

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>		
280001	2001	UH ₁₅₆	15.2	X	131.70343	123.82833	220.21645	15.45165	0.2249113	0.17254910	3.1954173	20	1 11.8	20.5
280002	2001	UT ₁₅₇	16.7	X	20.27624	308.02697	69.45349	3.73673	0.1860358	0.26494815	2.4008339	20	—	—
280003	2001	UF ₁₆₃	17.2	X	11.76836	186.48257	208.39676	1.91354	0.1848380	0.26541279	2.3980311	20	—	—
280004	2001	US ₁₇₁	15.0	X	95.26670	140.94485	211.88215	20.65901	0.0421861	0.16829556	3.2490342	20	—	—
280005	2001	UP ₁₇₂	17.1	X	28.93804	301.45360	76.55605	4.03270	0.1894288	0.26768935	2.3844158	20	—	—
280006	2001	US ₁₉₅	18.3	X	158.23519	176.85915	148.96385	2.59920	0.2651127	0.28301213	2.2975555	20	1 6.8	21.9
280007	2001	US ₂₀₁	15.8	X	68.64685	147.37609	238.75252	3.62224	0.1286603	0.16917770	3.2377301	20	—	—
280008	2001	UR ₂₂₄	17.2	X	140.80724	50.01902	259.15603	3.86271	0.1726615	0.27535799	2.3399375	20	—	—
280009	2001	VM ₆	17.0	X	344.69294	32.30141	5.22442	0.95776	0.0871876	0.26237266	2.4165196	20	12 11.4	19.6
280010	2001	VQ ₁₇	17.3	X	81.88958	343.81572	9.90316	2.47249	0.2197607	0.27273681	2.3549059	20	—	—
280011	2001	VY ₅₃	16.8	X	48.65710	133.99293	252.23361	5.07952	0.1645906	0.27082538	2.3659731	20	—	—
280012	2001	VR ₇₂	17.2	X	285.28592	218.87678	225.16184	5.70329	0.0974990	0.26104796	2.4246879	20	11 6.4	19.9
280013	2001	VM ₇₆	17.3	X	254.32184	204.80910	232.11369	19.08012	0.0953010	0.35879672	1.9614191	20	9 17.9	19.7
280014	2001	VK ₈₀	15.2	X	156.67071	107.57314	229.93558	10.83523	0.2826565	0.17787175	3.1313485	20	1 28.0	20.8
280015	2001	VO ₈₉	16.9	X	115.95644	239.09702	87.75847	3.97220	0.2203160	0.27427031	2.3461198	20	—	—
280016	2001	WZ ₁	17.9	X	55.10523	281.59982	63.46466	24.56994	0.1817348	0.37250750	1.9129900	20	—	—
280017	2001	WC ₂	14.8	X	61.80193	249.08032	238.75252	27.41903	0.3950890	0.22511727	2.6762715	20	6 14.3	18.2
280018	2001	WQ ₂	17.5	X	53.30989	109.64764	229.27995	19.97818	0.0728632	0.36974834	1.9224950	20	—	—
280019	2001	WD ₇	16.9	X	110.64169	102.12359	214.04742	5.56044	0.1513319	0.27031401	2.3689561	20	—	—
280020	2001	WE ₇	17.2	X	169.85883	36.37193	82.34888	3.81613	0.2549138	0.24360211	2.5391129	20	7 23.7	21.6
280021	2001	WG ₁₃	16.9	X	62.29842	270.79071	74.79129	5.10392	0.1521162	0.26763181	2.3847575	20	—	—
280022	2001	WP ₆₁	15.4	X	247.67876	51.37393	244.85382	8.21008	0.0734086	0.17957967	3.1114627	20	2 27.1	20.2
280023	2001	WH ₁₀₁	15.6	X	25.80500	131.85440	237.29412	8.98635	0.1114240	0.15779517	3.3916179	20	12 8.6	20.1
280024	2001	XP ₅	15.7	X	319.19576	302.89970	101.11347	19.58417	0.2078493	0.20565490	2.8425624	20	10 30.2	19.0
280025	2001	XA ₃₈	16.3	X	47.38302	10.78755	40.74885	11.84916	0.2186115	0.27143832	2.3624100	20	—	—
280026	2001	XA ₅₃	17.0	X	331.11380	331.58977	79.56250	8.11526	0.1053617	0.25979484	2.4324786	20	12 9.1	19.3
280027	2001	XL ₁₂₄	16.8	X	216.03136	67.76610	90.91408	7.58920	0.0536576	0.25844730	2.4409266	20	11 16.1	20.1
280028	2001	XO ₁₂₆	17.4	X	34.81573	206.81887	157.57150	1.42914	0.2033153	0.26526792	2.3989041	20	—	—
280029	2001	XW ₁₃₁	16.5	X	249.47045	213.90071	245.16303	4.09169	0.0422121	0.25414579	2.4683918	20	10 8.9	19.5
280030	2001	XS ₁₆₂	17.1	X	342.18823	303.46440	94.68504	2.58706	0.1897626	0.25973149	2.4328742	20	12 20.0	19.1
280031	2001	XY ₁₇₄	17.0	X	211.90979	296.45116	162.82815	0.63789	0.1532875	0.24531220	2.5272989	20	8 8.9	20.9
280032	2001	XT ₁₉₂	15.7	X	101.88522	271.08585	282.87312	6.59314	0.1438406	0.23879940	2.5730441	20	8 18.6	19.7
280033	2001	XU ₂₀₅	15.3	X	131.89366	193.15394	247.47812	16.35898	0.1903821	0.17957928	3.1114672	20	4 24.9	20.4
280034	2001	XC ₂₀₆	15.1	X	148.91977	247.33639	94.46087	15.06055	0.2923150	0.17441401	3.1725986	20	2 2.4	20.7
280035	2001	XP ₂₂₅	17.3	X	35.50035	323.66444	64.24563	3.30831	0.2377295	0.26795064	2.3828655	20	—	—
280036	2001	XV ₂₅₂	16.3	X	29.31511	82.16217	104.28557	13.30092	0.1122608	0.22913096	2.6449260	20	4 28.8	19.5
280037	2001	YE ₆₇	16.9	X	286.28645	343.25188	74.65648	9.14426	0.2384543	0.25272921	2.4776070	20	9 13.0	19.5
280038	2001	YH ₈₉	16.6	X	124.71587	204.93902	311.92024	3.65730	0.1296814	0.23731130	2.5837894	20	7 31.3	20.6
280039	2001	YQ ₁₃₀	17.2	X	58.49618	44.27303	55.65810	6.92880	0.2099477	0.27602309	2.3361771	20	2 16.9	19.1
280040	2001	YF ₁₃₈	15.9	X	99.83296	164.73681	18.13761	12.58931	0.2018713	0.23824538	2.5770315	20	8 16.1	20.1
280041	2001	YJ ₁₄₉	16.5	X	135.35045	16.81010	20.56498	5.95679	0.2513166	0.22914548	2.6448143	20	3 19.0	20.8
280042	2002	AB	16.2	X	129.06111	62.96921	64.56559	30.14866	0.3695402	0.23396490	2.6083683	20	7 5.8	21.4
280043	2002	AC ₃₇	16.1	X	154.78100	13.71274	118.72838	6.12416	0.2385194	0.24013712	2.5634795	20	7 28.4	20.6
280044	2002	AT ₅₄	16.5	X	108.56379	11.90149	195.67272	3.00685	0.0841856	0.24334125	2.5409272	20	9 9.3	20.0
280045	2002	AN ₆₁	16.5	X	102.02601	23.67156	159.58910	5.35648	0.1633990	0.23490056	2.6014372	20	8 8.2	20.5
280046	2002	AX ₈₄	16.2	X	143.01067	350.04210	174.57433	5.05631	0.1490668	0.24165015	2.5527679	20	8 24.8	20.2
280047	2002	AY ₁₂₃	16.6	X	165.80802	20.50476	116.22009	7.41321	0.1114401	0.23958353	2.5674269	20	8 12.9	20.4
280048	2002	AT ₁₃₁	17.1	X	341.67830	178.42431	284.15686	19.04794	0.0885780	0.37419236	1.9072433	20	—	—
280049	2002	AD ₁₃₆	16.8	X	190.21806	353.93472	134.74521	3.94282	0.0756060	0.24543248	2.5264732	20	8 30.9	20.2
280050	2002	AO ₁₅₄	16.7	X	176.34371	345.93477	126.48383	14.40751	0.1963023	0.23809174	2.5781400	20	7 20.6	20.9
280051	2002	BA ₁₂	15.2	X	47.63809	251.22406	318.31978	8.72486	0.1946829	0.17606293	3.1527589	20	7 7.1	19.2
280052	2002	BJ ₁₃	16.1	X	121.59795	117.95818	56.39914	8.16642	0.1440441	0.23752711	2.5822241	20	8 20.1	20.2
280053	2002	CL ₂₁	17.5	X	97.94634	42.73065	132.74760	6.78413	0.2384368	0.23350768	2.6117720	20	8 2.3	21.5
280054	2002	CM ₃₀	16.5	X	77.37081	177.57256	37.36149	5.05134	0.1603995	0.23605560	2.5929443	20	8 24.9	20.1
280055	2002	CW ₃₅	16.1	X	145.87740	113.79061	20.91806	9.69088	0.1611838	0.23611582	2.5925033	20	7 23.9	20.4
280056	2002	CV ₅₄	16.9	X	100.49166	12.94885	161.15466	5.57086	0.0942737	0.28714552	2.2754538	20	7 20.2	19.8
280057	2002	CS ₆₁	16.6	X	148.49889	27.60264	106.07327	14.36939	0.1820894	0.23673160	2.5880057	20	7 23.4	20.8
280058	2002	CA ₇₂	15.4	X	114.39904	59.96287	122.59447	10.13762	0.0857862	0.18441316	3.0568545	20	8 10.5	19.8
280059	2002	CG ₇₇	16.6	X	118.91468	50.82045	114.24017	3.27290	0.1260368	0.23548801	2.5971091	20	7 30.9	20.3
280060	2002	CQ ₈₁	16.8	X	112.25182	74.12622	131.76889	7.15068	0.1143288	0.29328889	2.2435666	20	9 23.4	19.9
280061	2002	CL ₉₆	17.1	X	154.03741	44.09608	136.88981	6.05017	0.0867945	0.29607945	2.2294473	20	10 6.1	20.2
280062	2002	CH ₁₁₁	16.7	X	132.41581	326.98377	153.24737	8.34926	0.1548717	0.23037509	2.6353949	20	6 19.1	20.9
280063	2002	CF ₁₁₅	16.1	X	81.73365	107.91630	127.76395	18.00741	0.1182510	0.24156530	2.5533657	20	9 25.3	20.0
280064	2002	CY ₁₁₉	17.2	X	144.96475	214.64528	279.71566	4.49738	0.2345145	0.23700547	2.5860116	20	7 22.0	21.5
280065	2002	CK ₁₂₅	16.5	X	96.19592	78.28351	142.36551	4.85961	0.0556387	0.24066869	2.5597035	20	9 9.9	19.8
280066	2002	CB ₁₄₈	16.6	X	59.89179	290.58932	314.26749	3.41851	0.1181103	0.23849872	2.5752062	20	9 2.5	19.9
280067	2002	CD ₁₅₀	16.6	X	57.98859	136.95550	120.88013	6.74223	0.1333056	0.23881460	2.5729349	20	9 23.9	20.0
280068	2002	CU ₁₅₅	17.0	X	157.43374	22.66454	87.85469	5.39407	0.2548007	0.23661829	2.5888318	20	7 3.3	21.5
280069	2002	CB ₁₅₆	16.0	X	64.89877	232.09664	0.40281	9.10583	0.1128430	0.23725927	2.5841671	20	8 26.1	19.4
280070	2002	CR ₁₉₂	16.8	X	165.87976	14.21866	108.76503	4.63923	0.1272512					

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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>		
280081	2002	CX ₂₈₄	16.9	X	280.53635	82.17894	315.51415	4.15041	0.0267240	0.24143964	2.5542515	20	8 30.1	20.0
280082	2002	CE ₂₈₆	17.1	X	29.49226	167.24625	146.23537	3.07613	0.0743093	0.24597753	2.5227396	20	10 20.1	20.1
280083	2002	CK ₂₉₄	15.7	X	93.15434	138.04507	97.71166	14.28249	0.0956164	0.24342399	2.5403514	20	10 8.3	19.7
280084	2002	CZ ₂₉₅	15.9	X	32.61492	348.94811	335.69593	8.37114	0.2369891	0.24548862	2.5260880	20	11 30.2	19.3
280085	2002	CQ ₃₀₁	16.1	X	51.06070	121.58279	158.40189	7.78318	0.1173974	0.24013201	2.5635159	20	10 11.4	19.4
280086	2002	CQ ₃₁₆	17.2	X	124.17710	310.85504	234.93704	3.91465	0.0775766	0.23993340	2.5649303	20	8 27.5	21.0
280087	2002	DO ₈	15.8	X	246.23078	43.74607	51.98329	14.55347	0.0373426	0.24763956	2.5114394	20	10 8.1	19.2
280088	2002	DQ ₉	15.7	X	118.21337	31.63875	113.80680	23.69431	0.1358881	0.23311726	2.6146873	20	7 5.5	19.6
280089	2002	EB ₁₆	16.6	X	54.07342	230.72261	325.97316	6.88902	0.0932418	0.22582063	2.6707115	20	6 14.3	20.0
280090	2002	EH ₂₄	17.6	X	14.48579	292.64796	355.79155	1.15635	0.0730750	0.23485334	2.6017859	20	8 19.9	20.4
280091	2002	EK ₂₅	16.6	X	47.38070	346.26038	237.90621	7.06277	0.2262343	0.22928238	2.6437615	20	8 1.4	19.8
280092	2002	EF ₅₆	16.1	X	104.53981	45.19887	163.92771	15.64600	0.0612850	0.23904251	2.5712993	20	9 4.2	19.6
280093	2002	EO ₆₁	16.8	X	196.95446	267.19626	177.75075	3.13318	0.1844927	0.23622905	2.5916749	20	7 4.1	21.0
280094	2002	ED ₆₄	16.6	X	226.94235	267.28537	179.10072	14.34613	0.1388168	0.23973979	2.5663111	20	8 6.8	20.6
280095	2002	EV ₇₅	16.6	X	54.07402	355.53690	194.31710	13.39991	0.2307561	0.22642880	2.6659272	20	6 26.6	20.1
280096	2002	ED ₁₀₅	16.3	X	95.35446	77.01686	128.88237	10.36843	0.0930558	0.23568910	2.5956316	20	8 24.7	19.9
280097	2002	EA ₁₁₉	16.4	X	66.81934	25.21472	185.36000	11.91452	0.1133518	0.23093621	2.6311242	20	7 23.6	20.1
280098	2002	ER ₁₂₂	15.5	X	130.42518	40.11501	181.45876	10.74808	0.1290226	0.18859910	3.0114545	20	10 17.9	20.3
280099	2002	EV ₁₃₃	16.6	X	186.99797	231.64916	204.93754	3.60574	0.1735171	0.23352446	2.6116469	20	6 15.1	20.9
280100	2002	EA ₁₄₁	16.4	X	49.43429	243.45395	1.57962	5.93504	0.0495550	0.23481229	2.6020891	20	8 10.6	19.7
280101	2002	FS ₇	17.0	X	172.34709	266.64601	205.02479	2.81122	0.1411655	0.23589578	2.5941153	20	7 15.9	21.1
280102	2002	FG ₁₇	16.0	X	196.27829	354.17179	125.49307	14.24569	0.1822972	0.24110204	2.5566354	20	8 18.9	20.2
280103	2002	FD ₂₀	16.3	X	108.15516	51.75351	118.99114	8.51201	0.1416998	0.23271985	2.6176631	20	7 27.9	20.2
280104	2002	FS ₃₂	16.0	X	26.29137	198.73585	87.62565	6.59670	0.1249058	0.23740517	2.5831082	20	9 16.2	19.1
280105	2002	GO ₅₂	16.9	X	24.66722	57.64469	184.27011	4.75487	0.2314194	0.22439372	2.6820215	20	7 19.0	19.6
280106	2002	GQ ₅₉	17.6	X	37.58256	12.22526	238.51919	7.67986	0.2350150	0.28287528	2.2982965	20	8 31.5	20.2
280107	2002	GD ₇₂	16.0	X	7.81456	241.94670	24.14496	14.85692	0.1418521	0.22708093	2.6608207	20	7 14.7	19.2
280108	2002	GN ₇₅	16.5	X	42.20302	170.19392	59.86888	12.27764	0.1274449	0.22661096	2.6644983	20	7 20.7	19.9
280109	2002	GO ₈₂	16.2	X	109.00929	99.51511	47.58677	13.81748	0.1518977	0.22734001	2.6587987	20	6 28.1	20.3
280110	2002	GE ₈₉	16.8	X	35.94585	62.75372	178.14391	25.26936	0.1489422	0.28093457	2.3088688	20	7 29.4	19.9
280111	2002	GP ₁₀₅	15.9	X	87.90457	116.76767	49.86945	14.04274	0.1192737	0.22726544	2.6593803	20	6 24.1	19.7
280112	2002	GG ₁₄₄	16.7	X	333.86650	86.44023	148.45856	11.74615	0.1943696	0.27097438	2.3651057	20	3 8.0	19.0
280113	2002	GN ₁₄₅	16.9	X	66.98946	335.97083	211.29198	8.23864	0.1444476	0.22615892	2.6680476	20	6 27.9	20.5
280114	2002	GC ₁₅₂	16.7	X	11.23893	186.06860	99.94377	5.54833	0.1586059	0.23088363	2.6315237	20	8 21.6	19.4
280115	2002	GC ₁₈₃	16.6	X	57.57958	70.48034	121.83978	12.56120	0.1388537	0.22420782	2.6835038	20	6 21.7	20.0
280116	2002	GH ₁₈₆	16.4	X	84.42858	314.11799	206.40281	14.48075	0.1839750	0.22443391	2.6817013	20	6 20.8	20.4
280117	2002	HN ₁	15.9	X	82.81318	130.33106	49.46530	13.83981	0.1028301	0.22835256	2.6509333	20	7 4.1	19.7
280118	2002	JV ₁	14.8	X	65.54895	356.05798	225.66388	19.72342	0.1418938	0.17382193	3.1797991	20	7 31.6	19.6
280119	2002	JQ ₂	16.4	X	7.20597	170.16802	79.38578	15.30906	0.3114992	0.22115326	2.7081568	20	6 26.3	18.0
280120	2002	JM ₅	16.3	X	13.63236	135.96757	90.10780	10.02855	0.2400751	0.21901594	2.7257472	20	5 30.8	18.6
280121	2002	JG ₉	16.2	X	345.68053	108.94483	198.78560	10.64816	0.1916713	0.22644785	2.6657776	20	7 25.8	18.9
280122	2002	JO ₉₄	15.7	X	322.17779	270.05272	53.25338	12.32644	0.1745658	0.22311770	2.6922375	20	7 1.9	18.6
280123	2002	JM ₁₁₄	17.0	X	71.39154	70.02838	235.29282	6.52523	0.2093443	0.23787835	2.5796816	20	12 13.9	21.0
280124	2002	JW ₁₂₅	16.8	X	219.18129	172.36505	117.55677	3.42774	0.2183392	0.25835833	2.4414869	20	1 13.1	20.8
280125	2002	JK ₁₃₆	17.5	X	11.52884	177.72052	36.29237	1.73220	0.1384947	0.27345601	2.3507750	20	4 27.1	19.4
280126	2002	JA ₁₄₉	16.2	X	113.29653	258.62633	228.23766	10.50254	0.1642624	0.22359127	2.6884347	20	6 6.2	20.2
280127	2002	KJ ₅	16.3	X	8.83015	140.33725	82.72028	10.37803	0.1546613	0.21744091	2.7388939	20	5 12.1	19.1
280128	2002	KQ ₁₅	16.0	X	88.79563	103.25139	57.86031	13.55120	0.1223275	0.22292459	2.6937920	20	6 17.8	19.8
280129	2002	LS ₂₃	15.1	X	78.73991	2.87621	286.29120	16.48115	0.1989233	0.17662241	3.1460975	20	11 18.0	20.2
280130	2002	LP ₂₉	17.2	X	332.26017	92.09943	138.21152	4.68541	0.1800465	0.26866001	2.3786691	20	2 29.4	19.7
280131	2002	LU ₅₇	16.4	X	150.37170	65.48591	225.31630	16.38520	0.1816280	0.24575999	2.5242281	20	—	—
280132	2002	NX ₂₇	16.1	X	288.58603	71.42778	261.38447	6.48565	0.2863578	0.21348447	2.7726296	20	5 1.3	19.9
280133	2002	NG ₅₃	17.7	X	230.99394	229.45201	108.17479	4.54177	0.1439345	0.31509946	2.1388038	20	3 21.9	20.8
280134	2002	NM ₅₈	16.0	X	29.78188	19.58456	228.56959	16.07790	0.0488848	0.21629595	2.7485510	20	7 9.3	19.9
280135	2002	NM ₆₈	17.6	X	198.99413	340.51246	22.22924	1.20599	0.0963490	0.31398111	2.1438795	20	3 20.5	20.5
280136	2002	OM ₄	17.2	X	347.91362	28.11738	1473.06106	55.31118	0.5627878	0.53862348	1.4960491	20	—	—
280137	2002	OE ₁₀	16.5	X	1.45002	63.68749	277.43870	9.20383	0.2292045	0.22314025	2.6920561	20	10 24.7	19.4
280138	2002	OE ₁₈	17.6	X	38.45374	260.28211	293.09730	19.05401	0.0328049	0.37468471	1.9055722	20	4 23.3	19.9
280139	2002	PV ₈	16.1	X	128.06629	283.69479	279.63850	12.56410	0.1048037	0.22659480	2.6646249	20	9 18.3	20.4
280140	2002	PV ₁₀	15.8	X	174.79737	205.97349	159.26097	13.62543	0.2364663	0.19745967	2.9206786	20	3 13.3	20.8
280141	2002	PP ₂₇	15.6	X	12.45399	219.82066	147.03426	16.96808	0.2083027	0.17253490	3.1955927	20	12 6.8	19.8
280142	2002	PQ ₂₉	15.9	X	218.02906	53.47057	296.10115	5.03773	0.0841082	0.20365670	2.8611256	20	3 29.5	20.4
280143	2002	PK ₃₅	16.4	X	327.89623	354.21989	315.40675	5.92501	0.1106993	0.21522409	2.7576689	20	6 29.6	19.7
280144	2002	PL ₈₂	16.6	X	312.05497	156.09495	148.99315	9.81626	0.3029488	0.21297409	2.7770575	20	4 29.3	20.0
280145	2002	PC ₈₆	17.0	X	37.48466	207.06418	112.13819	8.40695	0.2263678	0.28256123	2.2999991	20	12 8.4	20.1
280146	2002	PC ₉₂	15.9	X	259.28270	74.26052	246.17151	13.98391	0.1614246	0.20568805	2.8422570	20	3 27.3	20.5
280147	2002	PJ ₁₀₀	17.7	X	257.22588	319.08669	4.93010	3.08738	0.2090030	0.31604783	2.1345230	20	3 23.0	20.5
280148	2002	PL ₁₀₁	16.6	X	46.95605	104.97388	165.86280	12.95284	0.2544962	0.22508622	2.6765177	20	10 12.6	20.3
280149	2002	PG ₁₀₅	17.7	X	209.90395	48.41606	311.13786	19.80037	0.0559917	0.36887087	1.9255426	20	3 12.1	20.3

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>		
280161	2002	QP ₃₅	16.1	X	38.67325	168.58642	147.02450	13.96529	0.1467290	0.22525412	2.6751875	20	11 14.6	19.9
280162	2002	QZ ₅₇	17.9	X	271.01736	19.53649	287.81287	4.25876	0.1258504	0.31570320	2.1360761	20	3 22.3	20.5
280163	2002	QE ₆₈	16.5	X	279.89196	233.89823	147.03527	5.65546	0.0894195	0.21544163	2.7558123	20	7 25.2	20.1
280164	2002	QO ₇₄	16.6	X	194.73024	253.02434	356.51097	11.11053	0.2119415	0.24262015	2.5459594	20	—	—
280165	2002	QX ₉₀	17.5	X	214.34432	241.28098	109.25784	5.17600	0.1344413	0.31193784	2.1532312	20	3 22.9	20.6
280166	2002	QV ₉₈	15.8	X	45.02331	329.16680	77.18611	6.18716	0.1713337	0.18194712	3.0844134	20	—	—
280167	2002	QZ ₉₉	15.4	X	119.11869	134.85015	133.31848	10.20406	0.0577018	0.17535372	3.1612540	20	11 25.9	20.3
280168	2002	QJ ₁₀₉	15.9	X	140.36122	98.89307	160.42245	12.95482	0.0782387	0.17921058	3.1157334	20	12 8.1	20.9
280169	2002	QO ₁₁₃	16.3	X	165.87678	133.22358	234.07564	8.60065	0.0383610	0.19680562	2.9271460	20	2 22.4	20.7
280170	2002	RE ₁₇	15.9	X	178.08827	101.47611	258.52557	0.71529	0.1327357	0.19599720	2.9351894	20	3 5.5	20.5
280171	2002	RD ₂₀	16.3	X	224.52460	193.37757	157.18639	13.43938	0.2634427	0.20177940	2.8788443	20	4 2.6	21.4
280172	2002	RA ₃₈	17.4	X	255.88031	341.31884	319.00032	6.19056	0.0959950	0.31196879	2.1530888	20	2 28.3	20.3
280173	2002	RJ ₃₈	15.8	X	26.79505	99.24251	178.43734	12.79439	0.1186077	0.21865181	2.7287725	20	8 25.8	19.2
280174	2002	RI ₁₁₀	17.4	X	254.40465	86.51224	238.73399	3.39186	0.1649434	0.31395423	2.1440018	20	3 24.4	20.3
280175	2002	RB ₁₁₇	15.6	X	103.29232	250.98707	162.05074	12.57219	0.1230760	0.19136255	2.9823922	20	2 19.9	19.9
280176	2002	RO ₁₂₆	15.4	X	89.74898	306.25579	110.21439	10.12231	0.2611154	0.18945688	3.0023579	20	3 2.6	19.6
280177	2002	RH ₁₂₈	15.3	X	8.88023	109.50538	278.54589	15.97872	0.1380218	0.17362591	3.1821918	20	12 21.8	19.2
280178	2002	RK ₁₂₈	15.9	X	327.08299	120.63727	273.07088	10.83201	0.1732887	0.22322929	2.6913402	20	10 23.1	18.8
280179	2002	RB ₁₃₆	15.4	X	218.53162	304.22772	39.61488	9.32384	0.1440500	0.20039026	2.8921334	20	3 26.4	20.1
280180	2002	RG ₁₇₂	16.3	X	121.62326	192.98127	126.02995	8.37539	0.1887730	0.23841643	2.5757987	20	—	—
280181	2002	RP ₁₇₈	15.9	X	54.60459	5.77576	337.76750	9.87718	0.1993524	0.17565552	3.1576320	20	12 30.1	20.7
280182	2002	RP ₁₈₂	15.9	X	235.35892	82.46671	250.96227	11.11504	0.1264328	0.20105303	2.8857739	20	3 22.8	20.6
280183	2002	RW ₁₈₃	15.2	X	104.94647	318.50674	333.07952	27.07173	0.1780720	0.17407783	3.1766819	20	12 14.8	20.8
280184	2002	RD ₁₈₄	16.2	X	343.22441	83.62190	246.46253	8.51422	0.2194941	0.21775003	2.7363012	20	8 21.8	18.7
280185	2002	RG ₁₈₄	15.2	X	200.56499	135.29447	217.37201	12.67856	0.1824481	0.19826746	2.9127402	20	3 13.7	20.2
280186	2002	RU ₂₀₂	15.4	X	72.61833	177.07900	226.78641	8.00314	0.0964462	0.18443221	3.0566441	20	—	—
280187	2002	RD ₂₄₀	16.8	X	55.49865	60.50932	199.67491	4.88589	0.1001290	0.21989458	2.7184814	20	9 11.5	20.4
280188	2002	RW ₂₅₂	17.7	X	6.97570	129.73671	311.57286	3.85079	0.1396258	0.29190890	2.2506320	20	—	—
280189	2002	SN ₁₇	15.9	X	270.89789	69.03303	190.01003	10.10899	0.0368660	0.19307018	2.9647807	20	2 12.6	20.2
280190	2002	SR ₂₁	17.3	X	10.59610	268.79356	170.66094	2.36463	0.1319900	0.28961839	2.2624828	20	—	—
280191	2002	SS ₂₁	16.3	X	153.61287	209.62852	164.23697	5.72990	0.1838024	0.19240780	2.9715812	20	3 3.0	21.0
280192	2002	SM ₄₆	15.8	X	85.35052	197.81769	200.38165	8.17984	0.2582874	0.18302612	3.0722792	20	1 29.4	20.0
280193	2002	SY ₄₈	17.1	X	167.24037	215.96554	147.13719	4.80462	0.0715937	0.30367800	2.1921007	20	2 12.3	19.7
280194	2002	SH ₅₃	15.4	X	344.79276	220.19392	128.18875	10.94243	0.2894108	0.21903115	2.7256210	20	10 11.5	17.5
280195	2002	SX ₆₄	16.0	X	27.40299	237.16447	193.85852	7.54791	0.0967004	0.18231778	3.0802315	20	—	—
280196	2002	SG ₆₇	14.9	X	228.64139	8.26536	254.48508	8.81925	0.0463178	0.18465266	3.0542107	20	1 2.6	19.4
280197	2002	TE ₂₆	16.2	X	177.06171	177.12411	176.45011	4.62099	0.2291465	0.19305184	2.9649685	20	2 29.1	21.4
280198	2002	TS ₂₆	17.4	X	138.45253	10.28606	17.63436	3.94203	0.1867044	0.30160785	2.2021199	20	2 26.8	20.3
280199	2002	TU ₂₆	17.8	X	222.54183	131.70068	196.69337	2.63825	0.2094372	0.30842734	2.1695390	20	2 26.1	21.3
280200	2002	TN ₅₄	17.0	X	194.44488	316.46599	26.09405	6.60439	0.1910742	0.30439401	2.1886618	20	2 23.8	20.4
280201	2002	TK ₁₃₀	16.6	X	123.67457	273.30076	81.35990	6.23927	0.1890878	0.24116303	2.5562043	20	1 5.7	20.0
280202	2002	TX ₁₃₂	15.4	X	37.37717	189.57633	240.45539	8.53222	0.0745004	0.18146896	3.0898293	20	—	—
280203	2002	TK ₁₃₄	17.4	X	294.47465	97.43385	283.50233	5.61647	0.1487631	0.26975130	2.3722494	20	8 12.7	19.8
280204	2002	TH ₁₄₇	15.6	X	148.34129	162.57429	217.56821	9.90184	0.1446594	0.19331270	2.9623006	20	2 28.3	20.4
280205	2002	TF ₁₇₈	17.4	X	161.35598	150.34983	217.85794	2.54652	0.1003321	0.30309865	2.1948931	20	2 14.1	20.2
280206	2002	TF ₁₈₄	15.3	X	120.75866	166.69330	227.44492	8.16622	0.1100402	0.18975291	2.9992345	20	2 13.3	19.8
280207	2002	TK ₂₀₈	16.1	X	323.82526	120.67449	218.44356	15.16737	0.2995074	0.21360005	2.7716293	20	7 7.2	18.9
280208	2002	TL ₂₁₄	17.2	X	221.51783	116.57920	197.85558	5.47586	0.0991031	0.30538115	2.1839427	20	2 8.5	20.4
280209	2002	TB ₂₂₃	15.6	X	87.68830	203.21582	201.55315	9.17965	0.0966371	0.18434762	3.0575790	20	1 17.3	19.9
280210	2002	TB ₂₅₅	17.2	X	230.43289	206.82666	213.25727	5.46512	0.2078643	0.26295918	2.4129250	20	7 2.6	20.9
280211	2002	TB ₂₆₁	16.8	X	169.08424	156.67060	191.77671	8.00274	0.1572247	0.29932845	2.2132852	20	2 1.1	20.1
280212	2002	TH ₂₇₁	16.9	X	91.89444	161.60826	233.05555	5.02563	0.1530661	0.29544782	2.2326236	20	—	—
280213	2002	TC ₂₇₇	15.5	X	203.38435	65.64116	243.17069	6.35634	0.0589462	0.18842010	3.0133614	20	1 27.9	20.1
280214	2002	TM ₂₈₈	15.8	X	263.95030	94.56340	263.89359	10.58062	0.2557893	0.20510104	2.8476775	20	5 11.5	20.2
280215	2002	TW ₂₉₀	16.8	X	126.03702	88.87714	269.83767	6.05913	0.0937704	0.29432510	2.2382977	20	—	—
280216	2002	TQ ₃₀₂	15.7	X	184.77436	204.83967	157.36724	11.49043	0.1274753	0.19473256	2.9478836	20	3 15.9	20.3
280217	2002	TT ₃₀₉	17.6	X	100.91721	322.09358	81.05955	6.33327	0.1198822	0.29787969	2.2204557	20	1 18.8	19.9
280218	2002	TU ₃₁₇	17.6	X	154.51747	339.08210	296.51759	4.15606	0.2262322	0.23860187	2.5744640	20	—	—
280219	2002	TV ₃₃₉	15.8	X	287.39377	124.70599	42.56737	12.41882	0.0749680	0.17913825	3.1165720	20	—	—
280220	2002	TY ₃₅₈	16.5	X	195.79876	164.44165	142.92632	1.76722	0.0117472	0.18912651	3.0058532	20	1 19.0	20.8
280221	2002	TN ₃₆₉	16.0	X	0.21188	319.05504	145.01681	10.74933	0.0955785	0.17745727	3.1362224	20	—	—
280222	2002	US ₂₁	17.4	X	81.23566	212.52475	189.77870	3.82621	0.1229045	0.29339899	2.2430053	20	—	—
280223	2002	UV ₂₈	17.3	X	117.45076	245.47395	120.30267	4.54186	0.1628138	0.29509133	2.2344214	20	—	—
280224	2002	UM ₅₄	15.7	X	5.04633	359.27666	73.32858	8.54234	0.1217908	0.17491415	3.1665481	20	—	—
280225	2002	UT ₅₈	15.6	X	84.48467	275.77501	151.27930	10.21443	0.0640057	0.18623997	3.0368322	20	2 5.9	19.7
280226	2002	UD ₆₆	16.0	X	208.84815	253.59279	35.96548	9.52009	0.0694763	0.18824436	3.0152366	20	1 14.6	20.7
280227	2002	UX ₆₇	17.5	X	319.86585	111.41004	60.11761	6.80388	0.0325295	0.29665622	2.2265566	20	—	—
280228	2002	UF ₇₅	17.4	X	316.29396	253.08892	211.58099	3.88498	0.1001682	0.28229161	2.3014634	20	—	—
280229	2002	UK ₇₇	15.6	X	53.95917	341.51357	53.59127	10.34234	0.0599552	0.17597491	3.1538101	20	—	—
280230	2002	VQ ₈	15.5	X	334.45501	213.70022	254.5105							

