

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>
312001 2007 PK ₂	13.2 ^m	X	223.66302	347.71387	136.05635	17.96140	0.1205925	0.08355300	5.1819676	20	9 11.3	20.5
312002 2007 PL ₆	17.2	X	306.76109	185.85081	160.03459	5.29297	0.1910133	0.29973777	2.2112698	20	7 8.3	19.1
312003 2007 PM ₁₅	16.7	X	120.54323	56.96675	338.79723	14.30139	0.2719746	0.26559806	2.3969158	20	2 29.9	20.2
312004 2007 PW ₂₇	15.8	X	193.55201	294.36834	125.19094	23.05909	0.2945463	0.28627652	2.2800563	20	6 2.9	20.3
312005 2007 PG ₃₂	16.8	X	262.64530	324.63847	356.42951	7.33353	0.1044967	0.28519960	2.2857924	20	4 5.9	19.8
312006 2007 PD ₄₉	17.8	X	301.41042	263.83698	41.08265	1.54004	0.1846035	0.29207283	2.2497898	20	4 24.8	20.1
312007 2007 QH ₆	17.0	X	274.98861	8.49531	322.47558	10.40225	0.2023247	0.29038518	2.2584982	20	4 17.3	20.3
312008 2007 QB ₇	17.3	X	221.91249	17.96396	358.29789	6.25278	0.1671059	0.28584524	2.2823491	20	4 28.7	20.9
312009 2007 QR ₈	17.2	X	191.75124	218.78132	162.37803	5.90836	0.1749223	0.28040217	2.3117905	20	4 10.4	20.9
312010 2007 QO ₁₆	17.4	X	253.87863	221.12042	143.72933	2.31472	0.1977739	0.29212455	2.2495243	20	5 16.6	20.5
312011 2007 RW ₂	18.0	X	176.52643	201.08854	162.88833	2.54744	0.2064724	0.27433790	2.3457344	20	3 6.1	21.7
312012 2007 RO ₁₅	16.2	X	84.00661	88.65856	285.37117	30.62446	0.1406941	0.23851194	2.5751111	20	—	—
312013 2007 RV ₁₆	17.4	X	161.40466	357.96930	26.56297	4.48761	0.2466329	0.27014526	2.3699425	20	3 22.1	21.2
312014 2007 RH ₁₈	17.1	X	152.46664	204.28917	222.33747	4.12942	0.1121610	0.27826231	2.3236273	20	4 26.3	20.3
312015 2007 RL ₂₉	17.0	X	255.09620	182.45418	211.48365	8.78680	0.1075891	0.29434870	2.2381781	20	7 9.2	20.0
312016 2007 RL ₃₄	17.2	X	147.76157	85.46071	305.25030	4.98707	0.2418220	0.27049143	2.3679201	20	3 14.6	21.0
312017 2007 RO ₃₆	16.9	X	204.69058	335.71841	2.82675	1.33300	0.1880247	0.27335868	2.3513330	20	2 27.6	20.7
312018 2007 RJ ₄₅	17.7	X	209.97390	45.57061	326.75254	7.00812	0.1335306	0.28056772	2.3108810	20	4 12.0	21.2
312019 2007 RN ₄₅	17.6	X	274.42969	138.96804	248.72039	3.53609	0.0953622	0.29708204	2.2244285	20	8 1.3	19.9
312020 2007 RP ₄₈	17.2	X	140.82974	101.84460	17.96725	5.33928	0.0492280	0.28580053	2.2825871	20	6 20.5	20.1
312021 2007 RV ₆₀	17.3	X	135.56797	65.14197	323.74303	4.30670	0.2235682	0.26694287	2.3888589	20	3 1.2	21.0
312022 2007 RE ₇₂	17.4	X	188.23969	286.87639	70.13700	2.29610	0.1997131	0.27393851	2.3480138	20	3 8.4	21.2
312023 2007 RT ₇₅	13.6	X	323.08362	240.43477	154.73532	4.35178	0.0275774	0.07922361	5.3690771	20	9 30.4	20.4
312024 2007 RE ₈₆	17.4	X	223.71960	339.05725	353.28103	2.31207	0.2020411	0.27746205	2.3280930	20	3 6.5	21.1
312025 2007 RN ₉₅	17.3	X	200.23619	351.56877	26.59009	7.23384	0.1265132	0.27766093	2.3269811	20	4 13.6	20.6
312026 2007 RS ₉₈	17.0	X	254.49083	231.25533	66.75134	4.20448	0.2194805	0.27706197	2.3303336	20	2 20.5	20.8
312027 2007 RL ₁₀₃	17.3	X	197.91818	326.40020	358.86879	2.25174	0.2114142	0.27002671	2.3706361	20	2 6.3	21.2
312028 2007 RA ₁₁₉	17.0	X	128.51962	355.92834	80.0278	1.08637	0.2166569	0.26583440	2.3954950	20	3 1.1	20.5
312029 2007 RR ₁₂₅	16.9	X	211.35276	342.19239	63.34140	7.56712	0.1001594	0.28603208	2.2813551	20	6 2.1	19.9
312030 2007 RK ₁₃₃	15.8	X	67.29999	236.47304	82.90473	32.17883	0.3219276	0.24104355	2.5570489	20	—	—
312031 2007 RJ ₁₄₁	17.1	X	289.29688	102.53623	209.75738	2.05370	0.1710858	0.28689460	2.2767803	20	4 20.2	19.9
312032 2007 RM ₁₄₃	17.4	X	177.97091	38.65016	3.84085	3.75853	0.1485933	0.27842825	2.3227039	20	4 22.0	20.8
312033 2007 RR ₁₄₁	17.8	X	161.19879	115.19809	284.42468	2.86248	0.2430811	0.27378696	2.3488802	20	4 6.6	21.8
312034 2007 RA ₁₄₆	16.8	X	204.19085	119.87801	254.51011	2.60488	0.2597436	0.27605086	2.3360205	20	4 9.3	21.0
312035 2007 RL ₁₅₃	17.9	X	54.44222	288.43946	315.07295	3.76732	0.1440462	0.30281664	2.1962557	20	9 5.6	20.4
312036 2007 RX ₁₅₆	17.6	X	183.95533	169.24553	135.32549	2.04384	0.1825049	0.26584926	2.3954057	20	—	—
312037 2007 RS ₁₆₄	17.3	X	207.05103	84.60710	297.46250	2.78956	0.0766138	0.28329161	2.2960442	20	4 25.9	20.4
312038 2007 RT ₁₇₄	17.3	X	139.51977	335.42416	44.64216	5.42762	0.2071392	0.26494938	2.4008265	20	2 24.9	20.9
312039 2007 RQ ₁₈₀	18.0	X	308.13768	203.46208	154.03418	2.47082	0.0453980	0.30011163	2.2094330	20	8 20.2	20.0
312040 2007 RC ₁₈₅	17.8	X	233.21445	73.83717	272.68191	4.42530	0.2557574	0.28086239	2.3092644	20	3 26.9	21.8
312041 2007 RB ₂₀₉	17.5	X	342.37114	266.42022	34.71616	3.31867	0.1626278	0.29679422	2.2258664	20	7 20.8	18.9
312042 2007 RQ ₂₁₂	17.3	X	339.49178	256.10896	69.15031	2.10508	0.1726156	0.30066386	2.2067268	20	8 28.4	18.6
312043 2007 RQ ₂₁₉	17.5	X	128.81011	87.26502	296.62675	1.50140	0.2279608	0.26318162	2.4115653	20	2 18.4	21.0
312044 2007 RS ₂₃₂	17.2	X	224.18263	329.94955	42.55529	6.38634	0.1810155	0.28355332	2.2946312	20	4 27.6	20.7
312045 2007 RZ ₂₃₂	18.0	X	197.92571	228.24777	177.86929	4.46250	0.2380216	0.28405299	2.2919394	20	5 16.4	21.9
312046 2007 RO ₂₃₉	16.9	X	287.57222	245.93017	99.66115	7.34104	0.1643904	0.29265985	2.2467804	20	6 7.8	19.4
312047 2007 RG ₂₄₀	17.5	X	150.76396	71.45766	334.39004	1.48320	0.1767033	0.27083546	2.3659144	20	4 2.2	20.9
312048 2007 RW ₂₄₁	18.1	X	169.83021	212.48960	148.79282	1.68622	0.2041767	0.27028892	2.3691027	20	2 26.3	21.9
312049 2007 RF ₂₄₅	17.8	X	154.72227	343.47072	84.77117	3.44187	0.1811090	0.27510195	2.3413892	20	5 6.5	21.4
312050 2007 RD ₂₄₆	17.7	X	210.31773	305.28671	30.53178	5.42937	0.1348067	0.27506212	2.3416152	20	3 2.4	21.2
312051 2007 RO ₂₈₅	17.7	X	71.90371	264.22346	190.76302	2.11588	0.1444877	0.25954570	2.4340349	20	2 24.4	20.2
312052 2007 RX ₂₈₆	17.0	X	190.16604	304.79281	80.79331	7.90277	0.1769802	0.27878352	2.3207303	20	4 16.9	20.8
312053 2007 RG ₂₉₈	17.3	X	157.61560	333.92305	82.74803	3.77546	0.1524218	0.27603949	2.3360846	20	4 23.0	20.7
312054 2007 RR ₃₀₉	17.7	X	42.76782	196.09263	31.62534	3.03316	0.0324404	0.28387999	2.2928705	20	7 5.9	20.3
312055 2007 RC ₃₁₉	17.5	X	176.48983	135.44115	277.65320	4.73440	0.1960348	0.27800522	2.3250596	20	5 4.9	21.3
312056 2007 RD ₃₂₁	17.4	X	88.19002	99.40829	307.15175	1.81671	0.1822755	0.25906292	2.4370581	20	1 20.9	20.0
312057 2007 RC ₃₂₅	17.8	X	343.36787	336.34095	328.98470	1.86000	0.0191987	0.29279171	2.2461057	20	7 29.2	20.3
312058 2007 ST ₅	17.8	X	163.13187	111.69464	292.22659	1.18832	0.2192409	0.27435497	2.3456371	20	4 13.3	21.5
312059 2007 SO ₁₅	16.6	X	38.24509	166.94445	284.29753	5.08462	0.2666075	0.24091124	2.5579851	20	—	—
312060 2007 SU ₁₅	17.8	X	184.11155	52.70792	349.83294	1.67003	0.2003245	0.28062265	2.3105794	20	4 28.9	21.6
312061 2007 SY ₁₆	17.5	X	172.45025	81.03096	350.18954	3.08795	0.1367459	0.28344306	2.2952262	20	5 24.4	20.9
312062 2007 SU ₂₁	17.7	X	176.64473	326.99128	86.07171	2.90907	0.1599398	0.27944407	2.3170716	20	5 6.5	21.2
312063 2007 SH ₂₂	17.6	X	134.90139	311.67484	83.72625	2.31904	0.1847637	0.26700770	2.3884722	20	3 6.6	21.0
312064 2007 SC ₂₃	17.0	X	98.74445	277.83004	189.21677	6.85348	0.0648043	0.27132469	2.3630695	20	4 9.3	19.9
312065 2007 TB ₁₀	17.3	X	229.26917	334.65042	33.73890	3.72950	0.1819799	0.28236657	2.3010561	20	4 26.7	20.8
312066 2007 TP ₁₂	16.5	X	177.45265	306.61097	64.56746	2.40537	0.2022390	0.27010090	2.3702020	20	3 17.0	20.3
312067 2007 TM ₁₃	16.5	X	194.29126	313.80154	33.35408	13.86407	0.2852999	0.27083231	2.3659328	20	3 8.1	20.9
312068 2007 TE ₁₈	17.4	X	186.37454	73.79798	304.28742	5.14789	0.1441094	0.27350794	2.3504775	20	3 28.1	21.1
312069 2007 TL ₁₈	17.2	X	170.50678	219.65689	136.71988	2.89785	0.2120989	0.26752497	2.3853924	20	2 21.7	20.9
312070 2007 TA ₁₉	19.4	X	283.93767	58.04637	181.19794	22.62808	0.5094767	1.05767609	0.9540422	20	—	—
312071 2007 TJ ₂₂	16.6	X	152.49550	344.58157	58.87242	6.74266	0.1744706	0.26758984	2.3850069	20	4 4.2	20.2
312072 2007 TG ₂₄	17.9	X	152.91011	77.16263	332.96408	0.59364	0.1733209	0.27087816	2.3656658	20	4 9.8	21.6
312073 2007 TL ₂₉	17.6	X	242.42264	254.95648	38.57108	1.97736	0.0340621	0.26686638	2.3893153	20	2	

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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>
312081 2007 TT ₆₀	17.6	X	182.42661	343.16088	74.44918	2.07901	0.1614641	0.28257926	2.2999013	20	5 17.5	21.1
312082 2007 TT ₆₂	17.2	X	233.15971	337.20768	5.01070	2.34146	0.1952618	0.27807262	2.3246838	20	3 27.1	20.8
312083 2007 TO ₇₅	17.6	X	181.29697	265.62365	67.15855	3.30194	0.2039654	0.26660015	2.3909058	20	2 2.6	21.4
312084 2007 TQ ₇₈	17.5	X	152.58776	162.92933	275.93296	1.83742	0.1640231	0.27506436	2.3416025	20	5 16.1	21.0
312085 2007 TN ₇₉	16.9	X	84.65586	153.25033	20.73165	5.76053	0.0829109	0.28166906	2.3048533	20	6 27.4	19.8
312086 2007 TF ₉₅	16.3	X	198.78186	285.16692	61.55292	7.80839	0.1540750	0.27039314	2.3684939	20	3 7.4	20.1
312087 2007 TS ₉₅	17.4	X	61.11333	256.61865	237.48805	4.52117	0.1167455	0.26392502	2.4070346	20	3 27.7	20.0
312088 2007 TQ ₉₇	17.3	X	179.78807	221.05466	156.95451	2.81612	0.2152119	0.27273492	2.3549167	20	3 27.2	21.1
312089 2007 TG ₉₉	17.8	X	130.32586	18.26068	65.57635	2.12118	0.1632165	0.27232478	2.3572805	20	4 30.5	21.3
312090 2007 TW ₉₉	17.8	X	90.73535	311.57809	170.89324	3.12743	0.1548904	0.26804829	2.3822867	20	5 5.0	20.7
312091 2007 TD ₁₀₄	17.0	X	281.30349	187.98043	52.62418	6.92794	0.1051483	0.26132184	2.4229935	20	1 18.6	20.4
312092 2007 TR ₁₀₈	17.6	X	161.02959	132.56030	275.86716	1.89520	0.2209187	0.27340680	2.3510571	20	4 17.1	21.5
312093 2007 TT ₁₀₈	17.5	X	254.09412	26.84621	334.94669	4.06649	0.1587631	0.28632999	2.2797724	20	5 15.3	20.6
312094 2007 TG ₁₁₀	17.5	X	121.47376	89.84473	42.17556	3.60097	0.0637629	0.28021793	2.3128037	20	6 13.7	20.4
312095 2007 TM ₁₁₄	17.3	X	144.83626	70.82908	295.50090	1.91071	0.2005099	0.26260603	2.4150878	20	2 9.6	21.0
312096 2007 TH ₁₂₂	17.0	X	151.30526	46.93241	38.07779	8.02784	0.0722139	0.27756801	2.3275004	20	5 16.3	21.0
312097 2007 TF ₁₂₉	16.8	X	107.34349	244.79882	33.06475	4.26041	0.1775700	0.23463601	2.6033922	20	12 9.8	21.0
312098 2007 TM ₁₃₀	16.8	X	165.94822	174.62971	239.54601	5.79586	0.0967802	0.27468119	2.3437796	20	4 22.9	20.0
312099 2007 TC ₁₃₁	17.6	X	35.77758	138.06658	20.62573	1.37303	0.1324126	0.26626735	2.3928975	20	3 21.7	19.9
312100 2007 TW ₁₃₃	17.5	X	60.51928	68.24106	44.48501	7.36244	0.0875179	0.26126491	2.4233454	20	2 27.7	20.3
312101 2007 TX ₁₃₃	17.7	X	118.57445	283.39349	157.63205	1.11244	0.1590832	0.26686136	2.3893453	20	4 13.4	20.8
312102 2007 TR ₁₄₃	17.5	X	211.08672	301.79713	27.62997	4.44903	0.2046676	0.27363989	2.3497218	20	2 23.3	21.3
312103 2007 TN ₁₄₈	17.3	X	163.06920	271.58187	82.07824	3.08779	0.2471054	0.26516472	2.3995265	20	2 15.4	21.2
312104 2007 TX ₁₅₃	16.8	X	109.02177	204.55866	242.46806	5.91245	0.0664815	0.27078947	2.3661823	20	3 23.5	19.8
312105 2007 TR ₁₅₆	17.0	X	195.85471	36.34128	10.72300	12.71569	0.0821918	0.28057250	2.3108548	20	5 14.1	20.4
312106 2007 TO ₁₅₆	17.1	X	195.00815	13.62515	353.34398	4.40388	0.1694639	0.27371316	2.3493025	20	3 24.5	20.7
312107 2007 TR ₁₅₈	16.9	X	249.68498	304.29835	4.33455	5.70600	0.1175818	0.27390972	2.3481784	20	3 7.6	20.2
312108 2007 TS ₁₅₉	17.4	X	120.31233	43.73295	12.98904	3.98032	0.2122146	0.26363803	2.4087811	20	3 21.3	20.9
312109 2007 TV ₁₅₉	16.8	X	199.92960	161.00007	232.98173	5.86140	0.1614584	0.27758421	2.3274099	20	5 2.8	20.3
312110 2007 TJ ₁₆₂	18.3	X	94.70298	190.60699	216.10718	4.05538	0.2253307	0.25808620	2.4432028	20	2 5.7	21.1
312111 2007 TH ₁₆₇	17.3	X	277.82318	354.50905	308.08644	3.46567	0.1333851	0.28087217	2.3092108	20	3 26.8	20.3
312112 2007 TL ₁₆₈	17.0	X	261.71771	11.28400	284.68074	3.53711	0.2325521	0.27723576	2.3293596	20	2 20.1	20.8
312113 2007 TG ₁₇₃	17.7	X	86.53222	241.40946	198.98149	0.73888	0.1926485	0.26232956	2.4167843	20	3 6.3	20.3
312114 2007 TG ₁₇₇	17.7	X	150.64881	234.13977	166.10303	3.28616	0.2037594	0.26841533	2.3801144	20	3 29.2	21.4
312115 2007 TK ₁₈₁	17.2	X	178.18644	277.43998	75.66252	7.86728	0.1656414	0.26802721	2.3824116	20	2 25.4	21.0
312116 2007 TF ₁₉₃	18.2	X	138.73056	133.72154	206.82895	2.10935	0.2170601	0.25548831	2.4597371	20	1 5.3	21.7
312117 2007 TQ ₁₉₄	17.7	X	115.56721	72.06837	36.86742	2.84295	0.0777546	0.27462376	2.3441064	20	5 5.9	20.6
312118 2007 TS ₂₀₂	17.3	X	96.66822	25.40923	81.21982	3.36604	0.1512964	0.26667912	2.3904337	20	4 20.3	20.3
312119 2007 TY ₂₀₂	17.7	X	139.13651	260.26653	103.93324	2.48138	0.1885485	0.25940220	2.4349326	20	2 1.0	21.0
312120 2007 TM ₂₁₀	17.0	X	86.05972	305.65638	253.40796	7.49863	0.0687272	0.28903191	2.2655424	20	7 31.5	19.8
312121 2007 TK ₂₂₀	17.9	X	110.63218	350.66710	63.50634	1.33353	0.1958318	0.26513787	2.3996885	20	3 4.7	20.9
312122 2007 TV ₂₂₈	18.4	X	113.69190	32.91138	355.69129	0.78160	0.1877380	0.25825803	2.4421190	20	2 3.1	21.4
312123 2007 TS ₂₂₉	17.7	X	42.60507	302.68331	203.31056	1.77803	0.1161303	0.26434474	2.4044861	20	3 13.6	19.9
312124 2007 TG ₂₃₆	17.4	X	75.48334	52.24273	60.88149	3.23153	0.1890732	0.26455520	2.4032107	20	4 5.4	19.9
312125 2007 TT ₂₃₇	16.9	X	171.24742	301.22436	66.84085	6.72228	0.1252788	0.26624718	2.3930184	20	3 6.4	20.5
312126 2007 TU ₂₃₉	17.7	X	59.92370	92.84257	26.80030	1.84054	0.1035722	0.26102012	2.4248603	20	3 6.1	20.2
312127 2007 TO ₂₄₆	16.4	X	320.63854	44.89869	355.67359	12.80007	0.2562680	0.22577130	2.6711005	20	10 16.4	18.6
312128 2007 TX ₂₄₈	17.2	X	198.83753	23.39868	345.47341	6.42773	0.1389426	0.27397149	2.3478254	20	3 29.4	20.9
312129 2007 TJ ₂₅₄	17.4	X	113.83530	330.83952	118.41796	2.97261	0.1855679	0.26722443	2.3871806	20	4 23.3	20.6
312130 2007 TH ₂₆₃	17.3	X	85.00964	84.25728	44.01720	2.86226	0.0987896	0.26972486	2.3724044	20	4 24.9	20.0
312131 2007 TG ₂₆₇	17.6	X	87.55220	21.74615	203.47999	3.87289	0.0881979	0.29692455	2.2252150	20	9 14.7	20.4
312132 2007 TY ₂₇₁	18.0	X	61.79788	195.14573	266.15495	1.07583	0.0558305	0.26123384	2.4235376	20	2 5.9	20.7
312133 2007 TT ₂₇₉	17.2	X	183.33434	232.17734	88.71905	6.25462	0.1942919	0.26213246	2.4179957	20	1 20.7	21.2
312134 2007 TZ ₂₈₂	17.5	X	131.27271	24.22036	52.94893	2.27753	0.1605002	0.27214917	2.3582945	20	4 22.4	20.7
312135 2007 TH ₂₈₄	17.1	X	100.84121	128.61849	317.79585	5.31804	0.1955464	0.26744975	2.3858396	20	4 1.0	20.1
312136 2007 TD ₂₈₇	16.8	X	182.48753	283.34116	96.11855	7.59600	0.1410051	0.27578120	2.3375430	20	4 1.7	20.5
312137 2007 TS ₂₈₉	17.6	X	146.90495	314.23237	95.45354	3.31537	0.1988312	0.27168048	2.3610060	20	4 7.3	21.2
312138 2007 TD ₂₉₇	17.3	X	200.20294	221.68083	141.74974	4.47844	0.2906808	0.27344235	2.3508533	20	3 26.5	21.5
312139 2007 TY ₂₉₈	17.1	X	162.16755	80.31949	17.10549	6.84287	0.0457996	0.28314419	2.2968410	20	6 15.8	20.2
312140 2007 TR ₃₀₀	17.3	X	7.62013	277.72973	285.13092	1.39327	0.1127211	0.27150473	2.3620248	20	3 31.8	19.6
312141 2007 TW ₃₁₄	18.3	X	128.11045	189.60778	269.58217	0.54098	0.1352718	0.27314207	2.3525759	20	5 15.3	21.5
312142 2007 TP ₃₆₂	17.1	X	195.37701	289.72796	57.12019	7.31890	0.1416535	0.26613211	2.3937082	20	3 4.3	20.9
312143 2007 TW ₃₆₆	17.3	X	72.77506	172.80316	277.79107	3.96428	0.0093951	0.26072322	2.4267009	20	2 2.0	20.2
312144 2007 TW ₃₇₃	17.0	X	272.62307	64.78385	334.46508	6.84281	0.2031631	0.21690242	2.7434252	20	7 23.9	20.6
312145 2007 TM ₃₇₆	17.0	X	206.20315	278.44482	134.13713	7.53004	0.1033503	0.28471552	2.2883825	20	6 7.3	20.3
312146 2007 TE ₃₉₁	16.6	X	40.31880	154.63175	244.52877	2.93026	0.2579014	0.23829444	2.5766778	20	—	—
312147 2007 TG ₄₁₂	17.0	X	93.50281	149.05408	288.77728	5.95374	0.0936879	0.26288982	2.4133494	20	2 23.7	19.9
312148 2007 TY ₄₁₂	16.9	X	190.91685	337.23727	84.48397	7.48642	0.0756792	0.28478979	2.2879847	20	6 2.4	19.9
312149 2007 TE ₄₁₃	17.0	X	203.48754	278.35414	105.32998	7.17557	0.1185379	0.27945219	2.3170267	20	4 27.5	20.5
312150 2007 TJ ₄₂₄	16.9	X	127.30887	234.76063	130.98244	5.39362	0.1607582	0.25694445	2.4504352	20	1 16.7	20.1
312151 2007 TP ₄₃₂	17.8	X	156.86444	336.17130	73.86663	2.27714	0.1816832	0.27150676	2.3620130	20	4 15.1	21.4
312152 2007 TH ₄₄₀	15.9	X	279.73928	130.78696	73.07108	6.60566	0.0734203	0.24050529	2.5608627	20	—	—
312153 2007 TA ₄₄₈	17.2	X	78.44505	242.38076	245.35243	5.42357	0.1759256	0.267				

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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>
312161 2007 <i>UP</i> ₅₆	17.2	X	151.13937	191.96144	236.14055	4.25288	0.1839549	0.27196708	2.3593470	20	5 1.8	20.7
312162 2007 <i>UE</i> ₅₇	17.6	X	95.66190	42.77438	33.38061	2.59971	0.1522045	0.26025942	2.4295830	20	3 8.8	20.5
312163 2007 <i>UD</i> ₆₀	18.1	X	119.81988	138.54938	319.54189	0.71947	0.1438958	0.26956809	2.3733241	20	5 5.1	21.3
312164 2007 <i>UW</i> ₇₀	17.2	X	55.55672	313.00997	218.89644	2.18253	0.1666797	0.27271049	2.3550574	20	5 23.9	19.4
312165 2007 <i>UJ</i> ₈₂	17.6	X	26.59145	184.65421	341.02369	1.30046	0.1241309	0.26444055	2.4039053	20	3 13.5	19.6
312166 2007 <i>UF</i> ₈₇	17.4	X	75.93745	215.79237	335.88378	1.88570	0.1409080	0.27933141	2.3176946	20	7 20.4	20.1
312167 2007 <i>UL</i> ₉₁	17.7	X	132.44480	305.51653	48.06283	1.92146	0.2007171	0.25562248	2.4588763	20	1 13.5	21.0
312168 2007 <i>UJ</i> ₉₆	18.1	X	116.65600	125.04560	333.41558	0.70671	0.1491170	0.26848612	2.3796960	20	5 2.6	21.2
312169 2007 <i>UW</i> ₁₀₇	18.2	X	98.32616	102.01398	12.55286	2.63106	0.1804473	0.27054985	2.3675792	20	5 6.2	21.2
312170 2007 <i>UB</i> ₁₁₅	17.1	X	151.70878	152.32997	243.71617	5.53833	0.1028490	0.26583339	2.3955010	20	3 13.3	20.5
312171 2007 <i>UQ</i> ₁₁₅	17.4	X	165.36308	79.38906	352.37870	1.16338	0.0964824	0.27494587	2.3422752	20	5 16.8	20.7
312172 2007 <i>UA</i> ₁₂₉	16.7	X	115.73256	301.83133	121.39538	7.29332	0.1554040	0.26256495	2.4153397	20	3 19.9	20.0
312173 2007 <i>UZ</i> ₁₃₅	16.9	X	37.15199	245.74775	252.35936	5.63736	0.0937603	0.259006596	2.4370390	20	2 18.2	19.6
312174 2007 <i>UF</i> ₁₄₂	17.1	X	81.52149	45.77585	86.36454	7.05991	0.0720555	0.26699101	2.3885717	20	4 24.1	20.0
312175 2007 <i>VB</i> ₂	16.1	X	152.97652	258.47702	22.90091	15.00584	0.1248955	0.24532420	2.5272165	20	—	—
312176 2007 <i>VA</i> ₅	16.8	X	251.34862	38.03399	285.11805	5.41809	0.1133936	0.28013914	2.3132373	20	3 24.2	20.1
312177 2007 <i>VV</i> ₅	17.7	X	190.90284	122.79761	261.56036	1.48821	0.2297101	0.27408106	2.3471996	20	4 11.9	21.5
312178 2007 <i>VX</i> ₉	16.7	X	230.87020	212.74317	92.95681	7.56555	0.1371183	0.27078332	2.3662181	20	2 13.8	20.3
312179 2007 <i>VS</i> ₁₀	16.6	X	272.52737	243.51334	114.90603	8.24689	0.1847959	0.29188337	2.2507633	20	6 2.0	19.4
312180 2007 <i>VB</i> ₁₈	17.6	X	54.87734	87.64754	49.52225	6.97284	0.1504511	0.26466063	2.4025725	20	3 31.2	20.0
312181 2007 <i>VG</i> ₃₆	17.3	X	171.19539	19.87120	16.69583	4.68677	0.0984614	0.27328874	2.3517342	20	4 6.6	20.6
312182 2007 <i>VA</i> ₄₈	17.0	X	63.27138	126.70630	17.01810	7.30826	0.0623279	0.26807904	2.3821045	20	4 8.0	19.7
312183 2007 <i>VD</i> ₅₀	17.2	X	2.09341	198.69651	22.86010	7.54991	0.0595356	0.27309776	2.3528304	20	4 21.0	19.5
312184 2007 <i>VP</i> ₆₂	16.9	X	329.56852	99.73113	44.19597	4.05192	0.1287339	0.24376555	2.5379779	20	—	—
312185 2007 <i>VU</i> ₆₃	17.4	X	78.25818	49.42752	76.67111	4.35959	0.1098375	0.26447271	2.4037104	20	4 15.7	20.1
312186 2007 <i>VZ</i> ₆₃	16.4	X	10.29845	285.63226	257.23970	8.30130	0.0560914	0.26199698	2.4188291	20	3 6.1	19.4
312187 2007 <i>VG</i> ₆₇	17.2	X	163.41846	87.10798	300.94615	2.94868	0.2639363	0.26880896	2.3777903	20	3 26.3	21.3
312188 2007 <i>VL</i> ₈₈	17.0	X	253.17269	64.86165	282.14305	6.76415	0.1389747	0.27923569	2.3182242	20	4 25.1	20.3
312189 2007 <i>VV</i> ₈₉	17.6	X	152.36500	342.59382	87.57507	2.27004	0.1634537	0.27201053	2.3590958	20	5 5.5	21.1
312190 2007 <i>VC</i> ₉₁	16.8	X	78.35872	251.02572	294.49252	5.56737	0.1062687	0.28350243	2.2949058	20	7 4.3	19.4
312191 2007 <i>VU</i> ₉₅	17.6	X	86.97894	194.34734	275.93919	2.27414	0.1769683	0.26346672	2.4098252	20	4 14.2	20.4
312192 2007 <i>VV</i> ₁₁₃	17.4	X	95.45452	27.60982	114.07932	2.05639	0.1230492	0.27096912	2.3651363	20	6 1.9	20.3
312193 2007 <i>VQ</i> ₁₂₃	17.3	X	170.69523	291.15800	64.83552	4.17609	0.1602338	0.26473505	2.4021221	20	2 20.3	21.1
312194 2007 <i>VG</i> ₁₄₈	16.9	X	75.51502	48.39501	95.62308	8.00777	0.0752573	0.26700810	2.3884698	20	5 2.9	19.8
312195 2007 <i>VJ</i> ₁₆₁	17.3	X	83.55879	161.46762	305.19634	2.93674	0.1473902	0.26201295	2.4187309	20	3 29.8	20.2
312196 2007 <i>VD</i> ₁₆₉	16.8	X	262.77961	142.82292	80.64180	2.15750	0.0048026	0.24709225	2.5151466	20	—	—
312197 2007 <i>VK</i> ₁₇₃	17.0	X	189.93980	224.85329	153.73858	4.49784	0.1428741	0.27152161	2.3619269	20	4 5.4	20.6
312198 2007 <i>VB</i> ₁₈₄	16.0	X	114.70821	139.18297	25.38928	26.37943	0.2020718	0.28031489	2.3122703	20	8 19.5	20.3
312199 2007 <i>VA</i> ₁₉₈	16.7	X	63.93387	313.89631	87.82777	4.70399	0.1642684	0.24028553	2.5624238	20	—	—
312200 2007 <i>VT</i> ₂₀₈	16.9	X	354.72808	345.14641	107.31564	6.29937	0.2278617	0.23351056	2.6117506	20	—	—
312201 2007 <i>VU</i> ₂₀₈	17.2	X	153.30911	258.88929	118.67873	2.33289	0.2845259	0.26511240	2.3998422	20	3 9.5	21.3
312202 2007 <i>VW</i> ₂₂₇	17.3	X	169.05837	358.29813	104.86745	6.10729	0.1188717	0.28134356	2.3066307	20	7 3.8	20.6
312203 2007 <i>VR</i> ₂₄₄	15.9	X	189.18097	314.93751	102.75325	25.17584	0.2139663	0.27797044	2.3252535	20	5 30.1	20.1
312204 2007 <i>VY</i> ₂₅₂	16.8	X	106.50725	346.12979	100.36433	8.44484	0.1179928	0.26480272	2.4017129	20	4 4.6	20.0
312205 2007 <i>VQ</i> ₂₅₈	17.2	X	103.00731	344.78739	116.29860	5.92710	0.1963080	0.26567550	2.3964500	20	4 29.3	20.5
312206 2007 <i>VG</i> ₂₆₂	17.5	X	106.58202	71.42052	102.47488	3.17758	0.0991484	0.28659353	2.2783746	20	7 29.6	20.6
312207 2007 <i>VS</i> ₂₆₉	17.6	X	115.94697	68.49475	18.81086	3.11188	0.1650736	0.26664570	2.3906335	20	4 18.8	20.9
312208 2007 <i>VO</i> ₂₇₅	17.3	X	23.09182	270.73669	234.09054	1.95428	0.0310722	0.25735565	2.4478243	20	2 7.2	20.3
312209 2007 <i>VM</i> ₂₉₁	17.4	X	67.27872	68.92277	100.20655	2.31758	0.1218852	0.26970651	2.3725121	20	5 31.6	19.9
312210 2007 <i>VL</i> ₂₉₅	17.0	X	38.97994	53.94076	327.90939	3.56184	0.0881031	0.23773045	2.5807514	20	—	—
312211 2007 <i>VZ</i> ₂₉₆	16.7	X	119.77468	210.99982	158.69226	7.83726	0.0944980	0.25259212	2.4785034	20	1 3.7	19.9
312212 2007 <i>VU</i> ₃₀₀	17.1	X	133.50447	260.33667	112.32930	5.32123	0.1135639	0.25734312	2.4479038	20	1 27.5	20.3
312213 2007 <i>VS</i> ₃₁₃	16.6	X	241.88894	307.33184	290.55394	5.59795	0.1885738	0.23516001	2.5995234	20	—	—
312214 2007 <i>VN</i> ₃₁₄	17.3	X	24.21081	140.65337	127.77208	5.92034	0.0759384	0.28903857	2.2655075	20	8 13.9	19.5
312215 2007 <i>VQ</i> ₃₂₀	17.0	X	116.97605	107.13060	240.53168	1.41523	0.1266645	0.24631012	2.5204681	20	—	—
312216 2007 <i>VR</i> ₃₂₀	17.3	X	264.90845	157.78614	341.83138	3.83830	0.0977035	0.22279763	2.6948153	20	12 9.5	20.6
312217 2007 <i>VF</i> ₃₂₂	16.9	X	163.36684	3.04484	103.32494	6.78567	0.0640099	0.27911783	2.3188767	20	6 30.9	19.8
312218 2007 <i>VQ</i> ₃₂₉	17.0	X	43.59769	247.32061	228.89076	5.44052	0.0597312	0.25515358	2.4618879	20	1 29.3	20.0
312219 2007 <i>VG</i> ₃₃₄	16.0	X	68.49704	11.42881	102.86113	25.36237	0.2628560	0.25848164	2.4407104	20	4 23.4	19.5
312220 2007 <i>WR</i> ₁	17.9	X	78.10969	60.02040	56.98636	3.45584	0.1334655	0.26264655	2.4148394	20	4 5.9	20.6
312221 2007 <i>WQ</i> ₃₆	17.2	X	116.55557	180.30972	279.81620	6.49469	0.0633382	0.26856850	2.3792094	20	4 20.4	20.5
312222 2007 <i>WZ</i> ₃₉	17.2	X	113.59218	290.98362	76.28142	12.19471	0.2280743	0.25481183	2.4640886	20	1 13.3	20.4
312223 2007 <i>WK</i> ₅₅	17.7	X	76.20243	113.74082	3.89516	2.38826	0.1238527	0.26220304	2.4175617	20	3 31.7	20.5
312224 2007 <i>WM</i> ₆₀	16.9	X	281.01586	188.43948	90.69540	7.06122	0.1319372	0.26542188	2.3979764	20	3 6.4	20.2
312225 2007 <i>XP</i> ₁	17.7	X	65.25372	42.32292	81.86589	3.65480	0.1539460	0.25961179	2.4336219	20	3 30.7	20.3
312226 2007 <i>XR</i> ₁₀	17.5	X	23.79942	160.36115	340.60042	2.20802	0.1400967	0.25471779	2.4646951	20	2 2.4	19.6
312227 2007 <i>XQ</i> ₄₀	16.1	X	116.77256	319.52278	36.69920	5.06671	0.1901235	0.24628070	2.5206689	20	—	—
312228 2007 <i>XG</i> ₄₄	17.4	X	50.17247	353.45670	196.92106	1.78816	0.1353341	0.26897018	2.3768401	20	6 6.5	19.8
312229 2007 <i>XR</i> ₄₇	16.1	X	64.12123	297.85805	84.29501	13.55930	0.2691177	0.23860480	2.5744429	20	—	—
312230 2007 <i>XV</i> ₄₇	17.2	X	50.87817	2.04077	52.92940	2.42754	0.0551954	0.24028717	2.5624122	20	—	—
312231 2007 <i>XQ</i> ₅₀	15.6	X	62.20426	236.04304	106.12338	31.92627	0.1731231	0.23389789	2.6088664	20	—	—
312232 2007 <i>XB</i> ₅₉	16.4											

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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>
312241 2007 YO ₃₂	16.9	X	16.77192	12.90961	91.11870	5.74582	0.1100652	0.24537782	2.5268484	20	—	—
312242 2007 YY ₃₅	16.8	X	347.69777	144.74204	313.89960	3.19762	0.0960903	0.23405169	2.6077234	20	—	—
312243 2007 YM ₄₂	16.6	X	35.37521	333.27358	91.58663	5.29738	0.2091282	0.23903438	2.5713575	20	—	—
312244 2007 YP ₄₂	15.9	X	27.94852	284.44570	111.40012	26.95632	0.1140606	0.22959361	2.6413717	20	—	—
312245 2007 YM ₄₈	17.7	X	125.86045	288.52005	111.81104	2.27900	0.1872790	0.25863345	2.4397552	20	3 4.0	21.0
312246 2007 YU ₄₈	17.1	X	294.70408	225.99769	289.47213	0.78327	0.1404328	0.23246103	2.6196058	20	—	—
312247 2007 YO ₄₉	15.8	X	280.63208	37.93188	296.58494	9.07741	0.0697087	0.19203110	2.9754660	20	5 26.5	20.0
312248 2007 YC ₅₉	16.9	X	355.59954	37.74578	51.54722	3.89666	0.1563208	0.23527069	2.5987081	20	—	—
312249 2007 YK ₆₉	16.7	X	2.54952	354.02854	94.97151	6.04517	0.1182289	0.23575504	2.5951476	20	—	—
312250 2007 YR ₇₀	17.6	X	15.04964	12.56794	90.50133	0.91310	0.0998963	0.23831262	2.5765467	20	—	—
312251 2008 AP	16.2	X	311.68865	352.96542	99.45125	10.53752	0.0606085	0.22224474	2.6992828	20	12 20.9	19.4
312252 2008 AB ₁	16.2	X	278.32693	48.71366	102.73883	14.45300	0.0788832	0.22687606	2.6624222	20	—	—
312253 2008 AC ₁	16.2	X	84.22361	355.33563	41.32763	14.46074	0.1837870	0.24388266	2.5371653	20	1 5.0	19.2
312254 2008 AL ₂	16.2	X	151.32834	200.07218	118.34293	15.56238	0.1210495	0.23802401	2.5786290	20	—	—
312255 2008 AY ₂	16.1	X	30.59617	214.54634	133.74483	6.93215	0.0205395	0.21561173	2.7543627	20	11 22.6	19.9
312256 2008 AA ₆	17.2	X	117.49617	43.91813	94.10085	4.75171	0.1089718	0.27744547	2.3281858	20	6 22.7	20.2
312257 2008 AM ₁₁	17.2	X	338.19295	308.92631	143.90287	4.15632	0.1103361	0.22926763	2.6438748	20	—	—
312258 2008 AE ₁₃	16.2	X	180.26717	352.74189	286.35923	12.52353	0.1183796	0.23303461	2.6153055	20	—	—
312259 2008 AR ₂₀	16.9	X	279.13996	196.82850	333.59322	5.06597	0.1075980	0.22773229	2.6557446	20	—	—
312260 2008 AG ₂₂	16.5	X	314.22423	128.72854	329.64650	8.10286	0.0218049	0.22390566	2.6859175	20	—	—
312261 2008 AM ₂₅	17.1	X	53.87347	308.73142	91.94266	3.72769	0.0856313	0.23209282	2.6223757	20	—	—
312262 2008 AK ₂₆	16.4	X	356.09214	108.92115	325.86065	8.59513	0.0562324	0.22613596	2.6682281	20	—	—
312263 2008 AZ ₂₇	16.1	X	312.41822	331.99467	148.35659	13.63083	0.1124046	0.22243586	2.6977364	20	—	—
312264 2008 AB ₂₈	17.1	X	262.60043	132.56441	6.72728	2.44850	0.1298243	0.21510125	2.7587188	20	11 29.0	20.5
312265 2008 AF ₂₉	16.4	X	84.97320	311.99067	98.29778	16.02732	0.1289125	0.24532169	2.5272338	20	1 15.8	19.3
312266 2008 AW ₃₃	17.1	X	27.02549	311.80614	117.01843	4.37301	0.2281449	0.23651226	2.5896055	20	—	—
312267 2008 AF ₃₄	17.3	X	35.35415	104.19858	326.06502	1.59010	0.1685931	0.23858051	2.5746177	20	—	—
312268 2008 AU ₃₉	16.7	X	358.54907	289.02494	108.25702	5.15452	0.1204109	0.22086907	2.7104795	20	12 23.9	19.9
312269 2008 AY ₆₄	15.9	X	218.26417	346.91239	299.90785	14.25735	0.1291585	0.24088152	2.5581954	20	1 12.1	19.8
312270 2008 AQ ₇₁	17.1	X	7.42817	20.90967	90.41585	5.30763	0.1452822	0.23948854	2.5681057	20	—	—
312271 2008 AO ₉₀	17.0	X	264.62863	44.45944	139.60608	4.70257	0.1299335	0.23001125	2.6381734	20	—	—
312272 2008 AE ₉₆	17.1	X	67.05768	356.91854	67.49906	4.56105	0.1012436	0.24248493	2.5469058	20	1 3.5	19.8
312273 2008 AE ₁₀₀	17.1	X	351.37993	293.81558	237.31436	3.74224	0.1695577	0.24386399	2.5372948	20	1 13.9	19.7
312274 2008 AD ₁₀₆	16.4	X	83.56353	240.07884	95.95916	11.43270	0.0922688	0.22926590	2.6438881	20	—	—
312275 2008 AN ₁₀₈	17.0	X	47.42249	108.63311	287.25211	6.34264	0.1970840	0.23556427	2.5965485	20	—	—
312276 2008 AV ₁₀₈	16.7	X	311.13449	148.68407	284.03668	2.11361	0.0710717	0.21861355	2.7290909	20	11 22.4	20.0
312277 2008 AT ₁₁₁	17.5	X	34.77123	74.05608	351.57220	4.02236	0.2555144	0.23736513	2.5833987	20	—	—
312278 2008 AE ₁₁₆	16.7	X	318.74097	172.32989	275.06036	3.91148	0.0849851	0.22077068	2.7112847	20	12 24.4	19.9
312279 2008 AZ ₁₁₆	16.5	X	268.91803	122.93497	106.13783	15.83538	0.0639833	0.24362829	2.5389310	20	—	—
312280 2008 AR ₁₂₇	17.6	X	46.10808	270.50109	186.60419	1.15157	0.0860707	0.24534420	2.5270792	20	1 11.9	20.5
312281 2008 AR ₁₂₈	17.0	X	336.80735	244.78474	275.78854	8.16081	0.1258602	0.23904633	2.5712719	20	—	—
312282 2008 AN ₁₃₇	16.8	X	9.74335	310.34998	108.77166	7.80807	0.2740864	0.23007955	2.6376512	20	—	—
312283 2008 BS ₁₃	16.1	X	235.74251	322.13256	302.80792	13.20516	0.1125531	0.24050641	2.5608547	20	1 3.2	20.0
312284 2008 BX ₁₅	16.7	X	48.56171	282.49590	129.16346	12.81110	0.1763111	0.23750767	2.5823650	20	—	—
312285 2008 BX ₁₉	16.7	X	180.62008	333.19316	295.70191	7.32990	0.0215174	0.23325375	2.6136673	20	—	—
312286 2008 BR ₂₀	16.1	X	280.65461	11.35416	129.44569	14.85890	0.1897360	0.22332509	2.6905704	20	12 25.9	19.2
312287 2008 BS ₂₀	16.8	X	249.80178	215.72607	339.52613	2.38597	0.1089008	0.22324115	2.6912449	20	—	—
312288 2008 BP ₂₁	16.0	X	307.67807	7.73585	332.83204	9.70818	0.0845098	0.18995695	2.9970864	20	7 12.7	19.9
312289 2008 BV ₃₇	15.9	X	343.51349	322.22328	323.29046	10.18151	0.1467543	0.18497162	3.0506987	20	6 19.5	19.6
312290 2008 BQ ₃₈	17.2	X	344.78539	282.56555	169.27209	3.77077	0.0690576	0.22475240	2.6791673	20	—	—
312291 2008 BE ₃₉	16.9	X	8.62769	126.45505	323.49809	12.16690	0.1626827	0.23545097	2.5973814	20	—	—
312292 2008 BV ₄₄	16.4	X	11.57774	350.35172	82.61132	7.36500	0.2008319	0.23315204	2.6144273	20	—	—
312293 2008 BL ₅₂	16.7	X	2.44170	272.45642	130.91726	3.54928	0.1081158	0.21951521	2.7216126	20	—	—
312294 2008 CE ₁	16.4	X	289.51500	56.46839	133.41606	15.67392	0.0633269	0.23302482	2.6153788	20	—	—
312295 2008 CY ₁	16.1	X	294.12923	268.04173	254.66971	10.85441	0.1298452	0.23019233	2.6367896	20	—	—
312296 2008 CK ₇	16.6	X	151.26845	232.01906	341.73407	3.65440	0.0447244	0.20964888	2.8063447	20	10 28.5	20.6
312297 2008 CW ₁₄	16.4	X	214.60975	59.21712	109.10707	5.67417	0.0940254	0.21096214	2.7946861	20	11 11.8	20.4
312298 2008 CQ ₁₇	17.5	X	327.77713	322.91494	159.10462	7.19457	0.1304610	0.22768374	2.6561221	20	—	—
312299 2008 CH ₁₉	16.0	X	235.29242	66.56678	104.63746	14.91445	0.0676075	0.21971137	2.7199925	20	12 15.1	19.8
312300 2008 CR ₃₇	16.2	X	261.59807	308.15950	168.75311	9.18377	0.1148253	0.21279166	2.7786445	20	11 3.4	19.9
312301 2008 CY ₄₄	17.4	X	345.05644	33.14216	83.57646	3.45423	0.1608285	0.23015709	2.6370588	20	—	—
312302 2008 CK ₄₉	16.5	X	68.33251	15.06543	26.17841	4.89687	0.2873248	0.24086269	2.5583288	20	—	—
312303 2008 CP ₅₀	16.0	X	301.61480	7.05459	86.83181	4.62714	0.0734168	0.21725781	2.7404325	20	12 5.9	19.4
312304 2008 CB ₅₁	17.1	X	37.49651	279.36204	92.32498	7.06442	0.1521605	0.22911911	2.6450172	20	—	—
312305 2008 CM ₅₄	16.7	X	277.43700	57.97414	181.27532	5.74425	0.2008057	0.23970649	2.5665488	20	1 4.1	20.7
312306 2008 CQ ₆₂	16.9	X	256.47279	97.54975	125.71583	6.72676	0.1159844	0.23310837	2.6147538	20	—	—
312307 2008 CJ ₆₄	16.6	X	205.56793	273.01129	297.25857	6.34110	0.1606329	0.21761188	2.7374592	20	12 14.9	20.8
312308 2008 CJ ₆₇	16.9	X	310.01626	149.87101	320.26092	5.24825	0.0888777	0.22110540	2.7085477	20	—	—
312309 2008 CF ₇₁	17.2	X	305.57532	241.08338	227.33671	2.10497	0.1584748	0.22336439	2.6902548	20	12 30.4	19.8
312310 2008 CP ₇₁	17.2	X	343.01175	86.80312	77.06259	5.28657	0.1494251	0.24112656	2.5564621	20	—	—
312311 2008 CD ₇₂	15.8	X	306.86186	167.54507	337.54669	9.06446	0.1354941	0.22460141	2.6803678	20	—	—
312312 2008 CK ₈₀	17.0	X	55.78776	306.32459	96.32003	4.67597	0.1311117	0.23241237	2.6199714	20	—	—
312313 2008 CL ₈₄	16.9	X	6.94709	164.48569	241.19485	3.92512	0.1857344	0.22583776	2.6705764	20	—	—
312314 2008 CB ₈₅	16.8	X	315.60209	290.61956	140.53776	3.63280	0.2116871	0.21695089	2.7430166	20	11 24.9	19.3
312315 2008 CT ₈₈	17.0	X	316.17279	59.81579	107.69529	5.97018	0.1464360	0.23277474	2.6172516	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>
312321 2008 <i>CY</i> ₁₂₇	17.0	X	61.60747	46.31431	324.78298	5.32289	0.0675314	0.22441243	2.6818724	20	—	—
312322 2008 <i>CZ</i> ₁₂₇	16.7	X	222.88546	172.53589	329.78464	2.91916	0.0393387	0.20872580	2.8146126	20	10 23.6	20.6
312323 2008 <i>CP</i> ₁₃₅	16.9	X	259.96265	350.54156	160.95574	4.76388	0.0827317	0.21989615	2.7184685	20	12 19.6	20.3
312324 2008 <i>CA</i> ₁₃₈	16.1	X	265.31439	341.47434	137.70553	9.58959	0.0685200	0.21222140	2.7836199	20	11 18.5	19.9
312325 2008 <i>CK</i> ₁₄₄	16.0	X	270.28884	146.08528	332.08681	12.29983	0.1066799	0.21669046	2.7452139	20	11 12.2	19.8
312326 2008 <i>CJ</i> ₁₅₅	16.2	X	356.50916	202.68910	116.60316	9.86559	0.0831815	0.19569019	2.9382586	20	9 1.1	19.9
312327 2008 <i>CA</i> ₁₅₉	16.5	X	303.83626	298.82695	193.60569	7.23105	0.2579873	0.22524307	2.6752749	20	—	—
312328 2008 <i>CE</i> ₁₆₁	15.7	X	322.91902	11.06774	331.12324	9.22042	0.0446979	0.19055199	2.9908437	20	8 9.8	19.5
312329 2008 <i>CE</i> ₁₆₂	17.1	X	88.73481	264.68867	132.47443	7.47438	0.2556712	0.24603697	2.5223333	20	1 23.3	19.7
312330 2008 <i>CF</i> ₁₆₉	16.1	X	197.90909	121.06043	94.05480	7.60177	0.0708528	0.21920988	2.7241392	20	12 22.9	20.0
312331 2008 <i>CQ</i> ₁₇₂	17.2	X	149.80398	34.68258	264.39936	2.95088	0.0732839	0.22553676	2.6729520	20	—	—
312332 2008 <i>CU</i> ₁₇₆	16.0	X	357.30003	6.88856	99.81829	15.29302	0.0720705	0.23256237	2.6188448	20	—	—
312333 2008 <i>CA</i> ₁₇₇	16.0	X	96.77742	95.11603	324.97762	21.20241	0.0681515	0.24103815	2.5570871	20	2 8.2	19.3
312334 2008 <i>CJ</i> ₁₇₈	16.1	X	255.13831	146.71768	112.82792	11.44508	0.0192985	0.24381133	2.5376601	20	1 22.8	19.3
312335 2008 <i>CQ</i> ₁₇₉	15.5	X	158.59682	264.51151	294.32019	13.57152	0.1111695	0.20683822	2.8317105	20	10 11.2	20.2
312336 2008 <i>CH</i> ₁₈₂	16.5	X	55.73497	314.93708	114.36220	8.63428	0.1330520	0.23675723	2.5878189	20	—	—
312337 2008 <i>CK</i> ₁₈₄	16.3	X	332.97537	51.97978	81.73300	32.10140	0.2937442	0.23233413	2.6205596	20	—	—
312338 2008 <i>CK</i> ₁₉₁	17.4	X	355.60181	210.21403	256.48978	2.23480	0.0442986	0.23038359	2.6353301	20	—	—
312339 2008 <i>CC</i> ₂₀₂	16.5	X	73.12340	212.94475	129.90889	6.15238	0.0508936	0.22040751	2.7142622	20	—	—
312340 2008 <i>CJ</i> ₂₀₅	17.0	X	51.80033	31.17458	348.87401	5.53809	0.0748233	0.22314747	2.6919980	20	—	—
312341 2008 <i>CA</i> ₂₁₁	16.5	X	73.93744	22.89322	308.56052	3.47351	0.0715336	0.21239937	2.7820647	20	12 28.9	20.4
312342 2008 <i>CT</i> ₂₁₂	16.0	X	261.75867	324.20440	64.49809	4.47939	0.0393792	0.18653037	3.0336794	20	7 17.9	20.3
312343 2008 <i>CO</i> ₂₁₃	17.0	X	356.91298	11.36103	99.81370	4.96144	0.1889741	0.23339916	2.6125816	20	—	—
312344 2008 <i>CO</i> ₂₁₄	16.4	X	321.07453	260.41746	151.06588	7.03497	0.0328113	0.21102221	2.7941557	20	11 10.9	20.1
312345 2008 <i>DS</i> ₂	17.0	X	29.84706	253.06622	165.24567	4.32894	0.2034813	0.23412217	2.6072001	20	—	—
312346 2008 <i>DT</i> ₂	17.0	X	225.45237	106.39910	117.52460	3.71372	0.0092590	0.22933232	2.6433776	20	—	—
312347 2008 <i>DA</i> ₃	16.8	X	44.24374	212.49108	132.35253	7.00175	0.0318147	0.21618105	2.7495248	20	12 6.5	20.7
312348 2008 <i>DB</i> ₄	16.2	X	16.08029	114.54177	330.26785	14.76951	0.1182012	0.23303652	2.6152913	20	—	—
312349 2008 <i>DE</i> ₄	16.4	X	236.07016	248.67041	335.86084	11.60651	0.0333659	0.23100973	2.6305660	20	—	—
312350 2008 <i>DE</i> ₁₄	16.4	X	326.97378	272.13998	140.55392	14.48290	0.1327182	0.21421375	2.7663331	20	11 24.6	19.8
312351 2008 <i>DH</i> ₁₆	16.1	X	69.08912	76.94457	147.50162	2.85572	0.1062965	0.18529717	3.0471245	20	8 11.6	20.2
312352 2008 <i>DH</i> ₁₉	16.7	X	49.51616	11.66414	46.44149	7.13607	0.1590848	0.23730313	2.5838487	20	—	—
312353 2008 <i>DV</i> ₂₁	17.0	X	262.08266	64.19888	42.44947	5.00917	0.0681899	0.20923981	2.8100012	20	10 25.9	20.8
312354 2008 <i>DC</i> ₂₃	15.9	X	266.53569	326.81992	290.18006	10.76348	0.2942294	0.23254923	2.6189434	20	1 9.9	20.5
312355 2008 <i>DD</i> ₂₃	16.3	X	313.75923	210.86154	305.49059	12.36431	0.2011822	0.22888729	2.6468029	20	—	—
312356 2008 <i>DU</i> ₃₀	16.7	X	27.45551	81.39513	317.11545	10.83617	0.0616404	0.22669788	2.6638172	20	—	—
312357 2008 <i>DY</i> ₄₅	15.9	X	199.43647	127.66047	84.75964	12.94522	0.0913025	0.21674621	2.7447431	20	12 18.4	19.7
312358 2008 <i>DN</i> ₄₆	16.3	X	321.06618	36.21972	67.77231	6.18549	0.0631948	0.22194717	2.7016949	20	—	—
312359 2008 <i>DQ</i> ₄₆	16.5	X	248.93704	160.57305	10.89142	10.27099	0.1488554	0.21544666	2.7557694	20	12 18.3	20.2
312360 2008 <i>DX</i> ₄₆	16.8	X	276.82369	18.86839	158.20375	8.53737	0.2099335	0.22251711	2.6970796	20	—	—
312361 2008 <i>DV</i> ₅₇	16.4	X	332.97830	267.98696	231.68434	11.64773	0.2046784	0.23094748	2.6310386	20	—	—
312362 2008 <i>DV</i> ₅₉	16.2	X	200.55652	358.35527	191.48925	9.14210	0.1158263	0.21207140	2.7849324	20	11 20.1	20.4
312363 2008 <i>DQ</i> ₆₁	16.6	X	312.45101	342.06031	15.13635	5.12573	0.0386161	0.19344911	2.9609078	20	8 16.4	20.6
312364 2008 <i>DD</i> ₇₃	17.0	X	7.16120	266.59660	146.36345	5.41334	0.1169143	0.22193659	2.7017808	20	—	—
312365 2008 <i>DR</i> ₈₁	16.1	X	329.62761	122.70622	185.02623	4.38216	0.0651033	0.18089572	3.0963534	20	6 30.9	20.1
312366 2008 <i>DD</i> ₈₄	16.3	X	300.45870	107.51654	11.67252	12.78057	0.1346374	0.21847507	2.7302440	20	—	—
312367 2008 <i>DL</i> ₈₉	16.2	X	268.31743	346.35777	138.49052	4.49464	0.0452393	0.21113163	2.7931902	20	11 30.4	19.9
312368 2008 <i>EF</i> ₅	15.4	X	179.75216	5.58876	128.19952	11.96387	0.0689280	0.19233897	2.9722900	20	8 21.4	19.8
312369 2008 <i>ET</i> ₅	16.8	X	290.94537	192.43752	294.10316	2.52558	0.2100425	0.21970125	2.7200759	20	12 21.3	19.3
312370 2008 <i>EV</i> ₈	16.2	X	266.66974	287.05389	97.03926	10.86345	0.0888315	0.18905241	3.0066387	20	7 10.4	20.3
312371 2008 <i>EA</i> ₁₅	16.2	X	236.43854	52.12082	14.64167	4.77009	0.1584187	0.19076386	2.9886288	20	7 21.4	20.7
312372 2008 <i>EC</i> ₂₁	16.2	X	264.10450	59.62604	84.09713	7.29399	0.0386540	0.21451931	2.7637057	20	12 19.3	19.7
312373 2008 <i>EH</i> ₂₃	15.9	X	133.84714	159.02723	53.20292	9.98805	0.1231449	0.19930432	2.9026293	20	10 13.2	20.5
312374 2008 <i>EE</i> ₂₇	16.6	X	40.74763	127.54880	120.26899	12.20586	0.0667194	0.18506376	3.0496860	20	7 28.9	19.7
312375 2008 <i>EE</i> ₃₇	16.6	X	24.81535	70.16487	295.64032	5.25677	0.0255639	0.21747775	2.7385846	20	12 6.1	20.4
312376 2008 <i>EB</i> ₄₈	17.2	X	263.58784	109.18812	39.24354	2.82053	0.1238470	0.21246127	2.7815244	20	12 12.7	20.7
312377 2008 <i>ES</i> ₄₈	17.3	X	298.75626	339.12677	120.59052	3.15641	0.1599239	0.22002525	2.7174049	20	12 4.4	20.1
312378 2008 <i>EN</i> ₅₀	16.6	X	85.99115	234.31968	29.48560	2.53029	0.0122554	0.20284503	2.8687528	20	10 11.5	20.5
312379 2008 <i>EK</i> ₆₉	16.9	X	329.88760	71.16876	73.82809	12.28063	0.2367184	0.23267471	2.6180017	20	—	—
312380 2008 <i>EB</i> ₇₀	16.2	X	305.73025	41.68119	72.82813	15.34325	0.0671990	0.21845324	2.7304259	20	—	—
312381 2008 <i>ED</i> ₇₅	16.7	X	164.26145	103.10671	146.04958	4.76521	0.0316015	0.21253007	2.7809240	20	12 28.1	20.6
312382 2008 <i>EW</i> ₈₈	16.5	X	350.85758	40.39114	79.63472	7.30443	0.1271872	0.23314566	2.6144750	20	—	—
312383 2008 <i>EW</i> ₉₂	15.6	X	101.20525	145.93472	61.39572	11.42766	0.0470314	0.19189889	2.9768325	20	8 27.8	20.0
312384 2008 <i>EE</i> ₁₁₇	16.9	X	302.01220	259.53235	165.90007	2.29326	0.0522907	0.20247925	2.8722068	20	10 28.9	20.5
312385 2008 <i>EO</i> ₁₂₀	16.7	X	348.42495	290.07924	176.83093	13.06119	0.2406841	0.22829048	2.6514138	20	—	—
312386 2008 <i>EU</i> ₁₃₆	16.6	X	199.28398	48.95095	166.03494	6.34203	0.0232327	0.21238008	2.782233			

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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>
312401 2008 <i>FB</i> ₄₀	16.5	X	111.27304	73.55974	99.28978	2.77582	0.0930450	0.18227550	3.0807079	20	7 25.9	21.0
312402 2008 <i>FD</i> ₄₈	16.4	X	236.46612	18.60354	29.16838	3.55954	0.0205607	0.18295861	3.0730348	20	7 12.7	20.7
312403 2008 <i>FY</i> ₅₁	16.3	X	68.83090	26.91847	177.60865	9.31882	0.0844986	0.17985780	3.1082542	20	7 11.6	20.7
312404 2008 <i>FO</i> ₅₂	16.6	X	112.26192	73.05822	78.80978	2.35260	0.1164897	0.17966802	3.1104426	20	7 2.7	21.2
312405 2008 <i>FD</i> ₅₆	16.6	X	259.35996	122.50004	20.02773	9.86056	0.1430633	0.21098200	2.7945107	20	11 23.8	20.3
312406 2008 <i>FJ</i> ₅₆	17.0	X	240.61292	0.77908	146.04412	7.97146	0.1505908	0.20996326	2.8035428	20	11 8.7	21.0
312407 2008 <i>FC</i> ₆₉	16.6	X	179.47378	326.30278	181.26144	7.08071	0.1008752	0.19124375	2.8936272	20	9 3.7	21.2
312408 2008 <i>FN</i> ₇₁	16.0	X	260.22801	179.50569	169.33135	10.20024	0.1418078	0.17930879	3.1145955	20	5 13.4	20.7
312409 2008 <i>FZ</i> ₇₄	16.1	X	329.31332	266.08872	82.75899	7.01005	0.0641314	0.18890658	3.0081858	20	8 28.9	20.1
312410 2008 <i>FH</i> ₈₉	16.7	X	359.38304	96.69956	347.58617	3.44475	0.0629961	0.23020779	2.6366716	20	—	—
312411 2008 <i>FH</i> ₁₀₀	15.4	X	7.52717	260.82958	41.65481	22.59821	0.0803660	0.18334370	3.0687303	20	9 5.3	19.8
312412 2008 <i>FK</i> ₁₀₆	16.4	X	115.36465	110.17176	147.82674	6.53542	0.0506480	0.19965780	2.8992024	20	11 13.4	20.7
312413 2008 <i>FS</i> ₁₁₂	16.2	X	116.14863	103.52929	63.55096	8.61659	0.0632043	0.18124783	3.0923419	20	7 22.1	20.8
312414 2008 <i>FH</i> ₁₂₅	16.1	X	159.07775	298.29940	188.86651	12.00783	0.0747265	0.18254247	3.0777034	20	7 17.2	21.0
312415 2008 <i>GZ</i> ₄	17.0	X	356.87777	318.57296	106.11989	3.77485	0.1664924	0.22213265	2.7001908	20	—	—
312416 2008 <i>GT</i> ₆	16.4	X	137.15555	90.41518	52.15757	6.04630	0.0979935	0.18045795	3.1013590	20	7 17.2	21.2
312417 2008 <i>GU</i> ₆	16.1	X	157.41009	119.57941	71.49684	3.63605	0.0248567	0.19434202	2.9518316	20	10 8.1	20.2
312418 2008 <i>GR</i> ₇	16.6	X	241.19646	264.29210	255.48753	6.58994	0.2261793	0.21231976	2.7827601	20	11 11.9	20.6
312419 2008 <i>GL</i> ₁₉	15.4	X	265.53539	315.20355	148.20070	10.17969	0.0540755	0.20069140	2.8892394	20	10 29.8	19.4
312420 2008 <i>GU</i> ₂₆	15.2	X	33.92307	175.44122	89.77108	18.52713	0.1731092	0.18013631	3.1050496	20	9 1.4	19.4
312421 2008 <i>GF</i> ₂₇	15.9	X	106.07354	215.26532	342.33358	9.51307	0.0461185	0.19058473	2.9905012	20	8 17.0	20.2
312422 2008 <i>GR</i> ₄₈	16.1	X	272.99925	265.38176	90.05011	3.73541	0.1357638	0.18418973	3.0593262	20	6 4.3	20.4
312423 2008 <i>GV</i> ₆₀	16.5	X	13.42746	321.91376	178.50415	12.18711	0.1390822	0.23515820	2.5995368	20	1 15.1	19.5
312424 2008 <i>GC</i> ₆₃	16.1	X	101.19092	198.12681	6.75486	6.92555	0.1008656	0.18629227	3.0362638	20	8 26.9	20.6
312425 2008 <i>GE</i> ₈₈	15.8	X	318.60049	284.81933	34.86807	11.00043	0.0785633	0.17749300	3.1358014	20	6 29.5	20.1
312426 2008 <i>GL</i> ₉₁	16.1	X	346.02500	122.45355	195.14986	9.91878	0.0993140	0.18207905	3.0829233	20	8 5.4	20.1
312427 2008 <i>GJ</i> ₉₄	16.3	X	277.31645	259.88499	119.69938	3.77389	0.0278910	0.18391204	3.0624048	20	7 27.3	20.5
312428 2008 <i>GP</i> ₉₈	16.0	X	135.33439	65.97324	110.14918	7.13043	0.0414886	0.18293575	3.0732909	20	8 23.6	20.5
312429 2008 <i>QQ</i> ₁₁₀	14.8	X	334.11968	194.35341	80.04727	29.71186	0.1704048	0.17253072	3.1956442	20	5 22.3	18.7
312430 2008 <i>GS</i> ₁₁₆	15.7	X	185.05753	40.47549	65.13509	11.79650	0.1252716	0.18251534	3.0780084	20	7 20.7	20.7
312431 2008 <i>GC</i> ₁₂₃	16.9	X	201.70054	89.29120	123.03916	5.34069	0.0143018	0.21285716	2.7780744	20	12 29.2	20.6
312432 2008 <i>GX</i> ₁₂₃	17.3	X	251.53306	42.82771	115.55000	7.24929	0.2422658	0.21048563	2.7989023	20	11 22.6	21.1
312433 2008 <i>GW</i> ₁₄₃	15.6	X	1.14653	105.79862	209.60935	8.94497	0.0497971	0.18373646	3.0643555	20	8 23.8	19.8
312434 2008 <i>HG</i> ₁₈	15.8	X	49.77387	33.25532	176.32515	11.71148	0.0727573	0.17223300	3.1993259	20	6 21.4	20.3
312435 2008 <i>HA</i> ₁₉	16.0	X	279.44086	49.07487	20.05153	9.27590	0.1597590	0.19884177	2.9071290	20	9 18.1	19.6
312436 2008 <i>HY</i> ₂₀	16.5	X	244.60854	133.69601	54.20504	11.34288	0.2888609	0.21426449	2.7658964	20	12 11.9	20.4
312437 2008 <i>HW</i> ₂₂	16.9	X	281.81843	201.90560	336.77906	2.01046	0.2023431	0.22268235	2.6957380	20	—	—
312438 2008 <i>HH</i> ₂₈	16.2	X	202.04270	236.19099	228.18761	7.97930	0.1619750	0.18972378	2.9995414	20	7 29.9	21.3
312439 2008 <i>HO</i> ₃₂	16.3	X	259.98876	187.34430	190.49272	9.39865	0.0910366	0.17455348	3.1709085	20	6 22.6	21.0
312440 2008 <i>HF</i> ₄₈	16.8	X	198.37579	32.86645	54.02132	2.21622	0.0775127	0.18306083	3.0718908	20	7 11.7	21.3
312441 2008 <i>HN</i> ₅₉	15.6	X	218.88400	238.48435	63.39499	6.59563	0.0854530	0.14784536	3.5421280	20	2 13.1	21.0
312442 2008 <i>HF</i> ₆₀	15.8	X	54.90790	134.99534	138.01602	10.45235	0.0394930	0.18523112	3.0478488	20	9 17.5	20.1
312443 2008 <i>HS</i> ₆₉	16.2	X	233.02299	61.01332	58.11835	8.29584	0.1838214	0.19668317	2.9283608	20	9 21.9	20.7
312444 2008 <i>JN</i> ₃	15.4	X	47.68669	172.60060	98.49210	18.78769	0.2096387	0.18067491	3.0988756	20	10 7.4	20.0
312445 2008 <i>JV</i> ₃	15.5	X	50.61399	121.64135	81.54194	12.65337	0.1529390	0.17012565	3.2256916	20	6 25.1	19.6
312446 2008 <i>JL</i> ₈	16.4	X	248.70814	320.78313	243.01706	6.46683	0.2478359	0.21847225	2.7302675	20	—	—
312447 2008 <i>JN</i> ₂₂	16.1	X	311.83303	257.68250	296.86532	11.74099	0.2015940	0.23118293	2.6292519	20	—	—
312448 2008 <i>JH</i> ₂₅	15.4	X	38.96642	195.06034	48.93841	9.67038	0.0449209	0.17422238	3.1749247	20	7 19.5	19.9
312449 2008 <i>JA</i> ₃₄	15.9	X	168.11506	313.39265	182.01885	9.47887	0.0431960	0.17980387	3.1088757	20	8 6.2	20.6
312450 2008 <i>KG</i> ₉	15.8	X	43.15516	45.84080	227.90395	9.58246	0.0134484	0.18200712	3.0837356	20	8 23.2	20.3
312451 2008 <i>KP</i> ₁₃	15.7	X	120.18249	32.97682	130.52175	13.32563	0.0904237	0.17707619	3.1407204	20	7 22.9	20.4
312452 2008 <i>KE</i> ₂₉	16.1	X	186.00121	31.84401	97.30231	12.31344	0.0321776	0.18328807	3.0701016	20	8 25.9	20.7
312453 2008 <i>KA</i> ₃₇	15.6	X	244.75818	320.71988	129.78354	11.13892	0.0794022	0.18528744	3.0472312	20	9 10.0	20.0
312454 2008 <i>KO</i> ₄₀	15.8	X	268.16215	258.57412	92.41738	10.06859	0.0915571	0.16968853	3.3212289	20	5 30.9	20.5
312455 2008 <i>KV</i> ₄₁	16.1	X	97.40872	306.07867	230.00488	9.82458	0.1016650	0.17512217	3.1640400	20	7 12.3	20.8
312456 2008 <i>LM</i> ₂	15.8	X	282.97584	197.11522	140.09478	9.87174	0.0821674	0.16993035	3.2281627	20	6 3.3	20.4
312457 2008 <i>QH</i> ₄₂	12.8	X	315.04090	232.01565	170.86548	15.85080	0.0918713	0.08098550	5.2909201	20	9 24.3	19.4
312458 2008 <i>QS</i> ₄₂	13.9	X	299.97585	195.32110	229.14207	3.72963	0.0522359	0.08180121	5.2556877	20	10 1.9	20.7
312459 2008 <i>QG</i> ₄₄	12.7	X	10.28265	232.61209	119.90268	24.06027	0.0889023	0.08280024	5.2133273	20	10 20.8	19.5
312460 2008 <i>QO</i> ₄₄	15.6	X	147.28058	233.63955	355.26079	13.22384	0.1511062	0.17783592	3.1317691	20	11 3.4	20.9
312461 2008 <i>RK</i> ₁₄	13.4	X	8.50665	54.56265	302.32275	6.25477	0.0297885	0.08483497	5.1296308	20	10 8.1	20.1
312462 2008 <i>RG</i> ₁₇	14.0	X	279.31620	129.55925	324.20741	5.68418	0.0610301	0.08428999	5.1517176	20	10 8.4	20.7
312463 2008 <i>RZ</i> ₂₀	12.9	X	2.48299	13.43769	344.21794	8.51200	0.0617761	0.08340367	5.1881509	20	10 3.4	19.5
312464 2008 <i>RD</i> ₄₆	13.8	X	326.63622	243.35592	156.99449	4.15316	0.0794448	0.08281145	5.2128567	20	10 7.9	20.4
312465 2008 <i>RJ</i> ₁₀₉	14.0	X	323.17273	225.99723	170.50550	3.16486	0.0858799	0.08327251	5.1935976	20	9 28.0	20.4
312466 2008 <i>RZ</i> ₁₂₂	13.6	X	130.01474	310.13778	278.51885	4.59440	0.0525933	0.08190973	5.2510449	20	10 3.7	20.8
312467 2008 <i>SH</i> ₅₀	13.7	X	274.55183	93.33629	4.00765	5.42495	0.0593889	0.08369783	5.1759879	20	10 8.8	20.4
312468 2008 <i>SY</i> ₆₁	14.0	X	301.54153	257.25196	149.21047	8.29255	0.0538612	0.08597119	5.0843341	20	9 16.3	20.6
312469 2008 <i>SN</i> ₈₃	13.9	X	315.87494	291.53302	114.62300	0.66195	0.1025614	0.08270871	5.2171729	20	9 27.8	20.5
312470 2008 <i>SQ</i> ₁₃₄	17.5	X	34.53747	264.53934	192.80172	21.08992	0.0577545	0.36562042	1.9369382	20	—	—
312471 2008 <i>ST</i> ₁₅₃	12.8	X	317.14039	36.22410	7.15161	11.10255	0.0963043	0.08225804	5.2362112			

