

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
460001	2014	OP ₉₂	16.7 ^m	X	176.51489	312.81124	263.11631	6.34409	0.0927879	0.21429628	2.7656229	20	11 27.3	20.7
460002	2014	OY ₉₂	17.8	X	260.74191	7.06274	272.65376	6.21762	0.1185464	0.28119920	2.3074201	20	2 7.2	21.1
460003	2014	OY ₁₀₁	16.9	X	65.84323	265.26030	147.50949	13.11560	0.1778402	0.22824943	2.6517317	20	—	—
460004	2014	OB ₁₀₂	17.1	X	73.83312	250.57169	144.37320	13.36504	0.1585668	0.22579390	2.6709223	20	—	—
460005	2014	OH ₁₀₃	17.3	X	345.91622	83.65293	312.74209	9.51310	0.2278528	0.18175147	3.0866266	20	11 27.1	20.6
460006	2014	OE ₁₀₈	16.9	X	76.59055	231.92079	95.90386	7.86367	0.0848927	0.21558182	2.7546175	20	12 29.5	20.8
460007	2014	OZ ₁₀₈	18.6	X	219.24534	322.34461	69.42244	4.01861	0.0804894	0.30962872	2.1639235	20	5 25.1	21.2
460008	2014	OU ₁₁₁	17.5	X	164.68725	290.69990	294.62487	17.48158	0.0506352	0.38026003	1.8869002	20	—	—
460009	2014	OJ ₁₁₂	16.3	X	7.07763	75.04261	291.60020	19.47834	0.3509631	0.17345251	3.1843123	20	12 18.2	19.9
460010	2014	OK ₁₁₅	17.5	X	129.73131	88.68271	269.23040	2.37448	0.0977513	0.25069617	2.4909839	20	1 2.4	20.5
460011	2014	ON ₁₂₀	17.7	X	285.17911	269.72677	342.29377	5.15854	0.1169247	0.28200917	2.3029998	20	2 2.2	20.6
460012	2014	OQ ₁₂₀	18.5	X	131.10398	83.78778	31.07521	3.31142	0.0712009	0.30849312	2.1692306	20	6 2.5	21.1
460013	2014	OW ₁₂₀	17.8	X	48.08140	358.97863	357.32446	3.77805	0.1116578	0.21019545	2.8014777	20	—	—
460014	2014	OS ₁₂₄	16.4	X	251.82296	326.99397	125.21567	12.06197	0.1334407	0.18171615	3.0870265	20	9 13.6	20.9
460015	2014	OB ₁₂₈	17.9	X	273.67072	143.46157	85.34073	7.77792	0.1444398	0.26374127	2.4081525	20	—	—
460016	2014	OX ₁₃₆	17.5	X	10.79490	281.93974	132.28508	2.82540	0.1321292	0.21904969	2.7254671	20	—	—
460017	2014	OV ₁₃₇	17.1	X	48.58826	245.58468	128.50706	6.56738	0.1028856	0.22000618	2.7175620	20	—	—
460018	2014	OX ₁₃₈	17.9	X	111.59181	83.82174	240.81321	1.40554	0.1388488	0.22827716	2.6515169	20	—	—
460019	2014	OG ₁₃₉	17.7	X	158.75997	208.37043	146.00995	3.06485	0.1981736	0.25934059	2.4353182	20	2 8.4	21.5
460020	2014	OL ₁₃₉	17.8	X	139.47045	253.40047	149.17361	2.84852	0.1843018	0.27025758	2.3692858	20	3 19.7	21.3
460021	2014	OL ₁₄₀	18.1	X	77.08182	270.31331	112.43002	1.42819	0.1429006	0.23356659	2.6113329	20	—	—
460022	2014	OZ ₁₄₁	17.6	X	90.03290	53.03812	313.00820	5.17244	0.2533400	0.22830913	2.6512694	20	—	—
460023	2014	OZ ₁₄₂	17.4	X	78.72028	253.82970	92.67155	6.14083	0.0069677	0.22338279	2.6901071	20	—	—
460024	2014	OX ₁₅₀	18.4	X	150.65129	221.65530	153.46094	1.64097	0.1982325	0.26182111	2.4199122	20	2 26.3	22.1
460025	2014	OR ₁₅₁	16.8	X	18.12677	303.63606	80.60754	6.59617	0.0701313	0.21283140	2.7782986	20	12 25.9	20.5
460026	2014	OL ₁₆₄	17.7	X	4.93967	354.16920	72.18248	4.64722	0.0847708	0.22383180	2.6865083	20	—	—
460027	2014	OA ₁₆₅	16.8	X	280.38374	342.07738	60.56149	6.50479	0.1045560	0.17116548	3.2126144	20	8 20.8	21.2
460028	2014	OH ₁₆₅	18.4	X	190.27075	308.94621	60.06424	4.44358	0.0514756	0.28538928	2.2847794	20	3 22.6	21.3
460029	2014	OR ₁₆₈	17.5	X	342.30497	178.87077	33.56447	7.36865	0.0614057	0.28857636	2.2679260	20	3 8.7	20.0
460030	2014	OJ ₁₆₉	18.1	X	111.64622	47.20083	20.67885	7.51121	0.0970106	0.27297124	2.3535573	20	3 10.7	21.1
460031	2014	OG ₁₇₁	17.4	X	17.73591	359.84031	55.08441	6.11282	0.1601809	0.21936973	2.7228157	20	—	—
460032	2014	OR ₁₇₁	16.9	X	92.64972	273.35965	96.76069	8.69462	0.2444185	0.23099411	2.6306846	20	—	—
460033	2014	OA ₁₇₃	17.3	X	16.56204	42.43324	13.99268	5.39850	0.1116685	0.22114672	2.7082103	20	—	—
460034	2014	OG ₁₇₇	18.2	X	156.93067	28.15606	9.40575	4.22896	0.1946642	0.27547453	2.3392775	20	3 29.9	21.9
460035	2014	OJ ₁₈₁	17.5	X	81.02516	332.09625	69.40944	6.83207	0.2468439	0.23396792	2.6083458	20	1 19.2	20.3
460036	2014	OE ₁₈₄	17.4	X	64.42866	266.63030	111.90681	11.77121	0.1976455	0.21673378	2.7448481	20	—	—
460037	2014	OK ₁₈₆	17.6	X	63.05168	332.03506	26.02901	8.49124	0.1577225	0.21023416	2.8011339	20	—	—
460038	2014	OK ₁₈₇	17.3	X	68.57283	116.59084	289.83760	4.63238	0.1869893	0.22165888	2.7040370	20	—	—
460039	2014	OO ₁₈₇	16.5	X	355.33577	102.29881	337.18426	14.36334	0.1241025	0.20238615	2.8730875	20	—	—
460040	2014	OX ₁₈₇	17.3	X	133.83571	11.30760	326.79560	5.06908	0.1633385	0.22971319	2.6404549	20	—	—
460041	2014	OE ₁₈₈	17.0	X	81.96175	90.04029	248.62297	1.06832	0.1216391	0.20408530	2.8571183	20	—	—
460042	2014	OH ₁₈₉	16.8	X	40.73885	218.78808	154.81634	2.86738	0.0787990	0.19724861	2.9227617	20	—	—
460043	2014	OE ₁₉₁	17.3	X	77.39427	35.59190	359.30662	6.40577	0.1423543	0.22081482	2.7109233	20	—	—
460044	2014	OO ₁₉₂	17.3	X	139.65971	337.12174	11.86258	6.57820	0.1091880	0.23409442	2.6074061	20	1 8.6	21.1
460045	2014	OL ₁₉₂	15.9	X	309.58875	55.41497	15.04785	8.70300	0.1059306	0.17522512	3.1628005	20	11 2.6	19.9
460046	2014	OS ₁₉₃	18.0	X	263.75667	195.94375	134.87473	7.34383	0.1468835	0.28835722	2.2690749	20	4 20.3	21.2
460047	2014	OZ ₁₉₄	17.9	X	247.94539	166.90311	150.13153	7.02638	0.2227040	0.27932506	2.3177297	20	3 7.9	21.6
460048	2014	OC ₁₉₆	18.2	X	192.95658	14.34161	341.12557	5.91566	0.1353635	0.26420329	2.4053442	20	3 8.5	21.9
460049	2014	OL ₁₉₇	15.9	X	303.03795	98.64644	345.54863	25.16170	0.2711639	0.17332618	3.1858594	20	10 10.2	19.7
460050	2014	OO ₁₉₇	17.2	X	90.80535	69.71621	331.51873	11.17756	0.2150978	0.23140264	2.6275874	20	1 30.5	20.4
460051	2014	OU ₁₉₇	15.9	X	47.97868	154.58231	169.37125	15.97514	0.0776245	0.17986740	3.1081437	20	11 16.1	20.5
460052	2014	OC ₁₉₉	16.1	X	209.06818	281.05468	18.60468	12.58038	0.1889205	0.23842692	2.5757232	20	1 22.3	20.6
460053	2014	OH ₁₉₉	17.8	X	256.67159	183.80978	129.44979	7.13344	0.2173985	0.28906879	2.2653496	20	3 11.9	21.4
460054	2014	OE ₂₀₀	17.8	X	205.28587	284.15219	44.91617	2.82144	0.2188396	0.27324353	2.3519936	20	2 17.7	21.8
460055	2014	OL ₂₀₀	17.7	X	188.83577	27.01071	342.42544	7.00125	0.1272024	0.27555597	2.3388166	20	3 20.2	21.3
460056	2014	OX ₂₀₂	17.9	X	129.15981	21.93754	6.50827	2.54569	0.1908310	0.25691928	2.4505952	20	2 21.9	21.2
460057	2014	OP ₂₀₃	17.8	X	139.93240	68.66728	345.68176	1.11184	0.1760043	0.27407330	2.3472440	20	4 2.3	21.1
460058	2014	OU ₂₀₃	16.9	X	56.11851	67.94325	314.31045	13.32002	0.1746278	0.22048467	2.7136288	20	—	—
460059	2014	OO ₂₀₄	18.2	X	209.67073	39.56136	337.33884	7.79251	0.1485562	0.28914861	2.2649328	20	4 16.8	21.8
460060	2014	OZ ₂₁₃	17.5	X	167.72602	97.65360	293.77272	6.30380	0.1340469	0.28091378	2.3089828	20	3 24.9	21.0
460061	2014	OA ₂₂₀	17.5	X	231.88261	337.04337	351.32228	5.17503	0.2323748	0.28432102	2.2904988	20	3 6.9	21.2
460062	2014	OP ₂₂₃	17.1	X	76.63498	294.45208	103.58079	9.71354	0.0767261	0.24221494	2.5487981	20	—	—
460063	2014	OS ₂₂₅	17.1	X	33.87561	301.65977	76.41151	4.03851	0.0481503	0.20961059	2.8066865	20	—	—
460064	2014	OZ ₂₂₆	17.8	X	247.63436	305.95477	20.56453	6.27690	0.2179602	0.28722652	2.2750259	20	3 19.8	21.4
460065	2014	OF ₂₂₉	16.7	X	31.79369	202.46005	162.27442	2.62015	0.2007313	0.18881532	3.0091551	20	12 31.5	20.8
460066	2014	OR ₂₂₉	16.6	X	342.31641	227.08144	158.82847	1.17805	0.1736866	0.17206017	3.2014679	20	11 1.2	20.0
460067	2014	OB ₂₃₀	16.0	X	69.58577	327.18934	358.48878	12.65617	0.0592625	0.18907089	3.0064427	20	12 8.2	20.5
460068	2014	OY ₂₃₃	17.6	X	199.70182	245.76417	107.66791	6.49789	0.1532418	0.27820238	2.3239609	20	3 14.9	21.2
460069	2014	OA ₂₄₀	18.4	X	167.13893	55.62096	331.06798	4.34712	0.1488465	0.27742804	2.3282833	20	3 21.5	22.0
460070	2014	OJ ₂₄₁	18.2	X	213.42107	201.88858	135.71835	6.02991	0.1839071	0.27834052	2.3231919	20		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460081 2014 <i>OO</i> ₃₂₃	18.4	X	144.69025	227.05155	181.60246	0.90353	0.1388177	0.27753813	2.3276675	20	3 27.4	21.7
460082 2014 <i>OB</i> ₃₃₄	16.9	X	91.54446	347.76223	358.32052	17.66526	0.1904579	0.21153403	2.7896468	20	—	—
460083 2014 <i>OD</i> ₃₃₆	16.9	X	104.89732	64.27709	327.59326	13.89497	0.1978978	0.24697976	2.5159102	20	2 1.4	20.1
460084 2014 <i>OE</i> ₃₄₁	16.8	X	14.19247	339.62898	16.13136	0.84503	0.1531995	0.19075194	2.9887534	20	11 19.5	20.3
460085 2014 <i>OT</i> ₃₄₁	17.5	X	113.08677	239.97137	129.33884	14.91553	0.1720716	0.24130258	2.5552186	20	1 8.7	20.9
460086 2014 <i>OS</i> ₃₄₃	17.3	X	158.54152	12.16239	337.57443	3.35790	0.2129965	0.25460646	2.4654135	20	2 4.8	21.1
460087 2014 <i>OK</i> ₃₅₈	16.2	X	309.81470	273.11430	158.29185	25.88724	0.2525973	0.17478243	3.1681388	20	10 29.5	20.0
460088 2014 <i>OM</i> ₃₇₃	18.2	X	188.22010	56.60151	276.02699	0.63494	0.1929913	0.26217773	2.4177173	20	2 7.1	22.1
460089 2014 <i>OU</i> ₃₇₆	17.0	X	117.86325	191.80775	101.40441	5.91220	0.1062791	0.21575305	2.7531598	20	12 31.9	21.2
460090 2014 <i>OB</i> ₃₇₉	17.1	X	71.71018	211.19490	144.48484	5.30139	0.1314995	0.21502950	2.7593324	20	—	—
460091 2014 <i>OA</i> ₃₈₁	17.5	X	12.10028	118.97797	228.04213	3.25276	0.2004736	0.18732236	3.0251225	20	11 10.8	20.9
460092 2014 <i>OD</i> ₃₈₄	18.0	X	12.83339	33.85306	326.83341	16.96308	0.0869165	0.36069254	1.9545402	20	—	—
460093 2014 <i>OT</i> ₃₈₇	17.1	X	36.30261	291.01795	109.28247	7.18589	0.0994748	0.22132289	2.7067730	20	—	—
460094 2014 <i>OP</i> ₃₉₀	17.1	X	1.90104	188.53648	156.06748	0.61618	0.1756112	0.18174631	3.0866850	20	10 16.3	20.6
460095 2014 <i>ON</i> ₃₉₁	17.2	X	92.32926	240.63293	110.27703	8.65845	0.2389801	0.21432677	2.7653606	20	—	—
460096 2014 <i>PA</i>	16.7	X	211.10360	263.70302	84.97241	10.37915	0.2547370	0.28082429	2.3094732	20	3 20.4	20.9
460097 2014 <i>PD</i>	16.2	X	27.35324	214.82122	110.06678	7.80248	0.1244336	0.17855527	3.1233520	20	10 27.7	20.4
460098 2014 <i>PJ</i>	17.5	X	180.72081	69.23684	296.63548	6.27042	0.1195919	0.27119200	2.3638403	20	3 6.1	21.1
460099 2014 <i>PG</i> ₂	17.1	X	340.80473	299.75063	53.70595	1.92684	0.1802612	0.17525260	3.1624699	20	9 16.7	20.5
460100 2014 <i>PH</i> ₅	17.9	X	192.17766	51.99136	322.42610	3.77248	0.0466406	0.28880361	2.2667361	20	3 27.9	20.9
460101 2014 <i>PY</i> ₆	16.8	X	15.40940	98.46755	278.72801	8.64499	0.0605501	0.20393521	2.8585200	20	12 9.6	20.5
460102 2014 <i>PD</i> ₇	17.0	X	1.09110	195.80148	143.48995	11.56166	0.2199790	0.17769513	3.1334230	20	10 15.6	20.5
460103 2014 <i>PW</i> ₈	17.5	X	169.37743	61.27020	238.25167	2.22969	0.1141010	0.24460345	2.5321786	20	—	—
460104 2014 <i>PJ</i> ₉	17.6	X	85.46099	272.51993	131.67650	13.58867	0.1601371	0.24071263	2.5593919	20	1 13.3	20.5
460105 2014 <i>PO</i> ₉	16.6	X	313.95582	312.10019	99.90196	3.44763	0.1376283	0.18341899	3.0678904	20	10 20.2	20.1
460106 2014 <i>PP</i> ₁₂	17.9	X	103.69051	216.10190	147.15594	1.57762	0.0228332	0.23667142	2.5884444	20	—	—
460107 2014 <i>PG</i> ₁₃	16.6	X	324.60997	237.33663	150.40001	12.86967	0.1428671	0.17670913	3.1450681	20	10 6.6	20.4
460108 2014 <i>PG</i> ₁₇	18.1	X	75.73173	40.63345	342.44798	4.62453	0.1831198	0.22591059	2.6700024	20	—	—
460109 2014 <i>PR</i> ₁₇	18.3	X	136.53977	14.84346	112.01460	3.52955	0.0608317	0.31005869	2.1619225	20	6 26.9	20.9
460110 2014 <i>PA</i> ₂₁	17.7	X	187.86901	219.89140	109.74830	3.21820	0.1384024	0.26006865	2.4307710	20	2 1.9	21.2
460111 2014 <i>PN</i> ₂₃	17.9	X	218.51972	170.09212	150.21269	2.71581	0.1929818	0.27175204	2.3605915	20	2 16.8	21.7
460112 2014 <i>PK</i> ₂₄	16.4	X	57.91038	48.27859	323.62283	24.19720	0.1793524	0.21184422	2.7869230	20	—	—
460113 2014 <i>PC</i> ₂₅	17.5	X	123.22690	225.56275	118.85144	3.70619	0.2063864	0.23354672	2.6114810	20	—	—
460114 2014 <i>PX</i> ₂₆	17.8	X	192.88970	39.38247	343.44108	6.60258	0.1322643	0.28194598	2.3033438	20	4 9.4	21.4
460115 2014 <i>PN</i> ₂₈	18.0	X	225.74208	178.07964	138.61422	2.02192	0.2072319	0.27343852	2.3508753	20	2 18.2	21.9
460116 2014 <i>PY</i> ₂₈	17.6	X	109.14526	247.28168	140.12708	7.93475	0.2059011	0.24058673	2.5602848	20	1 31.7	21.1
460117 2014 <i>PD</i> ₂₉	16.1	X	18.72930	205.40082	143.05296	16.55855	0.1865709	0.18456566	3.0551705	20	11 24.9	20.2
460118 2014 <i>PE</i> ₂₉	17.3	X	109.08904	318.27232	343.34445	3.83703	0.0497113	0.20909174	2.8113276	20	12 29.3	21.3
460119 2014 <i>PV</i> ₂₉	17.4	X	157.83573	264.21962	113.74683	2.28153	0.1921722	0.26056689	2.4276713	20	3 7.9	21.2
460120 2014 <i>PE</i> ₃₂	17.3	X	60.84879	246.86659	121.38474	5.60046	0.0837272	0.21275261	2.7789845	20	—	—
460121 2014 <i>PB</i> ₃₃	17.6	X	100.81090	3.71318	2.64405	6.17724	0.1088406	0.23164165	2.6257796	20	—	—
460122 2014 <i>PG</i> ₃₅	17.9	X	150.89092	142.11549	234.23954	1.60421	0.1981384	0.25836771	2.4414278	20	2 27.5	21.7
460123 2014 <i>PH</i> ₃₆	17.9	X	88.67739	357.40599	49.45170	1.19100	0.1570991	0.24168200	2.5525437	20	1 21.9	20.9
460124 2014 <i>PS</i> ₃₆	17.1	X	132.32275	257.20397	144.78305	14.85813	0.1647913	0.25924922	2.4358904	20	3 12.0	20.7
460125 2014 <i>PN</i> ₃₉	18.4	X	290.90554	14.52581	307.35810	4.43326	0.1394023	0.30376204	2.1916963	20	5 9.6	21.0
460126 2014 <i>PL</i> ₄₀	16.8	X	29.09573	69.62117	336.75675	8.32128	0.1341089	0.21077679	2.7963242	20	—	—
460127 2014 <i>PM</i> ₄₀	16.1	X	281.23004	241.95563	149.99885	12.93478	0.1353704	0.15214644	3.4750537	20	7 29.1	21.0
460128 2014 <i>PR</i> ₄₀	16.2	X	328.33303	270.33664	154.75459	11.50429	0.0975658	0.19159585	2.9799706	20	12 3.8	20.1
460129 2014 <i>PJ</i> ₄₁	16.4	X	331.91483	268.38566	150.09993	15.05607	0.2181667	0.18473574	3.0532950	20	12 2.9	19.8
460130 2014 <i>PH</i> ₄₂	17.0	X	99.10599	237.16364	155.13853	13.52944	0.1662570	0.23530508	2.5984549	20	1 18.9	20.4
460131 2014 <i>PW</i> ₄₃	16.6	X	178.20571	177.22691	85.19193	15.01270	0.2186719	0.22686096	2.6625404	20	—	—
460132 2014 <i>PN</i> ₄₄	17.6	X	227.79850	70.35746	242.94604	6.81484	0.1254088	0.27884434	2.3203927	20	2 14.6	21.2
460133 2014 <i>PG</i> ₄₅	18.6	X	223.10838	34.83627	343.94462	4.53632	0.0888216	0.29794885	2.2201121	20	5 8.9	21.7
460134 2014 <i>PJ</i> ₄₈	17.4	X	102.49258	75.14369	343.66410	6.01867	0.0923378	0.25482311	2.4640159	20	2 15.1	20.4
460135 2014 <i>PF</i> ₄₉	16.5	X	56.57054	321.33862	127.67857	13.38624	0.2441511	0.23920493	2.5701352	20	2 6.3	18.5
460136 2014 <i>PN</i> ₅₀	17.5	X	59.46214	48.25996	337.73710	8.52823	0.2558143	0.22019696	2.7159921	20	—	—
460137 2014 <i>PB</i> ₅₄	16.5	X	4.59996	353.03577	98.47461	14.22028	0.2211332	0.21109756	2.7934908	20	—	—
460138 2014 <i>PH</i> ₅₄	16.1	X	333.05820	269.13265	134.79874	26.46761	0.2250544	0.17371935	3.1810507	20	11 17.9	20.0
460139 2014 <i>PR</i> ₅₄	18.3	X	324.30006	255.49135	19.74220	3.61746	0.1367657	0.29987434	2.2105984	20	4 25.9	20.2
460140 2014 <i>PW</i> ₅₄	17.5	X	119.64507	308.73302	128.74020	6.85053	0.0956452	0.26690883	2.3890620	20	4 4.2	20.7
460141 2014 <i>PB</i> ₅₅	16.8	X	339.83245	50.78589	335.39944	13.30444	0.2799537	0.17306718	3.1890371	20	10 23.7	19.9
460142 2014 <i>PF</i> ₅₅	17.8	X	187.19719	167.52318	183.42119	4.08769	0.1064203	0.26454176	2.4032921	20	2 24.8	21.3
460143 2014 <i>PE</i> ₅₆	17.9	X	218.32051	207.45372	164.08158	6.43676	0.1317753	0.28643288	2.2792264	20	4 24.9	21.2
460144 2014 <i>PA</i> ₅₇	16.5	X	41.56124	310.46487	136.75068	29.77901	0.0704935	0.23360997	2.6110096	20	—	—
460145 2014 <i>PL</i> ₅₇	16.8	X	13.87534	277.38726	107.46501	17.44572	0.3198662	0.18677605	3.0310185	20	—	—
460146 2014 <i>PL</i> ₅₈	18.3	X	248.62202	24.20822	329.00679	5.20418	0.2099421	0.29522787	2.2337324	20	4 20.7	21.8
460147 2014 <i>PO</i> ₅₉	16.3	X	101.19736	134.48756	169.73200	20.96012	0.2910744	0.21250837	2.7811134	20	—	—
460148 2014 <i>PF</i> ₆₃	17.6	X	202.41642	201.41456	125.72186	3.29568	0.2118807	0.26835508	2.3804707	20	2 12.5	21.4
460149 2014 <i>PJ</i> ₆₄	16.2	X	45.06715	173.25210	129.65406	13.59052	0.1211846	0.18439728	3.0570300	20	10 27.1	20.6
460150 2014 <i>PR</i> ₆₅	18.4	X	248.32103	98.27164	259.27561	4.11334	0.1569451	0.30094228	2.2053655	20	5 2.9	21.3
460151 2014 <i>PE</i> ₆₆	17.5	X	67.46454	130.09003	227.58926	1.62664	0.0838879	0.21705338	2.7421530	20	—	—
460152 2014 <i>PY</i> ₆₈	17.1	X	47.14018	228.16280	143.29703							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
460161	2014	QS ₂₁	17.4	X	140.59337	45.32835	317.21119	14.53454	0.1143169	0.24552973	2.5258060	20	1 25.9	20.9
460162	2014	QY ₂₁	16.7	X	357.06124	59.20327	319.13892	14.92404	0.2045691	0.18132875	3.0914218	20	11 20.1	20.4
460163	2014	QF ₂₂	17.4	X	110.51781	145.62303	273.86121	5.29581	0.1093299	0.25511238	2.4621530	20	2 25.6	20.6
460164	2014	QQ ₂₃	16.0	X	50.82534	6.28669	307.56628	8.28900	0.0841557	0.18428520	3.0582695	20	11 2.5	20.4
460165	2014	QW ₂₃	16.6	X	346.07372	80.42234	312.01681	8.68782	0.1585683	0.18303799	3.0721463	20	11 16.2	20.3
460166	2014	QY ₂₄	16.9	X	157.12252	122.23367	171.51408	18.72844	0.2133698	0.23048117	2.6345863	20	—	—
460167	2014	QC ₂₇	17.5	X	157.85657	44.51814	272.13624	3.66184	0.2553195	0.23823527	2.5771044	20	—	—
460168	2014	QP ₂₇	16.5	X	14.09316	160.82860	171.77291	14.64470	0.1880014	0.17336162	3.1854252	20	10 24.1	20.4
460169	2014	QZ ₂₇	17.6	X	218.63616	3.58346	302.03054	2.43566	0.1958093	0.26234525	2.4166880	20	1 30.9	21.7
460170	2014	QX ₂₉	17.5	X	202.93611	138.89437	173.53423	7.16612	0.2059289	0.25794414	2.4440998	20	1 25.6	21.6
460171	2014	QC ₃₀	15.9	X	244.54343	177.95537	210.67420	3.56203	0.2738548	0.12602804	3.9399549	20	5 30.7	22.3
460172	2014	QC ₃₀	16.5	X	143.92817	196.46167	136.13375	15.02182	0.1436556	0.23121673	2.6289957	20	—	—
460173	2014	QP ₃₀	16.9	X	106.14823	316.07592	120.90223	14.75537	0.1681186	0.25189764	2.4830568	20	4 1.7	20.6
460174	2014	QC ₃₁	16.7	X	61.35405	259.45894	98.21354	11.27590	0.1083289	0.20013766	2.8945563	20	—	—
460175	2014	QU ₃₁	16.1	X	7.14792	293.85057	73.73453	13.47967	0.1432028	0.17597879	3.1537638	20	11 20.3	19.9
460176	2014	QX ₃₆	17.5	X	80.81599	103.37239	301.16475	7.10370	0.1773022	0.24137777	2.5546880	20	1 9.4	20.2
460177	2014	QJ ₃₈	16.9	X	9.52198	139.76388	233.53414	9.32390	0.1210566	0.19195361	2.9762668	20	12 1.3	20.6
460178	2014	QG ₄₅	17.6	X	123.69362	247.94988	176.05845	6.44550	0.1172742	0.27567737	2.3381299	20	3 21.3	20.7
460179	2014	QL ₅₉	17.3	X	78.60143	272.27538	146.10033	13.78242	0.2805997	0.24083882	2.5584979	20	2 10.2	20.0
460180	2014	QF ₆₄	17.8	X	164.77834	181.00391	181.36415	6.55348	0.1442065	0.26573014	2.3961215	20	2 17.9	21.5
460181	2014	QL ₆₅	17.6	X	82.20432	179.65057	238.99970	5.33835	0.2405264	0.24486380	2.5303834	20	2 6.9	20.4
460182	2014	QF ₇₅	16.9	X	142.63706	42.96156	271.13364	8.67219	0.1466631	0.23447703	2.6045689	20	—	—
460183	2014	QQ ₇₇	18.1	X	167.33206	180.71805	218.66091	5.05990	0.1673504	0.27780984	2.3261496	20	4 8.6	21.7
460184	2014	QK ₉₀	16.4	X	322.85945	121.80462	299.80327	14.09818	0.1347611	0.18156921	3.0886918	20	11 1.2	19.2
460185	2014	QS ₁₁₇	18.0	X	133.13459	235.80535	222.08376	2.40201	0.1684019	0.28109288	2.3080018	20	5 22.4	21.2
460186	2014	QL ₁₁₉	17.7	X	175.58998	10.74189	337.96868	2.21610	0.2024556	0.25792663	2.4442105	20	2 16.9	21.7
460187	2014	QP ₁₂₀	17.4	X	45.59559	42.73714	358.11461	5.02221	0.1719344	0.21457632	2.7632161	20	—	—
460188	2014	QK ₁₂₁	17.7	X	101.28851	278.14275	113.30184	2.71428	0.1309779	0.23874653	2.5734239	20	1 15.9	20.8
460189	2014	QS ₁₂₈	18.2	X	201.24320	229.46253	164.56909	10.72179	0.0412983	0.28929565	2.2641652	20	5 11.1	21.3
460190	2014	QL ₁₃₀	16.4	X	2.58286	191.29295	161.87825	11.20626	0.1135298	0.17603831	3.1530529	20	10 24.3	20.4
460191	2014	QJ ₁₃₃	17.7	X	64.89980	352.28052	75.43588	2.58112	0.1812610	0.23321557	2.6139525	20	1 16.0	20.2
460192	2014	QC ₁₃₅	16.1	X	315.04479	280.19735	143.95787	10.28239	0.1133095	0.18201094	3.0836924	20	11 9.9	20.0
460193	2014	QP ₁₃₅	17.7	X	54.19213	254.40267	150.98714	2.78584	0.1138577	0.22066608	2.7121414	20	—	—
460194	2014	QE ₁₃₆	16.7	X	18.95410	250.03973	136.98679	2.78731	0.0598950	0.19778931	2.9174326	20	12 24.9	20.7
460195	2014	QH ₁₃₇	17.4	X	33.24536	111.03007	354.55733	6.38603	0.2257606	0.23146491	2.6271162	20	1 7.1	19.6
460196	2014	QR ₁₃₇	17.6	X	95.36316	248.28346	162.14783	10.84648	0.0092192	0.24619888	2.5212273	20	1 12.6	21.0
460197	2014	QY ₁₃₇	18.4	X	35.34793	108.03962	107.20203	2.14303	0.1526119	0.30254489	2.1975706	20	6 21.9	20.0
460198	2014	QY ₁₃₉	17.8	X	85.66037	256.44098	155.58519	14.82816	0.0725121	0.23974890	2.5662461	20	1 11.3	21.3
460199	2014	QJ ₁₄₀	16.4	X	286.07910	289.35665	153.66385	11.27216	0.0871036	0.17676851	3.1443638	20	10 22.8	20.7
460200	2014	QM ₁₄₁	17.4	X	132.63755	244.59650	120.85864	3.18552	0.0774293	0.24188805	2.5510939	20	1 14.3	20.7
460201	2014	QR ₁₄₅	18.5	X	286.34129	163.88257	158.56816	3.43342	0.0791959	0.30053030	2.2073805	20	5 17.1	20.9
460202	2014	QT ₁₄₈	16.9	X	311.94920	271.24598	157.71841	25.53785	0.2832640	0.17228678	3.1986600	20	10 26.2	20.5
460203	2014	QM ₁₄₉	17.0	X	94.13125	170.54686	141.47442	2.74417	0.0636225	0.20342489	2.8632987	20	12 24.8	21.2
460204	2014	QY ₁₄₉	17.9	X	93.31029	33.71303	3.92107	6.74315	0.1072224	0.23611891	2.5924807	20	1 11.2	21.2
460205	2014	QM ₁₅₀	17.8	X	239.34321	298.50143	23.23049	4.91078	0.1598293	0.27710313	2.3301029	20	3 10.8	21.4
460206	2014	QB ₁₆₄	17.0	X	173.67270	293.40333	84.72868	8.15145	0.1718165	0.27402516	2.3475189	20	3 24.2	20.8
460207	2014	QO ₁₆₆	18.2	X	123.20493	275.87768	5.47163	21.84376	0.1165645	0.37585760	1.9016058	20	—	—
460208	2014	QU ₁₆₇	16.4	X	155.30856	232.50615	86.58814	12.72550	0.1457566	0.22505542	2.6767619	20	—	—
460209	2014	QQ ₁₆₉	16.9	X	38.84545	85.92970	248.32637	3.15208	0.0897555	0.18413697	3.0599105	20	11 16.3	21.1
460210	2014	QE ₁₇₀	16.8	X	313.70463	279.94291	216.41140	4.20921	0.0562611	0.21792359	2.7348482	20	—	—
460211	2014	QL ₁₇₀	18.2	X	248.65930	117.74843	189.37984	3.00024	0.1315261	0.27558780	2.3386365	20	3 1.4	21.7
460212	2014	QK ₁₇₁	17.2	X	59.95917	223.36647	186.74247	5.26016	0.0692567	0.22660248	2.6645647	20	—	—
460213	2014	QN ₁₇₂	16.6	X	298.48530	95.38502	340.87664	12.48043	0.2676667	0.17384236	3.1795499	20	9 30.1	20.2
460214	2014	QY ₁₇₂	17.5	X	105.90853	296.04437	154.71125	5.19705	0.0970816	0.26818037	2.3815044	20	4 2.9	20.4
460215	2014	QZ ₁₇₃	17.6	X	96.39304	99.72085	329.01558	6.90550	0.2437908	0.24434812	2.5339423	20	3 12.8	20.8
460216	2014	QX ₁₇₆	17.3	X	254.46226	101.17653	129.18615	3.32669	0.0614500	0.23889564	2.5723530	20	—	—
460217	2014	QY ₁₈₇	17.8	X	57.06030	168.16036	219.42344	3.10355	0.0852667	0.22152452	2.7051303	20	—	—
460218	2014	QO ₁₉₄	16.8	X	326.20896	198.78038	172.94673	16.50886	0.0865385	0.17061690	3.2194970	20	9 16.2	20.9
460219	2014	QF ₂₀₄	16.7	X	319.21023	209.13704	176.28550	4.82853	0.1275138	0.17074769	3.2178526	20	9 20.4	20.4
460220	2014	QJ ₂₀₅	17.1	X	314.60674	256.54684	270.64942	2.19669	0.0986777	0.24139124	2.5545929	20	—	—
460221	2014	QM ₂₀₅	18.1	X	77.16254	208.73099	222.82825	1.90348	0.1451510	0.24538310	2.5268121	20	2 2.8	20.8
460222	2014	QU ₂₀₅	16.9	X	7.03071	156.79623	178.48031	2.34469	0.0908697	0.17387674	3.1791308	20	10 2.8	20.9
460223	2014	QU ₂₁₃	17.5	X	77.13864	200.29380	153.33445	5.11678	0.0819575	0.21369977	2.7707670	20	—	—
460224	2014	QX ₂₁₄	17.4	X	88.07618	159.50916	183.76086	6.10355	0.09292848	0.21461031	2.7629244	20	—	—
460225	2014	QM ₂₁₆	17.7	X	190.88132	85.70975	312.31164	6.94919	0.0974490	0.28637661	2.2795250	20	4 26.4	21.1
460226	2014	QK ₂₁₈	17.4	X	89.58504	82.39043	265.49070	3.51551	0.1366197	0.21703562	2.7423026	20	—	—
460227	2014	QT ₂₁₈	17.3	X	38.55074	115.30331	231.80572	4.10812	0.1314484	0.19232221	2.9724628	20	12 9.8	21.3
460228	2014	QP ₂₂₁	17.6	X	242.96373	6.70716	293.88257	6.08248	0.1191290	0.27347673	2.3506563	20	2 16.2	21.1
460229	2014	QJ ₂₂₃	17.1	X	139.67467	21.43551	329.19326	9.23536	0.0967680	0.24258208	2.5462258	20	1 8.0	20.7
460230	2014	QO ₂₂₈	17.2											

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460241 2014 QW ₂₆₁	16.4	X	63.03860	194.26974	89.35208	10.61432	0.0507403	0.17230087	3.1984857	20	10 13.4	21.0
460242 2014 QE ₂₆₂	16.6	X	348.08810	280.72628	111.09670	7.88979	0.2825580	0.17880086	3.1204913	20	12 3.4	19.5
460243 2014 QN ₂₆₂	16.0	X	8.54924	194.58793	146.12966	20.97049	0.1699804	0.17282964	3.1919585	20	10 26.6	20.2
460244 2014 QR ₂₆₇	17.5	X	188.47244	59.07977	309.90637	9.32903	0.1427737	0.27066819	2.3668891	20	3 16.9	21.3
460245 2014 QS ₂₆₇	17.4	X	143.71786	42.58405	294.49099	7.80539	0.1749876	0.23793553	2.5792683	20	1 4.7	21.1
460246 2014 QM ₂₇₀	17.9	X	100.03629	277.48778	153.24356	3.22232	0.1574068	0.26287333	2.4134503	20	3 7.3	20.8
460247 2014 QS ₂₇₀	16.2	X	7.50057	192.82023	169.13504	19.13768	0.1833711	0.17100318	3.2146468	20	11 19.3	20.4
460248 2014 QV ₂₇₃	16.0	X	18.05724	257.55051	78.25323	10.83463	0.0367965	0.17483447	3.1675101	20	10 18.7	20.5
460249 2014 QF ₂₇₅	17.1	X	42.80718	67.86799	326.23247	12.02365	0.1994890	0.21684862	2.7438789	20	—	—
460250 2014 QG ₂₇₆	18.0	X	142.03083	328.11276	49.38680	1.89501	0.1835963	0.25753487	2.4466886	20	2 20.8	21.7
460251 2014 QT ₂₇₆	17.4	X	99.15514	239.49560	100.76980	3.23336	0.0945192	0.22514141	2.6760802	20	—	—
460252 2014 QE ₂₇₇	18.0	X	194.11659	168.08273	153.98274	2.32527	0.0940297	0.26314591	2.4117834	20	1 26.9	21.5
460253 2014 QD ₂₇₈	16.8	X	338.13505	234.53643	124.86195	2.05830	0.1569074	0.17294216	3.1905738	20	9 19.2	20.2
460254 2014 QG ₂₇₈	18.6	X	252.01353	329.97340	2.32066	3.25121	0.1006662	0.29390604	2.2404248	20	4 9.4	21.6
460255 2014 QL ₂₇₉	17.8	X	114.50410	282.69608	98.44097	2.88943	0.1362705	0.24642508	2.5196842	20	1 19.8	21.1
460256 2014 QT ₂₈₃	16.4	X	310.10969	56.68899	21.31830	16.57429	0.2061926	0.18581541	3.0414562	20	11 6.0	19.8
460257 2014 QO ₂₈₄	17.5	X	74.08061	296.23989	98.14092	13.10516	0.2019845	0.22530251	2.6748044	20	—	—
460258 2014 QO ₂₈₅	16.7	X	72.89206	8.77360	60.12691	14.50471	0.1330415	0.24297819	2.5434577	20	1 26.1	19.8
460259 2014 QP ₂₉₄	16.7	X	85.80282	293.12322	71.34422	13.88000	0.1705735	0.21624591	2.7489749	20	—	—
460260 2014 QF ₃₀₀	17.7	X	230.75677	346.17744	347.32036	6.30552	0.1216608	0.27559726	2.3385830	20	3 17.4	21.1
460261 2014 QD ₃₀₁	17.2	X	92.15381	280.12284	60.97855	3.56012	0.1136636	0.21063668	2.7975642	20	—	—
460262 2014 QJ ₃₀₄	16.3	X	298.10478	6.46274	107.75115	5.37404	0.1048242	0.19768815	2.9184278	20	12 19.0	19.7
460263 2014 QT ₃₀₇	17.8	X	177.81882	338.77965	8.99989	4.84233	0.1290231	0.25302352	2.4756854	20	2 16.1	21.5
460264 2014 QD ₃₀₉	17.0	X	90.36005	119.30827	239.66322	8.04510	0.1980368	0.21912505	2.7248423	20	—	—
460265 2014 QJ ₃₁₂	17.6	X	64.72760	249.59777	138.96542	15.65625	0.1064963	0.23150289	2.6268288	20	—	—
460266 2014 QM ₃₁₃	18.0	X	89.06996	275.67224	111.33778	3.19382	0.2423928	0.23455935	2.6039595	20	1 10.6	21.0
460267 2014 QM ₃₁₄	17.1	X	18.00779	210.51985	129.89787	11.46348	0.0994574	0.18806499	3.0171535	20	11 2.9	21.2
460268 2014 QG ₃₁₆	17.5	X	71.19305	254.80516	110.50726	3.27255	0.0602305	0.22456812	2.6806327	20	—	—
460269 2014 QC ₃₁₇	17.8	X	151.59191	295.27917	143.10731	6.66031	0.1189771	0.29136178	2.2534486	20	5 14.0	21.0
460270 2014 QK ₃₂₃	17.0	X	21.57068	294.79011	163.85158	5.05007	0.1297856	0.22028377	2.7152785	20	—	—
460271 2014 QR ₃₂₃	17.1	X	29.56284	320.44559	74.76167	3.12837	0.0676058	0.20011127	2.8948208	20	—	—
460272 2014 QN ₃₂₄	17.0	X	197.40924	47.32328	13.95101	11.12259	0.0711443	0.29139136	2.2532961	20	6 7.5	20.3
460273 2014 QJ ₃₂₅	16.8	X	80.66111	358.14185	17.87098	10.29453	0.1043870	0.21471372	2.7620372	20	—	—
460274 2014 QW ₃₂₅	17.6	X	202.90444	217.38906	146.85523	4.81657	0.1517784	0.26954232	2.3734754	20	3 30.8	21.3
460275 2014 QX ₃₂₉	16.8	X	54.21664	249.50136	115.95347	7.70783	0.0975923	0.19506968	2.9444863	20	—	—
460276 2014 QB ₃₃₃	16.7	X	16.60905	253.42022	160.41198	8.79725	0.0769092	0.19965015	2.8992764	20	—	—
460277 2014 QE ₃₃₇	17.2	X	73.04545	232.83330	144.25449	13.30132	0.1285681	0.22479375	2.6788387	20	—	—
460278 2014 QH ₃₄₀	16.7	X	24.93739	59.83978	315.53761	5.16911	0.2313882	0.19782808	2.9170515	20	—	—
460279 2014 QU ₃₄₃	17.7	X	210.20774	193.91043	166.98269	4.13103	0.0549753	0.28689236	2.2767922	20	4 3.5	20.5
460280 2014 QK ₃₄₆	16.8	X	94.29113	273.19732	91.28562	15.72948	0.2254811	0.22601702	2.6691642	20	—	—
460281 2014 QZ ₃₄₇	17.7	X	96.57183	272.63134	117.75877	3.05266	0.2079505	0.23302470	2.6153796	20	1 20.9	21.0
460282 2014 QU ₃₅₁	15.4	X	254.49832	241.44779	124.10499	4.11852	0.2347784	0.12285190	4.0075732	20	5 17.0	21.6
460283 2014 QL ₃₅₄	17.1	X	44.55192	13.10666	0.71846	1.67361	0.0789760	0.20069337	2.8892206	20	—	—
460284 2014 QW ₃₅₄	17.7	X	48.15198	238.72580	190.66047	3.70797	0.1771210	0.22149860	2.7053413	20	—	—
460285 2014 QJ ₃₅₅	18.3	X	299.55046	266.72382	27.12841	2.45527	0.0505646	0.28827987	2.2694807	20	4 28.4	20.9
460286 2014 QP ₃₅₆	15.9	X	186.24143	24.80389	169.82280	18.84494	0.0937717	0.18251952	3.0779614	20	11 10.2	20.9
460287 2014 QU ₃₅₆	17.0	X	52.10130	275.39568	165.80622	6.03308	0.1588053	0.22762917	2.6565466	20	1 8.7	19.8
460288 2014 QC ₃₅₇	17.5	X	83.55940	342.16253	155.19240	4.68864	0.0883696	0.27444578	2.3451197	20	5 5.6	20.2
460289 2014 QF ₃₅₈	17.6	X	26.82895	265.57899	178.31986	8.98428	0.2014772	0.21343552	2.7730535	20	—	—
460290 2014 QQ ₃₅₈	17.2	X	54.07450	129.92984	248.19826	1.03921	0.0821222	0.20422171	2.8558460	20	—	—
460291 2014 QY ₃₅₉	16.8	X	342.07284	202.06033	195.39187	0.69669	0.1618448	0.17719238	3.1393473	20	11 16.8	20.4
460292 2014 QK ₃₆₀	17.2	X	70.04313	39.96655	350.94264	5.97114	0.0671283	0.22014084	2.7164537	20	—	—
460293 2014 QR ₃₆₁	17.0	X	147.82055	164.86266	173.81769	14.85748	0.1915599	0.23567142	2.5957614	20	1 11.0	21.3
460294 2014 QC ₃₆₇	17.3	X	94.14791	243.80702	119.23832	4.52310	0.1958636	0.21435825	2.7650898	20	—	—
460295 2014 QL ₃₆₇	16.4	X	20.33636	277.68926	99.62357	6.45877	0.2741141	0.18369290	3.0648400	20	—	—
460296 2014 QQ ₃₆₇	17.3	X	188.86549	270.21711	105.68237	7.19175	0.1045063	0.26348449	2.4097169	20	4 3.3	20.9
460297 2014 QV ₃₆₉	17.2	X	27.67347	315.66911	125.73017	3.88613	0.0632024	0.22482772	2.6785688	20	—	—
460298 2014 QK ₃₇₀	16.8	X	12.54259	299.46814	105.27551	4.27856	0.0659084	0.20019461	2.8940174	20	—	—
460299 2014 QP ₃₇₀	16.8	X	49.63765	212.27874	101.89640	3.82727	0.2250988	0.18383040	3.0633115	20	11 24.8	21.2
460300 2014 QH ₃₇₁	17.5	X	134.44789	79.64453	10.64931	6.74596	0.0840084	0.27860043	2.3217468	20	5 3.1	20.6
460301 2014 QM ₃₇₁	17.5	X	121.23441	273.92294	100.59165	2.41110	0.1011766	0.23840410	2.5758876	20	1 15.9	20.8
460302 2014 QP ₃₇₁	17.7	X	267.30011	132.12552	138.38704	5.45165	0.0932659	0.26511757	2.3998110	20	2 9.4	21.1
460303 2014 QZ ₃₇₁	17.6	X	98.65667	348.23141	34.84560	7.38584	0.1336521	0.23036124	2.6355006	20	1 4.1	20.9
460304 2014 QF ₃₇₃	17.5	X	266.69814	201.33130	71.46038	7.38266	0.1093675	0.26533727	2.3984861	20	2 12.7	20.9
460305 2014 QL ₃₇₃	16.1	X	76.30561	184.61104	118.94532	8.98050	0.1009003	0.18605482	3.0388465	20	11 27.6	20.6
460306 2014 QO ₃₇₅	17.6	X	189.29575	89.40131	341.70152	4.83319	0.1034926	0.29321409	2.2439482	20	6 12.1	20.7
460307 2014 QW ₃₇₇	16.3	X	9.84213	9.68240	344.50783	17.35076	0.2059347	0.17531779	3.1616859	20	11 5.8	20.4
460308 2014 QK ₃₇₈	17.2	X	76.70016	117.72536	244.01449	1.44711	0.0999094	0.21056793	2.7981730	20	—	—
460309 2014 QN ₃₇₉	16.9	X	328.75300	52.37454	355.14291	11.06625	0.1349752	0.17470113	3.1691217	20	10 31.7	20.8
460310 2014 QU ₃₈₀	17.9	X	332.97715	74.53729	197.11159	6.81001	0.1325675	0.29709499	2.2243638	20	5 10.1	19.9
460311 2014 QY ₃₈₅	17.1	X	141.69616	38.81880	319.02466	9.96161	0.1375939	0.23628657	2.5912542	20	1 24.8	20.8
460312 2014 QU ₃₈₉	17.4	X	76.78349	97.53442	297.72802	2.57384	0.1063361	0.22436249	2.6822703	20	—	—
460313 2014 QF ₃₉₆	17.8	X	135.76789	281.46159	165.03691	6.08676	0.0734527	0.27524092	2.3406010	20	5 2.3	20.9
460314 2014 QU ₃₉₆	16.9	X	353.52266	200.43777								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460321 2014 QH ₄₁₃	18.0	X	123.12483	271.03629	137.00970	2.96248	0.1705240	0.25730544	2.4481428	20	3 8.8	21.4
460322 2014 QR ₄₁₄	17.1	X	116.06863	217.25581	66.90387	2.72961	0.0551493	0.20444703	2.8537473	20	12 14.8	21.3
460323 2014 QK ₄₁₆	17.0	X	350.98750	87.62968	329.84627	6.33333	0.1453856	0.19058840	2.9904628	20	12 31.8	20.6
460324 2014 QV ₄₁₇	17.0	X	41.59664	167.64208	263.85501	3.76954	0.0954569	0.22074266	2.7115141	20	—	—
460325 2014 QA ₄₁₈	17.1	X	167.91256	7.94267	296.10456	3.46208	0.1350084	0.23087443	2.6315936	20	—	—
460326 2014 QB ₄₁₈	14.9	X	260.31907	164.16484	206.56649	10.95850	0.1289020	0.12589343	3.9427630	20	6 8.9	20.8
460327 2014 QO ₄₁₉	17.8	X	172.37830	170.57374	204.76180	2.33704	0.2129816	0.26214009	2.4179487	20	3 17.0	21.8
460328 2014 QG ₄₂₂	17.8	X	66.28491	346.92242	51.23228	1.09531	0.1334018	0.22553415	2.6729726	20	—	—
460329 2014 QQ ₄₂₂	17.6	X	108.54963	33.99928	345.43499	10.33464	0.2044740	0.23646453	2.5899539	20	1 24.3	21.1
460330 2014 QG ₄₃₁	16.8	X	68.94816	8.53882	1.02286	8.56260	0.1221797	0.21231709	2.7827834	20	—	—
460331 2014 QJ ₄₃₁	17.1	X	121.11762	22.05839	323.47795	4.46627	0.0291485	0.22515533	2.6759699	20	—	—
460332 2014 QK ₄₃₂	16.2	X	135.48586	134.38693	195.78662	13.58938	0.1198622	0.21512745	2.7584948	20	—	—
460333 2014 QY ₄₃₈	16.4	X	59.16959	256.36300	94.23170	9.11747	0.1083290	0.18121572	3.0927072	20	—	—
460334 2014 RW ₄₃₈	17.3	X	77.00754	240.16454	133.89248	5.84116	0.1789742	0.22103981	2.7090835	20	—	—
460335 2014 RE ₅	17.1	X	326.55578	277.65300	142.94456	1.73769	0.2191277	0.18227722	3.0806884	20	11 20.1	20.0
460336 2014 RR ₆	17.5	X	156.69434	159.08730	191.66477	8.66250	0.1784915	0.23955304	2.5676447	20	1 31.5	21.7
460337 2014 RO ₆	17.1	X	123.16593	345.62885	15.55721	5.27346	0.1669287	0.22550356	2.6732143	20	1 9.9	20.9
460338 2014 RC ₇	16.8	X	357.63809	109.50648	244.40262	8.25054	0.0881806	0.17475325	3.1684915	20	10 9.4	20.9
460339 2014 RJ ₁₀	15.9	X	104.73898	330.41694	292.34571	3.63093	0.1121560	0.18011403	3.1053057	20	11 5.8	20.8
460340 2014 RP ₁₁	16.1	X	0.58823	82.01679	300.68745	24.92711	0.2262160	0.17916877	3.1162181	20	12 9.9	20.0
460341 2014 RC ₁₆	16.1	X	314.92462	239.85884	172.85320	13.96275	0.2780316	0.17305012	3.1892467	20	10 6.7	19.2
460342 2014 RR ₂₁	17.7	X	112.56412	60.42381	359.93526	1.16532	0.1669821	0.25514078	2.4619702	20	3 11.5	21.1
460343 2014 RM ₂₂	17.1	X	69.28480	193.75341	188.95969	8.15098	0.2305659	0.21219952	2.7838112	20	—	—
460344 2014 RN ₂₃	17.6	X	62.98939	112.00839	308.45143	4.58093	0.1907958	0.23133224	2.6281205	20	1 3.7	20.0
460345 2014 RG ₂₄	17.8	X	154.64375	223.96734	213.02237	4.93838	0.1493231	0.28207783	2.3026260	20	5 15.6	21.2
460346 2014 RM ₂₅	17.7	X	116.88435	200.90699	211.64939	4.77792	0.1496301	0.25746991	2.4471001	20	3 1.9	21.1
460347 2014 RD ₃₂	17.4	X	92.10659	225.27424	165.63864	16.15343	0.1727245	0.23126001	2.6286677	20	1 24.8	20.8
460348 2014 RH ₃₂	16.9	X	96.94217	228.01271	155.47723	14.40314	0.1811504	0.23443678	2.6048670	20	1 7.4	20.3
460349 2014 RQ ₃₃	17.5	X	182.84747	289.22645	79.80645	4.35098	0.0983856	0.26934460	2.3746369	20	3 16.9	20.9
460350 2014 RM ₃₅	16.9	X	34.11447	359.71007	131.83330	10.73897	0.0509156	0.25451183	2.4660246	20	2 7.1	19.7
460351 2014 RK ₄₀	17.6	X	293.95743	236.92106	59.10484	7.17561	0.1101988	0.29448393	2.2374928	20	4 15.6	20.1
460352 2014 RM ₄₀	17.2	X	288.18242	181.82640	111.60292	8.01595	0.1442977	0.29002199	2.2603833	20	3 31.4	20.1
460353 2014 RP ₄₂	17.3	X	81.10498	171.22195	205.29073	1.73641	0.2829631	0.21691057	2.7433564	20	—	—
460354 2014 RU ₄₃	16.2	X	221.52500	318.17405	272.57719	12.94436	0.1504561	0.22177959	2.7030557	20	—	—
460355 2014 RW ₄₄	17.5	X	137.69667	64.40077	296.40807	2.34774	0.1330552	0.23481718	2.6020530	20	1 22.7	21.0
460356 2014 RH ₄₅	17.6	X	117.72197	50.79250	341.62966	1.98997	0.1231929	0.23708600	2.5854260	20	2 6.9	21.1
460357 2014 RU ₄₅	17.8	X	151.81226	65.84878	276.92760	0.64090	0.1129237	0.23359241	2.6111405	20	1 13.7	21.4
460358 2014 RW ₄₅	16.2	X	314.00192	55.24700	14.40383	8.80652	0.1232241	0.17133077	3.2105478	20	11 6.2	20.3
460359 2014 RE ₄₇	17.9	X	218.17926	122.61766	203.88997	1.22577	0.1550190	0.26344985	2.4099281	20	2 25.2	21.6
460360 2014 RA ₄₈	17.2	X	78.75814	246.61197	166.80265	4.25874	0.1004647	0.22892762	2.6464920	20	1 9.2	20.4
460361 2014 RD ₆₁	18.0	X	54.52033	356.58891	351.00137	18.82502	0.0788623	0.37458475	1.9059112	20	—	—
460362 2014 RF ₆₁	17.1	X	226.29134	182.09510	122.39970	7.41087	0.1271905	0.26513096	2.3997302	20	2 7.2	20.7
460363 2014 RK ₆₁	17.2	X	212.42886	280.11104	87.28738	6.95165	0.1333935	0.28295139	2.2978843	20	4 14.8	20.7
460364 2014 RT ₆₁	18.1	X	218.91754	194.40057	167.85754	7.27985	0.2308501	0.28403495	2.2920365	20	4 8.8	21.9
460365 2014 RC ₆₂	16.1	X	28.93975	87.73251	299.78414	14.35156	0.1746837	0.20257633	2.8712891	20	—	—
460366 2014 SD ₂	17.1	X	122.09107	266.53300	101.65357	3.04674	0.1464864	0.23218408	2.6216885	20	1 16.4	20.6
460367 2014 SO ₉	17.6	X	64.09110	245.88629	212.10570	3.52265	0.0757783	0.25152793	2.4854893	20	2 7.6	20.5
460368 2014 SD ₁₂	17.5	X	146.45913	141.65746	171.86856	1.59546	0.0631358	0.22648406	2.6654935	20	—	—
460369 2014 SJ ₁₃	17.8	X	60.36936	272.27805	115.46666	0.67298	0.0840387	0.21673332	2.7448520	20	—	—
460370 2014 SQ ₁₅	17.5	X	127.33375	322.00828	34.77760	1.79532	0.1271814	0.23543206	2.5975205	20	1 5.2	20.9
460371 2014 SZ ₁₉	17.5	X	89.24797	12.99736	2.16916	4.75413	0.1375684	0.22327599	2.6909649	20	—	—
460372 2014 SB ₂₁	17.8	X	355.47648	190.12950	0.79954	10.04271	0.0498658	0.26524596	2.3990365	20	3 1.8	20.6
460373 2014 SL ₂₁	17.1	X	310.00708	11.44695	67.59706	1.99027	0.1693787	0.18060324	3.0996955	20	11 13.2	20.6
460374 2014 SJ ₂₇	17.3	X	97.17316	229.07361	155.95561	5.08795	0.0812128	0.23130368	2.6283368	20	—	—
460375 2014 SW ₂₇	17.7	X	39.76516	283.06627	95.78040	1.97669	0.1610153	0.20001134	2.8957849	20	—	—
460376 2014 SR ₂₉	17.5	X	89.53352	270.40619	97.53906	2.50786	0.1166114	0.22101899	2.7092536	20	—	—
460377 2014 SH ₃₁	17.4	X	75.80310	284.49959	156.51543	10.80522	0.1628637	0.24164643	2.5527941	20	2 17.1	20.2
460378 2014 SL ₃₁	17.7	X	144.70179	255.39854	85.00205	3.62653	0.0609727	0.23612002	2.5924726	20	—	—
460379 2014 SR ₃₁	17.5	X	83.99121	291.67082	81.13884	4.29039	0.1404253	0.21981549	2.7191335	20	—	—
460380 2014 SK ₃₇	17.4	X	111.12196	346.38945	49.27821	4.06676	0.0802327	0.24282249	2.5445449	20	1 27.5	20.7
460381 2014 SK ₄₂	17.0	X	36.88838	279.27395	130.00605	9.93921	0.1726411	0.21071612	2.7968610	20	—	—
460382 2014 SG ₄₃	16.1	X	201.45756	31.90147	126.45255	11.99770	0.0421067	0.17533958	3.1614239	20	10 18.6	20.9
460383 2014 ST ₄₃	18.0	X	133.94354	304.24421	105.14603	5.69101	0.2065743	0.25627158	2.4547226	20	3 28.3	21.8
460384 2014 SB ₅₇	17.3	X	84.88862	346.41992	85.76405	5.18917	0.1196794	0.24558426	2.5254321	20	2 14.5	20.3
460385 2014 SJ ₅₉	17.1	X	126.44361	217.97150	147.93000	14.88880	0.1184203	0.23783659	2.5799835	20	1 13.2	20.7
460386 2014 SF ₆₄	17.7	X	60.43934	62.09102	338.52284	7.59186	0.1699387	0.22292988	2.6937494	20	—	—
460387 2014 SN ₆₄	18.1	X	197.04887	290.82438	30.58017	3.04231	0.1005760	0.26066228	2.4270790	20	1 31.1	21.7
460388 2014 SS ₆₄	17.7	X	148.31004	339.29853	44.87363	4.10780	0.2031978	0.25878747	2.4387871	20	3 8.9	21.5
460389 2014 ST ₆₅	17.7	X	91.89054	71.73325	3.67831	7.25901	0.0631034	0.26037694	2.4288519	20	2 18.8	20.7
460390 2014 SQ ₇₉	17.4	X	109.44117	47.32192	17.96112	5.48562	0.1892881	0.25739205	2.4475936	20	3 18.3	20.6
460391 2014 SW ₈₁	17.1	X	13.94799	67.26724	3.13843	4.39802	0.0674947	0.21092242	2.7950370	20	—	—
460392 2014 SD ₈₄	17.4	X	257.65137	344.72874	282.07377	1.90360	0.0933513	0.25735311	2.4478404	20	1 25.5	20.8
460393 2014 SH ₈₅	16.9	X	7.78613	199.24553	279.93047	1.19055	0.1575947	0.22577417	2.6710779	20	—	—
460394 2014 SB ₈₇	17.5	X	108.25300	274.95204	214.45863	6.18116	0.1261676	0.28123500	2.3072242	20	6 1.8	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460401 2014 SG ₉₇	17.3	X	251.80736	243.91869	350.01540	2.09678	0.0475318	0.23474760	2.6025671	20	—	—
460402 2014 SB ₁₀₂	18.1	X	290.98786	121.86862	188.26285	2.19177	0.1532450	0.29503569	2.2347023	20	4 22.4	20.4
460403 2014 SU ₁₀₆	18.3	X	105.55630	326.16885	156.00457	1.47989	0.1320945	0.27408192	2.3471947	20	5 19.9	21.4
460404 2014 SL ₁₁₁	17.5	X	328.53535	130.99693	330.36449	1.73486	0.1398319	0.19589689	2.9361913	20	—	—
460405 2014 SD ₁₁₄	17.5	X	103.19573	52.57054	312.54524	1.11503	0.0868357	0.22223688	2.6993464	20	—	—
460406 2014 SG ₁₁₆	16.6	X	239.48377	277.25387	262.47535	0.75405	0.0518822	0.19663444	2.9288446	20	12 26.0	20.7
460407 2014 SM ₁₁₇	16.6	X	31.24146	240.07892	182.15632	4.28239	0.0593496	0.21134710	2.7912914	20	—	—
460408 2014 SU ₁₁₇	18.2	X	100.66990	295.42929	180.88189	6.70756	0.1539199	0.26627138	2.3928734	20	5 10.1	21.4
460409 2014 ST ₁₁₈	17.0	X	14.31524	286.67335	175.74228	4.87651	0.0578854	0.22162487	2.7043136	20	—	—
460410 2014 SY ₁₁₈	16.9	X	347.37393	356.01662	37.02016	1.07753	0.1721402	0.17667302	3.1454967	20	11 20.8	20.3
460411 2014 SO ₁₁₉	17.4	X	290.65773	158.49447	37.35098	3.63276	0.0133517	0.23057198	2.6338944	20	—	—
460412 2014 SS ₁₂₃	17.8	X	111.58122	322.01079	166.27740	7.48851	0.1707088	0.27711774	2.3300210	20	6 10.2	21.2
460413 2014 SW ₁₂₃	18.0	X	319.82593	124.18895	148.84720	3.77489	0.1379499	0.29037834	2.2585337	20	4 17.2	20.2
460414 2014 SD ₁₂₄	17.5	X	338.73141	353.13479	88.86287	3.00448	0.0820873	0.19525315	2.9426414	20	—	—
460415 2014 SW ₁₂₆	17.4	X	292.04380	297.44552	273.56539	1.65980	0.1165725	0.24494613	2.5298164	20	—	—
460416 2014 SW ₁₃₁	17.1	X	332.02710	107.80907	340.10962	1.57198	0.1483634	0.19051909	2.9911881	20	—	—
460417 2014 SF ₁₃₂	16.6	X	292.77194	279.36086	170.09263	5.44636	0.1582541	0.17225667	3.1990327	20	10 28.8	20.5
460418 2014 SO ₁₃₅	15.9	X	21.34118	261.53538	134.98836	18.29865	0.1186431	0.18061833	3.0995228	20	—	—
460419 2014 SL ₁₄₁	16.1	X	18.66408	333.36843	23.26227	15.29225	0.1729901	0.18061570	3.0995529	20	11 23.7	20.2
460420 2014 SA ₁₄₂	16.7	X	308.91808	220.70737	52.33135	22.42103	0.2123647	0.28400697	2.2921870	20	3 30.7	19.8
460421 2014 SN ₁₄₆	17.1	X	43.44296	50.21572	356.00864	7.09435	0.0481868	0.21419992	2.7664522	20	—	—
460422 2014 SZ ₁₅₃	17.0	X	117.61994	31.22204	357.74144	11.66453	0.1746271	0.23558624	2.5963871	20	2 13.2	20.7
460423 2014 SG ₁₅₄	17.1	X	79.22544	123.05620	262.49972	3.20825	0.1614296	0.21571298	2.7350007	20	—	—
460424 2014 SH ₁₅₄	17.1	X	71.56217	312.38941	216.90319	7.32033	0.0420572	0.28131300	2.3067977	20	5 25.3	19.7
460425 2014 ST ₁₅₄	17.5	X	285.05033	286.87975	356.51156	6.64246	0.1133158	0.27367368	2.3495284	20	3 15.3	20.4
460426 2014 SP ₁₅₅	17.6	X	53.58318	164.46070	239.03211	1.76314	0.1873180	0.20919143	2.8104344	20	—	—
460427 2014 SJ ₁₅₆	17.3	X	345.40673	119.73642	335.84941	1.32499	0.0282390	0.20280351	2.8691444	20	—	—
460428 2014 SS ₁₅₇	16.8	X	203.78218	240.76588	15.10814	8.36167	0.0461859	0.21481102	2.7612030	20	—	—
460429 2014 SY ₁₅₇	17.7	X	141.64090	6.36278	337.28313	2.36235	0.1155128	0.22882955	2.6472481	20	1 5.0	21.4
460430 2014 SJ ₁₅₈	16.2	X	325.68844	235.00461	194.98478	12.78029	0.1169334	0.17528857	3.1620373	20	11 29.8	19.9
460431 2014 SG ₁₅₉	16.8	X	330.51838	260.71032	186.38475	9.84366	0.0938645	0.18693241	3.0293280	20	12 30.7	20.7
460432 2014 SA ₁₆₀	16.6	X	20.31354	6.10475	28.84540	12.61212	0.1337569	0.18927571	3.0042735	20	—	—
460433 2014 SO ₁₆₀	16.9	X	210.67229	269.92307	21.02329	15.24039	0.1165644	0.23946590	2.5682676	20	1 12.1	21.2
460434 2014 SS ₁₆₁	17.7	X	188.85890	257.75179	136.69796	3.86051	0.0933311	0.27529372	2.3403017	20	4 24.9	21.0
460435 2014 SE ₁₆₃	16.9	X	80.49590	227.97296	141.45616	5.66640	0.0883156	0.21207231	2.7849243	20	—	—
460436 2014 SG ₁₆₅	16.8	X	1.54837	259.51467	169.18238	7.70047	0.0452923	0.20099331	2.8863455	20	—	—
460437 2014 SC ₁₆₆	15.8	X	11.97470	26.95688	346.82343	23.39184	0.1605646	0.17985602	3.1082748	20	12 2.3	20.2
460438 2014 SR ₁₆₆	17.6	X	184.29212	139.60324	241.67536	5.45354	0.1428072	0.26659443	2.3909400	20	3 31.1	21.4
460439 2014 SO ₁₆₇	17.0	X	110.17004	265.09136	108.06319	4.84994	0.1458479	0.22851992	2.6496388	20	1 8.4	20.5
460440 2014 SA ₁₇₂	17.0	X	25.15710	76.39799	7.85793	7.24466	0.0960557	0.22099740	2.7094300	20	—	—
460441 2014 SJ ₁₇₅	17.6	X	73.84087	344.65863	75.12020	3.90820	0.0681638	0.23509083	2.6000334	20	1 5.9	20.7
460442 2014 SL ₁₇₉	17.1	X	48.75291	64.94700	10.12708	14.46872	0.0365447	0.23031474	2.6358553	20	—	—
460443 2014 SF ₁₈₃	17.2	X	37.37200	98.31031	50.42444	7.75568	0.0692021	0.26079117	2.4262793	20	3 10.9	20.0
460444 2014 ST ₁₈₈	18.0	X	265.30672	136.45975	151.50130	6.18087	0.1183401	0.27111047	2.3643142	20	2 26.4	21.2
460445 2014 SZ ₁₈₈	17.2	X	14.20176	54.35963	61.77977	4.80137	0.1512147	0.22638767	2.6662500	20	—	—
460446 2014 ST ₁₈₉	17.3	X	54.01296	343.41779	80.12135	3.79064	0.1635255	0.22082229	2.7108622	20	—	—
460447 2014 ST ₂₀₈	16.2	X	105.20379	251.56132	131.58375	7.11298	0.0716634	0.21631553	2.7483851	20	1 5.8	19.8
460448 2014 SK ₂₁₀	16.7	X	180.21372	265.61048	71.28584	15.64145	0.1193154	0.23474102	2.6026158	20	2 9.8	21.0
460449 2014 SD ₂₁₁	16.8	X	346.58749	350.42643	134.24552	6.28388	0.0981966	0.19920025	2.9036402	20	—	—
460450 2014 SE ₂₁₃	16.6	X	6.75499	266.35241	144.03204	10.82069	0.1064866	0.17733287	3.1376890	20	—	—
460451 2014 SF ₂₁₄	16.3	X	83.40732	307.75337	74.17084	15.96702	0.1518731	0.20478539	2.8506030	20	—	—
460452 2014 SJ ₂₁₅	16.3	X	179.54182	228.94402	75.84308	13.75290	0.1859281	0.21957054	2.7211554	20	1 2.3	20.8
460453 2014 SV ₂₁₈	16.7	X	38.80515	150.85910	76.48551	13.28012	0.0728294	0.27875337	2.3208975	20	7 3.9	19.2
460454 2014 SX ₂₁₈	16.3	X	32.45236	2.58112	73.78584	12.07711	0.1152433	0.19973538	2.8984516	20	—	—
460455 2014 SP ₂₂₆	17.4	X	223.45761	101.50750	206.97507	5.77412	0.1161562	0.25811066	2.4430485	20	2 7.8	21.2
460456 2014 SZ ₂₂₆	17.2	X	103.97150	248.61665	136.91378	3.95798	0.1165823	0.22653532	2.6650913	20	1 11.8	20.7
460457 2014 SF ₂₂₇	15.5	X	309.82323	253.14140	168.85944	18.07742	0.1889778	0.16120661	3.3435987	20	10 17.5	19.5
460458 2014 SO ₂₂₈	17.4	X	195.66910	36.56196	243.87561	1.74233	0.0708927	0.22734216	2.6587820	20	—	—
460459 2014 SP ₂₂₈	16.7	X	304.87025	269.24854	201.52108	12.28175	0.2007573	0.18282567	3.0745243	20	12 13.7	20.2
460460 2014 SY ₂₃₅	16.8	X	318.74156	71.58754	340.05268	5.06249	0.1750909	0.17249248	3.1961166	20	10 19.0	20.3
460461 2014 SO ₂₃₇	18.3	X	316.28036	28.31882	255.52505	3.54296	0.1295530	0.29687990	2.2254381	20	4 25.8	20.5
460462 2014 SK ₂₅₇	16.7	X	67.81371	14.19838	40.24767	4.24471	0.0927259	0.22233107	2.6985840	20	—	—
460463 2014 SJ ₂₅₈	17.1	X	79.64637	234.37873	164.96045	5.35690	0.1629041	0.21993190	2.7181739	20	1 2.7	20.2
460464 2014 SH ₂₆₀	17.5	X	272.36791	239.22497	83.42664	10.21169	0.1068963	0.29147915	2.2528437	20	4 26.3	20.4
460465 2014 SH ₂₆₃	17.1	X	232.78794	314.71598	69.33752	5.76163	0.1462918	0.29191728	2.2505889	20	5 24.5	20.1
460466 2014 SK ₂₆₄	16.7	X	95.16881	342.09437	6.30954	17.28592	0.2115712	0.21073235	2.7967174	20	—	—
460467 2014 SR ₂₆₄	18.2	X	304.86357	179.10363	123.88442	1.71455	0.1462455	0.29234024	2.2484176	20	5 5.1	20.4
460468 2014 SV ₂₆₄	16.5	X	54.09296	237.54081	170.27955	3.87547	0.1054330	0.21178524	2.7874404	20	—	—
460469 2014 SW ₂₆₄	16.5	X	343.41708	207.24321	206.71876	7.90812	0.2840006	0.17800283	3.1298110	20	12 21.4	19.5
460470 2014 SL ₂₆₅	15.9	X	321.62192	61.42132	19.92953	10.72153	0.2521617	0.17602063	3.1532641	20	12 1.4	19.0
460471 2014 SR ₂₆₅	17.6	X	211.75682	341.95801	48.70172	6.11213	0.1141432	0.28336348	2.2956559	20	5 12.4	20.7
460472 2014 SR ₂₆₆	16.2	X	31.07777	64.17764	256.75108	18.66547	0.1889707	0.17537585	3.1609881	20	10 29.9	20.5
460473 2014 SY ₂₆₆	16.1	X	72.13960	122.35178	231.31833	14.18706	0.1517637	0.20086335	2.8875903	20	—	—
460474 2014 SD ₂₆₇	17.7	X	250.08517	286.22016	21.51190	6.95085	0.1397203	0.27361108	2.3			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460481 2014 SZ ₂₈₈	17.9	X	304.81336	234.45571	66.40845	5.66132	0.2035971	0.29693824	2.2251466	20	4 22.3	20.1
460482 2014 SK ₂₈₉	17.8	X	188.63613	342.20096	8.89465	2.64930	0.2046456	0.25811648	2.4430118	20	3 2.2	21.7
460483 2014 SY ₂₉₁	16.9	X	14.27308	145.69881	214.27962	3.81963	0.1681774	0.18078929	3.0975685	20	11 24.9	20.7
460484 2014 SG ₂₉₈	17.3	X	30.94441	324.92626	266.21605	4.83580	0.0878423	0.29024897	2.2592047	20	6 28.9	19.6
460485 2014 SJ ₃₀₁	17.0	X	59.10536	221.90249	130.45194	9.00586	0.1948050	0.19486528	2.9465450	20	—	—
460486 2014 SR ₃₀₂	16.2	X	58.74245	43.55246	255.30072	7.44807	0.1595732	0.18563962	3.0433759	20	11 6.6	20.7
460487 2014 SE ₃₀₃	16.6	X	345.50745	95.85292	301.36189	24.00600	0.3072947	0.17422080	3.1749438	20	12 4.3	19.9
460488 2014 SR ₃₀₄	16.0	X	297.86191	75.58710	22.25418	22.11369	0.0830811	0.17567720	3.1573722	20	11 16.6	20.4
460489 2014 SS ₃₀₅	17.2	X	232.33062	94.74607	220.41308	5.24374	0.0776481	0.25992137	2.4316892	20	2 26.9	20.7
460490 2014 SD ₃₀₇	15.9	X	309.13323	73.08013	38.48919	11.92070	0.0383196	0.18346992	3.0673227	20	12 30.7	20.2
460491 2014 SO ₃₀₇	15.9	X	148.93227	38.27788	215.93822	9.26344	0.0429645	0.17810816	3.1285769	20	12 9.3	20.5
460492 2014 SX ₃₀₉	15.8	X	309.54535	62.94323	43.17617	11.25522	0.0573580	0.17586151	3.1551658	20	12 20.8	20.1
460493 2014 SG ₃₁₀	16.2	X	64.69112	300.10695	39.14711	9.85241	0.0890190	0.17868672	3.1218200	20	12 21.5	20.8
460494 2014 SL ₃₁₀	17.6	X	247.00022	288.90410	30.59516	5.70288	0.2023108	0.26575376	2.3959795	20	3 13.7	21.3
460495 2014 SZ ₃₁₀	15.7	X	65.59325	335.12695	339.55009	17.14575	0.2215685	0.18763917	3.0217165	20	12 10.2	20.7
460496 2014 SQ ₃₁₁	17.3	X	237.99633	256.21122	45.81445	2.77166	0.1708354	0.26467182	2.4025047	20	2 14.1	21.0
460497 2014 SE ₃₁₁	17.4	X	139.88014	38.48881	329.70273	3.63499	0.2071352	0.23749173	2.5824805	20	2 11.0	21.2
460498 2014 SK ₃₁₃	16.7	X	11.40859	11.24524	36.09879	10.56527	0.1198406	0.18889721	3.0082853	20	—	—
460499 2014 SF ₃₁₅	17.5	X	147.03223	231.21249	122.32627	3.61469	0.1134745	0.23181315	2.6244845	20	1 22.1	21.0
