

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>
320001 2007 DW ₂₇	14.5 ^m	X	353.75916	86.75239	143.40399	9.42244	0.1405123	0.08344042	5.1866275	20	5 1.5	20.7
320002 2007 DJ ₂₉	16.0	X	79.92916	188.21820	134.12297	2.87943	0.0766055	0.19707609	2.9244672	20	12 21.5	20.2
320003 2007 DP ₃₀	16.1	X	299.13571	306.85523	157.25892	12.35779	0.0525127	0.19942114	2.9014956	20	12 12.9	20.1
320004 2007 DY ₃₃	15.7	X	341.86962	167.11801	164.42904	16.85914	0.1106801	0.17676085	3.1444546	20	8 17.9	19.7
320005 2007 DJ ₃₅	15.2	X	62.29120	100.03306	164.42525	16.19986	0.0799883	0.17958204	3.1114354	20	9 19.7	19.5
320006 2007 DS ₃₅	15.7	X	62.65332	275.37515	343.65875	10.08478	0.0348660	0.17994923	3.1072013	20	9 5.7	20.0
320007 2007 DD ₃₈	16.6	X	312.76525	119.92085	328.74395	4.94410	0.0442634	0.19740897	2.9211787	20	12 10.3	20.4
320008 2007 DQ ₃₈	15.5	X	26.46627	321.56710	6.05793	10.61846	0.1634561	0.18297108	3.0728952	20	10 29.6	19.4
320009 2007 DU ₃₈	15.5	X	29.39431	159.33318	168.44959	13.88894	0.0608892	0.18516154	3.0486123	20	10 26.6	19.7
320010 2007 DL ₃₉	15.3	X	86.08353	114.77316	135.28179	5.50668	0.0305228	0.18046130	3.1013206	20	9 25.0	19.7
320011 2007 DC ₄₇	16.5	X	316.13986	253.97776	257.30501	3.07652	0.0754865	0.21370211	2.7707468	20	—	—
320012 2007 DE ₄₉	16.9	X	58.09795	159.16810	212.76160	3.61038	0.0823109	0.20662233	2.8336826	20	—	—
320013 2007 DA ₅₃	17.0	X	173.60994	309.45880	300.61449	3.06419	0.1253202	0.27264842	2.3554147	20	—	—
320014 2007 DP ₅₄	16.4	X	72.11123	60.67941	223.99742	0.88578	0.1549354	0.18659282	3.0330025	20	11 5.0	20.9
320015 2007 DG ₅₆	17.7	X	212.31758	301.35367	158.51997	0.97034	0.1612645	0.25835102	2.4415330	20	8 10.4	21.2
320016 2007 DW ₅₈	17.7	X	151.10108	253.44853	165.37029	23.44183	0.0607039	0.38042614	1.8863509	20	4 6.5	19.8
320017 2007 DG ₆₁	16.8	X	25.52265	105.06381	19.98683	21.18729	0.0559662	0.37168958	1.9157954	20	—	—
320018 2007 DZ ₆₄	16.6	X	300.42662	60.23940	344.38231	8.84559	0.0824991	0.18865748	3.0108332	20	9 21.8	20.4
320019 2007 DE ₆₉	17.5	X	233.47652	300.99047	151.46897	1.76903	0.2357196	0.18785553	3.0193959	20	8 9.8	22.2
320020 2007 DO ₇₁	16.6	X	237.24944	293.11674	154.13008	6.71574	0.1414443	0.18434964	3.0575566	20	8 16.8	21.2
320021 2007 DQ ₇₄	16.2	X	80.90255	78.15801	161.66449	5.04035	0.1102773	0.17837413	3.1254662	20	9 14.9	20.7
320022 2007 DZ ₇₄	16.0	X	316.11273	70.39731	344.97292	9.26227	0.0394928	0.19195635	2.9762385	20	10 29.6	20.1
320023 2007 DT ₇₅	16.4	X	160.58057	212.36284	35.96147	1.91345	0.0423928	0.19636907	2.9314827	20	12 18.6	20.5
320024 2007 DY ₇₅	17.0	X	172.26872	81.41831	170.56243	2.18508	0.0181555	0.20154877	2.8810399	20	—	—
320025 2007 DT ₇₆	16.1	X	317.93238	118.30909	345.75655	14.20718	0.1038137	0.20581424	2.8410951	20	—	—
320026 2007 DA ₈₆	16.4	X	110.84649	301.58570	340.46449	8.27400	0.0745809	0.19600796	2.9350820	20	12 4.9	21.0
320027 2007 DB ₉₁	15.6	X	75.33943	77.23178	152.00876	12.35583	0.0170713	0.17928089	3.1149187	20	8 11.4	19.9
320028 2007 DJ ₉₂	16.8	X	9.46503	21.05370	84.20816	1.54246	0.0251366	0.21456976	2.7632725	20	—	—
320029 2007 DO ₉₄	15.9	X	349.48112	259.35942	118.24719	7.77580	0.0381582	0.19084551	2.9877732	20	11 3.3	20.0
320030 2007 DC ₉₆	16.4	X	238.29491	121.59593	4.70311	8.81739	0.0896161	0.19186555	2.9771774	20	10 12.3	20.6
320031 2007 DC ₉₇	16.5	X	202.99157	59.90859	175.00421	9.17228	0.1533612	0.20085467	2.8876735	20	—	—
320032 2007 DK ₉₇	17.1	X	230.86632	326.26783	177.48203	6.13222	0.0843548	0.26564446	2.3966367	20	11 12.2	20.1
320033 2007 DS ₉₇	17.6	X	285.98385	354.97652	176.17806	3.31726	0.1422152	0.28146022	2.3059933	20	—	—
320034 2007 DE ₉₈	16.9	X	303.78128	327.21801	134.92615	5.89320	0.1336734	0.20424495	2.8556293	20	12 13.3	20.2
320035 2007 DS ₁₀₅	16.3	X	64.26814	274.02656	175.91596	11.35325	0.0160310	0.22036827	2.7145844	20	1 26.9	20.1
320036 2007 DZ ₁₀₅	16.7	X	101.02378	235.19924	17.92187	0.65935	0.0827561	0.18463071	3.0544529	20	10 20.8	21.1
320037 2007 DQ ₁₀₇	16.8	X	154.77653	352.97637	303.68539	2.59731	0.0723756	0.21391024	2.7689493	20	—	—
320038 2007 DV ₁₀₈	17.1	X	291.95912	130.76291	119.81720	3.24057	0.0797663	0.19753938	2.9198929	20	10 18.5	20.8
320039 2007 DA ₁₀₉	15.9	X	48.85230	117.05478	180.84188	14.15943	0.2080035	0.17562132	3.1580420	20	11 2.2	20.4
320040 2007 DB ₁₁₂	16.0	X	65.23475	241.89440	5.15599	18.49992	0.0731894	0.17608146	3.1525377	20	9 4.8	20.5
320041 2007 DP ₁₁₂	16.1	X	105.37598	118.30540	177.31919	8.32895	0.2072440	0.18688518	3.0298385	20	12 22.6	21.3
320042 2007 DR ₁₁₄	16.3	X	220.63617	62.65150	125.61089	3.20413	0.0100789	0.19408415	2.9544457	20	12 18.8	20.3
320043 2007 DS ₁₁₄	16.2	X	80.94187	157.70828	126.10126	3.68348	0.0292856	0.18411775	3.0601235	20	10 30.5	20.5
320044 2007 DL ₁₁₆	15.2	X	312.70637	242.11461	174.48392	10.66765	0.0126804	0.18617461	3.0375428	20	11 1.9	19.5
320045 2007 DQ ₁₁₆	15.2	X	333.84837	302.04567	34.99726	15.66103	0.0305880	0.17914245	3.1165233	20	8 25.1	19.7
320046 2007 DB ₁₁₇	15.0	X	69.18002	219.35447	31.10162	19.18593	0.1534098	0.17638068	3.1489714	20	9 26.9	19.7
320047 2007 DH ₁₁₇	13.2	X	289.07999	309.88289	350.74934	11.83606	0.1240134	0.08260136	5.2216921	20	4 18.3	20.1
320048 2007 ED ₁	16.5	X	290.21716	345.64606	188.22849	7.81471	0.1562393	0.21192471	2.7862173	20	—	—
320049 2007 EY ₁	17.3	X	267.60358	309.12500	169.81321	0.43597	0.1411564	0.19704902	2.9247350	20	11 4.7	21.1
320050 2007 EQ ₂	16.5	X	122.42658	189.65690	132.29799	7.60234	0.0562443	0.21273123	2.7791707	20	—	—
320051 2007 EZ ₂	17.8	X	293.47816	99.11340	117.79438	2.81135	0.1133105	0.29199318	2.2501989	20	—	—
320052 2007 EA ₇	17.8	X	169.32094	249.88891	354.52645	0.86692	0.1551664	0.27109172	2.3644232	20	—	—
320053 2007 EG ₉	15.5	X	104.78956	126.43232	176.06577	10.67424	0.0926879	0.19325544	2.9628857	20	12 24.5	20.2
320054 2007 EO ₁₅	16.0	X	322.38219	322.93857	123.85496	3.17045	0.0841178	0.19696605	2.9255563	20	12 21.8	19.6
320055 2007 EK ₁₈	15.8	X	196.26095	46.85503	166.46466	6.28171	0.0422960	0.19737516	2.9215123	20	12 17.3	20.0
320056 2007 ED ₂₁	16.5	X	67.44241	189.51138	172.09844	12.56892	0.0890090	0.20140568	2.8824044	20	—	—
320057 2007 EH ₂₁	15.9	X	271.54106	95.14424	1.40863	9.91850	0.0929615	0.19132409	2.9827918	20	10 15.9	20.0
320058 2007 EQ ₂₂	16.4	X	140.71061	55.47968	139.76927	1.73398	0.1106148	0.18241809	3.0791023	20	9 23.9	21.2
320059 2007 EV ₂₅	15.3	X	70.66285	227.83684	17.24359	17.47553	0.1871415	0.17348646	3.1838968	20	9 22.9	20.0
320060 2007 ET ₂₆	16.3	X	220.23423	98.05226	156.38007	8.03346	0.1383652	0.21087128	2.7954888	20	—	—
320061 2007 EM ₂₉	15.6	X	184.44074	126.04768	350.18116	9.03183	0.0367384	0.17437531	3.1730681	20	8 5.4	20.3
320062 2007 EP ₂₉	15.6	X	186.89838	34.93054	152.63854	11.35875	0.0628013	0.19149372	2.9810301	20	11 6.0	20.2
320063 2007 EN ₃₂	16.9	X	135.30991	11.32604	245.52207	1.01291	0.0499611	0.19697869	2.9254312	20	12 1.3	21.1
320064 2007 EW ₃₄	16.0	X	13.27717	265.02314	207.48566	4.77288	0.0239994	0.21279760	2.7785928	20	—	—
320065 2007 EW ₃₈	15.8	X	228.05821	283.09486	197.51799	10.06150	0.0729949	0.18857996	3.0116582	20	9 25.2	20.2
320066 2007 EA ₄₀	13.4	X	321.52411	242.84074	33.12858	8.91023	0.1207045	0.08238334	5.2309005	20	5 4.8	19.9
320067 2007 EL ₄₀	17.8	X	162.91041	15.75973	10.21862	19.03561	0.0631571	0.37623715	1.9003267	20	3 7.8	19.9
320068 2007 EH ₄₂	16.											

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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>
320081 2007 <i>EY</i> ₆₇	16.3	X	306.70713	310.46451	133.19337	3.09495	0.1029170	0.19580858	2.9370741	20	11 23.4	19.9
320082 2007 <i>EZ</i> ₇₃	15.5	X	65.75018	95.18719	164.80544	12.28441	0.1140654	0.17824017	3.1270319	20	9 23.2	19.9
320083 2007 <i>ER</i> ₇₄	15.8	X	222.32876	119.77475	358.96395	8.74824	0.0873834	0.18364195	3.0654068	20	9 15.6	20.3
320084 2007 <i>EY</i> ₇₄	17.4	X	290.22839	296.15542	198.16713	2.17504	0.1105801	0.27552914	2.3389684	20	—	—
320085 2007 <i>EO</i> ₇₈	15.8	X	326.45401	172.05712	172.85923	9.42551	0.0911530	0.17472717	3.1688067	20	8 10.9	19.8
320086 2007 <i>EC</i> ₈₀	15.8	X	165.66553	0.82103	190.52127	19.84108	0.2565959	0.18478983	3.0526991	20	10 11.4	21.1
320087 2007 <i>EP</i> ₈₅	14.7	X	348.68905	343.94629	356.38971	18.19630	0.1250873	0.17612014	3.1520761	20	9 13.6	18.4
320088 2007 <i>EX</i> ₈₇	15.7	X	185.81904	42.32293	141.58296	8.48290	0.0650795	0.18616608	3.0376356	20	10 30.0	20.3
320089 2007 <i>EU</i> ₈₉	18.3	X	333.44868	232.72737	53.87845	1.40243	0.0747976	0.31793355	2.1260745	20	6 10.3	19.8
320090 2007 <i>EZ</i> ₉₁	16.8	X	244.33300	8.43842	205.64936	3.19561	0.0468898	0.21051470	2.7986447	20	—	—
320091 2007 <i>EF</i> ₉₆	15.5	X	328.84873	172.84872	196.24587	8.10060	0.1122601	0.17748201	3.1359309	20	9 15.5	19.4
320092 2007 <i>EV</i> ₉₇	16.8	X	120.67455	128.96870	116.98281	3.56024	0.2611042	0.18632592	3.0358982	20	11 11.6	22.1
320093 2007 <i>ES</i> ₉₈	13.6	X	2.81093	186.35506	33.51332	3.64953	0.0646327	0.08325984	5.1941245	20	4 30.2	20.2
320094 2007 <i>EX</i> ₉₉	15.8	X	174.38167	92.09308	137.13706	3.37520	0.1598811	0.19336977	2.9617177	20	12 4.3	20.7
320095 2007 <i>EF</i> ₉₉	15.8	X	156.00202	157.69963	13.20422	6.61714	0.1378590	0.18123156	3.0925270	20	9 10.7	20.7
320096 2007 <i>EA</i> ₁₀₀	16.3	X	11.77230	233.87843	173.38321	13.60898	0.1477751	0.20317788	2.8656189	20	—	—
320097 2007 <i>EV</i> ₁₀₀	16.5	X	112.47805	82.43814	148.29591	6.50050	0.0697701	0.18597448	3.0397216	20	10 7.2	21.1
320098 2007 <i>EZ</i> ₁₀₁	17.4	X	175.87437	330.45067	12.76856	20.19083	0.0825542	0.36748796	1.9303704	20	1 26.8	20.1
320099 2007 <i>EE</i> ₁₀₆	16.4	X	159.37178	115.44669	32.88883	9.09636	0.0352694	0.17499233	3.1656048	20	8 18.1	21.1
320100 2007 <i>ET</i> ₁₁₄	15.8	X	105.87108	104.83374	180.54790	11.61524	0.0684141	0.18723026	3.0261145	20	12 3.9	20.5
320101 2007 <i>EB</i> ₁₁₇	15.5	X	22.66045	225.45756	65.22351	6.46086	0.0717180	0.16993313	3.2281274	20	8 30.0	19.8
320102 2007 <i>EK</i> ₁₁₇	16.3	X	250.12898	339.22154	176.98389	9.45502	0.0654400	0.19253915	2.9702296	20	12 8.6	20.5
320103 2007 <i>EU</i> ₁₂₄	15.2	X	137.82064	15.28432	194.67864	20.46530	0.1627947	0.17852326	3.1237254	20	10 9.5	20.2
320104 2007 <i>EY</i> ₁₂₈	17.4	X	4.84987	47.81708	213.43257	0.10821	0.1257982	0.24004725	2.5641193	20	6 27.6	20.0
320105 2007 <i>EY</i> ₁₃₀	15.8	X	27.47174	302.73635	357.58416	10.03065	0.0572089	0.17897926	3.1184174	20	9 15.2	20.0
320106 2007 <i>EV</i> ₁₃₁	16.2	X	78.45523	128.87739	140.85199	0.51589	0.1437051	0.18044867	3.1014653	20	10 22.8	20.8
320107 2007 <i>ET</i> ₁₃₂	16.3	X	342.13369	47.11238	5.50406	1.65628	0.0861961	0.19610971	2.9340667	20	12 7.6	19.8
320108 2007 <i>EB</i> ₁₃₄	16.3	X	89.27856	241.40474	40.14316	1.25068	0.1757117	0.18399964	3.0614328	20	11 20.0	21.0
320109 2007 <i>ED</i> ₁₃₆	16.1	X	251.01954	276.36695	176.20497	10.63642	0.0757225	0.18579178	3.0417141	20	9 18.1	20.1
320110 2007 <i>EE</i> ₁₅₂	16.2	X	237.40920	313.64007	144.95477	7.36424	0.1313544	0.18609598	3.0383984	20	9 2.8	20.6
320111 2007 <i>EL</i> ₁₅₃	15.7	X	296.44757	207.29109	146.39021	9.57468	0.0777953	0.17225056	3.1991084	20	7 11.1	20.0
320112 2007 <i>ER</i> ₁₅₄	15.7	X	49.06096	93.37701	205.49792	9.70241	0.0660759	0.18064927	3.0991689	20	10 12.5	19.9
320113 2007 <i>EP</i> ₁₆₀	16.4	X	165.48029	238.54984	327.72439	4.09862	0.1726479	0.18610685	3.0382801	20	10 27.7	21.6
320114 2007 <i>EY</i> ₁₆₆	15.4	X	191.92463	320.77715	198.13880	16.21973	0.0432672	0.18097488	3.0954505	20	10 3.3	19.9
320115 2007 <i>EO</i> ₁₆₉	16.5	X	172.66160	74.71502	162.77079	3.05038	0.1112636	0.19186074	2.9772272	20	12 14.2	21.2
320116 2007 <i>EC</i> ₁₇₀	16.8	X	189.77197	284.99133	341.89503	3.82305	0.0270591	0.21020607	2.8013833	20	—	—
320117 2007 <i>EW</i> ₁₇₁	16.7	X	302.76420	193.77536	263.27539	1.04449	0.0844224	0.19467363	2.9484785	20	12 4.5	20.4
320118 2007 <i>EA</i> ₁₇₂	15.7	X	15.83530	353.05422	353.48163	9.17800	0.0903872	0.18487656	3.0517444	20	10 28.6	19.7
320119 2007 <i>EQ</i> ₁₇₃	15.8	X	92.81368	57.63024	200.01705	8.98135	0.0926133	0.18086748	3.0966757	20	10 18.1	20.2
320120 2007 <i>EQ</i> ₁₇₃	16.4	X	241.64177	134.94628	353.44359	10.83360	0.1314548	0.19019596	2.9945750	20	10 11.3	20.7
320121 2007 <i>EF</i> ₁₇₆	16.2	X	135.82450	355.03878	214.18682	6.29923	0.1401469	0.18039277	3.1021060	20	10 5.2	21.2
320122 2007 <i>ET</i> ₁₈₀	16.1	X	117.92688	19.95212	207.45725	14.30642	0.0806083	0.17763324	3.1341508	20	10 5.4	20.9
320123 2007 <i>EZ</i> ₁₈₀	15.6	X	287.10003	204.54477	205.92589	14.35709	0.0462011	0.17829482	3.1263930	20	9 11.6	20.0
320124 2007 <i>EX</i> ₁₈₂	15.5	X	10.72704	142.66965	213.34083	8.73616	0.0488717	0.18109178	3.0941182	20	10 31.7	19.5
320125 2007 <i>EQ</i> ₁₈₅	15.6	X	147.23084	86.61131	160.63226	12.35478	0.1002295	0.18854104	3.0120727	20	12 2.9	20.5
320126 2007 <i>EO</i> ₁₈₇	16.1	X	284.83029	100.71323	20.58518	9.22517	0.0659684	0.19946613	2.9010593	20	12 10.9	20.0
320127 2007 <i>EW</i> ₁₉₀	16.1	X	106.53476	236.10552	10.63523	9.29413	0.0498589	0.18203889	3.0833768	20	10 14.5	20.6
320128 2007 <i>EY</i> ₁₉₅	16.2	X	131.85453	210.07032	47.23300	10.12753	0.0628103	0.18593955	3.0401023	20	11 25.3	20.8
320129 2007 <i>ED</i> ₁₉₆	16.1	X	100.72886	261.13230	14.17478	10.95453	0.2348539	0.18129690	3.0917839	20	11 24.3	21.4
320130 2007 <i>EF</i> ₁₉₆	16.7	X	254.17977	94.50787	13.16720	6.60139	0.2235549	0.18976174	2.9991415	20	9 21.7	20.9
320131 2007 <i>EL</i> ₁₉₆	15.4	X	139.83716	186.43338	19.51715	10.65047	0.0615689	0.18013980	3.1050095	20	10 4.4	20.0
320132 2007 <i>EO</i> ₁₉₆	15.8	X	85.75861	257.92781	24.48295	9.71690	0.0997686	0.18203485	3.0834224	20	11 8.1	20.3
320133 2007 <i>EP</i> ₂₀₁	15.8	X	32.56173	23.66587	345.93576	12.02455	0.0622212	0.20259072	2.8711531	20	12 23.0	19.9
320134 2007 <i>ET</i> ₂₀₁	16.6	X	48.96458	216.96581	161.90283	3.46651	0.0604271	0.20593052	2.8400255	20	—	—
320135 2007 <i>ED</i> ₂₀₅	15.9	X	257.55962	304.88467	165.33671	10.15112	0.0478987	0.18744168	3.0238386	20	10 25.5	20.2
320136 2007 <i>EE</i> ₂₀₆	16.0	X	210.01603	331.48392	207.86969	8.13698	0.0322057	0.19101461	2.9860128	20	11 22.4	20.3
320137 2007 <i>EN</i> ₂₁₃	16.7	X	113.71108	273.95625	20.63522	6.72411	0.2103804	0.18865642	3.0108445	20	12 28.7	21.8
320138 2007 <i>EN</i> ₂₁₄	15.8	X	37.38003	159.72070	180.06166	9.09520	0.1423809	0.18926768	3.0043585	20	12 1.3	20.0
320139 2007 <i>ER</i> ₂₁₄	16.4	X	112.31665	123.94632	165.28011	2.84098	0.2465598	0.18238636	3.0794594	20	12 21.8	21.7
320140 2007 <i>EX</i> ₂₁₄	16.5	X	279.65406	102.58810	40.84664	2.33611	0.0730568	0.19750098	2.9202714	20	12 31.6	20.2
320141 2007 <i>EY</i> ₂₁₄	14.5	X	1.31201	291.74378	19.87334	22.16537	0.1887269	0.17355048	3.1831138	20	9 10.6	18.3
320142 2007 <i>ET</i> ₂₁₅	15.2	X	348.94281	264.18469	128.35749	11.74432	0.0762201	0.19259641	2.9696408	20	11 24.1	19.2
320143 2007 <i>EH</i> ₂₁₈	16.6	X	189.80582	144.94241	15.08453	4.21058	0.1107428	0.18498739	3.0505253	20	9 29.5	21.2
320144 2007 <i>EY</i> ₂₁₉	15.4	X	216.78320	66.30517	27.50611	16.26561	0.2173184	0.17515924	3.1635936	20	8 3.7	20.9
320145 2007 <i>EC</i> ₂₂₃	15.4	X	138.52286	76.74542	100.27582	14.00296	0.1274878	0.17683646	3.1435582	20	9 4.4	20.5
320146 2007 <i>EJ</i> ₂₂₄	16.8	X	101.97466	270.01676	222.42710	0.94135	0.0195684	0.23056709	2.6339317	20	5 13.1	20.1
320147 2007 <i>FK</i> ₂	15.9	X	209.09002	93.49756	103.22038	8.86420	0.1253314	0.19670040	2.9281898	20	12 3.2	20.3
320148 2007 <i>FD</i> ₅	16.0	X	323.62884	222.91125	151.47349	10.57171	0.1340234	0.18394629	3.0620248	20	9 16.9	19.6
320149 2007 <i>FO</i> ₈	15.8	X	78.11122	71.90535	203.19483	18.14241	0.1652030	0.17872444	3.1213808	20	10 31.8	20.5
320150 2007 <i>FF</i> ₁₂	17.1	X	183.70670	212.90148	22.32773	5.62295	0.1308124	0.27004061	2.3705548	20	—	—
320151 2007 <i>FC</i> ₁₉	16.1	X	64.55389	144.347								

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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>
320161 2007 FU ₄₈	17.4	X	255.46438	205.67955	51.73169	1.26955	0.0188327	0.21495328	2.7599847	20	1 25.1	21.1
320162 2007 GP	16.0	X	63.96832	111.13031	204.11495	5.88335	0.0149964	0.18616361	3.0376625	20	11 15.0	20.3
320163 2007 GS	16.4	X	97.99582	46.71031	189.42587	1.03565	0.1175482	0.17575387	3.1564539	20	9 29.3	21.0
320164 2007 GP ₁	15.8	X	50.18379	238.73899	62.81547	6.15732	0.1447326	0.17747141	3.1360558	20	10 29.6	20.1
320165 2007 GO ₂	16.3	X	37.25710	286.49582	340.87441	1.78571	0.0231650	0.17595650	3.1540301	20	8 12.4	20.5
320166 2007 GY ₂	16.3	X	148.38897	218.31260	1.85191	5.77545	0.1197225	0.18684641	3.0302575	20	10 29.5	21.1
320167 2007 GZ ₃	15.0	X	127.71773	179.84669	52.39413	10.94303	0.1182745	0.17835585	3.1256797	20	10 26.7	20.0
320168 2007 GD ₅	16.1	X	20.83349	305.17599	44.35359	10.12953	0.0954341	0.18357899	3.0661077	20	11 11.6	20.1
320169 2007 GZ ₇	16.0	X	99.58850	270.54247	17.52731	10.30415	0.0587470	0.18864586	3.0109569	20	11 26.3	20.6
320170 2007 GX ₈	16.2	X	139.63558	350.29938	201.54258	8.14209	0.0355946	0.17650539	3.1474879	20	9 12.5	20.8
320171 2007 GY ₁₀	15.4	X	293.99357	187.96130	165.86773	16.02219	0.0978801	0.17052269	3.2206826	20	7 4.8	20.0
320172 2007 GD ₁₆	16.4	X	218.52068	168.31780	344.43303	3.11247	0.1955462	0.18728685	3.0255049	20	10 10.8	21.1
320173 2007 GO ₁₆	16.8	X	93.98684	273.97455	7.90089	4.04961	0.0212727	0.25860738	2.4399192	20	11 24.7	20.1
320174 2007 GV ₂₂	15.6	X	263.02451	213.14596	213.01546	10.51964	0.0244704	0.17370572	3.1812171	20	9 2.2	20.2
320175 2007 GA ₂₃	16.3	X	191.69144	157.36208	44.10462	7.82768	0.0844354	0.18739577	3.0243324	20	11 21.1	20.8
320176 2007 GE ₂₄	16.1	X	230.49486	101.18103	34.74532	9.47670	0.0543201	0.18181370	3.0859223	20	10 20.2	20.4
320177 2007 GY ₂₆	15.5	X	238.06680	290.52045	191.19366	10.04440	0.0559946	0.17947159	3.1127118	20	10 10.8	19.8
320178 2007 GW ₂₇	17.3	X	96.41206	76.50659	47.29018	23.41452	0.0472157	0.37993799	1.8879663	20	4 25.5	19.0
320179 2007 GJ ₂₈	15.4	X	82.91773	88.68452	179.54054	10.84424	0.0709903	0.17741526	3.1367174	20	10 18.1	19.9
320180 2007 GZ ₂₈	15.9	X	184.70032	97.55783	124.09948	11.08408	0.0764273	0.19309443	2.9645325	20	12 11.5	20.4
320181 2007 GM ₃₁	15.9	X	77.96334	95.42719	173.26875	5.23696	0.0739217	0.18404977	3.0608769	20	10 13.7	20.3
320182 2007 GR ₃₁	16.1	X	23.99585	82.45327	196.88040	4.17864	0.0467744	0.17091276	3.2157804	20	8 10.2	20.4
320183 2007 GP ₃₂	15.3	X	95.34561	210.94706	116.26663	15.93773	0.0595797	0.17758687	3.1346963	20	9 14.7	19.9
320184 2007 GY ₃₆	15.9	X	207.29465	54.35251	117.70548	3.04361	0.1242085	0.18746976	3.0235366	20	10 29.9	20.5
320185 2007 GZ ₃₉	15.6	X	176.40307	332.78286	205.58491	10.13205	0.0864759	0.18026810	3.1035361	20	10 7.6	20.5
320186 2007 GO ₄₅	15.6	X	192.09226	324.04297	199.77456	8.93725	0.0338930	0.17889373	3.1194113	20	10 10.4	20.0
320187 2007 GQ ₄₇	17.1	X	15.75365	266.31304	217.41194	7.43590	0.0506052	0.28367652	2.2939668	20	—	—
320188 2007 GT ₄₈	17.7	X	139.16525	193.78541	92.83725	3.07972	0.1987488	0.26401669	2.4064774	20	—	—
320189 2007 GC ₅₁	15.9	X	117.00754	22.33492	219.70875	9.93724	0.1772415	0.17717661	3.1395336	20	10 29.0	20.9
320190 2007 GX ₅₁	16.4	X	186.47130	27.85764	151.36043	3.86322	0.0537749	0.18737728	3.0245314	20	10 24.3	20.8
320191 2007 GX ₅₈	16.1	X	177.08629	190.55998	4.09538	9.28807	0.0804641	0.18862788	3.0111482	20	10 27.5	20.8
320192 2007 GR ₆₀	15.8	X	127.28863	8.85896	250.13036	4.73823	0.1542734	0.18348462	3.0671588	20	11 26.3	20.9
320193 2007 GT ₆₄	17.2	X	291.54460	110.71286	223.90729	7.21209	0.1295790	0.23215925	2.6218755	20	6 3.0	20.4
320194 2007 GF ₆₅	16.3	X	187.44547	123.17250	20.89555	4.06482	0.0921931	0.17601938	3.1532790	20	9 8.7	21.0
320195 2007 GG ₆₇	16.5	X	134.10205	257.76070	326.86320	1.06742	0.0888021	0.17867426	3.1219652	20	10 20.2	21.2
320196 2007 GY ₆₈	16.2	X	97.67438	56.63163	188.44927	10.07481	0.0515571	0.18095377	3.0956912	20	10 3.6	20.6
320197 2007 GC ₆₉	15.7	X	334.04482	206.42656	180.04765	12.29883	0.0912064	0.18257849	3.0772987	20	10 21.6	19.5
320198 2007 GX ₇₆	16.1	X	153.12602	257.48737	345.37183	9.84403	0.2059189	0.18673262	3.0314885	20	11 27.7	21.4
320199 2007 HH ₁	15.9	X	116.29361	252.63471	16.26442	7.61873	0.1687645	0.18481454	3.0524271	20	11 27.6	20.9
320200 2007 HO ₁	15.2	X	211.16465	121.57533	31.95634	11.10250	0.0757257	0.18470717	3.0536097	20	10 17.6	19.8
320201 2007 HH ₇	15.8	X	18.35709	152.33110	188.24236	9.82952	0.0604142	0.17585267	3.1552715	20	10 23.9	20.0
320202 2007 HU ₇	17.5	X	5.26077	1.63873	186.06389	7.85081	0.1262725	0.29825866	2.2185745	20	2 26.3	19.4
320203 2007 HB ₈	16.2	X	46.10784	86.10483	200.11560	8.85194	0.0680448	0.17564114	3.1578044	20	9 21.3	20.5
320204 2007 HW ₁₁	16.2	X	149.67939	129.99884	53.60275	6.28273	0.1000866	0.17613021	3.1519560	20	9 20.2	21.1
320205 2007 HX ₁₂	15.3	X	154.88228	177.63344	47.46327	20.84716	0.2584100	0.18386864	3.0628868	20	11 10.2	20.7
320206 2007 HJ ₁₃	15.7	X	135.89142	188.41569	46.06793	12.72363	0.2031046	0.18194709	3.0844138	20	11 6.7	21.0
320207 2007 HU ₁₈	15.4	X	143.04969	61.81411	173.53373	17.16149	0.2134758	0.18103185	3.0948010	20	11 15.9	20.9
320208 2007 HK ₂₅	17.0	X	197.03958	121.34436	37.09541	0.47117	0.1724864	0.18324320	3.0698522	20	9 30.3	21.9
320209 2007 HA ₂₇	16.4	X	196.17643	353.08389	196.32573	4.66300	0.0824668	0.18522027	3.0479678	20	11 12.7	21.0
320210 2007 HL ₂₈	15.4	X	229.47165	18.24191	159.68188	11.37844	0.0585476	0.19184861	2.9773526	20	12 10.9	19.8
320211 2007 HY ₃₁	15.8	X	180.38084	126.53241	24.80702	10.57741	0.1690606	0.17874853	3.1211004	20	9 10.8	21.0
320212 2007 HH ₃₂	16.8	X	134.52645	341.01203	13.42374	1.81068	0.0393869	0.20670817	2.8328981	20	1 4.1	20.6
320213 2007 HP ₃₅	16.7	X	257.51395	235.67486	44.06896	4.20464	0.0604543	0.21502965	2.7593311	20	2 21.4	20.6
320214 2007 HH ₃₈	16.2	X	66.06926	113.17164	160.27142	5.71139	0.1564899	0.17565974	3.1575814	20	10 15.9	20.8
320215 2007 HK ₃₈	17.1	X	29.12181	148.22677	222.72141	4.72306	0.1198629	0.26421630	2.4052652	20	—	—
320216 2007 HK ₄₄	16.3	X	137.64170	354.38567	254.94898	3.74863	0.2015617	0.18204295	3.0833309	20	11 24.5	21.6
320217 2007 HF ₄₅	15.4	X	148.76298	113.38958	78.46336	17.47884	0.1858184	0.17972178	3.1098223	20	10 7.4	20.9
320218 2007 HG ₄₅	16.3	X	155.56911	95.91299	125.19582	3.60240	0.1254361	0.18241948	3.0790866	20	11 8.4	21.2
320219 2007 HW ₅₆	17.4	X	275.49469	344.05809	182.61612	4.77286	0.1688641	0.27415870	2.3467565	20	—	—
320220 2007 HE ₆₀	16.4	X	58.47838	182.10498	80.44613	2.27896	0.0530372	0.17113459	3.2130009	20	9 7.4	20.9
320221 2007 HL ₇₁	16.2	X	79.45812	102.02952	153.28290	7.29345	0.1915449	0.17369310	3.1813712	20	10 13.2	21.0
320222 2007 HY ₇₁	15.5	X	142.43081	142.56670	48.59313	12.25448	0.1058023	0.17555456	3.1588425	20	9 24.9	20.6
320223 2007 HG ₇₂	15.6	X	4.96218	162.01191	213.68218	9.26430	0.0871474	0.18319454	3.0703958	20	11 22.0	19.5
320224 2007 HS ₇₄	16.2	X	101.58699	118.87144	103.36278	2.98534	0.0823535	0.17066406	3.2189038	20	9 13.4	20.9
320225 2007 HJ ₈₀	15.7	X	34.65529	136.14488	173.94719	10.47332	0.1136663	0.17826412	3.1267519	20	10 16.1	19.9
320226 2007 HP ₉₆	16.2	X	148.54972	81.36138	150.90206	0.40442	0.1306113	0.18385516	3.0630365	20	11 14.0	21.1
320227 2007 HE ₉₈	15.6	X	170.61821	26.28267	172.58703	11.28836	0.1505431	0.18144645	3.0900848	20	10 27.4	20.7
320228 2007 JC ₃	15.9	X	86.52732	201.11792	46.17084	9.86983	0.1625952	0.17365633	3.1818203	20	10 8.5	20.8
320229 2007 JB ₈	17.3	X	137.83005	3.61633	53.13192	7.66441	0.0940819	0.29473159	2.2362392	20	3 27.8	20.2
320230 2007 JW ₈	17.4	X	62.41895	172.30778	164.07863	8.87809	0.1844859	0.25704427	2.4498008	20	—	—
320231 2007 JL ₁₄	16.9	X	128.22238	263.12554	26.40953	2.16333	0.0652548	0.18986322	2.9980727	20	12 31.5	21.4
320232 2007 JP ₁₅	16.5	X	198.90065	72.03251	107.27345	2.94804	0.0887035	0.18390827	3.0624467	20	11 4.3	21.1
320233 2007 JK ₁₇	16.9	X	265.36391	64.35045	207.88500	3.50600	0.1196607	0.21275620	2.7789532	20	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>
320241 2007 JH ₃₅	15.0	X	108.48923	337.60578	222.39864	26.84398	0.1420360	0.17134648	3.2103516	20	8 20.5	20.5
320242 2007 JG ₄₂	15.9	X	130.59086	71.25801	172.71624	26.68678	0.2026841	0.18102538	3.0948747	20	11 16.5	21.5
320243 2007 JQ ₄₃	15.2	X	136.41746	76.26708	163.94371	18.82762	0.1301115	0.17986500	3.1081712	20	11 15.5	20.5
320244 2007 KP ₁	16.5	X	145.42826	75.30543	177.51629	11.38712	0.1525060	0.18324519	3.0698300	20	12 5.9	21.7
320245 2007 KH ₃	17.0	X	230.95165	301.12105	255.00351	5.63119	0.0636288	0.26736986	2.3863149	20	—	—
320246 2007 KO ₇	17.1	X	197.06756	285.77724	306.04684	4.20671	0.1762433	0.26859517	2.3790519	20	—	—
320247 2007 LZ ₄	16.6	X	36.33502	80.80519	237.23234	13.05211	0.1001902	0.24825613	2.5072794	20	11 7.3	19.6
320248 2007 LD ₁₀	15.6	X	102.64692	73.69848	183.60215	13.32050	0.1194081	0.17507394	3.1646210	20	10 31.4	20.5
320249 2007 LB ₁₆	15.2	X	166.03992	310.09340	204.95460	16.81237	0.1127813	0.17056078	3.2202032	20	8 24.9	20.5
320250 2007 MV	16.2	X	45.05863	181.35912	198.86861	9.24857	0.0834872	0.18826280	3.0150397	20	—	—
320251 2007 MG ₁₆	16.0	X	267.68073	217.36464	118.41496	11.45115	0.2482714	0.21565878	2.7539621	20	4 24.0	20.4
320252 2007 ML ₁₆	16.0	X	136.68458	39.00165	174.71868	17.43018	0.1598674	0.17704401	3.1411010	20	10 14.8	21.2
320253 2007 OF	15.4	X	284.95395	22.03036	264.20994	12.63348	0.1523422	0.21129988	2.7917073	20	3 12.2	19.6
320254 2007 PE ₄	15.7	X	343.18649	27.38255	45.93659	13.88697	0.1371006	0.22856486	2.6492915	20	8 14.3	18.8
320255 2007 PZ ₄	16.2	X	353.85678	167.10863	147.10381	9.25326	0.1780452	0.22924866	2.6440207	20	8 28.6	18.7
320256 2007 PS ₂₄	17.1	X	314.09636	182.54958	176.08932	7.19550	0.1994664	0.30175621	2.2013980	20	8 16.4	18.6
320257 2007 PU ₂₆	16.2	X	115.00197	255.65604	94.01698	2.17903	0.1718839	0.18165668	3.0877002	20	—	—
320258 2007 PO ₂₇	17.9	X	22.66627	58.32988	308.95548	4.45397	0.0483431	0.31713873	2.1296253	20	—	—
320259 2007 PJ ₄₆	16.3	X	274.75212	176.14791	150.21928	5.78043	0.1642952	0.21222978	2.7835466	20	4 27.5	20.3
320260 Bertout	16.4	X	243.72918	253.20484	139.50816	3.38797	0.0607998	0.22351378	2.6890560	20	6 27.7	20.2
320261 2007 QO ₉	15.6	X	42.02712	214.37777	173.23267	12.92062	0.0874432	0.17164096	3.2066786	20	—	—
320262 2007 RA	16.3	X	289.73352	228.61199	136.27568	8.48176	0.1228540	0.22180990	2.7028095	20	7 12.9	19.6
320263 2007 RQ ₄	15.6	X	151.13375	80.93478	200.12803	5.10591	0.1715296	0.17725977	3.1385516	20	—	—
320264 2007 RD ₇	16.7	X	272.26344	13.16996	4.97057	6.69487	0.1845492	0.29404157	2.2397363	20	6 30.1	19.3
320265 2007 RH ₇	17.4	X	141.49181	106.01308	289.09548	0.56375	0.0683755	0.26844760	2.3799237	20	3 11.5	21.0
320266 2007 RK ₉	16.8	X	36.71969	209.74604	90.68739	3.34085	0.1542968	0.23551290	2.5969261	20	10 23.3	20.0
320267 2007 RL ₁₇	15.3	X	100.76669	89.39247	178.96972	26.87888	0.0783216	0.17647912	3.1478002	20	11 8.9	20.4
320268 2007 RG ₁₉	16.4	X	43.40743	346.39264	359.59630	8.44788	0.0289206	0.24208887	2.5496829	20	12 10.7	19.9
320269 2007 RY ₂₇	17.3	X	255.87520	327.81040	49.23924	5.61907	0.2034997	0.29208856	2.2497090	20	6 2.7	20.3
320270 2007 RU ₄₃	17.5	X	289.56629	174.39545	216.14818	4.95902	0.1149889	0.30040146	2.2080116	20	8 28.6	19.8
320271 2007 RX ₆₃	16.1	X	38.01083	270.77182	156.72986	1.69175	0.1780642	0.17706222	3.1408855	20	—	—
320272 2007 RO ₆₆	16.3	X	90.01994	228.64401	166.85372	4.73535	0.1484192	0.18337246	3.0684094	20	1 17.8	20.4
320273 2007 RR ₆₈	18.0	X	20.86204	264.44577	15.64698	3.66798	0.0969635	0.30139228	2.2031698	20	9 1.4	20.0
320274 2007 RD ₇₂	16.0	X	145.47607	285.04938	102.04552	3.77985	0.0367022	0.19351005	2.9602862	20	2 28.5	20.3
320275 2007 RF ₈₂	16.3	X	27.36158	266.16724	154.06046	2.62179	0.0792150	0.17470726	3.1690475	20	—	—
320276 2007 RL ₉₅	18.2	X	156.61626	281.33071	174.59890	2.40880	0.2998822	0.27463061	2.3440674	20	6 16.3	22.4
320277 2007 RH ₁₀₀	17.2	X	256.50826	283.01402	139.06271	1.53599	0.1118867	0.22637300	2.6663652	20	8 15.9	20.8
320278 2007 RV ₁₀₅	17.5	X	206.10056	250.38135	160.63990	2.36552	0.1960244	0.28405468	2.2919304	20	5 30.6	21.2
320279 2007 RS ₁₂₇	15.8	X	44.31128	144.98292	23.27005	6.74004	0.2147308	0.19601321	2.9350296	20	5 6.4	19.0
320280 2007 RJ ₁₄₅	17.4	X	323.23076	114.49598	244.08490	3.99020	0.2136556	0.30127138	2.2037592	20	9 9.9	18.4
320281 2007 RR ₁₄₇	16.1	X	204.25382	333.05327	85.98651	4.82158	0.0850765	0.21029996	2.8005495	20	6 12.8	20.2
320282 2007 RQ ₁₅₁	16.0	X	118.37351	217.94050	216.94709	6.78831	0.0483767	0.20138494	2.8826023	20	3 23.9	20.0
320283 2007 RR ₁₇₈	16.0	X	22.64681	50.32623	62.46472	5.70803	0.1031693	0.18008864	3.1055976	20	1 10.9	19.9
320284 2007 RW ₁₈₂	17.3	X	164.34858	156.37038	282.86821	5.11560	0.2527652	0.27806739	2.3247130	20	5 30.4	21.4
320285 2007 RQ ₁₈₅	16.2	X	252.39310	294.28462	83.71578	7.63385	0.0825990	0.21204569	2.7851575	20	6 15.8	20.1
320286 2007 RR ₁₈₈	14.4	X	357.28046	18.53142	5.54552	5.72202	0.0535739	0.08269836	5.2176080	20	10 26.9	21.1
320287 2007 RJ ₁₉₀	17.0	X	225.32962	298.03799	121.27072	1.63737	0.0587063	0.21436354	2.7650444	20	7 10.0	20.7
320288 2007 RQ ₁₉₂	16.2	X	271.89520	226.42531	170.32195	12.56460	0.1366496	0.22017444	2.7161773	20	7 26.9	20.0
320289 2007 RM ₂₀₁	16.4	X	150.23537	235.88366	337.50300	3.36730	0.1099353	0.23292357	2.6161367	20	10 30.2	20.4
320290 2007 RK ₂₀₄	15.7	X	302.86662	298.22922	213.97890	10.94256	0.1229548	0.17161069	3.2070556	20	—	—
320291 2007 RW ₂₁₆	17.2	X	219.69161	344.60622	44.98783	2.42584	0.1517717	0.28468176	2.2885634	20	5 17.2	20.6
320292 2007 RO ₂₂₁	16.7	X	332.39456	93.63200	214.38354	2.81354	0.0786320	0.21364244	2.7712627	20	7 6.4	20.1
320293 2007 RX ₂₂₂	17.0	X	323.21453	33.64252	287.79629	5.25262	0.2028054	0.29747347	2.2224767	20	7 2.7	18.2
320294 2007 RP ₂₂₅	17.2	X	359.06039	55.27731	320.98468	3.53996	0.0421699	0.23728277	2.5839964	20	11 21.2	20.4
320295 2007 RD ₂₄₂	17.3	X	308.25373	103.81011	196.37089	4.75207	0.1647095	0.29030447	2.2589168	20	5 3.4	19.4
320296 2007 RQ ₂₄₆	15.5	X	157.13702	111.82557	262.53331	9.47048	0.0818788	0.19107762	2.9853563	20	2 24.4	20.2
320297 2007 RU ₂₄₈	17.8	X	309.98824	354.82567	19.03530	4.49523	0.1517756	0.30199517	2.2002366	20	9 12.3	19.2
320298 2007 RP ₂₅₉	18.2	X	45.05166	189.35445	135.46932	3.04521	0.1399547	0.31376566	2.1448608	20	12 19.5	20.8
320299 2007 RR ₂₇₂	17.7	X	182.08428	136.92690	344.50157	5.31046	0.0311560	0.29584092	2.2306455	20	8 19.3	20.2
320300 2007 RR ₂₈₃	17.1	X	262.92291	110.76003	247.89271	0.65161	0.0384996	0.20963246	2.8064913	20	6 10.0	20.7
320301 2007 RC ₂₉₀	17.2	X	193.58121	223.39356	191.03562	6.32340	0.1354164	0.27887834	2.3202041	20	5 25.5	20.7
320302 2007 RC ₃₀₈	13.3	X	332.31667	69.41274	329.74668	26.31379	0.1024586	0.08403670	5.1620642	20	9 28.8	20.0
320303 2007 RQ ₃₀₉	15.9	X	81.76821	355.25835	22.18757	0.89156	0.1658623	0.17648364	3.1477465	20	—	—
320304 2007 RB ₃₁₆	15.6	X	115.76069	260.32154	164.91997	11.52118	0.1033427	0.19243961	2.9712537	20	3 19.6	19.9
320305 2007 RB ₃₂₀	16.7	X	274.86666	62.50051	345.56467	5.36462	0.0427952	0.22393994	2.6856434	20	9 2.0	20.1
320306 2007 SX ₂	17.1	X	295.78603	0.62744	20.23193	6.28204	0.1519572	0.29704354	2.2246207	20	8 24.3	19.0
320307 2007 SA ₄	17.2	X	358.80893	222.45796	145.32006	0.91586	0.2553966	0.23268100	2.6179546	20	12 8.3	19.6
320308 2007 SK ₁₄	17.5	X	190.71540	100.92258	322.01800	1.75170	0.2007778	0.27896668	2.3197143	20	5 31.3	21.1
320309 2007 SK ₂₁	15.3	X	298.80125	308.99366	236.41380	9.08329	0.0234631	0.18015547	3.1048294	20	—	—
320310 2007 SG ₂₃	17.4	X	212.15000	68.30397	135.09897	8.21979	0.0851666	0.28619548	2.7070206	20	7 5.4	20.6
320311 2007 TT	16.9	X	310.75420	209.00199	185.31870	3.77317	0.0817815	0.22683668	2.6627304	20	10 2.8	19.9
320312 2007 TS ₁	17.6	X	238.86362	68.83963	350.77977	7.93410	0.1098066	0.29634709	2.2281048	20	7 28.8	20.5
320313 2007 TG ₂	16.3	X	232.33081	277.93360	61.17035	2.20416	0.1225571	0.19764621	2.9188407	20	4 1.9	20.7
320314 2007 TQ ₇	16.9	X	268									

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>		
320321	2007	TL ₃₀	17.7	X	140.21852	270.99974	202.94956	5.58522	0.2582341	0.27619011	2.3352352	20	6 24.7	21.7
320322	2007	TM ₃₁	17.2	X	32.88220	344.47013	7.28031	2.69293	0.1376012	0.23972674	2.5664043	20	12 21.0	20.5
320323	2007	TC ₃₈	17.4	X	343.36548	317.46519	32.08190	1.43310	0.1465788	0.22667725	2.6639788	20	9 26.7	20.1
320324	2007	TR ₄₅	17.2	X	315.82158	278.70831	58.25585	6.00789	0.1798045	0.29362632	2.2418475	20	7 16.9	18.9
320325	2007	TC ₄₇	15.9	X	182.10465	242.32305	221.04997	8.59410	0.1101460	0.20923436	2.8100500	20	7 13.1	20.4
320326	2007	TA ₄₈	17.9	X	341.43374	7.94067	316.17394	1.81753	0.1913783	0.29867591	2.2165077	20	8 29.9	18.8
320327	2007	TO ₆₃	16.5	X	209.48634	333.33687	63.23043	2.99965	0.0692182	0.20103986	2.8858999	20	5 21.7	20.6
320328	2007	TY ₆₄	17.3	X	156.94931	181.18427	176.04228	2.37904	0.2082536	0.26258943	2.4151895	20	2 10.3	21.2
320329	2007	TB ₇₆	17.9	X	236.38441	67.33942	329.50440	1.19965	0.2217958	0.28615110	2.2807224	20	6 7.2	21.4
320330	2007	TQ ₉₂	17.3	X	308.90138	307.34945	46.90515	5.28156	0.2015493	0.29716727	2.2240031	20	7 28.9	19.0
320331	2007	TL ₁₀₉	17.8	X	355.62771	5.11709	335.93885	6.39425	0.1614472	0.30553820	2.1831942	20	10 27.8	19.8
320332	2007	TH ₁₁₆	17.1	X	346.38670	264.32267	67.93230	6.39006	0.1946443	0.29931596	2.2133468	20	10 3.2	18.5
320333	2007	TZ ₁₂₂	17.1	X	219.58139	318.02800	67.05992	3.02107	0.0828218	0.20242548	2.8727154	20	5 17.6	21.4
320334	2007	TS ₁₂₃	16.1	X	308.06062	277.83647	56.27149	6.50585	0.1199600	0.21236650	2.7823518	20	6 29.0	19.6
320335	2007	TB ₁₂₅	17.6	X	175.88488	8.01063	76.54818	3.18315	0.2305311	0.27988431	2.3146412	20	6 15.6	21.5
320336	2007	TD ₁₂₉	16.9	X	240.72516	334.90533	22.69753	2.49030	0.0895385	0.20037050	2.8923234	20	5 5.2	21.1
320337	2007	TH ₁₃₃	16.2	X	121.23355	274.32383	52.43421	3.83631	0.0553533	0.16763391	3.2575779	20	—	—
320338	2007	TO ₁₃₉	18.1	X	217.99252	116.13549	328.41577	2.08219	0.1291242	0.29071039	2.2568135	20	8 1.9	21.0
320339	2007	TC ₁₄₆	17.7	X	199.90852	190.57914	245.05591	1.75419	0.1934232	0.28506799	2.2864958	20	6 25.9	21.3
320340	2007	TJ ₁₄₆	17.7	X	293.32264	21.40975	32.44492	2.84136	0.1532154	0.30166546	2.2018395	20	10 11.6	19.2
320341	2007	TC ₁₅₂	16.0	X	162.60540	203.94438	203.07593	11.08171	0.0765118	0.19798850	2.9154755	20	4 13.7	20.3
320342	2007	TH ₁₅₄	17.8	X	239.14551	193.29050	246.78759	1.60236	0.1050322	0.29649195	2.2273789	20	8 25.5	20.5
320343	2007	TY ₁₆₀	17.3	X	162.88332	69.83035	350.02360	4.70555	0.1917399	0.27342417	2.3509575	20	5 1.1	21.0
320344	2007	TD ₁₇₀	16.9	X	171.14828	91.22222	23.79278	7.46282	0.1559214	0.28392933	2.2926049	20	7 24.4	20.5
320345	2007	TJ ₁₇₁	17.3	X	166.22515	190.16309	243.89008	3.08158	0.1214847	0.27702683	2.3305307	20	5 24.7	21.0
320346	2007	TF ₁₈₀	16.9	X	285.49747	341.75936	80.31894	1.32283	0.1022870	0.22936946	2.6430923	20	9 29.7	19.9
320347	2007	TB ₁₈₃	17.6	X	243.11178	232.00969	147.68864	5.64524	0.1352797	0.28459700	2.2890178	20	6 1.6	20.7
320348	2007	TY ₁₈₃	16.8	X	314.42033	269.88036	100.50009	6.60162	0.1359662	0.29780995	2.2208024	20	9 19.4	18.6
320349	2007	TK ₁₈₆	15.9	X	133.48020	193.81968	180.44906	9.82457	0.1321748	0.18367275	3.0650641	20	2 7.9	20.7
320350	2007	TZ ₁₈₇	17.5	X	336.10751	39.79552	291.59515	2.27841	0.1976474	0.299006091	2.2146050	20	8 28.0	18.7
320351	2007	TQ ₁₉₂	17.9	X	5.47295	136.84853	220.60971	5.12353	0.0677429	0.30874591	2.1680464	20	11 28.4	20.0
320352	2007	TJ ₂₀₂	17.1	X	274.52012	224.89028	178.39022	3.92094	0.1017190	0.21623177	2.7490948	20	8 14.8	20.7
320353	2007	TT ₂₀₂	17.9	X	218.06466	271.76945	171.11307	2.85947	0.1310360	0.28900107	2.2657035	20	7 29.4	21.1
320354	2007	TP ₂₁₀	17.3	X	252.40721	4.59043	31.18143	6.36522	0.1511758	0.28838974	2.2689043	20	7 3.5	20.3
320355	2007	TT ₂₁₁	16.6	X	346.88047	125.05178	245.42128	5.59961	0.1254710	0.22790780	2.6543810	20	10 30.9	19.4
320356	2007	TJ ₂₁₄	16.5	X	196.46499	91.73527	3.49270	4.13808	0.0696703	0.20921300	2.8102413	20	7 22.9	20.6
320357	2007	TQ ₂₂₇	17.8	X	156.61663	83.05048	12.76568	2.20361	0.1385131	0.27841335	2.3227868	20	6 10.7	21.1
320358	2007	TC ₂₂₈	17.5	X	283.20671	303.03157	219.49872	4.72257	0.0751630	0.24384783	2.5374069	20	—	—
320359	2007	TB ₂₃₁	16.8	X	324.84624	279.29555	114.16072	3.32995	0.0842560	0.22511760	2.6762689	20	10 25.7	19.9
320360	2007	TQ ₂₃₃	16.7	X	314.11883	123.81876	204.05525	4.76682	0.0929851	0.20931761	2.8093049	20	7 2.8	20.1
320361	2007	TR ₂₃₇	17.7	X	159.50248	188.68869	234.41850	5.85838	0.0788715	0.27236581	2.3570438	20	4 27.1	21.0
320362	2007	TH ₂₄₁	17.8	X	160.11639	263.27413	198.29145	5.14215	0.1102643	0.28093619	2.3088599	20	6 21.5	21.1
320363	2007	TP ₂₄₇	17.7	X	198.54600	195.34892	326.75310	4.21736	0.0338430	0.30572483	2.1823056	20	11 6.9	20.4
320364	2007	TJ ₂₈₉	17.6	X	224.61082	253.30844	228.30645	3.46408	0.0928369	0.30251970	2.1976926	20	10 7.3	20.3
320365	2007	TL ₃₀₉	18.3	X	64.45367	205.31719	85.77762	2.35575	0.1380711	0.30907750	2.1664955	20	11 25.6	21.2
320366	2007	TE ₃₅₄	17.0	X	191.80880	220.88519	113.03949	8.47377	0.2141416	0.26853917	2.3793826	20	2 13.3	20.9
320367	2007	TS ₃₆₂	16.0	X	251.92836	90.67061	226.49217	8.88900	0.1175976	0.19274737	2.9680900	20	3 23.5	20.5
320368	2007	TL ₃₇₆	17.4	X	200.03314	287.48926	105.65793	5.50004	0.1529128	0.27989529	2.3145807	20	5 4.5	20.9
320369	2007	TO ₃₉₈	17.7	X	223.43192	86.09985	5.67345	5.86531	0.1101793	0.29249211	2.2476393	20	8 23.2	20.5
320370	2007	TP ₄₁₀	15.7	X	268.32807	192.34949	219.95683	10.48132	0.2492036	0.21998837	2.7177086	20	7 24.3	19.7
320371	2007	TF ₄₁₄	15.4	X	197.26275	123.20998	232.46924	9.47892	0.1085406	0.18945510	3.0023767	20	3 15.3	20.2
320372	2007	TA ₄₁₉	15.4	X	130.06352	243.46176	135.62336	11.04234	0.0950086	0.18131542	3.0915733	20	2 8.2	20.0
320373	2007	TV ₄₁₉	15.2	X	76.50579	260.95052	105.76183	15.98149	0.1167102	0.17193011	3.2030822	20	—	—
320374	2007	TK ₄₄₇	17.2	X	147.45416	7.53589	97.48844	6.85486	0.1381801	0.27837303	2.3230111	20	6 14.0	20.6
320375	2007	TJ ₄₄₉	16.2	X	5.87854	247.40440	32.50736	5.34243	0.1297602	0.21023382	2.8011368	20	7 27.5	19.4
320376	2007	TV ₄₅₂	15.4	X	305.68535	190.47029	105.91672	18.06263	0.0136253	0.18439841	3.0570175	20	5 24.6	19.9
320377	2007	UP	17.8	X	184.40828	109.97204	45.18576	6.52949	0.0744590	0.29911381	2.2143439	20	10 7.6	20.7
320378	2007	UR ₃	21.3	X	116.94898	316.20334	156.09549	1.31148	0.2838118	0.50584354	1.5600023	20	6 6.3	22.6
320379	2007	UE ₄	15.5	X	77.17147	243.04910	189.02026	11.16323	0.1043889	0.18025606	3.1036743	20	2 6.8	19.8
320380	2007	UR ₄	16.0	X	193.71798	75.42493	14.38662	6.32374	0.0697078	0.21079253	2.7961850	20	7 12.9	20.2
320381	2007	UR ₁₀	17.9	X	207.39110	125.59343	264.11726	1.64506	0.2291153	0.27843805	2.3226494	20	5 2.1	21.6
320382	2007	UT ₁₁	16.9	X	255.96594	359.05025	62.71902	7.39395	0.1357088	0.29400062	2.2399443	20	8 22.3	19.6
320383	2007	UL ₁₈	16.2	X	281.12187	303.63818	72.79550	8.80512	0.2345726	0.21647128	2.7470666	20	6 27.9	19.9
320384	2007	UR ₂₃	16.3	X	181.00481	299.55906	144.50147	2.67576	0.0359104	0.20398693	2.8580368	20	6 19.9	20.5
320385	2007	UT ₃₆	17.4	X	209.06163	34.72329	14.47064	7.51434	0.1714708	0.28176088	2.3043525	20	5 30.1	21.1
320386	2007	UV ₃₆	16.9	X	55.36666	0.95369	88.20372	5.76268	0.1466289	0.25750956	2.4468489	20	1 18.9	19.2
320387	2007	UZ ₄₀	18.3	X	183.16710	236.83597	356.91740	1.72109	0.0725149	0.31821131	2.1248371	20	—	—
320388	2007	UT ₄₃	16.9	X	307.50681	165.77274	172.78499	4.25353	0.1104810	0.21309702	2.7759894	20	7 5.2	20.3
320389	2007	UK ₄₇	16.2	X	239.00938	305.85947	87.85149	13.90497	0.0773075	0.20408965	2.8570778	20	6 20.5	20.1

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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>
320401 2007 UK ₁₀₉	16.2	X	93.25961	58.85284	63.84012	1.62973	0.0791842	0.19138645	2.9821439	20	4 29.3	20.4
320402 2007 UC ₁₁₂	16.2	X	121.76276	74.35246	37.60539	6.45171	0.0435712	0.19835010	2.9119311	20	5 14.8	20.3
320403 2007 UD ₁₁₅	18.0	X	340.41971	0.28434	29.63629	3.89956	0.0231246	0.30521670	2.1847271	20	11 29.1	20.3
320404 2007 UF ₁₁₉	17.7	X	205.88216	332.58898	81.02243	1.08225	0.2011547	0.28250865	2.3002845	20	6 2.1	21.2
320405 2007 UN ₁₂₂	16.7	X	271.92110	154.78958	190.69787	1.64874	0.0818338	0.20376746	2.8600886	20	5 29.1	20.7
320406 2007 UC ₁₃₄	15.5	X	118.91950	235.73006	162.14960	16.14284	0.1050744	0.17959907	3.1112386	20	2 18.6	20.1
320407 2007 US ₁₃₈	17.9	X	272.52046	317.07474	109.73983	3.70383	0.1132892	0.29710673	2.2243053	20	9 28.5	20.0
320408 2007 UN ₁₃₉	17.2	X	29.07999	35.69776	280.14792	6.39312	0.1416612	0.30358729	2.1925373	20	11 12.5	19.7
320409 2007 UH ₁₄₀	17.8	X	184.98964	111.05296	291.64629	1.37469	0.1648105	0.27319067	2.3522969	20	4 29.9	21.6
320410 2007 VE	16.5	X	274.92082	218.04270	165.89819	6.56325	0.0553938	0.21276587	2.7788690	20	7 26.7	20.3
320411 2007 VL ₁	17.0	X	214.91889	161.98479	274.38806	6.64422	0.0592948	0.29107908	2.2549074	20	7 23.8	19.8
320412 2007 VZ ₁	17.3	X	132.68987	126.30522	265.70622	5.13421	0.1266724	0.26361063	2.4089481	20	2 18.7	20.7
320413 2007 VF ₂	17.3	X	105.86013	142.10297	291.47891	5.02608	0.1860759	0.26248702	2.4158177	20	3 19.9	20.6
320414 2007 VP ₂	16.0	X	129.33355	54.98212	37.91120	10.47537	0.0798725	0.19259785	2.9696261	20	5 3.9	20.3
320415 2007 VV ₁₀	17.0	X	209.01177	269.18220	124.54399	7.68049	0.2530858	0.27846026	2.3225259	20	5 10.9	21.1
320416 2007 VU ₁₂	17.0	X	265.39154	70.93426	268.17339	5.27576	0.2259872	0.28269648	2.2992654	20	4 18.3	20.5
320417 2007 VE ₃₂	15.5	X	32.30927	234.09368	270.18995	6.17952	0.2051432	0.18039710	3.1020563	20	3 8.4	18.9
320418 2007 VO ₄₄	17.7	X	152.97233	151.82870	323.87293	4.35410	0.1652947	0.27957285	2.3163600	20	7 5.5	21.3
320419 2007 VR ₄₈	16.1	X	22.99280	159.91271	342.20498	4.53199	0.0800906	0.17933838	3.1142530	20	2 17.3	20.0
320420 2007 VL ₅₆	15.4	X	160.60791	260.23768	80.67591	10.25406	0.0856121	0.17810499	3.1286141	20	1 27.6	20.2
320421 2007 VH ₅₈	16.9	X	284.67055	228.99473	19.27789	4.75452	0.0989841	0.26101136	2.4249146	20	2 2.6	20.1
320422 2007 VS ₅₈	17.5	X	110.45531	247.12786	277.20235	4.42172	0.1586164	0.27876233	2.3208478	20	7 25.6	20.8
320423 2007 VA ₅₉	18.1	X	118.19009	210.78449	285.54024	2.79653	0.1730916	0.27414983	2.3468071	20	6 27.8	21.6
320424 2007 VC ₆₄	16.9	X	181.24542	68.12648	48.59895	6.22524	0.1018129	0.28424770	2.2908927	20	8 8.2	20.2
320425 2007 VO ₆₆	17.5	X	277.12059	89.97952	255.76799	7.28271	0.1547796	0.28404812	2.2919657	20	5 23.9	20.2
320426 2007 VJ ₈₆	16.0	X	60.49978	291.19329	10.12566	10.24844	0.1614176	0.23067059	2.6331437	20	11 18.6	19.9
320427 2007 VA ₈₈	17.1	X	74.65835	343.34808	331.62419	4.76779	0.1220172	0.31173003	2.1541881	20	—	—
320428 2007 VP ₈₉	17.4	X	147.82594	16.94820	74.84769	5.61764	0.1551721	0.27511257	2.3413289	20	5 28.5	20.9
320429 2007 VN ₉₁	17.5	X	200.17632	126.08984	305.91679	4.70898	0.1353400	0.28239051	2.3009260	20	6 24.5	20.8
320430 2007 VV ₉₁	15.3	X	253.52921	206.12795	46.61385	12.48920	0.0360720	0.17669200	3.1452714	20	1 23.9	20.0
320431 2007 VE ₉₄	17.3	X	236.75549	214.46684	260.47478	4.49613	0.0757634	0.29928455	2.2135016	20	10 16.2	20.0
320432 2007 VP ₉₆	17.0	X	33.27616	194.29194	12.80622	7.05123	0.0618893	0.27615891	2.3354111	20	5 20.9	19.7
320433 2007 VF ₉₉	17.6	X	242.42790	282.95044	167.95774	2.95526	0.1185695	0.29646311	2.2275234	20	9 13.9	20.2
320434 2007 VF ₁₀₅	16.9	X	59.43884	50.27794	246.73531	2.63313	0.0589913	0.22387905	2.6861303	20	10 30.0	20.4
320435 2007 VL ₁₁₀	17.4	X	149.10356	78.27675	52.02079	7.53486	0.0556635	0.28220600	2.3019288	20	7 18.3	20.5
320436 2007 VX ₁₁₄	17.6	X	222.41850	278.92349	174.43571	2.31932	0.1186274	0.28937281	2.2637627	20	8 20.1	20.4
320437 2007 VM ₁₁₅	18.0	X	105.41067	313.63419	150.83336	2.90295	0.1413544	0.26578963	2.3957640	20	4 27.5	21.1
320438 2007 VY ₁₄₁	17.5	X	128.69615	279.08579	212.60074	4.78235	0.067209	0.27830291	2.3234013	20	6 23.9	20.6
320439 2007 VO ₁₄₅	17.5	X	301.78438	88.58644	279.44794	6.50029	0.1407742	0.29210481	2.2496256	20	8 10.3	19.5
320440 2007 VA ₁₅₀	17.5	X	146.03349	130.59961	71.95363	7.67437	0.0882280	0.29709938	2.2243419	20	10 26.4	20.6
320441 2007 VN ₁₅₁	16.6	X	26.49361	150.42914	355.42188	13.32362	0.1717454	0.24329643	2.5412393	20	2 21.4	18.9
320442 2007 VV ₁₆₅	16.2	X	11.45978	5.90786	153.98735	1.25742	0.0814052	0.17817477	3.1277971	20	2 22.1	20.0
320443 2007 VO ₁₈₈	17.3	X	239.45578	154.42403	281.93807	4.41387	0.1152388	0.29147995	2.2528395	20	8 17.6	20.2
320444 2007 VS ₁₉₀	17.3	X	13.00714	279.45654	67.18670	4.88669	0.2218747	0.30686600	2.1768919	20	12 18.8	19.5
320445 2007 VA ₁₉₂	17.5	X	92.42313	182.71510	281.62972	1.70657	0.1566144	0.25753351	2.4466972	20	4 10.9	20.7
320446 2007 VS ₁₉₂	16.4	X	87.31841	330.94050	151.34811	0.73652	0.1317069	0.18025830	3.1036485	20	4 29.4	20.8
320447 2007 VU ₁₉₄	16.8	X	104.24868	192.98835	78.12260	7.75399	0.1923961	0.29641390	2.2277699	20	12 10.2	20.2
320448 2007 VX ₁₉₄	18.0	X	151.50662	167.50843	282.56200	4.53574	0.2002995	0.26840834	2.3801558	20	5 31.6	21.7
320449 2007 VN ₁₉₈	15.4	X	287.57418	192.55383	102.47016	7.85856	0.0586204	0.18193115	3.0845939	20	4 21.6	19.8
320450 2007 VT ₂₀₀	17.4	X	17.54073	326.22985	219.10891	4.72093	0.1662896	0.26744718	2.3858549	20	3 23.7	19.2
320451 2007 VU ₂₀₀	17.5	X	209.37206	216.06601	190.30138	6.16651	0.1199246	0.28028436	3.1124382	20	5 31.9	20.8
320452 2007 VV ₂₁₀	16.7	X	164.25319	62.04790	333.85852	4.40647	0.0190638	0.18925311	2.3004512	20	3 28.5	21.0
320453 2007 VT ₂₁₁	17.7	X	105.69344	122.34891	132.29156	3.12212	0.0797244	0.30323215	2.1942489	20	11 18.4	20.5
320454 2007 VS ₂₁₇	17.7	X	124.37486	149.02168	67.49417	3.11081	0.1197572	0.29490125	2.2353814	20	10 19.6	20.8
320455 2007 VZ ₂₂₁	16.1	X	278.60981	221.65403	248.54531	12.01649	0.2083152	0.22383261	2.6865018	20	11 4.8	19.2
320456 2007 VN ₂₂₈	16.9	X	60.82788	123.77449	84.30553	9.13512	0.1580665	0.26837539	2.3803506	20	7 25.8	19.8
320457 2007 VD ₂₂₉	17.4	X	193.75999	336.71901	318.85011	1.49745	0.1194249	0.25427605	2.4675488	20	—	—
320458 2007 VU ₂₃₁	17.5	X	99.70360	169.54943	54.32468	8.97136	0.0760159	0.29273111	2.2464157	20	10 1.7	20.5
320459 2007 VP ₂₃₄	17.6	X	276.82986	172.66926	233.60599	5.45995	0.1814643	0.29397181	2.2400907	20	8 16.9	20.0
320460 2007 VE ₂₃₆	18.0	X	163.83097	127.97094	44.77502	2.24083	0.0615477	0.29679990	2.2258380	20	10 5.6	20.9
320461 2007 VG ₂₄₅	17.3	X	150.12832	9.12012	102.84689	3.26488	0.1576184	0.27689822	2.3312523	20	6 26.8	20.9
320462 2007 VM ₂₄₉	17.6	X	303.08929	233.30963	161.41116	7.48462	0.0813433	0.29913889	2.2142201	20	10 8.1	19.6
320463 2007 VN ₂₆₅	17.7	X	31.59466	44.76316	253.51993	6.05955	0.1414286	0.29622094	2.2287373	20	10 19.7	20.2
320464 2007 VY ₂₆₈	17.3	X	282.37985	222.86064	198.16803	6.56055	0.0806263	0.29705717	2.2245527	20	10 9.2	19.2
320465 2007 VF ₂₇₆	17.2	X	32.71204	134.10096	69.27495	5.79428	0.1857624	0.26052830	2.4279111	20	5 31.7	19.0
320466 2007 VR ₂₈₀	18.2	X	214.80104	13.68608	59.38402	0.58143	0.1513569	0.28518473	2.2858718	20	7 10.6	21.2
320467 2007 VM ₂₈₁	17.4	X	206.68959	147.18206	265.18756	1.27399	0.2008681	0.27994607	2.3143008	20	6 1.1	20.9
320468 2007 VV ₂₈₂	17.2	X	124.46471	200.16927	233.99311	5.99550	0.0958687	0.26567893	2.3964294	20	3 31.6	20.6
320469 2007 VK ₂₈₄	18.0	X	271.85048	7.90133	74.00863	3.84232	0.0608018	0.29925586	2.2136431	20	10 27.7	20.4
320470 2007 VC ₂₉₂	16.2	X	148.65152	229.98498	80.05998	3.64981	0.1820106	0.17267281	3.1938909	20	1 11.7	21.4
320471 2007 VO ₂₉₂	17.9	X	113.29935	291.45343	145.51663	1.37962	0.1764959	0.26210602	2.4181583	20	4 4.5	21.1
320472 2007 VD ₂₉₄	18.0	X	176.84310	329.85192	173.18019	4.29788	0.0937157	0.29128138	2.2538633	20	9 6.6	21.2
320473 2007 VJ ₃₀₆	15.3	X	255.76932	102.06073	107.58531							

