05484	117.53224	251.26604	28.78211	0.2225455	0.24349932	2.5398274	20	—	—
450261 2003 WP_{39}	15.3	X	297.94708	165.85347	242.41136	21.35770	0.0619207	0.16881457	3.2423714	20	9 14.9	20.2
450262 2003 WF_{140}	16.7	X	14.96303	195.96226	242.66481	12.62967	0.1199755	0.24275216	2.5450363	20	—	—
450263 2003 WD_{158}	18.8	X	171.47078	102.28932	92.26807	16.71588	0.4093275	0.57850148	1.4264823	20	12 1.9	19.5
450264 2003 WM_{167}	17.2	X	51.03256	274.32095	137.49888	7.58804	0.1629863	0.24658301	2.5186082	20	—	—
450265 2003 WU_{172}	6.3	X	358.13411	100.62318	10.29497	4.14731	0.2506404	0.00405921	38.9202294	20	1 8.4	20.9
450266 2003 YJ_{14}	16.3	X	54.11003	67.53894	325.83007	13.83755	0.1257096	0.23994260	2.5648648	20	—	—
450267 2003 YF_{83}	16.9	X	55.11405	47.84685	352.72017	3.28175	0.1517178	0.24100482	2.5573229	20	—	—
450268 2003 YX_{114}	17.5	X	17.02226	348.55755	112.90792	5.83110	0.2415316	0.24212247	2.5494470	20	—	—
450269 2003 YV_{130}	16.7	X	70.74559	51.46743	320.25413	6.54286	0.3129967	0.24319954	2.5419142	20	—	—
450270 2004 AE	20.6	X	190.00903	193.15261	307.58787	18.72998	0.3327385	0.57540030	1.4316032	20	9 17.1	22.5
450271 2004 BA_{12}	17.2	X	358.16735	352.20277	124.19327	6.68907	0.1862181	0.23968336	2.5667139	20	—	—
450272 2004 BG_{15}	17.4	X	321.30596	26.25368	114.08233	5.15473	0.1467820	0.23678058	2.5876488	20	—	—
450273 2004 BL_{68}	16.2	X	284.82429	241.08207	275.97448	25.85848	0.3072964	0.23008476	2.6376114	20	—	—
450274 2004 BQ_{102}	16.7	X	341.87773	53.04412	96.97647	26.90141	0.4025679	0.23681117	2.5874259	20	—	—
450275 2004 BR_{137}	17.8	X	344.91754	121.73338	338.73382	2.48741	0.1107227	0.23521243	2.5991372	20	—	—
450276 2004 BL_{146}	16.9	X	1.78427	122.05009	318.84771	13.91094	0.0557428	0.23376372	2.6098646	20	—	—
450277 2004 CY_{103}	17.1	X	286.78293	244.26412	250.68138	10.56132	0.2426805	0.22907694	2.6453419	20	12 24.1	19.5
450278 2004 CY_{112}	16.9	X	357.52467	109.08685	2.08831	7.57694	0.1523578	0.23846074	2.5754797	20	—	—
450279 2004 DR_{13}	16.3	X	288.16432	159.96705	336.60302	14.44017	0.0428275	0.22840373	2.6505373	20	—	—
450280 2004 DW_{29}	16.8	X	47.19829	68.55828	348.85604	3.02380	0.2831421	0.24027134	2.5625248	20	—	—
450281 2004 ER_{35}	16.6	X	305.82020	252.45773	275.03161	11.43630	0.1532238	0.23489042	2.6015121	20	—	—
450282 2004 EM_{47}	18.1	X	301.18553	102.18314	43.18210	2.92651	0.2272604	0.22993561	2.6387519	20	—	—
450283 2004 EM_{64}	17.8	X	272.82296	6.42841	161.97584	13.10272	0.2078448	0.22835724	2.6508971	20	—	—
450284 2004 FF_{30}	15.8	X	268.32802	96.52752	97.87555	16.65519	0.2204076	0.22838341	2.6506946	20	—	—
450285 2004 FG_{57}	18.1	X	256.99984	330.65692	332.55367	2.96887	0.1003328	0.30611366	2.1804572	20	3 5.7	20.8
450286 2004 HQ_{5}	16.6	X	155.53650	345.64197	226.15425	8.87907	0.2490737	0.21131383	2.7915845	20	10 29.3	21.4
450287 2004 HB_{46}	17.0	X	339.74897	264.54727	269.33723	11.05440	0.2613507	0.23762334	2.5815269	20	—	—
450288 2004 HR_{78}	17.1	X	282.54998	59.33977	121.52983	13.72332	0.2055550	0.22585728	2.6704225	20	—	—
450289 2004 JV_{13}	16.8	X	272.55626	318.10571	223.30698	12.70833	0.2003950	0.22572082	2.6714987	20	—	—
450290 2004 JR_{20}	17.7	X	41.83168	40.84660	222.93419	21.98391	0.1070199	0.37770663	1.8953946	20	9 17.5	20.1
450291 2004 JT_{20}	17.9	X	4.85068	254.72178	64.43061	23.50533	0.0904634	0.38230838	1.8801544	20	11 1.3	19.7
450292 2004 KU	16.2	X	337.00950	101.42405	93.85893	29.17638	0.3734157	0.23574902	2.5951918	20	—	—
450293 2004 LV_{3}	18.8	X	163.21221	121.33154	273.48497	35.34372	0.2756469	0.72144457	1.2312155	20	1 28.5	19.7
450294 2004 LW_{24}	15.7	X	358.44392	64.62169	284.38949	20.22144	0.2697813	0.19050592	2.9913259	20	10 19.7	19.1
450295 2004 MB	18.1	X	224.76135	80.42478	199.16118	4.89847	0.2361111	0.28544636	2.2844748	20	1 1.6	22.1
450296 2004 PE_{40}	17.8	X	147.64435	177.00261	159.92955	7.06608	0.2595153	0.27512156	2.3412779	20	1 10.9	21.5
450297 2004 PN_{42}	18.0	X	153.81912	132.18933	223.61438	5.63198	0.1689345	0.28001034	2.3139466	20	1 29.6	21.5
450298 2004 PG_{55}	17.8	X	178.64945	330.21058	347.89551	5.91984	0.2521508	0.27971951	2.3155502	20	1 15.1	21.6
450299 2004 PN_{110}	18.4	X	151.63707	256.97327	80.31887	1.53886	0.2487500	0.27635993	2.3342785	20	1 14.7	21.8
450300 2004 QD_{14}	20.5	X	199.48149	109.31578	75.26593	6.24818	0.3378472	1.07853983	0.9416986	20	—	—
450301 2004 QZ_{17}	15.9	X	322.73881	112.88615	268.47924	10.81950	0.3311277	0.18022864	3.1039890	20	8 27.1	18.9
450302 2004 QF_{24}	17.0	X	119.04044	99.77167	260.22155	20.67765	0.3237182	0.27168773	2.3609640	20	1 15.1	20.5
450303 2004 RA_{3}	17.6	X	258.40303	160.56961	249.21041	17.75608	0.0597390	0.36666732	1.9332495	20	8 15.5	20.0
450304 2004 RA_{60}	18.1	X	126.73411	195.55115	183.81171	2.92887	0.2017767	0.27640022	2.3340516	20	2 5.1	21.2
450305 2004 RK_{135}	16.9	X	339.27553	300.74611	72.44551	1.88642	0.1852798	0.18722993	3.0261180	20	10 13.9	20.0
450306 2004 RS_{141}	18.1	X	110.19597	220.41125	152.21558	2.82051	0.2265455	0.27272823	2.3549552	20	1 11.4	20.9
450307 2004 RX_{157}	17.5	X	167.08327	29.44034	276.06024	4.70334	0.2048624	0.27436588	2.3455750	20	—	—
450308 2004 RG_{160}	15.7	X	349.50169	291.26645	350.00156	8.70512	0.1053324	0.17621737	3.1509166	20	6 25.7	19.7
450309 2004 RF_{165}	18.0	X	324.86774	107.47304	202.88604	21.00971	0.0925106	0.36380378	1.9433808	20	7 1.1	20.1
450310 2004 RP_{175}	18.0	X	139.20694	146.95247	213.75506	6.82356	0.2030129	0.27678856	2.3318680	20	1 24.7	21.4
450311 2004 RW_{189}	15.7	X	5.44769	22.37804	310.84173	7.28274	0.2583653	0.18542917	3.0456782	20	10 14.6	19.0
450312 2004 RJ_{209}	16.2	X	2.66467	94.07021	247.62419	10.90218	0.2570620	0.18790426	3.0188739	20	10 22.6	19.4
450313 2004 RG_{248}	16.1	X	306.93500	150.09770	243.36364	15.86314	0.3197122	0.18081103	3.0973201	20	8 7.6	19.9
450314 2004 RE_{250}	18.1	X	128.96781	113.11752	242.73402	1.64944	0.1926621	0.27356032	2.3501774	20	1 7.9	21.1
450315 2004 RM_{252}	16.4	X	119.43660	83.35646	278.68067	21.82046	0.2344952	0.26941492	2.3742236	20	1 9.7	19.5
450316 2004 RN_{253}	16.0	X	37.20480	160.93266	149.84443	15.58137	0.1944556	0.19036371	2.9928155	20	11 6.7	20.2
450317 2004 RH_{334}	17.8	X	135.08520	314.82942	42.84768	7.24292	0.2613988	0.27502090	2.3418491	20	1 27.9	21.3
450318 2004 ST_{1}	16.6	X	350.37714	311.06334	53.48104	2.50747	0.1817237	0.18772978	3.0207441	20	10 24.0	19.8
450319 2004 SG_{18}	16.8	X	329.64523	266.32892	115.97111	12.92066	0.2452596	0.18451284	3.0557536	20	10 10.3	19.9
450320 2004 SN_{19}	16.2	X	291.50927	185.62120	202.93347	17.73614	0.1942363	0.17696340	3.1420548	20	7 28.5	20.7

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450321 2004 SR_{28}	18.1	X	145.18087	190.79565	138.76301	4.14140	0.2524085	0.27366503	2.3495779	20	—	—
450322 2004 SB_{51}	17.8	X	137.61398	77.54078	202.77229	4.44472	0.1816190	0.26249038	2.4157971	20	—	—
450323 2004 TJ_{2}	16.2	X	287.60283	45.89309	16.47241	11.56774	0.1803419	0.18280823	3.0747199	20	9 16.4	20.1
450324 2004 TK_{26}	16.2	X	220.37596	298.10233	197.59093	18.55936	0.0775607	0.18500595	3.0503213	20	10 4.4	20.7
450325 2004 TK_{28}	16.6	X	8.77168	156.08473	165.80564	2.47923	0.1787824	0.18392663	3.0622429	20	9 29.2	19.9
450326 2004 TW_{34}	16.6	X	312.74672	161.61173	192.76610	17.61372	0.2311879	0.17781556	3.1320081	20	7 13.7	20.6
450327 2004 TQ_{45}	18.1	X	123.69289	159.96015	208.15600	6.89884	0.1356906	0.27125660	2.3634650	20	1 8.6	21.2
450328 2004 TS_{49}	17.5	X	32.29599	56.92610	38.02344	6.87085	0.1002651	0.26751977	2.3854233	20	—	—
450329 2004 TL_{56}	17.3	X	167.55897	293.61384	0.85593	7.60466	0.1146089	0.26955952	2.3733744	20	—	—
450330 2004 TA_{72}	17.5	X	270.89628	18.48849	33.28748	2.60948	0.1477511	0.17730276	3.1380442	20	8 12.1	21.7
450331 2004 TE_{92}	16.3	X	340.95213	104.37846	211.98226	9.05815	0.1091156	0.17508476	3.1644907	20	7 25.3	20.3
450332 2004 TA_{94}	17.0	X	271.66087	239.56421	209.41581	5.18278	0.1185047	0.18333874	3.0687857	20	10 2.9	21.1
450333 2004 TL_{107}	17.9	X	92.62794	43.82191	26.75203	2.78276	0.1439853	0.27575512	2.3376904	20	2 22.4	20.4
450334 2004 TM_{107}	17.0	X	300.20812	40.85031	20.58815	9.29834	0.0621183	0.18595148	3.0399723	20	10 16.1	21.0
450335 2004 TY_{142}	16.6	X	296.73235	184.22336	21.80916	23.92035	0.1685542	0.27354121	2.3502869	20	—	—
450336 2004 TW_{151}	18.2	X	141.52553	308.43648	1.12070	2.56034	0.1788955	0.26766075	2.3845856	20	—	—
450337 2004 TX_{155}	18.6	X	98.04533	251.22227	154.65966	1.58842	0.1795664	0.27269413	2.3551516	20	1 31.9	21.3
450338 2004 TO_{165}	18.5	X	139.07543	147.66822	201.83079	5.78551	0.1281956	0.27355583	2.3502031	20	1 2.4	21.6
450339 2004 TO_{176}	16.3	X	300.81867	345.46901	20.14066	18.01460	0.2027179	0.17645585	3.1480770	20	7 21.5	20.6
450340 2004 TA_{191}	18.3	X	62.20408	271.66955	165.34261	1.20402	0.1579678	0.27105755	2.3646219	20	1 10.8	20.4
450341 2004 TB_{202}	16.4	X	289.93190	358.21941	21.63200	5.28633	0.1748101	0.17258257	3.1950041	20	7 23.8	20.6
450342 2004 TV_{207}	17.0	X	4.09916	123.61442	212.13854	5.66438	0.2094573	0.18247787	3.0784297	20	10 11.5	20.2
450343 2004 TV_{225}	16.7	X	26.69202	283.00326	55.43509	1.68450	0.0334074	0.18797981	3.0180649	20	10 30.5	20.7
450344 2004 TN_{273}	16.2	X	295.91909	173.67910	238.58873	7.06242	0.0295876	0.17991355	3.1076121	20	9 28.3	20.5
450345 2004 TO_{276}	16.6	X	310.56220	311.69725	49.51076	1.81565	0.1846436	0.17495962	3.1659994	20	7 29.6	20.4
450346 2004 TD_{307}	15.8	X	349.79777	98.19677	215.07833	25.48521	0.1756313	0.17832093	3.1260878	20	7 31.1	19.9
450347 2004 TK_{323}	16.7	X	358.06022	101.90219	230.64583	5.97888	0.1922895	0.17876234	3.1209396	20	9 20.5	20.1
450348 2004 TA_{326}	16.3	X	334.44104	54.46915	309.86936	14.79458	0.2453134	0.18273404	3.0755520	20	9 9.8	19.4
450349 2004 VG_{4}	15.6	X	317.22540	316.27182	49.61617	14.68893	0.1521350	0.17714760	3.1398762	20	8 28.9	19.6
450350 2004 VT_{5}	16.1	X	297.65319	189.81483	215.23501	9.95183	0.1379529	0.17874937	3.1210906	20	9 7.9	20.3
450351 2004 VQ_{11}	17.8	X	166.34027	266.20483	96.50388	2.60206	0.1825691	0.27747068	2.3280447	20	2 23.9	21.3
450352 2004 VM_{37}	18.3	X	39.76836	246.89877	221.10073	0.76616	0.1490101	0.26820537	2.3813564	20	1 11.9	20.4
450353 2004 VU_{38}	16.0	X	353.89760	284.77783	57.11356	11.98913	0.0751832	0.17786299	3.1314513	20	9 27.4	20.2
450354 2004 VN_{41}	15.8	X	42.26553	234.91478	55.71697	10.67027	0.1254142	0.17861368	3.1226711	20	10 6.5	20.1
450355 2004 VU_{41}	17.9	X	1.12164	14.24327	67.15093	2.21517	0.1566365	0.25772031	2.4455148	20	—	—
450356 2004 VB_{80}	18.2	X	37.38467	189.83697	269.20407	6.21946	0.3276951	0.26459878	2.4029468	20	—	—
450357 2004 WV_{12}	17.5	X	71.48501	353.10978	94.84756	5.92163	0.1983017	0.27024924	2.3693346	20	2 23.4	19.7
450358 2004 XM_{25}	16.4	X	323.00711	345.05433	91.66541	17.02768	0.2871736	0.18385169	3.0630750	20	12 5.9	19.0
450359 2004 XN_{71}	15.2	X	195.31358	272.46078	245.21236	10.24860	0.1421626	0.17590996	3.1545864	20	9 24.6	20.4
450360 2004 XE_{90}	17.9	X	63.05239	0.25042	63.93180	3.64270	0.1670657	0.26391477	2.4070970	20	—	—
450361 2004 XV_{101}	16.9	X	32.64809	19.99064	89.59021	23.45864	0.2986390	0.26159795	2.4212882	20	—	—
450362 2004 XP_{124}	15.6	X	244.06588	69.28461	67.39065	26.51666	0.2486754	0.17302860	3.1895111	20	10 22.6	20.8
450363 2004 YL_{15}	17.6	X	70.57531	324.85273	93.08560	4.78964	0.1514091	0.26096224	2.4252189	20	1 1.0	20.0
450364 2005 AP_{24}	16.1	X	307.00792	128.30213	293.54138	15.20768	0.4159879	0.17917255	3.1161742	20	8 29.4	19.4
450365 2005 AV_{39}	16.0	X	355.05642	288.77054	119.85653	10.66683	0.1688351	0.18420016	3.0592106	20	12 27.1	19.5
450366 2005 AG_{43}	17.9	X	69.22456	338.37551	108.71413	2.07902	0.3044444	0.26556053	2.3971417	20	3 7.3	19.9
450367 2005 CX_{5}	16.4	X	294.17998	130.47882	330.17300	26.97950	0.3262039	0.17710767	3.1403482	20	10 3.2	20.5
450368 2005 CK_{62}	17.8	X	35.49571	134.92442	348.15744	5.42275	0.3226152	0.26245834	2.4159937	20	2 3.3	18.4
450369 2005 EA_{116}	17.9	X	61.30714	49.48672	170.30745	18.70120	0.1282217	0.34107228	2.0287963	20	8 11.2	20.2
450370 2005 EG_{137}	17.7	X	265.27163	359.28712	180.30988	6.24251	0.1670571	0.24067807	2.5596370	20	—	—
450371 2005 EF_{286}	15.1	X	238.74834	257.93716	307.92634	23.71840	0.2744821	0.17539132	3.1608021	20	12 24.7	20.1
450372 2005 GD_{37}	16.6	X	167.15848	164.13699	96.35858	15.48061	0.2262962	0.23214178	2.6220069	20	—	—
450373 2005 GL_{60}	16.6	X	165.92938	189.95708	43.90905	14.44706	0.1977508	0.22978033	2.6399405	20	12 4.1	21.1
450374 2005 GB_{107}	17.4	X	87.16422	100.10999	189.39274	9.82919	0.1258430	0.22515814	2.6759477	20	12 1.3	21.5
450375 2005 GU_{131}	17.4	X	137.79383	220.91183	62.13750	3.79775	0.0845116	0.23294560	2.6159717	20	—	—
450376 2005 GN_{144}	17.2	X	200.50790	50.58073	156.31930	5.81114	0.1502797	0.23099252	2.6306967	20	12 10.2	21.1
450377 2005 GB_{201}	17.0	X	97.79894	286.69515	5.70905	6.24964	0.2538874	0.22794407	2.6540994	20	12 21.9	21.7
450378 2005 JG_{21}	16.7	X	116.83415	259.63531	41.61704	12.92097	0.2389498	0.22691411	2.6621246	20	—	—
450379 2005 JQ_{97}	17.0	X	187.74172	181.34519	76.43776	8.05340	0.1676786	0.23414568	2.6070255	20	—	—
450380 2005 JK_{118}	16.2	X	140.95924	44.33042	235.47450	18.41355	0.1174394	0.22889098	2.6467744	20	—	—
450381 2005 JB_{151}	17.1	X	201.67987	132.11842	100.83211	12.35325	0.1607664	0.23256242	2.6188444	20	—	—
450382 2005 JD_{185}	16.3	X	158.21916	35.26308	220.02558	14.51161	0.0712047	0.22799283	2.6537210	20	12 28.4	20.4
450383 2005 LH_{4}	16.4	X	334.01622	231.15348	217.11780	20.86571	0.0993131	0.23171261	2.6252436	20	—	—
450384 2005 LV_{18}	17.3	X	96.99546	69.24554	224.66184	12.87058	0.2071868	0.22014119	2.7164508	20	12 18.8	21.9
450385 2005 MH_{48}	17.0	X	70.78968	177.79029	147.84031	10.91693	0.1242722	0.21508773	2.7588344	20	12 25.0	21.3
450386 2005 NA_{23}	16.5	X	119.64981	49.86446	245.06255	13.11100	0.1032816	0.22594153	2.6697586	20	—	—
450387 2005 NE_{31}	17.0	X	115.57372	229.64653	127.30600	5.44902	0.1068154	0.22883789	2.6471838	20	—	—
450388 2005 NA_{41}	17.4	X	29.25139	136.61262	219.62809	1.33109	0.2847214	0.20995239	2.8036395	20	—	—
450389 2005 OY_{21}	16.6	X	75.00010	160.98469	142.39582	10.44233	0.2087769	0.21074977	2.7965632	20	12 11.3	21.1
450390 Pitchcomment	18.7	X	200.61558	148.35088	186.45787	3.77810	0.2149961	0.30555159	2.1831304	20	2 15.9	22.2
450391 2005 QC_{81}	17.0	X	86.94254	5.28302	311.28121	5.81172	0.0915702	0.21297482	2.7770512	20	12 27.5	21.0
450392 2005 QE_{109}	16.7	X	344.71921	63.45697	328.97666	7.91336	0.0878389	0.20470954	2.8513071	20	11 15.4	20.4
450393 2005 QW_{138}	17.2	X	173.33115	235.45586	3.01292	7.51397	0.1707767	0.21519566	2.7579118	20	12 16.3	21.8
450394 2005 QR_{180}	18.2	X	176.21899	355.30222	15.70718	3.65240	0.1760193	0.30271174	2.1967630	20	3 12.0	21.4
450395 2005 SA_{18}	16.9	X	35.66803	167.69328	188.82845	12.20884	0.1224422	0.20637342	2.8359607	20	12 19.7	21.0
450396 2005 SY_{63}	16.4	X	343.46843	40.21072	15.74220	17.07559	0.0431577	0.20553880	2.8436327	20	12 10.9	20.5
450397 2005 SG_{80}	16.9	X	19.52563	321.68323	30.46905	2.36339	0.0781119	0.20279775	2.8691987	20	11 15.4	20.7
450398 2005 SC_{141}	17.1	X	358.84229	324.33915	72.29796	3.07756	0.0746878	0.20534050	2.8454632	20	12 13.4	20.7
450399 2005 SK_{166}	16.7	X	354.29778	281.25723	131.36805	8.43154	0.3229582	0.20505429	2.8481104	20	—	—
450400 2005 SU_{172}	18.4	X	100.09996	189.80489	232.13828	4.12133	0.1124491	0.29580032	2.2308496	20	2 9.8	20.9

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450401 2005 SE_{207}	17.8	X	313.58206	84.88925	355.60027	2.04837	0.1586440	0.20267119	2.8703931	20	11 28.9	20.7
450402 2005 SY_{209}	17.7	X	228.64055	69.01143	255.11472	4.26294	0.1223320	0.30553165	2.1832254	20	2 27.7	20.9
450403 2005 SJ_{227}	17.0	X	322.03520	243.61912	185.28531	10.06950	0.0914619	0.20335661	2.8639396	20	12 1.4	20.6
450404 2005 SB_{232}	17.8	X	315.07696	41.77232	23.69881	8.70297	0.2724103	0.19772421	2.9180729	20	10 31.7	20.2
450405 2005 SW_{265}	18.4	X	145.41673	218.32908	152.85498	6.39010	0.2679698	0.29624698	2.2286067	20	2 19.5	21.9
450406 2005 SO_{278}	16.2	X	15.30814	126.63800	245.99018	13.91105	0.1545077	0.20257092	2.8713402	20	12 15.9	19.9
450407 2005 TP_{22}	17.6	X	12.56234	315.43949	43.90151	1.43276	0.1733747	0.20201551	2.8766006	20	11 27.6	20.8
450408 2005 TM_{46}	18.1	X	202.34005	173.75287	161.27659	3.75229	0.1104460	0.30039261	2.2080550	20	2 17.1	21.2
450409 2005 TT_{51}	18.2	X	174.02644	127.21263	225.82277	4.13302	0.2115573	0.29771515	2.2212738	20	2 15.9	21.7
450410 2005 TX_{102}	17.0	X	46.30344	73.12274	272.24201	1.00332	0.0734347	0.20361250	2.8615396	20	12 11.6	20.9
450411 2005 TC_{106}	16.4	X	21.25923	185.28571	135.52772	6.04321	0.1104531	0.19837365	2.9117007	20	10 14.8	20.1
450412 2005 TX_{117}	17.7	X	49.90952	23.57081	304.25293	1.09676	0.0673824	0.20294758	2.8677864	20	11 23.1	21.6
450413 2005 TN_{120}	18.7	X	78.15107	264.25563	190.08640	2.31115	0.1736121	0.29449311	2.2374463	20	3 4.6	20.6
450414 2005 TU_{121}	17.8	X	333.76719	197.90915	22.46094	4.90713	0.0958362	0.30275551	2.1965513	20	2 27.1	20.0
450415 2005 TR_{142}	18.4	X	106.89123	303.37784	147.50716	3.09465	0.1321187	0.29973078	2.2113042	20	4 7.1	21.0
450416 2005 TK_{146}	17.8	X	37.32722	80.20672	51.54228	6.51893	0.0664435	0.29562978	2.2317074	20	2 7.9	20.1
450417 2005 TM_{154}	17.2	X	209.84168	270.80986	271.12580	4.56116	0.0194461	0.20522577	2.8465236	20	11 28.9	21.1
450418 2005 TR_{184}	17.3	X	114.58123	342.33308	286.79719	0.93502	0.0283372	0.20376427	2.8601185	20	11 23.2	21.4
450419 2005 TP_{188}	17.3	X	283.67770	186.42601	79.75534	4.76775	0.1340237	0.30559649	2.1829166	20	2 14.7	20.1
450420 2005 UF_{12}	17.9	X	206.12154	271.69301	57.65840	8.86165	0.0758265	0.29607307	2.2294793	20	2 18.5	21.1
450421 2005 UZ_{12}	17.8	X	49.41555	264.59377	224.76963	6.65018	0.0429162	0.29723432	2.2236687	20	2 16.6	20.3
450422 2005 UM_{13}	17.5	X	39.03605	123.76860	220.61992	1.08059	0.0788542	0.20258989	2.8711609	20	12 1.9	21.3
450423 2005 UX_{13}	16.8	X	275.27087	201.59640	206.33219	4.44769	0.1650530	0.18862365	3.0111932	20	8 8.6	21.0
450424 2005 UC_{26}	17.6	X	338.84820	357.88293	41.31590	3.32625	0.1696380	0.19882656	2.9072772	20	11 19.9	20.5
450425 2005 UM_{31}	16.2	X	44.27119	237.10032	41.65671	10.79041	0.0755697	0.18957117	3.0011511	20	9 19.1	20.4
450426 2005 UA_{73}	17.7	X	172.92996	229.03484	222.62320	20.53722	0.1215749	0.37744460	1.8962717	20	6 21.9	20.5
450427 2005 UE_{95}	16.7	X	285.35036	143.00157	272.28291	4.36546	0.1005999	0.19074251	2.9888519	20	9 10.8	20.6
450428 2005 UN_{101}	16.6	X	239.30227	247.03974	195.50615	8.74875	0.0145521	0.18715208	3.0269571	20	8 28.3	21.0
450429 2005 UD_{105}	17.3	X	313.96560	347.54317	71.35658	7.77364	0.2248737	0.19560654	2.9390962	20	10 27.2	20.2
450430 2005 UB_{182}	16.6	X	298.03965	42.91399	52.50396	11.73438	0.1092781	0.19780617	2.9172669	20	11 23.4	20.1
450431 2005 UH_{200}	18.3	X	184.42430	156.58459	191.64825	1.64158	0.1897437	0.29754038	2.2221435	20	2 19.2	21.8
450432 2005 UF_{202}	18.0	X	160.30513	317.39913	50.74238	8.50101	0.1535881	0.29522159	2.2337641	20	2 24.3	21.3
450433 2005 UP_{208}	18.3	X	339.82297	9.50052	193.67189	4.02834	0.0570865	0.29765504	2.2215728	20	2 14.4	20.7
450434 2005 UM_{213}	16.8	X	3.97052	200.94878	167.28226	9.61681	0.2145210	0.20081224	2.8880803	20	12 2.6	20.2
450435 2005 UN_{231}	18.0	X	78.83408	264.82960	219.99181	3.09619	0.1100991	0.29805795	2.2195703	20	4 9.5	20.4
450436 2005 UC_{253}	17.5	X	183.66550	324.79716	9.60489	3.24184	0.2160359	0.29619126	2.2288862	20	2 4.3	21.0
450437 2005 UV_{308}	17.8	X	165.03550	170.40801	209.45051	4.89908	0.1840727	0.29868044	2.2164853	20	3 11.2	21.3
450438 2005 US_{325}	17.3	X	306.13771	9.24623	66.79147	3.16103	0.0881031	0.20008943	2.8950315	20	11 14.2	20.9
450439 2005 UZ_{328}	17.4	X	53.62877	104.84135	210.88049	12.65208	0.0931181	0.19922139	2.9034348	20	11 16.7	21.5
450440 2005 UC_{355}	18.4	X	122.56683	86.99396	329.07300	3.86754	0.2128855	0.29525782	2.2335814	20	3 18.8	21.4
450441 2005 UD_{360}	17.3	X	345.37042	99.53611	290.18307	0.71526	0.1244562	0.19645022	2.9306753	20	11 15.5	20.8
450442 2005 UH_{368}	18.0	X	96.76618	267.54415	145.59803	1.98128	0.0696803	0.28930033	2.2641408	20	1 19.4	20.5
450443 2005 UY_{387}	17.5	X	238.12254	32.29539	112.57596	2.85502	0.0445597	0.19971584	2.8986406	20	11 14.2	21.5
450444 2005 UY_{399}	19.5	X	244.42386	243.13540	225.89938	19.79147	0.1365618	0.39230602	1.8480742	20	11 2.4	20.5
450445 2005 UT_{417}	16.7	X	32.22942	292.68340	49.29638	18.79087	0.2120996	0.20107765	2.8855383	20	12 6.3	20.7
450446 2005 UN_{418}	18.5	X	191.64143	245.78505	67.26256	4.37247	0.1401953	0.29293619	2.2453671	20	1 11.9	21.9
450447 2005 UP_{438}	18.0	X	133.93808	219.23117	208.14319	4.95106	0.1460355	0.29928358	2.2135064	20	4 8.4	21.0
450448 2005 UP_{443}	17.8	X	141.78005	118.47457	284.88074	4.15278	0.1031194	0.29798785	2.2199184	20	3 9.0	20.8
450449 2005 UQ_{445}	16.9	X	240.52094	206.66356	221.77554	8.42558	0.1511398	0.18128919	3.0918715	20	7 24.4	21.7
450450 2005 UE_{453}	18.9	X	75.06065	163.19311	266.61802	2.30365	0.1654356	0.28882420	2.2666284	20	1 21.3	20.9
450451 2005 UF_{454}	16.3	X	32.58129	98.11092	258.65040	13.64664	0.1718402	0.20511823	2.8475184	20	12 22.6	20.1
450452 2005 UX_{470}	17.0	X	314.68427	53.33182	7.26474	4.55383	0.0696225	0.19680706	2.9271317	20	11 5.7	20.8
450453 2005 UO_{477}	18.4	X	103.60074	29.11698	358.67248	3.99413	0.1852170	0.28774796	2.2722767	20	1 14.2	20.7
450454 2005 UW_{478}	18.4	X	173.64498	116.68054	245.14946	4.82863	0.1499092	0.29617832	2.2289511	20	2 22.5	21.7
450455 2005 UC_{510}	17.7	X	215.79559	0.50665	236.95320	6.43063	0.0794127	0.27970504	2.3156301	20	—	—
450456 2005 UR_{525}	18.2	X	131.30997	335.88531	56.94458	7.02354	0.1462008	0.29214557	2.2494163	20	2 23.3	21.2
450457 2005 UG_{529}	17.3	X	314.24251	137.16030	273.61234	2.55605	0.1440851	0.19442671	2.9509743	20	10 18.3	20.5
450458 2005 VE_{46}	18.2	X	28.42848	290.05880	229.04020	2.80196	0.0738295	0.29629902	2.2283457	20	2 28.7	20.4
450459 2005 VT_{67}	17.3	X	225.58110	83.14385	24.84957	2.40434	0.0333080	0.18798874	3.0179694	20	9 13.2	21.5
450460 2005 WY_{9}	17.8	X	96.86508	185.96720	253.19872	4.39851	0.1231344	0.29129120	2.2538126	20	3 2.4	20.3
450461 2005 WS_{15}	18.2	X	168.23614	112.34595	247.89806	4.33603	0.1811032	0.29433545	2.2382452	20	2 17.8	21.7
450462 2005 WS_{25}	16.3	X	247.41577	303.02073	258.12358	14.00408	0.0932125	0.20590320	2.8402767	20	—	—
450463 2005 WC_{28}	16.5	X	2.48257	91.92234	256.17505	11.01325	0.1061274	0.19137130	2.9823012	20	10 12.9	20.4
450464 2005 WN_{28}	18.3	X	164.13600	99.52919	265.47979	3.60123	0.1751208	0.29406554	2.2396146	20	2 19.9	21.7
450465 2005 WM_{100}	18.1	X	48.42882	164.26011	259.69883	4.68134	0.1423286	0.27692887	2.3310803	20	—	—
450466 2005 WK_{110}	18.3	X	151.12574	299.90908	80.06925	3.78248	0.1888623	0.29406929	2.2395956	20	3 2.1	21.5
450467 2005 WF_{125}	18.5	X	10.65613	106.59370	57.76557	6.75684	0.0644495	0.29338533	2.2430750	20	2 11.9	20.9
450468 2005 WW_{134}	16.3	X	276.06281	163.71599	278.18477	9.34534	0.0821317	0.18595731	3.0399088	20	10 1.3	20.6
450469 2005 WA_{135}	16.5	X	274.64437	350.35190	99.38563	10.78426	0.0474429	0.18640455	3.0350444	20	10 24.3	20.8
450470 2005 WN_{135}	16.2	X	346.43778	254.50959	108.26528	17.13093	0.1898272	0.18539383	3.0460653	20	10 22.6	19.8
450471 2005 WS_{139}	16.9	X	248.28333	54.49600	66.60619	5.09428	0.1869584	0.18969305	2.9998654	20	10 7.8	21.3
450472 2005 WB_{145}	17.1	X	280.21035	355.41538	262.64837	6.71890	0.1116667	0.29221633	2.2490532	20	1 31.2	20.3
450473 2005 WZ_{154}	16.9	X	244.44381	70.23839	74.68203	12.25026	0.1333998	0.19246008	2.9710430	20	11 9.9	21.1
450474 2005 WO_{195}	15.1	X	245.21490	51.02950	116.45793	20.93616	0.3851295	0.18345019	3.0675426	20	11 10.1	20.3