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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>
312481 2008 TA ₁₁₁	17.6	X	46.44674	194.46570	205.11736	16.78198	0.0982070	0.35273503	1.9838264	20	—	—
312482 2008 TE ₁₂₇	13.4	X	328.09434	138.35439	262.43816	7.04041	0.0314857	0.08160548	5.2640883	20	10 8.8	20.2
312483 2008 TD ₁₇₄	13.8	X	327.40649	322.69127	85.08339	3.18831	0.0723075	0.08468992	5.1354861	20	10 18.2	20.2
312484 2008 UL ₁₅	13.7	X	340.65473	33.23743	348.42692	5.04940	0.0642174	0.08157408	5.2654392	20	10 3.4	20.3
312485 2008 UJ ₉₀	17.1	X	20.24145	105.82325	55.71184	24.20543	0.0711849	0.37232186	1.9136258	20	2 20.7	19.5
312486 2008 UE ₁₉₀	13.7	X	305.32760	268.54265	149.62153	5.20722	0.0708357	0.08125589	5.2791762	20	10 1.7	20.4
312487 2008 UZ ₂₃₅	13.3	X	310.62777	178.57483	249.02435	5.61570	0.0348993	0.08191504	5.2508179	20	10 19.1	20.1
312488 2008 VH ₆₈	17.6	X	120.14658	73.57297	104.78687	7.00715	0.0680034	0.30328132	2.1940117	20	8 22.4	20.4
312489 2008 WR ₁₀₈	17.0	X	9.30071	299.52480	255.35938	20.32652	0.0713694	0.37567465	1.9022231	20	2 25.1	19.3
312490 2008 WA ₁₂₆	18.0	X	263.27712	254.87506	117.06618	4.59691	0.1680512	0.30297285	2.1955007	20	6 10.9	20.6
312491 2008 YN ₂₉	17.2	X	140.28590	166.88259	325.67126	5.85079	0.1052892	0.29471814	2.2363073	20	7 13.4	20.2
312492 2008 YR ₁₀₈	17.0	X	275.54213	213.91785	110.76482	6.47305	0.1513783	0.28944340	2.2633946	20	4 25.5	19.9
312493 2008 YK ₁₄₆	18.1	X	212.31246	214.62864	218.30373	0.60998	0.0919564	0.30039140	2.2080609	20	7 13.5	20.8
312494 2008 AJ ₁₃	17.2	X	288.31762	29.61335	269.54587	6.70172	0.1249099	0.28816465	2.2700857	20	4 3.7	20.1
312495 2009 AP ₄₉	17.3	X	101.69889	96.31042	91.04431	6.63804	0.0931981	0.29596107	2.2300417	20	8 13.5	20.2
312496 2009 BM ₉	16.9	X	90.79418	302.17808	290.22117	5.79265	0.1106458	0.30386673	2.1911929	20	9 29.9	19.9
312497 2009 BR ₆₀	17.7	X	162.96988	173.24702	296.34104	5.38951	0.1089697	0.29447724	2.2375267	20	7 6.6	20.8
312498 2009 BL ₈₅	17.3	X	352.57718	326.63550	294.42500	6.00150	0.0920429	0.28842762	2.2687057	20	6 3.3	19.4
312499 2009 BQ ₈₆	17.0	X	181.15824	7.11142	230.29607	5.34395	0.1631296	0.26542841	2.3979371	20	1 24.6	20.6
312500 2009 BP ₁₀₇	17.6	X	185.63332	296.90961	118.31149	3.69487	0.0705698	0.28444005	2.2898598	20	5 18.6	20.7
312501 2009 BU ₁₅₀	17.3	X	83.54869	289.98273	271.16735	4.34977	0.0820858	0.29515706	2.2340897	20	8 4.1	20.0
312502 2009 BP ₁₅₁	17.3	X	110.30919	324.55391	163.06890	7.33053	0.1151393	0.28021618	2.3128133	20	6 1.3	20.4
312503 2009 BY ₁₅₂	17.7	X	21.59538	20.15235	328.93646	5.80928	0.0364024	0.31945078	2.1193373	20	12 6.9	20.2
312504 2009 BY ₁₅₅	17.5	X	275.23194	193.15701	50.08476	1.79493	0.1557261	0.26256423	2.4153441	20	1 8.6	21.1
312505 2009 BP ₁₆₆	17.2	X	290.96491	195.59619	53.85976	3.11632	0.1394602	0.26384808	2.4075025	20	2 5.3	20.4
312506 2009 BY ₁₇₅	17.1	X	247.21032	204.85061	126.32962	7.15547	0.1333476	0.28290651	2.2981274	20	4 3.6	20.4
312507 2009 BB ₁₇₆	16.7	X	278.80236	170.76312	90.99148	7.36043	0.1097338	0.26681771	2.3896059	20	2 11.4	20.0
312508 2009 BL ₁₇₈	18.0	X	77.67759	198.47322	270.62505	1.44437	0.1745347	0.27068188	2.3668093	20	3 28.6	20.5
312509 2009 BZ ₁₇₈	17.6	X	193.38237	93.91044	35.40190	0.92436	0.1559843	0.29991926	2.2103776	20	9 3.6	20.7
312510 2009 BB ₁₉₀	16.1	X	95.39669	233.18757	148.86224	2.40943	0.1597535	0.24577567	2.5241207	20	—	—
312511 2009 CO ₂₀	17.5	X	218.71210	173.85775	178.66898	2.65695	0.1930903	0.28334963	2.2957307	20	3 27.3	21.1
312512 2009 CF ₄₄	17.1	X	119.86385	309.64248	165.04738	5.33981	0.0901790	0.28011099	2.3133923	20	5 22.9	20.1
312513 2009 CD ₅₇	17.2	X	158.03034	306.31060	80.99941	5.02590	0.1891557	0.27204020	2.3589242	20	3 20.6	20.9
312514 2009 DB ₉	17.6	X	14.57052	308.12145	311.09190	3.97115	0.1379683	0.28478328	2.2880195	20	7 19.5	19.6
312515 2009 DD ₁₅	17.4	X	43.02045	228.60278	358.41269	2.46235	0.2096122	0.28665472	2.2780503	20	8 5.3	19.6
312516 2009 DF ₁₇	17.6	X	69.49289	336.07683	174.10798	6.05331	0.0788247	0.27516236	2.3410464	20	5 1.2	20.2
312517 2009 DD ₂₁	17.5	X	265.56784	103.48943	168.86381	1.22443	0.1756948	0.26818215	2.3814939	20	2 1.1	20.9
312518 2009 DU ₃₁	17.7	X	100.00608	182.83627	298.91560	1.86303	0.1296234	0.27712580	2.3299758	20	5 10.6	20.7
312519 2009 DO ₃₂	17.1	X	75.80239	319.96004	161.43392	7.38284	0.0508394	0.26892536	2.3771042	20	3 26.2	19.8
312520 2009 DE ₃₃	18.5	X	71.51598	101.36663	38.71162	2.82310	0.1639669	0.27384577	2.3485440	20	5 2.0	20.8
312521 2009 DV ₄₄	17.9	X	168.57146	300.42652	177.81329	8.17091	0.2122966	0.29527808	2.2334792	20	7 22.3	21.6
312522 2009 DQ ₄₈	17.3	X	250.84969	197.66363	140.30739	5.85560	0.1464971	0.28593627	2.2818647	20	4 14.4	20.5
312523 2009 DN ₆₆	17.9	X	321.91919	58.94991	306.08781	2.11504	0.1273448	0.30577218	2.1820803	20	9 23.5	19.5
312524 2009 DP ₆₆	17.6	X	49.15225	275.67711	292.98799	1.46794	0.1564509	0.28398624	2.2922986	20	7 7.3	19.9
312525 2009 DS ₇₃	16.6	X	256.78398	146.82754	102.30063	7.28448	0.0828354	0.25325618	2.4741689	20	1 4.1	20.0
312526 2009 DK ₇₅	17.0	X	15.84018	31.16889	174.99135	6.59546	0.0526547	0.27551938	2.3390237	20	4 23.5	19.5
312527 2009 DM ₁₀₆	17.4	X	300.16132	153.87763	74.16965	3.30338	0.1718894	0.26075323	2.4265147	20	1 14.9	20.6
312528 2009 DX ₁₀₉	17.3	X	159.01481	155.84762	331.68731	6.77290	0.1031691	0.29322044	2.2439158	20	7 28.2	20.5
312529 2009 DY ₁₀₉	17.3	X	141.05225	204.85764	331.39270	5.24056	0.0998862	0.29884530	2.2156701	20	9 11.4	20.3
312530 2009 DL ₁₂₄	16.1	X	59.03101	350.08164	17.92578	6.32705	0.2702345	0.23784107	2.5799512	20	—	—
312531 2009 DB ₁₃₀	17.8	X	42.69520	0.90743	164.68265	1.21502	0.1822399	0.27071244	2.3666312	20	4 12.9	19.9
312532 2009 DY ₁₃₃	17.1	X	145.99844	300.68779	328.77706	3.06884	0.0686390	0.23229257	2.6208722	20	—	—
312533 2009 DY ₁₄₀	16.0	X	85.98584	350.28423	16.50612	16.00311	0.1460595	0.23901199	2.5715182	20	—	—
312534 2009 DH ₁₄₂	16.0	X	214.62187	277.66916	312.95943	9.30298	0.1600471	0.23618651	2.5919860	20	—	—
312535 2009 EY ₂	15.7	X	308.53152	38.90640	257.18471	16.40620	0.2015132	0.18154854	3.0889263	20	4 22.8	19.9
312536 2009 EE ₁₆	17.4	X	279.93501	130.83291	109.33631	2.36696	0.1416407	0.25815287	2.4427822	20	1 11.5	21.0
312537 2009 EM ₁₈	16.7	X	89.39141	155.89214	4.18377	10.34104	0.0225341	0.19303541	2.9651367	20	5 31.8	21.0
312538 2009 EH ₂₀	17.4	X	45.48916	83.44857	96.16872	3.08382	0.0960552	0.27569757	2.3380157	20	5 7.3	19.8
312539 2009 ES ₂₀	17.8	X	139.15091	111.07302	2.43154	3.18881	0.1260382	0.28468127	2.2885661	20	6 15.4	21.1
312540 2009 ER ₂₁	16.5	X	52.64561	298.98039	307.94301	23.78346	0.1514310	0.28978200	2.2616312	20	8 28.3	19.6
312541 2009 EU ₂₆	17.3	X	124.10806	261.41318	281.02456	5.90158	0.1361765	0.29630379	2.2283218	20	8 31.5	20.6
312542 2009 FC ₁	16.9	X	128.57091	308.06765	142.21544	8.55144	0.1660175	0.27648932	2.3335502	20	5 10.1	20.4
312543 2009 FP ₅	18.2	X	181.39891	206.81684	238.26842	0.39795	0.1899432	0.29338778	2.2430624	20	6 21.7	21.6
312544 2009 FA ₇	17.6	X	27.28122	201.76906	55.77348	3.23202	0.0385179	0.28832689	2.2692340	20	7 28.5	20.1
312545 2009 FO ₉	17.7	X	159.60269	145.47030	1.09837	2.61225	0.1623100	0.29763927	2.2216513	20	8 23.6	21.0
312546 2009 FV ₁₉	17.5	X	136.31785	105.88564	55.83801	6.72912	0.1081329	0.29466474	2.2365774	20	8 21.3	20.7
312547 2009 FG ₂₃	17.5	X	36.21520	142.71999	49.17475	3.69210	0.1462382	0.27376242	2.3490206	20	5 14.5	19.5
312548 2009 FQ ₂₄	17.4	X	34.18806	211.39922	40.96417	4.53749	0.1192962	0.28689461	2.2767803	20	8 14.7	19.7
312549 2009 FE ₂₉	16.9	X	33.97982	145.24073	85.81714	6.49985	0.1166251	0.28270284	2.2992310	20	7 8.6	19.2
312550 2009 FZ ₃₄	17.9	X	355.43055	103.65541	75.85458	3.22402	0.1599246	0.26173856	2.4204210	20	2 1.3	20.1
312551 2009 FL ₃₉	17.1	X	130.12176	41.74327	55.28920	6.42703	0.0890770	0.27808269	2.3246277	20	5 9.9	20.2
312552 2009 FB ₄₁	16.9	X	348.30740	115.71995	161.23580	7.10728	0.1123015	0.28129349	2.3069044	20	6 20.9	19.1
312553 2009 FD ₅₁	16.3	X	101.50634	305.69188	57.29840	7.80257	0.2630557	0.24179351	2.5517588	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>
312561 2009 HL	16.6 ^m	X	45.31740	156.71787	43.36584	23.84499	0.1262579	0.27389248	2.3482769	20	6 5.0	19.4
312562 2009 HQ ₁	17.3	X	56.45807	114.84778	69.45233	3.16367	0.1357120	0.27607335	2.3358936	20	6 7.9	19.8
312563 2009 HO ₂	17.0	X	17.31349	100.89160	96.53075	4.41429	0.0242403	0.26955870	2.3733793	20	4 13.7	19.7
312564 2009 HN ₄	17.1	X	77.83335	182.47007	124.59526	4.36386	0.1027648	0.22077703	2.7112327	20	12 9.1	21.0
312565 2009 HD ₇	17.5	X	28.22907	115.08744	87.76402	5.19425	0.1410360	0.27157521	2.3616161	20	5 16.5	19.6
312566 2009 HL ₇	16.9	X	4.18229	117.40720	128.92968	4.61868	0.1901398	0.27281584	2.3544510	20	6 6.1	18.5
312567 2009 HJ ₁₀	16.7	X	144.57216	349.73098	119.69343	9.04096	0.0480901	0.27574547	2.3377449	20	6 11.5	19.8
312568 2009 HM ₁₉	16.3	X	198.32106	171.63309	69.79134	13.51023	0.1499422	0.22958847	2.6414111	20	—	—
312569 2009 HX ₁₉	16.6	X	342.95001	124.09875	73.26068	5.49811	0.1275752	0.26027693	2.4294741	20	2 11.3	19.2
312570 2009 HT ₃₈	16.7	X	304.47384	86.68404	106.71090	9.09708	0.0995274	0.24694879	2.5161206	20	—	—
312571 2009 HR ₄₁	16.8	X	323.55561	3.68457	148.11920	4.97017	0.0418571	0.24306594	2.5428455	20	—	—
312572 2009 HB ₄₂	16.5	X	119.36368	181.53814	95.47816	4.95352	0.0569088	0.22085111	2.7106263	20	12 13.6	20.4
312573 2009 HF ₅₇	16.9	X	257.50042	104.45326	113.30064	10.89367	0.1331001	0.24043293	2.5613764	20	—	—
312574 2009 HR ₆₅	16.6	X	120.21177	163.72733	69.03433	11.61120	0.0884611	0.20911414	2.8111269	20	10 24.8	20.9
312575 2009 HN ₆₇	16.1	X	280.77748	281.01282	53.17713	11.19398	0.1409070	0.18161200	3.0882067	20	5 16.7	20.4
312576 2009 HR ₆₉	17.0	X	345.56497	172.89212	192.98179	4.06837	0.1179269	0.20894096	2.8126800	20	10 18.3	20.0
312577 2009 HE ₇₅	16.2	X	127.72303	187.41393	73.71631	12.49327	0.1387517	0.21757255	2.7377891	20	12 4.4	20.6
312578 2009 HT ₇₆	16.7	X	79.26764	14.62008	106.06933	7.44650	0.0472592	0.26415366	2.4056455	20	4 2.0	19.7
312579 2009 HY ₇₇	17.0	X	276.46509	143.97407	78.61464	7.98715	0.0954158	0.24703727	2.5155198	20	—	—
312580 2009 HZ ₇₈	16.4	X	194.47913	41.42238	202.43111	7.59436	0.1503073	0.22918619	2.6445011	20	—	—
312581 2009 HG ₈₀	16.8	X	240.59295	163.70534	67.46915	5.71071	0.0280015	0.24317363	2.5420947	20	—	—
312582 2009 HN ₈₀	16.9	X	117.24345	298.42434	127.10492	6.53362	0.0346205	0.25991749	2.4317134	20	3 6.3	19.9
312583 2009 HH ₈₁	15.8	X	216.32546	88.96879	132.56041	13.15037	0.1218514	0.23236299	2.6203426	20	—	—
312584 2009 HO ₈₁	16.5	X	235.89217	342.03152	233.56515	7.21291	0.1076862	0.23238296	2.6201925	20	—	—
312585 2009 HW ₈₂	17.5	X	327.94749	66.33977	181.68304	2.20550	0.0603925	0.26928074	2.3750122	20	4 5.5	20.1
312586 2009 HS ₈₈	16.4	X	292.66081	135.78684	46.01099	13.64243	0.1428422	0.24167254	2.5526102	20	—	—
312587 2009 HW ₈₉	16.6	X	209.32524	178.06378	51.37286	6.00112	0.2032643	0.22991362	2.6389202	20	—	—
312588 2009 HZ ₉₉	15.9	X	78.73872	197.79931	212.01280	14.82306	0.1155797	0.24561931	2.5251918	20	—	—
312589 2009 HR ₁₀₂	16.3	X	37.11240	267.65845	100.08219	15.07472	0.1853922	0.21776055	2.7362131	20	—	—
312590 2009 HT ₁₀₆	17.3	X	51.02405	16.38000	214.51142	6.31531	0.1511565	0.28400044	2.2922222	20	8 9.8	19.9
312591 2009 JZ ₁₁	16.1	X	231.75845	104.91907	114.88485	15.21814	0.0797503	0.23341703	2.6124482	20	—	—
312592 2009 JA ₁₆	16.9	X	310.37310	41.83658	90.65122	5.35851	0.1022914	0.23289425	2.6163562	20	—	—
312593 2009 KN ₂	16.4	X	156.36914	179.27462	115.18294	13.79049	0.1628843	0.22762477	2.6565808	20	—	—
312594 2009 KM ₃	16.3	X	88.67539	233.16705	77.87520	6.97763	0.1037845	0.21846449	2.7303321	20	12 24.4	20.4
312595 2009 KJ ₆	16.2	X	333.97581	226.72404	88.11626	3.69994	0.1206799	0.18866038	3.0108023	20	7 14.9	19.7
312596 2009 KD ₉	16.3	X	197.09861	357.70381	238.11147	12.50998	0.1199968	0.22704748	2.6610820	20	—	—
312597 2009 KY ₁₄	15.8	X	318.86523	81.22772	86.67811	8.91877	0.1060246	0.24187415	2.5511916	20	—	—
312598 2009 KG ₂₂	16.8	X	135.67219	128.39766	193.85431	12.02534	0.1431317	0.23080642	2.6321105	20	—	—
312599 2009 KP ₂₆	15.9	X	313.07110	203.10737	115.79953	10.32368	0.0989454	0.18222000	3.0813334	20	6 18.3	20.0
312600 2009 KF ₃₄	17.3	X	163.24124	39.52114	270.62647	3.90845	0.0188647	0.23458095	2.6037996	20	—	—
312601 2009 KW ₃₅	15.6	X	276.04799	197.23985	122.63121	15.59898	0.1396374	0.17275932	3.1928246	20	4 30.3	20.5
312602 2009 LZ ₁	16.1	X	302.54215	262.58748	188.25729	14.27783	0.0837864	0.21815752	2.7328928	20	12 4.1	19.7
312603 2009 LU ₆	16.1	X	243.33942	101.80266	88.95565	15.58913	0.0521483	0.22704467	2.6611040	20	—	—
312604 2009 OK ₃	15.2	X	324.52674	204.68151	126.74872	19.74978	0.0677977	0.17808835	3.1288089	20	7 24.7	19.2
312605 2009 OG ₆	15.5	X	344.79974	141.56878	157.48026	13.45381	0.2663617	0.17611062	3.1521897	20	7 4.2	18.6
312606 2009 PX ₁₄	15.4	X	355.74944	12.97264	316.54913	14.80660	0.0178729	0.18015711	3.1048106	20	9 1.5	19.8
312607 2009 RJ ₂₁	15.3	X	122.19443	279.00940	270.58320	8.16559	0.0405130	0.17800023	3.1298414	20	8 19.2	19.9
312608 2009 RU ₅₃	14.0	X	297.54887	12.97990	42.80886	9.55516	0.0450146	0.08217738	5.2396371	20	9 24.9	20.8
312609 2009 RW ₅₅	13.3	X	276.00592	10.81212	64.61267	5.10429	0.0479956	0.08134709	5.2752295	20	9 20.1	20.2
312610 2009 RA ₆₃	13.4	X	281.66972	48.55958	16.28031	4.45612	0.0762485	0.08344980	5.1862389	20	9 10.1	20.1
312611 2009 RY ₆₈	13.9	X	338.17381	229.37535	147.01787	3.79117	0.0790683	0.08390283	5.1675536	20	9 26.2	20.4
312612 2009 SE ₇₄	13.5	X	206.26232	70.89240	85.16194	6.80032	0.0353868	0.08464436	5.1373287	20	10 6.8	20.5
312613 2009 SB ₁₁₂	16.0	X	212.70096	355.23163	208.00367	13.86545	0.1218654	0.19701831	2.9250389	20	12 13.9	20.5
312614 2009 SQ ₁₂₀	13.3	X	252.81506	244.92794	205.48231	12.41332	0.0856196	0.08191119	5.2509825	20	8 31.8	20.4
312615 2009 SJ ₁₃₇	14.0	X	294.42876	217.65497	219.43701	6.00153	0.1446944	0.08414707	5.1575492	20	9 28.3	20.5
312616 2009 SF ₁₄₁	14.0	X	277.74742	84.07317	355.87116	3.89436	0.0689948	0.08490580	5.1267777	20	9 22.4	20.7
312617 2009 SZ ₁₉₉	13.2	X	247.38729	107.33385	2.38962	10.29025	0.0661338	0.08426763	5.1526288	20	9 22.7	20.1
312618 2009 SQ ₂₄₆	14.5	X	303.09288	248.44559	157.90862	8.10766	0.1784191	0.08282498	5.2122889	20	9 1.8	20.9
312619 2009 SS ₂₄₆	13.6	X	276.76485	258.87623	178.38214	14.38528	0.1375809	0.08208861	5.2434136	20	9 8.1	20.4
312620 2009 SA ₂₅₂	14.2	X	272.68274	172.99653	262.39512	6.16138	0.0973221	0.08035846	5.3184080	20	9 4.5	21.2
312621 2009 SZ ₂₆₉	13.8	X	298.66796	24.66564	31.91458	8.62551	0.0786422	0.08537372	5.1080278	20	9 22.8	20.4
312622 2009 SH ₃₁₃	13.7	X	340.52680	310.73481	49.42206	8.20208	0.0295513	0.08171474	5.2593949	20	9 14.8	20.5
312623 2009 SQ ₃₄₆	14.2	X	282.41344	317.51633	126.96389	3.33441	0.1622532	0.08435670	5.1490014	20	9 22.1	20.8
312624 2009 SB ₃₅₅	14.0	X	296.08122	156.32993	266.70786	5.70735	0.1425870	0.08345121	5.1861806	20	9 13.3	20.6
312625 2009 SK ₃₅₆	14.0	X	294.92787	162.67385	277.61728	4.07690	0.0889972	0.08575474	5.0928859	20	10 9.2	20.5
312626 2009 TU ₁₅	12.7	X	283.96436	346.75133	82.41033	9.46361	0.1037566	0.08090163	5.2945761	20	9 17.3	19.6
312627 2009 TS ₂₆	13.3	X	283.89672	299.51166	132.51712	7.28450	0.1706260	0.08225817	5.2362054	20	9 8.8	20.0
312628 2009 UA ₃₆	14.1	X	289.95806	218.80552	211.60655	10.20866	0.0829020	0.08115662	5.2834801	20	9 21.9	20.9
312629 2009 UB ₁₀₁	13.8	X	265.44408	21.93886	80.78022	4.68925	0.0292105	0.08113980	5.2842104	20	10 10.6	20.7
312630 2009 UB ₁₀₇	13.2	X	319.31561	347.07667	61.59798	7.89104	0.0147040	0.08107874	5.2868631	20	10 13.8	20.1
312631 2009 UR ₁₄₅	12.9	X	290.08402	318.97868	106.40805	22.54297	0.1432528	0.08122466	5.2805291	20	9 18.8	19.9
312632 2009 UY ₁₄₈	13.0	X	179.99272	307.04211	219.31926	17.36165	0.1328433	0.08146801	5.2700085	20	9 11.4	20.7
312633 2009 WE ₅	13.3	X	294.33684	180.71639	259.52483	13.36420	0.0580360	0.08275211	5.2153484	20	10 8.6	20.2
312634 2009 WM ₅₉	13.7	X	332.74123	331.76466	70.95445	7.40691						

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>
312641 2010 BF ₅₂	12.8	X	279.01348	346.08663	108.06253	17.19683	0.1540739	0.08266911	5.2188389	20	10 6.1	19.8
312642 2010 BH ₆₂	13.3	X	287.92411	153.37972	288.19917	10.82904	0.0464909	0.08391670	5.1669839	20	10 3.6	20.2
312643 2010 BZ ₁₁₁	13.0	X	39.46131	220.00039	100.40849	17.09145	0.0483182	0.08231895	5.2336279	20	10 16.2	20.0
312644 2010 CO ₃₁	15.7	X	123.52267	183.45197	138.45668	9.69095	0.0501339	0.17648058	3.1477828	20	—	—
312645 2010 EP ₆₅	5.3	X	5.32261	352.78359	205.03902	18.88512	0.3065182	0.00299341	47.6824160	20	4 18.1	20.5
312646 2010 EY ₉₁	16.2	X	319.57245	183.96844	169.22597	5.36979	0.2404842	0.23501276	2.6006092	20	8 3.4	18.3
312647 2010 GM ₁₀₁	17.1	X	262.87835	219.27245	96.90151	6.61151	0.1793339	0.28751507	2.2735036	20	3 27.1	20.4
312648 2010 JY ₁₈	16.8	X	24.24860	263.77501	109.97584	9.80961	0.1989473	0.21854646	2.7296494	20	—	—
312649 2010 JP ₄₇	17.2	X	205.37369	224.00844	97.66718	12.51327	0.2566765	0.26994793	2.3710974	20	2 10.7	21.5
312650 2010 JJ ₁₁₀	16.8	X	108.55007	252.86306	78.66485	23.92403	0.0777680	0.35208534	1.9862661	20	—	—
312651 2010 JG ₁₂₄	17.1	X	95.48085	15.54591	94.59991	24.65971	0.0435310	0.38413838	1.8741783	20	4 13.0	19.7
312652 2010 KY ₂₀	17.0	X	12.72792	90.30575	251.16853	3.33380	0.0738525	0.20861794	2.8155826	20	10 23.1	20.6
312653 2010 KQ ₃₆	16.7	X	289.82839	18.80093	242.54235	22.93590	0.1408683	0.27971817	2.3155577	20	2 5.3	20.5
312654 2010 KT ₄₁	16.5	X	177.25536	158.21815	184.12171	12.98673	0.1054481	0.25404644	2.4690353	20	2 2.9	20.3
312655 2010 KS ₅₀	15.5	X	320.51163	150.19876	218.62530	10.39877	0.1299582	0.19845948	2.9108612	20	8 31.5	19.0
312656 2010 KJ ₆₃	15.5	X	285.62404	59.41097	280.94796	8.68776	0.1047940	0.18245697	3.0786648	20	6 5.4	19.7
312657 2010 KW ₇₈	15.7	X	287.75335	174.19944	148.49752	9.53383	0.2401575	0.17921661	3.1156635	20	4 30.2	20.3
312658 2010 KX ₇₈	15.4	X	280.26056	20.61877	311.76642	9.08306	0.0831975	0.17905262	3.1175656	20	5 20.4	20.0
312659 2010 KV ₉₀	16.0	X	258.75982	86.13250	252.48368	4.32421	0.1734414	0.17385669	3.1793752	20	4 22.2	20.8
312660 2010 KS ₉₅	15.9	X	331.11774	250.80974	129.00844	6.01977	0.1243165	0.20325135	2.8649283	20	10 13.4	19.2
312661 2010 KL ₁₁₄	15.4	X	61.99259	99.64799	266.71073	1.41958	0.2627056	0.12263003	4.0124055	20	—	—
312662 2010 LZ ₁₁	16.4	X	124.04394	44.15573	297.89648	14.90533	0.2068118	0.23594640	2.5937442	20	—	—
312663 2010 LB ₁₂	15.8	X	83.29170	49.50927	303.07933	16.58133	0.2275310	0.22628401	2.6670642	20	—	—
312664 2010 LD ₁₂	15.6	X	292.93072	181.29217	143.02038	5.87766	0.1413369	0.17946192	3.1128236	20	5 21.9	19.8
312665 2010 LY ₁₅	17.7	X	331.19095	114.52004	160.82925	3.53630	0.1558566	0.29234445	2.2483960	20	5 3.2	19.3
312666 2010 LS ₁₇	15.5	X	233.37175	41.96374	337.66122	8.67713	0.0969535	0.17533529	3.1614755	20	5 22.5	20.4
312667 2010 LH ₅₃	15.9	X	210.16762	32.07691	231.79841	17.17642	0.1468268	0.24333122	2.5409970	20	—	—
312668 2010 LJ ₅₇	14.9	X	333.36849	152.39145	134.10053	28.87943	0.1695255	0.18234746	3.0798973	20	6 7.5	19.1
312669 2010 LR ₆₂	16.6	X	305.64878	167.09614	159.90860	12.85158	0.1577592	0.19896016	2.9059757	20	6 10.7	20.4
312670 2010 LM ₉₂	16.2	X	343.84995	242.18925	254.86541	11.20542	0.1221216	0.23827753	2.5767997	20	—	—
312671 2010 LP ₁₀₃	15.9	X	324.44320	191.26907	147.03238	9.58222	0.0971230	0.18935537	3.0034308	20	7 31.9	19.5
312672 2010 LU ₁₁₃	16.0	X	115.09530	13.21594	278.01587	13.09666	0.2285051	0.22907057	2.6453909	20	—	—
312673 2010 MD ₁₁	15.5	X	269.95814	84.64532	238.24912	17.41683	0.1606860	0.17138985	3.2098099	20	4 14.9	20.4
312674 2010 MF ₂₀	16.2	X	332.95652	50.19356	277.49199	1.13845	0.0977365	0.18852245	3.0122707	20	7 31.8	19.7
312675 2010 MF ₂₈	16.1	X	337.67668	3.35854	345.72953	11.56825	0.0689757	0.19485926	2.9466057	20	9 8.4	19.5
312676 2010 MF ₃₆	16.3	X	303.94107	220.73990	128.35881	9.43851	0.1943903	0.18460742	3.0547097	20	6 30.4	20.0
312677 2010 MK ₆₃	15.4	X	267.75269	341.70532	295.93051	23.64713	0.1789848	0.26045031	2.4283958	20	2 4.8	19.3
312678 2010 MP ₇₁	16.5	X	279.99637	71.22742	18.11753	4.35945	0.1189007	0.20197355	2.8769991	20	10 19.1	19.9
312679 2010 MJ ₇₃	15.9	X	41.66462	105.42217	294.12056	13.48015	0.0994443	0.22336933	2.6902152	20	—	—
312680 2010 MG ₁₀₄	16.3	X	267.48004	27.90142	330.83940	9.61233	0.0812686	0.17518908	3.1632342	20	6 8.5	21.0
312681 2010 NV ₄	16.2	X	181.52804	53.50376	298.29074	13.85088	0.1658625	0.25825056	2.4421661	20	2 19.4	20.3
312682 2010 NW ₄	15.8	X	32.64353	51.04377	306.07069	26.10806	0.1673667	0.21738297	2.7393806	20	12 30.5	19.8
312683 2010 NH ₅	16.8	X	304.67481	7.77535	273.55013	6.95640	0.1562012	0.27998466	2.3140881	20	3 27.7	19.7
312684 2010 NX ₂₂	15.2	X	204.41961	92.66608	345.06416	16.31486	0.1496865	0.17367367	3.1816085	20	7 5.0	20.6
312685 2010 NM ₃₀	16.5	X	322.60067	172.51608	179.59884	7.86760	0.1551151	0.18855614	3.0119119	20	8 10.6	19.9
312686 2010 NZ ₃₉	15.7	X	266.85417	189.34032	184.15955	12.41141	0.1710237	0.17698879	3.1417542	20	6 15.0	20.5
312687 2010 NU ₄₃	16.3	X	105.68964	37.83124	292.91603	4.05677	0.0320246	0.22255181	2.6967993	20	—	—
312688 2010 NK ₄₅	15.9	X	289.66203	329.94109	26.14525	11.38638	0.1225842	0.17974960	3.1095015	20	6 29.4	20.3
312689 2010 ND ₅₀	16.4	X	47.37262	33.48517	326.32160	4.28411	0.0519048	0.21383536	2.7695956	20	12 30.6	20.2
312690 2010 NE ₆₄	15.5	X	16.49056	335.57451	299.45905	6.31420	0.0901150	0.18303531	3.0721763	20	7 30.6	19.2
312691 2010 NW ₈₆	15.3	X	248.25074	104.20313	301.49507	14.36371	0.2080852	0.17756632	3.1349382	20	7 1.3	20.2
312692 2010 NA ₉₇	16.9	X	294.09267	278.38644	199.60602	4.17550	0.0089720	0.21443362	2.7644419	20	12 28.4	20.6
312693 2010 NU ₁₁₀	16.4	X	40.97587	229.05320	123.06454	5.31421	0.0728492	0.20954747	2.8072501	20	12 15.8	20.3
312694 2010 NT ₁₁₇	16.1	X	275.10312	115.39679	233.03057	9.32356	0.1929450	0.18254956	3.0776238	20	5 20.8	20.6
312695 2010 OE ₆	16.1	X	280.15039	193.97431	184.22632	5.44763	0.1440758	0.18024665	3.1037822	20	7 10.7	20.3
312696 2010 OK ₁₄	16.0	X	32.98702	322.32976	351.91809	11.57912	0.0511601	0.19626042	2.9325645	20	10 8.6	19.9
312697 2010 OW ₂₅	15.9	X	71.33293	249.97630	125.61766	14.91586	0.1747940	0.22263160	2.6961549	20	—	—
312698 2010 OL ₂₈	15.7	X	310.54373	289.96697	24.60503	18.02865	0.1875127	0.17629630	3.1499760	20	5 21.1	19.8
312699 2010 OH ₄₁	15.2	X	258.81043	5.54453	30.29315	18.68235	0.0795023	0.17799521	3.1299004	20	7 20.9	20.0
312700 2010 OY ₇₅	13.3	X	241.52632	189.39332	270.96412	14.72899	0.1547074	0.08441832	5.1464953	20	8 20.8	20.6
312701 2010 OS ₈₄	15.1	X	272.99757	241.72748	125.17450	17.79304	0.1497686	0.17444929	3.1721709	20	6 18.7	19.8
312702 2010 OD ₈₇	15.9	X	124.03563	30.32484	134.56572	12.67989	0.3116364	0.23228733	2.6209116	20	1 12.2	19.9
312703 2010 PT ₂	15.1	X	164.30731	176.63910	328.85099	23.28576	0.1322037	0.17634553	3.1493897	20	8 17.9	20.2
312704 2010 PV ₁₀	16.2	X	132.99180	21.68295	301.89377	12.57688	0.1605647	0.23516200	2.5995088	20	—	—
312705 2010 PW ₂₁	15.4	X	200.44978	186.57352	201.92849	9.63293	0.0636867	0.15763386	3.3939312	20	5 3.9	20.4
312706 2010 PM ₂₅	14.7	X	15.23179	331.08131	290.79272	21.11169	0.0637048	0.17240093	3.1972479	20	7 9.3	18.9
312707 2010 PV ₂₅	12.4	X	215.99753	211.07174	271.17923	17.88162	0.0616401	0.08367165	5.1770677	20	8 26.4	19.7
312708 2010 PJ ₄₄	14.8	X	86.88122	219.90427	287.59860	12.39150	0.1262422	0.15460035	3.4381836	20	5 29.1	19.9
312709 2010 PR ₄₉	15.8	X	31.56820	37.20849	286.77608	10.85261	0.0472833	0.19460429	2.9491789	20	10 16.3	20.1
312710 2010 PE ₆₅	16.5	X	58.84539	277.12435	354.18116	1.28660	0.0594945	0.20031969	2.8928126	20	9 22.7	20.4
312711 2010 PO ₇₁	15.5	X	128.19659	233.12658	305.38047	11.96605	0.0188409	0.17774250	3.1328663	20	8 12.2	19.9
312712 2010 PB ₇₆	16.2	X	327.18330	301.10902	167.29136	3.01712	0.0941792	0.19811183	2.9142655	20	9 19.4	19.6
312713 2010 QS ₃	17.0	X	254.08266	170.40024	136.90436	7.61616	0.2063817	0.26731742	2.3866269	20	3 3.9	20.7
312714												

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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>
312721 2010 RC ₅₀	15.7	X	11.47815	40.83905	225.59640	0.54330	0.1516315	0.18114976	3.0934579	20	7 15.5	19.2
312722 2010 RY ₅₅	16.2	X	319.10627	75.23279	242.46772	4.23927	0.1620280	0.18398009	3.0616497	20	6 17.7	19.9
312723 2010 RF ₆₅	15.8	X	282.11178	52.70752	290.04763	8.29578	0.1732595	0.18011580	3.1052853	20	5 23.7	20.2
312724 2010 RU ₇₃	16.6	X	31.72928	292.17701	22.97082	2.16077	0.0576790	0.20357829	2.8618602	20	10 13.6	20.3
312725 2010 RJ ₈₂	16.7	X	350.43270	234.45955	180.04843	6.00041	0.0577242	0.21408879	2.7674095	20	12 25.0	20.3
312726 2010 RW ₁₀₅	16.8	X	151.13342	62.60006	196.45763	4.23329	0.0158002	0.21445072	2.7642950	20	12 25.9	20.8
312727 2010 RO ₁₀₈	16.9	X	299.53297	311.81437	330.90970	6.37018	0.1078604	0.26849478	2.3796449	20	4 1.5	19.8
312728 2010 RA ₁₀₉	15.6	X	208.37391	84.92530	344.24245	15.38217	0.2389283	0.17453581	3.1711224	20	6 21.6	21.3
312729 2010 RV ₁₁₈	16.5	X	75.06599	197.04419	131.22552	5.78606	0.1479025	0.21463407	2.7627204	20	—	—
312730 2010 RZ ₁₆₀	16.3	X	356.05244	162.02868	249.39703	7.52999	0.1573077	0.22091700	2.7100874	20	—	—
312731 2010 SS ₉	15.9	X	187.59757	87.33542	3.89094	9.46753	0.1208715	0.17425409	3.1745395	20	7 4.9	21.0
312732 2010 SA ₁₄	16.9	X	303.47061	141.46055	160.03234	2.55410	0.2263128	0.27540218	2.3396872	20	4 17.6	19.5
312733 2010 SC ₂₁	16.9	X	341.32007	172.95853	215.50798	1.36109	0.0745949	0.20300049	2.8672881	20	11 6.8	20.5
312734 2010 SH ₂₇	15.7	X	272.30328	183.07676	202.76068	9.72921	0.0900355	0.17972553	3.1097791	20	7 16.9	20.2
312735 2010 SL ₃₆	15.8	X	318.42421	319.26729	13.27188	9.51122	0.0973337	0.18346197	3.0674113	20	7 17.1	19.8
312736 2010 SU ₃₆	16.1	X	306.05864	196.98913	169.97363	10.54051	0.183298	0.18724989	3.0259030	20	8 6.6	20.0
312737 2010 SY ₄₀	15.7	X	200.60267	88.56951	13.43026	8.78647	0.0472617	0.18131571	3.0915701	20	8 7.1	20.3
312738 2010 TZ ₄	16.1	X	116.10528	263.97978	16.40339	13.45061	0.1397881	0.21519430	2.7579235	20	12 14.6	20.7
312739 2010 TA ₂₅	16.2	X	19.93230	236.46682	73.36649	2.23166	0.0674290	0.19401307	2.9551672	20	9 20.9	19.9
312740 2010 TP ₂₆	16.7	X	335.05957	212.59768	214.15349	3.87910	0.0499408	0.21312756	2.7757242	20	12 18.4	20.1
312741 2010 TD ₂₉	17.1	X	239.57008	152.23091	298.04258	1.68879	0.1144541	0.18903782	3.0067933	20	8 26.9	21.5
312742 2010 TU ₃₃	16.2	X	159.90890	86.70009	71.05844	2.63966	0.1312064	0.18291884	3.0734802	20	8 29.2	21.0
312743 2010 TL ₃₄	17.0	X	170.27456	213.43562	67.79946	3.31746	0.1499327	0.22850735	2.6497360	20	—	—
312744 2010 TM ₃₅	16.4	X	338.27807	270.56499	35.61052	12.22797	0.1040149	0.17969324	3.1101516	20	7 12.3	20.4
312745 2010 TM ₄₁	16.8	X	3.04640	326.93874	27.93290	4.44352	0.1741972	0.25435368	2.4670467	20	3 7.3	19.0
312746 2010 TR ₅₂	16.7	X	212.86088	13.15672	186.36849	4.13850	0.0106277	0.21468218	2.7623077	20	12 27.9	20.4
312747 2010 TR ₅₇	15.6	X	274.00700	164.03051	226.71778	7.55793	0.0738101	0.18158719	3.0884879	20	7 27.8	20.0
312748 2010 TZ ₆₉	16.3	X	131.34845	275.65169	207.97613	7.69028	0.0571931	0.16916750	3.2378602	20	6 12.6	21.1
312749 2010 TN ₈₂	16.5	X	289.70941	151.14755	304.90058	4.98331	0.1347340	0.20606834	2.8387591	20	11 9.5	19.9
312750 2010 TG ₈₅	16.6	X	296.41742	305.92010	160.59334	4.01782	0.0561506	0.21234533	2.7825368	20	12 14.4	20.2
312751 2010 TG ₉₂	17.4	X	29.78775	20.41900	263.78974	4.57494	0.1637507	0.29536079	2.2330622	20	9 29.3	19.7
312752 2010 TT ₉₆	16.5	X	331.00875	260.34405	124.94823	2.92874	0.0722484	0.19953478	2.9003938	20	10 18.5	20.0
312753 2010 TA ₉₇	17.0	X	322.41673	94.57869	115.54471	1.68645	0.1072924	0.25100198	2.4889602	20	1 31.1	20.1
312754 2010 TG ₉₈	17.3	X	8.41106	185.79720	19.13470	2.85762	0.1209360	0.26213744	2.4179650	20	4 7.3	19.6
312755 2010 TB ₉₉	15.9	X	106.27531	7.95642	171.01257	3.01631	0.0057956	0.17900757	3.1180886	20	7 16.0	20.3
312756 2010 TZ ₁₀₄	16.6	X	305.68428	151.72691	304.47819	3.27438	0.0286681	0.21044941	2.7992235	20	12 14.4	20.3
312757 2010 TP ₁₀₉	16.5	X	37.56096	218.75258	101.08765	3.54705	0.0541876	0.20097613	2.8665100	20	10 27.9	20.5
312758 2010 TG ₁₁₆	15.7	X	275.04875	340.34243	28.02775	3.00193	0.0963095	0.17637396	3.1490514	20	6 29.3	20.2
312759 2010 TM ₁₂₇	16.2	X	68.19328	215.64619	136.13536	4.33416	0.0889437	0.21605010	2.7506357	20	—	—
312760 2010 TO ₁₃₅	16.0	X	235.08229	233.99269	166.75511	12.40507	0.1416905	0.17384493	3.1795186	20	6 18.0	21.1
312761 2010 TK ₁₅₇	16.6	X	21.10570	297.17773	58.10954	2.85148	0.0828343	0.20515287	2.8471979	20	11 23.0	20.3
312762 2010 TZ ₁₅₇	16.7	X	359.44209	285.95168	85.49029	3.20647	0.0785677	0.20223945	2.8744768	20	11 12.5	20.3
312763 2010 TA ₁₅₉	16.6	X	64.04441	158.66054	148.62086	2.52906	0.0544383	0.20432601	2.8548740	20	11 14.5	20.6
312764 2010 TP ₁₇₈	15.8	X	156.03159	306.89517	154.84083	1.57553	0.1045035	0.16714895	3.2638758	20	6 15.2	20.8
312765 2010 TF ₁₇₉	16.0	X	149.43710	110.70625	41.76884	4.85666	0.0600454	0.18065371	3.0991181	20	8 10.9	20.6
312766 2010 UW ₁₄	13.0	X	3.73280	105.23987	236.29548	17.10796	0.0192929	0.08243740	5.2286135	20	9 11.4	20.0
312767 2010 US ₂₂	16.6	X	159.60971	19.99184	136.37949	2.43955	0.1212708	0.17919152	3.1159543	20	8 25.9	21.5
312768 2010 UL ₃₀	15.6	X	22.29121	41.08120	277.11297	5.48026	0.0817327	0.19069121	2.9893879	20	10 2.1	19.6
312769 2010 UP ₃₀	15.6	X	48.83105	302.62465	292.21363	4.21741	0.1140063	0.17295430	3.1904246	20	7 28.4	19.9
312770 2010 UF ₅₆	13.9	X	268.01161	68.91798	6.49982	4.49413	0.0676271	0.08024384	5.3234712	20	9 6.8	20.9
312771 2010 UH ₆₇	16.5	X	166.74218	184.09178	73.98669	6.40115	0.1209022	0.21599572	2.7510973	20	—	—
312772 2010 UA ₇₆	16.3	X	329.77284	298.15536	270.63139	10.25407	0.1311358	0.23750982	2.5823494	20	2 3.9	19.5
312773 2010 UW ₈₂	13.3	X	165.58021	306.14744	243.88676	19.46888	0.0490486	0.08378765	5.1722883	20	9 22.7	20.6
312774 2010 UC ₈₆	16.7	X	258.33266	157.85583	83.63811	4.00776	0.1283056	0.23741678	2.5830240	20	—	—
312775 2010 UP ₉₇	13.3	X	225.84966	15.43753	114.96828	9.83885	0.0239286	0.08505496	5.1207822	20	10 1.2	20.2
312776 2010 UZ ₁₀₁	16.4	X	177.89237	347.26607	314.17613	7.22243	0.2410369	0.23685919	2.5870762	20	—	—
312777 2010 VP ₆	15.6	X	301.34023	86.91101	239.58520	9.18969	0.0446754	0.17122075	3.2119229	20	6 17.3	20.0
312778 2010 VA ₃₀	12.7	X	278.40672	329.75434	106.70315	15.28338	0.1156794	0.08286360	5.2106695	20	9 18.9	19.7
312779 2010 VY ₃₃	13.0	X	268.18616	203.89858	237.38274	24.41680	0.1851530	0.08257652	5.2227389	20	8 19.2	20.3
312780 2010 VR ₃₄	16.1	X	258.41763	48.30804	311.09557	8.72017	0.2543487	0.17774549	3.1328311	20	5 6.3	21.3
312781 2010 VO ₃₉	16.7	X	93.36329	197.48554	326.31751	6.63360	0.0595745	0.26925145	2.3751845	20	6 20.7	19.7
312782 2010 VB ₄₆	13.0	X	63.91931	43.40116	247.28657	22.27620	0.0316301	0.08435490	5.1490745	20	9 24.2	20.1
312783 2010 VX ₅₂	16.2	X	353.11651	183.52106	123.15607	2.78225	0.1632054	0.18001258	3.1064722	20	8 6.6	19.6
312784 2010 VB ₇₄	17.6	X	334.64764	232.20526	186.61609	3.29976	0.1224923	0.30464419	2.1874633	20	—	—
312785 2010 VH ₉₀	16.8	X	58.15696	193.27264	56.49863	8.85402	0.0747703	0.27683709	2.3315954	20	9 11.5	19.8
312786 2010 VC ₉₆	13.1	X	279.63310	331.93628	96.93093	13.15825	0.0542695	0.08129775	5.2773640	20	9 19.5	20.1
312787 2010 VA ₁₁₄	12.9	X	316.39355	145.12690	235.72581	29.85143	0.0278086	0.08421080	5.1549470	20	8 26.0	20.1
312788 2010 VF ₁₂₇	13.5	X	302.20148	167.63864	248.39202	8.73914	0.1513807	0.08190815	5.2511121	20	9 10.9	20.1
312789 2010 VW ₁₃₈	15.0	X	98.41064	332.26224	230.46928	8.98886	0.0230576	0.17297966	3.1901127	20	8 4.4	19.7
312790 2010 VB ₁₆₃	15.1	X	104.74280	340.63280	247.23298	12.01557	0.1045948	0.18091690	3.0961118	20	9 20.6	20.0
312791 2010 VT ₁₆₄	14.0	X	273.78630	158.99410	263.03179	2.12976	0.0843380	0.08286807	5.2104818	20	8 25.6	20.9
312792 2010 VX ₁₇₆	15.8	X	346.04239	81.13583	286.53806	10.10017	0.1472949	0.19249192	2.9707154	20	10 13.2	19.4
312793 2010 VR ₁₈₀	13.5	X	205.63891	83.99267	77.43467	4.58823	0.0732069	0.08433227	5.1499956	20	10 8.3</	

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>
312801 2010 <i>WO</i> ₆₆	13.8	X	248.19208	42.17786	79.64303	4.22762	0.0779049	0.08363327	5.1786512	20	10 7.0	20.8
312802 2010 <i>XM</i> ₅	12.7	X	264.71907	356.58824	100.01305	22.61967	0.0444511	0.08346874	5.1854542	20	10 10.1	19.9
312803 2010 <i>XD</i> ₇₁	13.4	X	231.96534	175.15072	314.15918	8.22300	0.0978733	0.08175667	5.2575964	20	9 21.2	20.6
312804 2010 <i>XQ</i> ₇₉	13.4	X	275.74843	245.23622	204.60366	6.98479	0.1094080	0.08261283	5.2212086	20	9 24.7	20.3
312805 2010 <i>XN</i> ₈₀	13.6	X	260.15362	318.28832	142.96857	7.53470	0.0581553	0.08110858	5.2855660	20	9 29.5	20.6
312806 2010 <i>XG</i> ₈₅	13.2	X	318.17264	288.36655	116.68957	10.56401	0.0353494	0.08389003	5.1680791	20	10 9.3	20.0
312807 2010 <i>XM</i> ₈₇	13.3	X	291.43746	128.04316	305.94468	8.54328	0.0464042	0.08297846	5.2058599	20	9 30.3	20.2
312808 2010 <i>YS</i> ₁	15.4	X	168.38810	231.57645	351.78869	8.15727	0.0614775	0.18562007	3.0435897	20	11 22.2	20.1
312809 2011 <i>AJ</i> ₂₂	15.2	X	175.96986	126.92690	101.43400	15.32138	0.1666472	0.18325471	3.0697237	20	12 4.5	20.3
312810 2011 <i>BZ</i> ₁₂₅	16.7	X	220.83276	335.78009	335.40129	3.99738	0.1725906	0.22462941	2.6801451	20	2 12.9	21.0
312811 2011 <i>FP</i> ₈₈	16.3	X	34.90202	123.98148	19.23316	7.04812	0.0668871	0.21706430	2.7420610	20	3 3.6	19.6
312812 2011 <i>GH</i>	17.4	X	98.61096	287.11825	159.13632	8.07894	0.1962695	0.22134197	2.7066174	20	4 6.3	21.2
312813 2011 <i>KL</i> ₃₀	17.1	X	226.21517	230.30430	46.54914	7.19956	0.1242642	0.29710550	2.2243114	20	—	—
312814 2011 <i>LS</i> ₁₃	16.5	X	62.13062	81.82004	205.11546	9.78294	0.1718347	0.24561946	2.5251908	20	11 10.3	20.0
312815 2011 <i>OR</i> ₁₉	17.2	X	124.79700	172.41964	157.55664	3.60308	0.1423761	0.26530854	2.3986593	20	—	—
312816 2011 <i>OE</i> ₄₈	15.6	X	244.49599	70.38780	298.51934	5.70058	0.1527196	0.19971147	2.8986830	20	5 16.0	20.1
312817 2011 <i>QT</i> ₆	17.6	X	89.38206	224.06518	225.32295	6.04000	0.0409851	0.29058739	2.2574504	20	2 21.4	20.2
312818 2011 <i>OX</i> ₆₇	17.3	X	140.32627	71.79316	258.38165	3.32492	0.1574722	0.26464433	2.4026711	20	—	—
312819 2011 <i>QO</i> ₉₂	15.7	X	324.30901	60.38521	201.03205	10.66860	0.0884101	0.19062107	2.9901211	20	4 20.9	19.6
312820 2011 <i>SG</i> ₃₁	15.1	X	358.47858	225.60081	175.84761	4.96155	0.1587471	0.12690812	3.9217186	20	12 4.7	19.9
312821 2011 <i>SF</i> ₄₃	16.5	X	291.29587	23.78104	355.95956	3.11869	0.1021586	0.21038874	2.7997616	20	8 8.5	20.1
312822 2011 <i>SO</i> ₉₁	16.2	X	278.31645	82.26021	221.94784	9.32938	0.2056241	0.18233490	3.0800388	20	3 26.7	20.9
312823 2011 <i>SB</i> ₁₁₃	15.9	X	294.99987	254.97007	225.37032	17.09105	0.1048702	0.24193087	2.5507929	20	—	—
312824 2011 <i>SN</i> ₁₂₃	15.5	X	105.99260	78.73854	27.99848	5.74475	0.1433284	0.17094143	3.2154208	20	5 3.0	20.2
312825 2011 <i>SH</i> ₁₃₅	16.2	X	223.25167	183.11229	188.86863	10.79867	0.0737310	0.18326525	3.0696060	20	5 7.9	20.9
312826 2011 <i>SD</i> ₁₄₂	16.7	X	191.35050	293.11958	227.06788	0.84734	0.0196792	0.21826945	2.7319584	20	10 12.4	20.4
312827 2011 <i>SW</i> ₁₆₆	16.8	X	54.04886	22.59305	29.52562	6.98511	0.0932014	0.25807002	2.4433050	20	—	—
312828 2011 <i>SW</i> ₁₇₂	18.0	X	129.41557	25.28477	17.47538	2.93781	0.2441577	0.27193259	2.3595465	20	3 15.9	21.4
312829 2011 <i>SW</i> ₁₈₃	15.8	X	212.58331	342.31518	51.89126	6.23757	0.1621830	0.18202748	3.0835056	20	5 16.9	20.8
312830 2011 <i>SB</i> ₂₄₁	17.1	X	351.82405	191.41339	9.08220	7.61484	0.0469345	0.28679847	2.2772891	20	3 6.7	19.5
312831 2011 <i>SU</i> ₂₄₇	16.3	X	30.88579	56.25092	6.82550	14.44061	0.1715085	0.24313322	2.5423764	20	—	—
312832 2011 <i>ST</i> ₂₅₇	17.5	X	147.56112	144.70520	233.14881	5.85402	0.1201006	0.27386640	2.3484260	20	2 15.1	20.8
312833 2011 <i>TO</i> ₉	15.6	X	256.89068	74.86175	261.80858	11.29986	0.0967687	0.18629267	3.0362594	20	4 24.5	20.2
312834 2011 <i>TS</i> ₁₃	16.8	X	302.91373	69.27916	341.23406	3.36836	0.0991645	0.21385863	2.7693948	20	10 7.0	20.2
312835 2011 <i>UP</i> ₈	16.5	X	166.27918	339.90149	48.67398	5.46314	0.1775576	0.27886014	2.3203051	20	3 28.2	20.1
312836 2011 <i>UE</i> ₁₃	17.7	X	217.42262	264.22340	37.67117	2.68960	0.2410216	0.27766591	2.3269534	20	1 24.7	21.6
312837 2011 <i>UC</i> ₁₆	16.3	X	195.02727	357.33256	110.83497	3.24546	0.0161167	0.20293984	2.8678593	20	8 9.4	20.1
312838 2011 <i>UL</i> ₁₇	15.8	X	122.19774	74.60492	35.64093	5.17547	0.1131317	0.16949608	3.2336743	20	5 21.5	20.6
312839 2011 <i>UL</i> ₂₅	15.9	X	34.05519	11.52943	212.43741	6.96128	0.0716229	0.18416318	3.0596201	20	6 17.6	20.0
312840 2011 <i>UH</i> ₃₇	15.8	X	10.99985	197.46551	40.73366	22.85046	0.0874188	0.17875091	3.1210726	20	5 27.9	20.0
312841 2011 <i>UO</i> ₄₉	17.7	X	168.72832	298.02710	47.70172	2.10488	0.2010614	0.27124568	2.3635284	20	2 6.7	21.4
312842 2011 <i>UW</i> ₅₂	15.9	X	22.09406	60.90207	207.10806	10.40002	0.0706076	0.19329557	2.9624756	20	7 26.2	19.9
312843 2011 <i>UA</i> ₅₅	15.5	X	251.31318	151.47843	235.58346	8.63910	0.1011123	0.18688318	3.0298601	20	6 22.7	19.9
312844 2011 <i>UJ</i> ₅₅	16.2	X	53.03218	304.97335	53.86552	11.39162	0.0927754	0.23170672	2.6252881	20	—	—
312845 2011 <i>UJ</i> ₅₅	17.6	X	184.81825	309.17684	55.36500	1.66004	0.2278613	0.27912417	2.3188416	20	3 14.7	21.4
312846 2011 <i>UQ</i> ₆₁	17.2	X	86.72994	162.06065	199.50374	3.69775	0.0748004	0.24095814	2.5576531	20	—	—
312847 2011 <i>UA</i> ₇₈	15.4	X	10.95001	355.20178	239.69489	13.38351	0.1177087	0.17971807	3.1098651	20	5 29.9	19.2
312848 2011 <i>UE</i> ₇₈	15.9	X	219.41904	152.06123	237.22119	9.03849	0.0706590	0.18140946	3.0905049	20	5 23.8	20.4
312849 2011 <i>UY</i> ₈₁	16.7	X	310.97659	359.51409	98.46353	2.15570	0.0301163	0.22943404	2.6425962	20	12 29.2	19.9
312850 2011 <i>UQ</i> ₈₄	15.2	X	174.81238	211.86393	246.21779	15.89943	0.0903381	0.18162516	3.0880575	20	6 28.1	20.1
312851 2011 <i>UZ</i> ₈₄	16.8	X	39.57577	315.51257	30.00364	6.68869	0.1170177	0.22363716	2.6880669	20	12 13.9	20.5
312852 2011 <i>UA</i> ₈₅	17.4	X	49.18775	210.66304	283.85915	3.68432	0.0880048	0.26755232	2.3852298	20	3 4.0	19.9
312853 2011 <i>UJ</i> ₈₆	15.5	X	44.70499	29.25423	232.26247	9.68702	0.0117427	0.19229660	2.9727267	20	8 10.4	19.8
312854 2011 <i>UR</i> ₈₆	16.6	X	309.68621	114.52984	227.08400	2.44024	0.1571631	0.19305941	2.9648910	20	7 5.5	20.1
312855 2011 <i>UO</i> ₈₇	17.3	X	282.27666	65.86514	226.15486	6.47317	0.1426605	0.28376571	2.2934861	20	3 15.6	20.4
312856 2011 <i>UY</i> ₈₇	16.9	X	24.77269	167.96994	214.27084	1.83566	0.0630003	0.22761230	2.6566778	20	—	—
312857 2011 <i>UK</i> ₈₈	16.6	X	288.23096	279.80772	243.14849	3.06463	0.0643848	0.23808250	2.5782067	20	—	—
312858 2011 <i>UK</i> ₈₉	18.0	X	111.22336	162.31142	19.38716	2.91178	0.0571970	0.30388057	2.1911264	20	8 13.5	20.6
312859 2011 <i>UL</i> ₁₁₃	17.2	X	179.81582	295.53311	68.49816	6.65050	0.1812998	0.27654999	2.3332088	20	3 11.4	21.0
312860 2011 <i>UB</i> ₁₂₅	16.2	X	153.57527	270.27878	203.12083	10.14519	0.0959438	0.18595038	3.0399843	20	6 26.3	21.0
312861 2011 <i>UO</i> ₁₂₆	16.8	X	313.09448	166.05721	287.26963	5.13912	0.0943856	0.22833547	2.6510655	20	12 26.0	19.9
312862 2011 <i>UP</i> ₁₄₁	16.9	X	330.47762	33.75202	31.36207	5.72289	0.0462992	0.22422384	2.6833759	20	12 12.1	20.3
312863 2011 <i>UX</i> ₁₄₁	16.7	X	45.98316	207.07962	132.55165	4.38178	0.2248805	0.23238927	2.6201450	20	12 30.9	20.5
312864 2011 <i>US</i> ₁₄₅	17.8	X	234.11473	47.90130	18.83542	4.16581	0.1071487	0.30717553	2.1754293	20	8 2.3	20.4
312865 2011 <i>UC</i> ₁₅₂	16.2	X	193.18832	251.85175	249.60413	3.26377	0.0135907	0.21061879	2.7977226	20	9 18.4	20.0
312866 2011 <i>UY</i> ₁₅₂	15.9	X	202.25540	201.93937	226.22959	12.64329	0.0376078	0.18074998	3.0980175	20	6 23.2	20.5
312867 2011 <i>UP</i> ₁₅₄	17.2	X	308.05062	335.60313	244.55831	3.47100	0.1212689	0.26360909	2.4089574	20	1 19.8	20.4
312868 2011 <i>UQ</i> ₁₅₄	17.3	X	180.35979	333.59947	53.57413	2.85042	0.1770211	0.28155130	2.3054959	20	4 6.9	20.9
312869 2011 <i>UL</i> ₁₆₀	16.2	X	38.09990	202.34340	133.13972	5.29967	0.1148135	0.22139576	2.7061790	20	11 30.2	19.8
312870 2011 <i>UA</i> ₁₆₁	16.3	X	281.26921	163.07484	244.72746	11.10747	0.0501428	0.20245340	2.8724512	20	8 31.6	20.4
312871 2011 <i>UL</i> ₁₆₁	16.3	X	239.70692	34.73841	348.60651	3.20086	0.1188559	0.18326386	3.0696215	20	6 2.5	

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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>
312881 2011 <i>UU</i> ₁₉₉	17.1	X	337.57587	114.76359	327.90936	4.03409	0.1442770	0.22844562	2.6502133	20	—	—
312882 2011 <i>UV</i> ₂₀₂	15.8	X	65.58304	144.27987	60.96024	27.70463	0.1556174	0.17943410	3.1131453	20	7 22.9	20.6
312883 2011 <i>UW</i> ₂₀₃	15.4	X	110.72692	107.41417	63.15566	20.48818	0.0999014	0.18204437	3.0833149	20	7 25.9	20.3
312884 2011 <i>UL</i> ₂₄₂	17.2	X	118.08364	26.41821	273.98570	1.34385	0.1764988	0.23733370	2.5836268	20	—	—
312885 2011 <i>UO</i> ₂₅₁	16.4	X	358.45452	264.02659	88.91552	5.47051	0.0792640	0.21085189	2.7956602	20	10 21.7	19.8
312886 2011 <i>UK</i> ₂₅₂	15.7	X	56.84117	213.95938	72.07498	13.21786	0.1868256	0.20986468	2.8044206	20	11 1.9	19.8
312887 2011 <i>US</i> ₂₅₃	17.2	X	351.26607	49.26773	65.11155	22.79559	0.1130204	0.35748918	1.9661989	20	—	—
312888 2011 <i>UN</i> ₂₅₄	16.6	X	324.66837	233.13081	199.55360	0.50444	0.1163997	0.22684833	2.6626392	20	12 17.3	19.2
312889 2011 <i>UV</i> ₂₆₂	16.8	X	78.27258	230.05653	55.45465	5.32418	0.0770353	0.21421486	2.7663236	20	11 8.8	20.6
312890 2011 <i>UL</i> ₂₆₃	16.4	X	357.67934	336.37574	61.21481	7.49985	0.0175907	0.22180818	2.7028234	20	12 11.2	19.9
312891 2011 <i>UB</i> ₂₆₆	16.3	X	39.57260	249.63311	66.96987	7.41623	0.0681561	0.21246260	2.7815128	20	10 31.1	19.9
312892 2011 <i>UE</i> ₂₆₈	16.0	X	189.43722	329.10388	84.13151	6.33584	0.1603478	0.17720703	3.1391742	20	5 20.3	21.2
312893 2011 <i>UE</i> ₂₇₁	15.9	X	269.80061	258.31276	67.47069	6.51835	0.0755159	0.17514706	3.1637402	20	5 3.5	20.3
312894 2011 <i>UY</i> ₂₇₁	16.3	X	61.68520	304.88573	65.47442	7.81432	0.2938261	0.24053668	2.5606399	20	—	—
312895 2011 <i>UB</i> ₂₈₁	15.9	X	258.54785	160.28846	188.97531	17.43064	0.1262129	0.18211480	3.0825199	20	5 13.7	20.6
312896 2011 <i>UG</i> ₂₈₁	16.8	X	168.21395	320.80455	72.96378	5.70428	0.1567794	0.28184367	2.3039012	20	4 5.1	20.3
312897 2011 <i>UH</i> ₂₈₅	16.4	X	247.68712	200.84718	135.34263	12.46510	0.1800097	0.18367040	3.0650903	20	4 13.2	21.4
312898 2011 <i>UT</i> ₂₈₅	16.9	X	219.69066	59.78955	87.45315	3.83384	0.1220464	0.21852806	2.7298026	20	10 20.1	20.8
312899 2011 <i>US</i> ₂₉₆	15.8	X	316.10416	240.66070	48.09734	19.17591	0.1727756	0.18516175	3.0486100	20	5 3.8	19.4
312900 2011 <i>UM</i> ₂₉₇	17.4	X	190.88550	235.72486	68.47629	4.65048	0.1820046	0.26638804	2.3921747	20	1 5.6	21.2
312901 2011 <i>UH</i> ₃₀₀	17.6	X	0.75274	332.97236	110.08671	3.01125	0.1031760	0.23785604	2.5798429	20	—	—
312902 2011 <i>UL</i> ₃₀₀	15.6	X	178.67839	236.53507	218.04114	8.53954	0.1096106	0.18131486	3.0915797	20	6 28.6	20.6
312903 2011 <i>UQ</i> ₃₀₀	16.8	X	309.91301	152.78295	254.70610	8.03073	0.2796668	0.21254130	2.7808260	20	9 21.1	19.4
312904 2011 <i>UO</i> ₃₀₉	16.3	X	224.71940	3.03437	114.33434	3.14631	0.0238147	0.20477508	2.8506986	20	9 28.4	20.2
312905 2011 <i>UH</i> ₃₁₇	16.2	X	32.85020	114.44902	251.46753	3.95982	0.0970400	0.22509766	2.6764270	20	12 16.6	19.9
312906 2011 <i>UC</i> ₃₁₉	15.7	X	30.05422	1.01850	240.05025	10.37333	0.0562457	0.18299049	3.0726778	20	7 1.6	19.8
312907 2011 <i>UZ</i> ₃₂₇	16.3	X	270.40599	171.56093	200.25162	1.64543	0.1897175	0.19077632	2.9884988	20	6 14.4	20.5
312908 2011 <i>UA</i> ₃₃₂	16.0	X	240.63805	247.78026	257.46004	11.46274	0.0682048	0.21699592	2.7426370	20	11 16.3	19.9
312909 2011 <i>UQ</i> ₃₃₄	17.7	X	131.12471	60.86727	327.07587	1.51072	0.2149352	0.27293299	2.3537772	20	2 23.7	20.9
312910 2011 <i>UT</i> ₃₃₈	17.2	X	197.35176	205.83115	106.11078	3.88605	0.2454951	0.27732468	2.3288617	20	1 21.1	21.3
312911 2011 <i>UC</i> ₃₆₃	17.1	X	181.59670	256.13240	162.91924	0.44715	0.1606748	0.17654512	3.1470157	20	5 19.7	22.3
312912 2011 <i>UZ</i> ₄₀₀	16.2	X	271.04928	308.31133	35.01826	9.38409	0.0897509	0.18427820	3.0583469	20	5 22.2	20.5
312913 2011 <i>VV</i> ₄	16.4	X	274.86181	176.88937	159.14512	2.57475	0.0292569	0.17686729	3.1431929	20	5 28.7	20.8
312914 2011 <i>VU</i> ₁₂	15.4	X	218.44649	338.08585	65.22395	12.00502	0.0618517	0.18255699	3.0775402	20	6 9.3	20.0
312915 2011 <i>VG</i> ₁₄	16.8	X	261.00249	288.40425	183.16599	1.54891	0.0287591	0.21757467	2.7377713	20	11 6.9	20.5
312916 2011 <i>VU</i> ₁₄	16.5	X	23.73582	22.24649	201.09001	3.51281	0.1100320	0.21145590	2.7903339	20	10 19.9	20.0
312917 2011 <i>WH</i> ₁	16.0	X	304.73252	81.45879	250.41612	8.33231	0.0949520	0.18461925	3.0545792	20	6 22.7	19.9
312918 2011 <i>WV</i> ₁	15.9	X	112.58494	230.75898	75.72450	14.90453	0.0786183	0.22973262	2.6403061	20	—	—
312919 2011 <i>WU</i> ₉	16.7	X	297.58479	41.53579	76.38797	0.76779	0.0753248	0.22825205	2.6517114	20	—	—
312920 2011 <i>WD</i> ₁₄	17.2	X	35.68949	290.96282	80.53814	4.53320	0.2383630	0.23252750	2.6191065	20	—	—
312921 2011 <i>WF</i> ₁₆	17.5	X	38.75050	96.28788	161.68665	3.34205	0.1583924	0.30583815	2.1817666	20	9 7.7	19.8
312922 2011 <i>WL</i> ₁₇	16.5	X	9.47513	200.09119	254.85969	4.05068	0.0869283	0.24152617	2.5536415	20	—	—
312923 2011 <i>WA</i> ₃₂	15.9	X	254.43840	350.48614	350.96511	8.72422	0.0870119	0.17312533	3.1883229	20	4 28.9	20.7
312924 2011 <i>WN</i> ₃₅	15.7	X	218.42397	307.74137	72.95552	10.96344	0.1950836	0.17845761	3.1244914	20	5 6.8	20.9
312925 2011 <i>WX</i> ₃₉	16.1	X	67.27600	209.40023	91.47916	16.55625	0.0600981	0.22301595	2.6930563	20	11 18.8	20.0
312926 2011 <i>WN</i> ₅₅	16.8	X	111.99231	310.79706	65.66114	6.66885	0.1211126	0.25943373	2.4347353	20	1 5.7	19.7
312927 2011 <i>WM</i> ₅₈	16.9	X	75.98498	155.04383	177.92326	2.21434	0.0407406	0.22778050	2.6553698	20	—	—
312928 2011 <i>WT</i> ₅₉	16.5	X	55.28429	165.68410	115.11055	3.20097	0.0321664	0.20303336	2.8669786	20	9 28.4	20.3
312929 2011 <i>WM</i> ₆₀	16.7	X	149.33061	265.70216	216.60872	4.29014	0.1152987	0.17735024	3.1374840	20	7 3.9	21.6
312930 2011 <i>WN</i> ₆₁	16.8	X	74.66004	133.41425	226.81649	2.23761	0.0730718	0.23624330	2.5915706	20	—	—
312931 2011 <i>WY</i> ₆₆	16.8	X	337.98917	323.44180	58.16348	5.55180	0.3298830	0.21662014	2.7458079	20	11 12.6	18.3
312932 2011 <i>WV</i> ₆₉	16.9	X	104.79189	102.18369	302.95896	5.41681	0.1070070	0.26108917	2.4244327	20	1 30.9	19.9
312933 2011 <i>WD</i> ₈₀	16.9	X	331.49912	290.25773	99.17362	1.79328	0.0794425	0.21379958	2.7699046	20	10 27.3	20.3
312934 2011 <i>WS</i> ₈₃	17.6	X	141.03117	243.85290	149.99078	2.64449	0.1546353	0.26934274	2.3746478	20	3 6.8	20.9
312935 5042 <i>T-3</i>	17.3	X	125.28110	328.23105	97.31537	6.28478	0.1715537	0.26468528	2.4024232	20	4 5.2	20.8
312936 1979 <i>MT</i> ₃	17.4	X	351.30721	73.13463	263.58453	3.24314	0.2085132	0.31467735	2.1407160	20	10 24.4	18.8
312937 1993 <i>RU</i> ₁₄	16.3	X	189.27492	314.49891	3.21416	9.61208	0.2088033	0.23770422	2.5809413	20	1 27.3	20.8
312938 1994 <i>AY</i> ₆	16.9	X	310.05786	344.05341	114.95559	3.77325	0.1223383	0.21794340	2.7346824	20	12 24.6	19.9
312939 1994 <i>SW</i> ₁₂	16.4	X	264.17299	45.31238	16.51006	9.58736	0.1521812	0.18553041	3.0445702	20	8 19.4	20.7
312940 1994 <i>UC</i> ₁₀	16.0	X	117.41849	281.17879	337.91173	2.91465	0.1795209	0.19255640	2.9700521	20	11 19.6	20.9
312941 1995 <i>BJ</i> ₁₂	17.6	X	67.34129	261.08974	334.55876	2.18585	0.1395309	0.28904855	2.2654554	20	9 10.2	20.3
312942 1995 <i>EK</i> ₁	17.3	X	120.91149	299.79371	352.64799	9.06715	0.7768873	0.28937460	2.2637534	20	—	—
312943 1995 <i>EQ</i> ₅	16.8	X	307.44081	121.76586	6.02212	2.64809	0.0274882	0.22447803	2.6813499	20	—	—
312944 1995 <i>FK</i> ₈	17.2	X	254.61585	56.48142	156.63493	7.95662	0.1561731	0.22573827	2.6713611	20	—	—
312945 1995 <i>FE</i> ₁₉	17.5	X	342.62825	87.91405	44.84219	2.53693	0.1584012	0.22965830	2.6408756	20	—	—
312946 1995 <i>SN</i> ₃₅	15.4	X	232.27384	163.86282	293.99508	12.71579	0.0540963	0.19815145	2.9138770	20	8 31.4	19.7
312947 1995 <i>SC</i> ₄₆	16.9	X	104.69294	86.78366	3.85529	1.07893	0.1566380	0.26069156	2.4268973	20	4 8.9	20.1
312948 1995 <i>SF</i> ₈₀	13.0	X	296.51644	78.24003	348.76156	15.41071	0.0241829	0.08095099	5.2924235	20	9 30.9	19.9
312949 1995 <i>UG</i> ₈₂	17.3	X	86.81252	351.47312	98.66921	3.40048	0.1586123	0.25390225	2.4699701	20	3 17.9	20.2
312950 1995 <i>WP</i> ₁₁	17.2	X	132.11092	327.40020	98.27350	5.34627	0.1157307	0.25678208	2.4514681	20	4 6.6	20.7
312951 1995 <i>YQ</i> ₁₁	15.8	X	315.57453	78.11191	285.16800	12.48715	0.0421917	0.18448479	3.0560633	20	8 20.2	20.0
312952 1996 <i>AN</i> ₆												