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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>
320481 2007 VX ₃₂₄	16.6 ^m	X	72.92061	280.53912	110.53126	6.39497	0.1291944	0.24519436	2.5281087	20	—	—
320482 2007 VO ₃₂₈	17.5	X	263.90024	68.71119	312.09391	5.86323	0.1640105	0.28928756	2.2642074	20	6 25.0	20.3
320483 2007 VF ₃₂₉	18.1	X	233.90645	140.72434	289.45996	2.28008	0.1436334	0.28793317	2.2713022	20	7 29.4	21.2
320484 2007 VC ₃₃₁	16.4	X	230.12608	278.77031	107.64682	3.14726	0.1381204	0.19558627	2.9392993	20	5 26.5	20.9
320485 2007 VO ₃₃₂	17.0	X	126.76549	145.95979	15.60979	8.44909	0.1078255	0.28269577	2.2992693	20	8 9.4	20.3
320486 2007 VQ ₃₃₂	16.8	X	213.21797	88.32739	293.45492	11.47708	0.2056771	0.27704358	2.3304368	20	4 23.4	20.8
320487 2007 VM ₃₃₃	17.6	X	208.54276	297.37528	151.64072	5.50120	0.1046803	0.28501141	2.2867984	20	7 29.0	20.8
320488 2007 VF ₃₃₅	16.4	X	215.34855	48.96131	264.50951	5.36970	0.1317959	0.26058535	2.4275567	20	2 5.8	20.2
320489 2007 WG ₄	17.8	X	29.16425	89.45093	242.18292	3.04465	0.1787697	0.30646346	2.1787977	20	12 12.8	20.4
320490 2007 WB ₇	17.4	X	227.18971	31.42033	335.70931	2.11521	0.2042672	0.27829883	2.3234240	20	4 21.1	20.9
320491 2007 WD ₁₂	17.2	X	219.43717	293.97159	118.94615	6.94381	0.1512361	0.28326965	2.2961628	20	6 18.2	20.6
320492 2007 WR ₁₅	17.4	X	276.68007	337.93950	81.05273	5.59064	0.1498940	0.29565385	2.2315863	20	9 18.7	19.5
320493 2007 WE ₁₆	18.0	X	123.01557	1.73676	137.64374	1.90042	0.1354233	0.27564539	2.3383108	20	7 3.6	21.2
320494 2007 WN ₁₆	16.0	X	10.58501	52.88166	91.01010	6.60517	0.1267104	0.17299481	3.1899264	20	2 1.5	19.8
320495 2007 WL ₂₃	16.7	X	189.34163	289.19455	147.67549	2.60698	0.0454907	0.20329034	2.8645620	20	6 20.4	20.7
320496 2007 WL ₄₂	18.4	X	170.83286	248.58755	170.34456	1.22895	0.1709098	0.27292140	2.3538439	20	5 8.7	22.1
320497 2007 WR ₄₅	17.1	X	4.24160	28.97623	134.35687	7.28789	0.0823721	0.30150553	2.2026181	20	11 1.9	19.5
320498 2007 WX ₄₈	16.9	X	267.48164	195.68168	193.12273	3.44597	0.1041524	0.20947838	2.8078673	20	7 15.7	20.7
320499 2007 WR ₆₃	17.1	X	232.65722	315.79080	105.90529	5.41026	0.0270170	0.28526948	2.2854191	20	8 2.1	19.7
320500 2007 XG ₅	16.1	X	169.86883	279.63169	113.19329	2.39693	0.0921333	0.18740080	3.0242783	20	4 6.4	20.7
320501 2007 XQ ₆	17.4	X	190.51135	179.37924	266.16150	2.87872	0.1846541	0.27950585	2.3167301	20	6 30.5	20.8
320502 2007 XE ₁₄	15.3	X	255.73534	254.98735	69.56177	10.37437	0.0650246	0.19094154	2.9867745	20	4 18.6	19.7
320503 2007 XO ₁₇	18.3	X	112.06148	76.94226	48.01406	3.10989	0.1718574	0.26879224	2.3778890	20	6 5.1	21.6
320504 2007 XS ₂₀	17.6	X	167.41313	345.63229	78.87108	3.68932	0.1721488	0.27148139	2.3621602	20	5 12.9	21.2
320505 2007 XE ₂₂	18.1	X	167.88555	155.22426	284.40366	2.23012	0.1665621	0.27401912	2.3475533	20	6 1.2	21.6
320506 2007 XN ₂₂	17.5	X	132.12171	220.55731	266.90443	2.66025	0.1442368	0.27446408	2.3450154	20	6 28.1	21.0
320507 2007 XJ ₃₉	17.2	X	257.00690	69.05880	335.70620	5.64578	0.1365515	0.28499373	2.2868930	20	7 25.7	20.0
320508 2007 XX ₄₅	15.5	X	119.77741	228.55092	220.51697	8.66633	0.1277984	0.18604829	3.0389177	20	4 24.4	20.0
320509 2007 XA ₄₆	16.9	X	115.97320	359.25857	101.35472	12.39471	0.1993674	0.26583627	2.3954837	20	5 15.2	20.6
320510 2007 XN ₅₁	18.2	X	71.09003	266.29493	215.53486	0.56384	0.1408448	0.25696999	2.4502728	20	4 1.8	20.7
320511 2007 XU ₅₄	16.7	X	205.35112	214.98409	163.45965	0.50872	0.0407492	0.19071318	2.9891583	20	4 25.9	21.0
320512 2007 XB ₅₆	16.7	X	204.69342	295.72546	74.28389	8.39583	0.2055842	0.27234179	2.3571824	20	4 10.2	20.7
320513 2007 XU ₅₇	17.4	X	101.28008	240.32140	264.09844	1.75667	0.1042114	0.26298700	2.4127548	20	6 10.3	20.3
320514 2007 XM ₅₈	18.0	X	152.99879	77.26303	16.42270	5.11803	0.1705903	0.26946683	2.3739187	20	6 4.9	21.7
320515 2007 YA ₃	17.6	X	141.83590	146.67182	330.39911	2.48491	0.1828307	0.27009224	2.3702526	20	6 26.6	21.3
320516 2007 YP ₃	17.6	X	195.26977	10.13521	57.20328	1.02209	0.1980547	0.27854008	2.3220822	20	6 10.5	21.1
320517 2007 YT ₈	16.9	X	336.16366	228.29258	345.95654	5.46708	0.0516224	0.25670479	2.4519601	20	3 3.8	19.6
320518 2007 YS ₁₈	17.1	X	326.47526	241.24305	105.18836	4.64516	0.0613280	0.28789688	2.2714930	20	9 3.3	19.4
320519 2007 YO ₂₂	17.8	X	44.38928	351.97948	142.40934	1.38648	0.1236371	0.25319688	2.4745552	20	3 2.9	20.0
320520 2007 YZ ₂₇	17.6	X	84.13343	131.72909	355.15335	5.13966	0.1881564	0.25955159	2.4339982	20	5 4.8	20.6
320521 2007 YU ₃₀	17.4	X	59.79962	198.61812	21.22707	3.19785	0.0710032	0.27924807	2.3181557	20	7 27.3	20.1
320522 2007 YH ₃₇	17.4	X	169.58858	23.94951	73.73111	3.28504	0.1646279	0.27427187	2.3461109	20	6 26.9	21.1
320523 2007 YZ ₃₈	17.6	X	121.55511	85.95255	54.47583	3.00093	0.1306155	0.27085654	2.3657917	20	7 3.1	20.9
320524 2007 YY ₄₀	16.8	X	56.62920	72.73065	85.59255	14.01253	0.0756010	0.26090291	2.4255865	20	4 27.9	19.8
320525 2007 YG ₄₁	17.0	X	51.36664	183.90287	356.62676	2.60416	0.1420075	0.26174825	2.4203613	20	5 24.6	19.5
320526 2007 YW ₄₁	16.0	X	268.69285	207.39389	52.54736	1.27509	0.0540857	0.16856839	3.2455275	20	2 15.0	20.6
320527 2007 YX ₄₃	18.0	X	136.60048	82.41851	30.31211	1.60693	0.1421989	0.26755512	2.3852132	20	6 12.6	21.4
320528 2007 YZ ₄₅	17.8	X	135.42422	346.80446	128.77980	2.96798	0.1541631	0.26788735	2.3832407	20	6 16.4	21.4
320529 2007 YU ₅₂	16.7	X	77.57150	323.43372	57.32364	6.67149	0.1538598	0.23995461	2.5647792	20	—	—
320530 2007 YX ₅₈	17.2	X	136.36033	336.83175	136.12619	5.92154	0.0936073	0.26739924	2.3861401	20	6 9.6	20.6
320531 2007 YX ₆₁	17.6	X	77.87764	236.91260	198.90106	1.16709	0.1806854	0.24488820	2.5302153	20	2 15.7	20.3
320532 2007 YS ₆₂	17.7	X	5.44957	331.71384	291.11251	3.49555	0.1231441	0.26938908	2.3743754	20	7 3.1	19.7
320533 2007 YY ₆₃	17.1	X	167.34019	133.62278	269.88554	3.10454	0.1608134	0.26065343	2.4271340	20	4 13.8	20.9
320534 2007 YU ₆₄	17.5	X	87.92929	338.47846	145.35502	1.80198	0.1428364	0.25725548	2.4484597	20	5 1.1	20.4
320535 2007 YY ₆₅	17.4	X	14.69447	45.22231	160.81867	1.48867	0.1260598	0.25849056	2.4406542	20	4 22.6	19.5
320536 2007 YA ₆₇	17.1	X	352.93975	121.74417	102.67822	5.57261	0.0726307	0.25861814	2.4398515	20	4 14.3	19.8
320537 2007 YC ₆₉	17.3	X	263.38077	305.02432	342.92889	5.69712	0.1190527	0.25310823	2.4751330	20	2 26.2	20.8
320538 2007 YY ₇₀	17.0	X	195.93940	70.53037	6.93256	6.37674	0.0788752	0.28090248	2.3090447	20	6 30.6	20.2
320539 2007 YQ ₇₁	16.8	X	96.30110	233.18372	196.82710	5.50654	0.1409119	0.25134854	2.4866718	20	2 26.9	19.9
320540 2008 AN ₂	15.3	X	115.67227	354.44077	108.71382	13.10325	0.0394455	0.17955791	3.1117141	20	5 2.6	20.0
320541 2008 AD ₃	16.8	X	131.66956	172.10122	312.96760	6.45642	0.1454521	0.26659213	2.3909537	20	6 24.7	20.4
320542 2008 AK ₁₀	16.9	X	350.09567	230.57538	279.93961	4.93774	0.1110942	0.24207299	2.5497943	20	—	—
320543 2008 AY ₁₄	16.5	X	176.76108	264.92077	140.63669	6.43828	0.0838376	0.26270255	2.4144962	20	4 27.5	20.0
320544 2008 AJ ₁₅	18.0	X	122.62839	285.93863	190.04311	1.71149	0.1589039	0.26482359	2.4015867	20	6 3.7	21.4
320545 2008 AC ₁₆	17.0	X	0.87592	25.58276	134.05284	10.17080	0.1368335	0.24589092	2.5233319	20	1 18.7	19.7
320546 2008 AC ₁₇	17.1	X	63.41142	241.20984	278.81451	3.04595	0.1408110	0.25891417	2.4379914	20	5 14.2	19.7
320547 2008 AL ₁₉	16.3	X	54.41113	75.48886	113.54487	7.33950	0.1152166	0.26165076	2.4209624	20	6 8.9	19.1
320548 2008 AR ₃₀	17.7	X	181.58942	111.03882	337.76921	6.02700	0.0587159	0.27332141	2.3515467	20	6 29.4	21.0
320549 2008 AD ₃₄	17.1	X	207.40173	259.30150	116.46966	7.07727	0.1287329	0.26515294	2.3995976	20	4 21.6	20.8
320550 2008 AL ₃₆	17.1	X	212.21815	263.12703	116.47604	7.00319	0.1454031	0.26652268	2.3913691	20	4 30.4	20.9
320551 2008 AL ₃₈	17.7	X	44.55296	87.75436	160.98694	5.62059	0.1329918	0.27468587	2.3437530	20	8 24.3	20.3
320552 2008 AE ₃₉	17.0	X	81.94146	78.49357	153.69727	1.42892	0.2211077	0.27494304	2.3422913	20	10 1.3	20.4
320553 2008 AD ₄₁	17.1	X	17.42155	202.46192	12.38641	3.68734	0.1504448	0.25745587	2.4471890	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>
320561 2008 AJ ₆₈	17.4	X	100.10007	351.87368	128.43945	2.34991	0.1145371	0.25961036	2.4336308	20	5 8.5	20.6
320562 2008 AE ₇₄	17.4	X	131.39968	311.51400	162.71668	1.44082	0.1309115	0.26501061	2.4004567	20	6 8.3	20.9
320563 2008 AT ₇₈	17.6	X	138.22840	173.89140	334.18958	1.00042	0.1200596	0.27344503	2.3508379	20	7 31.3	20.8
320564 2008 AG ₈₂	17.0	X	28.19318	162.46123	47.22546	4.09946	0.1212863	0.26262523	2.4149701	20	5 23.8	19.2
320565 2008 AF ₈₃	16.3	X	172.33530	159.40903	105.61982	15.49096	0.0683411	0.22960094	2.6413154	20	—	—
320566 2008 AO ₈₆	17.1	X	10.37400	92.76767	115.34997	6.84848	0.1455119	0.25889832	2.4380909	20	4 20.4	19.4
320567 2008 AL ₈₇	17.1	X	334.57724	24.10029	292.85615	6.39928	0.1238217	0.27372796	2.3492177	20	7 26.6	19.2
320568 2008 AT ₉₁	16.9	X	68.37138	94.87904	89.33267	5.06803	0.0840337	0.26493414	2.4009186	20	6 17.8	19.8
320569 2008 AZ ₉₂	17.4	X	160.10066	355.66016	30.62306	2.99075	0.1961372	0.25940568	2.4349109	20	3 20.6	21.3
320570 2008 AP ₉₈	17.3	X	144.07344	22.81622	85.47351	5.55535	0.0475084	0.26731579	2.3866367	20	6 8.1	20.5
320571 2008 AO ₁₀₃	17.4	X	174.48671	2.58877	87.69519	4.14258	0.1420716	0.27371836	2.3492727	20	6 21.9	20.8
320572 2008 AB ₁₀₄	17.9	X	148.68912	77.12969	23.68034	1.63718	0.1349599	0.27005103	2.3704938	20	6 8.9	21.5
320573 2008 AL ₁₀₄	17.4	X	227.33562	328.74275	113.72242	6.27146	0.0207100	0.28276178	2.2989115	20	8 26.8	20.2
320574 2008 AP ₁₀₅	17.5	X	179.28206	65.40355	13.34678	2.14535	0.2176875	0.27327390	2.3518193	20	6 10.8	21.3
320575 2008 AM ₁₁₀	16.9	X	122.80427	357.46715	125.04064	3.98157	0.0770145	0.26533680	2.3984890	20	6 4.3	20.1
320576 2008 AA ₁₁₂	17.2	X	184.10499	46.25633	123.59337	6.09202	0.0707715	0.28702139	2.2761098	20	10 26.5	20.3
320577 2008 AP ₁₁₅	17.8	X	170.72275	185.46657	206.45906	0.68953	0.1893395	0.25870732	2.4392907	20	4 4.8	21.7
320578 2008 AU ₁₁₅	17.5	X	173.79954	75.24742	321.50561	4.42501	0.1186563	0.25994616	2.4315345	20	4 9.1	21.3
320579 2008 AV ₁₂₆	17.2	X	63.43573	162.23339	116.92672	5.49260	0.1086767	0.28885418	2.2664716	20	11 2.9	20.1
320580 2008 AX ₁₂₈	17.0	X	17.09577	278.69693	293.47536	5.31395	0.1012136	0.26236644	2.4165578	20	5 2.8	19.5
320581 2008 AX ₁₃₄	16.8	X	33.46287	158.24514	293.86406	13.42295	0.0988162	0.23895387	2.5719351	20	—	—
320582 2008 AW ₁₃₆	17.5	X	54.68310	347.41800	159.53771	6.02699	0.1283475	0.25499189	2.4629285	20	4 11.1	20.1
320583 2008 BE ₃	16.6	X	53.38583	27.04950	355.25231	3.21131	0.2736701	0.23704158	2.5857490	20	—	—
320584 2008 BO ₁₀	17.4	X	137.64023	99.46318	8.09058	6.52661	0.0918397	0.26728817	2.3868010	20	6 1.4	20.8
320585 2008 BN ₁₂	16.7	X	102.68051	146.58781	10.34135	7.19689	0.0338440	0.26883049	2.3776634	20	6 19.4	19.9
320586 2008 BS ₁₈	17.4	X	43.09940	315.60577	221.94790	2.69270	0.1330792	0.25840417	2.4411982	20	5 4.5	19.7
320587 2008 BW ₁₈	17.1	X	163.88860	309.93175	145.61155	7.09861	0.1150299	0.27052516	2.3677233	20	6 17.9	20.7
320588 2008 BE ₂₀	17.2	X	76.67470	228.19205	324.37914	6.13053	0.0747761	0.26890359	2.3772325	20	7 11.9	20.1
320589 2008 BN ₂₀	17.2	X	117.24094	2.96646	103.01147	3.35392	0.1849430	0.26138293	2.4226159	20	5 18.8	20.8
320590 2008 BE ₂₁	16.8	X	334.07672	292.21977	156.04010	4.60739	0.0654262	0.22192451	2.7018789	20	—	—
320591 2008 BD ₂₅	17.2	X	167.48471	210.02373	167.91897	1.73876	0.1841845	0.25851695	2.4404881	20	3 15.5	21.0
320592 2008 BT ₂₉	17.6	X	96.20103	340.38585	155.08949	3.31401	0.1607587	0.26187577	2.4195755	20	5 31.1	20.8
320593 2008 BF ₃₀	16.7	X	21.03467	79.91104	186.52894	1.68662	0.0695705	0.19400192	2.9552805	20	7 25.1	20.4
320594 2008 BG ₃₃	16.3	X	91.95144	238.55753	153.96696	14.02696	0.1005187	0.23510705	2.5999138	20	—	—
320595 2008 BX ₃₃	16.9	X	98.04964	67.19883	90.58234	3.37998	0.1338262	0.26369429	2.4084385	20	6 29.0	20.2
320596 2008 BD ₃₄	16.5	X	337.76104	311.55575	317.55363	5.11437	0.1103804	0.25795998	2.4439998	20	5 16.2	19.1
320597 2008 BY ₃₇	17.0	X	93.77718	332.50304	148.72596	6.32514	0.1751159	0.25756948	2.4464694	20	5 12.1	20.3
320598 2008 BO ₃₉	17.1	X	187.33168	321.78499	85.63236	7.20556	0.1393992	0.26657818	2.3910371	20	5 10.8	20.9
320599 2008 BQ ₄₀	16.8	X	35.15305	66.18787	28.29729	4.93441	0.1235135	0.24008863	2.5638247	20	—	—
320600 2008 BM ₄₁	16.9	X	47.55490	70.66375	122.22036	2.95230	0.1444901	0.26015826	2.4302128	20	6 7.2	19.4
320601 2008 BP ₄₁	16.8	X	53.07845	143.64455	42.54860	3.27921	0.1275592	0.26077890	2.4263554	20	6 3.2	19.3
320602 2008 BA ₅₀	17.4	X	221.23087	194.91604	143.78519	7.23853	0.0436239	0.25479811	2.4641771	20	3 22.4	20.7
320603 2008 BH ₅₂	16.5	X	39.14897	127.61096	311.52246	12.76252	0.1391400	0.23555815	2.5965935	20	—	—
320604 2008 BO ₅₂	16.9	X	165.34339	58.10022	357.99684	13.09109	0.1288870	0.26128745	2.4232061	20	4 23.1	20.7
320605 2008 BC ₅₃	15.9	X	114.93527	88.37368	340.67100	14.80274	0.0526465	0.24335136	2.5408568	20	3 8.8	19.3
320606 2008 CM ₂	17.1	X	50.07559	196.05545	93.05104	3.44684	0.1684375	0.28408630	2.2917603	20	11 6.0	20.1
320607 2008 CT ₂	16.2	X	201.21617	89.33359	155.86447	13.72025	0.0997096	0.22044594	2.7139467	20	—	—
320608 2008 CU ₆	17.4	X	34.86225	230.19388	350.49141	2.44391	0.0576610	0.26785909	2.3834083	20	6 14.6	20.0
320609 2008 CW ₆	17.3	X	53.43657	128.70369	96.72175	4.32719	0.1902739	0.26942814	2.3741460	20	8 14.7	20.0
320610 2008 CM ₁₀	15.6	X	192.39973	331.29757	13.01105	7.02744	0.2413533	0.24328874	2.5412928	20	2 29.3	20.1
320611 2008 CT ₁₁	16.4	X	67.39162	213.72746	108.51768	3.88266	0.0774033	0.21375479	2.7702915	20	12 11.4	20.3
320612 2008 CH ₁₈	16.5	X	199.49346	334.51979	1.54200	4.08363	0.1190457	0.24375155	2.5380751	20	2 22.8	20.3
320613 2008 CW ₂₁	16.3	X	326.32785	117.03864	57.77047	31.45697	0.2437686	0.23310814	2.6147555	20	—	—
320614 2008 CL ₂₃	17.0	X	16.58513	288.51608	311.94404	7.50862	0.1528656	0.26078080	2.4263436	20	6 22.6	19.2
320615 2008 CE ₂₄	17.8	X	102.06599	323.20294	137.92995	3.67695	0.1366640	0.25412740	2.4685109	20	4 19.1	21.1
320616 2008 CV ₂₄	17.3	X	4.61100	192.19508	40.92229	3.03189	0.1357430	0.25532669	2.4607750	20	5 13.8	19.4
320617 2008 CH ₂₇	17.6	X	72.83657	52.57740	26.85466	3.24638	0.0762783	0.24475686	2.5311203	20	1 30.6	20.6
320618 2008 CN ₂₇	16.2	X	147.28215	344.98214	339.19598	11.87624	0.2057767	0.23431765	2.6057498	20	—	—
320619 2008 CJ ₃₂	16.8	X	254.04204	286.28792	349.93604	4.09592	0.1814868	0.24136044	2.5548103	20	1 29.9	20.9
320620 2008 CR ₃₃	17.7	X	49.50019	211.44148	7.01236	3.06863	0.2172425	0.26204075	2.4185598	20	8 2.1	20.3
320621 2008 CA ₃₄	17.6	X	16.35329	204.27069	20.47767	2.61255	0.1540940	0.25717293	2.4489836	20	5 26.2	19.7
320622 2008 CG ₃₄	17.4	X	22.45553	135.81870	323.99473	4.31586	0.2700234	0.23931380	2.5693556	20	—	—
320623 2008 CA ₄₀	17.5	X	58.67567	62.57035	153.44709	2.77835	0.1611241	0.26582427	2.3955558	20	8 1.6	20.2
320624 2008 CT ₄₀	16.7	X	99.39585	298.18285	294.22753	5.16862	0.0850639	0.27808303	2.3246258	20	10 4.2	20.0
320625 2008 CE ₄₂	17.0	X	67.78541	253.88726	170.80120	13.48711	0.1521489	0.23925222	2.5697965	20	1 10.0	20.0
320626 2008 CN ₄₅	17.7	X	64.82587	65.35475	72.83747	3.52010	0.1167805	0.25092507	2.4894687	20	4 13.6	20.4
320627 2008 CF ₄₉	17.1	X	169.32507	314.78156	113.95851	4.05915	0.1074030	0.26524250	2.3990574	20	5 19.1	20.6
320628 2008 CB ₆₉	17.1	X	350.93718	320.18533	284.77913	5.40071	0.0720567	0.26208318	2.4182987	20	5 5.9	19.8
320629 2008 CS ₇₀	17.4	X	338.41500	222.12542	69.04431	4.31395	0.0927240	0.27004552	2.3705261	20	6 24.4	19.7
320630 2008 CQ ₇₄	17.4	X	14.64777	196.52502	1.17937	9.67474	0.2015798	0.25242450	2.4796005	20	4 7.7	19.3
320631 2008 CA ₇₅	16.1	X	235.76335	132.83296	140.49522	11.39738	0.0817603	0.23135129	2.6279762	20	1 14.4	20.0
320632 2008 CT ₇₆	17.2	X	166.27962	54.64397	28.82288	6.87262	0.1205091	0.26765043	2.3846469	20	6 2.2	20.7
320633 2008 CR ₇₇	17.3	X	328.86025	187.71563	16.16072	4.00317	0.2268192	0.24242343	2.5473365	20	1 15.6	20.3
320634 2008 CF ₇₈	15.9	X	274.26123	188.67109	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>
320641 2008 <i>CM</i> ₉₂	17.2	X	323.47766	228.77587	69.40600	3.16021	0.1960214	0.26013975	2.4303281	20	5 23.9	19.2
320642 2008 <i>CJ</i> ₉₉	17.2	X	140.40417	328.52463	132.99682	2.95413	0.1665295	0.26421258	2.4052879	20	6 3.9	20.8
320643 2008 <i>CO</i> ₁₀₅	16.9	X	337.37108	271.05514	1.13684	7.14230	0.1305861	0.26044471	2.4284305	20	5 17.4	19.4
320644 2008 <i>CK</i> ₁₁₃	16.0	X	319.82950	283.02058	339.45353	14.60872	0.0460644	0.17664079	3.1458793	20	4 14.3	20.5
320645 2008 <i>CA</i> ₁₁₈	17.7	X	91.54336	152.39630	346.53014	1.43127	0.1238891	0.25992189	2.4316859	20	5 23.2	20.7
320646 2008 <i>CL</i> ₁₁₉	17.3	X	84.00902	153.69771	327.51333	6.14837	0.0993748	0.25494447	2.4632339	20	4 11.2	20.3
320647 2008 <i>CO</i> ₁₂₆	17.0	X	329.05203	102.62171	155.33460	6.44857	0.0707696	0.25653526	2.4530402	20	4 23.5	19.8
320648 2008 <i>CK</i> ₁₂₇	17.4	X	1.69255	77.50116	163.71357	2.69621	0.1533404	0.25763226	2.4460719	20	5 21.7	19.4
320649 2008 <i>CN</i> ₁₂₇	17.1	X	294.97218	302.14531	324.96632	4.73684	0.0213284	0.25187472	2.4832074	20	3 20.8	20.4
320650 2008 <i>CQ</i> ₁₃₀	17.7	X	127.02954	306.27350	117.62680	2.04892	0.1797718	0.25965866	2.4333291	20	4 3.8	21.1
320651 2008 <i>CW</i> ₁₃₀	17.8	X	126.80961	94.41480	341.64367	1.29987	0.1677730	0.25627396	2.4547074	20	4 16.7	21.4
320652 2008 <i>CV</i> ₁₃₂	17.6	X	85.78356	26.85883	27.66273	0.48476	0.1957205	0.24272959	2.5451940	20	2 2.6	20.3
320653 2008 <i>CD</i> ₁₄₁	16.6	X	199.13490	320.21920	325.55282	9.84371	0.0635634	0.23132709	2.6281595	20	—	—
320654 2008 <i>CB</i> ₁₄₂	16.9	X	300.64932	58.80212	167.25265	12.76331	0.1428815	0.23851392	2.5750968	20	1 18.5	20.7
320655 2008 <i>CM</i> ₁₄₅	17.1	X	348.78526	334.92508	317.38428	5.31610	0.2177997	0.26450928	2.4034888	20	7 17.2	18.6
320656 2008 <i>CN</i> ₁₄₅	17.5	X	13.46917	296.58436	274.91388	1.30573	0.1814410	0.25303809	2.4755904	20	4 29.2	19.5
320657 2008 <i>CS</i> ₁₅₂	17.1	X	75.14242	155.28999	348.35070	9.56973	0.1585621	0.25684434	2.4510719	20	5 8.6	20.2
320658 2008 <i>CY</i> ₁₅₂	16.9	X	355.88282	303.52848	241.09393	8.27563	0.1734092	0.24518243	2.5281906	20	2 6.5	19.6
320659 2008 <i>CA</i> ₁₅₄	16.7	X	216.97643	263.30390	32.06613	5.01435	0.1269710	0.23589706	2.5941058	20	1 22.4	20.7
320660 2008 <i>CK</i> ₁₅₉	16.9	X	324.20584	220.19505	308.96011	3.63694	0.2357965	0.23391029	2.6087742	20	—	—
320661 2008 <i>CA</i> ₁₆₃	16.4	X	156.66893	118.70216	143.54967	6.16991	0.0287897	0.22021714	2.7158261	20	—	—
320662 2008 <i>CS</i> ₁₆₅	16.6	X	98.16361	198.91781	187.04695	9.07549	0.1056218	0.23364634	2.6107386	20	—	—
320663 2008 <i>CE</i> ₁₇₁	17.1	X	191.34390	124.25650	268.15719	4.58283	0.1521777	0.25767499	2.4458015	20	4 22.5	20.2
320664 2008 <i>CS</i> ₁₇₅	16.8	X	19.83523	165.29928	342.60334	14.93131	0.0560506	0.24590237	2.5232536	20	2 12.4	19.8
320665 2008 <i>CM</i> ₁₇₆	16.3	X	249.61833	163.61214	111.47416	16.01927	0.1014629	0.24273399	2.5451633	20	1 29.6	20.1
320666 2008 <i>CB</i> ₁₇₈	17.2	X	66.94969	164.99324	19.46863	7.41245	0.1516509	0.26276832	2.4140933	20	6 27.8	20.2
320667 2008 <i>CE</i> ₁₇₉	16.7	X	6.05802	110.82807	51.48598	11.34540	0.1194955	0.24256665	2.5463337	20	2 8.6	19.7
320668 2008 <i>CS</i> ₁₇₉	17.3	X	181.72390	289.58175	196.09945	5.78042	0.1355022	0.27836189	2.3230731	20	8 14.4	20.8
320669 2008 <i>CZ</i> ₁₇₉	16.9	X	350.04334	124.02717	45.50246	12.42429	0.1269143	0.24027275	2.5625147	20	1 19.9	20.1
320670 2008 <i>CO</i> ₁₈₃	17.4	X	83.99191	111.16652	33.44817	4.96232	0.1231543	0.25835965	2.4414786	20	5 20.2	20.5
320671 2008 <i>CH</i> ₁₈₈	16.8	X	350.01785	219.45128	43.14699	5.33929	0.1671278	0.25921858	2.4360824	20	5 28.1	18.8
320672 2008 <i>CK</i> ₁₈₈	17.5	X	98.09377	307.71972	235.45464	5.15160	0.1265505	0.26966724	2.3727424	20	7 31.8	20.8
320673 2008 <i>CP</i> ₁₉₃	16.1	X	65.06793	52.58295	154.18590	13.80348	0.0175414	0.18791743	3.0187328	20	7 1.3	20.5
320674 2008 <i>CX</i> ₁₉₃	16.5	X	163.96854	147.36768	135.64107	5.36409	0.0804119	0.21898297	2.7260207	20	—	—
320675 2008 <i>CB</i> ₁₉₄	16.3	X	318.96281	166.36247	3.21125	23.37828	0.1369366	0.23004657	2.6379033	20	—	—
320676 2008 <i>CL</i> ₁₉₄	16.7	X	302.08710	99.52825	147.04563	7.79739	0.1694443	0.23873165	2.5735309	20	2 12.9	20.0
320677 2008 <i>CR</i> ₁₉₇	17.7	X	51.32696	92.44182	7.78451	5.10289	0.1468903	0.24181835	2.5515841	20	2 1.3	20.2
320678 2008 <i>CO</i> ₂₀₁	17.1	X	244.82816	270.30592	306.56029	3.26998	0.0333768	0.22725415	2.6594684	20	—	—
320679 2008 <i>CB</i> ₂₀₅	17.6	X	132.90571	111.51453	3.35192	2.50132	0.1435274	0.26663996	2.3906678	20	6 11.5	21.0
320680 2008 <i>CP</i> ₂₀₅	16.8	X	47.01618	269.35801	147.42114	11.47848	0.1461014	0.22844996	2.6501797	20	—	—
320681 2008 <i>CO</i> ₂₀₉	16.7	X	110.70103	216.97068	225.55738	6.14177	0.1236843	0.25358508	2.4720291	20	3 30.7	20.1
320682 2008 <i>CH</i> ₂₁₀	17.6	X	352.10843	280.66707	330.92237	4.41717	0.1697352	0.25761939	2.4461534	20	5 13.3	19.7
320683 2008 <i>CE</i> ₂₁₁	16.4	X	193.21151	353.04859	183.59637	9.33684	0.0943629	0.21079195	2.7961901	20	10 29.3	20.6
320684 2008 <i>CG</i> ₂₁₁	16.8	X	236.40644	105.72454	100.61920	3.30396	0.1375942	0.22239376	2.6980768	20	—	—
320685 2008 <i>CR</i> ₂₁₁	17.0	X	39.39166	233.30817	356.04862	8.05404	0.1254183	0.26655728	2.3911621	20	7 18.0	19.7
320686 2008 <i>CR</i> ₂₁₃	16.9	X	134.45340	321.06298	255.17064	5.57822	0.0662269	0.28343215	2.2952851	20	10 24.8	20.1
320687 2008 <i>CK</i> ₂₁₄	17.0	X	315.66441	131.73522	116.11673	4.28972	0.1621099	0.24232005	2.5480610	20	3 6.3	20.0
320688 2008 <i>CR</i> ₂₁₄	16.8	X	82.10609	127.78744	304.58811	6.54134	0.1433385	0.24297193	2.5435014	20	2 11.5	19.6
320689 2008 <i>CS</i> ₂₁₄	16.4	X	162.20934	159.52647	206.27491	4.44799	0.2337162	0.24114392	2.5563394	20	2 27.7	20.8
320690 2008 <i>CK</i> ₂₁₅	16.7	X	357.40701	339.65216	128.33488	15.73763	0.0729803	0.23082281	2.6319859	20	—	—
320691 2008 <i>CL</i> ₂₁₅	17.0	X	17.85593	163.24232	86.15550	5.80373	0.1970319	0.26029123	2.4293851	20	7 16.0	19.0
320692 2008 <i>DS</i>	17.2	X	65.64159	88.51684	155.09582	0.66943	0.1619053	0.27275610	2.3547948	20	9 20.6	20.1
320693 2008 <i>DQ</i> ₁	17.5	X	74.43399	275.03871	317.31130	3.24071	0.1580901	0.27401123	2.3475984	20	9 14.3	20.7
320694 2008 <i>DF</i> ₃	17.8	X	246.53209	3.64024	346.78911	1.16817	0.0117807	0.26408504	2.4060622	20	5 10.6	20.9
320695 2008 <i>DY</i> ₁₁	16.5	X	225.51562	162.11134	137.08856	15.79659	0.1489561	0.24399819	2.5363644	20	1 31.8	20.7
320696 2008 <i>DX</i> ₁₃	16.2	X	143.39224	143.72861	147.64482	14.35138	0.1573409	0.21890600	2.7266597	20	—	—
320697 2008 <i>DQ</i> ₁₄	17.6	X	144.66942	343.23704	99.12606	2.63107	0.1594413	0.26135089	2.4228139	20	5 13.7	21.2
320698 2008 <i>DZ</i> ₁₇	16.6	X	347.66849	167.01296	137.23163	3.86818	0.2354347	0.26627245	2.3928670	20	8 5.2	17.9
320699 2008 <i>DT</i> ₂₆	16.0	X	105.17950	120.15712	127.80905	3.23671	0.0122582	0.20291192	2.8681224	20	10 16.7	20.0
320700 2008 <i>DD</i> ₂₇	16.8	X	291.85958	97.25679	84.78178	11.05786	0.1494906	0.22739054	2.6584048	20	—	—
320701 2008 <i>DU</i> ₂₉	17.1	X	12.79923	93.43459	157.40978	7.37765	0.0622441	0.26301266	2.4125979	20	6 23.8	19.9
320702 2008 <i>DW</i> ₃₂	16.7	X	101.51739	120.81396	51.97603	3.13391	0.155607	0.18440435	3.0569520	20	7 17.8	21.2
320703 2008 <i>DO</i> ₃₅	16.4	X	236.39846	285.61958	349.48909	12.68014	0.1785701	0.23034774	2.6356035	20	1 16.7	20.9
320704 2008 <i>DH</i> ₃₆	15.9	X	287.42322	249.00861	353.52720	22.21158	0.0303850	0.23980321	2.5658586	20	2 17.4	19.5
320705 2008 <i>DZ</i> ₃₇	17.2	X	40.82006	114.45396	343.49732	3.78140	0.2508819	0.239858756	2.5673980	20	1 12.1	18.8
320706 2008 <i>DT</i> ₃₈	16.1	X	359.12947	126.74317	357.51022	12.82544	0.1028651	0.22981414	2.6396816	20	—	—
320707 2008 <i>DG</i> ₃₉	17.3	X	341.41329	309.53550	191.79207	3.04980	0.1244218	0.23089076	2.6314696	20	—	—
320708 2008 <i>DG</i> ₄₃	17.0	X	124.29210	66.13338	59.19234	7.10460	0.1424874	0.26566298	2.3965253	20	6 15.9	20.5
320709 2008 <i>DD</i> ₄₄	16.2	X	213.87125	132.34209	162.85269	15.49164	0.1143176	0.23166153	2.6256294	20	1 17.2	20.5
320710 2008 <i>DR</i> ₄₆	17.0	X	340.54629	51.08958	151.79517	5.62545	0.1336582	0.24109404	2.5566919	20	2 15.0	19.8
320711 2008 <i>DP</i> ₄₈	16.7	X	184.71711	334.40058	336.61652	5.89744	0.1641736	0.23786270	2.5797948	20	1 11.9	20.9

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>
320721 2008 DE ₈₁	17.7	X	7.53221	278.86214	198.19615	1.84399	0.1538556	0.23386053	2.6091443	20	—	—
320722 2008 DD ₈₂	17.3	X	261.08821	249.19290	11.62818	7.54715	0.1308036	0.23457507	2.6038431	20	1 24.1	21.3
320723 2008 DM ₈₃	17.7	X	53.30221	265.71159	190.53066	5.48292	0.2256080	0.24345853	2.5401112	20	2 3.7	19.8
320724 2008 DZ ₈₃	16.7	X	167.59915	106.03123	185.58253	11.21411	0.0278781	0.22307743	2.6925615	20	—	—
320725 2008 DU ₈₈	16.9	X	255.16664	32.11969	174.29859	7.50856	0.1542610	0.22319589	2.6916086	20	—	—
320726 2008 DV ₈₈	17.1	X	199.94845	11.95758	283.20678	1.10632	0.0627891	0.23011115	2.6374097	20	1 3.9	20.8
320727 2008 EH ₂	17.1	X	328.95873	68.56329	140.52023	3.21111	0.1177201	0.23968814	2.5666798	20	2 8.3	20.2
320728 2008 EW ₃	15.4	X	179.00642	331.31731	95.09842	9.54748	0.0451994	0.18062775	3.0994150	20	5 27.2	20.0
320729 2008 ER ₁₀	17.1	X	331.32896	78.09362	57.98617	5.01670	0.1278492	0.22927365	2.6438286	20	—	—
320730 2008 EO ₁₁	16.4	X	152.78467	140.60302	133.50105	9.13415	0.1528044	0.21373372	2.7704736	20	—	—
320731 2008 EK ₁₅	16.6	X	82.22336	190.54161	7.11361	5.95829	0.0472542	0.26293094	2.4130978	20	7 23.2	19.7
320732 2008 EO ₁₅	16.5	X	45.88235	92.72651	175.54815	6.30398	0.0810156	0.26880774	2.3777975	20	9 14.4	19.3
320733 2008 ER ₂₁	16.4	X	40.97407	127.95509	6.37039	15.50663	0.0735565	0.24065902	2.5597720	20	2 29.8	19.5
320734 2008 ER ₂₂	16.2	X	72.96302	212.86718	357.09766	2.51488	0.1637360	0.18111102	3.0938990	20	8 6.7	20.6
320735 2008 EP ₂₉	16.8	X	27.48538	318.46461	158.71658	4.21140	0.1527590	0.23451772	2.6042676	20	1 9.9	19.4
320736 2008 EL ₃₁	16.1	X	357.19700	61.08474	243.30546	4.25113	0.1138092	0.18969074	2.9998897	20	8 8.6	19.8
320737 2008 EX ₃₆	17.4	X	298.21333	106.55282	115.74792	3.93625	0.1239100	0.23460293	2.6036369	20	1 15.6	20.9
320738 2008 EN ₃₆	16.3	X	81.68872	245.91069	177.33292	21.62621	0.0864725	0.23473291	2.6026757	20	1 21.4	20.0
320739 2008 EA ₃₇	17.6	X	32.86513	36.18845	162.63915	1.86878	0.0953737	0.25944364	2.4346733	20	5 14.2	20.0
320740 2008 EC ₄₀	16.7	X	257.52659	32.95610	253.19154	4.42906	0.1301665	0.23931492	2.5693476	20	2 15.7	20.6
320741 2008 ED ₄₁	16.5	X	40.95731	78.25507	279.68993	4.95759	0.0076988	0.20911133	2.8111520	20	12 12.5	20.3
320742 2008 EX ₄₁	17.0	X	12.79283	268.48426	163.25078	6.34454	0.0458122	0.21968417	2.7202169	20	—	—
320743 2008 EY ₄₄	16.8	X	235.14528	72.51179	203.96927	2.19015	0.1669940	0.23011227	2.6374012	20	1 14.2	21.0
320744 2008 EN ₄₇	16.8	X	35.49644	338.53797	98.82732	4.19782	0.0633191	0.22520028	2.6756138	20	—	—
320745 2008 EF ₄₈	16.5	X	279.90842	1.45451	188.65580	12.68680	0.1228667	0.22357396	2.6885734	20	—	—
320746 2008 EN ₅₁	16.5	X	126.16545	117.91603	207.28653	5.14786	0.0212146	0.21988016	2.7186002	20	—	—
320747 2008 EQ ₅₂	15.8	X	251.74518	255.39231	11.51726	12.82660	0.2398322	0.22909760	2.6451828	20	1 16.9	20.5
320748 2008 EB ₅₄	16.4	X	35.60424	287.40914	156.57246	14.65786	0.1325832	0.23101825	2.6305013	20	—	—
320749 2008 EY ₅₄	16.9	X	206.21344	136.28130	311.04317	2.70688	0.0305441	0.22324151	2.6912420	20	—	—
320750 2008 EL ₅₉	17.2	X	62.81404	253.12191	358.48662	2.17894	0.1239904	0.27044654	2.3680770	20	9 21.9	20.1
320751 2008 EG ₆₀	17.3	X	94.44795	326.65221	262.60286	2.19573	0.2048925	0.27148965	2.3621122	20	10 6.2	21.0
320752 2008 ED ₆₃	17.7	X	92.42848	211.25700	217.10678	6.74289	0.1042497	0.24380999	2.5376694	20	2 13.4	20.9
320753 2008 EK ₆₅	17.1	X	241.10141	307.92185	323.63562	6.21095	0.3116240	0.22846864	2.6500353	20	1 9.2	22.0
320754 2008 EN ₆₆	17.7	X	348.00055	186.07969	276.44485	2.89065	0.2027048	0.22789928	2.6544471	20	—	—
320755 2008 EH ₆₇	16.8	X	208.79823	19.36009	267.18777	2.88538	0.1559626	0.22915337	2.6447536	20	1 3.9	20.9
320756 2008 EZ ₆₈	14.8	X	314.27889	232.31357	120.16678	27.64238	0.2341886	0.17471755	3.1689230	20	7 16.7	18.4
320757 2008 EQ ₆₉	17.4	X	29.18539	30.07715	191.11543	2.02181	0.1705842	0.25620417	2.4551532	20	6 19.8	19.7
320758 2008 EW ₇₄	16.5	X	26.70995	320.94554	43.33920	4.59030	0.1161028	0.20831017	2.8183552	20	12 17.2	20.1
320759 2008 EC ₇₅	17.1	X	73.86343	282.92863	141.14070	4.26175	0.1344862	0.23546161	2.5973032	20	1 19.1	20.0
320760 2008 EO ₇₅	17.2	X	325.10075	124.12148	70.95369	3.08065	0.1253228	0.23661996	2.5888197	20	1 15.2	20.3
320761 2008 EB ₇₆	17.0	X	271.34177	167.33844	130.26908	4.21179	0.2254640	0.24193109	2.5507913	20	3 8.2	20.9
320762 2008 EV ₈₁	16.9	X	49.80700	41.35132	171.90566	9.90071	0.0713024	0.26291815	2.4131760	20	6 29.2	20.0
320763 2008 EM ₈₂	17.0	X	8.80010	277.44563	217.08719	8.73429	0.1535038	0.23788705	2.5796187	20	—	—
320764 2008 EA ₈₆	17.7	X	37.11820	1.96865	141.00768	6.78736	0.2202694	0.24546453	2.5262532	20	3 10.6	19.8
320765 2008 EW ₈₆	16.3	X	231.11238	231.31159	21.04473	11.82158	0.1571365	0.22453395	2.6809046	20	—	—
320766 2008 EL ₉₂	16.5	X	209.16760	230.30671	35.56898	8.79198	0.2953931	0.22200765	2.7012043	20	—	—
320767 2008 EP ₉₂	15.8	X	164.08391	152.59897	124.67575	22.33996	0.1889652	0.21311468	2.7758360	20	—	—
320768 2008 EE ₉₅	16.7	X	266.40268	128.71291	59.18790	5.93163	0.0965575	0.22010392	2.7167574	20	—	—
320769 2008 EJ ₉₆	16.8	X	188.30415	35.48249	140.67375	8.72383	0.0523900	0.28242729	2.3007262	20	11 10.7	19.9
320770 2008 EY ₉₆	16.9	X	346.63762	311.45704	328.06191	6.12042	0.1059564	0.26480847	2.4016781	20	6 21.3	19.3
320771 2008 EL ₁₀₇	16.3	X	186.04590	178.52492	86.31561	5.89611	0.0686481	0.21985783	2.7187843	20	—	—
320772 2008 EK ₁₁₄	16.3	X	65.44697	58.10462	342.43241	11.04680	0.3059205	0.22919663	2.6444208	20	—	—
320773 2008 EE ₁₁₈	17.3	X	46.20833	287.12638	315.86600	1.82941	0.1566767	0.26688934	2.3891783	20	8 21.7	19.9
320774 2008 EH ₁₁₈	17.2	X	244.67462	107.69700	170.86913	4.03760	0.1149857	0.24039736	2.5616291	20	1 26.6	21.1
320775 2008 EN ₁₂₀	16.8	X	31.49288	157.11201	81.18911	1.27445	0.1133134	0.17876028	3.1209636	20	7 7.5	20.7
320776 2008 EY ₁₂₀	17.4	X	99.10730	97.12931	166.01611	4.83059	0.2257737	0.27680149	2.3317954	20	11 25.4	21.3
320777 2008 EZ ₁₂₀	17.0	X	233.92396	119.47267	174.48644	9.16879	0.1729471	0.23386813	2.6090877	20	1 31.9	21.5
320778 2008 EQ ₁₂₁	16.5	X	44.06071	183.82013	193.05619	6.11212	0.0648396	0.21486356	2.7607529	20	—	—
320779 2008 ES ₁₂₂	16.3	X	88.55655	18.58990	309.53768	5.88207	0.0182908	0.21199810	2.7855742	20	—	—
320780 2008 EQ ₁₂₈	16.1	X	54.29152	180.91217	49.63666	4.79708	0.1133967	0.18378320	3.0638359	20	8 2.4	20.2
320781 2008 EM ₁₃₀	16.6	X	283.22828	16.57769	163.54786	13.94604	0.0329000	0.22531358	2.6747168	20	—	—
320782 2008 EX ₁₃₀	17.4	X	348.63699	149.83156	59.05070	3.74765	0.1503038	0.24467362	2.5316944	20	3 8.2	20.0
320783 2008 EJ ₁₃₄	17.0	X	2.96757	73.79108	331.05128	3.95623	0.0659484	0.21289796	2.7777195	20	12 31.2	20.5
320784 2008 EL ₁₃₇	17.0	X	2.39999	54.40463	38.59870	5.79347	0.0701754	0.22334020	2.6904491	20	—	—
320785 2008 ED ₁₄₀	17.3	X	83.91809	280.77594	144.01084	4.53728	0.2561291	0.24470602	2.5314709	20	2 23.5	20.0
320786 2008 EF ₁₄₀	17.3	X	48.24520	92.38631	144.86813	2.97581	0.1340369	0.26526726	2.3989081	20	8 12.5	19.9
320787 2008 EH ₁₄₀	17.1	X	61.82995	137.86136	150.11472	4.39307	0.1989316	0.27822529	2.3238334	20	11 20.6	20.4
320788 2008 EX ₁₄₀	16.4	X	279.07650	121.21669	346.64844	12.69693	0.1513274	0.21109665	2.7934988	20	11 3.5	20.1
320789 2008 EN ₁₄₁	16.9	X	316.78898	286.64197	215.96752	6.58039	0.0306309	0.22352930	2.6889315	20	—	—
320790 Anestin	16.8	X	66.00207	246.63681	189.45213	17.02359	0.1641096	0.23720411	2.5845677	20	1 22.6	19.9
320791 2008 ER ₁₄₆	17.0	X	281.90157	138.16226	109.31211	3.78862	0.1516019	0.23372950	2.6101193	20	1 25.3	20.7
320792 2008 EL ₁₄₈	17.2	X	294.51081	66.89724	188.08066	6.33603	0.1054122	0.24139903	2.5545380	20	2 21.8	20.6
320793 2008 EZ ₁₄₈	16.9	X	34.68726	11.29019	110.24130	6.84825	0.0843395	0.24028165	2.5624515	20	1 28.7	19.8
320794 2008 EH ₁₅₂	16.2	X	175.58663	94.22177	198.16388	14.28499	0.0688378	0.22278386	2.6949264	20	—	—</

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>
320801 2008 <i>EF</i> ₁₆₁	17.0	X	150.59322	23.51193	242.88115	3.63950	0.0171905	0.21364502	2.7712404	20	—	—
320802 2008 <i>EC</i> ₁₆₂	16.9	X	268.95835	321.74211	269.74899	2.73083	0.1290172	0.22880198	2.6474607	20	—	—
320803 2008 <i>EK</i> ₁₆₂	17.4	X	58.47999	178.00928	182.59280	5.94313	0.0096247	0.21462024	2.7628391	20	—	—
320804 2008 <i>EW</i> ₁₆₃	16.5	X	10.42177	69.24109	220.03039	5.43049	0.1245433	0.26522908	2.3991383	20	8 21.3	18.9
320805 2008 <i>EZ</i> ₁₆₅	16.7	X	354.92620	51.28299	23.36937	14.00343	0.1833588	0.21964871	2.7205097	20	—	—
320806 2008 <i>EB</i> ₁₆₆	16.4	X	294.68422	95.81164	141.70855	4.53628	0.1348267	0.23251124	2.6192286	20	1 29.1	20.1
320807 2008 <i>EH</i> ₁₆₆	17.0	X	302.36583	141.81245	78.68093	2.83126	0.1693308	0.23237085	2.6202835	20	1 12.7	20.5
320808 2008 <i>EK</i> ₁₆₆	17.1	X	208.32111	27.17651	220.76581	1.13957	0.0216067	0.22233624	2.6985422	20	—	—
320809 2008 <i>EK</i> ₁₆₇	16.4	X	23.03937	184.88586	78.31347	7.72682	0.0804376	0.26442957	2.4039718	20	8 3.3	19.1
320810 2008 <i>FM</i> ₅	17.0	X	1.83481	55.34119	125.73559	2.99761	0.0811377	0.24115237	2.5562797	20	2 26.4	19.9
320811 2008 <i>FO</i> ₉	17.2	X	203.66353	305.26190	356.81164	6.25810	0.0387783	0.23748353	2.5825400	20	1 16.3	20.8
320812 2008 <i>FC</i> ₁₁	16.9	X	137.03219	287.39449	24.76142	6.23074	0.0550305	0.22434303	2.6824254	20	—	—
320813 2008 <i>FW</i> ₁₂	17.0	X	74.65302	200.93614	176.24283	5.83084	0.0322348	0.22582208	2.6707000	20	—	—
320814 2008 <i>FU</i> ₁₃	16.7	X	49.08145	19.90050	352.71023	8.08201	0.0988749	0.21584513	2.7523768	20	—	—
320815 2008 <i>FZ</i> ₁₃	17.8	X	66.26759	111.35605	347.86312	4.41379	0.1964644	0.24373148	2.5382144	20	3 3.2	20.2
320816 2008 <i>FZ</i> ₁₄	16.1	X	257.39159	109.60999	171.66347	12.75393	0.1780661	0.23260882	2.6184961	20	2 6.4	20.4
320817 2008 <i>FD</i> ₂₃	17.1	X	110.96501	165.77659	148.02784	6.61633	0.0653812	0.21129086	2.7917868	20	—	—
320818 2008 <i>FE</i> ₂₄	16.6	X	205.68808	152.64383	137.65701	6.04676	0.1030341	0.22593062	2.6698446	20	1 5.2	20.7
320819 2008 <i>FM</i> ₂₄	16.4	X	174.24380	163.46316	117.62345	5.93573	0.0707325	0.21759643	2.7375887	20	—	—
320820 2008 <i>FO</i> ₂₅	17.7	X	45.32623	123.88070	144.50148	2.95765	0.1690168	0.26468520	2.4024238	20	9 28.9	20.5
320821 2008 <i>FO</i> ₂₆	15.8	X	301.59939	205.02607	29.97226	14.34285	0.1899587	0.23401432	2.6080011	20	2 1.1	19.7
320822 2008 <i>FH</i> ₂₇	16.4	X	330.32983	167.77256	27.33425	14.37942	0.1839086	0.23395223	2.6084624	20	1 17.2	19.9
320823 2008 <i>FA</i> ₂₉	17.2	X	72.19228	43.69523	18.93666	4.36423	0.2050984	0.24128366	2.5553523	20	1 24.9	19.7
320824 2008 <i>FO</i> ₃₁	17.3	X	244.28268	281.36583	332.98760	3.18600	0.1632161	0.23129365	2.6284128	20	—	—
320825 2008 <i>FO</i> ₃₇	17.5	X	323.62296	96.82130	88.02062	3.07871	0.1329241	0.23278863	2.6171475	20	—	—
320826 2008 <i>FB</i> ₃₈	16.9	X	350.26445	263.89494	168.92636	7.24075	0.1333817	0.21553108	2.7550497	20	—	—
320827 2008 <i>FU</i> ₃₉	17.0	X	222.66727	177.97873	102.00576	2.63989	0.0424902	0.22936325	2.6431399	20	1 10.5	20.8
320828 2008 <i>FY</i> ₄₀	17.1	X	224.90223	129.76049	151.07027	4.08980	0.1491803	0.22684198	2.6626889	20	1 11.3	21.5
320829 2008 <i>FY</i> ₄₃	15.8	X	173.35392	164.36496	200.64981	5.05993	0.2259869	0.24228437	2.5483111	20	3 6.4	20.1
320830 2008 <i>FC</i> ₄₄	17.4	X	62.41477	243.31077	330.66391	2.09818	0.1330390	0.26185406	2.4197092	20	7 29.9	20.4
320831 2008 <i>FN</i> ₄₉	17.0	X	38.62326	267.33084	156.42394	2.34559	0.0789322	0.22429152	2.6828362	20	—	—
320832 2008 <i>FR</i> ₅₂	17.0	X	227.19475	189.07728	114.47870	2.63690	0.1383101	0.23335601	2.6129036	20	2 9.8	21.2
320833 2008 <i>FO</i> ₅₇	16.9	X	225.54256	157.90538	63.95095	3.72093	0.1590154	0.21469675	2.7621827	20	—	—
320834 2008 <i>FM</i> ₅₈	16.5	X	317.01958	79.21723	41.38024	17.33736	0.1258113	0.21626759	2.7487912	20	—	—
320835 2008 <i>FJ</i> ₆₀	16.2	X	192.04012	124.41119	165.63701	12.23366	0.1265898	0.22306062	2.6926968	20	—	—
320836 2008 <i>FE</i> ₆₁	17.2	X	241.52994	103.72155	161.00065	11.61217	0.1690072	0.22972622	2.6403551	20	1 5.7	21.6
320837 2008 <i>FE</i> ₆₂	17.6	X	300.88293	137.03253	78.87403	1.27975	0.1850174	0.23603440	2.5930995	20	1 2.4	21.0
320838 2008 <i>FZ</i> ₆₂	16.8	X	18.08675	12.27137	17.78885	8.39289	0.2188786	0.21798130	2.7343655	20	—	—
320839 2008 <i>FM</i> ₆₆	16.7	X	213.33978	24.50509	201.92575	9.56172	0.1151549	0.21261985	2.7801411	20	—	—
320840 2008 <i>FQ</i> ₆₈	16.2	X	17.09274	122.87300	177.83698	5.08580	0.1327420	0.18320133	3.0703200	20	9 8.5	19.7
320841 2008 <i>FO</i> ₆₈	16.5	X	55.67881	275.52239	194.48132	11.02016	0.1488387	0.23767208	2.5811739	20	2 19.2	19.5
320842 2008 <i>FA</i> ₇₂	17.3	X	268.48535	188.74477	80.75532	2.56544	0.1159786	0.24011632	2.5636275	20	2 10.9	21.1
320843 2008 <i>FY</i> ₇₆	15.9	X	186.14213	7.05927	352.89113	6.66747	0.2135349	0.24568609	2.5247342	20	3 11.4	20.3
320844 2008 <i>FT</i> ₇₈	17.0	X	129.05501	88.58471	212.90645	0.70257	0.0486342	0.21460535	2.7629669	20	—	—
320845 2008 <i>FE</i> ₈₀	17.7	X	293.42927	338.77797	281.15993	0.77864	0.1102656	0.24072011	2.5593389	20	2 27.4	21.1
320846 2008 <i>FE</i> ₈₅	17.6	X	266.61685	123.65577	34.74328	3.55796	0.0731591	0.21749178	2.7384668	20	—	—
320847 2008 <i>FJ</i> ₉₅	16.7	X	20.49196	314.41127	88.55063	5.49507	0.0678041	0.21013512	2.8020139	20	—	—
320848 2008 <i>FU</i> ₉₅	15.7	X	175.67544	272.92538	3.75290	17.24227	0.0977311	0.21782062	2.7357100	20	—	—
320849 2008 <i>FO</i> ₁₀₀	16.8	X	255.69892	350.65757	168.76643	9.85878	0.0913994	0.21081033	2.7960276	20	12 20.3	20.6
320850 2008 <i>FP</i> ₁₀₁	16.3	X	260.65415	153.34028	71.08090	12.99400	0.1346406	0.22318823	2.6916703	20	—	—
320851 2008 <i>FG</i> ₁₀₄	16.1	X	284.94234	61.05928	190.32517	13.98514	0.1504476	0.23250118	2.6193043	20	1 30.3	20.2
320852 2008 <i>FJ</i> ₁₀₄	16.8	X	305.18731	60.40207	109.87917	2.90709	0.0966795	0.22219431	2.6996912	20	—	—
320853 2008 <i>FW</i> ₁₀₄	15.7	X	21.22543	285.24674	49.94741	16.43789	0.1223137	0.18924173	3.0046331	20	11 1.5	19.5
320854 2008 <i>FR</i> ₁₀₈	16.3	X	99.38706	329.83920	17.47600	25.83968	0.1173258	0.21798176	2.7343616	20	—	—
320855 2008 <i>FQ</i> ₁₁₁	16.9	X	63.44059	163.12946	135.29821	6.59979	0.2291798	0.27087140	2.3657052	20	12 6.9	20.6
320856 2008 <i>FX</i> ₁₁₄	17.7	X	286.98457	351.98222	153.14996	3.99763	0.1366704	0.21833910	2.7313774	20	—	—
320857 2008 <i>FW</i> ₁₁₅	17.0	X	80.78249	320.29886	96.88736	3.04013	0.0854152	0.23218674	2.6216685	20	1 15.3	20.1
320858 2008 <i>FE</i> ₁₁₆	16.9	X	54.96378	25.28810	37.37885	7.24436	0.0951616	0.22839951	2.6505699	20	—	—
320859 2008 <i>FA</i> ₁₁₇	17.3	X	272.65765	160.79722	172.97439	1.47230	0.0376345	0.25090270	2.4896167	20	5 20.7	20.6
320860 2008 <i>FZ</i> ₁₂₂	16.5	X	103.98849	15.64346	19.27651	15.73173	0.2142306	0.23246220	2.6195970	20	2 14.0	20.3
320861 2008 <i>FR</i> ₁₂₅	17.1	X	215.67912	152.21030	125.31154	4.31057	0.1506683	0.22559636	2.6724812	20	—	—
320862 2008 <i>FF</i> ₁₂₆	17.0	X	295.77143	98.95406	173.36068	12.89589	0.2629492	0.23796500	2.5790553	20	2 24.1	20.7
320863 2008 <i>FQ</i> ₁₂₆	16.1	X	262.95528	104.05537	156.07403	10.65960	0.1063165	0.23033512	2.6356998	20	1 24.6	20.0
320864 2008 <i>FA</i> ₁₃₀	16.3	X	312.59246	173.94875	28.37308	12.51661	0.1318834	0.23237623	2.6202431	20	1 9.0	20.0
320865 2008 <i>FZ</i> ₁₃₆	17.1	X	154.34932	99.45698	165.10754	7.59324	0.1567346	0.20449765	2.8532764	20	12 29.0	21.8
320866 2008 <i>FC</i> ₁₃₇	16.6	X	296.72172	26.92983	115.23223	4.44339	0.1308058	0.21512135	2.7585469	20	—	—
320867 2008 <i>FW</i> ₁₃₇	16.6	X	310.83298	74.50949	122.04137	13.64980	0.2038789	0.23188492	2.6239429	20	—	—
320868 2008 <i>GL</i> ₁	15.9	X	232.50229	265.26030	10.68573	12.56087	0.1515486	0.22707293	2.6608831	20	1 15.6	20.4
320869 2008 <i>GO</i> ₂	17.2	X	279.10779	95.76817	162.68046	4.25993	0.1315314	0.23752665	2.5822274	20	2 5.8	20.9
320870 2008 <i>GC</i> ₄	16.2	X	293.50703	254.97093	345.49261	10.94344	0.2663622	0.23327760	2.6134891	20	1 18.0	20.3
320871 2008 <i>GD</i> ₄	15.9	X	260.78192	350.86098	249.06025	8.22663	0.1600288	0.22708495	2.6607893	20	—	—
320872 2008 <i>GP</i> ₄	17.1	X	7.42462	253.94735	206.10609	4.52007	0.2390047	0.23313614	2.6145462	20	—	—
320873												

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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>
320881 2008 <i>GY</i> ₂₃	16.9	X	162.77200	189.70346	80.51875	5.03055	0.0603884	0.21378949	2.7699918	20	—	—
320882 2008 <i>GS</i> ₂₄	17.0	X	168.91717	120.34750	135.86438	4.17583	0.0462990	0.21286293	2.7780242	20	—	—
320883 2008 <i>GK</i> ₂₇	17.4	X	327.28950	180.49336	294.56633	2.04760	0.0576242	0.22277503	2.6949976	20	—	—
320884 2008 <i>GH</i> ₃₂	16.8	X	331.94895	294.61059	106.21446	7.99389	0.1171055	0.28072139	2.3100376	20	12 4.7	19.0
320885 2008 <i>GK</i> ₄₀	16.0	X	178.41642	313.05411	37.23674	6.30386	0.3451997	0.24231814	2.5480744	20	2 29.7	20.9
320886 2008 <i>GM</i> ₄₁	16.4	X	337.22447	339.11324	176.60584	9.14867	0.1257604	0.22865243	2.6486150	20	—	—
320887 2008 <i>GT</i> ₄₆	16.1	X	154.98549	144.22112	182.67923	12.20971	0.0601449	0.21941359	2.7224528	20	—	—
320888 2008 <i>GW</i> ₄₈	17.9	X	8.30942	135.76361	35.40139	3.45904	0.1401173	0.24452396	2.5327273	20	2 20.1	20.5
320889 2008 <i>GL</i> ₅₀	17.6	X	326.56370	317.61492	169.40221	3.33829	0.1487839	0.22386716	2.6862254	20	—	—
320890 2008 <i>GW</i> ₅₀	17.3	X	246.49702	133.87088	119.78655	2.17794	0.0572624	0.22943263	2.6426071	20	1 4.0	20.9
320891 2008 <i>GU</i> ₅₅	16.6	X	68.84242	343.76102	35.93082	7.21521	0.0773120	0.21855188	2.7296042	20	—	—
320892 2008 <i>GP</i> ₅₈	13.7	X	207.16520	275.20716	87.71873	2.03542	0.0697860	0.08342548	5.1872469	20	4 13.7	20.8
320893 2008 <i>GP</i> ₅₉	16.8	X	156.90456	139.05888	96.64602	3.21565	0.0117532	0.20198602	2.8768806	20	12 1.9	20.8
320894 2008 <i>GL</i> ₆₂	16.6	X	23.73369	284.38917	198.17860	22.93395	0.3020938	0.23812157	2.5779247	20	—	—
320895 2008 <i>GU</i> ₆₂	17.5	X	253.11250	244.12076	353.12582	4.08515	0.2048552	0.22448643	2.6812830	20	—	—
320896 2008 <i>GJ</i> ₆₆	16.5	X	69.04203	202.59441	176.87119	6.98678	0.0691642	0.21438915	2.7648241	20	—	—
320897 2008 <i>GO</i> ₆₆	16.6	X	113.59468	196.35624	169.90383	6.32246	0.0381767	0.22134270	2.7066115	20	—	—
320898 2008 <i>GY</i> ₆₈	16.5	X	265.99939	151.04711	63.11320	8.14162	0.1209321	0.22206078	2.7007734	20	—	—
320899 2008 <i>GO</i> ₇₀	16.7	X	290.15445	77.35947	91.88469	9.73121	0.1568739	0.21872007	2.7282047	20	—	—
320900 2008 <i>GJ</i> ₇₁	16.9	X	10.24548	52.44983	59.24433	12.54474	0.1577930	0.23148257	2.6269826	20	—	—
320901 2008 <i>GW</i> ₇₄	16.7	X	21.61768	340.68947	111.33420	5.88665	0.1441119	0.22600750	2.6692392	20	—	—
320902 2008 <i>GF</i> ₇₅	16.6	X	345.79320	24.80561	57.24387	12.56615	0.0268773	0.21240194	2.7820423	20	—	—
320903 2008 <i>GQ</i> ₇₆	16.0	X	128.50691	344.10440	56.14083	13.40363	0.0902620	0.23429792	2.6058961	20	3 3.8	19.9
320904 2008 <i>GF</i> ₈₁	16.2	X	256.83450	179.55651	66.46080	9.34174	0.1629768	0.22411118	2.6842751	20	—	—
320905 2008 <i>GJ</i> ₈₁	16.5	X	283.73389	12.66932	200.58482	11.57920	0.1277870	0.22455337	2.6807501	20	—	—
320906 2008 <i>GX</i> ₈₂	16.1	X	198.83860	206.96056	51.78561	9.61764	0.0434396	0.21844067	2.7305306	20	—	—
320907 2008 <i>GA</i> ₈₃	16.8	X	345.64971	299.92707	171.18939	7.93874	0.2578286	0.22591386	2.6699767	20	—	—
320908 2008 <i>GG</i> ₈₃	16.3	X	113.38771	166.51136	145.70060	5.31663	0.0502849	0.21048450	2.7989124	20	—	—
320909 2008 <i>GW</i> ₈₅	16.7	X	163.11335	275.19714	16.01052	6.15014	0.0607962	0.21938589	2.7226820	20	—	—
320910 2008 <i>GM</i> ₈₆	16.9	X	170.04885	232.88589	32.65181	1.35782	0.1396750	0.21276147	2.7789073	20	—	—
320911 2008 <i>GT</i> ₈₈	17.2	X	283.57155	147.82404	126.76762	2.49442	0.1537047	0.23851472	2.5750910	20	2 29.6	20.9
320912 2008 <i>GR</i> ₉₂	16.7	X	341.71437	246.74229	184.45573	7.11153	0.0281668	0.20999185	2.8032883	20	12 30.3	20.5
320913 2008 <i>GK</i> ₉₄	16.8	X	62.78772	320.80290	99.85257	4.16800	0.0982516	0.22803277	2.6534111	20	—	—
320914 2008 <i>GZ</i> ₉₅	16.1	X	337.47457	162.95379	156.43259	6.90318	0.1643354	0.17819641	3.1275439	20	7 22.9	19.6
320915 2008 <i>GN</i> ₉₈	16.7	X	130.94341	205.86160	154.58339	8.00484	0.0272551	0.22282128	2.6946246	20	1 2.0	20.4
320916 2008 <i>GS</i> ₉₈	16.2	X	238.53347	89.14921	184.21770	8.26234	0.1402360	0.22459892	2.6803876	20	1 14.4	20.5
320917 2008 <i>GZ</i> ₉₉	15.7	X	47.79027	263.94994	38.02421	11.15804	0.0893887	0.19151710	2.9807875	20	10 21.6	19.7
320918 2008 <i>GO</i> ₁₀₁	17.0	X	332.97168	338.13238	187.47468	7.78717	0.0997260	0.22865851	2.6485680	20	—	—
320919 2008 <i>GT</i> ₁₀₂	16.4	X	20.33344	138.25716	116.20290	6.41712	0.1430790	0.25742583	2.4473794	20	7 21.1	18.5
320920 2008 <i>GA</i> ₁₀₃	15.6	X	108.32487	250.13099	52.14936	18.06315	0.1643858	0.20152667	2.8812505	20	—	—
320921 2008 <i>GC</i> ₁₀₄	16.2	X	91.61153	209.30687	79.54472	7.57224	0.1090694	0.19872176	2.9082993	20	11 28.1	20.5
320922 2008 <i>GA</i> ₁₀₅	16.6	X	189.64723	129.91885	130.93885	5.32274	0.0691306	0.21600195	2.7510444	20	—	—
320923 2008 <i>GO</i> ₁₀₅	16.2	X	306.35074	285.46640	208.28256	12.11997	0.0290540	0.21783753	2.7355684	20	—	—
320924 2008 <i>GM</i> ₁₀₇	16.0	X	14.06186	177.62333	151.26365	11.39161	0.0951847	0.21962001	2.9693982	20	10 12.4	19.8
320925 2008 <i>GR</i> ₁₁₁	15.9	X	262.74402	186.86622	37.50320	14.61198	0.1153851	0.22514469	2.6760542	20	—	—
320926 2008 <i>GG</i> ₁₁₃	17.0	X	136.20351	326.57526	78.08246	4.01930	0.0296881	0.24026527	2.5625679	20	3 5.1	20.4
320927 2008 <i>GK</i> ₁₁₃	17.0	X	300.67873	121.26367	79.21956	3.97864	0.0863039	0.23047771	2.6346126	20	—	—
320928 2008 <i>GX</i> ₁₁₃	16.5	X	304.50246	47.62073	208.13245	13.45219	0.1236842	0.24097907	2.5575051	20	3 1.7	20.2
320929 2008 <i>GT</i> ₁₂₀	17.0	X	11.19318	352.98348	173.23753	9.06097	0.1093341	0.24008206	2.5638714	20	2 17.6	19.9
320930 2008 <i>GZ</i> ₁₂₀	16.5	X	334.95973	328.43167	168.89127	16.61972	0.0981482	0.22647702	2.6655487	20	—	—
320931 2008 <i>GP</i> ₁₂₁	16.3	X	249.04261	171.80828	43.89486	9.81188	0.0510006	0.22061498	2.7125602	20	—	—
320932 2008 <i>GQ</i> ₁₂₂	16.8	X	318.67061	350.92047	194.40572	11.65179	0.1260033	0.23052615	2.6342435	20	—	—
320933 2008 <i>GJ</i> ₁₂₄	15.6	X	186.23021	320.16591	34.80820	12.46747	0.2101249	0.24049024	2.5609695	20	3 11.3	20.1
320934 2008 <i>GS</i> ₁₂₈	16.3	X	28.79912	28.98563	134.63527	15.29621	0.1808333	0.24210199	2.5495908	20	3 27.1	18.8
320935 2008 <i>GD</i> ₁₃₀	16.1	X	347.94578	210.58393	330.58031	13.06765	0.1233227	0.23731093	2.5837920	20	2 2.0	19.0
320936 2008 <i>GW</i> ₁₃₀	16.4	X	252.73348	316.19823	176.17943	11.95495	0.0643120	0.19973605	2.8984451	20	11 15.8	20.5
320937 2008 <i>GH</i> ₁₃₃	16.7	X	214.70973	134.28572	127.61124	5.89101	0.0660696	0.22011329	2.7166803	20	—	—
320938 2008 <i>GT</i> ₁₃₄	16.4	X	237.21496	119.04100	86.92145	5.83028	0.0169663	0.21365285	2.7711727	20	—	—
320939 2008 <i>GF</i> ₁₄₁	16.9	X	107.11881	285.43645	42.87203	5.91023	0.0595249	0.21203538	2.7852477	20	—	—
320940 2008 <i>GW</i> ₁₄₂	16.2	X	298.71181	327.07690	301.92068	11.99982	0.2468363	0.24178287	2.5518337	20	2 22.3	19.8
320941 2008 <i>GC</i> ₁₄₃	16.7	X	312.52979	236.73397	4.04154	4.28430	0.0849597	0.23878257	2.5731650	20	3 4.0	19.8
320942 2008 Jeanette-Jesse	16.9	X	317.97011	354.87283	200.33570	1.64650	0.0709848	0.23097301	2.6308448	20	1 14.1	20.2
320943 2008 <i>GM</i> ₁₄₅	15.9	X	221.49852	187.69457	82.90967	14.53908	0.0727548	0.22149227	2.7053928	20	—	—
320944 2008 <i>HW</i>	17.3	X	31.20951	279.53797	198.49909	2.93662	0.1656164	0.23625154	2.5915103	20	1 17.7	19.7
320945 2008 <i>HG</i> ₁	16.8	X	292.46884	6.01204	190.36994	13.78861	0.1854218	0.22460523	2.6803374	20	—	—
320946 2008 <i>HL</i> ₁	16.8	X	140.88376	127.88321	130.91635	8.85761	0.1733374	0.19988304	2.8970240	20	12 11.4	21.7
320947 2008 <i>HN</i> ₁	16.8	X	319.59454	334.40768	169.99701	8.65410	0.2600579	0.22380633	2.6867121	20	—	—
320948 2008 <i>HK</i> ₂	16.9	X	331.44929	59.03088	191.37072	3.04081	0.1153484	0.24478796	2.5309060	20	4 9.3	19.8
320949 2008 <i>HR</i> ₄	16.1	X	292.28348	49.74154	159.22645	14.27686	0.0889651	0.22775954	2.6555328	20	—	—
320950 2008 <i>HZ</i> ₄	13.4	X	235.05170	302.95856	44.95757	5.27179	0.0868425	0.08530887	5.1106163	20	4 22.8	20.4
320951 2008 <i>HG</i> ₈	16.5	X	178.15118	131.27840	170.36011	12.37437	0.1539651	0.21804822	2.7338059	20	—	—
320952 2008 <i>HC</i> ₁₁	16.7	X	349.26419	152.31775	59.26456	0.90971	0.0938766	0.23958230	2.5674356	20	3 18.3	19.6
320953 2008 <i>HB</i> ₁₂	16.3	X	224.48571	256.62								