450475 2005 WG_{196}	17.9	X	51.02630	12.39413	91.93877	6.82915	0.0707562	0.28394682	2.2925107	20	1 22.1	20.2
450476 2005 XD_{10}	18.1	X	160.04481	59.66101	290.50815	4.47109	0.1452129	0.28996659	2.2606712	20	1 26.8	21.2
450477 2005 XJ_{18}	17.7	X	162.32166	241.32774	111.85096	3.95716	0.1931341	0.28846511	2.2685091	20	2 7.5	21.1
450478 2005 XO_{23}	16.1	X	323.81196	129.42298	256.90161	8.89512	0.1110139	0.19001592	2.9964662	20	9 29.6	19.8
450479 2005 XP_{26}	16.2	X	275.91381	355.54172	103.49629	15.00841	0.0782688	0.18791884	3.0187176	20	11 4.3	20.5
450480 2005 XO_{52}	16.2	X	32.47906	255.47083	71.89991	11.54502	0.1698480	0.18959182	3.0009331	20	11 14.2	20.2

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450481 2005 XT_{60}	18.3	X	186.55037	62.98096	265.71771	2.02048	0.2170929	0.29244697	2.2478706	20	1 29.6	22.0
450482 2005 XR_{74}	15.8	X	278.13261	102.28779	302.34754	9.05852	0.0121379	0.17936904	3.1138981	20	8 28.2	20.3
450483 2005 YN_{7}	18.1	X	138.88428	258.26963	97.13164	7.33461	0.1288862	0.28085592	2.3092999	20	1 9.6	21.1
450484 2005 YO_{28}	18.5	X	90.90347	67.51289	8.81495	0.58474	0.1916252	0.28661124	2.2782808	20	3 4.2	20.7
450485 2005 YK_{58}	16.5	X	318.23118	129.21175	281.79785	10.39281	0.1426266	0.18830709	3.0145670	20	10 20.8	20.2
450486 2005 YL_{62}	17.1	X	219.79166	50.34175	73.01173	1.76740	0.1313631	0.18224467	3.0810553	20	9 14.0	21.8
450487 2005 YD_{64}	16.3	X	185.11532	238.79638	297.74617	9.29847	0.1404016	0.18254256	3.0777025	20	10 7.7	21.5
450488 2005 YJ_{67}	18.1	X	85.55272	23.45407	73.02763	3.38877	0.1323469	0.28814688	2.2701790	20	3 16.7	20.4
450489 2005 YC_{93}	18.0	X	109.62188	259.18212	147.62422	3.34165	0.2545132	0.28681335	2.2772103	20	2 28.3	20.8
450490 2005 YB_{105}	16.2	X	331.13332	300.25288	103.44397	10.67145	0.0891451	0.19005949	2.9960083	20	11 11.9	20.0
450491 2005 YT_{106}	17.3	X	283.97068	196.56182	270.91619	5.48032	0.1129667	0.19180348	2.9778197	20	11 15.3	21.2
450492 2005 YG_{110}	18.5	X	17.80805	319.46804	201.33313	1.91032	0.1202006	0.28495479	2.2871013	20	2 13.3	20.4
450493 2005 YL_{125}	18.8	X	38.39960	89.31359	19.03627	1.78100	0.1787915	0.28129434	2.3068997	20	1 5.7	20.3
450494 2005 YC_{132}	16.3	X	333.63400	255.70418	121.39811	10.07821	0.1469185	0.18356592	3.0662532	20	10 11.5	19.9
450495 2005 YB_{142}	17.2	X	270.86811	48.38671	71.46301	2.97201	0.2054593	0.19042940	2.9921272	20	10 30.9	20.9
450496 2005 YE_{142}	15.5	X	129.60117	286.44901	304.47161	8.69868	0.0566190	0.18353751	3.0665696	20	10 18.6	20.2
450497 2005 YP_{168}	16.2	X	215.91792	236.80761	269.10403	7.73861	0.0916535	0.18399631	3.0614697	20	10 7.2	21.0
450498 2005 YE_{176}	17.4	X	195.08567	359.24735	299.29231	6.67440	0.1227167	0.27800873	2.3250400	20	—	—
450499 2005 YO_{188}	17.2	X	246.26548	152.08914	89.43612	3.09388	0.1521745	0.27177866	2.3604373	20	—	—
450500 2005 YM_{192}	15.9	X	268.11857	121.84335	307.20615	9.49251	0.0931964	0.17933815	3.1142557	20	9 3.3	20.3
450501 2005 YG_{204}	13.3	X	276.00903	165.31076	126.59427	29.06713	0.0640009	0.08373947	5.1742720	20	4 15.6	20.5
450502 2005 YP_{238}	17.9	X	127.01090	112.78562	280.39926	3.67369	0.0488758	0.28572642	2.2829818	20	1 31.4	20.8
450503 2005 YE_{272}	18.6	X	104.25855	121.80304	307.54846	5.34509	0.1912403	0.28773634	2.2723379	20	3 10.9	21.4
450504 2005 YF_{277}	16.7	X	16.43827	240.79287	84.74208	10.67421	0.0782325	0.18951604	3.0017330	20	10 11.3	20.8
450505 2005 YD_{279}	16.0	X	131.58138	238.50461	284.05751	14.78011	0.0756047	0.17138986	3.2098098	20	7 29.9	21.0
450506 2005 YJ_{291}	16.8	X	296.38194	128.70233	269.24685	3.46217	0.1252511	0.18049332	3.1009538	20	8 31.2	20.7
450507 2006 AE_{13}	16.6	X	246.14304	30.47128	90.84589	15.46885	0.0580366	0.18924482	3.0046003	20	10 28.3	21.1
450508 2006 AS_{19}	17.7	X	180.46240	302.74158	87.48134	4.51527	0.2099702	0.29824638	2.2186354	20	4 12.3	21.2
450509 2006 AX_{23}	17.7	X	300.85309	229.82904	143.21155	24.14357	0.1014353	0.37627619	1.9001952	20	9 15.2	19.0
450510 2006 AC_{28}	17.4	X	87.60723	60.43596	150.30449	22.95507	0.0711932	0.36868273	1.9261977	20	9 3.0	19.2
450511 2006 AD_{35}	16.5	X	304.34480	98.66368	318.84736	3.78779	0.1499770	0.18627428	3.0364593	20	10 6.9	20.2
450512 2006 AJ_{59}	16.4	X	241.88030	174.75103	297.52239	10.54367	0.0728066	0.18270049	3.0759286	20	9 25.8	21.0
450513 2006 AC_{65}	17.4	X	273.63513	321.37812	109.62106	2.32624	0.1609068	0.18373570	3.0643640	20	9 8.1	21.4
450514 2006 AL_{76}	18.9	X	93.29907	287.67102	158.14192	1.20731	0.1587003	0.28820788	2.2698587	20	3 15.8	21.3
450515 2006 AW_{88}	16.3	X	194.65806	235.14164	285.08813	8.85348	0.0507320	0.18237035	3.0796396	20	10 3.7	21.0
450516 2006 AB_{101}	16.8	X	285.38067	104.26692	310.88122	5.79649	0.2126010	0.18083945	3.0969957	20	8 24.6	20.8
450517 2006 AG_{101}	18.0	X	55.72398	150.74699	311.91867	5.23160	0.1754904	0.28125418	2.3071194	20	2 5.1	19.7
450518 2006 BD_{7}	16.6	X	301.80703	312.05779	130.98214	12.03467	0.1376639	0.18853619	3.0121244	20	11 13.5	20.4
450519 2006 BC_{21}	16.8	X	283.95200	111.33570	311.35254	7.19551	0.1109802	0.18095763	3.0956471	20	9 14.9	21.0
450520 2006 BB_{23}	16.1	X	63.16908	352.56617	306.91239	9.53895	0.0512456	0.18365321	3.0652816	20	10 25.2	20.6
450521 2006 BQ_{57}	17.2	X	329.83124	71.38881	116.53610	7.46996	0.0386632	0.27922607	2.3182775	20	1 16.8	19.9
450522 2006 BJ_{66}	16.4	X	329.10352	293.21050	78.96465	2.65717	0.1596406	0.18062361	3.0994624	20	9 21.7	19.8
450523 2006 BB_{67}	18.9	X	73.60312	68.22634	7.89357	1.66384	0.1354897	0.28085599	2.3092995	20	1 26.8	21.0
450524 2006 BP_{67}	15.8	X	77.83467	129.90431	123.63187	16.62581	0.0389423	0.17495901	3.1660068	20	9 23.4	20.5
450525 2006 BV_{71}	17.8	X	74.60514	349.81224	97.36894	6.65889	0.1268513	0.28179462	2.3041686	20	2 14.1	20.1
450526 2006 BK_{76}	16.3	X	326.43401	278.62545	113.76904	10.16035	0.1429732	0.18331142	3.0690905	20	10 19.3	20.0
450527 2006 BX_{81}	18.3	X	42.05394	6.47400	113.65685	4.31784	0.1028839	0.27842860	2.3227019	20	1 31.7	20.6
450528 2006 BD_{107}	16.9	X	246.36616	141.87100	320.16353	3.93881	0.1028818	0.18102435	3.0948864	20	9 18.5	21.2
450529 2006 BK_{108}	16.9	X	310.26189	82.98187	321.98766	14.60537	0.0672677	0.18149177	3.0895704	20	9 30.8	21.2
450530 2006 BY_{109}	17.9	X	282.41356	185.93916	25.59510	1.90035	0.1230346	0.27208712	2.3586530	20	—	—
450531 2006 BW_{111}	18.9	X	81.95351	93.28174	350.75364	2.09646	0.1865605	0.28386049	2.2929755	20	2 29.6	21.2
450532 2006 BX_{120}	16.5	X	201.60052	352.37517	164.45985	9.91362	0.0342979	0.17808869	3.1288049	20	10 15.2	21.1
450533 2006 BR_{129}	18.3	X	3.43696	164.86903	323.06598	0.83130	0.1209858	0.27381083	2.3487438	20	—	—
450534 2006 BD_{135}	16.1	X	298.55849	288.29435	128.04184	11.90431	0.0532826	0.18103972	3.0947113	20	10 12.7	20.4
450535 2006 BW_{154}	16.1	X	178.03720	39.84346	141.17484	17.37883	0.1697603	0.17607353	3.1526324	20	10 14.9	21.5
450536 2006 BM_{162}	18.2	X	137.03498	245.43543	130.57522	7.19552	0.2526984	0.28275717	2.2989364	20	2 18.6	21.6
450537 2006 BW_{168}	16.9	X	223.60314	117.61701	338.69251	11.86526	0.1288885	0.17176780	3.2050997	20	8 16.1	21.8
450538 2006 BE_{200}	16.3	X	291.53977	84.79230	340.68260	15.14892	0.1888584	0.18042067	3.1017861	20	9 18.3	20.1
450539 2006 BT_{202}	16.6	X	285.86349	98.26965	335.44296	7.78055	0.0364144	0.18025124	3.1037296	20	10 10.8	20.9
450540 2006 BP_{228}	18.4	X	355.48649	81.78533	88.88523	3.09727	0.1401716	0.27987568	2.3146888	20	1 17.4	20.6
450541 2006 BF_{265}	18.4	X	342.00440	169.50814	332.45079	1.88493	0.1335942	0.27044274	2.3682043	20	—	—
450542 2006 BT_{276}	16.1	X	154.52539	229.01714	337.21273	16.30211	0.1968358	0.17589759	3.1547343	20	10 11.9	21.7
450543 2006 BH_{277}	18.0	X	38.09089	328.90328	160.42641	5.70740	0.0497251	0.27818755	2.3240435	20	2 4.7	20.5
450544 2006 BJ_{280}	16.7	X	328.66846	69.93589	312.83574	14.44974	0.2603828	0.18514849	3.0487555	20	9 21.7	19.8
450545 2006 CA_{63}	15.9	X	236.70299	63.10741	81.17346	23.46049	0.1974489	0.18125258	3.0922879	20	10 29.5	20.9
450546 2006 DT_{20}	16.7	X	262.27329	280.52148	167.50147	4.24071	0.1361424	0.17853463	3.1235927	20	9 17.1	21.1
450547 2006 DM_{68}	17.3	X	281.19363	69.13512	355.69935	24.71959	0.1282936	0.38214617	1.8806864	20	10 16.2	18.9
450548 2006 DP_{68}	15.7	X	170.99608	109.77191	92.28681	14.95037	0.2408000	0.17531461	3.1617241	20	10 31.9	21.4
450549 2006 DK_{104}	18.5	X	70.98785	150.34424	306.36839	1.75963	0.1735108	0.27975603	2.3153488	20	2 26.6	20.6
450550 2006 DR_{109}	17.9	X	8.75043	298.78294	206.99064	2.67311	0.0916644	0.27423761	2.3463063	20	1 10.6	20.4
450551 2006 DY_{110}	16.0	X	229.61877	120.55301	25.76632	27.73287	0.2490296	0.17944734	3.1129921	20	10 11.8	20.9
450552 2006 DD_{136}	17.5	X	232.24687	125.27477	120.78545	3.87977	0.0831725	0.26595457	2.3947733	20	—	—
450553 2006 DN_{136}	17.7	X	258.95982	107.70727	127.53112	5.03223	0.0816997	0.26912824	2.3759094	20	—	—
450554 2006 DT_{138}	18.1	X	83.22349	17.40299	59.88285	3.79380	0.1390359	0.27864404	2.3215046	20	2 16.5	20.5
450555 2006 DN_{171}	16.5	X	200.15578	144.72734	15.08223	9.05365	0.0607246	0.17464083	3.1698511	20	10 11.6	21.1
450556 2006 EX_{15}	16.4	X	263.87120	259.89155	174.10768	15.96955	0.0875308	0.17087504	3.2162537	20	9 6.4	21.0
450557 2006 EG_{22}	16.5	X	180.06934	36.78581	128.03697	2.19197	0.1271548	0.17402205	3.1773607	20	9 24.4	21.5
450558 2006 EM_{49}	17.9	X	88.55666	304.23802	116.43835	3.70128	0.1647462	0.27721825	2.3294578	20	2 4.3	20.2
450559 2006 EB_{73}	16.2	X	237.23511	98.27106	358.00911	9.27127	0.1137475	0.17036315	3.2226931	20	9 1.3	20.9
450560 2006 FK_{5}	17.0	X	16.45091	128.85991	18.57260	23.30643	0.2731886	0.27581729	2.3373391	20	1 15.6	19.3

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450561 2006 FS_{10}	17.9	X	170.23192	300.97593	16.36238	4.26475	0.0073884	0.26726058	2.3869653	20	—	—
450562 2006 FQ_{28}	18.2	X	339.55804	139.31406	39.97966	4.04838	0.1727905	0.27088888	2.3656034	20	—	—
450563 2006 FN_{36}	17.2	X	44.34448	267.82392	226.19251	20.64299	0.3175744	0.28249849	2.3003396	20	3 11.5	19.0
450564 2006 FX_{43}	16.1	X	263.55372	80.94074	94.24285	6.29305	0.1609533	0.18922851	3.0047730	20	—	—
450565 2006 FM_{46}	16.3	X	204.41606	306.69698	226.84499	25.96126	0.3674708	0.17750778	3.1356275	20	10 8.5	22.2
450566 2006 FJ_{50}	15.8	X	213.64573	85.23311	67.01811	25.44950	0.2826556	0.17675143	3.1445663	20	10 12.5	21.5
450567 2006 GB_{8}	17.7	X	349.53665	104.88894	54.86777	4.65893	0.1123150	0.27112391	2.3642360	20	—	—
450568 2006 GK_{20}	17.5	X	1.65180	352.44945	125.56237	3.09455	0.0446707	0.26298237	2.4127832	20	—	—
450569 2006 HL_{1}	17.6	X	256.24758	189.63440	31.08584	8.64147	0.0914385	0.26325898	2.4110927	20	—	—
450570 2006 HE_{53}	15.5	X	224.44157	66.49795	104.20593	24.13804	0.2419096	0.17875626	3.1210103	20	11 11.5	20.9
450571 2006 JH_{35}	17.4	X	115.86071	180.29524	105.20662	4.31857	0.1836234	0.24032546	2.5621400	20	12 27.6	21.4
450572 2006 KA_{28}	17.1	X	210.43970	215.33350	56.85055	6.95438	0.0532206	0.25850647	2.4405541	20	—	—
450573 2006 MG_{9}	17.1	X	31.27461	229.53259	126.04434	14.10719	0.2736070	0.22488544	2.6781105	20	—	—
450574 2006 OU_{14}	17.2	X	91.07078	71.41760	269.73703	9.48462	0.1697183	0.23586790	2.5943197	20	—	—
450575 2006 PD_{3}	17.5	X	68.40890	348.79471	350.20210	5.97189	0.2317077	0.23068853	2.6330072	20	—	—
450576 2006 PF_{3}	17.0	X	65.02257	4.60320	320.39349	11.38298	0.1931632	0.22858678	2.6491221	20	12 29.3	21.2
450577 2006 PY_{8}	17.0	X	85.22126	35.28585	313.37449	2.79054	0.1906877	0.23461086	2.6035783	20	—	—
450578 2006 QE_{15}	17.1	X	90.52345	16.89932	303.63410	3.14491	0.1872540	0.23191592	2.6237090	20	—	—
450579 2006 QA_{39}	17.0	X	122.30243	72.67159	226.23260	5.93028	0.2136037	0.23551375	2.5969198	20	—	—
450580 2006 QU_{54}	16.8	X	79.61159	141.63122	177.06718	12.28024	0.2995242	0.22685939	2.6625527	20	—	—
450581 2006 QK_{61}	17.1	X	59.58516	136.42646	230.05280	7.61151	0.1886609	0.23104338	2.6303105	20	—	—
450582 2006 QD_{93}	17.2	X	41.95525	54.13565	312.57374	12.82005	0.2442514	0.22788868	2.6545294	20	—	—
450583 2006 QC_{101}	17.4	X	103.12989	256.84833	39.94254	5.47391	0.3582886	0.23273667	2.6175371	20	—	—
450584 2006 QX_{108}	17.8	X	28.61548	232.60606	182.07257	6.89635	0.2818629	0.22955662	2.6416554	20	—	—
450585 2006 QT_{110}	17.5	X	10.57706	140.60036	245.86232	1.22442	0.2103656	0.22388055	2.6861183	20	—	—
450586 2006 QP_{116}	17.3	X	37.65933	124.75787	240.23990	3.35120	0.2516756	0.22484434	2.6784368	20	—	—
450587 2006 QH_{153}	16.9	X	32.70365	53.74062	335.30112	7.23460	0.1000669	0.23023786	2.6364420	20	—	—
450588 2006 RX_{15}	16.7	X	16.11156	91.29233	310.16845	14.58839	0.2199287	0.22545418	2.6736047	20	—	—
450589 2006 RB_{32}	17.0	X	90.75982	118.94461	194.82799	12.12345	0.1909125	0.22633321	2.6666777	20	—	—
450590 2006 RH_{33}	17.1	X	106.44369	36.40598	269.63722	1.68363	0.2195112	0.23119926	2.6291282	20	—	—
450591 2006 RL_{43}	17.7	X	21.18835	24.13895	19.56131	6.29522	0.0516352	0.22615231	2.6680995	20	—	—
450592 2006 RU_{48}	17.5	X	30.57392	167.80419	202.40963	3.36892	0.1050914	0.22162706	2.7042958	20	12 31.6	21.1
450593 2006 RJ_{55}	17.0	X	50.36338	336.30365	20.94008	7.53396	0.1072265	0.22319530	2.6916134	20	—	—
450594 2006 RG_{74}	16.8	X	300.85705	74.90184	4.93339	13.22339	0.2015958	0.21506170	2.7590570	20	10 30.2	19.7
450595 2006 RA_{78}	17.1	X	34.90955	322.13826	21.56301	5.46132	0.1233357	0.21964048	2.7205777	20	12 5.4	20.8
450596 2006 RE_{91}	17.3	X	82.75089	270.99939	10.14341	4.47503	0.1514298	0.21789717	2.7350692	20	11 15.6	21.5
450597 2006 RK_{91}	17.1	X	59.95559	336.17962	9.45870	1.97613	0.0815395	0.22347658	2.6893544	20	—	—
450598 2006 RZ_{96}	17.7	X	14.35547	16.15462	9.66687	9.69393	0.2684821	0.22010247	2.7167694	20	—	—
450599 2006 SF	17.2	X	62.64941	97.31326	236.79021	8.76605	0.3415024	0.22592161	2.6699156	20	—	—
450600 2006 SX_{2}	15.9	X	107.79286	32.52351	268.77775	15.95050	0.1337368	0.22848696	2.6498936	20	—	—
450601 2006 SV_{31}	17.0	X	60.46248	77.82134	274.83904	1.07709	0.0796601	0.22567878	2.6718305	20	—	—
450602 2006 SA_{76}	16.9	X	90.64120	283.23347	37.22096	5.83682	0.0619425	0.22380993	2.6866833	20	—	—
450603 2006 SH_{94}	17.1	X	25.22415	346.02333	32.36149	6.27014	0.0253618	0.22022814	2.7157357	20	12 23.4	20.8
450604 2006 SO_{102}	17.3	X	296.34617	315.20680	188.69286	12.90161	0.1135464	0.22838427	2.6506878	20	—	—
450605 2006 SQ_{106}	18.0	X	338.47181	87.65217	11.27394	5.72751	0.2382988	0.22370750	2.6875034	20	—	—
450606 2006 SP_{122}	16.6	X	350.69659	75.73493	356.45445	23.59830	0.1606623	0.22065919	2.7121979	20	—	—
450607 2006 SF_{188}	17.5	X	10.62052	51.13827	14.33694	13.05044	0.2526736	0.22578327	2.6710061	20	—	—
450608 2006 SR_{241}	17.1	X	38.44020	203.16169	168.22770	6.24267	0.0188455	0.22620130	2.6677143	20	12 31.7	20.7
450609 2006 SS_{268}	17.1	X	6.83016	110.04982	308.34819	3.97392	0.1648283	0.22306855	2.6926329	20	—	—
450610 2006 SM_{269}	16.7	X	41.41963	170.52661	199.54124	6.47711	0.0491619	0.22050178	2.7134885	20	—	—
450611 2006 SH_{277}	17.1	X	56.38157	198.82963	159.81588	4.35769	0.1121873	0.22675904	2.6633382	20	—	—
450612 2006 SK_{282}	16.8	X	30.21805	341.85022	24.23833	5.63434	0.1620199	0.22331161	2.6906788	20	—	—
450613 2006 SV_{285}	16.9	X	29.37191	199.17651	197.37726	4.13446	0.1204038	0.22614094	2.6681890	20	—	—
450614 2006 SV_{318}	17.4	X	31.15606	149.85230	181.38684	13.60445	0.1994858	0.21630096	2.7485085	20	11 27.9	21.2
450615 2006 SW_{324}	17.4	X	136.71110	239.96414	41.20078	5.54519	0.1656550	0.22874211	2.6479227	20	—	—
450616 2006 SU_{365}	17.3	X	36.48414	164.16536	206.76729	11.11402	0.1882030	0.22099204	2.7094739	20	—	—
450617 2006 SO_{381}	17.1	X	115.62777	143.56580	171.38018	10.93621	0.0537865	0.22906378	2.6454432	20	—	—
450618 2006 SB_{384}	17.6	X	29.83145	231.58847	134.37179	6.98122	0.0669588	0.22001130	2.7175198	20	12 20.0	21.2
450619 2006 SD_{390}	16.9	X	58.40683	198.49154	151.34259	13.88878	0.1638576	0.22145047	2.7057332	20	—	—
450620 2006 SO_{397}	17.3	X	48.94255	61.24018	258.06367	2.51462	0.0750893	0.21438205	2.7648852	20	11 14.8	21.1
450621 2006 SN_{399}	16.3	X	255.47808	150.03075	37.19289	10.64586	0.0282257	0.22912570	2.6449665	20	—	—
450622 2006 SG_{403}	17.1	X	37.87267	342.55607	25.27921	4.77018	0.1027874	0.21930125	2.7233825	20	—	—
450623 2006 SN_{411}	16.8	X	40.69591	46.85109	321.57944	11.28795	0.1775832	0.22285198	2.6943771	20	—	—
450624 2006 SE_{412}	18.2	X	345.43005	163.48829	273.50744	3.49195	0.1660937	0.22115887	2.7081111	20	—	—
450625 2006 TY_{12}	17.0	X	17.90728	59.53711	304.68151	8.00744	0.1792366	0.21803781	2.7338930	20	12 17.5	20.4
450626 2006 TA_{24}	16.9	X	54.93794	146.30059	194.33138	5.09574	0.0462949	0.21777118	2.7361240	20	12 16.1	20.8
450627 2006 TP_{35}	17.7	X	320.05062	80.34057	12.95311	2.70372	0.1126965	0.21830341	2.7316751	20	—	—
450628 2006 TW_{55}	16.7	X	48.69814	295.56242	73.42503	12.18687	0.1694846	0.22272258	2.6954206	20	—	—
450629 2006 TZ_{63}	16.9	X	56.44115	205.36375	139.99054	10.63694	0.2808245	0.22335045	2.6903668	20	—	—
450630 2006 TJ_{86}	17.1	X	286.41236	153.75106	292.75119	3.23209	0.0359290	0.21113682	2.7931445	20	11 4.8	20.9
450631 2006 TM_{95}	16.2	X	46.77332	161.03598	205.52317	42.96015	0.2387953	0.22394294	2.6856194	20	—	—
450632 2006 TU_{98}	17.4	X	44.29928	174.95233	186.74180	1.23324	0.1964993	0.22215104	2.7000417	20	—	—
450633 2006 TB_{122}	16.7	X	57.00273	335.97650	21.34051	9.24245	0.1701769	0.22237195	2.6982532	20	—	—
450634 2006 TM_{125}	17.1	X	25.59038	108.26058	276.66923	4.65906	0.0099273	0.22049306	2.7135600	20	12 30.1	20.6
450635 2006 TZ_{125}	17.7	X	321.22754	63.90083	50.29121	9.96263	0.2046000	0.22048468	2.7136288	20	—	—
450636 2006 TQ_{127}	17.3	X	51.23474	106.91371	231.91260	11.67284	0.3294708	0.22123035	2.7075277	20	—	—
450637 2006 UU_{5}	17.2	X	4.89123	250.16623	122.12518	1.76495	0.0814750	0.21431362	2.7654737	20	11 24.5	20.7
450638 2006 UE_{7}	17.2	X	34.84230	334.62923	48.53109	12.61122	0.1849399	0.22234103	2.6985034	20	—	—
450639 2006 UB_{8}	16.9	X	100.21934	266.07087	41.15617	13.00547	0.2712023	0.22657068	2.6648141	20	—	—
450640 2006 UG_{19}	17.4	X	23.22405	62.06040	262.00467	3.45037	0.1091786	0.21113431	2.7931666	20	10 20.4	20.8

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450641 2006 UG_{21}	17.5	X	68.56981	28.28337	308.86861	1.71589	0.0961619	0.22240460	2.6979892	20	—	—
450642 2006 UY_{22}	17.0	X	78.55151	150.75315	182.25159	4.32796	0.0871690	0.22753787	2.6572572	20	—	—
450643 2006 UT_{37}	17.3	X	14.76296	182.14401	227.13213	5.56136	0.0607032	0.22174152	2.7033651	20	—	—
450644 2006 UD_{44}	18.2	X	337.03993	65.79943	48.48322	4.61080	0.3330121	0.22078902	2.7111345	20	—	—
450645 2006 UT_{44}	17.1	X	47.46111	312.59516	52.99711	7.35606	0.0754867	0.21982415	2.7190620	20	—	—
450646 2006 UM_{46}	16.5	X	213.22372	170.92215	53.75821	14.13725	0.1009279	0.22326540	2.6910500	20	—	—
450647 2006 US_{59}	15.9	X	36.78093	157.96885	244.16286	12.85121	0.2473013	0.22598016	2.6694544	20	—	—
450648 2006 UC_{63}	19.6	X	77.09554	328.09701	219.65122	16.66381	0.2818650	0.55139214	1.4728629	20	8 20.1	21.4
450649 2006 UY_{64}	19.5	X	178.02831	210.90114	30.79161	26.21455	0.1572898	1.09614172	0.9315902	20	—	—
450650 2006 UT_{77}	17.3	X	339.72655	125.81887	301.94557	2.01558	0.0700860	0.21927746	2.7235795	20	12 29.6	20.5
450651 2006 UJ_{95}	17.2	X	27.32031	188.37690	181.23294	5.53169	0.0694589	0.21845072	2.7304469	20	12 20.9	20.8
450652 2006 UM_{99}	17.3	X	348.73664	293.74462	77.73992	5.73411	0.1657237	0.21085948	2.7955931	20	11 6.0	20.3
450653 2006 UY_{103}	17.5	X	320.80086	69.99414	50.60730	11.07528	0.2416030	0.21993409	2.7181558	20	—	—
450654 2006 UV_{129}	16.9	X	322.83645	101.66480	27.64601	13.03148	0.2103267	0.22379888	2.6867718	20	—	—
450655 2006 UL_{142}	16.5	X	205.61025	259.28696	274.42993	5.03125	0.0197101	0.21222271	2.7836085	20	11 14.3	20.4
450656 2006 UJ_{176}	16.9	X	18.23147	296.99731	111.35195	6.92566	0.1882528	0.22444108	2.6816442	20	—	—
450657 2006 UX_{187}	16.9	X	39.31741	50.59267	289.35566	8.12714	0.2896680	0.22017086	2.7162068	20	12 30.1	20.8
450658 2006 UD_{197}	17.4	X	306.50100	80.52517	38.09243	3.02418	0.0280462	0.22113208	2.7083298	20	—	—
450659 2006 UX_{208}	16.5	X	307.43486	19.12200	55.50830	8.37527	0.1854128	0.21185023	2.7868703	20	11 11.2	19.2
450660 2006 UY_{208}	17.8	X	332.20931	26.32451	68.56314	3.87068	0.1738364	0.22013003	2.7165426	20	—	—
450661 2006 UT_{209}	16.8	X	60.30635	8.87519	327.06815	5.00945	0.0524063	0.21673787	2.7448135	20	12 17.1	20.6
450662 2006 US_{213}	17.3	X	32.53941	131.01064	255.73213	5.13468	0.0873964	0.22010734	2.7167293	20	—	—
450663 2006 UH_{237}	17.4	X	47.51956	159.42983	198.03822	5.97441	0.2772624	0.22278753	2.6948967	20	—	—
450664 2006 UE_{239}	17.0	X	31.98359	347.73466	27.02118	10.09479	0.1035700	0.22033909	2.7148240	20	—	—
450665 2006 UO_{259}	17.5	X	4.11438	40.52033	29.90144	8.38306	0.2082366	0.22352416	2.6889728	20	—	—
450666 2006 UW_{263}	17.3	X	90.73877	319.12193	12.67406	6.13816	0.0747995	0.22623145	2.6674773	20	—	—
450667 2006 UE_{266}	17.3	X	309.08480	197.10106	235.71209	12.39799	0.1556752	0.21213662	2.7843615	20	11 13.4	20.2
450668 2006 US_{270}	17.4	X	25.72860	210.96546	154.25289	0.86403	0.0856870	0.21528719	2.7571301	20	12 14.9	21.0
450669 2006 UM_{273}	16.9	X	339.57559	51.96317	357.14315	3.97838	0.0654444	0.21286061	2.7780444	20	12 2.2	20.4
450670 2006 UZ_{337}	16.3	X	143.11286	219.53214	62.95625	14.00626	0.0174715	0.22172271	2.7035180	20	—	—
450671 2006 VZ_{4}	16.8	X	13.71437	181.21394	216.94234	13.25384	0.1926682	0.22157570	2.7047137	20	—	—
450672 2006 VW_{5}	16.6	X	271.76349	121.26621	57.38464	11.82821	0.1647341	0.22222765	2.6994212	20	—	—
450673 2006 VR_{7}	16.8	X	312.45951	79.50307	57.80844	14.58647	0.1976198	0.22047977	2.7136691	20	—	—
450674 2006 VD_{19}	16.7	X	91.22354	261.11089	41.59817	11.74226	0.1820220	0.21911303	2.7249419	20	12 22.4	21.2
450675 2006 VX_{19}	17.0	X	292.81129	110.18345	49.41366	14.97284	0.1991960	0.22116580	2.7080545	20	—	—
450676 2006 VB_{35}	17.3	X	29.42542	129.02006	230.73290	4.70608	0.0595598	0.21465693	2.7625243	20	12 9.0	20.9
450677 2006 VA_{41}	17.0	X	316.92039	23.11922	66.46967	3.87344	0.0692429	0.21610086	2.7502049	20	12 22.8	20.3
450678 2006 VU_{45}	17.3	X	287.01566	76.80890	57.73643	8.05879	0.2032446	0.21445472	2.7642605	20	12 22.9	20.2
450679 2006 VE_{53}	17.3	X	23.65337	102.39386	284.47754	4.99139	0.1182710	0.21869549	2.7284091	20	—	—
450680 2006 VO_{53}	17.0	X	21.91842	94.21436	258.24294	8.89421	0.1539056	0.21304760	2.7764187	20	12 2.7	20.5
450681 2006 VJ_{64}	16.7	X	57.53090	259.34676	69.02467	15.66399	0.2072758	0.21537139	2.7564115	20	12 22.7	20.9
450682 2006 VO_{67}	17.4	X	39.50150	305.42991	70.38392	5.14982	0.0844905	0.21778990	2.7359672	20	—	—
450683 2006 VU_{92}	17.5	X	295.16526	47.03544	86.80374	5.97560	0.0563363	0.21924403	2.7238563	20	—	—
450684 2006 VA_{94}	15.8	X	45.60583	191.40210	254.55593	21.23442	0.0386115	0.23053329	2.6341891	20	—	—
450685 2006 VH_{99}	17.3	X	31.69463	189.01200	171.02307	3.76714	0.2050250	0.21790085	2.7350384	20	—	—
450686 2006 VB_{123}	16.3	X	143.47703	23.69925	256.00671	13.38766	0.0772207	0.21949071	2.7218151	20	—	—
450687 2006 VK_{132}	17.3	X	111.32896	179.33530	89.56733	5.03321	0.0647978	0.21122810	2.7923397	20	11 23.9	21.4
450688 2006 VT_{173}	17.6	X	11.94833	319.30475	67.39583	1.44995	0.0832827	0.21441248	2.7646236	20	12 22.8	21.1
450689 2006 WO	17.5	X	38.99608	286.96480	57.47075	10.86174	0.2495232	0.21765973	2.7370579	20	12 29.1	21.5
450690 2006 WP	16.8	X	18.67028	264.19062	94.04306	9.78108	0.2263779	0.21463704	2.7626950	20	12 17.3	20.0
450691 2006 WX_{13}	17.0	X	44.00307	279.30757	85.39306	9.23402	0.1938880	0.21799839	2.7342225	20	—	—
450692 2006 WJ_{61}	16.6	X	352.45433	321.87210	72.05400	9.37966	0.1530775	0.21449243	2.7639366	20	12 11.3	19.6