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>
312961 1997 SG ₃₀	13.6	X	280.57980	63.89370	18.92608	6.13346	0.0817508	0.08219209	5.2390115	20	9 27.9	20.5
312962 1997 SM ₃₀	14.0	X	327.83758	6.49521	19.46806	4.80700	0.2142307	0.08294954	5.2070697	20	9 13.5	19.9
312963 1997 YO ₈	16.4	X	312.85000	20.84947	104.31667	15.83916	0.2183181	0.21541150	2.7560692	20	—	—
312964 1998 DU ₂₅	17.1	X	184.39854	0.38020	19.92614	2.98529	0.1952363	0.27379833	2.3488152	20	4 1.9	20.7
312965 1998 EW ₉	17.4	X	141.17119	347.26649	156.35623	4.82584	0.2374254	0.28079692	2.3096233	20	8 1.7	21.2
312966 1998 HE ₅	17.2	X	72.40790	303.71930	262.49406	2.59870	0.1213896	0.27718992	2.3296165	20	8 1.2	20.0
312967 1998 QW ₂₈	16.0	X	42.22094	63.38892	236.13517	5.00153	0.1549267	0.18332636	3.0689238	20	10 16.9	20.2
312968 1998 QS ₉₇	14.9	X	340.87201	17.26416	330.99587	27.32788	0.1417285	0.17845130	3.1245651	20	9 3.5	18.6
312969 1998 SK ₃₄	16.7	X	115.61005	347.55672	10.56725	16.64586	0.1417991	0.24136847	2.5547536	20	—	—
312970 1998 SZ ₃₄	16.9	X	95.52559	27.42488	1.81523	15.82795	0.2348680	0.24115394	2.5562686	20	1 26.7	20.3
312971 1998 VE ₃₄	17.0	X	36.77951	140.89222	291.87530	4.43367	0.3234791	0.23510097	2.5999586	20	—	—
312972 1998 WO	16.3	X	41.78403	18.70160	32.57843	14.12106	0.2409867	0.23433913	2.6055905	20	—	—
312973 1999 BX ₁₀	16.6	X	317.34268	357.77709	140.27417	14.59755	0.1857792	0.22471185	2.6794895	20	—	—
312974 1999 CU ₈	17.2	X	67.92296	102.40640	109.71752	29.33599	0.2846581	0.38560940	1.8694089	20	9 20.3	20.5
312975 1999 CZ ₇₀	16.5	X	330.31568	285.12440	158.77699	11.63970	0.2444833	0.22282740	2.6945753	20	—	—
312976 1999 CN ₁₅₉	16.0	X	296.45367	250.15897	314.49903	10.51961	0.2430467	0.22895866	2.6462528	20	—	—
312977 1999 FO ₇₃	16.8	X	105.88142	148.84259	161.33008	3.63798	0.0733538	0.21522057	2.7576990	20	—	—
312978 1999 JG ₂₉	14.9	X	94.94109	327.19728	221.43793	19.69818	0.4098270	0.15108174	3.4913608	20	8 19.3	21.2
312979 1999 KT ₄	17.8	X	134.38970	127.67337	111.47001	2.29092	0.3673662	0.29939247	2.2129697	20	11 25.5	22.1
312980 1999 RK ₆₀	15.9	X	139.68877	255.10095	135.43724	11.09538	0.2653323	0.26105952	2.4246163	20	3 15.1	19.8
312981 1999 RV ₁₂₃	17.5	X	158.00589	34.87468	341.03470	4.88764	0.1213037	0.26171285	2.4205795	20	2 28.2	21.0
312982 1999 RC ₂₀₆	16.6	X	131.97230	73.23744	313.28265	7.04443	0.2142665	0.25759387	2.4463149	20	2 22.9	20.1
312983 1999 RA ₂₃₆	16.0	X	303.54288	239.54361	140.14540	17.07020	0.2662818	0.18341978	3.0678816	20	7 29.4	19.7
312984 1999 SH ₂₁	17.1	X	13.65264	264.39057	6.07751	5.46667	0.2391701	0.27694846	2.3309704	20	8 22.6	18.7
312985 1999 TF ₄₅	15.6	X	50.34165	296.09723	12.65063	11.23199	0.1076932	0.18912817	3.0058357	20	10 31.5	19.8
312986 1999 TU ₄₇	17.7	X	323.18898	193.19923	85.14574	1.29026	0.2082107	0.27227874	2.3575463	20	4 19.6	20.0
312987 1999 TC ₆₃	15.5	X	250.75382	12.26122	39.66923	9.99029	0.0779516	0.17741385	3.1367341	20	7 30.3	20.1
312988 1999 TA ₆₇	17.7	X	239.32152	94.33489	250.20472	1.64919	0.0565869	0.26588320	2.3952018	20	4 17.0	20.9
312989 1999 TV ₇₂	16.2	X	252.81202	314.60002	70.33492	6.54247	0.1411477	0.17419908	3.1752077	20	6 16.6	20.9
312990 1999 TQ ₇₇	17.2	X	148.80536	127.51402	259.81684	0.51104	0.1921465	0.25827736	2.4419972	20	3 10.2	21.0
312991 1999 TZ ₁₂₆	16.7	X	167.46532	145.42527	201.87024	2.54597	0.1874096	0.25841806	2.4411107	20	2 6.2	20.6
312992 1999 TU ₁₅₆	17.2	X	106.52191	112.93158	294.15538	3.07159	0.2007213	0.25687779	2.4508591	20	2 19.3	20.4
312993 1999 TH ₁₇₀	17.1	X	130.14350	136.64508	294.78298	1.16590	0.1977552	0.26060970	2.4274055	20	4 16.9	20.7
312994 1999 TG ₁₇₅	17.4	X	189.70767	335.91196	22.82578	3.50200	0.2427183	0.26173935	2.4204161	20	3 13.1	21.4
312995 1999 TA ₁₉₁	15.5	X	312.80117	52.34952	337.17390	10.38451	0.1342394	0.18444812	3.0564683	20	9 14.9	19.2
312996 1999 TJ ₂₃₇	17.4	X	133.23745	310.96812	91.75645	1.82768	0.1529938	0.25936797	2.4351468	20	3 11.1	20.9
312997 1999 TG ₂₄₅	17.3	X	160.97518	354.16345	4.41105	2.43395	0.2183564	0.25889110	2.4381362	20	2 17.8	21.2
312998 1999 TL ₂₅₀	15.5	X	336.31922	9.76021	336.83826	9.24346	0.1345611	0.18479631	3.0526278	20	8 30.9	18.8
312999 1999 TU ₂₅₅	17.6	X	174.62858	33.27634	358.13935	1.05828	0.1585583	0.26477333	2.4018906	20	4 6.2	21.3
313000 1999 TV ₂₆₂	15.9	X	278.68745	342.79279	24.25093	12.36241	0.1074783	0.17759995	3.1345425	20	7 1.2	20.4
313001 1999 UH ₁₇	17.4	X	169.58277	182.96402	194.80388	3.82717	0.1083055	0.26300231	2.4126612	20	3 11.9	21.0
313002 1999 UD ₃₃	16.8	X	289.26831	5.22381	28.18482	1.33106	0.1247675	0.18155284	3.0888775	20	8 17.1	20.9
313003 1999 UX ₃₃	15.6	X	93.84191	14.15756	213.82155	9.14914	0.0503042	0.18231602	3.0802513	20	9 4.5	20.2
313004 1999 UM ₄₄	16.8	X	122.76283	31.57156	12.88773	11.21457	0.2702965	0.25647869	2.4534009	20	3 17.1	20.5
313005 1999 UZ ₄₆	16.5	X	127.74933	11.36591	6.00168	6.18065	0.2663351	0.25477191	2.4643460	20	2 16.8	20.2
313006 1999 VY ₁₄	15.7	X	239.13309	11.59759	5.71705	18.35943	0.2279668	0.17583343	3.1555017	20	5 9.5	21.2
313007 1999 VL ₁₆	17.6	X	277.85943	303.40989	345.34297	2.80078	0.0237543	0.26310878	2.4120103	20	3 26.8	20.6
313008 1999 VD ₁₉	16.2	X	140.55177	314.68587	56.79470	5.27601	0.2495477	0.25523806	2.4613446	20	2 20.1	20.1
313009 1999 VO ₆₂	17.1	X	145.82565	347.00286	57.26109	2.21740	0.1873618	0.25931645	2.4354693	20	3 29.3	20.9
313010 1999 VJ ₁₀₆	15.4	X	323.65444	352.34225	53.88255	10.41370	0.0661159	0.18603777	3.0390322	20	10 31.9	19.2
313011 1999 VA ₁₀₉	15.7	X	245.85744	125.63996	248.63981	4.19170	0.1973305	0.17214542	3.2004108	20	5 21.1	20.6
313012 1999 VC ₁₃₇	15.5	X	209.04651	57.47720	55.54861	9.92099	0.1014864	0.17967281	3.1103873	20	9 5.3	20.0
313013 1999 VB ₁₃₉	17.3	X	61.00389	358.20152	133.26269	2.28143	0.1264250	0.25621441	2.4550877	20	3 29.0	19.9
313014 1999 VA ₁₈₈	15.6	X	222.23376	6.65727	64.55191	17.29905	0.2205976	0.17342917	3.1845980	20	7 5.5	21.0
313015 1999 VP ₂₁₇	17.2	X	136.64451	249.88947	159.06149	1.56293	0.1855027	0.25874776	2.4390366	20	3 25.5	20.7
313016 1999 VD ₂₂₃	16.8	X	125.49863	283.19657	125.82066	4.79325	0.1900586	0.25675771	2.4516232	20	3 16.2	20.3
313017 1999 WJ ₅	17.3	X	169.31475	166.16054	184.89455	2.13854	0.2283467	0.25896476	2.4376739	20	2 15.1	21.3
313018 1999 WU ₁₀	17.4	X	95.95474	7.48749	90.76028	2.39171	0.1358393	0.25687895	2.4508517	20	4 6.4	20.4
313019 1999 WR ₁₉	17.3	X	152.04994	32.62803	352.22779	0.89956	0.1919691	0.26079287	2.4262688	20	3 10.3	21.1
313020 1999 XZ ₃₇	17.2	X	133.77991	47.76538	13.44076	2.52252	0.1842157	0.25754489	2.4466251	20	4 6.8	20.8
313021 1999 XS ₂₀₁	16.1	X	63.05587	341.70889	56.09725	12.18291	0.2868758	0.24526436	2.5276276	20	—	—
313022 1999 YR ₁₂	13.8	X	295.06395	121.14230	300.10808	9.84430	0.1502792	0.08211656	5.2422235	20	9 7.6	20.6
313023 2000 AN ₂₀₉	16.1	X	191.28564	45.71977	73.70463	9.59552	0.0829022	0.17648921	3.1476802	20	8 16.2	21.0
313024 2000 AV ₂₁₀	13.6	X	324.51519	302.77735	103.99357	8.82094	0.0842284	0.08328417	5.1931126	20	10 15.2	20.2
313025 2000 AT ₂₁₉	17.0	X	194.85544	170.87331	309.46316	5.32728	0.0100226	0.22016356	2.7162668	20	8 25.8	20.7
313026 2000 CF ₄₅	16.9	X	32.52087	339.09449	159.04004	13.56748	0.2078393	0.24652003	2.5190372	20	2 18.2	18.9
313027 2000 CC ₈₀	17.1	X	300.07364	58.39133	155.10871	6.75678	0.1784836	0.24036812	2.5618369	20	—	—
313028 2000 DU ₄	16.6	X	24.39042	79.51833	55.06190	4.78333	0.1461295	0.24502750	2.5292562	20	1 28.5	19.0
313029 2000 DP ₈₁	16.4	X	279.29527	49.29356	129.36689	9.89471	0.1221006	0.23583966	2.5945267	20	—	—
313030 2000 DR ₉₆	16.8	X	31.08886	317.44449	175.48534	2.56659	0.1672017	0.24612306	2.5217451	20	2 6.1	19.0
313031 2000 FA ₇₁	16.7	X	276.42088	345.83233	202.03100	3.61982	0.0599895	0.23277814	2.6172261	20	—	—
313032 2000 GQ ₁₈₀	18.1	X	100.67433	222.06258	34.22050	4.23287	0.0518162	0.31432559	2.1423128	20	11 13.7	20.7
313033 2000 JR ₄	16.4	X	39.80845	307.55829	99.923796	16.04765	0.1137617	0.22620947	2.6676500	20	—	—
313034 2000 KM ₇₅	15.8	X	324.76947									

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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>
313041 2000 QN ₇₀	16.6 ^m	X	156.47261	251.58982	156.73735	22.99504	0.3050988	0.27537011	2.3398689	20	4 23.5	21.1
313042 2000 QA ₉₇	16.6	X	251.86432	347.99413	12.12668	6.99739	0.2094040	0.28577919	2.2827008	20	5 4.2	19.9
313043 2000 QE ₁₃₇	17.2	X	117.92648	79.18003	296.38761	19.71504	0.0961506	0.37159507	1.9161202	20	—	—
313044 2000 QA ₁₄₄	17.3	X	261.23627	307.06886	74.22509	2.52610	0.2415454	0.28859158	2.2678463	20	6 10.4	20.1
313045 2000 QR ₁₄₈	16.3	X	242.31825	249.01182	141.24577	21.94536	0.1954609	0.28794858	2.2712212	20	6 11.6	20.1
313046 2000 QH ₁₅₀	16.1	X	206.47344	90.45078	318.84380	6.55623	0.2190705	0.28227723	2.3015415	20	5 25.8	20.0
313047 2000 QL ₂₀₀	16.0	X	62.29431	338.80370	341.93655	13.61100	0.1495499	0.20628943	2.8367304	20	12 9.5	20.4
313048 2000 QX ₂₀₉	17.9	X	190.39863	74.36261	308.48796	1.82339	0.2529842	0.27964291	2.3159731	20	4 9.3	22.0
313049 2000 QN ₂₁₀	17.5	X	257.60877	201.95411	157.77343	5.85386	0.1806304	0.28707227	2.2758408	20	5 17.0	20.7
313050 2000 QE ₂₁₆	16.8	X	211.43175	242.55447	141.09092	7.24000	0.1197806	0.28221699	2.3018690	20	5 5.4	20.2
313051 2000 RV ₃₆	16.1	X	204.00460	357.58970	16.71935	25.90646	0.2122973	0.27770241	2.3267494	20	4 9.3	20.0
313052 2000 RL ₅₂	15.9	X	282.07009	289.85649	318.16312	28.18742	0.3500888	0.23267363	2.6180099	20	1 13.2	20.6
313053 2000 RP ₇₃	17.0	X	197.90048	19.17483	4.95964	5.03970	0.2376685	0.27916143	2.3186353	20	4 16.6	21.0
313054 2000 RU ₉₉	17.6	X	260.77549	9.02577	320.31108	18.66964	0.0808122	0.38343549	1.8764681	20	3 31.8	20.2
313055 2000 SB ₁₀	16.4	X	306.34790	10.53799	0.80842	25.70895	0.1222396	0.29247342	2.2747350	20	9 8.5	18.6
313056 2000 SZ ₂₈	17.8	X	193.73164	165.21692	214.71196	9.21651	0.3171005	0.27805103	2.3248042	20	4 8.3	22.2
313057 2000 SL ₃₃	15.6	X	252.68431	39.00005	17.69665	9.67410	0.0753675	0.19157152	2.9802229	20	8 10.0	19.9
313058 2000 SW ₃₆	15.8	X	155.60759	277.70143	6.25903	13.85362	0.1774782	0.21382106	2.7697191	20	—	—
313059 2000 SL ₄₀	17.6	X	219.17791	204.92744	156.33312	7.45756	0.2747454	0.28035532	2.3120480	20	4 6.9	21.6
313060 2000 SZ ₅₂	17.4	X	193.00902	254.14372	156.26398	9.85121	0.1786573	0.28231348	2.3013445	20	5 20.4	21.2
313061 2000 SR ₅₉	17.4	X	221.38522	168.37611	245.80695	1.74890	0.1636686	0.28612180	2.2808782	20	6 20.6	20.5
313062 2000 SS ₈₉	17.0	X	255.80188	160.72222	193.37229	5.14372	0.1011931	0.28504418	2.2866231	20	5 16.7	19.9
313063 2000 SM ₁₀₃	17.5	X	243.54627	43.04458	322.35402	1.08569	0.1907189	0.28412818	2.2915351	20	5 5.9	20.9
313064 2000 SU ₁₃₃	17.3	X	201.23518	100.85477	300.36927	6.21511	0.2439236	0.28163582	2.3050347	20	5 9.7	21.4
313065 2000 SS ₁₄₄	17.8	X	236.03951	65.38696	300.28003	1.46632	0.2498797	0.28292176	2.2980447	20	4 24.2	21.5
313066 2000 ST ₁₅₄	16.7	X	213.64353	8.39293	38.44069	8.21711	0.1564218	0.28247692	2.3004567	20	6 1.8	20.1
313067 2000 SF ₁₆₀	17.3	X	50.65324	270.02152	225.54628	20.52010	0.0665739	0.37525670	1.9036353	20	2 8.6	19.6
313068 2000 SE ₁₆₄	17.1	X	156.76702	57.72832	19.03014	23.40976	0.1774636	0.27852273	2.3221786	20	5 10.1	21.1
313069 2000 SZ ₁₇₇	16.8	X	186.17916	100.68285	329.99790	4.30279	0.2235193	0.28044899	2.3115332	20	6 5.9	20.7
313070 2000 SZ ₂₁₄	17.3	X	215.89476	54.45581	2.26869	7.03598	0.1463480	0.28556705	2.2838311	20	6 19.5	20.8
313071 2000 SA ₂₂₄	17.5	X	192.01298	219.98528	196.54775	4.61458	0.1694430	0.28145092	2.3060441	20	5 25.7	21.1
313072 2000 SE ₂₃₃	17.9	X	145.08209	214.80886	200.19457	22.19105	0.0728434	0.37645100	1.8996069	20	3 17.7	20.1
313073 2000 SZ ₂₃₅	16.9	X	278.19035	196.36554	124.30763	5.44660	0.1807946	0.28390784	2.2927205	20	4 18.8	20.0
313074 2000 SS ₂₃₆	17.4	X	242.13987	10.17756	16.43920	7.20350	0.1734575	0.28530027	2.2852546	20	6 3.1	20.7
313075 2000 SN ₂₄₀	16.9	X	211.74326	186.91842	225.90542	24.98781	0.2290923	0.28412061	2.2915758	20	6 3.9	20.9
313076 2000 SU ₂₅₂	15.7	X	236.87090	315.03761	33.95346	11.64880	0.2191588	0.18110500	3.0939675	20	4 12.5	20.7
313077 2000 SU ₃₁₉	16.1	X	309.29437	130.84447	263.09724	13.71976	0.2105963	0.19495135	1.9456776	20	9 1.5	19.7
313078 2000 SJ ₃₆₆	17.3	X	29.89980	146.65365	11.09684	21.38828	0.0372066	0.37615219	2.906128	20	2 29.8	19.2
313079 2000 SP ₃₇₆	17.0	X	270.44607	98.72812	260.81833	6.73138	0.1384882	0.28944393	2.2633919	20	6 6.7	19.7
313080 2000 TB ₁₁	17.5	X	245.59060	17.80394	18.79557	5.75016	0.1274959	0.28692524	2.2766183	20	6 29.0	20.6
313081 2000 TJ ₁₆	17.2	X	197.45165	11.33620	36.67300	5.37446	0.2147939	0.28064434	2.3104604	20	5 17.2	21.0
313082 2000 TR ₂₀	16.9	X	207.16795	256.63264	90.77005	7.77270	0.1432792	0.27695853	2.3309138	20	3 15.6	20.6
313083 2000 TB ₂₅	17.5	X	272.78743	39.34427	304.13585	1.51188	0.1897533	0.28579039	2.2826411	20	5 9.1	20.5
313084 2000 TH ₃₅	15.3	X	241.85523	330.31753	37.17123	11.66543	0.0525414	0.18187865	3.0851875	20	5 22.1	19.8
313085 2000 TB ₄₅	17.8	X	219.02343	308.24294	66.07580	5.34303	0.2796746	0.28194759	2.3033351	20	4 22.1	21.7
313086 2000 TR ₆₇	17.6	X	276.12504	38.09995	303.76055	1.14486	0.2456883	0.28587913	2.2821687	20	5 3.0	20.5
313087 2000 UD ₁₂	17.4	X	254.19072	243.19134	117.54570	10.02813	0.2799460	0.28539918	2.2847266	20	5 6.2	21.1
313088 2000 UQ ₂₁	17.7	X	227.83318	177.23512	177.28016	4.50301	0.2903645	0.28026815	2.3125274	20	4 2.9	21.6
313089 2000 UJ ₅₆	17.2	X	119.86698	40.02226	347.75616	2.17993	0.2048338	0.26811833	2.3818718	20	2 10.8	20.4
313090 2000 UY ₆₇	16.6	X	195.13904	151.74013	273.31081	7.85628	0.1960979	0.28180233	2.3041266	20	6 7.4	20.3
313091 2000 UM ₇₀	16.9	X	163.19437	150.16745	301.44608	2.13129	0.1807771	0.27928665	2.3179422	20	6 13.1	20.5
313092 2000 UG ₇₃	16.8	X	204.57035	110.22315	251.34189	4.31093	0.1384691	0.27609861	2.3357511	20	3 25.1	20.4
313093 2000 UQ ₉₅	15.4	X	240.44833	156.55217	246.26949	10.56787	0.2896913	0.18379173	3.0637411	20	6 11.6	20.5
313094 2000 US ₁₀₀	16.0	X	288.35971	335.56632	37.26979	9.76184	0.2819807	0.18754388	3.0227400	20	6 24.3	20.2
313095 2000 VY ₁	17.2	X	58.08103	249.79565	224.40939	21.22330	0.1071560	0.36829054	1.9275649	20	1 22.4	19.3
313096 2000 VL ₁₀	17.2	X	224.02456	331.23105	59.61106	6.17685	0.2384318	0.28222274	2.3018378	20	5 17.7	21.0
313097 2000 VR ₄₀	17.3	X	222.74923	109.21950	275.88335	4.87846	0.1691254	0.28171846	2.3045838	20	5 12.3	20.7
313098 2000 VR ₆₄	17.1	X	145.75938	250.30141	203.20558	6.03508	0.2199053	0.27586957	2.3370438	20	6 1.9	20.9
313099 2000 WO ₂₉	17.7	X	82.61830	243.21590	231.11165	20.07271	0.0779171	0.37242432	1.9132748	20	3 7.5	19.9
313100 2000 WS ₄₆	16.3	X	227.63142	211.88321	202.73906	5.99703	0.2865597	0.18183572	3.0856731	20	6 15.9	21.7
313101 2000 WC ₇₀	16.5	X	247.46392	8.83533	357.57934	8.21900	0.2981503	0.18281538	3.0746396	20	5 1.6	21.7
313102 2000 WQ ₇₀	17.5	X	161.83076	85.25137	355.63351	6.29607	0.1616806	0.27798347	2.3251808	20	5 26.5	21.2
313103 2000 WD ₇₆	17.3	X	205.51626	30.26043	13.03132	2.77870	0.1633019	0.27986356	2.3147556	20	5 20.1	21.0
313104 2000 WE ₇₆	17.6	X	170.29918	82.71640	14.93148	2.76039	0.1658125	0.28017810	2.3130229	20	6 27.9	21.2
313105 2000 WQ ₈₉	17.2	X	173.02707	348.16153	60.56653	5.22370	0.2057509	0.27547786	2.3392587	20	4 28.9	21.1
313106 2000 WT ₉₆	16.8	X	129.36156	343.45221	81.89975	7.76217	0.2349598	0.27001818	2.3706860	20	4 15.8	20.5
313107 2000 WF ₁₅₁	17.1	X	149.67391	156.61162	248.05189	19.21278	0.1028130	0.37476280	1.9053075	20	3 4.5	19.8
313108 2000 WY ₁₅₂	17.2	X	147.92414	67.94594	30.49339	11.74332	0.1522381	0.27802306	2.3249601	20	6 3.9	20.8
313109 2000 WP ₁₇₆	15.7	X	288.24277	359.76490	70.96250	11.09383	0.1056044	0.19199966	2.9757909	20	10 12.8	19.6
313110 2000 XC ₆	15.3	X	236.17608	345.75520	52.52391	20.42050	0.2080767	0.18117680	3.0931500	20	6 6.5	20.4
313111 2000 XF ₉	15.9	X	106.29011	223.78637	297.90911	23.66273	0.1917798	0.27391151	2.3481682	20	7 21.1	19.1
313112 2000 XG ₄₄	17.4	X	123.64316	120.57618	281.85483	15.97584	0.2350850	0.36920464	1.9243820	20	2 18.2	19.8
313113 2000 XP ₄₄	17.6	X	62.47675	280.25365	247.28373	2.13161	0.08					

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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>
313121 2000 YV ₁₂₃	15.5	X	127.35372	231.30439	318.57002	7.54257	0.1183363	0.17792764	3.1306926	20	9 1.9	20.4
313122 2000 YU ₁₃₇	16.9	X	97.08304	79.82831	332.75497	18.22253	0.1093357	0.36313000	1.9457840	20	1 14.4	18.7
313123 2001 AK ₂	16.9	X	271.23615	99.77029	110.81538	24.25735	0.0489984	0.35738167	1.9665932	20	—	—
313124 2001 AL ₂	17.3	X	80.21011	158.36021	274.42680	18.82470	0.0970922	0.36307722	1.9459726	20	1 5.8	18.5
313125 2001 AQ ₆	16.8	X	194.92786	300.69883	100.05368	7.54126	0.1963644	0.27497211	2.3421262	20	5 9.3	20.7
313126 2001 AL ₄₆	16.1	X	76.09649	172.31016	356.95398	25.84872	0.1578972	0.27128564	2.3632963	20	6 20.1	19.8
313127 2001 AD ₄₇	16.2	X	146.64350	40.91190	57.13590	24.20240	0.2378096	0.27257552	2.3558347	20	6 5.5	20.3
313128 2001 BB ₁	17.1	X	133.05875	257.48128	132.55314	24.09702	0.1108402	0.36391460	1.9429863	20	2 2.1	18.7
313129 2001 BG ₂	15.9	X	113.73575	99.82820	334.18118	24.58485	0.0833581	0.26085934	2.4258566	20	3 10.8	19.3
313130 2001 BN ₃	15.9	X	201.39557	195.44536	254.13496	6.50343	0.2426066	0.17668891	3.1453081	20	7 8.9	21.4
313131 2001 BT ₆	15.2	X	154.19215	280.23657	305.38181	18.67556	0.1185472	0.18835881	3.0140151	20	11 5.9	20.4
313132 2001 BF ₅₆	16.6	X	166.70363	304.57646	98.27699	4.32679	0.2402437	0.26952675	2.3735669	20	4 18.6	20.6
313133 2001 BA ₇₄	16.2	X	27.05776	272.64071	303.49633	20.60307	0.2826046	0.26482173	2.4015980	20	6 29.9	18.2
313134 2001 BJ ₈₃	15.7	X	172.18828	74.59577	113.61014	16.03944	0.2752883	0.18043770	3.1015910	20	10 18.0	21.5
313135 2001 CW ₅	17.0	X	120.08477	104.36450	23.81920	1.71987	0.1269505	0.27072007	2.3665866	20	6 13.8	20.2
313136 2001 CX ₉	17.4	X	58.57028	123.65012	326.70421	18.66847	0.0751838	0.35914052	1.9601672	20	—	—
313137 2001 CE ₁₁	15.3	X	184.54624	136.73931	323.50128	16.00404	0.1612187	0.17482758	3.1675934	20	7 13.9	20.6
313138 2001 CV ₁₈	14.9	X	104.25050	69.39093	129.90310	15.79834	0.1688137	0.17535763	3.1612070	20	8 29.3	19.9
313139 2001 CZ ₂₄	16.1	X	203.58030	131.81179	346.22780	5.70216	0.2275681	0.18116744	3.0932567	20	8 16.4	21.4
313140 2001 CE ₂₇	15.6	X	252.54528	358.09002	62.00583	7.41966	0.2624178	0.18077770	3.0977008	20	7 17.2	20.5
313141 2001 CK ₃₁	15.8	X	234.34419	291.90196	138.48638	16.48265	0.2673591	0.17928872	3.1148280	20	7 11.5	21.0
313142 2001 DM ₂	13.2	X	325.68375	53.34818	335.47228	14.09177	0.0439755	0.07992168	5.3377674	20	9 20.7	20.1
313143 2001 DT ₅	15.6	X	209.36558	332.71054	134.64975	27.08383	0.2509722	0.17927031	3.1150412	20	8 5.7	20.9
313144 2001 DZ ₇	17.0	X	68.80181	203.33993	323.07511	6.58562	0.0527518	0.26841381	2.3801234	20	5 15.8	19.9
313145 2001 DA ₉	17.1	X	314.49606	217.43494	338.67489	18.24289	0.0449875	0.35696961	1.9681063	20	—	—
313146 2001 DH ₁₃	17.1	X	41.36876	330.56053	153.55864	25.63207	0.0844046	0.35887161	1.9611463	20	1 16.3	19.1
313147 2001 DY ₁₃	15.5	X	168.10852	30.78033	134.99028	12.97685	0.0792838	0.18134246	3.0912660	20	9 18.2	20.3
313148 2001 DU ₁₄	15.3	X	185.24125	188.93040	340.66709	16.76346	0.1860110	0.18132773	3.0914334	20	9 27.0	20.6
313149 2001 DW ₁₇	15.3	X	107.33111	64.46421	137.07929	15.87199	0.1812284	0.17335049	3.1855615	20	9 4.9	20.4
313150 2001 DG ₁₈	17.1	X	31.83300	139.55223	348.70333	18.83923	0.1181755	0.35933482	1.9594605	20	1 6.9	19.0
313151 2001 DZ ₄₂	17.0	X	119.25393	334.47188	148.73539	1.56551	0.1233921	0.26927330	2.3750560	20	6 5.9	20.3
313152 2001 DU ₅₄	15.6	X	79.06773	269.61451	329.22376	10.40080	0.0593642	0.17705286	3.1409963	20	9 2.6	20.0
313153 2001 DX ₅₄	17.7	X	156.32485	46.24321	342.69436	1.82081	0.1869725	0.26402709	2.4064143	20	3 18.4	21.5
313154 2001 DY ₅₈	14.9	X	118.80109	174.58627	59.86646	27.01732	0.1992824	0.17640520	3.1486795	20	10 31.3	20.3
313155 2001 DB ₆₂	15.0	X	142.57827	195.25977	325.53030	20.17400	0.0627393	0.17572880	3.1567541	20	8 12.8	19.6
313156 2001 DS ₇₂	15.9	X	141.68817	28.77577	164.92992	7.65481	0.2205641	0.17788662	3.1311739	20	9 26.1	21.3
313157 2001 DB ₇₃	15.3	X	133.21654	245.06758	340.86778	25.74786	0.2081170	0.17901836	3.1179633	20	10 12.6	21.0
313158 2001 DD ₈₃	16.0	X	96.22723	61.49528	160.04471	10.61523	0.0586685	0.17438794	3.1729148	20	9 2.6	20.5
313159 2001 DZ ₁₀₁	17.0	X	136.39333	358.11249	106.46158	6.33967	0.1415711	0.27001432	2.3707087	20	6 2.4	20.4
313160 2001 DF ₁₀₃	15.6	X	134.98509	48.99621	117.54032	18.03701	0.2300980	0.17501093	3.1653806	20	8 21.6	21.1
313161 2001 EE ₁₇	15.0	X	164.91219	77.17431	82.45918	26.42692	0.2216327	0.17756547	3.1349483	20	9 15.9	20.9
313162 2001 FS	16.5	X	328.46417	95.10292	141.66632	12.33867	0.2694955	0.25638035	2.4540283	20	2 18.6	19.2
313163 2001 FX ₁₅	15.7	X	180.13291	303.07239	180.52422	16.97465	0.2746875	0.17504792	3.1649346	20	7 30.7	21.5
313164 2001 FB ₂₉	15.4	X	244.33987	100.37784	10.74275	26.13929	0.2125377	0.18210583	3.0826212	20	9 20.8	20.1
313165 2001 FC ₆₅	17.5	X	71.72229	39.90569	125.40209	5.59253	0.1661558	0.26539028	2.3981667	20	6 9.9	20.4
313166 2001 FW ₆₆	15.2	X	160.08443	358.73584	163.46930	15.94462	0.1288517	0.17491996	3.1664779	20	9 1.4	20.2
313167 2001 FT ₈₃	17.7	X	2.28675	230.87897	352.77232	1.77746	0.1928589	0.26199759	2.4188254	20	4 20.7	19.6
313168 2001 FU ₁₃₆	16.8	X	15.91712	107.14851	124.21959	10.47819	0.2407513	0.26219945	2.4175838	20	6 16.3	18.5
313169 2001 FV ₁₇₁	14.7	X	159.91775	147.76774	39.33081	29.57504	0.1948235	0.17712373	3.1401583	20	10 12.0	20.2
313170 2001 FC ₁₈₇	15.3	X	76.09171	270.42671	357.96738	6.20873	0.1354988	0.17518080	3.1633340	20	10 15.2	20.0
313171 2001 HF ₆₈	15.4	X	159.56229	89.81907	73.38425	25.42654	0.3131152	0.17390458	3.1787914	20	9 16.8	21.6
313172 2001 KG ₂₃	16.4	X	54.18288	133.57359	55.06268	7.37743	0.1585786	0.26105657	2.4246346	20	6 14.7	19.0
313173 2001 ME ₆	16.4	X	144.55054	9.38710	309.98514	12.14297	0.1567386	0.23161378	2.6259903	20	—	—
313174 2001 MV ₁₁	16.5	X	198.36612	343.01538	328.54980	8.34245	0.1605640	0.23909946	2.5708910	20	1 24.6	20.6
313175 2001 MB ₁₅	16.4	X	205.95843	174.22137	116.03941	14.92919	0.2515868	0.23684611	2.5871715	20	1 6.2	21.0
313176 2001 MH ₂₂	16.2	X	215.88902	17.51313	289.15144	13.39169	0.1584044	0.24110908	2.5565856	20	1 30.3	20.5
313177 2001 OB ₃	16.1	X	238.39806	350.26793	307.19593	5.71300	0.2145228	0.24303478	2.5430629	20	2 7.3	20.4
313178 2001 OY ₄₃	16.1	X	199.60117	355.57732	327.88625	9.12749	0.2262656	0.23642857	2.5902166	20	2 9.2	20.6
313179 2001 OK ₄₄	16.2	X	18.33675	90.58096	295.85196	8.59213	0.3204228	0.21479850	2.7613104	20	—	—
313180 2001 OA ₆₉	16.6	X	243.99518	168.32811	129.68643	3.28766	0.1930156	0.24408007	2.5357971	20	2 14.4	20.6
313181 2001 OD ₇₄	17.8	X	345.77899	20.81490	321.22827	7.73414	0.2857422	0.31251286	2.1505892	20	10 30.9	19.0
313182 2001 ON ₈₆	16.2	X	245.29427	171.49776	120.05729	14.36640	0.1818847	0.24234195	2.5479075	20	2 9.5	20.4
313183 2001 OU ₁₀₇	16.1	X	222.77786	262.32506	40.92555	3.83131	0.2522069	0.24045363	2.5612295	20	2 2.9	20.6
313184 2001 PZ ₅	16.3	X	185.37112	178.03476	126.28484	8.72193	0.2173514	0.23393802	2.6085681	20	1 6.2	20.7
313185 2001 PC ₂₄	16.6	X	249.84607	221.94969	66.77562	6.11443	0.2480487	0.24231564	2.5480919	20	2 6.9	21.0
313186 2001 PV ₃₀	16.3	X	197.27654	181.32666	108.49778	14.47914	0.2565154	0.23575895	2.5951189	20	—	—
313187 2001 QK ₂	15.6	X	164.46546	11.74693	340.66839	14.26755	0.2107116	0.23585584	2.5944081	20	2 16.4	19.9
313188 2001 QG ₄₄	16.1	X	184.96102	185.81948	139.88624	14.91290	0.1948641	0.23716964	2.5848181	20	1 29.4	20.5
313189 2001 QR ₉₁	17.0	X	71.51093	214.76542	122.53836	7.85389	0.2935128	0.22218582	2.6997600	20	—	—
313190 2001 QA ₉₂	16.4	X	12.19748	42.24443	2.36891	9.33451	0.2459800	0.21950527	2.7216948	20	—	—
313191 2001 QE ₁₀₃	16.7	X	99.53480	211.74862	135.69395	7.27015	0.2158797	0.22723224	2.6596394	20	—	—
313192 2001 QT ₁₁₃	16.4	X	89.60006	32.69250	316.22888	11.31299	0.1365817	0.22303924	2.6928688	20	—	—
313193 2001 QO ₁₁₅	16.1	X	50.31958	45.42310	310.40656	6.57261	0.2905538	0.21819157	2.7326085	20	—	—
313194 2001 QR ₁₁₅												

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>
313201 2001 QU ₂₃₀	16.5	X	225.71911	348.08534	307.06997	10.45093	0.1472389	0.23832932	2.5764263	20	1 28.1	20.6
313202 2001 RV	16.1	X	140.18900	14.64785	340.59014	11.45884	0.1942776	0.23133886	2.6280704	20	1 28.6	20.2
313203 2001 RC ₇	15.9	X	143.01185	314.93835	13.18552	11.76889	0.3018952	0.22830832	2.6512757	20	1 8.8	20.5
313204 2001 RW ₄₉	16.7	X	55.09793	54.21226	327.22041	11.28402	0.1297328	0.22191520	2.7019544	20	—	—
313205 2001 RU ₅₀	16.4	X	74.21004	22.72008	340.08747	12.87474	0.1087582	0.22246364	2.6975118	20	—	—
313206 2001 RS ₅₂	15.1	X	121.37702	219.21174	121.79221	3.37933	0.2669929	0.12223030	4.0211487	20	1 12.7	21.2
313207 2001 RW ₈₂	17.0	X	41.70018	35.34781	321.14392	7.83542	0.2270961	0.21723365	2.7406357	20	—	—
313208 2001 RR ₉₆	16.3	X	186.12718	123.77153	168.01130	14.31385	0.1012383	0.23155504	2.6264344	20	—	—
313209 2001 RT ₁₅₂	16.5	X	321.42613	265.05126	166.93648	25.32902	0.2848180	0.21174392	2.7878030	20	12 10.7	19.4
313210 2001 SW ₁	17.5	X	308.81508	21.16428	355.95101	5.38077	0.1919118	0.30997379	2.1623172	20	9 11.8	18.5
313211 2001 SM ₄₁	16.9	X	4.46456	60.45647	356.79958	7.29992	0.1110639	0.21832024	2.7315346	20	—	—
313212 2001 SY ₉₈	16.4	X	349.12004	265.49280	184.68464	11.36794	0.0422681	0.22194083	2.7017464	20	—	—
313213 2001 SD ₁₃₇	16.4	X	52.68075	26.20525	349.17588	4.75522	0.1301463	0.21969670	2.7201135	20	—	—
313214 2001 SX ₁₄₃	16.7	X	63.74791	28.61459	328.26963	4.90231	0.0758276	0.21992923	2.7181959	20	—	—
313215 2001 SB ₁₉₃	15.4	X	156.69288	180.77081	145.01780	3.38273	0.1901934	0.12523212	3.9566312	20	1 18.2	21.7
313216 2001 SA ₂₂₂	17.1	X	7.84505	212.26386	155.65217	4.85802	0.2133853	0.21225052	2.7833653	20	12 11.1	20.3
313217 2001 SZ ₂₃₃	16.3	X	26.41372	350.37715	34.32352	10.36590	0.1987434	0.21638196	2.7478225	20	—	—
313218 2001 SF ₂₅₀	16.3	X	330.07361	18.84096	42.86049	7.86861	0.1248574	0.21134760	2.7912871	20	12 5.8	19.5
313219 2001 SU ₂₇₁	16.4	X	182.31176	70.96008	214.63860	7.18408	0.2160509	0.22863100	2.6487805	20	—	—
313220 2001 SC ₂₈₄	15.4	X	151.20902	168.45258	171.32211	2.44254	0.1435789	0.12520674	3.9571658	20	1 25.8	21.5
313221 2001 SS ₃₀₆	17.3	X	4.50522	129.43466	273.91733	2.37981	0.2064149	0.21505801	2.7590885	20	—	—
313222 2001 SF ₃₃₈	17.1	X	1.22204	35.83808	357.04874	4.47161	0.1198385	0.21427362	2.7658178	20	12 20.0	20.4
313223 2001 SZ ₃₄₁	16.3	X	151.69655	353.86961	328.87247	14.44495	0.1140733	0.22861098	2.6489351	20	—	—
313224 2001 SK ₃₄₄	16.6	X	11.42400	90.99452	291.64331	8.08370	0.1709157	0.21540448	2.7561291	20	12 30.0	19.9
313225 2001 TG ₆₀	16.3	X	44.78545	336.62533	34.41873	12.30385	0.1972675	0.21680377	2.7442573	20	—	—
313226 2001 TY ₈₂	16.7	X	31.45076	29.45854	1.84567	13.78611	0.1453081	0.21788260	2.7351911	20	—	—
313227 2001 TW ₁₀₈	16.5	X	14.83546	66.03842	334.80822	6.52368	0.0968311	0.21558554	2.7545858	20	—	—
313228 2001 TM ₁₂₁	16.1	X	64.41445	132.76404	257.12392	13.07377	0.0902660	0.22085883	2.7105632	20	—	—
313229 2001 TJ ₁₅₂	17.6	X	266.59220	286.92284	124.90875	3.86064	0.1010055	0.30644631	2.1788970	20	8 28.7	19.9
313230 2001 TJ ₁₈₉	16.1	X	17.08264	30.02203	358.17874	7.82393	0.1599635	0.21275518	2.7789621	20	—	—
313231 2001 TN ₂₀₃	15.7	X	42.82919	243.87852	142.32957	14.13279	0.2158365	0.21918231	2.7243677	20	—	—
313232 2001 TL ₂₁₁	16.1	X	138.38185	9.35722	337.19593	13.60063	0.0891987	0.22891128	2.6466179	20	1 3.6	20.0
313233 2001 TG ₂₃₆	16.5	X	68.96966	245.45636	95.80713	7.75073	0.3155452	0.21753922	2.7380687	20	—	—
313234 2001 TD ₂₄₁	17.5	X	241.38085	91.03734	19.91178	4.01450	0.0882953	0.30994649	2.1624441	20	10 19.1	19.6
313235 2001 TN ₂₄₄	17.5	X	9.49627	78.33263	334.57555	4.26006	0.1101806	0.21880223	2.7275217	20	—	—
313236 2001 TB ₂₅₉	16.9	X	79.71048	241.29972	110.78030	5.88773	0.1231554	0.22033977	2.7148184	20	—	—
313237 2001 TJ ₂₆₀	17.1	X	178.57710	104.11918	144.05926	4.23905	0.0400698	0.21959805	2.7209281	20	—	—
313238 2001 UF ₉	16.4	X	22.68150	341.30505	44.63032	9.63769	0.2094861	0.21449931	2.7638775	20	—	—
313239 2001 UY ₃₀	16.1	X	324.91084	20.24384	33.09718	10.22376	0.1202413	0.21050915	2.7986938	20	11 14.5	19.3
313240 2001 US ₃₇	17.3	X	15.80972	128.90578	243.92388	6.56522	0.2854403	0.21348684	2.7726091	20	—	—
313241 2001 UC ₄₆	15.6	X	349.09767	347.20099	48.19463	14.63437	0.1843924	0.21028376	2.8006934	20	12 7.8	18.6
313242 2001 UM ₆₇	17.9	X	285.73480	14.71955	68.27221	2.29328	0.0663459	0.31414141	2.1431501	20	11 23.8	19.9
313243 2001 UZ ₇₂	16.7	X	359.39700	319.52290	50.45595	8.86021	0.2340152	0.20998838	2.8033191	20	11 30.0	19.5
313244 2001 UW ₈₈	16.7	X	352.18185	229.55285	158.39107	8.18657	0.2266648	0.21024428	2.8010439	20	12 11.9	19.7
313245 2001 UH ₉₈	17.3	X	326.95990	7.48942	56.30996	8.80376	0.2174064	0.20987400	2.8043375	20	12 5.7	19.9
313246 2001 UN ₁₃₈	16.7	X	312.01076	234.61754	210.44848	5.44306	0.0711666	0.21197948	2.7857373	20	12 8.8	20.1
313247 2001 UO ₁₃₈	17.1	X	12.97630	331.22099	39.84053	0.91972	0.2093996	0.21185738	2.7868076	20	12 21.9	20.4
313248 2001 UR ₁₄₄	16.3	X	317.66708	276.31007	165.92364	2.88465	0.1763856	0.21005515	2.8027250	20	12 12.5	19.1
313249 2001 UC ₂₀₂	16.6	X	34.18136	97.54176	332.15284	1.88957	0.0720423	0.22210312	2.7004301	20	—	—
313250 2001 UQ ₂₀₂	16.8	X	355.61277	111.74720	301.17302	2.66379	0.1099571	0.21390816	2.7689672	20	—	—
313251 2001 UE ₂₂₄	16.7	X	83.96602	65.21746	268.99437	7.48194	0.2127331	0.21976360	2.7195614	20	—	—
313252 2001 VS ₂₈	17.2	X	296.01050	129.75513	250.75892	4.97668	0.1958195	0.30531030	2.1842805	20	8 11.7	18.9
313253 2001 VS ₈₉	18.0	X	296.63976	96.75883	284.78378	4.42177	0.1725805	0.30658666	2.1782140	20	8 20.0	19.6
313254 2001 VP ₁₀₁	17.6	X	302.54829	344.58372	7.58569	3.38238	0.2056954	0.30431331	2.1890487	20	7 8.9	19.4
313255 2001 VM ₁₀₆	16.5	X	294.47357	195.82701	234.10112	13.16910	0.2132471	0.20517023	2.8470372	20	9 29.6	19.8
313256 2001 VX ₁₂₆	16.6	X	34.68583	291.39748	86.58426	6.58983	0.0103159	0.21574882	2.7531957	20	12 31.7	20.3
313257 2001 VJ ₁₃₃	16.9	X	66.23379	249.66556	96.36743	7.23276	0.0740555	0.21601408	2.7509414	20	—	—
313258 2001 WK ₁₈	18.0	X	239.16044	52.69634	358.59418	1.83797	0.1661700	0.30156090	2.2023484	20	7 7.3	20.9
313259 2001 WX ₆₁	16.7	X	9.15618	129.47050	239.02520	8.71299	0.2081323	0.20934452	2.8090641	20	12 11.7	19.9
313260 2001 WZ ₉₀	17.7	X	296.13423	3.62475	359.69541	4.29767	0.2207997	0.30434257	2.1889084	20	7 11.9	19.5
313261 2001 XP ₁₂	16.2	X	323.19042	63.68385	30.70035	7.82815	0.2006374	0.20976767	2.8052852	20	—	—
313262 2001 XF ₃₃	16.7	X	148.47580	70.44954	115.31158	5.67903	0.1253551	0.29928330	2.2135078	20	10 6.6	20.0
313263 2001 XD ₆₉	16.0	X	325.46761	17.08688	66.81233	10.07691	0.1340847	0.21178517	2.7874410	20	12 29.0	19.1
313264 2001 XK ₁₂₃	17.2	X	284.69710	171.67463	219.27603	5.43200	0.0755081	0.30424349	2.1893836	20	8 26.7	19.6
313265 2001 XC ₁₂₅	16.4	X	12.73072	314.94776	101.18713	6.37843	0.0233974	0.21468669	2.7622690	20	—	—
313266 2001 XG ₁₇₄	17.8	X	243.76181	299.03094	151.58052	2.59676	0.1617650	0.30278565	2.1964055	20	9 9.4	20.1
313267 2001 XN ₂₁₈	15.9	X	34.66567	85.68583	249.74186	15.86159	0.1791562	0.20946061	2.8080261	20	12 1.3	19.6
313268 2001 XR ₂₃₆	17.5	X	282.49478	325.59571	69.79553	5.56918	0.1725995	0.30388832	2.1910891	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>
313281 2002 AR ₁₇₀	16.8	X	260.74135	180.96372	320.99972	7.75991	0.1562533	0.20288070	2.8684166	20	11 21.3	20.7
313282 2002 AB ₁₉₂	17.7	X	264.21483	121.05153	293.49247	4.36942	0.3115094	0.19428763	2.9523824	20	7 15.7	22.2
313283 2002 AR ₂₀₆	15.8	X	319.84610	304.33153	139.52803	13.09096	0.1933803	0.21024966	2.8009962	20	12 20.3	18.7
313284 2002 CO ₄	17.2	X	256.90580	64.43287	328.02770	4.79359	0.2069701	0.29468773	2.2364611	20	6 26.3	20.2
313285 2002 CY ₁₉	17.4	X	144.75330	66.48361	99.80369	6.23509	0.0856339	0.29396677	2.2401163	20	9 5.1	20.5
313286 2002 CA ₂₇	16.3	X	291.42284	328.72438	77.59225	4.84494	0.3217632	0.19719095	2.9233315	20	8 8.6	19.9
313287 2002 CN ₂₈	15.9	X	213.23844	356.14853	107.40371	12.58525	0.0780286	0.18992763	2.9973948	20	8 21.2	20.4
313288 2002 CA ₃₄	16.6	X	243.11117	203.13629	324.97751	13.37639	0.2507635	0.20203450	2.8764204	20	11 15.6	21.1
313289 2002 CX ₇₀	17.9	X	127.63424	29.04712	130.81596	4.07618	0.1199219	0.29070645	2.2568339	20	8 5.9	21.1
313290 2002 CE ₉₀	17.2	X	167.23210	193.40119	334.14128	6.04954	0.0697897	0.29696866	2.2249947	20	9 29.2	20.1
313291 2002 CB ₁₁₆	17.9	X	116.08083	315.33839	152.22606	22.82992	0.1180031	0.39067289	1.8532209	20	5 14.9	20.5
313292 2002 CN ₁₁₉	17.5	X	228.36099	168.11453	281.74970	3.94002	0.1682530	0.29881590	2.2158154	20	8 16.1	20.5
313293 2002 CU ₁₂₆	15.7	X	164.89970	189.07224	330.23540	13.08217	0.0503539	0.18752341	3.0229599	20	9 2.7	20.2
313294 2002 CG ₁₃₉	15.7	X	126.80359	284.17218	331.56135	20.42025	0.2779608	0.19103372	2.9858136	20	11 21.6	21.4
313295 2002 CY ₁₄₇	18.1	X	149.50699	216.18797	327.66723	1.66749	0.0824926	0.29776209	2.2210403	20	10 1.8	21.0
313296 2002 CO ₁₆₁	15.8	X	199.77275	97.91472	113.41442	8.84067	0.2300996	0.19917034	2.9039308	20	12 2.6	20.6
313297 2002 CT ₁₈₁	16.0	X	330.95616	265.31963	130.54246	12.86365	0.0655153	0.19756750	2.9196158	20	11 4.7	20.0
313298 2002 CD ₂₀₁	15.8	X	5.85100	136.40652	142.08841	10.35566	0.0569916	0.18142060	3.0903783	20	7 16.4	19.9
313299 2002 CM ₂₀₁	18.0	X	204.85645	331.86604	120.83052	2.92670	0.1610451	0.29387141	2.2406008	20	7 26.4	21.3
313300 2002 CL ₂₀₉	15.7	X	44.68622	140.18119	131.58494	9.09201	0.0694848	0.18526372	3.0474912	20	9 5.9	19.8
313301 2002 CS ₂₄₈	15.3	X	166.75214	238.40386	315.26210	13.82859	0.1099488	0.19202419	2.9755375	20	10 10.7	20.2
313302 2002 CQ ₂₅₂	15.7	X	256.92575	318.99560	104.81454	11.30633	0.0836279	0.19153104	2.9806429	20	8 22.3	19.9
313303 2002 CQ ₂₆₉	13.3	X	243.17641	307.29399	144.14398	14.77448	0.0418064	0.08395921	5.1652399	20	9 1.2	20.2
313304 2002 CJ ₂₉₁	16.7	X	239.53790	46.46241	1.93660	6.00856	0.1401135	0.29189849	2.2506855	20	7 7.4	19.8
313305 2002 CQ ₃₀₅	17.1	X	113.13356	188.45624	7.73838	7.00877	0.1149428	0.29318069	2.2441186	20	9 10.1	20.1
313306 2002 CS ₃₀₆	15.5	X	206.03619	289.68239	142.36553	22.93120	0.1129229	0.18383284	3.0632844	20	6 30.5	20.5
313307 2002 CQ ₃₁₀	17.7	X	141.84164	281.87487	247.86545	5.06542	0.1491234	0.29299197	2.2450822	20	9 2.0	21.1
313308 2002 DF ₁₈	17.0	X	149.94969	334.52135	158.29775	6.84297	0.0481698	0.28873076	2.2671174	20	7 20.7	19.9
313309 2002 EH ₈	17.5	X	103.42658	96.75621	152.79457	5.24002	0.3647328	0.29059086	2.2574324	20	11 19.6	21.7
313310 2002 EW ₁₀	16.9	X	196.61575	68.98425	354.44888	25.46373	0.2575053	0.28858425	2.2678847	20	5 28.9	21.4
313311 2002 EG ₂₁	15.8	X	172.13515	107.46037	95.29751	9.85895	0.1780709	0.19141543	2.9818428	20	11 3.9	20.8
313312 2002 EL ₃₈	18.1	X	196.85410	334.75962	134.01887	1.03724	0.1344794	0.29414003	2.2392365	20	8 10.9	21.1
313313 2002 EW ₃₉	18.1	X	136.32651	301.04824	205.07223	0.98444	0.1953915	0.28845540	2.2685600	20	7 30.8	21.5
313314 2002 EM ₄₃	15.7	X	192.74655	333.92251	175.75228	23.49471	0.1961637	0.18954946	3.0013803	20	9 14.9	20.7
313315 2002 EX ₄₉	18.0	X	163.55166	345.27260	173.02659	2.40461	0.1803780	0.29422845	2.2387878	20	9 10.4	21.3
313316 2002 EZ ₅₃	16.4	X	257.45673	127.14345	348.22126	11.65443	0.2036307	0.19568497	2.9383108	20	10 4.6	20.6
313317 2002 EC ₆₃	17.2	X	77.21467	260.13474	351.12006	7.17597	0.1215533	0.29204288	2.2499436	20	10 10.4	20.8
313318 2002 EY ₆₄	17.6	X	151.25046	292.70624	195.17701	2.99510	0.0928103	0.28730535	2.2746098	20	7 17.0	20.8
313319 2002 EW ₈₀	15.6	X	143.12077	271.56885	315.36558	9.58963	0.1495634	0.19182110	2.9776373	20	10 31.2	20.6
313320 2002 ET ₁₂₀	16.0	X	86.27474	272.97714	338.69858	9.00856	0.0911219	0.18682390	3.0305009	20	10 1.1	20.5
313321 2002 EA ₁₂₄	18.0	X	179.38051	272.79667	193.26741	5.34877	0.0884053	0.28874391	2.2670486	20	7 18.9	21.3
313322 2002 EC ₁₄₄	15.9	X	114.87378	216.85429	50.92121	2.69696	0.1114864	0.19246985	2.9709425	20	11 24.7	20.6
313323 2002 EJ ₁₅₂	13.5	X	303.35714	76.53659	358.55837	7.14357	0.0947755	0.08442121	5.1463779	20	10 13.4	20.1
313324 2002 EQ ₁₅₈	17.1	X	238.86826	282.78439	158.09321	3.87090	0.1519946	0.18795209	3.0183616	20	8 9.6	21.5
313325 2002 EF ₁₆₂	15.9	X	114.07574	121.56489	105.85017	6.88667	0.2102665	0.18075922	3.0979120	20	10 15.4	21.1
313326 2002 EJ ₁₆₂	17.8	X	145.13691	319.16765	161.39429	6.37752	0.0393722	0.28458480	2.2890832	20	6 26.6	20.8
313327 2002 ET ₁₆₂	17.4	X	62.84295	269.68374	348.60550	7.92539	0.1075903	0.29028851	2.2589996	20	9 30.1	20.1
313328 2002 FE ₄	17.6	X	87.35756	107.64442	89.58399	6.56115	0.1560839	0.28588001	2.2821640	20	8 16.8	20.7
313329 2002 FH ₅	16.9	X	142.50247	110.58051	107.98344	8.31004	0.3344106	0.29413531	2.2392604	20	11 8.6	21.1
313330 2002 FY ₁₅	15.7	X	120.83972	116.04385	117.77525	10.69539	0.1188768	0.18760814	3.0220497	20	10 25.9	20.6
313331 2002 FR ₂₄	15.5	X	92.64548	207.52509	12.21309	10.74679	0.0347345	0.18201050	3.0836974	20	8 28.8	20.0
313332 2002 FA ₃₆	15.3	X	179.73850	17.67152	118.96414	15.60786	0.1823775	0.18480478	3.0525345	20	8 22.0	20.4
313333 2002 FU ₄₁	15.5	X	253.36141	33.77961	27.54518	10.15758	0.0604906	0.18250780	3.0780932	20	8 18.9	20.0
313334 2002 GA ₂	15.6	X	142.33212	132.17763	126.57920	23.65042	0.3204636	0.19062331	2.9900977	20	12 14.1	21.5
313335 2002 GJ ₄	17.4	X	158.45120	36.27916	19.07218	22.21671	0.0506508	0.38288582	1.8782635	20	4 6.9	19.1
313336 2002 GC ₂₆	16.9	X	167.40634	311.23709	175.64855	22.20816	0.1887552	0.28913176	2.2650207	20	7 31.4	20.9
313337 2002 GN ₃₅	17.6	X	255.48093	255.50034	326.19214	0.70134	0.1356630	0.25948228	2.4344316	20	—	—
313338 2002 GJ ₃₈	17.3	X	145.46193	147.83225	13.59418	9.01521	0.1179767	0.28982112	2.2614277	20	8 30.9	20.6
313339 2002 GE ₄₅	16.0	X	192.66155	310.21150	217.03177	2.44230	0.0592577	0.18802468	3.0175848	20	10 14.5	20.5
313340 2002 GZ ₄₅	15.7	X	89.43755	39.43087	207.90334	9.92818	0.1840593	0.18121432	3.0927231	20	10 10.9	20.4
313341 2002 GE ₄₉	17.3	X	184.60721	91.85516	12.94503	4.36627	0.1822846	0.28759051	2.2731060	20	7 22.2	20.8
313342 2002 GH ₆₉	17.8	X	83.06825	192.47624	349.96443	0.48540	0.1483205	0.28220516	2.3019334	20	7 17.8	20.7
313343 2002 GG ₇₃	15.1	X	0.28806	315.18557	38.40038	16.91986	0.0726356	0.18572363	3.0424581	20	10 19.6	19.0
313344 2002 GZ ₉₂	16.0	X	125.92430	198.34420	357.10491	4.59179	0.1485382	0.18244178	3.0788357	20	9 11.6	20.8
313345 2002 GT ₁₀₀	15.2	X	58.21783	270.60461	13.80085	10.07281	0.0995104	0.18390466	3.0624868	20	10 11.3	19.4
313346 2002 GM ₁₀₈	17.6	X	148.24576	86.92226	85.20011	8.76409	0.2077998	0.29146831	2.2528995	20	9 19.1	21.4
313347 2002 GU ₁₀₉	15.2	X	31.11620	152.49506	155.61234	15.92855	0.0685064	0.18147179	3.0897971	20	10 4.6	19.4
313348 2002 GQ ₁₁₀	15.2	X	42.66677	237.20172	54.87518	10.62258	0.1014875	0.18167054	3.0875432	20	10 5.9	19.4
313349 2002 GS ₁₂₀	15.4	X	144.54593	145.27930	65.82993	12.04520	0.0313819	0.18577495	3.0418978	20	10 19.6	19.9
313350 2002 GK ₁₂₃	16.6	X	181.35324	34.42448	168.29047	1.04416	0.1825981	0.19007847	2.9958089	20	11 7.9	21.4
313351 2002 GY ₁₂₄	15.6	X	341.13728	280.08676	28.14678	8.66209	0.1098026	0.17385003	3.1794564	20	7 19.6	19.6
313352 2002 GX ₁₂₇	17.3	X	87.04039	322.22367	206.93894	6.94013	0.0481962	0.28123684	2.3072142	20	6 17.7	20.2
313353 2002 GX ₁₃₃	15.7	X	112.4									

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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>
313361 2002 <i>GT</i> ₁₈₃	15.9	X	120.61852	141.23909	39.53328	9.74960	0.0392329	0.17739453	3.1369618	20	8 13.8	20.6
313362 2002 <i>GE</i> ₁₈₄	16.1	X	215.49980	240.10039	265.88893	6.12085	0.1676551	0.19122620	2.9838097	20	9 30.8	20.8
313363 2002 <i>GM</i> ₁₉₀	17.3	X	43.71041	314.15504	287.85749	2.79648	0.1492052	0.28181143	2.3040770	20	8 16.2	19.8
313364 2002 <i>GS</i> ₁₉₀	16.6	X	304.77749	197.01242	118.83245	8.19067	0.1264939	0.27910261	2.3189610	20	5 29.8	19.2
313365 2002 <i>HD</i> ₁₃	17.0	X	303.56615	142.39243	148.49947	24.03347	0.0577535	0.38276152	1.8786701	20	5 3.7	19.4
313366 2002 <i>JE</i> ₂₄	15.6	X	89.72437	183.17155	54.01055	18.31687	0.1687767	0.17890008	3.1193374	20	10 6.6	20.6
313367 2002 <i>JL</i> ₂₇	16.8	X	276.85310	207.66598	83.49597	7.57610	0.1852820	0.26722453	2.3871800	20	3 10.9	20.3
313368 2002 <i>JL</i> ₃₀	15.4	X	71.55525	211.82225	57.99012	11.98984	0.1622768	0.17844122	3.1246827	20	10 26.6	20.2
313369 2002 <i>JM</i> ₃₄	15.3	X	39.73828	42.52243	227.83290	27.64832	0.1991531	0.17314189	3.1881197	20	9 3.1	20.0
313370 2002 <i>JW</i> ₆₇	17.4	X	66.01335	74.95487	61.11693	22.92404	0.1162061	0.37928177	1.8901433	20	4 13.9	19.3
313371 2002 <i>JD</i> ₉₈	16.6	X	6.19013	168.54044	99.81329	14.46732	0.1932244	0.27667130	2.3325268	20	7 21.9	18.2
313372 2002 <i>JJ</i> ₁₀₀	15.7	X	147.28490	76.08860	138.29025	18.25659	0.2554095	0.18462467	3.0545194	20	10 30.2	21.4
313373 2002 <i>JN</i> ₁₂₀	15.5	X	33.09783	119.53870	139.21304	12.21557	0.1692844	0.17310178	3.1886121	20	8 13.5	19.3
313374 2002 <i>JH</i> ₁₄₄	15.2	X	169.19043	93.14456	80.24433	22.76789	0.1167678	0.18431064	3.0579880	20	10 7.9	20.5
313375 2002 <i>JM</i> ₁₄₅	15.0	X	30.39062	146.92245	113.94035	17.34079	0.1533223	0.17409019	3.1765317	20	8 11.5	19.0
313376 2002 <i>JS</i> ₁₅₀	17.6	X	327.53883	309.38089	329.64018	4.64570	0.2054170	0.27313450	2.3526194	20	4 26.7	19.8
313377 2002 <i>KK</i> ₂	17.3	X	116.24789	82.15679	130.10774	3.21967	0.1653122	0.28895964	2.2659201	20	10 7.2	20.8
313378 2002 <i>KT</i> ₁₃	17.5	X	23.70517	184.63683	66.88212	6.97991	0.1684522	0.27841743	2.3227641	20	7 31.8	19.6
313379 2002 <i>KP</i> ₁₆	16.9	X	347.95387	280.83030	278.44041	6.38978	0.0238300	0.25942022	2.4348199	20	2 28.5	20.1
313380 2002 <i>LE</i> ₁₆	16.8	X	334.09293	196.87117	56.36838	5.45966	0.1225079	0.27037298	2.3686116	20	4 16.6	19.1
313381 2002 <i>LG</i> ₂₅	15.4	X	128.31758	92.87608	151.41253	13.71972	0.2856977	0.18404240	3.0609586	20	11 17.8	21.1
313382 2002 <i>LG</i> ₃₃	15.2	X	131.99321	85.76087	134.69682	17.12701	0.1007435	0.18120501	3.0928291	20	10 20.7	20.3
313383 2002 <i>LS</i> ₄₉	15.3	X	21.55135	85.41652	190.59278	14.86810	0.1434169	0.17187284	3.2037937	20	8 10.2	19.4
313384 2002 <i>LP</i> ₆₀	17.2	X	23.53274	234.12293	4.21997	2.15931	0.1650137	0.27317637	2.3523790	20	7 6.5	19.2
313385 2002 <i>NZ</i> ₂₀	15.2	X	47.50879	109.49706	139.81722	14.19309	0.12738124	0.16834507	3.2483971	20	9 9.9	19.6
313386 2002 <i>NG</i> ₂₂	16.6	X	120.16731	217.19087	127.48961	14.41366	0.3159104	0.24186396	2.5512633	20	1 5.7	20.3
313387 2002 <i>ND</i> ₄₂	17.5	X	216.38393	304.48404	15.03587	2.61880	0.2028647	0.25514113	2.4619680	20	2 16.3	21.6
313388 2002 <i>NU</i> ₅₄	16.2	X	243.97667	346.26556	301.68708	13.14913	0.0583155	0.25652126	2.4531295	20	2 7.0	19.7
313389 2002 <i>NZ</i> ₅₉	17.0	X	213.14809	61.70094	291.77098	5.09764	0.1069645	0.25983675	2.4322171	20	3 24.4	20.6
313390 2002 <i>NS</i> ₆₂	16.7	X	40.48081	88.06383	298.92476	10.48672	0.2870186	0.23623500	2.5916313	20	—	—
313391 2002 <i>NL</i> ₆₄	16.9	X	110.77552	47.81844	321.00157	3.35202	0.2938872	0.24439281	2.5336333	20	1 22.6	20.2
313392 2002 <i>NG</i> ₆₈	17.3	X	58.40901	73.92347	276.96148	11.46136	0.2816279	0.23323707	2.6137919	20	—	—
313393 2002 <i>NQ</i> ₇₁	17.4	X	275.15154	351.28176	281.73570	5.58400	0.1023036	0.25943125	2.4347508	20	2 19.1	20.9
313394 2002 <i>NK</i> ₇₃	17.8	X	276.26013	221.52067	68.52842	3.23260	0.1678194	0.26187940	2.4195531	20	3 9.1	21.2
313395 2002 <i>NP</i> ₇₃	17.3	X	5.07787	155.48561	77.69921	7.46079	0.0973668	0.26806587	2.3821825	20	5 16.1	19.6
313396 2002 <i>ND</i> ₇₄	17.5	X	335.81855	315.49414	302.57991	2.85268	0.1118582	0.26642785	2.3919364	20	4 25.4	19.9
313397 2002 <i>NH</i> ₇₆	16.4	X	80.58889	239.51391	208.26748	6.29132	0.1229681	0.25242107	2.4796230	20	2 24.3	19.3
313398 2002 <i>NG</i> ₇₇	17.4	X	76.44016	351.26945	38.89292	2.10864	0.2338141	0.24092942	2.5578564	20	—	—
313399 2002 <i>PW</i> ₁₉	17.0	X	88.59669	146.87424	244.43914	3.20984	0.2913754	0.24249523	2.5468336	20	1 21.4	19.9
313400 2002 <i>PO</i> ₅₃	16.9	X	301.92412	292.72696	326.27034	7.70024	0.1051880	0.25937341	2.4351128	20	3 5.6	19.9
313401 2002 <i>PQ</i> ₇₀	15.1	X	90.18137	61.63210	252.10983	10.87819	0.1415061	0.17712486	3.1401450	20	12 23.4	20.0
313402 2002 <i>PU</i> ₇₅	17.0	X	355.09357	275.13826	346.38014	4.17434	0.1961251	0.27025693	2.3692896	20	6 7.2	18.7
313403 2002 <i>PF</i> ₈₀	16.6	X	55.56455	69.67013	322.24505	28.51209	0.3525665	0.23625147	2.5915109	20	—	—
313404 2002 <i>PG</i> ₁₀₁	16.8	X	82.54111	73.86816	278.15931	11.73408	0.1782198	0.23830255	2.5766193	20	—	—
313405 2002 <i>PC</i> ₁₀₅	16.8	X	64.47012	96.54828	300.52983	12.79002	0.3145877	0.23750099	2.5824134	20	—	—
313406 2002 <i>PP</i> ₁₂₈	16.4	X	90.74858	285.08587	105.74080	7.61064	0.2723096	0.24046420	2.5611544	20	1 22.5	19.2
313407 2002 <i>PA</i> ₁₃₀	17.3	X	109.80623	200.26898	149.14723	5.65682	0.2212098	0.24053553	2.5606481	20	—	—
313408 2002 <i>PI</i> ₁₃₈	17.2	X	165.10528	39.52575	333.68241	18.42506	0.0817095	0.36447275	1.9410021	20	2 18.3	19.3
313409 2002 <i>PN</i> ₁₅₅	17.8	X	330.06990	255.09257	319.47536	18.35348	0.0399756	0.36757827	1.9300542	20	2 8.6	19.5
313410 2002 <i>PL</i> ₁₅₉	17.0	X	120.68658	20.90982	339.43525	5.86916	0.1543986	0.24504045	2.5291671	20	1 4.3	20.3
313411 2002 <i>PE</i> ₁₇₁	15.8	X	100.59479	85.79496	132.93180	25.87887	0.2914695	0.17329566	3.1862334	20	10 2.9	21.5
313412 2002 <i>PY</i> ₁₇₃	17.8	X	93.04936	204.61380	175.35550	3.68035	0.2297094	0.24145497	2.5541434	20	1 3.3	20.6
313413 2002 <i>PK</i> ₁₇₅	14.9	X	257.50332	190.20223	145.01365	15.84148	0.0652061	0.15322559	3.4587183	20	5 6.6	20.2
313414 2002 <i>PN</i> ₁₇₇	17.4	X	351.06169	114.57330	134.15063	5.86123	0.1297015	0.26645139	2.3917956	20	5 12.9	19.6
313415 2002 <i>PU</i> ₁₇₉	17.3	X	64.40370	229.50018	162.92896	1.35966	0.2091976	0.23873487	2.5735077	20	—	—
313416 2002 <i>PB</i> ₁₈₀	17.8	X	323.05452	311.24668	301.83208	2.07438	0.1570635	0.26331736	2.4107364	20	3 20.5	20.5
313417 2002 <i>PJ</i> ₁₉₇	16.5	X	225.85276	345.30915	289.00207	8.63687	0.0315401	0.25065619	2.4912487	20	1 3.9	19.7
313418 2002 <i>QE</i> ₅	16.4	X	40.80922	158.52059	262.46350	5.75825	0.3170843	0.23625119	2.5915129	20	—	—
313419 2002 <i>QL</i> ₂₂	17.2	X	76.03726	207.11391	177.57367	3.46855	0.2264142	0.23926147	2.5697302	20	—	—
313420 2002 <i>QK</i> ₃₅	17.4	X	228.94241	190.86951	112.22734	4.13213	0.2146206	0.25371101	2.4712111	20	2 6.4	21.5
313421 2002 <i>QP</i> ₄₂	16.3	X	71.79296	294.01251	103.00518	10.56256	0.3131290	0.24032547	2.5621399	20	1 3.7	18.1
313422 2002 <i>QK</i> ₄₈	15.8	X	147.63861	99.07885	138.55877	21.94529	0.3099226	0.18130587	3.0916819	20	11 24.9	21.8
313423 2002 <i>QR</i> ₄₉	17.3	X	101.35575	231.26643	145.19129	7.36103	0.1515854	0.24173040	2.5522030	20	—	—
313424 2002 <i>QO</i> ₅₃	17.4	X	52.44569	44.90799	2.24532	3.29200	0.2213968	0.23789365	2.5795709	20	—	—
313425 2002 <i>QT</i> ₅₄	17.2	X	17.00421	104.29439	140.61751	9.64962	0.2079788	0.26978291	2.3720641	20	7 7.8	19.1
313426 2002 <i>QO</i> ₇₂	16.8	X	344.58082	217.89696	338.01434	7.35144	0.0440570	0.25452579	2.4659344	20	2 21.6	19.5
313427 2002 <i>QL</i> ₇₅	17.3	X	8.98345	127.30980	359.97050	5.76556	0.0598680	0.26238981	2.4164144	20	4 25.6	20.0
313428 2002 <i>QR</i> ₇₉	17.1	X	72.16683	258.40041	149.82391	13.29537	0.2156998	0.24254194	2.5465067	20	1 3.8	19.7
313429 2002 <i>QZ</i> ₈₁	16.8	X	307.73500	351.38957	296.81137	6.18871	0.1063614	0.26434097	2.4045089	20	4 21.9	19.6
313430 2002 <i>QK</i> ₈₆	17.2	X	138.00075	41.04617	303.51011	3.68948	0.1936469	0.24461047	2.5321301	20	1 8.9	20.9
313431 2002 <i>QX</i> ₉₇	17.5	X	84.34751	64.23989	341.37210	1.72602	0.1096800	0.24559887	2.5253319	20	1 5.6	20.3
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>
313441 2002 <i>RJ</i> ₁₀₅	16.7	X	68.84835	348.37862	6.77526	7.81499	0.3805022	0.23198907	2.6231575	20	—	—
313442 2002 <i>RM</i> ₁₄₃	16.7	X	358.13406	206.08044	187.77834	13.49213	0.1514098	0.22699025	2.6615293	20	12 24.3	20.1
313443 2002 <i>RK</i> ₁₅₆	16.9	X	270.08582	339.84162	320.44391	4.19480	0.1313202	0.25803448	2.4435293	20	3 16.9	20.3
313444 2002 <i>RS</i> ₁₆₃	17.6	X	46.83601	239.49174	161.51204	1.54596	0.1821945	0.23540781	2.5976988	20	—	—
313445 2002 <i>RQ</i> ₁₇₆	17.5	X	70.41363	142.32055	256.07508	2.90785	0.1892841	0.23856790	2.5747083	20	—	—
313446 2002 <i>RA</i> ₁₇₈	17.1	X	106.60602	52.27921	330.90496	6.21851	0.1416220	0.24202707	2.5501169	20	1 14.5	20.3
313447 2002 <i>RL</i> ₁₈₃	16.2	X	121.63153	7.94814	293.59239	13.24431	0.1713745	0.23457136	2.6038706	20	—	—
313448 2002 <i>RC</i> ₁₈₆	17.0	X	69.33788	89.69643	310.63589	10.33394	0.2158222	0.237771529	2.5808611	20	—	—
313449 2002 <i>RN</i> ₁₉₁	17.2	X	272.09095	286.44817	21.02220	2.46801	0.2057815	0.26066716	2.4270488	20	3 21.3	20.8
313450 2002 <i>RJ</i> ₂₁₈	14.9	X	197.13616	263.81583	128.92429	10.87810	0.1060955	0.14750764	3.5475325	20	5 7.6	20.6
313451 2002 <i>RN</i> ₂₂₃	17.2	X	111.83006	227.23891	121.70475	4.70101	0.2427640	0.23908083	2.5710245	20	—	—
313452 2002 <i>RF</i> ₂₅₄	17.6	X	107.70631	46.51716	330.69691	2.87734	0.1822656	0.24241708	2.5473810	20	1 13.7	20.7
313453 2002 <i>RV</i> ₂₆₄	17.3	X	300.77426	347.02846	294.77689	4.52308	0.1836430	0.26055174	2.4277655	20	3 21.7	20.6
313454 2002 <i>RH</i> ₂₆₆	17.6	X	332.01295	275.71211	358.18247	2.36161	0.2444044	0.26786524	2.3833719	20	4 23.1	19.4
313455 2002 <i>SE</i> ₁	17.1	X	47.54922	30.90624	11.74416	5.22707	0.2995438	0.23374088	2.6100346	20	—	—
313456 2002 <i>SF</i> ₈	16.9	X	30.19859	61.36768	31.64896	5.50599	0.2475374	0.23626986	2.5913764	20	—	—
313457 2002 <i>SW</i> ₂₈	16.5	X	80.25584	349.44600	22.73798	13.87541	0.2735769	0.23593366	2.5938376	20	—	—
313458 2002 <i>SG</i> ₃₅	16.5	X	36.75820	27.39505	28.64043	14.34559	0.2486152	0.23285231	2.6166704	20	—	—
313459 2002 <i>SB</i> ₃₇	17.4	X	81.61270	356.73804	17.80744	1.86014	0.2109064	0.23550851	2.5969583	20	—	—
313460 2002 <i>SC</i> ₃₈	17.8	X	101.60574	90.86083	272.84232	2.95886	0.2666502	0.23941238	2.5686503	20	1 1.1	21.0
313461 2002 <i>SZ</i> ₄₆	15.7	X	41.07694	161.37502	212.67117	12.28820	0.1758164	0.22757385	2.6569771	20	—	—
313462 2002 <i>SQ</i> ₇₁	16.6	X	191.82587	205.92906	93.99327	7.21037	0.1389624	0.24573786	2.5243797	20	1 1.9	20.6
313463 2002 <i>TH</i> ₃	16.9	X	97.72941	350.82870	17.22691	4.24880	0.1881559	0.23749982	2.5824219	20	—	—
313464 2002 <i>TT</i> ₄	16.8	X	96.40488	308.37019	42.69325	5.48890	0.2767769	0.23563445	2.5960329	20	—	—
313465 2002 <i>TH</i> ₃₆	17.0	X	59.37165	332.28331	65.70783	5.53595	0.2516267	0.23392645	2.6086541	20	—	—
313466 2002 <i>TC</i> ₅₅	16.5	X	86.48500	349.26411	44.35476	4.74537	0.2606592	0.23587875	2.5942401	20	1 19.4	19.4
313467 2002 <i>TR</i> ₈₃	16.1	X	69.91681	320.02306	32.61377	16.67264	0.3168157	0.23242300	2.6198916	20	—	—
313468 2002 <i>TL</i> ₉₂	16.7	X	110.69740	141.13827	221.79276	1.66574	0.0264719	0.23940032	2.5687366	20	—	—
313469 2002 <i>TZ</i> ₉₂	16.8	X	64.22040	196.74392	186.26273	10.87346	0.1328852	0.23530093	2.5984854	20	—	—
313470 2002 <i>TT</i> ₁₁₃	14.7	X	339.87631	319.38714	331.02516	15.94745	0.1070138	0.15303567	3.4615792	20	6 21.8	19.3
313471 2002 <i>TT</i> ₁₂₀	16.8	X	15.16463	82.29307	355.37505	12.30992	0.2592676	0.23095510	2.6309808	20	—	—
313472 2002 <i>TW</i> ₁₃₂	17.0	X	139.53661	29.97801	298.99925	5.16398	0.2618119	0.24093410	2.5578233	20	—	—
313473 2002 <i>TG</i> ₁₅₃	17.8	X	87.34078	25.18531	358.10986	2.27566	0.1742399	0.23789805	2.5795939	20	—	—
313474 2002 <i>TD</i> ₁₆₀	16.6	X	47.12109	268.98329	93.12515	12.34894	0.2201425	0.22867752	2.6484213	20	—	—
313475 2002 <i>TV</i> ₁₆₃	16.6	X	40.50646	256.76045	140.30508	13.05224	0.2601372	0.23041195	2.6351139	20	—	—
313476 2002 <i>TH</i> ₁₇₉	16.0	X	27.85338	85.10998	295.91945	11.70856	0.1854675	0.22624338	2.6673835	20	—	—
313477 2002 <i>TA</i> ₁₈₀	16.1	X	321.66932	326.07245	12.72365	17.49942	0.4045804	0.21346576	2.7727916	20	6 9.3	19.1
313478 2002 <i>TY</i> ₂₀₂	16.7	X	32.64817	317.94354	75.42938	4.98466	0.2270486	0.23045060	2.6348192	20	—	—
313479 2002 <i>TZ</i> ₂₀₈	16.7	X	87.38914	301.20085	87.47345	9.81703	0.1716975	0.23843284	2.5756806	20	—	—
313480 2002 <i>TO</i> ₂₁₆	16.2	X	332.02350	339.83345	130.84454	13.70719	0.3409367	0.22678276	2.6631524	20	—	—
313481 2002 <i>TD</i> ₂₄₆	17.3	X	117.05725	233.34648	102.55587	5.05393	0.2467295	0.23707804	2.5854839	20	—	—
313482 2002 <i>TG</i> ₂₅₄	16.9	X	60.56892	347.29083	64.15037	4.79393	0.1812244	0.23571882	2.5954134	20	—	—
313483 2002 <i>TB</i> ₂₆₅	16.0	X	58.63190	194.88302	228.41457	12.25857	0.1688015	0.23488793	2.6015305	20	—	—
313484 2002 <i>TM</i> ₂₇₁	16.8	X	37.04987	178.27750	242.25551	3.64946	0.2215930	0.23348523	2.6119395	20	—	—
313485 2002 <i>TH</i> ₂₉₉	17.5	X	26.31114	146.10015	270.77243	1.28954	0.2044536	0.23041868	2.6350625	20	—	—
313486 2002 <i>TW</i> ₃₂₅	17.4	X	49.29989	11.44177	66.78973	0.78019	0.1566768	0.23948451	2.5681345	20	—	—
313487 2002 <i>TE</i> ₃₅₉	17.3	X	30.42354	256.09742	183.90153	5.03865	0.1341200	0.23709869	2.5853337	20	—	—
313488 2002 <i>TP</i> ₃₆₂	17.3	X	345.01135	144.12461	128.95751	2.93570	0.1820693	0.26459420	2.4029746	20	6 3.2	19.0
313489 2002 <i>TA</i> ₃₇₀	17.1	X	123.47777	215.06357	137.85550	9.62323	0.1771070	0.23858473	2.5745873	20	1 1.8	20.8
313490 2002 <i>TD</i> ₃₇₂	17.3	X	200.18737	177.85672	111.46391	14.20186	0.0645652	0.23825742	2.5769447	20	—	—
313491 2002 <i>UN</i> ₅₅	16.8	X	311.97436	150.98038	112.33519	6.96319	0.1014644	0.25480119	2.4641572	20	4 1.6	19.8
313492 2002 <i>VT</i> ₂	17.2	X	83.72972	276.51687	120.55659	0.87213	0.1723621	0.23686633	2.5870243	20	1 3.9	19.9
313493 2002 <i>VM</i> ₁₀	17.3	X	16.20294	58.40005	0.70141	4.75478	0.2596758	0.22833008	2.6511073	20	—	—
313494 2002 <i>VB</i> ₂₉	16.2	X	68.82666	355.39590	52.82951	8.95469	0.1895762	0.23533997	2.5981981	20	—	—
313495 2002 <i>VD</i> ₃₀	16.8	X	72.97765	291.71868	66.31272	5.65910	0.2340863	0.22996364	2.6385375	20	—	—
313496 2002 <i>VR</i> ₃₇	16.4	X	35.34257	312.52918	79.36127	14.18197	0.2807990	0.22879231	2.6475354	20	—	—
313497 2002 <i>VC</i> ₃₉	17.3	X	46.87844	229.29971	167.00752	7.59803	0.3033931	0.23166273	2.6256204	20	—	—
313498 2002 <i>VP</i> ₄₀	16.4	X	5.37943	187.77397	203.86190	13.56598	0.2463848	0.22292433	2.6937942	20	—	—
313499 2002 <i>VY</i> ₄₁	16.9	X	47.81909	2.05924	14.96870	2.22848	0.2186176	0.22879957	2.6474793	20	—	—
313500 2002 <i>VV</i> ₆₀	17.3	X	104.03190	130.17651	253.36895	4.32486	0.2628496	0.23877092	2.5732487	20	1 28.1	20.7
313501 2002 <i>VS</i> ₆₅	17.5	X	20.76811	90.73703	314.63765	7.63948	0.3089508	0.22814885	2.6525110	20	—	—
313502 2002 <i>VG</i> ₈₃	16.5	X	63.76863	313.53644	85.91964	13.90218	0.1781653	0.23206294	2.6226008	20	—	—
313503 2002 <i>VF</i> ₁₀₀	16.3	X	3.95402	187.94303	236.56667	12.18433	0.1451704	0.22801726	2.6535314	20	—	—
313504 2002 <i>VO</i> ₁₁₅	16.3	X	37.26029	49.99611	22.99717	15.09569	0.0739111	0.23335062	2.6129438	20	—	—
313505 2002 <i>VE</i> ₁₁₆	16.9	X	69.21291	109.20550	282.02971	10.31671	0.2197916	0.23420171	2.6066097	20	—	—
313506 2002 <i>VJ</i> ₁₁₆	16.8	X	46.99972	46.61318	310.50513	4.36158	0.2195318	0.22648465	2.6654889	20	—	—
313507 2002 <i>VV</i> ₁₂₀	16.2	X	53.27958	154.03346	273.13765	12.61786	0.1657051	0.23414777	2.6070100	20	—	—
313508 2002 <i>VJ</i> ₁₂₇	16.4	X	348.81290	13.71042	87.06029	14.15057	0.1275372	0.22796400	2.6539447	20	—	—
313509 2002 <i>VZ</i> ₁₃₈	16.8	X	153.29678	55.71158	266.96173	7.70986	0.1689083	0.23799553	2.5788348	20	—	—
313510 2002 <i>VH</i> ₁₃₉	17.4	X	26.58461	45.17741	343.34719	4.92847	0.2982961	0.22706452	2.6609488	20	—	—
313511 2002 <i>VR</i> ₁₃₉	16.5	X	324.58997	169.56148	326.89162	6.16262	0.1182166	0.23015552	2.6370708	20	—	—
313512 2002 <i>VN</i> ₁₄₁	16.2	X	54.56363	305.31385	114.35364	14.87085	0.1523080	0.23384781	2.6092389	20	—	—
313513 2002 <i>VZ</i> ₁₄₇	16.2	X	345.26474	197.84526	147.14361	5.95977	0.0984864	0.21416787	2.7667282	20	9 20.3	19.3