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>
320961 2008 HL ₂₈	17.0	X	3.11729	241.35263	261.26562	3.35182	0.1149329	0.23318100	2.6142108	20	1 4.6	19.8
320962 2008 HC ₃₄	16.3	X	260.04326	82.60429	177.11766	9.14095	0.1123293	0.22704705	2.6610853	20	1 20.5	20.5
320963 2008 HH ₃₄	16.6	X	214.63783	82.82768	163.00795	14.13872	0.0869748	0.21503992	2.7592432	20	—	—
320964 2008 HT ₃₄	16.4	X	345.55449	70.89899	106.30932	13.70194	0.2165669	0.23286231	2.6165954	20	1 8.6	19.2
320965 2008 HU ₃₄	15.8	X	23.92064	186.40519	110.76222	16.55162	0.0817068	0.18012873	3.1051367	20	9 14.8	20.1
320966 2008 HH ₃₆	16.7	X	213.58681	115.20709	145.67160	7.85869	0.0853146	0.21669722	2.7451568	20	—	—
320967 2008 HS ₄₁	16.6	X	268.89795	1.95613	215.31697	7.92761	0.1259789	0.22331817	2.6906260	20	—	—
320968 2008 HW ₄₂	17.2	X	253.98509	30.01830	173.41965	6.66969	0.0322336	0.22101802	2.7092615	20	—	—
320969 2008 HW ₄₅	15.6	X	324.73268	256.91013	81.68117	11.41612	0.0632875	0.17743136	3.1365278	20	8 6.7	19.8
320970 2008 HC ₄₆	16.4	X	133.01599	224.61785	136.36182	3.52430	0.0903487	0.22131475	2.7068394	20	1 14.1	20.1
320971 2008 HJ ₄₇	15.9	X	248.68243	133.18838	102.20866	18.22239	0.1181605	0.21999165	2.7176817	20	—	—
320972 2008 HE ₆₁	15.9	X	339.49619	248.10084	117.93229	11.26949	0.1247528	0.18727680	3.0256131	20	10 8.5	19.7
320973 2008 JH ₃	16.1	X	201.73706	207.88372	49.59823	5.19588	0.0688535	0.21426721	2.7658730	20	—	—
320974 2008 JF ₄	15.9	X	189.79402	168.73971	90.93409	13.95035	0.0345657	0.21124718	2.7921716	20	—	—
320975 2008 JH ₄	16.4	X	232.88156	75.31913	128.48656	8.46372	0.1686248	0.21073402	2.7967026	20	—	—
320976 2008 JR ₆	16.7	X	236.11315	118.55601	114.05168	5.75543	0.1145590	0.21679260	2.7443516	20	—	—
320977 2008 JQ ₈	16.3	X	172.21028	171.88234	91.84515	16.67115	0.2087863	0.20603786	2.8390391	20	—	—
320978 2008 JU ₈	16.5	X	323.89260	94.81090	77.38617	8.60918	0.1477508	0.23027259	2.6361769	20	—	—
320979 2008 JC ₉	16.3	X	243.80146	96.94432	93.24465	5.45934	0.0119573	0.20906679	2.8115513	20	—	—
320980 2008 JU ₁₀	16.7	X	246.89890	77.24895	127.87949	8.67302	0.0847641	0.21487549	2.7606507	20	—	—
320981 2008 JK ₁₂	15.6	X	324.89752	237.98340	121.58215	12.25197	0.1092077	0.18071449	3.0984231	20	9 1.4	19.4
320982 2008 JP ₁₃	16.2	X	17.53058	173.30347	182.06769	10.46037	0.1281521	0.19325952	2.9628440	20	11 23.2	20.1
320983 2008 JC ₂₀	16.4	X	289.36287	118.63121	102.51916	13.70770	0.2175371	0.22808954	2.6529708	20	—	—
320984 2008 JW ₂₁	16.8	X	290.79543	128.21040	83.49278	8.18460	0.2350003	0.22731567	2.6589885	20	—	—
320985 2008 JH ₂₃	17.0	X	286.68215	357.45023	119.57128	3.16535	0.0188668	0.20291115	2.8681296	20	12 14.6	20.9
320986 2008 JC ₂₄	16.7	X	279.84675	280.92978	0.74186	7.50147	0.1757190	0.24010961	2.5636753	20	3 3.2	20.3
320987 2008 JH ₂₄	15.9	X	282.79543	358.33283	275.66486	12.99562	0.1385886	0.23675376	2.5878442	20	2 22.9	19.8
320988 2008 JT ₂₇	17.2	X	299.24132	68.36227	154.62774	4.07596	0.1480055	0.23036015	2.6355089	20	1 14.6	20.8
320989 2008 JA ₃₁	15.4	X	42.48900	150.95546	187.43468	29.07074	0.2646458	0.17677083	3.1443363	20	12 17.9	20.5
320990 2008 JZ ₃₉	17.2	X	317.94423	33.05346	73.98571	4.73585	0.0543046	0.20884233	2.8135655	20	—	—
320991 2008 KE ₄	16.4	X	130.42257	146.16690	161.14019	9.14754	0.1323276	0.20475762	2.8508607	20	—	—
320992 2008 KF ₄	16.8	X	68.49296	235.57793	146.74360	10.08439	0.1332715	0.20837644	2.8177577	20	—	—
320993 2008 KN ₄	16.3	X	61.69791	152.41034	163.39506	9.39850	0.0677898	0.19216569	2.9740766	20	11 22.8	20.6
320994 2008 KO ₅	15.7	X	76.44910	98.74332	141.76824	14.07577	0.1540315	0.18089814	3.0963258	20	9 19.2	20.3
320995 2008 KN ₆	16.9	X	220.64674	80.06602	159.60638	8.08583	0.1698723	0.21443194	2.7644563	20	—	—
320996 2008 KX ₆	16.8	X	270.75273	207.82138	127.30582	11.92671	0.1441570	0.24274017	2.5451201	20	5 8.5	20.5
320997 2008 KX ₁₁	16.3	X	257.23896	67.58304	190.01765	14.64994	0.2472386	0.22339463	2.6900121	20	1 5.8	21.1
320998 2008 KH ₁₂	16.2	X	81.12995	245.10986	61.46554	4.58342	0.1279817	0.19508661	2.9443159	20	12 8.8	20.5
320999 2008 KA ₁₃	17.5	X	315.98368	198.79203	209.36414	4.32266	0.0688311	0.27522324	2.3407012	20	11 12.5	19.9
321000 2008 KH ₁₃	16.4	X	349.92131	147.45234	165.50783	1.27499	0.2106367	0.17444742	3.1721936	20	8 8.3	19.7
321001 2008 KQ ₁₃	16.1	X	40.29167	149.74909	155.94597	13.04627	0.1493081	0.18531150	3.0469674	20	10 26.8	20.3
321002 2008 KU ₁₄	16.9	X	252.62672	72.85900	161.22367	10.67335	0.1044201	0.22033142	2.7148870	20	—	—
321003 2008 KG ₁₇	16.0	X	294.08317	206.94036	176.39219	8.65446	0.0189045	0.18055018	3.1003027	20	8 22.6	20.3
321004 2008 KR ₂₃	16.0	X	300.24685	189.11819	170.01126	5.36008	0.1362822	0.17389527	3.1789049	20	7 15.3	20.1
321005 2008 KQ ₂₄	15.7	X	224.39428	314.89872	117.26088	18.60130	0.1954975	0.17590007	3.1547047	20	7 10.9	20.7
321006 2008 KO ₂₆	16.2	X	201.02011	343.91326	174.24828	10.53388	0.0297519	0.19141031	2.9818960	20	10 18.4	20.5
321007 2008 KR ₂₆	17.2	X	230.55788	61.71794	150.19951	8.92704	0.1440249	0.21087478	2.7954579	20	—	—
321008 2008 KE ₂₇	17.0	X	274.66914	334.80959	160.73140	8.17087	0.0618149	0.20722960	2.8281440	20	12 18.9	20.8
321009 2008 KX ₂₉	15.5	X	44.03029	131.78477	145.86574	15.33481	0.1534322	0.18008268	3.1056660	20	9 25.6	19.7
321010 2008 KF ₃₃	16.3	X	38.90735	111.89794	191.60344	9.96531	0.1188259	0.18428189	3.0583060	20	10 14.1	20.3
321011 2008 KX ₃₃	16.2	X	262.61443	144.88025	103.29340	15.55549	0.2271109	0.22468416	2.6797097	20	1 2.1	20.4
321012 2008 KC ₄₀	16.5	X	236.43941	106.78146	184.00640	7.43901	0.2077407	0.22472053	2.6794205	20	1 29.7	21.2
321013 2008 KZ ₄₀	16.6	X	125.42213	177.42920	184.40282	14.77444	0.0536694	0.22199477	2.7013087	20	—	—
321014 2008 LB ₁	17.0	X	323.23043	353.07972	171.56231	10.74520	0.0277297	0.22205754	2.7007996	20	—	—
321015 2008 LZ ₂	15.9	X	318.46203	269.87531	95.48425	11.81893	0.1091787	0.18044935	3.1014575	20	8 31.3	19.9
321016 2008 LQ ₃	16.0	X	256.96503	43.50057	154.67633	14.45235	0.1282194	0.21423493	2.7661509	20	—	—
321017 2008 LX ₁₁	16.1	X	7.06005	161.44345	206.99690	11.26684	0.0205213	0.19309906	2.9644851	20	11 11.9	20.1
321018 2008 LX ₁₂	16.9	X	133.22856	148.12191	163.50577	9.36497	0.1444555	0.20982339	2.8047885	20	—	—
321019 2008 LC ₁₅	15.8	X	90.99286	56.23270	246.69134	7.56584	0.0568987	0.18763513	3.0217598	20	12 6.5	20.3
321020 2008 LY ₁₅	16.5	X	143.04028	180.70801	139.91435	4.15411	0.0457811	0.21635260	2.7480711	20	—	—
321021 2008 LD ₁₆	16.6	X	53.05601	300.42507	179.43078	7.77251	0.1023206	0.23573724	2.5952782	20	2 25.5	19.5
321022 2008 LA ₁₈	16.5	X	220.97339	262.98347	6.23868	5.56447	0.2717118	0.21365182	2.7711816	20	—	—
321023 2008 MA	15.6	X	62.83518	150.69450	115.47097	15.81156	0.1919543	0.18228101	3.0806457	20	10 14.9	20.3
321024 2008 Gijon	15.9	X	240.11486	10.72196	252.42348	7.08289	0.2110473	0.21495910	2.7599348	20	1 2.7	20.5
321025 2008 ME ₁	15.8	X	268.87616	290.60299	330.03347	27.52411	0.4875625	0.22277504	2.6949974	20	1 12.3	21.4
321026 2008 MD ₂	16.5	X	178.43403	144.03038	168.59997	9.59837	0.0890390	0.21808947	2.7334612	20	1 4.7	20.7
321027 2008 NR ₁	15.1	X	311.70271	210.47957	214.37713	15.86239	0.0731620	0.18131589	3.0915680	20	11 4.7	19.1
321028 2008 OV ₅	15.3	X	86.15871	73.88820	159.81097	18.03657	0.1892737	0.17206870	3.2013621	20	9 23.4	20.2
321029 2008 OK ₁₇	17.2	X	305.66447	91.38175	171.28230	5.71804	0.1623650	0.22914965	2.6447823	20	3 11.8	20.7
321030 2008 OC ₂₂	15.6	X	94.51693	267.85284	342.92918	4.24834	0.1119025	0.17230986	3.1983744	20	10 9.7	20.3
321031 2008 OC ₂₃	16.8	X	233.70576	202.97158	155.92646	3.63916	0.1231970	0.22738978	2.6584108	20	4 26.8	20.8
321032 2008 PL ₄	15.9	X	85.83933	288.17374	358.14087	9.63562	0.0896207	0.18114715	3.0934876	20	11 10.1	20.6
321033 2008 PL ₇	16.0	X	143.62748	107.03221	189.56344	5.95943	0.2034055	0.19739017	2.9213642	20	—	—
321034 2008 PH ₈	16.0	X	98.66763	41.33591	252.71501	4.90493	0.1696675	0.18508316	3.0494729	20	12 12.7	20.9

ELEMENTS AND OPPOSITION DATES IN 2020

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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>
321041 2008 QB ₂₄	17.0	X	123.78979	224.40267	305.13216	1.77589	0.1051687	0.24080920	2.5587077	20	8 9.5	20.5
321042 2008 QY ₂₇	16.1	X	223.95882	245.48002	113.16502	8.20217	0.1589801	0.22268882	2.6956931	20	4 17.1	20.5
321043 2008 QF ₂₈	15.6	X	120.07276	186.43678	129.94066	12.77135	0.1260484	0.19026034	2.9938994	20	—	—
321044 2008 QB ₂₉	16.7	X	61.53589	117.05975	247.06840	4.62706	0.2129125	0.26734633	2.3864549	20	—	—
321045 2008 QY ₃₂	17.4	X	22.57738	165.26243	203.23161	3.66692	0.1945416	0.26074079	2.4265918	20	—	—
321046 Klushantsev	15.9	X	67.82080	129.08110	178.55650	11.22348	0.1109218	0.17834472	3.1258098	20	11 22.7	20.6
321047 2008 QR ₃₃	16.4	X	81.84501	47.94541	341.37400	3.05664	0.1729268	0.19548387	2.9403257	20	—	—
321048 2008 RS ₁₆	16.0	X	110.19702	325.36967	291.32160	3.51197	0.2096491	0.17532202	3.1616351	20	11 9.9	21.2
321049 2008 RN ₂₃	17.6	X	150.24573	50.38391	4.20855	20.41159	0.1013044	0.37954484	1.8892698	20	3 28.9	19.6
321050 2008 RY ₂₇	15.6	X	139.91289	102.97934	151.37877	11.67256	0.0994571	0.18594764	3.0400142	20	12 3.7	20.5
321051 2008 RM ₆₃	16.3	X	28.11585	305.22606	139.93724	3.44197	0.0991953	0.19308569	2.9646220	20	—	—
321052 2008 RK ₆₄	17.0	X	352.54010	164.08549	156.07618	8.44602	0.1745559	0.24464942	2.5318614	20	9 7.0	19.3
321053 2008 RO ₇₃	17.6	X	134.90342	2.23516	283.43747	1.33376	0.2029073	0.27365709	2.3496234	20	—	—
321054 2008 RP ₉₆	16.6	X	150.44217	31.76243	338.20748	1.36321	0.0828581	0.20291789	2.8680661	20	2 15.5	20.8
321055 2008 RH ₁₁₁	16.3	X	125.06685	175.69839	110.83605	2.24339	0.0885908	0.18159726	3.0883738	20	12 23.5	21.1
321056 2008 RX ₁₁₆	16.6	X	285.87092	313.87228	46.54383	2.56527	0.1286588	0.22647021	2.6656021	20	6 30.6	19.8
321057 2008 RL ₁₂₁	16.8	X	186.26869	19.96887	175.47788	7.75169	0.0468707	0.25892195	2.4379426	20	11 27.9	20.1
321058 2008 RC ₁₃₃	17.9	X	257.91576	219.81845	88.96522	2.03586	0.1535282	0.30546543	2.1835409	20	3 10.6	21.0
321059 2008 RE ₁₃₄	16.4	X	232.86217	300.19703	124.33676	8.17665	0.1796628	0.23377750	2.6097621	20	7 13.1	20.3
321060 2008 RH ₁₃₈	16.6	X	131.25956	58.69603	343.09541	2.93459	0.0985529	0.20907654	2.8114639	20	3 5.1	20.6
321061 2008 RS ₁₃₉	16.8	X	43.37069	221.86010	99.84433	2.31969	0.1994083	0.25886511	2.4382994	20	12 8.7	20.0
321062 2008 SH ₁₉	15.7	X	69.09474	133.06860	175.13634	11.39437	0.1333661	0.17852123	3.1237490	20	11 27.5	20.5
321063 2008 SK ₂₅	16.8	X	202.75018	131.73191	159.82924	5.28899	0.0809581	0.20153609	2.8811608	20	1 6.8	21.2
321064 2008 SW ₄₀	16.0	X	146.65851	333.03321	42.18500	2.58627	0.0696760	0.20721571	2.8282704	20	2 16.9	20.1
321065 2008 SS ₄₉	16.1	X	73.94722	104.14733	185.59238	17.03765	0.1467465	0.17224287	3.1992036	20	11 11.9	21.0
321066 2008 SF ₅₆	15.8	X	262.22750	289.41153	25.01227	6.57905	0.0693245	0.21622320	2.7491675	20	4 7.9	19.7
321067 2008 SJ ₅₆	13.5	X	257.17165	102.43188	22.09606	17.91157	0.0583293	0.08279599	5.2135055	20	10 19.2	20.3
321068 2008 SZ ₅₆	16.0	X	87.80631	67.85807	34.11658	6.44109	0.0306413	0.20712401	2.8291051	20	3 20.6	19.9
321069 2008 SB ₅₇	17.4	X	153.26578	242.10779	186.66086	5.61553	0.0918688	0.29886834	2.2155562	20	4 29.2	20.4
321070 2008 SM ₅₈	13.8	X	105.23946	233.13357	45.82519	8.45692	0.0091347	0.08312842	5.1995970	20	10 31.6	20.6
321071 2008 SN ₆₁	18.4	X	253.58567	165.76740	213.70273	2.11882	0.1486497	0.31827663	2.1245464	20	6 11.9	20.8
321072 2008 SX ₆₃	17.6	X	91.24086	257.02389	191.45930	22.36262	0.0799098	0.37506951	1.9042686	20	2 12.9	19.7
321073 2008 SR ₆₅	17.3	X	78.23203	165.35028	207.34090	5.81117	0.1716941	0.26965888	2.3727915	20	—	—
321074 2008 SP ₆₇	13.5	X	13.19610	158.88890	209.43534	11.69524	0.0470656	0.08204160	5.2454163	20	10 30.1	20.1
321075 2008 SJ ₇₂	17.7	X	243.41308	84.57034	250.59218	3.44105	0.1674915	0.30248833	2.1978445	20	3 26.6	20.9
321076 2008 SB ₇₅	16.6	X	49.17261	257.37500	119.13101	2.91639	0.1587440	0.18463379	3.0544189	20	—	—
321077 2008 SJ ₈₄	16.0	X	282.67805	358.41466	348.13712	12.10047	0.3028500	0.23005307	2.6378536	20	5 6.1	20.1
321078 2008 SY ₉₁	13.4	X	330.38484	24.86864	14.53338	24.48771	0.0625126	0.08129075	5.2776669	20	10 10.3	20.0
321079 2008 SW ₉₇	16.4	X	84.61625	248.75138	271.70822	1.97535	0.0986045	0.21940518	2.7225224	20	6 8.9	20.1
321080 2008 SZ ₁₀₀	15.8	X	93.68741	262.06030	62.79587	7.43135	0.1312812	0.18011235	3.1053250	20	—	—
321081 2008 SN ₁₀₅	16.2	X	206.43131	194.95586	198.62622	4.82918	0.1673919	0.21893544	2.7264152	20	5 10.7	20.7
321082 2008 SM ₁₂₁	13.8	X	314.75909	206.55033	222.63600	3.61838	0.0593108	0.08185144	5.2535373	20	10 25.0	20.5
321083 2008 SB ₁₃₃	16.5	X	269.74984	265.04575	9.29002	1.85649	0.0266036	0.20539794	2.8449327	20	3 3.9	20.3
321084 2008 SE ₁₄₇	15.8	X	198.89010	80.12121	243.63105	4.93407	0.0688863	0.20841742	2.8173883	20	2 7.6	20.1
321085 2008 SV ₁₄₉	16.7	X	255.43420	201.55755	326.12027	6.26041	0.0788702	0.26479682	2.4017486	20	—	—
321086 2008 SX ₁₆₅	13.6	X	9.83144	168.88296	185.90709	8.75388	0.1413039	0.08295320	5.2069167	20	10 17.3	19.9
321087 2008 SL ₁₇₄	16.0	X	189.69315	86.48331	306.15845	8.11514	0.0922950	0.21815082	2.7329487	20	4 20.1	20.4
321088 2008 SX ₁₉₅	17.4	X	28.80865	252.85603	196.32522	4.24922	0.0955100	0.27210346	2.3585586	20	—	—
321089 2008 SF ₁₉₈	16.5	X	246.57122	201.82944	88.15081	3.39964	0.0578082	0.20377858	2.8599846	20	2 22.5	20.6
321090 2008 SW ₂₀₈	16.0	X	21.74746	311.01057	108.65232	2.84347	0.1783793	0.17588686	3.1548626	20	—	—
321091 2008 SX ₂₂₄	13.9	X	29.35365	349.23819	3.73151	3.45108	0.0398410	0.08342220	5.1873829	20	10 30.8	20.6
321092 2008 SB ₂₅₆	16.3	X	307.95319	53.68364	61.52956	1.94656	0.0728631	0.17840650	3.1250881	20	12 30.7	20.2
321093 2008 SH ₂₆₁	16.2	X	9.13398	295.82296	112.17787	2.65616	0.1527580	0.17453517	3.1711303	20	—	—
321094 2008 SK ₂₆₆	16.8	X	223.28522	131.87922	221.88035	5.21740	0.0145505	0.21494845	2.7600260	20	4 15.7	20.6
321095 2008 SA ₂₇₇	14.0	X	321.63487	234.35477	160.57212	7.78087	0.0788827	0.08125612	5.2791663	20	9 25.2	20.6
321096 2008 ST ₂₇₉	17.9	X	344.88044	332.47365	186.00526	2.33132	0.0598767	0.28292795	2.2980112	20	—	—
321097 2008 SP ₂₈₄	16.7	X	230.94771	37.97465	321.64850	4.29127	0.1327404	0.21823332	2.7322599	20	4 21.2	20.9
321098 2008 SZ ₃₀₃	15.6	X	256.74476	92.22215	345.76730	14.76203	0.1002936	0.23578792	2.5949063	20	9 9.5	18.8
321099 2008 SP ₃₀₅	15.9	X	12.62193	280.65598	116.95438	5.86310	0.1486652	0.17404356	3.1770989	20	—	—
321100 2008 TV ₄₆	16.0	X	219.08410	337.23504	58.81588	8.51551	0.1546950	0.22120693	2.7077189	20	5 25.3	20.2
321101 2008 TB ₄₉	16.1	X	273.50835	15.50765	323.97138	3.93567	0.2807389	0.22980442	2.6397561	20	4 23.2	20.1
321102 2008 TA ₅₃	16.4	X	25.78417	314.73283	56.44355	2.78275	0.0682918	0.17416410	3.1756328	20	12 9.3	20.6
321103 2008 TL ₅₇	14.9	X	308.91591	24.55167	45.40623	1.39406	0.0650181	0.08206141	5.2445720	20	10 18.8	21.5
321104 2008 TT ₅₉	16.7	X	353.09349	311.08646	142.28927	1.47205	0.1240221	0.18095665	3.0956583	20	—	—
321105 2008 TP ₆₃	17.6	X	259.03088	352.90946	250.00848	0.81386	0.1864651	0.28457683	2.2891260	20	—	—
321106 2008 TD ₆₆	16.7	X	248.45262	199.26760	164.31959	2.12410	0.1048128	0.22308794	2.6924769	20	5 20.6	20.7
321107 2008 TL ₇₂	15.7	X	299.64337	328.98374	143.38486	6.17796	0.1094811	0.17613459	3.1519037	20	12 12.6	19.7
321108 2008 TZ ₇₄	17.3	X	290.15088	125.43707	210.82635	1.51064	0.0366058	0.22451398	2.6810636	20	6 17.5	20.8
321109 2008 TN ₈₇	16.7	X	275.66722	251.95429	120.57094	3.49708	0.1701927	0.23188207	2.6239644	20	6 26.1	20.1
321110 2008 TF ₉₄	17.4	X	353.68923	209.65628	164.86260	5.93784	0.0975381	0.25172816	2.4841712	20	11 24.7	20.2
321111 2008 TK ₁₀₈	16.4	X	205.32502	11.37400	88.62826	3.58191	0.1003499	0.23469082	2.6029869	20	8 7.6	20.3
321112 2008 TR ₁₂₄	13.1	X	298.36086	217.81907	313.93311	14.73467	0.0470720	0.08146566	5.2701097	20	10 8.2	19.9
321113 2008 TQ ₁₃₁	13.8	X	53.35319	342.50796	345.35240	6.70233	0.0112444	0.08248432	5.2266303	20	10 25.8	20.8
321114 2008 TG ₁₃₃	16.8	X	228.56033									

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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>
321121 2008 UY ₁₁	16.9 ^m	X	307.06502	25.48579	287.34895	1.59721	0.1127798	0.22958054	2.6414720	20	5 29.3	20.1
321122 2008 UB ₁₄	15.7	X	60.49708	136.31112	213.98677	10.32237	0.0585448	0.17817642	3.1277778	20	12 25.5	20.3
321123 2008 UU ₅₀	16.4	X	39.91809	304.55350	103.71584	0.06993	0.0964898	0.18238768	3.0794445	20	—	—
321124 2008 UA ₅₂	16.7	X	179.36621	322.85093	60.76372	2.86458	0.0858336	0.20602945	2.8391163	20	4 3.6	20.9
321125 2008 UE ₅₇	16.6	X	229.79621	183.45742	83.91711	3.05576	0.0554317	0.19492142	2.9459792	20	1 8.2	21.0
321126 2008 UT ₆₀	16.9	X	47.48188	348.27821	270.96814	4.16877	0.0696736	0.23329716	2.6133430	20	8 26.3	20.3
321127 2008 UJ ₇₈	16.0	X	123.40210	341.11321	172.10595	6.76621	0.0355325	0.22539715	2.6740556	20	7 9.9	19.9
321128 2008 UN ₇₉	16.1	X	136.13308	4.03203	344.53550	5.26547	0.0886080	0.19334447	2.9619760	20	1 7.9	20.4
321129 2008 UC ₈₂	16.6	X	94.24875	274.48996	334.94871	3.52200	0.1555806	0.24187196	2.5512070	20	10 23.0	20.5
321130 2008 UT ₈₆	17.6	X	44.37189	73.51678	42.62990	2.62855	0.1154353	0.28186409	2.3037899	20	1 30.4	19.7
321131 2008 UO ₈₇	16.0	X	289.83057	222.29787	173.29563	4.45212	0.2387688	0.23704144	2.5857500	20	8 7.4	19.0
321132 2008 UL ₁₂₅	16.9	X	115.33642	129.84399	239.44035	19.43293	0.0952634	0.35933739	1.9594512	20	—	—
321133 2008 UP ₁₃₈	16.8	X	219.54481	211.56400	181.52780	1.82006	0.0807737	0.21961500	2.7207881	20	5 28.0	20.8
321134 2008 UZ ₁₃₈	17.0	X	268.64038	11.99175	358.28461	0.70884	0.1150182	0.22682211	2.6628444	20	6 21.9	20.4
321135 2008 UV ₁₄₁	16.7	X	73.56253	218.40101	62.30659	3.50793	0.1137160	0.24494669	2.5298125	20	11 7.5	20.1
321136 2008 UW ₁₄₇	16.3	X	284.29888	246.37194	29.70029	2.27394	0.0170381	0.20524688	2.8463284	20	3 25.7	20.1
321137 2008 UY ₁₄₇	16.7	X	94.50609	71.21160	26.70076	2.20808	0.0304044	0.20243652	2.8726109	20	3 22.7	20.4
321138 2008 UY ₁₅₂	13.5	X	344.97801	194.18058	205.27265	8.35080	0.0400241	0.08200689	5.2468963	20	10 30.4	20.2
321139 2008 UQ ₁₅₇	16.7	X	284.35559	128.10110	195.99159	1.49085	0.0849381	0.21828832	2.7318010	20	5 16.5	20.3
321140 2008 UT ₁₆₃	16.5	X	296.91728	52.05879	278.39090	2.99756	0.1080170	0.22696260	2.6617454	20	6 8.3	19.9
321141 2008 UD ₁₇₆	16.7	X	115.18273	122.97933	339.29254	1.81556	0.0447783	0.21180414	2.7872746	20	4 23.8	20.5
321142 2008 UV ₁₈₆	16.7	X	294.26370	207.23255	157.58934	1.92292	0.1710377	0.22996548	2.6385234	20	7 12.8	19.7
321143 2008 UN ₁₉₇	16.5	X	132.28073	188.14726	154.91906	3.00302	0.1381045	0.19044289	2.9919858	20	1 2.5	20.8
321144 2008 UE ₂₂₃	16.7	X	285.87420	358.81036	16.52117	4.20225	0.2271452	0.23272745	2.6176062	20	7 5.9	19.9
321145 2008 UB ₂₂₆	16.5	X	309.92554	16.46093	345.29880	9.18558	0.2653288	0.23795230	2.5791471	20	7 25.6	18.9
321146 2008 UZ ₂₅₅	16.7	X	313.47584	7.56769	199.79682	1.33347	0.0140329	0.19700901	2.9251310	20	2 5.9	20.7
321147 2008 UW ₂₅₉	16.4	X	133.51583	157.69318	223.14159	1.25309	0.1223527	0.19566096	2.9385512	20	2 14.8	20.7
321148 2008 UZ ₂₈₆	15.8	X	250.84307	325.41735	135.32348	3.81912	0.1287214	0.15674367	3.4067692	20	9 18.0	20.6
321149 2008 UL ₂₉₄	16.1	X	170.21025	347.82621	336.98692	2.55019	0.0457065	0.19232759	2.9724073	20	1 12.5	20.3
321150 2008 UW ₃₀₁	14.1	X	274.87286	170.60533	280.74268	8.31004	0.0551179	0.08181592	5.2550578	20	9 29.3	21.1
321151 2008 UD ₃₀₃	17.5	X	98.31346	351.84797	328.02748	1.64005	0.2123623	0.26087589	2.4257540	20	—	—
321152 2008 UX ₃₀₃	16.0	X	204.25582	211.87930	134.07903	12.25359	0.2206013	0.20981580	2.8048562	20	3 14.1	20.9
321153 2008 UJ ₃₁₄	16.2	X	238.73866	156.33464	319.07009	3.75116	0.0864400	0.23871231	2.5736699	20	10 6.8	19.8
321154 2008 UO ₃₁₅	17.5	X	44.36625	212.97992	246.88572	7.19602	0.1222333	0.27830630	2.3233824	20	1 4.8	19.6
321155 2008 US ₃₃₀	16.6	X	160.90385	149.78909	214.08555	2.00498	0.0487569	0.19926841	2.9029780	20	2 16.2	20.8
321156 2008 UX ₃₃₁	16.9	X	36.84110	241.65883	164.94754	2.43273	0.1124961	0.25521506	2.4614925	20	—	—
321157 2008 UA ₃₄₁	16.3	X	65.86605	286.66234	216.99768	4.78711	0.0952391	0.20887753	2.8132494	20	4 20.6	20.0
321158 2008 UJ ₃₄₅	16.7	X	255.13129	59.11927	284.19228	8.08621	0.0580361	0.21474044	2.7618081	20	5 5.4	20.7
321159 2008 UK ₃₄₆	16.4	X	276.92962	284.62261	93.23318	5.30013	0.2791573	0.23152494	2.6266620	20	6 18.2	20.1
321160 2008 UO ₃₅₃	17.9	X	25.49740	224.24984	272.35523	3.27996	0.0334364	0.27817466	2.3241153	20	1 26.8	20.5
321161 2008 UV ₃₅₃	16.5	X	180.39968	324.95782	73.60708	4.06634	0.0817463	0.20857753	2.8159463	20	4 23.2	20.7
321162 2008 UE ₃₅₄	17.3	X	132.11443	229.22142	70.06502	3.33326	0.1891194	0.26471612	2.4022367	20	—	—
321163 2008 VH ₄	16.4	X	331.35744	143.04121	260.71238	2.82593	0.0840936	0.24643965	2.5195849	20	11 23.2	19.2
321164 2008 UJ ₁₉	16.5	X	119.49354	270.24798	148.41967	2.51388	0.0715399	0.19948951	2.9008326	20	3 10.5	20.7
321165 2008 VW ₁₉	16.8	X	273.13617	130.47166	188.04588	3.76253	0.0985039	0.21487572	2.7606487	20	4 22.9	20.5
321166 2008 VG ₂₉	16.1	X	356.55510	317.17811	11.44050	5.15086	0.1937607	0.24043610	2.5613539	20	9 29.9	18.2
321167 2008 VQ ₃₇	15.6	X	58.38395	217.83993	118.77455	5.21707	0.1534655	0.17048014	3.2212186	20	12 18.4	20.2
321168 2008 VQ ₄₁	15.6	X	85.72837	8.50570	319.13470	9.63768	0.1206507	0.17801384	3.1296819	20	—	—
321169 2008 VC ₄₇	16.9	X	168.85836	192.79164	223.17096	3.02188	0.0920258	0.20999057	2.8032997	20	5 1.7	20.9
321170 2008 VL ₆₈	16.5	X	226.95568	312.70797	99.66889	3.90722	0.0881831	0.21619638	2.7493948	20	6 29.8	20.6
321171 2008 VN ₇₂	16.3	X	40.68596	136.02928	187.39086	2.58780	0.1572843	0.24573654	2.5243887	20	11 29.3	19.5
321172 2008 WD ₇₄	16.8	X	155.86205	223.60554	180.39593	1.99169	0.0711450	0.20404636	2.8574819	20	4 2.0	20.8
321173 2008 VU ₇₅	16.1	X	168.83975	292.55262	149.61002	13.80747	0.1488185	0.21519836	2.7578887	20	6 7.3	20.8
321174 2008 WT ₇	17.6	X	287.65854	291.98902	247.82259	0.90688	0.0843885	0.26860396	2.3790000	20	—	—
321175 2008 WF ₈	16.1	X	350.82576	257.56254	152.56977	1.66179	0.1408085	0.17025968	3.2239986	20	12 14.4	20.0
321176 2008 WB ₁₇	16.9	X	132.46803	203.98597	199.32225	1.38070	0.0723769	0.20261998	2.8708767	20	3 5.6	21.0
321177 2008 WY ₂₉	16.6	X	250.03164	68.22453	8.24316	2.25988	0.0442226	0.23149342	2.6269005	20	9 7.3	20.1
321178 2008 WR ₃₄	15.9	X	154.41328	265.23923	43.05457	9.80126	0.1261718	0.18762198	3.0219011	20	—	—
321179 2008 WE ₄₅	16.7	X	115.81999	157.71023	285.74418	0.86167	0.0543405	0.20234230	2.8735026	20	4 2.6	20.6
321180 2008 WD ₄₉	15.9	X	224.41626	64.76145	289.72162	5.18410	0.0672143	0.21077281	2.7963594	20	4 12.3	20.0
321181 2008 WW ₆₈	17.1	X	14.65190	278.17746	127.01779	1.77281	0.2070324	0.25688904	2.4507876	20	—	—
321182 2008 WX ₇₀	16.2	X	342.65791	326.10463	73.14536	6.32403	0.1540920	0.24522045	2.5279293	20	12 12.2	18.7
321183 2008 WL ₁₁₂	17.8	X	293.31995	138.14491	2.86535	1.19960	0.1371961	0.25422730	2.4678642	20	—	—
321184 2008 WM ₁₁₄	16.5	X	186.37724	153.70092	279.35968	2.41875	0.0481241	0.21656840	2.7462453	20	6 11.9	20.3
321185 2008 WC ₁₃₀	15.9	X	338.19528	213.77677	84.22431	9.18469	0.0391460	0.21600389	2.7510279	20	7 4.3	19.3
321186 2008 WL ₁₃₃	15.6	X	16.30622	192.50504	227.42712	4.62203	0.0587193	0.17360293	3.1824726	20	—	—
321187 2008 WM ₁₃₇	15.1	X	329.70807	165.81625	280.82970	15.58079	0.0820559	0.16941656	3.2346861	20	12 24.4	19.3
321188 2008 WE ₁₃₈	17.2	X	268.27299	243.24051	178.46652	2.24913	0.1442594	0.23254830	2.6189504	20	8 26.7	20.6
321189 2008 WE ₁₃₉	17.3	X	299.23283	17.85755	113.70078	3.69984	0.1415231	0.25327480	2.4740477	20	—	—
321190 2008 XF ₁₆	16.6	X	287.92829	201.45812	111.84254	2.80052	0.0742621	0.21262142	2.7801275	20	5 9.4	20.4
321191 2008 XG ₁₈	16.8	X	288.82768	169.04553	203.64158	3.27167	0.0947880	0.22683795	2.6627204	20	7 26.6	20.2
321192 2008 XY ₄₈	16.5	X	187.41652	294.84786	300.92138	16.29840	0.1681587	0.24126402	2.5554909	20	—	—
321193 2008 XC ₅₂	16.7	X	307.20849	84.18002	261.33034	3.49352	0.0933611	0.21994425	2.7180721	20	7 17.2	20.0

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>
321201 2008 YK ₂₀	17.2	X	250.09846	343.12061	114.37411	2.14098	0.0342947	0.22802656	2.6534592	20	10 7.1	20.8
321202 2008 YH ₂₃	15.4	X	232.77623	22.37565	281.74744	10.34062	0.0809790	0.19202229	2.9755571	20	2 18.6	20.1
321203 2008 YA ₂₅	16.2	X	350.72194	237.94158	145.19773	4.87898	0.2253516	0.24357752	2.5392838	20	12 14.3	18.6
321204 2008 YS ₃₅	16.5	X	293.22013	32.48828	320.09904	4.06680	0.0541235	0.21359783	2.7716486	20	7 11.8	20.0
321205 2008 YE ₃₇	17.3	X	269.24216	193.28715	26.49674	1.27158	0.1355273	0.25778469	2.4451076	20	—	—
321206 2008 YK ₄₀	17.2	X	248.38956	131.86679	142.80426	2.60146	0.2602599	0.26881265	2.3777686	20	1 14.9	21.2
321207 2008 YZ ₄₀	15.6	X	80.17210	291.70220	131.31696	11.41399	0.1064039	0.18057331	3.1000380	20	2 2.7	19.5
321208 2008 YG ₄₁	17.2	X	290.31478	310.26432	221.98471	1.93135	0.1306762	0.25293945	2.4762340	20	—	—
321209 2008 YS ₄₈	16.1	X	187.87377	98.21608	112.15786	14.44885	0.1212233	0.23667353	2.5884290	20	12 6.9	20.2
321210 2008 YK ₅₀	16.7	X	206.21440	92.17051	81.92941	4.54510	0.0817575	0.23299975	2.6155664	20	11 14.0	20.4
321211 2008 YC ₅₆	16.8	X	326.26635	74.43977	317.89995	3.61830	0.1691100	0.23806640	2.5783229	20	10 26.7	19.3
321212 2008 YV ₅₇	15.7	X	39.61563	75.06165	328.40896	4.09180	0.1933826	0.17161271	3.2070305	20	—	—
321213 2008 YM ₈₈	16.8	X	118.53080	198.93046	304.14689	1.05527	0.1086041	0.20848790	2.8167533	20	6 28.6	21.0
321214 2008 YA ₉₅	15.9	X	307.65099	154.77572	287.33784	3.55879	0.0783340	0.15455433	3.4388662	20	11 12.3	20.4
321215 2008 YD ₉₇	16.8	X	180.45702	254.40978	323.92684	4.48807	0.0778529	0.23772392	2.5807987	20	12 10.3	20.5
321216 2008 YE ₁₀₉	15.5	X	119.42101	253.84837	118.42795	10.76515	0.0697119	0.17595015	3.1541061	20	1 16.7	20.0
321217 2008 YK ₁₁₄	16.5	X	219.08978	3.12436	61.93007	1.41826	0.0624656	0.21595493	2.7514437	20	7 9.9	20.5
321218 2008 YV ₁₂₃	16.9	X	250.11555	243.35920	214.27870	1.91938	0.0806650	0.23045502	2.6347855	20	9 28.9	20.2
321219 2008 YQ ₁₃₆	15.5	X	82.74835	90.35335	286.78514	9.40065	0.0551843	0.17419020	3.1753156	20	—	—
321220 2008 YW ₁₃₆	16.5	X	248.69068	297.82428	79.97008	3.75996	0.0776482	0.21436736	2.7650115	20	6 11.6	20.2
321221 2008 YM ₁₄₂	16.6	X	343.45707	132.29098	43.88974	0.14908	0.1184793	0.18093494	3.0959059	20	1 28.5	20.5
321222 2008 YF ₁₄₇	15.8	X	313.66955	136.23522	74.00359	4.64070	0.0676132	0.18663546	3.0325405	20	2 5.8	19.9
321223 2008 YF ₁₅₃	16.1	X	141.52002	291.18496	116.50899	3.31763	0.0920795	0.19524460	2.9409202	20	3 25.7	20.4
321224 2008 YW ₁₅₅	17.3	X	267.16470	276.00493	156.69123	2.90592	0.0884729	0.22688017	2.6623901	20	9 18.2	20.5
321225 2008 YN ₁₆₇	15.4	X	42.17139	226.45525	276.56471	9.54550	0.0261270	0.19162316	2.9796875	20	3 6.4	19.6
321226 2009 AT ₉	17.1	X	354.12749	342.76045	345.45850	1.84100	0.0916730	0.22592063	2.6699233	20	9 11.9	20.1
321227 2009 AY ₁₆	16.1	X	181.55806	143.68373	77.67845	8.88176	0.0916339	0.23953770	2.5677543	20	12 14.6	19.9
321228 2009 AW ₂₅	16.6	X	225.31079	244.36504	155.51063	1.76070	0.1603532	0.21292071	2.7775216	20	6 5.4	20.9
321229 2009 AE ₄₁	17.4	X	59.20008	137.54566	111.03592	3.73400	0.1356374	0.29926104	2.2136176	20	9 21.1	20.0
321230 2009 AM ₄₇	17.0	X	185.60979	68.64363	349.09859	1.45566	0.0602316	0.20251381	2.8718800	20	5 21.6	21.1
321231 2009 BL ₆	17.9	X	79.37330	294.12570	129.28423	24.03604	0.1104942	0.35498268	1.9754435	20	—	—
321232 2009 BJ ₁₁	16.3	X	321.75175	4.14127	158.20834	14.97045	0.2007025	0.25747574	2.4470631	20	—	—
321233 2009 BR ₂₄	16.3	X	199.51131	259.36897	174.95745	3.70700	0.1916754	0.21122582	2.7923598	20	6 22.4	20.9
321234 2009 BE ₃₁	16.5	X	139.34401	351.62666	87.08444	3.19942	0.0850584	0.19675615	2.9276366	20	4 29.5	20.9
321235 2009 BL ₄₄	16.4	X	55.17136	195.04730	308.93826	1.04048	0.0768173	0.18696126	3.0290164	20	4 4.4	20.3
321236 2009 BL ₄₅	17.1	X	167.96039	65.09221	175.47522	4.30621	0.1303286	0.23485630	2.6017640	20	12 20.4	21.1
321237 2009 BP ₆₃	16.7	X	304.88823	6.11991	151.85753	7.24284	0.0834740	0.25373046	1.4710848	20	—	—
321238 2009 BY ₈₁	16.9	X	178.58800	302.14421	81.75858	24.09432	0.1228787	0.37594988	2.9012946	20	4 8.3	20.0
321239 2009 BL ₈₆	15.9	X	170.64876	240.72346	130.16767	7.30934	0.1231977	0.18834977	3.0141116	20	3 14.2	20.6
321240 2009 BK ₈₇	16.3	X	37.01814	205.34569	2.06196	1.64544	0.0329020	0.19931550	2.9025208	20	5 26.7	20.1
321241 2009 BX ₉₁	17.1	X	236.57384	208.54069	128.43094	6.88866	0.0899193	0.28048088	2.3113580	20	4 3.2	20.3
321242 2009 BR ₉₃	17.9	X	324.60394	231.95749	197.37537	0.87104	0.2006625	0.24074976	2.5591288	20	12 22.4	20.0
321243 2009 BO ₁₀₃	15.8	X	23.93665	319.49884	154.58240	6.87927	0.1042619	0.17375112	3.1806628	20	1 14.6	19.7
321244 2009 BQ ₁₀₆	16.4	X	145.15716	234.01952	270.04806	2.54294	0.0633431	0.21080440	2.7960801	20	7 26.1	20.5
321245 2009 BV ₁₀₇	16.3	X	114.18372	30.65725	25.61548	2.76694	0.0610212	0.17927564	3.1149795	20	3 2.5	20.6
321246 2009 BT ₁₁₃	16.6	X	48.30072	275.91418	106.03063	5.62983	0.2030709	0.25403284	2.4691235	20	—	—
321247 2009 BF ₁₃₉	16.8	X	336.09970	94.98086	146.86691	2.31831	0.0736553	0.19215855	2.9741503	20	4 14.6	20.5
321248 2009 BU ₁₄₉	16.2	X	120.62473	150.43012	263.66608	0.71331	0.0939553	0.18161927	3.0881242	20	3 9.9	20.7
321249 2009 BC ₁₅₀	16.8	X	203.38727	289.89869	162.45658	4.30350	0.0676465	0.20975625	2.8053870	20	7 25.4	20.9
321250 2009 BE ₁₆₇	17.0	X	349.21208	143.46208	165.22713	8.63484	0.1999857	0.28396816	2.2923959	20	8 18.7	18.5
321251 2009 BP ₁₇₇	15.9	X	72.26323	205.53168	235.24732	3.30187	0.0561553	0.17406801	3.1768015	20	2 7.1	20.3
321252 2009 CV ₇	15.8	X	188.54932	53.98261	239.37993	3.89766	0.0840142	0.17369478	3.1813507	20	—	—
321253 2009 CV ₅₇	15.3	X	279.85628	256.27086	18.54930	17.8215	0.1286127	0.17899242	3.1182646	20	3 11.6	20.0
321254 2009 CE ₆₄	17.6	X	76.41859	182.71671	113.82434	6.20008	0.1810203	0.31019778	2.1612761	20	12 19.1	20.7
321255 2009 DL ₁₂	15.3	X	228.33531	204.27569	106.57180	10.81286	0.0391808	0.18251270	3.0780380	20	3 4.5	19.9
321256 2009 DB ₁₃	17.9	X	262.13422	125.58559	317.02163	4.38143	0.0600442	0.30695179	2.1764863	20	10 11.0	20.2
321257 2009 DV ₁₃	17.3	X	202.72170	81.70281	311.84297	7.08532	0.1183111	0.28149645	2.3057954	20	5 3.5	20.8
321258 2009 DD ₁₄	16.0	X	294.01560	83.15998	347.23923	14.51495	0.0375037	0.22253036	2.6969726	20	10 22.3	19.7
321259 2009 DK ₁₅	17.3	X	148.83539	118.15877	353.47126	4.06293	0.0336930	0.29008181	2.2600726	20	6 18.4	20.2
321260 2009 DS ₃₅	17.5	X	306.63653	116.20289	149.00319	1.99123	0.1549652	0.26626171	2.3929313	20	3 14.1	20.2
321261 2009 DL ₄₂	15.5	X	3.56859	137.88989	3.67397	4.61412	0.1365638	0.17114249	3.2129020	20	1 17.8	19.4
321262 2009 DU ₄₄	16.8	X	57.25936	199.09219	341.68419	7.02503	0.0448596	0.27893362	2.3198976	20	5 17.6	19.6
321263 2009 DD ₅₄	16.8	X	355.39363	304.46611	112.66070	2.62792	0.1903796	0.24324861	2.5415723	20	—	—
321264 2009 DX ₈₃	16.4	X	158.36879	151.19092	81.81893	5.50325	0.0216140	0.23540697	2.5977051	20	12 7.3	19.7
321265 2009 DA ₈₅	18.6	X	150.95943	111.23392	120.30165	1.09093	0.1101548	0.31098899	2.1576088	20	12 8.3	21.3
321266 2009 DK ₈₇	16.2	X	14.23547	119.71303	49.32611	4.06412	0.1460311	0.18076882	3.0978024	20	3 10.3	19.8
321267 2009 DL ₁₀₆	15.6	X	352.72681	143.57969	20.80162	5.12090	0.0726044	0.17418075	3.1754306	20	2 3.6	19.7
321268 2009 DL ₁₂₂	17.5	X	349.42565	123.54660	154.75261	5.59216	0.1818028	0.28029899	2.3123578	20	6 23.9	19.1
321269 2009 DY ₁₃₂	17.5	X	218.03073	229.43943	168.16208	7.41952	0.0986352	0.28294653	2.2979106	20	5 31.8	20.8
321270 2009 DA ₁₃₃	18.4	X	108.61507	307.06668	317.81020	2.34168	0.1002567	0.31120636	2.1566040	20	12 6.4	21.4
321271 2009 DK ₁₃₅	16.1	X	153.26391	324.46319	221.20417	7.56195	0.1361746	0.21527517	2.7572327	20	9 25.8	20.6
321272 2009 DQ ₁₃₅	17.3	X	309.15179	76.36335	315.99003	7.59224	0.0511070	0.30177857	2.2012893	20	10 10.4	19.7
321273 2009 DU ₁₃₈	16.8	X	281.14572	294.87564	26.87288	7.52155	0.1526948	0.27410712	2.3470509	20	4 25	

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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>
321281 2009 EN ₂₁	18.2 ^m	X	166.00561	327.52555	190.44038	1.59568	0.1296088	0.30003705	2.2097991	20	9 14.4	21.4
321282 2009 EU ₂₂	18.5	X	305.89843	215.77625	201.00993	3.41270	0.0564246	0.30921031	2.1658751	20	11 18.0	20.4
321283 2009 EX ₂₅	17.7	X	58.81919	226.18428	57.04574	4.35276	0.1070769	0.29786156	2.2205458	20	11 2.5	20.4
321284 2009 FL ₅	17.9	X	82.28799	260.34322	10.16627	3.80371	0.1689080	0.30107361	2.2047241	20	11 17.8	21.0
321285 2009 FL ₉	15.0	X	68.00632	199.78411	168.04493	9.80250	0.0573053	0.15250686	3.4695765	20	—	—
321286 2009 FL ₁₄	16.6	X	127.35321	91.14271	161.63141	9.02741	0.0281971	0.22425782	2.6831049	20	11 24.4	20.5
321287 2009 FK ₁₇	18.3	X	118.90764	116.38935	140.31626	2.30792	0.1506483	0.30826862	2.1702837	20	12 7.0	21.4
321288 2009 FE ₂₁	18.1	X	161.38251	54.38570	115.12829	4.79730	0.0409522	0.30118085	2.2042008	20	10 1.6	20.8
321289 2009 FW ₂₁	17.7	X	53.29689	21.83336	154.41894	2.85091	0.1438783	0.27498648	2.3420445	20	5 23.3	20.0
321290 2009 FE ₂₂	16.0	X	65.61466	24.85919	95.20707	2.54853	0.1259388	0.17827867	3.1265818	20	3 28.8	20.0
321291 2009 FX ₂₂	16.9	X	76.63735	171.09091	52.42649	8.19974	0.0717515	0.28852404	2.2682002	20	8 31.2	19.8
321292 2009 FX ₃₇	17.5	X	350.29503	150.53609	148.49642	5.22085	0.1689106	0.28439917	2.2900792	20	8 2.8	19.0
321293 2009 FZ ₃₉	17.3	X	78.48847	141.41669	132.25820	6.17781	0.1891798	0.29941403	2.2128635	20	11 22.2	20.6
321294 2009 FH ₄₁	18.3	X	189.96173	36.92152	90.18901	4.03289	0.0967005	0.29780985	2.2208029	20	9 2.9	21.2
321295 2009 FH ₄₅	17.7	X	130.10449	93.91072	35.28277	20.61222	0.1183396	0.37003704	1.9214950	20	6 28.4	20.5
321296 2009 FD ₅₄	17.3	X	350.96597	222.38083	91.88091	5.10350	0.2220560	0.28622022	2.2803552	20	9 11.3	18.6
321297 2009 FL ₅₄	15.6	X	284.64219	159.50122	167.05808	11.68639	0.0542104	0.18958618	3.0011826	20	5 27.2	19.9
321298 2009 FC ₅₅	18.3	X	115.03447	42.98559	145.74959	4.41715	0.0932316	0.29213374	2.2494771	20	8 29.9	21.1
321299 2009 FO ₆₀	17.7	X	15.04102	155.02684	61.01754	1.34963	0.1537827	0.27357425	2.3500976	20	5 8.9	19.6
321300 2009 FO ₆₁	13.3	X	252.35323	109.36103	196.37687	7.87227	0.0638357	0.08453643	5.1417006	20	3 25.9	20.2
321301 2009 FR ₆₅	18.2	X	157.16584	78.67829	94.80926	2.54122	0.0895522	0.29708324	2.2244225	20	9 28.4	21.1
321302 2009 FQ ₆₇	18.6	X	62.77996	110.64821	152.45493	3.66221	0.1535081	0.29234407	2.2483980	20	10 16.9	21.5
321303 2009 FT ₆₇	17.1	X	269.53447	292.04124	58.61760	7.18898	0.1309626	0.27936148	2.3175282	20	5 24.5	19.9
321304 2009 GQ	17.4	X	104.18730	45.83986	77.85106	2.50383	0.1286098	0.26873596	2.3782209	20	5 19.8	20.6
321305 2009 GA ₆	17.4	X	132.32821	80.38050	189.48240	6.97157	0.1019389	0.30980467	2.1631040	20	—	—
321306 2009 HU ₄	15.5	X	65.18150	303.36490	152.44584	4.97479	0.1248041	0.17182017	3.2044484	20	2 26.2	19.6
321307 2009 HZ ₇	17.3	X	114.66294	125.04262	147.16354	5.08000	0.1128743	0.30619425	2.1800747	20	12 21.9	20.4
321308 2009 HZ ₁₆	15.8	X	92.12902	307.90383	141.12633	4.60132	0.0818672	0.17586675	3.1551031	20	3 19.2	20.2
321309 2009 HO ₂₀	17.6	X	39.63225	209.95698	58.04430	4.02393	0.1967595	0.28597905	2.2816371	20	9 29.4	20.1
321310 2009 HO ₂₉	17.5	X	46.00408	83.85570	180.19425	6.60145	0.1846791	0.28890850	2.2661875	20	9 29.6	19.9
321311 2009 HX ₃₅	17.7	X	8.70368	121.89595	152.69305	4.68265	0.1342906	0.28005717	2.3136886	20	7 30.7	19.6
321312 2009 HS ₃₇	16.6	X	95.82711	194.04544	117.43984	5.00519	0.0861756	0.22724908	2.6595080	20	—	—
321313 2009 HQ ₃₈	17.0	X	353.88184	124.50061	134.63261	7.99402	0.0910185	0.27269974	2.3551192	20	6 4.9	19.4
321314 2009 HO ₃₉	17.9	X	23.01210	101.42350	175.38454	3.43548	0.2153789	0.28035852	2.3120304	20	9 15.4	20.0
321315 2009 HN ₄₅	17.7	X	57.45181	26.83435	252.21302	1.97364	0.1541217	0.29363761	2.2417900	20	10 30.5	20.5
321316 2009 HF ₅₁	17.1	X	85.98380	214.27895	151.02367	5.65979	0.0472249	0.23547022	2.5972399	20	—	—
321317 2009 HJ ₅₂	17.3	X	99.14153	336.97108	254.47097	5.37900	0.1682938	0.29443649	2.2377332	20	10 12.6	20.7
321318 2009 HM ₅₃	17.1	X	225.55120	87.09606	103.60863	3.80141	0.1159154	0.22898067	2.6460832	20	12 21.6	20.6
321319 2009 HZ ₅₆	17.0	X	306.85059	334.32452	146.35749	5.50314	0.1019988	0.23236163	2.6203528	20	—	—
321320 2009 HX ₅₈	15.6	X	34.82917	290.08513	205.68992	15.45820	0.1956668	0.17547931	3.1597456	20	3 1.3	19.4
321321 2009 HJ ₅₉	17.1	X	323.44580	179.24257	97.69537	6.26213	0.2156910	0.26728115	2.3868429	20	4 20.1	19.5
321322 2009 HD ₆₁	17.4	X	156.36870	95.75509	7.65335	6.89396	0.0476143	0.27993414	2.3143665	20	6 16.9	20.6
321323 2009 HX ₆₅	17.1	X	102.09053	93.22670	134.90209	4.94550	0.1240908	0.29192736	2.2505371	20	10 12.2	20.2
321324 2009 Vytאות	16.0	X	114.70579	0.85202	96.60312	6.60486	0.1087850	0.17835436	3.1256971	20	4 30.1	20.7
321325 2009 HW ₇₅	17.7	X	42.38895	90.58994	192.88451	6.30399	0.1666862	0.29142092	2.2531437	20	10 20.0	20.2
321326 2009 HJ ₇₇	17.7	X	77.67313	40.91530	204.02080	6.20025	0.1459239	0.28997262	2.2606399	20	10 6.5	20.8
321327 2009 HS ₇₇	17.5	X	26.23042	183.97548	73.83170	6.45096	0.1434027	0.28029056	2.3124041	20	8 12.5	19.8
321328 2009 HX ₇₇	15.8	X	76.24825	164.35545	92.04683	10.34894	0.0877696	0.20509840	2.8477020	20	10 6.0	20.0
321329 2009 HB ₇₉	17.3	X	353.91685	73.63424	196.41231	6.38168	0.0851411	0.27422816	2.3463602	20	6 20.6	19.7
321330 2009 HE ₇₉	18.0	X	20.41984	79.98712	207.07056	5.34974	0.1481677	0.28369086	2.2938895	20	9 13.5	20.3
321331 2009 HC ₈₀	16.9	X	329.21358	181.08882	53.37707	7.40382	0.1357229	0.26412057	2.4058464	20	3 12.7	19.6
321332 2009 HF ₉₀	17.4	X	156.38602	324.79904	199.66579	4.45648	0.1178030	0.29691801	2.2252477	20	9 11.9	20.5
321333 2009 HO ₉₅	16.9	X	157.76434	212.83600	65.26897	2.49713	0.0399831	0.23092760	2.6311897	20	—	—
321334 2009 HE ₉₈	17.5	X	330.80186	110.12042	200.17735	6.37607	0.1353392	0.28045749	2.3114865	20	7 6.6	19.6
321335 2009 HG ₁₀₁	17.9	X	22.16689	152.78192	82.72302	2.16252	0.1330879	0.27344143	2.3508586	20	6 24.2	19.9
321336 2009 HY ₁₀₃	16.3	X	28.86523	96.77839	88.40677	13.10176	0.0610133	0.17525096	3.1624896	20	4 25.4	20.6
321337 2009 HF ₁₀₆	17.4	X	3.18590	114.96262	142.75703	1.08411	0.1910666	0.27347304	2.3506774	20	6 23.3	18.8
321338 2009 JF ₁₁	16.2	X	249.34599	154.68721	47.63012	9.57977	0.1236541	0.23360668	2.6110341	20	—	—
321339 2009 JT ₁₂	16.6	X	209.20247	123.59098	140.59017	5.32160	0.2067253	0.23473901	2.6026306	20	—	—
321340 2009 JK ₁₃	17.3	X	48.93343	17.36053	237.74052	5.39724	0.0794166	0.28265124	2.2995108	20	8 29.8	20.0
321341 2009 JF ₁₄	17.8	X	35.14407	21.37940	224.50909	1.61686	0.1691694	0.27702085	2.3305642	20	8 10.6	20.0
321342 2009 JO ₁₄	17.5	X	134.00277	268.08005	237.14730	4.70268	0.0942530	0.27915523	2.3186696	20	7 20.0	20.7
321343 2009 JF ₁₆	17.5	X	348.47418	113.13556	193.85062	6.01467	0.1557859	0.28003640	2.3138031	20	8 9.2	19.3
321344 2009 JC ₁₈	17.3	X	3.84862	140.42482	131.90109	4.25557	0.2106196	0.27426781	2.3461341	20	7 23.5	18.7
321345 2009 KT ₁	17.8	X	64.65148	204.20583	65.08639	3.65711	0.1554353	0.29096353	2.2555044	20	10 27.1	20.8
321346 2009 KK ₄	16.3	X	99.38854	179.43229	136.89117	10.14995	0.1616277	0.21557006	2.7547177	20	—	—
321347 2009 KJ ₁₂	16.5	X	8.45192	128.63474	101.73478	2.34968	0.1115319	0.18088804	3.0964410	20	5 19.6	20.3
321348 2009 KC ₁₃	16.2	X	335.26934	59.19032	66.81154	15.78830	0.0718679	0.23650296	2.5896734	20	—	—
321349 2009 KX ₁₄	17.6	X	114.57984	134.96150	106.31780	3.31111	0.1243736	0.29632879	2.2281965	20	11 11.2	20.7
321350 2009 KC ₂₀	16.3	X	4.79841	9.42055	289.60351	1.71841	0.2640714	0.18413487	3.0599337	20	7 13.8	18.9
321351 2009 KE ₂₉	16.4	X	68.95384	105.88224	154.85657	1.95678	0.0857024	0.19961347	2.8996316	20	9 26.3	20.5
321352 2009 KV ₃₅	16.8	X	117.51974	226.82069	124.32735	15.17591	0.1691434	0.23263558	2.6182953	20	—	—
321353 2009 LR ₄	15.5	X	312.49418	162.58703	165.89619	17.86838	0.2268235	0.18048465	3.1010531	20	6 13.1	19.6
321354 2009 LU ₄	12.9	X	276.14269	49.								

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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>
321361 2009 <i>MX</i> ₇	16.4	X	232.26146	90.00685	209.23755	10.34617	0.2045633	0.24429729	2.5342937	20	2 1.9	20.8
321362 2009 <i>MA</i> ₈	16.4	X	201.55571	169.05569	152.82663	13.66810	0.2921705	0.24050715	2.5608495	20	2 7.5	21.2
321363 2009 <i>MK</i> ₈	16.9	X	75.35672	319.97471	251.11829	5.74678	0.1517767	0.27963534	2.3160149	20	8 15.1	20.0
321364 2009 <i>NP</i>	16.8	X	279.04055	84.31019	250.70448	3.62056	0.2109795	0.25781465	2.4449182	20	5 2.9	20.0
321365 2009 <i>OD</i> ₁	17.9	X	62.41332	357.81187	278.40868	1.29280	0.2560642	0.28398176	2.2923227	20	11 11.7	21.3
321366 2009 <i>OE</i> ₂	16.2	X	182.42592	183.30590	119.13936	13.35983	0.1841996	0.22730558	2.6590672	20	1 1.3	20.7
321367 2009 <i>OF</i> ₂	17.4	X	0.20185	193.35550	71.62736	3.05433	0.2029594	0.26478777	2.4018033	20	6 28.4	19.0
321368 2009 <i>OM</i> ₂	16.6	X	180.78939	353.68473	286.23416	6.44151	0.2645125	0.22202121	2.7010942	20	—	—
321369 2009 <i>OT</i> ₄	14.8	X	304.52474	231.38439	129.84542	28.92187	0.1760057	0.17670647	3.1450997	20	7 20.6	18.7
321370 2009 <i>OA</i> ₆	16.3	X	220.77994	328.55384	309.75472	12.37274	0.1542163	0.23103906	2.6303433	20	1 5.8	20.6
321371 2009 <i>OF</i> ₆	16.0	X	89.26409	182.95213	155.92247	15.54710	0.1523704	0.20989700	2.8041327	20	—	—
321372 2009 <i>OB</i> ₇	16.1	X	50.85847	26.70988	309.78628	7.03638	0.1562443	0.19776337	2.9176877	20	12 16.1	20.4
321373 2009 <i>OK</i> ₈	14.7	X	351.64789	44.71038	280.57906	27.03015	0.2495326	0.17893849	3.1188911	20	8 16.2	18.3
321374 2009 <i>OT</i> ₈	15.7	X	345.74272	222.87349	138.41101	18.73192	0.1953310	0.18494317	3.0510115	20	10 16.9	19.2
321375 2009 <i>OX</i> ₈	16.4	X	244.93996	327.46687	327.82111	14.22829	0.1822586	0.23912895	2.5706795	20	2 13.4	20.4
321376 2009 <i>OZ</i> ₉	15.5	X	279.96222	172.65282	193.80967	8.89458	0.1935417	0.16985304	3.2291422	20	6 25.8	20.1
321377 2009 <i>OQ</i> ₁₅	12.8	X	18.66462	302.30773	41.06097	13.42105	0.0772577	0.08346088	5.1857799	20	10 14.1	19.4
321378 2009 <i>OU</i> ₁₆	16.8	X	340.15118	80.58021	197.62706	10.84176	0.1687110	0.25936370	2.4351736	20	6 1.9	19.1
321379 2009 <i>OY</i> ₁₈	15.9	X	37.50615	355.50162	315.85762	8.79741	0.0322045	0.18863313	3.0110923	20	10 5.8	20.2
321380 2009 <i>OE</i> ₁₉	15.6	X	340.32069	359.43481	320.17135	11.71966	0.1531827	0.17563790	3.1578432	20	7 31.3	19.1
321381 2009 <i>OJ</i> ₂₁	16.8	X	297.87707	175.32260	138.29097	4.18728	0.1794148	0.25885901	2.4383377	20	5 6.3	19.7
321382 2009 <i>OG</i> ₂₄	16.1	X	94.86177	143.26085	172.75598	15.03493	0.1823358	0.20430998	2.8550233	20	—	—
321383 2009 <i>PX</i> ₁	16.1	X	357.51566	155.98631	342.80003	11.32654	0.0236206	0.22551506	2.6731235	20	1 3.9	19.8
321384 2009 <i>PN</i> ₂	16.7	X	354.14643	335.79568	308.10310	4.38470	0.2195937	0.26454977	2.4032436	20	7 17.1	18.1
321385 2009 <i>PQ</i> ₂	17.9	X	73.28672	270.80607	347.97711	2.22163	0.1770303	0.27941199	2.3172489	20	10 21.7	21.1
321386 2009 <i>PX</i> ₄	17.1	X	333.77248	54.30015	242.10365	1.87823	0.2065387	0.26170273	2.4206419	20	6 12.2	18.7
321387 2009 <i>PE</i> ₅	16.0	X	178.04077	311.02388	309.67953	8.54117	0.1008427	0.21123841	2.7922488	20	—	—
321388 2009 <i>PM</i> ₇	16.3	X	272.70132	38.53839	35.28468	1.82004	0.1495658	0.17957965	3.1114630	20	9 11.4	20.4
321389 2009 <i>PR</i> ₇	15.9	X	62.79182	53.17442	298.81077	5.48356	0.0778766	0.20352031	2.8624037	20	—	—
321390 2009 <i>PJ</i> ₉	15.7	X	317.06882	194.83439	160.69854	3.49979	0.1007154	0.17264297	3.1942589	20	8 10.4	19.6
321391 2009 <i>PU</i> ₁₂	16.5	X	213.39789	174.37285	152.23128	12.30026	0.2183798	0.23559780	2.5963021	20	2 22.9	20.8
321392 2009 <i>PA</i> ₁₃	16.6	X	72.20676	182.69016	124.77869	1.10836	0.0836816	0.19210131	2.9747410	20	11 25.1	20.9
321393 2009 <i>PD</i> ₁₄	16.5	X	108.97819	174.12474	164.05341	3.86665	0.0960658	0.21003311	2.8029211	20	—	—
321394 2009 <i>PQ</i> ₁₅	16.5	X	197.35614	134.48707	174.79777	12.78159	0.1766603	0.22577958	2.6710351	20	1 19.8	21.2
321395 2009 <i>PS</i> ₁₅	15.5	X	323.06717	209.30724	179.40608	11.54758	0.0849842	0.18106904	3.0943772	20	10 6.4	19.4
321396 2009 <i>PT</i> ₁₅	16.1	X	344.91504	77.42082	261.07626	1.60803	0.1220455	0.17564912	3.1577087	20	9 1.9	19.8
321397 2009 <i>PF</i> ₁₆	16.0	X	13.79876	328.81584	346.88640	4.37672	0.1201621	0.17797640	3.1301209	20	9 20.7	19.8
321398 2009 <i>PH</i> ₁₆	15.8	X	233.42217	313.81573	175.64781	11.53884	0.0836182	0.18373435	3.0683883	20	10 13.1	20.2
321399 2009 <i>PK</i> ₁₇	16.3	X	68.83933	178.87710	157.99908	10.86801	0.1253081	0.20205855	2.8761921	20	—	—
321400 2009 <i>PM</i> ₁₈	16.1	X	163.90395	271.84193	356.14678	5.57809	0.0139613	0.20449634	2.8532885	20	—	—
321401 2009 <i>PN</i> ₁₈	15.2	X	202.93048	111.61598	355.05591	17.58985	0.0882827	0.17040780	3.2213300	20	8 14.8	20.3
321402 2009 <i>PH</i> ₂₀	16.2	X	58.77462	181.88032	168.66518	3.21426	0.0924470	0.19811588	2.9142257	20	—	—
321403 2009 <i>QJ</i>	15.8	X	339.97070	14.64231	307.70139	9.06092	0.0357977	0.17515633	3.1636286	20	8 5.2	20.0
321404 2009 <i>QP</i>	16.3	X	208.53757	278.50214	356.69896	11.46325	0.1594728	0.22112153	2.7084159	20	—	—
321405 Ingehorst	15.2	X	349.00794	300.32929	5.21099	16.17352	0.2349856	0.17363325	3.1821022	20	8 2.9	18.6
321406 2009 <i>QA</i> ₁	13.6	X	281.44393	119.90359	333.30423	23.58587	0.0883476	0.08337983	5.1891400	20	9 28.6	20.6
321407 2009 <i>QB</i> ₄	15.4	X	233.52748	110.93500	3.15531	14.81775	0.0567413	0.18122735	3.0925749	20	9 25.8	19.9
321408 2009 <i>QJ</i> ₄	15.8	X	151.04320	328.99445	335.30964	13.51753	0.1580184	0.21328985	2.7743160	20	—	—
321409 2009 <i>QF</i> ₅	16.9	X	232.91041	131.71552	149.53839	3.78048	0.2007992	0.23399656	2.6081330	20	1 16.3	21.3
321410 2009 <i>QD</i> ₆	15.6	X	291.98903	197.83412	175.40765	5.91139	0.1166756	0.17038643	3.2223995	20	7 23.9	19.9
321411 2009 <i>QM</i> ₆	16.5	X	28.35146	294.59739	36.24874	2.24637	0.1593768	0.18989382	2.9977505	20	11 9.3	20.2
321412 2009 <i>QU</i> ₁₀	15.1	X	345.23546	4.15647	356.35533	22.45515	0.0849587	0.18183605	3.0856694	20	9 29.1	19.0
321413 2009 <i>QC</i> ₁₂	15.6	X	265.69855	81.98962	346.58615	10.09293	0.0809918	0.17855607	3.1233427	20	9 5.2	19.9
321414 2009 <i>QE</i> ₁₅	15.7	X	317.83590	231.50549	178.06296	10.22357	0.0770573	0.18513875	3.0488625	20	10 27.6	19.7
321415 2009 <i>QP</i> ₁₅	16.4	X	242.25163	263.00200	4.95567	4.09724	0.0786706	0.22513196	2.6761551	20	1 17.2	20.3
321416 2009 <i>QR</i> ₁₅	17.1	X	116.73490	138.78575	164.86924	6.75874	0.0435501	0.20072348	2.8889316	20	—	—
321417 2009 <i>QL</i> ₁₆	15.7	X	249.14837	296.02287	166.49995	11.03804	0.0482165	0.18141345	3.0904595	20	10 3.3	20.0
321418 2009 <i>QQ</i> ₁₆	16.0	X	190.38901	335.65420	358.61770	13.33858	0.1155334	0.22790568	2.6543974	20	2 16.6	20.2
321419 2009 <i>QR</i> ₁₈	16.1	X	288.67629	133.28575	273.91009	5.25779	0.0528324	0.18080636	3.0973735	20	9 9.5	20.3
321420 2009 <i>QY</i> ₁₉	15.7	X	312.59148	224.71727	156.69972	15.61710	0.1103731	0.18074842	3.0980354	20	9 8.2	19.4
321421 2009 <i>QB</i> ₂₁	16.7	X	221.55333	135.84149	149.78255	13.54952	0.2538753	0.23206603	2.6225775	20	1 11.7	21.6
321422 2009 <i>QJ</i> ₂₁	16.4	X	16.51497	290.95845	35.67377	2.09549	0.2062134	0.18586016	3.0409680	20	10 22.9	19.9
321423 2009 <i>QH</i> ₂₃	16.5	X	126.57179	155.24366	166.13230	2.81746	0.1747820	0.21294310	2.7773269	20	—	—
321424 2009 <i>QQ</i> ₂₅	17.4	X	295.50639	106.34835	203.05317	0.75839	0.1807115	0.25532840	2.4607640	20	4 25.1	20.3
321425 2009 <i>QY</i> ₂₅	16.4	X	45.09538	150.13498	143.80574	4.67102	0.2180949	0.18837349	3.0138585	20	10 26.9	20.5
321426 2009 <i>QF</i> ₂₈	16.6	X	191.01871	176.02760	154.94011	5.53949	0.0962286	0.23086579	2.6316593	20	2 7.6	20.6
321427 2009 <i>QM</i> ₃₂	14.9	X	60.17464	5.28518	307.90698	24.99288	0.2647550	0.18846165	3.0129186	20	12 10.9	19.9
321428 2009 <i>QK</i> ₃₃	15.2	X	320.25793	232.09921	118.35104	14.61281	0.1720881	0.17048885	3.2211088	20	8 2.5	18.9
321429 2009 <i>QL</i> ₃₄	15.9	X	208.93050	319.74015	152.70089	11.30950	0.0534191	0.17865156	3.1222297	20	8 25.9	20.5
321430 2009 <i>QN</i> ₃₅	15.5	X	96.63829	343.14736	9.84503	10.89194	0.1526229	0.20895481	2.8125557	20	—	—
321431 2009 <i>QQ</i> ₃₅	15.4	X	317.50014	230.20851	149.84326	11.07371	0.0923404	0.17788935	3.1311419	20	9 16.3	19.4
321432 2009 <i>QT</i> ₃₉	15.8	X	154.78843									

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>
321441 2009 QS ₅₂	15.9	X	43.28344	181.08360	167.31734	5.48834	0.0733143	0.19446106	2.9506268	20	12 9.9	20.0
321442 2009 QG ₅₆	15.6	X	282.75933	195.17539	192.05267	16.85758	0.1080322	0.17176150	3.2051781	20	7 28.0	20.3
321443 2009 QO ₅₆	15.9	X	231.93214	211.47815	0.83278	7.47198	0.1635149	0.21017510	2.8016586	20	—	—
321444 2009 QZ ₅₇	15.8	X	315.43523	348.50903	3.63962	4.81510	0.1177246	0.17269344	3.1936365	20	8 3.7	19.8
321445 2009 QA ₅₈	16.0	X	283.59182	252.22181	174.84461	11.33036	0.1343103	0.18142187	3.0903639	20	9 19.9	19.8
321446 2009 QR ₅₈	17.0	X	317.83607	324.12929	257.34841	3.45208	0.1336530	0.23967249	2.5667915	20	2 5.1	20.2
321447 2009 QJ ₆₀	16.1	X	348.71822	182.43610	126.67289	2.24506	0.1915094	0.17188365	3.2036594	20	7 30.9	19.2
321448 2009 QS ₆₀	16.7	X	213.85831	263.41910	15.24813	1.93611	0.0533346	0.22200056	2.7012618	20	—	—
321449 2009 RW ₆₀	15.3	X	264.97787	228.29439	175.79983	19.53206	0.1386136	0.17035218	3.2228314	20	7 23.1	20.2
321450 2009 QN ₆₃	16.4	X	66.88335	120.66837	205.38627	0.92476	0.1514959	0.19748602	2.9204189	20	12 20.4	20.7
321451 2009 RZ ₁	16.3	X	340.98114	193.08157	254.13403	1.64987	0.0407273	0.19897203	2.9058601	20	—	—
321452 2009 RC ₂	15.3	X	240.00567	240.31377	176.04145	16.98504	0.0351839	0.17019478	3.2248181	20	7 22.4	20.2
321453 Alexmarieann	15.3	X	293.82403	211.98233	187.04003	28.96961	0.2689007	0.17295583	3.1904057	20	8 3.2	19.9
321454 2009 RZ ₆	16.0	X	136.45742	21.18667	299.50645	2.75661	0.1864108	0.21184233	2.7869396	20	—	—
321455 2009 RX ₁₁	16.5	X	226.14321	266.22272	10.11338	4.96692	0.1233937	0.22200088	2.7012591	20	1 9.6	20.8
321456 2009 RF ₁₂	16.7	X	319.63138	103.54983	166.96347	1.80510	0.0721921	0.24294638	2.5436797	20	4 25.3	19.7
321457 2009 RJ ₂₂	16.6	X	154.00524	133.37893	207.75865	5.68025	0.0340520	0.22430618	2.6827192	20	1 6.2	20.4
321458 2009 RL ₂₂	15.0	X	40.67104	287.98101	311.62875	12.04325	0.0362395	0.17006174	3.2264997	20	7 14.4	19.4
321459 2009 RG ₂₃	15.7	X	272.47806	300.26477	179.78052	8.46163	0.0658673	0.18886525	3.0086246	20	11 22.7	19.8
321460 2009 RB ₂₇	14.8	X	347.66480	2.66159	335.11438	15.56850	0.2148862	0.17632687	3.1496120	20	9 6.6	18.0
321461 2009 RG ₂₈	17.2	X	43.45487	3.00517	281.58704	5.04659	0.1873839	0.27729294	2.3290394	20	10 20.4	20.1
321462 2009 RJ ₃₆	16.5	X	7.42823	72.80679	236.74582	6.10952	0.1269137	0.26898752	2.3767379	20	9 16.6	19.1
321463 2009 RT ₃₈	16.7	X	148.16108	286.88427	40.17102	2.02375	0.1033567	0.21598450	2.7511926	20	—	—
321464 2009 RO ₄₁	15.6	X	101.33625	5.36790	258.06405	6.09756	0.1620706	0.18771855	3.0208646	20	11 8.7	20.4
321465 2009 RB ₄₃	15.6	X	20.95570	99.56699	124.63063	9.20176	0.1477874	0.17841658	3.1249704	20	10 2.3	19.5
321466 2009 RM ₄₃	15.8	X	312.32317	96.26009	351.71460	10.79932	0.0739372	0.18957148	3.0011478	20	12 4.3	19.9
321467 2009 RP ₄₅	15.7	X	104.71715	243.86611	7.58137	7.54714	0.0836296	0.18108135	3.0942370	20	10 20.8	20.3
321468 2009 RH ₄₈	15.3	X	281.52422	62.39921	13.33802	16.34224	0.0878300	0.17782172	3.1319358	20	10 4.3	19.5
321469 2009 RO ₄₈	16.1	X	239.55641	222.38370	13.94610	7.92877	0.1636119	0.21304515	2.7764399	20	—	—
321470 2009 RB ₄₉	15.4	X	222.12293	110.06993	16.32865	10.05767	0.0576103	0.17529541	3.1619550	20	9 27.9	20.1
321471 2009 RZ ₄₉	16.7	X	297.80648	277.39220	15.92629	11.12329	0.1600480	0.24397043	2.5365568	20	4 9.5	20.0
321472 2009 RJ ₅₃	15.5	X	16.29823	176.76725	195.98982	10.33634	0.0628366	0.18635271	3.0356072	20	12 2.2	19.7
321473 2009 RB ₆₀	15.0	X	144.50159	309.33783	257.62795	15.44679	0.0187721	0.18606154	3.0387733	20	10 3.2	19.7
321474 2009 RK ₆₁	15.3	X	322.41309	209.92325	176.45018	17.56293	0.1939581	0.17833091	3.1259711	20	9 24.6	18.6
321475 2009 RU ₆₂	15.6	X	337.26163	337.78882	11.90981	9.75392	0.1254873	0.17752639	3.1354083	20	9 8.0	19.3
321476 2009 RJ ₆₅	15.8	X	83.55794	112.77658	174.46769	4.05440	0.1586507	0.18582175	3.0413870	20	11 20.9	20.4
321477 2009 RO ₆₅	15.9	X	172.19410	226.88562	61.83544	18.04289	0.1525226	0.21796946	2.7344644	20	—	—
321478 2009 RJ ₆₉	16.5	X	100.03162	224.44669	137.41531	5.75881	0.1656618	0.21297157	2.7770794	20	—	—
321479 2009 RK ₆₉	15.8	X	299.90721	334.78781	35.09042	5.81897	0.1846556	0.17235280	3.1978431	20	7 24.4	19.8
321480 2009 RB ₆₉	15.7	X	88.57488	38.51490	224.50985	9.59779	0.0604033	0.18493018	3.0511544	20	10 15.1	20.2
321481 2009 RC ₇₁	16.4	X	37.13105	201.90682	69.13334	2.54759	0.1603119	0.17358951	3.1826367	20	9 5.1	20.4
321482 2009 RW ₇₁	15.8	X	92.08325	228.49167	22.08238	11.83560	0.1248565	0.17761108	3.1344115	20	10 11.9	20.4
321483 2009 SW ₄	15.6	X	314.97821	215.92792	218.68945	9.46637	0.0699412	0.19197807	2.9760140	20	11 24.6	19.4
321484 Marsaalam	15.4	X	44.95721	319.47008	338.77203	15.31801	0.1135631	0.17784622	3.1316481	20	10 6.6	19.9
321485 Cross	17.0	X	34.81563	280.67676	359.52725	1.06203	0.1745816	0.26945100	2.3740117	20	9 30.8	19.5
321486 2009 SN ₂₅	15.3	X	186.08168	167.53342	1.71263	12.00906	0.0888028	0.18008623	3.1056253	20	10 5.6	20.1
321487 2009 SZ ₃₈	16.1	X	73.78384	46.89276	210.73043	7.01703	0.1827867	0.17627222	3.1502629	20	10 6.3	20.8
321488 2009 SW ₃₉	16.4	X	82.75377	26.45550	276.41195	0.77330	0.0530038	0.18697650	3.0288470	20	11 26.5	20.8
321489 2009 SR ₄₄	15.8	X	89.59449	331.50964	340.10360	4.74598	0.0711435	0.19036660	2.9927852	20	12 17.1	20.2
321490 2009 SH ₅₄	15.8	X	324.27899	228.98659	182.43179	10.36211	0.0186538	0.18930787	3.0039332	20	11 10.3	20.0
321491 2009 SA ₆₁	16.6	X	204.18405	336.04032	327.04360	4.58384	0.1607838	0.22201573	2.7011387	20	1 20.9	21.1
321492 2009 SD ₆₂	17.0	X	193.71419	75.70497	232.72360	1.31852	0.0371530	0.22335925	2.6902961	20	1 13.2	20.6
321493 2009 SM ₆₆	15.3	X	93.94386	48.56241	189.87165	12.38646	0.0243592	0.17189923	3.2034658	20	9 14.8	19.9
321494 2009 ST ₇₂	17.0	X	270.55483	327.67197	325.46665	2.55818	0.1799530	0.24106241	2.5569156	20	3 5.1	20.7
321495 2009 SN ₇₃	15.8	X	4.77177	119.67818	186.80900	14.00617	0.0756122	0.17301542	3.1896731	20	8 18.5	20.2
321496 2009 SO ₇₇	16.4	X	319.31072	265.97545	30.03242	5.14372	0.2060314	0.24474784	2.5311826	20	5 9.9	19.1
321497 2009 SF ₇₈	16.2	X	322.32270	312.67119	270.05840	8.62580	0.0401536	0.23753022	2.5822016	20	2 23.9	19.7
321498 2009 ST ₉₈	15.9	X	39.61842	163.71022	166.51916	6.14779	0.1824058	0.18778402	3.0201624	20	11 27.8	20.0
321499 2009 SE ₁₂₀	16.0	X	12.99536	353.44613	340.60942	5.41522	0.1581363	0.18088282	3.0965006	20	10 16.8	19.8
321500 2009 SC ₁₂₄	17.9	X	110.13930	131.91836	222.54045	5.64796	0.2189212	0.30234136	2.1985567	20	—	—
321501 2009 SD ₁₂₉	17.0	X	20.29699	258.01564	21.53653	10.92483	0.2800598	0.26558753	2.3969792	20	9 26.8	19.3
321502 2009 SY ₁₃₀	15.6	X	343.78880	156.10735	186.93459	11.60807	0.1392920	0.17285988	3.1915862	20	9 4.6	19.4
321503 2009 SV ₁₅₀	16.1	X	194.96199	76.55426	206.80826	5.92728	0.0291118	0.21320585	2.7750447	20	—	—
321504 2009 SU ₁₅₃	15.6	X	13.62048	188.47279	191.75617	11.64747	0.1113098	0.18996357	2.9970167	20	12 14.2	19.7
321505 2009 SH ₁₆₅	16.3	X	239.06741	298.70321	310.12637	12.01025	0.1304227	0.22632394	2.6667505	20	—	—
321506 2009 SZ ₁₆₇	15.6	X	179.31566	298.32236	194.42803	17.98931	0.0937672	0.16946869	3.2340227	20	8 11.6	20.9
321507 2009 SS ₁₆₉	16.1	X	76.80834	66.38103	231.68143	6.61395	0.2179765	0.19226468	2.9730557	20	12 3.3	20.8
321508 2009 SE ₁₇₀	15.9	X	194.75037	333.93780	272.55847	8.20002	0.1270110	0.20980512	2.8049513	20	—	—
321509 2009 SG ₁₇₂	15.4	X	337.79681	104.36050	248.67830	7.98028	0.0796753	0.17441194	3.1726238	20	9 6.3	19.7
321510 2009 SV ₁₈₀	16.0	X	11.12193	93.08006	188.36783	7.76497	0.0529324	0.16797842	3.2531222	20	7 25.5	20.4
321511 2009 SW ₁₈₂	16.6	X	145.06034	124.01126	13.00371	6.98035	0.0706302	0.25366181	2.4715306	20	7 22.3	20.1
321512 2009 SY ₁₈₉	16.1	X	276.89161	256.62345	356.86780	16.70228	0.1836487	0.23050981	2.6343680	20	1 30.1	20.4
321513 2009 SG ₁₉₃	13.1	X	281.88490	210.91027	212.22616	8.33360	0.0634988	0.08279577	5.2135148	20	9 6.4	20.0
321514 2009 SV ₂₀₀	15.5	X	26.3									