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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>		
280241	2002	VW ₁₄₁	15.8 ^m	X	75.62974	325.99933	45.59673	1.89841	0.1673010	0.17727506	3.1383710	20	—	—
280242	2002	VK ₁₄₂	15.6	X	42.60169	205.92579	214.71152	12.49763	0.0849913	0.17678542	3.1441632	20	—	—
280243	2002	VL ₁₄₅	16.4	X	175.59698	193.01451	147.26759	3.29509	0.1595453	0.18816111	3.0161259	20	2 11.2	21.1
280244	2002	WP ₁₁	18.1	X	284.07084	56.18151	267.89233	5.39429	0.4408831	0.31806709	2.1254794	20	3 21.7	21.8
280245	2002	WZ ₂₅	16.0	X	137.48105	218.42392	128.18456	4.52629	0.0742168	0.18026182	3.1036082	20	1 6.5	20.5
280246	2002	WS ₂₆	17.4	X	331.69117	55.26901	51.71595	4.70533	0.1410513	0.28406126	2.2918949	20	—	—
280247	2002	WG ₂₈	15.8	X	93.60273	304.81935	78.16727	12.53032	0.0831455	0.17853711	3.1235638	20	—	—
280248	2002	WX ₂₈	15.5	X	33.59968	358.87640	79.87253	11.48640	0.0985650	0.17765206	3.1339295	20	—	—
280249	2002	XR ₁	14.9	X	76.57072	186.31860	229.28164	17.14677	0.1211693	0.18001802	3.1064097	20	1 16.8	19.3
280250	2002	XY ₁₀	15.3	X	121.62099	307.14243	63.92257	12.73760	0.1229200	0.18055584	3.1002379	20	1 26.4	20.0
280251	2002	XR ₁₂	16.8	X	358.23007	192.44458	256.90484	6.37486	0.0477617	0.28402071	2.2921131	20	—	—
280252	2002	XK ₁₄	17.0	X	229.65800	203.56909	146.51673	6.43339	0.2642499	0.30854176	2.1690026	20	3 31.2	20.7
280253	2002	XM ₄₆	15.9	X	192.01222	342.67240	5.33750	4.32310	0.2711673	0.19181775	2.9776719	20	3 6.5	21.2
280254	2002	XP ₄₉	15.0	X	103.28949	141.36506	243.70557	9.90250	0.1516018	0.17953432	3.1119866	20	1 20.9	19.6
280255	2002	XJ ₅₃	15.6	X	114.26011	306.13162	83.32773	9.47273	0.1390847	0.18293045	3.0733502	20	2 10.9	20.2
280256	2002	XL ₆₁	17.0	X	16.87442	257.14205	212.22424	6.51009	0.0337390	0.29032640	2.2588030	20	—	—
280257	2002	XD ₇₄	16.6	X	200.54743	5.00159	58.45535	8.62827	0.1872764	0.25535056	2.4609140	20	6 9.8	20.7
280258	2002	XY ₈₁	16.4	X	19.98786	0.37898	68.71337	8.77550	0.2106246	0.28238430	2.3009597	20	—	—
280259	2002	XA ₉₄	15.4	X	179.22255	233.39387	69.48816	11.66912	0.0616465	0.17969705	3.1101076	20	—	—
280260	2002	XD ₉₅	15.7	X	104.26035	147.83207	227.73685	3.59591	0.1506190	0.18082005	3.0972171	20	1 12.4	20.0
280261	2002	XE ₉₇	15.4	X	357.01705	9.77322	69.93388	18.51741	0.1076558	0.17001864	3.2270451	20	—	—
280262	2002	XD ₁₀₅	17.4	X	314.07097	19.31382	69.89637	4.29200	0.1842073	0.27613663	2.3355367	20	—	—
280263	2002	XR ₁₁₃	16.6	X	328.83673	197.30177	285.35357	6.05374	0.0408588	0.28202801	2.3028972	20	—	—
280264	2002	XO ₁₁₇	16.1	X	84.47555	273.95915	138.87685	9.05173	0.1728225	0.18179270	3.0861599	20	2 4.9	20.1
280265	2002	XU ₁₂₀	15.5	X	58.64285	159.69447	234.96787	13.45469	0.0488690	0.17286918	3.1914717	20	—	—
280266	2002	YH ₃	15.6	X	111.64958	233.55520	152.55805	10.91907	0.1241106	0.18033724	3.1027427	20	1 29.8	20.1
280267	2003	AC ₂₅	16.5	X	95.83224	304.18928	100.81347	23.50209	0.2667774	0.29258993	2.2471383	20	1 29.6	18.9
280268	2003	AL ₂₈	16.5	X	248.43886	54.99372	131.14363	6.82715	0.0600396	0.27593821	2.3366562	20	—	—
280269	2003	AK ₃₈	17.2	X	296.22421	230.88525	229.43916	4.34137	0.1308968	0.27183130	2.3601326	20	12 21.1	19.3
280270	2003	AG ₃₉	17.1	X	48.38598	170.88287	254.93288	4.29819	0.1273638	0.28552515	2.2840546	20	—	—
280271	2003	AW ₉₁	16.3	X	133.91775	119.44942	239.66548	2.54815	0.1120726	0.18017223	3.1046368	20	1 21.2	21.0
280272	2003	BF ₂₈	15.6	X	122.34375	299.59164	127.72577	22.38536	0.0814797	0.23567608	2.5957272	20	3 30.3	19.6
280273	2003	BN ₃₄	16.7	X	267.59632	186.35249	306.57742	6.19099	0.0636433	0.27101635	2.3648615	20	12 23.8	19.4
280274	2003	BZ ₆₅	16.9	X	339.10920	9.32210	68.96300	6.37981	0.1318423	0.27484124	2.3428696	20	—	—
280275	2003	CX ₁	16.4	X	110.11572	327.86715	177.60883	5.93932	0.1038348	0.24606870	2.5221165	20	6 22.4	20.0
280276	2003	CV ₅	16.4	X	108.48452	104.29122	8.86031	4.64835	0.1455610	0.24276487	2.5449475	20	5 11.9	19.9
280277	2003	CD ₈	16.0	X	99.42315	157.11798	15.08487	7.21314	0.1074652	0.24543061	2.5264860	20	7 18.2	19.6
280278	2003	DS ₁	17.1	X	114.13861	91.98615	28.68683	4.98265	0.1984894	0.24282530	2.5445252	20	6 3.9	20.9
280279	2003	EO ₁₈	17.0	X	102.23314	9.17663	127.25147	4.34410	0.2301012	0.24298473	2.5434120	20	6 16.7	20.8
280280	2003	EB ₂₂	16.3	X	158.26994	91.14016	147.52740	10.64411	0.1234951	0.26360214	2.4089998	20	12 15.6	20.1
280281	2003	FF ₁	17.3	X	249.76768	359.49827	126.66524	6.25662	0.1852537	0.26406341	2.4061936	20	10 30.4	20.2
280282	2003	FK ₃	16.7	X	71.48358	59.51037	111.63505	24.83811	0.0710500	0.35362873	1.9804825	20	6 8.3	19.1
280283	2003	FG ₄₅	16.4	X	69.48130	347.25038	180.08572	17.32504	0.0970806	0.23916647	2.5704107	20	5 30.3	20.0
280284	2003	FS ₇₆	17.2	X	167.56764	153.38232	61.63597	6.91332	0.0624813	0.26080163	2.4262144	20	11 27.9	20.3
280285	2003	FQ ₁₀₇	16.3	X	136.76575	64.41119	146.40512	5.51793	0.1512153	0.25239719	2.4797793	20	10 20.3	20.2
280286	2003	GU ₁	16.5	X	66.18214	80.41631	88.21052	6.66838	0.1336978	0.23824409	2.5770408	20	5 31.5	19.5
280287	2003	GM ₂₂	17.3	X	310.16739	265.67357	204.22164	20.50235	0.0874875	0.38127921	1.8835362	20	—	—
280288	2003	HW ₁₄	16.1	X	328.34938	142.44376	61.73636	14.90401	0.1328025	0.22533353	2.6745589	20	2 10.4	19.7
280289	2003	HX ₄₄	17.3	X	101.32275	21.36600	254.59259	2.49273	0.1597877	0.25685618	2.4509965	20	12 2.1	21.1
280290	2003	HK ₅₀	17.2	X	229.29333	40.55919	201.15944	4.75253	0.1960120	0.26965462	2.3728164	20	—	—
280291	2003	HM ₅₈	16.2	X	246.04379	348.97017	135.91018	15.43773	0.1016501	0.25475422	2.4644601	20	11 7.1	19.7
280292	2003	MF ₁₀	15.8	X	10.05687	15.94931	282.73218	12.38350	0.2889565	0.23335521	2.6129096	20	9 17.6	18.5
280293	2003	ML ₁₀	17.2	X	138.91272	79.71994	192.17973	22.04368	0.0803906	0.37325493	1.9104354	20	—	—
280294	2003	NH ₁₀	16.7	X	31.16902	119.05064	171.31793	7.11840	0.1532913	0.23689093	2.5868451	20	10 1.0	19.6
280295	2003	OR ₈	16.1	X	351.69582	205.88350	111.75947	13.89845	0.2550209	0.23341870	2.6124358	20	9 11.3	18.3
280296	2003	OQ ₉	16.4	X	352.46487	83.83842	248.98569	3.73509	0.2434499	0.23539873	2.5977657	20	9 29.1	18.4
280297	2003	OQ ₂₅	17.4	X	106.13231	96.01379	241.29646	4.71967	0.2251601	0.25417707	2.4681893	20	—	—
280298	2003	OV ₂₆	16.5	X	78.56737	24.29135	281.47404	4.58063	0.1970889	0.24631206	2.5204549	20	12 21.5	20.4
280299	2003	PY ₆	16.2	X	305.74977	206.54303	165.62721	14.54814	0.2619074	0.22940527	2.6428172	20	7 27.3	19.1
280300	2003	QA ₁₆	16.1	X	313.33303	145.55816	200.92795	6.01393	0.1526536	0.22795710	2.6539982	20	7 21.1	19.0
280301	2003	QM ₂₃	16.4	X	351.37517	169.83722	166.76730	13.19274	0.2051181	0.23459046	2.6037292	20	10 2.5	18.6
280302	2003	QB ₂₅	16.3	X	14.38721	149.19004	170.54072	13.32900	0.1987178	0.23632325	2.5909861	20	10 24.3	19.2
280303	2003	QJ ₃₀	16.3	X	353.46027	237.87418	119.73520	14.13720	0.3084009	0.23628335	2.5912778	20	11 27.5	18.8
280304	2003	QM ₃₀	16.8	X	0.20121	352.69810	290.65340	8.50197	0.1536790	0.22923132	2.6441540	20	7 22.4	19.2
280305	2003	QJ ₃₂	15.9	X	352.19735	290.19542	331.35627	11.59455	0.1491035	0.22419561	2.6836012	20	5 30.3	19.0
280306	2003	QQ ₄₀	16.9	X	342.94984	100.09214	218.32868	1.71633	0.2140429	0.23175745	2.6249050	20	8 8.9	19.1
280307	2003	QK ₄₉	16.3	X	262.58824	224.21382	169.76248	11.72057	0.1860242	0.22548262	2.6733798	20	7 4.7	20.3
280308	2003	QP ₅₈	16.3	X	232.74641	255.95001	125.36937	5.85940	0.1300371	0.21984078	2.7189249	20	5 24.2	20.4
280309	2003	QM ₆₆	17.0	X	73.50691	123.69626	147.86625	25.12035	0.0282017	0.35636263	1.9703405	20	11 15.3	19.9
280310	2003	QD ₇₀	16.0	X	319.99812	256.27350	109.04863	12.67726	0.2870039	0.23049975	2.6			

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>
280321 2003 <i>RF</i> ₂₁	15.8	X	224.55879	221.61293	164.67817	11.52037	0.0165573	0.21923370	2.7239419	20	6 1.8	19.7
280322 2003 <i>RX</i> ₂₄	17.0	X	336.99891	27.87437	289.52844	3.31465	0.2090714	0.22867774	2.6484196	20	7 22.9	19.1
280323 2003 <i>RM</i> ₂₆	15.9	X	332.90660	68.16053	248.66619	15.96001	0.1523029	0.22669315	2.6638542	20	7 12.3	18.9
280324 2003 <i>SQ</i> ₆	16.1	X	288.68127	156.69816	186.46494	11.91927	0.1266701	0.22239567	2.6980614	20	6 11.4	19.8
280325 2003 <i>SK</i> ₂₀	16.8	X	353.22346	147.02475	168.46284	3.92859	0.1860667	0.23120882	2.6290557	20	8 29.0	18.9
280326 2003 <i>SN</i> ₃₄	16.4	X	239.60673	358.69752	14.32586	4.83028	0.0787752	0.21823780	2.7322226	20	5 23.9	20.3
280327 2003 <i>SE</i> ₃₅	16.9	X	132.49139	72.22223	18.98576	3.45917	0.0596240	0.21262661	2.7800822	20	5 2.7	20.7
280328 2003 <i>SO</i> ₅₈	16.6	X	355.28555	97.76482	211.02081	14.29144	0.1822113	0.23083856	2.6318662	20	8 17.2	19.5
280329 2003 <i>SQ</i> ₆₇	15.9	X	253.57946	218.80758	162.75074	10.18595	0.2186334	0.21868548	2.7284924	20	6 6.1	20.3
280330 2003 <i>SF</i> ₆₉	16.6	X	235.35327	149.94117	231.72940	2.56199	0.2067200	0.21771645	2.7365825	20	5 19.2	21.1
280331 2003 <i>SF</i> ₇₉	16.3	X	258.67546	137.75658	219.74701	7.98280	0.1684590	0.21891838	2.7265569	20	5 16.6	20.3
280332 2003 <i>SF</i> ₇₉	15.9	X	226.09370	147.28741	217.53517	7.19198	0.1405925	0.21467842	2.7623400	20	4 24.2	20.1
280333 2003 <i>SD</i> ₈₀	16.0	X	252.06937	107.51472	270.83217	10.17920	0.1399667	0.22165307	2.7040842	20	6 8.3	20.0
280334 2003 <i>SL</i> ₉₉	16.1	X	305.73479	142.93440	206.28633	12.87470	0.2576940	0.22576952	2.6711145	20	6 23.8	19.3
280335 2003 <i>SX</i> ₁₀₉	15.8	X	170.33240	163.26678	225.52936	8.47756	0.1401560	0.20678860	2.8321635	20	3 30.5	20.5
280336 2003 <i>SV</i> ₁₂₉	16.0	X	249.35264	304.52915	42.35006	8.50668	0.1815467	0.21427715	2.7657875	20	4 22.4	20.1
280337 2003 <i>SL</i> ₁₃₈	15.5	X	93.83473	327.29091	9.42933	11.06868	0.0932213	0.18918739	3.0052083	20	—	—
280338 2003 <i>SN</i> ₁₄₀	16.1	X	242.93387	113.70992	256.72012	11.41417	0.1280080	0.21668253	2.7452809	20	5 19.5	20.3
280339 2003 <i>SH</i> ₁₅₃	16.5	X	266.02183	249.92776	105.92494	6.22484	0.1313075	0.22027636	2.7153394	20	5 28.7	20.4
280340 2003 <i>SX</i> ₁₅₉	16.0	X	177.60982	251.03109	153.68778	4.46813	0.1018186	0.21211013	2.7845933	20	4 28.5	20.3
280341 2003 <i>ST</i> ₁₆₉	15.3	X	103.16095	306.24127	15.69858	10.79798	0.1347217	0.18856139	3.0118560	20	—	—
280342 2003 <i>SL</i> ₁₇₂	16.3	X	246.76642	199.86437	160.84001	6.55023	0.0682937	0.21857343	2.7294248	20	5 20.6	20.3
280343 2003 <i>SA</i> ₁₇₆	16.3	X	270.52036	210.61883	169.67554	14.33068	0.1093673	0.22485107	2.6783834	20	7 7.9	20.2
280344 2003 <i>SG</i> ₁₉₇	16.3	X	205.04411	133.05897	254.74525	2.83294	0.1084812	0.21373145	2.7704933	20	5 3.1	20.5
280345 2003 <i>SJ</i> ₂₁₀	16.3	X	281.68883	313.97391	38.80367	3.16331	0.1739644	0.22173612	2.7034090	20	6 6.1	19.9
280346 2003 <i>SD</i> ₂₂₄	16.3	X	320.98275	258.47439	56.55107	6.22752	0.1763958	0.22434689	2.6823947	20	6 16.3	19.1
280347 2003 <i>SB</i> ₂₂₈	16.3	X	249.13701	110.96839	245.35743	2.27063	0.1178678	0.21544579	2.7557768	20	5 9.8	20.4
280348 2003 <i>SA</i> ₂₃₁	16.3	X	296.28513	194.39529	119.93876	5.93004	0.1084331	0.22044823	2.7139279	20	5 17.9	19.8
280349 2003 <i>SK</i> ₂₅₅	16.1	X	304.65368	259.39337	276.63274	8.65934	0.2387809	0.18946666	3.0022546	20	—	—
280350 2003 <i>SB</i> ₂₆₀	15.9	X	240.10189	154.70900	211.97963	8.61320	0.1665762	0.21431974	2.7654211	20	5 9.2	20.2
280351 2003 <i>SH</i> ₂₇₉	16.7	X	286.02607	182.85359	153.66071	5.33996	0.1230124	0.22040417	2.7142895	20	5 30.5	20.4
280352 2003 <i>SO</i> ₂₈₀	16.1	X	65.01101	198.60193	204.24374	11.11664	0.1771324	0.19233328	2.9723487	20	—	—
280353 2003 <i>SP</i> ₂₈₁	16.4	X	227.60916	149.42526	223.40402	6.08108	0.0501958	0.21675552	2.7446645	20	5 13.7	20.2
280354 2003 <i>SL</i> ₂₉₆	16.0	X	272.93322	71.76247	276.39645	10.74602	0.1076812	0.21840666	2.7308140	20	5 29.2	19.9
280355 2003 <i>SM</i> ₂₉₈	16.0	X	171.68920	325.05330	68.17879	5.30453	0.1799807	0.20926329	2.8097910	20	4 11.4	20.6
280356 2003 <i>SY</i> ₃₀₀	15.6	X	304.33865	246.69654	216.65022	11.03215	0.0169821	0.18450009	3.0558942	20	12 15.3	20.0
280357 2003 <i>SZ</i> ₃₀₀	16.8	X	220.44768	136.67427	243.53526	4.92982	0.0780336	0.21640244	2.7476492	20	5 11.9	20.7
280358 2003 <i>SN</i> ₃₂₀	16.8	X	170.29905	34.64025	18.19012	7.88646	0.0323057	0.21260283	2.7802895	20	4 25.7	20.7
280359 2003 <i>SO</i> ₃₂₀	16.6	X	356.32368	122.10547	177.31227	6.30769	0.2176859	0.22719519	2.6599285	20	8 10.8	18.8
280360 2003 <i>SZ</i> ₃₂₉	17.2	X	287.31823	98.45331	221.24699	2.23361	0.0662900	0.21906121	2.7253716	20	5 17.4	20.8
280361 2003 <i>SJ</i> ₃₃₂	16.3	X	284.15685	193.47860	146.63681	5.77699	0.1238561	0.21938484	2.7226907	20	6 1.7	19.9
280362 2003 <i>SL</i> ₃₈₈	16.5	X	332.55590	148.66434	105.49433	4.61727	0.0418401	0.21358715	2.7717409	20	4 28.6	20.1
280363 2003 <i>SE</i> ₃₉₁	16.3	X	286.23279	174.16395	128.34066	5.12594	0.0501723	0.21361425	2.7175065	20	4 27.8	20.1
280364 2003 <i>SC</i> ₄₃₀	15.6	X	184.67301	160.42597	10.02400	12.25171	0.0236146	0.17271305	3.1933948	20	10 8.9	20.1
280365 2003 <i>SR</i> ₄₃₀	15.9	X	272.63359	305.86473	8.65790	10.04812	0.1285226	0.21301849	2.7766716	20	4 10.9	20.0
280366 2003 <i>TE</i>	15.8	X	4.56570	268.73247	67.56501	28.57775	0.3958296	0.23299560	2.6155974	20	11 29.9	18.2
280367 2003 <i>TN</i> ₁₁	15.8	X	211.56773	138.12589	236.14514	5.02952	0.0729930	0.21154125	2.7895833	20	4 24.4	19.9
280368 2003 <i>TB</i> ₁₅	15.4	X	4.20388	345.85618	29.09070	9.52123	0.1503024	0.17973621	3.1096559	20	11 23.3	19.2
280369 2003 <i>TU</i> ₄₆	16.4	X	311.83465	35.12298	240.16563	4.71196	0.0350956	0.21245903	2.7815439	20	4 25.6	20.1
280370 2003 <i>TA</i> ₅₄	16.4	X	209.83399	244.60724	129.89915	5.16700	0.0555022	0.21174376	2.7878044	20	4 26.6	20.5
280371 2003 <i>UV</i> ₇	16.2	X	179.97752	312.39831	83.74802	4.72593	0.1259003	0.20903536	2.8118332	20	4 21.0	20.6
280372 2003 <i>UQ</i> ₁₆	15.6	X	317.88019	32.03316	284.31841	12.77899	0.2617336	0.22272799	2.6953770	20	5 28.5	18.6
280373 2003 <i>UV</i> ₂₂	15.6	X	101.60707	263.96127	45.50845	9.24332	0.1620271	0.18222110	3.0813210	20	—	—
280374 2003 <i>UR</i> ₂₆	15.4	X	137.07967	311.97585	83.78514	14.63957	0.2280993	0.20062827	2.8898456	20	3 24.9	20.4
280375 2003 <i>UB</i> ₂₇	16.3	X	218.12240	283.26618	93.74435	3.31022	0.2192004	0.21373307	2.7704792	20	4 28.9	21.0
280376 2003 <i>UF</i> ₄₆	16.3	X	172.98516	215.36991	201.98002	13.51113	0.1648289	0.21037986	2.7998404	20	5 10.7	21.0
280377 2003 <i>UR</i> ₆₄	15.7	X	225.25867	270.83007	101.06891	13.56703	0.1741489	0.21283108	2.7783013	20	5 5.5	20.4
280378 2003 <i>UE</i> ₇₈	15.7	X	48.79846	87.54429	236.93001	13.02149	0.2316315	0.23812553	2.5778961	20	12 17.0	19.5
280379 2003 <i>UJ</i> ₇₉	16.6	X	2.40706	90.75562	217.05194	23.24287	0.2882438	0.23167746	2.6255091	20	9 14.9	19.2
280380 2003 <i>UZ</i> ₇₉	16.1	X	194.32863	315.68458	60.77075	5.09572	0.1223721	0.20981406	2.8048717	20	4 10.6	20.6
280381 2003 <i>UK</i> ₉₁	16.0	X	231.99367	279.21629	70.81300	6.71636	0.0721703	0.21089596	2.7952707	20	4 19.8	20.2
280382 2003 <i>UM</i> ₉₇	16.7	X	263.57073	64.90977	32.09555	23.10118	0.2484366	0.28782005	2.2718972	20	10 8.6	19.1
280383 2003 <i>UZ</i> ₁₀₆	15.7	X	268.74420	271.12765	68.49465	13.09191	0.1170243	0.21463851	2.7626823	20	5 13.5	19.5
280384 2003 <i>UW</i> ₁₁₈	16.2	X	187.47486	34.95212	344.47197	3.05666	0.1075639	0.20888770	2.8131581	20	4 4.9	20.5
280385 2003 <i>UT</i> ₁₂₀	16.8	X	260.41182	136.16168	206.84711	3.07405	0.1103101	0.21516001	2.7582165	20	5 7.2	20.7
280386 2003 <i>UL</i> ₁₄₃	15.6	X	202.36104	137.62472	247.75058	8.12203	0.1562969	0.20975704	2.8053799	20	4 25.1	20.2
280387 2003 <i>UJ</i> ₁₇₅	16.1	X	208.83322	1.72631	15.53326	5.55881	0.0551175	0.21077632	2.7963284	20	4 25.7	20.2
280388 2003 <i>UO</i> ₁₇₆	17.2	X	305.22477	189.69292	147.85257	2.83684	0.2123806	0.22386855	2.6862143	20	6 14.9	20.2
280389 2003 <i>UF</i> ₁₈₂	16.5	X	233.75538	178.27603	187.17884	3.84897	0.1142449	0.21364588	2.7712329	20	5 5.9	20.6
280390 2003 <i>UH</i> ₁₉₇	16.6	X	268.42368	274.48389	58.16191	5.71100	0.1267019	0.21436591	2.7650240	20	5 1.7	20.4
280391 2003 <i>UK</i> ₁₉₉	17.5	X	230.27047	182.98375	149.51982							

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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>		
280401	2003	UB ₃₄₆	17.1	X	285.95261	325.15779	357.07114	2.41849	0.0776718	0.21841409	2.7307521	20	5 16.3	20.7
280402	2003	UF ₃₅₂	16.6	X	252.75742	289.20002	60.36682	6.85407	0.0852011	0.21569749	2.7536325	20	5 10.0	20.6
280403	2003	UT ₃₇₇	16.5	X	93.70932	244.88941	193.37988	6.56947	0.0484362	0.20415590	2.8564597	20	2 26.1	20.4
280404	2003	VS ₁₀	15.8	X	154.72670	322.78234	82.65678	3.23007	0.0610717	0.20352571	2.8623530	20	4 3.3	19.9
280405	2003	WP ₁₃	16.2	X	273.50691	45.18394	266.03555	2.83804	0.0900077	0.20987597	2.8043200	20	4 13.5	20.1
280406	2003	WZ ₂₂	16.0	X	257.74944	119.93271	224.63073	8.78089	0.1672745	0.21273935	2.7790999	20	4 28.6	20.2
280407	2003	WY ₅₃	16.1	X	62.20463	195.45909	269.33403	6.44363	0.0332176	0.19814232	2.9139665	20	2 16.2	20.1
280408	2003	WW ₅₉	16.4	X	170.67710	303.44229	82.60183	3.24771	0.1670381	0.20383925	2.8594171	20	4 1.3	21.0
280409	2003	WJ ₈₅	15.4	X	94.62141	16.38558	26.61555	17.07804	0.2344080	0.19240809	2.9715782	20	2 21.8	19.8
280410	2003	WJ ₈₆	17.3	X	322.50113	53.88457	56.22033	6.72848	0.0848143	0.30042621	2.2078904	20	—	—
280411	2003	WZ ₉₅	16.6	X	303.33005	132.03865	207.44007	3.38458	0.2587069	0.22118308	2.7079135	20	6 6.4	19.7
280412	2003	WC ₁₃₂	15.8	X	116.27904	190.37488	227.40264	8.66472	0.0680880	0.19784058	2.9169286	20	3 1.2	20.2
280413	2003	WH ₁₃₃	16.3	X	201.60283	174.98318	245.68371	4.60837	0.1139888	0.21191678	2.7862868	20	6 10.6	20.4
280414	2003	WP ₁₄₀	15.6	X	310.25056	45.45564	68.24787	9.66824	0.2960462	0.17465174	3.1697191	20	12 17.2	18.2
280415	2003	WT ₁₅₆	15.2	X	246.92437	351.44563	66.00111	13.26547	0.0871744	0.16095448	3.3478096	20	7 29.8	20.3
280416	2003	WK ₁₉₂	15.5	X	327.27740	51.68601	52.96916	14.50352	0.2703593	0.17523863	3.1626379	20	—	—
280417	2003	XH ₃	15.2	X	302.53852	256.50625	240.94677	24.19320	0.2331503	0.17652485	3.1472566	20	—	—
280418	2003	XP ₁₄	15.2	X	298.93523	261.72963	257.73177	21.88822	0.1508584	0.18089511	3.0963604	20	—	—
280419	2003	XE ₃₁	16.0	X	296.68298	243.89496	70.46167	9.88566	0.2394398	0.21454734	2.7634649	20	4 28.9	19.7
280420	2003	YN ₁₇	15.7	X	318.39851	0.92347	86.33008	23.43198	0.1979788	0.17447276	3.1718864	20	12 8.0	19.0
280421	2003	YR ₁₈	16.7	X	281.33686	267.70262	81.48635	3.44376	0.2826360	0.21766732	2.7369943	20	5 16.5	20.6
280422	2003	YA ₂₁	15.5	X	276.45246	87.73581	101.76233	10.50366	0.0221032	0.17842635	3.1248564	20	—	—
280423	2003	YQ ₂₄	15.7	X	11.02714	335.93013	126.72475	6.55710	0.1299650	0.18158555	3.0885065	20	—	—
280424	2003	YK ₄₃	15.5	X	335.14280	334.18167	117.03048	10.55277	0.2130395	0.17406330	3.1768587	20	—	—
280425	2003	YR ₅₂	16.6	X	6.34150	98.93709	263.16803	4.88415	0.1905630	0.23036831	2.6354466	20	12 2.1	19.5
280426	2003	YD ₅₆	16.0	X	266.47894	2.28772	136.98337	2.29115	0.3212004	0.16932807	3.2358130	20	10 27.9	20.6
280427	2003	YH ₅₆	16.2	X	135.39104	302.75175	97.11718	4.16598	0.0917041	0.19643754	2.9308015	20	3 9.8	20.5
280428	2003	YW ₈₄	15.5	X	35.15199	40.19423	66.14163	10.37171	0.0929420	0.18987079	2.9979930	20	1 20.9	19.3
280429	2003	YX ₈₄	14.9	X	261.27611	278.52460	260.16031	12.19846	0.2455594	0.17570665	3.1570194	20	12 19.1	19.0
280430	2003	YO ₉₃	17.2	X	147.61670	353.97203	54.83856	3.02677	0.2690001	0.25788556	2.4444700	20	4 7.4	21.1
280431	2003	YQ ₁₀₄	15.5	X	329.38144	34.27073	118.22165	16.79049	0.0616186	0.18077703	3.0977085	20	—	—
280432	2003	YF ₁₀₆	15.8	X	179.83806	304.18587	293.13514	11.30879	0.0923790	0.23161038	2.6260160	20	12 31.3	19.6
280433	2003	YV ₁₂₀	16.3	X	48.93361	346.16362	92.07730	7.19192	0.1502386	0.18523992	3.0477522	20	1 10.1	19.8
280434	2003	YH ₁₃₄	15.3	X	75.98196	354.63069	68.29620	14.79635	0.2335671	0.18788554	3.0190743	20	2 20.4	19.3
280435	2003	YZ ₁₄₀	15.5	X	245.46986	119.31899	73.66310	28.24362	0.2232705	0.17259058	3.1949053	20	12 17.4	20.1
280436	2003	YE ₁₄₁	15.5	X	33.83753	37.75344	41.02102	11.52563	0.1372048	0.18377959	3.0638761	20	—	—
280437	2003	YU ₁₄₁	17.2	X	44.38226	358.23675	27.97669	4.34767	0.1918809	0.29925198	2.2136623	20	—	—
280438	2003	YR ₁₆₄	15.9	X	214.66792	254.95555	73.23062	3.39690	0.0705856	0.19885534	2.9069967	20	3 5.2	20.2
280439	2003	YP ₁₆₉	15.3	X	9.39790	11.19116	91.47838	10.49453	0.0627311	0.18202934	3.0834846	20	—	—
280440	2004	AF ₇	15.2	X	309.64132	36.81378	116.00036	22.58260	0.0763303	0.17521647	3.1629047	20	—	—
280441	2004	BS ₇₂	15.4	X	13.24838	314.91944	149.39855	17.03316	0.1587862	0.17913239	3.1166400	20	—	—
280442	2004	BA ₈₆	16.2	X	341.94048	226.35029	152.65518	23.73215	0.2252146	0.28389716	2.2927781	20	12 10.5	18.8
280443	2004	BO ₉₆	15.5	X	88.49022	275.88568	134.26665	9.74539	0.1342881	0.18487726	2.0517366	20	2 2.3	19.4
280444	2004	BG ₁₁₉	17.0	X	204.66771	155.21333	41.32853	8.66586	0.1659737	0.28269313	2.2952836	20	12 8.9	20.1
280445	2004	BJ ₁₂₅	16.2	X	243.14664	161.20395	83.64646	3.29751	0.0028948	0.18170089	3.0871994	20	1 1.8	20.6
280446	2004	CO ₃₉	15.2	X	51.39012	353.67696	66.19886	17.25497	0.2221808	0.17980119	3.1089066	20	—	—
280447	2004	CU ₇₃	15.8	X	10.22170	342.04046	102.11146	6.98195	0.1814701	0.17707749	3.1407050	20	—	—
280448	2004	CL ₇₅	16.0	X	266.08224	102.69568	301.79543	3.31399	0.0688677	0.21078073	2.7962894	20	8 9.8	19.6
280449	2004	CO ₁₀₆	17.3	X	299.78904	326.62677	231.75476	6.35921	0.0857825	0.29847508	2.2175019	20	—	—
280450	2004	CB ₁₂₉	15.8	X	38.35345	274.58247	145.28097	11.68914	0.0322572	0.17284885	3.1917220	20	—	—
280451	2004	DJ ₁₁	17.2	X	215.00218	166.12757	328.12793	5.22615	0.1329579	0.27565512	2.3382558	20	10 1.4	20.4
280452	2004	DX ₂₅	17.7	X	23.18046	105.23842	19.42605	1.37753	0.0657569	0.30376319	2.1916908	20	—	—
280453	2004	DG ₂₆	17.3	X	284.17693	237.85406	354.44718	4.95323	0.0936621	0.30232579	2.1986322	20	1 5.1	20.1
280454	2004	EO	17.3	X	14.67262	20.15037	101.65509	4.40457	0.1188240	0.29925335	2.2136555	20	—	—
280455	2004	EA ₁₇	17.5	X	228.15933	110.79858	123.24903	6.39651	0.2155272	0.28769259	2.2725682	20	—	—
280456	2004	EG ₄₉	16.9	X	212.47947	209.34458	83.73517	6.54220	0.1134216	0.29749694	2.2223598	20	1 5.5	20.0
280457	2004	EV ₅₇	17.7	X	228.52061	238.13512	13.72696	5.83316	0.1249412	0.29253626	2.2474131	20	—	—
280458	2004	ER ₆₉	17.8	X	197.28821	19.51429	145.69529	1.61692	0.1231116	0.27539462	2.3397300	20	10 26.1	21.1
280459	2004	EG ₈₆	16.9	X	71.62307	325.06611	126.28327	4.68153	0.0355695	0.30167300	2.2018028	20	1 29.1	19.2
280460	2004	EH ₈₆	17.3	X	204.33599	16.19637	149.08664	7.38722	0.1276367	0.27571492	2.3379176	20	11 4.8	20.6
280461	2004	FQ ₁₂	17.2	X	265.29911	354.52063	215.25873	5.82486	0.1211465	0.29121269	2.2542177	20	—	—
280462	2004	FY ₅₂	17.0	X	229.23933	199.31359	64.56094	4.40790	0.0837779	0.29310819	2.2444887	20	—	—
280463	2004	FW ₇₈	17.3	X	226.02104	254.21824	7.10989	3.80880	0.0968395	0.29282847	2.2459178	20	—	—
280464	2004	FV ₉₁	17.5	X	227.92650	74.48850	168.22130	3.71633	0.1632970	0.28852894	2.2681745	20	—	—
280465	2004	FT ₉₂	17.1	X	203.46541	133.16912	12.60459	7.23709	0.1266501	0.27235247	2.3571208	20	10 5.8	20.4
280466	2004	FL ₉₃	17.1	X	70.31428	53.07527	33.04784	7.13569	0.0411453	0.30055344	2.2072672	20	1 22.6	19.5
280467	2004	FS ₉₅	17.4	X	286.70992	86.15937	127.27574	5.20477	0.0780968	0.29813738	2.2191761	20	—	—
280468	2004	FN ₉₇	16.9	X	263.46842	150.11667	83.26584	5.28171	0.1199454	0.29480101	2.2358881	20	—	—
280469	2004	GL ₁₀	16.9	X	161.26551	315.01987	211.63160	6.03857	0.1167552	0.26660326	2.3908871	20	9 15.9	20.6
280470	2004	GF ₂₅	16.6	X	199.94275	244.42319	62.55520	5.59876	0.1479156	0.29289142	2.2455959	20	1 12.9	19.9
280471	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>
280481 2004 HL ₄₈	16.1	X	329.46620	264.38627	234.32651	19.91519	0.3213398	0.29418223	2.2390223	20	—	—
280482 2004 HK ₅₉	17.4	X	136.73853	109.87137	231.36681	2.75281	0.1926434	0.28480865	2.2878837	20	—	—
280483 2004 JM ₁₂	16.3	X	128.62545	225.39115	76.60100	28.07656	0.1727925	0.27714539	2.3298660	20	—	—
280484 2004 JO ₃₅	17.2	X	218.24316	30.74191	184.78226	3.94420	0.1828104	0.27968095	2.3157631	20	—	—
280485 2004 LA ₁₅	17.2	X	172.39296	158.76813	124.09514	4.71610	0.1430327	0.28013272	2.3132726	20	—	—
280486 2004 LM ₂₀	16.9	X	206.90759	121.90707	134.28513	6.64534	0.2188873	0.28247340	2.3004758	20	—	—
280487 2004 LO ₂₉	17.2	X	174.78049	359.25216	225.83669	4.25745	0.1064174	0.26765459	2.3846222	20	12 16.8	20.7
280488 2004 LL ₃₁	16.3	X	203.41611	120.18429	227.18610	6.40041	0.2816828	0.28654542	2.2786296	20	3 4.6	20.4
280489 2004 ML ₅	17.0	X	169.58531	335.34312	273.79020	3.94734	0.1186846	0.27057825	2.3674135	20	—	—
280490 2004 MO ₆	16.8	X	73.84423	122.34446	229.69312	9.25119	0.2903322	0.26501724	2.4004166	20	—	—
280491 2004 MO ₇	19.0	X	327.03192	61.40992	38.53681	24.07851	0.4840363	0.84888538	1.1046805	20	—	—
280492 2004 NG ₂	17.4	X	142.70910	231.64960	71.73493	3.16518	0.2164315	0.27328168	2.3517746	20	—	—
280493 2004 NF ₅	16.9	X	109.68103	65.61936	263.65868	5.23660	0.2102115	0.26878774	2.3779155	20	—	—
280494 2004 NN ₉	17.1	X	156.44475	14.57655	279.40328	1.78956	0.1910520	0.27511607	2.3413090	20	—	—
280495 2004 NV ₁₄	17.3	X	82.82155	80.86711	245.37972	1.81066	0.1861367	0.26593252	2.3949057	20	—	—
280496 2004 NS ₂₀	16.9	X	123.28982	31.03357	269.91340	6.51031	0.1112279	0.26923746	2.3752667	20	—	—
280497 2004 NE ₂₁	17.2	X	60.76577	146.21684	203.68882	4.36988	0.2480799	0.26383255	2.4075971	20	—	—
280498 2004 NF ₂₃	17.4	X	123.98648	69.63517	252.53352	1.51211	0.2972298	0.26992495	2.3712319	20	—	—
280499 2004 NU ₃₂	16.5	X	62.44813	188.63192	168.47610	12.68459	0.1975063	0.26360402	2.4089883	20	—	—
280500 2004 OZ ₃	16.0	X	284.34162	161.50170	144.34403	13.96398	0.1510621	0.23479348	2.6022281	20	4 16.1	19.7
280501 2004 OB ₁₀	17.5	X	162.75352	216.41290	53.97007	3.13755	0.1864839	0.27329657	2.3516892	20	—	—
280502 2004 PD ₃	17.3	X	28.37205	333.53888	22.14133	2.77768	0.1860080	0.25920238	2.4361839	20	—	—
280503 2004 PY ₃	17.7	X	108.95293	210.52370	122.49932	2.10896	0.2022743	0.27048015	2.3679859	20	—	—
280504 2004 PK ₅	16.9	X	79.60537	167.78053	176.53084	5.95602	0.1388205	0.26679166	2.3897615	20	—	—
280505 2004 PA ₆	17.0	X	76.11509	193.81123	166.64734	4.20405	0.2130213	0.26717651	2.3874660	20	—	—
280506 2004 PK ₆	17.6	X	94.09155	159.47421	168.51362	2.31186	0.2239533	0.26646295	2.3917264	20	—	—
280507 2004 PN ₆	17.2	X	113.04582	30.28222	273.40515	6.32203	0.1663965	0.26676463	2.3899229	20	—	—
280508 2004 PU ₁₁	17.5	X	100.46992	103.52736	217.51940	1.77006	0.1957331	0.26710573	2.3878878	20	—	—
280509 2004 PN ₁₄	17.2	X	57.54354	235.66355	99.93957	2.47129	0.2019606	0.26029316	2.4293731	20	—	—
280510 2004 PT ₂₃	17.3	X	98.19633	359.32637	339.73825	2.43529	0.2081154	0.26870024	2.3784317	20	—	—
280511 2004 PV ₂₃	17.1	X	10.70967	350.81014	13.66914	1.57262	0.2041221	0.25660149	2.4526181	20	12 22.6	19.9
280512 2004 PE ₂₇	17.0	X	90.79491	276.38031	55.02211	4.19716	0.2595114	0.26632875	2.3925298	20	—	—
280513 2004 PD ₂₈	17.3	X	224.39158	100.93068	213.58557	5.90394	0.2127599	0.28736801	2.2742791	20	2 10.8	21.3
280514 2004 PM ₅₀	16.9	X	113.14210	194.69376	100.21634	4.94029	0.1297865	0.26603650	2.3942816	20	—	—
280515 2004 PQ ₆₄	17.9	X	99.24174	61.34044	268.19973	0.62546	0.1862139	0.26718290	2.3874280	20	—	—
280516 2004 PW ₆₉	17.4	X	193.04390	100.43980	210.40241	3.87744	0.1602659	0.27971468	2.3155769	20	1 11.9	21.1
280517 2004 PD ₇₁	17.7	X	129.62143	290.31966	6.37972	1.98303	0.2262463	0.26985529	2.3716400	20	—	—
280518 2004 PY ₇₅	17.1	X	79.02253	62.00465	189.24852	5.66947	0.3143289	0.25715139	2.4491204	20	10 29.1	21.1
280519 2004 PQ ₇₆	17.9	X	113.16240	71.86943	227.69430	3.26303	0.2679581	0.26766832	2.3845407	20	—	—
280520 2004 PY ₈₂	17.2	X	93.92877	182.19886	148.03305	9.28414	0.2295065	0.26545063	2.3978033	20	—	—
280521 2004 PY ₈₃	15.9	X	247.45184	152.10623	161.28653	29.08896	0.1011083	0.22632232	2.6667632	20	3 17.4	19.9
280522 2004 PF ₈₆	17.3	X	109.08553	209.84394	93.19043	3.29310	0.1852270	0.26707370	2.3880787	20	—	—
280523 2004 PM ₉₂	17.1	X	74.82665	134.00497	207.83930	4.81899	0.2246371	0.26305016	2.4123686	20	—	—
280524 2004 PR ₉₇	17.4	X	24.75131	163.06861	191.72558	2.22998	0.2157653	0.25634400	2.4542602	20	12 30.4	20.5
280525 2004 PD ₁₀₈	17.6	X	44.61501	198.76363	135.72280	2.18900	0.2016333	0.25739901	2.4475494	20	12 26.0	21.1
280526 2004 PE ₁₀₉	17.1	X	89.59943	311.12273	14.59968	3.82667	0.2139069	0.26403482	2.4063673	20	—	—
280527 2004 QS ₃	14.8	X	29.84045	45.46301	229.09953	8.11937	0.2279270	0.12377585	3.9876047	20	8 26.6	19.8
280528 2004 QV ₁₂	16.9	X	97.79165	247.09674	53.57714	7.60489	0.1241564	0.26262973	2.4149425	20	—	—
280529 2004 QJ ₂₁	17.6	X	70.17107	119.81345	233.06632	1.23160	0.2100516	0.26411977	2.4058512	20	—	—
280530 2004 QE ₂₇	16.7	X	113.59878	248.72407	42.46799	12.91114	0.2274015	0.26256488	2.4153401	20	—	—
280531 2004 RN ₁₂	17.0	X	176.55758	56.33682	309.60287	5.83622	0.1392328	0.28451201	2.2894737	20	3 2.6	20.3
280532 2004 RG ₁₅	17.9	X	122.73988	125.90746	176.71544	2.67783	0.2245583	0.26708111	2.3880345	20	—	—
280533 2004 RG ₂₅	17.2	X	56.52758	149.56718	172.73915	1.06407	0.1991717	0.25860863	2.4399113	20	12 23.2	20.8
280534 2004 RK ₂₆	17.4	X	58.76996	278.34240	70.38142	2.03812	0.1957705	0.26185462	2.4197057	20	—	—
280535 2004 RO ₄₀	17.8	X	119.10360	66.75202	216.22262	1.92938	0.1903390	0.26336271	2.4104596	20	12 31.3	21.7
280536 2004 RE ₄₉	15.8	X	165.07703	342.98580	11.19303	5.97488	0.0581739	0.21767443	2.7369347	20	2 10.5	19.8
280537 2004 RL ₅₀	17.1	X	67.15299	187.51965	149.86719	3.74493	0.2029910	0.26098837	2.4250570	20	—	—
280538 2004 RH ₅₁	16.6	X	18.74311	290.01063	52.57284	3.40169	0.1620412	0.25315328	2.4748393	20	11 26.8	19.6
280539 2004 RE ₅₃	17.5	X	99.40541	237.15271	91.41153	2.53279	0.2046140	0.26549918	2.3975109	20	—	—
280540 2004 RM ₅₈	17.1	X	46.81054	226.19637	126.82970	3.36687	0.2354925	0.25866331	2.4395675	20	—	—
280541 2004 RH ₆₈	17.3	X	50.60482	225.84846	124.20455	2.34833	0.2059955	0.25882982	2.4385211	20	—	—
280542 2004 RL ₈₆	17.6	X	98.73082	198.93852	110.28993	2.77000	0.1750145	0.26408887	2.4060389	20	—	—
280543 2004 RZ ₉₄	17.8	X	62.38045	123.48337	218.54502	3.96561	0.2449054	0.26131004	2.4230664	20	—	—
280544 2004 RG ₉₅	16.3	X	274.48309	179.06228	241.30215	5.69791	0.2606741	0.24545629	2.5263098	20	8 13.8	19.5
280545 2004 RO ₁₂₆	17.7	X	106.83067	79.47741	214.80527	1.22967	0.1620649	0.26268994	2.4145734	20	—	—
280546 2004 RJ ₁₃₈	16.1	X	258.05928	210.29526	211.36346	13.05369	0.2063416	0.24265376	2.5457243	20	7 31.0	19.9
280547 2004 RJ ₁₆₆	17.5	X	117.16296	351.23172	310.46648	0.54414	0.1847802	0.26669748	2.3903240	20	—	—
280548 2004 RC ₁₈₇	17.8	X	184.97616	89.09817	339.81409	18.10169	0.1173047	0.35583614	1.9722835	20	5 31.9	20.9
280549 2004 RJ ₂₀₃	16.6	X	75.53251	290.12686	348.81863	6.02344	0.1272631	0.25290087	2.4764858	20	11 7.8	20.1
280550 2004 RX ₂₁₅	16.6	X	108.05781	35.05130	260.78747	9.73938	0.2327758	0.26209126	2.4182490	20	—	—
280551 2004 RC ₂₂₄	16.9	X	294.78188	282.95953	96.53442	6.18854	0.2041783	0.24131069	2.5551614	20	8 1.1	19.5
280552 2004 RT ₂₃₀	16.1	X	148.18270	256.97549	195.40804	21.54527	0.0442673	0.22663531	2.6643074	20	5 23.6	20.2
280553 2004 RA ₂₅₉	17.0	X	227.59742	54.73838	190.41278	6.40362	0.2064158	0.27558682	2.3386421	20	—	—
280554 2004 RX ₂₆₀	17.4	X	277.26742	222.55527	178.39797	4.75362	0.0702856	0.24361199	2.5390443	20	8 23.7	20.5
280555 2004 RJ ₂₇₈	16.6	X	85.85442	49.25252	255.75231	9.39410	0.1776834	0.26153916	2.4216510	20	12 28.1	20.3
280556 2004 RH ₂₉₃												