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>
313521 2002 XW ₁₁	15.5	X	56.13756	121.12667	257.11910	30.03671	0.2546382	0.23004234	2.6379357	20	—	—
313522 2002 XM ₂₂	16.3	X	20.09225	158.97233	269.63097	13.96261	0.1334707	0.22815268	2.6524813	20	—	—
313523 2002 XR ₂₆	16.1	X	78.86034	110.15319	304.65170	12.35276	0.1827856	0.23743383	2.5829003	20	1 21.9	19.0
313524 2002 XU ₂₆	16.3	X	40.92330	84.32731	277.76219	16.63545	0.2921807	0.22676362	2.6633023	20	—	—
313525 2002 XP ₃₁	16.7	X	50.20023	64.97501	278.37359	10.78309	0.3661189	0.22572799	2.6714422	20	—	—
313526 2002 XA ₃₇	16.0	X	47.57253	131.22129	279.01757	17.40435	0.1861936	0.22834964	2.6509558	20	—	—
313527 2002 XC ₃₇	16.3	X	316.89123	100.62443	335.00458	14.32294	0.1770858	0.21708270	2.7419061	20	11 30.9	19.4
313528 2002 XK ₃₇	17.4	X	27.05889	177.60104	232.69531	1.35888	0.2078110	0.22729316	2.6591641	20	—	—
313529 2002 XF ₃₈	15.5	X	78.31390	105.06144	286.17537	26.20874	0.2467423	0.23281902	2.6169198	20	—	—
313530 2002 XR ₅₃	16.6	X	351.78526	37.95914	84.56539	10.27467	0.1643812	0.23019453	2.6367729	20	—	—
313531 2002 XN ₇₁	16.6	X	36.54246	121.51521	271.09168	9.41698	0.2615078	0.22698886	2.6615401	20	—	—
313532 2002 XK ₇₉	15.9	X	310.84388	52.11778	82.72604	14.38994	0.1254589	0.22283169	2.6945407	20	—	—
313533 2002 XA ₈₈	16.9	X	55.66400	81.73510	316.51625	12.79736	0.2814349	0.22997031	2.6384865	20	—	—
313534 2002 XN ₉₂	16.3	X	85.22156	171.83936	251.85794	13.67060	0.0811895	0.23946431	2.5682789	20	1 23.6	19.7
313535 2002 XB ₁₁₇	17.3	X	10.20017	140.63357	318.01111	4.61978	0.1273022	0.23112202	2.6297139	20	—	—
313536 2002 XJ ₁₁₇	17.0	X	355.90723	25.36448	71.20420	3.19475	0.1220046	0.22885638	2.6470412	20	—	—
313537 2002 YY ₁₁	16.0	X	320.50571	295.89781	123.13780	33.14145	0.3389936	0.21487943	2.7606170	20	11 30.2	18.7
313538 2002 YB ₁₂	18.4	X	280.64440	305.98060	271.11944	14.01923	0.5513440	0.44982270	1.6869743	20	—	—
313539 2002 YT ₂₇	16.3	X	22.58737	306.99485	107.34203	14.31664	0.2492802	0.22498132	2.6773495	20	—	—
313540 2003 AV ₃₂	16.6	X	22.40250	125.01839	294.08434	11.39297	0.2187351	0.22521103	2.6755287	20	—	—
313541 2003 AT ₅₇	16.1	X	9.37365	332.66157	105.74865	9.62062	0.2072154	0.22351536	2.6890434	20	—	—
313542 2003 AR ₆₃	16.6	X	335.19655	1.78580	106.60186	4.98675	0.1782233	0.22270842	2.6955349	20	—	—
313543 2003 AK ₇₇	15.9	X	45.40761	118.68542	26.97679	7.36243	0.1110770	0.23964552	2.5669841	20	3 23.7	18.6
313544 2003 AB ₇₈	15.8	X	255.12644	79.74469	60.82909	14.07442	0.1414732	0.21136900	2.7910987	20	11 18.7	19.3
313545 2003 AO ₈₁	16.6	X	0.55854	78.03072	357.08634	12.24012	0.2517715	0.22363988	2.6880451	20	—	—
313546 2003 AY ₈₁	15.9	X	87.62733	91.95650	11.67264	12.73722	0.1291349	0.23889644	2.5723472	20	4 1.2	18.9
313547 2003 AC ₈₅	17.0	X	341.84268	79.01580	4.16372	8.77166	0.2763639	0.22069921	2.7118699	20	—	—
313548 2003 BL ₁	19.3	X	288.21507	110.72512	324.10409	22.46346	0.3197984	0.43991144	1.7122186	20	—	—
313549 2003 BD ₃	16.6	X	334.45861	299.95066	141.13714	14.60403	0.3013024	0.21938952	2.7226520	20	—	—
313550 2003 BT ₃	16.1	X	291.52998	49.63007	143.03040	15.44629	0.0812207	0.22521419	2.6755036	20	—	—
313551 2003 BV ₁₂	16.2	X	241.85742	37.75648	138.74793	10.51010	0.1364974	0.21589709	2.7519351	20	12 18.7	20.0
313552 2003 BX ₃₃	20.9	X	255.58178	221.22303	143.19920	7.92053	0.4226598	0.76677078	1.1822038	20	4 15.3	21.7
313553 2003 BL ₃₅	16.6	X	355.13143	275.52261	123.32923	10.44497	0.2980673	0.21846544	2.7303242	20	—	—
313554 2003 BY ₆₁	15.6	X	317.15013	27.93033	153.09313	13.52608	0.1248442	0.22562075	2.6722886	20	—	—
313555 2003 BO ₆₇	16.4	X	263.34970	30.45605	119.18416	10.28147	0.0963357	0.21512107	2.7585493	20	12 19.3	19.9
313556 2003 BY ₇₀	15.9	X	247.69478	54.60279	140.45964	13.83601	0.1192098	0.21642164	2.7474867	20	—	—
313557 2003 BZ ₇₁	16.7	X	1.47843	276.91949	155.47262	10.03712	0.2439905	0.22168073	2.7038593	20	—	—
313558 2003 BU ₇₃	16.3	X	332.96328	38.01576	86.58092	9.88319	0.2588179	0.22252844	2.6969881	20	—	—
313559 2003 BR ₇₄	17.0	X	320.25389	100.76772	356.52197	12.37131	0.1883537	0.21752281	2.7382064	20	—	—
313560 2003 BD ₇₅	16.5	X	338.99124	26.76276	36.49748	9.70639	0.1476193	0.21556888	2.7547277	20	12 27.6	19.6
313561 2003 BE ₇₈	16.5	X	292.44810	145.37123	355.70605	7.18794	0.2163867	0.21698343	2.7427423	20	—	—
313562 2003 BU ₈₀	17.0	X	299.82210	11.28332	145.31504	3.98423	0.2141020	0.22067502	2.7120682	20	—	—
313563 2003 BL ₉₂	16.4	X	288.51013	92.84122	65.27354	9.52224	0.2319217	0.21705269	2.7421588	20	—	—
313564 2003 BJ ₉₃	17.4	X	309.38142	97.16808	30.69369	7.95964	0.1583694	0.21911058	2.7249622	20	—	—
313565 2003 CU	15.8	X	326.74153	262.19055	291.81726	10.48592	0.1277463	0.22989171	2.6390879	20	1 16.3	19.0
313566 2003 CX ₁₉	16.3	X	302.30771	251.30476	304.77109	8.01456	0.1669056	0.22472908	2.6793526	20	—	—
313567 2003 DE	16.3	X	244.20324	38.90580	133.94125	9.80607	0.2139560	0.21282852	2.7783237	20	12 5.9	20.3
313568 2003 DW ₄	15.8	X	287.56890	138.75343	4.19940	15.37464	0.1664634	0.21466852	2.7624248	20	—	—
313569 2003 DA ₆	16.2	X	300.03101	168.73108	324.48526	12.43479	0.0924772	0.21680330	2.7442613	20	—	—
313570 2003 DS ₆	16.5	X	214.68100	315.15988	270.79039	5.87416	0.1426694	0.21656297	2.7462912	20	—	—
313571 2003 DG ₇	16.4	X	21.98816	294.75687	119.25751	13.18107	0.1543504	0.21961845	2.7207596	20	—	—
313572 2003 DE ₁₅	16.3	X	310.70356	40.53322	101.40318	14.66623	0.2315223	0.21945297	2.7221272	20	—	—
313573 2003 DV ₂₀	16.2	X	292.95387	235.10185	346.89459	11.42823	0.2564844	0.22390240	2.6859436	20	—	—
313574 2003 EO ₁	16.5	X	323.95573	132.30350	352.87474	17.14066	0.2565484	0.21985259	2.7188276	20	—	—
313575 2003 ES ₂	16.0	X	249.79707	49.95774	156.84758	13.41078	0.1266455	0.21720838	2.7408483	20	—	—
313576 2003 ER ₄	16.5	X	29.85960	103.43458	2.93682	12.68440	0.2164764	0.22804993	2.6532780	20	1 1.8	19.1
313577 2003 EG ₃₃	16.0	X	302.08480	100.65271	163.99430	12.55780	0.1633281	0.23103012	2.6304112	20	3 9.7	19.5
313578 2003 EJ ₃₅	15.9	X	257.49817	223.75980	340.40882	7.98746	0.1655019	0.21556137	2.7547917	20	—	—
313579 2003 ES ₃₆	16.2	X	338.92523	77.88257	28.99043	12.69504	0.3022291	0.22260248	2.6963900	20	—	—
313580 2003 EM ₅₁	13.1	X	289.90058	252.42624	164.44597	29.01144	0.0475010	0.08504123	5.1213333	20	9 14.1	19.8
313581 2003 FJ ₃	15.6	X	282.94272	67.87499	102.90098	25.99327	0.2045127	0.21604656	2.7506657	20	—	—
313582 2003 FJ ₂₅	16.2	X	258.97031	191.58850	2.29978	8.32620	0.0353946	0.21602631	2.7508376	20	—	—
313583 2003 FW ₂₆	15.9	X	181.31359	257.58904	12.34324	6.55376	0.0564094	0.21361071	2.7715371	20	—	—
313584 2003 FS ₃₃	16.2	X	186.98131	99.37093	21.65468	10.06208	0.0086777	0.19158552	2.9800777	20	8 19.4	20.5
313585 2003 FK ₄₄	16.5	X	175.03787	222.12790	344.88907	6.16458	0.0096500	0.20338752	2.8636494	20	11 16.6	20.7
313586 2003 FW ₈₈	15.8	X	233.51813	105.27201	178.65613	12.40306	0.1671247	0.22191688	2.7019408	20	1 20.9	20.5
313587 2003 FE ₁₀₆	16.0	X	224.84603	165.59608	36.06364	9.95966	0.0917636	0.20928280	2.8096164	20	—	—
313588 2003 GX ₄₀	16.1	X	174.55957	82.09852	134.19917	4.68566	0.1515591	0.20230419	2.8738635	20	11 22.0	20.7
313589 2003 HL ₅₁	16.2	X	261.87016	9.13070	163.43318	12.67164	0.1580984	0.21118223	2.7927440	20	—	—
313590 2003 KE ₇	16.3	X	52.59596	178.28452	133.13873	10.28664	0.0622196	0.19251188	2.9705101	20	11 7.4	20.6
313591 2003 MB ₇	16.3	X	202.23273	32.10310	312.09047	11.88536	0.4225276	0.26803081	2.3823902	20	2 29.5	21.3
313592 2003 NH ₁	15.4	X	12.78558	348.83832	300.85422	14.28202	0.2522484	0.17499316	3.1655948	20	8 24.8	18.8
313593 2003 NQ ₄	16.7	X	319.25299	41.39281	260.52435	11.06827	0.2768222	0.28476602	2.2881119	20	5 2.0	18.8
313594 2003 NB ₇	17.4	X	250.75194	272.51070	49.60155	4.36791	0.3022916	0.27691907	2.3311353	20	3 12.5	21.3
313595 2003 NC ₁₃	16.7	X	241.08951	68.01108	308.45279	7.51834	0.1988671	0.28039179	2.3118475	20	5 16.7	20.3

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>
313601 2003 <i>OL</i> ₃₃	15.6	X	309.20112	191.17004	160.92548	10.69009	0.0614449	0.17037511	3.2225422	20	7 28.2	20.1
313602 2003 <i>PS</i>	17.2	X	233.55563	8.94786	326.90966	11.58773	0.2885964	0.27298669	2.3534685	20	3 12.0	21.4
313603 2003 <i>QT</i> ₃	17.4	X	203.06980	173.15194	182.34968	6.40196	0.2272276	0.27116956	2.3639707	20	3 17.6	21.4
313604 2003 <i>QT</i> ₂₁	16.8	X	228.74592	212.95947	150.23910	8.01573	0.2156442	0.27416517	2.3467196	20	4 20.8	20.7
313605 2003 <i>QG</i> ₂₅	17.1	X	22.63198	345.18069	314.09805	5.52202	0.1736359	0.29357061	2.2421311	20	10 11.1	19.4
313606 2003 <i>QB</i> ₂₇	17.4	X	153.41192	213.18576	182.09840	8.63459	0.2275133	0.26702951	2.3883422	20	3 26.9	21.2
313607 2003 <i>QL</i> ₃₀	16.9	X	133.26104	318.50620	70.59095	7.15473	0.4038133	0.26155641	2.4215446	20	3 20.1	21.3
313608 2003 <i>QT</i> ₃₅	15.5	X	58.51814	123.69350	149.91072	15.87392	0.2315507	0.17979756	3.1089485	20	10 21.3	20.2
313609 2003 <i>QH</i> ₃₈	17.1	X	216.48090	24.58221	324.17670	5.77696	0.2088696	0.27229062	2.3574777	20	3 18.7	21.1
313610 2003 <i>QD</i> ₄₄	17.1	X	231.97652	348.43216	11.72961	7.80338	0.2199360	0.27358076	2.3500603	20	4 15.5	20.9
313611 2003 <i>QK</i> ₅₈	17.2	X	234.26973	206.17460	126.75417	3.12336	0.2289627	0.27324323	2.3519953	20	3 16.3	21.0
313612 2003 <i>QR</i> ₅₈	17.3	X	219.61205	291.95308	61.77673	3.09192	0.2286814	0.27295711	2.3536386	20	3 30.1	21.3
313613 2003 <i>QP</i> ₆₂	16.2	X	174.97906	219.66089	160.87916	11.85948	0.2511265	0.26562309	2.3967652	20	3 29.3	20.4
313614 2003 <i>QX</i> ₆₅	17.0	X	188.27963	278.17514	121.67030	2.19083	0.2349336	0.27247199	2.3564314	20	4 30.8	21.1
313615 2003 <i>QZ</i> ₇₄	15.3	X	30.50331	346.31625	309.78538	10.64511	0.1678982	0.17619704	3.1511589	20	9 22.2	19.4
313616 2003 <i>QT</i> ₇₆	16.9	X	211.53911	44.00265	324.43050	6.26214	0.2351710	0.27231803	2.3573195	20	4 6.4	21.0
313617 2003 <i>QC</i> ₈₇	17.3	X	301.97899	359.35441	306.09249	1.66910	0.2226128	0.28139661	2.3063408	20	4 19.4	20.0
313618 2003 <i>QU</i> ₉₄	17.5	X	185.48223	276.63985	116.12053	1.42112	0.2164134	0.27224609	2.3577348	20	4 19.3	21.5
313619 2003 <i>QE</i> ₁₀₇	16.5	X	242.79798	334.99974	40.81503	7.86129	0.1351642	0.27952566	2.3166207	20	5 24.6	19.7
313620 2003 <i>QH</i> ₁₀₈	15.4	X	51.15804	161.26803	126.82389	11.58732	0.1666152	0.17959707	3.1112618	20	10 21.5	19.9
313621 2003 <i>QP</i> ₁₀₉	17.2	X	275.00137	201.35340	117.10661	6.92900	0.2846764	0.27816042	2.3241946	20	3 31.2	20.8
313622 2003 <i>QJ</i> ₁₁₁	17.0	X	166.67170	334.72991	36.98526	5.96694	0.2504531	0.26619192	2.3933496	20	3 12.4	21.0
313623 2003 <i>RD</i> ₃	17.7	X	196.53613	15.84101	359.35920	2.81314	0.1818507	0.27184688	2.3600424	20	4 5.5	21.4
313624 2003 <i>RZ</i> ₁₁	15.8	X	298.73834	16.02171	308.47454	24.30378	0.1808887	0.28011804	2.3133534	20	5 14.4	19.1
313625 2003 <i>RH</i> ₁₄	15.6	X	91.35467	293.73642	342.99702	11.76328	0.1822853	0.18331117	3.0690933	20	11 12.9	20.7
313626 2003 <i>RB</i> ₁₇	17.5	X	184.67396	339.22954	15.34877	3.54903	0.2536818	0.26689741	2.3891301	20	3 4.2	21.5
313627 2003 <i>RW</i> ₂₀	17.3	X	167.61533	301.85027	90.56848	2.10512	0.2426689	0.26753036	2.4853604	20	4 5.6	21.3
313628 2003 <i>RC</i> ₂₃	16.7	X	121.09321	326.95531	67.82338	5.05239	0.2422964	0.26168196	2.3207700	20	2 28.9	20.2
313629 2003 <i>RE</i> ₂₃	17.1	X	274.57118	19.83664	330.64330	5.77605	0.1835888	0.28131427	2.3067908	20	5 21.2	20.0
313630 2003 <i>RT</i> ₂₇	15.2	X	67.22189	304.88770	321.63316	15.00091	0.1016155	0.17677424	3.1442958	20	9 22.9	19.9
313631 2003 <i>ST</i> ₈	17.7	X	177.46673	157.18910	248.74499	2.70580	0.1246777	0.27175093	2.3605979	20	4 26.1	21.2
313632 2003 <i>SE</i> ₁₁	17.1	X	95.51567	132.40039	302.44574	16.58094	0.0957363	0.37872494	1.8919956	20	2 2.9	18.3
313633 2003 <i>SC</i> ₁₃	17.1	X	148.40844	54.85593	343.69217	3.52841	0.1961392	0.26542502	2.3979575	20	3 23.3	20.7
313634 2003 <i>SB</i> ₁₄	15.2	X	69.26238	303.00117	356.00580	12.03763	0.2118810	0.18180796	3.0859872	20	11 21.3	20.1
313635 2003 <i>SV</i> ₃₁	17.5	X	133.95145	114.17897	307.95160	0.53917	0.1717588	0.26379804	2.4078070	20	4 6.4	21.0
313636 2003 <i>SJ</i> ₃₃	17.5	X	210.85977	159.46199	200.13499	6.35563	0.1542596	0.27200746	2.3591135	20	3 30.1	21.2
313637 2003 <i>SG</i> ₃₅	17.9	X	156.75338	21.20633	16.60848	2.67920	0.1906145	0.26626668	2.3920915	20	3 30.6	21.7
313638 2003 <i>SC</i> ₄₀	14.9	X	12.77625	356.48842	328.36114	15.91312	0.2627664	0.17413804	3.1759496	20	10 10.5	18.7
313639 2003 <i>SA</i> ₄₇	17.1	X	207.01987	35.77084	313.36622	4.17676	0.2231327	0.26921006	2.3754279	20	3 11.9	21.3
313640 2003 <i>SL</i> ₄₉	17.1	X	244.85189	33.48677	308.10210	4.51862	0.2500594	0.27425369	2.3462146	20	3 31.1	21.1
313641 2003 <i>SE</i> ₅₉	15.0	X	328.92795	27.74432	304.61531	15.63961	0.2349884	0.17023061	3.2243656	20	7 18.8	18.4
313642 2003 <i>SG</i> ₆₃	17.1	X	149.03655	18.30407	36.52251	6.85524	0.2506168	0.26721818	2.3872178	20	4 18.3	21.1
313643 2003 <i>SW</i> ₉₄	17.6	X	233.87551	64.34432	274.78115	4.39032	0.2015699	0.27239864	2.3568544	20	3 21.5	21.6
313644 2003 <i>SE</i> ₉₈	17.0	X	261.93691	331.83663	13.02391	5.29345	0.1464277	0.27543153	2.3395210	20	5 3.2	20.1
313645 2003 <i>SC</i> ₁₀₃	16.7	X	219.84321	44.21265	327.83742	10.49685	0.2175751	0.27319646	2.3522637	20	4 16.1	20.8
313646 2003 <i>SA</i> ₁₂₀	18.2	X	230.94838	350.35968	358.25908	1.11264	0.2022898	0.27324004	2.3520136	20	4 1.9	21.8
313647 2003 <i>SS</i> ₁₂₂	15.4	X	33.91691	283.89582	352.24665	12.67237	0.2797766	0.17526118	3.1623667	20	9 22.9	19.3
313648 2003 <i>SW</i> ₁₂₄	16.3	X	197.68216	66.65383	310.72352	8.49796	0.2683546	0.26986966	2.3715558	20	4 4.9	20.7
313649 2003 <i>SP</i> ₁₂₈	17.1	X	198.77385	162.19294	186.17963	5.05836	0.2397762	0.26621990	2.3931819	20	3 5.4	21.2
313650 2003 <i>SU</i> ₁₃₃	17.1	X	182.99809	317.91377	41.12328	4.40582	0.2168798	0.26611586	2.3938056	20	3 8.3	21.1
313651 2003 <i>SW</i> ₁₅₅	17.0	X	172.01459	9.14111	23.11477	4.13767	0.1563698	0.26718812	2.3873969	20	4 5.1	20.6
313652 2003 <i>SC</i> ₁₆₀	17.1	X	262.41058	27.41941	333.98557	7.60228	0.1386794	0.27876876	2.3208121	20	5 27.5	20.3
313653 2003 <i>SL</i> ₁₆₄	17.1	X	194.78811	22.32016	355.41131	5.47597	0.1458871	0.26866073	2.3786649	20	4 6.5	20.8
313654 2003 <i>SA</i> ₁₆₅	16.6	X	248.16897	335.89646	18.79436	7.53883	0.1341563	0.27463919	2.3440185	20	5 1.6	19.8
313655 2003 <i>SZ</i> ₁₇₀	17.5	X	167.84772	203.21474	229.14896	1.64039	0.1828514	0.27202927	2.3589874	20	5 23.4	21.1
313656 2003 <i>SY</i> ₁₇₆	17.1	X	167.08500	56.58393	18.42220	10.38958	0.0903409	0.27368466	2.3494655	20	5 20.6	20.6
313657 2003 <i>SP</i> ₁₈₀	16.7	X	310.47179	333.82828	331.77342	7.45226	0.1320603	0.27937951	2.3174285	20	5 18.2	19.3
313658 2003 <i>SJ</i> ₁₈₁	15.2	X	80.18452	287.77762	347.67119	15.70729	0.2206451	0.17952480	3.1120967	20	11 1.8	20.3
313659 2003 <i>SE</i> ₁₈₄	17.8	X	195.23880	350.05754	2.59608	1.43224	0.2062697	0.26702095	2.3883932	20	3 8.4	21.8
313660 2003 <i>SO</i> ₁₈₄	17.7	X	192.91411	187.68508	184.03697	2.93820	0.1945335	0.26862809	2.3788575	20	3 29.7	21.6
313661 2003 <i>SJ</i> ₁₈₈	16.9	X	162.49787	195.11485	228.77369	5.98780	0.0919318	0.27075638	2.3663751	20	5 2.9	20.1
313662 2003 <i>SZ</i> ₁₈₉	17.3	X	139.87129	43.16578	11.21039	5.06918	0.2262124	0.26596467	2.3947127	20	4 7.1	21.1
313663 2003 <i>SQ</i> ₁₉₀	16.7	X	316.91068	315.98763	351.24556	7.06388	0.1438967	0.28088506	2.3091402	20	5 31.8	19.0
313664 2003 <i>SP</i> ₁₉₂	16.9	X	303.83768	39.58158	277.34247	6.36739	0.1389363	0.28089810	2.3090686	20	5 24.9	19.3
313665 2003 <i>SB</i> ₁₉₃	17.3	X	62.73506	102.40165	258.64901	5.65743	0.2207203	0.24550188	2.525997			

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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>
313681 2003 SA ₃₀₀	16.9	X	138.57707	123.12883	331.21564	6.79251	0.2877290	0.26878349	2.3779405	20	5 29.9	21.1
313682 2003 SF ₃₀₀	17.4	X	204.16346	104.05032	264.13583	5.27293	0.1574393	0.27106073	2.3646034	20	4 1.7	21.1
313683 2003 SO ₃₀₇	17.3	X	165.70783	85.52136	311.67634	5.12550	0.2179780	0.26779495	2.3837889	20	4 5.3	21.3
313684 2003 SV ₃₁₁	15.7	X	302.08988	252.55769	195.17836	10.46240	0.0453623	0.18059316	3.0998108	20	11 22.3	19.9
313685 2003 SP ₃₂₈	17.1	X	245.45594	37.10142	321.12729	6.07147	0.1280050	0.27404816	2.3473875	20	5 2.9	20.4
313686 2003 SD ₃₃₃	15.9	X	55.70904	120.52236	135.79695	1.36220	0.1516022	0.17305947	3.1891318	20	9 9.8	20.1
313687 2003 SK ₃₄₄	16.3	X	113.94421	48.76115	203.37305	5.52251	0.1831194	0.18269789	3.0759578	20	11 8.9	21.2
313688 2003 SY ₃₄₅	17.4	X	114.46828	203.96177	348.27999	7.36129	0.0829394	0.28548376	2.2842753	20	9 1.8	20.3
313689 2003 SW ₃₇₁	18.0	X	102.97198	130.03093	353.28547	1.94461	0.1322429	0.27138022	2.3627472	20	5 17.3	21.1
313690 2003 SP ₃₈₂	17.7	X	120.10622	354.94456	81.08748	2.41053	0.1656677	0.26495073	2.4008184	20	4 10.2	21.1
313691 2003 SG ₄₀₅	17.1	X	160.25059	301.30067	110.06679	7.40316	0.1300815	0.26702396	2.3883752	20	4 20.1	20.8
313692 2003 TC ₆	17.3	X	202.20080	336.66079	48.76231	5.35040	0.0954441	0.27206571	2.3587768	20	4 26.6	20.6
313693 2003 TZ ₁₁	16.3	X	43.08656	303.53830	28.95919	29.61719	0.2659217	0.23897173	2.5718070	20	12 21.8	20.7
313694 2003 TB ₁₃	16.5	X	76.94792	244.90379	229.08487	18.82354	0.2218975	0.26041125	2.4286386	20	4 10.5	19.5
313695 2003 TT ₁₃	17.7	X	160.32785	138.07507	218.21520	21.02043	0.0780004	0.37774429	1.8952686	20	1 7.9	20.3
313696 2003 TY ₁₅	17.7	X	162.34469	299.60473	118.68914	4.25762	0.1973257	0.26824023	2.3811501	20	5 2.5	21.5
313697 2003 TN ₁₆	16.9	X	135.15574	161.97841	232.64478	4.23975	0.2055280	0.26033705	2.4291000	20	3 5.5	20.5
313698 2003 TE ₄₇	16.9	X	51.66881	207.07928	357.59860	6.95802	0.0622138	0.27565917	2.3382328	20	6 18.7	19.7
313699 2003 TH ₅₀	17.2	X	178.12748	240.17681	129.43746	5.32397	0.1945003	0.26555370	2.3971828	20	3 16.3	21.1
313700 2003 TV ₅₆	17.4	X	86.63875	336.16754	76.42730	7.18414	0.1318639	0.25556886	2.4592202	20	1 20.7	20.2
313701 2003 UN ₃	17.0	X	82.50680	261.83859	241.34787	24.05016	0.0670271	0.38797242	1.8618105	20	4 30.3	18.8
313702 2003 UH ₂₃	17.4	X	262.79093	39.60109	283.61766	4.90250	0.2520266	0.27369949	2.3493807	20	3 23.3	21.1
313703 2003 UG ₂₄	16.9	X	333.56607	274.21948	30.62639	5.38830	0.2028065	0.28147875	2.3058921	20	6 28.6	18.5
313704 2003 UL ₂₈	17.7	X	109.09397	126.64824	320.51857	4.06410	0.2021691	0.26177593	2.4201906	20	4 14.0	21.0
313705 2003 UJ ₄₂	16.0	X	53.80133	126.69613	193.71122	20.34215	0.0119994	0.17784819	3.1316250	20	11 7.9	20.6
313706 2003 UN ₅₇	17.1	X	128.95988	0.37385	54.94744	3.10310	0.2012771	0.26032288	2.4291881	20	3 28.3	20.7
313707 2003 UT ₆₁	17.3	X	215.39018	261.11263	80.50113	5.10800	0.2448888	0.26900284	2.3766477	20	3 13.1	21.4
313708 2003 UE ₆₄	16.7	X	258.92697	199.57201	148.52803	11.42646	0.1563882	0.27443476	2.3451825	20	5 8.2	20.2
313709 2003 UU ₇₄	17.2	X	210.37720	118.62602	253.54136	6.21283	0.1070455	0.27065883	2.3669436	20	4 14.9	20.7
313710 2003 UV ₇₆	17.2	X	116.59917	133.67012	279.47298	7.38910	0.2317950	0.25957810	2.4338325	20	3 10.8	20.9
313711 2003 US ₈₃	17.5	X	195.69046	47.52938	320.45178	3.98885	0.1674508	0.26685155	2.3894039	20	3 25.7	21.3
313712 2003 UO ₈₈	16.4	X	145.91002	308.03018	101.57355	10.06626	0.1715180	0.26218266	2.4176870	20	4 8.2	20.2
313713 2003 UE ₉₄	17.4	X	176.78639	83.74685	312.70745	1.29327	0.2259345	0.26761758	2.3848420	20	4 15.8	21.4
313714 2003 UC ₉₇	17.0	X	185.26566	124.44796	241.82344	0.99286	0.2343662	0.26565803	2.3965551	20	3 16.9	21.1
313715 2003 UJ ₁₁₃	16.9	X	168.16970	295.45418	130.68892	7.47602	0.0886920	0.26927614	2.3750393	20	5 15.2	20.4
313716 2003 UT ₁₁₈	17.7	X	142.09867	142.97856	259.65658	2.05166	0.1726007	0.26311026	2.4120012	20	3 20.0	21.4
313717 2003 UA ₁₂₀	17.3	X	270.12064	322.28787	7.75181	5.12482	0.1692485	0.27499502	2.3419961	20	4 19.9	20.6
313718 2003 UM ₁₂₃	17.6	X	84.89705	86.10190	40.74439	5.26022	0.1720695	0.26230544	2.4169325	20	5 4.8	20.5
313719 2003 UV ₁₂₉	17.0	X	172.15855	64.91661	334.57778	5.66767	0.1846287	0.26605541	2.3941682	20	4 12.8	20.9
313720 2003 UA ₁₃₂	17.7	X	57.62427	21.32595	342.68818	3.81891	0.2292834	0.24352357	2.5396589	20	—	—
313721 2003 UU ₁₄₉	16.6	X	177.32458	327.08205	73.04937	3.14836	0.2231443	0.26841708	2.3801041	20	4 22.4	20.5
313722 2003 UL ₁₅₁	17.3	X	181.65886	283.09570	114.15042	3.40136	0.2070969	0.26751994	2.3854223	20	4 22.7	21.0
313723 2003 US ₁₅₁	17.0	X	158.02581	294.52891	99.23174	5.88190	0.2240614	0.26319191	2.4115024	20	3 31.8	21.0
313724 2003 UF ₁₅₂	16.9	X	174.28079	22.95692	352.77432	6.40553	0.1245011	0.26405763	2.4062287	20	3 15.6	20.4
313725 2003 UF ₁₆₃	17.2	X	195.98756	286.87997	86.30721	3.71520	0.1870633	0.26747334	2.3856994	20	4 5.0	21.0
313726 2003 UM ₁₆₉	17.9	X	20.25222	173.71569	32.37612	6.89878	0.0846469	0.26856738	2.3792160	20	4 30.1	20.4
313727 2003 UF ₁₇₁	16.8	X	97.41439	189.41824	273.38946	1.51677	0.1658685	0.26116336	2.4239736	20	4 16.9	19.9
313728 2003 UH ₁₇₃	17.0	X	250.91088	97.39350	225.18332	5.13979	0.1165153	0.26884283	2.3775906	20	3 24.9	20.3
313729 2003 UG ₁₇₄	17.0	X	192.98121	0.98492	342.27996	1.13895	0.2034559	0.26356247	2.4092415	20	2 24.3	20.9
313730 2003 UC ₁₇₇	17.8	X	148.53121	134.84282	272.21739	0.85366	0.1886264	0.26477910	2.4018557	20	4 2.9	21.4
313731 2003 US ₁₈₃	17.1	X	114.24632	47.91467	39.80597	3.03592	0.1532178	0.26295695	2.4129387	20	4 16.6	20.3
313732 2003 UO ₁₈₅	16.8	X	228.92834	84.41732	255.51191	0.74318	0.2031186	0.26937330	2.3744682	20	3 20.3	20.7
313733 2003 UJ ₁₉₂	17.3	X	115.57137	53.00395	18.33921	2.09531	0.1673531	0.26086702	2.4258089	20	3 29.2	20.6
313734 2003 UP ₁₉₈	16.4	X	160.85809	292.27527	101.83356	3.45250	0.1888479	0.26451905	2.4034296	20	3 31.3	20.6
313735 2003 UC ₁₉₉	17.3	X	180.73795	155.50336	212.97984	4.07235	0.2033780	0.26584224	2.3954479	20	3 14.4	21.2
313736 2003 UE ₂₀₀	17.6	X	232.08080	158.00355	183.61287	2.18632	0.2337447	0.27077725	2.3662535	20	3 23.9	21.4
313737 2003 UK ₂₀₂	16.9	X	132.46634	286.07313	123.54532	7.56559	0.2350420	0.25980409	2.4324209	20	3 30.1	20.7
313738 2003 UF ₂₀₉	17.5	X	158.40827	247.24953	147.21643	1.45581	0.1972436	0.26344455	2.4099604	20	3 28.8	21.3
313739 2003 UQ ₂₁₃	17.1	X	138.92526	111.67250	18.52242	6.94258	0.0478769	0.27575821	2.3376729	20	7 3.4	20.2
313740 2003 UP ₂₁₉	17.7	X	135.91302	30.74323	7.24398	5.35372	0.1203853	0.26054130	2.4278304	20	3 4.4	20.9
313741 2003 UX ₂₂₁	17.4	X	108.79957	333.89852	109.61708	3.48873	0.1650677	0.26169339	2.4206995	20	4 7.6	20.6
313742 2003 UH ₂₃₀	17.2	X	113.50327	280.66339	174.09691	5.43570	0.1214801	0.26415032	2.4056658	20	4 21.9	20.3
313743 2003 UR ₂₃₆	17.0	X	197.55962	248.07498	133.96352	4.05660	0.1362941	0.26806125	2.3822099	20	4 17.9	20.6
313744 2003 UV ₂₄₁	17.2	X	331.41594	130.84241	162.03753	2.61494	0.2178336	0.27930805	2.3178238	20	5 30.1	18.9
313745 2003 UJ ₂₄₃	17.1	X	113.50171	53.68507	60.81883	3.09865	0.1500316	0.26695500	2.3887865	20	5 21.1	20.1
313746 2003 UP ₂₄₄	16.9	X	139.24293	354.98397	57.95797	7.46214	0.1560182	0.26230269	2.4169494	20	4 2.2	20.5
313747 2003 UA ₂₅₀	17.7	X	177.79010	92.82318	282.02970	2.32312	0.1336013	0.26467429	2.4024897	20	3 17.2	21.4
313748 2003 UE ₂₅₁	17.5	X	117.42142	61.83171	357.79210	3.38188	0.1656636	0.25869386	2.4393754	20	3 15.8	20.7
313749 2003 UB ₂₆₇	17.0	X	183.04457	345.16969	50.48954	7.75695	0.1122139	0.26697000	2.3886971	20	4 20.6	20.6
313750 2003 UU ₃₁₇	17.3	X	206.59214	224.95316	141.77594	4.73471	0.1714528	0.26939817	2.3743221	20	4 6.4	21.1
313751 2003 UW ₃₃₉	17.4	X	108.96557	176.49557	293.91934	1.71852	0.1418610	0.26635489	2.3923732	20	5 8.4	20.6
313752 2003 UK ₃₆₅	17.4	X	92.17797	69.58553	92.84019	7.52026	0.0305023	0.27439886	2.3453870	20	6 12.5	20.1
313753 2003 UO ₃₇₀	15.2	X	190.50774	182.92023	272.57340							

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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>
313761 2003 WP ₁₁₃	16.4	X	68.43020	84.60117	42.49225	6.93288	0.0973297	0.26003096	2.4310059	20	3 31.7	19.2
313762 2003 WS ₁₁₅	17.2	X	72.73071	59.30092	34.25276	5.77455	0.2202617	0.25366063	2.4715383	20	3 11.5	19.8
313763 2003 WQ ₁₁₆	17.3	X	89.24269	113.18560	332.44609	1.44658	0.1928644	0.25567472	2.4585414	20	3 18.2	20.2
313764 2003 WY ₁₂₈	17.3	X	80.65461	103.54741	4.70402	2.94999	0.1460537	0.25977594	2.4325966	20	3 29.2	20.1
313765 2003 WG ₁₄₅	17.4	X	112.12452	24.67192	72.41791	3.05904	0.1840414	0.26145464	2.4221729	20	5 1.2	20.7
313766 2003 WP ₁₅₆	16.9	X	270.45035	214.00605	128.82657	4.83033	0.2091416	0.27524307	2.3405888	20	5 5.6	20.1
313767 2003 WZ ₁₆₈	17.3	X	152.73433	281.45827	118.87641	6.27717	0.2927405	0.26294487	2.4130125	20	4 8.4	21.5
313768 2003 WO ₁₈₈	17.3	X	82.72883	157.96206	296.94965	1.72854	0.1693726	0.25750499	2.4468778	20	3 16.9	20.1
313769 2003 XG ₁₄	17.4	X	68.36320	211.88416	298.51639	15.63879	0.0670939	0.38197306	1.8812545	20	4 6.9	19.5
313770 2003 XG ₁₈	16.2	X	52.71154	99.93561	309.33521	11.61687	0.1979045	0.24271407	2.5453026	20	—	—
313771 2003 XR ₃₁	18.2	X	119.41267	237.38158	194.71258	1.75734	0.1668850	0.25959177	2.4337470	20	4 3.5	21.4
313772 2003 YU	17.3	X	51.04755	279.96817	277.70053	18.91928	0.0833516	0.38610440	1.8678108	20	6 13.9	18.6
313773 2003 YJ ₁	16.8	X	161.53809	52.28946	314.27004	21.00972	0.0938582	0.37212600	1.9142972	20	2 3.1	18.6
313774 2003 YM ₆	17.0	X	159.48135	84.04978	330.34488	5.92560	0.1157284	0.26368260	2.4085097	20	4 16.0	20.6
313775 2003 YA ₁₂	16.6	X	144.08343	30.18332	354.88729	8.36694	0.2284719	0.25618868	2.4552521	20	3 7.3	20.4
313776 2003 YN ₁₈	16.8	X	168.84360	258.13913	85.70238	1.89777	0.2341912	0.25695406	2.4503741	20	2 7.7	20.9
313777 2003 YZ ₁₉	17.2	X	121.72265	325.48165	81.90774	4.98865	0.1335516	0.25241923	2.4796350	20	3 3.8	20.6
313778 2003 YG ₂₁	17.4	X	42.15802	185.17565	327.15607	2.29852	0.1546635	0.25252469	2.4789446	20	3 27.2	19.7
313779 2003 YW ₂₄	16.5	X	204.70742	285.42236	69.71593	9.70224	0.2577126	0.26466440	2.4025496	20	3 23.9	20.9
313780 2003 YY ₃₀	16.9	X	129.33869	165.22738	272.30709	12.44016	0.1477326	0.26038332	2.4288122	20	4 14.3	20.7
313781 2003 YG ₄₅	16.9	X	129.20913	65.62824	11.29122	6.55391	0.1109233	0.26101054	2.4249196	20	4 13.4	20.1
313782 2003 YQ ₄₆	17.9	X	115.43715	48.27507	38.66464	3.00320	0.1297697	0.25991038	2.4317577	20	4 14.1	21.0
313783 2003 YS ₄₉	17.0	X	87.11916	210.75518	269.74985	5.38995	0.1333407	0.25874283	2.4390675	20	4 20.9	20.2
313784 2003 YY ₆₄	16.7	X	42.08137	315.97743	109.37688	15.26435	0.2422380	0.24262339	2.5459367	20	—	—
313785 2003 YQ ₆₆	17.1	X	75.81473	344.86301	124.51031	23.87285	0.0696837	0.37043703	1.9201115	20	2 29.2	18.9
313786 2003 YZ ₇₀	16.9	X	119.04105	194.67658	287.85595	4.34419	0.1778466	0.26435950	2.4043966	20	6 10.2	20.3
313787 2003 YB ₇₁	16.8	X	97.00476	64.73915	63.42889	5.75693	0.1213927	0.26225602	2.4172361	20	5 15.8	19.8
313788 2003 YX ₉₀	16.1	X	141.29809	311.21905	99.58365	15.29569	0.2326945	0.25999727	2.4312159	20	4 12.5	20.3
313789 2003 YE ₉₇	17.0	X	103.75867	265.64983	168.04131	2.60458	0.1609952	0.25562888	2.4588533	20	3 8.9	20.1
313790 2003 YL ₁₁₁	16.4	X	133.22147	242.73135	125.39402	15.07772	0.1091317	0.25402254	2.4691902	20	2 1.5	19.8
313791 2003 YO ₁₁₇	17.1	X	182.60453	61.38733	311.38489	20.02493	0.0581606	0.37516679	1.9039394	20	2 27.1	19.4
313792 2003 YO ₁₄₁	16.3	X	356.26019	63.26491	44.37850	11.89057	0.0247620	0.24094369	2.5577554	20	—	—
313793 2003 YD ₁₅₄	15.9	X	27.28663	56.30322	65.49748	15.44623	0.0809149	0.24586502	2.5235091	20	1 16.9	19.0
313794 2003 YA ₁₅₅	15.9	X	24.96246	105.72689	328.57622	16.84993	0.1488322	0.24081296	2.5586810	20	—	—
313795 2003 YH ₁₅₉	16.6	X	125.16236	87.86652	294.17965	8.84046	0.1645212	0.25307690	2.4753372	20	2 4.2	20.0
313796 2003 YV ₁₆₈	16.4	X	39.04943	244.25633	294.55940	12.14818	0.1358933	0.25773192	2.4454413	20	4 22.7	19.2
313797 2004 AA	17.6	X	99.32900	51.96693	43.09340	1.73175	0.1545791	0.25671022	2.4519255	20	4 8.5	20.8
313798 2004 AY ₄	17.3	X	110.61684	260.48166	121.61276	25.30229	0.1331337	0.36533679	1.9379405	20	—	—
313799 2004 AD ₈	16.8	X	214.35178	69.51358	272.50992	18.53339	0.1037743	0.37477875	1.9052534	20	2 21.2	19.6
313800 2004 BS ₁₂	17.5	X	41.46165	159.46545	319.42622	6.49096	0.0798491	0.24736202	2.5133176	20	2 3.3	20.1
313801 2004 BH ₁₃	14.7	X	326.42323	97.29471	107.05359	3.99950	0.1354881	0.12535058	3.9541379	20	2 15.1	19.8
313802 2004 BL ₁₆	16.2	X	41.47828	115.33947	304.29615	16.65891	0.1524508	0.24238258	2.5476227	20	—	—
313803 2004 BK ₁₇	15.7	X	333.04844	138.44018	59.49973	15.10459	0.1167375	0.24537822	2.5268456	20	2 3.6	19.0
313804 2004 BC ₂₁	17.6	X	49.86353	344.07337	124.52401	3.63710	0.1753232	0.24774132	2.5107516	20	2 10.5	19.9
313805 2004 BE ₂₂	16.5	X	40.86879	243.39586	152.71077	5.03739	0.2802195	0.23942778	2.5685401	20	—	—
313806 2004 BR ₂₂	16.4	X	283.12347	272.66803	303.11011	10.22734	0.1431044	0.24115290	2.5562759	20	—	—
313807 2004 BY ₃₄	17.0	X	23.12783	98.22450	340.84773	2.57458	0.1994993	0.23961968	2.5671686	20	—	—
313808 2004 BA ₃₉	16.4	X	83.50041	300.53085	67.17323	3.97018	0.2433949	0.24223386	2.5486653	20	—	—
313809 2004 BH ₄₁	19.3	X	319.96267	200.35033	123.20302	30.44878	0.5002426	0.75459602	1.1948857	20	4 8.7	20.9
313810 2004 BK ₅₆	15.5	X	298.11274	351.38338	141.13150	34.20664	0.1708575	0.23005358	2.6378497	20	—	—
313811 2004 BZ ₅₉	16.1	X	148.23172	358.04606	289.01014	15.74395	0.0232794	0.23377398	2.6097883	20	—	—
313812 2004 BD ₆₅	17.0	X	76.76857	312.84071	109.87254	12.61253	0.1032550	0.24565903	2.5249197	20	1 16.1	19.8
313813 2004 BA ₆₉	15.1	X	273.78657	238.67747	309.52154	32.61532	0.2787280	0.22966454	2.6408278	20	—	—
313814 2004 BU ₈₄	15.8	X	314.96302	278.68597	243.08933	13.66119	0.1160002	0.23797417	2.5789890	20	—	—
313815 2004 BW ₈₄	17.1	X	11.07029	211.71694	263.25011	4.08826	0.1914118	0.24128647	2.5553324	20	—	—
313816 2004 BN ₉₉	16.6	X	60.27656	321.52201	112.06549	5.47034	0.1253476	0.23911481	2.5707809	20	1 7.7	19.3
313817 2004 BO ₁₀₁	16.0	X	289.47778	278.34608	304.06843	26.79482	0.3077911	0.23742979	2.5829296	20	—	—
313818 2004 BR ₁₀₂	16.5	X	309.86833	288.65283	263.31309	10.54741	0.2101724	0.24019223	2.5630874	20	—	—
313819 2004 BH ₁₁₉	16.3	X	281.80724	75.44760	97.14393	13.78352	0.1927106	0.23166589	2.6255965	20	—	—
313820 2004 BP ₁₂₁	16.3	X	55.75778	52.30298	29.56875	16.96073	0.1931035	0.24360477	2.5390945	20	1 22.2	19.1
313821 2004 BY ₁₂₉	17.5	X	96.83606	237.27782	145.61884	3.61344	0.1698371	0.24397767	2.5365066	20	1 3.0	20.4
313822 2004 BS ₁₄₆	14.5	X	2.39423	57.38828	122.14971	5.12926	0.0862476	0.12723814	3.9149345	20	3 12.2	19.5
313823 2004 CM ₁	17.5	X	268.11460	292.93476	323.76188	18.25097	0.0431915	0.36624572	1.9347329	20	1 16.1	19.7
313824 2004 CW ₁	16.8	X	156.70179	20.75195	343.83687	21.58661	0.1299508	0.36831564	1.9274773	20	2 6.9	19.2
313825 2004 CK ₂	17.3	X	205.90218	9.46130	324.10772	18.33118	0.0486094	0.36782348	1.9291963	20	2 10.3	19.4
313826 2004 CT ₄	16.1	X	294.36277	255.71676	335.43244	14.61433	0.0875567	0.24462732	2.5320138	20	1 29.1	19.6
313827 2004 CG ₅	16.5	X	11.50801	343.67609	122.46130	13.20569	0.1154672	0.23885236	2.5726637	20	—	—
313828 2004 CW ₁₃	17.4	X	359.01325	36.61089	104.05238	2.00854	0.1824964	0.24115780	2.5562413	20	—	—
313829 2004 CG ₁₄	17.1	X	56.51491	15.28019	77.86923	2.43860	0.0826238	0.24508910	2.5288324	20	1 23.9	19.8
313830 2004 CD ₂₂	17.0	X	327.38392	19.98525	163.13990	7.04457	0.2365643	0.24016670	2.5632691	20	—	—
313831 2004 CW ₂₂	16.9	X	120.04377	11.69510	47.80020	2.84529	0.1742930	0.25269565	2.4778264	20	3 21.4	20.4
313832 2004 CE ₂₇	16.9	X	37.79983	288.72714	145.47060	12.28429	0.3181195	0.24125427	2.5555598	20	—	—
313833 2004 CS ₅₀	15.8	X	347.72184	89.14488	42.60438	27.47679	0.2562199	0.23857254	2.5746750	20	—	—
313834 2004 CU ₅₆	17.3	X	33.07288	81.57471	347.07775	18.31647	0.0911739	0.35801934	1.96			

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>
313841 2004 DV ₂₂	16.5	X	27.58166	54.51583	47.46592	5.05344	0.1952452	0.23951742	2.5678992	20	—	—
313842 2004 DC ₂₅	17.7	X	24.25096	56.04210	168.36853	24.77937	0.0946711	0.37850988	1.8927121	20	6 11.4	20.0
313843 2004 DQ ₂₆	16.9	X	314.74883	95.38330	131.30094	9.91639	0.1855717	0.24515711	2.5283647	20	1 31.2	20.2
313844 2004 DM ₄₅	17.2	X	248.09588	260.00651	5.90769	20.86071	0.0637481	0.36107010	1.9531774	20	—	—
313845 2004 DZ ₅₈	16.5	X	8.79538	260.70394	344.50147	7.27598	0.0483577	0.25790508	2.4443466	20	6 6.6	19.5
313846 2004 DL ₆₂	16.2	X	261.53646	74.88267	170.60123	27.50507	0.3216287	0.23050724	2.6343876	20	—	—
313847 2004 EF ₃₂	15.4	X	152.97494	216.36740	295.54824	13.97691	0.0844858	0.20428097	2.8552936	20	8 11.4	19.8
313848 2004 EQ ₃₃	17.7	X	82.49472	232.80612	174.22804	23.39433	0.0916945	0.35872321	1.9616871	20	—	—
313849 2004 EY ₃₇	17.2	X	348.53479	3.25137	186.61458	5.23572	0.2103786	0.24341639	2.5404043	20	1 28.6	19.9
313850 2004 EO ₃₉	16.7	X	274.58104	74.95607	177.21087	12.02799	0.1361582	0.23940728	2.5686868	20	1 22.0	20.6
313851 2004 EB ₄₁	17.4	X	358.06513	201.62682	342.26166	7.02321	0.2021464	0.24395606	2.5366564	20	2 11.8	19.6
313852 2004 ED ₄₃	16.8	X	351.25093	9.31791	164.19309	5.98502	0.2241038	0.24117948	2.5560881	20	1 9.5	19.5
313853 2004 EV ₆₂	16.7	X	265.25035	266.35762	336.94408	12.11472	0.1245184	0.23723571	2.5843381	20	1 7.1	20.7
313854 2004 EE ₉₅	15.9	X	152.34552	176.48841	121.37756	12.96523	0.1775407	0.22191972	2.7019177	20	—	—
313855 2004 EF ₁₁₄	15.9	X	355.95533	158.85087	344.03858	22.05712	0.0061342	0.23443847	2.6048545	20	1 11.4	19.8
313856 2004 FK	16.6	X	95.49424	219.87882	186.72926	26.76437	0.0837399	0.36042407	1.9555107	20	—	—
313857 2004 FS ₇	16.3	X	44.97700	280.51773	179.83696	26.88601	0.3170001	0.24300626	2.5432619	20	1 28.6	18.6
313858 2004 FZ ₉	16.8	X	287.08531	261.28626	341.72778	11.70530	0.1375693	0.24090421	2.5580349	20	1 28.9	20.5
313859 2004 FM ₆₅	16.9	X	34.16464	67.79229	61.59538	4.66221	0.2295294	0.24208582	2.5497043	20	2 14.0	18.8
313860 2004 FJ ₆₈	15.9	X	206.29541	141.66933	48.91242	10.12362	0.1114131	0.21604152	2.7507085	20	11 26.0	20.0
313861 2004 FL ₁₁₂	17.1	X	341.25808	311.89021	218.52381	2.35637	0.1405632	0.23876041	2.5733242	20	1 2.6	20.0
313862 2004 FB ₁₂₁	15.7	X	309.80157	170.85630	35.52337	30.50540	0.1649874	0.23635345	2.5907654	20	1 2.6	19.9
313863 2004 FT ₁₂₂	17.4	X	321.02241	237.16437	349.56920	19.53340	0.0469010	0.36412671	1.9422317	20	2 19.0	19.4
313864 2004 FC ₁₃₁	16.2	X	277.31498	136.27825	87.74510	13.45593	0.1514153	0.23382403	2.6094158	20	—	—
313865 2004 FK ₁₃₆	16.2	X	211.32592	75.24179	180.41889	28.10130	0.2582984	0.22343163	2.6897151	20	—	—
313866 2004 FW ₁₃₉	16.0	X	301.94755	200.23372	346.66624	33.06602	0.1434302	0.23284797	2.6167029	20	—	—
313867 2004 FP ₁₄₃	16.6	X	268.64821	130.54715	90.68423	13.36261	0.2784357	0.23018987	2.6368084	20	—	—
313868 2004 FC ₁₄₄	17.2	X	22.99343	264.38231	216.07711	2.76159	0.1286295	0.23919754	2.5701881	20	1 5.7	19.8
313869 2004 GG ₁₅	15.9	X	230.06685	147.60218	110.39192	18.38220	0.1758307	0.22990746	2.6389673	20	—	—
313870 2004 GJ ₁₈	15.8	X	299.99216	53.03155	169.11147	18.88250	0.2127870	0.23389102	2.6089175	20	1 5.2	20.0
313871 2004 GH ₁₉	16.3	X	38.09879	348.78276	140.30379	30.99259	0.1582266	0.24173862	2.5521451	20	2 16.8	18.6
313872 2004 GE ₂₇	15.9	X	197.16518	146.35978	116.35926	15.05247	0.1814554	0.22181217	2.7027910	20	—	—
313873 2004 GB ₃₄	15.7	X	279.17762	112.03472	63.43015	13.04616	0.1117092	0.22413163	2.6841119	20	—	—
313874 2004 GG ₃₅	16.8	X	304.99222	146.15285	25.44011	4.35643	0.1800380	0.23151309	2.6267517	20	—	—
313875 2004 GN ₃₆	16.7	X	285.67255	184.92362	26.72808	15.05827	0.2142120	0.23144140	2.6272940	20	—	—
313876 2004 GF ₄₈	16.4	X	101.18349	268.97830	34.04535	9.04164	0.1727283	0.21365883	2.7711210	20	12 30.8	21.0
313877 2004 GS ₄₉	17.2	X	313.86728	146.17617	2.89166	4.20101	0.1632495	0.22960529	2.6412821	20	—	—
313878 2004 GU ₇₃	16.6	X	251.44154	147.75784	104.27678	5.96830	0.2939197	0.23037980	2.6353590	20	—	—
313879 2004 GT ₇₇	16.0	X	221.76052	126.65389	120.77394	15.56085	0.0987677	0.22609579	2.6685442	20	—	—
313880 2004 GB ₇₈	16.2	X	321.03859	135.43586	21.97107	15.32994	0.1558599	0.23049723	2.6344639	20	—	—
313881 2004 HX	15.5	X	121.72396	232.39530	57.39212	28.96435	0.2181333	0.21309525	2.7760047	20	12 30.5	20.6
313882 2004 HX ₂	17.1	X	334.35736	102.77141	107.05474	5.06390	0.2616012	0.24058291	2.5603119	20	1 25.9	19.9
313883 2004 HU ₈	16.7	X	281.56257	114.60031	104.76176	4.21539	0.1248410	0.23249403	2.6193579	20	—	—
313884 2004 HU ₁₅	17.2	X	348.47652	259.95382	226.73097	2.79734	0.1575755	0.23160779	2.6260356	20	—	—
313885 2004 HU ₃₇	16.7	X	268.41364	179.87072	2.22607	3.10971	0.1214115	0.22541785	2.6738919	20	—	—
313886 2004 HO ₄₆	17.5	X	344.22371	115.10725	46.41950	3.31521	0.1033445	0.23527704	2.5986613	20	1 1.9	20.7
313887 2004 HH ₄₈	16.5	X	262.17843	306.82321	270.37963	11.47188	0.1930545	0.22907017	2.6453940	20	—	—
313888 2004 HK ₄₈	16.2	X	236.49954	293.13502	271.20629	11.20944	0.1068410	0.22316324	2.6918712	20	—	—
313889 2004 HD ₆₂	15.9	X	315.57403	258.48098	312.54871	27.13114	0.3549978	0.23336298	2.6128516	20	—	—
313890 2004 HJ ₆₆	16.2	X	334.10333	62.74919	96.48297	15.58082	0.1028763	0.23052321	2.6342659	20	—	—
313891 2004 HW ₇₀	15.9	X	171.98371	134.83012	124.04677	9.47837	0.1178083	0.21760668	2.7375028	20	—	—
313892 2004 JF	16.7	X	343.35835	98.06517	45.31624	13.20638	0.2259804	0.23318780	2.6141600	20	—	—
313893 2004 JO ₁₀	16.1	X	312.45164	79.83446	120.05310	8.41575	0.1480429	0.23407151	2.6075762	20	1 1.3	19.7
313894 2004 JT ₄₇	16.7	X	345.36823	66.43481	68.26304	8.97584	0.1561497	0.22987604	2.6392077	20	—	—
313895 2004 KA ₁₆	15.7	X	209.32569	143.09538	125.92893	15.13165	0.1426996	0.22291742	2.6938498	20	—	—
313896 2004 KY ₁₈	12.8	X	302.42020	263.50452	149.25234	15.97444	0.0927194	0.08007773	5.3308306	20	9 20.6	19.6
313897 2004 LX ₃	16.4	X	260.84878	303.27888	283.68548	10.12001	0.2530949	0.22792848	2.6542204	20	—	—
313898 2004 LD ₄	15.5	X	100.21094	152.53077	161.78044	14.91080	0.2081526	0.20373670	2.8603765	20	—	—
313899 2004 LR ₄	16.1	X	250.90976	96.11296	135.32308	13.14448	0.2284323	0.22543953	2.6737205	20	—	—
313900 2004 ND ₃	15.9	X	291.28282	135.95537	107.97246	13.54829	0.2712051	0.23111635	2.6297569	20	1 17.4	19.9
313901 2004 NA ₆	16.1	X	234.67551	118.77057	143.50130	6.41313	0.2573797	0.22303783	2.6928801	20	—	—
313902 2004 NE ₁₂	16.2	X	224.18862	210.43350	107.05651	14.14095	0.1756565	0.22644549	2.6657961	20	2 26.5	20.7
313903 2004 NH ₁₉	16.0	X	178.56006	153.65624	134.41450	13.33228	0.1586821	0.21584798	2.7523525	20	—	—
313904 2004 NE ₂₃	15.4	X	58.59593	15.21517	134.18105	20.18902	0.1174759	0.19681015	2.9271010	20	12 11.6	19.9
313905 2004 NB ₂₉	15.8	X	343.58390	191.46884	139.48996	16.79584	0.1837463	0.18611792	3.0381597	20	8 23.7	18.9
313906 2004 PP ₁	15.7	X	341.11479	15.37068	333.25354	7.33351	0.2234305	0.18501912	3.0501765	20	9 10.3	18.5
313907 2004 PO ₂₆	15.7	X	321.28330	340.28350	344.41607	10.06336	0.1233955	0.17771131	3.1332328	20	7 7.4	19.7
313908 2004 PO ₂₉	16.0	X	312.13496	204.32511	142.04337	9.80499	0.1258963	0.18072366	3.0983184	20	7 19.1	20.0
313909 2004 PF ₄₉	15.6	X	299.51318	252.07275	121.70626	14.67388	0.2331994	0.18184373	3.0855825	20	7 20.2	19.1
313910 2004 PO ₆₃	16.0	X	312.41916	85.18338	267.08656	8.00490	0.1119365	0.18262211	3.0768086	20	7 27.9	20.0
313911 2004 PE ₇₂	16.1	X	171.95240	147.47043	133.48067	15.30130	0.1357034	0.21140915	2.7907452	20	—	—
313912 2004 PY ₇₉	15.9	X	359.41700	28.23744	351.57359	7.54255	0.1130824	0.19529200	2.9422512	20	11 21.9	19.6
313913 2004 PP ₈₂	15.3	X	335.74658	42.45088	342.89015	12.77056	0.1629782	0.18936048	3.0033768	20	10 17.2	18.9
313914 2004 PF ₁₀₃	17.1	X	217.84585	175.81490	221.78785	5.54470	0.2552214	0.29204495	2.2499330	20	5 20.4	20.9
313915 2004 PW ₁₀₈	17.7	X										

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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>
313921 Daassou	15.2	X	261.32052	165.31220	208.18681	13.03697	0.2291435	0.17381984	3.1798245	20	6 1.7	20.2
313922 2004 RG ₇	15.1	X	306.12403	206.39410	144.35730	18.38478	0.2080108	0.17813450	3.1282685	20	7 4.2	19.2
313923 2004 RK ₁₇	15.8	X	91.28722	106.90125	176.38935	9.61959	0.0269659	0.19354230	2.9599573	20	11 13.2	20.1
313924 2004 RA ₂₆	15.8	X	239.91684	258.63682	156.76256	9.09216	0.2069311	0.17320669	3.1873245	20	7 3.4	20.9
313925 2004 RY ₃₆	16.0	X	267.50943	236.82562	165.12023	12.89965	0.1593199	0.17852207	3.1237393	20	7 21.9	20.6
313926 2004 RM ₅₉	15.3	X	294.62557	177.71344	166.57179	17.89268	0.2178656	0.17474001	3.1686515	20	6 7.9	19.9
313927 2004 RQ ₅₉	15.2	X	297.76352	332.30343	16.23541	17.11972	0.2017387	0.17579382	3.1559757	20	6 16.6	19.6
313928 2004 RM ₆₀	15.9	X	293.92245	164.85899	180.95382	7.32006	0.1689097	0.17561929	3.1580662	20	6 14.7	20.2
313929 2004 RN ₈₁	15.5	X	269.19048	57.26767	345.19078	15.02470	0.1690280	0.17746043	3.1361852	20	7 29.3	20.1
313930 2004 RF ₈₅	15.7	X	224.06953	69.37240	15.78580	9.30092	0.0843633	0.17495054	3.1661090	20	8 9.3	20.5
313931 2004 RT ₉₀	16.2	X	298.65639	57.41645	290.37674	10.53964	0.1853561	0.17834398	3.1258184	20	6 21.9	20.1
313932 2004 RQ ₉₂	16.4	X	177.23384	309.24429	314.54902	11.41777	0.2123578	0.20943529	2.8082525	20	—	—
313933 2004 RH ₉₅	16.1	X	344.08647	128.25937	205.35172	4.03070	0.1368444	0.18485111	3.0520244	20	8 25.6	19.6
313934 2004 RL ₉₅	16.1	X	338.42093	29.11028	213.91341	10.21794	0.1423163	0.18492058	3.0512600	20	8 27.2	19.7
313935 2004 RN ₉₇	16.0	X	346.36340	150.15018	315.87002	3.09773	0.0651184	0.18887448	3.0085266	20	10 12.2	19.8
313936 2004 RS ₉₈	15.6	X	338.66544	6.20576	322.04542	11.05583	0.1274318	0.18120384	3.0928423	20	8 10.1	19.0
313937 2004 RP ₉₉	16.0	X	268.17627	50.63760	312.62797	4.16046	0.2193573	0.17336141	3.1854278	20	5 28.5	20.8
313938 2004 RB ₁₀₁	15.4	X	242.20865	91.23171	322.23617	8.08051	0.0533994	0.17652853	3.1472129	20	7 22.9	19.9
313939 2004 RH ₁₀₁	15.7	X	315.22752	142.99819	199.19630	4.34683	0.1423201	0.17847404	3.1242996	20	7 15.9	19.6
313940 2004 RN ₁₂₈	15.8	X	212.13832	77.71292	343.84175	12.68729	0.1092228	0.17234767	3.1979065	20	6 22.8	20.9
313941 2004 RV ₁₄₇	16.0	X	252.35422	46.64308	3.76520	9.66268	0.1078136	0.17730556	3.1380111	20	7 25.9	20.7
313942 2004 RW ₁₄₇	15.5	X	311.70667	10.27307	352.36798	14.58359	0.1654382	0.17960730	3.1111436	20	8 10.4	19.3
313943 2004 RR ₁₅₁	16.4	X	322.78134	47.86544	318.01351	4.07575	0.0420714	0.18455178	3.0553237	20	9 6.9	20.5
313944 2004 RZ ₁₅₅	15.2	X	190.55671	124.13403	341.33141	10.76936	0.0302508	0.17728907	3.1382057	20	7 30.7	19.8
313945 2004 RR ₁₅₉	16.2	X	109.59184	31.13072	317.65916	10.36918	0.0369167	0.18496444	3.0507777	20	9 12.5	20.6
313946 2004 RR ₁₅₉	15.3	X	260.37059	109.49558	269.57413	8.88811	0.1323495	0.17205105	3.2015811	20	6 19.2	20.0
313947 2004 RO ₁₇₇	15.9	X	215.09455	120.75747	306.09078	9.17154	0.2373371	0.17020248	3.2247209	20	6 23.9	21.4
313948 2004 RK ₁₇₈	15.6	X	298.13069	39.95068	300.95643	9.47582	0.0587014	0.17459219	3.1704398	20	6 30.7	19.8
313949 2004 RJ ₁₈₀	15.9	X	142.04616	321.60583	306.07374	7.44563	0.2003082	0.20102231	2.8860679	20	12 21.8	20.8
313950 2004 RV ₁₈₂	17.2	X	155.39169	56.58776	318.73831	6.23664	0.1531025	0.28041843	2.3117011	20	2 24.5	20.5
313951 2004 RQ ₁₉₅	15.0	X	189.63148	119.88221	339.86419	15.70899	0.1916606	0.17032711	3.2231476	20	7 17.8	20.6
313952 2004 RT ₁₉₇	15.4	X	56.46411	341.73235	343.85497	9.79882	0.1085262	0.19211724	2.9745766	20	11 29.8	19.8
313953 2004 RK ₁₉₈	15.6	X	277.11904	42.48076	340.09409	14.16338	0.1874686	0.17278824	3.1924684	20	7 9.3	20.3
313954 2004 RC ₂₀₄	15.8	X	3.55429	34.65789	280.54962	17.83789	0.1679449	0.18341888	3.0678917	20	8 29.0	19.6
313955 2004 RF ₂₁₅	15.3	X	173.42850	128.03670	333.35478	19.32448	0.1458041	0.16864778	3.2445088	20	7 6.2	20.8
313956 2004 RB ₂₃₇	15.8	X	18.24195	111.20535	187.90834	9.31905	0.1013769	0.18323580	3.0699349	20	9 3.3	19.7
313957 2004 RJ ₂₅₀	16.2	X	326.26294	30.94521	336.38201	4.54848	0.1533217	0.18271255	3.0757932	20	9 8.4	19.5
313958 2004 RT ₂₅₅	15.3	X	355.24910	197.31421	117.88382	20.19721	0.2183675	0.18094116	3.0958349	20	8 30.0	18.7
313959 2004 RB ₂₇₂	16.3	X	219.58061	263.97533	161.09851	9.58456	0.0730075	0.17455350	3.1709082	20	7 6.8	21.2
313960 2004 RH ₃₀₁	16.2	X	73.41832	197.96445	118.25378	1.30797	0.0159327	0.19412874	2.9539932	20	11 28.9	20.2
313961 2004 RM ₃₀₇	15.4	X	240.39678	21.75850	353.25873	15.54225	0.0634308	0.16937085	3.2352680	20	5 26.4	20.4
313962 2004 RT ₃₁₂	15.3	X	202.71846	121.75675	324.53994	26.32898	0.2488506	0.16910237	3.2386915	20	7 12.9	21.1
313963 2004 RS ₃₃₈	16.0	X	261.34955	247.06440	118.79926	2.21233	0.0414334	0.16871748	3.2436152	20	6 16.3	20.6
313964 2004 RL ₃₄₀	14.8	X	317.41288	12.55214	316.68927	22.35410	0.0897242	0.17382452	3.1797646	20	7 13.5	19.1
313965 2004 RQ ₃₄₃	15.0	X	250.54439	155.06287	242.01400	21.75261	0.1254065	0.17112050	3.2131773	20	6 28.0	20.0
313966 2004 RJ ₃₄₆	15.4	X	322.95726	305.81379	19.71341	9.32365	0.0929657	0.17699556	3.1416742	20	7 14.4	19.5
313967 2004 SN ₁	16.2	X	294.10172	169.62454	183.14479	6.22828	0.1000668	0.17626791	3.1503143	20	7 3.5	20.5
313968 2004 SF ₂₉	15.6	X	9.81152	337.52494	359.92503	15.43731	0.1327271	0.18628983	3.0362902	20	10 12.3	19.4
313969 2004 SE ₃₈	16.1	X	216.63947	129.05576	335.63827	11.39500	0.0661486	0.18231128	3.0803047	20	8 24.7	20.6
313970 2004 SG ₅₉	17.5	X	204.20521	73.12182	314.42787	6.08243	0.1957900	0.28817571	2.2700276	20	4 24.8	21.2
313971 2004 TZ ₁	15.9	X	321.35830	124.87722	210.75021	4.56253	0.2420898	0.17776015	3.1326590	20	7 5.1	19.3
313972 2004 TL ₆	15.5	X	308.89602	228.36339	120.78599	11.54018	0.2219347	0.17812413	3.1238399	20	7 4.2	19.2
313973 2004 TD ₁₁	15.3	X	340.13093	82.48160	261.19995	22.30041	0.1587226	0.18117456	3.0931756	20	8 19.9	19.3
313974 2004 TW ₅₆	17.9	X	220.08200	165.88120	309.76484	2.09792	0.0515716	0.30722189	2.1752104	20	9 29.6	20.3
313975 2004 TU ₅₈	16.3	X	93.08986	101.45305	178.14465	1.53586	0.0941347	0.19084912	2.9877386	20	11 15.6	20.8
313976 2004 TF ₆₁	18.0	X	198.08014	301.02296	94.66150	3.97267	0.1704286	0.28960559	2.2625495	20	5 4.5	21.4
313977 2004 TQ ₆₂	18.2	X	350.87666	99.85453	236.26566	2.61619	0.2242607	0.30828611	2.1702016	20	10 23.8	19.5
313978 2004 TZ ₆₅	16.8	X	94.63696	346.82516	41.18554	7.01108	0.1371268	0.26997334	2.3709486	20	—	—
313979 2004 TN ₇₈	15.1	X	237.94331	82.08809	329.63888	17.10236	0.1559342	0.17068247	3.2186723	20	7 5.6	20.3
313980 2004 TW ₇₉	15.8	X	200.11814	134.21365	359.04232	10.74299	0.0721393	0.18069396	3.0986578	20	9 10.8	20.3
313981 2004 TJ ₈₀	15.9	X	161.17176	217.71354	354.23862	8.71761	0.0830660	0.18920618	3.0050094	20	10 31.4	20.6
313982 2004 TU ₈₄	15.3	X	352.67273	259.88501	12.93360	12.84030	0.0314443	0.17028118	3.2237272	20	6 18.9	19.9
313983 2004 TX ₉₀	15.7	X	49.90331	47.46088	216.34236	15.15870	0.1370535	0.17865752	3.1221601	20	9 4.9	20.2
313984 2004 TY ₉₃	15.8	X	178.21378	76.33767	22.54574	11.53750	0.1275996	0.16696842	3.2662280	20	7 4.7	21.2
313985 2004 TG ₁₀₂	15.5	X	8.08680	33.68853	308.72722	8.01334	0.1351800	0.18536018	3.0464339	20	10 15.9	19.4
313986 2004 TQ ₁₁₉	15.8	X	291.94309	69.74877	281.75792	9.20867	0.1045853	0.17377307	3.1803950	20	6 28.8	20.1
313987 2004 TV ₁₂₄	15.6	X	353.72952	310.57881	10.90800	9.38426	0.0661787	0.18015966	3.1047813	20	8 28.6	19.7
313988 2004 TR ₁₃₃	16.8	X	106.96002	1.70933	29.54470	5.86598	0.2295270	0.27036027	2.3686859	20	2 4.7	19.7
313989 2004 TZ ₁₃₈	15.7	X	266.28335	56.07932	336.08255	10.76450	0.0697753	0.17508588	3.1644772	20	7 24.7	20.2
313990 2004 TT ₁₄₇	15.6	X	172.57775	180.49613	8.03458	11.60242	0.0023491	0.18555198	3.0443342	20	10 18.5	19.8
313991 2004 TW ₁₇₁	15.3	X	353.78716	50.96803	285.74448	16.56851	0.1048255	0.17933202	3.1143266	20	9 5.8	19.5
313992 2004 TA ₁₈₃	15.3	X	104.27279	201.71899	6.95297	14.98450	0.1020250	0.17804158	3.1293569	20	9 5.7	20.1
313993 2004 TZ ₁₉₄	15.3	X	345.84238	143.46543	213.18867							