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>
321521 2009 SO ₂₃₀	15.8	X	19.10609	326.32335	349.01607	8.66548	0.0718781	0.17968215	3.1102795	20	9 22.6	19.9
321522 2009 SB ₂₃₁	16.6	X	52.85248	36.83016	342.86225	1.33847	0.0789142	0.20294442	2.8678162	20	—	—
321523 2009 SS ₂₃₂	15.9	X	15.63267	204.04058	127.66829	6.03201	0.1853336	0.18244666	3.0787809	20	10 27.0	19.6
321524 2009 SA ₂₃₃	15.6	X	353.83112	220.57270	109.65807	6.41948	0.1548088	0.17547698	3.1597734	20	9 11.4	19.2
321525 2009 SD ₂₃₅	17.0	X	342.93492	353.82145	28.56733	4.05340	0.2049922	0.27109249	2.3644187	20	12 3.7	18.9
321526 2009 ST ₂₃₅	13.5	X	274.49911	226.58780	218.44827	11.21181	0.0867143	0.08417689	5.1563311	20	9 19.3	20.3
321527 2009 SM ₂₃₆	15.0	X	6.57491	236.11954	107.56686	10.64635	0.1831681	0.18297177	3.0728875	20	10 29.5	18.7
321528 2009 SL ₂₃₈	16.3	X	226.04793	156.05352	163.07885	13.33302	0.1982231	0.23350367	2.6118019	20	2 24.2	20.6
321529 2009 SQ ₂₄₂	15.8	X	28.56950	184.42316	131.68196	15.52407	0.2151686	0.18378243	3.0638445	20	11 4.4	20.0
321530 2009 SR ₂₄₉	15.5	X	286.11366	228.40019	185.45263	12.71677	0.1028783	0.17283299	3.1919172	20	9 7.9	19.9
321531 2009 SN ₂₅₈	15.8	X	77.64586	161.94396	142.45088	3.58513	0.0988126	0.19032770	2.9931929	20	11 29.4	20.1
321532 2009 SZ ₂₅₈	15.5	X	222.73401	207.97429	244.51751	4.33545	0.1242975	0.16754096	3.2587826	20	8 7.1	20.6
321533 2009 SS ₂₆₁	16.7	X	295.72978	55.63462	325.28812	9.72669	0.0440426	0.17318063	3.1876442	20	8 19.2	20.8
321534 2009 SP ₂₆₄	16.0	X	71.69090	194.71167	152.59807	6.65927	0.0940470	0.19748021	2.9204762	20	—	—
321535 2009 SC ₂₆₆	15.6	X	128.10831	238.51247	22.52187	11.46496	0.0670292	0.18559189	3.0438977	20	11 24.4	20.3
321536 2009 SP ₂₇₀	15.6	X	121.57620	231.91872	26.31831	12.95420	0.1515513	0.19188927	2.9769320	20	11 19.0	20.5
321537 2009 SZ ₂₇₁	16.1	X	235.56279	281.59727	9.73080	13.02983	0.1746573	0.22634011	2.6666235	20	2 6.5	20.6
321538 2009 SR ₂₇₂	15.1	X	77.81458	282.35911	319.71286	25.39190	0.0670729	0.17577236	3.1562325	20	8 30.7	19.8
321539 2009 SO ₂₇₃	18.0	X	14.58669	259.03443	28.17665	2.05739	0.1655289	0.26420841	2.4053132	20	9 4.7	20.2
321540 2009 SM ₂₇₅	15.5	X	188.62754	348.02155	181.08070	10.82316	0.1379823	0.17860441	3.1227791	20	10 7.5	20.5
321541 2009 SW ₂₇₅	16.9	X	171.63000	256.07017	104.22242	2.45384	0.1987586	0.22693540	2.6619581	20	3 1.6	21.4
321542 2009 SJ ₂₇₆	16.6	X	132.11795	252.73892	52.59885	2.71785	0.0517121	0.20329235	2.8645431	20	—	—
321543 2009 SP ₂₇₆	17.7	X	299.30865	295.34276	155.82422	3.71998	0.1343359	0.27871386	2.3211169	20	12 16.3	19.8
321544 2009 SQ ₂₇₆	16.5	X	345.23531	25.32761	23.15822	9.55632	0.0393787	0.19021607	2.9943639	20	11 30.9	20.6
321545 2009 SY ₂₇₇	15.8	X	203.08150	174.95872	30.65488	11.03098	0.0738886	0.19456286	2.9495975	20	12 9.8	20.2
321546 2009 SN ₂₇₉	15.4	X	261.82547	293.06393	170.17383	7.88486	0.0411879	0.18078955	3.0975655	20	10 21.1	19.7
321547 2009 SJ ₂₈₁	16.5	X	164.54536	274.93655	48.89679	5.78544	0.1141065	0.21647237	2.7470574	20	1 7.3	20.7
321548 2009 SV ₂₈₃	16.8	X	182.58106	180.62014	136.10799	5.07290	0.1088592	0.21891325	2.7265995	20	1 15.2	20.9
321549 2009 SL ₂₉₀	16.5	X	259.74578	121.46131	153.41399	4.75416	0.2063453	0.22904844	2.6455613	20	1 31.4	20.9
321550 2009 SL ₂₉₀	15.9	X	225.95462	14.88302	171.99319	8.76764	0.0342268	0.19189849	2.9769299	20	12 19.8	20.2
321551 2009 SN ₂₉₀	15.8	X	352.74650	184.67976	142.09688	5.78535	0.1739921	0.17211543	3.2007826	20	9 2.8	19.2
321552 2009 SP ₂₉₀	17.5	X	191.63048	130.66570	89.90953	4.88205	0.1016922	0.28582371	2.2824637	20	—	—
321553 2009 SN ₃₁₆	16.7	X	201.75995	251.89163	8.47895	7.51915	0.1855857	0.21604001	2.7507213	20	—	—
321554 2009 SN ₃₂₁	16.2	X	100.81865	84.81049	173.06191	8.16662	0.1044669	0.18063576	3.0993234	20	10 29.6	20.9
321555 2009 SW ₃₂₈	15.9	X	222.51580	313.17224	349.85042	12.30013	0.1850010	0.23032046	2.6358116	20	2 6.9	20.4
321556 2009 ST ₃₂₉	15.3	X	88.25689	284.94176	343.40376	13.41648	0.2508937	0.18957584	3.0011017	20	11 6.0	20.5
321557 2009 SW ₃₃₄	15.9	X	151.95972	320.19196	358.86125	13.28320	0.1327689	0.21419920	2.7664584	20	—	—
321558 2009 SX ₃₃₇	15.0	X	33.64051	84.62126	253.87658	8.42053	0.0949433	0.18321635	3.0710522	20	11 13.8	19.2
321559 2009 SB ₃₃₈	15.7	X	21.40752	339.85340	359.21433	10.25278	0.0875707	0.17844135	3.1246812	20	10 25.4	19.9
321560 2009 SJ ₃₃₉	15.6	X	93.89621	314.85430	353.82776	9.77554	0.0490816	0.19271345	2.9684383	20	12 16.4	20.1
321561 2009 SX ₃₄₂	16.4	X	163.08876	62.78253	146.91259	3.46925	0.0061395	0.18500190	3.0503658	20	11 5.2	20.7
321562 2009 SF ₃₄₉	16.6	X	72.73790	255.37500	30.51255	2.75780	0.1223427	0.18286467	3.0740871	20	11 2.4	21.1
321563 2009 SL ₃₅₁	16.7	X	133.74794	162.23260	205.49181	4.76112	0.0786300	0.22149938	2.7053349	20	1 20.8	20.6
321564 2009 SF ₃₅₄	15.4	X	209.66315	236.45253	53.65377	13.95551	0.1907547	0.21193419	2.7861342	20	1 12.2	20.3
321565 2009 SL ₃₅₅	17.1	X	63.42149	101.99854	220.39407	7.10173	0.0450542	0.27378929	2.3488669	20	12 16.7	20.2
321566 2009 SM ₃₅₆	15.7	X	351.66012	205.27512	182.45054	14.99862	0.0755522	0.18847783	3.0127461	20	11 19.9	19.8
321567 2009 ST ₃₅₆	15.6	X	250.95410	242.83730	186.23310	10.33661	0.0628355	0.16749891	3.2593279	20	8 16.8	20.4
321568 2009 SN ₃₅₈	15.5	X	159.34848	302.95524	249.76378	7.84000	0.0228431	0.17742305	3.1366256	20	10 5.1	20.2
321569 2009 SA ₃₅₉	16.3	X	108.04841	160.84697	217.34687	4.82426	0.0787436	0.21441741	2.7645812	20	1 4.2	20.0
321570 2009 SE ₃₆₁	12.8	X	11.59329	146.27865	180.79574	19.15345	0.0167187	0.08269270	5.2178459	20	9 9.1	19.6
321571 2009 SS ₃₆₂	15.9	X	287.28490	59.99822	339.27987	4.06622	0.1155640	0.17084536	3.2166262	20	8 21.8	20.0
321572 2009 TG	15.6	X	93.57660	197.86685	40.56376	15.31021	0.0082862	0.17248135	3.1962541	20	9 21.2	20.3
321573 2009 TX ₈	15.1	X	286.63937	81.46898	4.19053	15.34653	0.0373534	0.18058037	3.0999572	20	10 25.0	19.5
321574 2009 TQ ₁₂	16.1	X	32.60399	120.84558	196.18089	9.75653	0.1113192	0.18101056	3.0950436	20	10 20.9	20.1
321575 2009 TZ ₁₄	16.1	X	170.13682	327.68619	322.64510	7.07362	0.1819309	0.21462010	2.7628403	20	—	—
321576 2009 TY ₂₀	15.7	X	51.90707	219.68992	87.51930	5.51832	0.1460165	0.18357357	3.0661680	20	11 9.1	19.9
321577 2009 TA ₂₇	15.4	X	348.28145	211.26207	180.79308	11.57878	0.1194820	0.18291136	3.0735640	20	11 21.5	19.3
321578 2009 TT ₃₆	16.2	X	262.08898	133.63651	176.51086	14.52062	0.2172019	0.23944658	2.5684057	20	3 14.4	20.1
321579 2009 TS ₄₄	15.9	X	184.40975	79.02323	193.65632	5.42445	0.0281931	0.20041454	2.8918997	20	—	—
321580 2009 TF ₄₆	13.8	X	288.84053	220.24769	214.51163	6.72979	0.1404683	0.08135947	5.2746945	20	9 18.5	20.5
321581 2009 TA ₄₈	16.7	X	207.62701	249.14987	41.28401	8.61356	0.1101114	0.21846579	2.7303213	20	1 9.6	21.1
321582 2009 UV ₈	16.5	X	151.23637	136.06537	175.15522	8.81843	0.1305244	0.21053532	2.7984620	20	—	—
321583 2009 UM ₉	16.4	X	255.32055	95.02894	147.92947	5.08158	0.1212981	0.21790735	2.7349840	20	—	—
321584 2009 UG ₂₁	13.4	X	305.85245	9.29078	67.55338	10.60633	0.0603677	0.08543633	5.1055321	20	10 26.6	20.1
321585 2009 UP ₂₅	16.5	X	143.71041	307.78179	85.49645	5.54682	0.1146874	0.22278862	2.6948880	20	3 11.6	20.6
321586 2009 UV ₂₈	16.7	X	114.62927	149.51290	204.70132	1.22064	0.0821542	0.20492745	2.8492855	20	—	—
321587 2009 UF ₆₂	15.1	X	220.20558	261.51193	244.82114	8.85362	0.1018579	0.18155669	3.0888338	20	10 22.5	19.5
321588 2009 UD ₆₆	16.2	X	60.53438	226.92370	106.33006	3.20264	0.0780866	0.18977169	2.9990366	20	12 15.2	20.6
321589 2009 UU ₇₁	15.9	X	62.57582	68.77053	258.68164	3.95989	0.2065212	0.18835901	3.0140130	20	12 21.9	20.4
321590 2009 UE ₇₂	13.4	X	300.82339	36.24904	35.37785	14.55708	0.0800228	0.08330066	5.1924273	20	10 11.9	20.0
321591 2009 UC ₈₆	15.4	X	250.83307	268.47065	175.13662	17.28057	0.1643729	0.17460560	3.1702775	20	8 22.0	20.2
321592 2009 UK ₉₄	16.9	X	215.06047	142.66144	188.23224	3.71312	0.1585430	0.22921893	2.6442493	20	3 1.2	21.3
321593 2009 UQ ₉₇	16.3	X	73.02281	156.10211	182.73623	3.32725	0.1346895	0.19167827	2.979116			

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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>
321601 2009 <i>UB</i> ₁₄₆	15.5	X	339.87560	226.51374	126.05532	12.66544	0.0870400	0.17291878	3.1908614	20	9 16.9	19.7
321602 2009 <i>UZ</i> ₁₄₇	16.1	X	79.49244	115.78293	210.90027	2.67172	0.0756570	0.18893218	3.0079141	20	12 24.2	20.5
321603 2009 <i>US</i> ₁₄₈	13.8	X	302.46395	45.02892	35.64426	4.94926	0.0539585	0.08558028	5.0998050	20	10 24.5	20.4
321604 2009 <i>VV</i> ₂	13.0	X	306.93260	95.01066	326.15070	20.58271	0.0980747	0.08158963	5.2647703	20	9 23.9	19.8
321605 2009 <i>VQ</i> ₁₁	14.9	X	38.35664	241.50102	257.38955	2.14774	0.0968557	0.12439394	3.9743847	20	3 12.8	20.0
321606 2009 <i>VK</i> ₂₁	16.3	X	83.48906	226.72832	101.95606	4.42107	0.0876820	0.18771374	3.0209161	20	12 31.8	20.8
321607 2009 <i>VN</i> ₃₉	15.5	X	339.89331	46.42984	40.44050	14.78651	0.0584057	0.18945263	3.0024028	20	—	—
321608 2009 <i>VB</i> ₄₅	17.1	X	37.34099	308.71349	24.24609	6.22646	0.2057689	0.27469272	2.3437140	20	12 20.3	20.3
321609 2009 <i>VF</i> ₄₅	16.0	X	95.83968	286.94820	41.58116	3.60753	0.2143745	0.19497422	2.9454473	20	—	—
321610 2009 <i>VG</i> ₅₀	13.2	X	311.98891	329.00360	91.30366	8.22513	0.1218084	0.08254233	5.2241814	20	10 10.3	19.7
321611 2009 <i>VG</i> ₅₈	12.8	X	341.61831	331.30475	57.25821	26.92196	0.0585789	0.08316240	5.1981809	20	10 23.7	19.6
321612 2009 <i>VS</i> ₈₂	17.4	X	222.65068	344.00068	132.14728	1.89562	0.1367103	0.25464977	2.4651340	20	9 15.6	20.9
321613 2009 <i>VA</i> ₈₆	13.8	X	338.16578	231.86717	169.03753	2.69244	0.0748126	0.08169697	5.2601574	20	10 23.2	20.3
321614 2009 <i>VS</i> ₉₂	16.7	X	160.59716	267.66494	112.43767	4.52515	0.1840730	0.22522976	2.6753804	20	3 16.2	21.0
321615 2009 <i>VG</i> ₁₀₀	15.2	X	56.46274	237.51343	61.47396	25.04427	0.2119636	0.17661671	3.1461652	20	11 13.7	19.8
321616 2009 <i>VR</i> ₁₀₇	13.1	X	298.82093	357.55794	59.88982	6.51412	0.0789289	0.08043646	5.3149693	20	9 23.5	19.9
321617 2009 <i>VN</i> ₃₃	16.5	X	107.65780	259.52840	97.93013	3.24620	0.0773290	0.19830190	2.9124030	20	—	—
321618 2009 <i>WQ</i> ₃₅	15.4	X	111.04478	219.02138	248.57475	2.51203	0.0180131	0.14140745	3.6488375	20	4 25.1	20.6
321619 2009 <i>WQ</i> ₅₃	17.1	X	156.53201	342.14429	14.71998	5.16136	0.1884256	0.30877816	2.1678954	20	2 5.1	20.1
321620 2009 <i>WX</i> ₆₂	16.2	X	20.92459	35.84961	200.18250	6.44401	0.0955322	0.23760113	2.5816877	20	6 17.3	19.2
321621 2009 <i>WC</i> ₆₉	16.6	X	332.69096	161.71605	276.27458	6.36255	0.0784783	0.27513635	2.3411940	20	—	—
321622 2009 <i>WU</i> ₇₂	16.4	X	14.15102	177.42699	146.18431	2.77130	0.1332365	0.16983878	3.2293230	20	10 2.9	20.3
321623 2009 <i>WF</i> ₈₈	16.4	X	209.34289	138.59159	282.78675	7.54310	0.0662699	0.24051382	2.5608022	20	6 23.8	19.9
321624 2009 <i>WF</i> ₉₀	16.6	X	256.05693	161.59300	294.41311	5.53029	0.0917755	0.25910597	2.4367881	20	10 5.6	19.7
321625 2009 <i>WR</i> ₉₉	13.8	X	315.44841	156.70881	247.87961	3.34140	0.0515444	0.08012800	5.3286009	20	9 23.0	20.4
321626 2009 <i>WC</i> ₁₀₀	16.1	X	305.62454	5.07816	62.01776	2.58334	0.1678502	0.17294729	3.1905107	20	10 19.4	19.7
321627 2009 <i>WB</i> ₁₀₂	14.2	X	354.68432	117.18459	259.28176	6.28489	0.0839693	0.08506920	5.1202103	20	10 15.3	20.7
321628 2009 <i>WV</i> ₁₀₇	14.1	X	260.72943	294.75187	174.62565	2.69436	0.0728578	0.08169450	5.2602634	20	10 5.6	21.1
321629 2009 <i>WO</i> ₁₂₁	17.1	X	128.30111	121.77466	288.71021	0.76643	0.0713674	0.21789131	2.7351183	20	3 8.0	20.9
321630 2009 <i>WO</i> ₁₅₀	14.8	X	64.95691	278.95493	199.90775	8.96597	0.0975398	0.12435055	3.9753091	20	3 25.1	20.1
321631 2009 <i>WU</i> ₁₆₇	14.1	X	359.15418	265.67696	114.96213	2.29333	0.0557579	0.08323369	5.1952120	20	10 27.7	20.8
321632 2009 <i>WF</i> ₁₉₅	15.9	X	124.66851	283.55293	88.96310	13.48890	0.0099525	0.20624504	2.8371374	20	1 10.3	19.9
321633 2009 <i>WQ</i> ₂₀₅	17.6	X	188.19819	286.71842	350.67038	2.51616	0.1487393	0.29531883	2.2332737	20	—	—
321634 2009 <i>WU</i> ₂₁₁	16.5	X	185.71326	222.09358	120.72706	3.48361	0.0733187	0.21649767	2.7468433	20	2 18.6	20.6
321635 2009 <i>WD</i> ₂₁₅	15.0	X	42.39376	222.68647	83.47360	11.80248	0.1117007	0.17047692	3.2212590	20	10 23.3	19.5
321636 2009 <i>WU</i> ₂₂₀	16.8	X	181.53694	155.70295	168.70803	1.93298	0.0807455	0.21378590	2.7700228	20	1 22.6	20.8
321637 2009 <i>WP</i> ₂₂₇	16.5	X	108.96159	187.81348	158.08145	2.47479	0.0742007	0.20040025	2.8920372	20	—	—
321638 2009 <i>WM</i> ₂₄₉	17.9	X	103.57153	248.35092	162.56029	0.41540	0.0972611	0.30469807	2.1872054	20	1 28.1	20.1
321639 2009 <i>XF</i> ₃	15.2	X	102.71051	189.74170	103.12537	12.53561	0.0220300	0.17825511	3.1268573	20	12 4.2	19.8
321640 2009 <i>XW</i> ₁₀	16.9	X	128.02783	316.28399	244.93989	1.35883	0.0444418	0.24707323	2.5152757	20	9 21.6	20.3
321641 2010 <i>AV</i> ₅	17.0	X	227.88536	54.70052	300.00599	3.25107	0.1631097	0.26127052	2.4233107	20	12 18.3	19.9
321642 2010 <i>AG</i> ₂₅	16.9	X	24.12511	160.92870	110.82029	4.94636	0.0840001	0.23269570	2.6178443	20	8 13.4	19.9
321643 2010 <i>AT</i> ₂₆	16.5	X	53.24565	174.39365	344.62757	3.86900	0.1413500	0.21284014	2.7782225	20	4 27.2	19.8
321644 2010 <i>AD</i> ₂₉	15.8	X	185.04027	265.67999	316.38805	2.51536	0.0336940	0.17362910	3.1821529	20	12 10.0	20.4
321645 2010 <i>AC</i> ₅₆	15.6	X	194.33040	0.98252	328.92698	11.34688	0.0646984	0.19691531	2.9260589	20	2 13.7	19.8
321646 2010 <i>AA</i> ₆₇	15.4	X	324.55392	183.54584	320.84461	9.69942	0.0658542	0.18025125	3.1037295	20	—	—
321647 2010 <i>AB</i> ₇₅	15.9	X	330.97863	37.75311	96.31258	13.62011	0.1167591	0.18690591	3.0296145	20	—	—
321648 2010 <i>AC</i> ₇₈	15.7	X	147.94578	207.41869	324.31353	16.52408	0.1435374	0.23284594	2.6167181	20	9 3.6	20.0
321649 2010 <i>AP</i> ₈₄	15.7	X	172.86550	15.08650	172.46874	10.89929	0.1589726	0.17791747	3.1308119	20	10 15.1	20.9
321650 2010 <i>BH</i> ₆	16.2	X	156.66912	59.15028	92.08133	11.00118	0.1265348	0.23100264	2.6306198	20	8 24.4	20.4
321651 2010 <i>BY</i> ₉	13.5	X	304.63734	80.15785	342.28392	6.78281	0.0958947	0.08444220	5.1455251	20	9 30.5	20.0
321652 2010 <i>BV</i> ₄₇	13.1	X	12.61619	9.69490	333.01447	12.08957	0.0572028	0.08295906	5.2066715	20	9 27.3	19.9
321653 2010 <i>BP</i> ₅₉	13.7	X	329.56398	307.03624	80.55511	10.82953	0.1295462	0.08279015	5.2133709	20	9 28.9	20.1
321654 2010 <i>BE</i> ₆₀	16.8	X	59.70969	134.24488	119.76836	6.59535	0.0228933	0.22280059	2.6947915	20	8 31.6	20.3
321655 2010 <i>BQ</i> ₇₀	15.5	X	133.15509	14.81779	355.59770	13.56585	0.1250192	0.17628191	3.1501475	20	2 9.4	20.4
321656 2010 <i>BM</i> ₉₀	13.2	X	320.41242	280.58884	136.02914	12.47586	0.0544642	0.08535926	5.1086044	20	10 23.7	19.9
321657 2010 <i>BM</i> ₁₁₇	13.0	X	289.41224	311.74005	133.50407	23.79462	0.0845964	0.08280836	5.2129865	20	10 17.4	20.0
321658 2010 <i>CG</i> ₁₂	16.1	X	322.42887	299.07826	173.41830	10.87822	0.1967212	0.17621217	3.1509786	20	—	—
321659 2010 <i>CS</i> ₂₀	16.5	X	327.71594	188.34263	118.74478	3.90159	0.0636751	0.22377443	2.6869675	20	6 29.6	19.9
321660 2010 <i>CN</i> ₂₂	16.7	X	167.45194	329.58492	104.93313	1.89236	0.0420633	0.21514248	2.7583663	20	5 22.5	20.5
321661 2010 <i>CC</i> ₄₀	17.2	X	144.86446	151.85864	151.61937	7.66377	0.1549115	0.26624510	2.3930309	20	—	—
321662 2010 <i>CJ</i> ₅₇	15.8	X	70.42370	357.61834	150.97962	8.71475	0.1269484	0.20958147	2.8069465	20	5 11.8	19.6
321663 2010 <i>CP</i> ₆₀	15.8	X	129.74351	326.44730	158.43958	13.46555	0.1360036	0.22022575	2.7157554	20	6 20.9	20.2
321664 2010 <i>CX</i> ₇₄	16.7	X	72.01116	71.77968	145.07316	3.38463	0.0991061	0.22628718	2.6670393	20	8 8.0	20.3
321665 2010 <i>CT</i> ₇₇	16.3	X	210.46537	81.58212	179.39284	0.80369	0.1318767	0.17484254	3.1674127	20	—	—
321666 2010 <i>CG</i> ₇₉	16.4	X	332.12615	303.15942	331.57417	2.49906	0.1262470	0.21123526	2.7922766	20	5 14.8	19.6
321667 2010 <i>CB</i> ₈₁	17.0	X	64.43884	324.23401	336.35010	2.08332	0.1528469	0.24271003	2.5453308	20	11 25.6	20.7
321668 2010 <i>CH</i> ₉₄	17.5	X	338.29747	77.50858	131.57746	2.42456	0.0869909	0.29267229	2.2467167	20	2 18.9	19.9
321669 2010 <i>CJ</i> ₁₀₆	17.1	X	140.39738	168.26945	132.25029	6.23763	0.2416311	0.26526710	2.3989091	20	—	—
321670 2010 <i>CI</i> ₁₃₇	16.1	X	200.65906	69.09584	347.52561	12.53824	0.0836013	0.22047280	2.7137263	20	6 3.7	20.4
321671 2010 <i>CF</i> ₁₆₂	16.6	X	296.38438	29.74890	134.15322	1.38478	0.1608338	0.17684504	3.1434565			

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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>
321681 2010 EE ₄₁	17.4	X	97.21360	251.79941	298.86204	0.42299	0.0288131	0.22284080	2.6944672	20	7 26.3	21.0
321682 2010 EV ₄₃	17.8	X	65.41502	279.60594	183.34694	4.18329	0.0875747	0.29296534	2.2452182	20	2 10.8	20.2
321683 2010 EY ₇₅	15.9	X	122.98371	196.48789	183.46955	10.82149	0.0621794	0.18183844	3.0856424	20	1 25.9	20.5
321684 2010 EF ₈₄	15.9	X	127.64015	194.37490	154.02567	3.57264	0.1703160	0.17340008	3.1849542	20	1 10.1	20.8
321685 2010 EN ₉₉	16.8	X	279.01631	203.23378	155.37629	6.52909	0.0450253	0.21382052	2.7697238	20	6 30.6	20.5
321686 2010 EP ₁₀₂	17.0	X	282.53802	61.11686	336.39841	1.64989	0.0338845	0.22759603	2.6568045	20	8 30.8	20.2
321687 2010 EX ₁₀₃	16.4	X	278.60963	56.64363	186.14327	8.91679	0.0954708	0.18237455	3.0795923	20	1 27.6	21.0
321688 2010 EM ₁₀₄	17.0	X	313.36502	118.75081	117.42672	6.91547	0.0621218	0.29286033	2.2457549	20	2 25.5	19.5
321689 2010 EF ₁₀₇	16.8	X	216.98283	299.55832	181.28368	4.80035	0.0511024	0.23360185	2.6110701	20	9 22.2	20.3
321690 2010 EG ₁₀₈	16.5	X	20.80228	254.46261	11.93289	3.78185	0.0659249	0.21876780	2.7278079	20	7 28.2	19.9
321691 2010 EW ₁₀₈	16.1	X	28.17891	118.10076	125.21753	4.92717	0.0484952	0.21180018	2.7873093	20	7 3.7	19.6
321692 2010 EV ₁₁₀	16.1	X	278.11782	257.68010	145.20859	5.36075	0.0521629	0.23059534	2.6337165	20	8 30.2	19.2
321693 2010 EY ₁₁₉	15.9	X	234.46913	257.62327	334.58019	3.75028	0.1565308	0.17104011	3.2141841	20	—	—
321694 2010 EB ₁₂₁	16.7	X	91.21311	62.95910	161.71280	1.83043	0.0341290	0.22401413	2.6850504	20	9 3.0	20.3
321695 2010 EQ ₁₂₃	15.7	X	284.01067	84.03614	170.09406	9.22922	0.0601380	0.18906528	3.0065022	20	2 21.0	19.9
321696 2010 EA ₁₂₆	15.4	X	287.76821	12.03853	191.73944	17.21869	0.1432727	0.178411143	3.1250305	20	—	—
321697 2010 EV ₁₃₆	16.0	X	194.91419	197.61712	74.36319	3.02639	0.0691372	0.17231404	3.1983226	20	—	—
321698 2010 EZ ₁₃₆	16.5	X	107.64319	199.60276	347.37826	2.38063	0.1301950	0.22051586	2.7133730	20	8 15.8	20.5
321699 2010 EO ₁₄₀	15.6	X	297.83590	118.04456	120.03989	9.87969	0.0755426	0.18870713	3.0103051	20	2 18.8	19.8
321700 2010 FO ₁	15.6	X	186.11051	207.71579	129.53639	6.09674	0.0606182	0.18931049	3.0039055	20	2 14.8	20.0
321701 2010 FV ₁₀	16.2	X	281.81897	308.80449	30.54556	5.65367	0.0831296	0.21479692	2.7613239	20	6 1.7	19.8
321702 2010 FX ₂₁	16.8	X	11.23063	192.23967	66.23096	4.10325	0.0434901	0.21549291	2.7553751	20	6 29.2	20.4
321703 2010 FY ₉₀	16.6	X	171.88572	42.02884	153.17461	4.93420	0.1491364	0.23712206	2.5851639	20	10 31.2	20.6
321704 2010 FP ₉₆	16.4	X	286.61146	267.18312	7.45163	1.71499	0.0773812	0.19545547	2.9406104	20	3 18.6	20.5
321705 2010 FL ₁₀₀	17.3	X	177.48964	175.92720	139.34342	2.95341	0.1333420	0.26858950	2.3790854	20	1 2.9	20.7
321706 2010 GA ₃	12.7	X	279.96734	351.42094	309.98838	26.65061	0.0171790	0.08426543	5.1527185	20	4 13.1	19.9
321707 2010 GZ ₃₁	17.6	X	340.71945	109.62608	146.50125	7.21360	0.1039729	0.29424130	2.2387227	20	5 5.8	19.8
321708 2010 GC ₉₈	15.4	X	14.75360	259.46601	224.10553	11.12559	0.1122133	0.17773483	3.1329564	20	1 9.6	19.5
321709 2010 GR ₁₁₃	16.7	X	156.31374	261.07477	220.21684	3.48979	0.0137313	0.21236666	2.7823504	20	7 7.5	20.6
321710 2010 GD ₁₁₇	17.4	X	256.79213	214.87494	30.20635	1.79347	0.1382357	0.271126838	2.3633965	20	—	—
321711 2010 GF ₁₂₂	16.7	X	142.11979	265.05941	51.80411	7.48680	0.1209974	0.26253182	2.4155429	20	—	—
321712 2010 GN ₁₂₄	16.3	X	265.73142	260.73661	145.63031	6.73478	0.0387161	0.22115122	2.7081735	20	8 17.9	20.0
321713 2010 GM ₁₃₃	15.6	X	115.56589	295.45668	107.67697	6.52156	0.1446814	0.17886337	3.1197643	20	2 29.3	20.2
321714 2010 GZ ₁₃₉	16.0	X	152.37310	303.43221	194.29590	11.85008	0.1129652	0.21884639	2.7271548	20	7 25.9	20.5
321715 2010 GY ₁₄₄	17.5	X	217.14200	105.18698	166.13318	6.40730	0.1036860	0.26999888	2.3707990	20	—	—
321716 2010 HX ₂₁	13.6	X	197.08404	196.06898	209.77691	4.53583	0.0391516	0.08245347	5.2279339	20	5 22.3	20.6
321717 2010 HT ₇₇	17.0	X	190.66655	253.21228	255.97108	0.99567	0.1011143	0.23169317	2.6253904	20	9 22.4	20.9
321718 2010 HU ₈₆	16.8	X	26.54592	236.70986	188.76534	14.07976	0.1358113	0.23696005	2.5863421	20	—	—
321719 2010 JG ₈₄	15.3	X	237.96627	261.94598	60.65057	13.34084	0.1016742	0.18774779	3.0205509	20	3 26.9	20.1
321720 2010 JA ₁₁₈	17.5	X	62.25816	252.01059	51.84358	5.62702	0.0765747	0.22556901	2.6726972	20	12 7.7	21.6
321721 2010 JN ₁₄₇	15.9	X	240.82989	147.04528	110.55400	3.10509	0.0757767	0.17080644	3.2171147	20	1 10.5	20.8
321722 2010 JH ₁₇₄	15.7	X	88.92838	299.41657	94.50914	8.74305	0.0114619	0.16780889	3.2553128	20	—	—
321723 2010 KY ₄₄	15.5	X	257.64620	205.68708	154.74245	16.62705	0.1225210	0.17988158	3.1079803	20	5 28.5	20.4
321724 2010 KM ₄₅	16.4	X	105.29690	152.91214	157.34062	5.13401	0.2381441	0.22671611	2.6636744	20	—	—
321725 2010 KP ₄₇	16.6	X	193.82680	113.85488	302.73699	9.16952	0.0751977	0.27763614	2.3271192	20	5 28.0	20.0
321726 2010 KJ ₅₀	17.6	X	159.78562	87.02478	295.08865	2.07066	0.1882046	0.25592736	2.4569232	20	3 13.1	21.4
321727 2010 KN ₉₃	17.4	X	157.17197	336.74065	43.94605	3.21326	0.1916527	0.25404751	2.4690284	20	3 11.7	21.4
321728 2010 KE ₁₂₇	17.8	X	40.75826	52.95747	213.53347	1.78669	0.1687179	0.31012341	2.1616217	20	9 25.7	20.1
321729 2010 LJ ₁	16.8	X	280.61119	356.27870	230.67729	5.74131	0.0840108	0.26833522	2.3805882	20	—	—
321730 2010 LQ ₄	15.8	X	336.10295	159.69481	157.26714	8.00207	0.1844053	0.19020484	2.9944818	20	7 16.6	19.1
321731 2010 LQ ₅₀	16.3	X	5.52055	143.33303	143.61676	4.79416	0.0834609	0.18965127	3.0003060	20	7 29.5	20.1
321732 2010 LY ₅₅	16.6	X	231.93189	245.85104	125.56904	13.50032	0.1671374	0.27192329	2.3596003	20	5 10.3	20.5
321733 2010 LR ₆₁	15.1	X	72.87797	14.97092	96.25076	12.06234	0.0476679	0.17927722	3.1149613	20	3 21.9	19.6
321734 2010 LC ₈₁	17.2	X	257.31571	264.38066	135.17413	3.61085	0.1579465	0.28480141	2.2879224	20	7 13.5	19.9
321735 2010 LC ₉₉	15.4	X	204.39717	278.78304	153.64255	26.41432	0.2743943	0.17317175	3.1877531	20	6 22.9	21.4
321736 2010 LM ₁₃₄	16.3	X	199.71539	91.10188	230.32476	5.36444	0.1411630	0.25471847	2.4646907	20	2 1.4	20.2
321737 2010 ML ₂₃	17.4	X	290.35851	23.36535	9.56204	3.30235	0.1459283	0.29174961	2.2514511	20	8 31.2	19.2
321738 2010 MB ₃₄	17.1	X	11.98255	189.06695	206.08853	3.96010	0.0831696	0.21542065	2.7559912	20	—	—
321739 2010 MK ₃₉	15.7	X	304.94184	190.35768	171.83637	11.43069	0.0826307	0.18798509	3.0180084	20	8 2.8	19.7
321740 2010 MN ₄₃	16.1	X	347.11445	340.41147	299.86334	3.07243	0.1212108	0.18098946	3.0952842	20	6 19.4	19.8
321741 2010 MW ₅₃	15.9	X	98.25475	188.40022	100.72317	16.89249	0.1233664	0.24429579	2.5343041	20	12 15.5	19.9
321742 2010 MH ₅₅	15.9	X	108.30422	3.57495	342.51269	32.30423	0.1468821	0.23186470	2.6240954	20	—	—
321743 2010 MA ₆₇	16.4	X	294.52229	263.38020	187.79700	14.97920	0.2263034	0.20358694	2.8617791	20	11 2.9	19.5
321744 2010 MM ₇₀	16.5	X	55.13150	227.28737	243.47684	10.52638	0.2131655	0.24311339	2.5425146	20	2 23.9	19.1
321745 2010 MG ₈₉	16.6	X	23.27664	120.72562	328.79301	10.86126	0.1675423	0.22867637	2.6484302	20	—	—
321746 2010 MW ₁₀₅	16.7	X	350.01459	252.32273	177.47121	7.69079	0.2170560	0.21282123	2.7783871	20	—	—
321747 2010 MW ₁₀₆	15.8	X	253.96703	243.01970	123.62068	6.68845	0.2006646	0.17298639	3.1900300	20	5 21.3	20.8
321748 2010 NU ₃	17.9	X	323.15407	234.23036	109.56512	6.30900	0.1524866	0.29691495	2.2252630	20	8 20.6	19.4
321749 2010 NB ₇	17.2	X	244.13536	252.37847	124.22787	10.05346	0.2419604	0.28022137	2.3127847	20	5 20.2	21.0
321750 2010 NE ₁₈	16.7	X	56.50580	100.21871	211.76662	5.64206	0.0963259	0.20607274	2.8387187	20	11 17.1	20.5
321751 2010 NM ₁₈	16.7	X	43.39124	187.57333	174.11181	9.73594	0.1483672	0.21387649	2.7692406	20	—	—
321752 2010 NK ₁₉	16.1	X	81.77853	102.87388	283.10905	11.66075	0.2073485	0.22919603	2.6444254	20	—	—
321753 2010 NY ₃₂	17.0	X	34.62837	241.46071	131.95018	1.10997	0.0856534	0.21390660	2.7689807	20	—	—
321754 2010 NS ₃₈	15.4</											

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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>		
321761	2010	NG ₁₀₈	16.7 ^m	X	62.50477	119.68264	228.03868	4.09281	0.1355602	0.21518139	2.7580338	20	—	—
321762	2010	NO ₁₀₉	15.9	X	212.63441	254.69274	180.74646	16.01710	0.1929307	0.17293183	3.1907008	20	7 3.2	21.4
321763	2010	NR ₁₁₆	15.3	X	286.46506	226.57853	116.95715	10.60888	0.0970874	0.17489025	3.1668366	20	6 13.0	19.7
321764	2010	OL ₁₀	16.1	X	102.78827	59.54905	347.05162	22.57069	0.2257985	0.23726572	2.5841203	20	2 25.2	19.6
321765	2010	OE ₁₉	15.7	X	261.16474	243.02242	161.26868	11.45131	0.1173611	0.18042607	3.1017242	20	7 23.4	20.2
321766	2010	OR ₁₉	17.8	X	141.94617	6.09221	194.37051	6.98714	0.0325880	0.29531760	2.2332799	20	10 16.8	20.6
321767	2010	OS ₁₉	15.8	X	259.46650	6.30321	17.83222	9.28378	0.1625051	0.17541078	3.1605684	20	6 20.3	20.6
321768	2010	OM ₃₀	16.0	X	359.69450	163.72525	134.48028	2.82313	0.2302650	0.18717922	3.0266645	20	8 12.9	18.7
321769	2010	OR ₃₀	16.2	X	64.62959	256.99404	111.20492	13.85717	0.2122726	0.21935478	2.7229394	20	—	—
321770	2010	OJ ₃₂	16.2	X	103.40463	319.63827	37.50344	11.63660	0.1766291	0.22811601	2.6527656	20	—	—
321771	2010	OC ₄₇	15.0	X	126.04928	343.50778	333.05704	2.80430	0.2569566	0.12555403	3.9498653	20	—	—
321772	2010	OF ₅₃	17.0	X	41.25242	128.25789	264.74031	4.60492	0.0805832	0.21768385	2.7368558	20	—	—
321773	2010	OG ₅₆	16.7	X	12.75873	156.60862	258.22484	3.20147	0.0694906	0.21504991	2.7591578	20	—	—
321774	2010	OM ₆₁	16.2	X	18.24009	227.67969	180.08323	14.10956	0.2382189	0.21287940	2.7778810	20	—	—
321775	2010	OZ ₇₄	16.1	X	221.15402	235.92341	203.99572	13.33522	0.1719504	0.17480823	3.1678270	20	7 16.2	21.4
321776	2010	OA ₇₈	15.8	X	272.83777	217.41276	134.40317	6.70914	0.1817202	0.17204668	3.2016352	20	5 25.5	20.5
321777	2010	OT ₇₉	16.3	X	344.60806	351.46187	184.09137	5.76876	0.1061512	0.18130260	3.0917191	20	1 29.3	20.3
321778	2010	OQ ₈₁	16.4	X	282.85724	279.71465	116.29926	5.36585	0.1988461	0.18278608	3.0749683	20	7 30.6	20.3
321779	2010	OT ₈₂	15.4	X	287.88197	356.53293	21.89350	24.17975	0.1690006	0.18127091	3.0920794	20	7 28.2	20.0
321780	2010	OM ₈₄	16.2	X	286.77351	201.18292	183.10481	4.73087	0.1295441	0.18179122	3.0861766	20	7 29.9	20.4
321781	2010	ON ₈₄	16.5	X	150.09579	166.62045	181.70879	12.52383	0.2019420	0.23893483	2.5720717	20	1 24.5	20.7
321782	2010	OC ₈₆	15.5	X	234.62514	254.46504	37.17658	15.08798	0.0724523	0.17840275	3.1251319	20	2 19.1	20.5
321783	2010	OR ₉₁	15.6	X	284.48904	213.85429	180.46815	10.81376	0.0436048	0.18396802	3.0617836	20	8 20.6	19.8
321784	2010	OH ₉₆	17.1	X	53.16437	91.89018	304.22799	4.31765	0.0526704	0.22092317	2.7100369	20	—	—
321785	2010	OJ ₉₇	16.9	X	108.38969	230.00254	158.91873	10.96705	0.1301194	0.23673770	2.5879612	20	2 2.5	20.4
321786	2010	OZ ₉₇	16.4	X	315.75074	58.80106	164.07509	8.18990	0.0953777	0.18376623	3.0640246	20	2 18.4	20.6
321787	2010	ON ₉₈	16.1	X	347.68330	3.85819	46.50970	18.52317	0.1425694	0.20561570	2.8429237	20	12 18.9	19.6
321788	2010	OO ₁₀₅	15.9	X	123.62983	339.90603	37.30256	14.42662	0.2843633	0.23719268	2.5846507	20	2 21.6	20.2
321789	2010	OT ₁₀₆	17.0	X	152.72669	4.93057	353.25216	7.45632	0.1641901	0.24079685	2.5587951	20	2 8.6	20.9
321790	2010	OT ₁₂₂	16.9	X	14.83919	226.54091	179.96552	5.45557	0.0360753	0.21231875	2.7827689	20	—	—
321791	2010	OK ₁₂₅	17.1	X	1.50835	235.14147	153.12059	6.49091	0.1983845	0.20378038	2.8599677	20	12 22.0	20.4
321792	2010	PS ₁	16.8	X	181.19535	162.87315	152.03545	2.53152	0.1883570	0.25318633	2.4746240	20	1 11.5	20.9
321793	2010	PZ ₂₃	17.3	X	268.36003	267.78251	323.62240	18.57501	0.0389425	0.35298191	1.9829012	20	—	—
321794	2010	PW ₃₂	15.7	X	263.20392	38.17278	1.42572	15.70442	0.0746704	0.17745076	3.1362991	20	8 2.3	20.3
321795	2010	PN ₅₁	16.2	X	120.30613	167.31680	194.55241	5.26457	0.2971380	0.23329726	2.6133423	20	1 24.3	20.1
321796	2010	PO ₅₄	16.2	X	277.59048	33.33069	203.12817	11.91960	0.1268702	0.23942563	2.5685555	20	1 6.9	20.2
321797	2010	PA ₅₈	16.8	X	48.99457	180.49423	176.40890	8.40875	0.1561078	0.21370746	2.7707006	20	—	—
321798	2010	PY ₆₀	16.9	X	109.30052	131.01510	198.91105	2.48171	0.1317086	0.22538317	2.6741662	20	—	—
321799	2010	PA ₆₁	17.2	X	68.73111	258.76897	172.33028	1.86077	0.0539299	0.24501838	2.5293190	20	1 9.4	20.3
321800	2010	PG ₆₂	17.6	X	196.90272	19.82317	346.99049	5.29078	0.0748965	0.26292839	2.4131134	20	3 26.1	21.0
321801	2010	PA ₆₇	15.7	X	150.53952	332.78864	6.60277	15.01200	0.2017085	0.23580380	2.5947898	20	1 21.4	20.0
321802	2010	PA ₇₁	15.2	X	304.56546	253.99316	104.08043	24.62116	0.2190432	0.18120789	3.0927963	20	7 9.4	19.0
321803	2010	PZ ₇₁	15.9	X	290.90627	227.55824	178.61461	8.41188	0.2478631	0.18540104	3.0459863	20	8 15.4	19.8
321804	2010	PM ₇₂	15.0	X	258.59517	341.64114	75.13901	23.97385	0.1511400	0.17943398	3.1131467	20	8 6.3	19.9
321805	2010	PX ₇₂	15.4	X	281.09132	295.93895	64.28899	28.38895	0.1872158	0.17463839	3.1698806	20	6 9.5	20.0
321806	2010	PA ₇₆	17.9	X	334.37581	149.63597	203.78875	1.90873	0.1797578	0.29841401	2.2178044	20	10 3.5	19.2
321807	2010	PG ₈₀	17.3	X	244.73394	257.55639	168.90931	3.74726	0.1300677	0.28838708	2.2689182	20	8 8.6	20.3
321808	2010	RN ₃	17.3	X	265.53119	304.32158	350.31214	20.63592	0.0775797	0.36305401	1.9460555	20	3 3.6	19.3
321809	2010	RP ₃	18.0	X	251.66318	332.14098	80.85180	2.77297	0.1484829	0.28752114	2.2734716	20	7 27.9	20.9
321810	2010	RK ₄	17.4	X	19.87487	21.88250	21.60946	5.32107	0.1658036	0.21989337	2.7184914	20	—	—
321811	2010	RJ ₉	16.8	X	147.83537	208.00666	203.32899	4.18128	0.1863565	0.25811952	2.4429926	20	4 8.1	20.6
321812	2010	RH ₁₁	17.5	X	200.84545	156.44780	197.09566	7.26829	0.0956967	0.25777215	2.4451868	20	3 13.4	21.0
321813	2010	RD ₁₄	17.0	X	199.19566	171.43273	180.92105	2.10922	0.2208610	0.25859962	2.4399680	20	3 11.6	21.2
321814	2010	RP ₁₄	17.5	X	231.45578	206.67088	160.20553	8.00694	0.2137093	0.26971232	2.3724780	20	4 27.8	21.4
321815	2010	RS ₁₄	15.8	X	335.37777	271.43753	174.97266	24.37462	0.1966847	0.21334250	2.7738595	20	—	—
321816	2010	RF ₃₃	15.7	X	235.07524	41.18181	351.70260	8.28476	0.2353723	0.17289340	3.1911737	20	5 28.8	21.1
321817	2010	RJ ₃₆	17.4	X	95.11845	195.64273	272.14498	2.66013	0.0905479	0.26278454	2.4139939	20	4 7.9	20.4
321818	2010	RB ₃₈	17.2	X	74.49678	219.29589	152.68485	3.85759	0.1458603	0.22568980	2.6717435	20	—	—
321819	2010	RZ ₄₃	17.4	X	253.01183	204.21302	131.14512	3.10436	0.2032901	0.26956444	2.3733456	20	4 7.4	21.0
321820	2010	RH ₄₆	17.7	X	85.14166	56.23181	302.81390	1.04572	0.1068245	0.22609529	2.6685481	20	—	—
321821	2010	RT ₄₆	17.4	X	274.76712	338.09756	330.05816	20.90617	0.0762088	0.37732674	1.8966666	20	3 21.4	19.8
321822	2010	RW ₄₆	16.3	X	101.04353	79.69855	212.53215	4.32435	0.0317615	0.21233694	2.7826100	20	12 8.2	20.1
321823	2010	RZ ₄₆	16.4	X	54.10026	96.68856	227.17733	3.28939	0.1013805	0.20874416	2.8144475	20	11 29.8	20.2
321824	2010	RE ₄₇	17.6	X	55.51745	83.89518	327.68307	3.24704	0.1626860	0.22859694	2.6490436	20	—	—
321825	2010	RZ ₄₉	17.4	X	167.93724	295.70268	184.59697	5.82041	0.0806965	0.27932159	2.3177489	20	7 24.7	20.7
321826	2010	RO ₅₉	17.7	X	324.39276	123.58175	211.98434	5.62639	0.1445425	0.28850263	2.2683124	20	8 3.3	19.6
321827	2010	RN ₆₀	16.3	X	24.33191	98.91828	356.22883	7.19282	0.1709667	0.22869532	2.6482839	20	—	—
321828	2010	RA ₆₆	17.5	X	179.60278	221.27389	183.91153	2.06019	0.0658594	0.26408155	2.4060834	20	4 27.5	20.8
321829	2010	RB ₆₆	17.2	X	51.71756	236.29479	181.75601	5.82932	0.1050347	0.22984756	2.6394257	20	—	—
321830	2010	RU ₇₁	17.3	X	261.41993	352.52111	351.43304	6.49938	0.1490896	0.27473944</				

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>
321841 2010 <i>RP</i> ₁₀₅	17.1	X	327.10109	250.94995	201.91098	3.76952	0.0810447	0.21325224	2.7746421	20	—	—
321842 2010 <i>RT</i> ₁₀₅	16.5	X	359.82939	330.42538	311.12458	0.27187	0.2565437	0.18418288	3.0594020	20	7 19.7	19.2
321843 2010 <i>RY</i> ₁₀₇	16.8	X	346.74267	89.64741	15.30500	22.05941	0.0421005	0.22328013	2.6909316	20	—	—
321844 2010 <i>RG</i> ₁₁₀	16.1	X	281.24550	214.36246	177.89155	12.43930	0.1327413	0.18402348	3.0611685	20	7 31.1	20.3
321845 2010 <i>RX</i> ₁₁₁	17.6	X	138.89199	242.17178	133.06655	1.66058	0.0832296	0.24494994	2.5297901	20	2 3.7	20.9
321846 2010 <i>RD</i> ₁₁₃	17.1	X	27.33858	99.95131	288.74359	5.17960	0.0527236	0.21580116	2.7527506	20	—	—
321847 2010 <i>RN</i> ₁₁₃	17.6	X	357.82437	31.66846	292.41143	4.02348	0.1605053	0.29519506	2.2338979	20	10 2.3	19.4
321848 2010 <i>RP</i> ₁₁₆	17.3	X	91.37359	29.04763	83.73322	3.68433	0.0950269	0.25391916	2.4698604	20	4 14.2	20.3
321849 2010 <i>RQ</i> ₁₁₈	16.8	X	152.98975	141.63240	137.89225	5.94756	0.1224299	0.22387205	2.6861863	20	—	—
321850 2010 <i>RZ</i> ₁₂₃	16.6	X	53.79278	266.22757	178.04647	17.63181	0.2438647	0.23335050	2.6129448	20	1 21.7	19.3
321851 2010 <i>RH</i> ₁₂₄	16.7	X	16.20587	47.57303	355.95580	13.16674	0.1355625	0.21476795	2.7615722	20	—	—
321852 2010 <i>RR</i> ₁₂₄	17.3	X	85.41500	355.88851	153.00029	3.83595	0.0963603	0.26619942	2.3933046	20	5 25.7	20.2
321853 2010 <i>RE</i> ₁₂₈	16.9	X	62.97324	346.24796	240.97019	6.30191	0.0646987	0.28539704	2.2847380	20	8 7.5	19.8
321854 2010 <i>RD</i> ₁₂₉	16.4	X	75.11245	171.46783	204.93121	9.32084	0.1813735	0.22572566	2.6714605	20	—	—
321855 2010 <i>RZ</i> ₁₂₉	16.5	X	320.57648	241.20392	101.03170	8.97748	0.1891992	0.29063074	2.2572259	20	8 6.5	18.0
321856 2010 <i>RW</i> ₁₃₄	17.4	X	91.28021	236.91146	179.15222	4.38169	0.0517033	0.24036380	2.5618676	20	2 5.8	20.5
321857 2010 <i>RX</i> ₁₃₆	16.4	X	109.87354	256.55164	38.22402	7.15298	0.0517463	0.21348142	2.7726560	20	12 22.5	20.5
321858 2010 <i>RV</i> ₁₄₀	16.6	X	102.52914	293.70086	171.04906	13.77011	0.1392332	0.25987849	2.4319567	20	4 26.3	19.9
321859 2010 <i>RR</i> ₁₄₃	16.5	X	203.19431	124.26356	309.45499	3.48045	0.1597846	0.17182500	3.2043884	20	6 25.7	21.7
321860 2010 <i>RQ</i> ₁₄₅	17.2	X	193.28066	273.38729	342.86232	1.99069	0.0828144	0.22689604	2.6622660	20	—	—
321861 2010 <i>RC</i> ₁₄₉	16.5	X	333.41533	327.40308	206.55604	6.08088	0.1372062	0.24400511	2.5363164	20	—	—
321862 2010 <i>RS</i> ₁₅₄	16.5	X	288.05876	174.29498	298.42983	3.65188	0.0663327	0.20898894	2.8122495	20	12 8.1	19.9
321863 2010 <i>RG</i> ₁₅₅	17.2	X	109.00585	246.30980	156.83915	6.17042	0.0908538	0.24115439	2.5562654	20	2 3.2	20.4
321864 2010 <i>RN</i> ₁₅₅	17.2	X	248.25048	242.08796	108.92814	3.80870	0.2064014	0.26976969	2.3721416	20	4 22.9	20.8
321865 2010 <i>RB</i> ₁₅₇	18.0	X	73.49293	209.13682	336.80245	6.10263	0.0455467	0.27724380	2.3293146	20	6 22.2	20.8
321866 2010 <i>RH</i> ₁₆₀	17.6	X	185.87368	210.73226	199.93607	2.00675	0.1783782	0.26538848	2.3981776	20	5 12.1	21.3
321867 2010 <i>RV</i> ₁₆₄	17.1	X	301.00058	218.89313	203.12215	7.74001	0.0847859	0.30046141	2.2077179	20	11 14.8	19.1
321868 2010 <i>RG</i> ₁₆₅	17.1	X	256.32256	177.68657	152.86881	3.14614	0.2026668	0.26780375	2.3837367	20	4 4.3	20.6
321869 2010 <i>RA</i> ₁₆₆	17.2	X	38.85701	188.38047	216.20814	5.32519	0.1820494	0.22127757	2.7071425	20	—	—
321870 2010 <i>RN</i> ₁₆₇	16.7	X	43.25623	147.29465	210.29562	4.72366	0.1218366	0.21115718	2.7929649	20	12 31.1	20.6
321871 2010 <i>RD</i> ₁₇₀	16.4	X	241.10927	106.53580	337.30718	11.69750	0.1765977	0.18542330	3.0457424	20	8 14.9	21.0
321872 2010 <i>RP</i> ₁₇₅	17.2	X	13.27611	317.67639	106.23717	3.20397	0.0194891	0.22022156	2.7157898	20	—	—
321873 2010 <i>RA</i> ₁₇₇	17.5	X	322.41327	116.56663	166.13588	3.03918	0.0680347	0.27288132	2.3540744	20	5 17.3	20.1
321874 2010 <i>RC</i> ₁₇₉	17.6	X	236.34673	296.95205	25.54344	0.05997	0.2018955	0.26235915	2.4166026	20	3 6.2	21.4
321875 2010 <i>SC</i> ₅	17.7	X	292.68735	239.34626	160.04080	5.85090	0.0712254	0.29298633	2.2451110	20	9 25.4	19.9
321876 2010 <i>SG</i> ₇	17.4	X	114.97558	278.15617	190.45157	1.92966	0.1698359	0.26327247	2.4110104	20	5 17.7	20.8
321877 2010 <i>SR</i> ₁₁	17.0	X	101.48138	313.10666	19.66429	3.46977	0.2414105	0.22551032	2.6731609	20	—	—
321878 2010 <i>SN</i> ₁₃	17.0	X	72.31624	160.90717	195.42820	4.49641	0.1818672	0.22250901	2.6971452	20	—	—
321879 2010 <i>SW</i> ₁₃	17.0	X	357.80338	340.67072	32.67339	2.64570	0.1708801	0.30480074	2.1867143	20	12 24.9	19.1
321880 2010 <i>SS</i> ₁₉	17.1	X	340.92824	295.53554	200.90369	12.96447	0.1259010	0.23079305	2.6322122	20	—	—
321881 2010 <i>SM</i> ₂₃	16.4	X	86.97980	76.08645	223.64207	3.21473	0.0839783	0.21236911	2.7823291	20	12 6.2	20.5
321882 2010 <i>SP</i> ₂₆	17.3	X	4.44352	97.68692	206.69853	6.66400	0.1332355	0.29052907	2.2577524	20	9 8.8	19.3
321883 2010 <i>SR</i> ₂₆	17.6	X	147.59307	242.71168	216.45537	3.27524	0.1338426	0.26448501	2.4036359	20	6 5.9	21.2
321884 2010 <i>SZ</i> ₂₆	16.1	X	336.21955	159.69276	207.05411	10.15825	0.0201048	0.19358115	2.9595613	20	9 27.8	20.3
321885 2010 <i>SG</i> ₂₈	17.4	X	55.93809	166.59807	8.94916	6.76080	0.0687462	0.26381417	2.4077089	20	5 11.9	20.2
321886 2010 <i>SR</i> ₂₈	17.3	X	80.26917	350.34343	13.56404	6.37296	0.0452602	0.22314035	2.6920553	20	—	—
321887 2010 <i>SL</i> ₃₀	17.4	X	335.98990	321.79227	33.42476	2.62815	0.0736951	0.29431510	2.2383484	20	10 3.8	19.5
321888 2010 <i>SO</i> ₃₂	17.5	X	117.13077	254.69402	131.00682	5.65501	0.0725745	0.24155231	2.5534572	20	1 19.9	20.9
321889 2010 <i>SJ</i> ₃₅	15.6	X	227.14219	42.39077	40.05610	16.02661	0.0479862	0.18095188	3.0957127	20	8 18.2	20.4
321890 2010 <i>SH</i> ₃₆	16.5	X	91.66714	195.01362	199.47885	4.46374	0.1723504	0.23168735	2.6254344	20	1 13.0	19.6
321891 2010 <i>SO</i> ₃₆	16.8	X	109.40726	328.66175	12.38687	6.29924	0.1752470	0.22711114	2.6605847	20	—	—
321892 2010 <i>SO</i> ₃₇	16.0	X	262.81189	100.70201	295.07748	3.58220	0.1260266	0.17711783	3.1402281	20	7 14.5	20.4
321893 2010 <i>SO</i> ₃₉	16.2	X	34.12946	128.78751	311.10831	12.33655	0.0616400	0.23112932	2.6296585	20	—	—
321894 2010 <i>TB</i> ₂	16.5	X	75.19858	330.28598	33.64008	7.29478	0.0582794	0.22244503	2.6976623	20	—	—
321895 2010 <i>TY</i> ₃	16.5	X	202.72864	102.46649	13.63614	10.00555	0.1827856	0.18168851	3.0873396	20	8 18.7	21.7
321896 2010 <i>TM</i> ₆	17.9	X	187.74288	326.67868	173.38359	5.01748	0.0649116	0.29236589	2.2482861	20	9 18.4	20.5
321897 2010 <i>TV</i> ₆	16.8	X	116.61703	349.60137	9.31136	10.37874	0.1241258	0.23289819	2.6163267	20	—	—
321898 2010 <i>TW</i> ₆	17.3	X	298.02008	32.04021	277.59225	1.50477	0.2326581	0.27581072	2.3373762	20	4 18.4	20.2
321899 2010 <i>TC</i> ₇	15.2	X	239.49785	203.89035	220.65140	16.14819	0.1266158	0.17593113	3.1543334	20	7 18.9	20.3
321900 2010 <i>TR</i> ₈	18.2	X	130.06409	97.40218	339.77737	2.62798	0.1625980	0.25587262	2.4572735	20	4 20.5	21.9
321901 2010 <i>TM</i> ₉	16.7	X	43.33095	312.57232	5.48289	1.82689	0.0610519	0.20319292	2.8654774	20	11 1.6	20.5
321902 2010 <i>TE</i> ₁₄	17.2	X	170.07575	263.24786	222.99568	5.80188	0.0645835	0.28239630	2.3008945	20	8 4.3	20.4
321903 2010 <i>TK</i> ₁₅	17.0	X	323.88645	80.55825	341.86247	8.55422	0.1265796	0.20454932	2.8527958	20	11 22.3	20.4
321904 2010 <i>TF</i> ₁₇	17.7	X	8.46116	353.02051	271.28805	4.30105	0.1237492	0.28087344	2.3092038	20	7 12.3	19.6
321905 2010 <i>TO</i> ₂₂	17.4	X	129.10101	86.25710	19.69448	6.38974	0.0503724	0.26490121	2.4011176	20	5 14.9	20.5
321906 2010 <i>TD</i> ₂₃	17.8	X	29.88442	128.69827	189.22343	4.99793	0.0577758	0.30005564	2.2097078	20	11 4.7	20.3
321907 2010 <i>TY</i> ₂₃	17.3	X	98.97918	12.00186	181.20352	5.15299	0.0980711	0.28160162	2.3052213	20	8 14.1	20.4
321908 2010 <i>TP</i> ₂₄	15.8	X	247.35403	144.87964	296.01715	8.19242	0.0798395	0.18704634	3.0280978	20	8 26.4	20.2
321909 2010 <i>TS</i> ₂₄	16.9	X	279.52917	32.59179	267.17713	7.33352	0.1741572	0.26716270	2.3875483	20	3 18.3	20.4
321910 2010 <i>TJ</i> ₂₈	17.3	X	47.92082	232.15284	246.55373	3.33650	0.1061256	0.24558382	2.5254351	20	2 13.7	20.0
321911 2010 <i>TG</i> ₃₃	17.1	X	350.22142	244.71393	186.16667	3.59711	0.0794201	0.21395717	2.7685443	20	—	—
321912 2010 <i>TU</i> ₃₅	15.9	X	168.28034</									

ELEMENTS AND OPPOSITION DATES IN 2020

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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>
321921 2010 TR ₇₂	16.8	X	359.53306	78.81528	340.58141	12.50203	0.2050246	0.21265737	2.7798141	20	—	—
321922 2010 TS ₇₆	17.0	X	14.85976	106.47503	218.93661	6.48870	0.0840776	0.29703167	2.2246800	20	10 25.9	19.4
321923 2010 TO ₇₉	17.8	X	86.01611	43.57761	154.61803	3.01140	0.0839268	0.27919597	2.3184441	20	8 2.9	20.6
321924 2010 TR ₈₀	16.6	X	48.46718	85.66052	7.96371	5.16702	0.1611201	0.23210609	2.6222757	20	1 20.6	19.3
321925 2010 TW ₈₀	17.2	X	256.36571	149.24753	196.30728	7.14360	0.2315185	0.26929364	2.3749364	20	4 20.4	20.9
321926 2010 TA ₈₁	16.0	X	269.38717	323.25231	58.98759	10.29090	0.2222034	0.17558564	3.1584697	20	6 21.1	20.6
321927 2010 TX ₈₁	16.0	X	283.23258	254.91081	220.53759	14.14983	0.1082493	0.20465562	2.8518079	20	11 29.7	19.5
321928 2010 TA ₈₈	17.7	X	47.50809	250.19992	21.90256	8.02501	0.1034039	0.29450800	2.2373709	20	10 1.9	20.2
321929 2010 TG ₉₁	17.0	X	43.94818	7.00198	17.78336	6.61819	0.0388839	0.21966848	2.7203465	20	—	—
321930 2010 TL ₉₈	15.9	X	105.06011	148.81585	19.06065	6.74359	0.1689198	0.17380591	3.1799944	20	7 22.2	20.8
321931 2010 TC ₉₉	16.9	X	168.32345	71.79495	184.55406	8.46379	0.0496451	0.22059831	2.7126969	20	—	—
321932 2010 TQ ₉₉	17.4	X	115.55023	73.73641	24.69894	6.44907	0.1570641	0.25627554	2.4546973	20	5 1.9	20.7
321933 2010 TV ₉₉	17.1	X	163.98896	145.22618	144.25471	2.70088	0.0944874	0.22988354	2.6391504	20	—	—
321934 2010 TW ₁₀₈	17.9	X	141.45430	57.31378	102.45732	2.57717	0.1621861	0.28225337	2.3016712	20	8 22.4	21.3
321935 2010 TM ₁₁₁	16.6	X	333.05065	198.29590	218.23640	1.31460	0.0538351	0.20623223	2.8372549	20	11 30.9	20.1
321936 2010 TP ₁₁₇	17.3	X	22.28635	329.21229	155.79349	4.30112	0.1836242	0.23398302	2.6082336	20	1 9.5	19.7
321937 2010 TQ ₁₁₈	16.7	X	299.53757	101.65125	39.85553	9.63846	0.1179979	0.21725008	2.7404976	20	—	—
321938 2010 TQ ₁₂₄	17.4	X	294.87155	231.57553	125.14808	4.48122	0.0375107	0.28277072	2.2988630	20	7 27.3	20.0
321939 2010 TR ₁₂₉	17.3	X	259.81045	196.68904	163.91949	6.61803	0.1274573	0.27383716	2.3485932	20	5 28.0	20.5
321940 2010 TT ₁₂₉	17.0	X	95.41728	231.04985	147.25294	6.30365	0.0157807	0.23133654	2.6280880	20	1 4.7	20.1
321941 2010 TX ₁₂₉	16.9	X	70.78129	250.00480	129.11620	5.21146	0.1672667	0.22419049	2.6836421	20	—	—
321942 2010 TJ ₁₃₈	16.9	X	0.28575	138.07398	281.61941	3.27976	0.0552941	0.21235298	2.7824699	20	—	—
321943 2010 TO ₁₄₂	16.3	X	242.94843	265.50951	267.95289	5.91610	0.2475444	0.20486975	2.8498204	20	11 24.2	20.4
321944 2010 TF ₁₅₁	16.9	X	296.37200	62.38169	340.22783	8.72246	0.1823230	0.19022646	2.9942549	20	9 1.6	20.4
321945 2010 TC ₁₆₂	15.2	X	194.63619	68.28294	44.35011	26.28554	0.1828759	0.17317853	3.1876700	20	8 7.7	20.9
321946 2010 TD ₁₆₂	15.9	X	277.80432	304.13543	76.61144	6.95825	0.1381619	0.17696940	3.1419838	20	7 12.9	20.2
321947 2010 TQ ₁₆₃	16.1	X	169.16750	66.56981	255.48500	8.82813	0.0299483	0.23629620	2.5911838	20	—	—
321948 2010 TZ ₁₆₆	17.9	X	23.50023	225.62982	109.05085	1.98164	0.2093435	0.30350462	2.1929354	20	12 13.6	20.5
321949 2010 TT ₁₆₇	17.2	X	282.47254	314.80804	16.91208	6.63310	0.1308847	0.27214563	2.3583150	20	5 13.9	20.1
321950 2010 TJ ₁₇₀	17.5	X	53.33008	47.86002	267.08299	4.45314	0.2466971	0.30847382	2.1693211	20	12 25.6	20.8
321951 2010 TD ₁₇₅	17.2	X	248.80130	203.73842	143.15935	5.57870	0.1506516	0.27211239	2.3585070	20	4 24.1	20.6
321952 2010 TP ₁₈₀	17.8	X	114.39468	279.53812	319.76231	4.10588	0.1052004	0.30240417	2.1982523	20	11 5.9	21.0
321953 2010 TZ ₁₈₀	17.0	X	159.92185	155.66756	305.99921	6.31432	0.0611165	0.27293492	2.3537662	20	6 19.9	20.3
321954 2010 UR ₅	16.4	X	103.02809	19.50397	350.04329	9.10531	0.0735110	0.22931657	2.6434987	20	—	—
321955 2010 UR ₆	16.0	X	278.52778	52.29493	354.69684	8.92282	0.0762931	0.18608169	3.0385540	20	8 28.6	20.2
321956 2010 UA ₁₁	16.2	X	177.89977	273.17801	52.69490	14.68605	0.2076850	0.23870223	2.5737424	20	1 28.4	20.7
321957 2010 UM ₁₂	16.9	X	77.95091	93.08737	306.30904	2.01444	0.1065341	0.22198980	2.6444734	20	—	—
321958 2010 UO ₁₃	16.6	X	38.88732	28.50644	357.43220	3.64426	0.0849646	0.21395476	2.7685652	20	—	—
321959 2010 UX ₁₃	16.7	X	120.06918	86.87605	295.74711	0.74173	0.1833419	0.23450990	2.6043255	20	2 5.4	20.3
321960 2010 UB ₁₅	17.4	X	341.41835	186.33098	179.25089	6.44798	0.0912218	0.29722096	2.2237353	20	11 1.8	19.4
321961 2010 UH ₁₆	17.2	X	288.80083	148.69833	183.90834	5.32726	0.2604505	0.27634413	2.3343674	20	5 5.9	20.1
321962 2010 UK ₁₆	16.9	X	128.37577	201.41370	160.49348	4.39520	0.2312299	0.23564035	2.5959895	20	1 25.0	20.7
321963 2010 UH ₁₇	15.5	X	306.19396	290.68449	64.37548	10.10159	0.0917786	0.17444317	3.1722451	20	7 28.2	19.8
321964 2010 UD ₂₁	15.6	X	272.75078	175.41782	235.52174	11.80184	0.0648199	0.17862003	3.1225970	20	8 19.4	20.1
321965 2010 UA ₂₃	17.2	X	84.22608	339.02680	197.60971	1.03726	0.1255346	0.26623486	2.3930922	20	7 6.4	20.2
321966 2010 UD ₂₃	17.0	X	35.24069	18.83713	42.11719	6.09092	0.0549147	0.22165996	2.7040282	20	—	—
321967 2010 UP ₂₇	16.4	X	348.05986	163.66551	190.50947	1.31517	0.1651801	0.19044090	2.9920067	20	10 4.3	19.6
321968 2010 UL ₂₈	16.5	X	238.34756	270.98370	212.53985	6.16722	0.1675676	0.18712999	3.0271954	20	9 28.2	20.9
321969 2010 UN ₂₈	16.6	X	35.63619	276.97760	92.03923	3.30497	0.0802766	0.20572803	2.8418888	20	12 29.0	20.3
321970 2010 UZ ₂₈	16.6	X	102.06300	43.16097	6.33658	3.58099	0.2286280	0.23614775	2.5922697	20	2 25.4	20.0
321971 2010 UR ₃₁	18.0	X	165.69019	248.13205	157.80581	1.60015	0.1809947	0.25587073	2.4572857	20	4 18.3	21.9
321972 2010 UV ₃₁	17.0	X	180.69786	205.99354	130.75976	2.66831	0.1587494	0.24532679	2.5271987	20	2 6.1	21.0
321973 2010 UA ₃₄	16.7	X	51.75398	111.21662	265.57315	4.67668	0.0822179	0.21502139	2.7594018	20	—	—
321974 2010 UF ₃₄	15.8	X	339.26840	228.82351	252.63831	8.05488	0.0976926	0.22012782	2.7165608	20	—	—
321975 2010 UC ₃₅	16.6	X	345.72236	95.21978	303.05594	5.60941	0.0708009	0.20206876	2.8760953	20	11 24.3	20.3
321976 2010 UF ₃₈	17.7	X	92.80544	18.26430	271.36530	2.43553	0.0410250	0.30641881	2.1790094	20	12 17.6	20.1
321977 2010 UO ₃₈	16.0	X	26.38979	234.20483	218.33560	21.36421	0.0575782	0.22835874	2.6508854	20	—	—
321978 2010 UX ₄₀	16.6	X	114.67191	109.43539	236.69951	5.39945	0.0677777	0.22312311	2.6921940	20	—	—
321979 2010 UM ₄₅	16.6	X	45.83709	143.96806	291.21993	4.50789	0.1614356	0.22623975	2.6674120	20	—	—
321980 2010 UC ₄₆	16.8	X	126.11858	30.60697	316.44707	5.50451	0.0569437	0.22529245	2.6748840	20	—	—
321981 2010 US ₅₃	16.7	X	354.12261	82.06896	276.64693	3.90009	0.0960829	0.19425701	2.9526926	20	10 15.8	20.4
321982 2010 UC ₅₄	17.2	X	72.47606	46.04341	331.67739	2.49507	0.0906194	0.22057283	2.7129057	20	—	—
321983 2010 US ₅₄	15.5	X	270.54867	50.63984	38.04561	9.22815	0.1031720	0.18976984	2.9990560	20	10 7.6	19.6
321984 2010 UZ ₅₄	15.6	X	259.95470	14.03791	308.53308	1.73989	0.3046476	0.16118851	3.3438490	20	3 23.8	21.1
321985 2010 UT ₅₅	17.2	X	204.03033	190.69053	237.02133	2.68398	0.0352010	0.26833525	2.3805879	20	6 28.9	20.4
321986 2010 US ₅₈	14.0	X	293.78575	159.40706	259.73925	6.87148	0.0225887	0.08239461	5.2304233	20	9 19.9	20.9
321987 2010 UT ₅₈	13.3	X	250.72922	219.22917	254.81415	12.57774	0.0593970	0.08418902	5.1558357	20	9 26.5	20.4
321988 2010 UX ₅₉	16.9	X	38.36053	183.69816	334.98037	0.94720	0.0634670	0.24235593	2.5472490	20	3 23.6	19.7
321989 2010 UB ₆₁	15.3	X	138.44366	92.22105	44.33825	5.45967	0.1035486	0.16972272	3.2307949	20	7 10.7	20.3
321990 2010 UE ₆₃	15.5	X	263.48850	149.33524	235.55406	18.22117	0.1320564	0.17290386	3.1910450	20	6 27.7	20.3
321991 2010 UM ₆₃	16.2	X	220.04504	77.40319	6.09273	9.16710	0.1013358	0.17505212	3.1648840	20	7 31.5	21.1
321992 2010 UY ₆₅	17.6	X	357.31844	285.87365	16.23018	1.22858	0.1652829	0.28434360	2.2903775	20	8 26.5	19.3
321993 2010 UG ₇₂	16.0	X	68.00998	332.82454	49.85368	14.15717	0.1192558	0.22357002	2.6886050	20	—	—
321994 2010 UY ₇₄	16.2	X	130.96430	38.74836	312.42270	6.64883</						