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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>		
280561	2004	RD ₃₃₀	16.8	X	112.91193	82.17259	191.55220	9.71363	0.1828736	0.25936785	2.4351476	20	12 14.6	20.9
280562	2004	RU ₃₃₉	17.1	X	29.40030	317.18148	46.23989	3.36240	0.1966528	0.25634507	2.4542534	20	—	—
280563	2004	SJ ₁₄	16.4	X	267.45079	343.67116	48.94238	10.05421	0.1632905	0.23836749	2.5761513	20	7 15.8	20.0
280564	2004	TE ₂	17.3	X	83.86779	85.52710	221.83906	0.89659	0.1814923	0.25833363	2.4416426	20	12 29.2	21.0
280565	2004	TG ₂	17.3	X	316.65553	237.31380	123.68725	0.91970	0.1283706	0.24265125	2.5457418	20	8 25.2	19.9
280566	2004	TC ₄	17.5	X	54.35560	84.19831	189.29523	3.12398	0.0523522	0.24400491	2.5363178	20	9 25.2	20.8
280567	2004	TK ₁₃	17.0	X	261.04594	254.97903	246.96997	19.74681	0.0906575	0.38169396	1.8821715	20	—	—
280568	2004	TN ₂₄	17.7	X	107.91333	37.09323	232.99215	1.88324	0.1766608	0.25660786	2.4525775	20	12 5.1	21.7
280569	2004	TH ₃₃	16.7	X	85.71764	46.69477	213.32576	8.24740	0.1049494	0.24752269	2.5122298	20	10 24.7	20.3
280570	2004	TP ₄₁	16.2	X	163.56928	207.61292	241.06633	5.01509	0.0990524	0.22633295	2.6666798	20	6 7.1	20.2
280571	2004	TJ ₄₄	15.6	X	113.79154	242.86364	216.52242	12.70876	0.1861243	0.21800585	2.7341601	20	5 7.3	19.7
280572	2004	TS ₄₄	17.0	X	315.20155	32.87035	333.87473	2.03168	0.1419871	0.24115394	2.5562686	20	8 29.3	19.2
280573	2004	TG ₅₅	16.4	X	7.67605	287.83386	43.04485	6.76392	0.0757539	0.24342281	2.5403597	20	10 11.6	19.3
280574	2004	TN ₉₂	16.6	X	72.55969	258.92492	3.10005	3.82057	0.1045098	0.24498910	2.5295205	20	10 10.9	20.0
280575	2004	TX ₁₃₁	16.5	X	244.16761	346.39708	67.83794	4.98244	0.1946509	0.23409378	2.6074109	20	7 10.7	20.3
280576	2004	TN ₁₃₃	16.4	X	265.43148	206.48279	203.32791	6.22090	0.3061955	0.23633912	2.5908701	20	7 12.4	20.2
280577	2004	TM ₁₇₆	15.9	X	201.61377	187.86623	231.03804	11.92229	0.1505486	0.22648191	2.6555103	20	6 6.9	20.2
280578	2004	TD ₁₉₅	17.2	X	52.18234	63.41274	229.53816	4.53558	0.1820943	0.24846272	2.5058893	20	11 7.4	20.4
280579	2004	TY ₁₉₆	17.2	X	229.51114	154.31637	250.61125	1.03196	0.0789332	0.23165020	2.6257151	20	6 24.4	20.8
280580	2004	TK ₂₀₃	17.2	X	343.07944	132.65161	227.81828	14.50584	0.1681584	0.24380016	2.5377377	20	10 15.4	19.7
280581	2004	TB ₂₁₆	16.7	X	278.10660	110.98814	288.58167	1.71839	0.1384333	0.23832875	2.5764304	20	8 12.0	19.7
280582	2004	TM ₂₂₅	16.3	X	342.57478	39.17194	189.25459	13.67066	0.2057472	0.22625783	2.6672699	20	3 16.9	19.0
280583	2004	TR ₂₄₂	16.1	X	6.72042	283.25677	90.09189	11.14004	0.2815219	0.25361575	2.4718298	20	—	—
280584	2004	TT ₃₀₃	17.2	X	322.56977	142.07018	213.37272	3.54787	0.1050731	0.24326808	2.5414367	20	8 27.9	20.0
280585	2004	TE ₃₂₃	16.7	X	283.41794	156.73724	223.43743	3.20134	0.0761659	0.23474434	2.6025912	20	8 1.4	19.9
280586	2004	TO ₃₂₈	16.6	X	274.67439	304.58160	100.15571	5.84834	0.1849637	0.24199962	2.5503098	20	8 8.5	19.8
280587	2004	TO ₃₄₅	16.3	X	23.04820	62.62589	252.17886	4.66783	0.1661262	0.24534029	2.5271061	20	10 23.7	19.2
280588	2004	TB ₃₄₆	16.4	X	274.90258	155.55975	232.82762	12.57610	0.1646076	0.23638039	2.5905686	20	7 14.9	20.0
280589	2004	TX ₃₄₈	16.2	X	114.92612	234.85863	211.56911	7.82810	0.1827601	0.21482199	2.7611091	20	4 21.3	20.1
280590	2004	UU	17.6	X	323.62085	18.90913	59.66538	21.85171	0.1193934	0.37817583	1.8938266	20	—	—
280591	2004	VD ₁₀	16.1	X	115.04001	8.39955	63.93205	11.19251	0.3075720	0.21290973	2.7776171	20	4 20.9	20.7
280592	2004	VP ₁₂	16.6	X	206.31599	139.30601	216.02715	12.43849	0.1468897	0.21843860	2.7305479	20	3 21.8	21.2
280593	2004	VJ ₁₉	16.6	X	267.47489	169.17986	238.25084	4.60086	0.1926401	0.23591632	2.5939647	20	7 28.3	20.1
280594	2004	VU ₁₉	16.4	X	318.45275	145.09949	232.43567	30.06758	0.1577075	0.24156271	2.5533839	20	9 8.4	19.8
280595	2004	VW ₂₆	16.4	X	352.68403	105.64080	250.97147	13.44873	0.1756365	0.24516151	2.5283345	20	10 30.5	19.0
280596	2004	VF ₃₄	16.5	X	123.50005	307.38765	214.21153	11.80659	0.0624014	0.22995016	2.6386406	20	7 21.8	20.5
280597	2004	VP ₃₅	17.2	X	316.20033	27.11520	59.58366	23.09044	0.0946486	0.37737990	1.8964885	20	—	—
280598	2004	VW ₄₁	16.8	X	74.62107	113.80876	49.36563	13.56104	0.0571364	0.22219573	2.6996797	20	5 22.1	20.3
280599	2004	VB ₅₁	17.0	X	20.96741	194.77925	123.15937	4.22958	0.1984433	0.24421942	2.5348324	20	11 2.3	19.9
280600	2004	VN ₅₃	16.2	X	205.72977	9.91315	62.29109	4.20767	0.0855368	0.22916347	2.6446759	20	7 2.3	20.0
280601	2004	VO ₇₆	16.5	X	270.26861	339.41282	60.03151	9.37882	0.1191963	0.23652869	2.5894856	20	8 7.1	20.0
280602	2004	VU ₇₇	16.0	X	283.47900	324.09885	68.35193	14.76898	0.0882832	0.23643152	2.5901950	20	8 26.0	19.5
280603	2004	VN ₉₂	16.7	X	27.41954	104.18937	171.35309	4.74700	0.1448812	0.23561021	2.5962110	20	8 31.8	19.5
280604	2004	VJ ₉₅	16.4	X	16.15701	68.12769	218.70264	12.91936	0.1820316	0.23580625	2.5947718	20	8 28.7	19.5
280605	2004	WX ₁	16.1	X	86.02692	57.40593	59.75822	10.17175	0.1148404	0.21402775	2.7679357	20	4 19.9	19.9
280606	2004	WT ₈	16.2	X	228.03337	163.36563	247.98922	12.01620	0.2760376	0.22898878	2.6460208	20	6 13.3	20.7
280607	2004	WY ₉	16.3	X	316.54564	163.70134	206.97969	17.35840	0.2025105	0.23985834	2.5654654	20	8 25.6	19.1
280608	2004	XE	17.2	X	347.71581	5.33320	52.17014	23.34126	0.1280651	0.37709115	1.8974565	20	—	—
280609	2004	XR ₅	16.4	X	148.45163	159.76821	283.44286	3.53905	0.0973303	0.21557676	2.7546605	20	5 13.7	20.5
280610	2004	XJ ₈	16.5	X	311.93058	289.75510	83.07065	12.67880	0.2221813	0.23981825	2.5657513	20	8 28.8	19.0
280611	2004	XW ₁₄	15.8	X	290.59594	178.46622	258.14622	21.57502	0.3034997	0.24229080	2.5482660	20	11 6.0	19.5
280612	2004	XF ₂₀	16.1	X	116.28058	15.75866	71.29644	9.01315	0.1959963	0.21269581	2.7794792	20	4 27.8	20.4
280613	2004	XQ ₂₃	15.9	X	102.44261	73.58367	59.52265	14.06076	0.0833499	0.21802320	2.7340151	20	5 23.8	19.6
280614	2004	XY ₂₄	16.9	X	338.36227	263.38818	91.93598	14.31859	0.1948179	0.23888255	2.5724470	20	10 9.5	18.6
280615	2004	XB ₅₀	17.4	X	298.48252	357.36067	91.53510	23.83412	0.1180440	0.37331887	1.9102172	20	—	—
280616	2004	XC ₅₆	15.6	X	321.36442	180.33112	248.21764	5.05031	0.1262537	0.18305544	3.0719510	20	11 21.9	19.2
280617	2004	XC ₆₃	16.2	X	293.45600	273.62281	105.03326	11.97322	0.2823270	0.23333990	2.6130238	20	7 12.6	19.0
280618	2004	XU ₆₄	15.9	X	161.44270	196.81636	252.28813	12.36223	0.0655505	0.22319584	2.6916091	20	6 3.9	19.7
280619	2004	XY ₇₇	16.3	X	1.19790	116.72963	240.03389	3.74077	0.2046601	0.24486605	2.5303679	20	11 22.7	18.8
280620	2004	XT ₈₃	16.3	X	147.03893	301.65919	122.40503	5.61526	0.1097331	0.21284585	2.7781728	20	4 22.4	20.5
280621	2004	XC ₈₄	16.1	X	321.58269	290.36848	85.36964	5.76396	0.2073554	0.23781431	2.5801447	20	9 24.6	18.3
280622	2004	XM ₈₆	16.5	X	43.03843	344.97720	121.04453	3.79830	0.1573939	0.19930729	2.9026004	20	2 2.7	19.5
280623	2004	XZ ₉₃	16.3	X	110.21616	24.47123	84.46230	9.50275	0.1449162	0.21307494	2.7761811	20	5 12.6	20.4
280624	2004	XH ₉₉	16.4	X	335.02197	126.26633	236.35287	3.74435	0.2451353	0.23957282	2.5675033	20	10 3.0	18.1
280625	2004	XT ₁₀₃	16.0	X	296.50018	299.93522	80.78217	6.40167	0.2857666	0.23420522	2.6065837	20	7 21.2	18.7
280626	2004	XO ₁₀₄	15.6	X	293.66920	33.99966	47.63541	6.04613	0.1501523	0.17945771	3.1128273	20	10 22.4	19.3
280627	2004	XR ₁₂₂	15.5	X	310.94676	206.80124	273.68518	9.62484	0.0481427	0.18927747	3.0042548	20	—	—
280628	2004	XY ₁₂₆	16.5	X	228.31868	160.20052	227.96083	1.68270	0.1112888	0.22355346	2.6887378	20	5 28.6	20.5
280629	2004	XK ₁₂₈	16.6	X	230.84849	127.41284	268.12626	2.76557	0.0959533	0.22500662	2.6771489	20	6 11.5	20.3
280630	2004	XJ ₁₄₂	16.7											

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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>
280641 Edosara	16.4	X	190.24927	277.70996	112.18284	5.95828	0.0525934	0.21285460	2.7780967	20	4 24.2	20.5
280642 Doubs	16.2	X	309.75737	39.34909	125.28008	10.36794	0.2640771	0.18791321	3.0187779	20	—	—
280643 2005 AY ₃₇	15.7	X	204.44391	75.06041	103.85970	13.20995	0.1558147	0.17176977	3.2050752	20	11 4.8	20.9
280644 2005 AN ₆₅	16.5	X	166.52746	117.02427	281.02151	3.29840	0.0747750	0.20905638	2.8116446	20	4 4.3	20.7
280645 2005 AE ₇₇	15.2	X	144.16854	275.53159	350.06714	7.78068	0.1097849	0.17547268	3.1598251	20	12 16.5	20.3
280646 2005 BD ₃	16.1	X	169.35227	292.90498	130.58664	6.32862	0.0506881	0.21533974	2.7566815	20	5 12.5	20.1
280647 2005 BD ₁₂	16.3	X	214.75814	299.05077	93.42429	4.84355	0.0893980	0.21788331	2.7351852	20	5 21.7	20.3
280648 2005 BR ₁₉	16.6	X	228.57178	46.35959	310.11076	3.59664	0.0874387	0.21163124	2.7887925	20	4 18.7	20.9
280649 2005 BJ ₂₁	16.7	X	206.31992	241.84838	137.65927	5.20629	0.0877895	0.21235249	2.7824742	20	4 27.5	20.9
280650 2005 BM ₂₇	15.6	X	162.33770	355.92919	139.11870	22.86371	0.1032035	0.22338754	2.6900690	20	8 4.6	19.7
280651 2005 BE ₃₃	16.2	X	339.22958	195.79978	120.68848	14.82553	0.2473053	0.22490558	2.6779506	20	7 24.9	18.1
280652 Aimaku	17.3	X	260.84707	330.61871	127.07697	23.78621	0.0856029	0.36264583	1.9475155	20	11 25.6	19.7
280653 2005 CC ₂₃	15.2	X	55.55961	330.71834	130.07501	28.55706	0.1754202	0.19694498	2.9257650	20	2 21.9	18.7
280654 2005 CX ₃₁	16.4	X	94.81241	320.00969	107.74560	4.16692	0.1109465	0.19840989	2.9113461	20	2 27.2	20.3
280655 2005 CS ₃₉	15.9	X	242.36861	118.56306	143.59828	10.86642	0.0639742	0.19010231	2.9955584	20	1 14.9	20.4
280656 2005 EB ₃	16.4	X	170.93132	272.53764	135.97101	4.49958	0.0951334	0.21053385	2.7984750	20	4 26.5	20.7
280657 2005 ED ₈	16.3	X	278.51513	147.59251	44.12830	1.58110	0.1119799	0.18060092	3.0997220	20	—	—
280658 2005 EU ₁₈	16.2	X	173.36195	229.47356	43.96214	1.00240	0.1312399	0.17470142	3.1691181	20	—	—
280659 2005 EZ ₂₀	15.7	X	311.18285	70.17665	151.87100	13.12816	0.0412443	0.19495755	2.9456152	20	2 17.9	19.8
280660 2005 EO ₂₄	17.2	X	97.66481	27.29846	132.17849	5.62101	0.1604628	0.27515151	2.3411080	20	7 4.7	20.4
280661 2005 ET ₃₆	16.6	X	358.15124	61.43536	75.59676	2.79838	0.2216307	0.19096648	2.9865144	20	—	—
280662 2005 EY ₄₃	16.4	X	173.63178	172.29691	194.05491	1.58059	0.1180693	0.19640726	2.9311026	20	3 8.3	21.0
280663 2005 EV ₅₅	16.4	X	256.08681	56.58769	170.41451	10.14205	0.0431826	0.18537526	3.0462686	20	—	—
280664 2005 ES ₆₃	15.0	X	222.91260	301.37393	343.10113	15.54665	0.1927601	0.18764615	3.0216416	20	1 21.7	20.3
280665 2005 EC ₆₆	15.5	X	286.54158	30.55429	126.87846	18.19328	0.1590209	0.17883480	3.1200965	20	—	—
280666 2005 EG ₉₁	15.7	X	235.54062	94.17693	199.20811	13.51119	0.1158822	0.19069028	2.9893976	20	2 7.2	20.6
280667 2005 EA ₁₃₇	15.2	X	262.30572	152.42454	17.31094	15.11560	0.0479417	0.17263463	3.1943618	20	—	—
280668 2005 EV ₁₄₉	15.8	X	139.54837	213.08337	165.70161	11.43021	0.0717944	0.18870628	3.0103141	20	2 13.4	20.2
280669 2005 EL ₁₅₀	15.4	X	148.59369	293.17763	38.01829	11.64121	0.0840249	0.18015001	3.1048922	20	1 2.1	20.2
280670 2005 ES ₁₅₃	16.0	X	218.27732	112.10653	114.17832	23.93039	0.2670829	0.17317224	3.1877471	20	12 27.6	21.2
280671 2005 EC ₁₅₇	15.9	X	40.00969	279.72248	176.46687	8.71909	0.0751923	0.18850571	3.0124490	20	1 12.1	19.8
280672 2005 EK ₁₅₉	15.1	X	169.63936	328.92668	0.40609	10.59770	0.1175714	0.18561254	3.0436719	20	1 25.7	20.0
280673 2005 EL ₁₆₂	16.7	X	215.41685	133.41362	163.19422	4.29663	0.2901510	0.18332131	3.0689801	20	1 23.7	22.2
280674 2005 EB ₁₇₂	15.4	X	297.46603	347.38207	189.37801	13.02382	0.1414434	0.18207868	3.0829276	20	—	—
280675 2005 ED ₁₇₇	15.9	X	322.09883	296.91446	193.80786	11.91823	0.1180888	0.17788624	3.1311784	20	—	—
280676 2005 EE ₁₈₅	15.4	X	309.29018	300.90500	200.55205	16.84961	0.1290079	0.17775103	3.1327660	20	—	—
280677 2005 EL ₁₈₅	15.4	X	239.22534	330.03962	238.74442	8.57584	0.1966782	0.17466915	3.1695084	20	—	—
280678 2005 EO ₁₉₄	16.3	X	219.52818	36.99168	193.63060	4.52365	0.1029832	0.17637104	3.1490861	20	—	—
280679 2005 EG ₂₀₀	14.9	X	319.18638	47.15799	112.51416	24.13806	0.1491227	0.18156120	3.0887827	20	—	—
280680 2005 EG ₂₂₀	15.2	X	211.91658	279.38325	330.28838	24.75792	0.2222303	0.17932887	3.1143631	20	—	—
280681 2005 ET ₂₂₆	15.6	X	338.66350	125.13266	2.70289	10.62526	0.0865503	0.18361096	3.0657518	20	—	—
280682 2005 EF ₂₃₃	15.8	X	281.80104	98.16820	95.21982	7.29942	0.1847786	0.18296270	3.0729891	20	—	—
280683 2005 EZ ₂₃₄	16.5	X	251.14369	199.74149	17.90089	3.62198	0.1516295	0.18052006	3.1006475	20	—	—
280684 2005 EA ₂₄₃	15.6	X	307.48101	85.21945	76.26485	12.19341	0.0592092	0.18271971	3.0757128	20	—	—
280685 2005 EQ ₂₄₆	16.7	X	286.25351	81.47775	112.88186	1.50219	0.1050901	0.18301822	3.0723675	20	—	—
280686 2005 EU ₂₄₉	15.9	X	354.58867	357.85936	139.86135	12.32568	0.0871581	0.18797401	3.0181270	20	—	—
280687 2005 EB ₂₆₈	16.2	X	220.65060	42.67310	194.93671	11.56421	0.0542871	0.17725005	3.1386663	20	—	—
280688 2005 EP ₂₇₆	15.6	X	176.12295	259.36562	13.97630	9.24351	0.0516884	0.17433961	3.1735013	20	—	—
280689 2005 ET ₂₈₂	15.4	X	248.89277	125.18289	124.17410	11.64221	0.0392385	0.18462727	3.0544908	20	1 10.1	19.9
280690 2005 EQ ₃₁₇	15.5	X	296.91451	63.35610	76.27219	2.34861	0.1395319	0.17671579	3.1449890	20	—	—
280691 2005 EL ₃₃₀	15.7	X	302.33226	99.41564	51.59364	16.95899	0.1891872	0.18024853	3.1037607	20	—	—
280692 2005 EP ₃₃₀	16.0	X	126.12422	89.95417	112.95049	13.17638	0.1391320	0.22248218	2.6973620	20	9 30.3	20.5
280693 2005 EW ₃₃₀	16.0	X	267.69338	87.58631	112.51628	13.40868	0.2196257	0.18035837	3.1025004	20	—	—
280694 2005 FX ₄	15.2	X	275.02582	69.20538	116.63070	10.87332	0.1834682	0.17774506	3.1328362	20	—	—
280695 2005 FX ₁₄	15.4	X	337.79924	26.99935	112.02198	11.04308	0.0530538	0.18168867	3.0873378	20	—	—
280696 2005 GL ₂	15.9	X	180.34877	242.40930	32.19692	9.00987	0.0361061	0.17548087	3.1597268	20	—	—
280697 2005 GE ₂₃	16.3	X	288.61564	79.39068	77.29847	3.31660	0.2160397	0.17701637	3.1414279	20	—	—
280698 2005 GP ₂₃	15.1	X	232.04799	127.65517	133.47327	27.04902	0.1447072	0.18184964	3.0855156	20	1 2.9	20.3
280699 2005 GD ₂₆	15.2	X	319.17084	320.81830	204.95978	15.75356	0.0749597	0.18159484	3.0884012	20	—	—
280700 2005 GS ₂₈	15.5	X	223.24656	187.33596	17.53334	13.12595	0.0876887	0.17064656	3.2191239	20	12 25.8	20.4
280701 2005 GC ₃₇	15.5	X	244.52237	98.49739	105.87867	16.31912	0.1544448	0.17395248	3.1782079	20	—	—
280702 2005 GQ ₃₉	15.7	X	269.30793	94.87036	97.82959	10.54083	0.0772338	0.17735789	3.1373939	20	—	—
280703 2005 GC ₅₀	15.7	X	99.79338	165.07599	198.84041	10.72415	0.0805902	0.17653314	3.1471580	20	—	—
280704 2005 GN ₅₄	16.3	X	99.64876	201.63361	195.75386	8.46530	0.1098038	0.18741299	3.0241471	20	1 24.8	20.6
280705 2005 GJ ₅₆	16.6	X	5.99938	191.38916	102.42091	6.64307	0.1952706	0.23520228	2.5992120	20	—	—
280706 2005 GL ₅₈	16.3	X	291.28803	56.83764	109.57314	2.58568	0.1206211	0.17699502	3.1416805	20	—	—
280707 2005 GV ₅₉	15.8	X	181.05024	281.24244	17.45520	8.44586	0.2355987	0.17565943	3.1575852	20	1 4.8	21.3
280708 2005 GH ₆₅	15.2	X	182.10837	265.60414	23.03263	9.76234	0.0824743	0.17731501	3.1378996	20	—	—
280709 2005 GN ₆₈	15.2	X	276.66268	49.39677	119.94674	17.73106	0.1741150	0.17637751	3.1490090	20	—	—
280710 2005 GH ₈₀	15.9	X	254.27811	117.96005	70.49698	6.79510	0.1811308	0.17327045	3.1865425	20	12 31.3	20.2
280711 2005 GJ ₈₀	15.6	X	60.36323	241.17971	150.90217	5.74136	0.0643214	0.17361098	3.1823743	20	—	—
280712 2005 GB ₈₈	15.6	X	199.91771	60.27374	117.17917	16.09646	0.1928099	0.17620453	3.1510697	20	—	—
280713 2005 GQ ₈₉	15.5	X	201.30914	95.13167	196.99807	17.79478	0.0577638	0.18119831	3.0929053	20	1 6.7	20.5
280714 2005 GD ₁₀₄	16.1	X	119.12350	153.69711	180.03707	5.52243	0.0637736	0.17390728	3.1787585	20	—	—
280715 2005 GW ₁₀₇	15.6	X	91.94419	194.20965	186.0796							