460500 2014 SN ₃₁₆	15.6	X	322.57529	327.47200	57.56018	12.35594	0.1585232	0.15516375	3.4298558	20	9 26.9	19.8
460501 2014 SJ ₃₁₇	16.4	X	50.55944	35.45518	11.26186	4.37609	0.0710174	0.21186511	2.7867398	20	—	—
460502 2014 SP ₃₁₇	16.1	X	302.37025	74.21335	19.89454	27.01905	0.1375926	0.17598151	3.1537313	20	11 10.9	20.3
460503 2014 SM ₃₁₈	16.2	X	355.84544	201.63420	186.75440	9.34344	0.0880265	0.17549788	3.1595227	20	11 23.6	20.3
460504 2014 SX ₃₂₃	16.4	X	325.95116	9.09645	54.14146	14.07342	0.1937703	0.17396783	3.1780210	20	11 18.9	19.6
460505 2014 SJ ₃₂₇	17.2	X	113.06409	205.14065	142.34451	4.18332	0.1018415	0.21176493	2.7876186	20	—	—
460506 2014 SP ₃₃₀	16.8	X	72.17146	27.30455	358.59670	5.02546	0.0761201	0.20819250	2.8194171	20	—	—
460507 2014 SR ₃₃₀	16.4	X	344.79977	40.36886	15.78432	11.75987	0.2387421	0.17597760	3.1537780	20	12 21.6	19.8
460508 2014 SA ₃₃₄	16.2	X	41.02529	122.73914	215.81256	5.72346	0.1627879	0.17798844	3.1299797	20	12 3.8	20.5
460509 2014 SU ₃₃₄	16.1	X	265.51909	123.46552	21.05357	13.98131	0.0295816	0.18469462	3.0537481	20	12 13.8	20.6
460510 2014 SP ₃₃₉	16.9	X	37.28466	92.72731	300.25145	6.67154	0.1103251	0.19922113	2.9034372	20	—	—
460511 2014 SA ₃₄₁	15.9	X	285.30592	154.58454	353.37004	11.49812	0.0734076	0.19864347	2.9090634	20	—	—
460512 2014 SS ₃₄₅	17.2	X	219.54914	270.15052	13.48766	4.45852	0.0940033	0.23746207	2.5826956	20	1 10.3	21.2
460513 2014 SR ₃₄₆	16.7	X	192.57914	12.17365	258.21421	1.59497	0.0668010	0.21819809	2.7325540	20	—	—
460514 2014 SF ₃₄₇	16.1	X	50.14044	344.15994	349.80303	11.09484	0.1873060	0.18073042	3.0982411	20	12 11.6	20.7
460515 2014 SJ ₃₄₇	16.5	X	328.82076	242.18300	196.33950	14.51655	0.1666131	0.17866555	3.1220666	20	12 16.6	20.3
460516 2014 TC ₂	17.2	X	164.90563	291.80048	30.52125	6.57269	0.0525499	0.22605976	2.6688278	20	—	—
460517 2014 TW ₂	16.1	X	234.37419	140.67683	26.98491	10.36961	0.0247680	0.18176072	3.0865219	20	12 3.6	20.6
460518 2014 TC ₅	16.9	X	140.73444	316.86502	30.19382	7.16491	0.1375140	0.22796424	2.6539428	20	1 11.9	20.9
460519 2014 TD ₅	16.1	X	10.82058	13.56881	32.88796	11.86191	0.1221504	0.18707764	3.0277601	20	—	—
460520 2014 TJ ₉	16.2	X	31.96102	354.07971	17.71587	9.78833	0.1498868	0.18556736	3.0441660	20	—	—
460521 2014 TU ₉	17.2	X	64.75922	97.99919	333.72816	10.87408	0.1410387	0.22715652	2.6602304	20	1 19.9	20.3
460522 2014 TB ₁₁	16.0	X	35.34328	99.13433	243.93636	9.56149	0.1027493	0.17592595	3.1543953	20	11 22.7	20.3
460523 2014 TJ ₁₁	17.5	X	323.92543	40.54691	240.64245	6.37113	0.1261289	0.29004794	2.2602485	20	5 7.2	19.6
460524 2014 TQ ₁₄	17.0	X	105.84055	23.89678	304.72657	5.44663	0.0957673	0.20223626	2.8745070	20	—	—
460525 2014 TO ₁₅	17.9	X	306.67724	352.98307	326.37870	5.15169	0.2117396	0.30244064	2.1980756	20	5 18.9	20.1
460526 2014 TF ₁₆	17.0	X	344.69222	176.28974	248.71005	4.68961	0.2234442	0.18031507	3.1029970	20	—	—
460527 2014 TD ₂₃	16.9	X	86.27395	155.58480	206.76852	6.50656	0.1193598	0.21795795	2.7345607	20	—	—
460528 2014 TS ₂₃	17.4	X	176.99831	103.17359	29.62102	2.41309	0.1767275	0.26785173	2.3834520	20	4 12.1	21.1
460529 2014 TW ₂₆	16.3	X	315.99023	40.72300	331.74017	15.47051	0.1168461	0.17342423	3.1846584	20	11 15.8	20.3
460530 2014 TA ₂₈	16.2	X	338.82894	272.65145	182.88948	8.81351	0.0922301	0.19211290	2.9746214	20	—	—
460531 2014 TF ₂₈	16.8	X	87.95188	217.51145	106.63218	3.30865	0.0720014	0.18878079	3.0095219	20	12 29.9	21.1
460532 2014 TQ ₂₉	17.2	X	142.79669	259.41429	91.59222	2.63137	0.1360021	0.23018012	2.6368829	20	1 17.5	21.0
460533 2014 TA ₃₁	16.6	X	83.45735	241.30381	118.60233	3.73205	0.0402020	0.20430620	2.8550585	20	—	—
460534 2014 TJ ₃₁	16.1	X	357.85647	64.71824	325.50347	20.59144	0.1032989	0.17996574	3.1070112	20	11 25.7	20.5
460535 2014 TF ₃₆	17.3	X	89.89888	333.85481	27.43239	3.89156	0.1049537	0.20863600	2.8154202	20	—	—
460536 2014 TD ₃₈	17.1	X	97.20299	52.18821	315.81604	3.48396	0.1369308	0.21694044	2.7431046	20	—	—
460537 2014 TE ₃₉	15.7	X	37.22863	60.10769	283.24386	13.09377	0.2102452	0.17587660	3.1549853	20	12 10.8	20.1
460538 2014 TW ₄₀	15.9	X	324.99130	27.56041	45.59227	18.33169	0.1920942	0.17140300	3.2096457	20	11 26.7	19.5
460539 2014 TX ₄₀	16.0	X	101.71387	267.39583	106.88681	16.55518	0.1246443	0.21877236	2.7277700	20	—	—
460540 2014 TN ₄₂	16.7	X	87.76445	308.82438	44.36956	10.64863	0.0559184	0.19960408	2.8997225	20	—	—
460541 2014 TA ₄₄	16.6	X	351.93631	335.19992	209.53152	13.34481	0.0657408	0.24139575	2.5545611	20	2 11.8	20.0
460542 2014 TP ₄₅	16.6	X	29.94502	358.65063	7.80809	0.40176	0.1681038	0.18056555	3.1001268	20	12 24.5	20.8
460543 2014 TR ₄₇	17.9	X	316.67064	288.54887	14.21714	5.06640	0.1769604	0.29604701	2.2296101	20	5 18.3	20.0
460544 2014 TM ₄₈	16.5	X	14.69064	8.88955	16.06372	6.22345	0.1510357	0.17963787	3.1107907	20	12 23.6	20.5
460545 2014 TY ₄₈	15.9	X	334.94140	355.75656	73.63939	9.22843	0.0551086	0.17162588	3.2068664	20	12 10.2	20.1
460546 2014 TP ₅₅	16.1	X	84.50810	99.43794	357.85987	13.27671	0.1388516	0.23982877	2.5656763	20	3 20.3	19.3
460547 2014 TD ₅₆	16.0	X	78.46318	269.91591	68.90996	12.58548	0.0645013	0.18245115	3.0787303	20	—	—
460548 2014 TN ₅₆	17.2	X	143.80164	208.69581	153.60759	5.32678	0.2226806	0.23496133	2.6009887	20	2 8.6	21.3
460549 2014 TV ₅₆	17.3	X	54.36171	267.16599	200.78876	7.52557	0.0891200	0.23171155	2.6252516	20	2 9.5	20.6
460550 2014 TK ₅₇	16.1	X	8.93594	331.06463	86.39299	7.89479	0.0910977	0.18282531	3.0745284	20	—	—
460551 2014 TL ₅₈	16.7	X	79.81316	133.49901	230.01338	14.10152	0.1566196	0.20423739	2.8556998	20	—	—
460552 2014 TX ₅₉	16.2	X	28.87901	110.50573	255.15093	3.66099	0.1750092	0.17860090	3.1228200	20	12 22.6	20.3
460553 2014 TY ₅₉	16.3	X	26.37372	140.55532	232.33003	8.02534	0.1422241	0.17914604	3.1164816	20	12 23.2	20.5
460554 2014 TB ₆₀	16.4	X	10.51522	2.94867	31.37542	11.15964	0.087768					

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460561 2014 <i>TF</i> ₆₉	16.4	X	45.43716	291.98268	57.85232	10.22486	0.0751481	0.17489678	3.1667578	20	12 8.7	20.8
460562 2014 <i>TZ</i> ₇₁	18.2	X	160.45579	113.83107	263.92562	0.80406	0.1899746	0.26206206	2.4184287	20	3 8.5	22.0
460563 2014 <i>TR</i> ₇₂	16.5	X	87.18368	178.44084	208.85752	9.76972	0.1307048	0.21290594	2.7776501	20	—	—
460564 2014 <i>TV</i> ₇₂	16.9	X	207.58925	29.10963	265.90626	4.00160	0.1474790	0.23643403	2.5901767	20	1 11.5	21.1
460565 2014 <i>TM</i> ₇₃	16.1	X	41.95263	278.79456	76.06180	7.80483	0.1706670	0.17987110	3.1081009	20	12 25.5	20.5
460566 2014 <i>TA</i> ₇₅	16.0	X	322.15179	352.79251	50.12302	10.82737	0.1168086	0.15949069	3.3675379	20	10 18.9	20.2
460567 2014 <i>TF</i> ₇₅	16.7	X	283.60244	10.96290	206.84944	12.58370	0.0587758	0.21966955	2.7203376	20	1 2.2	20.7
460568 2014 <i>TM</i> ₇₉	16.1	X	359.88231	141.48331	236.45966	8.24071	0.1018629	0.17453434	3.1711403	20	11 15.8	20.2
460569 2014 <i>TF</i> ₈₂	16.9	X	347.71203	157.58689	270.89698	0.79981	0.1505503	0.17918229	3.1160613	20	—	—
460570 2014 <i>UB</i>	15.8	X	259.80852	82.95550	57.29862	11.64233	0.0357754	0.18156547	3.0887342	20	12 1.1	20.0
460571 2014 <i>UX</i> ₄	15.3	X	4.14049	128.55375	230.04466	13.34289	0.1142625	0.15371606	3.4513570	20	10 24.1	19.7
460572 2014 <i>UW</i> ₅	16.6	X	124.07845	101.40317	245.70402	2.36295	0.1067605	0.20811002	2.8201620	20	—	—
460573 2014 <i>UM</i> ₆	17.2	X	39.85259	179.66605	207.69043	8.93600	0.0916152	0.18591005	3.0404239	20	—	—
460574 2014 <i>UA</i> ₇	17.0	X	335.22906	67.10868	115.19470	3.55696	0.0350176	0.22468925	2.6796692	20	1 27.1	20.4
460575 2014 <i>UP</i> ₇	16.7	X	350.60216	41.52692	40.63222	7.37216	0.1751635	0.18066291	3.0990129	20	—	—
460576 2014 <i>UW</i> ₈	17.1	X	89.77775	191.06783	184.23407	4.87771	0.0747096	0.21269590	2.7794784	20	—	—
460577 2014 <i>UX</i> ₁₂	16.4	X	21.40321	36.79004	11.80045	4.45476	0.0855628	0.19105678	2.9855733	20	—	—
460578 2014 <i>UH</i> ₁₃	16.6	X	326.25401	222.28920	240.45217	9.31338	0.0656280	0.18664981	3.0323850	20	—	—
460579 2014 <i>UV</i> ₁₃	16.7	X	121.86451	353.36189	5.38602	5.02551	0.1707167	0.22078698	2.7111512	20	1 10.3	20.6
460580 2014 <i>UF</i> ₁₄	16.0	X	308.97646	262.70642	255.95180	10.64240	0.1180182	0.21155852	2.7894315	20	—	—
460581 2014 <i>UT</i> ₁₅	16.3	X	345.65299	188.30813	232.45484	15.44108	0.1084583	0.18024131	3.1038435	20	12 19.1	20.3
460582 2014 <i>UR</i> ₁₆	17.3	X	132.26056	22.97860	310.54196	2.19289	0.0413126	0.21430436	2.7655534	20	—	—
460583 2014 <i>UE</i> ₁₇	16.4	X	12.94174	185.12075	280.03373	12.67718	0.1519637	0.21017215	2.8016848	20	—	—
460584 2014 <i>UR</i> ₁₇	17.1	X	106.75549	354.11990	27.35622	6.73526	0.1007916	0.22227304	2.6990537	20	1 10.1	20.8
460585 2014 <i>US</i> ₁₈	17.6	X	7.33361	26.27499	204.23449	7.22621	0.0668607	0.27142375	2.3624946	20	5 15.4	20.0
460586 2014 <i>UZ</i> ₁₈	16.0	X	276.74213	79.17003	61.45703	11.53771	0.0506633	0.17865583	3.1221798	20	12 20.5	20.3
460587 2014 <i>UF</i> ₁₉	16.0	X	333.63591	0.40572	74.08656	6.79279	0.0800419	0.17462062	3.1700957	20	12 16.1	20.1
460588 2014 <i>US</i> ₂₀	16.6	X	323.42389	331.97091	84.91697	7.34414	0.1361669	0.16176090	3.3359563	20	11 6.7	20.7
460589 2014 <i>UM</i> ₂₄	16.5	X	0.34265	309.67061	117.55665	7.03586	0.1041185	0.18462683	3.0544956	20	—	—
460590 2014 <i>UH</i> ₂₅	16.6	X	88.52243	303.77744	89.10211	7.19652	0.0749188	0.20903539	2.8118328	20	—	—
460591 2014 <i>UP</i> ₂₆	17.9	X	321.43022	82.86496	208.84070	4.83334	0.1457870	0.29397427	2.2400781	20	5 17.4	19.9
460592 2014 <i>UY</i> ₂₈	15.7	X	198.75123	1.07915	228.61367	9.19272	0.0420879	0.18136635	3.0909945	20	—	—
460593 2014 <i>UT</i> ₄₀	16.2	X	281.94281	283.60725	203.94533	24.90428	0.2840989	0.17391315	3.1786870	20	11 10.5	20.2
460594 2014 <i>UM</i> ₄₁	16.6	X	219.55489	245.29653	49.20305	13.51651	0.0564688	0.22699605	2.6614840	20	1 28.8	20.7
460595 2014 <i>UC</i> ₄₂	17.1	X	103.30261	331.94874	58.22590	3.73467	0.1008682	0.21571316	2.7534992	20	1 17.4	20.7
460596 2014 <i>UK</i> ₄₄	16.9	X	122.54289	125.28596	243.25455	5.20053	0.0356190	0.22216379	2.6999385	20	1 2.9	20.5
460597 2014 <i>UV</i> ₄₅	16.6	X	286.53732	109.16892	30.33645	0.71090	0.1009316	0.17967864	3.1103201	20	12 28.1	20.4
460598 2014 <i>UK</i> ₄₆	17.8	X	220.11850	263.51421	66.01382	2.32343	0.1968735	0.25703718	2.4498458	20	3 2.7	21.7
460599 2014 <i>UX</i> ₄₆	16.8	X	30.11167	168.77019	215.79934	10.66594	0.0679315	0.18239401	3.0793732	20	12 31.7	21.2
460600 2014 <i>US</i> ₄₇	15.7	X	311.91193	357.61882	56.06029	10.69247	0.0377109	0.15577379	3.4208954	20	10 21.7	20.4
460601 2014 <i>UO</i> ₄₈	17.0	X	8.42712	265.83618	225.38658	3.69828	0.0546894	0.22390005	2.6859623	20	1 4.7	20.3
460602 2014 <i>UM</i> ₄₉	17.8	X	245.28161	42.98901	305.04908	2.68960	0.1161649	0.26957684	2.3732728	20	4 21.7	21.0
460603 2014 <i>UE</i> ₅₀	16.4	X	175.21868	33.97727	249.27566	10.14628	0.0599881	0.19881220	2.9074173	20	—	—
460604 2014 <i>UO</i> ₅₀	15.7	X	72.66105	308.71188	47.22179	11.22038	0.0767762	0.18497891	3.0506186	20	—	—
460605 2014 <i>UB</i> ₅₁	16.7	X	171.01604	238.24163	68.33080	3.57345	0.1497716	0.21494570	2.7600495	20	—	—
460606 2014 <i>UL</i> ₅₂	16.6	X	39.52824	96.61587	276.25642	0.30602	0.1615740	0.19168626	2.9790336	20	—	—
460607 2014 <i>UW</i> ₅₅	16.9	X	49.00138	346.80980	56.98104	13.21724	0.1053729	0.20889767	2.8130685	20	—	—
460608 2014 <i>UB</i> ₅₇	16.1	X	345.90432	99.25619	327.35875	26.24289	0.1842928	0.18336903	3.0684477	20	—	—
460609 2014 <i>UC</i> ₆₃	18.2	X	244.58198	115.94069	242.59068	2.06787	0.1199432	0.28428917	2.2906699	20	5 5.3	21.2
460610 2014 <i>UC</i> ₆₆	15.9	X	175.98785	5.41195	244.99246	12.62275	0.1015439	0.18259312	3.0771342	20	12 29.7	20.7
460611 2014 <i>UE</i> ₆₆	17.0	X	77.49516	181.98245	245.47727	5.56614	0.0589780	0.22022254	2.7157818	20	1 21.2	20.6
460612 2014 <i>UX</i> ₆₇	16.6	X	357.23902	190.33926	215.13426	10.27447	0.0775946	0.17447161	3.1719003	20	12 13.9	20.9
460613 2014 <i>UH</i> ₆₈	16.8	X	350.87215	237.44500	172.91688	5.84189	0.2068452	0.17821225	3.1273586	20	12 23.8	20.3
460614 2014 <i>UJ</i> ₇₄	17.2	X	175.22718	288.75128	8.25481	1.90789	0.1849785	0.22495827	2.6775324	20	—	—
460615 2014 <i>UM</i> ₇₈	17.1	X	299.08931	3.39073	215.39250	10.40567	0.0288507	0.23756038	2.5819830	20	1 22.2	20.7
460616 2014 <i>UK</i> ₇₉	15.8	X	312.76999	1.13441	31.63242	9.96160	0.0722473	0.15417745	3.4444679	20	9 24.8	20.4
460617 2014 <i>UD</i> ₈₁	16.9	X	72.02992	152.98640	220.70762	1.32983	0.0814733	0.20404415	2.8575025	20	—	—
460618 2014 <i>UD</i> ₈₃	16.4	X	133.29076	281.97262	53.63206	6.73448	0.0688159	0.20620736	2.8374830	20	—	—
460619 2014 <i>UF</i> ₈₃	16.7	X	148.96916	96.15010	229.76366	4.58696	0.0414453	0.20798080	2.8213300	20	—	—
460620 2014 <i>UF</i> ₈₄	15.9	X	132.20793	240.85487	57.70674	14.63892	0.0219909	0.18546608	3.0452740	20	—	—
460621 2014 <i>UA</i> ₈₅	16.8	X	102.01892	312.77735	53.06152	10.51170	0.0044349	0.20268158	2.8702950	20	—	—
460622 2014 <i>UD</i> ₈₅	16.3	X	6.44452	200.35017	232.65532	8.08248	0.0886459	0.18791501	3.0187587	20	—	—
460623 2014 <i>UJ</i> ₈₆	16.9	X	27.44607	154.27898	230.54157	14.47840	0.0859708	0.17861294	3.1226797	20	12 29.5	21.3
460624 2014 <i>UU</i> ₈₉	16.2	X	329.21831	16.26363	57.86771	12.68586	0.0518562	0.17473481	3.1687144	20	12 8.1	20.4
460625 2014 <i>UW</i> ₉₁	17.1	X	327.82257	77.79158	21.08742	14.38329	0.2689714	0.18149135	3.0895751	20	—	—
460626 2014 <i>UY</i> ₉₃	17.1	X	121.99376	158.11927	238.55521	1.46642	0.0977700	0.23107152	2.6300970	20	2 13.8	20.6
460627 2014 <i>UP</i> ₉₄	16.8	X	337.88572	190.48869	250.28543	0.99485	0.1156949	0.17813103	3.1283091	20	—	—
460628 2014 <i>US</i> ₉₅	16.9	X	81.28764	264.19414	76.74979	2.96140	0.0862143	0.19024166	2.9940954	20	—	—
460629 2014 <i>UX</i> ₉₆	16.2	X	241.86521	318.81557	209.58137	13.62188	0.0218198	0.17834841	3.1257667	20	12 14.7	20.8
460630 2014 <i>UB</i> ₉₇	16.4	X	294.25042	273.38111	202.09878	10.01975	0.0616451	0.17586187	3.1551615	20	12 12.2	20.7
460631 2014 <i>UX</i> ₉₉	16.9	X	56.08697	310.63257	76.38816	5.32004	0.0755341	0.20483493	2.8501433	20	—	—
460632 2014 <i>UD</i> ₁₀₁	17.3	X	88.79163	343.92102	38.88208	1.23782	0.1511114	0.21920410	2.7241871	20	—	—
460633 201												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
460641	2014	UO ₁₁₆	17.7	X	327.47214	330.71052	331.54465	5.34882	0.2441115	0.30131181	2.2035620	20	5 29.9	19.2
460642	2014	UR ₁₁₇	17.9	X	197.63740	308.19505	35.59896	2.16471	0.2221328	0.26219771	2.4175945	20	2 29.9	22.1
460643	2014	US ₁₁₇	16.0	X	341.17488	318.97830	74.83331	15.67130	0.2607646	0.17107986	3.2136861	20	11 16.1	19.1
460644	2014	UT ₁₂₀	16.6	X	131.44249	45.46954	222.16387	9.45428	0.0523790	0.17666306	3.1456149	20	12 6.2	21.4
460645	2014	UF ₁₂₁	17.2	X	28.28874	193.71758	209.55142	0.79207	0.1005475	0.19034885	2.9929712	20	—	—
460646	2014	UH ₁₂₅	16.1	X	9.31254	61.63915	332.77578	10.03424	0.0523720	0.18061474	3.0995639	20	12 15.8	20.5
460647	2014	UJ ₁₂₆	16.7	X	71.28384	183.40414	268.29791	8.08652	0.1363296	0.23057414	2.6338780	20	2 18.9	20.0
460648	2014	UV ₁₂₆	17.0	X	9.56030	273.21371	256.54712	8.90797	0.0420741	0.24533244	2.5271600	20	2 19.0	20.4
460649	2014	UJ ₁₃₀	16.9	X	273.89123	271.07569	288.87585	2.95276	0.0240764	0.21398432	2.7683101	20	—	—
460650	2014	UQ ₁₃₁	16.5	X	152.72319	84.47468	229.46388	10.26031	0.1586995	0.21993075	2.7181833	20	—	—
460651	2014	UN ₁₃₄	15.9	X	286.68921	276.07328	235.55761	14.52227	0.2115426	0.17987804	3.1080211	20	12 29.1	19.6
460652	2014	UM ₁₃₅	17.1	X	120.82369	122.87789	249.26748	3.28008	0.1007617	0.22270455	2.6955662	20	1 14.3	20.7
460653	2014	UN ₁₃₅	16.8	X	171.69567	5.83278	322.45724	1.49046	0.0930292	0.22810329	2.6528642	20	1 16.3	20.7
460654	2014	US ₁₃₅	16.7	X	43.50549	146.44671	231.68871	8.05931	0.0763716	0.18605650	3.0388282	20	—	—
460655	2014	UC ₁₃₈	16.6	X	61.26534	127.32079	248.80058	8.61286	0.0514955	0.19737073	2.9215560	20	—	—
460656	2014	UD ₁₄₀	17.7	X	336.87025	51.66136	242.76870	6.95790	0.1693292	0.30050664	2.2074964	20	6 22.1	19.1
460657	2014	UJ ₁₄₂	17.0	X	154.22129	296.52983	18.11071	6.11704	0.20214934	0.20914608	2.8108406	20	—	—
460658	2014	UU ₁₄₃	17.0	X	54.63999	131.60791	234.27674	10.64404	0.1134607	0.18931812	3.0038247	20	—	—
460659	2014	UE ₁₄₄	16.4	X	127.07076	234.68383	37.09175	13.77901	0.0298822	0.17518533	3.1632795	20	12 2.6	21.1
460660	2014	UW ₁₄₈	17.5	X	84.88304	295.09282	103.65635	0.89395	0.0776928	0.21471977	2.7619853	20	—	—
460661	2014	UG ₁₄₉	17.0	X	145.94587	157.90825	221.32232	2.42627	0.1510161	0.23790461	2.5794918	20	2 23.7	20.8
460662	2014	UC ₁₅₀	17.0	X	186.46103	77.17131	215.41376	7.53247	0.0303344	0.21254764	2.7807707	20	—	—
460663	2014	UR ₁₅₅	16.9	X	127.48009	192.99650	179.45593	13.61377	0.1924752	0.23302151	2.6154035	20	1 30.9	21.0
460664	2014	UA ₁₅₆	16.5	X	315.55042	219.32119	264.18811	6.49040	0.1208764	0.18133666	3.0913319	20	—	—
460665	2014	UQ ₁₅₆	16.2	X	2.96475	191.61978	259.80053	8.59211	0.0642105	0.19174431	2.9784323	20	—	—
460666	2014	US ₁₅₆	17.0	X	218.68199	1.52198	307.73092	2.94681	0.2023317	0.24135111	2.5548762	20	2 6.2	21.3
460667	2014	UZ ₁₅₆	16.3	X	68.95975	96.51622	249.44323	10.31774	0.0727794	0.17865568	3.1221816	20	12 31.7	20.9
460668	2014	UA ₁₅₇	16.1	X	265.35868	1.45074	245.27967	16.20068	0.2078928	0.22343231	2.6897096	20	1 1.9	20.7
460669	2014	UC ₁₅₇	17.2	X	76.31509	151.96367	277.91398	2.52433	0.0811596	0.21906729	2.7253212	20	1 26.7	20.6
460670	2014	UE ₁₅₇	16.4	X	159.73968	60.73305	255.88665	5.58181	0.0565591	0.20596527	2.8397061	20	—	—
460671	2014	UF ₁₆₁	17.3	X	96.39350	86.47441	291.92444	2.41067	0.1097646	0.21340329	2.7733328	20	—	—
460672	2014	UL ₁₆₃	16.8	X	143.50644	249.73834	74.02879	4.78463	0.1046230	0.21131076	2.7916115	20	—	—
460673	2014	UJ ₁₆₃	15.6	X	65.17990	304.44697	51.22955	12.73723	0.0753045	0.18634751	3.0356637	20	—	—
460674	2014	UB ₁₆₄	15.7	X	254.72003	301.99736	232.39008	12.80702	0.2433874	0.17470727	3.1690474	20	12 6.1	20.2
460675	2014	UB ₁₆₅	16.9	X	210.81638	35.48777	259.35419	8.77676	0.1899184	0.23603348	2.5931062	20	1 13.4	21.2
460676	2014	UW ₁₆₅	16.1	X	151.86625	17.56212	281.05875	8.19668	0.1097722	0.20480148	2.8504537	20	—	—
460677	2014	UX ₁₆₉	15.9	X	18.95244	300.71063	110.56706	14.68255	0.0937170	0.18660942	3.0328286	20	—	—
460678	2014	UK ₁₇₀	16.3	X	42.56043	208.14231	249.40812	8.02927	0.1305911	0.21298776	2.7769386	20	1 14.7	19.4
460679	2014	UJ ₁₇₂	15.7	X	43.51223	245.99619	105.31202	10.51538	0.0779375	0.17445736	3.1720731	20	12 10.1	20.1
460680	2014	UR ₁₇₂	16.8	X	116.99156	186.10913	135.28149	8.73107	0.0175855	0.19637227	2.9314508	20	—	—
460681	2014	US ₁₇₆	16.0	X	339.37240	3.48093	71.49289	9.48658	0.0617098	0.17912416	3.1167355	20	12 25.3	20.1
460682	2014	UC ₁₇₇	16.8	X	230.75761	292.61091	347.32758	6.61533	0.1302353	0.24370593	2.5383917	20	1 15.7	20.8
460683	2014	UG ₁₇₉	17.1	X	321.31586	143.52160	111.97215	2.98874	0.0972288	0.26937264	2.3744720	20	4 1.9	19.6
460684	2014	UB ₁₈₀	16.0	X	319.97936	47.49613	51.51534	16.97944	0.1538770	0.17991853	3.1075547	20	12 26.6	19.8
460685	2014	US ₁₈₀	17.3	X	299.63848	58.29388	229.54664	7.43668	0.0534328	0.27731137	2.3289362	20	4 18.9	20.1
460686	2014	UC ₁₈₂	17.0	X	82.85048	225.00055	150.33998	2.59233	0.1000525	0.20529986	2.8458387	20	—	—
460687	2014	UL ₁₈₂	17.6	X	297.87973	181.51309	100.91401	3.43953	0.2140525	0.27235749	2.3570918	20	3 17.4	20.6
460688	2014	UX ₁₈₅	16.4	X	112.98727	354.87018	289.39033	8.26837	0.0626818	0.18117241	3.0932001	20	12 7.0	21.0
460689	2014	UB ₁₈₇	16.2	X	267.86137	93.37246	29.85288	9.86107	0.0565413	0.16922600	3.2366040	20	11 14.3	20.8
460690	2014	UA ₁₈₈	17.4	X	87.39387	310.79356	34.30018	2.53546	0.1081578	0.19577533	2.9374067	20	—	—
460691	2014	UV ₁₈₉	17.4	X	124.34041	129.78827	286.05198	1.38021	0.1712251	0.23160919	2.6260250	20	1 31.3	21.2
460692	2014	UJ ₁₉₁	16.9	X	158.38216	111.35540	213.97274	12.15745	0.1764905	0.21969817	2.7201014	20	1 5.3	21.4
460693	2014	UV ₁₉₅	17.2	X	137.22940	130.96263	222.97876	12.06506	0.1595643	0.23017039	2.6369335	20	1 14.6	21.3
460694	2014	UY ₁₉₅	16.6	X	61.49020	28.52696	13.34825	6.54881	0.0535835	0.21109735	2.7934926	20	—	—
460695	2014	UL ₁₉₇	17.2	X	152.89279	288.95239	62.29768	12.32012	0.1431419	0.23300118	2.6155557	20	1 31.7	21.3
460696	2014	UY ₁₉₉	15.7	X	184.59157	329.95408	284.65930	14.02567	0.1104875	0.20319338	2.8654732	20	—	—
460697	2014	UB ₂₀₀	17.1	X	69.01177	257.84895	100.91021	4.00056	0.1085417	0.19366827	2.9586737	20	—	—
460698	2014	UZ ₂₀₀	16.8	X	59.84033	326.73373	41.22810	2.58566	0.1806099	0.19255327	2.9700844	20	—	—
460699	2014	UP ₂₀₂	16.3	X	354.62110	36.32069	19.50900	9.27584	0.1206457	0.18244959	3.0787478	20	12 29.9	20.2
460700	2014	UW ₂₀₅	16.1	X	33.50053	107.40266	261.36484	15.86681	0.1914702	0.17616410	3.1515517	20	—	—
460701	2014	UK ₂₀₈	16.4	X	21.85477	278.88436	119.21038	10.51852	0.2440126	0.18703070	3.0282667	20	—	—
460702	2014	UQ ₂₀₉	16.2	X	321.66261	119.43010	285.12962	8.81732	0.1277700	0.15787062	3.3905372	20	10 11.9	20.5
460703	2014	UK ₂₁₄	15.6	X	12.01190	258.29795	131.79821	13.04662	0.1320560	0.18093955	3.0958533	20	12 24.7	19.7
460704	2014	UF ₂₁₅	15.9	X	335.42678	321.12210	112.61811	11.21711	0.1201220	0.17813983	3.1282061	20	12 20.9	19.7
460705	2014	UG ₂₁₆	15.6	X	337.18794	322.09355	114.90808	16.27250	0.0507029	0.17871389	3.1215036	20	12 25.2	19.9
460706	2014	UO ₂₁₆	16.7	X	156.60311	100.12065	241.48152	10.59470	0.1959463	0.23075151	2.6325281	20	1 22.1	21.0
460707	2014	US ₂₁₆	16.3	X	24.26196	272.52283	171.67956	15.06586	0.1326000	0.20520689	2.8466982	20	—	—
460708	2014	UN ₂₁₇	16.9	X	133.52649	91.46826	263.90886	5.10126	0.2142357	0.22779022	2.6552943	20	1 21.1	21.0
460709	2014	UX ₂₁₈	15.8	X	322.97304	89.40590	350.60180	21.09386	0.2896292	0.17162375	3.2068930	20	11 24.5	19.2
460710	2014	UY ₂₂₀	17.0	X	99.00075	49.54162	359.58262	14.79363	0.1					

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460721 2014 VG ₇	17.1	X	261.10740	64.96944	281.93740	1.54133	0.1923059	0.28142160	2.3062042	20	4 29.7	20.4
460722 2014 VJ ₈	16.8	X	136.50065	275.97795	85.76851	7.34439	0.0506688	0.21709530	2.7418000	20	1 15.5	20.6
460723 2014 VN ₈	16.5	X	192.38697	100.64981	219.74052	5.40822	0.0386066	0.22326797	2.6910293	20	1 25.1	20.4
460724 2014 VJ ₉	16.4	X	23.35792	298.21460	116.63448	2.80857	0.0845297	0.18506567	3.0496650	20	—	—
460725 2014 VQ ₁₀	16.9	X	169.46311	191.24899	140.94750	13.98792	0.1820798	0.23143187	2.6273662	20	1 23.7	21.1
460726 2014 VS ₁₁	17.0	X	321.67828	246.77369	56.45416	6.92949	0.1225598	0.28267496	2.2993822	20	6 8.0	19.2
460727 2014 VX ₁₁	17.0	X	224.18676	43.18128	281.81762	5.22816	0.1142637	0.26325651	2.4111078	20	2 28.4	20.7
460728 2014 VM ₁₂	17.3	X	313.58733	94.96470	171.63262	1.47625	0.1675147	0.26702020	2.3883977	20	3 23.9	19.8
460729 2014 VU ₁₂	15.7	X	323.58461	16.05715	55.74570	28.81674	0.1679057	0.17197737	3.2024954	20	11 23.7	19.3
460730 2014 VC ₁₃	15.9	X	316.97634	33.18087	58.30950	29.44330	0.2034751	0.17357031	3.1828713	20	12 4.1	19.4
460731 2014 VG ₁₃	16.6	X	117.19649	265.54341	75.03434	3.35118	0.0611289	0.20113492	2.8849905	20	—	—
460732 2014 VS ₁₄	17.2	X	124.23874	59.21645	64.73131	7.01606	0.0544744	0.26932387	2.3747587	20	6 4.5	20.2
460733 2014 VB ₁₆	17.2	X	116.04009	341.20010	16.05999	1.04964	0.1317800	0.21197598	2.7857680	20	—	—
460734 2014 VV ₁₆	16.3	X	0.66110	50.35081	20.16110	9.13522	0.0812061	0.19176278	2.9782410	20	—	—
460735 2014 VF ₁₇	15.7	X	304.13316	68.18495	37.87629	17.40391	0.1194938	0.17625867	3.1504244	20	12 7.1	19.7
460736 2014 VJ ₁₇	16.7	X	17.33105	326.64534	64.81112	9.65834	0.1998721	0.18302385	3.0723045	20	—	—
460737 2014 VT ₁₈	16.7	X	54.07004	6.36812	35.66040	5.53526	0.0605385	0.21166550	2.7884915	20	—	—
460738 2014 VB ₁₉	16.9	X	88.83686	336.57793	27.72472	4.55296	0.1143030	0.21235453	2.7824563	20	—	—
460739 2014 VD ₁₉	16.0	X	312.21902	148.49284	302.29786	4.28410	0.1385495	0.17524737	3.1625328	20	12 1.9	19.7
460740 2014 VL ₁₉	17.1	X	166.49369	242.85471	135.78099	6.69341	0.1046096	0.24662475	2.5183241	20	3 13.5	20.8
460741 2014 VK ₂₀	16.6	X	321.99500	236.50603	246.76109	3.33461	0.1338223	0.18345962	3.0674375	20	—	—
460742 2014 VP ₂₀	16.9	X	7.65306	0.00276	71.71854	1.65644	0.0602321	0.18620475	3.0372151	20	—	—
460743 2014 VZ ₂₀	16.0	X	278.02240	90.04769	64.37582	11.09467	0.0570631	0.18057480	3.1000209	20	—	—
460744 2014 VB ₂₂	15.6	X	183.17724	158.83457	69.75351	19.92414	0.1023286	0.17124028	3.2116787	20	12 9.6	20.5
460745 2014 VP ₂₂	16.8	X	86.17652	197.08853	219.30377	4.95330	0.0504447	0.21804006	2.7338742	20	1 18.4	20.5
460746 2014 VP ₂₃	16.3	X	266.78316	317.94944	240.60311	10.18577	0.1370154	0.19210293	2.9747243	20	—	—
460747 2014 VJ ₂₄	15.6	X	144.10033	197.23916	78.46540	17.81353	0.0415999	0.17660264	3.1463323	20	12 27.9	20.3
460748 2014 VN ₂₅	15.8	X	135.46485	41.62731	247.01705	9.75476	0.0684282	0.17905902	3.1174912	20	—	—
460749 2014 VV ₂₅	16.1	X	42.07113	118.53873	248.35795	14.93460	0.2492315	0.18106698	3.0944006	20	—	—
460750 2014 VJ ₂₆	16.6	X	310.84171	116.15129	37.97193	16.17173	0.1131436	0.20957571	2.8069978	20	—	—
460751 2014 VQ ₂₆	17.0	X	118.82624	92.71142	266.86660	3.93515	0.1732372	0.21518549	2.7579987	20	1 7.9	20.9
460752 2014 VL ₂₇	16.7	X	121.87777	304.67401	63.21009	6.15960	0.1037665	0.21407473	2.7675307	20	1 13.5	20.5
460753 2014 VQ ₂₇	16.5	X	350.08847	106.18561	303.93740	8.25111	0.0776717	0.17875065	3.1210756	20	12 10.6	20.6
460754 2014 VF ₂₈	16.3	X	48.46005	104.71455	235.59142	13.02368	0.2201793	0.17348299	3.1839394	20	12 20.2	21.0
460755 2014 VU ₂₈	16.0	X	50.50421	99.44506	243.77969	14.82979	0.2140518	0.17672062	3.1449319	20	12 25.2	20.7
460756 2014 VK ₂₉	16.7	X	87.64572	107.25918	253.38074	4.95942	0.0968268	0.19599504	2.9352110	20	—	—
460757 2014 VY ₂₉	17.1	X	144.23103	263.93570	55.36787	2.81491	0.0577075	0.20310238	2.8663290	20	—	—
460758 2014 VJ ₃₀	16.8	X	115.78918	286.22493	60.27780	2.90240	0.0755412	0.20264619	2.8706291	20	—	—
460759 2014 VD ₃₁	17.0	X	133.68590	250.68592	82.39779	7.03051	0.0627696	0.20256002	2.8714432	20	—	—
460760 2014 VH ₃₂	17.2	X	219.01252	198.71205	126.81607	2.85862	0.1460859	0.24640311	2.5198340	20	2 27.6	21.2
460761 2014 VK ₃₃	16.0	X	86.10749	51.52464	267.96541	12.50905	0.0712421	0.16967030	3.2314604	20	12 18.3	20.6
460762 2014 VQ ₃₃	16.6	X	255.61428	15.82541	230.85232	4.31651	0.0155328	0.22297317	2.6934007	20	1 9.9	20.4
460763 2014 VW ₃₄	16.8	X	298.27208	267.89656	230.03330	7.92632	0.0210465	0.18824095	3.0152731	20	—	—
460764 2014 VT ₃₆	16.1	X	40.71975	130.96846	223.43004	9.92747	0.1565580	0.17706487	3.1408542	20	12 20.5	20.5
460765 2014 VA ₃₇	16.5	X	124.48954	239.26470	58.07902	10.97582	0.0590507	0.18652747	3.0337108	20	—	—
460766 2014 WC ₂	16.7	X	304.72505	249.45751	210.20024	7.85741	0.0449173	0.17174789	3.2053474	20	12 7.3	21.0
460767 2014 WZ ₂	15.9	X	2.45523	347.65903	78.50295	11.23687	0.0636014	0.18488959	3.0516010	20	—	—
460768 2014 WH ₃	16.2	X	6.06558	283.02086	131.59978	5.55338	0.1421930	0.18150840	3.0893817	20	—	—
460769 2014 WK ₃	16.3	X	73.87669	248.73956	85.09779	10.89644	0.2625231	0.18864860	3.0109277	20	—	—
460770 2014 WH ₄	15.8	X	359.16510	151.46172	269.34390	8.12682	0.0726697	0.17501346	3.1653501	20	—	—
460771 2014 WW ₇	15.7	X	0.99877	11.92888	50.68720	11.60582	0.0167365	0.18564643	3.0433015	20	—	—
460772 2014 WY ₇	16.4	X	125.59472	33.80375	39.37876	15.52136	0.0158120	0.22663344	2.6643221	20	1 17.4	20.3
460773 2014 WR ₁₀	16.9	X	67.94251	99.68191	241.34431	1.97203	0.0981849	0.18534882	3.0465584	20	12 30.2	21.3
460774 2014 WX ₁₀	16.4	X	344.90124	204.24174	227.35779	8.51307	0.1049402	0.18150184	3.0894561	20	12 31.7	20.3
460775 2014 WB ₁₁	16.8	X	109.21461	321.52858	359.35336	1.59403	0.1192800	0.19519821	2.9431936	20	—	—
460776 2014 WJ ₁₃	16.4	X	329.02764	199.70985	232.60093	8.20437	0.0882628	0.17363939	3.1820271	20	12 6.8	20.5
460777 2014 WM ₁₆	16.1	X	171.32963	250.21158	344.90878	2.55527	0.1337104	0.17722227	3.1389942	20	12 6.0	21.2
460778 2014 WR ₁₇	16.3	X	254.23376	281.43037	269.81943	3.10588	0.0751684	0.18393632	3.0621353	20	—	—
460779 2014 WM ₁₈	16.2	X	359.69815	242.69367	255.93293	11.73570	0.0648772	0.21083708	2.7957911	20	1 2.9	19.7
460780 2014 WP ₁₈	15.8	X	21.92154	321.57071	69.63236	16.76194	0.0638483	0.17232473	3.1981904	20	12 26.6	20.3
460781 2014 WY ₁₈	16.4	X	23.01757	86.70903	64.09686	14.17858	0.0671134	0.22680730	2.6629603	20	2 28.4	19.9
460782 2014 WR ₁₉	16.6	X	30.22265	132.82457	248.98276	15.95397	0.2242788	0.18084240	3.0969620	20	—	—
460783 2014 WH ₂₀	16.3	X	181.05553	2.88439	241.40968	9.04059	0.0599701	0.18543103	3.0456578	20	12 31.6	20.9
460784 2014 WT ₂₂	16.2	X	291.54839	260.28286	235.19071	10.72220	0.1467133	0.17753511	3.1353056	20	12 24.5	20.1
460785 2014 WF ₂₅	17.0	X	185.73720	222.21069	66.06299	1.30032	0.0363698	0.20873464	2.8145331	20	—	—
460786 2014 WS ₂₆	13.9	X	284.76383	53.99519	239.21975	12.70849	0.0846982	0.08427992	5.1521279	20	4 11.6	20.7
460787 2014 WW ₂₇	17.3	X	90.62005	18.96207	47.74202	2.50343	0.0621711	0.22691759	2.6620974	20	2 8.9	20.8
460788 2014 WD ₃₀	16.9	X	163.98140	307.71214	86.83699	7.25749	0.1055518	0.25396277	2.4695776	20	4 1.8	20.6
460789 2014 WD ₃₁	17.6	X	23.83468	217.70763	356.68092	5.67569	0.0414815	0.27457589	2.3443788	20	5 14.7	20.3
460790 2014 WH ₃₂	13.6	X	109.41616	197.91566	266.12712	12.69474	0.0136616	0.08478247	5.1317480	20	4 17.8	20.6
460791 2014 WH ₃₅	16.1	X	29.55409	87.13089	261.47330	9.94171	0.0813548	0.16847408	3.2467386	20	11 16.5	20.6
460792 2014 WQ ₃₆	16.7	X	227.45637	182.05534	20.74804	5.54793	0.0841902	0.18761755	3.0219487	20	—	—
460793 2014 WZ ₃₆	17.0	X	202.10132	320.51041	329.18607	2.80798	0.1668781	0.22853194	2.6495459	20	1 2.4	21.2
460794 2014 WK ₃₇	16.8	X	18.20040	246.68234	247.06923	8.39520	0.1091655	0.22295377	2.6935570	20	1 18.6	20.0
460795 2014 WZ												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
460801	2014	WJ ₄₇	16.6	X	229.21999	20.09974	225.49883	8.55259	0.0792847	0.20466355	2.8517342	20	—	—
460802	2014	WO ₄₇	16.2	X	353.36754	346.97102	68.88955	11.80593	0.1096430	0.17295919	3.1903644	20	12 23.1	20.2
460803	2014	WR ₄₇	17.3	X	145.38908	271.74770	129.48130	2.20212	0.0393981	0.24099558	2.5573882	20	3 11.8	20.8
460804	2014	WW ₄₇	16.9	X	149.46350	125.56951	207.09186	5.57012	0.0557365	0.21203650	2.7852379	20	—	—
460805	2014	WK ₄₉	16.9	X	166.50353	191.63559	106.10944	3.66129	0.0849228	0.20287442	2.8684758	20	—	—
460806	2014	WY ₄₉	16.4	X	345.00629	357.47600	78.74475	11.91586	0.2065283	0.17543532	3.1602737	20	—	—
460807	2014	WM ₅₀	16.5	X	93.48035	226.78287	96.95688	4.18239	0.1526219	0.18389039	3.0626452	20	—	—
460808	2014	WP ₅₁	17.0	X	136.33650	85.02673	253.70905	5.83708	0.1158095	0.21054888	2.7983418	20	—	—
460809	2014	WQ ₅₁	16.6	X	279.73900	184.11897	11.47856	1.96122	0.0435804	0.20191352	2.8775692	20	—	—
460810	2014	WV ₅₁	17.2	X	72.77681	19.87545	40.35933	6.12198	0.0682923	0.21284710	2.7781620	20	1 10.3	20.8
460811	2014	WV ₅₁	17.2	X	17.52777	266.82547	277.46836	2.70645	0.1588839	0.23841234	2.5758282	20	3 26.2	19.6
460812	2014	WZ ₅₁	16.2	X	237.27104	251.13989	338.44237	1.57919	0.0404255	0.19855023	2.9099741	20	—	—
460813	2014	WK ₅₂	16.6	X	60.97300	321.23663	36.41422	3.94270	0.1609439	0.18330567	3.0691547	20	—	—
460814	2014	WQ ₅₃	17.0	X	174.11434	209.27176	105.27199	1.71304	0.0590615	0.21323725	2.7747722	20	1 1.8	21.1
460815	2014	WN ₅₃	16.4	X	280.16716	82.05085	77.83428	4.65016	0.0819131	0.18063524	3.0993294	20	—	—
460816	2014	WS ₅₃	16.6	X	122.90479	71.48977	220.77724	3.63189	0.0123200	0.17340794	3.1848580	20	12 22.9	21.2
460817	2014	WM ₅₃	16.6	X	9.22929	316.91162	99.00365	2.47351	0.1854562	0.18005992	3.1059277	20	—	—
460818	2014	WQ ₅₅	15.6	X	199.33908	352.39199	248.25437	7.98757	0.1121892	0.18219487	3.0816167	20	—	—
460819	2014	WT ₅₅	17.0	X	135.92202	139.00711	206.02168	2.76625	0.2042335	0.21701668	2.7424622	20	1 11.8	21.3
460820	2014	WP ₅₈	16.7	X	60.11149	8.39405	60.72663	5.24955	0.0516871	0.21046003	2.7991293	20	1 2.1	20.2
460821	2014	WJ ₆₀	17.0	X	357.05896	266.53786	160.13306	5.32129	0.1254678	0.18179333	3.0861528	20	—	—
460822	2014	WR ₆₁	17.3	X	14.25287	155.93669	89.59265	6.91173	0.0949463	0.28265454	2.2994929	20	6 21.2	19.2
460823	2014	WM ₆₁	16.2	X	222.73563	167.76877	73.25492	18.92312	0.0775720	0.20224931	2.8743834	20	—	—
460824	2014	WQ ₆₃	16.8	X	124.97540	149.63716	192.76843	4.12772	0.0784169	0.21252139	2.7809997	20	—	—
460825	2014	WY ₆₃	17.0	X	189.09136	154.78279	145.25467	3.62414	0.1059271	0.22735137	2.6587102	20	—	—
460826	2014	WA ₆₄	17.2	X	151.81076	124.28612	186.60648	5.17814	0.0560190	0.21129735	2.7917296	20	—	—
460827	2014	WB ₆₄	17.0	X	306.64585	154.81333	58.01718	10.25115	0.0854728	0.23547797	2.5971828	20	1 21.5	20.6
460828	2014	WS ₆₄	17.5	X	343.45345	311.41091	106.00350	2.81520	0.1612765	0.17434268	3.1734639	20	12 14.1	21.1
460829	2014	WE ₆₅	17.4	X	191.06405	268.78485	54.80548	7.08044	0.1678551	0.23944121	2.5684412	20	2 2.7	21.6
460830	2014	WP ₆₅	17.2	X	146.20376	225.30556	107.13988	1.97810	0.0943641	0.21796324	2.7345165	20	—	—
460831	2014	WA ₆₈	17.3	X	126.46410	302.05882	109.08299	2.18440	0.0378274	0.23844137	2.5756191	20	3 1.2	20.8
460832	2014	WC ₆₈	17.3	X	35.54971	87.16173	8.04335	4.86935	0.1739623	0.21679211	2.7443557	20	—	—
460833	2014	WD ₆₉	17.2	X	352.83993	92.92309	335.14765	5.02600	0.1582641	0.18069491	3.0986470	20	—	—
460834	2014	WO ₇₂	16.9	X	104.37747	10.74138	355.94064	4.22557	0.1069413	0.20588261	2.8404660	20	—	—
460835	2014	WR ₇₂	17.2	X	357.58220	217.31821	209.87207	9.61142	0.0982931	0.19189182	2.9769056	20	—	—
460836	2014	WT ₇₃	15.9	X	99.34965	285.68253	48.01220	8.97362	0.1249102	0.18712861	3.0272103	20	—	—
460837	2014	WM ₈₁	17.4	X	357.56587	168.26564	86.82185	7.44499	0.1026906	0.27862624	2.3216034	20	6 4.3	19.4
460838	2014	WA ₈₂	16.7	X	61.06300	257.24103	86.64278	7.69077	0.1136012	0.18019796	3.1043414	20	12 26.8	21.3
460839	2014	WM ₈₂	16.6	X	322.40839	54.02161	70.64482	11.26185	0.0665703	0.19142980	2.9816937	20	—	—
460840	2014	WV ₈₃	17.7	X	281.99592	160.00784	127.50259	3.31245	0.1727217	0.26454525	2.4032710	20	3 10.8	21.1
460841	2014	WJ ₈₆	16.7	X	249.73439	3.75178	141.25731	3.06587	0.0182805	0.16875111	3.2431842	20	—	—
460842	2014	WF ₈₇	16.6	X	84.53730	277.78161	81.82961	4.73521	0.1240129	0.19960504	2.8997133	20	11 25.5	21.3
460843	2014	WB ₈₈	16.8	X	25.53727	353.67306	68.56356	10.79790	0.0567197	0.19595404	2.9356205	20	—	—
460844	2014	WA ₉₀	16.8	X	1.97993	305.08404	155.37940	2.48024	0.0264638	0.20284080	2.8687927	20	—	—
460845	2014	WV ₉₁	16.7	X	262.39939	283.52343	223.95127	17.04744	0.0833616	0.16976754	3.2302263	20	12 4.6	21.3
460846	2014	WH ₉₉	18.0	X	315.63087	170.42192	131.07282	3.81358	0.2021761	0.29115274	2.2545271	20	5 12.8	19.9
460847	2014	WZ ₁₀₀	16.2	X	275.78822	83.51903	77.15327	16.89946	0.1706633	0.17892516	3.1190460	20	12 29.2	20.1
460848	2014	WT ₁₀₁	17.4	X	277.65321	135.86097	123.16606	5.69441	0.1644716	0.24286048	2.5442795	20	2 1.4	20.9
460849	2014	WA ₁₀₃	15.9	X	214.90232	148.75912	49.45784	12.32344	0.0193831	0.18181112	3.0859514	20	12 18.6	20.3
460850	2014	WS ₁₀₃	16.5	X	11.59346	191.17809	223.27506	10.48413	0.0112936	0.18772976	3.0207443	20	—	—
460851	2014	WN ₁₀₅	16.9	X	320.38979	266.98449	187.04431	11.38058	0.0532816	0.18365746	3.0652343	20	12 23.6	21.2
460852	2014	WY ₁₀₅	17.2	X	165.93283	161.61013	148.44692	3.62689	0.1101062	0.2228525	2.6989548	20	—	—
460853	2014	WP ₁₀₆	17.3	X	143.42512	256.95832	93.42017	6.00752	0.0598502	0.22739766	2.6583493	20	1 8.7	21.0
460854	2014	WQ ₁₀₆	16.9	X	37.18354	284.61198	76.83636	10.69409	0.0973456	0.17929145	3.1147964	20	12 17.1	21.0
460855	2014	WS ₁₀₈	16.7	X	105.08949	179.67239	190.18839	5.61885	0.0967976	0.21317001	2.7753557	20	—	—
460856	2014	WP ₁₀₉	16.9	X	206.48743	158.16392	132.43532	6.18657	0.0151836	0.21900101	2.7258711	20	1 6.3	20.7
460857	2014	WS ₁₀₉	15.6	X	54.22152	107.31982	225.87664	15.73106	0.1118294	0.16886364	3.2417433	20	12 3.8	20.3
460858	2014	WV ₁₁₂	16.1	X	183.42152	70.45976	268.46858	11.88795	0.2055488	0.24393003	2.5368369	20	2 8.5	20.6
460859	2014	WP ₁₁₉	16.2	X	249.72083	142.85428	43.20133	9.54286	0.0139049	0.18029418	3.1032367	20	—	—
460860	2014	WD ₁₂₁	17.5	X	231.29910	145.17272	215.95608	5.01082	0.0583984	0.27211951	2.3584658	20	4 29.9	20.7
460861	2014	WH ₁₂₂	15.7	X	224.80585	192.67117	25.83096	10.19137	0.0441009	0.18833726	3.0142451	20	—	—
460862	2014	WX ₁₂₆	17.8	X	301.39399	273.53669	14.73589	3.43232	0.2050566	0.26813275	2.3817864	20	3 30.1	20.8
460863	2014	WY ₁₂₆	16.0	X	119.53956	251.06506	39.03568	5.92724	0.0430741	0.17138805	3.2098324	20	12 17.6	20.7
460864	2014	WH ₁₂₇	16.6	X	297.44639	178.23656	317.76552	5.70476	0.1662573	0.17321331	3.1872432	20	—	—
460865	2014	WL ₁₂₇	16.1	X	96.50045	318.08778	346.23672	4.39974	0.1412498	0.17277169	3.1926721	20	12 18.1	21.1
460866	2014	WS ₁₂₈	17.1	X	132.26729	63.81599	296.94823	4.79529	0.0264645	0.21312585	2.7757390	20	1 6.2	20.8
460867	2014	WD ₁₃₂	16.9	X	43.88423	194.54016	252.18262	5.53508	0.0138282	0.21176643	2.7876054	20	—	—
460868	2014	WQ ₁₃₂	16.5	X	324.31395	55.33070	62.19098	5.93957	0.1360410	0.18178622	3.0862333	20	—	—
460869	2014	WD ₁₃₆	16.7	X	73.24691	126.34855	238.32078	8.16344	0.0927173	0.18990552	2.9976274	20	—	—
460870	2014	WP ₁₃₆	17.4	X	179.96531	291.10615	72.75031	0.57870	0.0373543	0.24002932	2.5642470	20	3 5.1	20.8
460871	2014	WT ₁₃₆	16.1	X	290.32096	77								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
460881 2014 WB ₁₅₁	16.8 ^m	X	344.66020	16.55821	61.15523	12.25440	0.0208129	0.18723596	3.0260531	20	—	—
460882 2014 WJ ₁₅₄	17.2	X	27.70052	206.70231	210.54555	2.21031	0.0821938	0.19562572	2.9389041	20	—	—
460883 2014 WV ₁₅₄	17.3	X	143.34776	155.34092	190.64163	1.84752	0.0205684	0.21856759	2.7294735	20	—	—
460884 2014 WN ₁₆₀	16.4	X	288.49514	61.56293	88.51940	15.03297	0.1905404	0.17716354	3.1396879	20	—	—
460885 2014 WS ₁₆₀	17.0	X	196.93381	136.50233	149.76631	4.92264	0.0243400	0.21549176	2.7553849	20	—	—
460886 2014 WQ ₁₆₂	15.9	X	290.72391	268.31983	256.53582	10.14196	0.1184110	0.18993778	2.9972880	20	—	—
460887 2014 WE ₁₆₃	16.1	X	86.15622	291.73004	45.91969	12.54382	0.1558240	0.18969010	2.9998966	20	—	—
460888 2014 WU ₁₆₃	17.4	X	123.97360	123.63257	238.91342	4.54321	0.1130868	0.22413181	2.6841105	20	1 7.6	21.1
460889 2014 WL ₁₆₄	17.6	X	190.17174	13.80432	53.14469	6.79462	0.0978853	0.28770042	2.2725270	20	6 7.2	20.8
460890 2014 WP ₁₆₄	16.6	X	48.43589	151.75292	273.74139	6.19268	0.1211547	0.20498164	2.8487833	20	—	—
460891 2014 WY ₁₆₅	16.6	X	77.92798	133.38130	210.71512	10.62837	0.0810017	0.19254122	2.9702083	20	—	—
460892 2014 WF ₁₆₈	16.8	X	262.19811	310.22261	191.12995	9.89786	0.0370133	0.17328131	3.1864093	20	12 4.9	21.4
460893 2014 WN ₁₆₉	16.2	X	314.70668	74.00868	42.61861	9.03223	0.0886085	0.20034662	2.8925533	20	—	—
460894 2014 WV ₁₆₉	17.2	X	306.26446	187.75602	106.17263	7.92601	0.1254109	0.28908430	2.2652686	20	4 30.6	19.8
460895 2014 WC ₁₇₀	15.8	X	292.91830	30.31875	76.56722	10.14030	0.0893822	0.18077164	3.0977701	20	11 28.9	19.7
460896 2014 WS ₁₇₉	15.7	X	56.08475	247.75561	68.49111	11.08309	0.0995470	0.17308217	3.1888529	20	11 16.3	20.3
460897 2014 WL ₁₈₀	16.6	X	101.09349	206.35967	150.69817	6.68253	0.0764977	0.21246629	2.7814806	20	—	—
460898 2014 WE ₁₈₁	16.9	X	104.02408	313.23691	62.10310	6.97683	0.0493241	0.22127952	2.7071266	20	—	—
460899 2014 WV ₁₈₁	17.2	X	105.89143	345.80027	66.74691	5.71790	0.0452070	0.23916855	2.5703958	20	2 7.7	20.6
460900 2014 WE ₁₈₃	17.0	X	84.31067	349.67846	107.85697	6.23818	0.0979987	0.24521446	2.5279705	20	3 16.9	20.1
460901 2014 WM ₁₈₈	16.5	X	152.73453	206.50530	110.05795	10.17321	0.2001124	0.21580835	2.7526895	20	—	—
460902 2014 WP ₁₈₈	16.8	X	24.46309	51.28333	110.24469	9.33605	0.1176768	0.23501296	2.6006077	20	3 12.4	19.7
460903 2014 WO ₁₉₃	16.5	X	221.03322	349.25681	298.40740	5.10176	0.2465657	0.22977081	2.6400135	20	1 14.7	21.0
460904 2014 WX ₁₉₅	16.7	X	323.66062	95.96035	0.87178	9.59797	0.0659646	0.17718245	3.1394645	20	12 30.9	20.9
460905 2014 WK ₁₉₆	15.6	X	82.90070	48.28127	271.24653	16.17967	0.0325811	0.17245753	3.1965483	20	12 11.3	20.2
460906 2014 WX ₁₉₈	16.0	X	239.49589	7.98610	160.66240	10.79187	0.0532952	0.16996784	3.2276880	20	12 7.6	20.7
460907 2014 WD ₁₉₉	16.5	X	80.70249	170.11757	165.68295	10.23786	0.0013351	0.17687973	3.1430456	20	12 25.1	21.1
460908 2014 WZ ₁₉₉	15.8	X	17.30334	20.91160	30.53065	16.76972	0.1233377	0.17246031	3.1965139	20	—	—
460909 2014 WM ₂₀₆	16.0	X	308.08792	235.52976	276.58466	8.65338	0.0576103	0.18996631	2.9969879	20	—	—
460910 2014 WX ₂₁₂	16.9	X	31.54631	179.23726	257.52217	4.69943	0.0359874	0.20253297	2.8719689	20	—	—
460911 2014 WX ₂₁₃	17.0	X	169.21131	128.75150	229.44695	4.86627	0.0980560	0.25526016	2.4612026	20	2 14.3	20.6
460912 2014 WL ₂₁₄	15.8	X	297.22250	52.99322	91.36850	9.59820	0.0931580	0.19029022	2.9935860	20	—	—
460913 2014 WM ₂₁₄	17.4	X	254.08821	233.69417	97.59693	7.77808	0.0635893	0.27487755	2.3426633	20	4 9.4	20.9
460914 2014 WP ₂₁₄	16.7	X	221.04706	195.75591	97.17414	7.62945	0.1028248	0.23705659	2.5856399	20	1 22.8	20.5
460915 2014 WE ₂₁₆	15.8	X	69.61945	229.38818	108.46562	9.73344	0.1444328	0.18685858	3.0301260	20	—	—
460916 2014 WX ₂₁₆	16.0	X	52.79720	272.61396	87.10986	15.91667	0.0639512	0.17850737	3.1239108	20	12 28.9	20.3
460917 2014 WQ ₂₁₉	17.0	X	157.37847	313.45784	6.40081	4.10776	0.0608535	0.21327341	2.7744586	20	—	—
460918 2014 WS ₂₁₉	16.2	X	112.36195	56.56780	248.69610	15.39167	0.0628236	0.18391933	3.0623239	20	12 30.1	20.9
460919 2014 WB ₂₂₀	16.6	X	133.44060	93.07582	278.63506	4.69866	0.0399181	0.22441815	2.6818268	20	1 20.5	20.3
460920 2014 WN ₂₂₀	16.8	X	153.66328	79.15441	259.17425	4.08679	0.0615309	0.21970032	2.7200836	20	1 6.7	20.6
460921 2014 WQ ₂₂₁	15.7	X	114.34234	271.31258	48.95348	10.19496	0.0265945	0.18972859	2.9994907	20	—	—
460922 2014 WB ₂₂₄	16.9	X	108.70617	97.34432	255.88720	1.11488	0.0738934	0.20327859	2.8646724	20	—	—
460923 2014 WD ₂₂₄	16.3	X	53.64554	125.62413	239.70094	8.21983	0.1581422	0.18537912	3.0462264	20	—	—
460924 2014 WO ₂₂₅	16.2	X	255.76374	240.57765	290.16585	1.88290	0.0868979	0.17638142	3.1489625	20	12 25.4	20.6
460925 2014 WO ₂₂₆	16.8	X	346.41336	199.54944	269.09369	3.93955	0.1537440	0.18999440	2.9966925	20	—	—
460926 2014 WY ₂₂₆	15.7	X	193.99284	321.00536	254.81766	9.62769	0.0364981	0.17283490	3.1918937	20	12 12.4	20.3
460927 2014 WY ₂₂₈	16.9	X	66.73209	9.10408	2.45013	1.49724	0.0414309	0.19024133	2.9940989	20	—	—
460928 2014 WM ₂₃₀	16.4	X	78.28318	289.68413	41.67467	9.96087	0.0921858	0.18011561	3.1052874	20	12 28.2	21.1
460929 2014 WO ₂₃₀	16.1	X	341.89435	181.55733	252.70996	10.62450	0.0780082	0.17666870	3.1455479	20	12 27.6	20.1
460930 2014 WJ ₂₃₁	17.1	X	212.92298	358.01704	331.39988	2.90563	0.1359469	0.24286304	2.5442616	20	2 26.4	21.1
460931 2014 WA ₂₃₂	16.3	X	95.18014	332.58664	43.70219	16.13863	0.1843079	0.21199314	2.7856177	20	1 1.3	20.1
460932 2014 WV ₂₃₂	16.8	X	102.74862	288.11046	90.43288	6.11156	0.0936424	0.21078027	2.7962934	20	1 1.3	20.6
460933 2014 WG ₂₃₄	16.4	X	119.31841	89.89039	291.66219	5.14533	0.0318874	0.21600866	2.7509874	20	1 16.1	20.1
460934 2014 WM ₂₃₄	17.0	X	290.49659	172.26256	41.71326	3.15513	0.0094340	0.21459931	2.7630187	20	1 15.6	20.7
460935 2014 WP ₂₃₇	16.4	X	320.57563	92.55735	304.46859	9.83219	0.1438881	0.16130118	3.3422918	20	9 29.2	20.6
460936 2014 WS ₂₃₉	17.2	X	223.45788	197.16526	99.47204	3.62396	0.0484176	0.23096812	2.6308819	20	2 1.2	20.8
460937 2014 WV ₂₄₁	16.5	X	333.16926	114.39322	348.90478	4.23654	0.1394202	0.17848691	3.1241495	20	—	—
460938 2014 WT ₂₄₉	16.5	X	79.85834	241.95091	121.26779	7.71367	0.0785073	0.20840235	2.8175241	20	—	—
460939 2014 WU ₂₅₂	17.0	X	117.13979	252.81625	120.62482	7.02325	0.0616149	0.22316821	2.6918313	20	1 6.2	20.6
460940 2014 WB ₂₅₄	16.1	X	102.76296	214.91540	100.29608	11.26046	0.0566024	0.18126710	3.0921228	20	—	—
460941 2014 WS ₂₅₄	16.6	X	42.62974	284.62400	111.85095	10.13989	0.0342615	0.18902774	3.0069003	20	—	—
460942 2014 WM ₂₅₈	16.8	X	254.83429	41.97474	189.65454	4.73261	0.0968580	0.20931467	2.8093312	20	—	—
460943 2014 WA ₂₅₉	16.5	X	316.50760	264.09682	210.12868	8.89455	0.0653962	0.17974503	3.1095541	20	—	—
460944 2014 WV ₂₅₉	16.7	X	88.15202	333.14455	82.62893	12.60337	0.0946230	0.21973775	2.7197747	20	1 29.5	20.3
460945 2014 WX ₂₅₉	16.5	X	100.29568	172.91996	141.93570	4.18353	0.0137430	0.17554754	3.1589267	20	12 24.3	21.1
460946 2014 WB ₂₆₁	17.1	X	164.57936	243.83423	99.62769	7.10972	0.0550326	0.22369760	2.6875827	20	1 25.2	20.9
460947 2014 WK ₂₆₂	16.4	X	251.68439	328.41453	199.88373	9.38777	0.0505543	0.17429757	3.1740115	20	12 21.5	20.9
460948 2014 WR ₂₆₂	16.9	X	295.24354	338.75214	171.46436	6.91587	0.0760426	0.18536519	3.0463790	20	—	—
460949 2014 WG ₂₆₆	16.9	X	346.11134	334.88066	190.34286	9.01188	0.1320027	0.21431733	2.7654418	20	1 8.7	20.4
460950 2014 WV ₂₆₇	15.5	X	247.78816	272.43160	203.25640	9.64626	0.0460552	0.14683675	3.5583298	20	10 10.5	20.5
460951 2014 WX ₂₆₇	17.0	X	157.32860	168.29648	177.78007	5.90997	0.0607754	0.22125121	2.7073576	20	1 19.3	21.0
460952 2014 WZ ₂₆₇	15.5	X	121.50694	202.41532	79.24270	23.15980	0.0573764	0.17070952	3.2183323	20	12 10.8	20.2
460953 2014 WO ₂₆₉	17.4	X	344.60388	166.31438	116.65893	7.06052	0.1138975	0.28353114	2.2947508	20	6 23.3	19.3
460954 2014 WB ₂₇₀	17.1	X	6.32839	48.35802	91.85588	13.29716	0.0545					

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
460961	2014	WL ₂₈₁	17.3	X	99.52683	266.63525	128.39260	5.06943	0.0777977	0.21355237	2.7720419	20	1 14.7	20.9
460962	2014	WV ₂₈₇	16.1	X	54.26497	244.08579	100.10153	19.09428	0.0978431	0.17428119	3.1742103	20	12 17.3	20.6
460963	2014	WY ₂₈₈	16.0	X	39.32836	263.39527	131.09572	12.35468	0.1183943	0.18820912	3.0156130	20	—	—
460964	2014	WK ₂₉₀	16.5	X	277.02290	141.42469	110.82446	14.89055	0.1464335	0.23339073	2.6126444	20	1 26.9	20.3
460965	2014	WL ₂₉₂	16.4	X	345.04925	293.50596	162.19232	9.48422	0.1187807	0.18361174	3.0657430	20	—	—
460966	2014	WR ₂₉₅	16.2	X	121.33341	212.16419	126.04917	12.98046	0.0573191	0.19719211	2.9233200	20	—	—
460967	2014	WD ₂₉₇	15.9	X	250.55202	63.50756	106.75894	14.51864	0.0255207	0.17515315	3.1636669	20	12 26.6	20.4
460968	2014	WP ₂₉₈	16.2	X	284.83562	338.10744	182.30202	14.93564	0.2203644	0.17485002	3.1673223	20	—	—
460969	2014	WS ₃₀₂	16.4	X	349.05569	41.39126	5.23451	10.31815	0.0753487	0.17209494	3.2010366	20	11 30.9	20.7
460970	2014	WZ ₃₁₁	18.0	X	59.98245	225.24863	28.99730	4.70687	0.1314892	0.30251251	2.1977274	20	9 29.3	20.5
460971	2014	WY ₃₁₄	17.2	X	181.77757	261.60164	126.67136	7.28909	0.1348330	0.26507894	2.4000441	20	4 12.1	20.9
460972	2014	WN ₃₂₀	16.3	X	190.19416	197.75595	65.76612	15.72615	0.1711672	0.21561217	2.7543590	20	—	—
460973	2014	WB ₃₂₁	16.3	X	115.02463	217.69325	103.56115	11.62260	0.0457527	0.19530570	2.9421136	20	—	—
460974	2014	WC ₃₂₂	17.0	X	107.68849	300.23877	95.36408	7.41876	0.1763722	0.22655501	2.6649369	20	2 9.2	20.6
460975	2014	WV ₃₂₂	15.7	X	323.87731	316.55378	75.81298	16.59988	0.0836649	0.15455362	3.4388766	20	10 14.8	20.4
460976	2014	WX ₃₂₅	16.1	X	298.50010	336.70263	120.68351	12.30033	0.0380228	0.17048834	3.2211153	20	11 29.0	20.6
460977	2014	WY ₃₂₆	16.1	X	329.93628	311.27301	137.04928	10.32745	0.0495011	0.18051063	3.1007555	20	12 29.0	20.3
460978	2014	WP ₃₂₇	16.2	X	36.04937	271.53472	90.36065	15.52566	0.1275542	0.17726241	3.1385204	20	12 20.2	20.4
460979	2014	WP ₃₂₈	16.2	X	43.66711	242.61620	136.43727	7.91424	0.1477964	0.18784962	3.0194592	20	—	—
460980	2014	WU ₃₃₀	17.0	X	70.84112	148.84195	192.03195	9.61740	0.0872901	0.18194798	3.0844038	20	12 30.4	21.7
460981	2014	WV ₃₃₀	15.6	X	267.25445	48.94856	98.58912	10.59250	0.0390081	0.17697971	3.1418616	20	12 18.6	19.8
460982	2014	WO ₃₃₄	16.0	X	359.91367	342.40628	88.32974	13.06820	0.0390471	0.18525724	3.0475622	20	—	—
460983	2014	WT ₃₃₅	15.4	X	278.34922	59.72909	94.34511	17.19118	0.0388828	0.18424267	3.0587401	20	—	—
460984	2014	WL ₃₃₆	15.5	X	84.62759	227.09003	93.90115	16.47582	0.0899949	0.17787270	3.1313374	20	12 22.3	20.1
460985	2014	WV ₃₃₉	16.4	X	32.40515	272.90951	109.91038	11.60724	0.1132089	0.18276675	3.0751851	20	—	—
460986	2014	WF ₃₄₀	16.1	X	4.11456	331.25593	82.81506	19.68055	0.1925707	0.18115334	3.0934172	20	—	—
460987	2014	WO ₃₄₀	16.1	X	36.73059	237.61293	112.39121	12.33995	0.1362520	0.17189158	3.2035609	20	12 8.3	20.5
460988	2014	WP ₃₄₀	16.2	X	15.87956	274.26331	141.48606	10.58477	0.0988564	0.18683377	3.0303942	20	—	—
460989	2014	WH ₃₄₆	16.7	X	257.56042	255.72262	3.90407	11.23364	0.1468294	0.23313401	2.6145621	20	1 18.8	20.9
460990	2014	WP ₃₄₆	15.4	X	256.36848	195.12309	278.99497	14.50343	0.0815404	0.15401445	3.4468978	20	10 8.7	20.5
460991	2014	WU ₃₄₆	16.3	X	77.39061	357.69148	338.90460	9.70491	0.0862280	0.18307049	3.0717827	20	—	—
460992	2014	WV ₃₄₇	16.2	X	85.11370	67.27435	261.05644	15.42305	0.0594992	0.18002220	3.1063615	20	12 27.7	20.7
460993	2014	WB ₃₄₉	16.1	X	49.19266	110.12774	285.29646	10.10400	0.0714592	0.19199167	2.9758734	20	—	—
460994	2014	WP ₃₄₉	16.1	X	301.74011	212.09353	282.77038	8.37282	0.0755428	0.18230941	3.0803258	20	—	—
460995	2014	WE ₃₅₀	16.4	X	140.33959	12.74584	316.27422	4.03453	0.1580463	0.21258801	2.7804188	20	—	—
460996	2014	WX ₃₅₂	17.0	X	155.70449	321.28924	13.70660	5.43694	0.0312270	0.21134873	2.7912771	20	1 4.0	20.9
460997	2014	WM ₃₅₆	16.9	X	47.30036	110.92247	356.26449	8.12894	0.1257515	0.21917683	2.7244131	20	1 26.4	20.0
460998	2014	WV ₃₅₇	15.9	X	338.08128	75.54127	25.62159	18.68149	0.2002672	0.18181419	3.0859166	20	—	—
460999	2014	WF ₃₅₈	15.9	X	42.14198	337.47199	13.81911	11.04279	0.1386469	0.17672823	3.1448415	20	12 15.4	20.5
461000	2014	WL ₃₆₁	16.4	X	45.60215	44.33446	317.46533	10.78003	0.1740954	0.18014947	3.1048984	20	—	—