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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>		
322001	2010	UZ ₇₉	16.5	X	29.99275	75.80152	334.45863	5.83022	0.0350238	0.21475993	2.7616409	20	—	—
322002	2010	UK ₈₁	15.1	X	202.10379	41.27925	37.71536	23.32086	0.1084924	0.16845381	3.2469991	20	7 3.2	20.5
322003	2010	UE ₈₂	16.3	X	266.20900	187.57573	221.56541	4.45622	0.1554390	0.17950827	3.1122877	20	7 30.1	20.7
322004	2010	UM ₈₃	16.2	X	163.32995	35.63503	256.73699	4.15936	0.0446942	0.22038054	2.7144836	20	—	—
322005	2010	UU ₈₃	15.1	X	240.78398	340.87161	73.44206	20.31899	0.1162840	0.17087253	3.2162852	20	7 13.2	20.1
322006	2010	UA ₈₅	17.2	X	96.70660	147.43517	177.74091	3.92825	0.1028232	0.21647367	2.7470464	20	—	—
322007	2010	UA ₉₂	16.2	X	304.09400	257.52210	95.79632	2.88312	0.1806904	0.17974196	3.1095895	20	7 8.3	20.1
322008	2010	UC ₉₂	17.1	X	162.09027	216.11601	118.33846	4.13749	0.1641513	0.23784320	2.5799357	20	1 18.2	21.1
322009	2010	UY ₉₂	17.1	X	159.56127	128.00784	175.66015	2.20165	0.2683195	0.23307991	2.6149666	20	—	—
322010	2010	UX ₉₂	16.9	X	41.85563	54.12879	311.39542	5.09524	0.0781798	0.20696374	2.8305655	20	—	—
322011	2010	UF ₉₃	16.6	X	43.94931	157.83137	344.85285	4.81561	0.0969421	0.24193332	2.5507756	20	3 12.8	19.2
322012	2010	UQ ₉₃	16.8	X	39.85978	274.68010	327.69218	5.67927	0.0734514	0.27295316	2.3536613	20	7 29.4	19.5
322013	2010	UC ₉₅	16.6	X	131.88580	40.35005	331.68735	6.74830	0.2018187	0.23727673	2.5840403	20	2 7.8	20.4
322014	2010	UK ₉₅	16.9	X	265.33445	200.46797	133.07860	4.78990	0.2229908	0.27077585	2.3662616	20	4 16.2	20.4
322015	2010	UU ₉₅	16.2	X	283.19370	230.24791	189.88250	9.62288	0.1588423	0.18653174	3.0336645	20	9 5.4	20.2
322016	2010	UL ₉₈	15.2	X	158.14460	117.60997	43.40416	27.38600	0.2268057	0.17290575	3.1910217	20	9 15.7	21.1
322017	2010	UY ₁₀₀	15.6	X	250.21390	114.98751	305.10645	7.94584	0.0447264	0.19080602	3.1172406	20	8 9.7	19.9
322018	2010	UR ₁₀₁	16.5	X	347.35161	203.23911	224.33360	5.04742	0.0219750	0.21175774	2.7876817	20	—	—
322019	2010	UO ₁₀₆	15.7	X	241.77328	275.84965	139.38141	16.40608	0.2114123	0.17320565	3.1873372	20	7 5.1	20.9
322020	2010	VC ₁₁	17.3	X	224.40362	219.80390	175.57379	2.58205	0.1858895	0.26732275	2.3865952	20	5 25.5	21.0
322021	2010	VE ₁₁	15.9	X	331.04907	47.32737	306.45953	8.97316	0.0585752	0.18730774	3.0252800	20	8 31.6	19.8
322022	2010	VD ₁₂	16.5	X	233.60110	243.73062	230.01595	3.31449	0.2188249	0.18296984	3.0729091	20	9 4.9	21.4
322023	2010	VH ₁₅	16.5	X	31.84567	43.24220	13.22295	8.07321	0.0824723	0.21770290	2.7366961	20	—	—
322024	2010	VE ₁₇	16.1	X	309.69626	187.23615	348.01193	2.26642	0.0334171	0.22449325	2.6812287	20	—	—
322025	2010	VW ₁₈	17.1	X	75.23345	222.09875	76.15707	4.57492	0.2320033	0.30792615	2.1718925	20	12 22.8	20.5
322026	2010	VC ₁₉	16.2	X	163.15918	50.68884	262.69175	4.92897	0.0463123	0.22148110	2.7054838	20	—	—
322027	2010	VF ₂₀	15.6	X	288.91363	117.95567	255.57177	6.34713	0.0799546	0.17111911	3.2131947	20	7 24.9	20.0
322028	2010	VO ₂₀	16.7	X	147.52468	244.07491	107.43227	7.87340	0.2139333	0.23707691	2.5854920	20	1 30.2	20.8
322029	2010	VC ₂₆	16.6	X	212.77930	57.47329	95.86251	1.42297	0.1425774	0.18612129	3.0381230	20	10 12.3	21.2
322030	2010	VG ₂₆	16.6	X	118.12278	250.74318	64.93456	6.80423	0.0742131	0.21201556	2.7854213	20	—	—
322031	2010	VZ ₂₆	15.4	X	304.00204	126.69178	244.55573	10.78397	0.0824168	0.17600535	3.1534466	20	8 9.5	19.7
322032	2010	VB ₂₇	16.4	X	22.80419	173.47149	192.89139	1.37334	0.0843775	0.19877947	2.9077364	20	12 8.1	20.1
322033	2010	VZ ₂₈	16.6	X	286.50248	297.23869	110.52424	3.35155	0.1616408	0.18548657	3.0450498	20	8 27.4	20.5
322034	2010	VC ₃₀	15.7	X	257.44983	170.08119	257.95396	11.01277	0.1781650	0.18068200	3.0987946	20	8 6.7	20.4
322035	2010	VK ₃₄	15.4	X	309.97175	273.00225	57.83302	5.43231	0.1853996	0.17227223	3.1988402	20	6 16.2	19.4
322036	2010	VE ₃₆	16.7	X	175.84679	72.23064	270.21869	0.54179	0.1878680	0.24032483	2.5621445	20	2 10.2	21.0
322037	2010	VH ₃₆	16.6	X	121.05553	26.19337	298.79539	5.23561	0.0326358	0.22149493	2.7053712	20	—	—
322038	2010	VN ₃₇	17.0	X	12.82744	319.99386	118.18510	4.56120	0.1739947	0.21635801	2.7480253	20	—	—
322039	2010	VO ₃₈	16.3	X	14.93637	244.02716	196.55873	7.84892	0.1447071	0.21724785	2.7405163	20	—	—
322040	2010	VJ ₃₉	16.5	X	42.86394	281.00283	104.51183	5.46616	0.0790228	0.21099081	2.7944330	20	—	—
322041	2010	VN ₃₉	15.3	X	295.23157	152.29728	208.27602	9.48741	0.0349266	0.17126065	3.2114241	20	7 21.9	19.9
322042	2010	VZ ₄₅	15.4	X	12.34622	48.13341	253.24327	8.19015	0.0553466	0.17804257	3.1293452	20	8 21.2	19.7
322043	2010	VG ₄₉	16.9	X	90.73057	90.55376	308.83560	5.32874	0.0580857	0.23002360	2.6380789	20	1 3.2	20.1
322044	2010	VJ ₅₄	15.7	X	263.81926	84.54748	346.58468	11.83977	0.1436171	0.18406052	3.0607577	20	8 29.4	19.8
322045	2010	VD ₅₅	17.6	X	81.25113	166.29067	125.77120	2.08179	0.2011596	0.30504474	2.1855480	20	12 18.1	20.8
322046	2010	VT ₅₇	16.2	X	137.38462	295.20321	36.72865	14.76278	0.2306427	0.22955124	2.6416967	20	—	—
322047	2010	VM ₅₈	16.3	X	254.97497	133.83675	322.05089	7.86147	0.0535825	0.19064263	2.9898956	20	9 27.8	20.6
322048	2010	VE ₆₁	15.4	X	172.59499	113.25603	28.33007	12.03503	0.0776667	0.17616562	3.1515336	20	8 26.1	20.4
322049	2010	VO ₆₁	17.1	X	287.88772	287.07408	63.48814	3.45598	0.1916626	0.27762107	2.3272039	20	6 9.9	19.8
322050	2010	VD ₆₂	16.2	X	141.84344	73.61784	261.21105	10.09441	0.2046959	0.23068892	2.6330042	20	1 3.3	20.1
322051	2010	VJ ₆₂	14.8	X	169.30953	288.82814	260.05353	20.57682	0.1150007	0.18251998	3.0779562	20	10 5.9	20.1
322052	2010	VE ₆₅	16.2	X	339.94608	13.92139	4.51640	4.76440	0.0377951	0.18961790	3.0006580	20	10 17.9	20.3
322053	2010	VE ₇₁	17.3	X	260.59992	218.06535	129.68617	5.97728	0.1306773	0.26639815	2.3921142	20	5 11.6	20.6
322054	2010	VK ₇₃	16.4	X	184.31726	191.40055	72.24173	6.08642	0.0712076	0.21943443	2.7222805	20	—	—
322055	2010	VS ₇₃	17.2	X	54.35621	261.64796	184.09533	2.10138	0.0961671	0.23067941	2.6330766	20	1 13.6	20.1
322056	2010	VQ ₇₅	15.7	X	282.45694	119.77976	284.35814	8.29364	0.0914781	0.18314487	3.0709510	20	8 22.5	19.9
322057	2010	VJ ₇₇	15.6	X	232.67825	268.38482	179.36655	9.95430	0.1139472	0.17786869	3.1313844	20	8 13.5	20.4
322058	2010	VX ₇₈	13.3	X	289.71320	9.04237	49.31932	12.81552	0.0584661	0.08514505	5.1171692	20	9 19.7	20.1
322059	2010	VC ₇₉	17.3	X	326.20312	4.91737	90.02102	1.66872	0.0296619	0.20945414	2.8080839	20	—	—
322060	2010	VE ₇₉	17.0	X	63.07056	152.34447	55.87305	6.68915	0.1481680	0.26830244	2.3807820	20	7 28.3	20.0
322061	2010	VH ₈₆	16.5	X	84.40813	145.70520	229.74992	4.98700	0.0470640	0.22588032	2.6702409	20	—	—
322062	2010	VX ₈₇	17.2	X	180.35876	48.51103	289.37548	2.39412	0.1369814	0.23989992	2.5651690	20	2 6.2	21.2
322063	2010	VO ₈₈	16.6	X	197.84347	295.11767	7.76593	1.66154	0.0753461	0.23173574	2.6250689	20	1 11.5	20.5
322064	2010	VD ₉₁	15.5	X	301.89046	309.98739	250.84935	12.13402	0.1194497	0.22573178	2.6714122	20	—	—
322065	2010	VH ₉₁	16.3	X	62.97155	353.91170	348.94553	1.49374	0.0727640	0.20331544	2.8643262	20	12 28.2	20.2
322066	2010	VA ₉₄	16.4	X	13.91286	154.32088	152.15669	1.60777	0.0827555	0.18299422	3.0726361	20	9 6.5	20.4
322067	2010	VM ₉₆	17.0	X	120.97877	260.15660	91.51519	1.46883	0.1470843	0.22357895	2.6885334	20	—	—
322068	2010	VK ₉₈	13.4	X	287.52466	185.49330	213.84143	3.72346	0.0663991	0.08220074	5.2386443	20	8 17.7	20.3
322069	2010	VR ₁₀₁	17.6	X	206.72146	333.28823	223.83167	2.62546	0.0787723	0.30409113	2.1901148	20	12 31.3	20.1
322070	2010	VB ₁₀₇	15.5	X	347.65044	78.65534	239.74422	8.36089	0.0487418	0.17596131	3.1539727	20		

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>
322081 2010 <i>VW</i> ₁₁₇	16.8	X	205.81344	267.16042	338.44265	4.56530	0.0374092	0.21613817	2.7498884	20	—	—
322082 2010 <i>VP</i> ₁₁₈	16.0	X	227.04545	238.87743	278.88092	7.63952	0.0904864	0.19338962	2.9615151	20	11 6.4	20.5
322083 2010 <i>VC</i> ₁₂₁	16.7	X	225.97221	119.14403	103.13371	4.74494	0.0364970	0.21374823	2.7703483	20	—	—
322084 2010 <i>VS</i> ₁₂₁	16.1	X	327.90237	28.12131	307.42175	4.39035	0.1415218	0.17957485	3.1115184	20	7 30.2	19.4
322085 2010 <i>VL</i> ₁₂₂	16.8	X	235.13052	261.52919	314.66320	4.46638	0.0558508	0.21787991	2.7352137	20	—	—
322086 2010 <i>VM</i> ₁₂₃	16.6	X	46.43271	137.30690	250.75400	5.95257	0.0606278	0.21412126	2.7671297	20	—	—
322087 2010 <i>VQ</i> ₁₂₃	15.2	X	284.22797	322.53317	41.50792	15.05496	0.0608501	0.17208058	3.2012147	20	7 12.5	19.9
322088 2010 <i>VX</i> ₁₂₆	16.9	X	57.50420	178.33833	183.00139	5.85556	0.0309278	0.20892495	2.8128237	20	—	—
322089 2010 <i>VK</i> ₁₂₇	16.6	X	321.90296	335.48896	95.92949	3.22504	0.0979756	0.19587796	2.9363805	20	12 1.3	20.1
322090 2010 <i>VJ</i> ₁₂₉	16.7	X	155.61580	183.01419	118.58584	4.24824	0.1706090	0.22618144	2.6678704	20	—	—
322091 2010 <i>VF</i> ₁₃₀	15.3	X	228.68949	228.90210	242.06959	12.41043	0.1184313	0.18253643	3.0777713	20	9 2.9	20.2
322092 2010 <i>VO</i> ₁₃₂	15.8	X	179.33734	276.79205	230.94480	9.45270	0.1007794	0.18144224	3.0901326	20	8 30.8	20.7
322093 2010 <i>VH</i> ₁₃₃	15.8	X	280.12816	1.54472	55.30651	4.03664	0.0945110	0.18434633	3.0575934	20	9 9.9	19.8
322094 2010 <i>VM</i> ₁₃₃	16.6	X	24.93153	217.42840	182.89155	9.80508	0.1148898	0.21253545	2.7808771	20	—	—
322095 2010 <i>VZ</i> ₁₃₄	16.5	X	223.05796	238.06221	177.09419	4.97625	0.1393337	0.17672193	3.1449162	20	8 9.7	21.4
322096 2010 <i>VM</i> ₁₃₅	16.5	X	49.75156	110.46891	227.18583	5.69541	0.0729129	0.20163171	2.8802498	20	12 6.0	20.6
322097 2010 <i>VR</i> ₁₃₇	15.9	X	144.72704	164.47143	191.88949	14.24556	0.2243716	0.23545518	2.5973505	20	1 30.7	20.3
322098 2010 <i>VD</i> ₁₃₈	15.7	X	106.96039	294.03221	284.12037	7.57405	0.0596959	0.17814100	3.1281925	20	9 7.6	20.5
322099 2010 <i>VP</i> ₁₃₈	16.1	X	248.04420	308.86957	166.96675	8.18686	0.1962160	0.18918073	3.0052790	20	9 28.5	20.4
322100 2010 <i>VP</i> ₁₄₀	17.2	X	53.80737	259.97161	172.47518	3.73852	0.0661243	0.22647105	2.6659596	20	—	—
322101 2010 <i>VC</i> ₁₄₂	17.4	X	120.27314	114.12410	125.02587	4.18108	0.0749868	0.29592266	2.2302347	20	11 13.5	20.4
322102 2010 <i>VR</i> ₁₄₃	16.4	X	195.27536	136.38780	102.41164	6.68469	0.1234250	0.21408010	2.7674844	20	—	—
322103 2010 <i>VZ</i> ₁₄₃	16.4	X	109.40458	253.13604	99.11761	6.86180	0.157498	0.22174406	2.7033444	20	—	—
322104 2010 <i>VL</i> ₁₄₅	16.8	X	29.09242	176.71774	96.72114	7.19482	0.0910019	0.28135956	2.3065432	20	9 3.3	19.3
322105 2010 <i>VM</i> ₁₄₆	15.4	X	332.53547	252.67575	74.52652	11.46835	0.0302119	0.17538654	3.1608596	20	8 4.8	19.8
322106 2010 <i>VM</i> ₁₅₁	16.5	X	122.32139	223.02416	165.43834	4.36845	0.1532134	0.23591329	2.5939869	20	2 10.6	20.2
322107 2010 <i>VC</i> ₁₅₂	17.5	X	6.95757	209.55360	147.82179	3.85918	0.1514549	0.30024864	2.2087608	20	12 11.9	19.8
322108 2010 <i>VF</i> ₁₅₂	17.5	X	40.28275	129.78779	204.48321	4.06328	0.2075469	0.30146989	2.2027916	20	12 31.4	20.5
322109 2010 <i>VS</i> ₁₅₂	17.3	X	48.40276	143.77696	85.77073	4.17628	0.0833693	0.26955342	2.3734103	20	7 24.9	19.9
322110 2010 <i>VJ</i> ₁₅₃	15.6	X	166.92363	293.03145	51.05460	10.16088	0.2239723	0.23769666	2.5809660	20	2 11.1	20.1
322111 2010 <i>VZ</i> ₁₅₈	16.8	X	70.56475	218.01616	131.51345	7.18069	0.0502659	0.20964331	2.8063944	20	—	—
322112 2010 <i>VB</i> ₁₅₉	17.0	X	326.89370	127.54829	194.51638	9.76486	0.1926465	0.27992240	2.3144312	20	7 10.8	18.9
322113 2010 <i>VM</i> ₁₅₉	16.7	X	55.66684	271.34539	169.21912	4.71600	0.0851758	0.22748624	2.6576593	20	1 8.5	19.9
322114 2010 <i>VR</i> ₁₆₁	15.8	X	325.64820	102.49071	243.15898	12.63097	0.0543027	0.17808885	3.1288031	20	8 9.6	20.2
322115 2010 <i>VD</i> ₁₆₂	17.7	X	75.90962	237.61422	44.96191	6.00601	0.1788779	0.29945518	2.2126607	20	11 27.8	20.8
322116 2010 <i>VH</i> ₁₆₂	17.8	X	63.82461	258.63197	19.44695	4.23039	0.1313348	0.29140962	2.2532020	20	11 2.2	20.7
322117 2010 <i>VN</i> ₁₆₂	15.8	X	177.40917	107.16579	40.52945	10.31152	0.0572075	0.17769958	3.1333707	20	9 7.9	20.6
322118 2010 <i>VJ</i> ₁₆₅	16.9	X	82.58116	35.26531	31.08341	3.16329	0.0364424	0.23077647	2.6323383	20	1 24.5	20.2
322119 2010 <i>VT</i> ₁₆₆	17.3	X	84.30538	24.02404	61.88228	2.46677	0.1009072	0.23919274	2.5702225	20	2 29.6	20.5
322120 2010 <i>VS</i> ₁₆₈	16.0	X	182.88550	340.86197	65.82522	2.51325	0.1465833	0.15266314	3.4672082	20	5 6.7	21.6
322121 2010 <i>VF</i> ₁₆₈	17.5	X	341.89039	44.37960	228.69429	1.17948	0.1757835	0.26549399	2.3975422	20	5 26.6	19.4
322122 2010 <i>VC</i> ₁₇₀	16.0	X	237.47906	235.92699	246.44681	4.63139	0.1647175	0.18483574	3.0521937	20	9 25.1	20.7
322123 2010 <i>VF</i> ₁₇₁	15.7	X	71.02776	214.23268	65.06061	10.73954	0.0655247	0.18666120	3.0322617	20	10 20.7	20.1
322124 2010 <i>VH</i> ₁₇₁	16.9	X	196.61044	274.44526	42.72786	6.62744	0.1971150	0.23878874	2.5731207	20	1 29.4	21.2
322125 2010 <i>VY</i> ₁₇₃	17.3	X	71.80958	345.25477	132.98402	2.28220	0.1729848	0.30275986	2.1965530	20	12 14.4	20.5
322126 2010 <i>VM</i> ₁₇₇	15.9	X	347.05053	269.69042	46.27162	3.39276	0.0867178	0.17719479	3.1393188	20	8 8.7	19.9
322127 2010 <i>VQ</i> ₁₇₈	17.1	X	293.99011	22.06887	214.62379	0.22709	0.0715569	0.23982668	2.5656912	20	2 4.1	20.4
322128 2010 <i>VZ</i> ₁₇₈	16.8	X	0.86103	256.74236	245.82049	1.65115	0.0762167	0.22923755	2.6441061	20	1 5.8	19.9
322129 2010 <i>VZ</i> ₁₈₁	15.5	X	253.01578	188.35845	241.08869	9.61505	0.0700503	0.17706853	3.1408109	20	8 17.7	20.2
322130 2010 <i>VC</i> ₁₈₂	16.0	X	180.90267	288.42273	237.43181	4.88609	0.1049919	0.18138743	3.0907550	20	9 25.3	20.9
322131 2010 <i>VL</i> ₁₈₂	15.6	X	272.90816	300.22951	113.03957	11.72125	0.1480993	0.18142971	3.0902749	20	8 17.9	19.9
322132 2010 <i>VP</i> ₁₈₂	16.1	X	157.50118	355.28372	265.27981	8.20451	0.1181462	0.21442850	2.7644859	20	12 30.4	20.3
322133 2010 <i>VM</i> ₁₈₂	16.5	X	3.96628	61.58999	20.84108	16.00750	0.1795269	0.21463259	2.7627331	20	—	—
322134 2010 <i>VS</i> ₁₈₃	16.0	X	159.40163	250.95354	105.63071	15.36991	0.0431373	0.23720200	2.5845830	20	2 2.2	19.6
322135 2010 <i>VX</i> ₁₈₄	16.3	X	161.61418	249.56751	59.61748	14.97000	0.0935774	0.22354212	2.6888287	20	—	—
322136 2010 <i>VH</i> ₁₉₂	16.3	X	255.24096	252.76807	40.32436	10.13407	0.1366497	0.24653856	2.5189109	20	2 27.7	20.2
322137 2010 <i>VP</i> ₁₉₂	13.4	X	284.36348	144.17142	293.41796	8.22773	0.0871587	0.08281033	5.2129038	20	9 21.1	20.2
322138 2010 <i>VR</i> ₁₉₉	16.2	X	349.12411	283.16636	183.68948	8.18560	0.1145984	0.21619044	2.7494451	20	—	—
322139 2010 <i>VP</i> ₁₉₉	16.7	X	140.86018	183.50430	175.35572	8.12913	0.2278641	0.23721965	2.5844548	20	1 31.9	20.9
322140 2010 <i>VA</i> ₂₀₀	15.3	X	341.39356	250.99958	81.13821	12.44446	0.1603393	0.18156053	3.0887903	20	8 24.9	18.9
322141 2010 <i>WY</i> ₁	17.1	X	125.09577	293.65779	63.83832	4.65256	0.0977126	0.22862761	2.6488067	20	—	—
322142 2010 <i>WH</i> ₄	17.3	X	19.19785	149.73214	221.06685	1.23212	0.0776302	0.20361340	2.8615311	20	12 9.0	20.9
322143 2010 <i>WD</i> ₆	17.2	X	298.94930	45.69083	137.87898	0.64198	0.0299850	0.22555655	2.6727956	20	—	—
322144 2010 <i>WT</i> ₇	16.8	X	184.77784	275.38900	78.99893	2.23588	0.1183041	0.24170779	2.5523621	20	3 2.2	20.6
322145 2010 <i>WH</i> ₉	15.7	X	291.82458	72.60038	299.21844	10.58114	0.0891576	0.18998678	2.9967726	20	7 28.1	19.7
322146 2010 <i>WS</i> ₁₄	16.4	X	53.36118	238.65637	110.20168	3.17743	0.0959663	0.20455282	2.8527633	20	12 27.6	20.2
322147 2010 <i>WM</i> ₁₈	16.7	X	179.29839	256.59270	1.48078	3.44971	0.0512398	0.21154852	2.7895194	20	—	—
322148 2010 <i>WM</i> ₂₅	17.1	X	56.35993	92.20205	351.29132	1.51630	0.0525213	0.22771927	2.6558458	20	1 11.9	20.5
322149 2010 <i>WO</i> ₃₀	16.0	X	110.15736	338.94148	243.83756	4.08212	0.0851282	0.17881936	3.1202761	20	9 21.4	20.7
322150 2010 <i>WY</i> ₃₂	16.6	X	299.72641	156.90740	234.64755	4.28867	0.1639199	0.18238728	3.0794490	20	8 22.5	20.4
322151 2010 <i>WX</i> ₃₆	15.9	X	75.42621	165.19563	89.71961	6.01020	0.1128706	0.18083311	3.0970680	20	9 30.6	20.4
322152 2												

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>
322161 2010 <i>WH</i> ₆₉	16.4	X	48.46920	5.66003	340.17298	1.73081	0.0493108	0.19775037	2.9178156	20	12 9.8	20.4
322162 2010 <i>WD</i> ₇₂	15.3	X	97.70331	354.03999	253.18204	8.54660	0.0529846	0.18600844	3.0393516	20	10 3.4	19.9
322163 2010 <i>WF</i> ₇₂	15.3	X	96.92220	170.56688	74.47786	19.05461	0.0509496	0.18244849	3.0787603	20	10 13.0	20.1
322164 2010 <i>WF</i> ₇₄	16.2	X	161.92857	169.59251	339.25301	4.69656	0.1311200	0.17035382	3.2228107	20	8 18.6	21.4
322165 2010 <i>XH</i> ₁	15.3	X	320.51939	275.13064	71.45621	26.84193	0.2238649	0.18092401	3.0960306	20	7 24.9	19.1
322166 2010 <i>XZ</i> ₁₂	15.9	X	265.20200	30.07630	226.10424	13.46224	0.1245151	0.23861898	2.5743409	20	1 16.8	20.0
322167 2010 <i>XA</i> ₁₃	13.3	X	294.05421	347.33824	71.12172	12.05169	0.0462317	0.08538391	5.1076213	20	9 26.4	20.1
322168 2010 <i>XB</i> ₁₃	16.7	X	136.67186	256.78251	94.35525	4.47688	0.1113375	0.23074143	2.6326048	20	1 7.7	20.4
322169 2010 <i>XT</i> ₁₈	16.7	X	5.64323	150.83827	115.80379	6.93722	0.1411367	0.26515575	2.3995806	20	7 10.5	18.6
322170 2010 <i>XT</i> ₂₀	16.8	X	13.06675	286.38153	173.85016	4.77168	0.0611388	0.21802779	2.7339767	20	—	—
322171 2010 <i>XG</i> ₂₁	13.4	X	288.82817	70.27877	358.89386	8.23408	0.0548800	0.08252042	5.2251058	20	9 24.6	20.2
322172 2010 <i>XH</i> ₂₄	15.5	X	283.55872	327.07747	110.19886	9.99169	0.0614946	0.18938196	3.0031497	20	10 19.1	19.7
322173 2010 <i>XJ</i> ₂₅	15.4	X	30.25494	289.73452	50.17264	10.73912	0.0652801	0.19252789	2.9703453	20	11 10.9	19.3
322174 2010 <i>XU</i> ₂₅	15.5	X	216.00279	77.22748	87.27497	12.75247	0.0610524	0.19299529	2.9655477	20	11 11.3	19.9
322175 2010 <i>XZ</i> ₂₈	17.0	X	138.13270	26.89575	303.80362	1.98112	0.0841761	0.22148362	2.7054632	20	—	—
322176 2010 <i>XR</i> ₃₀	17.0	X	38.95413	236.95692	206.94806	1.75256	0.0450422	0.22352033	2.6890035	20	—	—
322177 2010 <i>XA</i> ₃₁	16.0	X	124.72048	340.41893	232.18306	5.51102	0.1187833	0.18006687	3.1058478	20	9 26.8	21.0
322178 2010 <i>XW</i> ₃₁	17.0	X	299.06048	218.60937	167.99053	1.00833	0.1967485	0.18187506	3.0852281	20	8 11.7	20.6
322179 2010 <i>XK</i> ₃₂	15.8	X	68.98616	335.55772	276.61548	14.15347	0.0629890	0.17742872	3.1365588	20	9 1.1	20.5
322180 2010 <i>XO</i> ₃₉	15.7	X	36.75623	242.95495	105.57545	11.24920	0.1409935	0.20011760	2.8947598	20	12 13.3	19.7
322181 2010 <i>XF</i> ₄₀	16.2	X	134.96429	219.62874	140.24653	5.17378	0.0766684	0.23409904	2.6073718	20	2 3.2	20.2
322182 2010 <i>XO</i> ₄₃	15.5	X	303.62667	162.17851	205.12688	9.01413	0.0851214	0.17429494	3.1740434	20	8 4.9	19.9
322183 2010 <i>XP</i> ₄₄	14.5	X	174.18490	299.06631	256.51824	25.51757	0.2632300	0.18064737	3.0991907	20	10 15.2	20.4
322184 2010 <i>XX</i> ₅₁	16.6	X	43.79216	356.24934	125.37841	5.94895	0.0234493	0.23565892	2.5958532	20	2 10.1	20.0
322185 2010 <i>XA</i> ₅₃	16.6	X	36.88292	5.42358	355.23196	1.62500	0.0789696	0.20284782	2.8687266	20	12 19.3	20.4
322186 2010 <i>XS</i> ₅₄	16.4	X	129.36641	281.52018	72.07046	2.05568	0.1628777	0.23016090	2.6370297	20	1 9.2	20.1
322187 2010 <i>XM</i> ₅₉	15.8	X	329.78314	173.19370	218.16963	2.04684	0.0588288	0.18775662	3.0204562	20	10 20.6	19.6
322188 2010 <i>XX</i> ₅₉	16.5	X	182.48071	186.31493	55.99923	2.68539	0.0834808	0.20202866	2.8764758	20	—	—
322189 2010 <i>XG</i> ₆₃	16.1	X	113.16639	250.38736	91.02991	7.20017	0.0701449	0.20844191	2.8171676	20	—	—
322190 2010 <i>XW</i> ₆₉	14.3	X	165.84484	263.86907	267.01358	23.67182	0.2579412	0.17629772	3.1499591	20	9 4.2	20.3
322191 2010 <i>XM</i> ₇₀	15.7	X	296.15940	83.02547	279.58822	11.86549	0.1544431	0.17474479	3.1685937	20	7 11.3	19.7
322192 2010 <i>XN</i> ₇₀	16.8	X	244.03487	134.21955	58.24557	5.24929	0.0152577	0.20946094	2.8080232	20	—	—
322193 2010 <i>XB</i> ₇₆	15.3	X	68.92282	190.66117	96.54327	10.30889	0.1117713	0.18778455	3.0201567	20	11 3.4	19.8
322194 2010 <i>XW</i> ₇₆	13.6	X	333.54872	281.71867	101.78981	8.61797	0.1112523	0.08381707	5.1710776	20	9 29.7	20.0
322195 2010 <i>XZ</i> ₇₇	16.7	X	17.97041	237.18457	189.18545	4.11940	0.0602423	0.21052370	2.7985649	20	—	—
322196 2010 <i>XV</i> ₇₈	13.1	X	296.08701	323.63833	103.66711	10.12042	0.0311832	0.08230440	5.2342444	20	10 8.6	20.0
322197 2010 <i>XZ</i> ₇₉	16.3	X	6.55327	213.34568	223.18697	3.38098	0.0836692	0.20937933	2.8087528	20	—	—
322198 2010 <i>XE</i> ₈₀	16.2	X	95.88010	110.93244	173.38708	5.01741	0.0652400	0.19307073	2.9647751	20	11 22.6	20.6
322199 2010 <i>XS</i> ₈₂	15.6	X	79.01736	314.12800	317.48672	3.43629	0.1227375	0.17873221	3.1212904	20	10 21.2	20.2
322200 2010 <i>XO</i> ₈₃	15.3	X	336.55780	285.71309	84.08354	11.33578	0.0689638	0.18457553	3.0550616	20	10 8.6	19.4
322201 2010 <i>XY</i> ₈₃	15.5	X	152.96313	0.20296	229.17292	11.40343	0.0900933	0.19010391	2.9955416	20	11 15.9	20.2
322202 2010 <i>XM</i> ₈₅	15.8	X	280.91546	294.67843	124.94578	6.84800	0.0303341	0.18067095	3.0989210	20	9 23.4	20.1
322203 2010 <i>YZ</i>	15.8	X	315.93213	88.40207	273.05345	7.42461	0.0856630	0.17473932	3.1686598	20	8 15.7	20.0
322204 2010 <i>YA</i> ₄	16.7	X	12.24643	331.65189	104.22531	4.98696	0.0780668	0.21253476	2.7808831	20	—	—
322205 2010 <i>YW</i> ₄	15.5	X	336.00358	112.14815	220.50785	8.66714	0.0644517	0.17214758	3.2003840	20	8 8.8	19.9
322206 2011 <i>AP</i> ₃	15.6	X	230.57433	32.93674	74.36957	8.07810	0.0714847	0.17780894	3.1320858	20	9 15.9	20.2
322207 2011 <i>AL</i> ₁₀	16.5	X	17.22408	251.24128	121.39007	0.06538	0.1003091	0.18951109	3.0017853	20	12 7.9	20.2
322208 2011 <i>AK</i> ₁₄	15.2	X	74.94814	59.49304	50.35309	3.66879	0.1893335	0.12531310	3.9549264	20	4 10.5	20.6
322209 2011 <i>AS</i> ₂₅	17.0	X	262.91467	119.54651	238.09178	2.17849	0.2023817	0.25902638	2.4372873	20	5 16.1	20.4
322210 2011 <i>AQ</i> ₃₁	16.2	X	168.23556	248.58818	314.10062	8.11889	0.0530889	0.17823879	3.1270481	20	10 26.1	21.1
322211 2011 <i>AE</i> ₃₃	17.5	X	227.74401	336.53547	70.37438	3.06662	0.1651288	0.26136825	2.4227066	20	6 16.9	21.1
322212 2011 <i>AE</i> ₄₀	16.4	X	82.70408	314.34143	144.89973	10.44312	0.0660570	0.22854484	2.6494462	20	3 12.9	19.8
322213 2011 <i>AD</i> ₄₃	16.3	X	39.12260	243.02839	96.56466	2.20114	0.1367212	0.18224943	3.0810016	20	11 29.8	20.4
322214 2011 <i>AN</i> ₄₆	16.5	X	143.04652	232.08773	139.49558	6.67831	0.0930851	0.21848045	2.7301991	20	2 8.5	20.5
322215 2011 <i>AR</i> ₄₇	15.5	X	42.20433	316.89771	199.33930	2.22520	0.1756421	0.12619001	3.9365830	20	4 17.3	20.3
322216 2011 <i>AQ</i> ₅₂	15.9	X	39.58689	291.86204	54.26303	2.50136	0.0198241	0.18278680	3.0749602	20	11 21.9	20.1
322217 2011 <i>AY</i> ₅₆	17.5	X	327.72961	159.28668	304.09810	6.38755	0.0920327	0.29921113	2.2138637	20	—	—
322218 2011 <i>AX</i> ₆₀	15.5	X	354.75948	257.24794	102.08813	5.57983	0.0587174	0.17630503	3.1498721	20	10 16.3	19.7
322219 2011 <i>AY</i> ₆₂	15.7	X	47.48536	232.31480	99.01850	3.77277	0.0867176	0.17742893	3.1365563	20	11 22.6	20.0
322220 2011 <i>AB</i> ₆₉	16.8	X	13.57030	350.83731	150.26833	4.69563	0.0378608	0.21584707	2.7523602	20	1 27.0	20.3
322221 2011 <i>AS</i> ₇₀	15.7	X	140.55745	289.73868	308.76568	8.76926	0.1105167	0.17905853	3.1174969	20	11 10.1	20.7
322222 2011 <i>AE</i> ₇₂	16.1	X	168.90802	76.23890	130.90231	2.20134	0.0532217	0.18792540	3.0186474	20	11 7.2	20.5
322223 2011 <i>AU</i> ₇₃	16.8	X	52.22394	96.57574	40.63707	5.48368	0.0404761	0.23330117	2.6133131	20	3 16.9	20.0
322224 2011 <i>AA</i> ₇₄	16.2	X	56.95235	335.44595	52.77549	2.96751	0.1156918	0.20615448	2.8379682	20	—	—
322225 2011 <i>BM</i> ₆	17.6	X	81.05089	142.00932	327.33515	3.59318	0.1243875	0.23221024	2.6214916	20	3 28.9	20.9
322226 2011 <i>BY</i> ₆	16.6	X	303.21219	168.16432</								

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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>
322241 2011 <i>CY</i> ₁₄	16.3	X	35.73128	218.23240	206.75822	1.40163	0.0833624	0.19697606	2.9254572	20	—	—
322242 2011 <i>CW</i> ₄₁	17.3	X	351.89244	186.11095	181.40811	4.42590	0.2608105	0.28179817	2.3041492	20	12 14.1	19.3
322243 2011 <i>CG</i> ₆₃	15.2	X	72.89360	213.10665	85.82006	8.30585	0.1383434	0.17234027	3.1979981	20	11 19.7	19.9
322244 2011 <i>CG</i> ₇₃	15.1	X	178.42633	81.93034	129.25149	16.21466	0.0812716	0.17486520	3.1671389	20	11 22.3	20.2
322245 2011 <i>CX</i> ₇₇	16.2	X	327.84497	300.75697	272.01856	7.56029	0.2440396	0.21425607	2.7659689	20	1 25.7	19.6
322246 2011 <i>CR</i> ₈₅	16.0	X	210.71403	29.11741	147.22593	4.14871	0.0900074	0.17407520	3.1767140	20	11 10.6	20.7
322247 2011 <i>CV</i> ₈₅	15.0	X	86.34549	79.73661	165.56149	11.06923	0.1191991	0.15639765	3.4117922	20	9 26.9	20.1
322248 2011 <i>CE</i> ₈₆	15.5	X	161.64058	111.86913	181.67434	11.98672	0.1023741	0.19438582	2.9513881	20	—	—
322249 2011 <i>CR</i> ₈₆	16.5	X	210.55595	63.21063	228.63096	2.89917	0.0682330	0.20935289	2.8089893	20	1 13.8	20.6
322250 2011 <i>CK</i> ₈₈	16.2	X	263.79070	355.48656	150.53156	9.41941	0.0315457	0.18178721	3.0862220	20	12 15.2	20.6
322251 2011 <i>CN</i> ₈₈	15.9	X	116.31492	81.39516	268.97163	2.98756	0.0199421	0.19788510	2.9164911	20	—	—
322252 2011 <i>CR</i> ₁₁₆	16.7	X	200.86941	154.70492	169.35247	5.19847	0.0151553	0.21514767	2.7583219	20	2 9.9	20.6
322253 2011 <i>DT</i> ₁₂	17.3	X	121.74058	125.29836	122.04444	2.35635	0.1527237	0.26664051	2.3906645	20	11 21.2	21.0
322254 2011 <i>DG</i> ₁₉	16.7	X	169.77443	353.61976	308.60427	1.38731	0.1588245	0.20156060	2.8809272	20	—	—
322255 2011 <i>DP</i> ₂₁	16.8	X	175.07364	197.24500	186.20593	5.78380	0.0948971	0.22445370	2.6815436	20	3 27.9	20.8
322256 2011 <i>DN</i> ₂₂	16.9	X	333.89514	165.43650	133.65330	2.30864	0.0420369	0.24065591	2.5597941	20	6 30.1	19.8
322257 2011 <i>DH</i> ₂₉	16.2	X	136.67152	213.57685	151.49724	6.83247	0.0543952	0.21193388	2.7861370	20	1 19.8	20.2
322258 2011 <i>DK</i> ₄₁	16.5	X	288.60333	85.41605	167.25166	4.83411	0.0675995	0.21459631	2.7630445	20	2 21.2	20.1
322259 2011 <i>DW</i> ₄₁	15.3	X	315.32784	293.15052	161.98525	9.98501	0.0472501	0.17902087	3.1179342	20	12 17.8	19.6
322260 2011 <i>DV</i> ₄₉	15.1	X	176.05443	201.10667	78.71116	11.80888	0.0934826	0.18868277	3.0105641	20	—	—
322261 2011 <i>EJ</i> ₇	15.6	X	94.64916	112.08909	168.75164	5.00834	0.1263532	0.17134136	3.2104155	20	11 19.1	20.5
322262 2011 <i>EP</i> ₉	17.2	X	1.49921	259.27176	323.19357	1.78938	0.0663550	0.22607120	2.6687377	20	4 23.9	20.3
322263 2011 <i>EV</i> ₁₃	16.9	X	191.59965	168.06379	303.60397	3.86348	0.0668086	0.25290778	2.4764407	20	8 9.8	20.2
322264 2011 <i>EK</i> ₁₅	15.6	X	341.36421	229.87793	195.91747	10.51108	0.0411064	0.18132716	3.0914400	20	12 16.7	20.0
322265 2011 <i>EY</i> ₁₆	15.4	X	293.49709	19.06684	48.13482	5.60679	0.065223	0.16836573	3.2481313	20	10 7.7	19.7
322266 2011 <i>ES</i> ₂₅	15.3	X	123.14225	306.73266	31.00808	22.77155	0.1240365	0.18402356	3.0611675	20	—	—
322267 2011 <i>ET</i> ₂₆	17.1	X	358.66016	190.87807	101.04340	2.55634	0.0545174	0.24688936	2.5165244	20	7 30.3	19.8
322268 2011 <i>EF</i> ₂₇	16.2	X	37.33719	287.87708	166.62772	11.41829	0.0502293	0.19823382	2.9130698	20	1 4.0	20.2
322269 2011 <i>EN</i> ₃₅	16.2	X	36.21696	266.33262	154.13260	2.44841	0.1053663	0.19593250	2.9358556	20	—	—
322270 2011 <i>ES</i> ₃₅	16.1	X	208.03112	354.98564	323.54382	1.84558	0.0662423	0.21408940	2.7674043	20	2 12.3	20.0
322271 2011 <i>EH</i> ₄₂	15.4	X	102.03391	285.06507	15.36780	9.95000	0.0865265	0.17233043	3.1981199	20	12 13.7	20.4
322272 2011 <i>EK</i> ₄₄	15.3	X	131.55985	348.40466	324.27676	11.17237	0.1124479	0.18750276	3.0231819	20	—	—
322273 2011 <i>EH</i> ₅₄	16.7	X	254.99386	183.78413	139.19589	5.26731	0.0949322	0.22031785	2.7149985	20	4 8.6	20.7
322274 2011 <i>EP</i> ₆₃	16.4	X	324.69893	283.34327	141.06847	0.75489	0.0722339	0.17524219	3.1625951	20	11 21.2	20.4
322275 2011 <i>ED</i> ₆₈	16.4	X	94.27672	254.49447	135.71102	3.00991	0.0450437	0.19835595	2.9118739	20	—	—
322276 2011 <i>ED</i> ₇₄	15.9	X	253.58235	66.53947	206.81496	7.81898	0.1690304	0.20170652	2.8795376	20	1 28.2	20.6
322277 2011 <i>EF</i> ₈₃	17.4	X	155.79513	69.20958	184.27112	3.12129	0.0764819	0.28213205	2.3023311	20	—	—
322278 2011 <i>FY</i> ₅	17.6	X	100.01505	226.38907	21.90517	3.02945	0.1271059	0.26345178	2.4099163	20	10 29.5	21.0
322279 2011 <i>FE</i> ₉	16.2	X	180.82406	194.32687	108.90467	3.89961	0.1654629	0.19217525	2.9739780	20	1 4.2	20.9
322280 2011 <i>FN</i> ₉	16.9	X	25.79885	55.71185	156.66149	2.52760	0.1408411	0.22919939	2.6443995	20	5 26.8	19.6
322281 2011 <i>FL</i> ₁₁	16.0	X	223.08709	202.57795	97.10315	3.20145	0.0351247	0.20195553	2.8771702	20	2 9.1	20.2
322282 2011 <i>FO</i> ₁₃	16.0	X	173.37804	193.30680	111.25591	2.04187	0.1381906	0.18736741	3.0246376	20	—	—
322283 2011 <i>FK</i> ₁₄	15.6	X	305.99432	224.55553	171.73464	6.11601	0.0680274	0.15742045	3.3969979	20	9 17.3	20.2
322284 2011 <i>FR</i> ₁₆	17.4	X	203.86831	194.27113	46.10063	6.07034	0.1193832	0.29043086	2.2582614	20	—	—
322285 2011 <i>FL</i> ₁₇	16.1	X	1.69418	131.61496	138.56430	5.77764	0.0921062	0.23582514	2.5946332	20	7 3.3	18.9
322286 2011 <i>FM</i> ₂₈	16.3	X	248.83445	5.57575	221.74768	4.98699	0.1517007	0.19269937	2.9685829	20	—	—
322287 2011 <i>FV</i> ₃₁	15.9	X	206.22804	58.35520	170.69667	2.25392	0.1214304	0.17410283	3.1763779	20	—	—
322288 2011 <i>FQ</i> ₃₄	16.6	X	194.95095	243.18353	91.13506	2.59165	0.0727197	0.20884768	2.8135174	20	2 19.1	20.9
322289 2011 <i>FY</i> ₃₇	16.7	X	89.98077	320.48996	314.52002	5.35671	0.0945929	0.26484175	2.4014769	20	11 18.3	20.1
322290 2011 <i>FV</i> ₄₂	16.0	X	246.51835	290.21860	38.75681	5.92783	0.0746660	0.21880991	2.7274579	20	4 7.9	19.9
322291 2011 <i>FE</i> ₄₅	16.4	X	303.65675	296.57111	177.72233	10.79742	0.2232648	0.18134815	3.0912014	20	12 14.0	19.8
322292 2011 <i>FS</i> ₄₆	15.6	X	115.67009	324.83359	22.02087	10.44491	0.0833832	0.18104937	3.0946013	20	—	—
322293 2011 <i>FT</i> ₄₆	15.9	X	238.81191	26.32812	233.53240	2.74437	0.0661878	0.19245524	2.9710928	20	1 8.1	20.4
322294 2011 <i>FW</i> ₅₆	16.4	X	321.24270	135.26244	97.82642	5.14624	0.0445126	0.20975998	2.8053537	20	3 16.8	20.1
322295 2011 <i>FG</i> ₅₉	16.6	X	354.28698	4.52557	219.74012	3.23672	0.0411797	0.22191445	2.7019605	20	4 17.1	20.0
322296 2011 <i>FW</i> ₆₀	16.8	X	144.25645	324.28286	74.51006	0.78553	0.0802375	0.21327376	2.7744555	20	3 13.9	20.7
322297 2011 <i>FK</i> ₆₉	15.2	X	91.84061	254.02499	96.63076	12.13683	0.1200875	0.18202925	3.0834856	20	—	—
322298 2011 <i>FL</i> ₆₉	15.4	X	147.68178	200.27463	132.72624	11.74893	0.0819948	0.19306392	2.9648448	20	—	—
322299 2011 <i>FQ</i> ₇₄	17.0	X	178.03052	73.77918	183.86285	5.82544	0.0822673	0.28834564	2.2691356	20	—	—
322300 2011 <i>FG</i> ₈₂	16.6	X	354.79396	116.70121	14.11564	1.57111	0.0677942	0.19726907	2.9225597	20	—	—
322301 2011 <i>FU</i> ₈₂	16.3	X	304.09546	330.34650	150.56224	2.51849	0.0918142	0.18031868	3.1029557	20	12 31.6	20.2
322302 2011 <i>FM</i> ₁₀₄	16.1	X	157.83870	136.58458	133.54801	8.45684	0.1491189	0.17612379	3.1520327	20	—	—
322303 2011 <i>FN</i> ₁₁₄	16.1	X	233.25608	38.59746	277.82085	5.00923	0.0051770	0.21505824	2.7590865	20	3 9.9	20.0
322304 2011 <i>FW</i> ₁₂₀	16.2	X	175.93581	247.88157	7.14396	1.26426	0.2116467	0.17369385	3.1813619	20	12 28.7	21.4
322305 2011 <i>FA</i> ₁₂₂	17.2	X	200.05133	326.63663	356.97679	3.45530	0.1477477	0.31067658	2.1590550	20	2 1.1	20.2
322306 2011 <i>FR</i> ₁₃₆	16.5	X	213.59402	132.53570	194.10513	3.90931	0.0706414	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>
322321 2011 GJ ₂₇	16.4	X	63.35012	254.07644	326.56990	4.60742	0.0459010	0.24242055	2.5473567	20	7 26.1	19.6
322322 2011 GF ₃₁	17.1	X	298.55732	183.40075	147.71068	1.69079	0.0933222	0.23141535	2.6274912	20	6 14.3	20.3
322323 2011 GG ₅₅	16.9	X	10.62264	155.14948	124.67106	2.40027	0.2645211	0.23251338	2.6192126	20	8 24.7	18.9
322324 2011 GR ₆₄	16.6	X	324.30045	145.68200	116.25646	9.70929	0.1566364	0.21720952	2.7408387	20	4 15.1	20.0
322325 2011 GU ₆₉	17.1	X	106.07524	36.97069	203.44462	5.53089	0.0878730	0.25505194	2.4625419	20	10 22.3	20.5
322326 2011 GZ ₇₁	15.6	X	251.33587	318.85665	213.17156	15.77067	0.2267127	0.17602065	3.1532638	20	12 2.2	20.2
322327 2011 GV ₇₂	16.8	X	272.23059	36.87596	213.69665	1.10843	0.0614271	0.20169912	2.8796080	20	2 1.8	20.8
322328 2011 GT ₇₈	16.8	X	291.94945	111.66987	189.34855	5.27489	0.0445754	0.22229466	2.6988787	20	5 2.7	20.3
322329 2011 GO ₈₄	16.8	X	247.84559	335.47751	347.07841	2.06949	0.0744839	0.22028202	2.7152929	20	3 30.4	20.8
322330 2011 HV ₈	16.1	X	129.14409	267.43936	154.06692	6.69957	0.0524315	0.21180136	2.7872990	20	3 22.9	19.9
322331 2011 HH ₁₂	15.3	X	68.35489	313.22437	77.25581	14.03947	0.0409857	0.17674323	3.1446636	20	—	—
322332 2011 HP ₁₃	15.9	X	171.02003	104.23133	194.86394	14.06008	0.1210922	0.18146026	3.0899280	20	—	—
322333 2011 HV ₂₂	15.8	X	231.13226	88.32534	178.38231	9.36978	0.0410955	0.19007570	2.9958379	20	1 9.0	20.4
322334 2011 HS ₂₄	16.5	X	195.80455	176.72340	55.78347	1.13518	0.1517670	0.17242553	3.1969438	20	12 23.5	21.5
322335 2011 HS ₂₇	16.4	X	352.67317	205.95953	88.45681	3.50255	0.1845749	0.23207624	2.6225006	20	7 26.0	18.6
322336 2011 HH ₂₈	15.0	X	165.91327	92.38447	220.98604	10.26645	0.0291578	0.18353930	3.0665497	20	—	—
322337 2011 HF ₃₁	15.5	X	293.10782	12.66625	204.39554	9.07325	0.0145223	0.19233854	2.9722945	20	1 22.5	19.8
322338 2011 HE ₃₂	15.8	X	14.18520	322.36337	150.91213	10.37445	0.0102595	0.18575284	3.0421392	20	—	—
322339 2011 HR ₃₅	15.8	X	106.69447	274.23675	78.75422	3.38885	0.0991869	0.17954762	3.1118330	20	—	—
322340 2011 HP ₃₈	17.8	X	204.66308	173.60093	137.20759	2.50029	0.1064348	0.30248788	2.7184672	20	1 18.9	20.9
322341 2011 HR ₄₄	15.4	X	174.67637	249.65922	71.63338	14.06024	0.0918635	0.18730948	3.0252612	20	1 17.6	20.2
322342 2011 HM ₆₃	16.4	X	294.52788	324.24452	188.58519	7.80878	0.1410810	0.18323137	3.0699844	20	—	—
322343 2011 HW ₇₃	15.5	X	298.83082	328.26683	207.54508	16.22554	0.0668608	0.18336467	3.0686994	20	—	—
322344 2011 HU ₇₄	16.7	X	208.42803	340.38144	157.86081	4.19795	0.0506677	0.25651796	2.4531506	20	10 9.6	19.8
322345 2011 HD ₇₇	15.8	X	170.87153	267.51614	106.59812	8.44599	0.0722359	0.20144763	2.8820041	20	3 16.5	20.2
322346 2011 HT ₈₃	16.2	X	285.58571	183.03340	90.58132	3.69466	0.0480238	0.21235907	2.7824167	20	3 20.6	20.0
322347 2011 HM ₈₄	17.1	X	20.01720	204.88799	216.05480	6.07576	0.0619225	0.28331003	2.2959447	20	—	—
322348 2011 HJ ₈₉	16.0	X	344.53055	34.21071	69.31855	4.29017	0.0675868	0.17488397	3.1241837	20	—	—
322349 2011 JN ₁₁	17.1	X	29.29612	155.14075	116.35899	3.19101	0.1639374	0.23675555	2.5878311	20	9 3.2	19.9
322350 2011 JX ₁₁	17.1	X	144.30132	334.26624	301.40131	1.03700	0.1612909	0.27249307	2.3563099	20	—	—
322351 2011 JU ₁₆	15.6	X	170.58645	172.76492	118.88863	4.19423	0.1397145	0.17364768	3.1819259	20	—	—
322352 2011 JP ₂₀	16.5	X	270.98457	116.66319	128.71941	2.98799	0.0123734	0.19419323	2.9533391	20	2 1.6	20.4
322353 2011 JF ₂₁	16.8	X	24.13688	81.15405	165.78084	8.93857	0.0704594	0.22854058	2.6494791	20	7 5.1	20.1
322354 2011 JG ₂₈	15.4	X	243.77902	322.84746	233.18691	8.59800	0.0477243	0.17070251	3.2184205	20	—	—
322355 2011 KZ ₂	17.3	X	169.00932	166.82326	86.93892	3.41198	0.1601880	0.27246366	2.3564794	20	—	—
322356 2011 KC ₄	14.9	X	28.37200	284.44409	344.24398	4.91820	0.1436108	0.12476646	3.9664697	20	8 10.9	19.8
322357 2011 KE ₄	14.7	X	242.89490	184.42654	93.76355	26.27615	0.2344396	0.18813575	3.0163969	20	1 24.9	20.0
322358 2011 KF ₁₆	15.1	X	158.23955	203.22724	142.54452	23.51208	0.1260142	0.18452949	3.0555698	20	1 31.0	20.0
322359 2011 KG ₂₁	16.6	X	255.31236	279.24897	124.74329	6.77336	0.0873664	0.23794275	2.5792161	20	7 25.2	20.0
322360 2011 KE ₂₂	16.1	X	292.03389	10.34905	231.33072	1.31333	0.0668309	0.19620198	2.9331467	20	2 14.2	20.1
322361 2011 KJ ₂₂	16.2	X	340.51936	153.42731	132.71885	7.46108	0.0949013	0.22402713	2.6849465	20	6 19.2	19.4
322362 2011 KB ₂₉	17.9	X	198.36172	51.12197	218.02085	1.72434	0.1534652	0.28346331	2.2951169	20	—	—
322363 2011 KY ₂₉	16.7	X	61.72246	275.10472	320.88096	1.49932	0.1374567	0.23639871	2.5904347	20	8 27.3	20.1
322364 2011 KA ₃₅	15.7	X	213.06660	196.85896	110.67122	9.90101	0.1890558	0.18697930	3.0288216	20	2 6.2	20.8
322365 2011 KL ₄₄	16.3	X	304.63359	95.80135	135.23469	6.67330	0.0081736	0.19887514	2.9068038	20	2 26.1	20.3
322366 2011 KQ ₄₅	15.7	X	313.93183	335.91543	175.01203	11.08582	0.0544960	0.17835593	3.1256788	20	—	—
322367 2011 LC ₃	16.5	X	309.89580	90.62642	148.10301	3.18077	0.0948304	0.20144426	2.8820364	20	2 29.3	20.4
322368 2011 LU ₄	17.4	X	109.74784	104.63971	138.04369	2.84141	0.1364252	0.25118338	2.4877617	20	11 1.5	21.1
322369 2011 LF ₅	15.4	X	140.21421	270.75143	115.29704	10.66990	0.0927724	0.19208247	2.9749355	20	2 28.8	19.9
322370 2011 LF ₉	17.7	X	297.36329	72.78819	135.36339	5.70593	0.0918666	0.29839746	2.2178864	20	—	—
322371 2011 LR ₁₁	16.6	X	323.96530	98.22793	200.60434	5.14082	0.1072631	0.22161065	2.7044293	20	6 7.6	19.8
322372 2011 LP ₁₃	16.3	X	191.02896	242.99413	125.12587	3.03258	0.0880836	0.20107448	2.8855686	20	3 28.2	20.7
322373 2011 LX ₁₃	15.6	X	159.39887	168.49183	157.91139	11.53840	0.0586838	0.17825001	3.1269169	20	1 5.0	20.3
322374 2011 LZ ₂₂	16.6	X	243.34732	168.82486	188.27168	3.78386	0.1142833	0.21269882	2.7794530	20	5 5.8	20.7
322375 2011 LQ ₂₂	16.4	X	244.17363	197.69954	159.26115	4.45791	0.1139210	0.21276510	2.7788757	20	5 7.2	20.5
322376 2011 LU ₂₄	15.4	X	250.32157	5.94096	228.43905	15.35195	0.1943902	0.18255533	3.0775588	20	—	—
322377 2011 LJ ₂₆	15.7	X	185.65383	20.74443	55.35182	22.65518	0.0387494	0.22494489	2.6776386	20	6 12.0	19.7
322378 2011 MV ₉	12.6	X	266.32551	43.21342	269.52893	16.30826	0.1282741	0.08156240	5.2659416	20	4 4.2	19.9
322379 2011 OZ ₁₂	13.4	X	189.97600	151.89868	245.67834	4.15864	0.1089405	0.08207373	5.2440473	20	5 3.7	20.8
322380 2011 OB ₂₅	17.2	X	135.10000	197.01681	120.62263	2.37656	0.1995692	0.26484319	2.4014682	20	—	—
322381 2011 OW ₅₄	15.4	X	196.73473	189.84449	105.72959	10.88706	0.0967823	0.16825630	3.2495395	20	1 10.9	20.5
322382 2011 QD ₆	15.3	X	5.62350	306.90171	210.26075	10.80838	0.0108908	0.17432586	3.1736681	20	2 9.7	20.0
322383 2011 QB ₁₀	16.2	X	223.75014	139.87002	296.49870	2.69334	0.0714249	0.20886054	2.8134019	20	7 28.7	20.3
322384 2011 QR ₁₇	16.5	X	317.60442	173.62777	178.12484	3.98712	0.1110185	0.21393183	2.7687630	20	8 9.5	19.6
322385 2011 QJ ₂₂	17.6	X	192.21259	332.91783	306.35328	1.99982	0.1925918	0.27027170	2.3692033	20	—	—
322386 2011 QY ₃₄	14.7	X	298.62681	309.59660	275.58576	14.62182	0.1466684	0.17105690	3.2139737	20	1 23.4	19.3
322387 2011 QT ₃₅	16.4	X	285.83102	247.50567	145.10470	6.08323	0.0815372	0.21304833	2.7764123	20	8 20.5	19.7
322388 2011 QY ₃₈	17.5	X	157.32843	214.26610	102.59773	2.51932	0.1890988	0.27097647	2.3650936	20	—	—
322389 2011 QX ₃₉	16.4	X	328.64016	190.44698	137.84898	5.90009	0.1271173	0.21129036	2.7917911	20	7 25.4	19.5
322390 Planes de Son	15.6	X	182.94928	150.07736	180.98579	5.64467	0.0935463	0.16949335	3.2337090	20	2 5.8	20.6
322391 2011 QM ₄₇	16.9	X	149.51937	240.16232	30.16515	0.32013	0.1973336	0.25845709	2.4408649	20	—	—
322392 2011 QU ₅₀	15.5	X	312.68257	11.68949	219.07388	7.52430	0.0410063	0.17829191	3.1264270	20	2 29.9	20.0
322393 2011 QA ₅₇	17.3	X	1.11365	132.85157	224.17976	1.29638	0.0999024	0.23014464	2.6371539	20	11 4.3	20.4
322394 2011 QU ₅₈	16.5	X	252.38944	13.46502	7.82663	1.76816	0.0813568					

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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>
322401 2011 QC ₉₇	16.1	X	284.83610	44.45362	34.43690	16.78300	0.2401778	0.22062005	2.7125187	20	10 4.4	19.2
322402 2011 RE ₆	18.2	X	294.22396	302.96127	314.60088	1.74764	0.1126354	0.29369674	2.2414891	20	2 18.4	21.0
322403 2011 RH ₁₀	16.1	X	260.56979	80.85257	220.04734	3.96544	0.1052802	0.18221505	3.0813892	20	3 16.6	20.7
322404 2011 RD ₁₄	15.7	X	152.95180	193.62967	211.65424	7.22559	0.1578538	0.17189196	3.2035561	20	4 7.2	20.9
322405 2011 RB ₁₈	17.0	X	246.19276	141.46508	274.31247	1.04697	0.0541288	0.20425038	2.8555787	20	7 31.4	20.8
322406 2011 SX ₂₆	15.7	X	17.29674	306.89667	334.20186	11.51520	0.1130787	0.21232531	2.7827117	20	8 16.8	19.0
322407 2011 SC ₃₆	16.4	X	261.87686	234.87653	73.11074	2.93903	0.0794322	0.17694943	3.1422201	20	4 1.7	20.9
322408 2011 SC ₃₆	16.4	X	239.97565	206.04874	157.28853	5.94831	0.1153528	0.18495368	3.0508960	20	5 11.6	21.0
322409 2011 SD ₅₁	15.4	X	294.22193	20.32096	276.99536	8.00893	0.1153265	0.18458017	3.0550104	20	4 17.6	19.8
322410 2011 SJ ₅₇	17.0	X	38.51295	128.82952	46.06347	8.32766	0.0459074	0.27997447	2.3141443	20	4 13.9	19.5
322411 2011 SX ₆₆	16.2	X	352.13745	77.87934	243.92531	8.04552	0.1011282	0.21168407	2.7883284	20	8 24.2	19.6
322412 2011 SX ₆₇	16.7	X	83.92696	155.47686	221.51776	6.89039	0.1380206	0.25667160	2.4521715	20	—	—
322413 2011 SO ₈₃	16.7	X	305.45209	104.54151	282.77333	0.41279	0.1054217	0.21281633	2.7784297	20	9 9.3	19.8
322414 2011 SM ₈₇	15.9	X	219.08727	7.96128	358.40124	10.21956	0.1419642	0.18007393	3.1057666	20	4 17.7	21.0
322415 2011 SA ₈₈	16.8	X	318.71736	74.10059	303.33264	3.03211	0.1338400	0.21390874	2.7689622	20	9 14.9	19.9
322416 2011 SQ ₉₂	16.2	X	213.74883	252.33031	258.78947	1.05638	0.0219106	0.21919654	2.7242498	20	10 28.6	19.7
322417 2011 SX ₉₆	17.5	X	100.14721	58.88534	339.8512	1.95401	0.2072087	0.26336298	2.4104580	20	1 31.3	20.3
322418 2011 SX ₁₀₂	16.2	X	334.83288	324.75968	17.58228	5.05122	0.1373995	0.21409438	2.7673614	20	8 29.2	19.1
322419 2011 SR ₁₀₆	17.4	X	146.65900	144.22695	249.22673	2.76613	0.1505552	0.27692374	2.3311091	20	3 9.3	20.8
322420 2011 ST ₁₀₈	17.1	X	172.22991	129.10858	149.56032	1.55863	0.1739437	0.26301567	2.4125795	20	—	—
322421 2011 SY ₁₂₅	15.0	X	290.50238	112.66902	209.05992	11.42817	0.0574889	0.18418857	3.0593389	20	5 26.9	19.3
322422 2011 SV ₁₃₁	17.0	X	35.04623	136.25232	185.26109	5.44818	0.1843587	0.22278856	2.6948884	20	11 19.1	20.5
322423 2011 SJ ₁₄₄	17.5	X	135.41345	175.91876	152.57767	4.02698	0.1019700	0.25964591	2.4334087	20	—	—
322424 2011 SZ ₁₅₄	16.6	X	12.71107	154.71510	166.68733	5.17427	0.1082773	0.21948590	2.7218549	20	10 4.8	19.8
322425 2011 SB ₁₇₀	17.5	X	171.97920	175.86122	144.47371	0.41244	0.1775774	0.26858742	2.3790977	20	1 7.4	21.1
322426 2011 SQ ₁₈₀	16.6	X	231.00933	113.86795	18.13838	4.11362	0.0374663	0.21993469	2.7181509	20	10 23.7	20.3
322427 2011 ST ₁₈₁	16.9	X	347.88428	329.16950	231.72342	4.81187	0.0775465	0.27827829	2.3235383	20	2 23.1	19.4
322428 2011 SS ₁₉₆	16.8	X	3.00956	291.52838	335.09064	1.18506	0.0325095	0.20023994	2.8935806	20	6 27.2	20.6
322429 2011 SW ₁₉₇	17.0	X	325.70333	17.34508	327.49950	2.58919	0.0630196	0.21258224	2.7804690	20	8 17.7	20.5
322430 2011 SR ₂₀₃	16.0	X	322.84837	241.90384	125.24299	14.90921	0.1492709	0.21583293	2.7524805	20	9 13.6	19.1
322431 2011 SP ₂₀₈	16.4	X	270.31029	110.26697	250.60641	4.22284	0.1338770	0.19853803	2.9100933	20	6 8.2	20.5
322432 2011 SQ ₂₁₄	17.0	X	102.83829	212.50177	202.69366	6.29233	0.1057572	0.26739472	2.3861670	20	2 7.6	20.0
322433 2011 SE ₂₂₀	17.1	X	149.67698	222.39602	93.94907	3.41744	0.2215589	0.26482763	2.4015623	20	—	—
322434 2011 SM ₂₂₁	16.6	X	328.29584	340.97045	27.74001	7.24033	0.0481575	0.21699476	2.7426469	20	9 26.6	20.1
322435 2011 SH ₂₂₈	16.8	X	270.61954	290.15704	314.73176	5.19254	0.0687030	0.27224716	2.3577286	20	1 13.2	19.8
322436 2011 SP ₂₄₇	15.8	X	351.73339	139.78530	179.67792	11.08898	0.0585805	0.19786952	2.9166442	20	8 19.2	19.5
322437 2011 SK ₂₅₆	15.8	X	282.08694	217.79736	61.74067	6.44075	0.1596795	0.17396045	3.1781108	20	3 13.2	20.5
322438 2011 SD ₂₅₇	17.2	X	322.60458	128.91044	344.04699	2.72589	0.1743022	0.23624092	2.5915880	20	—	—
322439 2011 SS ₂₅₇	17.3	X	136.28383	318.11978	164.16133	1.66946	0.0733173	0.19184044	2.9774372	20	6 18.2	21.8
322440 2011 SW ₂₅₇	16.7	X	69.86959	199.23183	85.38968	3.64489	0.1605027	0.22185778	2.7024206	20	11 10.1	20.6
322441 2011 SO ₂₅₈	16.4	X	28.55136	206.23385	108.36055	1.73185	0.0658523	0.21372778	2.7705249	20	10 12.4	19.9
322442 2011 TT ₂	15.8	X	257.71201	337.15888	10.84147	13.21669	0.0415245	0.18556230	3.0442213	20	5 15.9	20.3
322443 2011 TT ₁₀	17.2	X	202.85132	66.86355	200.23038	1.77437	0.1715661	0.26642537	2.3919513	20	—	—
322444 2011 TK ₁₃	16.2	X	91.85654	3.64478	293.30305	14.24027	0.1935456	0.24125374	2.5555635	20	12 22.2	20.4
322445 2011 TS ₁₄	16.6	X	207.03763	249.26676	151.56429	2.55618	0.1699858	0.18399533	3.0614807	20	5 20.4	21.7
322446 2011 UU ₂	16.9	X	3.27753	124.10700	259.18589	2.97853	0.1510550	0.22765139	2.6563737	20	12 19.1	19.8
322447 2011 UF ₇	16.7	X	50.33571	108.43104	211.82490	1.56658	0.0311400	0.21995338	2.7179969	20	11 13.0	20.3
322448 2011 UZ ₈	15.8	X	300.02757	268.97947	50.98275	9.38685	0.1411251	0.18719191	3.0265278	20	5 23.7	19.7
322449 2011 UR ₉	17.1	X	183.44665	144.53477	212.91470	2.90945	0.1018475	0.27535877	2.3399331	20	2 27.6	20.5
322450 2011 UD ₁₃	15.7	X	123.65767	357.18861	42.66804	6.58191	0.1001320	0.15503152	3.4318059	20	3 2.9	20.8
322451 2011 UV ₁₃	16.6	X	256.11968	338.47579	298.41605	6.25165	0.1100919	0.27781712	2.3261089	20	2 1.2	19.7
322452 2011 UF ₁₇	16.2	X	151.62565	308.60823	264.41901	3.84526	0.0433227	0.21530853	2.7569479	20	10 29.2	20.1
322453 2011 UV ₂₀	16.8	X	275.54848	123.66025	82.78998	6.71678	0.1541201	0.26293814	2.4130537	20	—	—
322454 2011 UW ₃₃	15.7	X	203.27198	42.62460	356.79142	9.96467	0.0735474	0.18255343	3.0775802	20	5 15.2	20.5
322455 2011 UG ₃₆	17.6	X	17.55539	23.12780	109.55437	2.40967	0.1352205	0.25649378	2.4533047	20	1 8.5	20.0
322456 2011 UQ ₄₇	15.5	X	244.95614	338.11844	29.36588	4.21490	0.0369601	0.18236844	3.0796611	20	5 28.9	20.0
322457 2011 US ₄₇	16.2	X	323.55301	22.80302	240.81745	4.90665	0.0226208	0.17411364	3.1762464	20	4 29.6	20.7
322458 2011 UA ₅₂	16.0	X	98.39659	298.10500	206.10727	9.39979	0.0237669	0.17656491	3.1467805	20	5 26.2	20.5
322459 2011 UF ₅₃	16.0	X	264.48214	283.46144	71.24153	10.42614	0.1054024	0.18482515	3.0523103	20	5 28.3	20.4
322460 2011 UE ₅₅	16.7	X	41.50591	121.92910	205.58980	1.79036	0.0891216	0.21880459	2.7275021	20	11 19.3	20.2
322461 2011 UA ₅₆	16.5	X	104.16072	21.70412	257.16598	3.06696	0.0475324	0.22263699	2.6961114	20	11 28.4	20.2
322462 2011 UV ₅₇	16.7	X	131.87003	113.35892	146.38352	2.67449	0.1523255	0.23123606	2.6288492	20	12 8.9	20.7
322463 2011 UR ₆₁	16.8	X	39.53811	212.37667	200.54208	4.26864	0.1214854	0.24082311	2.5586091	20	—	—
322464 2011 UP ₁₀₇	16.3	X	345.20506	127.29511	142.56483	12.19139	0.0699326	0.18773118	3.0207291	20	6 6.4	20.4
322465 2011 UB ₁₁₃	16.1	X	126.18262	300.12184	215.50356	4.60218	0.1447847	0.18144429	3.0901093	20	7 23.3	21.0
322466 2011 US ₁₁₄	15.6	X	281.55424	267.77814	73.91750	11.72171	0.1070867	0.18412634	3.0600282	20	6 1.8	19.7
322467 2011 UF ₁₂₉	15.1	X	121.80771	128.20883	224.82365	9.00469	0.1108459	0.14777843	3.5431975	20	1 5.3	20.4
322468 2011 UP ₁₃₈	15.6	X	133.52788	335.96534	249.39665	12.69342	0.0363821	0.21691437	2.7433244	20	10 22.1	19.7
322469 2011 UT ₁₄₈	16.8	X	291.81043	20.56304	227.96373	4.05242	0.1128676	0.27551736	2.3390351	20	2 4.3	19.9
322470 2011 UZ ₁₇₇	16.7	X	76.71074	127.45420	149.20956	3.19819	0.1553612	0.21649062	2.7469030	20	11 6.4	20.9
322471 2011 UQ ₁₈₇	15.7	X	236.53805	233.97876	141.25803	6.95333	0.0990872	0.18454150	3.0554371	20	5 24.3	20.3
322472 2011 UT ₁₈₇	15.6	X	229.90176	240.01137	98.22340	8.24222	0.0925229	0.17256975	3.1951624	20	4 5.7	20.6
322473 2011 UZ ₁₈₇	16.3	X	162.95455	284.33235	325.95468	8.18730	0.1682862	0.24349310	2.5398707			