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>		
280721	2005	GX ₁₃₉	15.6 ^m	X	179.06776	120.20893	202.95346	21.72309	0.2719282	0.17763227	3.1341622	20	1 26.1	21.5
280722	2005	GW ₁₆₁	15.1	X	173.09358	6.22870	265.26315	12.02451	0.1373569	0.17300023	3.1898598	20	—	—
280723	2005	GD ₁₇₂	16.0	X	273.25870	67.41601	102.96040	2.62219	0.1296671	0.17476539	3.1683448	20	—	—
280724	2005	GY ₁₇₉	14.9	X	249.56343	309.66737	246.84018	26.05220	0.1850588	0.17504765	3.1649379	20	12 29.8	19.5
280725	2005	GV ₁₈₀	15.4	X	155.49804	141.45909	185.07434	10.47693	0.0749480	0.17984295	3.1084253	20	1 1.9	20.3
280726	2005	GD ₁₈₁	15.3	X	171.72592	255.80479	42.84615	9.13512	0.0467307	0.17772361	3.1330883	20	—	—
280727	2005	GU ₁₉₂	16.6	X	353.54989	336.22663	196.96601	1.26604	0.0315303	0.19588994	2.9362608	20	2 13.1	20.4
280728	2005	GH ₂₂₀	15.7	X	308.31778	357.68182	144.52110	11.57445	0.1753864	0.17805229	3.1292314	20	—	—
280729	2005	HE ₁	16.4	X	217.83430	145.13973	82.96894	0.94305	0.1081682	0.17171904	3.2057064	20	—	—
280730	2005	HS ₃	15.2	X	129.18147	304.20394	36.55642	17.35177	0.0957618	0.17784966	3.1316077	20	—	—
280731	2005	JQ ₄	16.3	X	78.50366	184.25496	143.39675	13.53784	0.1828265	0.22311409	2.6922666	20	—	—
280732	2005	JE ₂₀	15.5	X	222.60977	62.32478	163.17257	16.06641	0.1432538	0.17074371	3.2179026	20	—	—
280733	2005	JB ₇₂	16.3	X	209.04141	53.90927	183.75054	5.42874	0.1255650	0.17291098	3.1909574	20	—	—
280734	2005	JY ₈₇	15.8	X	67.00052	218.22119	206.71880	9.66646	0.1030836	0.18608431	3.0385255	20	1 14.2	19.8
280735	2005	JB ₉₂	15.7	X	286.31149	272.99844	238.91019	19.82927	0.2272494	0.17607667	3.1525950	20	12 24.7	19.6
280736	2005	JT ₉₉	15.4	X	10.64130	304.47867	128.45016	9.65720	0.0168024	0.16858541	3.2453090	20	—	—
280737	2005	JX ₁₀₃	15.6	X	51.32184	14.89725	47.97365	10.16883	0.0882202	0.17692928	3.1424586	20	—	—
280738	2005	JA ₁₃₀	15.7	X	152.37986	213.39705	79.77298	5.62307	0.1081082	0.16824742	3.2496539	20	—	—
280739	2005	JK ₁₄₂	15.5	X	282.81543	116.52520	89.44595	9.71610	0.0366020	0.18137567	3.0908887	20	—	—
280740	2005	KC ₄	16.1	X	287.53679	296.58805	215.84718	12.75995	0.2521912	0.17489041	3.1683464	20	12 24.9	19.9
280741	2005	LC ₁	16.2	X	77.54480	35.11383	226.51244	8.41640	0.2001334	0.21386250	2.7693613	20	10 22.3	20.4
280742	2005	LY ₄₂	18.6	X	278.71406	333.35590	339.08981	2.00370	0.3556523	0.31354027	2.1458886	20	3 13.7	21.8
280743	2005	LM ₅₁	15.5	X	329.92650	243.13734	231.16015	21.12964	0.1031197	0.23539366	2.5978029	20	—	—
280744	2005	MA ₄₁	18.1	X	241.27066	12.73650	301.43953	1.28629	0.1716243	0.31110072	2.1570922	20	2 26.4	21.3
280745	2005	NF ₂	15.5	X	271.61525	288.75893	299.97249	24.05800	0.2828359	0.17365219	3.1818708	20	—	—
280746	2005	NJ ₄₂	17.4	X	46.97883	262.92566	138.01334	7.33687	0.1569349	0.28873493	2.2670956	20	—	—
280747	2005	NO ₇₈	17.6	X	5.33817	321.81144	125.72544	3.31748	0.0727104	0.29085172	2.2560824	20	—	—
280748	2005	NM ₉₄	14.8	X	71.86564	47.46947	261.21280	8.66160	0.0616194	0.14683514	3.5583559	20	11 13.2	20.0
280749	2005	OL ₁	15.6	X	129.01662	246.31431	164.53076	9.08513	0.1391129	0.17287225	3.1914339	20	3 22.2	20.4
280750	2005	PD ₁₄	17.8	X	283.76543	224.44493	34.40883	1.74867	0.1190540	0.30847152	2.1693319	20	2 5.2	20.5
280751	2005	QR ₁₉	17.9	X	151.87125	176.89567	183.96664	2.07791	0.1676578	0.29844875	2.2176323	20	2 2.0	20.8
280752	2005	QP ₂₁	17.1	X	192.53333	203.29796	120.12317	5.61935	0.0891346	0.29978148	2.2110549	20	1 21.9	20.2
280753	2005	QR ₂₅	17.2	X	14.14528	342.67706	103.09526	2.41336	0.1269585	0.28410565	2.2916562	20	—	—
280754	2005	QB ₂₉	17.5	X	269.59778	113.39128	136.98462	4.04616	0.1539987	0.30336763	2.1935955	20	1 5.6	20.6
280755	2005	QN ₇₀	17.1	X	198.49485	172.89495	166.21951	6.67342	0.1681990	0.30336937	2.1935872	20	2 19.0	20.5
280756	2005	QO ₇₂	16.9	X	53.89762	198.46567	201.79346	5.50456	0.1166602	0.28428161	2.2907105	20	—	—
280757	2005	QP ₈₀	17.3	X	175.36078	238.00933	114.68749	4.08820	0.1513194	0.30169979	2.2016724	20	2 15.3	20.4
280758	2005	QG ₈₄	17.9	X	223.54976	122.13037	195.77016	2.85805	0.2068136	0.30509739	2.1852966	20	2 14.0	21.4
280759	2005	QX ₉₆	17.3	X	339.03935	284.63105	134.64376	5.91729	0.1522615	0.27548726	2.3392054	20	—	—
280760	2005	QB ₁₆₅	17.4	X	43.96482	16.28194	48.02816	6.49251	0.1091254	0.28584632	2.2823434	20	—	—
280761	2005	QH ₁₆₆	17.0	X	153.49530	211.45754	178.13069	25.10400	0.2149088	0.30248252	2.1978727	20	3 16.0	20.3
280762	2005	QM ₁₇₈	17.4	X	268.39253	78.13651	179.45277	4.69867	0.1099205	0.30313090	2.1947374	20	1 16.8	20.4
280763	2005	RU ₂	16.8	X	145.91338	155.90084	207.60995	4.86451	0.2150515	0.29575250	2.2310901	20	2 3.5	20.0
280764	2005	RE ₁₄	17.7	X	259.69971	338.11875	286.72997	0.70948	0.1122591	0.30334241	2.1937171	20	1 17.4	20.7
280765	2005	RY ₄₁	17.0	X	3.50937	250.22869	198.55143	6.54521	0.0767400	0.28498062	2.2869632	20	—	—
280766	2005	RQ ₄₄	17.0	X	28.62800	185.61774	232.86460	7.99777	0.1150351	0.28171876	2.3045822	20	—	—
280767	2005	SQ ₇	16.8	X	257.14986	172.08967	349.17130	2.15419	0.1148243	0.27499518	2.3419952	20	—	—
280768	2005	SE ₁₃	15.4	X	0.26743	55.90162	248.44824	1.74788	0.2084935	0.12529341	3.9553407	20	8 10.7	19.7
280769	2005	SJ ₂₀	16.5	X	320.14688	311.90138	162.61596	6.32422	0.0681102	0.27676708	2.3319886	20	—	—
280770	2005	SW ₂₀	17.2	X	97.04020	318.34209	65.69995	5.50409	0.1549600	0.28702905	2.2760693	20	—	—
280771	2005	SZ ₂₀	17.0	X	38.93073	210.65757	163.83067	6.42222	0.1244990	0.27476042	2.3433290	20	—	—
280772	2005	SJ ₃₇	17.7	X	111.73086	202.46419	175.02975	3.91024	0.1361959	0.29089265	2.21958708	20	1 1.8	20.3
280773	2005	SF ₅₀	17.2	X	351.32747	247.33781	196.36049	5.99136	0.1268803	0.27689741	2.3312568	20	—	—
280774	2005	SM ₆₃	16.8	X	279.87172	152.93475	13.25327	7.10897	0.0481308	0.28163758	2.3050250	20	—	—
280775	2005	SR ₆₈	17.3	X	349.78931	211.61261	204.54880	4.49960	0.2180259	0.27223766	2.3577834	20	—	—
280776	2005	SP ₆₉	16.7	X	120.00457	354.11085	20.38360	6.16495	0.1876906	0.29142321	2.2531320	20	1 19.7	19.5
280777	2005	SU ₇₂	17.5	X	171.72556	181.27523	171.16385	5.33628	0.2065629	0.29805266	2.2195966	20	2 13.6	20.9
280778	2005	SB ₁₁₂	17.2	X	343.68665	184.48428	243.98433	4.77481	0.1332011	0.27477848	2.3432263	20	—	—
280779	2005	SE ₁₁₈	17.4	X	140.66372	270.29240	92.07806	3.93001	0.1230143	0.29432444	2.2383010	20	1 18.2	20.2
280780	2005	SC ₁₂₄	17.9	X	126.08492	182.68463	191.11880	2.37010	0.1339513	0.29329024	2.2435597	20	1 15.8	20.5
280781	2005	SO ₁₂₉	16.8	X	313.12051	221.09039	204.10400	3.62785	0.1740750	0.26684833	2.3894231	20	11 30.6	18.6
280782	2005	SA ₁₃₀	17.8	X	140.03777	109.03859	247.81317	1.86502	0.2036394	0.29295263	2.2452831	20	1 20.1	20.9
280783	2005	SV ₁₃₉	17.8	X	188.75650	158.81550	167.72860	3.50890	0.1537068	0.29793406	2.2201856	20	1 25.1	21.0
280784	2005	SG ₁₄₉	17.1	X	327.54087	17.30040	65.34043	2.98662	0.1563505	0.27178147	2.3604211	20	—	—
280785	2005	SB ₁₅₈	17.7	X	242.14272	86.86983	185.74461	5.19442	0.1301917	0.29725333	2.2235739	20	1 8.3	21.0
280786	2005	SJ ₁₇₅	15.8	X	265.56331	17.37443	310.79952	4.38416	0.1801224	0.17811380	3.1285109	20	4 14.7	20.6
280787	2005	ST ₁₇₉	17.3	X	88.95748	214.20724	172.18878	5.88415	0.1086976	0.28834283	2.2691504	20	—	—
280788	2005	SK ₁₈₇	17.1	X	151.03216	111.85919	234.88633	4.38865	0.1332836	0.29306026	2.2447334	20	1 10.2	20.1
280789	2005	ST ₂₀₄	17.2	X	251.53012	226.30739	85.61181	3.34076	0.2029266	0.30845814	2.1693946	20	3 4.5	20.4
280790	2005	SP ₂₁₀	17.5	X	43.00131	116.15435	321.92075	4.04949	0.1378208	0.28693632	2.2765596	20	—	—
280791	2005	SL ₂₃₉	17.8	X	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>		
280801	2005	<i>TK</i> ₇₂	17.5	X	178.97625	274.85311	66.70168	2.46623	0.1967823	0.30014310	2.2092785	20	2 7.5	20.9
280802	2005	<i>TN</i> ₁₀₄	17.4	X	241.37580	20.39549	287.44171	2.79397	0.2323850	0.30448779	2.1882123	20	2 15.6	20.9
280803	2005	<i>TC</i> ₁₀₇	16.8	X	217.55017	193.42211	37.71453	6.80105	0.0651851	0.28136468	2.3065152	20	—	—
280804	2005	<i>TR</i> ₁₃₂	16.7	X	56.44577	296.40948	203.37172	11.92411	0.2058972	0.22950170	2.6420768	20	4 16.1	19.4
280805	2005	<i>TP</i> ₁₄₃	17.0	X	206.84689	144.51312	71.29886	5.26683	0.1597931	0.27740392	2.3284182	20	—	—
280806	2005	<i>TK</i> ₁₄₇	17.1	X	190.09201	188.12687	54.26270	7.58370	0.0656921	0.27973216	2.3154804	20	—	—
280807	2005	<i>TN</i> ₁₆₄	18.0	X	209.00915	78.83126	225.05810	6.33446	0.1636309	0.29618290	2.2289281	20	1 15.3	21.5
280808	2005	<i>TC</i> ₁₆₈	17.4	X	260.97127	170.14843	294.55837	0.43546	0.1383691	0.26234967	2.4166608	20	10 21.4	20.0
280809	2005	<i>TE</i> ₁₇₂	16.7	X	82.95958	135.76710	232.07325	5.75932	0.1393122	0.28190249	2.3035807	20	—	—
280810	2005	<i>TT</i> ₁₇₇	17.6	X	172.45887	159.04989	170.17680	6.75254	0.1849713	0.29538192	2.2329557	20	1 14.9	21.0
280811	2005	<i>TC</i> ₁₈₆	18.0	X	249.80586	306.62233	188.50182	1.90096	0.1571342	0.26737033	2.3863121	20	11 14.8	20.8
280812	2005	<i>TL</i> ₁₉₁	15.8	X	267.13018	255.35781	113.03898	6.30752	0.1658738	0.18148583	3.0896378	20	6 9.9	20.4
280813	2005	<i>UQ</i> ₇	17.1	X	35.88536	149.61102	274.79425	6.49127	0.0753692	0.28360432	2.2943561	20	—	—
280814	2005	<i>UZ</i> ₈	17.4	X	151.41456	307.53719	51.93324	7.05566	0.2413446	0.29554970	2.2321106	20	2 10.9	20.9
280815	2005	<i>US</i> ₁₇	16.0	X	229.86482	163.49949	202.78479	12.15029	0.0661323	0.23915636	2.5704831	20	5 6.7	19.6
280816	2005	<i>UY</i> ₁₉	16.9	X	102.26619	137.10614	233.45615	5.63949	0.1941439	0.28435378	2.2903229	20	—	—
280817	2005	<i>UZ</i> ₂₃	17.3	X	219.06959	284.57692	227.56759	4.78539	0.1566487	0.26222779	2.4174096	20	10 26.4	20.7
280818	2005	<i>UM</i> ₃₇	17.1	X	143.52877	277.62210	59.91357	5.99321	0.1918493	0.28726036	2.2748473	20	—	—
280819	2005	<i>UD</i> ₄₀	17.7	X	111.33613	139.88695	212.20006	2.71459	0.1163295	0.28195074	2.3033179	20	—	—
280820	2005	<i>UE</i> ₄₉	16.5	X	250.41859	291.14614	257.15754	6.96515	0.0472041	0.27803600	2.3248880	20	—	—
280821	2005	<i>UM</i> ₅₃	17.1	X	166.77740	271.18078	55.11854	7.41324	0.1622070	0.29162428	2.2520962	20	1 5.6	20.3
280822	2005	<i>UP</i> ₅₃	17.2	X	71.49509	189.41766	188.57115	5.76221	0.1494736	0.28116089	2.3076296	20	—	—
280823	2005	<i>UG</i> ₅₅	17.2	X	42.02290	45.81200	341.17659	1.97559	0.1131683	0.27596393	2.3365110	20	—	—
280824	2005	<i>UB</i> ₅₆	16.3	X	182.07522	321.08321	49.91118	9.83781	0.1881320	0.23217796	2.6217346	20	3 25.8	20.7
280825	2005	<i>UF</i> ₆₃	17.2	X	175.23264	123.15217	79.09357	2.75282	0.1435790	0.26228331	2.4170684	20	11 14.9	20.9
280826	2005	<i>UH</i> ₆₆	16.9	X	320.84743	12.69027	58.73485	7.29354	0.0772206	0.26700480	2.3884895	20	12 20.7	19.4
280827	2005	<i>UT</i> ₆₈	17.1	X	309.23121	163.49911	283.07705	3.96460	0.1650096	0.26866239	2.3786551	20	12 25.8	19.1
280828	2005	<i>UF</i> ₇₄	16.6	X	88.87272	70.00748	281.85285	5.79883	0.1311563	0.27948995	2.3168180	20	—	—
280829	2005	<i>UG</i> ₉₇	17.0	X	270.74798	266.85667	199.47333	6.28007	0.0642641	0.26410536	2.4059388	20	11 20.4	19.7
280830	2005	<i>US</i> ₁₀₆	17.0	X	265.86540	51.41136	75.50681	4.00818	0.0625424	0.26634925	2.3924070	20	12 11.3	19.6
280831	2005	<i>UY</i> ₁₀₆	16.6	X	171.37330	188.64282	65.44632	7.50869	0.0724653	0.27423920	2.3462972	20	—	—
280832	2005	<i>UP</i> ₁₀₉	17.7	X	157.04809	8.92226	310.64594	3.27021	0.1510642	0.28551179	2.2841258	20	—	—
280833	2005	<i>UG</i> ₁₁₆	17.3	X	214.01131	107.14040	233.10765	4.48117	0.2274022	0.30319868	2.1944104	20	3 3.6	20.9
280834	2005	<i>UE</i> ₁₁₉	17.7	X	195.03964	223.36899	11.90214	1.92961	0.1839567	0.27783612	2.3260029	20	—	—
280835	2005	<i>UM</i> ₁₃₂	16.6	X	342.28396	336.92517	85.41634	11.93992	0.2102156	0.26912916	2.3759040	20	—	—
280836	2005	<i>UD</i> ₁₄₄	17.3	X	335.67988	254.64229	182.78622	6.98015	0.0644779	0.27439699	2.3453976	20	—	—
280837	2005	<i>UL</i> ₁₅₀	17.2	X	4.34620	163.02292	244.56373	2.28376	0.1296582	0.27137534	2.3627755	20	—	—
280838	2005	<i>UX</i> ₁₅₃	18.2	X	205.46564	21.46228	311.93240	0.27094	0.2037566	0.29886755	2.2155601	20	2 19.6	21.8
280839	2005	<i>UL</i> ₁₆₀	17.3	X	200.91299	176.29764	130.40358	6.86640	0.1514709	0.29482732	2.2357551	20	1 12.4	20.5
280840	2005	<i>UF</i> ₁₆₁	17.6	X	161.96939	229.02398	129.07591	5.52560	0.2060419	0.29588523	2.2304228	20	2 13.5	20.8
280841	2005	<i>UH</i> ₁₆₃	17.5	X	209.25058	324.28951	263.91153	2.08612	0.1394345	0.27789535	2.3256723	20	—	—
280842	2005	<i>UH</i> ₁₆₇	17.7	X	209.69905	276.45493	218.99307	5.05124	0.1790236	0.25682043	2.4512240	20	9 19.9	21.4
280843	2005	<i>UT</i> ₁₆₈	17.4	X	202.61410	179.77359	24.70175	1.40513	0.1236854	0.27162465	2.3613295	20	12 20.8	20.5
280844	2005	<i>UO</i> ₁₈₉	17.3	X	283.81304	305.17578	23.41583	2.08321	0.0224981	0.24211497	2.5494997	20	5 30.9	20.7
280845	2005	<i>UD</i> ₁₉₇	17.2	X	93.64925	286.42982	77.37923	3.22239	0.1690653	0.28157854	2.3053472	20	—	—
280846	2005	<i>US</i> ₂₁₃	17.2	X	51.14330	324.85427	74.07190	7.21192	0.1381949	0.28109679	2.3079804	20	—	—
280847	2005	<i>UM</i> ₂₁₆	17.0	X	146.71408	219.63126	112.82269	3.66608	0.1527844	0.28666628	2.2779891	20	—	—
280848	2005	<i>UR</i> ₂₂₃	17.5	X	223.17740	244.37813	259.46742	3.15642	0.1402096	0.26172982	2.4204748	20	10 21.8	20.7
280849	2005	<i>UQ</i> ₂₅₂	17.6	X	174.53144	45.25928	296.46236	2.09820	0.2173796	0.29505443	2.2346077	20	2 4.4	21.0
280850	2005	<i>UU</i> ₂₆₇	17.0	X	204.90576	2.56419	203.11156	4.66014	0.1326780	0.26966499	2.3727556	20	12 23.3	20.2
280851	2005	<i>UO</i> ₂₇₀	17.7	X	188.05968	126.92815	73.55399	2.29968	0.1171557	0.26892983	2.3770778	20	11 29.3	20.9
280852	2005	<i>UB</i> ₂₇₁	17.2	X	250.82154	28.26935	74.04311	2.56233	0.1531369	0.25822076	2.4423540	20	10 1.5	20.1
280853	2005	<i>UY</i> ₂₈₂	18.0	X	285.43907	182.71339	128.74125	2.17302	0.2424573	0.31309484	2.1479233	20	4 2.6	20.6
280854	2005	<i>UL</i> ₂₈₃	17.6	X	248.90534	49.04781	92.71227	3.54674	0.2856655	0.26657580	2.3910513	20	11 27.1	20.1
280855	2005	<i>UH</i> ₂₉₈	17.5	X	148.12680	289.88177	218.41684	4.03133	0.1933023	0.24457600	2.5323680	20	8 9.4	21.6
280856	2005	<i>UU</i> ₂₉₈	17.4	X	194.45148	132.62741	62.57099	2.12316	0.1311115	0.26452503	2.4033934	20	11 27.1	20.5
280857	2005	<i>UU</i> ₃₀₀	15.8	X	188.56941	21.80827	83.09758	11.97362	0.0459448	0.17915370	3.1163928	20	7 25.8	20.5
280858	2005	<i>UN</i> ₃₁₄	17.7	X	91.69644	237.03590	143.99162	4.62282	0.1637932	0.28547699	2.2843114	20	—	—
280859	2005	<i>UU</i> ₃₃₀	17.6	X	185.06119	55.09597	144.43467	2.05847	0.1347438	0.26337481	2.4103858	20	11 22.6	21.1
280860	2005	<i>UH</i> ₃₄₇	17.6	X	161.05792	133.55719	67.62054	2.30441	0.1278038	0.25999615	2.4312228	20	10 31.2	21.2
280861	2005	<i>UP</i> ₃₆₃	17.2	X	202.26283	159.51595	145.10699	2.81840	0.1575452	0.29315648	2.2442422	20	1 11.5	20.7
280862	2005	<i>UE</i> ₃₇₂	16.8	X	124.21455	309.01119	32.72294	7.05587	0.1514872	0.28333558	2.2958067	20	—	—
280863	2005	<i>UZ</i> ₃₉₂	17.6	X	253.27320	60.36681	175.03095	3.39310	0.1296510	0.29228071	2.2487229	20	—	—
280864	2005	<i>UT</i> ₄₂₅	17.2	X	258.86191	43.15956	241.19189	4.67736	0.1926934	0.29989774	2.2104834	20	2 3.3	20.6
280865	2005	<i>UT</i> ₄₅₈	17.3	X	110.25632	169.99011	187.88597	5.52280	0.1549749	0.28340508	2.2954313	20	—	—
280866	2005	<i>UH</i> ₄₆₁	16.7	X	155.47477	242.67820	52.62418	8.31966	0.1118927	0.27814337	2.3242896	20	—	—
280867	2005	<i>UQ</i> ₄₈₄	17.5	X	143.00553	192.18219	166.98414	7.43000	0.1612178	0.29241806	2.2480187	20	1 20.5	20.6
280868	2005	<i>UA</i> ₄₉₄	16.3	X	134.19629	38.39712	8.42885	13.15009	0.1459477	0.22785007	2.6548293	20	3 19.8	20.3
280869	2005	<i>UP</i> ₅₁₁	17.4	X	26									

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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>		
280881	2005	WJ ₁₆	17.5	X	172.45112	276.27706	67.20379	7.25630	0.2413763	0.29328538	2.2435845	20	2 9.3	21.2
280882	2005	WM ₁₇	15.8	X	277.41063	177.63459	67.86013	15.26002	0.0691001	0.22180813	2.7028238	20	2 2.0	19.9
280883	2005	WJ ₂₆	17.7	X	138.06820	319.26161	19.33450	2.57529	0.1780191	0.28441312	2.2900043	20	—	—
280884	2005	WX ₄₄	17.6	X	153.20957	286.47406	336.99952	1.04500	0.1604200	0.27151392	2.3619715	20	—	—
280885	2005	WG ₈₉	16.9	X	248.35602	47.91589	67.63633	7.53891	0.0633682	0.25887233	2.4382541	20	10 31.4	19.9
280886	2005	WV ₉₂	15.2	X	83.99003	328.93454	247.88952	8.38141	0.0348220	0.17836585	3.1255629	20	8 6.5	19.8
280887	2005	WG ₁₀₀	17.1	X	88.19332	140.26822	228.97531	5.83158	0.1577597	0.28068015	2.3102638	20	—	—
280888	2005	WV ₁₀₆	17.7	X	179.08568	26.00626	133.39946	2.08739	0.1390472	0.25431996	2.4672647	20	9 25.2	21.5
280889	2005	WF ₁₁₂	17.2	X	176.00304	32.61303	231.10250	5.07591	0.2100041	0.27511411	2.3413202	20	—	—
280890	2005	WT ₁₃₀	16.2	X	329.23668	96.43915	69.36443	13.52998	0.1730933	0.21294340	2.7773243	20	—	—
280891	2005	WF ₁₃₇	17.8	X	180.61325	86.84862	61.57016	2.63323	0.0994566	0.25291942	2.4763646	20	9 15.1	21.4
280892	2005	WK ₁₆₁	17.6	X	175.74997	123.47433	83.26464	3.08036	0.1244275	0.26240060	2.4163481	20	11 22.5	21.1
280893	2005	WZ ₁₇₀	17.0	X	40.74068	86.10701	252.98596	3.22796	0.0533987	0.26173514	2.4204420	20	12 7.8	19.8
280894	2005	WB ₁₇₄	17.2	X	149.63156	129.25526	118.60940	2.08431	0.1402540	0.26476672	2.4019306	20	12 16.9	21.0
280895	2005	WU ₁₈₁	17.2	X	115.88065	133.74048	212.39522	5.04898	0.1924055	0.28274335	2.2990114	20	—	—
280896	2005	WL ₁₈₇	17.2	X	119.98677	234.01281	279.55924	4.34679	0.1786380	0.23776858	2.5804755	20	7 21.0	21.1
280897	2005	WV ₁₈₉	16.0	X	215.42622	322.19218	29.57421	11.30509	0.1836580	0.23409887	2.6073730	20	3 28.9	20.3
280898	2005	XG ₁	17.1	X	157.31954	48.06440	289.71802	5.77366	0.2425945	0.28905443	2.2654247	20	1 17.9	20.5
280899	2005	XQ ₃	17.4	X	155.12631	33.63691	312.70013	4.44560	0.1743282	0.28989084	2.2610650	20	1 20.5	20.6
280900	2005	XV ₃₁	16.7	X	77.88151	186.70369	93.71562	15.59454	0.1039408	0.25373248	2.4710716	20	11 16.9	20.4
280901	2005	XX ₅₇	15.9	X	28.01459	40.01375	153.60975	9.74507	0.1482846	0.21560563	2.7544147	20	5 7.3	19.0
280902	2005	XK ₆₂	16.9	X	321.25768	357.83677	65.45368	7.49212	0.0513762	0.26280323	2.4138795	20	12 7.6	19.4
280903	2005	XR ₈₁	16.6	X	111.01820	240.90426	294.62582	3.49906	0.1127373	0.23918941	2.5702464	20	8 3.3	20.3
280904	2005	XD ₁₁₃	15.4	X	14.03185	102.87426	81.29493	33.30993	0.3702526	0.21393342	2.7687492	20	4 24.6	18.0
280905	2005	XR ₁₁₄	17.5	X	60.20943	127.23748	231.73627	0.22725	0.1881616	0.26785538	2.3834304	20	—	—
280906	2005	YE ₁₈	17.0	X	176.54359	3.81083	261.82881	4.61793	0.2094644	0.27580082	2.3374321	20	—	—
280907	2005	YX ₂₁	16.6	X	100.69770	95.34039	103.59419	12.92970	0.1246253	0.23862584	2.5742916	20	8 28.3	20.5
280908	2005	YM ₃₆	17.5	X	81.90663	249.94104	96.00417	3.69702	0.2037940	0.26817661	2.3815267	20	—	—
280909	2005	YJ ₄₁	15.8	X	257.95095	326.62512	77.42530	11.20639	0.1356072	0.17869452	3.1217291	20	7 18.8	20.4
280910	2005	YB ₆₀	17.1	X	74.60220	246.70653	96.65394	7.02741	0.1292147	0.26575095	2.3959964	20	—	—
280911	2005	YJ ₆₀	16.9	X	327.51638	334.24907	66.49258	2.26657	0.1890240	0.25770744	2.4455961	20	11 21.5	18.7
280912	2005	YS ₆₄	16.9	X	1.12074	309.25066	100.02344	12.97548	0.1655387	0.26646363	2.3917223	20	—	—
280913	2005	YB ₈₄	17.0	X	112.83666	193.31420	79.12984	3.19154	0.2112733	0.25828481	2.4419502	20	12 13.3	21.1
280914	2005	YA ₈₅	17.7	X	116.50915	77.05512	268.49107	6.59161	0.1495046	0.27861536	2.3216639	20	—	—
280915	2005	YK ₉₂	17.5	X	103.24857	98.29223	123.25246	2.56000	0.0495739	0.24474109	2.5312291	20	9 19.9	20.8
280916	2005	YS ₁₇₀	16.6	X	105.28979	138.28697	60.63477	6.41667	0.1599626	0.23966506	2.5668446	20	9 5.2	20.6
280917	2005	YM ₁₇₄	16.6	X	167.01882	73.04693	50.62838	7.85356	0.1042927	0.23963969	2.5670257	20	7 29.5	20.6
280918	2005	YJ ₁₇₉	16.8	X	83.59654	227.82854	108.86169	7.11535	0.1238220	0.26537041	2.3982864	20	—	—
280919	2005	YD ₂₁₁	15.9	X	192.40922	212.81868	251.21492	13.86152	0.1586003	0.23767799	2.5811312	20	7 21.8	20.2
280920	2005	YT ₂₄₅	17.2	X	129.51951	280.88070	228.63527	3.73228	0.1359139	0.23425787	2.6061931	20	7 21.4	21.1
280921	2006	AZ ₇	15.6	X	1.30574	207.54508	260.12663	9.71224	0.0952513	0.20393974	2.8584777	20	—	—
280922	2006	AX ₁₃	17.6	X	6.75193	264.30498	122.27877	2.74695	0.1875206	0.26063493	2.4272488	20	—	—
280923	2006	AT ₁₆	16.7	X	90.38174	62.44363	279.98736	5.43683	0.1317491	0.27331739	2.3515698	20	—	—
280924	2006	AP ₂₂	15.9	X	57.95033	78.92444	112.84432	28.45166	0.1697117	0.22315731	2.6919189	20	6 28.0	19.4
280925	2006	AA ₄₇	17.6	X	161.46717	111.91424	269.52032	6.24176	0.1722846	0.29182008	2.2510887	20	3 7.6	21.1
280926	2006	AZ ₄₉	17.4	X	357.73472	292.23675	91.92398	2.23008	0.0787385	0.25919587	2.4362246	20	12 11.4	20.1
280927	2006	AK ₅₉	17.5	X	29.36489	87.32263	278.27761	1.99174	0.1147026	0.26090354	2.4255826	20	—	—
280928	2006	AB ₆₁	16.4	X	66.57109	340.09878	282.85552	9.16029	0.1441954	0.24352324	2.5396611	20	10 5.6	20.2
280929	2006	AS ₆₇	16.8	X	70.73730	328.32171	284.54391	5.95440	0.0956637	0.24223488	2.5486582	20	9 22.1	20.3
280930	2006	AH ₈₄	16.9	X	69.52634	87.39453	69.30433	13.53532	0.2061154	0.22322295	2.6913912	20	5 31.1	20.0
280931	2006	AF ₉₆	16.2	X	144.76147	63.77109	79.67145	16.05524	0.1264009	0.23501417	2.6005987	20	8 1.6	20.4
280932	2006	BT ₉₇	15.0	X	222.85359	17.68555	143.52947	28.80767	0.1065257	0.18161165	3.0882107	20	11 12.3	20.1
280933	2006	BT ₂₈	17.2	X	36.54974	209.80849	165.83048	1.45604	0.2020529	0.26365790	2.4086601	20	—	—
280934	2006	BU ₄₅	16.9	X	30.01497	60.14525	152.09886	4.70096	0.0633179	0.22256202	2.6967168	20	5 27.1	20.2
280935	2006	BC ₅₀	17.1	X	43.24703	258.06613	352.00944	3.93859	0.1764172	0.23374149	2.6100301	20	8 27.3	20.2
280936	2006	BB ₅₉	17.1	X	353.58287	205.82415	79.44699	3.05392	0.0705411	0.22864645	2.6486612	20	7 10.9	20.0
280937	2006	BY ₆₂	16.4	X	165.95934	305.32487	12.95511	2.05188	0.0659328	0.20305721	2.8667540	20	—	—
280938	2006	BG ₇₃	16.8	X	29.13663	251.90918	9.84039	4.20654	0.2326343	0.23104898	2.6302680	20	8 30.6	19.5
280939	2006	BB ₈₉	16.5	X	39.21862	161.69581	123.02965	5.66965	0.1320847	0.24072856	2.5592790	20	10 4.4	19.7
280940	2006	BX ₉₃	16.7	X	257.67343	93.46168	288.18747	1.57899	0.0840876	0.23221309	2.6214702	20	6 27.9	20.3
280941	2006	BM ₉₆	16.7	X	244.29979	180.22601	158.88491	7.02354	0.0255285	0.21877764	2.7277261	20	4 24.9	20.5
280942	2006	BO ₉₆	16.4	X	105.94799	182.67701	322.07201	4.74236	0.1000285	0.22485215	2.6783748	20	6 15.3	20.2
280943	2006	BC ₁₀₉	17.0	X	313.74594	260.64120	112.64323	4.35723	0.0601439	0.24410215	2.5356442	20	9 14.7	20.0
280944	2006	BC ₁₂₀	15.9	X	309.74966	16.71662	311.40714	7.89262	0.1188964	0.23089001	2.6314753	20	6 24.7	19.0
280945	2006	BK ₁₄₁	17.7	X	146.56019	204.29661	116.83184	3.19625	0.2024719	0.27193605	2.3595265	20	—	—
280946	2006	BZ ₁₄₂	17.1	X	14.15643	102.32946	168.32902	4.99313	0.0688950	0.22910359	2.6451367	20	7 22.6	20.2
280947	2006	BZ ₁₄₄	16.7	X	201.59148	219.25940	217.57665	4.14773	0.2214487	0.23775864	2.5805474	20	6 26.5	21.1
280948	2006	BH ₁₄₈	16.2	X	55.38034	258.51461	127.04401	23.83707	0.2880875	0.26927346	2.3750551	20	—	—
280949	2006	BP ₁₅₄	16.2	X	232.90241	283.15990	124.65872	5.42938	0.0595088	0.23285000	2.6166876	20	7 4.8	19.8
280950	2006	BB ₁₅₆	16.7	X	291.19365	261.72397	130.85578	3.63344	0.0784575	0.24129736	2.5552			

