

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>		
308001	2004	RS ₁₀₂	17.9	X	283.09428	99.60319	222.66574	2.31237	0.2468056	0.29705141	2.2245814	20	4 13.7	20.7
308002	2004	RY ₁₀₄	17.4	X	273.52501	71.11863	269.04805	4.98912	0.2410084	0.29680835	2.2257957	20	4 26.7	20.5
308003	2004	RM ₁₀₈	17.7	X	214.59746	150.87021	253.34262	4.93681	0.1559286	0.29561551	2.2317792	20	5 31.5	20.7
308004	2004	RT ₁₁₀	16.0	X	196.94738	119.60245	314.79654	22.13061	0.3073336	0.28769549	2.2725530	20	6 20.5	20.4
308005	2004	RV ₁₁₇	17.0	X	268.43249	57.91458	165.19555	3.73724	0.0499649	0.21432610	2.7653663	20	—	—
308006	2004	RL ₁₃₇	15.5	X	320.45722	71.48005	203.92060	13.63696	0.1899586	0.17523748	3.1626519	20	4 20.5	19.4
308007	2004	RS ₁₃₈	17.4	X	334.13178	49.26711	235.14516	8.66476	0.2131107	0.30182781	2.2010499	20	5 21.7	18.4
308008	2004	RN ₁₅₀	17.3	X	327.50890	115.09417	167.06540	5.81172	0.2003253	0.29823645	2.2186846	20	5 6.0	19.0
308009	2004	RX ₁₅₃	17.4	X	265.31815	125.28108	206.06739	7.04384	0.2075905	0.29485678	2.2356062	20	4 11.3	20.3
308010	2004	RE ₁₈₅	16.5	X	255.58854	126.49872	280.13561	6.10256	0.1179936	0.23941015	2.5686662	20	7 23.9	19.9
308011	2004	RQ ₁₈₆	17.2	X	90.00794	93.51029	9.20046	7.29698	0.1214681	0.28362797	2.2942286	20	3 29.2	19.8
308012	2004	RD ₁₉₅	15.0	X	304.79836	0.04458	356.16964	8.19450	0.0826403	0.17566104	3.1575659	20	7 29.1	19.3
308013	2004	RG ₁₉₇	15.8	X	25.64441	61.12671	131.84457	10.18844	0.1004718	0.19561701	2.9389914	20	—	—
308014	2004	RH ₁₉₇	17.6	X	324.37593	92.05645	197.79521	5.88156	0.2496118	0.29961270	2.2118851	20	5 1.3	19.1
308015	2004	RY ₂₁₀	14.9	X	274.51750	33.04651	308.77207	14.38013	0.0888889	0.17116123	3.2126676	20	5 24.1	19.7
308016	2004	RW ₂₁₃	16.1	X	355.31019	36.27224	307.66669	14.46002	0.0933681	0.24630234	2.5205212	20	10 1.3	19.3
308017	2004	RJ ₂₁₈	15.9	X	283.63040	81.02858	249.22407	11.20184	0.2010359	0.23302002	2.6154147	20	5 3.8	19.5
308018	2004	RA ₂₁₉	15.8	X	249.90166	128.18882	273.36457	13.30883	0.1643464	0.23507863	2.6001233	20	7 3.3	19.4
308019	2004	RA ₂₂₁	15.2	X	321.16352	103.12580	286.92096	13.72574	0.2059099	0.24360517	2.5390916	20	10 4.9	17.8
308020	2004	RM ₂₂₂	15.2	X	70.83976	54.15524	16.01190	13.99634	0.4427210	0.20063833	2.8897490	20	3 21.6	18.8
308021	2004	RU ₂₂₆	17.0	X	239.96595	357.85376	1.69801	6.25071	0.1396021	0.29131139	2.2537085	20	4 27.4	20.2
308022	2004	RU ₂₃₂	17.0	X	233.66359	148.61255	182.34310	6.10344	0.2595094	0.28789561	2.2714997	20	3 9.2	20.9
308023	2004	RK ₂₅₄	17.9	X	279.75158	290.35095	49.07504	4.98081	0.2033255	0.29832842	2.2182286	20	5 10.5	20.7
308024	2004	RL ₂₅₅	17.1	X	207.64489	340.19920	39.35970	21.45987	0.0988365	0.35255175	1.9845139	20	4 22.9	19.4
308025	2004	RB ₂₇₁	17.2	X	208.46117	122.81843	4.46476	3.09146	0.1018119	0.24690729	2.5164025	20	9 16.6	20.8
308026	2004	RF ₂₇₉	17.2	X	212.66207	240.72925	189.17582	6.22311	0.0581882	0.29981152	2.2109071	20	7 11.9	20.0
308027	2004	RG ₃₂₂	17.2	X	254.37634	1.87616	346.04009	6.95021	0.2015697	0.29280355	2.2460452	20	4 20.1	20.7
308028	2004	RF ₃₂₈	17.2	X	126.55398	67.68021	300.51360	1.85277	0.1995198	0.27416296	2.3467322	20	1 22.2	20.0
308029	2004	RO ₃₄₆	15.7	X	104.25870	191.35310	212.57631	13.26391	0.0492885	0.21134096	2.7913455	20	1 24.5	19.8
308030	2004	SD ₄	17.6	X	337.62213	45.77351	225.59391	7.11054	0.1523451	0.29900885	2.2148621	20	5 15.9	19.2
308031	2004	SH ₅	17.9	X	211.51038	94.22355	311.75300	2.46228	0.1637933	0.29431043	2.2383721	20	5 29.8	21.3
308032	2004	SN ₁₁	16.4	X	273.68690	329.21585	87.14563	9.47194	0.2993013	0.24164995	2.5527693	20	8 5.2	19.8
308033	2004	SO ₂₉	17.8	X	209.48237	188.50918	196.85817	4.00389	0.1625410	0.29059522	2.2574098	20	5 1.3	21.1
308034	2004	SP ₃₀	15.4	X	43.29672	186.46125	186.84286	11.28144	0.0262023	0.19665883	2.9286024	20	—	—
308035	2004	SV ₃₁	15.3	X	357.76614	102.52807	188.64794	15.66782	0.1539964	0.17758512	3.1347170	20	7 20.8	19.2
308036	2004	SZ ₃₂	17.4	X	192.17044	359.52434	50.67895	6.14159	0.1433583	0.28965209	2.2623073	20	5 16.9	20.8
308037	2004	ST ₃₃	15.5	X	103.43518	286.78327	41.57996	11.10496	0.1475889	0.19880689	2.9074690	20	—	—
308038	2004	SJ ₄₃	17.2	X	198.83398	133.00077	309.41937	4.56884	0.1033280	0.29851902	2.2172843	20	7 10.2	20.0
308039	2004	SA ₄₄	18.1	X	228.33279	103.84948	283.62008	5.71713	0.1554270	0.29442281	2.2378025	20	5 22.4	21.3
308040	2004	SA ₆₁	16.3	X	207.74966	66.70423	348.46234	12.80594	0.1326119	0.22915023	2.6447778	20	6 7.4	20.7
308041	2004	TN	18.9	X	290.70016	159.93049	17.14646	14.04353	0.4356273	0.57751915	1.4280995	20	—	—
308042	2004	TV ₈	17.5	X	328.17688	48.57974	26.42611	21.15865	0.1339254	0.38041715	1.8863806	20	—	—
308043	2004	TH ₁₀	18.6	X	349.20044	266.52834	271.45582	14.29673	0.8286974	0.70488491	1.2504238	20	8 10.0	18.0
308044	2004	TZ ₁₅	17.7	X	202.32995	14.31943	337.03344	1.67859	0.1579144	0.28332136	2.2958834	20	3 11.1	21.3
308045	2004	TN ₁₇	15.8	X	324.39069	143.03956	332.32200	5.28744	0.0456847	0.19699107	2.9253086	20	—	—
308046	2004	TX ₁₇	17.3	X	201.25349	130.06366	227.55803	6.70546	0.1429809	0.28271244	2.2991789	20	3 15.8	20.9
308047	2004	TA ₂₅	17.9	X	268.09190	15.25743	291.38418	0.85064	0.2515261	0.29164450	2.2519921	20	3 8.3	21.4
308048	2004	TV ₃₅	17.7	X	159.31279	139.25555	202.08514	4.64492	0.1363397	0.27447388	2.3449596	20	1 15.4	21.0
308049	2004	TO ₃₆	17.5	X	68.38345	318.88117	204.96457	2.02574	0.0850076	0.28783864	2.2717994	20	5 19.0	20.0
308050	2004	TS ₃₇	17.7	X	48.80652	159.22340	26.07978	1.10236	0.0763062	0.28856753	2.2679722	20	5 17.4	20.0
308051	2004	TP ₃₉	17.5	X	77.59621	215.39559	0.40499	2.84939	0.1069255	0.30114594	2.2043711	20	8 24.1	20.1
308052	2004	TZ ₄₆	17.1	X	236.36002	145.28361	206.86487	6.15461	0.1428700	0.28883049	2.2665955	20	4 15.2	20.3
308053	2004	TD ₅₁	17.7	X	164.42521	49.95058	356.02703	2.56177	0.1486078	0.28256219	2.2999939	20	4 13.3	21.0
308054	2004	TQ ₆₃	17.5	X	171.15341	49.73499	18.97073	6.92273	0.0890715	0.28884526	2.2665182	20	5 17.5	20.7
308055	2004	TV ₆₈	17.6	X	14.80505	245.57432	123.77588	4.25258	0.1274776	0.31668239	2.1316706	20	—	—
308056	2004	TX ₉₁	17.6	X	145.33854	229.24666	220.71340	4.27696	0.1077628	0.28715723	2.2753919	20	5 20.1	20.8
308057	2004	TK ₁₀₂	17.2	X	3.54935	182.68299	55.66324	3.74203	0.1848971	0.29040406	2.2584003	20	5 19.3	18.6
308058	2004	TW ₁₁₆	16.7	X	44.61874	178.52445	231.57451	8.24587	0.1758982	0.26364695	2.4087268	20	—	—
308059	2004	TZ ₁₁₉	17.8	X	171.56823	196.32909	234.73419	6.18198	0.2254053	0.28844823	2.2685976	20	5 25.8	21.5
308060	2004	TX ₁₃₄	17.8	X	293.22203	292.07975	22.15939	3.66095	0.1837804	0.29635977	2.2280412	20	4 25.5	20.3
308061	2004	TL ₁₄₇	15.4	X	127.07789	202.69351	4.92992	11.72411	0.1614504	0.18145987	3.0899324	20	9 27.5	20.5
308062	2004	TS ₁₄₇	16.8	X	25.16055	224.62746	352.48702	6.24843	0.0757004	0.29110580	2.2547695	20	5 23.4	19.1
308063	2004	TV ₁₅₃	17.3	X	106.64356	129.30433	18.24403	7.56503	0.0602482	0.29206752	2.2498171	20	6 15.4	20.2
308064	2004	TJ ₁₅₅	17.2	X	349.99757	209.66977	28.42838	6.56204	0.0985160	0.29011082	2.2599219	20	4 21.9	19.0
308065	2004	TD ₁₅₈	17.1	X	325.40023	24.57235	260.21153	2.85537	0.1286568	0.29240514	2.2480849	20	5 15.5	19.1
308066	2004	TZ ₁₅₉	17.6	X	270.32764	294.21310	19.58025	2.72852	0.1763221	0.28892370	2.2661080	20	3 28.9	20.7
308067	2004	TW ₁₇₂	15.2	X	95.75030	63.31319	275.15351	9.95306	0.1013657	0.19709708	2.9242596	20	—	—
308068	2004	TB ₁₈₃	16.9	X	12.86197	24.84972	214.25815	7.96117	0.0832266	0.29409657	2.2394571	20	6 7.9	19.1
308069	2004	TH ₁₉₉	17.4	X	11.92046	7.35378	183.99887	3.56895	0.0729790	0.28237595	2.3010051	20	3 22.9	19.4
308070	2004	TE ₂₀₇	15.5	X	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>
308081 2004 <i>TF</i> ₃₀₂	17.6	X	222.30511	100.04741	269.18072	6.10119	0.1682728	0.29014377	2.2597508	20	4 19.3	21.2
308082 2004 <i>TG</i> ₃₁₀	15.3	X	115.94606	40.00732	274.11372	9.87630	0.0982973	0.19777619	2.9175617	20	—	—
308083 2004 <i>UN</i>	17.6	X	259.25752	78.31473	289.43925	17.08967	0.1288460	0.35918444	1.9600074	20	6 5.5	19.9
308084 2004 <i>UF</i> ₁	17.2	X	145.30236	259.12859	216.17565	22.48375	0.3317160	0.28525368	2.2855034	20	6 29.7	21.8
308085 2004 <i>UP</i> ₆	17.9	X	247.00844	79.81435	276.83970	4.07565	0.1261891	0.29204490	2.2499333	20	5 3.6	20.9
308086 2004 <i>UM</i> ₈	17.7	X	189.99619	104.83589	280.20864	2.29484	0.2536142	0.28470337	2.2884476	20	4 11.3	21.5
308087 2004 <i>VJ</i>	17.4	X	295.51215	255.43744	110.13750	5.54735	0.1941230	0.30168013	2.2017681	20	7 18.6	19.3
308088 2004 <i>VP</i> ₄	16.3	X	78.31150	29.79830	332.68082	7.62448	0.3029938	0.19863980	2.9090992	20	—	—
308089 2004 <i>VT</i> ₆	16.7	X	312.23498	329.61942	92.63281	4.08959	0.1350097	0.24663238	2.5182721	20	11 17.6	19.0
308090 2004 <i>VH</i> ₉	15.7	X	3.06654	341.69659	343.94055	15.13276	0.1422770	0.24306485	2.5428531	20	9 27.4	18.5
308091 2004 <i>VQ</i> ₉	16.5	X	295.39511	287.75511	121.50381	5.58043	0.1850118	0.24163371	2.5528837	20	9 21.2	19.0
308092 2004 <i>VQ</i> ₁₂	17.0	X	239.54184	13.99949	15.51711	9.75451	0.1461727	0.29220410	2.2491160	20	6 7.0	20.3
308093 2004 <i>VT</i> ₁₃	16.3	X	97.83514	14.92871	76.01643	27.58851	0.2548814	0.27438482	2.3454670	20	4 28.8	20.0
308094 2004 <i>VD</i> ₁₄	16.7	X	191.87455	347.30430	49.23913	7.16739	0.1138910	0.28464925	2.2887377	20	4 29.5	20.1
308095 2004 <i>VD</i> ₂₁	15.0	X	224.89851	17.58415	51.94902	16.02411	0.0271964	0.16908617	3.2388984	20	7 27.6	19.9
308096 2004 <i>VY</i> ₂₂	17.3	X	158.74382	171.13530	253.18655	5.26420	0.1430246	0.28275287	2.2989597	20	4 30.9	20.8
308097 2004 <i>VL</i> ₂₆	16.7	X	294.29091	327.80275	8.57531	7.40052	0.0777683	0.29412474	2.2393141	20	6 19.1	19.3
308098 2004 <i>VF</i> ₂₈	16.7	X	261.38500	48.43005	312.08161	3.93824	0.2707439	0.23176981	2.6248116	20	5 9.3	20.9
308099 2004 <i>VC</i> ₃₃	17.5	X	259.42182	247.48089	79.22919	5.68981	0.2188956	0.28881946	2.2666532	20	4 1.6	20.9
308100 2004 <i>VU</i> ₃₉	18.0	X	69.15848	75.22379	75.77742	3.22603	0.1298298	0.28026320	2.3125546	20	5 9.1	20.5
308101 2004 <i>VE</i> ₅₂	17.6	X	195.46753	306.32375	39.87551	2.99652	0.2526168	0.28087098	2.3092173	20	3 1.6	21.7
308102 2004 <i>VG</i> ₆₀	17.2	X	132.47481	184.53210	263.67441	5.87371	0.1427890	0.28091086	2.3089987	20	5 4.6	20.5
308103 2004 <i>VM</i> ₆₀	17.4	X	193.78264	314.34291	52.80088	8.50085	0.2220052	0.28257132	2.2999444	20	3 27.9	21.3
308104 2004 <i>VS</i> ₇₀	17.5	X	187.66504	140.87045	235.03640	4.85592	0.1799128	0.28182580	2.3039986	20	3 27.6	21.2
308105 2004 <i>VC</i> ₁₀₄	17.9	X	75.85977	102.72883	42.43994	4.75712	0.1143352	0.28231419	2.3013406	20	5 7.4	20.4
308106 2004 <i>WG</i>	14.7	X	241.01209	79.60225	58.05576	24.23491	0.4165749	0.17765844	3.1338544	20	10 4.7	20.4
308107 2004 <i>WT</i> ₉	17.1	X	319.94580	50.32062	359.03679	20.85168	0.1203329	0.37176463	1.9155376	20	—	—
308108 2004 <i>XB</i>	16.9	X	133.19787	61.57225	292.45749	11.77331	0.0983058	0.39429579	1.8418515	20	—	—
308109 2004 <i>XW</i> ₂	17.3	X	111.82367	22.18906	65.03722	3.33727	0.1761476	0.27621382	2.3351016	20	4 16.2	20.4
308110 2004 <i>XF</i> ₄	17.2	X	182.31280	276.40758	219.99752	21.30874	0.0778714	0.36009452	1.9567036	20	9 6.5	20.1
308111 2004 <i>XW</i> ₅	17.0	X	78.00798	92.41800	70.85014	21.94317	0.2059885	0.27991735	2.3144591	20	6 20.2	20.0
308112 2004 <i>XH</i> ₁₅	16.8	X	272.14888	270.04041	82.71166	7.46276	0.1586721	0.29101155	2.2552563	20	5 27.6	19.6
308113 2004 <i>XV</i> ₂₃	15.8	X	16.95666	337.04957	19.96169	5.78103	0.1758314	0.24693454	2.5162173	20	12 13.7	18.9
308114 2004 <i>XZ</i> ₂₇	16.9	X	136.67410	169.75378	279.29829	5.60482	0.0734873	0.28033515	2.3121589	20	5 2.9	19.9
308115 2004 <i>XQ</i> ₅₁	16.8	X	148.48312	168.21401	244.57968	6.42416	0.0887849	0.27839378	2.3228956	20	3 29.5	20.1
308116 2004 <i>XG</i> ₅₂	16.9	X	177.23884	165.78460	249.22067	5.64336	0.0898541	0.28205288	2.3027618	20	5 6.8	20.1
308117 2004 <i>XD</i> ₆₁	15.8	X	9.79258	0.47930	348.87140	17.96677	0.3527206	0.24698373	2.5158833	20	12 23.7	19.2
308118 2004 <i>XM</i> ₇₅	16.9	X	149.65331	308.26471	95.53692	8.28532	0.2429171	0.27536369	2.3390952	20	4 7.9	20.8
308119 2004 <i>XG</i> ₈₀	16.6	X	77.83471	69.93777	85.73692	7.27761	0.1362967	0.27857585	2.3218834	20	5 30.8	19.4
308120 2004 <i>XL</i> ₈₅	17.4	X	211.95700	150.41608	277.10370	1.22507	0.1696855	0.28846615	2.2685036	20	6 28.5	20.8
308121 2004 <i>XB</i> ₈₈	14.9	X	359.60593	310.89173	58.56635	9.81527	0.2884293	0.24226499	2.5484470	20	12 20.6	17.5
308122 2004 <i>XT</i> ₈₈	16.1	X	316.61620	321.49390	91.20536	14.54531	0.2364041	0.24207292	2.5497949	20	11 13.4	18.2
308123 2004 <i>XP</i> ₁₀₁	15.5	X	353.61438	313.32875	67.95367	5.49917	0.1782126	0.24316083	2.5421839	20	12 9.1	17.9
308124 2004 <i>XM</i> ₁₀₃	16.4	X	331.12511	1.64413	29.42357	2.76838	0.1753333	0.24367480	2.5386079	20	11 7.9	18.4
308125 2004 <i>XX</i> ₁₀₉	16.0	X	342.05800	1.20434	44.16863	6.02027	0.1891425	0.24533313	2.5271552	20	12 24.4	18.5
308126 2004 <i>XV</i> ₁₁₀	17.1	X	331.99901	65.14461	343.27903	4.02163	0.1123946	0.31016105	2.1614467	20	12 25.5	19.1
308127 2004 <i>XM</i> ₁₃₀	17.9	X	124.95092	190.16208	309.15576	28.14894	0.4638190	0.27716265	2.3297693	20	7 27.1	22.6
308128 2004 <i>XK</i> ₁₃₃	16.6	X	210.33525	315.31871	41.80541	8.76676	0.2741755	0.28457139	2.2891551	20	3 27.3	20.6
308129 2004 <i>XS</i> ₁₃₉	16.5	X	258.23194	239.37881	53.43799	4.83213	0.2392352	0.27392910	2.3480676	20	2 16.5	20.3
308130 2004 <i>XY</i> ₁₃₉	17.3	X	134.28036	304.06733	121.89462	5.20000	0.1025120	0.27416229	2.3467360	20	4 6.5	20.5
308131 2004 <i>XE</i> ₁₄₇	15.9	X	179.12481	337.28225	115.54864	24.62042	0.2442200	0.28245144	2.3005951	20	6 30.3	19.9
308132 2004 <i>XS</i> ₁₇₃	16.2	X	302.78412	170.48004	234.63586	2.81187	0.1173351	0.23847405	2.5753839	20	10 2.8	19.0
308133 2004 <i>XE</i> ₁₈₄	17.5	X	348.67975	354.54164	49.18580	4.22463	0.1391678	0.31008536	2.1617985	20	—	—
308134 2004 <i>XM</i> ₁₉₁	16.7	X	143.87086	31.48492	72.56192	10.42468	0.1741439	0.27975363	2.3153620	20	6 10.6	20.1
308135 2004 <i>YZ</i> ₁	16.2	X	117.31264	97.84817	18.43210	22.70100	0.1792008	0.27482625	2.3429548	20	5 23.3	20.0
308136 2004 <i>YY</i> ₇	16.6	X	328.23522	200.88768	207.95726	0.86447	0.0943587	0.24685274	2.5167732	20	11 26.1	19.4
308137 2004 <i>YM</i> ₈	17.8	X	192.10745	181.05113	229.71374	2.47356	0.1463575	0.28656130	2.2785454	20	5 17.9	21.2
308138 2004 <i>YM</i> ₁₀	15.2	X	276.17835	230.96455	245.79677	14.10164	0.0632091	0.18482249	3.0523395	20	11 21.2	19.2
308139 2004 <i>YW</i> ₂₃	16.9	X	127.14785	41.99731	111.06312	6.14180	0.1455182	0.28244166	2.3006482	20	7 28.5	20.3
308140 2004 <i>YT</i> ₂₉	16.3	X	311.47756	31.58717	32.76525	5.28673	0.3056588	0.24363742	2.5388676	20	11 7.9	17.3
308141 2004 <i>YK</i> ₃₅	17.1	X	21.58956	23.03617	102.52224	3.50275	0.1553158	0.26041963	2.4285865	20	1 3.2	19.0
308142 2005 <i>AR</i> ₂	17.0	X	189.40203	299.59943	102.85831	7.36085	0.1000493	0.27805313	2.3247925	20	5 7.2	20.4
308143 2005 <i>AY</i> ₂	17.5	X	311.57490	279.40338	298.10733	14.95962	0.0780774	0.39049832	1.8537732	20	1 5.6	19.1
308144 2005 <i>AR</i> ₁₁	15.9	X	212.51490	52.98164	331.13207	8.63790	0.1914805	0.21890159	2.7266963	20	4 29.0	20.6
308145 2005 <i>AU</i> ₁₂	17.5	X	105.07900	358.47696	111.18923	3.97640	0.2071026	0.27446579	2.3450057	20	5 13.2	20.7
308146 2005 <i>AA</i> ₁₃	17.7	X	98.03781									

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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>
308161 2005 BZ ₄	16.8	X	71.12524	15.21952	75.91040	6.02030	0.0723980	0.26501100	2.4004543	20	2 9.9	19.6
308162 2005 BH ₈	16.9	X	86.74616	23.70645	93.95397	8.13704	0.0526120	0.27163015	2.3612976	20	4 9.3	19.9
308163 2005 BA ₁₁	17.6	X	95.07949	343.67661	104.70291	4.33209	0.1854668	0.26860881	2.3789714	20	3 30.7	20.5
308164 2005 BM ₁₇	17.9	X	63.71572	280.47777	211.76819	0.86041	0.1302603	0.26926514	2.3751040	20	4 1.7	20.1
308165 2005 BB ₁₉	17.1	X	231.77858	38.41802	38.71361	4.87650	0.1001235	0.29145720	2.2529568	20	8 14.7	19.9
308166 2005 BX ₁₉	16.9	X	63.88265	126.18343	349.30625	7.59951	0.0619968	0.26683110	2.3895259	20	2 29.9	19.6
308167 2005 BW ₂₀	17.7	X	80.84648	327.23705	111.15566	2.91799	0.0562024	0.26312958	2.4118832	20	2 3.4	20.4
308168 2005 BU ₂₁	17.2	X	203.39848	202.88106	138.23037	5.70173	0.1375839	0.26931529	2.3748091	20	3 1.6	20.9
308169 2005 BF ₂₃	16.8	X	63.83749	118.69585	0.76127	2.41523	0.1235223	0.26648866	2.3915726	20	3 13.8	19.1
308170 2005 BC ₃₀	18.1	X	69.68194	225.29912	273.60117	1.09201	0.0836210	0.27175974	2.3605469	20	4 13.5	20.6
308171 2005 BQ ₄₁	17.2	X	309.63611	130.77132	90.28270	1.87461	0.1297697	0.26223262	2.4173799	20	1 23.1	20.1
308172 2005 CH ₆	17.0	X	38.55883	183.83178	327.92776	1.90106	0.1674796	0.26466665	2.4025360	20	3 18.7	19.0
308173 2005 CN ₈	17.5	X	67.81690	182.69543	311.74639	1.74380	0.1487223	0.26969819	2.3725609	20	4 14.2	19.9
308174 2005 CX ₁₂	17.0	X	37.09074	347.52559	117.14356	7.03608	0.0697507	0.25896975	2.4376425	20	1 4.5	19.6
308175 2005 CD ₁₉	16.2	X	261.42700	166.25234	21.27230	1.96455	0.0475150	0.24639414	2.5198951	20	—	—
308176 2005 CY ₂₀	17.1	X	51.61476	43.07472	90.55444	3.49750	0.1315977	0.26527613	2.3988547	20	3 16.1	19.4
308177 2005 CJ ₂₆	17.4	X	100.71130	208.32973	256.58693	1.97896	0.1891246	0.27042948	2.3682817	20	4 27.2	20.5
308178 2005 CK ₂₆	16.6	X	196.61992	54.91509	38.58010	6.34331	0.2623837	0.22315244	2.6919581	20	7 12.4	21.4
308179 2005 CS ₂₇	16.7	X	148.30167	348.94817	108.65543	4.51632	0.0914709	0.27605880	2.3359757	20	6 3.2	19.8
308180 2005 CQ ₂₉	17.6	X	130.35854	24.44241	43.01108	2.10481	0.1705958	0.27056789	2.3674739	20	4 9.8	21.0
308181 2005 CA ₃₁	16.9	X	167.22475	190.42640	99.62089	3.68441	0.1353964	0.24688465	2.5165563	20	—	—
308182 2005 CN ₃₈	17.1	X	90.13885	301.03109	152.07124	5.38500	0.2173867	0.26667336	2.3904681	20	4 4.0	19.9
308183 2005 CQ ₃₉	16.7	X	176.94641	339.88710	88.20727	9.14647	0.0755527	0.28045682	2.3114901	20	5 26.4	19.9
308184 2005 CP ₄₁	16.9	X	258.03184	176.13891	13.57423	4.52341	0.1275005	0.24619114	2.5212801	20	—	—
308185 2005 CQ ₄₁	17.0	X	151.22388	219.10953	114.43083	8.27469	0.1245200	0.25507969	2.4623633	20	—	—
308186 2005 CW ₄₃	16.9	X	47.68996	3.68093	142.29808	3.14482	0.1457559	0.26682500	2.3895624	20	3 28.0	19.1
308187 2005 CY ₄₈	16.5	X	276.66605	181.73226	178.86680	4.53284	0.1421006	0.24224640	2.5485774	20	12 30.9	19.1
308188 2005 CU ₅₇	17.3	X	63.64163	321.91057	310.74216	2.28379	0.1471757	0.26835462	2.3804734	20	4 5.7	19.6
308189 2005 CB ₆₀	17.3	X	93.30789	102.41661	344.29312	7.84752	0.1896878	0.26781261	2.3836841	20	3 22.4	20.1
308190 2005 CN ₆₀	17.5	X	11.28271	179.26803	337.53985	1.42432	0.1220358	0.26214295	2.4179311	20	1 31.9	20.0
308191 2005 CF ₆₂	17.1	X	185.89921	168.92166	92.04838	5.10899	0.0795136	0.24555925	2.5256036	20	—	—
308192 2005 CZ ₆₆	16.8	X	73.32155	65.35659	113.73258	6.35659	0.1109644	0.27439865	2.3453882	20	6 22.7	19.5
308193 2005 CH ₇₉	4.5	X	322.34410	92.97782	112.93591	28.69205	0.1415881	0.00346984	43.2112151	20	3 1.4	20.4
308194 2005 ET ₁₂	16.3	X	214.94585	219.35630	359.68049	13.56758	0.1250795	0.24067107	2.5596866	20	—	—
308195 2005 EW ₁₂	17.3	X	306.74883	73.26578	17.10400	3.44390	0.4532394	0.24463211	2.5319808	20	11 21.2	17.0
308196 2005 EZ ₁₅	17.5	X	335.20927	36.89173	148.27472	2.89392	0.1265182	0.25722909	2.4486272	20	1 11.5	20.5
308197 Satrapi	17.7	X	52.55949	161.91660	330.86508	1.97318	0.1480200	0.26248791	2.4158122	20	3 16.3	19.9
308198 2005 EK ₂₉	19.0	X	173.86287	336.86833	171.77098	15.04427	0.1798477	0.48092428	1.6134354	20	10 1.9	20.3
308199 2005 EY ₃₂	15.9	X	163.87456	28.78791	349.55649	11.65542	0.0752349	0.19758669	2.9194269	20	3 10.7	20.3
308200 2005 EE ₃₆	16.5	X	74.24653	264.58207	184.00850	5.91206	0.1458088	0.27498728	2.3420400	20	7 13.5	19.3
308201 2005 EO ₃₈	17.1	X	337.81649	258.63656	169.62224	23.00518	0.1292937	0.36806141	1.9283648	20	—	—
308202 2005 EH ₄₅	17.2	X	340.99830	273.15875	278.02000	1.43461	0.1178348	0.26023443	2.4297386	20	1 29.3	19.9
308203 2005 EC ₄₆	17.1	X	89.49145	195.31434	275.84488	1.47859	0.1566132	0.26832971	2.3806207	20	4 15.8	19.9
308204 2005 EW ₆₀	17.2	X	334.43925	205.81910	337.04359	4.37652	0.1514394	0.25532866	2.4607624	20	1 4.6	20.0
308205 2005 EO ₆₁	17.4	X	357.36413	5.24573	171.28211	2.47306	0.1438072	0.26044508	2.4284282	20	2 1.3	19.6
308206 2005 EY ₆₈	16.9	X	31.58950	7.01316	215.41086	2.70736	0.1509558	0.27074432	2.3664453	20	6 24.3	19.0
308207 2005 EO ₇₇	17.3	X	141.89979	348.10505	91.93260	2.40202	0.1638821	0.27264048	2.3554605	20	5 7.9	20.8
308208 2005 EP ₈₀	17.9	X	6.38708	217.39249	287.16941	1.62108	0.1384880	0.25939314	2.4349893	20	1 3.9	20.1
308209 2005 EY ₈₈	17.2	X	228.46113	277.09728	328.32705	6.72837	0.1107009	0.24651431	2.5190761	20	—	—
308210 2005 EL ₉₂	17.3	X	33.75082	60.57851	335.17265	5.35424	0.1516593	0.24403246	2.5361269	20	—	—
308211 2005 EG ₉₅	15.5	X	350.69558	95.69266	11.96668	19.29481	0.1833984	0.18438011	3.0572199	20	—	—
308212 2005 EO ₉₆	16.1	X	326.47443	175.60647	255.08736	5.67441	0.2045198	0.24273120	2.5451828	20	12 29.6	18.1
308213 2005 EL ₉₆	17.2	X	64.45012	302.70154	225.39972	5.11804	0.1674284	0.27229992	2.3574240	20	6 2.6	19.7
308214 2005 EU ₁₂₉	17.7	X	56.23294	346.85441	159.63171	5.27561	0.1772716	0.26892202	2.3771238	20	4 19.7	20.0
308215 2005 EZ ₁₃₆	16.6	X	61.06276	265.33993	26.74017	3.70760	0.2454439	0.21848760	2.7301396	20	11 17.9	20.6
308216 2005 EV ₁₄₀	15.8	X	337.10440	5.26629	326.51643	13.02057	0.1594338	0.22488290	2.6781307	20	8 17.4	18.4
308217 2005 EB ₁₄₄	17.3	X	47.33130	9.41817	17.72357	2.47892	0.1142719	0.24191124	2.5509308	20	—	—
308218 2005 EQ ₁₄₉	16.8	X	164.04643	249.70415	26.81934	10.96834	0.1079277	0.23751556	2.5823078	20	—	—
308219 2005 EW ₁₅₈	17.5	X	71.75925	243.53288	179.64666	4.74253	0.1511041	0.25420602	2.4680019	20	1 11.6	20.1
308220 2005 EQ ₁₆₀	16.7	X	271.17920	176.62910	14.58108	13.46794	0.1091604	0.24354063	2.5395402	20	—	—
308221 2005 EV ₁₆₂	17.5	X	95.15625	39.21506	25.66709	2.48646	0.2056184	0.25988738	2.4319012	20	3 1.2	20.4
308222 2005 EM ₁₆₆	17.1	X	110.95065	173.49236	263.26676	0.94911	0.2061083	0.26553119	2.3973182	20	4 4.2	20.3
308223 2005 EA ₂₀₆	17.3	X	163.24707	96.27086	143.91802	2.65289	0.1315272	0.29668518	2.2264117	20	12 27.9	20.3
308224 2005 EL ₂₁₀	17.3	X	78.50342	248.07377	188.10120	1.75879	0.1682393	0.25854207	2.4403301	20	2 12.7	19.7
308225 2005 EP ₂₃₂	16.2	X	110.45258	172.31038	160.17939	12.68773	0.1170741	0.24283108	2.5444848	20	—	—
308226 2005 EU ₂₃₃	16.3	X	264.98510	84.93002	127.18599	12.25330	0.1696966	0.24666861	2.5180255	20	—	—
308227 2005 EX ₂₃₉	17.3	X	282.13307	172.32373	120.10442	4.87127	0.1467008	0.24618551	2.5213186	20	—	—
308228 2005 EE ₂₅₀	16.4	X	86.81826	20.62463	74.25286	14.45477	0.0643686	0.26358200	2.4091225	20	3 15.4	19.7
308229 2005 ET ₂₅₂	16.0	X	129.65687	153.29404	196.01282	14.70146	0.0998054	0.24475722	2.5311179	20	—	—
308230 2005 ES ₂₅₇	17.0	X	47.41571	119.11706	210.45754	3.47019	0.0625937	0.22825012	2.6517264	20	11 27.8	20.4
308231 2005 EB ₂₅₈	16.3	X	76.93155	37.89596	345.64434	3.59709	0.1874600	0.24492497	2.5299620	20	—	—
308232 2005 EH ₂₆₀	17.4	X	12.29513	85.30488	56.13221	2.73766	0.1621203	0.25444121	2.4664809	20	1 9.7	19.7
308233 2005 EB ₂₆₁	16.2	X	105.41478	346.41276	3.78706	15.01594	0.0471612	0.24477826	2.5309728	20	—	—
308234 2005 EZ ₂₉₀	16.2	X	206.66169	156.61064	77.22028	10.62437	0.0887222	0.23874580				

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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>
308241 2005 GR ₁₂	16.8	X	275.46701	77.75851	111.55787	3.96290	0.2093000	0.24382508	2.5375647	20	—	—
308242 2005 GO ₂₁	16.4	X	271.90981	156.63826	272.68881	24.92832	0.3399572	1.50772378	0.7532194	20	—	—
308243 2005 GC ₂₃	16.5	X	292.32933	344.21654	175.46040	16.05228	0.0933877	0.24250768	2.5467465	20	—	—
308244 2005 GB ₂₈	16.5	X	221.97834	220.21629	18.53495	6.84178	0.1277880	0.24033635	2.5620626	20	—	—
308245 2005 GM ₄₁	17.1	X	304.48759	37.53724	167.39541	5.65809	0.0976952	0.25802894	2.4435643	20	—	—
308246 2005 GQ ₄₈	17.9	X	179.32525	45.80581	181.13379	3.88258	0.0888859	0.29645356	2.2275713	20	—	—
308247 2005 GC ₄₉	16.9	X	97.49274	158.83827	183.79637	4.17691	0.0814518	0.23648104	2.5898334	20	—	—
308248 2005 GU ₄₉	16.2	X	159.50569	250.02699	28.47728	16.26682	0.0719065	0.23616113	2.5921718	20	—	—
308249 2005 GR ₅₉	17.0	X	298.11840	43.90894	130.98687	11.07243	0.1327512	0.24509132	2.5288172	20	—	—
308250 2005 GC ₆₀	15.9	X	67.89285	269.19017	8.98270	22.80222	0.1996046	0.28790262	2.2714628	20	11 5.6	19.6
308251 2005 GT ₆₈	16.2	X	207.59199	118.72957	100.01132	15.84093	0.0625360	0.23625448	2.5914889	20	—	—
308252 2005 GQ ₇₁	16.1	X	12.04134	304.76321	15.02881	14.70648	0.0800028	0.22007518	2.7169940	20	9 29.1	19.3
308253 2005 GC ₇₄	16.0	X	151.06801	161.86838	85.66783	14.61199	0.1161080	0.22810198	2.6528743	20	12 12.1	20.1
308254 2005 GN ₇₄	16.9	X	187.12261	355.74463	245.92016	3.65542	0.2211444	0.23577072	2.5950325	20	—	—
308255 2005 GT ₇₆	17.2	X	0.26055	336.19602	31.76910	6.44891	0.0339128	0.22510576	2.6763627	20	11 8.7	20.5
308256 2005 GT ₇₇	16.0	X	76.83733	310.65531	54.53422	15.20273	0.1436640	0.23923695	2.5699058	20	—	—
308257 2005 GP ₈₀	16.8	X	40.24793	240.81344	190.76869	13.42893	0.1776808	0.24505351	2.5290773	20	—	—
308258 2005 GO ₈₆	16.2	X	136.95927	6.03872	202.29960	9.62046	0.1607462	0.21995698	2.7179672	20	10 11.2	20.5
308259 2005 GG ₉₀	17.3	X	240.11249	287.53758	261.41792	3.20482	0.0517052	0.23696663	2.5862942	20	—	—
308260 2005 GQ ₉₀	17.0	X	127.37005	11.01982	258.92147	2.91233	0.0993487	0.22906166	2.6454595	20	12 15.9	21.1
308261 2005 GZ ₉₃	16.1	X	187.15303	116.58166	115.73258	15.28916	0.1169645	0.23255286	2.6189161	20	12 30.6	20.0
308262 2005 GE ₉₉	17.1	X	91.39898	319.08913	28.52842	3.04845	0.0361625	0.23491303	2.6013452	20	—	—
308263 2005 GB ₁₀₀	17.8	X	49.09852	85.60063	47.96838	1.87394	0.1217705	0.26324355	2.4111870	20	3 9.4	20.2
308264 2005 GW ₁₀₅	16.9	X	305.25332	340.88171	164.21786	3.53108	0.1017484	0.24111719	2.5565283	20	—	—
308265 2005 GX ₁₁₇	15.8	X	77.80322	344.44906	44.35129	5.65026	0.2009088	0.24483886	2.5305552	20	—	—
308266 2005 GM ₁₁₉	16.0	X	299.28770	233.68380	314.49880	12.52351	0.1532917	0.24724700	2.5140970	20	—	—
308267 2005 GP ₁₂₂	17.7	X	61.46777	175.50294	277.21531	1.27050	0.1644826	0.25831187	2.4417796	20	2 5.6	19.9
308268 2005 GF ₁₂₃	15.9	X	203.55507	335.45067	51.96473	10.25711	0.1181702	0.19778431	2.9174819	20	5 2.7	20.4
308269 2005 GL ₁₂₇	16.1	X	159.79314	96.73191	124.61120	9.52038	0.2636580	0.22545436	2.6736032	20	11 17.0	21.0
308270 2005 GU ₁₅₀	16.5	X	48.05619	136.65412	153.64760	4.81191	0.0770679	0.21558147	2.7546205	20	10 9.8	20.1
308271 2005 GT ₁₅₁	15.9	X	238.09085	194.30394	30.29559	14.42163	0.0883742	0.24087742	2.5582245	20	—	—
308272 2005 GT ₁₅₂	16.1	X	117.10849	32.92793	204.95201	13.72690	0.1605782	0.22272566	2.6953958	20	10 30.3	20.3
308273 2005 GL ₁₅₆	16.1	X	270.28410	213.27919	113.26937	1.55379	0.4285953	0.25602453	2.4563015	20	3 22.6	20.3
308274 2005 GR ₁₅₉	16.5	X	58.62693	275.57960	32.50831	12.98825	0.2159537	0.21934368	2.7230313	20	11 29.7	20.7
308275 2005 GT ₁₆₅	17.2	X	292.16014	344.29336	201.80233	0.95446	0.1443252	0.24601237	2.5225015	20	—	—
308276 2005 GU ₁₆₉	17.3	X	21.67778	149.51501	356.69498	1.03235	0.1291609	0.25540588	2.4602663	20	2 6.0	19.6
308277 2005 GC ₁₇₉	16.3	X	243.25552	90.90676	112.67813	9.94361	0.1330533	0.23825932	2.5769310	20	—	—
308278 2005 GY ₂₀₀	17.7	X	334.78322	151.82336	16.36378	1.92419	0.1114946	0.25354333	2.4723005	20	—	—
308279 2005 GL ₂₀₂	16.5	X	182.89434	19.58204	204.59575	12.14171	0.1291408	0.22975585	2.6401281	20	12 14.3	20.7
308280 2005 GU ₂₀₈	16.3	X	186.91382	145.17528	87.62909	15.95151	0.0683675	0.23655622	2.5892847	20	—	—
308281 2005 GK ₂₀₉	16.5	X	144.20890	111.66291	127.03480	12.52332	0.1354932	0.22722115	2.6597259	20	11 27.4	20.9
308282 2005 GM ₂₀₉	16.5	X	206.07979	174.17457	68.59038	15.80265	0.1542462	0.23863191	2.5742479	20	—	—
308283 2005 HG ₈	15.7	X	50.69890	233.73516	70.23209	19.68196	0.3432824	0.21592555	2.7516933	20	12 3.2	20.0
308284 2005 JP ₂	16.9	X	3.82825	63.48813	63.64182	3.01154	0.1077554	0.24630321	2.5205153	20	—	—
308285 2005 JW ₁₃	16.3	X	153.63084	2.29776	224.17423	13.18062	0.1973526	0.22640729	2.6660959	20	11 17.3	20.7
308286 2005 JX ₁₅	16.7	X	30.63188	112.69375	192.88457	1.31579	0.1431087	0.21353159	2.7722217	20	10 13.8	20.1
308287 2005 JA ₃₄	16.4	X	238.78071	331.56615	236.69104	12.32685	0.1317788	0.23724806	2.5842485	20	—	—
308288 2005 JB ₃₈	16.7	X	239.46502	91.86913	114.75572	11.66371	0.1648984	0.23677190	2.5877120	20	—	—
308289 2005 JH ₄₈	17.1	X	277.08827	61.04745	119.99488	4.77642	0.0776272	0.23838813	2.5760026	20	—	—
308290 2005 JE ₅₁	16.8	X	93.89595	87.60469	191.56390	4.70204	0.1313678	0.22128220	2.7071047	20	11 24.9	21.0
308291 2005 JD ₅₆	16.8	X	73.46314	123.23436	146.86165	12.43149	0.0897183	0.21511485	2.7586024	20	10 20.5	20.9
308292 2005 JC ₈₂	16.9	X	228.00664	8.82262	206.39477	13.45231	0.1806369	0.23570263	2.5955323	20	—	—
308293 2005 JE ₈₃	17.0	X	62.46944	352.88394	113.38809	2.45040	0.0969849	0.25278448	2.4772459	20	2 20.8	19.8
308294 2005 JB ₈₉	16.7	X	240.78249	80.58327	124.16581	5.72011	0.1416646	0.23884241	2.5727352	20	—	—
308295 2005 JN ₉₉	17.1	X	49.85820	157.45832	171.02187	8.77629	0.1238775	0.21986616	2.7187157	20	12 6.9	21.1
308296 2005 JA ₁₀₃	15.8	X	141.47255	162.38383	94.39866	15.08465	0.0897474	0.22487538	2.6781904	20	12 14.1	19.9
308297 2005 JG ₁₁₃	16.8	X	121.00609	172.00781	112.31799	2.55811	0.0415910	0.22850686	2.6497397	20	12 25.5	20.6
308298 2005 JH ₁₃₀	16.5	X	249.50504	344.29955	235.95626	4.09208	0.1379284	0.24127118	2.5554404	20	—	—
308299 2005 JM ₁₃₇	16.1	X	141.71255	206.78170	67.33056	12.06649	0.1086213	0.22904840	2.6455616	20	—	—
308300 2005 JH ₁₄₆	16.8	X	198.07548	72.04065	183.78698	13.59465	0.1387878	0.23340258	2.6125560	20	—	—
308301 2005 JJ ₁₄₇	16.6	X	215.44509	156.60628	65.26933	14.77834	0.2088478	0.23392865	2.6086378	20	—	—
308302 2005 JD ₁₄₈	16.2	X	70.98416	188.17247	107.87051	15.23336	0.1575742	0.21816132	2.7328610	20	11 27.1	20.5
308303 2005 JG ₁₆₃	16.5	X	355.09249	305.40702	74.94238	5.85914	0.0656195	0.22096444	2.7096995	20	11 20.9	19.8
308304 2005 JH ₁₆₅	15.7	X	317.49962	25.31911	68.17601	22.81579	0.0316864	0.22869434	2.6482914	20	12 30.5	19.3
308305 2005 KA ₁	17.6	X	331.21847	0.06195	158.23702	6.16949	0.1617628	0.24605172	2.522325	20	—	—
308306 Dainere	16.2	X	232.95690	250.14579	84.98066	23.08257	0.5546337	0.17697446	3.1419239	20	3 19.8	22.9
308307 2005 KT ₉	16.4	X	198.70064	173.21049	61.82395	12.85838	0.1396734	0.23166976	2.6255673	20	—	—
308308 2005 KB ₁₄	16.6	X	267.99156	311.62857	223.32649	4.13209	0.1454010	0.23602854	2.5931424	20	—	—
308309 2005 LV ₈	16.5	X	176.98323	155.16781	89.95496	4.34989	0.1393608	0.22981123	2.6397039	20	—	—
308310 2005 LT ₉	16.4	X	276.22183	28.04382	97.56952	14.86132	0.0549295	0.22578050	2.6710279	20	12 14.8	19.8
308311 2005 LJ ₁₃	16.0	X	10.48187	275.14065	82.53273	13.24173	0.1573198	0.21725541	2.7404527	20	11 25.9	19.3
308312 2005 LU ₂₃	15.6	X	278.56134	49.06036	284.14091	10.76336	0.1535993	0.18418605	3.0593668	20	5 8.4	20.2
308313 2005 LV ₃₆	16.1	X	327.55753	285.97468	202.44258	13.87219	0.1345406	0.23712727	2.5851260	20	—	—
308314 2005 LZ ₄₅	12.8	X	10.99744	239.19496	110.11835	22.93007	0.0794456	0.08392274	5.1667360	20	10 18.4	19.6
308315 2005 LZ ₅₂	15.2	X	23									

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>		
308321	2005	MG ₃₈	16.8	X	58.12854	142.20118	136.74716	3.46161	0.1753321	0.20606728	2.8387688	20	10 20.8	20.7
308322	2005	MU ₃₈	16.5	X	37.70670	129.35043	150.01084	2.37196	0.0514268	0.20056120	2.8904898	20	9 3.9	20.3
308323	2005	MW ₄₁	15.6	X	319.72420	92.35564	204.95537	13.44636	0.2070126	0.19045321	2.9918778	20	5 16.3	19.1
308324	2005	NG ₄	15.9	X	173.28059	283.36408	289.38755	8.00879	0.0998527	0.21567300	2.7538410	20	11 18.8	20.1
308325	2005	NS ₄	16.0	X	276.95183	260.42282	123.51257	11.33898	0.1162291	0.19551622	2.9400013	20	7 19.8	20.1
308326	2005	NJ ₁₇	17.0	X	50.26519	289.82617	294.76319	2.67256	0.1412354	0.26237355	2.4165142	20	7 28.7	19.8
308327	2005	NV ₁₇	16.2	X	65.12492	155.43386	114.04700	16.27839	0.1232214	0.20649450	2.8348520	20	10 16.6	20.5
308328	2005	NZ ₃₀	16.8	X	311.76525	210.57809	145.31927	2.61561	0.0999304	0.19835264	2.9119062	20	8 5.7	20.4
308329	2005	NO ₃₅	16.1	X	156.04945	239.79706	312.81700	7.70931	0.0871118	0.20893035	2.8127752	20	10 4.7	20.5
308330	2005	NK ₅₂	16.2	X	7.24518	223.68487	58.76958	3.10943	0.1687287	0.26306955	2.4122501	20	8 13.6	18.2
308331	2005	NZ ₆₁	16.2	X	289.50834	261.86542	115.86647	3.32772	0.1601633	0.19482209	2.9469804	20	7 22.8	19.8
308332	2005	NT ₆₈	16.5	X	271.75169	336.59793	134.46115	4.61011	0.0530039	0.21205812	2.7850486	20	11 17.3	20.1
308333	2005	NY ₇₅	16.8	X	312.15054	358.81068	282.08709	2.70225	0.3486608	0.19032075	2.9932659	20	3 17.7	20.8
308334	2005	NN ₉₉	16.4	X	264.32125	116.81307	221.25989	7.32322	0.2037643	0.18503152	3.0500403	20	4 24.2	21.0
308335	2005	OE ₁₈	17.0	X	78.49573	193.11410	171.25607	6.49324	0.1229529	0.28567945	2.2832321	20	—	—
308336	2005	OW ₃₁	15.5	X	320.49507	227.12727	108.11438	12.64783	0.1484014	0.19512243	2.9439556	20	7 17.4	18.9
308337	2005	OY ₃₁	15.9	X	270.65824	173.33036	164.16602	8.99166	0.1061233	0.18302880	3.0722492	20	5 15.9	20.4
308338	2005	PN ₁₆	15.3	X	288.26472	325.30797	71.00094	11.65453	0.1113039	0.19617144	2.9334512	20	8 28.5	19.3
308339	2005	PP ₂₀	16.3	X	321.65940	304.21182	357.49358	5.87516	0.1446127	0.25712361	2.4492967	20	6 1.4	18.8
308340	2005	PB ₂₄	16.1	X	260.13085	224.53221	67.65640	1.86672	0.1467537	0.17534917	3.1613087	20	3 4.1	20.8
308341	2005	QM ₅	16.2	X	212.76948	61.14712	130.44509	8.80213	0.2407796	0.17849487	3.1240566	20	4 13.1	21.7
308342	2005	QK ₆	16.0	X	241.68859	213.97182	178.21377	7.94873	0.1403505	0.18514861	3.0487542	20	6 14.4	20.7
308343	2005	QE ₈	15.7	X	293.48444	344.43623	356.82539	12.77677	0.0738374	0.18690506	3.0296236	20	6 22.7	20.0
308344	2005	QP ₉	16.6	X	305.06381	173.85793	157.31751	2.95684	0.1674948	0.18987649	2.9979330	20	6 12.4	20.2
308345	2005	QO ₂₆	15.6	X	5.91600	301.29779	23.83102	6.3921	0.1662409	0.19621836	2.9329835	20	9 22.2	19.2
308346	2005	QC ₃₆	15.4	X	276.62121	319.57464	351.39266	13.01916	0.1582945	0.17948906	3.1125098	20	4 6.6	20.1
308347	2005	QY ₄₇	16.0	X	224.52180	241.45905	116.17228	6.03392	0.1534664	0.17683884	3.1435300	20	4 17.5	21.1
308348	2005	QD ₅₈	16.3	X	222.40041	232.70486	167.89194	9.81445	0.1011531	0.18267230	3.0762450	20	6 8.8	21.2
308349	2005	QE ₆₁	16.1	X	205.00407	152.66882	266.54542	5.32620	0.1570724	0.18257209	3.0773705	20	6 9.8	21.2
308350	2005	QQ ₇₀	15.6	X	246.60274	202.96517	159.28788	12.96105	0.1263849	0.18243268	3.0789380	20	5 6.4	20.8
308351	2005	QG ₇₅	15.9	X	274.81052	35.63741	323.81177	8.32398	0.0552186	0.18802198	3.0176137	20	6 24.3	20.1
308352	2005	QO ₇₅	16.1	X	224.20057	52.36615	343.92779	12.08199	0.1254578	0.18479014	3.0526958	20	5 30.8	21.1
308353	2005	QQ ₈₁	17.2	X	159.86993	228.26693	141.10024	5.66129	0.2418653	0.23382929	2.6093767	20	3 4.5	21.5
308354	2005	QW ₈₅	16.8	X	180.17864	215.17082	139.71933	5.52605	0.3305206	0.23360991	2.6110100	20	3 5.4	21.6
308355	2005	QK ₈₆	16.1	X	149.22693	189.33596	290.89668	4.18546	0.0880811	0.17527687	3.1621780	20	6 30.4	20.8
308356	2005	QZ ₈₈	16.2	X	188.28912	351.53683	348.17251	10.03993	0.2037862	0.23283903	2.6167698	20	2 20.4	20.7
308357	2005	QR ₁₁₅	16.7	X	295.18170	86.25662	272.47812	6.02046	0.0911768	0.19111720	2.9849441	20	7 15.7	20.6
308358	2005	QP ₁₂₀	16.5	X	134.41842	191.77749	357.91808	1.66326	0.0369109	0.19837479	2.9116895	20	9 8.4	20.5
308359	2005	QM ₁₃₈	15.5	X	181.66063	105.78464	2.54236	16.97250	0.2029347	0.18349131	3.0670844	20	7 23.2	21.0
308360	2005	QY ₁₄₈	16.6	X	224.79005	65.34431	299.64842	14.15788	0.1573731	0.24422651	2.5347834	20	4 13.8	20.9
308361	2005	QD ₁₄₉	15.2	X	202.00505	229.49506	181.83054	16.77460	0.2303445	0.17662486	3.1460684	20	5 27.9	20.9
308362	2005	QM ₁₅₁	16.1	X	233.17643	229.97525	169.14744	10.10107	0.0885172	0.18307929	3.0716843	20	6 19.2	20.9
308363	2005	QF ₁₆₄	15.8	X	206.64328	154.21185	259.01929	17.35896	0.1608939	0.17868021	3.1218958	20	6 3.9	20.8
308364	2005	QO ₁₆₄	16.6	X	271.36713	278.61504	80.67490	2.82649	0.1695104	0.18455262	3.0553143	20	6 2.3	20.8
308365	2005	QS ₁₆₄	16.2	X	241.13842	228.00889	133.15778	3.25500	0.1707901	0.17934878	3.1141326	20	5 4.4	21.1
308366	2005	QR ₁₆₇	16.0	X	223.77497	324.31963	43.48580	11.28442	0.2321657	0.17741715	3.1366952	20	4 22.9	21.2
308367	2005	QR ₁₇₆	17.0	X	213.78566	291.90806	350.53153	17.85034	0.0922730	0.36084933	1.9539740	20	—	—
308368	2005	QG ₁₇₇	15.7	X	0.38988	337.34345	346.23013	10.61572	0.0512768	0.19579175	2.9372424	20	9 8.3	19.2
308369	2005	QJ ₁₇₈	15.4	X	341.84324	284.97961	21.44066	10.05769	0.1261572	0.19072668	2.9890173	20	7 19.8	19.1
308370	2005	QQ ₁₇₉	16.4	X	247.42719	319.89512	31.62062	3.59147	0.2212192	0.18069312	3.0986675	20	4 22.9	21.3
308371	2005	QG ₁₈₉	15.9	X	210.86929	241.68756	183.37486	13.05275	0.0864507	0.18385657	3.0630208	20	6 26.5	20.8
308372	2005	RW ₇	15.9	X	225.04902	163.59031	196.62571	4.60999	0.3028704	0.17550303	3.1564967	20	4 10.8	21.6
308373	2005	RO ₁₅	16.1	X	306.97336	315.05793	351.49816	2.27423	0.1462287	0.18570772	3.0426319	20	5 15.5	20.0
308374	2005	RQ ₁₉	16.0	X	205.98081	332.03960	132.36933	3.25177	0.0565018	0.19094720	2.9867155	20	8 13.4	20.3
308375	2005	RS ₂₃	16.1	X	116.50316	26.39344	294.29220	13.26062	0.1959866	0.21565935	2.7539572	20	—	—
308376	2005	RA ₂₆	15.7	X	313.32957	86.30007	244.09114	8.89577	0.1087463	0.18808197	3.0169720	20	7 1.6	19.5
308377	2005	RM ₃₀	16.5	X	233.68682	43.82897	315.81792	11.40354	0.1995729	0.24253988	2.5465211	20	4 14.2	20.9
308378	2005	RR ₃₁	15.7	X	202.25693	79.96972	326.44646	25.24406	0.2871650	0.17534231	3.1613911	20	5 10.2	21.9
308379	2005	RS ₄₃	5.0	X	55.78863	266.99997	46.41907	10.01430	0.2020040	0.00297292	47.9013045	20	10 25.9	21.4
308380	2005	RY ₄₅	15.9	X	14.69644	172.98115	63.58720	10.61279	0.0463351	0.17861049	3.1227082	20	6 3.4	20.0
308381	2005	SJ ₁	15.5	X	254.37945	159.50074	178.57966	27.80254	0.1507124	0.17820300	3.1274668	20	4 23.2	20.5
308382	2005	SM ₂	16.1	X	235.57713	339.98272	16.56441	16.95619	0.2112838	0.17736273	3.1373367	20	4 17.2	21.3
308383	2005	SF ₆	16.4	X	140.32106	238.16771	226.18724	7.65632	0.1853836	0.17092085	3.2156790	20	6 7.8	21.7
308384	2005	SV ₇	15.5	X	287.72869	277.81054	125.46841	10.41100	0.0371725	0.19627028	2.9324662	20	9 13.5	19.5
308385	2005	SU ₁₄	15.4	X	233.03572	303.95064	101.90268	10.61720	0.1176518	0.18282339	3.0745499	20	6 24.3	20.0
308386	2005	SH ₂₁	15.4	X	207.21340	109.97476	283.97295	8.31277	0.1626617	0.17566727	3.1574912	20	5 10.1	20.7
308387	2005	SW ₂₁	15.9	X	155.17891	239.39596	210.93903	15.47067	0.2118787	0.17259727	3.1948227	20	6 4.9	21.4
308388	2005	SN ₂₂	15.9	X	229.80015	331.42375	46.52928	5.89285	0.1743772	0.17858236	3.1230362	20	5 12.3	20.8
308389	2005	SY ₂₂	15.9	X	314.77546	301.92898	20.21190	9.44606	0.1048247	0.18632194	3.0359414	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>
308401 2005 <i>SF</i> ₆₂	16.4	X	211.72983	191.40647	196.01878	0.54189	0.1878094	0.17511534	3.1641222	20	5 7.2	21.6
308402 2005 <i>SL</i> ₇₆	16.4	X	261.44044	220.59702	117.59169	0.68249	0.2738432	0.18031687	3.1029764	20	4 15.0	21.3
308403 2005 <i>SV</i> ₇₈	16.9	X	205.69800	268.18114	142.42725	2.13115	0.1355868	0.17840281	3.1251312	20	6 1.3	21.8
308404 2005 <i>SC</i> ₈₃	16.4	X	192.08534	190.47555	234.93024	0.99899	0.2449119	0.17592915	3.1543571	20	6 3.9	21.8
308405 2005 <i>SW</i> ₈₃	16.6	X	328.84122	110.91785	190.65580	1.25334	0.1741182	0.18598924	3.0395609	20	6 11.6	19.8
308406 2005 <i>SR</i> ₈₄	16.9	X	182.63163	53.34006	11.38972	0.76512	0.1633589	0.17518891	3.1632363	20	5 27.2	22.1
308407 2005 <i>SM</i> ₈₅	16.1	X	310.04446	108.73213	190.12328	9.31200	0.0931047	0.18015274	3.1048608	20	5 19.9	20.3
308408 2005 <i>SY</i> ₉₂	17.4	X	147.63688	358.91506	206.55465	5.86752	0.0767187	0.26413245	2.4057743	20	10 24.2	20.8
308409 2005 <i>SY</i> ₉₃	16.3	X	217.89891	178.29833	202.18833	1.60944	0.0889314	0.17379521	3.1801250	20	5 10.2	21.2
308410 2005 <i>SP</i> ₉₅	15.5	X	254.37822	313.51424	19.10055	9.68920	0.0921056	0.17589197	3.1548015	20	4 19.4	20.2
308411 2005 <i>SM</i> ₉₈	16.3	X	216.25435	29.98073	339.69749	7.56964	0.1657038	0.17364207	3.1819944	20	4 18.1	21.6
308412 2005 <i>ST</i> ₁₀₃	16.8	X	270.00182	52.29739	284.39263	3.13970	0.1838525	0.24594303	2.5229755	20	4 27.9	20.4
308413 2005 <i>SL</i> ₁₀₅	16.3	X	102.76533	227.91212	186.15158	12.98596	0.1814330	0.22412675	2.6841508	20	2 23.3	20.0
308414 2005 <i>SY</i> ₁₀₈	15.7	X	240.07431	148.29822	201.42663	9.02622	0.2361862	0.17624550	3.1505813	20	4 13.7	20.8
308415 2005 <i>SC</i> ₁₁₂	15.7	X	190.96531	175.44019	225.75886	10.17878	0.0997335	0.17482835	3.1675840	20	5 7.2	20.6
308416 2005 <i>SZ</i> ₁₁₃	17.4	X	225.62216	74.54652	304.19408	0.76904	0.1189021	0.24527309	2.5275676	20	5 12.1	21.0
308417 2005 <i>SH</i> ₁₁₄	17.0	X	116.67793	172.34390	195.06468	3.66483	0.0765150	0.22312808	2.6921540	20	—	—
308418 2005 <i>SP</i> ₁₁₇	16.0	X	243.48110	266.77524	107.43805	6.63387	0.1739414	0.18110168	3.0940054	20	5 22.5	20.8
308419 2005 <i>SZ</i> ₁₂₀	15.4	X	254.39071	341.66741	349.31792	8.95808	0.0851510	0.17552882	3.1591513	20	4 16.2	20.1
308420 2005 <i>SO</i> ₁₂₅	15.8	X	321.26859	255.65370	11.19468	17.73930	0.0971007	0.17738147	3.1371158	20	4 18.4	20.0
308421 2005 <i>SZ</i> ₁₂₆	16.8	X	180.04148	246.88178	159.27270	0.29278	0.1609664	0.17243125	3.1968731	20	5 2.9	21.9
308422 2005 <i>SO</i> ₁₂₇	16.4	X	131.52654	71.30331	25.09723	0.71110	0.1164393	0.17145018	3.2090569	20	5 15.3	21.2
308423 2005 <i>SV</i> ₁₂₇	16.0	X	273.17276	333.08549	15.74518	3.94048	0.1844019	0.18211155	3.0825566	20	5 19.2	20.6
308424 2005 <i>SG</i> ₁₂₉	15.6	X	232.39034	143.37583	201.91528	10.50067	0.2211069	0.17394886	3.1782520	20	4 2.6	20.8
308425 2005 <i>SO</i> ₁₃₅	16.2	X	146.43554	260.42677	178.98176	5.78142	0.1442655	0.17180055	3.2046923	20	5 13.0	21.3
308426 2005 <i>SF</i> ₁₃₉	16.6	X	205.42810	344.61736	83.45432	2.25680	0.1626529	0.17978264	3.1091205	20	6 20.7	21.5
308427 2005 <i>SL</i> ₁₃₉	15.9	X	259.09298	194.38427	132.65993	2.54646	0.2274614	0.17785388	3.1315582	20	4 5.1	20.8
308428 2005 <i>SP</i> ₁₃₉	16.7	X	259.35544	296.70566	74.96127	2.27197	0.1281062	0.18249397	3.0782487	20	6 9.4	21.3
308429 2005 <i>SP</i> ₁₄₁	16.0	X	222.50079	22.60196	35.02238	5.88471	0.1484016	0.18128769	3.0918886	20	6 25.1	20.9
308430 2005 <i>SH</i> ₁₄₄	15.7	X	240.13809	342.49428	32.76119	8.32191	0.1230107	0.17950512	3.1123242	20	5 22.6	20.4
308431 2005 <i>SK</i> ₁₅₅	16.3	X	185.77852	96.29550	280.84815	12.96176	0.2108736	0.23840013	2.5759162	20	3 25.1	21.0
308432 2005 <i>SS</i> ₁₅₅	15.8	X	191.78380	108.98457	317.47383	15.85789	0.2317510	0.17683449	3.1435815	20	6 4.1	21.5
308433 2005 <i>SI</i> ₁₅₇	15.8	X	77.40837	103.07481	40.60474	4.89287	0.0610919	0.17044252	3.2216925	20	5 3.4	20.1
308434 2005 <i>ST</i> ₁₅₇	15.7	X	176.15995	65.44788	24.49056	11.01925	0.0601291	0.17888136	3.1195551	20	6 20.5	20.5
308435 2005 <i>SL</i> ₁₅₉	16.6	X	243.26655	208.98922	222.64674	5.50841	0.1026247	0.25466975	2.4650050	20	8 13.2	19.9
308436 2005 <i>SC</i> ₁₆₃	16.8	X	94.36411	61.87485	19.82612	8.20401	0.0264509	0.29854405	2.2171603	20	2 21.2	19.4
308437 2005 <i>SH</i> ₁₆₃	16.0	X	356.54014	221.18487	83.30403	1.58158	0.1452301	0.19001113	2.9965166	20	8 11.3	19.2
308438 2005 <i>SG</i> ₁₇₆	15.9	X	141.02956	280.27918	213.28496	10.73446	0.0988026	0.17991578	3.1075864	20	7 7.2	20.9
308439 2005 <i>SW</i> ₁₈₀	16.3	X	237.14301	286.97429	85.55339	2.22225	0.1930948	0.17895687	3.1186775	20	5 11.7	21.2
308440 2005 <i>SB</i> ₁₈₃	16.6	X	269.23918	348.53714	330.14406	2.24643	0.0850804	0.17465238	3.1697113	20	4 20.5	21.3
308441 2005 <i>SL</i> ₁₈₃	15.9	X	301.27784	272.17622	12.97377	13.51250	0.1559142	0.17665269	3.1457380	20	4 8.4	20.2
308442 2005 <i>SA</i> ₁₉₀	16.0	X	224.80425	9.20623	9.71553	16.19083	0.0840287	0.17668255	3.1453835	20	5 10.4	21.0
308443 2005 <i>SD</i> ₁₉₅	17.2	X	112.34200	175.25582	163.47896	24.45558	0.0774270	0.35633765	1.9704326	20	—	—
308444 2005 <i>SF</i> ₁₉₈	16.3	X	307.07446	322.93639	342.07793	4.74060	0.1291918	0.18466814	3.0540401	20	5 15.3	20.3
308445 2005 <i>SK</i> ₂₀₈	15.9	X	286.22693	153.45430	227.94382	8.39508	0.1355128	0.18782992	3.0196703	20	7 23.5	20.0
308446 2005 <i>SQ</i> ₂₁₁	16.5	X	325.24145	345.93857	296.55982	0.37248	0.1192135	0.17876569	3.1290006	20	5 16.4	20.4
308447 2005 <i>SB</i> ₂₁₄	15.2	X	237.17831	110.84269	229.20820	21.30704	0.1227102	0.17482711	3.1675990	20	4 4.9	20.3
308448 2005 <i>SG</i> ₂₂₉	16.4	X	267.64338	156.44713	187.69474	5.06778	0.1442205	0.18153747	3.0890519	20	5 14.2	20.8
308449 2005 <i>SK</i> ₂₂₉	16.4	X	220.95049	36.89933	356.55800	4.77429	0.1354073	0.17932026	3.1144627	20	5 24.6	21.3
308450 2005 <i>SN</i> ₂₄₂	16.3	X	126.39804	175.15529	317.98836	5.33707	0.0467272	0.17795262	3.1303997	20	6 17.7	20.9
308451 2005 <i>SC</i> ₂₄₃	15.9	X	261.72071	161.80749	214.87291	4.87385	0.1688424	0.18120743	3.0928016	20	6 13.2	20.4
308452 2005 <i>SB</i> ₂₄₇	16.3	X	239.02811	164.83074	206.45425	5.80709	0.1575056	0.17726573	3.1384811	20	5 15.3	21.2
308453 2005 <i>SB</i> ₂₅₃	17.3	X	359.18068	275.30566	55.49927	5.95750	0.2465733	0.26371708	2.4082998	20	10 25.5	19.2
308454 2005 <i>SF</i> ₂₅₆	16.3	X	250.55856	164.78547	198.34755	7.21979	0.1731494	0.18130292	3.0917154	20	5 15.7	21.1
308455 2005 <i>SO</i> ₂₇₀	15.8	X	256.62296	196.40222	161.16299	9.46226	0.1207879	0.18004290	3.1061234	20	5 22.6	20.5
308456 2005 <i>SK</i> ₂₇₁	16.5	X	203.00990	198.98591	199.76591	7.86169	0.1693280	0.17568282	3.1573049	20	5 14.8	21.7
308457 2005 <i>SB</i> ₂₇₃	16.3	X	250.88293	83.45329	294.72405	3.49655	0.1577340	0.18205185	3.0832305	20	6 4.1	20.9
308458 2005 <i>SJ</i> ₂₇₃	16.2	X	316.66179	41.07491	240.81759	2.90733	0.0943743	0.17841746	3.1249602	20	5 5.4	20.2
308459 2005 <i>SL</i> ₂₇₇	16.2	X	87.72506	306.13586	213.13673	14.87295	0.0791984	0.17319240	3.1874998	20	6 8.1	20.9
308460 2005 <i>SC</i> ₂₇₈	7.3	X	317.68241	47.88181	27.51037	1.51418	0.0642319	0.00479036	34.8517074	20	10 21.8	22.5
308461 2005 <i>SZ</i> ₂₈₄	15.9	X	342.66612	182.07563	98.96394	11.41663	0.0512124	0.17905953	3.1174854	20	6 16.4	20.0
308462 2005 <i>SU</i> ₂₈₆	15.6	X	90.28351	115.86080	100.76268	9.33770	0.0348118	0.18744833	3.0237670	20	8 21.0	19.9
308463 2005 <i>SD</i> ₂₈₇	15.8	X	352.16998	159.31262	111.25751	9.53971	0.0636459	0.17975795	3.1094051	20	6 16.5	19.9
308464 2005 <i>SB</i> ₂₈₉	15.3	X	96.64812	97.74942	61.98800	22.38782	0.1308388	0.17433824	3.1735179	20	6 24.4	20.1
308465 2005 <i>SF</i> ₂₈₉	16.4	X	221.58767	234.06642	133.31649	1.86247	0.1455462	0.17451473	3.1713779	20	4 24.9	21.4
308466 2005 <i>SN</i> ₂₈₉	15.6	X	233.71246	69.74458	297.63333	11.94550	0.1475774	0.17837611	3.1254431	20	5 1.4	20.7
308467 2005 <i>TN</i> ₂	15.8	X	207.99611	26.41213	359.21533	9.18899	0.0510129	0.17610453	3.1522624	20	5 4.6	20.6
308468 2005 <i>TB</i> ₄	15.4	X	212.38753	330.37285	46.66302	17.63896	0.1244247	0.17479355	3.1680045	20	4 29.7	20.5
308469 2005 <i>TP</i> ₇	16.3	X	206.12266	256.27073	138.96597	1.49828	0.1815151	0.17447208	3.1718947	20	5 12.4	21.4
308470 2005 <i>TG</i> ₁₀	15.2	X	228.37296	68.23727	277.15416	11.08004	0.0999021	0.17233888	3.1980153	20	4 2.3	20.3
308471 2005 <i>TZ</i> ₁₀	16.0	X	13.02253									