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>
322481 2011 UV ₂₃₁	16.4	X	314.55499	263.05006	1.21555	1.33277	0.1521524	0.17999856	3.1066336	20	4 1.6	20.2
322482 2011 UN ₂₃₉	16.2	X	68.95927	65.77047	237.82183	4.36570	0.0339395	0.21836005	2.7312027	20	11 15.1	20.0
322483 2011 UN ₂₄₇	16.1	X	210.31364	149.00755	225.26365	4.61098	0.0431719	0.16963064	3.2319640	20	4 26.7	20.8
322484 2011 UE ₂₅₀	16.4	X	221.94752	353.76681	229.80812	7.27490	0.0846129	0.23784713	2.5799073	20	—	—
322485 2011 UX ₂₅₁	16.4	X	315.67154	305.71655	189.98828	3.98348	0.0948119	0.23673056	2.5880132	20	—	—
322486 2011 UA ₂₅₂	17.0	X	339.24694	161.63760	79.12432	8.42707	0.0438861	0.28144780	2.3060611	20	4 17.7	19.7
322487 2011 UN ₂₅₃	17.3	X	180.94870	220.01814	161.04530	2.88376	0.1754880	0.28006217	2.3136611	20	3 30.5	21.0
322488 2011 UA ₂₆₈	16.8	X	149.49590	305.17665	77.52103	6.75774	0.1099963	0.27195576	2.3594125	20	2 28.8	20.1
322489 2011 UJ ₂₆₉	15.9	X	242.38482	143.12868	211.26018	9.57834	0.0929484	0.18035312	3.1025607	20	5 4.3	20.4
322490 2011 UT ₂₉₆	16.4	X	284.71608	129.40888	213.92456	8.60284	0.0996265	0.18919081	3.0051721	20	6 9.4	20.6
322491 2011 UE ₂₉₇	16.7	X	31.20497	205.68586	106.29692	1.64505	0.0631318	0.21364627	2.7712296	20	10 12.2	20.2
322492 2011 UZ ₃₀₀	16.9	X	39.08149	75.23407	268.10545	0.77562	0.0796757	0.22656619	2.6648493	20	12 6.4	20.5
322493 2011 UN ₃₀₂	15.4	X	211.65219	80.27807	288.00825	10.38755	0.0272408	0.17352545	3.1834199	20	4 17.2	20.2
322494 2011 UN ₃₂₂	16.6	X	76.55855	7.27885	332.18597	12.14498	0.2777746	0.24251855	2.5466704	20	—	—
322495 2011 UP ₃₆₂	16.6	X	48.94008	152.16610	295.26615	7.22959	0.0634823	0.25860143	2.4399566	20	—	—
322496 2011 UL ₃₇₄	16.6	X	41.55543	347.08846	76.43782	8.80501	0.0913326	0.25520425	2.4615620	20	—	—
322497 2011 UZ ₃₉₀	16.3	X	222.01685	258.98313	156.66309	12.34512	0.0266607	0.19006724	2.9959268	20	7 3.3	20.7
322498 2011 UC ₃₉₈	16.2	X	117.11311	224.02640	32.53070	12.53614	0.2460291	0.22645926	2.6656881	20	11 22.2	20.9
322499 2011 UV ₃₉₉	16.1	X	272.99804	138.20087	182.78404	7.85565	0.0484456	0.17925379	3.1152326	20	5 5.5	20.5
322500 2011 VX ₂	16.1	X	293.54749	281.34133	61.81556	9.36645	0.0231001	0.19205236	2.9752465	20	7 2.4	20.2
322501 2011 VO ₉	15.6	X	344.48208	116.09968	112.25385	13.24928	0.0391254	0.17152557	3.2081166	20	4 18.8	20.2
322502 2011 WW ₂	16.1	X	352.67130	331.90446	27.96960	8.94604	0.0482619	0.21528381	2.7571590	20	10 18.5	19.4
322503 2011 WH ₉	17.5	X	179.06970	213.94175	62.26693	3.82801	0.0655216	0.24459367	2.5322461	20	—	—
322504 2011 WF ₁₄	15.6	X	233.02172	347.75972	50.13174	15.31215	0.1853494	0.18482454	3.0523169	20	6 5.9	20.6
322505 2011 WC ₁₅	16.2	X	277.45615	249.64999	198.13970	8.80230	0.1391824	0.21327026	2.7744859	20	10 13.2	19.5
322506 2011 WR ₁₆	16.2	X	52.44527	315.08646	49.55344	6.21489	0.3073697	0.23584542	2.5944845	20	—	—
322507 2011 WO ₂₇	15.2	X	184.40234	275.03971	228.97533	11.58775	0.1687986	0.19301503	2.9653455	20	8 29.0	20.2
322508 2011 WD ₆₃	17.5	X	348.68131	37.43058	15.91630	0.66092	0.0956272	0.22361651	2.6882324	20	12 27.9	20.5
322509 2011 WE ₆₅	17.0	X	25.21245	167.43786	246.61977	1.01340	0.1036253	0.23455972	2.6039567	20	—	—
322510 Heinrichgrüber	16.4	X	86.89549	17.43475	318.31273	4.43336	0.1937772	0.23789812	2.5795387	20	—	—
322511 2011 WN ₇₈	16.0	X	273.89703	18.79676	79.35703	14.14704	0.0492639	0.21175521	2.7877039	20	11 7.1	19.8
322512 2011 WJ ₉₈	17.1	X	307.75896	157.94173	70.84487	3.22127	0.1615242	0.26391556	2.4070922	20	1 26.4	20.1
322513 2011 WZ ₁₀₄	15.6	X	238.80534	211.80548	128.24427	5.35827	0.1680324	0.17142789	3.2093351	20	4 8.7	20.8
322514 2011 WK ₁₁₄	15.7	X	298.05933	356.95176	92.87530	13.28946	0.0962382	0.21735384	2.7396253	20	11 26.0	19.1
322515 2011 WQ ₁₄₁	16.1	X	242.83582	336.35682	69.12489	9.45797	0.0351920	0.18948460	3.0020650	20	7 16.5	20.4
322516 2011 WX ₁₄₈	16.8	X	230.95108	344.47120	284.61879	17.20660	0.0619137	0.35624810	1.9707627	20	—	—
322517 2011 YH ₁	17.3	X	164.02446	6.69598	87.37829	5.73303	0.0804798	0.28490403	2.2873730	20	6 15.0	20.3
322518 2011 YJ ₂	15.0	X	189.68055	183.62958	286.21903	15.56941	0.0401281	0.17981589	3.1087371	20	7 29.4	19.7
322519 2011 YK ₄	13.2	X	287.12355	319.57767	113.68765	10.23041	0.0310770	0.08306339	5.2023105	20	10 4.7	20.1
322520 2011 YD ₈	13.5	X	260.63438	193.30236	271.94601	11.89787	0.0357671	0.08381588	5.1711268	20	9 30.1	20.5
322521 2011 YL ₁₁	15.5	X	141.05253	81.47987	96.31495	15.61924	0.1856155	0.17720164	3.1392379	20	9 11.3	21.0
322522 2011 YM ₁₁	16.0	X	335.80149	1.60735	97.00868	11.32984	0.1099472	0.22180755	2.7028286	20	—	—
322523 2011 YN ₁₁	15.9	X	333.63842	304.52630	112.96207	10.60849	0.1681369	0.21286199	2.7780323	20	12 11.6	18.8
322524 2011 YS ₁₄	13.0	X	61.44784	191.90977	102.29347	13.11281	0.0771424	0.08140184	5.2728640	20	10 14.0	20.0
322525 2011 YK ₁₅	13.4	X	348.19329	105.31284	280.71137	15.49774	0.0543854	0.08374736	5.1739468	20	10 12.9	20.2
322526 2011 YZ ₁₆	16.8	X	43.62744	109.66100	288.96739	11.92857	0.2731662	0.23295820	2.6158774	20	—	—
322527 2011 YD ₁₇	16.9	X	81.19287	295.36005	92.17246	4.40195	0.1451047	0.23604411	2.5930284	20	—	—
322528 2011 YG ₁₇	17.8	X	77.49908	100.88713	3.00580	1.45982	0.1379591	0.25634827	2.4542330	20	3 17.4	20.5
322529 2011 YH ₁₉	16.5	X	168.95936	112.62168	59.47412	4.28133	0.1065003	0.19058269	2.9905226	20	9 25.9	21.2
322530 2011 YS ₁₉	17.4	X	31.10318	66.23227	131.46850	0.95347	0.1574147	0.26634060	2.3924588	20	5 15.4	19.4
322531 2011 YP ₂₀	17.9	X	123.26714	280.07181	239.67273	1.17663	0.1038374	0.28720135	2.2751589	20	7 29.7	21.1
322532 2011 YQ ₂₀	17.7	X	352.86604	315.84971	157.69323	2.10107	0.1300436	0.23252568	2.6191202	20	—	—
322533 2011 YC ₂₁	17.0	X	302.24570	62.79554	126.80641	7.15487	0.1114964	0.23686909	2.5870042	20	—	—
322534 2011 YD ₂₁	17.0	X	337.38533	89.19254	134.44923	4.38209	0.1005815	0.25977001	2.4326336	20	3 13.5	19.5
322535 2011 YO ₂₄	18.0	X	130.15874	142.24263	340.30394	2.26167	0.1408071	0.27963294	2.3160281	20	6 19.1	21.4
322536 2011 YS ₂₅	15.4	X	83.17368	108.18623	115.84618	10.45602	0.0397726	0.17736905	3.1372623	20	8 20.5	19.8
322537 2011 YR ₂₆	16.1	X	356.19228	283.34979	130.80905	17.44510	0.1378915	0.21337162	2.7736072	20	—	—
322538 2011 YN ₂₇	13.3	X	322.49030	269.69177	130.26920	5.93859	0.0641214	0.08131638	5.2765579	20	10 4.2	20.0
322539 2011 YS ₂₇	17.3	X	356.41775	171.87864	268.03814	3.07720	0.1586213	0.22515258	2.6759917	20	—	—
322540 2011 YR ₂₉	13.3	X	225.89494	236.96239	254.51425	6.06454	0.0120260	0.08115121	5.2837149	20	9 26.4	20.4
322541 2011 YD ₃₁	16.5	X	264.19685	29.64454	155.34011	2.80030	0.0168980	0.22255183	2.6967992	20	—	—
322542 2011 YV ₃₃	16.8	X	138.81383	269.28926	65.67666	5.55354	0.2071716	0.23990410	2.5651392	20	—	—
322543 2011 YZ ₃₄	15.6	X	78.36952	187.14501	101.00880	12.42299	0.0612335	0.19936715	2.9020195	20	11 11.4	19.9
322544 2011 YJ ₃₅	16.6	X	301.97785	113.52674	335.64062	4.31579	0.0919240	0.20874628	2.8144285	20	11 25.5	20.1
322545 2011 YM ₃₅	16.4	X	1.34544	315.08729	89.80556	6.85263	0.0712512	0.21365632	2.7711427	20	12 29.5	19.8
322546 2011 YP ₃₅	13.5	X	300.04975	333.06428	96.92050	5.44007	0.0985716	0.08383782	5.1702244	20	10 7.0	20.1
322547 2011 YC ₃₇	16.0	X	135.25853	230.26918	321.35844	5.58994	0.0675473	0.18253181	3.0778233	20	9 10.0	20.6
322548 2011 YD ₃₇	17.6											

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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>
322561 2011 YL ₅₈	16.3	X	127.44742	156.44162	100.92042	3.37907	0.0251217	0.20463591	2.8519910	20	11 24.5	20.4
322562 2011 YH ₅₉	16.7	X	160.97926	257.19424	107.70714	4.77943	0.1193237	0.25403347	2.4691194	20	2 19.3	20.4
322563 2011 YN ₅₉	15.7	X	17.73205	160.72316	122.41652	10.58485	0.0446879	0.17649373	3.1476265	20	8 8.8	20.0
322564 2011 YX ₆₀	17.1	X	32.08173	328.00324	159.17409	6.62725	0.0738265	0.24692848	2.5162585	20	1 29.3	20.0
322565 2011 YZ ₆₀	17.3	X	43.74507	325.85202	202.64480	3.23083	0.1747383	0.26018680	2.4300351	20	4 27.8	19.5
322566 2011 YH ₆₃	15.7	X	10.12010	37.52602	280.21041	9.06521	0.0626121	0.18639701	3.0351262	20	9 9.1	19.8
322567 2011 YP ₆₃	17.7	X	6.93967	297.79587	138.06540	13.59515	0.2191109	0.34966597	1.9954176	20	—	—
322568 2011 YF ₆₄	13.7	X	286.76557	334.70686	110.02189	22.77564	0.1191675	0.08419904	5.1554269	20	10 11.9	20.6
322569 2011 YQ ₆₅	13.6	X	229.48752	225.89559	283.32114	11.66679	0.0652439	0.08323418	5.1951917	20	10 12.2	20.8
322570 2011 YG ₆₇	13.0	X	299.76586	322.44374	113.93947	21.60776	0.0735076	0.08357615	5.1810103	20	10 23.2	19.9
322571 2011 YO ₇₃	14.1	X	247.49072	61.16044	63.36348	3.78276	0.0717685	0.08140864	5.2725754	20	10 9.2	21.1
322572 2011 YW ₇₃	16.9	X	47.58687	22.05674	124.99992	6.96318	0.1300776	0.25672940	2.4518034	20	3 31.1	19.5
322573 2012 AL ₁	16.4	X	41.61481	280.98374	112.01977	13.61201	0.1735451	0.22960370	2.6412943	20	—	—
322574 Werckmeister	16.5	X	92.89514	216.76599	147.28809	6.66112	0.3744476	0.24124420	2.5556309	20	1 6.0	19.4
322575 2012 AQ ₆	17.9	X	197.64406	281.94600	133.18453	4.82538	0.1612114	0.28386601	2.2929458	20	5 29.8	21.5
322576 2012 AX ₆	18.1	X	102.50016	329.20011	151.49231	2.83245	0.1624707	0.26923908	2.3752573	20	5 18.9	21.3
322577 2012 AF ₇	15.5	X	105.03273	15.36297	159.34518	5.33194	0.0562639	0.16755699	3.2584580	20	7 14.8	20.2
322578 2012 AJ ₇	16.0	X	119.78695	19.62813	297.08994	4.82661	0.0131605	0.21602256	2.7508694	20	—	—
322579 2012 AU ₇	15.4	X	107.34832	265.10191	283.52686	8.03721	0.0345492	0.17442719	3.1724389	20	8 1.1	19.9
322580 2012 AQ ₉	15.5	X	107.94651	320.81237	281.00952	14.01006	0.2666004	0.18188881	3.0850727	20	10 22.4	21.0
322581 2012 AT ₉	17.4	X	93.48443	21.63995	159.21129	5.54592	0.0909930	0.28207118	2.3026622	20	7 19.9	20.5
322582 2012 AD ₁₃	15.4	X	75.06128	131.75747	111.57476	10.52372	0.0245028	0.18099308	3.0952429	20	9 3.5	19.8
322583 2012 AD ₁₉	17.7	X	98.02387	287.38248	299.53508	5.02130	0.1672860	0.29177260	2.2513329	20	10 4.5	21.1
322584 2012 BV	13.1	X	309.07634	100.52962	115.75034	16.06011	0.1712833	0.08435254	5.1491705	20	9 15.9	19.6
322585 2012 BS ₅	16.1	X	93.44842	198.09100	115.60278	7.33002	0.0738216	0.21238430	2.7821964	20	12 28.9	20.1
322586 2012 BA ₁₂	15.5	X	244.80029	325.27892	112.86954	17.76518	0.0737095	0.18514871	3.0487531	20	8 27.1	20.0
322587 2012 BT ₁₂	15.5	X	248.38626	305.79240	102.49415	11.48483	0.0394434	0.17611850	3.1520957	20	7 25.3	20.0
322588 2012 BY ₁₄	16.0	X	243.87666	303.08055	142.33717	10.03396	0.1183959	0.18446172	3.0563181	20	8 26.0	20.4
322589 2012 BZ ₁₄	17.2	X	333.65847	2.01971	279.07730	2.20694	0.0971935	0.27227274	2.3575809	20	5 29.9	19.6
322590 2012 BM ₁₅	15.8	X	143.65601	72.51629	99.42365	4.34164	0.1246156	0.17603376	3.1531072	20	8 30.6	20.7
322591 2012 BS ₁₈	17.3	X	47.02701	319.32274	300.94490	4.39519	0.1265995	0.28634999	2.2796663	20	9 12.9	19.9
322592 2012 BE ₂₀	15.7	X	281.59538	219.93688	288.01860	9.29578	0.1121858	0.21480959	2.7612153	20	—	—
322593 2012 BE ₂₁	16.3	X	179.95942	254.94785	226.83689	5.79622	0.1333929	0.17222224	3.1994591	20	7 31.4	21.5
322594 2012 BG ₂₁	16.9	X	11.43390	340.50711	172.56271	12.31142	0.0229076	0.24392390	2.5368793	20	2 2.9	20.2
322595 2012 BT ₂₁	16.0	X	188.06913	25.98109	267.46882	9.49299	0.0736358	0.23587067	2.5942994	20	—	—
322596 2012 BG ₂₂	16.6	X	123.10118	198.72202	189.43797	3.24188	0.2004039	0.25327525	2.4740447	20	2 14.8	20.0
322597 2012 BZ ₂₂	17.4	X	46.36973	41.30646	118.06290	3.30177	0.1295044	0.26227024	2.4171487	20	4 14.0	19.7
322598 2012 BP ₂₄	17.3	X	77.59162	244.29476	276.92151	2.17404	0.1205702	0.26710790	2.3878874	20	6 4.1	20.1
322599 2012 BY ₂₄	15.4	X	180.79201	4.84969	122.70535	12.44506	0.0884784	0.17962742	3.1109113	20	8 12.7	20.1
322600 2012 BD ₂₆	16.2	X	247.05721	158.52586	244.93625	2.38713	0.0308922	0.17600865	3.1534070	20	7 17.6	20.7
322601 2012 BX ₃₀	17.8	X	162.26389	187.32691	346.97024	2.99119	0.0425239	0.30488526	2.1863101	20	10 6.5	20.6
322602 2012 BV ₅₃	16.9	X	261.60161	247.69052	125.01327	7.85224	0.1343496	0.28310949	2.2970288	20	6 14.9	19.8
322603 2012 BQ ₅₆	17.2	X	14.99226	1.97191	210.76631	0.54860	0.1360587	0.26435226	2.4044405	20	5 3.1	19.1
322604 2012 BA ₆₃	17.2	X	352.42320	194.16954	224.58022	2.84899	0.0806286	0.21568309	2.7537551	20	—	—
322605 2012 BO ₉₆	13.2	X	280.51983	110.66355	327.87970	17.51016	0.0399627	0.08081672	5.2982839	20	9 20.9	20.2
322606 4714 P-L	16.1	X	205.96131	314.65965	0.31383	15.19834	0.2373044	0.22266652	2.6958730	20	2 9.9	21.0
322607 6185 P-L	16.4	X	307.90069	22.09398	353.43305	8.43324	0.2368708	0.17903344	3.1177882	20	8 8.4	20.0
322608 6363 P-L	17.2	X	232.34437	341.05904	350.03002	1.89997	0.2247186	0.27411106	2.3470284	20	3 11.3	21.2
322609 1406 T-2	17.6	X	251.95587	171.23339	192.21569	6.47616	0.1867404	0.28940720	2.2635834	20	5 14.3	20.7
322610 1438 T-2	15.4	X	78.27877	359.30587	1.36068	13.48513	0.0763060	0.17335860	3.1854622	20	—	—
322611 3506 T-3	17.8	X	242.75499	350.33842	20.15805	6.97444	0.2002636	0.29275505	2.2462932	20	5 9.7	21.3
322612 1989 SA ₁₄	16.3	X	111.23190	101.19017	296.86599	10.22417	0.1957756	0.23601202	2.5932634	20	2 13.5	19.9
322613 1994 PV ₂	17.1	X	5.46855	112.98844	163.77539	3.07942	0.2277397	0.26439407	2.4041870	20	8 5.1	18.7
322614 1994 SY ₁	17.3	X	358.84830	198.20219	71.03815	2.22664	0.1689777	0.25988951	2.4318879	20	6 30.6	19.0
322615 1995 FJ ₁₈	16.9	X	53.82228	277.69972	163.92832	13.32510	0.2306954	0.23346458	2.6120935	20	1 17.4	19.4
322616 1995 GW ₆	16.6	X	211.53208	244.35688	57.86236	5.85709	0.1023992	0.22919666	2.6444206	20	1 26.5	20.7
322617 1995 SC ₂₅	16.7	X	56.36969	276.61450	66.74457	3.06246	0.0739181	0.20359386	2.8617142	20	12 21.2	20.7
322618 1995 SF ₃₁	16.6	X	110.74810	359.00957	356.03043	5.52900	0.1208688	0.21250048	2.7811822	20	—	—
322619 1995 SJ ₇₈	17.4	X	37.22388	246.18791	31.69944	6.51112	0.0853669	0.27466720	2.3438592	20	9 19.9	20.0
322620 1995 UJ ₆₀	16.8	X	41.05099	183.20856	135.62596	2.94713	0.0761007	0.19626410	2.9325278	20	11 2.0	20.7
322621 1995 WG ₁₄	16.4	X	137.60233	180.73656	101.63228	7.22158	0.0333091	0.20138744	2.8825784	20	—	—
322622 1995 XD ₅	17.3	X	340.00126	110.94462	217.07256	6.50923	0.1695455	0.27071602	2.3666103	20	8 22.7	19.3
322623 1996 EL ₈	16.1	X	249.44415	156.00709	350.81695	11.21452	0.2362199	0.19067556	2.9895514	20	10 27.6	20.7
322624 1996 TX ₁₇	16.3	X	261.66616	64.31009	216.35696	14.00786	0.0385524	0.22613529	2.6682334	20	2 21.6	20.3
322625 1996 TX ₄₅	16.8	X	146.69296	304.23267	37.86783	3.38953	0.1026435	0.22026620	2.7154229	20	1 8.8	20.8
322626 1996 TO ₄₆	17.0	X	14.41440	142.44233	306.20348	5.62614	0.0966623	0.21860713	2.7291443	20	—	—
322627 1997 HV	18.0	X	44.86357	158.98092	46.71003	2.29004	0.1308248	0.26054563	2.4278034	20	6 19.4	20.6
322628 1997 LY ₅	16.9	X	53.62596	29.13324	207.63423	10.11592	0.2176836	0.26271199	2.4144383	20	8 29.9	20.0
322629 1997 TQ ₁₇	18.1	X	144.98542	296.27465	343.10006	6.33040	0.3005650	0.31426109	2.1426059	20	—	—
322630 1998 HX ₂₅	16.8	X	233.76241	181.40832	61.24012	3.97625	0.1193955	0.21178905	2.7874070	20	—	—
322631 1998 QA ₁₀₃	15.2	X	22.91175	344.57131	8.33598	13.96755	0.2721161	0.18354399	3.0664975	20	12 13.0	19.4
322632 1998 RC ₂₁	15.6	X	355.93526	176.06669	176.67419	11.58905	0.1143114	0.18056147	3.1001735	20	10 12.7	19.3
322633 1998 RN ₄₇	15.5	X	278.66371	59.85705	337.38852	11.94327	0.2621382	0.17268811	3.1937023	20	7 18.7	20.1
322634 1998 SU ₂₈	15.9	X	312.38835	34.70092	19.01929	8.41838						

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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>
322641 1998 SW ₁₇₆	16.8	X	1.35951	6.50741	6.54372	2.31600	0.0917234	0.18312395	3.0711848	20	11 12.6	20.7
322642 1998 TO ₄	15.7	X	359.77173	346.82508	5.49720	18.46160	0.1004185	0.18048709	3.1010251	20	10 11.8	19.6
322643 1998 TS ₂₀	17.7	X	115.93974	17.20802	31.66775	6.03331	0.1907202	0.24426463	2.5345196	20	3 7.4	21.2
322644 1998 UV ₃	17.1	X	287.52853	74.06501	235.68899	4.21594	0.0997387	0.25609303	2.4558634	20	4 26.7	20.2
322645 1998 VM ₄₁	16.6	X	180.26409	133.37116	230.86151	12.66542	0.1153043	0.24658391	2.5186021	20	3 3.0	20.7
322646 1998 WV ₂₉	17.2	X	82.97375	170.24414	243.58216	4.95988	0.3136639	0.24001675	2.5643365	20	2 14.8	20.1
322647 1999 CU ₆	15.9	X	275.82441	241.00664	333.12273	16.11732	0.2299019	0.22703800	2.6611561	20	—	—
322648 1999 CR ₁₃₈	16.3	X	357.22535	41.47059	142.94137	13.89049	0.1201231	0.23529984	2.5984935	20	2 21.1	19.0
322649 1999 EO ₈	16.6	X	168.96862	4.52477	334.37529	13.91187	0.1095686	0.23155077	2.6264667	20	1 29.9	20.6
322650 1999 GV ₅₆	18.0	X	99.83521	64.62636	203.31617	4.52924	0.1373529	0.29858973	2.2169342	20	11 30.9	21.2
322651 1999 JP ₅	17.3	X	102.10656	241.51894	58.26928	9.37238	0.2876536	0.29910246	2.2143999	20	—	—
322652 1999 JO ₈	16.9	X	306.34846	205.94552	80.04312	24.36006	0.5747825	0.22840162	2.6505536	20	2 24.9	21.8
322653 1999 JP ₀₆	16.8	X	108.68255	198.83360	90.50327	8.99072	0.2469345	0.29952223	2.2123305	20	—	—
322654 1999 LS ₁₄	16.7	X	281.49434	111.04543	146.20591	7.91075	0.2550783	0.22548207	2.6733842	20	1 25.8	20.9
322655 1999 LC ₃₀	16.7	X	227.31312	109.96432	142.85701	13.11395	0.1270042	0.21709866	2.7417717	20	—	—
322656 1999 LV ₃₅	16.2	X	289.01747	99.53594	145.76612	13.22003	0.2346951	0.22465283	2.6799588	20	1 20.7	20.5
322657 1999 PV ₅	17.3	X	128.00575	32.22258	163.59150	6.07410	0.0808729	0.27259510	2.3557219	20	6 15.8	20.6
322658 1999 RF ₃₁	16.1	X	353.88349	348.66710	355.55006	25.80900	0.2058829	0.28226714	2.3015964	20	10 17.8	18.5
322659 1999 RP ₆₇	17.0	X	227.67350	64.08656	317.84526	8.71634	0.2151217	0.27119240	2.3638380	20	5 7.7	21.0
322660 1999 RT ₁₆₁	17.1	X	4.78761	346.93039	344.23322	6.12926	0.1976996	0.28506775	2.2864971	20	10 30.6	19.2
322661 1999 RN ₁₇₀	18.0	X	351.64768	143.51912	173.43724	2.23947	0.2292726	0.28152764	2.3056251	20	9 13.9	19.3
322662 1999 RJ ₁₈₁	17.7	X	120.27787	50.83763	173.75318	6.25032	0.1351052	0.28661368	2.2782678	20	10 25.6	21.1
322663 1999 RU ₁₈₅	17.5	X	356.50400	355.70922	340.40389	2.64778	0.1851757	0.28392394	2.2926339	20	10 21.2	19.3
322664 1999 RM ₂₅₃	17.0	X	298.83478	215.94811	175.47211	2.57648	0.2336346	0.18360345	3.0658354	20	8 11.8	20.5
322665 1999 SD ₂₁	16.8	X	256.46582	141.08812	293.38740	2.18521	0.1772237	0.18207723	3.0829440	20	8 17.6	21.3
322666 1999 TS ₅₁	16.4	X	220.00125	265.46733	244.90085	4.19269	0.0735288	0.18870948	3.0102801	20	10 22.6	20.8
322667 1999 TC ₇₉	17.2	X	358.64116	294.16842	22.43338	7.16990	0.1345222	0.28032272	2.3122273	20	9 19.9	19.2
322668 1999 TP ₈₁	17.2	X	62.33323	271.81691	356.95834	6.75507	0.0962573	0.28352041	2.2948088	20	10 11.5	20.0
322669 1999 TD ₁₁₁	16.0	X	299.66913	65.32974	338.30779	12.42694	0.2378989	0.18512983	3.0489603	20	8 30.4	19.3
322670 1999 TV ₁₃₁	17.4	X	321.65270	355.33153	348.07900	2.42090	0.2318167	0.27904944	2.3192556	20	8 2.9	18.6
322671 1999 TX ₁₃₁	16.8	X	322.98809	349.00271	358.89670	4.42591	0.1448474	0.27920948	2.3183693	20	8 23.8	18.6
322672 1999 TE ₂₂₁	16.6	X	357.18373	108.00297	222.06936	5.63346	0.1537537	0.28098169	2.3086107	20	10 7.2	18.7
322673 1999 TT ₂₂₉	17.6	X	66.21742	87.55002	205.87847	2.97278	0.1693899	0.28818808	2.2699626	20	11 29.9	20.7
322674 1999 TS ₂₆₃	16.6	X	268.72022	57.39547	28.50373	5.87586	0.1034204	0.18563353	3.0434424	20	9 29.8	20.6
322675 1999 TP ₂₉₅	17.5	X	8.63662	184.54187	158.19101	4.39238	0.2249389	0.28501083	2.2868015	20	12 2.1	19.8
322676 1999 TN ₂₉₇	16.9	X	55.77277	121.42909	182.00454	6.55469	0.1311747	0.28756755	2.2732270	20	11 27.6	19.9
322677 1999 TC ₃₀₁	16.2	X	236.79227	106.42071	23.02752	7.60519	0.0665376	0.18666263	3.0322462	20	10 18.0	20.3
322678 1999 TB ₃₁₆	17.7	X	76.54205	297.13630	347.91999	3.00232	0.1689987	0.28864538	2.2675645	20	11 28.8	20.9
322679 1999 UC ₅₇	16.5	X	61.23333	353.17957	25.65376	2.22707	0.0682607	0.19699995	2.9252207	20	—	—
322680 1999 VF ₃	17.5	X	52.47846	30.71865	215.98311	7.56982	0.0833233	0.27301152	2.3533259	20	8 21.8	20.4
322681 1999 VE ₄₂	17.2	X	177.38826	96.66560	15.03424	6.96776	0.0587897	0.27238121	2.3569550	20	7 28.2	20.5
322682 1999 VY ₅₃	15.6	X	36.37851	202.96538	220.52855	11.83491	0.0910687	0.19954624	2.9002828	20	—	—
322683 1999 VX ₈₂	16.7	X	220.97239	94.33973	16.26642	9.86533	0.2154282	0.18114243	3.0935414	20	8 25.9	21.8
322684 1999 VP ₈₄	17.3	X	11.95948	272.66346	41.95659	2.79191	0.2449006	0.28089561	2.3090823	20	10 29.1	19.2
322685 1999 VC ₉₁	15.6	X	326.19669	334.52740	40.97574	11.03541	0.1234667	0.18444035	3.0565541	20	9 26.8	19.3
322686 1999 VV ₉₇	17.0	X	315.44357	294.04739	50.84561	5.25907	0.1719310	0.27588912	2.3369334	20	7 29.7	19.0
322687 1999 VQ ₁₀₄	15.5	X	74.19397	274.70893	52.28267	9.75328	0.1059115	0.19225216	2.9731848	20	12 22.5	20.0
322688 1999 VX ₁₁₁	15.9	X	22.35660	293.18157	60.06706	4.76575	0.2489390	0.18813925	3.0163595	20	12 11.9	19.7
322689 1999 VU ₁₅₀	17.6	X	173.52253	18.70871	34.77078	3.71441	0.2008322	0.26375889	2.4080452	20	5 4.4	21.5
322690 1999 VG ₁₆₅	15.5	X	298.29083	32.14458	38.21928	10.11718	0.0757700	0.18607022	3.0386788	20	10 24.4	19.4
322691 1999 VZ ₁₇₂	15.5	X	348.89664	149.32062	232.57714	10.63234	0.1286146	0.18769175	3.0211521	20	11 8.9	18.9
322692 1999 VS ₁₈₅	15.4	X	292.48184	194.01739	225.44155	15.52462	0.0733696	0.18382668	3.0633529	20	9 27.3	19.7
322693 1999 WR ₂₇	17.1	X	322.00462	208.80442	197.96442	2.89488	0.0989242	0.18585866	3.0409843	20	10 27.9	20.9
322694 1999 XA ₈	15.8	X	250.49249	113.45934	353.50003	14.19030	0.2156633	0.18259107	3.0771572	20	9 15.9	20.4
322695 1999 XA ₁₃₉	15.5	X	29.90365	271.43912	99.46967	11.96706	0.1075401	0.18536823	3.0463457	20	12 22.7	19.6
322696 1999 XE ₁₄₈	16.3	X	60.38547	292.59954	64.64705	13.33323	0.1206909	0.19331428	2.9622845	20	—	—
322697 1999 XE ₁₄₉	15.6	X	189.06594	302.40430	241.38739	9.17066	0.0642464	0.18552783	3.0445984	20	10 28.9	20.1
322698 1999 YC ₁₁	15.6	X	186.81882	98.64594	84.20375	15.31161	0.0869466	0.18399563	3.0614773	20	10 31.0	20.4
322699 1999 YW ₁₅	16.2	X	275.04297	162.34163	239.94927	9.86055	0.2094696	0.17774204	3.1328717	20	7 23.0	20.7
322700 2000 AS ₂₁₀	16.2	X	212.91942	60.15780	77.71968	2.39868	0.1339997	0.17700659	3.1415436	20	9 24.1	21.0
322701 2000 AO ₂₃₁	15.5	X	243.04320	317.55420	104.76043	19.07783	0.1517563	0.17246940	3.1964016	20	7 21.7	20.3
322702 2000 BJ ₁₁	15.7	X	86.33681	319.49117	285.10141	8.23743	0.0592766	0.17492334	3.1664371	20	9 15.2	20.4
322703 2000 CX ₄₁	15.4	X	204.81809	345.00868	142.62835	15.76549	0.1881428	0.17361943	3.1822711	20	8 30.7	20.5
322704 2000 CP ₁₀₉	17.1	X	187.21048	64.62219	307.85024	5.89579	0.1281868	0.25211984	2.4815976	20	3 22.6	20.9
322705 2000 DK ₈	19.3	X	28.10936	340.87163	102.72412	12.71521	0.6901217	0.24560973	2.5252575	20	—	—
322706 2000 DB ₉₇	15.7	X	172.24300	28.50846	147.00474	29.04744	0.1647508	0.17240250	3.1972285	20	10 2.7	21.3
322707 2000 DT ₁₁₄	18.6	X	76.40679	178.70040	321.49887	1.35742	0.1856883	0.25198058	2.4825119	20	5 13.8	21.5
322708 2000 DH ₁₁₇	17.3	X	61.19865	323.08948	165.13372	14.91296	0.0502744	0.24718372	2.5145261	20	3 15.8	20.2
322709 2000 FB ₂	17.4	X	304.18398	51.91933	188.78758	4.55895	0.1182157	0.24179806	2.5517268	20	2 13.9	20.7
322710 2000 GN ₆	17.1	X	333.91889	185.18232	16.17346	12.85388	0.1775838	0.24190513	2.5509738	20	2 1.2	20.3
322711 2000 HQ ₂₀	16.1	X	266.59928	205.48478	55.29684	14.25900	0.1198420	0.23566906	2.5957788	20	2 1.7	20.2
322712 2000 KJ ₁₃	17.1	X	340.17371	162.32092	61.90570	8.59247	0.2305867	0.24239602	2.5475286	20	3 6.3	19.7
322713 2000 KD ₄₁	16.6	X	59.60666	155.64546	150.64305	5.45834	0.5840657	0.15775711	3.3921634			

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>
322721 2000 RR ₂₅	15.9	X	201.35753	318.20889	334.13460	12.52940	0.2480550	0.22203099	2.7010150	20	1 8.9	20.8
322722 2000 RL ₉₀	16.6	X	210.07739	105.36986	190.04949	13.27285	0.2053314	0.22355279	2.6887432	20	1 14.1	21.4
322723 2000 SW ₉	16.1	X	113.89753	7.06607	352.43274	25.49649	0.1042809	0.21536334	2.7564801	20	—	—
322724 2000 SG ₁₁	16.4	X	267.97075	92.40621	204.85863	27.53715	0.3613864	0.23258308	2.6186893	20	2 15.8	21.5
322725 2000 SM ₄₇	15.9	X	253.03695	85.47128	218.48296	10.80616	0.1909439	0.23148287	2.6269803	20	2 26.7	20.3
322726 2000 SY ₅₁	15.9	X	122.91699	353.62112	337.77925	12.58272	0.1104619	0.21418970	2.7665403	20	—	—
322727 2000 SS ₅₈	17.2	X	178.87459	120.94636	217.43090	0.70583	0.2760703	0.22329650	2.6908001	20	2 12.6	21.9
322728 2000 SE ₁₂₉	16.6	X	147.24675	327.47297	1.09852	9.04119	0.1393901	0.21714133	2.7414125	20	—	—
322729 2000 SA ₁₃₆	16.4	X	100.05405	3.06465	325.87152	7.53225	0.2237154	0.21050972	2.7986888	20	—	—
322730 2000 ST ₁₄₉	16.2	X	139.93841	135.56068	199.98607	9.27455	0.2191951	0.21560134	2.7544512	20	1 5.4	20.6
322731 2000 SK ₁₆₃	16.6	X	243.08799	53.00047	245.38603	2.64916	0.1860100	0.22702558	2.6612532	20	2 14.6	20.9
322732 2000 SY ₁₉₅	17.9	X	295.73448	193.32473	186.11566	2.27673	0.2198445	0.29312775	2.2443888	20	8 4.6	19.7
322733 2000 SD ₂₃₁	15.7	X	148.30264	118.74257	237.55497	14.19510	0.1120784	0.21972367	2.7198909	20	1 23.8	20.0
322734 2000 SM ₂₃₆	16.7	X	163.29984	143.90088	198.06300	4.90296	0.2720029	0.22054496	2.7131343	20	2 4.5	21.4
322735 2000 SM ₂₄₆	16.1	X	191.31080	291.05137	22.23214	12.66865	0.1941805	0.22227833	2.6990109	20	1 25.9	20.8
322736 2000 SW ₂₅₁	16.4	X	127.97997	175.80734	171.68528	10.35441	0.2274731	0.21600194	2.7510445	20	1 9.1	20.7
322737 2000 SU ₂₈₇	17.4	X	322.74932	344.54044	34.82664	5.25415	0.2163970	0.29630376	2.2283220	20	10 18.8	18.9
322738 2000 SZ ₂₉₆	17.4	X	16.62936	45.69284	286.78575	4.35277	0.1973879	0.29973404	2.2112882	20	11 27.5	19.7
322739 2000 SZ ₃₁₄	15.8	X	243.30168	8.65160	279.26874	13.40370	0.2359890	0.22642351	2.6659686	20	1 29.0	20.5
322740 2000 TM ₁	15.9	X	274.42027	82.54430	184.96505	28.57743	0.3156879	0.23309243	2.6148730	20	1 23.2	20.9
322741 2000 TK ₄₀	16.3	X	69.76489	345.55006	27.82364	12.47956	0.2553068	0.21116567	2.7928901	20	—	—
322742 2000 TJ ₄₅	17.2	X	302.11525	302.68644	86.25130	6.26961	0.1791802	0.29472656	2.2362646	20	9 17.9	18.9
322743 2000 UJ ₆₄	17.2	X	310.64665	167.15930	229.29182	6.71047	0.1197696	0.29575611	2.2310719	20	10 19.0	18.9
322744 2000 VA ₄₂	16.8	X	287.05788	9.70854	24.06675	7.55422	0.1445623	0.29105489	2.2550324	20	8 29.2	19.0
322745 2000 WY ₁₉	18.3	X	209.10313	186.08652	246.17441	1.54593	0.1813082	0.28196025	2.3032661	20	6 30.9	21.6
322746 2000 WX ₇₆	15.7	X	347.83706	211.69127	249.15986	13.89994	0.1049723	0.20523040	2.8464808	20	—	—
322747 2000 WW ₁₅₅	15.9	X	176.56016	318.57515	36.16176	14.41915	0.2635454	0.22108684	2.7086993	20	3 7.6	20.9
322748 2000 YQ ₂₇	16.3	X	248.45555	143.80854	299.81865	10.12163	0.3452611	0.18562767	3.0435065	20	7 31.9	21.2
322749 2000 YF ₃₁	16.9	X	228.22842	56.33884	104.49672	4.68481	0.0648190	0.19000810	2.9965485	20	11 17.4	21.1
322750 2000 YO ₁₀₉	15.9	X	285.93919	347.65433	98.17399	14.06228	0.1649718	0.19099165	2.9862520	20	10 22.5	19.8
322751 2001 BM	15.4	X	176.66700	202.73796	329.03948	20.08528	0.1714679	0.18217478	3.0818432	20	9 20.2	20.7
322752 2001 BN ₁₀	17.6	X	51.60149	180.43902	327.34221	18.31875	0.0633265	0.36654531	1.9336785	20	3 7.3	19.2
322753 2001 BL ₆₈	17.3	X	96.08948	10.49551	142.51338	23.79039	0.0614322	0.37131254	1.9170921	20	6 15.7	19.9
322754 2001 BU ₇₇	15.6	X	211.53213	284.78419	245.87279	15.04439	0.3135055	0.18501393	3.0502336	20	10 13.3	21.1
322755 2001 CT ₂₃	15.4	X	225.70790	199.43406	299.97684	10.37270	0.0727830	0.18642221	3.0348527	20	10 11.0	20.0
322756 2001 CK ₃₂	19.0	X	231.61131	234.05807	109.41422	8.13255	0.3825735	1.59658658	0.7250051	20	—	—
322757 2001 DF ₁₇	17.2	X	158.67444	24.16393	80.33152	6.87754	0.1892685	0.27287921	2.3540865	20	6 25.9	21.0
322758 2001 DV ₂₃	15.7	X	183.16821	8.93037	140.46732	23.63120	0.1852066	0.18064066	3.0992674	20	9 9.0	21.0
322759 2001 DW ₁₀₆	15.9	X	144.22549	229.53361	322.53391	10.75944	0.0706901	0.17979399	3.1089897	20	9 17.6	20.8
322760 2001 EZ ₃	16.1	X	249.66484	121.22619	353.12558	12.26295	0.2419373	0.18576639	3.0419912	20	9 20.3	20.5
322761 2001 EW ₁₆	17.3	X	11.97361	195.02717	358.58084	19.80824	0.0504164	0.36329147	1.9452074	20	3 17.8	18.7
322762 2001 FM	16.1	X	137.79759	58.19630	33.67435	22.17179	0.3228044	0.26810754	2.3819357	20	5 23.9	20.5
322763 2001 FA ₇	17.1	X	332.48792	62.66227	352.36813	22.83082	0.5356024	0.34663683	2.0070256	20	—	—
322764 2001 FE ₂₀	15.6	X	135.49754	48.57341	194.07602	23.53919	0.3077352	0.17785980	3.1314887	20	11 18.3	21.5
322765 2001 FY ₄₄	15.1	X	182.48105	19.37640	183.87552	18.18750	0.1679728	0.18148286	3.0896715	20	11 11.2	20.3
322766 2001 FN ₆₂	17.2	X	102.23700	144.38106	52.35302	4.43529	0.1839010	0.27322113	2.3521221	20	9 3.5	20.7
322767 2001 FJ ₁₁₄	15.7	X	218.60593	83.25996	73.20224	4.70145	0.1500087	0.18333437	3.0688344	20	10 21.8	20.4
322768 2001 FO ₁₂₂	16.3	X	211.31818	109.81673	36.85146	4.60349	0.3234281	0.18261115	3.0769317	20	9 19.9	21.7
322769 2001 FE ₁₄₀	17.3	X	46.88846	238.31929	353.36750	2.39993	0.1474269	0.26842523	2.3800559	20	8 5.5	19.9
322770 2001 FD ₁₄₅	14.9	X	172.89077	158.47758	58.57991	26.01261	0.1471022	0.18102763	3.0948490	20	11 17.9	19.8
322771 2001 FY ₁₅₇	15.6	X	171.18592	139.33872	47.40382	14.06283	0.1497887	0.17831714	3.1261321	20	10 15.1	20.7
322772 2001 FA ₁₇₂	17.2	X	287.96479	44.38916	169.13549	24.24364	0.0842996	0.35085464	1.9909082	20	—	—
322773 2001 FX ₁₇₉	16.8	X	144.09719	69.54858	32.96682	12.91339	0.1333088	0.26814433	2.3817178	20	6 3.9	20.5
322774 2001 FL ₁₉₁	17.8	X	337.68209	75.20652	163.39800	3.85776	0.1556393	0.26124833	2.4234480	20	3 27.3	20.1
322775 2001 HA ₈	17.2	X	33.11739	202.63114	95.73989	11.45917	0.5290457	0.26737827	2.3862649	20	12 10.4	21.1
322776 2001 JQ ₁	15.8	X	187.29641	115.47572	45.01694	22.50267	0.2809728	0.17794981	3.1304327	20	9 30.2	21.6
322777 2001 KL ₄₃	15.0	X	97.67695	95.37499	208.27332	15.58161	0.2438100	0.17507590	3.1645975	20	12 24.5	20.6
322778 2001 KR ₅₁	16.8	X	23.95902	106.88480	64.91136	24.53769	0.1203078	0.36209564	1.9494878	20	3 23.5	19.0
322779 2001 ML ₂₈	15.8	X	219.74378	4.87067	311.55695	13.50875	0.1672761	0.24106291	2.5569120	20	2 14.5	20.0
322780 2001 OX ₄	16.0	X	244.51845	54.01331	263.99198	12.06339	0.2270977	0.24436047	2.5338569	20	3 1.3	20.6
322781 2001 OD ₁₇	16.8	X	186.42845	225.50040	128.23826	3.65428	0.2497260	0.24092858	2.5578624	20	3 6.1	21.2
322782 2001 ON ₉₄	16.0	X	209.09366	41.56508	310.35877	14.23790	0.0577720	0.24561288	2.5252359	20	3 15.9	19.9
322783 2001 PX ₄₈	16.5	X	186.28627	184.02419	188.23451	29.40648	0.1543659	0.24199732	2.5503259	20	3 25.1	20.5
322784 2001 QW ₁	16.7	X	54.24951	60.72848	338.23612	7.40142	0.3163231	0.22323807	2.6912696	20	—	—
322785 2001 QW ₇	16.6	X	156.66392	194.52848	162.37670	6.59806	0.3360935	0.23495765	2.6010158	20	2 20.4	21.4
322786 2001 QY ₄₇	16.3	X	171.85130	51.63293	319.55181	5.18599	0.0929494	0.24050787	2.5608443	20	3 6.4	20.1
322787 2001 QP ₅₄	16.1	X	195.30818	4.67036	326.49673	10.20696	0.0701882	0.23863488	2.5742266	20	2 11.7	19.6
322788 2001 QX ₆₃	16.9	X	239.89861	166.56847	165.20828	13.40865	0.2866778	0.24430694	2.5342270	20	3 17.8	21.3
322789 2001 QK ₈₅	16.4	X	148.41133	227.05017	117.98943	12.94284	0.2112153	0.23274797	2.6174523	20	1 22.9	20.3
322790 2001 QO ₈₆	16.1	X	168.16219	126.34928	236.54808	10.61150	0.1442831	0.23670883	2.5881716	20	2 21.4	20.3
322791 2001 QR ₁₃₀	16.4	X	159.36655	55.26343	299.96597	7.04902	0.1991313	0.23534968	2.5981266	20	2 11.2	20.5
322792 2001 QH ₁₃₆	16.6	X	144.17161	101.74244	257.72055	5.48695	0.2680612	0.23096846	2.6308794	20	2 8.3	21.0
322793 2001 QL ₁₄₁	16.0	X	245.60737	122.21360	159.54707	11.78075	0.2450903	0.24250961	2.5467330	20	1	

ELEMENTS AND OPPOSITION DATES IN 2020

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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>		
322801	2001	RS ₁₃	16.9	X	1.68158	80.44530	346.73516	14.38342	0.2460227	0.21837075	2.7311135	20	—	—
322802	2001	RS ₄₉	16.1	X	32.27049	247.58898	190.36176	4.83990	0.2577780	0.22339867	2.6899796	20	—	—
322803	2001	RO ₅₀	16.4	X	295.48664	325.83463	300.64966	8.27130	0.0621695	0.24265721	2.5457001	20	3 12.8	19.8
322804	2001	RA ₆₉	16.5	X	177.55519	0.87022	351.05073	14.50289	0.2551056	0.23556921	2.5965122	20	2 28.2	21.1
322805	2001	RR ₈₇	16.7	X	66.26276	32.84357	359.16022	8.27495	0.2433893	0.22310306	2.6923553	20	—	—
322806	2001	RE ₁₁₃	17.0	X	282.52565	307.02790	351.01857	6.28753	0.0858700	0.24555756	2.5256151	20	4 5.5	20.3
322807	2001	RX ₁₂₃	16.3	X	180.73841	318.88290	356.59654	22.42479	0.0378762	0.23188377	2.6239515	20	1 11.8	20.5
322808	2001	RW ₁₃₆	17.1	X	2.06000	253.11813	158.29153	9.46302	0.3864428	0.21494896	2.7600216	20	—	—
322809	2001	RU ₁₄₉	16.8	X	251.81100	163.92451	158.16526	15.70569	0.1473157	0.24486116	2.5304016	20	3 28.4	20.7
322810	2001	SX ₂₄	17.4	X	205.14075	158.02494	184.76050	10.49388	0.1867795	0.23894331	2.5720109	20	3 5.1	21.7
322811	2001	SL ₂₆	16.7	X	167.17635	352.35537	6.86793	12.08290	0.1885395	0.23496667	2.6009492	20	2 27.2	21.0
322812	2001	SW ₄₃	16.6	X	102.45789	16.99763	20.43928	7.94695	0.1787855	0.22925809	2.6439482	20	2 6.3	20.1
322813	2001	SG ₅₅	16.1	X	132.35626	317.42715	41.16923	12.47837	0.1716096	0.22843862	2.6502674	20	1 22.9	20.2
322814	2001	SD ₆₂	16.1	X	182.43951	131.08550	190.65726	15.19476	0.2064470	0.23215480	2.6219089	20	1 21.3	20.8
322815	2001	SM ₆₆	16.7	X	40.88422	36.87440	30.41642	15.28952	0.1785498	0.22126271	2.7072637	20	—	—
322816	2001	SM ₈₄	16.4	X	46.05834	286.76581	177.05420	21.73298	0.0550911	0.23386190	2.6091341	20	1 19.7	20.1
322817	2001	SS ₈₉	16.9	X	82.13672	219.95633	187.04318	11.20877	0.1354447	0.22913262	2.6449133	20	1 9.4	20.3
322818	2001	SF ₉₅	16.7	X	40.80171	233.38844	182.58467	12.92144	0.1825759	0.22321155	2.6914828	20	—	—
322819	2001	SQ ₁₃₄	17.5	X	218.79014	344.82337	327.72436	2.24347	0.1628614	0.23755681	2.5820088	20	2 11.5	21.5
322820	2001	SJ ₁₆₂	16.6	X	138.46516	139.70747	218.31320	3.76622	0.2338711	0.22993901	2.6387259	20	1 30.4	20.8
322821	2001	SY ₂₀₀	16.8	X	82.42717	245.71904	179.75439	4.48801	0.1159214	0.23114104	2.6295697	20	1 31.7	20.1
322822	2001	SK ₂₁₅	16.6	X	154.14243	273.08065	99.02331	4.85236	0.1348845	0.23428806	2.6059692	20	2 24.9	20.5
322823	2001	SQ ₂₂₂	16.6	X	63.42074	36.20517	23.25838	5.25709	0.1672376	0.22591975	2.6699303	20	1 2.1	19.4
322824	2001	SN ₂₂₅	16.7	X	351.18241	240.54690	188.64558	14.15604	0.2147075	0.21565155	2.7540236	20	—	—
322825	2001	SV ₂₄₁	16.2	X	32.21671	70.75727	17.34591	22.11927	0.0610256	0.22531068	2.6747398	20	—	—
322826	2001	ST ₂₅₅	15.9	X	100.94526	179.52094	196.65576	14.09247	0.2554739	0.22446679	2.6814394	20	1 14.6	19.7
322827	2001	SK ₂₆₉	17.4	X	121.79607	175.00458	203.41409	1.41788	0.2201473	0.22976085	2.6400898	20	2 6.9	21.2
322828	2001	SD ₂₉₄	16.8	X	170.53996	168.74940	197.94824	4.15104	0.3076200	0.23848890	2.5752769	20	3 9.9	21.6
322829	2001	SO ₃₁₇	16.4	X	38.42924	252.14441	184.16769	17.33716	0.0745088	0.22507837	2.6765799	20	—	—
322830	2001	SF ₃₃₄	16.2	X	4.20628	0.45202	191.86914	11.63534	0.1229432	0.23761866	2.5815608	20	3 12.7	18.9
322831	2001	SE ₃₄₁	16.2	X	168.99265	220.17597	148.49520	15.74163	0.1557604	0.23760276	2.5816760	20	3 7.1	20.3
322832	2001	TU ₁₁	16.6	X	54.55887	41.30536	29.05913	13.18893	0.1680938	0.22478768	2.6788869	20	1 1.1	19.6
322833	2001	TV ₁₉	15.8	X	359.90990	143.50811	239.63789	15.31516	0.2397196	0.21035807	2.8000338	20	12 19.8	18.9
322834	2001	TG ₄₈	18.4	X	287.74311	232.64127	191.34333	2.99970	0.1036437	0.31007539	2.1618448	20	10 24.8	20.2
322835	2001	TZ ₅₃	16.3	X	122.46760	343.03590	28.62719	13.69937	0.2964683	0.22950557	2.6420472	20	2 14.9	20.6
322836	2001	TN ₆₃	16.3	X	96.38404	25.51019	34.51820	12.84386	0.1634907	0.22897014	2.6461643	20	2 28.7	19.9
322837	2001	TV ₆₈	17.0	X	146.97052	27.79061	329.20861	1.50457	0.1336080	0.23073921	2.6326216	20	1 28.8	20.9
322838	2001	TY ₈₁	16.9	X	87.22039	158.82695	225.55016	6.10192	0.1953218	0.22555888	2.6727772	20	—	—
322839	2001	TX ₈₆	16.3	X	272.33986	70.31137	216.21899	7.99706	0.0185823	0.23868002	2.5739020	20	3 17.7	19.8
322840	2001	TF ₉₃	16.3	X	169.07078	325.09326	1.50943	13.39921	0.1986163	0.23061078	2.6335990	20	1 22.5	20.8
322841	2001	TW ₉₅	16.1	X	20.85400	230.25255	225.73143	12.75826	0.0452364	0.22389516	2.6860015	20	—	—
322842	2001	TQ ₉₇	16.5	X	106.64382	43.73501	6.42608	11.43202	0.1150596	0.22944630	2.6425021	20	2 19.5	20.1
322843	2001	TE ₁₁₃	16.2	X	78.11048	76.24498	25.75361	22.48941	0.0248106	0.23297654	2.6157401	20	3 13.4	20.0
322844	2001	TJ ₁₂₄	16.4	X	92.49147	34.52503	347.71855	13.32190	0.1799054	0.22564778	2.6720752	20	1 3.8	19.9
322845	2001	TR ₁₇₉	17.2	X	14.85535	152.28706	269.17333	2.35573	0.1882832	0.21743949	2.7389059	20	—	—
322846	2001	TC ₁₈₇	16.9	X	205.80094	309.10864	24.66211	13.10638	0.1936828	0.23604051	2.5930548	20	3 2.1	21.4
322847	2001	TU ₁₈₇	16.2	X	154.23162	104.77751	234.67354	10.93201	0.2488704	0.22886013	2.6470123	20	1 21.7	20.8
322848	2001	TI ₁₉₀	16.1	X	154.66173	128.53694	239.54652	11.18473	0.0707114	0.23015241	2.6370945	20	2 8.6	20.2
322849	2001	TZ ₂₃₀	16.5	X	133.34739	238.43312	128.91452	7.05615	0.2487225	0.23077227	2.6323702	20	2 8.9	20.6
322850	2001	TM ₂₄₈	17.4	X	258.15522	275.23919	15.61780	11.38973	0.1590501	0.24032956	2.5621109	20	2 25.9	21.4
322851	2001	TO ₂₅₈	16.4	X	222.64138	279.30423	61.13950	15.48275	0.1202409	0.23920457	2.5701378	20	3 29.8	20.6
322852	2001	UU ₃₁	16.1	X	154.75090	284.99613	38.62002	13.70562	0.1173003	0.22690876	2.6621665	20	—	—
322853	2001	UG ₄₁	16.6	X	10.50306	27.92104	43.08772	14.42190	0.1722708	0.21754801	2.7379949	20	—	—
322854	2001	UT ₄₂	17.2	X	252.26129	116.09674	199.76798	12.21100	0.1998681	0.24151355	2.5537304	20	3 11.6	21.5
322855	2001	UL ₅₄	16.6	X	213.09933	357.07513	350.69238	14.14318	0.1756445	0.23907645	2.5710559	20	3 18.1	20.8
322856	2001	UZ ₇₈	16.7	X	134.02888	167.96135	210.99857	4.87868	0.1175918	0.22982736	2.6395804	20	2 7.2	20.6
322857	2001	UQ ₈₂	16.3	X	16.69679	14.68282	45.59003	9.46736	0.1894101	0.21618847	2.7494618	20	—	—
322858	2001	UD ₉₀	17.3	X	187.95013	347.63162	358.26998	2.84205	0.0790805	0.23559073	2.5963541	20	2 22.8	21.0
322859	2001	UN ₉₇	16.5	X	98.85689	217.48432	192.47175	9.69961	0.0802710	0.22876095	2.6477773	20	1 28.2	20.1
322860	2001	UG ₁₀₅	15.9	X	302.32371	195.71919	47.14291	13.59475	0.0944904	0.23542676	2.5975594	20	2 27.6	19.6
322861	2001	UH ₁₀₅	16.7	X	289.81258	254.73859	43.59779	15.41264	0.1097394	0.24274989	2.5450522	20	4 17.3	20.0
322862	2001	UW ₁₂₅	15.9	X	60.82417	252.67554	176.60248	22.01224	0.0452783	0.22644537	2.6657970	20	—	—
322863	2001	UQ ₁₃₀	16.7	X	51.87887	214.13864	199.53621	11.88939	0.1616698	0.22151367	2.7052186	20	—	—
322864	2001	UU ₁₃₆	16.6	X	114.73063	116.99221	282.28705	3.84907	0.1117233	0.23065252	2.6332812	20	2 9.8	20.3
322865	2001	UW ₁₄₂	17.0	X	118.68892	176.67309	199.01390	3.94661	0.1443274	0.22694749	2.6618636	20	1 21.1	20.8
322866	2001	UN ₁₅₅	16.2	X	88.00145	315.32441	58.99452	14.66236	0.1119702	0.22116608	2.7080523	20	—	—
322867	2001	UM ₁₅₇	16.5	X	107.69413	148.66139	219.78455	13.40323	0.2168090	0.22406058	2.6846793	20	1 7.8	20.3
322868	2001	UP ₁₇₁	16.5	X	109.16519	116.58524	267.06321	4.30744	0.1383945	0.22647626	2.6655546	20	1 18.9	20.1
322869	2001	UV ₁₉₂	16.7	X	126.19796	23.89916	348.41975	12.46458	0.3027381	0.22928604	2.6437333	20	2 16.3	20.9
322870	2001	UV ₂₀₀	17.3	X	153.49457	355.13016	345.79877							

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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>
322881 2001 WT ₉₉	16.4	X	119.89650	273.69507	61.33907	11.11926	0.0633835	0.21918266	2.7243648	20	—	—
322882 2001 WQ ₁₀₃	15.9	X	338.03904	51.71653	112.81155	15.74211	0.0415836	0.22392766	2.6857416	20	1 7.4	19.4
322883 2001 XA ₁₇	16.3	X	337.27636	175.26274	280.22069	15.18479	0.2174805	0.21133775	2.7913738	20	—	—
322884 2001 XG ₃₆	15.8	X	269.30836	252.66282	50.70599	9.18365	0.1801039	0.23582047	2.5946675	20	3 21.9	19.8
322885 2001 XO ₃₇	16.1	X	116.40926	329.04054	36.21688	12.33942	0.1818855	0.22346894	2.6894157	20	1 14.3	20.0
322886 2001 XK ₄₅	15.6	X	84.45754	358.99695	33.87586	13.76390	0.0230389	0.21865716	2.7287280	20	—	—
322887 2001 XY ₇₀	16.0	X	22.16675	297.52762	104.84444	12.63243	0.2660946	0.21399219	2.7682423	20	—	—
322888 2001 XK ₉₅	15.9	X	60.78153	315.42452	67.66622	12.82202	0.0637163	0.21586437	2.7522132	20	—	—
322889 2001 XY ₁₀₉	17.0	X	207.11482	281.62560	76.14205	13.46493	0.2296326	0.23817655	2.5775279	20	4 1.7	21.7
322890 2001 XL ₁₂₅	16.8	X	28.00741	316.83411	67.99520	8.81352	0.2277770	0.21366843	2.7710380	20	—	—
322891 2001 XT ₁₂₇	16.9	X	12.25655	157.46276	246.88035	7.15541	0.2263233	0.21293618	2.7773871	20	—	—
322892 2001 XH ₁₄₆	16.1	X	336.38536	77.22812	91.05278	6.74990	0.0961353	0.22139761	2.7061639	20	1 3.2	19.3
322893 2001 XJ ₁₅₀	16.1	X	82.40412	314.79309	83.74207	8.04871	0.0782496	0.21995608	2.7179747	20	—	—
322894 2001 XP ₁₇₈	16.1	X	337.19742	219.12594	267.33489	11.80383	0.1252459	0.21328979	2.7743165	20	—	—
322895 2001 XC ₂₁₂	16.0	X	332.41221	29.06559	99.53229	15.17225	0.2234556	0.21431675	2.7654468	20	—	—
322896 2001 XS ₂₃₉	16.3	X	63.20127	337.90348	80.62155	11.07443	0.2009807	0.21933193	2.7231285	20	1 5.9	19.0
322897 2001 YH ₃	16.8	X	146.93587	228.86183	138.81304	5.96911	0.3097793	0.22940128	2.6428478	20	2 25.9	21.3
322898 2001 YT ₉	16.1	X	62.63450	18.35750	32.60745	9.47705	0.1710288	0.21841135	2.7307749	20	—	—
322899 2001 YE ₅₇	16.1	X	329.93659	53.43828	72.90754	8.72551	0.1712407	0.21374584	2.7703689	20	—	—
322900 2001 YI ₁₁₇	17.5	X	35.62016	221.68940	292.08238	16.57196	0.0777877	0.38576545	1.8689047	20	2 11.2	18.9
322901 2001 YU ₁₂₂	16.3	X	10.07326	21.18088	56.86171	13.58464	0.0935095	0.21511468	2.7586039	20	—	—
322902 2001 YN ₁₄₇	17.0	X	70.08388	119.40575	281.45979	1.90031	0.1896015	0.22028649	2.7152561	20	—	—
322903 2001 YQ ₁₆₁	16.2	X	60.68489	137.83210	263.89835	5.12222	0.0582749	0.21280846	2.7784982	20	—	—
322904 2002 AZ ₃	15.8	X	39.26815	232.13343	222.58012	32.99961	0.2815685	0.22008701	2.7168966	20	—	—
322905 2002 AK ₈	16.6	X	217.07017	130.82015	133.78515	4.12460	0.0460627	0.21420319	2.7664241	20	—	—
322906 2002 AL ₁₅	16.2	X	46.19458	5.97496	38.05608	15.47638	0.2023636	0.21396389	2.7684864	20	—	—
322907 2002 AS ₃₈	17.1	X	356.62808	303.05967	133.85197	8.61583	0.2075959	0.21049047	2.7988595	20	—	—
322908 2002 AQ ₄₄	16.4	X	66.20538	273.39395	135.37120	5.16783	0.1217527	0.21670148	2.7451208	20	—	—
322909 2002 AK ₉₉	16.6	X	293.45999	178.17544	313.37630	7.93602	0.1051862	0.20646396	2.8351315	20	—	—
322910 2002 AF ₁₄₇	16.5	X	204.09328	225.07041	102.69793	4.48633	0.1167861	0.22480452	2.6787531	20	2 19.4	20.7
322911 2002 AF ₁₆₅	17.2	X	144.55820	276.06859	304.91776	6.36626	0.1131873	0.30167002	2.2018173	20	11 13.6	20.5
322912 Jedlik	18.1	X	260.82311	150.15970	289.74609	3.53446	0.1352574	0.30208247	2.1998127	20	9 21.4	20.4
322913 2002 CM ₁	16.7	X	146.50491	84.19792	308.14216	45.00036	0.4619203	0.28266926	2.2994130	20	2 28.4	21.9
322914 2002 CP ₁₃₅	17.4	X	170.83287	4.55187	165.78528	5.59900	0.0802815	0.29921420	2.2138486	20	10 10.8	20.2
322915 2002 CK ₁₅₂	17.5	X	131.05622	108.11539	135.55969	5.19232	0.1467629	0.29900610	2.2148756	20	12 1.1	20.8
322916 2002 CU ₁₅₃	17.3	X	33.51597	306.23261	102.01131	0.61828	0.0736256	0.20904504	2.8117463	20	—	—
322917 2002 CH ₁₅₄	15.8	X	153.26957	177.71687	134.52118	15.45282	0.0664863	0.20998868	2.8033164	20	—	—
322918 2002 CX ₁₈₀	16.6	X	15.44969	341.48207	95.07138	5.12114	0.0797444	0.21033833	2.7998052	20	—	—
322919 2002 CX ₂₀₆	15.6	X	270.58718	36.48257	130.84326	9.83397	0.0661208	0.20459356	2.8523846	20	—	—
322920 2002 CM ₂₁₁	16.1	X	185.33915	230.98740	348.50827	6.88269	0.0252040	0.20067692	2.8893785	20	12 13.8	20.3
322921 2002 CR ₂₁₇	17.5	X	222.18256	29.64275	142.89580	5.57786	0.0715199	0.30477887	2.1868189	20	12 20.6	19.9
322922 2002 CK ₂₃₄	17.2	X	82.89275	186.69012	142.11946	3.09265	0.0716245	0.31072817	2.1588160	20	—	—
322923 2002 CB ₂₇₃	15.6	X	300.98314	227.38599	265.98723	13.87929	0.0967546	0.20513230	2.8473882	20	—	—
322924 2002 CP ₂₉₄	16.2	X	342.49056	97.29550	20.61170	8.14426	0.1443306	0.21146040	2.7902943	20	—	—
322925 2002 DL	16.5	X	254.30558	200.15544	325.41088	10.69093	0.0524708	0.20320397	2.8653736	20	12 30.3	20.4
322926 2002 DS ₁₆	16.1	X	93.30035	4.41996	317.21870	8.98677	0.1030990	0.20086806	2.8875453	20	—	—
322927 2002 DH ₁₉	16.5	X	32.22572	266.05008	180.78343	8.39497	0.1264218	0.21309983	2.7759650	20	—	—
322928 2002 ET ₆	16.1	X	12.49510	170.23048	181.75595	3.16046	0.1217576	0.18923604	3.0046933	20	11 8.6	19.7
322929 2002 EG ₄₇	17.1	X	232.44197	294.75811	279.19683	1.02212	0.1987235	0.20158755	2.8806705	20	—	—
322930 2002 ES ₈₇	17.3	X	192.50235	28.53527	157.65799	6.41485	0.1220437	0.30038489	2.2080928	20	11 23.2	20.3
322931 2002 EP ₉₃	16.4	X	233.93253	219.53098	348.38124	12.99454	0.1152486	0.20384505	2.8593628	20	—	—
322932 2002 EB ₁₂₄	16.0	X	270.82230	291.00647	185.37820	9.52075	0.0557980	0.19572342	2.9379260	20	11 18.9	20.0
322933 2002 EJ ₁₂₆	17.6	X	214.43589	219.23284	285.91034	4.34941	0.1237578	0.30081078	2.2060082	20	10 20.9	20.0
322934 2002 EC ₁₂₇	16.1	X	358.27157	75.66241	346.33680	14.27439	0.1413730	0.20462950	2.8520506	20	—	—
322935 2002 ER ₁₃₄	17.3	X	135.12694	259.55259	332.47158	6.68427	0.0510225	0.29890100	2.2153948	20	11 18.3	20.2
322936 2002 EW ₁₆₀	17.4	X	176.68401	169.20157	26.05135	5.54117	0.0716153	0.29882197	2.2157854	20	11 18.9	20.2
322937 2002 GG	17.3	X	142.03080	228.43369	36.27765	7.06634	0.1720634	0.30231190	2.1986996	20	—	—
322938 2002 GV ₈	16.4	X	247.96100	145.78843	37.33818	16.54550	0.2502260	0.19897199	2.9058605	20	12 10.4	20.6
322939 2002 GZ ₂₂	15.6	X	282.70703	15.62009	153.27506	8.49774	0.1043729	0.20275538	2.8695984	20	—	—
322940 2002 GJ ₅₃	16.4	X	243.20317	348.78712	202.36990	7.80725	0.2214354	0.19855561	2.9099215	20	12 20.9	20.5
322941 2002 GE ₇₃	17.6	X	150.58353	125.48709	91.14451	3.95505	0.1209263	0.29651120	2.2272826	20	11 15.9	20.9
322942 2002 GR ₇₅	17.1	X	186.01366	243.01821	30.88564	10.74153	0.3020842	0.19646693	2.9305091	20	—	—
322943 2002 GA ₁₀₅	15.1	X	121.34975	125.49009	149.24549	13.01697	0.0365828	0.19261080	2.9694929	20	12 8.0	19.6
322944 2002 GJ ₁₁₄	17.2	X	221.17687	342.26565	135.87044	5.46195	0.1093642	0.29536626	2.2330346	20	9 27.4	20.1
322945 2002 GF ₁₃₇	16.8	X	219.39893	132.08670	24.99536	6.07408	0.1228600	0.19090669	2.9871380	20	10 25.3	21.3
322946 2002 GB ₁₄₁	17.9	X	227.07035	58.86600	54.77823	4.44135	0.0520260	0.29340609	2.2429691	20	10 7.2	20.6
322947 2002 GB ₁₄₈	17.8	X	110.26801	329.48890	192.73477	18.55769	0.0468017	0.39113000	1.8517768	20	7 13.5	20.2
322948 2002 GE ₁₆₄	15.9	X	126.95527	30.09498	185.08526	9.11226	0.0540837	0.18416599	3.0595890	20	9 30.9	20.3
322949 2002 GF ₁₇₀	16.3	X	199.38929	357.24744	217.17773	14.82693	0.1780482	0.19337288	2.9616860	20	12 7.8	21.1
322950 2002 GP ₁₈₄	18.1	X	74.08714	53.72133	208.95740	4.81809	0.0747314	0.29003869	2.2602966	20	10 17.9	21.0
322951 2002 GT ₁₉₀	17.3	X	33.81890	178.07979	114.62552	7.76419	0.1462305	0.28853515	2.2681420	20	10 20.7	20.0
322952 2002 HE ₁₈	17.1	X	138.57037	307.31371	272.34636	7.45736	0.0325512	0.29660884	2.2267937	20	11 5.7	20.1
322953 2002 HP ₁₈	16.4	X	90.23734	267.30281	34.05901	5.45601	0.2105389	0.18528664	3.0472399	20	12 16.4	21.5
322954 2002 JV ₁₀	17.6	X	155.10507	260.09176	200.92079	21.22240	0.0178080	0.38616877	1.8676032	20	6 11.6	19.9
322955 2002 JT ₅₀	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>
322961 2002 <i>JY</i> ₁₁₉	16.1	X	207.75931	97.71622	132.17849	17.91716	0.0990403	0.19567633	2.9383974	20	—	—
322962 2002 <i>JL</i> ₁₂₆	15.6	X	27.37612	248.87343	53.49268	5.73001	0.1361684	0.17646826	3.1479294	20	9 29.2	19.6
322963 2002 <i>JE</i> ₁₂₈	16.9	X	132.13189	57.21767	153.43375	5.58483	0.0264436	0.29086440	2.2560169	20	10 18.9	19.7
322964 2002 <i>JF</i> ₁₄₀	17.3	X	43.71029	174.15746	114.02766	6.34821	0.2475860	0.28502955	2.2867014	20	11 9.6	20.4
322965 2002 <i>JR</i> ₁₅₀	17.6	X	61.81152	330.36581	289.40129	5.10292	0.1744256	0.28560930	2.2836059	20	10 8.6	20.6
322966 2002 <i>KF</i> ₄	16.9	X	220.59891	193.71498	77.88987	37.03576	0.5769764	0.19922198	2.9034290	20	—	—
322967 2002 <i>KJ</i> ₁₄	17.1	X	348.64651	123.29126	158.14490	10.61215	0.1763552	0.27593944	2.3366493	20	6 27.4	19.1
322968 2002 <i>KT</i> ₁₅	18.4	X	56.09194	20.60019	264.83121	1.45502	0.1901375	0.28677516	2.2774125	20	11 11.2	21.4
322969 2002 <i>KE</i> ₁₆	15.4	X	91.93831	164.62823	106.89610	17.51332	0.1840186	0.17710941	3.1403276	20	11 16.5	20.6
322970 2002 <i>LA</i> ₁₀	17.4	X	2.23337	192.23117	101.11853	5.60766	0.2344730	0.27826430	2.3236162	20	9 3.3	18.9
322971 2002 <i>LO</i> ₂₀	17.0	X	51.79119	187.93824	85.46336	8.75126	0.2099402	0.28184940	2.3038700	20	10 26.1	20.1
322972 2002 <i>LS</i> ₂₂	14.9	X	107.32752	195.82030	70.45148	28.88318	0.0911425	0.18237178	3.0796235	20	11 17.8	19.7
322973 2002 <i>LP</i> ₅₇	16.7	X	111.29058	137.57083	149.51585	9.06258	0.2381845	0.29079169	2.2563929	20	—	—
322974 2002 <i>LR</i> ₆₀	17.3	X	94.37721	290.42368	307.14757	6.30573	0.2177603	0.28469093	2.2885143	20	10 17.2	21.1
322975 2002 <i>LR</i> ₆₃	15.9	X	79.53526	196.20876	94.03932	16.50412	0.2521148	0.17654836	3.1469772	20	11 29.8	21.1
322976 2002 <i>MJ</i> ₃	17.5	X	241.05831	230.46237	104.46267	21.96903	0.0819030	0.37344017	1.9098935	20	4 9.9	20.3
322977 2002 <i>MY</i> ₄	17.4	X	42.82936	164.30534	161.27716	8.72942	0.2322046	0.28441732	2.2899818	20	12 22.7	20.8
322978 2002 <i>MP</i> ₆	15.6	X	40.45537	114.22890	178.31785	11.63210	0.0796184	0.16952288	3.2333335	20	9 24.0	19.9
322979 2002 <i>NU</i> ₃	16.5	X	0.38215	91.39573	234.57280	9.51961	0.2394864	0.27783268	3.2620221	20	10 19.8	18.4
322980 2002 <i>NI</i> ₁₉	17.9	X	29.58092	166.78887	139.01708	6.07225	0.2551884	0.28056388	3.2109021	20	11 15.9	20.8
322981 2002 <i>NO</i> ₄₅	15.2	X	101.53430	10.00589	289.03152	10.38609	0.1676483	0.18118185	3.0930926	20	12 20.4	20.2
322982 2002 <i>NT</i> ₅₂	17.7	X	316.31179	41.25081	287.68638	1.13033	0.1944310	0.27165255	2.3611679	20	6 28.5	19.7
322983 2002 <i>NP</i> ₅₉	15.7	X	85.46127	120.61255	119.73941	17.29925	0.2184236	0.17320149	3.1873882	20	10 9.2	21.0
322984 2002 <i>NR</i> ₆₉	15.8	X	78.48182	232.06206	102.83321	6.41891	0.1382076	0.18096549	3.0955575	20	—	—
322985 2002 <i>NS</i> ₇₀	17.6	X	162.50718	288.44373	125.75216	24.28667	0.1107714	0.371163942	1.9159678	20	4 28.6	20.7
322986 2002 <i>NN</i> ₇₂	17.5	X	324.21300	141.11405	151.22815	6.80818	0.1103701	0.26976508	2.3721686	20	5 30.4	20.1
322987 2002 <i>NJ</i> ₇₅	17.1	X	346.79257	341.82685	319.67328	6.64689	0.1148566	0.27339915	2.3511009	20	7 28.4	19.3
322988 2002 <i>NA</i> ₇₆	16.6	X	89.32414	141.37743	155.50909	12.53622	0.1545450	0.17747987	3.1359562	20	12 6.8	21.7
322989 2002 <i>OR</i> ₆	15.7	X	163.93403	343.16566	262.46684	9.71461	0.2492495	0.18318743	3.0704753	20	12 9.5	21.0
322990 2002 <i>OO</i> ₁₀	17.2	X	296.11976	234.13114	102.27857	3.40117	0.2296747	0.26887680	2.3773904	20	5 26.7	19.8
322991 2002 <i>OU</i> ₁₁	15.3	X	51.11857	131.79128	223.07714	15.59681	0.1407871	0.17897258	3.1184950	20	12 29.8	20.0
322992 2002 <i>OR</i> ₁₂	16.5	X	168.57220	114.13866	261.78252	9.42762	0.2277266	0.25242214	2.4796160	20	3 11.5	20.9
322993 2002 <i>OB</i> ₁₈	17.3	X	316.93997	332.27136	289.20748	18.10162	0.0658545	0.37370514	1.9089007	20	3 13.7	19.6
322994 2002 <i>OJ</i> ₂₂	17.7	X	123.94791	302.01319	134.54120	25.23888	0.0510869	0.36812373	1.9281472	20	3 28.9	20.2
322995 2002 <i>OC</i> ₂₉	16.2	X	156.86091	33.11029	220.06051	7.33644	0.2280821	0.18281596	3.0746332	20	12 13.3	21.6
322996 2002 <i>OT</i> ₃₀	15.6	X	110.97235	42.74790	224.82483	10.40059	0.2068573	0.17725506	3.1386072	20	11 24.4	20.9
322997 2002 <i>OQ</i> ₃₂	17.6	X	96.39419	120.30185	133.05724	5.60247	0.1403723	0.28447366	2.2896794	20	11 8.2	21.0
322998 2002 <i>OC</i> ₃₅	17.8	X	290.49111	167.58686	159.68283	8.02205	0.0732781	0.26720618	2.3872893	20	6 1.5	20.8
322999 2002 <i>OK</i> ₃₆	15.7	X	104.78137	316.71965	342.26157	16.29434	0.1884010	0.17997312	3.1069263	20	12 25.1	21.1
323000 2002 <i>PL</i> ₃₆	17.6	X	306.79866	127.32070	198.84833	1.85428	0.2064585	0.26894025	2.3770164	20	6 2.5	19.8
323001 2002 <i>PM</i> ₅₂	17.6	X	19.74241	313.94316	336.09075	4.11828	0.2778966	0.27745603	2.3281266	20	10 9.2	19.8
323002 2002 <i>PH</i> ₅₅	16.0	X	124.26630	116.61855	198.34263	1.79382	0.3028730	0.18326588	3.0695990	20	—	—
323003 2002 <i>PK</i> ₆₇	17.9	X	29.39695	134.32576	143.43461	3.96058	0.2216701	0.27772977	2.3265966	20	9 30.3	20.2
323004 2002 <i>PA</i> ₇₂	15.9	X	87.19350	117.52086	197.31656	12.94496	0.2202377	0.17910018	3.1170136	20	12 28.1	21.2
323005 2002 <i>PN</i> ₁₀₃	16.0	X	79.11766	88.42434	204.74382	7.56748	0.1889627	0.17487200	3.1670569	20	11 24.6	21.0
323006 2002 <i>PA</i> ₁₁₆	16.5	X	237.22165	75.13329	264.38026	7.96482	0.2436513	0.25797254	2.4439205	20	3 21.6	20.9
323007 2002 <i>PW</i> ₁₁₆	16.9	X	260.46330	171.02315	181.40469	8.21526	0.2662332	0.26311721	2.4119588	20	4 30.9	20.7
323008 2002 <i>PX</i> ₁₂₅	16.8	X	336.11284	1.85223	351.21998	4.09028	0.2492263	0.27611042	2.3356846	20	10 4.1	17.9
323009 2002 <i>PD</i> ₁₃₁	17.5	X	342.55719	107.12184	207.31187	2.83395	0.2517661	0.27327868	2.3517919	20	8 8.9	18.7
323010 2002 <i>PK</i> ₁₃₄	15.5	X	80.96230	131.52096	151.75088	16.75134	0.2204143	0.17375323	3.1806371	20	11 21.1	20.8
323011 2002 <i>PQ</i> ₁₅₄	15.8	X	150.24455	129.36851	121.31378	16.59268	0.2668804	0.18307954	3.0716814	20	12 8.3	21.5
323012 2002 <i>PQ</i> ₁₅₅	18.3	X	44.11235	281.16086	10.84727	1.81796	0.2453586	0.28110464	2.3079375	20	11 11.2	21.3
323013 2002 <i>PT</i> ₁₆₁	16.6	X	81.22382	165.82150	130.18776	5.10692	0.2883493	0.17610116	3.1523026	20	12 8.6	21.8
323014 2002 <i>PJ</i> ₁₆₇	17.4	X	48.40483	55.43488	354.27953	4.28979	0.2380831	0.23776657	2.5804901	20	—	—
323015 2002 <i>PJ</i> ₁₆₉	15.7	X	122.65101	73.82520	146.56626	11.49885	0.0809505	0.16972067	3.2308209	20	10 5.5	20.7
323016 2002 <i>PU</i> ₁₆₉	17.5	X	49.77738	315.67025	328.32112	4.80410	0.1592793	0.27968648	2.3157326	20	10 24.1	20.5
323017 2002 <i>PV</i> ₁₇₁	18.4	X	31.15314	23.89898	228.95606	1.77239	0.1620619	0.27367040	2.3495472	20	8 12.4	20.6
323018 2002 <i>PN</i> ₁₇₅	17.5	X	296.24116	309.76665	23.17984	4.34968	0.1557377	0.26856836	2.3792102	20	6 2.5	20.1
323019 2002 <i>PB</i> ₁₇₆	17.1	X	298.81913	153.25506	219.69429	5.97346	0.1113988	0.27437044	2.3455490	20	8 13.7	19.6
323020 2002 <i>PP</i> ₁₉₁	17.9	X	62.59256	276.89904	333.15410	2.34139	0.2023765	0.27868223	2.3212925	20	10 1.2	20.9
323021 2002 <i>PC</i> ₁₉₃	15.5	X	237.07421	184.35452	210.06588	9.61273	0.0769254	0.15670635	3.4073100	20	6 17.9	20.7
323022 2002 <i>QV</i> ₄	17.5	X	56.51060	211.34298	59.73222	6.54977	0.2458271	0.27934604	2.3176136	20	10 30.1	20.7
323023 2002 <i>QX</i> ₂₁	17.2	X	333.46035	1.15466	322.48470	7.79772	0.1361822	0.27391383	2.3481549	20	8 5.3	19.1
323024 2002 <i>QV</i> ₂₃	16.3	X	106.50223	155.40613	137.16638	2.40364	0.1910431	0.17828651	3.1264901	20	12 17.9	21.3
323025 2002 <i>QS</i> ₂₈	17.0	X	18.98576	177.98325	113.52423	7.53115	0.1369397	0.27700083	2.3306766	20	9 20.5	