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>		
280961	2006	<i>BM</i> ₂₆₇	16.5	X	67.42997	76.78757	125.87949	9.42206	0.1446862	0.22836067	2.6508705	20	7 20.7	19.8
280962	2006	<i>BC</i> ₂₆₈	16.0	X	53.80632	161.78653	1.32340	9.77506	0.1604544	0.21898473	2.7260061	20	5 4.3	19.3
280963	2006	<i>CJ</i> ₂₃	17.0	X	105.15420	97.11213	274.65044	6.77512	0.2334024	0.28214449	2.3022633	20	1 2.2	19.2
280964	2006	<i>CV</i> ₃₆	17.2	X	13.30220	146.51700	115.92526	3.11103	0.1419074	0.22881077	2.6473929	20	7 16.6	19.9
280965	2006	<i>CV</i> ₄₉	16.3	X	191.15891	345.91536	138.01758	26.68285	0.0579978	0.23968676	2.5666896	20	8 26.9	20.0
280966	2006	<i>CP</i> ₆₀	16.5	X	59.68811	81.74060	110.73318	9.60486	0.1769242	0.22565183	2.6720432	20	6 30.7	19.7
280967	2006	<i>DF</i>	16.0	X	28.97021	87.65094	75.41373	9.03288	0.1979250	0.21227304	2.7831685	20	3 31.9	18.8
280968	2006	<i>DJ</i> ₁	16.6	X	239.97093	6.57095	48.00018	7.79255	0.2517595	0.24044851	2.5612658	20	6 30.6	20.7
280969	2006	<i>DZ</i> ₄	16.8	X	3.48754	301.35629	10.96480	3.30678	0.1145346	0.23518095	2.5993691	20	9 9.8	19.4
280970	2006	<i>DN</i> ₇	16.7	X	197.82821	357.11424	89.04775	5.71694	0.1639291	0.23517633	2.5994031	20	7 7.9	20.9
280971	2006	<i>DH</i> ₁₁	16.3	X	171.62560	54.48327	49.87136	4.21753	0.2390852	0.23257767	2.6187299	20	7 6.7	20.9
280972	2006	<i>DH</i> ₁₅	15.8	X	347.58304	94.02902	347.37376	8.63424	0.0814809	0.19330807	2.9623479	20	—	—
280973	2006	<i>DF</i> ₂₅	15.8	X	234.64764	46.58747	158.37808	15.98957	0.1261631	0.18975709	2.9991904	20	—	—
280974	2006	<i>DE</i> ₃₁	16.2	X	151.87786	311.76703	172.29937	15.74512	0.1325992	0.22960180	2.6413089	20	7 10.5	20.6
280975	2006	<i>DP</i> ₄₀	16.4	X	1.72327	267.11146	28.31919	7.22787	0.2136803	0.22930884	2.6435580	20	8 23.8	18.8
280976	2006	<i>DQ</i> ₄₆	15.3	X	231.68525	355.33973	179.29947	18.20477	0.0978149	0.18282377	3.0245456	20	12 2.8	20.0
280977	2006	<i>DU</i> ₄₉	16.1	X	248.28992	132.79620	32.41521	4.29979	0.2080063	0.18695794	3.0790523	20	11 24.4	20.4
280978	2006	<i>DG</i> ₅₃	15.6	X	190.78026	190.19053	350.68811	10.79159	0.0363849	0.17705473	3.1409741	20	10 25.3	20.3
280979	2006	<i>DJ</i> ₅₄	17.4	X	329.23917	149.64632	143.30806	2.35182	0.0509723	0.22386027	2.6862806	20	6 13.2	20.6
280980	2006	<i>DB</i> ₅₇	17.5	X	226.02294	295.81267	175.86438	20.97148	0.0910341	0.37899558	1.8910947	20	10 13.8	19.2
280981	2006	<i>DW</i> ₆₅	16.6	X	148.08797	11.18188	110.69883	3.24421	0.1553733	0.22924168	2.6440743	20	7 6.2	20.8
280982	2006	<i>DO</i> ₆₈	16.1	X	49.32642	69.19350	114.48122	19.05055	0.1266664	0.21868087	2.7285308	20	5 30.1	19.7
280983	2006	<i>DW</i> ₇₁	17.0	X	246.08985	274.68299	128.84404	2.74816	0.0557352	0.22978945	2.6398707	20	7 16.4	20.6
280984	2006	<i>DQ</i> ₈₄	16.3	X	22.38339	211.85895	329.29365	3.88360	0.0861963	0.21389057	2.7691190	20	3 31.8	19.7
280985	2006	<i>DK</i> ₈₇	16.5	X	271.99493	256.39153	119.79513	3.27205	0.1528101	0.23054237	2.6341200	20	6 28.8	20.1
280986	2006	<i>DD</i> ₈₈	17.0	X	270.70423	233.21614	150.28396	2.58673	0.0955023	0.23142026	2.6274541	20	7 16.1	20.4
280987	2006	<i>DQ</i> ₈₈	13.2	X	274.99992	163.47966	171.72267	12.84542	0.0448330	0.08208166	5.2437096	20	5 27.7	20.2
280988	2006	<i>DW</i> ₉₀	16.6	X	210.96915	216.31607	165.74928	6.24662	0.0274244	0.21859338	2.2925888	20	5 7.8	20.5
280989	2006	<i>DQ</i> ₉₁	16.8	X	328.59867	222.53686	32.00741	3.89077	0.0459410	0.21516553	2.7581693	20	4 20.9	20.4
280990	2006	<i>DZ</i> ₉₃	15.5	X	359.59092	190.37086	177.37672	9.36260	0.2293284	0.24342983	2.5403108	20	12 9.9	18.3
280991	2006	<i>DJ</i> ₁₀₃	17.0	X	295.86868	191.16146	148.58318	2.57027	0.0946024	0.22773553	2.6557194	20	6 22.0	20.2
280992	2006	<i>DS</i> ₁₀₆	16.5	X	304.39942	332.49296	336.23146	4.61072	0.1529840	0.22025775	2.7154924	20	5 11.6	19.8
280993	2006	<i>DE</i> ₁₀₈	16.4	X	279.24302	91.10776	327.22560	2.02066	0.0958984	0.22047017	2.7137479	20	5 13.2	19.9
280994	2006	<i>DF</i> ₁₁₃	16.9	X	306.85622	328.97118	37.49633	4.07910	0.0996213	0.23464148	2.6033518	20	8 19.3	19.8
280995	2006	<i>DM</i> ₁₁₇	16.4	X	141.16028	73.14231	22.57612	5.11566	0.0580583	0.21937734	2.7227527	20	5 18.2	20.3
280996	2006	<i>DE</i> ₁₁₈	16.4	X	199.88621	212.68692	166.02303	2.99954	0.0175497	0.21480945	2.7612165	20	4 20.1	20.3
280997	2006	<i>DS</i> ₁₂₂	15.2	X	196.67380	121.47356	100.87184	17.27050	0.1613169	0.18659813	3.0329449	20	12 15.7	20.1
280998	2006	<i>DB</i> ₁₂₆	17.0	X	351.88488	353.15626	256.96843	1.37819	0.2545207	0.21879456	2.7350910	20	5 7.6	19.1
280999	2006	<i>DK</i> ₁₃₁	16.9	X	320.44918	230.09055	53.81002	6.14220	0.0546663	0.22172949	2.7034629	20	5 17.6	20.3
281000	2006	<i>DQ</i> ₁₃₃	16.7	X	158.66633	340.66055	125.23338	5.93703	0.0249999	0.22719257	2.6599489	20	6 21.6	20.3
281001	2006	<i>DT</i> ₁₄₁	16.9	X	328.35794	248.83130	44.85966	3.54056	0.0825365	0.22394765	2.6855817	20	6 9.5	20.2
281002	2006	<i>DB</i> ₁₆₄	16.5	X	51.01497	225.30543	323.65806	4.30529	0.0967549	0.22080268	2.7110227	20	5 29.5	19.9
281003	2006	<i>DJ</i> ₁₇₁	16.7	X	358.40535	70.89668	147.13430	7.28333	0.1604505	0.21351398	2.7723741	20	4 13.6	19.6
281004	2006	<i>DE</i> ₁₈₁	16.2	X	236.79244	344.87091	23.30882	6.13741	0.0875560	0.22110606	2.7085422	20	5 13.2	20.1
281005	2006	<i>DH</i> ₁₉₁	16.1	X	261.52280	199.19857	154.42655	6.75185	0.0144144	0.22124199	2.7074327	20	6 6.2	19.8
281006	2006	<i>DW</i> ₂₀₃	16.1	X	147.92881	338.82442	125.56784	9.16174	0.1098545	0.22497914	2.6773668	20	6 12.1	20.2
281007	2006	<i>DR</i> ₂₀₄	15.5	X	238.32954	171.66301	41.90577	11.80351	0.0352962	0.19595352	2.9356256	20	—	—
281008	2006	<i>DU</i> ₂₀₇	15.5	X	132.63898	273.26678	353.92327	15.81802	0.1885097	0.17589978	3.1584201	20	12 7.4	21.1
281009	2006	<i>DN</i> ₂₀₈	16.7	X	189.37644	98.72888	309.99853	1.84866	0.0417173	0.21837348	2.7310907	20	5 14.1	20.5
281010	2006	<i>DJ</i> ₂₁₅	16.3	X	10.94037	115.30197	195.34646	12.10764	0.2771387	0.22719100	2.6599612	20	10 12.9	18.7
281011	2006	<i>ET</i> ₂	17.4	X	355.65677	234.41611	62.19717	1.72832	0.1821567	0.22966115	2.6408538	20	8 5.3	19.7
281012	2006	<i>EA</i> ₁₁	16.6	X	279.86517	239.72717	151.04868	5.78065	0.1593128	0.23568039	2.5956955	20	7 29.2	19.9
281013	2006	<i>EE</i> ₁₃	16.5	X	106.02107	317.32902	161.52445	5.32556	0.0690872	0.21882153	2.7273614	20	5 9.5	20.3
281014	2006	<i>EC</i> ₂₁	17.1	X	352.56682	300.63667	344.51089	4.31764	0.0740233	0.22883352	2.6422174	20	7 9.7	20.3
281015	2006	<i>EJ</i> ₃₂	16.7	X	294.18011	158.24128	183.80727	8.75974	0.0156856	0.22819385	2.6521623	20	7 3.4	20.3
281016	2006	<i>EH</i> ₃₇	16.5	X	256.29468	325.30473	25.39740	6.60475	0.0196697	0.22010269	2.7167675	20	5 23.0	20.2
281017	2006	<i>EV</i> ₆₀	16.1	X	184.79652	254.65222	186.23939	21.82859	0.0653063	0.22629957	2.6669420	20	6 19.9	20.5
281018	2006	<i>ED</i> ₆₃	16.8	X	329.71347	40.61485	249.51851	3.25649	0.1338581	0.21960921	2.7208359	20	6 1.6	19.6
281019	2006	<i>EB</i> ₆₅	16.5	X	143.41867	151.91188	286.90118	2.46010	0.0480061	0.21622895	2.7491187	20	4 28.1	20.5
281020	2006	<i>EH</i> ₆₅	16.6	X	17.89577	15.17035	192.04461	8.85890	0.0770198	0.21507929	2.7589065	20	5 2.2	19.9
281021	2006	<i>EX</i> ₆₈	17.2	X	322.64327	149.92955	186.21473	2.21415	0.1154394	0.23240371	2.6200365	20	7 28.8	20.1
281022	2006	<i>EV</i> ₆₉	17.4	X	151.87990	136.29816	29.15361	23.31210	0.1025928	0.37429601	1.9068912	20	9 29.6	20.0
281023	2006	<i>FZ</i> ₅	15.6	X	257.99850	278.71576	185.78398	25.38313	0.2488033	0.17829575	3.1263821	20	9 14.9	20.3
281024	2006	<i>FH</i> ₅₃	16.2	X	216.47376	272.86548	60.17935	2.95916	0.0694572	0.20315998	2.8657872	20	3 12.4	20.4
281025	2006	<i>GR</i>	16.8	X	266.16609	174.95286	158.70290	6.24189	0.0554130	0.21766375	2.7370243	20	5 11.4	20.6
281026	2006	<i>GU</i> ₄	16.3	X	250.87136	263.40474	102.26228	4.32564	0.1083741	0.22123354	2.7075017	20	5 25.9	20.1
281027	2006	<i>GK</i> ₁₃	16.3	X	319.11212	202.79544	69.29469	4.69792	0.0550649	0.21351090	2.7724008	20	4 30.9	20.0
281028	2006	<i>GS</i> ₁₄	16.4	X	307.05014	230.16280	56.15630	4.5						

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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>		
281041	2006	<i>HV</i> ₄₆	16.0 ^m	X	123.89445	43.76811	53.31648	9.91006	0.0667887	0.21242630	2.7818296	20	5 2.5	19.8
281042	2006	<i>HE</i> ₅₀	16.3	X	262.30792	164.56375	186.95835	8.45858	0.0477187	0.21961486	2.7207892	20	5 30.5	20.2
281043	2006	<i>HO</i> ₅₁	15.9	X	94.81068	335.38470	271.27472	12.48488	0.1607499	0.23293767	2.6160310	20	10 15.7	20.2
281044	2006	<i>HF</i> ₆₀	16.2	X	66.08228	33.18257	114.91309	6.08444	0.1116344	0.21342087	2.7731804	20	5 2.0	19.7
281045	2006	<i>HL</i> ₆₆	16.7	X	245.15601	256.01356	64.47451	2.88815	0.0680778	0.20506746	2.8479884	20	3 28.3	20.8
281046	2006	<i>HF</i> ₉₀	15.9	X	106.46201	138.33175	127.38800	22.73962	0.0073727	0.23766206	2.5812465	20	11 22.7	19.9
281047	2006	<i>HL</i> ₁₁₀	15.9	X	284.57081	328.30903	304.37590	8.09426	0.1951517	0.20157390	2.8808005	20	2 23.9	20.2
281048	2006	<i>HA</i> ₁₁₆	17.1	X	332.75885	237.14902	16.25929	3.83917	0.0449597	0.21388552	2.7694216	20	4 24.9	20.6
281049	2006	<i>HQ</i> ₁₂₃	16.7	X	191.30220	263.80590	77.07297	2.85379	0.0344844	0.19943215	2.9013888	20	2 23.8	20.8
281050	2006	<i>HG</i> ₁₂₄	16.6	X	191.50522	292.61522	58.68309	2.93497	0.0801569	0.20286545	2.8685604	20	3 8.2	20.9
281051	2006	<i>HP</i> ₁₂₄	16.9	X	189.50537	174.41099	222.36744	3.36634	0.1022472	0.21225268	2.7833464	20	4 29.1	21.2
281052	2006	<i>HH</i> ₁₅₃	16.4	X	132.61560	333.04649	90.92557	3.25050	0.0553369	0.20416882	2.8563392	20	3 31.4	20.5
281053	2006	<i>JD</i> ₁₂	16.0	X	121.97889	197.99154	188.47378	9.52529	0.0799571	0.19263417	2.9692528	20	2 2.2	20.3
281054	2006	<i>JE</i> ₁₇	16.1	X	205.21001	146.06467	210.91062	7.33813	0.0766933	0.20353381	2.8622770	20	3 26.6	20.4
281055	2006	<i>JE</i> ₃₉	16.1	X	304.34894	4.23325	224.80487	8.42228	0.1945148	0.19798108	2.9155484	20	1 24.6	20.3
281056	2006	<i>JT</i> ₆₃	17.1	X	226.35687	231.58582	179.97821	2.53471	0.0807068	0.23069488	2.6329589	20	6 29.1	20.9
281057	2006	<i>KO</i> ₄	16.2	X	46.18299	226.40276	229.26463	8.71469	0.0631345	0.19284521	2.9670860	20	1 17.8	20.2
281058	2006	<i>KZ</i> ₄	16.8	X	198.19944	193.69779	135.78781	1.34403	0.1228434	0.19467138	2.9485012	20	2 17.6	21.5
281059	2006	<i>KF</i> ₁₃	15.3	X	117.11435	112.91110	168.48939	14.62086	0.1681647	0.17089886	3.2159549	20	12 12.9	20.8
281060	2006	<i>KE</i> ₂₆	16.2	X	159.98449	299.02881	132.05537	12.63904	0.1355830	0.21371525	2.7763333	20	5 17.4	20.8
281061	2006	<i>KR</i> ₂₇	15.8	X	194.47371	144.42040	232.28015	9.66817	0.1353291	0.20497406	2.8488535	20	4 7.2	20.5
281062	2006	<i>KQ</i> ₃₃	16.2	X	114.42775	343.36194	91.64061	3.35517	0.0480961	0.20168961	2.8796986	20	3 22.7	20.2
281063	2006	<i>KH</i> ₄₆	16.6	X	239.46598	196.03605	113.70239	3.15765	0.0581574	0.20027089	2.8932824	20	3 9.9	20.8
281064	2006	<i>KE</i> ₇₃	16.3	X	299.88596	88.17687	149.53832	8.38649	0.1446222	0.19843851	2.9110661	20	2 7.7	20.4
281065	2006	<i>KJ</i> ₈₃	15.7	X	342.97080	31.10696	169.93025	15.47366	0.0841002	0.20216128	2.8752176	20	2 27.6	19.4
281066	2006	<i>KT</i> ₁₂₂	16.5	X	289.51331	83.88763	156.89066	5.32877	0.1383930	0.19757108	2.9195806	20	1 31.2	20.8
281067	2006	<i>KU</i> ₁₃₀	15.2	X	330.03030	201.84767	249.42404	26.76392	0.1436775	0.17594572	3.1541590	20	12 29.1	19.1
281068	2006	Chipolin	15.3	X	139.18166	228.97432	126.51041	16.86410	0.0856492	0.17869895	3.1216776	20	1 20.3	20.0
281069	2006	<i>OO</i> ₁₀	15.2	X	144.11518	170.78255	156.53658	18.22222	0.1903770	0.17209807	3.2009978	20	1 4.1	20.5
281070	2006	<i>OY</i> ₁₀	18.7	X	226.37054	92.41198	232.02756	35.63226	0.5744106	0.40596626	1.8063813	20	2 3.7	23.5
281071	2006	<i>PM</i>	15.3	X	210.08764	67.43227	262.94931	16.20251	0.0631487	0.18353175	3.0666338	20	2 23.8	20.2
281072	2006	<i>PB</i> ₄₂	16.0	X	212.02728	105.18472	152.98399	14.32127	0.2458499	0.17651530	3.1473701	20	—	—
281073	2006	<i>KO</i> ₁₀₀	15.4	X	142.64144	274.44320	42.32454	8.74555	0.1516964	0.16888480	3.2414725	20	—	—
281074	2006	<i>QL</i> ₁₁₉	16.2	X	4.58161	109.59348	236.14422	6.60833	0.2254717	0.21643855	2.7473435	20	11 7.4	18.9
281075	2006	<i>QE</i> ₁₂₀	16.1	X	192.61801	147.19215	176.38623	10.99536	0.2559729	0.18231046	3.0803141	20	2 6.5	21.7
281076	2006	<i>QV</i> ₁₂₂	17.1	X	60.75730	134.44770	181.78855	22.74785	0.0909567	0.36371698	1.9436900	20	12 31.9	20.1
281077	2006	<i>QD</i> ₁₃₆	16.8	X	108.28653	104.21619	220.23109	7.66792	0.2262741	0.23290208	2.6162975	20	—	—
281078	2006	<i>QF</i> ₁₄₁	15.9	X	117.80369	62.35207	272.50733	3.81284	0.1308372	0.16793603	3.2536697	20	—	—
281079	2006	<i>RB</i> ₂₆	15.7	X	318.05217	166.61925	230.15061	4.76514	0.0488882	0.14697883	3.5560363	20	10 2.6	20.5
281080	2006	<i>RR</i> ₆₁	15.8	X	172.31412	130.65172	182.72845	16.56671	0.2158357	0.17384042	3.1795736	20	1 11.3	21.5
281081	2006	<i>RX</i> ₁₀₂	15.5	X	268.09759	96.40158	250.17661	9.27737	0.0550104	0.19476483	2.9475580	20	5 29.2	19.7
281082	2006	<i>SH</i> ₃₃	15.4	X	58.93825	112.13439	231.41257	6.75420	0.0789343	0.15330387	3.4575407	20	12 13.5	20.4
281083	2006	<i>SD</i> ₅₅	15.7	X	170.02045	249.36811	162.09718	14.96250	0.2090819	0.18311758	3.0712561	20	5 5.1	21.1
281084	2006	<i>SF</i> ₅₉	17.6	X	277.84705	209.14016	198.06088	21.80552	0.0789684	0.35205453	1.9863819	20	9 17.8	19.6
281085	2006	<i>SD</i> ₁₃₉	18.1	X	259.41841	228.00933	192.48505	23.17576	0.0742853	0.35098691	1.9904080	20	9 6.5	20.4
281086	2006	<i>SN</i> ₂₂₀	16.6	X	356.11890	157.55081	227.15196	7.54526	0.2681741	0.21631962	2.7483504	20	12 22.4	19.4
281087	2006	<i>SN</i> ₂₃₁	16.3	X	198.48776	183.64339	198.89864	10.01847	0.1125109	0.18621917	3.0370583	20	4 22.1	21.0
281088	2006	<i>SY</i> ₄₁₁	14.8	X	216.49675	38.33027	246.56811	15.80100	0.1561170	0.17168914	3.2060785	20	1 12.3	20.2
281089	2006	<i>SG</i> ₄₁₂	16.9	X	15.83427	326.52445	15.23316	4.43410	0.0805140	0.21087113	2.7954902	20	10 29.5	20.3
281090	2006	<i>TY</i> ₇₃	15.8	X	252.02618	140.70826	174.22983	12.06854	0.1850969	0.18479237	3.0526711	20	3 18.0	20.6
281091	2006	<i>TW</i> ₉₉	15.3	X	342.95590	331.34500	239.09502	8.59744	0.0399071	0.17664814	3.1457920	20	3 14.7	19.7
281092	2006	<i>TE</i> ₁₂₀	15.7	X	311.22133	85.11048	171.03353	11.96658	0.0878717	0.18381449	3.0634883	20	3 27.9	19.8
281093	2006	<i>UR</i> ₁₀₉	15.6	X	104.94981	201.71142	262.59552	8.07041	0.0535009	0.18460787	3.0547047	20	4 13.9	20.0
281094	2006	<i>UB</i> ₂₁₀	15.1	X	136.02056	163.78086	259.64569	7.61445	0.0840945	0.17520842	3.1630015	20	4 3.6	19.9
281095	2006	<i>UT</i> ₂₁₈	16.5	X	108.25185	122.78989	172.62896	11.52026	0.1959421	0.22766155	2.6562947	20	12 30.6	21.1
281096	2006	<i>UT</i> ₂₇₂	15.6	X	159.28331	139.33873	256.37094	7.82782	0.1014518	0.17466317	3.1695808	20	3 26.7	20.6
281097	2006	<i>UR</i> ₃₂₈	15.4	X	157.73981	150.83737	258.62820	10.73284	0.0783252	0.17755503	3.1350711	20	4 8.7	20.4
281098	2006	<i>VV</i> ₂₈	17.0	X	29.87041	82.39923	267.25640	6.26766	0.2344376	0.21440968	2.7646476	20	12 22.2	20.6
281099	2006	<i>VU</i> ₇₀	18.0	X	38.21687	63.35678	78.64646	4.82336	0.0893438	0.31281632	2.1491981	20	2 21.8	19.8
281100	2006	<i>WS</i> ₁₀	15.8	X	37.68058	324.97110	52.51871	14.60045	0.1610169	0.21857304	2.7294281	20	—	—
281101	2006	<i>WJ</i> ₁₇	16.7	X	231.96142	336.52975	66.19926	14.19507	0.1971326	0.26314471	2.4117907	20	6 11.9	20.3
281102	2006	<i>WZ</i> ₇₉	17.7	X	222.82669	154.26624	43.33833	3.16458	0.1001280	0.28866588	2.2674571	20	—	—
281103	2006	<i>WT</i> ₈₂	14.6	X	348.66574	229.76011	86.96779	11.79547	0.1477740	0.12270253	4.0108248	20	8 6.9	19.5
281104	2006	<i>WY</i> ₁₅₉	17.5	X	284.94997	94.17394	85.42219	4.93486	0.1494950	0.28778569	2.2720781	20	—	—
281105	2006	<i>WT</i> ₁₉₈	15.2	X	79.60617	88.26504	312.03156	13.71078	0.2059006	0.23326666	2.6135708	20	1 9.5	18.1
281106	2006	<i>XE</i> ₅₆	17.5	X	216.49865	54.02050	123.98317	4.65715	0.2162275	0.27139615	2.3626547	20	11 21.8	20.8
281107	2006	<i>XR</i> ₇₃	15.0	X	143.22301	21.88064	109.47296	29.42868	0.1668237	0.17542408	3.1604087	20	7 11.9	20.0
281108	2006	<i>YC</i> ₂	18.0	X	205.14211	137.95993	239.12							

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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>		
281121	2007	<i>BJ</i> ₅₁	17.6	X	119.35412	23.97570	19.95455	2.73042	0.1713929	0.30633717	2.1793965	20	2 22.8	20.0
281122	2007	<i>BW</i> ₅₇	17.2	X	233.16496	56.78499	109.31137	2.15989	0.1256939	0.27270407	2.3550943	20	12 9.5	19.8
281123	2007	<i>BP</i> ₆₇	16.8	X	253.57260	84.64384	99.54572	5.24086	0.0881795	0.28040409	2.3117799	20	—	—
281124	2007	<i>BH</i> ₇₀	16.1	X	266.21594	253.46975	15.64370	13.13683	0.2807245	0.21203076	2.7852882	20	1 31.2	21.0
281125	2007	<i>BK</i> ₇₀	17.1	X	249.35912	65.74804	175.54883	6.66027	0.2363769	0.28005886	2.3136794	20	—	—
281126	2007	<i>BJ</i> ₇₃	17.3	X	207.49631	299.02323	312.08956	4.42265	0.2004638	0.28223129	2.3017913	20	—	—
281127	2007	<i>BW</i> ₇₆	17.4	X	228.69254	290.78507	300.17312	5.33235	0.1174577	0.28771624	2.2724437	20	—	—
281128	2007	<i>CW</i> ₁₇	17.5	X	74.32573	313.59758	111.41665	4.45346	0.1398677	0.29861838	2.2167924	20	1 6.7	19.2
281129	2007	<i>CP</i> ₂₃	17.1	X	7.49922	187.40758	294.76832	6.97851	0.1226829	0.29544546	2.2326356	20	—	—
281130	2007	<i>CY</i> ₃₄	17.8	X	236.60211	31.35448	158.72860	8.01984	0.1459717	0.27875920	2.3208652	20	—	—
281131	2007	<i>CJ</i> ₃₈	17.6	X	234.70558	64.93905	148.32281	2.60746	0.1169273	0.28347441	2.2950570	20	—	—
281132	2007	<i>CL</i> ₄₄	17.6	X	83.73075	267.14983	156.00134	5.12589	0.1108470	0.30128460	2.2036947	20	1 15.9	19.6
281133	2007	<i>CX</i> ₄₅	17.5	X	231.57106	258.71860	288.30691	4.21923	0.1240616	0.27719660	2.3295790	20	—	—
281134	2007	<i>CM</i> ₄₇	15.9	X	7.79160	355.10243	124.25692	9.50881	0.1324899	0.22409455	2.6844080	20	2 3.8	18.8
281135	2007	<i>CR</i> ₅₀	17.1	X	321.14692	282.50754	269.64061	5.97030	0.0443040	0.29036877	2.2585833	20	—	—
281136	2007	<i>CJ</i> ₆₀	17.2	X	303.52809	1.78204	169.42282	6.42652	0.0412852	0.29058474	2.2574641	20	—	—
281137	2007	<i>CG</i> ₆₆	16.3	X	47.97279	90.92672	24.98330	13.03484	0.1285485	0.22795422	2.6540206	20	3 4.1	19.0
281138	2007	<i>DR</i> ₂	17.8	X	304.04408	153.90131	2.99137	3.73787	0.0641523	0.28677574	2.2774094	20	—	—
281139	2007	<i>DL</i> ₇	16.5	X	100.29471	68.57067	66.27642	5.42103	0.1987207	0.24131512	2.5551302	20	6 8.3	20.2
281140		Trier	17.2	X	266.55990	178.75141	326.96119	3.74464	0.1460656	0.27605071	2.3360213	20	—	—
281141	2007	<i>DO</i> ₁₂	17.4	X	335.48668	26.14441	117.07553	3.94093	0.0965575	0.29169119	2.2517517	20	—	—
281142	2007	<i>DH</i> ₁₅	17.3	X	107.44975	23.73259	12.50662	5.88364	0.0629093	0.29718940	2.2238927	20	1 10.3	19.9
281143	2007	<i>DG</i> ₃₁	17.7	X	138.31457	177.04688	155.51415	5.83003	0.1147510	0.28638624	2.2794739	20	—	—
281144	2007	<i>DS</i> ₃₇	17.6	X	242.54383	308.53053	216.95435	0.91109	0.1239759	0.27244107	2.3566097	20	12 22.3	20.2
281145	2007	<i>DF</i> ₄₁	16.9	X	171.74163	348.40902	289.85963	2.93881	0.1892395	0.27659645	2.3329476	20	—	—
281146	2007	<i>DT</i> ₄₂	17.1	X	353.16800	314.54026	146.73655	6.44972	0.0600193	0.28517373	2.2859306	20	—	—
281147	2007	<i>DA</i> ₄₃	17.8	X	323.83195	305.76701	203.07491	1.88661	0.0855457	0.28922152	2.2645521	20	—	—
281148	2007	<i>DX</i> ₅₆	17.1	X	242.87783	110.31289	27.80975	5.11269	0.1731650	0.26883706	2.3776246	20	11 5.5	20.1
281149	2007	<i>DH</i> ₅₇	17.0	X	233.30564	50.18315	147.18894	5.17607	0.1042599	0.27793676	2.3254413	20	—	—
281150	2007	<i>DK</i> ₅₈	17.3	X	178.83428	262.32845	329.78236	2.26340	0.1343062	0.27029653	2.3690582	20	12 28.1	20.5
281151	2007	<i>DY</i> ₆₅	16.8	X	2.66788	75.11936	149.20597	7.43724	0.0973216	0.23436679	2.6053856	20	5 1.5	19.8
281152	2007	<i>DM</i> ₇₄	18.1	X	159.62748	120.27571	152.99655	1.50541	0.1725524	0.27480339	2.3430847	20	—	—
281153	2007	<i>DS</i> ₉₄	17.4	X	154.11646	185.50833	100.34338	5.57443	0.2330224	0.27454383	2.3445613	20	—	—
281154	2007	<i>DJ</i> ₉₆	17.8	X	231.18991	350.31447	186.37164	1.02233	0.1208062	0.27227267	2.3575813	20	12 21.6	20.5
281155	2007	<i>DZ</i> ₉₆	17.2	X	257.24033	218.22859	301.87457	1.55478	0.1466243	0.27518757	2.3409035	20	—	—
281156	2007	<i>DA</i> ₁₀₀	17.3	X	175.46767	164.95584	80.70771	2.32274	0.1574456	0.27382603	2.3486568	20	—	—
281157	2007	<i>DL</i> ₁₀₄	15.4	X	103.09195	25.11148	72.61452	28.17248	0.0780705	0.23648584	2.5897984	20	4 22.5	19.5
281158	2007	<i>DU</i> ₁₀₆	17.7	X	155.06059	297.17358	324.46453	0.22478	0.1830010	0.26991319	2.3713008	20	—	—
281159	2007	<i>DP</i> ₁₁₅	17.7	X	162.86030	325.63966	346.96860	4.53724	0.0658846	0.28665147	2.2780676	20	—	—
281160	2007	<i>ER</i> ₃	17.7	X	211.97869	321.59984	191.97603	1.50480	0.1453448	0.26507156	2.4000887	20	10 22.7	21.0
281161	2007	<i>EK</i> ₅	17.3	X	207.35920	121.37139	170.24957	4.65972	0.1858544	0.29080741	2.2563116	20	1 1.0	21.0
281162	2007	<i>EO</i> ₁₄	17.2	X	270.68217	34.38222	113.40320	3.89501	0.1081660	0.27727718	2.3291277	20	—	—
281163	2007	<i>EO</i> ₁₆	17.3	X	139.81265	268.86488	20.38960	7.63095	0.1147195	0.27254218	2.3560268	20	—	—
281164	2007	<i>EZ</i> ₂₃	17.0	X	181.63028	89.61068	124.31073	3.89915	0.1471382	0.26588607	2.3951846	20	12 6.5	20.6
281165	2007	<i>EX</i> ₂₄	17.1	X	154.91223	285.20310	330.97537	2.23990	0.1988274	0.26739388	2.3861720	20	12 29.8	20.9
281166	2007	<i>ET</i> ₃₄	17.5	X	202.47737	68.82779	99.54162	3.06087	0.1201445	0.26442956	2.4039718	20	11 3.9	20.9
281167	2007	<i>EN</i> ₃₉	15.9	X	35.28706	152.18489	15.54040	11.72105	0.1678019	0.22888897	2.6467899	20	4 9.9	18.6
281168	2007	<i>EA</i> ₄₄	17.3	X	148.01720	50.78101	224.09778	0.72462	0.1696408	0.26953760	2.3735032	20	—	—
281169	2007	<i>EP</i> ₄₅	17.3	X	142.99724	85.06392	150.23851	2.69175	0.0909797	0.26136960	2.4226983	20	11 26.1	20.9
281170	2007	<i>ET</i> ₄₅	16.7	X	86.99951	305.49713	16.43210	6.17833	0.1511325	0.26556801	2.3970966	20	—	—
281171	2007	<i>EB</i> ₄₈	16.4	X	278.10787	244.51363	19.70257	10.26540	0.1605775	0.21816440	2.7328353	20	2 15.7	20.6
281172	2007	<i>EM</i> ₄₈	17.5	X	215.94236	80.60897	95.99874	2.36851	0.1234532	0.26613797	2.3936730	20	11 29.7	20.5
281173	2007	<i>EP</i> ₄₈	17.4	X	150.50061	80.84600	135.86767	3.22250	0.1433871	0.25576621	2.4579551	20	10 15.3	21.2
281174	2007	<i>EZ</i> ₆₈	17.3	X	198.11011	66.17288	123.20316	2.25118	0.1224694	0.26626576	2.3929071	20	11 25.6	20.7
281175	2007	<i>EU</i> ₇₁	16.2	X	17.78561	169.06688	20.07442	7.70084	0.0825075	0.22847515	2.6499849	20	4 4.9	19.1
281176	2007	<i>EM</i> ₇₂	17.2	X	133.04088	220.72755	30.87278	3.13179	0.1765059	0.26196955	2.4189980	20	12 4.9	21.2
281177	2007	<i>EG</i> ₇₃	17.5	X	190.31727	87.32859	109.67626	3.01522	0.1548864	0.26699541	2.3885455	20	11 23.7	21.0
281178	2007	<i>EG</i> ₇₆	17.7	X	159.09322	268.52657	321.89249	1.93025	0.0960354	0.26456294	2.4031638	20	12 6.6	21.3
281179	2007	<i>EB</i> ₇₉	16.7	X	225.32714	225.51464	315.55608	5.47835	0.0536842	0.27024269	2.3693729	20	12 29.7	19.5
281180	2007	<i>EX</i> ₈₂	17.8	X	326.97959	340.12706	170.00863	6.16248	0.0199815	0.29077110	2.2564994	20	—	—
281181	2007	<i>EM</i> ₉₂	15.7	X	7.70971	319.86698	349.10431	7.35829	0.2155849	0.25369645	2.4713056	20	9 27.9	18.0
281182	2007	<i>ER</i> ₁₀₅	17.4	X	159.46491	169.30485	163.83323	7.43268	0.1378830	0.28783160	2.2718365	20	1 3.7	20.6
281183	2007	<i>EN</i> ₁₄₅	17.6	X	301.75426	96.89455	156.41666	6.59898	0.1402863	0.29941558	2.2128558	20	2 17.3	20.3
281184	2007	<i>EY</i> ₁₄₇	17.2	X	129.14817	160.23712	102.73457	2.96701	0.1463665	0.26500157	2.4005113	20	12 16.3	21.0
281185	2007	<i>EQ</i> ₁₅₁	17.6	X	207.76133	75.16976	113.38558	3.09048	0.1184348	0.26921678	2.3753884	20	12 6.8	20.9
281186	2007	<i>EP</i> ₁₆₆	16.0	X	298.56956	145.12178	130.13247	11.31142	0.2860799	0.22272863	2.6953719	20	3 4.2	19.8
281187	2007	<i>EZ</i> ₁₇₅	17.8	X	230.32682	92.63603	198.81035	3.67802	0.2000282	0.28758230	2.2731493	20	1 20.0	21.6
281188	2007	<i>EK</i> ₁₇₇	16.9	X	156.55644	14.68108	226.91064	4.40293	0.1125698	0.26484268	2.4014713	20	12 17.3	20.3
281189	2007	<i>EU</i> ₁₇₈	16.5	X	47.52790	242.63365	208.90183	8.27239	0.1245567	0.21500066	2.75			