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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>
308481 2005 TG ₇₄	15.3	X	206.73347	342.32296	56.91637	18.13446	0.1189250	0.17435122	3.1733603	20	5 19.5	20.3
308482 2005 TC ₇₅	15.4	X	260.77174	330.48970	44.42283	17.74628	0.1882800	0.17931145	3.1145647	20	6 4.3	20.2
308483 2005 TR ₇₇	16.7	X	101.98254	45.15770	24.17495	13.58293	0.2513752	0.22572294	2.6714820	20	3 27.8	20.5
308484 2005 TV ₇₈	16.6	X	226.73535	205.52167	132.05880	12.12892	0.2477689	0.23739497	2.5831822	20	3 19.6	21.2
308485 2005 TR ₈₁	16.6	X	196.52324	201.03253	226.56390	4.36411	0.1485158	0.17787283	3.1313358	20	6 12.6	21.6
308486 2005 TE ₈₇	15.7	X	317.62200	80.57753	194.41555	7.33924	0.0548945	0.17635822	3.1492387	20	5 4.3	19.9
308487 2005 TV ₉₁	16.8	X	358.61220	5.03561	325.79739	5.83458	0.1374877	0.26369800	2.4084159	20	10 3.2	19.2
308488 2005 TG ₉₅	15.7	X	313.56173	94.12226	216.44340	15.34417	0.0922779	0.18212096	3.0824504	20	6 8.0	19.9
308489 2005 TY ₁₀₁	16.2	X	166.67436	334.05043	225.20387	8.53482	0.0915978	0.19803268	2.9150420	20	10 25.2	20.7
308490 2005 TL ₁₀₂	15.7	X	330.00023	105.02599	220.50901	12.05275	0.0540972	0.18545089	3.0454403	20	7 22.9	19.9
308491 2005 TR ₁₀₅	15.5	X	108.78623	317.22743	180.51944	27.09433	0.1188082	0.17617389	3.1514350	20	6 12.1	20.7
308492 2005 TX ₁₀₆	16.2	X	170.40180	339.84016	76.73463	2.46555	0.1351064	0.17021465	3.2245672	20	5 6.8	21.3
308493 2005 TA ₁₁₀	16.1	X	245.93092	339.94773	359.59949	9.01017	0.0901962	0.17547771	3.1597647	20	4 17.4	20.9
308494 2005 TQ ₁₁₀	16.1	X	136.02385	331.85551	235.21796	4.87032	0.0272501	0.19730374	2.9222173	20	9 29.7	20.2
308495 2005 TP ₁₁₁	15.8	X	267.05644	102.09678	209.06154	9.10725	0.0904617	0.17450410	3.1715066	20	4 8.3	20.5
308496 2005 TB ₁₂₂	16.1	X	168.69970	73.48294	21.73084	11.75254	0.1676153	0.17602290	3.1532369	20	6 20.3	21.4
308497 2005 TC ₁₂₄	17.1	X	39.24729	261.64938	309.45363	1.51958	0.1421558	0.24472987	2.5313065	20	6 18.9	19.8
308498 2005 TY ₁₂₉	16.5	X	135.38346	71.70573	37.79396	1.94529	0.1227745	0.17173491	3.2055090	20	6 4.7	21.4
308499 2005 TQ ₁₃₂	16.4	X	164.67738	244.94310	202.61765	10.81285	0.0227855	0.17595955	3.1539937	20	6 4.6	21.0
308500 2005 TT ₁₄₃	15.7	X	282.70155	310.18022	49.10119	8.66410	0.0199843	0.18252435	3.0779071	20	7 9.8	20.1
308501 2005 TN ₁₅₈	15.8	X	152.49499	213.51242	215.29864	9.10109	0.0352577	0.17196831	3.2026079	20	4 27.9	20.5
308502 2005 TW ₁₇₁	14.8	X	256.04104	102.55551	255.95585	12.15108	0.1336402	0.17804484	3.1293186	20	5 18.8	19.5
308503 2005 TN ₁₇₅	15.9	X	222.46386	339.94783	69.46185	8.46173	0.1044842	0.18100887	3.0950629	20	6 18.1	20.7
308504 2005 TB ₁₈₁	16.5	X	283.33860	152.71958	190.05275	2.48258	0.0302367	0.18044245	3.1015366	20	6 16.9	20.8
308505 2005 TN ₁₈₅	16.3	X	18.05140	164.79306	90.65504	2.63436	0.1321703	0.18218714	3.0817038	20	7 10.7	19.7
308506 2005 TL ₁₉₃	15.5	X	204.52310	319.88540	67.21481	14.68315	0.2086743	0.17522736	3.1627735	20	5 3.5	20.9
308507 2005 US ₇	15.3	X	358.62104	39.71250	234.18287	10.49918	0.0905603	0.18058693	3.0998820	20	6 28.4	19.7
308508 2005 UH ₁₄	16.1	X	185.56646	20.27945	46.26168	5.08563	0.1834120	0.17328797	3.1863277	20	5 31.4	21.3
308509 2005 UF ₁₉	15.6	X	213.71822	351.38488	53.48263	12.19266	0.0869281	0.17728842	3.1382134	20	6 3.5	20.4
308510 2005 UH ₁₉	15.9	X	219.93286	147.25377	219.43101	27.38191	0.2170798	0.17299305	3.1899481	20	4 17.4	21.4
308511 2005 UL ₁₉	15.9	X	218.49700	0.35676	34.96415	5.58845	0.1439975	0.17683737	3.1435474	20	5 24.3	20.9
308512 2005 UO ₂₇	15.9	X	281.75592	105.19564	217.84018	15.91112	0.1613850	0.17750745	3.1356314	20	5 1.4	20.2
308513 2005 UB ₃₃	15.9	X	244.13491	308.30541	44.43925	12.32510	0.1103309	0.17351758	3.1835161	20	5 2.3	20.5
308514 2005 UM ₃₄	15.7	X	189.36007	51.16474	50.20006	10.63972	0.0925975	0.17834555	3.1258000	20	7 21.1	20.6
308515 2005 UW ₃₅	15.9	X	279.42536	281.63951	49.71799	9.60818	0.0895043	0.17497638	3.1657973	20	5 18.7	20.4
308516 2005 UN ₃₉	16.7	X	210.76256	152.14677	221.57052	3.88463	0.0670029	0.16784770	3.2548110	20	4 25.4	21.5
308517 2005 UA ₄₃	15.5	X	239.61469	3.84795	47.35293	9.43375	0.1014679	0.18130124	3.0917345	20	7 11.1	20.2
308518 2005 UE ₄₇	15.4	X	359.33998	197.07636	56.57062	17.68090	0.0873254	0.17454583	3.1710011	20	6 2.3	19.4
308519 2005 UE ₅₀	16.5	X	156.95933	30.64035	15.37496	5.39654	0.1889303	0.23328705	2.6134185	20	4 11.0	20.5
308520 2005 UJ ₅₂	15.7	X	205.95161	326.46865	76.32392	6.64387	0.2201844	0.17415203	3.1757796	20	5 20.0	21.2
308521 2005 UF ₅₃	16.0	X	172.15259	30.07278	65.50396	7.52687	0.1303147	0.17514952	3.1637106	20	6 23.9	21.0
308522 2005 UC ₆₅	15.0	X	329.67354	7.67898	275.30147	21.82604	0.1268710	0.18270104	3.0759223	20	5 22.8	19.0
308523 2005 UM ₇₅	15.0	X	240.87866	68.94614	293.64158	15.14347	0.1112502	0.17625174	3.1505069	20	5 6.2	20.1
308524 2005 UJ ₇₇	16.0	X	253.40487	249.13397	121.28453	12.03950	0.1176513	0.24535404	2.5270116	20	6 4.7	19.7
308525 2005 UM ₈₃	16.2	X	89.82989	339.58443	212.06560	7.08360	0.0442855	0.18026156	3.1036112	20	7 15.8	20.7
308526 2005 UN ₈₃	16.2	X	231.63797	272.69128	41.82150	2.80968	0.2298652	0.16836327	3.2481630	20	2 28.6	21.7
308527 2005 UK ₈₉	15.5	X	208.24156	138.65246	267.38497	7.73710	0.0837122	0.17465011	3.1697388	20	5 31.2	20.2
308528 2005 UO ₁₀₂	16.6	X	121.44998	314.35924	162.18153	4.75935	0.1245683	0.16856386	3.2455856	20	5 31.2	21.5
308529 2005 UO ₁₀₇	15.8	X	260.64234	336.71619	54.47510	10.56892	0.1409896	0.18401218	3.0612937	20	7 4.5	20.3
308530 2005 UP ₁₁₀	16.1	X	143.49714	93.85329	32.01284	4.85445	0.1183855	0.17196090	3.2026999	20	7 3.3	21.1
308531 2005 UZ ₁₂₁	15.2	X	274.05548	113.83910	222.92543	14.87241	0.1024628	0.17640016	3.1487396	20	5 17.9	19.7
308532 2005 UO ₁₂₆	16.0	X	268.07883	100.15486	227.37223	7.32899	0.0372641	0.17118512	3.2123686	20	5 7.8	20.6
308533 2005 UU ₁₂₈	16.1	X	266.86414	87.54710	227.43621	9.91276	0.0920250	0.17003083	3.2268908	20	4 11.9	20.8
308534 2005 UO ₁₃₄	16.0	X	261.93264	29.36230	281.24354	4.46201	0.2556535	0.17363118	3.1821274	20	3 13.8	21.2
308535 2005 UG ₁₄₁	16.9	X	233.06565	270.19725	131.75295	3.69555	0.1973599	0.24609045	2.5219678	20	6 12.9	20.7
308536 2005 UM ₁₅₀	17.2	X	86.41720	10.19638	201.77367	5.68246	0.0576800	0.25548841	2.4597365	20	8 15.2	20.5
308537 2005 UD ₁₆₀	15.6	X	201.78168	310.33748	114.88223	6.47835	0.1235773	0.17774357	3.1328537	20	6 15.9	20.6
308538 2005 UV ₁₇₆	17.3	X	257.54503	84.75040	293.67439	1.00331	0.1267480	0.24638736	2.5199413	20	6 17.3	20.7
308539 2005 UM ₁₈₂	16.8	X	262.01531	108.13675	229.77001	4.49812	0.1106547	0.24000147	2.5644454	20	4 30.9	20.5
308540 2005 UR ₁₉₇	16.2	X	318.49168	74.12551	198.64681	7.37786	0.1095619	0.17608719	3.1524694	20	4 25.5	20.2
308541 2005 US ₂₀₄	16.7	X	287.95803	115.62718	199.92719	13.69828	0.1778212	0.17966024	3.1105325	20	4 28.2	21.1
308542 2005 UT ₂₀₄	15.9	X	299.60619	262.61746	33.86668	5.23468	0.1625072	0.17840444	3.1251122	20	4 20.6	20.2
308543 2005 UO ₂₁₃	15.6	X	230.97289	328.16606	67.79047	10.82533	0.0988562	0.17931300	3.1145468	20	6 10.8	20.2
308544 2005 UJ ₂₂₄	16.1	X	203.50356	68.00979	320.63492	3.54820	0.0846953	0.17187110	3.2038154	20	5 3.8	21.0
308545 2005 UE ₂₃₂	16.9	X	306.56695	261.47220	61.89927	2.06235	0.1074473	0.24697338	2.5159535	20	6 13.9	19.7
308546 2005 UP ₂₃₅	15.5	X	79.78402	127.42035	70.32892	11.88973	0.0411250	0.17705062	3.1410227	20	7 12.5	20.0
308547 2005 UY ₂₃₅	15.7	X	338.11569	156.53870	88.24807	6.24340	0.0766148	0.16808753	3.2517143	20	4 24.2	19.9
308548 2005 UX ₂₅₁	15.7	X	237.49522	60.32459	273.57475	14.75341	0.2358348	0.17372834	3.1809409	20	3 16.7	21.4
308549 2005 UF ₂₅₆	16.0	X	102.98093	114.46390	43.10581	5.78298	0.0712663	0.17754795	3.1351545	20	6 23.5	20.5
308550 2005 UJ ₂₅₈	15.9	X	109.41659	99.21077	52.65891	9.48595	0.1135548	0.17355856	3.1830150	20	6 28.9	20.8
308551 2005 UE ₂₆₆	16.0	X	68.68396	117.10337	60.75300	14.06382	0.0842769	0.17005317	3.2266081	20	6 6.7	20.5
308552 2005 UH ₂₈₂	16.3	X	292.71989	184.21768	119.12247	2.51788	0.1636145	0.17652007	3.1473134	20	4 21.1	20.5
308553 2005 UR ₂₈₈	16.1	X	322.63690	207.5								

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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>		
308561	2005	UV ₃₄₂	16.3	X	271.21661	328.47960	359.48389	15.42534	0.1505027	0.24408345	2.5357737	20	4 18.1	20.1
308562	2005	UX ₃₄₆	16.1	X	257.23787	297.93518	50.42087	7.13944	0.1399641	0.17438255	3.1729802	20	5 7.6	20.9
308563	2005	UL ₃₄₈	15.2	X	166.91765	220.21357	225.23158	20.97081	0.0934846	0.17554059	3.1590101	20	6 5.3	20.2
308564	2005	UV ₃₅₀	15.2	X	321.75062	28.28880	253.65490	9.75154	0.0918390	0.17749117	3.1358231	20	5 12.8	19.2
308565	2005	UP ₃₇₀	15.9	X	267.66700	282.56646	66.43091	10.87188	0.1312550	0.17605255	3.1528828	20	5 21.6	20.3
308566	2005	UL ₃₇₁	17.2	X	255.48066	67.51257	326.05988	0.36334	0.0490489	0.24713253	2.5148733	20	7 17.7	20.5
308567	2005	UQ ₃₈₈	16.5	X	124.11952	161.60687	351.98206	1.27721	0.1348985	0.18107966	3.0942561	20	7 19.5	21.4
308568	2005	UU ₃₉₆	15.2	X	230.77744	283.92126	63.08910	18.59790	0.1490827	0.17203625	3.2017646	20	4 16.2	20.5
308569	2005	UN ₃₉₈	16.6	X	328.05652	317.40729	64.20640	7.79135	0.1092769	0.26387717	2.4073256	20	10 25.4	19.0
308570	2005	UM ₄₀₂	16.3	X	210.44835	257.79142	131.36727	2.17565	0.1817811	0.17430125	3.1739668	20	5 9.1	21.6
308571	2005	UP ₄₀₅	17.3	X	88.56555	237.53831	219.43426	5.73608	0.1139718	0.29284033	2.2458571	20	3 14.1	19.7
308572	2005	UL ₄₁₅	16.3	X	48.31085	134.36262	69.10374	5.82764	0.0542848	0.17365946	3.1817820	20	6 8.8	20.6
308573	2005	UU ₄₂₂	15.4	X	36.43854	11.54981	230.26279	14.51873	0.1335145	0.17868502	3.1218399	20	7 18.3	19.6
308574	2005	UX ₄₂₃	16.6	X	150.63975	30.01044	63.68790	2.22655	0.0922016	0.17152183	3.2081632	20	5 30.1	21.6
308575	2005	UY ₄₃₄	16.4	X	287.11751	84.77058	216.11897	15.45152	0.1911159	0.17450592	3.1714846	20	4 4.3	21.0
308576	2005	UB ₄₃₈	14.7	X	94.54404	87.27441	249.90611	16.42407	0.1298015	0.14651473	3.5635417	20	—	—
308577	2005	UQ ₄₄₀	15.4	X	192.97642	148.15929	263.60255	15.90432	0.1100046	0.17058982	3.2198376	20	4 25.9	20.6
308578	2005	UK ₄₇₁	16.5	X	306.98503	24.04153	266.63005	4.01233	0.0375857	0.17158726	3.2073476	20	5 10.3	21.0
308579	2005	UU ₄₇₇	15.8	X	185.40971	321.55174	110.50600	6.27527	0.1528583	0.17487891	3.1669734	20	6 8.3	21.0
308580	2005	UL ₄₇₈	16.2	X	8.22141	13.34014	224.45611	8.75580	0.0393583	0.17398748	3.177816	20	5 27.5	20.5
308581	2005	UK ₄₈₂	15.3	X	313.46130	74.65763	259.24672	7.86530	0.0268572	0.18548508	3.0450661	20	7 15.1	19.5
308582	2005	UL ₄₈₆	16.2	X	300.34477	103.96684	273.49753	4.66916	0.1067051	0.18862935	3.0111325	20	8 13.6	20.0
308583	2005	UU ₄₈₆	15.3	X	184.05585	205.90793	229.91133	10.80716	0.0587434	0.17648679	3.1477090	20	6 12.0	20.0
308584	2005	UN ₄₉₀	15.6	X	291.60259	48.83113	282.38413	8.28570	0.0883378	0.17847378	3.1243027	20	6 4.0	19.8
308585	2005	UO ₅₁₄	16.6	X	199.08122	282.73736	120.87147	3.31170	0.0903398	0.17596249	3.1539586	20	5 19.4	21.5
308586	2005	UA ₅₁₅	16.0	X	347.94115	173.01641	97.79416	11.99765	0.1553481	0.17989995	3.1077687	20	6 7.5	19.6
308587	2005	UQ ₅₁₆	16.4	X	357.99426	108.37769	170.68223	6.60592	0.0611650	0.18476434	3.0529799	20	7 5.6	20.4
308588	2005	UR ₅₂₁	15.3	X	358.56657	218.45375	49.12499	10.38372	0.0498073	0.18202128	3.0835756	20	6 20.9	19.4
308589	2005	US ₅₂₂	15.7	X	127.51836	8.69581	155.76946	9.72514	0.0387475	0.18304109	3.0721116	20	7 27.4	20.2
308590	2005	UN ₅₂₂	15.8	X	327.42327	86.50595	189.80649	18.70826	0.0516039	0.17938904	3.1136667	20	5 20.8	20.2
308591	2005	US ₅₂₅	17.2	X	262.36426	306.40215	58.52871	2.77865	0.1018136	0.24360256	2.5391098	20	6 8.5	20.7
308592	2005	VL ₂	15.4	X	245.38228	81.93990	288.78842	21.42214	0.1358611	0.17939127	3.1136408	20	4 30.7	21.2
308593	2005	VZ ₃₁	16.4	X	149.62828	312.66213	160.22627	1.05708	0.1304104	0.17044564	3.2216532	20	6 23.6	21.4
308594	2005	VG ₃₇	15.1	X	15.64569	192.69678	63.18800	17.43495	0.0432935	0.17933359	3.1143084	20	6 29.7	19.5
308595	2005	VQ ₄₇	15.7	X	205.83605	335.03896	59.51189	7.83863	0.0601216	0.17201019	3.2020880	20	5 16.2	20.4
308596	2005	VY ₅₄	16.1	X	331.68382	51.35146	240.87038	7.99685	0.1151604	0.18018056	3.1045412	20	6 9.6	20.0
308597	2005	VY ₆₁	15.0	X	250.47706	59.96688	294.89912	21.66356	0.1675007	0.18026205	3.1036055	20	4 27.7	20.3
308598	2005	VS ₆₂	15.3	X	107.26781	147.68241	25.36460	19.02214	0.0963911	0.18351837	3.0667828	20	7 28.4	20.2
308599	2005	VD ₈₀	16.2	X	327.37883	16.95479	259.83341	3.16501	0.0889343	0.17608222	3.1525286	20	5 15.3	20.2
308600	2005	VB ₈₅	15.4	X	162.21096	39.15525	72.73058	17.47621	0.1033422	0.17387433	3.1791602	20	7 3.5	20.4
308601	2005	VW ₉₇	16.0	X	142.11986	141.82052	357.63384	4.37663	0.0875582	0.17596111	3.1539750	20	7 17.7	20.8
308602	2005	VO ₁₁₀	16.1	X	13.65400	224.45907	59.17228	4.99914	0.0250542	0.18252696	3.0778778	20	8 3.9	20.3
308603	2005	VA ₁₁₁	16.6	X	100.74828	280.60213	212.58238	4.57947	0.0889297	0.16822570	3.2499336	20	5 23.9	21.2
308604	2005	VX ₁₁₂	19.8	X	276.65673	225.67598	228.99554	5.23523	0.3269720	0.32795882	2.0825231	20	10 18.1	20.4
308605	2005	VG ₁₁₉	15.9	X	252.92967	319.29242	87.64122	10.51898	0.0799612	0.18270411	3.0758879	20	7 24.5	20.3
308606	2005	VU ₁₃₀	16.7	X	87.41059	46.38537	143.71014	6.98893	0.0559012	0.18183856	3.0856410	20	7 13.6	21.0
308607	2005	WY ₃	13.5	X	255.45408	309.15644	190.10215	29.41298	0.7336471	0.05653327	6.7235708	20	8 30.1	23.5
308608	2005	WD ₅	15.2	X	207.74062	340.50964	68.28077	11.88144	0.0686543	0.17470601	3.1690627	20	6 3.9	19.9
308609	2005	WP ₃₁	16.6	X	251.55318	312.77251	62.36110	7.22597	0.2268176	0.24418128	2.5350963	20	5 24.3	20.4
308610	2005	WK ₅₃	16.9	X	191.32781	17.33744	70.89346	24.01561	0.0599954	0.37839463	1.8930964	20	7 17.1	19.3
308611	2005	WF ₆₀	15.4	X	253.99226	302.91584	75.51248	18.91652	0.1379330	0.17771105	3.1332359	20	6 10.0	19.9
308612	2005	WP ₉₀	16.7	X	222.46440	71.41225	331.01676	3.93647	0.1439762	0.24384055	2.5374574	20	6 6.6	20.6
308613	2005	WE ₁₀₅	15.8	X	205.04374	327.88481	74.54328	28.77788	0.2162626	0.17270682	3.1934716	20	5 22.6	21.3
308614	2005	WO ₁₁₁	15.8	X	229.13177	158.91037	203.66766	7.14461	0.0402718	0.17179459	3.2047666	20	5 5.1	20.4
308615	2005	WK ₁₂₁	16.1	X	337.84484	342.46858	71.85940	15.81800	0.1027330	0.19817640	2.9136324	20	12 4.8	19.6
308616	2005	WW ₁₂₇	15.7	X	85.76091	123.94174	61.12071	13.70697	0.0900113	0.17347675	3.1840157	20	7 10.8	20.4
308617	2005	WL ₁₄₄	15.6	X	257.84506	297.85480	134.29636	10.18737	0.1297036	0.18607820	3.0385919	20	8 25.1	19.9
308618	2005	WC ₁₆₃	16.6	X	96.94052	334.61239	9.19215	7.09231	0.1695550	0.21780058	2.7358778	20	—	—
308619	2005	WT ₁₇₁	17.1	X	172.56470	292.67940	99.77559	3.39457	0.2201000	0.23130239	2.6283466	20	4 11.0	21.5
308620	2005	WM ₁₉₁	15.2	X	253.42273	253.49069	76.27301	15.04902	0.2339319	0.17398424	3.1778211	20	4 9.3	20.6
308621	2005	VV ₁₉₃	16.8	X	241.23975	275.72731	132.50135	4.71992	0.1178419	0.24574494	2.5243311	20	7 8.8	20.4
308622	2005	XR	15.0	X	145.25571	247.37803	244.30075	27.48805	0.2338559	0.17150831	3.2083318	20	7 9.5	20.9
308623	2005	XX ₂	15.7	X	274.92995	70.75983	279.42585	7.90617	0.0918515	0.17446724	3.1719534	20	6 6.0	20.2
308624	2005	XN ₁₁	15.3	X	62.20501	52.97188	97.26898	9.00011	0.0310510	0.16136350	3.3414311	20	4 22.5	20.0
308625	2005	XJ ₂₀	17.5	X	220.66994	75.19775	329.01517	3.56778	0.2553956	0.24224699	2.5485732	20	5 30.3	22.0
308626	2005	XV ₂₇	15.9	X	241.33825	84.88411	284.72103	12.18949	0.0693230	0.24230910	2.5481377	20	5 22.1	19.5
308627	2005	XG ₄₅	15.5	X	276.13243	194.76149	57.30754	9.77078	0.097451	0.15325555	3.4582674	20	2 16.4	20.6
308628	2005	XM ₄₉	15.1	X	157.42671	102.79115	75.68377	17.29530	0.1926740	0.17909745	3.1170454	20	9 28.9	20.7
308629	2005	XD ₅₃	15.8	X	264.47623	77.29246	240.03422	10.15676	0.2750363	0.17436448	3.1731994	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>
308641 2005 YK ₁₇₆	17.6	X	37.33435	337.67535	294.57345	2.64076	0.1525712	0.31030747	2.1607668	20	9 25.2	19.9
308642 2006 AB ₃₄	16.4	X	174.28976	123.85439	38.93711	9.76574	0.1589213	0.24390464	2.5370129	20	9 25.8	20.5
308643 2006 AD ₅₃	17.9	X	188.77931	253.29629	229.49793	1.98007	0.0832198	0.31082029	2.1583894	20	8 25.7	20.7
308644 2006 AH ₆₄	18.6	X	219.64715	352.25283	106.23912	3.12163	0.0488043	0.31137425	2.1558287	20	9 7.5	21.1
308645 2006 AR ₇₂	17.7	X	1.41348	97.72277	143.22577	3.79447	0.1700667	0.29331541	2.2434314	20	5 20.1	19.2
308646 2006 BD ₁	15.4	X	242.24919	335.34242	119.78715	19.04257	0.2444857	0.18062088	3.0994937	20	8 22.6	20.4
308647 2006 BH ₆	17.1	X	55.40361	186.51234	330.15837	17.18892	0.0766169	0.35775858	1.9652117	20	3 28.5	19.1
308648 2006 BE ₂₂	17.0	X	302.67109	308.65046	151.36944	5.55981	0.1444117	0.28637040	2.2795579	20	3 4.1	19.7
308649 2006 BL ₂₅	17.5	X	134.56983	338.85770	164.30709	1.77069	0.0935227	0.30105756	2.2048025	20	7 19.9	20.5
308650 2006 BP ₃₂	17.0	X	353.62640	143.37045	140.00492	6.67682	0.1217671	0.29662347	2.2267205	20	7 13.8	18.7
308651 2006 BL ₄₅	17.9	X	60.06554	62.13693	151.50500	5.09406	0.1047981	0.29694171	2.2251293	20	7 23.9	20.3
308652 2006 BH ₅₂	16.9	X	237.51811	347.41914	320.73573	6.14018	0.2474297	0.28365967	2.2940576	20	2 14.7	20.7
308653 2006 BY ₆₀	15.7	X	162.76916	182.99161	321.03720	12.56460	0.1317968	0.24534443	2.5270776	20	8 17.9	19.7
308654 2006 BY ₆₈	17.4	X	2.88889	175.49035	61.52178	3.70203	0.1229100	0.29251886	2.2475022	20	5 15.8	19.1
308655 2006 BT ₉₁	16.6	X	319.54399	39.27970	324.66349	11.99677	0.1871467	0.24226337	2.5484584	20	8 28.2	19.0
308656 2006 BJ ₁₀₁	18.0	X	275.04480	8.02795	324.33485	2.85346	0.1479895	0.29890650	2.2153676	20	5 1.3	20.6
308657 2006 BJ ₁₁₉	17.7	X	43.59741	350.36364	326.09051	2.28691	0.1078991	0.29654522	2.2271122	20	7 17.3	19.9
308658 2006 BN ₁₂₁	18.6	X	203.00937	334.22048	119.75517	3.70556	0.1007241	0.30723575	2.1751450	20	8 1.3	21.2
308659 2006 BL ₁₂₈	17.5	X	302.32536	84.33876	174.26282	2.97129	0.2064967	0.28070776	2.3101124	20	2 17.6	20.5
308660 2006 BJ ₁₃₉	13.4	X	273.89818	346.12268	341.52256	18.40559	0.0386963	0.08302066	5.2040954	20	5 9.8	20.6
308661 2006 BA ₁₅₃	17.7	X	324.79404	227.42457	32.77852	3.19334	0.1533464	0.28788573	2.2715517	20	4 2.8	19.7
308662 2006 BQ ₁₆₄	18.4	X	201.14611	106.71526	351.25389	1.73344	0.0910470	0.30503885	2.1855762	20	8 5.7	21.2
308663 2006 BZ ₁₈₀	17.8	X	186.59448	263.70267	129.68238	6.10026	0.1768894	0.29418599	2.2390033	20	4 22.0	21.3
308664 2006 BH ₂₁₃	16.4	X	198.79430	124.96073	356.89302	13.57309	0.1422080	0.24478743	2.5309097	20	8 29.3	20.3
308665 2006 BV ₂₄₁	17.5	X	161.74657	121.57358	345.22532	5.30766	0.0525832	0.30006555	2.2069591	20	6 27.6	20.4
308666 2006 BC ₂₆₃	17.1	X	325.04880	242.04640	18.08911	2.85521	0.1956350	0.28493170	2.2872249	20	3 26.7	19.2
308667 2006 BF ₂₆₉	16.0	X	0.27786	25.83915	136.84754	25.34119	0.1868774	0.27331222	2.3515994	20	1 9.8	18.6
308668 2006 BF ₂₇₅	18.1	X	221.16906	248.95939	177.48337	2.87015	0.0377765	0.30220799	2.1992035	20	7 21.9	20.7
308669 2006 BP ₂₇₆	17.3	X	267.70460	296.41301	315.57688	0.98997	0.1535292	0.27279969	2.3545440	20	1 10.5	20.9
308670 2006 BV ₂₈₂	17.0	X	290.13260	332.83218	319.77937	6.28247	0.1058486	0.28746542	2.2737653	20	3 31.5	20.0
308671 2006 CQ ₁₀	17.4	X	148.96317	9.53666	139.93728	4.62990	0.0841504	0.30543056	2.1837071	20	8 15.8	20.3
308672 2006 CK ₅₄	16.7	X	128.28251	16.13245	316.31344	13.19320	0.2486318	0.27087254	2.3656985	20	—	—
308673 2006 DL ₃	15.5	X	172.03157	197.07787	332.37313	20.02712	0.0671186	0.17449158	3.1716584	20	9 16.5	20.5
308674 2006 DS ₃	16.8	X	340.94944	262.84705	339.50662	6.54036	0.1394369	0.28638769	2.2794662	20	4 4.1	18.9
308675 2006 DQ ₁₂	15.8	X	93.31197	271.41294	4.92382	12.82507	0.1256637	0.24504522	2.5291343	20	11 20.1	19.8
308676 2006 DQ ₂₉	17.9	X	262.35503	298.88517	117.96490	5.16872	0.0905892	0.31039159	2.1603764	20	9 1.8	20.0
308677 2006 DD ₄₅	17.6	X	65.79076	44.26745	152.97501	5.84869	0.1284835	0.29446288	2.2375995	20	7 11.8	20.1
308678 2006 DD ₅₄	17.5	X	1.10285	200.78020	6.33268	2.79672	0.1243251	0.28258268	2.2998827	20	3 24.5	19.3
308679 2006 DM ₆₂	17.0	X	34.84636	312.73489	251.13028	4.40761	0.1604576	0.28944970	2.2633618	20	6 2.4	18.6
308680 2006 DY ₆₂	14.5	X	127.58738	167.06610	61.83353	24.03841	0.4271686	0.16732519	3.2615835	20	11 4.5	20.9
308681 2006 DH ₆₃	17.2	X	160.80580	28.97067	95.73221	5.09063	0.0803303	0.30165427	2.2018940	20	7 25.9	20.1
308682 2006 DG ₈₆	17.7	X	299.49454	114.78356	154.18939	4.66918	0.1641563	0.28036081	2.3120178	20	3 6.5	20.5
308683 2006 DH ₈₈	17.1	X	189.59547	135.91078	172.23381	4.46673	0.1975751	0.26670206	2.3902966	20	1 9.1	21.0
308684 2006 DS ₉₆	17.4	X	344.40917	236.29582	355.53295	2.25671	0.1093640	0.28192849	2.3034391	20	4 1.0	19.3
308685 2006 DF ₁₀₂	17.8	X	307.23440	141.25689	121.76486	3.13899	0.1846663	0.28115079	2.3076849	20	3 6.1	20.4
308686 2006 DS ₁₀₃	17.8	X	206.96844	26.37336	51.71028	1.03360	0.0660044	0.30064230	2.2068322	20	7 17.1	20.6
308687 2006 DX ₁₀₉	17.2	X	285.25211	306.29027	307.24185	1.92026	0.1503388	0.27431199	2.3458822	20	1 30.9	20.5
308688 2006 DD ₁₁₃	17.6	X	246.12754	219.90599	69.73046	2.44486	0.1813593	0.27346870	2.3507023	20	2 4.4	21.2
308689 2006 DQ ₁₁₇	16.9	X	58.39414	177.95426	8.58113	6.91589	0.0240946	0.28916189	2.2648634	20	5 25.4	19.6
308690 2006 DN ₁₄₄	17.6	X	290.94675	258.18203	8.51876	2.72648	0.1765975	0.27922590	2.3182784	20	2 20.6	20.8
308691 2006 DS ₁₅₅	16.9	X	247.14617	320.73505	330.89165	6.42255	0.1100247	0.27488380	2.3426278	20	2 11.9	20.0
308692 2006 BQ ₂₀₅	17.6	X	217.06798	289.36848	118.38461	4.13378	0.1117478	0.29726474	2.2235170	20	6 11.8	20.5
308693 2006 EK ₁	15.9	X	343.11087	7.87707	355.97678	12.97311	0.0585447	0.24284094	2.5444160	20	10 11.7	19.0
308694 2006 EX ₅	17.8	X	226.95208	248.21410	105.05067	2.49050	0.1102219	0.28794098	2.2712611	20	4 10.3	21.1
308695 2006 EN ₁₂	17.4	X	227.27085	287.84077	6.79412	1.12554	0.1829458	0.27123042	2.3636171	20	1 24.7	21.1
308696 2006 EV ₁₂	17.0	X	341.07827	7.96696	17.79441	0.58113	0.1021164	0.24620715	2.5211708	20	11 15.5	19.8
308697 2006 EU ₁₉	17.2	X	271.32531	254.62902	2.53071	1.92325	0.1863936	0.27042247	2.3683227	20	1 18.3	20.8
308698 2006 FZ ₉	16.2	X	84.72655	275.31599	203.51584	29.10896	0.4016582	0.21991760	2.7182917	20	5 27.2	20.8
308699 2006 FH ₁₉	17.5	X	297.98684	46.97634	202.10718	2.43738	0.2090514	0.27257264	2.3558513	20	1 31.6	20.9
308700 2006 FE ₂₇	16.8	X	267.90303	263.28115	27.97038	5.82504	0.1388753	0.27467558	2.3438115	20	3 4.2	20.0
308701 2006 FR ₃₂	16.6	X	247.71666	39.89532	35.97783	14.10519	0.2433525	0.23514024	2.5996691	20	8 12.2	20.7
308702 2006 FU ₃₆	17.3	X	102.62390	49.40883	134.13086	5.68404	0.1360775	0.29741359	2.2227750	20	8 12.3	20.2
308703 2006 FT ₃₉	17.7	X	284.93640	235.78023	37.53109	2.35827	0.1662750	0.27699954	2.3306838	20	2 24.1	20.7
308704 2006 FL ₄₀	17.6	X	357.90256	211.86744	22.27459	4.83590	0.1014680	0.28553132	2.2840216	20	4 30.4	19.8
308705 2006 FW ₄₃	17.1	X	29.39538	63.54176	35.76178	7.64699	0.1794886	0.27207307	2.3587342	20	—	—
308706 2006 FP ₄₉	16.4	X	23.62944	150.98310	52.87026	24.74936	0.1756040	0.28390430	2.2927396	20	5 10.7	18.1
308707 2006 FC ₅₁	16.3	X	184.06780	130.53224	49.86420	32.01521	0.0721816	0.24228099	2.5483348	20	11 3.5	20.0
308708 2006 GD ₉	17.0	X	145.27381	125.17136	128.34368	3.74436	0.1197883	0.24655126	2.5188244	20	12 17.0	20.7
308709 2006 GZ ₁₁	17.4	X	209.09726	304.59622	148.69852	3.80060	0.0428540	0.29930585	2.2133967	20	8 13.4	20.0
308710 2006 GO ₁₆	18.1	X	108.55271	93.89625	59.10343	3.46261	0.0821211	0.29159401	2.2522520	20	6 29.9	21.0
308711 2006 GO ₂₇	16.3	X	18.29744	193.73697	194.38126	7.24116	0.2421726	0.24569590	2.5246670	20	—	—
308712 2006 GR ₂₉	17.8	X	160.72856	279.70271	47.71623	1.97267	0.2025588	0.25856940	2.4401581	20	1 9.2	21.6
308713 2006 GG ₃₄	17.4	X	187.37809	286.42732	159.84504	4.24055	0.1479113	0.29477407	2.236024			

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>
308721 2006 HG ₁	17.8	X	28.65278	144.87203	72.17471	3.23202	0.1570829	0.28671225	2.2777456	20	6 10.7	19.4
308722 2006 HT ₁₈	17.8	X	167.04340	290.87355	172.27705	4.86280	0.0982665	0.29579840	2.2308592	20	7 1.5	20.9
308723 2006 HZ ₂₀	17.6	X	188.56273	163.49649	130.35965	3.30217	0.1894960	0.25799274	2.4437928	20	—	—
308724 2006 HE ₂₄	17.0	X	208.24943	215.60622	74.60753	4.51128	0.1853324	0.25971985	2.4329468	20	1 4.5	20.9
308725 2006 HK ₂₅	16.8	X	163.40646	305.46792	73.34580	7.72334	0.1305723	0.26919775	2.3755004	20	3 12.8	20.4
308726 2006 HB ₂₈	16.8	X	99.49842	316.04975	132.28035	6.80974	0.0544146	0.27262159	2.3555693	20	3 15.2	19.6
308727 2006 HF ₂₉	17.7	X	143.44284	359.93598	129.55210	2.53908	0.0925024	0.29295060	2.2452935	20	7 10.9	20.5
308728 2006 HP ₃₆	17.2	X	346.71555	347.40078	218.38315	1.18894	0.1701726	0.27685107	2.3315170	20	2 17.2	19.4
308729 2006 HZ ₃₈	17.0	X	15.88707	150.99077	71.93181	6.22590	0.1087569	0.28303328	2.2971164	20	5 20.1	19.1
308730 2006 HR ₄₄	16.7	X	253.03783	234.34383	55.13312	6.93576	0.0957108	0.26919015	2.3755450	20	2 20.3	20.2
308731 2006 HO ₄₈	17.3	X	228.79392	161.29573	113.91039	2.29065	0.1701469	0.26296164	2.4129099	20	1 3.4	21.0
308732 2006 HA ₄₉	17.6	X	96.79746	169.50166	50.67845	3.60028	0.0947046	0.30132268	2.2035091	20	9 23.4	20.4
308733 2006 HC ₆₉	17.6	X	86.50889	105.07876	56.28949	6.06172	0.1104108	0.28601920	2.2814236	20	6 15.5	20.3
308734 2006 HU ₇₃	17.7	X	39.89844	47.42143	102.32826	4.36862	0.0760917	0.27449016	2.3448669	20	3 13.1	20.1
308735 2006 HO ₈₅	17.0	X	280.31403	211.82438	31.09770	8.00908	0.0415913	0.27159592	2.3614960	20	1 28.3	20.2
308736 2006 HP ₈₉	17.2	X	336.84987	9.89754	231.43815	5.89553	0.2107684	0.27864203	2.3215158	20	3 14.7	19.3
308737 2006 HF ₉₇	17.8	X	8.06672	321.84361	249.12274	2.15859	0.1753673	0.27983555	2.3149101	20	4 11.9	19.3
308738 2006 HG ₉₉	17.5	X	226.38500	80.68161	105.64840	1.22070	0.0464984	0.24645887	2.5194539	20	12 31.9	20.7
308739 2006 HZ ₁₁₀	17.2	X	112.24658	273.74028	191.88269	7.04916	0.0582361	0.27997257	2.3141547	20	4 25.0	20.0
308740 2006 JC ₂	17.6	X	268.14377	16.70941	237.15596	0.91579	0.1588260	0.26699849	2.3885272	20	1 13.4	21.0
308741 2006 JJ ₈	17.3	X	247.41647	199.88109	65.84686	3.34744	0.1713456	0.26396730	2.4067776	20	1 8.5	21.1
308742 2006 JL ₁₄	16.4	X	102.43960	2.16871	276.54148	11.37332	0.2597179	0.23701005	2.5859783	20	12 11.2	20.9
308743 2006 JY ₃₀	17.5	X	349.43754	193.28943	21.52837	2.99312	0.1693870	0.27784153	2.3259727	20	3 9.6	19.5
308744 2006 JO ₃₇	17.5	X	172.44331	196.38947	105.85395	4.47367	0.2218484	0.25435450	2.4670414	20	—	—
308745 2006 JI ₃₇	16.7	X	159.91289	330.05332	63.69900	7.27505	0.1218578	0.27373149	2.3491976	20	3 26.9	20.1
308746 2006 JT ₃₇	17.3	X	247.77265	66.57321	200.27502	7.45006	0.1340817	0.26603194	2.3943090	20	1 10.2	21.1
308747 2006 JA ₃₉	17.0	X	43.59770	335.46819	225.17813	10.07046	0.0854648	0.28278070	2.2988089	20	6 3.2	19.4
308748 2006 JR ₄₄	16.6	X	68.86191	225.36456	67.81316	8.42732	0.3376087	0.22978994	2.6398670	20	12 6.9	21.2
308749 2006 JN ₄₅	17.3	X	89.59915	279.80736	177.31522	6.28290	0.0767155	0.27133935	2.3629844	20	3 14.4	19.9
308750 2006 JE ₄₉	17.2	X	152.08580	228.17600	108.53688	5.11190	0.2400595	0.25778992	2.4450745	20	1 15.8	20.9
308751 2006 JA ₅₁	17.5	X	240.55559	227.36019	54.77350	4.72343	0.1057444	0.26683792	2.3894852	20	1 26.0	21.0
308752 2006 JG ₅₃	16.8	X	70.93207	359.69560	64.93607	7.83258	0.0944628	0.26150437	2.4218658	20	1 4.9	19.4
308753 2006 JD ₇₉	17.8	X	188.52008	116.21159	192.13825	1.10716	0.1933585	0.26068127	2.4269612	20	1 9.4	21.8
308754 2006 KX ₁₀	16.7	X	117.58166	325.87317	68.81255	7.12523	0.1001190	0.26297170	2.4128484	20	2 4.5	19.8
308755 2006 KD ₂₉	17.4	X	286.44932	22.76406	229.44945	4.83963	0.1715757	0.26894205	2.3770058	20	1 27.2	20.8
308756 2006 KY ₃₃	17.2	X	183.98845	68.44272	226.21967	5.79408	0.1172913	0.25548391	2.4597654	20	—	—
308757 2006 KL ₄₀	16.2	X	39.95814	238.26500	82.09246	18.37276	0.3102441	0.22719349	2.6599418	20	12 11.1	20.0
308758 2006 KW ₄₂	17.3	X	9.60568	148.98199	63.05036	2.99643	0.1182755	0.27820209	2.3239626	20	4 20.4	19.4
308759 2006 KV ₅₂	17.0	X	87.36599	196.46194	137.14779	4.26353	0.1908273	0.24163621	2.5528661	20	—	—
308760 2006 KE ₆₂	17.1	X	239.49229	132.43479	159.29089	5.19617	0.0313204	0.26691913	2.3890005	20	2 8.6	20.3
308761 2006 KD ₆₅	16.5	X	61.31984	224.48065	103.27458	14.38362	0.2568767	0.22861395	2.6489122	20	—	—
308762 2006 KY ₁₀₁	16.1	X	60.11070	241.52228	106.95339	13.13574	0.3129515	0.23573670	2.5952822	20	—	—
308763 2006 KU ₁₀₈	17.7	X	199.25140	300.02567	336.78508	0.78133	0.1768145	0.25646016	2.4535191	20	—	—
308764 2006 LF ₄	16.2	X	112.15719	191.02764	121.53516	7.96084	0.2726510	0.24005422	2.5640696	20	—	—
308765 2006 OD ₁	16.7	X	118.57669	211.89713	86.36780	6.26750	0.2055922	0.23530139	2.5984821	20	—	—
308766 2006 OE ₄	16.4	X	350.60450	201.91805	169.31178	4.55567	0.1302914	0.21561624	2.7543243	20	11 7.1	19.4
308767 2006 OO ₈	16.6	X	187.43429	245.21814	122.91973	22.54070	0.2731376	0.25863799	2.4392766	20	3 30.3	21.3
308768 2006 ON ₉	16.7	X	87.30580	182.29923	114.57473	6.24000	0.2266939	0.22803316	2.6534081	20	12 17.6	21.0
308769 2006 OB ₁₀	15.3	X	106.58854	83.35939	310.91159	24.44786	0.2758154	0.17270294	3.1935194	20	2 17.6	20.3
308770 2006 OS ₁₀	15.7	X	9.89059	76.49806	305.15319	16.69767	0.1815069	0.22395716	2.6855057	20	—	—
308771 2006 OK ₁₃	17.8	X	84.20806	296.57385	19.36405	1.40745	0.2741465	0.30076542	2.2062300	20	—	—
308772 2006 PU ₃	17.1	X	330.38397	48.42920	322.04993	1.53601	0.3350375	0.21264327	2.7799370	20	9 21.0	18.4
308773 2006 PU ₅	16.4	X	7.04563	38.19999	330.51340	11.62682	0.1771640	0.22292956	2.6937520	20	12 6.7	19.8
308774 2006 PU ₁₇	16.1	X	81.01067	175.33111	170.57588	13.03103	0.1800659	0.23117518	2.6293107	20	—	—
308775 2006 PE ₂₀	15.9	X	63.05115	281.74223	88.06947	12.98860	0.1299633	0.23431409	2.6057762	20	—	—
308776 2006 PE ₂₂	15.9	X	17.16450	168.28105	169.29764	9.04268	0.1389724	0.21843169	2.7306055	20	11 8.0	19.3
308777 2006 PG ₂₄	15.9	X	21.68599	239.21496	127.67920	15.12430	0.1438243	0.22559096	2.6725239	20	12 23.9	19.5
308778 2006 PT ₂₄	15.3	X	49.71093	19.55088	285.68640	15.48489	0.2457258	0.21750149	2.7383853	20	11 20.9	19.5
308779 2006 PD ₂₈	16.4	X	49.25486	241.50224	85.81125	14.91916	0.2296681	0.22484181	2.6784570	20	12 18.4	20.2
308780 2006 PO ₃₁	16.7	X	42.75383	261.52474	60.01910	10.56884	0.2420316	0.22316656	2.6918445	20	12 5.0	20.5
308781 2006 PX ₃₂	15.9	X	50.63039	248.25728	88.12800	15.32542	0.1740298	0.22447366	2.6813847	20	12 23.9	19.8
308782 2006 PH ₃₇	16.2	X	14.95744	245.85784	61.72326	6.11207	0.3160320	0.21634197	2.7481611	20	10 22.0	19.0
308783 2006 QP ₃	16.7	X	41.50656	8.88196	320.52038	8.18228	0.2202061	0.29378986	2.2410155	20	12 27.4	19.8
308784 2006 QR ₃	16.6	X	20.84244	203.48586	163.32573	9.02397	0.2092268	0.29436130	2.2381142	20	—	—
308785 2006 QO ₂₀	16.1	X	18.79211	62.88208	348.59012	12.11334	0.2659428	0.22516399	2.6759013	20	—	—
308786 2006 QV ₂₂	17.3	X	345.50931	209.16339	159.65738	3.41383	0.3103868	0.21515973	2.7582188	20	11 12.4	19.2
308787 2006 QE ₂₄	16.4	X	358.45003	87.77505	273.29612	2.37384	0.2338101	0.21608631	2.7503283	20	11 18.3	19.0
308788 2006 QW ₂₅	16.8	X	56.28690	65.90840	249.35792	10.98572	0.2387427	0.22490051	2.6812505	20	12 11.9	20.8
308789 2006 QR ₂₆	16.7	X	325.60745	205.84398	172.55079	3.26835	0.1988286	0.21316359	2.7754114	20	9 28.3	19.0
308790 2006 QV ₂₈	16.5	X	20.78617	239.18436	142.84707	6.25724	0.1958125	0.22491027	2.6779134	20	—	—
308791 2006 QO ₃₅	16.3	X	66.83605	134.65122	159.71968	13.06069	0.2086351	0.22129399	2.7070086	20	11 26.1	20.7
308792 2006 QA ₄₀	15.8	X	90.19348	174.84926	126.04034	17.44909	0.1622736	0.22809100	2.6529595	20	12 21.8	20.2
308793 2006 QO ₄₇	16.7	X	351.78064	320.70014	68.55867	3.02208	0.2177425	0.21980522	2.7192182	20	12 14.3	19.4
308794 2006 QE ₄₉	15.9	X	1.15075	195.27797	134.48570							

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>
308801 2006 QJ ₆₁	16.2	X	16.77717	69.38055	266.33108	11.97038	0.2257295	0.21916694	2.7244950	20	11 14.4	19.5
308802 2006 QR ₈₁	16.0	X	4.98919	195.07909	168.05819	13.76734	0.1961738	0.21800192	2.7341930	20	11 30.9	19.4
308803 2006 QS ₈₂	15.6	X	356.40098	68.27407	237.35518	12.63267	0.2364832	0.21152813	2.7896987	20	8 14.2	18.4
308804 2006 QD ₈₃	16.2	X	72.91203	137.18518	172.24995	4.68543	0.0861986	0.22518111	2.6757657	20	12 5.9	20.1
308805 2006 QG ₈₇	17.0	X	136.68484	96.17390	188.01120	3.14569	0.1672424	0.23398375	2.6082282	20	—	—
308806 2006 QU ₉₈	16.3	X	322.12402	82.89794	326.23462	8.55130	0.2233398	0.21601200	2.7509591	20	10 31.9	18.9
308807 2006 QK ₁₀₁	16.3	X	174.16360	44.91412	210.81984	14.53807	0.1627667	0.23858922	2.5745550	20	—	—
308808 2006 QO ₁₀₃	16.9	X	330.97807	193.33325	193.10455	1.86164	0.1050456	0.21698168	2.7427570	20	10 22.9	19.9
308809 2006 QW ₁₁₂	16.1	X	339.64001	147.48837	211.89065	5.00382	0.1050547	0.21414275	2.7669446	20	9 28.1	19.1
308810 2006 QZ ₁₁₄	15.8	X	6.68673	48.77835	295.35110	12.58913	0.1900562	0.21661362	2.7458630	20	10 29.7	19.1
308811 2006 QG ₁₁₈	15.8	X	330.91509	113.39575	319.51421	11.20408	0.1856332	0.22172948	2.7034630	20	—	—
308812 2006 QZ ₁₁₈	16.8	X	15.07032	173.55197	194.04186	4.87277	0.1788828	0.22283661	2.6945010	20	12 19.1	20.1
308813 2006 QD ₁₂₄	16.6	X	289.29059	37.17877	308.84152	6.83571	0.2730764	0.27216542	2.3582006	20	5 20.5	19.7
308814 2006 QJ ₁₂₆	16.2	X	90.89308	230.04565	72.27780	12.32148	0.2022877	0.22835008	2.6509524	20	12 24.8	20.6
308815 2006 QQ ₁₄₇	16.1	X	298.42430	260.51786	163.82485	12.99729	0.1354115	0.21424439	2.7660695	20	10 19.4	19.4
308816 2006 QR ₁₄₇	16.8	X	10.22913	10.46681	18.40323	3.15305	0.0668440	0.22349113	2.6892377	20	12 23.6	20.3
308817 2006 QO ₁₆₁	16.7	X	315.58980	178.55414	7.37061	2.84011	0.0967362	0.24483661	2.5305707	20	—	—
308818 2006 QM ₁₆₃	16.7	X	352.85107	119.77704	247.53958	2.69773	0.1179527	0.21764564	2.7371761	20	11 3.0	19.8
308819 2006 QC ₁₆₄	15.2	X	193.03695	26.36739	330.12006	17.12943	0.1542952	0.18192020	3.0847178	20	3 11.6	20.5
308820 2006 QK ₁₆₄	16.0	X	86.02974	141.56500	261.16642	10.73515	0.1010053	0.24040434	2.5615795	20	1 3.1	19.0
308821 2006 QM ₁₆₄	16.3	X	116.59397	58.77062	244.43445	12.69463	0.1194652	0.23103340	2.6303863	20	—	—
308822 2006 QK ₁₇₀	16.3	X	57.78065	223.57149	98.22855	17.97397	0.3193103	0.22358928	2.6884506	20	12 29.1	20.6
308823 2006 QR ₁₇₀	16.4	X	355.71578	55.75597	306.07752	5.06915	0.0824845	0.21693208	2.7431751	20	10 25.9	19.9
308824 2006 QF ₁₈₄	16.5	X	47.93176	262.56341	43.06796	9.22270	0.2109182	0.22027918	2.7153162	20	11 16.4	20.4
308825 Siksika	15.7	X	311.31575	317.48589	111.14189	12.41609	0.0911367	0.21473021	2.7618958	20	11 19.9	19.2
308826 2006 RJ ₅	16.2	X	339.96756	160.64130	216.66885	12.38530	0.1437325	0.21579795	2.7527779	20	10 26.6	19.2
308827 2006 RV ₆	16.3	X	332.13716	90.87261	3.60459	10.63139	0.1738437	0.22276003	2.6951186	20	—	—
308828 2006 RJ ₁₁	16.5	X	32.72662	19.56176	301.55370	4.10927	0.1595440	0.21736243	2.7395531	20	11 7.9	20.0
308829 2006 RG ₁₆	16.3	X	44.05706	48.11090	272.26794	7.89041	0.2088386	0.21939324	2.7226212	20	11 30.1	20.1
308830 2006 RY ₁₉	16.1	X	34.94062	37.55811	216.06395	1.33378	0.0141692	0.20243278	2.8726463	20	7 22.8	19.9
308831 2006 RK ₂₁	16.1	X	339.17115	13.55304	0.56543	6.88277	0.1843349	0.21268035	2.7796139	20	10 19.6	18.7
308832 2006 RY ₂₅	16.9	X	197.11241	47.77290	215.03527	4.80683	0.2040842	0.24395798	2.5366431	20	—	—
308833 2006 RC ₃₁	16.0	X	318.13088	83.25845	337.98549	6.96374	0.2197921	0.21537843	2.7563513	20	11 10.9	18.5
308834 2006 RJ ₃₆	16.4	X	339.05636	84.36754	321.11267	7.84657	0.1382437	0.21707047	2.7420091	20	12 1.9	19.5
308835 2006 RU ₃₈	16.6	X	312.21336	280.73212	123.36274	5.70778	0.1816466	0.21296751	2.7771147	20	10 11.3	19.4
308836 2006 RZ ₃₈	16.3	X	76.06192	268.35638	36.15508	11.53118	0.1225659	0.22308632	2.6924899	20	12 4.4	20.4
308837 2006 RW ₄₈	16.8	X	197.25396	72.42723	8.06176	10.27297	0.2522010	0.19091843	2.9870156	20	6 26.0	22.2
308838 2006 RV ₅₂	16.6	X	300.98294	223.90928	192.12122	5.82020	0.0433580	0.21128621	2.7918277	20	10 17.5	20.3
308839 2006 RY ₅₅	17.1	X	80.26283	125.87777	30.81431	5.66054	0.0564460	0.25941818	2.4348326	20	5 20.9	20.2
308840 2006 RK ₅₆	16.7	X	325.34104	309.38139	98.31523	1.31510	0.0669006	0.21468571	2.7622774	20	11 10.8	20.0
308841 2006 RV ₅₆	16.8	X	8.97822	9.22505	18.74262	5.40375	0.1666989	0.21985821	2.7187812	20	—	—
308842 2006 RW ₅₇	16.9	X	14.65075	267.22575	118.81218	2.09580	0.1378627	0.22295549	2.6935431	20	—	—
308843 2006 RA ₆₁	16.7	X	336.62585	99.78588	270.37292	6.74534	0.2105025	0.21178614	2.7874325	20	10 6.7	19.5
308844 2006 RP ₆₁	16.7	X	80.11714	167.25857	168.89840	3.50376	0.0651945	0.22927848	2.6437914	20	—	—
308845 2006 RF ₆₂	16.9	X	235.25204	150.03679	207.75479	5.90561	0.1133370	0.26310413	2.4120387	20	4 25.5	20.3
308846 2006 RL ₇₅	16.6	X	341.96133	341.37793	14.32242	5.97312	0.0456837	0.21055481	2.7982892	20	9 26.8	20.2
308847 2006 RU ₇₆	17.1	X	356.18908	41.40583	27.27808	4.50661	0.0620404	0.22680203	2.6630016	20	—	—
308848 2006 RP ₇₇	16.4	X	17.59750	203.78744	169.93478	6.12900	0.0470394	0.22105711	2.7089421	20	12 11.5	20.0
308849 2006 RF ₈₀	17.2	X	326.14509	233.26325	160.81045	3.52704	0.1069540	0.21406699	2.7675974	20	10 25.4	20.4
308850 2006 RS ₈₆	16.8	X	191.28326	146.52552	10.05259	4.32592	0.0073592	0.21199553	2.7855967	20	10 7.8	20.7
308851 2006 RZ ₈₆	16.6	X	322.84790	13.91241	8.40036	3.48054	0.1010290	0.21091926	2.7950649	20	10 1.7	19.7
308852 2006 RW ₈₈	16.6	X	262.41163	216.68080	242.55734	2.45190	0.0527011	0.21298676	2.7771038	20	10 18.5	20.1
308853 2006 RZ ₉₅	16.2	X	263.71524	107.30251	11.46180	5.17279	0.1185415	0.21410945	2.7672315	20	11 4.7	19.8
308854 2006 RG ₁₀₂	15.9	X	2.22017	120.42505	235.58230	12.39496	0.2077106	0.21599555	2.7510988	20	11 14.8	18.8
308855 2006 RE ₁₀₄	16.4	X	317.57469	273.88753	154.43045	6.09768	0.1270067	0.21749785	2.7384158	20	11 27.3	19.4
308856 Daniket	17.3	X	238.53030	325.37372	191.94000	8.71955	0.0537180	0.22023875	2.7156485	20	12 3.5	21.1
308857 2006 RX ₁₁₄	17.0	X	343.47698	181.69157	194.06316	1.48408	0.0450535	0.21389967	2.7690405	20	10 25.6	20.5
308858 2006 RB ₁₂₁	16.8	X	310.49534	22.58336	29.29755	4.55638	0.0640109	0.21297332	2.7770642	20	10 24.2	20.2
308859 2006 SG ₁	16.1	X	293.37735	76.68952	348.18035	8.46479	0.1627552	0.21239956	2.7820631	20	10 1.9	19.3
308860 2006 SJ ₁	16.1	X	127.26994	229.17678	222.47679	1.74012	0.1775934	0.18343526	3.0677090	20	5 10.7	21.0
308861 2006 SV ₄	16.5	X	10.97752	150.48173	197.88823	8.54866	0.1572562	0.21572502	2.7533983	20	11 13.4	19.7
308862 2006 SP ₅	16.6	X	70.63148	350.84864	20.86313	7.94499	0.1950262	0.23019498	2.6367694	20	—	—
308863 2006 SW ₆	16.2	X	78.13371	132.49681	301.98327	6.91585	0.1408441	0.24062718	2.5599978	20	2 8.2	19.2
308864 2006 SD ₁₃	16.0	X	291.30077	203.20564	200.10676	8.10693	0.2278428	0.20928476	2.8095988	20	8 17.6	19.5
308865 2006 SB ₁₅	16.7	X	351.50799	51.53080	322.24365	3.97222	0.1663396	0.21555023	2.7548866	20	11 12.8	19.7
308866 2006 SU ₁₅	15.3	X	192.54054	10.24328	323.61847	4.26574	0.1160237	0.17744450	3.1363728	20	2 18.7	20.3
308867 2006 SD ₂₃	16.0	X	22.17730	227.60866	111.91916	10.33066	0.1688687	0.21718310	2.7410609	20	11 22.7	19.5
308868 2006 SY ₂₅	15.1	X	252.56551	347.35428	324.19275	11.81680	0.1113165	0.18664586	3.0324278	20	3 16.8	19.8
308869 2006 SS ₃₁	16.8	X	82.36469	107.11897	197.60281	4.23485	0.0940345	0.22194422	2.7017188	20	12 10.4	20.7
308870 2006 SX ₃₅	16.8	X	339.87898	222.68922	129.21368	8.82735	0.2316041	0.21045392	2.7991835	20	9 24.7	19.2
308871 2006 SW ₃₈	16.5	X	309.18981	202.71894	217.59848	3.09864	0.1583259	0.21393947	2.7686971	20	10 27.5	19.5
308872 2006 SB ₄₂	16.1	X	5.11499	287.45035	72.68497	6.11113	0.1735167	0.21657415	2.7461966	20	11 21.4	19.1
308873 2006 SO ₆₀	16.6	X	256.23649	326.97058	107.84929	7.30907	0.2634391	0.20288393	2.8683862	20	8 9.8	20.8
308874 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>
308881 2006 SW ₉₂	17.1	X	40.07115	114.42106	200.41408	3.91112	0.0607878	0.21181025	2.7872210	20	10 26.7	20.9
308882 2006 SL ₉₆	16.1	X	291.33904	41.11143	24.47782	12.96980	0.1239561	0.20924713	2.8099356	20	10 7.9	19.6
308883 2006 SR ₁₀₃	16.9	X	239.62350	231.54462	2.38173	1.98101	0.1418931	0.23968696	2.5666882	20	—	—
308884 2006 ST ₁₀₉	16.3	X	289.80968	227.24549	198.89073	9.34999	0.1298710	0.21315087	2.7755218	20	10 3.9	19.6
308885 2006 SS ₁₃₃	16.9	X	342.13767	105.63032	253.96177	3.90737	0.1790225	0.21188825	2.7865369	20	10 4.2	19.7
308886 2006 SE ₁₃₉	16.3	X	91.84799	66.38863	270.67962	12.93072	0.1235246	0.23197437	2.6232683	20	—	—
308887 2006 SY ₁₄₀	16.4	X	9.14696	305.05059	111.43838	9.91798	0.2098288	0.22384748	2.6863829	20	—	—
308888 2006 SE ₁₄₄	17.0	X	196.35013	207.67056	263.54128	0.93228	0.0187895	0.20225400	2.8743389	20	8 13.9	21.0
308889 2006 SV ₁₅₀	16.8	X	278.54180	65.13142	329.34414	1.22065	0.0727050	0.20242397	2.8727297	20	8 12.6	20.5
308890 2006 SU ₁₅₁	16.5	X	166.08361	276.14532	319.18246	1.28312	0.1446268	0.22323250	2.6913144	20	12 9.2	20.6
308891 2006 SY ₁₆₀	16.6	X	231.80465	345.96509	164.67208	4.84596	0.0362660	0.21591111	2.7518160	20	11 18.5	20.3
308892 2006 SC ₁₆₂	16.6	X	104.30591	95.13134	164.97698	2.34407	0.0282926	0.21588356	2.7520501	20	11 3.1	20.4
308893 2006 SL ₁₆₄	16.0	X	324.33818	150.02894	292.66148	12.42963	0.1476349	0.22521977	2.6754594	20	—	—
308894 2006 SA ₁₆₈	17.2	X	315.87378	60.16345	347.35304	6.18346	0.0427751	0.21545142	2.7557288	20	10 25.5	20.8
308895 2006 ST ₁₇₆	16.9	X	324.87386	75.29801	122.33508	0.37742	0.0613344	0.24685711	2.5167435	20	1 25.4	19.9
308896 2006 SF ₁₈₁	17.0	X	48.15866	130.05567	189.99896	4.10145	0.0925302	0.21806335	2.7336795	20	11 19.2	20.6
308897 2006 SY ₁₈₃	17.4	X	326.58386	15.64969	31.16795	5.0780	0.0673084	0.21541111	2.7560726	20	11 11.3	20.7
308898 2006 SU ₁₈₄	16.8	X	256.91933	239.35262	192.83795	1.53175	0.0541312	0.20513566	2.8473571	20	9 4.9	20.7
308899 2006 SL ₁₉₈	18.1	X	221.54208	213.17269	173.23493	16.54810	0.3739078	0.40830746	1.7994696	20	5 4.7	21.4
308900 2006 SB ₁₉₉	16.8	X	27.40856	107.40881	222.84896	2.01521	0.1010920	0.21538087	2.7563305	20	11 4.6	20.3
308901 2006 SB ₂₀₃	16.9	X	13.31973	194.71631	182.06456	6.21077	0.0578669	0.22154546	2.7049598	20	12 11.2	20.4
308902 2006 SM ₂₀₆	16.8	X	308.09874	321.64534	86.28526	0.52783	0.0644243	0.21085444	2.7956376	20	10 15.2	20.3
308903 2006 SV ₂₃₁	17.0	X	244.26704	194.31037	289.74503	3.29610	0.0509638	0.21551214	2.7552112	20	10 26.6	20.8
308904 2006 SK ₂₃₂	16.9	X	329.32283	143.03751	280.91139	2.48811	0.0737234	0.22015760	2.7163158	20	12 9.3	20.0
308905 2006 SK ₂₃₄	16.6	X	55.19388	53.49315	251.16137	3.86066	0.1498488	0.21785644	2.7354101	20	11 15.3	20.5
308906 2006 SY ₂₃₄	16.9	X	334.36191	105.37851	273.53963	2.60360	0.1079965	0.21308139	2.7761251	20	10 15.8	20.1
308907 2006 ST ₂₃₆	16.9	X	39.03618	212.16404	157.06132	2.77798	0.0422439	0.22698625	2.6615605	20	—	—
308908 2006 SW ₂₅₄	17.2	X	350.85894	279.57665	74.27020	0.60213	0.0797710	0.21089119	2.7953129	20	10 8.8	20.4
308909 2006 SQ ₂₆₁	16.3	X	313.77964	23.91355	23.80124	9.84444	0.2140942	0.21008958	2.8024189	20	10 13.5	18.9
308910 2006 SM ₂₆₄	17.5	X	10.86666	189.60748	337.58075	6.59317	0.0558224	0.24627247	2.5207250	20	2 21.7	20.2
308911 2006 SW ₂₆₅	16.3	X	129.16569	83.14177	9.96392	10.58647	0.0391367	0.18220031	3.0815554	20	4 27.7	20.8
308912 2006 SZ ₂₆₈	16.9	X	335.87632	66.70473	279.48123	4.55190	0.0861887	0.20496463	2.8489409	20	8 31.6	20.3
308913 2006 SZ ₂₇₃	16.8	X	287.75665	326.92536	67.99563	2.81635	0.1174946	0.19995212	2.8963566	20	8 20.9	20.4
308914 2006 SM ₂₈₆	16.1	X	47.36794	265.52882	111.48336	13.91381	0.2043719	0.22482472	2.6785926	20	—	—
308915 2006 SG ₂₉₁	16.0	X	29.14499	263.19930	77.21408	14.66179	0.2273012	0.21985581	2.7188010	20	12 10.0	19.4
308916 2006 SD ₂₉₂	14.9	X	127.16035	24.40468	59.93783	32.26366	0.3049073	0.17798976	3.1299643	20	5 14.7	20.3
308917 2006 SH ₂₉₆	16.7	X	170.11006	26.04948	208.70750	3.07659	0.1140787	0.22619481	2.6677653	20	12 14.9	20.8
308918 2006 SD ₃₀₅	16.3	X	27.98997	217.42848	95.19016	4.56573	0.0857243	0.21238710	2.7821719	20	10 12.9	19.8
308919 2006 SC ₃₁₆	17.2	X	50.51883	187.10300	129.90010	2.68625	0.0681012	0.21571001	2.7535260	20	11 14.4	21.0
308920 2006 SO ₃₁₈	16.5	X	34.19254	310.46670	45.48120	6.75739	0.0514447	0.21933016	2.7231432	20	12 9.6	20.1
308921 2006 SK ₃₁₉	16.8	X	43.06182	140.90991	152.02937	4.86150	0.0317058	0.20857143	2.8160012	20	9 28.6	20.5
308922 2006 SA ₃₂₃	16.9	X	91.17758	183.22588	111.51474	3.08376	0.0683635	0.21994563	2.7180607	20	12 4.9	20.9
308923 2006 SS ₃₂₅	17.1	X	286.38899	334.09305	87.35149	1.75590	0.0573351	0.20887409	2.8132803	20	10 2.5	20.7
308924 2006 SR ₃₃₁	17.0	X	331.48535	324.24487	65.93317	0.91744	0.0781698	0.21418588	2.7665732	20	10 27.8	20.4
308925 2006 SB ₃₃₃	17.2	X	25.28077	147.76955	168.85760	4.49468	0.0676675	0.21145828	2.7903130	20	10 10.4	20.7
308926 2006 SF ₃₃₄	16.8	X	267.69135	304.75059	154.99928	4.18314	0.0723433	0.21340860	2.7732867	20	10 25.9	20.4
308927 2006 SG ₃₃₆	17.0	X	340.62528	318.14196	70.41983	4.89276	0.0800609	0.21478882	2.7613933	20	11 9.8	20.2
308928 2006 SE ₃₄₉	16.2	X	313.09351	59.12677	356.23159	13.28881	0.0951793	0.21556530	2.7547582	20	10 26.7	19.7
308929 2006 SE ₃₅₂	16.3	X	25.48311	102.82326	235.73883	7.00124	0.1640342	0.21632836	2.7482764	20	11 22.4	19.7
308930 2006 SW ₃₅₂	16.2	X	3.69595	340.62527	0.00918	9.82865	0.1713661	0.21169615	2.7882224	20	10 18.1	19.2
308931 2006 SM ₃₆₅	16.8	X	9.21490	266.22593	133.83899	6.14113	0.0674443	0.22166058	2.7040231	20	—	—
308932 2006 SO ₃₆₇	15.6	X	8.35987	248.29881	110.66319	12.99103	0.2151492	0.21769435	2.7367677	20	12 3.9	18.8
308933 2006 SQ ₃₇₂	7.8	X	0.15451	122.42761	197.35888	19.46493	0.9760853	0.00003070	1010.0997957	20	10 4.4	22.5
308934 2006 SV ₃₇₂	16.3	X	288.46339	227.30366	224.83485	8.89836	0.1677465	0.21351555	2.7723605	20	11 1.5	19.3
308935 2006 SK ₃₈₃	16.3	X	244.52989	342.31535	133.00856	6.09479	0.1169841	0.21056499	2.7981991	20	10 9.4	20.2
308936 2006 SL ₃₉₁	16.7	X	62.96743	297.90794	21.19089	3.63191	0.1178018	0.22050853	2.7134331	20	12 8.3	20.5
308937 2006 SN ₃₉₃	16.9	X	88.98915	156.79790	70.04609	7.12169	0.1086933	0.26928963	2.3749600	20	9 22.7	20.2
308938 2006 SF ₃₉₅	17.0	X	262.20516	354.54879	193.50842	13.86585	0.1902118	0.23165659	2.6256668	20	—	—
308939 2006 ST ₃₉₇	17.0	X	286.60118	167.49940	234.58406	4.98220	0.0690920	0.20439636	2.8542189	20	9 1.4	20.8
308940 2006 SS ₄₀₀	16.7	X	126.13227	229.34657	35.25453	5.69147	0.0297905	0.21946771	2.7220053	20	12 3.9	20.6
308941 2006 SE ₄₀₆	17.0	X	312.79523	253.80969	119.37600	3.18902	0.0801423	0.20509603	2.8477239	20	9 4.3	20.5
308942 2006 SV ₄₀₉	16.3	X	58.65089	308.00696	12.71523	9.14863	0.0648528	0.22040308	2.7142985	20	11 26.6	20.2
308943 2006 SL ₄₁₂	16.4	X	190.61040	33.33764	42.54284	5.99938	0.1191305	0.18593664	3.0401340	20	6 17.7	21.3
308944 2006 SO ₄₁₃	15.9	X	245.99572	234.57433	116.59732	10.41783	0.1285120	0.18884294	3.0088617	20	5 3.9	20.6
308945 2006 TY ₁	17.2	X	318.73007	122.09562	265.27396	1.61463	0.0950016	0.20887799	2.8132453	20	9 30.8	20.4
308946 2006 TZ ₁₁	16.8	X	299.37886	133.46364	239.22593	4.89665	0.0897065	0.19955015	2.9002449	20	8 8.8	20.7
308947 2006 TV ₁₃	16.3	X	315.69386	354.86125	52.21607	15.27728	0.1581505	0.21258525	2.7804428	20	10 25.2	19.3
308948 2006 TC ₁₄	16.6	X	339.02165	285.03606	125.33624	4.23361	0.1921160	0.21677917	2.7444649	20	12 14.8	19.3
308949 2006 TG ₁₅	16.8	X	124.09143	217.74615	344.65267	1.38434	0.0233723	0.20544885	2.8444627	20	9 11.8	20.7
308950 2006 TJ ₁₆	16.4	X	315.04912	218.50279	196.93516	3.28495	0.0885417	0.21298202	2.7769885	20	11 4.4	19.7
308951 2006 TX ₁₆	17.0	X	350.78052	139.05943	188.54107	2.36573	0.1803912	0.27879053	2.3206913	20	9 23.3	18.7
308952 2006 TF ₂₄	16.4	X	353.05944	95.14375	273.33209	2.64243	0.1103822	0.21252947	2.7809293	20	11 2.5	19.6
308953 2006 TG ₃₂	16.4	X	136.86688	274.77000	210.11508	9.22112	0.0303556</					

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>
308961 2006 TJ ₄₇	16.3	X	230.30754	97.31681	204.84748	3.99767	0.1096539	0.24600992	2.5225181	20	2 9.1	20.2
308962 2006 TU ₅₀	16.8	X	322.42896	119.56706	220.49154	1.40375	0.0630662	0.19721362	2.9231074	20	8 3.8	20.5
308963 2006 TE ₆₁	17.1	X	274.21105	5.07542	54.44469	2.26632	0.2347246	0.20420860	2.8559682	20	8 15.9	20.9
308964 2006 TH ₆₅	17.1	X	252.51231	12.04252	345.47342	12.09003	0.0912699	0.26553181	2.3973145	20	5 13.2	20.6
308965 2006 TG ₆₇	16.0	X	308.83956	203.68845	247.00675	12.82703	0.1615639	0.21811505	2.7332475	20	12 9.8	18.7
308966 2006 TD ₆₉	16.1	X	274.89234	38.15911	50.68554	14.78670	0.1522395	0.21153026	2.7896799	20	10 13.9	19.7
308967 2006 TH ₇₀	16.8	X	48.67679	19.33178	299.62231	1.75472	0.1732725	0.21574090	2.7532632	20	11 28.2	20.5
308968 2006 TL ₇₄	16.0	X	317.37376	28.29472	49.93953	14.30504	0.1454870	0.21610679	2.7501546	20	12 6.5	19.1
308969 2006 TK ₇₇	16.0	X	358.58057	303.97124	85.28081	14.42909	0.1954433	0.21659039	2.7460594	20	12 22.0	19.0
308970 2006 TP ₈₇	17.0	X	354.44417	74.27350	286.75424	2.20285	0.0764658	0.20927426	2.8096928	20	10 22.0	20.4
308971 2006 TJ ₉₆	15.4	X	276.96582	18.62865	308.17609	5.32271	0.0947518	0.18906554	3.0064995	20	5 7.3	19.7
308972 2006 TA ₉₇	16.4	X	299.78256	327.50474	59.72006	12.80882	0.0550502	0.20087769	2.8874530	20	9 11.9	20.4
308973 2006 TH ₉₉	16.7	X	313.09095	305.69047	40.09340	11.43801	0.0742116	0.19957613	2.8999932	20	8 1.3	20.6
308974 2006 TQ ₉₉	16.9	X	56.26671	268.45395	47.02554	4.49138	0.0895801	0.21558387	2.7546000	20	11 21.3	20.7
308975 2006 TY ₉₉	16.2	X	248.90851	100.73683	17.18918	10.07255	0.0692360	0.21033772	2.8002144	20	10 21.3	19.9
308976 2006 TH ₁₀₂	18.0	X	351.28196	97.51498	18.86991	4.04362	0.1029309	0.30225659	2.1989678	20	—	—
308977 2006 TU ₁₀₃	16.1	X	269.60302	53.94542	44.50456	6.88345	0.0257410	0.21090668	2.7951760	20	10 31.4	19.7
308978 2006 TJ ₁₁₄	16.1	X	154.71072	321.17277	122.99196	11.05664	0.1077092	0.18424782	3.0586831	20	5 26.1	21.0
308979 2006 TZ ₁₁₆	16.5	X	117.12265	151.51919	101.70905	5.87966	0.0617312	0.21620171	2.7493496	20	11 12.9	20.5
308980 2006 TB ₁₁₈	16.2	X	256.48738	253.92020	148.91296	12.58589	0.0586299	0.19665524	2.9286380	20	7 25.6	20.4
308981 2006 TM ₁₂₃	15.7	X	215.41319	315.31113	91.10477	10.78693	0.0839112	0.18028394	3.1033542	20	6 9.2	20.5
308982 2006 TK ₁₂₄	16.2	X	245.30900	325.00317	11.11313	9.07810	0.1109853	0.18454513	3.0553971	20	4 11.4	20.7
308983 2006 TY ₁₂₈	16.6	X	279.12665	4.89168	43.87212	11.98523	0.0931439	0.20323257	2.8651048	20	9 5.3	20.5
308984 2006 TB ₁₃₀	15.9	X	141.30184	67.12121	67.99971	13.19195	0.1956955	0.17895800	3.1186644	20	7 17.6	21.2
308985 2006 UA ₁	16.4	X	289.81037	272.81273	129.78934	2.98996	0.0645382	0.20378129	2.8599593	20	9 10.7	20.0
308986 2006 UK ₁₀	15.9	X	175.01767	264.25191	202.38037	9.90502	0.0685486	0.19264193	2.9691730	20	7 9.6	20.6
308987 2006 UX ₁₀	16.5	X	33.30700	245.44338	41.23773	8.31678	0.0985783	0.20471025	2.8513005	20	9 18.3	20.2
308988 2006 UE ₁₃	16.8	X	265.98402	266.92046	135.73691	3.00583	0.0632507	0.19837612	2.9116765	20	8 7.3	20.8
308989 2006 UK ₁₆	16.2	X	344.01223	231.05077	66.32709	12.49175	0.0715007	0.19264178	2.9691745	20	7 10.4	20.0
308990 2006 UY ₁₇	16.6	X	346.27465	161.45969	215.05500	3.78853	0.0803834	0.21181651	2.7871660	20	11 1.0	19.9
308991 2006 UP ₂₀	16.5	X	73.69611	26.88204	238.15172	4.16516	0.1218122	0.21008096	2.8024954	20	10 12.2	20.5
308992 2006 UX ₂₄	15.7	X	157.83237	203.41095	215.02557	16.97957	0.2461485	0.17981092	3.1087945	20	5 1.7	21.0
308993 2006 UD ₃₂	16.7	X	253.50774	36.69526	43.47694	2.59017	0.0419996	0.20416373	2.8563866	20	9 14.1	20.6
308994 2006 UE ₃₅	16.9	X	329.47989	145.61593	216.68921	2.73962	0.0878986	0.20584230	2.8408369	20	9 13.6	20.3
308995 2006 UY ₃₆	17.1	X	293.23807	114.03404	280.86745	0.96337	0.0712512	0.20291458	2.8680973	20	9 3.0	20.8
308996 2006 UV ₃₇	15.9	X	117.76564	126.88621	38.27596	4.53023	0.0631159	0.19141626	2.9818343	20	7 21.8	20.2
308997 2006 UD ₃₉	16.4	X	169.14375	169.41493	359.44172	1.71381	0.1718896	0.20205608	2.8762156	20	9 20.2	21.0
308998 2006 UJ ₃₉	16.3	X	270.40955	325.27500	28.67802	2.20547	0.1583187	0.19277772	2.9677785	20	5 26.5	20.5
308999 2006 UJ ₄₂	16.8	X	253.74192	47.71974	73.98200	3.50577	0.0131365	0.21124598	2.7921821	20	11 11.4	20.5
309000 2006 UH ₄₄	17.3	X	120.03546	216.33810	217.85348	1.86609	0.0451403	0.24697501	2.5159425	20	3 21.9	20.7
309001 2006 UG ₄₉	16.7	X	8.78968	120.04690	270.52010	4.71852	0.0480945	0.22327633	2.6909622	20	12 21.3	20.1
309002 2006 UG ₅₀	17.2	X	318.34705	329.83266	12.47699	15.43869	0.1515661	0.20152723	2.8812453	20	7 30.1	20.8
309003 2006 UL ₅₁	16.8	X	204.62861	125.76079	68.11913	3.21109	0.0205306	0.21896592	2.7261622	20	12 10.6	20.4
309004 2006 UR ₅₇	17.6	X	332.79068	284.30799	67.52799	3.07021	0.0778093	0.20388990	2.8589435	20	9 7.5	21.1
309005 2006 UW ₇₃	17.2	X	303.20948	130.58399	333.39872	4.69199	0.0750709	0.21930880	2.7233200	20	12 21.9	20.5
309006 2006 UC ₇₇	16.5	X	180.20573	67.33824	7.06792	8.16867	0.2339992	0.18589547	3.0405829	20	6 4.4	21.9
309007 2006 UL ₇₇	16.8	X	323.49776	117.66133	277.25438	3.23605	0.0729779	0.21042723	2.7994202	20	10 19.1	20.2
309008 2006 UM ₇₈	15.6	X	126.70049	87.19659	12.40791	9.92457	0.0539574	0.18265245	3.0764679	20	5 4.7	20.1
309009 2006 UZ ₈₀	16.2	X	0.78319	221.69622	112.56297	3.44752	0.0649218	0.20564181	2.8426830	20	9 27.3	19.8
309010 2006 UB ₈₂	15.8	X	258.62901	358.52695	17.61344	12.03720	0.1087038	0.19292643	2.9662533	20	6 15.9	20.3
309011 2006 UE ₈₃	16.9	X	329.59815	263.93525	110.59282	3.16725	0.0848883	0.20572707	2.8418976	20	10 3.4	20.3
309012 2006 UG ₈₃	16.4	X	99.66573	143.71032	98.67838	3.47870	0.0362394	0.20438313	2.8543421	20	10 6.1	20.5
309013 2006 UM ₉₀	16.9	X	286.19387	33.64243	21.20034	2.12531	0.0580878	0.20348387	2.8627454	20	9 22.1	20.5
309014 2006 UQ ₉₀	17.2	X	139.17387	16.93623	27.71585	3.88069	0.1506954	0.24500767	2.5293927	20	3 20.5	21.0
309015 2006 UZ ₉₇	16.6	X	48.41516	182.74064	109.87414	3.14133	0.0332906	0.20656913	2.8341692	20	10 5.5	20.4
309016 2006 UH ₁₀₃	16.4	X	144.10223	46.56569	67.86107	3.08944	0.0311684	0.18735848	3.0247337	20	6 13.8	20.7
309017 2006 UC ₁₁₁	17.0	X	292.42310	149.14111	282.97868	3.15021	0.1922645	0.21317225	2.7753362	20	10 6.6	20.2
309018 2006 US ₁₁₂	17.1	X	81.37863	271.61683	7.84240	3.60488	0.0704798	0.21384277	2.7695316	20	11 2.8	21.0
309019 2006 UO ₁₁₃	16.6	X	123.06338	17.01673	211.60635	11.47020	0.0440003	0.21066775	2.7972890	20	10 15.6	20.7
309020 2006 UY ₁₁₆	17.0	X	320.89904	294.67109	121.16870	0.59215	0.0639589	0.21428838	2.7656908	20	11 14.6	20.4
309021 2006 UU ₁₁₉	16.8	X	340.21121	273.46121	59.21068	2.94755	0.0741863	0.20270852	2.8700407	20	8 23.7	20.3
309022 2006 UM ₁₂₄	17.0	X	352.09455	24.95036	358.62742	5.27506	0.0302740	0.21779501	2.7359244	20	11 14.9	20.7
309023 2006 UH ₁₃₀	17.0	X	7.78641	1.66688	284.57839	1.10234	0.1409451	0.19982551	2.8975800	20	8 6.7	20.3
309024 2006 UO ₁₃₀	17.1	X	90.49842	236.41903	15.33149	2.00861	0.0248150	0.20691591	2.8310016	20	10 3.9	21.0
309025 2006 UQ ₁₃₃	16.7	X	300.60767	148.70130	210.42768	7.60615	0.0457831	0.19743177	2.9209538	20	7 28.2	20.8
309026 2006 UA ₁₃₄	16.9	X	230.85242	257.08352	203.13922	5.61411	0.0476715	0.20247077	2.8722870	20	9 7.3	21.1
309027 2006 UD ₁₄₀	16.1	X	223.14454	323.79810	20.14330	9.33948	0.1061714	0.17901325	3.1180226	20	3 31.8	21.0
309028 2006 UR ₁₄₆	16.5	X	337.42217	86.03870	328.67783	6.95565	0.1502717	0.22517624	2.6758042	20	12 16.7	19.5
309029 2006 UP ₁₅₄	16.5	X	5.70459	81.59623	279.90851	5.04598	0.0238910	0.21600311	2.7510345	20	11 3.9	20.2
309030 2006 UZ ₁₅₅	16.6	X	343.15949	273.29136	89.18877	5.46241	0.0828475	0.21073407	2.7967022	20	10 11.1	20.0
309031 2006 UH ₁₆₀	16.2	X	276.70572	333.34441	84.21819	3.26155	0.0440051	0.20599155	2.8394645	20	9 16.1	20.0
309032 2006 UT ₁₇₂	17.3	X	33.02487	93.46177	56.25675	2.34936	0.1584250	0.24517785	2.5282221	20	3 8.5	19.6
309033 2006 UF ₁₇₆	15.9	X	213.37134	121.53765	46.92189	13.86146						