461001	2014	WN ₃₆₁	15.9	X	94.82014	148.21011	278.26057	21.00459	0.0825306	0.23043278	2.6349550	20	2 6.9	19.7
461002	2014	WZ ₃₆₁	16.1	X	22.23911	313.20873	251.04550	22.24679	0.1510903	0.26936864	2.3744955	20	5 3.3	18.4
461003	2014	WG ₃₆₇	15.5	X	125.67809	192.95984	123.20299	28.88233	0.1507802	0.17167604	3.2062416	20	—	—
461004	2014	WZ ₃₇₂	16.0	X	27.48864	359.35896	133.16018	11.42549	0.0976155	0.17944010	3.1130759	20	—	—
461005	2014	WE ₃₇₇	16.5	X	91.52470	77.17704	240.77619	8.22430	0.0674033	0.17508020	3.1645456	20	12 22.7	21.2
461006	2014	WE ₃₈₂	16.3	X	304.88531	139.05576	28.55303	10.85145	0.1642249	0.17706837	3.1408128	20	—	—
461007	2014	WH ₃₈₂	16.8	X	359.21654	282.99669	4.70147	8.35484	0.1310250	0.27892841	2.3199265	20	8 5.4	18.9
461008	2014	WM ₃₈₂	17.0	X	58.81828	16.08697	356.79587	1.78703	0.1375190	0.19111377	2.9849798	20	—	—
461009	2014	WT ₃₈₅	16.5	X	246.73185	48.04397	139.87060	6.23845	0.0988719	0.17988017	3.1079965	20	—	—
461010	2014	WF ₃₈₇	15.7	X	278.01373	53.67701	106.72202	15.50575	0.0547708	0.18092501	3.0960192	20	—	—
461011	2014	WM ₃₈₈	16.4	X	210.62272	308.72487	37.68850	3.62255	0.1379107	0.24684971	2.5167938	20	3 17.3	20.3
461012	2014	WR ₃₈₈	15.9	X	331.33370	321.83661	108.31899	23.28717	0.0691305	0.17046427	3.2214185	20	12 10.3	20.3
461013	2014	WV ₃₈₈	15.5	X	48.68311	228.97708	99.70286	29.07969	0.3068116	0.17416609	3.1756087	20	12 20.4	20.3
461014	2014	WR ₃₉₂	16.8	X	96.42920	312.75349	106.60326	12.89203	0.1790949	0.22278863	2.6948879	20	2 28.4	20.5
461015	2014	WP ₃₉₆	16.1	X	75.27166	24.36572	326.92123	10.03960	0.1371818	0.19269698	2.9686075	20	—	—
461016	2014	WS ₃₉₈	15.9	X	14.79294	252.11743	153.06761	16.01067	0.0346033	0.18598926	3.0395606	20	—	—
461017	2014	WC ₃₉₉	16.2	X	28.47043	294.48709	81.92310	16.79075	0.1359484	0.18260609	3.0769885	20	12 30.2	20.3
461018	2014	WP ₄₀₁	15.8	X	15.98015	101.85275	232.65199	9.37937	0.0954582	0.14787655	3.5416299	20	10 7.8	20.6
461019	2014	WV ₄₀₁	17.1	X	177.33920	168.55610	119.36339	3.16081	0.0349424	0.20207031	2.8760805	20	—	—
461020	2014	WE ₄₀₆	17.1	X	147.96153	270.44612	66.08071	1.35631	0.0980406	0.21069197	2.7970747	20	1 4.0	21.0
461021	2014	WQ ₄₀₇	16.0	X	33.11322	292.37059	80.14203	17.50194	0.1737112	0.17316168	3.1878767	20	—	—
461022	2014	WO ₄₂₁	15.8	X	75.93428	252.84393	114.30279	9.09385	0.1290170	0.18712822	3.0272144	20	—	—
461023	2014	WU ₄₂₉	16.7	X	348.41465	94.15983	310.20844	10.09138	0.2207824	0.17522441	3.1628091	20	12 11.3	20.2
461024	2014	WV ₄₃₀	16.2	X	16.03083	154.96896	237.62484	11.50573	0.1235983	0.17803353	3.1294512	20	12 29.4	20.4
461025	2014	WJ ₄₃₂	16.2	X	291.42879	105.41046	54.08498	18.54035	0.2426205	0.17460194	3.1703217	20	—	—
461026	2014	WY ₄₄₄	15.9	X	359.39441	15.88943	52.66223	5.69762	0.2162465	0.17838370	3.1253543	20	—	—
461027	2014	WS ₄₄₅	16.6	X	50.95967	4.91272	35.41004	3.38894	0.0311904	0.18986167	2.9980890	20	—	—
461028	2014	WA ₄₅₇	17.0	X	22.99898	61.89189	52.49346	5.60512	0.0058036	0.21534060	2.7566742	20	1 7.8	20.8
461029	2014	WK ₄₆₃	16.1	X	31.10162	184.79044	221.90019	9.33226	0.0258775	0.18650172	3.0339901	20	—	—
461030	2014	WN ₄₇₅	15.8	X	16.70015	16.85867	73.45746	17.21091	0.0512120	0.18675155	3.0312836			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461041 2014 WC ₅₀₃	16.6	X	101.41472	286.13728	101.33963	5.38847	0.0820704	0.21412402	2.7671060	20	1 8.5	20.2
461042 2014 WE ₅₀₃	16.7	X	115.52762	188.41258	185.60150	13.68929	0.1920016	0.21921408	2.7241045	20	1 21.5	20.8
461043 2014 WL ₅₀₃	16.0	X	15.87726	285.31268	106.22951	18.42830	0.2307147	0.17522917	3.1627518	20	—	—
461044 2014 WT ₅₀₄	16.0	X	341.57785	1.39501	89.18796	20.90902	0.1358463	0.18084285	3.0969568	20	—	—
461045 2014 XO ₈	15.5	X	358.81585	294.54937	102.34384	17.62711	0.2334898	0.17886301	3.1197684	20	12 24.9	19.0
461046 2014 XZ ₁₂	16.6	X	159.49836	302.92262	70.42759	5.78665	0.0275299	0.23136891	2.6278428	20	2 24.2	20.2
461047 2014 XC ₁₅	16.9	X	354.97019	218.29795	250.12906	1.00238	0.0988462	0.19113859	2.9847214	20	—	—
461048 2014 XA ₁₇	16.0	X	2.73005	212.77390	222.32278	8.23674	0.1814120	0.18162128	3.0881015	20	—	—
461049 2014 XF ₁₇	16.3	X	303.41337	222.80811	264.89256	9.36795	0.0677644	0.17478869	3.1680632	20	—	—
461050 2014 XN ₁₇	15.9	X	90.85210	273.88642	70.38135	14.69726	0.1323091	0.18770721	3.0209862	20	—	—
461051 2014 XG ₁₈	16.0	X	34.42266	294.40676	107.28627	14.97002	0.1084418	0.19175331	2.9783390	20	—	—
461052 2014 XH ₁₉	16.0	X	192.30011	252.74422	47.60078	12.12370	0.1151519	0.21347253	2.7727330	20	1 7.2	20.5
461053 2014 XQ ₂₅	16.0	X	304.20372	248.08148	273.54642	7.55389	0.0665938	0.18958863	3.0009668	20	—	—
461054 2014 XR ₂₅	16.6	X	287.60870	292.17106	284.31063	4.20508	0.0458219	0.21120998	2.7924994	20	1 10.1	20.5
461055 2014 XP ₂₆	15.4	X	292.20557	53.96629	106.23465	12.43983	0.0587517	0.17272559	3.1932402	20	—	—
461056 2014 XF ₂₈	16.3	X	24.41967	55.92023	53.62534	5.13687	0.0228996	0.20996070	2.8035655	20	1 4.0	20.0
461057 2014 XG ₃₈	16.5	X	26.75705	356.09667	100.32212	11.23102	0.0695504	0.18861211	3.0113160	20	—	—
461058 2014 YQ ₅	15.5	X	84.06329	248.56251	112.33558	8.91699	0.0968023	0.17192117	3.2031933	20	—	—
461059 2014 YC ₁₁	17.0	X	108.64566	329.97106	54.62034	4.95283	0.1134757	0.21206273	2.7850082	20	1 20.0	20.8
461060 2014 YF ₁₁	16.1	X	89.72370	69.21212	272.34947	9.92216	0.1363431	0.18391416	3.0623814	20	—	—
461061 2014 YE ₁₃	16.5	X	203.53015	239.40804	117.77499	8.71032	0.0945883	0.23034486	2.6356255	20	3 28.3	20.6
461062 2014 YG ₁₇	16.3	X	216.97045	246.60682	75.04650	11.73116	0.1041906	0.23491610	2.6013224	20	2 27.9	20.5
461063 2014 YP ₁₉	15.8	X	298.83512	259.68937	278.00637	11.91745	0.0644994	0.19579509	2.9372090	20	—	—
461064 2014 YW ₂₀	17.0	X	118.63894	72.47584	282.91313	13.43820	0.1906253	0.21476651	2.7615846	20	1 5.2	20.8
461065 2014 YR ₂₃	15.9	X	25.78152	94.13906	307.18683	8.84341	0.0180505	0.17853535	3.1235843	20	—	—
461066 2014 YS ₂₃	15.5	X	251.61685	281.01508	272.08179	24.51556	0.1668082	0.17787550	3.1313044	20	—	—
461067 2014 YC ₂₆	16.5	X	73.64189	159.53965	268.48625	11.46049	0.1334993	0.21368761	2.7708722	20	1 25.6	19.9
461068 2014 YW ₂₇	16.2	X	215.04204	198.53602	40.35134	4.94859	0.0988075	0.17422590	3.1748819	20	—	—
461069 2014 YK ₂₉	16.1	X	179.38313	210.01770	66.94791	11.26000	0.0762977	0.17712712	3.1401183	20	—	—
461070 2014 YT ₃₇	16.1	X	164.42999	358.66568	96.29740	10.43489	0.0111652	0.22628556	2.6670521	20	3 20.1	19.8
461071 2014 YT ₄₂	16.0	X	286.50598	157.92754	349.35192	8.71169	0.0608420	0.17985016	3.1083423	20	—	—
461072 2014 YR ₄₄	16.2	X	71.92625	313.60159	119.04900	9.94637	0.1348522	0.21391958	2.7688687	20	2 1.8	19.4
461073 2015 AX	16.0	X	270.45817	22.40379	137.56076	11.22261	0.1043342	0.17590526	3.1546426	20	12 29.2	20.2
461074 2015 AU ₃	16.1	X	212.39684	215.42364	116.79659	12.34156	0.0877816	0.22201201	2.7011689	20	3 7.2	20.3
461075 2015 AA ₄	16.2	X	359.98847	322.39063	104.84859	12.45959	0.0645925	0.18446586	3.0562724	20	—	—
461076 2015 AN ₁₀	15.8	X	311.15031	110.27749	38.47750	10.29262	0.1048911	0.17133189	3.2105338	20	—	—
461077 2015 AM ₁₁	15.8	X	74.73533	22.87154	357.93634	16.09952	0.0837996	0.17801938	3.1296170	20	—	—
461078 2015 AZ ₂₆	16.5	X	351.30748	350.83836	120.74550	9.55906	0.0399159	0.17805810	3.1291633	20	—	—
461079 2015 AE ₃₃	16.1	X	201.37778	337.75248	281.78637	4.40380	0.1344730	0.17082623	3.2168663	20	—	—
461080 2015 AY ₃₄	15.8	X	143.52902	212.75939	111.57186	12.57540	0.0731234	0.18207473	3.0829722	20	—	—
461081 2015 AJ ₄₉	15.8	X	359.64903	319.34234	100.70410	18.38529	0.1217453	0.18308060	3.0716696	20	—	—
461082 2015 AJ ₈₆	16.0	X	84.12936	252.26817	144.66284	2.65123	0.1950697	0.20028512	2.8931454	20	1 15.6	19.5
461083 2015 AX ₉₁	16.1	X	205.04014	23.80855	252.91049	3.39080	0.2115351	0.18113685	3.0936048	20	—	—
461084 2015 AY ₁₃₀	16.1	X	177.43957	248.88494	90.58200	3.30422	0.0620990	0.20418856	2.8561550	20	2 6.8	20.3
461085 2015 AK ₁₄₅	16.6	X	278.01421	244.88388	322.17460	3.67536	0.0793284	0.18112037	3.0937925	20	—	—
461086 2015 AU ₁₇₅	16.3	X	179.86341	303.89225	105.40122	11.42273	0.0893901	0.18547796	3.0451441	20	1 7.7	21.0
461087 2015 AA ₁₈₅	16.0	X	214.95901	125.47717	130.56781	10.50465	0.0372788	0.17768233	3.1335735	20	—	—
461088 2015 AU ₁₉₈	16.1	X	215.36684	246.47057	55.71141	5.21889	0.0455687	0.21230516	2.7828877	20	2 2.7	20.1
461089 2015 AL ₂₁₄	15.8	X	265.58155	98.86853	143.59066	13.51325	0.0374150	0.21111404	2.7933454	20	1 16.4	19.8
461090 2015 AE ₂₅₇	16.2	X	197.74533	258.39869	85.55726	6.82277	0.0768264	0.21874500	2.7279975	20	3 6.2	20.3
461091 2015 AP ₂₇₃	16.4	X	296.03920	149.94843	53.61567	9.96085	0.0946249	0.19037986	2.9926462	20	1 1.6	20.8
461092 2015 BR ₅	16.2	X	126.73487	298.71030	99.10586	9.52152	0.1366356	0.20986611	2.8060125	20	3 3.5	20.4
461093 2015 BJ ₃₇	15.8	X	32.42506	1.24350	84.16989	6.73186	0.0274326	0.19800657	2.9152982	20	—	—
461094 2015 BJ ₃₈	15.6	X	95.46520	333.17075	357.04069	7.93629	0.0988395	0.16278191	3.3219923	20	—	—
461095 2015 BY ₅₆	15.9	X	173.95855	82.96037	173.14228	13.43618	0.1377446	0.17477008	3.1682881	20	12 31.4	21.2
461096 2015 BH ₆₂	16.4	X	246.04195	170.69732	85.96029	6.52111	0.0991681	0.18511563	3.0491163	20	1 11.3	21.2
461097 2015 BU ₇₄	15.7	X	210.24779	294.80293	339.29907	8.89700	0.0508150	0.17962519	3.1109371	20	—	—
461098 2015 BP ₇₅	16.0	X	98.98836	267.90097	108.03840	14.06527	0.1341874	0.18272650	3.0756367	20	1 4.4	20.1
461099 2015 BR ₉₇	16.9	X	199.71791	243.60056	90.87596	10.02645	0.2183344	0.22404970	2.6847662	20	2 26.1	21.6
461100 2015 BA ₁₀₈	16.6	X	115.48128	266.87912	105.28837	4.86950	0.1119904	0.20900126	2.8121390	20	1 12.4	20.3
461101 2015 BF ₁₁₄	15.7	X	51.00557	137.67949	280.54858	15.70460	0.1061955	0.18492982	3.0511584	20	—	—
461102 2015 BU ₂₀₆	16.4	X	116.60629	290.53723	102.31048	8.52880	0.1471297	0.22008992	2.7168726	20	2 13.4	20.2
461103 2015 BJ ₂₀₇	16.1	X	329.84589	11.75771	105.29655	13.82742	0.2087642	0.17650685	3.1474705	20	—	—
461104 2015 BH ₂₁₄	15.5	X	156.63878	187.35427	102.70195	16.86206	0.0753378	0.17275597	3.1928658	20	—	—
461105 2015 BJ ₂₁₈	16.0	X	30.25371	80.44935	338.74632	9.67773	0.0505210	0.17559016	3.1584155	20	—	—
461106 2015 BT ₂₁₈	15.5	X	220.49758	251.52310	352.16914	8.88956	0.0621811	0.17795003	3.1304301	20	—	—
461107 2015 BU ₂₂₂	15.4	X	148.73763	19.61314	259.52379	10.90319	0.0468409	0.15619122	3.4147977	20	—	—
461108 2015 BO ₂₂₇	15.7	X	267.08845	243.20234	319.06517	9.97610	0.0730548	0.17751353	3.1355597	20	—	—
461109 2015 BF ₃₆₈	16.0	X	72.57815	28.44977	346.31643	10.75209	0.0289689	0.17103057	3.2143035	20	—	—
461110 2015 BX ₄₁₃	16.1	X	227.10837	251.50230	19.97175	3.50700	0.1320555	0.17642751	3.1484141	20	1 10.2	21.2
461111 2015 BZ ₅₁₆	15.9	X	203.82970	290.81107	64.43601	7.34052	0.0572070	0.21592632	2.7516868	20	3 27.6	20.0
461112 2015 CO ₈	16.2	X	168.79163	171.94164	150.38665	10.76384	0.0817264	0.18041701	3.1018281	20	1 11.4	21.1
461113 2015 CR ₃₅	15.9	X	227.13377	242.36462	22.66652	10.37975	0.0439085	0.18615683	3.0377362	20	1 5.4	20.5
461114 2015 CG ₃₆	15.5	X	328.04958	97.28841	47.40848	9.75231	0.0497276	0.17481715	3.1677194	20	—	—
461115 2015 DD ₂₂	16.5	X	87.63351	33								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461121 2015 DC ₁₇₈	17.5	X	84.50722	143.46085	331.34864	6.19667	0.1735165	0.22556649	2.6727171	20	4 16.9	21.1
461122 2015 FY	15.9	X	149.69193	184.78611	145.22293	11.40011	0.0242811	0.18006641	3.1058531	20	—	—
461123 2015 OL ₂₂	16.9	X	60.47870	213.85614	154.98156	13.74927	0.3028597	0.24124255	2.5556425	20	—	—
461124 2015 RX ₇₃	18.5	X	47.00104	224.48281	165.91499	5.52406	0.2441588	0.24636801	2.5200733	20	—	—
461125 2015 RC ₈₃	16.7	X	76.68348	105.04010	264.69327	11.37471	0.2955702	0.24243273	2.5472714	20	—	—
461126 2015 RH ₁₁₆	16.2	X	323.82441	229.55959	134.20363	11.75032	0.2004882	0.18667939	3.0320647	20	8 28.8	19.4
461127 2015 RD ₁₅₁	17.5	X	136.38710	277.57004	333.04430	2.98754	0.0505896	0.23646928	2.5899193	20	12 2.4	21.2
461128 2015 RX ₁₉₆	16.8	X	287.80279	10.58146	84.62556	3.45108	0.0424986	0.21522395	2.7576701	20	11 19.9	20.2
461129 2015 RK ₂₃₄	16.0	X	299.77717	256.98828	150.69452	11.21242	0.0572193	0.18407500	3.0605972	20	10 1.2	20.1
461130 2015 RJ ₂₃₅	16.0	X	325.00539	231.97348	135.70489	11.80051	0.0987878	0.17969135	3.1101734	20	9 12.7	19.9
461131 2015 TS ₂	17.7	X	165.68765	321.64511	347.00550	6.45509	0.1580257	0.27749582	2.3279041	20	—	—
461132 2015 TL ₇₇	16.6	X	354.04489	183.38793	216.97875	15.90118	0.1190412	0.20972232	2.8056895	20	12 16.5	20.2
461133 2015 TZ ₈₂	16.5	X	43.61924	109.88868	221.43748	10.29399	0.1013928	0.20164622	2.8801116	20	11 24.9	20.5
461134 2015 TO ₈₆	17.6	X	14.91446	188.25651	204.17281	9.37325	0.1631557	0.21790960	2.7349652	20	—	—
461135 2015 TU ₈₈	17.9	X	168.87572	244.98350	64.44548	3.49655	0.2301531	0.272886723	2.3541554	20	—	—
461136 2015 TC ₁₀₂	15.7	X	220.97303	60.17572	76.69767	11.97167	0.0824919	0.17790570	3.1309500	20	10 11.6	20.5
461137 2015 TH ₁₀₂	16.2	X	272.49309	235.66338	212.16430	18.12636	0.2204640	0.17733353	3.1376811	20	9 12.8	20.7
461138 2015 TU ₁₀₃	16.0	X	122.18427	127.10993	103.85496	10.75176	0.0143434	0.18070730	3.0985053	20	10 16.7	20.6
461139 2015 TH ₁₀₅	17.6	X	112.59006	256.28175	99.24368	7.06266	0.1190190	0.25527173	2.4611282	20	—	—
461140 2015 TV ₁₀₅	16.3	X	242.61293	267.40097	205.26146	18.02635	0.1184290	0.17301186	3.1897169	20	9 22.9	21.1
461141 2015 TD ₁₀₆	16.1	X	204.12492	346.18742	183.44034	10.14088	0.1234984	0.18182407	3.0858049	20	10 25.1	20.9
461142 2015 TG ₁₀₆	17.9	X	316.30112	125.04538	113.99798	7.38329	0.1065984	0.30071722	2.2064657	20	2 25.8	20.3
461143 2015 TH ₁₀₉	17.8	X	89.82406	246.70301	144.47182	7.18570	0.1507794	0.25885219	2.4383806	20	—	—
461144 2015 TU ₁₁₀	16.3	X	186.10425	324.84611	201.58840	11.01603	0.0360093	0.17361170	3.1823655	20	10 5.3	21.0
461145 2015 TA ₁₁₁	15.9	X	301.62978	231.51726	209.00535	9.93566	0.0937917	0.19176629	2.9782047	20	11 11.1	19.6
461146 2015 TC ₁₁₁	16.5	X	347.05697	323.97224	78.81125	11.69751	0.1417990	0.20179284	2.8787164	20	12 8.9	19.6
461147 2015 TS ₁₁₁	17.9	X	30.56720	336.91031	103.96312	5.97244	0.1988999	0.24282900	2.5444994	20	—	—
461148 2015 TD ₁₁₂	17.7	X	73.76745	296.01845	158.54313	6.54753	0.0765972	0.27839137	2.3229090	20	2 14.2	20.1
461149 2015 TO ₁₁₂	17.3	X	187.29648	249.20709	68.54736	23.62519	0.1418328	0.27700937	2.3306286	20	1 16.2	21.2
461150 2015 TN ₁₁₄	16.4	X	269.07496	283.32066	183.47622	9.44533	0.1042997	0.18644347	3.0346219	20	10 26.9	20.5
461151 2015 TT ₁₁₄	16.0	X	106.76769	138.09762	120.62191	9.69502	0.0718798	0.18791837	3.0187227	20	11 6.1	20.6
461152 2015 TY ₁₁₄	16.5	X	238.76939	263.30025	190.73957	9.63703	0.0861382	0.16067887	3.3509160	20	8 29.7	21.4
461153 2015 TC ₁₁₅	18.0	X	237.78179	131.42076	188.36256	5.86791	0.0357744	0.30240669	2.1982401	20	3 10.5	20.8
461154 2015 TS ₁₁₅	17.7	X	39.27925	242.36382	169.69718	12.17477	0.1625828	0.23554593	2.5966833	20	—	—
461155 2015 TH ₁₁₆	17.8	X	113.93151	253.42830	130.20398	12.34129	0.2298472	0.27137050	2.3628036	20	1 31.9	20.9
461156 2015 TS ₁₁₆	17.3	X	22.90693	295.25835	136.51881	14.48663	0.1765197	0.23371858	2.6102007	20	—	—
461157 2015 TD ₁₁₇	16.8	X	322.72611	258.40133	114.93914	16.74770	0.2345260	0.17376027	3.1805512	20	9 6.9	20.3
461158 2015 TE ₁₁₇	15.6	X	271.55025	267.37680	178.74416	15.97222	0.0589967	0.17230457	3.1984398	20	10 7.9	20.1
461159 2015 TW ₁₁₉	16.5	X	306.52716	252.29888	152.49720	12.89118	0.1438324	0.17217429	3.2000531	20	9 26.1	20.5
461160 2015 TB ₁₂₀	16.5	X	272.10719	21.37097	132.24754	16.25346	0.0831822	0.20566866	2.8424356	20	—	—
461161 2015 TD ₁₂₆	16.1	X	334.95293	232.65530	110.92530	8.39535	0.2557957	0.17869357	3.1217403	20	8 19.2	18.9
461162 2015 TO ₁₃₈	16.7	X	115.44177	127.35209	139.18935	8.84311	0.0337600	0.20101883	2.8861012	20	11 23.3	21.0
461163 2015 TY ₁₄₂	16.4	X	330.53166	294.93855	112.15414	8.2164	0.1592795	0.19801296	2.9152354	20	11 17.4	19.6
461164 2015 TZ ₁₄₆	17.6	X	156.26267	284.44169	23.70462	5.75986	0.0682426	0.26287918	2.4134145	20	—	—
461165 2015 TY ₁₇₉	17.0	X	286.95944	324.76393	108.30097	6.24071	0.0984179	0.18341452	3.0679403	20	10 10.9	21.0
461166 2015 TY ₁₈₃	16.8	X	300.69462	256.08991	175.89641	4.36531	0.1718639	0.18993780	2.9972878	20	10 21.3	20.1
461167 2015 TF ₁₈₄	15.8	X	155.31074	98.43523	95.39871	9.52068	0.0857062	0.17472918	3.1687824	20	10 9.6	20.8
461168 2015 TH ₂₂₄	16.8	X	63.83326	185.23014	239.27354	9.29552	0.0951498	0.26328167	2.4109542	20	—	—
461169 2015 TK ₂₂₄	17.8	X	107.49978	46.64352	348.95346	5.67402	0.1446014	0.27688239	2.3313411	20	1 26.9	20.5
461170 2015 TX ₂₃₂	16.0	X	244.19529	246.33067	219.82501	10.04705	0.1917728	0.18193671	3.0845311	20	9 7.3	20.9
461171 2015 TY ₃₀₄	16.4	X	292.28042	323.24761	92.06972	11.45176	0.0637794	0.18588581	3.0406882	20	10 3.6	20.6
461172 2015 TE ₃₂₁	17.9	X	39.57047	117.97662	279.02793	10.19753	0.2820777	0.23903106	2.5713814	20	—	—
461173 2015 UQ ₁₁	17.8	X	33.63256	139.58930	216.57884	0.68196	0.0954769	0.22176512	2.7031733	20	12 16.8	21.5
461174 2015 UZ ₄₆	18.8	X	189.07747	333.09014	184.83817	18.94769	0.0932954	0.17347645	3.1840193	20	9 25.3	20.7
461175 2015 US ₄₈	16.0	X	170.72786	59.34836	107.20651	11.16598	0.0256633	0.17114636	3.2128536	20	9 23.6	20.8
461176 2015 UJ ₆₆	15.6	X	320.96700	291.08089	88.14728	18.38593	0.0870597	0.17388592	3.1790189	20	9 28.9	20.1
461177 2015 UW ₇₇	17.6	X	124.51663	314.82939	54.60704	4.83011	0.1997702	0.27075962	2.3663562	20	1 23.2	20.7
461178 2015 UH ₇₉	17.2	X	328.31902	350.97335	115.89136	13.70557	0.2037598	0.22491536	2.6778730	20	—	—
461179 2015 VE ₄	16.0	X	265.16773	150.80630	276.47664	14.67440	0.2845712	0.17133302	3.2105197	20	7 30.9	20.9
461180 2015 VA ₄₂	17.7	X	339.80394	291.51379	152.53949	9.23923	0.1668968	0.21827424	2.7319184	20	—	—
461181 2015 VG ₄₂	15.5	X	253.74481	358.26081	106.68768	10.49929	0.0548622	0.18132150	3.0915042	20	10 14.7	20.0
461182 2015 VB ₆₃	16.9	X	294.90541	255.41343	168.30314	12.00212	0.1846944	0.18147418	3.0897700	20	9 26.9	20.7
461183 2015 VO ₆₃	15.6	X	222.68553	29.43171	109.99165	11.76182	0.1433963	0.17290641	3.1910136	20	10 8.8	20.7
461184 2015 VS ₆₅	17.1	X	38.07412	312.15737	85.00276	33.40208	0.2837708	0.23507692	2.6001359	20	—	—
461185 2015 VH ₇₂	16.8	X	34.31520	262.80288	113.21618	12.53621	0.1252693	0.21977561	2.7194624	20	—	—
461186 2015 VL ₇₂	16.5	X	244.48323	36.97543	98.96443	11.69967	0.0518869	0.19320578	2.9633934	20	11 11.8	20.7
461187 2015 VE ₇₈	18.0	X	128.25611	222.84733	160.24185	6.14674	0.0933617	0.28012275	2.3133275	20	1 26.9	20.9
461188 2015 VZ ₉₅	18.0	X	122.62488	307.59816	42.18840	4.14256	0.2174734	0.26632764	2.3925364	20	—	—
461189 2015 VG ₉₇	17.0	X	37.60783	328.41430	41.52161	7.17789	0.0318443	0.21621479	2.7492387	20	12 28.6	20.8
461190 2015 VH ₉₇	16.1	X	148.68398	335.93451	234.77928	7.62955	0.1519877	0.18233152	3.0800768	20	10 18.5	21.1
461191 2015 VY ₉₈	17.7	X	353.24608	260.32695	208.36427	1.99542	0.1415159	0.23939559	2.5687703	20	—	—
461192 2015 VA ₉₉	15.5	X	233.31964	47.87215	53.96832	14.27276	0.0455331	0.16925459	3.2367494	20	9 18.0	20.4
461193 2015 VK ₁₀₀	16.8	X	253.78208	22.13787	91.72158	7.28797	0.0982894	0.18659919	3.0329334	20	10 18.7	21.1
461194 2015 VO _{101</}												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461201 2015 <i>VW</i> ₁₁₆	16.7	X	358.69008	296.00826	93.60819	5.61173	0.1168315	0.20906465	2.8115705	20	12 10.3	20.0
461202 2015 <i>VA</i> ₁₁₈	17.0	X	134.40684	284.85627	66.39540	5.78363	0.1454971	0.27080900	2.3660686	20	1 2.8	20.0
461203 2015 <i>VW</i> ₁₁₈	18.7	X	107.00767	327.38033	84.02549	6.38445	0.2302898	0.28147901	2.3058907	20	3 2.3	21.6
461204 2015 <i>VO</i> ₁₂₀	17.8	X	28.74661	206.63587	218.72830	3.23153	0.1705310	0.23975074	2.5662329	20	—	—
461205 2015 <i>VW</i> ₁₂₀	16.8	X	293.73292	323.64653	101.09297	4.60677	0.1941954	0.18048548	3.1010435	20	9 26.0	20.6
461206 2015 <i>VG</i> ₁₂₁	16.1	X	352.42216	282.01233	92.99135	11.02461	0.1110440	0.19104328	2.9857140	20	11 9.5	19.8
461207 2015 <i>VH</i> ₁₂₃	18.1	X	88.14142	152.63002	261.80991	0.60622	0.1498988	0.27086429	2.3657466	20	1 23.9	20.4
461208 2015 <i>VM</i> ₁₂₅	17.0	X	26.37123	310.36153	62.52006	13.80935	0.2630205	0.22517276	2.6758318	20	—	—
461209 2015 <i>VV</i> ₁₂₆	15.5	X	79.94748	206.84385	53.63809	11.48506	0.0360332	0.17826058	3.1267932	20	10 4.1	20.0
461210 2015 <i>VX</i> ₁₂₇	17.3	X	310.88142	315.61719	227.93425	6.32648	0.0436722	0.26719211	2.3873731	20	—	—
461211 2015 <i>VK</i> ₁₂₈	15.8	X	252.97477	189.16782	267.34986	9.53685	0.0692489	0.18250567	3.0781171	20	9 20.9	20.3
461212 2015 <i>VD</i> ₁₂₉	16.4	X	351.80416	313.73001	56.05440	10.84975	0.1302406	0.19292671	2.9662504	20	11 1.6	19.8
461213 2015 <i>VY</i> ₁₂₉	15.8	X	200.75835	79.01153	88.25457	6.94872	0.0858568	0.18204533	3.0833040	20	10 23.5	20.5
461214 2015 <i>VE</i> ₁₃₀	15.9	X	345.62863	283.22510	67.93277	15.86063	0.1047880	0.17752012	3.1354821	20	9 30.5	20.1
461215 2015 <i>VB</i> ₁₃₃	16.0	X	340.24058	304.05773	47.55820	10.78507	0.1043917	0.17829359	3.1264074	20	9 18.7	20.0
461216 2015 <i>VF</i> ₁₃₄	17.0	X	23.77382	337.92306	45.23284	5.17108	0.0973571	0.21724410	2.7405479	20	—	—
461217 2015 <i>VT</i> ₁₃₄	16.4	X	75.70702	248.99833	95.91745	10.37182	0.0974839	0.22670706	2.6637453	20	—	—
461218 2015 <i>VN</i> ₁₃₅	16.1	X	269.86463	21.80210	72.45538	13.12624	0.2142436	0.17801899	3.1296216	20	9 30.2	20.6
461219 2015 <i>VP</i> ₁₃₅	17.7	X	74.49470	291.77951	140.61962	3.71292	0.1903349	0.26811863	2.3818700	20	2 2.2	19.7
461220 2015 <i>VU</i> ₁₃₉	17.1	X	303.13737	83.42460	118.54514	3.79413	0.1025873	0.26963515	2.3729306	20	—	—
461221 2015 <i>VC</i> ₁₄₀	16.5	X	244.22808	256.12069	199.19261	6.98547	0.1498190	0.16996308	3.2277483	20	8 30.6	21.3
461222 2015 <i>VM</i> ₁₄₁	16.1	X	237.73090	272.06001	104.29594	3.57445	0.2493016	0.12697818	3.9202760	20	5 13.6	22.3
461223 2015 <i>VV</i> ₁₄₃	16.5	X	101.35505	184.05844	284.37099	29.79109	0.1394612	0.27824783	2.3237078	20	4 11.6	20.3
461224 2015 <i>VO</i> ₁₄₄	15.4	X	35.73449	44.98179	257.40783	15.61256	0.2074953	0.17617565	3.1514140	20	10 14.3	19.8
461225 2015 <i>VP</i> ₁₄₄	16.8	X	250.96705	287.32743	287.89137	3.89126	0.0739027	0.23876042	2.5733242	20	—	—
461226 2015 <i>VM</i> ₁₄₈	17.6	X	354.09637	357.84656	114.02940	6.98071	0.2057381	0.23912093	2.5707371	20	—	—
461227 2015 <i>VJ</i> ₁₅₀	15.5	X	267.03588	293.67878	170.61005	16.70992	0.2147212	0.17705638	3.1409546	20	10 3.4	19.8
461228 2015 <i>WL</i> ₂	16.9	X	70.80568	182.18950	194.18751	4.15155	0.2521440	0.24132968	2.5550274	20	—	—
461229 2015 <i>WO</i> ₃	15.8	X	354.39152	145.10709	235.36884	15.98936	0.1082674	0.19206123	2.9751549	20	11 15.8	19.5
461230 2015 <i>WP</i> ₃	16.1	X	345.13112	251.44444	135.25133	11.07586	0.2560635	0.19445392	2.9506990	20	11 24.9	19.0
461231 2015 <i>WF</i> ₄	16.2	X	340.72707	290.52604	79.70576	11.09931	0.0356648	0.18002819	3.1062927	20	10 13.4	20.5
461232 2015 <i>WJ</i> ₄	16.1	X	243.69229	345.22607	109.18781	5.27029	0.0218744	0.16921482	3.2372566	20	9 19.2	20.7
461233 2015 <i>WZ</i> ₄	16.3	X	297.86058	187.12701	225.62669	16.56368	0.1751035	0.17788409	3.1312036	20	9 10.6	20.4
461234 2015 <i>WE</i> ₆	16.0	X	195.36913	342.56076	257.43513	12.76866	0.2104249	0.23102267	2.6304678	20	—	—
461235 2015 <i>WJ</i> ₆	16.8	X	336.67749	207.50119	180.11244	4.37869	0.1218554	0.18869999	3.0103810	20	10 28.1	20.2
461236 2015 <i>WL</i> ₆	16.4	X	246.94435	65.35489	67.28195	17.54580	0.2534753	0.17784233	3.1316938	20	10 16.1	21.3
461237 2015 <i>WP</i> ₆	18.1	X	98.42147	297.35285	87.86789	3.39964	0.1840561	0.26290192	2.4132753	20	1 6.9	20.7
461238 2015 <i>WQ</i> ₆	16.9	X	312.55049	298.93529	219.02478	2.92244	0.1550549	0.23698593	2.5861538	20	—	—
461239 2015 <i>WC</i> ₁₀	17.7	X	49.12599	37.85202	72.73541	10.47642	0.1913407	0.26675332	2.3899904	20	2 13.4	19.8
461240 2015 <i>WW</i> ₁₃	16.9	X	331.88073	106.70877	319.67438	1.16509	0.0488049	0.20707735	2.8295301	20	12 11.6	20.5
461241 2015 <i>WG</i> ₁₄	18.1	X	71.57506	303.40894	114.04438	2.43535	0.2007621	0.26206156	2.4184318	20	1 8.5	20.2
461242 2015 <i>WL</i> ₁₄	16.0	X	237.79549	87.72568	51.10501	25.98658	0.2621208	0.17278719	3.1924812	20	10 15.7	21.3
461243 2015 <i>WP</i> ₁₄	17.5	X	22.26488	275.73724	124.74210	8.47525	0.3225552	0.22665119	2.6641829	20	—	—
461244 2015 <i>WO</i> ₁₅	17.4	X	25.02679	306.65551	59.49123	9.70027	0.2989745	0.21266760	2.7797249	20	—	—
461245 2015 <i>WU</i> ₁₅	16.8	X	66.14572	232.91816	229.15067	6.69223	0.0578267	0.27604378	2.3360604	20	2 8.7	19.6
461246 2015 <i>WZ</i> ₁₅	17.5	X	54.29109	10.82029	90.41664	7.33286	0.1379866	0.26404110	2.4063291	20	2 2.4	19.8
461247 2015 <i>WJ</i> ₁₆	17.1	X	108.34296	304.47615	91.83147	7.65980	0.1387588	0.27344807	2.3508205	20	1 28.4	19.9
461248 2015 <i>XG</i> ₂	16.7	X	317.75553	346.32800	76.72494	1.87998	0.1582757	0.19233137	2.9723683	20	11 10.6	19.8
461249 2015 <i>XL</i> ₂	17.7	X	67.40285	115.02759	329.92361	0.75413	0.1467933	0.26809293	2.3820222	20	2 1.4	19.7
461250 2015 <i>XP</i> ₂	15.8	X	43.02917	74.22281	246.11914	9.00947	0.0705397	0.18574163	3.0422615	20	11 1.0	20.0
461251 2015 <i>XV</i> ₅	16.3	X	304.26375	294.07892	128.67801	12.37574	0.0440964	0.18688708	3.0298179	20	10 30.5	20.6
461252 2015 <i>XN</i> ₆	16.9	X	97.69992	207.17901	140.76825	4.84579	0.2105733	0.24438433	2.5336920	20	—	—
461253 2015 <i>XC</i> ₇	16.2	X	6.13520	114.38970	219.63033	8.80735	0.0846685	0.17472115	3.1688796	20	9 26.9	20.4
461254 2015 <i>XF</i> ₉	15.7	X	235.56170	270.80532	226.09333	15.52725	0.0566332	0.18220502	3.0185022	20	10 25.4	20.2
461255 2015 <i>XK</i> ₉	16.1	X	220.85540	48.65288	86.45885	16.25528	0.0672056	0.17234613	3.1979256	20	10 12.9	21.1
461256 2015 <i>XR</i> ₉	15.2	X	163.50016	90.47206	106.52797	12.73568	0.0267366	0.17759274	3.1346273	20	10 24.2	20.0
461257 2015 <i>XM</i> ₁₀	16.7	X	322.80604	285.99042	120.09746	11.68692	0.0832517	0.18521785	3.0479943	20	11 2.4	20.7
461258 2015 <i>XC</i> ₁₃	16.9	X	252.60091	254.00749	226.91378	10.06510	0.0716761	0.19062354	2.9900953	20	10 26.2	20.9
461259 2015 <i>XZ</i> ₂₉	15.7	X	316.38939	304.69633	81.42766	13.86525	0.0895294	0.17617043	3.1514763	20	9 28.7	20.2
461260 2015 <i>XB</i> ₄₂	16.7	X	345.00740	135.82896	213.46575	6.98337	0.2482300	0.18064212	3.0992507	20	9 19.2	19.5
461261 2015 <i>XZ</i> ₄₃	16.6	X	269.18953	224.95531	218.08002	8.22600	0.1242699	0.17528942	3.1620270	20	9 18.2	20.9
461262 2015 <i>XY</i> ₄₄	17.2	X	321.53248	335.49089	198.50221	4.05462	0.0292102	0.26190112	2.4194194	20	—	—
461263 2015 <i>XY</i> ₅₀	16.1	X	96.14078	165.97295	107.12371	13.69936	0.0694982	0.19005590	2.9960460	20	11 13.0	20.7
461264 2015 <i>XM</i> ₅₃	15.9	X	349.65146	242.08797	128.19679	11.96290	0.0217018	0.17690866	3.1427029	20	10 23.8	20.4
461265 2015 <i>XS</i> ₅₆	16.0	X	32.34042	95.54896	209.92474	10.23153	0.1508956	0.17599862	3.1535269	20	10 8.9	20.0
461266 2015 <i>XD</i> ₅₈	17.6	X	349.19756	262.56810	167.70773	3.92122	0.0764717	0.21527768	2.7572133	20	—	—
461267 2015 <i>XG</i> ₅₈	17.5	X	350.00086	335.56855	101.35559	6.82080	0.0334280	0.21969419	2.7201343	20	—	—
461268 2015 <i>XC</i> ₅₉	16.9	X	45.14128	276.40228	99.65535	7.58305	0.0883497	0.22030983	2.7150644	20	—	—
461269 2015 <i>XU</i> ₆₀	16.3	X	248.94953	264.69219	220.70945	17.05279	0.1785002	0.17655996	3.1468394	20	10 8.4	20.9
461270 2015 <i>XX</i> ₆₀	16.2	X	9.87318	234.94403	112.37278	12.51540	0.1308863	0.18538175	3.0461976	20	11 3.5	20.2
461271 2015 <i>XF</i> ₆₁	17.6	X	142.19501	244.78611	124.19469	6.24373	0.1821944	0.27959405	2.3162429	20	2 7.2	20.8
461272 2015 <i>XM</i> ₆₂												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461281 2015 XW ₆₇	16.5	X	94.49427	254.49469	75.50867	14.34878	0.1160644	0.22799657	2.6536919	20	—	—
461282 2015 XX ₆₈	17.1	X	307.16367	117.96841	107.17726	7.98752	0.0619164	0.28240615	2.3008410	20	2 2.1	19.8
461283 2015 XY ₆₈	16.5	X	336.98477	254.02450	134.68440	8.74132	0.0888981	0.18760963	3.0220336	20	10 31.8	20.4
461284 2015 XZ ₆₈	15.9	X	285.59882	336.87423	102.84144	10.26653	0.0472861	0.18222421	3.0812859	20	10 25.1	20.2
461285 2015 XF ₆₉	17.5	X	106.63997	175.73113	223.97308	8.09226	0.1123462	0.26982690	2.3718063	20	1 23.2	20.5
461286 2015 XK ₆₉	18.0	X	155.47450	267.80032	102.48997	3.27849	0.2071629	0.29121781	2.2541913	20	2 24.0	21.3
461287 2015 XF ₇₃	17.9	X	77.69854	167.75288	294.90861	5.69113	0.1232515	0.28266481	2.2994372	20	3 7.1	20.4
461288 2015 XM ₇₆	16.0	X	322.82992	267.85613	118.61148	11.03669	0.0822948	0.17716652	3.1396527	20	10 6.7	20.2
461289 2015 XL ₇₇	16.1	X	132.94513	122.76027	118.87762	10.91092	0.0579863	0.18763177	3.0217959	20	11 12.8	20.8
461290 2015 XM ₈₁	16.0	X	325.84644	242.25585	154.41835	10.08136	0.1094946	0.18093572	3.0958970	20	10 22.5	19.8
461291 2015 XR ₉₆	17.0	X	57.81102	247.00712	111.44152	6.92270	0.0219400	0.21448677	2.7639852	20	—	—
461292 2015 XW ₉₆	17.1	X	143.32028	159.24851	125.11763	5.88470	0.2329678	0.23114235	2.6295597	20	—	—
461293 2015 XM ₉₇	17.8	X	73.34057	34.02204	103.81723	4.67201	0.0467892	0.30462676	2.1875468	20	4 12.8	20.1
461294 2015 XS ₁₀₀	17.3	X	95.18534	201.64322	139.15388	6.28378	0.0361923	0.22641600	2.6660276	20	—	—
461295 2015 XA ₁₀₆	16.0	X	287.51598	331.98493	92.11677	18.47670	0.1904539	0.17451545	3.1713692	20	9 22.2	20.4
461296 2015 XO ₁₁₀	15.6	X	294.26250	321.16908	107.56525	9.62144	0.0441608	0.17821195	3.1273621	20	10 22.3	20.0
461297 2015 XH ₁₁₁	15.7	X	1.79578	221.90702	110.13853	11.65192	0.1655120	0.17078979	3.2173238	20	10 1.6	19.6
461298 2015 XB ₁₁₈	16.1	X	241.65234	269.50589	210.91760	15.85727	0.1108158	0.17080658	3.2171130	20	10 2.5	20.9
461299 2015 XM ₁₃₄	17.0	X	10.76373	131.35210	241.20805	9.30841	0.0481573	0.19616831	2.9334824	20	11 24.4	20.9
461300 2015 XO ₁₃₅	17.2	X	283.39180	65.02104	68.48043	4.99888	0.0471956	0.21067811	2.7971973	20	12 30.5	20.8
461301 2015 XD ₁₃₉	17.7	X	25.88608	354.39428	117.71397	1.29223	0.1146818	0.25800610	2.4437085	20	—	—
461302 2015 XH ₁₄₀	17.6	X	19.79637	266.19507	130.21358	1.40510	0.0778914	0.21416306	2.7667697	20	—	—
461303 2015 XZ ₁₄₁	17.1	X	163.46243	181.77742	79.74593	3.71733	0.1430009	0.21878592	2.7276573	20	—	—
461304 2015 XY ₁₄₂	18.2	X	72.35068	8.02575	95.74301	2.29463	0.1435165	0.27911930	2.3188686	20	3 7.8	20.4
461305 2015 XO ₁₄₆	16.9	X	81.15873	217.07048	109.85598	5.44167	0.0656115	0.21096116	2.7946947	20	12 30.4	20.8
461306 2015 XA ₁₆₆	17.7	X	102.02147	223.41143	171.70082	12.78671	0.2004680	0.26319458	2.4114861	20	1 26.2	20.7
461307 2015 XJ ₁₆₇	16.0	X	293.54928	214.69595	242.35371	15.67808	0.1222123	0.17254509	3.1954668	20	11 10.8	20.0
461308 2015 XC ₁₇₀	16.5	X	317.71088	104.36947	266.29113	11.58972	0.1525376	0.17332088	3.1859243	20	8 21.3	20.5
461309 2015 XG ₁₇₀	16.8	X	0.40055	302.08467	97.45298	5.97049	0.1195045	0.20878211	2.8141065	20	12 25.7	20.3
461310 2015 XJ ₁₇₀	16.4	X	98.85780	73.01839	211.44246	8.94777	0.0474982	0.19270856	2.9684885	20	11 23.9	20.7
461311 2015 XD ₁₇₂	16.4	X	10.73294	172.54058	244.68242	14.36987	0.0887859	0.21688086	2.7436069	20	—	—
461312 2015 XH ₁₇₄	16.1	X	73.18788	192.20778	85.35765	13.12353	0.0485753	0.17638789	3.1488855	20	10 19.7	20.8
461313 2015 XG ₁₇₆	16.8	X	51.48198	215.99552	156.38827	6.48919	0.0348495	0.21898722	2.7259854	20	—	—
461314 2015 XS ₁₇₉	17.5	X	212.60198	164.73746	123.82985	7.20017	0.0997089	0.26641711	2.3920007	20	1 4.1	20.9
461315 2015 XF ₁₉₅	16.6	X	336.18669	287.91462	231.94660	1.79541	0.1560609	0.24507945	2.5288988	20	—	—
461316 2015 XN ₁₉₆	17.5	X	50.92931	180.13423	231.87326	2.32140	0.0363826	0.23800609	2.5787585	20	—	—
461317 2015 XM ₂₀₃	16.7	X	254.12758	236.34638	221.74575	6.07809	0.1316100	0.17088858	3.2160838	20	9 16.8	21.4
461318 2015 XT ₂₀₃	17.6	X	66.87263	307.52475	126.52134	1.92334	0.1605767	0.26319311	2.4114950	20	1 18.1	19.8
461319 2015 XC ₂₃₅	17.1	X	305.86659	284.92068	141.02025	1.63146	0.1785773	0.18376400	3.0640494	20	10 19.8	20.4
461320 2015 XH ₂₃₅	17.5	X	302.23561	5.74473	93.71446	4.70432	0.0902525	0.19688792	2.9263303	20	12 7.3	20.9
461321 2015 XL ₂₄₅	16.5	X	304.00244	242.78552	239.00970	9.85773	0.1528260	0.18703272	3.0282449	20	12 30.5	20.0
461322 2015 XB ₂₄₆	15.9	X	330.71490	293.54813	134.02151	27.00268	0.1886832	0.18026103	3.1036172	20	12 13.1	19.8
461323 2015 XS ₂₆₀	16.6	X	334.71517	278.86330	226.47332	12.10488	0.0664512	0.21820808	2.7324706	20	—	—
461324 2015 XG ₂₆₂	16.6	X	270.98705	156.78692	59.82490	6.70666	0.0793463	0.26531245	2.3986357	20	—	—
461325 2015 XN ₂₆₂	16.6	X	348.96351	169.91412	225.12688	8.83024	0.0926348	0.19778445	2.9174804	20	11 26.9	20.3
461326 2015 XO ₂₆₂	16.4	X	42.41259	317.16183	90.03281	22.73459	0.0245346	0.23269972	2.6178141	20	—	—
461327 2015 XG ₂₆₃	17.7	X	266.05893	161.31203	86.55419	4.45818	0.1160122	0.27372818	2.3492165	20	1 6.7	21.0
461328 2015 XA ₂₆₆	17.1	X	51.54757	302.52896	34.00626	2.37689	0.0551156	0.19802357	2.9151313	20	12 3.0	21.1
461329 2015 XJ ₂₆₆	17.6	X	20.61846	81.43812	305.53016	2.60257	0.1040370	0.21051972	2.7986002	20	—	—
461330 2015 XC ₂₇₆	16.9	X	93.22299	82.36029	208.42632	4.97497	0.0673660	0.19753159	2.9199697	20	11 27.9	21.1
461331 2015 XX ₂₇₈	16.1	X	38.70254	234.36233	74.94152	12.98011	0.0830136	0.17901834	3.1179635	20	10 20.4	20.5
461332 2015 XV ₃₀₉	17.6	X	8.52409	22.74721	58.34518	2.87685	0.1718051	0.23207112	2.6225392	20	—	—
461333 2015 XM ₃₁₁	17.5	X	51.31201	256.40715	102.61436	4.56248	0.1030287	0.21103132	2.7940753	20	—	—
461334 2015 XS ₃₁₁	17.8	X	49.78893	271.39500	133.84917	4.49538	0.1101829	0.23518336	2.5993514	20	—	—
461335 2015 XY ₃₁₂	17.4	X	11.24315	267.27130	151.56852	1.32795	0.0634135	0.21683722	2.7439751	20	—	—
461336 2015 XM ₃₁₃	16.2	X	0.25598	126.81541	244.03497	5.38716	0.1074503	0.18677612	3.0310178	20	11 10.7	19.9
461337 2015 XM ₃₂₂	17.1	X	120.27432	99.90457	200.13139	2.23469	0.0361972	0.21098164	2.7945139	20	—	—
461338 2015 XY ₃₃₇	17.3	X	18.13172	245.08458	264.41530	3.68272	0.1332422	0.26438149	2.4042633	20	1 31.3	19.7
461339 6365 P-L	18.2	X	164.11209	15.65814	346.45931	6.12482	0.2170442	0.28835677	2.2690773	20	2 22.3	21.6
461340 3073 T-2	18.1	X	92.43796	312.85254	43.46308	2.76389	0.3341329	0.23727896	2.5840241	20	—	—
461341 1995 SC ₄₁	17.3	X	257.47531	124.16300	169.07676	8.04875	0.1202691	0.22235305	2.6984062	20	2 20.1	21.8
461342 1995 SX ₄₂	18.3	X	312.05006	159.77634	130.49354	2.34701	0.1807895	0.26790470	2.3831378	20	4 23.6	20.7
461343 1995 SG ₇₆	17.3	X	233.56054	72.86011	162.88674	4.66233	0.0108405	0.21113153	2.7931912	20	—	—
461344 1995 SV ₇₉	17.3	X	152.01203	188.65181	166.04170	13.40821	0.1221854	0.21719054	2.7409984	20	1 29.9	21.6
461345 1995 UQ ₃₁	17.5	X	88.48545	11.10077	29.19569	9.99566	0.1385614	0.21132876	2.7914530	20	1 18.3	21.2
461346 1995 UD ₃₉	18.0	X	165.75382	123.99950	235.39524	1.41504	0.2250170	0.25707012	2.4496365	20	2 22.0	21.9
461347 1995 UL ₄₀	17.0	X	142.94156	45.19156	6.59589	6.21635	0.1054358	0.25957480	2.4338531	20	3 27.5	20.4
461348 1995 WA ₁₄	16.6	X	118.53034	282.65265	96.45502	7.06310	0.1221477	0.21074576	2.7965987	20	1 26.4	20.5
461349 1997 SU ₁₃	16.2	X	297.80306	160.35773	354.21690	10.80957	0.0603359	0.18230944	3.0803255	20	—	—
461350 1998 PY	16.3	X	79.89711	50.06360	323.16550	19.47463	0.2448315	0.19487570	2.9464399	20	—	—
461351 1998 WW ₃₇	13.5	X	293.85102	0.56984	48.52400	30.89339	0.0349799	0.08351274	5.1836328	20	9 28.8	20.7
461352 1999 FR ₆₅	17.4	X	9.81279	238.58350	348.73793	23.79099	0.2129001	0.28482362	2.2878034	20	4 29.2	19.7
461353 1999 LS ₇	20.8	X	151.99763	123.76483	252.30274	13.05235	0.3007891	0.97080344	1.0101406	20	—	—
461354 1999 UO ₂₈	17.8	X	270.61597	188.95366	152.72338	1.430						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461361 2000 FH ₁₄	18.5	X	30.61806	339.06028	189.47586	10.53608	0.1308567	0.24628751	2.5206224	20	3 28.5	21.0
461362 2000 FR ₅₂	16.3	X	186.47124	77.80220	178.72133	2.72329	0.1309418	0.17827916	3.1265761	20	—	—
461363 2000 GQ ₁₄₈	13.2	X	153.31329	127.38662	351.96584	16.59163	0.1372754	0.07118718	5.7659142	20	7 4.9	21.3
461364 2000 HL ₁₆	15.9	X	209.92441	244.01811	6.45113	16.66302	0.1844600	0.18149644	3.0895173	20	—	—
461365 2000 JF ₁	19.1	X	57.63810	220.27647	54.92059	11.40107	0.4524151	0.30523408	2.1846441	20	11 25.9	23.1
461366 2000 LJ ₇	17.2	X	312.54232	99.91790	115.15100	7.97170	0.1461354	0.23737759	2.5833083	20	1 20.6	20.7
461367 2000 QX ₁₆₀	17.7	X	237.76710	78.05727	258.19165	4.22334	0.3007225	0.28232421	2.3012862	20	3 15.7	21.8
461368 2000 RL ₁₀₇	17.3	X	114.59769	285.16364	87.38156	3.54136	0.0942978	0.21880295	2.7275157	20	1 7.6	20.9
461369 2000 SK ₉	17.3	X	137.87538	236.96360	200.11563	22.65462	0.2951632	0.27593119	2.3366959	20	5 10.6	21.4
461370 2000 SF ₆₄	17.0	X	90.63437	201.42107	187.09757	10.44146	0.2763574	0.21492733	2.7602068	20	1 21.9	20.7
461371 2000 SN ₁₇₁	17.5	X	274.57729	327.50886	11.50000	9.64863	0.3570000	0.28606788	2.2811647	20	4 13.2	21.0
461372 2000 SM ₃₂₁	17.2	X	168.14803	349.55652	356.15316	13.24604	0.1081368	0.22239180	2.6980927	20	2 8.8	21.4
461373 2000 TW ₄₉	16.5	X	275.36766	306.26853	23.68292	12.12254	0.3031691	0.23664231	2.5886567	20	4 12.1	20.3
461374 2000 WS ₂₁	17.9	X	129.11955	303.05387	107.33224	6.66214	0.3899541	0.27144633	2.3623635	20	4 9.8	22.1
461375 2001 FC ₁₀₂	15.9	X	208.75438	29.15487	192.71224	24.67965	0.2705251	0.18774529	3.0205778	20	12 14.9	21.3
461376 2001 FA ₁₂₆	18.1	X	352.97762	37.04333	197.10160	1.36068	0.1502869	0.26089544	2.4256328	20	4 20.1	20.3
461377 2001 FR ₁₂₇	19.0	X	157.19536	277.05896	190.93037	28.33165	0.1102905	0.52626914	1.5193720	20	7 3.1	21.3
461378 2001 FB ₁₄₀	17.4	X	58.07887	322.03658	226.93581	6.64152	0.1949558	0.26536287	2.3983319	20	6 27.4	20.2
461379 2001 FC ₁₉₉	17.2	X	54.39292	228.88349	187.70324	1.66495	0.0890355	0.19672693	2.9279265	20	—	—
461380 2001 FT ₁₉₉	17.8	X	82.47851	133.48718	352.44352	2.98358	0.1767889	0.26288339	2.4133887	20	4 29.9	20.8
461381 2001 HS	17.3	X	17.56800	138.07791	54.51869	2.35613	0.1181619	0.25847303	2.4407646	20	4 7.7	19.6
461382 2001 MO ₂₈	16.5	X	200.02364	28.71483	282.69752	13.92902	0.1640952	0.23915252	2.5705106	20	1 22.6	20.7
461383 2001 OR ₂₈	17.1	X	209.43388	319.06664	23.85114	7.72452	0.1835195	0.24326309	2.5414714	20	3 12.5	21.3
461384 2001 OM ₅₃	16.0	X	210.38463	276.29968	355.42664	17.33326	0.2873848	0.18357086	3.0661982	20	—	—
461385 2001 PJ ₁₄	16.7	X	129.02034	41.09833	321.06219	32.25025	0.2543417	0.23199162	2.6231383	20	2 2.9	20.7
461386 2001 PZ ₃₁	17.0	X	219.84980	322.59230	15.26630	12.78213	0.2083070	0.24332854	2.5410157	20	3 15.2	21.3
461387 2001 QS ₉₂	15.8	X	137.52352	177.85980	123.95567	14.05234	0.1558508	0.17378134	3.1802941	20	—	—
461388 2001 RB ₂₉	17.5	X	243.70789	325.75769	340.67606	11.11095	0.1863862	0.24229600	2.5482296	20	2 25.2	21.5
461389 2001 RE ₆₁	17.3	X	55.52976	25.00712	23.38330	10.03949	0.3518059	0.22272139	2.6954303	20	—	—
461390 2001 RF ₁₄₀	18.0	X	280.03607	336.14066	18.24951	5.86342	0.1513530	0.30413085	2.1899241	20	6 10.4	20.4
461391 2001 RD ₁₄₆	16.7	X	134.31702	169.93598	229.71130	13.81454	0.2561503	0.23557987	2.5964339	20	3 14.8	21.1
461392 2001 RC ₁₅₀	15.8	X	75.69387	194.29299	156.02561	19.30614	0.1822835	0.16948086	3.2338680	20	—	—
461393 2001 SJ ₂₃	17.3	X	131.32577	359.94971	6.63561	2.70365	0.1947787	0.23060862	2.6336155	20	1 31.6	21.3
461394 2001 SS ₂₄	16.9	X	169.09375	17.04211	354.55096	13.55805	0.1258130	0.23657429	2.5891528	20	3 8.7	20.9
461395 2001 SB ₆₄	16.6	X	126.61327	214.37999	198.73665	11.32491	0.2681355	0.23182141	2.6244221	20	3 29.7	20.9
461396 2001 SF ₁₂₅	17.5	X	210.80287	161.51437	186.89798	10.16169	0.1318332	0.24140082	2.5545254	20	3 18.4	21.5
461397 2001 SD ₁₇₀	18.0	X	147.98325	215.90487	197.02083	25.26774	0.5286172	0.28734611	2.2743947	20	4 28.8	22.8
461398 2001 SC ₁₈₀	15.2	X	82.03764	192.63235	152.52311	28.86369	0.1555897	0.17110150	3.2134151	20	—	—
461399 2001 SC ₁₈₃	16.9	X	148.36233	48.52902	350.09458	10.11476	0.1572098	0.23877922	2.5731890	20	3 21.3	21.0
461400 2001 SC ₂₀₃	18.0	X	51.74985	143.11679	151.95370	2.40812	0.1556682	0.31694878	2.1304760	20	11 20.5	20.6
461401 2001 SX ₂₃₈	17.2	X	132.77853	3.34604	15.99584	14.60797	0.1665249	0.23177971	2.6247369	20	2 20.0	21.3
461402 2001 SK ₂₆₄	17.9	X	310.97637	216.07659	202.14533	23.15947	0.0860029	0.36871832	1.9260737	20	12 18.7	20.1
461403 2001 SR ₂₆₄	18.9	X	332.00812	34.26094	7.15361	19.85996	0.1145761	0.36955746	1.9231570	20	—	—
461404 2001 SU ₂₆₉	17.7	X	158.59637	180.40314	191.57017	4.70021	0.1988467	0.23456502	2.6039175	20	3 1.9	22.0
461405 2001 SG ₂₉₃	16.0	X	118.05135	347.86433	351.15390	11.34134	0.1086442	0.17413768	3.1759541	20	—	—
461406 2001 SA ₃₀₉	18.0	X	45.18150	228.43377	196.48702	6.31787	0.3149739	0.22307149	2.6926093	20	—	—
461407 2001 SP ₃₂₃	17.2	X	108.72024	315.52807	80.47701	6.26981	0.2163488	0.22991565	2.6389046	20	2 16.7	20.9
461408 2001 SC ₃₅₆	16.7	X	144.60856	2.27765	37.74720	16.48157	0.1427913	0.23507446	2.6001541	20	3 26.5	20.8
461409 2001 TK ₂₅	17.1	X	81.83504	52.63507	359.30909	12.30206	0.1891688	0.22646839	2.6656164	20	1 30.3	20.4
461410 2001 TS ₄₇	17.1	X	145.60364	300.78578	65.00331	12.14805	0.1314024	0.23078633	2.6322633	20	2 11.2	21.2
461411 2001 TL ₉₀	18.1	X	315.33256	61.32684	12.41415	20.84259	0.0859354	0.37021561	1.9208770	20	—	—
461412 2001 TB ₉₃	16.8	X	164.64383	10.58219	6.95235	13.98871	0.1751423	0.23542003	2.5976090	20	3 15.7	20.9
461413 2001 TC ₁₃₂	17.4	X	163.79301	184.12389	199.23011	9.63416	0.2082324	0.23658038	2.5891084	20	3 20.2	21.8
461414 2001 TA ₁₄₀	17.9	X	297.84648	40.03854	17.24696	20.87584	0.0837386	0.36788711	1.9289738	20	11 12.5	19.6
461415 2001 TY ₁₄₅	16.9	X	129.32758	295.66563	62.06595	6.86081	0.2897983	0.22890625	2.6466568	20	1 30.7	21.1
461416 2001 TB ₁₇₆	17.4	X	193.57002	109.46685	248.45896	3.39729	0.1967141	0.23884832	2.5726927	20	3 13.4	21.7
461417 2001 TH ₂₁₄	17.0	X	105.62510	133.55758	238.28545	11.83224	0.2730922	0.22619775	2.6677422	20	1 16.8	20.8
461418 2001 TY ₂₁₄	16.6	X	104.04894	43.84217	358.79148	14.90356	0.1720100	0.22823847	2.6518166	20	2 16.1	20.3
461419 2001 UH ₁	17.0	X	136.20946	89.22388	40.22247	22.64626	0.3018220	0.29318209	2.2441115	20	7 17.7	21.4
461420 2001 UE ₂	17.7	X	40.46478	305.40215	44.01519	21.35694	0.1017664	0.37092503	1.9184270	20	—	—
461421 2001 UH ₂₈	17.0	X	57.35084	61.02243	30.94442	13.34901	0.2444523	0.22660436	2.6645500	20	2 22.7	19.8
461422 2001 UZ ₁₁₅	16.7	X	174.71250	162.51202	213.58570	13.65903	0.1974598	0.23532044	2.5983418	20	3 18.5	21.2
461423 2001 UL ₁₇₈	16.7	X	193.64770	279.18833	63.14054	10.42648	0.2240133	0.23751605	2.5823042	20	3 2.1	21.3
461424 2001 UQ ₁₉₉	17.1	X	143.90205	48.37383	19.86885	15.07326	0.0727957	0.23876553	2.5732874	20	4 15.9	20.7
461425 2001 UB ₂₀₂	18.1	X	251.69854	355.70834	16.35799	7.25929	0.1425837	0.30002364	2.2098649	20	5 28.6	21.1
461426 2001 UN ₂₀₉	17.2	X	67.62536	173.12139	222.21001	13.01916	0.1779389	0.22309964	2.6923827	20	—	—
461427 2001 UW ₂₂₅	17.4	X	107.33287	24.60432	51.42873	9.34626	0.1486790	0.23399136	2.6081716	20	3 29.1	21.1
461428 2001 VZ ₅	17.1	X	187.30030	172.36141	179.09715	3.18131	0.2527694	0.23535660	2.5980756	20	3 3.1	21.5
461429 2001 VU ₁₂	17.7	X	33.95725	337.60210	45.03072	22.53995	0.0890821	0.37233075	1.9135954	20	—	—
461430 2001 VF ₂₁	16.5	X	58.98497	216.05536	232.23433	12.38151	0.2239015	0.22458557	2.6804938	20	2 4.7	19.5
461431 2001 VR ₂₁	16.5	X	195.44473	285.93737	52.80956	26.77075	0.2372723	0.23421159	2.6065364	20	3 10.4	21.6
461432 2001 WT ₁₅	15.6	X	150.03945	112.49238	271.68022	26.65037	0.4428586	0.23358104	2.6112252	20	3 10.3	21.2
461433 2001 WJ ₆₉	16.9	X	50.18971	200.29732	229.15565	10.29706	0.1767000	0.22206819	2.7007133	20	—	—
461434 2001 XK ₇₂												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461441 2002 <i>EJ</i> ₉₀	16.6	X	310.81343	200.47747	358.96438	9.32463	0.1538317	0.21194408	2.7860475	20	1 3.3	20.5
461442 2002 <i>EW</i> ₉₂	18.2	X	33.65652	225.09137	336.87487	5.63780	0.2243888	0.27987456	2.3146950	20	6 6.2	20.0
461443 2002 <i>EO</i> ₁₀₇	18.2	X	61.28836	184.93780	14.13898	4.56615	0.1811717	0.28262005	2.2996800	20	7 18.1	20.9
461444 2002 <i>EB</i> ₁₄₂	16.4	X	288.55962	58.39921	165.20210	9.77786	0.1254699	0.21221805	2.7836492	20	1 8.7	20.6
461445 2002 <i>GL</i> ₆	16.8	X	304.99118	225.07098	36.28711	18.99336	0.2757546	0.21381133	2.7698031	20	3 4.7	21.0
461446 2002 <i>GU</i> ₂₆	17.3	X	45.54058	179.45568	49.34144	24.67912	0.2109145	0.28117761	2.3075382	20	8 27.1	20.7
461447 2002 <i>GY</i> ₆₂	16.8	X	10.76150	124.44795	37.03140	3.69285	0.1570693	0.21388137	2.7691985	20	2 16.1	19.6
461448 2002 <i>GV</i> ₁₀₁	18.0	X	53.71193	177.62451	45.57100	6.63761	0.2222897	0.28167227	2.3048358	20	8 20.9	20.8
461449 2002 <i>GL</i> ₁₀₃	17.8	X	24.73841	182.69310	49.72771	5.65320	0.2020993	0.27866310	2.3213987	20	7 5.7	19.6
461450 2002 <i>GO</i> ₁₉₁	16.4	X	18.02735	297.84817	189.20664	27.50928	0.2775884	0.21223744	2.7834796	20	—	—
461451 2002 <i>JC</i> ₉₆	17.9	X	37.79019	232.11235	333.44221	1.75226	0.1753623	0.27611402	2.3356642	20	6 13.6	19.9
461452 2002 <i>NQ</i>	16.3	X	158.82788	137.48998	180.27875	17.78077	0.0824711	0.19062355	2.9900952	20	—	—
461453 2002 <i>NH</i> ₇₉	17.0	X	312.48134	168.37189	97.24644	7.71772	0.0943793	0.26461245	2.4028640	20	4 6.5	19.9
461454 2002 <i>PD</i> ₂₈	17.8	X	292.10797	336.46439	309.65238	4.57059	0.2153424	0.26313144	2.4118718	20	3 12.1	21.0
461455 2002 <i>PX</i> ₅₁	17.2	X	261.96968	220.04449	123.64086	6.11890	0.1769003	0.26476464	2.4019432	20	5 2.1	20.6
461456 2002 <i>PR</i> ₅₂	16.1	X	152.97566	163.45663	125.73002	12.98259	0.1475502	0.18587819	3.0407713	20	—	—
461457 2002 <i>PJ</i> ₁₆₆	16.2	X	114.07060	226.60767	118.71901	10.38727	0.0800969	0.18683508	3.0303801	20	—	—
461458 2002 <i>PL</i> ₁₉₄	15.8	X	103.68263	320.21221	341.04102	26.74514	0.1223545	0.17854606	3.1234594	20	12 24.0	21.2
461459 2002 <i>PF</i> ₁₉₈	18.0	X	306.88962	160.68446	119.20570	5.33936	0.1746643	0.26384999	2.4074910	20	4 3.4	20.8
461460 2002 <i>QO</i> ₁₇	16.9	X	170.51924	177.94386	128.74066	2.14221	0.2524002	0.19079324	2.9883220	20	1 4.1	22.0
461461 2002 <i>QL</i> ₃₉	16.2	X	49.04310	15.28592	0.15867	10.84214	0.1191357	0.17699630	3.1416654	20	—	—
461462 2002 <i>QC</i> ₅₀	16.9	X	293.23340	306.57738	311.65819	11.44367	0.2253377	0.25906055	2.4370730	20	2 6.9	20.4
461463 2002 <i>QS</i> ₅₂	16.7	X	156.27957	143.06855	149.43262	10.38293	0.1373880	0.18525883	3.0475448	20	—	—
461464 2002 <i>QY</i> ₇₅	16.3	X	107.21222	218.61898	130.99099	14.07515	0.1349775	0.18467103	3.0540082	20	—	—
461465 2002 <i>QT</i> ₈₁	16.3	X	136.91819	150.49407	135.88043	11.20401	0.0651407	0.18012199	3.1052142	20	—	—
461466 2002 <i>QC</i> ₁₁₈	16.6	X	40.52534	241.94719	138.33846	12.90149	0.1800594	0.17928515	3.1148694	20	—	—
461467 2002 <i>QG</i> ₁₁₈	16.1	X	187.29663	298.73060	354.28104	10.26460	0.0477849	0.19002821	2.9963371	20	—	—
461468 2002 <i>QW</i> ₁₃₆	16.7	X	158.25545	122.26885	183.08209	11.38296	0.1565526	0.18685495	3.0301652	20	—	—
461469 2002 <i>QU</i> ₁₃₉	16.4	X	126.99896	7.07227	320.47299	12.04289	0.1006431	0.18534095	3.0466446	20	—	—
461470 2002 <i>QB</i> ₁₄₃	16.6	X	49.33730	43.10557	320.81292	17.39032	0.1640781	0.17647086	3.1478985	20	—	—
461471 2002 <i>QJ</i> ₁₅₂	16.7	X	140.17990	308.65829	358.84633	10.60991	0.1183477	0.18518589	3.0483450	20	—	—
461472 2002 <i>RO</i> ₅₃	17.0	X	234.36308	349.58041	353.57694	16.69535	0.2066663	0.25848922	2.4406627	20	3 26.8	21.0
461473 2002 <i>RC</i> ₈₉	17.8	X	260.04739	45.60838	290.56880	1.20555	0.2303100	0.26187046	2.4196082	20	4 11.0	21.3
461474 2002 <i>RR</i> ₁₄₂	18.1	X	23.22923	312.96447	322.10420	4.68138	0.2817513	0.27441019	2.3453224	20	9 22.5	20.3
461475 2002 <i>RS</i> ₁₄₇	15.9	X	164.73263	297.98056	357.96042	15.10487	0.1981926	0.18565755	3.0431800	20	—	—
461476 2002 <i>RW</i> ₁₅₉	16.1	X	246.21219	275.49209	342.73797	9.66074	0.0589467	0.19227185	2.9729818	20	1 17.1	20.6
461477 2002 <i>RE</i> ₂₂₇	16.6	X	21.01371	56.47520	336.92022	8.97621	0.2263863	0.17524142	3.1626044	20	—	—
461478 2002 <i>RJ</i> ₂₃₉	17.3	X	320.35673	345.39393	327.85022	6.47115	0.1326528	0.26819568	2.3814138	20	6 20.6	19.6
461479 2002 <i>RG</i> ₂₅₂	16.6	X	174.69495	118.05460	191.88928	10.30883	0.0743986	0.18826775	3.0149869	20	1 1.1	21.4
461480 2002 <i>RK</i> ₂₅₂	17.2	X	318.56160	313.10641	346.46727	8.88603	0.0747140	0.26591771	2.3949946	20	6 1.5	20.0
461481 2002 <i>RB</i> ₂₆₆	16.5	X	71.57554	129.39828	225.31884	4.46709	0.1521744	0.17866093	3.1221204	20	—	—
461482 2002 <i>RM</i> ₂₆₈	17.9	X	322.76216	313.48059	333.21452	1.67603	0.1888868	0.26658908	2.3909720	20	5 4.2	20.1
461483 2002 <i>RJ</i> ₂₉₁	17.6	X	310.57991	251.41611	41.66452	8.30487	0.1495419	0.26484921	2.4014318	20	4 29.8	20.3
461484 2002 <i>RK</i> ₂₉₂	16.2	X	49.24481	39.05020	343.52303	19.35154	0.1900884	0.17701393	3.1414568	20	—	—
461485 2002 <i>SB</i> ₂₅	17.2	X	182.59029	137.23372	268.92724	1.51657	0.1825303	0.25627668	2.4546900	20	5 2.8	21.1
461486 2002 <i>SC</i> ₆₅	15.6	X	152.27437	44.90986	251.27092	21.88752	0.1348164	0.18354182	3.0665216	20	—	—
461487 2002 <i>TT</i> ₂₃₄	16.0	X	58.20742	102.87500	243.45965	14.46936	0.2335917	0.17385168	3.1794363	20	—	—
461488 2002 <i>TT</i> ₂₄₇	15.7	X	55.98360	144.93940	221.46714	28.21413	0.2510403	0.17767542	3.1336547	20	—	—
461489 2002 <i>TW</i> ₃₀₃	16.3	X	4.26487	287.27225	139.38629	6.00775	0.1077166	0.17500521	3.1654496	20	—	—
461490 2002 <i>TL</i> ₃₁₈	16.6	X	134.51180	328.96142	338.68191	9.76211	0.0581391	0.18135595	3.0911127	20	—	—
461491 2002 <i>TK</i> ₃₄₅	16.8	X	72.94386	232.21100	106.42307	6.85907	0.0844094	0.17320473	3.1873485	20	12 28.6	21.3
461492 2002 <i>UH</i> ₇₅	16.2	X	7.32120	207.81795	213.15819	7.81414	0.2245096	0.17223007	3.1993621	20	—	—
461493 2002 <i>VH</i> ₁₄₀	16.1	X	22.25589	286.73782	105.97365	4.93557	0.0672653	0.17077318	3.2175325	20	12 29.7	20.4