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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>
314001 2004 TU ₃₄₆	15.6	X	252.98965	132.01156	262.97481	4.55606	0.1580158	0.16993264	3.2281337	20	6 27.3	20.5
314002 2004 TA ₃₄₈	15.7	X	262.93623	39.75434	344.77901	8.08299	0.1213035	0.17657192	3.1466972	20	7 1.9	20.3
314003 2004 TO ₃₅₉	15.2	X	134.52504	311.09201	293.10216	9.03147	0.0585060	0.19017461	2.9947991	20	11 11.9	19.8
314004 2004 TG ₃₆₆	17.3	X	346.00679	255.32927	85.97019	5.62318	0.2381626	0.30682630	2.1770797	20	10 26.7	18.5
314005 2004 UK	16.5	X	190.75657	273.30221	170.34932	21.04926	0.3736310	0.28651539	2.2787888	20	6 24.1	21.3
314006 2004 UX ₃	17.3	X	219.55542	352.13748	313.65940	3.69686	0.2252323	0.28145456	2.3060242	20	1 30.0	21.2
314007 2004 UO ₅	17.2	X	290.43981	28.12224	0.13877	7.86133	0.1074031	0.30275893	2.1965347	20	9 1.8	19.1
314008 2004 UW ₇	17.5	X	260.11155	23.19527	7.86545	3.95023	0.1799071	0.29723281	2.2236762	20	7 2.8	20.2
314009 2004 VR ₂₂	15.4	X	305.87021	113.33602	241.89841	7.54439	0.1385202	0.17208052	3.2012154	20	7 17.5	19.6
314010 2004 VO ₂₃	16.8	X	284.12866	130.60263	242.99099	6.15094	0.1721474	0.29817956	2.2189668	20	7 12.7	19.0
314011 2004 VV ₂₈	15.6	X	211.76074	4.91686	70.30473	7.23682	0.0997864	0.16722318	3.2629098	20	7 9.5	20.7
314012 2004 VS ₆₃	16.8	X	271.48224	297.10581	79.13050	8.97104	0.2313373	0.29696172	2.2250293	20	6 17.5	19.5
314013 2004 VA ₈₁	18.4	X	245.18678	263.04034	167.49767	1.69254	0.1280073	0.29908843	2.2144692	20	8 17.2	21.1
314014 2004 VV ₉₉	16.3	X	55.29026	44.13109	209.53722	0.94129	0.1597217	0.17588632	3.1551800	20	9 6.7	20.7
314015 2004 VK ₁₁₂	15.2	X	213.39431	219.48845	223.54021	16.06235	0.1417576	0.16998220	3.2275061	20	7 13.6	20.6
314016 2004 VC ₁₃₀	17.9	X	217.66390	247.58566	161.04204	3.14009	0.1651585	0.29080926	2.2563020	20	6 9.4	21.3
314017 2004 WO ₃	15.1	X	236.76092	348.99358	64.61898	9.32977	0.2216493	0.16755992	3.2584589	20	7 20.2	19.8
314018 2004 WK ₅	15.0	X	358.87501	321.83797	9.72861	9.61810	0.1127885	0.17871402	3.1215021	20	9 19.1	18.7
314019 2004 WP ₁₁	18.2	X	225.44522	274.98813	180.37987	1.95182	0.1091225	0.29897094	2.2150493	20	8 29.3	20.7
314020 2004 XF ₉	16.7	X	255.56434	301.89895	56.54037	8.67788	0.1446009	0.28926504	2.2643249	20	5 15.7	19.6
314021 2004 XP ₁₉	17.5	X	144.03647	345.25524	124.51526	0.78385	0.1759620	0.28403989	2.2920099	20	6 18.9	21.1
314022 2004 XR ₂₀	16.8	X	153.71941	213.99832	244.01942	5.24411	0.1353763	0.28397599	2.2923537	20	6 10.9	20.0
314023 2004 XS ₂₅	17.3	X	215.47952	117.52003	305.95498	3.95114	0.2246088	0.28948970	2.2631533	20	6 22.8	20.8
314024 2004 XH ₃₀	17.7	X	300.42549	180.81373	172.42431	1.47373	0.0756493	0.29645968	2.2275406	20	7 26.8	19.9
314025 2004 XO ₃₂	17.4	X	279.44037	99.20159	261.68853	2.24503	0.1821565	0.29415325	2.2391694	20	6 14.6	19.8
314026 2004 XH ₄₀	17.0	X	289.22807	97.68753	275.32522	6.48191	0.1896551	0.29741603	2.2227629	20	7 18.0	19.2
314027 2004 XJ ₄₈	17.1	X	262.33840	274.72496	98.85278	7.22006	0.1825120	0.29178445	2.2512719	20	6 9.8	20.1
314028 2004 XO ₆₄	17.7	X	208.77034	33.98138	56.31349	4.51585	0.1220989	0.29203296	2.2499946	20	8 1.2	20.8
314029 2004 XJ ₇₆	17.4	X	239.09768	130.33174	254.85650	3.32224	0.1534427	0.28966446	2.2622430	20	6 1.3	20.3
314030 2004 XK ₉₄	17.7	X	261.01554	276.29188	86.92310	7.72297	0.1970280	0.29003731	2.2603037	20	5 23.1	20.7
314031 2004 XZ ₁₀₆	16.9	X	256.93747	333.49573	42.85558	6.53249	0.1708752	0.29164204	2.2520047	20	6 7.3	19.9
314032 2004 XB ₁₀₇	17.9	X	309.44516	3.53654	22.97541	2.59963	0.1682373	0.30440401	2.1886138	20	10 1.4	19.1
314033 2004 XC ₁₀₇	17.7	X	285.21860	7.67696	0.75007	2.59552	0.2030269	0.29865491	2.2166116	20	6 25.4	20.0
314034 2004 XW ₁₁₉	17.7	X	158.22142	198.21625	277.36658	2.29577	0.1683186	0.28491884	2.2872937	20	7 10.1	21.0
314035 2004 XS ₁₄₂	17.8	X	298.55903	335.42570	10.30664	4.25267	0.1702483	0.29482111	2.2357865	20	6 25.7	19.9
314036 2004 YY ₅	15.1	X	321.80467	262.33760	78.95646	8.11573	0.1640947	0.17057106	3.2200738	20	7 25.4	18.9
314037 2004 YT ₂₁	17.3	X	103.48090	273.39236	299.77292	4.85740	0.1108841	0.28870553	2.2672495	20	9 17.2	20.6
314038 2004 YB ₃₂	17.5	X	55.88178	66.04331	25.84026	7.32111	0.2258683	0.26448530	2.4036341	20	2 2.6	19.4
314039 2004 YT ₃₆	17.2	X	212.23019	253.39569	119.76940	7.71302	0.1294323	0.27811766	2.3244329	20	4 22.8	20.7
314040 Tavnanes	17.2	X	64.90072	255.33359	287.59847	4.36708	0.0809983	0.27920843	2.3183751	20	6 10.2	19.7
314041 2005 AT ₂	17.5	X	165.47946	118.50832	333.39418	3.00346	0.1670088	0.28204566	2.3028012	20	6 15.4	21.1
314042 2005 AF ₃	17.0	X	235.20546	309.72975	62.19827	7.14927	0.1598919	0.28464373	2.2887673	20	5 10.0	20.4
314043 2005 AM ₄	17.3	X	218.34290	85.63138	331.73573	5.40056	0.1790177	0.28829310	2.2694113	20	6 20.7	20.7
314044 2005 AP ₅	17.7	X	167.86421	81.73198	36.51212	4.45703	0.1547033	0.28648263	2.2789625	20	7 24.6	21.2
314045 2005 AC ₇	17.1	X	199.71936	359.15951	88.62128	6.76207	0.0796458	0.28653678	2.2786754	20	7 20.2	20.1
314046 2005 AB ₁₂	16.9	X	200.28035	70.21536	352.02260	5.44373	0.2013919	0.28457407	2.2891408	20	6 7.6	20.7
314047 2005 AS ₁₃	17.7	X	189.99685	15.20106	51.81890	4.35000	0.1578991	0.28472863	2.2883123	20	6 5.9	21.2
314048 2005 AR ₁₄	17.5	X	175.66593	89.96790	20.67647	5.62680	0.1754581	0.28767977	2.2726358	20	7 22.1	21.1
314049 2005 AH ₁₅	17.2	X	195.81713	331.73651	83.34193	6.69277	0.1543315	0.28324684	2.2962861	20	5 27.7	20.7
314050 2005 AU ₁₇	17.3	X	197.22626	316.95519	107.69026	4.84835	0.2330262	0.28529533	2.2852810	20	6 8.1	21.2
314051 2005 AM ₂₁	17.7	X	182.80396	31.78923	16.75298	3.33702	0.1605355	0.27927414	2.3180114	20	5 5.1	21.2
314052 2005 AW ₂₄	17.3	X	183.99457	340.08749	108.41527	4.64118	0.1487615	0.28454095	2.2893184	20	6 29.3	20.8
314053 2005 AG ₂₉	17.5	X	201.88429	203.92293	242.86973	1.72484	0.0577652	0.28797336	2.3110908	20	7 22.3	20.3
314054 2005 AJ ₃₄	18.0	X	75.48180	323.25665	196.71144	0.93455	0.1317360	0.27590810	2.3368262	20	6 1.3	20.5
314055 2005 AK ₃₆	17.3	X	150.44369	318.97635	173.02602	4.09741	0.1653877	0.28425438	2.2908568	20	7 23.6	20.8
314056 2005 AZ ₃₈	17.8	X	109.45401	103.39238	34.17142	2.94216	0.1531277	0.27765918	2.3269909	20	6 17.5	21.0
314057 2005 AN ₃₉	17.1	X	83.77401	8.89207	141.47429	7.80534	0.2006215	0.27415336	2.3467869	20	6 11.4	20.2
314058 2005 AU ₄₅	17.2	X	214.58098	331.38580	111.17092	5.45885	0.0791116	0.28783110	2.2718391	20	7 31.5	20.0
314059 2005 AZ ₅₂	17.3	X	176.64320	231.05899	247.33358	6.65782	0.1476946	0.28785222	2.2717280	20	7 30.2	20.7
314060 2005 AQ ₅₈	17.3	X	79.76490	235.72942	308.01099	7.71235	0.2192312	0.27845584	2.3225505	20	7 25.7	20.4
314061 2005 AR ₇₀	17.5	X	191.44223	22.47992	77.84822	3.21212	0.1182436	0.28701021	2.2761689	20	7 25.4	20.7
314062 2005 AA ₇₅	17.4	X	223.98092	40.67011	318.16439	2.39176	0.2080972	0.27816416	2.3241738	20	4 7.2	21.2
314063 2005 AU ₇₆	17.7	X	42.75125	160.79348	49.96619	2.91895	0.1559722	0.27569315	2.3380407	20	6 28.5	20.0
314064 2005 BV ₅	17.0	X	252.98816	297.32795	90.21533	7.22340	0.1121752	0.28778770	2.2720675	20	6 27.6	19.9
314065 2005 BP ₆	17.0	X	154.17731	172.37490	319.68303	6.89475	0.0849541	0.28591034	2.2820026	20	7 27.6	20.1
314066 2005 BZ ₉	17.5	X	193.74118	10.58006	84.97831	5.02109	0.1098341	0.28757315	2.2731975	20	7 21.9	20.6
314067 2005 BS ₁₁	17.2	X	250.22817	100.96430	307.47740	6.42195	0.0913913	0.28839420	2.2688809	20	7 28.0	20.0
314068 2005 BV ₂₀	17.7	X	95.98577	154.19345	32.58161	0.98140	0.0699452	0.28304669	2.2973685	20	7 30.1	20.4
314069 2005 BB ₂₇	16.7	X	141.24112	123.49755	45.72595	22.88620	0.2560257	0.28464382	2.2887668	20	9 18.5	21.1
314070 2005 CG ₁	17.7	X	176.19308	129.38164	361.72126	2.34011	0.1420322	0.28353666	2.2947211	20	6 25.0	21.1
314071 2005 CO ₁	17.5	X	174.57336	142.69770	319.45589	1.57518	0.1169972	0.28401844	2.2921253	20	7 8.7	20.9
314072 2005 CQ ₆	16.0	X	100.08671	139.93712	325.11361	25.17534	0.2217508	0.27154523	2.3617899	20	4 15.9	19.9
314073 2005 CW ₆	15.8	X	22.47131	329.96884	284.31031	25.80323	0.0993159	0.28049435	2.3112840	20	7 17.6	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>
314081 2005 CU ₃₂	17.7	X	32.70949	183.58373	277.2150	2.26629	0.1697860	0.27340625	2.3510602	20	6 11.3	19.6
314082 2005 Dryope	17.5	X	161.16515	139.37608	116.80782	16.14655	0.5749433	0.29441599	2.2378370	20	12 22.9	22.4
314083 2005 CR ₃₈	17.1	X	162.79244	85.98915	69.26476	6.31474	0.1343602	0.28769402	2.2725607	20	9 9.8	20.5
314084 2005 CN ₄₄	17.0	X	123.36887	222.76093	337.55360	6.88821	0.0527146	0.28840043	2.2688483	20	9 19.9	19.8
314085 2005 CO ₄₇	18.1	X	168.06106	270.67761	145.40680	3.55675	0.1125693	0.27364758	2.3496778	20	5 1.2	21.4
314086 2005 CU ₅₀	16.9	X	131.51667	343.58075	159.96321	5.57093	0.0960503	0.27957123	2.3163690	20	7 15.4	20.1
314087 2005 CV ₅₇	17.3	X	174.27042	309.61598	130.99336	6.36627	0.0604905	0.27916841	2.3185966	20	6 9.0	20.5
314088 2005 CO ₆₀	17.6	X	246.69479	97.55515	309.82535	5.13592	0.1527582	0.28842079	2.2687415	20	7 12.5	20.4
314089 2005 CE ₆₂	17.5	X	110.63288	87.69594	75.09060	3.07656	0.1498976	0.27908681	2.3190486	20	7 24.2	20.7
314090 2005 CV ₆₅	17.2	X	68.16839	89.04594	88.79770	2.96595	0.1445235	0.27300971	2.3533363	20	6 18.7	19.9
314091 2005 DS ₁	17.3	X	56.48176	260.47762	290.38175	4.08825	0.1798827	0.27257141	2.3558584	20	6 25.9	19.8
314092 2005 EC ₁₄	17.5	X	192.90621	127.10744	7.22026	8.05745	0.0880862	0.28839941	2.2688536	20	9 15.5	20.5
314093 2005 EF ₁₄	16.8	X	154.97487	301.12641	160.24357	22.52009	0.2326640	0.27845141	2.3225751	20	6 21.7	21.2
314094 2005 EW ₁₅	17.6	X	34.90988	79.85605	149.08463	2.30489	0.1521811	0.27392407	2.3480964	20	7 11.5	19.7
314095 2005 EE ₁₈	17.5	X	135.45857	118.39351	5.53305	3.70147	0.1323904	0.27617833	2.3353017	20	6 26.3	20.9
314096 2005 EP ₂₂	17.0	X	47.04148	229.94960	337.48971	5.82986	0.0619456	0.27463402	2.3440480	20	6 15.2	19.7
314097 2005 EC ₂₅	17.8	X	118.09822	149.85958	344.32120	2.34431	0.1396465	0.27543786	2.3394852	20	6 21.4	21.0
314098 2005 EK ₃₅	16.7	X	134.50300	329.47062	176.33066	6.84152	0.2213926	0.27838731	2.3229316	20	7 28.2	20.6
314099 2005 EC ₄₄	17.4	X	344.90916	230.95108	350.65419	4.87827	0.0555927	0.26442762	2.4039836	20	3 25.0	20.0
314100 2005 ED ₄₉	17.7	X	54.81871	266.88319	289.20594	1.16889	0.1542529	0.27290924	2.3539138	20	6 26.5	20.2
314101 2005 EZ ₅₂	17.9	X	50.49390	201.63880	343.35113	1.13599	0.1206732	0.27070603	2.3666685	20	5 26.8	20.3
314102 2005 EM ₅₅	17.7	X	140.96165	312.39381	170.49641	5.24802	0.1380712	0.27774579	2.3265072	20	6 30.7	21.1
314103 2005 EG ₇₄	17.2	X	163.30825	40.31780	20.80040	3.22382	0.1846588	0.27296550	2.3535904	20	5 4.0	20.8
314104 2005 ER ₇₈	17.4	X	52.69727	47.73312	134.61513	4.16604	0.1288667	0.27022004	2.3695053	20	5 29.3	19.9
314105 2005 EY ₇₈	16.7	X	356.51514	67.62707	155.70732	6.77172	0.0865419	0.26622331	2.3931614	20	4 16.8	19.2
314106 2005 EO ₇₉	14.6	X	319.14192	159.16186	52.17588	11.04244	0.1678069	0.12637995	3.9326377	20	2 12.6	19.9
314107 2005 EQ ₈₀	17.6	X	176.44286	247.12177	171.21088	3.54095	0.1159354	0.27706933	2.3302924	20	5 12.8	20.9
314108 2005 EP ₈₄	17.2	X	80.78721	46.83308	82.76559	4.44196	0.1070575	0.26981014	2.3719045	20	4 23.6	19.9
314109 2005 EU ₈₇	17.1	X	127.94895	147.99142	358.65398	5.03336	0.1624005	0.27744929	2.3281644	20	7 22.6	20.6
314110 2005 ED ₉₀	16.6	X	142.65069	321.09646	169.75147	23.17951	0.1870329	0.27944254	2.3170800	20	7 14.6	20.8
314111 2005 ES ₉₀	17.2	X	94.28138	56.53442	168.97011	6.65309	0.0687512	0.28600200	2.2815150	20	9 21.4	20.0
314112 2005 EY ₉₀	17.3	X	120.12220	151.66350	333.35682	6.33050	0.0690064	0.27327798	2.3517959	20	6 1.6	20.4
314113 2005 EN ₉₄	17.3	X	74.79219	213.57413	336.38192	5.27275	0.1269163	0.27408255	2.3471911	20	7 14.4	20.2
314114 2005 EO ₉₄	17.3	X	42.66608	68.47542	139.81784	2.96209	0.1414241	0.27099704	2.3649739	20	6 21.7	19.6
314115 2005 EO ₁₀₃	17.3	X	149.03788	92.33521	357.65938	6.87491	0.1555284	0.27434045	2.3457199	20	5 25.4	20.9
314116 2005 EP ₁₀₃	17.8	X	110.53713	337.44078	136.56554	1.96900	0.1338155	0.27084635	2.3658510	20	5 15.4	20.9
314117 2005 ET ₁₀₄	17.5	X	219.13615	266.78669	140.40323	3.33409	0.1307160	0.28354961	2.2946512	20	6 11.5	20.7
314118 2005 EW ₁₁₉	17.5	X	157.81697	240.64563	208.54326	1.36682	0.1710460	0.27754348	2.3276376	20	6 4.7	21.1
314119 2005 EU ₁₃₁	17.2	X	108.79013	314.77773	167.47637	7.15980	0.0452086	0.27302000	2.3532771	20	5 13.3	20.2
314120 2005 EC ₁₃₈	17.6	X	34.79181	138.21300	45.59587	2.10557	0.1250234	0.26441032	2.4040885	20	4 27.0	19.9
314121 2005 EC ₁₄₇	18.0	X	1.35619	236.80687	352.33282	2.39041	0.1443341	0.26514371	2.3996533	20	4 29.0	20.1
314122 2005 ET ₁₅₁	17.1	X	142.66176	21.82971	60.24467	3.25337	0.1872166	0.26950145	2.3737154	20	5 12.7	20.6
314123 2005 EZ ₁₅₁	17.3	X	3.17540	180.78050	30.34937	7.12144	0.1088548	0.26322261	2.4113148	20	4 8.1	19.7
314124 2005 EY ₁₅₂	17.2	X	66.73939	89.29823	85.86912	2.38371	0.1177601	0.26963767	2.3729159	20	6 7.8	19.9
314125 2005 EL ₁₅₄	17.4	X	73.39909	347.09428	174.88037	5.34852	0.1682438	0.26927665	2.3750363	20	6 7.9	20.3
314126 2005 EN ₁₅₅	18.1	X	60.30653	146.55453	15.36697	2.65966	0.1285527	0.26655608	2.3911693	20	5 9.7	20.7
314127 2005 EM ₁₅₇	17.5	X	40.98910	292.34264	256.99528	0.48613	0.1217419	0.26843507	2.3799977	20	5 16.7	19.8
314128 2005 EJ ₁₆₁	17.3	X	41.10303	352.36785	180.06388	6.90598	0.1463132	0.26447516	2.4036955	20	4 25.9	19.5
314129 2005 ER ₁₆₄	17.1	X	94.54649	302.36080	159.08969	4.66361	0.1802607	0.26562757	2.3967383	20	4 15.6	20.0
314130 2005 EM ₁₆₅	17.7	X	71.80912	354.33393	144.44774	3.35248	0.1190151	0.26618214	2.3934082	20	4 24.9	20.3
314131 2005 EB ₁₇₉	17.4	X	109.76108	188.37916	329.22767	3.69282	0.0256975	0.27626417	2.3348178	20	6 30.1	20.2
314132 2005 EK ₁₇₉	18.1	X	76.95008	210.43901	345.81817	2.06548	0.1419022	0.27590211	2.3368600	20	7 28.5	21.1
314133 2005 EU ₁₈₀	17.4	X	188.98440	269.88157	158.64955	7.35707	0.0846081	0.28066532	2.3103452	20	6 9.9	20.8
314134 2005 EC ₁₈₅	17.6	X	19.39150	242.75733	331.54896	2.51967	0.1470981	0.26604747	2.3942158	20	5 14.6	19.6
314135 2005 EC ₁₈₇	17.8	X	45.74972	359.64966	211.76582	1.50143	0.1533265	0.27035173	2.3687358	20	7 3.9	20.1
314136 2005 EA ₁₉₀	17.5	X	121.39824	165.91475	307.95228	5.85928	0.0522141	0.27550198	2.3391222	20	5 15.5	20.6
314137 2005 EM ₁₉₀	17.2	X	59.60739	266.22226	302.95986	4.85567	0.0385838	0.27942023	2.3172034	20	7 4.8	19.8
314138 2005 EW ₁₉₂	17.2	X	146.46431	138.64313	310.88397	1.85620	0.1690833	0.27377198	2.3489659	20	5 24.4	20.7
314139 2005 EO ₁₉₇	17.6	X	108.88492	133.62768	349.25512	4.34272	0.0957955	0.26885676	2.3775085	20	5 18.3	20.8
314140 2005 EP ₁₉₇	17.7	X	61.06642	224.80233	333.44879	1.71340	0.1496776	0.27171279	2.3608189	20	7 9.2	20.4
314141 2005 ED ₁₉₈	17.2	X	148.43135	112.51976	126.86974	1.94830	0.1600208	0.26922422	2.3753447	20	5 12.1	20.7
314142 2005 EE ₂₀₃	17.2	X	298.41484	124.22265	144.04138	2.70008	0.1931824	0.25939004	2.4350087	20	3 2.1	20.2
314143 2005 ED ₂₀₈	16.6	X	164.62914	251.62702	159.42603	8.05915	0.2200195	0.27158353	2.3615679	20	4 26.9	20.6
314144 2005 EQ ₂₁₀	16.8	X	166.43216	117.70458	346.11856	7.87484	0.0497946	0.27658704	2.3330005	20	7 2.0	20.0
314145 2005 ET ₂₁₂	17.8	X	95.11446	302.04300	169.86327	3.22458	0.0814737	0.26621967	2.3931833	20	4 14.4	20.6
314146 2005 EO ₂₁₃	16.7	X	13.18053	203.37304	19.36463	24.18832	0.2525286	0.26426892	2.4049460	20	5 9.7	18.6
314147 2005 ED ₂₃₃	17.0	X	89.67305	111.65884	84.39305	5.29467	0.1333205	0.27				

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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>
314161 2005 <i>FY</i> ₇	16.6	X	47.12225	120.54270	87.77992	11.43465	0.1831947	0.27012820	2.3700423	20	7 7.2	19.0
314162 2005 <i>FL</i> ₈	17.3	X	11.10830	152.85825	27.29206	2.05789	0.1220037	0.25854967	2.4402822	20	3 7.3	19.6
314163 2005 Kittenberger	17.9	X	357.75174	184.17223	71.06365	2.46967	0.1665970	0.26897828	2.3767923	20	6 3.9	19.6
314164 2005 <i>GD</i> ₁₁	17.2	X	105.38199	64.22308	62.63117	7.70688	0.1671746	0.27019327	2.3696618	20	5 30.4	20.5
314165 2005 <i>GF</i> ₂₅	15.0	X	320.17325	189.88850	12.47385	10.58605	0.1544990	0.12405556	3.9816086	20	2 5.1	20.3
314166 2005 <i>GP</i> ₃₆	17.6	X	108.85225	235.63562	193.17613	3.11998	0.0522702	0.25652629	2.4530974	20	2 28.7	20.8
314167 2005 <i>GX</i> ₄₅	17.9	X	36.46503	347.17862	211.02390	2.05370	0.1320047	0.26793809	2.3829398	20	5 23.8	20.0
314168 2005 <i>GK</i> ₄₆	17.8	X	140.80779	108.97192	350.37706	1.41137	0.0979757	0.27115985	2.3640272	20	5 26.4	21.1
314169 2005 <i>GA</i> ₆₁	16.5	X	343.85656	133.42358	141.95617	10.15887	0.2499957	0.26591116	2.3950339	20	5 30.9	18.3
314170 2005 <i>GW</i> ₆₂	18.1	X	129.37813	220.53842	262.35553	0.54706	0.1286302	0.27584001	2.3372107	20	6 17.6	21.4
314171 2005 <i>GT</i> ₇₃	16.8	X	324.66024	140.03849	117.44538	7.36671	0.1913975	0.26006165	2.4308146	20	3 29.4	19.5
314172 2005 <i>GZ</i> ₇₃	16.7	X	15.20162	47.49337	135.80620	13.05885	0.0629107	0.25891035	2.4380154	20	3 24.4	19.6
314173 2005 <i>GM</i> ₇₄	17.0	X	340.16724	146.20334	109.48397	4.20187	0.1657015	0.26451696	2.4034423	20	4 27.4	19.2
314174 2005 <i>GE</i> ₉₈	17.8	X	99.45221	28.23912	81.09885	2.42374	0.1362094	0.26401948	2.4064605	20	4 25.5	20.8
314175 2005 <i>GZ</i> ₉₉	16.7	X	128.84113	61.44578	358.96391	22.01022	0.2893669	0.26941188	2.3742415	20	4 4.7	20.6
314176 2005 <i>GW</i> ₁₁₁	14.3	X	314.55167	124.95122	90.20596	12.05965	0.0892287	0.12511372	3.9591269	20	2 20.8	19.8
314177 2005 <i>GE</i> ₁₁₉	17.2	X	60.36220	114.39151	54.57326	3.29374	0.1607256	0.26711277	2.3878458	20	5 26.4	19.7
314178 2005 <i>GV</i> ₁₂₀	17.7	X	348.78018	306.42402	316.88285	1.37268	0.1563897	0.26922487	2.3753408	20	5 27.3	19.6
314179 2005 <i>GF</i> ₁₂₆	17.3	X	46.04385	143.24913	46.91388	1.98592	0.1327519	0.26736016	2.3863726	20	5 28.8	19.7
314180 2005 <i>GS</i> ₁₂₈	16.4	X	55.62207	105.17121	138.45460	22.98961	0.2585000	0.27578717	2.3375093	20	9 28.4	20.0
314181 2005 <i>GO</i> ₁₃₆	14.9	X	359.84879	19.72744	162.07574	8.03389	0.1890638	0.12560096	3.9488813	20	3 6.1	19.4
314182 2005 <i>GY</i> ₁₅₃	17.4	X	274.13369	164.20190	118.31282	3.63873	0.2148160	0.25376818	2.4708399	20	2 20.9	21.3
314183 2005 <i>GU</i> ₁₆₇	17.8	X	36.86244	151.70484	48.53680	1.99659	0.1286383	0.26450934	2.4034884	20	5 26.8	20.1
314184 2005 <i>GD</i> ₁₆₉	17.9	X	7.18439	152.83045	38.24117	1.72451	0.0679517	0.25919669	2.4362195	20	3 18.3	20.6
314185 2005 <i>GA</i> ₁₈₁	17.7	X	356.66185	169.09924	47.80089	5.02850	0.1009223	0.26233948	2.4167234	20	4 5.9	20.1
314186 2005 <i>GU</i> ₁₈₁	18.0	X	73.12048	41.16430	123.07939	2.14278	0.1216552	0.26830432	2.3807709	20	6 2.5	20.7
314187 2005 <i>HR</i> ₆	16.8	X	110.60652	261.29171	78.33443	23.68751	0.0512165	0.37001353	1.9215764	20	—	—
314188 2005 <i>JL</i> ₅₀	17.9	X	26.74520	110.87818	92.11535	3.71277	0.1196596	0.26331848	2.4107295	20	5 11.8	20.1
314189 2005 <i>JV</i> ₇₀	17.2	X	323.89701	144.56326	112.45447	4.40248	0.2062523	0.25961299	2.4336144	20	3 23.3	19.7
314190 2005 <i>JO</i> ₁₁₉	16.7	X	86.01704	143.29869	129.18852	6.63626	0.0681922	0.22850284	2.6497708	20	—	—
314191 2005 <i>JS</i> ₁₁₉	13.6	X	197.51421	276.20134	227.71785	28.18346	0.0417726	0.08514250	5.1172712	20	9 2.5	20.9
314192 2005 <i>JP</i> ₁₂₅	16.1	X	101.03847	256.25044	95.05024	15.66429	0.1825191	0.23182102	2.6244250	20	—	—
314193 2005 <i>JF</i> ₁₂₆	16.9	X	6.04654	94.70861	135.77807	6.52291	0.0944968	0.26539871	2.3981159	20	5 15.0	19.4
314194 2005 <i>JU</i> ₁₃₈	17.3	X	321.37530	36.05648	226.90482	1.66689	0.1820622	0.25848161	2.4407106	20	3 28.8	20.0
314195 2005 <i>JH</i> ₁₄₃	16.4	X	67.60899	356.73198	74.46092	16.05900	0.0900831	0.24425898	2.5345587	20	1 12.5	19.5
314196 2005 <i>JZ</i> ₁₅₃	16.9	X	356.56395	96.07609	107.14697	7.30682	0.0606982	0.25671264	2.4519101	20	3 22.6	19.8
314197 2005 <i>KX</i>	18.0	X	357.19367	94.49239	146.27275	5.08224	0.1457707	0.26240479	2.4163224	20	5 12.2	20.1
314198 2005 <i>KG</i> ₃	17.5	X	93.75600	329.09205	175.96208	2.20007	0.1433910	0.26725021	2.3870271	20	6 7.4	20.6
314199 2005 <i>LB</i> ₄	16.8	X	300.79145	107.35500	86.73111	12.86782	0.0976277	0.24562164	2.5251759	20	—	—
314200 2005 <i>LM</i> ₁₄	16.2	X	105.01407	129.51978	261.83676	13.97517	0.0917016	0.23459362	2.6037059	20	1 13.2	19.6
314201 2005 <i>LK</i> ₂₀	16.3	X	102.39359	232.10705	92.60589	14.68453	0.1570744	0.22680305	2.6629936	20	—	—
314202 2005 <i>LZ</i> ₂₂	16.3	X	253.25059	303.75777	288.25566	11.91464	0.1399513	0.23637283	2.5906238	20	—	—
314203 2005 <i>LN</i> ₂₇	16.4	X	108.64968	234.59483	92.32538	14.57149	0.1849525	0.22911972	2.6450125	20	—	—
314204 2005 <i>LD</i> ₄₅	16.6	X	96.58424	143.69636	206.74232	12.74275	0.1710982	0.22948278	2.6422221	20	—	—
314205 2005 <i>MG</i> ₈	16.6	X	47.60637	60.13971	286.37911	7.56606	0.1992430	0.21241463	2.7819315	20	—	—
314206 2005 <i>MG</i> ₁₃	16.4	X	103.76421	194.29818	119.21409	13.77972	0.1560857	0.21851824	2.7298844	20	—	—
314207 2005 <i>MV</i> ₂₁	16.2	X	138.82932	182.41463	125.88298	10.55481	0.1142385	0.22418369	2.6836963	20	—	—
314208 2005 <i>MX</i> ₃₀	17.3	X	342.01621	92.97150	119.93795	6.25507	0.0789232	0.25426676	2.4676089	20	3 10.2	20.2
314209 2005 <i>MX</i> ₄₀	16.4	X	112.62199	209.94393	137.92516	15.06005	0.2667195	0.22971478	2.6404427	20	—	—
314210 2005 <i>MT</i> ₅₂	16.6	X	185.86048	33.33139	252.97106	12.24327	0.1588783	0.22989897	2.6390323	20	—	—
314211 2005 <i>MX</i> ₅₂	17.5	X	313.35041	141.16276	122.00929	25.00385	0.0938193	0.38166243	1.8822752	20	3 30.3	19.9
314212 2005 <i>NJ</i> ₁	18.5	X	259.45003	82.50929	316.26017	6.46498	0.6508541	0.31644386	2.1327417	20	5 21.9	22.8
314213 2005 <i>NW</i> ₄	16.9	X	122.97609	190.85067	121.73668	6.92769	0.0429702	0.22301895	2.6930321	20	—	—
314214 2005 <i>NE</i> ₁₆	17.1	X	266.96915	275.11697	336.74088	2.51992	0.1894154	0.24171634	2.5523019	20	1 11.2	21.2
314215 2005 <i>NP</i> ₄₆	16.7	X	266.93275	13.62725	237.81410	4.80726	0.2473874	0.24253597	2.5465485	20	1 5.3	20.9
314216 2005 <i>NC</i> ₆₁	16.8	X	270.91877	42.61416	190.23983	4.48491	0.0898824	0.23798342	2.5789222	20	—	—
314217 2005 <i>NO</i> ₆₁	16.4	X	217.10053	337.89024	304.72619	10.31917	0.0930776	0.23467214	2.6031250	20	1 7.0	20.3
314218 2005 <i>NV</i> ₈₇	16.7	X	143.12638	18.98889	286.22324	5.31893	0.1626899	0.22560566	2.6724078	20	—	—
314219 2005 <i>NA</i> ₁₀₁	16.9	X	209.19535	331.44933	295.01179	3.05541	0.1640875	0.23340677	2.6125248	20	—	—
314220 2005 <i>NA</i> ₁₀₂	16.5	X	255.71271	318.41977	307.51899	13.39509	0.1369610	0.23981210	2.5657952	20	1 22.1	20.2
314221 2005 <i>NE</i> ₁₂₂	15.9	X	198.86634	1.01824	294.70966	17.31171	0.1509952	0.23125796	2.6286832	20	1 6.6	20.1
314222 2005 <i>NT</i> ₁₂₃	16.4	X	135.68908	349.52999	115.58452	10.92405	0.1689488	0.22248524	2.6973372	20	—	—
314223 2005 <i>NT</i> ₁₂₄	16.5	X	43.79867	250.07400	137.85524	6.18768	0.1228898	0.21720614	2.7408672	20	—	—
314224 2005 <i>OU</i>	16.6	X	203.71315	322.94551	326.72030	14.74230	0.1251747	0.23397587	2.6082868	20	1 4.4	20.8
314225 2005 <i>OR</i> ₅	16.2	X	165.00257	325.58794	319.57001	12.79800	0.1697636	0.22485541	2.6783490	20	—	—
314226 2005 <i>OU</i> ₉	16.4	X	251.06717	147.23905	119.79510	6.16577	0.2399363	0.23954213	2.5677226	20	1 12.1	20.6
314227 2005 <i>OJ</i> ₁₉	17.4	X	20.70769	215.63287	331.71252	19.26905	0.0712352	0.37893976	1.8912804	20	3 12.0	18.8
314228 2005 <i>OY</i> ₂₇	15.6	X	109.53230	49.32734	295.36850	24.40741	0.0836411	0.21904525	2.7255040	20	—	—
314229 2005 <i>OF</i> ₂₈	17.1	X	240.66684	272.00276	345.15571	2.30969	0.2133027	0.23420568	2.6065802	20	—	—
314230 2005 <i>PV</i> ₁	16.4	X	179.87964	326.45206	338.49414	14.98261	0.1404268	0.22993835	2.6387310	20	1 1.3	20.8
314231 2005 <i>PX</i> ₃	16.7	X	15.40980	297.30541	48.52421	8.40872	0.2919260	0.20566218	2.8424954	20	12 3.3	20.0
314232 2005 <i>PO</i> ₁₄	16.4	X	267.03252	268.53711	125.10617	8.20348	0.3300800					

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>
314241 2005 QP ₅₃	16.4	X	156.15773	313.27947	341.77911	11.20888	0.0944302	0.22243656	2.6977308	20	—	—
314242 2005 QR ₅₅	16.9	X	357.18575	18.30961	6.88490	1.77387	0.0825659	0.20522956	2.8464886	20	11 26.9	20.6
314243 2005 QZ ₅₇	16.6	X	318.29690	246.48018	174.06752	12.09749	0.1117214	0.20525048	2.8462951	20	11 15.9	20.1
314244 2005 QD ₆₅	16.4	X	334.95290	26.46848	34.99115	6.48179	0.0531232	0.20742621	2.8263566	20	12 9.3	20.0
314245 2005 QK ₇₇	16.1	X	178.86695	301.62183	335.89730	12.74864	0.0342389	0.22178410	2.7030191	20	—	—
314246 2005 QM ₇₇	16.4	X	239.47929	258.74613	341.97059	12.42199	0.1024167	0.22904403	2.6455952	20	—	—
314247 2005 QL ₈₈	16.6	X	37.41519	29.35157	336.17667	3.22278	0.1108582	0.21162606	2.7888380	20	—	—
314248 2005 QE ₉₃	16.4	X	206.09398	84.78094	135.20014	5.51971	0.0989253	0.21682240	2.7441001	20	—	—
314249 2005 QV ₉₇	16.3	X	324.93204	121.78339	350.07268	13.95389	0.0343981	0.21789170	2.7351150	20	—	—
314250 2005 QJ ₉₉	16.9	X	81.24826	23.12067	308.56363	5.70809	0.0896184	0.21395991	2.7685207	20	—	—
314251 2005 QH ₁₀₀	16.3	X	357.69804	108.63469	308.64009	7.88843	0.0344986	0.21284657	2.7781665	20	—	—
314252 2005 QB ₁₀₁	16.0	X	156.34621	324.53996	324.20036	11.46586	0.0860919	0.22062313	2.7124934	20	—	—
314253 2005 QM ₁₀₁	16.5	X	29.09032	105.64535	248.82072	4.24728	0.1222907	0.20725062	2.8279528	20	12 9.0	20.1
314254 2005 QW ₁₀₃	16.8	X	79.55530	21.01223	307.90871	3.56275	0.0681237	0.21268710	2.7795550	20	12 31.9	20.8
314255 2005 QW ₁₁₇	16.9	X	317.89272	353.11891	148.01083	3.16190	0.0357566	0.22227735	2.6990188	20	—	—
314256 2005 QA ₁₂₂	16.8	X	297.02828	293.16043	181.28649	4.41438	0.0155527	0.21286832	2.7779773	20	12 27.0	20.5
314257 2005 QG ₁₂₄	16.9	X	12.57348	72.69813	345.84246	6.52565	0.0376703	0.21552166	2.7551300	20	—	—
314258 2005 QD ₁₂₇	16.7	X	172.68127	319.62678	341.21262	11.28640	0.0515234	0.22532936	2.6745919	20	—	—
314259 2005 QU ₁₃₆	16.8	X	209.81486	262.35975	8.96672	9.27946	0.1240083	0.22666630	2.6640645	20	—	—
314260 2005 QA ₁₃₉	16.3	X	109.77123	283.27551	5.01177	6.40405	0.0666781	0.21035792	2.8000350	20	12 14.4	20.6
314261 2005 QH ₁₄₅	16.1	X	108.14406	180.38520	144.01257	10.13337	0.2898195	0.21748440	2.7385288	20	—	—
314262 2005 QM ₁₄₉	16.0	X	205.46676	185.53890	119.85973	15.14158	0.2501295	0.23511832	2.5998307	20	1 23.3	20.4
314263 2005 QX ₁₅₃	16.0	X	112.68370	191.56552	126.56621	10.27285	0.1422761	0.21678091	2.7444502	20	—	—
314264 2005 QT ₁₅₄	16.6	X	58.62139	246.00090	137.82530	11.23808	0.1407152	0.21892259	2.7265219	20	—	—
314265 2005 QP ₁₆₆	16.4	X	299.17591	334.97730	261.44297	15.18508	0.0971785	0.24229681	2.5482239	20	1 31.6	20.2
314266 2005 QE ₁₆₇	16.2	X	173.22122	325.76454	313.18869	12.97488	0.1503627	0.22391651	2.6858307	20	—	—
314267 2005 QN ₁₇₇	16.6	X	358.77968	45.35050	325.89994	5.24635	0.0835117	0.20533054	2.8455552	20	11 9.7	20.2
314268 2005 QY ₁₈₁	16.6	X	356.70468	71.67876	352.45967	8.43778	0.0170782	0.21210410	2.7846461	20	—	—
314269 2005 RC ₂	15.5	X	181.45512	88.06764	334.68940	29.33984	0.2866005	0.17281747	3.1921083	20	5 13.6	21.8
314270 2005 QR ₁₆	16.4	X	71.45511	49.83653	272.94746	13.76412	0.1932836	0.21065628	2.7973905	20	12 27.8	20.6
314271 2005 RF ₂₆	16.7	X	98.67778	132.10591	189.47165	1.37988	0.0604844	0.21466766	2.7624322	20	—	—
314272 2005 RU ₃₀	16.4	X	18.82851	265.64322	152.24559	9.42978	0.1210907	0.21590647	2.7518554	20	—	—
314273 2005 RT ₃₉	16.9	X	166.50116	337.53933	24.02815	21.03717	0.0696026	0.36610002	1.9352462	20	2 12.3	19.7
314274 2005 RM ₅₁	16.5	X	66.33431	12.56170	12.53517	6.22877	0.0332972	0.21833371	2.7314223	20	—	—
314275 2005 SF ₁₇	16.4	X	144.98557	290.82444	10.78503	5.96055	0.0484188	0.21677067	2.7445366	20	—	—
314276 2005 SP ₂₂	16.1	X	101.32161	193.63259	108.16438	4.09575	0.0823234	0.20977672	2.8052045	20	12 23.1	20.3
314277 2005 SF ₂₃	16.0	X	7.44930	183.87510	179.25351	5.07445	0.1092215	0.20353439	2.8622710	20	11 17.7	19.5
314278 2005 SC ₃₀	17.0	X	219.94642	295.86849	5.26015	20.14112	0.0698835	0.36664414	1.9333310	20	1 19.9	19.8
314279 2005 SJ ₃₂	16.5	X	296.96236	232.13764	169.69772	5.57033	0.1440410	0.19266522	2.9689337	20	9 7.1	20.2
314280 2005 SN ₃₂	17.1	X	226.72907	259.01388	174.15917	8.04697	0.2805052	0.18073492	3.0981897	20	7 6.9	22.5
314281 2005 SP ₃₃	16.7	X	253.82454	254.45025	134.57814	5.09094	0.2340285	0.18216936	3.0819044	20	6 12.7	21.5
314282 2005 SN ₃₈	16.9	X	335.06009	188.21738	202.06187	1.49696	0.0694421	0.20006133	2.8953025	20	10 29.9	20.3
314283 2005 SJ ₄₂	16.9	X	166.69027	283.84212	327.58149	3.54754	0.0174800	0.20948018	2.8078512	20	—	—
314284 2005 SH ₄₇	16.8	X	292.63663	159.22220	334.09322	3.64040	0.0158000	0.21058414	2.7980294	20	—	—
314285 2005 SY ₅₅	15.9	X	223.74894	231.95078	27.21501	9.07915	0.1802547	0.22389365	2.6860135	20	—	—
314286 2005 SS ₆₂	16.3	X	272.43780	1.64836	33.46005	3.18384	0.1270284	0.18711774	3.0273275	20	7 27.4	20.5
314287 2005 SG ₆₃	16.2	X	316.76033	213.74374	201.98001	5.76042	0.0623060	0.20186077	2.8780705	20	11 5.9	19.9
314288 2005 SJ ₆₇	16.8	X	323.95830	41.80566	191.78540	4.52091	0.0731498	0.23783503	2.5799948	20	3 10.7	20.1
314289 2005 SN ₆₉	16.3	X	330.62282	29.87031	18.17835	10.33039	0.1134707	0.20114437	2.8849002	20	11 13.4	19.8
314290 2005 SZ ₇₁	15.7	X	58.00328	23.52660	323.73894	11.89735	0.1675870	0.21045267	2.7991946	20	—	—
314291 2005 SA ₇₅	16.8	X	21.22348	341.16639	10.02977	1.88024	0.0771209	0.20310084	2.8663435	20	11 16.3	20.6
314292 2005 SR ₇₉	17.2	X	329.65697	253.79860	157.09878	2.41483	0.0591273	0.20336464	2.8638642	20	11 18.8	20.7
314293 2005 SU ₈₁	16.5	X	327.51049	286.71021	170.67644	4.51771	0.0289036	0.21193922	2.7860901	20	—	—
314294 2005 SE ₈₂	17.5	X	341.18711	51.66205	322.06306	0.96813	0.0849895	0.19860072	2.9094809	20	10 17.1	21.1
314295 2005 SH ₉₄	16.5	X	4.12051	111.65028	332.14006	5.22061	0.0231630	0.22030987	2.7150641	20	—	—
314296 2005 SQ ₉₆	16.2	X	276.27602	8.51179	337.75052	4.10382	0.1548127	0.18337975	3.0683282	20	5 23.6	20.5
314297 2005 SH ₉₇	16.3	X	313.78141	67.40410	327.41678	16.26701	0.1451054	0.19620574	2.9331093	20	9 20.1	19.8
314298 2005 SZ ₉₉	16.7	X	230.79896	310.39714	304.27258	3.08142	0.1560796	0.22396167	2.6854697	20	—	—
314299 2005 ST ₁₀₀	16.4	X	225.71562	123.14289	340.08947	5.64266	0.0914142	0.19022261	2.9942953	20	8 30.9	20.6
314300 2005 SN ₁₀₁	16.7	X	329.53965	147.69285	232.83091	5.21415	0.1076388	0.19598830	2.9352783	20	10 5.5	20.3
314301 2005 SJ ₁₀₉	16.9	X	69.90075	321.84999	348.70308	1.27078	0.1115092	0.20415866	2.8564339	20	12 1.6	21.0
314302 2005 SY ₁₁₄	16.7	X	123.25131	121.40778	206.91534	4.09772	0.1221673	0.21759410	2.7376083	20	—	—
314303 2005 SA ₁₃₃	16.7	X	165.49459	255.87341	5.90596	1.82874	0.0320169	0.20970099	2.8058798	20	—	—
314304 2005 SK ₁₃₄	17.1	X	293.20255	260.46361	359.51811	18.53308	0.0524164	0.37071098	1.9191654	20	2 26.3	19.1
314305 2005 SU ₁₃₆	16.3	X	271.52174	142.59922	10.59058	10.67276	0.1499601	0.21071029	2.7969125	20	12 27.3	19.8
314306 2005 SV ₁₃₈	17.3	X	359.40349	198.61628	169.01119	3.09442	0.0807709	0.20096422	2.8866241	20	11 7.6	20.8
314307 2005 SO ₁₄₁	15.9	X	225.03506	73.54947	25.33553	11.26328	0.1936762	0.18828442	3.0148089	20	8 18.9	20.9
314308 2005 SP ₁₄₃	16.6	X	244.67178	164.68844	31.27927	10.04541	0.1061125	0.21474312	2.7617851	20	—	—
314309 2005 SG ₁₆₀	17.0	X	169.74255	281.97452	337.52816	2.87276	0.0482197	0.21377148	2.7701474	20	—	—
314310 2005 SZ ₁₆₇	15.8	X	144.33769	346.02834	314.70394	11.94219	0.1383329	0.22088676	2.7103347	20	—	—
314311 2005 SK ₁₇₂	17.2	X	25.36479	43.73046	342.01943	5.75501	0.0679929	0.20886369	2.8133736	20	—	—
314312 2005 SZ ₁₇₄	16.1	X	184.69126	304.46623	343.33996	8.48445	0.1058731	0.22227565	2.6990326	20	—	—
314313 2005 SG ₁₈₈	16.8	X	235.46406	259.95177	150.64989	0.80723	0.1703525	0.18158410	3.0885230	20	6 27.3	21.6
314314 2005 SX ₁₈₉	16.8	X	265.20427	299.67394	183.07606	0.92123	0.1145520	0.19243089	2.9713434	20	9 12.9	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>
314321 2005 SE ₂₄₁	17.0	X	208.15994	282.13311	318.46040	3.53277	0.0148199	0.21439802	2.7647479	20	—	—
314322 2005 SN ₂₆₀	16.5	X	103.38959	187.26013	163.71163	4.83626	0.1209453	0.22175385	2.7032649	20	—	—
314323 2005 SP ₂₇₁	16.2	X	264.12430	15.57134	20.93815	3.64364	0.1345097	0.18438459	3.0571703	20	7 17.0	20.6
314324 2005 SA ₂₈₁	15.9	X	256.48429	77.30671	18.65719	12.40277	0.1002201	0.19324603	2.9629819	20	9 28.9	19.9
314325 2005 SN ₂₈₁	15.1	X	183.91291	345.35744	116.88835	12.12932	0.0685077	0.16607293	3.2779588	20	7 14.3	20.0
314326 2005 SF ₂₈₅	16.3	X	273.65543	295.94352	103.40329	11.43498	0.1267454	0.18638913	3.0352118	20	8 3.9	20.4
314327 2005 SQ ₂₉₃	16.1	X	182.06373	157.68219	141.33841	12.82871	0.1321384	0.22473636	2.6792947	20	—	—
314328 2005 TA ₄	16.0	X	126.04816	246.08157	57.15833	13.36423	0.2795337	0.21731185	2.7399782	20	—	—
314329 2005 TY ₁₅	16.9	X	162.21390	306.52472	28.20610	2.63053	0.1621639	0.21780582	2.7358339	20	—	—
314330 2005 TG ₁₆	16.3	X	171.38613	42.33960	194.43785	6.02303	0.0786259	0.21044653	2.7992490	20	12 17.6	20.5
314331 2005 TG ₁₉	15.8	X	50.01839	340.31421	200.50297	6.47548	0.1943576	0.17484466	3.1673871	20	6 1.9	19.7
314332 2005 TZ ₂₂	17.0	X	147.80466	254.23888	21.37418	8.54896	0.1304876	0.21345635	2.7728731	20	—	—
314333 2005 TP ₂₃	17.0	X	173.15271	45.37278	197.75973	6.00660	0.0360419	0.21180245	2.7872894	20	12 30.1	21.0
314334 2005 TX ₂₃	16.3	X	91.72820	122.30186	202.26730	3.82708	0.0694825	0.21199955	2.7855616	20	—	—
314335 2005 TL ₂₈	16.2	X	170.44835	224.23511	210.24891	1.76037	0.3343411	0.16456942	3.2978935	20	5 30.8	22.3
314336 2005 TR ₃₈	17.1	X	45.25308	190.85594	177.30967	4.44653	0.0793122	0.21017407	2.8016677	20	—	—
314337 2005 TT ₄₉	16.1	X	219.55032	316.05108	329.26169	11.99736	0.2456107	0.23240950	2.6199930	20	1 12.7	20.8
314338 2005 TL ₅₁	15.6	X	191.34563	218.09864	210.84464	24.88743	0.1573372	0.17362737	3.1821741	20	6 7.9	21.1
314339 2005 TB ₅₇	16.7	X	171.64829	24.27315	216.58721	2.97755	0.0456325	0.20945678	2.8080603	20	12 24.7	20.8
314340 2005 TN ₇₀	16.8	X	319.24428	35.73314	23.40450	1.96111	0.0706437	0.19982908	2.8975454	20	11 12.2	20.4
314341 2005 TS ₇₁	17.2	X	80.86409	333.35172	13.00990	18.14073	0.1752495	0.34971895	1.9952161	20	—	—
314342 2005 TT ₇₄	16.0	X	3.27905	107.85825	250.57369	8.29176	0.0742215	0.19955444	2.9002034	20	10 28.8	19.7
314343 2005 TU ₈₅	16.0	X	320.65743	212.61606	4.12673	10.79355	0.0407355	0.23195650	2.6234030	20	2 22.6	19.4
314344 2005 TQ ₈₆	16.6	X	295.57695	212.57807	197.30494	7.22342	0.0631931	0.19604612	2.9347011	20	9 25.7	20.5
314345 2005 TQ ₈₉	16.8	X	255.35248	350.63083	167.64429	6.95650	0.1048869	0.20918602	2.8104829	20	12 16.1	20.6
314346 2005 TY ₁₁₂	17.0	X	353.38758	84.46541	270.80985	1.64403	0.0643169	0.19721840	2.9230602	20	10 9.8	20.6
314347 2005 TD ₁₁₅	16.5	X	229.55421	127.78420	358.97985	5.55642	0.0402711	0.19792519	2.9160972	20	10 10.4	20.5
314348 2005 TK ₁₁₅	17.0	X	39.24233	18.04217	354.26656	3.60158	0.1133964	0.20890439	2.8130083	20	—	—
314349 2005 TJ ₁₁₇	16.7	X	179.74336	314.69166	247.73499	1.21891	0.0257663	0.20263397	2.8707445	20	11 17.2	20.5
314350 2005 TE ₁₁₈	17.0	X	106.57198	289.43481	346.74164	1.48002	0.0276739	0.20341442	2.8633969	20	11 22.1	21.0
314351 2005 TB ₁₃₀	17.0	X	355.15877	5.34544	37.10804	2.57840	0.0554819	0.20333437	2.8641484	20	12 13.0	20.7
314352 2005 TA ₁₃₁	16.6	X	245.39929	26.27900	138.76104	2.78688	0.0143188	0.20553573	2.8436611	20	12 22.9	20.5
314353 2005 TH ₁₃₄	16.0	X	205.45049	93.72905	207.20699	10.47987	0.1814977	0.17468075	3.1693681	20	5 15.5	21.4
314354 2005 TY ₁₃₆	17.1	X	242.29025	15.66908	66.75979	2.67538	0.2122415	0.18879007	3.0094233	20	8 9.7	21.6
314355 2005 TA ₁₅₇	17.0	X	138.70047	302.84197	331.75807	2.95086	0.0815155	0.20984114	2.8046303	20	12 29.1	21.2
314356 2005 TC ₁₅₈	16.1	X	271.31315	132.57032	8.25729	9.23790	0.0746479	0.20675648	2.8324568	20	12 18.5	19.9
314357 2005 TA ₁₆₁	16.4	X	329.05967	159.10391	239.60705	4.65798	0.0932394	0.19831340	2.9122904	20	10 30.6	19.8
314358 2005 TU ₁₆₂	15.3	X	107.93772	157.25315	17.81286	10.70218	0.0471189	0.18135835	3.0910855	20	7 22.2	19.9
314359 2005 TA ₁₉₄	16.5	X	276.06490	351.80615	55.12871	5.51417	0.1267817	0.18869758	3.0104066	20	8 18.5	20.6
314360 2005 TB ₁₉₅	16.8	X	291.08894	294.02099	158.20705	2.40742	0.0813004	0.20124989	2.8838917	20	11 13.9	20.4
314361 2005 TK ₁₉₇	15.3	X	257.92998	332.70302	69.21311	12.32196	0.0913992	0.18375017	3.0642031	20	7 23.4	19.8
314362 2005 UN ₄	15.4	X	190.16428	263.85754	167.20663	25.37585	0.2520321	0.17416278	3.1756490	20	6 11.4	21.4
314363 2005 UQ ₅	17.1	X	152.80644	289.55093	74.13954	22.74603	0.1026405	0.36133220	1.9522328	20	1 23.2	19.7
314364 2005 UA ₃₉	16.6	X	52.19121	160.31983	136.34153	1.49226	0.0918498	0.19235576	2.9721171	20	10 20.5	20.6
314365 2005 UB ₃₉	16.3	X	344.58178	312.13689	60.98526	5.26413	0.1273413	0.19394933	2.9558146	20	10 24.3	19.7
314366 2005 UM ₃₉	16.7	X	55.19232	125.66572	209.53159	1.75566	0.0596025	0.19960652	2.8996989	20	12 7.2	20.6
314367 2005 UO ₃₉	16.6	X	285.56906	166.10369	198.57593	0.88457	0.1551928	0.18123651	3.0924707	20	6 29.6	20.8
314368 2005 UR ₃₉	16.5	X	266.91652	340.52770	62.29540	2.69654	0.0948916	0.18292584	3.0734019	20	8 3.5	20.7
314369 2005 UH ₄₀	16.3	X	219.69332	238.65712	172.06967	1.06688	0.1760886	0.17520584	3.1630326	20	6 11.9	21.3
314370 2005 UZ ₄₀	16.2	X	225.99852	304.87957	81.55723	2.80184	0.1072482	0.17264724	3.1942062	20	5 24.6	21.0
314371 2005 UT ₄₂	16.4	X	154.95893	157.25390	200.20822	6.23123	0.0520973	0.22468675	2.6796891	20	1 28.5	20.3
314372 2005 UO ₄₆	16.1	X	170.78240	289.46535	222.58175	25.52373	0.1857797	0.18218031	3.0817809	20	8 22.1	21.7
314373 2005 UP ₄₆	15.5	X	305.21414	309.54199	23.97870	11.64390	0.1142146	0.18474198	3.0532262	20	6 22.9	19.6
314374 2005 UJ ₄₉	16.4	X	188.21858	84.13506	14.08834	13.03461	0.3048388	0.17545981	3.1599796	20	7 10.9	22.3
314375 2005 UJ ₆₆	15.6	X	194.99524	270.34395	222.15805	14.49047	0.2623368	0.18279370	3.0748828	20	8 18.9	21.3
314376 2005 UP ₇₀	15.5	X	316.00934	111.50056	248.57534	8.43877	0.0894955	0.18931875	3.0038181	20	8 14.4	19.5
314377 2005 UT ₇₀	15.7	X	177.02438	283.37185	4.02163	8.69449	0.0832207	0.21758306	2.7377009	20	—	—
314378 2005 UA ₇₇	15.7	X	273.48484	254.83048	124.45428	13.30899	0.1976614	0.18322156	3.0700939	20	6 26.9	20.2
314379 2005 UO ₇₈	15.6	X	194.22850	200.84335	260.36384	7.27992	0.0476479	0.18018313	3.1045116	20	7 24.5	20.2
314380 2005 UX ₈₄	16.6	X	344.35767	296.45800	69.51618	2.99025	0.1035498	0.19463837	2.9488346	20	10 13.3	20.1
314381 2005 UA ₉₁	15.9	X	191.52820	176.04290	17.14824	11.09738	0.0978177	0.19829386	2.9124817	20	11 9.9	20.4
314382 2005 UD ₉₅	16.4	X	118.42883	301.97730	284.33509	4.61934	0.0286876	0.19209669	2.9747887	20	10 1.4	20.7
314383 2005 UZ ₉₉	16.7	X	217.35600	337.95502	102.74824	4.58652	0.1543163	0.17972279	3.1098107	20	7 18.2	21.7
314384 2005 UF ₁₀₁	16.8	X	199.25509	345.73412	119.55121	4.25405	0.1621191	0.18062771	3.0994155	20	7 30.7	21.6
314385 2005 UA ₁₀₃	16.3	X	191.66621	68.28613	54.02296	16.72035	0.1868911	0.18136072	3.0910585	20	8 19.7	21.7
314386 2005 US ₁₁₀	16.6	X	224.62178	158.30814	278.54894	2.66920	0.2592556	0.17791593	3.1308300	20	7 11.8	21.7
314387 2005 UL ₁₁₃	16.5	X	328.10381	97.75089	239.58878	7.69065	0.2706915	0.18734923	3.0248333	20	7 18.4	19.5
314388 2005 UW ₁₁₄	15.0	X	232.86285	287.85904	60.87135	21.59334	0.3120921	0.17430148	3.1739641	20	4 12.1	20.9
314389 2005 UG ₁₃₅	16.7	X	68.00903	231.81824	95.88072	3.24698	0.0673687	0.20264782	2.8706137	20	12 14.8	20.8
314390 2005 UT ₁₃₈	16.3	X	157.88978	249.79545	213.47825	5.40258	0.0561345	0.17350253	3.1837003	20	6 17.1	21.1
314391 2005 UR ₁₅₉	16.0	X	271.00581	196.87969	181.81995	13.17317	0.1947277	0.18343706	3.0676890	20	6 22.8	20.6
314392 2005 UQ ₁₆₁	16.2	X	326.63842	138.72848	213.46919	11.58364	0.1460508	0.18901494	3.0070360	20	8 16.4	19.9
314393 2005 UJ ₁₆₆	16.6	X	329.64981	348.41267	26.03727	2.74701	0.0705395	0.19328316	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>		
314401	2005	US ₂₁₈	16.7	X	15.26243	42.89231	328.29548	4.36052	0.0607879	0.20105388	2.8857657	20	11 30.5	20.5
314402	2005	UH ₂₂₅	16.5	X	165.06950	298.63086	330.45162	3.14607	0.0616523	0.21062097	2.7977032	20	—	—
314403	2005	UY ₂₃₇	16.2	X	264.73618	271.83648	179.27125	6.00554	0.1119812	0.19122464	2.9838259	20	9 29.7	20.1
314404	2005	UA ₂₅₁	16.0	X	208.25569	60.98317	1.16327	15.92047	0.2373700	0.17644347	3.1482242	20	6 10.6	21.6
314405	2005	UN ₂₅₂	16.7	X	317.90939	114.27881	249.80048	8.10485	0.1229993	0.18810521	3.0167235	20	8 19.6	20.4
314406	2005	UR ₂₅₃	15.4	X	282.74088	334.89859	49.63460	10.76803	0.0971238	0.18266010	3.0763820	20	8 3.5	19.7
314407	2005	UV ₂₇₅	16.8	X	318.06572	146.12605	227.14280	1.96175	0.0343919	0.18990220	2.9976624	20	9 11.3	20.7
314408	2005	UZ ₂₈₂	16.9	X	215.18792	33.43558	94.88231	3.21435	0.1123115	0.19080061	2.9882450	20	9 18.9	21.3
314409	2005	UE ₂₈₄	16.5	X	241.06074	259.40905	201.18608	9.59299	0.0722590	0.19092617	2.9869348	20	9 15.2	20.9
314410	2005	UT ₃₁₂	15.4	X	112.43605	8.91652	253.84328	8.75293	0.0333409	0.19729744	2.9222794	20	11 11.2	19.6
314411	2005	UY ₃₁₂	15.6	X	244.98946	185.01982	251.37208	8.08951	0.1146677	0.18532266	3.0468450	20	8 12.4	20.2
314412	2005	UZ ₃₁₅	16.8	X	187.10903	75.73873	111.71025	2.79384	0.0867566	0.19587545	2.9364056	20	11 2.6	21.2
314413	2005	UD ₃₂₃	17.0	X	41.90066	297.80521	39.42382	5.97376	0.0586980	0.20160867	2.8804692	20	11 22.8	20.9
314414	2005	UR ₃₂₇	16.0	X	280.10899	27.13089	5.92473	3.77856	0.1589567	0.18343613	3.0676994	20	7 30.1	20.0
314415	2005	UL ₃₄₇	16.6	X	45.38527	107.84344	218.83205	6.31058	0.0622367	0.20310711	2.8662845	20	11 16.0	20.6
314416	2005	UF ₃₄₉	16.0	X	293.82762	77.77069	331.60930	14.34270	0.2075647	0.19098331	2.9863390	20	9 1.2	19.5
314417	2005	UV ₃₅₀	15.8	X	239.92407	292.37134	111.13725	6.57323	0.1525364	0.18135010	3.0911793	20	6 28.6	20.6
314418	2005	UD ₃₇₀	16.1	X	271.44191	192.84630	209.48775	7.92965	0.0725188	0.18445948	3.0563428	20	8 8.6	20.5
314419	2005	UV ₃₇₂	15.3	X	332.57754	92.25227	251.72267	10.06100	0.1062112	0.18583593	3.0412323	20	8 16.9	19.3
314420	2005	UG ₃₇₄	16.7	X	249.35142	139.19885	335.21675	1.17176	0.0909234	0.19203602	2.9754153	20	10 11.9	20.8
314421	2005	UL ₃₉₈	15.6	X	295.46473	308.73738	60.68685	11.25427	0.1206165	0.18773017	3.0207399	20	7 28.9	19.7
314422	2005	UO ₄₁₄	16.4	X	45.68684	233.23240	75.94390	3.19103	0.1086614	0.19615229	2.9336421	20	10 31.3	20.3
314423	2005	UG ₄₁₇	16.3	X	189.11002	26.73459	65.95297	6.80635	0.0881820	0.17671798	3.1343304	20	7 5.9	21.1
314424	2005	UQ ₄₂₅	17.2	X	10.83585	20.24098	310.14571	1.54623	0.1024696	0.19248650	2.9707712	20	10 5.9	20.9
314425	2005	US ₄₂₉	16.2	X	228.50460	200.35028	244.30774	8.36178	0.0912836	0.18291848	3.0734843	20	8 6.6	20.9
314426	2005	UC ₄₄₁	16.8	X	19.47163	53.32225	311.93686	5.72748	0.1063355	0.20283909	2.8688089	20	12 5.5	20.6
314427	2005	UA ₄₄₆	16.4	X	282.82263	226.34551	137.19952	1.51330	0.1837889	0.18066449	3.0989948	20	6 20.0	20.5
314428	2005	UO ₄₄₇	16.7	X	34.46686	303.12341	35.28282	2.39409	0.0725094	0.20323355	2.8650956	20	11 17.5	20.3
314429	2005	UV ₄₄₉	15.7	X	11.99394	62.64998	256.97956	10.29082	0.2554992	0.19151564	2.9808026	20	10 9.8	19.0
314430	2005	UE ₄₇₇	16.5	X	253.88692	96.05698	317.11254	3.96671	0.1460648	0.18139046	3.0907206	20	7 23.7	20.9
314431	2005	UM ₄₈₀	17.3	X	253.74606	197.50285	83.91112	22.97898	0.0607670	0.36616005	1.9350346	20	1 30.1	19.9
314432	2005	UR ₄₈₀	17.4	X	57.79216	276.44621	168.85937	22.52292	0.1228402	0.35684378	1.9685689	20	—	—
314433	2005	UO ₄₉₅	15.9	X	138.30874	323.88726	356.21264	11.77767	0.1135433	0.21729914	2.7400851	20	—	—
314434	2005	UV ₅₁₁	16.1	X	31.09337	244.97666	52.86735	9.21133	0.0592934	0.18649263	3.0340887	20	9 22.5	20.2
314435	2005	UU ₅₁₃	15.7	X	245.20807	77.15534	44.15043	10.75138	0.0712586	0.19323379	2.9631070	20	10 20.7	19.8
314436	2005	UX ₅₁₅	16.4	X	352.08201	211.86870	149.24474	12.34924	0.0216403	0.19376152	2.9577244	20	10 17.5	20.6
314437	2005	UZ ₅₂₁	16.9	X	354.94568	250.94835	144.40104	6.57138	0.1232336	0.20271923	2.8699396	20	12 11.3	20.4
314438	2005	UU ₅₂₆	16.3	X	332.44619	53.76100	294.63370	4.52304	0.1234212	0.18665140	3.0323679	20	8 25.6	19.9
314439	2005	UH ₅₂₇	16.5	X	214.25908	342.86394	81.65476	2.52085	0.1296800	0.17530907	3.1617908	20	6 26.6	21.5
314440	2005	UO ₅₃₀	16.4	X	288.95842	204.62894	196.64744	9.97651	0.1039476	0.18856887	3.0117764	20	8 27.5	20.5
314441	2005	VO ₁₅	15.8	X	250.72952	216.44842	199.88213	18.63678	0.2397642	0.18196200	3.0842453	20	7 9.2	21.0
314442	2005	VE ₁₆	15.8	X	233.94348	123.73726	262.40710	8.41854	0.3185281	0.17599619	3.1535560	20	5 15.0	21.4
314443	2005	VP ₂₅	16.0	X	232.44334	44.50028	32.85589	17.41695	0.2657050	0.18161430	3.0881805	20	7 23.1	21.4
314444	2005	VN ₅₀	15.7	X	303.35942	73.54763	263.28566	9.26060	0.2352171	0.18657783	3.0331649	20	6 6.1	19.5
314445	2005	VN ₅₉	16.7	X	226.28125	312.87618	158.99405	3.32216	0.1523877	0.18819953	3.0157155	20	9 4.3	21.3
314446	2005	VF ₆₅	16.9	X	252.51823	256.20212	141.93789	2.57702	0.1691754	0.18153109	3.0891242	20	6 29.7	21.6
314447	2005	VN ₇₉	15.5	X	309.33720	83.04582	292.57948	11.63467	0.1964085	0.18818386	3.0158828	20	8 12.4	19.0
314448	2005	VK ₈₇	16.7	X	333.30626	255.42477	85.65031	2.95014	0.2105297	0.18867364	3.0106613	20	8 15.4	19.6
314449	2005	VM ₉₁	15.9	X	328.72652	145.40315	224.90368	9.44397	0.1053985	0.19116880	2.9844069	20	9 17.6	19.7
314450	2005	VG ₁₀₃	16.3	X	230.84709	335.20953	67.88432	11.73199	0.2291891	0.17689737	3.1428366	20	6 8.2	21.6
314451	2005	VQ ₁₁₃	16.5	X	191.99374	186.33226	293.72493	3.62349	0.1322927	0.18034672	3.1026340	20	8 11.5	21.4
314452	2005	VR ₁₁₃	17.1	X	172.52138	152.28910	344.04545	2.76361	0.1499052	0.17925239	3.1152488	20	8 13.8	22.1
314453	2005	VX ₁₁₄	15.9	X	125.94963	278.64103	265.02980	8.52251	0.0640254	0.18267090	3.0762607	20	8 18.3	20.7
314454	2005	VR ₁₁₇	16.6	X	244.66213	356.76790	53.90862	2.78647	0.1648304	0.17972021	3.1098404	20	7 7.7	21.4
314455	2005	VZ ₁₃₃	16.5	X	197.35914	110.42927	148.97674	13.99099	0.1784669	0.21428261	2.7657405	20	—	—
314456	2005	VD ₁₃₄	16.4	X	36.34689	182.29399	152.93855	12.60623	0.0460501	0.19706028	2.9246237	20	11 14.9	20.6
314457	2005	WL	16.4	X	17.10974	292.75018	62.88515	3.66665	0.0393728	0.19504021	2.9447829	20	11 10.7	20.3
314458	2005	WM ₁	15.8	X	205.56560	54.57888	0.89946	26.67311	0.2681052	0.17254648	3.1954496	20	5 23.6	21.9
314459	2005	WQ ₆	15.8	X	248.18794	147.40677	243.79703	9.41542	0.2199475	0.17811379	3.1285111	20	6 10.9	20.6
314460	2005	WL ₈	16.1	X	18.34135	255.69611	65.41271	8.83071	0.0657313	0.18963198	3.0005095	20	10 5.6	20.1
314461	2005	WC ₉	16.8	X	236.58609	204.27763	237.83012	1.78962	0.1301364	0.18340457	3.0680512	20	8 10.6	21.3
314462	2005	WW ₁₇	15.9	X	314.38514	278.97153	74.33245	10.80025	0.0458620	0.18105285	3.0945616	20	8 13.8	20.2
314463	2005	WD ₂₀	16.7	X	241.66745	106.52037	352.93804	2.88375	0.0992359	0.18715999	3.0268718	20	9 12.4	21.0
314464	2005	WR ₃₂	15.8	X	314.71216	292.84177	68.99054	10.22803	0.0885563	0.18318593	3.0704920	20	8 22.8	19.9
314465	2005	WM ₄₄	16.0	X	345.60312	278.29487	55.43282	3.43357	0.2135885	0.18923306	3.0047248	20	9 3.1	18.8
314466	2005	WR ₅₈	15.6	X	285.89755	124.46856	288.34754	9.60392	0.0308620	0.18106633	3.0944081	20	9 13.4	20.1
314467	2005	WM ₆₀	15.7	X	256.72841	218.71428	223.79075	16.75246	0.0895017	0.18559193	3.0438973	20	9 4.5	20.3
314468	2005	WF ₆₇	16.3	X	216.31935	79.69053	92.15020	3.04325	0.1716551	0.19469596	2.9482530	20	11 16.4	20.6
314469	2005	WO ₆₉	16.2	X	78.46643	163.54094	78.25636	10.86619	0.0474701	0.18204964	3.0832554	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>
314481 2005 WE ₁₁₅	15.3	X	198.24584	40.75281	93.02533	17.76456	0.0618979	0.18047294	3.1011872	20	9 17.3	20.2
314482 2005 WO ₁₂₀	15.1	X	192.68061	201.23813	261.33942	27.73452	0.1658290	0.17446432	3.1719887	20	7 13.8	20.6
314483 2005 WJ ₁₃₁	17.1	X	187.19857	44.76868	68.24407	2.37888	0.1874084	0.17697053	3.1419703	20	7 28.7	22.4
314484 2005 WC ₁₃₇	16.2	X	159.94435	141.04944	54.69669	7.13938	0.1377336	0.19095432	2.9866412	20	10 15.5	21.0
314485 2005 WZ ₁₄₁	16.5	X	260.16350	5.41747	36.39925	5.66139	0.1632837	0.18581948	3.0414118	20	7 15.3	20.9
314486 2005 WZ ₁₄₂	15.0	X	279.55715	300.87547	94.41680	28.08940	0.2419830	0.18069306	3.0986681	20	7 17.4	19.4
314487 2005 WT ₁₄₅	16.4	X	46.56140	242.27355	34.70659	2.64052	0.0680025	0.18431703	3.0579173	20	9 13.9	20.5
314488 2005 WR ₁₆₅	17.1	X	227.63955	350.13398	78.27228	2.85330	0.1510433	0.17854891	3.1234262	20	7 13.5	21.9
314489 2005 WW ₁₆₆	16.6	X	309.88282	314.70912	91.04208	2.72566	0.0528501	0.19092991	2.9868958	20	10 13.0	20.5
314490 2005 WO ₁₇₁	16.5	X	300.29047	186.22690	188.29166	1.86692	0.0935743	0.18171297	3.0870626	20	8 11.7	20.4
314491 2005 WU ₁₇₉	15.7	X	332.94349	56.16660	300.50452	7.48771	0.1017575	0.18872749	3.0100886	20	9 6.1	19.5
314492 2005 WD ₁₈₂	15.9	X	296.80243	260.80450	97.31852	10.71301	0.2404951	0.18306111	3.0718876	20	6 23.8	19.7
314493 2005 WH ₁₈₃	15.8	X	310.23768	333.19004	50.50190	9.85047	0.1038728	0.18803106	3.0175165	20	9 13.9	19.7
314494 2005 WW ₁₈₄	15.7	X	222.90786	10.86377	53.66331	10.78873	0.1032799	0.17716096	3.1397184	20	7 8.5	20.6
314495 2005 WQ ₁₈₆	16.4	X	242.21840	153.76485	287.13484	4.41508	0.1327543	0.18508863	3.0494128	20	8 14.7	20.9
314496 2005 WS ₁₉₀	15.6	X	6.31282	242.91522	78.88502	15.03687	0.2561728	0.19229808	2.9727114	20	10 15.0	18.9
314497 2005 WF ₁₉₁	16.0	X	314.52494	90.20424	279.79446	4.38668	0.1710229	0.18750307	3.0231785	20	8 19.0	19.3
314498 2005 WQ ₁₉₂	16.9	X	28.26181	163.47679	271.66727	16.67121	0.0940508	0.34697280	2.0057298	20	—	—
314499 2005 WL ₁₉₄	15.7	X	149.81140	268.13048	216.94945	24.61055	0.2434353	0.17119590	3.1222338	20	7 7.5	21.7
314500 2005 WS ₁₉₅	15.5	X	353.93875	35.75960	279.97542	9.97656	0.0995312	0.17584200	3.1553991	20	8 14.3	19.5
314501 2005 WP ₁₉₈	15.7	X	95.66188	185.22553	58.92514	11.99373	0.0774478	0.18772375	3.0208088	20	10 9.2	20.3
314502 2005 WB ₂₀₈	16.5	X	203.23610	31.24822	91.27354	3.75442	0.1382831	0.18106754	3.0943943	20	8 27.3	21.4
314503 2005 WB ₂₁₁	16.5	X	285.26127	198.83293	178.89802	1.46489	0.0963482	0.18123925	3.0924395	20	7 24.9	20.6
314504 2005 XL ₂	15.9	X	270.73765	85.55130	293.41123	4.44687	0.0936044	0.17359581	3.1825597	20	7 7.5	20.4
314505 2005 XV ₂	15.9	X	207.49193	227.45386	264.89860	11.69874	0.1831715	0.18400350	3.0613901	20	8 30.5	21.2
314506 2005 XG ₃	15.7	X	250.23849	86.35968	308.39433	8.11639	0.0898083	0.17882649	3.1201932	20	7 3.7	20.2
314507 2005 XL ₂₄	17.4	X	87.65347	125.48212	267.19409	17.85705	0.0791284	0.35006443	1.9939032	20	—	—
314508 2005 XS ₃₀	15.6	X	214.76217	176.72351	246.38017	14.54040	0.1837202	0.17341090	3.1848217	20	6 21.0	20.8
314509 2005 XS ₃₄	15.9	X	263.11160	101.30604	264.12566	8.27717	0.2456478	0.17560568	3.1582294	20	5 21.6	20.7
314510 2005 XM ₃₆	16.9	X	236.59032	46.12102	95.87538	0.96577	0.1807013	0.17923469	3.1154539	20	8 9.9	21.3
314511 2005 XD ₅₇	15.6	X	293.46896	324.96296	95.67077	9.92583	0.0839966	0.18963724	3.0004539	20	10 9.5	19.6
314512 2005 XM ₆₇	16.3	X	268.06292	357.82143	65.03061	11.66798	0.1208477	0.18506842	3.0496348	20	9 1.5	20.7
314513 2005 XE ₆₉	15.5	X	288.89842	92.71756	281.99352	13.20349	0.1042969	0.18007365	3.0757699	20	7 23.3	19.6
314514 2005 XX ₇₀	15.7	X	192.36585	327.44999	128.84298	18.75278	0.1847508	0.17584608	3.1553504	20	7 12.5	21.0
314515 2005 XD ₇₉	15.5	X	204.72699	157.94529	273.30027	11.43788	0.0551791	0.17497375	3.1658290	20	6 29.6	20.3
314516 2005 XW ₈₂	15.8	X	260.14207	113.46728	314.62811	11.72702	0.1493115	0.18704157	3.0281494	20	8 17.6	20.2
314517 2005 XF ₉₀	15.9	X	351.60815	41.31505	278.00520	9.59865	0.0984576	0.17904006	3.1177114	20	8 15.6	19.9
314518 2005 YO ₁	15.9	X	230.34688	67.65850	337.07655	12.39441	0.3016179	0.17428112	3.1742112	20	6 4.3	21.6
314519 2005 YM ₂	16.1	X	289.98215	111.65516	256.83973	11.00907	0.0635669	0.18018032	3.1045440	20	7 21.6	20.4
314520 2005 YP ₄	16.1	X	164.76858	101.59958	60.79210	8.28012	0.2077989	0.17968502	3.1102464	20	9 10.7	21.5
314521 2005 YH ₆	16.1	X	201.24800	51.15060	83.07636	10.59890	0.0192056	0.18442455	3.0567286	20	9 22.7	20.6
314522 2005 YF ₉	16.8	X	195.50714	112.65040	47.43258	3.65133	0.1325998	0.18800302	3.0178165	20	10 5.0	21.5
314523 2005 YC ₁₁	16.7	X	247.29296	11.35820	27.12230	1.91986	0.1090938	0.17437549	3.1730659	20	7 1.7	21.3
314524 2005 YS ₁₄	15.5	X	108.92362	102.33802	111.55608	6.83831	0.0978882	0.17398643	3.1779944	20	9 14.6	20.3
314525 2005 YP ₁₆	15.4	X	322.55163	223.24985	118.67011	11.08951	0.0758899	0.17346552	3.1841531	20	8 4.3	19.5
314526 2005 YW ₁₆	16.1	X	177.63191	21.98167	120.67015	5.71946	0.0973296	0.17533149	3.1615213	20	8 27.8	21.0
314527 2005 YH ₂₀	15.8	X	23.25752	344.50802	289.16599	3.33731	0.1422825	0.17203146	3.2018240	20	8 12.6	19.6
314528 2005 YX ₂₅	15.6	X	293.27935	99.06463	292.90996	9.55605	0.0445484	0.17778908	3.1323190	20	8 26.9	20.0
314529 2005 YH ₂₇	15.6	X	30.76781	358.10529	305.76976	8.75619	0.0856171	0.17947766	3.1126416	20	9 22.7	19.9
314530 2005 YR ₂₇	15.6	X	134.18231	229.28397	312.89851	4.19151	0.1172410	0.17361854	3.1822819	20	8 30.6	20.5
314531 2005 YS ₃₀	16.2	X	163.68574	199.90526	297.84186	6.58959	0.0791229	0.17205494	3.2015328	20	8 5.1	21.1
314532 2005 YQ ₄₁	14.8	X	191.54006	186.49218	294.11555	25.76545	0.0732966	0.17501408	3.1653426	20	8 7.5	19.8
314533 2005 YO ₄₂	15.4	X	246.80350	308.63460	100.81394	10.52908	0.0710971	0.17349383	3.1838067	20	7 20.1	19.9
314534 2005 YD ₄₃	15.2	X	234.12384	334.73526	118.01202	10.01684	0.0713461	0.17831058	3.1262088	20	8 31.1	19.8
314535 2005 YU ₄₈	15.6	X	102.89287	253.57922	307.63722	7.26204	0.0965713	0.17012645	3.2256815	20	8 18.8	20.5
314536 2005 YM ₅₄	15.8	X	104.24381	78.49238	122.48596	9.38491	0.1335022	0.17137916	3.2099435	20	8 27.2	20.7
314537 2005 YS ₆₈	15.8	X	323.58644	51.99885	294.80423	9.38529	0.0804573	0.17683417	3.1435853	20	8 9.7	19.8
314538 2005 YU ₆₈	15.7	X	55.41210	307.10179	312.40472	4.49879	0.1580225	0.17465832	3.1696394	20	9 12.6	20.0
314539 2005 YQ ₇₃	15.4	X	192.81062	21.74008	89.92448	14.88464	0.1081815	0.17510050	3.1643010	20	8 5.9	20.5
314540 2005 YK ₈₂	15.1	X	54.97982	171.67506	118.27723	13.04523	0.1219275	0.18076069	3.0978953	20	10 23.3	19.7
314541 2005 YE ₈₄	15.1	X	265.39185	283.93188	119.27383	18.83879	0.0626007	0.17505354	3.1648669	20	8 6.1	19.5
314542 2005 YT ₉₀	15.6	X	120.26836	97.18847	124.56280	13.84863	0.1494483	0.17611062	3.1521898	20	10 12.4	20.8
314543 2005 YA ₉₂	15.8	X	356.65410	66.98930	270.14377	8.03820	0.1295345	0.18761341	3.0219931	20	9 19.2	19.5
314544 2005 YS ₉₄	15.9	X	269.46843	67.48784	350.18271	9.47277	0.1810452	0.18622540	3.0369906	20	8 15.1	20.1
314545 2005 YY ₁₀₆	15.6	X	60.24288	326.89195	287.03726	10.53283	0.2182397	0.17370662	3.1812061	20	9 16.1	20.3
314546 2005 YJ ₁₁₃	15.5	X	186.41980	14.65683	110.49248	6.64593	0.0898208	0.17608809	3.1524586	20	8 15.6	20.3
314547 2005 YU ₁₁₃	15.7	X	164.95812	59.82954	64.40831	5.45602	0.0993824	0.16997228	3.2276318	20	7 22.7	20.7
314548 2005 YE ₁₁₈	15.6	X	92.00714	309.37805	304.23068	9.62294	0.0111710	0.18058818	3.0998678	20	9 27.1	20.2
314549 2005 YW ₁₂₄	15.4	X	21.07007	354.22832	308.98167	9.07741	0.1129084	0.17919491	3.1159150	20	9 11.6	19.4
314550 2005 YA ₁₂₅	16.0	X	124.21084	109.25543	74.43765	5.25648	0.1151475	0.17320111	3.1873929	20	8 25.6	20.9
314551 2005 YE ₁₂₅	15.3	X	34.34775	316.60206	303.84814	9.52700	0.0583675	0.17182241	3.2044206	20	8 2.4	19.5
314552 2005 YS ₁₂₅	15.8	X	255.56263	297.04547	95.51041	13.96343	0.1051972	0.17261497	3.1946043	20	7 4.1	20.4
314553 2005 YP ₁₃₉	16.4	X	245.65264	351.32965	3							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
314561 2005 YK ₁₆₈	15.3	X	154.48267	29.19623	137.72517	18.49668	0.1963500	0.17436246	3.1732240	20	9 5.4	20.7
314562 2005 YX ₁₆₈	15.8	X	63.73677	317.06595	302.71158	9.47187	0.0865522	0.17852004	3.1237629	20	9 10.9	20.3
314563 2005 YQ ₁₆₉	15.3	X	155.37644	54.33952	118.12287	17.59824	0.1937610	0.17599936	3.1535181	20	9 15.8	20.8
314564 2005 YF ₁₇₆	15.1	X	120.05896	295.35003	294.78657	25.48447	0.1558552	0.17874121	3.1211856	20	10 2.9	20.7
314565 2005 YW ₁₇₆	16.2	X	48.63735	317.54923	323.49713	1.15329	0.1374746	0.17734313	3.1375679	20	9 29.4	20.3
314566 2005 YH ₁₈₀	15.8	X	225.08579	9.76472	59.13013	5.10351	0.1049739	0.17392687	3.1785198	20	7 16.1	20.6
314567 2005 YV ₁₈₁	15.4	X	196.94983	356.79428	132.53475	18.39026	0.1542257	0.17656477	3.1467821	20	8 28.7	20.5
314568 2005 YA ₁₈₂	14.9	X	169.83035	39.95412	108.06594	19.10100	0.1363972	0.17691980	3.1425710	20	8 29.4	20.2
314569 2005 YH ₁₈₄	16.5	X	135.17048	340.34864	203.44020	4.32228	0.1488428	0.17394788	3.1782639	20	9 3.8	21.6
314570 2005 YN ₁₈₇	16.0	X	84.12890	315.41971	285.02103	7.95167	0.0500794	0.17752955	3.1353710	20	9 6.9	20.7
314571 2005 YX ₁₉₀	15.7	X	101.30353	120.79019	108.98221	12.68490	0.1424919	0.17608951	3.1524417	20	10 3.6	20.8
314572 2005 YV ₁₉₇	15.3	X	55.73329	347.49264	287.44492	9.57575	0.1746112	0.17899846	3.1181943	20	10 1.7	19.8
314573 2005 YF ₂₁₃	15.6	X	244.27430	350.06301	77.64043	10.54650	0.0816077	0.17730914	3.1379688	20	8 10.8	20.2
314574 2005 YF ₂₁₃	15.0	X	91.20046	112.10584	95.26014	11.57920	0.0548846	0.16924931	3.2368168	20	8 11.2	19.7
314575 2005 YJ ₂₁₄	15.7	X	249.38689	85.93045	313.47435	24.55437	0.2136051	0.17499686	3.1655503	20	6 26.9	20.9
314576 2005 YR ₂₁₅	15.4	X	154.35734	199.75089	286.27187	26.11184	0.1338170	0.16927699	3.2364639	20	7 13.1	20.5
314577 2005 YJ ₂₁₆	16.4	X	277.40937	303.85531	83.13602	5.32012	0.0645510	0.17605673	3.1528329	20	8 1.1	20.7
314578 2005 YZ ₂₂₀	15.3	X	195.51575	158.69057	352.40626	11.45503	0.1101800	0.18140025	3.0906094	20	9 22.7	20.1
314579 2005 YQ ₂₃₅	16.1	X	138.94285	259.97399	292.37086	9.68634	0.0511727	0.17865319	3.1222107	20	9 10.3	20.9
314580 2005 YG ₂₄₈	15.7	X	229.80540	292.68079	121.07013	19.42784	0.1475704	0.17160282	3.2071537	20	6 28.4	20.9
314581 2005 YA ₂₆₅	16.0	X	114.36168	108.33764	84.81977	2.16955	0.1184837	0.17115600	3.2127330	20	8 25.7	20.9
314582 2005 YJ ₂₇₄	15.3	X	276.97641	66.81529	323.84707	8.58630	0.0924799	0.17361796	3.1822890	20	7 31.8	19.6
314583 2005 YN ₂₈₈	16.8	X	219.44093	4.96787	94.70271	3.30344	0.2169938	0.18213613	3.0822792	20	8 8.1	21.9
314584 2006 AC ₈	15.8	X	180.53862	347.59253	144.19449	16.23600	0.2186179	0.17324140	3.1868987	20	8 12.9	21.2
314585 2006 AQ ₉	15.7	X	190.88300	35.24499	107.85792	11.62701	0.02729926	0.17946258	3.1128160	20	9 16.1	20.5
314586 2006 AN ₁₀	15.7	X	284.83486	295.57471	112.06721	12.60436	0.0619715	0.18056600	3.1001216	20	9 11.1	20.0
314587 2006 AJ ₁₁	15.8	X	114.90379	105.78359	121.24834	5.20273	0.1570682	0.17504082	3.1650202	20	10 10.7	20.8
314588 2006 AW ₁₂	15.3	X	105.61729	148.05677	96.07289	10.75588	0.0532129	0.18095054	3.0957280	20	10 16.9	20.0
314589 2006 AW ₁₈	15.2	X	165.49577	224.22343	339.39046	26.67139	0.1623171	0.17877299	3.1208156	20	10 11.6	20.8
314590 2006 AZ ₁₈	15.9	X	242.57647	131.28561	269.58791	3.37978	0.1256734	0.16978088	3.2000570	20	6 27.1	20.8
314591 2006 AB ₂₆	15.4	X	100.81258	110.08207	98.63024	10.23673	0.0421681	0.17483002	3.1675639	20	8 24.2	20.0
314592 2006 AK ₃₂	15.3	X	146.43507	155.75530	22.28603	9.16039	0.1403776	0.17379755	3.1800964	20	9 11.4	20.4
314593 2006 AO ₄₅	15.5	X	109.51248	86.34620	114.40312	27.51965	0.1238788	0.17314808	3.1880437	20	9 4.2	20.7
314594 2006 AV ₄₇	15.9	X	140.29748	41.28771	137.16058	6.12064	0.1841811	0.17295439	3.1904234	20	9 5.7	21.2
314595 2006 AS ₆₁	15.2	X	56.31193	143.24921	134.11266	13.40909	0.1082383	0.17675477	3.1445267	20	10 5.6	19.7
314596 2006 AT ₇₁	16.0	X	190.12724	168.38570	287.85691	4.07060	0.1300700	0.16868363	3.2440491	20	7 11.7	21.0
314597 2006 AP ₇₄	15.2	X	178.48398	156.22663	358.47498	15.88103	0.1913329	0.17450120	3.1715418	20	9 10.5	20.5
314598 2006 AV ₈₁	14.7	X	58.37413	335.32589	293.65260	16.16055	0.1774235	0.17687208	3.1431362	20	9 26.4	19.5
314599 2006 AX ₉₀	17.1	X	157.50512	6.88679	157.26037	0.45252	0.1553524	0.17514127	3.1638099	20	9 1.9	22.2
314600 2006 AH ₉₇	15.8	X	219.00253	40.33523	26.15520	9.09252	0.2167590	0.17005425	3.2265945	20	6 27.7	21.3
314601 2006 BE ₁	16.0	X	177.47939	99.56256	6.03856	12.73441	0.1821945	0.16951537	3.2334289	20	7 13.6	21.6
314602 2006 BD ₆	15.4	X	200.81465	187.25044	296.60457	15.20921	0.1615882	0.17527690	3.1621777	20	8 18.5	20.7
314603 2006 BD ₂₈	16.6	X	123.24875	166.94564	311.16494	4.27586	0.0308451	0.16053397	3.3529320	20	5 23.3	21.4
314604 2006 BN ₅₇	15.3	X	297.06362	33.28838	329.98383	10.40609	0.1076475	0.17092803	3.2155889	20	7 22.9	19.5
314605 2006 BK ₇₃	16.3	X	160.02418	55.80070	75.09541	4.17884	0.0924438	0.16720894	3.2630950	20	7 25.4	21.3
314606 2006 BL ₁₅₀	17.8	X	34.60471	100.60521	324.14994	12.32145	0.0490189	0.33961033	2.0346144	20	—	—
314607 2006 BJ ₂₀₁	15.3	X	76.54082	102.38149	131.02021	13.05120	0.0887307	0.17302860	3.1895111	20	8 30.7	19.8
314608 2006 BQ ₂₇₄	15.6	X	150.24265	239.90293	346.88122	9.00909	0.1298887	0.17974016	3.1096103	20	11 5.2	20.8
314609 2006 BM ₂₇₈	15.4	X	111.14457	238.37680	337.28035	8.05246	0.1010847	0.17268295	3.1937659	20	9 15.1	20.3
314610 2006 CL ₄₄	16.2	X	267.60349	263.80951	119.60996	10.72985	0.2426259	0.17565494	3.1576389	20	6 19.1	21.0
314611 2006 DH ₁₂	15.6	X	154.48796	28.88517	164.82674	5.65015	0.1350404	0.17212906	3.2006137	20	10 4.9	20.7
314612 2006 DZ ₂₄	18.3	X	101.91001	115.51751	143.12744	3.12745	0.1000246	0.31255969	3.2503743	20	11 22.2	21.2
314613 2006 DQ ₅₁	15.7	X	332.59078	260.42144	63.91515	1.33153	0.0481368	0.16756471	3.2584746	20	7 28.1	20.1
314614 2006 DD ₅₉	16.9	X	15.84512	224.77201	345.95586	7.19474	0.0569258	0.28627564	2.2800609	20	4 24.5	19.4
314615 2006 DY ₉₁	18.5	X	247.23450	123.55111	338.37163	3.66851	0.0452377	0.31267491	2.1498461	20	10 21.1	20.7
314616 2006 DF ₁₀₄	17.0	X	6.23009	191.92851	357.56178	4.73413	0.0748372	0.28156690	2.3054108	20	3 10.9	19.4
314617 2006 DC ₁₂₁	15.2	X	172.30841	22.48693	121.32811	14.79918	0.1027672	0.17041001	3.2221022	20	8 24.2	20.3
314618 2006 DU ₁₂₃	16.2	X	134.99704	51.63001	172.96999	5.69567	0.1259102	0.17358129	3.1827372	20	10 23.5	21.2
314619 2006 DZ ₂₁₀	15.2	X	186.24192	330.85659	190.59906	22.52838	0.0907733	0.17135576	3.2102357	20	9 26.0	20.2
314620 2006 EG ₆₂	17.7	X	75.74373	231.57664	332.08405	7.24430	0.0423985	0.29590467	2.2303251	20	7 24.0	20.2
314621 2006 FO ₇	18.0	X	285.63068	14.30653	30.61624	4.50321	0.0362149	0.30360815	2.1924369	20	9 28.3	20.1
314622 2006 FR ₁₁	17.8	X	66.72888	161.83871	96.60481	2.27350	0.1442987	0.30188958	2.2007496	20	10 15.5	20.6
314623 2006 FD ₂₉	18.0	X	70.98599	210.54062	33.00038	4.73013	0.1483977	0.29779642	2.2208696	20	9 30.1	20.7
314624 2006 FO ₄₁	17.2	X	272.26062	325.63461	44.36486	5.04166	0.1792771	0.29228838	2.2486836	20	6 17.8	19.9
314625 2006 FB ₅₄	18.0	X	97.71797	63.45158	173.96262	5.32036	0.1104389	0.30375782	2.1917167	20	10 19.5	20.8
314626 2006 GC ₁₃	18.0	X	98.14059	163.50624	75.49773	3.95898	0.0946480	0.30392814	2.1908977	20	10 21.3	20.8
314627 2006 GY ₂₆	17.3	X	292.17876	281.66809	46.02774	7.42595	0.1463342	0.28535191	2.2849789	20	5 20.7	20.0
314628 2006 HU ₂	17.9	X	245.87628	219.83052	64.51487	3.73567	0.1413315	0.27179190	2.3603607	20	1 31.4	21.5
314629 2006 HB ₉	17.6	X	26.55214	330.92901	316.08603	2.05564	0.1475746	0.29906239	2.2145977	20	9 27.8	19.9
314630 2006 HH ₁₆	17.8	X	102.74756	155.09792	76.77677	4.42538	0.1642075	0.30087487	2.2056949	20	10 21.3	21.0
314631 2006 HB ₁₇	15.1	X	216.19769	336.23230	194.27359	22.59506	0.2004818	0.18115279	3.0934233	20	10 30.7	20.1
314632 2006 HU ₃₉	17.1	X	50.40471	158.16269	118.67315	8.52597	0.1979775	0.29663745	2.2266506	20	10 30.2	20.1
314633 2006 HT ₄₆	17.7	X	254.68987									