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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>
309041 2006 UR ₂₂₁	16.4	X	317.63024	188.54236	224.58502	7.69729	0.1054757	0.21221362	2.7836879	20	11 4.1	19.6
309042 2006 UR ₂₃₄	16.0	X	144.31710	31.47288	80.71645	10.77773	0.1490099	0.17678238	3.1441993	20	6 18.6	21.1
309043 2006 UW ₂₄₁	16.9	X	16.44367	147.03018	17.07918	6.78889	0.0855582	0.24710887	2.5150338	20	2 27.6	19.7
309044 2006 UB ₂₄₆	17.0	X	158.53924	132.73575	56.98148	0.71684	0.0097728	0.20835744	2.8179289	20	10 8.7	20.7
309045 2006 UH ₂₄₇	16.8	X	268.06954	167.33224	313.77356	0.81454	0.0274131	0.21605123	2.7506261	20	11 27.6	20.2
309046 2006 UY ₂₅₃	17.2	X	301.36961	173.21347	214.33142	1.29329	0.0601256	0.20308211	2.8665197	20	9 6.3	21.0
309047 2006 UB ₂₅₄	16.9	X	345.72202	112.68465	209.22849	0.74549	0.0524574	0.19931219	2.9025529	20	8 15.4	20.6
309048 2006 UG ₂₅₆	15.3	X	114.52008	15.69964	122.87515	16.12704	0.2001064	0.17061710	3.2194944	20	6 27.4	20.5
309049 2006 UY ₂₅₆	17.0	X	266.77893	240.75918	169.01604	2.17950	0.0607875	0.20302992	2.8670110	20	8 18.2	21.0
309050 2006 UB ₂₅₇	16.9	X	277.75866	201.63809	245.90567	4.23055	0.1285009	0.21023085	2.8011633	20	10 12.6	20.4
309051 2006 UW ₂₅₉	17.0	X	98.60331	186.64286	48.79044	2.75004	0.0176375	0.20531699	2.8456804	20	9 23.2	20.9
309052 2006 UU ₂₆₇	17.0	X	131.58906	44.01213	352.00016	5.52115	0.2378161	0.24323549	2.5416637	20	3 10.5	21.0
309053 2006 UM ₂₇₂	15.8	X	105.63280	106.33058	58.17951	9.94877	0.0725941	0.18524447	3.0477024	20	7 6.6	20.3
309054 2006 UY ₂₇₃	16.4	X	235.87662	349.65553	28.81460	4.30220	0.1958531	0.18790932	3.0188196	20	5 16.3	21.3
309055 2006 UX ₂₇₄	16.9	X	20.46006	48.86766	283.97597	2.72840	0.0959629	0.21205210	2.7851013	20	10 26.4	20.5
309056 2006 US ₂₈₂	16.4	X	250.32875	101.12960	350.19289	1.94483	0.0851386	0.20458113	2.8524973	20	9 16.8	20.4
309057 2006 UC ₂₈₄	16.5	X	233.14547	49.14486	229.84849	7.75518	0.1634818	0.24300312	2.5432837	20	1 12.8	20.7
309058 2006 UM ₂₈₄	17.3	X	122.92745	34.60820	30.16599	0.57759	0.1330617	0.24607511	2.5220726	20	3 25.8	20.7
309059 2006 UO ₂₈₄	16.6	X	14.91385	321.92227	1.67998	1.67251	0.0631717	0.20378447	2.8599295	20	10 1.6	20.2
309060 2006 UM ₂₈₆	16.8	X	278.48387	118.40763	215.79307	4.81809	0.2540917	0.19268149	2.9687665	20	4 28.3	21.2
309061 2006 UH ₃₂₀	16.2	X	15.70434	213.91029	78.16932	3.98711	0.0893194	0.19648788	2.9303008	20	8 25.3	19.8
309062 2006 UR ₃₂₄	16.7	X	334.83650	197.34195	115.97123	2.33787	0.0614412	0.19327206	2.9627159	20	7 17.7	20.5
309063 2006 UU ₃₃₁	16.8	X	165.96677	9.67115	187.28384	8.53614	0.1284838	0.21637934	2.7478447	20	10 25.1	21.1
309064 2006 US ₃₃₅	15.8	X	260.02923	52.32722	356.32033	11.60855	0.0566054	0.19834734	2.9119581	20	8 12.3	19.9
309065 2006 UZ ₃₃₈	15.2	X	204.19678	315.07281	91.41691	11.72064	0.0829253	0.17667314	3.1454953	20	5 29.3	20.1
309066 2006 UZ ₃₅₈	16.9	X	238.42111	93.98252	359.17444	1.02861	0.0283591	0.20408285	2.8571412	20	9 12.4	20.8
309067 2006 UB ₃₅₉	16.8	X	309.54879	354.70381	6.59244	1.82476	0.0844174	0.20055159	2.8905821	20	8 12.4	20.3
309068 2006 US ₃₆₀	15.7	X	245.81419	242.98944	252.84774	13.78667	0.0495140	0.21171693	2.7880399	20	11 12.4	19.6
309069 2006 VX ₅	16.9	X	277.62644	333.97306	59.83674	2.84086	0.1286667	0.19786608	2.9166780	20	8 2.3	20.7
309070 2006 WV ₆	16.6	X	348.01586	276.55509	63.14724	3.06393	0.1075520	0.20224062	2.8744657	20	9 15.9	20.0
309071 2006 VM ₇	16.0	X	331.38193	247.04850	62.27337	2.06178	0.1345026	0.19334105	2.9620110	20	7 1.6	19.2
309072 2006 VT ₁₀	16.3	X	272.72250	231.47021	232.90118	3.25615	0.0654365	0.21026225	2.8008844	20	11 6.4	20.0
309073 2006 VP ₂₂	15.8	X	45.47347	164.56012	58.18448	16.26945	0.0195036	0.18812248	3.0165388	20	6 25.3	20.1
309074 2006 VH ₂₃	16.5	X	250.11664	134.00501	227.83591	2.34857	0.0916160	0.18664069	3.0324839	20	5 21.9	20.7
309075 2006 VC ₂₄	16.6	X	73.68650	171.90473	79.90356	3.16129	0.0301103	0.20052767	2.8908119	20	9 14.2	20.6
309076 2006 VA ₃₄	16.4	X	290.96341	332.16626	32.91364	2.43161	0.1136961	0.19621645	2.9330026	20	7 15.7	20.2
309077 2006 VB ₄₂	16.4	X	308.34327	8.32838	80.36822	7.30143	0.1370581	0.21294446	2.7773151	20	12 5.6	19.5
309078 2006 VC ₄₆	16.3	X	258.81985	162.43247	242.96843	10.84306	0.0405711	0.19627073	2.9324618	20	7 31.6	20.5
309079 2006 VB ₅₂	16.9	X	274.42738	224.77582	147.98539	2.85601	0.1172268	0.19665092	2.9286810	20	7 1.5	20.8
309080 2006 VD ₅₆	16.4	X	300.07679	90.42359	230.25603	10.70149	0.1673983	0.19022715	2.9942775	20	5 21.7	20.1
309081 2006 VE ₅₇	16.7	X	211.85522	138.05749	194.32638	1.74596	0.1381271	0.24670858	2.5177535	20	2 28.3	20.7
309082 2006 VL ₆₅	16.4	X	334.93595	290.51192	69.84500	3.03480	0.0813368	0.20253286	2.8716999	20	9 22.2	19.8
309083 2006 VR ₆₅	16.2	X	70.77238	180.90102	65.95589	3.24799	0.0785975	0.19744459	2.9208274	20	9 10.8	20.2
309084 2006 VD ₇₂	17.2	X	212.29793	211.33418	233.89463	1.19004	0.1939176	0.19074697	2.9888052	20	7 16.3	22.1
309085 2006 VU ₇₂	15.6	X	5.73350	182.04121	63.35008	11.74264	0.1222681	0.18347029	3.0673185	20	6 3.5	19.1
309086 2006 VF ₇₄	16.0	X	298.85274	210.84320	145.10855	2.13709	0.2301080	0.19541777	2.9409886	20	6 26.1	19.6
309087 2006 VR ₇₅	15.9	X	231.47671	117.30377	256.20148	10.81984	0.1969220	0.18357389	3.0661645	20	5 5.5	21.0
309088 2006 VB ₈₄	16.5	X	256.40975	38.68714	115.13308	2.57682	0.1131557	0.24294356	2.5436994	20	1 8.4	20.3
309089 2006 VQ ₉₂	17.1	X	231.36101	227.12335	285.94432	5.40684	0.0198088	0.26333620	2.4106214	20	7 5.6	20.5
309090 2006 VW ₉₅	17.6	X	37.79338	70.32375	324.51528	18.75434	0.0967627	0.37070724	1.9191783	20	—	—
309091 2006 VC ₁₀₆	16.6	X	349.03004	319.03780	15.02696	2.02465	0.0726684	0.20290709	2.8681679	20	9 7.7	20.2
309092 2006 VY ₁₂₂	15.9	X	68.39680	185.07683	222.02517	11.54551	0.1824969	0.22961174	2.6412327	20	—	—
309093 2006 VA ₁₂₄	15.8	X	119.58992	139.52538	52.29107	6.47406	0.1291189	0.19308496	2.9646295	20	9 3.7	20.4
309094 2006 VW ₁₃₈	16.2	X	304.89418	238.24435	69.39185	11.10621	0.1864707	0.20518549	3.0150858	20	5 10.2	20.1
309095 2006 VL ₁₃₉	16.8	X	196.92960	139.53445	262.22766	0.84649	0.1120655	0.18126527	3.0921435	20	5 13.3	21.5
309096 2006 VT ₁₆₉	15.8	X	329.15998	57.01443	259.03036	12.39586	0.1121698	0.19050503	2.9913352	20	7 7.1	19.5
309097 2006 VE ₁₇₀	16.8	X	303.16415	112.40116	236.28672	2.61073	0.1113593	0.19317124	2.9637466	20	7 11.1	20.4
309098 2006 VB ₁₇₂	15.6	X	138.76377	215.48947	270.83574	9.26902	0.0678628	0.17763754	3.1341002	20	6 25.3	20.2
309099 2006 WC	16.2	X	264.24785	9.13145	79.58068	7.90781	0.1936882	0.20295345	2.8677311	20	9 19.6	20.1
309100 2006 WS ₁₁	15.3	X	14.92996	347.07742	281.53934	8.85793	0.0693227	0.19013570	2.9952077	20	7 18.1	19.2
309101 2006 WW ₄₂	15.8	X	171.39840	253.03321	224.85587	15.12232	0.0967971	0.18873455	3.0100135	20	7 17.3	20.8
309102 2006 WP ₅₆	15.6	X	62.92696	129.32702	66.04945	9.75243	0.0247504	0.18102128	3.0949215	20	6 13.9	19.8
309103 2006 WR ₆₃	15.9	X	250.30730	348.62732	37.97503	10.43449	0.0801890	0.18980915	2.9986420	20	6 23.9	20.3
309104 2006 WF ₇₁	16.7	X	314.23303	38.84177	341.90923	1.31432	0.0772805	0.20301040	2.8671947	20	9 15.4	20.3
309105 2006 WK ₇₃	16.3	X	101.71806	102.41763	56.74103	8.89047	0.1996450	0.18140927	3.0905071	20	7 10.5	21.1
309106 2006 WZ ₈₃	16.5	X	128.34585	327.93221	78.92088	8.70131	0.1098610	0.24400542	2.5363143	20	3 10.9	20.2
309107 2006 WR ₈₅	15.5	X	12.19783	155.06854	79.25208	29.45520	0.1305304	0.17962662	3.1109205	20	6 2.9	19.1
309108 2006 WZ ₈₈	15.6	X	135.21093	193.68906	279.82425	8.39609	0.0408062	0.17877893	3.1207465	20	6 2.4	20.1
309109 2006 WM ₉₃	16.3	X	341.12086	266.26412	71.89005	12.91337	0.0645014	0.19909181	2.9046945	20	9 6.9	20.2
309110 2006 WW ₁₀₄	16.0	X	293.11471	269.79429	73.93895	10.67490	0.0408560	0.18944741	3.0024580	20	7 8.1	20.1
309111 2006 WR ₁₁₃	16.4	X	272.24813	325.11847	89.44462	10.36682	0.1132191	0.19968721	2.8989177	20	8 28.3	20.4
309112 2006 WW ₁₁₈	16.3	X	123.32529	65.29918	345.83092	12.04545	0.1698574	0.24368558	2.5385331	20	3 12.4	19.8
309113 2006 WP ₁₂₀	16.8	X	156.90366	181.82081	206.35908	3.86931	0					

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
309121 2006 WW ₁₇₇	15.9	X	208.52274	171.86471	196.89110	10.35918	0.0102793	0.17715774	3.1397565	20	4 20.2	20.4
309122 2006 WQ ₁₇₈	16.1	X	252.84720	317.33982	55.27185	10.17132	0.0493096	0.19018076	2.9947346	20	6 12.6	20.3
309123 2006 WH ₁₈₇	15.7	X	307.95991	279.27088	95.58403	12.50561	0.0639784	0.19916315	2.9040008	20	9 4.1	19.6
309124 2006 WM ₂₀₃	15.7	X	284.68893	255.69979	65.95296	10.08458	0.0979306	0.18264319	3.0765718	20	5 13.4	19.9
309125 2006 WY ₂₀₃	16.8	X	43.63814	108.59347	95.65433	4.33716	0.0911768	0.24606561	2.5221376	20	6 9.0	19.7
309126 2006 XF ₇	16.6	X	224.40358	18.47385	60.65534	4.45081	0.1749156	0.19047169	2.9916842	20	7 22.6	21.3
309127 2006 XR ₉	16.4	X	133.09854	100.90178	8.77414	1.85186	0.0828498	0.17594803	3.1541314	20	5 30.0	21.2
309128 2006 XY ₁₈	16.0	X	111.86956	243.90358	320.07968	5.12834	0.1226867	0.18948601	3.0020502	20	9 5.5	20.7
309129 2006 XM ₂₄	15.7	X	282.62014	190.36773	175.98734	3.52567	0.2312645	0.19243679	2.9712827	20	6 16.6	19.8
309130 2006 XU ₂₅	16.5	X	168.33618	227.79613	145.08354	1.66832	0.1642459	0.24520084	2.5280641	20	3 10.2	20.5
309131 2006 XG ₂₈	16.0	X	181.25365	5.30291	65.75676	6.27626	0.1679619	0.18185742	3.0854277	20	6 2.5	21.0
309132 2006 XP ₃₁	16.2	X	283.20849	290.11767	93.53636	4.78910	0.1041381	0.19367419	2.9586134	20	7 30.9	20.0
309133 2006 XU ₃₄	15.3	X	30.00529	148.43457	79.19795	13.28947	0.0098427	0.17983056	3.1085681	20	6 10.9	19.4
309134 2006 XB ₃₅	15.2	X	99.62475	68.15019	64.32858	23.82583	0.1478698	0.17055457	3.2202813	20	5 28.3	20.0
309135 2006 XT ₃₇	15.7	X	293.39638	67.57348	275.44057	9.44322	0.0687425	0.18321742	3.0701402	20	6 25.2	19.8
309136 2006 XQ ₃₈	16.4	X	97.02413	336.28747	96.50892	15.18885	0.1593254	0.23488854	2.6015260	20	3 16.8	20.1
309137 2006 XJ ₄₂	15.1	X	123.09663	84.54757	68.02022	18.03397	0.1235138	0.17917208	3.1161796	20	7 16.9	20.1
309138 2006 XY ₄₂	17.0	X	103.35426	21.67026	108.01207	3.33709	0.1211066	0.24471350	2.5314193	20	5 26.5	20.4
309139 2006 XQ ₅₁	9.8	X	100.00511	134.07184	233.96149	31.61196	0.3777590	0.01568481	15.8058048	20	2 2.7	22.6
309140 2006 XY ₅₄	15.8	X	196.19439	316.21538	38.57436	5.30957	0.2283682	0.24471469	2.5314111	20	3 15.3	20.1
309141 2006 XE ₅₉	15.5	X	183.27157	8.84365	91.95544	9.91425	0.0252655	0.18366157	3.0651885	20	7 14.2	19.9
309142 2006 XF ₆₀	16.3	X	123.74556	42.59768	88.09237	7.33201	0.0938683	0.17572117	3.1568455	20	6 16.4	21.0
309143 2006 XP ₆₆	15.0	X	72.97864	240.19313	297.39087	11.19752	0.0960909	0.17200544	3.2021470	20	6 15.3	19.5
309144 2006 YH ₄	15.8	X	164.08020	179.12377	274.75473	8.74091	0.0553042	0.17587251	3.1550342	20	6 12.4	20.4
309145 2006 YR ₆	15.8	X	164.79388	27.18789	76.95695	9.29172	0.0841530	0.18285813	3.0741604	20	6 26.7	20.5
309146 2006 YQ ₇	15.2	X	303.05139	112.11448	236.41193	22.69502	0.1763794	0.19267747	2.9688079	20	6 27.3	19.2
309147 2006 YD ₁₃	15.3	X	295.75797	19.65424	276.09049	8.33860	0.0737317	0.17760760	3.1344524	20	4 24.5	19.7
309148 2006 YJ ₁₆	16.3	X	124.41792	46.62429	104.99335	3.43997	0.0562843	0.17837836	3.1254167	20	7 9.8	20.9
309149 2006 YR ₂₇	15.4	X	247.77315	255.62258	97.37821	17.35080	0.1367545	0.17799509	3.1299018	20	5 9.8	20.4
309150 2006 YM ₃₇	15.7	X	105.19552	43.34587	99.62867	13.57898	0.2010987	0.17140533	3.2096167	20	6 23.4	20.6
309151 2006 YB ₃₈	15.6	X	85.07584	53.42261	101.46735	12.34674	0.0392120	0.17061009	3.2195826	20	5 26.8	20.2
309152 2006 YW ₅₁	17.0	X	223.18473	358.33044	41.54528	1.91597	0.2799905	0.18257741	3.0773108	20	5 26.2	22.3
309153 2006 YV ₅₅	15.5	X	125.22591	47.52654	79.00724	17.53652	0.1813343	0.17452912	3.1712035	20	6 19.9	20.6
309154 2007 AF ₄	16.1	X	201.55962	302.23310	95.92979	0.01457	0.1903961	0.18049379	3.1009485	20	5 11.2	21.1
309155 2007 AR ₄	16.4	X	200.31735	304.25799	107.92132	2.35678	0.1680248	0.17966173	3.1105152	20	5 27.9	21.5
309156 2007 AS ₄	15.9	X	226.19867	254.93625	106.64863	11.79114	0.1099449	0.17450203	3.1715317	20	4 29.1	21.0
309157 2007 AV ₇	17.2	X	259.30448	333.25666	309.33785	18.75309	0.0257618	0.38075370	1.8852689	20	2 4.6	18.8
309158 2007 AW ₉	15.5	X	166.11135	127.67106	311.28758	8.11416	0.0658073	0.17431199	3.1738364	20	5 25.9	20.4
309159 2007 AD ₁₇	15.4	X	183.39689	358.71777	80.73540	10.87093	0.0335776	0.17744438	3.1363743	20	6 16.2	20.0
309160 2007 AQ ₁₈	16.7	X	154.41384	329.33247	100.22219	7.59305	0.1506775	0.24444590	2.5332665	20	5 8.6	20.7
309161 2007 AW ₂₀	15.4	X	121.05834	358.39335	137.54963	6.43930	0.1065288	0.17227941	3.1987513	20	6 21.3	20.2
309162 2007 AZ ₂₇	16.6	X	110.92327	226.89967	137.57047	7.03462	0.0356786	0.22040510	2.7142819	20	—	—
309163 2007 AQ ₂₉	15.5	X	150.94628	344.29789	119.76597	11.38363	0.1630248	0.17289569	3.1911454	20	6 16.6	20.8
309164 2007 BX ₄	15.4	X	207.77954	85.17010	310.81516	24.65524	0.2367292	0.18059125	3.0998326	20	5 3.6	21.2
309165 2007 BO ₇	17.4	X	220.43675	276.87352	323.64891	17.60058	0.0422202	0.36348102	1.9445311	20	—	—
309166 2007 BA ₈	16.3	X	101.16963	57.65151	35.73956	27.55675	0.4205253	0.23675364	2.5878451	20	5 7.4	20.7
309167 2007 BD ₁₈	15.6	X	151.44573	176.02185	307.85806	4.73958	0.0830469	0.17744294	3.1363912	20	7 7.4	20.4
309168 2007 BC ₂₁	17.6	X	131.75601	227.86131	146.42317	21.58045	0.0390219	0.37323996	1.9104864	20	—	—
309169 2007 BL ₂₁	15.7	X	146.07006	15.33669	110.27922	12.20292	0.0529758	0.17650681	3.1474710	20	7 1.8	20.3
309170 2007 BT ₂₂	16.4	X	64.15564	59.96931	117.02511	6.18839	0.0711850	0.17097672	3.2149785	20	5 30.9	20.9
309171 2007 BZ ₃₁	17.3	X	239.19721	284.29215	283.28495	5.79587	0.0937167	0.28610290	2.2809786	20	—	—
309172 2007 BN ₄₉	15.6	X	167.79813	194.92426	267.89066	11.03219	0.0948245	0.17619672	3.1511628	20	6 28.0	20.5
309173 2007 BQ ₆₀	15.7	X	341.08445	39.81217	348.04809	9.83257	0.0725664	0.19667421	2.9284497	20	10 30.9	19.5
309174 2007 BS ₆₄	16.2	X	178.00005	266.35132	153.98546	5.17532	0.1751546	0.17237332	3.1975893	20	5 19.4	21.6
309175 2007 BK ₆₈	17.2	X	67.17623	348.05391	158.70447	5.07247	0.0206978	0.23623839	2.5916065	20	4 16.6	20.5
309176 2007 BF ₇₅	16.3	X	334.55291	189.47095	107.80595	3.15705	0.0951699	0.24662639	2.5183129	20	6 25.5	19.0
309177 2007 CM ₃	17.0	X	286.60329	165.11182	162.66356	3.99286	0.0230331	0.24569296	2.5246872	20	6 3.7	20.2
309178 2007 CV ₅	17.0	X	176.94856	146.80736	21.08625	15.48570	0.0940371	0.33866100	2.0384149	20	10 17.9	19.6
309179 2007 CZ ₆	16.4	X	163.22932	237.68419	186.19440	3.21222	0.1966537	0.17307407	3.1889524	20	5 11.0	21.7
309180 2007 CU ₉	16.5	X	91.88814	33.24532	103.24809	6.91126	0.0786320	0.24183145	2.5514919	20	5 15.9	19.9
309181 2007 CF ₂₀	15.0	X	339.05004	272.29841	282.12491	9.87233	0.1334851	0.15425358	3.4433345	20	2 12.8	19.5
309182 2007 CL ₂₀	15.4	X	197.12952	135.32871	288.72385	8.87618	0.0600519	0.17524716	3.1625354	20	6 11.9	20.1
309183 2007 CE ₄₇	16.2	X	278.60776	157.13427	171.70656	11.12201	0.0625877	0.24228885	2.5482797	20	5 20.4	19.7
309184 2007 CG ₅₂	15.2	X	136.09504	90.99367	89.21521	11.02425	0.1376215	0.18259028	3.0771662	20	9 6.8	20.3
309185 2007 CH ₆₀	15.5	X	120.40772	204.95640	272.92187	9.30943	0.1261811	0.16984404	3.2292563	20	5 30.7	20.5
309186 2007 CK ₆₂	15.7	X	123.04008	216.55498	330.97851	4.80076	0.0677595	0.18172095	3.0869722	20	8 23.8	20.2
309187 2007 DJ ₁₃	17.8	X	37.03445	250.20846	155.32902	23.59035	0.1135118	0.35925431	1.9597532	20	—	—
309188 2007 DV ₆₀	17.6	X	13.22229	255.98760	216.86897	19.83626	0.0752610	0.36593906	1.9358136	20	—	—
309189 2007 DR ₆₄	15.6	X	146.39702	314.70525	144.39890	5.99131	0.1188254	0.16845832	3.2469411	20	6 3.9	20.7
309190 2007 DT ₇₉	15.4	X	112.61995	334.49541	172.23999	27.07115	0.1657488	0.17095443	3.2152578	20	7 1.5	20.9
309191 2007 EZ ₃₀	16.2	X	184.71881	3.86047	163.30202	10.60600	0.0321476	0.18999469	2.9966895	20	10 10.3	20.5
309192 2007 EN ₄₇	17.6	X	295.95474	284.48410	3.90121	8.06088	0.1652334	0.30350860	2.1929163	20	3 25.7	20.0
309193 2007 ET ₆₆	15.7	X	210.09700	102.61469	10.13481	10.72818	0.095336	0.17937234	3.1138599	20	9 4.4	

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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>		
309201	2007	EU ₂₁₅	15.3	X	244.96807	313.27535	132.30185	11.03351	0.0453837	0.18217444	3.0818471	20	9 8.1	19.7
309202	2007	FB ₂	15.4	X	101.10954	113.75331	108.01507	10.90224	0.1801327	0.17793465	3.1306105	20	9 26.5	20.5
309203	2007	GG	17.7	X	27.30903	299.64995	137.08946	5.29580	0.5598959	0.22816636	2.6523753	20	—	—
309204	2007	GF ₂₅	15.1	X	164.93745	203.01556	57.47696	13.07938	0.0839368	0.19731564	2.9220998	20	—	—
309205	2007	GV ₂₇	15.6	X	135.56577	83.46780	132.22000	13.19984	0.2450219	0.17995281	3.1071601	20	10 21.6	21.2
309206	2007	GE ₃₂	17.5	X	321.13954	67.24315	23.72975	19.50780	0.1389690	0.35100027	1.9903575	20	—	—
309207	2007	GP ₇₁	17.0	X	56.89461	21.51364	29.82108	21.30077	0.0867762	0.35705263	1.9678012	20	—	—
309208	2007	HZ ₁₄	17.0	X	316.25334	100.49991	81.85819	23.44785	0.0624006	0.35991318	1.9573608	20	—	—
309209	2007	HN ₁₅	15.2	X	180.77394	359.78375	106.24861	10.73045	0.0485922	0.17314597	3.1880696	20	7 16.6	19.9
309210	2007	HS ₂₈	16.1	X	226.75328	165.54161	195.31569	5.72051	0.0278527	0.23348972	2.6119060	20	4 28.9	19.7
309211	2007	HJ ₈₁	17.5	X	253.49922	311.54512	37.62285	3.75017	0.1600730	0.30453580	2.1879824	20	4 27.8	20.5
309212	2007	JS ₉	16.8	X	123.75073	200.84670	90.46706	3.92116	0.2173571	0.26184693	2.4197531	20	—	—
309213	2007	JQ ₂₂	17.2	X	289.68179	210.26712	78.95536	7.14349	0.2219179	0.29448368	2.2374941	20	3 15.6	20.2
309214	2007	LL	20.4	X	272.31189	211.49252	247.07153	10.05325	0.1742084	0.101474977	0.9807615	20	—	—
309215	2007	LN ₁₈	15.9	X	201.62922	38.59412	272.79697	23.89830	0.3131917	0.27317190	2.3524047	20	1 19.6	20.5
309216	2007	MG ₂₄	15.0	X	355.00818	187.75239	101.42563	32.70256	0.1496770	0.17555892	3.1587902	20	7 14.6	18.6
309217	2007	NF ₆	16.9	X	235.90823	227.71406	57.24935	11.19901	0.2795500	0.27833701	2.3232115	20	1 18.4	21.2
309218	2007	OE ₇	17.0	X	246.63527	335.63647	318.40851	7.00613	0.1907365	0.28116731	2.3075945	20	2 8.1	20.7
309219	2007	PV ₁₀	15.9	X	132.99353	102.60277	263.56206	21.10249	0.1924192	0.26260071	2.4151204	20	1 21.2	19.6
309220	2007	PP ₁₂	17.4	X	189.04386	355.73408	332.03530	8.04000	0.2564721	0.27310882	2.3527669	20	2 4.3	21.4
309221	2007	PO ₂₀	17.4	X	193.21297	169.24822	153.76565	2.99908	0.2303769	0.27133002	2.3630386	20	1 30.7	21.5
309222	2007	PU ₂₁	16.5	X	131.93693	237.55591	157.33666	22.54228	0.2548355	0.26751959	2.3854244	20	3 10.4	20.2
309223	2007	PX ₂₁	17.1	X	169.58314	238.36072	123.60129	6.00939	0.2091282	0.27167082	2.3610620	20	2 28.4	20.9
309224	2007	PD ₃₃	17.5	X	200.50386	104.79723	200.63417	2.30767	0.2394797	0.27034490	2.3687757	20	1 15.6	21.5
309225	2007	PC ₄₀	17.8	X	161.87021	220.82922	156.10254	2.46232	0.2360904	0.27113842	2.3641517	20	3 11.7	21.8
309226	2007	PF ₄₄	17.2	X	178.13904	267.45406	90.58964	5.72494	0.2509609	0.27437861	2.3455024	20	3 4.5	21.2
309227	2007	Tsukiko	18.1	X	239.01946	141.97753	158.53415	2.95578	0.2255064	0.27780796	2.3261601	20	2 7.9	22.0
309228	2007	QM ₁	17.5	X	144.39555	206.76333	170.78875	2.36937	0.2230601	0.26759333	2.3849861	20	2 24.8	21.1
309229	2007	QO ₂	18.0	X	214.07310	149.44672	187.66889	0.79531	0.0608383	0.27951975	2.3166533	20	3 6.4	21.0
309230	2007	QY ₆	17.5	X	182.09430	213.55630	125.73935	2.12549	0.1953396	0.27118410	2.3638862	20	2 9.6	21.4
309231	2007	QT ₉	17.1	X	120.66489	168.09136	200.68930	0.85098	0.1863139	0.26122406	2.4235981	20	1 15.9	20.2
309232	2007	QV ₉	17.3	X	139.98271	48.10501	345.56141	1.98517	0.2322212	0.26870430	2.3784077	20	3 12.7	20.8
309233	2007	QE ₁₁	17.7	X	46.98454	215.40689	355.74919	5.80001	0.0715655	0.29141532	2.2531726	20	6 23.3	20.1
309234	2007	QB ₁₆	17.7	X	152.03803	222.99065	130.71543	1.90576	0.1905247	0.26699834	2.3885280	20	1 30.8	21.3
309235	2007	QB ₁₈	16.8	X	169.79105	229.63388	357.96944	8.59720	0.1605042	0.24602192	2.5224361	20	12 5.2	21.0
309236	2007	RW	16.9	X	282.69481	321.15459	309.78639	5.69600	0.0899568	0.27926717	2.3180500	20	2 25.6	19.9
309237	2007	RB ₂	17.1	X	138.89369	355.28922	358.08951	2.41693	0.2166202	0.26061216	2.4273902	20	1 21.5	20.7
309238	2007	RV ₁₀	17.5	X	153.27765	234.71738	159.25398	3.99194	0.1874258	0.27271794	2.3550145	20	3 22.4	21.0
309239	2007	RW ₁₀	6.6	X	75.51158	96.31466	187.00233	36.07846	0.3029072	0.00591201	30.2909135	20	10 28.8	21.5
309240	2007	RR ₁₁	16.9	X	138.79987	238.09526	194.69957	6.77146	0.0722695	0.27854349	2.3220632	20	4 15.5	19.8
309241	2007	RC ₁₇	16.3	X	244.51288	355.24315	340.59157	23.95349	0.0758967	0.28009184	2.3134977	20	3 28.7	19.8
309242	2007	RN ₂₄	17.0	X	109.04877	156.24212	223.10442	5.65157	0.1440427	0.25976673	2.4326541	20	1 7.7	20.0
309243	2007	RM ₂₈	17.6	X	191.64547	285.23264	53.44460	3.11424	0.2244440	0.27289600	2.3539899	20	2 18.7	21.6
309244	2007	RU ₂₈	17.4	X	168.90484	64.51608	167.41131	4.44009	0.1620301	0.24567914	2.5247818	20	12 11.3	21.4
309245	2007	RT ₂₉	16.5	X	180.18482	160.35600	262.16199	5.65714	0.0665034	0.28538503	2.2848071	20	5 20.5	19.7
309246	2007	RG ₃₂	17.0	X	126.92798	265.93678	88.65061	5.30301	0.2270474	0.26058194	2.4275279	20	1 11.3	20.4
309247	2007	RQ ₃₂	16.7	X	188.72280	241.83623	84.79103	3.19496	0.2114209	0.26945041	2.3740151	20	2 1.1	20.5
309248	2007	RL ₃₃	16.9	X	162.40220	305.09636	57.16374	6.56283	0.2390801	0.26806700	2.3821758	20	2 26.5	20.9
309249	2007	RP ₃₈	17.4	X	193.84800	203.72774	147.98165	3.90372	0.2353305	0.27397966	2.3477788	20	3 6.4	21.3
309250	2007	RZ ₃₈	16.2	X	359.62428	319.74409	355.65215	11.19872	0.2499474	0.22708378	2.6607984	20	9 19.5	18.2
309251	2007	RW ₃₉	17.1	X	300.69917	219.30153	43.91143	7.83081	0.0844579	0.27989499	2.3145824	20	3 16.4	19.9
309252	2007	RT ₄₁	17.4	X	171.03154	47.07371	5.99275	7.12866	0.1669773	0.27993355	2.3143698	20	4 28.5	21.1
309253	2007	RC ₄₂	17.3	X	7.46166	294.39477	258.82320	4.38647	0.0585120	0.27686532	2.3314370	20	3 16.7	19.9
309254	2007	RL ₄₄	17.5	X	125.60759	92.53160	322.85255	5.65421	0.1199087	0.26924340	2.3752318	20	3 10.1	20.7
309255	2007	RD ₅₂	16.5	X	221.73824	326.10033	324.03159	6.94316	0.1186943	0.26741800	2.3860285	20	1 16.2	20.1
309256	2007	RH ₅₃	16.9	X	36.69655	153.85425	196.44186	14.49780	0.1336091	0.23836721	2.5761534	20	12 22.4	20.6
309257	2007	RC ₅₈	17.2	X	134.22091	227.95949	145.65971	3.24801	0.2024105	0.26249655	2.4157592	20	2 8.4	20.7
309258	2007	RX ₆₈	16.7	X	168.10632	330.30313	7.90284	6.86958	0.1304003	0.26631322	2.3926228	20	1 24.4	20.2
309259	2007	RA ₆₉	17.1	X	129.64993	275.32161	87.91799	2.22311	0.2221254	0.26188466	2.4195207	20	1 24.5	20.4
309260	2007	RE ₈₃	17.6	X	123.40078	49.39053	6.73428	3.00688	0.1654005	0.27001187	2.3707230	20	3 17.4	20.8
309261	2007	RK ₉₃	17.3	X	171.60924	214.05947	103.41547	3.41170	0.2172018	0.26322585	2.4112950	20	1 7.1	21.1
309262	2007	RZ ₉₃	17.2	X	105.52414	261.43609	143.51217	2.72290	0.2054846	0.26102900	2.4248053	20	2 15.9	20.2
309263	2007	RZ ₉₄	18.0	X	247.75592	230.03817	55.13873	2.92727	0.1810814	0.27243039	2.3566713	20	1 31.7	21.8
309264	2007	RA ₉₅	17.0	X	188.81409	298.13821	40.19856	3.55969	0.1913088	0.26922158	2.3753602	20	2 15.5	20.8
309265	2007	RD ₉₈	17.2	X	217.09382	227.40981	88.56609	3.19403	0.2335193	0.27243274	2.3566578	20	2 10.9	21.3
309266	2007	RT ₁₀₂	17.5	X	157.02659	184.83611	191.03261	1.06189	0.1943063	0.26924370	2.3752301	20	3 2.9	21.0
309267	2007	RV ₁₀₂	18.1	X	119.30352	302.88203	129.82236	1.00209	0.1927615	0.27236722	2.3570357	20	4 7.1	21.4
309268	2007	RX ₁₀₂	17.6	X	141.07099	226.09531	146.36723	1.67096	0.1985094	0.26507150	2.4000891	20	2 13.3	21.0
309269	2007	RM ₁₀₉	17.5	X	151.65011	27.33775	340.82439	2.15755	0.1943997	0.26650790	2.3914574	20	2 18.0	21.1
309270	2007	RW ₁₁₃	16.8	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>
309281 2007 <i>RL</i> ₁₄₉	16.5	X	274.47451	15.59872	277.46455	6.16967	0.1189504	0.27779965	2.3262065	20	3 10.3	19.8
309282 2007 <i>RM</i> ₁₅₇	17.2	X	245.43842	280.88766	108.30128	4.31210	0.1681357	0.29082403	2.2562256	20	6 12.8	20.2
309283 2007 <i>RE</i> ₁₅₈	17.2	X	144.61480	234.17019	127.22477	3.05311	0.2297606	0.26495924	2.4007670	20	2 6.4	20.8
309284 2007 <i>RG</i> ₁₅₈	17.0	X	168.43872	296.30048	47.41823	7.47107	0.1406971	0.26757782	2.3850783	20	2 1.8	20.6
309285 2007 <i>RO</i> ₁₉₅	17.6	X	134.89569	177.26855	191.92601	5.68628	0.1235032	0.26284244	2.4136394	20	1 23.3	20.9
309286 2007 <i>RV</i> ₂₀₂	17.9	X	54.50494	152.41197	196.64807	5.51834	0.1322358	0.24137258	2.5547246	20	—	—
309287 2007 <i>RF</i> ₂₀₆	17.3	X	6.41511	54.18523	121.85631	2.02710	0.1254828	0.27104223	2.3647110	20	2 18.3	19.5
309288 2007 <i>RX</i> ₂₀₈	17.7	X	90.43189	13.54900	47.21270	3.56239	0.1654308	0.26183334	2.4198368	20	2 11.5	20.4
309289 2007 <i>RP</i> ₂₀₉	17.4	X	84.14105	78.30556	53.48669	4.54316	0.0718659	0.27706575	2.3303124	20	4 24.5	20.0
309290 2007 <i>RB</i> ₂₁₉	16.9	X	60.95868	311.44849	7.87069	11.78471	0.1804657	0.23941428	2.5686367	20	12 17.3	20.9
309291 2007 <i>RP</i> ₂₂₁	17.7	X	81.87562	207.57701	203.64103	3.84012	0.1398470	0.25663493	2.4524051	20	1 10.1	20.4
309292 2007 <i>RM</i> ₂₂₂	17.4	X	198.37621	313.16424	1.98490	2.47982	0.2056945	0.26697015	2.3886962	20	1 26.2	21.3
309293 2007 <i>RF</i> ₂₂₆	17.0	X	195.05035	137.38016	159.16299	6.08913	0.1445393	0.26668896	2.3903749	20	—	—
309294 2007 <i>RB</i> ₂₂₇	17.1	X	242.00370	125.77945	152.48278	4.87753	0.1958561	0.27179157	2.3603626	20	1 16.1	20.9
309295 2007 <i>RX</i> ₂₂₈	17.0	X	136.61942	285.73170	98.68811	2.27398	0.1917424	0.26802520	2.3824235	20	2 23.8	20.3
309296 2007 <i>RP</i> ₂₃₂	17.1	X	221.25365	135.69844	155.35746	2.44265	0.2031622	0.27024860	2.3693383	20	1 14.6	20.9
309297 2007 <i>RU</i> ₂₃₅	17.4	X	174.02112	244.51986	84.70570	5.21517	0.2188054	0.26576452	2.3959149	20	1 23.9	21.2
309298 2007 <i>RJ</i> ₂₃₉	17.0	X	138.61010	301.61379	96.60928	5.65329	0.2288701	0.26822531	2.3812384	20	3 20.0	20.7
309299 2007 <i>RU</i> ₂₄₀	17.4	X	155.04851	32.89936	318.87291	0.46348	0.1933427	0.26352797	2.4094518	20	2 1.0	20.8
309300 2007 <i>RF</i> ₂₄₂	16.5	X	266.73661	320.69335	15.34962	7.25334	0.2307216	0.28859502	2.2678282	20	4 16.1	19.7
309301 2007 <i>RO</i> ₂₄₂	17.5	X	219.19954	281.39013	46.12525	3.12428	0.2121028	0.27642930	2.3338880	20	2 26.9	21.4
309302 2007 <i>RL</i> ₂₄₃	16.8	X	343.58934	211.34693	105.19263	4.07061	0.2250829	0.29996213	2.2101670	20	8 26.7	17.7
309303 2007 <i>RU</i> ₂₄₆	16.0	X	353.66471	3.07205	345.93750	17.25497	0.2080285	0.22923061	2.6441595	20	10 14.1	18.8
309304 2007 <i>RU</i> ₂₅₄	17.1	X	148.41310	155.02708	278.92282	3.46406	0.1266507	0.28018250	2.3129987	20	5 1.7	20.3
309305 2007 <i>RN</i> ₂₆₁	19.0	X	52.24364	334.41613	27.84500	9.04501	0.2885406	0.24349738	2.5398409	20	—	—
309306 2007 <i>RE</i> ₂₆₉	17.7	X	143.64231	305.43949	113.22626	2.07756	0.1683470	0.26842926	2.3800321	20	4 12.7	21.1
309307 2007 <i>RG</i> ₂₆₉	17.0	X	296.61365	81.83104	204.49699	5.03484	0.1250212	0.28336250	2.2956612	20	3 31.6	20.5
309308 2007 <i>RH</i> ₂₈₄	17.6	X	108.39364	185.34453	146.20565	0.38522	0.0871032	0.24465223	2.5318420	20	—	—
309309 2007 <i>RQ</i> ₂₈₄	17.4	X	115.51760	313.97948	83.60634	6.28404	0.1474873	0.26382979	2.4076138	20	2 12.5	20.5
309310 2007 <i>RJ</i> ₂₈₆	17.4	X	189.33794	343.94085	344.70174	6.49063	0.1297543	0.27158442	2.3615627	20	2 1.5	20.9
309311 2007 <i>RZ</i> ₂₈₆	17.2	X	140.71322	340.66981	66.59129	3.74571	0.1676385	0.27071272	2.3666295	20	3 26.5	20.6
309312 2007 <i>RA</i> ₂₈₇	17.2	X	134.76352	282.65073	72.14508	5.08560	0.1619590	0.26094116	2.4253495	20	1 12.0	20.4
309313 2007 <i>RG</i> ₂₉₀	17.2	X	50.39974	292.66085	202.93384	10.99488	0.1889968	0.26679260	2.3897558	20	3 19.5	19.4
309314 2007 <i>RB</i> ₂₉₄	16.7	X	77.23026	303.60399	201.33226	5.95379	0.0634876	0.27802141	2.3249693	20	5 1.8	19.2
309315 2007 <i>RK</i> ₃₁₀	16.8	X	235.08491	252.19440	34.45912	6.56333	0.1977323	0.27378172	2.3489102	20	1 22.4	20.7
309316 2007 <i>RD</i> ₃₁₁	17.2	X	132.14698	306.71715	95.32213	7.40085	0.1899391	0.26971477	2.3724636	20	3 15.2	20.7
309317 2007 <i>RF</i> ₃₁₁	16.8	X	206.84804	264.70876	67.48875	13.61391	0.2213822	0.27528035	2.3403774	20	2 27.9	21.0
309318 2007 <i>RR</i> ₃₁₅	16.9	X	209.88312	232.01401	114.33843	4.84570	0.1450588	0.27525348	2.3405298	20	3 15.0	20.4
309319 2007 <i>SO</i>	15.5	X	266.60239	128.31176	305.01240	7.78018	0.4451611	0.21814780	2.7329739	20	7 26.6	19.8
309320 2007 <i>SZ</i>	16.8	X	119.95834	112.93914	275.74854	6.17278	0.2455791	0.26183356	2.4198355	20	2 15.4	20.3
309321 2007 <i>SC</i> ₃	16.8	X	121.36180	235.84722	183.42950	11.54858	0.1694684	0.26869505	2.3784623	20	3 19.1	20.1
309322 2007 <i>SQ</i> ₄	17.6	X	226.63534	199.47285	108.85136	3.54330	0.2174370	0.27395614	2.3479131	20	2 8.9	21.6
309323 2007 <i>SZ</i> ₄	16.9	X	131.96064	255.61372	135.65452	3.07669	0.1874367	0.26527662	2.3988517	20	2 27.0	20.3
309324 2007 <i>SA</i> ₅	17.5	X	147.13754	228.44221	149.41516	4.44962	0.2089706	0.26635126	2.3923950	20	2 27.2	21.1
309325 2007 <i>SF</i> ₆	16.7	X	34.16857	289.07956	129.66629	3.84448	0.0554570	0.24758066	2.5118377	20	—	—
309326 2007 <i>SV</i> ₆	17.3	X	186.39646	284.92213	43.50152	5.17544	0.2027072	0.27000195	2.3707811	20	2 2.1	21.2
309327 2007 <i>SL</i> ₈	17.5	X	123.36099	285.00138	70.16125	2.31394	0.2005248	0.25736995	2.4477337	20	1 4.7	20.6
309328 2007 <i>SB</i> ₉	17.6	X	58.86357	4.59687	84.12162	2.66502	0.1422049	0.25869368	2.4393765	20	1 24.1	19.8
309329 2007 <i>SS</i> ₁₀	16.2	X	64.18856	20.31444	349.12364	8.61904	0.2775641	0.24346080	2.5400954	20	—	—
309330 2007 <i>ST</i> ₁₁	17.2	X	186.50239	111.74410	240.24991	11.28764	0.2398016	0.27209132	2.3586288	20	2 24.6	21.5
309331 2007 <i>SZ</i> ₁₆	18.1	X	135.34342	272.87043	177.20001	1.44967	0.1068741	0.28013814	2.3132428	20	5 8.6	21.3
309332 2007 <i>SO</i> ₁₈	17.1	X	20.46833	209.12788	201.58827	14.83341	0.1530556	0.24536489	2.5270607	20	—	—
309333 2007 <i>SH</i> ₂₃	16.8	X	296.23177	356.30293	271.44992	5.96085	0.0921779	0.27271544	2.3550289	20	3 8.5	19.9
309334 2007 <i>TJ</i> ₂	17.6	X	48.70620	64.44010	56.16267	3.26390	0.1425225	0.26045058	2.4283941	20	2 21.7	19.8
309335 2007 <i>TJ</i> ₅	17.8	X	73.21565	52.24149	359.28467	1.53475	0.1624125	0.25576188	2.4579828	20	—	—
309336 2007 <i>TO</i> ₅	17.4	X	182.32085	151.85040	190.79279	2.31164	0.1822453	0.26896325	2.3768809	20	2 12.6	21.1
309337 2007 <i>TR</i> ₅	17.7	X	163.99662	121.99878	224.60611	1.49157	0.2258684	0.26570410	2.3962780	20	2 4.5	21.5
309338 2007 <i>TT</i> ₅	17.4	X	177.84456	324.41887	3.58574	3.65263	0.2582149	0.26582816	2.3955324	20	1 27.8	21.0
309339 2007 <i>TA</i> ₆	17.6	X	168.79888	70.80449	297.29573	0.71866	0.1923009	0.26912009	2.3759573	20	3 3.8	21.7
309340 2007 <i>TR</i> ₁₀	17.8	X	174.08558	151.23923	200.74543	0.99682	0.1990089	0.26760655	2.3849076	20	2 18.1	21.7
309341 2007 <i>TS</i> ₁₀	17.1	X	14.10788	204.26724	198.95596	18.03487	0.2008660	0.24021087	2.5629548	20	—	—
309342 2007 <i>TM</i> ₂₁	17.3	X	135.72942	107.12852	329.48936	1.46482	0.1770547	0.27121021	2.3637345	20	4 26.9	20.8
309343 2007 <i>TO</i> ₂₅	17.5	X	114.92858	175.90287	202.17676	7.99064	0.1575769	0.25820390	2.4424603	20	1 15.4	20.7
309344 2007 <i>TZ</i> ₂₆	17.1	X	138.00552	326.05529	19.56581	6.16332	0.1271202	0.25774198	2.4453777	20	—	—
309345 2007 <i>TP</i> ₃₁	16.8	X	352.65858	300.24814	228.87783	7.63693	0.0396514	0.26023669	2.4297245	20	1 24.4	19.8
309346 2007 <i>TR</i> ₄₄	17.7	X	96.93987									

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>
309361 2007 TR ₇₅	17.9	X	88.63306	36.15834	350.61882	0.77789	0.1986562	0.25523600	2.4613578	20	—	—
309362 2007 TL ₈₉	17.5	X	77.27382	235.16446	111.91771	3.99138	0.0894616	0.24196544	2.5505499	20	—	—
309363 2007 TQ ₈₉	17.6	X	41.15562	10.87421	96.04570	4.11545	0.1421978	0.25529575	2.4609738	20	1 17.1	19.8
309364 2007 TC ₉₅	16.2	X	28.69428	293.73956	43.83007	12.63811	0.1835714	0.23246693	2.6195615	20	11 30.6	19.6
309365 2007 TO ₉₇	17.2	X	122.59243	347.53726	51.71842	3.58293	0.1748385	0.26349522	2.4096514	20	2 26.8	20.5
309366 2007 TF ₉₈	17.3	X	335.54676	69.60371	110.01749	2.70209	0.1450178	0.26196844	2.4190048	20	—	—
309367 2007 TX ₁₀₂	17.2	X	254.51506	78.96828	164.49835	2.74431	0.1499381	0.25658764	2.4527064	20	—	—
309368 2007 TG ₁₀₄	17.6	X	40.09133	234.14967	184.01629	2.34253	0.0856890	0.24622956	2.5210179	20	—	—
309369 2007 TK ₁₀₄	17.5	X	341.48525	95.89778	155.76863	5.54001	0.0345239	0.25337417	2.4734008	20	—	—
309370 2007 TN ₁₀₈	17.0	X	108.28732	128.44958	257.03569	4.63216	0.1408661	0.25946485	2.4345407	20	1 14.6	19.9
309371 2007 TZ ₁₁₂	16.7	X	49.68473	162.17855	289.13995	9.33670	0.1939389	0.25563332	2.4588068	20	1 13.6	18.4
309372 2007 TK ₁₁₃	16.6	X	99.76328	285.40625	140.04626	6.27478	0.1630953	0.26276563	2.4141098	20	3 1.3	19.6
309373 2007 TW ₁₁₃	16.8	X	209.85603	208.87182	117.34229	6.21348	0.2077694	0.27197525	2.3592997	20	2 17.9	20.7
309374 2007 TL ₁₁₄	17.0	X	352.35498	95.40748	9.32244	8.16462	0.2253833	0.24381753	2.5376172	20	—	—
309375 2007 TO ₁₁₄	17.5	X	140.75471	239.07492	3.19203	4.84622	0.0371182	0.31155283	2.1550048	20	12 14.6	20.2
309376 2007 TK ₁₂₆	17.5	X	199.30575	245.38442	53.60429	2.95008	0.2223816	0.26216058	2.4178228	20	1 8.4	21.6
309377 2007 TR ₁₂₆	17.5	X	9.55099	29.46464	47.35296	5.94731	0.0413998	0.24435278	2.5339101	20	—	—
309378 2007 TG ₁₃₁	16.8	X	25.24865	169.19135	210.71766	10.98086	0.1193883	0.23735213	2.5834931	20	—	—
309379 2007 TK ₁₃₁	17.0	X	288.88712	10.26254	201.98658	1.70658	0.1393903	0.25689589	2.4507440	20	—	—
309380 2007 TG ₁₃₂	17.0	X	119.21982	20.50390	46.35471	3.52291	0.1668080	0.26536291	2.3983316	20	3 28.3	20.3
309381 2007 TJ ₁₃₄	16.8	X	310.82648	339.48864	208.63873	5.09825	0.0529034	0.25519877	2.4615973	20	—	—
309382 2007 TE ₁₃₈	17.0	X	87.65320	122.60595	191.58500	2.10278	0.1478967	0.23808671	2.5781763	20	—	—
309383 2007 TD ₁₄₇	16.7	X	192.83306	294.57802	26.27217	7.15290	0.1358516	0.26803385	2.3823723	20	1 27.8	20.4
309384 2007 TF ₁₄₈	16.8	X	189.91151	320.23281	53.80547	6.02015	0.2467316	0.27389764	2.3482474	20	4 1.5	20.8
309385 2007 TU ₁₄₈	17.5	X	153.28457	339.49065	25.56223	2.41693	0.2440685	0.26536080	2.3983444	20	2 20.6	21.4
309386 2007 TC ₁₅₀	17.4	X	155.13272	181.98028	258.29616	3.77900	0.1962315	0.27876143	2.3208528	20	5 22.1	20.9
309387 2007 TH ₁₅₀	17.2	X	165.77551	14.67145	321.43222	5.73236	0.1494128	0.26451887	2.4034307	20	1 19.9	20.8
309388 2007 TK ₁₅₂	17.7	X	154.62653	162.55378	189.92879	2.49587	0.0990081	0.26281328	2.4138179	20	1 22.6	20.9
309389 2007 TE ₁₇₀	17.3	X	12.83651	27.19496	0.80125	4.24000	0.1298152	0.31336124	2.1467058	20	—	—
309390 2007 TU ₁₇₀	18.6	X	56.71329	143.58785	226.62403	5.89884	0.3094594	0.24376367	2.5379909	20	—	—
309391 2007 TO ₁₈₅	17.6	X	211.78576	189.62456	113.34210	2.94830	0.2185783	0.26877966	2.3779631	20	1 21.8	21.7
309392 2007 TB ₁₈₆	17.5	X	139.25884	256.48244	144.79084	4.15151	0.1421810	0.26759066	2.3850020	20	3 13.9	20.7
309393 2007 TG ₁₈₆	17.0	X	104.57229	259.27672	151.77519	5.79516	0.1974566	0.26121568	2.4236499	20	2 21.9	19.8
309394 2007 TB ₁₉₄	17.0	X	244.37513	321.69975	337.89196	4.54434	0.1499426	0.27368832	2.3494446	20	2 16.6	20.5
309395 2007 TK ₂₀₁	18.0	X	185.81637	59.37108	240.19780	0.59212	0.1690940	0.25852190	2.4404570	20	—	—
309396 2007 TR ₂₀₂	17.0	X	248.06406	234.55346	51.25757	9.33942	0.1560183	0.26722646	2.3871685	20	2 6.4	20.8
309397 2007 TA ₂₁₈	16.3	X	211.68473	215.80019	29.88131	7.76370	0.0740829	0.24594667	2.5229506	20	—	—
309398 2007 TK ₂₁₈	16.4	X	335.71511	54.84588	38.34514	17.90163	0.1542170	0.23702225	2.5858896	20	—	—
309399 2007 TZ ₂₂₁	17.7	X	188.42563	153.15977	154.47173	1.46857	0.1921793	0.26279812	2.4139108	20	1 8.1	21.6
309400 2007 TR ₂₃₀	16.1	X	345.66250	70.22002	207.94148	13.38747	0.2284517	0.20948543	2.8078043	20	6 8.6	18.8
309401 2007 TW ₂₃₇	17.4	X	203.80827	133.78188	232.35380	2.82068	0.0593993	0.27897022	2.3196946	20	4 1.3	20.4
309402 2007 TG ₂₄₀	17.0	X	122.17311	359.26420	52.42386	5.46888	0.1686374	0.26401034	2.4065160	20	3 13.6	20.3
309403 2007 TF ₂₅₃	17.2	X	301.81084	230.43637	41.35133	2.76831	0.2054110	0.28083434	2.3094182	20	3 7.8	20.0
309404 2007 TG ₂₅₈	17.5	X	84.62533	89.36048	1.49440	6.45927	0.1040412	0.26566191	2.3965318	20	3 4.7	20.1
309405 2007 TG ₂₆₂	17.3	X	301.21574	231.64245	220.26552	1.41593	0.0696380	0.23148564	2.6269593	20	12 6.9	20.5
309406 2007 TG ₂₇₅	17.4	X	61.36305	273.66031	157.09707	4.54497	0.1628652	0.25599578	2.4564853	20	1 4.4	19.6
309407 2007 TC ₂₈₀	17.6	X	144.26471	16.64278	3.09296	2.23028	0.2150669	0.26942270	2.3741779	20	2 27.3	21.2
309408 2007 TN ₂₈₀	16.1	X	359.29161	286.19346	351.03479	14.10906	0.1579391	0.21680684	2.7442314	20	7 14.9	19.2
309409 2007 TG ₂₈₉	16.7	X	139.08211	276.81075	68.50998	9.78845	0.2357766	0.25997657	2.4313449	20	1 14.3	20.3
309410 2007 TH ₂₉₂	16.0	X	9.04201	244.64384	209.78765	14.69574	0.0907040	0.24490946	2.5300689	20	—	—
309411 2007 TB ₃₀₃	17.6	X	61.55955	229.57530	240.96151	0.69564	0.1278182	0.26106300	2.4245948	20	2 26.6	20.0
309412 2007 TU ₃₁₇	16.7	X	47.47947	183.73882	214.25225	5.10702	0.0279568	0.24330671	2.5411677	20	—	—
309413 2007 TN ₃₂₂	16.3	X	194.12623	77.01660	163.86885	5.54034	0.2046135	0.24725329	2.5140544	20	—	—
309414 2007 TQ ₃₃₂	17.3	X	79.16538	156.32133	275.05091	2.07376	0.0616047	0.25765635	2.4459194	20	1 23.3	20.0
309415 2007 TE ₃₃₈	16.8	X	216.59544	234.48454	91.17440	7.07197	0.1369634	0.26925552	2.3751606	20	2 25.8	20.5
309416 2007 TX ₃₅₆	17.5	X	138.64989	187.59576	270.29633	1.84926	0.1623772	0.27585125	2.3371473	20	5 27.4	21.0
309417 2007 TD ₃₅₉	16.7	X	293.01928	217.42866	28.49585	6.83159	0.0783276	0.26960155	2.3731278	20	2 12.9	19.8
309418 2007 TC ₃₆₄	16.6	X	286.57799	218.67729	258.30082	3.99358	0.1560497	0.22126134	2.7072749	20	12 6.2	19.6
309419 2007 TM ₃₆₅	17.1	X	318.27716	232.58278	24.24940	6.92667	0.0991612	0.28089204	2.3091019	20	3 28.3	19.6
309420 2007 TD ₃₆₆	15.7	X	353.37374	134.93211	260.75719	21.24135	0.0908307	0.23536861	2.5979873	20	12 14.6	18.8
309421 2007 TJ ₃₆₇	17.0	X	102.50328	330.61074	92.68679	6.26353	0.1405497	0.26201402	2.4187243	20	2 29.6	20.0
309422 2007 TQ ₃₈₂	17.2	X	59.34155	88.93558	13.75259	1.84756	0.1540401	0.25788880	2.4444494	20	2 15.5	19.4
309423 2007 TS ₃₈₂	16.7	X	200.47508	14.06343	222.97591	14.63091	0.0753313	0.24307413	2.5427884	20	—	—
309424 2007 TW ₃₈₅	16.8	X	245.51517	210.51097	106.95397	7.83424	0.1311498	0.27593137	2.3366948	20	3 15.9	20.3
309425 2007 TH ₃₉₄	17.4	X	325.56593	4.63355	189.49112	2.17832	0.1450152	0.26466591	2.4025404	20	1 5.2	20.2
309426 2007 TX ₄₁₂	17.3	X	124.71138	359.52119	66.76531	8.51194	0.1694926	0.26982968	2.3717900	20	4 5.7	20.7
309427 2007 TL ₄₁₉	17.0	X	86.54648	286.71532	62.29752	12.62431	0.0209374	0.24309794	2.5426223	20	—	—
309428 2007 TQ ₄₂₂	16.9	X	58.36485	302.64638	55.07479	5.08171	0.2187809	0.23920185	2.5701572	20	—	—
309429 2007 TJ ₄₂₆	16.5	X	91.11374	165.41751	255.79190	14.04157	0.0970556	0.25883209	2.4385068	20	1 27.1	19.7
309430 2007 TA ₄₄₆	17.9	X	199.12031	165.64078	156.32598	0.75662	0.1322476	0.26713249	2.3877283	20	2 1.7	21.3
309431 2007 TP ₄₄₆	17.1	X	78.40100	80.90911	260.22887	6.54212	0.1923668	0.24191723	2.5508887	20	—	—
309432 2007 TR ₄₄₈	16.9	X	323.93482	73.27077	202.74644	5.22767	0.0785466	0.28673369	2.2776321	20	5 7.6	19.2
309433 2007 UU ₅	17.5	X	224.20556	174.90128	120.19961	2.20953	0.1859657	0.26789115	2.3832182	20	1 22.6	21.1
309434 2007 UP ₁₄	17.5	X	164.18291	187.08702	154.59759	1.59809	0.19908					