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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>		
323041	2002	RF ₃₅	17.1	X	200.52195	46.90463	335.51070	14.27900	0.1215365	0.25786621	2.4445922	20	4 13.2	21.1
323042	2002	RQ ₄₅	17.4	X	314.64869	290.90200	37.30146	2.79402	0.2350882	0.26926126	2.3751268	20	6 15.9	19.4
323043	2002	RK ₅₆	16.7	X	294.10393	15.60629	315.91688	5.38893	0.1313146	0.26469564	2.4023605	20	6 1.1	19.5
323044	2002	RT ₆₇	14.9	X	15.72023	159.86991	202.18661	20.47088	0.1396743	0.16927605	3.2364759	20	11 23.5	19.2
323045	2002	RT ₈₉	16.9	X	345.29117	319.64108	340.34221	6.65011	0.1493705	0.26989919	2.3713828	20	7 23.4	18.8
323046	2002	RH ₉₁	17.0	X	306.86215	334.58572	351.85978	4.71102	0.2416634	0.26705554	2.3881869	20	5 25.7	19.5
323047	2002	RR ₁₄₀	16.5	X	341.52434	208.67707	98.90732	7.43564	0.1780451	0.27030924	2.3689839	20	7 26.1	18.2
323048	2002	RP ₁₄₃	18.2	X	72.44706	113.11109	180.60274	5.14642	0.2891453	0.28423503	2.2909608	20	12 15.1	22.1
323049	2002	RN ₁₆₉	17.3	X	322.98809	302.06624	350.65213	4.93829	0.0962536	0.26419663	2.4053847	20	5 27.6	20.0
323050	2002	RF ₁₈₀	17.4	X	40.46318	60.02263	176.04266	4.75446	0.1106583	0.26611683	2.3937998	20	7 24.0	20.0
323051	2002	RP ₁₈₀	17.8	X	351.42308	301.34033	356.60163	2.96190	0.1899561	0.26995865	2.3710346	20	8 4.3	19.4
323052	2002	RW ₁₉₀	16.9	X	330.86232	290.21808	12.19050	13.66346	0.1912434	0.26866998	2.3786102	20	6 15.9	19.2
323053	2002	RS ₁₉₃	16.3	X	99.64795	150.48722	151.03703	4.29767	0.2132969	0.17699610	3.1416677	20	12 23.4	21.6
323054	2002	RM ₁₉₄	17.8	X	41.94340	292.39486	6.15047	2.88025	0.2247812	0.27961024	2.3161535	20	11 13.9	20.8
323055	2002	RU ₂₀₁	17.6	X	6.09883	228.29699	62.70376	2.94437	0.2106374	0.27321583	2.3521525	20	9 2.6	19.3
323056	2002	RJ ₂₁₉	17.4	X	317.24637	336.23747	356.20461	2.22858	0.2322044	0.27058596	2.3673685	20	6 30.3	19.0
323057	2002	RR ₂₅₄	16.8	X	343.10982	73.39127	174.75994	12.96219	0.0561421	0.26133487	2.4229129	20	5 3.9	19.7
323058	2002	RZ ₂₆₇	17.7	X	19.86627	38.26861	238.77927	5.73667	0.2071611	0.27455373	2.3445049	20	9 3.7	20.0
323059	2002	SZ ₄	17.0	X	229.53258	205.65129	189.46261	6.21739	0.1203479	0.26169506	2.4206892	20	6 7.9	20.6
323060	2002	SV ₃₁	17.6	X	95.93748	265.83335	144.04179	7.37935	0.3168203	0.24156770	2.5533488	20	3 1.6	21.0
323061	2002	SU ₃₈	17.5	X	234.17564	217.15021	140.90625	3.32701	0.1970614	0.25860376	2.4399420	20	4 19.5	21.4
323062	2002	SU ₃₉	17.2	X	215.10353	322.18552	49.08037	4.54807	0.2496491	0.25736532	2.4477630	20	4 16.6	21.4
323063	2002	SP ₄₅	17.4	X	21.37910	298.85697	20.57865	6.24915	0.2613752	0.27684666	2.3315417	20	11 19.9	20.1
323064	2002	SK ₅₁	17.6	X	281.05845	302.54238	32.80971	5.36361	0.1772730	0.26422137	2.4052345	20	5 10.8	20.8
323065	2002	ST ₆₆	15.6	X	67.75289	269.84203	13.14494	10.57853	0.0989465	0.17027672	3.2237835	20	10 17.9	20.3
323066	2002	TT ₅	17.3	X	297.64438	269.24300	65.97673	1.84315	0.3037497	0.26635371	2.3923803	20	5 13.8	19.9
323067	2002	TU ₁₉	17.6	X	318.10032	128.34589	182.11994	4.10050	0.1883034	0.26593463	2.3948931	20	6 3.4	19.8
323068	2002	TS ₅₄	15.1	X	317.96238	325.06127	42.48122	22.65258	0.1444484	0.15728122	3.3990024	20	9 5.1	19.7
323069	2002	TF ₅₇	17.7	X	90.48209	78.04206	20.33828	20.33234	0.1015443	0.36004960	1.9568663	20	3 19.6	19.6
323070	2002	TR ₇₈	15.8	X	339.54501	299.87707	5.90149	23.02042	0.2735638	0.27179918	2.3603186	20	7 26.1	17.9
323071	2002	TV ₈₈	16.8	X	358.61750	311.41780	341.78763	6.86143	0.0977010	0.26717568	2.3874710	20	8 7.2	19.2
323072	2002	TB ₉₄	17.3	X	238.20093	351.27654	7.21478	8.17915	0.1334998	0.25954914	2.4340135	20	4 25.5	20.9
323073	2002	TJ ₉₆	17.6	X	95.82031	254.76117	202.75835	21.28800	0.1103540	0.36244756	1.9482257	20	3 16.3	19.5
323074	2002	TS ₉₆	17.1	X	330.48227	8.65265	293.49065	1.65294	0.2275120	0.26734328	2.3864731	20	6 10.8	18.5
323075	2002	TB ₁₀₃	16.9	X	232.29635	351.54850	1.16224	12.96492	0.1764105	0.25710262	2.4494301	20	4 8.1	20.9
323076	2002	TL ₁₀₆	17.5	X	250.83159	23.85317	335.13290	3.19764	0.1871986	0.26078002	2.4263485	20	5 5.2	21.1
323077	2002	TR ₁₁₂	16.5	X	355.60477	50.35069	330.27172	12.08319	0.1951930	0.22368822	2.6876578	20	12 6.2	19.7
323078	2002	TB ₁₁₆	16.9	X	332.55347	74.48884	250.21875	6.75538	0.2165649	0.26982326	2.3718276	20	7 26.9	18.6
323079	2002	TW ₁₂₉	16.5	X	335.13036	343.21374	347.64785	12.27568	0.2081217	0.27108126	2.3644841	20	8 22.2	18.0
323080	2002	TK ₁₄₆	16.9	X	72.56292	191.75493	208.11414	14.03952	0.1614390	0.23764433	2.5813749	20	—	—
323081	2002	TE ₁₇₅	16.9	X	279.18618	357.50081	331.12685	6.85161	0.2271809	0.26342963	2.4100514	20	4 19.3	20.4
323082	2002	TJ ₁₈₂	17.1	X	215.73684	94.00730	282.61236	6.35445	0.1797760	0.25811750	2.4430053	20	4 23.0	21.1
323083	2002	TQ ₂₆₁	17.5	X	214.37691	164.71206	195.63526	3.60899	0.1870848	0.25456046	2.4657105	20	4 3.8	21.4
323084	2002	TJ ₂₈₁	17.3	X	194.09451	335.75288	18.09633	20.82573	0.0831279	0.36069883	1.9545175	20	3 7.7	20.0
323085	2002	TZ ₃₂₃	17.4	X	44.42509	244.38566	4.21133	6.35591	0.0612685	0.26876457	2.3780521	20	8 14.0	20.2
323086	2002	TJ ₃₂₅	17.7	X	7.59627	263.51952	26.27149	2.81029	0.2291308	0.27206940	2.3587554	20	9 6.4	19.4
323087	2002	TB ₃₈₇	16.8	X	325.21656	156.53905	152.27452	6.88209	0.1163152	0.26291343	2.4132049	20	6 24.7	19.3
323088	2002	UX ₅₄	17.1	X	331.69429	215.57276	97.31483	6.54965	0.0428596	0.26458495	2.4030306	20	7 18.9	19.9
323089	2002	VT ₂₀	17.6	X	35.96795	102.98905	31.71558	6.17682	0.3820866	0.23123944	2.6288236	20	—	—
323090	2002	VP ₂₁	17.1	X	86.30832	90.79713	347.08901	4.11917	0.2513807	0.24145835	2.5541196	20	3 14.6	20.1
323091	2002	VL ₂₆	17.5	X	54.62328	204.17755	233.05692	4.24933	0.2684325	0.23519494	2.5992660	20	1 17.3	19.5
323092	2002	VR ₃₅	16.6	X	38.96020	229.43105	231.49055	11.76229	0.2268235	0.23477228	2.6023848	20	1 8.9	18.9
323093	2002	VM ₄₂	17.3	X	211.50018	170.58499	200.57669	2.25605	0.1957341	0.25423079	2.4678416	20	4 14.6	21.3
323094	2002	VS ₄₆	17.3	X	37.44379	240.73053	190.64382	4.82640	0.2377693	0.23255446	2.6189041	20	—	—
323095	2002	VP ₈₂	16.5	X	55.28334	303.61907	87.44157	8.03101	0.3723184	0.23094175	2.6310822	20	—	—
323096	2002	VE ₁₀₂	16.7	X	242.87050	85.56293	246.43858	8.54331	0.1363955	0.25352686	2.4724076	20	3 25.6	20.5
323097	2002	VA ₁₁₄	17.0	X	112.94039	150.73793	230.80859	11.83364	0.2440603	0.23903998	2.5713174	20	1 30.3	20.9
323098	2002	VF ₁₄₅	17.5	X	281.11758	179.84495	156.78762	3.24413	0.2284522	0.26114273	2.4241012	20	5 6.9	20.7
323099	2002	WC ₉	17.0	X	219.51368	9.20597	349.80944	2.73122	0.1857170	0.25341411	2.4731409	20	4 6.1	21.0
323100	2002	WR ₂₂	16.9	X	149.10662	24.69341	73.74400	7.87768	0.0411183	0.25369431	2.4713195	20	5 31.3	20.0
323101	2002	XE ₅	16.6	X	5.82947	80.77633	58.54030	23.78188	0.3216889	0.23336062	2.6128692	20	—	—
323102	2002	XD ₁₀	17.1	X	64.40417	18.16479	64.06199	15.72781	0.1590649	0.23799927	2.5788078	20	2 5.5	20.2
323103	2002	XR ₂₅	17.4	X	107.11760	125.40453	296.40027	1.50024	0.1795294	0.24130945	2.5551702	20	3 9.2	20.9
323104	2002	XJ ₃₆	16.4	X	135.87352	321.20161	69.70660	10.77698	0.0658900	0.24120788	2.5558875	20	2 23.5	20.1
323105	2002	YW ₅	16.5	X	5.70142	35.55055	99.35731	13.40206	0.2360984	0.22926195	2.6439185	20	—	—
323106	2002	YM ₆	16.4	X	331.24831	81.49140	99.76224	13.84510	0.2733167	0.22924177	2.6440736	20	—	—
323107	2002	YW ₇	17.2	X	122.74610	250.10102	137.48766	2.30620	0.1098761	0.23710932	2.5852564	20	2 4.7	20.6
323108	2002	YV ₈	15.7	X	182.04041	99.69315	276.15453	13.86751	0.1674796	0.24513598	2.5285100	20	3 18.5	20.2
323109	2002	YR ₂₀	16.4	X	58.32963	332.62870	100.73050	14.61035	0.1598654	0.23319531	2.6141039	20	1 8.8	19.0
323110	2002	YO ₂₈	16.7	X	354.									

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>
323121 2003 AE ₅₉	15.7	X	344.09123	208.22776	328.42180	11.71346	0.2253806	0.22937893	2.6430195	20	1 6.9	18.8
323122 2003 AC ₆₁	16.8	X	124.80374	309.83236	146.32431	4.80369	0.0965583	0.24476069	2.5310940	20	5 5.6	20.3
323123 2003 AJ ₆₈	16.1	X	77.40125	339.21500	66.09855	12.06867	0.1767034	0.23003197	2.6380149	20	1 7.4	19.1
323124 2003 AL ₇₁	16.9	X	127.79195	160.06060	264.01609	3.72382	0.2011517	0.24063456	2.5599455	20	4 5.4	20.8
323125 2003 AT ₈₄	16.1	X	66.78585	83.44870	28.23997	7.78106	0.1581125	0.23785518	2.5798492	20	3 19.2	19.0
323126 2003 BU ₄	16.9	X	239.12413	88.06012	190.17579	7.06154	0.2342200	0.22804822	2.6532912	20	1 16.2	21.6
323127 2003 BP ₁₆	16.0	X	10.56789	69.70691	113.08914	8.09152	0.1378830	0.23412412	2.6071855	20	3 16.6	18.7
323128 2003 BZ ₂₁	16.3	X	48.65902	290.11553	141.63619	25.47842	0.1590840	0.22784030	2.6549052	20	—	—
323129 2003 BH ₂₃	16.8	X	67.60658	246.88646	171.16528	12.88853	0.2623233	0.23128382	2.6284873	20	1 17.7	19.5
323130 2003 BK ₄₃	16.4	X	77.83106	217.04957	238.64028	4.05553	0.1501202	0.23686844	2.5870089	20	3 8.6	19.5
323131 2003 BC ₅₅	16.9	X	22.89369	81.93643	36.13110	2.68306	0.1650052	0.23001783	2.6381230	20	1 3.7	19.3
323132 2003 BQ ₆₈	16.9	X	213.68365	281.86732	316.38459	3.71221	0.0501532	0.21934811	2.7229946	20	—	—
323133 2003 BB ₇₂	15.9	X	313.96190	282.11766	287.82358	11.75888	0.2134217	0.22803392	2.6534022	20	1 7.7	19.5
323134 2003 BJ ₇₅	17.1	X	41.40862	3.59050	80.49311	11.92721	0.2269127	0.22892048	2.6465471	20	—	—
323135 2003 BN ₇₅	15.9	X	100.44169	49.45300	12.13637	12.88362	0.1340338	0.23430073	2.6058753	20	2 29.1	19.4
323136 2003 BE ₇₆	16.6	X	318.97703	108.72049	81.67601	12.63340	0.1120678	0.22808302	2.6530214	20	1 4.0	20.0
323137 2003 BM ₈₀	15.3	X	302.43102	217.51173	9.29968	5.80983	0.1893289	0.11268855	4.2450505	20	2 5.9	21.1
323138 2003 BU ₉₂	16.9	X	346.37749	253.54705	266.50379	12.59399	0.2335890	0.22870578	2.6482031	20	—	—
323139 2003 CG ₁	16.0	X	54.35950	80.73851	1.77932	11.11053	0.2780611	0.22922955	2.6441676	20	2 3.2	18.3
323140 2003 CO ₇	17.0	X	358.09528	132.90254	342.46688	7.64853	0.2465473	0.22394054	2.6856386	20	—	—
323141 2003 DC ₃	16.0	X	329.60702	178.42580	350.85869	8.07349	0.1587007	0.22452209	2.6809991	20	—	—
323142 2003 DB ₄	16.2	X	344.70255	160.22057	342.11403	17.13405	0.1369764	0.22407557	2.6845595	20	—	—
323143 2003 DG ₁₄	15.6	X	272.00198	119.25736	95.08159	25.26967	0.1872104	0.21841237	2.7307665	20	—	—
323144 2003 DT ₁₇	15.7	X	341.56785	259.67169	299.16004	9.73821	0.1735518	0.23042750	2.6349953	20	2 5.9	18.6
323145 2003 DS ₂₄	16.6	X	343.25403	96.26525	353.56988	13.08589	0.1346055	0.21708301	2.7419035	20	—	—
323146 2003 EF ₁₅	16.5	X	21.46469	158.62972	311.81114	6.28382	0.2491589	0.22609091	2.6685826	20	—	—
323147 2003 ER ₁₈	15.5	X	324.75071	38.25661	159.87823	31.95884	0.0272320	0.22952573	2.6418925	20	2 1.9	19.3
323148 2003 EE ₂₇	17.2	X	345.17514	341.35180	174.48347	4.15060	0.2099914	0.22575011	2.6712677	20	—	—
323149 2003 EC ₄₀	16.0	X	287.60895	148.58737	91.41346	13.95614	0.2488166	0.22392331	2.6857763	20	1 12.6	20.1
323150 2003 EL ₅₉	16.4	X	356.44366	23.89401	77.45315	5.89945	0.2214297	0.22145813	2.7056708	20	—	—
323151 2003 EE ₆₃	16.2	X	275.37484	157.08288	42.25483	13.34610	0.1095748	0.21849277	2.7300965	20	—	—
323152 2003 EL ₆₃	16.3	X	345.04092	94.47389	69.18550	13.98392	0.1123720	0.22607401	2.6687156	20	1 6.7	19.6
323153 2003 EM ₆₃	16.4	X	317.76513	104.11473	70.50830	13.41675	0.1373426	0.22304855	2.6927939	20	—	—
323154 2003 FD	16.0	X	348.79892	141.23511	22.68733	22.63643	0.0535213	0.22781267	2.6551199	20	1 27.9	19.9
323155 2003 FH ₂₀	16.0	X	325.55850	144.87830	36.70231	12.50159	0.0319169	0.22620375	2.6676950	20	1 15.9	19.8
323156 2003 FM ₂₀	16.3	X	35.03736	68.06679	36.08305	13.45011	0.2271103	0.22817934	2.6522747	20	1 11.7	18.8
323157 2003 FG ₂₇	16.8	X	289.94824	347.66549	189.69095	13.41305	0.1168193	0.21753451	2.7381082	20	—	—
323158 2003 FB ₅₀	16.1	X	322.89696	104.29789	29.94520	23.74472	0.2643322	0.21775022	2.7362996	20	—	—
323159 2003 FH ₅₁	17.0	X	284.23182	88.87871	107.64622	2.89762	0.1927343	0.22022496	2.7157619	20	—	—
323160 2003 FB ₅₆	16.7	X	251.15235	261.61861	346.08172	6.31104	0.1174978	0.22169233	2.7037650	20	—	—
323161 2003 FW ₆₇	15.8	X	204.16937	213.20044	45.77672	10.08142	0.1094593	0.21430104	2.7655819	20	—	—
323162 2003 FB ₆₉	16.5	X	304.93759	189.02806	27.41889	13.64854	0.1147456	0.22451104	2.6810871	20	1 23.5	20.4
323163 2003 FE ₇₈	16.9	X	339.15842	342.52370	170.68933	6.63490	0.2229704	0.22346149	2.6894755	20	—	—
323164 2003 FZ ₉₁	16.3	X	267.89965	153.81698	61.32468	8.27240	0.1050002	0.21753678	2.7380891	20	—	—
323165 2003 FZ ₉₃	15.6	X	226.93731	244.05558	62.66506	14.44647	0.1499753	0.22260948	2.6963336	20	2 19.8	20.2
323166 2003 FN ₉₄	15.6	X	282.64965	140.85276	71.82720	11.67431	0.1028142	0.21826812	2.7319695	20	—	—
323167 2003 FD ₉₅	16.9	X	301.79897	314.58525	199.89773	9.46532	0.1894226	0.21717534	2.7411263	20	—	—
323168 2003 FO ₁₁₇	16.1	X	12.94368	343.52566	154.57263	15.54802	0.0710655	0.22601486	2.6691812	20	1 18.3	19.6
323169 2003 FV ₁₂₆	16.8	X	78.83238	29.99584	348.01554	14.77642	0.1607114	0.21898879	2.7259724	20	—	—
323170 2003 GU ₃	15.7	X	252.85361	286.45985	5.47469	12.57598	0.2579945	0.22355113	2.6887564	20	2 16.4	20.4
323171 2003 GK ₁₀	15.8	X	312.32005	7.18969	187.88472	14.59904	0.0517794	0.22106612	2.7088685	20	1 9.5	19.8
323172 2003 GL ₁₀	16.3	X	306.69909	55.29439	180.81892	9.84870	0.2175628	0.22466569	2.6798565	20	1 29.5	20.2
323173 2003 GC ₁₃	15.1	X	239.14138	61.15641	121.12910	25.47092	0.2148431	0.21650389	2.7467908	20	1 17.2	20.3
323174 2003 GY ₁₉	17.1	X	230.02133	2.91688	182.45772	6.55325	0.0617519	0.20965643	2.8062773	20	12 23.1	21.1
323175 2003 GY ₂₂	16.1	X	241.73197	242.76495	27.99384	8.01052	0.2472791	0.21686007	2.7437823	20	1 12.9	20.9
323176 2003 GA ₂₇	16.4	X	261.21747	9.49631	199.37218	13.42009	0.1328778	0.21520085	2.7578675	20	—	—
323177 2003 GH ₃₅	15.9	X	234.34823	94.15193	191.65215	8.86363	0.2348138	0.21997877	2.7177877	20	1 21.6	20.8
323178 2003 HT ₁	15.4	X	205.69109	124.04611	188.32807	16.12720	0.1634340	0.21870507	2.7283295	20	1 29.7	20.2
323179 2003 HR ₃₂	18.0	X	102.07420	352.69887	341.93132	8.28253	0.6870411	0.42632004	1.7484191	20	—	—
323180 2003 HZ ₃₂	16.0	X	229.36880	46.00849	210.93663	15.70596	0.2773086	0.21237108	2.7823118	20	—	—
323181 2003 KC ₁₃	16.4	X	243.22362	135.11526	79.75310	10.25133	0.0932347	0.21121434	2.7924610	20	—	—
323182 2003 MQ ₅	16.2	X	264.86883	243.00932	129.04845	22.02666	0.2769557	0.28320244	2.2965261	20	6 3.1	19.9
323183 2003 NJ	18.0	X	102.80568	225.14394	88.23738	4.50103	0.2275523	0.30984667	2.1629086	20	—	—
323184 2003 NT ₄	15.9	X	210.74773	119.73838	155.03160	17.07990	0.2065966	0.21040609	2.7996077	20	—	—
323185 2003 NW ₁₂	15.7	X	150.82429	37.90786	233.78448	14.39871	0.1677463	0.19501252	2.9450616	20	12 30.6	20.7
323186 2003 OE ₁₆	15.3	X	12.58663	106.64995	256.22477	8.40092	0.1023846	0.17997334	3.1069237	20	11 16.4	19.4
323187 2003 OV ₂₇	15.4	X	29.75064	184.76963	138.36411	18.46967	0.1976970	0.18040202	3.1020000	20	11 11.7	19.8
323188 2003 ON ₃₃	17.3	X	273.30129	284.14180	81.36006	6.17475	0.1890116	0.28289855	2.2981704	20	6 11.1	19.9
323189 2003 QJ ₁	17.2	X	75.34503	76.44276	250.07533	2.03112	0.2017662	0.30483382	2.1865561	20	—	—
323190 2003 QL ₁₀	14.7	X	17.32121	105.25354	256.30597	20.36716	0.1362860	0.18075949	3.0979089	20	11 26.7	18.8
323191 2003 QC ₁₅	16.3	X	87.88987	127.59811	190.72994	8.92307	0.1561646	0.18827960	3.0148604	20	12 29.7	21.2
323192 2003 QP ₁₆	15.7	X	351.59118	203.82770	154.69796	12.16990	0.0766594	0.17769928	3.1333743	20	10 12.4	19.8
323193 2003 QP ₃₅	15.2	X	352.00916	7.72372	337.52143	10.80343	0.1895020	0.17499761	3.1655412	20	9 23.9	18.7
323194 2003 QA ₄₅	17.4	X	25.64520	79.37308	243.33270	5.29224	0.1815990	0.29688024	2.2254364	20	11 23.8	19.9
323195 2003 QS ₄₈	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>
323201 2003 QF ₁₂₀	15.8	X	3.61410	147.59948	195.51069	9.78442	0.1210563	0.17724059	3.1387779	20	10 10.8	19.5
323202 2003 RS ₁₈	17.3	X	226.93619	84.33945	323.21188	6.00295	0.2727415	0.27837426	2.3230042	20	6 7.9	21.3
323203 2003 RS ₁₉	17.7	X	77.38682	41.02272	274.11768	0.76777	0.2018749	0.30375069	2.1917509	20	—	—
323204 2003 RY ₂₂	14.3	X	265.02879	194.94298	224.72794	26.19905	0.1329845	0.16916606	3.2378786	20	8 5.3	19.5
323205 2003 SY	15.8	X	240.75722	108.92334	346.26152	10.31029	0.0638309	0.17348597	3.1839029	20	9 8.9	20.2
323206 2003 SB ₂	17.5	X	236.73514	235.34523	174.27082	5.96103	0.0888121	0.28246140	2.3005410	20	7 10.1	20.5
323207 2003 SP ₂	18.0	X	354.04466	31.00325	316.23359	1.50719	0.1401487	0.29299977	2.2450423	20	10 30.1	19.8
323208 2003 SL ₁₀	15.8	X	155.26003	44.97565	193.15123	15.97108	0.0373737	0.18241348	3.0791541	20	11 29.2	20.5
323209 2003 SG ₁₃	15.4	X	4.83527	181.43376	172.53520	17.64428	0.1766338	0.17758982	3.1346617	20	11 6.7	19.3
323210 2003 SO ₂₅	17.4	X	309.52868	342.47943	336.09128	4.90093	0.1140911	0.28069003	2.3102096	20	6 11.1	19.7
323211 2003 SZ ₂₆	15.6	X	85.31998	113.16626	188.55232	14.67627	0.1781433	0.18617749	3.0375115	20	12 10.9	20.6
323212 2003 SN ₃₀	15.6	X	267.12869	248.98690	191.83330	11.74006	0.0985816	0.17166158	3.2064218	20	9 17.1	20.2
323213 2003 SP ₃₆	15.5	X	38.05000	329.53995	8.17536	20.56330	0.1250834	0.17975194	3.1094744	20	11 16.4	20.1
323214 2003 SE ₃₈	17.1	X	214.66681	108.15731	281.65162	8.75850	0.2313619	0.27480023	2.3431027	20	5 6.4	21.2
323215 2003 SO ₃₈	16.7	X	356.57970	33.56308	306.69344	6.16852	0.1500009	0.29156688	2.2523917	20	10 22.2	18.8
323216 2003 ST ₃₉	17.0	X	285.43443	191.02335	192.46292	23.79856	0.1834764	0.28494048	2.2871779	20	7 23.4	20.1
323217 2003 SD ₄₄	16.9	X	284.32979	85.55165	277.46234	6.16965	0.1642804	0.28370820	2.2937960	20	6 28.4	19.5
323218 2003 SL ₅₄	16.9	X	298.87917	103.60305	256.73221	4.76784	0.1923148	0.28552771	2.2840409	20	7 14.4	18.9
323219 2003 SS ₇₁	17.4	X	338.21568	47.38412	303.01896	6.05026	0.1203315	0.29085536	2.2560636	20	9 27.4	19.6
323220 2003 SJ ₇₈	15.3	X	266.33780	253.78604	208.98945	9.94432	0.0767542	0.17800507	3.1297847	20	10 18.8	19.4
323221 2003 SC ₇₉	15.4	X	85.69800	114.32326	207.33560	14.97523	0.0858997	0.18519822	3.0482097	20	12 24.0	20.2
323222 2003 SB ₈₄	17.2	X	160.87823	345.92308	279.20745	6.49258	0.2163785	0.31007307	2.1618556	20	—	—
323223 2003 SH ₈₆	17.0	X	321.99962	41.28759	302.43075	6.47608	0.1396459	0.28600210	2.2815145	20	8 13.1	18.8
323224 2003 SX ₉₅	15.5	X	45.29714	344.53544	1.69986	17.09237	0.1893020	0.18131126	3.0916206	20	12 22.1	20.2
323225 2003 SN ₉₈	16.8	X	241.00342	145.43423	252.33683	6.24484	0.1113559	0.28001667	2.3139117	20	6 26.1	19.8
323226 2003 SY ₁₁₁	15.8	X	332.67402	19.95118	344.15021	8.16608	0.2144868	0.17266862	3.1939426	20	9 11.4	18.9
323227 2003 SG ₁₁₃	15.3	X	260.11423	198.14012	243.55379	10.46348	0.0527190	0.17665502	3.1455916	20	9 13.1	19.9
323228 2003 SF ₁₂₃	15.4	X	65.36816	287.33132	49.08447	12.67327	0.2052946	0.18405464	3.0608229	20	—	—
323229 2003 SW ₁₃₉	16.3	X	41.00899	344.60578	352.83271	4.48388	0.1332791	0.18053851	3.1004363	20	11 27.5	20.5
323230 2003 SJ ₁₄₆	16.7	X	224.41322	121.70639	269.88499	4.64844	0.1777185	0.27515228	2.3411037	20	5 22.6	20.2
323231 2003 SK ₁₅₄	17.2	X	20.21489	112.10684	205.45927	8.57791	0.2033190	0.29248757	2.2476625	20	11 12.3	19.6
323232 2003 SB ₁₅₆	15.5	X	45.56100	316.29412	10.81877	19.25805	0.0981081	0.17839315	3.1252441	20	11 9.6	20.1
323233 2003 ST ₁₅₈	15.6	X	43.71663	145.17717	182.40240	18.24422	0.0872813	0.18140800	3.0905214	20	11 16.2	20.1
323234 2003 SM ₁₆₈	17.4	X	5.42844	326.99930	346.27996	5.86748	0.1317759	0.28974475	2.2618250	20	9 25.9	19.5
323235 2003 SX ₁₇₁	17.9	X	230.36640	67.18571	331.20381	5.24586	0.1618184	0.27887783	2.3202070	20	6 8.3	21.4
323236 2003 SA ₁₇₂	17.4	X	312.08289	354.07053	354.35956	3.74325	0.1478328	0.28695187	2.2764774	20	8 2.2	19.2
323237 2003 SB ₁₇₄	16.3	X	342.44659	332.09180	36.55858	7.92698	0.1574288	0.17464006	3.1698604	20	10 10.9	19.8
323238 2003 SO ₁₇₆	17.8	X	294.19603	17.59852	0.78659	4.47248	0.1496700	0.28675827	2.2775019	20	8 14.1	19.8
323239 2003 SO ₁₇₈	15.6	X	8.55993	15.25367	342.26920	14.29955	0.1400347	0.17907182	3.1173428	20	11 2.1	19.7
323240 2003 SC ₁₈₈	16.7	X	25.44017	102.42236	234.53814	5.25791	0.2218069	0.29531722	2.2332819	20	12 18.8	19.4
323241 2003 SH ₁₈₉	17.2	X	249.99937	74.67324	337.70890	5.84252	0.1772593	0.28232144	2.3013013	20	7 20.8	20.1
323242 2003 SQ ₁₉₄	15.6	X	99.44886	312.22047	340.05443	9.58355	0.1430289	0.18223803	3.0811301	20	12 7.9	20.6
323243 2003 SO ₂₀₁	17.7	X	312.91902	332.83323	44.77427	7.59129	0.1171865	0.28996289	2.2606905	20	9 27.1	19.7
323244 2003 SK ₂₀₅	15.9	X	31.55620	320.29145	352.77558	4.19390	0.2442099	0.17675435	3.1445316	20	10 31.1	19.9
323245 2003 SA ₂₂₇	15.8	X	71.94080	155.08480	183.59062	8.34012	0.1033635	0.18668875	3.0319633	20	—	—
323246 2003 SD ₂₂₈	15.0	X	28.29101	329.63219	23.45977	29.19056	0.1190902	0.17734181	3.1375835	20	11 17.9	19.6
323247 2003 SN ₂₃₀	16.9	X	236.48687	13.48551	15.07436	7.20619	0.1402369	0.27947177	3.1369185	20	6 3.0	20.2
323248 2003 SA ₂₃₃	15.8	X	353.93767	205.38491	160.10424	10.51754	0.1269965	0.17570886	3.1569929	20	10 27.3	19.7
323249 2003 SG ₂₃₃	17.2	X	57.79769	169.47098	159.41693	6.04873	0.1896405	0.30056142	2.2072282	20	—	—
323250 2003 SZ ₂₃₃	15.7	X	124.98803	264.55012	28.31871	10.52323	0.1063480	0.18697661	3.0288507	20	—	—
323251 2003 SL ₂₃₇	17.1	X	187.12805	86.04865	15.40289	6.29071	0.0447696	0.28211759	2.3024097	20	7 27.2	20.2
323252 2003 SR ₂₃₈	15.6	X	52.57817	155.99611	196.85979	11.07558	0.0561280	0.18476972	3.0529206	20	12 21.0	20.1
323253 2003 SM ₂₄₄	15.8	X	9.39547	147.15964	193.51857	16.47222	0.2007376	0.17538725	3.1608512	20	10 27.2	19.5
323254 2003 SY ₂₅₃	17.7	X	216.43707	205.92089	210.02482	2.51501	0.1272081	0.27798896	3.2251502	20	6 20.5	20.9
323255 2003 SQ ₂₆₀	16.6	X	72.61516	329.72868	317.29006	4.18479	0.1433832	0.18011025	3.1053490	20	11 4.3	21.3
323256 2003 SG ₂₆₈	17.7	X	47.54093	278.74840	5.13430	6.72549	0.1137288	0.28965602	2.2622869	20	10 16.8	20.5
323257 2003 SW ₂₇₂	15.7	X	315.37686	48.18501	342.02268	9.04053	0.0739257	0.17246413	3.1964668	20	9 22.8	19.9
323258 2003 SX ₂₇₉	16.6	X	113.01919	82.41438	224.71339	3.13827	0.2189503	0.18948160	3.0020967	20	—	—
323259 2003 SP ₂₈₅	17.6	X	246.35499	135.45660	275.05337	4.56980	0.1495581	0.28232128	2.3013021	20	7 15.8	20.6
323260 2003 SK ₃₁₅	15.5	X	22.29344	238.61429	121.58009	16.64981	0.2245272	0.18020056	3.1043115	20	12 16.7	19.7
323261 2003 SW ₃₂₁	16.0	X	348.47269	245.74750	187.04755	9.75801	0.0799399	0.18664410	3.0324469	20	—	—
323262 2003 SB ₃₂₃	16.1	X	36.79693	8.15849	325.41451	5.09486	0.1466850	0.18038648	3.1021781	20	11 18.8	20.3
323263 2003 SD ₃₂₅	18.0	X	96.59742	23.70697	253.42228	3.09683	0.1636528	0.30142709	2.2030002	20	12 10.7	21.2
323264 2003 SS ₃₂₅	15.7	X	277.08140	247.82981	215.08104	8.44906	0.0373677	0.18076686	3.0978247	20	11 8.2	19.8
323265 2003 SL ₃₂₇	16.0	X	71.03843	111.36369	205.91151	9.20909	0.1136023	0.18036130	3.1024668	20	12 6.9	20.7
323266 2003 SZ ₃₂₇	15.5	X	104.22913	266.04767	9.26185	9.88856	0.0402133	0.18046504	3.1012778	20	11 12.5	20.1
323267 2003 SX ₃₃₄	17.9	X	215.28864	56.33934	17.24936	7.31933	0.0765619	0.28131545	2.3067843	20	7 21.1	21.0
323268 2003 SD ₃₃₇	16.1	X	327.95138	0.90223	348.05603	4.20276	0.0768997	0.17015029	3.2253802	20	8 21.4	20.1
323269 2003 SY ₃₃₇	18.2	X	72.29909	121.77595	169.07537	5.04227	0.1796208	0.29750376	2.2223259	20	12 5.9	21.5
323270 2003 SA ₃₄₆	15.9	X	97.22081	302.93123	354.34494	10.74497	0.1242933	0.18335747	3.0685767	20	12 10.2	20.8
323271 2003 SW ₃₆₃	17.8	X	185.39069	145.06650	313.31989	5.74074	0.0718179	0.28238365	2.3009632	20	7 17.6	20.9
323272 2003 SW ₃₆₅	17.4	X	153.12029	343.52315	220.69824	4.29959	0.0343276	0.29614551	2.2291157	20	11 5.2	20.2
323273 2003 SN ₃₇₉	17.8	X	132.40672	72.39994	119.33413	1.45191	0.1965654	0.28950923				

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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>
323281 2003 <i>SP</i> ₄₃₁	17.8	X	80.72796	51.95341	221.06059	6.67836	0.1666256	0.29739858	2.2228498	20	11 19.9	20.9
323282 2003 <i>SJ</i> ₄₃₂	16.2	X	119.56443	266.41657	4.17758	9.27217	0.0869115	0.18359093	3.0659747	20	11 27.8	21.0
323283 2003 <i>SQ</i> ₄₃₂	15.5	X	26.89131	126.88839	202.42258	15.21081	0.0367119	0.17619567	3.1511753	20	10 17.5	19.9
323284 2003 <i>SU</i> ₄₃₂	15.8	X	36.56957	19.01710	321.56985	8.88506	0.0910108	0.17929637	3.1147395	20	11 17.9	20.2
323285 2003 <i>TC</i> ₁	14.8	X	20.88199	80.18606	259.85944	18.18738	0.0872687	0.17571262	3.1569479	20	10 24.3	19.3
323286 2003 <i>TB</i> ₉	16.9	X	311.17190	339.77909	33.64751	7.68362	0.1782291	0.28746743	2.2737547	20	9 10.9	18.6
323287 2003 <i>TR</i> ₁₁	15.5	X	31.45509	148.58866	200.65387	9.56913	0.1030183	0.17780325	3.1321527	20	11 26.7	19.8
323288 2003 <i>TC</i> ₁₄	17.3	X	250.27683	160.64516	229.95975	5.93159	0.2294830	0.27897477	2.3196694	20	6 12.5	20.6
323289 2003 <i>TU</i> ₁₈	17.7	X	331.94332	90.77248	249.31737	2.06298	0.1860571	0.28753146	2.2734172	20	8 29.4	19.0
323290 2003 <i>TU</i> ₁₉	16.6	X	39.81252	109.97690	227.88645	4.10116	0.2457959	0.29790283	2.2203407	20	—	—
323291 2003 <i>TJ</i> ₂₀	17.1	X	207.74997	167.39627	268.39748	7.98514	0.0762423	0.27968318	2.3157508	20	7 11.5	20.1
323292 2003 <i>TT</i> ₂₅	17.3	X	58.16604	336.93782	337.41333	5.90835	0.1027894	0.29762867	2.2217040	20	12 12.0	20.2
323293 2003 <i>TZ</i> ₃₇	15.8	X	80.85863	317.21099	319.67869	8.29107	0.0665401	0.17521158	3.1629634	20	10 19.7	20.5
323294 2003 <i>TN</i> ₄₁	17.4	X	230.11516	120.60129	618.92737	3.65675	0.0689002	0.28365548	2.2940802	20	8 17.1	20.3
323295 2003 <i>TC</i> ₅₃	17.9	X	244.81964	350.84456	39.14631	4.88453	0.1004730	0.28241342	2.3008016	20	8 6.0	20.8
323296 2003 <i>UV</i> ₅	17.7	X	171.95988	353.66038	64.20485	7.00115	0.3101583	0.26766670	2.3845503	20	5 11.6	21.9
323297 2003 <i>UX</i> ₇	15.6	X	59.95296	277.25670	32.71581	11.43884	0.1578990	0.17884759	3.1199477	20	11 18.9	20.1
323298 2003 <i>UT</i> ₁₂	17.2	X	214.59369	126.98208	325.15894	7.25288	0.0939317	0.28301170	2.2975578	20	8 11.9	20.1
323299 2003 <i>UE</i> ₁₇	17.0	X	201.17153	52.67728	3.46051	7.61085	0.1037255	0.27427020	2.3461204	20	6 3.7	20.5
323300 2003 <i>UD</i> ₂₂	19.6	X	120.06705	23.53045	253.81302	10.07701	0.3183697	0.78010720	1.1686914	20	—	—
323301 2003 <i>UG</i> ₂₃	17.1	X	34.55575	292.22971	37.62775	6.08700	0.1940731	0.29431338	2.2383571	20	12 15.8	20.1
323302 2003 <i>UF</i> ₂₉	17.5	X	170.72221	38.90828	23.39048	1.60357	0.1764863	0.26853646	2.3793986	20	5 12.5	21.1
323303 2003 <i>UZ</i> ₃₄	17.6	X	54.40332	95.69804	215.80623	4.62555	0.1806335	0.29497184	2.2350248	20	12 13.1	20.7
323304 2003 <i>UA</i> ₃₅	16.9	X	67.88723	119.05673	203.88156	7.09473	0.1960664	0.29859688	2.2168988	20	—	—
323305 2003 <i>UE</i> ₆₂	17.5	X	213.91902	303.84377	97.28483	6.57180	0.2344830	0.27423892	2.3462988	20	5 23.7	21.3
323306 2003 <i>UU</i> ₇₂	17.5	X	101.74745	48.77332	221.31680	4.81106	0.1700576	0.29505538	2.2346029	20	12 6.0	21.0
323307 2003 <i>UF</i> ₈₁	17.2	X	284.18740	232.63129	134.82219	5.44205	0.1775652	0.28105181	2.3082267	20	7 2.2	19.6
323308 2003 <i>UH</i> ₈₁	17.6	X	183.30395	234.16587	169.04114	5.64888	0.3350819	0.26872545	2.3782829	20	5 2.4	22.0
323309 2003 <i>UK</i> ₉₅	17.0	X	26.86388	152.43707	175.37852	4.92138	0.2484443	0.29438612	2.2379884	20	12 12.5	19.8
323310 2003 <i>UE</i> ₉₅	17.5	X	356.02325	314.14686	28.39545	7.16328	0.1554876	0.29062230	2.2572696	20	10 28.4	19.2
323311 2003 <i>UZ</i> ₉₅	15.6	X	82.67539	301.87281	27.55912	15.37046	0.1570560	0.18452365	3.0556342	20	—	—
323312 2003 <i>UT</i> ₉₆	15.3	X	356.23682	159.63024	205.12276	10.51324	0.0651528	0.17568139	3.1573220	20	10 22.9	19.4
323313 2003 <i>US</i> ₁₀₁	17.5	X	301.74315	159.29182	191.61818	9.77146	0.1641681	0.28266059	2.2994601	20	7 8.6	20.0
323314 2003 <i>UZ</i> ₁₀₇	15.8	X	95.80024	36.31041	286.00467	10.88470	0.2080710	0.18545129	3.0454360	20	—	—
323315 2003 <i>UF</i> ₁₁₁	15.7	X	102.09943	295.06349	318.65527	10.92941	0.0819925	0.17847127	3.1243319	20	10 16.3	20.6
323316 2003 <i>UA</i> ₁₁₂	17.2	X	282.83708	3.79914	30.60433	6.70747	0.1211608	0.28589376	2.2820908	20	8 25.3	19.6
323317 2003 <i>UY</i> ₁₁₄	17.8	X	315.37822	133.90249	225.75424	0.19827	0.2078856	0.28531691	2.2851657	20	8 19.1	18.9
323318 2003 <i>UE</i> ₁₁₅	15.5	X	196.86605	100.99367	41.80808	6.66435	0.0261606	0.16792759	3.2537787	20	9 22.2	20.2
323319 2003 <i>US</i> ₁₁₇	17.6	X	201.26656	3.84792	39.97710	22.11833	0.0991429	0.38923327	1.8577877	20	5 13.8	19.7
323320 2003 <i>UB</i> ₁₁₈	17.4	X	67.71161	9.15036	294.66174	2.27950	0.1827775	0.29750453	2.2223221	20	12 17.4	20.4
323321 2003 <i>UZ</i> ₁₃₁	17.4	X	323.39979	24.70319	325.30044	4.06713	0.2039450	0.28498780	2.2869247	20	8 23.7	18.6
323322 2003 <i>UJ</i> ₁₃₃	17.9	X	10.36387	269.46274	71.05805	3.91673	0.1902702	0.29338878	2.2430573	20	11 27.2	19.9
323323 2003 <i>UD</i> ₁₃₅	15.4	X	155.44373	72.29275	210.29499	10.00002	0.1028877	0.18855597	3.0119137	20	—	—
323324 2003 <i>UL</i> ₁₃₅	17.1	X	261.49058	55.91582	325.00511	5.93821	0.1420872	0.27828782	2.3234852	20	6 25.0	20.1
323325 2003 <i>UR</i> ₁₄₁	17.6	X	41.88202	176.67010	153.07409	5.89521	0.2209558	0.29806759	2.2195225	20	12 28.4	20.7
323326 2003 <i>UE</i> ₁₅₀	14.9	X	54.15188	276.54184	36.28381	26.58770	0.1476617	0.17665333	3.1457303	20	11 11.4	19.5
323327 2003 <i>UK</i> ₁₅₆	17.5	X	336.30588	271.62586	82.45264	3.42436	0.1867869	0.28931300	2.2640747	20	10 9.9	18.9
323328 2003 <i>UJ</i> ₁₆₄	15.3	X	242.61432	184.39479	197.13756	10.29565	0.0953316	0.15640173	3.4117328	20	6 7.0	20.5
323329 2003 <i>UD</i> ₁₆₇	18.0	X	161.18179	126.06321	305.97540	4.67222	0.2407115	0.26746570	2.3857448	20	5 17.6	22.1
323330 2003 <i>UM</i> ₁₇₂	16.8	X	342.03802	241.91711	83.39638	5.64256	0.2269596	0.28636553	2.2795837	20	9 6.7	18.0
323331 2003 <i>UC</i> ₁₇₅	17.0	X	53.00065	264.05321	44.66523	7.66587	0.1817106	0.29507853	2.2344860	20	12 7.1	20.0
323332 2003 <i>UJ</i> ₁₇₈	17.7	X	191.44724	100.82282	310.23462	1.71372	0.1777063	0.27185310	2.3600064	20	5 16.8	21.5
323333 2003 <i>UG</i> ₁₈₅	17.9	X	204.32629	43.99918	15.31460	1.52961	0.1700186	0.27365100	2.3496582	20	6 9.4	21.6
323334 2003 <i>UV</i> ₁₈₅	15.8	X	98.38661	252.47349	26.54748	9.20098	0.0690012	0.17755791	3.1350372	20	11 13.7	20.5
323335 2003 <i>UD</i> ₁₉₁	17.0	X	161.74845	12.21925	66.21335	4.12143	0.1702902	0.26919108	2.3755396	20	5 25.2	20.6
323336 2003 <i>UL</i> ₁₉₃	15.5	X	57.68767	282.38287	14.00476	21.66446	0.0151038	0.17546875	3.1598723	20	10 11.2	19.9
323337 2003 <i>UT</i> ₂₀₃	17.7	X	289.34296	131.95259	237.24385	2.07204	0.1551419	0.28183796	2.3039324	20	7 17.6	20.1
323338 2003 <i>UV</i> ₂₁₂	14.9	X	72.36829	279.89486	42.48948	15.57200	0.2604417	0.18052864	3.1005493	20	12 28.5	20.1
323339 2003 <i>UE</i> ₂₁₉	17.6	X	165.36280	108.28976	333.14109	2.77377	0.1390091	0.27145556	2.3623100	20	5 31.1	21.1
323340 2003 <i>UF</i> ₂₂₂	17.7	X	195.15216	149.13410	260.16397	4.26369	0.1220839	0.27149000	2.3621102	20	5 19.2	21.3
323341 2003 <i>UC</i> ₂₃₃	16.8	X	72.59412	51.98779	258.51231	5.78617	0.1587484	0.29694129	2.2251314	20	12 28.4	19.9
323342 2003 <i>UK</i> ₂₆₁	15.6	X	32.49112	328.55484	29.33474	11.98344	0.1104629	0.18010081	3.1054576	20	12 7.2	19.9
323343 2003 <i>US</i> ₂₆₇	17.1	X	298.71646	336.33446	40.81355	7.70844	0.1593292	0.28351135	2.2948576	20	8 22.2	19.3
323344 2003 <i>UQ</i> ₂₇₇	17.2	X	171.69574	322.90828	95.59395	3.38779	0.1670976	0.26967877	2.3726748	20	5 9.5	21.0
323345 2003 <i>UM</i> ₂₉₅	17.7	X	86.77974	10.35730	216.24741	6.44491	0.0535147	0.28526375	2.2854497	20	9 7.9	20.8
323346 2003 <i>UP</i> ₂₉₉	17.5	X	273.06141	349.64598	33.38170	7.16127	0.1180461	0.28151838	2.3056757	20	7 21.1	20.2
323347 2003 <i>UH</i> ₃₀₄	15.9	X	76.15173	40.00341	266.10940	4.07568	0.1285271	0.17884258	3.1200061	20	11 30.0	20.5
323348 2003 <i>UP</i> ₃₂₅	16.2	X	170.87881	27.47972	206.12775	14.54778	0.0651556	0.18929340	3.0040862	20	12 9.8	20.9
323349 2003 <i>UM</i> ₃₂₈	15.6	X	243.01964	275.06173	210.72795	9.07715	0.0570635	0.17981319	3.1087683	20	10 21.1	19.9
323350 2003 <i>US</i> ₃₃₁	17.6	X	162.74461	269.42737	228.15446	5.77112	0.1199917	0.28460520	2.2889738	20	8 10.7	21.0
323351 2003 <i>UV</i> ₃₃₂	17.5	X	225.49427	59.09579	336.41430	3.42430	0.171					

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>		
323361	2003	WQ ₃	17.7	X	223.61873	295.10578	97.11066	1.59515	0.2262291	0.27299065	2.3534458	20	5 20.2	21.6
323362	2003	WF ₆	17.2	X	123.13188	208.37388	247.03468	6.94165	0.1965328	0.26387410	2.4073443	20	5 10.9	20.9
323363	2003	WB ₇	15.2	X	56.80935	269.31642	89.36110	17.91852	0.2039889	0.18082969	3.0971071	20	—	—
323364	2003	WD ₁₇	16.9	X	270.98988	24.28031	4.31184	6.22677	0.2085208	0.27982752	2.3149544	20	7 9.6	19.9
323365	2003	WF ₂₄	17.0	X	39.40577	284.43918	38.68950	3.93779	0.1914663	0.29253677	2.2474105	20	12 11.9	19.9
323366	2003	WA ₃₄	17.8	X	155.13221	132.87336	307.77202	1.52982	0.1997166	0.26652002	2.3913849	20	5 22.7	21.5
323367	2003	WC ₆₀	15.8	X	33.73276	294.43667	62.60709	2.19337	0.1595058	0.17694220	3.1423057	20	12 15.8	20.1
323368	2003	WK ₆₅	17.0	X	349.50121	272.86300	74.15974	4.76874	0.1679415	0.28716402	2.2753560	20	10 25.8	18.8
323369	2003	WA ₇₁	14.8	X	40.66831	334.30421	25.49701	26.82946	0.2383862	0.17950491	3.1123265	20	—	—
323370	2003	WH ₉₃	17.6	X	158.34190	121.64820	287.78780	2.11345	0.2910358	0.26426822	2.4049502	20	4 19.6	21.9
323371	2003	WB ₁₀₂	17.8	X	220.63442	17.90509	24.62230	2.13323	0.2127393	0.27358366	2.3500437	20	5 31.1	21.4
323372	2003	WL ₁₀₉	15.4	X	175.78238	214.52934	263.10488	9.47370	0.0800579	0.15739026	3.3974323	20	7 22.0	20.6
323373	2003	WW ₁₁₀	16.5	X	97.49353	161.82465	45.49017	22.78249	0.1596710	0.27759896	2.3273275	20	9 22.6	20.4
323374	2003	WY ₁₁₆	17.1	X	213.76907	18.34517	33.32373	7.03454	0.2024777	0.27228728	2.3574970	20	6 5.7	20.9
323375	2003	WX ₁₁₇	17.4	X	249.51183	354.44021	25.94152	3.01827	0.2067687	0.27468315	2.3437685	20	5 30.8	20.9
323376	2003	WG ₁₄₃	17.6	X	208.77537	215.45358	181.30740	1.16916	0.1759373	0.27007913	2.3703294	20	5 15.2	21.3
323377	2003	WY ₁₄₈	14.8	X	94.67579	268.43225	85.58242	16.43425	0.2327925	0.17845539	3.1245173	20	12 26.4	20.3
323378	2003	XG ₄	17.2	X	172.82457	319.54056	108.66815	6.96781	0.1298447	0.26765340	2.3846293	20	5 23.2	20.8
323379	2003	XC ₂₉	17.5	X	17.32838	220.41005	56.90236	3.85792	0.0814344	0.27755793	2.3275568	20	8 16.6	19.9
323380	2003	YY	16.9	X	41.47810	111.50129	288.55605	17.51789	0.0935248	0.35964710	1.9583261	20	—	—
323381	2003	YB ₁₆	17.3	X	54.44086	250.65097	295.19302	16.75056	0.0829898	0.38067238	1.8855373	20	5 26.8	19.1
323382	2003	YA ₃₁	17.4	X	195.38441	325.09518	81.46245	2.31886	0.1833593	0.26787508	2.3833135	20	5 15.4	21.2
323383	2003	YS ₅₈	17.6	X	146.81019	337.26835	90.70044	2.11179	0.1846852	0.26291006	2.4132255	20	4 28.9	21.4
323384	2003	YX ₅₉	17.3	X	123.45980	48.52721	65.84781	3.32439	0.1351561	0.26496371	2.4007400	20	5 30.7	20.8
323385	2003	YQ ₆₉	17.4	X	236.92643	357.04551	89.17296	7.03494	0.0715800	0.28177628	2.3042686	20	9 8.7	20.3
323386	2003	YU ₇₃	17.2	X	227.61798	99.19662	291.23022	4.93746	0.2290909	0.27289507	2.3539953	20	5 19.9	21.1
323387	2003	YE ₇₄	17.6	X	218.45685	101.17249	288.83757	4.46628	0.2483839	0.27106289	2.3645909	20	5 10.2	21.7
323388	2003	YS ₉₀	17.0	X	155.94371	22.97074	96.72184	7.41704	0.0707174	0.27065958	2.3669392	20	7 10.5	20.1
323389	2003	YG ₉₃	17.4	X	208.39110	330.20821	79.11930	5.50213	0.1353623	0.26978123	2.3720740	20	6 2.3	20.8
323390	2003	YI ₉₆	17.3	X	144.99841	3.63208	115.59307	3.30413	0.1412404	0.26761006	2.3848868	20	6 30.2	20.7
323391	2003	YV ₁₀₃	17.1	X	14.11493	315.54145	109.14466	5.47584	0.2673760	0.24112568	2.5564683	20	—	—
323392	2003	YZ ₁₀₅	16.8	X	316.31257	304.17202	87.41562	9.06537	0.2136658	0.28514103	2.2861053	20	10 25.4	18.3
323393	2003	YI ₁₁₆	17.4	X	167.26848	128.53270	130.89532	5.92817	0.0766278	0.26413901	2.4057345	20	5 28.2	20.9
323394	2003	YF ₁₁₆	17.5	X	189.92223	1.90357	75.49828	3.19182	0.1724813	0.26822470	2.3812420	20	6 19.3	21.3
323395	2003	YV ₁₃₅	17.3	X	195.61285	34.98599	42.74400	7.09410	0.1039405	0.26927674	2.3750357	20	6 28.4	20.8
323396	2004	AE ₃	17.6	X	167.54129	108.57675	314.12007	18.65678	0.0957246	0.38037203	1.8865298	20	4 22.9	20.4
323397	2004	AI ₁₂	16.6	X	15.71529	121.73799	97.16280	7.69675	0.0681963	0.25975586	2.4327220	20	5 14.2	19.3
323398	2004	AR ₂₀	17.5	X	54.43453	102.14190	99.49259	3.97478	0.1798938	0.26062597	2.4273045	20	7 8.2	20.2
323399	2004	BZ	17.7	X	49.00572	53.88199	170.92654	2.32939	0.1545636	0.26326385	2.4110630	20	7 29.1	20.5
323400	2004	BH ₂₁	17.4	X	79.14050	49.33819	72.55327	6.03071	0.1729707	0.25488989	2.4635856	20	4 22.5	20.3
323401	2004	BM ₂₂	17.7	X	86.36969	48.91914	118.92591	6.21836	0.1966339	0.26062893	2.4272861	20	7 7.1	21.0
323402	2004	BP ₂₃	16.9	X	106.59928	183.75345	314.48842	5.39985	0.1072506	0.25973284	2.4328657	20	6 8.4	20.3
323403	2004	BZ ₂₉	17.0	X	43.33992	248.36905	327.61392	5.98202	0.0863525	0.26043519	2.4284897	20	6 25.9	19.8
323404	2004	BK ₃₆	17.0	X	133.71513	311.19018	117.21665	8.82968	0.1811464	0.25660903	2.4525701	20	4 20.1	20.8
323405	2004	BQ ₅₅	17.0	X	112.46308	317.17069	132.83064	12.73370	0.1758408	0.25461246	2.4653747	20	4 26.1	20.7
323406	2004	BB ₈₆	17.6	X	355.81583	307.55089	296.69320	16.47729	0.0425559	0.37855539	1.8925604	20	5 5.7	19.6
323407	2004	BD ₁₂₅	18.0	X	138.97730	7.29188	66.42358	2.33883	0.1634004	0.25858025	2.4400898	20	4 26.9	21.6
323408	2004	BX ₁₃₂	17.8	X	93.76979	239.83839	242.61753	2.30473	0.1444448	0.25696773	2.4502872	20	5 6.6	20.9
323409	2004	CK ₄₃	17.4	X	40.78197	55.58189	157.18309	1.57956	0.1353929	0.25659767	2.4526425	20	6 23.6	19.9
323410	2004	CK ₈₄	16.9	X	47.46430	72.88628	140.20931	6.82142	0.0756230	0.26024677	2.4296617	20	6 26.3	19.8
323411	2004	CQ ₁₁₀	17.6	X	59.34746	300.24452	156.35036	24.43267	0.0970411	0.36415762	1.9421217	20	1 5.6	19.6
323412	2004	CB ₁₁₆	16.8	X	115.78353	56.06136	100.35578	6.53793	0.1178618	0.26488041	2.4012433	20	7 16.9	20.2
323413	2004	CE ₁₁₉	17.1	X	132.66360	321.55378	124.65071	5.81524	0.1067205	0.25789591	2.4444045	20	5 2.9	20.6
323414	2004	DQ ₁₉	17.9	X	144.70749	284.98470	162.31744	22.65154	0.0980499	0.37906986	1.8908477	20	5 18.4	20.7
323415	2004	DM ₅₆	17.7	X	109.23282	293.44496	182.47341	2.36808	0.1345285	0.25614579	2.4555262	20	5 16.7	21.0
323416	2004	EE ₁	17.2	X	200.32981	345.30697	21.97508	20.65736	0.0774939	0.37223037	1.9139394	20	3 28.7	19.4
323417	2004	EQ ₁	15.1	X	21.23124	168.17929	354.42530	8.84755	0.1404540	0.12435783	3.9751540	20	3 18.9	20.0
323418	2004	EH ₆	17.3	X	357.23856	15.04162	181.42800	11.87151	0.0799381	0.24622135	2.5210739	20	3 8.9	20.2
323419	2004	EF ₁₀	16.4	X	5.09330	12.86445	178.50880	11.56924	0.0681666	0.24744221	2.5127745	20	3 15.8	19.2
323420	2004	EB ₂₅	17.5	X	164.95602	341.04900	46.86829	21.86127	0.0578388	0.36810418	1.9282154	20	3 21.6	20.1
323421	2004	EF ₇₇	16.8	X	78.01848	297.53031	166.12017	11.50806	0.0497312	0.24604578	2.5222731	20	3 5.7	19.8
323422	2004	EJ ₈₄	17.0	X	38.84905	37.60673	188.83806	6.44326	0.0676431	0.25754140	2.4466472	20	6 30.2	19.9
323423	2004	FQ ₂	17.8	X	327.23151	103.62219	164.53037	23.07625	0.0728530	0.37450023	1.9061979	20	5 2.8	19.9
323424	2004	FK ₃	17.7	X	139.92703	223.96577	177.89106	22.38038	0.1080586	0.36920214	1.9243907	20	2 26.1	19.9
323425	2004	FV ₄	17.6	X	171.92262	51.50347	19.91666	21.90679	0.0827926	0.37607360	1.9008776	20	5 14.1	20.1
323426	2004	FA ₃₂	15.9	X	28.11071	131.10326	97.30098	23.33757	0.1531469	0.25501953	2.4627505	20	6 26.7	18.3
323427	2004	FP ₄₆	17.6	X	334.49880	245.97000	9.53380	20.93032	0.1329817	0.36939488	1.9237212	20	4 4.9	18.7
323428	2004	FR ₅₄	16.9	X	349.73779	148.29569	72.74077	6.74335	0.0594100	0.24676021	2.5174023	20	4 6.6	19.9
323429	2004	FK ₁₀₃	17.7	X	321.81292	28.02827	181.92929	1.97644	0.1150699	0.24160440	2.5530902	20	1 29.8	20.9
323430	2004	FZ ₁₁₆	17.1											

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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>
323441 2004 HT	17.4	X	78.53455	293.16534	215.04002	20.29895	0.0577893	0.37138211	1.9168527	20	5 3.5	18.8
323442 2004 HB ₁	16.9	X	278.47437	63.63944	158.24555	7.69455	0.1477534	0.23245552	2.6196472	20	—	—
323443 2004 HP ₉	16.4	X	8.41868	162.94673	29.86759	10.97839	0.0550178	0.24293475	2.5437609	20	3 27.6	19.4
323444 2004 HG ₁₁	16.2	X	285.97050	217.82500	37.11173	15.07277	0.0662237	0.23986432	2.5654228	20	2 26.6	19.9
323445 2004 HV ₂₇	16.6	X	350.67327	21.44556	197.55287	14.22488	0.0755064	0.24335668	2.5408198	20	3 30.9	19.6
323446 2004 HM ₂₈	16.1	X	283.20733	19.22553	223.34350	12.28743	0.0962288	0.23508976	2.6000413	20	1 23.2	20.0
323447 2004 HS ₂₈	16.7	X	289.06596	197.29789	55.59731	19.61552	0.2005210	0.23580695	2.5947667	20	2 9.7	20.9
323448 2004 HL ₂₉	17.1	X	317.37595	238.53709	25.16524	3.96632	0.1391210	0.24440541	2.5335463	20	4 2.0	19.8
323449 2004 HY ₃₀	16.8	X	244.73211	320.90873	335.65423	5.70714	0.3229455	0.23235117	2.6204314	20	2 8.1	21.6
323450 2004 HF ₃₃	17.2	X	155.37807	40.03138	45.97799	22.46695	0.0887145	0.37175160	1.9155823	20	5 20.2	19.5
323451 2004 HN ₃₅	16.8	X	321.06614	125.96101	103.03992	4.21639	0.1438469	0.23958917	2.5673865	20	2 20.9	20.0
323452 2004 HT ₅₂	16.4	X	243.99986	241.70701	46.48563	12.86151	0.2330142	0.23212171	2.6221581	20	2 6.1	21.1
323453 2004 HQ ₅₃	16.1	X	296.43652	169.32952	99.77385	15.69474	0.1177211	0.24099670	2.5573803	20	3 21.7	19.8
323454 2004 HL ₅₅	16.1	X	288.43917	324.27717	329.23146	12.33633	0.2680604	0.24155233	2.5534571	20	3 10.9	20.0
323455 2004 HQ ₅₈	16.8	X	283.18632	108.59285	107.82378	12.86491	0.2762412	0.23886041	2.5726059	20	2 14.9	20.9
323456 2004 HJ ₇₄	16.7	X	289.71902	33.66057	188.98622	7.53727	0.1574016	0.23259268	2.6186172	20	1 1.8	20.7
323457 2004 JH ₄	16.5	X	2.02152	148.69423	57.20480	5.18040	0.0429572	0.24224590	2.5485809	20	4 4.4	19.5
323458 2004 JW ₁₀	16.9	X	13.19752	29.45786	139.89080	6.59952	0.2541296	0.24107037	2.5568592	20	2 19.9	18.7
323459 2004 JW ₁₇	16.9	X	349.96143	323.61717	241.91502	11.23253	0.2103649	0.24124363	2.5556349	20	2 18.9	19.8
323460 2004 JO ₁₈	16.4	X	249.27652	167.07195	106.46984	6.83206	0.20824939	0.23262432	2.6183798	20	1 30.0	20.3
323461 2004 JZ ₂₆	16.3	X	241.96287	228.30639	63.08735	13.15586	0.2815354	0.23023824	2.6364391	20	2 5.4	21.2
323462 2004 JM ₂₈	16.9	X	163.16672	239.83826	123.90006	26.23408	0.0456848	0.35548571	1.9735795	20	1 28.1	18.9
323463 2004 JA ₄₄	16.6	X	354.73150	149.68517	67.91336	5.10171	0.0622958	0.24239367	2.5475450	20	4 8.7	19.6
323464 2004 KM ₃	16.3	X	356.94316	146.58707	70.78951	4.50581	0.1064779	0.24249515	2.5468342	20	4 9.2	19.1
323465 2004 KM ₁₂	16.8	X	227.65776	109.01205	195.57909	10.97685	0.3045458	0.22926891	2.6438650	20	2 3.5	21.8
323466 2004 KR ₁₃	16.7	X	241.04890	103.76708	181.77671	12.25245	0.2509047	0.23115335	2.6294762	20	1 24.3	21.4
323467 2004 KX ₁₃	17.1	X	233.07395	244.09386	76.92744	23.96108	0.0694848	0.36039895	1.9556016	20	3 13.8	20.2
323468 2004 KA ₁₅	16.6	X	150.37474	342.39075	353.46599	4.76417	0.1990608	0.22352682	2.6889515	20	1 14.7	20.8
323469 2004 KH ₁₈	16.5	X	268.18099	187.31100	63.02446	13.08443	0.1503359	0.23146723	2.6270986	20	1 16.3	20.7
323470 2004 KJ ₁₈	16.4	X	225.16904	283.07680	359.00572	12.65997	0.3049348	0.22352231	2.6889876	20	1 13.5	21.5
323471 2004 LY ₁	16.1	X	176.71788	182.30088	141.12914	13.28309	0.4244319	0.22053748	2.7131956	20	1 30.1	21.5
323472 2004 LM ₃	16.0	X	313.93947	104.60351	127.13922	12.77341	0.1395791	0.23582019	2.5946696	20	2 15.5	19.3
323473 2004 LS ₃	16.2	X	226.10508	159.19334	144.94854	14.23194	0.1965436	0.22978445	2.6399090	20	2 7.1	20.7
323474 2004 LU ₄	16.1	X	159.18141	225.56765	128.85418	15.31561	0.0617208	0.22929170	2.6436898	20	1 31.9	19.9
323475 2004 LQ ₅	16.5	X	239.72551	165.76670	156.23222	4.65077	0.2726972	0.23389486	2.6088889	20	3 6.9	21.0
323476 2004 LD ₇	15.9	X	151.28403	68.10144	259.25711	13.68401	0.3372478	0.21725852	2.7404266	20	1 13.7	20.8
323477 2004 LG ₂₅	15.5	X	272.05436	343.74214	274.55092	13.34522	0.1594803	0.22856280	2.6493074	20	1 24.9	19.6
323478 2004 LX ₂₆	15.8	X	337.61483	142.99837	101.72238	13.88875	0.2214722	0.24228220	2.5483263	20	4 5.7	18.6
323479 2004 LP ₃₁	16.3	X	208.15267	64.22165	222.53068	6.57050	0.2905621	0.21942296	2.7223754	20	1 4.8	21.3
323480 2004 NS ₁₀	17.0	X	275.03598	313.35133	312.64188	4.37035	0.1593437	0.22985280	2.6393857	20	2 8.9	21.0
323481 2004 NY ₁₉	16.3	X	97.31104	102.87123	252.76608	6.36042	0.2386685	0.20903093	2.8118729	20	—	—
323482 2004 NC ₂₈	16.8	X	219.06581	130.96417	167.28738	3.65089	0.2552819	0.22293677	2.6936939	20	1 25.1	21.6
323483 2004 OW ₈	16.8	X	203.56240	5.80259	278.54352	4.09348	0.1356539	0.21916275	2.7245298	20	—	—
323484 2004 OL ₁₅	15.9	X	62.37996	3.80814	5.88894	15.39282	0.1441413	0.20406932	2.8572675	20	—	—
323485 2004 PO ₈	15.9	X	221.49590	338.58112	316.63194	14.40334	0.2371654	0.22162191	2.7043377	20	1 25.8	20.6
323486 2004 PM ₂₅	16.5	X	186.47061	339.78730	320.60946	7.73687	0.1839119	0.21661478	2.7458532	20	1 4.3	21.0
323487 2004 PV ₃₇	16.1	X	239.68489	111.97372	155.43997	12.34157	0.1862463	0.22012674	2.7165697	20	1 7.7	20.8
323488 2004 PU ₄₅	16.6	X	269.96720	212.18317	54.79544	3.02612	0.1598424	0.22852588	2.6495927	20	2 6.4	20.6
323489 2004 PP ₅₃	16.6	X	176.43070	194.24791	110.65573	6.83172	0.2045175	0.21549331	2.7553717	20	1 1.4	21.3
323490 2004 PJ ₅₅	16.5	X	61.30880	12.69871	350.72763	12.82658	0.1378030	0.20205176	2.8762566	20	—	—
323491 2004 PX ₅₆	16.3	X	164.10509	174.85945	167.10801	6.11878	0.1267591	0.21860074	2.7291975	20	1 27.7	20.5
323492 2004 PV ₇₁	16.3	X	163.58122	332.25867	327.19649	13.75434	0.1495478	0.21272129	2.7792572	20	—	—
323493 2004 PK ₇₃	16.2	X	221.23753	316.10810	327.98374	11.23389	0.1540937	0.22011634	2.7166553	20	1 15.2	20.6
323494 2004 PB ₉₅	15.8	X	246.49521	47.43459	243.97558	11.91599	0.1786196	0.22489986	2.6779961	20	2 6.4	20.4
323495 2004 PH ₁₀₀	16.4	X	192.46813	157.35803	150.12473	10.47379	0.2087364	0.21658636	2.7460934	20	1 16.5	21.2
323496 2004 PO ₁₀₆	15.7	X	321.88219	211.01273	170.82958	16.63840	0.3477891	0.18326461	3.0696131	20	8 28.7	18.4
323497 2004 PK ₁₁₅	16.1	X	205.30503	221.01721	92.30703	16.26206	0.2075920	0.22055252	2.7130723	20	2 4.9	20.9
323498 2004 QE ₁	17.2	X	285.21348	104.89706	171.44936	27.81358	0.3859848	0.23180506	2.6245455	20	2 5.9	22.0
323499 2004 QA ₄	16.5	X	192.93248	316.15951	354.70679	9.29566	0.1858340	0.21975677	2.7196178	20	1 23.0	21.1
323500 2004 QL ₈	16.6	X	250.53086	272.29099	20.87351	12.70880	0.2732961	0.22815473	2.6524654	20	2 15.7	21.3
323501 2004 QL ₉	15.8	X	67.58078	332.86812	17.34021	10.07547	0.1106593	0.20002940	2.8956106	20	—	—
323502 2004 QV ₁₀	16.5	X	195.52348	302.23822	33.37605	9.51304	0.2384483	0.22125397	2.7073350	20	2 25.1	21.3
323503 2004 QA ₁₂	16.1	X	69.80313	353.65234	11.75367	15.57204	0.1418528	0.20328436	2.8646181	20	—	—
323504 2004 QC ₁₃	16.4	X	203.66396	179.29308	110.89421	11.39260	0.2398925	0.21816132	2.7328610	20	1 6.2	21.2
323505 2004 QT ₂₅	15.9	X	139.62851	217.46146	135.12074	11.32657	0.2200808	0.21202102	2.7853735	20	1 26.6	20.3
323506 2004 QF ₂₈	15.9	X	298.54419	177.67000	262.46529	7.60654	0.0622208	0.19102413	2.9859135	20	11 6.2	19.9
323507 2004 RZ ₁₁	16.7	X	250.39554	66.09719	208.48666	8.88382	0.1033392	0.22375143	2.6871516	20	1 28.6	20.9
323508 2004 RU ₃₃	16.0	X	33.83309	215.88007	147.92521	15.16338	0.1792392	0.19593896	2.9357710	20	—	—
323509 2004 RS ₃₅	15.8	X	287.21549	227.28996	155.06812	18.96233	0.1468886	0.17892683	3.1190265	20	7 25.2	20.1
323510 2004 RR ₃₈	16.3	X	118.32556	353.66597	312.73228	7.40166	0.1468865	0.20163141	2.8802527	20	—	—
323511 2004 RJ ₃₉	15.5	X	310.13742	79.83757	347.85809	10.91887	0.1825999	0.19082866	2.9879523	20	10 26.1	19.0
323512 2004 RU ₅₅	15.8	X	186.79775	298.92119	11.20864	12.19976	0.1358656	0.21462798	2.7627727	20	1 16.4	20.4
323513 2004 RE ₅₇	15.9	X	336.03739	71.93589	321.82575	8.78020	0.1086724	0.19048999	2.9914927	20	10 30.2	19.6
323514 2004												