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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>
314641 2006 <i>JM</i> ₃₃	18.0	X	113.92796	173.54873	48.99583	3.17579	0.1019715	0.30172964	2.2015273	20	10 16.3	21.0
314642 2006 <i>JY</i> ₃₃	17.9	X	71.40130	252.27819	55.30003	13.44234	0.2173191	0.23492696	2.6012423	20	12 15.6	22.1
314643 2006 <i>JZ</i> ₄₄	17.3	X	293.06202	235.73256	75.41187	5.83090	0.1757398	0.28094619	2.3088051	20	4 25.6	20.0
314644 2006 <i>KE</i> ₇	18.0	X	128.09914	76.80117	64.95449	3.59287	0.1416534	0.29029790	2.2589509	20	7 14.3	21.2
314645 2006 <i>KY</i> ₁₁	17.5	X	332.78460	151.93854	155.18122	11.69350	0.1017655	0.28910833	2.2651431	20	7 9.1	19.9
314646 2006 <i>KP</i> ₂₇	16.5	X	176.99759	327.60054	55.06149	9.91317	0.2741352	0.27112449	2.3642327	20	4 4.7	20.7
314647 2006 <i>KW</i> ₁₀₁	14.9	X	301.98164	60.81899	161.47258	10.37461	0.1220153	0.12575338	3.9456897	20	2 4.4	20.4
314648 2006 <i>KH</i> ₁₁₂	17.6	X	134.79686	172.62359	8.11696	2.14927	0.0450100	0.29664525	2.2266115	20	9 9.9	20.2
314649 2006 <i>KG</i> ₁₄₄	18.2	X	139.71847	56.09007	132.47386	1.06334	0.0819622	0.30175921	2.2013834	20	9 28.6	20.9
314650 Neilnorman	16.7	X	57.61902	202.16431	165.43831	15.07237	0.2635107	0.22910129	2.6451544	20	—	—
314651 2006 <i>OC</i> ₂	13.5	X	322.02590	103.65182	298.96639	5.25233	0.0713199	0.08097448	5.2914003	20	10 1.3	20.2
314652 2006 <i>OK</i> ₂	17.3	X	348.21441	3.12409	298.23862	4.87976	0.1754007	0.28202691	2.3029032	20	8 1.7	18.7
314653 2006 <i>OG</i> ₄	17.0	X	313.37387	315.56319	343.56634	8.55781	0.2114008	0.26948842	2.3737919	20	4 28.2	19.7
314654 2006 <i>OJ</i> ₈	17.0	X	305.77336	198.52192	118.02040	7.58693	0.1557422	0.27625016	2.3348968	20	5 27.5	19.5
314655 2006 <i>OZ</i> ₁₂	16.6	X	228.15621	56.70134	291.59667	5.82005	0.2027104	0.26390271	2.4071703	20	3 27.6	20.6
314656 2006 <i>OJ</i> ₁₃	17.2	X	313.38334	153.89786	151.88328	10.77723	0.2273777	0.27298556	2.3534751	20	5 13.6	19.7
314657 2006 <i>OW</i> ₂₀	16.6	X	227.40414	340.35838	325.66316	5.96392	0.1204200	0.25831290	2.4417732	20	2 10.8	20.4
314658 2006 <i>PC</i> ₃	16.7	X	252.03797	341.80205	342.85929	6.34291	0.1194946	0.26605787	2.3941534	20	3 28.7	20.2
314659 2006 <i>PV</i> ₉	17.3	X	23.22289	151.54758	128.23431	4.97400	0.1408198	0.28344674	2.2952064	20	9 9.6	19.5
314660 2006 <i>PG</i> ₂₃	17.3	X	340.31239	192.92536	86.49826	3.14858	0.2078335	0.27678161	2.3319070	20	5 30.4	18.9
314661 2006 <i>QC</i> ₁₂	16.8	X	352.41669	278.76988	338.98268	9.58822	0.1933209	0.27530778	2.3402220	20	5 20.8	18.8
314662 2006 <i>QX</i> ₁₃	16.1	X	83.27284	51.33019	332.76226	8.89394	0.0465515	0.24332979	2.5410070	20	—	—
314663 2006 <i>QH</i> ₁₅	16.6	X	221.10026	81.81956	283.16308	5.28990	0.1239377	0.26488214	2.4012328	20	4 15.9	20.3
314664 2006 <i>QS</i> ₁₅	17.2	X	160.46635	251.04412	130.43441	6.78460	0.1264464	0.25562374	2.4588682	20	3 11.8	20.9
314665 2006 <i>QT</i> ₂₄	17.2	X	65.50806	68.75455	289.55537	5.15374	0.3351159	0.22993141	2.6387841	20	—	—
314666 2006 <i>QQ</i> ₃₈	16.6	X	310.22811	334.73712	323.03568	23.42108	0.1360598	0.27109838	2.3643845	20	4 23.5	20.0
314667 2006 <i>QR</i> ₄₇	16.8	X	61.26729	359.37478	7.05750	5.24758	0.3181994	0.22880446	2.6474416	20	—	—
314668 2006 <i>QB</i> ₅₆	16.4	X	66.66301	193.26296	138.66169	2.50363	0.1338036	0.22638616	2.6662619	20	12 31.4	20.3
314669 2006 <i>QW</i> ₆₃	16.9	X	154.23863	332.22694	359.48098	14.49094	0.1884428	0.24320117	2.5419028	20	1 12.2	21.1
314670 2006 <i>QX</i> ₇₇	16.5	X	48.80819	228.73848	162.84866	13.59241	0.1837316	0.23241204	2.6199739	20	—	—
314671 2006 <i>QN</i> ₈₅	18.1	X	51.32297	75.20847	148.74043	0.95239	0.1532411	0.27804730	2.3248249	20	8 2.2	20.5
314672 2006 <i>QP</i> ₈₈	17.7	X	70.36953	241.92763	152.01834	6.25584	0.3195708	0.23465484	2.6032530	20	—	—
314673 2006 <i>QT</i> ₉₃	17.3	X	331.33016	37.25282	268.29676	6.51633	0.1207341	0.27703051	2.3305100	20	7 1.7	19.2
314674 2006 <i>QS</i> ₉₉	16.8	X	22.54417	321.18635	284.96343	9.47410	0.1088181	0.27686051	2.3314640	20	7 9.2	19.1
314675 2006 <i>QK</i> ₁₀₆	17.8	X	73.64660	44.34179	322.43372	2.93862	0.2465400	0.23328631	2.6134240	20	—	—
314676 2006 <i>QM</i> ₁₀₆	17.0	X	294.27592	2.14462	272.46834	1.75098	0.1875939	0.26485636	2.4013886	20	3 4.2	20.1
314677 2006 <i>QU</i> ₁₀₈	16.0	X	228.27115	123.14656	174.84354	21.96289	0.2396699	0.18254979	3.0776212	20	2 2.6	21.6
314678 2006 <i>QJ</i> ₁₁₄	17.2	X	249.73729	71.40534	235.20765	5.75255	0.1486338	0.26073949	2.4265999	20	2 28.8	21.0
314679 2006 <i>QF</i> ₁₂₆	16.6	X	124.99213	263.10838	109.61134	14.55910	0.2017513	0.24413538	2.5354141	20	1 31.8	20.3
314680 2006 <i>QJ</i> ₁₃₅	16.3	X	322.56941	26.81182	347.12051	9.29053	0.0499402	0.21292519	2.7774827	20	9 20.9	19.7
314681 2006 <i>QL</i> ₁₃₆	16.8	X	255.55554	80.60842	231.34099	6.39028	0.2740111	0.26214333	2.4179288	20	3 2.0	20.9
314682 2006 <i>QQ</i> ₁₄₂	16.2	X	352.08363	171.41909	205.45672	16.42884	0.2711462	0.21678496	2.7444161	20	12 4.8	19.0
314683 2006 <i>QY</i> ₁₄₅	17.1	X	86.31536	55.44393	349.92951	7.23208	0.1668246	0.24107866	2.5568007	20	1 19.5	20.1
314684 2006 <i>QC</i> ₁₅₆	17.1	X	88.27755	205.65678	331.16714	5.83865	0.0792112	0.27348826	2.3505902	20	7 6.4	20.1
314685 2006 <i>QZ</i> ₁₈₂	16.9	X	111.78191	112.77835	341.88708	6.18220	0.0834124	0.25718950	2.4488784	20	4 10.6	20.3
314686 2006 <i>QS</i> ₁₈₃	16.0	X	44.68416	75.71337	264.47740	11.25214	0.1894657	0.22320286	2.6915527	20	12 23.6	19.8
314687 2006 <i>RK</i>	16.6	X	8.11260	92.47022	341.28896	12.35420	0.1601115	0.22676149	2.6633190	20	—	—
314688 2006 <i>RX</i>	16.1	X	31.29582	28.49949	355.01644	28.93257	0.1245736	0.22475587	2.6791396	20	—	—
314689 2006 <i>RT</i> ₅	17.2	X	308.42288	10.36644	265.12277	1.78855	0.2033695	0.26197831	2.4189441	20	3 21.9	20.3
314690 2006 <i>RD</i> ₁₂	16.4	X	314.38907	267.83142	139.83077	6.75118	0.3503651	0.21093126	2.7949588	20	9 30.8	18.2
314691 2006 <i>RN</i> ₂₈	17.0	X	72.15934	222.71874	196.66245	6.47772	0.1463624	0.24371296	2.5383429	20	1 8.7	19.8
314692 2006 <i>RQ</i> ₂₈	17.1	X	80.46811	308.10083	270.07350	4.41511	0.1247451	0.28280061	2.2987010	20	8 28.5	20.2
314693 2006 <i>RH</i> ₅₁	17.3	X	1.18451	62.29707	358.01791	0.46731	0.2810902	0.22181472	2.7027703	20	—	—
314694 2006 <i>RS</i> ₅₁	17.0	X	350.60542	95.56021	18.19694	4.42024	0.1551747	0.22989837	2.6390368	20	—	—
314695 2006 <i>RF</i> ₅₆	16.7	X	134.73240	323.63417	24.13687	4.09501	0.0793410	0.23858595	2.5745785	20	—	—
314696 2006 <i>RQ</i> ₆₆	16.7	X	21.11342	54.34035	9.14200	6.24693	0.1009526	0.22825012	2.6517264	20	—	—
314697 2006 <i>RQ</i> ₇₁	16.4	X	344.04591	271.80672	181.39220	11.63700	0.2125397	0.22597601	2.6694871	20	—	—
314698 2006 <i>RJ</i> ₇₂	17.3	X	20.72849	202.86806	346.78201	0.70875	0.1328501	0.25744220	2.4472757	20	4 8.7	19.6
314699 2006 <i>RJ</i> ₈₆	17.4	X	104.65384	165.93639	184.30737	4.39956	0.1907064	0.23466691	2.6031637	20	—	—
314700 2006 <i>RB</i> ₉₇	17.4	X	112.83132	56.69335	290.37372	0.95236	0.1936459	0.23499667	2.6007278	20	—	—
314701 2006 <i>RN</i> ₁₀₀	16.8	X	0.37752	281.69332	128.52108	7.90514	0.3219832	0.22276689	2.6950632	20	—	—
314702 2006 <i>RC</i> ₁₀₁	16.9	X	58.10076	266.87855	120.80383	12.33724	0.2122336	0.23130570	2.6283215	20	—	—
314703 2006 <i>RN</i> ₁₀₇	16.9	X	359.55215	143.34283	5.91381	14.25031	0.1261033	0.24159208	2.5531770	20	1 7.5	20.1
314704 2006 <i>RL</i> ₁₂₁	16.9	X	348.90640	201.25381	0.60179	4.48551	0.1346177	0.25338296	2.4733435	20	2 26.9	19.4
314705 2006 <i>SR</i>	16.9	X	122.59562	10.99558	330.10979	11.38345	0.1891441	0.23737093	2.5833566	20	—	—
314706 2006 <i>SC</i> ₁	17.8	X	81.79121	177.00740	259.25654	1.69040	0.1284531	0.24480846	2.5307647	20	2 14.1	20.7
314707 2006 <i>SB</i> ₂	16.8	X	36.16008	95.34229	315.32987	14.01752	0.2015507	0.23031807	2.6358299	20	—	—
314708 2006 <i>SS</i> ₆	17.2	X	53.06165	271.85791	132.10068	12.62293	0.2719009	0.23250674	2.6192624	20	—	—
314709 2006 <i>SY</i> ₈	16.4	X	25.51009	250.14611	213.20979	8.25056	0.1419902	0.23691947	2.5866373	20	—	—
314710 2006 <i>SH</i> ₁₂	16.5	X	49.07981	205.09326	176.69415	13.57753	0.1943871	0.22658732	2.6646836	20	—	—
314711 2006 <i>SP</i> ₁₈	16.5	X	47.55711	24.99039	24.24147	16.04569	0.1432994	0.23091775	2.6312645	20	—	—
314712 2006 <i>SL</i> ₂₃	16.7	X	38.76847	33.58165	3.22785	12.25057	0.2989114	0.22934771	2.6432594	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>
314721 2006 SD ₇₁	16.6	X	297.65282	288.45668	159.49787	2.30320	0.0465414	0.21618877	2.7494593	20	11 24.2	20.1
314722 2006 SD ₇₂	17.5	X	15.25817	270.66584	170.53655	4.05217	0.1716156	0.22812554	2.6526917	20	—	—
314723 2006 SJ ₇₅	16.9	X	59.47195	332.84384	47.14228	3.89561	0.2897744	0.22842508	2.6503722	20	—	—
314724 2006 SY ₇₅	17.4	X	64.62589	341.53377	36.15299	4.03877	0.1624123	0.22913634	2.6448846	20	—	—
314725 2006 SB ₇₈	17.3	X	73.44356	304.67401	111.81311	5.52348	0.1013935	0.23798488	2.5789117	20	1 3.8	20.1
314726 2006 SY ₇₈	16.7	X	84.58676	60.44264	303.86759	11.59742	0.3071625	0.23287267	2.6165179	20	—	—
314727 2006 SD ₈₄	16.7	X	303.87019	52.64778	161.86629	3.57330	0.1147912	0.24664200	2.5182066	20	1 11.4	20.2
314728 2006 SN ₈₄	17.5	X	73.72879	226.68391	171.05370	3.55480	0.0900897	0.23565882	2.5958539	20	—	—
314729 2006 SG ₉₀	17.2	X	64.65098	156.94552	204.54501	4.97382	0.2384156	0.22694834	2.6618569	20	—	—
314730 2006 SE ₉₁	17.2	X	308.33595	308.61233	215.29628	2.50791	0.0179410	0.23392689	2.6086508	20	—	—
314731 2006 SB ₉₂	16.4	X	1.64909	271.30507	202.34281	13.05761	0.1643401	0.23100259	2.6306202	20	—	—
314732 2006 SU ₉₆	17.5	X	65.75148	358.92594	24.11626	5.15235	0.0653365	0.22977955	2.6399465	20	—	—
314733 2006 SJ ₉₈	17.2	X	331.54813	293.32991	192.21812	5.47025	0.1769211	0.22701562	2.6613310	20	—	—
314734 2006 SY ₁₀₀	17.3	X	14.25567	149.79630	5.13668	4.02481	0.0975764	0.24769989	2.5110316	20	2 9.2	20.0
314735 2006 SO ₁₀₁	17.4	X	89.97535	233.91832	166.93785	2.20451	0.1606948	0.24074637	2.5591528	20	1 15.8	20.3
314736 2006 SB ₁₁₂	16.3	X	119.31739	263.62938	118.63018	14.63885	0.1323680	0.24210988	2.5495354	20	1 27.5	19.7
314737 2006 SD ₁₁₅	17.5	X	76.22468	238.27546	185.26496	1.25170	0.0452876	0.24166887	2.5526361	20	1 9.9	20.7
314738 2006 SV ₁₂₁	17.1	X	46.38895	59.38379	344.51309	11.52545	0.2036493	0.23180485	2.6245471	20	—	—
314739 2006 SX ₁₂₂	17.0	X	71.70602	229.16146	148.15053	13.48940	0.2122675	0.23236412	2.6203341	20	—	—
314740 2006 SK ₁₂₇	16.7	X	79.95249	130.03431	258.28874	13.87698	0.3333627	0.23413549	2.6071012	20	1 10.5	19.4
314741 2006 SR ₁₂₇	16.5	X	120.16863	223.68410	123.55714	13.72417	0.1921112	0.23632817	2.5909501	20	—	—
314742 2006 SX ₁₄₃	17.5	X	55.18497	126.94914	336.06883	1.97178	0.0851102	0.24355924	2.5394109	20	2 5.9	20.3
314743 2006 SX ₁₄₇	17.7	X	64.58573	205.39081	197.79697	2.90620	0.1856619	0.23356615	2.6113362	20	—	—
314744 2006 SZ ₁₅₉	17.3	X	12.72015	317.71230	58.88597	3.03847	0.1941755	0.21821292	2.7324302	20	12 28.3	20.5
314745 2006 SK ₁₆₈	16.4	X	107.70896	53.53837	285.69375	2.96146	0.0324781	0.23328201	2.6134561	20	—	—
314746 2006 SR ₁₈₄	17.5	X	71.28837	327.71969	25.25370	0.58149	0.2215830	0.22739718	2.6583531	20	—	—
314747 2006 SE ₁₈₈	17.4	X	334.92538	313.89863	160.90621	4.36659	0.1592679	0.22899380	2.6459821	20	—	—
314748 2006 SX ₁₉₇	16.0	X	26.25091	20.77194	44.72273	15.69662	0.1719787	0.22800902	2.6535954	20	—	—
314749 2006 SV ₂₀₁	17.3	X	6.60654	128.88248	21.56032	5.81146	0.0964715	0.24178289	2.5518335	20	1 22.9	20.2
314750 2006 SE ₂₀₉	16.7	X	10.63966	54.52015	16.14724	12.77462	0.202095	0.22659779	2.6646015	20	—	—
314751 2006 SF ₂₁₇	17.0	X	69.07591	339.24727	62.36520	5.16729	0.1964196	0.23399286	2.6081605	20	—	—
314752 2006 SA ₂₃₉	17.5	X	348.72895	240.66250	12.74657	3.04013	0.1518309	0.26825304	2.3810743	20	5 10.4	19.6
314753 2006 SD ₂₅₉	17.2	X	358.69114	154.80662	323.69176	0.97040	0.0916339	0.23401455	2.6079994	20	—	—
314754 2006 SA ₂₉₈	16.8	X	165.22872	289.13748	32.74154	9.61612	0.1323905	0.24160260	2.5531029	20	1 3.6	20.7
314755 2006 SS ₃₁₀	17.2	X	323.23814	191.13915	344.38751	5.10041	0.1147384	0.24039045	2.5616782	20	—	—
314756 2006 SH ₃₁₉	16.9	X	26.35621	56.36876	65.09459	4.70204	0.1299768	0.23940504	2.5687028	20	1 14.3	19.4
314757 2006 SD ₃₂₄	16.6	X	9.43865	141.35950	50.92634	4.00411	0.2052669	0.25363537	2.4717023	20	3 20.9	18.5
314758 2006 SD ₃₂₆	17.6	X	34.73364	20.93682	56.60722	3.26678	0.1231333	0.23241529	2.6199495	20	—	—
314759 2006 ST ₃₂₈	16.9	X	301.82215	166.29269	58.65570	4.34558	0.1050939	0.24665247	2.5181353	20	1 25.2	20.2
314760 2006 SG ₃₂₉	17.8	X	51.63445	242.60884	156.12276	2.20287	0.0848087	0.23001852	2.6381178	20	—	—
314761 2006 SO ₃₃₃	17.2	X	58.75093	347.96883	86.44392	3.08577	0.0483093	0.23939377	2.5687834	20	—	—
314762 2006 SP ₃₃₇	17.0	X	303.64010	64.24433	65.40993	5.75354	0.1147077	0.22574382	2.6713173	20	—	—
314763 2006 SE ₃₄₀	17.0	X	61.07986	274.95761	164.10723	7.41785	0.1821893	0.23822493	2.5771790	20	1 22.1	19.5
314764 2006 SF ₃₄₀	17.3	X	50.99246	302.34046	150.13767	5.23827	0.1787196	0.23504653	2.5750463	20	1 21.5	19.8
314765 2006 SP ₃₄₉	15.6	X	50.24822	313.80925	60.19763	14.61596	0.1697313	0.22471612	2.6794556	20	—	—
314766 2006 SH ₃₅₄	17.1	X	52.78094	315.58698	80.63364	4.31861	0.1583757	0.22904004	2.6456259	20	—	—
314767 2006 SY ₃₅₇	17.4	X	13.84832	68.71617	24.33238	8.29656	0.0798107	0.22932638	2.6434233	20	—	—
314768 2006 SN ₃₆₀	17.4	X	150.33664	201.14715	127.16516	1.81129	0.1219909	0.23591146	2.5940003	20	—	—
314769 2006 SQ ₃₆₂	16.2	X	38.85401	8.47026	45.47697	10.00199	0.0059861	0.22767689	2.6561754	20	—	—
314770 2006 SW ₃₆₂	16.8	X	347.91252	295.89783	94.84935	3.79656	0.0309603	0.21282259	2.7783752	20	11 19.7	20.3
314771 2006 SD ₃₆₇	16.1	X	100.25190	92.21587	301.60489	11.66998	0.1799318	0.23748547	2.5825259	20	1 25.1	19.2
314772 2006 SB ₃₇₂	17.1	X	17.40940	293.96965	200.92534	2.36573	0.0871419	0.24379186	2.5377953	20	1 16.9	19.9
314773 2006 SC ₃₇₉	16.4	X	311.86704	76.75189	82.27007	16.11764	0.0857978	0.23038996	2.6352815	20	—	—
314774 2006 SE ₃₉₀	16.6	X	50.66879	267.88282	95.06966	13.36886	0.1916330	0.22249149	2.6972867	20	—	—
314775 2006 SO ₃₉₀	16.5	X	200.44195	161.54141	102.25224	14.47824	0.0737656	0.23093736	2.6311155	20	—	—
314776 2006 SR ₃₉₀	17.2	X	27.55349	48.84993	3.53619	1.94641	0.2075420	0.22839092	2.6506364	20	—	—
314777 2006 SM ₃₉₁	16.7	X	16.27078	88.71608	13.44720	12.96503	0.1305821	0.23378628	2.6096967	20	—	—
314778 2006 SF ₃₉₇	17.5	X	303.54528	127.74683	152.37987	3.71527	0.1203624	0.25918221	2.4363103	20	4 6.7	20.4
314779 2006 SA ₃₉₈	17.2	X	357.11137	57.65482	16.21684	2.93737	0.0892976	0.22822261	2.6946139	20	—	—
314780 2006 SZ ₄₀₁	17.1	X	0.46518	280.78702	213.20012	8.07883	0.1138909	0.23781571	2.5801345	20	—	—
314781 2006 SJ ₄₀₂	17.3	X	80.35046	238.01133	193.05810	3.42838	0.0331654	0.24214313	2.5493020	20	1 23.3	20.5
314782 2006 SH ₄₁₃	16.3	X	28.61664	282.03726	144.15927	10.42882	0.2057743	0.22714052	2.6603553	20	—	—
314783 2006 TM ₁₄	16.9	X	74.92579	254.30707	106.07096	7.51424	0.2294849	0.22870295	2.6482249	20	—	—
314784 2006 TC ₁₇	17.2	X	30.40333	10.57585	45.56955	2.77173	0.1977541	0.22692202	2.6620627	20	—	—
314785 2006 TM ₁₇	16.4	X	72.01771	322.31799	35.90974	4.23558	0.1325708	0.22656142	2.6648867	20	—	—
314786 2006 TU ₁₇	17.1	X	10.78829	320.97596	53.60875	4.51399	0.1292675	0.21682662	2.7440645	20	12 12.4	20.4
314787 2006 TF ₁₈	16.2	X	297.17522	260.81573	202.41541	20.67435	0.1531231	0.21614883	2.7497980	20	12 5.2	19.6
314788 2006 TO ₁₈	17.1	X	44.25275	35.75901	46.02735	3.58227	0.1389892	0.23423566	2.6063578	20	—	—
314789 2006 TH ₁₉	16.8	X	39.74610	145.56062	228.07934	4.48776	0.0739687	0.22142329	2.7059546	20	—	—
314790 2006 TT ₂₀	17.4	X	324.53287	226.24772	203.22605	3.13615	0.1635658	0.21510965	2.7586469	20	12 10.1	20.1
314791 2006 TJ ₃₅	17.0	X	29.24173	133.73513	238.34141	3.68425	0.1247910	0.21907706	2.7252402	20	—	—
314792 2006 TD ₃₆	16.9	X	12.27121	203.32321	239.34426	2.85643	0.1215635	0.22672352	2.6636163	20	—	—
314793 2006 TW ₃₇	17.1	X	56.45820	179.43130	227.08473	0.66743	0.0557552	0.22993426	2.6387622	20	—	—
314794 2006 TP ₃₈	16.7	X	14.91557	78.04437	34.92173	4.50469	0.1372165	0.23201987	2.6229253	20	—	—
314795 2006 TN ₄₂	16.2	X	328.93551	214.25167	222.29965	13.09593	0.1143822	0.21667502	2.7453443	20	12 24.8	1

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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>
314801 2006 TC ₇₂	16.4	X	13.13284	83.89537	341.46081	11.58068	0.1623516	0.22498774	2.6772986	20	—	—
314802 2006 TQ ₇₆	16.4	X	167.07143	343.10987	2.25759	15.07723	0.1230439	0.24284270	2.5444037	20	2 7.3	20.4
314803 2006 TE ₈₂	16.7	X	24.05435	83.02804	333.64132	4.18273	0.0978097	0.22553159	2.6729929	20	—	—
314804 2006 TS ₉₃	17.2	X	28.98075	184.34181	261.47354	1.84795	0.0821160	0.23206822	2.6225610	20	—	—
314805 2006 TP ₉₄	16.8	X	64.77565	336.56098	60.28784	6.37377	0.1948426	0.22990284	2.6390027	20	—	—
314806 2006 TJ ₉₅	16.0	X	80.74973	222.11463	147.97957	29.49395	0.2274327	0.23145981	2.6271547	20	—	—
314807 2006 TL ₁₀₀	16.7	X	359.59049	167.48197	328.45999	2.93629	0.1535671	0.23393856	2.6085640	20	—	—
314808 2006 Martindutertre	15.8	X	148.70904	316.35127	13.11188	14.53518	0.1218927	0.23529111	2.5985577	20	—	—
314809 2006 UL ₂	16.9	X	306.50891	80.32257	33.36008	8.84457	0.1519036	0.22118614	2.7078885	20	—	—
314810 2006 UK ₆	16.6	X	49.97620	354.55141	66.25641	4.93607	0.0809516	0.23148387	2.6269727	20	—	—
314811 2006 UD ₁₃	17.3	X	9.63446	291.28387	132.66772	3.26592	0.0809497	0.22341983	2.6898098	20	—	—
314812 2006 UW ₁₃	17.0	X	225.24189	178.52028	60.23291	6.67309	0.0403657	0.22965822	2.6408763	20	—	—
314813 2006 UY ₂₆	17.1	X	279.01576	233.08817	1.33262	2.09535	0.0806153	0.24210669	2.5495578	20	1 13.1	20.5
314814 2006 US ₃₂	17.5	X	13.63149	350.76708	56.53536	1.75750	0.0865145	0.22197749	2.7014489	20	—	—
314815 2006 UM ₄₂	16.9	X	326.48582	70.45959	48.12083	9.70550	0.1340287	0.22261001	2.6963292	20	—	—
314816 2006 UF ₄₃	16.5	X	138.44578	261.87312	48.18746	12.65751	0.1283077	0.22917813	2.6445631	20	—	—
314817 2006 UL ₄₅	16.8	X	35.86830	324.58790	69.96148	4.20246	0.2303820	0.22323101	2.6913263	20	—	—
314818 2006 UR ₄₅	17.3	X	326.57909	233.61163	194.91552	3.30106	0.0827056	0.21401072	2.7680825	20	12 9.9	20.5
314819 2006 UN ₄₆	17.0	X	348.12995	62.21692	63.66094	7.48592	0.0533040	0.22965565	2.6408959	20	—	—
314820 2006 UK ₄₇	17.0	X	11.79729	245.16183	305.50292	1.26107	0.1431393	0.25420135	2.4680322	20	3 22.9	19.1
314821 2006 UT ₅₀	17.2	X	346.46703	198.22182	264.05338	3.84447	0.1787108	0.22558613	2.6725620	20	—	—
314822 2006 UE ₆₉	15.9	X	26.22381	234.99114	193.76955	12.85681	0.1326796	0.22733758	2.6588177	20	—	—
314823 2006 UG ₆₉	16.9	X	352.00856	303.45220	123.50185	4.56044	0.2262340	0.21961098	2.7208213	20	—	—
314824 2006 UW ₇₀	16.4	X	76.81371	282.51061	61.86916	13.39008	0.2394664	0.22539356	2.6740840	20	—	—
314825 2006 UJ ₇₇	17.0	X	8.11452	75.14034	6.17596	7.70580	0.1944769	0.22572875	2.6714362	20	—	—
314826 2006 UZ ₇₈	17.2	X	142.15263	54.69128	286.61619	2.77546	0.1130847	0.23755780	2.5820017	20	—	—
314827 2006 UN ₈₄	16.7	X	77.33875	336.85984	52.90595	2.85287	0.0986844	0.22996550	2.6385230	20	—	—
314828 2006 UT ₁₀₁	17.5	X	4.30139	317.72466	104.69445	4.32162	0.0777748	0.22235590	2.6983831	20	—	—
314829 2006 UY ₁₀₁	17.0	X	149.13339	198.44587	173.91641	6.19625	0.0835550	0.24296222	2.5435692	20	2 11.0	20.5
314830 2006 US ₁₀₃	17.1	X	354.12362	10.32009	67.03788	5.94330	0.0250107	0.22203422	2.7009888	20	—	—
314831 2006 UR ₁₀₄	17.1	X	286.29227	171.27474	81.46746	4.24930	0.0465367	0.24483307	2.5305951	20	2 19.9	20.5
314832 2006 UH ₁₀₆	16.4	X	175.19780	148.47787	73.81598	7.05076	0.0131983	0.21612993	2.7499583	20	12 10.2	20.1
314833 2006 UK ₁₀₇	16.7	X	178.90173	248.50715	81.73472	4.76147	0.0757108	0.24043205	2.5613827	20	1 24.1	20.3
314834 2006 UQ ₁₀₇	16.3	X	82.74012	302.32719	54.33841	15.31947	0.1254419	0.22627460	2.6671382	20	—	—
314835 2006 UQ ₁₂₉	17.4	X	358.41366	241.93339	234.72242	2.65125	0.1409322	0.23021832	2.6365912	20	—	—
314836 2006 UK ₁₃₁	17.1	X	316.17112	102.42960	26.80212	11.70791	0.2033274	0.22277411	2.6950050	20	—	—
314837 2006 UQ ₁₃₆	16.7	X	344.30848	235.10444	285.17169	3.81370	0.1859416	0.23363535	2.6108205	20	—	—
314838 2006 UZ ₁₆₅	17.4	X	27.42726	345.13115	74.96717	4.70058	0.1395935	0.22728892	2.6591971	20	—	—
314839 2006 UE ₁₆₇	17.2	X	359.25724	79.83866	104.24423	4.14838	0.1276438	0.24665046	2.5181490	20	2 22.3	19.7
314840 2006 UL ₁₆₈	17.0	X	4.69593	9.71120	83.96809	3.54907	0.1319764	0.22857411	2.6492200	20	—	—
314841 2006 UG ₁₇₈	15.8	X	335.01662	62.36630	42.68349	22.62602	0.0161323	0.22704194	2.6611253	20	—	—
314842 2006 UT ₁₇₈	16.9	X	3.36908	278.35119	172.46980	8.93414	0.1650956	0.22653254	2.6651131	20	—	—
314843 2006 UT ₁₈₁	16.5	X	23.16036	1.85071	116.60004	8.70215	0.1526845	0.23429349	2.6059289	20	1 3.7	18.9
314844 2006 UT ₁₈₃	16.6	X	116.08921	280.77060	112.95510	9.64234	0.1605315	0.23980314	2.5658591	20	2 12.8	20.1
314845 2006 UP ₁₈₄	16.7	X	73.09021	289.56435	92.73255	14.76694	0.1963309	0.23066043	2.6332210	20	—	—
314846 2006 UE ₁₈₇	16.8	X	77.21867	85.87051	291.62187	10.58069	0.1856850	0.23219038	2.6216411	20	—	—
314847 2006 UP ₁₈₇	16.6	X	66.64589	130.65788	264.45494	11.75414	0.1688766	0.23244247	2.6197453	20	—	—
314848 2006 UQ ₁₉₂	16.1	X	29.54739	162.15644	238.80934	13.13478	0.1526909	0.22393216	2.6857056	20	—	—
314849 2006 UK ₁₉₃	15.5	X	343.39440	130.66500	12.46550	13.17706	0.1763075	0.23092675	2.6311961	20	—	—
314850 2006 UL ₁₉₇	17.0	X	29.34800	14.76605	46.25466	3.71733	0.0993496	0.22620742	2.6676662	20	—	—
314851 2006 UZ ₁₉₉	17.4	X	340.00681	142.16664	257.04250	0.15642	0.2653844	0.21475783	2.7616590	20	12 7.5	19.4
314852 2006 UT ₂₀₀	16.5	X	80.26524	167.44850	227.74867	13.13653	0.2075209	0.23337286	2.6127779	20	—	—
314853 2006 UH ₂₁₆	17.0	X	56.29341	212.78225	172.35177	5.24766	0.1944273	0.22677022	2.6632506	20	—	—
314854 2006 UE ₂₂₉	16.5	X	328.63500	7.66898	88.28731	4.62131	0.1634552	0.21735251	2.7396365	20	—	—
314855 2006 UM ₂₃₁	17.2	X	83.36398	270.86772	128.75968	3.62160	0.1297063	0.23638996	2.5904986	20	—	—
314856 2006 UG ₂₃₂	17.0	X	20.75440	277.22264	173.64893	11.90867	0.2212433	0.23036946	2.6354379	20	—	—
314857 2006 UK ₂₃₃	16.9	X	80.53746	213.03143	153.80052	3.06213	0.2217489	0.22957224	2.6415356	20	—	—
314858 2006 UG ₂₃₇	16.9	X	13.92435	349.89960	68.16054	3.23366	0.1249283	0.22427005	2.6830074	20	—	—
314859 2006 US ₂₃₉	17.4	X	316.63971	130.57149	20.18653	4.50208	0.0738774	0.22987970	2.6391798	20	—	—
314860 2006 UH ₂₄₄	17.2	X	276.62389	43.82550	207.65094	3.16735	0.0562127	0.24609211	2.5219565	20	2 1.8	20.5
314861 2006 UJ ₂₄₈	17.0	X	302.94805	351.75145	206.58111	4.95620	0.1211191	0.23820032	2.5773564	20	—	—
314862 2006 UV ₂₅₂	17.6	X	344.75893	234.35115	213.50844	2.75912	0.0518913	0.22366825	2.6878178	20	—	—
314863 2006 UX ₂₅₂	17.0	X	317.29662	141.53723	40.75055	5.26641	0.1038406	0.23649732	2.5897146	20	—	—
314864 2006 UV ₂₅₃	16.2	X	9.03881	11.41787	23.76381	14.59477	0.1881432	0.21741977	2.7390714	20	—	—
314865 2006 UQ ₂₅₉	17.0	X	270.86122	142.21496	45.38252	3.18591	0.1265853	0.22875118	2.6478527	20	—	—
314866 2006 UD ₂₆₅	16.8	X	163.74502	316.11636	11.32658	8.58643	0.1086979	0.23883469	2.5727906	20	1 7.8	20.7
314867 2006 UF ₂₇₀	17.2	X	1.62205	248.75100	216.01537	0.87394	0.1015687	0.22751621	2.6574259	20	—	—
314868 2006 UC ₂₇₄	16.2	X	348.72296	96.27073	45.41462	14.63852	0.1011990	0.23079953	2.6321629	20	—	—
314869 2006 UM ₂₇₈	16.5	X	248.79267	11.73957	244.42083	3.55369	0.1060253	0.24100667	2.5573098	20	1 4.3	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>
314881 2006 VE ₃₃	16.1	X	15.64931	34.49117	32.29363	4.78535	0.0625164	0.22437015	2.6822093	20	—	—
314882 2006 VV ₃₇	15.9	X	8.11740	332.21575	72.13742	14.50650	0.2068484	0.21938467	2.7226921	20	—	—
314883 2006 VZ ₃₈	17.0	X	259.96754	147.60712	251.62023	0.84328	0.0975595	0.19547950	2.9403694	20	7 20.4	20.9
314884 2006 VU ₄₆	17.2	X	40.09829	118.81020	257.95818	2.87778	0.2301462	0.22190740	2.7020177	20	—	—
314885 2006 VJ ₄₇	17.2	X	64.87073	333.42115	33.78242	6.81828	0.0549966	0.22328290	2.6909094	20	—	—
314886 2006 VL ₄₇	17.3	X	325.34294	240.85656	257.61606	3.21205	0.1292125	0.22627797	2.6671116	20	—	—
314887 2006 VX ₄₇	17.8	X	28.91036	179.57250	244.08979	1.74728	0.1350268	0.22889105	2.6467739	20	—	—
314888 2006 VR ₅₁	16.1	X	168.92293	54.14994	251.31408	23.18964	0.0786564	0.22873958	2.6479422	20	—	—
314889 2006 VB ₅₃	17.1	X	334.15140	159.81537	305.59469	3.86000	0.0678461	0.22202076	2.7010979	20	—	—
314890 2006 VP ₅₉	17.3	X	343.67582	174.58174	216.89781	6.17456	0.2569474	0.21188607	2.7865560	20	12 2.9	19.7
314891 2006 VE ₆₀	17.1	X	315.64628	33.44990	96.11758	3.83144	0.0509416	0.22297166	2.6934129	20	—	—
314892 2006 VU ₆₅	16.7	X	303.47657	247.45759	235.12812	10.14786	0.1139173	0.21713957	2.7414273	20	—	—
314893 2006 VK ₆₉	17.3	X	31.30389	344.27644	76.67247	2.73894	0.0541589	0.22331701	2.6906353	20	—	—
314894 2006 VL ₇₀	16.9	X	312.18844	220.67131	230.07281	3.55721	0.0780757	0.21335946	2.7737126	20	12 16.4	20.3
314895 2006 VN ₇₁	17.3	X	1.38999	8.74494	73.31621	3.22209	0.0458955	0.22320581	2.6915289	20	—	—
314896 2006 VE ₇₇	16.3	X	328.16574	40.86474	64.83784	13.52225	0.1396857	0.21986110	2.7187573	20	—	—
314897 2006 VV ₇₉	17.2	X	142.13392	126.50993	175.46696	2.10918	0.0531272	0.22399349	2.6852154	20	—	—
314898 2006 VJ ₈₃	17.3	X	347.23710	123.51519	1.24390	1.95006	0.0565463	0.22911425	2.6450546	20	—	—
314899 2006 VZ ₈₃	17.4	X	92.58584	4.90751	37.72216	1.75389	0.1353791	0.23774300	2.5806606	20	1 19.6	20.5
314900 2006 VU ₈₉	15.9	X	308.21435	305.90975	95.41485	10.37446	0.1352145	0.20481995	2.8502823	20	10 5.3	19.4
314901 2006 VT ₉₃	16.8	X	271.55678	357.24836	184.78291	4.03416	0.1121837	0.22389054	2.6860384	20	—	—
314902 2006 VA ₉₅	17.0	X	51.19306	356.46076	25.86283	6.69061	0.0780293	0.22524417	2.6752662	20	—	—
314903 2006 VP ₁₀₂	16.3	X	192.31145	219.96107	71.84122	14.91154	0.1840172	0.23502957	2.6004852	20	—	—
314904 2006 VV ₁₀₂	16.5	X	346.12673	6.37881	78.72699	9.35259	0.2004751	0.21834988	2.7312874	20	—	—
314905 2006 VN ₁₀₆	16.3	X	66.07079	273.27525	107.24381	9.96145	0.1253078	0.22688499	2.6623524	20	—	—
314906 2006 VY ₁₁₆	16.6	X	219.50639	251.33474	37.86495	3.37403	0.1753424	0.24014377	2.5634322	20	1 15.6	20.8
314907 2006 VB ₁₁₇	17.2	X	192.57221	264.18147	346.33578	1.41111	0.0346711	0.22364189	2.6880289	20	—	—
314908 2006 VQ ₁₁₉	16.8	X	85.45127	337.35227	61.23973	4.45224	0.1623361	0.23263832	2.6182747	20	1 8.7	19.8
314909 2006 VR ₁₁₉	17.2	X	316.28539	34.70877	72.04729	3.63858	0.1286957	0.21700771	2.7425377	20	—	—
314910 2006 VJ ₁₃₉	16.9	X	8.79043	292.10941	69.07285	9.20884	0.2981627	0.21228826	2.7830354	20	12 16.5	20.1
314911 2006 VZ ₁₄₄	16.2	X	297.65800	239.46699	261.16765	13.06890	0.1428668	0.21998627	2.7177260	20	—	—
314912 2006 VQ ₁₄₅	16.5	X	357.50567	98.02360	296.00634	8.50349	0.2605329	0.21589003	2.7519951	20	—	—
314913 2006 VB ₁₅₂	16.6	X	49.53967	304.74603	69.22174	6.99296	0.0576418	0.22163615	2.7042219	20	—	—
314914 2006 VT ₁₅₄	16.6	X	80.57397	209.02770	141.10893	7.63609	0.2639524	0.22750932	2.6574795	20	—	—
314915 2006 VS ₁₇₀	16.0	X	211.26439	129.87990	327.93992	5.55047	0.1163409	0.18451853	3.0556907	20	8 5.9	20.7
314916 2006 WC ₉	16.2	X	68.66314	278.30701	78.24780	17.09371	0.0735500	0.22023018	2.7157190	20	—	—
314917 2006 WR ₁₂	17.3	X	300.54313	267.54428	207.36576	4.49839	0.1174845	0.21426862	2.7658609	20	12 28.2	20.4
314918 2006 WB ₁₆	17.1	X	342.66397	113.91589	357.96069	4.48856	0.1261315	0.22380014	2.6867617	20	—	—
314919 2006 WP ₁₉	17.1	X	300.69498	223.24830	315.23523	3.67190	0.1723272	0.23052478	2.6342540	20	—	—
314920 2006 WR ₂₄	17.1	X	24.22681	210.73226	210.34136	5.98068	0.0167455	0.22183746	2.7025856	20	—	—
314921 2006 WN ₂₅	16.1	X	215.59995	178.96572	92.59396	8.72115	0.0853803	0.23171610	2.6252172	20	—	—
314922 2006 WE ₂₉	16.2	X	244.75398	265.93018	324.23065	13.73134	0.0755283	0.23173661	2.6250623	20	—	—
314923 2006 WX ₃₁	16.6	X	44.39705	48.59599	134.62914	10.28200	0.1951093	0.22188827	2.7021730	20	—	—
314924 2006 WM ₃₃	17.0	X	168.31136	205.50505	125.48619	3.32495	0.0647810	0.23633919	2.5908696	20	1 12.1	20.5
314925 2006 WW ₃₈	17.2	X	313.17773	20.91325	88.26272	4.69102	0.1259253	0.21634395	2.7481444	20	—	—
314926 2006 WJ ₄₁	16.9	X	64.43452	221.78619	175.19742	5.49240	0.0798673	0.22665373	2.6641630	20	—	—
314927 2006 WT ₄₈	16.5	X	8.19982	300.35754	85.59662	6.57086	0.0751247	0.21341996	2.7731883	20	12 15.4	20.1
314928 2006 WX ₄₉	16.6	X	12.54752	324.38985	61.53040	4.58667	0.1137456	0.21395017	2.7686048	20	12 26.8	20.2
314929 2006 WC ₅₃	15.9	X	121.02127	248.48633	118.82645	15.50122	0.1605844	0.23551003	2.5969471	20	1 15.2	19.4
314930 2006 WN ₅₃	16.4	X	22.79023	263.74758	145.37924	12.25692	0.1956878	0.22207514	2.7006569	20	—	—
314931 2006 WZ ₅₃	16.2	X	342.57135	17.24710	60.26541	11.43213	0.0146406	0.21627069	2.7487649	20	—	—
314932 2006 WL ₅₄	17.1	X	346.24843	42.42266	30.71873	2.28277	0.0580444	0.21599047	2.7511419	20	—	—
314933 2006 WY ₆₅	16.2	X	276.23491	150.20439	280.77340	7.21388	0.0429065	0.20078927	2.8883005	20	9 26.4	20.3
314934 2006 WX ₆₆	17.0	X	88.68465	251.94324	99.06020	7.10882	0.1048864	0.22303027	2.6929410	20	—	—
314935 2006 WP ₆₈	16.4	X	329.52257	349.32151	91.42663	9.55777	0.2078563	0.21414610	2.7669157	20	—	—
314936 2006 WD ₈₃	17.1	X	118.06673	221.09454	99.78881	6.97722	0.0332058	0.22094903	2.7098254	20	—	—
314937 2006 WL ₉₃	16.5	X	311.92315	304.61402	236.89862	13.43756	0.0875849	0.23113593	2.6296084	20	—	—
314938 2006 WY ₉₇	16.9	X	291.09303	92.24590	66.93912	9.57675	0.1953888	0.21930749	2.7233308	20	—	—
314939 2006 WG ₉₈	16.6	X	281.25740	357.91997	73.57337	3.15526	0.0656883	0.20383650	2.8594428	20	10 7.1	20.4
314940 2006 WY ₉₉	16.0	X	322.29318	55.48365	64.20742	15.07841	0.0420177	0.22494993	2.6775986	20	—	—
314941 2006 WM ₁₀₀	16.5	X	331.65552	339.96716	149.67575	5.82415	0.2083451	0.22445672	2.6815196	20	—	—
314942 2006 WQ ₁₀₁	16.2	X	0.66852	335.94469	71.14834	15.28653	0.1638987	0.21844672	2.7304802	20	—	—
314943 2006 WC ₁₀₂	16.5	X	113.03264	243.57457	82.47315	15.55360	0.2443444	0.22920990	2.6443187	20	—	—
314944 2006 WA ₁₀₃	16.5	X	52.89144	282.19113	72.08852	7.13253	0.0336236	0.21523401	2.7575842	20	12 27.9	20.2
314945 2006 WO ₁₀₈	17.0	X	310.26146	36.81857	73.67025	6.01269	0.1150355	0.21510660	2.7586730	20	—	—
314946 2006 WQ ₁₀₉	17.0	X	326.24304	182.16670	232.63218	0.83515	0.0707149	0.20855732	2.8161282	20	11 19.6	20.3
314947 2006 WV ₁₁₁	16.3	X	317.63605	305.56641	138.51742	11.00216	0.3324925	0.21224832	2.7833845	20	12 16.8	18.2
314948 2006 WJ ₁₁₃	15.9	X	230.08823	129.37697	327.26486	16.70257	0.2824889	0.18798413	3.0180187	20	8 9.7	20.9
314949 2006 WA ₁₁₄	16.9	X	164.54525	175.58832	163.26188	4.58192	0.1290550	0.23729661	2.5838960	20	1 22.5	20.7
314950 2006 WD ₁₁₆	16.0	X	350.91690	342.81244	79.54424	15.16644	0.1748935	0.21566976	2.7538686	20	—	—
314951 2006 WK ₁₂₂	16.3	X	315.76841	9.80775	129.91375	7.34030	0.0157527	0.22429795	2.6827849	20	—	—
314952 2006 WF ₁₃₂	17.5	X	299.35334	130.17295	27.10800	2.35792	0.1292054	0.22391027	2.6858807	20	—	—
314953 2006 WS ₁₃₃	16.8	X	204.70265	320.26681	326.34762	4.30976	0.1792844	0.24069981	2.5594828	20	—	—
314954 2006 WJ ₁₃₄	17.7	X	15.96504	51.96813	7.60774	6.02367	0.0615306	0.22402879	2.6849332	20	—	—
314955 2006 WP ₁₄₃	16.6	X	151.29276	234.68555	86.17252	4.53824	0.2319419	0.23323812	2.6137840	20	—	—
314956 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>
314961 2006 <i>WB</i> ₁₈₉	16.4	X	285.18535	89.41493	87.45974	7.12972	0.0574650	0.22369009	2.6876428	20	—	—
314962 2006 <i>WC</i> ₁₉₀	16.8	X	332.31459	306.71827	109.12390	9.02987	0.2178922	0.21213652	2.7843623	20	12 9.3	19.3
314963 2006 <i>WP</i> ₁₉₁	16.6	X	45.55514	288.94051	66.05761	8.60723	0.2690003	0.21879629	2.7275711	20	—	—
314964 2006 <i>WF</i> ₁₉₂	16.2	X	192.91981	256.27691	76.10007	4.20198	0.1786048	0.24208252	2.5497275	20	2 14.0	20.3
314965 2006 <i>WO</i> ₁₉₂	17.3	X	50.48862	236.95483	119.47303	0.71172	0.0832597	0.21561789	2.7543103	20	—	—
314966 2006 <i>WC</i> ₁₉₈	16.3	X	198.81464	170.67853	292.45268	7.89666	0.0982841	0.18616705	3.0376251	20	7 30.4	20.8
314967 2006 <i>WV</i> ₂₀₂	16.2	X	336.89501	263.55639	113.63855	13.03432	0.0717863	0.19739859	2.9212811	20	10 21.5	20.1
314968 2006 <i>XE</i>	16.5	X	53.07677	287.33981	77.65092	8.39070	0.0794077	0.21914168	2.7247044	20	—	—
314969 2006 <i>XZ</i> ₁	16.0	X	53.87563	155.35971	270.21616	32.46569	0.1876754	0.23339989	2.6125761	20	—	—
314970 2006 <i>XR</i> ₈	15.4	X	148.49586	357.32459	90.40583	18.74803	0.1956839	0.17727961	3.1383173	20	5 29.3	20.7
314971 2006 <i>XG</i> ₁₀	16.0	X	260.18965	116.49169	89.96894	14.84036	0.1108406	0.22029054	2.7152229	20	—	—
314972 2006 <i>XB</i> ₁₁	15.7	X	275.50059	299.62003	87.53086	10.26479	0.1102171	0.19036459	2.9928063	20	7 23.9	19.8
314973 2006 <i>XW</i> ₁₂	16.9	X	261.55497	118.41014	70.77217	5.91415	0.0531990	0.22087624	2.7104208	20	—	—
314974 2006 <i>XL</i> ₁₃	17.4	X	69.94898	74.75540	328.96944	0.66219	0.0961297	0.22779746	2.6552380	20	—	—
314975 2006 <i>XL</i> ₁₅	16.2	X	14.45144	310.40832	96.92189	6.12270	0.0602911	0.21481654	2.7611557	20	—	—
314976 2006 <i>XL</i> ₁₇	16.8	X	31.68100	91.92871	315.91275	6.74035	0.1415961	0.21742414	2.7390347	20	—	—
314977 2006 <i>XT</i> ₁₉	15.7	X	92.77633	249.42426	106.92154	7.57111	0.0765937	0.21965830	2.7204305	20	—	—
314978 2006 <i>XO</i> ₂₁	17.2	X	257.11266	254.40294	245.36712	2.39928	0.1375115	0.20851063	2.8165486	20	11 19.6	20.7
314979 2006 <i>XU</i> ₃₀	15.9	X	128.35179	211.01349	246.43484	8.54590	0.0590098	0.17613991	3.1518403	20	5 6.6	20.5
314980 2006 <i>XV</i> ₃₅	16.5	X	222.85152	90.33019	110.83655	4.90826	0.0373948	0.21225488	2.7833271	20	—	—
314981 2006 <i>XX</i> ₃₉	16.1	X	94.17109	204.86204	132.59120	16.06946	0.2918269	0.22750567	2.6575079	20	—	—
314982 2006 <i>XS</i> ₄₁	16.4	X	241.93819	83.36319	106.80501	5.91126	0.0625746	0.21212794	2.7844374	20	—	—
314983 2006 <i>XL</i> ₄₂	16.4	X	305.91845	220.18291	258.11309	11.66211	0.1137705	0.21635815	2.7480241	20	—	—
314984 2006 <i>XD</i> ₄₃	16.8	X	259.48806	297.63913	128.26641	2.06859	0.1464298	0.19256536	2.9699600	20	8 16.5	21.0
314985 2006 <i>XE</i> ₄₆	16.6	X	322.12848	2.88440	79.99639	4.68865	0.0711462	0.21320522	2.7750501	20	12 21.1	19.9
314986 2006 <i>XX</i> ₄₆	16.6	X	37.55325	103.15151	306.83412	3.69021	0.1652677	0.22320232	2.6915570	20	—	—
314987 2006 <i>XR</i> ₆₂	16.1	X	230.25943	266.57455	292.63884	7.36868	0.0393527	0.21182744	2.7870701	20	—	—
314988 Sireland	15.9	X	45.45242	93.45328	190.63069	9.88017	0.0914051	0.18527192	3.0474012	20	9 23.2	20.0
314989 2006 <i>XR</i> ₇₀	16.2	X	12.49498	28.25136	334.12105	5.52302	0.0737881	0.20363777	2.8613029	20	11 16.8	20.1
314990 2006 <i>YW</i> ₄	16.9	X	340.09648	349.65143	94.98555	0.70842	0.1717718	0.21798656	2.7343214	20	—	—
314991 2006 <i>YE</i> ₈	16.4	X	246.16827	242.84025	302.89604	5.27025	0.0303694	0.21069481	2.7970495	20	—	—
314992 2006 <i>YX</i> ₁₁	16.5	X	313.85353	176.22714	320.93595	5.40214	0.0818963	0.22109166	2.7086598	20	—	—
314993 2006 <i>YW</i> ₁₅	15.4	X	246.38618	188.48709	321.16942	13.38851	0.1522581	0.20481360	2.8503412	20	11 10.3	19.6
314994 2006 <i>YD</i> ₂₃	17.1	X	228.45884	226.63888	331.71937	2.68030	0.0351768	0.21269994	2.7794432	20	—	—
314995 2006 <i>YV</i> ₄₁	16.7	X	292.43677	346.07937	99.45964	6.17133	0.0969257	0.20431393	2.8549865	20	11 7.8	20.2
314996 2006 <i>YG</i> ₅₃	16.0	X	111.27440	120.17144	144.68189	6.37493	0.0174860	0.19945017	2.9012140	20	11 14.6	20.2
314997 2007 <i>AB</i> ₃	17.0	X	46.75020	352.93329	47.96560	3.28035	0.1451385	0.22217288	2.6998648	20	—	—
314998 2007 <i>AP</i> ₆	17.4	X	2.29714	216.27484	318.29601	17.32030	0.0617369	0.37761299	1.8957080	20	1 26.7	18.8
314999 2007 <i>AO</i> ₇	16.2	X	81.38944	359.93629	279.94824	8.46047	0.0476709	0.19764250	2.9188772	20	10 26.3	20.5
315000 2007 <i>AY</i> ₁₉	17.2	X	160.49755	20.00132	126.30235	20.81492	0.1002063	0.40453372	1.8106433	20	9 10.6	19.5
315001 2007 <i>AD</i> ₂₅	16.4	X	207.77668	217.80583	277.87509	12.17496	0.1829770	0.19276550	2.9679040	20	9 6.5	21.5
315002 2007 <i>AP</i> ₂₇	16.7	X	188.51130	136.89295	126.37423	7.49915	0.0301240	0.21582428	2.7525540	20	—	—
315003 2007 <i>AS</i> ₂₇	15.7	X	221.14923	122.36935	106.45581	15.38985	0.0477681	0.21255138	2.7807382	20	—	—
315004 2007 <i>AE</i> ₂₈	15.8	X	311.42696	54.60148	299.22795	8.36528	0.0983838	0.18700118	3.0285853	20	7 31.9	19.5
315005 2007 <i>BE</i>	17.4	X	323.98642	141.23835	104.22655	24.22718	0.0243566	0.38669730	1.8659011	20	4 4.7	19.9
315006 2007 <i>BA</i> ₁	17.0	X	299.17730	221.92153	224.60171	1.93993	0.0804305	0.20410203	2.8569623	20	11 18.6	20.4
315007 2007 <i>BE</i> ₈	16.5	X	278.94120	122.08455	299.27231	8.38631	0.0176978	0.19521781	2.9429966	20	9 6.5	20.5
315008 2007 <i>BP</i> ₁₀	16.3	X	164.55298	65.39273	118.15764	9.74920	0.1523557	0.19178199	2.9780422	20	10 7.3	21.3
315009 2007 <i>BL</i> ₁₇	16.5	X	126.67515	142.83267	259.08534	1.73288	0.0592749	0.23201284	2.6229783	20	2 20.6	20.2
315010 2007 <i>BR</i> ₂₃	16.4	X	320.31480	240.36115	122.04014	10.79808	0.1185017	0.19078589	2.9883987	20	8 28.8	20.0
315011 2007 <i>BO</i> ₃₀	15.3	X	202.45940	294.85014	132.59072	17.58596	0.2342684	0.17825735	3.1268310	20	6 16.6	20.9
315012 Hutchings	16.3	X	177.85872	335.59720	213.60971	6.44090	0.1144721	0.19254893	2.9710290	20	10 23.1	20.9
315013 2007 <i>BX</i> ₃₃	16.2	X	245.81263	317.02036	122.24540	10.94202	0.0235538	0.19028272	2.9936646	20	9 5.7	20.4
315014 2007 <i>BD</i> ₃₅	16.2	X	140.20430	126.45719	113.99508	5.88014	0.0676202	0.19960833	2.8996813	20	11 19.2	20.5
315015 2007 <i>BB</i> ₃₈	16.6	X	135.03584	65.41911	162.36677	2.24818	0.0203326	0.19629551	2.9322150	20	10 26.4	20.8
315016 2007 <i>BX</i> ₃₈	16.2	X	260.92934	17.50105	135.17849	16.12844	0.0835592	0.20598774	2.8394995	20	12 19.9	20.1
315017 2007 <i>BH</i> ₄₄	17.4	X	105.42259	47.16138	322.52237	18.47756	0.0728890	0.36494014	1.9393445	20	—	—
315018 2007 <i>BA</i> ₄₈	16.6	X	254.03222	117.10536	346.13047	7.95737	0.1170536	0.19363747	2.9589874	20	9 28.8	20.6
315019 2007 <i>BW</i> ₄₈	15.9	X	331.47911	20.13069	4.93460	7.41694	0.0769248	0.19264389	2.9691528	20	10 14.6	19.6
315020 2007 <i>BG</i> ₄₉	18.7	X	24.88096	281.55312	332.83006	7.89489	0.3210236	0.39363609	1.8439088	20	9 22.5	20.1
315021 2007 <i>BG</i> ₅₇	16.4	X	269.11930	159.73479	335.93093	12.31529	0.0819156	0.20358256	2.8618202	20	12 6.1	20.4
315022 2007 <i>BE</i> ₅₈	15.6	X	170.23233	338.33828	139.51918	17.63099	0.1761179	0.17983775	3.1084852	20	7 19.4	20.9
315023 2007 <i>BG</i> ₆₂	16.8	X	289.34104	263.79761	171.21270	3.84866	0.0531708	0.19868427	2.9086651	20	10 22.9	20.6
315024 2007 <i>BA</i> ₆₄	16.0	X	112.24335	252.88021	277.36643	3.69751	0.1188074	0.17745003	3.1363077	20	7 25.3	20.7
315025 2007 <i>BE</i> ₆₆	16.7	X	199.85952	150.35636	323.80619	5.33371	0.0382713	0.18259834	3.0770756	20	8 18.9	21.2
315026 2007 <i>BD</i> ₆₉	15.6	X	268.19991	221.41203	146.74645	10.48420	0.1066556	0.17547325	3.1598183	20	6 19.2	20.3
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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
315041 2007 CF ₃₂	16.4	X	126.13686	59.16236	156.64914	1.46061	0.1324675	0.18776847	3.0203292	20	10 6.0	21.2
315042 2007 CE ₃₅	15.4	X	13.60859	161.54856	133.27199	11.73889	0.0737983	0.18002461	3.1063339	20	8 21.3	19.3
315043 2007 CO ₃₅	16.2	X	329.53935	40.90024	316.87138	8.51690	0.0646353	0.18866354	3.0107687	20	9 4.3	20.1
315044 2007 CR ₄₄	15.9	X	169.75972	329.12823	140.84254	10.59518	0.0271070	0.17773299	3.1329780	20	7 8.5	20.6
315045 2007 CX ₄₈	16.6	X	237.18699	223.05657	249.98018	4.26253	0.0621216	0.19212800	2.9744656	20	9 27.7	21.0
315046 Gianniferrari	15.9	X	263.51936	220.57502	3.73985	14.29091	0.0475236	0.21788307	2.7351872	20	—	—
315047 2007 CW ₅₁	15.7	X	149.42143	230.76142	9.42973	7.71112	0.0707533	0.19966558	2.8991271	20	11 25.2	20.2
315048 2007 CG ₅₃	15.8	X	127.19127	238.99242	328.40152	13.20806	0.2717864	0.18112970	3.0936862	20	9 27.0	21.4
315049 2007 CX ₅₅	15.6	X	288.63531	33.04054	127.05340	25.51293	0.0713380	0.21358369	2.7717709	20	—	—
315050 2007 CR ₅₉	15.7	X	184.41159	243.71078	273.10864	11.23831	0.0599704	0.18890483	3.0082044	20	9 16.8	20.5
315051 2007 CW ₆₀	15.2	X	117.64908	78.35566	122.37395	22.29149	0.1200318	0.18019697	3.1043527	20	9 12.8	20.3
315052 2007 CF ₆₆	15.6	X	83.74452	288.64371	297.37923	8.50368	0.1830904	0.17756150	3.1349949	20	9 5.9	20.5
315053 2007 DZ	15.3	X	51.83181	322.23837	320.67974	16.48609	0.1957740	0.18241070	3.0791855	20	10 6.7	19.9
315054 2007 DP ₁₂	15.9	X	207.72673	156.00043	326.08924	15.44531	0.0398092	0.18427978	3.0583294	20	9 4.2	20.4
315055 2007 DM ₁₃	15.8	X	175.09838	174.08065	336.91136	8.61222	0.0860934	0.18438944	3.0571167	20	9 3.8	20.5
315056 2007 DK ₁₄	16.3	X	3.39697	300.81009	355.30065	9.23503	0.0794297	0.17881215	3.1203600	20	8 9.6	20.3
315057 2007 DK ₁₆	16.0	X	189.71144	357.28209	127.66657	9.95354	0.0418320	0.18273914	3.0754948	20	8 21.8	20.4
315058 2007 DS ₁₇	16.5	X	238.98660	268.65601	154.17088	5.25697	0.1514297	0.18136039	3.0910623	20	7 17.6	21.3
315059 2007 DK ₂₀	16.6	X	274.49653	264.74751	135.21638	2.93314	0.1243298	0.18277028	3.0751455	20	8 4.5	20.8
315060 2007 DL ₂₈	15.9	X	80.36417	124.90197	127.06944	6.31471	0.1147419	0.18064093	3.0992642	20	10 2.4	20.4
315061 2007 DQ ₂₈	15.5	X	58.06948	309.61959	350.75067	15.99013	0.0464210	0.18788331	3.0190983	20	10 18.2	19.9
315062 2007 DW ₃₀	16.8	X	192.20633	327.87970	140.40933	4.27945	0.1353365	0.17936260	3.1139726	20	7 28.5	21.8
315063 2007 DP ₃₁	16.1	X	109.02572	108.09257	152.11524	4.78491	0.1868722	0.18694400	3.0292029	20	11 15.6	21.1
315064 2007 DS ₃₂	15.8	X	258.58378	317.31102	154.70155	9.59476	0.0657352	0.19234472	2.9722309	20	10 27.9	20.0
315065 2007 DC ₃₃	15.9	X	115.56863	115.37268	138.69152	4.41600	0.1022753	0.18810230	3.0167546	20	11 9.6	20.5
315066 2007 DL ₃₅	16.8	X	188.71280	147.17909	335.48348	2.39188	0.0919211	0.18044857	3.1014664	20	8 14.2	21.5
315067 2007 DD ₃₆	16.0	X	216.90237	262.24727	164.50067	7.04664	0.1151364	0.17484487	3.1673844	20	7 2.7	20.9
315068 2007 DE ₃₆	15.5	X	63.27242	290.68991	349.26499	10.55779	0.0765363	0.18341970	3.0678825	20	10 6.3	19.9
315069 2007 DW ₃₇	16.5	X	217.72105	301.79804	171.13637	10.29077	0.2148548	0.18613533	3.0379701	20	8 21.0	21.5
315070 2007 DH ₄₁	15.2	X	51.66291	290.45241	336.92633	9.85326	0.0494705	0.17788480	3.1311953	20	9 3.3	19.5
315071 2007 DY ₄₂	16.0	X	247.28281	98.87272	315.25721	15.52947	0.2276787	0.18428782	3.0582405	20	7 9.9	20.9
315072 2007 DH ₄₃	15.7	X	54.99414	281.28400	317.14809	8.66396	0.0664332	0.17495795	3.1660196	20	8 4.6	20.0
315073 2007 DZ ₄₅	15.1	X	261.81385	40.31385	252.78286	7.86817	0.0522951	0.17378028	3.1803070	20	3 12.9	19.8
315074 2007 DC ₅₂	15.4	X	169.10960	190.12927	180.23458	10.54582	0.0889185	0.15149428	3.4850197	20	3 10.6	20.8
315075 2007 DO ₅₂	15.7	X	85.63124	268.84699	329.31438	9.07788	0.0577969	0.17967367	3.1103774	20	9 9.4	20.1
315076 2007 DS ₅₈	16.0	X	99.88825	69.13065	165.63215	5.61091	0.2179763	0.17966273	3.1105036	20	10 10.4	21.0
315077 2007 DT ₅₈	16.0	X	218.88794	289.77488	165.27201	15.62784	0.0451129	0.18078815	3.0975815	20	8 15.2	20.6
315078 2007 DQ ₅₉	15.2	X	135.59727	178.43255	350.34534	9.53906	0.0803764	0.17886777	3.1197131	20	8 17.3	20.0
315079 2007 DB ₆₀	15.0	X	125.48003	265.47313	337.98641	18.84076	0.1916749	0.18649071	3.0341095	20	10 31.4	20.4
315080 2007 DM ₆₅	16.7	X	221.31140	300.65743	168.67130	3.66394	0.0737255	0.18591837	3.0403332	20	9 3.7	21.1
315081 2007 DK ₆₉	16.9	X	168.56339	140.52586	14.10328	1.82612	0.0660314	0.18271688	3.0757446	20	9 2.5	21.5
315082 2007 DP ₇₀	16.9	X	197.94147	347.63562	145.35316	3.66979	0.1390552	0.18508707	3.0494300	20	9 3.1	21.7
315083 2007 DU ₇₀	15.7	X	60.57355	101.95217	161.17280	9.47862	0.0591141	0.17965405	3.1106038	20	9 12.2	19.9
315084 2007 DE ₇₁	16.8	X	183.05465	151.44601	44.12152	2.06305	0.1395815	0.19118376	2.9842513	20	11 3.2	21.5
315085 2007 DS ₇₁	16.3	X	131.74213	168.08261	61.25784	1.67180	0.1196681	0.18627002	3.0365055	20	10 26.5	21.1
315086 2007 DO ₈₁	16.3	X	83.81402	70.46092	162.58268	11.55740	0.0499893	0.18066259	3.0990166	20	9 1.3	20.6
315087 2007 DL ₈₃	15.6	X	324.07693	171.25315	146.94392	10.84148	0.0892197	0.17423176	3.1748107	20	7 4.2	19.8
315088 Daniels	16.0	X	8.66248	152.15266	146.45663	11.81584	0.0863974	0.17936195	3.1139801	20	8 18.6	20.0
315089 2007 DC ₈₆	15.6	X	209.99408	123.57688	339.99610	8.83454	0.0549475	0.17946834	3.1127493	20	8 17.2	20.2
315090 2007 DS ₈₈	15.9	X	131.13940	33.29598	146.82044	10.76729	0.0744490	0.17982247	3.1086613	20	8 24.1	20.5
315091 2007 DL ₉₀	15.4	X	51.34725	114.20096	148.05280	10.26849	0.0664986	0.17912057	3.1167770	20	8 31.1	19.5
315092 2007 DJ ₉₁	15.8	X	49.37024	146.05936	141.87394	3.13592	0.1529984	0.18338928	3.0682218	20	10 13.9	20.0
315093 2007 DK ₉₁	16.3	X	124.57095	54.33408	151.60388	10.96660	0.0444763	0.18434485	3.0576096	20	9 17.7	20.8
315094 2007 DS ₉₁	15.6	X	87.81651	117.87516	147.21541	6.15671	0.1395410	0.18613063	3.0380214	20	10 29.5	20.2
315095 2007 DL ₉₉	15.6	X	41.01569	294.04687	350.01639	10.74181	0.1025769	0.18143233	3.0902452	20	9 18.1	19.5
315096 2007 DG ₁₁₂	16.1	X	61.24392	352.46054	270.65186	0.56932	0.1102935	0.17617494	3.1514225	20	9 19.1	20.3
315097 2007 DW ₁₁₆	15.4	X	99.09816	163.87242	42.81353	16.17225	0.1913068	0.17516840	3.1634832	20	9 10.8	20.6
315098 2007 EX	16.9	X	206.34868	78.85023	297.44021	18.69857	0.4173838	1.21116873	0.8716316	20	—	—
315099 2007 EK ₃	15.3	X	53.43878	290.86480	343.45306	12.99569	0.1278117	0.17943663	3.1131160	20	9 23.6	19.6
315100 2007 EA ₄	15.2	X	1.69124	328.42688	356.68674	8.40015	0.1167894	0.17797328	3.1301575	20	9 14.2	19.0
315101 2007 EU ₅	16.2	X	87.79799	342.29907	242.19914	0.71477	0.1491560	0.17787807	3.1312742	20	9 7.7	21.0
315102 2007 EO ₈	15.7	X	348.71100	325.33374	1.92665	9.23090	0.0507707	0.17656176	3.1468180	20	8 27.2	19.9
315103 2007 EX ₈	15.5	X	288.86699	351.88654	2.88791	9.08952	0.1034693	0.17071977	3.2182035	20	6 29.5	20.1
315104 2007 EP ₁₄	15.5	X	216.52295	7.24746	130.55308	10.85596	0.0523680	0.18941616	3.0027881	20	10 11.2	20.0
315105 2007 ET ₁₉	15.9	X	348.35454	152.81550	161.32082	11.24662	0.0683678	0.17886714	3.1197204	20	8 5.7	20.0
315106 2007 EQ ₂₁	16.5	X	221.11860	125.81697	7.02799	4.59715	0.1473949	0.19017140	2.9948328	20	9 25.6	21.1
315107 2007 EX ₂₅	16.4	X	196.38169	90.60717	21.05703	12.64927	0.2581096	0.18044316	3.1015284	20	8 5.5	22.0
315108 2007 EY ₃₁	15.8	X	141.15190	94.55700	138.97186	10.46888	0.0605905	0.19296574	2.9658504	20	11 12.5	20.4
315109 2007 EQ ₃₆	15.7	X	124.31466	181.07823	38.94511	13.27237	0.2161958	0.18036426	3.1024329	20	10 14.8	21.0
315110 2007 EL ₃₇	15.9	X	16.34474	339.41794	322.79374	3.10449	0.1654474	0.17417994	3.1754403	20	9 11.2	19.6
315111 2007 EU ₃₇	15.5	X	233.84074	114.14489	351.67611	8.92624	0.0155425	0.18280937	3.0747071	20	9 20.8	19.7
315112 2007 EB ₄₂	16.5	X	172.61413	168.75368	0.71740	2.39014	0.1582125	0.18372158	3.0645210	20	9 22.4	21.5
315113 2007 EK ₄₈	17.2	X	102.84149	74.51249	11.64215	21.48022	0.1329367	0.37603706	1.9010007	20	3 21.2	18