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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>
309441 2007 <i>US</i> ₄₈	17.2	X	26.65596	212.83770	187.91700	2.94025	0.1460210	0.23823037	2.5771397	20	—	—
309442 2007 <i>UT</i> ₅₂	16.1	X	53.99120	260.04930	125.25243	4.20697	0.1295060	0.24083351	2.5585354	20	—	—
309443 2007 <i>UT</i> ₅₄	17.3	X	16.36381	263.80579	227.47334	4.87918	0.1398540	0.25361891	2.4718093	20	1 3.9	19.7
309444 2007 <i>UK</i> ₅₇	17.8	X	37.25222	249.69521	217.12932	0.56706	0.1322609	0.25418408	2.4681439	20	1 9.1	20.2
309445 2007 <i>UF</i> ₆₀	17.0	X	138.51384	288.87457	43.37341	7.57558	0.1298206	0.25157630	2.4851708	20	—	—
309446 2007 <i>UK</i> ₇₁	17.4	X	336.08081	327.17101	222.98165	1.52363	0.1213427	0.25961450	2.4336050	20	1 19.8	20.3
309447 2007 <i>UU</i> ₇₅	17.6	X	37.86711	149.94592	335.18935	1.11049	0.1410233	0.25761431	2.4461856	20	2 5.9	19.8
309448 2007 <i>UA</i> ₉₀	17.1	X	247.97402	41.52892	244.26910	1.77881	0.1175409	0.26658473	2.3909979	20	2 4.6	20.5
309449 2007 <i>UC</i> ₉₇	16.9	X	68.05383	333.40897	33.85924	2.19693	0.1769297	0.24321885	2.5417797	20	—	—
309450 2007 <i>UC</i> ₉₉	17.3	X	338.14156	48.37784	57.69477	4.17789	0.2117495	0.23807411	2.5782672	20	—	—
309451 2007 <i>UX</i> ₉₉	17.2	X	317.27189	180.80133	253.99855	1.10335	0.1207855	0.22929247	2.6436839	20	12 8.2	19.8
309452 2007 <i>UM</i> ₁₀₄	17.2	X	122.26285	296.03019	129.47985	1.89175	0.1689054	0.26294647	2.4130028	20	3 29.9	20.6
309453 2007 <i>UX</i> ₁₀₄	16.5	X	121.36746	201.46274	141.18049	2.81446	0.1288546	0.24723495	2.5141787	20	—	—
309454 2007 <i>UM</i> ₁₁₅	17.1	X	124.45388	7.09589	301.36492	2.02294	0.1810067	0.24415654	2.5352676	20	—	—
309455 2007 <i>UE</i> ₁₃₂	16.7	X	64.32153	119.41714	101.77148	7.09999	0.0195898	0.28831561	2.2692932	20	7 27.8	19.3
309456 2007 <i>UC</i> ₁₃₃	17.2	X	177.37982	32.54124	287.25055	3.63868	0.1168287	0.25667357	2.4521589	20	1 9.2	20.8
309457 2007 <i>UD</i> ₁₃₇	17.1	X	38.81084	193.43411	259.00812	4.81034	0.0765773	0.25259434	2.4784888	20	—	—
309458 2007 <i>UF</i> ₁₃₇	17.4	X	119.53048	268.43231	115.25838	6.88775	0.1571143	0.25972164	2.4329357	20	1 30.6	20.6
309459 2007 <i>UG</i> ₁₄₂	16.6	X	179.38355	357.36483	257.34693	8.71170	0.0566596	0.23944334	2.5684288	20	—	—
309460 2007 <i>VC</i>	17.6	X	107.05149	213.12136	171.64884	1.64457	0.1560826	0.25713999	2.4491928	20	1 15.2	20.5
309461 2007 <i>VA</i> ₇	16.9	X	22.00939	19.93365	29.92361	12.92914	0.1683199	0.24030381	2.5622939	20	—	—
309462 2007 <i>VZ</i> ₇	15.7	X	71.44799	273.31348	93.14471	27.87670	0.2505732	0.23747971	2.5825677	20	—	—
309463 2007 <i>VK</i> ₁₀	16.8	X	97.97900	54.88417	278.41754	3.07527	0.1143613	0.24277387	2.5448845	20	—	—
309464 2007 <i>VY</i> ₁₈	17.5	X	249.52115	181.51218	77.12997	2.64674	0.1553297	0.26145455	2.4221735	20	1 2.7	21.1
309465 2007 <i>VC</i> ₂₈	16.9	X	47.57964	12.25614	88.55357	3.40400	0.2116860	0.25338901	2.4733042	20	1 26.7	18.7
309466 2007 <i>VO</i> ₄₂	16.2	X	196.58180	150.35794	82.87511	16.28429	0.1238239	0.22647532	2.6655620	20	—	—
309467 2007 <i>VA</i> ₅₃	17.2	X	113.95863	186.54124	155.60190	2.97226	0.0719586	0.24623192	2.5210018	20	—	—
309468 2007 <i>VB</i> ₆₅	15.9	X	309.09871	291.84100	250.51849	10.38565	0.2238166	0.24363460	2.5388872	20	—	—
309469 2007 <i>VJ</i> ₆₅	16.7	X	89.93543	71.17624	262.92913	2.77240	0.1972226	0.23925271	2.5697930	20	—	—
309470 2007 <i>VJ</i> ₇₃	17.3	X	216.72309	248.12082	37.001196	6.84656	0.0723336	0.26168829	2.4207309	20	1 5.4	20.8
309471 2007 <i>VL</i> ₇₆	17.0	X	197.68531	73.37482	184.07110	2.19082	0.0690792	0.24632391	2.5203741	20	—	—
309472 2007 <i>VE</i> ₉₁	17.5	X	131.47743	206.44792	163.41522	7.33113	0.1222441	0.25836824	2.4414245	20	1 21.0	20.9
309473 2007 <i>VD</i> ₉₆	17.7	X	114.64287	175.93132	199.78903	7.39576	0.1074822	0.25509130	2.4622886	20	1 5.6	20.9
309474 2007 <i>VO</i> ₁₀₂	15.8	X	121.62749	50.99658	35.14695	12.08627	0.1433094	0.18945085	3.0024216	20	4 24.7	20.3
309475 2007 <i>VQ</i> ₁₀₅	17.8	X	28.05984	154.99023	263.69880	1.05561	0.0921379	0.24210772	2.5495505	20	—	—
309476 2007 <i>VU</i> ₁₀₉	17.4	X	79.60612	351.31779	35.85486	2.53507	0.0463828	0.24677182	2.5173234	20	—	—
309477 2007 <i>VU</i> ₁₁₂	16.9	X	122.88657	72.80269	235.62219	2.23001	0.1831898	0.24260661	2.5460541	20	—	—
309478 2007 <i>VD</i> ₁₁₃	17.8	X	2.28526	18.07024	85.37506	1.80096	0.1282807	0.24359632	2.5391532	20	—	—
309479 2007 <i>VR</i> ₁₁₆	16.3	X	154.64996	259.30124	32.35443	7.73132	0.2040146	0.24300800	2.5432497	20	—	—
309480 2007 <i>VP</i> ₁₁₈	17.2	X	30.00696	298.53663	124.86696	2.97525	0.0471609	0.24558817	2.5254053	20	—	—
309481 2007 <i>VC</i> ₁₄₄	16.8	X	6.23249	333.58143	86.51864	5.10265	0.1803958	0.23734220	2.5835651	20	—	—
309482 2007 <i>VE</i> ₁₄₈	16.2	X	280.34622	324.29710	222.34879	9.86072	0.2394136	0.23804819	2.5784544	20	—	—
309483 2007 <i>VK</i> ₁₅₂	16.9	X	143.02853	15.45155	268.61338	6.92658	0.2758446	0.24307788	2.5427623	20	—	—
309484 2007 <i>VF</i> ₁₆₄	16.9	X	232.64239	333.94238	247.75230	8.45473	0.1362144	0.24098496	2.5574633	20	—	—
309485 2007 <i>VG</i> ₁₉₈	16.7	X	301.39412	213.83772	268.98606	3.80049	0.1424646	0.22660694	2.6645298	20	—	—
309486 2007 <i>VP</i> ₂₀₂	17.7	X	139.20707	125.23041	214.86211	5.09036	0.1052944	0.26053882	2.4278457	20	—	—
309487 2007 <i>VP</i> ₂₀₇	17.7	X	43.52436	130.62777	18.37044	0.57432	0.1536327	0.26425248	2.4050457	20	3 24.3	19.7
309488 2007 <i>VP</i> ₂₀₈	16.1	X	27.91760	283.20438	102.90593	15.71339	0.1108113	0.23860070	2.5744724	20	—	—
309489 2007 <i>VL</i> ₂₃₇	17.6	X	291.31748	124.89813	57.78191	2.91031	0.0453101	0.24796094	2.5092689	20	—	—
309490 2007 <i>VE</i> ₂₃₉	17.2	X	62.51999	187.35513	224.97242	1.11374	0.0614790	0.24686465	2.5166923	20	—	—
309491 2007 <i>VR</i> ₂₅₀	16.6	X	11.67625	217.49705	205.00695	14.79299	0.1143747	0.23794305	2.5792140	20	—	—
309492 2007 <i>VS</i> ₂₆₆	17.4	X	87.40115	122.11981	267.54185	5.16665	0.1320079	0.25151992	2.4855421	20	—	—
309493 2007 <i>VT</i> ₂₆₉	16.4	X	261.39398	302.94743	236.36454	14.03788	0.0699431	0.23954927	2.5676716	20	—	—
309494 2007 <i>VR</i> ₂₇₄	16.4	X	197.32809	240.17380	89.45880	23.70297	0.2356148	0.26806576	2.3821832	20	2 17.2	20.9
309495 2007 <i>VR</i> ₂₉₀	17.4	X	268.95868	306.46651	215.33418	1.04580	0.0489636	0.23477061	2.6023971	20	—	—
309496 2007 <i>VU</i> ₂₉₄	16.3	X	338.61745	151.63307	319.76130	13.14316	0.2027096	0.22873204	2.6480004	20	—	—
309497 2007 <i>VV</i> ₂₉₉	16.3	X	317.90734	98.71109	344.58424	12.36990	0.2406431	0.22511197	2.6763135	20	12 22.3	18.7
309498 2007 <i>VC</i> ₃₀₆	16.6	X	335.06808	159.76885	276.10855	4.97940	0.1884011	0.22534306	2.6744835	20	—	—
309499 2007 <i>VG</i> ₃₀₇	17.1	X	220.77120	334.64251	221.51724	1.67340	0.0408505	0.23147662	2.6270276	20	—	—
309500 2007 <i>VP</i> ₃₀₈	16.0	X	279.13274	218.98549	273.14915	12.26823	0.1996098	0.22503162	2.6769506	20	12 9.4	18.7
309501 2007 <i>VN</i> ₃₁₀	16.4	X	152.56714	149.69656	83.75437	12.68347	0.1337361	0.22576820	2.6711249	20	11 26.9	20.7
309502 2007 <i>VG</i> ₃₁₂	16.4	X	272.27810	319.79193	93.54945	7.48916	0.0880307	0.20535267	2.8453508	20	8 30.2	20.2
309503 2007 <i>VP</i> ₃₁₉	17.0	X	218.89099	79.22226	191.77618	1.09676	0.0500190	0.25240399	2.4797348	20	—	—
309504 2007 <i>VD</i> ₃₂₃	16.6	X	71.94151	93.74553	326.85508	6.22604	0.0896507	0.25344571	2.4729353	20	1 2.9	19.3
309505 2007 <i>VU</i> ₃₂₈	16.6	X	132.67977	244.77749	78.94830	7.20399	0.0720105	0.24259946	2.5461041	20	—	—
309506 2007 <i>VK</i> ₃₃₀	16.0	X	309.93310	312.29427	65.44307	7.06475	0.0773367	0.20932059	2.8092782	20	9 9.9	19.5
309507 2007 <i>VG</i> ₃₃₁	17.0	X	357.63166	350.17242	99.37583	3.02707	0.1489877	0.23844553	2.5755892	20	—	—
309508 2007 <i>VR</i> ₃₃₄	16.9	X	72.58980	101.25561	241.33874	3.26480	0.1642584	0.23715022	2.5849592	20	—	—
309509 2007 <i>WM</i> ₇	16.4	X	338.52964	196.04164	260.25549	8.73160	0.0390559	0.23801784	2.5786736	20	—	—
309510 2007 <i>WU</i> ₁₈	16.9	X	157.01136	96.28981	117.43936	3.99350	0.0203908	0.22367372	2.6877740	20	11 10.1	20.6
309511 2007 <i>WK</i> ₂₀	15.8	X	346.76339	341.47677	70.47763	14.42318	0.2393994	0.22661280	2.6644839	20	—	—
309512 2007 <i>WR</i> ₂₀	16.3	X	237.15813	190.51619	300.10973	7.10093	0.1649884	0.21217094	2.7840612	20	10 7.1	20.6
309513 2007 <i>WU</i> ₂₇	16.5	X	103.56620	12.18572	340.66832	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>
309521 2007 XE ₁₇	16.8	X	68.37360	162.14472	169.30390	5.84162	0.2503062	0.23550385	2.5969926	20	—	—
309522 2007 XX ₁₇	16.4	X	350.96356	230.27969	268.16286	5.02445	0.1528879	0.24460169	2.5321907	20	—	—
309523 2007 XB ₂₁	15.7	X	339.34453	318.38710	67.02661	12.52876	0.1917808	0.22291534	2.6938666	11	13.5	18.2
309524 2007 XG ₂₄	16.0	X	38.19260	280.16647	103.87771	12.64334	0.3190293	0.23371316	2.6102410	20	—	—
309525 2007 XA ₂₆	15.6	X	43.04991	311.09278	87.33125	29.67023	0.2317684	0.23784775	2.5799028	20	—	—
309526 2007 XJ ₂₈	16.8	X	34.47701	311.97477	26.63163	1.91958	0.0936143	0.22464449	2.6800252	11	25.7	20.4
309527 2007 XJ ₃₂	16.7	X	50.63536	8.20610	42.69520	6.62257	0.2295471	0.24114275	2.5563476	20	—	—
309528 2007 XA ₄₀	16.7	X	358.82843	19.24682	63.52581	5.18318	0.1653754	0.23371809	2.6102043	20	—	—
309529 2007 XR ₄₀	15.5	X	355.31679	328.82045	99.21377	22.72989	0.0443722	0.22681285	2.6629169	20	—	—
309530 2007 XN ₄₁	16.7	X	350.77349	72.80758	43.45994	2.68215	0.1119313	0.24064743	2.5598542	20	—	—
309531 2007 XO ₄₁	17.1	X	289.31941	67.66001	69.90120	14.13921	0.1178907	0.23205815	2.6226369	20	—	—
309532 2007 XO ₄₆	16.4	X	84.49458	197.67690	167.62326	5.31902	0.1464869	0.24437730	2.5337406	20	—	—
309533 2007 YC ₈	16.7	X	246.43215	229.75411	228.53667	2.44977	0.0548543	0.21360951	2.7715475	9	25.8	20.5
309534 2007 YK ₈	16.4	X	355.54699	63.33768	57.81818	15.69660	0.0570633	0.24551624	2.5258986	20	—	—
309535 2007 YW ₁₂	16.7	X	31.87061	304.41193	58.96636	7.25189	0.0540507	0.22324192	2.6912387	12	17.6	20.2
309536 2007 YJ ₁₆	16.3	X	47.55088	277.89742	80.50208	15.79117	0.1348685	0.23291040	2.6162353	20	—	—
309537 2007 YX ₂₀	16.4	X	155.97258	89.28290	103.02875	2.98126	0.0135131	0.21271090	2.7793477	10	10.8	20.2
309538 2007 YU ₂₀	16.1	X	85.30825	150.18113	112.20917	5.51839	0.0206348	0.21269959	2.7794463	10	14.2	20.0
309539 2007 YJ ₂₃	17.4	X	21.79429	10.47081	55.00599	2.43773	0.1440501	0.23953380	2.5677822	20	—	—
309540 2007 YK ₂₃	16.6	X	312.79171	176.84973	293.90972	6.73041	0.0676775	0.22965303	2.6409160	20	—	—
309541 2007 YA ₂₈	16.6	X	224.36751	54.80012	76.61852	9.69524	0.1011508	0.21225590	2.7833183	10	10.4	20.7
309542 2007 YL ₃₁	16.9	X	15.11464	110.44589	298.49665	8.83517	0.2896818	0.23392052	2.6086982	20	—	—
309543 2007 YG ₃₄	16.9	X	80.70721	310.63572	58.83311	7.20475	0.1872081	0.24332735	2.5410240	20	—	—
309544 2007 YE ₃₆	17.4	X	18.67665	329.70463	75.78284	2.90720	0.2076145	0.23318013	2.6142173	20	—	—
309545 2007 YV ₃₆	17.1	X	239.99435	75.28675	51.26717	2.90001	0.0301251	0.21607239	2.7504465	10	29.3	20.6
309546 2007 YR ₃₇	16.9	X	13.04039	81.12480	324.92969	3.53628	0.0843553	0.22991393	2.6389178	20	—	—
309547 2007 YL ₄₁	17.2	X	14.12629	255.48870	111.62161	3.05559	0.1117737	0.22023903	2.7156462	12	6.6	20.6
309548 2007 YZ ₄₂	16.2	X	302.16894	346.11148	110.60811	12.67080	0.1321451	0.22209605	2.7004875	12	10.4	19.2
309549 2007 YS ₄₆	16.6	X	343.09857	320.28716	118.07952	14.36498	0.2184486	0.22865553	2.6485911	20	—	—
309550 2007 YB ₄₇	16.2	X	240.54958	132.09883	308.61816	10.72399	0.0750323	0.20358508	2.8617966	8	20.9	20.2
309551 2007 YR ₄₈	17.5	X	26.72272	136.09458	276.94502	1.82935	0.1337673	0.23537422	2.5979460	20	—	—
309552 2007 YA ₅₅	16.3	X	306.53637	329.03611	83.82889	5.43144	0.1154092	0.21524360	2.7575023	10	18.9	19.4
309553 2007 YH ₅₅	16.1	X	280.15306	53.48838	111.58168	15.95687	0.0996642	0.22900802	2.6458725	20	—	—
309554 2007 YP ₅₅	17.2	X	12.08692	58.08152	349.85365	3.55539	0.0963415	0.22686997	2.6624699	20	—	—
309555 2007 YM ₅₈	16.4	X	342.04579	320.06472	114.14405	4.68774	0.0800378	0.22677245	2.6632332	20	—	—
309556 2007 YZ ₅₉	16.3	X	356.45242	13.02248	68.51984	14.86826	0.2109040	0.23171139	2.6252528	20	—	—
309557 2007 YB ₆₁	16.5	X	323.73331	22.17632	81.84711	19.38876	0.2085415	0.22971559	2.6404366	20	—	—
309558 2007 YN ₇₁	16.8	X	114.78503	235.19466	351.47873	3.21265	0.0370876	0.2097529	2.8056630	10	2.8	20.7
309559 2007 YM ₇₄	15.9	X	118.41064	263.20901	307.27753	11.21045	0.0467759	0.20671293	2.8328546	9	12.3	20.1
309560 2008 AQ	17.1	X	6.28684	345.70323	93.82813	9.08308	0.1933370	0.23475480	2.6025140	20	—	—
309561 2008 AW ₁	15.6	X	17.00038	278.16546	111.89830	15.36148	0.1509916	0.22755609	2.6571154	20	—	—
309562 2008 AM ₄	16.9	X	321.12241	335.82159	123.50399	4.23380	0.1223681	0.22590219	2.6700687	20	—	—
309563 2008 AX ₁₁	17.4	X	299.47470	271.33999	148.30503	4.34830	0.0871140	0.21420816	2.7663813	10	18.1	20.7
309564 2008 AL ₁₆	16.5	X	329.19898	310.45996	237.17301	3.34980	0.0733770	0.24533202	2.5271628	1	16.0	19.6
309565 2008 AZ ₂₅	16.0	X	305.26234	27.50032	332.18926	8.30460	0.1127464	0.19861160	2.9093746	7	31.8	19.5
309566 2008 AV ₃₂	17.5	X	301.25826	103.53592	346.58290	3.89571	0.2065805	0.22100237	2.7093894	11	20.1	20.0
309567 2008 AH ₃₆	16.8	X	318.99967	117.74770	302.03743	2.87529	0.0584675	0.21713494	2.7414663	11	16.6	20.3
309568 2008 AX ₃₉	17.1	X	18.90410	99.01062	328.72883	6.71336	0.1742659	0.23288217	2.6164467	20	—	—
309569 2008 AG ₄₁	17.2	X	343.71139	102.42813	355.28094	3.58875	0.1602351	0.23011128	2.6374088	20	—	—
309570 2008 AE ₄₄	16.3	X	177.59982	212.19518	315.82493	15.18719	0.1729110	0.20364735	2.8612131	9	19.6	21.2
309571 2008 AU ₅₃	17.1	X	320.48875	326.21687	115.85742	4.56500	0.0503874	0.22284363	2.6944445	12	20.3	20.4
309572 2008 AS ₅₇	16.8	X	138.85644	83.13000	132.43444	5.66676	0.0935218	0.20909454	2.8113026	10	21.5	21.1
309573 2008 AM ₅₈	16.4	X	28.75016	223.24124	146.78914	3.20675	0.0990869	0.22300495	2.6931448	12	28.8	19.8
309574 2008 AO ₆₁	16.8	X	33.27165	98.02515	277.93343	5.05548	0.0440203	0.22358223	2.6885072	20	—	—
309575 2008 AY ₆₈	16.6	X	243.09669	183.28599	300.24666	5.60499	0.0742399	0.21426969	2.7658517	10	19.5	20.4
309576 2008 AC ₇₈	16.4	X	16.60828	320.50163	63.11244	2.78470	0.0919221	0.22317186	2.6918019	12	29.1	19.7
309577 2008 AV ₈₁	16.4	X	258.62313	295.62755	166.37323	4.72275	0.0765924	0.21353935	2.7721546	10	15.6	20.1
309578 2008 AQ ₈₃	16.3	X	202.80889	149.82861	57.87258	3.35644	0.0217803	0.22481351	2.6786817	12	27.0	19.8
309579 2008 AC ₈₈	16.9	X	350.12451	280.44480	123.61771	3.05885	0.0906553	0.22338533	2.6900867	12	17.4	20.0
309580 2008 AS ₉₃	16.7	X	72.74243	214.70299	88.25627	6.39325	0.0287995	0.21623749	2.7490463	11	19.1	20.4
309581 2008 AG ₉₅	16.5	X	310.60673	275.61065	116.45685	3.46909	0.1875325	0.21262333	2.7801108	9	18.3	19.2
309582 2008 AZ ₉₈	15.8	X	279.13508	191.96963	110.72439	13.32784	0.1626223	0.17962763	3.1109089	20	4.9	20.5
309583 2008 AM ₁₀₁	16.6	X	282.99091	175.11778	335.92627	7.81866	0.2138067	0.22617576	2.6679151	20	—	—
309584 2008 AR ₁₀₃	16.3	X	354.71344	268.56867	95.02936	7.53983	0.0647262	0.21550795	2.7552469	10	30.6	19.8
309585 2008 AQ ₁₀₅	16.4	X	46.79892	265.34838	88.98080	6.09219	0.0559038	0.22374806	2.6871786	12	25.8	20.1
309586 2008 AW ₁₁₀	16.1	X	48.67434	81.94496	104.23746	2.72234	0.0894178	0.18020861	3.1042191	5	22.8	20.0
309587 2008 AJ ₁₁₂	17.3	X	6.37857	254.36085	153.26563	2.61118	0.1324329	0.22873392	2.6479859	20	—	—
309588 2008 AR ₁₁₄	16.9	X	38.65207	162.53055	138.85361	2.88637	0.0498285	0.20589286	2.8403718	10	5.6	20.7
309589 2008 AH ₁₁₈	16.8	X	305.67831	345.09758	70.14288	5.07184	0.0935956	0.21377493	2.7701175	10	21.4	20.0
309590 2008 AT ₁₂₉	16.3	X	18.04941	288.50275	301.87961	2.55139	0.1339979	0.18062121	3.0994898	20	6.5	19.9
309591 2008 AO ₁₃₅	16.6	X	309.76405	95.92181	83.02647	8.99963	0.0788788	0.23826461	2.5768929	20	—	—
309592 2008 AX ₁₃₅	16.1	X	325.49301	348.92304	73.57922	11.67877	0.1795335	0.21886179	2.7270269	12	3.9	18.7
309593 2008 AF ₁₃₆	16.3	X	34.89938	170.17449	259.62605	10.90212	0.1543732	0.23720387	2.5845694	20	—	—
309594 2008 AE ₁₃₇	16.4	X	335.19532	162.54923	258.47694	6.96111	0.1765709	0.22442565	2.6817670	12	23.4	19.0
309595 2008 BY ₄	16.6	X	17.02668	307.38366	98.04774	4.40376	0.0707340	0.2272750	2.6557818	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>
309601 2008 <i>BN</i> ₂₄	17.0	X	173.72588	116.01286	39.53364	8.95033	0.1973134	0.28215535	2.3022043	20	9 18.7	20.7
309602 2008 <i>BR</i> ₂₅	17.4	X	62.30706	182.32250	29.39994	2.86073	0.1810473	0.26726987	2.3869100	20	8 5.8	20.3
309603 2008 <i>BK</i> ₂₆	16.3	X	3.97654	90.37406	293.28029	4.96485	0.0464270	0.21770858	2.7366485	20	12 3.9	19.9
309604 2008 <i>BQ</i> ₂₈	16.6	X	18.73670	287.36903	325.07600	3.23393	0.1119874	0.18893783	3.0078541	20	7 6.6	20.2
309605 2008 <i>BY</i> ₂₉	16.7	X	205.28917	35.73549	157.71444	4.8617	0.1406676	0.21677761	2.7444781	20	11 27.3	20.8
309606 2008 <i>BJ</i> ₃₂	17.1	X	209.44040	352.21928	149.64502	3.65358	0.0971192	0.20416921	2.8563355	20	10 2.1	21.3
309607 2008 <i>BV</i> ₃₄	15.9	X	283.83928	36.98809	330.60301	8.40442	0.1167790	0.19184754	2.9773637	20	7 8.9	20.0
309608 2008 <i>BG</i> ₃₇	17.1	X	53.58367	62.13214	206.84764	1.45679	0.0225575	0.20274325	2.8697128	20	9 7.2	21.1
309609 2008 <i>BZ</i> ₃₉	16.1	X	237.45253	57.43641	80.40499	10.42794	0.0993421	0.21419313	2.7665107	20	11 2.3	20.0
309610 2008 <i>BH</i> ₄₂	16.2	X	306.96395	348.97558	115.40237	14.87179	0.2059721	0.22303420	2.6929094	20	12 26.7	18.8
309611 2008 <i>BK</i> ₄₄	15.6	X	70.25016	73.81377	111.49645	7.90387	0.0263473	0.18608912	3.0384730	20	6 11.9	19.8
309612 2008 <i>BV</i> ₄₅	15.7	X	322.04254	356.57488	103.18025	22.78583	0.0375742	0.22440492	2.6819323	20	—	—
309613 2008 <i>BT</i> ₄₆	16.7	X	56.15686	76.71159	157.83447	5.28861	0.0836392	0.18902130	3.0069685	20	8 3.8	20.7
309614 2008 <i>CV</i> ₆	17.0	X	16.80336	317.35334	104.78440	5.79957	0.1764985	0.23365997	2.6106371	20	—	—
309615 2008 <i>CV</i> ₉	17.0	X	193.78309	46.12748	89.00570	1.12967	0.0958779	0.20208187	2.8759708	20	9 6.1	21.4
309616 2008 <i>CE</i> ₂₃	16.1	X	166.18247	182.63993	315.54348	7.10077	0.0364149	0.19520854	2.9430897	20	8 10.7	20.2
309617 2008 <i>CV</i> ₂₃	16.0	X	223.46028	8.53218	149.27445	10.41405	0.1528071	0.21172371	2.7879804	20	11 3.4	20.3
309618 2008 <i>CK</i> ₂₅	16.2	X	281.01554	305.97426	59.75412	2.10208	0.1534788	0.19024918	2.9940165	20	6 25.4	20.2
309619 2008 <i>CM</i> ₂₅	15.6	X	222.94167	71.07363	82.18760	16.43512	0.1790526	0.21030292	2.8005232	20	10 28.6	20.1
309620 2008 <i>CQ</i> ₅₀	16.2	X	82.42656	242.90910	97.41467	7.19867	0.0419308	0.22033050	2.7148946	20	—	—
309621 2008 <i>CJ</i> ₅₆	17.1	X	64.59756	17.17207	187.92982	2.57860	0.1187449	0.26688841	2.3891839	20	7 18.1	20.0
309622 2008 <i>CJ</i> ₆₈	16.5	X	317.19956	301.90761	159.00926	13.51464	0.2210079	0.22598591	2.6694092	20	—	—
309623 2008 <i>CM</i> ₇₁	15.6	X	174.04216	126.51308	96.12294	12.06537	0.0395547	0.21718420	2.7410517	20	12 8.5	19.5
309624 2008 <i>CN</i> ₇₉	15.7	X	295.30753	203.77363	103.79623	6.20877	0.1476402	0.18044002	3.1015644	20	5 3.3	19.9
309625 2008 <i>CA</i> ₈₅	16.8	X	239.99806	123.52854	17.45959	1.19874	0.055807	0.21128372	2.7918497	20	11 4.8	20.7
309626 2008 <i>CV</i> ₈₈	15.8	X	231.18519	358.68433	15.30104	9.24551	0.0696172	0.18090375	3.0962617	20	5 15.5	20.5
309627 2008 <i>CD</i> ₉₈	16.7	X	281.99281	301.91774	115.57197	3.18217	0.0533476	0.20386950	2.8591342	20	9 21.4	20.4
309628 2008 <i>CB</i> ₉₉	15.4	X	325.21905	336.10121	331.61075	9.78621	0.1022311	0.18692076	3.0294540	20	6 21.9	19.3
309629 2008 <i>CN</i> ₁₀₀	15.7	X	263.96772	41.54221	342.96090	8.27308	0.1116513	0.19289352	2.9665906	20	7 5.4	20.0
309630 2008 <i>CP</i> ₁₂₁	17.1	X	275.38114	155.67623	356.63734	2.57548	0.1055660	0.22331643	2.6906401	20	—	—
309631 2008 <i>CO</i> ₁₂₈	16.8	X	261.22463	288.73430	147.16047	2.68510	0.0407962	0.20298850	2.8674009	20	9 18.1	20.5
309632 2008 <i>CO</i> ₁₃₄	16.5	X	285.45351	291.67351	151.88967	13.51288	0.1242532	0.21353360	2.7722043	20	10 26.6	20.1
309633 2008 <i>CH</i> ₁₅₂	16.2	X	84.44170	305.72550	257.76887	3.21364	0.0895087	0.18770180	3.0210443	20	7 31.8	20.4
309634 2008 <i>CY</i> ₁₅₆	16.7	X	330.89868	177.23489	95.26583	2.66960	0.1026561	0.17654352	3.1470347	20	5 14.7	20.6
309635 2008 <i>CD</i> ₁₆₅	16.9	X	295.87767	235.55064	206.98696	4.23368	0.1376822	0.21546770	2.7555900	20	11 6.1	20.1
309636 2008 <i>CO</i> ₁₆₅	16.5	X	107.23385	306.46075	252.48889	2.49915	0.0854765	0.19102582	2.9858959	20	8 21.7	20.8
309637 2008 <i>CD</i> ₁₇₇	16.5	X	212.56151	233.00811	132.42497	4.21246	0.0619524	0.21788786	2.7351472	20	12 3.6	20.4
309638 2008 <i>CL</i> ₁₇₈	16.4	X	253.49199	102.32024	353.26968	7.48707	0.1284575	0.20961330	2.8066623	20	9 20.4	20.1
309639 2008 <i>CE</i> ₁₈₀	16.0	X	267.12157	250.25216	231.12642	12.23815	0.1459444	0.21668839	2.7452314	20	11 10.7	19.3
309640 2008 <i>CL</i> ₁₈₂	15.9	X	6.22823	184.22478	50.29367	6.33629	0.0563735	0.17813163	3.1283022	20	5 19.8	20.0
309641 2008 <i>CC</i> ₁₉₂	16.0	X	227.16402	154.69609	216.42957	5.01035	0.0395350	0.17895702	3.1186757	20	5 12.9	20.4
309642 2008 <i>CR</i> ₁₉₅	16.4	X	288.01573	239.27815	174.04149	9.25200	0.1296196	0.20512361	2.8474687	20	9 12.5	19.9
309643 2008 <i>CS</i> ₁₉₅	16.8	X	172.58345	248.90970	189.48190	4.96048	0.1340776	0.18392738	3.0622346	20	6 4.2	21.7
309644 2008 <i>CN</i> ₁₉₉	16.0	X	228.81124	240.73045	159.57791	3.37127	0.1079562	0.18341522	3.0679325	20	6 13.8	20.6
309645 2008 <i>CA</i> ₂₀₂	16.1	X	341.99403	214.89809	137.69884	7.12106	0.0224597	0.20011661	2.8947693	20	9 22.3	19.9
309646 2008 <i>CA</i> ₂₁₂	15.9	X	237.25705	53.58133	16.88917	10.62997	0.0779745	0.19670793	2.9281150	20	8 9.2	20.2
309647 2008 <i>CZ</i> ₂₁₃	16.2	X	200.90415	79.59670	351.51323	4.49553	0.1211968	0.18412813	3.0600085	20	6 22.3	21.0
309648 2008 <i>DR</i> ₇	16.3	X	267.79010	273.48670	131.53075	7.05322	0.0637574	0.20172413	2.7893700	20	8 13.5	20.1
309649 2008 <i>DJ</i> ₉	15.9	X	296.28756	6.37922	130.79283	8.00788	0.0882087	0.18476917	3.0529267	20	5 21.6	20.1
309650 2008 <i>DF</i> ₂₀	16.9	X	195.94335	99.65023	61.77746	2.36344	0.1413809	0.20564104	2.8426902	20	10 8.4	21.2
309651 2008 <i>DC</i> ₂₁	16.6	X	222.91232	298.13043	122.00062	2.74635	0.1456329	0.18731741	3.0251758	20	6 28.9	21.4
309652 2008 <i>DP</i> ₂₃	16.6	X	136.60961	19.73576	170.36808	11.55897	0.0698995	0.19746718	2.9206047	20	9 12.9	20.9
309653 2008 <i>DS</i> ₂₉	16.0	X	52.46511	231.85044	342.58419	5.87173	0.0755319	0.18354916	3.0664399	20	7 3.0	20.1
309654 2008 <i>DP</i> ₅₅	15.8	X	20.29345	249.52063	641.80190	4.45807	0.0409150	0.17827789	3.1213406	20	6 3.9	20.0
309655 2008 <i>DT</i> ₅₈	16.4	X	72.05397	201.58336	120.95414	4.75151	0.1068047	0.21918789	2.7243214	20	12 21.4	20.3
309656 2008 <i>DH</i> ₆₁	16.6	X	94.24235	107.99444	109.55865	2.97160	0.0569242	0.19304977	2.9649897	20	8 29.0	20.7
309657 2008 <i>DO</i> ₆₆	16.5	X	182.56689	41.54210	121.29071	7.25011	0.0336719	0.20558601	2.8431974	20	10 5.6	20.6
309658 2008 <i>DM</i> ₆₇	16.0	X	170.25927	245.61721	226.02428	7.70514	0.0504187	0.18470422	3.0536423	20	7 10.5	20.6
309659 2008 <i>DV</i> ₈₀	16.7	X	97.76211	247.49271	312.90365	2.47842	0.0725138	0.19004531	2.9961573	20	8 11.9	20.9
309660 2008 <i>DL</i> ₈₅	16.0	X	153.28778	73.21543	77.49436	2.52983	0.0543233	0.19001150	2.9965127	20	8 12.5	20.3
309661 2008 <i>DR</i> ₈₅	16.4	X	215.96271	342.58968	97.27073	3.02486	0.1264031	0.18863612	3.0110605	20	7 18.4	21.1
309662 2008 <i>EE</i> ₈	19.8	X	52.14153	332.49963	343.56121	16.15604	0.2118178	0.10402738	0.9812272	20	—	—
309663 2008 <i>EO</i> ₁₄	16.3	X	19.76445	250.60543	357.01591	8.82438	0.0366448	0.17980802	3.1088279	20	6 25.5	20.6
309664 2008 <i>EE</i> ₂₃	15.7	X	231.56171	46.52125	34.37130	9.93747	0.0468499	0.19516300	2.9435475	20	8 19.9	20.0
309665 2008 <i>EP</i> ₂₃	15.4	X	96.79701	94.90412	8.26056	18.71896	0.1494707	0.17153721	3.2079714	20	4 15.3	20.1
309666 2008 <i>EK</i> ₃₈	15.4	X	249.87255	216.19934	142.80595	11.54241	0.0389510	0.17840293	3.1251298	20	5 27.5	20.1
309667 2008 <i>EA</i> ₃₉	15.6	X	336.25308	142.61978	123.63396	6.44403	0.1315714	0.17399257	3.1777196	20	5 13.9	19.5
309668 2008 <i>ET</i> ₄₀	15.9	X	314.44743	133.97442	337.82352	8.93292	0.0357862	0.17439858	3.1727858	20	5 19.9	20.5
309669 2008 <i>EE</i> ₄₁	16.3	X	175.09252	219.85338	261.18227	4.57186	0.0778687	0.18755019	3.0226721	20	7 28.2	21.0
309670 2008 <i>EP</i> ₄₁	16.9	X	283.36029	65.88939	57.03523	5.70834	0.1154416	0.21751815	2.7382455	20	12 11.9	20.1
309671 2008 <i>EN</i> ₄₉	15.7	X	118.40547	145.68430	359.36743	9.10962	0.0227622	0.17983270	3.1085435			

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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>
309681 2008 ES ₁₁₁	15.5	X	139.28428	292.31153	156.11835	15.32223	0.0452873	0.17455954	3.1708351	20	5 11.8	20.4
309682 2008 ES ₁₃₇	17.5	X	45.58254	141.14810	131.92454	2.92663	0.2001905	0.26658840	2.3909760	20	10 11.4	20.4
309683 2008 ET ₁₄₇	17.1	X	9.20631	167.82757	25.92178	1.32448	0.0431603	0.24666847	2.5180265	20	3 26.9	20.0
309684 2008 ET ₁₄₈	16.2	X	40.64725	212.96510	349.66887	4.17186	0.1228927	0.17358850	3.1826490	20	6 4.5	20.2
309685 2008 EK ₁₅₃	15.3	X	64.87969	80.55293	100.73154	8.42504	0.0388787	0.17477837	3.1681878	20	6 1.8	19.6
309686 2008 EF ₁₆₇	16.3	X	11.41028	75.78792	186.60530	2.19901	0.0470752	0.18233806	3.0800031	20	7 3.1	20.3
309687 2008 EZ ₁₆₈	16.0	X	135.57982	99.24263	56.90040	13.03492	0.1409377	0.18524786	3.0476652	20	8 7.7	21.0
309688 2008 FD ₃	16.3	X	283.58418	257.08327	104.46400	3.64942	0.0276885	0.18739644	3.0243252	20	7 12.3	20.3
309689 2008 FB ₄	16.5	X	150.52590	147.57156	11.79510	4.95367	0.1320320	0.19337453	2.9616692	20	8 23.5	21.2
309690 2008 FT ₁₃	15.9	X	27.35025	32.56263	190.97692	9.43775	0.0954050	0.17616249	3.1515709	20	6 9.6	20.1
309691 2008 FO ₁₅	15.4	X	162.78291	30.75431	69.25743	12.33711	0.0748300	0.17597116	3.1538549	20	6 18.6	20.3
309692 2008 FE ₁₉	16.2	X	207.87794	11.08941	359.70622	11.31295	0.1007770	0.17121621	3.2119797	20	4 14.5	21.2
309693 2008 FU ₃₅	15.3	X	277.33965	265.55792	359.80223	16.18255	0.1426222	0.16023414	3.3571134	20	2 25.1	20.3
309694 2008 FJ ₄₅	16.2	X	191.12338	280.50581	169.74629	11.80389	0.0150665	0.18581350	3.0414770	20	7 9.4	20.8
309695 2008 FZ ₅₁	16.3	X	15.23636	149.65868	90.63676	2.46695	0.1118812	0.17451856	3.1713314	20	6 13.1	20.0
309696 2008 FA ₆₅	15.5	X	29.90943	27.18190	168.73605	5.93337	0.0643133	0.16654560	3.2717537	20	5 7.0	19.8
309697 2008 FM ₇₉	16.6	X	222.71747	61.58251	5.18742	1.73253	0.0801427	0.18524420	3.0477053	20	7 13.3	21.0
309698 2008 FS ₈₇	16.7	X	219.43860	31.86142	59.15475	0.31819	0.1432767	0.19156345	2.9803066	20	8 3.5	21.3
309699 2008 FG ₉₁	16.6	X	16.22442	92.47541	146.98501	2.45980	0.1142142	0.18148731	3.0896210	20	6 14.1	20.3
309700 2008 FP ₉₈	15.5	X	113.58587	291.92436	227.44922	15.74251	0.0673924	0.18301912	3.0723574	20	7 5.3	20.2
309701 2008 FX ₉₉	15.9	X	122.40595	69.56262	77.16903	10.86649	0.0806297	0.17730823	3.1379797	20	7 3.7	20.6
309702 2008 FN ₁₁₅	16.3	X	127.92009	93.79840	42.43092	5.13163	0.0734555	0.17961399	3.1110664	20	6 26.1	20.9
309703 2008 FM ₁₁₈	16.6	X	50.39676	76.95787	87.05094	3.70029	0.1348406	0.16878801	3.2427116	20	5 3.3	20.6
309704 2008 Baruffetti	15.4	X	206.42521	17.45756	51.99395	10.60959	0.0421826	0.18354054	3.0665358	20	6 30.7	19.9
309705 2008 FR ₁₃₇	15.7	X	258.71397	24.41213	37.46646	10.79939	0.0998212	0.19312368	2.9642331	20	8 22.1	20.0
309706 Avila	15.0	X	44.79078	137.85894	81.87502	20.25074	0.1578041	0.17429259	3.1740720	20	7 8.9	19.2
309707 2008 GC ₁	12.1	X	282.82365	166.05802	255.36142	34.78639	0.0685282	0.08553963	5.1014205	20	8 21.4	19.3
309708 2008 GP ₂	16.4	X	74.46748	83.04211	102.40031	2.39791	0.0872552	0.17682021	3.1437508	20	6 25.9	20.7
309709 2008 GE ₃	15.5	X	252.22089	273.70970	75.92748	12.07586	0.0630429	0.17314443	3.1880884	20	5 14.8	20.1
309710 2008 GQ ₁₂	16.4	X	301.46263	149.99606	156.19780	10.07869	0.0931188	0.18057331	3.1000380	20	5 18.5	20.7
309711 2008 GV ₂₉	16.1	X	107.43318	333.00924	190.02940	9.86039	0.0297453	0.18034603	3.1026419	20	6 29.9	20.7
309712 2008 GL ₆₁	16.0	X	176.14112	60.81493	42.25820	27.45288	0.1730793	0.18370493	3.0647062	20	7 7.2	21.5
309713 2008 GY ₆₄	16.3	X	130.98543	296.50915	174.85099	9.45775	0.0373014	0.17422297	3.1749175	20	5 27.3	21.0
309714 2008 GF ₁₁₁	15.0	X	78.59384	130.75368	73.40489	18.51347	0.0868786	0.17940166	3.1135207	20	7 28.0	19.6
309715 2008 GL ₁₁₄	16.0	X	55.77095	142.89948	79.09373	6.56130	0.0844691	0.17942570	3.1132424	20	7 18.6	20.2
309716 2008 GO ₁₁₄	15.6	X	177.87302	284.64349	129.14064	7.71327	0.0828963	0.16904292	3.2394508	20	5 11.9	20.6
309717 2008 GS ₁₁₅	15.8	X	214.94491	262.94572	221.36511	10.08776	0.1293658	0.19749659	2.9203146	20	9 7.4	20.5
309718 2008 GM ₁₂₂	16.3	X	105.77663	123.85340	49.36941	6.20429	0.1455983	0.18091212	3.0961662	20	7 27.3	21.1
309719 2008 GQ ₁₂₉	16.2	X	88.21479	10.76135	67.84416	13.21566	0.1880024	0.23313967	2.6145198	20	3 17.4	19.8
309720 2008 GP ₁₃₆	15.8	X	144.86749	9.81473	96.67138	6.96331	0.0976950	0.17242043	3.1970068	20	6 9.6	20.8
309721 2008 GU ₁₄₀	16.0	X	171.31362	260.96112	230.50223	5.14401	0.1151596	0.18782479	3.0197253	20	8 5.2	20.8
309722 2008 GT ₁₄₅	15.5	X	93.07254	127.36481	64.23366	17.91103	0.1639231	0.18050650	3.1008029	20	8 11.9	20.5
309723 2008 HJ ₆	16.5	X	145.21954	91.28690	43.40377	4.18223	0.1191131	0.18229201	3.0805218	20	7 16.8	21.4
309724 2008 HK ₁₈	15.9	X	135.78462	64.81237	91.46434	12.79042	0.1596922	0.18292232	3.0734413	20	8 6.9	21.0
309725 2008 HL ₆₇	16.1	X	117.29574	311.26172	170.83617	7.76011	0.0460471	0.16805046	3.2521925	20	5 25.3	20.9
309726 2008 HZ ₆₈	15.7	X	182.10555	32.61558	104.89061	13.37402	0.0492984	0.18235217	3.0798443	20	8 31.3	20.4
309727 2008 HW ₆₉	15.9	X	140.62021	84.64551	44.93711	10.12798	0.1549565	0.17652091	3.1473034	20	7 7.7	21.1
309728 2008 JF	18.1	X	152.77041	235.80063	90.66180	19.80245	0.3928135	0.37409314	1.9075805	20	1 3.5	20.7
309729 2008 JU ₂₃	16.5	X	113.60877	13.29924	75.70145	9.07683	0.1503849	0.24005075	2.5640944	20	4 21.7	20.2
309730 2008 KJ ₃₉	15.5	X	357.95541	236.03835	127.94969	13.01713	0.2909549	0.18296507	3.0729624	20	11 22.9	18.8
309731 2008 LX ₁₅	15.5	X	95.51437	78.55447	69.58480	16.54722	0.0989324	0.17087274	3.2162825	20	6 5.7	20.1
309732 2008 QD ₃₅	15.6	X	334.89014	272.72576	113.02396	3.86793	0.1799800	0.16927898	3.2364384	20	10 18.6	19.1
309733 2008 RK ₄	13.8	X	269.14548	255.80884	194.21263	7.70302	0.0338928	0.08243297	5.2288005	20	9 27.7	20.8
309734 2008 RW ₂₇	15.8	X	324.64002	271.15855	46.65792	14.26620	0.1510160	0.24246861	2.5470200	20	7 2.7	18.6
309735 2008 RK ₅₀	13.7	X	241.79837	196.32458	271.30264	7.14099	0.0758771	0.08328683	5.1930019	20	9 9.4	20.8
309736 2008 SV ₂₀₀	16.8	X	278.22585	160.43721	287.49783	1.78188	0.0546190	0.24703635	2.5155260	20	11 1.5	19.8
309737 2008 SJ ₂₃₆	12.3	X	105.67294	182.79511	234.54549	6.04182	0.4356932	0.02732705	10.9162679	20	4 9.5	23.6
309738 2008 TW ₂₂	17.9	X	228.52545	297.46180	105.89746	6.93663	0.2267452	0.30756549	2.1735901	20	6 8.7	21.3
309739 2008 TB ₁₅₈	16.5	X	312.33118	35.39274	353.61676	11.59664	0.2099968	0.24208042	2.5497422	20	9 19.6	18.4
309740 2008 UK ₂	17.4	X	171.29456	55.26243	220.83453	19.72964	0.0403645	0.35390911	1.9794364	20	—	—
309741 2008 UZ ₆	10.7	X	23.12451	199.51477	240.69661	35.82910	0.6095896	0.00701114	27.0360793	20	2 22.6	22.9
309742 2008 UC ₁₂₁	15.8	X	168.16947	357.61646	258.16555	12.91602	0.2316611	0.26171862	2.4205439	20	—	—
309743 2008 UA ₁₇₂	18.0	X	251.87804	104.88474	239.74434	3.88553	0.1792997	0.30415159	2.1898246	20	4 16.6	21.1
309744 2008 UL ₁₉₉	17.2	X	330.59038	251.64059	239.70389	17.32947	0.1105984	0.35232125	1.9853793	20	—	—
309745 2008 UE ₂₆₈	17.8	X	243.46682	350.03110	173.85402	2.16107	0.1263481	0.25338921	2.4733029	20	12 15.6	20.9
309746 2008 UC ₂₉₄	17.1	X	356.32457	170.91687	16.49680	6.08094	0.1101725	0.28596570	2.2817081	20	2 17.8	19.3
309747 2008 UL ₃₀₉	17.6	X	84.45298	88.49724	234.85301	19.94371	0.0696103	0.34364563	2.0186553	20	—	—
309748 2008 UM ₃₁₆	17.8	X	180.55505	276.66692	190.34910	1.87143	0.0752377	0.30775162	2.1727136	20	7 24.3	20.5
309749 2008 UF ₃₅₆	17.3	X	190.94442	38.41400	275.28717	4.91717	0.2491876	0.28536899	2.2848877	20	1 16.9	21.1
309750 2008 VR ₂	16.0	X	251.26080	50.36820	26.76075	15.31397	0.0425506	0.23762908	2.5814853	20	10 12.9	19.5
309751 2008 VK ₄	16.9	X	271.53259	314.92965	262.93894	18.43801	0.0328944	0.36274883	1.9471468	20	—	—
309752 2008 VG ₆	16.0	X	306.56783	2.48427	30.75705	14.13128	0.1573348	0.24023056	2.5628148	20	9 25.8	18.7
309753 2008 VT ₃₈	18.2	X	346.74430	22.49261	289.32019	2.21981	0.1482178	0.31625371	2.1335965	20	8 21.7	19.4

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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>
309761 2008 YQ ₄	17.3	X	157.81885	76.15966	304.60690	5.58731	0.1262765	0.27562747	2.3384121	20	3 2.1	20.6
309762 2008 YN ₅	17.5	X	84.26803	352.08551	178.76735	4.35257	0.0698293	0.29140653	2.2532179	20	6 20.1	20.1
309763 2008 YJ ₁₅	17.1	X	165.91826	216.31694	262.97721	6.82081	0.0762528	0.30120123	2.2041013	20	7 22.3	20.0
309764 2008 YM ₃₅	18.0	X	200.19188	354.48804	21.02996	1.12086	0.1509675	0.28717485	2.2752988	20	4 9.2	21.5
309765 2008 YN ₅₄	17.3	X	31.59195	101.79957	91.76920	7.45969	0.0541847	0.28263911	2.2995766	20	5 1.9	19.8
309766 2008 YR ₅₄	17.4	X	162.93038	33.66815	39.22544	3.09289	0.1355691	0.28947067	2.2632525	20	5 17.1	20.7
309767 2008 YU ₆₄	18.2	X	232.11108	255.21275	132.04679	7.67685	0.2328735	0.29929020	2.2134738	20	5 22.6	21.7
309768 2008 YQ ₆₅	17.8	X	105.05271	322.58954	158.76402	2.36736	0.1783803	0.27830899	2.3233674	20	5 24.7	20.9
309769 2008 YL ₆₈	16.8	X	184.89871	253.77168	134.79001	6.65509	0.0912564	0.28049883	2.3112594	20	4 13.6	20.1
309770 2008 YG ₈₀	17.5	X	37.23542	54.90307	148.25353	3.29200	0.1072705	0.28437743	2.2901959	20	5 30.1	19.8
309771 2008 YU ₈₀	16.9	X	267.73192	2.30537	320.88094	5.48913	0.1019391	0.28880087	2.2667505	20	4 14.3	19.8
309772 2008 YD ₉₈	17.6	X	173.49868	259.41930	97.48883	6.31960	0.2532656	0.27699357	2.3307172	20	2 28.3	21.6
309773 2008 YC ₉₉	16.8	X	136.14919	11.01699	290.94914	9.81991	0.1450248	0.25134044	2.4867252	20	—	—
309774 2008 YH ₁₁₉	16.9	X	322.79176	255.57432	311.30362	6.16225	0.0693185	0.26865951	2.3786721	20	1 30.0	19.8
309775 2008 YD ₁₂₅	17.6	X	330.96384	212.77814	1.84546	2.01995	0.1055943	0.27345203	2.3507978	20	2 15.8	20.1
309776 2008 YH ₁₂₅	16.7	X	300.06829	332.51732	301.21311	6.35908	0.1112616	0.28258590	2.2998653	20	3 18.0	19.6
309777 2008 YU ₁₃₃	16.6	X	175.88956	282.79069	278.41846	5.08441	0.1286827	0.23389163	2.6089130	20	11 8.9	20.6
309778 2008 YG ₁₃₉	17.4	X	220.09719	43.14782	277.27218	2.63985	0.1390420	0.27789097	2.3256968	20	2 17.9	21.0
309779 2008 YN ₁₄₀	17.1	X	267.14882	93.53326	250.36681	3.76971	0.0219854	0.29173413	2.2515308	20	5 29.2	19.8
309780 2008 YU ₁₄₀	17.8	X	97.90735	303.31800	223.30737	2.55131	0.1096718	0.29232927	2.2484739	20	7 8.9	20.7
309781 2008 YC ₁₅₄	18.3	X	202.32115	354.99987	76.34101	1.18033	0.1083175	0.29856066	2.2170781	20	6 27.8	21.4
309782 2008 YU ₁₅₄	17.9	X	218.88185	179.05442	256.85312	2.65794	0.1222831	0.30366179	2.1921787	20	7 22.5	20.7
309783 2008 YN ₁₅₉	17.1	X	297.39512	90.96004	118.66859	3.31869	0.1461885	0.25728216	2.4482904	20	—	—
309784 2008 YD ₁₆₁	17.9	X	34.27280	123.59491	60.63315	3.17352	0.0997464	0.28231254	2.3013496	20	4 23.7	19.9
309785 2008 YJ ₁₆₃	17.5	X	349.34670	346.09765	235.34195	2.26028	0.1039534	0.28059634	2.3107238	20	3 25.2	19.7
309786 2008 YM ₁₆₅	16.8	X	239.11768	218.72285	346.29436	7.47212	0.1452186	0.23768314	2.5810939	20	—	—
309787 2008 YB ₁₆₆	18.1	X	205.00394	240.68901	144.23690	2.36123	0.1445301	0.28987607	2.2611418	20	4 27.3	21.5
309788 2008 AE ₁₅	17.8	X	344.75270	246.57839	310.49482	1.49844	0.1394834	0.27042349	2.3683167	20	2 7.8	20.2
309789 2009 AL ₂₂	17.4	X	258.71199	323.93044	254.24415	0.64675	0.1243838	0.25716473	2.4490357	20	—	—
309790 2009 AS ₂₈	17.3	X	263.27442	225.63299	122.39622	4.33560	0.0264923	0.29179407	2.2512225	20	5 29.8	20.0
309791 2009 AZ ₃₃	18.2	X	65.70649	85.73088	32.93069	2.63883	0.1410080	0.27530588	2.3402328	20	3 18.2	20.4
309792 2009 AF ₄₀	18.0	X	118.87609	1.19043	140.14031	3.36281	0.1302862	0.29247273	2.2477385	20	7 1.6	20.9
309793 2009 AG ₄₇	17.6	X	223.29527	250.72590	157.20592	5.49675	0.1197065	0.29876890	2.2160478	20	6 18.7	20.7
309794 2009 AN ₅₀	17.2	X	243.45685	275.80692	103.24802	8.02021	0.1165375	0.29927307	2.2135583	20	6 3.5	20.0
309795 2009 BE ₃₂	17.4	X	300.92023	174.09831	35.04084	1.92644	0.1223551	0.26217677	2.4177232	20	—	—
309796 2009 BN ₃₆	17.7	X	43.38444	137.77820	73.33088	3.96092	0.1035237	0.28707164	2.2758442	20	6 21.7	19.8
309797 2009 BN ₃₈	17.1	X	297.11050	167.80749	83.45939	2.26424	0.1536957	0.26942897	2.3741411	20	2 11.9	20.0
309798 2009 BL ₄₀	16.9	X	281.50553	155.18989	59.61146	2.26937	0.1282924	0.25701305	2.4499991	20	—	—
309799 2009 BT ₄₁	17.5	X	111.63885	14.77756	45.66602	2.37645	0.1775147	0.27353964	2.3502959	20	3 11.2	20.6
309800 2009 BP ₄₄	17.4	X	329.41964	7.56092	194.27549	0.91543	0.1287877	0.26484421	2.4014620	20	1 23.8	20.0
309801 2009 BO ₄₈	16.9	X	17.58549	186.36506	321.98760	6.55171	0.0643249	0.26584053	2.3954581	20	2 2.6	19.3
309802 2009 BH ₆₅	17.0	X	208.14397	228.32608	144.86214	6.76079	0.1185468	0.28270311	2.2992295	20	4 17.8	20.4
309803 2009 BL ₇₀	17.4	X	5.50007	121.28542	56.00366	4.17194	0.1379311	0.27115965	2.3640283	20	2 19.2	19.6
309804 2009 BN ₇₇	17.0	X	113.43444	75.58894	62.86414	5.33711	0.0720878	0.28940842	2.2635770	20	6 13.5	19.7
309805 2009 BO ₇₈	17.8	X	40.48495	173.92599	345.62492	1.77222	0.1606673	0.27367333	2.3495304	20	4 2.5	19.6
309806 2009 BQ ₈₁	17.3	X	148.55704	322.94835	145.80833	4.60315	0.1267790	0.29178579	2.2512650	20	6 19.9	20.6
309807 2009 BP ₈₅	17.5	X	210.30736	217.15191	149.88626	3.16515	0.1753736	0.28612186	2.2808778	20	4 8.6	21.1
309808 2009 BY ₈₅	17.7	X	57.66999	217.57338	299.72997	3.31720	0.0649620	0.28029214	2.3123954	20	4 16.7	20.3
309809 2009 BP ₈₇	17.6	X	117.94434	312.41682	118.88610	3.87123	0.0463996	0.27513768	2.3411864	20	3 15.0	20.4
309810 2009 BV ₈₉	17.4	X	156.38274	287.35463	137.65393	7.14485	0.0774591	0.28406447	2.2918777	20	4 29.2	20.6
309811 2009 BY ₉₁	17.6	X	150.95251	285.13942	129.23235	6.02164	0.1482687	0.28167629	2.3048139	20	4 14.0	21.0
309812 2009 BT ₉₄	17.7	X	182.74291	102.31889	314.31723	4.00313	0.1293990	0.28836585	2.2690296	20	5 14.8	21.0
309813 2009 BL ₉₆	17.2	X	123.08676	27.76670	31.99050	3.90280	0.1728211	0.27537636	2.3398334	20	3 23.2	20.3
309814 2009 BE ₉₈	17.6	X	13.26247	102.72265	91.36892	6.09152	0.0386448	0.28015727	2.3131375	20	4 3.0	20.2
309815 2009 BF ₉₈	17.8	X	108.80146	91.72292	27.04543	2.77511	0.0762235	0.28609686	2.2810107	20	5 10.0	20.7
309816 2009 BE ₁₀₅	17.5	X	50.79591	232.88441	276.04267	2.78006	0.0968235	0.27470520	2.3436430	20	3 28.3	19.9
309817 2009 BU ₁₀₅	17.7	X	59.36971	263.99185	209.64467	1.30846	0.1249112	0.26975158	2.3722478	20	2 25.2	20.0
309818 2009 BY ₁₀₇	17.3	X	154.85443	175.64949	106.23038	2.99199	0.0659546	0.24086368	2.5583218	20	—	—
309819 2009 BS ₁₁₉	17.4	X	311.92894	83.04112	84.32158	3.01212	0.1606206	0.25438171	2.4668654	20	—	—
309820 2009 BD ₁₃₀	17.1	X	219.82633	215.51579	14.51113	5.06533	0.1467944	0.24207906	2.5497518	20	—	—
309821 2009 BB ₁₃₄	17.0	X	307.76354	119.49941	134.72302	7.87477	0.0773533	0.27616725	2.3353641	20	3 13.9	19.7
309822 2009 BX ₁₃₈	16.7	X	150.84800	136.84035	139.61408	11.28550	0.1092126	0.24290887	2.5439416	20	—	—
309823 2009 BK ₁₄₃	17.5	X	308.58309	154.36511	73.91630	3.24714	0.1592556	0.26559836	2.3969140	20	1 26.8	20.5
309824 2009 BQ ₁₄₇	18.5	X	101.80283	324.07321	182.51819	2.50992	0.1765912	0.28536217	2.2849241	20	6 24.2	21.6
309825 2009 BM ₁₅₇	17.3	X	314.86120	76.24264	134.32678	3.49941	0.1163545	0.26163938	2.4210326	20	1 17.7	20.3
309826 2009 BO ₁₅₇	17.6	X	37.84345	15.51763	133.40205	1.83787	0.1219195	0.26975276	2.3722409	20	3 9.9	19.8
309827 2009 BG ₁₅₈	16.8	X	186.99621	187.19335	350.18336	2.55286	0.0459071	0.22418878	2.6836557	20	10 27.1	20.7
309828 2009 BU ₁₅₈	17.8	X	358.22034	233.81287	319.24231	1.61396	0.1597866	0.26810484	2.3819517	20	2 24.4	19.8
309829 2009 BF ₁₆₅	17.6	X	57.16227	88.32992	80.40213	3.29439	0.1132035	0.28035013	2.3120766	20	5 13.0	19.8
309830 2009 BY ₁₇₂	17.1	X	311.11995	139.99384	78.02098	4.00098	0.1404494	0.26349600	2.4096467	20	1 19.5	20.2
309831 2009 BW ₁₇₄	17.2	X	267.80902	23.00191	166.68631	2.46937	0.1023699	0.24587126	2.5234665	20	—	—
309832 2009 BM ₁₇₇	16.7	X	236.50172	82.86797	178.90810	7.31211	0.0820359	0.25472049	2.4646777	20	—	—
309833 2009 BM ₁₈₂	18.0	X	154.66246	341.09409	87.97568	1.68630	0.1280990	0.28591259	2.2819906	20	5 8.7	21.7
309834 200												

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>
309841 2009 <i>CL</i> ₂₈	18.2	X	66.81369	91.21298	12.03909	1.59229	0.1466489	0.26964956	2.3728461	20	2 27.4	20.5
309842 2009 <i>CS</i> ₃₉	16.9	X	167.77345	57.08172	336.95867	6.32987	0.0333413	0.27565324	2.3382663	20	3 23.9	19.9
309843 2009 <i>CV</i> ₃₉	17.1	X	55.51812	256.19034	288.54033	8.24275	0.0539227	0.28543194	2.2845518	20	5 23.3	19.7
309844 2009 <i>CR</i> ₄₃	17.3	X	298.96973	84.48579	136.90509	2.62827	0.1396515	0.25869736	2.4393533	20	1 9.1	20.6
309845 2009 <i>CH</i> ₄₇	16.7	X	167.92860	134.37272	21.57699	5.14892	0.0475108	0.21499570	2.7596215	20	9 8.5	20.6
309846 2009 <i>CD</i> ₅₀	17.2	X	316.19818	154.38866	49.43693	3.13463	0.1632709	0.26219186	2.4176304	20	1 3.9	20.2
309847 2009 <i>CZ</i> ₅₉	16.4	X	330.93686	307.66019	196.31728	11.97979	0.1221533	0.24488159	2.5302608	20	—	—
309848 2009 <i>DT</i> ₃	16.5	X	53.58399	6.68644	138.76619	10.17753	0.0836774	0.27228822	2.3574916	20	4 1.7	19.2
309849 2009 <i>DR</i> ₅	16.4	X	183.32297	325.66336	330.34573	5.48136	0.1213223	0.25325499	2.4741767	20	—	—
309850 2009 <i>DU</i> ₆	17.4	X	340.92894	236.04014	358.80171	6.24068	0.0741280	0.27885412	2.3203385	20	4 3.1	19.7
309851 2009 <i>DB</i> ₁₇	16.9	X	350.51588	70.89214	125.57440	1.85437	0.1217031	0.26546441	2.3977202	20	2 20.8	19.5
309852 2009 <i>DS</i> ₃₁	17.2	X	135.60939	268.48302	184.76175	5.39863	0.1843671	0.28111870	2.3078605	20	5 21.0	20.6
309853 2009 <i>DX</i> ₃₂	17.8	X	39.26583	20.03202	96.20130	2.35825	0.1180939	0.26026396	2.4295548	20	1 25.3	20.0
309854 2009 <i>DF</i> ₃₅	17.1	X	100.62620	285.12812	172.81179	2.54216	0.1374454	0.27123615	2.3635838	20	4 10.8	20.1
309855 2009 <i>DF</i> ₃₉	18.1	X	129.47269	176.58502	220.99055	1.73769	0.1752868	0.27186445	2.3599407	20	2 28.9	21.4
309856 2009 <i>DX</i> ₄₀	17.8	X	352.59366	104.07492	67.99563	2.15843	0.1190213	0.26498317	2.4006224	20	1 20.9	20.4
309857 2009 <i>DT</i> ₄₁	17.6	X	94.44770	154.89486	329.22136	5.30989	0.1058203	0.27906826	2.3191513	20	4 30.6	20.6
309858 2009 <i>DT</i> ₄₆	17.2	X	119.44790	331.17396	170.21589	5.95729	0.1004691	0.28940898	2.2635741	20	6 28.9	20.3
309859 2009 <i>DM</i> ₅₄	17.1	X	58.34285	156.40308	350.15259	6.63391	0.0313488	0.27493794	2.3423202	20	3 29.6	19.9
309860 2009 <i>DJ</i> ₅₅	17.4	X	116.29805	211.89583	131.29551	4.00430	0.1336083	0.24681519	2.5170284	20	—	—
309861 2009 <i>DL</i> ₅₆	17.8	X	4.89773	25.52047	99.49375	3.05417	0.1310727	0.25640470	2.4538729	20	—	—
309862 2009 <i>DE</i> ₆₄	16.6	X	83.69954	172.02289	74.94439	4.60323	0.0513638	0.21248056	2.7813560	20	9 26.1	20.5
309863 2009 <i>DC</i> ₆₆	16.4	X	85.74996	24.83323	110.77293	3.67274	0.1812754	0.23922236	2.5700103	20	—	—
309864 2009 <i>DP</i> ₇₂	17.0	X	223.21852	261.91431	335.20352	3.58190	0.0969638	0.24632041	2.5203980	20	—	—
309865 2009 <i>DY</i> ₇₂	17.2	X	205.48427	337.30576	267.59554	0.75512	0.0659578	0.24480860	2.5307637	20	—	—
309866 2009 <i>DK</i> ₇₄	17.7	X	339.59249	83.80729	119.79384	2.00822	0.1159219	0.26665632	2.3905700	20	2 13.2	20.1
309867 2009 <i>DE</i> ₈₀	17.0	X	167.62821	277.47712	146.86721	5.73761	0.1741341	0.28282079	2.2985917	20	5 14.1	20.6
309868 2009 <i>DU</i> ₈₀	18.0	X	94.22525	357.48574	96.00338	2.47496	0.1512813	0.27133492	2.3630102	20	3 29.8	20.8
309869 2009 <i>DB</i> ₈₉	17.3	X	295.30237	47.84906	192.78026	3.34338	0.0546820	0.26574621	2.3960249	20	2 8.6	20.4
309870 2009 <i>DR</i> ₉₂	17.3	X	293.70130	81.51967	138.31842	2.01235	0.1380689	0.25630928	2.4544819	20	1 1.7	20.8
309871 2009 <i>DY</i> ₉₄	17.1	X	217.66826	53.28804	144.81948	6.63729	0.0844525	0.23242700	2.6198615	20	12 26.5	20.8
309872 2009 <i>DB</i> ₉₅	16.1	X	28.81127	216.58923	100.38144	4.54767	0.0848460	0.21381289	2.7697897	20	10 19.9	19.6
309873 2009 <i>DJ</i> ₉₅	17.5	X	32.28083	144.96732	61.51040	3.75869	0.1624083	0.28013632	2.3132528	20	6 1.3	19.2
309874 2009 <i>DH</i> ₁₀₄	17.2	X	328.55205	322.15919	169.24304	2.47290	0.0860333	0.24562041	2.5251843	20	—	—
309875 2009 <i>DJ</i> ₁₀₅	18.0	X	68.32032	323.75726	186.75587	1.59715	0.1463769	0.27521986	2.3407204	20	5 9.8	20.5
309876 2009 <i>DL</i> ₁₁₆	16.9	X	76.67029	91.26625	364.46581	6.51004	0.1129851	0.26360190	2.4090013	20	2 4.9	19.5
309877 2009 <i>DP</i> ₁₁₈	16.0	X	102.63278	156.72862	180.94118	2.36314	0.2131569	0.24101186	2.5572731	20	—	—
309878 2009 <i>DL</i> ₁₂₁	17.0	X	179.38165	54.57210	2.77953	5.24529	0.1972108	0.28359227	2.2944211	20	5 12.8	20.7
309879 2009 <i>DR</i> ₁₂₁	16.5	X	75.84177	301.00394	2.26969	8.80856	0.0651047	0.22378169	2.6869094	20	11 25.9	20.5
309880 2009 <i>DT</i> ₁₂₃	17.6	X	199.11937	61.55258	190.40359	1.74017	0.1181103	0.24058730	2.5602803	20	—	—
309881 2009 <i>DC</i> ₁₂₄	16.8	X	27.26492	238.39599	186.25113	6.57870	0.0095529	0.24420700	2.5349183	20	—	—
309882 2009 <i>DV</i> ₁₂₇	17.8	X	116.29698	57.36931	22.55461	2.25034	0.1758449	0.27164809	2.3611937	20	4 10.7	21.1
309883 2009 <i>DJ</i> ₁₂₈	17.7	X	31.90569	135.57872	15.94941	3.71959	0.1149572	0.26736989	2.3863147	20	3 3.2	19.8
309884 2009 <i>DE</i> ₁₂₉	15.9	X	325.55532	278.66295	359.00871	13.42223	0.1758034	0.18625666	3.0366507	20	4 27.7	19.7
309885 2009 <i>DB</i> ₁₃₁	16.7	X	350.87170	83.14025	101.19702	11.67990	0.1471318	0.26178911	2.4201094	20	2 2.6	19.2
309886 2009 <i>DA</i> ₁₃₂	17.0	X	27.55565	152.58281	194.20084	5.21485	0.0913577	0.22305433	2.6927474	20	11 27.3	20.4
309887 2009 <i>DT</i> ₁₃₃	17.3	X	327.59543	236.14073	249.23902	1.50244	0.0780048	0.24578920	2.5240281	20	—	—
309888 2009 <i>DU</i> ₁₃₃	17.4	X	341.67947	308.57314	226.62170	0.52937	0.1378520	0.26341412	2.4101460	20	1 4.8	19.9
309889 2009 <i>DH</i> ₁₃₈	17.4	X	67.56128	99.25769	323.27308	2.75602	0.0774960	0.25439666	2.4667688	20	—	—
309890 2009 <i>DA</i> ₁₃₉	16.1	X	285.63595	295.30051	13.92358	10.70786	0.2091229	0.18393012	3.0622042	20	4 10.8	20.6
309891 2009 <i>DR</i> ₁₃₉	17.0	X	130.88885	203.01895	236.90575	4.69269	0.0603068	0.27709473	2.3301499	20	4 11.9	19.9
309892 2009 <i>DF</i> ₁₄₀	15.8	X	135.74506	129.20939	180.15170	12.96300	0.1705964	0.24274198	2.5451074	20	—	—
309893 2009 <i>DH</i> ₁₄₀	17.5	X	29.68287	77.58710	66.18743	4.13799	0.1695220	0.26645039	2.3918015	20	2 17.9	19.4
309894 2009 <i>DP</i> ₁₄₀	16.9	X	30.08581	343.25342	118.30684	7.03097	0.0935496	0.25541719	2.4601937	20	—	—
309895 2009 <i>DG</i> ₁₄₁	17.3	X	63.44255	232.31073	262.08847	1.97371	0.1783257	0.27191230	2.3596639	20	4 11.3	19.4
309896 2009 <i>DR</i> ₁₄₁	16.9	X	59.65651	272.41550	18.17147	4.12317	0.0789615	0.21299739	2.7768549	20	10 23.0	20.7
309897 2009 <i>EM</i> ₂	16.9	X	320.15043	115.83771	72.14462	6.71163	0.0753479	0.26203447	2.4185985	20	1 1.4	20.0
309898 2009 <i>EO</i> ₃	17.3	X	122.28203	335.32299	202.19899	3.60804	0.0574612	0.29778757	2.2209137	20	8 18.8	20.2
309899 2009 <i>EK</i> ₄	17.3	X	26.66990	109.91384	71.51199	2.68390	0.1540902	0.27125368	2.3634820	20	4 9.5	19.3
309900 2009 <i>EQ</i> ₁₄	17.4	X	149.17662	31.98178	19.22669	4.50131	0.1013381	0.27482630	2.3429545	20	4 1.7	20.4
309901 2009 <i>EV</i> ₁₉	17.2	X	149.35471	241.25995	182.24673	3.23690	0.1533641	0.27978256	2.3152024	20	4 22.8	20.5
309902 2009 <i>EF</i> ₂₁	16.3	X	182.59347	78.53428	140.88003	10.10255	0.0443348	0.23007835	2.6376604	20	12 16.8	20.2
309903 2009 <i>EZ</i> ₂₁	15.9	X	21.76395	5.81641	14.10175	15.10363	0.1354216	0.23204384	2.6227447	20	—	—
309904 2009 <i>ER</i> ₂₄	16.3	X	34.26486	335.72606	52.22988	5.16719	0.0894742	0.23186535	2.6240905	20	—	—
309905 2009 <i>ET</i> ₂₅	17.3	X	67.73285	338.07939	115.99899	3.59657	0.1208801	0.26011977	2.4304525	20	2 14.1	19.7
309906 2009 <i>EL</i> ₂₇	17.1	X	79.60597	39.59682	338.83758	1.88843	0.0506517	0.24432699	2.5340883	20	—	—
309907 2009 <i>ET</i> ₂₈	16.0	X	161.85589	217.62506	25.20836	14.71582	0.0635555	0.22660993	2.6645064	20	12 17.5	20.1
309908 2009 <i>EA</i> ₂₉	17.7	X	122.44147	132.81234	357.25227	2.76400	0.1633491	0.28290546	2.2981330	20	6 23.2	21.0
309909 2009 <i>EN</i> ₂₉	17.8	X	92.42880	299.45613	163.35450	0.90376	0.1687687	0.27266577	2.3553148	20	4 10.9	20.7
309910 2009 <i>EE</i> ₃₀	15.8	X	100.69884	181.78837	81.57063	6.84395	0.1198200	0.21641933	2.7475062	20	11 11.7	20.0
309911 2009 <i>FG</i> ₂	17.4	X	100.59719	280.72280	155.25821	5.34863	0.2172674	0.26909009	2.3761339	20	3 24.7	20.3
309912 2009 <i>FX</i> ₆	17.4	X	51.22884	331.16653	138.29974							