461494 2002 <i>WN</i> ₈	16.8	X	164.69521	322.15086	66.36966	11.10946	0.1756585	0.24695799	3.1610581	20	3 31.9	21.0
461495 2002 <i>XP</i> ₁₁₇	17.2	X	31.85957	32.24253	84.84293	12.48621	0.1177044	0.23734477	2.5835464	20	1 19.2	20.0
461496 2003 <i>AA</i> ₆₇	17.2	X	94.47572	100.68415	343.88047	13.08082	0.2792483	0.23834609	2.5763055	20	4 2.8	20.8
461497 2003 <i>BM</i> ₆	15.8	X	18.98269	181.12204	284.22648	21.21577	0.0622141	0.22850728	2.6497365	20	—	—
461498 2003 <i>BW</i> ₈₀	16.9	X	50.78013	328.34499	132.49970	4.92245	0.1808670	0.23139094	2.6276760	20	2 4.9	19.3
461499 2003 <i>BL</i> ₈₁	17.3	X	6.67740	193.65269	311.32664	1.58858	0.1894083	0.22957764	2.6414942	20	1 7.6	19.8
461500 2003 <i>BC</i> ₈₇	17.3	X	351.75666	88.62611	144.81466	7.57630	0.0692526	0.23957603	2.5674804	20	4 26.9	20.4
461501 2003 <i>FT</i> ₃	18.6	X	312.53056	84.75042	181.54598	4.32052	0.5677803	0.22455530	2.6807348	20	1 29.2	23.1
461502 2003 <i>FN</i> ₁₀₃	17.8	X	359.03614	200.20851	187.76524	24.62885	0.1166734	0.37667614	1.8988499	20	—	—
461503 2003 <i>FJ</i> ₁₂₂	16.4	X	168.24093	72.97697	245.36527	8.86062	0.3267869	0.21746749	2.7386707	20	1 14.9	21.4
461504 2003 <i>HE</i> ₁₆	16.4	X	2.58484	129.51799	70.89511	12.08546	0.1384045	0.22817837	2.6522823	20	3 31.1	19.4
461505 2003 <i>KB</i> ₅	18.2	X	50.27818	231.28879	51.27659	4.84563	0.1393779	0.30485729	2.1864439	20	10 27.7	20.9
461506 2003 <i>QE</i> ₂₉	17.1	X	254.67005	346.87589	350.93217	13.42555	0.2931554	0.27729569	2.3290240	2		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461521 2003 SE ₂₁₄	17.6	X	146.00589	337.09960	67.64284	3.58682	0.2063186	0.26231541	2.4168712	20	4 1.2	21.3
461522 2003 SG ₂₂₉	18.0	X	67.08675	272.36035	24.19194	20.77308	0.0656348	0.35341839	1.9812683	20	12 1.9	20.7
461523 2003 SX ₂₄₃	16.9	X	17.90564	354.22506	45.38589	1.32791	0.2039888	0.18465230	3.0542147	20	—	—
461524 2003 SS ₂₆₄	17.7	X	184.63495	353.44741	50.47657	4.90520	0.2002227	0.27101117	2.3648917	20	5 2.3	21.4
461525 2003 SW ₂₉₀	17.7	X	164.10811	337.49256	15.71697	2.92262	0.2004542	0.25990869	2.4317683	20	2 13.0	21.5
461526 2003 SZ ₂₉₉	17.5	X	298.54636	333.84273	346.02361	11.96480	0.1716987	0.28049105	2.3113021	20	5 9.9	20.5
461527 2003 SM ₃₂₃	18.0	X	350.14350	317.41331	309.98751	2.27882	0.1902360	0.28254702	2.3000762	20	6 5.1	19.4
461528 2003 SJ ₃₂₅	16.8	X	39.79369	80.55503	334.77798	9.44049	0.1059447	0.19226976	2.9730033	20	—	—
461529 2003 SE ₃₃₄	18.4	X	141.38540	124.16808	280.28577	1.63542	0.1931483	0.26258011	2.4152467	20	3 23.7	22.0
461530 2003 ST ₃₃₆	16.1	X	290.20570	88.91400	86.66715	10.90275	0.0471368	0.19022222	2.9942994	20	—	—
461531 2003 SY ₃₅₉	18.0	X	104.90437	57.31198	15.67051	7.53228	0.0965415	0.26278751	2.4139757	20	3 9.4	21.0
461532 2003 ST ₃₆₆	16.9	X	358.83394	236.08999	192.09193	10.18588	0.1045167	0.18754319	3.0227473	20	—	—
461533 2003 SH ₄₀₁	16.5	X	17.43428	260.21546	162.86101	16.81467	0.1389060	0.18454097	3.0554430	20	—	—
461534 2003 SL ₄₀₃	17.2	X	99.23374	134.05790	242.67319	1.20271	0.0721010	0.19646726	2.9305508	20	—	—
461535 2003 SR ₄₀₆	16.5	X	317.20579	348.06639	117.92751	10.50225	0.0649010	0.18226723	3.0808010	20	—	—
461536 2003 SB ₄₂₁	17.1	X	1.86269	325.19708	93.44861	2.45999	0.1879561	0.18439504	3.0570548	20	—	—
461537 2003 TS ₁₇	17.4	X	248.64445	350.58801	17.17957	5.66662	0.1466406	0.27646301	2.3336982	20	5 18.8	20.7
461538 2003 TY ₄₀	16.3	X	316.10590	277.18817	226.01974	9.14361	0.0754317	0.19011940	2.9953789	20	—	—
461539 2003 TV ₄₆	16.7	X	85.92248	138.27792	216.17731	11.04625	0.1213102	0.18858997	3.0115517	20	—	—
461540 2003 UA ₁₀₅	16.3	X	81.73746	332.10420	20.08207	13.45487	0.1789497	0.18752085	3.0229875	20	—	—
461541 2003 UN ₁₃₀	17.6	X	137.04920	307.78219	95.80894	4.24968	0.2352651	0.26097302	2.4251520	20	3 25.6	21.4
461542 2003 UO ₁₅₂	17.6	X	181.44615	289.89840	99.16849	2.66510	0.1992399	0.26722340	2.3871867	20	4 11.9	21.4
461543 2003 UF ₂₀₅	16.6	X	53.12703	24.28314	2.62162	7.78400	0.2362199	0.18688814	3.0298064	20	—	—
461544 2003 UE ₂₅₈	17.6	X	171.42841	184.03245	212.23605	5.45056	0.1378484	0.26643664	2.3918838	20	4 8.0	21.3
461545 2003 UP ₃₄₅	16.7	X	310.01000	321.08600	326.69234	2.03886	0.0500322	0.20147088	2.8817825	20	1 15.9	20.6
461546 2003 UE ₃₆₄	17.7	X	275.84520	235.48568	75.07705	7.77474	0.1444090	0.27314476	2.3525605	20	4 9.1	20.9
461547 2003 UU ₄₀₁	18.3	X	139.29542	202.17743	207.50196	8.50752	0.2159628	0.26510372	2.3998946	20	3 30.0	22.1
461548 2003 VN ₃	17.9	X	316.16061	69.20526	250.56424	1.59000	0.2370002	0.27969833	2.3156671	20	6 5.1	19.7
461549 2003 VP ₃	16.3	X	24.62008	214.87372	220.32938	14.62518	0.1485487	0.18713975	3.0270901	20	—	—
461550 2003 WO ₅	16.2	X	8.90400	179.29662	241.94277	19.31860	0.2455866	0.18143662	3.0901964	20	—	—
461551 2003 WG ₁₇	15.9	X	47.57171	208.08438	199.38961	14.80479	0.1519719	0.18552084	3.0446748	20	—	—
461552 2003 WH ₃₂	17.5	X	145.08195	354.46715	47.81238	11.02292	0.2399673	0.26132364	2.4229823	20	4 2.5	21.5
461553 2003 WJ ₄₄	16.6	X	349.27738	68.33547	355.41082	9.31965	0.2609048	0.17919162	3.1159531	20	—	—
461554 2003 WH ₄₅	15.8	X	325.99968	230.82229	252.61813	15.28438	0.1728871	0.18063978	3.0992775	20	—	—
461555 2003 WG ₁₀₁	16.2	X	1.94988	195.73086	217.41090	23.83333	0.1713531	0.18197413	3.0841083	20	—	—
461556 2003 WU ₁₆₂	16.3	X	39.55780	324.16085	78.87575	6.72598	0.1684865	0.18419486	3.0592693	20	—	—
461557 2003 WQ ₁₇₃	16.6	X	44.45714	153.46372	235.37199	9.09912	0.0621464	0.18229457	3.0804930	20	—	—
461558 2003 XZ ₃₉	16.3	X	334.58875	24.00845	60.09085	11.47180	0.2019587	0.17737893	3.1371457	20	—	—
461559 2003 YW ₃₈	15.5	X	9.34567	322.71003	108.14414	28.77438	0.1658491	0.17699598	3.1416691	20	—	—
461560 2003 YQ ₁₃₀	16.1	X	342.52496	155.41700	306.78382	9.91913	0.2134674	0.17775148	3.1327608	20	—	—
461561 2004 BK ₁₂₇	16.4	X	293.63325	192.07560	308.33157	9.67374	0.0484890	0.17223233	3.1993341	20	—	—
461562 2004 BY ₁₄₁	16.9	X	334.26896	302.67286	132.80241	8.32650	0.1762722	0.17083652	3.2167371	20	12 20.7	20.5
461563 2004 DG ₃₃	15.9	X	276.98404	34.24289	148.07868	10.94460	0.1988642	0.16945022	3.2342577	20	—	—
461564 2004 HT ₇₆	16.6	X	321.53968	331.18169	165.74719	11.59947	0.2354979	0.17382157	3.1798034	20	—	—
461565 2004 EO ₁₁	17.7	X	38.04377	172.97414	2.40439	18.10933	0.2703733	0.25038771	2.4930292	20	5 2.7	20.0
461566 2004 EL ₆₂	17.3	X	310.53536	240.40660	1.96756	29.44741	0.1728237	0.24267138	2.5456011	20	2 29.9	20.9
461567 2004 FK ₁₂₁	17.2	X	319.63482	179.93981	61.71649	10.07571	0.2066260	0.24221085	2.5488268	20	2 29.6	20.5
461568 2004 GV ₇₈	16.7	X	212.55721	190.34764	47.23517	4.22769	0.3919505	0.16021877	3.3573281	20	12 22.5	22.6
461569 2004 HT ₅₅	16.7	X	320.00341	143.21480	102.92081	9.46898	0.1724746	0.24162103	2.5529731	20	3 11.8	19.9
461570 2004 JA ₅₅	16.6	X	255.45066	264.17837	39.32865	15.93967	0.0698181	0.24209142	2.5496650	20	3 21.9	20.4
461571 2004 NC ₁₄	17.4	X	265.15697	139.82384	141.76908	2.68402	0.1768057	0.23020331	2.6367058	20	2 16.4	21.4
461572 2004 NT ₂₉	16.5	X	247.79862	126.12525	143.26111	12.51678	0.1755773	0.22459688	2.6804039	20	1 16.9	20.9
461573 2004 OA ₁₃	17.1	X	270.39318	307.39635	328.11657	13.32642	0.3002097	0.23002148	2.6380951	20	2 4.6	21.5
461574 2004 PD	16.6	X	285.07226	10.85455	283.55299	14.38482	0.2372280	0.23393778	2.6085698	20	3 8.2	20.8
461575 2004 PP ₂	17.6	X	290.58381	238.95862	99.93800	8.78131	0.2331028	0.30042816	2.2078808	20	5 22.5	20.0
461576 2004 PA ₃	17.9	X	349.17960	356.44445	328.92873	6.61646	0.2468102	0.31086040	2.1582038	20	10 1.5	18.9
461577 2004 PN ₁₂	16.8	X	182.14575	5.73573	320.81037	8.88276	0.2224958	0.21898601	2.7259955	20	1 31.9	21.6
461578 2004 PG ₂₁	15.9	X	312.40744	34.52693	329.92329	17.34848	0.3573627	0.18028791	3.1033087	20	7 13.3	19.4
461579 2004 PU ₂₆	17.7	X	321.77069	328.41836	5.23390	6.48618	0.3139347	0.30512681	2.1851561	20	7 2.9	18.6
461580 2004 PB ₇₂	17.2	X	293.69760	140.62237	130.43824	9.44735	0.2891293	0.23387112	2.6090655	20	2 20.1	21.2
461581 2004 PM ₁₁₄	16.7	X	249.68028	276.55924	26.50396	12.87482	0.2733750	0.22715033	2.6602787	20	2 26.9	21.4
461582 2004 RL ₄₀	17.3	X	159.81150	88.53025	219.67851	2.83953	0.0782113	0.20999515	2.8032589	20	—	—
461583 2004 RF ₄₃	17.1	X	269.63897	322.54867	335.25555	7.48030	0.2555339	0.23026591	2.6362279	20	3 2.9	21.1
461584 2004 RT ₆₇	16.8	X	285.80637	305.52142	356.40350	14.58278	0.2884035	0.23241417	2.6199579	20	3 19.7	20.8
461585 2004 RR ₁₁₀	16.8	X	301.32826	93.99669	216.02393	26.65763	0.4150318	0.23635180	2.5907774	20	3 25.6	20.9
461586 2004 RR ₁₄₅	18.2	X	1.59619	298.46138	358.50684	7.45840	0.2078965	0.30765614	2.1731631	20	9 9.2	19.3
461587 2004 RL ₁₈₀	16.8	X	160.86346	164.24247	196.32181	12.66727	0.1967431	0.21689450	2.7434920	20	2 18.5	21.5
461588 2004 RM ₂₃₅	16.8	X	167.54156	153.07627	203.48522	8.66352	0.1686607	0.21710746	2.7416976	20	2 18.4	21.4
461589 2004 RB ₂₅₁	18.0	X	201.26999	150.77109	238.52031	7.59352	0.2155966	0.28935840	2.2638378	20	4 25.9	21.7
461590 2004 RS ₂₅₁	18.2	X	123.81394	96.55465	351.05892	22.55483	0.3044099	0.28326788	2.2961724	20	4 30.6	22.4
461591 2004 RM ₂₆₉	18.7	X	211.52857	44.27708	343.95487	3.79414	0.0732393	0.29336571	2.2431749	20	5 9.6	21.8
461592 2004 RK ₂₉₉	17.2	X	164.51553	326.84058	359.46048	6.40139	0.1097157	0.21244256	2.7816876	20	1 11.1	21.5
461593 2004 RS ₃₂₉	18.0	X	109.16728	110.64025	194.42629	22.01693	0.0715204	0.38552091	1.8696950	20	—	—
461594 2004 RP ₃₃₁	16.7	X	266.67076	96.85921	207.97179	25.24375	0.3070962	0.23174009	2.6250361</			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
461601	2004	TO ₁₁₁	17.9	X	175.20457	174.78919	197.22683	1.79625	0.2319421	0.28155582	2.3054712	20	3 15.0	21.6
461602	2004	TG ₁₆₆	16.8	X	77.80954	71.72888	346.19421	4.72325	0.1210688	0.20943005	2.8082993	20	1 21.9	20.4
461603	2004	TM ₁₈₄	16.8	X	106.39808	29.94911	2.57206	5.93385	0.0728332	0.20998617	2.8033388	20	1 22.1	20.6
461604	2004	TA ₁₈₆	16.5	X	219.86245	323.50891	12.46600	13.53897	0.0618552	0.22094497	2.7098586	20	3 19.5	20.5
461605	2004	TO ₁₉₅	18.1	X	1.20105	307.21071	1.28467	3.89801	0.1371777	0.30423872	2.1894065	20	9 15.5	19.8
461606	2004	TJ ₂₂₇	17.2	X	190.00001	1.34039	315.51724	3.05761	0.0923131	0.21213448	2.7843802	20	1 23.4	21.3
461607	2004	TA ₃₂₂	17.8	X	187.19680	33.93211	25.26875	3.25712	0.1115540	0.28744812	2.2738566	20	5 23.9	21.0
461608	2004	TH ₃₃₆	18.3	X	166.97276	9.79911	41.72867	5.58393	0.1552807	0.28323290	2.2963614	20	4 24.4	21.7
461609	2004	UZ ₉	17.6	X	345.36984	239.36449	177.65185	22.63559	0.1586376	0.37862799	1.8923185	20	—	—
461610	2004	XA ₉₄	15.7	X	345.89669	151.24282	286.60165	8.86071	0.0513473	0.18654556	3.0335147	20	—	—
461611	2004	YP ₁₃	16.1	X	230.78912	65.16278	111.95938	10.97191	0.0220305	0.18025813	3.1036505	20	12 13.5	20.6
461612	2005	AT ₅	16.5	X	3.00415	325.86112	88.59551	7.69753	0.3501913	0.18854177	3.0120649	20	—	—
461613	2005	AQ ₈	18.0	X	118.55548	67.98117	70.39037	4.48879	0.1342843	0.28092971	2.3088955	20	6 27.3	21.2
461614	2005	AU ₂₃	17.7	X	134.28372	317.25573	105.48009	7.15332	0.0953174	0.27164827	2.3611926	20	4 2.8	21.0
461615	2005	AA ₂₈	17.7	X	201.21661	57.44620	121.97765	24.72575	0.0529018	0.36599807	1.9356055	20	12 24.2	20.0
461616	2005	AQ ₃₉	16.5	X	309.56934	178.53570	322.08519	13.68813	0.1997078	0.18428845	3.0582335	20	—	—
461617	2005	AP ₄₇	17.1	X	120.59045	21.69605	111.40922	6.69408	0.1512301	0.28231823	2.3013187	20	6 24.2	20.3
461618	2005	AY ₆₆	17.8	X	165.13620	275.10881	133.00445	6.24029	0.2214910	0.27765906	2.3269916	20	4 23.6	21.7
461619	2005	AY ₇₄	16.4	X	261.97639	222.43882	307.37027	10.51657	0.1923822	0.18052238	3.1006210	20	12 18.9	20.5
461620	2005	BE ₄₀	18.2	X	38.09388	80.54363	117.06927	2.88582	0.1372002	0.27397696	2.3477942	20	5 27.0	20.4
461621	2005	BS ₄₈	18.1	X	88.03221	252.97293	278.06419	3.14277	0.1986001	0.27673737	2.3321555	20	7 14.5	21.2
461622	2005	CA ₅₇	16.0	X	304.02611	218.15066	307.29354	13.37706	0.2246391	0.18664253	3.0324639	20	—	—
461623	2005	CA ₇₁	16.5	X	213.45790	274.64554	337.71244	12.33045	0.1462011	0.18280636	3.0747409	20	—	—
461624	2005	DA	18.3	X	124.23423	330.12344	152.40335	2.12790	0.1397090	0.27668498	2.3324499	20	6 12.5	21.5
461625	2005	EM ₃₆	17.7	X	120.85176	282.68561	179.24430	21.41645	0.2977157	0.27454377	2.3445617	20	5 29.4	22.0
461626	2005	EG ₇₅	16.7	X	235.90327	6.75609	175.42155	11.23091	0.0802677	0.17268030	3.1937986	20	12 15.5	21.5
461627	2005	ES ₇₅	17.9	X	46.63210	347.47972	216.54769	0.69345	0.1264527	0.27162771	2.3613118	20	6 19.7	20.4
461628	2005	EW ₁₂₄	17.6	X	42.41489	187.23867	3.16133	6.84379	0.2268449	0.26863107	2.3788400	20	6 6.3	19.8
461629	2005	EO ₁₂₇	18.2	X	113.74678	277.25023	191.26173	2.38951	0.1866282	0.27406625	2.3472842	20	5 18.1	21.5
461630	2005	ES ₁₅₅	17.9	X	352.36889	212.28163	136.96951	2.48119	0.1695026	0.26292114	2.4131578	20	4 3.9	19.8
461631	2005	EE ₁₅₇	16.4	X	69.88601	185.19847	176.60056	11.22864	0.0549766	0.17532016	3.1616574	20	—	—
461632	2005	EP ₁₆₅	18.2	X	62.80117	46.52910	165.59459	2.88566	0.1157219	0.27513303	2.3412128	20	7 25.9	20.9
461633	2005	EV ₁₆₈	18.2	X	322.04030	322.64944	278.47829	1.24436	0.1759943	0.25946423	2.4345445	20	2 28.7	21.0
461634	2005	EF ₁₆₉	16.6	X	28.11181	129.40277	168.83596	59.26714	0.3665664	0.28193280	2.3034156	20	11 20.2	21.1
461635	2005	EM ₁₇₆	16.3	X	311.45557	85.70737	44.36563	25.90694	0.2658275	0.18120319	3.0928497	20	—	—
461636	2005	ET ₁₉₇	15.7	X	283.34169	100.81915	103.29635	19.50149	0.2783984	0.18034407	3.1026645	20	—	—
461637	2005	EE ₂₀₈	18.0	X	24.48487	68.98375	133.90128	2.05611	0.1351389	0.26798709	2.3826494	20	5 7.9	20.1
461638	2005	ET ₂₂₄	15.8	X	254.36651	183.32399	43.59577	27.29635	0.2686320	0.18031586	3.1029880	20	—	—
461639	2005	ED ₂₂₅	17.2	X	45.98178	101.25564	71.88589	22.32235	0.2695629	0.26658764	2.3909806	20	5 27.7	19.2
461640	2005	EL ₂₂₅	16.2	X	269.80185	167.39048	25.41775	15.37788	0.1503432	0.18025105	3.1037317	20	—	—
461641	2005	EB ₂₄₀	18.3	X	63.00845	111.98651	33.19212	2.41179	0.1265201	0.26612142	2.3937722	20	4 19.7	20.9
461642	2005	EV ₂₄₃	15.3	X	48.59052	211.97618	178.00059	27.12493	0.0487540	0.17622774	3.1507930	20	—	—
461643	2005	EZ ₂₄₇	16.4	X	64.43462	216.54118	179.63322	15.02472	0.0279722	0.18042575	3.1017279	20	—	—
461644	2005	EL ₂₆₂	18.5	X	112.23864	105.15662	342.42995	4.37257	0.2223265	0.27174399	2.3606381	20	4 20.5	22.0
461645	2005	ET ₂₆₈	16.0	X	221.24306	232.86062	0.85029	13.62078	0.2429173	0.17379597	3.1801157	20	—	—
461646	2005	EZ ₂₈₀	16.6	X	275.47306	92.07239	133.76882	14.55610	0.3499713	0.18264948	3.0765012	20	—	—
461647	2005	EC ₃₀₅	17.8	X	297.60526	293.44724	359.42001	4.01325	0.2275156	0.26292279	2.4131476	20	3 27.7	20.9
461648	2005	EX ₃₀₆	16.8	X	288.12270	29.78677	162.87517	11.38496	0.1506772	0.18493653	3.0510846	20	—	—
461649	2005	GN	16.5	X	291.31227	97.14966	52.91232	25.32777	0.2941232	0.17935223	3.1140926	20	12 22.3	20.4
461650	2005	GP ₉	16.7	X	308.40115	280.27217	11.42577	26.49504	0.1826287	0.26622405	2.3931570	20	4 12.1	19.5
461651	2005	GM ₁₁	17.3	X	52.21752	154.85538	56.00639	7.75270	0.1359710	0.27164085	2.3612357	20	7 12.4	20.0
461652	2005	GM ₁₅	18.5	X	26.69764	25.90044	180.60279	1.81024	0.1560664	0.26736850	2.3863230	20	5 20.2	20.6
461653	2005	GM ₁₅	18.3	X	106.43365	77.07386	187.77291	22.50352	0.0658362	0.35677876	1.9688081	20	12 13.9	21.3
461654	2005	GN ₂₄	18.4	X	68.89333	154.55671	353.75689	1.23487	0.1178299	0.26686995	2.3892941	20	5 2.0	20.9
461655	2005	GB ₄₃	16.1	X	264.90604	193.35575	40.96749	17.86952	0.1747203	0.18312339	3.0711910	20	—	—
461656	2005	GH ₄₃	17.6	X	80.02007	146.24315	48.97874	11.56628	0.2084219	0.27469191	2.3437186	20	8 14.4	21.1
461657	2005	GE ₄₈	16.7	X	262.49165	76.63671	139.72388	1.78138	0.1302862	0.17914724	3.1164677	20	—	—
461658	2005	GQ ₅₇	16.9	X	300.60057	107.69737	29.66923	10.70615	0.2098705	0.17599287	3.1535956	20	—	—
461659	2005	GT ₆₇	15.8	X	271.99262	173.33044	24.22727	18.51110	0.0295552	0.17808851	3.1288070	20	—	—
461660	2005	GR ₁₂₁	17.9	X	322.09666	293.84856	349.02687	6.91618	0.1084121	0.26978716	2.3720392	20	5 7.5	20.6
461661	2005	GY ₁₂₃	16.9	X	278.03642	13.71939	190.13759	8.10187	0.1920960	0.18363918	3.0654377	20	—	—
461662	2005	GG ₁₃₄	17.9	X	318.50476	213.43839	69.69934	2.66957	0.1777330	0.26343616	2.4100116	20	4 24.5	20.2
461663	2005	GT ₁₆₉	16.5	X	266.03719	16.20578	211.29462	12.20079	0.0978653	0.18078106	3.0976625	20	—	—
461664	2005	GD ₁₇₇	17.8	X	340.59471	340.42663	271.37246	1.67267	0.1561965	0.26348677	2.4097029	20	4 20.3	20.1
461665	2005	GM ₁₇₉	17.3	X	23.21554	170.82027	35.68742	9.98632	0.1561630	0.26548838	2.3975760	20	5 10.5	19.5
461666	2005	GO ₁₈₂	16.5	X	276.18623	106.68992	83.15459	3.16705	0.1204568	0.17825576	3.1268497	20	—	—
461667	2005	GO ₁₈₇	16.8	X	218.36119	98.50002	147.62068	3.21048	0.0694795	0.18355401	3.0663858	20	—	—
461668	2005	GY ₁₉₀	18.6	X	109.79476	117.85680	345.01980	0.96104	0.1316052	0.26961915	2.3730245	20	4 27.8	21.7
461669	2005	GX ₂₂₇	16.3	X	258.35129	113.79266	77.17197	14.70220	0.2412799	0.17469526	3.1691926	20	12 30.3	20.5
461670	2005	HU ₅	17.3	X	307.77380	171.56317	130.11229	6.73274	0.1210361	0.26298848	2.4127458	20	5 15.2	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
461681	2005	<i>LP</i> ₁₄	16.0	X	176.57130	80.81863	194.59395	11.60674	0.0752104	0.16940056	3.2348898	20	—	—
461682	2005	<i>MF</i> ₄	16.5	X	197.15431	100.05897	185.79711	12.95567	0.2552299	0.17080841	3.2170900	20	—	—
461683	2005	<i>MT</i> ₉	16.5	X	187.02871	56.36726	293.53967	26.86244	0.1544863	0.23880993	2.5729685	20	2 16.0	21.1
461684	2005	<i>MY</i> ₁₃	17.6	X	312.23654	51.80545	220.18952	8.85210	0.1938434	0.25695685	2.4503564	20	3 23.2	20.5
461685	2005	<i>MF</i> ₁₇	16.7	X	172.00796	241.52904	120.15125	15.43043	0.1560490	0.23856282	2.5747449	20	3 3.5	20.9
461686	2005	<i>MV</i> ₁₉	17.4	X	331.18769	172.28004	115.98631	12.61425	0.2402344	0.26159594	2.4213007	20	5 22.2	19.6
461687	2005	<i>MQ</i> ₄₉	16.4	X	229.69291	65.28142	193.71057	13.46362	0.2477651	0.17379679	3.1801056	20	—	—
461688	2005	<i>NV</i> ₂₃	16.8	X	155.05386	96.57395	274.05899	11.77543	0.1759983	0.23609129	2.5926829	20	2 20.0	21.2
461689	2005	<i>NB</i> ₆₈	17.4	X	158.39029	116.54746	260.49963	2.97514	0.2434189	0.23833131	2.5764120	20	3 9.7	21.8
461690	2005	<i>NG</i> ₁₂₅	16.9	X	188.46137	12.17123	315.55860	15.18460	0.1638400	0.23597505	2.5935343	20	2 3.5	21.0
461691	2005	<i>QH</i> ₄	16.9	X	149.39675	193.76195	152.64047	4.18534	0.3326758	0.22829756	2.6513590	20	2 3.7	21.5
461692	2005	<i>QN</i> ₇	17.3	X	210.76992	159.67116	164.89483	11.29639	0.2195409	0.23716608	2.5848439	20	2 17.3	21.8
461693	2005	<i>QX</i> ₈₃	16.4	X	207.95697	309.34637	354.77108	31.61700	0.1989649	0.23219958	2.6215718	20	2 7.4	21.3
461694	2005	<i>QV</i> ₁₁₆	17.5	X	147.07447	354.17628	7.00559	0.89102	0.1029258	0.23092369	2.6312194	20	1 30.9	21.4
461695	2005	<i>QA</i> ₁₂₆	17.4	X	278.75839	151.70463	151.76030	3.63327	0.1173180	0.24644870	2.5195232	20	4 6.2	20.7
461696	2005	<i>QT</i> ₁₂₈	17.5	X	120.17030	267.86713	112.20989	2.99006	0.1054353	0.22791902	2.6542939	20	1 23.9	20.9
461697	2005	<i>QK</i> ₁₃₉	17.2	X	62.32069	269.87752	163.83866	9.53078	0.2636281	0.22206869	2.7007092	20	2 1.4	19.8
461698	2005	<i>QJ</i> ₁₅₇	16.9	X	198.10678	5.32107	315.49215	5.75791	0.2670200	0.23259765	2.6185799	20	2 5.1	21.5
461699	2005	<i>QA</i> ₁₆₁	16.5	X	118.99183	24.96489	0.28718	22.29707	0.1005899	0.22744395	2.6579887	20	2 7.1	20.5
461700	2005	<i>QW</i> ₁₇₄	16.4	X	133.57999	189.85972	201.99105	12.64678	0.2838816	0.22968257	2.6406896	20	3 9.8	20.9
461701	2005	<i>RO</i> ₁₃	17.7	X	253.01362	5.28435	312.98959	3.02086	0.1236889	0.24419092	2.5350297	20	3 23.1	21.3
461702	2005	<i>RA</i> ₃₁	17.0	X	81.91646	15.58682	359.79773	9.15809	0.1973449	0.21957735	2.7210991	20	—	—
461703	2005	<i>RJ</i> ₃₂	17.9	X	57.05303	276.36212	132.92983	0.63041	0.1975403	0.21826432	2.7320012	20	—	—
461704	2005	<i>SL</i> ₁₇	17.1	X	178.68306	329.79570	7.44379	4.39150	0.1780889	0.23070434	2.6328869	20	2 8.5	21.4
461705	2005	<i>SV</i> ₄₀	16.4	X	20.09602	142.62807	12.94303	12.11065	0.0649951	0.23152486	2.6266626	20	2 26.7	19.6
461706	2005	<i>SX</i> ₄₄	16.8	X	70.45245	222.76369	198.53853	27.64038	0.2906813	0.21942642	2.7223468	20	1 31.2	20.4
461707	2005	<i>SS</i> ₄₆	17.1	X	291.27531	287.65951	10.43762	14.87505	0.1214397	0.24381800	2.5376139	20	4 11.3	20.3
461708	2005	<i>SA</i> ₆₂	17.6	X	96.48411	32.48902	37.23690	1.93646	0.0797797	0.22838242	2.6507022	20	2 22.9	20.9
461709	2005	<i>SG</i> ₆₇	17.3	X	165.99815	203.16388	188.83703	3.64239	0.0870852	0.23634304	2.5908414	20	3 27.7	21.1
461710	2005	<i>SK</i> ₇₄	17.5	X	115.94938	24.62226	5.18768	2.19526	0.0889835	0.22698128	2.6615994	20	1 29.4	21.1
461711	2005	<i>SS</i> ₈₃	17.2	X	59.93598	63.09497	2.44436	4.76450	0.1526735	0.22043060	2.7140726	20	1 4.2	20.1
461712	2005	<i>SJ</i> ₈₄	17.4	X	177.72682	335.35663	9.71111	3.54591	0.1243038	0.23091353	2.6312965	20	2 14.3	21.4
461713	2005	<i>SY</i> ₉₉	17.1	X	128.64598	12.43801	338.97575	5.74705	0.0401049	0.22060144	2.7126712	20	—	—
461714	2005	<i>ST</i> ₁₁₇	16.8	X	110.24260	8.09042	16.74887	14.02880	0.1799810	0.22467627	2.6797724	20	2 3.5	20.7
461715	2005	<i>SI</i> ₁₁₈	17.1	X	158.56369	213.14544	125.21283	5.20271	0.2127809	0.22727616	2.6592967	20	1 24.6	21.3
461716	2005	<i>SA</i> ₁₃₉	17.4	X	126.79945	333.31501	40.45638	3.14461	0.0863059	0.22577681	2.6710571	20	1 22.5	21.0
461717	2005	<i>SK</i> ₁₆₀	17.7	X	157.90652	136.21417	243.33696	1.77510	0.0936054	0.23262536	2.6183720	20	3 3.2	21.0
461718	2005	<i>SW</i> ₁₆₁	17.3	X	96.56985	29.22530	4.44855	14.67949	0.1633496	0.22256753	2.6966723	20	1 25.4	21.0
461719	2005	<i>SE</i> ₁₆₆	17.1	X	166.45194	236.65988	117.01241	5.04353	0.2176611	0.23087433	2.6315944	20	2 19.2	21.5
461720	2005	<i>SF</i> ₁₇₅	17.2	X	114.99187	45.49998	353.73210	11.46267	0.0956430	0.22708674	2.6607753	20	2 12.8	20.9
461721	2005	<i>SF</i> ₂₁₁	16.0	X	46.25329	126.26249	10.34287	22.35240	0.0254910	0.23233932	2.6205206	20	3 11.6	19.6
461722	2005	<i>SO</i> ₂₁₆	17.2	X	305.45837	235.55666	15.56202	4.58412	0.1523950	0.23619303	2.5919383	20	2 27.7	20.6
461723	2005	<i>SK</i> ₂₃₀	17.6	X	27.91998	74.98341	9.07214	7.17960	0.0898929	0.21863035	2.7289511	20	—	—
461724	2005	<i>TU</i> ₃₁	17.7	X	264.43444	130.31426	174.48316	6.55965	0.1888986	0.24196092	2.5505816	20	3 12.8	21.3
461725	2005	<i>TM</i> ₃₅	17.1	X	49.28611	135.35927	21.74902	10.65355	0.0611830	0.23771998	2.5808272	20	4 8.3	20.2
461726	2005	<i>TH</i> ₅₈	17.1	X	165.37851	185.71331	175.09281	2.34037	0.2214280	0.23013819	2.6372031	20	2 25.7	21.5
461727	2005	<i>TM</i> ₆₆	17.7	X	110.00217	176.89774	211.45672	1.91465	0.0873285	0.22512243	2.6762306	20	1 18.9	21.3
461728	2005	<i>TX</i> ₉₁	17.2	X	137.32420	16.98854	352.61601	12.07966	0.1822987	0.22772910	2.6557694	20	2 11.9	21.3
461729	2005	<i>TS</i> ₉₉	17.0	X	52.39457	53.84828	11.13069	7.42405	0.2305785	0.21660549	2.7459317	20	—	—
461730	2005	<i>TU</i> ₁₁₈	17.6	X	248.16204	257.42995	14.86861	8.61914	0.1421049	0.23169782	2.6253553	20	1 25.2	21.8
461731	2005	<i>TB</i> ₁₄₄	17.3	X	137.90389	330.05435	55.04588	7.14349	0.0640263	0.22814660	2.6525284	20	2 18.1	21.1
461732	2005	<i>TP</i> ₁₅₈	17.6	X	39.62176	214.18778	223.54266	3.91663	0.1057462	0.21867008	2.7286205	20	—	—
461733	2005	<i>TY</i> ₁₅₉	17.2	X	32.68324	213.65461	252.26408	4.49270	0.0777592	0.22172358	2.7035109	20	1 7.4	20.4
461734	2005	<i>TO</i> ₁₆₆	17.6	X	127.56824	24.42291	11.39589	2.80321	0.0942778	0.22669609	2.6638312	20	2 20.9	21.4
461735	2005	<i>TG</i> ₁₉₁	16.7	X	186.22621	307.60941	40.41380	14.81927	0.1651330	0.23252643	2.6191146	20	3 4.5	21.2
461736	2005	<i>TH</i> ₁₉₆	17.4	X	75.65542	143.22136	245.48375	3.16561	0.0824602	0.21665900	2.7454796	20	—	—
461737	2005	<i>UN</i> ₃	16.9	X	61.78363	194.73488	214.68640	12.74641	0.2371505	0.21588856	2.7520076	20	—	—
461738	2005	<i>UY</i> ₁₁	16.8	X	57.90008	225.66440	208.41146	14.07487	0.0682636	0.21837936	2.7310416	20	1 2.6	20.5
461739	2005	<i>UY</i> ₃₀	16.8	X	114.78565	223.34255	216.71284	13.21807	0.0825862	0.23081337	2.6320577	20	3 27.6	20.5
461740	2005	<i>UA</i> ₅₉	17.0	X	27.46022	206.87525	233.27003	11.41862	0.1373452	0.21251457	2.7810593	20	—	—
461741	2005	<i>UD</i> ₆₂	17.3	X	170.61033	249.16971	63.69956	3.50310	0.0519590	0.21739370	2.7392904	20	—	—
461742	2005	<i>UX</i> ₉₅	17.6	X	292.67144	247.73544	54.67607	10.16149	0.2708145	0.24458475	2.5323077	20	4 3.2	21.1
461743	2005	<i>UW</i> ₁₀₇	17.3	X	97.50271	214.18263	157.18703	2.11571	0.1160577	0.21570039	2.7536079	20	—	—
461744	2005	<i>UK</i> ₁₂₈	16.8	X	57.10255	45.82263	43.39835	11.91428	0.115192	0.22018684	2.7160753	20	1 30.9	20.2
461745	2005	<i>UE</i> ₁₃₄	17.1	X	184.38775	343.83513	337.27400	4.09306	0.2020427	0.22687351	2.6624422	20	1 26.0	21.5
461746	2005	<i>UW</i> ₁₅₂	17.3	X	358.40994	221.15390	232.35626	5.91893	0.1518933	0.20880134	2.8139337	20	—	—
461747	2005	<i>UV</i> ₁₅₅	17.1	X	2.08114	285.97449	181.12344	9.66182	0.4161532	0.20831582	2.8183043	20	—	—
461748	2005	<i>UU</i> ₁₆₆	17.4	X	240.44866	296.50899	22.73174	2.48213	0.1034432	0.23535711	2.5980719	20	3 15.3	21.1
461749	2													

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
461761	2005	UG ₂₅₆	17.2	X	62.56966	38.63930	35.85045	9.89622	0.1834819	0.22076848	2.7113027	20	1 27.6	20.3
461762	2005	UW ₂₆₆	17.7	X	53.88791	352.05555	77.59155	4.48893	0.1918609	0.21546549	2.7556089	20	1 3.2	20.3
461763	2005	UB ₂₆₈	16.5	X	4.00773	93.65353	63.47616	14.06086	0.0538466	0.21954009	2.7214070	20	2 7.1	20.2
461764	2005	UW ₂₈₄	16.6	X	15.49973	23.82336	75.61630	7.35753	0.0420666	0.21640013	2.7476687	20	—	—
461765	2005	US ₂₈₈	17.2	X	212.61728	248.51091	70.72541	4.98846	0.1665022	0.23166472	2.6256054	20	2 16.5	21.5
461766	2005	UO ₂₉₂	16.8	X	75.58965	114.53332	270.20815	3.61065	0.0864847	0.21358148	2.7717900	20	—	—
461767	2005	UK ₃₀₁	17.4	X	113.80408	304.44875	104.57620	5.99983	0.1209663	0.22390479	2.6859244	20	2 26.4	21.1
461768	2005	UU ₃₀₉	17.4	X	15.15302	52.88614	58.57271	4.83789	0.0594204	0.21619057	2.7494441	20	—	—
461769	2005	UN ₃₂₂	17.1	X	101.48617	290.89838	85.70888	24.54702	0.2801810	0.28123954	2.3071994	20	1 11.1	19.7
461770	2005	UT ₃₂₈	17.3	X	132.86221	164.94664	203.48867	5.72911	0.0449130	0.22270069	2.6955973	20	1 15.9	21.1
461771	2005	UC ₃₇₇	17.1	X	88.73330	8.64751	30.23242	12.56257	0.1024398	0.21874548	2.7279934	20	1 9.5	20.8
461772	2005	UL ₃₈₁	17.2	X	22.11868	112.56933	56.23984	11.90988	0.0275669	0.22965036	2.6409365	20	3 20.3	20.8
461773	2005	UB ₃₈₄	16.9	X	342.40080	305.19047	217.94554	13.51331	0.0877667	0.21862108	2.7290282	20	1 4.4	20.6
461774	2005	US ₃₈₆	16.3	X	75.55918	228.88679	189.69165	25.89561	0.2882135	0.21885011	2.7271239	20	2 6.6	19.9
461775	2005	UL ₃₈₇	17.0	X	139.37708	132.79115	242.80703	13.51905	0.1252830	0.22320157	2.6915630	20	2 6.7	21.3
461776	2005	UE ₃₉₀	17.2	X	234.88378	67.79739	206.16358	14.40878	0.1101320	0.22616523	2.6679979	20	1 11.4	21.7
461777	2005	UA ₄₁₅	17.2	X	112.42571	298.64661	62.09355	6.97531	0.0452973	0.21663125	2.7457141	20	—	—
461778	2005	UP ₄₃₀	17.2	X	329.42544	254.22705	259.21612	2.80638	0.2182071	0.21174849	2.7877629	20	—	—
461779	2005	UM ₄₆₀	16.8	X	223.44291	67.21733	246.71825	12.16294	0.1862106	0.22891103	2.6466198	20	2 12.0	21.4
461780	2005	UE ₄₈₇	17.1	X	47.91520	141.38388	246.66063	10.45087	0.2387917	0.21224285	2.7834324	20	—	—
461781	2005	VJ ₉	17.2	X	322.73325	315.80606	193.98125	2.95542	0.0349041	0.21315524	2.7754839	20	—	—
461782	2005	VS ₁₁	16.9	X	208.52459	277.00876	10.90559	5.01607	0.1344520	0.22218584	2.6997599	20	1 6.8	21.2
461783	2005	VE ₁₅	15.8	X	289.98440	213.11245	41.32711	31.39640	0.0120448	0.22914416	2.6448245	20	3 23.9	20.0
461784	2005	VH ₁₉	16.7	X	10.74703	295.78950	214.15758	15.49224	0.2016064	0.22085574	2.7105885	20	1 19.4	19.8
461785	2005	VQ ₂₃	17.4	X	7.03328	253.85595	239.94746	6.55216	0.2251808	0.21584162	2.7524066	20	—	—
461786	2005	VF ₂₄	17.4	X	42.63858	250.86362	225.68480	5.03972	0.0544732	0.22250065	2.6972127	20	2 2.9	20.8
461787	2005	VP ₃₃	17.1	X	177.07317	329.75707	0.27062	6.55461	0.2159015	0.22744490	2.6579812	20	2 1.2	21.6
461788	2005	VW ₃₅	16.5	X	18.21381	322.45291	228.29421	12.00957	0.1261828	0.23397311	2.6083072	20	4 4.9	19.3
461789	2005	VL ₄₈	17.3	X	218.92614	161.30555	138.96941	6.93051	0.1324230	0.22734469	2.6587622	20	1 29.3	21.5
461790	2005	VD ₅₄	17.7	X	53.12514	263.98358	168.43397	3.58478	0.1802908	0.21623130	2.7490988	20	1 3.8	20.4
461791	2005	VM ₆₇	17.2	X	191.22448	298.05287	35.12089	6.65776	0.0119524	0.22477293	2.6790041	20	2 12.1	20.9
461792	2005	VI ₁₀₅	17.0	X	356.21012	154.60280	20.26476	9.43322	0.0732513	0.22680752	2.6629586	20	2 15.7	20.3
461793	2005	VE ₁₂₇	17.7	X	55.79316	275.41191	173.99811	4.92885	0.0406180	0.22575006	2.6712681	20	1 17.1	21.1
461794	2005	VW ₁₃₁	17.6	X	251.12107	91.73247	180.53687	13.52568	0.0400141	0.22829347	2.6513906	20	1 31.5	21.6
461795	2005	WX ₁₃	16.8	X	253.93105	70.79083	243.06741	12.00703	0.1866528	0.23475486	2.6025135	20	3 9.1	21.2
461796	2005	WF ₃₀	16.4	X	320.47341	298.56021	262.89785	12.50542	0.1554802	0.21813544	2.7330772	20	1 13.4	20.0
461797	2005	WC ₈₃	17.5	X	189.90166	94.46236	227.91168	1.46715	0.2101316	0.22467652	2.6797705	20	1 31.1	22.1
461798	2005	WR ₉₂	18.4	X	99.29645	315.64481	237.50682	1.96043	0.1242036	0.31119941	2.1566361	20	8 20.7	21.1
461799	2005	WF ₁₁₆	17.0	X	62.77401	350.61256	81.43414	15.27195	0.1777415	0.21576751	2.7530368	20	1 23.3	20.2
461800	2005	XK ₄₉	18.2	X	145.91059	159.44912	296.58902	6.03240	0.1413482	0.30135798	2.2033370	20	5 30.4	21.5
461801	2005	YH ₅	17.1	X	168.86834	271.91356	58.92299	3.80334	0.0937148	0.21735910	2.7395812	20	1 18.6	21.2
461802	2005	YE ₁₃	16.7	X	121.22294	291.90540	112.69828	7.25674	0.0424242	0.21584842	2.7523488	20	2 19.5	20.5
461803	2005	YG ₁₄	17.1	X	54.50136	354.96406	111.37428	4.62506	0.0433159	0.21397502	2.7683904	20	2 9.9	20.7
461804	2005	YM ₁₇	17.1	X	80.61513	174.31499	219.82045	4.33512	0.1619483	0.21468789	2.7622587	20	—	—
461805	2005	YV ₂₆	16.8	X	145.16312	290.29866	90.31122	4.73464	0.0609841	0.21717662	2.7411155	20	2 21.4	20.7
461806	2005	YL ₄₃	16.4	X	342.34571	70.31662	118.30565	9.96525	0.0854162	0.21456314	2.7633292	20	2 10.9	19.9
461807	2005	YG ₆₇	18.5	X	114.47283	56.09703	83.01359	3.85102	0.0901956	0.30004607	2.2097548	20	6 18.7	21.3
461808	2005	YZ ₇₃	17.2	X	326.42387	196.20570	322.23896	2.83563	0.0386576	0.20884315	2.8135581	20	—	—
461809	2005	YU ₇₆	15.8	X	155.47515	338.82884	300.50773	8.43145	0.0807897	0.19913560	2.9042686	20	—	—
461810	2005	YP ₁₃₂	18.2	X	112.35260	175.49415	318.71815	5.25837	0.1152046	0.29974033	2.2112572	20	6 11.8	21.0
461811	2005	YK ₁₇₉	16.7	X	320.59744	99.92146	110.36507	9.06686	0.0401654	0.21514239	2.7583671	20	2 14.9	20.4
461812	2005	YV ₁₉₃	18.8	X	110.35653	18.12964	120.36349	2.15561	0.1647442	0.29745704	2.2225586	20	6 21.8	21.6
461813	2005	YJ ₂₀₄	16.9	X	324.16968	42.27040	122.90502	2.95403	0.1654249	0.20465522	2.8518116	20	—	—
461814	2005	YB ₂₂₇	17.2	X	75.40843	336.61041	88.24178	11.15271	0.1994052	0.21668597	2.7452518	20	2 8.1	20.5
461815	2005	YF ₂₅₈	16.1	X	293.60597	316.97096	271.34176	12.55382	0.1501756	0.21643157	2.7474026	20	1 15.3	20.1
461816	2006	AP ₃₉	16.9	X	118.14442	294.67171	100.17619	5.99733	0.1777500	0.21664642	2.7455860	20	2 21.9	20.9
461817	2006	AH ₄₂	18.5	X	179.47251	252.14827	161.81034	1.91920	0.1499495	0.29837135	2.2180158	20	5 9.8	21.9
461818	2006	AH ₅₀	16.2	X	230.29094	166.71262	107.33999	22.19437	0.1126293	0.21082128	2.7959308	20	1 11.7	20.6
461819	2006	AX ₅₀	17.3	X	10.90088	323.57399	122.44051	3.05358	0.0344634	0.20353094	2.8623040	20	—	—
461820	2006	AU ₇₈	16.7	X	261.47493	151.09591	109.75735	4.59008	0.0472015	0.21198208	2.7857146	20	2 3.1	20.5
461821	2006	BD ₄₂	16.7	X	302.68635	295.41243	307.95922	12.13086	0.0952859	0.21613367	2.7499265	20	2 20.4	20.6
461822	2006	BB ₇₂	17.0	X	337.17285	30.53328	118.51778	11.61842	0.0553612	0.20377780	2.8599919	20	—	—
461823	2006	BD ₇₃	16.7	X	170.64539	240.88793	104.84383	6.86266	0.0524363	0.21015123	2.8018707	20	2 5.9	20.7
461824	2006	BE ₇₆	17.6	X	280.86109	190.00197	342.03135	5.98601	0.1697634	0.19609021	2.9342612	20	—	—
461825	2006	BP ₇₆	17.7	X	7.24582	314.29828	332.12106	6.46643	0.1560028	0.30383474	2.1913467	20	8 24.1	19.2
461826	2006	BN ₁₂₉	18.5	X	132.97610	167.55505	316.33645	5.45811	0.1341970	0.29801129	2.2198020	20	6 24.4	21.6
461827	2006	BG ₁₃₀	18.0	X	84.97622	29.69519	156.44256	4.93861	0.0711074	0.29719396	2.2238700	20	7 13.9	20.6
461828	2006	BH ₁₃₅	18.1	X	202.71904	261.43815	123.33985	6.76356	0.1642489	0.29642189	2.2277299	20	4 26.3	21.6
461829	2006	BS ₁₇₅	16.5	X	170.00828	8.00479	334.12876	12.94181	0.1035619	0.21007391	2.8025581	20	2 5.4	20.8
461830	2006	BA ₁₈₂	18.3	X	85.93296	131.52009	81.70							

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461841 2006 <i>DD</i> ₁₄₃	17.0	X	99.39879	296.64128	80.31109	3.02936	0.1027688	0.19874397	2.9080826	20	—	—
461842 2006 <i>DK</i> ₁₄₇	16.8	X	156.05347	298.29888	352.67510	9.38902	0.0847193	0.18975763	2.9991847	20	—	—
461843 2006 <i>DN</i> ₁₇₄	13.8	X	87.78904	154.78654	3.26165	15.31205	0.0797335	0.08268695	5.2180881	20	6 3.1	20.9
461844 2006 <i>DC</i> ₁₈₀	18.0	X	132.12841	174.61045	355.47026	6.72069	0.1399552	0.30240042	2.1982705	20	8 28.4	21.2
461845 2006 <i>DD</i> ₁₈₉	17.5	X	47.93081	221.92882	3.37630	5.00728	0.1068731	0.29416214	2.2391243	20	7 24.8	19.8
461846 2006 <i>ET</i> ₁₈	17.0	X	174.44920	107.67769	178.72819	4.43322	0.1500745	0.18907874	3.0063595	20	—	—
461847 2006 <i>EX</i> ₄₉	18.9	X	235.64547	206.42616	353.02588	22.78772	0.0571726	0.39713009	1.8330776	20	—	—
461848 2006 <i>ER</i> ₅₀	18.2	X	32.84662	133.10829	140.52912	7.48033	0.1355281	0.30031948	2.2084134	20	9 19.4	20.4
461849 2006 <i>EX</i> ₆₂	17.9	X	29.11961	248.70496	335.34185	4.83225	0.1271062	0.28934316	2.2639174	20	6 19.4	20.0
461850 2006 <i>FK</i> ₁₅	18.5	X	55.70357	46.28892	175.07455	2.50693	0.1661377	0.29506044	2.2345773	20	8 8.6	21.0
461851 2006 <i>FT</i> ₂₉	18.2	X	25.26207	208.55895	37.73313	3.50485	0.1286797	0.28921935	2.2645634	20	7 19.8	20.3
461852 2006 <i>GY</i> ₂	18.8	X	184.63467	216.72486	54.31772	30.56079	0.4960663	0.38914837	1.8580579	20	—	—
461853 2006 <i>GN</i> ₅	17.6	X	3.57144	94.74231	143.05102	5.38078	0.0971489	0.28647665	2.2789943	20	5 20.5	19.8
461854 2006 <i>GA</i> ₁₉	17.7	X	336.32219	254.89523	55.78833	5.33720	0.1586543	0.29114003	2.2545927	20	7 22.6	19.3
461855 2006 <i>GK</i> ₂₈	18.7	X	21.62785	83.80162	145.08604	0.90368	0.1488683	0.28571971	2.2830175	20	6 14.4	20.4
461856 2006 <i>GO</i> ₄₆	16.1	X	127.47250	269.47167	47.34148	9.64906	0.0515979	0.18198145	3.0840255	20	—	—
461857 2006 <i>HL</i> ₁₅	16.5	X	345.56976	53.47521	19.20419	1.92988	0.0631608	0.18534638	3.0465851	20	—	—
461858 2006 <i>HX</i> ₁₈	16.9	X	190.12000	218.63642	61.65681	3.44095	0.1713769	0.18774060	3.0206280	20	—	—
461859 2006 <i>HP</i> ₂₁	16.9	X	223.89543	87.39081	162.27334	5.70237	0.1598127	0.18799575	3.0178944	20	—	—
461860 2006 <i>HE</i> ₃₂	17.9	X	18.17598	133.71720	123.81472	5.03894	0.1551942	0.28954576	2.2628612	20	7 26.9	19.7
461861 2006 <i>HW</i> ₃₉	17.7	X	19.79937	147.26185	103.86859	4.12255	0.1852046	0.28698358	2.2763097	20	7 24.5	19.3
461862 2006 <i>HE</i> ₅₂	17.9	X	268.68118	292.33519	200.34167	20.22566	0.0670373	0.38778431	1.8624126	20	—	—
461863 2006 <i>HV</i> ₇₂	16.2	X	228.23235	136.63943	77.16836	13.45677	0.0909893	0.18164077	3.0878806	20	—	—
461864 2006 <i>HP</i> ₈₀	18.6	X	36.33514	185.64313	24.37152	1.80749	0.1812930	0.28503350	2.2866803	20	6 19.4	20.6
461865 2006 <i>HM</i> ₈₃	16.9	X	230.01118	119.79646	160.80608	4.62822	0.1436110	0.19198287	2.9759644	20	1 19.7	21.8
461866 2006 <i>HA</i> ₉₄	16.0	X	78.87676	241.57589	113.05711	11.99487	0.0577646	0.17776765	3.1325708	20	—	—
461867 2006 <i>HT</i> ₉₅	18.0	X	20.72575	202.19152	45.11783	6.70693	0.0583290	0.28795132	2.2712067	20	7 3.3	20.4
461868 2006 <i>HV</i> ₉₅	17.0	X	234.60671	154.36129	39.42314	1.11485	0.1164926	0.18058525	3.0999013	20	12 24.2	21.4
461869 2006 <i>HA</i> ₉₇	16.4	X	98.34344	264.30277	46.61414	9.76045	0.0777567	0.17342091	3.1846992	20	12 22.1	21.3
461870 2006 <i>HQ</i> ₁₀₄	15.8	X	261.03496	31.29808	149.21939	12.50846	0.0653876	0.18151959	3.0892547	20	—	—
461871 2006 <i>HU</i> ₁₀₆	16.6	X	264.24653	178.10619	58.98525	16.54894	0.1803753	0.19331184	2.9623094	20	—	—
461872 2006 <i>HY</i> ₁₅₂	16.6	X	27.27478	57.53304	201.22178	3.03114	0.1040460	0.29157624	2.2523435	20	8 6.8	20.9
461873 2006 <i>JZ</i> ₄	18.7	X	3.81533	348.27818	228.81468	24.50466	0.2235912	0.28425401	2.2908588	20	4 3.5	18.6
461874 2006 <i>JP</i> ₉	18.2	X	97.10068	262.50300	240.84999	4.09016	0.1385168	0.28547023	2.2843475	20	6 8.7	21.1
461875 2006 <i>JE</i> ₁₁	16.5	X	11.98532	195.16258	244.83259	7.98510	0.0396161	0.18378767	3.0637863	20	—	—
461876 2006 <i>JM</i> ₂₂	17.8	X	19.60880	298.76157	87.07283	24.53172	0.1565020	0.38166209	1.8822763	20	—	—
461877 2006 <i>JT</i> ₃₂	16.9	X	203.80162	40.42068	197.37997	18.74788	0.1504198	0.18014226	3.1049812	20	—	—
461878 2006 <i>JB</i> ₃₄	18.2	X	22.00842	191.61453	67.16681	3.54838	0.1378771	0.28883327	2.2665810	20	8 4.7	20.2
461879 2006 <i>JM</i> ₃₉	16.7	X	220.26668	27.41667	204.24042	5.18824	0.2378365	0.18193455	3.0845556	20	—	—
461880 2006 <i>JB</i> ₄₃	16.3	X	162.97039	217.92427	84.66821	14.10166	0.1188000	0.18324316	3.0698526	20	—	—
461881 2006 <i>JK</i> ₄₈	15.8	X	172.32335	205.43310	91.86183	20.99209	0.2414795	0.18146933	3.0898251	20	—	—
461882 2006 <i>JY</i> ₅₃	18.2	X	335.39357	234.72184	59.28939	3.07793	0.2022260	0.28345109	2.2951829	20	6 13.2	19.5
461883 2006 <i>KP</i> ₃	18.0	X	346.63309	211.06088	51.52381	7.42465	0.2490279	0.28350029	2.2949173	20	5 11.2	18.7
461884 2006 <i>KO</i> ₇	16.5	X	295.75079	294.40493	236.46334	8.33168	0.1229392	0.18742227	3.0240473	20	—	—
461885 2006 <i>KE</i> ₈	18.0	X	20.98609	175.36969	87.97496	0.93137	0.2032840	0.28820020	2.2698990	20	8 20.4	19.6
461886 2006 <i>KT</i> ₁₅	16.2	X	119.16260	264.88011	71.58334	11.23054	0.1305891	0.17963365	3.1108394	20	—	—
461887 2006 <i>KB</i> ₃₀	18.5	X	37.01382	330.43285	238.07974	4.26122	0.1686625	0.28424277	2.2909192	20	6 16.1	20.4
461888 2006 <i>KJ</i> ₃₀	18.5	X	331.96550	28.88772	246.26190	1.63304	0.2173281	0.28046322	2.3114550	20	4 29.5	20.4
461889 2006 <i>KA</i> ₃₁	16.8	X	336.83408	84.11632	43.20467	5.13892	0.1369500	0.18837876	3.0138023	20	—	—
461890 2006 <i>KR</i> ₃₂	16.2	X	346.92148	73.35922	63.91247	11.86450	0.0901024	0.19084480	2.9877838	20	—	—
461891 2006 <i>KV</i> ₃₃	16.3	X	188.94187	19.44864	232.18545	16.51670	0.0784945	0.17930846	3.1145994	20	—	—
461892 2006 <i>KG</i> ₆₇	17.9	X	36.40903	168.83835	96.92602	7.43526	0.1874820	0.29122597	2.2541492	20	9 23.1	20.4
461893 2006 <i>KD</i> ₇₃	16.7	X	203.44764	75.02675	183.59061	10.25305	0.0270420	0.18320529	3.0702757	20	—	—
461894 2006 <i>KN</i> ₈₈	16.1	X	267.38772	83.75415	126.15022	16.62437	0.0455630	0.18599135	3.0395378	20	—	—
461895 2006 <i>KU</i> ₈₉	16.0	X	205.63764	123.52010	121.47766	23.55464	0.3007593	0.17996019	3.1070752	20	—	—
461896 2006 <i>KM</i> ₉₀	17.6	X	55.48677	216.96862	47.99882	8.04065	0.0990755	0.29939472	2.2129586	20	10 5.2	20.2
461897 2006 <i>KG</i> ₉₃	17.9	X	29.36609	212.02359	68.99666	8.01194	0.1232266	0.29371627	2.2413897	20	9 24.4	20.4
461898 2006 <i>KR</i> ₉₆	16.3	X	171.24722	165.51295	131.69518	18.01104	0.1764734	0.17509413	3.1643778	20	—	—
461899 2006 <i>LN</i> ₆	16.2	X	189.98579	173.90643	116.31801	17.32953	0.1274790	0.17849325	3.1240755	20	—	—
461900 2006 <i>MX</i> ₁₁	16.1	X	167.66256	186.04406	106.10211	8.86018	0.1003938	0.18259005	3.0771687	20	—	—
461901 2006 <i>OR</i> ₅	17.4	X	253.88713	191.41729	155.19541	4.53717	0.2496051	0.26546383	2.3977238	20	4 18.7	21.2
461902 2006 <i>OT</i> ₁₃	17.7	X	296.74065	17.70692	287.20109	1.62860	0.1721809	0.27211003	2.3585206	20	4 20.0	20.6
461903 2006 <i>PL</i> ₁₁	18.1	X	301.56866	239.31811	70.09212	2.26141	0.1982384	0.27193676	2.3595224	20	4 30.8	20.9
461904 2006 <i>PG</i> ₂₀	15.9	X	131.76340	329.93527	351.84284	16.82335	0.2303987	0.16940420	3.2348434	20	—	—
461905 2006 <i>PL</i> ₂₂	17.5	X	253.30507	37.44524	305.72572	6.43283	0.1247430	0.26750663	2.3855014	20	4 21.7	20.9
461906 2006 <i>PK</i> ₂₄	17.6	X	233.51896	9.85560	321.64663	6.66017	0.1272748	0.26259703	2.4151430	20	3 16.6	21.3
461907 2006 <i>QF</i> ₂	17.4	X	264.05854	346.78103	331.45377	6.36840	0.3165700	0.26587650	2.3952421	20	3 14.2	21.3
461908 2006 <i>QW</i> ₂₇	17.9	X	320.08453	55.94948	344.14612	19.14143	0.0873326	0.36128876	1.9523893	20	11 29.6	20.1
461909 2006 <i>QL</i> ₅₃	17.7	X	286.60351	320.93172	336.98543	5.33872	0.3172006	0.26729895	2.3867369	20	3 9.3	21.4
461910 2006 <i>QX</i> ₉₅	16.2	X	217.03006	257.86679	37.64633	10.70811	0.2820117	0.18214200	3.0822130	20	1 27.4	21.9
461911 2006 <i>QS</i> ₁₂₃	17.2	X	108.62407	213.85730	169.06333	8.83785	0.4017477	0.23871269	2.5736671	20	2 19.5	21.2
461912 2006 <i>RG</i> ₂	18.2	X	13.79575	75.29201	30.78329	8.58638	0.6504417	0.22270348	2.6955748	20	—	—
461913 2006 <i>RQ</i> ₂₀												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
461921 2006 <i>ST</i> ₂₅	17.6	X	83.34296	230.08529	174.67422	6.47266	0.2822466	0.23863845	2.5742009	20	1 29.9	20.5
461922 2006 <i>SF</i> ₂₉	17.7	X	15.79439	15.93680	225.42461	6.58110	0.0803125	0.27310245	2.3528034	20	6 15.9	20.1
461923 2006 <i>SS</i> ₅₆	15.4	X	158.94950	309.60743	35.31864	14.80640	0.2830143	0.17543407	3.1602887	20	2 16.8	21.1
461924 2006 <i>ST</i> ₆₅	15.9	X	162.41332	26.24820	297.34776	8.59839	0.1142088	0.17482477	3.1676273	20	1 10.6	20.9
461925 2006 <i>SM</i> ₁₀₀	17.7	X	9.17786	12.60767	184.37274	3.99324	0.0888381	0.25717561	2.4489666	20	3 29.3	20.3
461926 2006 <i>SA</i> ₁₄₃	17.5	X	331.45459	335.39606	277.91432	1.84813	0.2016566	0.26334516	2.4105667	20	3 28.1	19.9
461927 2006 <i>SA</i> ₁₄₉	17.1	X	9.46968	327.61628	219.15557	5.13790	0.0685715	0.25180309	2.4836783	20	3 14.1	19.9
461928 2006 <i>SF</i> ₁₄₉	18.6	X	266.75768	211.97382	196.87443	13.11130	0.1630873	0.34670129	2.0067768	20	8 12.3	20.7
461929 2006 <i>SB</i> ₁₅₇	18.4	X	315.53964	66.49543	228.22710	0.74959	0.1781104	0.26920931	2.3754324	20	5 5.6	20.7
461930 2006 <i>SA</i> ₁₆₀	17.8	X	178.08836	216.29892	178.89807	5.71199	0.1465187	0.25424614	2.4677423	20	4 15.8	21.6
461931 2006 <i>SY</i> ₁₆₁	18.0	X	293.21302	117.38024	181.04492	4.58328	0.1383435	0.26379345	2.4078349	20	4 13.6	20.8
461932 2006 <i>SG</i> ₁₆₃	18.0	X	80.59103	20.87008	33.11579	4.54900	0.1705098	0.23721064	2.5845203	20	1 22.9	20.9
461933 2006 <i>SC</i> ₁₇₄	17.8	X	319.20243	51.27522	250.95950	0.72301	0.1890112	0.27332597	2.3515206	20	5 22.4	19.7
461934 2006 <i>SS</i> ₂₁₁	18.0	X	70.27935	274.97806	141.27884	6.54373	0.3171815	0.23482366	2.6020052	20	1 30.8	20.4
461935 2006 <i>SX</i> ₂₁₄	17.8	X	29.40142	334.20231	15.60467	19.99288	0.0911647	0.36233673	1.9486229	20	—	—
461936 2006 <i>SP</i> ₂₁₅	18.0	X	91.82293	230.27486	161.81002	4.85714	0.1657151	0.23735000	2.5835085	20	1 8.3	21.1
461937 2006 <i>SW</i> ₂₄₇	17.9	X	14.56523	190.45228	180.46988	22.55027	0.0688996	0.36456442	1.9406767	20	—	—
461938 2006 <i>ST</i> ₂₅₂	16.4	X	188.68035	117.41060	193.01525	15.95966	0.2219606	0.17420729	3.1751080	20	1 19.4	22.1
461939 2006 <i>SM</i> ₂₇₅	17.6	X	49.30439	54.97379	37.36918	13.62078	0.2360097	0.23252918	2.6190939	20	1 31.7	20.2
461940 2006 <i>SH</i> ₂₈₆	15.7	X	146.28386	298.06260	42.86218	11.81155	0.2075859	0.17056385	3.2201645	20	1 26.0	21.1
461941 2006 <i>SA</i> ₂₉₉	17.9	X	117.75384	192.49857	193.14503	16.81756	0.1431625	0.24271876	2.5452697	20	1 27.2	21.7
461942 2006 <i>SX</i> ₃₁₄	17.9	X	60.80215	277.57556	170.45540	4.21432	0.2405297	0.23801779	2.5786739	20	2 12.3	20.1
461943 2006 <i>SM</i> ₃₂₆	18.2	X	71.88427	244.56076	192.83281	13.15766	0.2018068	0.23858414	2.5745915	20	2 9.0	21.2
461944 2006 <i>SR</i> ₃₆₅	17.3	X	52.30570	72.68118	36.55025	13.13212	0.1724258	0.23874075	2.5734655	20	2 25.4	20.1
461945 2006 <i>SX</i> ₃₆₅	17.6	X	130.29069	12.97078	33.63791	16.38902	0.1344752	0.24512994	2.5285515	20	3 18.5	21.4
461946 2006 <i>SF</i> ₃₉₃	17.5	X	267.65150	312.25978	12.70412	4.28535	0.1886477	0.26076528	2.4264399	20	4 9.4	21.1
461947 2006 <i>SO</i> ₄₀₂	17.2	X	312.07894	234.40837	37.38761	9.10924	0.1254115	0.25634856	2.4542311	20	4 7.9	20.1
461948 2006 <i>SQ</i> ₄₀₂	17.4	X	234.40668	142.45016	211.30242	4.43188	0.1456169	0.25687031	2.4509067	20	4 16.4	21.1
461949 2006 <i>TM</i> ₅	18.1	X	84.40149	57.27526	349.98015	4.90842	0.2648020	0.23562570	2.5960971	20	2 4.4	20.9
461950 2006 <i>TP</i> ₉	16.2	X	191.18852	105.96207	211.37674	24.33710	0.2507372	0.17364222	3.1819926	20	1 26.0	22.2
461951 2006 <i>TT</i> ₂₄	17.4	X	58.90164	73.25450	21.88305	5.53510	0.2896850	0.23682280	2.5873412	20	3 1.9	19.7
461952 2006 <i>TC</i> ₄₃	17.6	X	279.65142	293.25848	35.15827	2.29438	0.2070127	0.26326996	2.4110257	20	4 25.7	20.8
461953 2006 <i>TY</i> ₄₉	17.0	X	103.03066	334.15147	43.70305	16.84562	0.1717747	0.23644815	2.5900736	20	1 8.6	20.6
461954 2006 <i>TP</i> ₇₉	17.7	X	93.37912	149.76246	285.97625	4.71295	0.1385091	0.24250010	2.5467996	20	3 1.6	21.0
461955 2006 <i>TV</i> ₈₇	17.3	X	240.74460	312.08684	19.49010	4.77484	0.2040320	0.25621619	2.4550763	20	3 22.3	21.1
461956 2006 <i>TO</i> ₉₀	17.4	X	117.32487	57.15804	348.90171	2.52082	0.1217106	0.24126514	2.5554830	20	2 23.1	20.7
461957 2006 <i>UY</i> ₂₈	17.5	X	358.33542	278.58548	24.50025	4.39309	0.2371481	0.27717262	2.3297134	20	9 5.5	18.9
461958 2006 <i>UV</i> ₅₁	17.1	X	348.76275	224.55122	24.36648	14.99557	0.0675325	0.25912806	2.4366496	20	5 6.6	19.9
461959 2006 <i>UV</i> ₅₃	17.5	X	150.44003	152.89837	219.24053	11.24457	0.2035493	0.24297170	2.5435030	20	2 20.3	21.8
461960 2006 <i>UR</i> ₆₁	16.3	X	134.83381	139.16867	244.22349	14.16849	0.1192294	0.23959441	2.5673491	20	2 8.2	20.3
461961 2006 <i>UR</i> ₆₂	17.3	X	53.25568	237.23953	223.61483	11.76230	0.3027770	0.23560403	2.5962564	20	2 20.7	19.7
461962 2006 <i>UF</i> ₆₄	17.4	X	60.64709	213.36696	223.58648	7.83689	0.4270774	0.23171485	2.6252266	20	2 29.3	19.8
461963 2006 <i>UK</i> ₈₄	17.6	X	123.11571	347.24944	44.12643	3.97359	0.1916810	0.24031388	2.5622223	20	2 22.1	21.2
461964 2006 <i>UL</i> ₁₀₇	16.9	X	305.74031	149.86274	58.37313	9.17105	0.1254967	0.23883523	2.5727868	20	1 6.5	20.4
461965 2006 <i>UQ</i> ₁₁₁	17.6	X	45.81176	160.87998	295.47686	4.23829	0.2812325	0.23774465	2.5806487	20	1 25.8	19.1
461966 2006 <i>UQ</i> ₁₂₂	18.1	X	115.61903	340.77606	60.15912	3.93316	0.1685029	0.24210783	2.5495498	20	2 22.5	21.5
461967 2006 <i>UR</i> ₁₂₉	18.1	X	50.88138	101.99488	336.41634	1.28358	0.2465419	0.23300014	2.6155634	20	1 9.2	20.1
461968 2006 <i>UJ</i> ₁₄₈	17.4	X	28.94275	247.93765	19.84390	6.76298	0.1751816	0.27915476	2.3186722	20	9 7.6	19.8
461969 2006 <i>UD</i> ₁₅₉	17.9	X	63.86017	232.21897	185.24713	5.28052	0.2773828	0.23354332	2.6115063	20	1 11.4	20.2
461970 2006 <i>UU</i> ₁₆₅	17.6	X	267.29936	257.58129	55.10851	7.72817	0.0973995	0.25761532	2.4461791	20	4 7.9	20.9
461971 2006 <i>UF</i> ₂₀₁	18.0	X	153.52793	144.81119	218.11611	0.25103	0.1336376	0.24128177	2.5553656	20	2 10.3	21.9
461972 2006 <i>UG</i> ₂₃₅	17.6	X	335.30180	5.24436	275.59860	2.85282	0.2171679	0.27199400	2.3591913	20	5 17.6	19.4
461973 2006 <i>UA</i> ₂₅₂	17.6	X	345.32029	196.35133	52.22435	2.00736	0.1111019	0.25896479	2.4376737	20	4 30.8	20.2
461974 2006 <i>UA</i> ₃₃₀	16.4	X	233.60806	70.12465	188.52360	12.70221	0.2754879	0.17570706	3.1570145	20	—	—
461975 2006 <i>UD</i> ₃₃₄	18.0	X	93.20350	26.11457	42.96576	1.07783	0.0761606	0.24375632	2.5380420	20	2 14.6	21.0
461976 2006 <i>UQ</i> ₃₄₅	17.2	X	319.28068	203.24680	277.33460	8.94274	0.2367704	0.21391007	2.7689507	20	—	—
461977 2006 <i>VD</i> ₃₁	17.6	X	128.23215	76.42727	307.96421	1.90499	0.2243466	0.23990703	2.5651183	20	2 20.4	21.5
461978 2006 <i>VG</i> ₆₁	18.1	X	54.70288	184.17946	265.87514	1.67245	0.2042815	0.23346955	2.6120564	20	1 29.9	20.5
461979 2006 <i>VH</i> ₇₁	17.9	X	153.69592	323.79250	69.69052	4.04150	0.0707550	0.24542364	2.5265338	20	3 16.1	21.4
461980 2006 <i>VG</i> ₇₈	17.0	X	295.08055	170.16244	70.97789	10.70568	0.0898481	0.24271983	2.5452623	20	2 12.3	20.6
461981 2006 <i>VO</i> ₈₁	17.4	X	86.18058	225.93201	191.39164	3.08396	0.2885504	0.23529106	2.5985581	20	2 22.2	20.4
461982 2006 <i>VQ</i> ₁₁₁	17.1	X	36.79504	194.55538	330.40713	4.23109	0.1642223	0.24286922	2.5442185	20	4 5.7	19.5
461983 2006 <i>VW</i> ₁₁₆	17.5	X	71.24146	195.71962	244.38150	8.88175	0.1737765	0.23613096	2.5923925	20	2 7.4	20.5
461984 2006 <i>VP</i> ₁₂₄	16.7	X	257.47825	36.01825	247.50958	12.90503	0.0434739	0.24289653	2.5440277	20	2 16.4	20.5
461985 2006 <i>VL</i> ₁₅₁	17.7	X	73.15761	173.03779	243.86567	2.80249	0.2264799	0.23418972	2.6066987	20	1 21.4	20.4
461986 2006 <i>VN</i> ₁₆₉	17.3	X	189.81787	199.88589	157.18772	0.66006	0.2079067	0.24635174	2.5201843	20	3 10.7	21.0
461987 2006 <i>VZ</i> ₁₆₉	17.9	X	81.64663	188.94613	245.88286	3.97488	0.2194173	0.23587466	2.5942701	20	2 26.3	21.6
461988 2006 <i>WK</i>	16.6	X	322.16527	172.07036	31.00190	13.48618	0.0847641	0.24216253	2.5491658	20	1 31.5	20.1
461989 2006 <i>WZ</i> ₃₅	17.9	X	109.31552	251.26073	143.25517	3.98270	0.1790444	0.23719202	2.5846555	20	2 6.7	21.3
461990 2006 <i>WM</i> ₄₁	17.9	X	72.24788	338.55089	100.46657	6.61853	0.2473921	0.23502278	2.6005352	20	2 26.6	20.7
461991 2006 <i>WR</i> ₄₂	18.2	X	10.73720	12.57574	116.82512	6.10887	0.2686972	0.				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
462001	2006	WU ₁₅₂	17.6	X	97.30549	272.65546	130.45626	6.20975	0.2915941	0.23639260	2.5904793	20	2 20.5	21.0
462002	2006	WG ₁₆₁	17.8	X	80.75231	212.29945	209.96382	1.85860	0.0440135	0.23563450	2.5960325	20	1 15.4	21.0
462003	2006	WG ₁₆₃	17.2	X	179.86543	139.81317	203.20435	3.36308	0.0541934	0.24046743	2.5611315	20	2 6.8	20.9