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>
315121 2007 EW ₇₉	15.4	X	163.54770	172.49662	357.82821	11.65854	0.0963612	0.17981168	3.1087857	20	9 16.0	20.3
315122 2007 EG ₈₁	14.7	X	97.34831	49.64796	129.13908	28.11912	0.2037417	0.17655351	3.1469159	20	7 29.8	19.7
315123 2007 EE ₈₂	15.2	X	127.99053	32.02468	150.23535	18.42069	0.0960033	0.17691537	3.1426234	20	8 24.5	20.0
315124 2007 EG ₈₂	15.4	X	122.26334	178.97566	6.63007	17.37778	0.1410986	0.17730452	3.1380234	20	8 31.9	20.5
315125 2007 EV ₈₄	15.2	X	114.62586	97.61331	127.28401	11.07290	0.0598772	0.18105981	3.0944824	20	10 3.3	19.9
315126 2007 EC ₈₅	15.1	X	87.44193	70.12984	153.16210	16.93136	0.0610706	0.17434166	3.1734763	20	8 25.5	19.6
315127 2007 ES ₈₇	17.5	X	299.86397	81.43379	178.89698	22.61439	0.0699635	0.37796360	1.8945354	20	2 22.9	19.5
315128 2007 EE ₉₁	16.1	X	118.30678	259.85912	187.67495	25.32621	0.2317447	0.17786777	3.1313952	20	7 18.2	21.8
315129 2007 ED ₉₆	16.3	X	144.48266	296.20802	195.56828	4.13596	0.1280943	0.16825235	3.2495904	20	7 10.8	21.4
315130 2007 EO ₉₈	16.5	X	160.91946	135.66991	22.28686	3.54928	0.1490863	0.18067719	3.0988496	20	8 30.3	21.4
315131 2007 EH ₁₀₀	16.2	X	123.10574	62.83422	176.61051	4.62863	0.0911383	0.18637319	3.0353848	20	10 29.5	20.8
315132 2007 EM ₁₀₀	15.5	X	206.79121	107.87297	340.51404	20.80695	0.1171352	0.17731952	3.1378465	20	7 26.0	20.6
315133 2007 EV ₁₀₃	16.5	X	190.16774	108.21379	3.81294	2.71896	0.0207451	0.17610163	3.1522970	20	8 6.1	21.0
315134 2007 EU ₁₀₈	16.1	X	181.79289	103.31808	39.74712	5.43639	0.0527396	0.17878044	3.1207289	20	9 4.7	20.7
315135 2007 EJ ₁₁₂	15.9	X	161.23127	94.74865	24.61405	9.56581	0.1291665	0.17026034	3.2239902	20	7 14.4	21.2
315136 2007 EK ₁₁₃	16.6	X	109.55242	120.58571	141.62274	8.93340	0.0125318	0.19398564	2.9554458	20	11 8.9	20.9
315137 2007 EM ₁₁₃	16.5	X	175.20856	195.09672	351.57827	11.05254	0.0543757	0.19163166	2.9795994	20	10 16.4	21.1
315138 2007 EP ₁₂₂	15.7	X	185.41560	192.86457	334.10516	8.63052	0.1629950	0.18637306	3.0353862	20	9 28.0	20.6
315139 2007 EM ₁₂₆	16.2	X	302.21218	58.72683	324.35188	7.80554	0.1215981	0.18593305	3.0401731	20	8 23.0	19.9
315140 2007 EO ₁₂₉	16.6	X	144.16265	184.03765	338.61220	0.32468	0.1040244	0.17781739	3.1319866	20	8 17.5	21.5
315141 2007 EZ ₁₄₄	15.6	X	343.09079	181.38752	159.12617	10.53883	0.1098173	0.17922834	3.1155276	20	9 3.1	19.3
315142 2007 EJ ₁₅₄	16.1	X	71.69627	288.71752	309.31602	3.40032	0.1292150	0.17244653	3.1966842	20	9 2.2	20.6
315143 2007 EU ₁₆₀	15.2	X	171.69332	162.82869	349.05196	11.10496	0.1380942	0.18003048	3.1062664	20	9 1.7	20.1
315144 2007 EC ₁₆₁	15.1	X	161.70003	328.93311	206.91074	27.20189	0.1182839	0.17884688	3.1199560	20	9 16.4	20.4
315145 2007 EU ₁₆₉	15.6	X	121.36748	296.76576	199.32137	9.39737	0.0537173	0.16153577	3.3390551	20	6 15.9	20.6
315146 2007 EA ₁₇₁	15.8	X	136.21722	113.01659	76.33671	17.43919	0.1895325	0.18083671	3.0970269	20	9 24.5	21.3
315147 2007 EO ₁₇₃	16.0	X	175.95189	239.48702	120.20613	4.95832	0.1061131	0.16754879	3.2586810	20	6 20.2	21.1
315148 2007 EJ ₁₈₃	16.8	X	191.91318	152.81768	109.46774	2.82433	0.1266094	0.18906311	3.0065252	20	9 29.8	21.8
315149 2007 EF ₂₁₃	15.2	X	167.87159	188.80069	1.78397	18.28200	0.2072010	0.18189756	3.0849737	20	10 8.6	20.5
315150 2007 EZ ₂₁₅	15.7	X	103.54900	170.72853	42.43647	11.27442	0.1297475	0.17431697	3.1737759	20	9 18.2	20.8
315151 2007 EH ₂₁₉	15.7	X	68.43479	179.47538	62.32628	6.68033	0.1330493	0.17140426	3.2096300	20	9 7.9	20.3
315152 2007 ET ₂₂₂	14.7	X	52.03977	169.59549	97.76685	20.44907	0.1474896	0.17358949	3.1826370	20	9 28.5	19.5
315153 2007 ED ₂₂₃	15.6	X	349.84848	139.50815	22.82165	28.40015	0.0538393	0.22029854	2.7151572	20	2 1.9	19.8
315154 2007 FC ₂	15.3	X	77.75431	123.70463	134.88679	17.27827	0.2003230	0.17859131	3.1229318	20	10 21.1	20.4
315155 2007 FC ₁₂	15.5	X	190.75908	295.47378	183.76811	10.15319	0.0711390	0.17802890	3.1295055	20	8 10.3	20.3
315156 2007 FL ₁₂	17.3	X	354.43750	22.65770	192.06751	22.17178	0.0624722	0.37601952	1.9010598	20	3 14.6	18.8
315157 2007 FQ ₁₃	16.0	X	119.29867	98.44736	73.78149	5.99926	0.1098411	0.17475402	3.1684822	20	8 5.5	20.9
315158 2007 FS ₁₈	15.2	X	59.39486	116.83529	166.52624	8.99830	0.0903047	0.18391391	3.0623841	20	10 12.6	19.5
315159 2007 FX ₂₂	15.9	X	153.42272	359.59550	160.84350	5.10757	0.1146161	0.17695075	3.1422045	20	8 23.9	20.8
315160 2007 FE ₂₃	15.7	X	67.84060	94.20263	167.01489	6.26809	0.0268052	0.17767990	3.1336021	20	9 13.7	20.1
315161 2007 FL ₂₃	15.9	X	139.75265	64.45142	147.04274	1.73764	0.1033553	0.18225606	3.0809269	20	10 12.3	20.6
315162 2007 FL ₂₄	16.4	X	198.78265	59.82850	48.17361	1.76660	0.1265603	0.17677812	3.1442498	20	8 4.7	21.3
315163 2007 FR ₃₀	15.3	X	77.12540	77.61281	190.38692	10.04961	0.0350835	0.18041373	3.1018657	20	10 5.2	19.7
315164 2007 FB ₃₂	15.9	X	73.32721	33.93063	208.49556	3.18513	0.1512349	0.17185693	3.2039915	20	9 12.5	20.5
315165 2007 FZ ₃₆	15.7	X	189.26067	289.29788	165.07700	11.20537	0.1633853	0.17117615	3.2124809	20	7 7.1	21.1
315166 Pawelmaksym	15.5	X	47.94044	142.50983	139.95671	10.57597	0.0546395	0.17903665	3.1177509	20	9 21.9	19.8
315167 2007 GE ₄	15.2	X	132.58149	118.77943	82.43647	19.98609	0.1486244	0.17740393	3.1368510	20	10 4.8	20.6
315168 2007 GE ₂₁	17.3	X	357.85840	139.49646	36.69510	21.49752	0.0514822	0.36752358	1.9302456	20	2 2.2	19.7
315169 2007 GH ₃₃	15.2	X	133.97981	33.24997	172.64701	28.04960	0.1439189	0.17633361	3.1495317	20	10 1.8	20.3
315170 2007 GW ₃₇	16.2	X	94.33391	54.17281	170.18679	5.18165	0.1490712	0.17210421	3.2009218	20	9 14.2	21.1
315171 2007 GB ₆₉	16.2	X	190.63546	108.39236	10.50533	8.69614	0.0930468	0.17711292	3.1402862	20	8 14.2	21.1
315172 2007 GY ₇₄	15.3	X	169.79350	31.56023	121.74554	17.51364	0.1892974	0.17758543	3.1347133	20	9 3.3	20.7
315173 2007 HS ₄	17.5	X	82.71397	271.12036	211.98450	21.36691	0.0823232	0.37747046	1.8961851	20	3 29.2	19.3
315174 Sellak	15.1	X	102.96934	154.05258	70.39505	16.00178	0.2252443	0.17502998	3.1651509	20	10 7.9	20.5
315175 2007 HW ₁₄	17.4	X	234.42787	98.67597	136.63045	24.66807	0.0705570	0.35227174	1.9855653	20	—	—
315176 2007 HX ₄₁	16.4	X	198.66625	96.70920	2.88843	3.50286	0.0351842	0.17506750	3.1646987	20	7 30.9	20.9
315177 2007 HB ₄₇	16.1	X	96.70168	86.48684	126.01154	6.68266	0.1237722	0.17185949	3.2039597	20	8 31.9	20.8
315178 2007 HF ₆₄	16.4	X	237.00658	341.35956	177.86803	4.24829	0.1380925	0.19160568	2.9798687	20	11 10.2	20.7
315179 2007 HG ₇₈	15.4	X	217.02857	18.96469	161.73626	11.39741	0.0659485	0.19158873	2.9800445	20	11 29.6	19.9
315180 2007 HO ₈₀	16.8	X	190.94290	111.64471	41.94110	0.79641	0.2098271	0.18292139	3.0734517	20	9 17.5	22.1
315181 2007 HA ₉₀	15.2	X	107.63594	128.67410	85.51982	12.53674	0.1722955	0.17411311	3.1762528	20	9 24.1	20.4
315182 2007 JP ₃₆	16.3	X	267.01868	141.91419	11.72944	4.88174	0.0905831	0.19785053	2.9168308	20	12 24.7	20.2
315183 2007 JK ₄₂	17.0	X	294.54605	102.19810	114.07034	24.09360	0.0421984	0.36208881	1.9495123	20	—	—
315184 2007 JM ₄₂	14.9	X	138.10912	60.30398	140.65527	26.78037	0.1500802	0.17505397	3.1648617	20	10 4.2	20.3
315185 2007 KD ₁	17.6	X	340.90505	41.36416	134.15291	24.46444	0.0487309	0.36003786	1.9569089	20	—	—
315186 Schade	17.1	X	273.81114	18.49560	332.55403	6.58220	0.2991465	0.29231584	2.2485428	20	5 3.3	20.4
315187 2007 OS ₁	17.6	X	216.66756	56.88238	295.76665	9.34585	0.3008541	0.27893757	2.3198757	20	3 18.1	22.0
315188 2007 PZ ₁₃	14.9	X	140.21040	149.44170	123.72628	19.87047	0.2291131	0.17722749	3.1389326	20	12 24.2	20.5
315189 2007 PQ ₂₀	17.7	X	257.99363	60.19281	270.80433	0.82948	0.1844423	0.28626025	2.2801427	20	4 5.8	20.9
315190 2007 PE ₂₂	17.1	X	273.81773	230.09784	144.44371	5.14738	0.1779250	0.29761648	2.2217647	20	6 27.5	19.7
315191 2007 PH ₂₂	17.7	X	292.72305	242.33101	138.70771	5.51026	0.1842297	0.30038689	2.2080830	20	8 9.6	19.2
315192 2007 PG ₂₇	17.6	X	323.26712	291.95044	77.03106	5.65873	0.1701538	0.30557693	2.1830098	20	10 9.1	19.0
315193 2007 PZ ₃₆	17.7	X	281.87143	195.62828	161.92609	5.49224	0.2069269	0.29636916	2.22799			

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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>
315201 2007 QX ₉	17.0	X	299.11035	354.86849	350.13641	7.24902	0.1862486	0.29603363	2.2296773	20	6 22.6	19.2
315202 2007 QN ₁₂	16.4	X	210.17809	350.21546	39.72230	26.49174	0.2033602	0.28324792	2.2962803	20	5 4.2	20.0
315203 2007 QK ₁₅	13.6	X	65.32396	322.36562	338.31880	13.61548	0.0160349	0.08261076	5.2212960	20	10 7.1	20.6
315204 2007 QM ₁₅	13.7	X	324.11187	46.67526	350.39615	6.03001	0.0166363	0.07931535	5.3649361	20	10 2.2	20.6
315205 2007 QO ₁₅	13.6	X	247.18819	342.49023	151.73717	8.20743	0.0245358	0.08250421	5.2257904	20	10 26.5	20.6
315206 2007 RQ ₁	17.2	X	322.16906	330.07176	3.97287	6.34697	0.2014135	0.29930111	2.2134200	20	7 27.1	18.6
315207 2007 RP ₁₀	17.0	X	259.79328	70.93222	322.74794	10.46200	0.0904087	0.29684829	2.2255961	20	7 22.7	19.5
315208 2007 RS ₂₂	13.0	X	0.10059	36.24838	336.82631	13.63359	0.0397763	0.08225586	5.2363034	20	10 13.4	19.9
315209 2007 RC ₃₇	17.4	X	256.96893	5.06713	16.89731	7.42639	0.1773489	0.28884563	2.2665163	20	6 14.4	20.5
315210 2007 RO ₄₈	18.0	X	128.09864	346.10602	162.86473	2.15603	0.1121034	0.28845139	2.2685810	20	7 21.0	21.0
315211 2007 RX ₅₂	17.4	X	112.55873	274.69890	304.70294	4.87944	0.1228369	0.30515299	2.1850311	20	10 8.7	20.5
315212 2007 RJ ₆₀	17.7	X	65.75456	19.74809	275.84093	4.13502	0.1908418	0.31608068	2.1343751	20	12 9.1	20.6
315213 2007 RL ₈₇	17.4	X	168.76292	61.74931	5.30277	2.89548	0.1511701	0.28051147	2.3111899	20	5 15.5	20.9
315214 2007 RR ₉₅	17.3	X	274.59458	324.07783	42.13617	3.11489	0.1704179	0.29162840	2.2520749	20	6 17.1	20.0
315215 2007 RL ₉₇	16.6	X	306.58773	196.64466	148.22363	4.90767	0.1756133	0.29554011	2.2321588	20	7 8.8	18.6
315216 2007 RM ₁₀₅	17.2	X	177.33590	356.76470	44.88893	4.05017	0.0924336	0.27743492	2.3282448	20	4 20.3	20.5
315217 2007 RJ ₁₀₈	18.1	X	200.30525	162.06107	226.64377	1.62783	0.2177827	0.27998035	2.3141119	20	4 25.5	21.9
315218 La Boetie	16.9	X	224.54298	221.02048	175.63602	6.31389	0.1122791	0.28812392	2.2702996	20	6 5.5	20.1
315219 2007 RX ₁₃₇	18.0	X	221.43658	199.11454	186.99681	3.20024	0.1687436	0.28514213	2.2860995	20	5 14.1	21.3
315220 2007 RK ₁₄₀	17.4	X	264.60613	3.29025	353.83164	4.46023	0.1548408	0.29012231	2.2598622	20	5 22.3	20.3
315221 2007 RS ₁₄₈	17.5	X	249.14395	335.71072	39.69331	3.54010	0.1831290	0.28937337	2.2637598	20	5 26.4	20.6
315222 2007 RA ₁₄₉	17.5	X	253.16267	87.80564	294.47358	5.56199	0.1721386	0.28977009	2.2616931	20	6 11.5	20.4
315223 2007 RP ₁₅₄	17.5	X	224.02502	85.50209	328.26036	3.86145	0.1944230	0.29069721	2.2568818	20	6 20.3	20.8
315224 2007 RR ₁₅₄	13.9	X	318.90854	272.22359	150.57743	4.49329	0.0647700	0.08366206	5.1774632	20	10 24.7	20.5
315225 2007 RO ₁₅₅	18.4	X	139.10967	113.32362	333.87380	3.11788	0.1520351	0.28003187	2.3138280	20	5 11.6	21.7
315226 2007 RN ₁₇₅	17.3	X	250.67071	244.13638	149.21259	6.81362	0.1135514	0.29105031	2.2550560	20	7 2.6	20.1
315227 2007 RB ₁₇₉	17.4	X	156.13421	231.75188	189.57168	3.77944	0.0837098	0.27163648	2.3612609	20	4 22.4	20.5
315228 2007 RC ₁₉₂	18.0	X	229.36362	245.85226	193.37209	6.66856	0.0635925	0.29713620	2.2241582	20	8 15.8	20.8
315229 2007 RW ₂₀₆	17.8	X	179.46349	5.16514	80.61371	2.53055	0.1898560	0.28437249	2.2902224	20	6 20.6	21.2
315230 2007 RA ₂₁₃	17.4	X	263.25086	179.08346	181.27949	4.81834	0.1930747	0.29030212	2.2589290	20	5 22.2	20.3
315231 2007 RX ₂₂₇	17.2	X	181.51995	340.46924	58.29120	2.46586	0.1792902	0.27227254	2.3575821	20	4 22.9	20.8
315232 2007 RY ₂₂₇	17.5	X	98.55254	198.11004	55.96052	3.83116	0.1139679	0.30125409	2.2038435	20	11 10.5	20.4
315233 2007 RG ₂₄₇	17.4	X	354.43939	199.31770	144.62526	6.85878	0.2429373	0.30640677	2.1790665	20	11 20.1	19.2
315234 2007 RP ₂₆₀	17.6	X	220.32370	220.25661	214.09468	5.48678	0.0383440	0.28812377	2.2703004	20	7 29.9	20.6
315235 2007 RH ₂₆₁	16.5	X	153.05976	248.74258	176.24213	21.29618	0.2319941	0.27388434	2.3483234	20	5 6.1	20.7
315236 2007 RX ₂₆₉	17.2	X	54.58990	290.58375	335.85562	5.85608	0.0889314	0.30275179	2.1965693	20	9 29.4	19.7
315237 2007 RW ₂₇₂	17.2	X	245.91208	67.37583	353.12642	7.84266	0.0934113	0.29539587	2.2328854	20	8 11.5	19.8
315238 2007 RK ₂₇₅	16.5	X	134.86143	255.09403	122.90213	23.34648	0.2769952	0.26503889	2.4002859	20	2 25.4	20.4
315239 2007 RB ₂₈₀	17.3	X	241.12926	80.42299	284.74218	10.55037	0.2944823	0.28652351	2.2787458	20	4 21.0	21.3
315240 2007 RP ₂₈₄	17.8	X	304.84450	5.49976	17.44340	6.22876	0.1220410	0.30306502	2.1950555	20	9 19.6	19.4
315241 2007 RN ₂₉₀	18.0	X	112.52739	241.48048	190.32257	2.37922	0.1564761	0.26297466	2.4128303	20	3 24.2	21.0
315242 2007 RB ₂₉₁	18.1	X	144.91818	317.01652	136.41991	1.90205	0.1457687	0.27417793	2.3466468	20	5 27.3	21.6
315243 2007 RE ₂₉₆	18.1	X	145.60367	35.82987	6.12453	1.05938	0.1761126	0.27147335	2.3622068	20	3 23.5	21.4
315244 2007 RT ₂₉₆	17.5	X	252.19655	129.09984	219.92732	5.57803	0.1690944	0.27879309	2.3206771	20	4 25.9	20.8
315245 2007 RY ₂₉₈	17.6	X	166.49724	332.85314	45.28729	4.24787	0.1660600	0.27234510	2.3571633	20	3 14.7	21.1
315246 2007 RP ₃₀₀	17.5	X	166.38775	324.70417	182.85590	4.68852	0.2016001	0.30061918	2.2069454	20	9 3.9	20.1
315247 2007 RO ₃₁₁	16.7	X	212.05524	250.47878	94.80166	7.39908	0.1502639	0.27498708	2.3420411	20	3 17.4	20.4
315248 2007 RK ₃₂₀	17.8	X	337.16063	237.45330	139.53270	5.21935	0.0575332	0.30686050	2.1769179	20	11 11.6	20.0
315249 2007 SS ₃	17.5	X	295.11423	280.84961	68.48629	1.25821	0.2501672	0.29408068	2.2395377	20	6 9.5	19.9
315250 2007 SR ₅	17.8	X	329.48961	312.46449	15.61515	2.50794	0.1995956	0.29839080	2.2179194	20	8 4.1	18.9
315251 2007 SJ ₁₁	17.8	X	309.91546	278.77910	57.65793	1.40493	0.1977892	0.29514041	2.2341737	20	6 27.9	19.5
315252 2007 TW ₇	17.7	X	226.60428	267.22732	126.15152	3.01663	0.1745773	0.28585661	2.2822886	20	5 28.5	21.2
315253 2007 TY ₈	17.3	X	207.18411	283.32822	88.62630	4.20311	0.1943714	0.27583758	2.3372228	20	4 12.9	21.0
315254 2007 TK ₁₀	17.0	X	136.40034	33.81686	12.37626	1.30455	0.1708476	0.26763354	2.3847472	20	3 19.4	20.5
315255 2007 TP ₁₀	17.5	X	243.75647	308.10872	46.33477	3.84691	0.1362905	0.28279513	2.2987307	20	4 27.6	20.7
315256 2007 TK ₁₂	17.2	X	149.12773	11.46404	37.22744	5.11438	0.2250183	0.26962318	2.3730008	20	4 9.2	21.0
315257 2007 TO ₁₄	18.0	X	202.93216	54.23143	31.70153	7.40518	0.0350479	0.29300942	2.2449930	20	7 28.2	20.9
315258 2007 TK ₁₈	17.6	X	299.30252	264.95086	66.38575	2.90179	0.2336972	0.29219868	2.2491438	20	5 22.7	19.6
315259 2007 TO ₁₈	16.7	X	253.33204	217.27525	121.35786	6.56582	0.1941551	0.28088273	2.3091529	20	4 14.1	20.2
315260 2007 TN ₂₇	17.7	X	183.47882	145.45487	20.86973	7.09982	0.0648340	0.30401681	2.1904717	20	10 20.9	20.3
315261 2007 TM ₄₀	17.3	X	217.94756	205.44736	217.54361	6.55558	0.0841422	0.28546322	2.2843849	20	7 5.5	20.4
315262 2007 TE ₄₁	16.8	X	73.20613	127.41320	46.93547	7.02839	0.1461942	0.27622760	2.3350239	20	6 21.2	19.6
315263 2007 TA ₄₆	16.5	X	242.47578	353.45829	47.79309	10.35106	0.1954760	0.28732111	2.2745266	20	6 22.0	19.8
315264 2007 TQ ₄₆	17.4	X	193.00550	32.63980	11.56522	11.24745	0.1550751	0.28271404	2.2991702	20	5 6.5	21.1
315265 2007 TL ₄₈	17.3	X	192.15532	55.53554	319.11066	1.42939	0.1991544	0.27439830	2.3453902	20	3 31.7	21.3
315266 2007 TX ₅₇	17.6	X	149.24033	162.39287	26.42832	4.18857	0.0333430	0.29949314	2.2124738	20	10 10.7	20.1
315267 2007 TJ ₆₁	16.9	X	127.73771	229.00058	195.04760	2.27031	0.1360689	0.26752499	2.3853923	20	3 28.9	20.2
315268 2007 TR ₆₄	17.8	X	119.00981	302.15416	136.87849	1.80373	0.1558719	0.26671615	2.3902125	20	4 11.2	20.9
315269 2007 TM ₆₆	18.3	X	186.98542	268.36955	145.96962	2.26855	0.1712962	0.27817318	2.3241236	20	5 18.1	22.0
315270 2007 TP ₆₉	17.4	X	278.14693	148.69824	217.71101	4.30823	0.1931232	0.29231623	2.2485408	20	6 18.9	20.1
315271 2007 TA ₇₆	17.3	X	163.13040	79.18187	26.39432	6.85757	0.0897613	0.28317199	2.2966908	20	6 30.7	20.6
315272 2007 TQ ₈₁	17.6	X	239.96855	265.27731	94.91196	3.19725	0.2190521	0.28234169	2.3011912	20	4 24.9	21.1
315273 2007 TO ₈₇	17.4	X	129.93621	313.44380	183.85459	6.03394						

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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>
315281 2007 TG ₁₁₂	16.9	X	184.35734	75.54090	320.05589	6.47554	0.1180955	0.27676228	2.3320156	20	4 16.7	20.5
315282 2007 TG ₁₁₄	16.8	X	111.30315	68.14730	346.84104	5.08219	0.1318813	0.26283489	2.4136856	20	2 26.3	19.8
315283 2007 TM ₁₁₉	17.5	X	157.61193	97.56306	312.02401	4.34426	0.2259990	0.26983029	2.3717865	20	4 14.7	21.4
315284 2007 TW ₁₂₄	17.1	X	219.14857	350.55785	39.69891	7.91224	0.1097425	0.28192453	2.3034607	20	5 19.6	20.4
315285 2007 TG ₁₂₅	17.3	X	187.89907	319.58302	65.88993	3.51508	0.2015519	0.27459439	2.3442735	20	4 12.6	21.0
315286 2007 TM ₁₂₅	17.1	X	180.32623	235.33631	151.23086	2.87552	0.1894884	0.27300997	2.3533348	20	4 6.9	20.9
315287 2007 TK ₁₂₈	17.9	X	131.85041	176.66730	250.47841	1.14641	0.1791584	0.26752608	2.3853858	20	4 11.1	21.2
315288 2007 TL ₁₂₉	17.2	X	123.73457	63.19553	33.67269	4.54254	0.1798956	0.27002377	2.3706533	20	5 11.6	20.5
315289 2007 TH ₁₃₃	17.9	X	149.36156	294.11151	190.21462	3.17282	0.1313187	0.28212781	2.3023541	20	7 11.3	21.2
315290 2007 TN ₁₄₅	17.6	X	199.25058	32.98503	29.60598	4.94131	0.1720461	0.28267421	2.2993862	20	6 8.3	21.3
315291 2007 TJ ₁₄₇	17.4	X	254.18131	301.57438	74.83191	4.53140	0.1349871	0.28965356	2.2622997	20	6 9.7	20.4
315292 2007 TM ₁₄₈	17.4	X	314.43879	218.02264	128.98434	3.97651	0.1501725	0.29608565	2.2294162	20	8 3.7	19.0
315293 2007 TO ₁₅₅	17.7	X	209.04932	141.39615	268.18387	3.56399	0.1402194	0.28363932	2.2941674	20	6 2.8	20.9
315294 2007 TK ₁₅₆	16.7	X	190.01872	91.47032	245.48813	5.51076	0.1300934	0.26703396	2.3883156	20	2 9.3	20.5
315295 2007 TB ₁₅₇	17.8	X	317.04412	103.25119	234.08296	4.74657	0.1997632	0.29510007	2.2343773	20	7 14.8	19.4
315296 2007 TF ₁₅₇	16.8	X	315.46611	328.06703	12.69882	8.55282	0.0994382	0.29320616	2.2439886	20	8 4.8	19.0
315297 2007 TM ₁₅₈	17.6	X	334.50174	85.43600	314.40685	3.85392	0.0145531	0.31028591	2.1608669	20	12 5.3	20.0
315298 2007 TH ₁₆₀	16.0	X	284.81235	204.82275	223.45210	14.97887	0.1921147	0.22228192	2.6989818	20	9 16.5	19.5
315299 2007 TF ₁₆₃	17.6	X	232.50663	161.75996	197.56054	5.23775	0.1831637	0.28076929	2.3097748	20	4 18.6	21.2
315300 2007 TG ₁₆₉	17.2	X	102.56291	332.21584	116.38589	3.44189	0.1848644	0.26590764	2.3950551	20	4 9.3	20.3
315301 2007 TA ₁₇₄	17.2	X	349.96890	256.04194	63.47929	7.38479	0.1666286	0.30164634	2.2019325	20	9 17.7	18.9
315302 2007 TV ₁₇₇	17.5	X	193.81293	293.56664	71.86268	2.53954	0.1962919	0.27224976	2.3577136	20	3 23.6	21.2
315303 2007 TM ₁₈₇	17.1	X	177.94449	330.02833	119.06017	4.59429	0.0950011	0.28355856	2.2946029	20	6 24.5	20.3
315304 2007 TS ₁₉₉	17.8	X	180.58003	52.81157	16.19811	3.82099	0.1413716	0.28037038	2.3119652	20	5 29.9	21.4
315305 2007 TO ₂₀₄	17.5	X	243.13047	159.80377	185.22854	5.59604	0.1879948	0.27916176	2.3186334	20	4 10.3	21.1
315306 2007 TN ₂₁₂	17.2	X	174.77081	172.46124	255.46013	5.53638	0.0849596	0.27842694	2.3227112	20	5 22.1	20.3
315307 2007 TE ₂₁₆	17.8	X	179.53057	175.33500	260.93156	1.54668	0.1732544	0.27897040	2.3196936	20	6 8.2	21.5
315308 2007 TO ₂₁₆	17.0	X	132.01813	244.58308	228.49821	6.94293	0.1930567	0.27422089	2.3464017	20	6 12.5	20.6
315309 2007 TF ₂₃₃	17.4	X	176.83512	358.54627	60.56566	3.50827	0.1731667	0.27558791	2.3386359	20	5 14.3	21.0
315310 2007 TE ₂₃₄	16.9	X	179.39602	63.36924	59.59189	6.94928	0.0290931	0.28933442	2.2639629	20	8 19.2	19.8
315311 2007 TX ₂₃₆	17.8	X	35.61571	132.02448	153.25924	2.59918	0.0858289	0.29982592	2.2108364	20	10 1.0	20.0
315312 2007 TU ₂₄₄	16.8	X	170.55395	101.42077	269.86893	6.23970	0.1220911	0.26852931	2.3794409	20	3 2.4	20.4
315313 2007 TL ₂₅₇	18.2	X	236.54594	353.91908	39.26808	2.24038	0.0415313	0.28545406	2.2844337	20	6 23.7	20.9
315314 2007 TC ₂₇₃	17.1	X	61.55182	17.91464	92.18699	4.86370	0.1104939	0.26111859	2.4242507	20	2 26.6	19.6
315315 2007 TS ₂₉₀	17.1	X	166.77546	50.84176	58.20986	11.21111	0.1260948	0.28317916	2.2966520	20	7 10.3	20.6
315316 2007 TJ ₂₉₆	17.6	X	183.73835	143.67790	8.75203	6.36388	0.0630137	0.30145821	2.2028485	20	10 2.1	20.3
315317 2007 TQ ₂₉₉	17.7	X	181.07000	74.86915	7.93954	1.82849	0.1615360	0.28180397	2.3041176	20	6 18.4	21.3
315318 2007 TU ₃₀₉	17.6	X	74.71287	97.65714	34.35548	2.76573	0.1511227	0.26560908	2.3968495	20	4 23.6	20.1
315319 2007 TH ₃₁₇	17.1	X	143.13078	18.20091	81.97361	4.22959	0.1338006	0.27549228	2.3391770	20	6 2.4	20.4
315320 2007 TY ₃₃₂	17.7	X	146.99720	237.13780	249.30551	2.48972	0.1295353	0.28163037	2.3050644	20	7 11.8	20.9
315321 2007 TM ₃₃₃	17.8	X	52.07719	353.42498	285.04434	3.20262	0.1640897	0.30078464	2.2061360	20	10 25.3	20.6
315322 2007 TB ₃₄₇	17.3	X	340.52401	201.82963	136.46863	5.71038	0.1809490	0.29900747	2.2148689	20	9 25.6	18.7
315323 2007 TD ₃₅₃	17.3	X	208.18528	313.89023	25.55990	6.22621	0.1361060	0.27237984	2.3569629	20	3 5.3	20.9
315324 2007 TP ₃₅₄	16.7	X	187.08098	247.14024	123.60163	11.38639	0.2177370	0.27189872	2.3597425	20	3 28.3	20.8
315325 2007 TP ₃₆₇	17.4	X	191.27913	307.69683	90.26122	6.86337	0.2831541	0.27649315	2.3335286	20	5 1.9	21.6
315326 2007 TJ ₃₆₈	17.0	X	303.89926	203.06535	37.60278	3.03918	0.1307124	0.26357558	2.4091616	20	2 11.3	20.0
315327 2007 TK ₃₇₃	17.6	X	352.59150	266.59019	43.02621	5.87657	0.2294249	0.29790101	2.2203498	20	9 12.1	18.8
315328 2007 TQ ₃₇₉	17.4	X	173.29917	41.66902	38.58068	10.24244	0.1498025	0.28151831	2.3056760	20	6 5.8	21.0
315329 2007 TQ ₃₈₀	17.7	X	144.99483	38.76224	60.81113	2.68296	0.0845087	0.27870812	2.3211487	20	5 30.8	20.9
315330 2007 TC ₃₈₁	17.4	X	149.73264	301.89041	118.81518	2.10055	0.1708524	0.27124078	2.3635569	20	4 21.4	20.9
315331 2007 TD ₃₉₂	17.5	X	284.06187	327.83395	35.66029	2.89305	0.0710822	0.29198661	2.2502327	20	7 16.5	19.9
315332 2007 TM ₃₉₂	17.5	X	118.94644	95.80710	343.42584	2.00358	0.1789435	0.26670307	2.2902906	20	4 12.8	20.1
315333 2007 TK ₃₉₃	16.5	X	189.70697	64.02752	289.96008	6.50972	0.1443142	0.27256432	2.3558992	20	2 29.6	20.3
315334 2007 TC ₄₁₁	17.2	X	244.91196	351.38595	324.11991	6.59891	0.2001990	0.27841501	2.3227775	20	3 2.7	20.7
315335 2007 TH ₄₁₁	17.4	X	175.77219	33.62682	52.09805	6.13334	0.0957231	0.28379608	2.2933224	20	6 16.9	20.7
315336 2007 TM ₄₁₈	17.1	X	46.32575	122.80706	24.72642	6.89934	0.0835261	0.26686606	2.3893173	20	3 21.9	19.7
315337 2007 TH ₄₁₉	17.0	X	129.94000	89.68437	21.56252	7.08217	0.0667072	0.27650063	2.3334866	20	5 25.1	20.1
315338 2007 TO ₄₁₉	18.1	X	180.76275	175.22808	246.98242	2.70268	0.1987800	0.27688448	2.3313294	20	5 21.8	21.7
315339 2007 TQ ₄₄₁	16.8	X	12.54248	214.53470	4.47358	7.50200	0.0642485	0.28044453	2.3115577	20	5 2.7	19.2
315340 2007 TP ₄₄₅	17.8	X	159.23242	39.60274	67.79035	4.07260	0.1872493	0.27981651	2.3150151	20	6 30.6	21.4
315341 2007 TU ₄₄₅	17.7	X	94.40801	313.54169	236.96030	7.51061	0.1305536	0.28473712	2.2882668	20	8 6.9	21.0
315342 2007 TF ₄₅₁	17.1	X	218.15060	236.22091	59.12141	8.55525	0.1651803	0.26524232	2.3990585	20	1 19.7	21.0
315343 2007 UW ₂	17.4	X	145.86652	59.65522	69.87373	3.26215	0.1087950	0.28552218	2.2840704	20	7 14.8	20.6
315344 2007 UO ₄	17.3	X	164.72838	76.66733	351.54346	4.91831	0.1259241	0.27653640	2.3323853	20	5 11.1	20.7
315345 2007 UE ₁₀	16.8	X	277.79608	270.79938	70.20522	7.54258	0.1583447	0.28881264	2.2666889	20	5 18.4	19.6
315346 2007 UT ₁₀	17.3	X	210.44884	55.16891	22.81554	5.63136	0.1369823	0.28674935	2.2775491	20	7 15.1	20.6
315347 2007 UA ₁₁	16.7	X	164.32969	358.70691	66.17610	5.63512	0.1315939	0.27340876	2.3510459	20	5 9.1	20.2
315348 2007 UB ₁₁	17.3	X	211.09216	18.67835	66.28224	4.36323	0.1095980	0.28747359	2.2737222	20	7 27.9	20.4
315349 2007 UO ₁₁	17.3	X	214.78069	263.52373	108.20064	3.29815	0.2198595	0.27777462	2.3263462	20	4 17.9	21.1
315350 2007 UN ₁₃	17.6	X	83.84411	358.99656	57.48549	2.16854	0.1790378	0.25505388	2.4625294	20	1 28.6	20.2
315351 2007 UX ₁₄	16.9	X	169.13742	272.41318	110.19824	11.89932	0.2764951	0.27100288	2.3649399	20	3 31.6	21.2
315352 2007 UY ₂₈	17.5	X	98.63932	28.79171	242.31190	5.28129	0.1207008	0.31218388	2.1520998	20	12 5.2	20.5
315353 2007 UL ₄₄	17.4	X	102.09704	193.64468	20.12816	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>
315361 2007 UY ₇₈	17.8	X	138.18009	23.99633	44.26134	2.02126	0.1882894	0.26863439	2.3788204	20	4 20.5	21.5
315362 2007 UQ ₁₀₁	17.9	X	127.57428	35.10376	62.47070	3.37319	0.1766624	0.26963567	2.3729276	20	5 17.0	21.4
315363 2007 UZ ₁₂₇	16.7	X	19.87393	199.00312	80.16507	7.19285	0.1147216	0.28909305	2.2652229	20	9 1.8	19.0
315364 2007 UC ₁₄₂	16.3	X	20.81325	359.40483	77.57647	15.56917	0.2310808	0.23719827	2.5846101	20	—	—
315365 2007 VB	17.0	X	189.17373	345.13875	52.15068	3.09636	0.1946967	0.27427600	2.3460873	20	4 27.7	20.8
315366 2007 VU ₁	17.3	X	171.58867	90.84625	286.31803	2.58703	0.1992121	0.26934559	2.3746310	20	3 16.8	21.1
315367 2007 VV ₁	17.8	X	213.09102	158.98728	262.73676	2.47018	0.1582823	0.28463723	2.2888021	20	6 22.5	21.0
315368 2007 VX ₂	13.1	X	301.39953	114.13182	308.73866	14.54390	0.1093051	0.08338764	5.1888161	20	9 19.9	19.8
315369 2007 VG ₆	13.1	X	204.52566	191.42847	304.02051	12.63419	0.0895000	0.08266207	5.2191349	20	9 1.1	20.4
315370 2007 VT ₉	17.0	X	134.47392	2.60817	69.81169	6.42087	0.0860875	0.26811053	2.3819180	20	4 14.0	20.2
315371 2007 VJ ₁₈	17.8	X	74.02635	41.76494	75.89704	2.37347	0.1384496	0.26503382	2.4003166	20	3 31.9	20.5
315372 2007 VQ ₂₆	17.7	X	308.47220	241.67255	121.20551	6.07560	0.1290767	0.29394677	2.2402178	20	8 21.5	19.5
315373 2007 VS ₃₈	17.3	X	167.22295	209.59520	174.45984	5.38710	0.2948252	0.26855053	2.3793155	20	3 27.6	21.5
315374 2007 VN ₃₉	17.7	X	100.43075	174.76601	51.40922	6.20673	0.1171241	0.29671096	2.2262828	20	10 7.9	20.8
315375 2007 VV ₄₂	16.8	X	79.99298	356.05521	35.26036	5.17254	0.2002411	0.24320180	2.5418984	20	—	—
315376 2007 VM ₄₉	16.4	X	274.82879	62.68919	20.23158	6.86778	0.2019647	0.22152008	2.7051664	20	9 25.5	19.7
315377 2007 VO ₅₀	17.5	X	64.26133	289.66568	324.80650	2.97138	0.1483398	0.29569592	2.2313746	20	10 3.9	20.3
315378 2007 VC ₅₄	15.5	X	81.33474	196.94621	63.12202	25.99649	0.0770530	0.22033363	2.7148689	20	10 24.2	19.7
315379 2007 VU ₅₄	17.7	X	159.20420	220.30646	158.40365	3.00415	0.1975970	0.26509966	2.3999191	20	3 9.5	21.5
315380 2007 VE ₅₅	17.0	X	121.64302	75.68263	78.87043	7.66023	0.0409248	0.28228448	2.3015022	20	7 14.9	19.9
315381 2007 VN ₆₃	17.6	X	156.72039	234.73179	164.72698	1.10038	0.0923625	0.26608025	2.3940191	20	3 25.5	20.8
315382 2007 VQ ₆₄	17.6	X	140.65821	17.28373	25.73877	1.21239	0.1623529	0.26301874	2.4125607	20	3 19.4	21.1
315383 2007 VV ₆₆	18.0	X	133.84621	58.96428	25.68685	2.50526	0.2135625	0.26782042	2.3836378	20	5 9.1	21.8
315384 2007 VP ₇₂	17.6	X	233.15247	48.07428	333.55191	0.27508	0.2270532	0.28103401	2.3083241	20	5 14.5	21.1
315385 2007 VM ₈₃	16.8	X	50.42946	226.24964	280.91287	5.22563	0.0604577	0.25715792	2.4490789	20	3 21.6	19.8
315386 2007 VY ₈₆	17.4	X	198.51609	129.77428	271.83301	6.31185	0.0972374	0.27799648	2.3251083	20	5 12.3	20.7
315387 2007 VG ₈₉	17.8	X	100.38108	319.25655	83.20053	3.66590	0.1919475	0.25705348	2.4497422	20	2 5.6	20.7
315388 2007 VP ₉₁	17.5	X	197.22820	35.78856	352.46295	2.38802	0.1876736	0.27510982	2.3413445	20	4 22.2	21.1
315389 2007 VT ₉₇	17.8	X	105.88330	237.91552	291.79351	3.61574	0.1459310	0.28051856	2.3111510	20	7 27.1	21.0
315390 2007 VH ₁₀₅	17.7	X	145.19764	67.35689	20.06007	1.51735	0.1485552	0.27242750	2.3566880	20	5 19.0	21.2
315391 2007 VX ₁₀₇	17.8	X	119.70180	179.44910	244.33192	1.61093	0.1750124	0.26327334	2.4110051	20	3 23.9	21.0
315392 2007 VN ₁₁₁	18.0	X	69.25667	145.80555	62.47249	3.36222	0.1491132	0.28145685	2.3060116	20	8 6.8	20.8
315393 2007 VH ₁₁₄	17.9	X	173.88190	317.31769	110.23127	2.14123	0.1668169	0.27449416	2.3448441	20	5 22.8	21.4
315394 2007 VY ₁₁₈	17.6	X	53.89109	359.81692	142.32126	3.00775	0.1380656	0.26160083	2.4212705	20	4 2.6	19.9
315395 2007 VU ₁₂₁	17.4	X	23.67085	335.87014	276.90229	4.81807	0.1388824	0.28600478	2.2815003	20	7 26.5	19.5
315396 2007 VJ ₁₂₅	17.3	X	162.99134	276.54282	123.84273	7.69815	0.1232422	0.26919635	2.3755086	20	4 8.1	20.9
315397 2007 VS ₁₃₅	16.7	X	161.94837	298.77299	103.01918	8.47819	0.1565840	0.26816325	2.3816058	20	4 11.7	20.5
315398 2007 VR ₁₃₈	17.3	X	118.54043	57.54760	35.26626	6.67598	0.0880440	0.26725399	2.3870046	20	4 19.8	20.5
315399 2007 VE ₁₄₁	17.8	X	162.07227	171.22211	339.92230	2.96926	0.1047575	0.29187681	2.2507970	20	8 31.9	20.8
315400 2007 VU ₁₄₃	17.3	X	278.35489	290.66386	72.12000	6.34795	0.1610622	0.28709001	2.2757471	20	6 19.1	20.0
315401 2007 VJ ₁₄₄	17.1	X	223.39503	298.70161	84.02883	5.21208	0.1987344	0.27918677	2.3184950	20	5 10.2	20.8
315402 2007 VZ ₁₅₃	17.1	X	168.66326	15.29391	25.31198	4.87093	0.1335926	0.27063794	2.3670655	20	4 11.2	20.4
315403 2007 VM ₁₆₈	17.6	X	153.45835	162.39186	273.00295	1.60645	0.1531196	0.27053971	2.3676384	20	5 11.8	21.0
315404 2007 VM ₁₈₁	16.4	X	30.23795	225.15910	33.24130	13.28707	0.0981759	0.21180840	2.7872372	20	8 9.0	20.1
315405 2007 VZ ₁₈₃	16.0	X	184.53702	157.13780	282.47798	23.88110	0.1836318	0.28204143	2.3028242	20	6 18.8	19.8
315406 2007 VF ₁₈₅	17.6	X	206.12949	90.72035	297.36179	2.08196	0.2064111	0.27604126	2.3360747	20	4 29.3	21.5
315407 2007 VE ₁₉₂	17.1	X	42.67999	121.01825	303.54606	1.02221	0.1670068	0.24052777	2.5607031	20	—	—
315408 2007 VJ ₁₉₃	16.7	X	125.35014	177.59162	267.41810	5.85219	0.0735193	0.26107560	2.4245168	20	4 13.1	20.0
315409 2007 VS ₁₉₄	17.2	X	75.38691	18.17904	96.07203	7.03855	0.0858821	0.25623089	2.4549825	20	3 24.7	20.2
315410 2007 VE ₁₉₇	16.4	X	315.05764	22.37328	82.74117	14.84658	0.2042720	0.22741432	2.6582195	20	—	—
315411 2007 VJ ₁₉₈	17.3	X	170.76137	145.13427	263.00655	4.94347	0.1115894	0.26368425	2.4084997	20	4 20.7	21.0
315412 2007 VQ ₁₉₈	17.1	X	330.57066	260.85656	275.01203	5.66231	0.1510580	0.24148235	2.5539504	20	—	—
315413 2007 VE ₂₁₉	17.2	X	245.98000	106.31814	251.94220	2.94468	0.1746894	0.27851450	2.3222244	20	4 30.5	20.7
315414 2007 VH ₂₂₇	17.4	X	101.13065	13.33641	71.34212	5.63070	0.1683539	0.26257922	2.4152521	20	4 1.0	20.5
315415 2007 VC ₂₃₃	17.7	X	275.62958	132.64970	200.12434	0.50328	0.2126290	0.28214174	2.3022783	20	4 25.2	20.7
315416 2007 VK ₂₃₃	17.4	X	133.75222	0.92302	65.50012	3.63395	0.1634370	0.26654715	2.3912227	20	4 12.4	20.8
315417 2007 VZ ₂₃₇	17.4	X	149.52364	257.86964	125.08487	1.92180	0.1577835	0.26356196	2.4092446	20	3 2.8	20.8
315418 2007 VE ₂₄₁	16.2	X	66.43383	282.55219	130.61523	15.77570	0.0936385	0.23582615	2.5946258	20	—	—
315419 2007 VW ₂₄₄	17.8	X	83.64825	118.47777	358.37864	1.28577	0.1402379	0.26392828	2.4070148	20	4 13.4	20.5
315420 2007 VU ₂₄₅	17.1	X	153.40622	85.35658	314.83493	6.16427	0.1126609	0.26735134	2.3864251	20	3 21.3	20.7
315421 2007 VY ₂₄₇	17.3	X	211.45562	225.06278	179.56658	6.93050	0.0672789	0.28036020	2.3120212	20	6 4.6	20.5
315422 2007 VY ₂₅₁	17.2	X	145.77584	359.35985	98.65412	5.58754	0.1026323	0.27573101	2.3782627	20	5 31.7	20.4
315423 2007 VQ ₂₅₂	17.3	X	180.20287	38.37307	359.80772	3.97710	0.1810225	0.27235307	2.3571173	20	4 19.4	21.2
315424 2007 VU ₂₅₄	17.5	X	185.35105	286.00576	94.36923	4.57896	0.1874405	0.27184961	2.3600266	20	4 5.0	21.3
315425 2007 VZ ₂₅₅	17.2	X	141.18976	54.52881	45.52474	7.89840	0.0854053	0.27427631	2.3460856	20	5 26.1	20.4
315426 2007 VZ ₂₅₉	17.5	X	79.42025	304.25030	302.19151	7.25456	0.1322118	0.29677393	2.2259678	20	10 6.3	20.7
315427 2007 VS ₂₆₃	17.2	X	12.23536	19.06749	275.16794	6.17200	0.1463971	0.29522107	2.2337667	20	9 9.1	19.3
315428 2007 VJ ₂₈₆	17.1	X	261.81566	290.11246	62.87065	7.69381	0.1378745	0.27914421	2.3187306	20	5 17.2	20.1
315429 2007 VG ₂₉₁	18.1	X	114.81466	233.46536	186.72565	1.20899	0.1774062	0.26021994	2.4298288	20	3 14.7	21.2
315430 2007 VQ ₂₉₂	16.7	X	325.43436	175.78102	78.25541	7.36399	0.0996873	0.26866903	2.3786159	20	4 8.6	19.4
315431 2007 VX ₂₉₂	16.9	X	233.68036	195.85690	173.80620	13.34344	0.2033549	0.28056641	2.3108882	20	5 4.3	20.6
315432 2007 VX ₂₉₄	16.5	X	4.70450	40.51522	94.53901	6.36331	0.2370440	0.23698547	2.5861571	20	—	—
315433 2007 VM ₂₉₅	17.5	X	171.06303	99.12289	290.67520	5.72263	0.1456186	0.26880272	2.3778271			

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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>
315441 2007 <i>WD</i> ₁₁	17.0	X	353.27739	141.92309	157.95627	5.81471	0.2087890	0.29207702	2.2497683	20	8 17.0	18.3
315442 2007 <i>WJ</i> ₁₅	17.5	X	96.72322	329.33480	94.73913	3.58558	0.1772932	0.25724970	2.4484964	20	2 27.8	20.4
315443 2007 <i>WL</i> ₂₄	17.4	X	102.70407	13.69327	75.59699	6.33145	0.1938304	0.26365742	2.4086631	20	4 12.9	20.6
315444 2007 <i>WV</i> ₂₅	17.5	X	37.20307	224.56550	86.26267	4.47706	0.1613643	0.30398376	2.1906305	20	11 22.1	20.1
315445 2007 <i>WM</i> ₄₁	17.3	X	339.90793	348.69377	122.21128	5.03758	0.1691836	0.24039881	2.5616188	20	—	—
315446 2007 <i>WQ</i> ₅₄	16.8	X	330.59659	223.85294	279.50910	4.33194	0.0858902	0.23401837	2.6079709	20	—	—
315447 2007 <i>WS</i> ₅₉	18.1	X	137.31670	7.78538	40.15658	2.09116	0.1734633	0.26251281	2.4156595	20	3 23.8	21.5
315448 2007 <i>WZ</i> ₆₀	17.1	X	101.72064	237.60022	263.05537	4.14162	0.1352344	0.26993703	2.3711612	20	6 10.0	20.0
315449 2007 <i>XD</i> ₃	16.0	X	278.74945	223.08813	241.42784	12.63828	0.0814544	0.22619338	2.6677766	20	11 16.8	19.4
315450 2007 <i>XQ</i> ₅	17.7	X	122.80690	257.94248	161.11986	3.14418	0.2114012	0.26248135	2.4158525	20	3 27.1	21.1
315451 2007 <i>XF</i> ₉	16.8	X	117.39517	210.68118	279.40435	6.83758	0.2734725	0.26776711	2.3839541	20	6 27.4	20.7
315452 2007 <i>XJ</i> ₁₂	17.6	X	153.98258	75.37103	81.50703	4.78567	0.0782205	0.28982327	2.2614164	20	9 2.1	20.6
315453 2007 <i>XL</i> ₁₃	16.2	X	69.18828	274.49664	72.14855	14.61388	0.1779991	0.23664965	2.5886031	20	—	—
315454 2007 <i>XE</i> ₁₅	16.1	X	244.27452	269.65335	81.34200	23.30719	0.2471178	0.27763360	2.3271339	20	4 25.6	20.3
315455 2007 <i>XY</i> ₂₀	17.3	X	169.10583	345.22667	76.29997	2.27096	0.1627959	0.27153370	2.3618568	20	5 10.2	21.0
315456 2007 <i>XB</i> ₂₂	16.8	X	176.97235	321.77367	68.35044	6.11988	0.2239244	0.26938445	2.3744026	20	4 11.1	20.8
315457 2007 <i>XC</i> ₂₈	17.6	X	126.33476	139.48014	318.22204	5.24473	0.1913923	0.26513430	2.3997100	20	5 15.6	21.3
315458 2007 <i>XC</i> ₃₀	16.2	X	139.52899	201.98053	120.75796	3.11049	0.1389481	0.24679093	2.5171934	20	—	—
315459 2007 <i>XM</i> ₃₂	16.5	X	105.48580	344.38330	32.48258	5.20518	0.1737396	0.24587225	2.5234597	20	1 8.6	19.6
315460 2007 <i>XZ</i> ₃₂	16.9	X	30.55099	123.66677	30.61770	1.95611	0.1536442	0.25334438	2.4735946	20	3 8.0	19.1
315461 2007 <i>XN</i> ₃₇	17.2	X	146.81800	43.06942	35.23439	3.13567	0.1898757	0.26873257	2.3782409	20	5 11.5	20.7
315462 2007 <i>XM</i> ₄₂	17.9	X	346.60584	6.99987	122.30700	6.42873	0.1892408	0.23567099	2.5957645	20	—	—
315463 2007 <i>XP</i> ₅₁	18.1	X	127.41588	280.70050	142.07320	1.65818	0.1692298	0.26000946	2.4311399	20	4 1.1	21.4
315464 2007 <i>XA</i> ₅₃	17.0	X	144.24484	327.60236	86.67557	5.47579	0.0941590	0.26478266	2.4018342	20	4 2.8	20.3
315465 2007 <i>XV</i> ₅₃	16.3	X	335.81058	22.69532	114.97004	23.26048	0.0908613	0.23684353	2.5871903	20	—	—
315466 2007 <i>XY</i> ₅₃	16.3	X	227.42814	307.09583	304.41487	8.75296	0.0903605	0.23714794	2.5849758	20	—	—
315467 2007 <i>XW</i> ₅₄	17.3	X	42.05012	78.10402	90.16079	2.29444	0.1299940	0.26397324	2.4067415	20	4 18.6	19.6
315468 2007 <i>XZ</i> ₅₆	17.8	X	128.70618	147.27449	275.52614	1.89215	0.1622206	0.26383536	2.4075799	20	3 30.8	21.3
315469 2007 <i>XX</i> ₅₈	17.2	X	206.69349	248.63520	108.52287	7.63933	0.1247820	0.26080563	2.4261896	20	3 28.8	21.0
315470 2007 <i>YR</i> ₃	17.3	X	53.88417	60.95940	112.81330	1.94438	0.1231087	0.24493379	2.5299013	20	—	—
315471 2007 <i>YY</i> ₇	16.7	X	307.72297	296.57019	324.56200	6.31744	0.0885854	0.26760421	2.3849215	20	3 17.7	19.6
315472 2007 <i>YC</i> ₁₀	17.0	X	66.05925	151.09890	338.98811	6.21960	0.0513638	0.25729679	2.4481976	20	3 21.9	20.1
315473 2007 <i>YJ</i> ₁₂	16.9	X	82.49107	33.68830	59.65686	7.14018	0.0746291	0.25341180	2.4731559	20	3 4.9	20.0
315474 2007 <i>YR</i> ₁₅	17.7	X	87.59462	91.73266	335.71832	1.89689	0.1163101	0.25393352	2.4697672	20	2 8.5	20.6
315475 2007 <i>YG</i> ₁₆	17.8	X	101.59593	73.57565	63.72791	2.24202	0.1271914	0.26940854	2.3742611	20	6 3.9	20.8
315476 2007 <i>YC</i> ₂₁	18.0	X	72.89288	323.33368	187.83126	0.79498	0.1284291	0.26270827	2.4144612	20	5 15.1	20.7
315477 2007 <i>YP</i> ₃₃	18.1	X	98.96710	59.03910	107.46774	2.16360	0.1022841	0.27539463	2.3397300	20	7 8.6	21.2
315478 2007 <i>YH</i> ₃₄	17.6	X	146.84348	127.51956	300.50731	5.21937	0.0966306	0.26710164	2.3879122	20	4 18.5	21.1
315479 2007 <i>YQ</i> ₃₈	17.5	X	73.25083	149.84927	2.24353	2.48866	0.1150989	0.26280546	2.4138659	20	5 13.7	20.2
315480 2007 <i>YK</i> ₅₀	17.7	X	15.75808	206.55666	284.66745	4.57845	0.1552880	0.24547534	2.5261791	20	1 4.4	19.9
315481 2007 <i>YP</i> ₅₈	17.3	X	46.22108	59.93260	83.80270	1.80618	0.1633849	0.25285093	2.4768118	20	3 25.5	19.5
315482 2007 <i>YL</i> ₆₃	16.9	X	92.46332	283.95795	104.50298	6.12109	0.1675990	0.24200159	2.5502959	20	1 4.2	19.7
315483 2007 <i>YV</i> ₆₃	17.2	X	40.32298	330.37971	113.79283	9.96007	0.0452634	0.23912722	2.5706920	20	—	—
315484 2007 <i>YD</i> ₆₆	17.4	X	227.59079	348.88230	302.18050	1.17120	0.0401459	0.24587033	2.5234729	20	1 27.5	20.9
315485 2007 <i>YS</i> ₆₇	17.0	X	101.75378	46.98953	55.87951	6.02014	0.1438544	0.26019625	2.4299763	20	4 21.5	20.1
315486 2007 <i>YK</i> ₇₁	16.2	X	19.07651	18.49474	96.02975	14.25608	0.1010785	0.23907356	2.5710766	20	—	—
315487 2007 <i>YS</i> ₇₁	17.0	X	24.20398	77.16746	353.74152	7.21102	0.1634729	0.23866184	2.5740327	20	—	—
315488 2007 <i>YZ</i> ₇₁	16.8	X	314.01899	83.67989	112.81392	15.57567	0.0550919	0.24441694	2.5334666	20	1 10.8	20.2
315489 2007 <i>YF</i> ₇₂	16.2	X	228.85978	160.98805	89.39300	10.65967	0.1258767	0.23460886	2.6035931	20	—	—
315490 2008 <i>AF</i>	17.5	X	132.09848	91.20390	339.05494	4.39735	0.2126088	0.26299200	2.4127243	20	4 17.5	21.3
315491 2008 <i>AL</i>	17.0	X	323.86752	144.05507	87.04305	7.46132	0.0559937	0.26126653	2.4233354	20	3 11.9	20.0
315492 2008 <i>AV</i>	16.5	X	346.21392	19.54583	94.40304	16.51304	0.0906683	0.23500260	2.6007014	20	—	—
315493 <i>Zimin</i>	16.5	X	112.71784	76.81800	18.03055	6.58905	0.0802917	0.25945430	2.4346066	20	4 13.5	19.5
315494 2008 <i>AQ</i> ₂	15.9	X	349.74432	352.02192	119.92624	22.31529	0.0388007	0.23343788	2.6122927	20	—	—
315495 2008 <i>AQ</i> ₃	17.0	X	138.29704	120.45427	337.58939	5.70088	0.1877229	0.26642066	2.3919795	20	5 27.9	20.8
315496 2008 <i>AW</i> ₃	17.1	X	35.11835	13.49235	81.25207	4.25626	0.1696567	0.24181362	2.5516173	20	—	—
315497 2008 <i>AN</i> ₄	16.0	X	1.61670	123.96175	305.47814	30.75723	0.2665462	0.23165366	2.6256889	20	—	—
315498 2008 <i>AO</i> ₁₄	17.2	X	271.63352	113.22076	132.20045	10.44784	0.0571076	0.24493739	2.5298765	20	1 19.9	20.7
315499 2008 <i>AX</i> ₁₄	17.3	X	59.41153	153.13470	282.48826	5.20237	0.0717847	0.24253120	2.5465818	20	1 3.9	20.1
315500 2008 <i>AD</i> ₁₆	16.1	X	201.84281	9.12864	285.99609	12.41224	0.1482216	0.24161157	2.5530397	20	1 6.3	20.1
315501 2008 <i>AM</i> ₂₀	17.8	X	62.58848	353.88778	86.70710	2.11457	0.0863144	0.24273155	2.5451804	20	1 16.9	20.6
315502 2008 <i>AC</i> ₂₃	17.2	X	327.76571	83.48274	91.03654	4.71790	0.1307571	0.23866751	2.5739919	20	—	—
315503 2008 <i>AV</i> ₂₅	17.2	X	101.03260	276.79430	102.51465	4.55693	0.1089561	0.23843533	2.5756627	20	—	—
315504 2008 <i>AJ</i> ₂₈	17.0	X	240.69829	240.25084	348.91563	3.16988	0.1275691	0.22600122	2.6692885	20	—	—
315505 2008 <i>AM</i> ₂₈	16.3	X	327.10359	140.34836	339.38107	12.32422	0.1140421	0.22577001	2.6711107	20	—	—
315506 2008 <i>AH</i> ₂₉	16.2	X	111.90905	341.23717	101.56097	23.27460	0.2804178	0.26367921	2.4085303	20	5 4.1	20.4
315507 2008 <i>AE</i> ₃₀	16.5	X	144.81922	333.71326	84.54654	7.86655	0.0668077	0.25966228	2.4333064	20	4 7.6	19.9
315508 2008 <i>AB</i> ₃₁	20.2	X	358.53778	255.63219	303.02958	30.02036	0.3202897	0.48600812	1.6021642	20	—	—
315509 2008 <i>AS</i> ₃₄	17.4	X	123.80754	117.95104	324.39349	3.36937	0.1067159	0.25928636	2.4356578	20	4 13.1	20.7
315510 2008 <i>AB</i> ₄₄	16.8	X	285.12620	224.43878	323.42489	6.32840	0.1270727	0.23165733	2.6256612	20	—	—
315511 2008 <i>AY</i> ₄₇	17.8	X	200.58327	87.45442	279.50906	2.27067	0.1600248	0.26518607	2.3993977	20	3 29.4	21.7
315512 2008 <i>AR</i> ₅₄	16.7	X	315.77270	166.27881	118.42062	7.40093	0.1341872	0.26441619	2.4040529	20	5 2.2	