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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>
309921 2009 FX ₂₄	16.6	X	271.81655	190.16155	84.15499	7.24586	0.1122486	0.26524310	2.3990538	20	2 20.2	20.0
309922 2009 FE ₃₃	17.7	X	147.51680	0.81120	80.08277	3.71854	0.1026395	0.28160336	2.3052118	20	5 10.2	20.9
309923 2009 FT ₃₄	16.6	X	44.02451	307.03796	50.90252	5.78735	0.0728337	0.22773847	2.6556965	20	12 30.6	20.2
309924 2009 FU ₃₄	17.2	X	74.59918	22.37521	42.95816	6.63183	0.0367534	0.25309807	2.4751992	20	1 7.9	20.3
309925 2009 FN ₃₅	17.7	X	64.42831	80.12085	38.13504	5.47423	0.1030885	0.26848715	2.3796899	20	3 12.5	20.2
309926 2009 FJ ₃₇	17.4	X	317.55297	53.19524	67.55090	4.50607	0.1148804	0.24048724	2.5609908	20	—	—
309927 2009 FS ₃₈	16.2	X	72.92699	300.48072	13.13268	11.48331	0.0824490	0.22478579	2.6789019	20	12 7.9	20.2
309928 2009 FL ₄₂	16.0	X	272.33119	97.36439	34.33986	13.89608	0.0450526	0.22964175	2.6410026	20	12 16.9	19.6
309929 2009 FG ₅₂	16.8	X	27.95861	232.98623	114.35577	6.93793	0.0127701	0.22184966	2.7024865	20	11 18.5	20.4
309930 2009 FY ₅₂	17.8	X	84.48254	82.80541	53.65648	3.47973	0.1495551	0.27585290	2.3371379	20	5 14.1	20.4
309931 2009 FP ₆₁	16.3	X	16.71949	7.12740	40.29816	15.60014	0.0728280	0.23132851	2.6281487	20	—	—
309932 2009 FK ₆₂	17.5	X	9.83380	333.58529	195.20465	2.22304	0.1364163	0.26298990	2.4127371	20	2 13.4	19.6
309933 2009 FQ ₆₂	16.6	X	115.57173	57.41826	172.58739	5.23230	0.1029474	0.20998986	2.8033060	20	10 14.6	20.8
309934 2009 FS ₆₂	15.3	X	293.62352	279.74887	42.27195	26.80690	0.1862981	0.18226740	3.0807991	20	5 8.8	19.6
309935 2009 FF ₆₅	17.9	X	74.92300	62.48679	74.83741	2.89719	0.1382241	0.27169631	2.3609143	20	4 29.9	20.6
309936 2009 FA ₆₆	17.0	X	284.29336	359.07896	147.49127	3.97731	0.0635530	0.23452283	2.6042298	20	—	—
309937 2009 FB ₆₇	17.2	X	106.79691	203.98556	99.71817	1.91031	0.1061017	0.22956705	2.6415754	20	—	—
309938 2009 FC ₇₁	16.5	X	277.08732	153.72487	83.61111	8.33292	0.0788108	0.25296317	2.4760792	20	1 13.1	19.8
309939 2009 FM ₇₂	16.1	X	169.79847	131.94613	97.32678	12.45622	0.0428415	0.21907342	2.7252703	20	10 25.6	20.1
309940 2009 FN ₇₂	16.2	X	318.70714	254.41931	48.91887	9.59198	0.1135418	0.18797087	3.0181606	20	6 2.6	19.9
309941 2009 FG ₇₃	17.6	X	112.79737	56.47220	27.09360	6.81687	0.1602211	0.27298181	2.3534966	20	4 9.8	20.8
309942 2009 FM ₇₃	16.8	X	156.35336	189.10795	59.19305	4.22317	0.0541770	0.22415447	2.6839295	20	12 19.5	20.6
309943 2009 FO ₇₃	17.1	X	277.34132	47.64065	97.51181	4.50151	0.1236864	0.23125074	2.6287380	20	—	—
309944 2009 FX ₇₄	16.6	X	143.26381	172.99766	61.51026	7.74385	0.1189936	0.21645334	2.7472184	20	11 17.0	20.7
309945 2009 FJ ₇₅	16.3	X	6.76071	291.08750	139.52124	11.87862	0.0330426	0.23837905	2.5760680	20	—	—
309946 2009 FL ₇₆	15.4	X	2.62933	26.67101	222.37617	21.41738	0.2237432	0.18483657	3.0521845	20	6 4.7	18.5
309947 2009 GD ₁	15.6	X	6.40547	191.11450	57.28199	6.70283	0.0931215	0.18238540	3.0794702	20	6 8.2	19.5
309948 2009 GL ₂	15.4	X	283.93254	191.97220	108.37528	10.39633	0.1515612	0.17768567	3.1335343	20	4 12.2	20.0
309949 2009 GD ₃	16.9	X	142.47534	175.28918	83.06526	6.41382	0.1162975	0.22424594	2.6831996	20	12 15.8	21.2
309950 2009 GQ ₅	15.7	X	178.42131	118.10979	112.75017	13.95610	0.1333660	0.22431810	2.6826242	20	12 17.6	19.9
309951 2009 HV ₁	16.1	X	225.38480	64.71864	59.28157	5.25257	0.0369356	0.21411987	2.7671418	20	10 8.1	19.9
309952 2009 HZ ₂	16.7	X	291.86459	120.75732	28.37225	5.12642	0.0774729	0.23752952	2.5822066	20	—	—
309953 2009 HB ₅	16.3	X	50.10401	132.90274	170.77323	8.86765	0.1113063	0.21268987	2.7795309	20	11 4.0	20.1
309954 2009 HP ₅	16.5	X	161.80831	113.69176	144.70509	3.02052	0.1004763	0.22948729	2.6421874	20	—	—
309955 2009 HV ₅	17.7	X	292.69715	86.33396	57.36848	3.64182	0.0909850	0.23772107	2.5808193	20	—	—
309956 2009 HK ₉	15.5	X	265.03014	226.13847	103.79355	13.00863	0.1558797	0.17753574	3.1352982	20	4 27.1	20.4
309957 2009 HF ₁₄	17.1	X	198.99514	146.54616	72.90829	5.67342	0.2197497	0.22776887	2.6554602	20	12 15.5	21.4
309958 2009 HH ₁₄	15.7	X	344.86783	206.66625	58.33763	9.11845	0.1729239	0.18340909	3.0680008	20	5 21.8	18.8
309959 2009 HJ ₂₂	16.1	X	337.46840	221.19365	147.57329	6.95624	0.0561890	0.21378318	2.7700463	20	10 10.3	19.6
309960 2009 HK ₂₃	16.9	X	287.84090	110.65331	10.20671	4.05498	0.0275006	0.22865959	2.6485597	20	12 27.2	20.3
309961 2009 HB ₂₅	16.8	X	330.60528	68.72822	41.32278	6.52870	0.0266264	0.23132966	2.6281400	20	—	—
309962 2009 HO ₃₀	16.6	X	54.09569	292.28934	109.91172	4.17047	0.1531861	0.24281907	2.5445688	20	—	—
309963 2009 HV ₃₀	16.3	X	2.65551	325.25583	40.47717	6.80034	0.0433626	0.21917270	2.7244473	20	11 9.1	19.7
309964 2009 HH ₃₂	16.9	X	320.98850	353.68239	98.51219	5.62411	0.0718166	0.22875509	2.6478225	20	—	—
309965 2009 HK ₃₅	16.1	X	60.43983	253.58428	93.07493	15.17309	0.1078584	0.21974498	2.7197151	20	—	—
309966 2009 HN ₃₈	16.8	X	252.06790	332.86970	171.69804	12.17955	0.1259023	0.22415232	2.6839467	20	11 26.7	20.5
309967 2009 HZ ₃₉	16.6	X	203.99831	149.35645	56.76942	13.69946	0.1237343	0.22473716	2.6792884	20	12 12.6	20.6
309968 2009 HW ₄₂	15.7	X	250.28124	140.78629	198.74456	11.78010	0.0720356	0.1800484	3.1060644	20	4 27.6	20.2
309969 2009 HF ₄₄	16.4	X	30.69646	19.54583	59.08392	9.98035	0.0635305	0.24129378	2.5552808	20	—	—
309970 2009 HR ₄₄	16.9	X	312.90737	123.08613	46.82837	6.53829	0.1275565	0.24667101	2.5180091	20	—	—
309971 2009 HB ₄₈	16.7	X	305.73193	66.97048	82.17081	7.72683	0.1072171	0.23687862	2.5869347	20	—	—
309972 2009 HH ₄₉	16.4	X	261.07167	287.60361	116.70580	12.93452	0.0520132	0.19673571	2.9278394	20	8 5.4	20.4
309973 2009 HO ₅₄	16.4	X	355.10446	329.10085	149.18124	7.38886	0.1522026	0.24204243	2.5500090	20	—	—
309974 2009 HY ₅₇	16.8	X	172.30040	276.12290	296.95516	4.41693	0.0852745	0.21994606	2.7180572	20	11 20.4	20.9
309975 2009 HZ ₅₉	16.8	X	218.78699	87.60567	46.59308	4.83051	0.0379884	0.21282067	2.7783920	20	10 11.7	20.6
309976 2009 HM ₆₀	16.1	X	175.92815	177.72194	76.70229	7.19583	0.0906031	0.22825987	2.6516508	20	—	—
309977 2009 HO ₆₁	16.7	X	342.05793	217.90123	195.91738	3.88334	0.1018766	0.22359737	2.6883858	20	12 18.8	19.8
309978 2009 HG ₆₄	17.0	X	281.55273	138.00474	52.35689	4.11122	0.0296459	0.24111979	2.5565099	20	—	—
309979 2009 HU ₇₁	16.5	X	301.19891	35.90013	90.36465	12.23431	0.1311259	0.23020697	2.6366779	20	—	—
309980 2009 HX ₇₁	15.6	X	260.78059	226.41053	103.72835	10.77042	0.0544105	0.17583398	3.1554952	20	5 3.9	20.2
309981 2009 HJ ₇₂	16.0	X	238.73450	35.90957	168.14955	16.00014	0.1010080	0.23309943	2.6148207	20	—	—
309982 2009 HX ₇₃	15.1	X	262.52026	233.18030	81.34267	27.53057	0.1842657	0.17228475	3.1986852	20	4 13.1	20.5
309983 2009 HB ₇₄	16.7	X	212.79949	116.86495	99.29325	15.16631	0.1208323	0.23088929	2.6314807	20	—	—
309984 2009 HZ ₈₂	16.2	X	226.29663	108.10218	103.53710	14.81791	0.1398616	0.23135526	2.6279462	20	—	—
309985 2009 HF ₈₃	17.4	X	75.91143	288.14459	192.36491	7.20208	0.2049453	0.27117738	2.3639253	20	4 18.5	19.9
309986 2009 HP ₈₅	16.1	X	279.56030	118.64355	189.52370	15.26607	0.2388712	0.17523278	3.1627084	20	3 31.5	20.9
309987 2009 HQ ₈₅	16.6	X	101.49337	201.86935	64.29912	10.01084	0.0432550	0.21533660	2.7567083	20	11 9.3	20.4
309988 2009 HC ₈₇	16.8	X	6.59323	246.87044	84.71470	4.76176	0.1000872	0.20867995	2.8150248	20	10 7.3	20.3
309989 2009 HB ₉₂	17.0	X	270.85588	290.27023	232.69653	1.49355	0.0702560	0.23087865	2.6315616	20	—	—
309990 2009 HC ₉₄	15.3	X	305.51724	242.05004	58.48984	10.86864	0.0950514	0.17774417	3.1328466	20	5 14.3	19.4
309991 2009 HW ₉₄	17.0	X	200.65476	74.68914	63.19407	3.02365	0.0117006	0.20318942	2.8655104	20	9 25.6	21.0
309992 2009 HQ ₉₅	16.6	X	146.56838	92.94733	140.23870	9.81209	0.0986366	0.21576099	2.7530922	20	11 21.0	21.0
309993 2009 HY ₉₅	16.0	X	104.91642	61.39460	178.50062	15.17208	0.1095166	0.20692177	2.8309482	20	10 16.6	20.3
309994 2009 HV ₉₇	16.7	X	357.48416	267.31865	208.65601	8.97240	0.1400559	0.24298353	2.5434204	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>
310001 2009 <i>JD</i> ₁₁	16.7	X	125.66652	357.15651	235.96165	8.91570	0.1540127	0.20989145	2.8041821	20	10 28.6	21.2
310002 2009 <i>JJ</i> ₁₃	17.0	X	273.35305	132.34271	56.81932	3.80716	0.1402702	0.23619107	2.5919526	20	—	—
310003 2009 <i>JD</i> ₁₆	15.3	X	271.60535	252.02238	78.87676	15.38752	0.0828575	0.17821173	3.1273646	20	5 13.3	19.8
310004 2009 <i>JP</i> ₁₆	17.0	X	191.88231	36.13491	125.85652	5.20128	0.0554699	0.20972303	2.8056832	20	10 13.5	21.1
310005 2009 <i>KE</i>	11.9	X	315.22755	112.63447	267.87959	34.68596	0.0406155	0.08326706	5.1938242	20	8 15.3	19.1
310006 2009 <i>KU</i> ₁	15.4	X	271.39726	240.92487	55.60211	19.54986	0.1321799	0.17021159	3.2246057	20	4 1.2	20.4
310007 2009 <i>KK</i> ₃	15.9	X	213.81091	158.77378	59.79243	9.18805	0.1345692	0.22745886	2.6578725	20	—	—
310008 2009 <i>KO</i> ₃	16.2	X	239.24740	50.19803	96.94374	15.19155	0.0511046	0.21827475	2.7319142	20	11 24.2	20.1
310009 2009 <i>KA</i> ₄	16.4	X	252.11457	76.27824	92.50893	4.36616	0.0430817	0.22638594	2.6662636	20	—	—
310010 2009 <i>KR</i> ₅	15.9	X	339.86229	184.20134	79.40241	11.74057	0.0983264	0.17954698	3.1118403	20	5 18.7	19.8
310011 2009 <i>KV</i> ₈	16.1	X	219.71962	217.57359	122.49988	12.07957	0.0680865	0.16900497	3.2399357	20	3 30.5	21.1
310012 2009 <i>KL</i> ₁₇	16.3	X	77.22404	0.50618	207.51931	10.08460	0.0560496	0.19166987	2.9792034	20	7 22.2	20.6
310013 2009 <i>KQ</i> ₁₇	15.9	X	329.62886	257.70895	107.44083	11.92587	0.1341137	0.20155507	2.8809799	20	9 22.9	19.3
310014 2009 <i>KZ</i> ₁₇	16.2	X	195.71803	93.43201	83.74667	13.16537	0.0418276	0.21435401	2.7651263	20	11 9.6	20.2
310015 2009 <i>KO</i> ₂₃	15.9	X	247.21954	206.62645	190.90265	10.56645	0.1043592	0.18986033	2.9981031	20	6 30.5	20.4
310016 2009 <i>KD</i> ₂₆	13.6	X	294.45038	29.91648	258.53329	2.14723	0.1398407	0.08359211	5.1803099	20	4 12.1	20.2
310017 2009 <i>LS</i> ₄	16.8	X	167.09778	323.89020	237.22898	6.98149	0.1588568	0.21368024	2.7709359	20	10 27.7	21.4
310018 2009 <i>LD</i> ₅	16.5	X	259.76425	79.41198	99.45836	12.33414	0.1286534	0.23124183	2.6288055	20	—	—
310019 2009 <i>MJ</i> ₃	15.8	X	283.14820	270.28194	227.19507	26.62936	0.1367653	0.22673090	2.6635585	20	12 26.8	19.3
310020 2009 <i>QH</i> ₁₄	17.6	X	299.07683	188.65283	190.02637	5.34682	0.1017527	0.26564841	2.3966129	20	8 24.3	20.2
310021 2009 <i>RU</i> ₃	17.6	X	259.88200	276.60201	135.95885	2.01460	0.1906372	0.25995128	2.4315026	20	7 28.9	20.8
310022 2009 <i>RJ</i> ₆₃	14.1	X	322.30141	82.84147	303.71347	4.05115	0.0486952	0.08562958	5.0978473	20	9 16.6	20.8
310023 2009 <i>ST</i> ₁₇₇	17.5	X	145.11095	96.04457	282.15292	1.01637	0.0958588	0.22384473	2.6864049	20	2 18.2	21.4
310024 2009 <i>TA</i>	15.7	X	102.58111	37.09666	354.23203	19.47849	0.1449777	0.21320385	2.7750620	20	3 3.1	20.0
310025 2009 <i>TO</i> ₂₆	13.2	X	303.57342	354.95826	50.69833	12.93300	0.1550861	0.08296365	5.2064793	20	9 11.1	19.8
310026 2009 <i>UQ</i> ₁₃₁	16.2	X	246.74572	240.14168	146.57823	12.40659	0.0675943	0.24400347	2.5363278	20	6 23.9	19.8
310027 2010 <i>AH</i> ₉₅	12.8	X	223.24995	209.64456	282.96700	12.95295	0.0717355	0.08302905	5.2037450	20	9 15.5	20.1
310028 2010 <i>BJ</i> ₅₁	17.0	X	261.88375	251.12219	52.84324	23.30462	0.2046417	0.28615442	2.2807048	20	3 18.9	21.0
310029 2010 <i>DQ</i> ₃₆	18.3	X	283.00544	283.17402	338.15474	4.48486	0.1288446	0.29194825	2.2504298	20	2 8.6	21.3
310030 2010 <i>ES</i> ₃₇	17.6	X	359.16391	121.30970	162.17091	4.01788	0.1163189	0.30955385	2.1642724	20	7 27.1	19.3
310031 2010 <i>FR</i> ₂₈	17.7	X	15.87265	32.72788	201.90460	3.78426	0.1680117	0.30205030	2.1999689	20	6 13.8	19.1
310032 2010 <i>FP</i> ₉₄	17.6	X	263.57470	47.25337	228.09968	1.85247	0.1791325	0.27978342	2.3151976	20	1 31.9	21.2
310033 2010 <i>FG</i> ₉₅	16.3	X	266.37648	323.22815	359.44888	1.50010	0.2081841	0.19893710	2.9062001	20	4 6.4	20.7
310034 2010 <i>GC</i> ₇	17.2	X	88.91391	245.38549	68.04021	22.65570	0.0748920	0.34773909	2.0027821	20	—	—
310035 2010 <i>GW</i> ₈₇	15.5	X	13.99004	176.09806	128.26017	16.32567	0.1331444	0.20596201	2.8397360	20	9 17.8	19.0
310036 2010 <i>GK</i> ₁₀₄	17.4	X	110.91401	277.81151	15.87994	3.52335	0.2571906	0.24103780	2.5570896	20	—	—
310037 2010 <i>GF</i> ₁₀₆	17.2	X	314.27465	202.78091	74.71451	7.12337	0.1080999	0.29331498	2.2434336	20	4 20.8	19.6
310038 2010 <i>GB</i> ₁₀₈	17.3	X	173.71378	277.08883	34.09208	3.04393	0.2082325	0.26114968	2.4205833	20	1 1.2	21.2
310039 2010 <i>GB</i> ₁₁₈	16.8	X	207.70973	207.19664	87.23209	6.97240	0.1754418	0.26592377	2.3949582	20	1 8.2	20.7
310040 2010 <i>GN</i> ₁₂₁	17.5	X	203.27006	164.37122	148.19750	5.44984	0.2359135	0.26787660	2.3833045	20	1 26.3	21.6
310041 2010 <i>GZ</i> ₁₂₆	17.4	X	246.85070	206.69396	99.78662	7.99265	0.2145065	0.27900162	2.3195206	20	2 25.3	21.2
310042 2010 <i>GK</i> ₁₂₇	17.0	X	16.23421	142.39235	195.49754	14.88265	0.2825444	0.22139530	2.7061828	20	11 29.3	20.4
310043 2010 <i>GJ</i> ₁₃₆	15.6	X	199.12105	191.63785	107.59277	6.79763	0.1407192	0.17291347	3.1909268	20	1 17.1	20.7
310044 2010 <i>GW</i> ₁₅₉	17.7	X	237.30685	293.88645	34.21678	5.95138	0.1937014	0.28474442	2.2882277	20	3 15.1	21.2
310045 2010 <i>GR</i> ₁₆₀	17.1	X	249.98418	233.09798	10.75046	6.84197	0.0703967	0.27069298	2.3667445	20	—	—
310046 2010 <i>HP</i> ₃₂	16.1	X	223.36816	232.80875	129.89503	1.74083	0.1392080	0.17606593	3.1527232	20	4 21.4	21.0
310047 2010 <i>HA</i> ₄₃	12.9	X	345.55572	338.11307	273.84244	20.22180	0.0507234	0.08341679	5.1876068	20	5 13.3	19.7
310048 2010 <i>HU</i> ₆₆	15.1	X	282.98297	66.90353	256.76664	24.92716	0.2111652	0.18122725	3.0925760	20	4 22.2	19.9
310049 2010 <i>HU</i> ₇₈	16.9	X	228.44134	154.25449	131.94048	10.87617	0.1353947	0.26853102	2.3794308	20	1 16.1	20.5
310050 2010 <i>HO</i> ₇₉	17.4	X	242.58635	63.25828	200.80096	5.97426	0.2017136	0.27015098	2.3699091	20	—	—
310051 2010 <i>HN</i> ₈₂	15.5	X	265.27872	158.41986	174.66424	17.35773	0.2099267	0.17865304	3.1222124	20	4 21.9	20.4
310052 2010 <i>JY</i> ₁	17.3	X	253.15015	21.39538	246.79913	1.67453	0.1712709	0.27271049	2.3550574	20	1 15.0	20.9
310053 2010 <i>JD</i> ₃₀	17.2	X	224.30079	238.61465	80.61067	7.79155	0.1209353	0.27674479	2.3321139	20	2 25.7	20.7
310054 2010 <i>JW</i> ₃₂	15.8	X	193.67470	101.50235	238.21484	11.08707	0.1362388	0.17875056	3.1210767	20	2 21.9	21.0
310055 2010 <i>JW</i> ₄₀	17.4	X	268.00821	259.29044	55.70331	6.17852	0.1835476	0.28706364	2.2758865	20	3 29.8	20.6
310056 2010 <i>JC</i> ₄₆	17.9	X	223.78202	177.57620	109.45323	3.46698	0.1593448	0.26772704	2.3841920	20	1 12.9	21.4
310057 2010 <i>JE</i> ₅₉	15.3	X	273.20858	281.79603	80.37747	16.15875	0.1516673	0.18575875	3.0420747	20	6 10.8	19.4
310058 2010 <i>JF</i> ₈₄	16.7	X	271.21778	233.05468	70.50320	6.25706	0.1388044	0.28788205	2.2715711	20	3 24.2	19.8
310059 2010 <i>JR</i> ₁₁₂	15.9	X	128.74084	269.01935	33.36897	4.86365	0.2769767	0.24163846	2.5528503	20	—	—
310060 2010 <i>JP</i> ₁₁₆	16.7	X	356.01712	228.76027	53.77508	9.47151	0.0419764	0.30435766	2.1888360	20	7 17.5	19.1
310061 2010 <i>JW</i> ₁₃₁	15.7	X	294.70296	102.22123	190.80995	9.51121	0.2160841	0.17785947	3.1314926	20	4 1.9	19.9
310062 2010 <i>JD</i> ₁₄₈	15.9	X	346.76738	211.65707	129.97911	9.83104	0.1678217	0.21772158	2.7365396	20	9 24.5	18.7
310063 2010 <i>JQ</i> ₁₄₉	16.4	X	138.08605	168.97942	107.00566	15.18521	0.2493776	0.23936914	2.5689596	20	—	—
310064 2010 <i>JV</i> ₁₅₈	17.6	X	85.49303	220.45406	127.67976	6.79605	0.1736810	0.24465469	2.5318250	20	—	—
310065 2010 <i>JO</i> ₁₆₆	18.0	X	261.28820	239.05500	132.41743	4.00380	0.1228069	0.30263380	2.1971401	20	6 14.5	20.6
310066 2010 <i>KG</i> ₈	17.5	X	218.63626	313.32819	324.41314	0.94360	0.1636270	0.26419326	2.4054051	20	—	—
310067 2010 <i>KB</i> ₉	16.8	X	154.92414	40.00826	198.76884	15.64856	0.1205009	0.23960835	2.5672495	20	12 7.5	21.0
310068 2010 <i>KG</i> ₉	16.4	X	62.46695	199.31305	99.90616	15.42245	0.2442255	0.22302436	2.6929886	20	12 1.7	20.7
310069 2010 <i>KW</i> ₃₆	16.0	X	89.92610	85.30033	252.30032	3.66491	0.2588286	0.23921250	2.5700809	20	—	—
310070 2010 <i>KL</i> ₅₅	15.7	X	75.47753	139.91987	141.27774	9.57154	0.1320339	0.21177508	2.7875296	20	11 9.4	19.9
310071 2010 <i>KR</i> ₅₉	7.7	X	22.37118	108.71070	46.81126	19.65288	0.5659681	0.00599273	30.0182957	20	5 12.1	20.2
310072 2010 <												

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>
310081 2010 <i>LK</i> ₁	17.3	X	289.78895	185.67803	77.79892	3.38398	0.1794748	0.27922078	2.3183067	20	2 15.1	20.4
310082 2010 <i>LP</i> ₇₂	15.2	X	340.92148	335.49854	254.02099	9.43779	0.1081407	0.16824285	3.2497127	20	3 30.5	19.6
310083 2010 <i>LB</i> ₈₃	15.4	X	199.34649	205.06842	299.55588	21.57104	0.0588310	0.23823034	2.5771399	20	9 17.9	19.6
310084 2010 <i>LB</i> ₁₀₈	16.7	X	72.53890	194.62820	136.46285	5.14149	0.2132717	0.23331077	2.6132414	20	—	—
310085 2010 <i>ML</i> ₉₂	16.2	X	36.48963	27.22379	221.42434	7.58812	0.2055138	0.18789090	3.0190169	20	8 9.5	19.9
310086 2010 <i>MY</i> ₁₀₁	15.9	X	218.19474	105.77619	193.55334	9.52095	0.0826386	0.14720709	3.5523594	20	2 4.9	21.4
310087 2010 <i>MD</i> ₁₀₂	15.9	X	338.01041	207.09924	116.18273	5.45022	0.1414158	0.18749832	3.0232296	20	8 2.1	19.2
310088 2010 <i>MD</i> ₁₀₄	16.4	X	340.73782	11.94629	272.16541	5.25427	0.1474293	0.17953681	3.1119579	20	6 11.7	19.8
310089 2010 <i>NF</i> ₄	16.0	X	243.05425	20.60133	116.15226	14.28247	0.0323688	0.21955658	2.7212707	20	11 19.9	19.9
310090 2010 <i>NK</i> ₁₁₇	16.3	X	179.06128	115.62805	121.44558	12.46281	0.0239170	0.23384686	2.6092460	20	—	—
310091 2010 <i>OY</i> ₂₇	15.3	X	135.64699	49.04081	295.06095	14.66980	0.1658416	0.23438159	2.6052759	20	1 4.8	19.0
310092 2010 <i>PR</i> ₁	16.5	X	225.70185	107.92659	160.90001	2.72872	0.1650738	0.25494564	2.4632264	20	—	—
310093 2010 <i>PC</i> ₅₁	16.3	X	174.42280	216.93063	225.47310	8.33578	0.1257370	0.16149334	3.3396399	20	6 10.1	21.6
310094 2010 <i>PH</i> ₆₁	16.6	X	302.71129	176.57873	169.23961	4.84565	0.0319682	0.18640945	3.0349911	20	7 16.0	20.8
310095 2010 <i>PE</i> ₆₃	16.7	X	293.68804	252.57914	300.47636	15.76042	0.0956733	0.35037993	1.9927060	20	—	—
310096 2010 <i>PL</i> ₆₄	15.8	X	274.55283	144.57717	161.24821	11.61811	0.0785531	0.17278124	3.1925546	20	4 15.9	20.4
310097 2010 <i>PL</i> ₇₂	15.2	X	313.29512	39.63416	280.47502	18.06554	0.1400030	0.17307924	3.1888890	20	6 14.8	19.3
310098 2010 <i>PE</i> ₇₆	17.2	X	212.16421	133.58481	183.81857	0.90764	0.1905977	0.25816684	2.4426941	20	2 9.0	21.3
310099 2010 <i>RF</i> ₂₂	15.5	X	273.30429	163.74165	218.38288	8.09564	0.0534302	0.18975193	2.9992449	20	7 19.6	19.8
310100 2010 <i>RU</i> ₄₂	16.1	X	114.07156	274.22969	232.52244	3.77248	0.0756839	0.17382725	3.177342	20	6 23.4	20.7
310101 2010 <i>RO</i> ₆₉	16.2	X	221.97147	328.99595	279.98431	5.33257	0.0964967	0.24062851	2.5599884	20	—	—
310102 2010 <i>TO</i> ₁₄	16.2	X	298.36597	143.93553	215.86215	8.05596	0.0136676	0.18226986	3.0807715	20	7 28.5	20.7
310103 2010 <i>TL</i> ₁₇₁	13.3	X	206.75689	93.28272	37.74447	4.29842	0.0170185	0.08376658	5.1731553	20	9 9.2	20.2
310104 2010 <i>UX</i> ₂₈	13.2	X	275.57184	198.62817	225.16338	15.70115	0.0297369	0.08113794	5.2842909	20	9 1.1	20.3
310105 2010 <i>UV</i> ₃₅	14.2	X	225.01969	336.92127	128.38484	4.09430	0.0217467	0.08440956	5.1468512	20	8 29.9	21.0
310106 2010 <i>UV</i> ₅₁	13.3	X	269.64813	309.79130	119.36954	7.95814	0.1248024	0.08350114	5.1841128	20	8 26.2	20.2
310107 2010 <i>UB</i> ₉₆	12.8	X	252.45846	36.40739	71.13435	18.39381	0.1182740	0.08360324	5.1798912	20	9 28.7	20.0
310108 2010 <i>VJ</i> ₂₁	17.6	X	169.83710	218.73955	309.52450	2.51877	0.0875777	0.28627704	2.2800535	20	10 1.7	20.7
310109 2010 <i>VQ</i> ₃₀	16.2	X	327.44704	357.43261	61.27927	11.24039	0.0975783	0.20285608	2.8686487	20	11 25.1	19.7
310110 2010 <i>VJ</i> ₃₄	12.8	X	247.02032	220.44135	249.40061	9.17849	0.0287775	0.08299104	5.2053335	20	9 22.7	19.8
310111 2010 <i>VL</i> ₇₂	15.4	X	133.56399	270.11481	278.18898	10.55268	0.0545215	0.18473037	3.0533542	20	8 30.7	20.1
310112 2010 <i>VW</i> ₁₇₆	13.1	X	322.49760	83.83292	295.47275	11.24493	0.0693517	0.08361730	5.1793106	20	9 3.8	19.8
310113 2010 <i>VR</i> ₁₉₁	16.7	X	195.51816	106.77714	190.72410	1.92219	0.0589413	0.23021242	2.6366362	20	1 1.6	20.6
310114 2010 <i>VH</i> ₁₉₄	16.9	X	134.98546	242.87920	148.78021	3.23703	0.0613710	0.23922742	2.5699741	20	2 17.9	20.4
310115 2010 <i>WF</i> ₁₃	13.4	X	211.98266	70.57963	73.94186	7.24450	0.0758433	0.08316017	5.1982736	20	9 27.1	20.6
310116 2011 <i>AT</i> ₇₂	16.1	X	282.95914	174.46655	117.71035	16.66106	0.1329833	0.23978029	2.5660221	20	4 1.2	20.0
310117 2011 <i>BG</i> ₁₁₉	16.9	X	332.43282	93.72139	95.65276	5.97154	0.0975448	0.21594231	2.7515509	20	1 26.3	20.3
310118 2011 <i>CX</i> ₁₀₀	16.3	X	44.60131	194.41948	192.36805	8.50071	0.0938499	0.19105852	2.9855552	20	—	—
310119 2011 <i>DU</i> ₁₉	15.7	X	245.83707	255.83439	329.09588	16.51320	0.0750777	0.20061036	2.8900176	20	—	—
310120 2011 <i>DR</i> ₂₅	16.7	X	247.12703	141.58993	13.64095	0.62773	0.1130340	0.18122931	3.0925526	20	11 23.4	21.0
310121 2011 <i>EU</i> ₄	15.0	X	125.47886	109.44295	159.48107	32.69737	0.0775784	0.17147132	3.2087931	20	12 6.3	20.5
310122 2011 <i>EN</i> ₁₃	16.5	X	217.42552	158.83847	171.05579	5.48278	0.1283766	0.21800989	2.7341264	20	3 4.4	20.7
310123 2011 <i>EP</i> ₃₆	17.3	X	131.57837	217.31653	38.36973	4.41972	0.0761254	0.27307115	2.3529833	20	12 11.2	20.6
310124 2011 <i>EE</i> ₅₅	16.6	X	303.99888	60.76732	82.86994	3.86172	0.0234617	0.18584926	3.0410868	20	—	—
310125 2011 <i>EZ</i> ₈₃	16.0	X	97.24843	184.44236	202.93312	5.45898	0.0775954	0.20197089	2.8770243	20	1 3.8	19.9
310126 2011 <i>FV</i> ₇₁	15.1	X	138.58367	310.12128	332.91006	10.36392	0.0137184	0.17145464	3.2090013	20	12 31.0	19.8
310127 2011 <i>FQ</i> ₁₅₀	15.9	X	153.94154	3.81373	82.30338	14.03474	0.2219566	0.24099037	2.5574251	20	5 31.1	20.1
310128 2011 <i>GY</i> ₂₇	15.9	X	290.63073	76.40242	74.78427	16.46949	0.1947170	0.18485310	3.0520026	20	—	—
310129 2011 <i>GA</i> ₅₇	16.9	X	338.34186	132.70163	181.50566	9.26221	0.1861318	0.23654320	2.5893797	20	7 21.3	19.3
310130 2011 <i>GH</i> ₅₉	16.9	X	351.43240	172.75001	64.00039	6.10753	0.1065230	0.21845275	2.7304299	20	4 28.5	20.0
310131 2011 <i>GO</i> ₆₂	16.1	X	93.79922	92.49464	31.39297	9.78430	0.0341091	0.22348617	2.6892774	20	4 22.9	19.5
310132 2011 <i>GP</i> ₆₃	15.9	X	311.56243	343.27750	152.23485	14.94897	0.0892527	0.18399646	3.0614681	20	—	—
310133 2011 <i>GF</i> ₇₅	15.8	X	335.38835	317.23722	167.71696	10.16055	0.0695856	0.18739732	3.0243157	20	—	—
310134 2011 <i>HD</i> ₃₂	15.7	X	132.70290	212.09396	124.77608	10.74933	0.1911014	0.17419379	3.1752720	20	1 4.2	20.6
310135 2011 <i>HV</i> ₃₂	15.7	X	340.67208	156.62719	86.56690	9.48686	0.0260934	0.21518283	2.7580214	20	4 28.5	19.4
310136 2011 <i>HO</i> ₅₄	16.1	X	217.37071	68.04931	195.01454	11.90156	0.2049521	0.18009823	3.1054873	20	—	—
310137 2011 <i>HH</i> ₆₇	15.7	X	185.95863	215.88507	129.31093	12.93617	0.0649175	0.19730755	2.9221796	20	2 24.7	20.1
310138 2011 <i>HT</i> ₇₉	17.0	X	259.80736	11.22243	97.99967	7.49301	0.0723396	0.26200425	2.4187844	20	11 8.2	19.9
310139 2011 <i>HP</i> ₈₀	16.0	X	234.99052	169.59592	160.51533	11.45833	0.0599018	0.20652381	2.8345838	20	3 30.3	20.2
310140 2011 <i>HG</i> ₈₁	16.0	X	67.99813	306.67015	189.15945	14.00014	0.0863929	0.21855867	2.7295477	20	4 12.7	19.4
310141 2011 <i>HA</i> ₈₄	15.7	X	17.51048	353.51123	117.90800	12.59741	0.0884873	0.19068036	2.9895013	20	—	—
310142 2011 <i>HP</i> ₈₇	17.5	X	112.59778	218.82238	135.16136	8.20707	0.1695570	0.28827833	2.2694888	20	—	—
310143 2011 <i>KD</i> ₁₀	16.0	X	310.05359	131.83076	147.74329	5.78572	0.0494402	0.21385818	2.7693986	20	4 29.9	19.7
310144 2011 <i>KQ</i> ₁₁	16.3	X	17.58022	9.67362	226.01080	13.80945	0.2130720	0.22257976	2.6965735	20	6 20.2	19.0
310145 2011 <i>KL</i> ₁₆	15.4	X	50.74551	246.80062	241.59906	9.81140	0.0605826	0.17587184	3.1550422	20	3 4.7	19.8
310146 2011 <i>KW</i> ₃₉	15.5	X	338.11388	225.09065	272.63149	8.42110	0.0466632	0.18024796	3.1037673	20	—	—
310147 2011 <i>LS</i> ₁₀	17.6	X	286.27843	263.31979	223.27073	19.73585	0.0610098	0.37882062	1.8916770	20	—	—
310148 2011 <i>LY</i> ₁₈	17.0	X	168.19909	47.70032	259.37022	3.47596	0.1568508	0.26837389	2.3803594	20	—	—
310149 2011 <i>MW</i> ₆	17.5	X	244.26238	175.18914	110.56309	5.62416	0.1601373	0.29474362	2.2361784	20	1 27.1	20.8
310150 2011 <i>OV</i> ₅₇	15.2	X	184.07710	243.60138	100.50019	14.97861	0.2247737	0.17294258	3.1905686	20	3 1.2	20.9
310151 2011 <i>OM</i> ₅₈	15.2	X	286.03646	272.10863	95.39475	32.48249	0.2161087	0.21031164	2.8004458	20	6 25.8	18.8
310152 2011 <i>QB</i> 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>
310161 2011 QW ₉₁	17.1	X	54.85027	191.25280	207.71259	5.58325	0.1340421	0.25544182	2.4600356	20	—	—
310162 2011 QQ ₉₅	16.6	X	171.38305	237.90130	43.64058	6.57988	0.1110623	0.26249678	2.4157578	20	—	—
310163 2011 RC ₁	15.0	X	84.55962	80.44282	294.45276	16.48029	0.1105705	0.14855918	3.5307723	20	—	—
310164 2011 RV ₁₆	17.0	X	150.84388	17.63593	310.40762	4.65533	0.1261106	0.26699656	2.3885386	20	—	—
310165 2011 RW ₁₆	17.2	X	135.68008	282.60861	143.51830	5.98445	0.1418774	0.28337514	2.2955930	20	4 12.1	20.4
310166 2011 SB	17.1	X	51.70426	66.31489	259.20193	0.90634	0.2111131	0.23660830	2.5889047	20	12 19.1	20.7
310167 2011 SD	17.7	X	161.92104	133.97091	189.34056	2.10154	0.2211812	0.27104752	2.3646803	20	1 4.7	21.3
310168 2011 SG	16.5	X	311.96776	100.73472	212.27479	1.48792	0.0381991	0.19936968	2.9019948	20	6 15.9	20.3
310169 2011 SD ₇	16.2	X	150.80553	325.22152	291.97917	8.71053	0.1483571	0.24709296	2.5151418	20	12 26.0	20.3
310170 2011 SN ₇	16.0	X	251.67489	351.87153	6.49615	10.52666	0.0771475	0.18562945	3.0434871	20	5 17.9	20.6
310171 2011 SU ₁₉	15.8	X	102.69562	5.87482	282.59537	14.32651	0.1383566	0.23919309	2.5702200	20	12 18.1	19.8
310172 2011 ST ₂₆	16.5	X	344.53948	321.19828	0.20289	2.59047	0.2130310	0.21531260	2.7569132	20	8 16.7	18.9
310173 2011 SQ ₃₀	16.3	X	348.70428	139.17993	248.16645	5.18851	0.2204368	0.22510205	2.6763922	20	12 8.1	18.6
310174 2011 SV ₃₂	17.5	X	76.00371	7.55924	4.42311	3.75150	0.2210136	0.25340990	2.4731683	20	—	—
310175 2011 SZ ₃₂	17.3	X	56.85861	52.84211	6.40635	1.25633	0.1806034	0.25827510	2.4420114	20	—	—
310176 2011 SZ ₃₅	16.3	X	55.24392	246.21538	21.20380	14.06436	0.2301483	0.21861067	2.7291148	20	10 11.5	20.0
310177 2011 SQ ₃₇	17.0	X	42.22205	177.71534	196.10262	14.76014	0.1356236	0.23844743	2.5755755	20	—	—
310178 2011 SK ₃₈	16.4	X	343.72077	298.77491	40.29122	3.21056	0.2497421	0.21541776	2.7560159	20	9 14.1	18.5
310179 2011 ST ₃₉	17.5	X	117.84976	67.25344	330.08972	0.57555	0.1740499	0.26946347	2.3739384	20	2 16.0	20.5
310180 2011 SB ₅₂	15.7	X	248.31610	192.74325	214.81686	12.65665	0.0205037	0.19247364	2.9709035	20	7 23.7	20.1
310181 2011 SM ₅₇	17.7	X	203.07015	155.18845	185.90505	1.67178	0.1448927	0.27752618	2.3277343	20	2 28.2	21.3
310182 2011 SL ₆₅	17.9	X	198.88770	75.71340	238.49576	1.43751	0.2272061	0.28005891	2.3136791	20	1 23.7	21.6
310183 2011 ST ₆₅	15.3	X	281.89706	309.84292	339.75383	11.99118	0.1034082	0.18089075	3.0964101	20	3 25.2	19.8
310184 2011 SY ₆₇	16.2	X	324.64710	143.41767	202.36264	10.75196	0.2112738	0.21078051	2.7962913	20	8 1.1	19.1
310185 2011 SV ₈₀	18.4	X	84.35605	130.67439	304.58056	1.61258	0.2284093	0.26971835	2.3724426	20	2 29.4	20.9
310186 2011 SE ₈₁	15.6	X	250.42227	325.28963	351.72236	9.52035	0.0635153	0.18029974	3.1031730	20	3 29.1	20.2
310187 2011 SS ₈₈	16.7	X	256.45344	84.08684	334.33688	3.61557	0.0701942	0.20463193	2.8520279	20	8 15.4	20.6
310188 2011 SG ₉₂	17.4	X	139.60222	116.83585	223.09364	4.03264	0.2368515	0.26272993	2.4143285	20	1 6.4	20.9
310189 2011 SE ₁₀₅	16.6	X	191.31546	34.40312	262.59457	5.54399	0.1142817	0.26357651	2.4091560	20	—	—
310190 2011 SV ₁₀₆	15.4	X	214.43935	85.09488	282.47004	7.22380	0.0957006	0.17734502	3.1375456	20	4 17.1	20.4
310191 2011 SR ₁₁₄	15.2	X	283.37582	302.27075	357.83230	10.27773	0.1138101	0.18037680	3.1022891	20	4 8.7	19.7
310192 2011 SM ₁₁₅	16.4	X	30.71315	134.54719	189.46360	5.58896	0.0499271	0.22421441	2.6834512	20	10 27.5	19.9
310193 2011 SF ₁₁₆	17.2	X	102.44269	313.50039	27.49617	1.82707	0.1889535	0.25701053	2.4500152	20	—	—
310194 2011 SO ₁₁₆	17.4	X	133.77983	327.04039	26.08757	7.03348	0.1437357	0.26770626	2.3843153	20	1 5.5	20.6
310195 2011 SS ₁₁₉	15.7	X	266.64633	285.18750	49.62570	7.85211	0.1517559	0.18298686	3.0727185	20	4 30.1	20.3
310196 2011 SB ₁₂₀	16.2	X	274.43136	192.44366	182.13988	1.92964	0.0816625	0.20282759	2.8689173	20	7 9.6	20.2
310197 2011 SN ₁₂₀	17.2	X	105.06462	269.92620	92.08666	4.03658	0.1266869	0.26093345	2.4253972	20	—	—
310198 2011 SV ₁₂₀	16.6	X	50.16355	10.01344	9.28739	12.23306	0.2273602	0.24049084	2.5609653	20	—	—
310199 2011 SM ₁₂₁	16.4	X	300.19314	146.95618	209.10580	1.37746	0.0796843	0.20366863	2.8610139	20	7 21.7	19.9
310200 2011 SR ₁₂₅	16.2	X	91.31949	242.21572	40.26688	4.30823	0.0750279	0.22428856	2.6828598	20	11 20.7	20.0
310201 2011 SR ₁₂₈	16.1	X	292.41913	117.18340	193.52547	5.44037	0.0894050	0.18382599	3.0633605	20	5 10.6	20.4
310202 2011 SD ₁₃₀	16.8	X	305.45578	229.66690	63.50854	6.08491	0.1421101	0.18732126	3.0251344	20	4 28.3	20.8
310203 2011 SK ₁₃₀	17.2	X	1.52521	78.78261	57.18219	5.63936	0.0445497	0.26286100	2.4135258	20	—	—
310204 2011 SG ₁₃₂	15.8	X	233.35599	236.01118	105.93013	2.51653	0.1854932	0.17628925	3.1500600	20	4 3.4	20.8
310205 2011 SK ₁₃₂	16.5	X	358.22766	325.74927	40.84956	10.68372	0.0975627	0.22061999	2.7125191	20	11 9.3	19.6
310206 2011 SK ₁₃₅	16.4	X	13.69328	302.65515	19.21262	5.29937	0.1009421	0.22008800	2.7168885	20	10 5.5	19.7
310207 2011 SW ₁₆₄	15.3	X	181.54096	130.18776	190.34824	9.06925	0.1037659	0.15423186	3.4436578	20	1 24.8	20.8
310208 2011 SB ₁₆₅	17.3	X	191.58439	251.18672	63.79959	2.3964	0.1987148	0.27351515	2.3504361	20	1 19.3	21.1
310209 2011 ST ₁₆₅	16.8	X	165.67845	24.42550	218.13595	4.31344	0.0483819	0.23991122	2.5650885	20	12 26.9	20.5
310210 2011 SJ ₁₇₂	16.7	X	356.11147	108.02148	303.83073	1.63969	0.1679771	0.23146663	2.6271032	20	—	—
310211 2011 SB ₁₇₃	17.0	X	285.66265	63.06900	8.52926	2.93186	0.0726644	0.21552734	2.7550817	20	10 12.9	20.4
310212 2011 SF ₁₇₆	16.9	X	339.84931	6.34157	298.65477	1.00167	0.0628360	0.20140318	2.8824282	20	7 14.6	20.4
310213 2011 SM ₁₇₆	14.2	X	252.85225	23.52448	272.54466	25.42208	0.0898586	0.17072789	3.2181014	20	2 21.8	19.5
310214 2011 SA ₁₈₀	16.5	X	153.96218	230.87527	217.53225	4.83318	0.1239104	0.17920149	3.1158388	20	5 29.0	21.4
310215 2011 ST ₁₈₀	15.6	X	110.56303	286.10107	209.87726	11.05813	0.0377930	0.18226910	3.0807799	20	6 1.6	20.0
310216 2011 SF ₁₈₄	16.1	X	194.07835	298.32784	98.23503	2.85101	0.1965868	0.17646042	3.1480226	20	5 3.9	21.3
310217 2011 SW ₁₈₄	17.8	X	168.74823	245.43611	126.02291	3.06054	0.1955141	0.27828835	2.3234823	20	3 8.7	21.5
310218 2011 SV ₁₉₀	15.5	X	274.09640	315.77614	34.31098	22.68168	0.1154434	0.18667314	3.0321324	20	5 26.7	20.0
310219 2011 SS ₁₉₄	15.3	X	192.30484	174.13478	229.36174	9.67787	0.0748289	0.17730429	3.1380261	20	5 11.8	19.9
310220 2011 SS ₂₀₆	16.7	X	247.84980	140.60065	181.77080	2.36395	0.1978931	0.18726409	3.0257500	20	3 21.5	21.7
310221 2011 SZ ₂₁₁	18.3	X	146.15759	180.99492	213.11307	1.29239	0.2107746	0.27732036	3.3288859	20	3 16.2	21.8
310222 2011 SR ₂₁₄	16.1	X	193.75863	194.52333	207.79037	8.90006	0.0408659	0.17812691	3.1283574	20	5 13.4	20.6
310223 2011 SC ₂₁₇	17.0	X	324.37570	351.68891	298.62383	1.39876	0.2114833	0.20160111	2.8805413	20	5 12.2	20.0
310224 2011 ST ₂₁₈	17.1	X	251.66417	254.40646	98.85401	7.58116	0.1906094	0.30216916	2.1993919	20	5 1.3	20.3
310225 2011 ST ₂₁₉	15.6	X	250.94900	94.86712	209.60912	3.90490	0.1480040	0.17315399	3.1879712	20	3 7.5	20.6
310226 2011 SU ₂₃₀	17.6	X	87.74201	62.00914	328.89360	0.42046	0.1779579	0.25804476	2.4434644	20	—	—
310227 2011 SE ₂₃₂	16.4	X	122.97362	248.14202	335.44392	6.75304	0.1770600	0.22922329	2.6442157	20	10 16.4	20.9
310228 2011 SF ₂₃₃	16.2	X	295.81427	246.25153	220.17532	27.77388	0.2504767	0.22532121	2.6746564	20	11 29.2	18.8
310229 2011 SP ₂₃₄	16.6	X	294.79559	125.50952	233.73741	1.61261	0.1186899	0.20527005	2.8461142	20	7 12.5	20.1
310230 2011 SP ₂₃₉	17.0	X	136.04756	307.06604	4.17543	1.12621	0.1779149	0.25791963	2.4442547	20	—	—
310231 2011 SC ₂₄₆	16.7	X	231.54183	164.30320	225.98277	5.34532	0.1655207	0.18892232	3.0080187	20	5 30.1	21.5
310232 2011 TO ₂	16.0	X	32.46703	119.21626	271.79041	14.31406	0.1018498	0.23998663	2.5645510	20	—	—
310233 2011 TF ₄	15.4	X	258.78078	245.92249	98.31430	17.33296	0.1904028	0.18324241	3.0698611	20	5 5.1	20.4
310234 2011 TS ₅	15.4	X	187.61065	6.27275								

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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>
310241 2011 <i>UA</i> ₃	15.1	X	138.32048	248.69860	219.60442	26.02889	0.2555414	0.17317344	3.1877324	20	6 12.5	20.8
310242 2011 <i>UD</i> ₆	17.0	X	354.56666	191.91724	220.27775	1.61062	0.2078239	0.22959270	2.6413787	20	—	—
310243 2011 <i>UE</i> ₆	17.1	X	6.30636	9.10153	42.14035	12.48076	0.1826241	0.23308937	2.6148959	20	—	—
310244 2011 <i>UN</i> ₇	16.8	X	237.44424	60.45739	218.22426	5.09016	0.1161561	0.26875873	2.3780866	20	1 15.3	20.4
310245 2011 <i>UY</i> ₇	17.6	X	255.04162	337.25526	33.01854	5.31247	0.1435530	0.30300671	2.1953371	20	5 30.9	20.5
310246 2011 <i>UV</i> ₈	18.1	X	304.75485	116.64304	219.76239	0.93680	0.1747169	0.31032845	2.1606694	20	6 21.9	19.6
310247 2011 <i>UW</i> ₁₂	16.1	X	200.82722	11.15381	37.14482	5.25237	0.1394004	0.18110079	3.0940155	20	5 23.6	21.0
310248 2011 <i>UY</i> ₁₂	17.0	X	4.16629	290.35605	61.72152	0.70101	0.1025681	0.21889803	2.7267259	20	10 31.1	20.1
310249 2011 <i>UN</i> ₁₇	16.7	X	5.75061	57.73421	20.62157	5.03324	0.1573583	0.23892828	2.5721188	20	—	—
310250 2011 <i>UB</i> ₁₈	16.2	X	42.28338	62.01722	219.37984	3.52832	0.0742513	0.21011869	2.8021600	20	9 16.1	20.0
310251 2011 <i>UQ</i> ₁₈	16.0	X	338.45332	284.75543	102.88476	10.70419	0.2435459	0.22427511	2.6829670	20	11 21.2	18.3
310252 2011 <i>UW</i> ₂₀	16.3	X	57.56726	79.54540	194.98790	13.35978	0.1168194	0.22013708	2.7164846	20	10 6.9	20.0
310253 2011 <i>US</i> ₂₅	16.9	X	79.62714	187.94716	130.80435	0.59392	0.1659226	0.23474817	2.6025629	20	—	—
310254 2011 <i>UH</i> ₂₆	15.7	X	252.65139	293.83972	49.49548	10.39366	0.0828452	0.17877700	3.1207689	20	5 3.4	20.1
310255 2011 <i>UL</i> ₂₆	17.1	X	350.85430	342.38288	72.63962	2.24543	0.1219003	0.22995342	2.6386157	20	—	—
310256 2011 <i>UF</i> ₂₉	16.2	X	287.01923	58.21183	280.75851	4.71788	0.1095238	0.18797177	3.0181510	20	6 4.8	20.3
310257 2011 <i>UW</i> ₃₀	17.3	X	214.96991	270.59688	56.61436	5.99309	0.2043726	0.27929525	2.3178946	20	2 24.4	21.1
310258 2011 <i>UZ</i> ₃₀	16.0	X	106.86263	239.00854	53.84119	14.08816	0.1727417	0.23205298	2.6226759	20	12 26.2	20.5
310259 2011 <i>UF</i> ₃₁	15.8	X	320.09757	85.28232	225.08679	9.13829	0.1052939	0.18844863	3.0130573	20	6 16.3	19.6
310260 2011 <i>UV</i> ₃₁	15.3	X	192.23692	93.25410	287.29281	9.41068	0.0149008	0.17405771	3.1769268	20	4 9.7	20.1
310261 2011 <i>UP</i> ₃₂	15.6	X	226.30387	93.96005	271.19476	9.47980	0.0667285	0.18039219	3.1021127	20	4 29.1	20.4
310262 2011 <i>UA</i> ₃₃	16.4	X	15.66398	73.43972	235.21002	11.47865	0.2009350	0.21679363	2.7443329	20	9 29.1	19.5
310263 2011 <i>UQ</i> ₃₅	17.7	X	219.29608	115.78011	197.52954	4.75869	0.2502899	0.27770458	2.3267373	20	2 6.3	21.8
310264 2011 <i>UU</i> ₃₆	16.7	X	357.99433	239.91502	167.04900	1.92468	0.1035216	0.22821519	2.6519969	20	—	—
310265 2011 <i>UA</i> ₃₈	16.8	X	4.11688	87.12867	260.26966	5.09407	0.0577970	0.21375109	2.7703235	20	10 16.7	20.5
310266 2011 <i>UV</i> ₄₁	16.6	X	236.42838	78.49411	19.93632	2.03313	0.0425583	0.21145536	2.7903387	20	9 16.1	20.5
310267 2011 <i>UX</i> ₄₁	16.0	X	210.66254	153.44155	221.42604	5.78743	0.1642358	0.17889899	3.1193501	20	4 21.8	21.0
310268 2011 <i>UV</i> ₄₇	17.5	X	199.77776	37.19996	283.89873	1.45378	0.2006808	0.27475845	2.3433402	20	2 1.7	21.1
310269 2011 <i>UV</i> ₄₈	17.6	X	100.71421	199.42925	218.68087	2.81268	0.1201168	0.26635964	2.3923448	20	2 12.0	20.4
310270 2011 <i>UN</i> ₄₉	16.6	X	23.34352	282.94708	37.99611	5.19397	0.0684018	0.21343974	2.7730169	20	10 13.7	20.1
310271 2011 <i>UA</i> ₅₀	17.5	X	132.34331	2.89062	47.91416	2.12989	0.1852722	0.27383100	2.3486284	20	3 22.9	20.7
310272 2011 <i>US</i> ₅₂	15.8	X	233.87093	256.49734	75.21193	6.65367	0.1928584	0.17239748	3.1972906	20	3 24.8	21.1
310273 Paulsmeyers	17.1	X	213.90614	251.08307	89.58948	3.75307	0.1836100	0.28323726	2.2963379	20	3 10.2	20.8
310274 2011 <i>UW</i> ₅₄	16.6	X	303.63267	350.16268	46.31616	12.54782	0.1384093	0.20848790	2.8167533	20	9 21.7	20.0
310275 2011 <i>UF</i> ₅₅	17.3	X	144.86132	197.50470	229.33223	1.79640	0.1093296	0.28000150	2.3139953	20	4 17.5	20.5
310276 2011 <i>US</i> ₅₆	15.2	X	2.10418	10.87989	239.75343	8.46263	0.0198772	0.17975042	3.1094919	20	6 4.1	19.4
310277 2011 <i>UY</i> ₅₇	16.9	X	29.54135	167.92729	103.06615	3.25981	0.0421404	0.20011726	2.8947630	20	8 11.7	20.6
310278 2011 <i>UQ</i> ₅₉	17.0	X	305.45003	149.98529	299.51785	0.98434	0.0892402	0.22350070	2.6891609	20	12 6.9	20.2
310279 2011 <i>UT</i> ₆₁	16.3	X	272.76115	354.31507	131.98196	2.77595	0.0186514	0.22261732	2.6962702	20	12 13.3	19.9
310280 2011 <i>UN</i> ₆₂	17.9	X	265.71095	128.64418	211.57926	3.31814	0.2223961	0.30383699	2.1913359	20	4 21.8	20.7
310281 2011 <i>UL</i> ₆₄	15.4	X	223.46794	310.83158	67.30383	11.77238	0.1871742	0.18176247	3.0865020	20	5 8.1	20.5
310282 2011 <i>UV</i> ₆₄	17.2	X	86.33095	186.64142	154.25303	3.53465	0.1954856	0.24446468	2.5331368	20	—	—
310283 2011 <i>UV</i> ₆₆	16.7	X	236.54418	130.85761	168.87424	5.63069	0.1752612	0.28153698	2.3055741	20	2 5.9	20.3
310284 2011 <i>UY</i> ₇₂	16.3	X	212.90899	99.38587	311.17301	1.47858	0.1190536	0.18411395	3.0601656	20	6 8.8	21.1
310285 2011 <i>UZ</i> ₇₂	18.0	X	256.61448	92.82896	208.66995	2.58973	0.1842031	0.28558785	2.2837202	20	2 25.8	21.4
310286 2011 <i>UF</i> ₇₆	16.3	X	247.24293	66.99714	314.69613	4.11646	0.2106678	0.18948350	3.0020767	20	5 29.6	21.1
310287 2011 <i>UZ</i> ₇₇	17.0	X	71.81912	48.66660	274.92349	3.47317	0.2852904	0.23686593	2.5870271	20	—	—
310288 2011 <i>UV</i> ₇₈	16.7	X	348.45766	26.85147	329.32065	2.74972	0.1056896	0.21351225	2.7723891	20	10 8.7	19.8
310289 2011 <i>US</i> ₇₈	16.5	X	260.26527	166.24962	256.17268	4.19249	0.0978897	0.20327199	2.8647344	20	8 19.0	20.4
310290 2011 <i>UG</i> ₈₀	17.6	X	231.72629	318.11617	346.17037	2.12152	0.2188292	0.28028164	2.3124532	20	2 7.4	21.4
310291 2011 <i>UJ</i> ₈₀	15.0	X	164.86783	223.27062	227.36595	17.04596	0.0948684	0.17962626	3.1109247	20	6 9.8	20.0
310292 2011 <i>UN</i> ₈₁	17.1	X	315.27664	58.92742	55.13589	4.63188	0.0833123	0.23467082	2.6031348	20	—	—
310293 2011 <i>UR</i> ₈₂	16.2	X	207.20088	105.02149	312.29033	3.96715	0.1488144	0.18159336	3.0884180	20	6 9.7	21.3
310294 2011 <i>UV</i> ₈₂	15.9	X	21.71264	295.81731	298.25120	4.12583	0.0950663	0.18051700	3.1006826	20	6 14.2	19.7
310295 2011 <i>UF</i> ₈₃	17.6	X	250.25994	7.72709	359.18364	3.59999	0.0644648	0.29799563	2.2198798	20	5 31.2	20.2
310296 2011 <i>UJ</i> ₈₃	16.0	X	342.78933	56.86043	22.41786	6.41860	0.0750949	0.23256491	2.6188257	20	—	—
310297 2011 <i>UC</i> ₈₄	17.5	X	348.23484	65.93358	353.44357	2.16904	0.1314870	0.22796943	2.6539026	20	—	—
310298 2011 <i>UA</i> ₈₆	15.3	X	234.21710	176.06818	111.56570	6.23537	0.1502748	0.16078829	3.3493955	20	2 4.8	20.6
310299 2011 <i>UU</i> ₉₀	17.0	X	188.53507	278.47193	28.02213	7.80447	0.1312892	0.27082841	2.3659555	20	1 3.5	20.6
310300 2011 <i>UL</i> ₉₄	17.5	X	135.06846	207.02181	226.27211	4.15541	0.1780451	0.27894493	2.3198349	20	4 21.9	20.7
310301 2011 <i>UK</i> ₉₅	18.2	X	103.13236	245.52998	158.82761	0.89987	0.2094416	0.26522510	2.3991623	20	2 12.2	20.9
310302 2011 <i>UX</i> ₉₅	16.6	X	319.94575	302.75912	59.33855	1.08379	0.0852797	0.20913498	2.8109402	20	8 31.1	19.8
310303 2011 <i>UN</i> ₁₀₃	16.5	X	31.77492	15.88505	9.50102	4.64870	0.2704523	0.23485365	2.6017836	20	—	—
310304 2011 <i>UN</i> ₁₀₅	16.0	X	59.61671	353.19882	2.30134	14.03415	0.0633646	0.23571487	2.5954424	20	—	—
310305 2011 <i>UY</i> ₁₀₅	16.5	X	142.28231	279.77064	195.16772	8.39563	0.0269617	0.18577906	3.0418529	20	6 12.3	20.9
310306 2011 <i>UE</i> ₁₀₇	15.9	X	199.93237	345.80561	36.43375	13.85361	0.16759					

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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>
310321 2011 <i>UW</i> ₁₅₇	17.6	X	80.03195	70.78887	24.22362	1.71387	0.1472911	0.26499003	2.4005810	20	3 9.8	20.2
310322 2011 <i>UP</i> ₁₆₀	15.5	X	266.81985	298.93769	61.42947	11.64893	0.0715489	0.18202162	3.0835718	20	6 11.1	19.8
310323 2011 <i>UW</i> ₁₆₀	16.9	X	306.75856	100.97737	51.97761	7.70877	0.0719464	0.24026816	2.5625474	20	—	—
310324 2011 <i>UD</i> ₁₆₁	17.1	X	274.63677	259.73212	38.99689	7.09521	0.1432860	0.28618638	2.2805350	20	3 20.7	20.2
310325 2011 <i>UT</i> ₁₆₁	16.8	X	98.81862	328.11103	340.03828	2.26182	0.1608391	0.23350364	2.6118022	20	—	—
310326 2011 <i>UO</i> ₁₆₄	17.2	X	159.56307	242.39716	160.23142	6.08680	0.1697505	0.28102390	2.3083795	20	4 7.8	20.7
310327 2011 <i>UX</i> ₁₇₇	17.5	X	210.65752	253.42373	89.86572	3.41298	0.2014290	0.28303863	2.2974121	20	3 10.2	21.3
310328 2011 <i>UA</i> ₁₇₈	17.2	X	102.79234	323.05093	102.18102	2.24535	0.1567614	0.26687953	2.3892369	20	3 3.6	20.0
310329 2011 <i>UJ</i> ₁₇₈	16.6	X	343.44427	270.42423	91.14735	6.45222	0.0968081	0.21162533	2.7888444	20	10 11.7	19.9
310330 2011 <i>UJ</i> ₁₈₀	15.3	X	339.60944	284.25784	13.10499	8.72740	0.0800311	0.19139930	2.9820104	20	7 3.4	19.1
310331 2011 <i>UQ</i> ₁₈₀	16.7	X	240.00215	244.05766	297.43153	2.68044	0.1388994	0.23124960	2.6287466	20	12 25.6	20.2
310332 2011 <i>UP</i> ₁₈₁	16.7	X	81.52721	279.68218	32.51363	8.48213	0.1980035	0.23265558	2.6181452	20	12 29.5	21.0
310333 2011 <i>UO</i> ₁₈₂	16.9	X	343.06403	348.06299	279.31962	5.78991	0.0954962	0.29456511	2.2370817	20	5 25.4	18.9
310334 2011 <i>UJ</i> ₁₈₃	15.7	X	271.56053	308.25496	58.57305	12.88757	0.1244405	0.18700733	3.0285190	20	6 17.7	20.1
310335 2011 <i>UT</i> ₁₉₁	16.9	X	200.57951	153.43654	174.06550	10.63842	0.1999548	0.27771021	2.3267058	20	2 8.3	20.9
310336 2011 <i>UZ</i> ₁₉₅	15.7	X	358.12378	316.06413	286.31534	4.35754	0.1235228	0.17811657	3.1284784	20	5 16.6	19.4
310337 2011 <i>UX</i> ₁₉₇	15.4	X	294.16421	288.59288	33.94273	16.22362	0.1041305	0.18453264	3.0555350	20	5 21.7	19.6
310338 2011 <i>UW</i> ₂₀₀	16.6	X	357.83865	167.89898	183.05298	0.32806	0.1341331	0.21714728	2.7413624	20	10 22.1	19.6
310339 2011 <i>UZ</i> ₂₀₀	17.6	X	122.25349	26.60084	340.03083	0.61829	0.1852735	0.26169569	2.4206853	20	1 15.2	20.6
310340 2011 <i>UJ</i> ₂₀₂	15.9	X	324.57877	64.11894	228.44234	21.42663	0.2124057	0.18574585	3.0422154	20	5 16.8	19.3
310341 2011 <i>UJ</i> ₂₀₆	16.6	X	352.28189	227.76220	96.03058	5.76194	0.1209862	0.21072596	2.7967739	20	9 4.3	19.7
310342 2011 <i>UW</i> ₂₀₆	16.9	X	225.16891	204.33920	107.43885	4.32673	0.1976901	0.28173306	2.3045042	20	2 11.9	20.5
310343 2011 <i>UJ</i> ₂₁₆	16.5	X	129.85646	30.33813	239.32417	12.40798	0.1883637	0.23185162	2.6241941	20	12 18.6	20.9
310344 2011 <i>UJ</i> ₂₃₉	17.9	X	129.42846	88.22526	323.16812	0.73502	0.1821877	0.27164303	3.2612230	20	3 19.3	21.3
310345 2011 <i>UV</i> ₂₄₁	16.0	X	262.46373	285.17449	47.74499	11.98865	0.2088244	0.17926380	3.1151166	20	4 20.6	20.8
310346 2011 <i>UL</i> ₂₄₄	16.7	X	359.76355	266.13056	123.04450	5.03969	0.1480805	0.22735707	2.6586657	20	12 21.0	19.7
310347 2011 <i>UL</i> ₂₄₅	15.4	X	133.93781	274.54369	198.91536	12.87315	0.2564791	0.17336156	3.1854260	20	6 17.3	21.0
310348 2011 <i>UQ</i> ₂₄₇	17.2	X	72.55579	277.41228	226.20579	3.76695	0.0943824	0.27828934	2.3234768	20	4 26.6	19.7
310349 2011 <i>UJ</i> ₂₄₉	17.3	X	40.42257	296.17883	74.77312	0.75748	0.2030023	0.23344582	2.6122334	20	—	—
310350 2011 <i>UY</i> ₂₅₀	16.3	X	268.66967	344.61396	70.17665	13.49988	0.0882301	0.19978651	2.8979571	20	8 30.1	20.5
310351 2011 <i>UL</i> ₂₅₄	16.5	X	208.46514	9.60412	37.07869	1.46138	0.1829656	0.18048744	3.1010212	20	5 27.4	21.6
310352 2011 <i>UJ</i> ₂₅₄	15.9	X	348.12236	169.63723	103.03972	11.58167	0.0779000	0.18798832	3.0179739	20	6 13.1	19.7
310353 2011 <i>UQ</i> ₂₅₇	16.4	X	124.02938	11.64427	212.62416	4.08887	0.0298870	0.21161541	2.7889316	20	10 10.7	20.2
310354 2011 <i>UD</i> ₂₅₉	16.9	X	23.73963	343.45826	21.63420	6.40363	0.0961765	0.22547950	2.6734045	20	12 15.7	20.5
310355 2011 <i>UY</i> ₂₆₃	16.2	X	12.17145	256.14369	87.22933	11.82630	0.0993827	0.21755234	2.7379586	20	11 4.5	19.7
310356 2011 <i>UM</i> ₂₆₄	16.9	X	137.12731	225.68926	132.17412	6.90040	0.1451692	0.26438339	2.4042517	20	1 15.1	20.1
310357 2011 <i>UE</i> ₂₆₆	15.7	X	238.52428	312.94430	62.37492	9.33388	0.0885088	0.17893052	3.1189836	20	5 25.8	20.3
310358 2011 <i>UH</i> ₂₇₀	16.5	X	24.42842	190.49112	126.26508	6.02342	0.1520770	0.21908047	2.7252119	20	10 24.8	19.9
310359 2011 <i>UQ</i> ₂₇₄	15.5	X	215.53425	123.77855	246.57349	7.95187	0.1045893	0.17473364	3.1687286	20	4 22.7	20.4
310360 2011 <i>UL</i> ₂₈₀	15.7	X	261.99786	251.67134	116.61293	8.29691	0.0788545	0.18745742	3.0236693	20	6 15.7	20.0
310361 2011 <i>UE</i> ₂₈₁	16.7	X	138.81699	295.67927	117.41356	4.95195	0.1761101	0.27583210	2.3372554	20	4 2.2	20.1
310362 2011 <i>UE</i> ₂₈₈	16.1	X	316.25742	213.61029	234.05492	11.97908	0.1532031	0.22682102	2.6628530	20	12 22.7	18.9
310363 2011 <i>UX</i> ₃₃₄	16.9	X	33.59602	222.84925	111.53023	11.73247	0.1789516	0.23000454	2.6382247	20	12 5.4	20.5
310364 2011 <i>UH</i> ₃₃₅	15.8	X	108.91904	332.25142	332.73311	14.42663	0.1179589	0.23985123	2.5655162	20	—	—
310365 2011 <i>UN</i> ₃₃₅	16.2	X	347.47712	287.59705	102.94350	14.01839	0.1510361	0.22941791	2.6427201	20	12 5.3	19.2
310366 2011 <i>UQ</i> ₃₃₅	17.5	X	206.68028	86.18123	205.65250	2.59950	0.1924332	0.27619375	2.3352147	20	1 2.7	21.2
310367 2011 <i>UT</i> ₃₃₅	17.7	X	177.99990	316.93196	140.08015	3.70377	0.0083503	0.30746723	2.1740531	20	7 8.5	20.2
310368 2011 <i>UQ</i> ₃₃₆	16.1	X	236.54233	58.83047	76.31352	6.85638	0.0589614	0.21968146	2.7202393	20	11 3.0	19.8
310369 2011 <i>UE</i> ₃₃₇	15.9	X	256.90987	203.41928	173.71682	12.92480	0.1862700	0.19156586	2.9802817	20	6 7.6	20.6
310370 2011 <i>UF</i> ₃₃₇	16.0	X	196.86910	263.21199	146.11746	9.15137	0.1922487	0.18050054	3.1008711	20	5 22.9	21.3
310371 2011 <i>UM</i> ₃₃₇	16.4	X	229.22196	193.40660	206.19597	11.36167	0.0502326	0.19488709	2.9463251	20	6 18.9	20.8
310372 2011 <i>UM</i> ₃₃₈	15.9	X	37.55070	227.49829	94.65316	14.60439	0.2041135	0.22801235	2.6535695	20	11 28.7	19.5
310373 2018 <i>P-L</i>	17.5	X	242.49931	10.42933	357.22015	2.20474	0.2636278	0.24262722	2.5459100	20	5 2.4	21.6
310374 2016 <i>T-2</i>	16.8	X	167.12730	94.54266	289.80850	1.97642	0.2655484	0.24312495	2.5424340	20	3 26.5	21.2
310375 2019 <i>T-3</i>	17.0	X	42.12959	161.65804	208.07961	4.73776	0.2690474	0.23340430	2.6125432	20	—	—
310376 2018 <i>T-3</i>	17.4	X	159.99577	303.07117	50.75691	3.30486	0.2104669	0.26353269	2.4094230	20	2 10.8	21.3
310377 1993 <i>UK</i> ₅	16.9	X	295.80346	240.48403	73.81527	5.77396	0.2678884	0.28477798	2.2880479	20	4 18.9	19.8
310378 1994 <i>EM</i> ₈	16.7	X	286.33063	268.80083	167.50533	3.00404	0.0799027	0.20942215	2.8083698	20	10 19.3	20.1
310379 1994 <i>NZ</i>	16.6	X	293.91038	293.20012	289.02698	10.37677	0.4945005	0.21862825	2.7289686	20	—	—
310380 1994 <i>RS</i> ₈	18.0	X	251.76910	83.23837	284.93740	0.94946	0.1431094	0.29607946	2.2294472	20	5 24.6	20.8
310381 1994 <i>SV</i> ₅	16.5	X	231.43659	238.79967	152.00505	1.96494	0.1644093	0.17968195	3.1102818	20	5 30.8	21.5
310382 1995 <i>QD</i> ₆	13.1	X	4.92100	50.76350	303.27072	16.98560	0.0076399	0.08313484	5.1993294	20	9 23.8	20.2
310383 1995 <i>SM</i>	17.2	X	124.86822	66.58396	325.28462	1.18705	0.2230269	0.25568805	2.4584560	20	2 24.8	20.7
310384 1995 <i>SQ</i> ₂₁	16.7	X	112.90723	42.51533	9.76539	2.56443	0.1843926	0.25739687	2.4475630	20	3 4.1	19.8
310385 1995 <i>SH</i> ₄₃	17.2	X	53.11688	17.99024	85.25711	2.38715	0.1483669	0.25411018	2.4686224	20	2 5.4	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>
310401 1999 CW ₇₉	15.5	X	315.45179	258.26522	303.88895	10.45065	0.1960665	0.23023462	2.6364667	20	1 2.6	19.0
310402 1999 EE ₅	18.4	X	290.99145	192.98422	355.48276	30.98993	0.2814187	0.45705726	1.6691254	20	—	—
310403 1999 LF	16.9	X	281.22204	130.71732	94.74626	24.96837	0.0571922	0.36294361	1.9464501	20	—	—
310404 1999 RL ₁	17.5	X	134.88798	24.96244	342.23283	5.49264	0.3368758	0.25567720	2.4585255	20	2 16.3	21.5
310405 1999 RR ₃₇	17.4	X	102.75990	51.08300	354.61886	1.81235	0.1303546	0.25731043	2.4481111	20	2 2.9	20.2
310406 1999 RL ₁₉₈	16.7	X	238.98496	39.14872	291.23362	9.56349	0.2330131	0.26852988	2.3794375	20	3 11.0	20.9
310407 1999 ST ₂₂	17.2	X	115.09382	219.57573	192.71049	1.73307	0.2018030	0.25796286	2.4439816	20	3 7.9	20.5
310408 1999 TG ₄₃	17.5	X	85.09070	124.23994	318.42589	0.93345	0.1829140	0.25800251	2.4437312	20	3 6.2	20.2
310409 1999 TG ₇₈	16.8	X	272.71733	162.85269	206.47789	5.39725	0.1857808	0.17972480	3.1097875	20	6 14.5	21.3
310410 1999 TO ₈₀	16.8	X	232.80011	289.89243	120.53443	1.94223	0.1683601	0.17641282	3.1485889	20	6 24.5	21.7
310411 1999 TO ₁₂₅	16.9	X	173.97402	84.76697	268.58119	1.57192	0.1850296	0.25999902	2.4312050	20	2 19.3	20.9
310412 1999 TE ₁₂₉	17.4	X	108.54277	46.31102	350.60355	3.01387	0.2464556	0.25575795	2.4580080	20	2 16.8	20.6
310413 1999 TN ₁₅₀	16.6	X	93.95728	14.69227	3.63795	10.90218	0.2391924	0.25113631	2.4880726	20	1 3.9	19.6
310414 1999 TS ₁₅₀	17.1	X	130.48300	48.32641	315.45541	3.19198	0.2251268	0.25462523	2.4652923	20	1 27.2	20.6
310415 1999 TW ₁₇₅	17.0	X	132.74932	356.69837	13.22227	6.87772	0.1718903	0.25454229	2.4658278	20	2 2.1	20.5
310416 1999 TT ₂₀₂	16.7	X	70.10823	103.69714	355.87305	4.65867	0.1537239	0.25654113	2.4530028	20	3 2.2	19.1
310417 1999 TK ₂₉₃	16.7	X	115.20873	130.89260	255.81728	3.56119	0.1943960	0.25375918	2.4708983	20	2 2.7	19.9
310418 1999 UX ₂₈	17.6	X	111.00008	11.86141	46.50582	3.28728	0.1889847	0.25752131	2.4467744	20	3 11.4	20.9
310419 1999 UO ₃₃	17.5	X	101.53235	30.75378	36.11869	3.03342	0.1852580	0.25600630	2.4564181	20	3 10.1	20.6
310420 1999 VV ₃	15.6	X	155.08713	52.01069	67.59705	6.60205	0.1383607	0.17065344	3.2190373	20	7 7.7	20.8
310421 1999 VD ₈₀	17.1	X	118.64615	32.67134	18.51517	1.25999	0.1722977	0.25652361	2.4531145	20	3 7.6	20.4
310422 1999 VK ₉₈	15.9	X	258.87986	166.91193	224.85730	9.20981	0.0812760	0.17614265	3.1518076	20	7 9.0	20.6
310423 1999 VA ₁₀₄	17.3	X	149.43216	157.96015	200.28260	0.97814	0.2384952	0.25513563	2.4620034	20	2 8.2	21.2
310424 1999 VX ₁₂₀	15.8	X	235.50518	141.49112	224.80122	13.20420	0.1347243	0.17235300	3.1978407	20	5 7.3	20.8
310425 1999 VV ₁₃₅	16.8	X	138.53080	351.56674	36.96586	3.43043	0.1825925	0.25723043	2.4486187	20	3 2.6	20.3
310426 1999 VU ₁₅₄	17.1	X	330.10919	118.91195	52.68279	8.36632	0.0384894	0.25176888	2.4839033	20	—	—
310427 1999 VA ₁₈₆	17.2	X	100.46241	294.02855	93.59765	2.68656	0.2516516	0.25171483	2.4842588	20	1 26.7	20.1
310428 1999 WV ₁₈	17.3	X	129.31390	319.89864	62.34464	3.18787	0.1726181	0.25472541	2.4646459	20	2 12.9	20.7
310429 1999 XP ₁₉	15.7	X	101.44978	48.91869	35.65262	5.67160	0.4286895	0.25599912	2.4564640	20	5 1.4	19.5
310430 1999 XK ₁₃₉	16.8	X	185.54418	278.33204	58.51988	3.61505	0.2084049	0.25972265	2.4329293	20	2 12.3	20.8
310431 1999 XT ₂₁₈	16.7	X	56.89351	143.66224	271.82189	2.62958	0.2404082	0.24467929	2.5316553	20	—	—
310432 1999 XN ₂₂₆	12.7	X	252.01688	167.84354	297.11172	22.06212	0.0518659	0.08053586	5.3105950	20	9 11.6	20.0
310433 2000 AH ₁	12.6	X	237.07929	184.74021	301.18352	28.89561	0.0320601	0.08086900	5.2960004	20	9 15.9	20.1
310434 2000 AP ₁₄₆	15.1	X	304.65653	307.58829	281.59457	23.51195	0.4172591	0.24241613	2.5473877	20	—	—
310435 2000 AV ₁₅₆	16.4	X	159.65489	279.91531	92.78867	7.49125	0.3286464	0.25727885	2.4483114	20	3 14.0	20.9
310436 2000 AB ₁₆₉	15.5	X	108.35108	243.18986	142.49403	9.28910	0.2627869	0.25174464	2.4840627	20	2 4.1	18.7
310437 2000 AZ ₂₀₆	15.1	X	103.98398	324.85279	285.19047	8.70131	0.0765889	0.17798003	3.1300783	20	10 14.6	19.9
310438 2000 AS ₂₃₄	16.1	X	92.59852	255.31224	104.62388	4.77125	0.1961247	0.24317820	2.5420629	20	—	—
310439 2000 AT ₂₅₃	13.3	X	324.93752	290.48676	118.19945	9.04828	0.0219181	0.08213491	5.2414429	20	10 21.0	20.2
310440 2000 BL ₂	16.2	X	40.99692	54.83847	357.66523	28.98841	0.3232553	0.24361104	2.5390509	20	—	—
310441 2000 BH ₃₄	16.3	X	352.95766	31.15909	106.13869	4.83460	0.1398087	0.24153396	2.5535866	20	—	—
310442 2000 CH ₅₉	19.9	X	278.42045	109.57358	213.63021	3.25838	0.4232886	1.22942768	0.8629800	20	—	—
310443 2000 CF ₁₁₁	17.4	X	37.79349	95.21576	307.81342	2.09360	0.2661114	0.23834290	2.5763285	20	—	—
310444 2000 DV ₃₂	17.3	X	10.89972	155.40576	333.78166	4.82481	0.2138341	0.24243101	2.5472834	20	—	—
310445 2000 DH ₁₀₀	16.5	X	18.90975	97.69571	21.05718	6.62858	0.2061761	0.24232104	2.5480540	20	—	—
310446 2000 GR ₁₆₃	16.1	X	333.79320	80.83956	144.16125	12.92722	0.2296585	0.24255690	2.5464020	20	2 20.0	18.9
310447 2000 HL ₅₉	16.6	X	189.68182	198.10714	29.03714	3.55585	0.1644409	0.22310992	2.6923001	20	12 20.1	20.7
310448 2000 JS ₉	16.1	X	282.97993	119.56836	89.05580	30.95954	0.2892455	0.23298794	2.6156547	20	—	—
310449 2000 LC ₃	16.3	X	153.70139	313.20020	283.26008	25.61407	0.1782673	0.31211531	2.1524149	20	11 2.9	20.0
310450 2000 LV ₂₉	16.1	X	225.45231	94.52460	95.54378	12.28072	0.1328865	0.22265331	2.6959797	20	12 17.1	19.7
310451 2000 PT ₂₇	15.7	X	252.79984	80.17735	276.20516	21.05946	0.2889759	0.28446604	2.2897203	20	4 16.6	20.0
310452 2000 QT ₆	17.4	X	225.42295	357.82000	355.90975	3.17095	0.2329647	0.28227199	2.3015700	20	4 1.4	21.0
310453 2000 QX ₂₀	17.8	X	198.40159	88.64727	268.50797	1.01434	0.2351138	0.27821310	2.3239012	20	3 15.2	21.7
310454 2000 QZ ₄₁	17.3	X	224.09771	193.82636	175.74742	2.33001	0.1785714	0.28424125	2.2909273	20	4 24.2	20.7
310455 2000 QR ₄₃	17.2	X	246.70275	222.03672	156.08220	7.31274	0.1646783	0.28817327	2.2700404	20	5 31.5	20.4
310456 2000 QM ₁₄₇	17.3	X	45.27517	186.90275	330.46465	19.02344	0.1039378	0.38090084	1.8847833	20	3 11.0	18.6
310457 2000 QU ₁₄₇	17.3	X	182.99459	164.75262	167.37951	23.14950	0.0298728	0.37363015	1.9091561	20	1 3.3	19.9
310458 2000 QA ₁₈₀	15.9	X	218.98711	95.68062	354.67837	23.29372	0.3039849	0.28957355	2.2627164	20	8 4.4	20.0
310459 2000 QS ₂₁₆	17.4	X	216.83851	247.12063	125.16642	3.26451	0.2367890	0.28195695	2.3032841	20	4 19.5	21.3
310460 2000 QA ₂₂₈	16.6	X	315.66226	351.80746	292.56959	5.55150	0.1276288	0.28820072	2.2698962	20	4 24.7	19.0
310461 2000 QD ₂₂₈	16.7	X	177.84250	250.66954	135.41027	3.89314	0.2706663	0.27686383	2.3314453	20	4 6.8	20.8
310462 2000 QW ₂₅₄	17.5	X	224.23286	141.47463	303.47010	5.01842	0.0911511	0.29447016	2.2375626	20	8 14.2	20.3
310463 2000 RE ₄₀	15.3	X	254.88346	47.21636	322.59255	13.29167	0.2322209	0.18595759	3.0399056	20	5 17.1	20.4
310464 2000 SF	14.9	X	181.37291	57.72439	340.01864	22.39011	0.3151306	0.27626448	2.3348161	20	4 11.3	19.6
310465 2000 ST ₉	15.4	X	259.30084	354.81002	351.80335	25.56600	0.2492014	0.18477544	3.0528577	20	4 13.5	20.6
310466 2000 ST ₁₂	17.1	X	185.39923	308.64881	49.07436	6.73831	0.2734844	0.27683928	2.3315832	20	3 10.6	21.3
310467 2000 SB ₂₄	16.3	X	162.56650	12.86768	19.86851	28.41883	0.1866181	0.27492140	2.3424142	20	4 1.9	20.0
310468 2000 SK ₅₁	1											