462004	2006	WE ₁₆₇	18.0	X	54.65540	209.43310	225.61331	3.18961	0.2320545	0.23105946	2.6301885	20	1 11.3	20.3
462005	2006	WV ₁₆₇	18.0	X	137.20016	172.11965	235.68298	2.82409	0.1456128	0.24412922	2.5354567	20	3 20.1	21.8
462006	2006	WZ ₂₀₀	17.1	X	21.83722	44.99833	137.57183	10.53362	0.0583412	0.23638443	2.5905390	20	4 5.0	20.3
462007	2006	WL ₂₀₂	17.0	X	161.15066	92.10934	264.34064	11.97182	0.1054177	0.23721685	2.5844751	20	2 3.9	21.0
462008	2006	XV ₆	17.5	X	143.08716	76.26142	297.30409	2.46735	0.1809397	0.23837367	2.5761068	20	2 17.2	21.4
462009	2006	XD ₈	16.7	X	168.34882	133.17830	247.66827	11.63939	0.2159014	0.24601060	2.5225135	20	3 16.9	21.2
462010	2006	XO ₁₆	16.9	X	173.61059	28.61107	351.92664	3.22905	0.2328926	0.24423138	2.5347496	20	3 26.2	21.2
462011	2006	XO ₁₈	17.5	X	258.62435	73.67612	264.79432	4.03559	0.1826215	0.25904535	2.4371683	20	4 16.8	21.1
462012	2006	XT ₂₀	15.6	X	229.42686	216.20641	276.26693	12.49888	0.2167731	0.12386606	3.9856684	20	9 12.7	22.0
462013	2006	XC ₄₆	17.6	X	1.30372	69.12980	75.84255	12.26197	0.1379935	0.23103666	2.6303616	20	1 2.9	20.5
462014	2006	XA ₆₂	17.1	X	75.93648	335.89902	96.66473	15.20826	0.1403204	0.23099829	2.6306529	20	2 7.8	20.3
462015	2006	XA ₆₅	16.2	X	214.81627	125.33659	209.98876	12.17928	0.1276042	0.24493375	2.5299016	20	3 2.9	20.3
462016	2006	XQ ₆₅	17.2	X	41.97435	240.09124	245.72807	11.72608	0.1941982	0.23462724	2.6034571	20	2 17.2	19.9
462017	2006	XC ₇₁	17.9	X	71.76793	128.85509	300.88451	2.48038	0.2912372	0.23068933	2.6330011	20	2 17.7	20.6
462018	2006	YJ ₅	17.1	X	28.73431	29.81017	50.54522	2.20546	0.1145212	0.22320734	2.6915166	20	—	—
462019	2006	YS ₄₀	17.1	X	66.04845	308.95215	109.01258	5.13048	0.1039788	0.22747818	2.6577220	20	—	—
462020	2006	YA ₅₄	17.2	X	99.20775	319.54245	118.50785	8.57535	0.1625023	0.23629719	2.5911766	20	3 23.0	20.7
462021	2007	AG ₁₀	16.8	X	106.17317	301.30205	111.82058	14.83713	0.2338400	0.23554903	2.5966605	20	3 11.2	20.6
462022	2007	AL ₂₁	16.7	X	50.05565	103.30389	302.96804	12.50666	0.1076178	0.21967090	2.7203265	20	—	—
462023	2007	AV ₂₇	17.2	X	78.10759	116.88048	312.90456	5.55233	0.1294090	0.22947269	2.6422995	20	2 3.2	20.2
462024	2007	BZ ₁₆	16.6	X	11.98918	211.37484	315.87187	15.70646	0.1169112	0.23160587	2.6260501	20	2 19.9	19.6
462025	2007	BZ ₁₈	17.2	X	85.35121	320.02492	130.88815	4.22463	0.1619384	0.23452342	2.6042254	20	3 19.2	20.4
462026	2007	BR ₂₄	17.3	X	62.12637	163.58276	319.04155	4.67006	0.0350336	0.23401565	2.6079912	20	3 7.0	20.6
462027	2007	BW ₂₅	16.9	X	103.96928	54.78325	310.38887	5.23126	0.0854182	0.22000548	2.7175678	20	—	—
462028	2007	BZ ₃₆	17.0	X	22.65904	74.78972	117.13867	10.32819	0.1455837	0.23771874	2.5808361	20	4 24.6	19.8
462029	2007	BO ₅₂	16.8	X	298.25138	153.68897	120.46879	15.93461	0.1485980	0.23609392	2.5926637	20	3 25.0	20.5
462030	2007	BG ₆₇	17.2	X	285.36093	282.27112	330.99624	13.58815	0.0444979	0.22677899	2.6631819	20	2 19.5	20.9
462031	2007	BA ₇₇	17.2	X	17.18525	351.91249	140.27969	14.46448	0.2085148	0.22569597	2.6716948	20	1 10.1	19.8
462032	2007	BT ₁₀₀	17.0	X	306.23868	116.66634	125.51979	4.69059	0.1352326	0.23305776	2.6151323	20	2 19.3	20.5
462033	2007	CR ₁₄	16.3	X	8.23018	225.01950	322.90342	12.26408	0.1350825	0.23082765	2.6319492	20	3 11.3	19.3
462034	2007	CA ₁₆	16.9	X	12.24400	172.92581	330.22624	15.62512	0.1869763	0.22602258	2.6691204	20	1 21.5	19.7
462035	2007	CA ₁₇	16.2	X	226.63122	296.23117	303.79395	13.59839	0.0850468	0.21371038	2.7706754	20	—	—
462036	2007	CV ₃₈	17.1	X	105.08441	259.23009	139.14289	14.56172	0.1267273	0.22651119	2.6652806	20	1 30.9	20.7
462037	2007	CZ ₆₁	16.9	X	12.11067	317.22624	167.19947	13.90252	0.2001345	0.22256807	2.6966680	20	—	—
462038	2007	CD ₆₂	16.6	X	54.83677	209.52226	255.17999	8.76558	0.1479099	0.22841303	2.6504653	20	2 10.9	19.7
462039	2007	CM ₆₂	17.1	X	338.25304	63.67788	143.84794	9.14861	0.2906745	0.22509664	2.6764351	20	1 26.3	20.0
462040	2007	DQ ₂	17.4	X	65.96560	99.55041	6.27558	5.00466	0.2149739	0.23044865	2.6348341	20	3 17.3	20.2
462041	2007	DL ₈	17.5	X	338.22676	135.35793	154.71294	19.64997	0.7639994	0.22715839	2.6602158	20	2 20.6	21.2
462042	2007	DW ₁₆	16.9	X	283.09845	257.05069	341.41768	11.13557	0.1631304	0.22152804	2.7051016	20	1 18.3	21.0
462043	2007	DX ₂₁	16.9	X	264.83386	248.17416	345.64612	13.69586	0.0613430	0.21676525	2.7445824	20	1 4.4	21.1
462044	2007	DA ₃₀	17.3	X	348.53617	188.24838	6.68647	3.23357	0.1411677	0.22547248	2.6734599	20	2 5.0	20.3
462045	2007	DW ₃₉	16.7	X	113.13008	270.08079	121.07627	25.69178	0.2595135	0.23249761	2.6193310	20	2 21.3	20.8
462046	2007	DP ₅₇	16.9	X	296.37165	286.08117	323.16462	11.02426	0.0846950	0.22588035	2.6702407	20	2 22.1	20.4
462047	2007	DC ₉₂	17.1	X	244.14553	300.34171	343.44515	8.76230	0.1107424	0.22285240	2.6943737	20	2 6.5	21.2
462048	2007	DT ₁₁₁	16.7	X	208.98926	282.29587	358.71538	12.08108	0.1890934	0.21052382	2.7985639	20	1 1.6	21.7
462049	2007	DM ₁₁₂	16.6	X	314.83326	25.96217	199.30610	13.34127	0.1596620	0.21682401	2.7440866	20	2 3.1	20.5
462050	2007	EN ₁₀	17.1	X	297.45297	225.05605	332.56971	4.58464	0.1089024	0.21736065	2.7395681	20	—	—
462051	2007	EF ₁₆	17.4	X	234.96822	128.71544	160.80486	3.45617	0.0411210	0.22238705	2.6981312	20	2 5.9	21.2
462052	2007	EN ₂₁	17.5	X	330.11437	58.44813	138.42407	4.62994	0.1418996	0.22508850	2.6764996	20	1 23.5	20.6
462053	2007	EY ₂₁	17.0	X	355.26846	171.61066	15.60169	11.91807	0.1111682	0.22323155	2.6913220	20	2 28.8	20.2
462054	2007	EJ ₂₂	16.8	X	107.00273	65.94878	325.18238	10.45261	0.0874406	0.22291518	2.6938678	20	1 21.2	20.5
462055	2007	EX ₂₆	16.6	X	29.62502	133.13804	14.84670	13.16866	0.1039270	0.22390976	2.6858847	20	3 4.6	19.7
462056	2007	EM ₃₀	17.3	X	67.60005	259.00667	181.58134	8.47976	0.1860675	0.22157623	2.7047094	20	2 8.5	20.4
462057	2007	ES ₅₄	16.9	X	324.50426	190.56366	322.24053	4.44317	0.1015548	0.21440173	2.7647160	20	—	—
462058	2007	ER ₅₅	17.1	X	251.48180	103.01689	154.33721	8.39201	0.0497229	0.21604858	2.7506485	20	1 16.1	21.1
462059	2007	EN ₇₃	16.3	X	211.09897	314.47170	354.75961	16.64412	0.2246999	0.21722232	2.7407310	20	2 7.9	21.2
462060	2007	ES ₇₃	17.1	X	14.56328	346.02628	164.62212	13.71996	0.1017115	0.22320252	2.6915554	20	2 5.1	20.3
462061	2007	ES ₈₂	18.0	X	42.21495	109.26068	340.49119	4.92691	0.2476493	0.22451685	2.6810408	20	1 8.5	20.1
462062	2007	EJ ₈₄	17.3	X	332.51129	37.77841	126.68005	5.64550	0.1004498	0.21618189	2.7495176	20	—	—
462063	2007	EK ₈₉	17.4	X	1.80754	147.13019	340.20546	3.74578	0.0981507	0.21875288	2.7279319	20	—	—
462064	2007	EC ₁₀₁	16.8	X	355.11798	142.82414	26.95804	8.71815	0.0523686	0.22071578	2.7117343	20	2 9.8	20.4
462065	2007	EE ₁₀₃	17.4	X	333.94185	72.48071	161.52456	4.47317	0.0768999	0.22932638	2.6434232	20	3 28.5	20.6
462066	2007	ED ₁₂₁	16.2	X	146.75467	16.27941	341.01803	13.53441	0.2592934	0.22357533	2.6885624	20	2 12.3	20.6
462067	2007	EA ₁₂₆	16.6	X	337.11904	51.75002	173.82380	13.38491	0.2058427	0.22391749	2.6858229	20	3 3.2	19.4
462068	2007	EL ₁₃₄	16.5	X	287.14091	88.65001	174.98825	11.12524	0.1573502	0.21928642	2.7235053	20	2 19.3	20.6
462069	2007	ES ₁₃₅	17.3	X	319.52636	356.80909	178.86308	9.04861	0.0879204	0.21519323	2.7579326	20	—	—
462070	2007	EH ₁₃₈	17.4	X	98.39466									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462081 2007 FU ₂₅	17.1	X	52.78830	285.98364	171.98049	5.78915	0.1655338	0.22357586	2.6885582	20	2 3.6	19.9
462082 2007 FC ₄₀	16.8	X	323.64367	73.36178	162.91492	12.56399	0.2235182	0.22301747	2.6930441	20	2 21.9	19.9
462083 2007 FE ₄₅	17.7	X	335.65616	187.41989	7.32813	5.10708	0.0474976	0.22134272	2.7066112	20	2 13.2	21.1
462084 2007 GJ ₁	17.3	X	282.82086	151.67171	100.01892	4.10065	0.0258514	0.22143555	2.7058548	20	2 19.8	21.0
462085 2007 GB ₉	13.2	X	292.19151	287.65278	28.35787	31.12787	0.0503850	0.08146742	5.2700339	20	5 13.6	20.3
462086 2007 GS ₁₅	17.2	X	299.20186	224.25351	0.73277	5.75381	0.0652417	0.21960948	2.7208336	20	2 1.6	20.9
462087 2007 GW ₁₅	16.8	X	137.43616	199.19404	188.39789	12.12409	0.1327448	0.22224178	2.6993068	20	2 23.5	20.9
462088 2007 GV ₃₀	17.2	X	244.05759	254.32368	31.27948	4.95938	0.0479693	0.21561354	2.7543472	20	2 14.5	21.1
462089 2007 GA ₄₀	17.1	X	280.19290	210.17601	43.36511	8.69139	0.1758648	0.21401192	2.7680722	20	2 2.5	21.4
462090 2007 GU ₇₂	17.2	X	324.60413	335.17323	189.24796	8.39471	0.0420465	0.21143223	2.7905422	20	—	—
462091 2007 HJ ₄	16.6	X	218.04189	263.79686	32.24923	9.05691	0.1864768	0.20960767	2.8067126	20	1 27.6	21.4
462092 2007 HA ₂₂	17.1	X	210.99631	221.34530	68.12186	3.25442	0.1191467	0.20611214	2.8383568	20	1 12.6	21.5
462093 2007 HR ₃₅	17.0	X	278.33150	30.55987	216.61944	7.35480	0.1686035	0.21218653	2.7839249	20	1 20.1	21.4
462094 2007 HF ₅₇	17.0	X	306.83021	165.54644	75.90436	9.91577	0.1409116	0.21663720	2.7456638	20	2 24.2	20.8
462095 2007 HD ₉₈	16.7	X	328.57945	153.05797	63.08614	11.79645	0.1013880	0.21589914	2.7519177	20	2 29.5	20.4
462096 2007 JL ₁₇	18.0	X	308.48801	126.48388	124.07211	1.89232	0.2102475	0.21760758	2.7374952	20	2 23.4	21.5
462097 2007 KQ ₂	16.6	X	1.00861	5.68262	163.68403	13.74011	0.4034924	0.22109286	2.7086500	20	—	—
462098 2007 LM ₃₇	17.2	X	306.85761	60.15322	173.19396	7.65240	0.2160650	0.21432542	2.7653722	20	1 28.5	21.2
462099 2007 MS ₁₃	16.3	X	270.55555	126.81147	111.27572	15.87290	0.0945103	0.20909592	2.8112902	20	1 11.4	20.5
462100 2007 MN ₂₄	18.0	X	251.46001	102.27128	260.98245	7.07082	0.1658506	0.29363828	2.2417866	20	5 13.7	21.0
462101 2007 PN ₂₀	17.7	X	226.00951	20.47743	324.35618	9.74332	0.2321796	0.28137281	2.3064708	20	3 18.7	21.7
462102 2007 PO ₂₄	17.7	X	348.60374	345.61913	312.38103	9.68477	0.3274319	0.30232764	2.1986232	20	8 12.1	17.4
462103 2007 PY ₄₇	16.7	X	163.18069	312.36845	343.49790	3.26861	0.2665828	0.18423062	3.0588734	20	—	—
462104 2007 QJ ₂	16.2	X	194.28030	318.90149	179.25445	9.39225	0.0682266	0.17452483	3.1712555	20	—	—
462105 2007 QS ₅	17.9	X	323.41844	162.72236	264.01316	6.85009	0.1980875	0.29882013	2.2157945	20	7 12.8	19.4
462106 2007 RF ₁₁	16.1	X	254.25086	37.59831	164.99557	6.75852	0.0678826	0.17610470	3.1522604	20	—	—
462107 2007 RH ₁₁	16.8	X	324.15643	307.88686	167.79259	28.98323	0.3066357	0.29749541	2.2223675	20	6 12.3	19.2
462108 2007 RC ₂₄	17.7	X	212.73063	186.70023	19.39260	5.44546	0.1711519	0.28402590	2.2920852	20	5 2.8	21.1
462109 2007 RW ₃₃	18.3	X	150.47433	202.75682	192.15408	2.68951	0.2028311	0.26800236	2.3825588	20	3 21.4	22.1
462110 2007 RA ₃₈	17.3	X	332.73981	316.48322	13.85875	7.90924	0.1651581	0.29957131	2.2120889	20	8 22.5	18.8
462111 2007 RD ₅₃	17.5	X	64.37849	1.76989	228.98744	5.74175	0.1330517	0.29774795	2.2211107	20	8 27.6	20.3
462112 2007 RJ ₆₆	16.4	X	100.36296	157.16047	163.62411	14.82029	0.2441331	0.17343190	3.1845646	20	—	—
462113 2007 RK ₇₇	16.4	X	90.77519	27.90901	342.41692	8.16601	0.0612592	0.17943752	3.1131058	20	—	—
462114 2007 RL ₈₁	16.3	X	146.37026	319.09733	332.36076	8.42543	0.0574713	0.17667977	3.1454165	20	—	—
462115 2007 RM ₁₁₃	16.6	X	8.29352	222.05980	196.59657	15.36667	0.0295460	0.16850842	3.2462975	20	—	—
462116 2007 RN ₁₁₇	16.5	X	344.05643	62.22475	347.26266	9.08338	0.0560400	0.16100172	3.3464348	20	11 23.6	21.1
462117 2007 RO ₁₃₁	18.4	X	110.87903	27.63232	56.52297	2.26641	0.1612606	0.26960415	2.3731126	20	4 8.9	21.5
462118 2007 RP ₁₃₃	18.0	X	281.65696	188.67125	164.81917	4.88324	0.1373337	0.29221793	2.2495583	20	6 15.0	20.5
462119 2007 RQ ₁₃₉	17.6	X	233.28925	168.29420	198.81614	6.24122	0.1839852	0.28597371	2.2816655	20	4 29.6	21.1
462120 2007 RS ₁₄₄	16.2	X	153.17257	111.90902	184.96123	17.48998	0.2388143	0.18000422	3.1065685	20	—	—
462121 2007 RJ ₁₅₂	18.4	X	206.53342	54.45273	321.22535	6.53329	0.1402951	0.28181174	2.3040753	20	4 12.8	21.9
462122 2007 RM ₁₆₀	16.6	X	101.71565	163.15149	177.71178	7.72110	0.0954148	0.17218147	3.1999641	20	—	—
462123 2007 RR ₁₇₇	18.5	X	144.64686	314.66209	128.98559	0.94770	0.1661837	0.27707101	2.3302830	20	5 15.2	21.9
462124 2007 RS ₁₈₄	16.2	X	98.16414	162.37315	185.84463	9.87420	0.0768560	0.17436441	3.1732003	20	—	—
462125 2007 RG ₁₉₀	16.9	X	146.64399	150.88262	174.25348	9.44330	0.1681656	0.18119804	3.0929083	20	—	—
462126 2007 RX ₁₉₁	16.8	X	153.86055	151.07383	174.97034	10.35733	0.1311761	0.18196312	3.0842326	20	1 4.4	21.7
462127 2007 RG ₂₀₁	16.8	X	98.98737	125.59791	236.96395	1.40026	0.0701063	0.17554138	3.1590006	20	—	—
462128 2007 RZ ₂₂₈	18.1	X	265.06541	187.86564	145.38193	6.99085	0.1999986	0.28824729	2.2696518	20	4 17.9	21.4
462129 2007 RN ₂₄₆	15.7	X	125.88742	132.71588	167.28124	28.18926	0.1432454	0.17333543	3.1857460	20	—	—
462130 2007 RB ₂₄₇	16.1	X	210.68967	287.14384	6.01112	16.06590	0.2037917	0.19176869	2.9781798	20	1 22.2	21.4
462131 2007 RO ₂₅₀	17.5	X	321.71235	105.53176	216.55892	5.78800	0.1406597	0.29543583	2.2326841	20	7 7.4	19.5
462132 2007 RJ ₂₅₅	16.5	X	91.41787	232.86980	169.65048	10.09201	0.0594676	0.18642758	3.0347944	20	1 14.7	20.8
462133 2007 RH ₃₀₉	18.1	X	271.98441	359.04402	7.02872	3.24528	0.1627776	0.29465820	2.2366105	20	6 14.4	20.7
462134 2007 RQ ₃₁₃	16.0	X	86.93355	179.52969	182.78360	28.40951	0.1596841	0.17305963	3.1891298	20	—	—
462135 2007 RU ₃₁₅	17.6	X	142.04137	44.83370	353.74752	6.26823	0.1706707	0.27027889	2.3691613	20	3 15.1	20.9
462136 2007 RZ ₃₂₁	16.6	X	204.59007	216.03376	58.65910	3.00868	0.0476196	0.18318686	3.0704816	20	—	—
462137 2007 RS ₃₂₂	18.1	X	254.66630	345.77886	10.33981	6.86518	0.0845425	0.28741077	2.2740536	20	5 17.4	21.1
462138 2007 SL ₂₀	18.3	X	236.76463	171.44931	192.20526	6.01842	0.1896546	0.28214218	2.3022759	20	4 28.4	21.8
462139 2007 SA ₂₁	17.4	X	260.07887	59.66699	273.35347	5.22395	0.1920569	0.28144672	2.3060670	20	4 7.9	20.9
462140 2007 SU ₂₂	18.3	X	171.63629	57.59120	353.00779	7.18846	0.1125896	0.27732998	2.3288321	20	4 23.5	21.7
462141 2007 TV ₁	16.2	X	8.80535	106.06623	2.69690	8.85515	0.0159462	0.18106267	3.0944497	20	—	—
462142 2007 TJ ₁₃	17.8	X	227.31030	316.27428	24.86201	4.83288	0.2489860	0.27686240	2.3314533	20	3 19.7	21.8
462143 2007 TM ₂₅	17.9	X	293.99853	9.40721	349.08775	2.68086	0.1651403	0.29421328	2.2388648	20	7 9.2	20.1
462144 2007 TW ₂₉	18.1	X	156.76787	13.40392	22.01168	1.83785	0.1766538	0.26931628	2.3748033	20	3 26.5	21.7
462145 2007 TM ₄₂	16.1	X	26.40510	42.39925	358.48746	8.76879	0.1074935	0.16966728	3.2314987	20	—	—
462146 2007 TO ₅₂	18.5	X	141.76603	227.29278	211.00042	7.01083	0.0816069	0.27386804	2.3484166	20	4 27.7	21.6
462147 2007 TA ₅₃	17.5	X	118.47239	63.14284	25.30245	3.53610	0.1474408	0.26936056	2.3745430	20	4 20.9	20.8
462148 2007 TQ ₅₆	18.3	X	157.83131	98.54415	315.02806	0.74245	0.1655830	0.27168886	2.3650975	20	4 18.4	21.9
462149 2007 TP ₇₁	18.5	X	142.62826	73.76040	202.37266	20.23597	0.1197834	0.39786569	1.8308175	20	—	—
462150 2007 TW ₇₃	18.0	X	101.36195	318.10417	112.79628	2.42976	0.1790268	0.26301936	2.4125569	20	3 13.4	20.9
462151 2007 TU ₉₇	18.3	X	95.16406	296.70633	166.15521	2.72756	0.1378298	0.26993901	2.3711496	20	4 10.5	21.2
462152 2007 TF ₁₀₃	18.4	X	122.34987	277.43997	166.10972	2.32115	0.1666726	0.26786764	2.3833576	20	4 22.3	21.6
462153 2007 TG ₁₁₄	17.8	X	212.19851	131.71674	217.63824	10.05300	0.2052794	0.27498865	2.3420322	20	3 14.7	21.8
462154 2007 TV ₁₁₈	18.3	X	135.76859	302.49477	97.02999	3						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
462161	2007	TP ₁₇₄	15.5 ^m	X	318.82428	295.05392	190.92502	24.33859	0.0778149	0.16930195	3.2361457	20	—	—
462162	2007	TY ₁₈₁	18.1	X	79.86671	59.30255	101.32717	2.66069	0.1214929	0.27974205	2.3154259	20	6 7.1	20.8
462163	2007	TF ₁₈₈	15.6	X	107.74421	296.87825	46.41355	24.97036	0.2588689	0.17367988	3.1815326	20	—	—
462164	2007	TR ₁₉₂	16.1	X	114.45248	351.51412	9.94817	10.84811	0.0888863	0.17712734	3.1401157	20	1 1.5	20.8
462165	2007	TK ₂₀₂	16.0	X	185.04135	256.08111	46.36805	15.90679	0.2152560	0.18038888	3.1021506	20	1 11.2	21.5
462166	2007	TJ ₂₂₆	17.5	X	315.70084	357.62476	305.44515	4.30234	0.1583447	0.28949316	2.2631352	20	5 20.6	19.8
462167	2007	TW ₂₃₅	16.2	X	222.12076	226.19906	41.83404	9.73463	0.1324729	0.18122942	3.0925513	20	—	—
462168	2007	TK ₂₅₈	19.0	X	158.25705	124.09924	302.76270	1.47656	0.1885595	0.27564109	2.3383351	20	5 6.9	22.7
462169	2007	TQ ₂₅₉	18.2	X	4.80985	32.93245	224.14988	2.62444	0.1138578	0.28875265	2.2670029	20	6 22.6	20.0
462170	2007	TC ₂₆₈	17.8	X	165.04373	14.35944	30.80745	5.06160	0.1585075	0.27285108	2.3542483	20	4 14.7	21.3
462171	2007	TM ₂₆₈	16.2	X	121.29510	301.74669	29.53280	10.36382	0.2158173	0.17496622	3.1659197	20	—	—
462172	2007	TZ ₂₇₂	17.9	X	309.92378	209.80901	112.18823	3.94692	0.1769080	0.28974908	2.2618024	20	6 7.7	20.0
462173	2007	TD ₂₇₃	17.5	X	81.25895	52.53643	55.10254	11.23909	0.1177663	0.26479379	2.4017669	20	3 30.2	20.4
462174	2007	TW ₂₉₄	18.8	X	223.31128	198.20744	9.21852	22.16397	0.0131941	0.40265391	1.8162743	20	—	—
462175	2007	TR ₃₁₉	18.0	X	178.52310	318.06663	74.66849	2.47421	0.1846426	0.27180660	2.3602756	20	4 13.1	21.7
462176	2007	TC ₃₃₄	18.4	X	109.79137	201.58693	243.74939	4.40628	0.1937571	0.26484497	2.4014575	20	4 11.7	21.6
462177	2007	TQ ₃₅₆	18.0	X	177.54187	225.39195	154.59082	4.75019	0.2044203	0.27379045	2.3488603	20	3 27.9	21.8
462178	2007	TL ₃₆₃	17.8	X	189.17687	334.69756	69.62223	3.51559	0.2197253	0.27499390	2.3420024	20	5 6.8	21.7
462179	2007	TK ₃₆₇	17.4	X	133.52700	343.81883	60.49672	10.77630	0.2555588	0.26515946	2.3995583	20	3 28.1	21.3
462180	2007	TQ ₃₆₈	17.4	X	204.11008	44.93504	330.83699	5.02104	0.2855639	0.27600755	2.3362648	20	4 9.5	21.7
462181	2007	TG ₃₈₁	17.6	X	180.14582	350.44557	48.77495	8.10686	0.0841152	0.27514808	2.3411274	20	4 21.1	20.8
462182	2007	TT ₃₉₁	15.9	X	49.79712	217.04138	202.92026	15.20026	0.0631702	0.17372579	3.1809721	20	—	—
462183	2007	TD ₃₉₅	17.8	X	198.54438	349.01978	52.86223	7.94721	0.0956886	0.27995907	2.3142291	20	5 13.9	20.9
462184	2007	TY ₄₄₂	17.5	X	272.74921	229.36663	160.17393	10.35168	0.1439017	0.29163113	2.2520609	20	7 23.1	20.1
462185	2007	TB ₄₄₄	17.8	X	191.87472	0.27612	21.29232	6.92204	0.1129631	0.27640826	2.3340064	20	4 9.4	21.3
462186	2007	TR ₄₄₆	17.7	X	206.16594	253.03606	122.59912	6.01363	0.2446279	0.27848174	2.3224065	20	4 16.3	21.7
462187	2007	TR ₄₅₀	17.7	X	135.26049	317.11353	108.11865	3.30345	0.1626618	0.26863183	2.3788354	20	4 12.6	21.1
462188	2007	UF ₁₁	17.2	X	204.29685	249.47350	128.46378	9.52043	0.2222730	0.27665444	2.3326216	20	4 19.6	21.3
462189	2007	UU ₂₁	18.0	X	102.96031	60.20656	52.61268	5.53142	0.1839762	0.26881371	2.3777623	20	5 10.8	21.3
462190	2007	UZ ₃₃	17.4	X	197.80334	285.64197	89.66856	8.85410	0.2347512	0.27474753	2.3434023	20	4 11.3	21.5
462191	2007	UR ₄₅	18.0	X	186.65554	60.02937	343.75309	3.92311	0.1074816	0.27665519	2.3326173	20	5 1.6	21.3
462192	2007	US ₈₇	17.8	X	154.85700	205.02799	239.94065	3.95681	0.2083449	0.27362334	2.3498165	20	5 28.8	21.6
462193	2007	UF ₉₇	17.5	X	2.47036	42.73211	222.66284	4.03954	0.0738884	0.28508021	2.2864305	20	6 29.3	19.8
462194	2007	UD ₁₂₀	18.4	X	129.96101	60.95065	34.01490	7.22899	0.0718424	0.27583163	2.3372581	20	5 3.8	21.3
462195	2007	UY ₁₃₁	18.0	X	190.38500	311.06350	48.89358	5.91043	0.1270452	0.26966030	2.3727831	20	3 14.4	21.6
462196	2007	US ₁₃₉	15.3	X	191.38846	64.12879	247.20347	25.84184	0.0856382	0.17589238	3.1547966	20	1 14.9	20.6
462197	2007	UA ₁₄₂	18.3	X	138.92474	345.93058	74.68420	2.70960	0.1748794	0.26662529	2.3907555	20	4 11.2	21.7
462198	2007	VV ₂	17.8	X	147.98504	337.15458	48.74928	6.34685	0.2337346	0.26442049	2.4040268	20	3 13.9	21.6
462199	2007	VX ₂₇	18.0	X	91.90809	34.04919	66.12138	6.22283	0.1913168	0.26290001	2.4132870	20	4 13.1	21.0
462200	2007	VZ ₄₈	18.7	X	123.59992	127.74166	289.14941	3.86324	0.1905017	0.26335226	2.4105234	20	3 19.8	22.2
462201	2007	VF ₅₈	18.1	X	214.25961	171.37920	167.17089	4.81375	0.2228220	0.27070899	2.3666513	20	3 6.1	22.0
462202	2007	VG ₆₂	17.9	X	160.81081	20.27064	43.55201	6.50453	0.1099419	0.27147251	2.3622117	20	5 2.2	21.1
462203	2007	VU ₈₅	17.7	X	200.46467	80.62565	284.97122	3.83341	0.2492161	0.27542523	2.3395567	20	3 25.8	21.8
462204	2007	VZ ₉₄	17.9	X	255.76125	28.89190	320.26887	4.68646	0.1813462	0.28150859	2.3057291	20	4 26.5	21.3
462205	2007	VQ ₁₁₈	18.1	X	204.60354	225.39426	134.11846	2.01772	0.1909317	0.27114290	2.3641257	20	3 25.1	21.8
462206	2007	VP ₁₂₆	17.7	X	147.60782	3.91113	42.00864	3.21566	0.1933217	0.26680127	2.3897041	20	4 2.2	21.2
462207	2007	VX ₁₃₈	17.4	X	234.16282	327.28315	70.01970	7.66125	0.0952007	0.28455884	2.2892224	20	6 18.9	20.5
462208	2007	VF ₁₄₅	18.6	X	132.24186	313.01791	135.37895	3.11110	0.1472016	0.26901687	2.3765651	20	5 7.9	22.0
462209	2007	VU ₁₅₉	18.1	X	52.00705	70.51254	112.98451	4.27036	0.1658271	0.27172726	2.3607350	20	6 4.8	20.4
462210	2007	VR ₁₆₄	18.3	X	73.04249	200.18783	259.84967	1.35990	0.1524856	0.25778089	2.4451316	20	3 5.9	20.8
462211	2007	VG ₁₈₁	17.3	X	82.37422	288.56916	224.15107	21.48425	0.2769516	0.26974567	2.3722825	20	6 20.4	20.9
462212	2007	VO ₁₉₅	18.1	X	340.73206	339.35501	309.47916	2.23123	0.1008649	0.29075456	2.2565850	20	6 25.9	20.0
462213	2007	VJ ₂₀₁	18.4	X	58.97789	22.69799	226.13572	1.97714	0.1265294	0.29427338	2.2385600	20	9 15.9	21.1
462214	2007	VK ₂₂₀	17.4	X	195.39537	326.40911	77.15400	7.90085	0.0987880	0.27391604	2.3481423	20	5 14.1	20.7
462215	2007	VS ₂₅₂	18.0	X	201.14926	255.37977	111.43871	4.30623	0.2605901	0.27438697	2.3454548	20	3 31.9	22.2
462216	2007	VK ₂₅₃	17.4	X	102.66831	334.30586	144.88190	6.34709	0.2024562	0.26895158	2.3769497	20	5 23.4	20.8
462217	2007	VQ ₂₆₀	16.8	X	105.48922	84.67382	75.46792	22.17233	0.2647162	0.26824915	2.3810973	20	7 27.5	20.9
462218	2007	VG ₂₆₉	18.1	X	315.67191	185.10716	150.44339	4.29749	0.2304593	0.29345163	2.2427371	20	7 3.4	19.6
462219	2007	VW ₃₂₁	17.5	X	182.88904	94.72867	296.52829	5.64226	0.1613913	0.27219395	2.3580359	20	4 10.8	21.4
462220	2007	WQ ₆	17.9	X	180.71042	18.48016	30.48179	7.10204	0.2203554	0.27480040	2.3431017	20	5 4.3	21.7
462221	2007	WA ₃₃	16.2	X	322.58690	79.85437	21.42581	6.16754	0.0683998	0.15593393	3.4185529	20	12 27.8	20.7
462222	2007	WW ₅₀	18.0	X	128.05081	226.21277	213.23438	5.03898	0.1889038	0.26663812	2.3906788	20	4 24.8	21.4
462223	2007	XU ₁₇	17.1	X	104.04515	202.49613	270.40517	8.66833	0.1892970	0.26489477	2.4011565	20	5 11.4	20.4
462224	2007	XL ₂₄	17.7	X	333.29659	141.98971	268.73372	19.17836	0.0964292	0.38407317	1.8743905	20	—	—
462225	2007	XW ₃₈	16.7	X	89.96271	82.22500	75.13347	13.99792	0.1310322	0.26819961	2.3813905	20	6 17.1	19.8
462226	2007	XG ₅₆	16.5	X	345.03922	68.05164	86.24032	14.76398	0.1415548	0.24459182	2.5322588	20	—	—
462227	2007	YU ₄₃	17.8	X	161.01903	351.00759	28.20336	1.56501	0.1956692	0.25666811	2.4521937	20	3 12.3	21.5
462228	2007	YZ ₄₄	17.6	X	71.39791	232.75782	283.66742	3.91387	0.1659647	0.26100281	2.4249675	20	5 26.1	20.4
462229	2007	YG ₆₉	18.4	X	94.66473	31.86051	81.65916	3.82649	0.1298967	0.26352754	2.4094544	20	4 24.5	21.3
462230	2008	AH ₁₇												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462241 2008 CP ₆₆	17.9	X	346.17873	132.01125	121.09109	3.34115	0.1468845	0.25720849	2.4487579	20	5 7.8	20.2
462242 2008 CU ₈₀	15.8	X	162.03155	206.51705	344.08784	10.19501	0.1085293	0.12346608	3.9942717	20	9 28.9	21.9
462243 2008 CS ₈₃	18.1	X	15.49859	29.50750	333.49650	19.11643	0.0815573	0.37273850	1.9121996	20	—	—
462244 2008 CV ₈₄	17.8	X	9.65799	19.88353	155.62861	2.06258	0.1132678	0.24652241	2.5190209	20	2 28.4	20.4
462245 2008 CU ₁₂₃	17.2	X	231.22294	1.49113	292.81181	2.96092	0.1076673	0.24348398	2.5399341	20	2 1.7	20.8
462246 2008 CT ₁₂₆	18.1	X	89.02985	303.00033	178.11454	2.18867	0.1050204	0.25564577	2.4587270	20	4 22.8	21.0
462247 2008 CP ₁₃₆	17.6	X	340.06723	314.99770	308.41126	4.42642	0.1207147	0.26041943	2.4285877	20	5 10.7	20.2
462248 2008 CC ₁₄₆	18.4	X	302.83665	51.28428	329.95839	16.80779	0.1149871	0.36108974	1.9531066	20	9 16.9	19.9
462249 2008 CO ₁₄₆	18.1	X	84.06408	253.28541	214.51728	3.13440	0.0676147	0.25089024	2.4896992	20	3 21.2	21.3
462250 2008 CC ₁₇₀	17.7	X	332.02473	19.00712	178.52598	5.49399	0.1074349	0.24285133	2.5443434	20	1 28.1	20.9
462251 2008 CU ₁₈₉	17.1	X	329.49442	7.75831	199.86396	12.36670	0.2073824	0.24207708	2.5497656	20	1 20.6	20.5
462252 2008 CB ₂₁₁	16.4	X	156.57081	43.77997	1.63461	14.96622	0.1119152	0.24644723	2.5195332	20	4 2.3	20.1
462253 2008 DA ₁₉	17.6	X	125.07651	352.04679	125.95465	7.15019	0.0745059	0.26366816	2.4085976	20	6 1.4	20.9
462254 2008 DR ₂₂	17.8	X	12.14505	357.05072	20.36161	21.13050	0.0829959	0.37478028	1.9052482	20	—	—
462255 2008 DU ₂₇	17.6	X	103.05789	12.45808	151.82723	6.56991	0.0802507	0.26821624	2.3812921	20	7 6.9	20.8
462256 2008 DG ₃₇	17.0	X	63.54220	118.36404	358.41518	12.63367	0.0402547	0.24311966	2.5424709	20	3 4.5	20.1
462257 2008 DG ₇₂	17.4	X	103.74049	166.85814	333.68940	5.56019	0.0237543	0.26073377	2.4266534	20	5 25.5	20.5
462258 2008 DJ ₈₅	17.4	X	277.40839	130.76767	180.89592	6.05814	0.1074643	0.25211347	2.4816394	20	4 16.4	20.6
462259 2008 EU ₃	17.0	X	328.98266	212.49878	355.27952	13.26568	0.1200415	0.23935095	2.5690897	20	2 10.9	20.3
462260 2008 EC ₂₃	18.0	X	235.35273	312.54482	181.38507	21.42878	0.0695052	0.36788154	1.9289933	20	12 4.8	20.3
462261 2008 EX ₅₈	18.1	X	40.44928	12.25328	127.54026	4.80768	0.1981564	0.24612496	2.5217321	20	3 13.0	20.2
462262 2008 ER ₅₉	17.8	X	320.30509	249.58580	338.36711	5.05598	0.2001178	0.24008543	2.5638474	20	2 8.8	21.0
462263 2008 EY ₇₀	16.3	X	223.07228	80.06452	52.48304	3.55256	0.1818784	0.12543021	3.9524643	20	9 18.2	22.3
462264 2008 EO ₇₃	17.8	X	313.48339	201.37868	168.04786	25.37743	0.0832330	0.35576118	1.9725606	20	9 30.7	19.3
462265 2008 EP ₇₃	17.5	X	28.19747	145.09049	76.65855	2.69926	0.1391981	0.25595709	2.4567329	20	6 14.3	19.8
462266 2008 EF ₉₁	18.1	X	240.84783	126.00605	5.75142	19.58041	0.0614108	0.36919422	1.9244182	20	12 4.7	20.4
462267 2008 EH ₁₁₆	18.2	X	307.46983	72.71963	171.87908	6.20144	0.2404618	0.23852860	2.5749912	20	2 5.7	21.7
462268 2008 EC ₁₁₇	17.6	X	39.90869	136.40744	8.85582	11.57364	0.1207981	0.24369607	2.5384603	20	3 14.1	20.2
462269 2008 EZ ₁₂₇	18.1	X	41.82768	312.05683	164.99469	11.95908	0.1300885	0.24297718	2.5434648	20	2 2.5	20.8
462270 2008 EO ₁₃₀	18.0	X	173.03410	218.64150	20.01481	20.41032	0.0343506	0.37093950	1.9183772	20	—	—
462271 2008 ES ₁₃₁	17.3	X	50.15495	36.35684	57.43941	5.63783	0.2403920	0.23947430	2.5682075	20	1 30.5	19.4
462272 2008 ER ₁₃₆	17.7	X	288.50349	146.22668	106.60878	1.98847	0.1325547	0.23831384	2.5765380	20	2 10.3	21.4
462273 2008 EA ₁₄₈	18.3	X	62.16028	118.87608	11.70105	4.67492	0.1434651	0.24688587	2.5165481	20	4 1.1	20.7
462274 2008 EA ₁₅₁	17.1	X	285.91693	227.61347	27.66284	12.93394	0.1525509	0.23494022	2.6011445	20	2 13.8	21.0
462275 2008 EB ₁₅₁	17.8	X	311.34254	47.67648	188.07058	13.42051	0.1391882	0.24042937	2.5614018	20	2 12.2	21.3
462276 2008 EF ₁₅₄	16.7	X	40.41450	100.18205	45.57375	29.13293	0.1490066	0.23919136	2.5702324	20	4 3.7	20.0
462277 2008 EB ₁₅₉	17.3	X	48.68172	250.26138	190.19296	21.68511	0.0646529	0.22900178	2.6459206	20	—	—
462278 2008 EW ₁₆₂	17.7	X	280.12926	247.82170	25.90363	4.77724	0.1324940	0.24064489	2.5598722	20	2 28.3	21.3
462279 2008 EZ ₁₆₇	18.4	X	338.02070	280.59986	311.96900	2.59805	0.1801853	0.24455954	2.5324817	20	3 15.5	20.9
462280 2008 FS	17.4	X	263.74091	97.15575	158.48464	4.69430	0.2014219	0.23477875	2.6023369	20	1 11.8	21.7
462281 2008 FR ₉	18.0	X	57.83951	125.89083	349.95042	12.13446	0.1360967	0.24668164	2.5179368	20	3 3.7	20.5
462282 2008 FM ₁₂	18.4	X	30.88014	345.44238	169.90636	6.04638	0.1768716	0.24770822	2.5109753	20	3 11.7	20.6
462283 2008 FW ₂₁	17.7	X	272.75866	135.67561	128.73208	6.51817	0.1626463	0.23446945	2.6046250	20	2 4.1	21.5
462284 2008 FV ₂₇	18.0	X	306.09988	58.60687	45.40609	22.14501	0.0980597	0.37184882	1.9152484	20	—	—
462285 2008 FG ₂₈	17.8	X	270.30907	323.75843	186.35652	22.62698	0.0203718	0.37528568	1.9035373	20	—	—
462286 2008 FC ₃₉	16.3	X	149.04974	341.04432	37.65237	15.19627	0.0984885	0.23566853	2.5957827	20	3 1.6	20.3
462287 2008 FY ₄₉	16.9	X	81.21245	43.61114	14.70012	32.47901	0.2201228	0.23565422	2.5958877	20	2 26.9	20.7
462288 2008 FU ₅₃	17.9	X	329.56279	151.02213	64.37824	2.48325	0.1031271	0.23901610	2.5714887	20	2 21.2	20.9
462289 2008 FH ₅₄	17.6	X	2.11146	130.31090	54.05215	4.04823	0.0965890	0.24041949	2.5614719	20	3 3.0	20.4
462290 2008 FG ₅₅	17.6	X	333.44506	352.10083	172.36017	2.81487	0.1102555	0.23048028	2.6345930	20	—	—
462291 2008 FU ₆₃	17.5	X	315.43919	33.98245	209.29182	18.51473	0.1960779	0.23807097	2.5782900	20	2 16.5	21.2
462292 2008 FZ ₆₄	17.3	X	2.81642	24.62598	153.96137	3.24556	0.0556906	0.23781466	2.5801421	20	2 25.9	20.3
462293 2008 FZ ₇₂	17.8	X	359.82147	50.65589	128.04444	4.81317	0.1587712	0.24018813	2.5631166	20	2 12.7	20.1
462294 2008 FF ₇₃	18.0	X	336.64214	85.25929	147.85458	6.42465	0.1698121	0.24348571	2.5399221	20	3 18.4	20.6
462295 2008 FX ₈₈	18.0	X	230.66788	133.17758	29.46145	20.90115	0.0728977	0.36705616	1.9318840	20	—	—
462296 2008 FE ₉₇	17.6	X	132.66071	245.42500	48.69888	22.44892	0.0119700	0.37256651	1.9127880	20	—	—
462297 2008 FJ ₁₁₂	17.9	X	59.16253	329.94725	40.06780	22.15051	0.0804096	0.37306252	1.9110922	20	—	—
462298 2008 FD ₁₁₃	17.6	X	273.84971	201.26379	68.64893	3.91158	0.1614022	0.23528229	2.5986227	20	2 13.4	21.4
462299 2008 FQ ₁₂₆	16.8	X	132.44074	22.61488	8.24293	17.10909	0.1307229	0.23908680	2.5709817	20	2 28.9	20.6
462300 2008 FE ₁₃₅	17.1	X	216.68731	292.46416	58.74491	3.17862	0.1203276	0.24538057	2.5268295	20	3 29.8	21.0
462301 2008 FK ₁₃₅	18.3	X	359.19703	71.92997	120.73254	4.01812	0.0956052	0.24288407	2.5441148	20	3 8.8	21.1
462302 2008 GU ₅	17.7	X	17.43874	12.71784	162.49218	8.37117	0.1123348	0.24637798	2.5200053	20	3 13.9	20.1
462303 2008 GV ₁₅	18.2	X	306.51111	217.90608	196.01503	22.77028	0.0579970	0.36195200	1.9500035	20	12 1.4	20.3
462304 2008 GJ ₄₆	17.4	X	291.06158	132.59398	114.68425	5.52080	0.2152369	0.23247025	2.6195366	20	1 27.5	21.2
462305 2008 GW ₆₉	17.1	X	243.66809	141.91829	137.51773	7.87332	0.1670105	0.22700543	2.6614106	20	1 25.6	21.3
462306 2008 GX ₇₅	17.4	X	282.36352	76.08699	204.24486	4.63475	0.0351391	0.24323169	2.5416902	20	3 21.2	20.8
462307 2008 GR ₈₄	16.7	X	173.91560	248.65090	146.21664	5.61942	0.1607653	0.24733265	2.5135166	20	4 13.2	20.7
462308 2008 GM ₈₉	17.2	X	348.80419	28.83848	168.53896	12.57888	0.1081743	0.24314967	2.5422618	20	2 22.9	20.0
462309 2008 GR ₉₁	17.7	X	299.08873	71.24639	163.93124	2.90053	0.0969547	0.23559981	2.5962873	20	2 5.1	21.1
462310 2008 GO ₉₇	17.5	X	319.52119	174.43869	30.47844	12.09000	0.1131181	0.23296561	2.6158219	20	1 26.4	21.1
462311 2008 GY ₁₀₂	17.4	X	348.91478	33.13186	191.27871	7.67703	0.1221798	0.24269842	2.5454119	20	4 1.5	19.8
462312 2008 GQ ₁₂₁	18.1	X	352.69926	2.25758	185.37118	9.06646	0.1003602	0.23874833	2.5734110	20	2 16.4	21.2
462313 2008 GN ₁₂₂	17.0	X	308.90087	134.30182	52.91608	5.83239	0.0725375	0.22834179	2.6510166	20	—	—
462314 2008 GR ₁₃₀												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462321 2008 HR ₂₉	17.1	X	287.34909	167.28877	119.26182	10.34446	0.0771482	0.24092188	2.5579098	20	4 5.1	20.6
462322 2008 HW ₃₄	16.4	X	246.96350	168.24876	114.86979	15.11182	0.0810193	0.22833320	2.6510831	20	2 9.9	20.4
462323 2008 HG ₄₆	17.3	X	274.43913	207.82944	69.18931	6.91987	0.2245495	0.23241330	2.6199645	20	2 17.7	21.4
462324 2008 HD ₅₆	17.6	X	325.02482	128.90693	114.04332	10.46749	0.1612005	0.23831975	2.5764954	20	3 17.7	20.7
462325 2008 HJ ₅₇	17.3	X	348.91098	25.09450	204.62391	29.60408	0.0925046	0.24264635	2.5457761	20	4 11.5	19.9
462326 2008 JW ₁₀	17.4	X	317.80265	56.79018	187.48691	12.03281	0.1201530	0.23808829	2.5781649	20	3 8.4	20.7
462327 2008 JO ₁₁	17.5	X	308.47969	161.67244	83.16735	5.09680	0.1212109	0.23572029	2.5954026	20	2 29.3	20.9
462328 2008 JY ₁₁	17.0	X	222.85567	175.12109	101.54264	4.80333	0.1511251	0.22089509	2.7102666	20	1 5.7	21.3
462329 2008 JZ ₃₀	18.5	X	332.30278	91.74015	161.00396	25.45859	0.5278194	0.23707572	2.5855007	20	2 3.1	22.0
462330 2008 JK ₃₃	17.1	X	25.55152	314.25493	216.27612	28.79095	0.1391076	0.24016921	2.5632511	20	3 17.4	20.3
462331 2008 KG ₄	17.8	X	279.16126	34.06239	203.02126	12.17289	0.1290900	0.22605727	2.6688473	20	1 10.8	22.0
462332 2008 KR ₅	17.6	X	213.53382	150.26043	153.30960	6.50570	0.1133876	0.22394649	2.6855910	20	1 28.4	21.8
462333 2008 KW ₂₉	17.0	X	75.36539	278.12743	207.33750	13.21131	0.1019749	0.24010964	2.5636751	20	4 8.2	20.2
462334 2008 KO ₃₄	16.7	X	289.08933	121.45668	144.54237	15.43101	0.0952954	0.23401428	2.6080013	20	3 6.0	20.2
462335 2008 KP ₃₄	17.2	X	340.11464	99.26167	157.39573	13.25545	0.1411042	0.24339969	2.5405205	20	5 5.6	20.1
462336 2008 KS ₃₉	17.3	X	274.29846	145.55645	172.48568	10.70328	0.0718428	0.24096555	2.5576007	20	4 28.5	20.8
462337 2008 LR ₃	17.3	X	353.10145	101.38139	132.29338	13.15252	0.2406783	0.24297920	2.5434507	20	4 20.0	19.6
462338 2008 NF ₂	15.9	X	173.93600	75.68165	268.38988	13.00212	0.1332336	0.21306117	2.7763007	20	2 5.9	20.5
462339 2008 NV ₃	16.6	X	338.22791	115.93053	127.40442	30.80378	0.3025526	0.23540779	2.5976990	20	3 23.0	19.7
462340 2008 OR ₂₂	17.5	X	235.76770	295.73399	242.88786	1.61618	0.2274048	0.21324550	2.7747006	20	1 17.5	22.3
462341 2008 PY ₄	17.6	X	282.79187	80.82445	210.07810	5.45735	0.3628486	0.22979885	2.6397987	20	2 23.4	22.0
462342 2008 PC ₂₂	17.0	X	93.78368	83.51862	316.31192	1.12784	0.0740474	0.20266283	2.8704720	20	1 14.9	20.7
462343 2008 QY ₈	16.5	X	273.81931	141.79285	157.95112	12.99578	0.1905370	0.22530175	2.6748104	20	3 19.1	20.5
462344 2008 QA ₁₃	16.1	X	5.93577	75.30082	338.39463	15.38557	0.2455446	0.18084843	3.0968931	20	—	—
462345 2008 QR ₁₇	17.4	X	309.86916	122.93210	153.66617	13.94497	0.2676155	0.23180597	2.6245387	20	3 21.7	20.8
462346 2008 QD ₂₆	16.3	X	271.43092	322.14408	337.06723	11.28758	0.1910815	0.22602074	2.6691349	20	3 12.1	20.2
462347 2008 QK ₄₄	16.4	X	267.66805	253.29474	95.33065	14.75975	0.3243493	0.23039927	2.6352106	20	5 2.2	20.8
462348 2008 QO ₄₆	17.1	X	218.98741	18.29839	277.45673	8.18431	0.2565052	0.21189777	2.7864535	20	1 22.7	22.0
462349 2008 RZ ₂	16.6	X	352.69347	219.59766	188.19247	10.28485	0.0881661	0.17698337	3.1418184	20	12 12.5	20.8
462350 2008 RP ₂₉	16.9	X	47.21056	74.37396	321.09143	0.79274	0.1400319	0.18659402	3.0329895	20	—	—
462351 2008 RG ₃₂	16.7	X	70.23822	12.00930	354.89138	10.79875	0.0465291	0.18718618	3.0265896	20	—	—
462352 2008 RF ₃₉	16.9	X	91.42584	215.95034	172.00917	9.19258	0.1133193	0.19514238	2.9437549	20	1 3.3	20.9
462353 2008 RV ₄₁	16.1	X	30.72744	43.48421	3.39184	8.79092	0.1417763	0.18356886	3.0662204	20	—	—
462354 2008 RY ₈₆	16.9	X	278.58455	320.96588	310.04386	7.01785	0.1684637	0.21556362	2.7547724	20	2 18.3	21.1
462355 2008 RG ₁₀₄	16.2	X	79.37138	116.83654	214.03661	11.82368	0.0969096	0.17940523	3.1134793	20	12 27.9	21.0
462356 2008 RL ₁₀₉	16.6	X	34.83749	32.84263	356.89899	15.71232	0.0647979	0.18346639	3.0673620	20	—	—
462357 2008 RU ₁₀₉	17.0	X	153.73132	342.22459	359.70364	1.37637	0.0905573	0.19903955	2.9052028	20	1 17.9	21.3
462358 2008 RK ₁₁₃	16.9	X	135.20235	349.68103	341.86929	9.97301	0.0141467	0.19214831	2.9742559	20	—	—
462359 2008 RG ₁₁₄	17.4	X	202.55039	285.72999	5.97457	5.13866	0.0334033	0.19973190	2.8984853	20	1 7.6	21.6
462360 2008 RL ₁₂₃	16.8	X	207.24001	297.06590	355.50169	6.59835	0.0200777	0.20246729	2.8723199	20	1 14.1	20.9
462361 2008 RF ₁₂₅	17.0	X	160.47451	121.95224	210.21003	1.43388	0.0658414	0.20208878	2.8759053	20	1 10.2	21.3
462362 2008 RS ₁₂₇	17.4	X	234.86495	292.56215	347.44534	8.08215	0.1812468	0.21113054	2.7931998	20	1 21.9	22.1
462363 2008 RK ₁₂₈	16.3	X	17.49308	93.42083	356.81352	15.06114	0.0641700	0.19294185	2.9660953	20	—	—
462364 2008 RY ₁₃₇	16.3	X	138.64865	307.12208	324.89122	10.39495	0.0364299	0.17954001	3.1119209	20	12 19.4	21.0
462365 2008 SZ ₂₂	17.1	X	34.56923	196.28197	205.84639	9.07944	0.1038220	0.18367807	3.0650049	20	—	—
462366 2008 SJ ₄₇	16.3	X	26.21018	309.03854	74.05449	2.35535	0.1735121	0.17576852	3.1562785	20	—	—
462367 2008 SE ₅₆	16.7	X	213.28624	77.85067	199.40531	10.26060	0.0658877	0.19564493	2.9387117	20	—	—
462368 2008 SK ₆₀	16.2	X	342.22476	131.89214	296.12327	15.43877	0.2128518	0.17263608	3.1943440	20	12 29.9	19.6
462369 2008 SP ₆₁	16.6	X	92.94310	47.76586	330.90273	11.29253	0.0735043	0.19825660	2.9128466	20	—	—
462370 2008 SO ₉₆	16.7	X	106.98046	337.60384	0.68145	7.85507	0.0681074	0.18562222	3.0435661	20	—	—
462371 2008 SX ₉₉	15.8	X	85.31326	200.68307	177.55193	10.48983	0.1170535	0.18844026	3.0131466	20	—	—
462372 2008 ST ₁₀₁	16.1	X	49.68569	2.92423	50.29252	10.77847	0.0500712	0.18678592	3.0309118	20	—	—
462373 2008 SG ₁₀₄	16.3	X	26.32641	230.23799	203.69353	6.87150	0.1358331	0.18348136	3.0671953	20	—	—
462374 2008 SV ₁₀₆	17.0	X	354.04230	12.22219	59.21376	1.69685	0.1619590	0.17513602	3.1638732	20	—	—
462375 2008 SH ₁₀₈	17.2	X	304.96110	287.17359	339.82715	12.15503	0.2471586	0.22691773	2.6620963	20	3 3.4	20.6
462376 2008 SX ₁₁₀	15.9	X	47.59025	251.23550	178.41195	10.28467	0.1061027	0.19033714	2.9930941	20	—	—
462377 2008 SN ₁₁₄	16.6	X	355.66079	6.84662	51.13477	7.21809	0.1493922	0.17567871	3.1573541	20	—	—
462378 2008 SH ₁₁₆	16.6	X	66.75351	217.33871	183.63846	9.41001	0.0718956	0.18816009	3.0161368	20	—	—
462379 2008 SN ₁₃₁	18.8	X	27.61984	316.05641	332.55349	1.66666	0.1621020	0.32619015	2.0900443	20	10 10.6	20.7
462380 2008 SD ₁₃₄	17.4	X	142.74022	103.09481	237.83497	1.77135	0.1108585	0.20134094	2.8830222	20	1 6.3	21.6
462381 2008 SM ₁₃₆	16.3	X	232.87138	228.53011	354.74188	8.85259	0.0393511	0.18726372	3.0257540	20	—	—
462382 2008 SW ₁₄₀	16.1	X	238.80484	14.21704	291.13868	8.77565	0.2042629	0.21466628	2.7624441	20	2 17.6	20.8
462383 2008 SD ₁₅₄	16.4	X	30.72750	7.97880	14.65290	10.33676	0.1070126	0.18001791	3.1064109	20	—	—
462384 2008 SG ₁₆₀	17.1	X	245.94187	296.13835	16.63006	8.62580	0.2922393	0.21810298	2.7333483	20	3 3.1	21.9
462385 2008 SV ₁₆₁	16.4	X	39.67643	229.89522	177.17444	12.30498	0.2156690	0.18445788	3.0563605	20	—	—
462386 2008 SR ₁₇₅	16.4	X	87.19130	5.79751	357.28342	22.85163	0.1408724	0.18862076	3.0112239	20	—	—
462387 2008 SG ₁₇₈	16.3	X	279.46559	130.46256	33.67719	27.50454	0.0679428	0.18021286	3.1041702	20	—	—
462388 2008 ST ₁₈₀	16.8	X	109.66781	312.08614	42.98296	1.75451	0.0581271	0.18887996	3.0084685	20	—	—
462389 2008 SA ₁₈₇	16.8	X	6.99253	83.75609	356.36397	7.81516	0.0544665	0.18352192	3.0667432	20	—	—
462390 2008 SB ₁₈₈	16.7	X	133.08196	101.51692	224.31329	6.77150	0.0371889	0.18778766	3.0201233	20	—	—
462391 2008 SZ ₁₉₆	16.4	X	43.33384	358.28684	40.54207	11.08589	0.0941030	0.18086457	3.0967089	20	—	—
462392 2008 SC ₂₀₈	16.3	X	212.55900	258.56045	68.67925	20.01364	0.3507750	0.21309560	2.7760017	20	3 2.9	22.0
462393 2008 SY ₂₂₁	17.2	X	349.99295	230.51627	185.96800	6.10265	0.0903734	0.17819824	3.1275225	20	12 19.4	21.2
462394 2008 SS ₂₂₂	16.6	X	256.29491	261.36274	353.96634	14.33768	0.1332641	0.20650194	2.8347			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
462401	2008	SU ₂₆₃	16.5	X	23.14515	211.02643	201.42041	13.43083	0.0456871	0.17874926	3.1210919	20	—	—
462402	2008	SA ₂₇₀	16.4	X	347.75894	218.67484	212.71460	26.52148	0.1590344	0.17488252	3.1669299	20	—	—
462403	2008	SW ₂₈₄	16.3	X	44.63510	5.12208	24.39801	11.75813	0.0744249	0.17982334	3.1086513	20	—	—
462404	2008	SG ₂₈₉	16.8	X	160.53442	65.82881	231.53996	4.32942	0.0736977	0.18915556	3.0055456	20	—	—
462405	2008	SL ₂₉₃	16.2	X	46.66496	30.99431	350.94507	21.78368	0.1602303	0.18139974	3.0906153	20	—	—
462406	2008	SO ₂₉₆	16.3	X	19.40178	346.46737	53.95729	11.50838	0.2140600	0.17809196	3.1287667	20	—	—
462407	2008	SQ ₂₉₈	16.3	X	351.37316	97.41463	2.89210	16.46741	0.2456728	0.18425395	3.0586152	20	—	—
462408	2008	SQ ₃₀₂	16.2	X	176.19541	219.83072	58.24703	10.85315	0.1234384	0.18643695	3.0346927	20	—	—
462409	2008	SS ₃₀₃	16.0	X	17.07559	145.05107	245.26416	8.49500	0.0802344	0.17542825	3.1603585	20	12 22.7	20.2
462410	2008	SN ₃₀₆	16.2	X	9.00989	60.54013	350.75588	10.99282	0.2287627	0.17572445	3.1568062	20	—	—
462411	2008	TL ₄	16.8	X	105.49776	134.10544	206.53169	0.49740	0.1832012	0.18886584	3.0086183	20	—	—
462412	2008	TR ₄	16.4	X	32.09622	43.68009	7.17806	9.72589	0.1150104	0.18399773	3.0614540	20	—	—
462413	2008	TH ₅	16.2	X	225.87176	294.30974	12.19816	12.66730	0.2134754	0.21140584	2.7907744	20	2 16.1	21.1
462414	2008	TR ₇	16.4	X	31.10688	38.74559	23.68408	9.31165	0.0643894	0.18700803	3.0285114	20	—	—
462415	2008	TT ₁₃	16.5	X	23.16968	227.90842	199.22865	6.70024	0.1387063	0.18525392	3.0475987	20	—	—
462416	2008	TG ₁₄	16.5	X	100.96963	153.97562	193.06023	17.97551	0.0806847	0.18853082	3.0121816	20	—	—
462417	2008	TR ₁₆	16.4	X	148.90546	264.92767	31.31802	11.89298	0.0269701	0.18122950	3.0925505	20	—	—
462418	2008	TA ₃₁	16.1	X	27.62969	15.28107	27.88979	12.04637	0.1206094	0.17946019	3.1128437	20	—	—
462419	2008	TG ₃₆	16.3	X	36.62616	13.57239	358.60970	9.22807	0.1608495	0.17832773	3.1260083	20	—	—
462420	2008	TG ₆₄	16.9	X	63.01342	217.54155	205.29021	2.99833	0.0537776	0.19165971	2.9793087	20	1 1.7	20.9
462421	2008	TM ₇₃	15.9	X	237.56714	257.67618	267.98597	9.85486	0.0694046	0.17381597	3.1798717	20	11 28.6	20.4
462422	2008	TH ₈₃	16.9	X	334.27083	98.30012	357.87648	9.48145	0.2117654	0.17662118	3.1461121	20	—	—
462423	2008	TH ₈₆	16.4	X	324.83905	264.09700	196.07094	16.97962	0.1064360	0.17867660	3.1219380	20	—	—
462424	2008	TC ₁₀₄	16.6	X	19.40182	201.92385	196.12332	16.11304	0.1966190	0.17672768	3.1448481	20	—	—
462425	2008	TG ₁₀₄	16.3	X	85.03215	352.38489	13.74241	9.54736	0.0412408	0.18516002	3.0486290	20	—	—
462426	2008	TY ₁₁₃	16.6	X	81.54303	183.97306	187.11731	7.35455	0.1671366	0.18582317	3.0413715	20	—	—
462427	2008	TG ₁₂₇	16.5	X	253.12769	101.53929	214.83687	13.15965	0.2142449	0.21941626	2.7224308	20	3 12.2	21.0
462428	2008	TE ₁₃₀	16.1	X	283.90854	138.49293	19.39825	22.21916	0.0513220	0.18098765	3.0953048	20	—	—
462429	2008	TM ₁₃₀	16.2	X	22.52536	23.81471	18.78396	18.31800	0.0803280	0.17793444	3.1306130	20	—	—
462430	2008	TY ₁₃₅	16.6	X	349.11796	187.58918	239.15154	4.03259	0.1465497	0.17333083	3.1858024	20	—	—
462431	2008	TE ₁₃₆	16.2	X	327.47612	251.98589	214.57702	11.29624	0.0985013	0.17699924	3.1416306	20	—	—
462432	2008	TH ₁₃₉	16.5	X	165.99885	234.96433	16.76179	13.43063	0.0114871	0.17607876	3.1525700	20	12 25.6	21.3
462433	2008	TJ ₁₃₉	16.4	X	37.24195	29.51404	11.01895	9.63177	0.0891146	0.18044000	3.1015646	20	—	—
462434	2008	TS ₁₆₂	16.2	X	12.02472	20.73962	32.72455	16.98184	0.1923099	0.17969602	3.1101195	20	—	—
462435	2008	TQ ₁₇₁	16.3	X	109.76642	124.56182	204.68974	11.89098	0.2469411	0.18435407	3.0575077	20	—	—
462436	2008	TA ₁₇₅	17.0	X	50.22353	30.17244	30.31458	1.77190	0.0211257	0.18936879	3.0032889	20	—	—
462437	2008	TO ₁₇₅	16.3	X	92.84369	129.44393	227.35495	11.40062	0.0870866	0.18640396	3.0350508	20	—	—
462438	2008	TQ ₁₇₅	15.6	X	38.59117	307.16745	66.97755	17.82970	0.2232444	0.17864197	3.1223413	20	—	—
462439	2008	TV ₁₈₂	16.9	X	335.00611	260.68750	199.01812	14.74763	0.2254325	0.17598001	3.1537493	20	—	—
462440	2008	TT ₁₈₈	16.1	X	323.06118	245.35122	238.21622	15.18162	0.2098685	0.17668455	3.1453598	20	—	—
462441	2008	UW ₁₀	16.5	X	358.74961	62.90245	2.74023	11.18218	0.1716445	0.17811690	3.1284745	20	—	—
462442	2008	UY ₅₉	15.9	X	93.27632	82.21286	248.19673	9.08576	0.0795977	0.17716429	3.1396791	20	—	—
462443	2008	UN ₆₃	17.9	X	189.38368	11.73431	34.33000	6.09391	0.1619298	0.30043857	2.2078298	20	5 7.7	21.3
462444	2008	UR ₆₃	16.9	X	347.49829	188.97090	270.67268	1.97616	0.2187288	0.17549049	3.1596112	20	—	—
462445	2008	UL ₈₁	16.0	X	86.13558	113.29752	254.52283	10.06764	0.0752889	0.18238101	3.0795196	20	—	—
462446	2008	UR ₁₀₂	18.7	X	172.07348	98.47941	346.19137	1.36477	0.1129304	0.30572235	2.1823175	20	6 11.9	21.6
462447	2008	UX ₁₁₀	16.2	X	354.65669	68.05320	18.66255	11.45703	0.0602370	0.17839412	3.1252327	20	—	—
462448	2008	UX ₁₁₃	16.1	X	333.79704	224.02028	241.66977	8.30939	0.1777804	0.17501073	3.1653831	20	—	—
462449	2008	UY ₁₁₃	16.0	X	20.76071	224.31489	230.70216	14.36376	0.0437158	0.18664678	3.0324179	20	—	—
462450	2008	UR ₁₁₄	16.6	X	263.33412	16.32705	235.39441	11.67715	0.0443883	0.19707827	2.9244457	20	1 23.4	21.0
462451	2008	UY ₁₁₉	16.4	X	166.05891	274.31389	352.58497	8.87728	0.0536265	0.17645417	3.1480970	20	—	—
462452	2008	UR ₁₂₀	16.0	X	86.89761	80.36638	253.21254	15.11293	0.2847233	0.17979292	3.1090019	20	—	—
462453	2008	US ₁₂₄	16.0	X	34.23878	95.64586	268.23164	15.52923	0.1062140	0.16824545	3.2496792	20	12 15.2	20.5
462454	2008	UX ₁₂₈	16.9	X	108.17654	36.83638	307.33391	0.71895	0.1073615	0.18871715	3.0101985	20	—	—
462455	2008	UP ₁₂₉	16.5	X	3.45216	48.64079	21.76394	4.91710	0.1181290	0.17725155	3.1386485	20	—	—
462456	2008	UF ₁₃₂	15.9	X	123.65117	80.85166	229.63998	10.63184	0.0699098	0.17906819	3.1173848	20	—	—
462457	2008	UQ ₁₃₃	15.9	X	280.46153	277.64077	225.56365	15.23781	0.0632559	0.17275309	3.1929014	20	12 24.6	20.4
462458	2008	UH ₁₃₅	16.6	X	306.20322	79.90823	43.94416	18.71948	0.1319867	0.17319010	3.1875280	20	—	—
462459	2008	UJ ₁₄₂	16.7	X	315.41983	251.42142	228.21810	13.62091	0.1312354	0.17278451	3.1925143	20	—	—
462460	2008	UV ₁₄₆	16.6	X	278.56365	119.12509	47.03325	14.07316	0.0212938	0.17725232	3.1386394	20	—	—
462461	2008	UA ₁₅₅	18.4	X	210.39710	338.36065	43.91811	2.90184	0.1665757	0.30276046	2.1965273	20	4 27.1	21.7
462462	2008	UX ₁₆₈	16.4	X	65.06355	165.58931	210.65493	12.56068	0.1174340	0.18063509	3.0993310	20	—	—
462463	2008	UW ₁₇₃	16.2	X	1.52736	76.64738	6.25745	17.17328	0.1091944	0.18128656	3.0919015	20	—	—
462464	2008	UY ₁₇₅	16.3	X	40.77699	51.44791	11.58991	4.76939	0.1962895	0.18416602	3.0595887	20	—	—
462465	2008	UC ₁₇₆	19.0	X	159.71648	79.55421	357.60961	2.16083	0.1326373	0.30035554	2.2082367	20	5 18.9	22.2
462466	2008	UK ₁₇₈	16.1	X	54.19018	175.71613	232.33574	8.78081	0.0908508	0.18556450	3.0441972	20	—	—
462467	2008	UW ₁₈₁	16.4	X	5.99283	220.48468	200.40617	9.44674	0.0770850	0.17651938	3.1473216	20	—	—
462468	2008	UH ₁₈₂	16.9	X	25.06589	253.48975	123.08161	2.10685	0.1524403	0.17310139	3.1886169	20	12 26.0	21.2
462469	2008	UB ₁₈₄	16.3	X	319.88558	66.24657	47.60306	11.10665	0.0868097	0.17725537	3.1386034	20	—	—
462470	2008	UW ₁₈₆	15.8	X	36.12272	318.58477	82.47073	6.75271	0.1704977	0.17562079	3.1580482	20	—	—
462471	2008	UU ₁₈₈	17.0	X	49.42746	167.54008	209.35405	6.01086	0.0858263	0.17831078	3.1262064	20	—	—
462472	2008	UG ₂₁₁	16.5	X										

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462481 2008 UB ₂₉₅	16.0	X	187.58231	353.71123	234.14065	10.40285	0.0333995	0.17296339	3.1903127	20	12 19.3	20.7
462482 2008 UC ₂₉₈	16.3	X	49.86498	181.87184	253.94864	9.12813	0.0834905	0.18734259	3.0249048	20	1 2.1	20.1
462483 2008 UY ₂₉₈	16.5	X	6.49742	118.23037	280.19297	5.29991	0.1431342	0.17000433	3.2272261	20	12 24.4	20.6
462484 2008 UX ₃₁₃	16.0	X	4.60787	62.75455	14.10984	12.13820	0.0775118	0.17971883	3.1098563	20	—	—
462485 2008 UP ₃₃₈	15.9	X	93.47796	83.59937	244.18487	17.68753	0.1230772	0.17267369	3.1938800	20	—	—
462486 2008 UQ ₃₅₃	16.5	X	24.72084	147.41890	272.33999	3.49257	0.0672660	0.17629160	3.1500320	20	—	—
462487 2008 UF ₃₅₄	16.4	X	22.87725	341.17547	64.92958	5.42953	0.1334026	0.17457882	3.1706016	20	—	—
462488 2008 UF ₃₆₀	15.9	X	27.91196	347.40562	52.94991	14.27853	0.0773736	0.17173767	3.2054745	20	—	—
462489 2008 UY ₃₆₂	15.7	X	343.35913	69.76495	0.68590	17.14627	0.1423752	0.17150939	3.2083184	20	12 29.9	19.9
462490 2008 VU ₁₂	18.5	X	231.42067	69.89515	330.45402	4.59812	0.2006480	0.30912300	2.1662829	20	6 8.7	21.8
462491 2008 VX ₂₂	15.9	X	28.15614	168.21904	241.07917	16.75050	0.1893158	0.17592756	3.1543761	20	—	—
462492 2008 VB ₄₇	16.5	X	13.86423	1.38335	63.95350	9.38262	0.0732011	0.17505510	3.1648482	20	—	—
462493 2008 VH ₄₈	16.4	X	86.69241	134.80390	249.10867	3.51006	0.0256318	0.18237988	3.0795323	20	—	—
462494 2008 VV ₅₀	16.2	X	2.62249	189.33370	263.31808	7.56801	0.0434431	0.17716303	3.1396939	20	—	—
462495 2008 VB ₅₈	15.3	X	64.83254	304.66107	76.96345	19.23521	0.0950713	0.18024862	3.1037596	20	—	—
462496 2008 VD ₆₉	15.8	X	131.68270	240.58224	46.48189	12.41451	0.1203970	0.17547072	3.1598486	20	12 29.9	20.9
462497 2008 VE ₇₀	16.6	X	21.65677	30.34668	54.63861	11.39495	0.0850467	0.18050842	3.1007808	20	—	—
462498 2008 VE ₇₄	15.9	X	169.12970	192.64442	74.30314	10.63989	0.0490134	0.17424905	3.1746007	20	—	—
462499 2008 VK ₇₆	17.9	X	198.21067	319.14298	79.38827	5.10699	0.1668188	0.30061813	2.2069505	20	5 8.1	21.3
462500 2008 VV ₇₇	16.3	X	50.07329	155.89081	250.79017	9.92185	0.0817923	0.17770610	3.1332941	20	—	—
462501 2008 WM ₃	16.7	X	64.69395	331.02631	32.68056	5.65154	0.1273571	0.17910488	3.1169591	20	—	—
462502 2008 WG ₈	16.6	X	222.50909	33.83782	212.90550	9.14462	0.0168458	0.18633749	3.0357725	20	—	—
462503 2008 WJ ₂₅	15.3	X	60.81410	278.18496	61.86914	26.57236	0.2006978	0.17272661	3.1932276	20	12 28.3	20.4
462504 2008 WU ₃₂	16.4	X	117.01102	293.41748	54.31778	16.29029	0.2345172	0.18813152	3.0164421	20	1 4.2	21.1
462505 2008 WV ₃₆	16.2	X	336.67223	40.49935	62.60548	26.60913	0.0163871	0.17501250	3.1653616	20	—	—
462506 2008 WF ₄₆	15.9	X	250.82141	301.30820	257.17406	8.04433	0.0412982	0.17469925	3.1691443	20	—	—
462507 2008 WR ₇₅	17.9	X	182.79028	337.09077	80.88826	5.82698	0.1685492	0.29937683	2.2130468	20	5 18.8	21.3
462508 2008 WV ₇₆	16.5	X	297.24195	303.82185	227.85480	9.39570	0.2513289	0.17440614	3.1726941	20	—	—
462509 2008 WD ₈₄	18.6	X	174.76348	121.66637	307.20532	2.57229	0.1308696	0.29753614	2.2221646	20	5 23.6	21.7
462510 2008 WH ₈₅	16.1	X	82.43690	271.03906	106.21544	5.12080	0.0856109	0.17607157	3.1526558	20	—	—