450693 2006 WJ_{79}	17.1	X	40.53019	334.11908	14.39148	3.60366	0.1012043	0.21363165	2.7713560	20	12 14.4	20.9
450694 2006 WY_{83}	16.9	X	311.02025	35.40927	55.19041	9.96878	0.1079794	0.21410753	2.7672480	20	12 13.1	20.1
450695 2006 WO_{87}	16.8	X	235.06838	90.72730	86.24028	9.72658	0.0420860	0.21615951	2.7497075	20	12 23.5	20.5
450696 2006 WT_{94}	17.2	X	70.57606	275.40326	73.42716	7.58406	0.0663784	0.22027433	2.7153561	20	—	—
450697 2006 WW_{94}	17.4	X	63.16623	154.46444	177.53179	1.88824	0.1184913	0.21655166	2.7463868	20	12 23.8	21.4
450698 2006 WZ_{109}	17.2	X	346.97890	297.99654	99.69958	3.81897	0.0710093	0.20975581	2.8053909	20	11 29.1	20.6
450699 2006 WA_{130}	17.4	X	47.35037	308.30500	61.09832	6.98585	0.0342769	0.22014910	2.7163857	20	—	—
450700 2006 WY_{141}	16.3	X	93.42008	240.21640	78.61979	16.86011	0.1785549	0.22069054	2.7119410	20	—	—
450701 2006 WL_{142}	17.0	X	23.36697	167.03194	214.38751	9.15496	0.1764836	0.21787458	2.7352583	20	—	—
450702 2006 WK_{161}	16.5	X	89.11814	243.82960	67.50382	10.13860	0.1776096	0.21894301	2.7263524	20	12 30.9	20.9
450703 2006 WT_{167}	17.1	X	353.05453	337.06094	72.28686	5.58100	0.0644964	0.21469793	2.7621725	20	12 23.0	20.6
450704 2006 WX_{176}	17.7	X	314.18975	307.73836	174.82759	6.79685	0.2494653	0.21729372	2.7401306	20	—	—
450705 2006 WW_{180}	17.3	X	351.49729	336.00997	78.17283	5.15521	0.0645721	0.21496099	2.7599187	20	12 27.2	20.6
450706 2006 WG_{199}	16.7	X	279.02869	236.41602	260.97884	6.42386	0.1656734	0.21283760	2.7782446	20	12 16.8	19.9
450707 2006 WC_{204}	16.7	X	321.90489	199.70132	266.14917	8.10417	0.1255060	0.21424277	2.7660834	20	—	—
450708 2006 XU_{22}	17.0	X	23.19513	137.70583	252.24845	10.62897	0.2124050	0.21756819	2.7378256	20	—	—
450709 2006 YB_{31}	16.0	X	165.80520	297.31207	298.33145	13.74507	0.1108194	0.20486860	2.8498310	20	12 7.5	20.6
450710 2006 YS_{42}	17.2	X	328.18132	11.94723	82.93771	14.20933	0.2487459	0.21255917	2.7806702	20	—	—
450711 2007 AL_{29}	15.5	X	65.15705	294.83152	311.99904	25.18929	0.2428712	0.18159249	3.0884279	20	9 9.8	20.4
450712 2007 BL_{11}	17.2	X	317.04080	52.55561	117.57070	10.39605	0.2045576	0.21973662	2.7197841	20	—	—
450713 2007 BK_{73}	16.2	X	158.50895	232.58383	314.92715	9.35582	0.1532594	0.18801362	3.0177030	20	9 27.6	21.3
450714 2007 CG_{28}	16.3	X	87.28380	122.39788	145.23182	15.96260	0.0737812	0.19068747	2.9894270	20	10 28.6	20.9
450715 2007 CE_{31}	18.0	X	284.16025	95.80324	142.85625	2.40519	0.1126704	0.29893562	2.2152238	20	1 10.9	21.0
450716 2007 DH_{32}	18.2	X	350.24795	195.61258	4.26780	2.97736	0.1133462	0.30121780	2.2040205	20	2 20.7	20.3
450717 2007 DC_{35}	16.2	X	73.42379	106.14149	166.19548	15.68197	0.0423429	0.18453246	3.0555369	20	10 10.3	20.6
450718 2007 DE_{67}	16.9	X	274.15395	320.05645	157.00472	12.53793	0.1411497	0.19811706	2.9142142	20	11 15.3	20.8
450719 2007 DU_{67}	17.0	X	312.34025	255.01603	156.50193	15.24693	0.0159549	0.19039868	2.9924491	20	10 28.7	21.3
450720 2007 DB_{73}	17.6	X	204.41866	183.60286	160.22986	6.81184	0.0401609	0.30163018	2.2020112	20	3 1.7	20.4

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450721 2007 EV_8	16.3	X	278.46285	270.57062	171.75978	10.44618	0.0984316	0.18989235	2.9977661	20	10 10.5	20.2
450722 2007 EZ_{13}	18.0	X	140.84499	247.91992	182.30448	5.09848	0.0824143	0.30661378	2.1780856	20	4 14.3	20.6
450723 2007 EE_{23}	18.1	X	230.10738	207.87238	61.22473	3.32968	0.1861291	0.28479287	2.2879681	20	—	—
450724 2007 EY_{68}	16.6	X	114.22850	195.71836	33.90293	4.00634	0.1558080	0.18036595	3.1024135	20	10 11.9	21.5
450725 2007 EN_{89}	16.3	X	107.01142	242.75043	325.81300	2.20361	0.1474128	0.17964044	3.1107610	20	9 8.1	21.0
450726 2007 EK_{108}	17.9	X	242.30405	250.99266	30.89227	6.77705	0.1215665	0.29085447	2.2560682	20	1 24.3	21.2
450727 2007 EL_{220}	18.2	X	224.60586	215.08025	65.14456	5.36990	0.1338804	0.28579386	2.2826226	20	1 3.2	21.5
450728 2007 EW_{221}	15.6	X	333.13803	348.20602	8.41988	10.97006	0.1065854	0.17994574	3.1072414	20	9 10.9	19.3
450729 2007 FU_{46}	17.7	X	200.76913	117.00009	197.77176	6.17655	0.1363053	0.29022889	2.2593089	20	1 21.2	21.2
450730 2007 GX_7	17.6	X	309.15015	236.65015	18.15223	6.35317	0.0633844	0.30047742	2.2076395	20	3 15.5	19.9
450731 2007 GR_{16}	16.0	X	116.57574	355.59798	219.48869	16.81909	0.1517142	0.17463531	3.1699179	20	9 21.5	21.2
450732 2007 GA_{21}	18.2	X	331.54430	11.86976	195.77656	3.12476	0.1038040	0.29290787	2.2455119	20	2 2.0	20.5
450733 2007 GS_{23}	18.4	X	271.19957	42.86173	206.62229	4.02019	0.1056675	0.28681666	2.2771928	20	1 12.4	21.5
450734 2007 GN_{46}	16.5	X	211.39380	81.09668	55.10734	4.82813	0.0746446	0.17883028	3.1201491	20	9 27.2	21.2
450735 2007 GW_{47}	15.6	X	279.67902	13.85554	54.83289	19.81768	0.0394120	0.17579716	3.1559357	20	10 8.4	20.2
450736 2007 GA_{48}	16.0	X	194.13705	129.02862	50.70864	17.15540	0.1516389	0.18387068	3.0628642	20	10 27.4	21.0
450737 2007 GD_{52}	16.0	X	129.19795	355.12876	203.58931	23.91864	0.2098635	0.17433505	3.1735565	20	9 17.5	21.6
450738 2007 GV_{64}	16.2	X	214.40418	125.69376	29.74773	11.82006	0.0793427	0.18358347	3.0660577	20	10 22.1	20.6
450739 2007 GD_{66}	16.2	X	155.31018	173.44710	43.97648	10.98359	0.0535822	0.18183866	3.0856398	20	11 3.3	20.8
450740 2007 GO_{66}	18.3	X	247.47597	46.97284	208.12409	3.28266	0.1358369	0.28267370	2.2993890	20	—	—
450741 2007 HV_{23}	17.9	X	249.38748	227.19495	49.21244	6.37721	0.1751174	0.28630480	2.2799061	20	1 21.6	21.6
450742 2007 HP_{36}	16.1	X	172.27011	134.56249	40.40384	11.12016	0.1300262	0.17874687	3.1211197	20	10 2.5	21.1
450743 2007 HP_{38}	18.5	X	60.03680	273.91268	233.09387	3.26005	0.0496260	0.30429312	2.1891455	20	4 1.7	20.6
450744 2007 HB_{39}	16.1	X	187.60999	286.53727	203.43518	15.65198	0.0651555	0.17263577	3.1943477	20	8 17.9	21.2
450745 2007 HY_{50}	16.0	X	201.62841	128.85420	66.04498	11.46363	0.1614143	0.18822261	3.0154689	20	11 18.4	20.6
450746 2007 HZ_{55}	16.5	X	52.90194	116.97678	182.94538	11.61731	0.0661172	0.17724040	3.1387802	20	10 20.0	20.8
450747 2007 HH_{59}	15.7	X	126.45468	150.65741	80.68819	17.34949	0.1749057	0.17842607	3.1248595	20	10 31.6	21.0
450748 2007 HM_{66}	17.3	X	228.89197	180.68924	89.60490	6.57784	0.1943786	0.27956671	2.3163939	20	—	—
450749 2007 HY_{74}	17.7	X	234.96604	234.95304	55.04552	7.67056	0.1192273	0.28621075	2.2804056	20	1 27.9	21.1
450750 2007 HC_{85}	17.9	X	249.20121	214.09849	50.61386	9.95857	0.1445396	0.28529172	2.2853003	20	1 7.8	21.5
450751 2007 HF_{88}	18.0	X	193.26594	234.97495	43.30556	5.15937	0.2657733	0.27523245	2.3406490	20	—	—
450752 2007 HR_{97}	17.4	X	169.02475	182.93302	115.90579	10.02871	0.2155655	0.27146987	2.3622270	20	—	—
450753 2007 JC_{17}	17.2	X	121.22629	199.17122	217.23941	6.66610	0.0619099	0.28979836	2.2615460	20	2 23.8	20.0
450754 2007 JV_{34}	16.0	X	157.37430	156.89121	54.29192	15.73536	0.2058704	0.18104542	3.0946463	20	10 30.3	21.3
450755 2007 JF_{38}	16.1	X	243.12438	262.06648	214.16730	17.37349	0.1099020	0.18196698	3.0841890	20	9 30.1	20.6
450756 2007 JW_{38}	15.5	X	85.50737	217.42582	33.69874	18.83078	0.0893337	0.17447539	3.1718545	20	10 6.0	20.2
450757 2007 JW_{41}	16.0	X	177.85973	349.80997	199.54273	19.49201	0.2022698	0.18247355	3.0784783	20	10 19.1	21.1
450758 2007 LL_8	18.2	X	172.38552	185.32401	124.21899	7.30875	0.1361422	0.27402264	2.3475332	20	—	—
450759 2007 LG_{33}	17.5	X	184.06272	41.55408	252.11438	6.99213	0.1279645	0.26811199	2.3819093	20	—	—
450760 2007 PJ_1	17.5	X	44.21575	183.10513	250.03333	7.17397	0.1305411	0.25815105	2.4427937	20	—	—
450761 2007 QK_{11}	18.1	X	89.19985	250.87141	116.99754	0.73952	0.2799571	0.25376320	2.4708723	20	—	—
450762 2007 RS_{18}	18.3	X	99.42313	170.66728	191.46802	1.98129	0.2089895	0.25568162	2.4584971	20	—	—
450763 2007 RX_{40}	17.3	X	172.35501	286.45272	21.59750	6.41129	0.1519053	0.26150621	2.4218545	20	—	—
450764 2007 RY_{102}	17.0	X	105.60778	254.36425	152.43341	2.78591	0.1858511	0.26249687	2.4157573	20	2 15.5	19.9
450765 2007 RD_{107}	18.0	X	93.89329	15.03991	352.63292	5.68742	0.2106381	0.25491733	2.4634087	20	—	—
450766 2007 RA_{134}	15.5	X	206.70241	265.10350	122.12025	6.08484	0.2244619	0.12622548	3.9358454	20	5 4.7	22.0
450767 2007 RD_{140}	18.0	X	124.54595	132.23441	216.91553	0.33162	0.2065995	0.25880068	2.4387041	20	—	—
450768 2007 RZ_{147}	17.4	X	104.02584	267.22180	87.11980	5.74162	0.2104996	0.25482370	2.4640121	20	—	—
450769 2007 RS_{157}	17.8	X	92.71146	296.00401	67.80527	4.72792	0.2370348	0.25376301	2.4708735	20	—	—
450770 2007 RJ_{159}	19.1	X	114.74456	299.09370	35.82035	3.01092	0.2201970	0.25516818	2.4617940	20	—	—
450771 2007 RD_{171}	17.3	X	201.66532	276.85381	10.61927	6.87997	0.1660479	0.26576697	2.3959001	20	—	—
450772 2007 RN_{171}	18.5	X	109.79508	269.63997	77.72231	2.25624	0.2053174	0.25552181	2.4595221	20	—	—
450773 2007 RJ_{178}	18.1	X	149.58635	169.49999	150.50130	6.79203	0.1187025	0.25712221	2.4493056	20	—	—
450774 2007 RG_{256}	18.1	X	111.81039	332.86308	17.62760	2.11971	0.1876158	0.25656348	2.4528604	20	—	—
450775 2007 RK_{260}	18.1	X	30.23164	3.55191	27.00350	1.85970	0.1493194	0.23878580	2.5731418	20	—	—
450776 2007 RR_{262}	15.4	X	168.30150	238.66775	186.74015	4.66361	0.3108389	0.12429577	3.9764771	20	5 19.7	22.3
450777 2007 SA	17.5	X	79.97662	221.42227	186.21241	11.84335	0.2525732	0.25770289	2.4456249	20	1 17.7	20.1
450778 2007 SW_5	17.9	X	127.09911	321.39120	18.52613	5.04408	0.2037301	0.25696835	2.4502832	20	—	—
450779 2007 SE_{11}	17.8	X	212.06665	353.26302	50.06186	48.28843	0.3564499	0.35974548	1.9579690	20	5 13.7	21.3
450780 2007 SU_{18}	18.2	X	74.99884	296.22036	74.58641	2.03184	0.2398261	0.24601122	2.5225093	20	—	—
450781 2007 TV_{50}	18.2	X	54.95235	89.36035	247.68474	1.22576	0.1344358	0.23770910	2.5809059	20	12 27.8	21.7
450782 2007 TW_{72}	18.2	X	306.02802	162.80805	212.10074	20.73467	0.0784535	0.37681219	1.8983928	20	9 21.9	19.8
450783 2007 TA_{96}	18.1	X	88.99669	192.11676	188.07700	0.90417	0.1945059	0.25431165	2.4673185	20	—	—
450784 2007 TL_{126}	17.8	X	10.62082	232.34324	196.93310	2.82945	0.1668296	0.24198763	2.5503940	20	—	—
450785 2007 TS_{158}	15.4	X	223.25587	154.02365	227.17928	7.85478	0.2256071	0.12538958	3.9533180	20	5 8.4	21.8
450786 2007 TL_{172}	18.4	X	64.19306	59.43873	310.74477	1.12897	0.2394099	0.24633872	2.5202731	20	—	—
450787 2007 TG_{196}	17.5	X	107.69778	187.26780	150.36049	1.69868	0.0965939	0.24628642	2.5206298	20	—	—
450788 2007 TM_{213}	16.6	X	206.60171	357.60132	228.28951	13.02882	0.1168617	0.24266181	2.5456680	20	—	—
450789 2007 TF_{232}	16.2	X	218.86700	337.99421	55.97612	4.13637	0.2453230	0.12383132	3.9864137	20	5 18.5	22.8
450790 2007 TM_{235}	16.2	X	220.26815	323.14229	57.52482	3.49063	0.2845766	0.12531005	3.9549906	20	5 2.9	22.7
450791 2007 TM_{259}	16.7	X	215.60542	41.54698	356.27804	2.53116	0.2321385	0.12691044	3.9216709	20	5 20.4	23.2
450792 2007 TV_{261}	17.8	X	1.36268	33.66732	35.67982	9.46269	0.1687865	0.23943031	2.5685221	20	—	—
450793 2007 TQ_{271}	18.9	X	48.56063	45.43582	334.88242	1.21804	0.2494455	0.24346387	2.5400740	20	—	—
450794 2007 TU_{274}	18.2	X	56.23472	351.95252	7.85042	6.87288	0.1743556	0.24644955	2.5195174	20	—	—
450795 2007 TE_{300}	16.3	X	225.17200	356.07391	40.32367	5.88942	0.2184858	0.12718831	3.9159571	20	5 27.0	22.6
450796 2007 TA_{301}	16.8	X	216.34090	2.35578	28.03760	7.50637	0.2918258	0.12428589	3.9766877	20	5 9.5	23.6
450797 2007 TJ_{318}	16.7	X	322.73631	208.48531	222.46838	21.37720	0.0298965	0.23132006	2.6282127	20	12 9.9	20.3
450798 2007 TM_{333}	17.6	X	348.33307	54.51478	20.95091	4.06461	0.2509343	0.23663852	2.5886843	20	—	—
450799 2007 TO_{345}	17.4	X	208.60832	177.40388	112.41799	2.35228	0.1763155	0.26718329	2.3874256	20	1 3.0	21.0
450800 2007 TB_{368}	18.8	X	37.33707	186.97942	226.22629	7.04370	0.2733342	0.24359836	2.5391390	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450801 2007 TP_{383}	16.9	X	222.79663	332.88246	42.36728	8.19524	0.3613642	0.12429230	3.9765512	20	4 25.5	23.8
450802 2007 TH_{428}	17.3	X	98.80812	266.11891	67.53925	8.87623	0.1028755	0.24288669	2.5440964	20	—	—
450803 2007 TE_{432}	15.9	X	223.38210	74.53296	311.31652	1.93371	0.1878253	0.12610301	3.9383933	20	5 15.5	22.1
450804 2007 TK_{442}	17.8	X	26.86308	177.13263	196.48947	8.37895	0.1701952	0.23976421	2.5661369	20	—	—
450805 2007 TQ_{444}	15.3	X	243.00596	24.57307	341.66291	11.05646	0.2170477	0.12644472	3.9312945	20	5 3.9	21.6
450806 2007 TP_{451}	15.3	X	222.39407	122.03474	253.97003	14.14490	0.2858451	0.12439650	3.9743302	20	4 26.6	22.1
450807 2007 UC_{9}	15.1	X	232.47497	14.92494	25.12275	19.75794	0.3092891	0.13061438	3.8471759	20	5 26.9	21.8
450808 2007 UL_{39}	18.4	X	253.72390	173.33195	215.53627	20.35419	0.0919228	0.36695068	1.9322542	20	7 3.2	20.9
450809 2007 UM_{88}	17.5	X	102.59073	349.28896	2.46975	1.15380	0.1193991	0.24627357	2.5207175	20	—	—
450810 2007 UV_{91}	17.5	X	108.29987	264.93705	52.64024	10.35396	0.0903744	0.24067933	2.5596280	20	—	—
450811 2007 UJ_{100}	17.9	X	12.48913	39.01562	53.57995	16.87887	0.1626986	0.24366981	2.5386426	20	—	—
450812 2007 UK_{100}	18.1	X	350.98380	239.01420	233.46247	4.48160	0.2832598	0.24036078	2.5618890	20	—	—
450813 2007 UL_{100}	17.7	X	83.70389	322.75775	48.61285	3.39944	0.1155372	0.24543270	2.5264717	20	—	—
450814 2007 UC_{135}	17.7	X	36.72493	277.13165	244.43000	1.95597	0.1146410	0.26651616	2.3914080	20	3 25.1	19.9
450815 2007 VG_{4}	15.8	X	231.97228	49.45477	325.29645	7.54436	0.2421904	0.12529970	3.9552083	20	5 4.1	22.3
450816 2007 VD_{13}	17.0	X	183.63695	205.55325	21.68024	4.36546	0.1397828	0.23987299	2.5653610	20	12 19.7	20.8
450817 2007 VK_{21}	17.8	X	51.30814	4.80928	341.80690	2.54733	0.2099764	0.23974810	2.5662518	20	—	—
450818 2007 VQ_{34}	17.4	X	98.70271	230.42348	122.16688	2.18144	0.1783310	0.24621208	2.5211372	20	—	—
450819 2007 VF_{55}	17.3	X	77.27240	254.97518	77.22903	7.55708	0.2690701	0.24039656	2.5616348	20	—	—
450820 2007 VV_{55}	17.1	X	69.38832	283.72977	96.14120	5.30147	0.1521249	0.24539946	2.5266998	20	—	—
450821 2007 VD_{57}	17.9	X	18.69820	333.83096	98.33868	5.54481	0.1503318	0.24252834	2.5466019	20	—	—
450822 2007 VH_{61}	17.5	X	325.99069	206.45751	245.76727	10.72132	0.1427303	0.23385634	2.6091755	20	—	—
450823 2007 VN_{86}	18.4	X	64.58606	43.57828	335.05922	3.43703	0.2271294	0.24624615	2.5209047	20	—	—
450824 2007 VK_{89}	17.8	X	82.65318	153.02191	244.45574	5.71768	0.1122013	0.25261043	2.4783836	20	—	—
450825 2007 VC_{93}	17.9	X	40.25341	112.88662	291.59194	5.78425	0.2717012	0.24454346	2.5325927	20	—	—
450826 2007 VA_{95}	15.8	X	237.72036	71.09632	295.73921	8.26246	0.3162903	0.12505949	3.9602713	20	4 24.4	22.5
450827 2007 VZ_{113}	17.4	X	100.30369	102.72507	212.29342	4.20942	0.2119179	0.23925797	2.5697553	20	—	—
450828 2007 VM_{120}	17.3	X	214.60311	236.24265	10.60965	6.05953	0.0710980	0.25183467	2.4834707	20	—	—
450829 2007 VF_{147}	17.3	X	356.43894	233.09901	234.15620	13.15988	0.1127229	0.24188064	2.5511460	20	—	—
450830 2007 VZ_{164}	17.5	X	331.68644	247.08873	249.35300	2.10200	0.1672055	0.24156023	2.5534014	20	—	—
450831 2007 VP_{166}	17.3	X	98.13201	265.12471	72.87800	10.07006	0.1372132	0.24141705	2.5544109	20	—	—
450832 2007 VL_{169}	17.8	X	48.16688	160.09240	244.65734	3.25690	0.1493885	0.24173349	2.5521812	20	—	—
450833 2007 VN_{191}	16.9	X	340.39357	262.13565	280.85430	11.32566	0.1070133	0.24719459	2.5144523	20	1 20.0	20.0
450834 2007 VT_{191}	16.8	X	54.06129	106.26947	280.22797	9.60252	0.1411362	0.23497320	2.6009010	20	—	—
450835 2007 VY_{197}	17.7	X	338.82993	24.26531	95.19788	5.25539	0.1584024	0.23429511	2.6059169	20	—	—
450836 2007 VZ_{197}	16.6	X	311.02203	58.39622	95.87542	13.18160	0.2058871	0.23317898	2.6142259	20	—	—
450837 2007 VE_{213}	15.9	X	231.76226	180.72556	191.34508	5.49147	0.3213229	0.12463049	3.9693542	20	4 29.8	22.6
450838 2007 VH_{215}	17.4	X	17.54893	128.39524	290.43781	2.96007	0.0924304	0.23949663	2.5680478	20	—	—
450839 2007 VB_{246}	16.0	X	222.45507	293.27647	95.14262	9.93291	0.2695052	0.12415075	3.9795730	20	5 15.9	22.6
450840 2007 VL_{253}	17.7	X	59.70030	214.32637	165.74715	5.96673	0.2849241	0.24517794	2.5282215	20	—	—
450841 2007 VY_{264}	15.3	X	229.06444	349.41771	41.48399	3.66880	0.1884553	0.12256711	4.0137786	20	5 26.3	21.6
450842 2007 VJ_{268}	17.3	X	48.11085	292.93689	104.22186	4.19238	0.1533695	0.24467338	2.5316961	20	—	—
450843 2007 VY_{272}	18.3	X	226.12704	46.83183	56.78467	22.47586	0.0958673	0.37335427	1.9100965	20	10 10.8	20.6
450844 2007 VS_{273}	17.4	X	311.38782	19.86505	113.53696	5.50781	0.0490756	0.24106010	2.5569319	20	—	—
450845 2007 VX_{291}	17.7	X	96.22531	152.02184	68.16884	24.84175	0.0626340	0.36838510	1.9272350	20	10 15.2	20.5
450846 2007 VT_{307}	16.4	X	131.38612	214.86084	70.09060	12.58241	0.0492695	0.23590939	2.5940155	20	—	—
450847 2007 VF_{313}	17.6	X	12.57223	194.48589	269.44779	3.42467	0.1825395	0.24366055	2.5387069	20	—	—
450848 2007 WV_{16}	17.5	X	342.10003	261.37536	223.32958	6.42577	0.0982680	0.24332993	2.5410060	20	—	—
450849 2007 WE_{27}	17.9	X	40.81687	33.11181	27.87883	3.79065	0.1196404	0.24352492	2.5396494	20	—	—
450850 2007 WF_{39}	17.8	X	316.75839	27.53290	109.18780	5.32016	0.2474990	0.22976777	2.6400368	20	—	—
450851 2007 WT_{49}	17.8	X	62.78605	279.62986	105.72718	3.63727	0.1067456	0.24325345	2.5415386	20	—	—
450852 2007 WU_{53}	18.0	X	12.16499	269.81528	181.10495	6.17629	0.1771431	0.24370625	2.5383896	20	—	—
450853 2007 WQ_{55}	16.9	X	342.74744	215.01505	242.77297	13.13025	0.2201297	0.23729778	2.5838875	20	—	—
450854 2007 WJ_{63}	17.0	X	28.81536	277.23157	86.26952	15.32787	0.1449498	0.22376684	2.6870282	20	12 27.4	20.4
450855 2007 XF_{4}	18.0	X	47.18369	161.50634	222.41190	3.53426	0.2731967	0.24087490	2.5582423	20	—	—
450856 2007 XB_{15}	17.2	X	49.91312	302.42658	108.88311	11.92903	0.1939690	0.24029736	2.5623398	20	—	—
450857 2007 XM_{16}	16.1	X	321.57097	39.68418	105.60810	33.18270	0.2077672	0.23150225	2.6268337	20	—	—
450858 2007 XU_{23}	17.9	X	4.92623	296.39383	129.73270	4.57099	0.1587626	0.23680215	2.5874916	20	—	—
450859 2007 XJ_{24}	17.6	X	218.97189	350.60094	64.69642	22.72096	0.0767384	0.36097456	1.9535221	20	6 28.3	20.1
450860 2007 XB_{26}	17.7	X	12.90537	13.67789	79.57704	8.96402	0.1037954	0.24313870	2.5423382	20	—	—
450861 2007 XU_{33}	17.1	X	0.10691	166.74909	279.99464	6.77867	0.1608053	0.23814591	2.5777490	20	—	—
450862 2007 XU_{45}	17.8	X	339.69912	358.77497	123.20669	4.14291	0.1766018	0.23729299	2.5839223	20	—	—
450863 2007 XG_{50}	16.6	X	24.74887	266.24398	151.33790	21.94172	0.0968953	0.23791386	2.5794249	20	—	—
450864 2007 XX_{57}	17.1	X	25.52655	327.45749	67.07402	12.71361	0.1880249	0.23514888	2.5996054	20	—	—
450865 2007 XJ_{58}	17.2	X	308.28500	185.76723	261.01391	4.24074	0.0975624	0.22266936	2.6958501	20	12 7.3	20.0
450866 2007 YR_{18}	17.1	X	21.42397	194.64072	257.26006	6.64739	0.1713254	0.24249641	2.5468254	20	—	—
450867 2007 YB_{19}	17.5	X	3.35276	235.41101	232.82727	3.66694	0.1462967	0.24114363	2.5563414	20	—	—
450868 2007 YB_{27}	16.9	X	321.70673	93.56574	44.01986	5.79386	0.1451408	0.23328000	2.6134712	20	—	—
450869 2007 YS_{38}	17.1	X	148.74983	193.15035	77.52414	6.73221	0.0582389	0.22748829	2.6576432	20	—	—
450870 2007 YE_{50}	16.9	X	44.46849	255.16832	98.95702	7.47424	0.0325273	0.22268744	2.6957042	20	12 19.2	20.4
450871 2007 YH_{57}	18.1	X	54.36188	301.28612	95.00416	3.43135	0.1644220	0.24199692	2.5503287	20	—	—
450872 2007 YU_{62}	16.2	X	11.07228	278.48751	117.62262	15.28723	0.0526303	0.22307766	2.6925596	20	—	—
450873 2007 YJ_{69}	17.2	X	333.08643	11.99726	109.96932	3.63896	0.0635565	0.23463708	2.6033843	20	—	—
450874 2007 YD_{74}	17.5	X	43.60464	304.81586	144.24065	9.47923	0.2435391	0.24486481	2.5303764	20	1 1.7	19.5
450875 2008 AL_{9}	17.9	X	280.83318	359.28172	156.05799	2.86010	0.1310930	0.22729777	2.6591282	20	—	—
450876 2008 AA_{18}	17.7	X	351.99023	308.56165	130.86358	3.65248	0.1923710	0.23012033	2.6373396	20	—	—
450877 2008 AR_{21}	16.6	X	241.71377	225.47126	323.44566	11.74671	0.0915618	0.22290630	2.6939394	20	—	—
450878 2008 AF_{23}	16.7	X	275.60161	167.30477	328.79521	12.29500	0.0839081	0.22036223	2.7146339	20	12 22.9	20.3
450879 2008 AY_{34}	17.6	X	317.42860	104.39169	314.85499	7.50016	0.1518176	0.21880980	2.7274588	20	11 9.8	20.6
450880 2008 AX_{40}	17.2	X	19.48828	90.27839	331.53305	7.88233	0.1546103	0.23128477	2.6284801	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450881 2008 AA_{52}	17.4	X	342.60349	118.17868	295.66461	11.33061	0.1579280	0.22497726	2.6773818	20	12 26.5	20.4
450882 2008 AL_{55}	17.1	X	14.76972	85.79632	280.24646	4.64770	0.0270019	0.21834774	2.7313053	20	11 23.5	20.8
450883 2008 AD_{57}	17.6	X	317.44863	190.24877	293.75978	2.76382	0.1571749	0.23030368	2.6359397	20	—	—
450884 2008 AU_{72}	17.7	X	50.42300	264.84142	158.62311	7.33279	0.3698082	0.24418468	2.5350728	20	—	—
450885 2008 AW_{81}	16.7	X	45.19289	266.84049	133.77118	14.23200	0.1302793	0.23482914	2.6019647	20	—	—
450886 2008 AH_{92}	17.3	X	160.15850	204.27718	43.40343	4.13899	0.0576649	0.22266777	2.6958629	20	12 22.5	21.2
450887 2008 AH_{93}	17.3	X	301.89764	61.09759	91.41392	7.16180	0.1334728	0.23207826	2.6224854	20	—	—
450888 2008 AM_{94}	17.1	X	332.46222	99.87175	317.95629	5.36261	0.0891545	0.22059363	2.7127352	20	12 6.4	20.4
450889 2008 AM_{96}	17.7	X	25.12684	76.45977	355.59032	4.84137	0.1863266	0.23629330	2.5912050	20	—	—
450890 2008 AX_{104}	17.9	X	47.84517	98.35566	299.78623	8.30867	0.2126398	0.23760721	2.5816437	20	—	—
450891 2008 AU_{106}	17.6	X	35.38907	116.09034	304.84532	3.40712	0.2013646	0.23807134	2.5782872	20	—	—
450892 2008 BT_{10}	16.6	X	21.92158	115.01843	294.04497	13.59884	0.0999759	0.23226188	2.6211030	20	—	—
450893 2008 BR_{17}	16.4	X	314.88457	326.81917	119.01196	15.77424	0.0746988	0.22335731	2.6903117	20	12 18.7	19.7
450894 2008 BT_{18}	18.3	X	222.08215	139.35372	107.62323	8.13530	0.5932556	0.29758571	2.2219179	20	—	—
450895 2008 BL_{21}	17.5	X	48.51932	96.28450	325.73023	3.86146	0.2883437	0.23842782	2.5757167	20	—	—
450896 2008 BE_{24}	16.7	X	329.87605	170.22620	304.90583	13.65499	0.1907636	0.23164533	2.6257518	20	—	—
450897 2008 BO_{32}	17.1	X	290.27838	127.30087	337.96732	8.63322	0.1332711	0.21557703	2.7546582	20	11 25.1	20.5
450898 2008 BP_{43}	16.9	X	343.17505	240.99681	243.53389	12.33619	0.2145317	0.23300965	2.6154923	20	—	—
450899 2008 BE_{52}	16.8	X	9.29625	333.16211	91.37492	7.00087	0.1944475	0.23099211	2.6306998	20	—	—
450900 2008 CX_{13}	16.9	X	354.09924	307.02253	105.02266	3.47208	0.1578744	0.22113477	2.7083078	20	—	—
450901 2008 CD_{21}	17.7	X	335.75540	77.53356	29.22272	6.12036	0.3384478	0.23058634	2.6337851	20	—	—
450902 2008 CB_{60}	17.3	X	49.21529	64.73256	316.63345	5.17657	0.0489558	0.22264396	2.6960551	20	—	—
450903 2008 CL_{77}	17.3	X	339.67257	17.78383	79.53160	5.08153	0.1851174	0.22844383	2.6502271	20	—	—
450904 2008 CT_{108}	17.3	X	51.48135	354.37453	89.78645	5.70464	0.2329734	0.24376974	2.5379488	20	1 14.8	19.1
450905 2008 CK_{118}	16.9	X	22.83325	16.89525	90.56740	8.45059	0.1551069	0.23858605	2.5745778	20	—	—
450906 2008 CL_{122}	17.6	X	319.87580	196.10499	228.51013	2.88694	0.0754715	0.21674087	2.7447882	20	11 25.1	20.9
450907 2008 CV_{128}	17.2	X	99.96713	12.73457	289.43144	2.98606	0.0313590	0.21656061	2.7463112	20	12 19.9	21.0
450908 2008 CX_{144}	16.9	X	89.32329	352.24632	304.24705	5.79093	0.0714651	0.21144096	2.7904653	20	12 2.6	21.0
450909 2008 CX_{160}	17.8	X	353.08955	212.75616	249.07893	1.90844	0.2252801	0.22990087	2.6390178	20	—	—
450910 2008 CB_{176}	16.8	X	52.91286	6.33297	53.88079	5.09487	0.3114848	0.24047034	2.5611108	20	—	—
450911 2008 CF_{180}	17.0	X	6.45188	180.37080	266.17351	12.81001	0.2201215	0.23359209	2.6111428	20	—	—
450912 2008 CO_{206}	17.1	X	255.16608	229.90151	301.99491	4.55834	0.1275371	0.22053524	2.7132140	20	—	—