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>
315521 2008 AX ₇₂	16.5	X	180.70868	154.39822	136.96983	13.52144	0.1898670	0.23086744	2.6316467	20	—	—
315522 2008 AN ₈₁	16.9	X	296.54580	257.54974	286.82657	2.91749	0.1273019	0.23387561	2.6090321	20	—	—
315523 2008 AZ ₈₈	17.6	X	100.70323	345.35226	125.54749	2.06315	0.1427018	0.26042908	2.4285277	20	4 30.5	20.8
315524 2008 AT ₉₉	16.7	X	347.08146	16.55048	167.51817	6.76935	0.0701605	0.24686727	2.5166744	20	2 5.8	19.7
315525 2008 AL ₁₀₅	17.5	X	42.89984	118.03438	75.20994	3.56185	0.1099781	0.26317074	2.4116317	20	5 24.9	19.9
315526 2008 AB ₁₀₈	17.2	X	37.54920	147.21452	252.85810	0.77396	0.2139649	0.23492588	2.6012503	20	—	—
315527 2008 AO ₁₁₄	16.6	X	2.76102	16.04942	0.87124	4.75319	0.0546512	0.21636387	2.7479757	20	11 23.3	20.2
315528 2008 AA ₁₁₈	16.7	X	280.82065	73.15791	140.58256	14.74116	0.0516268	0.23299925	2.6155701	20	—	—
315529 2008 AM ₁₂₀	17.5	X	211.73974	182.67571	119.01542	6.39566	0.0560187	0.24597232	2.5227753	20	1 22.5	20.8
315530 2008 AP ₁₂₉	4.7	X	53.95018	56.28782	14.87468	27.41922	0.1357467	0.00368058	41.5456386	20	2 20.2	20.6
315531 2008 AR ₁₂₉	16.6	X	66.50646	17.38708	351.44341	5.93257	0.0456696	0.22136268	2.7064486	20	—	—
315532 2008 AB ₁₃₅	16.4	X	342.88451	140.67285	139.97956	4.73385	0.0722542	0.18583940	3.0411944	20	6 15.3	20.3
315533 2008 AV ₁₃₇	15.7	X	198.34563	312.81434	340.02624	15.01119	0.1270006	0.23801611	2.5786861	20	1 2.6	20.0
315534 2008 BH ₅	17.0	X	357.99196	233.87580	326.51825	6.32720	0.0621313	0.25422560	2.4678752	20	3 14.9	19.8
315535 2008 BS ₉	16.6	X	81.47855	312.27198	113.81338	9.14930	0.0986414	0.24412548	2.5354826	20	1 27.9	19.5
315536 2008 BS ₁₂	16.8	X	121.15520	290.34492	91.17150	13.14308	0.1624331	0.24745434	2.5126925	20	2 3.1	20.3
315537 2008 AB ₁₅	16.8	X	15.26855	223.37388	313.91198	5.18824	0.0910451	0.25225474	2.4807129	20	3 9.6	19.6
315538 2008 BA ₁₇	17.5	X	2.29482	79.10941	44.79836	5.28767	0.1190070	0.23900057	2.5716000	20	—	—
315539 2008 BE ₂₃	17.6	X	20.30132	334.67551	141.37658	5.21847	0.1969305	0.23945496	2.5683457	20	—	—
315540 2008 BJ ₃₄	17.2	X	80.75818	75.34251	339.52419	10.48726	0.1860667	0.23998171	2.5645861	20	1 27.5	20.1
315541 2008 BU ₃₈	16.9	X	286.47923	217.03337	337.10060	7.53405	0.0884099	0.22930688	2.6435731	20	—	—
315542 2008 BW ₃₈	16.7	X	0.21707	104.40946	341.67080	10.81255	0.0407154	0.22330291	2.6907487	20	—	—
315543 2008 BR ₄₀	16.7	X	7.22972	17.11048	122.37513	12.92889	0.1213618	0.23968379	2.5667108	20	1 5.2	19.5
315544 2008 BS ₄₃	17.1	X	13.55362	267.57780	243.40807	3.75589	0.1518869	0.24598076	2.5227175	20	1 27.6	19.6
315545 2008 BJ ₄₆	15.9	X	100.19239	45.83029	337.37977	15.03880	0.1441110	0.234771179	2.6023883	20	1 3.1	19.4
315546 2008 BQ ₄₇	16.1	X	20.78541	96.28253	356.71186	12.67190	0.1396461	0.22906779	2.6454123	20	—	—
315547 2008 BV ₄₈	16.9	X	333.32620	81.19558	331.56794	12.34198	0.1920370	0.22163461	2.7042344	20	12 6.5	19.8
315548 2008 BK ₄₉	16.6	X	44.37332	69.54653	26.15644	11.04905	0.1510360	0.24150656	2.5537797	20	1 13.3	19.3
315549 2008 BB ₅₂	17.5	X	8.86582	278.33625	195.63814	3.61285	0.1817639	0.23845489	2.5755218	20	—	—
315550 2008 BR ₅₂	16.9	X	40.30268	312.75647	146.52247	12.18415	0.1395707	0.24363809	2.5388630	20	1 6.7	19.6
315551 2008 CL ₄	17.2	X	82.80923	250.19870	318.17423	3.97436	0.0999642	0.27098480	2.3650451	20	8 15.1	20.2
315552 2008 CM ₅	16.9	X	283.07795	259.71584	307.81371	12.59833	0.2707715	0.23133944	2.6280659	20	—	—
315553 2008 CN ₉	17.6	X	123.93247	302.61152	97.62931	1.13605	0.0122057	0.24540730	2.5266460	20	2 7.6	20.9
315554 2008 CE ₁₄	16.5	X	202.68065	126.69039	136.61788	10.67907	0.0361381	0.22932355	2.6434450	20	—	—
315555 2008 CZ ₁₅	16.8	X	351.35304	4.18818	122.41129	5.07808	0.0667678	0.23324240	2.6137520	20	—	—
315556 2008 CB ₂₀	16.8	X	313.17175	4.61534	97.34646	3.67618	0.2206249	0.22385095	2.6863551	20	—	—
315557 2008 CT ₂₂	16.9	X	44.66086	228.38011	197.87540	5.89944	0.2729504	0.24029975	2.5623228	20	—	—
315558 2008 CA ₂₄	17.9	X	54.48975	130.22841	333.96333	2.76945	0.1524403	0.24443206	2.5333621	20	2 11.4	20.1
315559 2008 CR ₂₇	16.7	X	238.27190	299.37886	342.65963	8.49559	0.0657956	0.24375395	2.5380584	20	1 29.5	20.4
315560 2008 CR ₂₈	17.0	X	359.89908	75.85693	20.04781	1.41770	0.1610623	0.23341339	2.6124754	20	—	—
315561 2008 CZ ₃₂	18.7	X	352.55105	158.58476	356.49651	2.12945	0.1252666	0.24004879	2.5641083	20	1 1.9	21.0
315562 2008 CV ₃₆	17.2	X	287.15235	53.32263	164.93306	6.31177	0.1190927	0.23653471	2.5894416	20	—	—
315563 2008 CW ₃₈	17.3	X	279.81080	154.50467	104.10145	2.53016	0.1642449	0.24378920	2.5378138	20	2 3.3	20.9
315564 2008 CY ₃₈	17.1	X	70.09106	270.85310	136.97281	13.32299	0.2097976	0.23969897	2.5666025	20	—	—
315565 2008 CS ₄₀	17.6	X	39.52909	202.17039	238.81888	2.99056	0.1214931	0.23589575	2.5941154	20	—	—
315566 2008 CS ₄₃	17.0	X	339.26483	45.72878	95.43989	4.34238	0.0910336	0.23236268	2.6203450	20	—	—
315567 2008 CP ₄₆	16.2	X	187.57572	284.22870	323.01870	7.24620	0.1364792	0.21686615	2.7437310	20	—	—
315568 2008 CA ₄₇	16.5	X	42.21563	177.55184	187.18911	5.98484	0.0799836	0.21384536	2.7695093	20	—	—
315569 2008 CE ₄₈	16.3	X	41.72929	182.77293	273.08638	11.95835	0.0952613	0.24032935	2.5621124	20	1 4.2	19.0
315570 2008 CY ₅₀	16.1	X	258.46122	4.90701	149.57263	13.52307	0.1857519	0.21589013	2.7519942	20	12 7.4	19.8
315571 2008 CX ₅₃	16.5	X	270.25099	281.71554	299.66852	11.57245	0.1693521	0.23417020	2.6068436	20	—	—
315572 2008 CV ₅₅	17.3	X	43.20066	332.12410	96.37290	4.06235	0.2325877	0.23718011	2.5847420	20	—	—
315573 2008 CT ₅₈	17.4	X	36.46251	233.40329	167.11414	4.14614	0.0977493	0.22803186	2.6534182	20	—	—
315574 2008 CX ₅₈	17.0	X	253.75279	78.53741	173.38388	3.65876	0.0676803	0.23917697	2.5703354	20	1 7.2	20.7
315575 2008 CP ₅₉	16.6	X	288.13980	320.57394	152.10680	12.65044	0.2408459	0.22008716	2.7168954	20	11 25.2	19.6
315576 2008 CY ₆₆	15.9	X	200.83384	283.19816	334.00564	15.65006	0.1700750	0.22113756	2.7082851	20	—	—
315577 Carmenchu	16.9	X	57.56947	31.51069	75.55295	3.02270	0.0762895	0.24692043	2.5163133	20	2 13.5	19.7
315578 2008 CT ₇₃	16.5	X	291.79963	94.94407	137.04383	24.32876	0.0943914	0.24313025	2.5423971	20	1 22.7	20.0
315579 2008 CH ₇₄	17.2	X	344.67347	153.63139	43.34311	5.67592	0.1299487	0.24309170	2.5426659	20	2 16.9	20.1
315580 2008 CL ₇₅	17.0	X	74.97473	264.20610	142.49305	11.50026	0.2009005	0.24072296	2.5593187	20	1 5.2	19.7
315581 2008 CP ₇₆	17.0	X	346.25478	34.74727	98.20151	4.95699	0.0785339	0.23721727	2.5844721	20	—	—
315582 2008 CV ₇₆	16.6	X	27.15402	335.77189	74.97553	3.59281	0.0993331	0.22958340	2.6414500	20	—	—
315583 2008 CF ₈₆	17.3	X	345.12244	54.23578	96.89267	3.78657	0.1364297	0.23649554	2.5897276	20	—	—
315584 2008 CM ₈₆	17.1	X	69.44114	55.33375	348.53161	16.30944	0.1495439	0.23428129	2.6060194	20	—	—
315585 2008 CJ ₈₈	16.7	X	30.01343	26.48389	75.84233	4.49435	0.1474999	0.23820085	2.5773526	20	—	—
315586 2008 CQ ₈₈	16.6	X	8.04202	279.89656	111.89306	7.20838	0.0690615	0.21579536	2.7527999	20	12 22.6	20.1
315587 2008 CM ₉₀	16.7	X	23.21750	278.69252	150.83886	5.71475	0.1231018	0.23450084	2.6043926	20	—	—
315588 2008 CJ ₁₀₃	17.4	X	41.67895	173.76124	296.03454	5.31171	0.1807556	0.24296117	2.5435765	20	1 26.7	19.5
315589 2008 CC ₁₁₇	16.6	X	23.74006	60.60798	29.50937	12.04732	0.2457403	0.23943525	2.5684867	20	—	—
315590 2008 CZ ₁₁₇	17.4	X	54.87610	74.81559	329.48582	7.65677	0.1334007	0.23368431	2.6104558	20	—	—
315591 2008 CM ₁₁₉	16.5	X	255.70793	46.97840	95.35333	8.07089	0.1402043	0.21263419	2.7800162	20	11 23.2	20.1
315592 2008 CU ₁₂₄	16.6	X	44.85154	291.42954	151.75612	13.38527	0.1739162	0.23827391	2.5768257	20	—	—
315593 2008 CY ₁₂₆	16.6	X	250.22336	91.90743	149.93042	11.97902	0.1490199	0.23306464	2.6150809	20	—	—
315594 2008 CL ₁₃₀	15.5	X	316.35372	332.87078	328.78799	13.57924	0.0872453	0.18293881	3.0732566	20	5 29.6	19.8
315595 2008 CK ₁₃₁	17.1	X	77.12798	70.03007	337.97097	4.49993	0.22					

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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>
315601 2008 CS ₁₅₇	16.8	X	2.22434	169.95316	271.22824	4.88433	0.1730968	0.23004595	2.6379081	20	—	—
315602 2008 CN ₁₆₀	16.6	X	324.22281	142.43646	306.42997	4.99049	0.0495707	0.21690320	2.7434186	20	—	—
315603 2008 CJ ₁₆₃	16.2	X	60.76770	89.70347	322.28913	21.60209	0.1178872	0.23830028	2.5766356	20	—	—
315604 2008 CK ₁₆₈	15.9	X	180.53105	93.49694	117.03661	8.50116	0.0800590	0.20897562	2.8123690	20	11 27.1	20.1
315605 2008 CX ₁₇₅	16.7	X	339.19899	134.63117	2.97565	12.96903	0.1886202	0.23259074	2.6186318	20	—	—
315606 2008 CU ₁₇₈	16.4	X	0.22095	137.27588	329.93052	21.72705	0.0385304	0.23350137	2.6118191	20	—	—
315607 2008 CL ₁₇₉	15.8	X	231.22308	75.96573	141.92848	12.94265	0.1957131	0.21792554	2.7348319	20	—	—
315608 2008 CY ₁₇₉	16.7	X	336.40968	50.88443	84.37366	12.88679	0.2089927	0.23170968	2.6252657	20	—	—
315609 2008 CN ₁₈₀	16.9	X	340.92165	244.41272	291.66669	11.89331	0.1915100	0.24069224	2.5595365	20	1 2.2	19.7
315610 2008 CP ₁₈₀	16.4	X	46.27661	166.21337	270.65925	7.87779	0.1122859	0.23700509	2.5860144	20	—	—
315611 2008 CS ₁₈₀	16.6	X	52.19264	80.85938	170.50436	21.61485	0.1883957	0.27077294	2.3662786	20	9 18.1	19.4
315612 2008 CX ₁₈₁	16.0	X	226.05092	93.51840	130.75985	13.21422	0.1289494	0.22213927	2.7001371	20	—	—
315613 2008 CN ₁₈₂	16.5	X	357.62449	332.25337	74.36499	5.84544	0.1272750	0.21879409	2.7275894	20	—	—
315614 2008 CZ ₁₈₂	16.2	X	192.75737	118.57595	121.12189	10.06626	0.1170924	0.21735780	2.7395920	20	—	—
315615 2008 CZ ₁₈₄	18.1	X	31.96403	180.25548	265.35801	0.69817	0.1856401	0.23676483	2.5877636	20	—	—
315616 2008 CP ₁₉₂	16.2	X	231.53463	182.76868	137.48579	3.83780	0.2288155	0.24498628	2.5295399	20	2 29.1	20.5
315617 2008 CX ₁₉₄	15.7	X	319.26420	153.42612	169.00272	9.58814	0.0811358	0.18265110	3.0764830	20	7 3.3	19.8
315618 2008 CD ₁₉₉	17.4	X	315.75476	233.80797	264.77692	2.59229	0.0222714	0.22756307	2.6570610	20	—	—
315619 2008 CE ₁₉₉	17.5	X	290.35138	305.38331	218.14989	2.40897	0.0412100	0.22706312	2.6609598	20	—	—
315620 2008 CM ₁₉₉	17.3	X	14.01151	293.70009	162.31458	2.92466	0.0339048	0.22754404	2.6572091	20	—	—
315621 2008 CQ ₁₉₉	16.7	X	32.49431	64.38631	349.35610	7.25077	0.1425622	0.22511042	2.6763258	20	—	—
315622 2008 CW ₁₉₉	16.7	X	45.84949	22.87971	356.84269	5.81063	0.0445731	0.21610785	2.7501456	20	—	—
315623 2008 CZ ₂₀₀	16.9	X	70.75110	357.11967	353.15873	6.00941	0.0651490	0.21540056	2.7561625	20	—	—
315624 2008 CF ₂₀₄	16.6	X	41.73481	252.62387	98.92643	4.45465	0.0861529	0.21318621	2.7752150	20	12 17.8	20.2
315625 2008 CS ₂₀₅	16.7	X	39.10512	265.48196	134.27913	6.00027	0.0836649	0.22694714	2.6618663	20	—	—
315626 2008 CY ₂₀₅	17.4	X	353.89962	60.55922	75.64876	4.37837	0.1409961	0.23694391	2.5864595	20	—	—
315627 2008 CV ₂₀₉	17.3	X	48.29047	278.89840	155.18859	9.32913	0.1640762	0.23915215	2.5705133	20	—	—
315628 2008 CD ₂₁₀	17.0	X	51.29597	265.96756	194.16654	5.41536	0.0845123	0.24658827	2.5185724	20	1 22.9	19.8
315629 2008 CE ₂₁₃	16.6	X	352.43664	218.08318	278.69463	6.52786	0.1231665	0.23454499	2.6040657	20	—	—
315630 2008 CZ ₂₁₅	16.0	X	355.75744	33.49663	358.23688	14.18541	0.2121043	0.21007307	2.8025657	20	12 20.6	19.4
315631 2008 DV ₅	17.6	X	14.84689	101.72287	347.48398	2.10557	0.1605505	0.23637363	2.5906180	20	—	—
315632 2008 DC ₁₄	16.4	X	192.15380	134.33308	138.32434	12.50144	0.1626798	0.22560740	2.6723940	20	—	—
315633 2008 DC ₁₅	16.7	X	287.76726	285.67254	323.91507	4.49229	0.1869418	0.23930417	2.5694245	20	1 29.5	20.5
315634 2008 DL ₁₈	17.3	X	307.87372	92.32642	138.57744	5.78670	0.1604746	0.24204689	2.5499777	20	1 31.8	20.8
315635 2008 DN ₂₀	17.7	X	7.21622	141.40501	24.22986	1.38050	0.1333043	0.24382644	2.5375553	20	2 9.5	20.3
315636 2008 DF ₂₆	16.2	X	276.61796	58.80471	100.15810	14.21554	0.1455002	0.22070746	2.7118024	20	—	—
315637 2008 DN ₂₆	17.0	X	303.65636	351.09420	184.06606	4.24829	0.1848419	0.23040244	2.6351864	20	—	—
315638 2008 DG ₂₈	17.4	X	18.81707	134.49364	318.98024	1.51266	0.1805075	0.23446087	2.6046885	20	—	—
315639 2008 DK ₃₀	17.4	X	283.09579	79.22898	150.33960	0.77054	0.1140954	0.23434497	2.6055473	20	1 8.5	21.1
315640 2008 DD ₃₂	16.8	X	245.13685	68.15833	147.71782	11.87876	0.1314345	0.22416819	2.6838200	20	—	—
315641 2008 DG ₃₂	17.1	X	6.44060	34.27095	92.03182	3.60587	0.1471720	0.23598673	2.5934487	20	—	—
315642 2008 DS ₃₃	16.3	X	39.65763	343.56692	103.00030	9.53484	0.1222104	0.23730315	2.5838485	20	—	—
315643 2008 DV ₃₃	16.6	X	1.36930	38.63522	83.12265	14.58427	0.2036278	0.23442116	2.6049827	20	—	—
315644 2008 DL ₃₄	15.5	X	91.34353	218.15323	352.49469	8.73214	0.0517728	0.18811997	3.0165656	20	8 16.8	19.8
315645 2008 DS ₃₄	16.4	X	21.99239	110.71026	320.29788	13.58422	0.1093035	0.22925760	2.6439519	20	—	—
315646 2008 DX ₃₇	17.0	X	49.62330	29.18901	356.10476	5.80159	0.0319028	0.21879762	2.7275600	20	—	—
315647 2008 DX ₃₇	16.3	X	238.58439	278.33224	344.08529	6.98375	0.2405283	0.22765956	2.6563102	20	—	—
315648 2008 DR ₃₈	16.5	X	1.53178	118.46355	352.31486	12.79302	0.1574333	0.22919777	2.6444121	20	—	—
315649 2008 DF ₄₄	17.2	X	305.96154	67.25559	88.62097	4.69644	0.1406778	0.22549833	2.6732557	20	—	—
315650 2008 DA ₄₆	16.6	X	84.52130	219.17663	93.87425	6.26811	0.1508853	0.21200682	2.7854978	20	12 25.4	21.0
315651 2008 DH ₄₆	17.3	X	46.80360	24.27691	69.46671	4.66350	0.0821131	0.23908732	2.5709779	20	1 10.5	20.3
315652 2008 DH ₄₆	17.3	X	7.56133	3.83671	144.00977	5.40936	0.1776346	0.23801919	2.5786639	20	1 11.8	19.9
315653 2008 DO ₄₇	16.4	X	227.05864	199.83144	23.24456	5.16113	0.0517224	0.22069210	2.7119283	20	—	—
315654 2008 DX ₄₇	17.2	X	355.96380	16.54635	38.38098	2.45706	0.0507138	0.21410233	2.7672928	20	—	—
315655 2008 DR ₄₈	16.5	X	325.68746	42.74980	110.89864	22.65625	0.0428716	0.23321181	2.6139805	20	—	—
315656 2008 DO ₅₃	17.4	X	280.16873	299.66759	206.74010	2.78496	0.1302110	0.21871397	2.7282555	20	—	—
315657 2008 DR ₅₅	16.7	X	324.06613	342.44646	130.20422	4.27691	0.0462779	0.22215560	2.7000048	20	—	—
315658 2008 DU ₅₆	16.2	X	240.08921	133.53110	92.98130	13.37853	0.1303875	0.22306220	2.6926840	20	—	—
315659 2008 DX ₅₇	16.5	X	270.78216	296.30779	305.78779	11.79303	0.2347792	0.23155384	2.6264434	20	1 1.4	20.9
315660 2008 DE ₅₈	16.0	X	311.41196	53.80919	101.16551	13.41855	0.0680974	0.22712927	2.6604431	20	—	—
315661 2008 DH ₆₀	16.7	X	42.35515	53.45115	183.77310	10.94035	0.0685003	0.26521741	2.3992087	20	7 20.8	19.7
315662 2008 DO ₆₀	16.7	X	36.19636	247.05522	120.88268	2.83379	0.0695888	0.21542258	2.7559748	20	12 29.4	20.3
315663 2008 DW ₆₀	17.2	X	346.29510	347.29889	126.74830	3.11325	0.1606195	0.23018910	2.6368143	20	—	—
315664 2008 DD ₆₁	17.2	X	354.84960	5.49634	137.94565	4.51647	0.0777342	0.23636588	2.5906745	20	—	—
315665 2008 DN ₆₁	16.9	X	252.32382	76.25834	132.62590	4.13917	0.0523188	0.22635421	2.6665127	20	—	—
315666 2008 DT ₇₂	16.7	X	209.26067	272.93664	337.23018	5.17825	0.1318130	0.22431807	2.6826245	20	—	—
315667 2008 DR ₇₃	16.3	X	213.86892	62.86815	4.89687	9.06410	0.0402805	0.18462786	3.0544842	20	7 9.3	20.9
315668 2008 DA ₇₇	16.1	X	122.81384	115.12454	102.21270	3.38377	0.0212880	0.19713033	2.9239307	20	9 29.9	20.2
315669 2008 DH ₇₉	17.0	X	358.49142	354.74366	142.71797	12.69056	0.1337735	0.23554861	2.5966635	20	—	—
315670 2008 DS ₇₉	16.1	X	89.51584	327.48808	79.82620	14.59131	0.2842870	0.24260846	2.5460412	20	2 18.5	19.4
315671 2008 DF ₈₃	17.2	X	260.51527	298.42842	223.13895	2.54245	0.1206214	0.21477673	2.7614970	20	12 26.3	20.8
315672 2008 DJ ₈₈	15.6	X	18.06297	250.09115	35.75174	10.71034	0.0837069	0.18986259	2.9980793	20	8 22.7	19.6
315673 2008 EO ₄	17.1	X	358.84928	45.74818	61.78466	6.57966	0.1374405	0.23043406	2.6349453	20	—	—
315674 2008 EA ₅	16.0	X	315.45070	248.50342	316.38633	28.29864	0.1347458	0.23794594	2.5791931	20	1 18.9	19.6
315675 2008 EJ ₇	16.3	X	343.33184	152.62398	3.64315	13.44590	0.2053880	0.23236232	2.6203477	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>
315681 2008 EC ₁₉	16.7	X	341.24813	149.37478	330.53191	6.73833	0.1459800	0.22997421	2.6384566	20	—	—
315682 2008 EL ₂₃	16.1	X	308.01057	105.33456	28.45137	15.48444	0.0391152	0.22176998	2.7031338	20	—	—
315683 2008 EQ ₂₆	15.9	X	77.61906	79.63483	315.65282	12.01552	0.1840522	0.23241428	2.6199571	20	—	—
315684 2008 EP ₂₈	16.0	X	242.25554	97.75197	119.56116	13.85936	0.0556508	0.22363206	2.6881078	20	—	—
315685 2008 EJ ₂₉	16.6	X	256.30989	127.67381	28.87801	8.29249	0.1590616	0.21275609	2.7789541	20	12 6.6	20.3
315686 2008 EP ₃₃	16.2	X	35.11403	253.95854	227.14600	12.25547	0.2521345	0.24364370	2.5388240	20	1 26.4	18.3
315687 2008 EE ₃₄	16.4	X	229.89288	284.37230	317.06968	11.42001	0.1238262	0.22616164	2.6680262	20	—	—
315688 2008 EK ₃₆	16.1	X	207.19319	184.68391	51.76203	5.12084	0.1009733	0.21722390	2.7407177	20	—	—
315689 2008 EF ₃₇	16.8	X	45.40837	95.41700	336.15273	8.81563	0.0238449	0.23688580	2.5868825	20	—	—
315690 2008 EM ₄₁	16.2	X	102.49398	191.79837	106.57269	7.98412	0.0602879	0.21340392	2.7733273	20	12 19.7	20.2
315691 2008 EV ₄₂	16.3	X	247.15005	80.04774	108.43923	3.08587	0.0603768	0.21561616	2.7543250	20	—	—
315692 2008 EG ₄₇	16.7	X	314.13957	51.55459	57.01477	7.01419	0.0204813	0.21288910	2.7777966	20	—	—
315693 2008 EU ₅₁	16.3	X	223.51936	113.25458	120.04173	7.85051	0.1120816	0.22297512	2.6933850	20	—	—
315694 2008 ED ₅₅	17.1	X	280.81832	11.29363	152.96076	4.55012	0.1798272	0.22006824	2.7170510	20	—	—
315695 2008 EH ₅₅	16.3	X	78.93719	275.80207	119.62886	7.08172	0.0312306	0.22646481	2.6656445	20	—	—
315696 2008 EW ₅₆	16.4	X	4.79581	341.37976	132.39004	8.45416	0.1641240	0.23325165	2.6136829	20	—	—
315697 2008 EW ₆₀	16.7	X	74.60564	180.89525	180.14825	6.30210	0.0643583	0.21806223	2.7336888	20	—	—
315698 2008 EJ ₇₃	16.7	X	303.89176	59.60236	135.71361	6.12030	0.0926146	0.23209253	2.6223779	20	—	—
315699 2008 EF ₇₄	16.2	X	21.55235	290.33992	84.41599	4.74152	0.1049106	0.20961856	2.8066153	20	12 22.5	19.8
315700 2008 EX ₈₁	17.3	X	327.36597	11.55683	168.69945	4.84748	0.1729790	0.23609453	2.5926592	20	—	—
315701 2008 EE ₈₃	16.1	X	243.32229	232.70225	331.06296	10.26213	0.1553878	0.21996704	2.7178844	20	—	—
315702 2008 EE ₈₃	17.0	X	37.63050	65.24324	185.73760	9.29686	0.0666992	0.26816930	2.3815700	20	8 2.6	19.9
315703 2008 ET ₈₅	17.5	X	331.75597	136.56943	305.08010	1.08214	0.0521808	0.21961308	2.7208039	20	—	—
315704 2008 EY ₈₅	16.9	X	310.01602	57.07099	164.64002	13.77062	0.1590879	0.23818111	2.5774950	20	1 22.1	20.5
315705 2008 EB ₉₀	15.8	X	190.19282	249.34854	7.09816	11.12266	0.1396851	0.21660470	2.7459385	20	—	—
315706 2008 EP ₉₀	16.1	X	228.73571	10.54847	170.66649	9.43190	0.1057306	0.21186851	2.7867100	20	12 11.8	20.1
315707 2008 EC ₉₅	16.8	X	264.36160	84.82324	82.68866	4.39270	0.1301540	0.21623906	2.7490330	20	—	—
315708 2008 ED ₉₅	16.2	X	204.31349	97.01191	145.58725	5.94255	0.1309336	0.21542280	2.7559729	20	—	—
315709 2008 EP ₉₈	16.2	X	204.05565	77.42546	102.52009	4.22933	0.0583607	0.21149311	2.7900066	20	11 17.5	20.1
315710 2008 EL ₉₉	16.8	X	2.58206	61.88005	87.49983	6.12802	0.1948189	0.23694795	2.5864301	20	1 2.9	19.1
315711 2008 EB ₁₀₅	17.1	X	27.36374	342.16447	33.40060	7.14743	0.1082381	0.21573139	2.7533441	20	—	—
315712 2008 EF ₁₀₉	15.8	X	67.34041	128.53357	72.80093	6.84416	0.1046644	0.18050693	3.1007979	20	7 10.3	20.0
315713 2008 EH ₁₁₁	16.4	X	84.40894	157.7602	110.80740	7.67010	0.0511961	0.22199945	2.7012707	20	—	—
315714 2008 EN ₁₁₁	16.6	X	127.87055	158.26829	137.70342	7.60289	0.1151732	0.21472402	2.7619489	20	—	—
315715 2008 EC ₁₁₂	17.6	X	336.73784	46.06153	45.77266	1.97925	0.0348727	0.22119074	2.7078510	20	—	—
315716 2008 EL ₁₁₃	15.7	X	181.45639	33.05276	317.16202	14.13043	0.1247257	0.24350679	2.5397755	20	2 19.6	19.7
315717 2008 ER ₁₁₅	16.8	X	286.73330	263.08978	174.78643	1.92300	0.0609130	0.20408355	2.8571347	20	10 22.7	20.4
315718 2008 EJ ₁₁₇	17.0	X	262.09156	54.24284	169.29872	4.12606	0.1603223	0.22580911	2.6708023	20	—	—
315719 2008 ET ₁₁₉	17.0	X	298.59593	88.80608	16.20713	4.98913	0.1179137	0.21428418	2.7657270	20	12 11.4	20.2
315720 2008 EF ₁₂₀	16.6	X	11.26560	282.49796	173.85539	8.49555	0.1285120	0.22872330	2.6480678	20	—	—
315721 2008 EC ₁₂₂	17.5	X	156.64561	274.81606	351.46871	3.37886	0.0561137	0.21332938	2.7739733	20	—	—
315722 2008 EY ₁₂₅	17.0	X	229.88121	219.04730	336.47138	0.84818	0.0209062	0.21462053	2.7628366	20	—	—
315723 2008 EB ₁₃₁	17.2	X	301.36745	22.11830	86.47235	4.56139	0.1549901	0.21687758	2.7436346	20	12 20.3	19.9
315724 2008 EX ₁₃₁	16.8	X	249.23577	159.94276	21.14763	9.23462	0.1124674	0.21722432	2.7407142	20	—	—
315725 2008 EB ₁₃₅	16.9	X	312.12087	82.62361	57.50938	3.95033	0.0662917	0.22266529	2.6958830	20	—	—
315726 2008 EF ₁₃₅	17.4	X	352.04010	92.97919	34.01532	4.31426	0.2285759	0.23212596	2.6221261	20	—	—
315727 2008 EV ₁₃₆	17.8	X	356.41097	358.46777	128.41116	2.89306	0.1092043	0.23062369	2.6335007	20	—	—
315728 2008 EN ₁₃₉	16.9	X	299.91295	217.82840	318.94982	3.61491	0.1088212	0.22968271	2.6406885	20	—	—
315729 2008 ES ₁₄₁	17.4	X	326.91609	167.78040	11.58869	9.92517	0.1390737	0.23678077	2.5876474	20	—	—
315730 2008 EK ₁₄₃	16.8	X	311.41314	17.39969	107.64118	13.25236	0.2390902	0.22324463	2.6912169	20	—	—
315731 2008 EM ₁₄₈	16.8	X	158.65575	284.50963	345.46731	2.47920	0.0651373	0.21493541	2.7601376	20	—	—
315732 2008 EH ₁₅₀	17.1	X	319.41962	234.07687	188.02201	6.39037	0.0712066	0.20704038	2.8298669	20	11 19.6	20.6
315733 2008 EY ₁₅₀	16.4	X	305.18238	123.65894	55.46424	14.07509	0.1193944	0.22373911	2.6872502	20	—	—
315734 2008 EZ ₁₅₂	16.8	X	46.66632	263.81418	106.02755	5.44330	0.0798918	0.21172200	2.7879954	20	—	—
315735 2008 EN ₁₅₆	17.1	X	194.73828	83.91018	194.28774	5.81118	0.0494854	0.22482164	2.6786171	20	—	—
315736 2008 EG ₁₆₀	16.6	X	350.57773	348.21763	60.91264	6.98925	0.0267170	0.21211540	2.7845472	20	12 14.9	20.3
315737 2008 EL ₁₆₅	15.9	X	65.46950	246.33624	157.03543	21.87921	0.0566453	0.22718667	2.6599950	20	—	—
315738 2008 EG ₁₆₇	16.6	X	110.95572	57.39776	261.07058	2.68478	0.0800023	0.21485655	2.7608130	20	—	—
315739 2008 EK ₁₆₈	15.4	X	86.65504	204.01774	84.95622	14.00483	0.0947812	0.20297031	2.8675723	20	11 24.1	19.7
315740 2008 FK ₂	15.9	X	109.14082	27.87778	340.92272	13.85175	0.2004880	0.23191971	2.6236805	20	1 12.2	19.6
315741 2008 FN ₂	16.6	X	79.53600	114.92759	215.48544	0.27256	0.0716478	0.21444365	2.7643556	20	—	—
315742 2008 FC ₄	16.8	X	10.79094	221.75722	181.46809	12.34196	0.1394150	0.21856089	2.7295292	20	—	—
315743 2008 FV ₄	17.1	X	202.86522	242.27223	8.14845	1.34206	0.0620611	0.21999867	2.7176238	20	—	—
315744 2008 FQ ₇	16.9	X	257.19729	78.50316	119.30846	6.06902	0.0510760	0.22033066	2.7148933	20	—	—
315745 2008 FS ₁₀	16.8	X	69.18637	8.89090	321.86388	3.82794	0.0727781	0.21328000	2.7744014	20	12 23.0	20.8
315746 2008 FZ ₁₀	16.7	X	74.24201	263.07092	116.83876	4.77360	0.1120050	0.22806859	2.6531332	20	—	—
315747 2008 FK ₁₄	17.1	X	244.02566	27.67986	184.28629	4.59080	0.0547815	0.22263613	2.6961184	20	—	—
315748 2008 FM ₁₄	16.7	X	337.71512	70.55500	359.89945	6.05905	0.0310670	0.21339168	2.7734333	20	12 26.0	20.5
315749 2008 FD ₁₅	16.3	X	1.74652	148.37783	158.20045	10.29996	0.0830769	0.18233475	3.0800404	20	8 17.8	20.3
315750 2008 FR ₂₄	15.8	X	284.26186	245.83943	111.33457	8.57090	0.1812108	0.17709773	3.1404657	20	6 14.6	20.1
315751 2008 FP ₂₆	16.2	X	263.07827	159.67076	22.64396	13.95589	0.1491170	0.21731926	2.7399159	20	—	—
315752 2008 FE ₂₇	15.9	X	114.19908	193.39068	27.40809	12.03298	0.0403519	0.18949366	3.0019694	20	9 26.3	20.3
315753 2008 FB ₃₅	17.2	X	282.12536	179.93655	20.36335	1.86550	0.1339021	0.22911695	2.6450338	20	—	—
315754 2008 FG ₃₈	16.8	X	285.82022	60.38531	66.32541	5.03777	0.0522705	0.21159069	2.7891488	20	12 24.9	20.4
315755 2008 FO ₃₈	17.2	X	332.29217	22.50065	117.29587	4.09770	0.1358429	0.22650518	2.6653278	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>
315761 2008 <i>FY</i> ₅₉	16.0	X	309.13951	83.78262	133.43573	12.03716	0.1383386	0.23409372	2.6074112	20	1 20.2	19.6
315762 2008 <i>FS</i> ₆₃	16.1	X	330.51308	246.80914	167.08950	11.77304	0.0643225	0.20444878	2.8537310	20	11 25.9	19.9
315763 2008 <i>FK</i> ₆₄	16.9	X	69.92906	37.50426	317.88875	2.07341	0.0929474	0.21768220	2.7368696	20	—	—
315764 2008 <i>FP</i> ₆₅	17.5	X	311.24486	114.51124	48.81924	2.77690	0.1377402	0.22470734	2.6795254	20	—	—
315765 2008 <i>FW</i> ₆₈	16.0	X	35.54734	205.38472	78.79580	3.68019	0.0872987	0.18496130	3.0508122	20	9 11.7	20.0
315766 2008 <i>FU</i> ₆₉	15.6	X	14.52543	293.95372	35.57368	10.64375	0.1207837	0.18733938	3.0249393	20	10 14.2	19.3
315767 2008 <i>FY</i> ₆₉	16.5	X	71.31409	162.25220	106.46150	0.52919	0.1011289	0.18777709	3.0202367	20	10 9.3	20.6
315768 2008 <i>FM</i> ₇₅	17.1	X	27.88784	255.00308	276.82629	2.10696	0.1220742	0.24315218	2.5422442	20	3 26.9	19.7
315769 2008 <i>FA</i> ₇₆	16.4	X	300.02076	110.01340	87.94053	13.72085	0.1942523	0.23021888	2.6365869	20	—	—
315770 2008 <i>FG</i> ₇₆	16.1	X	215.90708	108.88878	141.42996	14.30448	0.1364690	0.21962537	2.7207024	20	—	—
315771 2008 <i>FV</i> ₈₀	18.1	X	7.20612	264.90081	203.57874	2.45259	0.2457061	0.23178853	2.6246703	20	—	—
315772 2008 <i>FK</i> ₈₇	16.7	X	210.91152	225.87420	16.37880	10.91829	0.1369854	0.21805973	2.7337097	20	—	—
315773 2008 <i>FR</i> ₉₄	16.3	X	190.01439	191.26683	87.32992	4.59745	0.1607712	0.21704676	2.7422087	20	—	—
315774 2008 <i>FR</i> ₉₆	16.7	X	274.54477	79.95968	122.78815	6.15797	0.1164978	0.22415486	2.6839264	20	—	—
315775 2008 <i>FP</i> ₁₀₂	16.0	X	311.12656	257.51543	81.59192	9.88878	0.0969558	0.17659746	3.1463938	20	7 12.1	20.0
315776 2008 <i>FT</i> ₁₀₃	16.0	X	1.42552	208.84518	95.64473	6.13196	0.1294825	0.17913529	3.1166063	20	8 19.5	19.7
315777 2008 <i>FO</i> ₁₀₄	16.7	X	12.33967	7.46092	176.34458	4.75802	0.1801588	0.24093778	2.5577972	20	3 15.1	18.8
315778 2008 <i>FU</i> ₁₀₄	16.1	X	317.13842	337.21526	56.00050	11.90805	0.0664800	0.19093324	2.9868611	20	10 10.2	20.0
315779 2008 <i>FO</i> ₁₀₅	16.8	X	265.59768	134.44987	62.22230	5.53899	0.0724818	0.22169930	2.7037083	20	—	—
315780 2008 <i>FG</i> ₁₀₉	16.6	X	314.42082	26.03628	98.89687	3.43029	0.0163710	0.21833828	2.7313842	20	—	—
315781 2008 <i>FR</i> ₁₀₉	16.5	X	116.95358	220.51337	68.81507	4.38837	0.0548705	0.20905678	2.8116410	20	12 22.9	20.6
315782 2008 <i>FO</i> ₁₁₄	17.2	X	228.92050	156.31594	43.16864	4.65062	0.0341539	0.21493762	2.7601187	20	—	—
315783 2008 <i>FV</i> ₁₁₅	16.6	X	126.40485	143.29510	107.41725	3.20716	0.0161855	0.20328197	2.8646406	20	11 14.8	20.7
315784 2008 <i>FY</i> ₁₁₅	16.9	X	127.38956	172.79345	78.89702	3.18103	0.0154272	0.20356997	2.8619382	20	11 16.7	21.0
315785 2008 <i>FJ</i> ₁₁₆	17.6	X	333.58521	49.79269	100.97611	3.11416	0.1404866	0.23012806	2.6372806	20	—	—
315786 2008 <i>FM</i> ₁₂₃	15.6	X	299.89837	306.87793	36.56839	9.65358	0.0991436	0.17413096	3.1760358	20	6 30.6	19.9
315787 2008 <i>FN</i> ₁₂₅	16.7	X	263.82238	78.32170	148.89383	3.82434	0.1248884	0.22548952	2.6733253	20	—	—
315788 2008 <i>FO</i> ₁₂₉	15.7	X	330.24942	141.36421	210.36767	9.76114	0.0649385	0.18620604	3.0372010	20	8 26.9	19.8
315789 2008 <i>FC</i> ₁₃₀	15.9	X	170.50449	100.42132	43.26263	10.93504	0.0595502	0.19128548	2.9831932	20	8 27.9	20.5
315790 2008 <i>FF</i> ₁₃₁	16.6	X	86.60345	291.37960	63.07173	6.20256	0.0524829	0.21693323	2.7431654	20	—	—
315791 2008 <i>FM</i> ₁₃₁	17.4	X	13.65209	164.81241	349.24211	5.92291	0.0661219	0.24533416	2.5271482	20	2 8.9	20.4
315792 2008 <i>FV</i> ₁₃₃	16.3	X	157.12934	53.63915	139.55392	2.87689	0.0398540	0.19712115	2.9240215	20	10 10.2	20.4
315793 2008 <i>GK</i> ₁	16.6	X	262.98344	247.38377	356.29171	7.49935	0.1781038	0.22805814	2.6532143	20	—	—
315794 2008 <i>GA</i> ₂	16.2	X	273.99002	344.05953	226.13688	12.78794	0.1927192	0.22293125	2.6937384	20	—	—
315795 2008 <i>GW</i> ₃	16.8	X	118.03692	127.30470	227.12501	5.38660	0.0218197	0.22397926	2.6853291	20	—	—
315796 2008 <i>GA</i> ₇	16.2	X	36.18181	181.81065	39.89460	11.95386	0.1394230	0.17297796	3.1901336	20	6 25.2	20.3
315797 2008 <i>GN</i> ₇	16.1	X	112.94231	59.88765	167.52427	5.59689	0.0294819	0.19141325	2.9818656	20	9 29.5	20.2
315798 2008 <i>GU</i> ₇	16.7	X	329.56390	89.26288	43.19247	13.85953	0.2334832	0.22484013	2.6784703	20	—	—
315799 2008 <i>GE</i> ₈	17.8	X	16.83974	169.76610	299.87055	1.66372	0.1543128	0.23487321	2.6016392	20	—	—
315800 2008 <i>GS</i> ₁₅	17.0	X	277.62367	99.38279	17.7652	4.08410	0.0395147	0.21168197	2.7883469	20	12 27.5	20.6
315801 2008 <i>GT</i> ₁₆	16.3	X	196.40874	86.17408	160.79074	8.02865	0.1766814	0.21148411	2.7900857	20	—	—
315802 2008 <i>GH</i> ₂₃	16.0	X	310.95286	333.01432	135.62819	5.24363	0.0202879	0.21309606	2.7759977	20	—	—
315803 2008 <i>GS</i> ₂₃	16.6	X	62.92580	225.51347	55.82510	7.25827	0.1523081	0.19171108	2.9787765	20	10 24.0	20.8
315804 2008 <i>GA</i> ₂₇	16.6	X	102.34109	326.44817	15.02230	6.29098	0.0465890	0.22251879	2.6970661	20	—	—
315805 2008 <i>GV</i> ₃₁	15.8	X	278.42981	276.95749	77.21347	10.71841	0.1086811	0.17442726	3.1724380	20	6 13.1	20.1
315806 2008 <i>GX</i> ₃₈	15.7	X	29.97699	206.43022	71.70322	8.28224	0.1139046	0.17928078	3.1149200	20	8 31.7	19.8
315807 2008 <i>GU</i> ₄₂	17.2	X	25.75692	78.33988	5.84849	4.69297	0.0991607	0.22733252	2.6588572	20	—	—
315808 2008 <i>GC</i> ₅₅	16.6	X	40.68076	149.03882	134.59222	2.64126	0.1442120	0.18687519	3.0299472	20	9 25.9	20.6
315809 2008 <i>GZ</i> ₅₉	17.3	X	28.80350	327.82875	203.63570	3.83221	0.1787178	0.24366292	2.5386900	20	4 1.4	19.3
315810 2008 <i>GO</i> ₆₂	16.1	X	205.68190	241.99946	19.28092	11.42038	0.1559820	0.21819237	2.7326018	20	—	—
315811 2008 <i>GR</i> ₆₄	16.3	X	128.20941	161.72241	86.81455	3.39758	0.0458538	0.20268155	2.8702952	20	11 15.1	20.5
315812 2008 <i>GT</i> ₇₂	16.8	X	316.60701	232.88744	187.99274	5.52628	0.0627593	0.20527715	2.8460486	20	11 13.5	20.4
315813 2008 <i>GE</i> ₇₃	16.9	X	172.72686	255.46165	39.85788	2.93788	0.0292646	0.22294896	2.6935957	20	—	—
315814 2008 <i>GL</i> ₇₈	16.9	X	241.43652	77.02639	96.76260	6.90374	0.0700541	0.20869049	2.8149301	20	12 21.8	20.7
315815 2008 <i>GV</i> ₈₁	16.7	X	357.68647	271.60332	206.00390	7.18879	0.1914991	0.23267617	2.6179908	20	—	—
315816 2008 <i>GF</i> ₈₂	15.7	X	65.57973	155.54394	56.22057	11.99643	0.0494357	0.17854437	3.1234792	20	7 13.9	20.2
315817 2008 <i>GJ</i> ₈₃	16.0	X	48.90177	111.96056	171.44973	9.26430	0.1705913	0.18664860	3.0323982	20	10 11.2	20.1
315818 2008 <i>GS</i> ₈₈	17.1	X	334.10736	314.83074	171.25860	4.64016	0.1827491	0.22466206	2.6798854	20	—	—
315819 2008 <i>GV</i> ₉₂	15.3	X	52.64668	158.00293	96.27182	10.87177	0.0714998	0.18364201	3.0654061	20	8 27.0	19.6
315820 2008 <i>GF</i> ₉₃	16.8	X	288.57704	57.92382	151.35040	10.24254	0.1524188	0.22975139	2.6401623	20	—	—
315821 2008 <i>GP</i> ₉₅	16.8	X	309.20728	22.20688	87.90952	5.90958	0.1168565	0.21405367	2.7677122	20	—	—
315822 2008 <i>GU</i> ₉₅	16.7	X	309.60195	32.22823	58.27074	7.78235	0.0655333	0.20846974	2.8169169	20	12 10.5	20.2
315823 2008 <i>GX</i> ₉₆	17.1	X	256.12623	37.00984	154.64321	3.93383	0.2019101	0.21777050	2.7361297	20	—	—
315824 2008 <i>GZ</i> ₉₆	16.3	X	213.19182	122.68760	102.95489	4.64827	0.0390196	0.21375885	2.7702565	20	—	—
315825 2008 <i>GT</i> ₉₇	16.8	X	195.43326	246.12892	3.27176	3.48506	0.0451577	0.21399737	2.7681976	20	—	—
315826 2008 <i>GP</i> ₁₀₀	16.9	X	279.76226	23.69911	128.52181	1.14881	0.0137377	0.21211202	2.7845768	20	—	—
315827 2008 <i>GH</i> ₁₀₃	17.3	X										

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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>
315841 2008 HW ₈	16.0	X	6.73032	198.95313	109.78004	11.25872	0.0884182	0.18255092	3.0776084	20	9 2.4	20.0
315842 2008 HP ₁₁	15.8	X	327.96636	210.20995	115.10198	10.13596	0.0805751	0.17559560	3.1583502	20	7 20.9	19.6
315843 2008 HE ₁₂	15.9	X	300.10437	282.53296	100.07162	11.17803	0.0506372	0.18385397	3.0630497	20	9 1.2	20.1
315844 2008 HF ₁₂	16.9	X	323.32521	131.28527	76.18037	6.30454	0.2143852	0.23504034	2.6004057	20	1 15.7	20.1
315845 2008 HE ₁₃	16.3	X	315.99189	21.39623	37.50460	5.23810	0.1161789	0.20398533	2.8580518	20	11 6.3	19.7
315846 2008 HF ₁₃	16.7	X	316.84917	102.49572	14.19789	3.18019	0.1094526	0.21797918	2.7343832	20	—	—
315847 2008 HP ₁₅	16.3	X	120.24738	68.06472	169.82794	7.92800	0.0815491	0.19188973	2.9769273	20	10 25.9	20.8
315848 2008 HD ₁₉	17.2	X	279.42568	274.60162	216.03650	3.30628	0.1462021	0.21285701	2.7780757	20	12 11.2	20.4
315849 2008 HW ₁₉	15.6	X	296.47540	272.97167	107.09235	13.43691	0.0805872	0.18189211	3.0850353	20	8 18.4	19.8
315850 2008 HA ₂₆	15.8	X	219.97201	289.51970	119.19304	7.40252	0.0722528	0.17157879	3.2074531	20	6 17.8	20.7
315851 2008 HT ₂₇	16.7	X	36.67595	9.93479	21.04516	4.66338	0.0774111	0.21362834	2.7713846	20	—	—
315852 2008 HY ₃₂	17.0	X	328.04439	286.16622	167.00471	4.62128	0.0347856	0.20936711	2.8088620	20	—	—
315853 2008 HQ ₃₃	16.0	X	119.43695	111.06242	106.12107	10.97120	0.0660850	0.18958378	3.0010180	20	10 1.8	20.6
315854 2008 HJ ₃₄	15.6	X	251.01817	315.07752	119.28007	15.43240	0.0442796	0.18537493	3.0462722	20	9 3.2	20.0
315855 2008 HP ₃₄	15.7	X	112.11467	94.47112	151.16317	11.96508	0.2042529	0.19106531	2.9854845	20	11 5.1	20.8
315856 2008 HO ₃₆	16.2	X	39.26450	190.92359	98.14020	9.98173	0.0445392	0.18467377	3.0539780	20	9 20.4	20.5
315857 2008 HK ₄₂	15.7	X	40.80059	153.50495	110.19727	12.59294	0.1421493	0.18009221	3.1055655	20	9 1.7	19.8
315858 2008 HZ ₄₂	16.9	X	340.24935	8.22033	159.01487	4.68131	0.1358127	0.23387000	2.6090739	20	—	—
315859 2008 HL ₄₇	16.0	X	339.06586	267.33773	110.97267	11.86110	0.0738917	0.19064851	2.9898342	20	10 24.2	20.0
315860 2008 HN ₄₇	15.9	X	54.15790	155.79070	149.36131	10.62792	0.0840606	0.18959452	3.0009047	20	11 3.9	20.2
315861 2008 HC ₄₉	16.2	X	252.53328	339.56349	71.68249	6.67090	0.1947447	0.18743694	3.0238895	20	7 14.0	20.7
315862 2008 HV ₅₀	17.2	X	269.31271	356.98274	190.36171	3.21747	0.1303586	0.21677000	2.7445423	20	—	—
315863 2008 HX ₅₅	15.8	X	75.92655	195.62630	125.55761	10.84611	0.0807892	0.19787122	2.9166275	20	12 17.2	20.1
315864 2008 HN ₅₇	16.0	X	62.95413	145.07239	134.14734	10.96620	0.0907434	0.18840699	3.0135012	20	10 15.2	20.4
315865 2008 HR ₅₉	16.5	X	180.63753	116.77536	87.46426	9.12923	0.1257701	0.19945848	2.9011335	20	11 15.2	21.1
315866 2008 HW ₆₁	15.7	X	45.67884	53.36802	231.66316	13.81975	0.0638267	0.18502835	3.0500750	20	9 16.2	20.2
315867 2008 HN ₆₆	15.1	X	49.55811	116.76258	107.46339	27.86295	0.1836783	0.17549674	3.1595363	20	7 26.7	19.3
315868 2008 HJ ₆₇	16.0	X	306.34164	1.71918	55.05301	9.28795	0.0491613	0.19420039	2.9532665	20	10 23.9	19.9
315869 2008 HH ₇₀	15.1	X	172.75214	304.14559	206.40375	23.82870	0.0448385	0.18464438	3.0543021	20	8 27.5	20.0
315870 2008 JD ₉	15.1	X	9.21676	160.46493	125.05013	21.84551	0.1881856	0.17603554	3.1530860	20	8 10.6	18.5
315871 2008 JE ₉	16.4	X	38.71864	123.58704	153.05245	10.22324	0.0767518	0.18103582	3.0947557	20	9 2.9	20.5
315872 2008 JP ₁₀	16.9	X	51.56287	244.25495	152.99589	6.39257	0.0255539	0.21660482	2.7459375	20	—	—
315873 2008 JJ ₁₂	15.9	X	276.82521	290.77567	125.06271	12.42132	0.0624645	0.18539523	3.0460498	20	9 10.2	20.1
315874 2008 JX ₁₂	16.4	X	152.58220	92.35189	132.60851	8.65975	0.1964638	0.19660035	2.9291832	20	11 13.2	21.5
315875 2008 JB ₂₁	16.0	X	55.09499	133.35079	126.35514	8.84970	0.1657288	0.17866283	3.1220984	20	9 18.9	20.3
315876 2008 JA ₂₄	15.8	X	253.52105	303.20648	115.23210	12.99739	0.1462825	0.18042042	3.1017890	20	7 29.9	20.4
315877 2008 JB ₂₈	16.1	X	93.77552	147.37596	150.64089	11.52194	0.1071498	0.19675975	2.9276009	20	12 11.5	20.7
315878 2008 JJ ₂₉	16.7	X	235.62380	119.87583	93.66077	14.54471	0.1143582	0.21510423	2.7586933	20	—	—
315879 2008 JT ₂₉	16.1	X	268.87396	313.96548	81.89277	6.24836	0.1135469	0.17825867	3.1268156	20	7 25.0	20.5
315880 2008 JP ₄₀	15.6	X	163.53054	323.56452	209.66341	7.72855	0.0320745	0.18651620	3.0338330	20	9 18.3	20.0
315881 2008 KZ	15.6	X	195.63112	49.23357	101.80227	11.15352	0.0494819	0.18959886	3.0008588	20	10 5.1	20.2
315882 2008 KL ₇	16.2	X	140.37648	50.63048	135.18756	11.58161	0.0472931	0.18532305	3.0468408	20	9 11.9	20.7
315883 2008 KU ₈	17.2	X	295.94187	70.01868	66.35606	9.25642	0.2600150	0.21605099	2.7506281	20	—	—
315884 2008 KM ₁₄	15.7	X	286.43732	187.81795	150.00961	12.69070	0.0579181	0.16839668	3.2477333	20	6 11.9	20.4
315885 2008 KL ₁₇	15.8	X	170.53423	10.48703	120.29249	11.34331	0.0527469	0.17801745	3.1296397	20	8 5.7	20.4
315886 2008 KZ ₂₀	16.9	X	284.95583	45.56645	110.13189	5.97649	0.0998074	0.21250286	2.7811614	20	—	—
315887 2008 KV ₂₆	16.0	X	77.76230	113.02277	141.03039	7.85575	0.1619503	0.18361402	3.0657176	20	10 8.4	20.6
315888 2008 KG ₂₉	15.8	X	34.44579	187.43104	127.35180	8.69554	0.1180147	0.18686382	3.0300694	20	10 25.9	19.9
315889 2008 KH ₃₁	15.9	X	13.63506	111.68113	169.14322	9.10068	0.0736542	0.17444388	3.1722365	20	7 30.6	20.0
315890 2008 KJ ₃₇	15.9	X	47.99387	112.11189	144.21626	11.77306	0.1088814	0.17587616	3.1549905	20	8 24.5	20.1
315891 2008 KA ₃₈	15.8	X	231.11444	298.60642	148.26135	10.44766	0.0119610	0.18231553	3.0802569	20	8 25.8	20.1
315892 2008 KU ₄₂	15.9	X	24.64215	143.92773	159.74289	10.08677	0.0626479	0.18189807	3.0849680	20	9 16.9	20.0
315893 2008 LJ ₃	15.5	X	78.79539	85.94643	142.27404	14.76801	0.0170445	0.17745887	3.1362035	20	8 15.1	19.9
315894 2008 LB ₄	15.5	X	42.00076	137.17787	123.26402	9.84424	0.0330874	0.17818906	3.1276299	20	8 11.7	19.7
315895 2008 LJ ₇	15.6	X	170.95978	335.66591	153.10631	11.95391	0.0293261	0.17635938	3.1492249	20	8 2.0	20.2
315896 2008 LZ ₉	15.7	X	138.16311	126.49426	99.29914	12.68753	0.0321040	0.19232673	2.9724162	20	11 1.1	20.2
315897 2008 KZ ₂	17.6	X	233.05369	318.41461	2.15046	18.06778	0.0688507	0.38176707	1.8819312	20	3 1.4	19.8
315898 2008 QD ₄	11.3	X	145.57682	68.30791	344.76009	42.06977	0.3502004	0.04061989	8.3812777	20	3 31.3	21.9
315899 2008 QG ₂₀	15.6	X	79.10569	284.59617	334.16615	16.22905	0.3304220	0.17691163	3.1426677	20	10 21.6	21.1
315900 2008 QX ₂₀	15.5	X	12.96618	170.98150	213.56349	9.01707	0.0281114	0.18222750	3.0812488	20	12 6.8	19.9
315901 2008 QY ₃₆	14.2	X	274.19146	126.04238	325.76051	3.49059	0.0847473	0.08550115	5.1029514	20	9 28.6	20.9
315902 2008 QS ₄₀	13.8	X	268.52487	131.80126	324.25222	4.22803	0.0821184	0.08132509	5.2761810	20	9 26.5	20.8
315903 2008 QJ ₄₂	13.4	X	301.32774	223.80776	195.18307	18.54400	0.0973478	0.08106832	5.2873158	20	9 21.9	20.1
315904 2008 RD ₁	15.7	X	70.69949	145.50980	134.82097	11.02459	0.2003374	0.17681979	3.1437558	20	11 6.2	20.6
315905 2008 RC ₂	13.8	X	338.07838	207.75554	176.46104	9.51314	0.0692812	0.08334604	5.1905424	20	10 5.1	20.3
315906 2008 RD ₄	13.5	X	311.32973	226.97294	194.18944	6.17266	0.1575338	0.08306169	5.2023817	20	10 2.6	19.8
315907 2008 RF ₂₀	13.6	X	319.24579	210.41057	201.24758	6.56849	0.0968926	0.08396203	5.1651240	20	10 8.6	19.9
315908 2008 RX ₃₃	14.8	X	271.69841	274.69401	340.79082	7.53415	0.084017	0.12449032	3.9723331	20	2 19.3	20.5
315909 2008 RO ₆₃	13.7	X	353.35975	216.94124	151.21851	4.32433	0.1071747	0.08424311	5.1536286	20	10 7.8	20.1
315910 2008 RH ₆₄	13.7	X	295.67824	58.62032	19.00072	9.58010	0.0451293	0.08551152	5.1025386	20	10 13.7	20.4
315911 2008 RH ₆₇	12.8	X	292.12287	50.07462	29.53860	9.94289	0.1156409	0.08319459	5.1968398	20	10 5.0	19.4
315912 2008 RT ₈₅	15.4	X	112.55026	43.93908	214.23259	10.64280	0.0552790	0.17068072	3.2186944	20	11 4.0	20.2
315913 2008 RP ₁₀₉	14.3	X	304.09748	11.75702	61.08810	2.29094	0.0357167	0.08547311	5.1040670	20	10 19.9	20.9

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
315921 2008 <i>SL</i> ₂₃	13.7	X	279.10774	88.85416	346.95377	12.40110	0.1165705	0.08219691	5.2388071	20	9 12.5	20.5
315922 2008 <i>SW</i> ₂₈	13.9	X	314.67480	174.96638	229.21086	4.79595	0.0892702	0.07964572	5.3500898	20	9 22.8	20.6
315923 2008 <i>SM</i> ₃₉	13.1	X	303.34433	44.71387	32.03051	9.81806	0.0681973	0.08254455	5.2240877	20	10 19.6	19.7
315924 2008 <i>SX</i> ₈₅	14.9	X	335.48256	274.09176	292.95143	8.06109	0.1262736	0.12537381	3.9536496	20	2 27.8	20.1
315925 2008 <i>SE</i> ₉₆	13.7	X	105.70536	35.56095	228.48844	6.44911	0.0143612	0.08142207	5.2719906	20	10 14.5	20.7
315926 2008 <i>SW</i> ₁₄₉	13.4	X	320.21811	52.20945	342.90335	10.54640	0.0953287	0.07924725	5.3680093	20	9 19.3	20.0
315927 2008 <i>SS</i> ₁₅₀	17.3	X	126.76379	26.24710	9.92473	21.35863	0.0868377	0.37298631	1.9113525	20	2 8.5	19.7
315928 2008 <i>SP</i> ₁₉₈	13.5	X	297.98825	134.18012	285.32365	9.49358	0.0514629	0.08052370	5.3111295	20	9 20.2	20.4
315929 2008 <i>SQ</i> ₂₁₉	15.2	X	129.54335	54.06842	192.44319	25.77241	0.1744288	0.17478888	3.1680608	20	11 14.9	20.7
315930 2008 <i>SG</i> ₂₂₁	14.4	X	306.06408	34.48501	184.82858	8.91167	0.1344112	0.12599491	3.9406456	20	2 3.4	19.9
315931 2008 <i>SY</i> ₂₃₃	13.5	X	315.18508	349.23356	48.06151	7.01489	0.0568039	0.07927035	5.3669665	20	9 22.9	20.3
315932 2008 <i>SX</i> ₂₇₄	13.7	X	300.52294	0.79599	73.19629	5.01569	0.0609192	0.08137840	5.2738764	20	10 15.1	20.5
315933 2008 <i>SR</i> ₂₇₅	13.5	X	327.33489	175.04005	241.38934	7.68546	0.0484871	0.08470357	5.1349344	20	10 26.5	20.2
315934 2008 <i>SV</i> ₂₇₉	13.6	X	324.28118	30.64331	16.32900	5.21206	0.1210371	0.08421325	5.1548470	20	10 8.7	19.8
315935 2008 <i>TK</i> ₁₅	14.4	X	356.70829	141.81145	232.20612	2.17874	0.0712909	0.08424245	5.1536557	20	10 16.5	20.9
315936 2008 <i>TD</i> ₂₉	13.0	X	305.80103	63.09478	355.21699	9.60962	0.0683292	0.08234896	5.2323564	20	9 30.3	19.6
315937 2008 <i>TE</i> ₄₉	14.1	X	326.90772	169.29638	232.50649	6.00656	0.0891185	0.08273639	5.2160091	20	10 6.7	20.7
315938 2008 <i>TV</i> ₄₉	13.6	X	344.35608	8.83470	21.04132	4.33312	0.0700278	0.08281910	5.2125359	20	10 18.3	20.0
315939 2008 <i>TN</i> ₅₉	14.2	X	328.00311	0.30294	56.30016	4.18130	0.0459554	0.08314810	5.1987766	20	10 29.2	20.8
315940 2008 <i>TJ</i> ₈₅	13.6	X	337.44289	23.24185	7.14889	6.04185	0.0332153	0.08263796	5.2201503	20	10 10.6	20.3
315941 2008 <i>TE</i> ₉₁	14.1	X	339.00023	47.82233	338.63502	2.34413	0.1709293	0.08214264	5.2411140	20	10 3.7	20.2
315942 2008 <i>TG</i> ₁₀₁	13.7	X	290.31576	67.76400	24.60344	12.35275	0.0602287	0.08241010	5.2297682	20	10 21.2	20.4
315943 2008 <i>TY</i> ₁₁₆	13.9	X	329.16508	352.67103	38.32548	11.27592	0.0338040	0.08021431	5.3247776	20	10 4.8	20.8
315944 2008 <i>TN</i> ₁₁₈	13.6	X	249.83471	128.15588	344.45097	7.75978	0.0167777	0.08200933	5.2467923	20	10 2.1	20.6
315945 2008 <i>TR</i> ₁₁₈	14.0	X	348.77742	25.19305	350.19503	7.84592	0.0290631	0.08352176	5.1832596	20	10 6.4	20.8
315946 2008 <i>TL</i> ₁₂₁	17.5	X	85.94658	12.73388	40.16470	21.68099	0.0931556	0.36475300	1.9400078	20	—	—
315947 2008 <i>TL</i> ₁₂₂	17.6	X	58.16328	42.43387	41.07573	20.67586	0.1081616	0.36279253	1.9469905	20	—	—
315948 2008 <i>TL</i> ₁₂₅	13.7	X	323.15818	128.71146	276.24042	3.90790	0.0634155	0.08088956	5.2951028	20	10 6.5	20.5
315949 2008 <i>TJ</i> ₁₂₆	13.2	X	269.21886	213.75443	257.32710	6.09410	0.0338688	0.08356574	5.1814406	20	10 19.9	20.0
315950 2008 <i>TT</i> ₁₂₇	13.6	X	337.71850	131.08551	261.10162	6.05603	0.0724717	0.08157149	5.2655506	20	10 9.9	20.2
315951 2008 <i>TL</i> ₁₄₄	14.3	X	292.62955	300.21147	126.30657	1.39823	0.0871510	0.07932065	5.3646969	20	9 22.6	21.1
315952 2008 <i>TO</i> ₁₄₈	13.8	X	334.57497	347.74315	50.14559	5.09365	0.0562150	0.08312256	5.1998414	20	10 16.6	20.5
315953 2008 <i>TK</i> ₁₅₀	14.0	X	44.62943	232.10131	90.12805	2.62911	0.0345338	0.08385318	5.1695930	20	10 15.9	20.8
315954 2008 <i>TJ</i> ₁₇₆	13.7	X	259.32115	121.01902	355.92836	6.85993	0.0307357	0.08205300	5.2449305	20	10 15.8	20.7
315955 2008 <i>UJ</i> ₄	17.4	X	143.08580	293.64506	64.67860	24.31812	0.0574885	0.36456392	1.9406785	20	—	—
315956 2008 <i>UJ</i> ₉	13.5	X	298.52779	52.88405	8.31467	10.27793	0.0277941	0.08184410	5.2538515	20	9 30.3	20.3
315957 2008 <i>UO</i> ₉	13.3	X	308.14991	28.07662	26.54572	5.21475	0.0714708	0.08198061	5.2480176	20	9 30.8	19.9
315958 2008 <i>UO</i> ₅₉	13.5	X	351.61516	45.64928	330.70298	12.47842	0.1442388	0.08168137	5.2608272	20	10 7.8	19.9
315959 2008 <i>US</i> ₈₃	17.6	X	229.85740	79.57648	229.44521	19.25670	0.0724908	0.37039636	1.9202521	20	1 27.5	20.5
315960 2008 <i>UB</i> ₁₉₀	13.8	X	15.77644	280.35469	64.64186	3.30317	0.1233621	0.08354034	5.1824911	20	10 13.7	20.1
315961 2008 <i>UY</i> ₂₀₂	17.8	X	93.70526	200.21498	215.12744	20.78489	0.0913043	0.36836659	1.9272996	20	—	—
315962 2008 <i>UY</i> ₂₀₂	18.0	X	204.66908	135.27746	225.25918	17.99248	0.0839261	0.38214945	1.8806756	20	3 11.1	20.7
315963 2008 <i>VV</i> ₂	17.7	X	72.09133	185.75493	241.28392	19.24366	0.0893710	0.36101773	1.9533663	20	—	—
315964 2008 <i>WH</i> ₁₇	13.8	X	81.26472	194.07125	113.62838	2.63343	0.0403511	0.08386987	5.1689071	20	11 10.2	20.6
315965 2008 <i>WA</i> ₉₀	16.9	X	252.91272	320.54281	281.99068	17.46055	0.0357137	0.35056290	1.9920126	20	—	—
315966 2008 <i>WA</i> ₉₇	17.0	X	318.83060	6.60158	262.44766	20.28474	0.0313770	0.38092159	1.8847149	20	4 9.1	19.4
315967 2008 <i>XJ</i> ₁₅	17.3	X	157.55024	106.26731	258.04681	18.20665	0.1046343	0.36638722	1.9342347	20	1 21.2	19.8
315968 2008 <i>YG</i> ₂₄	15.9	X	122.86715	351.86467	127.81452	8.39943	0.0373639	0.20375952	2.8601630	20	5 28.2	20.0
315969 2008 <i>AB</i> ₃₃	17.1	X	291.27131	177.10371	120.10873	4.83974	0.1304595	0.28296433	2.2978143	20	4 10.9	20.0
315970 2009 <i>AP</i> ₃₃	16.9	X	354.54742	180.88091	120.01193	6.59807	0.1732469	0.29813824	2.2191718	20	8 22.6	18.3
315971 2009 <i>BY</i> ₁₁₀	17.4	X	149.39645	135.34315	9.61200	7.61474	0.0655024	0.29198660	2.2502327	20	8 11.4	20.4
315972 2009 <i>BA</i> ₁₁₃	17.8	X	110.53617	144.15934	30.68505	3.72108	0.1021110	0.28894439	2.2659998	20	8 6.6	20.8
315973 2009 <i>BJ</i> ₁₄₅	18.0	X	108.63381	124.69974	64.33028	1.11032	0.1103574	0.29720708	2.2238046	20	8 24.9	20.9
315974 2009 <i>BR</i> ₁₅₆	17.3	X	3.23462	302.64032	331.89345	7.30144	0.0950933	0.28929013	2.2641940	20	7 19.3	19.5
315975 2009 <i>BX</i> ₁₅₆	17.0	X	299.33652	338.63888	332.04908	7.20175	0.1368525	0.28294121	2.2979394	20	5 5.6	19.7
315976 2009 <i>CN</i> ₁₁	17.7	X	88.77607	305.84466	289.57025	5.77066	0.0400153	0.30342341	2.1933267	20	9 23.2	20.4
315977 2009 <i>CW</i> ₁₁	15.4	X	54.30787	144.74609	306.32099	8.15695	0.0690194	0.17520325	3.1630638	20	1 29.1	19.6
315978 2009 <i>CQ</i> ₁₄	17.9	X	96.86932	287.64221	333.80439	5.21543	0.1287836	0.30784435	2.1722773	20	11 18.6	21.0
315979 2009 <i>CC</i> ₂₃	17.6	X	33.32439	0.65733	288.77184	5.39852	0.1942198	0.30328369	2.1940003	20	10 19.1	20.1
315980 2009 <i>CY</i> ₃₅	17.0	X	342.20973	181.08923	94.20935	7.03031	0.1850981	0.28793860	2.2712736	20	5 31.2	18.4
315981 2009 <i>CY</i> ₄₃	17.3	X	88.16218	239.53858	334.92699	6.99819	0.1399745	0.29311088	2.2444749	20	9 6.5	20.4
315982 2009 <i>CZ</i> ₅₈	17.7	X	48.01916	64.59603	170.48880	6.71103	0.1066747	0.28519185	2.2858337	20	8 4.9	20.3
315983 2009 <i>CB</i> ₆₀	17.2	X	171.84503	67.13957	55.30217	2.68050	0.1455818	0.28976343	2.2617278	20	8 3.2	20.5
315984 2009 <i>CE</i> ₆₄	17.6	X	337.93133	117.59314	172.82337	7.28302	0.1625790	0.28499405	2.2868913	20	6 18.0	19.5
315985 2009 <i>CO</i> ₆₅	17.4	X	86.76843	11.49809	232.75209	2.77709	0.1771458	0.29489135	2.2354315	20	10 19.3	20.5