462511 2008 WK ₉₂	15.8	X	196.59832	346.79485	249.02736	15.95473	0.0621426	0.17361499	3.1823253	20	—	—
462512 2008 WT ₉₇	16.0	X	337.22989	253.96521	209.85275	25.31411	0.1914300	0.17378351	3.1802676	20	—	—
462513 2008 WL ₉₉	15.6	X	21.86146	181.65871	246.51801	15.07918	0.0970086	0.17661679	3.1461643	20	—	—
462514 2008 WA ₁₀₆	15.7	X	320.61673	56.58403	43.90650	14.65132	0.0660969	0.17008664	3.2261849	20	12 27.6	20.1
462515 2008 WP ₁₀₈	15.8	X	56.25363	124.33471	268.74829	9.21047	0.0427125	0.17898265	3.1183780	20	—	—
462516 2008 WZ ₁₂₁	16.2	X	26.06369	173.43405	230.37933	7.95245	0.0764488	0.17448781	3.1717040	20	—	—
462517 2008 XK ₈	16.1	X	32.95124	306.69280	95.50755	18.40087	0.2355516	0.17737567	3.1371842	20	—	—
462518 2008 XN ₁₄	16.2	X	334.61787	58.77498	55.38450	11.04006	0.0508930	0.17608193	3.1525321	20	—	—
462519 2008 XZ ₂₆	16.0	X	73.04001	81.75230	274.80182	12.48512	0.2146754	0.17756573	3.1349451	20	—	—
462520 2008 XO ₃₂	15.8	X	125.84294	245.21882	54.05113	12.87626	0.1029348	0.17276745	3.1927244	20	—	—
462521 2008 XL ₃₈	16.1	X	145.79677	36.91772	280.38254	8.42605	0.0617231	0.17879827	3.1205214	20	—	—
462522 2008 XX ₄₅	16.2	X	88.88210	290.78910	61.03014	27.83102	0.0721552	0.17615515	3.1516585	20	—	—
462523 2008 YE ₆₆	16.3	X	317.28692	56.43565	67.20532	27.00640	0.1810579	0.17164257	3.2066586	20	—	—
462524 2008 YC ₉₅	17.4	X	18.93415	296.32530	289.58050	6.30481	0.1392023	0.28809250	2.2704647	20	6 1.5	19.2
462525 2008 YZ ₉₅	18.1	X	172.78894	343.25772	108.26814	5.44555	0.0853205	0.29681985	2.2257383	20	6 22.3	21.0
462526 2008 YG ₁₀₄	18.5	X	188.70732	126.95640	299.56997	2.77675	0.0813993	0.29425025	2.2386773	20	6 5.7	21.5
462527 2008 YR ₁₁₆	17.9	X	41.03439	116.25684	105.34707	6.51862	0.1158873	0.29294280	2.2453334	20	7 6.7	20.0
462528 2008 YV ₁₄₂	18.1	X	21.37872	279.57799	305.25736	1.26501	0.1634056	0.28711394	2.2756206	20	6 8.4	19.8
462529 2008 YL ₁₅₆	18.0	X	4.23132	274.14890	314.07429	7.02627	0.0662028	0.28484253	2.2877022	20	5 1.2	20.4
462530 2008 YF ₁₆₀	17.7	X	8.77446	308.22865	318.34428	5.95376	0.0721391	0.28870578	2.2672482	20	7 14.3	19.9
462531 2008 YE ₁₇₁	18.2	X	168.33577	110.54478	303.99536	5.08361	0.1465955	0.28794314	2.2712497	20	4 26.5	21.7
462532 2009 AT ₃₉	18.4	X	86.78654	17.61291	143.56081	2.10927	0.0866214	0.28942452	2.2634931	20	6 12.3	20.9
462533 2009 AK ₄₀	15.9	X	338.50113	266.43947	124.83055	10.95139	0.1228147	0.15031209	3.5032686	20	10 30.1	20.4
462534 2009 BA ₂₀	16.4	X	169.56258	344.43349	306.75679	4.00869	0.0800194	0.16827481	3.2493013	20	—	—
462535 2009 BD ₄₈	18.5	X	195.79932	113.26270	317.77357	2.03026	0.0953826	0.29620875	2.2287984	20	6 20.4	21.3
462536 2009 BO ₄₉	17.7	X	57.21457	117.33738	122.62533	7.16387	0.0040158	0.30077465	2.2061848	20	8 13.1	20.1
462537 2009 BL ₈₈	18.0	X	20.86785	281.25777	287.18967	1.84218	0.1039162	0.28166475	2.3048768	20	5 4.9	20.0
462538 2009 BP ₈₉	18.5	X	160.57497	91.82390	304.84499	2.41369	0.0276677	0.28274709	2.2989911	20	4 1.4	22.1
462539 2009 BC ₉₁	17.5	X	204.39330	132.58200	314.48170	5.89956	0.0779135	0.30009293	2.2095248	20	7 25.9	20.3
462540 2009 BD ₉₃	18.0	X	22.46139	289.01287	284.94238	2.41310	0.1785776	0.28042050	2.3116897	20	5 24.3	19.6
462541 2009 BT ₁₀₅	18.6	X	133.95506	211.43751	269.68218	1.15374	0.1410887	0.28935417	2.2638599	20	6 21.6	21.6
462542 2009 BW ₁₁₄	17.8	X	79.83151	55.26363	121.30627	6.60723	0.1449371	0.28795047	2.2712112	20	7 4.4	20.5
462543 2009 BD ₁₁₇	18.7	X	162.01582	39.53964	35.04270	3.51040	0.1134004	0.28697939	2.2763319	20	5 17.3	21.9
462544 2009 BP ₁₄₂	18.2	X	38.10156	232.16901	351.51286	3.30649	0.1152016	0.28767842	2.2726429	20	7 4.7	20.4
462545 2009 BH ₁₅₅	16.1	X	315.01053	118.42406	339.20785	8.80638	0.0219959	0.15394943	3.4478683	20	12 13.7	21.0
462546 2009 BV ₁₆₅	19.1	X	96.15124	281.75075	246.51303	0.84147	0.1683483	0.28887738	2.2663502	20	7 16.9	22.1
462547 2009 BR ₁₇₁	18.1	X	46.67813	196.03117	341.48851	6.66798	0.1200284	0.27858140	2.3218525	20	5 5.1	20.5
462548 2009 BB ₁₈₃	18.4	X	122.54571	321.51276	140.22885	2.62293	0.0472754	0.28122245	2.3072929	20	5 1.9	21.1
462549 2009 BS ₁₈₄	18.3	X	129.30952	168.23213	263.04242	6.19322	0.2268984	0.28343284	2.2952814	20	4 16.0	21.8
462550 2009 CB ₃	19.4	X	152.96883	229.48285	158.75115	21.50999	0.7235535	0.89719006	1.0646653	20	3 29.9	19.8
462551 2009 CP ₁₄	18.5	X	130.28357	137.79016	284.76672	3.88828	0.2045036	0.27998645	2.3140783	20	4 3.7	21.9
462552 2009 CK ₁₈	17.5	X	278.59966	41.22405	278.03810	6.53516	0.1355028	0.28475816	2.2881541	20	4 18.2	20.6
462553 2009 CE ₁₉	18.2	X	115.75287	129.17719	305.59076	5.08518	0.2264253	0.27721426	2.3294801	20	4 6.5	21.6
462554 2009 CL ₂₇	17.9	X	54.51307	95.19883	50.37332	2.73174	0.1444893	0.27434376	2.3457010	20	4 8.1	20.1
462555 2009 CD												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462561 2009 DS ₂₄	17.9	X	31.27578	127.39804	141.47665	5.78882	0.1544184	0.29029755	2.2589527	20	9 10.0	20.0
462562 2009 DH ₂₈	18.0	X	118.84550	193.33778	343.92638	4.07339	0.0664491	0.29584683	2.2306158	20	8 16.8	20.8
462563 2009 DK ₄₉	18.0	X	9.78503	259.84049	359.97729	3.65151	0.2012280	0.28001925	2.3138976	20	7 17.7	19.6
462564 2009 DP ₅₂	17.9	X	7.89232	234.92504	15.56763	3.39841	0.2119084	0.28214013	2.3022870	20	6 25.5	19.2
462565 2009 DC ₅₆	18.1	X	101.57998	96.30387	24.85580	2.70895	0.1790172	0.28014123	2.3132258	20	5 19.1	21.2
462566 2009 DC ₅₉	17.6	X	310.35931	146.75637	131.60919	4.93480	0.1291583	0.27434565	2.3456903	20	4 13.0	20.2
462567 2009 DW ₆₉	18.1	X	172.48192	255.04347	161.01641	5.20574	0.1418511	0.28392645	2.2926204	20	5 6.8	21.5
462568 2009 DT ₈₉	18.4	X	105.03829	9.45195	148.01552	4.70539	0.0724992	0.29177688	2.2513109	20	6 30.1	21.1
462569 2009 DU ₉₂	17.9	X	40.32622	124.88671	134.23343	6.28342	0.2349167	0.28673961	2.2776007	20	9 24.7	20.5
462570 2009 DU ₁₀₁	17.9	X	111.61719	24.05983	94.15262	5.35684	0.0663036	0.27834441	2.3231703	20	5 13.8	20.8
462571 2009 DA ₁₂₃	18.5	X	149.74869	278.57367	176.00789	5.47361	0.1282385	0.28459791	2.2890129	20	6 2.4	21.8
462572 2009 DT ₁₂₆	18.1	X	22.67990	112.12293	174.99890	6.82678	0.1856423	0.29073597	2.2566812	20	9 28.2	20.1
462573 2009 DW ₁₂₇	17.5	X	335.77635	142.78015	162.60395	3.47086	0.1892289	0.28212099	2.3023912	20	7 6.2	19.1
462574 2009 DB ₁₂₉	17.7	X	3.60197	140.87199	86.03188	3.15517	0.1359459	0.27062415	2.3671458	20	5 2.4	19.6
462575 2009 DV ₁₃₁	17.8	X	171.04608	18.14462	33.85834	5.79366	0.1770632	0.28222139	2.3018451	20	4 29.1	21.5
462576 2009 DM ₁₃₉	17.4	X	347.05631	275.55816	15.66268	8.68636	0.1731815	0.28256843	2.2999600	20	7 14.4	19.2
462577 2009 EZ ₂	17.4	X	85.20317	339.50547	213.12072	24.77783	0.1890827	0.28470196	2.2884552	20	8 1.4	21.2
462578 2009 EX ₃	17.4	X	55.41946	115.15149	95.28911	3.91162	0.1333976	0.28460960	2.2889502	20	7 16.7	19.8
462579 2009 EQ ₂₅	18.0	X	43.30454	118.39200	136.05542	2.08942	0.1873357	0.28559030	2.2837072	20	9 12.0	20.4
462580 2009 FR ₃	17.8	X	339.61692	313.38631	298.14335	0.43477	0.1543302	0.27317597	2.3523813	20	4 17.9	19.9
462581 2009 FE ₈	17.3	X	318.18844	289.24559	23.55291	11.89943	0.0664235	0.28375646	2.2933559	20	6 24.5	20.0
462582 2009 FX ₁₅	18.0	X	123.97578	69.35577	9.37915	7.74396	0.1930598	0.27564239	2.3383277	20	4 17.9	21.4
462583 2009 FO ₁₇	18.0	X	56.72800	215.78800	16.61460	3.35496	0.1075539	0.28749179	2.2736263	20	8 29.3	20.6
462584 2009 FR ₂₀	17.7	X	157.09694	354.84296	142.87732	7.02571	0.0618343	0.29278718	2.2461289	20	7 7.2	20.7
462585 2009 FP ₅₅	18.1	X	10.25795	214.73631	47.76211	5.05342	0.2325303	0.27931889	2.3177638	20	8 29.6	19.6
462586 2009 FN ₆₁	18.0	X	318.71012	41.36379	221.08211	0.95212	0.1607377	0.26442240	2.4040153	20	3 26.9	20.6
462587 2009 FB ₆₆	18.1	X	148.28867	257.00477	198.40331	8.15993	0.0911276	0.28203114	2.3028802	20	5 30.5	21.4
462588 2009 FX ₆₉	17.8	X	320.06155	136.93793	120.65654	4.10194	0.1012915	0.26606100	2.3941346	20	4 3.2	20.4
462589 2009 FE ₇₂	17.9	X	53.92629	69.52385	181.99036	22.33044	0.2142771	0.28993207	2.2608507	20	9 27.1	20.8
462590 2009 DF ₇₇	17.7	X	305.18363	131.69559	184.90081	5.89250	0.2167716	0.27797088	2.3252510	20	5 13.8	20.1
462591 2009 GZ ₄	18.1	X	8.07757	243.42804	323.75432	2.28939	0.1352758	0.26808815	2.3820505	20	4 7.9	20.3
462592 2009 HC ₃	17.3	X	24.05830	176.29463	36.61821	9.54444	0.1614626	0.27265492	2.3553773	20	5 22.9	19.2
462593 2009 HV ₃	17.1	X	26.28671	178.23612	78.96774	8.14017	0.0891514	0.28478434	2.2880138	20	8 3.2	19.5
462594 2009 HH ₇	17.6	X	297.22145	242.19164	70.44085	7.81977	0.2287860	0.26891293	2.3771774	20	4 26.0	20.5
462595 2009 HN ₈	17.6	X	339.91378	164.05522	105.57146	5.34012	0.1812485	0.27082800	2.3659579	20	5 17.1	19.5
462596 2009 HN ₁₆	17.8	X	143.75058	300.56464	136.88490	7.23304	0.0745576	0.27380302	2.3487884	20	5 1.1	21.1
462597 2009 HL ₁₇	18.4	X	313.19267	95.12473	186.43458	1.00449	0.1720584	0.26825080	2.3810875	20	4 12.9	20.8
462598 2009 HA ₃₃	17.8	X	54.94034	112.01938	90.44134	6.05190	0.1214054	0.27729729	2.3290151	20	6 30.8	20.1
462599 2009 HB ₃₈	18.1	X	30.30385	113.83624	97.04313	5.99168	0.1090072	0.27612711	2.3355904	20	5 29.7	20.4
462600 2009 HJ ₄₁	18.0	X	12.02106	64.44149	167.61038	4.24314	0.1707789	0.27255701	2.3559414	20	5 31.1	19.8
462601 2009 HF ₄₃	18.2	X	14.81626	124.23865	160.35782	3.16712	0.2186690	0.28180722	2.3040999	20	9 13.1	20.0
462602 2009 HW ₄₇	17.3	X	335.45993	161.48088	92.48749	5.84941	0.1456125	0.26811161	2.3819116	20	4 18.7	19.7
462603 2009 HE ₅₂	17.7	X	355.27892	173.18794	86.06033	3.62555	0.1695080	0.27449971	2.3448125	20	6 5.1	19.3
462604 2009 HA ₆₀	18.7	X	40.03154	200.71512	49.23783	3.60130	0.2042400	0.28183246	2.3039623	20	9 4.1	21.1
462605 2009 HM ₆₁	17.8	X	12.73118	51.13343	207.48405	7.08397	0.1761516	0.27731644	2.3289079	20	7 15.9	19.8
462606 2009 HG ₇₃	17.3	X	1.10367	44.45874	209.81464	8.43721	0.1855137	0.27235276	2.3571191	20	6 11.4	19.1
462607 2009 HK ₇₉	18.0	X	39.22856	60.06246	150.70740	1.92956	0.1172573	0.27342037	2.3509793	20	6 15.6	20.3
462608 2009 HM ₉₀	18.2	X	33.75518	42.03998	196.14854	3.19173	0.1939181	0.27937203	2.3174699	20	7 31.2	20.3
462609 2009 HY ₉₄	18.1	X	57.09070	108.96541	63.37457	2.34252	0.1169390	0.26819355	2.3818657	20	5 18.7	20.7
462610 2009 KC ₉	17.3	X	42.10642	314.91307	240.06744	4.17528	0.1689402	0.27083759	2.3659020	20	6 4.2	19.4
462611 2009 KP ₁₁	17.5	X	328.40993	182.83401	76.01417	7.36045	0.0958964	0.26544624	2.3978297	20	4 20.6	20.2
462612 2009 LM	17.7	X	316.11049	47.71938	222.65807	4.99864	0.1006110	0.25664317	2.4523526	20	4 13.1	20.4
462613 2009 MZ ₇	16.3	X	300.09978	175.08872	124.41221	25.53538	0.1909133	0.25666216	2.4522316	20	4 28.4	20.0
462614 2009 OX ₇	16.2	X	176.31411	127.88224	229.62937	16.33595	0.2517078	0.22813920	2.6525858	20	2 25.8	21.2
462615 2009 OA ₁₂	17.5	X	31.93716	358.65808	234.72356	7.65051	0.2771634	0.26657121	2.3910788	20	8 1.2	19.8
462616 2009 OB ₂₅	16.6	X	120.44809	6.15485	352.94516	9.73434	0.2497913	0.21858371	2.7293392	20	1 21.3	20.8
462617 2009 PK ₂	16.6	X	196.08957	37.01536	296.53417	10.91141	0.2000112	0.23349410	2.6118733	20	2 14.7	21.1
462618 2009 PT ₇	18.2	X	117.62111	129.68012	155.09699	22.85070	0.0556818	0.38267788	1.8789439	20	—	—
462619 2009 PV ₈	16.4	X	140.93365	32.25656	346.77114	8.90985	0.2730816	0.22470365	2.6795547	20	3 2.9	20.7
462620 2009 PJ ₁₇	17.4	X	246.88352	309.45506	352.00232	13.11967	0.2573071	0.23815722	2.5776674	20	2 20.3	21.9
462621 2009 PF ₁₈	17.3	X	116.02738	249.32264	152.78107	3.81659	0.1028330	0.22367749	2.6877438	20	2 15.5	20.9
462622 2009 QM ₁₆	17.5	X	155.12729	201.09923	145.94132	2.68395	0.0998217	0.22175932	2.7032205	20	1 22.6	21.3
462623 2009 QS ₁₆	16.8	X	150.66337	3.81116	357.20178	14.20254	0.2654447	0.22315864	2.6919082	20	2 21.6	21.4
462624 2009 QS ₁₇	17.0	X	149.26371	20.13161	310.45205	9.36601	0.1740066	0.21954251	2.7213869	20	1 5.6	21.2
462625 2009 QZ ₁₉	17.6	X	343.63303	12.62102	277.96648	1.23981	0.2018669	0.26302450	2.4125255	20	6 28.5	19.3
462626 2009 QY ₃₁	16.9	X	151.26061	178.86845	166.35097	5.42916	0.2708175	0.22257278	2.6966299	20	1 30.5	21.5
462627 2009 QE ₃₃	16.9	X	165.31491	29.51523	322.40464	16.81614	0.2276011	0.22785357	2.6548021	20	2 15.3	21.3
462628 2009 QK ₅₂	17.3	X	111.20226	191.22241	167.35689	8.77205	0.1910438	0.21373985	2.7704206	20	—	—
462629 2009 QX ₅₃	17.1	X	64.95798	74.67895	5.95596	8.87506	0.2010998	0.21672742	2.7449018	20	2 12.6	20.1
462630 2009 QL ₅₈	16.9	X	353.88115	205.36231	9.04662	13.11868	0.0648816	0.23859868	2.5744870	20	3 31.3	20.0
462631 2009 RR ₃	17.6	X	18.03285	18.91642	4.59786	19.91262	0.0735472	0.37935625	1.8898959	20	—	—
462632 2009 RK ₁₀	17.3	X	130.28258	187.23786	187.87771	6.33981	0.0497622	0.21947184	2.7219711	20	1 22.1	21.1
462633 2009 RV ₄₃	17.2	X	279.23286	343.00417	300.07425	6.44046	0.1553611	0.24230809	2.5481448	20	3 2.5	20.8
462634 2009 RA _{48</}												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462641 2009 SG ₆₂	17.6	X	19.97359	108.41799	329.01574	3.15790	0.0782393	0.20895823	2.8125250	20	—	—
462642 2009 SC ₁₁₂	16.7	X	46.33798	66.71121	355.61067	16.95049	0.1544770	0.20654259	2.8344120	20	—	—
462643 2009 SX ₁₂₇	16.8	X	107.57414	211.58591	210.64557	8.26494	0.1543108	0.22122634	2.7075604	20	3 6.8	20.7
462644 2009 SH ₁₃₄	17.1	X	103.48377	214.02581	181.44493	14.11383	0.1250685	0.21419616	2.7664847	20	1 24.8	21.0
462645 2009 ST ₁₃₄	17.3	X	342.01040	325.00285	235.68777	2.94775	0.0716627	0.22569560	2.6716977	20	2 23.3	20.5
462646 2009 SJ ₁₃₆	17.5	X	98.59301	212.08261	213.72987	3.66382	0.0833031	0.21937196	2.7227972	20	2 20.0	21.2
462647 2009 SD ₁₄₂	16.6	X	359.74365	195.50043	6.60103	10.60935	0.1242841	0.23308277	2.6149452	20	3 21.7	19.5
462648 2009 SP ₁₆₄	16.7	X	210.77090	304.96718	34.85040	14.16307	0.1029258	0.22887092	2.6469291	20	3 16.3	20.9
462649 2009 SJ ₁₇₇	17.1	X	92.74502	63.35296	333.68655	3.93287	0.0751081	0.21460349	2.7629829	20	1 8.5	20.7
462650 2009 SQ ₁₈₄	17.1	X	265.98759	306.44502	337.38132	7.06173	0.1722784	0.23384391	2.6092679	20	2 20.4	21.2
462651 2009 SA ₂₁₇	17.3	X	105.40317	349.98117	16.55461	3.58535	0.1935753	0.21173638	2.7878692	20	1 4.5	21.0
462652 2009 SE ₂₃₈	16.8	X	222.95525	189.44358	129.25274	6.99713	0.2851786	0.23468501	2.6030299	20	2 20.2	21.6
462653 2009 SW ₂₄₀	16.5	X	192.38681	97.90149	227.71211	11.80783	0.3093368	0.22763015	2.6565390	20	2 3.7	21.6
462654 2009 SC ₂₆₁	17.2	X	78.20511	181.66957	185.74541	15.22394	0.1424748	0.20302330	2.8670733	20	—	—
462655 2009 SC ₂₇₄	17.1	X	121.63190	343.71799	20.95191	5.76786	0.0159732	0.21422483	2.7662378	20	—	—
462656 2009 SZ ₂₇₆	17.5	X	203.62100	156.71209	180.55991	13.90967	0.1805084	0.23125529	2.6287034	20	2 26.4	22.0
462657 2009 SM ₂₉₅	17.2	X	297.17172	198.36808	47.45650	10.49247	0.0639503	0.22819174	2.6521786	20	2 28.3	20.9
462658 2009 SL ₃₁₃	17.1	X	224.86539	352.27504	279.71523	4.87049	0.1024119	0.22128101	2.7071145	20	1 2.9	21.1
462659 2009 SF ₃₃₂	16.5	X	188.90701	80.34647	232.27403	12.90234	0.2123804	0.22488567	2.6781087	20	1 16.4	21.3
462660 2009 SF ₃₃₂	15.3	X	351.68051	10.17273	337.95474	20.35784	0.1795184	0.17909576	3.1170649	20	9 23.3	18.9
462661 2009 SV ₃₃₄	16.8	X	237.92566	298.28842	0.52451	11.07397	0.1816745	0.23192187	2.6236641	20	2 15.1	21.1
462662 2009 SM ₃₄₁	17.5	X	209.90386	166.39667	141.30476	4.61132	0.1136925	0.22273857	2.6952916	20	1 30.5	21.8
462663 2009 SF ₃₄₃	17.3	X	152.55155	202.94672	157.84860	6.35998	0.0648021	0.22005486	2.7171612	20	1 30.9	21.2
462664 2009 SA ₃₅₀	17.1	X	14.54245	271.14079	208.27633	8.28465	0.1024379	0.21077144	2.7963716	20	—	—
462665 2009 SD ₃₅₁	16.7	X	208.58664	258.41930	44.95684	11.86771	0.1773750	0.22348465	2.6892897	20	1 27.5	21.4
462666 2009 SF ₃₅₃	17.5	X	115.22053	11.41882	354.09790	3.15546	0.1054584	0.21272665	2.7792106	20	1 2.6	21.2
462667 2009 TJ ₆	16.9	X	150.41388	207.72874	212.94935	21.49054	0.0575265	0.22733522	2.6588361	20	4 13.4	20.7
462668 2009 TP ₆	18.0	X	349.48000	229.32145	208.27499	23.90133	0.0638793	0.38049937	1.8861088	20	—	—
462669 2009 TV ₂₀	16.9	X	211.01908	279.15983	39.85059	9.64841	0.1312323	0.22651527	2.6652486	20	2 18.2	21.3
462670 2009 TO ₃₁	17.1	X	211.64270	60.70184	257.52416	6.37362	0.1075131	0.22874554	2.6478963	20	2 9.9	21.8
462671 2009 TK ₃₈	16.6	X	181.14074	81.77409	259.77650	10.11212	0.1365163	0.22656746	2.6648393	20	2 9.1	21.0
462672 2009 TP ₄₁	16.4	X	143.62328	165.75398	231.14571	21.08248	0.0479951	0.22171484	2.7035819	20	2 26.9	20.7
462673 2009 TS ₄₆	18.1	X	248.82895	74.23636	34.35477	20.15044	0.1187541	0.35874375	1.9616122	20	11 1.9	19.5
462674 2009 UG ₂₃	16.4	X	78.30259	219.23398	214.79590	8.56486	0.1454006	0.21373865	2.7704311	20	2 10.8	20.1
462675 2009 UA ₃₁	17.2	X	130.76380	165.55858	229.99756	5.32183	0.0589135	0.21814661	2.7329839	20	2 17.6	21.1
462676 2009 UO ₅₁	17.1	X	98.22773	177.29330	226.58407	1.89301	0.1962173	0.21257584	2.7805248	20	2 10.0	20.9
462677 2009 UL ₅₆	17.3	X	73.78598	32.59151	350.07408	1.46991	0.0724169	0.20069242	2.8892297	20	—	—
462678 2009 UN ₅₇	17.8	X	143.75179	58.52234	316.92035	1.10666	0.0918266	0.21768762	2.7368242	20	2 13.9	21.7
462679 2009 UO ₅₈	16.7	X	328.09907	95.99590	29.50373	9.53532	0.0588174	0.19783493	2.9169841	20	—	—
462680 2009 UT ₈₅	16.9	X	51.66923	286.53389	109.30361	1.68362	0.1118595	0.19606059	2.9345568	20	—	—
462681 2009 UX ₈₆	17.0	X	334.36396	204.38828	35.53163	13.09445	0.1524431	0.23310984	2.6147428	20	3 30.9	20.0
462682 2009 UD ₉₃	16.8	X	81.24084	27.50916	22.74170	8.71045	0.2089777	0.20961404	2.8066557	20	2 1.3	20.3
462683 2009 UA ₉₇	17.0	X	126.80736	10.08534	13.26208	3.40359	0.1032366	0.21220506	2.7837628	20	2 7.9	21.0
462684 2009 UT ₁₀₈	17.5	X	219.20010	224.61964	74.80993	3.40227	0.1766149	0.21990684	2.7183803	20	1 29.6	22.0
462685 2009 UN ₁₄₃	17.3	X	349.57153	203.80886	221.80747	4.69629	0.1843568	0.18679348	3.0308300	20	—	—
462686 2009 UR ₁₄₆	17.1	X	63.61745	202.56199	209.67015	1.54441	0.0670327	0.20250119	2.8719993	20	—	—
462687 2009 UC ₁₄₈	17.3	X	359.04809	67.31933	41.14061	1.42607	0.2022703	0.19696779	2.9255391	20	—	—
462688 2009 UH ₁₄₈	16.0	X	229.79959	224.08194	52.96016	26.10569	0.0905826	0.21118266	2.7927403	20	1 18.3	20.7
462689 2009 UM ₁₄₉	17.2	X	155.58718	306.04322	65.37370	2.78500	0.0987500	0.21984521	2.7188884	20	2 23.6	21.2
462690 2009 VW ₁₆	16.3	X	246.41405	37.81269	255.86958	13.08176	0.1924695	0.21981416	2.7191444	20	2 8.1	21.0
462691 2009 VE ₂₆	17.4	X	158.23892	217.00789	134.33423	2.11182	0.1217299	0.21914568	2.7246712	20	2 2.6	21.4
462692 2009 VG ₃₁	18.1	X	226.59172	90.61865	46.65060	22.23784	0.0714028	0.35836271	1.9630025	20	11 17.4	19.8
462693 2009 VC ₃₆	17.0	X	103.65192	52.40526	0.08573	4.04074	0.0658591	0.21357713	2.7718276	20	2 10.6	20.8
462694 2009 VZ ₄₂	16.4	X	47.15852	314.82492	53.91019	9.84608	0.1638832	0.18932409	3.0037616	20	—	—
462695 2009 VA ₆₃	16.8	X	320.28797	28.15296	61.76301	9.66416	0.0889295	0.18209774	3.0827124	20	12 17.4	20.6
462696 2009 VF ₆₉	15.9	X	228.21619	36.79422	252.86086	11.81284	0.0909432	0.21196886	2.7858304	20	1 25.4	20.3
462697 2009 VU ₇₁	16.1	X	31.24354	226.98005	253.56222	7.97659	0.1137875	0.20944415	2.8081732	20	1 25.5	19.4
462698 2009 VA ₇₃	15.4	X	337.77773	276.61434	53.26978	26.35458	0.2439241	0.17166134	3.2064247	20	8 16.3	19.2
462699 2009 VA ₇₆	16.5	X	86.04699	97.42809	314.94930	12.40113	0.1857915	0.21115958	2.7929437	20	2 3.9	19.9
462700 2009 VV ₈₇	16.8	X	18.77348	13.48901	45.53835	10.46262	0.0686678	0.19039605	2.9924766	20	—	—
462701 2009 VY ₈₈	16.4	X	63.04029	140.09604	259.21547	9.11768	0.1105517	0.20033885	2.8926281	20	—	—
462702 2009 VZ ₈₈	17.5	X	121.83954	25.25970	345.37315	3.63425	0.1148596	0.20996065	2.8035660	20	1 18.9	21.5
462703 2009 VB ₁₀₃	17.1	X	216.47272	237.11341	60.25850	5.28846	0.0840307	0.21517202	2.7581138	20	1 27.5	21.3
462704 2009 WM ₁₂₃	17.5	X	134.96613	204.92595	168.70114	2.35240	0.1002401	0.21356898	2.7718982	20	2 2.9	21.4
462705 2009 WX ₁₈	17.3	X	119.11355	130.70536	204.00499	5.52462	0.0588524	0.19908961	2.9047158	20	—	—
462706 2009 WZ ₃₁	16.8	X	101.02101	336.44842	81.62798	5.53733	0.0616376	0.21141510	2.7906929	20	2 14.8	20.6
462707 2009 WF ₃₆	17.0	X	332.37052	55.05828	43.12985	11.07840	0.0859280	0.18844487	3.0130974	20	—	—
462708 2009 WZ ₃₇	16.2	X	60.21003	353.73311	59.15813	12.87591	0.0139053	0.19871322	2.9083826	20	—	—
462709 2009 WT ₅₂	16.2	X	253.98185	281.07472	203.43691	16.62342	0.0894205	0.17600841	3.1534100	20	10 28.7	20.5
462710 2009 WQ ₆₅	17.0	X	5.88192	0.93695	61.71731	7.43141	0.0825506	0.19125868	2.9834719	20	—	—
462711 2009 WZ ₁₁₆	17.2	X	353.12123	37.08671	33.53952	1.91341	0.1043054	0.18824527	3.0152269	20	—	—
462712 2009 WU ₁₁₈	17.3	X	86.27622	304.36848	65.45518	2.30622	0.0740547	0.19877944	2.9077367	20	—	—
462713 2009 WE ₁₂₁	17.3	X	316.95642	74.76792	17.54068	0.46383	0.1555380	0.18218704	3.0817050	20	12 14.3	20.8
462714 2009 WQ ₁₂₇	16.8	X	233.69272	230.29541	75.22144							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462721 2009 XQ ₁₈	16.3	X	303.30548	59.62433	109.43705	19.34265	0.2106712	0.18399999	3.0614290	20	—	—
462722 2009 YF ₁₉	15.8	X	290.64775	25.82182	162.14966	22.42488	0.1683303	0.17517451	3.1634097	20	—	—
462723 2009 YK ₂₀	16.9	X	341.52812	321.55042	107.79296	12.01434	0.2188069	0.17774134	3.1328799	20	12 31.9	20.1
462724 2009 YO ₂₂	16.0	X	88.96480	323.86892	80.40780	10.69816	0.0896694	0.19960930	2.8996720	20	1 17.6	19.9
462725 2010 AP ₂	17.4	X	339.80535	2.23922	100.63994	2.06210	0.2261545	0.18409609	3.0603635	20	—	—
462726 2010 AK ₁₁	16.0	X	201.44981	284.39800	306.80131	14.16609	0.1964054	0.17467614	3.1694239	20	12 25.1	21.2
462727 2010 AB ₂₇	16.6	X	276.69011	248.04093	287.87585	8.43788	0.1382878	0.17674907	3.1445943	20	—	—
462728 2010 AM ₃₃	15.8	X	333.93562	143.89473	318.35026	13.39218	0.1361244	0.17864939	3.1222549	20	—	—
462729 2010 AZ ₃₆	15.8	X	253.12308	249.96832	324.09468	19.27063	0.2618803	0.17547492	3.1597983	20	—	—
462730 2010 AM ₄₈	16.2	X	239.99084	321.85440	237.39611	6.32717	0.1237033	0.17471010	3.1690132	20	—	—
462731 2010 AO ₅₂	16.5	X	325.16426	244.78412	248.39546	3.72663	0.1644168	0.18385928	3.0629907	20	—	—
462732 2010 AL ₅₈	16.3	X	346.32340	2.21436	126.76890	8.28733	0.1173081	0.18443500	3.0566133	20	—	—
462733 2010 AQ ₆₀	16.5	X	3.66490	304.28835	91.77789	19.17162	0.1988303	0.17819378	3.1275747	20	12 26.6	20.2
462734 2010 AZ ₆₁	15.3	X	346.43214	282.43655	134.74928	27.56917	0.0427560	0.17173652	3.2054889	20	12 15.7	20.1
462735 2010 AD ₆₃	17.1	X	335.63325	281.70152	157.41617	10.31499	0.2969717	0.17657569	3.1466525	20	—	—
462736 2010 BL ₂	16.4	X	71.84669	199.58990	91.23971	59.88601	0.7843687	0.29681818	2.2257466	20	12 28.6	21.9
462737 2010 BF ₄₉	16.0	X	230.20740	223.11850	47.78788	28.95632	0.2902016	0.17232526	3.1981839	20	1 9.6	21.8
462738 2010 BV ₉₈	15.7	X	82.84392	281.33078	133.54838	17.10916	0.1094214	0.17567700	3.1573747	20	1 28.2	19.9
462739 2010 CD ₄	16.2	X	222.77650	270.03840	328.01909	9.27009	0.0357080	0.17712516	3.1401414	20	—	—
462740 2010 CU ₂₀	15.7	X	218.46264	278.43011	334.97150	23.83901	0.2215014	0.17411773	3.1761966	20	—	—
462741 2010 CR ₂₅	17.1	X	304.23594	169.83335	112.37240	4.80869	0.1370488	0.17370306	3.1812495	20	12 29.0	20.8
462742 2010 CO ₃₈	15.9	X	329.12442	312.24056	357.89377	7.93224	0.1909368	0.17507164	3.1646487	20	—	—
462743 2010 CO ₅₆	16.4	X	266.33972	73.73882	151.52092	23.80541	0.4477955	0.17676711	3.1443803	20	—	—
462744 2010 CH ₆₈	16.6	X	253.74217	280.04867	318.21431	7.74062	0.2237669	0.17928964	3.1148173	20	—	—
462745 2010 CL ₈₀	16.2	X	178.67637	291.61728	345.22005	21.20374	0.0642029	0.17110027	3.2134305	20	—	—
462746 2010 CM ₈₀	16.0	X	261.10589	207.78850	342.34683	15.03657	0.0769995	0.17132816	3.2105804	20	—	—
462747 2010 CQ ₈₃	16.5	X	273.85147	10.29705	141.50032	5.96651	0.1377209	0.17183889	3.2042157	20	12 18.6	20.6
462748 2010 CZ ₁₀₉	16.7	X	238.65221	246.68862	352.22194	2.09156	0.1377074	0.17931127	3.1145669	20	—	—
462749 2010 CE ₁₁₃	16.1	X	144.57351	221.39352	117.79010	3.64980	0.0269718	0.18505817	3.0497474	20	—	—
462750 2010 CU ₁₃₇	16.3	X	285.44739	225.16022	334.32372	8.15092	0.0767024	0.18278178	3.0750164	20	—	—
462751 2010 CU ₁₄₆	16.0	X	188.24660	318.53272	338.80855	17.57482	0.0908047	0.18172149	3.0869661	20	1 6.1	21.0
462752 2010 CA ₁₅₅	16.3	X	352.37485	106.45591	336.64892	12.40246	0.1822688	0.17804668	3.1292971	20	—	—
462753 2010 CR ₁₅₈	16.5	X	278.47475	19.63091	161.51606	11.08075	0.1658563	0.17680832	3.1438918	20	—	—
462754 2010 CG ₁₆₇	16.1	X	344.69997	278.47648	146.72627	26.00223	0.2256311	0.17203169	3.2018212	20	—	—
462755 2010 CW ₁₆₇	15.7	X	218.60835	226.93219	339.34370	13.74114	0.0631303	0.16870453	3.2437812	20	12 26.0	20.7
462756 2010 DQ ₁	15.6	X	307.29373	127.99095	8.30854	16.48216	0.1776248	0.17466902	3.1695101	20	—	—
462757 2010 DX ₄	16.3	X	295.81232	34.58084	136.75081	23.66780	0.1602857	0.18049147	3.1009750	20	—	—
462758 2010 DF ₁₃	16.4	X	326.23649	298.45717	187.42868	21.19039	0.0563202	0.18287931	3.0739231	20	12 21.3	20.9
462759 2010 DH ₃₁	16.4	X	25.22114	70.20930	338.06429	10.27356	0.1092361	0.18995735	2.9970822	20	—	—
462760 2010 DJ ₃₅	15.9	X	68.78938	226.71138	135.66550	10.01873	0.0779344	0.17381585	3.1798731	20	—	—
462761 2010 DK ₃₆	15.8	X	201.00628	310.45958	308.04691	21.47658	0.1346971	0.17908374	3.1172044	20	—	—
462762 2010 DA ₄₄	15.8	X	250.43002	213.41276	339.18068	10.58339	0.0316298	0.16829025	3.2491025	20	—	—
462763 2010 DG ₄₄	16.2	X	238.14482	83.31219	171.45789	24.93492	0.2657414	0.17407008	3.1677763	20	—	—
462764 2010 DP ₇₆	15.8	X	256.84118	59.82207	171.24244	27.01128	0.2246112	0.17466762	3.1695270	20	—	—
462765 2010 EN ₁₂	16.6	X	302.42038	334.79609	180.25336	10.40984	0.1762313	0.17455160	3.1709312	20	—	—
462766 2010 EP ₃₆	15.6	X	242.07028	77.27883	190.34818	25.98442	0.0957116	0.17886063	3.1197961	20	1 17.3	20.9
462767 2010 EW ₄₃	16.1	X	333.80524	322.12255	170.97634	9.93930	0.0347154	0.17859247	3.1229183	20	—	—
462768 2010 EB ₈₁	16.4	X	189.55554	300.57214	2.65375	9.50056	0.0841355	0.17976340	3.1093422	20	1 12.8	21.3
462769 2010 EC ₉₄	16.0	X	220.04088	267.32878	2.30218	12.31051	0.1001811	0.17852502	3.1237048	20	1 3.3	21.1
462770 2010 EP ₁₂₇	15.8	X	299.08188	13.25185	168.90047	23.01297	0.1453903	0.17636432	3.1491660	20	—	—
462771 2010 EC ₁₂₈	16.3	X	292.82944	113.08014	85.03037	9.58301	0.1137612	0.17911520	3.1168394	20	—	—
462772 2010 EU ₁₃₀	16.3	X	220.89812	239.72910	14.47962	12.47326	0.1025467	0.16955014	3.2329869	20	—	—
462773 2010 FU ₄₈	16.3	X	244.97829	190.46791	47.20498	31.21662	0.3571554	0.18283360	3.0744355	20	—	—
462774 2010 FG ₉₀	16.0	X	224.31410	72.82154	188.71343	25.94148	0.1751589	0.17178843	3.2048431	20	—	—
462775 2010 GY ₆	19.4	X	226.93551	116.01682	204.68096	21.90767	0.2342874	0.67543023	1.2865176	20	1 3.9	20.8
462776 2010 GM ₃₃	15.9	X	236.04565	241.50623	11.01990	25.74809	0.1706149	0.17482005	3.1676843	20	—	—
462777 2010 GM ₁₀₉	16.9	X	273.80193	354.70127	193.10919	0.65737	0.1228293	0.17360611	3.1824338	20	—	—
462778 2010 GJ ₁₁₀	16.5	X	246.77111	59.28986	184.34863	11.30718	0.1212177	0.17544712	3.1601320	20	—	—
462779 2010 GX ₁₁₈	16.0	X	159.45687	311.19083	24.83201	17.26026	0.1134718	0.17323587	3.1869665	20	1 27.4	21.2
462780 2010 GU ₁₄₆	15.5	X	293.23445	126.54119	41.86385	28.51643	0.2055810	0.17294731	3.1905104	20	—	—
462781 2010 GC ₁₅₄	16.5	X	323.45965	1.50542	128.47248	12.02755	0.1076909	0.18181653	3.0858902	20	—	—
462782 2010 GD ₁₇₂	15.7	X	202.77142	247.79369	88.30358	11.04746	0.0117698	0.19457096	2.9495157	20	3 6.8	20.0
462783 2010 HB ₃₃	16.4	X	310.59122	333.43484	158.57942	15.57469	0.1579704	0.17825876	3.1268146	20	—	—
462784 2010 HO ₄₉	16.2	X	335.43936	114.77688	9.35530	12.63489	0.1532111	0.18315945	3.0707880	20	—	—
462785 2010 JU ₂₉	18.3	X	340.23737	165.87106	134.15363	2.90453	0.1836815	0.30201236	2.2001531	20	7 11.3	19.3
462786 2010 KT ₆	16.3	X	293.11106	339.80310	186.97006	18.57569	0.2194849	0.17637536	3.1490347	20	—	—
462787 2010 KU ₃₉	15.6	X	213.54721	145.74870	110.79451	14.48179	0.1587296	0.15802178	3.3883746	20	—	—
462788 2010 LS ₇₆	15.9	X	189.61771	271.73090	23.64446	27.12282	0.0816487	0.17640407	3.1486930	20	1 3.6	21.2
462789 2010 LY ₉₆	17.6	X	192.04015	185.16593	173.98540	16.20617	0.1412231	0.25839553	2.4412526	20	3 13.1	21.2
462790 2010 MH ₁₀₃	17.7	X	74.14983	48.80535	359.38694	4.83433	0.2979553	0.23025433	2.6363163	20	1 26.3	20.3
462791 2010 NG ₂₈	18.1	X	340.30831	58.10495	217.23729	4.58832	0.2179129	0.28015298	2.3131611	20	5 21.8	19.4
462792 2010 OP ₂₉	17.4	X	101.81036	64.93500	337.58798	11.66202	0.2488479	0.23574821	2.5951977	20	2 19.2	20.9
462793 2010 OG ₈₇	17.7	X	309.42330	332.13199	340.33785	5.49235	0.2504014	0.27785406	2.3259027	20	5 5.6	20.1
462794 2010 OM ₁₂₁	17.0	X	106.68023	84.11658	294.80934	9.39907	0.1422035	0.23177706	2.6247569	20	1 10.3	20.4
462795 2010 OV ₁₂₃	17.4	X	38.98349	169.08802	278.76397	9						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462801 2010 <i>PX</i> ₆₂	16.8	X	52.75835	188.21473	215.30647	6.36339	0.4353784	0.22329104	2.6908440	20	—	—
462802 2010 <i>PR</i> ₇₄	18.0	X	343.77316	148.73542	150.33994	6.17376	0.3231509	0.29310644	2.2444976	20	7 14.0	18.1
462803 2010 <i>PC</i> ₇₆	18.1	X	355.27425	303.65552	1.44518	5.96517	0.1519955	0.29383860	2.2407676	20	8 28.9	19.8
462804 2010 <i>QU</i>	18.0	X	338.89845	249.73919	31.83976	3.07426	0.2012950	0.28639474	2.2794288	20	5 30.4	19.6
462805 2010 <i>QR</i> ₃	17.9	X	220.74097	218.01620	153.12262	2.89226	0.2044082	0.26994863	2.3710932	20	4 22.7	21.6
462806 2010 <i>RB</i> ₂	17.4	X	234.56117	14.00541	308.74075	3.50466	0.2109300	0.26732751	2.3865669	20	3 3.0	21.2
462807 2010 <i>RZ</i> ₅₀	17.8	X	305.56112	290.07976	11.03328	3.18601	0.2515852	0.27795558	2.3253364	20	4 14.1	20.3
462808 2010 <i>RG</i> ₆₀	17.1	X	82.13258	198.88166	195.81610	13.34897	0.1853066	0.23116544	2.6293846	20	—	—
462809 2010 <i>RY</i> ₆₀	17.9	X	324.52044	103.43749	204.43345	1.61566	0.1512397	0.28079701	2.3096228	20	6 18.2	19.9
462810 2010 <i>RU</i> ₇₀	17.7	X	269.90676	320.26782	12.74597	4.41325	0.1924274	0.27327976	2.3517856	20	4 21.1	20.8
462811 2010 <i>RY</i> ₇₁	17.9	X	1.98116	124.05209	176.45017	2.07544	0.2666500	0.29474038	2.2361947	20	9 22.9	19.1
462812 2010 <i>RM</i> ₇₈	18.1	X	303.36869	41.16265	275.72998	0.73994	0.2022274	0.28073174	2.3099808	20	5 13.1	20.3
462813 2010 <i>RU</i> ₇₈	17.6	X	250.28893	215.26867	160.97923	7.22509	0.1240110	0.27921937	2.3183145	20	6 7.0	20.8
462814 2010 <i>RF</i> ₁₀₂	17.2	X	19.64625	268.96292	200.49888	12.71132	0.2249908	0.22890480	2.6466679	20	—	—
462815 2010 <i>RS</i> ₁₀₂	18.1	X	46.61812	227.52981	199.70342	7.69411	0.2737516	0.22669637	2.6638290	20	—	—
462816 2010 <i>RZ</i> ₁₀₂	18.3	X	3.27955	91.99585	214.99441	2.96042	0.1771901	0.29346259	2.2426813	20	9 19.3	19.9
462817 2010 <i>RT</i> ₁₀₇	17.9	X	286.77283	289.47267	23.51136	4.46228	0.1536627	0.27143658	2.3624201	20	4 20.9	21.0
462818 2010 <i>RE</i> ₁₁₅	17.5	X	243.59515	163.91698	215.07345	6.01496	0.1332879	0.27407687	2.3472236	20	5 31.8	20.7
462819 2010 <i>RQ</i> ₁₃₉	18.4	X	188.42609	79.35732	307.46564	2.01304	0.1774351	0.26327987	2.4109652	20	4 12.7	22.2
462820 2010 <i>RQ</i> ₁₅₂	18.0	X	327.53316	287.57590	9.39143	7.49273	0.1393123	0.28097149	2.3086665	20	6 6.4	20.2
462821 2010 <i>RH</i> ₁₆₇	16.8	X	271.01589	187.25954	189.45221	24.67216	0.2066070	0.28596083	2.2817340	20	6 20.4	20.3
462822 2010 <i>RT</i> ₁₇₁	18.8	X	27.67270	97.33820	180.41101	2.60156	0.1766987	0.29667533	2.2264610	20	9 21.3	20.8
462823 2010 <i>SE</i> ₅	17.8	X	248.69095	190.47846	162.67692	7.29276	0.1366125	0.27024391	2.3693657	20	5 3.9	21.2
462824 2010 <i>SG</i> ₉	17.6	X	280.90060	148.65851	182.09809	4.96095	0.1046195	0.27553782	2.3389193	20	5 17.5	20.4
462825 2010 <i>SP</i> ₁₁	17.7	X	117.08283	144.94049	333.75959	11.93197	0.1351415	0.26558138	2.3970162	20	5 26.4	21.3
462826 2010 <i>SE</i> ₁₈	18.6	X	334.60979	108.08499	200.78421	1.40180	0.2303610	0.28805285	2.2706730	20	7 6.4	19.7
462827 2010 <i>SP</i> ₁₉	17.7	X	270.66906	314.85263	29.28617	6.40603	0.1832968	0.27439445	2.3454121	20	5 8.2	20.9
462828 2010 <i>SN</i> ₃₀	17.6	X	267.57259	186.72897	150.41000	2.87558	0.2343269	0.27350859	2.3504737	20	4 20.8	21.1
462829 2010 <i>SR</i> ₃₂	17.8	X	107.19148	309.87743	153.45037	7.38847	0.0837108	0.25897620	2.4376021	20	4 21.7	21.0
462830 2010 <i>TB</i> ₂₁	17.8	X	103.35510	22.45417	10.47777	4.12798	0.1825008	0.23701593	2.5859356	20	1 30.2	21.1
462831 2010 <i>TQ</i> ₃₁	17.6	X	76.93881	145.44739	4.42442	6.30461	0.0908511	0.26310049	2.4120610	20	5 10.7	20.6
462832 2010 <i>TE</i> ₇₀	17.8	X	336.63316	44.20256	211.83262	6.06878	0.1116572	0.27023626	2.3694105	20	4 25.3	20.1
462833 2010 <i>TR</i> ₈₄	18.3	X	222.05652	184.36370	171.42910	4.15468	0.1147789	0.26377736	2.4079329	20	4 8.9	21.9
462834 2010 <i>TL</i> ₉₉	18.1	X	265.30433	277.75086	32.78640	3.08398	0.2091229	0.26753149	2.3853536	20	3 17.9	21.7
462835 2010 <i>TQ</i> ₁₀₉	18.1	X	325.47793	160.27388	133.90489	3.46886	0.2150828	0.28051101	2.3111924	20	5 19.1	20.0
462836 2010 <i>TY</i> ₁₁₅	17.1	X	55.45204	46.72188	10.66938	12.86353	0.2405619	0.22546240	2.6735396	20	—	—
462837 2010 <i>TH</i> ₁₅₀	17.8	X	246.79519	154.44473	206.25073	3.37446	0.1885292	0.27014070	2.3699692	20	5 4.5	21.2
462838 2010 <i>TV</i> ₁₅₀	17.1	X	225.15926	9.97619	343.50366	16.00440	0.2352285	0.26499108	2.4005747	20	3 27.9	21.3
462839 2010 <i>TM</i> ₁₆₅	17.7	X	103.00478	2.31517	33.06094	4.86494	0.1938721	0.23563758	2.5960099	20	2 4.4	21.0
462840 2010 <i>TR</i> ₁₆₈	17.6	X	304.77026	342.25783	359.22949	1.87366	0.2254593	0.28220599	2.3019289	20	6 19.5	19.8
462841 2010 <i>TA</i> ₁₇₄	17.4	X	152.44982	320.30028	82.25390	10.31058	0.1961596	0.25286127	2.4767443	20	4 7.9	21.5
462842 2010 <i>TK</i> ₁₈₈	16.9	X	24.03556	102.64966	336.84814	11.51909	0.3063680	0.22326036	2.6910905	20	—	—
462843 2010 <i>UH</i> ₁₃	17.3	X	351.62118	281.91899	40.03168	4.69785	0.1556622	0.28921900	2.2645652	20	9 18.4	19.0
462844 2010 <i>UG</i> ₁₆	17.7	X	92.93706	274.80860	141.32761	2.94546	0.1865641	0.23577669	2.5949887	20	2 14.8	20.8
462845 2010 <i>UE</i> ₂₆	16.8	X	56.92328	44.42553	42.52253	12.75822	0.1650758	0.22985712	2.6393525	20	1 31.6	19.8
462846 2010 <i>UT</i> ₂₉	17.3	X	75.81861	167.59596	241.14238	12.16044	0.2787161	0.22915201	2.6447641	20	1 21.4	20.3
462847 2010 <i>US</i> ₃₃	17.2	X	34.71176	238.69939	275.90584	4.67111	0.2791185	0.23963941	2.5670277	20	3 27.9	19.0
462848 2010 <i>UO</i> ₃₇	17.2	X	83.19447	200.31879	218.32454	9.56087	0.2400388	0.23085970	2.6317056	20	2 9.3	20.5
462849 2010 <i>UB</i> ₄₆	17.3	X	266.14754	225.55386	118.85195	8.04357	0.1409444	0.26976650	2.3721604	20	5 13.1	20.5
462850 2010 <i>UA</i> ₄₉	17.5	X	77.71225	183.54655	214.12712	2.41714	0.1169352	0.22687690	2.6624157	20	—	—
462851 2010 <i>UZ</i> ₄₉	17.6	X	304.11272	206.12851	97.16493	4.07275	0.1414482	0.27007775	2.3703374	20	5 6.8	20.2
462852 2010 <i>UH</i> ₇₃	17.0	X	86.15196	321.43503	65.46765	14.67787	0.2604070	0.220730798	2.6590485	20	1 11.3	20.2
462853 2010 <i>UV</i> ₇₆	17.2	X	45.68135	54.04604	44.78761	12.53683	0.1346318	0.22667825	2.6639709	20	1 24.3	20.3
462854 2010 <i>UU</i> ₇₉	17.4	X	57.83034	171.97194	322.79584	5.29194	0.2086929	0.24042781	2.5614128	20	4 7.8	20.1
462855 2010 <i>UY</i> ₉₅	16.5	X	153.37370	341.13314	34.19901	13.33339	0.1691052	0.24075443	2.5590957	20	3 6.1	20.7
462856 2010 <i>UR</i> ₁₀₇	18.0	X	113.51338	59.09648	340.64159	8.25108	0.1706070	0.23898591	2.5717052	20	2 18.2	21.5
462857 2010 <i>VL</i> ₁₆	17.0	X	52.77367	157.49615	331.52788	6.07167	0.1876047	0.24100743	2.5573044	20	3 18.1	19.5
462858 2010 <i>VM</i> ₁₈	17.6	X	27.90500	237.39933	195.97692	12.84856	0.1819384	0.21986307	2.7187411	20	—	—
462859 2010 <i>VG</i> ₂₃	17.9	X	109.93975	255.73554	137.25216	1.73005	0.1206003	0.23656282	2.5892365	20	1 28.2	21.3
462860 2010 <i>VH</i> ₂₉	17.6	X	55.16542	215.21745	261.98802	3.65555	0.1612891	0.23720443	2.5845654	20	3 2.2	20.2
462861 2010 <i>VP</i> ₃₃	17.3	X	74.68826	354.68805	75.13045	6.45088	0.1727979	0.23169459	2.6253797	20	2 6.0	20.3
462862 2010 <i>VO</i> ₃₇	17.3	X	130.54574	202.80502	153.35888	3.90884	0.2500033	0.23476520	2.6024371	20	1 22.6	21.1
462863 2010 <i>VC</i> ₄₂	18.0	X	109.39862	88.36594	312.37199	1.76157	0.0730755	0.23891439	2.5722184	20	1 30.1	21.4
462864 2010 <i>VX</i> ₄₅	17.3	X	137.56438	115.85955	262.90147	3.08969	0.1868239	0.23869572	2.5737891	20	2 17.9	21.2
462865 2010 <i>VD</i> ₄₆	17.1	X	181.50994	292.45075	49.75511	9.48673	0.2097641	0.24294593	2.5436829	20	2 19.8	21.5
462866 2010 <i>VJ</i> ₇₁	17.6	X	256.22177	186.14610	187.39350	7.79792	0.1242836	0.27075229	2.3663989	20	6 10.2	20.8
462867 2010 <i>VF</i> ₈₃	17.2	X	67.04238	238.92825	239.85602	9.20392	0.1463748	0.23912329	2.5707266	20	3 20.6	20.4
462868 2010 <i>VT</i> ₈₈	17.5	X	152.85256	358.06135	22.23141	3.76358	0.1984884	0.24313015	2.5423978	20	3 8.4	21.5
462869 2010 <i>VR</i> ₈₉	17.4	X	152.00987	79.25453	281.83624	1.32736	0.1734701	0.23789052	2.5795936	20	2 10.2	21.5
462870 2010 <i>VT</i> ₉₁	17.4	X	81.51173	27.08242	50.11067	2.92018	0.1856971	0.23233879	2.6205245	20	2 28.1	20.5
462871 2010 <i>VB</i> ₉₃	17.7	X	0.59756	143.71428	17.75962	15.70506	0.0487223	0.24579553	2.5239848	20	2 6.2	21.1
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ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
462881 2010 <i>VH</i> ₁₈₅	17.5	X	61.98341	140.16109	263.79174	10.83063	0.1486987	0.22247698	2.6974040	20	—	—
462882 2010 <i>VW</i> ₁₉₈	17.5	X	97.92899	42.27474	49.55702	5.13665	0.1820945	0.24122071	2.5557968	20	4 8.8	20.9
462883 2010 <i>VT</i> ₂₀₃	17.5	X	63.13550	61.35452	35.39859	12.38581	0.2071019	0.23393927	2.6085588	20	3 4.1	20.4
462884 2010 <i>VL</i> ₂₁₄	17.8	X	105.18320	39.65904	3.40991	3.02405	0.2005408	0.23691002	2.5867062	20	2 16.8	21.2
462885 2010 <i>VL</i> ₂₁₅	18.1	X	119.49846	108.25176	279.57901	1.34663	0.1832544	0.23717285	2.5847948	20	2 10.7	21.8
462886 2010 <i>VD</i> ₂₁₈	17.9	X	140.56678	13.48032	356.79187	3.98294	0.1271710	0.23908129	2.5710212	20	2 6.5	21.6
462887 2010 <i>VD</i> ₂₂₀	17.3	X	129.47556	120.28528	244.99352	11.43631	0.2198173	0.23489579	2.6014724	20	1 25.9	21.4
462888 2010 <i>WJ</i> ₂	16.8	X	278.67953	252.47115	67.31959	15.45753	0.1148114	0.25309935	2.4751909	20	3 30.6	20.5
462889 2010 <i>WK</i> ₉	17.4	X	56.37269	59.92669	41.66401	21.84261	0.1526097	0.23253733	2.6190327	20	2 27.3	20.8
462890 2010 <i>WW</i> ₁₁	16.4	X	199.00718	277.34537	28.84625	16.33352	0.2068900	0.23894868	2.5719723	20	1 22.9	21.1
462891 2010 <i>WO</i> ₁₇	17.5	X	149.13239	80.24083	283.67270	4.27989	0.0901386	0.23511557	2.5998510	20	2 2.5	21.1
462892 2010 <i>WB</i> ₂₆	17.0	X	351.04725	252.83370	258.20646	7.81074	0.0925043	0.22599081	2.6693705	20	—	—
462893 2010 <i>WG</i> ₂₉	17.6	X	54.60718	124.17722	358.04364	2.11121	0.1377819	0.23559148	2.5963486	20	3 8.0	20.4
462894 2010 <i>WO</i> ₃₄	17.4	X	19.75835	79.95948	71.36956	13.80922	0.2037308	0.23099619	2.6306688	20	2 19.9	20.0
462895 2010 <i>WH</i> ₆₃	17.4	X	83.02340	343.37404	75.73784	7.13907	0.2015850	0.22892154	2.6465388	20	2 10.3	20.6
462896 2010 <i>XG</i> ₁	16.3	X	105.21878	287.32431	78.73167	15.15692	0.0725282	0.22376589	2.6870358	20	—	—
462897 2010 <i>XD</i> ₂₃	17.8	X	91.18992	13.45257	66.07241	5.26442	0.0622486	0.23769427	2.5810133	20	2 26.6	21.1
462898 2010 <i>XT</i> ₃₄	16.5	X	131.89096	46.04896	336.27655	5.98954	0.1949190	0.23641012	2.5903513	20	2 19.4	20.4
462899 2010 <i>XP</i> ₄₃	17.3	X	100.41001	259.32199	160.16247	5.32888	0.2117270	0.23420307	2.6065996	20	3 4.1	20.6
462900 2010 <i>XK</i> ₄₄	17.4	X	109.44805	334.38252	74.44139	12.86286	0.1930664	0.23769386	2.5810163	20	3 5.0	21.2
462901 2010 <i>XL</i> ₄₄	17.1	X	46.03147	21.65880	73.95412	12.74884	0.1554216	0.22922595	2.6441953	20	1 18.9	19.9
462902 2010 <i>XZ</i> ₄₆	16.8	X	36.31568	325.69982	99.99898	5.01374	0.0948994	0.21382761	2.7696625	20	—	—
462903 2010 <i>XR</i> ₄₈	16.8	X	110.97906	285.42610	135.97040	10.06263	0.1954369	0.23690857	2.5867167	20	3 19.5	20.5
462904 2010 <i>XA</i> ₅₈	16.9	X	212.25826	261.29899	64.41220	2.94345	0.1149744	0.24096127	2.5756310	20	2 23.3	20.7
462905 2010 <i>XK</i> ₆₃	17.3	X	44.56456	347.49079	92.79385	4.71133	0.1737443	0.21738405	2.7393715	20	—	—
462906 2010 <i>XL</i> ₆₇	17.2	X	135.29999	271.00905	115.67718	7.16182	0.0172403	0.22453909	2.6808637	20	2 9.0	20.9
462907 2010 <i>XC</i> ₇₁	17.4	X	97.43268	84.92987	326.66374	5.49313	0.1341026	0.23217976	2.6217210	20	2 7.9	20.7
462908 2010 <i>XJ</i> ₇₅	16.9	X	306.99379	139.09731	103.33546	14.95397	0.0549343	0.23942823	2.5685370	20	3 8.4	20.5
462909 2010 <i>XW</i> ₇₇	16.4	X	65.42814	205.01531	240.78088	13.95083	0.0648703	0.22916740	2.6446457	20	1 23.6	20.0
462910 2010 <i>XH</i> ₈₀	16.6	X	211.96013	123.01377	232.18050	13.10526	0.0306999	0.24689360	2.5164955	20	3 27.9	20.3
462911 2010 <i>YC</i> ₄	16.6	X	344.97276	210.06295	334.54294	7.75159	0.2216357	0.21953071	2.7214845	20	1 21.7	19.7
462912 2011 <i>AY</i> ₁	17.1	X	58.11543	358.61782	85.22423	7.44873	0.0707272	0.22103585	2.7091158	20	1 18.0	20.4
462913 2011 <i>AJ</i> ₉	17.3	X	55.99832	342.98530	123.99595	3.43119	0.1651028	0.22579816	2.6708887	20	2 23.7	20.0
462914 2011 <i>AZ</i> ₁₃	17.1	X	73.90043	313.27037	105.72347	13.09783	0.1634513	0.21889426	2.7267572	20	1 20.7	20.3
462915 2011 <i>AC</i> ₂₁	16.9	X	256.32555	199.06253	99.16362	9.32840	0.0967667	0.23134045	2.6280583	20	3 10.9	20.8
462916 2011 <i>AM</i> ₃₈	16.6	X	274.50174	318.45498	312.37372	11.85601	0.1644109	0.22095275	2.7097951	20	2 13.5	20.6
462917 2011 <i>AB</i> ₆₁	16.6	X	19.48216	85.65172	106.63601	10.92092	0.0040361	0.23765631	2.5812881	20	4 15.1	20.2
462918 2011 <i>AQ</i> ₆₆	16.6	X	332.43118	309.77945	128.83898	11.10248	0.0765034	0.18959728	3.0008755	20	12 24.4	20.5
462919 2011 <i>AD</i> ₆₈	16.6	X	4.64054	314.14000	134.26790	15.95927	0.1146682	0.20111859	2.8851467	20	—	—
462920 2011 <i>AH</i> ₇₇	16.3	X	4.98958	261.27443	279.19735	11.46728	0.1412688	0.22510440	2.6763735	20	2 22.7	19.4
462921 2011 <i>BF</i> ₅	17.0	X	306.60146	280.29378	289.91944	7.96615	0.1863095	0.21507919	2.7589074	20	1 5.4	20.8
462922 2011 <i>BL</i> ₆	17.2	X	78.05482	92.16739	913.36577	6.35123	0.2115721	0.21862653	2.7289828	20	1 16.9	20.2
462923 2011 <i>BF</i> ₉	17.2	X	17.51587	10.78920	93.26870	5.05152	0.0696858	0.21149738	2.7899691	20	—	—
462924 2011 <i>BP</i> ₁₃	16.5	X	274.75763	277.53818	329.86132	11.15625	0.1536942	0.21764548	2.7371775	20	1 21.6	20.8
462925 2011 <i>BK</i> ₁₄	16.0	X	324.28014	80.81654	140.57761	31.62782	0.2518769	0.21532877	2.7567751	20	1 31.9	19.7
462926 2011 <i>BF</i> ₁₅	16.5	X	55.91997	329.25546	148.32923	15.33354	0.2428443	0.22482850	2.6785626	20	3 24.2	19.3
462927 2011 <i>BA</i> ₂₆	16.9	X	18.50761	337.94479	120.24201	14.31156	0.1376939	0.21091016	2.7951452	20	—	—
462928 2011 <i>BL</i> ₂₉	16.4	X	96.11321	75.34497	324.23545	13.52617	0.0213501	0.21537103	2.7564145	20	1 10.5	20.3
462929 2011 <i>BR</i> ₂₉	17.1	X	86.72935	311.29430	79.99929	6.83332	0.1249458	0.21348121	2.7726578	20	—	—
462930 2011 <i>BP</i> ₃₀	16.5	X	112.23176	264.92334	111.58353	13.06501	0.1597850	0.21616733	2.7496411	20	1 19.4	20.3
462931 2011 <i>BD</i> ₃₇	16.2	X	267.20402	156.50163	304.57487	11.76575	0.1193849	0.17701749	3.1414147	20	10 5.3	20.8
462932 2011 <i>BW</i> ₅₁	16.6	X	6.94615	102.87075	322.66293	11.14215	0.1600690	0.19858321	2.9096519	20	—	—
462933 2011 <i>BY</i> ₆₀	17.1	X	246.01612	314.15023	281.66959	8.69080	0.0643218	0.20889661	2.8130781	20	—	—
462934 2011 <i>BP</i> ₆₂	16.2	X	107.01144	307.92616	121.51139	22.71233	0.0605561	0.22467030	2.6798199	20	3 9.7	20.1
462935 2011 <i>BT</i> ₇₅	17.0	X	327.85346	46.35815	174.89221	9.78888	0.1802621	0.21744417	2.7388665	20	2 15.3	20.4
462936 2011 <i>BS</i> ₈₄	16.9	X	119.08124	272.78807	117.64450	7.89662	0.1511030	0.22291939	2.6938339	20	2 12.5	20.6
462937 2011 <i>BN</i> ₈₆	17.4	X	64.19462	321.40866	117.95659	3.65234	0.0590713	0.21742009	2.7390688	20	1 19.9	20.9
462938 2011 <i>BB</i> ₉₈	17.2	X	27.63128	93.33030	82.52501	5.15564	0.0460996	0.23200606	2.6230294	20	4 3.1	20.4
462939 2011 <i>BY</i> ₁₀₄	17.5	X	318.99576	312.70936	224.52107	2.65676	0.0310582	0.21162329	2.7888623	20	1 2.1	21.1
462940 2011 <i>BJ</i> ₁₀₆	16.6	X	182.37495	223.70938	114.34404	14.59994	0.2741713	0.22998372	2.6383839	20	2 16.5	21.4
462941 2011 <i>BQ</i> ₁₀₇	17.6	X	106.26358	205.84429	194.18325	4.58802	0.0840606	0.21502425	2.7593773	20	1 29.2	21.4
462942 2011 <i>BT</i> ₁₁₆	16.7	X	14.42558	264.44264	276.09849	9.03193	0.0948738	0.22914351	2.6448294	20	3 12.3	19.9
462943 2011 <i>BQ</i> ₁₃₀	17.5	X	22.16333	314.12060	176.11030	4.78083	0.0306037	0.21680742	2.7442265	20	1 24.4	21.0
462944 2011 <i>BO</i> ₁₅₂	17.4	X	257.58300	294.53640	322.37222	3.49527	0.0093815	0.21213645	2.7843630	20	1 28.5	21.2
462945 2011 <i>CS</i> ₁₀	16.6	X	104.19655	271.94802	119.50248	12.20978	0.2137972	0.21856603	2.7294864	20	2 5.2	20.2
462946 2011 <i>CY</i> ₁₁	17.5	X	52.96259	297.745								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
462961	2011	DP ₃₀	16.6 ^m	X	357.98223	123.93939	44.59099	14.59842	0.1493297	0.21520847	2.7578023	20	2 7.3	20.0
462962	2011	DV ₄₅	15.5	X	140.54189	289.58224	348.35628	25.01051	0.2576226	0.17321444	3.1872294	20	12 31.7	21.5
462963	2011	DQ ₅₀	16.6	X	296.26108	205.00165	340.24583	7.69907	0.1038254	0.19973891	2.8984175	20	—	—
462964	2011	DE ₅₁	16.6	X	355.37678	62.38351	63.86977	16.23756	0.2066117	0.20407700	2.8571958	20	—	—
462965	2011	EF ₄	16.9	X	34.43916	77.10858	12.41673	6.11707	0.0483624	0.19954191	2.9003247	20	—	—
462966	2011	EF ₂₅	16.5	X	207.84227	72.77592	173.17474	14.13624	0.1342022	0.18325785	3.0696886	20	—	—
462967	2011	EY ₂₇	16.9	X	265.35587	117.51291	75.75967	2.03634	0.0732650	0.19051256	2.9912564	20	—	—
462968	2011	EJ ₃₀	16.6	X	277.90586	80.77395	144.56002	11.36496	0.2431626	0.19704424	2.9247823	20	—	—
462969	2011	ES ₃₈	16.9	X	3.65512	66.93443	26.29453	9.31547	0.1048157	0.19049613	2.9914283	20	—	—
462970	2011	EK ₄₃	15.7	X	198.54329	237.96396	342.92634	26.30993	0.2380865	0.17459893	3.1703581	20	12 2.3	21.5
462971	2011	EY ₅₆	15.7	X	66.60011	250.17275	94.55180	9.80660	0.0711483	0.17875113	3.1210700	20	12 28.4	20.0
462972	2011	EA ₅₇	16.1	X	154.38668	284.55279	37.07292	12.45347	0.0526905	0.19754861	2.9198019	20	—	—
462973	2011	EL ₆₁	16.5	X	306.81906	10.20674	107.43242	12.03132	0.0536233	0.18391946	3.0623225	20	—	—
462974	2011	EC ₆₇	17.1	X	251.67424	18.32980	220.02425	1.45582	0.0415044	0.19957060	2.9000468	20	—	—
462975	2011	EC ₆₉	16.7	X	284.87876	28.99847	130.98513	8.08140	0.1233434	0.18588210	3.0407287	20	—	—
462976	2011	ER ₆₉	16.3	X	303.02388	107.82280	70.55540	6.21198	0.0756659	0.19534445	2.9417245	20	—	—
462977	2011	EP ₇₇	16.8	X	264.39934	73.18783	105.16159	2.02680	0.1195932	0.18655924	3.0333665	20	—	—
462978	2011	EV ₇₈	15.6	X	176.44098	246.14500	4.68125	26.83427	0.0757303	0.17625870	3.1504240	20	—	—
462979	2011	EH ₇₉	16.9	X	308.34559	191.03148	316.44004	3.23036	0.0740779	0.18892706	3.0079684	20	—	—
462980	2011	EP ₈₂	16.9	X	283.01494	170.14526	2.14883	7.38138	0.0313317	0.19093088	2.9868857	20	—	—
462981	2011	EE ₈₃	16.2	X	42.95293	85.75247	354.39553	7.17814	0.0412640	0.20152045	2.8813099	20	—	—
462982	2011	EV ₈₃	16.9	X	60.48003	278.49446	171.01597	4.93478	0.1341426	0.21152911	2.7896900	20	2 4.6	20.1
462983	2011	FL	16.4	X	23.97392	309.94953	109.55454	11.62320	0.1029208	0.19092478	2.9869493	20	—	—
462984	2011	FW	16.0	X	1.87589	125.69658	9.94705	15.05132	0.0887852	0.20337768	2.8637418	20	1 5.3	19.9
462985	2011	FM ₈	16.5	X	274.35995	154.56828	13.12520	10.06684	0.0492764	0.18153993	3.0890240	20	—	—
462986	2011	FL ₁₂	17.0	X	306.82964	346.18085	121.14551	2.09343	0.1572398	0.18118487	3.0930582	20	12 15.5	20.6
462987	2011	FC ₁₃	16.1	X	161.33780	251.10296	35.31934	11.72151	0.1182995	0.17443640	3.1723272	20	—	—
462988	2011	FG ₂₆	15.8	X	257.97895	138.96211	63.37554	13.50426	0.0616663	0.18627546	3.0364464	20	—	—
462989	2011	FO ₃₃	15.9	X	136.47665	260.44718	49.34604	10.45424	0.0777203	0.17810981	3.1285576	20	—	—
462990	2011	FW ₃₃	16.2	X	169.06736	195.38166	67.26847	6.05812	0.1398000	0.17228325	3.1987037	20	—	—
462991	2011	FS ₄₁	16.1	X	300.86010	337.11415	139.55555	17.81856	0.1679550	0.18239090	3.0794083	20	12 18.7	19.9
462992	2011	FY ₄₁	15.8	X	262.77532	76.42014	132.09124	14.34977	0.0559558	0.19234080	2.9722712	20	—	—
462993	2011	FG ₄₆	15.8	X	345.42419	64.69274	53.10059	15.03338	0.1340361	0.19149642	2.9810021	20	—	—
462994	2011	FR ₄₆	18.5	X	253.04146	76.62271	28.33130	21.11856	0.1233019	0.37215707	1.9141907	20	11 4.1	19.9
462995	2011	FD ₆₈	16.9	X	9.57079	7.18713	51.29691	6.98589	0.1190093	0.18476832	3.0529361	20	—	—
462996	2011	FT ₇₄	16.8	X	286.95939	264.99618	358.26214	9.28151	0.1274538	0.21377813	2.7700899	20	2 26.9	20.7
462997	2011	FT ₇₅	16.8	X	235.99179	261.90815	289.99500	0.04419	0.1081439	0.18064105	3.0992629	20	12 24.7	21.2
462998	2011	FL ₉₀	16.7	X	242.01807	191.83431	353.67879	7.27298	0.1144553	0.18035667	3.1025199	20	12 23.5	21.2
462999	2011	FT ₁₀₃	16.7	X	264.69545	127.94625	131.65625	6.86925	0.0930089	0.20844572	2.8171333	20	1 31.1	20.9
463000	2011	FT ₁₀₅	16.0	X	91.71988	318.74116	68.10879	7.74234	0.0813032	0.19780071	2.9173206	20	—	—
463001	2011	FF ₁₁₉	16.1	X	260.76148	165.92418	339.80108	8.35365	0.0458829	0.17355776	3.1830248	20	12 5.2	20.7
463002	2011	FL ₁₃₄	17.2	X	244.80353	312.67018	359.23912	2.02255	0.1389552	0.21908624	2.7251641	20	3 8.8	21.4
463003	2011	FZ ₁₃₄	16.9	X	182.07343	306.44032	328.63160	1.36383	0.0954489	0.18667168	3.0321482	20	—	—
463004	2011	FT ₁₃₉	16.9	X	19.66830	65.46118	345.22921	9.73693	0.2481166	0.19002948	2.9963237	20	—	—
463005	2011	FB ₁₄₉	16.2	X	60.16931	167.68445	193.88864	11.01562	0.0397370	0.17546475	3.1599203	20	—	—
463006	2011	FZ ₁₅₀	16.0	X	332.93554	69.61112	107.05895	15.76923	0.0901766	0.20426669	2.8542666	20	1 13.3	19.5