450913 2008 CC_{207}	16.9	X	306.67438	116.97782	314.27848	3.42137	0.0406283	0.21220932	2.7837255	20	11 12.9	20.5
450914 2008 CU_{214}	17.5	X	216.15462	242.88229	310.82057	2.78056	0.0401802	0.21575551	2.7531389	20	12 21.1	21.2
450915 2008 DD_{3}	17.8	X	353.91151	134.72117	327.53613	3.71367	0.1701352	0.23256413	2.6188316	20	—	—
450916 2008 DD_{7}	17.6	X	317.58787	358.43549	116.11292	3.21611	0.0977914	0.22644253	2.6658194	20	—	—
450917 2008 DH_{34}	17.4	X	334.64618	140.08911	333.87651	3.09725	0.2171224	0.22673916	2.6634938	20	—	—
450918 2008 DZ_{40}	17.4	X	313.78419	355.39019	127.49861	5.95689	0.0362904	0.22728426	2.6592335	20	—	—
450919 2008 DN_{48}	16.5	X	299.60234	173.14796	324.20821	13.07553	0.1897776	0.22428292	2.6829047	20	—	—
450920 2008 DB_{51}	17.0	X	29.49674	138.31141	275.71246	12.23681	0.2386043	0.23156445	2.6263632	20	—	—
450921 2008 DH_{89}	16.3	X	13.74609	250.93380	30.13562	10.38994	0.1764069	0.18052338	3.1006096	20	8 17.0	20.0
450922 2008 ED_{1}	16.8	X	249.70330	183.88461	326.75529	7.23343	0.1611456	0.21393292	2.7687535	20	11 19.2	20.6
450923 2008 EK_{5}	16.9	X	40.16836	3.76720	105.77388	8.44955	0.2510470	0.24213860	2.5493337	20	1 28.5	18.6
450924 2008 EN_{8}	16.9	X	339.55110	212.65245	243.83876	10.77752	0.1405358	0.22715268	2.6602603	20	—	—
450925 2008 EB_{33}	16.7	X	330.05453	216.14336	271.22110	11.39890	0.2313802	0.23098814	2.6307299	20	—	—
450926 2008 ER_{46}	16.5	X	301.80510	74.03985	34.62368	14.86677	0.0917090	0.21207176	2.7849292	20	12 21.6	20.1
450927 2008 EB_{47}	17.0	X	275.92254	54.40162	62.30686	7.08458	0.0521496	0.20687330	2.8313904	20	11 27.4	20.5
450928 2008 EY_{76}	16.9	X	255.25640	149.22545	34.69221	5.60543	0.0977731	0.21877412	2.7277554	20	—	—
450929 2008 EE_{99}	16.8	X	302.05423	328.02004	184.76928	13.67132	0.1932118	0.22799050	2.6537390	20	—	—
450930 2008 EW_{148}	18.4	X	192.05732	282.24747	185.19341	22.05648	0.0964676	0.35109447	1.9900014	20	8 6.9	21.4
450931 Coculescu	16.9	X	20.50626	79.52738	294.24157	5.15068	0.0560580	0.21403267	2.7678933	20	12 14.1	20.6
450932 2008 EG_{165}	17.5	X	266.72623	214.54050	304.66210	2.34546	0.1261029	0.21688403	2.7435803	20	—	—
450933 2008 FY_{14}	17.3	X	338.00263	289.67346	253.68939	1.13654	0.2236264	0.23532890	2.5982795	20	1 2.9	20.1
450934 2008 FS_{15}	16.9	X	275.60943	89.01932	75.86650	8.46808	0.2731935	0.21923771	2.7239087	20	—	—
450935 2008 FX_{21}	17.4	X	242.77516	209.42207	111.79632	5.64691	0.1851122	0.32106529	2.1122264	20	3 9.1	20.5
450936 2008 FN_{23}	16.3	X	39.54142	235.36248	59.16071	8.00735	0.2001431	0.18732446	3.0250999	20	10 18.4	20.3
450937 2008 FJ_{46}	17.7	X	337.86749	308.34912	173.88697	13.13635	0.2099222	0.22927405	2.6438255	20	—	—
450938 2008 FE_{78}	16.8	X	323.90429	93.96762	4.03919	8.20415	0.1354960	0.21746836	2.7386634	20	—	—
450939 2008 FQ_{79}	16.0	X	78.04315	215.11286	9.59202	15.99857	0.0603025	0.18624905	3.0367334	20	8 23.7	20.5
450940 2008 FU_{87}	17.1	X	336.93296	79.95782	17.05376	8.31838	0.1568663	0.22004008	2.7172829	20	—	—
450941 2008 FD_{97}	15.9	X	24.94292	52.67604	210.52069	16.58099	0.1707943	0.17478596	3.1680962	20	7 31.6	20.0
450942 2008 FH_{109}	17.3	X	201.68335	143.96489	53.88620	5.24022	0.0088349	0.20911052	2.8111594	20	12 10.8	21.1
450943 2008 FC_{126}	15.9	X	39.36400	233.81536	57.16561	20.71377	0.2836847	0.18174533	3.0866961	20	10 28.5	20.2
450944 2008 FR_{127}	16.0	X	32.15467	122.01868	163.68389	10.91804	0.0998764	0.18612397	3.0380938	20	9 8.9	19.7
450945 2008 FM_{132}	17.2	X	282.04099	318.87600	163.06007	4.44818	0.0547102	0.20974115	2.8055217	20	12 13.3	20.9
450946 2008 FL_{135}	17.5	X	251.50371	152.40005	38.43466	9.65041	0.1227721	0.21859962	2.7292068	20	—	—
450947 2008 GS_{114}	16.3	X	348.12605	260.61381	84.16057	10.25575	0.0914366	0.18832865	3.0143369	20	9 24.3	20.2
450948 2008 GD_{127}	16.2	X	27.23806	208.82848	73.02625	23.57789	0.1352937	0.17877399	3.1208040	20	9 13.7	20.7
450949 2008 GG_{138}	16.6	X	328.73384	148.38501	193.18444	22.34848	0.0950139	0.17967351	3.1103793	20	8 7.3	21.0
450950 2008 GW_{141}	16.9	X	320.08560	40.07957	66.97963	8.82884	0.1875023	0.21375511	2.7702888	20	—	—
450951 2008 HL_{8}	16.8	X	307.12793	4.80880	149.16082	9.57932	0.2393343	0.22342087	2.6898014	20	—	—
450952 2008 HF_{19}	17.0	X	297.56911	291.10107	210.45950	12.95638	0.2052712	0.22018932	2.7160550	20	—	—
450953 2008 HC_{58}	16.4	X	253.05696	286.83008	205.79812	24.91785	0.2053155	0.20925755	2.8098424	20	10 26.9	20.3
450954 2008 HC_{65}	16.4	X	67.04130	76.78672	198.66471	12.45639	0.1238269	0.18845701	3.0129680	20	10 15.8	20.7
450955 2008 JX_{22}	16.5	X	38.61852	215.25603	113.22359	10.42462	0.0618190	0.19294710	2.9660414	20	11 10.9	20.7
450956 2008 JS_{28}	15.7	X	279.79069	305.48578	73.02491	19.46429	0.1734799	0.17362820	3.1821638	20	7 6.2	20.3
450957 2008 JT_{33}	17.0	X	269.96370	341.79713	170.60161	11.36063	0.2621832	0.21253421	2.7808879	20	12 8.3	20.4
450958 2008 JE_{40}	17.0	X	130.34255	50.81344	169.52095	6.17404	0.1162012	0.19172600	2.9786219	20	10 16.1	21.7
450959 2008 KF_{1}	16.4	X	48.86179	207.14242	91.86729	13.55336	0.1342105	0.18515707	3.0486613	20	10 29.4	20.8
450960 2008 KB_{2}	16.1	X	7.42364	239.99192	83.11042	17.49312	0.1821746	0.17921628	3.1156673	20	10 8.0	20.1

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
450961 2008 KD_4	16.2	X	25.18616	71.29631	199.57507	12.33826	0.1847453	0.17358934	3.1826388	20	8 14.8	20.2
450962 2008 KD_{24}	15.7	X	119.60889	25.69823	191.06209	16.91965	0.0914108	0.18577318	3.0419171	20	9 26.8	20.4
450963 2008 KN_{34}	15.9	X	318.69007	230.74688	118.28439	21.60262	0.2453524	0.17219037	3.1998539	20	7 18.5	19.4
450964 2008 KG_{39}	16.4	X	347.38195	236.89970	143.49989	11.08499	0.0832774	0.19064190	2.9899033	20	11 6.9	20.4
450965 2008 NW_3	18.5	X	224.65558	61.88426	254.67562	4.32540	0.2079138	0.30432399	2.1889974	20	2 12.4	22.0
450966 2008 PK_8	18.3	X	137.90588	104.63940	257.17001	4.40329	0.2463163	0.28818759	2.2699652	20	1 29.0	21.6
450967 2008 PW_8	18.5	X	173.91425	346.61777	329.44783	3.83864	0.2562780	0.28911445	2.2651111	20	1 7.3	22.1
450968 2008 QA_{32}	17.9	X	98.94800	131.12797	263.39286	5.41892	0.1685117	0.28348188	2.2950167	20	1 12.8	20.2
450969 2008 QS_{38}	17.9	X	162.40071	110.42414	204.52624	6.22422	0.1555367	0.28291694	2.2980709	20	—	—
450970 2008 QX_{45}	18.2	X	209.33605	48.87925	254.31196	4.54799	0.2317658	0.29481814	2.2358015	20	1 16.7	21.9
450971 2008 RD_{43}	18.4	X	145.61191	226.79177	154.70287	2.21223	0.0771787	0.29037781	2.2585364	20	2 12.8	21.1
450972 2008 RJ_{72}	18.8	X	108.80867	46.95437	329.40169	3.14202	0.2177427	0.28282939	2.2985451	20	1 11.9	21.4
450973 2008 RP_{75}	18.1	X	167.79247	9.40240	357.41496	2.85403	0.1997891	0.29460935	2.2368578	20	2 29.4	21.6
450974 2008 RM_{144}	17.7	X	65.43788	81.69013	331.84327	6.01064	0.1108611	0.27924641	2.3181649	20	—	—
450975 2008 RM_{146}	17.9	X	153.04563	44.12387	328.81926	3.10069	0.1681843	0.29181270	2.2511266	20	2 20.2	21.2
450976 2008 SN_4	17.6	X	136.83060	0.59063	45.65103	6.49259	0.1419148	0.29267885	2.2466831	20	3 17.7	20.6
450977 2008 SM_7	17.2	X	188.02324	351.04112	28.66737	7.12430	0.1058047	0.29870623	2.2163578	20	4 2.6	20.1
450978 2008 SB_9	17.7	X	186.43015	147.71210	177.03461	5.55035	0.1451051	0.29167364	2.2518421	20	1 20.4	21.2
450979 2008 SO_{28}	17.9	X	173.96181	38.85368	288.63003	1.94525	0.3210424	0.28896242	2.2659056	20	1 24.2	21.7
450980 2008 SL_{30}	17.3	X	175.48772	334.45719	335.60590	8.15212	0.1899147	0.28940613	2.2635889	20	—	—
450981 2008 SM_{84}	18.1	X	160.32026	130.87712	236.89440	3.88310	0.1435160	0.29037371	2.2585577	20	2 17.2	21.4
450982 2008 SX_{94}	18.1	X	162.20145	30.24992	336.44610	2.99833	0.1829254	0.28982535	2.2614056	20	2 22.9	21.3
450983 2008 SV_{122}	18.5	X	74.16300	68.82606	335.78819	1.10075	0.1816988	0.27464755	2.3439710	20	—	—
450984 2008 SL_{193}	18.5	X	114.10425	339.59985	72.73372	5.01503	0.1168529	0.28625706	2.2801596	20	2 23.1	21.2
450985 2008 SN_{223}	18.4	X	101.48174	218.94978	239.17044	2.97778	0.0826022	0.29627787	2.2284518	20	3 30.5	21.0
450986 2008 SB_{285}	17.9	X	85.78859	277.15925	167.95601	4.77707	0.0670748	0.28284983	2.2984343	20	2 17.2	20.5
450987 2008 SA_{293}	17.9	X	203.90925	291.98644	25.47107	8.41919	0.1732635	0.29382102	2.2408570	20	2 1.7	21.5
450988 2008 SO_{303}	18.1	X	81.07465	279.52813	175.87609	5.41883	0.1361243	0.28801728	2.2708599	20	3 5.9	20.3
450989 2008 SD_{309}	18.2	X	222.05491	291.91613	351.48796	5.75038	0.1065623	0.28625289	2.2801817	20	1 5.3	21.5
450990 2008 SO_{309}	17.7	X	163.83925	249.50746	94.14427	5.37003	0.1754583	0.28083974	2.3093886	20	1 27.6	21.1
450991 2008 TG_2	17.8	X	151.81796	352.65277	27.18691	7.25433	0.2091284	0.29215476	2.2493691	20	3 5.6	21.2
450992 2008 TJ_{21}	16.8	X	257.82780	344.06388	216.09759	24.62853	0.1895471	0.26663532	2.3906955	20	—	—
450993 2008 TK_{48}	17.7	X	207.70203	294.54381	7.42906	6.86581	0.2134278	0.29466730	2.2365645	20	1 16.1	21.4
450994 2008 TL_{49}	18.0	X	46.67227	239.98741	206.60822	6.17716	0.0619031	0.28139998	2.3063223	20	—	—
450995 2008 TW_{55}	17.9	X	181.55433	315.36737	21.83912	4.73013	0.1691867	0.28922808	2.2645179	20	2 4.9	21.3
450996 2008 TZ_{57}	18.0	X	22.75115	134.98622	25.31506	7.97068	0.0656388	0.29081681	2.2562630	20	2 27.3	20.3
450997 2008 TZ_{89}	18.8	X	144.63285	213.41647	156.99713	0.50737	0.1601124	0.28520482	2.2857645	20	2 7.9	22.0
450998 2008 TV_{91}	17.5	X	190.93333	295.07682	89.53652	4.36121	0.1186181	0.29964443	2.2117290	20	4 13.4	20.6
450999 2008 TL_{106}	19.3	X	121.16943	188.13126	203.56549	1.04501	0.1692618	0.28385516	2.2930042	20	2 9.6	22.2
451000 2008 TW_{114}	18.0	X	348.01402	50.67188	122.73386	3.65306	0.0220785	0.28422030	2.2910399	20	1 23.9	20.5
451001 2008 TK_{134}	18.4	X	189.01317	325.12519	2.59896	6.14796	0.2179906	0.28928582	2.2642165	20	2 2.2	22.1
451002 2008 TU_{188}	17.8	X	194.79440	47.41291	263.92076	6.25506	0.1866747	0.28616193	2.2806649	20	1 14.4	21.3
451003 2008 UD_1	19.4	X	326.71693	6.57987	154.22061	6.47672	0.4634646	0.43861123	1.7156007	20	—	—
451004 2008 US_{25}	18.0	X	111.81388	211.62130	199.70138	6.20548	0.0845381	0.28681218	2.2772165	20	2 8.5	20.8
451005 2008 UN_{27}	17.9	X	77.83115	333.93305	57.45422	2.23560	0.1951494	0.27220639	2.3579640	20	—	—
451006 2008 UX_{46}	17.9	X	96.78859	0.54602	29.94570	6.92357	0.2402082	0.27573362	2.3378119	20	1 20.4	20.5
451007 2008 UE_{53}	18.6	X	97.84320	15.90836	48.68120	3.13798	0.2212405	0.28018729	2.3129723	20	3 5.2	21.2
451008 2008 UX_{55}	18.6	X	122.81719	40.99479	2.76554	4.24125	0.2050032	0.28716483	2.2753518	20	3 4.4	21.5
451009 2008 UA_{61}	17.4	X	95.42037	42.44917	17.07425	6.09500	0.1219930	0.28089440	2.3090889	20	2 7.9	20.0
451010 2008 UR_{76}	18.5	X	124.58738	174.44309	261.45531	2.64171	0.1760618	0.28874236	2.2670567	20	4 12.7	21.5
451011 2008 UO_{83}	17.9	X	172.70261	333.50404	330.99986	7.00349	0.1098118	0.27955592	2.3164535	20	—	—
451012 2008 UK_{98}	16.7	X	110.41645	37.94453	56.68525	24.64055	0.1497537	0.28982241	2.2614209	20	4 27.0	19.8
451013 2008 UK_{131}	18.4	X	89.91878	175.89603	224.45399	5.08017	0.1634597	0.27635115	2.3343279	20	1 6.9	20.8
451014 2008 UG_{136}	17.7	X	252.50466	224.17856	43.49931	5.74527	0.1378047	0.28567396	2.2832613	20	1 15.4	21.1
451015 2008 UK_{179}	18.4	X	106.79275	66.89494	332.32073	2.31597	0.1855970	0.27870984	2.3211391	20	2 4.8	21.0
451016 2008 UN_{184}	18.1	X	152.61735	85.86127	236.60587	3.51374	0.2267746	0.27583783	2.3372230	20	—	—
451017 2008 UR_{228}	17.2	X	214.64412	26.45096	248.82319	7.61308	0.2041045	0.27628720	2.3346881	20	—	—
451018 2008 UP_{240}	17.9	X	127.31447	118.19831	271.40343	6.24504	0.1166532	0.28216600	2.3021463	20	2 5.4	20.8
451019 2008 UX_{268}	17.9	X	159.67481	144.58596	208.65907	7.47589	0.1556303	0.28426792	2.2907841	20	1 30.1	21.4
451020 2008 UY_{275}	18.7	X	78.01492	53.09982	25.19276	0.63164	0.1591389	0.28067624	2.3102853	20	2 10.2	21.0
451021 2008 UH_{365}	17.9	X	98.31558	286.71676	101.92998	13.35477	0.2022482	0.27542886	2.3395361	20	1 11.8	20.4
451022 2008 VS_{33}	18.4	X	114.72417	255.47272	144.11394	2.60710	0.2233253	0.28154152	2.3055493	20	2 20.8	21.4
451023 2008 VN_{39}	17.5	X	89.57744	140.98155	277.19399	6.39189	0.0954708	0.27680679	2.3317656	20	1 21.1	20.1
451024 2008 VF_{54}	17.5	X	315.31205	340.12401	236.99951	23.45399	0.0845192	0.28392270	2.2926406	20	1 19.6	21.0
451025 2008 WK_{20}	18.4	X	90.77901	185.32852	238.79427	6.40181	0.1822266	0.27898995	2.3195853	20	2 11.8	20.9
451026 2008 WE_{33}	18.1	X	84.52054	314.26479	100.50951	6.24956	0.1994030	0.27732584	2.3288552	20	1 25.9	20.2
451027 2008 WF_{50}	17.7	X	60.50513	37.10048	63.56994	25.01957	0.2296156	0.27656443	2.3331277	20	3 12.1	20.6
451028 2008 WY_{70}	18.3	X	79.15203	81.73078	354.64034	0.91334	0.1562272	0.27496512	2.3421659	20	2 9.9	20.7
451029 2008 WL_{76}	18.0	X	134.32019	192.50206	181.06827	2.48200	0.1459254	0.27962322	2.3160818	20	1 29.7	21.1
451030 2008 WQ_{80}	18.6	X	79.69010	318.32788	110.57555	3.23022	0.1752202	0.27610299	2.3357264	20	2 3.0	20.6
451031 2008 WH_{100}	17.4	X	207.75374	180.62412	70.46351	7.76118	0.0816769	0.26790655	2.3831269	20	—	—
451032 2008 WX_{104}	17.6	X	25.46582	359.19821	82.53025	2.36526	0.1527013	0.26523806	2.3990842	20	—	—
451033 2008 WF_{111}	18.0	X	358.58577	94.66032	54.29671	3.05272	0.1262792	0.27222583	2.3578517	20	—	—
451034 2008 WO_{114}	18.2	X	48.88622	160.21015	258.62418	4.97187	0.0468907	0.26662412	2.3907624	20	—	—
451035 2008 WT_{116}	18.1	X	62.29957	41.16709	75.58579	2.67743	0.1838768	0.27916664	2.3186064	20	3 15.8	20.0
451036 2008 WT_{133}	17.5	X	133.55611	24.95263	0.74582	5.67189	0.1692116	0.28181074	2.3040807	20	2 18.7	20.6
451037 2008 XN_3	17.8	X	112.34229	107.18815	306.62919	2.35405	0.2351798	0.28161550	2.3051455	20	3 8.5	20.8
451038 2008 XV_{29}	17.7	X	132.69453	304.82473	86.51215	4.87274	0.1499334	0.28180346	2.3041204	20	2 23.2	20.7
451039 2008 XO_{46}	17.7	X	165.34980	248.21630	95.33353	6.58236	0.2012189	0.27993893	2.3143401	20	1 31.3	21.3
451040 2008 XM_{47}	18.5	X	79.52619	17.46986	47.94782	2.96356	0.1956733	0.27294918	2.3536842	20	2 2.4	20.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451041 2008 XT_{54}	16.4	X	304.35716	253.91959	281.15581	20.90588	0.2272503	0.26002650	2.4310337	20	—	—
451042 2008 YE	18.7	X	83.72593	305.84351	121.60798	3.81633	0.1755382	0.27807176	2.3246886	20	2 7.6	20.9
451043 2008 YB_2	17.3	X	61.45134	85.93364	39.51685	23.47904	0.3185759	0.27529021	2.3403216	20	4 23.6	19.3
451044 2008 YQ_3	17.5	X	58.14065	35.44461	79.79815	5.64354	0.1023932	0.28027132	2.3125100	20	2 24.7	19.8
451045 2008 YV_9	17.0	X	355.55086	203.36403	293.26327	4.68711	0.1880043	0.26288922	2.4133531	20	—	—
451046 2008 YR_{12}	18.1	X	356.79503	97.52269	71.04786	5.02476	0.1610529	0.27458391	2.3443331	20	1 15.3	20.3
451047 2008 YR_{83}	17.9	X	314.74617	153.94882	40.21338	1.73162	0.1274097	0.26569294	2.3963452	20	—	—
451048 2008 YE_{88}	18.4	X	84.59572	118.73913	282.80165	3.35508	0.1895136	0.26907243	2.3762379	20	1 6.3	20.5
451049 2008 YO_{90}	18.1	X	63.39310	323.38862	131.71609	1.88885	0.1404571	0.27272938	2.3549486	20	2 7.2	20.3
451050 2008 YL_{93}	17.6	X	95.91549	275.48390	84.19706	3.57352	0.1071182	0.25854984	2.4402812	20	—	—
451051 2008 YP_{102}	18.1	X	329.81860	274.01318	234.93184	1.61501	0.0691713	0.25938242	2.4350564	20	—	—
451052 2008 YU_{104}	18.1	X	46.94263	199.88609	285.06987	5.16438	0.1975241	0.27236633	2.3570408	20	2 23.2	19.8
451053 2008 YZ_{107}	18.2	X	35.94949	358.92963	113.87903	2.97033	0.1758491	0.26701773	2.3884124	20	1 11.6	20.1
451054 2008 YO_{108}	18.0	X	85.05736	283.14914	115.09179	5.31469	0.1467167	0.26377231	2.4079636	20	—	—
451055 2008 YB_{112}	18.3	X	5.65285	31.18896	98.05955	3.71406	0.1731622	0.26814459	2.3817163	20	—	—
451056 2008 YW_{112}	15.6	X	226.08369	290.80527	90.92918	4.20521	0.2285834	0.12250655	4.0151013	20	5 12.0	22.0
451057 2008 YY_{116}	17.5	X	90.81324	294.48698	103.37193	7.24421	0.1260774	0.26685177	2.3894025	20	1 2.3	19.8
451058 2008 YS_{123}	17.9	X	21.01890	333.78650	152.57195	2.47387	0.1351570	0.26738976	2.3861965	20	1 2.5	19.9
451059 2008 YS_{133}	17.5	X	29.10339	46.12473	89.51985	6.87284	0.1710212	0.26966392	2.3727619	20	2 2.3	19.3
451060 2008 YK_{151}	18.1	X	6.38939	26.63345	74.70068	2.58884	0.1519702	0.25884217	2.4384435	20	—	—
451061 2008 YM_{155}	17.5	X	350.86662	31.02680	117.87797	7.05402	0.0680845	0.26246985	2.4159231	20	—	—
451062 2008 YU_{157}	17.3	X	91.29700	72.04096	332.59498	6.23850	0.1725419	0.26861378	2.3789420	20	1 20.8	19.9
451063 2008 YY_{162}	18.1	X	70.37955	246.98463	145.46514	2.91115	0.2106641	0.26183844	2.4198054	20	—	—
451064 2008 YC_{166}	18.2	X	96.09968	247.30343	136.34606	1.82808	0.1889047	0.26664837	2.3906175	20	—	—
451065 2009 AJ_3	18.5	X	33.75326	229.29415	206.94849	7.53087	0.0915875	0.26575638	2.3959638	20	—	—
451066 2009 AU_{24}	18.0	X	14.44371	147.42196	299.65499	6.08970	0.1332839	0.25648159	2.4533825	20	—	—
451067 2009 AW_{24}	16.9	X	154.14511	298.80323	295.05378	10.31170	0.1438232	0.23281101	2.6169798	20	11 27.2	21.1
451068 2009 AR_{25}	18.1	X	83.30161	279.95322	126.37977	3.92131	0.1252550	0.26646792	2.3916967	20	1 1.8	20.7
451069 2009 AL_{33}	17.6	X	45.90939	330.88208	119.99697	6.18923	0.1006712	0.26338971	2.4102949	20	—	—
451070 2009 BZ_{17}	18.5	X	96.79682	25.12431	33.60292	1.88924	0.1745892	0.27238639	2.3569251	20	2 17.2	21.1
451071 2009 BN_{20}	17.9	X	80.05510	81.99435	310.47883	2.03190	0.0755161	0.26082295	2.4260822	20	—	—
451072 2009 BO_{26}	17.7	X	60.06675	88.56946	324.02821	6.50044	0.1696141	0.26199641	2.4188327	20	—	—
451073 2009 BG_{30}	17.7	X	88.63062	272.28684	100.36369	3.50498	0.2189414	0.26002953	2.4310148	20	—	—
451074 2009 BV_{31}	18.5	X	64.79425	0.30817	70.84365	2.52144	0.1645296	0.26581896	2.3955877	20	1 9.8	20.6
451075 2009 BE_{35}	18.4	X	359.38911	117.30634	19.50214	2.50357	0.1499795	0.26133395	2.4229186	20	—	—
451076 2009 BG_{39}	17.8	X	321.22128	167.39881	7.09488	2.33264	0.1366738	0.25846189	2.4408347	20	—	—
451077 2009 BC_{63}	17.4	X	98.56823	72.04443	329.41534	3.90297	0.2013076	0.26892893	2.3770831	20	1 31.6	20.1
451078 2009 BT_{63}	18.4	X	82.86223	256.70806	317.15732	15.17007	0.0689577	0.38569188	1.8691424	20	8 28.3	20.3
451079 2009 BF_{70}	18.3	X	81.54363	76.63389	357.75361	4.46356	0.2131468	0.27261974	2.3555800	20	2 22.1	20.5
451080 2009 BV_{84}	18.0	X	56.99342	159.23947	293.01720	0.63070	0.1447239	0.26732144	2.3866030	20	1 23.3	19.9
451081 2009 BO_{85}	17.9	X	91.57673	231.46384	170.76831	1.64333	0.1428036	0.26548108	2.3976199	20	1 12.2	20.3
451082 2009 BZ_{91}	18.1	X	77.00128	349.11124	50.47249	1.22864	0.1963329	0.26425839	2.4050098	20	—	—
451083 2009 BR_{100}	18.2	X	90.12804	230.09626	157.01274	2.29854	0.1701996	0.26266695	2.4147144	20	—	—
451084 2009 BU_{106}	17.4	X	78.96798	155.73790	270.78035	2.66727	0.1415027	0.26717196	2.3874932	20	1 24.9	19.7
451085 2009 BW_{115}	18.5	X	95.65211	60.27037	328.25599	4.20515	0.1560357	0.26507702	2.4000558	20	1 2.5	21.0
451086 2009 BP_{123}	17.9	X	111.53369	153.64062	266.26582	1.53890	0.1795167	0.27268235	2.3552194	20	3 8.7	20.9
451087 2009 BL_{126}	17.9	X	53.73269	273.70847	125.97536	2.13307	0.1785883	0.25458461	2.4655545	20	—	—
451088 2009 BQ_{142}	17.2	X	179.77062	267.57433	328.08884	13.16603	0.0945211	0.23828384	2.5767542	20	12 31.9	21.1
451089 2009 BV_{142}	17.8	X	55.60264	13.30546	24.96152	2.93827	0.1340850	0.25366412	2.4715156	20	—	—
451090 2009 BX_{176}	18.1	X	38.56615	143.43622	336.87183	3.61751	0.1799116	0.26681734	2.3896081	20	1 30.5	20.0
451091 2009 BH_{177}	17.2	X	226.51863	202.87597	340.82509	14.17865	0.0445312	0.23765041	2.5813308	20	12 28.2	20.9
451092 2009 BC_{186}	17.8	X	71.77695	72.79755	26.16269	22.00405	0.3368342	0.27259664	2.3557130	20	4 6.8	20.2
451093 2009 CA_5	17.3	X	173.11947	115.06924	126.76595	5.44508	0.2309542	0.24018137	2.5631647	20	12 21.4	21.6
451094 2009 CL_{21}	17.8	X	295.87814	17.20921	163.58147	2.55941	0.1372200	0.25397135	2.4695220	20	—	—
451095 2009 CS_{22}	17.8	X	35.27367	300.49514	161.97276	5.43816	0.1020549	0.26304479	2.4124015	20	—	—
451096 2009 CR_{27}	17.7	X	119.05936	325.87839	81.37414	3.60274	0.2141637	0.27160883	2.3614212	20	3 8.6	20.9
451097 2009 CH_{35}	17.6	X	104.94647	311.49774	74.64533	4.53716	0.1793385	0.26567345	2.3964624	20	1 17.1	20.3
451098 2009 CJ_{36}	17.5	X	214.96518	106.09694	113.57622	5.09592	0.1246111	0.24208948	2.5496786	20	—	—
451099 2009 CR_{47}	16.7	X	159.95863	268.54744	353.43194	16.45194	0.1112765	0.23536337	2.5980259	20	—	—
451100 2009 CU_{62}	18.2	X	73.20391	274.34332	196.98913	0.92934	0.1377883	0.27102974	2.3647836	20	3 19.0	20.7
451101 2009 DR_{16}	17.3	X	240.51757	214.08467	321.71888	12.59543	0.0931950	0.23848251	2.5753229	20	12 29.4	20.7
451102 2009 DX_{51}	17.7	X	8.36502	160.94858	315.68319	3.48133	0.0440221	0.25922290	2.4360553	20	—	—
451103 2009 DN_{63}	17.4	X	117.34717	182.47351	135.81480	4.09129	0.1083055	0.24236314	2.5477589	20	—	—
451104 2009 DJ_{132}	16.6	X	336.95561	15.04780	6.75334	6.23659	0.0441702	0.21833673	2.7313971	20	10 23.5	20.1
451105 2009 EH_{14}	18.5	X	5.94145	137.71745	6.59786	2.59088	0.1438534	0.26125544	2.4234040	20	1 1.9	21.0
451106 2009 EM_{15}	17.7	X	37.43976	307.43836	144.66046	4.14572	0.1299839	0.25786319	2.4446113	20	—	—
451107 2009 EW_{22}	16.3	X	79.49162	103.16101	185.58471	23.14216	0.2832712	0.21292256	2.7775055	20	12 4.6	21.4
451108 2009 EV_{23}	17.4	X	273.27462	314.48940	196.20736	4.16123	0.0526550	0.23590940	2.5940154	20	—	—
451109 2009 FU_9	17.7	X	149.11569	290.81846	352.91249	3.31925	0.1330301	0.23517634	2.5994031	20	—	—
451110 2009 FG_{24}	16.5	X	169.06084	193.54608	21.74089	13.67643	0.2449569	0.22484132	2.6784608	20	11 11.3	21.3
451111 2009 FG_{41}	18.1	X	334.41118	146.74750	16.29867	3.08012	0.1698930	0.25508614	2.4623218	20	—	—
451112 2009 FT_{41}	18.1	X	3.90264	42.05164	100.03156	3.49687	0.1722935	0.25688994	2.4507818	20	—	—
451113 2009 FA_{65}	16.7	X	163.84138	224.64129	22.99599	15.46331	0.0504974	0.22629818	2.6669529	20	12 28.1	20.8
451114 2009 FO_{69}	16.7	X	21.47104	54.37188	27.59024	15.35091	0.0940268	0.24081223	2.5586862	20	—	—
451115 2009 FL_{78}	16.1	X	237.76308	142.81296	89.72258	28.94242	0.1490952	0.24368214	2.5385570	20	—	—
451116 2009 GW_5	17.0	X	78.18812	278.87447	64.37986	5.33524	0.1050863	0.22752469	2.6573598	20	—	—
451117 2009 HS_{25}	17.2	X	160.89991	40.10222	205.86460	7.41092	0.1594411	0.22370598	2.6875156	20	12 16.7	21.7
451118 2009 HA_{45}	17.2	X	321.18547	82.02757	43.53752	22.58217	0.0904328	0.23743460	2.5828948	20	—	—
451119 2009 HP_{82}	18.2	X	358.64723	250.23499	28.90502	20.42236	0.1603506	0.36683632	1.9326557	20	8 18.3	20.0
451120 2009 HU_{93}	17.2	X	262.08115	116.51730	76.37878	19.09778	0.1919324	0.23664536	2.5886344	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451121 2009 HW_{102}	17.0	X	205.94596	3.88786	217.09380	11.09766	0.1948605	0.22856592	2.6492833	20	12 25.8	21.2
451122 2009 JE_{6}	17.6	X	185.60435	111.88730	130.33489	8.48575	0.1121492	0.22634835	2.6665588	20	—	—
451123 2009 JZ_{10}	17.1	X	114.17502	59.42528	214.47844	7.92966	0.1233457	0.21516465	2.7581768	20	12 6.4	21.5
451124 2009 KC_{3}	18.0	X	317.11789	337.27448	340.07760	10.02325	0.6994948	0.17173735	3.2054785	20	3 17.9	23.0
451125 2009 KB_{7}	16.1	X	75.50205	273.29788	25.30625	11.87208	0.1221662	0.21104556	2.7939496	20	11 23.4	20.4
451126 2009 KU_{13}	18.1	X	51.17096	39.65946	221.65414	21.49315	0.0189860	0.37604459	1.9009753	20	9 11.1	20.4
451127 2009 KK_{28}	17.2	X	331.18211	340.45214	169.61899	6.61817	0.1895259	0.24315862	2.5421994	20	—	—
451128 2009 LN_{5}	16.5	X	10.58916	233.70429	156.94604	9.09502	0.0909431	0.21720979	2.7408365	20	12 27.8	20.1
451129 2009 MU_{9}	16.5	X	9.26686	28.13153	302.82524	5.33689	0.1475026	0.18673568	3.0314554	20	10 5.8	20.2
451130 2009 NB	16.1	X	349.59530	71.21427	260.60782	10.48942	0.2890927	0.17907213	3.1173391	20	9 1.8	19.0