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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>
281201 2007 FW ₄₅	17.8	X	112.71870	293.57121	4.90306	2.56143	0.0865594	0.27017042	2.3697954	20	—	—
281202 2007 FE ₄₇	17.5	X	92.53044	298.13726	22.35657	2.82673	0.2050978	0.26508217	2.4000247	20	—	—
281203 2007 GU ₂₁	17.7	X	131.36562	35.24758	178.58505	1.50759	0.1408458	0.25200602	2.4823448	20	10 16.9	21.6
281204 2007 GJ ₃₁	16.8	X	122.23623	207.32847	49.12838	1.94152	0.1412863	0.25793952	2.4441290	20	11 30.4	20.5
281205 2007 GY ₄₀	17.1	X	277.25072	34.05469	36.15120	4.57521	0.1021763	0.25415294	2.4683456	20	10 3.5	19.9
281206 2007 GT ₄₉	16.7	X	270.75483	299.69887	197.79646	22.37863	0.2487034	0.27463583	2.3440377	20	12 11.6	19.2
281207 2007 GE ₅₀	17.5	X	227.41503	38.63194	213.36552	21.03563	0.0782177	0.35601600	1.9716192	20	—	—
281208 2007 GV ₅₁	16.8	X	306.79307	55.66496	60.95617	7.50140	0.0771204	0.27690204	2.3312309	20	—	—
281209 2007 GE ₆₃	17.4	X	100.98886	72.21523	220.87611	9.51831	0.1026444	0.26019552	2.4299808	20	12 23.5	21.1
281210 2007 GL ₆₆	16.4	X	234.37537	214.65982	216.97244	9.70739	0.2211198	0.24533544	2.5271394	20	7 17.8	20.5
281211 2007 HC ₁	16.4	X	347.78375	76.63015	183.98592	13.61954	0.1492413	0.23262454	2.6183781	20	5 24.5	19.3
281212 2007 HG ₁	16.0	X	279.55538	203.01782	17.34548	8.00657	0.1557945	0.21120176	2.7925719	20	—	—
281213 2007 HT ₇	16.8	X	28.58210	188.58259	157.55128	5.49918	0.1326301	0.25762390	2.4461248	20	12 12.6	19.9
281214 2007 HX ₁₁	17.4	X	94.30920	137.33171	151.05687	1.67612	0.1694950	0.25675064	2.4516682	20	12 14.8	21.3
281215 2007 HB ₁₉	16.5	X	126.31810	242.73967	39.44346	6.21649	0.0959664	0.26648141	2.3916159	20	—	—
281216 2007 HH ₂₂	17.1	X	354.80479	315.81131	73.67783	3.86675	0.1756577	0.25859246	2.4400130	20	12 27.9	19.4
281217 2007 HW ₂₈	16.8	X	83.09171	271.26066	186.65275	12.23180	0.1329441	0.22781134	2.6551302	20	3 19.1	20.2
281218 2007 HC ₃₁	17.8	X	198.49404	348.36626	171.12422	2.47616	0.1460508	0.25972802	2.4328958	20	10 15.1	21.4
281219 2007 HK ₃₃	15.9	X	28.21243	210.04904	52.24567	13.55516	0.1490820	0.23713048	2.5851027	20	8 22.9	19.1
281220 2007 HY ₃₈	17.1	X	148.77670	181.02681	67.89195	2.33322	0.1422469	0.26402875	2.4064042	20	12 17.1	20.6
281221 2007 HQ ₅₄	17.5	X	196.90144	74.87835	90.89510	3.30280	0.1198189	0.26056391	2.4276899	20	10 24.9	21.0
281222 2007 HO ₅₈	16.4	X	146.88594	138.92751	108.68581	7.40362	0.0968110	0.26249603	2.4157624	20	12 15.5	20.0
281223 2007 HV ₆₆	16.4	X	203.95162	46.91101	115.17354	7.48983	0.0767971	0.25561829	2.4589032	20	11 3.2	19.8
281224 2007 HM ₇₅	17.6	X	104.50052	57.59667	211.52574	7.47389	0.0541159	0.25617428	2.4553441	20	11 24.7	21.0
281225 2007 HA ₈₆	17.2	X	121.70549	74.79264	103.70194	6.73598	0.1637656	0.24345120	2.5401621	20	8 25.8	21.2
281226 2007 HF ₈₉	17.2	X	241.32914	313.77542	171.07900	4.98750	0.0709684	0.25888276	2.4381886	20	11 1.5	20.2
281227 2007 HL ₉₁	17.3	X	21.90383	253.38976	47.26058	4.24583	0.1582923	0.24231488	2.5480972	20	10 3.2	20.1
281228 2007 HZ ₉₂	15.9	X	226.17860	208.52384	79.14878	5.46826	0.0304785	0.20970539	2.8058405	20	1 28.5	19.9
281229 2007 JF	17.0	X	234.42092	2.03756	246.89033	3.87526	0.2466729	0.27805674	2.3247723	20	—	—
281230 2007 JT ₃	16.3	X	315.35567	352.06890	228.93919	7.17851	0.2050989	0.21532253	2.7568284	20	1 24.3	20.0
281231 2007 JO ₆	17.3	X	10.43173	269.46362	45.36605	4.58859	0.2208395	0.24186108	2.5512835	20	10 13.1	19.7
281232 2007 JQ ₂₁	17.0	X	352.87698	278.84164	47.16994	1.00329	0.3250618	0.23758334	2.5818166	20	10 4.6	18.4
281233 2007 JK ₃₁	17.6	X	219.33429	279.52542	228.15259	3.93423	0.1782227	0.26121970	2.4236251	20	10 17.7	21.2
281234 2007 JZ ₃₃	16.9	X	124.20147	182.16971	62.71261	0.47300	0.1593687	0.25613156	2.4556171	20	11 18.3	20.6
281235 2007 JE ₃₆	15.8	X	321.79567	101.04234	236.85940	21.18285	0.0528754	0.23694450	2.5864552	20	7 27.1	19.5
281236 2007 JM ₃₉	17.6	X	213.16110	31.45049	115.86345	3.26969	0.1764367	0.25985863	2.4320805	20	10 12.9	21.1
281237 2007 JE ₄₂	15.7	X	56.43115	137.97818	103.21854	28.00246	0.0740955	0.23646143	2.5899766	20	8 22.3	19.5
281238 2007 KJ	16.6	X	343.88746	272.72366	71.13548	12.70966	0.0751115	0.24497542	2.5296147	20	9 27.9	19.8
281239 2007 KD ₅	17.0	X	38.20494	205.65093	110.45386	0.57338	0.2461519	0.24561032	2.5252535	20	11 29.1	20.3
281240 2007 LG ₄	16.9	X	25.22907	183.92043	124.00257	5.14363	0.1469908	0.24273321	2.5451688	20	10 18.1	19.9
281241 2007 LM ₅	15.6	X	354.50060	204.46880	186.12659	13.65360	0.0504528	0.17953595	3.1119678	20	11 23.1	19.9
281242 2007 LU ₁₀	16.5	X	276.56612	199.16210	218.60297	7.86996	0.0155509	0.24692610	2.5162747	20	9 22.0	19.8
281243 2007 LA ₂₂	17.0	X	3.71068	143.56002	168.21093	11.38187	0.1969104	0.23743659	2.5828803	20	9 19.5	19.2
281244 2007 LU ₂₇	16.5	X	339.85683	10.21009	245.04682	8.00367	0.1347037	0.21836727	2.7311424	20	4 29.1	19.6
281245 2007 MG ₃	17.0	X	323.42789	38.61761	262.12510	2.60263	0.2081688	0.22272158	2.6954287	20	5 25.9	19.7
281246 2007 MU ₃	15.7	X	325.06811	187.10360	145.98229	20.31948	0.3198072	0.22438484	2.6820922	20	7 2.7	18.2
281247 2007 MA ₄	15.8	X	7.16898	124.05189	215.39387	5.34926	0.2022129	0.24154632	2.5534995	20	11 7.7	18.2
281248 2007 ML ₁₄	16.4	X	285.62390	75.23530	234.64356	3.02840	0.1207830	0.21650128	2.7468129	20	4 23.0	20.0
281249 2007 MO ₁₆	15.8	X	0.66159	182.26037	96.99783	14.68097	0.2353828	0.22651043	2.6652866	20	7 23.7	17.9
281250 2007 MD ₂₆	16.3	X	2.38740	233.01334	68.09145	13.61328	0.2322251	0.22970988	2.6404803	20	9 11.4	19.0
281251 2007 NT	16.6	X	278.45627	109.97806	221.15572	2.68450	0.2258481	0.21786217	2.7353621	20	4 27.0	20.5
281252 2007 NX ₅	15.6	X	287.86363	302.38138	46.26628	13.57738	0.1778528	0.22237966	2.6981909	20	6 6.8	19.2
281253 2007 OV ₆	16.7	X	342.47153	57.02732	239.12112	8.88306	0.2736955	0.22311764	2.6922380	20	6 25.8	18.6
281254 2007 PT	16.8	X	27.73948	164.81220	126.75504	7.25159	0.2754996	0.23456312	2.6039315	20	10 19.9	19.9
281255 2007 PW ₃	16.2	X	29.04457	227.42597	57.80448	12.22416	0.2447991	0.23463047	2.6034332	20	10 10.2	19.4
281256 2007 PQ ₁₇	16.1	X	25.77164	119.92436	131.40259	14.15505	0.1232503	0.22512122	2.6762402	20	7 20.4	19.1
281257 2007 PE ₂₀	16.4	X	350.81897	119.11325	148.54879	9.41322	0.1943843	0.21984527	2.7188879	20	6 8.2	19.1
281258 2007 PL ₂₁	16.1	X	255.46862	191.70537	145.22790	14.74705	0.1454860	0.21043190	2.7993788	20	4 24.6	20.5
281259 2007 PW ₂₁	15.6	X	27.38837	167.40168	161.05915	17.22473	0.2233199	0.23450574	2.6043563	20	11 28.9	19.3
281260 2007 PO ₂₂	15.2	X	129.85197	257.87645	138.83865	10.85545	0.1170193	0.19326251	2.9628134	20	3 2.7	19.6
281261 2007 PW ₂₂	15.8	X	149.52211	224.17025	158.81130	15.59071	0.2681377	0.18980150	2.9987226	20	3 17.2	21.0
281262 2007 PP ₃₆	16.5	X	293.37697	171.79770	151.58083	13.57668	0.2000160	0.21836273	2.7311803	20	5 13.9	20.3
281263 2007 PS ₃₆	17.0	X	144.97659	142.35973	173.84669	5.10572	0.1638449	0.26123282	2.4235439	20	—	—
281264 2007 PT ₃₇	16.3	X	304.04809	105.49790	211.65200	2.66063	0.1935311	0.21708322	2.7419017	20	5 18.3	19.6
281265 2007 QR ₁	16.1	X	281.01618	200.38409	112.87565	9.39650	0.2137329	0.21180506	2.7872665	20	4 13.9	20.3
281266 2007 QF ₂	16.4	X	178.59361	146.69077	232.54925	11.18084	0.1560560	0.20065480	2.8895908	20	3 26.0	21.3
281267 2007 QY ₂	15.6	X	142.23515	207.52146	170.59675	11.86407	0.1500704	0.18908857	3.0062553	20	2 23.2	20.2
281268 2007 QT ₁₂	16.2	X	38.25158	170.94874	133.76481	14.83796	0.2732113	0.23356969	2.6113098	20	11 20.7	20.1
281269 2007 QV ₁₂	15.7	X	49.07804	239.99307	184.77698	10.14904	0.0653402	0.17993877	3.1073217	20	—	—
281270 2007 RY ₁	16.1	X	52.83303	249.01324	287.58945	7.04635	0.0649997	0.21647721	2.7470164	20	5 9.7	19.8
281271 2007 RC ₆	16.6	X	317.02042	83.22419	198.91592	8.06182	0.2622790	0.21437663	2.7649318	20	4 8.9	19.9
281272 Arnaudleroy	16.6	X	317.81923	102.38263	200.68290	6.91251	0.2128041	0.21615507	2.7497451	20	5 19.2	19.7
281273 2007 RK ₁₃	16.5	X	341.17228	142.20273	174.04349	13.47060	0.2680536	0.22384999	2.6863628	20	7 26.2	18.7
281274 2007 RC ₂₆	16.5											

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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>
281281 2007 RR ₉₁	16.4	X	194.96211	110.45205	191.49570	2.58538	0.0920180	0.18579816	3.0416444	20	1 13.6	21.0
281282 2007 RA ₉₆	15.9	X	84.97950	205.35681	185.48513	24.19280	0.0617416	0.17680083	3.1439805	20	—	—
281283 2007 RZ ₁₀₃	15.3	X	160.37984	314.76186	15.45502	11.65109	0.1279204	0.18285692	3.0741740	20	1 18.8	20.3
281284 2007 RC ₁₁₇	15.9	X	241.89799	64.33638	197.15374	10.33594	0.0818771	0.18734844	3.0248417	20	1 11.6	20.7
281285 2007 RV ₁₁₈	15.3	X	98.50115	205.44022	190.64133	18.64547	0.3156835	0.17918678	3.1160093	20	2 18.6	20.2
281286 2007 RP ₁₂₈	16.2	X	218.52127	122.14287	144.23976	1.72208	0.1259256	0.18272019	3.0757075	20	—	—
281287 2007 RD ₁₃₃	16.9	X	299.02116	65.55936	269.82514	0.96625	0.2701571	0.21778561	2.7360031	20	5 22.5	20.1
281288 2007 RF ₁₃₆	16.0	X	177.46930	129.06495	164.16090	12.07083	0.10165460	0.18118168	3.0930945	20	—	—
281289 2007 RV ₁₄₂	15.3	X	79.12414	142.66805	180.49738	16.57951	0.0985783	0.16925199	3.2367826	20	12 18.2	20.4
281290 2007 RM ₁₄₄	17.2	X	304.09942	115.35755	212.07241	6.25134	0.2047828	0.29388186	2.2405477	20	5 31.2	19.2
281291 2007 RQ ₁₄₉	15.6	X	123.93857	218.50656	154.60377	17.03941	0.1632156	0.18336718	3.0684683	20	2 1.1	20.2
281292 2007 RQ ₁₅₈	15.7	X	48.29132	330.40358	87.73357	2.76036	0.0950882	0.17766089	3.1338257	20	—	—
281293 2007 RW ₁₆₇	15.9	X	102.09415	257.62456	125.52761	2.73647	0.1627433	0.18224697	3.0810294	20	1 20.9	20.2
281294 2007 RE ₁₇₃	16.2	X	169.72808	183.62256	167.40011	10.13577	0.1230078	0.18927474	3.0042837	20	2 15.6	21.0
281295 2007 RT ₂₀₂	15.9	X	133.54616	160.11216	200.01908	4.87551	0.1147015	0.18254591	3.0776647	20	1 21.4	20.6
281296 2007 RH ₂₁₆	16.1	X	350.88083	22.62951	282.51550	4.22509	0.3203325	0.22494729	2.6776196	20	8 11.3	17.4
281297 2007 RQ ₂₃₉	15.3	X	195.38937	198.77087	135.81828	12.02523	0.0989354	0.19283157	2.9672260	20	2 21.1	19.8
281298 2007 RM ₂₃₉	15.6	X	165.40751	226.24415	133.92133	11.75722	0.0998280	0.19100270	2.9861369	20	2 23.1	20.1
281299 2007 RS ₂₅₈	16.0	X	152.87283	116.90560	224.04162	2.96503	0.1250053	0.18441417	3.0568435	20	1 19.9	20.8
281300 2007 RS ₂₈₄	15.2	X	172.26116	57.36841	249.85975	8.78776	0.0892478	0.18090502	3.0962473	20	—	—
281301 2007 RX ₂₉₁	16.0	X	176.75928	285.65401	24.82764	2.62445	0.0515259	0.18189848	3.0849633	20	1 4.7	20.5
281302 2007 RA ₂₉₉	15.6	X	167.64787	195.01999	144.55267	10.97810	0.1190598	0.18640291	3.0350622	20	1 31.9	20.5
281303 2007 RQ ₃₁₀	16.4	X	203.84854	220.52760	137.21576	4.02872	0.1627073	0.19899579	2.9056287	20	3 27.5	21.2
281304 2007 RV ₃₁₃	15.2	X	128.97467	300.27292	33.03616	19.30833	0.0917421	0.17723078	3.1388938	20	—	—
281305 2007 RU ₃₂₂	16.1	X	205.84624	211.55573	100.97414	2.92147	0.0750128	0.18911163	3.0060109	20	2 6.2	20.6
281306 2007 SS ₅	15.9	X	205.85586	138.59239	192.92569	9.03342	0.1566523	0.19300720	2.9654257	20	2 24.5	20.8
281307 2007 SO ₉	15.7	X	194.71723	142.75611	170.09617	9.91507	0.0925055	0.18614245	3.0378927	20	1 24.9	20.5
281308 2007 SE ₁₅	16.0	X	199.20867	171.46695	160.65118	10.49035	0.1029067	0.19269432	2.9686348	20	2 21.1	20.5
281309 2007 TC ₃	16.3	X	177.73122	307.98833	346.31983	1.96692	0.1485155	0.17750478	3.1356628	20	—	—
281310 2007 TV ₁₃	15.6	X	165.24881	291.80409	31.53006	7.28360	0.0717408	0.18264471	3.0765547	20	1 9.5	20.3
281311 2007 TZ ₃₃	15.9	X	189.08427	234.33915	59.95711	1.84634	0.1546248	0.17875533	3.1210212	20	1 2.5	20.8
281312 2007 TE ₃₇	16.1	X	242.60232	121.65357	166.12568	1.46666	0.1621082	0.19196041	2.9761965	20	2 7.5	20.9
281313 2007 TV ₃₈	15.9	X	119.03112	140.65713	203.69802	5.68140	0.1199222	0.17273781	3.1930896	20	—	—
281314 2007 TB ₄₃	15.6	X	205.43321	127.70407	185.87062	11.95888	0.0831953	0.18988316	2.9978628	20	2 3.8	20.3
281315 2007 TV ₇₆	15.8	X	345.45200	311.06271	157.23154	9.63066	0.0550129	0.17688875	3.1429386	20	—	—
281316 2007 TH ₉₂	16.2	X	179.52051	200.54687	155.57114	10.79450	0.0598233	0.19651588	2.9300224	20	2 29.3	20.6
281317 2007 TO ₁₀₃	15.9	X	115.94085	141.65741	189.12760	3.78888	0.1210235	0.16848020	3.2466599	20	—	—
281318 2007 TQ ₁₀₃	15.3	X	21.26163	160.32578	212.19433	13.91857	0.0967150	0.15574734	3.4212826	20	12 4.5	20.0
281319 2007 TW ₁₄₅	15.5	X	96.37037	173.67315	193.37334	9.05699	0.0787923	0.17494943	3.1661224	20	—	—
281320 2007 TB ₁₄₆	16.1	X	136.76431	5.84743	349.66698	1.83075	0.1515533	0.18171105	3.0870843	20	1 24.9	20.7
281321 2007 TH ₁₈₂	16.9	X	202.58466	128.98427	187.23683	11.34095	0.2921175	0.26808183	2.3820880	20	1 28.9	21.4
281322 2007 TU ₁₈₃	15.5	X	108.67291	304.38821	71.34790	11.16985	0.2470174	0.17700464	3.1415667	20	2 3.2	20.3
281323 2007 TX ₁₈₃	15.4	X	94.05648	286.92908	76.92180	7.12327	0.1216964	0.16969157	3.2311903	20	—	—
281324 2007 TG ₁₈₄	15.8	X	80.32238	178.84494	197.81827	11.06146	0.0750049	0.17400164	3.1776092	20	—	—
281325 2007 TZ ₁₈₆	15.7	X	86.71044	213.91011	191.53336	18.61838	0.0857107	0.17910747	3.1169291	20	1 15.2	20.3
281326 2007 TR ₁₉₁	15.6	X	183.31615	200.64083	141.17728	11.49138	0.1215314	0.19172058	2.9786780	20	2 18.9	20.3
281327 2007 TL ₁₉₈	16.2	X	154.91455	66.21648	274.51261	2.05913	0.1150903	0.18177957	3.0863085	20	1 21.6	21.0
281328 2007 TO ₂₁₄	15.6	X	91.81366	252.01315	105.85811	6.00590	0.1548839	0.16903112	3.2396016	20	—	—
281329 2007 TV ₂₄₂	15.9	X	256.36553	36.47042	258.00071	8.20417	0.2082271	0.19839970	2.9114458	20	2 20.0	20.8
281330 2007 TO ₂₄₄	15.9	X	259.24557	204.33629	230.87883	12.91092	0.1734492	0.22023122	2.7157104	20	8 21.1	19.9
281331 2007 TR ₂₄₆	16.2	X	114.54597	238.99417	110.64138	2.59743	0.1741111	0.17523461	3.1626863	20	—	—
281332 2007 TZ ₃₁₁	16.3	X	152.81919	217.06613	109.99782	2.86575	0.1155691	0.17895458	3.1187041	20	1 4.4	20.9
281333 2007 TT ₃₂₉	15.6	X	162.89348	52.60184	244.41923	6.33978	0.0836338	0.17171234	3.2057898	20	—	—
281334 2007 TD ₃₃₆	16.4	X	190.63977	43.26476	277.73000	2.32311	0.0918082	0.19063366	2.9899894	20	1 30.9	21.1
281335 2007 TF ₃₄₀	16.0	X	27.30904	216.57704	197.14188	8.66553	0.0265108	0.17144391	3.2091351	20	—	—
281336 2007 TM ₃₅₀	15.6	X	347.92489	319.61875	151.85407	10.05375	0.0934388	0.17912569	3.1167176	20	—	—
281337 2007 TN ₃₉₁	16.0	X	194.41286	91.42728	203.53718	11.00271	0.1552944	0.18287030	3.0740241	20	1 5.6	21.2
281338 2007 TJ ₄₃₁	16.1	X	128.35502	304.82086	39.21077	5.73775	0.1396791	0.17511250	3.1641565	20	1 2.7	20.8
281339 2007 TK ₄₃₃	15.5	X	179.64587	81.99690	227.00930	25.59929	0.1090300	0.18067415	3.0988844	20	1 3.4	20.8
281340 2007 TP ₄₄₁	15.8	X	164.70532	208.28575	154.35677	10.38185	0.1355440	0.19095935	2.9865888	20	2 26.3	20.5
281341 2007 TY ₄₄₁	16.2	X	129.42372	100.17803	278.06414	4.86045	0.1883610	0.18473112	3.0533459	20	2 14.6	20.9
281342 2007 UP ₂	15.8	X	136.17867	268.34511	79.95083	3.01128	0.150883	0.17942917	3.1132023	20	1 12.3	20.3
281343 2007 UK ₂₁	15.5	X	178.88049	266.26144	33.89516	5.53985	0.1331121	0.17843943	3.1247036	20	—	—
281344 2007 UW ₃₁	15.5	X	77.45895	183.71603	196.25802	19.50597	0.0652131	0.17193054	3.2030769	20	—	—
281345 2007 UH ₃₃	16.0	X	16.83025	66.63919	303.79005	13.61548	0.1358954	0.23412587	2.6071726	20	12 23.0	19.4
281346 2007 UT ₄₄	15.7	X	325.54690	106.00356	8.84192	3.30856	0.0157726	0.16778889	3.2555716	20	—	—
281347 2007 UP ₁₁₃	16.5	X	180.40594	1.05014	222.94280	12.63161	0.1307175	0.23434170	2.6055715	20	12 12.2	20.6
281348 2007 UY ₁₃₅	16.6	X	149.24749	174.14176	188.37722	6.81768	0.1062984	0.18916123	3.0054855	20	2 7.3	21.2
281349 2007 UT ₁₃₆	15.8	X	130.27867	226.19177	120.78583	13.08394	0.1513439	0.17505361	3.1648661	20	1 9.0	20.6
281350 2007 UJ ₁₄₀	17.5	X	69.81322	262.50801	266.79399	3.27977	0.0535027	0.27346707	2.3507116	20	5 23.7	20.1
281351 2007 VT ₁₀	15.9	X	264.87829	225.19183	130.29733	10.08128	0.3046976	0.21244354	2.7816792	20	5 8.2	20.5
281352 2007 VP ₃₀	15.6	X	121.48929	104.46473	253.25642	8.50496	0.1158635	0.17586764	3.1550924	20	1 6.9	20.2
281353 2007 VO ₃₆	15.9	X	100.72156	137.35324	224.12121	5.29110	0.1394956	0.17374546	3.1807319	20	—	—
281354 2007 VO ₆₂	15.5	X										

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
281361 2007 WQ ₁₇	15.5	X	166.67919	260.49518	70.36755	26.65460	0.2113320	0.17853614	3.1235751	20	1 31.7	21.1
281362 2007 YE ₃₄	15.8	X	139.85110	276.82830	53.63226	8.09431	0.2987646	0.17279557	3.1923780	20	1 13.9	21.2
281363 2008 CV ₅	17.4	X	338.93106	300.58836	141.50834	22.16670	0.0848695	0.38113029	1.8840268	20	—	—
281364 2008 CH ₉	15.5	X	307.73705	283.32272	326.91609	6.05723	0.1666020	0.16915808	3.2379804	20	3 3.8	19.8
281365 2008 CM ₁₁₆	17.4	X	88.76195	355.79131	0.11258	18.70465	0.6630661	0.47331921	1.6306721	20	—	—
281366 2008 CV ₁₈₅	17.2	X	320.73611	319.25508	119.08448	24.15530	0.1114193	0.37581763	1.9017406	20	—	—
281367 2008 CF ₂₁₀	15.3	X	0.17695	238.29012	353.40366	20.70127	0.0555160	0.17328841	3.1863223	20	4 28.0	19.9
281368 2008 EA	16.9	X	324.68808	286.45344	132.52948	23.55506	0.1207719	0.37072733	1.9191090	20	—	—
281369 2008 EQ ₂₅	17.4	X	235.64130	141.14877	61.53920	7.18980	0.1115155	0.29826777	2.2185293	20	—	—
281370 2008 FD ₅₈	17.8	X	29.10792	177.19362	186.31130	22.20322	0.0751864	0.36886067	1.9255781	20	—	—
281371 2008 FC ₇₆	9.3	X	40.00625	141.50314	245.65702	27.15094	0.3073284	0.01755877	14.6602052	20	12 29.9	20.2
281372 2008 GB ₁	17.3	X	59.74822	133.77142	206.20198	21.49713	0.0705615	0.36993773	1.9218388	20	—	—
281373 2008 GK ₅₇	15.7	X	251.68381	232.28305	191.23532	12.81134	0.1813088	0.19162787	2.9796387	20	7 27.1	20.4
281374 2008 JU ₃	16.9	X	39.79642	197.80884	95.91160	7.53283	0.1250564	0.26547917	2.3976314	20	10 22.2	19.9
281375 2008 JV ₁₉	20.7	X	219.18438	310.59324	141.97169	7.22560	0.2484239	1.00759337	0.9853999	20	—	—
281376 2008 JJ ₃₉	18.2	X	246.87588	142.49205	135.04813	3.80440	0.1670435	0.30260393	2.1972847	20	1 17.4	21.5
281377 2008 OR ₃	17.3	X	222.19079	53.64943	234.39320	5.67589	0.1820200	0.29655435	2.2270665	20	1 8.1	20.9
281378 2008 OE ₈	18.1	X	225.84264	51.01481	244.70547	2.11164	0.1512794	0.29972100	2.2113523	20	1 21.1	21.5
281379 2008 OW ₈	17.5	X	170.62036	178.30076	171.14259	6.81396	0.1888603	0.29483712	2.2357056	20	2 7.7	21.0
281380 2008 OB ₁₀	17.1	X	187.97857	173.47105	165.06759	6.39347	0.2003151	0.29343498	2.2428219	20	1 23.8	20.6
281381 2008 OL ₁₀	17.6	X	189.78448	100.96248	204.11080	6.62614	0.1276532	0.29193609	2.2504923	20	—	—
281382 2008 OZ ₁₀	15.8	X	191.43855	61.86698	150.03664	8.19522	0.0860651	0.21107916	2.7936531	20	1 18.1	20.1
281383 2008 OJ ₁₉	17.4	X	151.77050	134.12400	197.93012	3.64671	0.1912659	0.28757137	2.2732068	20	—	—
281384 2008 PE ₆	17.4	X	45.79911	239.30869	134.90383	4.45148	0.1625127	0.27092487	2.3653939	20	—	—
281385 2008 PF ₈	17.7	X	218.35648	157.00957	165.02970	6.04395	0.2256887	0.30139597	2.2031518	20	2 15.1	21.3
281386 2008 PT ₉	17.3	X	230.16920	201.03469	70.83954	5.86024	0.0895931	0.29477547	2.2360173	20	—	—
281387 2008 PR ₂₀	15.6	X	220.84392	308.09935	1.97622	9.12845	0.1897077	0.21600833	2.7509902	20	2 14.4	20.2
281388 2008 QZ ₁	17.3	X	170.82406	100.95546	221.71090	2.12423	0.2257389	0.28850159	2.2683178	20	1 9.9	20.9
281389 2008 QA ₆	17.7	X	170.54221	274.32352	48.03497	3.10906	0.2031448	0.28957617	2.2627027	20	1 8.1	21.1
281390 2008 QE ₉	18.1	X	171.80923	7.31780	324.20462	2.56754	0.1973001	0.29050663	2.2578687	20	1 20.0	21.6
281391 2008 QW ₁₇	16.5	X	117.19051	341.14244	200.59116	14.74056	0.0493884	0.24272244	2.5452440	20	8 8.9	20.4
281392 2008 QG ₂₇	17.0	X	59.81514	227.63260	140.26946	10.62550	0.1778652	0.27010303	2.3701895	20	—	—
281393 2008 QK ₃₁	17.0	X	120.12416	60.05136	271.63049	6.31456	0.1508631	0.27642310	2.3339229	20	—	—
281394 2008 QA ₃₆	17.7	X	183.67245	110.05691	165.89272	3.60730	0.1539455	0.28245955	2.3005510	20	—	—
281395 2008 QD ₄₆	17.3	X	179.39951	18.29273	291.03726	5.82343	0.1704381	0.28769749	2.2725424	20	—	—
281396 2008 QN ₄₈	16.7	X	105.52692	77.53620	267.49606	3.40199	0.3141457	0.27190422	2.3597106	20	—	—
281397 2008 RJ ₂₂	17.4	X	12.73840	272.29726	75.24385	2.57323	0.1889462	0.25576292	2.4579762	20	11 29.9	20.0
281398 2008 RM ₂₅	17.7	X	36.79650	54.43132	334.55238	3.71727	0.1312611	0.27001505	2.3707044	20	—	—
281399 2008 RU ₂₉	17.0	X	151.18688	233.13700	353.47332	2.51081	0.1095331	0.25985582	2.4320981	20	11 21.6	20.6
281400 2008 RV ₃₁	17.2	X	64.54165	2.19024	351.73265	2.53771	0.2014024	0.26760489	2.3849175	20	—	—
281401 2008 RJ ₃₅	17.5	X	138.97038	77.91241	213.00977	0.98733	0.1837107	0.27360477	2.3499229	20	—	—
281402 2008 RE ₄₄	17.4	X	76.89734	206.86358	158.38126	2.72766	0.2193651	0.27141038	2.3625722	20	—	—
281403 2008 RW ₄₅	16.1	X	118.45780	286.45717	162.89440	5.21787	0.0898915	0.21401855	2.7680150	20	4 19.4	20.1
281404 2008 RB ₄₆	17.7	X	155.35831	129.92123	142.65575	1.48349	0.1673660	0.27249680	2.3562884	20	—	—
281405 2008 RG ₅₆	17.1	X	159.00572	24.69479	293.57488	3.74576	0.1697286	0.28486388	2.2875879	20	—	—
281406 2008 RP ₅₇	17.0	X	171.16845	262.55907	203.70447	3.27443	0.0352438	0.23246179	2.6196001	20	7 7.8	20.7
281407 2008 RQ ₆₆	16.6	X	205.94617	346.69061	99.56941	4.01021	0.0722793	0.23489717	2.6014622	20	7 22.7	20.2
281408 2008 RN ₆₈	16.9	X	97.90478	295.46759	28.74917	6.93363	0.1389882	0.26813688	2.3817619	20	—	—
281409 2008 RF ₇₁	17.3	X	179.02163	342.75963	312.75998	1.71958	0.1759056	0.28788044	2.2715795	20	—	—
281410 2008 RB ₁₀₃	16.9	X	194.27952	273.48359	198.76026	5.77458	0.0631179	0.24050216	2.5608849	20	8 11.4	20.5
281411 2008 RS ₁₀₅	16.2	X	238.91364	269.56132	122.55601	6.35511	0.2152125	0.22847098	2.6500171	20	6 4.8	20.4
281412 2008 RZ ₁₀₆	16.3	X	7.62298	307.30118	198.26438	2.10615	0.1287861	0.19726176	2.9226319	20	1 22.8	19.5
281413 2008 RX ₁₀₈	16.8	X	128.81201	238.45050	183.50981	4.35478	0.0625038	0.21128925	2.7918009	20	3 22.9	20.5
281414 2008 RE ₁₀₉	17.3	X	89.55498	105.58446	180.46038	4.43200	0.0671595	0.25897937	2.4375822	20	11 30.7	20.6
281415 2008 RA ₁₁₁	16.4	X	68.34173	147.09420	53.71519	4.63401	0.0395472	0.22945004	2.6424734	20	7 3.2	19.8
281416 2008 RB ₁₁₆	17.3	X	86.70910	285.33496	348.01963	2.24659	0.0673594	0.25160837	2.4849596	20	11 8.1	20.6
281417 2008 RZ ₁₁₆	16.8	X	150.99069	212.20641	210.00011	3.21887	0.0868350	0.21063348	2.7975924	20	4 20.1	21.0
281418 2008 RO ₁₁₉	17.0	X	120.89146	214.65875	116.08659	5.88354	0.1785180	0.27498900	2.3420303	20	—	—
281419 2008 RF ₁₂₉	16.7	X	353.63646	78.76155	248.20292	10.35257	0.2029172	0.23605264	2.5929659	20	9 13.9	19.3
281420 2008 RH ₁₂₉	17.0	X	246.09485	162.89288	206.81465	3.25725	0.1086186	0.21985717	2.7187898	20	5 25.3	20.9
281421 2008 RR ₁₃₀	17.6	X	132.00935	85.86003	218.28729	1.49126	0.1996254	0.27283635	2.3543330	20	—	—
281422 2008 RG ₁₃₂	15.8	X	153.95865	200.50984	223.03788	11.59665	0.1563763	0.21748855	2.7384939	20	4 28.8	20.2
281423 2008 RZ ₁₃₈	15.9	X	135.55179	290.67552	149.09137	9.17878	0.2200014	0.21279979	2.7785737	20	5 9.5	20.6
281424 2008 RG ₁₃₉	15.7	X	161.26510	250.35984	232.24775	14.05391	0.0612115	0.23339450	2.6126163	20	7 14.7	19.7
281425 2008 RQ ₁₄₂	16.4	X	293.54239	188.49789	259.45436	13.80769	0.0074845	0.26003806	2.4309616	20	12 1.0	19.4
281426 2008 SX ₂	16.3	X	223.42369	172.57006	135.27921	5.92665	0.1394944	0.21234920	2.7825030	20	2 13.4	20.6
281427 2008 SY ₃	16.7	X	229.09361	262.93967	147.55236	4.31012	0.2152169	0.22922136	2.6442306	20	6 18.2	21.0
281428 2008 SF ₅	17.2	X	63.92318	254.53161	98.50293	3.45461	0.2160513	0.26597822	2.3946313	20	—	—
281429 2008 SJ ₅	16.0	X	196.96079	280.67347	141.18514	5.85730	0.0883532	0.22515774	2.6759508	20	6 9.1	20.1
281430 2008 SO ₈	17.4	X	155.85232	160.51948	180.04625	5.43621	0.1892046	0.28765426	2.2727701	20	1 14.4	20.7
281431 2008 SG ₉	17.8	X	161.52614	106.30749	207.55179	3.57372	0.1913447	0.28422839	2.2909964	20	—	—
281432 2008 SK ₉	17.5	X	34.11164	161.35698	215.07735	1.98490	0.1005574	0.26511204	2.3997841	20	—	—
281433 2008 SB ₁₀	16.0	X	279.32124	284.27671	354.73382	11.55402	0.2047864	0.22111541	2.7084659	20	2 27.5	20.1
281434 2008 SZ ₄₀	17.2	X	13.85010	329.64244	52.07522	2.22959	0.1976149	0.26015706	2.4302203	20	—	—
281435 2008												