463007	2011	FV ₁₅₁	18.0	X	210.32115	25.40246	189.67184	21.71182	0.0440785	0.38789601	1.8620550	20	—	—
463008	2011	FA ₁₅₈	16.7	X	296.33752	149.28819	92.00032	14.83275	0.1667756	0.20986909	2.8043813	20	2 6.6	20.8
463009	2011	GE ₁₀	16.7	X	281.18693	185.15768	356.01610	7.96586	0.0665781	0.18766499	3.0214393	20	—	—
463010	2011	GX ₁₂	17.2	X	285.32946	274.54055	216.31335	8.43978	0.0587660	0.17473853	3.1686694	20	12 18.5	21.5
463011	2011	GT ₁₄	16.4	X	200.62198	251.21832	354.55073	9.09561	0.1789325	0.17825000	3.1269171	20	—	—
463012	2011	GV ₁₇	16.3	X	288.58184	21.92826	144.00917	12.21435	0.1243653	0.18859383	3.0115106	20	—	—
463013	2011	GZ ₂₇	18.8	X	165.58500	113.37472	136.16255	11.24237	0.1339651	0.38450801	1.8729770	20	—	—
463014	2011	GO ₂₉	17.0	X	276.71160	115.53568	175.71534	13.52041	0.0617040	0.21957310	2.7211342	20	3 28.4	20.7
463015	2011	GU ₃₃	17.0	X	205.24074	248.91972	3.82522	2.84268	0.1199856	0.18188279	3.0851407	20	—	—
463016	2011	GB ₃₇	16.1	X	159.91275	190.56995	116.23557	13.60461	0.0703061	0.18557343	3.0440996	20	—	—
463017	2011	GV ₃₈	16.5	X	235.09055	240.63866	14.35254	20.01972	0.2996909	0.19067195	2.9895892	20	—	—
463018	2011	GJ ₄₉	16.1	X	237.71903	351.02767	202.87226	24.75267	0.1532193	0.17719824	3.1392780	20	12 20.1	21.1
463019	2011	GB ₅₉	15.8	X	168.85919	72.10882	221.64972	8.61394	0.0906355	0.17976157	3.1093634	20	—	—
463020	2011	GN ₆₂	16.3	X	265.59579	136.77313	3.41422	16.39607	0.1966647	0.17566960	3.1574633	20	11 9.4	20.8
463021	2011	GP ₆₂	16.2	X	224.30944	207.53665	28.23447	7.22948	0.0989532	0.18439839	3.0570178	20	—	—
463022	2011	GE ₆₃	16.1	X	255.62936	116.40195	83.82302	17.36073	0.1778139	0.18348692	3.0671332	20	—	—
463023	2011	GR ₆₃	16.5	X	278.81760	127.53350	61.74388	2.24195	0.1211564	0.18678577	3.0309134	20	—	—
463024	2011	GL ₆₅	18.7	X	315.52340	30.83902	55.92147	22.13812	0.0991345	0.38674442	1.8657495	20	—	—
463025	2011	GK ₆₈	17.0	X	275.59775	65.54092	112.03380	13.67076	0.1302684	0.18526321	3.0474968	20	—	—
463026	2011	GT ₇₃	16.4	X	147.02920	270.87686	38.24358	9.82103	0.1505563	0.17589366	3.1547813	20	—	—
463027	2011	GQ ₇₄	16.7	X	226.84678	120.63779	177.01367	8.28877	0.2343408	0.19222479	2.9734670	20	2 1.0	21.9
463028	2011	GM ₇₆	16.2	X	263.68896	24.92774	149.41324	10.83175	0.0391182	0.17751129	3.1355861	20	—	—
463029	2011	GR ₈₄	16.3	X	184.54413	68.43512	202.37048	4.51881	0.1215310	0.17958703	3.1113777	20	—	—
463030	2011	HV ₁	16.5	X	358.32452	319.98218	146.26872	4.86394	0.1163432	0.19178483	2.9780127	20	—	—
463031	2011	HW ₂	16.7	X	190.62428	172.30284	101.12416	11.92636	0.1009902	0.18119853	3.0929028	20	—	—
463032	2011													

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
463041	2011	HF ₃₁	16.3	X	257.98200	335.40885	202.79637	16.15217	0.1928494	0.18014950	3.1048980	20	12 22.2	20.7
463042	2011	HX ₃₃	16.0	X	249.44354	10.06859	208.78810	27.12811	0.0851700	0.18114690	3.0934904	20	—	—
463043	2011	HN ₃₅	15.9	X	255.79697	352.15003	205.57566	26.66341	0.0579824	0.17893181	3.1189687	20	—	—
463044	2011	HB ₃₆	17.4	X	22.04127	280.35472	67.32848	23.19565	0.0692563	0.36920514	1.9243803	20	12 23.7	19.5
463045	2011	HW ₃₈	16.2	X	219.57508	134.62168	82.02443	8.85307	0.0749497	0.17333929	3.1856988	20	—	—
463046	2011	HS ₃₉	18.3	X	196.94655	109.92750	64.92764	22.81177	0.0628538	0.37175215	1.9155804	20	12 5.5	20.2
463047	2011	HW ₃₉	16.1	X	254.90551	81.06289	166.29682	14.29371	0.2206589	0.18913613	3.0057513	20	—	—
463048	2011	HZ ₃₉	16.8	X	272.76743	106.53997	89.45089	10.42631	0.0961158	0.18647952	3.0342309	20	—	—
463049	2011	HY ₄₀	16.5	X	299.54272	10.96856	139.94850	9.22227	0.1077628	0.17893749	3.1189026	20	—	—
463050	2011	HC ₄₄	16.1	X	148.20511	248.22630	59.14747	10.78597	0.1602987	0.17422036	3.1749492	20	—	—
463051	2011	HF ₄₅	16.4	X	243.24449	96.33028	173.59882	8.87027	0.1094942	0.18387682	3.0627959	20	—	—
463052	2011	HK ₅₂	16.4	X	250.45171	37.61208	155.23553	13.43843	0.0703804	0.17393390	3.1784342	20	—	—
463053	2011	HC ₅₄	15.6	X	135.03579	119.17924	182.17145	21.35484	0.1788822	0.16862049	3.2448589	20	—	—
463054	2011	HN ₅₄	16.5	X	254.83258	161.95809	99.11898	8.34985	0.1609786	0.19202995	2.9754780	20	1 19.5	21.3
463055	2011	HC ₅₅	16.1	X	275.54444	3.73471	195.67095	19.05085	0.0540506	0.18555429	3.0443089	20	—	—
463056	2011	HN ₆₀	16.4	X	199.25066	99.48256	173.95416	14.29994	0.2239692	0.17607380	3.1526292	20	—	—
463057	2011	HM ₆₃	16.6	X	30.80664	316.82016	125.31676	3.51067	0.0665611	0.18926761	3.0043591	20	—	—
463058	2011	HC ₆₄	16.5	X	321.37031	95.03791	69.01285	10.84341	0.0499174	0.18736180	3.0246980	20	—	—
463059	2011	HB ₆₅	16.6	X	309.06788	79.36221	46.61391	21.07271	0.2388250	0.18454650	3.0553819	20	—	—
463060	2011	HQ ₈₆	17.1	X	250.37223	83.42959	127.93373	7.74140	0.0903270	0.18297156	3.0728898	20	—	—
463061	2011	HV ₈₇	17.0	X	251.99173	21.57846	185.85412	10.27891	0.0899719	0.18543549	3.0456090	20	—	—
463062	2011	HZ ₈₈	16.6	X	32.05900	299.58165	159.23517	10.42419	0.0516658	0.19098182	2.9863545	20	1 3.8	20.6
463063	2011	HE ₉₀	16.4	X	316.83243	73.63732	78.91938	13.36521	0.1179809	0.19021170	2.9944098	20	—	—
463064	2011	HZ ₉₁	16.3	X	214.78546	5.30286	195.70425	11.23701	0.0817812	0.17084690	3.2166069	20	12 13.0	21.2
463065	2011	HO ₉₅	16.0	X	86.88495	225.81649	122.01638	9.86367	0.0549637	0.17017370	3.2250844	20	—	—
463066	2011	HD ₉₇	16.4	X	180.85574	239.14824	17.53732	10.13494	0.0751409	0.17656944	3.1467267	20	—	—
463067	2011	JM ₃	17.5	X	105.38158	198.90697	99.74525	23.46548	0.0747451	0.37455928	1.9059976	20	—	—
463068	2011	JK ₇	16.4	X	292.33121	213.72710	43.56219	8.72608	0.0972604	0.21041901	2.7994931	20	3 3.9	20.3
463069	2011	JS ₁₂	15.8	X	200.95415	215.78424	45.88060	15.72206	0.2379649	0.17460695	3.1702611	20	—	—
463070	2011	JE ₁₅	16.7	X	250.05000	170.82423	53.42968	5.14222	0.1912639	0.18818280	3.0158942	20	—	—
463071	2011	JY ₃₀	16.2	X	199.63960	87.00036	209.65533	21.35902	0.2665899	0.17767090	3.1337079	20	1 10.7	22.2
463072	2011	JK ₃₁	15.9	X	41.34402	350.76702	28.79453	9.73459	0.0722070	0.17453828	3.1710926	20	—	—
463073	2011	JL ₃₁	15.6	X	113.02201	189.79335	153.70380	10.17958	0.0688701	0.17347519	3.1840348	20	—	—
463074	2011	JT ₃₁	16.4	X	251.28902	122.82692	107.42220	13.57073	0.0929373	0.18576845	3.0419687	20	—	—
463075	2011	KF ₃₁	16.2	X	236.11916	151.14515	91.83366	13.18684	0.2314972	0.17964410	3.1107187	20	—	—
463076	2011	KD ₃₇	16.4	X	298.87558	100.03301	72.94553	15.49608	0.1195378	0.18384314	3.0631700	20	—	—
463077	2011	LP ₁₄	15.5	X	186.18224	71.76689	203.75505	30.98831	0.0254869	0.17205000	3.2015940	20	—	—
463078	2011	LV ₁₇	16.1	X	222.90678	164.50375	102.58291	15.73705	0.1359118	0.18274181	3.0754649	20	—	—
463079	2011	LS ₂₃	16.5	X	147.24212	125.38283	185.48899	6.28045	0.1064209	0.17241864	3.1970290	20	—	—
463080	2011	OG ₁₀	17.6	X	14.62803	233.38451	129.99941	28.40753	0.0565536	0.35611147	1.9712668	20	—	—
463081	2011	OA ₃₁	15.3	X	165.45019	224.41607	104.61976	16.49816	0.0517830	0.17031003	3.2233632	20	1 15.8	20.0
463082	2011	PD ₁	17.7	X	148.85741	222.43182	90.90967	23.79184	0.1149983	0.37844256	1.8929366	20	—	—
463083	2011	QT ₁₂	17.5	X	1.62962	195.18225	177.30770	15.42113	0.0836960	0.34915413	1.9973673	20	12 28.6	19.9
463084	2011	SU ₉₀	18.5	X	178.73573	183.21220	219.05957	3.44857	0.1968462	0.28859111	2.2678487	20	4 23.9	22.0
463085	2011	SA ₁₇₅	18.7	X	236.09528	223.82751	157.12240	1.13186	0.1661515	0.30446570	2.1883182	20	5 21.9	21.6
463086	2011	SP ₁₇₈	18.4	X	196.43415	178.36790	242.70686	4.15468	0.1271737	0.30047744	2.2076394	20	6 5.9	21.5
463087	2011	SH ₁₈₂	18.3	X	133.33337	63.84719	355.09546	3.98216	0.1996346	0.27754272	2.3276418	20	4 3.1	21.6
463088	2011	SR ₁₉₁	15.4	X	32.25084	85.73291	285.52512	2.43707	0.2242920	0.12708531	3.9180726	20	12 26.7	20.6
463089	2011	SZ ₂₁₆	18.2	X	91.09563	113.62090	348.72100	23.70506	0.3350466	0.27724656	2.3292992	20	4 20.3	21.9
463090	2011	SF ₂₂₃	17.7	X	173.98352	205.13067	197.63079	6.55052	0.1314865	0.28988382	2.2611015	20	4 18.9	21.0
463091	2011	SV ₂₇₃	17.5	X	113.41009	294.33165	128.48341	6.19235	0.2251069	0.27454925	2.3445304	20	3 24.5	20.7
463092	2011	TD ₁₇	18.5	X	217.21383	256.21233	122.89561	4.53781	0.1922073	0.29762500	2.2217223	20	4 30.4	22.0
463093	2011	UW ₈	17.7	X	148.82286	199.17827	220.63052	7.37240	0.1896437	0.28016320	2.3131049	20	4 18.7	21.3
463094	2011	UX ₁₆	17.9	X	155.04967	67.73012	39.99617	6.68209	0.1154858	0.29476333	2.2360787	20	6 24.9	21.1
463095	2011	UK ₁₈	18.2	X	265.47611	320.61622	41.77196	4.00201	0.2102720	0.30725168	2.1750698	20	5 23.6	20.9
463096	2011	UH ₂₂	18.0	X	114.51496	183.22503	255.06303	5.00898	0.2065296	0.27609466	2.3357734	20	4 8.0	21.3
463097	2011	UT ₂₄	18.4	X	119.91317	147.68137	276.13521	1.54505	0.1784591	0.27394870	2.3479556	20	3 23.7	21.5
463098	2011	UC ₂₈	18.8	X	157.73944	96.29209	349.65995	5.52764	0.1496398	0.28990652	2.2609835	20	5 29.0	22.3
463099	2011	UW ₃₀	17.9	X	169.77729	339.15830	48.59191	9.49894	0.1380807	0.27898817	2.3195951	20	3 30.2	21.4
463100	2011	UV ₄₅	18.5	X	144.55888	95.75021	313.71807	1.95722	0.2138797	0.27688970	2.3313001	20	4 3.0	22.0
463101	2011	UU ₄₆	18.2	X	218.78101	127.66071	262.88797	3.45893	0.1997545	0.29811972	2.2192637	20	5 14.0	21.6
463102	2011	UG ₆₂	18.2	X	170.69257	191.40256	186.47072	2.29709	0.1855255	0.27622625	2.3350315	20	3 16.9	21.8
463103	2011	UP ₆₆	18.0	X	133.69938	15.88888	67.14896	7.72444	0.1001305	0.28556013	2.2838680	20	4 27.8	21.0
463104	2011	UN ₆₇	18.4	X	240.19032	193.51105	177.93274	5.15536	0.1427138	0.30081287	2.2059980	20	5 16.8	21.4
463105	2011	UV ₈₈	18.1	X	329.47346	53.62261	277.64579	0.58513	0.0165769	0.30830302	2.1701222	20	8 17.2	20.4
463106	2011	UU ₉₆	18.8	X	124.55763	93.61308	341.69694	0.85165	0.1761121	0.27940953	2.3172625	20	4 13.2	21.9
463107	2011	UD ₁₁₇	18.7	X	195.66743	216.01841	190.01201	2.22862	0.1469643	0.29596932	2.2300003	20	5 15.4	21.9
463108	2011	UX ₁₁₉	18.4	X	174.07291	143.99711	230.23490	4.01399	0.1781659	0.27840736	2.3228201	20	3 13.4	22.0
463109	2011	UP ₁₂₇	17.8	X	124.58940	51.66745	67.43183	8.05838	0.1000505	0.28798875	2.2710099	20	6 3.6	20.7
463110	2011	UN ₁₅₃	18.1	X	219.74525	272.43524	77.56156	5.91733	0.1889759	0.28420621	2.2911156	20	3 28.1	21.8
463111	2011	UY ₁₅₄	18.5	X	1									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463121 2011 <i>UJ</i> ₂₈₀	17.9	X	149.74813	300.86941	124.13478	7.33509	0.1610497	0.28225448	2.3016652	20	4 28.2	21.4
463122 2011 <i>UP</i> ₃₀₃	18.5	X	218.07377	209.30150	208.64954	4.53023	0.1177059	0.30249556	2.1978095	20	6 26.5	21.5
463123 2011 <i>UE</i> ₃₃₆	18.4	X	295.93131	180.51469	182.18615	5.97257	0.1582119	0.31722994	2.1292170	20	7 21.2	20.2
463124 2011 <i>UR</i> ₃₅₆	18.5	X	215.08794	228.09269	194.27080	3.66332	0.1315459	0.30205887	2.1999273	20	6 27.9	21.6
463125 2011 <i>UL</i> ₃₉₄	18.5	X	197.68867	238.29591	141.89086	4.32934	0.1652093	0.28665394	2.2780545	20	4 14.6	22.0
463126 2011 <i>VB</i> ₂	18.3	X	153.85061	90.48069	358.22417	5.94363	0.2157145	0.29074251	2.2566473	20	5 31.8	22.0
463127 2011 <i>VM</i> ₆	18.5	X	163.92123	230.89060	183.00035	5.15783	0.1477675	0.28502390	2.2867316	20	4 24.8	21.8
463128 2011 <i>VF</i> ₁₃	18.0	X	141.33252	34.13177	62.74245	7.41268	0.0570877	0.28883236	2.2665857	20	5 20.2	20.9
463129 2011 <i>VI</i> ₁₄	18.3	X	313.06430	236.60639	57.34373	6.65003	0.1236462	0.29755946	2.2220485	20	5 8.8	20.5
463130 2011 <i>WP</i> ₁₀	18.2	X	159.52638	37.45425	63.03823	6.63846	0.1761132	0.29192237	2.2505628	20	6 21.4	21.6
463131 2011 <i>WX</i> ₁₃	18.5	X	134.86979	178.38309	259.98760	1.58626	0.1593915	0.27882069	2.3205239	20	4 26.6	21.8
463132 2011 <i>WS</i> ₄₄	18.4	X	118.19566	201.79687	231.34167	0.78198	0.1499235	0.27085992	2.3657720	20	3 31.2	21.6
463133 2011 <i>WG</i> ₅₀	16.8	X	27.67104	255.10895	279.83437	8.39450	0.0871527	0.26939739	2.3743266	20	3 22.3	19.4
463134 2011 <i>WJ</i> ₅₅	18.5	X	143.91552	7.94631	72.68267	3.77527	0.1868336	0.28476733	2.2881049	20	5 12.1	21.8
463135 2011 <i>WM</i> ₆₅	17.9	X	129.49589	171.09321	257.40758	3.44950	0.2042773	0.27197349	2.3593100	20	4 11.8	21.3
463136 2011 <i>WQ</i> ₈₈	18.0	X	172.40569	344.24766	61.38956	4.85505	0.2499716	0.28206679	2.3026861	20	4 25.6	21.9
463137 2011 <i>WV</i> ₉₀	17.9	X	104.81824	325.78797	115.12322	7.36807	0.1772525	0.26862868	2.3788540	20	4 2.4	21.1
463138 2011 <i>WZ</i> ₁₀₈	17.9	X	166.52208	308.13477	61.02474	3.36109	0.2151052	0.27444446	2.3451272	20	3 6.0	21.6
463139 2011 <i>WR</i> ₁₄₂	17.8	X	226.59190	325.04340	58.80518	7.70306	0.1311653	0.29151579	2.2526549	20	5 18.5	21.0
463140 2011 <i>YP</i> ₁₂	18.0	X	107.61138	22.92956	119.75947	5.89713	0.0992786	0.27851155	2.3222408	20	6 16.0	21.0
463141 2011 <i>YT</i> ₂₀	18.0	X	173.81252	268.95736	120.17752	5.38654	0.2000362	0.27179397	2.3603487	20	4 6.5	21.8
463142 2011 <i>YU</i> ₂₃	18.3	X	135.60845	39.82086	14.67627	1.29028	0.1598335	0.26608936	2.3939645	20	3 28.2	21.7
463143 2011 <i>YK</i> ₂₆	17.2	X	17.50182	72.52004	131.47353	12.75053	0.2563059	0.25860173	2.4399547	20	5 8.5	19.1
463144 2011 <i>YP</i> ₃₀	17.9	X	178.89175	38.08920	352.48864	2.25792	0.1931196	0.27605355	2.3360053	20	4 9.1	21.7
463145 2011 <i>YR</i> ₃₇	17.9	X	116.05334	302.33854	124.22970	6.76255	0.1162885	0.25848993	2.4406582	20	3 19.3	21.2
463146 2011 <i>YO</i> ₄₁	18.1	X	99.35590	8.69194	73.53133	5.23472	0.1173401	0.26240298	2.4163335	20	3 18.4	21.1
463147 2011 <i>YV</i> ₄₅	17.6	X	132.00911	79.92120	328.48921	6.21979	0.1505311	0.26128304	2.4232334	20	3 13.9	21.0
463148 2011 <i>YU</i> ₅₈	17.8	X	190.91056	132.23705	296.74196	4.74667	0.0740288	0.28467409	2.2886046	20	6 12.1	20.8
463149 2011 <i>YK</i> ₆₁	17.8	X	124.85648	343.93353	139.79572	6.37572	0.1033893	0.27887537	2.3202206	20	6 11.8	21.0
463150 2011 <i>YE</i> ₇₀	18.0	X	128.53557	326.37477	115.16378	3.13216	0.0901927	0.26682682	2.3895515	20	4 18.5	21.2
463151 2011 <i>YD</i> ₇₂	17.9	X	59.60603	282.81338	268.24011	2.29389	0.1539701	0.27445640	2.3450592	20	6 26.7	20.5
463152 2011 <i>YX</i> ₇₃	17.7	X	107.92344	304.25000	136.22179	6.61479	0.0956469	0.25931412	2.4354840	20	3 23.9	20.8
463153 2012 <i>AA</i> ₂	17.7	X	134.63473	305.00311	122.24145	5.52134	0.1764008	0.26896930	2.3768452	20	4 16.9	21.2
463154 2012 <i>AR</i> ₂	18.2	X	133.29950	260.04304	194.33691	1.74852	0.1710429	0.27432602	2.3458022	20	5 18.4	21.7
463155 2012 <i>AY</i> ₆	16.9	X	140.52429	344.53024	117.74769	25.79567	0.2171765	0.27786957	2.3258162	20	6 12.9	21.0
463156 2012 <i>AC</i> ₂₂	17.8	X	163.12231	332.87009	117.61919	6.77468	0.2106287	0.28421827	2.2910508	20	6 12.9	21.5
463157 2012 <i>AR</i> ₂₂	17.5	X	171.44374	344.94144	100.00011	7.33913	0.1019294	0.28167890	2.3047996	20	6 10.7	20.2
463158 2012 <i>BG</i> ₃	18.2	X	148.05240	135.61991	300.54943	2.73364	0.2306895	0.27658823	2.3329938	20	5 11.6	21.9
463159 2012 <i>BU</i> ₃	18.2	X	83.50071	283.32484	191.69473	0.68789	0.1680291	0.26357595	2.4091594	20	4 15.6	20.9
463160 2012 <i>BZ</i> ₄	17.6	X	173.04047	303.62459	118.06151	7.81405	0.1736962	0.27496421	2.3421710	20	5 16.5	21.4
463161 2012 <i>BP</i> ₁₁	17.5	X	5.54777	319.23906	234.60658	1.55899	0.1370118	0.25763225	2.4460720	20	3 14.6	19.7
463162 2012 <i>BX</i> ₁₄	17.9	X	100.37145	323.62807	133.26823	5.24525	0.1699451	0.26010274	2.4305586	20	4 16.6	21.1
463163 2012 <i>BJ</i> ₁₉	17.4	X	137.56294	18.68039	86.71821	10.14008	0.1522042	0.27779171	2.3262507	20	6 5.3	20.8
463164 2012 <i>BP</i> ₁₉	16.8	X	9.56623	60.40512	30.94796	7.76132	0.1169808	0.23275600	2.6173921	20	—	—
463165 2012 <i>BE</i> ₂₈	17.8	X	65.18404	36.25622	147.16688	2.54167	0.1373180	0.27127770	2.3633424	20	6 21.1	20.4
463166 2012 <i>BN</i> ₄₀	17.8	X	211.29622	253.83262	112.60003	10.29990	0.2637239	0.27673041	2.3321947	20	4 10.8	22.0
463167 2012 <i>BG</i> ₄₇	17.6	X	341.17827	294.74608	301.28955	3.29579	0.1538197	0.25530289	2.4609279	20	3 28.1	20.1
463168 2012 <i>BY</i> ₅₁	18.2	X	56.04299	108.46107	30.00858	2.63203	0.1571552	0.25681847	2.4512365	20	4 3.4	20.5
463169 2012 <i>BD</i> ₅₂	17.8	X	72.20267	312.76009	128.52820	8.10113	0.1098251	0.24313868	2.5423383	20	2 4.7	20.6
463170 2012 <i>BU</i> ₅₂	17.6	X	104.04329	13.77440	114.65051	5.18578	0.1479089	0.26717946	2.3874485	20	5 29.6	20.9
463171 2012 <i>BW</i> ₇₀	17.8	X	48.83574	95.06270	119.39887	4.22023	0.1557023	0.27428917	2.3460122	20	7 14.8	20.2
463172 2012 <i>BA</i> ₇₁	18.7	X	151.69671	323.33342	112.20533	1.94245	0.1537115	0.27271497	2.3550316	20	5 11.2	22.1
463173 2012 <i>BN</i> ₇₆	16.9	X	318.23275	306.94814	318.10739	14.00019	0.1778969	0.25841316	2.4411416	20	3 20.4	20.1
463174 2012 <i>BU</i> ₇₆	16.0	X	354.70943	35.40060	98.30346	33.96982	0.2429080	0.23255454	2.6189035	20	—	—
463175 2012 <i>BE</i> ₈₂	17.8	X	137.07925	330.78614	116.07952	7.48796	0.0690832	0.26948534	2.3738100	20	5 5.4	21.1
463176 2012 <i>BM</i> ₉₃	18.6	X	141.57157	55.34431	28.52964	2.70288	0.1502087	0.27132132	2.3630891	20	5 10.6	22.2
463177 2012 <i>BK</i> ₉₄	17.8	X	69.67878	21.37745	143.64907	6.65920	0.1234589	0.26816454	2.3815981	20	5 30.9	20.7
463178 2012 <i>BM</i> ₁₀₂	18.1	X	67.67473	148.23882	347.18285	2.16019	0.1954186	0.26178068	2.4201614	20	4 24.1	20.6
463179 2012 <i>BG</i> ₁₀₅	18.7	X	61.21855	287.45986	206.08361	1.77346	0.1823738	0.25822559	2.4423236	20	4 8.8	21.2
463180 2012 <i>BS</i> ₁₀₆	18.3	X	122.46179	41.39387	41.69882	3.23661	0.1547343	0.26525237	2.3989979	20	4 20.1	21.7
463181 2012 <i>BE</i> ₁₀₇	17.9	X	353.39925	263.05113	325.64041	3.45587	0.1670090	0.25767874	2.4457778	20	4 9.1	20.2
463182 2012 <i>BZ</i> ₁₀₇	16.9	X	263.55441	165.60439	127.27842	15.47821	0.1400200	0.25630849	2.4544869	20	3 4.1	20.6
463183 2012 <i>BL</i> ₁₀₉	18.6	X	114.61297	50.23063	22.14876	1.67470	0.1658953	0.25931362	2.4354871	20	3 29.4	21.9
463184 2012 <i>BX</i> ₁₁₃	18.6	X	112.47151	174.25882	293.55497	0.66530	0.1405785	0.26777377	2.3839146	20	5 9.3	21.9
463185 2012 <i>BC</i> ₁₁₇	17.5	X	23.93542	280.97702	270.01936	0.89443	0.1295192	0.26020915	2.4298959	20	4 16.7	19.7
463186 2012 <i>BQ</i> ₁₁₉	18.3	X	88.44036	96.75970	315.94481	5.89929	0.1973633	0.24485614	2.5304361	20	2 3.9	21.1
463187 2012 <i>BC</i> ₁₂₀	18.0	X	121.68622	285.65611	144.04946	2.06279	0.1486761	0.26102921	2.4248040	20	4 1.4	21.2
463188 2012 <i>BQ</i> ₁₂₀	16.3	X	329.58813	64.74574	90.21139	12.63823	0.1223013	0.23364092	2.6107790	20	—	—
463189 2012 <i>BX</i> ₁₂₀	17.3	X	56.29461	212.06170	286.88712	11.29063	0.0998005	0.25698819	2.4501571	20	3 19.8	20.4
463190 2012 <i>BL</i> ₁₂₂	17.8	X	89.29849	160.88828	343.13980	9.82056	0.0450152	0.26402386	2.4064338	20	5 10.8	21.1
463191 2012 <i>BA</i> ₁₂₆	17.2	X	95.38042	327.93914	134.62274	7.27205	0.0884657	0				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463201 2012 CH ₁₈	18.1	X	51.15135	307.53580	221.00094	1.51043	0.1105951	0.26480881	2.4016760	20	5 1.8	20.4
463202 2012 CG ₂₅	17.7	X	329.84593	118.57046	207.86062	6.13963	0.1289070	0.28591253	2.2819910	20	7 31.6	19.7
463203 2012 CO ₂₆	17.3	X	268.04451	338.94034	315.10386	9.46109	0.1538672	0.25536797	2.4605098	20	3 2.8	20.9
463204 2012 CO ₃₄	17.9	X	21.55139	133.94006	135.85594	5.72200	0.1509658	0.28193051	2.3034281	20	8 22.0	19.9
463205 2012 CZ ₃₉	17.7	X	83.57900	221.16832	269.44338	1.52042	0.1528934	0.26205912	2.4184468	20	5 4.9	20.5
463206 2012 CJ ₄₂	17.5	X	318.73945	139.29993	67.05960	2.77951	0.0879793	0.24126343	2.5554951	20	1 26.3	20.7
463207 2012 CQ ₄₃	18.0	X	51.79712	81.88369	149.73055	4.95193	0.1908139	0.27783468	2.3260109	20	8 20.9	20.5
463208 2012 CH ₄₇	17.3	X	314.61985	85.89192	129.03112	9.17274	0.1246676	0.23768110	2.5811086	20	1 26.1	20.5
463209 2012 CJ ₄₇	16.7	X	227.00751	181.55063	140.13654	16.18929	0.1301035	0.24550524	2.5259740	20	3 3.5	20.6
463210 2012 CA ₅₀	17.0	X	350.28438	168.38852	346.55047	12.77905	0.2197727	0.23362328	2.6109105	20	—	—
463211 2012 CW ₅₀	18.4	X	87.44428	184.64032	311.50129	2.67603	0.1370200	0.26325204	2.4111352	20	5 15.1	21.4
463212 2012 DY ₅	17.1	X	284.09309	214.50816	125.48778	8.42661	0.1563571	0.27507718	2.3415297	20	5 27.9	20.0
463213 2012 DX ₇	18.2	X	112.76201	47.64856	88.66560	3.05303	0.1559702	0.26917521	2.3756329	20	6 19.8	21.6
463214 2012 DD ₁₈	18.1	X	32.06336	54.56894	157.22469	2.69922	0.1714932	0.26673252	2.3901146	20	6 11.4	20.1
463215 2012 DY ₂₈	17.7	X	345.99714	339.39247	158.95197	12.26131	0.1966601	0.22609417	2.6685569	20	—	—
463216 2012 DU ₃₀	18.4	X	340.69883	61.68909	147.17385	28.23014	0.0586873	0.23469198	2.6029783	20	—	—
463217 2012 DQ ₃₄	17.2	X	122.63985	121.07276	336.52157	5.91661	0.0855854	0.26227712	2.4171065	20	4 28.4	20.6
463218 2012 DW ₃₄	17.8	X	343.47324	113.08805	97.03364	3.47900	0.0322718	0.24774918	2.5106985	20	3 13.8	20.8
463219 2012 DN ₃₉	16.8	X	175.26520	28.47824	328.97602	5.55620	0.1452968	0.23858176	2.5746086	20	2 25.7	20.8
463220 2012 DK ₄₅	18.1	X	15.05116	198.26682	34.18119	2.61810	0.1831529	0.25631729	2.4544307	20	6 7.7	20.1
463221 2012 DH ₄₇	17.7	X	96.42573	142.67867	335.24210	6.35822	0.1180299	0.26030827	2.4292790	20	4 26.9	20.9
463222 2012 DA ₅₈	17.8	X	27.78088	174.73436	49.59155	3.38537	0.1664649	0.26036567	2.4289220	20	6 21.4	19.9
463223 2012 DG ₅₈	17.3	X	35.63586	137.64165	1.47361	9.82195	0.0739245	0.23954986	2.5676674	20	2 25.5	20.3
463224 2012 DG ₆₂	17.1	X	353.78533	186.04151	332.20357	13.97791	0.1813526	0.23368330	2.6104633	20	1 4.6	20.1
463225 2012 DW ₈₁	18.2	X	56.35275	248.70510	283.55812	0.59616	0.1321693	0.25937959	2.4350741	20	5 19.8	20.9
463226 2012 DV ₈₂	17.1	X	267.57843	216.59897	31.37011	7.86522	0.1831007	0.22477167	2.6790141	20	1 10.7	21.5
463227 2012 DK ₈₃	17.7	X	323.31138	291.34405	350.29663	1.64341	0.1942539	0.25852390	2.4404444	20	4 27.1	20.1
463228 2012 DA ₉₀	17.6	X	75.35602	0.87622	156.31250	11.11063	0.0823123	0.26512511	2.3997655	20	5 22.7	20.7
463229 2012 DV ₉₂	18.1	X	71.76181	148.89410	340.60882	3.16586	0.1395458	0.25467954	2.4649418	20	4 12.7	20.8
463230 2012 DE ₉₄	17.4	X	339.36411	256.70736	4.77460	2.76152	0.1821132	0.26158454	2.4213710	20	4 29.9	19.6
463231 2012 DX ₉₄	17.8	X	68.07384	50.79924	131.37497	3.00534	0.1484909	0.26691613	2.3890185	20	6 25.4	20.6
463232 2012 DF ₉₆	17.4	X	320.55270	224.61332	337.75072	12.72813	0.1478427	0.23554337	2.5967021	20	1 17.9	20.9
463233 2012 EH ₃	17.1	X	89.48994	347.62944	168.60453	24.27446	0.1801755	0.26759633	2.3849683	20	6 23.9	21.0
463234 2012 EL ₄	17.9	X	77.19280	142.08349	17.15821	4.93315	0.1340644	0.26230221	2.4169523	20	6 2.0	20.8
463235 2012 EP ₆	18.3	X	63.78022	153.62483	353.43640	2.21598	0.1374380	0.25484158	2.4638969	20	4 25.4	21.0
463236 2012 EJ ₉	17.5	X	345.48608	213.72356	6.97970	6.73826	0.1657917	0.24045567	2.5612150	20	3 16.9	20.0
463237 2012 ES ₁₁	16.6	X	101.93335	56.90954	0.42412	27.87639	0.0691554	0.23699261	2.5861051	20	2 23.2	20.4
463238 2012 EO ₁₆	17.6	X	29.11985	115.81420	106.47726	5.91053	0.1246129	0.26149659	2.4219139	20	6 15.6	20.0
463239 2012 ED ₁₇	17.4	X	340.20688	54.59801	146.17612	14.07645	0.2037375	0.23832319	2.5764705	20	1 31.9	20.4
463240 2012 FC ₁₇	17.1	X	303.10189	74.29390	180.59328	26.62894	0.4151024	0.22863027	2.6487861	20	1 22.8	21.8
463241 2012 FJ ₅	17.6	X	201.07427	358.38908	330.36790	4.16432	0.0163608	0.24095555	2.5576715	20	2 13.9	20.9
463242 2012 FK ₁₃	17.4	X	179.80871	128.78918	182.53516	4.13289	0.0438620	0.22366950	2.6878078	20	1 1.0	21.3
463243 2012 FV ₁₇	17.8	X	76.67180	282.92828	150.42120	3.86827	0.2079737	0.23943025	2.5685225	20	2 15.9	20.5
463244 2012 FX ₂₈	17.7	X	323.31065	197.55805	40.65212	3.24302	0.1411606	0.24415779	2.5352590	20	3 7.6	20.6
463245 2012 FE ₃₆	18.0	X	16.66656	119.54569	49.47993	8.17898	0.1204461	0.24459719	2.5322218	20	3 7.8	20.7
463246 2012 FO ₃₆	16.7	X	264.52031	247.44095	7.12918	9.32844	0.2306664	0.22375605	2.6871146	20	1 12.8	21.2
463247 2012 FH ₃₉	17.0	X	311.39145	212.19838	345.41214	15.00344	0.0727339	0.23245242	2.6196705	20	1 12.1	20.7
463248 2012 FK ₄₃	16.9	X	289.52610	56.82359	195.37072	12.67659	0.2306002	0.22949715	2.6421118	20	1 27.1	21.1
463249 2012 FM ₄₇	17.4	X	262.77990	75.70930	168.17842	14.83253	0.1204362	0.22591219	2.6699898	20	1 4.4	21.7
463250 2012 FH ₅₀	17.2	X	293.25381	102.20167	159.69537	11.59602	0.1616684	0.23899415	2.5716461	20	2 22.5	20.6
463251 2012 FQ ₅₈	17.5	X	294.45263	87.84303	162.35405	12.83083	0.1395223	0.23724972	2.5842364	20	2 11.5	21.0
463252 2012 FJ ₅₉	17.9	X	25.55227	139.16149	8.76789	9.27860	0.1449742	0.24267823	2.5455532	20	2 22.1	20.4
463253 2012 FR ₆₆	17.8	X	24.47481	7.91805	115.70075	5.73855	0.0922142	0.23204852	2.6227094	20	1 16.0	20.7
463254 2012 FB ₆₉	17.1	X	340.74405	68.89742	143.26658	4.20124	0.1235418	0.23514623	2.5996250	20	3 2.4	19.8
463255 2012 FT ₇₅	17.1	X	311.75292	174.46105	39.39028	13.46464	0.1268838	0.23173527	2.6250725	20	1 25.8	20.8
463256 2012 FU ₈₀	16.9	X	330.51333	50.07556	166.14205	32.62965	0.2548422	0.23483396	2.6019291	20	1 29.4	20.6
463257 2012 GG ₁	18.5	X	248.88442	37.18766	321.82284	9.98654	0.3313294	0.49534579	1.5819657	20	4 7.9	20.9
463258 2012 GJ ₁	16.5	X	264.57753	163.94182	109.75490	10.20008	0.1519695	0.22741022	2.6582514	20	2 10.5	20.6
463259 2012 GL ₁	16.9	X	311.43573	175.62128	68.05104	13.36399	0.2207621	0.23391775	2.6087188	20	2 20.3	20.6
463260 2012 GB ₂	17.0	X	40.27892	311.00991	180.00993	13.83853	0.1274225	0.23592520	2.5938996	20	2 20.1	20.0
463261 2012 GT ₃	16.8	X	223.82342	270.64835	31.44625	9.25500	0.1553303	0.22361116	2.6882753	20	2 8.7	21.3
463262 2012 GE ₇	17.3	X	294.94778	142.36376	116.49184	5.42424	0.2121420	0.23309858	2.6148270	20	2 16.0	21.0
463263 2012 GO ₇	16.7	X	154.22143	21.72230	23.06392	13.43142	0.1912935	0.23934002	2.5691680	20	4 8.0	20.8
463264 2012 GQ ₇	17.3	X	303.42572	40.45106	223.04258	11.51186	0.1463586	0.23696967	2.5862720	20	3 7.0	20.9
463265 2012 GX ₉	18.3	X	34.85113	221.30635	350.01377	1.42585	0.1384810	0.25744089	2.4472840	20	6 10.7	20.6
463266 2012 GP ₁₃	16.2	X	256.63219	209.13415	91.40143	14.88141	0.2382638	0.22653857	2.6650659	20	3 3.3	20.8
463267 2012 GS ₁₃	16.4	X	275.19637	47.15289	158.44489	14.01645	0.0622211	0.20883429	2.8136377	20	—	—
463268 2012 GT ₁₃	16.1	X	141.67752	252.77326	106.28306	14.83756	0.0297313	0.21387378	2.7692640	20	1 15.8	19.9
463269 2012 GT ₂₃	17.4	X	73.55052	126.32677	59.63363	8.23820	0.0731086	0.26535606	2.3983729	20	6 26.1	20.4
463270 2012 GQ ₂₅	17.3	X	255.61127	106.18181	175.92657	7.21453	0.2818084	0.22365376	2.6879339	20	1 30.9	22.1
463271 2012 GU ₂₅	17.7	X	350.42725	357.87391	202.55467	5.30413	0.1247101	0.23838097	2.5760542	20	2 28.2	20.6
463272 2012 GT ₃₄	16.0	X	122.25577	67.18008	16.08641	15.31405	0.0853010	0.24419906	2.5349733	20	4 10.9	19.6
463273 2012 GQ ₃₇	16.9	X	269.93484	219.91724	55.52554	14.44485	0.2379721	0.22702635	2.6612471	20	2 13.9	21.4

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463281 2012 <i>HN</i> ₁₄	16.6	X	290.99446	138.75662	152.50999	12.42444	0.1793573	0.24138670	2.5546250	20	3 29.6	20.1
463282 2012 <i>HR</i> ₁₅	17.1	X	52.07427	332.83101	80.46548	28.21442	0.7401959	0.25357977	2.4720637	20	4 7.9	20.3
463283 2012 <i>HS</i> ₁₆	16.9	X	223.55634	143.77061	162.71181	13.82047	0.1838456	0.21806924	2.7336302	20	2 8.3	21.6
463284 2012 <i>HY</i> ₁₉	16.8	X	273.53193	21.56317	226.82723	14.76746	0.1414678	0.22085000	2.7106355	20	1 16.4	21.2
463285 2012 <i>HY</i> ₂₁	16.5	X	304.18984	152.55711	74.87572	14.83896	0.0452372	0.23031159	2.6358793	20	2 16.2	20.3
463286 2012 <i>HH</i> ₂₇	16.8	X	300.10111	142.41958	101.64815	13.17753	0.1391476	0.22981276	2.6396922	20	2 16.1	20.5
463287 2012 <i>HS</i> ₂₇	17.1	X	301.51475	237.06953	39.93350	9.81584	0.1860446	0.23841474	2.5758109	20	3 24.6	20.4
463288 2012 <i>HP</i> ₂₈	17.3	X	0.07009	19.86491	136.39907	14.59712	0.1886010	0.22536136	2.6743388	20	1 11.5	20.3
463289 2012 <i>HN</i> ₃₁	17.1	X	271.88500	120.97584	118.90696	8.96605	0.2272566	0.21658765	2.7460826	20	1 1.2	21.7
463290 2012 <i>HE</i> ₃₂	17.4	X	243.50020	88.54539	210.93981	2.74010	0.1999620	0.22256621	2.6966830	20	2 15.9	21.9
463291 2012 <i>HG</i> ₃₂	16.0	X	37.45737	325.03453	52.33610	11.55388	0.1129209	0.18321207	3.0701999	20	—	—
463292 2012 <i>HR</i> ₃₃	17.5	X	299.68429	46.47768	170.01513	11.90132	0.1238480	0.22369221	2.6876258	20	1 10.7	21.5
463293 2012 <i>HO</i> ₄₀	16.1	X	326.57721	283.71331	255.68194	26.43391	0.3908399	0.22934181	2.6433047	20	—	—
463294 2012 <i>HS</i> ₄₇	15.9	X	107.36412	252.30729	53.18071	12.64879	0.0043978	0.19416639	2.9536113	20	12 24.6	20.2
463295 2012 <i>HL</i> ₄₈	17.2	X	332.27571	55.90674	139.26856	9.18221	0.1506938	0.22732732	2.6588977	20	1 22.5	20.3
463296 2012 <i>HM</i> ₅₉	17.0	X	42.55810	90.61126	83.89384	10.86846	0.0555124	0.24154251	2.5535263	20	4 25.9	20.2
463297 2012 <i>HV</i> ₆₆	16.9	X	278.09585	229.77917	39.93350	14.56631	0.1854043	0.23058497	2.6337955	20	2 23.8	21.0
463298 2012 <i>HX</i> ₇₀	17.3	X	299.94392	265.17825	11.02136	3.34046	0.2233238	0.23790332	2.5795011	20	3 12.5	20.5
463299 2012 <i>HQ</i> ₇₄	16.9	X	23.71579	305.28572	191.53283	12.83697	0.2082227	0.23116894	2.6293581	20	1 27.2	19.5
463300 2012 <i>HE</i> ₇₉	16.9	X	256.35085	44.50838	235.12554	8.74827	0.2280214	0.22090729	2.7101668	20	1 30.8	21.6
463301 2012 <i>HU</i> ₇₉	17.5	X	320.65794	98.72744	112.56146	4.04905	0.2114844	0.22536769	2.6742886	20	1 18.6	20.9
463302 2012 <i>HS</i> ₈₀	17.5	X	274.53333	82.44946	197.39107	1.01316	0.1359866	0.22902214	2.6457638	20	2 28.2	21.4
463303 2012 <i>HY</i> ₈₂	15.9	X	249.60612	187.08177	107.95440	18.73399	0.0954632	0.22702561	2.6612529	20	3 1.0	20.1
463304 2012 <i>JA</i> ₇	17.4	X	357.09069	155.03661	57.36072	4.69219	0.1423396	0.23935622	2.5690521	20	3 31.2	20.0
463305 2012 <i>JE</i> ₉	16.2	X	93.99401	296.76391	92.96033	10.62160	0.1145510	0.19009698	2.9956144	20	—	—
463306 2012 <i>JF</i> ₁₁	16.8	X	220.67418	83.24087	207.92788	9.52760	0.1596587	0.21073709	2.7966754	20	1 19.5	21.6
463307 2012 <i>JD</i> ₂₀	16.8	X	331.15527	35.26647	207.26416	12.46456	0.2056198	0.23732229	2.5837096	20	3 12.3	19.7
463308 2012 <i>JK</i> ₂₀	17.2	X	330.32128	12.71792	206.63113	13.48953	0.1873388	0.23222775	2.6213598	20	2 10.1	20.7
463309 2012 <i>JO</i> ₂₂	16.2	X	239.21003	135.14645	147.99713	13.88516	0.2301438	0.21349699	2.7725212	20	1 24.0	21.0
463310 2012 <i>JU</i> ₂₄	16.9	X	319.98100	148.04938	85.46966	6.14060	0.1663889	0.23322285	2.6138981	20	2 24.0	20.1
463311 2012 <i>JO</i> ₂₆	16.5	X	293.36390	110.51620	117.54095	13.94399	0.1519497	0.22025152	2.7155436	20	1 15.6	20.3
463312 2012 <i>JT</i> ₂₆	17.2	X	318.91434	117.95631	181.07249	8.75604	0.2173792	0.24453928	2.5326215	20	5 14.8	19.8
463313 2012 <i>JZ</i> ₂₇	15.7	X	60.13138	335.44471	53.46529	20.61247	0.2027496	0.19068764	2.9894252	20	—	—
463314 2012 <i>JD</i> ₃₀	17.2	X	2.69175	70.14521	56.26749	9.58824	0.1185675	0.21408769	2.7674190	20	—	—
463315 2012 <i>JG</i> ₃₄	17.5	X	349.71975	287.50599	249.46545	5.33752	0.1760446	0.22771274	2.6558966	20	1 21.4	20.6
463316 2012 <i>JB</i> ₅₁	17.6	X	28.52418	51.57745	117.52325	6.52739	0.1638655	0.24183708	2.5514523	20	3 31.7	20.1
463317 2012 <i>JK</i> ₅₁	17.2	X	231.99587	114.55242	190.33236	9.83218	0.0720645	0.22751975	2.6573983	20	2 17.2	21.2
463318 2012 <i>JK</i> ₅₂	17.8	X	352.34716	59.41564	106.67086	2.90201	0.1514780	0.22787344	2.6546478	20	1 15.8	20.6
463319 2012 <i>JA</i> ₅₅	17.3	X	346.61432	100.96792	44.20385	14.19173	0.1414467	0.21621080	2.7492725	20	—	—
463320 2012 <i>JF</i> ₆₀	16.8	X	216.23818	198.83014	123.49016	6.31476	0.0653409	0.22210575	2.7004088	20	2 26.3	20.7
463321 2012 <i>KZ</i> ₉	17.2	X	352.49872	292.41584	217.13921	14.21857	0.1491338	0.22145965	2.7056585	20	—	—
463322 2012 <i>KD</i> ₂₁	17.8	X	329.23087	32.33019	187.42425	7.49539	0.0760721	0.23427248	2.6060847	20	2 28.1	21.1
463323 2012 <i>KP</i> ₂₅	17.4	X	323.57985	152.42318	82.57734	6.07266	0.0847271	0.23668198	2.5883674	20	3 14.9	20.6
463324 2012 <i>KJ</i> ₂₈	17.3	X	218.75779	172.64454	108.89366	6.17208	0.1204946	0.21374292	2.7703941	20	1 9.1	21.7
463325 2012 <i>KR</i> ₃₁	17.5	X	329.09893	41.81736	177.74442	2.90660	0.0333839	0.23305350	2.6151642	20	3 5.6	20.8
463326 2012 <i>KS</i> ₃₄	17.0	X	318.11604	192.98821	95.08680	5.52770	0.1632302	0.24284816	2.5443656	20	5 6.0	19.8
463327 2012 <i>KP</i> ₄₂	16.7	X	50.69439	11.78461	128.07246	14.66883	0.2292584	0.23840252	2.5758990	20	4 15.6	19.6
463328 2012 <i>KB</i> ₄₃	17.3	X	18.34809	68.89775	72.41028	12.18136	0.1472050	0.22352509	2.6889653	20	2 2.4	20.3
463329 2012 <i>KT</i> ₄₅	16.5	X	198.25712	139.48937	189.81523	13.66411	0.1231189	0.21237863	2.7822458	20	2 12.6	21.1
463330 2012 <i>KE</i> ₄₆	16.1	X	290.39018	215.24243	97.38798	12.76852	0.2204587	0.23720264	2.5845783	20	4 23.7	19.8
463331 2012 <i>KA</i> ₄₈	15.6	X	192.64903	44.13685	218.06620	21.93373	0.1476555	0.19271091	2.9684644	20	—	—
463332 2012 <i>KC</i> ₄₉	17.6	X	324.57908	154.65699	91.16783	5.11936	0.1169956	0.23367852	2.6104989	20	3 26.4	20.7
463333 2012 <i>KM</i> ₅₀	16.7	X	291.90040	182.26569	81.35956	14.46870	0.1274619	0.22774771	2.6556266	20	3 8.2	20.6
463334 2012 <i>LO</i> ₈	17.0	X	294.57475	37.96032	233.14766	14.05443	0.2296588	0.22918971	2.6444740	20	2 21.8	21.1
463335 2012 <i>LO</i> ₁₇	17.0	X	303.50407	81.37111	123.51555	9.11700	0.1345798	0.21617017	2.7496170	20	1 1.9	21.0
463336 2012 <i>MF</i> ₃	16.2	X	192.24003	133.03120	125.84601	15.75169	0.2433411	0.18400275	3.0613983	20	—	—
463337 2012 <i>MH</i> ₅	16.2	X	53.92017	177.78793	166.29346	15.19016	0.0332119	0.17280359	3.1922793	20	12 8.3	21.0
463338 2012 <i>NC</i> ₁	15.7	X	113.26839	217.46869	110.75798	25.09523	0.1998263	0.17190764	3.2033614	20	—	—
463339 2012 <i>OM</i> ₂	15.9	X	178.34084	155.35999	145.40208	18.35699	0.2182117	0.18337662	3.0683631	20	1 3.1	21.3
463340 2012 <i>PR</i> ₈	17.0	X	256.87920	104.44598	203.71964	10.57435	0.1969635	0.21322568	2.7748726	20	3 8.7	21.6
463341 2012 <i>PX</i> ₁₃	15.8	X	213.76872	275.02401	332.65915	13.77581	0.2085825	0.17523296	3.1627062	20	—	—
463342 2012 <i>PS</i> ₂₁	16.1	X	169.05889	122.88154	179.15268	9.84176	0.0780066	0.17943538	3.1131305	20	—	—
463343 2012 <i>PA</i> ₃₅	15.9	X	160.10605	316.45906	340.12022	14.49151	0.1992450	0.17422907	3.1748434	20	—	—
463344 2012 <i>PR</i> ₃₉	15.9	X	201.00680	312.94902	311.10300	8.89495	0.0327372	0.17563926	3.1578268	20	—	—
463345 2012 <i>PM</i> ₄₂	16.7	X	151.67998	136.58846	173.81775	0.92233	0.1374744	0.17497367	3.1658299	20	—	—
463346 2012 <i>QT</i> ₁₀	17.0	X	192.21373	196.35199	78.59127	1.68310	0.1564409	0.18122626	3.0925873	20	—	—
463347 2012 <i>QT</i> ₁₈	15.9	X	156.25091	120.41732	176.63113	22.16073	0.3327267	0.17324910	3.1868042	20	—	—
463348 2012 <i>QL</i> ₂₁	15.7	X	148.27385	144.90808	159.37713	14.97628	0.2521176	0.17258561	3.1949667	20	—	—
463349 2012 <i>QM</i> ₃₆	16.1	X	146.03023	135.33564	176.83596	22.16939	0.2864232	0.17155242	3.2077818	20	—	—
463350 2012 <i>QK</i> ₄₃	16.0	X	113.61581	96.78100	275.18834	9.45660	0.1260803	0.17910436	3.1169651	20	1 15.6	20.4
463351 2012 <i>QY</i> ₄₇	16.1	X	177.48508	275.22192	350.47371	5.85303	0.1401922	0.17057316	3.2200473	20	—	—
463352 2012 <i>RF</i> ₈	18.5	X	326.96521	49.09823								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463361 2012 <i>TT</i> ₁₄	18.7	X	153.15888	78.53091	185.22685	20.77324	0.0730216	0.40256460	1.8165429	20	—	—
463362 2012 <i>TB</i> ₃₀	16.1	X	175.88235	125.44229	193.49734	8.16015	0.1745469	0.17744855	3.1363251	20	1 18.4	21.4
463363 2012 <i>TR</i> ₄₄	16.6	X	245.98428	29.91167	214.97834	17.44416	0.2108548	0.17835252	3.1257187	20	—	—
463364 2012 <i>TR</i> ₁₀₅	16.1	X	214.70248	265.88015	15.64979	24.68067	0.2777384	0.18214441	3.0821858	20	1 12.3	22.1
463365 2012 <i>TU</i> ₁₃₂	15.9	X	215.57416	72.97048	189.43548	27.49312	0.1907479	0.17520567	3.1630346	20	—	—
463366 2012 <i>TX</i> ₁₅₉	16.4	X	235.85166	93.54458	183.80151	13.83963	0.2439519	0.18768583	3.0212156	20	1 15.8	21.9
463367 2012 <i>UQ</i> ₁₁₅	16.0	X	210.77706	63.06953	222.46152	10.52056	0.1393553	0.17439269	3.1728572	20	1 9.5	21.3
463368 2012 <i>VU</i> ₈₅	7.3	X	321.52920	265.62942	252.59355	15.09796	0.3080395	0.00628500	29.0803358	20	12 22.9	21.0
463369 2012 <i>WV</i> ₃₅	17.7	X	278.02619	97.07795	57.87055	22.51612	0.1004980	0.38263150	1.8790957	20	—	—
463370 2012 <i>XW</i> ₄₅	15.9	X	247.75130	234.47732	69.37183	10.07832	0.0080074	0.18057417	3.1000281	20	3 23.3	20.4
463371 2013 <i>XT</i> ₅₄	17.8	X	243.08118	277.86785	216.75329	21.87372	0.0609661	0.37297151	1.9114031	20	12 17.8	19.9
463372 2013 <i>AT</i>	17.8	X	13.94389	53.00753	312.08503	17.79015	0.1069277	0.37374056	1.9087801	20	—	—
463373 2013 <i>AH</i> ₇₈	18.3	X	322.82604	28.48025	86.54264	23.29758	0.0378588	0.38993491	1.8555584	20	—	—
463374 2013 <i>AC</i> ₉₄	17.6	X	262.27764	21.56970	83.44256	23.93624	0.0683158	0.36496682	1.9392500	20	12 5.5	19.2
463375 2013 <i>AX</i> ₉₆	17.9	X	67.08462	33.58444	284.87939	17.52835	0.0696969	0.36985820	1.9221143	20	—	—
463376 2013 <i>AT</i> ₁₀₅	17.7	X	267.22944	323.45195	138.38254	24.32463	0.0696763	0.36031756	1.9558960	20	12 11.7	20.0
463377 2013 <i>BH</i> ₁₆	17.7	X	103.33382	210.52389	134.87842	24.02168	0.0955609	0.39059407	1.8534702	20	—	—
463378 2013 <i>BK</i> ₂₅	16.4	X	357.07259	129.51308	121.53644	11.39634	0.0035942	0.17914205	3.1165280	20	5 31.3	20.9
463379 2013 <i>BJ</i> ₄₅	17.8	X	115.53361	166.60419	117.51054	24.88249	0.0859918	0.37007716	1.9213561	20	—	—
463380 2013 <i>BY</i> ₄₅	19.1	X	156.62452	330.75367	132.06435	28.68119	0.4061975	0.32039151	2.1151867	20	6 30.5	23.5
463381 2013 <i>BM</i> ₆₂	16.9	X	284.29626	350.14876	133.20263	13.59746	0.0016105	0.23337198	2.6127844	20	12 28.9	20.5
463382 2013 <i>BE</i> ₆₄	17.9	X	343.44796	185.94177	316.87564	2.06323	0.1632125	0.26330227	2.4108285	20	—	—
463383 2013 <i>CK</i> ₂₃	17.8	X	150.39463	77.38213	140.31662	23.76111	0.0755768	0.35272383	1.9838684	20	12 6.4	20.9
463384 2013 <i>CM</i> ₃₃	17.6	X	199.96939	52.46748	149.15657	23.50567	0.0853410	0.36479860	1.9398461	20	—	—
463385 2013 <i>CT</i> ₃₅	17.8	X	150.75138	271.97810	137.82426	20.68989	0.0230150	0.36980073	1.9223134	20	—	—
463386 2013 <i>CC</i> ₅₅	18.1	X	335.10097	45.43100	351.53218	19.84929	0.0964016	0.35931312	1.9595394	20	—	—
463387 2013 <i>CT</i> ₈₂	18.2	X	226.14163	90.40710	271.48031	1.79826	0.6247690	0.32758785	2.0840951	20	3 29.3	23.0
463388 2013 <i>CL</i> ₁₈₁	18.2	X	273.88399	330.60190	161.24390	23.60273	0.0667006	0.36671083	1.9330966	20	—	—
463389 2013 <i>ED</i> ₅	18.4	X	159.22360	107.73840	167.56419	23.06671	0.0766731	0.37424715	1.9070572	20	—	—
463390 2013 <i>EX</i> ₂₃	18.2	X	22.13020	248.05955	167.56231	23.47721	0.1615170	0.37755734	1.8958942	20	—	—
463391 2013 <i>EA</i> ₁₁₅	18.1	X	347.32854	106.53057	148.12298	7.06425	0.1513990	0.28876472	2.2669397	20	5 12.5	20.0
463392 2013 <i>FF</i> ₂₅	17.6	X	358.24426	290.46124	355.67252	4.98286	0.1558602	0.30320728	2.1943689	20	8 4.2	19.0
463393 2013 <i>GN</i> ₂₈	18.0	X	66.28683	196.66212	16.67525	5.38550	0.0374327	0.30691118	2.1766783	20	7 24.7	20.4
463394 2013 <i>GV</i> ₂₈	18.4	X	120.95994	264.57349	203.45336	5.99796	0.1019155	0.29302368	2.2449202	20	5 15.6	21.2
463395 2013 <i>GH</i> ₃₄	18.7	X	123.31520	122.85607	187.74076	21.16694	0.0737714	0.37412483	1.9074728	20	—	—
463396 2013 <i>GS</i> ₃₄	18.1	X	330.06197	78.64776	219.34855	3.96835	0.1677408	0.29452821	2.2372686	20	6 12.1	19.6
463397 2013 <i>GU</i> ₄₁	18.0	X	286.77055	296.30445	49.64465	2.76369	0.1896074	0.29835993	2.2180724	20	6 1.6	20.2
463398 2013 <i>GD</i> ₇₉	18.3	X	74.45995	195.02401	31.16385	1.06035	0.0578700	0.31254449	2.1504441	20	8 28.5	20.8
463399 2013 <i>GD</i> ₈₉	17.9	X	13.48889	59.95656	179.03693	7.33260	0.1149385	0.29562842	2.2317143	20	6 11.5	19.9
463400 2013 <i>GL</i> ₁₀₉	17.8	X	357.28260	194.66820	89.21952	8.22395	0.2518583	0.29287525	2.2456786	20	8 6.7	18.8
463401 2013 <i>GL</i> ₁₂₃	17.7	X	286.95462	251.55322	78.02823	7.46080	0.1446255	0.28783157	2.2718367	20	5 17.7	20.3
463402 2013 <i>GP</i> ₁₃₅	18.4	X	67.75240	105.42879	108.85667	4.08291	0.0675302	0.30351184	2.1929006	20	7 31.9	20.7
463403 2013 <i>HG</i> ₁₀	17.6	X	299.65975	90.82673	200.28279	21.33951	0.2209456	0.27701919	2.3305736	20	3 26.6	20.6
463404 2013 <i>HU</i> ₁₁	16.0	X	277.58413	319.35015	3.19537	24.39233	0.2286127	0.28011131	2.3133905	20	4 5.6	19.4
463405 2013 <i>HF</i> ₁₅	17.5	X	42.98420	255.63238	9.85429	6.39783	0.1898619	0.30951689	2.1644446	20	10 1.6	19.8
463406 2013 <i>HU</i> ₁₇	18.0	X	348.28321	147.33004	104.86716	5.52006	0.1866179	0.28476777	2.2881026	20	5 6.8	19.6
463407 2013 <i>HX</i> ₃₆	17.8	X	177.69192	17.80269	333.24131	7.15045	0.2228156	0.25600715	2.4564126	20	2 22.4	21.7
463408 2013 <i>HX</i> ₃₈	18.5	X	173.82639	178.75607	259.86738	5.25570	0.0803277	0.29712549	2.2242116	20	6 5.1	21.4
463409 2013 <i>HK</i> ₄₃	18.8	X	160.00424	102.58531	340.89969	5.77771	0.1397520	0.29618955	2.2288948	20	5 27.6	22.2
463410 2013 <i>HJ</i> ₄₄	18.2	X	103.55950	197.32722	346.78669	5.10640	0.0768971	0.30903480	2.1666950	20	8 9.7	20.7
463411 2013 <i>HF</i> ₆₀	17.8	X	338.17977	263.68510	352.69357	4.22643	0.1870158	0.28242143	2.3007581	20	4 15.7	19.7
463412 2013 <i>HU</i> ₆₇	18.0	X	325.11224	30.01229	269.89026	3.08362	0.1661982	0.29179507	2.2512173	20	6 3.8	19.7
463413 2013 <i>HJ</i> ₇₃	18.2	X	345.84043	238.57485	357.15375	3.89013	0.0993740	0.28030553	2.3123218	20	4 10.3	20.6
463414 2013 <i>HS</i> ₇₈	18.4	X	68.42713	227.18265	7.46385	2.88647	0.0371415	0.31247404	2.1507673	20	8 29.3	20.6
463415 2013 <i>HV</i> ₈₅	17.8	X	172.44442	44.11014	6.87101	5.90949	0.1269682	0.28799464	2.2709789	20	4 26.1	21.1
463416 2013 <i>HT</i> ₈₆	18.3	X	318.96735	277.83358	12.06749	4.81253	0.1155057	0.28939178	2.2636638	20	5 12.6	20.4
463417 2013 <i>HO</i> ₈₉	18.7	X	9.50414	32.77190	274.60388	1.42425	0.1313857	0.31454209	2.1413297	20	9 30.1	20.4
463418 2013 <i>HU</i> ₁₁₁	18.7	X	118.29358	46.93792	20.64830	3.75417	0.1894900	0.27527749	2.3403937	20	3 29.5	21.9
463419 2013 <i>HQ</i> ₁₁₈	18.7	X	346.05436	187.33647	147.37838	2.15560	0.0792023	0.31729668	2.1289185	20	9 25.4	20.5
463420 2013 <i>HD</i> ₁₂₈	18.2	X	101.04099	207.26227	3.02518	5.75478	0.0485273	0.31644232	2.1327486	20	9 11.1	20.5
463421 2013 <i>JH</i> ₆	18.4	X	74.95081	347.80166	206.11746	5.10011	0.1110527	0.29886480	2.2155737	20	7 17.1	21.1
463422 2013 <i>JG</i> ₁₃	17.2	X	9.02952	174.87207	91.66120	6.46037	0.1517154	0.29205711	2.2498705	20	7 22.8	18.8
463423 2013 <i>JL</i> ₂₅	17.3	X	153.76077	295.79007	88.08063	7.88764	0.1283211	0.26568399	2.3963990	20	3 9.0	20.9
463424 2013 <i>JF</i> ₄₁	16.9	X	151.77910	133.94904	209.10879	14.52870	0.1806438	0.23174724	2.6249821	20	1 17.5	21.3
463425 2013 <i>JH</i> ₄₆	17.7	X	356.76756	179.26301	127.38303	5.79054	0.2193083	0.29530298	2.2333537	20	9 14.4	19.0
463426 2013 <i>KB</i> ₁	18.6	X	67.13233	136.05205	97.32718	3.54758	0.2188232	0.30469083	2.1872401	20	9 22.3	21.4
463427 2013 <i>KB</i> ₁₄	18.4	X	7.94373	94.67232	127.84749	3.23035	0.1675671	0.27885206	2.3203499	20	5 4.7	20.0
463428 2013 <i>KY</i> ₁₆	18.0	X	20.52635	198.48702	71.20563	4.16941	0.1667889	0.29619882	2.2288482	20	8 26.9	19.9
463429 2013 <i>LV</i> ₁₂	16.8	X	230.20467	134.45123	96.40949	13.11319	0.1004516	0.22427244	2.6829883	20	—	—
463430 2013 <i>LL</i> ₁₆	17.6	X	3.02198	89.35680	141.20260	6.87480	0.0945350	0.27741182	2.3283740	20	5 9.3	20.0
463431 2013 <i>LJ</i> ₂₂	16.6	X	74.05338	282.72731	115.32324	13.08957	0.0586993	0.22874783	2.6478786	20	—	—
463432 2013 <i>LJ</i> ₂₃	17.6	X	34.18273	134.71431								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463441 2013 MR ₉	18.1	X	64.14199	177.41938	45.37345	4.23640	0.1713916	0.29120929	2.2542352	20	8 26.4	20.9
463442 2013 NW ₇	16.8	X	245.06308	126.36241	128.24726	12.37562	0.1460810	0.22872192	2.6480785	20	—	—
463443 2013 NS ₁₀	17.4	X	214.18915	347.95596	306.13474	10.82670	0.1707858	0.22974014	2.6402484	20	1 17.9	21.7
463444 2013 NE ₁₂	17.7	X	340.83098	108.70621	163.61872	2.40595	0.2035907	0.27145114	2.3623356	20	5 20.2	19.5
463445 2013 NN ₁₃	16.1	X	31.96142	236.36517	112.81860	6.59400	0.1245340	0.17196253	3.2026797	20	11 29.1	20.4
463446 2013 NQ ₁₉	16.5	X	19.14518	282.05305	122.66935	10.28765	0.0810772	0.18942273	3.0027187	20	—	—
463447 2013 NX ₁₉	16.7	X	307.26652	301.15463	283.46319	10.40405	0.1381017	0.23366319	2.6106131	20	1 26.0	20.2
463448 2013 NA ₂₀	16.5	X	56.66877	238.51442	162.59350	17.49019	0.1385381	0.19618036	2.9333623	20	—	—
463449 2013 NE ₂₀	18.4	X	27.87177	71.35056	197.60075	6.67587	0.2240986	0.28865890	2.2674936	20	9 13.7	20.6
463450 2013 OJ ₄	18.3	X	1.69196	244.95473	65.58070	1.56291	0.2129085	0.29132100	2.2536589	20	9 29.5	19.7
463451 2013 OB ₅	18.2	X	18.61776	165.40688	92.60368	3.13631	0.1169524	0.28134211	2.3066386	20	7 22.8	20.2
463452 2013 OU ₇	16.7	X	177.71697	199.92745	162.21599	15.04489	0.0975810	0.22680857	2.6629504	20	3 4.3	20.6
463453 2013 OQ ₉	17.3	X	281.67526	302.62514	0.84618	4.12727	0.1987617	0.25730778	2.4481279	20	3 27.0	20.7
463454 2013 PB ₁	17.3	X	41.30684	265.77812	284.69840	9.62223	0.1405446	0.25542748	2.4601276	20	5 20.4	20.0
463455 2013 PS ₃	16.6	X	345.31325	239.99671	222.21575	8.10627	0.0729253	0.19008642	2.9957253	20	—	—
463456 2013 PV ₃	17.7	X	16.98497	295.27107	315.22692	5.28231	0.1424066	0.26786710	2.3833608	20	7 9.4	19.9
463457 2013 PX ₁₀	16.8	X	183.70518	242.29290	61.33935	7.09131	0.1066827	0.21360335	2.7176008	20	1 1.8	21.2
463458 2013 PP ₁₅	16.5	X	278.85751	218.19703	273.63924	9.34354	0.1239615	0.17481733	3.1677172	20	12 3.3	20.6
463459 2013 PR ₁₅	16.5	X	65.12273	91.87413	276.10773	8.47169	0.0905398	0.18408964	3.0604349	20	—	—
463460 2013 PN ₁₆	17.2	X	279.24402	313.80809	280.01426	9.58897	0.1342267	0.22483542	2.6785077	20	1 8.5	21.2
463461 2013 PS ₁₉	17.2	X	244.21016	165.67545	124.74118	6.53111	0.2455670	0.23480697	2.6021284	20	2 3.6	21.5
463462 2013 PV ₂₀	15.4	X	57.49153	95.23189	257.03351	25.15344	0.1929897	0.17550609	3.1594240	20	—	—
463463 2013 PV ₂₄	16.3	X	153.99801	70.19991	280.38559	15.08568	0.1027852	0.21161707	2.7889170	20	1 24.8	20.5
463464 2013 PC ₂₅	16.9	X	34.80023	46.31246	210.35741	7.63109	0.1356197	0.27655008	2.3332084	20	8 18.0	19.6
463465 2013 PA ₂₉	16.9	X	152.04240	15.82979	316.43810	8.40984	0.1750982	0.20864822	2.8153102	20	1 11.8	21.4
463466 2013 PY ₂₉	17.2	X	288.10941	330.45367	212.54698	7.29952	0.0195621	0.20212597	2.8755526	20	—	—
463467 2013 PX ₃₀	17.4	X	297.29632	228.88040	61.84087	3.07456	0.2008762	0.25566839	2.4585820	20	3 30.9	20.6
463468 2013 PB ₃₁	16.7	X	260.10603	10.74906	296.34056	14.39567	0.0906153	0.23829177	2.5766970	20	3 14.0	20.7
463469 2013 PR ₃₂	17.3	X	237.98209	136.08208	175.35883	12.25339	0.1942899	0.23324172	2.6137571	20	2 24.5	21.6
463470 2013 PR ₃₅	17.2	X	178.10686	2.56049	334.26057	9.33742	0.2190447	0.21894114	2.7263680	20	2 10.0	21.9
463471 2013 PS ₃₅	17.4	X	220.64310	325.10779	353.41865	4.04080	0.0897117	0.22988319	2.6391531	20	2 23.9	21.2
463472 2013 PO ₄₀	17.2	X	100.80315	185.72305	189.54092	3.32010	0.1130031	0.19673965	2.9278003	20	—	—
463473 2013 PA ₄₃	16.2	X	243.64917	93.78082	174.21560	11.66541	0.0133826	0.21447624	2.7640756	20	1 22.3	20.2
463474 2013 PD ₅₀	17.2	X	223.58873	54.67579	299.53381	9.65824	0.1830977	0.24272331	2.5452380	20	3 30.9	21.6
463475 2013 PW ₅₂	15.5	X	99.87431	142.48798	187.25485	26.86461	0.1600191	0.17950295	3.1123492	20	—	—
463476 2013 PQ ₅₇	17.3	X	156.80523	185.57379	193.23279	7.22410	0.1446244	0.22921936	2.6442460	20	3 4.8	21.4
463477 2013 PQ ₅₇	17.0	X	313.82867	300.20896	285.86210	13.85573	0.0960847	0.23971795	2.5664670	20	2 8.1	20.5
463478 2013 PE ₆₅	17.2	X	171.66596	165.94265	158.67845	10.10506	0.2067478	0.21537508	2.7563800	20	1 19.5	21.9
463479 2013 PH ₆₆	16.6	X	85.84823	23.23244	335.52911	9.71212	0.0937405	0.18559603	3.0438524	20	—	—
463480 2013 PC ₇₄	17.3	X	357.19499	340.59046	293.91618	8.40468	0.3095562	0.27400501	2.3476340	20	7 16.5	17.7
463481 2013 QK ₅	16.9	X	219.41762	143.18329	152.09357	12.08909	0.0750505	0.22061541	2.7125567	20	1 25.1	21.0
463482 2013 QR ₁₂	15.7	X	50.80351	157.23960	203.95908	16.66172	0.2092972	0.17182461	3.2043933	20	—	—
463483 2013 QJ ₁₃	16.4	X	258.40622	236.78600	269.14213	8.37740	0.0837884	0.17304519	3.1893072	20	11 28.1	20.7
463484 2013 QG ₁₄	15.9	X	357.64293	98.89724	328.66059	8.36025	0.0818337	0.17401810	3.1774089	20	—	—
463485 2013 QW ₂₃	16.9	X	238.48212	317.85243	343.86322	6.01978	0.1351169	0.23322870	2.6138544	20	2 18.8	21.0
463486 2013 QN ₂₆	17.4	X	328.48936	309.08845	337.04183	0.81876	0.1719432	0.26593504	2.3948906	20	5 18.3	19.6
463487 2013 QE ₂₉	17.6	X	281.21967	308.40619	346.10732	0.64091	0.0534533	0.24385114	2.5373840	20	4 5.6	20.9
463488 2013 QG ₂₉	18.0	X	350.59098	80.57188	158.43426	2.88461	0.1461329	0.25441903	2.4666242	20	4 24.8	20.2
463489 2013 QF ₃₀	16.5	X	176.66556	201.96119	314.00095	9.30414	0.1918344	0.22068038	2.7120243	20	2 5.6	20.9
463490 2013 QG ₃₀	16.7	X	204.11553	335.51645	335.11502	12.74047	0.1107076	0.22407351	2.6845760	20	1 31.1	21.0
463491 2013 QH ₃₇	17.0	X	145.50505	169.52559	119.80518	3.33399	0.0509302	0.18834669	3.0141444	20	—	—
463492 2013 QD ₃₈	16.8	X	235.37861	357.05461	291.00905	13.76680	0.2386950	0.23112896	2.6296612	20	1 24.3	21.3
463493 2013 QV ₄₁	17.2	X	105.85446	185.13082	231.65617	2.80029	0.0329287	0.21988639	2.7185489	20	2 10.8	21.0
463494 2013 QM ₄₂	16.5	X	352.27950	288.20930	159.86935	1.78930	0.1740755	0.17989160	3.1078649	20	—	—
463495 2013 QX ₄₈	17.6	X	324.08474	22.33611	225.97176	1.63779	0.1085877	0.24530536	2.5273459	20	3 25.4	20.5
463496 2013 QN ₅₀	16.5	X	339.42785	108.80094	336.19413	17.96113	0.1361128	0.17332207	3.1859098	20	—	—
463497 2013 QW ₅₃	17.3	X	195.64439	143.97807	149.25775	14.07372	0.1823116	0.21381761	2.7697489	20	1 2.9	22.1
463498 2013 QO ₅₄	16.1	X	59.59603	48.34711	341.04458	15.93570	0.1405834	0.18759026	3.0222417	20	—	—
463499 2013 QA ₅₅	17.8	X	350.91089	222.37146	58.10363	2.94600	0.1866256	0.27287545	2.3541081	20	7 1.5	19.2