451131 2009 OR_{18}	16.7	X	285.02264	118.09329	314.42186	13.70945	0.0896451	0.18828969	3.0147527	20	9 28.8	20.9
451132 2009 PR_{2}	15.1	X	26.93164	314.25896	334.21381	23.98212	0.1941199	0.18163532	3.0879423	20	9 10.7	18.9
451133 2009 PW_{11}	16.0	X	332.55974	51.15131	315.06805	10.87877	0.2428306	0.18026979	3.1035167	20	9 10.4	19.0
451134 2009 QV_{2}	16.8	X	357.83570	283.03330	68.14718	2.36244	0.1934317	0.18352768	3.0666791	20	10 20.5	20.0
451135 2009 QS_{28}	15.7	X	356.43170	30.37736	284.15223	23.92756	0.2245324	0.17725230	3.1386397	20	8 14.4	19.3
451136 2009 QH_{30}	16.2	X	15.47184	76.89212	244.78769	17.32916	0.2543354	0.18578247	3.0418156	20	10 17.9	19.9
451137 2009 QJ_{31}	16.5	X	357.62594	348.05093	349.47070	6.37807	0.1924389	0.18198782	3.0839536	20	9 28.6	19.7
451138 2009 QC_{37}	16.1	X	349.92187	353.86140	6.97298	9.61650	0.0908408	0.18043132	3.1016641	20	10 9.5	19.9
451139 2009 QN_{37}	16.4	X	285.84366	43.34601	349.84865	10.04707	0.1310572	0.17318913	3.1875399	20	8 12.3	20.6
451140 2009 QP_{54}	16.8	X	22.11855	151.58964	167.01399	4.94768	0.0949628	0.18175712	3.0865627	20	10 6.4	20.8
451141 2009 QZ_{55}	16.5	X	330.65543	17.06855	1.24409	6.03669	0.0762707	0.18201669	3.0836274	20	10 3.2	20.4
451142 2009 QY_{58}	15.7	X	9.60846	227.04713	101.43941	16.09240	0.2769215	0.18241399	3.0791484	20	10 30.9	19.3
451143 2009 QB_{60}	15.7	X	3.94161	19.20801	284.25612	16.55013	0.2115199	0.17732931	3.1377309	20	8 18.7	19.3
451144 2009 QN_{61}	15.5	X	3.92728	69.84490	246.13875	14.85397	0.1606106	0.17820370	3.1274586	20	8 31.8	19.4
451145 2009 QA_{63}	17.1	X	330.39467	354.17161	7.79774	7.75177	0.1456874	0.17717954	3.1394989	20	9 10.4	20.6
451146 2009 QZ_{63}	16.7	X	6.32416	116.02566	192.88213	13.63441	0.2422240	0.17935621	3.1140466	20	9 10.0	19.9
451147 2009 RR_{12}	15.9	X	79.28396	235.80201	12.52121	10.77129	0.0753653	0.17486788	3.1671066	20	9 19.9	20.4
451148 2009 RJ_{16}	15.8	X	37.80467	267.36539	21.60257	11.79862	0.0725022	0.17378336	3.1802695	20	9 19.1	20.1
451149 2009 RL_{17}	16.1	X	155.01723	6.30504	183.18841	9.12987	0.0178298	0.17680792	3.1438965	20	9 29.2	20.4
451150 2009 RK_{40}	16.3	X	253.58964	255.06379	232.70008	8.78743	0.0374886	0.18600300	3.0394108	20	11 9.4	20.4
451151 2009 SR_{10}	16.3	X	323.63173	286.94053	73.32993	3.26661	0.1810707	0.17201532	3.2020243	20	8 22.6	19.8
451152 2009 SC_{23}	16.9	X	75.59406	68.93827	203.48216	8.85027	0.1144082	0.18993314	2.9973369	20	10 20.9	21.1
451153 2009 SC_{27}	16.8	X	355.41369	117.11408	196.70203	0.25657	0.1378482	0.17186943	3.2038361	20	8 18.6	20.6
451154 2009 SZ_{30}	16.1	X	86.21458	242.81162	26.66483	10.64063	0.0821268	0.18189441	3.0850094	20	10 23.4	20.6
451155 2009 SS_{76}	16.4	X	230.69747	51.39820	91.20739	6.03241	0.0414678	0.18052930	3.1005418	20	10 31.5	20.8
451156 2009 SL_{85}	17.0	X	279.21179	291.49124	166.03555	2.97930	0.0462022	0.18927189	3.0043138	20	11 5.5	21.1
451157 2009 SQ_{104}	21.0	X	349.48533	95.61334	56.54533	4.01796	0.2796289	0.67692423	1.2846239	20	—	—
451158 2009 SD_{111}	16.2	X	233.18459	132.89751	341.00146	10.14373	0.2414249	0.17268990	3.1936802	20	9 2.9	21.3
451159 2009 SM_{114}	16.5	X	14.17950	111.11098	208.66297	8.20160	0.1079350	0.17787352	3.1313277	20	9 24.0	20.5
451160 2009 SU_{119}	15.5	X	179.61849	159.69664	5.71763	27.53086	0.1121062	0.17625094	3.1505165	20	9 25.9	20.5
451161 2009 SM_{135}	15.5	X	356.25542	314.11705	17.48858	26.39845	0.1595689	0.17357598	3.1828020	20	9 23.8	19.3
451162 2009 SN_{138}	16.6	X	281.45299	43.69151	26.01212	4.09848	0.1914375	0.17331524	3.1859935	20	9 11.7	20.7
451163 2009 SX_{146}	16.0	X	301.22065	5.26486	34.87813	11.90937	0.0978282	0.17327802	3.1864497	20	9 19.8	20.2
451164 2009 SE_{154}	16.5	X	296.59826	228.94454	184.36774	4.78731	0.1321698	0.17721212	3.1391141	20	9 20.8	20.3
451165 2009 SX_{162}	15.8	X	309.81232	345.60195	20.60716	4.63299	0.1339159	0.17120085	3.2121718	20	8 11.6	19.8
451166 2009 SJ_{163}	16.3	X	62.15739	249.71101	21.78487	9.74008	0.2400799	0.18295515	3.0730735	20	10 19.1	20.7
451167 2009 SY_{182}	16.5	X	292.47947	60.80259	11.97907	9.92854	0.0805072	0.18262666	3.0767575	20	10 15.9	20.6
451168 2009 SP_{213}	16.5	X	333.82409	350.02077	20.39643	9.37230	0.1060599	0.17635251	3.1493067	20	9 28.6	20.2
451169 2009 SO_{215}	16.8	X	265.16725	55.53752	6.42738	4.41375	0.1989250	0.16989321	3.2286331	20	8 10.1	21.4
451170 2009 SD_{218}	16.7	X	24.65672	269.62350	50.57102	3.10019	0.0923491	0.18002591	3.1063189	20	10 11.3	20.6
451171 2009 SR_{235}	15.7	X	317.54938	26.37098	32.16235	18.08001	0.2076470	0.18073913	3.0981415	20	10 27.6	19.0
451172 2009 SY_{252}	16.3	X	255.81216	43.02313	42.74792	11.16453	0.0744839	0.17267087	3.1939148	20	9 19.3	20.9
451173 2009 SB_{258}	17.0	X	289.64166	12.87266	33.82384	5.59300	0.1188664	0.17441471	3.1725902	20	9 5.9	21.2
451174 2009 SL_{268}	16.6	X	294.53646	209.77834	195.13411	16.44531	0.0913408	0.17511454	3.1641318	20	9 9.2	20.9
451175 2009 SK_{269}	16.8	X	14.45812	271.88975	36.14104	1.31763	0.1737149	0.17584490	3.1553645	20	9 18.4	20.3
451176 2009 SK_{270}	16.4	X	8.42004	281.13122	34.30171	9.71935	0.1233223	0.17551699	3.1592933	20	9 16.4	20.3
451177 2009 SX_{277}	16.8	X	11.05661	163.83277	168.05424	7.75507	0.0912210	0.17877499	3.1207923	20	10 6.6	20.8
451178 2009 SD_{286}	17.5	X	283.90271	12.74454	38.23166	0.93481	0.1636639	0.17429528	3.1740393	20	8 25.4	21.7
451179 2009 SZ_{288}	16.3	X	26.39080	274.89617	32.63135	16.34623	0.2300891	0.17858944	3.1229536	20	10 17.8	20.2
451180 2009 ST_{290}	16.3	X	258.51797	36.37882	52.53959	10.10690	0.0687329	0.17396894	3.1780074	20	9 27.2	20.9
451181 2009 ST_{304}	16.6	X	270.00550	240.90990	180.11563	9.84614	0.1257683	0.17417815	3.1754621	20	8 22.8	21.0
451182 2009 SV_{307}	16.4	X	300.91417	80.68138	314.69079	3.17109	0.1313336	0.17765394	3.1339074	20	9 3.6	20.3
451183 2009 SB_{318}	16.3	X	240.10779	275.02890	190.09441	9.52699	0.0437068	0.17708775	3.1405837	20	9 23.0	20.8
451184 2009 SF_{322}	16.2	X	267.82351	54.36918	11.99830	11.42388	0.0705127	0.17604388	3.1529864	20	9 9.3	20.6
451185 2009 SG_{324}	16.4	X	82.45875	240.15805	38.04024	9.48407	0.0242556	0.18305366	3.0719709	20	10 23.8	20.7
451186 2009 SS_{327}	16.3	X	341.27569	267.91642	79.83207	4.68733	0.0941183	0.17265578	3.1941010	20	9 11.2	20.3
451187 2009 SV_{331}	16.1	X	313.73337	63.88435	308.68846	14.56166	0.2337353	0.17521529	3.1629188	20	8 11.0	19.5
451188 2009 SG_{332}	15.9	X	279.70842	179.47781	229.92529	14.43398	0.2422225	0.17083733	3.2167270	20	7 30.4	20.6
451189 2009 SU_{336}	16.0	X	355.65444	94.73934	239.49625	8.43875	0.1321352	0.17701726	3.1414174	20	9 12.2	19.9
451190 2009 SC_{345}	16.8	X	353.20425	271.60463	50.41290	5.41777	0.0634321	0.16941041	3.2347644	20	8 26.3	21.1
451191 2009 SB_{347}	16.2	X	46.88255	239.09725	38.16222	17.52213	0.1197065	0.17332586	3.1858633	20	9 27.3	20.7
451192 2009 SY_{350}	16.2	X	253.99420	54.25256	45.82458	15.06978	0.1410221	0.17454501	3.1710111	20	9 27.6	20.9
451193 2009 ST_{357}	16.6	X	312.03516	12.11335	14.07302	9.29277	0.0735502	0.17484545	3.1673775	20	9 17.3	20.8
451194 2009 TQ_{4}	15.6	X	242.60724	268.34997	179.83258	10.78605	0.1512273	0.17279758	3.1923532	20	8 20.1	20.4
451195 2009 TU_{17}	15.6	X	340.44771	272.32445	81.42363	14.72176	0.2205383	0.17402933	3.1772721	20	9 24.4	19.1
451196 2009 TS_{23}	16.5	X	252.85821	295.69027	188.88078	12.13178	0.1963503	0.18300861	3.0724751	20	10 13.7	20.8
451197 2009 TS_{32}	17.0	X	335.13971	331.43691	14.84269	7.51848	0.1359978	0.17332674	3.1858525	20	8 29.5	20.7
451198 2009 UA_{7}	16.9	X	36.70419	183.83741	118.22447	2.22229	0.1555152	0.18052932	3.1005416	20	10 14.4	20.9
451199 2009 UC_{8}	16.7	X	3.38701	311.05454	35.81829	10.03206	0.0834597	0.17981595	3.1087365	20	10 14.2	20.7
451200 2009 UB_{17}	15.1	X	352.87527	270.85870	61.15658	25.85879	0.2774851	0.17531606	3.1617067	20	10 5.3	18.6

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451201 2009 UJ_{24}	16.3	X	276.40131	215.38015	213.14053	26.08944	0.1339672	0.17085269	3.2165342	20	9 3.7	21.1
451202 2009 UU_{108}	16.3	X	328.23383	309.46079	55.52017	9.51425	0.1354016	0.16918929	3.2375822	20	9 13.3	20.3
451203 2009 UL_{131}	15.5	X	295.34363	334.60025	71.64832	21.54086	0.1939542	0.17068454	3.2186464	20	9 12.6	20.0
451204 2009 VR_{10}	15.8	X	29.58590	84.57545	219.74648	24.42246	0.2478763	0.17550795	3.1594017	20	10 17.5	19.9
451205 2009 VZ_{10}	15.7	X	121.01004	185.39122	50.16537	13.30359	0.0792290	0.17558741	3.1584485	20	10 22.4	20.5
451206 2009 VX_{11}	16.1	X	114.40521	209.34753	35.99792	10.20836	0.0813620	0.17564065	3.1578102	20	10 24.7	20.9
451207 2009 VV_{37}	17.1	X	267.26593	70.37351	40.27450	6.91898	0.4353780	0.16886793	3.2416884	20	9 11.5	22.1
451208 2009 VR_{66}	16.2	X	302.21803	193.25065	263.59354	4.33656	0.1102844	0.18021894	3.1041005	20	11 27.3	19.9
451209 2009 VZ_{77}	16.0	X	329.60857	293.61106	64.70375	26.71979	0.1951696	0.17015783	3.2252850	20	9 16.0	20.2
451210 2009 VZ_{78}	17.8	X	164.32955	14.41888	325.20176	8.39949	0.2535517	0.31132945	2.1560355	20	1 26.2	21.1
451211 2009 VU_{79}	16.1	X	296.76767	345.87213	104.23352	28.01598	0.2553453	0.17596898	3.1538811	20	11 6.2	20.3
451212 2009 WB_{8}	16.4	X	312.43764	96.47908	298.57784	8.44810	0.1434375	0.17551085	3.1593670	20	9 16.6	20.4
451213 2009 WB_{110}	15.2	X	246.83788	32.76980	86.09715	28.22551	0.1548968	0.17178408	3.2048973	20	10 19.2	20.4
451214 2009 WJ_{145}	16.5	X	336.64759	329.57071	31.84455	11.13804	0.1176087	0.17299581	3.1899141	20	9 23.2	20.4
451215 2009 WS_{197}	16.3	X	316.99173	162.47980	194.67014	9.81942	0.0756241	0.16036261	3.3553203	20	8 11.1	20.8
451216 2009 WU_{259}	15.6	X	256.67051	23.95723	102.21022	14.72059	0.1951954	0.16613254	3.2771745	20	10 23.8	20.5
451217 2009 XE_{11}	17.0	X	231.01850	107.77025	99.82649	14.06485	0.6113696	0.16333597	3.3144756	20	11 19.8	23.4
451218 2009 XL_{23}	15.8	X	287.85263	190.65420	270.14224	16.05314	0.1354582	0.17499551	3.1655666	20	11 3.2	20.1
451219 2010 AB_{34}	15.7	X	340.23393	132.56993	320.42574	9.76852	0.0941586	0.17767468	3.1336635	20	—	—
451220 2010 AP_{88}	17.1	X	304.65002	78.42769	317.00267	8.57358	0.2213591	0.17364605	3.1819458	20	8 27.0	20.9
451221 2010 BT_{27}	16.8	X	256.63102	191.56279	280.14652	5.39483	0.1934805	0.17451497	3.1713750	20	9 27.7	21.5
451222 2010 BE_{67}	17.6	X	58.89795	41.60309	59.71643	24.20925	0.1832252	0.28575848	2.2828111	20	2 26.1	20.4
451223 2010 CT_{3}	17.0	X	256.07997	205.38809	45.73356	2.96001	0.1866918	0.28049611	2.3112743	20	—	—
451224 2010 CC_{42}	17.7	X	288.69892	82.50761	146.19152	5.90820	0.1174662	0.28722373	2.2750407	20	1 4.4	20.7
451225 2010 CF_{80}	18.0	X	48.29227	15.03126	145.83453	4.57723	0.1416304	0.30080783	2.2060226	20	4 18.7	19.8
451226 2010 CS_{96}	17.7	X	102.35122	106.26030	327.89204	7.16613	0.0318260	0.29646665	2.2275057	20	2 19.2	20.3
451227 2010 CG_{115}	18.4	X	61.63712	347.20918	120.44754	3.61426	0.1233137	0.29521088	2.2338181	20	2 16.9	20.3
451228 2010 CQ_{125}	18.0	X	27.88136	27.56144	146.73405	4.75133	0.0726142	0.29676120	2.2260315	20	3 25.3	20.0
451229 2010 CA_{179}	17.5	X	317.05202	10.24925	199.70725	4.51189	0.0959032	0.28495852	2.2870814	20	1 17.9	20.3
451230 2010 CT_{214}	17.1	X	189.87394	324.15925	337.03476	12.78091	0.0388989	0.26656092	2.3911403	20	—	—
451231 2010 CD_{249}	17.7	X	34.64156	45.79845	112.97710	3.31304	0.0355139	0.30211809	2.1996398	20	3 11.4	20.0
451232 2010 DL_{8}	17.8	X	337.23775	5.45940	180.14828	2.89179	0.1087817	0.28644224	2.2791768	20	1 11.5	20.4
451233 2010 EL_{33}	17.9	X	19.68685	162.63459	345.85215	6.00853	0.0478664	0.28842193	2.2687355	20	2 3.7	20.2
451234 2010 EW_{41}	18.0	X	93.26224	244.25315	190.32885	3.42755	0.0979063	0.29092213	2.2557184	20	2 16.7	20.4
451235 2010 EX_{75}	17.0	X	181.30948	272.96447	3.48130	15.52347	0.1728517	0.26109527	2.4243950	20	—	—
451236 2010 EM_{76}	17.5	X	272.17999	139.66230	101.13755	4.62505	0.0877223	0.28203942	2.3028351	20	1 5.6	20.5
451237 2010 EO_{79}	17.7	X	342.57018	45.78672	141.41622	3.23367	0.0983049	0.28757744	2.2731748	20	1 23.7	19.9
451238 2010 EV_{108}	18.1	X	339.10781	110.54152	78.71087	3.52087	0.1688583	0.28350131	2.2949118	20	1 11.3	20.6
451239 2010 FA_{13}	17.1	X	56.16496	118.04918	45.31835	23.24713	0.2321114	0.30063491	2.2068684	20	5 18.9	19.1
451240 2010 FZ_{29}	18.0	X	44.29687	123.85411	20.50764	8.22822	0.0925673	0.29068157	2.2569627	20	3 12.2	20.1
451241 2010 GL_{101}	17.3	X	168.08357	229.23483	73.12377	8.79166	0.1200539	0.26013249	2.4303733	20	—	—
451242 2010 GO_{102}	17.8	X	307.47772	338.14450	210.79070	4.34058	0.1634089	0.27552695	2.3389808	20	—	—
451243 2010 GO_{107}	17.7	X	4.28415	132.24002	8.50174	6.07659	0.1782666	0.28033688	2.3121494	20	—	—
451244 2010 GP_{108}	17.6	X	248.61353	30.32928	205.02324	5.59775	0.0962819	0.26571808	2.3961940	20	—	—
451245 2010 GU_{111}	17.7	X	264.82338	354.97220	214.11949	6.87976	0.0557553	0.26567208	2.3964706	20	—	—
451246 2010 GK_{158}	17.4	X	275.38194	151.23896	84.34931	8.86451	0.1305516	0.27452060	2.3446935	20	—	—
451247 2010 HZ_{106}	17.8	X	267.18148	21.31281	193.68052	4.94059	0.1312451	0.26570638	2.3962643	20	—	—
451248 2010 JK_{30}	17.3	X	81.44560	252.95713	65.90451	11.88319	0.2108188	0.23495753	2.6010167	20	—	—
451249 2010 JP_{36}	17.7	X	230.29397	193.45362	47.14880	2.60207	0.1390028	0.26188932	2.4194920	20	—	—
451250 2010 JB_{79}	17.7	X	199.20281	125.84762	150.36018	5.20003	0.1792507	0.25831829	2.4417392	20	—	—
451251 2010 JN_{121}	15.9	X	59.05625	286.19094	77.72730	29.40822	0.3920369	0.23424908	2.6062583	20	—	—
451252 2010 JP_{154}	16.8	X	46.17920	8.46819	66.42882	15.46129	0.0523410	0.26580937	2.3956454	20	—	—
451253 2010 KD_{31}	17.2	X	44.21498	51.11784	281.96648	6.80219	0.2333205	0.21373648	2.7704498	20	12 18.3	21.1
451254 2010 KM_{74}	17.2	X	39.60438	183.43797	167.69254	7.25921	0.2534472	0.21459151	2.7630857	20	—	—
451255 2010 KW_{82}	16.9	X	71.06560	162.98852	129.62883	4.21547	0.2596110	0.21413144	2.7670421	20	11 29.9	21.3
451256 2010 LE_{47}	17.1	X	347.64887	75.56930	338.08691	13.88609	0.2704987	0.21094114	2.7948716	20	—	—
451257 2010 LR_{55}	17.2	X	353.74573	199.82672	181.87857	8.25531	0.2939383	0.20508947	2.8477846	20	12 14.1	20.0
451258 2010 LA_{84}	16.4	X	87.82315	309.71672	343.60707	12.58594	0.1823727	0.21604874	2.7506472	20	12 6.8	21.1
451259 2010 LX_{91}	16.7	X	286.65214	81.90674	13.28038	4.14202	0.0249674	0.21149999	2.7899461	20	11 17.5	20.3
451260 2010 LS_{112}	16.8	X	112.89905	62.46026	253.43240	10.21460	0.1195744	0.23388173	2.6089866	20	—	—
451261 2010 MR_{22}	16.5	X	108.42516	284.60389	13.45172	13.02957	0.2230769	0.22255261	2.6967928	20	—	—
451262 2010 NA_{14}	16.8	X	357.75016	4.80755	39.09176	8.71947	0.2194546	0.20919525	2.8104002	20	—	—
451263 2010 NZ_{16}	16.1	X	325.57906	105.47958	201.08681	25.84740	0.2162146	0.18240672	3.0792302	20	6 5.9	20.0
451264 2010 NK_{34}	16.8	X	61.33639	177.57170	156.42673	10.61019	0.2225854	0.21365475	2.7711563	20	—	—
451265 2010 NS_{86}	17.2	X	101.66729	102.38433	177.56104	2.17898	0.1765916	0.21320332	2.7750665	20	12 4.5	21.7
451266 2010 NF_{118}	16.4	X	136.09432	33.51178	269.67289	12.47562	0.1527978	0.23615451	2.5922201	20	—	—
451267 2010 OP_{37}	15.8	X	164.28799	251.56659	263.55930	11.30890	0.1197533	0.18364379	3.0653864	20	8 23.5	20.9
451268 2010 OW_{102}	16.5	X	317.43072	169.28394	262.24866	9.79046	0.0817413	0.20255529	2.8714879	20	11 25.8	20.1
451269 2010 PS_{23}	17.7	X	31.98250	156.63007	173.12020	8.01681	0.2929596	0.21191131	2.7863347	20	12 8.9	21.6
451270 2010 PL_{65}	17.0	X	8.73420	16.16349	356.70587	3.82888	0.1123869	0.21078819	2.7962234	20	12 2.7	20.5
451271 2010 RL_{3}	16.9	X	77.77581	333.25041	354.74830	6.71390	0.1285263	0.22017678	2.7161581	20	—	—
451272 2010 RB_{9}	17.5	X	0.72271	87.53260	159.53036	23.02358	0.1091029	0.38322142	1.8771668	20	6 2.9	19.5
451273 2010 RV_{43}	17.1	X	339.89395	261.19841	150.67372	5.17872	0.1080166	0.20843113	2.8172647	20	12 9.1	20.4
451274 2010 RB_{47}	16.8	X	106.52347	290.21131	346.97079	6.87529	0.2224248	0.21527479	2.7572360	20	12 6.8	21.6
451275 2010 RK_{61}	16.7	X	323.52242	333.69724	7.47024	11.04976	0.1118268	0.18540304	3.0459643	20	8 7.0	20.6
451276 2010 RM_{69}	17.3	X	35.97183	26.72991	345.52152	5.88028	0.0444202	0.21900185	2.7258641	20	—	—
451277 2010 RR_{70}	16.9	X	67.70497	325.90741	3.86198	4.01832	0.0703554	0.21335410	2.7737590	20	12 19.6	20.8
451278 2010 RQ_{98}	17.2	X	33.41048	77.00902	282.29086	3.25617	0.0768404	0.21053908	2.7984286	20	12 14.9	21.0
451279 2010 RA_{101}	16.7	X	99.27202	316.81940	351.76276	8.79635	0.1384261	0.21756484	2.7378538	20	—	—
451280 2010 RQ_{102}	17.5	X	30.50568	142.75913	216.36378	4.31199	0.0314275	0.20928886	2.8095622	20	12 4.5	21.3

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451281 2010 RN_{105}	16.8	X	274.72708	328.46952	198.94540	14.63528	0.1356171	0.21915044	2.7246318	20	—	—
451282 2010 RU_{117}	16.7	X	337.58282	39.91454	32.24987	9.57424	0.1529362	0.21033093	2.8002746	20	—	—
451283 2010 RO_{128}	16.5	X	6.45300	56.76471	330.40992	8.92382	0.1223802	0.21074752	2.7965831	20	12 20.0	20.1
451284 2010 RS_{137}	16.6	X	256.69146	225.03838	319.91150	11.29704	0.1167413	0.22575273	2.6712470	20	—	—
451285 2010 RZ_{141}	16.4	X	107.11850	322.25680	320.80863	5.93207	0.0125116	0.21046786	2.7990599	20	11 30.9	20.3
451286 2010 RL_{175}	16.2	X	87.97953	243.27719	24.95728	13.24915	0.1425798	0.20245697	2.8724175	20	11 1.1	20.6
451287 2010 SM_{8}	17.9	X	52.99215	167.41193	185.69314	3.63804	0.1062746	0.21826587	2.7319883	20	—	—
451288 2010 SN_{34}	17.2	X	124.83219	152.91561	130.91714	5.37253	0.0463940	0.21603806	2.7507378	20	12 26.4	21.3
451289 2010 SS_{37}	17.0	X	106.93610	110.51437	190.33516	14.48187	0.2172827	0.22096503	2.7096946	20	—	—
451290 2010 TG_{8}	17.1	X	314.30406	267.10061	193.37475	15.20508	0.2050358	0.21140867	2.7907495	20	12 29.8	20.1
451291 2010 TB_{11}	16.8	X	335.53789	27.35465	21.60028	13.05225	0.1481263	0.20436390	2.8545212	20	11 24.6	20.1
451292 2010 TC_{13}	17.2	X	330.10964	110.79640	342.02900	6.79543	0.1363869	0.21372502	2.7705488	20	—	—
451293 2010 TF_{18}	17.0	X	46.12750	48.97903	307.74403	5.11917	0.0599005	0.21590927	2.7518316	20	12 26.8	20.9
451294 2010 TT_{29}	17.1	X	33.98584	346.29465	356.84506	5.84277	0.0767724	0.20676129	2.8324128	20	11 22.9	21.0
451295 2010 TM_{33}	17.2	X	319.12772	265.29378	177.68871	4.30385	0.0401630	0.20919019	2.8104455	20	12 15.7	20.9
451296 2010 TO_{40}	17.5	X	11.68399	60.24314	353.08596	6.10668	0.0489428	0.21698942	2.7426918	20	—	—
451297 2010 TK_{54}	19.2	X	44.47867	222.96720	28.16949	30.80190	0.4952001	0.39478122	1.8403414	20	10 28.5	22.2
451298 2010 TD_{113}	17.0	X	46.80260	138.66815	209.11759	7.25764	0.0724049	0.20952722	2.8074310	20	12 16.5	21.0
451299 2010 TT_{113}	17.4	X	6.07062	130.96659	253.59744	1.02542	0.1006870	0.20689794	2.8311656	20	12 11.9	20.9
451300 2010 TG_{117}	17.3	X	17.34682	292.65656	59.08934	3.00693	0.0764119	0.20173540	2.8792628	20	11 11.9	21.0
451301 2010 TD_{120}	16.9	X	86.54056	16.70926	287.50210	4.43814	0.1220318	0.21552424	2.7551080	20	12 15.1	21.1
451302 2010 TT_{138}	17.1	X	233.04549	152.34224	312.81905	3.50811	0.0835355	0.18731843	3.0251648	20	9 10.2	21.4
451303 2010 TW_{141}	16.9	X	16.53848	78.58105	252.24560	7.61647	0.1059464	0.19518149	2.9433616	20	10 14.2	20.7
451304 2010 TL_{150}	16.8	X	50.78565	119.94543	246.67166	8.10442	0.0495475	0.22244645	2.6976508	20	—	—
451305 2010 TG_{154}	16.8	X	37.56338	198.00939	207.14829	21.66714	0.0424067	0.22393939	2.6856478	20	—	—
451306 2010 TS_{160}	16.9	X	305.98322	288.82066	207.35056	15.45319	0.2147464	0.21312730	2.7757265	20	—	—
451307 2010 TN_{173}	16.8	X	0.44593	37.97173	307.57772	7.90717	0.0992670	0.20048463	2.8912257	20	10 7.4	20.6
451308 2010 TD_{178}	17.3	X	82.84702	286.93314	33.67313	5.11546	0.1571961	0.21703221	2.7423313	20	—	—
451309 2010 TW_{184}	16.9	X	12.37701	211.29108	189.12259	13.33150	0.0971461	0.21290610	2.7776486	20	—	—
451310 2010 UU_{2}	16.2	X	327.35393	95.44883	229.15183	14.27857	0.0841262	0.17653671	3.1471156	20	7 14.8	20.5
451311 2010 UE_{11}	15.8	X	239.88941	11.03384	60.24691	13.72231	0.1218067	0.17532200	3.1616353	20	8 6.1	20.7
451312 2010 UF_{25}	16.2	X	297.61645	349.23377	61.83302	8.74056	0.2026027	0.18594550	3.0400374	20	9 16.6	19.9
451313 2010 UE_{50}	17.1	X	304.97037	42.77984	56.91324	11.77417	0.0292876	0.20680282	2.8320336	20	12 16.1	21.0
451314 2010 UW_{53}	16.8	X	299.66917	3.56190	25.31954	10.69796	0.0844515	0.18538297	3.0461842	20	9 5.7	20.8
451315 2010 UY_{53}	16.4	X	291.26785	109.45813	246.37733	8.36738	0.1004577	0.17462246	3.1700734	20	7 3.1	20.7
451316 2010 UZ_{67}	17.0	X	5.31335	316.68301	1.65056	10.12709	0.0961414	0.19023273	2.9941891	20	9 12.5	20.6
451317 2010 UD_{68}	16.3	X	349.40638	106.42925	241.06956	8.11902	0.1197261	0.19353592	2.9600224	20	9 22.3	19.9
451318 2010 UM_{93}	16.0	X	16.54017	273.87102	14.00990	9.41089	0.1243585	0.17902001	3.1179442	20	8 24.2	19.9
451319 2010 UN_{98}	15.9	X	340.84274	63.21248	240.87581	9.93846	0.0449013	0.17113794	3.2129590	20	7 11.5	20.3
451320 2010 VS_{48}	16.9	X	3.09614	235.08595	108.47294	1.86077	0.2608017	0.19095873	2.9865952	20	10 31.2	19.8
451321 2010 VW_{48}	16.5	X	56.02423	122.83178	217.02824	11.76199	0.2081130	0.21219740	2.7838298	20	—	—
451322 2010 VO_{51}	16.3	X	64.26794	6.78093	280.72798	8.45160	0.0819675	0.18762441	3.0218750	20	10 17.4	20.8
451323 2010 VC_{58}	16.1	X	289.30476	35.02918	46.72221	11.58141	0.1369236	0.19100086	2.9861561	20	10 21.4	19.7
451324 2010 VL_{58}	15.8	X	83.83168	306.29859	262.08090	11.31844	0.0257611	0.17461820	3.1701249	20	7 25.2	20.4
451325 2010 VY_{59}	16.3	X	238.23528	210.98262	283.83387	9.46005	0.0601808	0.19665594	2.9286311	20	10 25.5	20.6
451326 2010 VP_{60}	16.4	X	103.97564	24.53962	269.90016	11.45711	0.1311460	0.20974926	2.8054493	20	12 20.0	20.7
451327 2010 VE_{62}	15.4	X	210.27339	274.29991	257.32640	23.05230	0.0475637	0.19148770	2.9810926	20	11 9.3	19.9
451328 2010 VV_{81}	16.3	X	238.40702	62.89542	61.47522	8.67400	0.2375798	0.18217209	3.0818736	20	9 26.1	21.2
451329 2010 VK_{88}	16.2	X	288.78649	180.28657	251.97560	8.43182	0.0884166	0.18954018	3.0014782	20	10 8.4	20.2
451330 2010 VP_{92}	17.0	X	200.53506	177.90561	34.55807	14.79705	0.0971465	0.21200022	2.7855556	20	12 16.3	21.3
451331 2010 VH_{101}	15.9	X	166.77206	272.77379	234.12222	15.87259	0.0795996	0.17439594	3.1728178	20	8 13.9	21.1
451332 2010 VT_{101}	15.9	X	90.08292	182.22151	61.24366	18.82776	0.1528950	0.18225258	3.0809661	20	10 13.3	20.9
451333 2010 VY_{113}	16.0	X	299.90359	129.45009	272.51629	9.20725	0.0908614	0.18481021	3.0524747	20	9 12.3	20.1
451334 2010 VM_{114}	16.0	X	201.20758	77.34857	43.10344	13.80445	0.0710900	0.17580248	3.1558721	20	9 1.7	20.9
451335 2010 VQ_{116}	16.7	X	319.68392	1.90238	6.45832	5.68967	0.1376002	0.18458858	3.0549176	20	9 1.5	20.2
451336 2010 VN_{119}	16.2	X	168.55673	294.98278	231.42873	11.62995	0.0794499	0.17956570	3.1116241	20	9 11.3	21.1
451337 2010 VD_{132}	17.5	X	276.35456	302.49007	162.79539	1.22397	0.0863086	0.19775401	2.9177798	20	11 7.7	21.1
451338 2010 VY_{167}	16.8	X	334.14537	116.88687	221.06111	8.53268	0.1409660	0.18238134	3.0795159	20	8 10.7	20.5
451339 2010 VB_{173}	16.4	X	215.40069	282.93006	244.44911	8.38234	0.2738743	0.18455712	3.0552647	20	10 16.9	21.7
451340 2010 VK_{180}	16.8	X	354.93577	89.53364	237.68300	25.39905	0.2451862	0.18644702	3.0345835	20	9 2.4	20.4
451341 2010 VR_{184}	17.4	X	352.80260	35.38017	357.99469	0.77420	0.1366687	0.19883745	2.9071711	20	12 4.5	20.8
451342 2010 VT_{196}	15.7	X	308.31226	64.43930	283.63748	10.88823	0.0415810	0.17103952	3.2141914	20	7 23.9	20.1
451343 2010 VE_{207}	16.4	X	249.91789	234.87198	252.13783	8.43768	0.0444184	0.19766336	2.9186718	20	11 4.1	20.5
451344 2010 VS_{209}	16.9	X	340.32021	26.21661	7.06076	12.04659	0.0649184	0.19796361	2.9157199	20	11 5.9	20.8