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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>
281441 2008 SW ₇₂	15.8	X	331.96882	248.63769	51.38030	12.33737	0.2342350	0.22849464	2.6498342	20	6 7.3	18.2
281442 2008 SX ₇₇	16.4	X	125.75071	235.99099	201.30450	4.32856	0.1406094	0.21179292	2.7873730	20	4 16.9	20.5
281443 2008 SO ₈₁	15.5	X	345.21025	128.63994	228.62659	12.09079	0.1972883	0.24157067	2.5533278	20	10 17.4	17.9
281444 2008 SR ₈₃	17.5	X	340.93039	188.06529	155.99605	1.56369	0.0243594	0.24242615	2.5473175	20	9 13.8	20.6
281445 Scotthowe	16.9	X	263.03323	112.00979	244.34614	5.24483	0.0469925	0.22560470	2.6724153	20	6 6.0	20.5
281446 2008 SL ₉₃	16.7	X	191.30935	201.70656	247.55731	3.90126	0.0481003	0.22880940	2.6474035	20	7 9.4	20.5
281447 2008 SJ ₉₇	16.2	X	66.11714	213.05654	291.94043	2.26820	0.0317253	0.21315173	2.7755143	20	4 12.7	19.8
281448 2008 SQ ₉₉	17.1	X	43.20943	279.85701	52.86624	7.15155	0.1325320	0.25429446	2.4674297	20	12 11.8	20.4
281449 2008 SR ₁₀₀	16.5	X	280.61404	222.62443	131.27666	3.82549	0.0335114	0.22829889	2.6513487	20	6 28.9	20.0
281450 2008 SS ₁₀₅	16.8	X	347.11665	251.50537	45.00702	3.28350	0.0785692	0.23121389	2.6290172	20	7 17.1	19.8
281451 2008 SF ₁₀₆	16.8	X	66.45142	61.83740	193.04050	2.89117	0.1173611	0.24016500	2.5632811	20	9 25.3	20.3
281452 2008 SS ₁₀₆	17.1	X	92.89072	285.03186	52.82645	5.73261	0.2441048	0.26989842	2.3713873	20	—	—
281453 2008 SC ₁₁₀	17.6	X	76.71145	208.43341	128.01796	2.06334	0.2051374	0.26562884	2.3967307	20	—	—
281454 2008 SF ₁₂₀	17.8	X	141.90750	15.06282	285.27148	1.30232	0.1941816	0.27268166	2.3552233	20	—	—
281455 2008 SO ₁₂₄	16.9	X	274.48265	40.31302	269.54090	1.52820	0.0040795	0.21604894	2.7506455	20	4 25.9	20.6
281456 2008 SZ ₁₂₆	17.6	X	122.82732	19.99883	291.22311	0.77587	0.1979480	0.27078095	2.3662319	20	—	—
281457 2008 SS ₁₃₁	16.3	X	174.91816	199.69710	216.87105	5.86660	0.1626622	0.21635660	2.7480373	20	5 7.3	20.1
281458 2008 SU ₁₃₁	17.0	X	206.15676	156.12643	227.18248	3.82890	0.0434413	0.21627231	2.7487512	20	5 1.6	20.7
281459 Kyrlyenko	17.8	X	194.72290	161.25027	153.04902	2.37988	0.2298109	0.29106626	2.2549737	20	1 19.5	21.6
281460 2008 SH ₁₅₅	17.6	X	83.19134	264.29721	83.29869	2.39464	0.2052899	0.26933007	2.3747223	20	—	—
281461 2008 SJ ₁₆₄	17.5	X	74.14471	234.27342	107.50983	2.14899	0.1956501	0.26619179	2.3933504	20	—	—
281462 2008 SQ ₁₆₆	16.4	X	185.96925	226.62633	169.03381	3.44965	0.1087638	0.21586111	2.7522409	20	4 25.1	20.6
281463 2008 SR ₁₆₆	16.0	X	152.56287	265.95915	183.04362	8.11456	0.1614708	0.21713937	2.7414290	20	5 30.9	20.6
281464 2008 ST ₁₆₇	16.8	X	84.87319	186.40980	184.45005	7.14834	0.3198164	0.27219312	2.3580407	20	—	—
281465 2008 SF ₁₇₇	16.9	X	326.52516	303.43398	75.54459	4.64759	0.1498945	0.24568827	2.5247193	20	10 13.6	19.2
281466 2008 SR ₁₈₂	16.9	X	49.90914	198.87685	46.17975	5.96608	0.1702093	0.23289369	2.6163604	20	8 31.6	20.2
281467 2008 SL ₁₈₄	16.6	X	328.03564	290.89497	46.73059	10.83986	0.1442937	0.23233807	2.6205300	20	8 14.7	19.5
281468 2008 SE ₁₈₇	16.6	X	176.34985	199.32975	223.02021	7.41959	0.0435199	0.21958318	2.7210509	20	5 17.3	20.5
281469 2008 SZ ₁₉₀	16.9	X	166.43493	53.07099	231.18922	3.84872	0.1534449	0.27694174	2.3310081	20	—	—
281470 2008 SO ₁₉₁	17.4	X	170.88257	45.03332	226.86619	4.59051	0.2407455	0.27752486	2.3277417	20	—	—
281471 2008 SM ₁₉₇	16.7	X	281.43169	276.49929	72.98215	3.61653	0.0961457	0.22675377	2.6633794	20	6 13.9	20.1
281472 2008 SO ₂₀₁	16.8	X	165.32611	190.28885	225.49515	5.53793	0.0574682	0.21377713	2.7700985	20	4 25.6	20.8
281473 2008 SF ₂₀₂	16.7	X	23.80318	356.96778	221.18760	4.21118	0.0945553	0.21892185	2.7265281	20	5 27.2	19.8
281474 2008 SD ₂₀₃	17.2	X	339.43915	146.09751	170.09069	4.81998	0.1280984	0.23430164	2.6058685	20	7 29.9	20.0
281475 2008 SY ₂₀₃	17.4	X	145.01431	237.57812	59.24757	6.14326	0.2401458	0.27214317	2.3583292	20	—	—
281476 2008 SZ ₂₁₉	17.6	X	109.08739	113.45740	231.43800	1.59738	0.2243084	0.27545253	2.3394021	20	—	—
281477 2008 SX ₂₂₃	16.7	X	226.20586	335.52947	38.67276	6.78594	0.0387368	0.21788169	2.7351988	20	5 13.8	20.5
281478 2008 SM ₂₂₆	16.4	X	158.15128	14.33439	45.02006	14.77650	0.1044294	0.21221417	2.7836831	20	4 26.7	20.6
281479 2008 SS ₂₃₂	16.1	X	125.68144	17.16314	44.03826	6.67036	0.0592166	0.20923152	2.8100755	20	3 20.9	20.1
281480 2008 SS ₂₃₆	17.6	X	134.03584	2.70458	354.47644	3.32393	0.1963125	0.28585861	2.2822780	20	1 15.1	20.5
281481 2008 SS ₂₃₉	16.1	X	60.59120	31.69355	55.92549	7.11047	0.1031585	0.19624553	2.9327128	20	2 5.2	19.8
281482 2008 SS ₂₄₀	16.4	X	149.31732	314.05335	123.54152	5.46494	0.0545645	0.21510842	2.7586575	20	5 7.3	20.4
281483 2008 SG ₂₄₁	17.1	X	115.51987	182.45741	116.23361	2.78097	0.1460979	0.26772705	2.3841920	20	—	—
281484 2008 ST ₂₅₁	17.7	X	141.81215	233.43928	54.33991	2.29884	0.1818166	0.27115714	2.3640429	20	—	—
281485 2008 SS ₂₆₃	16.3	X	355.78762	282.56341	35.69155	11.79034	0.1504212	0.23920953	2.5701022	20	9 13.9	19.0
281486 2008 SW ₂₆₃	17.1	X	219.37217	182.58627	182.56463	4.64282	0.0626065	0.21617162	2.7496047	20	4 23.7	21.0
281487 2008 SD ₂₆₇	15.6	X	38.07255	269.50930	208.05402	10.58422	0.0764960	0.19463279	2.9488909	20	2 1.9	19.5
281488 2008 SW ₂₆₇	16.5	X	188.50726	241.97999	178.22991	5.71502	0.0674369	0.21978157	2.7194132	20	5 29.3	20.6
281489 2008 SZ ₂₆₇	16.5	X	295.14830	294.45133	81.92837	4.16947	0.1285057	0.23423352	2.6063737	20	8 9.1	19.4
281490 2008 SR ₂₆₈	15.6	X	141.59956	20.97391	59.04584	14.04974	0.0637026	0.21494225	2.7600791	20	5 2.5	19.6
281491 2008 ST ₂₇₄	16.4	X	88.95833	279.41976	201.16388	2.94169	0.0370230	0.21491511	2.7603114	20	4 13.3	19.9
281492 2008 SO ₂₇₅	16.6	X	204.73749	181.22546	232.72547	5.00382	0.0700972	0.22512704	2.6761941	20	6 7.8	20.5
281493 2008 ST ₂₇₇	17.8	X	67.87929	74.85476	222.03437	2.90085	0.1649042	0.25430097	2.4673876	20	11 28.9	21.2
281494 2008 SF ₂₈₁	15.5	X	292.30161	95.58185	69.54256	19.71989	0.0545392	0.17718984	3.1393773	20	—	—
281495 2008 SD ₂₈₂	16.3	X	214.54707	160.28773	155.73394	2.59111	0.0364433	0.19764944	2.9188089	20	2 18.8	20.6
281496 2008 ST ₂₈₅	16.6	X	54.20795	269.25345	242.06378	3.14230	0.0802353	0.21115591	2.7929761	20	4 10.6	20.2
281497 2008 SM ₂₈₇	17.1	X	49.47557	146.51502	74.43838	3.22291	0.0217879	0.22940004	2.6428573	20	7 1.5	20.4
281498 2008 SO ₂₈₇	16.5	X	12.94567	282.48591	287.65142	3.59988	0.1105478	0.21540710	2.7561068	20	4 25.7	19.6
281499 2008 SH ₂₉₀	16.8	X	326.41451	277.47925	38.67468	3.04978	0.0196467	0.22861677	2.6488904	20	7 14.6	20.2
281500 2008 SF ₂₉₁	17.3	X	107.17766	239.25962	64.32042	3.97802	0.1989363	0.26923971	2.3752536	20	—	—
281501 2008 SV ₂₉₈	16.2	X	239.88502	312.27636	51.31165	6.85920	0.0241258	0.22215449	2.7000138	20	5 19.1	19.9
281502 2008 SB ₂₉₉	16.8	X	36.65578	273.78678	83.40639	7.29432	0.1616203	0.25936616	2.4351582	20	—	—
281503 2008 SV ₃₀₁	15.9	X	348.38000	240.34323	228.48996	10.19858	0.1853385	0.18188411	3.0851258	20	—	—
281504 2008 SZ ₃₀₂	16.6	X	238.52162	155.01883	262.15671	6.29081	0.1313545	0.23398099	2.6082487	20	7 14.6	20.3
281505 2008 SZ ₃₀₆	16.2	X	254.64253	282.64988	79.28338	6.94256	0.0331323	0.22453562	2.6808914	20	6 4.5	19.7
281506 2008 SZ ₃₀₇	17.6	X	11.23378	249.53691	64.44646	3.33873	0.1505735	0.24227293	2.5483913	20	10 2.9	20.2
281507 2008 TM ₉	16.0	X	228.49912	169.89023	238.49017	13.91380	0.0653795	0.23431117	2.6057978	20	6 27.8	19.8
281508 2008 TA ₁₀	16.5	X	111.37576	330.68312	126.41090	10.27944	0.0966369	0.21277634	2.7787778	20	4 24.8	20.6
281509 2008 TB ₁₉	16.7	X	1.94427	129.50903	48.55515	2.59075	0.0111416	0.20237055	2.8732352	20	3 3.1	20.5
281510 2008 TT ₂₂	15.6	X	310.87494	255.48404	221.97022	14.01310	0.1473399	0.17135206	3.2102819	20	12 30.4	19.6
281511 2008 TX ₃₆	17.3	X	142.32818	234.45405	99.35620	6.28759	0.1926424	0.28053817	2.3110433	20	—	—
281512 2008 TZ ₃₆	15.7	X	129.31623	304.49955	143.15061	10.11685	0.1350324	0.21286342	2.7780199	20	5 6.6	20.1
281513 2008 TD ₃₈	17.1	X	295.69741	143.69927	224.31018	3.74672	0.0716054	0.23756092	2.5819791	20	8 3.6	20.3
281514 2008 TS ₃₈	16.9	X	278.73386	112.46894</								

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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>
281521 2008 TP ₆₉	16.7	X	7.35094	247.67440	65.40718	5.49194	0.1368380	0.24154247	2.5535266	20	9 24.1	19.4
281522 2008 TJ ₇₅	16.4	X	212.36379	151.23237	215.10022	4.99687	0.0729820	0.21352560	2.7722736	20	4 15.5	20.5
281523 2008 TQ ₈₂	16.2	X	176.10604	4.33435	53.34112	4.92220	0.1042926	0.21608002	2.7503817	20	5 11.7	20.2
281524 2008 TW ₉₈	17.6	X	114.37345	149.17964	166.89975	2.25696	0.1789137	0.27017390	2.3697751	20	—	—
281525 2008 TR ₁₀₂	17.6	X	129.19735	289.98497	25.28197	3.94779	0.2424952	0.27444193	2.3451416	20	—	—
281526 2008 TY ₁₀₄	16.0	X	97.17954	223.19804	225.39408	5.01332	0.0493132	0.20566240	2.8424933	20	3 14.3	19.9
281527 2008 TM ₁₀₆	16.5	X	338.42650	67.52805	40.67364	1.40047	0.1508366	0.17951209	3.1122436	20	—	—
281528 2008 TR ₁₁₁	15.8	X	224.53443	183.82132	223.50887	12.41324	0.1515721	0.22558598	2.6725632	20	6 14.4	20.0
281529 2008 TM ₁₁₃	16.1	X	111.72622	57.79010	53.40255	7.33031	0.0183757	0.21385121	2.7694588	20	4 28.9	19.9
281530 2008 TX ₁₂₂	16.4	X	127.49648	3.75670	68.24914	4.55939	0.0763289	0.20975030	2.8054400	20	4 6.9	20.4
281531 2008 TF ₁₃₈	16.6	X	239.52604	57.78340	350.28676	3.77569	0.0817365	0.22950934	2.6420182	20	7 11.3	20.2
281532 2008 TL ₁₄₆	17.8	X	115.73548	117.98341	147.45035	1.83842	0.1605336	0.25994737	2.4315270	20	12 6.6	21.7
281533 2008 TD ₁₆₀	16.5	X	306.11927	67.41580	74.88181	1.87634	0.1186956	0.18061969	3.0995073	20	—	—
281534 2008 TM ₁₆₀	16.3	X	76.27711	306.83722	198.57990	13.12782	0.0659415	0.21122392	2.7923765	20	5 4.9	20.0
281535 2008 TD ₁₇₁	16.7	X	48.60002	79.78973	42.74652	9.65259	0.0154016	0.20243648	2.8726113	20	2 26.1	20.7
281536 2008 TY ₁₇₄	16.9	X	285.60079	274.70775	82.94660	2.73409	0.0997340	0.23153587	2.6265794	20	7 1.2	20.0
281537 2008 TS ₁₇₇	16.2	X	71.11008	156.89144	47.70341	10.82317	0.0313324	0.22900925	2.6458631	20	7 12.0	19.8
281538 2008 TN ₁₈₂	16.3	X	199.30022	258.65903	128.33405	4.89439	0.1120643	0.21459244	2.7630777	20	4 28.7	20.6
281539 2008 TR ₁₈₂	16.7	X	294.85796	59.13163	80.52175	2.23642	0.1060714	0.17841682	3.1249677	20	—	—
281540 2008 TS ₁₈₈	16.8	X	45.61962	26.06880	224.48123	4.54681	0.0665577	0.23342928	2.6123568	20	8 11.0	20.1
281541 2008 UC ₆	17.0	X	349.58056	255.37057	74.34198	0.90620	0.1803795	0.24018925	2.5631086	20	9 14.9	19.2
281542 2008 UL ₁₉	17.4	X	20.83798	53.20363	209.70264	1.96494	0.0786397	0.23127023	2.6285902	20	7 23.8	20.4
281543 2008 UE ₂₇	17.0	X	5.60863	142.90624	152.52212	1.37984	0.1534886	0.23551259	2.5969283	20	8 22.7	19.5
281544 2008 UX ₂₇	16.6	X	210.42549	147.71471	205.81772	5.21825	0.0603414	0.20951787	2.8075145	20	3 28.7	20.8
281545 2008 UZ ₃₀	16.9	X	92.17486	1.58666	88.15627	3.31291	0.0332027	0.20253345	2.8716943	20	3 11.0	20.9
281546 2008 UD ₃₁	16.1	X	312.64785	222.29301	57.08908	6.91014	0.0755148	0.21673495	2.7448382	20	4 28.6	19.6
281547 2008 UK ₃₁	16.5	X	128.69783	260.51632	184.96763	4.22638	0.0402252	0.21003174	2.8029333	20	4 19.9	20.5
281548 2008 UG ₃₂	16.3	X	91.03079	295.95118	125.74618	2.37853	0.0551282	0.19454208	2.9406444	20	2 6.0	20.2
281549 2008 UD ₃₈	16.6	X	300.27921	299.11648	2.32229	4.21221	0.0567601	0.21709056	2.7418399	20	5 11.5	20.0
281550 2008 UX ₃₉	16.3	X	215.83231	133.24810	237.98163	5.91774	0.0585898	0.21374597	2.7703678	20	4 25.9	20.3
281551 2008 UQ ₄₈	16.2	X	4.08189	27.12385	321.32189	1.83548	0.1757769	0.24505051	2.5290979	20	11 10.8	18.8
281552 2008 UF ₄₉	16.1	X	330.61580	101.31986	245.21683	6.98023	0.1657547	0.23612762	2.5924170	20	8 23.5	18.7
281553 2008 UG ₅₂	16.3	X	319.67629	278.96121	62.46081	8.01534	0.2058480	0.23278951	2.6171410	20	7 23.3	18.8
281554 2008 UT ₅₄	15.8	X	234.18256	246.79832	66.82479	7.04253	0.0491178	0.20229135	2.8739850	20	3 11.7	20.1
281555 2008 UO ₅₉	16.6	X	25.22252	47.17458	261.76582	4.58295	0.1989860	0.24471150	2.5314331	20	10 24.0	19.6
281556 2008 UL ₇₁	16.1	X	301.29851	322.82292	26.10393	8.06860	0.1950669	0.22994762	2.6386600	20	6 28.1	19.3
281557 2008 UV ₇₃	15.5	X	4.31746	184.11304	259.58768	9.27057	0.1276827	0.17658022	3.1465986	20	—	—
281558 2008 UC ₇₄	16.0	X	357.14641	204.61756	286.93930	5.27063	0.0798636	0.18515753	3.0486563	20	—	—
281559 2008 UF ₇₅	15.7	X	315.52719	76.40466	46.21393	12.40090	0.0848640	0.17255503	3.1953442	20	—	—
281560 2008 UU ₇₅	16.2	X	299.89460	64.33707	246.69810	13.70285	0.1456799	0.21943578	2.7222693	20	5 10.0	19.8
281561 2008 Taitung	16.4	X	143.50184	343.16863	61.10011	11.62010	0.0938231	0.20540749	2.8448445	20	3 27.5	20.8
281562 2008 UT ₈₅	16.2	X	188.98742	207.98919	211.99714	15.23422	0.0746077	0.22153156	2.7050729	20	5 29.0	20.4
281563 2008 UC ₈₇	16.6	X	203.32103	12.51097	52.18264	3.08485	0.0644949	0.22380199	2.6867469	20	6 20.5	20.3
281564 2008 Fuhsiehhai	15.8	X	238.14610	305.02528	79.37678	7.39780	0.0492268	0.22155799	2.7048578	20	6 10.9	19.3
281565 2008 UA ₈₉	16.3	X	75.61835	96.24827	67.10534	5.86664	0.0450364	0.22021201	2.7158684	20	5 23.4	19.7
281566 2008 UQ ₉₂	16.3	X	210.79036	274.83011	137.02932	6.13526	0.0923609	0.22372031	2.6874008	20	6 11.1	20.3
281567 2008 UR ₉₂	16.2	X	174.30364	251.89336	162.39405	8.91604	0.1593044	0.21528041	2.7571879	20	5 9.1	20.8
281568 2008 UF ₉₃	15.3	X	346.63500	42.38227	59.45268	26.32016	0.2027934	0.17760903	3.1344356	20	—	—
281569 2008 UO ₉₄	17.5	X	135.53975	165.26860	159.64698	3.47424	0.2556155	0.27467927	2.3437905	20	—	—
281570 2008 UH ₉₇	16.0	X	231.19083	267.11542	132.78359	5.96181	0.1208017	0.22440699	2.6819158	20	6 15.5	20.0
281571 2008 UM ₉₈	15.7	X	335.00713	225.83238	121.19997	4.29765	0.1010741	0.23654060	2.5893986	20	9 9.5	18.4
281572 2008 UJ ₁₀₀	16.2	X	253.99036	177.58329	219.51872	10.17570	0.2026292	0.22874586	2.6478937	20	6 26.4	20.3
281573 2008 UQ ₁₀₁	16.8	X	65.19912	28.00164	252.41786	2.70666	0.0822179	0.24641200	2.5197734	20	10 22.9	20.2
281574 2008 UJ ₁₀₈	15.4	X	321.72132	232.93470	240.91708	15.41450	0.1257835	0.17309510	3.1886942	20	—	—
281575 2008 UV ₁₁₀	16.4	X	272.16437	76.81155	262.15613	5.25262	0.0674242	0.22139218	2.7062081	20	5 22.0	19.9
281576 2008 UZ ₁₁₆	15.6	X	15.10021	219.53319	260.28060	7.59869	0.0471563	0.19038959	2.9925443	20	1 6.6	19.5
281577 2008 UL ₁₁₇	16.3	X	277.57624	64.02816	277.87172	5.07728	0.0550293	0.22233152	2.6985804	20	6 4.5	19.8
281578 2008 UM ₁₂₇	15.7	X	252.80687	105.92198	241.21120	13.05173	0.0904877	0.21441643	2.7645896	20	5 4.8	19.7
281579 2008 UN ₁₃₀	16.9	X	335.66465	48.77301	241.86080	0.91019	0.0840189	0.22586266	2.6703801	20	6 17.6	20.0
281580 2008 UO ₁₃₂	15.6	X	345.57802	233.30889	228.16721	10.58224	0.0759469	0.17854615	3.1234584	20	—	—
281581 2008 UT ₁₃₂	15.1	X	348.40752	225.46572	223.77598	26.02373	0.0792774	0.17662011	3.1461248	20	—	—
281582 2008 UY ₁₃₆	16.6	X	183.05806	159.80851	223.36194	3.62295	0.0872372	0.20944413	2.8081734	20	4 4.8	20.8
281583 2008 UL ₁₃₉	16.2	X	2.66273	268.54564	223.33312	9.01438	0.0325645	0.18992119	2.9974625	20	1 5.0	20.3
281584 2008 UD ₁₄₁	16.5	X	234.10853	105.55012	228.64161	5.56341	0.0533762	0.20944358	2.8081783	20	3 30.9	20.7
281585 2008 UU ₁₄₁	16.4	X	39.82546	20.06338	53.05972	2.60329	0.0772176	0.18437026	3.0573287	20	—	—
281586 2008 UK ₁₄₃	17.5	X	73.65986	98.14354	220.40119	9.85116	0.1994684	0.25741416	2.4474534	20	—	—
281587 2008 UM ₁₄₃	16.1	X	327.04145	213.90786	55.27203	5.09103	0.0516152	0.21601370	2.7509447	20	5 8.7	19.6
281588 2008 UB ₁₄₅	16.6	X	350.98558	35.60192	91.66527	2.39281	0.0786005	0.18447871	3.0561303	20	—	—
281589 2008 UH ₁₄₅	16.7	X	235.95981	216.74956	77.53689	3.15923	0.0348406	0.19976682	2.8981475	20	2 17.9	20.9
281590 2008 UN ₁₄₈	16.1	X	223.83738	315.90812	49.67106	6.43769	0.0376277	0.21242864	2.7818091	20	5 1.1	19.8
281591 2008 UE ₁₄₉	16.0	X	25.97764	10.08872	48.96802	11.69442	0.0832078	0.17708286	3.1406415	20	—	—
281592 2008 UL ₁₅₁	15.9	X	34.95502	226.34144	53.23355	12.56556	0.1680817	0.23576917	2.5950439	20	9 29.9	19.2
281593 2008 UJ ₁₅₆	16.7	X	230.19526	311.22818	55.76672	5.32362	0.1315448	0.21600192	2.7510447	20	5 2.4	20.8
281594 2008 UG ₁₅₇	16.5	X	310.65423	152.95123	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>
281601 2008 UK ₁₈₁	15.9	X	343.87144	267.76433	208.82126	10.94665	0.1323234	0.18152730	3.0891672	20	—	—
281602 2008 US ₁₈₄	16.3	X	175.21952	120.38794	244.03961	0.80335	0.0769249	0.20102422	2.8860496	20	3 5.3	20.6
281603 2008 UP ₁₈₇	15.7	X	26.72238	15.20746	73.55528	14.08390	0.1024015	0.18114962	3.0934594	20	—	—
281604 2008 UE ₁₈₈	16.9	X	334.98135	146.58322	185.67872	4.11420	0.1727329	0.23301677	2.6154390	20	8 12.6	19.3
281605 2008 UK ₁₉₈	16.1	X	293.16810	142.41810	213.88131	13.75646	0.1298293	0.23171371	2.6252352	20	7 3.5	19.6
281606 2008 UQ ₂₀₀	15.7	X	281.21733	146.26524	231.05041	9.11637	0.1001777	0.23201192	2.6229853	20	7 19.6	19.3
281607 2008 UU ₂₀₁	16.2	X	29.00276	289.93382	31.18237	2.78363	0.1440857	0.24559127	2.5253841	20	11 7.9	19.1
281608 2008 UY ₂₀₃	16.3	X	249.02690	46.57851	332.19005	5.29988	0.0696079	0.22502738	2.6769842	20	6 14.4	20.0
281609 2008 UK ₂₀₃	16.1	X	288.14438	42.33237	325.96866	4.67582	0.0743918	0.23198869	2.6231604	20	7 24.7	19.3
281610 2008 UV ₂₀₈	16.8	X	315.17201	133.55988	230.26835	6.36565	0.2080733	0.23875648	2.5733525	20	8 13.2	19.3
281611 2008 UQ ₂₁₀	17.2	X	199.99378	138.32993	237.63126	3.46941	0.0864133	0.21286226	2.7780301	20	4 13.3	21.3
281612 2008 UQ ₂₁₁	16.3	X	280.67538	122.85882	185.75125	3.70612	0.0468356	0.21786577	2.7353320	20	4 27.2	20.0
281613 2008 UV ₂₁₄	16.0	X	239.80884	176.56551	237.29565	12.27691	0.2722836	0.22878763	2.6475175	20	6 25.9	20.4
281614 2008 UE ₂₁₅	16.4	X	243.18068	137.37844	259.01227	6.79372	0.2185944	0.22704168	2.6611273	20	6 13.2	20.4
281615 2008 UQ ₂₂₁	15.7	X	273.77705	303.55726	275.01211	5.91052	0.0801032	0.18932039	3.0038008	20	—	—
281616 2008 UW ₂₂₃	15.8	X	322.02148	285.17051	63.28852	9.78185	0.1349642	0.23475285	2.6025283	20	8 19.6	18.7
281617 2008 UY ₂₃₇	16.5	X	220.77482	82.66020	273.95942	5.04484	0.0167458	0.21101148	2.7942504	20	4 14.7	20.4
281618 2008 UJ ₂₃₉	15.6	X	321.38725	260.84926	281.25612	9.55472	0.0458888	0.19140581	2.9819428	20	1 12.5	19.5
281619 2008 UN ₂₅₀	16.3	X	335.82600	200.76030	351.43970	1.42067	0.0064593	0.19946566	2.9010638	20	2 16.4	20.3
281620 2008 UY ₂₅₆	16.7	X	269.16459	260.91035	93.04177	2.99388	0.0841663	0.22263207	2.6961511	20	6 5.3	20.3
281621 2008 UB ₂₆₃	15.8	X	243.79341	18.53691	257.63647	8.94066	0.0484956	0.19336844	2.9617313	20	1 31.5	20.3
281622 2008 UQ ₂₆₆	16.1	X	290.67604	2.55186	281.55614	3.18796	0.0320374	0.21179759	2.7873321	20	4 8.4	20.0
281623 2008 UF ₂₆₉	16.2	X	336.30295	175.85392	62.06408	8.62931	0.0591404	0.21046204	2.7991115	20	4 12.3	19.8
281624 2008 UG ₂₇₄	16.8	X	334.06940	92.70375	240.47720	2.63876	0.1730662	0.23576762	2.5950552	20	8 12.5	19.1
281625 2008 UE ₂₈₂	16.0	X	285.17245	284.22866	63.26523	6.74515	0.0930534	0.22372024	2.6874014	20	6 16.8	19.5
281626 2008 UT ₂₈₃	16.5	X	54.61120	125.04215	55.54306	7.48385	0.0037208	0.21613283	2.7499337	20	5 12.2	20.0
281627 2008 UY ₂₈₄	16.6	X	274.72485	139.34560	205.87309	5.21404	0.0563767	0.22318283	2.6917137	20	6 5.5	20.2
281628 2008 UE ₂₈₆	16.7	X	178.73338	259.40404	138.60708	2.78605	0.0970672	0.21242638	2.7818290	20	4 20.8	21.0
281629 2008 UG ₂₉₁	16.4	X	105.51802	217.51989	203.63787	10.19845	0.1134757	0.20311426	2.8662173	20	2 27.8	20.6
281630 2008 UN ₂₉₇	16.6	X	337.31797	1.14184	318.49504	4.56575	0.1072563	0.23180539	2.6245430	20	8 1.9	19.3
281631 2008 UL ₃₀₃	16.2	X	246.88356	108.06662	257.01272	5.28593	0.0905083	0.21825012	2.7321197	20	5 21.6	20.0
281632 2008 UL ₃₀₄	17.4	X	83.21434	95.56478	243.15597	4.07949	0.2272607	0.26700624	2.3884809	20	—	—
281633 2008 UO ₃₀₇	16.0	X	346.27805	228.94648	107.93775	12.83412	0.0537688	0.23858266	2.5746022	20	9 17.9	19.3
281634 2008 UU ₃₁₀	16.5	X	78.97674	310.57516	291.72750	5.90133	0.1483617	0.24294588	2.5436832	20	9 25.3	20.3
281635 2008 UT ₃₁₂	16.5	X	310.30077	344.77154	301.58685	7.40764	0.1664680	0.21664806	2.7455721	20	4 15.6	20.1
281636 2008 UR ₃₁₅	16.5	X	317.16394	288.58528	59.98133	3.14383	0.2309765	0.23375475	2.6099313	20	7 24.4	18.7
281637 2008 UR ₃₁₆	16.6	X	301.07844	183.62370	197.47570	1.54007	0.2260834	0.23544144	2.5974515	20	8 9.2	19.0
281638 2008 UN ₃₁₆	16.8	X	29.88475	186.83997	137.76863	1.26247	0.2386893	0.24579681	2.5239760	20	11 29.0	19.9
281639 2008 UT ₃₃₀	16.8	X	277.32462	249.25971	124.92038	5.04042	0.1715568	0.23118349	2.6292478	20	6 30.4	20.1
281640 2008 UY ₃₃₄	17.7	X	65.07313	151.27153	171.86201	2.36575	0.1790191	0.25668632	2.4520777	20	12 30.1	21.3
281641 2008 UD ₃₃₅	16.0	X	328.89910	127.52038	353.02547	2.06687	0.1015944	0.17792355	3.1307407	20	—	—
281642 2008 UT ₃₃₅	15.7	X	348.99772	20.85854	238.87780	11.92716	0.0925765	0.21835211	2.7312689	20	5 26.4	18.8
281643 2008 UX ₃₃₆	15.8	X	317.44774	62.94291	49.39168	15.05375	0.1070769	0.17187780	3.2037321	20	—	—
281644 2008 UY ₃₃₇	17.7	X	72.50429	312.17018	355.61495	0.94560	0.1920333	0.25382017	2.4705025	20	12 19.3	21.4
281645 2008 UY ₃₃₇	15.8	X	82.18173	171.06328	245.26813	15.56856	0.0721128	0.19026740	2.9938253	20	1 17.6	20.1
281646 2008 UA ₃₃₈	16.1	X	301.71874	235.49871	44.11855	9.57279	0.1253927	0.21157559	2.7892814	20	4 7.8	19.8
281647 2008 UB ₃₃₉	16.3	X	176.23228	129.17840	227.38983	11.10351	0.0774674	0.19817755	2.9136211	20	2 22.1	20.9
281648 2008 UK ₃₄₀	16.5	X	256.52658	36.93551	291.56211	3.38027	0.0752260	0.21039967	2.7996646	20	4 16.6	20.5
281649 2008 UF ₃₄₂	16.8	X	319.27559	7.82343	250.44401	0.62495	0.0341032	0.21296689	2.7771201	20	4 14.0	20.3
281650 2008 UP ₃₄₃	16.9	X	235.15741	121.61386	222.59597	3.55832	0.0807780	0.21060372	2.7978559	20	4 12.3	20.9
281651 2008 UO ₃₄₄	16.4	X	300.89218	7.15448	309.77239	4.16447	0.1090401	0.21991747	2.7182928	20	5 25.4	19.8
281652 2008 UY ₃₄₇	15.7	X	311.90782	69.80827	49.60227	6.43443	0.1120635	0.17262121	3.1945273	20	—	—
281653 2008 US ₃₅₀	16.2	X	336.57067	292.35476	231.22891	9.47835	0.0471905	0.19168531	2.9790434	20	1 7.9	20.4
281654 2008 UJ ₃₅₃	16.2	X	316.40376	136.61014	43.61970	3.26833	0.0378703	0.18602648	3.0391552	20	1 6.9	20.4
281655 2008 UM ₃₅₃	17.0	X	174.06033	229.31294	151.49058	2.60656	0.0823383	0.20284550	2.8687485	20	3 25.2	21.2
281656 2008 UG ₃₅₄	17.1	X	312.88113	133.56213	181.43824	2.03405	0.1050222	0.22359037	2.6884419	20	6 12.3	20.2
281657 2008 UG ₃₅₉	15.5	X	262.54779	148.05305	67.09450	9.97042	0.1295749	0.18341810	3.0679004	20	—	—
281658 2008 UZ ₃₆₁	15.7	X	57.50740	276.76194	106.27351	11.47443	0.1569963	0.18063991	3.0992759	20	—	—
281659 2008 VZ ₁₀	15.8	X	7.54810	224.18432	95.41384	5.66289	0.1644322	0.24021629	2.5629162	20	10 7.7	18.5
281660 2008 VQ ₁₃	16.2	X	36.65345	170.69224	140.33989	4.42525	0.2220671	0.24330676	2.5411673	20	11 18.1	19.5
281661 2008 VW ₁₃	17.2	X	53.87941	211.44283	120.49170	3.07158	0.1914818	0.25505385	2.4625296	20	12 30.8	20.7
281662 2008 VX ₁₅	16.5	X	183.25084	325.70303	68.90586	5.10231	0.1098648	0.21235938	2.7824140	20	4 21.7	20.7
281663 2008 VY ₁₇	17.0	X	287.05667	156.41280	198.97869	3.28403	0.1103064	0.22822565	2.6519159	20	6 27.9	20.4
281664 2008 VR ₂₂	15.7	X	25.34752	42.60641	72.28818	9.72318	0.0481421	0.18996800	2.9969702	20	1 16.2	19.7
281665 2008 VG ₂₃	16.4	X	143.42049	313.41383	76.82223	9.98073	0.0938066	0.19809047	2.9144750	20	3 10.1	20.9
281666 2008 VH ₂₇	16.7	X	355.53709	18.63685	257.66334	5.04254	0.0805971	0.22518061	2.6757696	20	6 30.6	19.6
281667 2008 VB ₃₁	16.1	X	266.86106	144.60061	193.14765	5.49528	0.1013253	0.21916911	2.7244770	20	5 10.0	20.0
281668 2008 VW ₄₆	15.3	X	340.88650	269.78495	235.05267	8.45957	0.0612584	0.18463411	3.0544153	20	—	—
281669 2008 VA ₅₁	15.7	X	345.93442	34.05772	52.42311	8.68232	0.1178665	0.17194702	3.2028722	20	—	—
281670 2008 VS ₅₇	16.5	X	18.24276	207.93717	58.38300	13.02693	0.2048885	0.22777797	2.6553896	20	8 16.2	19.5
281671 2008 VU ₅₇	16.2	X	332.33339	231.40253	30.50255	12.84863	0.0993221	0.21700598	2.7425523	20	4 29.4	19.6
281672 2008 VD ₆₀	16.4	X	270.67808	165.99878	208.99827	2.92974	0.2867007	0.22887770	2.6468768	20	6 6.2	20.3
281673 2008 VW ₇₀	16.0	X	264.81259	144.01668	39.30266	9.87924	0.0464582	0.17535828</				