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
310481 2000 SA ₂₄₈	16.9	X	21.23700	327.49003	88.18317	4.41498	0.2145147	0.25894237	2.4378144	20	—	—
310482 2000 SX ₂₈₀	17.1	X	192.93513	352.32697	330.23133	23.25813	0.1050994	0.37206408	1.9145096	20	1 18.4	19.7
310483 2000 SZ ₂₈₉	17.2	X	168.43944	191.82149	218.52266	4.48171	0.1583481	0.27850036	2.3223029	20	4 24.1	20.6
310484 2000 SZ ₃₀₂	17.1	X	146.34205	157.92375	301.95060	3.04476	0.1127149	0.28119047	2.3074678	20	6 3.6	20.3
310485 2000 SD ₃₄₄	17.2	X	167.16488	196.46519	221.38296	4.53245	0.1662653	0.27782097	2.3260874	20	5 3.1	20.6
310486 2000 SB ₃₆₁	16.6	X	175.99512	69.29851	354.35139	22.02237	0.2585440	0.28118466	2.3074996	20	5 10.8	21.1
310487 2000 SB ₃₆₂	17.3	X	175.84133	293.53883	78.38018	3.28947	0.1929037	0.27595130	2.3365823	20	3 16.4	21.0
310488 2000 TV ₃₀	17.3	X	153.71154	331.76240	76.16969	3.47407	0.2095609	0.27491737	2.3424371	20	4 11.7	20.9
310489 2000 VM ₆₂	15.8	X	281.42301	269.06812	118.66400	9.71974	0.0945838	0.19040313	2.9924024	20	8 3.7	19.7
310490 2000 UR ₁	17.4	X	135.84690	47.70198	73.64172	3.68216	0.0985256	0.28396512	2.2924123	20	6 20.5	20.3
310491 2000 UT ₁₂	17.2	X	192.91061	71.19901	320.22168	4.97046	0.2227934	0.27821584	2.3238860	20	4 20.6	21.3
310492 2000 UK ₂₆	16.6	X	165.62077	188.57012	205.95890	12.76798	0.1727785	0.27364376	2.3496996	20	3 31.8	20.4
310493 2000 UZ ₃₀	16.9	X	166.88100	352.96010	46.06828	6.48450	0.1133855	0.27559295	2.3386074	20	4 7.7	20.3
310494 2000 UC ₃₄	17.3	X	213.78450	154.10963	224.85958	3.34994	0.1667007	0.28019352	2.3129380	20	4 26.4	20.8
310495 2000 UD ₃₆	17.6	X	157.96616	167.31458	214.08571	4.80185	0.2467816	0.27233845	2.3572017	20	3 12.7	21.4
310496 2000 UY ₇₂	17.7	X	187.19154	35.88802	0.14638	2.31758	0.2116436	0.27741657	2.3283474	20	4 23.4	21.4
310497 2000 UJ ₈₃	16.8	X	240.65660	233.11694	96.53767	4.86214	0.1265523	0.27866139	2.3214082	20	3 22.9	20.3
310498 2000 UJ ₉₃	16.7	X	234.61574	87.94990	270.75616	5.74479	0.1280648	0.28024907	2.3126324	20	4 21.5	20.0
310499 2000 UV ₁₁₄	16.9	X	173.48483	101.60591	293.47387	4.80265	0.2384469	0.27481341	2.3430278	20	4 9.7	21.0
310500 2000 VM ₂₁	16.8	X	205.84249	311.05945	59.31183	4.05630	0.1700272	0.27708864	2.3301841	20	4 9.6	20.5
310501 2000 VG ₅₆	15.2	X	219.34268	2.81250	48.50080	18.47418	0.1924564	0.18065010	3.0991594	20	6 8.5	20.5
310502 2000 WN ₇	16.2	X	226.58691	204.52810	238.40844	10.45021	0.2812213	0.18407792	3.0605648	20	7 16.9	21.6
310503 2000 WZ ₁₅	17.2	X	167.26755	352.69939	44.17619	3.89562	0.1984702	0.27398876	2.3477268	20	4 8.7	21.0
310504 2000 WN ₁₆	17.1	X	182.32416	177.27703	255.41391	5.25019	0.1508528	0.27881078	2.3205789	20	6 6.3	20.6
310505 2000 WA ₁₇	15.2	X	252.88229	163.26995	243.29315	19.22556	0.1443381	0.18378879	3.0637738	20	7 9.6	20.0
310506 2000 WL ₂₇	17.8	X	150.59849	23.62846	55.49466	2.09024	0.1621601	0.27606159	2.3359600	20	5 14.7	21.2
310507 2000 WU ₅₆	16.4	X	160.14278	341.74177	74.27582	7.84101	0.1198368	0.27446413	2.3450151	20	4 24.3	19.8
310508 2000 WP ₇₅	16.7	X	200.89526	121.07384	281.41300	6.20886	0.0982261	0.27885799	2.3203170	20	5 16.1	20.0
310509 2000 WF ₁₀₂	15.7	X	236.88142	281.66954	112.23957	11.95610	0.2757391	0.18240601	3.0792382	20	6 1.3	21.0
310510 2000 WV ₁₁₇	16.1	X	206.09357	173.74062	281.75099	5.33077	0.2442042	0.18136430	3.0910179	20	7 20.1	21.3
310511 2000 WG ₁₄₂	17.0	X	177.83085	247.74946	143.70418	7.21824	0.2451234	0.27619944	2.3351826	20	4 13.9	21.0
310512 2000 WL ₁₄₈	15.7	X	189.32172	338.60937	101.15727	18.53740	0.1855601	0.17577505	3.1562003	20	6 20.6	20.9
310513 2000 WF ₁₇₄	16.8	X	152.16336	202.30135	191.12921	8.69890	0.2114445	0.27176075	2.3605411	20	3 21.1	20.6
310514 2000 XK ₁₅	15.1	X	343.44014	182.88753	82.27682	19.00336	0.1739918	0.17642693	3.1484209	20	5 23.0	18.7
310515 2000 XS ₁₈	17.4	X	136.18743	108.10016	335.68509	8.53800	0.2723584	0.27315206	2.3525186	20	5 11.8	21.4
310516 2000 XW ₂₂	15.5	X	230.69663	338.38242	47.67506	17.00128	0.2230140	0.17940096	3.1135287	20	5 18.1	20.7
310517 2000 XS ₄₈	14.6	X	285.31852	302.09763	54.59360	23.66217	0.1935659	0.18282837	3.0744940	20	6 9.2	19.1
310518 2000 YF ₁₃	17.3	X	158.20365	52.96843	336.23116	1.77965	0.2392385	0.27103680	2.3647426	20	3 23.2	21.0
310519 2000 YW ₃₂	16.9	X	111.39528	101.84924	277.35212	16.44560	0.0925114	0.36106896	1.9531815	20	—	—
310520 2000 YH ₃₈	15.3	X	250.71931	270.32634	117.36742	17.39582	0.2060937	0.17965794	3.1105590	20	6 12.9	20.3
310521 2000 YC ₅₇	16.8	X	144.93427	172.26200	234.77866	3.59474	0.1824818	0.26840138	2.3801969	20	3 28.8	20.5
310522 2000 YS ₆₆	16.4	X	146.25879	281.89623	111.60865	8.05739	0.3496368	0.26807038	2.3821558	20	3 30.4	20.7
310523 2000 YA ₁₁₅	14.8	X	161.66061	170.35906	289.48104	27.12590	0.1460013	0.17192630	3.031295	20	6 22.3	20.1
310524 2000 YZ ₁₂₇	15.4	X	225.68956	152.02380	291.10877	16.58345	0.0860868	0.18082951	3.0971092	20	8 2.1	20.0
310525 2000 YY ₁₂₈	15.0	X	114.72025	252.83192	316.42618	14.84741	0.2005421	0.17817050	3.1278471	20	9 14.5	20.3
310526 2000 YW ₁₃₃	17.4	X	101.50304	101.93842	354.43037	2.08452	0.2081149	0.26689962	2.3891169	20	4 19.3	20.6
310527 2001 AP ₁	16.5	X	161.85176	263.18252	112.50271	11.62920	0.2442330	0.26827811	2.3809260	20	3 15.1	20.6
310528 2001 AB ₆	17.2	X	147.27702	146.00594	282.69157	0.84659	0.1607835	0.27131862	2.3631048	20	4 27.7	20.8
310529 2001 BO ₇	16.1	X	182.11362	337.72842	104.17616	12.31502	0.1903546	0.17379380	3.1801421	20	6 16.9	21.5
310530 2001 BD ₈	15.0	X	201.01306	9.16112	108.87436	18.96790	0.1561454	0.18099105	3.0952661	20	8 20.2	20.1
310531 2001 BC ₁₁	16.9	X	99.28551	237.67464	235.38120	7.79550	0.1363422	0.26746462	2.3857512	20	4 28.6	20.0
310532 2001 BB ₁₈	14.6	X	120.83574	70.06444	137.16562	17.32565	0.1863339	0.18018077	3.1045388	20	9 27.3	19.9
310533 2001 BN ₃₃	16.1	X	122.67778	268.86946	141.63501	22.05900	0.2811019	0.26376612	2.4080012	20	3 28.4	20.1
310534 2001 BC ₃₅	15.4	X	156.31989	49.48873	135.81471	29.88885	0.3917910	0.17846159	3.1244449	20	10 3.6	21.8
310535 2001 BJ ₄₃	17.5	X	39.81194	155.14571	284.18498	9.75136	0.2328932	0.35764446	1.9656297	20	—	—
310536 2001 BT ₅₀	15.5	X	230.42776	290.00002	125.13225	12.78562	0.1450581	0.17675754	3.1444938	20	6 30.4	20.4
310537 2001 BN ₅₂	15.7	X	196.70344	6.96151	115.18981	14.30360	0.0743867	0.18166338	3.0876244	20	8 20.8	20.4
310538 2001 BG ₈₃	17.5	X	91.02697	64.83100	90.54112	8.07185	0.2879220	0.26885164	2.3775386	20	7 7.5	21.0
310539 2001 CH ₂₂	14.7	X	123.21851	244.03759	315.67370	25.30788	0.1936710	0.17825690	3.1268363	20	9 5.5	20.2
310540 2001 CC ₂₈	14.7	X	118.24684	73.97677	123.68869	26.97701	0.1725953	0.17672916	3.1448305	20	9 13.4	20.1
310541 2001 DT ₃	15.5	X	156.35735	50.22962	122.24080	28.83471	0.2857662	0.17912082	3.1167742	20	9 18.8	21.5
310542 2001 DW ₂₅	16.9	X	114.02942	353.22327	115.77855	3.05388	0.1286003	0.26717105	2.3874986	20	5 12.5	20.0
310543 2001 DX ₂₅	17.0	X	74.39437	15.17826	112.11907	4.49578	0.1982589	0.26399501	2.4066092	20	4 26.7	19.7
310544 2001 DF ₆₆	15.7	X	204.38693	168.73791	334.55483	11.07669	0.1499913	0.18223853	3.0811244	20	9 17.6	20.7
310545 2001 DF ₉₇	17.1	X	30.66858	10.07453	129.97423	3.63892	0.1222973	0.25859385	2.4400043	20	2 13.6	19.3
310546 2001 DE ₁₀₉	15.2	X	202.41619	141.43871	352.58697	27.12949	0.1221763	0.17837224	3.1254882	20	9 11.0	20.0
310547 2001 EX ₅	15.4	X	125.58204	31.25133	147.75260	11.64220	0.1611847	0.17297916	3.1901188	20	8 22.2	20.4
310548 2001 EW ₈	17.1	X	109.44483	348.26659	351.39099	19.12969	0.10103151	0.34742044	2.0040065	20	—	—
310549 2001 EF ₁₇	15.5	X	156.89200	87.38994	48.16924	24.53162	0.2902739	0.17381509	3.1798825	20	8 8.9	21.6
310550 2001 FY ₁₅₁	15.5	X	146.37024	119.79861	150.62124	23.71196	0.2954466	0.18094903	3.0957453	20	12 26.1	21.5
310551 2001 FC ₁₇₉	15.1	X	165.79307	53.36989	131.92403	17.59353	0.1812980	0.17828641	3.1264913	20	10 10.3	20.6
310552 2001 OT ₄₂	16.2	X	31.68403	78.77490	290.54430	10.78708	0.1893427	0.21585788	2.7522684	20	—	—
310553 2001 OY ₄₂	15.5	X	25.25762	73.03819	278.13663	6.97809	0.3037202					

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>
310561 2001 QQ ₂₃₀	16.8	X	340.07078	111.44433	298.01424	7.15877	0.1807348	0.21465374	2.7625517	20	12 13.3	19.7
310562 2001 RC ₁₅	16.5	X	26.06871	90.90646	244.91290	7.50237	0.1638001	0.21320006	2.7750948	20	11 18.5	19.8
310563 2001 RO ₅₆	16.5	X	3.15124	14.12712	358.15166	12.60767	0.1686598	0.21322722	2.7748592	20	11 28.9	19.9
310564 2001 RJ ₁₂₁	17.6	X	261.39329	52.68839	13.10957	4.71379	0.1391321	0.31006240	2.1619052	20	9 5.2	19.8
310565 2001 RU ₁₃₇	17.7	X	262.92776	282.82172	111.23333	2.22727	0.1672591	0.30646461	2.1787923	20	7 13.4	20.0
310566 2001 SO ₁₁	16.7	X	62.44161	47.72700	320.69273	5.88690	0.0511088	0.22134902	2.7065599	20	—	—
310567 2001 SD ₆₇	16.2	X	324.76069	332.46264	45.19337	11.64972	0.2788065	0.20474934	2.8509376	20	9 23.9	18.6
310568 2001 SE ₇₈	16.5	X	55.78145	297.66275	2.20949	8.89080	0.0841562	0.21184535	2.7869131	20	10 28.2	20.3
310569 2001 SO ₉₇	17.0	X	6.18569	55.95375	336.55554	7.09860	0.1578140	0.21548373	2.7554533	20	—	—
310570 2001 SR ₁₄₁	16.0	X	104.49918	312.89343	345.80032	9.87907	0.2535893	0.22083580	2.7107516	20	—	—
310571 2001 SB ₁₄₇	16.5	X	341.03208	37.81280	5.50791	13.76722	0.1321874	0.21216394	2.7841224	20	11 27.8	19.9
310572 2001 SS ₂₀₉	16.8	X	8.80087	343.87800	18.72736	5.18889	0.1654400	0.21234560	2.7825344	20	11 26.8	20.2
310573 2001 ST ₂₂₈	17.6	X	299.21551	343.93496	33.27254	3.25744	0.2061802	0.30821142	2.1705522	20	8 16.7	19.1
310574 2001 SH ₂₆₂	17.0	X	289.06746	298.48589	147.63209	3.62622	0.5135708	0.20782866	2.8227068	20	8 25.3	20.5
310575 2001 SZ ₃₃₂	16.5	X	305.15445	234.11213	184.89118	3.64402	0.0865053	0.20899160	2.8122256	20	10 23.9	19.9
310576 2001 SY ₃₄₁	16.4	X	32.96928	78.58506	246.24154	7.86693	0.1722616	0.21229224	2.7830006	20	11 14.8	20.0
310577 2001 TX ₃₂	17.7	X	133.44528	224.59346	230.44373	23.84566	0.0728059	0.39717879	1.8329278	20	5 4.8	19.3
310578 2001 TT ₃₆	15.6	X	300.59112	12.24866	28.92153	15.54696	0.3052171	0.20131412	2.8832783	20	8 28.7	19.0
310579 2001 TL ₈₉	17.6	X	249.71812	153.18322	239.58400	3.94488	0.1729278	0.30238358	2.1983521	20	6 22.4	20.3
310580 2001 TU ₁₃₄	16.1	X	302.13680	154.14557	289.87751	6.70427	0.2280014	0.21054501	2.7983761	20	11 5.7	19.0
310581 2001 TY ₂₀₂	16.1	X	327.28240	295.25540	127.99601	10.24809	0.1430389	0.21133998	2.7913541	20	12 6.5	19.3
310582 2001 TP ₂₃₅	17.6	X	317.43913	256.91788	84.23477	7.50876	0.2584164	0.30700241	2.1762470	20	7 16.6	18.6
310583 2001 TO ₂₅₇	16.3	X	99.69593	152.93748	171.81103	11.47316	0.0807249	0.21911435	2.7249310	20	—	—
310584 2001 TM ₂₆₁	16.4	X	27.06265	227.68197	146.16667	4.97491	0.0873590	0.21423639	2.7661383	20	12 27.3	20.0
310585 2001 UT ₂₀	17.0	X	314.64524	264.54514	61.31027	6.85918	0.2283177	0.30353849	2.1927723	20	6 14.0	18.5
310586 2001 UH ₁₀₀	17.8	X	250.89578	291.23515	100.57583	2.20370	0.1453741	0.30140523	2.2031067	20	6 26.5	20.5
310587 2001 US ₁₀₃	17.1	X	179.84241	86.50284	59.89999	5.23429	0.0520721	0.30779618	2.1725039	20	9 23.5	19.8
310588 2001 UZ ₁₁₇	17.3	X	281.69167	324.20295	50.69080	5.07172	0.1218718	0.30304634	2.1951457	20	7 23.2	19.5
310589 2001 UM ₁₈₇	16.8	X	298.77352	59.32118	21.63053	5.29674	0.1565926	0.21021751	2.8012818	20	11 4.2	19.9
310590 2001 UE ₂₁₂	17.7	X	286.62144	326.32698	17.37846	4.26691	0.1917509	0.30156255	2.2023404	20	5 27.8	20.2
310591 2001 UE ₂₂₉	16.2	X	95.82970	193.47836	79.32864	6.03864	0.1204890	0.21262834	2.7800671	20	11 17.0	20.3
310592 2001 VM ₁₀	16.4	X	264.54197	133.15681	255.73443	15.26839	0.2801999	0.19645999	2.9305781	20	6 17.3	20.9
310593 2001 VS ₆₇	16.0	X	338.09571	337.49858	42.99587	16.06552	0.1417679	0.20510790	2.8476140	20	10 26.8	19.2
310594 2001 VT ₈₂	16.2	X	258.94825	340.37048	55.87191	21.10702	0.1591404	0.19588748	2.9362854	20	7 6.3	20.8
310595 2001 VQ ₁₀₁	16.6	X	325.18284	59.95563	326.32424	2.70591	0.2846966	0.20494336	2.8491380	20	9 30.3	18.6
310596 2001 WE ₃	17.5	X	42.44454	244.85682	43.84760	5.73590	0.1184799	0.31029084	2.1608440	20	10 23.7	19.9
310597 2001 WE ₄	16.3	X	276.86021	341.06561	104.44199	9.74779	0.2837174	0.20282326	2.8689581	20	9 18.9	20.0
310598 2001 WV ₃₂	16.8	X	296.78936	287.56706	111.37794	4.45551	0.2898089	0.20128238	2.8835814	20	8 12.9	19.9
310599 2001 WT ₄₅	16.5	X	302.18340	200.38720	254.93655	6.13213	0.1039433	0.20911653	2.8111055	20	12 4.3	19.8
310600 2001 WF ₇₇	16.9	X	356.20417	173.51132	222.65875	3.25963	0.1026570	0.20978996	2.8050865	20	12 13.4	20.3
310601 2001 XS ₃	17.3	X	140.24753	68.11725	274.03758	15.53376	0.0554519	0.38125274	1.8836233	20	—	—
310602 2001 XG ₁₄	17.1	X	260.75917	23.55722	346.73304	4.83141	0.1829272	0.29633093	2.2281858	20	6 1.5	20.0
310603 2001 XZ ₂₁	15.6	X	213.59686	189.13198	305.85020	12.25343	0.2115860	0.19566373	2.9385235	20	9 10.0	20.5
310604 2001 XJ ₁₂₈	17.1	X	198.64075	23.54228	86.46449	4.91751	0.0690840	0.30111894	2.2045028	20	8 23.4	19.9
310605 2001 XF ₁₃₅	17.3	X	283.05338	131.15636	244.79872	5.22659	0.1857178	0.30226501	2.1989269	20	7 12.6	19.4
310606 2001 XH ₁₆₈	17.6	X	198.11675	322.96300	121.60041	4.43397	0.1420241	0.29584349	2.2306325	20	7 9.3	20.9
310607 2001 XW ₁₆₉	17.2	X	236.93776	112.68815	267.46997	5.61781	0.1871785	0.29455411	2.2371374	20	5 18.9	20.6
310608 2001 XB ₂₀₁	16.9	X	279.82743	91.30534	292.20986	7.50130	0.1525906	0.29970828	2.2114148	20	7 25.5	19.1
310609 2001 XZ ₂₂₄	15.9	X	9.05809	52.03371	297.81108	4.73939	0.0844449	0.20427251	2.8553725	20	10 27.8	19.7
310610 2001 XK ₂₄₀	16.1	X	236.77193	145.89173	308.84738	4.30165	0.2301228	0.19505431	2.9446410	20	8 16.5	20.8
310611 2001 YU ₂₀	16.9	X	45.19677	181.62002	272.09835	4.97126	0.0446260	0.29195867	2.2503762	20	5 19.4	19.4
310612 2001 YD ₅₈	17.4	X	265.05203	298.69775	77.42374	6.58073	0.1780000	0.29863543	2.2167081	20	6 17.3	20.1
310613 2001 YC ₁₄₁	17.5	X	219.26981	3.04003	81.79856	4.11830	0.0693828	0.30152889	2.2025043	20	8 13.6	20.1
310614 2001 YG ₁₅₆	15.4	X	191.53483	85.29644	33.69010	12.32042	0.0970414	0.19166525	2.9792512	20	8 18.7	20.2
310615 2001 YA ₁₅₈	18.0	X	127.00799	115.50194	65.79541	4.56647	0.0879312	0.29652742	2.2272013	20	9 5.2	21.0
310616 2002 AX	17.7	X	233.94647	317.73996	74.89838	8.39146	0.3874389	0.29662063	2.2267347	20	5 19.3	21.8
310617 2002 AY ₂₅	15.6	X	330.46776	196.46012	119.02132	10.89770	0.0498048	0.18605203	3.0388768	20	7 14.1	19.5
310618 2002 AN ₅₂	16.1	X	308.32090	205.94481	300.12660	8.39621	0.1172909	0.20965587	2.8062824	20	—	—
310619 2002 AB ₅₅	17.2	X	268.95256	111.64989	275.04847	3.75026	0.1356212	0.29715785	2.2240501	20	7 15.8	19.6
310620 2002 AT ₉₃	16.5	X	169.43807	76.83732	86.21043	2.21581	0.1791894	0.19222851	2.9734286	20	9 13.5	21.4
310621 2002 AN ₉₆	16.2	X	219.09732	343.12263	108.29037	18.72454	0.2140873	0.19073647	2.9889149	20	7 29.4	21.2
310622 2002 AL ₁₀₉	16.3	X	234.05963	111.17759	312.80129	6.61836	0.2426219	0.18898764	3.0073256	20	7 6.7	21.3
310623 2002 AP ₁₂₉	17.7	X	133.82425	88.41010	306.62321	17.62190	0.1591031	0.38481790	1.8719714	20	2 11.5	19.5
310624 2002 AN ₁₃₇	16.2	X	202.49320	73.33633	89.54167	5.94866	0.2207429	0.19555870	2.9395755	20	10 11.2	21.1
310625 2002 AU ₁₄₂	15.9	X	231.96554	306.98615	120.59696	11.22725	0.0802926	0.18920873	3.0049824	20	7 24.9	20.2
310626 2002 AG ₁₇₂	17.5	X	191.88446	169.47306	303.95572	3.88605	0.1205163	0.29585082	2.2305957	20	8 12.4	20.5
310627 2002 AS ₁₇₃	15.8	X	221.10687	324.46385	119.68748	12.19534	0.1366985	0.188				

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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>
310641 2002 CZ ₂₀₆	13.1	X	221.49296	352.69172	137.28352	13.35834	0.0056100	0.08396912	5.1648334	20	9 27.1	20.1
310642 2002 CC ₂₂₁	16.7	X	87.42086	173.61179	9.74582	6.55421	0.1077589	0.28474920	2.2882020	20	7 20.9	19.6
310643 2002 CY ₂₂₁	15.8	X	255.93436	262.51224	136.26545	10.84191	0.1001262	0.18669216	3.0319264	20	7 13.6	20.1
310644 2002 CN ₂₂₉	17.9	X	154.87541	295.42677	154.45058	5.76049	0.1488481	0.28486759	2.2875680	20	6 2.7	21.3
310645 2002 CV ₂₂₉	13.9	X	289.47487	96.18692	344.74648	8.26990	0.0518731	0.08547527	5.1039811	20	10 7.2	20.7
310646 2002 CW ₂₃₅	16.8	X	41.47134	96.30094	113.19118	8.30278	0.1187310	0.28345994	2.2951351	20	6 18.6	19.1
310647 2002 CM ₂₇₃	17.4	X	65.82854	242.34328	340.09387	1.27588	0.1409067	0.28763299	2.2728822	20	8 20.7	19.9
310648 2002 CA ₂₇₆	17.2	X	297.86622	167.32311	128.76050	3.16483	0.0630636	0.28186061	2.3038089	20	4 29.2	19.9
310649 2002 CJ ₂₉₆	17.0	X	176.47698	80.46703	64.29672	1.61467	0.1871263	0.18762270	3.0218934	20	8 27.7	22.1
310650 2002 CR ₃₁₀	17.0	X	90.32016	77.90877	112.68731	7.00591	0.0504552	0.28849194	2.2683684	20	7 25.3	19.7
310651 2002 CF ₃₁₁	16.4	X	203.68366	301.94404	153.42074	9.25597	0.2340592	0.18459429	3.0548546	20	7 18.2	21.7
310652 2002 CX ₃₁₆	16.0	X	243.75973	200.56702	221.95295	8.41066	0.0544694	0.18833512	3.0142678	20	8 1.9	20.4
310653 2002 DM ₁	17.4	X	97.78535	320.62615	226.97259	2.34223	0.1093734	0.28943910	2.2634170	20	8 7.1	20.4
310654 2002 DU ₁₃	15.5	X	33.92540	326.56631	312.02802	14.12785	0.0479404	0.18670191	3.0318209	20	8 23.1	19.6
310655 2002 DK ₂₀	13.9	X	220.16692	168.75363	318.82746	2.35867	0.1213114	0.08347923	5.1850199	20	9 8.7	21.1
310656 2002 EO ₁	15.4	X	139.68856	312.67281	179.35974	28.14274	0.1762179	0.17904924	3.1176048	20	7 8.7	21.0
310657 2002 EA ₄	16.6	X	159.30182	154.49575	344.09387	2.70377	0.1573416	0.18299640	3.0726118	20	8 5.4	21.6
310658 2002 EK ₄₃	17.3	X	79.69403	253.91678	310.62767	2.22419	0.1873434	0.28563699	2.2834583	20	8 19.3	20.1
310659 2002 EU ₅₆	17.3	X	65.28753	332.42216	222.67959	1.76985	0.1045768	0.28434338	2.2903787	20	7 3.4	19.8
310660 2002 ET ₆₃	16.2	X	165.59688	220.56268	332.30590	8.07567	0.1901938	0.19006320	2.9959693	20	10 10.8	21.3
310661 2002 EJ ₉₈	17.2	X	54.15846	145.13569	34.63398	4.36052	0.1482509	0.27946373	2.3169629	20	5 29.4	19.6
310662 2002 EM ₁₀₅	17.2	X	74.93574	72.86443	82.35322	3.54979	0.0679511	0.27952551	2.3166215	20	5 14.0	19.7
310663 2002 EH ₁₀₆	17.0	X	62.88399	73.47308	108.08884	5.88245	0.0989370	0.28094401	2.3088171	20	6 8.7	19.6
310664 2002 EZ ₁₀₆	17.4	X	63.58583	101.08006	90.96686	6.52241	0.1543733	0.28207395	2.3026472	20	7 5.1	19.9
310665 2002 EC ₁₁₉	17.5	X	115.67446	189.88548	323.04416	2.90468	0.1056483	0.28512515	2.2861902	20	7 11.8	20.4
310666 2002 EW ₁₂₄	13.0	X	304.69615	64.56896	352.39887	15.73801	0.0874136	0.08531038	5.1105558	20	9 25.1	19.6
310667 2002 EV ₁₃₅	17.5	X	114.20432	296.60468	188.73943	4.85401	0.1619903	0.28157244	2.3053805	20	6 7.8	20.8
310668 2002 EQ ₁₄₀	13.3	X	257.49510	101.72324	358.65850	8.36905	0.0716589	0.08442368	5.1462776	20	9 22.2	20.1
310669 2002 ES ₁₆₀	17.5	X	92.07613	120.50169	55.17777	3.39132	0.0829480	0.28454495	2.2892970	20	7 10.8	20.2
310670 2002 EJ ₁₆₂	13.0	X	264.34617	106.35632	4.301178	18.90059	0.0677086	0.08552608	5.1019595	20	10 8.9	19.8
310671 2002 FJ ₆	17.8	X	70.54917	80.11978	47.33936	19.57391	0.0856692	0.38224689	1.8803560	20	3 30.4	19.6
310672 2002 FL ₆	17.1	X	136.01197	79.09704	61.51108	22.72141	0.2239360	0.28592181	2.2819416	20	7 29.0	21.3
310673 2002 FN ₁₃	17.6	X	61.72465	9.97342	166.29678	5.43326	0.1610654	0.27900903	2.3194795	20	6 9.8	20.2
310674 2002 FM ₂₈	17.3	X	2.11024	209.06076	356.46969	1.13888	0.1335703	0.27431128	2.3458862	20	3 24.3	19.2
310675 2002 FH ₃₁	17.7	X	59.28005	127.76996	63.23302	1.70422	0.1506580	0.28061514	2.3106206	20	6 25.8	20.1
310676 2002 FO ₃₄	14.9	X	102.45906	185.62933	27.78139	16.17201	0.1149593	0.17988293	3.1079647	20	9 13.8	19.8
310677 2002 FE ₄₁	17.3	X	89.98536	111.51246	88.58996	6.68549	0.1203282	0.28594101	2.2818395	20	8 19.7	20.3
310678 2002 GV ₄	15.7	X	110.46474	96.49147	84.43161	17.89516	0.1850345	0.17888628	3.1194978	20	8 17.5	20.9
310679 2002 GF ₅	17.3	X	265.97199	269.82979	9.69185	18.80359	0.0306463	0.37850869	1.8927161	20	2 21.3	19.5
310680 2002 GA ₇	15.3	X	90.78098	120.68123	126.26562	17.85837	0.1789674	0.18174680	3.0866795	20	10 19.2	20.5
310681 2002 GY ₂₆	15.8	X	73.34679	160.77185	21.99339	17.53026	0.1410247	0.17252337	3.1957350	20	6 29.2	20.6
310682 2002 GC ₃₇	17.3	X	56.51291	176.16229	34.30446	7.70538	0.1892980	0.28232828	2.3012641	20	7 31.1	20.1
310683 2002 GA ₅₃	17.6	X	98.96072	346.89326	178.59968	4.42773	0.2272292	0.28252649	2.3001876	20	7 21.9	21.0
310684 2002 GJ ₈₆	15.6	X	142.37174	81.10638	98.33909	8.97883	0.2026399	0.18234501	3.0799250	20	9 12.8	20.9
310685 2002 GX ₈₆	15.6	X	120.39772	155.63586	60.22921	18.64567	0.1593270	0.18225260	3.0809659	20	10 10.2	21.0
310686 2002 GQ ₁₀₅	15.6	X	111.26696	139.15934	99.20127	8.52984	0.2690017	0.18392492	3.0622619	20	10 29.6	21.8
310687 2002 GA ₁₁₀	15.5	X	161.87359	74.29382	110.08647	12.02308	0.0927452	0.18693535	3.0292963	20	10 7.3	20.4
310688 2002 GN ₁₁₀	17.5	X	113.18878	61.79138	99.10330	3.02607	0.1477762	0.28422402	2.2910199	20	7 24.2	20.6
310689 2002 GF ₁₁₄	17.4	X	27.04728	187.02114	40.66503	9.30737	0.2065294	0.27912389	2.3188431	20	7 3.8	19.4
310690 2002 GP ₁₂₇	15.6	X	143.69281	164.04447	1.02766	10.52658	0.0614343	0.18129978	3.0917512	20	8 21.7	20.2
310691 2002 GS ₁₄₂	17.4	X	345.57648	167.13065	62.16560	4.68906	0.1179616	0.27305136	2.3530970	20	4 2.2	19.6
310692 2002 GM ₁₄₇	16.9	X	161.18971	21.66557	61.45479	7.82978	0.0689935	0.28046879	2.3114244	20	5 26.5	20.0
310693 2002 GX ₁₅₀	16.3	X	232.70436	290.96692	179.23535	8.87275	0.4342215	0.19181052	2.9777468	20	8 12.7	21.8
310694 2002 GD ₁₇₁	17.2	X	114.27330	279.37498	227.90136	3.60963	0.1117677	0.28334170	2.2957736	20	7 1.9	20.2
310695 2002 GP ₁₇₄	16.6	X	15.87520	75.94343	130.99959	5.25269	0.0937709	0.27567298	2.3381547	20	4 26.5	18.9
310696 2002 GZ ₁₈₃	17.6	X	82.93582	307.21307	210.18248	1.64575	0.1532829	0.27847438	2.3224474	20	6 11.9	20.3
310697 2002 HZ ₁₃	14.4	X	51.87976	146.02351	118.96509	28.89760	0.2209867	0.17500170	3.1654919	20	10 6.9	19.3
310698 2002 JH ₄	15.0	X	39.86116	142.92044	123.84297	27.96344	0.1477033	0.17447339	3.1718788	20	9 4.8	19.4
310699 2002 JU ₄	16.1	X	139.96997	359.66269	140.24815	23.72072	0.2369024	0.28514934	2.2860609	20	7 27.4	20.1
310700 2002 JN ₁₀	15.1	X	110.75585	70.48536	87.68409	25.82871	0.2431660	0.17389258	3.1789376	20	7 21.1	20.5
310701 2002 JB ₃₇	15.2	X	134.29783	48.55114	111.06827	18.11858	0.2066260	0.17817531	3.1277908	20	8 11.2	20.5
310702 2002 JN ₇₃	15.7	X	116.96109	94.59898	121.82789	8.46865	0.2226433	0.18036027	3.1024786	20	10 6.1	21.0
310703 2002 JL ₁₁₆	15.3	X	134.22285	47.87298	104.66814	20.52584	0.2057101	0.17842095	3.1249194	20	8 2.0	20.6
310704 2002 JV ₁₁₇	14.9	X	86.60097	111.52099	78.34030	27.60647	0.2099133	0.17289037	3.1912109	20	8 6.1	20.1
310705 2002 JK ₁₁₉	15.1	X	49.75207	136.27909	140.05537	16.59617	0.0299158	0.17845551	3.1245159	20	9 12.9	19.5
310706 2002 JP ₁₂₂	15.1	X	81.19467	88.23357	147.75935	17.72798	0.1284015	0.17776651	3.1325842	20	9 14.7	19.7
310707 2002 LN ₃₁	14.9	X	138.31554	306.47396	230.89732	25.58508	0.2984566	0.17908847	3.1171495	20	8 28.0	21.0
310708 2002 LO ₆₃	16.8	X	108.16887	333.64067	32.76813	2.63654	0.1767855	0.24540648	2.5266516	20	—	—
310709 2002 LT ₆₄	17.4	X	39.75599	77.71975	187.58777	6.06976	0.0920004	0.28182243	2.3040170	20	9 3.4	20.0
310710 2002 LV ₆₄	16.8	X	184.36636	65.64600	187.40194	3.61877	0.1520145	0.24439879	2.5335920	20	—	—
310711 2002 MM ₇	16.1	X	123.74410	33.04355	318.17183	8.08143	0.1946966	0.24539228	2.5267491	20	1 2.1	19.5
310712 2002 NY ₂₇	16.3	X	126.62864	63.16704	254.24253	11.54473	0.3017272	0.23977266	2.5660766	20	—	—
310713 2002 NG ₃₉	16.1	X	64.46661	132.32560	242.20889	12.52399	0.2889226	0.23553794	2.5967			

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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>
310721 2002 <i>NL</i> ₇₄	16.7	X	63.54134	23.61149	349.94008	4.85856	0.2959034	0.23696002	2.5863423	20	—	—
310722 2002 <i>OA</i> ₁₀	17.3	X	76.09079	73.33096	252.15472	4.06785	0.3257819	0.23312284	2.6146456	20	—	—
310723 2002 <i>OA</i> ₂₆	17.2	X	76.45569	62.84862	312.08277	3.03972	0.2384177	0.23933772	2.5691844	20	—	—
310724 2002 <i>OC</i> ₂₈	17.5	X	61.39584	118.28703	243.60400	3.08556	0.2832360	0.23471213	2.6028294	20	—	—
310725 2002 <i>PS</i> ₂₄	16.3	X	58.31532	92.36110	309.47093	9.18380	0.2558284	0.23925324	2.5697892	20	—	—
310726 2002 <i>PE</i> ₃₆	16.8	X	46.33658	143.90593	226.34443	2.32129	0.2227915	0.23313791	2.6145329	20	—	—
310727 2002 <i>PG</i> ₃₆	17.1	X	60.87116	227.83111	164.98842	4.06349	0.2824305	0.23739542	2.5831790	20	—	—
310728 2002 <i>PD</i> ₄₈	15.8	X	27.91701	257.50537	169.46927	28.25305	0.3969898	0.23310416	2.6147853	20	—	—
310729 2002 <i>PB</i> ₉₃	16.0	X	64.85252	113.58081	259.66281	12.50782	0.2042550	0.23531001	2.5984186	20	—	—
310730 2002 <i>PL</i> ₉₈	16.4	X	116.22544	255.30385	79.75508	8.23105	0.2414404	0.23949281	2.5680751	20	—	—
310731 2002 <i>PR</i> ₁₀₅	16.3	X	72.26993	133.15361	220.69110	7.36848	0.1969797	0.23507461	2.6001530	20	—	—
310732 2002 <i>PQ</i> ₁₃₁	16.1	X	159.94022	37.08734	256.41473	11.82606	0.2610773	0.24167167	2.5526164	20	—	—
310733 2002 <i>PA</i> ₁₆₆	16.7	X	39.39486	268.13565	122.42366	2.31901	0.1938472	0.23443336	2.6048923	20	—	—
310734 2002 <i>PH</i> ₁₆₆	16.7	X	17.37518	69.07127	322.22666	5.26405	0.2707211	0.23002603	2.6380603	20	—	—
310735 2002 <i>PS</i> ₁₈₉	16.9	X	334.13211	77.01729	118.85504	11.54851	0.3094209	0.22455412	2.6807442	20	11 22.3	18.9
310736 2002 <i>PU</i> ₁₉₂	17.3	X	29.67205	159.91592	252.47506	2.08449	0.1921150	0.23626428	2.5914172	20	—	—
310737 2002 <i>QG</i> ₂₄	17.8	X	90.55800	109.02415	132.96101	5.68514	0.4899019	0.28528148	2.2853550	20	11 8.4	22.4
310738 2002 <i>QR</i> ₃₉	15.5	X	64.65229	209.34894	164.00121	3.20341	0.2172308	0.12362220	3.9909081	20	—	—
310739 2002 <i>QY</i> ₄₆	16.9	X	67.07455	87.97845	287.68926	9.69385	0.3053337	0.23408851	2.6074500	20	—	—
310740 2002 <i>QN</i> ₅₃	17.2	X	56.33683	246.46952	138.62955	6.03017	0.1366255	0.23672632	2.5880442	20	—	—
310741 2002 <i>QQ</i> ₅₃	16.6	X	19.64240	289.87068	144.75726	12.00800	0.1681878	0.23742621	2.5829556	20	—	—
310742 2002 <i>QM</i> ₇₇	17.4	X	58.23575	71.40110	314.02808	4.81201	0.1116732	0.23794629	2.5791905	20	—	—
310743 2002 <i>QG</i> ₉₁	16.7	X	78.92687	249.37122	87.18840	5.89770	0.1782205	0.23371731	2.6102101	20	—	—
310744 2002 <i>QH</i> ₁₁₀	17.4	X	306.62347	130.68235	304.76190	3.82831	0.0847296	0.25990062	2.4318186	20	3 10.4	20.5
310745 2002 <i>QY</i> ₁₂₇	16.6	X	180.59510	159.66029	142.75613	6.37878	0.0453499	0.24547534	2.5261791	20	—	—
310746 2002 <i>QF</i> ₁₂₈	16.9	X	7.88195	51.78649	114.16763	3.60517	0.1310088	0.25346056	2.4728387	20	2 9.5	19.4
310747 2002 <i>QF</i> ₁₄₁	16.3	X	27.69168	236.49506	193.97357	11.65749	0.1573626	0.23775405	2.5805806	20	—	—
310748 2002 <i>QC</i> ₁₄₆	16.6	X	133.51364	202.91370	125.70180	5.65921	0.0452595	0.24257583	2.5462695	20	—	—
310749 2002 <i>QL</i> ₁₄₇	16.8	X	25.61207	108.88243	38.45576	2.82682	0.1378365	0.25374899	2.4709644	20	2 16.7	19.1
310750 2002 <i>RF</i> ₅	16.7	X	278.64012	316.88876	313.87909	14.50187	0.1786186	0.25492916	2.4633325	20	2 12.3	20.2
310751 2002 <i>RB</i> ₂₇	17.2	X	205.55784	292.58095	345.27692	18.54019	0.0471387	0.35549178	1.9735570	20	—	—
310752 2002 <i>RM</i> ₂₇	17.3	X	58.47098	243.97468	144.22382	5.63323	0.2645135	0.23468396	2.6030376	20	—	—
310753 2002 <i>RC</i> ₄₈	16.4	X	1.74782	13.33754	35.78554	3.67388	0.2696766	0.22828115	2.6514861	20	—	—
310754 2002 <i>RM</i> ₅₀	16.9	X	29.61531	285.25630	74.06890	3.58427	0.2826775	0.22726331	2.6593969	20	—	—
310755 2002 <i>RK</i> ₅₅	17.1	X	23.44895	101.54587	295.44144	5.12458	0.3357639	0.22950653	2.6420398	20	—	—
310756 2002 <i>RC</i> ₆₈	14.6	X	92.38663	89.13518	256.90931	8.31300	0.2682512	0.12558437	3.9492290	20	—	—
310757 2002 <i>RS</i> ₈₉	15.3	X	96.62355	184.93206	160.82875	3.25437	0.2314418	0.12566460	3.9475479	20	—	—
310758 2002 <i>RU</i> ₁₂₂	16.4	X	99.56844	219.52955	96.22318	9.33438	0.1957319	0.23374545	2.6100006	20	—	—
310759 2002 <i>RV</i> ₁₂₃	17.0	X	101.43460	270.55888	102.12626	10.67007	0.1598746	0.24169319	2.5524649	20	—	—
310760 2002 <i>RS</i> ₁₅₇	17.0	X	26.73367	93.73605	319.31174	3.76939	0.1710709	0.23347031	2.6120507	20	—	—
310761 2002 <i>RF</i> ₁₅₈	16.4	X	72.56417	232.18675	211.60339	3.50962	0.0780634	0.24611792	2.5217802	20	2 2.5	19.3
310762 2002 <i>RU</i> ₁₈₆	17.0	X	39.21586	82.99330	315.34626	9.58322	0.1869256	0.23281384	2.6169586	20	—	—
310763 2002 <i>RM</i> ₂₁₀	17.5	X	40.24852	236.41239	189.21834	3.04132	0.2030015	0.23594916	2.5937240	20	—	—
310764 2002 <i>RC</i> ₂₁₅	16.8	X	60.51663	217.18493	142.65575	8.38189	0.1961102	0.23300454	2.6155305	20	—	—
310765 2002 <i>RJ</i> ₂₂₃	17.1	X	47.79607	247.02909	140.92989	5.19899	0.2260240	0.23303750	2.6152839	20	—	—
310766 2002 <i>RM</i> ₂₂₄	16.5	X	39.04568	284.50265	102.63945	7.35043	0.3388437	0.23123208	2.6288794	20	—	—
310767 2002 <i>RX</i> ₂₃₄	17.1	X	67.34010	70.79061	332.70620	3.11301	0.1790008	0.23974853	2.5662487	20	—	—
310768 2002 <i>RC</i> ₂₃₅	17.0	X	356.68510	258.65571	229.68644	3.30346	0.0535611	0.24242581	2.5473198	20	—	—
310769 2002 <i>RJ</i> ₂₄₅	16.8	X	43.71257	271.34404	106.01564	3.87216	0.2198464	0.23334863	2.6129587	20	—	—
310770 2002 <i>RO</i> ₂₅₁	15.5	X	97.34669	276.41182	79.22782	5.15775	0.2209308	0.12737806	3.9120671	20	—	—
310771 2002 <i>RF</i> ₂₅₃	17.1	X	305.77812	191.04818	313.90006	3.91387	0.0400654	0.23729727	2.5838912	20	—	—
310772 2002 <i>RU</i> ₂₇₆	16.7	X	317.47912	187.47977	325.26939	3.04036	0.0829773	0.24062076	2.5600433	20	—	—
310773 2002 <i>RS</i> ₂₉₀	16.9	X	253.65910	198.82462	90.12459	6.77200	0.1580917	0.25582226	2.4575960	20	2 15.4	20.7
310774 2002 <i>SO</i> ₇	16.3	X	347.10971	245.29979	193.24706	21.83988	0.0529852	0.23060374	2.6336525	20	—	—
310775 2002 <i>SN</i> ₁₃	16.2	X	101.24870	103.04096	255.43090	14.57308	0.1905548	0.23812336	2.5779118	20	—	—
310776 2002 <i>SH</i> ₁₈	16.8	X	110.51635	206.08804	109.28954	0.99455	0.1410359	0.23353095	2.6115986	20	—	—
310777 2002 <i>ST</i> ₁₉	16.5	X	33.32728	277.72458	165.08701	27.60734	0.4321847	0.23337939	2.6127291	20	—	—
310778 2002 <i>SV</i> ₂₉	16.4	X	24.65460	7.42879	65.85315	4.73447	0.2069250	0.23512475	2.5997833	20	—	—
310779 2002 <i>SP</i> ₃₂	16.5	X	71.17158	9.61381	7.23394	15.24837	0.1856402	0.23467058	2.6031366	20	—	—
310780 2002 <i>SX</i> ₃₃	16.7	X	72.97617	312.28463	54.23414	5.10948	0.1808377	0.23501017	2.6006283	20	—	—
310781 2002 <i>SH</i> ₃₅	16.8	X	54.17836	300.90711	91.08174	3.80149	0.2409044	0.23325338	2.6136700	20	—	—
310782 2002 <i>SH</i> ₃₆	17.1	X	49.79980	238.36179	144.09864	4.72274	0.2609456	0.23157361	2.6262940	20	—	—
310783 2002 <i>SF</i> ₄₁	16.2	X	7.52016	212.13274	183.36891	12.78154	0.1841286	0.22590994	2.6700076	20	—	—
310784 2002 <i>SG</i> ₄₁	15.9	X	34.05476	23.02015	33.03234	15.86968	0.1165000	0.23272066	2.6176571	20	—	—
310785 2002 <i>SU</i> ₄₄	17.0	X	9.15140	179.06982	226.39135	1.79700	0.1901009	0.22767150	2.6562173	20	—	—
310786 2002 <i>SD</i> ₅₅	16.5	X	104.42613	103.61606	204.12297	6.80582	0.1965971	0.23394874	2.6084884	20	—	—
310787 2002 <i>TH</i> ₃₈	16.5	X	354.30622	204.92093	207.16947	10.83486	0.1772291	0.22471241	2.6794851	20	—	—
310788 2002 <i>TY</i> ₁₂₃	16.3	X	358.34473	201.54058	228.83575	13.72611	0.0869396	0.23167418	2.6255339	20	—	—
310789 2002 <i>TY</i> ₁₂₅	16.3	X	82.32036	109.46213	230.56604	10.25210	0.2089804	0.23315210	2.6144268	20	—	—
310790 2002 <i>TP</i> ₁₄₄	16.5	X	51.37705	235.21354	143.70140	17.37077	0.2445474	0.23044195	2.6348851	20	—	—
310791 2002 <i>TP</i> ₁₄₉	17.2	X	29.16566	222.98394	174.75184	4.25121	0.1341741	0.23130148	2.6283535	20	—	—
310792 2002 <i>TA</i> ₁₅₂	17.4	X	52.32843	75.29505	340.25740	3.30063	0.1460679	0.23642885	2.5902145	20	—	—
310793 2002 <i>TP</i> ₁₆₀	17.0	X	10.25167	350.19030	65.11951	15.24825	0.2386500	0.22822459	2.6519241	20	—	—
310794 2002 <i>TO</i> ₁₆₄	15.9	X	47.62377	234.45240	109.28295	15.						