451345 2010 VY_{210}	16.8	X	132.09128	22.84897	245.04642	5.36224	0.0186858	0.20527675	2.8460523	20	12 12.3	20.8
451346 2010 VM_{213}	17.5	X	301.17026	150.35042	254.53731	1.17927	0.1298098	0.18964528	3.0003692	20	9 18.9	21.0
451347 2010 VR_{218}	17.2	X	24.76396	116.53098	236.35247	18.15615	0.2051551	0.20158927	2.8806541	20	12 11.4	21.0
451348 2010 WQ_{4}	16.4	X	42.64314	78.68907	239.78996	9.43345	0.0456592	0.19305520	2.9649341	20	10 27.1	20.6
451349 2010 WF_{11}	17.0	X	10.08916	33.86091	342.65423	7.96368	0.0899043	0.20073868	2.8887858	20	12 2.9	20.8
451350 2010 WW_{20}	16.3	X	155.02496	122.27339	68.61744	10.87887	0.0286865	0.18321238	3.0701965	20	10 7.2	20.9
451351 2010 WL_{23}	16.0	X	138.62164	140.07625	64.23651	12.15553	0.0331856	0.18224997	3.0809955	20	10 5.3	20.6
451352 2010 WN_{43}	17.0	X	337.01362	47.40243	347.16481	4.32958	0.0983561	0.19371310	2.9582172	20	11 4.9	20.7
451353 2010 WF_{47}	16.1	X	336.00702	137.89476	257.01283	7.75576	0.0977362	0.19209362	2.9748204	20	11 3.3	19.8
451354 2010 WD_{48}	15.8	X	322.10876	126.05569	255.02778	9.68544	0.0520418	0.18349065	3.0670917	20	9 21.1	20.0
451355 2010 WF_{51}	16.0	X	203.30015	98.62655	37.02514	11.55821	0.0528225	0.18179129	3.0861759	20	9 22.5	20.6
451356 2010 WR_{53}	15.9	X	182.87619	278.03344	263.91340	8.09453	0.1007390	0.18619295	3.0373434	20	10 16.3	20.8
451357 2010 WY_{53}	17.2	X	235.41451	64.17525	42.60305	4.78837	0.2513702	0.17885440	3.1198686	20	8 29.2	22.2
451358 2010 WX_{66}	16.4	X	215.71720	90.88537	59.72731	6.51231	0.0853068	0.18610480	3.0383025	20	10 19.3	20.8
451359 2010 XJ_{7}	17.0	X	320.60167	163.85576	201.11122	9.66372	0.1198402	0.18104748	3.0946228	20	8 25.6	20.9
451360 2010 XP_{10}	17.2	X	304.60752	251.50817	80.57332	30.19116	0.2054688	0.37748140	1.8961485	20	6 10.0	17.8

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451361 2010 XK_{12}	17.0	X	271.70487	56.39901	9.96499	2.01028	0.1778536	0.17785987	3.1314879	20	8 26.9	21.3
451362 2010 XL_{12}	16.0	X	254.62235	196.88766	280.36307	8.70576	0.2088965	0.18296935	3.0729145	20	9 29.5	20.5
451363 2010 XN_{22}	16.4	X	8.34905	266.69356	65.73910	9.99501	0.1444275	0.18850921	3.0124118	20	10 13.8	20.1
451364 2010 XX_{25}	17.1	X	232.91410	35.25565	101.33574	1.46788	0.1508750	0.18668590	3.0319942	20	10 12.3	21.5
451365 2010 XU_{35}	16.4	X	275.98620	11.67051	80.41828	12.03286	0.0743484	0.18868727	3.0105163	20	10 25.9	20.6
451366 2010 XP_{39}	15.7	X	201.10962	279.52112	227.79664	20.89155	0.2673360	0.17668755	3.1453242	20	9 7.8	21.6
451367 2010 XP_{76}	15.9	X	311.47712	272.43919	95.32777	10.31514	0.0943475	0.17727932	3.1383208	20	8 23.1	20.0
451368 2010 XA_{79}	16.4	X	325.70372	172.31695	237.64637	9.32425	0.0647680	0.19143109	2.9816803	20	11 7.8	20.1
451369 2010 XG_{83}	16.0	X	6.62107	266.08268	84.29906	16.52829	0.2164789	0.19161061	2.9798176	20	11 14.2	19.5
451370 2011 AK_5	21.5	X	279.55215	325.68988	316.79607	5.52304	0.2307345	0.76145823	1.1876961	20	—	—
451371 2011 AX_{19}	16.7	X	289.60417	4.46932	66.74198	4.34807	0.1937740	0.18236309	3.0797214	20	9 27.9	20.5
451372 2011 AQ_{21}	16.4	X	274.26457	112.73352	314.97252	9.02090	0.2076888	0.17552852	3.1591549	20	8 24.9	20.7
451373 2011 AS_{34}	15.4	X	238.99546	196.06344	278.56566	15.68014	0.1675047	0.17545148	3.1600796	20	9 9.2	20.5
451374 2011 AJ_{35}	16.1	X	267.36291	140.09264	309.84491	9.25984	0.1925110	0.17546938	3.1598647	20	9 13.1	20.6
451375 2011 AH_{60}	16.8	X	266.09707	135.24735	268.45427	4.14241	0.2243453	0.16670084	3.2697223	20	7 13.8	21.5
451376 2011 AS_{63}	17.0	X	265.07061	99.35522	0.57678	2.29593	0.1143399	0.17924622	3.1153204	20	10 8.3	21.0
451377 2011 AL_{74}	16.1	X	245.38001	173.08066	283.95079	14.18435	0.2301725	0.17336371	3.1853995	20	8 20.7	21.2
451378 2011 AM_{79}	15.6	X	278.44650	328.45079	94.23029	22.60068	0.1337062	0.17293475	3.1906650	20	9 16.1	20.3
451379 2011 BG	16.8	X	270.48000	303.09675	119.90562	11.01346	0.2002726	0.17417521	3.1754978	20	8 18.2	21.3
451380 2011 BR_2	16.3	X	298.98844	315.30899	80.90864	10.54494	0.0778301	0.17439950	3.1727746	20	9 14.5	20.6
451381 2011 BE_{15}	15.7	X	250.88278	285.21738	162.80200	14.79482	0.2431978	0.17132514	3.2106181	20	8 18.3	20.8
451382 2011 BJ_{15}	15.6	X	255.87215	292.50618	150.37832	26.94022	0.2295197	0.17111084	3.2132982	20	8 19.8	20.3
451383 2011 BA_{25}	15.6	X	263.88728	298.79875	120.82754	23.21158	0.1610958	0.16966247	3.2315597	20	8 10.5	20.2
451384 2011 BA_{53}	16.2	X	289.37685	108.34118	312.04733	7.91704	0.0423489	0.17176054	3.2051900	20	9 26.0	20.8
451385 2011 BY_{57}	15.9	X	179.12839	165.59503	323.26300	9.19790	0.0355892	0.15681945	3.4056716	20	8 11.4	20.8
451386 2011 BY_{63}	17.6	X	343.29605	314.18404	334.42692	17.84510	0.0512611	0.35745478	1.9663250	20	7 12.6	19.6
451387 2011 CQ_8	16.1	X	296.32888	286.73736	136.44345	15.93697	0.1873207	0.17803268	3.1294612	20	10 1.5	20.1
451388 2011 CG_{10}	16.9	X	280.41625	78.69330	7.99574	5.03941	0.1831807	0.17871015	3.1215472	20	10 2.6	20.8
451389 2011 CT_{40}	16.6	X	286.21781	299.29092	127.89423	8.12307	0.1362998	0.17491235	3.1665698	20	9 25.6	20.8
451390 2011 CQ_{60}	17.3	X	265.03085	151.62788	306.56321	2.38239	0.1937734	0.17542837	3.1603571	20	9 23.1	21.7
451391 2011 CR_{66}	16.4	X	240.71189	348.42376	142.37312	11.30285	0.2477969	0.17673224	3.1447939	20	10 3.4	21.3
451392 2011 CJ_{75}	16.3	X	265.81494	72.98536	21.26148	24.98290	0.3111261	0.17533268	3.1615069	20	9 15.1	21.2
451393 2011 DQ_{10}	16.1	X	249.49709	61.65848	95.53209	26.42520	0.3700965	0.17972508	3.1097842	20	11 6.8	21.4
451394 2011 DD_{11}	16.7	X	278.97697	297.72061	159.81560	8.95407	0.4100543	0.17990438	3.1077177	20	9 9.8	20.8
451395 2011 DF_{31}	16.6	X	271.88178	308.93291	150.17610	10.91537	0.2382224	0.17650118	3.1475379	20	9 30.5	20.8
451396 2011 ED_{18}	17.8	X	175.49795	295.60658	166.35060	23.56558	0.0690277	0.35386632	1.9795960	20	7 12.8	20.7
451397 2011 EZ_{78}	17.2	X	142.92682	179.72782	109.86669	17.92436	0.5426958	0.26595335	2.3947807	20	—	—
451398 2011 FV_8	17.0	X	215.92138	103.56690	15.87305	20.86582	0.1291028	0.36691510	1.9323791	20	10 1.6	18.9
451399 2011 FA_{12}	16.8	X	281.29497	258.43265	207.55517	22.38508	0.4699195	0.17717078	3.1396024	20	9 8.8	21.4
451400 2011 HD_{73}	18.2	X	221.49167	271.14492	32.83895	5.29441	0.1880912	0.30765936	2.1731479	20	1 28.6	21.7
451401 2011 KT_{12}	17.7	X	177.40431	168.63427	138.40534	12.84318	0.2935656	0.28335933	2.2956783	20	1 1.8	21.8
451402 2011 KL_{18}	18.1	X	249.70590	191.90504	93.76243	4.85599	0.1374145	0.30232748	2.1986240	20	2 2.3	21.1
451403 2011 MG_3	17.9	X	110.88631	186.54658	142.50863	6.00732	0.2459899	0.26019447	2.4299873	20	—	—
451404 2011 NJ_1	17.3	X	251.52327	13.29991	273.68394	6.58786	0.2356034	0.29847484	2.2175031	20	1 29.0	21.0
451405 2011 OA_9	18.1	X	182.61452	15.11496	272.50473	6.80150	0.1252149	0.27118011	2.3639094	20	—	—
451406 2011 OG_{13}	18.5	X	119.28502	169.60679	167.09544	2.81275	0.2364260	0.26513103	2.3997298	20	—	—
451407 2011 OZ_{16}	17.2	X	163.20473	195.69148	107.36017	9.42117	0.2128316	0.27134575	2.3629473	20	—	—
451408 2011 OF_{20}	18.0	X	208.61094	162.99692	122.47043	7.64826	0.2181480	0.28210008	2.3025050	20	—	—
451409 2011 OF_{24}	17.5	X	251.39667	242.37132	50.11775	8.35160	0.1599207	0.29775416	2.2210798	20	2 14.7	20.9
451410 2011 PP_{11}	17.9	X	149.80148	41.54870	275.10446	5.45115	0.2164774	0.27112332	2.3642395	20	—	—
451411 2011 QK_{27}	18.0	X	126.52219	345.29024	8.61405	5.13565	0.2429408	0.26709171	2.3879713	20	1 11.8	21.3
451412 2011 QS_{28}	17.4	X	283.39446	293.08389	331.03642	4.50683	0.1358077	0.29767368	2.2214801	20	2 10.8	20.4
451413 2011 QZ_{31}	18.3	X	136.63229	354.10209	348.38559	4.38209	0.2686800	0.26767761	2.3844855	20	1 10.8	21.9
451414 2011 QR_{46}	17.0	X	157.20200	103.62630	235.27208	9.48923	0.1797290	0.27278986	2.3546005	20	1 13.6	20.6
451415 2011 QY_{46}	17.9	X	156.88459	11.05504	279.33228	6.20198	0.1144580	0.26217103	2.4177585	20	—	—
451416 2011 QR_{53}	18.3	X	260.48034	285.92092	338.87132	3.25684	0.1264825	0.28983549	2.2613529	20	1 19.6	21.5
451417 2011 QY_{53}	17.6	X	357.29809	287.69116	260.30973	6.84373	0.0380066	0.29129392	2.2537986	20	2 20.5	20.4
451418 2011 QN_{56}	18.4	X	113.69830	140.55509	246.98184	1.17545	0.2174220	0.27148937	2.3621139	20	2 3.5	21.3
451419 2011 QU_{68}	17.8	X	116.69074	178.85348	181.13898	2.00212	0.2270961	0.26459300	2.4029818	20	1 4.9	20.7
451420 2011 QM_{73}	18.4	X	174.52969	52.68851	250.70133	1.83006	0.2433873	0.27225383	2.3576901	20	—	—
451421 2011 QK_{74}	17.9	X	97.60684	180.14149	157.91332	6.48065	0.1551092	0.25340192	2.4732202	20	—	—
451422 2011 QV_{77}	18.2	X	102.13410	181.15781	192.88480	6.17796	0.1690821	0.26475327	2.4020119	20	—	—
451423 2011 QL_{85}	18.3	X	65.71708	80.05123	324.22622	5.44614	0.1346833	0.26035812	2.4289690	20	—	—
451424 2011 RH_4	18.1	X	149.24538	249.05419	73.95245	2.37447	0.1963957	0.26506725	2.4001147	20	—	—
451425 2011 RS_4	17.8	X	124.35400	207.15294	117.19637	3.43657	0.1865362	0.25698587	2.4501719	20	—	—
451426 2011 RM_5	18.3	X	245.22178	38.43788	219.65523	5.78046	0.0939112	0.28056803	2.3108793	20	—	—
451427 2011 RN_6	18.1	X	302.82341	339.75794	232.91160	2.46032	0.1425557	0.28198234	2.3031459	20	—	—
451428 2011 RH_9	18.1	X	173.02257	344.92168	318.10363	2.59377	0.2536054	0.27134672	2.3629416	20	—	—
451429 2011 RL_{16}	17.8	X	92.29001	91.22591	309.15853	8.33472	0.2324926	0.26699897	2.3885243	20	1 25.8	20.2
451430 2011 SK_2	18.7	X	78.55050	115.44802	295.55372	1.64046	0.2160478	0.26341325	2.4101513	20	1 14.8	20.7
451431 2011 SA_3	18.2	X	66.23126	123.33648	337.09281	3.52724	0.0691905	0.27861276	2.3216783	20	2 10.8	20.8
451432 2011 SV_3	17.7	X	114.62690	170.79806	205.11854	5.91087	0.2271908	0.26700569	2.3884842	20	1 21.3	20.9
451433 2011 SK_{11}	17.6	X	127.57031	51.40578	292.01695	4.68056	0.2109194	0.26232353	2.4168213	20	—	—
451434 2011 SL_{30}	17.2	X	167.08116	345.26385	337.86446	6.36241	0.1651112	0.27000232	2.3707789	20	1 5.8	20.7
451435 2011 SW_{33}	17.9	X	80.69053	218.19357	187.68530	5.94737	0.1231219	0.26487281	2.4012892	20	—	—
451436 2011 SU_{39}	16.5	X	154.34490	194.48520	17.38120	14.20715	0.0619410	0.22406861	2.6846151	20	10 30.2	20.5
451437 2011 SD_{52}	17.6	X	224.12262	258.16682	11.85264	6.54735	0.2163477	0.27781048	2.3261460	20	—	—
451438 2011 SA_{80}	17.4	X	86.76021	53.45410	0.36910	6.40755	0.1241398	0.26778375	2.3838553	20	1 19.6	20.1
451439 2011 SZ_{90}	17.5	X	158.30222	120.08695	204.43217	5.96821	0.2355091	0.26668476	2.3904000	20	1 4.2	21.3
451440 2011 SY_{102}	17.6	X	66.76722	346.06011	46.24322	6.18657	0.2409206	0.25414589	2.4683912	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451441 2011 SL_{103}	17.8	X	129.78750	330.43195	16.75811	5.21556	0.2209315	0.26450991	2.4034850	20	1 3.9	21.1
451442 2011 SM_{105}	17.5	X	350.71572	76.89994	359.14058	11.73657	0.1842438	0.23626939	2.5913798	20	—	—
451443 2011 SL_{128}	18.4	X	46.27989	207.88468	197.33787	8.06114	0.2129321	0.24621580	2.5211118	20	—	—
451444 2011 SO_{129}	17.5	X	226.56891	213.81481	46.24034	5.15439	0.1567092	0.26593857	2.3948694	20	—	—
451445 2011 SV_{134}	17.3	X	98.67886	16.38059	15.77398	6.93769	0.1413156	0.26324948	2.4111508	20	1 11.3	20.2
451446 2011 SO_{139}	18.0	X	61.80966	241.27368	180.31248	2.32416	0.2076036	0.25686447	2.4509438	20	—	—
451447 2011 SD_{169}	19.1	X	63.52721	59.33257	304.47445	0.57294	0.2725214	0.24532951	2.5271801	20	—	—
451448 2011 SL_{175}	17.5	X	99.92240	260.76114	132.44283	2.15574	0.1994878	0.26387218	2.4073560	20	1 22.3	20.0
451449 2011 SP_{175}	18.0	X	72.68922	282.49599	121.82866	2.22777	0.1892232	0.25776843	2.4452104	20	—	—
451450 2011 SF_{204}	17.3	X	335.43980	65.70407	4.97550	14.88172	0.1324027	0.23503974	2.6004102	20	—	—
451451 2011 SH_{205}	17.8	X	81.79397	323.73561	91.92697	3.29487	0.1961024	0.26228715	2.4170449	20	1 24.9	20.1
451452 2011 SN_{208}	17.3	X	81.24614	359.46901	46.03612	5.76193	0.2091047	0.25875454	2.4389940	20	1 12.9	19.7
451453 2011 SN_{218}	17.5	X	0.06456	256.25340	154.42919	11.85072	0.1919014	0.23552702	2.5968223	20	—	—
451454 2011 SO_{232}	17.2	X	55.24952	297.72221	104.19856	4.07792	0.1982419	0.25535446	2.4605966	20	—	—
451455 2011 SV_{242}	17.6	X	128.88613	271.24886	43.92434	0.91794	0.2169573	0.25750493	2.4468782	20	—	—
451456 2011 SS_{247}	17.0	X	168.98929	349.36478	17.87168	6.46428	0.2680847	0.27673945	2.3321438	20	3 8.4	21.0
451457 2011 SC_{255}	17.8	X	91.82676	324.33443	63.82697	6.97822	0.2003513	0.26322307	2.4113121	20	1 3.2	20.3
451458 2011 SD_{263}	17.7	X	225.89514	247.46726	15.73207	6.29009	0.0795066	0.27173314	2.3607010	20	—	—
451459 2011 TW_{7}	16.8	X	135.15983	66.82958	269.77071	6.92894	0.1368666	0.25833512	2.4416332	20	—	—
451460 2011 TS_{10}	17.8	X	100.17439	27.81392	4.05412	2.99357	0.1967590	0.26449865	2.4035532	20	1 21.2	20.6
451461 2011 UU_{7}	17.8	X	159.53199	243.53331	35.83964	2.54797	0.1111052	0.24368058	2.5385678	20	—	—
451462 2011 UE_{8}	17.8	X	62.91605	111.38685	238.36405	1.79435	0.1665292	0.23663134	2.5887367	20	—	—
451463 2011 UF_{8}	18.0	X	94.01884	307.61410	37.38698	6.92845	0.1557044	0.24501415	2.5293481	20	—	—
451464 2011 UA_{16}	18.3	X	28.02284	353.21530	56.25377	5.57275	0.1861898	0.24351156	2.5397423	20	—	—
451465 2011 UK_{16}	18.1	X	92.74877	216.56892	249.81039	1.34150	0.1712553	0.27341959	2.3509838	20	4 15.9	20.9
451466 2011 UM_{22}	17.4	X	82.21696	150.98400	258.34223	5.35456	0.0977048	0.26035274	2.4290024	20	1 1.8	20.2
451467 2011 UR_{24}	18.2	X	125.59099	351.53079	359.77288	2.57726	0.1891345	0.25960240	2.4336806	20	—	—
451468 2011 UA_{25}	17.7	X	156.50110	55.27156	256.35211	1.76204	0.2146867	0.25977307	2.4326146	20	—	—
451469 2011 UV_{27}	17.5	X	127.66214	308.49602	86.32106	2.42754	0.1914753	0.26899134	2.3767154	20	2 27.6	20.8
451470 2011 UB_{32}	16.7	X	264.11873	192.02114	271.39866	8.38191	0.1009358	0.22000179	2.7175981	20	10 17.7	20.5
451471 2011 UP_{38}	17.3	X	30.55407	296.17601	109.09705	2.37779	0.1689883	0.23885413	2.5726510	20	—	—
451472 2011 UB_{46}	18.3	X	72.80954	199.25774	190.01456	3.26230	0.2396335	0.25470489	2.4647783	20	—	—
451473 2011 UA_{49}	17.7	X	322.09301	76.51783	35.94741	3.51280	0.1563678	0.23522306	2.5990589	20	—	—
451474 2011 UO_{50}	18.0	X	97.07612	245.15862	89.95004	2.48958	0.1846503	0.24453213	2.5326709	20	—	—
451475 2011 UL_{51}	16.8	X	344.24066	14.33997	52.36761	12.71678	0.1722924	0.22953469	2.6418237	20	—	—
451476 2011 UU_{52}	18.0	X	8.19628	16.36061	55.63305	10.58264	0.1817228	0.23826528	2.5768880	20	—	—
451477 2011 UC_{56}	17.4	X	97.30159	75.62849	267.09147	1.96248	0.0664622	0.24176771	2.5519403	20	—	—
451478 2011 UF_{56}	17.6	X	40.29862	177.59575	232.51045	14.49887	0.1067855	0.24317423	2.5420906	20	—	—
451479 2011 UK_{65}	17.0	X	41.44988	177.98476	252.79318	8.37231	0.0694460	0.25674394	2.4517109	20	—	—
451480 2011 UX_{66}	17.8	X	45.60899	325.91466	142.30896	4.53426	0.1971392	0.26140975	2.4224502	20	1 29.1	19.6
451481 2011 UP_{77}	17.6	X	36.30481	139.25761	235.29798	11.18178	0.1097016	0.23416950	2.6068487	20	—	—
451482 2011 UN_{88}	17.5	X	308.14305	246.42100	235.95137	9.46299	0.1325322	0.22978870	2.6398765	20	—	—
451483 2011 UM_{89}	17.1	X	44.03409	84.78208	47.77969	22.76467	0.2754438	0.25929737	2.4355889	20	3 31.8	19.4
451484 2011 UP_{103}	16.1	X	106.60406	295.05362	35.02155	12.00877	0.1675929	0.24188104	2.5511431	20	—	—
451485 2011 UQ_{103}	16.8	X	261.14935	231.90709	298.77805	4.02036	0.1292782	0.22940128	2.6428478	20	—	—
451486 2011 UK_{142}	17.8	X	70.19204	64.66194	287.09780	3.79455	0.2203453	0.23934850	2.5691073	20	—	—
451487 2011 UA_{155}	17.8	X	129.36412	255.73901	64.44058	4.85850	0.2463990	0.25867956	2.4394653	20	—	—
451488 2011 UB_{176}	16.7	X	200.27897	299.68860	253.26414	5.35203	0.0534662	0.22502351	2.6770149	20	12 1.5	20.4
451489 2011 UJ_{178}	16.2	X	5.54892	209.92278	224.13991	29.14856	0.1073153	0.23724536	2.5842681	20	—	—
451490 2011 UW_{182}	16.2	X	82.16503	297.19504	39.00231	14.51512	0.0341957	0.23217625	2.6217475	20	—	—
451491 2011 US_{186}	17.5	X	7.96671	307.12753	115.53875	4.85641	0.1952160	0.23702534	2.5858671	20	—	—
451492 2011 UP_{187}	18.2	X	18.29313	90.10567	321.54843	3.59613	0.2460160	0.23789018	2.5795961	20	—	—
451493 2011 UC_{198}	17.7	X	81.70859	160.98611	282.93438	4.41829	0.1996663	0.26395114	2.4068759	20	3 2.6	20.3
451494 2011 UQ_{198}	16.5	X	324.21966	219.61699	228.17738	21.20303	0.0498076	0.22793341	2.6541822	20	12 30.4	20.2
451495 2011 UY_{198}	17.9	X	52.56183	283.49647	90.22066	3.58058	0.2788354	0.23991560	2.5650572	20	—	—
451496 2011 UL_{209}	18.2	X	130.53495	22.37432	312.45855	2.83596	0.1021086	0.25582305	2.4575910	20	—	—
451497 2011 UN_{234}	17.8	X	32.52397	264.45115	274.42929	3.68569	0.0782464	0.28135195	2.3065848	20	4 7.5	20.2
451498 2011 UL_{239}	18.1	X	77.41962	155.85438	230.90664	11.08602	0.2255571	0.25013126	2.4947330	20	—	—
451499 2011 UP_{242}	16.9	X	13.47883	316.70879	42.79349	5.79579	0.1899160	0.22213688	2.7001565	20	12 6.9	20.2
451500 2011 UA_{248}	17.4	X	197.72298	184.92013	55.41299	8.35150	0.0374232	0.23716137	2.5848782	20	—	—
451501 2011 UP_{252}	17.5	X	61.67045	285.04541	108.94588	3.05504	0.1946136	0.24456250	2.5324612	20	—	—
451502 2011 UM_{258}	18.1	X	31.30685	203.08019	224.27147	13.97529	0.1494443	0.24471658	2.5313981	20	—	—
451503 2011 UH_{262}	17.1	X	36.22492	160.70377	240.86414	11.12964	0.1078794	0.23836373	2.5761784	20	—	—
451504 2011 UZ_{262}	17.4	X	297.63985	282.01304	238.71038	7.86328	0.1071687	0.23850969	2.5751272	20	—	—
451505 2011 UX_{273}	18.1	X	66.80141	291.38326	142.84917	1.32057	0.1567955	0.26061249	2.4273882	20	1 18.3	20.4
451506 2011 UW_{305}	17.9	X	95.41889	209.97798	167.08822	1.65026	0.1876186	0.25638831	2.4539775	20	—	—
451507 2011 UM_{312}	16.7	X	192.57583	329.91826	216.98547	13.90670	0.0269931	0.22121795	2.7076289	20	11 17.6	20.4
451508 2011 UD_{316}	17.8	X	339.05685	174.26527	244.93221	3.26909	0.0872781	0.22545523	2.6735963	20	12 20.5	20.8
451509 2011 UQ_{317}	17.2	X	334.51209	49.99239	52.52252	14.13967	0.2224819	0.23188636	2.6239320	20	—	—
451510 2011 UE_{331}	16.9	X	303.43435	237.45350	247.45153	10.51358	0.1602890	0.22806692	2.6531462	20	—	—
451511 2011 UC_{339}	18.2	X	131.11912	135.60739	204.51431	4.57660	0.1298984	0.25925036	2.4358833	20	—	—
451512 2011 UD_{340}	18.0	X	212.97348	303.64275	358.41980	7.00118	0.1237629	0.28093732	2.3088538	20	1 21.6	21.6
451513 2011 UA_{345}	17.3	X	36.04639	347.76576	5.92151	9.72742	0.0812870	0.23654058	2.5893988	20	12 17.9	20.9
451514 2011 UZ_{349}	17.5	X	178.47036	0.53954	282.46556	4.07699	0.2241913	0.26156904	2.4214667	20	—	—
451515 2011 UY_{361}	17.1	X	100.66469	287.48763	43.07177	7.09937	0.1810395	0.24089135	2.5581259	20	—	—
451516 2011 UA_{367}	18.0	X	87.53207	292.09176	103.37976	2.50101	0.1828136	0.25795867	2.4440080	20	1 4.5	20.3
451517 2011 UP_{385}	17.7	X	54.67211	98.29840	265.59863	1.93571	0.1623503	0.23614987	2.5922541	20	—	—
451518 2011 UE_{386}	17.6	X	19.17376	348.47132	45.69481	14.12168	0.1614928	0.23033448	2.6357047	20	—	—
451519 2011 UK_{392}	17.2	X	319.20507	231.46338	259.82713	13.99264	0.0668341	0.24214054	2.5493201	20	—	—
451520 2011 UW_{396}	16.7	X	76.17837	115.19432	271.72186	11.38939	0.0698175	0.24585058	2.5236080	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451521 2011 UZ_{398}	16.8	X	6.81943	190.91389	256.75857	11.68911	0.0674093	0.24536239	2.5269543	20	—	—
451522 2011 VC_6	17.8	X	348.18162	240.02449	199.88701	12.44236	0.1439900	0.23651968	2.5895514	20	—	—
451523 2011 VG_7	17.2	X	8.22181	355.64226	55.14153	12.54768	0.0577312	0.23666175	2.5885149	20	—	—
451524 2011 VA_{16}	16.9	X	22.33522	277.17610	43.24938	3.58002	0.1052319	0.21483938	2.7609600	20	10 16.6	20.4
451525 2011 WV_3	16.1	X	276.10169	288.92229	254.23305	29.43009	0.1153900	0.23569609	2.5955803	20	—	—
451526 2011 WH_6	18.1	X	105.96300	114.70307	339.05511	1.02699	0.1292775	0.27682517	2.3316624	20	4 9.4	21.1
451527 2011 WM_{11}	17.3	X	180.08181	141.06846	75.84249	4.36049	0.0299477	0.22389054	2.6860384	20	12 9.7	20.9
451528 2011 WN_{11}	17.1	X	158.05261	206.15943	65.72835	9.94695	0.1379657	0.23834182	2.5763363	20	—	—
451529 2011 WJ_{20}	16.7	X	139.89352	348.93579	244.65986	8.20624	0.0933666	0.21376895	2.7701692	20	11 11.2	20.9
451530 2011 WZ_{30}	17.0	X	41.74848	129.16576	251.61309	12.15913	0.2036755	0.23527407	2.5986832	20	—	—
451531 2011 WM_{34}	17.9	X	72.78011	262.31133	91.91310	5.07055	0.2118231	0.24203538	2.5500585	20	—	—
451532 2011 WU_{34}	17.8	X	84.31552	109.59203	236.38867	9.80168	0.1591871	0.24003649	2.5641959	20	—	—
451533 2011 WY_{34}	16.4	X	184.94810	337.30716	236.21501	11.67489	0.1051826	0.22268107	2.6957556	20	12 4.3	20.5
451534 2011 WO_{35}	16.3	X	56.80244	289.06336	81.12188	12.19617	0.1198599	0.23550501	2.5969840	20	—	—
451535 2011 WW_{40}	17.3	X	27.25721	325.38285	67.49975	12.69503	0.1797077	0.23254711	2.6189593	20	—	—
451536 2011 WX_{49}	18.0	X	73.71124	306.85961	142.75880	2.92845	0.1232136	0.26074358	2.4265745	20	2 17.3	20.6
451537 2011 WJ_{52}	17.1	X	103.16253	268.28073	66.97431	12.03955	0.1741714	0.24128555	2.5553389	20	—	—
451538 2011 WJ_{63}	17.1	X	90.84814	83.31958	259.39830	5.75602	0.2167153	0.24021561	2.5629210	20	—	—
451539 2011 WE_{70}	16.4	X	74.10733	166.61013	221.94831	12.77883	0.0974664	0.24409107	2.5357210	20	—	—
451540 2011 WP_{73}	16.6	X	66.33520	88.60276	271.21395	10.94775	0.2300395	0.23875717	2.5733475	20	—	—
451541 2011 WF_{84}	17.9	X	30.02071	264.92389	156.21132	2.60532	0.2444541	0.24031456	2.5622175	20	—	—
451542 2011 WU_{90}	16.6	X	65.61318	241.18693	76.85002	13.86942	0.2655505	0.22549928	2.6732482	20	12 26.2	21.0
451543 2011 WY_{96}	17.1	X	55.23154	44.84628	336.61275	6.96353	0.1632304	0.23336786	2.6128151	20	—	—
451544 2011 WV_{107}	17.6	X	30.66129	298.10501	119.00949	3.67108	0.0913535	0.23857256	2.5746748	20	—	—
451545 2011 WG_{112}	17.8	X	45.26954	31.86106	346.53854	1.62006	0.2174399	0.23592861	2.5938746	20	—	—
451546 2011 WJ_{112}	17.8	X	52.52309	75.50872	289.92757	1.39738	0.2311731	0.23538775	2.5978464	20	—	—
451547 2011 WQ_{114}	17.5	X	43.29515	304.06636	92.12904	14.57041	0.2802121	0.24076182	2.5590433	20	—	—
451548 2011 WE_{116}	17.5	X	36.96435	331.97140	70.45918	6.52847	0.1995417	0.23763228	2.5814621	20	—	—
451549 2011 WH_{118}	18.1	X	319.46999	96.13990	3.60401	3.61120	0.1765648	0.22869184	2.6483107	20	—	—
451550 2011 WV_{122}	17.6	X	309.57191	266.72985	242.65332	3.44365	0.1180489	0.23860560	2.5744371	20	—	—
451551 2011 WF_{124}	16.6	X	63.83886	251.36462	63.64960	18.00572	0.1754040	0.22699637	2.6614815	20	12 11.3	20.6
451552 2011 WU_{125}	18.3	X	25.38394	15.27630	65.74921	5.43166	0.1960837	0.24435591	2.5338884	20	—	—
451553 2011 WV_{130}	17.2	X	91.79670	221.74700	136.75676	2.67237	0.1204162	0.24224260	2.5486040	20	—	—
451554 2011 WJ_{135}	16.7	X	232.68736	80.05354	75.51130	5.62229	0.0194335	0.21606651	2.7504963	20	11 27.3	20.2
451555 2011 WK_{135}	17.9	X	18.85524	157.47360	257.38103	3.24831	0.2164886	0.23422730	2.6064198	20	—	—
451556 2011 WR_{135}	17.0	X	51.93269	149.44517	256.83013	3.23011	0.1751494	0.24200281	2.5502873	20	—	—
451557 2011 WW_{140}	17.2	X	9.30442	317.12629	136.57121	6.63659	0.1031236	0.24129743	2.5552550	20	—	—
451558 2011 YK_1	16.8	X	39.59533	128.59476	268.63769	11.76074	0.1875924	0.23597382	2.5935433	20	—	—
451559 2011 YW_7	16.9	X	19.09423	166.54806	258.18795	6.57761	0.1747148	0.23160111	2.6260861	20	—	—
451560 2011 YJ_{17}	17.4	X	342.41532	14.30057	102.60339	5.67077	0.1660184	0.22830177	2.6513264	20	—	—
451561 2011 YT_{27}	17.0	X	3.90807	112.35483	286.83900	9.46213	0.1781984	0.21731691	2.7399357	20	—	—
451562 2011 YM_{32}	18.1	X	3.02264	333.78095	126.50385	5.73691	0.2477016	0.23474037	2.6026206	20	—	—
451563 2011 YB_{45}	17.7	X	24.66282	149.01065	247.03655	5.72939	0.2163851	0.22544781	2.6736551	20	—	—
451564 2011 YT_{50}	16.3	X	126.53845	34.47643	284.97924	2.52110	0.1565481	0.24419500	2.5350014	20	—	—