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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>
323521 2004 <i>RX</i> ₁₀₀	16.4	X	250.83655	323.98656	317.59251	4.88746	0.2543669	0.22384646	2.6863910	20	1 29.9	21.1
323522 2004 <i>RC</i> ₁₀₃	16.2	X	231.89903	304.39785	319.60923	6.84311	0.2554521	0.21814883	2.7329653	20	—	—
323523 2004 <i>RF</i> ₁₁₃	15.1	X	290.76909	101.98774	276.07713	11.91028	0.3068813	0.17438011	3.1730098	20	6 30.1	19.1
323524 2004 <i>RY</i> ₁₁₅	16.9	X	221.21615	320.50683	312.85756	2.45731	0.1588631	0.21667501	2.7453444	20	1 1.0	21.5
323525 2004 <i>RD</i> ₁₃₅	16.8	X	335.39419	345.92775	114.48301	3.21603	0.0261942	0.20323438	2.8650878	20	—	—
323526 2004 <i>RO</i> ₁₃₅	16.3	X	272.57051	89.68422	358.49943	10.09593	0.2201570	0.18664566	3.0324300	20	9 19.4	20.1
323527 2004 <i>RO</i> ₁₄₇	16.2	X	55.67048	32.13716	309.67650	0.87933	0.1227470	0.19575026	2.9376574	20	12 23.2	20.4
323528 2004 <i>RR</i> ₁₅₈	16.2	X	305.21699	101.38309	306.67683	4.66755	0.1824330	0.18537181	3.0463065	20	9 21.2	19.7
323529 2004 <i>RY</i> ₁₇₃	16.2	X	301.41706	213.54157	185.80443	17.54139	0.2670106	0.18339266	3.0681841	20	8 18.9	20.1
323530 2004 <i>RG</i> ₁₇₆	15.9	X	27.53099	64.61789	307.41836	9.17698	0.1183200	0.19619724	2.9331940	20	12 25.9	19.9
323531 2004 <i>RX</i> ₁₇₉	15.8	X	252.18026	97.71812	211.87511	12.34002	0.1875920	0.22645666	2.6657085	20	3 4.7	20.2
323532 2004 <i>RN</i> ₁₈₆	16.6	X	37.06438	184.07104	189.92092	11.83555	0.0688568	0.19751509	2.9201323	20	12 31.9	20.8
323533 2004 <i>RF</i> ₁₈₇	15.6	X	336.95392	83.97301	300.58197	8.69335	0.1005834	0.18736943	3.0246158	20	10 18.3	19.4
323534 2004 <i>RP</i> ₁₉₀	16.0	X	195.75790	91.60556	220.18033	12.66221	0.1969731	0.21524208	2.7575153	20	1 21.2	21.0
323535 2004 <i>RY</i> ₁₉₆	16.3	X	193.94880	121.20108	203.81863	13.42876	0.3569244	0.21755215	2.7379602	20	2 5.8	21.8
323536 2004 <i>RR</i> ₂₂₈	15.7	X	316.20287	45.99340	6.24098	13.73870	0.1622251	0.18534602	3.0465890	20	10 18.1	19.1
323537 2004 <i>RN</i> ₂₅₃	15.6	X	282.22574	336.33969	107.07648	12.09180	0.0918450	0.18544950	3.0454556	20	10 21.5	19.8
323538 2004 <i>RA</i> ₂₅₇	16.3	X	354.77754	181.53792	235.20671	1.01495	0.0693511	0.19736097	2.9216524	20	12 30.2	20.0
323539 2004 <i>RQ</i> ₂₇₀	16.2	X	236.20714	78.39351	170.71105	4.45507	0.0114527	0.21183293	2.7870220	20	—	—
323540 2004 <i>RA</i> ₂₇₁	17.2	X	114.16053	301.65110	1.44106	1.79725	0.0764349	0.20069672	2.8891884	20	—	—
323541 2004 <i>RS</i> ₂₇₃	16.4	X	289.54379	59.19587	9.19750	6.19983	0.1348380	0.18722684	3.0261514	20	10 1.4	20.1
323542 2004 <i>RG</i> ₂₇₈	15.8	X	296.82296	29.44224	330.35779	23.16132	0.2047057	0.17543941	3.1602245	20	7 7.4	20.2
323543 2004 <i>RX</i> ₂₇₉	16.7	X	210.55922	222.84044	192.36618	3.64555	0.3584200	0.16624735	3.2756656	20	6 1.7	22.7
323544 2004 <i>RZ</i> ₃₀₇	15.9	X	163.93552	131.90363	198.42638	20.30078	0.2156398	0.21249233	2.7812533	20	1 17.8	20.9
323545 2004 <i>RS</i> ₃₄₅	16.3	X	233.72560	95.49752	24.19320	15.56216	0.2158965	0.18067728	3.0988486	20	9 19.3	21.2
323546 2004 <i>RA</i> ₃₅₇	15.7	X	12.34486	262.08214	152.45846	11.64305	0.0964249	0.19742429	2.9210276	20	—	—
323547 2004 <i>SA</i> ₁₅	15.9	X	276.54597	260.04646	154.15349	17.17005	0.2134495	0.17895034	3.1187533	20	8 10.7	20.1
323548 2004 <i>SY</i> ₂₅	15.3	X	306.05662	353.67040	24.08285	19.20193	0.1787885	0.17768066	3.1335932	20	8 24.7	19.4
323549 2004 <i>SR</i> ₃₀	16.1	X	173.46966	311.68332	10.76454	7.62411	0.2190970	0.21338930	2.7734540	20	1 22.3	20.9
323550 2004 <i>SM</i> ₄₄	15.9	X	239.45387	223.31928	203.83446	9.84476	0.2042895	0.17383868	3.1795947	20	7 15.9	21.1
323551 2004 <i>SR</i> ₄₄	15.9	X	308.33924	52.95207	347.70316	9.29947	0.1508342	0.18416625	3.0595861	20	9 21.2	19.4
323552 2004 <i>Trudybell</i>	16.0	X	251.22581	258.01616	187.72509	16.01748	0.0735618	0.18144082	3.0901487	20	9 7.4	20.6
323553 2004 <i>TT</i> ₅	15.7	X	14.39213	301.50169	24.75586	9.63681	0.0691898	0.18212379	3.0824184	20	10 2.5	19.7
323554 2004 <i>TK</i> ₂₅	16.4	X	172.24239	270.24816	7.09602	14.70133	0.1365005	0.20503939	2.8482483	20	—	—
323555 2004 <i>TY</i> ₂₇	16.3	X	236.45443	92.42611	14.84108	8.75182	0.2131729	0.18064834	3.0991795	20	9 4.6	21.1
323556 2004 <i>TD</i> ₃₆	16.0	X	245.69309	66.66113	17.34124	9.55101	0.0976179	0.17807228	3.1289972	20	8 31.6	20.5
323557 2004 <i>TK</i> ₃₇	15.9	X	302.98254	65.99847	25.07561	10.04523	0.0549888	0.19032158	2.9932571	20	11 25.9	20.0
323558 2004 <i>TH</i> ₅₃	15.9	X	72.29622	113.44378	213.18088	8.37788	0.1066611	0.19129543	2.9830897	20	12 20.1	20.4
323559 2004 <i>TK</i> ₅₄	15.8	X	20.40942	155.81483	211.58997	10.46056	0.1189481	0.18839989	3.0135770	20	12 8.3	19.8
323560 2004 <i>TK</i> ₅₈	16.4	X	325.44865	31.79395	13.31595	2.83043	0.1589416	0.18724861	3.0259168	20	10 29.3	19.6
323561 2004 <i>TR</i> ₇₃	16.1	X	273.81019	56.78460	28.93226	13.01250	0.0769515	0.18294140	3.0732275	20	10 10.3	20.2
323562 2004 <i>TA</i> ₈₁	16.5	X	140.68918	107.02237	236.02268	3.00881	0.1082070	0.20912082	2.8110670	20	1 4.9	20.5
323563 2004 <i>TC</i> ₈₅	15.9	X	236.51018	56.38673	12.70752	12.99344	0.1217691	0.17428201	3.1742004	20	7 30.9	20.8
323564 2004 <i>TS</i> ₈₅	16.6	X	222.39977	258.50415	5.50638	3.73266	0.1568594	0.21123533	2.922760	20	—	—
323565 2004 <i>TY</i> ₈₆	16.8	X	57.29454	178.69425	151.79980	0.45905	0.0283557	0.19180308	2.9778238	20	11 27.9	20.8
323566 2004 <i>TV</i> ₈₈	16.1	X	152.16067	283.00613	22.79462	12.23803	0.0868146	0.20502079	2.8484206	20	—	—
323567 2004 <i>TO</i> ₉₂	15.6	X	328.04895	343.84073	17.42230	10.17696	0.0908250	0.17961368	3.1110700	20	9 10.2	19.5
323568 2004 <i>TJ</i> ₁₀₃	15.6	X	124.25169	91.72827	220.48383	16.53949	0.1654017	0.19949817	2.9007487	20	—	—
323569 2004 <i>TG</i> ₁₁₃	16.0	X	237.63938	125.92015	8.02895	0.65958	0.1788345	0.18230577	3.0803668	20	10 9.4	20.4
323570 2004 <i>TN</i> ₁₁₄	16.0	X	260.63105	74.04187	357.38668	6.23928	0.1554648	0.17916738	3.1162342	20	8 23.7	20.4
323571 2004 <i>TV</i> ₁₁₆	15.4	X	332.31375	157.91984	220.10274	9.88163	0.0786012	0.18248073	3.0783976	20	10 3.9	19.4
323572 2004 <i>TI</i> ₁₂₉	16.1	X	209.57936	266.04706	15.18575	7.61894	0.1928625	0.21411602	2.7671749	20	1 1.1	20.9
323573 2004 <i>TO</i> ₁₃₂	15.8	X	326.23693	88.94189	290.84583	8.96316	0.0725179	0.18269255	3.0760176	20	9 24.2	20.0
323574 2004 <i>TB</i> ₁₄₄	16.4	X	94.55523	310.56993	31.64539	8.56912	0.2070502	0.19988085	2.8972384	20	—	—
323575 2004 <i>TX</i> ₁₄₇	15.8	X	356.26411	11.87076	5.79060	10.28834	0.0447349	0.18815724	3.0161673	20	11 5.9	20.0
323576 2004 <i>TQ</i> ₁₇₂	15.7	X	315.93811	29.09713	347.21726	11.87522	0.1424705	0.17846931	3.1243549	20	9 3.6	19.4
323577 2004 <i>TV</i> ₁₇₂	15.4	X	57.22598	31.84240	305.55343	9.14242	0.0802424	0.18986097	2.9980964	20	12 12.6	19.7
323578 2004 <i>TA</i> ₁₈₇	16.3	X	220.21466	56.94275	202.30622	7.46366	0.1781001	0.21005635	2.8027144	20	—	—
323579 2004 <i>TN</i> ₁₈₈	16.7	X	342.94297	130.45868	244.81556	1.05206	0.0609833	0.18567570	3.0429817	20	10 18.4	20.4
323580 2004 <i>TT</i> ₁₉₆	15.9	X	215.71949	99.53868	26.82381	11.01993	0.0759645	0.17991237	3.1076257	20	9 21.4	20.5
323581 2004 <i>TP</i> ₂₀₁	16.1	X	0.72591	338.07789	33.32882	10.29221	0.0898898	0.18414414	3.0598310	20	11 9.0	19.9
323582 2004 <i>TF</i> ₂₀₅	16.0	X	34.15449	115.16678	231.62235	8.78761	0.0412616	0.18527667	3.0473492	20	11 19.6	20.1
323583 2004 <i>TJ</i> ₂₁₃	16.9	X	188.31786	136.38638	180.76049	1.73915	0.2292776	0.21237771	2.7822539	20	1 25.6	21.7
323584 2004 <i>TG</i> ₂₁₄	16.6	X	150.80255	109.53161	184.49396	1.66142	0.0564136	0.20056227	2.8904795	20	—	—
323585 2004 <i>TK</i> ₂₁₅	16.6	X	71.36328	156.83602	202.60613	5.21100	0.0805550	0.19983896	2.8974500	20	—	—
323586 2004 <i>TL</i> ₂₂₇	16.4	X	319.64974	27.94739	348.43405	4.75023	0.1543705	0.18061240	3.0995907	20	9 8.7	19.7
323587 2004 <i>TM</i> ₂₂₈	16.5	X	298.95636	229.85310	209.67149	11.76800	0.0243301	0.18806456	3.0171582	20	11 10.8	20.6
323588 2004 <i>TW</i> ₂₃₈	15.6	X	63.16908	305.84199	27.69710	18.14195	0.1222878	0.19164596	2.9794512	20	12 18.7	20.3
323589 2004 <i>TY</i> ₂₅₀	16.5	X	289.26325	205.19715	213.25639	8.71596	0.0711853	0.18337567	3.0683737	20	9 23.6	20.7
323590 2004 <i>TZ</i> ₂₆₄	16.0	X	210.07178	105.14307	127.40652	8.70553	0.1936296	0.21703493	2.7423084	20	2 14.1	20.8
323591 2004 <i>TW</i> ₂₆₅	15.8	X	201.53294	129.08403	32.44081	10.17140	0.0198996	0.18370566	3.			

ELEMENTS AND OPPOSITION DATES IN 2020

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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>
323601 2004 <i>TM</i> ₃₂₇	15.8	X	227.13527	83.17706	339.90720	24.67266	0.2191675	0.17038709	3.2223911	20	7 5.9	21.5
323602 2004 <i>TA</i> ₃₂₈	15.1	X	100.38199	217.95074	73.58956	12.64542	0.0814518	0.19347931	2.9605997	20	12 6.4	19.6
323603 2004 <i>TK</i> ₃₃₁	16.0	X	12.44454	335.92502	30.80293	9.33395	0.0524237	0.18704127	3.0281526	20	11 16.1	20.2
323604 2004 <i>TX</i> ₃₃₂	15.9	X	253.37699	55.72064	39.20311	9.92811	0.0691016	0.17918107	3.1160755	20	9 27.8	20.4
323605 2004 <i>TL</i> ₃₄₄	15.6	X	22.76765	117.99215	220.54956	10.45244	0.1292684	0.18547284	3.0452001	20	11 6.1	19.5
323606 2004 <i>TU</i> ₃₄₄	15.9	X	213.36907	73.85699	26.14869	13.39439	0.2572499	0.17143819	3.2092065	20	8 4.4	21.6
323607 2004 <i>TT</i> ₃₄₆	15.7	X	26.36101	106.24928	234.76726	9.26671	0.1185797	0.18667846	3.0320748	20	11 12.7	19.6
323608 2004 <i>TU</i> ₃₅₅	15.4	X	259.23130	320.29143	124.55371	12.12309	0.2093187	0.17939952	3.1135454	20	9 1.3	19.9
323609 2004 <i>TA</i> ₃₅₆	15.5	X	21.73391	269.84776	76.98685	11.77404	0.1108251	0.18761442	3.0219822	20	11 15.2	19.5
323610 2004 <i>TR</i> ₃₅₆	15.6	X	252.97951	14.28714	61.69562	17.59760	0.1562048	0.17716526	3.1396676	20	8 26.9	20.5
323611 2004 <i>TD</i> ₃₆₈	15.6	X	51.57434	309.38870	19.48364	12.75958	0.1248949	0.18970201	2.9997709	20	11 28.9	20.0
323612 2004 <i>TK</i> ₃₆₉	15.9	X	14.20496	178.06500	214.96285	8.94141	0.0654920	0.19084508	2.9877809	20	12 24.3	20.0
323613 2004 <i>UA</i> ₆	15.5	X	290.82511	181.44337	220.19575	10.60905	0.1676602	0.17692647	3.1424919	20	8 18.3	19.8
323614 2004 <i>VT</i> ₇	15.3	X	256.02069	19.97940	59.79011	13.02478	0.1082888	0.17659361	3.1464395	20	9 9.7	20.0
323615 2004 <i>VL</i> ₁₃	15.3	X	269.41959	297.65093	100.51094	14.86474	0.2878066	0.17234565	3.1979316	20	7 2.8	20.0
323616 2004 <i>VO</i> ₁₉	15.4	X	307.88914	166.42700	237.48443	12.10197	0.1197675	0.17958426	3.1114097	20	9 23.7	19.5
323617 2004 <i>TK</i> ₂₇	15.7	X	31.51577	109.81729	267.07998	6.43105	0.0865410	0.19058453	2.9905033	20	12 30.1	19.7
323618 2004 <i>VX</i> ₂₉	15.9	X	237.42792	24.86294	62.36483	10.07314	0.0474846	0.17478435	3.1681156	20	9 2.6	20.6
323619 2004 <i>VV</i> ₃₅	15.5	X	247.45500	3.32886	65.04791	6.44089	0.0525752	0.17105433	3.2140059	20	8 18.5	20.2
323620 2004 <i>VH</i> ₃₉	15.8	X	337.90139	292.16099	65.61290	6.34888	0.1824243	0.17896931	3.1185330	20	9 20.4	19.2
323621 2004 <i>VH</i> ₄₁	16.1	X	147.47852	175.85917	56.22172	7.79264	0.0281272	0.18481052	3.0524713	20	11 12.8	20.5
323622 2004 <i>VG</i> ₅₄	15.7	X	225.05908	113.65148	333.28212	15.47532	0.2147022	0.17187057	3.2038219	20	7 30.9	21.0
323623 2004 <i>VM</i> ₅₄	15.4	X	280.63387	115.42960	80.84234	11.44315	0.1257538	0.17755426	3.1327281	20	8 30.2	19.7
323624 2004 <i>VY</i> ₅₄	15.5	X	55.75180	204.20253	156.87331	11.15572	0.1018777	0.19283982	2.9671414	20	—	—
323625 2004 <i>VC</i> ₅₇	15.3	X	229.39980	320.47793	112.86581	15.77050	0.2445606	0.17019117	3.2248637	20	7 12.5	20.5
323626 2004 <i>VM</i> ₇₂	15.7	X	6.12379	276.84377	70.86426	6.63394	0.1753240	0.18189965	3.0849501	20	10 29.7	19.2
323627 2004 <i>VS</i> ₇₄	15.7	X	270.02154	312.35169	100.74285	6.32775	0.1568351	0.17398332	3.1778323	20	8 11.2	20.1
323628 2004 <i>VX</i> ₇₉	16.9	X	253.97310	296.11415	153.95357	1.24615	0.1593041	0.17849397	3.1240671	20	9 5.9	21.4
323629 2004 <i>VW</i> ₈₀	15.2	X	217.20516	105.91189	45.44448	11.59309	0.0517210	0.18281615	3.0746311	20	10 24.9	19.6
323630 2004 <i>VR</i> ₉₁	15.8	X	280.33129	40.62998	18.72903	17.49648	0.2200876	0.17714569	3.1398988	20	8 30.9	20.2
323631 2004 <i>VC</i> ₉₄	15.7	X	281.14804	227.83735	188.12035	14.15091	0.2385741	0.17700744	3.1415336	20	8 12.9	20.1
323632 2004 <i>WH</i> ₄	15.6	X	72.66950	108.02144	225.59474	11.04781	0.1583868	0.19130846	2.9829543	20	—	—
323633 2004 <i>XV</i> ₄	15.8	X	308.63671	48.56338	11.46698	11.12792	0.1289502	0.18318678	3.0704825	20	10 18.8	19.4
323634 2004 <i>XW</i> ₆	15.1	X	19.07101	322.51440	26.98266	7.56920	0.3030351	0.18443883	3.0565709	20	12 9.1	18.9
323635 2004 <i>XZ</i> ₇	15.4	X	344.45555	308.18122	91.86684	12.59443	0.1360044	0.18327001	3.0695528	20	11 26.8	19.1
323636 2004 <i>XU</i> ₂₁	15.2	X	346.05693	310.47657	70.58986	9.55966	0.1359069	0.18063590	3.0993218	20	11 4.4	18.9
323637 2004 <i>XE</i> ₄₀	15.3	X	251.39373	7.15611	84.66992	10.29200	0.1798002	0.17522247	3.1628324	20	9 6.9	20.1
323638 2004 <i>XT</i> ₄₁	17.4	X	258.66851	356.52749	94.40527	7.05876	0.0945656	0.29898827	2.2149637	20	10 17.4	19.9
323639 2004 <i>XE</i> ₄₂	15.4	X	232.43165	326.37565	177.11239	18.36875	0.1843309	0.18028791	3.1033088	20	10 16.8	20.2
323640 2004 <i>XC</i> ₇₉	15.6	X	262.36915	326.94713	97.57015	7.94565	0.1402687	0.17180598	3.2046248	20	8 19.2	20.2
323641 2004 <i>XP</i> ₁₁₀	15.2	X	186.69873	69.32711	73.90955	15.12680	0.0901872	0.16917903	3.2377131	20	9 13.1	20.4
323642 2004 <i>XJ</i> ₁₁₃	15.8	X	104.87154	332.86335	267.93624	7.92743	0.0505528	0.17484239	3.1674145	20	10 1.6	20.5
323643 2004 <i>XQ</i> ₁₃₀	15.9	X	237.96659	266.63073	191.88822	9.15628	0.0542543	0.17446815	3.1719423	20	9 9.5	20.4
323644 2004 <i>XV</i> ₁₅₇	15.5	X	291.60363	115.11740	294.72313	7.89877	0.1718166	0.17343016	3.1845786	20	9 12.3	19.9
323645 2004 <i>YB</i> ₂	17.3	X	326.63476	337.87914	52.48933	5.53616	0.1669443	0.30563220	2.1827466	20	11 19.7	18.5
323646 2004 <i>YB</i> ₁₇	17.2	X	132.71013	166.53141	102.70398	5.40493	0.1297206	0.30618916	2.1800988	20	—	—
323647 2004 <i>YJ</i> ₂₃	17.7	X	175.83129	44.80085	112.59358	5.35663	0.2072726	0.29172345	2.2515857	20	9 21.9	21.3
323648 2005 <i>AP</i> ₃	17.6	X	170.74814	262.43531	276.49944	5.98099	0.0674958	0.29790179	2.2203459	20	10 18.9	20.5
323649 2005 <i>AK</i> ₄₈	17.1	X	53.30455	227.01762	112.16600	4.53672	0.2102546	0.30783270	2.1723321	20	—	—
323650 2005 <i>BC</i> ₁₇	17.3	X	22.51708	25.68099	292.29630	6.17991	0.1263701	0.29611031	2.2292924	20	10 31.4	19.8
323651 2005 <i>BR</i> ₂₀	18.2	X	179.17690	12.90798	112.79844	3.18788	0.1394507	0.28839487	2.2688774	20	8 15.0	21.5
323652 2005 <i>BX</i> ₂₈	17.2	X	154.72755	217.23603	337.39775	7.47642	0.1164077	0.29415308	2.2391703	20	10 18.1	20.4
323653 2005 <i>CM</i> ₂₂	16.2	X	29.21885	210.23886	325.44469	24.17399	0.2734708	0.26689439	2.3891482	20	3 26.3	18.3
323654 2005 <i>CH</i> ₃₀	18.3	X	198.36338	43.75849	97.98878	2.62184	0.1735527	0.29284338	2.2458415	20	9 24.4	21.5
323655 2005 <i>CF</i> ₃₃	15.6	X	212.50235	339.53742	121.39747	10.55123	0.1401065	0.16216164	3.3304581	20	8 7.7	20.9
323656 2005 <i>CD</i> ₆₀	17.7	X	232.70231	11.42890	92.73558	3.44427	0.1051112	0.29399304	2.2399828	20	9 23.2	20.4
323657 2005 <i>CS</i> ₆₉	18.0	X	160.17095	5.92701	132.11428	5.43847	0.1029911	0.28523151	2.2856219	20	8 11.4	21.1
323658 2005 <i>EY</i> ₅	17.0	X	38.17694	127.63222	137.47632	3.05345	0.1529173	0.27923556	2.3182249	20	9 13.1	19.4
323659 2005 <i>EW</i> ₇	17.1	X	197.59682	101.53574	358.44329	24.39555	0.1484354	0.28304496	2.2973779	20	8 9.8	21.0
323660 2005 <i>EE</i> ₈	17.8	X	92.23372	68.25245	166.93034	2.30441	0.1720836	0.28280339	2.2986860	20	10 12.1	21.1
323661 2005 <i>EA</i> ₂₀	17.6	X	83.74393	279.47998	346.33284	6.88422	0.1016350	0.29066029	2.2570729	20	11 3.6	20.8
323662 2005 <i>EX</i> ₂₄	17.3	X	192.70662	53.35841	63.37278	4.01823	0.1664957	0.28619911	2.2804674	20	8 16.4	20.8
323663 2005 <i>EQ</i> ₃₈	16.8	X	126.41530	357.38478	169.70373	25.50287	0.1828839	0.28108496	2.3080452	20	8 15.4	20.7
323664 2005 <i>EF</i> ₄₄	17.8	X	96.75837	249.65400	346.80960	2.41400	0.1680262	0.28510329	2.2863071	20	10 16.9	21.3
323665 2005 <i>EZ</i> ₄₇	17.4	X	226.80182	352.76071	144.08651	3.46082	0.0624145	0.29540209	2.2328540	20	11 7.1	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>
323681 2005 EB ₂₇₀	17.1	X	110.08830	72.62033	171.03550	20.57861	0.2387391	0.28618895	2.2805213	20	11 14.9	21.3
323682 2005 EJ ₃₂₄	17.5	X	86.31747	211.24428	45.00663	6.68874	0.2074452	0.28393849	2.2925556	20	11 4.9	21.1
323683 2005 EZ ₃₃₀	17.0	X	26.42380	242.24563	326.44077	5.96182	0.0717235	0.26807270	2.3821421	20	5 12.3	19.6
323684 2005 FU ₇	16.7	X	176.40912	64.18803	23.03215	25.95768	0.2665985	0.27903223	2.3193510	20	6 14.9	21.3
323685 2005 GC ₆	14.7	X	7.55846	105.37703	65.48480	7.22767	0.1106855	0.12609935	3.9384694	20	3 11.1	19.8
323686 2005 GW ₂₀	16.8	X	173.38670	264.48858	215.32089	20.34783	0.2943270	0.28535216	2.2849775	20	7 22.6	21.4
323687 2005 GX ₇₂	17.4	X	158.88580	122.95940	29.27099	24.49319	0.1536716	0.28317810	2.2966577	20	9 11.9	21.4
323688 2005 GB ₇₇	18.0	X	158.64602	257.09493	259.61721	2.36863	0.1284134	0.28304695	2.2973671	20	9 2.2	21.4
323689 2005 GL ₇₉	17.9	X	68.11987	73.11003	188.82189	5.38820	0.1529601	0.28081858	2.3095046	20	10 18.9	20.8
323690 2005 GG ₈₀	18.1	X	142.76845	43.41316	100.70370	4.09215	0.1395289	0.27682107	2.3316854	20	8 1.4	21.5
323691 2005 GH ₈₄	18.1	X	108.64522	86.14044	180.82440	4.83066	0.2531626	0.29049373	2.2579355	20	12 9.8	22.0
323692 2005 GU ₈₄	17.5	X	41.24644	10.82990	224.21224	4.38486	0.1271153	0.27216948	2.3581772	20	7 26.7	20.1
323693 2005 GN ₈₆	17.5	X	91.54963	214.48361	8.32584	1.68841	0.1879536	0.27908070	2.3190824	20	9 25.7	20.9
323694 2005 GU ₈₈	17.7	X	144.11103	328.87175	199.54951	1.78486	0.1701830	0.28176565	2.3043265	20	9 3.9	21.3
323695 2005 GY ₉₃	16.3	X	40.54848	52.15985	210.86109	21.95809	0.1529448	0.27573702	2.3377927	20	9 6.1	19.5
323696 2005 GS ₉₈	17.8	X	351.82879	75.37433	222.10071	3.27839	0.2361572	0.26921176	2.3754179	20	8 4.3	19.1
323697 2005 GJ ₁₀₈	17.3	X	23.77327	130.84249	176.74138	2.98402	0.1120240	0.28171538	2.3046006	20	10 16.0	19.8
323698 2005 GQ ₁₁₂	17.8	X	106.45545	287.87123	291.85687	2.62507	0.1342338	0.28176383	2.3043364	20	10 1.3	21.1
323699 2005 GP ₁₁₆	17.8	X	39.00157	50.43936	211.25966	6.38180	0.0605229	0.27638063	2.3341619	20	8 20.5	20.5
323700 2005 GR ₁₁₉	16.8	X	87.54262	181.92672	63.94641	23.98216	0.2066649	0.28154498	2.3055304	20	10 31.7	20.6
323701 2005 GN ₁₂₇	17.6	X	14.08304	272.82537	23.04666	8.52127	0.0809208	0.27694865	2.3309692	20	9 10.0	20.1
323702 2005 GS ₁₃₃	16.9	X	113.91443	187.30901	63.07199	5.21069	0.0885051	0.28798891	2.2710091	20	11 18.7	19.8
323703 2005 GF ₁₄₀	17.5	X	89.27675	323.60938	259.18459	2.70302	0.1780821	0.27855879	2.3219782	20	9 20.7	20.8
323704 2005 GK ₁₅₃	17.1	X	138.26287	323.28146	200.55826	22.88160	0.2170999	0.27981556	2.3150203	20	8 19.9	21.3
323705 2005 GY ₁₆₀	17.7	X	62.51304	205.27637	41.86475	6.47062	0.1993413	0.27584982	2.3371553	20	9 29.7	20.8
323706 2005 GK ₁₆₁	17.1	X	130.85947	176.28183	73.14884	7.53974	0.1611953	0.29039473	2.2584487	20	12 5.5	20.6
323707 2005 GD ₁₆₇	17.5	X	67.92514	198.49682	46.84453	2.12170	0.1684148	0.27624560	2.3349225	20	9 27.9	20.7
323708 2005 GW ₁₇₈	17.6	X	95.50430	339.57963	193.40249	6.65819	0.1561708	0.27317763	2.3523718	20	7 19.9	21.0
323709 2005 HZ ₅	17.4	X	117.69499	25.42460	132.47456	6.19048	0.2007387	0.27284498	2.3542834	20	7 28.3	21.1
323710 2005 HK ₇	17.3	X	183.70508	65.67143	39.16137	2.85681	0.1527626	0.28040747	2.3117613	20	7 21.6	20.7
323711 2005 JS	17.5	X	103.89803	57.38014	190.14522	8.27234	0.1892526	0.28306865	2.2972497	20	11 9.9	21.1
323712 2005 JR ₂	17.1	X	66.40790	44.27665	214.30669	3.85919	0.2397158	0.27745277	2.3281449	20	10 21.6	20.4
323713 2005 JK ₁₄	17.7	X	162.74530	278.12607	222.80503	5.27461	0.2018699	0.28077610	2.3097375	20	8 14.5	21.6
323714 2005 JC ₁₇	17.3	X	84.50082	209.21704	46.90829	10.24206	0.1850886	0.28051418	2.3111750	20	11 1.3	20.7
323715 2005 JH ₃₂	17.6	X	355.25143	43.92812	223.92383	2.40694	0.1567332	0.26625560	2.3929679	20	6 19.6	19.6
323716 2005 JW ₃₃	17.9	X	349.75934	88.19547	208.76630	0.84949	0.1901228	0.26795121	2.3828620	20	7 27.2	19.6
323717 2005 JG ₃₄	16.9	X	100.56198	357.70919	107.04132	8.97553	0.0691649	0.25720079	2.4488068	20	4 14.7	20.2
323718 2005 JC ₃₆	17.1	X	346.41738	167.47570	94.03562	7.43059	0.0883772	0.26317715	2.4115925	20	5 25.5	19.6
323719 2005 JT ₄₀	17.8	X	145.60900	42.54473	59.02482	5.93664	0.0582910	0.26614443	2.3936343	20	6 1.1	20.8
323720 2005 JG ₄₈	18.0	X	70.01229	84.17248	132.22903	4.99097	0.1334805	0.27201224	2.3590859	20	8 15.1	20.9
323721 2005 JX ₅₁	17.1	X	303.29783	141.91281	170.75438	2.39787	0.1914138	0.26353684	2.4093977	20	5 10.2	19.9
323722 2005 JH ₅₅	17.4	X	357.47622	103.17622	203.53223	9.64849	0.2284874	0.26992423	2.3712361	20	9 4.4	19.2
323723 2005 JX ₅₇	17.9	X	119.62555	232.07602	292.71957	0.95391	0.1238551	0.27407523	2.3472329	20	8 2.5	21.1
323724 2005 JC ₁₀₇	16.7	X	301.79919	161.49536	137.96731	14.17020	0.2179268	0.25909084	2.4368830	20	4 19.9	19.9
323725 2005 JD ₁₂₀	17.2	X	313.82680	202.73108	99.93469	5.82570	0.1153363	0.26367558	2.4085525	20	5 26.4	19.8
323726 2005 JK ₁₂₈	15.5	X	211.38913	130.09600	228.93034	11.63670	0.1659898	0.24573606	2.5243920	20	3 28.5	19.8
323727 2005 JJ ₁₅₃	17.8	X	97.95697	140.68944	32.28843	3.02545	0.1344177	0.27431286	2.3458772	20	7 21.6	20.9
323728 2005 JE ₁₆₈	17.4	X	328.66690	247.94664	63.69910	3.33384	0.1358129	0.26719108	2.3873739	20	7 4.6	19.5
323729 2005 JQ ₁₈₃	17.4	X	63.93073	79.46417	180.05098	4.60322	0.2089989	0.27748942	2.3279399	20	10 17.6	20.7
323730 2005 LM ₄	17.2	X	65.45183	84.73977	115.87869	6.67307	0.0567790	0.26843625	2.3799908	20	7 2.9	19.9
323731 2005 LT ₁₆	17.5	X	281.97685	169.63266	163.15815	1.33001	0.1981451	0.26076884	2.4264178	20	5 6.5	20.6
323732 2005 LC ₁₇	16.7	X	102.66436	39.46803	67.29216	11.82000	0.0829151	0.25795101	2.4440564	20	4 22.9	19.9
323733 2005 LH ₁₈	17.6	X	54.61386	358.61633	174.28686	4.42651	0.1355681	0.26174488	2.4203820	20	5 19.7	20.2
323734 2005 LS ₂₃	17.9	X	27.77220	39.77424	225.54071	1.52901	0.1936161	0.27094102	2.3652999	20	8 30.8	20.1
323735 2005 LP ₂₆	17.2	X	15.59593	153.78598	123.25046	7.71604	0.1603633	0.26959642	2.3731579	20	8 22.4	19.3
323736 2005 LH ₃₀	17.3	X	344.79659	161.07554	114.30831	3.18324	0.1925030	0.25983904	2.4322028	20	6 5.6	19.1
323737 2005 MZ ₁₁	17.3	X	285.52933	192.70709	134.29571	3.13356	0.2145639	0.25936638	2.4351568	20	5 1.6	20.4
323738 2005 MW ₁₇	17.0	X	237.05078	50.07378	285.64924	3.45323	0.1380171	0.24713921	2.5148280	20	3 26.5	20.9
323739 2005 MK ₂₂	17.2	X	13.12864	349.17137	292.19363	2.67514	0.1861534	0.26454757	2.4032569	20	8 24.6	19.3
323740 2005 MH ₂₃	16.7	X	297.70829	183.63697	128.80575	8.95549	0.2254731	0.26030357	2.4293083	20	4 29.0	19.8
323741 2005 ME ₃₀	16.2	X	45.06209	352.45418	140.70626	15.24737	0.0429927	0.24122393	2.5557741	20	2 28.6	19.3
323742 2005 ME ₄₂	17.1	X	316.72039	92.82732	184.92910	5.82425	0.2339451	0.25394068	2.4697208	20	4 4.0	19.6
323743 2005 MX ₄₄	16.7	X	154.32919	221.97918	155.50522	12.19044	0.1301381	0.23793818	2.5792491	20	2 29.6	20.6
323744 2005 MQ ₄₈	17.2	X	232.73986	114.22164	209.33086	5.22170	0.1038954	0.24389047	2.5371112	20	3 9.5	21.1
323745 2005 MW ₄₈	16.3	X	228.00510	207.15946	115.35975	15.98359	0.1836790	0.24281736	2.5445807	20	3 5.8	20.6
323746 2005 MY ₅₃	16.2	X	99.64853	63.01518	316.79576	11.88903	0.1861023	0.22408659	2.6844715	20	1 11.6	19.7
323747 2005 MD ₅₄	17.5	X	43.21535	324.65380	278.25758	0.84049	0.1543676	0.26431279	2.4046798	20	8 16.0	20.2
323748 2005 NC ₂₇	17.2	X	24.15783	75.51954	146.46091	4.80469	0.0604327	0.25678561	2.4514456	20	5 31.3	20.0
323749 2005 NV ₃₂	17.2	X	344.73850	138.10122	169.18578	6.52412	0.1207758	0.26334226	2.4105844	20	7 30.0	19.4
323750 2005 NB ₇₅	16.4	X	329.61876	181.92025	127.29759	6.25331	0.0750038	0.26150221	2.4218792	20	7 6.9	19.0
323751 2005 NR ₁₂₂	17.0	X	6.52639	273.65559	12.08549	6.61871	0.1936685	0.26337232	2.4104010	20	8 22.4	19.0
323752 2005 NB ₁₂₃	17.0	X	8.18079	271.61574	21.55792	9.57214	0.2273301	0.26545531	2.3977751	20	9 14.4	19.0
323753 2005 OL	16.5	X	209.82480	244.02409	113.56916	4.40736	0.1398545	0.24496665				

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>		
323761	2005	OM ₂₆	17.1	X	337.83014	40.74887	259.95432	4.29668	0.1786363	0.25932707	2.4354029	20	7 2.2	18.9
323762	2005	OY ₂₈	16.3	X	210.99608	206.26029	84.56435	13.02130	0.1285006	0.23312542	2.6146263	20	1 10.6	20.5
323763	2005	PD ₄	16.1	X	187.19387	268.86064	66.93108	12.31520	0.2135033	0.23718998	2.5846703	20	2 18.0	20.7
323764	2005	PB ₇	16.6	X	101.15005	49.22934	320.50606	12.85684	0.2093735	0.22395346	2.6855533	20	1 4.5	20.1
323765	2005	PM ₁₈	17.0	X	296.12040	262.87473	46.94884	8.06301	0.2536819	0.25360249	2.4719160	20	4 16.6	20.1
323766	2005	QK ₄	17.0	X	222.69309	330.18592	347.17312	11.70602	0.1981819	0.23839145	2.5759787	20	2 21.4	21.2
323767	2005	QK ₁₄	16.7	X	185.22753	341.03640	330.40812	11.29048	0.1824490	0.23139157	2.6276713	20	1 15.5	21.1
323768	2005	QU ₁₉	16.4	X	45.76380	156.09619	342.13265	8.84911	0.0522213	0.23844067	2.5756242	20	3 6.4	19.4
323769	2005	QV ₂₁	17.7	X	257.07249	222.33902	86.74981	0.43278	0.1517731	0.24436151	2.5338497	20	3 14.5	21.3
323770	2005	QJ ₂₅	17.0	X	153.17732	281.46407	69.26662	2.61303	0.1091375	0.22821698	2.6519830	20	1 25.9	20.8
323771	2005	QV ₃₅	17.2	X	221.22480	230.29538	91.86354	3.38974	0.2187402	0.23849191	2.5752553	20	2 24.8	21.5
323772	2005	QJ ₃₇	16.5	X	51.20887	71.22006	326.36865	4.68690	0.0881100	0.21667678	2.7453295	20	—	—
323773	2005	QW ₃₈	17.2	X	213.54124	177.58412	157.75298	8.12884	0.2073944	0.23984875	2.5655538	20	3 4.5	21.4
323774	2005	QJ ₃₉	16.7	X	354.21221	297.62110	335.72083	10.27368	0.2194273	0.25946505	2.4345394	20	6 28.1	18.6
323775	2005	QF ₄₈	14.5	X	326.41470	188.20344	124.19223	8.88021	0.2786365	0.12340131	3.9956693	20	6 7.9	19.1
323776	2005	QW ₄₈	17.2	X	201.35923	235.17498	95.29075	3.92914	0.1123326	0.23535100	2.5981169	20	2 18.9	21.2
323777	2005	QF ₅₁	16.6	X	229.90544	170.46081	143.19773	14.54386	0.1823658	0.23808970	2.5781547	20	2 22.5	20.7
323778	2005	QY ₅₅	16.4	X	130.12983	190.92718	165.55425	7.24233	0.2235172	0.22523283	2.6753560	20	1 20.3	20.5
323779	2005	QJ ₅₆	16.4	X	183.05253	327.67390	4.55568	13.50800	0.1981620	0.23159133	2.6261599	20	2 10.5	21.0
323780	2005	QK ₆₀	16.0	X	166.29529	22.28605	333.44182	14.01870	0.1617899	0.23257062	2.6187828	20	2 17.9	20.1
323781	2005	QH ₆₃	16.7	X	173.68579	236.52462	103.37976	3.30839	0.1705027	0.23230993	2.6207416	20	2 6.0	20.9
323782	2005	QR ₇₉	16.9	X	197.85230	11.08861	354.88856	20.47643	0.1027448	0.37433888	1.9067456	20	3 17.6	19.1
323783	2005	QS ₉₀	17.2	X	150.96666	340.01726	19.06152	2.63033	0.1405526	0.22991558	2.6389052	20	2 5.9	21.1
323784	2005	QZ ₉₀	16.7	X	152.23794	188.17908	164.94229	4.40879	0.1840423	0.22895791	2.6462586	20	2 2.3	20.8
323785	2005	QO ₉₁	16.1	X	68.00295	60.56447	322.67988	11.37205	0.1738462	0.21819733	2.7325603	20	—	—
323786	2005	QF ₁₀₃	16.5	X	149.91171	4.08294	329.28128	12.47231	0.0744529	0.22618378	2.6678520	20	—	—
323787	2005	QL ₁₀₈	17.1	X	28.70581	105.19074	296.92504	2.89140	0.2098774	0.21274795	2.7790251	20	—	—
323788	2005	QY ₁₁₂	16.5	X	156.96078	312.83427	17.86422	10.44020	0.2478900	0.22784258	2.6548875	20	1 19.5	21.1
323789	2005	QZ ₁₁₂	16.2	X	249.24855	181.29301	140.21446	16.41149	0.1834396	0.24367416	2.5386124	20	3 23.4	20.3
323790	2005	QK ₁₂₁	16.8	X	72.69958	67.87748	329.54292	5.30929	0.0412822	0.22345009	2.6895670	20	—	—
323791	2005	QR ₁₃₀	17.0	X	297.86727	219.11462	31.94393	5.08125	0.1362655	0.24098127	2.5574895	20	2 20.4	20.5
323792	2005	QD ₁₃₆	17.1	X	77.94511	351.10989	51.80258	1.64015	0.0510378	0.22311025	2.6922974	20	—	—
323793	2005	QY ₁₄₀	17.1	X	85.95558	240.14148	165.93075	9.64011	0.0853002	0.22627456	2.6671385	20	1 8.3	20.6
323794	2005	QV ₁₄₈	15.9	X	68.69448	35.38553	350.31510	12.21990	0.1836123	0.21801627	2.7340730	20	—	—
323795	2005	QH ₁₄₉	17.2	X	72.39425	206.45962	9.88376	23.19694	0.0512845	0.39224586	1.8482631	20	9 1.4	19.3
323796	2005	QV ₁₅₀	16.4	X	315.75686	58.63740	176.35428	14.32489	0.0856262	0.23778389	2.5803648	20	2 27.4	19.8
323797	2005	QB ₁₅₁	16.6	X	6.47752	270.53185	167.68472	9.42698	0.1081068	0.21432286	2.7653942	20	—	—
323798	2005	QH ₁₅₁	17.2	X	205.57263	320.69765	13.86554	4.29642	0.1902187	0.23624548	2.5915547	20	2 27.5	21.5
323799	2005	QT ₁₅₁	16.3	X	91.74016	2.94612	23.99285	14.45482	0.2354633	0.22036389	2.7146203	20	1 20.5	20.0
323800	2005	QK ₁₅₅	17.0	X	339.33494	260.91327	44.15378	4.15325	0.2154965	0.25995642	2.4314706	20	7 12.6	18.6
323801	2005	QT ₁₅₆	16.1	X	105.29721	110.51198	292.12954	11.37014	0.0941696	0.22862546	2.6488233	20	1 30.2	19.7
323802	2005	QA ₁₅₇	16.0	X	48.89889	218.45720	220.83530	8.69175	0.1847521	0.21983697	2.7189564	20	1 3.3	18.8
323803	2005	QC ₁₆₁	16.2	X	155.47586	183.28372	161.22255	14.74014	0.1386081	0.22802240	2.6534915	20	1 21.6	20.5
323804	2005	QU ₁₆₁	16.4	X	44.39251	11.92843	0.57594	13.00584	0.1933295	0.21292246	2.7775064	20	—	—
323805	2005	QT ₁₆₅	15.6	X	62.10277	28.38708	17.32399	26.25375	0.1403666	0.21860784	2.7291384	20	—	—
323806	2005	QP ₁₇₃	16.5	X	160.78879	155.95463	191.82865	12.36719	0.1881091	0.22852315	2.6496138	20	2 1.9	20.9
323807	2005	QD ₁₈₁	16.4	X	58.66204	79.90191	338.03407	8.46504	0.1041520	0.21924522	2.7238465	20	—	—
323808	2005	QX ₁₉₀	16.9	X	67.03047	190.54610	216.84094	1.56392	0.0725745	0.22180527	2.7028470	20	—	—
323809	2005	RA ₉	17.4	X	196.25803	349.10122	3.63742	21.49907	0.0658250	0.36885376	1.9256022	20	3 4.3	19.7
323810	2005	RU ₁₃	17.4	X	262.50159	347.81970	306.42118	2.38440	0.1140329	0.24206411	2.5498567	20	3 4.7	21.0
323811	2005	RL ₂₄	17.2	X	230.31621	181.95659	201.94156	21.93778	0.0934334	0.37952041	1.8893509	20	5 26.8	19.6
323812	2005	RE ₂₇	17.4	X	163.10721	73.76963	333.67760	19.41307	0.1238710	0.37232041	1.9136308	20	3 28.4	20.1
323813	2005	RF ₃₁	16.3	X	21.62123	139.96732	157.00088	9.86945	0.2534084	0.26475620	2.4019942	20	10 20.4	19.0
323814	2005	SW	17.0	X	210.14729	329.01915	8.47386	18.35323	0.2299722	0.23758766	2.5817853	20	3 8.9	21.6
323815	2005	SC ₂	16.0	X	175.51154	358.93581	15.45198	18.73067	0.0956525	0.23360424	2.6110523	20	3 20.7	20.0
323816	2005	SG ₆	16.8	X	338.91776	202.65807	273.29498	3.25009	0.0225674	0.21426665	2.7658778	20	—	—
323817	2005	SN ₁₁	16.6	X	80.93243	3.49575	21.82827	6.22148	0.0679286	0.21842995	2.7306200	20	—	—
323818	2005	SJ ₁₆	17.1	X	338.83578	87.25687	350.69762	4.17640	0.0913927	0.20869707	2.8148709	20	—	—
323819	2005	ST ₁₇	17.0	X	23.07771	42.31458	15.88136	3.06704	0.0823193	0.21358183	2.7717869	20	—	—
323820	2005	SG ₂₂	16.9	X	151.43239	218.39407	124.47573	4.97124	0.1093579	0.22601854	2.6691522	20	1 14.1	20.7
323821	2005	SU ₃₀	16.5	X	223.22897	93.33618	200.13388	12.93686	0.1616792	0.23215330	2.6219202	20	1 21.3	21.1
323822	2005	SM ₃₁	16.6	X	21.81889	13.45527	31.23231	11.44343	0.1470612	0.20947575	2.8078908	20	—	—
323823	2005	SR ₃₃	17.3	X	269.31116	160.24363	152.61862	5.44540	0.2807480	0.24459475	2.5322386	20	3 19.2	21.4
323824	2005	SA ₃₈	16.6	X	131.26610	345.58158	17.61830	7.06378	0.1953916	0.22563233	2.6721971	20	1 29.7	20.7
323825	2005	SJ ₃₈	16.7	X	296.34988	31.41667	195.52102	4.39655	0.0145928	0.23019206	2.6367917	20	2 3.1	20.2
323826	2005	SV ₃₈	17.0	X	115.69897	135.62063	193.36920	6.02223	0.0683685	0.21605587	2.7505867	20	—	—
323827	2005	SE ₄₂	17.0	X	87.74072	162.60594	241.10352	4.16948	0.0182207	0.22276171	2.6951050	20	—	—
323828	2005	SZ ₄₂	18.2	X	128.34503	269.40277	197.94486	20.88357	0.1067636	0.37494422	1.9046928	20	5 24.2	20.7
323829	2005	SE ₄₄	16.8	X	100.10941	203.91802	217.43385	5.72290	0.0949554	0.22707482	2.6608684	20	2 16.1	20.4
323830	2005	SW ₅₀	16.8	X	68.78353	236.12170	199.29089	3.31623	0.0464279	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>		
323841	2005	SZ ₇₅	16.9	X	70.82215	259.76115	185.07479	2.75307	0.0855404	0.22752972	2.6573206	20	2 5.9	20.1
323842	2005	SV ₇₆	17.6	X	344.56453	99.01184	176.54930	3.70366	0.1998240	0.25283150	2.4769387	20	6 4.9	19.5
323843	2005	SH ₈₁	17.0	X	189.53100	143.11160	183.27712	14.76385	0.1127650	0.23102146	2.6304769	20	1 29.8	21.3
323844	2005	SO ₈₁	16.4	X	169.37256	287.44620	10.17438	13.19283	0.0887731	0.22209347	2.7005083	20	—	—
323845	2005	SJ ₈₅	16.2	X	211.64681	273.05937	12.27892	17.44202	0.1770209	0.22832544	2.6511432	20	1 7.9	20.9
323846	2005	SS ₈₆	16.9	X	341.24359	164.68539	31.36596	2.02843	0.0573907	0.23258614	2.6186663	20	2 19.1	20.2
323847	2005	SX ₈₆	16.7	X	73.77190	19.07479	18.57408	5.08046	0.1184184	0.21919414	2.7242696	20	—	—
323848	2005	SJ ₈₇	16.9	X	110.78206	193.35997	168.80050	2.06212	0.0966702	0.22064221	2.7123370	20	—	—
323849	2005	SG ₉₀	17.0	X	31.93280	193.20901	218.69051	2.72699	0.1848187	0.21144900	2.7903946	20	—	—
323850	2005	ST ₉₇	17.0	X	201.16972	136.02469	181.59982	13.55421	0.1869648	0.23206144	2.6226121	20	1 31.5	21.7
323851	2005	SU ₁₀₂	16.7	X	156.28417	141.81106	214.44615	9.83308	0.1982083	0.22844548	2.6502144	20	2 8.2	21.2
323852	2005	SZ ₁₀₂	17.0	X	76.63258	69.29731	293.14938	3.39267	0.0826605	0.21350801	2.7724258	20	—	—
323853	2005	SO ₁₀₈	17.1	X	31.08083	204.29561	203.76468	3.92759	0.0682154	0.21256752	2.7805974	20	—	—
323854	2005	SA ₁₁₀	17.1	X	298.00793	268.60121	12.55149	3.04861	0.1401796	0.24216476	2.5491502	20	3 28.3	20.4
323855	2005	SP ₁₁₆	17.5	X	161.48422	222.12821	204.33498	21.26761	0.1015602	0.37480445	1.9051663	20	5 4.0	19.7
323856	2005	SU ₁₁₇	16.3	X	64.33310	338.97410	31.91504	9.55629	0.1618577	0.21422079	2.7662726	20	—	—
323857	2005	ST ₁₂₂	16.7	X	77.29732	100.56327	291.44928	4.38155	0.1338691	0.21949256	2.7217998	20	—	—
323858	2005	SV ₁₂₂	17.0	X	245.92206	321.75787	348.40029	11.76691	0.1898548	0.23985878	2.5654623	20	3 2.9	20.9
323859	2005	SG ₁₂₆	16.8	X	167.81465	135.89756	186.69179	4.25235	0.1244806	0.22565545	2.6720147	20	1 7.5	20.9
323860	2005	SE ₁₂₇	16.3	X	79.76092	253.66291	191.68864	21.65982	0.0477130	0.22920545	2.6443530	20	2 10.6	20.2
323861	2005	ST ₁₄₂	16.4	X	313.55076	203.61647	39.35141	9.49431	0.1152530	0.23852597	2.5750101	20	3 7.8	19.7
323862	2005	SO ₁₄₃	16.9	X	302.06641	117.93338	171.10849	8.03538	0.0746731	0.24423347	2.5347352	20	4 26.2	20.1
323863	2005	SG ₁₄₈	17.2	X	253.34861	232.62858	60.12843	2.55205	0.1822518	0.23604176	2.5930456	20	2 18.8	21.3
323864	2005	SO ₁₅₁	16.9	X	245.51703	98.87205	180.01818	4.09140	0.1825314	0.23234307	2.6204924	20	1 24.6	21.1
323865	2005	ST ₁₅₃	17.1	X	219.77263	330.36800	328.63291	3.29359	0.1148603	0.23203635	2.6228012	20	1 29.1	21.2
323866	2005	SU ₁₅₅	16.3	X	63.32100	117.80907	254.58667	11.89006	0.1705909	0.21441269	2.7646218	20	—	—
323867	2005	SN ₁₅₆	17.4	X	349.86673	265.82428	187.68522	4.69850	0.0912276	0.21187613	2.7866432	20	—	—
323868	2005	SP ₁₅₉	15.5	X	119.47857	301.91981	28.285649	15.91855	0.1951979	0.21602330	2.7508631	20	—	—
323869	2005	SM ₁₆₁	16.9	X	344.20630	206.44364	347.42212	1.76079	0.1234556	0.23358285	2.6112117	20	2 11.9	19.6
323870	2005	SN ₁₆₂	17.4	X	251.16709	311.74006	315.94579	1.12541	0.0407634	0.22934238	2.6433003	20	1 28.2	21.1
323871	2005	SL ₁₆₃	16.7	X	93.47712	310.33602	80.94868	2.25260	0.1053924	0.22130470	2.7069213	20	1 4.6	20.0
323872	2005	SR ₁₆₅	15.7	X	13.61249	70.50735	20.16378	24.89168	0.1867238	0.21676557	2.7445797	20	—	—
323873	2005	SY ₁₆₇	16.0	X	130.11229	42.51572	311.85541	11.80342	0.1866367	0.22582249	2.6706968	20	1 15.6	19.9
323874	2005	SD ₁₆₉	17.2	X	37.61185	112.19765	288.47085	3.55495	0.0718713	0.21357013	2.7718882	20	—	—
323875	2005	SK ₁₇₀	16.4	X	53.33957	249.07175	208.39491	11.16105	0.0994461	0.22552981	2.6730069	20	1 25.9	19.8
323876	2005	SA ₁₇₂	17.2	X	57.66668	111.10150	304.35722	2.83811	0.0973246	0.21953930	2.7214135	20	—	—
323877	2005	SH ₁₇₂	17.1	X	133.54699	23.04130	341.82087	5.73349	0.0444192	0.22563362	2.6721869	20	1 14.1	20.7
323878	2005	SA ₁₈₃	17.4	X	87.75255	54.16071	327.33412	1.86671	0.0885388	0.21825560	2.7320740	20	—	—
323879	2005	SA ₂₀₄	16.8	X	25.67535	332.08911	187.65538	14.44106	0.0292415	0.23461630	2.6035380	20	3 3.8	20.1
323880	2005	SL ₂₀₆	16.4	X	77.28389	240.59481	150.10567	9.22447	0.2802299	0.21829249	2.7317661	20	1 5.8	19.3
323881	2005	SN ₂₀₇	16.3	X	83.09144	336.28829	47.31933	5.80382	0.1673424	0.21942539	2.7223552	20	—	—
323882	2005	SV ₂₂₀	16.0	X	140.74746	19.38212	355.38343	13.22555	0.2099578	0.22666590	2.6640677	20	2 23.9	20.2
323883	2005	SG ₂₂₇	16.0	X	312.37568	192.05306	28.45604	7.78008	0.0738669	0.23212710	2.6221175	20	2 11.4	19.5
323884	2005	SE ₂₃₈	16.4	X	196.83053	285.95138	16.46714	6.93302	0.1149571	0.22450652	2.6811230	20	1 13.1	20.6
323885	2005	SL ₂₃₈	17.0	X	118.65441	332.41949	13.81626	5.97014	0.0525970	0.21636345	2.7479793	20	—	—
323886	2005	SO ₂₄₂	16.3	X	279.13253	28.50908	216.70655	11.47858	0.1449705	0.23143710	2.6273266	20	1 17.5	20.4
323887	2005	ST ₂₄₃	16.6	X	104.26545	61.63782	305.27705	7.62145	0.0973365	0.22176658	2.7031615	20	—	—
323888	2005	SW ₂₄₅	16.7	X	213.03106	243.69476	19.07447	13.19765	0.1452291	0.22173074	2.7034527	20	—	—
323889	2005	SH ₂₄₆	16.7	X	103.10545	164.21653	216.10418	6.03763	0.0308517	0.22077967	2.7112111	20	—	—
323890	2005	SR ₂₄₆	16.4	X	297.00274	42.36556	208.12704	13.99195	0.1399933	0.23482326	2.6020081	20	2 11.9	20.2
323891	2005	SM ₂₅₅	16.7	X	324.72310	46.64204	24.74968	8.97903	0.2799640	0.20379907	2.8597929	20	12 9.7	19.0
323892	2005	SD ₂₇₀	16.7	X	225.06509	296.20721	19.51052	9.52609	0.1716237	0.23191792	2.6236940	20	2 28.8	20.6
323893	2005	SL ₂₇₈	16.8	X	110.85343	191.10434	204.11751	12.76672	0.0584810	0.22481762	2.6786491	20	1 21.7	20.7
323894	2005	SS ₂₈₇	16.3	X	284.72487	48.68630	73.31372	15.94663	0.1388085	0.20275021	2.8696472	20	12 9.6	19.7
323895	2005	SA ₂₈₈	16.3	X	297.19734	107.17042	92.81485	14.94215	0.1498407	0.21981013	2.7191776	20	—	—
323896	2005	SR ₂₉₃	16.0	X	27.33856	281.08025	172.64386	21.80224	0.0527350	0.22110230	2.7085730	20	—	—
323897	2005	TM ₁	16.3	X	161.54510	329.81532	27.07512	15.58133	0.1358164	0.22949685	2.6421140	20	2 20.1	20.6
323898	2005	TU ₁	16.3	X	203.37443	65.17723	236.42588	11.18412	0.1514814	0.23022482	2.6365416	20	1 14.2	20.7
323899	2005	TY ₄	16.9	X	245.27423	42.67507	184.06914	5.02825	0.1029285	0.21959570	2.7212449	20	—	—
323900	2005	TD ₁₀	16.4	X	68.84686	73.07190	323.26510	6.89448	0.2109947	0.21727691	2.7402720	20	—	—
323901	2005	TZ ₁₁	17.0	X	177.00549	180.06705	161.95930	2.30042	0.2212730	0.22996328	2.6385402	20	2 12.9	21.4
323902	2005	TZ ₂₄	16.8	X	242.98068	97.97843	209.27116	13.81358	0.1078908	0.23364663	2.6107365	20	2 27.0	21.0
323903	2005	TW ₂₇	17.2	X	181.42447	60.95006	214.24041	3.51445	0.0626402	0.21424550	2.7660598	20	—	—
323904	2005	TY ₂₇	16.5	X	5.71798	13.96553	35.80768	9.23663	0.2746998	0.20509592	2.8477249	20	—	—
323905	2005	TQ ₂₈	16.0	X	257.73101	2.63389	250.62007	12.36710	0.0866718	0.22980794	2.6397291	20	1 11.3	20.1
323906	2005	TL ₃₅	16.7	X	330.36111	155.34575	65.57232	2.31446	0.1208545	0.23694997	2.5864154	20	2 27.6	19.7
323907	2005	TY ₃₈	16.7	X	135.14475	117.59898	238.93189	6.74831	0.1619974	0.22440642	2.6819203	20	1 18.0	20.7
323908	2005	TT ₆₀	16.6	X	328.59403	127.62213	338.95499	4.12848	0.1302616	0.21103009	2.7940861	20	—	—
323909	2005	TZ ₆₉	16.1	X	77.72147	240.64938	212.35694	21.52394	0.0792365	0.22837802	2.6507362	20	2 19.9	20.0
323910	2005	TM ₇₄	16.0	X	95.02606	263.81318	74.65238	10.53356	0.1331466	0.21140715	2.7907628	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>
323921 2005 TQ ₉₆	16.8	X	319.75188	168.92987	354.95150	3.83373	0.0365514	0.21894875	2.7263048	20	—	—
323922 2005 TL ₉₇	16.7	X	150.66493	108.75293	229.41577	4.41254	0.0648946	0.22151218	2.7052307	20	1 2.9	20.5
323923 2005 TT ₁₀₁	15.9	X	97.94471	272.10252	70.70784	9.95373	0.2109794	0.21453964	2.7635310	20	—	—
323924 2005 TD ₁₀₄	16.1	X	78.56111	159.48859	226.06372	11.91487	0.1255691	0.21646990	2.7470783	20	—	—
323925 2005 TW ₁₀₅	17.0	X	143.86184	292.12730	71.92151	4.37868	0.1192472	0.22789118	2.6545100	20	2 3.1	20.8
323926 2005 TZ ₁₁₅	16.9	X	128.09235	2.15329	355.11854	4.77833	0.0730017	0.22295650	2.6935350	20	1 1.8	20.7
323927 2005 TW ₁₁₆	17.2	X	1.91802	107.65504	345.94910	4.49771	0.1289854	0.21455744	2.7633782	20	—	—
323928 2005 TW ₁₂₇	16.3	X	9.81790	54.96705	7.07119	4.14754	0.0595347	0.21049999	2.7987751	20	—	—
323929 2005 TX ₁₂₉	17.1	X	236.31331	105.64749	199.69578	4.37159	0.1859774	0.23451774	2.6042675	20	2 16.1	21.4
323930 2005 TS ₁₃₄	16.7	X	36.69163	130.01287	269.16427	5.35570	0.0500212	0.21054302	2.7983937	20	—	—
323931 2005 TC ₁₃₇	16.4	X	40.08079	48.22634	32.37170	7.77656	0.0811004	0.22055638	2.7130406	20	—	—
323932 2005 TO ₁₄₂	16.1	X	308.13194	119.57483	35.71804	15.15700	0.1565459	0.21444368	2.7643555	20	—	—
323933 2005 TU ₁₆₁	16.9	X	54.84013	44.07246	344.73256	3.42702	0.0620824	0.21252316	2.7809843	20	—	—
323934 2005 TR ₁₆₃	16.2	X	80.72546	21.58067	0.48113	6.68960	0.0461668	0.21661641	2.7458395	20	—	—
323935 2005 TM ₁₆₄	17.6	X	287.39009	271.48566	22.02409	13.61401	0.2334175	0.24295559	2.5436154	20	3 21.3	21.3
323936 2005 TX ₁₇₈	16.9	X	229.03721	306.41526	312.16345	2.98426	0.0548739	0.22515632	2.6759621	20	—	—
323937 2005 TO ₁₈₈	17.4	X	246.88684	268.10993	18.28873	4.11509	0.1420962	0.23174246	2.6250182	20	2 8.8	21.5
323938 2005 TE ₁₉₄	17.4	X	215.94341	343.27890	304.51816	1.69749	0.0251824	0.22543268	2.6737747	20	1 13.3	20.9
323939 2005 TG ₁₉₅	17.5	X	191.38414	153.41581	176.25617	3.99265	0.0620477	0.22966431	2.6408296	20	2 5.1	21.3
323940 2005 UR ₃	16.3	X	121.07394	331.90304	42.39340	5.48598	0.0794197	0.22129172	2.7070271	20	1 16.2	20.0
323941 2005 UP ₁₃	17.4	X	354.58518	235.10676	206.81610	3.13177	0.0694549	0.21050450	2.7987351	20	—	—
323942 2005 US ₁₅	16.8	X	55.32180	352.36945	51.52230	6.11516	0.1106120	0.21392638	2.7688100	20	—	—
323943 2005 UW ₁₆	16.5	X	308.07689	199.87637	261.05674	6.05838	0.2559586	0.20127688	2.8836339	20	12 10.3	18.8
323944 2005 UA ₁₈	16.9	X	90.29206	357.72891	355.16618	3.32171	0.1055420	0.21391944	2.7688698	20	—	—
323945 2005 UX ₂₁	16.7	X	221.44971	218.91428	47.87527	4.68579	0.0175410	0.214445971	2.7642177	20	—	—
323946 2005 UU ₂₅	16.6	X	271.21585	82.08255	216.93155	7.45803	0.1216681	0.23746687	2.5826608	20	3 18.8	20.4
323947 2005 UT ₂₇	16.0	X	181.73771	266.13747	34.31120	9.87368	0.0222193	0.21918471	2.7243478	20	—	—
323948 2005 UC ₂₈	16.8	X	68.48330	102.11160	226.05600	1.23387	0.0661737	0.20330483	2.8644258	20	12 15.9	20.9
323949 2005 UM ₃₆	16.5	X	275.71083	163.05887	51.28701	3.96103	0.1086821	0.21775379	2.7362697	20	—	—
323950 2005 UH ₃₈	16.6	X	354.40433	50.73738	68.74349	4.76723	0.0250886	0.21375846	2.7702598	20	—	—
323951 2005 UP ₃₈	16.8	X	124.14558	255.86723	84.06270	1.78380	0.0766926	0.21382640	2.7696730	20	—	—
323952 2005 UG ₄₅	16.1	X	328.97689	103.39829	62.51547	10.72776	0.1086104	0.21801694	2.7340674	20	—	—
323953 2005 UY ₄₇	16.0	X	97.80141	205.88749	209.38841	10.70231	0.0608984	0.22323799	2.6912702	20	1 30.8	19.8
323954 2005 UA ₄₈	16.7	X	234.10388	51.75758	55.84880	8.72944	0.2754343	0.18710103	3.0275078	20	8 29.4	21.7
323955 2005 UO ₄₈	17.0	X	236.11993	121.79593	132.92405	2.49141	0.0237713	0.21939280	2.7226248	20	—	—
323956 2005 UU ₅₀	16.3	X	110.08618	11.11948	9.94691	6.35485	0.0571950	0.21999538	2.7176510	20	1 7.9	20.0
323957 2005 UA ₅₂	16.0	X	35.16807	123.33080	253.16802	9.78400	0.0843865	0.20585413	2.8407281	20	—	—
323958 2005 UB ₆₁	17.0	X	210.10930	72.24832	211.72991	2.15403	0.0374692	0.21926458	2.7236861	20	1 2.6	20.7
323959 2005 US ₆₁	16.8	X	197.62680	221.91828	58.75234	5.77676	0.1229073	0.21741716	2.7390933	20	—	—
323960 2005 UO ₆₉	16.6	X	53.85051	112.89811	296.35313	3.18026	0.0730021	0.21479454	2.7613443	20	—	—
323961 2005 UF ₈₃	16.7	X	303.24437	341.65550	36.27611	3.26866	0.1504331	0.18899771	3.0072188	20	8 16.3	20.4
323962 2005 UV ₈₄	16.6	X	344.82593	24.85010	45.69126	6.85358	0.0642201	0.20517489	2.8469941	20	—	—
323963 2005 UG ₈₆	16.5	X	213.67000	218.69288	48.26193	9.53698	0.0853671	0.21958522	2.7210341	20	—	—
323964 2005 UO ₉₁	16.7	X	88.85394	37.74520	352.03339	5.53913	0.0535984	0.21709416	2.7418096	20	—	—
323965 2005 UT ₉₁	16.9	X	29.27935	128.43880	283.38367	4.25976	0.0810391	0.20963478	2.8064705	20	—	—
323966 2005 UA ₉₃	16.5	X	147.96702	76.60072	258.00039	5.66569	0.0542661	0.21846606	2.7303190	20	—	—
323967 2005 UV ₉₃	16.6	X	32.81019	86.72123	326.86959	3.54536	0.0642821	0.21070508	2.7969586	20	—	—
323968 2005 UU ₉₆	17.1	X	86.37848	282.65447	93.20457	3.38482	0.0728785	0.21425741	2.7659574	20	—	—
323969 2005 UA ₁₀₅	16.6	X	62.12173	169.52215	205.32187	7.53219	0.1091009	0.20892795	2.8127968	20	—	—
323970 2005 UC ₁₀₈	16.7	X	20.34001	247.63173	183.11299	3.81264	0.0856353	0.21032294	2.8003455	20	—	—
323971 2005 UR ₁₀₈	16.9	X	30.77208	335.51219	73.99790	6.25466	0.0758314	0.20887065	2.8133111	20	—	—
323972 2005 UP ₁₁₅	16.1	X	20.88316	70.78160	29.05078	9.21535	0.1122892	0.21582866	2.7525168	20	—	—
323973 2005 UG ₁₂₅	16.0	X	331.17951	265.38681	230.47318	8.61184	0.1185714	0.21157374	2.7892977	20	—	—
323974 2005 UV ₁₂₆	17.0	X	305.37783	244.79146	234.32879	4.07116	0.0600498	0.20489522	2.8495842	20	—	—
323975 2005 UH ₁₃₄	16.8	X	55.95067	127.56842	255.34581	5.41185	0.0721398	0.21081543	2.7959826	20	—	—
323976 2005 UW ₁₄₆	16.0	X	98.17571	328.31610	28.45613	7.81865	0.0732685	0.21340692	2.7733013	20	—	—
323977 2005 UZ ₁₄₈	16.3	X	342.63543	71.44513	32.51089	4.47419	0.0659099	0.20965881	2.8062561	20	—	—
323978 2005 UD ₁₄₉	16.6	X	310.98904	309.72417	229.33032	8.30805	0.0851291	0.21754673	2.7380057	20	—	—
323979 2005 UG ₁₄₉	16.7	X	123.81078	325.69774	28.08719	3.76539	0.0714087	0.21768013	2.7368870	20	—	—
323980 2005 UH ₁₅₀	16.2	X	49.23760	57.66146	25.03038	5.98593	0.1214884	0.22198257	2.7014077	20	1 5.9	19.2
323981 2005 UT ₁₅₃	16.6	X	67.46631	160.17293	239.53938	2.60808	0.0987101	0.21377706	2.7700992	20	—	—
323982 2005 UX ₁₇₄	16.7	X	237.22214	293.43605	345.34911	3.29920	0.0572215	0.22302136	2.6930127	20	1 26.4	20.5
323983 2005 UY ₁₇₆	15.7	X	176.26956	282.26983	44.59902	14.41940	0.1091395	0.22218242	2.6997875	20	1 24.6	20.1
323984 2005 UD ₁₇₉	17.0	X	21.01509	259.33464	147.37552	2.48839	0.0668380	0.20582343	2.8410105	20	—	—
323985 2005 US ₁₈₉	17.1	X	248.90307	17.96761	262.70755	1.24270	0.0861448	0.22756095	2.6570775	20	2 6.6	21.0
323986 2005 UE ₁₉₂	17.0	X	266.38954	116.57554	28.02867	2.13868	0.0159767	0.20201879	2.8765695	20	12 22.8	20.9
323987 2005 UH ₁₉₈	16.6	X	52.44189	271.94472	179.41382	7.55927	0.1055696	0.22612690	2.6682994	20	1 18.7	19.8
323988 2005 UO ₁₉₈	17.0	X	57.05063	43.89738	359.15017	4.27981	0.0612643	0.21421519	2.7663208	20	—	—
323989 2005 UY ₂₀₃	16.7	X	52.81247	335.25134	84.30370	1.37049	0.0611757	0.21480355	2.7612671	20	—	—
323990 2005 UF ₂₁₃	16.8	X	290.33152	174.04273	248.92802	0.72739	0.0636382	0.19370030	2.9583475	20	10 5.3	20.7
323991 2005 UN ₂₂₀	16.2	X	135.29758	81.97293	253.36065	4.99647	0.0691512	0.21724799	2.7405151	20	—	—
323992 2005 UA ₂₂₁	16.6	X	92.55940	49.02322	357.83901	4.74678	0.0678591	0.22114376	2.7082344	20	1 19.1	20.1
323993 2005 UL ₂₃₂	16.4	X	348.59442	61.22668	55.17959	4.47499	0.0532288	0.21265278	2.7798541	20	—	—
323994 2005 UB ₂₃₄	16.3	X	10.03621	249.77603	182.83722	4.89986	0.1046185	0.20852600	2.8164102	20	—	—
323995 2005 US ₂₃₅	16.1	X	90.05250	201.72768	203.76796	9.38141	0.0678673	0.21920505	2.7241793	20	1 11.3	