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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>
310801 2002 <i>TF</i> ₁₉₉	16.2	X	84.83252	104.49617	274.96130	12.03391	0.1303324	0.23660593	2.5889220	20	—	—
310802 2002 <i>TK</i> ₁₉₉	16.6	X	5.26283	137.39666	278.73684	12.55131	0.2559365	0.22683796	2.6627204	20	—	—
310803 2002 <i>TG</i> ₂₀₉	16.1	X	114.66222	197.09047	106.30721	7.45303	0.2546997	0.23435220	2.6054937	20	—	—
310804 2002 <i>TE</i> ₂₃₈	17.4	X	69.68016	157.93728	218.76393	1.99591	0.2134459	0.23361853	2.6109458	20	—	—
310805 2002 <i>TE</i> ₂₇₁	16.6	X	91.67731	356.41107	334.01995	4.88660	0.2244516	0.23267995	2.6179624	20	—	—
310806 2002 <i>TW</i> ₃₆₉	16.6	X	82.37822	299.50403	98.72098	9.72800	0.0802708	0.23734975	2.5835103	20	—	—
310807 2002 <i>TX</i> ₃₈₁	16.4	X	24.76790	127.25526	276.49225	10.52243	0.1902446	0.23240258	2.6200450	20	—	—
310808 2002 <i>TZ</i> ₃₈₂	17.1	X	352.27295	58.33938	24.91237	4.94566	0.1405267	0.22837388	2.6507683	20	—	—
310809 2002 <i>UA</i> ₁₁	17.2	X	9.88700	162.40858	228.66208	4.54673	0.1707790	0.22533192	2.6745717	20	—	—
310810 2002 <i>UH</i> ₂₁	17.2	X	69.27948	347.43604	39.12988	1.58987	0.1490391	0.23355591	2.6114125	20	—	—
310811 2002 <i>UL</i> ₂₁	17.2	X	357.65062	10.12229	43.93684	2.95460	0.2052964	0.22593329	2.6698236	20	—	—
310812 2002 <i>UP</i> ₆₈	18.0	X	3.11883	347.43368	107.38553	4.42780	0.2103437	0.23205320	2.6226742	20	—	—
310813 2002 <i>UA</i> ₆₉	17.1	X	344.94120	350.40699	102.89060	5.80545	0.1166406	0.23045606	2.6347776	20	—	—
310814 2002 <i>UQ</i> ₇₁	17.0	X	353.84721	114.10625	288.68904	4.31220	0.1543040	0.22342557	2.6897637	20	12 29.2	19.9
310815 2002 <i>US</i> ₇₈	17.3	X	8.80458	61.41271	321.85636	1.85250	0.1060415	0.22411439	2.6842495	20	12 19.9	20.5
310816 2002 <i>VM</i> ₁₆	16.5	X	3.10427	182.11189	235.06176	9.39953	0.1451701	0.22689634	2.6622636	20	—	—
310817 2002 <i>VB</i> ₂₆	16.4	X	25.31160	2.29114	47.65723	13.22989	0.1714271	0.22827871	2.6515050	20	—	—
310818 2002 <i>VB</i> ₆₁	16.6	X	50.00534	135.69985	253.23029	6.53338	0.1933078	0.23120137	2.6291122	20	—	—
310819 2002 <i>VN</i> ₆₉	16.2	X	56.17506	266.39351	103.04092	14.12026	0.2956077	0.22894886	2.6463283	20	—	—
310820 2002 <i>VY</i> ₆₉	16.1	X	41.86558	315.89401	46.83441	14.43107	0.3153019	0.22814540	2.6525378	20	—	—
310821 2002 <i>VM</i> ₇₃	16.9	X	46.88364	234.21937	161.06200	4.20203	0.1890307	0.23032148	2.6358039	20	—	—
310822 2002 <i>VH</i> ₈₄	16.0	X	2.30480	326.56558	102.38233	12.51630	0.2821503	0.22454603	2.6808086	20	—	—
310823 2002 <i>VM</i> ₁₀₄	16.3	X	352.74240	207.60162	259.05092	11.94679	0.1964434	0.22878077	2.6476243	20	—	—
310824 2002 <i>VS</i> ₁₃₉	17.4	X	329.19850	99.08593	10.75275	8.12281	0.2612303	0.22515964	2.6759358	20	—	—
310825 2002 <i>VR</i> ₁₄₂	17.1	X	33.14637	280.37400	119.14515	3.60805	0.1057159	0.22857369	2.6492232	20	—	—
310826 2002 <i>WR</i> ₈	16.8	X	7.16125	311.79298	107.74189	4.19258	0.2423648	0.22583223	2.6706201	20	—	—
310827 2002 <i>WT</i> ₂₂	16.7	X	19.21437	314.64039	75.22471	7.61218	0.0366981	0.22350721	2.6891087	20	—	—
310828 2002 <i>XC</i>	16.3	X	32.17037	335.60870	69.38675	18.86619	0.1703388	0.22896680	2.6461901	20	—	—
310829 2002 <i>XN</i> ₁₂	16.9	X	327.71615	87.91334	17.77253	8.58376	0.2882955	0.22353678	2.6888715	20	—	—
310830 2002 <i>XQ</i> ₁₇	16.2	X	60.76738	61.76370	295.33287	11.65853	0.2799942	0.22767862	2.6561620	20	—	—
310831 2002 <i>XQ</i> ₂₇	17.4	X	23.79374	339.46003	77.35084	3.29303	0.2040608	0.22793981	2.6541325	20	—	—
310832 2002 <i>XN</i> ₃₄	16.3	X	332.17709	48.88812	69.37722	2.73283	0.0482312	0.22799927	2.6536710	20	—	—
310833 2002 <i>XT</i> ₃₈	16.1	X	310.42578	26.45237	39.89082	17.25589	0.2577237	0.21611885	2.7500523	20	10 31.6	18.2
310834 2002 <i>XZ</i> ₄₅	15.1	X	101.31471	54.84548	295.63110	30.54799	0.2388232	0.23081141	2.6320726	20	—	—
310835 2002 <i>XS</i> ₅₉	16.9	X	359.73652	159.09840	248.62326	4.47699	0.0674916	0.22226250	2.6991390	20	—	—
310836 2002 <i>XQ</i> ₆₅	16.9	X	346.48246	82.39743	335.09585	0.94192	0.2709112	0.22110978	2.7085119	20	—	—
310837 2002 <i>XE</i> ₆₇	16.0	X	327.70163	330.22682	116.63881	13.80762	0.0912502	0.22273914	2.6952870	20	—	—
310838 2002 <i>XS</i> ₉₅	17.2	X	352.71472	21.25423	74.56604	5.14706	0.2082622	0.22739563	2.6583652	20	—	—
310839 2002 <i>XQ</i> ₁₀₅	16.5	X	9.54829	342.39700	81.61867	6.16724	0.1330539	0.22463303	2.6801163	20	—	—
310840 2002 <i>YE</i> ₃₂	16.6	X	2.77169	244.92105	181.89712	13.14938	0.2748723	0.22523569	2.6753334	20	—	—
310841 2003 <i>AK</i> ₃	16.1	X	296.98035	347.05767	128.86651	17.73500	0.2328090	0.21495584	2.7599627	20	12 17.2	18.9
310842 2003 <i>AK</i> ₁₈	19.7	X	184.25184	23.83516	301.61908	7.40332	0.3841527	1.20041767	0.8768281	20	—	—
310843 2003 <i>AP</i> ₂₀	16.1	X	307.18512	231.43186	288.17467	12.03140	0.2019580	0.22274592	2.6952323	20	—	—
310844 2003 <i>AA</i> ₃₃	16.9	X	262.35936	83.62268	94.55106	4.82803	0.2481180	0.21844165	2.7305224	20	—	—
310845 2003 <i>AC</i> ₅₆	16.3	X	315.57175	215.76340	225.25388	6.44325	0.2573316	0.21717743	2.7411087	20	12 7.9	18.3
310846 2003 <i>AT</i> ₆₅	17.1	X	308.34651	79.89229	38.59576	9.16802	0.2509670	0.21912663	2.7248291	20	—	—
310847 2003 <i>AM</i> ₆₆	16.1	X	303.72599	91.21450	11.61377	8.95571	0.1533390	0.21753169	2.7381319	20	12 16.4	19.2
310848 2003 <i>AY</i> ₇₈	16.6	X	329.31366	112.05096	281.27737	5.39362	0.1694409	0.21059502	2.7979330	20	10 25.3	19.6
310849 2003 <i>AS</i> ₉₀	16.0	X	22.88361	144.32407	348.89809	12.48686	0.1182892	0.23155867	2.6264070	20	1 30.2	19.0
310850 2003 <i>BT</i>	16.0	X	353.73513	97.12440	5.48210	11.45788	0.2453713	0.22361271	2.6882628	20	—	—
310851 2003 <i>BP</i> ₁	15.8	X	264.69861	54.48303	109.22996	34.08794	0.2696401	0.22015234	2.7163591	20	12 19.9	19.2
310852 2003 <i>BL</i> ₂	16.1	X	49.82999	281.09397	123.48169	15.87924	0.1538361	0.22504310	2.6768595	20	—	—
310853 2003 <i>BH</i> ₂₄	16.7	X	282.00728	274.48222	224.09555	8.01861	0.2005599	0.21558049	2.7546287	20	12 19.8	19.6
310854 2003 <i>BA</i> ₄₅	16.1	X	73.24344	116.96550	279.93341	10.45858	0.3056767	0.22928238	2.6437614	20	1 8.2	18.5
310855 2003 <i>BN</i> ₄₉	16.3	X	326.97277	30.70207	106.99753	6.73695	0.1104788	0.22363692	2.6880688	20	—	—
310856 2003 <i>BO</i> ₅₄	16.0	X	312.70487	66.28104	118.55904	11.96704	0.1235235	0.22747253	2.6577660	20	—	—
310857 2003 <i>BS</i> ₅₅	16.2	X	326.36663	156.78940	314.10919	9.85088	0.2529477	0.21909977	2.7250519	20	—	—
310858 2003 <i>BK</i> ₆₂	16.7	X	254.32232	138.89621	351.21897	8.55522	0.2343743	0.21062545	2.7976636	20	10 17.8	20.7
310859 2003 <i>BK</i> ₇₈	15.4	X	228.23102	230.12680	314.27010	15.18394	0.2053376	0.21419836	2.7664657	20	11 29.6	19.7
310860 2003 <i>CM</i> ₉	16.4	X	259.44318	228.16891	264.39732	6.41304	0.2721020	0.21105441	2.7938715	20	10 22.5	20.2
310861 2003 <i>CG</i> ₂₆	16.3	X	237.94485	86.10963	105.97564	10.17395	0.1114697	0.21566751	2.7538877	20	—	—
310862 2003 <i>EW</i> ₄₀	15.8	X	10.65219	39.40500	115.95375	15.02238	0.0804273	0.22975609	2.6401263	20	2 8.1	18.9
310863 2003 <i>FM</i> ₉	16.3	X	258.07468	28.36960	127.93965	13.42041	0.0997768	0.21151505	2.7898137	20	12 19.5	20.0
310864 2003 <i>FU</i> ₉	16.3	X	229.78035	50.78021	82.85487	15.98934	0.0969205	0.20335916	2.8639156	20	10 21.7	20.7
310865 2003 <i>FO</i> ₃₉	16.0	X	355.48658	328.81910	336.40105	1.52575	0.0828024	0.18853722	3.0121134	20	8 7.8	19.8
310866 2003 <i>FE</i> ₄₅	16.5	X	319.03538	109.74909	352.90644	8.40593	0.3343828	0.21644324	2.7473039	20	—	—
310867 2003 <i>GF</i> ₂₈	13.9	X	186.15193	338.34366	188.39492	3.49502	0.0738179	0.08328208	5.1931995	20	9 23.0	21.1
310868 2003 <i>GK</i> ₄₂	16.3	X	318.29883	37.07757	141.17683	14.13905	0.2069332	0.22188605	2.7021911	20	—	—
310869 2003 <i>GK</i> ₄₇	15.8	X	18.01759	112.91432	159.46407	7.56846	0.1096588	0.18525625	3.0475731	20	7 30.8	19.5
310870 2003 <i>GD</i> ₄₈	13.4	X	111.32232	183.72503	63.87337	9.11051	0.0661362	0.08228271	5.2351643	20	10 12.4	20.5
310871 2003 <i>GG</i> ₅₇	12.9	X	113.55132	174.82873	82.15008	14.49001	0.0221845	0.08130620	5.2769983	20	10 23.1	20.0
310872 2003 <i>HF</i> ₁₄	12.6	X	316.77174	17.47984	22.36549	29.30055	0.0192234	0.08285367	5.2110857	20	10 4.4	19.5
310873 2003 <i>HB</i> ₂₆	15.7	X	316.75420	93.60634	216.59728	9.75654	0.1399870	0.18003904	3.1061679	20	6 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>
310881 2003 <i>PU</i> ₅	16.8 ^m	X	155.09326	174.64147	165.44853	8.76901	0.2247789	0.26132141	2.4229961	20	1 19.6	20.7
310882 2003 <i>PH</i> ₆	16.5	X	186.60294	54.66655	294.57927	6.03884	0.2209195	0.26702752	2.3883540	20	2 24.3	20.5
310883 2003 <i>PK</i> ₆	16.4	X	104.72385	99.47673	296.58315	6.29007	0.2297245	0.25881915	2.4385881	20	2 6.4	19.4
310884 2003 <i>QU</i> ₃	17.0	X	205.95194	36.22371	315.38419	1.69258	0.2057175	0.27131702	2.3631141	20	3 14.9	20.8
310885 2003 <i>QX</i> ₁₅	16.8	X	199.82007	112.11152	252.41244	6.21326	0.1432659	0.27092092	2.3654169	20	3 23.6	20.5
310886 2003 <i>QK</i> ₂₄	17.1	X	216.15649	81.38855	283.61749	6.06890	0.1441900	0.27449168	2.3448582	20	4 8.8	20.9
310887 2003 <i>QJ</i> ₃₃	17.0	X	157.82861	173.13999	189.40106	2.13103	0.1891188	0.26400786	2.4065311	20	2 15.9	20.7
310888 2003 <i>QD</i> ₄₅	17.2	X	179.28674	199.94470	135.77145	7.08906	0.2541765	0.26445750	2.4038026	20	2 5.9	21.3
310889 2003 <i>QT</i> ₅₀	16.8	X	146.93420	358.61101	24.98129	4.69102	0.1622117	0.26358760	2.4090884	20	3 2.6	20.3
310890 2003 <i>QO</i> ₅₇	17.6	X	199.12129	326.11087	25.96716	1.67177	0.2023418	0.26957632	2.3732759	20	3 11.1	21.6
310891 2003 <i>QG</i> ₈₉	17.0	X	291.72281	44.79081	237.56608	6.41287	0.0994582	0.27624983	2.3348987	20	3 21.6	20.1
310892 2003 <i>QM</i> ₁₁₁	16.5	X	123.51806	295.85814	119.60929	12.09882	0.2661136	0.26291255	2.4132103	20	4 3.1	20.4
310893 2003 <i>QB</i> ₁₁₄	17.5	X	173.10039	139.69363	235.47261	4.07295	0.2605086	0.26816829	2.3815760	20	3 15.5	21.4
310894 2003 <i>RF</i> ₅	17.3	X	168.75799	208.20716	188.69039	1.03744	0.1904588	0.26971827	2.3724431	20	4 9.0	21.1
310895 2003 <i>RB</i> ₆	17.1	X	185.24036	82.38057	271.87317	11.41950	0.2619567	0.26656659	2.3911064	20	2 26.9	21.5
310896 2003 <i>RY</i> ₉	16.8	X	252.72885	11.04845	282.06756	8.17035	0.2530891	0.27156193	2.3616931	20	2 7.2	20.9
310897 2003 <i>RJ</i> ₂₀	17.5	X	176.91871	335.08216	21.03102	2.94470	0.2373754	0.26516657	2.3995154	20	2 28.7	21.6
310898 2003 <i>SD</i> ₁₁	17.0	X	145.78757	115.22998	254.94719	18.97886	0.0851519	0.37944059	1.8896159	20	1 9.6	19.1
310899 2003 <i>SI</i> ₁₃	17.2	X	164.62269	204.31891	153.97075	5.43748	0.1237782	0.26366333	2.4086271	20	2 12.3	20.6
310900 2003 <i>SE</i> ₁₄	17.1	X	108.26311	258.54447	151.82170	1.40099	0.1757721	0.26028897	2.4293991	20	2 21.5	19.9
310901 2003 <i>SO</i> ₁₈	17.4	X	178.12172	171.63581	199.48009	1.42240	0.2224760	0.26736937	2.3863178	20	3 16.9	21.3
310902 2003 <i>SK</i> ₂₆	17.3	X	182.45369	38.01056	339.52233	4.29033	0.1480938	0.26842527	2.3800557	20	3 25.5	20.9
310903 2003 <i>SP</i> ₂₈	16.9	X	159.15091	182.96234	223.00066	5.92981	0.0992759	0.26808576	2.3820647	20	4 4.7	20.3
310904 2003 <i>SC</i> ₃₂	17.1	X	108.80934	110.75760	341.68770	20.60770	0.1062893	0.38373085	1.8755051	20	3 21.8	19.0
310905 2003 <i>SO</i> ₄₂	16.8	X	236.99769	59.27864	300.88948	10.56211	0.2476311	0.27703082	2.3305083	20	4 13.7	20.9
310906 2003 <i>SD</i> ₄₅	17.1	X	179.89141	234.02452	145.28314	1.75602	0.1907038	0.26792936	2.3829916	20	3 28.4	20.9
310907 2003 <i>SK</i> ₄₅	16.9	X	146.57622	14.55802	20.69844	5.38474	0.2326781	0.26392928	2.4070088	20	3 22.2	20.6
310908 2003 <i>SE</i> ₅₀	17.2	X	139.51779	112.12029	270.57795	4.78082	0.0987080	0.26332181	2.4107092	20	2 11.7	20.4
310909 2003 <i>SL</i> ₅₈	15.0	X	70.40336	323.47640	301.96436	16.35847	0.1170164	0.17751816	3.1355052	20	9 25.2	19.9
310910 2003 <i>SJ</i> ₆₆	17.5	X	164.63622	138.43955	217.88485	6.21900	0.1582569	0.26370946	2.4083462	20	2 10.5	21.3
310911 2003 <i>SY</i> ₆₉	16.4	X	191.23379	346.50436	0.46480	11.71375	0.1885084	0.26568421	2.3963977	20	2 29.5	20.4
310912 2003 <i>SO</i> ₈₀	17.4	X	167.72861	197.94941	167.00538	1.60836	0.2031971	0.26294523	2.4130104	20	2 29.3	21.3
310913 2003 <i>SF</i> ₈₂	17.1	X	200.70008	154.04985	172.79102	7.60783	0.1406204	0.26462330	2.4027984	20	2 8.4	20.9
310914 2003 <i>SN</i> ₈₅	16.8	X	28.43062	148.24469	217.62243	13.39650	0.1847800	0.24171059	2.5523423	20	—	—
310915 2003 <i>SO</i> ₉₃	17.2	X	133.89851	323.77385	78.28812	4.14914	0.2203082	0.26230710	2.4169223	20	3 19.2	20.9
310916 2003 <i>SR</i> ₉₇	18.3	X	129.47061	40.09748	28.18821	1.73117	0.1754078	0.26741577	2.3860417	20	4 10.3	21.8
310917 2003 <i>SL</i> ₁₀₁	16.3	X	117.75907	146.34971	250.01377	9.21804	0.1795132	0.25989078	2.4318800	20	2 12.3	19.7
310918 2003 <i>SY</i> ₁₀₆	16.3	X	328.08973	175.05428	240.08831	10.60529	0.0366503	0.23869564	2.5737897	20	11 29.9	19.4
310919 2003 <i>SN</i> ₁₀₉	14.8	X	100.89945	289.57836	350.76956	15.69258	0.2142740	0.18205362	3.0832104	20	11 27.8	20.2
310920 2003 <i>SC</i> ₁₂₃	17.0	X	151.23726	221.06453	178.22871	2.14623	0.1510426	0.26574322	2.3960429	20	3 24.1	20.4
310921 2003 <i>SS</i> ₁₃₅	17.1	X	117.77118	6.45141	48.97931	2.33156	0.1573237	0.26233096	2.4167757	20	3 10.3	20.4
310922 2003 <i>SM</i> ₁₄₅	16.2	X	164.32924	63.52194	299.48020	6.41880	0.1272572	0.26228181	2.4170776	20	2 17.1	19.8
310923 2003 <i>SR</i> ₁₅₀	16.4	X	205.86522	237.36272	94.01300	5.68384	0.2132345	0.26674539	2.3900378	20	2 22.2	20.4
310924 2003 <i>SZ</i> ₁₆₆	16.4	X	189.23929	337.08384	24.47688	5.46739	0.2195248	0.26724635	2.3870501	20	3 15.9	20.3
310925 2003 <i>ST</i> ₁₇₅	17.0	X	130.95893	115.79263	302.53049	4.50580	0.1867983	0.26559266	2.3969483	20	3 28.7	20.6
310926 2003 <i>SD</i> ₁₇₈	16.8	X	140.72976	149.23798	230.23496	4.39882	0.1209383	0.26092683	2.4254383	20	2 11.8	20.2
310927 2003 <i>SC</i> ₂₃₅	17.3	X	207.44065	274.23311	72.83120	2.26184	0.1997176	0.26784874	2.3834698	20	3 12.6	21.1
310928 2003 <i>SV</i> ₂₃₆	15.1	X	187.11016	344.53513	3.06775	9.80900	0.0980031	0.14648679	3.5639950	20	3 5.0	20.6
310929 2003 <i>SN</i> ₂₄₁	18.5	X	102.53624	3.93803	33.96205	1.87077	0.1864803	0.25702534	2.4499210	20	2 1.3	21.3
310930 2003 <i>SP</i> ₂₄₂	17.2	X	203.34810	277.34989	15.73063	5.10523	0.1211911	0.25753651	2.4466782	20	1 2.8	20.9
310931 2003 <i>SC</i> ₂₆₈	17.3	X	112.83692	222.50149	204.64407	0.67643	0.1645589	0.26252869	2.4155621	20	3 19.5	20.5
310932 2003 <i>SL</i> ₂₇₅	17.1	X	166.15405	292.33548	26.65657	4.10365	0.1984793	0.25756211	2.4465161	20	1 3.9	20.9
310933 2003 <i>SN</i> ₂₈₆	17.0	X	146.19901	80.21715	260.70275	7.39239	0.2400535	0.25707534	2.4496034	20	1 14.5	20.7
310934 2003 <i>SJ</i> ₂₉₅	16.8	X	108.81413	188.53507	240.51116	7.34198	0.1068912	0.26326216	2.4111073	20	3 4.7	20.0
310935 2003 <i>SX</i> ₃₁₃	17.8	X	145.90380	264.43633	75.00138	2.49727	0.1983606	0.25585525	2.4573847	20	1 9.6	21.4
310936 2003 <i>SE</i> ₃₁₉	15.1	X	10.19765	73.99107	340.63394	9.59626	0.2969870	0.12395447	3.9837730	20	—	—
310937 2003 <i>SM</i> ₃₃₁	17.7	X	111.87577	272.73484	88.79436	7.91595	0.2595630	0.25312995	2.4749914	20	1 8.2	20.8
310938 2003 <i>SK</i> ₃₃₂	17.6	X	131.74284	280.61180	128.71559	3.54609	0.1878508	0.26242370	2.4162063	20	3 22.1	21.1
310939 2003 <i>SY</i> ₃₅₈	18.1	X	52.24021	271.67269	216.13866	3.78938	0.0482524	0.26599206	2.3945483	20	2 25.5	20.9
310940 2003 <i>SX</i> ₃₆₃	17.5	X	136.58136	204.81403	276.21586	3.79529	0.0722780	0.27845898	2.3225330	20	6 18.7	20.6
310941 2003 <i>SF</i> ₃₈₈	17.2	X	80.13975	32.26173	92.85982	3.46534	0.1316336	0.26607881	2.3940278	20	4 20.4	20.0
310942 2003 <i>SN</i> ₃₉₆	17.1	X	119.97263	0.24152	98.34211	7.44726	0.0669161	0.26800676	2.3825328	20	4 29.6	20.3
310943 2003 <i>TD</i> ₁₀	16.9	X	156.54883	104.63611	266.23041	19.84938	0.0645567	0.37970711	1.8887315	20	1 21.1	19.1
310944 2003 <i>TC</i> ₁₂	17.0	X	147.65724	292.86425	88.25694	3.16619	0.2116678	0.26136130	2.4227496	20	3 4.6	20.7
310945 2003 <i>TX</i> ₁₅	16.8	X	105.19390	349.23266	80.13007	6.56229	0.2113381	0.25975731	2.4327129	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>
310961 2003 UZ ₁₁₀	17.5	X	138.42288	261.85596	149.81350	1.74324	0.1363939	0.26200014	2.4188097	20	3 25.9	20.8
310962 2003 UW ₁₁₆	17.2	X	99.42450	257.58159	148.77975	3.17943	0.1750708	0.25554065	2.4594012	20	2 5.7	20.1
310963 2003 UQ ₁₁₉	17.3	X	122.89982	149.00307	276.97712	2.05840	0.1583993	0.26252644	2.4155758	20	3 28.0	20.7
310964 2003 UE ₁₂₀	17.2	X	68.34201	85.23624	24.18745	13.17625	0.1542811	0.25937167	2.4351237	20	3 17.5	19.8
310965 2003 US ₁₂₆	16.7	X	87.07783	135.68362	294.88069	5.81728	0.1112038	0.25656548	2.4528476	20	2 9.2	19.6
310966 2003 US ₁₃₂	16.4	X	15.53631	9.25926	20.42732	9.29998	0.1692119	0.23812461	2.5779027	20	—	—
310967 2003 UK ₁₃₉	17.1	X	169.60567	261.65402	79.53695	6.96700	0.1752204	0.26068281	2.4269516	20	2 2.2	20.9
310968 2003 US ₁₄₄	17.0	X	153.47982	93.91808	331.79583	5.08911	0.1989366	0.26540523	2.3980767	20	4 30.2	21.0
310969 2003 UF ₁₇₄	17.3	X	174.76050	83.31742	290.45959	1.43683	0.2263462	0.26434960	2.4044566	20	3 17.3	21.3
310970 2003 UA ₁₈₂	17.1	X	100.74261	290.22083	140.90582	4.12473	0.1901215	0.25824742	2.4421859	20	3 15.1	20.1
310971 2003 UG ₂₀₄	17.2	X	101.83167	297.95201	181.73464	1.88204	0.1369635	0.26548981	2.3975673	20	5 12.7	20.2
310972 2003 UE ₂₁₇	16.7	X	131.15642	334.26544	76.78042	3.79883	0.1816345	0.26157189	2.4214491	20	3 23.7	20.2
310973 2003 UN ₂₂₈	17.4	X	84.90878	305.57688	119.38034	3.40609	0.1799942	0.25637606	2.4540556	20	2 10.9	20.1
310974 2003 UE ₂₃₁	17.6	X	131.62972	40.15494	8.12257	3.37987	0.1449715	0.26178983	2.4201050	20	3 14.8	20.9
310975 2003 UA ₂₄₀	17.6	X	115.31109	258.77247	151.59214	2.04909	0.1733158	0.25941109	2.4348770	20	3 2.3	20.6
310976 2003 UB ₂₇₀	17.7	X	142.87065	355.67685	34.62631	1.12798	0.1881892	0.26351287	2.4095438	20	3 8.1	21.3
310977 2003 UE ₂₇₂	16.8	X	93.12320	211.44222	215.88580	5.69022	0.1044169	0.25816651	2.4426961	20	2 11.3	19.7
310978 2003 UE ₂₇₈	16.6	X	100.64576	61.73604	359.50637	6.34347	0.1110117	0.25816686	2.4426939	20	2 19.1	19.6
310979 2003 UR ₂₉₇	17.5	X	145.16934	135.07568	263.61977	2.44292	0.1268457	0.26253898	2.4154990	20	3 13.5	20.9
310980 2003 UV ₃₀₇	17.5	X	52.61478	272.35498	204.45602	10.00528	0.1887257	0.25606028	2.4560728	20	2 24.3	19.9
310981 2003 UP ₃₂₈	17.2	X	105.24701	191.03533	253.97158	5.30956	0.0303187	0.26811211	2.3819086	20	3 9.9	20.3
310982 2003 UZ ₃₂₈	17.2	X	47.15945	292.69310	207.12621	7.38144	0.0981914	0.26634615	2.3924256	20	3 8.9	19.8
310983 2003 UM ₃₄₁	14.8	X	110.36020	261.99639	198.98016	18.52492	0.0886704	0.15573835	3.4214143	20	4 26.5	19.8
310984 2003 UH ₃₄₉	17.7	X	86.24555	44.08276	101.30079	3.09285	0.1517831	0.27023937	2.3693923	20	5 30.3	20.7
310985 2003 UO ₃₆₉	17.0	X	101.08593	358.69129	266.32381	5.77864	0.0843371	0.29377587	2.2410866	20	11 23.8	20.1
310986 2003 UG ₃₈₃	17.7	X	116.92610	253.95041	138.17809	3.09843	0.1405726	0.25813982	2.4428645	20	2 4.6	20.7
310987 2003 WP ₁₀	17.1	X	142.67245	92.64911	269.08130	7.84127	0.2346737	0.25650653	2.4532234	20	2 3.8	20.9
310988 2003 WM ₃₉	16.8	X	181.15551	91.72671	272.70259	5.52326	0.1369020	0.26257123	2.4153012	20	3 6.0	20.6
310989 2003 WO ₅₄	17.2	X	353.73791	32.14622	16.06185	7.89496	0.1636376	0.23733434	2.5836221	20	—	—
310990 2003 WV ₈₁	16.9	X	338.34929	313.34465	82.59879	6.25226	0.2976159	0.23277937	2.6172169	20	12 11.6	18.6
310991 2003 WH ₈₄	16.9	X	101.70820	143.39549	268.42497	7.23938	0.3370313	0.25579608	2.4577637	20	3 7.1	20.5
310992 2003 WH ₉₀	17.0	X	59.87571	352.73711	126.84749	2.62820	0.1256225	0.25757716	2.4464208	20	3 9.5	19.5
310993 2003 WR ₉₀	16.9	X	62.26806	135.94225	319.04834	3.63235	0.1814525	0.25442104	2.4666112	20	2 13.9	19.1
310994 2003 WG ₁₀₀	15.6	X	61.42766	12.28263	6.81177	2.74104	0.2765135	0.12423276	3.9778215	20	—	—
310995 2003 WQ ₁₂₂	17.1	X	352.97301	80.10769	331.61066	3.52749	0.2664410	0.23646724	2.5899342	20	—	—
310996 2003 WZ ₁₂₉	17.0	X	64.37096	210.37595	276.11764	4.89040	0.1584771	0.25817630	2.4426344	20	3 28.1	19.7
310997 2003 WT ₁₄₁	17.3	X	148.53956	320.88041	78.13926	25.86469	0.1228081	0.37712234	1.8973519	20	3 26.7	20.4
310998 2003 WT ₁₄₄	16.9	X	56.68968	82.07821	252.03600	5.15795	0.0714207	0.25622253	2.4550359	20	2 14.3	19.7
310999 2003 WF ₁₅₀	14.9	X	67.33516	246.57169	78.01984	17.42551	0.2277610	0.17789382	3.1310895	20	12 22.7	19.8
311000 2003 WT ₁₅₇	17.2	X	19.90033	56.51906	91.52966	22.74880	0.0945046	0.37207685	1.9144658	20	1 8.8	18.5
311001 2003 WX ₁₉₂	17.6	X	71.41339	18.65391	58.55979	1.23650	0.1572404	0.25204524	2.4820873	20	2 2.7	20.0
311002 2003 WC ₁₉₃	15.9	X	97.99730	55.83437	313.74497	3.88768	0.2123390	0.24579558	2.5239845	20	—	—
311003 2003 XL ₄₁	16.6	X	131.48404	230.04864	122.44155	2.73767	0.2426283	0.25157376	2.4851875	20	1 16.4	20.2
311004 2003 YB ₂	15.7	X	51.91335	256.85559	285.41887	21.17214	0.2328136	0.26107194	2.4245395	20	6 15.8	18.4
311005 2003 YF ₂	17.3	X	10.69529	256.86516	295.31062	19.64434	0.0789712	0.37608466	1.9008403	20	2 24.2	19.2
311006 2003 YV ₁₂	15.7	X	61.64568	310.46273	47.07774	13.82886	0.2002833	0.23667092	2.5884480	20	—	—
311007 2003 YF ₁₆	16.9	X	25.00965	22.37935	96.23534	24.16792	0.1048478	0.36550826	1.9373344	20	—	—
311008 2003 YK ₁₇	16.3	X	94.25374	45.85623	335.56074	2.79315	0.2345370	0.24550955	2.5259444	20	—	—
311009 2003 YO ₂₀	16.3	X	221.92806	263.87625	303.10808	10.85751	0.0291946	0.23254563	2.6189704	20	1 7.8	19.1
311010 2003 YP ₆₄	14.0	X	359.96808	38.00804	116.45819	11.11418	0.1607819	0.12546219	3.9517926	20	2 4.4	18.7
311011 2003 YJ ₆₅	16.4	X	357.09481	34.16423	109.61913	13.17365	0.1161386	0.24386027	2.5373206	20	—	—
311012 2003 YD ₇₆	16.3	X	330.19929	94.04736	66.79067	4.14633	0.0941138	0.24436393	2.5338329	20	—	—
311013 2003 YM ₈₂	16.6	X	96.00233	61.68271	325.93488	4.79689	0.1647416	0.24573143	2.5244237	20	1 7.8	19.5
311014 2003 YB ₁₂₄	17.4	X	102.22808	289.04417	97.54559	23.71632	0.1210193	0.36503533	1.9390073	20	—	—
311015 2003 YZ ₁₂₇	16.3	X	340.96041	79.26424	81.98090	14.48277	0.0921767	0.24406349	2.5359120	20	—	—
311016 2003 YZ ₁₃₄	16.4	X	303.19671	129.01959	330.74290	12.59855	0.2193218	0.22957119	2.6415437	20	12 12.1	19.0
311017 2003 YV ₁₄₇	16.5	X	112.10011	262.27087	90.68108	5.41992	0.1275856	0.24541196	2.5266140	20	—	—
311018 2003 YB ₁₅₆	15.6	X	300.10881	53.54403	93.03976	22.89866	0.0528456	0.23223500	2.6213053	20	—	—
311019 2003 YW ₁₆₂	16.6	X	350.70138	72.31512	44.55165	6.35536	0.0795601	0.24144591	2.5542073	20	—	—
311020 2003 YU ₁₇₂	16.9	X	48.88761	87.13970	334.87901	3.68965	0.2183008	0.24373213	2.5382099	20	—	—
311021 2004 AT ₄	16.2	X	324.32937	61.88213	111.64350	14.65086	0.1026030	0.24208810	2.5496883	20	—	—
311022 2004 AG ₇	17.5	X	45.83467	122.36782	294.45488	16.88962	0.1020332	0.35849476	1.9625204	20	—	—
311023 2004 BU ₁₀	16.6	X	35.04652	201.58613	259.93339	6.72584	0.1416707	0.24425120	2.5346125	20	—	—
311024 2004 BA ₂₀	16.7	X	61.98975	19.79356	50.17410	4.90684	0.1364700	0.24349943	2.5398267	20	1 6.1	19.3
311025 2004 BG ₂₀	17.3	X	343.81097	236.12300	272.13567	3.23860	0.2180280	0.24092184	2.5579101	20	—	—
311026 2004 BV ₂₀	16.1	X	212.86406	99.38644	103.88840	6.49965	0.1680248	0.22715265	2.6602606	20	12 15.5	20.1
311027 2004 BE ₂₅	17.1	X	38.24855	310.09331	118.26256	7.76691	0.1413102	0.24062215	2.5600335	20	—	—
311028 2004 BW ₂₈	16.9	X	341.30783	36.20729	85.48188	3.75648	0.1268829	0.23654882	2.5893386	20	—	—
311029 2004 BN ₂₉	16.5	X	352.43360	350.63516	120.35588	8.82123	0.1398212	0.23681705	2.5873831	20	—	—
311030 2004 BG ₃₄	17.1	X	321.13238	42.70211	114.10809	5.89495	0.2136595	0.23790413	2.5794952	20	—	—
311031 2004 BM ₃₅	16.7	X	82.67136	55.98396	344.11232	2.42162	0.2402062	0.24504206	2.5291561	20	1 15.8	19.2
311032 2004 BH ₃₈	16.9	X	8.07013	356.77622	114.06233	6.16906	0.2097352	0.23914919	2.5705345	20	—	—
311033 2004 BL ₄₄	16.3	X	322.42138	190.04082	335.72048	12.55442	0.2302702	0.23685991	2.5870710	20	—	—
311034 2004 BY ₄₇	16.8	X	322.43048	237.52605	285.56631	3.29176	0.2414484	0.23938016	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>
311041 2004 BV ₇₀	16.7	X	84.38506	63.24527	329.04889	2.11654	0.2533974	0.24348114	2.5399539	20	1 10.3	19.3
311042 2004 BX ₇₄	16.7	X	17.10731	211.18157	229.46707	2.06224	0.1468321	0.23873254	2.5735245	20	—	—
311043 2004 BA ₁₀₀	16.4	X	297.82421	73.90144	98.32376	12.81507	0.2266237	0.23487622	2.6016169	20	—	—
311044 2004 BB ₁₀₃	17.1	X	93.50149	71.46183	271.11727	55.86773	0.6220181	0.37411860	1.9074940	20	—	—
311045 2004 BN ₁₀₈	16.5	X	9.83090	47.73252	56.25479	5.16810	0.1614547	0.23891602	2.5722067	20	—	—
311046 2004 BF ₁₁₄	17.5	X	88.02866	278.02851	154.21787	24.19225	0.0994779	0.36638158	1.9342545	20	1 20.6	19.5
311047 2004 BL ₁₂₉	18.3	X	30.59238	132.50648	301.29781	4.17200	0.2107742	0.24073450	2.5592369	20	—	—
311048 2004 BW ₁₃₈	18.1	X	62.31369	81.21454	318.15939	2.58284	0.1958644	0.24094226	2.5577655	20	—	—
311049 2004 BU ₁₄₁	17.5	X	95.22745	248.94664	145.35974	4.20214	0.1022053	0.24369253	2.5384848	20	1 5.5	20.5
311050 2004 BO ₁₄₃	16.9	X	122.59707	268.24056	87.34518	4.61343	0.1646380	0.24197452	2.5504861	20	1 1.9	20.4
311051 2004 BU ₁₄₆	17.1	X	45.90905	318.36768	106.22323	3.23835	0.1949019	0.24055514	2.5605089	20	—	—
311052 2004 BW ₁₄₈	17.1	X	61.92245	93.40309	337.51527	3.10698	0.1083646	0.24431881	2.5341449	20	1 4.4	19.7
311053 2004 BD ₁₅₄	17.1	X	84.96594	273.49912	122.03827	15.49525	0.1450000	0.24334355	2.5409112	20	—	—
311054 2004 CX ₃	16.9	X	325.79881	220.38922	334.24564	5.29569	0.1445565	0.24385996	2.5373227	20	1 11.7	20.2
311055 2004 CG ₉	16.9	X	5.01510	204.55921	295.51767	10.22488	0.1416037	0.24229124	2.5482629	20	—	—
311056 2004 CX ₂₀	17.3	X	291.43489	195.84620	28.61543	3.01228	0.0915565	0.24386015	2.5373215	20	1 13.7	20.7
311057 2004 CY ₄₂	17.1	X	359.25222	358.70735	137.07855	4.42592	0.2196466	0.23990985	2.5650982	20	—	—
311058 2004 CK ₅₇	16.5	X	50.98353	80.17807	347.85867	14.41154	0.1664599	0.24267460	2.5455785	20	—	—
311059 2004 CJ ₅₉	16.8	X	13.88065	63.75126	38.71030	5.68074	0.1625727	0.23964158	2.5670122	20	—	—
311060 2004 CN ₆₀	16.7	X	358.50021	2.45410	30.701830	6.27043	0.1481192	0.23550566	2.5969792	20	—	—
311061 2004 CO ₆₅	16.6	X	221.26169	137.29135	66.35837	8.12966	0.1819217	0.22538253	2.6741712	20	12 22.5	20.4
311062 2004 CJ ₆₆	17.4	X	316.41761	68.93420	78.00578	4.49092	0.1340936	0.23540583	2.5977134	20	—	—
311063 2004 CK ₆₇	17.1	X	19.39631	294.17784	132.53479	4.38272	0.1685874	0.23569136	2.5956150	20	—	—
311064 2004 CQ ₆₉	16.5	X	48.17152	35.15998	37.65170	5.88735	0.1808173	0.24049569	2.5609308	20	—	—
311065 2004 CF ₈₄	17.0	X	302.35211	358.54967	169.52202	4.68067	0.2086749	0.23408138	2.6075029	20	—	—
311066 2004 DC	18.1	X	261.08064	156.25112	74.94473	19.45116	0.3994958	0.47196598	1.6337876	20	—	—
311067 2004 DV	16.7	X	33.63675	90.61933	7.50785	4.78181	0.2374297	0.24216005	2.5491832	20	—	—
311068 2004 DD ₃	15.6	X	84.70673	1.16952	337.01531	18.76806	0.2527609	0.22635674	2.6664929	20	—	—
311069 2004 DW ₇	17.4	X	34.67282	267.73111	153.19095	4.09928	0.2022025	0.23628930	2.5912343	20	—	—
311070 2004 DU ₁₉	17.0	X	326.30688	51.03356	127.33056	3.92098	0.0824210	0.24070530	2.5594439	20	—	—
311071 2004 DV ₂₀	16.6	X	319.40128	84.00692	66.07231	4.94485	0.1697703	0.23423965	2.6063282	20	—	—
311072 2004 DN ₆₁	15.0	X	30.00268	184.07162	330.68403	1.53819	0.1707325	0.12671882	3.9256235	20	3 25.3	19.6
311073 2004 DM ₇₆	16.5	X	283.74610	277.81112	266.07316	5.60242	0.2042987	0.23402179	2.6079455	20	—	—
311074 2004 EW ₃	15.3	X	280.07249	332.47916	137.72193	26.54870	0.1482051	0.22068970	2.7119479	20	11 25.6	19.2
311075 2004 EB ₅	17.0	X	352.65928	307.49852	159.92726	4.72803	0.1674791	0.23356049	2.6113783	20	—	—
311076 2004 EY ₁₀	17.0	X	269.01591	164.31801	30.17985	4.43586	0.2526237	0.22979376	2.6398377	20	—	—
311077 2004 EH ₁₈	16.0	X	262.69773	121.35449	97.41083	14.12932	0.2126210	0.23028666	2.6360695	20	—	—
311078 2004 EN ₂₈	16.9	X	334.50075	107.79142	7.93726	1.68256	0.1035780	0.23077692	2.6323348	20	—	—
311079 2004 EZ ₃₂	16.1	X	219.05423	183.68722	24.71786	10.28983	0.1387134	0.22406090	2.6846767	20	—	—
311080 2004 EW ₄₈	16.5	X	60.42282	134.51510	333.57363	3.61613	0.0853409	0.24289164	2.5440619	20	2 19.7	19.5
311081 2004 EX ₅₂	17.4	X	319.38485	332.69944	158.74057	6.46824	0.2332881	0.23146905	2.6270848	20	—	—
311082 2004 EL ₇₂	16.7	X	324.40379	286.22713	200.27534	3.90439	0.1303357	0.23078543	2.6322701	20	—	—
311083 2004 EM ₇₄	16.6	X	282.75578	83.72011	70.53357	3.03802	0.1389917	0.22611110	2.6684237	20	—	—
311084 2004 EM ₈₈	16.7	X	45.23278	308.52259	85.83348	6.84596	0.0496298	0.22579292	2.6709300	20	—	—
311085 2004 EL ₉₃	16.5	X	322.45428	154.94498	6.50292	14.21496	0.1645329	0.23627891	2.5913103	20	—	—
311086 2004 ET ₉₄	16.5	X	299.14707	120.42934	48.14279	13.53565	0.1865618	0.23124722	2.6287646	20	—	—
311087 2004 EA ₉₅	16.3	X	279.33147	80.30381	117.37587	9.69358	0.1073376	0.23090953	2.6313269	20	—	—
311088 2004 EX ₁₁₂	16.5	X	227.35917	139.41853	86.51926	5.39748	0.0573290	0.22861164	2.6489300	20	—	—
311089 2004 FJ ₁₃	16.3	X	274.03584	251.52185	321.00178	10.60778	0.1389811	0.23295303	2.6159161	20	—	—
311090 2004 FC ₁₅	16.4	X	284.30632	316.36017	191.80765	13.30345	0.2079682	0.22565597	2.6720105	20	—	—
311091 2004 FL ₂₆	16.2	X	98.25561	253.03268	5.70039	8.84702	0.1223824	0.21045275	2.7991939	20	10 29.9	20.5
311092 2004 FD ₈₂	16.7	X	19.94783	69.95702	31.95711	9.81542	0.1677524	0.23793339	2.5792838	20	—	—
311093 2004 FX ₉₉	16.0	X	273.57540	107.83671	58.42106	5.00241	0.0368293	0.22477989	2.6789488	20	—	—
311094 2004 FJ ₁₂₆	16.9	X	26.01307	256.62936	185.44146	5.70690	0.2701540	0.23649070	2.5897629	20	—	—
311095 2004 FC ₁₃₆	16.2	X	155.30525	95.91567	143.49080	9.02452	0.2432147	0.21231620	2.7827912	20	12 2.1	21.2
311096 2004 FR ₁₃₈	16.2	X	256.68812	329.64772	210.73535	13.13864	0.1981982	0.22512703	2.6761942	20	—	—
311097 2004 FW ₁₄₃	16.6	X	227.65129	183.50554	42.99919	10.19500	0.2562278	0.22342035	2.6898056	20	—	—
311098 2004 FL ₁₄₅	17.1	X	4.84548	309.32425	165.92013	12.37740	0.1279427	0.23621392	2.5917855	20	—	—
311099 2004 GT ₅	16.0	X	169.03139	115.62295	104.46093	8.98308	0.2300624	0.21330243	2.7742069	20	11 21.0	20.8
311100 2004 GO ₇₁	16.5	X	289.30829	143.54511	33.31662	15.51492	0.2214118	0.22816754	2.6523662	20	—	—
311101 2004 GU ₇₄	15.6	X	181.51039	81.43116	113.00749	13.44292	0.0551105	0.21166487	2.7884970	20	11 13.8	19.9
311102 2004 HR ₂	16.3	X	355.92436	265.39283	245.03501	13.05634	0.1593165	0.24067550	2.5596552	20	—	—
311103 2004 HL ₁₄	16.7	X	329.78667	14.43752	90.94287	3.74132	0.0202386	0.22534420	2.6744745	20	—	—
311104 2004 HR ₂₃	16.1	X	293.22940	85.91381	25.82952	14.35555	0.1581352	0.21977092	2.7195010	20	12 7.4	19.2
311105 2004 HV ₃₆	16.0	X	193.89044	348.49613	203.71664	16.56941	0.1248650	0.21370741	2.7707010	20	11 15.4	20.3
311106 2004 HG ₄₃	16.0	X	282.74172	46.63739	114.94547	13.75057	0.1236261	0.22275638	2.6951480	20	—	—
311107 2004 HM ₅₂	16.1	X	238.95275	41.70362	170.65457	13.08317	0.0987536	0.22231828	2.6986875	20	—	—
311108 2004 JT	15.6	X	319.54854	47.16523	112.97740	32.68803	0.2298313	0.23305834	2.6151280	20	—	—
311109 2004 JV ₃	16.8	X	296.14994	321.88482	103.30567	2.29751	0.1266487	0.20922069	2.8101724	20	10 14.4	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>
311121 2004 PC ₄₇	17.8	X	15.92467	234.19265	69.94523	2.74272	0.1107161	0.31293463	2.1486564	20	10 5.3	19.8
311122 2004 PN ₉₂	15.3	X	351.68484	41.73847	262.39630	9.94427	0.1381216	0.18029398	3.1032391	20	7 27.6	19.0
311123 2004 PQ ₉₆	16.0	X	294.79723	50.73939	144.50453	13.36250	0.1219913	0.21831122	2.7316099	20	—	—
311124 2004 PH ₉₇	17.0	X	232.63107	40.10696	336.32033	26.02011	0.2187376	0.29581131	2.2307943	20	4 22.5	21.2
311125 2004 PN ₁₀₅	15.2	X	297.23094	69.55739	274.80885	14.13497	0.1208652	0.17789225	3.1311078	20	6 24.7	19.3
311126 2004 QJ ₂₄	16.4	X	211.02450	112.36729	238.53306	23.24546	0.2667131	0.28564373	2.2834224	20	3 8.4	21.0
311127 2004 QK ₂₅	16.0	X	81.45586	223.41785	225.41612	22.88028	0.2139729	0.27744283	2.3282005	20	3 3.5	19.0
311128 2004 QZ ₂₆	15.7	X	196.77621	161.75901	301.97736	7.83571	0.0558138	0.17780995	3.1320740	20	7 31.4	20.2
311129 2004 RX ₆	15.6	X	331.76265	195.61365	118.82144	11.71422	0.0905408	0.17794507	3.1304883	20	7 11.5	19.4
311130 2004 RV ₁₃	15.6	X	317.79363	345.18757	334.75891	9.34719	0.0991469	0.17765370	3.1339101	20	6 27.1	19.7
311131 2004 RX ₅₆	17.6	X	270.79910	101.25077	302.61841	3.83450	0.0944928	0.30621694	2.1799670	20	8 22.1	19.7
311132 2004 RA ₆₇	17.5	X	238.84941	8.49909	10.24015	6.14300	0.1325615	0.29543408	2.2326929	20	5 23.7	20.6
311133 2004 RY ₈₆	15.4	X	269.26519	100.07550	266.44913	7.18891	0.0874561	0.17290466	3.1910352	20	6 20.5	19.7
311134 2004 RZ ₈₆	15.7	X	339.28744	72.64143	255.64033	8.06000	0.0984634	0.17971587	3.1098905	20	8 8.0	19.7
311135 2004 RJ ₁₀₈	17.5	X	248.25570	154.35715	232.27144	4.98796	0.2286079	0.29821922	2.2187701	20	6 5.2	20.6
311136 2004 RY ₁₃₆	18.1	X	227.99223	202.37306	187.17660	4.05480	0.1524172	0.29498897	2.2349383	20	5 26.8	21.3
311137 2004 RK ₁₃₈	15.6	X	309.17456	59.68094	291.43960	14.64044	0.0957268	0.17963395	3.1108359	20	7 23.8	19.6
311138 2004 RU ₁₄₄	15.3	X	287.73127	52.89560	280.65028	13.53084	0.2430776	0.17529234	3.1619919	20	5 7.1	20.0
311139 2004 RQ ₁₅₅	15.5	X	10.89317	320.81145	312.93835	9.62516	0.0561131	0.17701340	3.1414630	20	7 18.9	19.7
311140 2004 RY ₁₇₄	15.3	X	278.91136	50.39365	291.15497	10.19263	0.1325495	0.17361341	3.1823445	20	5 23.9	19.9
311141 2004 RS ₂₀₀	17.1	X	333.97506	46.59326	293.62828	6.98948	0.2045891	0.30497070	2.1859018	20	9 6.2	18.4
311142 2004 RZ ₂₀₅	15.7	X	321.94827	41.10902	175.79110	9.48678	0.0540281	0.17500268	3.1654801	20	7 2.6	19.8
311143 2004 RL ₂₂₆	17.0	X	171.50228	264.51538	180.45390	23.69728	0.3406808	0.28843177	2.2686839	20	6 14.1	21.8
311144 2004 RJ ₂₃₃	17.7	X	239.26402	17.64797	19.12540	3.31983	0.1443566	0.29589196	2.2303889	20	6 18.8	20.8
311145 2004 RZ ₂₃₅	17.9	X	244.19402	57.37581	288.51739	4.75033	0.2033621	0.29228828	2.2486841	20	4 7.3	21.5
311146 2004 RZ ₂₄₇	15.1	X	255.92452	96.27657	302.84776	24.30878	0.1343080	0.17505513	3.1648478	20	7 11.9	19.7
311147 2004 RP ₂₄₈	15.1	X	34.51223	354.77962	293.01663	21.22299	0.1266267	0.18248380	3.0783631	20	9 5.5	19.6
311148 2004 RZ ₃₀₈	15.3	X	184.66040	80.42525	8.65931	11.90230	0.0395132	0.17306440	3.1890712	20	6 30.8	20.2
311149 2004 RK ₃₁₆	15.3	X	288.34383	107.32815	219.76879	11.44861	0.1069120	0.17343770	3.1844936	20	5 23.5	19.6
311150 2004 RB ₃₃₉	15.6	X	279.89664	258.77127	136.18721	13.07672	0.1514886	0.18094708	3.0957675	20	7 31.7	19.6
311151 2004 SK ₂₆	16.2	X	264.79364	279.82022	65.44679	23.40111	0.2811614	0.29446297	2.2375990	20	4 29.7	19.8
311152 2004 SY ₃₃	16.8	X	208.94040	0.03383	44.84760	11.09051	0.1895947	0.29050962	2.2578532	20	5 23.5	20.3
311153 2004 SM ₃₇	15.7	X	159.95047	160.14988	329.12022	12.13240	0.0842581	0.17594985	3.1541097	20	7 25.1	20.6
311154 2004 TF ₃	17.5	X	16.30520	7.42869	310.43127	8.43610	0.3142075	0.31164797	2.1545662	20	11 27.7	20.0
311155 2004 TE ₁₇	14.4	X	1.88849	355.59116	284.29635	26.68002	0.1776029	0.17484304	3.1674066	20	7 14.5	17.9
311156 2004 TZ ₄₁	17.1	X	227.44680	340.80690	10.18647	8.54389	0.1942559	0.28764277	2.2728307	20	4 1.5	20.4
311157 2004 TQ ₄₄	18.0	X	160.71389	40.08499	351.10860	2.43146	0.2371060	0.28088616	2.3091341	20	3 27.1	21.7
311158 2004 TT ₅₅	18.0	X	236.18850	313.11495	138.75164	1.67198	0.0954545	0.30190146	2.2006919	20	9 11.4	20.4
311159 2004 TZ ₆₂	17.2	X	278.67121	141.19917	216.91513	4.77823	0.1864458	0.29790041	2.2203528	20	6 8.8	19.8
311160 2004 TG ₇₈	14.9	X	180.84672	215.29257	254.56583	20.62342	0.0352681	0.17358500	3.1826919	20	7 16.1	19.8
311161 2004 TZ ₈₇	15.5	X	159.38576	309.02718	188.54081	17.05488	0.1596694	0.17270315	3.1935168	20	7 30.3	21.0
311162 2004 TR ₁₁₃	17.6	X	216.88434	17.87653	46.55252	6.62099	0.1528168	0.29359827	2.2419903	20	7 1.3	20.8
311163 2004 TL ₁₃₈	15.3	X	310.09264	35.10459	304.03071	8.57382	0.0990830	0.17419566	3.1752493	20	7 10.4	19.3
311164 2004 TG ₁₄₃	17.4	X	329.55152	115.18895	233.11717	3.60051	0.1965486	0.30505172	2.1855147	20	9 11.0	18.5
311165 2004 TO ₁₅₁	18.5	X	235.67815	146.56517	218.74397	1.63238	0.1383680	0.29157169	2.2523669	20	5 2.6	21.5
311166 2004 TX ₁₈₁	18.0	X	278.53687	286.17108	35.84704	4.24878	0.2049687	0.29524419	2.2336501	20	4 14.7	20.8
311167 2004 TV ₂₁₉	17.8	X	104.36741	202.79043	177.01573	2.61591	0.1226173	0.27006963	2.3703849	20	—	—
311168 2004 TQ ₂₂₁	17.1	X	282.79803	242.78083	105.69734	6.35628	0.2329809	0.29830425	2.2183484	20	5 24.7	19.7
311169 2004 TD ₂₃₈	17.8	X	280.07262	184.48675	176.62176	2.55248	0.1779779	0.29860131	2.2168769	20	6 16.8	20.3
311170 2004 TX ₂₄₅	17.1	X	203.61171	43.31655	30.72041	7.80457	0.0713373	0.29649013	2.2273881	20	7 6.9	20.1
311171 2004 TW ₂₄₈	18.2	X	192.06772	108.49720	317.68966	0.73484	0.1725857	0.29078339	2.2564358	20	6 6.7	21.7
311172 2004 TC ₂₆₀	16.7	X	163.56483	229.50659	208.49506	7.31246	0.0729939	0.28805322	2.2706711	20	5 23.4	19.7
311173 2004 TE ₂₉₅	15.5	X	158.49303	19.00208	41.02237	16.75158	0.0736522	0.15589836	3.4190728	20	4 27.5	20.7
311174 2004 TT ₃₀₆	15.3	X	357.99275	359.27840	315.43769	9.26252	0.0952833	0.17875849	3.1209844	20	8 22.2	19.1
311175 2004 TT ₃₄₀	16.8	X	219.76419	226.80031	134.57424	9.40352	0.2487523	0.28832875	2.2692242	20	4 9.8	20.8
311176 2004 TX ₃₄₆	17.7	X	268.03090	113.75493	237.11077	5.94154	0.1894708	0.29468424	2.2364787	20	5 13.9	20.4
311177 2004 TL ₃₄₇	17.3	X	162.80792	139.52082	269.64394	5.13656	0.1535591	0.28359564	2.2944029	20	4 14.4	20.8
311178 2004 VU ₇	17.0	X	235.47769	288.70105	66.04895	6.99230	0.1540425	0.28783130	2.2718380	20	4 19.4	20.4
311179 2004 VR ₃₃	17.4	X	268.10087	278.51040	79.95427	5.33965	0.1873181	0.29427241	2.2385649	20	5 25.7	20.2
311180 2004 VP ₄₃	17.4	X	130.35750	46.55783	68.71979	8.20937	0.1049963	0.28554500	2.2839487	20	6 5.8	20.5
311181 2004 VY ₅₈	15.5	X	213.84705	262.91714	239.47222	4.24254	0.1239497	0.17835403	3.1257010	20	9 28.7	20.2
311182 2004 VA ₆₃	17.3	X	220.46276	201.57048	216.47322	5.58487	0.1241224	0.29256880	2.2472465	20	6 28.3	20.5
311183 2004 VQ ₇₀	17.2	X	277.09800	140.07492	239.58526	3.12241	0.1513162	0.29757347	2.2219788	20	7 14.8	19.5
311184 2004 WT ₇	17.5	X	208.90085	342.17738	90.78827	5.81574	0.1273170	0.29292218	2.2454387	20	7 6.2	20.6
311185 2004 XV ₂	17.1	X	199.42202	133.24291	254.14032	6.26331	0.1472531	0.28397729	2.2923468	20	4 22.4	20.6
311186 2004 XV ₉	17.3	X	173.49479	345.78993	73.70757	4.18083	0.1333955	0.28334699	2.2957450	20	5 11.2	20.5
311187 2004 XZ ₁₂	17.2	X	195.90678	344.89559	52.59014	3.96032	0.1663990	0.28446048	2.2897501	20	5 3.9	20.6
311188 2004 XX ₁₆	17.1	X	198.19073	314.02599	72.84488	4.50749	0.1585201	0.28257341	2.2999330	20	4 23.6	20.6
311189 2004 XC ₁₇	17.2	X	201.62896	318.24060	65.12661	4.60814	0.2458533	0.28320757	2.2964984	20	4 20.8	21.2
311190 2004 XO ₂₂	17.1	X	228.95379	311.23304	87.07999	6.26168	0.1727840	0.29110426	2.2547774	20	6 6.5	20.4
311191 2004 XF ₂₉	17.1	X	177.95257	52.29884	29.41452	7.17887	0.1365782	0.28664252	2.2781150	20	6 13.4	20.5
311192 2004 XG ₃₅	17.0	X	227.52302	89.20191	283.65120	6.09170	0.1331970	0.28585615	2.2822910	20	5 2.3	20.3
311193 2004 XD ₄₅	17.3	X	192.25417	35.45257	336.72							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
311201 2004 <i>XL</i> ₁₀₅	16.7	X	107.17250	225.93655	255.39337	22.33645	0.1181655	0.28155155	2.3054946	20	5 17.9	19.9
311202 2004 <i>XF</i> ₁₀₉	17.6	X	167.78138	31.09665	51.76286	3.44778	0.1967673	0.28440657	2.2900395	20	6 5.9	21.3
311203 2004 <i>XD</i> ₁₁₀	17.0	X	247.51453	12.20781	2.50097	5.37249	0.1225728	0.28932910	2.2639907	20	5 30.2	20.1
311204 2004 <i>XO</i> ₁₁₆	17.3	X	287.53074	49.88663	297.42418	5.08965	0.1787642	0.29244227	2.2478946	20	6 6.7	19.8
311205 2004 <i>XN</i> ₁₃₄	16.9	X	241.39375	83.16734	308.56272	6.07288	0.1203692	0.29078442	2.2564305	20	6 17.4	19.9
311206 2004 <i>XR</i> ₁₄₄	17.8	X	133.01356	328.78882	109.96795	2.96140	0.1627406	0.27562676	2.3384161	20	4 27.4	21.2
311207 2004 <i>XY</i> ₁₆₁	16.6	X	180.15061	4.03993	51.72910	10.82775	0.1747230	0.28325736	2.2962293	20	5 12.7	20.0
311208 2004 <i>XH</i> ₁₆₃	17.8	X	122.63288	84.15292	66.32438	5.20152	0.0794659	0.28454018	2.2893226	20	7 14.5	20.8
311209 2004 <i>XM</i> ₁₆₃	17.6	X	184.41300	36.72189	43.19541	3.33298	0.1449709	0.28496534	2.2870449	20	6 18.1	21.1
311210 2004 <i>XO</i> ₁₆₅	16.8	X	306.45262	47.89833	288.60301	6.88794	0.1592573	0.29515265	2.2341119	20	6 27.9	18.8
311211 2004 <i>YG</i> ₂₀	17.6	X	158.53151	181.90914	275.45537	2.19568	0.1476840	0.28181090	2.3040798	20	6 15.4	21.0
311212 2004 <i>YT</i> ₂₃	17.1	X	226.97695	254.02367	118.30669	7.12955	0.1209622	0.27888558	2.3201639	20	5 7.2	20.5
311213 2004 <i>YW</i> ₃₁	17.5	X	122.47415	190.85673	335.22266	5.65812	0.1346439	0.28590195	2.2820473	20	8 10.2	20.6
311214 2005 <i>AS</i> ₆	17.2	X	69.69938	66.71337	86.25747	9.33424	0.2064142	0.27227578	2.3575634	20	5 27.2	19.8
311215 2005 <i>AQ</i> ₁₈	17.2	X	160.18920	348.86092	96.34638	3.29983	0.1289057	0.27994473	2.3143082	20	5 31.3	20.4
311216 2005 <i>AZ</i> ₂₀	17.2	X	168.49719	182.45079	242.92876	2.42467	0.2217201	0.27961372	2.3161343	20	5 15.6	21.0
311217 2005 <i>AG</i> ₂₁	17.7	X	104.05610	85.40991	71.12043	4.37881	0.1284641	0.27961816	2.3161097	20	7 4.9	20.7
311218 2005 <i>AD</i> ₂₃	16.8	X	121.71701	133.26019	354.94383	3.11072	0.1559407	0.27976562	2.3152958	20	6 18.9	20.2
311219 2005 <i>AE</i> ₂₃	16.8	X	46.29101	81.09434	87.22906	6.30057	0.1143375	0.27158258	2.3615734	20	4 25.9	19.2
311220 2005 <i>AE</i> ₂₆	17.9	X	177.59183	222.37916	192.28816	0.96094	0.2463335	0.28089797	2.3090694	20	5 10.1	21.9
311221 2005 <i>AS</i> ₂₈	16.8	X	331.80081	144.17032	82.13405	5.97312	0.3689407	0.26339836	2.4102421	20	1 22.6	19.5
311222 2005 <i>AS</i> ₃₂	17.7	X	150.82508	332.44921	133.21382	2.62804	0.1722656	0.28115093	2.3076841	20	6 19.8	21.4
311223 2005 <i>AC</i> ₄₁	17.3	X	126.56114	296.94179	150.61915	2.54087	0.1233372	0.27532510	2.3401239	20	4 27.4	20.5
311224 2005 <i>AA</i> ₄₄	17.9	X	100.95732	121.57406	11.30175	1.73461	0.1295044	0.27564484	2.3383138	20	5 27.9	20.9
311225 2005 <i>AQ</i> ₇₆	17.0	X	94.43106	34.50102	99.57099	6.47519	0.0565803	0.27426700	2.3461386	20	5 11.8	19.9
311226 2005 <i>AZ</i> ₇₇	17.5	X	195.20422	22.25621	345.63192	6.00065	0.1521944	0.27196561	2.3593555	20	3 25.2	21.1
311227 2005 <i>AJ</i> ₈₀	17.7	X	95.17558	21.17367	83.43412	2.68177	0.1327196	0.27040190	2.3684427	20	4 12.6	20.5
311228 2005 <i>BG</i> ₁	16.6	X	44.50906	130.51217	83.00923	23.83214	0.2435713	0.27265548	2.3553741	20	7 23.2	19.4
311229 2005 <i>BN</i> ₇	17.9	X	69.87161	71.47099	87.59712	5.81182	0.1641333	0.27401505	2.3475766	20	5 28.5	20.5
311230 2005 <i>BR</i> ₁₆	17.4	X	132.58981	55.41490	64.52264	3.46372	0.1243678	0.28053268	2.3110734	20	6 16.8	20.7
311231 Anuradhapura	17.3	X	143.89005	0.94665	91.48409	3.50891	0.0964102	0.27661638	2.3328355	20	5 21.3	20.4
311232 2005 <i>BS</i> ₂₅	17.4	X	99.63406	232.72762	247.31332	1.88253	0.1861002	0.27280965	2.3544866	20	5 16.7	20.5
311233 2005 <i>CT</i> ₉	16.8	X	168.86416	358.75140	71.31814	3.19438	0.1300107	0.27673885	2.3321472	20	5 20.0	20.3
311234 2005 <i>CO</i> ₁₆	16.3	X	133.47063	100.51331	299.09672	6.24118	0.1138710	0.26645383	2.3917810	20	2 27.5	19.6
311235 2005 <i>CO</i> ₁₇	17.7	X	118.95213	207.09031	290.18490	2.21198	0.1415190	0.27862601	2.3216047	20	6 26.9	21.0
311236 2005 <i>CN</i> ₂₀	17.5	X	111.25974	25.75575	108.78868	3.65344	0.1625656	0.27632104	2.3344975	20	6 16.7	20.8
311237 2005 <i>CG</i> ₂₃	17.0	X	77.68442	23.12108	107.31427	6.77450	0.1731462	0.26955534	2.3733990	20	5 2.6	19.8
311238 2005 <i>CH</i> ₂₆	17.0	X	156.01269	281.08788	114.39089	3.08408	0.1925923	0.27148580	2.3621346	20	3 28.1	20.7
311239 2005 <i>CB</i> ₂₈	17.0	X	42.33622	19.54267	130.25245	7.75181	0.0790236	0.26635382	2.3923796	20	3 19.2	19.6
311240 2005 <i>CT</i> ₃₀	17.2	X	196.02560	281.18176	91.85659	3.40490	0.2382395	0.27298452	2.3534810	20	4 4.4	21.2
311241 2005 <i>CE</i> ₅₇	17.5	X	120.21337	285.13196	168.35131	0.38613	0.1984541	0.27404252	2.3474197	20	5 5.9	20.8
311242 2005 <i>CM</i> ₆₂	17.6	X	54.26603	40.26722	103.46013	6.56107	0.1567094	0.26779462	2.3837909	20	4 10.5	20.0
311243 2005 <i>CT</i> ₆₈	18.1	X	79.71633	50.46201	79.84375	3.22781	0.1615561	0.27108182	2.3644808	20	5 1.3	20.7
311244 2005 <i>EP</i> ₂	17.2	X	119.79465	232.25455	248.82755	3.74031	0.1760246	0.27442512	2.3452374	20	6 9.2	20.7
311245 2005 <i>EQ</i> ₁₀	17.8	X	55.58735	297.70295	240.66240	1.42670	0.1377827	0.27007265	2.3703673	20	5 28.7	20.3
311246 2005 <i>EX</i> ₁₃	17.5	X	78.94985	50.92087	116.66947	3.23494	0.1208179	0.27288857	2.3540327	20	6 15.8	20.3
311247 2005 <i>EU</i> ₁₅	17.9	X	145.30838	278.58504	131.25353	0.95523	0.2327330	0.26910962	2.3760190	20	4 7.4	21.7
311248 2005 <i>EV</i> ₁₈	17.5	X	351.17946	53.29921	166.70109	2.63053	0.1390734	0.26358469	2.4091061	20	3 26.5	19.7
311249 2005 <i>EO</i> ₂₀	17.1	X	105.33293	326.59296	137.19349	3.85616	0.1189567	0.26918184	2.3755940	20	4 23.6	20.1
311250 2005 <i>EV</i> ₂₀	16.9	X	95.02080	310.87326	141.74856	6.98509	0.1696164	0.26631662	2.3926024	20	4 3.4	19.9
311251 2005 <i>EU</i> ₂₁	16.9	X	139.40449	97.45070	150.15870	2.25698	0.1497116	0.27323483	2.3520435	20	5 12.8	20.2
311252 2005 <i>EO</i> ₂₇	16.9	X	144.14488	76.74642	345.35604	6.39703	0.1084482	0.26774007	2.3841147	20	4 8.9	20.4
311253 2005 <i>EY</i> ₂₈	17.1	X	41.56539	34.41172	165.45214	13.04890	0.1726715	0.26941562	2.3742195	20	6 12.9	19.8
311254 2005 <i>EY</i> ₃₈	17.0	X	117.08892	330.08740	124.88752	7.06619	0.1556232	0.26986216	2.3715997	20	5 2.5	20.4
311255 2005 <i>EC</i> ₄₃	17.2	X	105.31425	324.11372	139.24230	4.26255	0.1387137	0.26853556	2.3794040	20	4 26.1	20.3
311256 2005 <i>EO</i> ₅₀	17.3	X	44.79953	320.89617	171.82179	8.59222	0.1495889	0.26177122	2.4202197	20	2 29.9	19.6
311257 2005 <i>EU</i> ₅₅	17.3	X	98.84509	328.94968	156.44755	2.59367	0.1489654	0.27098818	2.3650254	20	5 18.7	20.4
311258 2005 <i>EW</i> ₆₈	16.9	X	355.93388	251.58089	317.84348	3.68911	0.1236812	0.26274347	2.4142455	20	3 18.9	19.3
311259 2005 <i>EX</i> ₇₃	17.9	X	74.44982	135.56029	27.64777	3.15630	0.1175466	0.27145770	2.3622976	20	6 1.4	20.5
311260 2005 <i>EB</i> ₇₄	15.5	X	100.45194	343.62004	359.58357	7.79021	0.2210106	0.24304383	2.5429997	20	—	—
311261 2005 <i>EA</i> ₉₅	14.4	X	291.60900	92.54541	144.49227	14.61761	0.1615317	0.12584713	3.9437299	20	2 4.7	20.0
311262 2005 <i>EE</i> ₉₅	17.4	X	114.74633	284.73001	199.14490	6.10164	0.1583952	0.27276928	2.3547189	20	6 5.9	20.8
311263 2005 <i>EK</i> ₁₀₀	18.2	X	34.53132	158.45951	10.33002	2.22815	0.1504872	0.26566552	2.3965101	20	4 4.9	20.2
311264 2005 <i>EJ</i> ₁₁₂	17.0	X	44.13314	11.70298	140.75511	3.82320	0.0798072	0.26349837	2.4096322	20	3 24.9	19.5
311265 2005 <i>EL</i> ₁₃₁	17.5	X	133.09072	161.29895	290.42908	1.89237	0.1515632	0.27420711	2.3464803	20	5 11.9	20.7
311266 2005 <i>EX</i> ₁₃₁												

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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>
311281 2005 EK ₃₀₆	17.8	X	90.53275	305.38107	162.25167	1.33428	0.1441055	0.26491890	2.4010107	20	4 11.7	20.5
311282 2005 EO ₃₁₅	17.4	X	133.62458	261.93342	153.46447	5.45702	0.1914527	0.26364002	2.4087690	20	4 1.3	20.9
311283 2005 EF ₃₂₄	17.2	X	47.17517	199.51155	23.36236	6.09689	0.1756357	0.27293849	2.3537456	20	7 30.9	19.8
311284 2005 EY ₃₂₇	17.3	X	78.28586	338.42461	149.78765	4.56169	0.1430501	0.26560571	2.3968698	20	4 24.2	20.0
311285 2005 FE ₁	17.0	X	68.43708	83.16158	121.71585	11.33080	0.1598007	0.27584443	2.3371858	20	7 31.9	19.7
311286 2005 GX ₁₀	17.3	X	41.80681	17.19861	109.45727	2.15441	0.1381767	0.25795041	2.4440602	20	2 16.2	19.5
311287 2005 GQ ₁₃	16.8	X	38.95323	102.61828	88.43791	6.89944	0.1319572	0.26564460	2.3966359	20	5 18.6	19.2
311288 2005 GG ₃₉	17.4	X	56.61638	328.26164	187.87240	1.81351	0.1540080	0.26566696	2.3965014	20	4 29.9	19.9
311289 2005 GO ₄₂	18.0	X	124.82960	277.98738	182.51276	4.05894	0.1642053	0.27417617	2.3466568	20	5 17.5	21.4
311290 2005 GW ₅₀	16.6	X	37.00428	133.93220	40.76712	8.06628	0.0855371	0.26259404	2.4151613	20	4 15.0	19.1
311291 2005 GF ₁₃₂	17.0	X	206.31859	129.34188	136.51466	3.25433	0.0446288	0.24296770	2.5435309	20	—	—
311292 2005 GB ₁₃₇	16.3	X	50.33711	284.49231	61.37910	14.13811	0.0993384	0.22642166	2.6659832	20	12 25.5	20.1
311293 2005 GQ ₁₃₈	17.2	X	108.88543	315.58748	139.30386	2.91673	0.1586323	0.26385686	2.4074491	20	4 21.5	20.3
311294 2005 GQ ₁₅₉	17.4	X	74.01031	93.23923	46.94020	1.09352	0.1474601	0.26424311	2.4051026	20	5 3.8	20.0
311295 2005 GQ ₁₇₃	17.1	X	226.42434	110.27596	129.40199	3.50246	0.0545502	0.24122117	2.5557935	20	—	—
311296 2005 GW ₂₀₈	17.2	X	358.10135	113.63920	64.68074	14.79359	0.1510305	0.25958009	2.4337709	20	2 11.6	20.0
311297 2005 HD ₇	16.8	X	270.72211	99.02004	116.25006	6.64862	0.1787895	0.24379408	2.5377799	20	—	—
311298 2005 HH ₉	16.2	X	90.92617	223.23659	73.75746	14.85036	0.1590472	0.22210579	2.7004084	20	12 14.4	20.5
311299 2005 JV ₁₆	16.0	X	144.58273	24.88378	261.27061	11.23350	0.1739722	0.23203796	2.6227891	20	—	—
311300 2005 JF ₃₄	16.9	X	53.63084	146.09462	190.37927	9.06877	0.1116574	0.22161167	2.7044210	20	12 18.9	20.8
311301 2005 JA ₃₅	17.3	X	79.74906	6.89722	140.95827	5.80365	0.2522706	0.26483266	2.4015319	20	6 10.2	20.4
311302 2005 JD ₄₄	16.1	X	132.36354	203.04964	54.78313	14.69218	0.2187422	0.22296813	2.6934413	20	12 4.8	20.8
311303 2005 JV ₄₆	17.8	X	39.90241	335.34538	195.04046	2.08333	0.1601352	0.26173622	2.4204354	20	4 20.6	20.0
311304 2005 JU ₅₀	17.2	X	39.25598	36.09199	118.52641	2.27165	0.1150221	0.25838157	2.4413405	20	3 22.9	19.5
311305 2005 JF ₁₀₁	16.7	X	274.84492	133.80264	66.05967	3.88460	0.0526752	0.24099465	2.5573948	20	—	—
311306 2005 JB ₁₁₀	17.0	X	346.52095	39.41540	161.33732	4.49979	0.1407679	0.25569025	2.4584418	20	2 18.4	19.6
311307 2005 JH ₁₁₈	17.0	X	42.35449	253.14111	96.80801	9.63907	0.2298307	0.21966735	2.7203558	20	—	—
311308 2005 JX ₁₃₅	17.2	X	54.99368	21.62361	143.96251	3.02258	0.1126712	0.26535830	2.3983594	20	5 5.6	19.7
311309 2005 KY ₃	16.6	X	121.17550	85.96542	210.52132	9.44075	0.1344047	0.22842705	2.6503569	20	—	—
311310 2005 KJ ₁₂	16.0	X	62.13418	286.80249	275.64594	21.99626	0.2492232	0.27120661	2.3637554	20	7 26.6	19.2
311311 2005 LP	16.6	X	342.17140	273.45616	86.75650	21.09698	0.2213572	0.20979964	2.8050002	20	10 22.5	19.7
311312 2005 LK ₅	16.2	X	270.07678	78.15300	132.30978	10.31212	0.1125480	0.24120292	2.5559224	20	—	—
311313 2005 LG ₃₄	16.6	X	26.36269	281.53976	73.13196	9.67382	0.1360976	0.21966174	2.7204021	20	12 10.6	20.0
311314 2005 MV ₄	16.0	X	174.34984	138.11959	136.71491	16.18249	0.0419606	0.22254917	2.6968206	20	—	—
311315 2005 MC ₈	16.4	X	173.52275	358.85676	291.96837	11.31372	0.1474788	0.22966167	2.6408499	20	—	—
311316 2005 MZ ₁₇	16.1	X	311.47556	307.10539	121.34930	12.97745	0.2327453	0.19936428	2.9020473	20	9 1.9	19.1
311317 2005 MH ₂₇	16.6	X	191.59648	151.03387	125.65758	9.26535	0.1201630	0.23057219	2.6338928	20	—	—
311318 2005 MW ₃₃	16.1	X	347.79708	319.12749	151.06295	14.96526	0.0975850	0.22676181	2.6633165	20	—	—
311319 2005 ME ₃₇	16.6	X	20.37581	278.04501	135.14479	6.49634	0.0415807	0.22121927	2.7076181	20	—	—
311320 2005 MH ₄₇	16.2	X	352.31617	300.25600	94.50709	15.23898	0.1146320	0.22072285	2.7116763	20	12 11.2	19.4
311321 2005 NP ₁	18.5	X	38.19815	307.56817	275.00122	34.70069	0.2966449	0.39905234	1.8271862	20	7 29.8	20.6
311322 2005 NX ₆	16.6	X	284.51463	292.94194	284.49504	11.93851	0.1348541	0.23686487	2.5870349	20	—	—
311323 2005 NA ₁₁	16.3	X	1.80045	209.75024	289.77254	12.19005	0.1868266	0.23768358	2.5810907	20	—	—
311324 2005 NU ₂₂	15.5	X	103.45096	3.65807	294.48849	19.03977	0.2265124	0.21487601	2.7606463	20	12 30.9	20.2
311325 2005 NO ₂₃	16.3	X	285.76291	222.26578	249.91256	8.41745	0.0809363	0.21517516	2.7580870	20	12 4.7	19.7
311326 2005 NE ₂₉	17.2	X	109.91225	73.40156	296.17690	17.96852	0.0947192	0.36146848	1.9517421	20	—	—
311327 2005 NK ₃₀	16.4	X	21.58405	50.26530	308.69565	3.93978	0.1709713	0.21030744	2.8004831	20	12 12.3	19.9
311328 2005 NE ₅₁	16.6	X	226.43756	326.19762	304.79823	8.72266	0.1774473	0.23657960	2.5891141	20	—	—
311329 2005 NG ₆₉	16.4	X	85.64079	62.79687	301.22815	7.60851	0.1223506	0.22378557	2.6868783	20	—	—
311330 2005 NM ₆₉	17.2	X	330.14351	146.10897	220.27542	1.81121	0.1092754	0.20377228	2.8600436	20	9 19.8	20.4
311331 2005 NZ ₉₄	17.4	X	102.99444	79.80265	287.33347	17.02101	0.1020828	0.35889404	1.9610645	20	—	—
311332 2005 OY	15.9	X	343.20228	313.70916	1.94640	10.20958	0.2050165	0.19788851	2.9164576	20	8 4.9	18.8
311333 2005 OV ₉	15.9	X	73.57933	209.58871	127.11546	15.17160	0.1043920	0.21509516	2.7587708	20	—	—
311334 2005 OH ₉	16.2	X	320.72545	84.53130	330.69938	14.19060	0.1467038	0.20605426	2.8388884	20	11 2.7	19.7
311335 2005 OP ₂₈	15.9	X	227.25537	99.00239	291.81048	14.77602	0.2847794	0.18182748	3.0857664	20	5 15.9	21.5
311336 2005 QX ₂₄	16.2	X	321.62771	294.29126	28.50183	5.38648	0.1426098	0.18841029	3.0134660	20	7 2.4	19.8
311337 2005 QY ₄₃	16.5	X	90.78557	350.82948	339.62922	4.84566	0.0290334	0.21548634	2.7554311	20	—	—
311338 2005 QA ₄₇	16.7	X	329.20146	239.70667	101.05080	4.22677	0.1127776	0.19372865	2.9580589	20	8 13.6	20.1
311339 2005 QK ₅₆	15.5	X	221.97092	46.11430	8.01033	17.09152	0.2062110	0.18141123	3.0904848	20	6 14.3	20.9
311340 2005 QX ₅₈	16.6	X	316.60799	281.90740	47.02551	2.89616	0.2132639	0.18962265	3.0006078	20	6 21.8	19.8
311341 2005 QY ₆₁	16.5	X	262.16903	239.39588	151.40589	2.88352	0.2010086	0.18763391	3.0217729	20	6 27.3	21.0
311342 2005 QW ₇₈	16.0	X	210.14420	82.36617	346.14545	4.47766	0.1729849	0.18177795	3.0863269	20	6 25.3	21.0
311343 2005 QP ₉₂	16.6	X	269.69893	347.11269	47.37320	0.61577	0.1130798	0.19103782	2.9857709	20	7 24.5	20.6
311344 2005 QB ₁₂₂	16.2	X	320.33775	251.50596	166.23970	10.67412	0.1262780	0.20452162	2.8530534	20	11 15.3	19.6
311345 2005 QU ₁₂₈	16.7	X	98.91138	167.50563	130.89064	4.28768	0.0243792	0.21018894	2.8015355	20	12 12.3	20.6
311346 2005 QJ ₁₅₁	16.5	X	337.98589	213.22463	154.07299	2.87002	0.0644281	0.19785028	2.9168533	20	10 4.5	20.2
311347 2005 QJ ₁₅₆	16.1	X	261.55193	113.17962	299.91953	8.25589	0.1482139	0.18914527	3.0056346	20	8 1.1	20.2
311348 2005 QS ₁₇₉	16.2	X	299.68238	213.28554	115.34935	5.48428	0.2407248	0.18687534	3.0299448	20	5 21.2	20.1
311349 2005 QR ₁₈₂	16.7	X	283.93956	26.33935	47.68926	2.60310	0.1513809	0.19909608	2.9046529	20	10 1.0	20.2
311350 2005 QO ₁₉₀	15.9	X	224.98012	294.93393	118.25273	7.99746	0.2582717	0.18121117	3.0927590	20	6 14.5	21.2
311351 2005 QS ₁₉₀	15.8	X	230.63770	255.50738	75.56314	5.73653	0.2076305	0.17293861	3.1906175	20	3 20.1	21.2
311352 2005 RQ ₂₁	17.6	X	161.28169	355.17362	337.14907	18.36798	0.0763171	0.36207044	1.9495783	20	—	—
311353 2005 RZ ₂₆	15.4	X	286.66316	68.42046	282.74214	9.77932	0.1367658	0.18446136	3.0563220	20	6 16.5	19.6
311354 2005 RL ₂₇	15.0	X	279.66694	133.53937	118.19826	22.18550						

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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>
311361 2005 SW ₃₉	15.7	X	280.94582	320.49352	15.97165	9.27470	0.1153492	0.18120799	3.0927951	20	5 21.5	20.1
311362 2005 SX ₄₆	15.7	X	154.52435	101.85807	10.28634	10.05306	0.0973533	0.17785496	3.1315455	20	6 26.7	20.7
311363 2005 SA ₇₄	16.2	X	298.87420	274.23110	70.27625	20.62533	0.3365990	0.18905694	3.0065906	20	5 25.2	20.1
311364 2005 SU ₈₅	15.9	X	235.29218	62.43091	18.83911	10.83966	0.0653762	0.18929023	3.0041198	20	8 22.1	20.3
311365 2005 SM ₉₉	16.6	X	196.66658	215.10133	326.83560	5.65556	0.0438727	0.20109125	2.8854083	20	11 7.8	20.8
311366 2005 SV ₁₀₁	15.3	X	191.62149	62.02824	355.80657	11.14810	0.0248430	0.17665855	3.1456685	20	5 27.1	20.0
311367 2005 SZ ₁₀₉	15.7	X	254.19620	306.13256	18.57635	12.53228	0.0027248	0.17158497	3.2073761	20	4 20.2	20.3
311368 2005 SQ ₁₄₁	16.2	X	200.93718	329.83649	110.45801	2.39061	0.1240366	0.18097372	3.0954637	20	7 3.3	21.0
311369 2005 SF ₁₄₇	16.6	X	209.35707	45.54002	35.69071	4.67986	0.0828672	0.18234812	3.0798899	20	7 16.9	21.3
311370 2005 SL ₁₄₈	16.4	X	178.02080	286.81489	180.12713	4.92629	0.1088694	0.17981407	3.1087581	20	7 13.2	21.3
311371 2005 SX ₁₅₈	15.7	X	175.47711	237.43313	216.87367	15.75512	0.1718406	0.17649559	3.1476043	20	6 24.2	21.1
311372 2005 SZ ₁₇₂	15.8	X	30.07149	57.75113	228.18831	5.90638	0.0462743	0.19269719	2.9686053	20	8 28.3	19.9
311373 2005 SC ₁₇₅	16.1	X	204.37859	161.20459	281.00252	4.20922	0.1228155	0.18189116	3.0850461	20	7 9.2	21.0
311374 2005 SF ₂₀₀	16.4	X	208.17251	278.48458	176.45361	7.49746	0.0859164	0.18597890	3.0396734	20	7 30.3	21.0
311375 2005 SH ₂₀₃	16.1	X	184.77499	48.98503	26.55207	11.72075	0.2663506	0.17520616	3.1630287	20	6 8.5	21.9
311376 2005 SO ₂₁₈	15.6	X	216.48302	3.91589	60.48090	6.80888	0.2008214	0.17801882	3.1296236	20	6 23.8	20.7
311377 2005 SF ₂₂₁	15.6	X	164.08061	244.22065	210.96868	15.54095	0.1780352	0.17381818	3.1798447	20	6 16.3	21.1
311378 2005 SF ₂₂₃	16.1	X	337.61114	203.08846	115.91860	5.82591	0.1789374	0.19117657	2.9843261	20	7 24.4	19.1
311379 2005 SR ₂₃₂	16.4	X	267.60012	315.26850	20.77755	1.73757	0.0832292	0.17506658	3.1647097	20	5 11.1	20.7
311380 2005 SP ₂₄₅	16.1	X	318.77342	12.12602	313.35275	3.07790	0.1740018	0.18731140	3.0252405	20	6 26.7	19.6
311381 2005 SD ₂₅₂	15.6	X	229.24893	225.43443	9.40677	13.15796	0.1385383	0.22395040	2.6855598	20	—	—
311382 2005 SO ₂₆₆	16.4	X	299.35783	70.12655	279.55781	1.88498	0.1492648	0.18761857	3.0219377	20	7 1.1	20.0
311383 2005 SO ₂₇₉	16.0	X	195.21280	88.15996	28.38241	10.46237	0.0526164	0.18804463	3.0173713	20	8 21.0	20.6
311384 2005 SK ₂₈₅	15.9	X	197.26353	331.75267	117.00518	11.69644	0.1908884	0.17749345	3.1357962	20	7 7.3	21.2
311385 2005 SM ₂₈₉	16.5	X	254.52381	326.62844	118.33664	3.05822	0.0782556	0.19196541	2.9761449	20	9 14.7	20.6
311386 2005 SR ₂₉₁	16.6	X	177.59733	281.39531	157.19736	2.68844	0.0807600	0.17656942	3.1467269	20	6 8.7	21.5
311387 2005 TK ₁₁	16.5	X	277.82370	19.59017	331.56512	1.51322	0.1360566	0.18367804	3.0650053	20	6 4.5	20.7
311388 2005 TW ₁₄	15.3	X	253.83904	307.33701	54.19089	17.62682	0.3325828	0.18089481	3.0963637	20	5 2.9	20.5
311389 2005 TB ₂₆	16.5	X	229.25413	346.20401	61.23034	1.72623	0.1901720	0.17841426	3.1249975	20	6 15.5	21.5
311390 2005 TA ₃₀	16.0	X	39.46517	230.21666	106.44003	11.78054	0.1426967	0.20498260	2.8487744	20	12 4.4	20.0
311391 2005 TZ ₃₁	16.5	X	236.17080	270.25184	120.05521	2.21020	0.1794010	0.18030429	3.1031207	20	6 2.4	21.3
311392 2005 TW ₄₁	15.0	X	260.53742	138.61904	232.82166	14.76260	0.1691542	0.17965495	3.1105935	20	6 5.1	19.7
311393 2005 TA ₄₇	15.7	X	264.13436	224.00652	154.64356	9.92831	0.0792380	0.18371003	3.0646494	20	6 30.9	20.1
311394 2005 TA ₅₉	16.4	X	141.62988	287.00248	197.64251	5.64335	0.0989881	0.17586002	3.1551837	20	6 28.0	21.3
311395 2005 TC ₈₈	15.8	X	202.38879	208.91873	214.04113	16.72029	0.2515674	0.17768522	3.1335396	20	6 8.3	21.4
311396 2005 TL ₁₀₇	15.5	X	56.63566	158.88942	36.42284	10.29791	0.0145963	0.17636991	3.1490995	20	6 3.0	19.9
311397 2005 TH ₁₂₉	16.5	X	255.98105	30.96675	17.97243	1.59973	0.1595358	0.18437396	3.0572878	20	7 19.2	21.0
311398 2005 TH ₁₆₁	16.3	X	251.34190	127.62583	230.41070	7.97894	0.0895647	0.17696423	3.1420449	20	5 19.0	20.9
311399 2005 TG ₁₆₃	15.8	X	273.49044	168.95908	226.66939	6.64930	0.1312612	0.18655721	3.0333884	20	7 25.6	20.1
311400 2005 TE ₁₇₁	15.8	X	196.57945	78.32029	333.67543	12.80877	0.2534112	0.17413356	3.1760041	20	5 18.6	21.6
311401 2005 TF ₁₈₉	16.6	X	306.85715	80.51435	227.11952	3.89958	0.1602209	0.18079912	3.0974562	20	5 15.6	20.5
311402 2005 UU ₇	15.7	X	161.09951	58.70842	36.79898	5.57452	0.1173456	0.17359789	3.1825342	20	6 12.6	20.7
311403 2005 UC ₉	15.8	X	291.19635	337.70473	38.71917	12.42372	0.0824786	0.18737850	3.0245182	20	8 8.9	20.1
311404 2005 US ₉	16.1	X	182.68729	299.47724	136.07383	1.90647	0.2213656	0.17406458	3.1768432	20	6 9.2	21.6
311405 2005 UD ₁₂	16.0	X	160.56097	321.52277	151.18906	2.42709	0.1165768	0.17423243	3.1748025	20	7 3.5	20.9
311406 2005 UL ₁₃	15.9	X	236.37548	184.36011	211.85490	10.79682	0.1172636	0.17987185	3.1080924	20	6 15.5	20.7
311407 2005 UE ₂₃	16.3	X	231.79919	155.42810	228.16414	8.80328	0.0797477	0.17612943	3.1519653	20	5 29.9	21.1
311408 2005 UF ₂₄	16.0	X	116.81084	286.03829	224.31654	9.98432	0.0667599	0.17615507	3.1516594	20	6 29.2	20.8
311409 2005 UG ₂₄	16.0	X	153.05119	245.29592	224.40230	9.16194	0.0479135	0.17567928	3.1573473	20	6 19.0	20.8
311410 2005 UM ₂₅	16.5	X	228.77557	197.15840	220.27241	2.99847	0.1973833	0.17926103	3.1151487	20	6 26.6	21.5
311411 2005 UE ₅₅	15.3	X	247.05074	122.14076	239.95078	8.11607	0.1049987	0.17503946	3.1650366	20	5 17.1	20.0
311412 2005 UM ₆₀	15.8	X	253.91380	327.99120	55.75337	6.01929	0.1113718	0.17841690	3.1249667	20	6 20.2	20.3
311413 2005 UG ₆₃	16.2	X	159.69864	73.65644	69.45348	3.88825	0.1846783	0.17867547	3.1219511	20	8 11.6	21.4
311414 2005 UA ₇₀	15.7	X	271.28190	137.37440	264.11789	10.09552	0.1054453	0.18732101	3.0251370	20	8 2.1	20.0
311415 2005 UD ₇₁	16.0	X	239.79089	101.61300	285.62704	7.29643	0.1552032	0.17937779	3.1137968	20	6 3.9	20.8
311416 2005 UQ ₇₆	15.6	X	235.64451	118.15830	281.30369	9.87820	0.1306463	0.17811397	3.1285089	20	6 17.7	20.4
311417 2005 UQ ₇₇	15.3	X	174.32221	342.33475	96.50563	11.76970	0.1328667	0.17128234	3.2111529	20	6 6.7	20.5
311418 2005 UV ₈₀	16.2	X	269.28725	190.10422	186.46971	3.48023	0.1970728	0.18115153	3.0934378	20	6 17.9	20.8
311419 2005 UK ₉₁	16.0	X	280.33719	344.41533	20.45012	12.07011	0.0820644	0.18095363	3.0956927	20	7 5.2	20.5
311420 2005 UP ₉₃	16.0	X	175.68577	129.10957	349.94579	4.97574	0.1258944	0.17926183	3.1151395	20	7 27.6	21.0
311421 2005 UA ₁₀₁	15.9	X	342.52569	260.79774	66.23296	10.66460	0.0437399	0.18554278	3.0444348	20	8 21.2	20.1
311422 2005 US ₁₀₇	15.4	X	331.95091	266.56347	78.10779	9.22991	0.1347571	0.19083913	2.9878429	20	8 25.7	18.9
311423 2005 UG ₁₁₉	16.2	X	317.34834	303.05007	33.36552	12.31219	0.1153110	0.18493430	3.0511091	20	7 19.4	20.2
311424 2005 UM ₁₂₇	15.8	X	352.84059	23.90448	229.54851	7.56354	0.1211869	0.17402610	3.1773114	20	5 23.9	19.5
311425 2005 UM ₁₂₈	16.8	X	192.54132	119.81802	13.96362	1.02804	0.1457713	0.18509820	3.0493077	20	8 29.5	21.5
311426 2005 UQ ₁₂₉	16.3	X	96.57862	126.93484	33.02132	3.30977	0.1019071	0.17411259	3.1762592	20	6 11.1	20.7
311427 2005 UN ₁₃₁	15.1	X	216.70511	279.51691	124.54881	11.73826	0.0229829	0.17502516	3.1652090	20	6 13.4	19.7
311428 2005 UU ₁₃₄	16.6	X	225.91699	344.76126	33.03443	4.18894	0.2140242	0.17551874	3.1592722	20	5 5.9	21.8
311429 2005 UT ₁₆₆	16.6	X	75.69871	342.55890	216.60549	6.99810	0.1207190	0.17858673	3.1229852	20	7 18.4	21.1
311430 2005 UJ ₁₆₇	16.1	X	241.54179	40.36717	33.01097	10.39709	0.0665997	0.18601569	3.0392727	20	8 19.3	20.6
311431 2005 UR ₁₇₅	15.8	X	300.30474	66.09529	249.52477	8.45993	0.0781832	0.17457462	3.1706525	20	5 28.5	20.1
311432 2005 US ₁₇₅	15.8	X	151.09088	112.07748	39.65260	9.34911	0.1384732	0.17915851	3.1163370	20	8 16.3	20.9
311433 2005 UJ ₁₇₅	15.9	X	243.44658	167.86273	245.07							

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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>
311441 2005 UV ₂₃₂	15.3	X	42.07212	10.51831	225.56510	21.93207	0.0985705	0.18108541	3.0941907	20	7 12.7	19.8
311442 2005 UZ ₂₃₃	15.5	X	154.09504	262.28175	208.67987	10.32841	0.0347140	0.17464982	3.1697423	20	6 20.9	20.2
311443 2005 UK ₂₃₇	16.4	X	184.35672	8.12142	142.59861	4.32142	0.2286929	0.18467978	3.0539117	20	9 8.8	21.5
311444 2005 UR ₂₄₅	15.9	X	250.10429	322.21249	69.86002	17.29386	0.0688899	0.17822226	3.1272414	20	7 1.5	20.5
311445 2005 UZ ₂₅₅	15.6	X	15.93138	214.01465	67.01337	11.67921	0.1034626	0.18187907	3.0851828	20	8 12.8	19.6
311446 2005 UV ₂₆₁	16.4	X	179.17351	359.70417	98.18062	2.44479	0.1483355	0.17835209	3.1257236	20	7 3.5	21.4
311447 2005 UY ₂₇₄	15.4	X	222.95236	173.70616	247.66778	9.37406	0.1211337	0.17662140	3.1461096	20	7 1.4	20.2
311448 2005 UG ₂₈₇	16.0	X	176.42868	43.47787	59.78411	8.25161	0.0625535	0.17884156	3.1200179	20	7 8.7	20.8
311449 2005 UW ₂₈₈	16.0	X	43.90326	253.09158	28.76462	12.10557	0.0423082	0.18812008	3.0165645	20	9 17.4	20.2
311450 2005 UB ₂₉₃	16.2	X	238.81691	123.61384	248.58496	7.96355	0.1038849	0.17446817	3.1719421	20	5 20.6	21.1
311451 2005 UZ ₃₁₇	15.8	X	57.28226	211.81010	39.19675	12.25588	0.0434512	0.18493724	3.0510767	20	8 27.6	20.2
311452 2005 UG ₃₂₅	16.3	X	177.74265	40.90241	76.60087	2.19352	0.2161481	0.18160165	3.0883240	20	7 25.9	21.6
311453 2005 UJ ₃₄₁	15.7	X	302.55684	248.12474	76.83457	12.77132	0.1725493	0.18091750	3.0961049	20	5 30.6	19.8
311454 2005 UF ₃₅₁	15.9	X	197.62180	112.01928	354.77849	9.89022	0.1999342	0.18150810	3.0893851	20	8 1.2	21.1
311455 2005 UJ ₃₅₁	15.4	X	296.72714	87.63490	254.74509	9.68558	0.0648642	0.18179470	3.0861372	20	6 28.8	19.6
311456 2005 UN ₃₇₅	15.6	X	121.73160	175.78324	11.77874	8.74783	0.0591036	0.18428029	3.0583238	20	8 25.1	20.1
311457 2005 UL ₃₈₅	15.7	X	265.69869	155.22866	219.29631	9.85270	0.1445995	0.18423238	3.0588539	20	6 18.1	20.2
311458 2005 UB ₃₈₆	15.7	X	246.10512	345.95525	59.10672	13.46821	0.0840106	0.17987206	3.1080899	20	7 12.9	20.4
311459 2005 UE ₃₉₇	15.8	X	306.47056	8.38436	355.59729	10.17466	0.1180267	0.18751423	3.0230586	20	8 8.7	19.7
311460 2005 UA ₄₁₆	15.6	X	339.83391	88.14673	204.08189	10.98548	0.0647574	0.17913501	3.1166096	20	6 25.1	19.8
311461 2005 UY ₄₂₉	15.9	X	222.61935	10.68876	42.61011	10.70901	0.0789796	0.17679900	3.1440022	20	6 25.3	20.7
311462 2005 UO ₄₃₂	15.8	X	40.30810	9.36239	219.30505	5.20679	0.1388608	0.17458293	3.1705518	20	7 10.5	19.8
311463 2005 UO ₄₄₀	15.8	X	277.01432	95.78609	259.11205	9.17852	0.0960221	0.18077519	3.0977296	20	6 14.4	20.0
311464 2005 UJ ₄₅₂	16.2	X	258.55649	115.96474	249.31553	3.43118	0.1808541	0.17891676	3.1191436	20	5 24.7	20.8
311465 2005 UQ ₄₅₅	15.5	X	234.05304	98.63584	284.21986	8.12756	0.1097020	0.17794107	3.1305352	20	5 27.6	20.3
311466 2005 UN ₄₅₈	15.5	X	291.97051	286.81862	67.77592	10.48934	0.1080726	0.18204490	3.0833089	20	7 2.7	19.6
311467 2005 UH ₄₅₉	15.6	X	197.67007	241.58989	197.13869	9.38864	0.0503816	0.17761847	3.1343246	20	6 30.6	20.3
311468 2005 UP ₄₇₅	14.9	X	253.41231	230.14331	98.69497	28.56886	0.1964386	0.17469463	3.1692002	20	4 19.2	20.4
311469 2005 UQ ₄₈₅	15.3	X	294.02203	299.87105	60.47138	18.29645	0.1296891	0.18384166	3.0631864	20	7 10.6	19.6
311470 2005 UV ₄₈₇	15.8	X	301.39889	27.66114	277.85519	11.08101	0.0564328	0.17724999	3.1386670	20	5 18.6	20.2
311471 2005 UX ₄₈₉	15.2	X	211.91879	127.40562	273.75274	11.34821	0.0660185	0.17580471	3.1558453	20	5 30.1	20.0
311472 2005 UL ₄₉₅	15.5	X	214.50836	333.37468	52.29117	16.14874	0.2775835	0.17579757	3.1559308	20	5 4.9	21.0
311473 2005 UY ₄₉₆	15.2	X	236.58372	336.30376	40.14203	16.44377	0.0447874	0.17783876	3.1317357	20	5 26.9	19.9
311474 2005 UD ₄₉₉	15.3	X	231.07299	352.80996	96.87875	16.20564	0.0972358	0.18514578	3.0487853	20	8 23.1	20.0
311475 2005 UW ₅₀₀	15.9	X	314.54961	261.10760	111.14503	10.20097	0.1440514	0.18961939	3.0006422	20	8 30.6	19.5
311476 2005 UA ₅₀₂	16.3	X	182.68311	258.73001	180.71917	15.25575	0.2389543	0.17348242	3.1839463	20	6 14.1	22.1
311477 2005 UO ₅₁₁	15.2	X	124.33201	303.12789	238.93102	20.39301	0.3597746	0.17619765	3.1511517	20	8 27.1	21.4
311478 2005 UG ₅₁₆	16.1	X	149.13697	280.21753	201.42937	4.93919	0.2146573	0.17048642	3.2211395	20	7 6.6	21.6
311479 2005 UJ ₅₁₆	16.1	X	265.59856	270.85033	115.72292	2.90747	0.1049901	0.17826854	3.1267002	20	7 9.1	20.6
311480 2005 UQ ₅₁₅	15.6	X	244.22427	256.17992	144.84157	16.10180	0.2612059	0.17876634	3.1208931	20	6 16.9	20.9
311481 2005 VS ₃₀	16.3	X	276.42406	154.15838	202.02265	3.49733	0.1625456	0.17754686	3.1351673	20	6 5.8	20.7
311482 2005 VJ ₃₃	15.9	X	175.17355	156.23860	272.18192	4.06413	0.1695473	0.17206312	3.2014314	20	5 24.9	21.1
311483 2005 VR ₄₇	16.5	X	189.67301	255.40909	189.01314	3.16672	0.1935402	0.17475992	3.1684109	20	6 25.5	21.8
311484 2005 VM ₄₉	15.9	X	191.60318	128.78239	345.49504	10.97721	0.1820261	0.18131937	3.0915284	20	8 5.7	21.1
311485 2005 VB ₅₃	15.0	X	197.72342	191.92118	264.89132	16.01033	0.1364753	0.17811336	3.1285160	20	7 16.8	20.1
311486 2005 VZ ₅₅	15.7	X	64.85612	4.53761	236.85849	10.55208	0.1240829	0.18662301	3.0326754	20	8 25.9	20.2
311487 2005 VU ₉₇	16.4	X	179.20759	77.16375	5.69058	4.46838	0.1357307	0.17277979	3.1925724	20	6 14.9	21.6
311488 2005 VE ₁₀₇	15.4	X	314.55833	49.64418	254.22704	8.06083	0.0213804	0.17450282	3.1715222	20	6 8.9	19.8
311489 2005 VY ₁₁₀	16.6	X	212.61808	19.62855	53.85610	11.03678	0.1034537	0.17850750	3.1239092	20	7 8.8	21.5
311490 2005 VZ ₁₁₇	15.3	X	162.47175	106.69568	12.28730	18.56599	0.2955977	0.16952544	3.2333009	20	7 21.0	21.4
311491 2005 VT ₁₂₀	17.2	X	82.28384	105.81710	279.19090	17.30708	0.0902197	0.35162747	1.9879900	20	—	—
311492 2005 WD ₄	15.2	X	251.37841	273.48369	90.54036	23.61740	0.1062528	0.17818503	3.1276771	20	5 28.9	20.0
311493 2005 WP ₁₀	16.5	X	200.95351	12.19755	57.26743	1.92527	0.1628474	0.17449660	3.1715975	20	6 18.2	21.7
311494 2005 WR ₂₆	15.5	X	131.71002	104.18267	68.01627	26.69385	0.2308894	0.17581560	3.1557150	20	9 4.1	21.3
311495 2005 WQ ₂₇	16.5	X	182.91990	222.23682	262.01914	3.56861	0.0674451	0.17956369	3.1116474	20	8 9.3	21.1
311496 2005 WQ ₄₂	15.9	X	249.54499	99.97951	247.83097	17.75933	0.1826806	0.17229965	3.1985008	20	4 21.5	21.1
311497 2005 WB ₄₇	15.8	X	207.71371	167.29092	255.20790	9.37127	0.1091113	0.17313155	3.1882466	20	6 18.7	20.8
311498 2005 WO ₅₆	15.7	X	201.49852	84.45447	335.22305	23.34221	0.3401367	0.17543798	3.1602417	20	5 28.2	22.0
311499 2005 WM ₅₇	15.4	X	226.19651	276.78717	117.28717	21.99850	0.2172257	0.17446601	3.1719682	20	5 31.4	20.9
311500 2005 WE ₆₄	15.5	X	239.59011	300.13040	79.47367	27.45753	0.2016946	0.17293749	3.1906313	20	5 25.6	20.7
311501 2005 WT ₆₆	15.7	X	210.22855	157.18877	236.37662	7.50381	0.0707106	0.17023273	3.2243388	20	5 19.0	20.6
311502 2005 WV ₆₈	15.7	X	36.67794	191.73164	67.24084	16.72958	0.0756586	0.17928994	3.1148139	20	8 13.0	20.1
311503 2005 WU ₇₄	15.9	X	273.97408	281.35486	167.78254	13.51663	0.1634971	0.19000548	2.9965761	20	10 3.5	19.8
311504 2005 WB ₁₁₂	16.2	X	296.25151	137.06698	236.69570	11.37113	0.0501407	0.18254961	3.0776231	20	8 6.3	20.6
311505 2005 WM ₁₁₄	15.4	X	173.44804	52.90051	56.75282	16.99790	0.0989816	0.17394768	3.1782663	20	7 13.8	20.6
311506 2005 WL ₁₁₇	15.7	X	255.01809	117.27725	289.14548	8.11898	0.1107578	0.18118618	3.0930434	20	7 20.4	20.0
311507 2005 WM ₁₂₁	16.4	X	230.16680	264.12077	141.35622	1.95360	0.1778900	0.17591407	3.1545372	20	6 15.1	21.4
311508 2005 WB ₁₃₉	16.1	X	199.68549	32.79238	67.92401	6.32498	0.0870277	0.17775671	3.1326994	20	7 30.9	20.9
311509 2005 WS ₁₄₀	15.9	X	183.43000	167.85180	285.79246	8.41238	0.0319827	0.16898981	3.2401295	20	7 4.2	20.6
311510 2005 WO ₁₄₄	15.7	X	217.35519	252.12774	207.33917	15.69698	0.1884098	0.18009880	3.1054807	20	8 2.8	21.0
311511 2005 WL ₁₅₀	15.8	X	214.77360	136.54652	279.37490	6.00298	0.1364000	0.17412627	3.1760928	20	6 16.1	20.8
311512 2005 WH ₁₅₁	15.4	X	210.24624	195.16499	263.30782	16.44982	0.1978799	0.17855327	3.1233753	20	7 25.4	20.8
311513 2005 WX ₁₅₅	15.2											