451565 2011 YD_{53}	16.0	X	170.61286	218.89084	286.29298	8.55767	0.0293139	0.18312839	3.0711352	20	8 20.8	20.5
451566 2011 YJ_{68}	17.0	X	7.72717	85.56163	322.63205	8.69001	0.1381724	0.21803569	2.7339107	20	—	—
451567 2011 YR_{68}	16.0	X	109.81138	29.22354	257.22139	10.13237	0.0748098	0.22251727	2.6970783	20	12 15.7	20.0
451568 2011 YM_{69}	16.8	X	9.46341	356.41968	88.12994	13.21922	0.1633213	0.23294013	2.6160127	20	—	—
451569 2011 YJ_{74}	16.6	X	14.14548	52.79127	66.35954	23.03636	0.1493752	0.24251444	2.5466992	20	—	—
451570 2011 YZ_{76}	15.7	X	30.06781	4.03510	280.65521	12.98888	0.0614011	0.18083498	3.0970467	20	8 23.6	20.1
451571 2011 YG_{77}	16.4	X	165.03951	67.21397	224.30598	15.25602	0.0619219	0.24157157	2.5533215	20	—	—
451572 2011 YC_{78}	16.9	X	36.77352	284.75986	111.33488	12.46204	0.1279820	0.23571379	2.5954503	20	—	—
451573 2011 YS_{78}	16.9	X	16.64655	253.55923	131.40700	12.64059	0.1774307	0.21729780	2.7400963	20	—	—
451574 2012 AU	16.9	X	16.73070	81.60432	56.12740	29.94811	0.3570331	0.24303281	2.5430766	20	—	—
451575 2012 AC_2	16.9	X	3.72203	254.21428	131.41529	5.24851	0.0771133	0.20946159	2.8080173	20	12 8.5	20.4
451576 2012 AU_5	17.3	X	273.63898	28.97745	124.55984	9.26295	0.1461173	0.21673502	2.7448376	20	—	—
451577 2012 AR_{13}	17.8	X	1.32570	49.44829	14.32835	2.03170	0.1961821	0.22526471	2.6751036	20	—	—
451578 2012 AE_{14}	15.4	X	125.30443	249.19324	311.81598	22.37176	0.1608033	0.17601885	3.1532853	20	9 7.3	20.8
451579 2012 AV_{20}	16.9	X	20.10252	350.62360	88.30575	17.87990	0.1898978	0.23391905	2.6087091	20	—	—
451580 2012 AC_{21}	17.2	X	0.93835	228.51078	234.70014	6.85518	0.1553671	0.23335875	2.6128832	20	—	—
451581 2012 BH_2	17.3	X	317.92261	15.56869	74.44128	5.35523	0.0832023	0.21642200	2.7474836	20	12 25.1	20.6
451582 2012 BQ_4	17.5	X	6.45529	0.30605	73.45857	4.99160	0.1554183	0.22463380	2.6801101	20	—	—
451583 2012 BE_9	17.2	X	352.74073	135.08072	313.16954	14.21978	0.3015925	0.22446181	2.6814791	20	—	—
451584 2012 BW_{10}	15.5	X	138.31378	234.72194	328.47423	11.55194	0.1076487	0.17759556	3.1345941	20	9 25.5	20.6
451585 2012 BD_{29}	16.9	X	352.60955	274.48505	123.96410	5.24618	0.0709453	0.21087536	2.7954528	20	12 8.7	20.4
451586 2012 BM_{30}	17.0	X	198.53984	63.04586	136.48197	4.73570	0.0421686	0.20921035	2.8102649	20	12 6.2	21.1
451587 2012 BF_{43}	17.9	X	314.78153	112.83512	355.98972	2.16811	0.1520192	0.21802411	2.7340075	20	—	—
451588 2012 BO_{58}	16.8	X	25.36944	274.60107	111.20522	13.23900	0.1176564	0.21797872	2.7343870	20	—	—
451589 2012 BM_{59}	17.1	X	13.59001	321.00583	94.01958	6.03345	0.1618648	0.22394285	2.6856201	20	—	—
451590 2012 BC_{67}	16.9	X	214.19799	58.48394	144.89650	9.15370	0.0965553	0.21172249	2.7879911	20	12 22.6	21.0
451591 2012 BY_{71}	16.1	X	148.77775	264.59502	312.59242	9.41667	0.0693898	0.19049408	2.9914499	20	10 23.8	20.8
451592 2012 BJ_{78}	18.0	X	332.70248	103.31615	337.32084	3.47802	0.1859666	0.21570899	2.7535347	20	—	—
451593 2012 BQ_{98}	17.5	X	340.65987	92.27608	329.05171	6.55868	0.2182695	0.21485826	2.7607983	20	—	—
451594 2012 BV_{119}	17.8	X	291.78915	299.29683	159.53223	2.24136	0.1425967	0.20447567	2.8534808	20	11 17.8	21.0
451595 2012 BQ_{132}	16.2	X	274.72149	263.89514	246.34672	11.59600	0.2004503	0.21302990	2.7765725	20	12 21.3	19.3
451596 2012 BF_{140}	15.9	X	75.74807	262.01545	353.02268	11.95905	0.1344637	0.17590871	3.1546014	20	9 28.2	20.4
451597 2012 CP_9	16.6	X	104.51263	254.96887	319.38947	8.12137	0.0375662	0.17556655	3.1586987	20	8 30.5	21.1
451598 2012 CF_{21}	17.7	X	48.56574	114.17623	324.00237	0.92277	0.1893420	0.23814164	2.5777799	20	—	—
451599 2012 CS_{36}	17.1	X	273.73003	144.26478	349.89030	5.27576	0.1034437	0.20819180	2.8194234	20	12 10.2	20.6
451600 2012 CC_{37}	17.1	X	161.84606	343.49165	210.80802	0.57958	0.1475730	0.18394296	3.0620617	20	10 12.3	22.0

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451601 2012 CD_{47}	16.2	X	145.93787	205.28402	1.25988	10.04296	0.0633406	0.18206017	3.0831365	20	10 9.3	20.8
451602 2012 CC_{57}	16.9	X	254.44678	230.25499	301.46783	4.85413	0.1583619	0.21024507	2.8010370	20	12 24.1	20.5
451603 2012 DQ_{2}	16.4	X	138.55426	167.17441	56.09216	5.03246	0.0798673	0.18368179	3.0649635	20	10 25.0	21.1
451604 2012 DM_{10}	16.5	X	356.99117	240.46902	138.20295	11.93114	0.0590480	0.19161930	2.9797275	20	11 17.1	20.6
451605 2012 DN_{12}	16.5	X	249.44280	344.66352	140.99040	11.94921	0.0884299	0.19203382	2.9754380	20	10 31.3	20.8
451606 2012 DR_{13}	16.3	X	155.32462	214.31990	358.07646	8.61200	0.1066779	0.17868261	3.1218680	20	10 24.7	21.3
451607 2012 DY_{14}	15.8	X	150.61376	109.34346	77.18282	16.82546	0.1875539	0.17651670	3.1473535	20	10 2.1	21.4
451608 2012 DH_{17}	16.6	X	326.24024	344.63605	141.66630	11.29086	0.2013629	0.21850448	2.7299990	20	—	—
451609 2012 DG_{18}	16.4	X	202.14943	168.49105	312.59212	10.93399	0.0752377	0.18151827	3.0892697	20	8 25.1	21.1
451610 2012 DW_{24}	15.9	X	152.00494	151.55919	29.39899	10.86636	0.0852402	0.17025797	3.2240202	20	9 19.3	20.9
451611 2012 DV_{39}	16.6	X	180.75832	338.97508	203.10588	8.02807	0.1359248	0.18677182	3.0310643	20	10 15.7	21.5
451612 2012 DJ_{51}	17.0	X	167.21085	81.88014	110.66630	2.22214	0.1234692	0.18206909	3.0830359	20	10 16.4	21.9
451613 2012 DM_{57}	16.7	X	260.50989	145.93315	326.76373	9.26710	0.0614673	0.19149671	2.9809991	20	10 24.1	21.0
451614 2012 DH_{77}	16.7	X	228.55004	57.47856	81.38918	5.10330	0.2245397	0.18678722	3.0308977	20	10 4.2	21.5
451615 2012 DX_{84}	16.6	X	288.93030	84.45638	7.54620	4.20515	0.1138623	0.19082313	2.9880099	20	11 2.4	20.4
451616 2012 DR_{88}	16.0	X	107.31398	77.69322	165.43976	15.78125	0.1018681	0.17749381	3.1357920	20	10 19.4	20.9
451617 2012 DK_{96}	16.9	X	313.63432	237.47710	169.66607	10.78545	0.1649716	0.19114750	2.9846287	20	10 13.3	20.2
451618 2012 EQ_{5}	16.3	X	255.51342	294.20974	169.18663	17.56257	0.0366171	0.18210932	3.0825818	20	10 15.4	20.7
451619 2012 FQ_{14}	15.8	X	140.61462	179.59783	38.31809	16.81755	0.0886312	0.17585522	3.1552410	20	10 21.0	20.6
451620 2012 FR_{21}	16.6	X	241.72453	333.17912	137.26509	4.27460	0.0796658	0.18124726	3.0923484	20	9 29.5	20.9
451621 2012 FA_{33}	16.1	X	139.27835	158.72785	43.87024	15.82890	0.2166899	0.17459989	3.1703466	20	10 8.5	21.6
451622 2012 FJ_{45}	16.7	X	305.71875	18.85637	12.61659	8.63509	0.0684136	0.17451485	3.1713763	20	9 15.3	20.9
451623 2012 FW_{58}	16.1	X	92.84493	115.53354	131.05329	10.50295	0.0306323	0.17191679	3.2032477	20	9 29.6	20.8
451624 2012 FY_{67}	16.3	X	271.86516	67.88283	30.79924	12.38871	0.1126697	0.17991900	3.1075494	20	10 17.4	20.5
451625 2012 FR_{68}	15.6	X	189.45337	122.49472	39.12041	11.82161	0.0796493	0.17818246	3.1277072	20	10 5.4	20.4
451626 2012 FN_{69}	16.6	X	275.22801	81.98264	22.94997	9.58929	0.1592386	0.19089748	2.9872340	20	10 23.7	20.4
451627 2012 FV_{78}	16.1	X	222.14633	31.63062	141.34355	16.71270	0.2055118	0.18928630	3.0041614	20	11 12.6	21.1
451628 2012 FX_{79}	17.0	X	283.56708	47.41162	34.43311	2.06002	0.0769591	0.18587933	3.0407588	20	10 17.5	21.1
451629 2012 GH_{8}	16.6	X	213.55244	306.11582	205.00068	4.47291	0.1010841	0.18107410	3.0943195	20	10 12.9	21.2
451630 2012 GR_{12}	15.5	X	247.88712	60.11319	69.70359	22.78218	0.1224618	0.18030477	3.1031152	20	10 31.7	20.1
451631 2012 GL_{13}	16.2	X	201.58884	332.58954	190.69232	15.50259	0.1387084	0.17773657	3.1329359	20	10 12.5	21.1
451632 2012 GB_{21}	15.8	X	196.00784	298.86340	212.45250	13.44068	0.1682380	0.17322750	3.1870692	20	9 16.9	21.2
451633 2012 GR_{26}	16.0	X	174.56718	171.12258	20.27012	10.73431	0.1660888	0.17582778	3.1555693	20	10 18.1	21.0
451634 2012 GR_{27}	16.6	X	235.70574	0.75756	144.48177	7.61213	0.2364663	0.18739887	3.0242990	20	10 17.7	21.4
451635 2012 GD_{29}	16.6	X	207.33039	149.78108	24.93224	10.75739	0.1006686	0.18382091	3.0634169	20	11 2.7	21.2
451636 2012 HP_{18}	16.3	X	226.31193	348.37369	161.13897	11.13346	0.1652987	0.17842897	3.1248257	20	10 20.2	21.1
451637 2012 HW_{34}	16.2	X	208.41634	328.56691	180.72910	17.72455	0.1547912	0.17651085	3.1474230	20	9 30.9	21.1
451638 2012 HF_{56}	16.6	X	188.51560	277.58022	255.20194	0.72536	0.1546987	0.17636717	3.1491322	20	10 9.4	21.5
451639 2012 HR_{63}	15.6	X	267.62768	28.36315	69.18857	15.36332	0.1327371	0.17856897	3.1231922	20	10 13.9	20.1
451640 2012 HT_{64}	16.4	X	224.80649	78.92684	57.98687	10.72320	0.1962812	0.17756274	3.1349803	20	10 2.5	21.4
451641 2012 HX_{71}	16.6	X	193.10127	3.72666	175.00403	6.75743	0.2008489	0.17508598	3.1644760	20	10 19.2	21.8
451642 2012 HO_{82}	16.6	X	303.62521	94.94448	56.34077	26.51552	0.1621949	0.21234313	2.7825559	20	—	—
451643 2012 HA_{83}	15.6	X	196.59692	79.91173	69.30756	25.48385	0.1627530	0.17426349	3.1744253	20	10 3.6	21.2
451644 2012 JJ_{16}	15.5	X	241.90661	25.00561	86.18120	28.27167	0.1441909	0.17173140	3.2055526	20	10 5.7	20.8
451645 2012 JE_{25}	16.3	X	211.38202	323.73819	218.39903	12.90178	0.2577192	0.18356273	3.0662888	20	11 3.0	21.4
451646 2012 JX_{60}	16.3	X	235.06682	54.34419	63.03870	10.82045	0.1972729	0.17625501	3.1504680	20	9 19.6	21.3
451647 2012 JA_{66}	15.5	X	198.63888	325.18800	225.73716	15.06895	0.0367295	0.17600729	3.1534234	20	11 19.3	20.0
451648 2012 KA_{37}	16.4	X	252.98905	72.11708	78.52836	11.34599	0.2548018	0.19188119	2.9770157	20	11 10.1	20.6
451649 2012 PW_{18}	17.8	X	170.82684	313.81837	154.85315	23.32691	0.0759423	0.36783105	1.9291698	20	7 18.0	20.5
451650 2012 SE_{16}	18.3	X	73.87475	191.53974	253.26797	4.63543	0.1293413	0.30333062	2.1937740	20	2 1.1	20.2
451651 2012 SU_{30}	17.7	X	305.80051	130.75516	200.72585	21.67611	0.0765824	0.35532133	1.9741881	20	7 1.4	20.1
451652 2012 TG_{129}	18.0	X	73.62255	37.61634	194.08659	21.69661	0.0408719	0.36075300	1.9543218	20	9 4.1	20.3
451653 2012 UO_{57}	18.6	X	214.51862	94.54298	227.68577	2.78784	0.1383484	0.31430431	2.1424095	20	2 10.8	21.8
451654 2012 UN_{151}	18.5	X	110.07444	213.51101	196.20712	3.10456	0.1623017	0.30049403	2.2075581	20	2 15.4	21.0
451655 2012 VY_{75}	18.1	X	158.89876	282.10214	90.31005	6.53116	0.1600637	0.30507201	2.1854178	20	2 26.4	21.2
451656 2012 WF_{29}	18.0	X	197.93846	290.95545	48.94922	6.09097	0.1613466	0.30800756	2.1715098	20	2 22.7	21.3
451657 2012 WD_{36}	6.8	X	338.96271	293.70267	177.26179	23.66923	0.5067013	0.00148642	76.0398440	20	11 12.2	23.5
451658 2012 XT_{67}	17.1	X	49.78398	81.80284	16.48031	6.96385	0.2229855	0.28387266	2.2929100	20	1 20.9	18.6
451659 2012 XG_{105}	16.9	X	229.17007	317.64442	293.48855	6.35228	0.0973281	0.26631681	2.3926013	20	—	—
451660 2012 XS_{151}	17.3	X	33.04228	136.60213	330.86574	6.46937	0.0509298	0.27812126	2.3244128	20	—	—
451661 2012 XM_{152}	17.5	X	339.93400	340.95559	230.72000	5.33298	0.0313465	0.29446604	2.2375834	20	2 29.4	20.2
451662 2013 AH_{9}	17.2	X	326.52497	139.87431	3.91818	6.60961	0.0518813	0.26004145	2.4309405	20	—	—
451663 2013 AU_{12}	17.6	X	335.92568	273.75749	263.39637	3.86120	0.0783803	0.27823513	2.3237786	20	1 4.6	20.1
451664 2013 AV_{31}	18.1	X	309.61180	311.44352	234.97379	1.73057	0.0403501	0.27471050	2.3436129	20	—	—
451665 2013 AV_{38}	18.1	X	70.62936	191.80630	289.69268	4.14960	0.0787289	0.29408654	2.2395080	20	3 15.5	20.4
451666 2013 AS_{58}	17.3	X	50.60144	184.21821	307.07277	8.30653	0.0864919	0.28806299	2.2706197	20	2 26.4	19.6
451667 2013 AA_{59}	17.6	X	329.96929	242.30140	293.88376	4.97635	0.0611705	0.27195822	2.3593983	20	—	—
451668 2013 AW_{70}	17.8	X	51.90347	349.79666	131.32931	4.56425	0.1307540	0.28593397	2.2818769	20	2 21.6	19.6
451669 2013 AR_{80}	17.9	X	105.03674	352.53590	103.13636	5.43146	0.1043957	0.30035499	2.2082394	20	4 8.8	20.5
451670 2013 AE_{89}	17.9	X	125.21703	69.94873	335.79809	6.15986	0.1302685	0.29119970	2.2542847	20	2 27.3	20.7
451671 2013 AT_{89}	18.0	X	28.21473	159.65233	345.70313	5.32326	0.1347949	0.28397959	2.2923343	20	2 12.2	19.7
451672 2013 AG_{99}	16.8	X	214.76631	137.60794	74.64191	7.42839	0.0876154	0.24343391	2.5402824	20	—	—
451673 2013 AE_{100}	17.4	X	239.78942	262.20242	317.98730	5.52769	0.0749977	0.25852356	2.4404466	20	—	—
451674 2013 AQ_{104}	17.4	X	331.13107	261.45685	284.26402	6.06796	0.0877946	0.28148694	2.3058473	20	1 7.5	20.0
451675 2013 AZ_{106}	17.9	X	8.10897	225.90858	282.29614	5.48532	0.0344208	0.27903883	2.3193144	20	1 17.4	20.5
451676 2013 AC_{116}	18.2	X	94.52271	88.12712	6.03619	3.26963	0.0871472	0.29271197	2.2465136	20	3 17.3	20.6
451677 2013 AO_{126}	17.5	X	299.44650	265.61578	319.61421	4.11547	0.0946261	0.28451922	2.2894350	20	1 17.2	20.3
451678 2013 AT_{136}	17.6	X	211.70934	43.51616	241.70162	0.48441	0.0739894	0.27040852	2.3684041	20	—	—
451679 2013 AZ_{166}	17.3	X	155.10852	6.78921	260.85745	12.17779	0.0631773	0.24448744	2.5329795	20	—	—
451680 2013 BN_{9}	17.3	X	331.84490	35.88688	101.27898	6.77325	0.0856797	0.26319376	2.4114911	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451681 2013 BJ_{12}	17.9	X	292.25113	104.99566	90.19134	7.03788	0.0597260	0.26854298	2.3793601	20	—	—
451682 2013 BK_{22}	17.3	X	315.92263	206.31961	302.67333	6.22514	0.0976590	0.26054489	2.4278080	20	—	—
451683 2013 BA_{49}	17.5	X	247.18509	109.90916	95.03848	2.62617	0.1265877	0.25212222	2.4815820	20	—	—
451684 2013 BV_{63}	18.5	X	30.11657	25.85728	113.07365	2.81992	0.1628863	0.27976758	2.3152850	20	2 5.9	20.1
451685 2013 BK_{66}	17.1	X	210.14306	79.73032	119.88196	5.75173	0.1599822	0.22892903	2.6464811	20	12 9.8	20.9
451686 2013 BR_{67}	17.5	X	174.92426	266.98193	61.74140	6.09239	0.0936968	0.27740472	2.3284137	20	1 13.7	20.7
451687 2013 BF_{68}	17.5	X	244.63967	125.06789	97.99007	6.80874	0.0524028	0.25916092	2.4364437	20	—	—
451688 2013 BV_{71}	17.7	X	249.17271	23.10772	273.45285	10.46276	0.0303491	0.29336576	2.2431747	20	2 19.4	20.8
451689 2013 BB_{76}	17.5	X	200.64735	169.99492	100.41562	6.10787	0.1137644	0.25694816	2.4504116	20	—	—
451690 2013 CC_{6}	17.9	X	76.41095	111.40066	287.67158	5.05489	0.1404428	0.26904626	2.3763920	20	—	—
451691 2013 CG_{6}	18.6	X	345.90449	308.21679	213.91122	1.76066	0.1426668	0.27222338	2.3578659	20	—	—
451692 2013 CO_{9}	18.1	X	33.14014	261.27955	231.44701	5.10474	0.1292484	0.27860373	2.3217285	20	1 31.4	20.3
451693 2013 CO_{11}	18.6	X	57.67229	16.62567	83.40668	2.97833	0.1699577	0.28064389	2.3104628	20	2 6.0	20.4
451694 2013 CG_{22}	17.9	X	122.61123	237.42656	187.47783	1.03332	0.1656243	0.29301887	2.2449447	20	3 26.0	20.7
451695 2013 CL_{29}	17.6	X	65.38843	65.21820	332.61765	6.84143	0.0628275	0.25818443	2.4425831	20	—	—
451696 2013 CH_{34}	18.0	X	120.25089	279.53753	129.95784	5.02106	0.1294273	0.29217048	2.2492885	20	2 27.1	20.7
451697 2013 CC_{39}	17.8	X	323.73583	216.12464	305.06791	5.95556	0.0627104	0.26823844	2.3811607	20	—	—
451698 2013 CZ_{41}	18.2	X	84.24212	237.03640	184.54731	9.44120	0.1346795	0.27565956	2.3382306	20	1 22.2	20.8
451699 2013 CX_{49}	18.1	X	85.14506	227.94487	207.80876	5.60820	0.1722871	0.28566048	2.2833331	20	2 17.4	20.5
451700 2013 CY_{60}	17.1	X	272.33518	207.81023	308.58494	7.87131	0.1017229	0.24045611	2.5612119	20	—	—
451701 2013 CL_{65}	18.0	X	48.53077	142.16086	285.28841	3.50608	0.1668412	0.26576402	2.3959178	20	—	—
451702 2013 CN_{66}	17.8	X	262.10680	359.15031	172.76174	4.13281	0.0878756	0.24015565	2.5633477	20	—	—
451703 2013 CC_{67}	18.4	X	34.13552	222.05011	282.47792	4.30744	0.1525224	0.28217768	2.3020828	20	2 20.7	20.4
451704 2013 CL_{72}	16.3	X	128.66102	2.05952	300.06403	14.26218	0.1784363	0.24299858	2.5433154	20	—	—
451705 2013 CN_{73}	17.8	X	354.02272	99.65706	13.45424	4.30128	0.0673152	0.26096597	2.4251958	20	—	—
451706 2013 CN_{89}	17.1	X	184.78560	120.62848	136.24556	15.40455	0.0824261	0.23760938	2.5816280	20	—	—
451707 2013 CL_{106}	18.0	X	129.19224	37.69483	332.64140	2.50627	0.1357741	0.27239884	2.3568533	20	1 20.0	21.1
451708 2013 CZ_{107}	17.5	X	316.07981	217.15668	348.20306	3.70951	0.0939494	0.27150334	2.3620328	20	1 15.1	20.3
451709 2013 CN_{116}	17.1	X	169.92415	151.69537	99.96881	5.64918	0.0399625	0.23271207	2.6177215	20	—	—
451710 2013 CF_{118}	17.1	X	325.74732	111.63684	342.52932	9.48585	0.0581445	0.23406096	2.6076546	20	—	—
451711 2013 CC_{119}	18.0	X	64.62315	329.11782	128.33186	5.75077	0.1585249	0.27819500	2.3240021	20	2 14.9	19.9
451712 2013 CB_{127}	16.9	X	127.00891	356.10558	21.64511	6.53712	0.1116487	0.27086440	2.3657459	20	1 25.6	20.0
451713 2013 CE_{132}	18.6	X	72.50036	99.63618	340.27663	4.16013	0.2016009	0.27607273	2.3358971	20	2 10.7	20.7
451714 2013 CO_{147}	17.9	X	55.32169	40.98415	45.00844	1.89692	0.1585891	0.27201826	2.3590511	20	1 10.7	19.9
451715 2013 CV_{161}	18.0	X	102.32703	274.62781	129.29864	2.07247	0.1820796	0.27242844	2.3566825	20	2 5.2	20.6
451716 2013 CE_{171}	18.3	X	43.69586	244.05964	230.68912	1.67179	0.1288799	0.27512241	2.3412731	20	1 27.4	20.4
451717 2013 CZ_{175}	17.7	X	71.88141	104.76213	333.84219	6.15083	0.0925327	0.27077715	2.3662541	20	1 24.9	20.1
451718 2013 CB_{179}	17.6	X	348.21416	1.51372	143.19428	7.44342	0.0714440	0.26486279	2.4013497	20	—	—
451719 2013 CC_{179}	17.7	X	20.71228	343.22913	138.52722	7.13201	0.1008559	0.27003541	2.3705852	20	—	—
451720 2013 CL_{184}	18.1	X	37.06842	320.24352	169.52931	3.86564	0.1377498	0.27608587	2.3358230	20	2 5.8	20.1
451721 2013 CO_{186}	18.3	X	68.69696	256.10048	232.32046	5.00176	0.1032854	0.28962237	2.2624621	20	3 27.3	20.7
451722 2013 CA_{209}	17.3	X	351.07835	279.53206	250.30764	2.92914	0.0696583	0.27260725	2.3556519	20	1 19.1	20.0
451723 2013 CD_{216}	17.0	X	120.21364	310.27824	306.01305	10.38818	0.0841629	0.21672743	2.7449017	20	11 16.8	21.4
451724 2013 CS_{219}	17.9	X	259.06353	110.97625	123.38982	4.61904	0.0529586	0.26335057	2.4105337	20	—	—
451725 2013 DE_{10}	17.4	X	18.24472	73.34152	14.26240	6.64169	0.0280816	0.25594106	2.4568355	20	—	—
451726 2013 DH_{14}	16.7	X	140.49428	72.74868	191.57895	8.68152	0.1568568	0.22443050	2.6817284	20	12 20.5	21.2
451727 2013 EY_{6}	16.6	X	127.91819	157.67289	170.76794	12.92801	0.1482202	0.24452587	2.5327142	20	—	—
451728 2013 EP_{7}	17.8	X	73.54077	225.34361	203.31995	1.61464	0.1695917	0.27167632	2.3610301	20	1 21.5	20.0
451729 2013 ED_{8}	17.3	X	97.38752	99.77596	285.84710	1.83564	0.0641893	0.25827147	2.4420343	20	—	—
451730 2013 EZ_{14}	17.9	X	354.75807	134.45116	8.93978	1.57697	0.1141210	0.26444378	2.4038857	20	—	—
451731 2013 EZ_{19}	17.0	X	317.66892	238.86078	281.16994	15.88466	0.1421235	0.25310608	2.4751470	20	—	—
451732 2013 EX_{20}	17.7	X	310.78766	4.03006	183.22450	3.11168	0.0743021	0.26545069	2.3978029	20	—	—
451733 2013 EP_{21}	18.0	X	25.94463	157.76529	328.28266	3.81652	0.0970903	0.26893585	2.3770423	20	1 13.8	20.2
451734 2013 EC_{23}	16.6	X	162.85984	342.79435	217.29733	7.35436	0.1537305	0.21007078	2.8025860	20	10 22.9	21.1
451735 2013 EQ_{24}	17.8	X	23.37833	64.20253	38.52577	4.56381	0.1597331	0.26087888	2.4257354	20	—	—
451736 2013 ES_{24}	17.8	X	0.54767	123.73476	30.60991	5.42551	0.1318040	0.26729337	2.3867701	20	1 7.3	20.3
451737 2013 EH_{25}	16.8	X	17.84928	352.53304	9.66088	6.23428	0.0666081	0.21502840	2.7593418	20	11 26.2	20.5
451738 2013 EP_{26}	17.9	X	50.75233	33.65331	74.78581	3.12753	0.1400493	0.27136812	2.3628174	20	2 4.2	19.9
451739 2013 EH_{32}	17.0	X	52.72236	201.78527	153.97329	6.82265	0.0563716	0.22463123	2.6801306	20	—	—
451740 2013 EA_{38}	17.7	X	34.14786	105.71578	13.83758	9.60530	0.1547011	0.27024192	2.3693774	20	1 20.9	19.9
451741 2013 EO_{38}	17.4	X	286.35719	131.27942	43.55551	5.54537	0.0094201	0.24477594	2.5309888	20	—	—
451742 2013 ER_{40}	17.1	X	328.92102	119.09818	74.42918	7.93333	0.0492278	0.28014562	2.3132016	20	1 22.8	19.8
451743 2013 EO_{45}	18.0	X	42.32810	93.21011	343.61976	6.77032	0.2257681	0.26311431	2.4119765	20	—	—
451744 2013 EG_{58}	17.1	X	37.02982	237.36206	140.53590	4.09812	0.0703381	0.22985390	2.6393772	20	—	—
451745 2013 EA_{64}	17.0	X	89.20967	326.70268	14.11116	1.39395	0.1142944	0.23312495	2.6146298	20	—	—
451746 2013 EH_{67}	18.2	X	17.84117	61.25395	51.18005	5.46184	0.2052013	0.26073164	2.4266486	20	—	—
451747 2013 EE_{75}	17.4	X	133.80351	213.81744	71.13266	1.76980	0.0424625	0.23001861	2.6381171	20	—	—
451748 2013 EC_{83}	16.8	X	79.63089	185.41680	89.40924	6.09276	0.0900455	0.20131637	2.8832568	20	10 29.4	21.0
451749 2013 EQ_{85}	17.8	X	33.26591	64.77809	59.40540	5.60131	0.1757101	0.27205417	2.3588435	20	1 23.7	19.6
451750 2013 EG_{88}	16.7	X	215.28500	175.02976	43.47363	10.59862	0.2496488	0.22971660	2.6404288	20	12 27.0	20.8
451751 2013 EM_{92}	17.3	X	254.68510	352.31635	176.68243	9.11680	0.0588792	0.23599385	2.5933966	20	—	—
451752 2013 EF_{93}	16.4	X	241.60216	299.11473	285.60528	7.96363	0.2230411	0.23517027	2.5994478	20	—	—
451753 2013 EP_{97}	17.5	X	300.34701	197.91822	356.11825	7.87708	0.0690830	0.25641247	2.4538233	20	—	—
451754 2013 EG_{101}	18.0	X	71.66076	19.40126	79.35414	6.28645	0.1765402	0.28069415	2.3101871	20	3 6.8	20.2
451755 2013 ET_{104}	17.6	X	15.31012	354.81876	128.96258	3.97857	0.1461273	0.26215352	2.4178661	20	—	—
451756 2013 EL_{105}	17.5	X	62.37366	234.87754	184.43990	4.87577	0.1038166	0.26137341	2.4226748	20	—	—
451757 2013 ER_{106}	17.7	X	344.73468	6.60190	107.41306	5.40735	0.1060068	0.24364688	2.5388019	20	—	—
451758 2013 EW_{113}	16.7	X	158.28644	205.65370	28.13569	8.19063	0.1665048	0.21165599	2.7885750	20	11 26.5	21.4
451759 2013 EH_{121}	18.0	X	2.25718	296.17659	188.26331	4.31294	0.1323959	0.25636467	2.4541283	20	—	—
451760 2013 ED_{122}	17.8	X	2.88043	301.64714	170.04267	5.48541	0.0919816	0.25254029	2.4788425	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451761 2013 FE_1	16.0	X	85.72200	234.48741	6.67766	16.60124	0.0961477	0.18303452	3.0721851	20	9 22.2	20.4
451762 2013 FA_7	16.8	X	100.52853	126.87079	166.28211	6.67445	0.0335086	0.21407020	2.7675698	20	12 9.8	20.8
451763 2013 FO_{11}	16.5	X	356.33184	135.00440	183.05245	10.22438	0.0648099	0.18362070	3.0656433	20	8 22.7	20.5
451764 2013 FK_{18}	17.5	X	152.41164	211.68883	42.89781	3.48785	0.0495653	0.21948415	2.7218693	20	12 22.0	21.4
451765 2013 FU_{21}	16.9	X	23.28772	66.32146	14.63283	15.32752	0.0811563	0.24417169	2.5351628	20	—	—
451766 2013 FY_{24}	15.8	X	23.30577	276.34744	17.99553	17.62704	0.1522691	0.17805669	3.1291798	20	9 18.2	19.8
451767 2013 FP_{26}	17.1	X	71.03523	184.11783	179.40742	3.26485	0.0811850	0.23095314	2.6309957	20	—	—
451768 2013 FU_{26}	17.8	X	321.21947	109.95625	18.23876	6.26829	0.0660323	0.23993654	2.5649080	20	—	—
451769 2013 GB_4	17.9	X	29.11815	111.59350	12.84426	2.11291	0.1172548	0.26741414	2.3860515	20	1 16.9	20.1
451770 2013 GB_{13}	16.8	X	245.70199	142.94165	61.71950	14.66956	0.1234510	0.23541382	2.5976547	20	—	—
451771 2013 GJ_{19}	17.0	X	53.92013	340.17348	44.91364	12.45079	0.0794977	0.23640439	2.5903932	20	—	—
451772 2013 GP_{24}	16.7	X	30.59945	79.12131	202.89242	12.15865	0.0870454	0.18033734	3.1027416	20	8 26.4	21.0
451773 2013 GU_{36}	16.8	X	197.22439	126.40364	92.41287	7.83826	0.1350376	0.22002283	2.7174249	20	12 19.9	20.8
451774 2013 GL_{62}	17.7	X	213.74846	182.55347	28.02589	5.54749	0.0453217	0.22431016	2.6826875	20	—	—
451775 2013 GA_{64}	17.1	X	49.68413	286.11803	215.78253	22.28781	0.1827444	0.27807972	2.3246443	20	3 22.9	19.4
451776 2013 GN_{71}	16.4	X	313.50971	195.49463	187.41186	7.53462	0.1640127	0.18558919	3.0439272	20	9 4.8	20.0
451777 2013 GW_{85}	17.4	X	238.51903	304.69700	258.79169	3.18557	0.1799648	0.23528203	2.5986246	20	—	—
451778 2013 GM_{91}	17.6	X	353.99272	252.08118	264.65750	3.57140	0.1766781	0.26407578	2.4061185	20	—	—
451779 2013 GG_{92}	15.0	X	53.44204	186.66940	82.25971	28.77980	0.1458587	0.17364920	3.1819073	20	10 9.3	20.1
451780 2013 GP_{92}	16.8	X	230.46971	322.36626	243.31365	7.60870	0.2800523	0.22628133	2.6670853	20	12 22.5	20.6
451781 2013 GC_{97}	16.6	X	70.37306	235.49954	34.68927	7.54995	0.1953309	0.18293063	3.0733481	20	10 21.6	21.1
451782 2013 GJ_{100}	15.3	X	110.45916	340.14623	218.51513	20.50788	0.1148118	0.17593713	3.1542616	20	8 20.7	20.5