463500 2013 QH ₅₅	17.2	X	174.13312	215.54333	100.67873	4.78973	0.1854541	0.21156972	2.7893331	20	1 12.2	21.6
463501 2013 QA ₅₇	17.4	X	333.65530	164.72346	127.71453	6.95903	0.1175247	0.26504920	2.4002237	20	6 15.7	19.8
463502 2013 QG ₅₇	17.5	X	337.13690	146.61892	120.44706	6.09222	0.1261442	0.25760675	2.4462334	20	5 14.5	20.0
463503 2013 QA ₅₈	17.4	X	225.81275	292.26009	13.01543	4.86175	0.1356534	0.22725207	2.6594846	20	2 12.6	21.5
463504 2013 QL ₅₈	17.6	X	286.55486	232.82930	89.32327	2.55951	0.1799934	0.25749982	2.4469105	20	5 1.2	20.6
463505 2013 QC ₅₉	16.6	X	77.89568	8.13278	354.37268	10.50831	0.1272944	0.18542143	3.0457629	20	—	—
463506 2013 QT ₅₉	16.5	X	93.18084	186.55012	142.50195	10.73350	0.0936422	0.18166999	3.0875495	20	—	—
463507 2013 QU ₅₉	17.9	X	327.40198	212.91429	45.36408	1.66236	0.1674921	0.25468494	2.4649070	20	4 5.4	20.4
463508 2013 QN ₆₀	16.2	X	193.98481	101.41697	140.90028	10.23590	0.0361649	0.18580841	3.0415325	20	—	—
463509 2013 QE ₆₁	17.3	X	202.25227	171.47785	163.71944	6.61218	0.1677531	0.23107633	2.6300605	20	2 24.2	21.5
463510 2013 QS ₆₁	17.8	X	41.38639	93.22956	174.71039	2.29595	0.1751670	0.29041465	2.2583454	20	9 27.2	20.4
463511 2013 QZ ₆₂	16.9	X	266.39424	351.00755	336.33487	6.35499	0.0858011	0.25298865	2.4759129	20	4 22.5	20.2
463512 2013 QN ₆₄	17.3	X	302.94526	346.70091	319.48870	3.95788	0.1923918	0.26215768	2.4178406	20	4 27.2	20.2
463513 2013 QK ₆₆	17.0	X	117.18760	155.36224	171.64562	10.40999	0.1048759	0.19147006	2.9812757	20	—	—
463514 2013 QT ₆₇	17.1	X	225.16485	287.95090	337.57270							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463521 2013 QZ ₈₈	16.5	X	57.50498	237.15433	137.42529	11.27678	0.0420723	0.18473010	3.0533571	20	—	—
463522 2013 QU ₉₀	16.6	X	2.04580	267.05680	158.72841	10.08038	0.0757388	0.17827507	3.1266239	20	—	—
463523 2013 QD ₉₂	16.6	X	47.69808	66.19079	287.24059	7.78707	0.0710541	0.17457722	3.1706211	20	12 15.8	21.1
463524 2013 QK ₉₅	16.2	X	254.95571	36.89572	272.40811	14.46136	0.1884018	0.22945598	2.6424278	20	3 2.5	20.7
463525 2013 RM ₁	17.2	X	345.20567	242.07711	329.47947	2.64193	0.1301456	0.23542296	2.5975874	20	3 7.0	20.0
463526 2013 RP ₁	17.4	X	234.29672	110.50590	183.02055	5.44632	0.1081532	0.22318164	2.6917232	20	2 5.3	21.5
463527 2013 RH ₂	16.9	X	180.04990	19.40023	297.50766	0.77809	0.2579466	0.21312630	2.7757351	20	1 20.5	21.8
463528 2013 RX ₁₀	17.0	X	124.03509	46.39946	351.14859	5.79525	0.0335924	0.21643084	2.7474088	20	2 12.5	20.7
463529 2013 RC ₁₅	17.2	X	12.20634	218.59514	23.46669	8.43662	0.2155649	0.26927356	2.3750545	20	6 20.9	19.0
463530 2013 RP ₁₅	17.5	X	231.54396	333.08498	298.16662	10.06848	0.0688398	0.21572335	2.7534125	20	1 11.2	21.7
463531 2013 RT ₁₇	17.0	X	285.33746	306.34100	327.91422	16.07620	0.1406509	0.24157705	2.5532829	20	2 29.3	20.7
463532 2013 RW ₂₁	16.2	X	25.30812	61.19721	0.14659	10.67449	0.1033116	0.17480490	3.1678673	20	—	—
463533 2013 RS ₂₂	17.4	X	217.35767	154.01373	181.33128	8.83062	0.1915527	0.22989276	2.6390798	20	3 7.5	21.8
463534 2013 RC ₂₃	16.7	X	228.02454	125.43622	181.86106	14.64163	0.0378521	0.22367205	2.6877873	20	2 18.0	20.7
463535 2013 RJ ₂₄	16.5	X	168.13701	274.18244	7.70401	10.37808	0.1166089	0.18411674	3.0601346	20	—	—
463536 2013 RB ₂₈	17.6	X	249.23452	113.78605	180.00558	6.31507	0.1466351	0.22334723	2.6903927	20	2 17.7	21.9
463537 2013 RW ₂₉	17.4	X	292.45870	290.14127	26.13685	5.06218	0.2061843	0.25434026	2.4671334	20	4 25.7	20.5
463538 2013 RV ₃₂	16.8	X	196.32730	178.14437	151.67168	13.26192	0.2361821	0.22276781	2.6950558	20	2 14.2	21.5
463539 2013 RZ ₃₃	17.4	X	231.32735	118.53995	197.89906	4.30460	0.1691381	0.23059657	2.6337071	20	2 26.3	21.7
463540 2013 RM ₃₉	17.1	X	291.46506	241.26111	1.78144	7.48295	0.2075136	0.22711888	2.6605242	20	1 26.3	21.1
463541 2013 RW ₄₀	15.3	X	76.06213	357.56195	9.12732	15.78791	0.0832424	0.17938998	3.1136557	20	—	—
463542 2013 RH ₄₄	15.7	X	81.72420	73.78673	293.82217	10.52634	0.1318803	0.18156278	3.0887647	20	—	—
463543 2013 RJ ₄₄	15.6	X	99.97397	73.02232	262.28336	10.08109	0.0997520	0.17782772	3.1318653	20	—	—
463544 2013 RM ₄₄	16.2	X	124.41070	59.62073	296.02152	8.59865	0.1004868	0.19840322	2.9114113	20	1 3.4	20.2
463545 2013 RA ₄₅	16.5	X	151.28527	180.93414	206.84480	13.38767	0.0741070	0.22005821	2.7171336	20	3 2.9	20.6
463546 2013 RL ₄₈	17.3	X	120.18266	93.49286	281.34330	1.00579	0.0837059	0.20204533	2.8763176	20	1 18.4	21.3
463547 2013 RN ₄₈	16.9	X	74.28451	207.23665	196.98798	3.19673	0.0790602	0.19369379	2.9584138	20	—	—
463548 2013 RU ₄₈	17.0	X	313.34515	243.06567	330.03550	2.19499	0.0401952	0.21634698	2.7481188	20	2 7.2	20.7
463549 2013 RM ₄₉	17.4	X	334.45436	306.01452	334.52202	10.79319	0.2143415	0.26183689	2.4198149	20	5 11.1	19.7
463550 2013 RA ₅₀	16.6	X	268.79575	96.66003	193.52119	14.66034	0.0233818	0.23159360	2.6261428	20	3 18.9	20.2
463551 2013 RH ₅₀	17.3	X	351.42647	49.77344	233.46340	5.34429	0.0942424	0.26507662	2.4000581	20	7 5.6	19.7
463552 2013 RX ₅₀	17.4	X	258.96688	119.95286	184.30341	14.64006	0.1646043	0.23680677	2.5874580	20	3 8.1	21.4
463553 2013 RD ₅₁	16.9	X	236.13027	123.34383	185.94311	5.64635	0.0623090	0.22697655	2.6616364	20	2 29.3	20.8
463554 2013 RL ₅₃	16.6	X	93.84169	43.64137	343.07356	9.04790	0.0905576	0.19118940	2.9841926	20	1 4.5	20.7
463555 2013 RZ ₅₄	17.5	X	342.78397	20.46453	238.29240	5.94882	0.1337777	0.25877576	2.4388606	20	5 9.0	19.9
463556 2013 RF ₅₈	16.9	X	288.31096	326.19111	274.31949	2.92690	0.0224491	0.21919032	2.7243013	20	2 10.9	20.7
463557 2013 RG ₅₈	17.4	X	107.05510	222.03473	205.14447	5.38933	0.0090387	0.22007273	2.7170141	20	2 21.3	21.0
463558 2013 RZ ₅₈	16.3	X	167.88527	307.13439	325.99488	8.26936	0.0294271	0.18293293	3.0733224	20	—	—
463559 2013 RU ₅₉	15.4	X	56.83720	36.39516	346.12298	11.28637	0.1164782	0.17674306	3.1446656	20	—	—
463560 2013 RZ ₆₀	16.5	X	230.87176	338.99080	316.43474	14.13721	0.1517554	0.22067946	2.7120318	20	2 4.1	20.7
463561 2013 RY ₆₅	16.7	X	121.45406	343.92471	343.96541	9.30415	0.0659712	0.18753819	3.0228011	20	—	—
463562 2013 RE ₆₈	17.1	X	174.36653	126.75799	208.73668	8.72064	0.1035828	0.21225138	2.7833577	20	1 27.8	21.5
463563 2013 RJ ₇₁	16.9	X	176.19361	294.08174	22.26043	5.75273	0.1089903	0.20354300	2.8621910	20	1 11.9	21.4
463564 2013 RC ₇₅	17.7	X	334.84243	305.21647	332.46235	1.75554	0.1977408	0.26106802	2.4245637	20	5 14.3	19.6
463565 2013 RT ₇₅	16.5	X	72.09770	10.80017	349.86463	9.48151	0.0839864	0.17921582	3.1156727	20	—	—
463566 2013 RE ₇₆	16.3	X	6.62696	81.15144	352.20492	20.48856	0.0754637	0.17914706	3.1164698	20	—	—
463567 2013 RS ₇₈	16.9	X	124.63866	231.71467	155.10038	5.35779	0.0740647	0.21019507	2.8014811	20	2 4.3	20.8
463568 2013 RN ₇₉	17.2	X	129.08002	261.25424	183.02366	11.47531	0.1049569	0.23670230	2.5882192	20	4 14.9	20.6
463569 2013 RS ₇₉	17.3	X	331.98067	101.79725	198.86847	20.87577	0.1608534	0.26238997	2.4164134	20	6 18.9	20.1
463570 2013 RH ₈₀	16.4	X	104.64950	246.93222	74.01637	4.18951	0.1492271	0.17617119	3.1514671	20	—	—
463571 2013 RW ₈₂	16.2	X	136.52427	273.79199	359.30441	32.44967	0.1393481	0.16913959	3.2382163	20	12 14.5	22.0
463572 2013 RH ₈₈	16.8	X	163.08549	310.94217	346.32900	9.81570	0.1701755	0.19200321	2.9757541	20	—	—
463573 2013 RK ₉₀	15.9	X	268.54645	196.54900	347.30374	10.46680	0.0672594	0.18116980	3.0932298	20	—	—
463574 2013 RN ₉₂	16.3	X	7.06387	242.65761	204.33677	9.97846	0.0724489	0.17683227	3.1436078	20	—	—
463575 2013 RK ₉₄	16.0	X	116.94797	113.71240	196.58804	12.84550	0.0422545	0.17071821	3.2182232	20	—	—
463576 2013 SZ ₁₃	16.7	X	53.43752	135.08036	230.53331	1.32897	0.0923614	0.17277379	3.1926464	20	—	—
463577 2013 SH ₁₄	16.4	X	188.76429	82.49363	179.67161	11.45244	0.0749799	0.18940131	3.0029452	20	—	—
463578 2013 SL ₁₄	17.4	X	306.06378	322.72258	336.81480	1.82666	0.2096778	0.25667452	2.4521529	20	4 20.9	20.4
463579 2013 SZ ₁₅	16.5	X	19.54493	72.84851	13.51921	13.55141	0.1037273	0.18465788	3.0541532	20	—	—
463580 2013 ST ₁₇	16.9	X	148.71257	293.53351	68.48605	3.31284	0.0856568	0.20851036	2.8165510	20	2 4.6	21.0
463581 2013 SX ₁₈	16.6	X	123.66735	247.55928	186.85418	21.67814	0.0585140	0.22567603	2.6718522	20	3 31.4	20.3
463582 2013 SL ₂₁	15.9	X	39.59076	25.28238	1.73735	27.79118	0.1657934	0.17207757	3.2012520	20	—	—
463583 2013 SB ₂₂	17.4	X	265.34863	278.90754	2.60244	11.40162	0.1794575	0.23269623	2.6178403	20	2 19.6	21.5
463584 2013 SD ₂₃	17.0	X	200.32530	286.29753	18.17259	9.21234	0.1483427	0.21029831	2.8005642	20	1 22.3	21.7
463585 2013 SD ₃₀	17.1	X	233.66722	135.86589	190.99487	13.07692	0.2858004	0.23174541	2.6249959	20	3 5.3	21.8
463586 2013 SG ₃₀	16.0	X	83.00191	330.40516	36.15195	27.38307	0.0517756	0.17770969	3.1332518	20	—	—
463587 2013 SZ ₃₁	16.5	X	46.16477	233.18043	176.59163	11.03099	0.0427785	0.18573315	3.0423541	20	—	—
463588 2013 SG ₃₃	15.7	X	181.78178	168.04906	94.32548	9.96440	0.1157018	0.18336334	3.0685112	20	—	—
463589 2013 SR ₃₄	16.7	X	36.02676	245.56600	176.61148	9.56959	0.0634763	0.18529441	3.0471547	20	—	—
463590 2013 SS ₃₄	16.2	X	38.03773	246.18608	177.61884	14.56171	0.1113009	0.18482503	3.0523116	20	—	—
463591 2013 SE ₃₅	16.8	X	68.09636	87.07487	309.34590	0.35600	0.1065804	0.18771682	3.0208832	20	—	—
463592 2013 ST ₃₅	15.9	X	86.21447	160.82182	181.29419	15.84517	0.0876595	0.17724346	3.1387440	20	—	—
463593 2013 SY ₃₆	16.1	X	355.00338	270.15576	184.37940	11.24311	0.1523558	0.17743427	3.1364934	20	—	—
463594 2013 SP ₃₈	16.8	X	31.09163	329.47032	118.02984	2.95230	0.0232481	0.19189431	2.9768799	20	—	—
463595 2013 SB ₃												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463601 2013 <i>SP</i> ₅₀	15.9	X	77.60325	174.39963	177.49501	7.54743	0.1528531	0.17290786	3.1909958	20	—	—
463602 2013 <i>SZ</i> ₅₁	16.1	X	97.49139	217.54385	143.45267	4.76307	0.0745943	0.18087393	3.0966021	20	—	—
463603 2013 <i>SA</i> ₅₈	16.2	X	140.33350	246.44759	64.08190	13.09987	0.0517745	0.18668933	3.0319570	20	—	—
463604 2013 <i>SQ</i> ₆₀	16.1	X	50.61270	22.75579	3.39802	17.68017	0.2397732	0.17691634	3.1426120	20	—	—
463605 2013 <i>SN</i> ₆₁	16.6	X	13.93802	210.62375	201.32742	4.37516	0.1320626	0.17181820	3.2044729	20	—	—
463606 2013 <i>SS</i> ₆₁	16.7	X	31.00329	319.64304	184.12548	9.06246	0.0859121	0.21846854	2.7302984	20	2 23.3	19.9
463607 2013 <i>SS</i> ₆₇	16.2	X	127.48318	240.33865	200.43095	14.30461	0.0429568	0.23017118	2.6369512	20	4 10.7	19.9
463608 2013 <i>SO</i> ₇₂	17.7	X	276.46966	292.86472	0.62141	6.09823	0.1991437	0.24262155	2.5459496	20	3 10.6	21.5
463609 2013 <i>SG</i> ₇₃	17.0	X	221.98178	287.39134	336.94254	1.29337	0.0328239	0.20160511	2.8805032	20	—	—
463610 2013 <i>SL</i> ₇₆	16.3	X	95.10541	293.81938	37.91990	16.30677	0.2654667	0.17873459	3.1212626	20	—	—
463611 2013 <i>SR</i> ₇₆	16.2	X	212.41703	189.69157	119.38906	8.97924	0.2483761	0.21783604	2.7355809	20	2 3.5	21.0
463612 2013 <i>SZ</i> ₇₉	17.1	X	262.55323	299.18959	334.59035	1.21353	0.0556252	0.21834477	2.7313301	20	2 18.1	21.0
463613 2013 <i>SA</i> ₈₅	16.8	X	214.24846	136.01453	165.60089	8.75978	0.2211966	0.21647659	2.7470217	20	1 25.9	21.6
463614 2013 <i>SF</i> ₈₆	16.5	X	41.86625	31.89055	5.51672	4.76179	0.1198091	0.17451893	3.1713270	20	—	—
463615 2013 <i>TQ</i> ₈	17.6	X	326.36977	293.38251	352.14794	6.59046	0.2650400	0.26220698	2.4186445	20	4 24.0	19.8
463616 2013 <i>TS</i> ₈	17.2	X	260.33721	298.02750	356.93233	13.53759	0.1535785	0.23382614	2.6094001	20	3 3.2	21.1
463617 2013 <i>TD</i> ₉	16.7	X	256.15962	309.51347	19.87274	15.41561	0.1532497	0.23689918	2.5867850	20	4 8.6	20.6
463618 2013 <i>TD</i> ₁₃	16.2	X	36.65254	33.41036	27.14878	10.07604	0.1076468	0.17786476	3.1314305	20	—	—
463619 2013 <i>TJ</i> ₁₃	16.4	X	117.09270	180.85144	174.24522	7.17682	0.1136359	0.18897700	3.0074384	20	—	—
463620 2013 <i>TQ</i> ₁₃	16.1	X	83.69656	182.45766	177.82602	8.96049	0.1163144	0.17770892	3.1332609	20	—	—
463621 2013 <i>TZ</i> ₂₀	16.3	X	36.83521	208.90665	178.45614	4.93715	0.1468936	0.16878307	3.2427748	20	—	—
463622 2013 <i>TO</i> ₂₃	15.6	X	351.09589	78.06874	28.43043	19.02103	0.0668934	0.17455910	3.1708404	20	—	—
463623 2013 <i>TX</i> ₂₄	16.5	X	268.32903	275.63295	24.61404	15.23664	0.0774623	0.22557345	2.6726621	20	3 29.3	20.3
463624 2013 <i>TY</i> ₂₇	17.3	X	334.35853	49.00455	192.60819	5.32447	0.0707090	0.23403379	2.6078564	20	4 8.1	20.4
463625 2013 <i>TE</i> ₃₀	16.5	X	207.14498	285.59724	46.94039	9.44587	0.1713834	0.21433103	2.7653239	20	3 2.6	21.2
463626 2013 <i>TD</i> ₃₃	16.0	X	213.01978	106.98941	206.45089	20.16601	0.1268305	0.21060705	2.7978265	20	2 5.3	20.9
463627 2013 <i>TQ</i> ₃₃	17.8	X	31.93636	352.65511	258.00356	1.90179	0.1623999	0.27160920	2.3614191	20	8 10.2	20.0
463628 2013 <i>TN</i> ₃₆	17.6	X	349.27197	137.72694	180.22476	11.47743	0.2729897	0.27894545	2.3198319	20	9 12.9	18.6
463629 2013 <i>TP</i> ₃₆	16.7	X	207.04349	180.58116	144.42955	7.10476	0.0719018	0.21733452	2.7397877	20	2 18.9	20.8
463630 2013 <i>TD</i> ₅₁	15.8	X	291.29715	132.16491	26.70708	16.07628	0.0477956	0.17286914	3.1914722	20	—	—
463631 2013 <i>TK</i> ₅₂	16.2	X	103.96318	123.43118	235.41565	13.40302	0.0596441	0.18045369	3.1014077	20	—	—
463632 2013 <i>TW</i> ₆₇	16.6	X	347.11322	309.48654	253.39325	8.10547	0.1410554	0.23546442	2.5972825	20	2 21.9	19.6
463633 2013 <i>TZ</i> ₈₇	16.4	X	354.23185	281.37170	182.93496	9.70139	0.0810179	0.18002276	3.1063551	20	—	—
463634 2013 <i>TE</i> ₈₉	16.0	X	110.91491	124.42449	227.01215	8.13096	0.0827984	0.18130270	3.0917179	20	—	—
463635 2013 <i>TG</i> ₁₀₂	16.2	X	230.09675	207.90819	33.61571	9.37679	0.0662769	0.18509660	3.0493253	20	—	—
463636 2013 <i>TH</i> ₁₀₆	16.9	X	120.97937	54.86607	307.93165	0.94821	0.0847968	0.19172672	2.9786144	20	1 6.7	21.1
463637 2013 <i>TR</i> ₁₀₇	16.1	X	214.24455	32.08048	191.91197	6.72487	0.0258524	0.16944900	3.3427333	20	—	—
463638 2013 <i>TA</i> ₁₁₀	16.9	X	237.79596	40.35148	287.29978	10.80923	0.2748855	0.23500403	2.6067362	20	3 6.2	21.7
463639 2013 <i>TC</i> ₁₁₂	16.7	X	221.22296	311.53268	27.97804	14.45936	0.1322915	0.22563890	2.6721453	20	3 23.8	20.9
463640 2013 <i>TH</i> ₁₁₃	17.1	X	273.19401	102.93216	205.63857	14.70264	0.1631477	0.23604041	2.5930555	20	3 28.8	20.9
463641 2013 <i>TA</i> ₁₁₄	16.3	X	106.64831	343.61560	35.15116	11.37173	0.0828005	0.18349822	3.0670073	20	1 11.6	20.8
463642 2013 <i>TD</i> ₁₁₅	15.9	X	115.63423	118.49756	225.52966	17.68196	0.0590960	0.17382214	3.1797965	20	—	—
463643 2013 <i>TD</i> ₁₂₆	17.4	X	270.56346	61.66448	219.70749	6.15812	0.1228750	0.22649151	2.6654350	20	2 25.3	21.4
463644 2013 <i>TO</i> ₁₃₀	16.7	X	224.72894	248.81580	41.66892	10.13881	0.2059341	0.21727979	2.7402478	20	1 25.2	21.5
463645 2013 <i>TE</i> ₁₃₂	15.8	X	65.82753	253.83549	109.76363	10.37638	0.0840005	0.17384059	3.1795714	20	—	—
463646 2013 <i>TG</i> ₁₃₄	17.4	X	214.80015	120.37621	204.65234	1.56620	0.1524863	0.22011148	2.7166953	20	2 24.0	21.7
463647 2013 <i>TG</i> ₁₃₆	16.6	X	217.12228	80.47175	233.73437	13.54783	0.0935819	0.21807680	2.7335671	20	2 9.9	21.1
463648 2013 <i>TD</i> ₁₄₀	16.8	X	259.89153	80.64018	161.69369	2.14775	0.0214311	0.20207865	2.8760014	20	1 13.0	20.7
463649 2013 <i>TO</i> ₁₄₃	15.9	X	35.69451	219.21092	166.18365	7.08306	0.1332561	0.17220471	3.1996762	20	—	—
463650 2013 <i>TP</i> ₁₄₄	16.3	X	152.74235	124.08537	192.75346	17.05683	0.0520073	0.18608338	3.0385356	20	—	—
463651 2013 <i>TX</i> ₁₄₄	15.8	X	19.49934	48.35324	15.51819	25.02004	0.1407030	0.17230828	3.1983939	20	—	—
463652 2013 <i>TQ</i> ₁₄₅	16.3	X	201.96984	349.23354	12.22093	14.89557	0.0667341	0.22565847	2.6719908	20	3 29.4	20.2
463653 2013 <i>TP</i> ₁₄₆	17.9	X	347.71190	1.43200	280.81301	2.45575	0.2126752	0.27572185	2.3378784	20	6 25.3	19.2
463654 2013 <i>US</i> ₆	15.8	X	96.65617	145.27732	203.04084	4.86334	0.1412011	0.17791757	3.1308108	20	—	—
463655 2013 <i>UH</i> ₁₃	17.3	X	307.34996	35.18105	303.21395	12.38907	0.2851358	0.26534656	2.3984301	20	6 6.9	19.9
463656 2013 <i>VA</i> ₇	15.9	X	231.79370	33.21690	288.08126	12.79826	0.1183654	0.21817348	2.7327594	20	3 2.3	20.3
463657 2013 <i>WA</i> ₂₄	16.3	X	162.00653	176.76832	165.23573	10.78412	0.0990967	0.19173698	2.9785081	20	1 26.5	20.9
463658 2013 <i>WR</i> ₃₅	16.3	X	139.30465	276.59687	89.70062	9.87330	0.1157955	0.19662401	2.9289481	20	2 5.3	20.7
463659 2013 <i>WC</i> ₆₇	16.2	X	174.99972	350.76411	351.99143	11.34317	0.1180922	0.19689390	2.9262710	20	2 13.9	20.8
463660 2013 <i>WB</i> ₈₉	16.0	X	165.32770	57.97518	256.45649	6.48623	0.0947964	0.18173916	3.0867660	20	—	—
463661 2013 <i>WC</i> ₁₀₈	15.9	X	71.83779	113.95930	288.39338	8.63014	0.1148951	0.17712315	3.1401652	20	—	—
463662 2013 <i>YO</i> ₂₄	15.9	X	208.35183	205.56397	65.94535	9.35365	0.1178724	0.17793463	3.1306107	20	—	—
463663 2014 <i>HY</i> ₁₂₃	11.5	X	14.70380	232.31611	314.65015	13.91888	0.6281977	0.01207830	18.8133217	20	6 4.9	21.1
463664 2014 <i>JY</i> ₂₄	18.6	X	32.24935	38.08999	67.33820	19.97881	0.5932692	0.47271342	1.6320649	20	—	—
463665 2014 <i>LC</i> ₁₆	18.0	X	227.41674	159.00758	186.26018	2.01549	0.2401176	0.28580233	2.2825775	20	3 23.4	21.6
463666 2014 <i>LH</i> ₂₆	18.4	X	232.20536	29.22061	165.42159	24.04422	0.0757515	0.41169324	1.7895901	20	—	—
463667 2014 <i>LG</i> ₂₇	19.2	X	319.31957	234.15062	201.69719	18.26158	0.0451305	0.39323192	1.8451721	20	—	—
463668 2014 <i>MV</i> ₅₁	16.8	X	80.17043	89.45154	320.81071	28.08117	0.3255844	0.23593728	2.5938111	20	2 10.6	19.7
463669 2014 <i>NB</i> ₄₁	18.4	X	30.25179	223.20475	150.13161	21.06416	0.0935871	0.37776256	1.8952075	20	—	—
463670 2014 <i>NL</i> ₄₆	18.1	X	78.58303	201.20861	142.55687	21.48321	0.0645689	0.38666148	1.8660163	20	—	—
463671 2014 <i>OJ</i> ₂	18.4	X	280.82456	200.94948	147.52741	6.67234	0.2455936	0.30792312	2.1719068	20	5 20.5	21.2
463672 2014 <i>OR</i> ₃₂	18.4	X	153.65521	99.83450	347.82256	3.84456	0.0753918	0.30522219	2.1847009	20	5 22.8	21.2

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463681 2014 OJ ₁₈₇	17.3	X	21.84332	219.30072	308.18091	6.71403	0.0262744	0.26454938	2.4032460	20	3 4.6	20.2
463682 2014 OQ ₁₈₇	16.8	X	72.33598	81.43909	326.77152	7.50654	0.2137670	0.22303731	2.6928843	20	1 10.6	19.7
463683 2014 OQ ₁₈₈	17.5	X	131.65948	50.07561	327.59695	4.07943	0.2147430	0.24098040	2.5574956	20	2 14.8	21.2
463684 2014 OU ₁₈₈	17.6	X	182.21329	190.98393	179.32177	2.76048	0.1943171	0.26314942	2.4117619	20	3 18.9	21.6
463685 2014 OY ₁₉₀	17.3	X	92.62170	64.08090	344.24269	11.49371	0.2407654	0.22989662	2.6390502	20	2 15.7	20.6
463686 2014 OA ₁₉₂	17.0	X	58.18374	35.71066	6.53398	5.44178	0.1481442	0.21428849	2.7656899	20	—	—
463687 2014 OE ₁₉₈	18.0	X	152.65787	257.02796	143.45767	3.12063	0.1801842	0.25982459	2.4322929	20	3 30.7	21.8
463688 2014 OV ₂₃₀	17.1	X	174.07744	229.72952	150.38575	10.13032	0.2496873	0.26176787	2.4202403	20	3 28.7	21.3
463689 2014 OS ₂₄₄	16.7	X	301.39411	1.91069	90.97339	11.07953	0.0886089	0.21040246	2.7996399	20	12 2.5	20.1
463690 2014 OG ₂₉₅	17.6	X	147.68778	222.76675	155.14405	5.73869	0.1538322	0.25102006	2.4888407	20	2 23.8	21.2
463691 2014 OJ ₂₉₆	18.0	X	159.67017	38.38612	4.40216	6.35155	0.1222083	0.26478580	2.4018152	20	4 3.5	21.4
463692 2014 OQ ₂₉₆	17.9	X	196.84181	344.85541	34.37754	3.35653	0.1911288	0.27342629	2.3509454	20	4 11.6	21.5
463693 2014 ON ₂₉₈	17.5	X	144.39916	187.36867	162.57464	6.99061	0.2047018	0.23723092	2.5843729	20	1 22.8	21.5
463694 2014 OY ₃₆₀	17.9	X	188.62086	202.69240	147.68807	6.42438	0.2048663	0.26409134	2.4060239	20	2 29.8	21.9
463695 2014 OS ₃₈₃	18.7	X	97.05113	321.98768	326.19174	19.10394	0.0519708	0.37132056	1.9170645	20	—	—
463696 2014 PO ₅	17.8	X	77.90094	88.18907	322.80855	2.75426	0.2620992	0.23838585	2.5760190	20	1 27.7	20.4
463697 2014 PA ₁₅	18.0	X	299.26854	302.52459	143.84623	23.83318	0.0991596	0.36432949	1.9415109	20	—	—
463698 2014 PU ₂₃	17.8	X	165.46755	231.94800	147.03629	9.12702	0.2352767	0.26440615	2.4041138	20	3 19.3	21.8
463699 2014 PD ₃₀	17.1	X	69.60931	108.58112	332.13078	28.84576	0.3507151	0.23545014	2.5973875	20	3 3.6	19.9
463700 2014 PP ₃₀	18.4	X	153.89276	299.53597	93.24684	2.41428	0.1836069	0.26403507	2.4063658	20	3 22.3	22.0
463701 2014 PY ₃₇	17.5	X	145.96344	354.77621	52.24175	3.36458	0.2115717	0.26415373	2.4056450	20	4 3.8	21.2
463702 2014 PU ₄₁	17.9	X	193.00232	271.47428	131.81551	7.56318	0.0981097	0.28888298	2.2663209	20	5 12.2	21.2
463703 2014 PL ₆₅	16.9	X	83.21625	265.53563	141.97745	29.13000	0.3318091	0.23518094	2.5993692	20	2 13.0	19.7
463704 2014 QW ₂₂	17.1	X	149.06971	100.13072	292.04053	5.86372	0.0856549	0.26248183	2.4158496	20	3 3.8	20.4
463705 2014 QM ₁₀₁	18.4	X	140.55960	190.82619	284.66652	4.95674	0.0928247	0.30494738	2.1860132	20	6 18.0	21.3
463706 2014 QJ ₁₃₅	17.4	X	47.30155	80.67525	347.61661	12.00623	0.1731827	0.22454449	2.6808207	20	—	—
463707 2014 QQ ₁₅₁	16.5	X	77.59804	299.67064	108.63980	11.93124	0.1986874	0.22233098	2.6985848	20	1 16.6	19.4
463708 2014 QK ₁₆₇	17.3	X	92.93826	309.12014	75.75070	15.05164	0.2828715	0.22065875	2.7122014	20	1 24.8	20.9
463709 2014 QW ₁₆₇	17.0	X	102.97258	261.34035	130.36350	13.17226	0.1747279	0.22615579	2.6680722	20	1 27.2	20.4
463710 2014 QF ₁₆₈	16.1	X	40.72786	340.74214	102.62772	14.46962	0.0463056	0.21934749	2.7229997	20	—	—
463711 2014 QO ₁₇₁	17.2	X	94.51106	254.40076	172.60857	14.65985	0.1326483	0.24757996	2.5118424	20	2 19.4	20.5
463712 2014 QM ₁₇₆	17.0	X	110.36222	201.74749	160.53586	16.09141	0.1966745	0.22915108	2.6447712	20	1 2.0	20.8
463713 2014 QO ₁₇₆	18.3	X	195.41358	60.59327	351.37725	2.64359	0.1899542	0.28686217	2.2769519	20	5 20.9	22.1
463714 2014 QN ₁₇₉	18.1	X	200.66215	326.48541	90.26872	2.55633	0.1946980	0.29055802	2.2576025	20	6 1.9	21.5
463715 2014 QK ₂₀₅	15.5	X	290.04703	91.70506	331.19011	21.53854	0.0856855	0.17451343	3.1713936	20	9 20.3	20.0
463716 2014 QP ₂₁₁	18.5	X	137.36425	327.01088	139.11501	2.24028	0.0788060	0.29436205	2.2381104	20	5 30.7	21.5
463717 2014 QP ₂₁₃	17.7	X	26.78378	118.80496	339.73413	12.14344	0.2023721	0.23042363	2.6350248	20	—	—
463718 2014 QV ₂₂₅	17.9	X	98.52662	87.49358	329.90003	5.15725	0.2400119	0.24268289	2.5455206	20	3 1.6	21.3
463719 2014 QY ₂₃₃	17.5	X	91.60459	306.67850	106.96736	3.21520	0.1572283	0.24066639	2.5597198	20	2 4.7	20.5
463720 2014 QK ₂₃₅	18.1	X	111.14403	318.90643	145.07968	4.51797	0.1011969	0.27574779	2.3377318	20	4 28.7	21.1
463721 2014 QY ₂₆₀	16.8	X	3.88476	138.82293	7.64605	32.77792	0.2045034	0.24303814	2.5430394	20	1 3.1	20.3
463722 2014 QY ₂₆₄	17.7	X	183.58935	279.50879	95.42205	3.35982	0.2206119	0.26309861	2.4120725	20	3 28.2	21.8
463723 2014 QW ₂₈₄	17.4	X	129.25465	328.25241	102.53348	13.53882	0.1559143	0.26826356	2.3810120	20	4 18.2	21.1
463724 2014 QR ₂₉₂	16.3	X	104.89068	272.92683	121.30708	15.33153	0.1235544	0.23883169	2.5728122	20	1 23.3	19.4
463725 2014 QL ₂₉₇	17.3	X	224.63774	254.28856	110.80706	6.46254	0.2218872	0.28619801	2.2804732	20	4 19.0	21.1
463726 2014 QA ₃₀₇	17.8	X	261.45628	309.92570	0.45048	6.89212	0.1255164	0.28034102	2.3121266	20	3 20.6	21.0
463727 2014 QK ₃₁₆	17.6	X	124.67768	299.89067	131.31760	6.44694	0.2306505	0.27096669	2.3651505	20	4 17.7	21.2
463728 2014 QE ₃₂₀	18.5	X	169.63369	258.00544	138.12722	2.49997	0.2249115	0.27587599	2.3370075	20	4 10.9	22.4
463729 2014 QP ₃₂₂	18.4	X	235.90543	188.67827	169.22974	5.23288	0.1679866	0.28431054	2.2905551	20	4 22.1	21.7
463730 2014 QW ₃₂₉	15.9	X	311.14616	308.28937	124.20299	9.39235	0.0563297	0.17405980	3.1769014	20	11 15.4	20.3
463731 2014 QQ ₃₃₀	18.1	X	242.57142	289.81003	60.62665	6.59051	0.1897817	0.28322007	2.2964308	20	4 17.8	21.6
463732 2014 QE ₃₄₈	17.5	X	158.31525	345.43183	69.46695	5.53902	0.1321976	0.27670936	2.3323129	20	4 20.6	21.0
463733 2014 QH ₃₅₄	17.6	X	20.79996	184.22962	356.00762	9.59216	0.0680812	0.27065405	2.3669715	20	3 22.4	19.9
463734 2014 QJ ₃₅₄	17.6	X	140.26690	306.60032	167.94618	5.25783	0.0841614	0.29194210	2.2504614	20	6 15.7	20.6
463735 2014 QA ₃₅₅	18.5	X	163.40526	267.65838	167.21666	6.52843	0.0786250	0.28363618	2.2941843	20	5 20.0	21.7
463736 2014 QQ ₃₆₈	17.3	X	115.45521	344.89674	44.32693	15.73500	0.2626984	0.23168918	2.6254205	20	2 27.5	21.5
463737 2014 QU ₃₇₃	18.1	X	202.61534	270.54182	129.95236	7.04812	0.1106796	0.28564832	2.2833979	20	5 18.3	21.5
463738 2014 QL ₃₇₈	17.8	X	171.01266	256.36946	185.28565	6.82757	0.1039872	0.28889665	2.2662494	20	6 7.1	21.1
463739 2014 QP ₃₈₅	18.1	X	237.52699	65.80020	294.63057	1.53687	0.2146798	0.28714482	2.2754575	20	4 21.1	21.5
463740 2014 QA ₃₉₆	18.0	X	173.22739	61.96308	22.58732	2.32618	0.1394655	0.28959096	2.2626257	20	6 12.9	21.3
463741 2014 QP ₃₉₇	18.1	X	307.52600	97.12527	177.28848	7.46645	0.0639507	0.28216034	2.3021771	20	4 11.9	20.6
463742 2014 QU ₃₉₈	18.6	X	94.43939	314.86452	358.66347	19.33252	0.0719590	0.37226285	1.9138281	20	—	—
463743 2014 QY ₄₀₀	17.6	X	201.47793	39.82553	355.34291	6.93789	0.1129653	0.28881541	2.2666744	20	5 4.8	20.9
463744 2014 QK ₄₁₀	17.9	X	123.55859	228.05091	151.80991	2.69197	0.1956538	0.24541413	2.5265991	20	2 5.9	21.4
463745 2014 QT ₄₂₃	17.1	X	212.83931	185.04670	215.74842	5.93935	0.1864044	0.28884327	2.2665287	20	5 23.9	20.5
463746 2014 QD ₄₂₄	18.2	X	10.12121	44.75113	220.31960	4.62634	0.1092574	0.31139590	2.1557288	20	7 17.6	20.0
463747 2014 QF ₄₃₂	17.2	X	97.35438	12.52301	30.31202	6.71335	0.1663900	0.22512209	2.6762333	20	2 4.8	20.7
463748 2014 QO ₄₃₂	16.9	X	143.55103	217.25693	153.30394	5.72176	0.2334166	0.23814219	2.5777759	20	2 19.2	21.1
463749 2014 RV ₁₂	17.0	X	50.92308	224.71097	94.90996	25.02721	0.0635670	0.35079740	1.9911247	20	12 20.1	19.1
463750 2014 RB ₂₆	18.3	X	152.64292	151.26369	236.10078	3.56048	0.2008235	0.26284498	2.4136239	20	3 12.8	22.0
463751 2014 RL ₂₉	17.5	X	165.71386	31.41000	349.54587	12.70424	0.2378188	0.26233043	2.4167790	20	3 18.6	21.6
463752 2014 RJ ₃₂	18.2	X	158.65329	200.18397	188.99290	1.00461	0.1927566	0.26507694	2.4000562	20	3 21.4	22.1
463753 2014 RR ₃₅	18.2	X	173.40193	315.00566	66.7500							

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463761 2014 SA ₉₆	17.9	X	29.36124	91.22844	343.09033	4.02862	0.1992287	0.21153157	2.7896684	20	—	—
463762 2014 SL ₉₆	18.1	X	154.80568	219.98419	234.23594	1.79304	0.1052495	0.28531417	2.2851804	20	6 5.4	21.3
463763 2014 SG ₉₈	17.9	X	49.32554	306.69203	207.75919	2.14100	0.1208296	0.26637667	2.3922428	20	4 8.4	20.3
463764 2014 SZ ₁₀₈	18.4	X	114.87652	132.22803	350.74854	4.35088	0.1579642	0.27710319	2.3301025	20	6 3.5	21.7
463765 2014 SU ₁₁₁	18.0	X	25.22644	149.79796	320.74573	1.37760	0.1599845	0.22640121	2.6661437	20	—	—
463766 2014 SX ₁₃₉	17.9	X	59.72305	111.61382	5.29191	4.95961	0.1308948	0.24655129	2.5188242	20	3 7.7	20.5
463767 2014 SK ₁₅₄	16.6	X	39.53755	172.06456	224.10798	4.41562	0.0990483	0.20150524	2.8814548	20	—	—
463768 2014 SK ₁₅₈	17.0	X	57.77105	221.33708	181.88983	4.28733	0.0748224	0.21128365	2.7918502	20	—	—
463769 2014 SW ₁₆₃	17.2	X	209.81935	23.16132	17.91209	6.90806	0.1024907	0.28613017	2.2808337	20	5 23.7	20.4
463770 2014 SX ₁₇₉	17.3	X	37.86901	44.21945	48.51847	4.11306	0.1090609	0.22909411	2.6452097	20	—	—
463771 2014 ST ₁₈₀	16.8	X	24.65297	280.17926	165.01301	13.21518	0.0756552	0.22102033	2.7092426	20	—	—
463772 2014 SK ₁₈₃	17.0	X	24.29220	34.98854	93.93588	5.88860	0.1772083	0.23863438	2.5742302	20	1 19.6	19.3
463773 2014 SW ₁₈₈	17.9	X	137.80871	88.56379	21.39253	8.74080	0.0372547	0.28907916	2.2652955	20	5 30.2	20.9
463774 2014 SN ₁₉₁	17.9	X	153.73279	349.78439	115.78208	2.39754	0.1120268	0.28969638	2.2620768	20	6 20.3	20.9
463775 2014 SO ₂₀₅	18.2	X	143.53265	56.58728	42.90097	3.35812	0.0636437	0.28441222	2.2900092	20	5 26.9	21.2
463776 2014 SB ₂₀₇	16.3	X	141.20816	311.77849	62.25291	6.66003	0.2353963	0.23542426	2.5975779	20	2 25.0	20.5
463777 2014 SY ₂₀₈	16.3	X	316.88466	350.93741	136.73800	9.66888	0.0425520	0.19158964	2.9800350	20	—	—
463778 2014 SC ₂₁₃	16.5	X	86.00548	5.36018	80.18660	15.61606	0.1550077	0.22959964	2.6413255	20	3 20.1	20.2
463779 2014 SL ₂₁₈	16.6	X	41.27749	290.76271	193.61134	12.67567	0.1432423	0.22411491	2.6842454	20	2 14.7	19.7
463780 2014 SD ₂₂₁	16.4	X	64.71829	101.25456	310.48204	21.28460	0.0944781	0.22596866	2.6695450	20	—	—
463781 2014 SM ₂₂₂	17.2	X	168.06589	344.83073	332.09348	3.04132	0.1588302	0.23296143	2.6158532	20	1 3.4	21.2
463782 2014 SV ₂₂₇	18.2	X	233.10149	88.01725	278.04235	2.03569	0.0841839	0.28398944	2.2922813	20	5 5.3	21.2
463783 2014 SS ₂₂₈	18.0	X	141.38704	72.70352	343.07223	1.87963	0.1889520	0.25658928	2.4526959	20	4 7.4	21.8
463784 2014 SZ ₂₃₁	16.1	X	5.81333	194.46058	188.02453	24.68430	0.2148713	0.17854893	3.1234260	20	12 15.2	20.3
463785 2014 SP ₂₃₂	17.0	X	341.71196	300.66013	118.31613	1.78086	0.1669944	0.18001808	3.1064090	20	12 15.4	20.5
463786 2014 SP ₂₃₅	17.4	X	44.64561	280.39489	192.23616	4.50522	0.3286275	0.23065878	2.6332336	20	2 26.6	19.0
463787 2014 SP ₂₅₃	16.7	X	93.39410	47.29213	324.43759	6.19820	0.0581808	0.22029555	2.7151817	20	—	—
463788 2014 SW ₂₅₄	18.0	X	170.13943	73.94003	311.73878	4.58214	0.1528793	0.26205216	2.4184896	20	3 23.6	21.7
463789 2014 SG ₂₅₈	16.6	X	348.23295	317.55691	173.59691	8.99310	0.0883719	0.21685615	2.7438154	20	—	—
463790 2014 SP ₂₆₆	15.5	X	39.36181	51.15352	283.39809	15.92939	0.0605461	0.18076455	3.0978511	20	11 9.4	20.0
463791 2014 SF ₂₈₀	17.5	X	27.35421	246.51159	150.68177	4.09590	0.2628618	0.19243354	2.9713162	20	—	—
463792 2014 SE ₂₈₆	16.4	X	36.22819	90.67641	327.83899	5.19574	0.0286767	0.21372242	2.7705712	20	—	—
463793 2014 SL ₂₉₁	17.4	X	4.46522	148.88068	313.07082	4.08124	0.1251429	0.21920535	2.7241767	20	—	—
463794 2014 SQ ₂₉₁	17.2	X	359.46676	145.73946	307.01482	3.81600	0.1219523	0.21240475	2.7820178	20	—	—
463795 2014 SE ₂₉₂	17.0	X	98.04354	42.94723	8.76313	11.74560	0.1802780	0.23179298	2.6246367	20	2 20.1	20.5
463796 2014 SG ₃₀₀	17.2	X	106.31771	39.55057	344.95540	4.26911	0.0234010	0.22391045	2.6858792	20	1 1.3	20.9
463797 2014 SM ₃₀₁	16.6	X	12.48565	70.49353	34.31752	24.92188	0.1973471	0.21183479	2.7870057	20	—	—
463798 2014 SN ₃₀₄	16.9	X	72.54313	123.31603	273.31310	3.80014	0.1695666	0.21166235	2.7429199	20	—	—
463799 2014 SD ₃₀₉	17.7	X	134.93702	192.54403	206.76473	6.12686	0.2234530	0.24119540	2.5559756	20	3 14.8	21.7
463800 2014 SV ₃₂₀	17.3	X	164.05544	328.88817	7.19042	1.81411	0.1347677	0.23695855	2.5863529	20	1 20.3	21.3
463801 2014 SM ₃₂₆	17.9	X	133.86078	302.78408	173.39990	7.54846	0.1072389	0.27780802	2.3261597	20	6 12.3	21.2
463802 2014 SG ₃₂₈	16.5	X	339.00281	36.05450	58.15856	11.60690	0.0871572	0.19092729	2.9869231	20	—	—
463803 2014 SC ₃₃₃	16.3	X	3.58420	90.66852	16.95458	14.55336	0.1080325	0.21377862	2.7700857	20	—	—
463804 2014 SV ₃₃₃	17.1	X	44.50966	68.49846	354.82959	3.50771	0.0961355	0.21169785	2.7882075	20	—	—
463805 2014 SY ₃₃₅	17.3	X	81.54652	249.62721	181.57493	4.82040	0.0768955	0.23371085	2.6102582	20	1 31.9	20.7
463806 2014 SN ₃₃₆	16.9	X	117.07722	215.47401	189.34877	14.56951	0.1174770	0.23953433	2.5677784	20	2 17.4	20.6
463807 2014 SS ₃₃₆	17.2	X	18.59210	91.48351	45.41758	9.96197	0.0531483	0.23532461	2.5983111	20	1 28.5	20.5
463808 2014 SD ₃₃₉	17.1	X	325.93252	82.18530	88.94087	6.30176	0.0203381	0.22573485	2.6713880	20	1 2.4	20.5
463809 2014 SF ₃₄₁	17.2	X	83.81491	40.67194	344.72057	6.07339	0.0495229	0.21833733	2.7313921	20	—	—
463810 2014 SG ₃₄₃	17.3	X	136.19093	201.65240	233.03144	4.26913	0.0784288	0.26436148	2.4043846	20	4 14.8	20.5
463811 2014 SP ₃₄₆	17.0	X	67.29251	21.52435	2.03276	5.55727	0.0344358	0.20888223	2.8132072	20	—	—
463812 2014 TM ₃	17.7	X	197.73782	224.90932	192.31570	5.90522	0.0888149	0.28403091	2.2920582	20	6 4.1	20.9
463813 2014 TS ₄	16.7	X	335.34626	51.57993	3.76481	11.77172	0.2399771	0.17621131	3.1509888	20	11 26.7	20.0
463814 2014 TZ ₄	17.4	X	44.60649	273.60916	193.99541	4.63267	0.0571405	0.23164181	2.6257784	20	1 24.3	20.6
463815 2014 TO ₅	17.3	X	89.20728	347.03681	34.05484	4.91382	0.1158614	0.21492757	2.7602047	20	—	—
463816 2014 TW ₁₅	17.2	X	106.95078	106.33825	328.94014	5.21830	0.2113026	0.24267138	2.5456010	20	3 29.3	20.8
463817 2014 TY ₂₀	17.8	X	141.55982	343.72028	27.08823	2.09789	0.1668868	0.23821944	2.5772185	20	2 12.3	21.5
463818 2014 TX ₂₂	16.8	X	347.30945	0.27148	52.90273	7.46808	0.0599186	0.17827477	3.1266274	20	12 8.8	20.8
463819 2014 TV ₃₀	16.3	X	18.34115	16.77811	152.35515	9.12172	0.0686783	0.20229056	2.8739926	20	—	—
463820 2014 TD ₃₄	17.4	X	176.37176	338.38824	251.80992	18.58667	0.0439610	0.36172683	1.9508127	20	—	—
463821 2014 TW ₄₁	17.6	X	129.60053	55.50771	358.41120	5.28296	0.1594089	0.24458102	2.5323334	20	3 22.2	21.1
463822 2014 TN ₄₄	16.7	X	330.09947	303.71630	144.29779	1.05254	0.1548014	0.18034261	3.1026811	20	12 31.6	20.1
463823 2014 TK ₄₇	15.8	X	9.19291	10.21185	26.66824	10.17104	0.0348891	0.18126177	3.0921834	20	12 16.1	20.2
463824 2014 TQ ₄₉	17.1	X	357.83430	111.44996	10.19520	7.73960	0.1805782	0.21191246	2.7863247	20	—	—
463825 2014 TM ₅₀	17.4	X	56.40370	233.17170	237.72905	5.51327	0.0508341	0.24221903	2.5487694	20	2 11.5	20.5
463826 2014 TF ₅₃	17.4	X	145.67323	202.58391	161.40470	4.93369	0.2008159	0.23565899	2.5958527	20	2 10.1	21.5
463827 2014 TA ₅₄	17.0	X	24.48797	340.40778	213.47420	14.03590	0.0329874	0.25674354	2.4517134	20	4 17.7	19.9
463828 2014 TD ₅₅	17.2	X	115.19261	272.64614	143.33526	7.69475	0.0996457	0.24542926	2.5264953	20	3 1.4	20.6
463829 2014 TU ₅₅	16.5	X	2.17666	352.75413	47.53699	11.36265	0.1634582	0.17824602	3.1269635	20	12 24.6	20.4
463830 2014 TK ₅₉	16.8	X	354.00414	55.38011	12.90089	6.73560	0.1189074	0.18326415	3.0696183	20	—	—
463831 2014 TB ₆₁	17.2	X	104.60591	110.22775	250.74749	3.38186	0.0864820	0.21481937	2.7611315	20	—	—
463832 2014 TN ₆₁	16.9	X	150.06466	183.98593	240.13986	12.02362	0.1498747	0.26270037	2.4145095	20	4 22.1	20.6
463833 2014 TD ₆₂	17.0	X	40.28798	264.23728	188.99678	12.57310	0.2388199	0.22486374	2.6782828	20	1 5.5	19.5
463834 2014 TM ₆₂	17.3	X	85.71666	36.59349	351.36975	4.48058	0.0578701	0.21443326	2.7644450	20	—	—

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>	
463841	2014 TY ₇₅	17.3	X	58.81540	104.47266	329.67276	1.33732	0.0323308	0.22739464	2.6583729	20	1 1.7	20.8
463842	2014 TN ₇₉	17.1	X	30.18353	156.43654	338.68650	6.98827	0.1121478	0.23918440	2.5702822	20	2 10.2	19.9
463843	2014 TP ₈₁	16.2	X	76.32187	41.26546	26.34745	14.78756	0.2251709	0.21833664	2.7313979	20	2 21.9	19.7
463844	2014 TV ₈₄	15.9	X	191.58589	159.37871	76.60888	11.28025	0.0910293	0.17725843	3.1385674	20	12 29.3	20.6
463845	2014 UK ₁	16.6	X	354.44370	26.00244	68.71234	13.33062	0.1067576	0.19056874	2.9906685	20	—	—
463846	2014 UL ₁	16.9	X	357.20714	250.11147	193.82004	5.59284	0.1455268	0.18631108	3.0360594	20	—	—
463847	2014 UU ₁	16.6	X	92.05944	130.70188	202.46762	9.59296	0.1149638	0.18850644	3.0124413	20	—	—
463848	2014 UB ₅	16.6	X	214.70768	181.71225	126.13274	3.52248	0.0719798	0.23156377	2.6263684	20	2 4.3	20.3
463849	2014 UA ₈	16.8	X	355.13177	75.75444	55.40847	5.36173	0.0622114	0.21840362	2.7308394	20	—	—
463850	2014 UO ₁₂	16.0	X	271.37796	148.01428	12.49475	10.30456	0.0537810	0.19068719	2.9894299	20	—	—
463851	2014 UP ₁₂	16.8	X	149.83432	24.39875	287.68265	3.36659	0.0577196	0.21157969	2.7892454	20	—	—
463852	2014 US ₁₂	15.7	X	190.14876	201.73445	14.33034	11.40231	0.0026366	0.18053521	3.1004741	20	12 11.8	20.3
463853	2014 UZ ₁₂	16.4	X	353.45207	289.99129	234.63393	11.94437	0.2070682	0.22334609	2.6904018	20	1 6.7	19.5
463854	2014 UL ₁₃	16.5	X	106.41021	334.90652	359.94009	5.44705	0.0656665	0.19882792	2.9072640	20	—	—
463855	2014 UX ₁₅	17.8	X	265.21211	346.36322	340.68357	5.74519	0.1917088	0.28259318	2.2998258	20	4 6.1	21.1
463856	2014 UN ₁₇	16.1	X	306.05408	19.85849	99.00568	11.25320	0.0584348	0.18773813	3.0206545	20	—	—
463857	2014 UO ₁₈	17.8	X	155.26650	246.06900	192.03698	2.91060	0.0989784	0.26631486	3.9226130	20	5 15.2	21.1
463858	2014 UT ₁₉	17.2	X	128.35152	289.61290	87.05391	5.82938	0.0353339	0.22572886	2.6714353	20	1 20.8	20.9
463859	2014 UV ₁₉	17.3	X	16.64701	128.79067	124.25985	4.29984	0.0866311	0.28796448	2.2711376	20	7 7.3	19.5
463860	2014 UL ₂₀	17.2	X	244.30410	200.25622	83.45733	6.35419	0.1038884	0.23853378	2.5749539	20	2 4.9	21.0
463861	2014 UC ₂₂	16.4	X	342.67895	4.82270	86.39081	9.41592	0.0956714	0.18151696	3.0892845	20	—	—
463862	2014 UD ₂₂	16.5	X	21.61883	350.49318	90.30634	8.84825	0.0470179	0.19733242	2.9219341	20	—	—
463863	2014 UH ₂₃	17.7	X	263.09919	284.74746	71.34650	7.15317	0.1472137	0.28814539	2.2701868	20	5 21.9	20.4
463864	2014 UP ₂₃	16.3	X	347.22591	97.33734	65.22345	13.39273	0.0489002	0.22440759	2.6819110	20	1 17.9	19.9
463865	2014 UX ₂₃	17.1	X	81.54417	310.86740	109.41597	5.21232	0.0884338	0.22295764	2.6935258	20	1 22.7	20.3
463866	2014 US ₂₈	15.8	X	18.97567	17.91924	48.30558	10.52596	0.0836291	0.18972167	2.9995637	20	—	—
463867	2014 UR ₃₀	17.1	X	321.80130	79.63280	103.12283	6.26153	0.0487246	0.21928892	2.7234846	20	1 9.0	20.7
463868	2014 US ₃₁	17.0	X	75.15194	123.66578	209.72474	10.99969	0.0959950	0.18918632	3.0052197	20	—	—
463869	2014 UT ₃₂	17.2	X	116.86633	208.11493	158.53473	5.14574	0.0818325	0.21351490	2.7723662	20	1 1.8	21.1
463870	2014 UK ₄₁	16.9	X	319.98066	169.85401	83.21421	3.74432	0.0213309	0.23074899	2.6325473	20	2 11.3	20.3
463871	2014 UT ₄₁	17.3	X	85.23128	158.19546	240.15193	3.92549	0.1390956	0.21204748	2.7851418	20	1 8.1	20.8
463872	2014 UN ₄₂	17.7	X	237.80091	259.01276	111.18916	1.00540	0.2396544	0.28044502	2.3115550	20	5 3.4	21.2
463873	2014 UH ₄₃	17.8	X	344.34265	335.78374	324.61121	3.21786	0.0971447	0.30098745	2.2051449	20	7 24.3	19.5
463874	2014 UM ₄₄	17.5	X	233.63473	1.95032	285.79542	2.67324	0.0691037	0.23943481	2.5684898	20	1 29.5	21.3
463875	2014 UO ₄₆	16.7	X	124.89074	312.99749	50.84151	7.01481	0.0428361	0.21707760	2.7419490	20	1 2.7	20.4
463876	2014 UG ₄₇	16.1	X	335.26435	31.31086	51.54528	12.21619	0.0676799	0.17999076	3.1067233	20	12 29.0	20.2
463877	2014 UD ₄₈	16.5	X	261.65739	107.23068	85.53729	10.59825	0.0525735	0.19319960	2.9634566	20	—	—
463878	2014 UP ₅₀	16.4	X	61.74654	322.84157	48.83259	9.18963	0.1224640	0.18878708	3.0094551	20	—	—
463879	2014 UE ₅₁	17.4	X	86.77001	255.18230	198.62077	0.82524	0.0497862	0.23659664	2.5889898	20	3 5.7	20.6
463880	2014 UT ₅₁	17.2	X	176.37593	197.62377	241.75342	7.32863	0.0980035	0.28502920	2.2867033	20	6 9.3	20.5
463881	2014 UG ₅₃	17.1	X	91.66142	252.53409	158.48315	5.38258	0.0613618	0.21984674	2.7188758	20	1 20.5	20.7
463882	2014 UN ₅₃	16.2	X	29.08224	316.45450	64.06613	9.93514	0.1971865	0.18511938	3.0490752	20	—	—
463883	2014 UQ ₆₅	16.9	X	105.38001	232.53144	233.84822	11.21275	0.1358716	0.25819168	2.4425374	20	4 27.4	20.2
463884	2014 UJ ₆₆	16.6	X	357.12193	2.15191	70.43568	4.41588	0.1672525	0.18085747	3.0967900	20	—	—
463885	2014 UY ₇₆	17.4	X	342.51523	207.64246	297.59490	1.43538	0.0771345	0.21837480	2.7310797	20	—	—
463886	2014 UO ₈₄	16.6	X	347.01646	71.01326	44.99523	2.63640	0.0545332	0.19744134	2.9208594	20	—	—
463887	2014 UJ ₈₅	17.4	X	224.14354	265.25063	52.14306	4.52642	0.0486443	0.24241353	2.5474059	20	2 28.4	21.0
463888	2014 UA ₈₉	17.0	X	235.93182	265.85006	8.45708	3.58133	0.1391475	0.24166778	2.5526438	20	1 13.1	20.9
463889	2014 UO ₉₀	17.2	X	357.42491	58.60317	81.18756	5.05552	0.0841084	0.21680169	2.7442749	20	—	—
463890	2014 UY ₉₁	18.5	X	333.51382	314.92244	353.35239	2.85084	0.2106240	0.31069721	2.1589594	20	7 7.5	19.5
463891	2014 UZ ₉₃	17.1	X	151.26527	287.67762	65.96768	5.27008	0.3074886	0.23689552	2.5868117	20	2 13.4	21.6
463892	2014 UB ₉₆	17.5	X	126.37951	189.18156	190.31053	4.30493	0.0879942	0.22852978	2.6495626	20	1 26.9	21.2
463893	2014 UY ₉₇	16.6	X	9.02988	338.44887	69.53626	11.79004	0.0795471	0.18064119	3.0992613	20	—	—
463894	2014 UA ₉₉	17.3	X	328.88157	162.26235	114.25557	7.20006	0.1324987	0.27940938	2.3172633	20	5 12.4	19.6
463895	2014 UW ₉₉	16.8	X	336.57790	36.29546	110.28169	4.13679	0.0337376	0.22281206	2.6946989	20	—	—
463896	2014 UM ₁₀₀	17.3	X	117.81707	335.04418	56.19207	11.37051	0.0762313	0.23013945	2.6371936	20	2 3.4	21.1
463897	2014 UK ₁₀₃	17.1	X	105.20216	212.87165	156.01579	4.63069	0.0846638	0.21450084	2.7638643	20	—	—
463898	2014 UH ₁₀₈	17.4	X	232.09523	270.48006	42.83075	11.62207	0.1099416	0.25862658	2.4397984	20	3 1.9	21.2
463899	2014 US ₁₀₈	16.4	X	119.80443	187.24397	228.45635	21.33195	0.0413590	0.23603851	2.5930694	20	2 18.8	20.5
463900	2014 UT ₁₀₈	17.1	X	148.44952	93.15433	241.88842	2.78243	0.0982939	0.21477922	2.7614756	20	1 1.9	21.2
463901	2014 UM ₁₁₂	16.6	X	65.31381	293.45606	115.59569	6.07555	0.0371190	0.21757883	2.7377364	20	—	—
463902	2014 UB ₁₁₇	17.1	X	334.19985	30.22756	273.18292	10.34009	0.0588906	0.29903726	2.2147218	20	7 8.9	19.3
463903	2014 UD ₁₁₈	17.2	X	65.81591	240.82793	215.52689	4.10369	0.1435264	0.23310027	2.6148144	20	2 19.2	20.2
463904	2014 UN ₁₁₈	17.0	X	82.43779	158.62100	284.32185	12.39908	0.1535631	0.23723145	2.5843691	20	2 23.6	20.3
463905	2014 UR ₁₁₉	18.0	X	221.67044	37.96663	3.55508	1.57506	0.0213454	0.28499372	2.2868931	20	6 17.4	20.8
463906	2014 UR ₁₂₀	17.7	X	48.49304	303.73925	220.85765	4.67848	0.0158356	0.25966121	2.4333131	20	4 10.0	20.8
463907	2014 US ₁₂₀	17.3	X	118.38380	345.64081	40.97340	2.68504	0.0469955	0.22758448	2.6568943	20	1 22.3	20.8
463908	2014 UO ₁₂₁	16.4	X	144.25893	334.64303	356.19697	14.67346	0.1315525	0.22142196	2.7059655	20	—	—
463909	2014 US ₁₂₄	16.9	X	358.75340	61.21941	343.57683	9.11488	0.1221241	0.17965213	3.1106260	20	12 21.4	20.9
463910	2014 UN ₁₂₆	16.7	X	80.94579	90.41672	19.11160	15.31010	0.0888095	0.24399431	2.5363913	20	3 26.9	19.8
463911	2014 UW ₁₃₀	17.6	X	109.59544	86.73040	13.30624	6.16760	0.0901931	0.25699896	2.4500887	20	4 17.6	20.8
463912	2014 UA ₁₃₂	17.8	X	42.17968	76.85257	10.98441	7.46934	0.2033475	0.21446636	2.7641605	20	1 6.9	20.5
463913													

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
463921 2014 UD ₁₄₉	18.4	X	351.38709	104.50874	214.97388	1.82100	0.1353268	0.31346625	2.1462264	20	9 13.7	19.9
463922 2014 UR ₁₅₀	16.4	X	359.57972	333.16731	62.16598	11.68726	0.2151619	0.17709403	3.1405094	20	12 20.0	20.0
463923 2014 US ₁₅₃	17.5	X	198.41538	201.94445	153.62935	4.82406	0.2570085	0.26366053	2.4086441	20	3 15.6	21.6
463924 2014 UG ₁₅₆	16.8	X	180.69739	325.59676	346.11401	2.96093	0.0819008	0.21767020	2.7369701	20	1 6.7	20.8
463925 2014 UV ₁₅₇	16.6	X	52.68804	261.26924	89.28397	6.07911	0.1483892	0.18330716	3.0691381	20	12 30.6	21.0
463926 2014 UY ₁₆₂	17.6	X	90.42275	21.33186	23.09500	5.52979	0.1236751	0.22005181	2.7171863	20	1 21.6	21.1
463927 2014 UP ₁₆₃	16.1	X	352.13533	101.98305	44.97965	14.65707	0.1317448	0.21393104	2.7687698	20	—	—
463928 2014 UF ₁₆₇	17.0	X	113.85397	193.89146	197.57870	14.07491	0.1100635	0.22972246	2.6403839	20	1 27.2	20.9
463929 2014 UJ ₁₆₉	16.2	X	107.30563	320.08567	95.71139	14.02865	0.1406844	0.23205017	2.6226970	20	3 3.6	20.0
463930 2014 UA ₁₈₀	17.9	X	211.98003	278.82876	124.17781	3.37457	0.0932317	0.28242599	2.3007333	20	5 31.8	21.0
463931 2014 UB ₁₈₃	16.8	X	79.32445	288.80853	117.13231	5.47202	0.0717351	0.21444831	2.7643156	20	—	—
463932 2014 UB ₁₈₄	17.2	X	114.58470	175.38384	218.23081	4.96196	0.1407715	0.22908018	2.6453169	20	2 5.9	20.9
463933 2014 UE ₁₈₅	16.1	X	332.74305	307.90758	140.97256	7.83974	0.1408973	0.18476591	3.0529626	20	—	—
463934 2014 UJ ₁₈₇	16.7	X	341.78063	70.01850	23.11986	3.76126	0.0960248	0.18916976	3.0053951	20	—	—
463935 2014 UZ ₁₈₉	17.5	X	70.83498	0.36513	74.79470	7.81291	0.0187153	0.22231641	2.6987026	20	1 19.8	21.1
463936 2014 UV ₁₉₂	16.8	X	132.21892	41.67814	330.24514	13.21492	0.0879441	0.23251894	2.6191708	20	1 27.6	20.5
463937 2014 UP ₁₉₃	16.7	X	2.11162	350.61609	122.35539	3.93222	0.1016026	0.21279649	2.7786024	20	—	—
463938 2014 UE ₁₉₅	17.3	X	23.31011	353.49188	139.19515	4.38059	0.1553009	0.22927903	2.6437872	20	1 25.3	19.8
463939 2014 UD ₁₉₇	17.6	X	141.36105	267.50971	179.17492	5.80310	0.0670753	0.26488826	2.4011958	20	5 8.8	20.9
463940 2014 UE ₁₉₈	16.4	X	349.77097	32.36902	42.90496	17.72776	0.1970145	0.17988286	3.1079655	20	—	—
463941 2014 UK ₁₉₈	17.5	X	53.13895	204.01478	231.33877	4.07557	0.1669161	0.21263585	2.7800017	20	1 7.4	20.4
463942 2014 UV ₂₀₁	17.3	X	143.23176	226.98192	103.80060	4.80671	0.1214818	0.22243731	2.6977247	20	—	—
463943 2014 UM ₂₀₃	16.9	X	45.90397	223.40083	221.00369	14.22038	0.0734849	0.21259971	2.7803167	20	—	—
463944 2014 UM ₂₀₄	17.1	X	66.84484	269.15312	166.05006	4.19284	0.1098140	0.21658852	2.7460752	20	1 23.2	20.3
463945 2014 UC ₂₀₈	16.5	X	228.54214	280.16371	8.91379	11.42587	0.2295247	0.24269272	2.5454518	20	1 24.2	21.0
463946 2014 UV ₂₀₉	17.8	X	312.19315	320.52079	353.00310	6.49041	0.1338429	0.28832839	2.2692261	20	6 3.9	20.1
463947 2014 UN ₂₁₄	15.9	X	3.49295	315.38320	68.64781	11.58256	0.0679669	0.17267987	3.1938038	20	11 25.5	20.2
463948 2014 UT ₂₁₄	16.6	X	25.63267	178.42009	228.15198	0.68272	0.2392077	0.18979367	2.9988051	20	—	—
463949 2014 US ₂₁₅	17.6	X	181.41070	293.36225	167.28874	6.48851	0.1347355	0.28649283	2.2789084	20	7 12.7	21.0
463950 2014 VH	16.5	X	350.01846	65.74466	79.98460	9.92335	0.0432551	0.21356776	2.7719087	20	1 1.3	20.2
463951 2014 VV	16.4	X	324.72084	178.01908	282.59345	14.29909	0.2427208	0.17465246	3.1697103	20	—	—
463952 2014 VX ₃	17.2	X	103.38831	40.21491	8.79498	15.54243	0.1218128	0.23257126	2.6187780	20	2 16.9	20.8
463953 2014 VQ ₅	17.2	X	72.24730	350.23996	129.34319	5.98925	0.1641104	0.24542472	2.5265264	20	4 8.6	20.1
463954 2014 VY ₅	18.0	X	221.70099	227.64418	130.00266	3.04492	0.2114975	0.27227190	2.3575857	20	4 6.4	21.8
463955 2014 VW ₇	17.7	X	344.51674	210.38794	50.78980	2.18761	0.0567860	0.27100710	2.3649154	20	5 21.9	20.0
463956 2014 VC ₉	17.6	X	238.42279	243.97579	99.01418	3.17759	0.2335166	0.26892683	2.3770955	20	4 1.7	21.4
463957 2014 VC ₁₂	16.3	X	179.83951	231.96738	86.61443	15.10268	0.0940266	0.22280922	2.6947219	20	1 14.0	20.4
463958 2014 VU ₁₃	15.9	X	319.77629	286.88659	158.09728	9.23578	0.0740512	0.17477604	3.1682160	20	12 10.3	20.1
463959 2014 VE ₁₄	15.9	X	349.68061	245.18790	195.55995	17.36617	0.2083636	0.18221469	3.0813932	20	—	—
463960 2014 VS ₁₇	17.1	X	29.21194	331.28131	77.96237	1.90374	0.1781166	0.19308417	2.9646375	20	—	—
463961 2014 VC ₂₂	16.2	X	91.34263	236.88043	68.75065	23.37721	0.0626267	0.16908575	3.2389038	20	12 5.9	21.0
463962 2014 VL ₂₃	15.8	X	305.23833	83.13038	60.20893	11.21118	0.0647655	0.18576166	3.0420429	20	—	—
463963 2014 VX ₂₄	16.3	X	350.58093	354.72591	75.84055	10.48355	0.0716875	0.17504838	3.1649291	20	—	—
463964 2014 VY ₂₄	16.5	X	64.02932	302.97850	72.72424	8.58604	0.0775622	0.18780426	3.0199454	20	—	—
463965 2014 VA ₂₇	16.9	X	108.40303	348.05990	43.70792	3.12613	0.0702606	0.21865752	2.7287250	20	1 21.1	20.6
463966 2014 VN ₂₇	15.9	X	346.70439	185.36854	245.88083	14.59420	0.2497185	0.17398132	3.1778566	20	—	—
463967 2014 VS ₃₁	16.3	X	272.11728	74.34434	80.61886	10.09648	0.0455054	0.17563179	3.1579164	20	—	—
463968 2014 VQ ₃₂	17.1	X	253.21436	185.80346	124.96040	3.42838	0.1838642	0.25720376	2.4487879	20	3 9.8	20.9
463969 2014 WR	16.5	X	346.21562	239.65655	215.21242	3.45262	0.2398892	0.18297199	3.0728850	20	—	—
463970 2014 WW ₂	15.9	X	321.15548	32.94091	65.38016	10.83894	0.0560441	0.17873562	3.1212506	20	12 28.6	20.0
463971 2014 WS ₃	17.6	X	291.03317	281.86081	86.75237	7.57009	0.0945904	0.30193949	2.2005071	20	8 3.8	19.8
463972 2014 WB ₅	16.4	X	181.39477	311.48209	47.82613	12.09971	0.3294738	0.24497597	2.5296109	20	3 15.5	21.3
463973 2014 WF ₅	16.9	X	40.67934	339.60251	93.91085	5.23777	0.0849529	0.20909083	2.8113358	20	—	—
463974 2014 WY ₉	17.2	X	264.70009	221.14085	37.82643	3.49384	0.1664876	0.24237370	2.5476850	20	1 19.9	21.2
463975 2014 WO ₁₆	15.9	X	354.14330	348.91180	69.73695	19.06362	0.2766877	0.17598133	3.1537335	20	—	—
463976 2014 WN ₁₇	17.1	X	125.15774	306.87291	51.36598	4.00721	0.1221561	0.21231995	2.7827585	20	1 7.9	21.0
463977 2014 WW ₂₀	16.9	X	50.76476	131.47041	28.87375	6.94892	0.2203171	0.24369486	2.5384687	20	5 6.1	19.4
463978 2014 WM ₂₆	17.1	X	48.03132	141.44379	45.79536	1.85113	0.1183723	0.26188728	2.4195046	20	5 25.7	19.6
463979 2014 WF ₃₅	16.6	X	22.62783	111.10057	266.05712	8.20751	0.0811346	0.17749070	3.1358286	20	12 15.1	20.9
463980 2014 WN ₄₀	18.1	X	274.02926	17.43588	11.08089	5.35677	0.0782958	0.30423675	2.1894159	20	8 9.5	20.4
463981 2014 WK ₄₁	16.2	X	317.16258	17.80486	72.84237	14.02208	0.1119896	0.17136048	3.2101767	20	12 9.9	20.0
463982 2014 WR ₄₁	16.7	X	333.90303	304.82090	188.36994	5.82503	0.2364619	0.19159408	2.9799890	20	—	—
463983 2014 WE ₄₂	17.4	X	113.50066	315.60115	89.45161	6.78395	0.0147642	0.23046877	2.6346808	20	2 4.2	20.9
463984 2014 WZ ₄₆	17.2	X	335.66923	187.98431	70.30655	7.61275	0.1185166	0.26616826	2.3934914	20	4 28.8	19.7
463985 2014 WU ₄₇	17.1	X	47.84762	312.63680	100.48448	3.16521	0.0303302	0.19773121	2.9180041	20	—	—
463986 2014 WN ₄₈	17.3	X	65.14467	242.70905	151.46323	2.57364	0.0825494	0.19925317	2.9031260	20	—	—
463987 2014 WC ₅₀	17.1	X	145.00124	160.50235	205.46608	5.60758	0.0193334	0.22267600	2.6957965	20	1 23.9	20.8
463988 2014 WE ₅₀	17.2	X	69.18856	270.45356	130.59536	3.00706	0.0732732	0.20306255	2.8667038	20	—	—
463989 2014 WH ₅₀	16.8	X	58.45531	10.13419	95.65283	3.16623	0.0668958	0.22623041	2.6674855	20	2 15.3	20.0
463990 2014 WZ ₅₀	17.2	X	129.66832	170.05137	240.76244	4.28048	0.1271900	0.23757697	2.5818628	20	3 13.3	20.9
463991 2014 WB ₅₁	16.2	X	317.46929	89.09250	34.56183	4.41816	0.0910380	0.18308071	3.0716684	20	—	—
463992 2014 WK ₅₁	17.2	X	352.81174	104.13892	51.82327	12.27215	0.0249222	0.21906453	2.7253441	20	1 21.3	21.0
463993 2014 WL ₅₁	17.9	X	350.48003	357.86361	282.83239	2.28999	0.1615101	0.28761104	2.2729978	20	7 1.9	19.2
463994 2014 WX ₅₇	16.7	X	243.40158	38.81930	156.24119	3.22250	0.0481024	0.18691591	3.0295063	20	—	—</