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>
311521 2005 XF ₁₂	16.0	X	187.46155	84.08938	3.89939	0.87530	0.1428858	0.17352368	3.1834416	20	6 29.1	21.2
311522 2005 XK ₃₃	15.6	X	241.61923	318.11708	86.46208	9.61142	0.0704381	0.17519977	3.1631057	20	7 7.6	20.2
311523 2005 XZ ₇₇	16.0	X	176.18300	235.04926	261.02490	5.63195	0.1793640	0.17820432	3.1274513	20	8 13.6	21.3
311524 2005 XD ₈₄	15.5	X	235.63936	163.78060	244.03019	23.66748	0.1860480	0.17580255	3.1558712	20	6 20.1	20.6
311525 2005 XE ₉₁	16.1	X	203.25576	82.51058	351.91298	2.75693	0.1105406	0.17131461	3.2107497	20	6 29.0	21.2
311526 2005 YN ₂₅	16.4	X	199.19909	145.14585	245.30327	0.63888	0.2419542	0.16366917	3.3099756	20	4 29.3	22.2
311527 2005 YL ₃₄	15.4	X	219.89949	1.12439	111.77221	10.40967	0.1284698	0.17915973	3.1163229	20	9 3.6	20.2
311528 2005 YL ₄₁	16.1	X	246.53484	101.83891	287.83613	3.59235	0.1782988	0.17531705	3.1616948	20	6 11.6	20.9
311529 2005 YL ₄₆	15.1	X	28.32761	129.78993	116.80598	18.10029	0.0272638	0.16737102	3.2609880	20	7 4.6	19.6
311530 2005 YY ₄₉	15.5	X	285.52401	26.32004	275.87340	4.09662	0.0797438	0.16567166	3.2832496	20	4 20.5	20.3
311531 2005 YJ ₅₂	15.4	X	84.62035	233.41409	277.75607	6.88382	0.1023491	0.15898697	3.3746471	20	5 27.7	20.2
311532 2005 YM ₆₂	16.1	X	173.66601	7.46102	90.49078	6.54945	0.1411265	0.16828554	3.2491631	20	6 28.3	21.4
311533 2005 YG ₁₀₃	15.8	X	178.52005	329.36038	123.80391	2.82574	0.0497239	0.16924803	3.2368331	20	6 27.5	20.6
311534 2005 YF ₁₀₉	15.9	X	164.66538	308.04819	277.42813	8.92695	0.0292583	0.18955366	3.0013359	20	11 24.1	20.3
311535 2005 YB ₁₁₂	15.8	X	140.68142	45.78959	106.18692	7.58660	0.0860353	0.17113574	3.2129865	20	7 31.0	20.6
311536 2005 YO ₁₁₆	17.7	X	284.72391	328.69104	34.76940	2.45377	0.1772367	0.30980968	2.1630807	20	6 28.7	19.9
311537 2005 YM ₁₂₁	15.3	X	230.31793	159.56305	322.50606	8.56366	0.0379825	0.18179536	3.0861298	20	9 30.5	19.8
311538 2005 YX ₁₅₅	15.8	X	137.59425	287.03244	215.55150	3.00557	0.1148793	0.16773880	3.2562197	20	7 16.5	20.9
311539 2005 YL ₁₇₃	15.3	X	215.83198	357.86081	73.09851	18.60400	0.0908744	0.17189909	3.2034675	20	7 8.9	20.3
311540 2005 YW ₁₉₉	15.1	X	113.59834	265.41291	299.32423	12.13552	0.1797775	0.17448462	3.1717426	20	9 6.9	20.4
311541 2005 YG ₂₁₃	14.8	X	120.68744	203.46274	305.74784	22.44264	0.0891381	0.16747480	3.2596408	20	7 8.5	19.8
311542 2005 YF ₂₁₄	15.9	X	153.48302	80.05097	47.49668	11.83188	0.2110998	0.16877626	3.2428621	20	7 19.7	21.6
311543 2005 YS ₂₂₀	15.5	X	227.31511	98.56512	307.47630	14.84274	0.2413261	0.17666425	3.1456008	20	6 8.2	21.0
311544 2005 YE ₂₃₁	16.1	X	232.83648	326.34031	71.89997	6.24258	0.1462016	0.17340760	3.1848620	20	6 11.4	20.9
311545 2005 YP ₂₃₄	16.4	X	193.51374	44.49780	24.30508	1.67812	0.0683697	0.16768888	3.2568659	20	6 12.9	21.2
311546 2005 YD ₂₅₀	15.5	X	133.82570	321.07619	99.00199	9.96882	0.0848274	0.15423792	3.4435676	20	4 6.8	20.8
311547 2005 YV ₂₇₄	15.6	X	205.27590	167.14728	309.89779	18.40680	0.2030349	0.17431113	3.1738468	20	8 13.9	20.9
311548 2006 AG ₇	14.7	X	336.65969	146.34081	96.07298	11.35337	0.0867824	0.15397864	3.4474322	20	4 21.9	19.4
311549 2006 AQ ₁₃	15.9	X	104.77556	252.58685	300.54687	6.35122	0.0533654	0.16830874	3.2488645	20	8 6.3	20.6
311550 2006 AR ₅₃	18.3	X	216.30536	197.02210	271.11959	2.50168	0.0831464	0.31338029	2.1466188	20	9 15.8	20.8
311551 2006 AC ₉₁	15.5	X	203.90778	340.09753	144.33359	7.00958	0.0956690	0.17563480	3.1578804	20	9 1.0	20.2
311552 2006 BN ₅₄	17.9	X	152.54284	201.12592	333.51861	2.55870	0.0818510	0.30841289	2.1696068	20	9 24.1	20.8
311553 2006 BN ₁₀₀	15.5	X	159.95171	70.66415	142.05483	7.22952	0.1281435	0.17908618	3.1171761	20	11 3.4	20.6
311554 2006 BQ ₁₄₇	18.7	X	260.52167	153.18662	146.78593	24.38402	0.4221660	1.32717941	0.8200675	20	—	—
311555 2006 BA ₁₄₈	18.4	X	51.90240	26.07230	327.59296	15.76244	0.6140381	0.47328952	1.6307403	20	—	—
311556 2006 BF ₁₆₅	17.4	X	283.15417	311.78540	116.33840	5.14502	0.1699910	0.31844885	2.1237803	20	10 18.9	18.9
311557 2006 BF ₁₉₉	17.6	X	312.25451	355.89645	294.46439	2.76583	0.1683459	0.28934888	2.2638875	20	4 22.1	19.8
311558 2006 BE ₂₁₆	15.8	X	228.68514	141.45272	354.18006	10.09349	0.1646393	0.18314903	3.0709045	20	10 2.1	20.5
311559 2006 BK ₂₂₆	17.8	X	212.63188	91.06697	349.91221	3.82552	0.0149896	0.30269683	2.1968351	20	8 5.3	20.3
311560 2006 BS ₂₂₇	17.0	X	338.41237	275.55626	345.14687	2.30803	0.1828426	0.28733575	2.2744494	20	4 24.2	18.7
311561 2006 BF ₂₅₂	18.3	X	266.79276	256.73506	138.74805	1.28436	0.1041712	0.30727535	2.1749581	20	8 1.8	20.4
311562 2006 CF ₈	17.5	X	39.26049	80.67816	164.95580	6.56721	0.0908368	0.29902110	2.2148016	20	8 5.7	19.8
311563 2006 CY ₃₇	18.4	X	210.33247	144.58220	289.25509	4.61562	0.1425213	0.30444467	2.1884189	20	7 8.2	21.5
311564 2006 DA ₃₉	17.6	X	350.99525	293.75465	331.31635	2.64919	0.1097617	0.29138656	2.2533208	20	6 6.4	21.5
311565 2006 DN ₄₆	17.4	X	84.14173	217.12630	1.88018	3.14503	0.1178330	0.30091984	2.2054751	20	9 7.5	20.3
311566 2006 DK ₁₅₀	17.3	X	302.16348	341.04422	312.32944	3.71994	0.1492616	0.28603653	2.2813314	20	4 13.2	19.8
311567 2006 DA ₁₇₆	17.7	X	239.92453	53.53014	57.65868	2.29605	0.1468576	0.31486917	2.1398465	20	10 9.4	19.8
311568 2006 DP ₂₁₄	17.6	X	250.97267	153.60896	158.15688	3.27821	0.1551610	0.28058124	2.3108068	20	3 8.4	21.0
311569 2006 EN ₃₃	17.0	X	89.73325	141.52819	53.00994	6.72258	0.1222300	0.29725603	2.2235604	20	8 13.4	19.9
311570 2006 FB ₁₇	17.3	X	20.92837	223.96455	17.22800	2.92930	0.1036707	0.28964755	2.2623310	20	6 28.6	19.4
311571 2006 FG ₁₈	17.2	X	251.14257	271.61452	41.87409	4.16125	0.1432062	0.27559456	2.3385982	20	3 13.8	20.5
311572 2006 FH ₄₂	17.5	X	182.21047	279.00843	180.34359	5.61832	0.0914506	0.29608919	2.2293984	20	7 13.5	20.6
311573 2006 GA ₇	17.0	X	246.34646	218.16897	106.86815	5.43618	0.1897353	0.27836370	2.3230629	20	3 20.7	20.6
311574 2006 GT ₁₂	17.7	X	176.20909	106.62405	75.01732	3.29500	0.0805942	0.30976084	2.1633081	20	11 3.1	20.4
311575 2006 GX ₂₆	17.5	X	199.15524	245.85378	53.08271	5.13177	0.1860875	0.26072101	2.4267145	20	1 7.5	21.5
311576 2006 GQ ₂₇	16.3	X	241.81074	94.88353	123.54572	2.08552	0.1038954	0.18681775	3.0305675	20	—	—
311577 2006 GZ ₃₀	16.9	X	101.05393	169.92294	61.52252	5.04319	0.0939859	0.30216369	2.1994185	20	10 14.4	19.8
311578 2006 GO ₄₀	17.2	X	58.35082	93.31693	122.71126	4.93703	0.1026125	0.29140442	2.2532288	20	7 24.7	19.6
311579 2006 HM ₅	16.9	X	283.13352	200.05274	61.50736	6.98179	0.0934705	0.27265621	2.3553699	20	2 18.9	20.1
311580 2006 HF ₃₀	16.8	X	296.43110	188.06617	86.16650	7.93403	0.1346821	0.27802350	2.3249576	20	3 18.7	19.8
311581 2006 HO ₃₅	17.1	X	88.36027	92.34720	137.92683	5.80787	0.1385516	0.29834967	2.2181232	20	10 2.1	20.1
311582 2006 HN ₄₅	17.2	X	237.11621	159.66641	178.13012	6.61857	0.1572288	0.27993693	2.3143511	20	3 28.1	20.6
311583 2006 HL ₄₉	17.1	X	233.16472	358.98286	59.74037	5.45558	0.0356859	0.29752690	2.222106	20	7 30.2	19.7
311584 2006 HY ₆₅	17.2	X	218.31518	240.26975	65.73194	4.12631	0.1302915	0.26536781	2.3983021	20	2 1.9	20.8
311585 2006 HN ₇₁	17.3	X	145.22387	345.76623	101.49143	6.08249	0.1319486	0.28320939	2.2964885	20	5 19.3	20.7
311586 2006 HV ₉₆	17.4	X	221.24738	152.14778	231.03571	4.60470	0.1751580	0.28185406	2.3038446	20	5 8.9	21.0
311587 2006 HS ₁₀₂	17.0	X	282.55645	181.17131	74.03881	7.49095	0.0990891	0.26893086	2.3770718	20	2 8.8	20.3
311588 2006 HT ₁₂₀	16.9	X	203.26324	262.43081	88.41214	7.55490	0.1437136	0.26991887	2.3712675	20	3 16.7	20.6
311589 2006 HZ ₁₅₁	17.2	X	344.21367	347.23734	239.54368	5.36021	0.0343384	0.27854290	2.3220665	20	3 30.6	20.0
311590 2006 HB ₁₅₂	17.1	X	169.10594	307.29563	38.34537	6.02553	0.1308012	0.26305822	2.4123193	20	2 4.4	20.7
311591 2006 JY ₃₅	17.3	X	228.30537	269.20970	88.32022	6.49209	0.1220768	0.27639301	2.3340922	20	4 18.9	20.7
311592 2006 JC ₄₂	13.0	X	247.83944	216.93197	263.20672	17.75536	0.0446807	0.08089008	5.2950800	20	9 29.3	20.2
311593 2006 JO ₄₅	17.5	X	2.76975	86.53337	141.10833	5.37901	0.0445					

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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>
311601 2006 <i>KD</i> ₇₂	17.1	X	1.88256	50.56424	172.65493	5.04845	0.1123682	0.27834012	2.3231942	20	4 23.5	19.1
311602 2006 <i>KA</i> ₉₁	17.7	X	359.52759	91.01199	121.91516	4.35072	0.0334235	0.27625276	2.3348821	20	4 8.2	20.4
311603 2006 <i>KD</i> ₁₂₁	15.5	X	203.22867	303.62488	354.68344	13.16248	0.2723971	0.25315271	2.4748431	20	1 15.3	20.1
311604 2006 <i>KD</i> ₁₃₇	17.6	X	117.07905	120.05013	270.81850	1.17519	0.2079679	0.25937519	2.4351016	20	2 12.3	20.7
311605 2006 <i>MK</i> ₇	17.0	X	224.20582	213.69966	125.71774	7.03371	0.1130152	0.26404540	2.4063030	20	3 23.2	20.6
311606 2006 <i>MW</i> ₇	16.8	X	119.62088	175.64313	279.16392	8.66423	0.0683615	0.26729134	2.3867822	20	4 16.7	20.1
311607 2006 <i>MV</i> ₈	17.1	X	85.26967	91.28103	270.91791	8.12214	0.2260428	0.23759549	2.5817286	20	—	—
311608 2006 <i>OT</i> ₂	15.7	X	86.35976	2.85958	337.53382	13.87739	0.2601705	0.23163850	2.6258035	20	—	—
311609 2006 <i>OC</i> ₁₆	16.6	X	91.81180	225.22258	85.65657	7.46749	0.2992123	0.23198968	2.6231529	20	—	—
311610 2006 <i>OE</i> ₁₇	15.6	X	26.73603	180.08177	163.87466	16.70260	0.1667418	0.21907876	2.7252261	20	12 4.7	19.5
311611 2006 <i>OD</i> ₂₀	16.3	X	82.74289	330.71548	55.36937	13.61343	0.2085834	0.24063014	2.5599768	20	—	—
311612 2006 <i>PV</i> ₁₁	16.8	X	42.12092	310.85653	83.60974	3.10963	0.2010144	0.23192160	2.6236662	20	—	—
311613 2006 <i>PD</i> ₂₅	16.4	X	353.25341	254.49025	145.31993	14.79941	0.1996549	0.22375993	2.6870836	20	12 30.8	19.5
311614 2006 <i>PA</i> ₂₉	15.9	X	85.26500	71.04335	249.51565	14.38541	0.1682669	0.22845722	2.6501235	20	—	—
311615 2006 <i>PP</i> ₃₁	12.7	X	17.69601	56.01829	304.01925	11.98501	0.0372356	0.08263195	5.2204034	20	10 20.1	19.6
311616 2006 <i>PT</i> ₄₀	17.1	X	52.98536	258.87527	104.83099	4.67632	0.1619575	0.23105930	2.6301897	20	—	—
311617 2006 <i>PS</i> ₄₃	16.1	X	104.00739	59.97610	273.91555	12.86154	0.1782179	0.23098240	2.6307735	20	—	—
311618 2006 <i>QO</i> ₃	16.3	X	13.00275	187.40625	167.43026	9.69490	0.2284748	0.21943164	2.7223036	20	12 7.3	19.7
311619 2006 <i>QV</i> ₅	16.0	X	40.54438	1.34637	2.60188	14.46390	0.2589327	0.22599055	2.6693726	20	—	—
311620 2006 <i>QM</i> ₇	16.6	X	21.43355	38.75355	345.06320	12.75314	0.2760089	0.22371559	2.6874386	20	—	—
311621 2006 <i>QZ</i> ₁₂	17.4	X	323.05514	201.08882	115.81955	9.55596	0.1441646	0.27684371	2.3315583	20	6 30.9	19.3
311622 2006 <i>QW</i> ₂₀	16.1	X	19.68554	55.95881	340.13954	7.97509	0.2694768	0.22408780	2.6844619	20	—	—
311623 2006 <i>QZ</i> ₂₂	16.0	X	31.71964	16.95431	357.05296	13.57807	0.2626003	0.22292474	2.6937909	20	—	—
311624 2006 <i>QA</i> ₂₃	15.8	X	16.95092	352.25603	2.24171	5.61596	0.3215597	0.21774219	2.7363669	20	12 25.9	19.3
311625 2006 <i>QC</i> ₂₃	16.5	X	59.38706	147.69444	183.07238	7.98121	0.2446172	0.22665396	2.6641612	20	—	—
311626 2006 <i>QF</i> ₂₈	16.6	X	50.50054	220.81381	116.27671	4.74863	0.2023756	0.22296958	2.6934297	20	12 27.9	20.4
311627 2006 <i>QW</i> ₃₈	16.2	X	53.31994	224.68880	141.02688	13.19873	0.0955833	0.23009834	2.6375076	20	—	—
311628 2006 <i>QL</i> ₅₁	17.5	X	72.96977	80.25824	289.15981	11.65728	0.2225044	0.23445948	2.6046989	20	—	—
311629 2006 <i>QC</i> ₅₇	17.4	X	38.98070	78.07304	338.64941	2.49783	0.1942605	0.23435503	2.6054727	20	—	—
311630 2006 <i>QG</i> ₆₆	16.7	X	36.56645	219.01256	164.08881	4.32402	0.1796199	0.22684719	2.6626482	20	—	—
311631 2006 <i>QS</i> ₁₁₅	16.2	X	337.39823	231.37979	179.05297	9.52781	0.2624080	0.21942936	2.7223224	20	12 20.1	18.7
311632 2006 <i>QS</i> ₁₂₆	16.7	X	286.08882	175.75366	100.38208	6.82266	0.1801154	0.26244464	2.4160778	20	3 1.7	20.2
311633 2006 <i>QC</i> ₁₃₀	16.8	X	22.24630	88.27026	259.34711	3.74940	0.1245554	0.22083613	2.7107489	20	11 24.4	20.2
311634 2006 <i>QB</i> ₁₃₁	16.3	X	35.62447	264.03188	88.60420	8.33515	0.3055147	0.22275499	2.6951592	20	—	—
311635 2006 <i>QK</i> ₁₃₁	16.0	X	267.36779	163.14153	208.90733	10.74105	0.1595169	0.20225403	2.8743386	20	6 15.3	20.2
311636 2006 <i>QZ</i> ₁₄₄	16.5	X	49.71093	64.71240	313.62270	11.08349	0.2126944	0.22777398	2.6554205	20	—	—
311637 2006 <i>QN</i> ₁₆₇	17.1	X	44.80954	263.32064	72.86272	2.06239	0.2145431	0.22294425	2.6936337	20	12 22.2	20.9
311638 2006 <i>QV</i> ₁₆₈	17.2	X	44.65441	286.15620	107.68970	5.93506	0.2413350	0.23073093	2.6326846	20	—	—
311639 2006 <i>QZ</i> ₁₆₈	16.9	X	105.38680	321.05921	53.77781	6.43581	0.1382839	0.24017219	2.5632300	20	—	—
311640 2006 <i>QB</i> ₁₈₆	17.3	X	43.13306	64.02463	331.90206	1.99976	0.1789674	0.23077409	2.6323564	20	—	—
311641 2006 <i>RZ</i> ₁	16.9	X	42.00308	99.74013	283.52210	10.09178	0.2017975	0.23019837	2.6367435	20	—	—
311642 2006 <i>RH</i> ₅	17.2	X	95.02084	86.59555	265.98249	7.19383	0.1719234	0.23466681	2.6031644	20	—	—
311643 2006 <i>RY</i> ₆	15.9	X	347.73179	70.87846	14.59943	22.25020	0.0416846	0.22627679	2.6671209	20	—	—
311644 2006 <i>RH</i> ₁₄	16.8	X	44.99591	127.07027	289.18532	10.76845	0.1639819	0.23654037	2.5894004	20	—	—
311645 2006 <i>RW</i> ₂₂	15.8	X	345.83187	5.68505	35.47530	12.97581	0.1984688	0.21530898	2.7569440	20	12 13.3	18.8
311646 2006 <i>RG</i> ₃₂	16.6	X	5.98059	166.56110	200.77774	6.89048	0.1882609	0.21685436	2.7438305	20	12 4.9	19.8
311647 2006 <i>RO</i> ₃₂	17.1	X	270.99744	268.27089	235.09177	1.68350	0.0605057	0.22381029	2.6866805	20	12 28.3	20.3
311648 2006 <i>RN</i> ₃₄	16.2	X	5.41982	258.92137	108.14227	4.44335	0.2051361	0.21713327	2.7414803	20	12 6.1	19.3
311649 2006 <i>RJ</i> ₃₅	16.6	X	31.79236	318.87850	20.59194	5.11657	0.1159927	0.21987953	2.7186054	20	11 24.7	20.2
311650 2006 <i>RN</i> ₆₂	16.3	X	65.25453	145.81402	172.02596	12.21516	0.2217745	0.22272338	2.6954142	20	12 21.7	20.7
311651 2006 <i>RA</i> ₆₉	17.2	X	10.88479	104.61117	336.19594	1.20199	0.1903076	0.22989079	2.6390949	20	—	—
311652 2006 <i>RR</i> ₇₀	17.2	X	296.91519	134.88022	344.82506	3.10026	0.1548513	0.22336359	2.6902613	20	12 30.2	19.9
311653 2006 <i>RA</i> ₇₆	16.7	X	284.93294	206.12672	17.20879	3.85829	0.1311316	0.24638741	2.5199410	20	—	—
311654 2006 <i>RQ</i> ₈₄	16.6	X	19.15011	24.57918	354.85435	0.83927	0.1489788	0.22151842	2.7051799	20	—	—
311655 2006 <i>RL</i> ₈₈	17.1	X	309.28148	223.42164	248.18846	2.04704	0.0605077	0.22472267	2.6794035	20	—	—
311656 2006 <i>RE</i> ₈₉	16.6	X	309.98736	320.79479	249.74149	2.14201	0.0948511	0.24644097	2.5195759	20	1 17.0	19.8
311657 2006 <i>RS</i> ₉₄	15.9	X	306.07722	3.01908	204.27981	13.92263	0.2303531	0.24385178	2.5373795	20	—	—
311658 2006 <i>RW</i> ₁₂₀	16.8	X	350.37040	214.41247	198.14499	2.87878	0.0436836	0.22087191	2.7104562	20	12 23.2	20.3
311659 2006 <i>SS</i> ₈	16.4	X	78.24331	88.64039	229.21923	10.15795	0.1879801	0.22321835	2.6914281	20	12 29.4	20.7
311660 2006 <i>SV</i> ₁₃	17.0	X	333.49953	257.43326	188.81989	5.45017	0.0410545	0.22605256	2.6688844	20	—	—
311661 2006 <i>SQ</i> ₁₅	17.1	X	26.43064	71.61344	339.47334	5.81434	0.1624722	0.22788335	2.6545709	20	—	—
311662 2006 <i>SX</i> ₁₅	16.6	X	317.50119	211.79236	204.71947	9.27852	0.2178025	0.21418397	2.7665896	20	11 6.0	19.1
311663 2006 <i>SK</i> ₂₇	16.3	X	329.03992	43.86724	333.22625	8.13051	0.1673675	0.21082503	2.7958977	20	9 30.4	19.2
311664 2006 <i>SS</i> ₂₈	17.3	X	15.90131	212.39506	217.61319	4.12513	0.2379195	0.23234962	2.6204432	20	—	—
311665 2006 <i>SM</i> ₃₃	16.7	X	46.70295	56.21544	323.48849	10.74986	0.1257365	0.22822861	2.6518930	20	—	—
311666 2006 <i>SG</i> ₃₅	16.9	X	349.97678	75.61797	348.96079	4.82157	0.1790287	0.22205620	2.7008105	20	—	—
311667 2006 <i>SU</i> ₃₅	16.0	X	99.45480	261.89636	29.01494	18.11057	0.1355338	0.22446395	2.6814620	20	12 11.5	20.5
311668 2006 <i>SM</i> ₃₉	16.5	X	350.67599	133.71484	292.53527	3.55175	0.1398305	0.22227125	2.6990682	20	—	—
311669 2006 <i>ST</i> ₃₉	17.2	X	356.42459	43.04833	48.94603	3.01740	0.1763677	0.22998659	2.6383619	20	—	—
311670 2006 <i>SM</i> ₄₆	16.6	X	67.19160	32.28817	348.85585	14.24457	0.0980874	0.23309352	2.6148649	20	—	—
311671 2006 <i>SC</i> ₄₈	16.8	X	348.26210	29.29159	148.00378	1.89764	0.0623536	0.24761711	2.5115912	20	1 31.2	19.9
311672 2006 <i>SJ</i> ₅₁	16.8	X	67.56641	280.52174	102.51380	5.69263	0.1382388	0.23314183	2.6145036	20	—	—
311673 2006 <i>SJ</i> ₅₃	16.3	X	99.34677	39.76173								

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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>
311681 2006 SV ₇₇	16.6	X	42.19828	301.89814	51.61751	5.61500	0.0394666	0.22026406	2.7154405	20	12 15.5	20.3
311682 2006 SB ₇₉	16.2	X	137.10134	65.59711	289.45822	13.95891	0.1551338	0.24231596	2.5480896	20	1 15.9	19.8
311683 2006 SY ₈₂	16.6	X	355.53838	272.29367	119.25123	1.45992	0.0992394	0.21827207	2.7319365	20	12 8.6	19.7
311684 2006 SN ₉₁	17.3	X	336.81934	242.02617	204.49198	6.80136	0.1509866	0.22164336	2.7041632	20	—	—
311685 2006 SD ₉₄	17.0	X	15.09490	267.49993	64.15604	1.40958	0.0754113	0.21010736	2.8022608	20	10 15.7	20.5
311686 2006 SJ ₉₅	17.2	X	14.61342	244.18838	194.03013	4.00489	0.0533046	0.22921770	2.6442587	20	—	—
311687 2006 SR ₁₀₂	17.8	X	308.99641	62.51490	6.67433	3.90152	0.1933951	0.21463866	2.7626810	20	11 5.2	20.6
311688 2006 SF ₁₁₃	16.8	X	5.09135	277.17966	183.35161	3.01287	0.2445086	0.23275036	2.6174344	20	—	—
311689 2006 SC ₁₁₇	16.9	X	359.82715	238.73598	197.99185	4.84403	0.1508802	0.22484276	2.6784494	20	—	—
311690 2006 SO ₁₁₉	16.2	X	11.38255	286.35490	76.81772	4.41642	0.2076351	0.21762952	2.7373112	20	12 10.6	19.3
311691 2006 SV ₁₁₉	15.8	X	15.48811	341.27683	32.15459	16.74234	0.1452745	0.21986899	2.7186924	20	12 19.4	19.5
311692 2006 SD ₁₂₀	16.6	X	13.54767	217.15127	146.89362	8.15192	0.2059803	0.21787401	2.7352631	20	12 15.6	20.0
311693 2006 SO ₁₂₀	16.7	X	12.62983	264.02281	135.13841	9.82294	0.2572806	0.22199378	2.7013168	20	—	—
311694 2006 SN ₁₂₂	16.2	X	175.31926	15.23517	300.30027	12.54037	0.1835998	0.24088506	2.5581704	20	1 9.4	20.3
311695 2006 SL ₁₃₀	16.2	X	310.77133	308.17789	107.56946	2.80317	0.2243083	0.21103110	2.7940773	20	10 19.1	18.6
311696 2006 SK ₁₄₁	16.3	X	1.01699	35.18910	78.76682	6.07587	0.0871986	0.23441867	2.6050011	20	—	—
311697 2006 SD ₁₄₂	17.3	X	62.83973	149.18761	267.10121	3.22752	0.1888806	0.24029857	2.5623311	20	—	—
311698 2006 SW ₁₄₂	17.0	X	309.02494	61.51298	355.01857	7.11000	0.2216707	0.21200414	2.7855213	20	10 13.1	19.6
311699 2006 SY ₁₄₂	16.7	X	205.75479	346.51547	240.94245	2.93529	0.0195081	0.22870979	2.6481721	20	—	—
311700 2006 SP ₁₄₈	16.6	X	281.74525	148.52073	359.59139	7.31593	0.2404209	0.22168266	2.7038436	20	12 30.7	19.3
311701 2006 SP ₁₅₈	17.0	X	67.34638	40.68288	36.33759	2.68718	0.0256924	0.24350832	2.5397649	20	1 13.8	20.1
311702 2006 SP ₁₈₉	16.9	X	59.83400	354.12058	29.14498	8.73572	0.0512939	0.23081228	2.6320660	20	—	—
311703 2006 SB ₁₉₃	16.3	X	281.23143	206.49008	20.29877	13.56819	0.0924221	0.24405133	2.5359962	20	1 5.6	20.1
311704 2006 SX ₁₉₆	16.1	X	97.98883	265.16276	129.72502	14.23633	0.0909132	0.23722077	2.5844467	20	1 9.9	19.5
311705 2006 SB ₁₉₈	16.5	X	60.60498	84.69768	306.81048	15.59805	0.2224666	0.22950894	2.6420213	20	—	—
311706 2006 SJ ₂₂₁	16.6	X	294.72028	334.00309	180.10244	5.01785	0.0551922	0.23353562	2.6115638	20	—	—
311707 2006 SG ₂₅₆	17.2	X	282.12174	157.81446	322.21398	2.99022	0.0684104	0.21969534	2.7201248	20	12 11.8	20.6
311708 2006 SS ₂₇₂	16.7	X	23.39819	305.05850	91.14059	4.54779	0.1199139	0.22521552	2.6754932	20	—	—
311709 2006 ST ₂₈₆	16.4	X	34.23447	153.13563	259.05740	12.86999	0.2434714	0.22947646	2.6422705	20	—	—
311710 2006 SH ₂₉₂	16.7	X	12.33769	86.92915	306.47184	4.54676	0.0343870	0.22454992	2.6807752	20	12 28.5	20.1
311711 2006 SN ₃₂₅	17.1	X	232.51318	355.96819	147.39506	1.11856	0.0140756	0.21503700	2.7592682	20	11 12.4	20.8
311712 2006 SF ₃₃₂	16.5	X	59.34354	83.39440	231.15271	5.57889	0.0589625	0.21403274	2.7678927	20	11 19.8	20.2
311713 2006 SL ₃₄₀	17.3	X	99.98108	274.60027	76.09082	3.04960	0.0638316	0.23264843	2.6181989	20	—	—
311714 2006 ST ₃₅₀	16.9	X	16.23982	2.43780	34.66037	5.42529	0.0861687	0.22595261	2.6696714	20	—	—
311715 2006 SS ₃₅₂	16.4	X	355.23270	110.45500	272.43454	3.97331	0.0847672	0.21641825	2.7475154	20	11 24.1	19.8
311716 2006 ST ₃₅₂	16.7	X	49.69556	6.83219	325.27287	4.35759	0.1641441	0.21965277	2.7204762	20	12 15.3	20.6
311717 2006 SJ ₃₅₆	16.8	X	28.84594	313.41086	57.94337	4.24726	0.1889882	0.22028571	2.7152626	20	—	—
311718 2006 SG ₃₅₉	16.2	X	24.47203	264.47821	66.59335	11.28284	0.3112660	0.21488796	2.7605439	20	12 3.4	19.7
311719 2006 SL ₃₅₉	16.2	X	50.20919	310.33940	61.54343	7.41819	0.1695406	0.22372581	2.6873567	20	—	—
311720 2006 SA ₃₆₄	17.1	X	3.59248	293.42664	124.94045	3.63880	0.1861159	0.22309382	2.6924296	20	—	—
311721 2006 ST ₃₆₇	16.1	X	56.14739	256.98858	79.03464	12.72813	0.2015410	0.22401587	2.6850365	20	—	—
311722 2006 SL ₃₆₈	16.9	X	4.66630	140.04867	222.01905	6.37481	0.1639370	0.21439878	2.7647414	20	11 21.2	20.0
311723 2006 SB ₃₇₄	16.8	X	46.07786	309.70874	51.18954	6.92076	0.0333731	0.22342548	2.6897644	20	12 30.0	20.4
311724 2006 SO ₃₇₇	16.2	X	29.28983	298.10764	78.61882	10.55166	0.1148583	0.22140314	2.7061189	20	—	—
311725 2006 SW ₃₇₈	16.7	X	326.72563	58.63618	103.02621	12.61607	0.2440654	0.23121493	2.6290093	20	—	—
311726 2006 SZ ₃₇₈	16.3	X	300.72035	29.66172	128.26483	12.54528	0.1564248	0.22631699	2.6668051	20	—	—
311727 2006 SY ₃₈₀	16.3	X	227.85287	62.34561	121.56186	14.25588	0.1402360	0.21704045	2.7422619	20	12 11.7	20.3
311728 2006 SK ₃₈₂	16.4	X	122.94694	234.03841	75.31953	14.41961	0.0987041	0.22735978	2.6586446	20	—	—
311729 2006 SJ ₃₉₀	16.8	X	330.66942	147.45625	258.97986	1.82656	0.1013011	0.21638881	2.7477646	20	11 17.9	19.7
311730 2006 SV ₃₉₂	16.4	X	17.26406	7.65927	29.81586	6.83355	0.0336896	0.22058200	2.7128305	20	—	—
311731 2006 SX ₃₉₃	16.8	X	314.62406	240.93600	257.06460	3.16790	0.1693657	0.22406670	2.6846304	20	—	—
311732 2006 SN ₃₉₆	17.3	X	321.64252	132.03871	48.20712	3.95094	0.0590468	0.24093832	2.5577934	20	—	—
311733 2006 SV ₄₀₂	17.0	X	291.37005	319.17781	194.71119	3.89039	0.0137839	0.22631491	2.6668215	20	—	—
311734 2006 SJ ₄₀₃	16.6	X	41.67777	300.49395	27.07147	3.74327	0.0668479	0.21202481	2.7853403	20	11 13.9	20.4
311735 2006 ST ₄₀₄	16.8	X	252.65131	42.81164	160.55471	3.54083	0.0782357	0.22732138	2.6589440	20	—	—
311736 2006 SP ₄₁₁	16.6	X	120.94815	81.83366	255.52173	13.81962	0.1623403	0.23484205	2.6018693	20	—	—
311737 2006 SQ ₄₁₂	15.8	X	8.51724	299.31879	81.06689	18.17629	0.1296600	0.21879321	2.7275967	20	12 17.1	18.9
311738 2006 SV ₄₁₂	16.2	X	346.45346	299.99448	100.76602	14.99007	0.2235353	0.21433270	2.7653096	20	12 19.3	18.8
311739 2006 TW ₇	17.0	X	58.30092	284.89463	139.91458	4.78914	0.0944052	0.23805791	2.5783842	20	—	—
311740 2006 TQ ₈	17.2	X	54.77182	213.25678	157.60156	1.14274	0.1646061	0.22455071	2.6807713	20	—	—
311741 2006 TK ₁₆	16.6	X	36.03561	326.44668	31.84395	6.08413	0.0307967	0.21895240	2.7262745	20	12 11.8	20.3
311742 2006 TJ ₁₇	16.0	X	146.91749	278.15511	39.30508	14.67424	0.0374448	0.23271468	2.6177020	20	—	—
311743 2006 TZ ₂₂	16.1	X	73.77265	289.87955	42.96411	12.93118	0.0885285	0.22077248	2.7112699	20	—	—
311744 2006 TF ₂₃	16.1	X	93.93782	276.67478	45.25678	14.64837	0.0881410	0.22275044	2.6951959	20	—	—
311745 2006 TO ₂₄	16.9	X	334.04795	154.42950	234.07296	2.96069	0.1030108	0.21188123	2.7865984	20	10 28.9	19.9
311746 2006 TT ₂₅	16.5	X	326.60942	86.96107	29.70764	11.72410	0.1469269	0.22380718	2.6867054	20	—	—
311747 2006 TZ ₂₉	16.6	X	254.94498	350.13416	158.93150	1.98407	0.1570004	0.21562571	2.7542437	20	11 27.9	20.0
311748 2006 TD ₃₄	16.6	X	54.98345	243.32066	76.82741	10.43810	0.2033123	0.21950186	2.7217230	20	12 11.4	20.5
311749 2006 TN ₄₈	16.9	X	274.24845	353.22889	200.89510	3.25570	0.1091163	0.22936279	2.6431435	20	—	—
311750 2006 TE ₅₉	17.2	X	348.85059	127.45100	308.96787	5.20400	0.0487321	0.21274966	2.7790101	20	11 15.2	20.8
311751 2006 TP ₆₈	17.0	X	355.70256	246.38287	176.34357	9.17287	0.2253356	0.22191168	2.7019830	20	—	—
311752 2006 TF ₇₀	16.0	X	358.75790	278.80721	96.01653	12.50819	0.1300052	0.21589636	2.7519413	20	11 26.7	19.3
311753 2006 TS ₇₁	16.7	X	354.12510	285.59810	143.86603	5.94313	0.1897648	0.22225125	2.6992301	20	—	—
311754 2006 TA ₇₇	16.2	X	314.84315	141.23342	289.55373	7.63485	0.2655550	0.21266509	2.7797469	20	11 14.7	18.6
311755 2006 TP ₈₁	16.											

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>
311761 2006 <i>TO</i> ₉₉	16.7	X	175.04414	195.72756	40.60416	5.69663	0.1043900	0.22275635	2.6951482	20	12 21.4	20.8
311762 2006 <i>TC</i> ₁₀₂	16.9	X	305.28437	74.44701	30.00395	5.27562	0.0731130	0.21845058	2.7304480	20	12 25.5	20.3
311763 2006 <i>TV</i> ₁₀₃	16.9	X	282.59449	252.71019	199.33706	3.00578	0.0616310	0.21163133	2.7887917	20	11 5.7	20.5
311764 2006 <i>TW</i> ₁₀₉	16.8	X	260.88352	53.62855	47.73160	5.40116	0.0789050	0.20899114	2.8122298	20	10 16.7	20.6
311765 2006 <i>TT</i> ₁₁₃	16.6	X	348.69895	295.29030	100.50436	8.97236	0.0703586	0.21613550	2.7499111	20	12 1.6	20.0
311766 2006 <i>TX</i> ₁₂₂	17.2	X	354.31710	55.48917	344.90301	11.11026	0.1831196	0.21684410	2.7439171	20	12 29.6	20.4
311767 2006 <i>TZ</i> ₁₂₂	17.3	X	297.60044	61.43028	55.00457	4.12555	0.1582202	0.21537641	2.7563686	20	12 23.2	20.2
311768 2006 <i>TB</i> ₁₂₃	17.2	X	65.15071	198.75090	183.86830	2.32671	0.0849173	0.22656964	2.6648222	20	—	—
311769 2006 <i>TJ</i> ₁₂₈	16.8	X	17.49639	282.05552	138.89270	5.46406	0.1129880	0.22656694	2.6648434	20	—	—
311770 2006 <i>UB</i> ₃	16.1	X	326.90877	356.65773	75.45377	6.07414	0.0985192	0.21595459	2.7514466	20	12 15.9	19.4
311771 2006 <i>UO</i> ₃	16.1	X	22.20497	265.69153	130.85282	9.87031	0.1068355	0.22187502	2.7022806	20	—	—
311772 2006 <i>UM</i> ₄	17.2	X	312.20231	267.11830	163.40637	3.11894	0.0536967	0.21615933	2.7497089	20	11 22.3	20.6
311773 2006 <i>UP</i> ₅	16.8	X	0.17049	206.30359	176.38200	4.89462	0.1208475	0.21564110	2.7541126	20	12 6.4	20.2
311774 2006 <i>UO</i> ₆	16.8	X	307.06684	307.80301	180.94026	5.33899	0.1149516	0.22272549	2.6953972	20	—	—
311775 2006 <i>UJ</i> ₁₈	17.5	X	28.12384	261.83526	174.41120	10.78790	0.1699324	0.23531893	2.5983529	20	—	—
311776 2006 <i>UU</i> ₂₁	17.0	X	290.30288	205.47353	226.56531	4.18817	0.1430082	0.21001141	2.8031142	20	10 9.9	20.2
311777 2006 <i>UJ</i> ₂₉	17.1	X	357.32233	138.04125	215.17584	3.68914	0.0854787	0.21036548	2.7999680	20	10 17.8	20.6
311778 2006 <i>UO</i> ₄₂	16.5	X	280.56800	35.79952	64.10149	4.63919	0.0588399	0.21145424	2.7903485	20	11 13.2	20.1
311779 2006 <i>UP</i> ₄₂	16.9	X	332.02070	341.96951	50.83449	6.73982	0.1252475	0.20992407	2.8038916	20	11 1.4	19.9
311780 2006 <i>UJ</i> ₄₄	16.5	X	67.40494	127.87913	220.65548	1.55851	0.0030306	0.21933607	2.7230943	20	—	—
311781 2006 <i>UH</i> ₅₂	16.4	X	246.47670	174.82032	71.41178	4.34334	0.1303164	0.23945796	2.5683243	20	—	—
311782 2006 <i>UJ</i> ₅₂	17.2	X	345.44937	179.20592	227.81794	2.67363	0.1940596	0.21800077	2.7342026	20	12 23.0	20.0
311783 2006 <i>UL</i> ₅₉	15.5	X	201.86983	128.73614	230.46114	14.49866	0.1362805	0.18086442	3.0967107	20	3 23.5	20.7
311784 2006 <i>UJ</i> ₆₁	16.5	X	18.24442	74.15467	319.60570	7.88028	0.2086226	0.22173637	2.7034070	20	—	—
311785 Erwanmazarico	16.6	X	341.46448	44.39652	313.97290	8.58574	0.2904812	0.21044326	2.7992780	20	10 2.4	18.8
311786 2006 <i>UW</i> ₆₂	16.8	X	346.26130	78.99928	289.94130	6.40611	0.2437497	0.21218904	2.7839029	20	10 31.6	19.3
311787 2006 <i>UJ</i> ₆₅	16.7	X	277.40409	299.36528	194.17117	10.91052	0.1285344	0.22009503	2.7168306	20	12 16.2	20.1
311788 2006 <i>UZ</i> ₆₆	17.8	X	290.64179	267.20204	191.74319	5.67850	0.2754108	0.21394027	2.7686901	20	10 31.4	20.4
311789 2006 <i>UK</i> ₇₃	16.3	X	54.93835	93.34050	277.17302	4.49005	0.0714713	0.22483295	2.6785273	20	—	—
311790 2006 <i>UL</i> ₇₃	17.4	X	118.75040	347.96893	323.24436	4.47714	0.0372317	0.22599671	2.6693241	20	—	—
311791 2006 <i>UE</i> ₇₄	16.5	X	115.84452	309.14208	3.37325	7.61150	0.1876698	0.22901375	2.6458284	20	—	—
311792 2006 <i>UK</i> ₇₄	16.3	X	300.41264	111.90725	15.74952	13.97944	0.0389397	0.22401405	2.6850510	20	—	—
311793 2006 <i>UJ</i> ₇₈	16.7	X	34.53892	4.95649	17.70246	6.58874	0.0468486	0.22232549	2.6986292	20	—	—
311794 2006 <i>UJ</i> ₈₅	17.0	X	325.43909	9.49805	41.29209	4.06911	0.0896229	0.21014601	2.8019171	20	11 13.2	20.3
311795 2006 <i>UJ</i> ₈₆	16.7	X	287.84872	56.69593	30.85749	3.89436	0.0657630	0.21007038	2.8025895	20	11 5.6	20.3
311796 2006 <i>UO</i> ₉₃	16.9	X	320.33183	351.20651	52.65200	7.17389	0.0348086	0.21098847	2.7944536	20	10 29.8	20.4
311797 2006 <i>UJ</i> ₁₀₄	17.0	X	42.10076	225.81002	136.18936	2.61530	0.2276521	0.22034512	2.7147745	20	—	—
311798 2006 <i>UD</i> ₁₁₈	16.8	X	51.22956	268.69323	52.96480	0.54017	0.0538252	0.21493161	2.7601702	20	11 17.9	20.3
311799 2006 <i>UK</i> ₁₂₄	16.6	X	61.60679	88.07103	306.27477	11.80049	0.2107810	0.23072927	2.6326973	20	—	—
311800 2006 <i>US</i> ₁₂₅	17.0	X	271.65494	133.38250	326.13634	3.56089	0.0247617	0.21227852	2.7831205	20	11 3.0	20.8
311801 2006 <i>UM</i> ₁₃₇	16.0	X	11.19232	175.48970	239.37480	14.06541	0.1738890	0.22113174	2.7083325	20	—	—
311802 2006 <i>UZ</i> ₁₃₇	16.4	X	147.08918	351.68756	311.25295	4.78322	0.0360147	0.22720738	2.6598334	20	—	—
311803 2006 <i>UC</i> ₁₄₀	16.2	X	40.12057	65.65026	248.22989	11.48190	0.1475016	0.21007310	2.8025654	20	11 5.3	20.0
311804 2006 <i>UC</i> ₁₄₄	16.4	X	284.42474	104.23464	359.13235	3.14119	0.0527085	0.21161909	2.7888993	20	11 22.5	20.0
311805 2006 <i>UF</i> ₁₄₉	17.2	X	321.29559	19.39929	54.09542	3.10586	0.0652248	0.21666769	2.7454062	20	12 8.4	20.4
311806 2006 <i>UT</i> ₁₆₇	17.4	X	39.19103	294.51753	105.22534	3.31334	0.0590269	0.22691361	2.6621285	20	—	—
311807 2006 <i>UL</i> ₁₇₉	16.9	X	330.73332	244.79264	189.85750	12.54613	0.2015005	0.21670647	2.7450787	20	12 31.3	19.8
311808 2006 <i>UO</i> ₁₈₀	16.4	X	86.69327	231.93206	103.73709	7.75718	0.1261472	0.22537896	2.6741995	20	—	—
311809 2006 <i>UO</i> ₁₈₈	16.5	X	119.77640	73.42290	289.71601	10.81083	0.0635992	0.23747377	2.5826107	20	—	—
311810 2006 <i>UV</i> ₁₉₄	16.9	X	344.67182	186.84030	209.58836	7.52751	0.1179211	0.21499601	2.7596189	20	11 29.1	20.0
311811 2006 <i>UM</i> ₁₉₆	16.3	X	27.22474	324.65373	39.45654	13.94715	0.1198578	0.21708763	2.7418646	20	12 19.6	20.1
311812 2006 <i>UT</i> ₂₀₃	15.4	X	214.10124	114.22407	228.98893	21.14555	0.1247229	0.18035524	3.1025363	20	3 14.3	20.7
311813 2006 <i>UC</i> ₂₀₇	16.4	X	324.05318	60.69398	37.98566	10.39924	0.0994617	0.22158409	2.7044654	20	—	—
311814 2006 <i>UT</i> ₂₀₈	16.0	X	342.40346	41.25753	44.76156	13.00250	0.0675778	0.22222211	2.6994660	20	—	—
311815 2006 <i>UV</i> ₂₀₉	16.0	X	335.80882	192.87122	246.93534	11.90681	0.0869997	0.21862661	2.7289822	20	—	—
311816 2006 <i>UH</i> ₂₁₂	16.8	X	63.61028	111.62416	265.21010	5.76732	0.0414555	0.22393764	2.6856618	20	—	—
311817 2006 <i>UT</i> ₂₁₃	16.7	X	80.75461	31.63667	310.07978	2.54819	0.0894995	0.22165577	2.7040623	20	—	—
311818 2006 <i>UZ</i> ₂₁₈	16.2	X	315.10671	10.03046	61.98567	6.82584	0.0820287	0.21783957	2.7355513	20	11 27.4	19.2
311819 2006 <i>UY</i> ₂₄₇	16.6	X	7.92886	312.49131	31.23199	13.76025	0.0693103	0.21006552	2.8026328	20	10 20.6	20.0
311820 2006 <i>UM</i> ₂₅₃	16.7	X	25.58929	295.00053	44.67814	4.68851	0.1085112	0.21259369	2.7803692	20	11 14.5	20.3
311821 2006 <i>UB</i> ₂₆₄	16.9	X	298.06555	240.07741	239.56702	3.29414	0.1042877	0.22148806	2.7054271	20	—	—
311822 2006 <i>UR</i> ₂₆₅	15.8	X	251.38152	257.09432	246.88222	11.75161	0.1530000	0.21334234	2.7738609	20	11 15.7	19.6
311823 2006 <i>UR</i> ₂₆₆	16.3	X	151.22337	184.32778	58.93680	5.39185	0.0634809	0.21721855	2.7407628	20	12 5.8	20.4
311824 2006 <i>UY</i> ₂₇₆	17.2	X	138.24445	291.76469	6.49036	4.54898	0.0647655	0.22726231	2.6594048	20	—	—
311825 2006 <i>UA</i> ₂₈₆	16.3	X	35.35947	278.17927	55.59664	7.33418	0.0401216	0.21137843	2.7910156	20	11 10.7	19.9
311826 2006 <i>UX</i> ₃₃₁	17.2	X	353.45571	343.60942	86.36077	2.83546	0.1425718	0.22435819	2.6823046	20	—	—
311827 2006 <i>UL</i> ₃₃₇	15.4	X	264.20618	259.32104	94.08325	16.46935	0.2218642	0.18192890	3.0846194	20	5 16.1	20.3
311828 2006 <i>UR</i> ₃₄₆	16.6	X	344.56881	115.87985	287.81979	11.89681	0.2052967	0.21512538	2.7585124	20	12 17.4	19.3
311829 2006 <i>VG</i> ₃	16.6	X	25.39534	132.23024	225.02294	5.67391	0.0735262	0.21606575	2.7505028	20	12 3.0	20.2
311830 2006 <i>VX</i> ₁₀	16.5	X	258.74735	50.87502	65.09406	4.83791	0.0533879	0.20945877	2.8080426	20	11 4.9	20.3
311831 2006 <i>VS</i> ₁₃	16.9	X	336.11403	137.13312	247.56453	2.98004	0.1097021	0.20997120	2.8034721	20	10 26.5	20.2
311832 2006 <i>VK</i> ₁₈	16.5	X	133.62302	352.90009	247.59797	7.4195						

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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>
311841 2006 VB ₆₄	16.5	X	262.82906	61.44509	76.82339	5.82960	0.0591949	0.21253933	2.7808433	20	12 7.7	19.9
311842 2006 VC ₆₉	16.7	X	12.71837	111.17746	258.05653	6.56552	0.3032320	0.21553066	2.7550533	20	—	—
311843 2006 VQ ₆₉	16.0	X	301.03818	5.75460	83.34690	5.72893	0.0485001	0.21061362	2.7977683	20	11 28.8	19.4
311844 2006 VE ₇₀	16.0	X	72.39932	262.02766	70.34491	13.88891	0.2119946	0.21874490	2.7279983	20	—	—
311845 2006 VY ₇₉	16.6	X	243.52297	110.29606	86.83963	6.41177	0.0072915	0.22268201	2.6957480	20	—	—
311846 2006 VA ₈₅	17.0	X	4.16805	73.05958	317.60315	3.57313	0.0763479	0.21379379	2.7699546	20	12 15.9	20.6
311847 2006 VU ₉₄	17.5	X	150.34459	304.10760	90.56374	24.55763	0.1033837	0.38486294	1.8718253	20	3 14.5	20.4
311848 2006 VN ₉₅	16.8	X	303.86886	240.33326	201.14795	3.91034	0.0435670	0.21247411	2.7814123	20	11 23.8	20.4
311849 2006 VU ₁₀₁	16.8	X	336.18920	199.56369	244.02781	3.88947	0.1293993	0.21882548	2.7273285	20	—	—
311850 2006 VU ₁₀₈	17.4	X	304.48245	82.21929	31.30602	4.96929	0.1233492	0.21598756	2.7511666	20	—	—
311851 2006 VG ₁₃₈	16.6	X	350.33981	327.79699	77.81963	4.45557	0.0916228	0.21362866	2.7713819	20	12 16.7	20.0
311852 2006 VU ₁₅₁	15.8	X	233.86058	98.09897	266.29606	12.20445	0.0793701	0.18417346	3.0595063	20	5 5.8	20.5
311853 2006 VD ₁₅₃	16.3	X	15.44172	284.98346	100.56221	12.85256	0.1237774	0.21932215	2.7232095	20	—	—
311854 2006 VS ₁₅₃	16.6	X	7.74024	267.47251	122.86439	5.67539	0.1277507	0.21773503	2.7364268	20	12 28.6	19.9
311855 2006 WE ₇	16.4	X	289.62859	317.24515	94.20399	6.77104	0.0546248	0.20292999	2.8679521	20	9 26.1	20.2
311856 2006 WL ₈	16.7	X	31.31283	304.08936	77.40530	7.25806	0.0361967	0.21652631	2.7466012	20	—	—
311857 2006 WQ ₁₀	16.2	X	352.48211	285.16334	132.73640	15.14899	0.1761735	0.21740144	2.7392254	20	—	—
311858 2006 WD ₁₉	16.7	X	264.62640	46.88496	64.17624	5.11222	0.0608910	0.20932121	2.8092726	20	11 5.4	20.5
311859 2006 WB ₂₁	16.9	X	352.54386	318.30299	111.52645	4.66127	0.1829313	0.21773286	2.7364451	20	—	—
311860 2006 WJ ₂₆	16.1	X	65.47658	106.78126	250.42680	12.78340	0.0855123	0.22050034	2.7135003	20	—	—
311861 2006 WP ₃₀	17.5	X	339.45169	212.69379	233.00640	0.92952	0.0477216	0.21970638	2.7200336	20	—	—
311862 2006 WR ₃₈	16.4	X	356.16391	211.18547	122.77096	2.75096	0.0604712	0.20082594	2.8879489	20	9 18.3	19.9
311863 2006 WR ₃₉	16.8	X	282.80225	307.71847	108.12209	3.35040	0.0923777	0.20123634	2.8840211	20	9 14.7	20.5
311864 2006 WY ₄₄	17.1	X	118.64592	142.03179	126.04081	0.51938	0.0319001	0.21351210	2.7723904	20	11 29.1	20.9
311865 2006 WZ ₆₉	16.6	X	298.28183	195.86772	237.91703	3.91785	0.1412368	0.21199249	2.7856233	20	10 26.8	19.8
311866 2006 WN ₇₁	17.0	X	127.82474	302.77366	16.57113	2.97314	0.0668394	0.22611295	2.6684092	20	—	—
311867 2006 WO ₇₁	17.0	X	39.59866	129.98079	254.42676	4.36786	0.0722395	0.22084813	2.7106508	20	—	—
311868 2006 WA ₇₉	16.3	X	13.60051	42.49582	262.24621	9.10893	0.1679534	0.20072292	2.8889370	20	9 10.5	19.8
311869 2006 WP ₉₀	16.6	X	343.49218	82.42162	38.72901	12.08188	0.1547192	0.22948387	2.6422137	20	—	—
311870 2006 WN ₉₅	16.2	X	210.80963	113.99951	74.43226	9.15284	0.2192593	0.21076981	2.7963859	20	11 18.0	20.5
311871 2006 WV ₉₅	16.4	X	58.23346	262.98043	77.90790	6.63709	0.0766343	0.21633449	2.7482245	20	12 23.8	20.3
311872 2006 WN ₉₈	16.6	X	274.23543	278.30133	218.03039	2.88578	0.0313056	0.21504822	2.7591723	20	12 24.3	20.3
311873 2006 WV ₉₈	16.1	X	109.36179	173.91840	70.53339	7.56499	0.0544622	0.20461068	2.8522254	20	10 22.8	20.2
311874 2006 WS ₁₀₉	17.0	X	267.81794	215.02583	194.07039	1.50129	0.0801413	0.19552765	2.9398867	20	8 14.9	21.0
311875 2006 WV ₁₃₁	16.5	X	260.04649	95.36601	80.82745	15.88707	0.2526364	0.21525923	2.7573689	20	12 24.3	19.8
311876 2006 WF ₁₃₅	16.0	X	262.74620	267.48189	252.14232	9.96962	0.2941275	0.21084436	2.7957268	20	11 29.3	19.3
311877 2006 WA ₁₃₇	16.5	X	290.76885	39.68043	77.66730	10.98104	0.1826543	0.21594159	2.7515570	20	12 9.6	19.2
311878 2006 WH ₁₄₃	16.8	X	177.52388	163.05688	102.05607	3.01089	0.0207458	0.22237432	2.6982341	20	—	—
311879 2006 WS ₁₅₀	15.9	X	63.85826	230.70469	85.74064	9.85273	0.0702999	0.20872579	2.8146127	20	11 28.9	19.8
311880 2006 WH ₁₅₃	16.3	X	335.91200	210.41712	291.75351	8.63012	0.2054282	0.21952936	2.7214956	20	—	—
311881 2006 WK ₁₈₅	17.3	X	64.88408	231.74007	245.74972	19.15821	0.0811604	0.38571034	1.8690828	20	2 3.6	19.2
311882 2006 WK ₁₉₂	16.6	X	282.39242	215.54619	205.02067	1.34238	0.0495858	0.20191989	2.8775088	20	9 24.3	20.4
311883 2006 WH ₂₀₄	15.5	X	239.06596	233.16668	140.76134	9.56685	0.0186898	0.17367529	3.1815886	20	6 3.6	20.1
311884 2006 WB ₂₀₆	15.8	X	17.62754	341.69918	302.16490	16.95853	0.0813281	0.18287034	3.0740236	20	8 9.7	19.7
311885 2006 XH ₁₈	15.9	X	239.35282	313.86715	90.21895	10.80276	0.1051948	0.18445887	3.0563495	20	6 30.3	20.3
311886 2006 XF ₂₄	15.6	X	145.82249	172.91831	254.44280	14.32913	0.1486143	0.17340837	3.1848526	20	4 24.2	20.8
311887 2006 XZ ₃₃	16.2	X	0.42762	226.61115	276.60854	8.93905	0.0611590	0.23099766	2.6306576	20	1 6.9	19.4
311888 2006 XO ₃₅	15.8	X	95.32010	206.11464	103.93026	8.89318	0.0405744	0.20952760	2.8074275	20	12 23.4	19.8
311889 2006 XP ₃₅	15.8	X	248.52633	141.42568	268.75671	7.68487	0.1195254	0.18856828	3.0117826	20	7 16.2	20.2
311890 2006 XS ₄₂	15.7	X	129.32359	255.23969	286.88138	8.94150	0.0401490	0.18721685	3.0262590	20	8 19.4	20.1
311891 2006 XW ₅₀	15.5	X	87.31267	77.49773	113.82465	12.15674	0.1121736	0.17803013	3.1294910	20	7 23.5	19.9
311892 2006 XB ₅₅	16.4	X	267.80793	32.66112	52.86653	5.70531	0.2014433	0.19970180	2.8987765	20	9 16.9	20.3
311893 2006 XB ₅₈	15.6	X	230.65384	314.05175	92.98725	18.84654	0.1635048	0.18494792	3.0509593	20	6 19.2	20.5
311894 2006 XL ₇₀	16.2	X	286.59607	67.52040	287.79174	8.56161	0.0808389	0.18445829	3.0563537	20	6 30.5	20.2
311895 2006 YG ₅	17.0	X	292.53112	1.34942	92.40908	5.51099	0.1786693	0.20975267	2.8054189	20	11 10.5	20.0
311896 2006 YC ₉	16.3	X	275.22561	112.18213	309.86838	10.09458	0.0601068	0.19255230	2.9700943	20	9 9.7	20.4
311897 2006 YM ₁₉	15.3	X	181.73940	96.04852	276.70319	12.04269	0.0782709	0.17126238	3.2114024	20	3 18.5	20.5
311898 2006 YN ₂₃	16.8	X	323.55104	353.42410	45.31162	2.80263	0.0664605	0.20167848	2.8798045	20	10 24.3	20.4
311899 2006 YP ₄₃	16.4	X	199.07445	33.79029	105.92824	9.91183	0.1460300	0.19174777	2.9783964	20	9 16.5	21.2
311900 2006 YR ₄₆	15.5	X	172.79616	248.34946	283.07591	11.21034	0.1775962	0.18998237	2.9968190	20	9 19.0	20.7
311901 2006 YM ₄₈	16.1	X	115.14257	267.67270	302.94617	11.00524	0.1147658	0.18761360	3.0219910	20	9 12.2	20.9
311902 2006 YY ₅₂	16.1	X	252.27985	328.03776	119.00272	12.26625	0.0090422	0.19375194	2.9578218	20	9 28.9	20.4
311903 2006 YP ₅₃	16.6	X	171.76900	8.20209	172.19369	1.22017	0.1674023	0.19257153	2.9698966	20	10 5.5	21.5
311904 2007 AD ₄	16.4	X	323.10720	134.45579	327.96620	7.17219	0.1904999	0.21169193	2.7882594	20	—	—
311905 2007 AQ ₇	15.6	X	72.29276	76.90414	121.69276	16.52173	0.2048141	0.17500769	3.1654196	20	7 27.3	20.1
311906 2007 AJ ₈	17.2	X	274.75002	188.27431	238.12754	1.54066	0.1778209	0.19599242	2.9352372	20	8 31.9	21.0
311907 2007 AH ₉	15.7	X	82.45403	164.26302	33.21385	6.40759	0.1222022	0.17800815	3.1297486	20	7 28.7	20.3
311908 2007 AZ ₁₀	15.1	X	159.26219	353.01589	126.36251	28.93516	0.1125130	0.17865457	3.1221946	20	7 11.7	20.1
311909 2007 AN ₁₂	17.2	X	53.46599	102.60793	304.59221	17.99964	0.0889079	0.36548936	1.9374012	20	—	—
311910 2007 AB ₁₈	15.7	X	251.78246	288.23012	101.32061	11.25502	0.1936149	0.18556952	3.0441423	20	6 15.9	20.4
311911 2007 AU ₁₈	16.1	X	187.43420	72.50309	86.03436	10.75887	0.1917018	0.19169273	2.9789665	20	9 27.4	21.2
311912 2007 BF ₃	15.9	X	256.88340	147.73941	187.20232	8.06787	0.0505934	0.19248382	2.9707988	20	9 3.7	20.2
311913 2007 BY ₁₀	16.0	X	210.32654	263.75316	116.77860	16.90109	0.2636167	0.17395519	3.1781748	20	5 2.1	21.8
311914 2007 BW ₁₁	15.5	X	11.055									

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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>
311921 2007 BU ₃₆	15.5	X	82.61338	87.07066	117.55602	17.30586	0.0551404	0.17997192	3.1069401	20	7 26.7	19.9
311922 2007 BU ₄₅	15.6	X	32.20412	153.81983	124.65281	12.68388	0.0348034	0.18092326	3.0960392	20	8 23.4	19.8
311923 2007 BW ₄₆	16.7	X	199.90527	119.80050	31.71907	2.42912	0.2584299	0.19128327	2.9832162	20	9 20.8	21.7
311924 2007 BW ₅₈	15.3	X	131.72061	209.74915	320.52609	11.37007	0.1338509	0.17899687	3.1182129	20	8 15.8	20.2
311925 2007 BF ₇₂	19.7	X	47.42357	303.75161	49.39619	4.10405	0.2155162	0.57469909	1.4327675	20	—	—
311926 2007 BY ₇₂	15.7	X	167.02052	101.52316	73.93656	11.80916	0.0559560	0.19109233	2.9852031	20	10 3.5	20.3
311927 2007 BC ₇₃	15.8	X	167.13544	59.49892	79.57193	27.43965	0.3584060	0.18051013	3.1007613	20	8 18.6	22.0
311928 2007 BZ ₇₅	16.2	X	214.32539	111.46802	323.44724	6.04023	0.1424442	0.17889238	3.1194269	20	7 9.5	21.2
311929 2007 CH ₇	16.1	X	206.42549	344.01355	104.22137	8.10965	0.0688604	0.18399665	3.0614660	20	7 23.1	20.6
311930 2007 CL ₈	15.8	X	59.49020	295.23696	315.46412	10.36066	0.0278150	0.18606392	3.0387475	20	8 20.2	19.9
311931 2007 CT ₁₂	15.7	X	285.66171	34.47495	320.05987	10.51653	0.0829224	0.17904728	3.1176276	20	6 28.5	20.1
311932 2007 CD ₁₉	16.0	X	189.91175	101.20498	313.49295	12.14146	0.2484993	0.17447884	3.1718127	20	5 17.7	21.8
311933 2007 CN ₂₇	16.2	X	163.10268	214.21360	311.14255	7.39414	0.0753976	0.18771056	3.0209503	20	9 7.3	20.9
311934 2007 CE ₂₉	15.8	X	46.74313	95.91798	127.78763	10.91262	0.0684447	0.17563107	3.1579251	20	7 4.9	20.1
311935 2007 CU ₂₉	15.9	X	206.18730	274.47938	137.35784	4.83617	0.1356384	0.17649926	3.1475608	20	6 3.6	20.9
311936 2007 CN ₃₃	15.6	X	254.92583	199.34002	140.06114	9.48783	0.0193072	0.16833451	3.2485330	20	5 12.2	20.3
311937 2007 CF ₃₆	15.0	X	37.33362	287.33074	338.70810	20.87511	0.1504921	0.17768763	3.1335112	20	8 23.7	19.1
311938 2007 CH ₃₈	16.0	X	43.71681	150.80032	143.27542	6.70684	0.0441668	0.18944568	3.0024762	20	9 30.5	20.1
311939 2007 CE ₄₄	16.4	X	179.84458	305.29759	170.88323	6.64290	0.1319306	0.18242505	3.0790239	20	7 25.8	21.4
311940 2007 CW ₄₅	16.1	X	259.50642	137.51917	305.31203	9.31124	0.0589225	0.19099058	2.9862632	20	9 15.8	20.4
311941 2007 CK ₄₆	15.9	X	97.41055	269.29135	322.99264	5.73636	0.1651569	0.18389792	3.0625616	20	9 27.6	20.8
311942 2007 CG ₄₇	15.4	X	124.62607	207.06581	277.66873	4.50106	0.1038162	0.16943917	3.2343984	20	6 10.7	20.1
311943 2007 CU ₄₈	15.6	X	252.96079	74.38119	298.09755	8.01678	0.0703930	0.17466570	3.1695502	20	6 10.2	20.2
311944 2007 CF ₅₈	15.6	X	148.25934	2.94918	115.19666	18.71188	0.1571959	0.17448111	3.1717852	20	6 30.6	20.7
311945 2007 CF ₅₉	15.1	X	48.18923	293.38007	300.34893	14.25575	0.0527755	0.17489450	3.1667853	20	7 18.5	19.4
311946 2007 CR ₆₁	17.4	X	174.30452	8.36468	347.87367	20.66267	0.0915844	0.37749732	1.8960952	20	2 11.1	19.7
311947 2007 CE ₆₂	16.7	X	231.17231	251.64178	206.03107	3.50258	0.2244658	0.18896331	3.0075838	20	8 14.1	21.5
311948 2007 CP ₇₉	16.4	X	150.57645	262.94647	247.29388	1.31799	0.1334461	0.17828623	3.1264934	20	8 9.2	21.2
311949 2007 DE	16.2	X	178.05998	252.11815	234.32095	5.57342	0.2901566	0.18289940	3.0736980	20	8 2.6	21.8
311950 2007 DN	16.2	X	213.53761	295.41589	127.08961	12.98806	0.0235224	0.17779688	3.1322275	20	7 1.9	20.7
311951 2007 DY ₆	17.0	X	246.10769	171.16112	128.41500	24.56552	0.0774335	0.37732562	1.8966703	20	2 10.9	19.2
311952 2007 DX ₁₂	15.5	X	62.62572	301.48450	304.02338	7.91458	0.1001009	0.17909176	3.1171113	20	8 26.5	19.9
311953 2007 DO ₁₃	16.3	X	256.91241	248.43176	135.09703	3.03568	0.2404337	0.18619550	3.0373157	20	6 8.2	21.1
311954 2007 DO ₁₈	16.1	X	209.76846	70.72856	341.18855	10.46975	0.0608138	0.17140934	3.2095667	20	6 9.9	21.1
311955 2007 DT ₂₈	15.7	X	1.30378	149.02605	153.65443	9.43312	0.0569890	0.17611841	3.1520968	20	8 10.0	19.7
311956 2007 DN ₃₄	15.8	X	181.57265	95.98096	353.31334	12.47230	0.0900106	0.17160432	3.2071350	20	6 26.6	21.0
311957 2007 DQ ₄₂	16.6	X	356.48709	18.86854	102.06656	10.14185	0.1585095	0.22624945	2.6673358	20	—	—
311958 2007 DD ₄₇	15.8	X	188.88949	134.92975	331.39793	10.84054	0.0320509	0.17824829	3.1269370	20	7 29.2	20.4
311959 2007 DE ₅₄	16.8	X	156.73990	5.82527	142.25934	3.91928	0.1900713	0.18360308	3.0658394	20	8 14.1	21.9
311960 2007 DC ₅₉	15.8	X	250.12860	104.07049	327.78648	10.02584	0.0251648	0.18448403	3.0560717	20	8 28.0	20.2
311961 2007 DK ₆₁	17.2	X	78.63056	34.13140	21.78661	21.04349	0.0952659	0.36892483	1.9253549	20	—	—
311962 2007 DT ₇₀	16.7	X	175.93587	3.02178	132.41401	3.01197	0.1217704	0.18048929	3.1009999	20	8 16.1	21.6
311963 2007 DC ₇₇	16.7	X	161.45252	116.07840	53.50194	1.84661	0.2323846	0.18416412	3.0596098	20	9 13.5	22.0
311964 2007 DJ ₈₉	15.9	X	215.47751	63.94037	348.72908	15.59445	0.1525290	0.17560339	3.1582569	20	6 5.9	21.5
311965 2007 DP ₈₉	15.9	X	140.66721	175.81506	335.30814	5.75772	0.0874310	0.17738992	3.1370162	20	7 30.8	20.6
311966 2007 DG ₉₇	15.8	X	153.01336	134.38736	355.14412	16.74399	0.1712410	0.17315465	3.1879630	20	7 23.9	21.3
311967 2007 EB	15.5	X	172.99110	257.07441	267.64064	10.15457	0.3143751	0.18465255	3.0542120	20	9 9.3	21.3
311968 2007 EQ ₆	16.0	X	56.99626	61.14479	167.08551	11.45940	0.0206251	0.17348469	3.1839185	20	7 16.9	20.6
311969 2007 ED ₁₉	18.2	X	51.69902	71.79522	351.81046	19.95291	0.0886996	0.36356553	1.9442297	20	—	—
311970 2007 EL ₃₅	15.3	X	114.09861	73.74298	121.57394	6.39756	0.1258407	0.17570226	3.1570720	20	8 29.8	20.1
311971 2007 EF ₃₉	15.1	X	132.06436	247.63428	307.00207	11.47987	0.1121425	0.18102840	3.0948403	20	9 9.3	20.0
311972 2007 EU ₄₄	17.0	X	244.02838	68.41593	356.79807	1.96656	0.3018399	0.18681450	3.0306027	20	7 11.1	21.9
311973 2007 EF ₅₂	15.7	X	140.11621	168.31851	339.76579	9.99912	0.1595246	0.17484214	3.1674174	20	7 31.4	20.8
311974 2007 EY ₅₆	14.9	X	88.89683	140.70865	181.21253	11.69983	0.0983543	0.16870309	3.2437997	20	7 7.6	19.7
311975 2007 EL ₅₈	16.4	X	224.05375	77.48903	322.64303	12.23129	0.3121732	0.18045695	3.1013704	20	5 22.9	22.1
311976 2007 ED ₆₀	15.4	X	145.82442	129.15136	14.10666	5.34964	0.0932557	0.17270826	3.1934539	20	7 27.1	20.3
311977 2007 EV ₈₂	15.8	X	208.52766	117.64498	308.13522	5.11262	0.0133338	0.17531427	3.1617282	20	6 30.8	20.2
311978 2007 ET ₈₅	15.3	X	168.35598	40.18862	152.77888	10.20801	0.0500326	0.18411490	3.0601550	20	10 22.5	19.9
311979 2007 EC ₉₂	16.1	X	147.21396	355.32101	179.36241	5.60142	0.1248614	0.18307672	3.0717130	20	9 4.6	21.0
311980 2007 EV ₁₉₂	14.9	X	124.47119	287.60567	303.63945	24.26970	0.2542850	0.18344042	3.0676515	20	10 14.9	20.7
311981 2007 EQ ₁₉₉	15.6	X	197.74922	73.98047	42.48515	9.77742	0.0734904	0.18031610	3.1029853	20	8 21.5	20.4
311982 2007 ES ₂₀₀	15.2	X	174.25571	14.52112	123.87104	10.74119	0.0371660	0.17833875	3.1258795	20	8 20.6	19.7
311983 2007 EK ₂₀₁	14.8	X	132.39779	258.67124	292.56223	25.09175	0.1440993	0.17885124	3.1199053	20	8 29.3	20.2
311984 2007 EL ₂₁₁	15.7	X	99.50555	103.62443	104.77937	6.78314	0.1306256	0.17709695	3.1404749	20	9 1.1	20.4
311985 2007 EQ ₂₂₂	15.3	X	149.55374	94.05542	47.05860	17.00568	0.1355874	0.17353017	3.1833622	20	8 2.6	20.7
311986 2007 FV ₁₆	16.2	X	214.38846	291.43733	159.58536	9.43039	0.0072072	0.18062173	3.0994839	20	8 9.0	20.5
311987 2007 FJ ₃₈	17.4	X	46.92136	115.99452	17.83848	20.36212	0.1310543	0.37426053	1.9070117	20	2 26.4	19.0
311988 2007 GP ₄	15.8	X	144.94074	104.38833	47.49088	26.33907	0.2407078	0.17480325	3.1678872	20	8 22.7	21.8
311989 2007 GL ₁₂	15.8	X	104.47858	43.30455	154.27114	17.87878	0.1668426	0.17926733	3.1150758	20	8 25.2	20.6
311990 2007 GD ₃₂	15.2	X	150.86514	86.18237	62.46876	23.02342	0.1948078	0.17403580	3.1771934	20	8 18.0	20.9
311991 2007 HH ₅	17.3	X	314.54724	96.76134	97.14517	23.39037	0.0704970	0.36212585	1.9493793	20	—	—
311992 2007 HH ₈₉	15.8	X	167.78149	264.35084	221.16976	13.41223	0.2301945	0.17229075	3.1986109	20	7 23.0	21.5
311993 2007 KK ₂	17.6	X	288.94668	57.08014	109.35239	14.49424	0.0540147	0.35058726	1.9919203	20	—	—