451783 2013 GW_{100}	16.0	X	59.34909	225.61219	34.93377	27.94744	0.1910058	0.17345131	3.1843270	20	10 6.2	20.8
451784 2013 GK_{109}	16.9	X	200.57833	197.64997	16.88104	8.62312	0.2245038	0.21653023	2.7465680	20	12 7.6	21.4
451785 2013 GJ_{113}	15.7	X	102.99848	190.53940	47.83165	17.73199	0.0674227	0.18301268	3.0724296	20	10 10.2	20.4
451786 2013 GR_{123}	17.2	X	49.62192	27.70720	20.70389	4.53774	0.1481149	0.24160104	2.5531139	20	—	—
451787 2013 GD_{124}	17.3	X	114.50681	277.52385	15.76278	4.18240	0.0827786	0.21312141	2.7757775	20	12 27.4	21.4
451788 2013 GV_{124}	17.2	X	178.38897	25.94652	199.68352	3.76104	0.0481793	0.21269001	2.7795297	20	12 14.6	21.2
451789 2013 GN_{129}	17.5	X	329.52339	201.30350	300.01446	6.09099	0.0589471	0.25404598	2.4690383	20	—	—
451790 2013 GY_{132}	17.2	X	174.94651	149.18431	74.87028	0.56400	0.0168695	0.21441851	2.7645718	20	12 11.4	21.0
451791 2013 GH_{136}	15.7	X	23.30997	235.99623	79.70043	10.57944	0.0946975	0.18135738	3.0910964	20	10 8.9	19.9
451792 2013 HC_5	15.5	X	359.70873	253.41823	56.41883	21.53110	0.1144089	0.17389223	3.1789420	20	9 1.8	19.9
451793 2013 HG_9	16.2	X	116.46073	149.33649	134.38061	13.47737	0.1184044	0.21350367	2.7724634	20	12 20.3	20.7
451794 2013 HA_{10}	16.7	X	331.57816	357.71654	125.24714	22.58546	0.0428127	0.23036636	2.6354615	20	—	—
451795 2013 HS_{17}	16.4	X	77.76644	129.56427	121.71087	10.17746	0.1533688	0.17796702	3.1302308	20	10 4.8	21.1
451796 2013 HU_{19}	17.3	X	234.29313	348.05191	183.61565	9.19103	0.1275701	0.21782092	2.7357075	20	12 5.1	21.2
451797 2013 HH_{21}	15.8	X	355.48162	310.02818	37.04385	16.55930	0.0809364	0.18564158	3.0433545	20	10 7.2	19.8
451798 2013 HT_{23}	16.7	X	262.21098	355.50616	198.95021	17.79064	0.1367441	0.23070053	2.6329159	20	—	—
451799 2013 HP_{27}	16.9	X	282.67630	154.91511	32.15787	8.49362	0.1039216	0.23505213	2.6003188	20	—	—
451800 2013 HJ_{29}	16.6	X	47.05788	23.77356	259.88176	7.90497	0.0587158	0.18487015	3.0518149	20	9 16.5	21.0
451801 2013 HA_{30}	16.2	X	330.72386	117.72975	226.02814	15.18681	0.2297035	0.17377413	3.1803821	20	8 1.9	19.8
451802 2013 HM_{30}	16.5	X	20.04187	282.85631	352.74538	9.45982	0.0853990	0.16990278	3.2285119	20	8 7.5	20.7
451803 2013 HM_{32}	16.2	X	36.72452	348.14239	359.89163	15.12180	0.1425342	0.20357820	2.8618610	20	12 10.9	20.4
451804 2013 HT_{42}	17.3	X	11.99577	109.80880	286.63948	4.35929	0.0627528	0.21565482	2.7539957	20	—	—
451805 2013 HB_{43}	17.5	X	32.19101	83.15669	293.74297	5.55744	0.0589349	0.21558442	2.7545953	20	—	—
451806 2013 HH_{43}	17.6	X	234.06405	202.78234	282.62599	4.82004	0.0451907	0.19916983	2.9039358	20	10 12.4	21.7
451807 2013 HQ_{43}	17.7	X	318.46341	184.20139	257.77097	5.38032	0.0246181	0.21350358	2.7724642	20	12 14.5	21.4
451808 2013 HM_{46}	18.0	X	34.57496	123.97861	300.82969	3.12213	0.1617293	0.23936332	2.5690013	20	—	—
451809 2013 HX_{47}	17.1	X	11.33474	37.79162	291.72227	2.38741	0.2082586	0.18019973	3.1043210	20	10 15.3	20.7
451810 2013 HQ_{55}	17.0	X	35.59877	76.60135	218.29558	9.10717	0.2086947	0.17825073	3.1269085	20	10 8.8	21.0
451811 2013 HD_{56}	17.5	X	359.04955	46.99979	3.06413	5.89323	0.0499235	0.21841340	2.7307579	20	—	—
451812 2013 HK_{56}	17.2	X	321.53485	95.60430	339.29073	5.68114	0.0144014	0.21309787	2.7759820	20	12 8.8	20.9
451813 2013 HH_{61}	17.7	X	357.73731	225.73633	234.90624	4.78400	0.1130421	0.24084998	2.5584188	20	—	—
451814 2013 HM_{61}	17.1	X	357.89180	188.81666	228.32546	5.51795	0.0492757	0.22050997	2.7134213	20	—	—
451815 2013 HO_{61}	17.3	X	37.21329	114.21882	247.39746	3.39811	0.0871645	0.21144178	2.7904581	20	12 24.2	21.1
451816 2013 HL_{67}	16.8	X	268.74832	182.11544	224.15757	9.43650	0.0312120	0.18061346	3.0995785	20	8 14.8	21.3
451817 2013 HZ_{88}	17.2	X	173.75110	331.10108	266.31131	1.77886	0.0485264	0.21728225	2.7402270	20	12 24.6	21.2
451818 2013 HW_{90}	17.7	X	39.51023	148.21751	214.87216	5.45785	0.1713336	0.21257945	2.7804934	20	—	—
451819 2013 HR_{95}	16.9	X	91.63933	32.00540	202.64088	13.83257	0.0792506	0.18381674	3.0634633	20	9 14.5	21.5
451820 2013 HJ_{104}	17.6	X	0.58131	61.06212	25.65469	6.04514	0.0633238	0.23389362	2.6088982	20	—	—
451821 2013 HK_{115}	17.5	X	358.58604	348.46575	46.69916	1.00725	0.0754569	0.21015836	2.8018074	20	12 12.6	21.0
451822 2013 HY_{116}	17.2	X	4.96067	264.67647	60.85686	2.21783	0.1642485	0.17884464	3.1199821	20	9 25.2	20.8
451823 2013 HL_{117}	17.4	X	16.96382	181.97361	173.29409	2.02619	0.1022487	0.19898205	2.9057625	20	11 18.9	21.0
451824 2013 HL_{119}	18.1	X	289.10984	316.99281	173.23589	2.93924	0.0429577	0.22128901	2.7070492	20	—	—
451825 2013 HA_{122}	17.3	X	18.26624	310.39603	79.60579	1.41772	0.0762945	0.21502312	2.7593870	20	—	—
451826 2013 HL_{131}	17.5	X	106.22249	81.91135	242.22219	4.09337	0.0471278	0.22312621	2.6921690	20	—	—
451827 2013 HY_{132}	17.2	X	232.65510	150.36816	21.58721	10.65950	0.0665136	0.21592436	2.7517034	20	12 9.0	21.1
451828 2013 HC_{150}	17.4	X	111.69771	314.68637	348.53263	1.68050	0.0697433	0.21601458	2.7509372	20	—	—
451829 2013 JG_5	15.2	X	88.85417	11.98494	230.79038	27.08113	0.1031895	0.17915197	3.1164129	20	9 19.3	20.2
451830 2013 JC_8	15.7	X	39.34801	229.91722	67.01409	10.34224	0.0969438	0.17663865	3.1459047	20	10 6.6	20.0
451831 2013 JB_9	15.8	X	72.18019	181.35450	75.47990	8.83927	0.1334343	0.17752893	3.1353784	20	10 2.9	20.4
451832 2013 JU_{11}	16.1	X	8.76125	302.22153	44.29400	13.94621	0.0873214	0.18786883	3.0192534	20	10 24.2	19.9
451833 2013 JF_{13}	16.1	X	334.72416	286.06405	91.52113	9.85335	0.0389971	0.18394640	3.0620236	20	10 14.7	20.3
451834 2013 JO_{18}	16.9	X	247.53621	95.63371	56.09960	9.54173	0.0861227	0.20871927	2.8146713	20	11 29.1	20.6
451835 2013 JL_{20}	17.0	X	290.33597	341.42749	182.19238	12.45727	0.2782230	0.23559280	2.5963389	20	—	—
451836 2013 JW_{29}	16.7	X	303.24294	302.16213	211.99204	12.60422	0.1508032	0.23734506	2.5835443	20	—	—
451837 2013 JV_{32}	17.1	X	262.43451	26.90225	134.13174	11.29957	0.1623003	0.21569011	2.7536954	20	12 23.5	20.6
451838 2013 JL_{36}	16.0	X	30.16274	164.08131	123.68783	14.75639	0.0956526	0.18291318	3.0735436	20	9 11.7	20.1
451839 2013 JT_{40}	16.0	X	104.01603	154.68103	78.86942	19.57198	0.1749145	0.18038641	3.1021789	20	10 17.9	21.3
451840 2013 JM_{41}	16.1	X	349.62536	257.78408	94.36904	17.28948	0.0877005	0.17713800	3.1399898	20	10 8.0	20.5

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451841 2013 KR_2	16.4	X	309.60096	133.00247	46.48127	5.01662	0.1777544	0.24212635	2.5494197	20	—	—
451842 2013 KV_9	16.4	X	145.00931	345.52667	221.46728	9.48701	0.0919598	0.18601169	3.0393162	20	10 10.2	21.1
451843 2013 KD_{11}	16.5	X	242.77192	320.23652	229.98393	13.19851	0.1365243	0.21980638	2.7192085	20	—	—
451844 2013 KL_{14}	16.9	X	253.15616	315.47194	225.48172	10.28575	0.1287101	0.22034898	2.7147427	20	—	—
451845 2013 LW_3	16.1	X	358.91857	295.69516	64.77156	10.36251	0.0995528	0.18414620	3.0598082	20	10 28.4	19.9
451846 2013 LK_5	16.0	X	25.28011	245.26349	72.59710	16.12447	0.1402283	0.17432936	3.1736257	20	10 21.0	20.3
451847 2013 LQ_{10}	15.7	X	145.73505	24.94596	202.51127	10.10780	0.0598895	0.19115935	2.9845053	20	11 7.3	20.1
451848 2013 LG_{18}	17.3	X	243.96261	316.96202	215.44138	8.31004	0.1934594	0.21552856	2.7550713	20	12 7.4	21.0
451849 2013 MD_2	16.3	X	127.86722	7.02921	203.32581	11.58404	0.0838464	0.17679735	3.1440218	20	9 25.1	21.2
451850 2014 AT_{32}	17.3	X	132.29551	266.27659	269.87470	18.72329	0.0909423	0.38591573	1.8684195	20	8 30.8	20.0
451851 2014 BK_{38}	17.5	X	236.24603	290.05430	325.33101	8.80506	0.1625301	0.29490309	2.2353721	20	—	—
451852 2014 CE_9	17.5	X	323.77567	174.21124	132.53646	24.76487	0.0789092	0.36923242	1.9242854	20	7 1.0	19.3
451853 2014 DF_{11}	17.6	X	155.47980	280.13785	176.10818	23.09704	0.1135449	0.36242164	1.9483186	20	6 11.9	20.7
451854 2014 DR_{50}	16.4	X	1.55484	153.14491	149.75618	10.05515	0.1532997	0.20900556	2.8121004	20	8 21.4	19.2
451855 2014 DD_{74}	17.6	X	213.26846	232.99616	73.65904	7.20117	0.1917614	0.29916148	2.2141087	20	1 25.4	21.1
451856 2014 DM_{110}	17.7	X	182.71026	129.21809	164.86208	5.34190	0.1946132	0.27515738	2.3410747	20	—	—
451857 2014 FM	18.6	X	186.65615	107.62242	28.50816	21.00769	0.0585289	0.38493567	1.8715895	20	10 3.7	20.6
451858 2014 FB_{56}	18.2	X	219.09902	158.73541	122.45120	6.47151	0.1550756	0.28049376	2.3112872	20	—	—
451859 2014 FD_{68}	17.1	X	209.28564	268.48836	11.72500	11.14448	0.1843124	0.27745644	2.3281243	20	—	—
451860 2014 GY_{11}	17.5	X	207.70371	242.90101	46.80224	6.47585	0.1806591	0.28720110	2.2751602	20	—	—
451861 2014 GM_{17}	18.3	X	281.19233	162.99169	207.27512	22.97859	0.1175298	0.35980023	1.9577704	20	7 12.1	20.8
451862 2014 GN_{38}	18.0	X	172.07736	84.06821	229.67089	5.36268	0.1382767	0.27797180	2.3252459	20	—	—
451863 2014 HX_1	16.9	X	94.05104	221.39115	49.26963	16.39161	0.2850621	0.21984281	2.7189082	20	11 23.2	21.7
451864 2014 HZ_2	18.1	X	185.36737	53.78481	73.19319	23.47417	0.0696510	0.36833748	1.9274011	20	9 23.5	21.0
451865 2014 HB_{14}	17.9	X	150.41103	331.95612	38.42297	6.72079	0.1010454	0.29819236	2.2189033	20	2 8.9	20.9
451866 2014 HE_{15}	18.0	X	170.99674	78.46926	209.04860	4.12164	0.2302656	0.26175096	2.4203446	20	—	—
451867 2014 HP_{17}	17.7	X	242.01719	279.90030	21.03099	6.01976	0.2021116	0.30063069	2.2068891	20	2 12.6	21.2
451868 2014 HU_{19}	16.9	X	77.36444	358.35605	300.76356	1.20153	0.1906362	0.22581196	2.6707798	20	12 8.0	20.9
451869 2014 HV_{21}	18.6	X	226.81331	340.58943	309.88472	0.90766	0.1299355	0.29200405	2.2501431	20	1 17.3	21.9
451870 2014 HK_{23}	18.2	X	259.79389	166.18449	97.07821	2.31455	0.1696078	0.29803160	2.2197012	20	1 12.3	21.3
451871 2014 HP_{32}	17.8	X	177.14890	206.32601	111.80749	3.99976	0.2001429	0.27669121	2.3324149	20	1 9.9	21.5
451872 2014 HS_{33}	17.5	X	132.61414	193.51275	88.85218	6.74020	0.2098854	0.24194240	2.5507118	20	—	—
451873 2014 HS_{37}	17.3	X	177.56996	208.10608	72.27156	11.08531	0.1901547	0.26171844	2.4205450	20	—	—
451874 2014 HH_{41}	17.9	X	254.25087	82.13217	170.77352	4.18072	0.2190908	0.28579925	2.2825939	20	—	—
451875 2014 HS_{41}	17.9	X	197.91674	221.76260	20.63972	2.19669	0.1713994	0.25691144	2.4506451	20	—	—
451876 2014 HR_{44}	17.0	X	111.42122	101.08274	202.38199	16.12838	0.2584908	0.24128700	2.5553287	20	—	—
451877 2014 HF_{45}	17.6	X	197.55478	110.29993	154.23076	1.64248	0.1675789	0.26886155	2.3774803	20	—	—
451878 2014 HH_{45}	17.9	X	266.28555	238.15291	44.69742	3.62372	0.1506111	0.30727936	2.1749392	20	2 14.9	20.9
451879 2014 HL_{76}	17.2	X	348.24978	117.54791	196.88120	13.07544	0.3239378	0.18529123	3.0471896	20	8 4.8	19.7
451880 2014 HD_{77}	18.2	X	160.45025	159.72708	138.72124	2.67438	0.1844635	0.26247303	2.4159036	20	—	—
451881 2014 HO_{103}	17.6	X	173.57889	191.66776	110.84696	3.61575	0.2003430	0.26814646	2.3817052	20	—	—
451882 2014 HF_{186}	17.7	X	227.83196	158.52611	112.68682	4.15509	0.1803153	0.28076883	2.3097774	20	—	—
451883 2014 HO_{188}	17.6	X	93.83722	274.36779	71.18552	2.63264	0.1925877	0.25460625	2.4654148	20	—	—
451884 2014 JD_3	18.4	X	286.42715	64.37931	203.57758	1.45193	0.1175691	0.30678745	2.1772635	20	2 19.9	21.2
451885 2014 JO_7	17.6	X	189.94894	187.61943	78.05646	5.64340	0.1328394	0.26104058	2.4247336	20	—	—
451886 2014 JZ_{19}	17.9	X	200.16657	191.86872	96.59996	5.73093	0.1154217	0.28047882	2.3113692	20	—	—
451887 2014 JT_{22}	17.4	X	125.92955	99.74869	203.78518	6.05465	0.1533462	0.24148839	2.5539078	20	—	—
451888 2014 JU_{30}	18.7	X	223.41265	286.44802	198.01279	20.96918	0.1040511	0.38675245	1.8657237	20	10 28.4	20.2
451889 2014 JO_{36}	18.3	X	254.09627	201.71922	74.15343	1.21770	0.1774029	0.29259407	2.2471171	20	1 23.1	21.5
451890 2014 JP_{36}	17.8	X	207.07445	68.71527	195.69727	2.00158	0.1816818	0.26733561	2.3865187	20	—	—
451891 2014 JB_{37}	18.1	X	263.85181	143.42008	107.81553	3.28810	0.1636810	0.28952351	2.2629771	20	1 2.5	21.2
451892 2014 JS_{39}	17.9	X	313.42980	150.03708	78.63137	8.17149	0.0665118	0.30276921	2.1964850	20	2 14.0	20.5
451893 2014 JU_{41}	17.4	X	112.42197	222.13801	56.20123	4.62808	0.2778932	0.22575134	2.6712580	20	12 16.6	22.3
451894 2014 JU_{43}	17.8	X	223.38851	184.12481	98.02391	7.73225	0.1057486	0.28046449	2.3114480	20	1 5.1	21.0
451895 2014 JG_{52}	17.8	X	197.25908	55.70853	235.69845	0.77141	0.1813654	0.27141176	2.3625641	20	—	—
451896 2014 JN_{54}	17.1	X	154.32548	284.85832	66.31225	24.67037	0.3102048	0.27748176	2.3279828	20	2 16.6	21.6
451897 2014 JP_{55}	17.8	X	269.00559	210.11132	210.32371	21.39357	0.0899519	0.37413262	1.9074463	20	9 26.1	19.6
451898 2014 JY_{62}	17.0	X	94.46739	193.76117	131.81041	12.96773	0.2281921	0.23819267	2.5774116	20	—	—
451899 2014 JM_{65}	17.4	X	75.19156	176.26759	129.90789	3.93805	0.1848056	0.22261285	2.6963063	20	12 13.7	21.6
451900 2014 JD_{66}	17.2	X	180.75895	220.79377	85.68129	7.96366	0.1154360	0.27291823	2.3538621	20	—	—
451901 2014 JG_{73}	18.2	X	318.41679	115.31257	116.42352	1.79759	0.0954558	0.30538474	2.1839256	20	2 17.6	20.5
451902 2014 JZ_{75}	18.1	X	308.22636	36.72288	218.05466	2.13550	0.1131296	0.30963658	2.1638868	20	3 1.8	20.6
451903 2014 JS_{77}	18.2	X	191.48829	116.95457	175.63773	2.50256	0.1146404	0.27336336	2.3513062	20	—	—
451904 2014 KF_6	17.7	X	158.20094	239.16113	79.62164	2.26435	0.1949829	0.26815165	2.3816745	20	—	—
451905 2014 KE_8	18.2	X	184.63860	110.00098	169.52608	1.41494	0.1773999	0.26487932	2.4012498	20	—	—
451906 2014 KV_8	17.9	X	107.48809	10.44915	29.06048	7.52451	0.1209382	0.28626381	2.2801238	20	1 27.9	20.6
451907 2014 KO_{18}	17.3	X	114.34308	143.35688	181.47038	5.19454	0.2129382	0.24320241	2.5418942	20	—	—
451908 2014 KU_{21}	17.8	X	117.78139	109.40960	98.02889	23.25365	0.0603856	0.36870766	1.9261108	20	10 22.9	20.7
451909 2014 KW_{24}	16.8	X	115.01121	236.53779	61.66281	28.76370	0.2245351	0.23414500	2.6070306	20	—	—
451910 2014 KG_{26}	17.8	X	110.39841	241.60763	99.98243	6.66049	0.1449516	0.25265669	2.4780811	20	—	—
451911 2014 KQ_{27}	17.5	X	207.63607	70.34132	194.11203	14.54910	0.2148797	0.26759296	2.3849884	20	—	—
451912 2014 KQ_{33}	17.6	X	190.69654	226.17198	93.89230	10.33361	0.1494478	0.28646941	2.2790327	20	1 21.4	21.1
451913 2014 KY_{33}	16.6	X	38.60339	190.03951	132.96679	14.92309	0.1993300	0.21323830	2.7747631	20	11 28.4	20.6
451914 2014 KU_{38}	17.0	X	75.06896	219.80801	87.11042	14.43091	0.3268697	0.22202901	2.7010310	20	12 25.2	21.7
451915 2014 KV_{53}	16.7	X	60.83681	178.93686	136.62048	5.89002	0.1632900	0.21587060	2.7521602	20	12 7.4	20.7
451916 2014 KE_{55}	18.3	X	148.86857	97.56376	202.57499	1.81287	0.1852110	0.25306260	2.4754305	20	—	—
451917 2014 KZ_{61}	16.1	X	48.81148	246.77540	72.36128	19.57172	0.2292042	0.19813971	2.9139921	20	12 2.8	20.3
451918 2014 KM_{64}	18.1	X	244.66492	0.07342	243.48327	1.57499	0.1700591	0.27414800	2.3468175	20	—	—
451919 2014 KY_{65}	17.7	X	207.43722	161.32298	107.01404	2.20495	0.1508971	0.26655364	2.3911839	20	—	—
451920 2014 KD_{75}	17.5	X	184.92281	224.14902	79.84975	3.87782	0.1891477	0.26756114	2.3851774	20	—	—

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
451921 2014 KF_{76}	17.4	X	88.55385	198.73141	83.31421	22.14306	0.0716685	0.38166497	1.8822668	20	12 21.6	19.3
451922 2014 KJ_{80}	17.8	X	291.84529	158.93270	56.50189	5.88839	0.2041536	0.28908159	2.2652828	20	—	—
451923 2014 KK_{81}	17.5	X	292.37376	173.30107	64.80123	7.24311	0.0462493	0.29505126	2.2346237	20	2 1.6	20.3
451924 2014 KP_{85}	17.7	X	182.64250	218.93692	63.24751	3.20132	0.1987450	0.26058137	2.4275814	20	—	—
451925 2014 KK_{89}	17.3	X	96.44207	72.50502	228.54582	11.54360	0.1520528	0.22624476	2.6673726	20	12 24.3	21.7
451926 2014 KP_{90}	15.9	X	355.79388	95.94719	238.20031	9.67663	0.1908093	0.17442228	3.1724984	20	9 14.9	19.6
451927 2014 KX_{93}	17.0	X	76.94933	206.85533	88.44121	5.47085	0.1859715	0.21301827	2.7766735	20	11 30.9	21.2
451928 2014 LO_{4}	17.6	X	155.15360	92.34812	223.97644	6.86830	0.1478909	0.26156327	2.4215022	20	—	—
451929 2014 LF_{12}	17.7	X	332.66036	297.28091	264.08452	3.42390	0.1047666	0.29796207	2.2200464	20	1 24.9	20.0
451930 2014 LC_{18}	17.2	X	100.56568	253.62525	86.33909	12.96425	0.1860010	0.24381687	2.5376217	20	—	—
451931 2014 LR_{18}	17.5	X	249.58544	164.13674	63.72979	6.34484	0.1166610	0.27576187	2.3376522	20	—	—
451932 2014 LX_{18}	17.1	X	261.81263	213.54042	60.05674	6.81146	0.0897512	0.29920494	2.2138942	20	2 5.4	20.1
451933 2014 LC_{23}	17.5	X	198.33783	68.73920	182.41800	7.80987	0.0977819	0.25360365	2.4719084	20	—	—
451934 2014 LQ_{23}	17.8	X	311.69391	108.05943	127.30075	6.14405	0.0393974	0.29934337	2.2132117	20	2 23.9	20.2
451935 2014 LD_{24}	16.8	X	153.86276	263.18254	24.85179	8.94842	0.1532657	0.23823971	2.5770724	20	—	—
451936 2014 LN_{27}	16.8	X	17.08826	187.84065	216.92339	28.13079	0.0918812	0.24156005	2.5534027	20	—	—
451937 2014 LA_{28}	17.3	X	237.34141	316.86927	290.48347	4.92455	0.2058429	0.27478003	2.3432175	20	—	—
451938 2014 MF	16.8	X	142.52970	90.49918	196.07684	11.03803	0.1839396	0.23794871	2.5791730	20	—	—
451939 2014 MQ_{1}	17.4	X	312.12201	152.03740	78.11866	6.47687	0.0932736	0.29771244	2.2212873	20	2 9.8	20.1
451940 2014 MX_{6}	17.0	X	109.64332	110.79120	185.77623	14.51927	0.2389329	0.22617344	2.6679334	20	—	—
451941 2014 MH_{7}	17.7	X	168.16226	221.92650	70.30137	2.60524	0.1323758	0.25801942	2.4436244	20	—	—
451942 2014 MQ_{8}	16.2	X	102.56580	36.61436	237.46051	14.25623	0.1115052	0.20417868	2.8562472	20	11 22.3	20.5
451943 2014 MR_{13}	17.5	X	254.91485	110.85111	122.49448	7.27946	0.1320288	0.26067668	2.4269897	20	—	—
451944 2014 MY_{13}	17.5	X	105.40646	79.49249	210.21686	10.31434	0.1755833	0.22335436	2.6903354	20	12 20.1	22.0
451945 2014 MU_{14}	16.5	X	93.10198	225.87907	129.47278	16.61564	0.1662929	0.24417297	2.5351539	20	—	—
451946 2014 MW_{19}	17.2	X	228.67821	162.94725	94.17626	2.45330	0.1474561	0.25993042	2.4316327	20	—	—
451947 2014 MR_{24}	16.5	X	81.38945	352.89909	294.35951	6.28615	0.1009105	0.20172749	2.8793381	20	11 12.8	20.8
451948 2014 MF_{26}	16.8	X	74.93103	176.14732	105.42090	7.89100	0.1904347	0.19727301	2.9225207	20	11 12.5	21.3
451949 2014 MH_{26}	16.8	X	126.17257	215.01238	70.40356	9.55788	0.0661871	0.22099712	2.7094323	20	12 31.2	20.8
451950 2014 MZ_{27}	16.8	X	77.01872	107.99072	269.10094	4.14931	0.1685068	0.24144437	2.5542182	20	—	—
451951 2014 MH_{31}	16.2	X	305.93015	103.32884	231.97540	10.15242	0.0737636	0.17364297	3.1819835	20	6 30.4	20.5
451952 2014 MS_{37}	16.0	X	327.58516	253.82129	123.25479	16.69067	0.1020463	0.17519673	3.1631422	20	10 2.3	20.2
451953 2014 MZ_{40}	15.9	X	332.52518	23.59854	334.16385	9.83516	0.0711451	0.17885213	3.1198950	20	9 8.1	19.8
451954 2014 ML_{43}	15.7	X	50.49335	44.30429	272.20102	9.31152	0.0672166	0.18511507	3.0491225	20	11 4.1	20.1
451955 2014 MR_{46}	16.3	X	15.94346	204.98347	238.22524	13.08011	0.0362143	0.23761028	2.5816215	20	—	—
451956 2014 MG_{52}	16.2	X	241.98667	240.72525	268.99504	13.84725	0.0963388	0.20361450	2.8615209	20	11 16.1	20.4
451957 2014 MR_{53}	15.7	X	311.93176	244.66861	130.84503	26.95379	0.2023026	0.17032789	3.2231378	20	8 18.1	19.5
451958 2014 MB_{58}	15.8	X	243.75739	98.34842	354.54144	9.00186	0.0633531	0.17799964	3.1298483	20	9 10.9	20.1
451959 2014 MN_{59}	16.4	X	56.69249	49.36948	244.78845	10.73044	0.0441500	0.18456113	3.0552205	20	10 10.9	20.8
451960 2014 MR_{59}	15.8	X	158.01012	285.78463	260.70218	9.54851	0.1368089	0.18603025	3.0391141	20	9 25.5	20.9
451961 2014 MS_{60}	17.8	X	266.15433	43.65799	189.71048	2.60655	0.1902979	0.26841110	2.3801394	20	—	—
451962 2014 MO_{61}	15.6	X	78.62577	359.72248	285.27013	10.78630	0.0288850	0.19435211	2.9517294	20	10 25.2	20.0
451963 2014 MR_{61}	17.1	X	107.93010	174.02949	123.15497	9.01992	0.0228372	0.21325915	2.7745822	20	12 22.1	21.0
451964 2014 NR_{3}	16.6	X	44.30096	211.06843	134.63941	9.01757	0.2271096	0.21398192	2.7683309	20	—	—
451965 2014 NS_{9}	17.5	X	21.47279	256.42911	108.02859	3.15800	0.1019786	0.20570123	2.8421356	20	12 8.2	21.0
451966 2014 NC_{16}	15.8	X	314.13093	96.37997	279.69628	14.86664	0.1038115	0.16885421	3.2418640	20	8 25.0	20.2
451967 2014 NV_{20}	16.2	X	354.35060	296.87763	156.49068	22.06260	0.0693793	0.23487312	2.6016399	20	—	—
451968 2014 NP_{21}	16.0	X	343.16712	139.89418	233.97533	15.41388	0.1318733	0.18486614	3.0518590	20	10 16.5	19.8
451969 2014 NS_{22}	15.6	X	8.94851	61.45520	285.48316	20.08535	0.0600504	0.19313907	2.9640757	20	10 11.0	20.0
451970 2014 NF_{24}	16.9	X	333.20334	221.14721	268.08185	14.07791	0.0551310	0.24474348	2.5312126	20	—	—
451971 2014 NT_{26}	16.9	X	128.26955	15.75022	248.04089	3.35588	0.0205921	0.21182716	2.7870726	20	12 4.2	20.8
451972 2014 NM_{28}	16.0	X	50.40187	10.11306	280.35937	10.16399	0.0639513	0.18671497	3.0316795	20	9 29.2	20.4
451973 2014 NF_{29}	17.2	X	353.00271	234.42916	137.00094	4.84345	0.1349753	0.19036565	2.9927952	20	11 5.6	20.8
451974 2014 NO_{30}	16.7	X	303.42401	255.18752	154.96047	10.31647	0.1706758	0.18160608	3.0882737	20	9 26.1	20.4
451975 2014 NP_{34}	15.6	X	21.26886	296.01768	27.76742	9.66458	0.0791687	0.18229153	3.0805273	20	10 10.2	19.5
451976 2014 NU_{35}	16.0	X	344.01666	330.68426	64.69077	13.05926	0.0877495	0.19099863	2.9861793	20	11 18.3	19.6
451977 2014 NT_{39}	16.8	X	164.64815	358.55891	260.55344	3.46032	0.1258322	0.22526159	2.6751283	20	—	—
451978 2014 NN_{42}	16.8	X	282.95109	305.18338	249.24034	13.73216	0.0708557	0.24690725	2.5164028	20	—	—
451979 2014 NY_{43}	16.4	X	54.20900	60.12156	242.72304	11.77519	0.1066908	0.18730312	3.0253297	20	10 29.7	20.6
451980 2014 NT_{44}	16.3	X	296.25302	196.33041	229.02863	8.95718	0.0642227	0.18485036	3.0520327	20	10 13.6	20.4
451981 2014 NS_{49}	16.2	X	333.14178	189.14502	206.81129	10.28236	0.0064769	0.19142111	2.9817839	20	11 1.5	20.3
451982 2014 NN_{55}	15.6	X	227.88000	140.47921	351.30202	10.71227	0.0913043	0.18573345	3.0423509	20	10 4.6	20.1
451983 2014 NS_{56}	15.4	X	159.78396	72.03325	110.30834	16.74619	0.0411416	0.17712326	3.1401639	20	10 3.7	20.3
451984 2014 NP_{58}	16.2	X	43.35928	216.85073	78.25685	12.62574	0.0696727	0.17769120	3.1334692	20	10 7.7	20.7
451985 2014 NS_{60}	17.2	X	131.77254	228.76708	104.02504	5.09771	0.1538329	0.23381142	2.6095097	20	—	—
451986 2014 NC_{62}	17.1	X	145.16169	188.80864	78.16899	3.35717	0.1269301	0.22630540	2.6668962	20	12 28.8	21.2
451987 2014 NL_{62}	17.2	X	172.52556	167.81656	80.02693	10.34712	0.1348816	0.23157073	2.6263158	20	—	—
451988 2014 NM_{62}	16.4	X	10.32950	264.24730	66.63843	9.56655	0.1548715	0.18516050	3.0486237	20	10 15.3	20.1
451989 2014 NR_{62}	16.9	X	76.96266	253.17780	60.21609	5.29701	0.2105738	0.21037456	2.7998874	20	12 23.4	21.4
451990 2014 OU_{12}	16.7	X	66.92888	246.61581	110.93243	5.40095	0.0982629	0.22190826	2.7020108	20	—	—
451991 2014 OX_{13}	15.3	X	193.46669	298.78479	100.18321	3.06399	0.2156140	0.12419694	3.9785863	20	5 7.1	21.8
451992 2014 OX_{14}	17.2	X	112.25773	108.47546	153.92110	2.52699	0.0207676	0.20318349	2.8655661	20	11 12.5	21.2
451993 2014 OZ_{19}	17.7	X	255.86542	303.85378	244.60357	1.78496	0.0874201	0.23844642	2.5755827	20	—	—
451994 2014 OH_{20}	16.7	X	34.39870	140.47423	130.33323	5.94323	0.1680910	0.17346118	3.1842062	20	9 1.6	20.6
451995 2014 OM_{26}	16.6	X	271.76088	115.77634	311.96154	7.81165	0.0422096	0.18228366	3.0806160	20	9 14.4	21.0
451996 2014 OG_{30}	16.5	X	328.43449	264.09240	113.49329	11.59493	0.1623834	0.18027234	3.1034874	20	10 2.1	20.2
451997 2014 OR_{35}	15.5	X	278.18448	299.21988	115.72860	10.50902	0.0707110	0.17729776	3.1381032	20	9 8.7	19.9
451998 2014 OH_{37}	17.5	X	244.16777	270.25736	308.37301	4.34567	0.0700446	0.24522293	2.5279122	20	—	—
451999 2014 OA_{39}	16.4	X	38.27623	327.78870	334.21148	4.89573	0.0459960	0.18392255	3.0622882	20	9 28.9	20.5
452000 2014 OQ_{45}	17.2	X	317.61052	261.68693	131.10414	3.57294	0.0961931	0.18461325	3.0546454	20	10 3.9	21.0