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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>
281681 2008 WA ₈	17.2	X	95.12180	11.21739	99.29442	1.83063	0.0238180	0.20831954	2.8182707	20	4 7.6	21.0
281682 2008 WW ₈	17.1	X	278.54603	124.27708	198.87542	6.30870	0.0429373	0.21878533	2.7276622	20	5 14.6	20.7
281683 2008 WJ ₁₃	16.3	X	297.13709	286.41495	75.48102	2.35275	0.1070644	0.23127039	2.6285891	20	7 24.5	19.3
281684 2008 WV ₂₂	16.7	X	357.13662	83.76080	227.54444	3.07274	0.1675823	0.23664299	2.5886517	20	8 29.5	19.0
281685 2008 WW ₂₂	16.0	X	93.67577	2.26302	48.45547	11.60472	0.0496756	0.19320566	2.9633946	20	1 29.9	20.3
281686 2008 WG ₃₁	16.3	X	335.65805	265.36493	62.99723	8.75845	0.1803236	0.23089356	2.6314482	20	8 12.9	18.8
281687 2008 WA ₃₄	16.8	X	20.27050	21.36950	225.02335	3.31375	0.0422728	0.22375706	2.6871065	20	6 25.9	20.2
281688 2008 WD ₃₆	16.4	X	279.97889	93.35369	225.28439	1.59295	0.0749062	0.21536434	2.7564716	20	5 4.6	20.0
281689 2008 WK ₃₆	17.4	X	94.56313	271.32142	60.21072	11.20201	0.2994866	0.26580206	2.3956893	20	—	—
281690 2008 WY ₃₈	15.8	X	323.15033	196.72723	66.75598	7.86805	0.0855184	0.21160944	2.7889840	20	4 23.0	19.3
281691 2008 WZ ₄₈	16.1	X	301.80016	116.36807	61.16599	9.90769	0.0783520	0.18510099	3.0492771	20	—	—
281692 2008 WK ₄₉	17.3	X	42.77016	225.94602	124.05838	2.98568	0.2173185	0.25608929	2.4558874	20	—	—
281693 2008 WC ₅₁	16.6	X	263.49941	226.51862	96.08697	1.83875	0.0676098	0.21407299	2.7675457	20	4 20.7	20.5
281694 2008 WN ₅₂	16.9	X	304.08529	53.00300	225.37024	4.13147	0.0841555	0.21483790	2.7609727	20	4 11.8	20.4
281695 2008 WS ₅₉	16.9	X	313.75695	262.91422	115.87776	4.27349	0.2531671	0.23929985	2.5694555	20	9 2.6	18.8
281696 2008 WW ₅₉	16.2	X	253.68696	278.95281	90.55720	7.23130	0.2418558	0.22275759	2.6951382	20	5 19.3	20.5
281697 2008 WD ₆₀	16.0	X	87.00379	199.67515	226.57501	4.78364	0.2921303	0.19159648	2.9799641	20	3 10.2	20.2
281698 2008 WU ₆₃	16.7	X	91.57778	224.39080	74.83214	17.27452	0.2124217	0.25938873	2.4350169	20	12 27.4	20.7
281699 2008 WX ₆₆	16.8	X	344.98391	192.01543	160.09062	1.61915	0.1773868	0.24045652	2.5612090	20	10 9.6	18.9
281700 2008 WF ₇₃	16.2	X	247.11989	192.41395	53.65362	6.12735	0.1140546	0.18441245	3.0568624	20	—	—
281701 2008 WO ₇₆	16.1	X	346.49430	236.41435	83.24221	7.86034	0.1757453	0.23335633	2.6129012	20	8 24.5	18.6
281702 2008 WT ₇₉	16.6	X	166.78987	288.21683	104.78371	7.57565	0.0454133	0.20358592	2.8617886	20	4 2.8	20.8
281703 2008 WB ₉₁	16.7	X	125.14310	55.06999	34.10166	4.47978	0.0733737	0.21241748	2.7819066	20	4 23.5	20.5
281704 2008 WJ ₉₃	16.5	X	99.33418	2.44453	63.18774	3.09630	0.0775443	0.19569980	2.9381624	20	2 25.9	20.5
281705 2008 WN ₉₅	15.1	X	213.39030	169.85966	75.92342	28.90063	0.1099515	0.17912811	3.1166896	20	—	—
281706 2008 WO ₉₅	15.5	X	48.73713	210.87527	93.98758	10.14212	0.2039003	0.24489763	2.5301503	20	11 23.1	19.1
281707 2008 WE ₉₇	15.7	X	59.80184	0.57334	83.10081	15.50022	0.1204153	0.19116995	2.9843950	20	2 2.1	19.6
281708 2008 WU ₉₈	16.3	X	292.31731	2.90661	17.93633	5.78730	0.2466777	0.23439479	2.6051780	20	7 22.2	19.2
281709 2008 WF ₁₀₃	15.3	X	53.15541	16.14064	95.06474	16.17786	0.0862848	0.19580590	2.9371010	20	2 25.6	19.3
281710 2008 WU ₁₀₃	16.3	X	224.83311	296.58006	77.84004	3.72747	0.0929363	0.21659583	2.7460134	20	5 9.2	20.4
281711 2008 WQ ₁₀₅	16.5	X	226.55651	317.18621	5.91227	1.95741	0.0439607	0.20104196	2.8858799	20	3 11.7	20.8
281712 2008 WT ₁₀₆	16.1	X	282.40071	8.88821	304.61271	3.55550	0.1077560	0.21506624	2.7590181	20	4 24.4	19.9
281713 2008 WV ₁₀₇	16.6	X	199.82481	240.08370	150.57226	4.48871	0.1077884	0.21095304	2.7947665	20	5 3.6	20.9
281714 2008 WH ₁₀₈	16.7	X	270.18351	55.25565	290.40563	3.80121	0.1219423	0.22130470	2.7069213	20	5 19.9	20.6
281715 2008 WJ ₁₀₈	16.2	X	31.18099	18.16587	282.45170	4.93629	0.1741535	0.24068221	2.5596076	20	10 15.7	19.4
281716 2008 WL ₁₀₉	15.9	X	231.82912	168.21892	57.84828	8.93474	0.0195520	0.17803816	3.1293969	20	—	—
281717 2008 WO ₁₁₃	15.6	X	183.29102	90.56257	253.21177	15.15841	0.0259051	0.19460377	2.9491841	20	2 10.5	20.2
281718 2008 WE ₁₁₄	16.5	X	245.90172	327.62898	260.63483	1.09868	0.0255432	0.18049278	3.1009600	20	—	—
281719 2008 WK ₁₁₄	16.5	X	167.11616	310.23221	30.52251	1.58491	0.0340440	0.19130729	2.9829665	20	1 27.5	20.8
281720 2008 WJ ₁₁₇	15.3	X	251.58959	349.62593	257.59210	16.06415	0.0433783	0.18560907	3.0437099	20	1 7.8	19.9
281721 2008 WK ₁₂₂	16.9	X	307.84646	135.72037	197.58044	1.50066	0.0725339	0.22589563	2.6701203	20	7 4.4	20.1
281722 2008 WM ₁₃₁	15.7	X	31.92454	273.05747	167.35862	11.94156	0.1282298	0.18155421	3.0888619	20	—	—
281723 2008 WS ₁₃₅	15.6	X	277.39750	284.20732	266.11624	8.49207	0.0350967	0.17937442	3.1138359	20	—	—
281724 2008 WY ₁₃₅	16.1	X	357.68335	230.39504	112.01844	4.53797	0.2318114	0.23947931	2.5681717	20	10 30.7	18.4
281725 2008 WJ ₁₃₆	17.4	X	61.33860	213.28530	115.93891	2.23065	0.2018972	0.25508520	2.4623279	20	—	—
281726 2008 WF ₁₃₈	15.4	X	135.96509	126.98580	238.51393	9.04433	0.0910179	0.18931938	3.0038115	20	1 25.2	19.9
281727 2008 XE ₁	15.8	X	270.92013	250.72085	104.80238	14.79367	0.1554461	0.22040595	2.7142750	20	6 1.6	19.7
281728 2008 XD ₁₀	16.2	X	38.83084	203.51244	85.84344	13.08665	0.2783555	0.23872185	2.5736013	20	11 3.8	19.8
281729 2008 XY ₁₄	16.6	X	218.97203	339.18780	342.59450	1.19422	0.0689284	0.20031772	2.8928315	20	2 29.2	21.0
281730 2008 XZ ₃₀	16.1	X	280.28475	26.43792	276.97403	8.92072	0.1044367	0.21064782	2.7974654	20	4 6.5	20.2
281731 2008 XT ₅₃	15.4	X	304.54352	242.13084	253.76118	10.14498	0.0843665	0.17026048	3.2239885	20	—	—
281732 2008 XB ₅₄	16.0	X	143.00427	178.35703	201.11630	3.92968	0.1014360	0.19955181	2.9002289	20	3 25.9	20.3
281733 2008 XK ₅₄	15.8	X	269.74629	242.07586	288.20795	4.43191	0.0969097	0.17105109	3.2140465	20	—	—
281734 2008 YG ₁	15.3	X	89.88010	309.78311	86.48801	11.19418	0.1177489	0.18314527	3.0709464	20	1 15.5	19.4
281735 2008 YE ₉	16.8	X	320.09090	176.72103	164.42696	0.72280	0.1429793	0.23078505	2.6322730	20	7 29.1	19.6
281736 2008 YU ₁₁	16.5	X	213.24462	89.22658	255.71948	5.01597	0.0791590	0.20363364	2.8613415	20	3 19.1	20.9
281737 2008 YB ₁₉	15.3	X	111.13876	245.87533	116.28468	22.25187	0.1051893	0.17357072	3.1828663	20	1 1.2	20.0
281738 2008 YT ₁₉	16.4	X	275.44704	71.23566	114.17970	15.20070	0.0479796	0.25393603	2.4697510	20	—	—
281739 2008 YW ₂₀	14.9	X	99.36128	341.45726	293.45442	8.66825	0.0454495	0.14648977	3.5639466	20	10 31.7	20.2
281740 2008 YH ₂₇	16.6	X	330.94973	201.82752	166.38405	3.42148	0.2867301	0.24066693	2.5597159	20	10 4.4	17.8
281741 2008 YY ₈₀	15.8	X	128.29471	286.24658	85.61486	6.01332	0.1767984	0.18353034	3.0666494	20	2 8.3	20.5
281742 2008 YY ₉₄	15.4	X	132.25145	41.64403	291.02046	9.05170	0.0692448	0.17242753	3.1969191	20	—	—
281743 2008 YY ₉₈	17.1	X	173.70371	141.48544	111.75964	5.75301	0.1735104	0.24474362	2.5312117	20	—	—
281744 2008 YR ₁₀₀	15.4	X	109.32754	245.32932	116.11749	10.01158	0.0830704	0.17332790	3.1858384	20	—	—
281745 2008 YZ ₁₁₅	16.0	X	206.70582	35.27351	279.49320	3.16509	0.1923414	0.18803563	3.0174676	20	2 7.4	21.1
281746 2008 YQ ₁₂₄	16.2	X	32.48960	359.65365	64.55894	2.11897	0.1839491	0.17228316	3.1987048	20	—	—
281747 2008 YX ₁₅₆	15.7	X	56.95523	333.34331	98.82564	17.99343	0.1008962	0.18441078	3.0568808	20	1 10.8	19.6
281748 2008 YZ ₁₅₆	17.2	X	8.64011	125.91838	92.66953	3.60148	0.1629553	0.28327202	2.2961501	20	4 29.3	18.9
281749 2009 AY ₁	15.4	X	318.48889	226.59652	263.89219	8.01151	0.0549515	0.17495937	3.1660024	20	—	—
281750 2009 AQ ₃₆	16.6	X	303.74172	214.89859	128.35315	6.47199	0.0304792	0.21709124	2.7418341	20	7 16.8	20.2
281751 2009 AR ₄₇	15.8	X	146.84027	241.86968	120.25404	10.44706	0.1618471	0.18563076	3.0434728	20	2 12.5	20.5
281752 2009 BF ₆	15.7	X	60.38752	282.04058	127.38902	17.05379	0.1334596	0.17501116	3.1653778	20	—	—
281753 2009 BD ₈	16.6	X	10.63980	336.58089	130.58544	7.37560	0.0501298	0.26174750	2.4203659	20	—	—
281754 2009 BT ₁₂	15.9	X	66.23672	196.27784	267.41123	8.3						

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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>
281761 2009 BR ₁₈₄	15.2	X	84.04372	227.05302	145.95070	14.07512	0.0516557	0.16922195	3.2371656	20	—	—
281762 2009 DJ ₅₈	17.1	X	246.24793	195.93295	119.80494	2.94341	0.2104204	0.26765393	2.3846261	20	3 6.6	20.8
281763 2009 DO ₅₈	16.5	X	166.34039	272.05072	56.31137	2.93074	0.1890007	0.25268534	2.4778938	20	1 15.4	20.3
281764 2009 Schwetzingen	16.3	X	23.94173	311.90163	342.01111	2.33309	0.0643292	0.21341326	2.7732463	20	9 6.9	19.9
281765 2009 FD ₂₉	15.5	X	106.61128	355.58033	139.01003	12.10971	0.0074819	0.19148322	2.9811391	20	5 24.3	19.9
281766 2009 FM ₇₄	15.3	X	255.17718	185.19115	129.78168	10.99135	0.0452581	0.18396089	3.0618627	20	4 9.5	19.8
281767 2009 FE ₇₇	16.6	X	75.04499	105.67165	186.87752	7.33811	0.2119349	0.21288537	2.7778289	20	11 28.9	21.0
281768 2009 HN ₅	17.1	X	338.39627	155.50379	151.58325	3.35053	0.1881382	0.28183630	2.3039414	20	7 16.5	18.6
281769 2009 HD ₂₃	15.8	X	296.78537	134.97059	142.51325	6.17033	0.1548200	0.17455335	3.1709101	20	3 27.4	20.2
281770 2009 HG ₅₂	15.3	X	331.72437	327.05963	263.33822	5.72367	0.1287932	0.17528715	3.1620543	20	3 15.6	19.4
281771 2009 RR ₂₃	17.0	X	108.58510	338.46284	117.93399	6.25389	0.1730011	0.23585237	2.5944335	20	4 27.8	20.8
281772 2009 Matttaylor	16.8	X	183.16281	135.94414	220.96717	5.07141	0.1410836	0.22779953	2.6552220	20	3 2.5	21.0
281773 2009 RG ₇₄	17.3	X	149.59048	214.07278	19.23068	7.35772	0.1002919	0.28015798	2.3131336	20	12 1.9	20.7
281774 2009 RG ₇₆	16.6	X	267.64058	55.31080	27.95003	1.13945	0.2178650	0.17571576	3.1569103	20	9 5.7	21.0
281775 2009 SW ₄₃	16.2	X	87.68147	198.02720	242.91097	5.89871	0.0418770	0.22064625	2.7123039	20	2 17.5	19.9
281776 2009 SK ₄₈	16.4	X	20.09600	194.08063	6.39474	7.56538	0.0333857	0.23474961	2.6025523	20	4 20.2	19.8
281777 2009 ST ₁₅₄	17.9	X	269.52276	47.68918	18.77987	2.73146	0.1658523	0.26579901	2.3957076	20	9 6.9	20.7
281778 2009 SB ₁₆₈	15.8	X	178.95988	225.65545	192.19879	29.97428	0.3189481	0.23453998	2.6041028	20	5 17.2	21.0
281779 2009 SP ₁₈₃	17.9	X	39.45622	185.43773	202.16399	20.45732	0.0581419	0.38244238	1.8797152	20	—	—
281780 2009 SO ₂₃₂	15.9	X	302.04910	259.00328	166.94896	15.75853	0.2301742	0.18054729	3.1003358	20	10 7.2	19.4
281781 2009 SK ₂₃₄	15.0	X	328.40253	353.06479	37.06755	11.23132	0.1129501	0.17812547	3.1283742	20	10 15.9	18.8
281782 2009 SM ₂₃₄	15.0	X	328.20884	309.96963	109.37417	10.55586	0.0810765	0.18504807	3.0498584	20	11 24.8	19.0
281783 2009 ST ₃₃₇	15.3	X	356.61161	330.90152	53.70940	7.78077	0.2357649	0.18406578	3.0606994	20	12 5.8	18.6
281784 2009 SH ₃₅₂	17.9	X	343.78395	10.85993	54.11231	5.80766	0.1844170	0.27581159	2.3373713	20	—	—
281785 2009 TO ₃₆	15.6	X	264.97152	341.63843	115.04532	5.87786	0.0968658	0.17536350	3.1611365	20	10 9.2	20.0
281786 2009 TY ₄₁	17.4	X	353.86461	316.01157	111.17457	3.65718	0.1131028	0.28171092	2.3046250	20	—	—
281787 2009 UG ₃₅	17.8	X	102.34051	51.53024	32.37540	2.00145	0.0924331	0.31273059	2.1495909	20	3 13.1	19.9
281788 2009 UO ₃₇	17.3	X	84.55600	218.73850	59.42695	6.14997	0.1347980	0.27098266	2.3650575	20	11 22.7	20.7
281789 2009 UP ₃₈	17.6	X	51.42001	29.07087	56.49466	5.86635	0.1179510	0.30063315	2.2068771	20	—	—
281790 2009 UL ₉₁	16.0	X	168.95648	287.11977	75.35536	5.90517	0.0515668	0.22192618	2.7018653	20	2 28.6	19.9
281791 2009 UD ₉₄	17.4	X	79.42458	146.47100	218.00851	20.67070	0.1007368	0.38254458	1.8793803	20	—	—
281792 2009 UX ₁₀₆	17.1	X	319.93761	278.57419	229.63245	8.55590	0.0814460	0.29085693	2.2560555	20	—	—
281793 2009 UC ₁₁₁	17.5	X	153.77039	258.81051	234.85562	4.05286	0.1945475	0.24128223	2.5553624	20	7 26.9	21.8
281794 2009 US ₁₃₂	16.6	X	166.09485	80.12237	349.61217	11.13238	0.1699596	0.23391138	2.6087661	20	5 14.5	21.0
281795 2009 UW ₁₃₇	15.6	X	270.09565	110.90868	28.48933	9.54910	0.0727665	0.18513922	3.0488573	20	12 8.6	19.7
281796 2009 VV ₇	17.6	X	276.96664	260.30303	206.42293	3.66273	0.1451256	0.27059410	2.3673211	20	11 22.4	19.8
281797 2009 VA ₃₉	16.9	X	186.22543	42.01009	54.22675	10.78267	0.1280260	0.24134545	2.5549161	20	7 12.0	21.0
281798 2009 VP ₃₉	16.2	X	101.83837	340.03560	71.71631	4.71538	0.0627654	0.21327299	2.7744622	20	2 7.4	19.9
281799 2009 VW ₄₇	17.2	X	136.08977	323.41821	185.26321	4.15867	0.1805939	0.24050076	2.5608949	20	7 29.8	21.5
281800 2009 VW ₁₁₃	17.2	X	301.39649	82.69889	57.04130	4.78521	0.0860033	0.28272008	2.2991375	20	—	—
281801 2009 WS ₃₄	17.0	X	252.60269	65.96888	69.97191	5.17818	0.0619313	0.26634653	2.3924233	20	12 4.1	19.8
281802 2009 WO ₄₃	17.1	X	294.05007	349.69536	120.61569	1.99760	0.1430901	0.27008271	2.3703084	20	12 30.7	19.0
281803 2009 WG ₄₅	17.5	X	241.60817	49.83540	78.84574	5.93021	0.1769674	0.26363402	2.4088056	20	10 23.4	20.5
281804 2009 WD ₄₈	16.2	X	297.86642	266.84737	209.50361	3.01917	0.0499897	0.18236312	3.0797209	20	12 20.5	20.2
281805 2009 WX ₅₃	16.0	X	124.77501	57.55786	74.82224	13.80474	0.1840040	0.22733205	2.6588609	20	6 28.5	20.3
281806 2009 WX ₇₃	17.7	X	346.95117	50.18383	89.42669	3.58548	0.0685946	0.29524683	2.2336368	20	—	—
281807 2009 WC ₇₆	17.0	X	149.44311	47.66398	105.87773	4.43925	0.1340010	0.24495113	2.5297819	20	8 18.9	21.0
281808 2009 WW ₁₁₇	18.3	X	254.65745	2.33807	309.83603	0.56795	0.0273180	0.32012052	2.1163803	20	3 22.4	20.4
281809 2009 WW ₁₁₉	15.8	X	207.81120	134.11224	61.89267	8.22518	0.1318826	0.17981121	3.1087911	20	11 26.0	20.6
281810 2009 WG ₁₃₃	17.8	X	253.37431	239.11211	235.38318	2.56587	0.1827631	0.26518339	2.3994139	20	10 16.4	20.7
281811 2009 WF ₁₃₉	17.6	X	113.15884	231.24340	180.78840	4.04131	0.0950724	0.30734702	2.1746200	20	2 11.1	19.9
281812 2009 WR ₁₆₄	17.9	X	37.73650	53.80419	52.14802	2.96960	0.0296782	0.29994726	2.2102401	20	—	—
281813 2009 WB ₁₉₅	16.9	X	337.45695	207.91706	240.16958	5.23803	0.1077480	0.27945033	3.3170370	20	—	—
281814 2009 WM ₂₀₃	16.2	X	267.10595	270.85539	247.33466	22.56888	0.3391949	0.17634769	3.1493640	20	11 18.1	20.4
281815 2009 WR ₂₀₆	17.5	X	250.44288	235.90964	274.27134	3.82404	0.1264735	0.27108855	2.3644416	20	12 12.3	20.1
281816 2009 WZ ₂₁₄	17.7	X	152.35263	334.69248	59.43654	0.96258	0.0693631	0.31193680	2.1532360	20	3 6.8	20.2
281817 2009 WK ₂₁₅	16.2	X	163.00665	3.90804	101.97702	15.66452	0.2075664	0.23087540	2.6315863	20	6 30.9	20.5
281818 2009 WL ₂₃₃	16.3	X	42.20909	182.14929	96.48000	6.41428	0.1183321	0.24069871	2.5594906	20	9 29.1	19.6
281819 2009 WS ₂₅₀	15.9	X	116.07889	252.69692	246.09531	11.85895	0.2064809	0.22870714	2.6481926	20	6 29.4	20.2
281820 Monnaves	16.4	X	127.92388	230.83643	296.87423	8.57254	0.1904689	0.24161121	2.5530422	20	8 15.1	20.6
281821 2009 XH ₂₁	17.0	X	318.36244	353.36914	98.74114	8.02779	0.0113875	0.26964106	2.3728960	20	—	—
281822 2009 XE ₂₄	16.9	X	131.56870	358.65076	92.90878	10.17806	0.3086468	0.22388563	2.6860777	20	5 25.3	21.6
281823 2009 XQ ₂₄	16.8	X	176.90589	33.41954	92.75884	1.97935	0.1442691	0.24353957	2.5395476	20	8 9.7	20.6
281824 2009 YN ₅	16.0	X	116.98347	23.14865	106.29145	15.72080	0.1110714	0.22320464	2.6915383	20	6 11.4	20.0
281825 2009 YA ₇	16.4	X	181.91114	355.20372	79.13743	8.95500	0.1617335	0.23395797	2.6084198	20	6 7.7	20.6
281826 2009 YG ₂₀	17.1	X	59.28100	207.82785	359.98032	1.38996	0.0168916	0.22957198	2.6415376	20	6 26.4	20.5
281827 2009 YT ₂₃	15.8	X	141.56962	17.77544	88.09582	22.45973	0.0389015	0.22749220	2.6576128	20	6 3.3	19.6
281828 2009 YN ₂₅	16.7	X	73.23968	182.58718	126.34864	6.39454	0.0191521	0.25956150	2.4339363	20	12 5.8	20.0
281829 2010 AR ₅	16.0	X	183.78141	331.04155	120.78921	22.83641	0.0565268	0.23114671	2.6295266	20	7 4.9	19.9
281830 2010 AF ₂₀	16.5	X	207.17782	227.37119	232.09433	3.73610	0.0660985	0.23972182	2.5664393	20	8 9.9	20.1
281831 2010 AG ₄₁	16.8	X	343.01155	28.55977	115.09206	3.48101	0.1294672	0.19041859	2.9922404	20	—	—
281832 2010 AA ₆₅	16.5	X	161.17637	4.82662	111.08696	15.38654	0.0973413	0.23103856	2.6303472	20	7 10.1	20.2
281833 2010 AC ₆₅	16.5	X	93.91579	46.76941	72.32913	4.70802	0.0450661	0.21390556	2.7689896	20	4 20.8	20.3
281834 2010 AO ₆₈	16.1	X										

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
281841 2010 AM ₈₀	16.3	X	25.69125	184.44840	125.00659	6.57614	0.1331191	0.24175032	2.5520628	20	10 19.2	19.4
281842 2010 AL ₈₁	15.9	X	349.18859	305.39159	283.13818	7.21246	0.0110247	0.21174268	2.7878139	20	4 14.6	19.8
281843 2010 CS ₂₄	16.7	X	82.10796	317.20151	138.87906	2.75859	0.0258376	0.20339806	2.8635505	20	3 3.8	20.4
281844 2010 CR ₂₉	15.8	X	171.00044	163.41266	157.70455	10.51795	0.0732252	0.18145979	3.0899334	20	1 11.4	20.6
281845 2010 CH ₄₁	15.7	X	276.98319	37.28095	147.68821	7.89049	0.1033973	0.17780826	3.1320938	20	—	—
281846 2010 CR ₄₁	16.2	X	117.42816	54.94780	133.16515	13.36834	0.0310588	0.23453820	2.6041160	20	8 20.8	19.7
281847 2010 CC ₄₄	15.7	X	201.69639	201.66262	109.07759	9.71378	0.0779200	0.18962172	3.0006177	20	1 31.1	20.3
281848 2010 CR ₅₅	17.1	X	19.15286	181.52088	241.21029	5.41376	0.2162599	0.27960977	2.3161561	20	—	—
281849 2010 CO ₆₂	15.5	X	275.35715	83.85583	100.67801	6.40245	0.1367110	0.17659103	3.1464702	20	—	—
281850 2010 CP ₆₇	15.8	X	220.03430	110.12762	151.33894	5.57932	0.1400390	0.17884449	3.1199838	20	—	—
281851 2010 CC ₇₀	16.5	X	49.72028	129.30367	118.37388	9.36192	0.0834536	0.23442872	2.6049267	20	8 19.6	19.8
281852 2010 CP ₇₇	15.4	X	261.12799	74.99373	155.41700	10.12537	0.0387244	0.18343107	3.0677557	20	1 1.5	20.0
281853 2010 CS ₇₈	16.4	X	184.26198	251.63127	149.04682	4.96997	0.0777401	0.21174489	2.7877945	20	4 30.4	20.7
281854 2010 CH ₈₂	16.2	X	135.60121	157.83300	221.38125	2.21871	0.0891811	0.18820837	3.0156210	20	2 11.9	20.5
281855 2010 CA ₉₄	16.3	X	6.93972	348.06598	117.95894	4.28541	0.1956345	0.18727490	3.0256336	20	—	—
281856 2010 CP ₉₆	16.3	X	251.36766	108.46350	133.42003	3.04562	0.0968164	0.18501843	3.0501841	20	—	—
281857 2010 CK ₁₂₈	15.8	X	273.37807	107.32448	60.43458	5.98580	0.1420129	0.17314941	3.1880273	20	—	—
281858 2010 CY ₁₂₈	16.1	X	320.28164	348.69838	173.76147	16.74394	0.1121970	0.18465671	3.0541661	20	—	—
281859 2010 CV ₁₃₈	16.5	X	29.24495	13.40969	130.53630	2.67144	0.0407866	0.19851378	2.9103303	20	2 24.8	20.2
281860 2010 CK ₁₃₉	16.7	X	178.96111	137.67174	283.88643	2.66757	0.0634169	0.21767932	2.7368937	20	5 18.6	20.8
281861 2010 CZ ₁₆₅	15.6	X	350.87334	8.10460	130.79533	9.95763	0.0928098	0.18411369	3.0601684	20	—	—
281862 2010 CM ₁₆₇	16.2	X	58.52823	241.38557	190.82639	5.35980	0.0690028	0.18435637	3.0574823	20	1 9.4	20.3
281863 2010 CN ₁₇₉	16.2	X	295.79412	334.75420	175.74773	14.89208	0.2179437	0.17571281	3.1569456	20	—	—
281864 2010 CX ₂₄₃	14.9	X	108.42305	175.01228	93.37462	18.61288	0.0459702	0.17888818	3.1194758	20	11 17.5	19.7
281865 2010 DL ₁₁	16.7	X	269.87429	246.14282	166.13860	5.35975	0.0554975	0.21154570	2.7895442	20	4 18.2	20.6
281866 2010 DW ₁₁	15.3	X	7.68441	279.41693	175.72195	26.41204	0.1714506	0.17717107	3.1395989	20	—	—
281867 2010 DR ₄₁	16.0	X	108.75187	215.86241	182.25264	3.55084	0.1614885	0.19077947	2.9884658	20	2 13.5	20.2
281868 2010 DH ₇₀	15.8	X	269.81849	86.15389	180.13282	5.23746	0.1533417	0.17607821	3.1525766	20	2 9.8	20.7
281869 2010 EV ₂	15.3	X	16.52096	295.31240	111.12477	15.75504	0.0502412	0.17056523	3.2201471	20	—	—
281870 2010 EH ₆₆	15.2	X	296.47755	291.27683	154.77473	10.74194	0.0373564	0.15448873	3.4398529	20	11 9.8	20.1
281871 2010 EX ₈₈	16.0	X	255.63860	241.94876	340.13390	3.53738	0.0999952	0.18216957	3.0819020	20	—	—
281872 2010 EU ₉₂	16.7	X	238.28343	258.51975	158.59871	6.29481	0.1165000	0.22549923	2.6732486	20	7 15.7	20.6
281873 2010 EC ₉₉	16.9	X	232.31587	227.14415	81.63616	3.87268	0.1606765	0.28238945	2.3009317	20	2 16.2	20.4
281874 2010 ES ₁₀₂	15.7	X	326.28286	254.41173	182.80566	4.50438	0.0421115	0.15775211	3.3922351	20	12 5.3	20.4
281875 2010 ES ₁₃₈	16.4	X	286.37386	337.35986	77.46854	3.41467	0.0689986	0.23363563	2.6108184	20	9 27.5	19.7
281876 2010 FP ₃₅	16.8	X	211.41900	304.33502	140.58101	13.55923	0.2557589	0.24338079	2.5406520	20	7 13.1	21.2
281877 2010 FA ₈₃	16.1	X	175.18903	323.70038	113.26188	5.30550	0.0486033	0.21349708	2.7725204	20	6 4.4	20.1
281878 2010 GT ₂₄	16.9	X	122.03772	60.23677	67.87072	1.25549	0.0149348	0.21399145	2.7682487	20	6 2.4	20.5
281879 2010 GW ₁₁₉	16.3	X	23.19843	197.26284	50.99563	3.54608	0.0173223	0.21503578	2.7592786	20	6 30.9	19.8
281880 2010 GK ₁₂₆	15.1	X	33.98129	257.31499	137.07506	17.21170	0.1256988	0.17151615	3.2082340	20	—	—
281881 2010 HO ₇₈	16.5	X	80.36190	130.46460	73.13398	5.81474	0.0442350	0.21131317	2.7915903	20	7 23.9	20.3
281882 2010 HD ₁₀₄	15.0	X	19.64488	250.83074	213.80697	26.18334	0.1836603	0.18128786	3.0918866	20	—	—
281883 2010 JB ₄₉	15.8	X	10.33229	225.66340	104.94593	15.42834	0.1106082	0.22062246	2.7124989	20	10 21.5	19.4
281884 2010 JM ₈₃	17.1	X	273.55569	12.58053	240.24747	3.04759	0.2119278	0.27485019	2.3428188	20	1 11.4	20.9
281885 2010 JH ₁₆₃	15.9	X	216.51773	260.02328	58.45830	7.34060	0.0935588	0.17916071	3.1163115	20	2 27.4	20.8
281886 2010 KM ₁₁₀	15.1	X	306.47188	334.09964	335.22338	16.44974	0.1177697	0.18068155	3.0987998	20	5 17.9	19.6
281887 2010 LR ₁	16.2	X	139.74452	33.59493	191.29221	15.27109	0.0849758	0.22737296	2.6585419	20	11 5.0	20.3
281888 2010 LY ₃₂	18.2	X	36.41328	329.98593	191.16911	21.65217	0.0219773	0.37963331	1.8889763	20	3 1.1	20.2
281889 2010 LC ₆₃	16.1	X	0.43416	211.94563	127.98289	5.84443	0.1203059	0.21931178	2.7232953	20	10 13.3	19.2
281890 2010 OA ₇₄	16.4	X	146.70889	102.48788	57.32933	7.99563	0.0652565	0.22075317	2.7114280	20	8 22.7	20.5
281891 2010 PA ₇₈	15.4	X	295.18429	246.09530	139.84805	17.31967	0.1099205	0.18226933	3.0807774	20	8 18.0	19.4
281892 2010 XL ₁₉	16.8	X	74.87916	157.75779	313.10440	6.54196	0.3063106	0.23161210	2.6260030	20	4 18.8	20.2
281893 2011 AS	17.5	X	206.22206	339.47008	102.12340	7.08012	0.1000276	0.26249047	2.4157965	20	7 15.9	20.9
281894 2011 AF ₂₉	15.3	X	231.73909	212.47302	310.24507	7.76233	0.1132205	0.17935407	3.1140714	20	11 11.7	20.0
281895 2011 AC ₄₉	15.7	X	175.22734	262.54893	318.89620	10.53163	0.0571694	0.18164475	3.0878354	20	11 26.9	20.5
281896 2011 BQ	17.8	X	206.74437	343.34150	118.49777	5.13717	0.1055699	0.26723539	2.3871153	20	8 13.6	21.1
281897 2011 BS ₅	16.8	X	294.69581	142.79964	120.93839	4.55104	0.1298944	0.23107781	2.6300493	20	3 5.1	20.3
281898 2011 BP ₂₅	15.4	X	34.88326	261.11429	117.36117	12.36197	0.0366970	0.18998854	2.9967542	20	12 29.6	19.5
281899 2011 CW ₉	17.1	X	102.79236	83.71224	325.48135	3.08085	0.0805698	0.21824238	2.7321843	20	2 5.8	20.7
281900 2011 CP ₁₇	16.3	X	232.00918	106.43510	63.12033	2.50792	0.1075925	0.18098742	3.0953075	20	11 23.7	20.8
281901 2011 CR ₁₇	16.9	X	215.15761	295.13810	118.15097	7.33241	0.0680819	0.25129399	2.4870317	20	6 20.2	20.3
281902 2011 CB ₁₉	16.7	X	277.44112	278.19202	126.95905	7.07932	0.1137744	0.26943216	2.3741224	20	8 29.4	19.2
281903 2011 CP ₂₀	15.6	X	250.64338	349.38449	149.21517	18.12781	0.0909224	0.17919545	3.1159087	20	11 15.5	20.3
281904 2011 CX ₄₉	16.6	X	21.54363	331.30387	175.91406	10.75509	0.1499380	0.21870569	2.7283243	20	2 12.2	19.5
281905 2011 CJ ₇₂	15.7	X	323.99329	352.07623	111.86663	12.56206	0.0443267	0.19048474	2.9915476	20	—	—
281906 2011 CB ₇₇	15.5	X	236.68497	45.89334	132.83530	7.61226	0.0453048	0.18410011	3.0603189	20	12 19.6	19.8
281907 2011 DX ₂	17.3	X	349.84454	264.62759	147.85849	6.64252	0.0890102	0.28924310	2.2644394	20	—	—
281908 2011 EQ ₁₆	15.8	X	238.35848	155.42345	348.82344	12.51410	0.1247349	0.17730297	3.1380416	20	10 23.8	20.6
281909 2011 ED ₂₄	15.8	X	290.94627	296.97261	147.17021	4.33740	0.1073101	0.17365195	3.1818737	20	10 26.1	19.9
281910 2011 EG ₂₈	16.0	X	270.77327	37.33591	156.23716	4.32355	0.0211632	0.19253685	2.9702533	20	—	—
281911 2011 EU ₅₁	16.0	X	134.60358	256.75926	41.41028	13.42318	0.0685061	0.18283186	3.0744549	20	—	—
281912 2011 EX ₅₂	17.9	X	232.31763	45.64087	118.73109	4.35986	0.1105486	0.27785487	2.3258982	20	12 9.9	20.6
281913 2011 EZ ₅₃	16.5	X	53.04249	282.05892	35.18242	14.04281	0.2333181	0.26010923	2.4305182	20	12 15.9	20.3
281914 2011 EF ₆₃	15.6	X	40.17225	264.11251	58.3							

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
281921 2011 FN ₁₁	16.4	X	121.05549	271.79637	185.90570	13.08952	0.1339888	0.22444745	2.6815934	20	5 8.6	20.5
281922 2011 FY ₁₁	16.1	X	224.78047	69.88860	195.54698	2.27184	0.0579335	0.18939324	3.0030304	20	—	—
281923 2011 FX ₁₂	16.2	X	240.65702	218.40132	89.39583	7.20476	0.0715609	0.20919202	2.8104291	20	3 9.1	20.4
281924 2011 FZ ₁₂	16.8	X	46.28790	235.49804	88.70594	7.11898	0.1392430	0.26190689	2.4193838	20	12 8.1	19.9
281925 2011 FT ₁₃	16.5	X	302.59598	72.30378	163.37279	4.05541	0.0394081	0.20911656	2.8111052	20	2 22.4	20.2
281926 2011 FW ₁₃	16.4	X	170.77573	66.68312	187.46354	19.23739	0.1392524	0.17107494	3.2137478	20	12 25.3	21.9
281927 2011 FV ₁₉	15.6	X	50.90675	98.51899	159.33792	14.34380	0.1824149	0.23799089	2.5788683	20	9 20.7	18.9
281928 2011 FN ₃₀	16.3	X	353.53891	213.05094	37.90379	12.59139	0.1240458	0.22491534	2.6778731	20	5 18.1	19.3
281929 2011 FB ₃₂	15.7	X	297.94901	286.77004	215.50004	15.81766	0.1732703	0.18185573	3.0854467	20	—	—
281930 2011 FG ₄₅	17.6	X	51.02943	311.74488	142.73533	3.08535	0.0617843	0.30982068	2.1630295	20	—	—
281931 2011 FV ₄₆	16.9	X	326.40343	77.85362	222.12773	2.66146	0.0654999	0.23038641	2.6353086	20	6 17.5	20.1
281932 2011 FL ₄₈	17.9	X	189.97853	104.20599	141.85662	6.77763	0.1075116	0.27987570	2.3146887	20	—	—
281933 2011 FJ ₈₃	15.4	X	126.48773	281.64581	30.29338	8.14331	0.1127429	0.17776427	3.1326105	20	—	—
281934 2011 FG ₁₃₈	16.4	X	131.14475	347.39719	339.29566	2.75058	0.0877700	0.18893029	3.0079341	20	—	—
281935 2011 FF ₁₄₂	16.0	X	269.78136	47.64164	147.28212	4.98316	0.1186459	0.18445276	3.0564170	20	—	—
281936 2011 FT ₁₄₂	17.7	X	215.49140	262.64480	315.83591	1.17797	0.1843201	0.28165746	2.3049166	20	—	—
281937 2011 FZ ₁₄₂	16.2	X	346.92907	23.35152	192.33623	6.37334	0.1508837	0.21080618	2.7960643	20	3 16.5	19.3
281938 2011 FC ₁₄₃	16.1	X	195.98397	123.25745	132.00775	4.42259	0.1526889	0.17659960	3.1463684	20	—	—
281939 2011 FQ ₁₄₃	16.5	X	72.17283	339.02777	174.33286	3.78038	0.1006261	0.22176357	2.7031859	20	5 14.4	19.9
281940 2011 FH ₁₄₇	16.1	X	74.19722	281.45284	185.19623	8.71854	0.1178453	0.21441675	2.7645869	20	3 17.1	19.5
281941 2011 FF ₁₄₈	16.1	X	345.03081	277.23437	16.15208	4.29803	0.1717753	0.22952384	2.6419070	20	7 6.2	18.6
281942 2011 FD ₁₅₀	16.4	X	70.30558	125.62123	72.80412	8.31224	0.1367133	0.23502264	2.6005363	20	7 19.3	19.9
281943 2011 FM ₁₅₄	17.8	X	113.08447	67.74263	183.76257	2.41781	0.1678514	0.25867083	2.4395202	20	11 17.6	21.5
281944 2011 GT ₃	16.1	X	278.53919	87.47339	74.59012	6.15594	0.1054583	0.18080667	3.0973700	20	—	—
281945 2011 GR ₉	16.1	X	176.63745	30.58334	94.96002	14.05991	0.0441526	0.24647536	2.5193415	20	8 14.7	19.7
281946 2011 GH ₁₂	16.2	X	218.78408	4.51664	359.86587	6.11048	0.0438573	0.22262837	2.6961810	20	4 20.3	20.2
281947 2011 GG ₃₁	17.4	X	187.82747	35.97641	181.51730	2.07460	0.1678229	0.27430207	2.3459387	20	12 16.6	20.9
281948 2011 GH ₃₂	17.5	X	7.41840	125.10905	183.20544	9.92718	0.1486635	0.24075384	2.5590999	20	9 14.2	20.1
281949 2011 GA ₃₄	16.7	X	105.51933	175.37168	264.17612	2.15907	0.0695421	0.21376226	2.7702270	20	3 16.3	20.5
281950 2011 GS ₃₆	15.9	X	177.16934	197.18982	101.15640	7.15320	0.1921146	0.18576538	3.0420023	20	—	—
281951 2011 GR ₃₉	16.2	X	191.83138	223.21198	138.94764	6.74806	0.0430136	0.21865385	2.7287555	20	3 20.9	20.2
281952 2011 GE ₄₆	18.1	X	122.62420	90.18041	155.91127	7.12004	0.2308725	0.26259784	2.4151380	20	11 22.4	22.3
281953 2011 GU ₄₆	16.7	X	54.22344	279.25373	203.96387	3.68216	0.1575446	0.21113294	2.7931787	20	3 13.4	19.7
281954 2011 GJ ₅₅	16.6	X	274.88652	137.04523	165.83271	2.90386	0.1641284	0.21292009	2.7775270	20	3 27.1	20.6
281955 2011 GM ₅₅	16.2	X	223.18156	274.14600	77.16267	10.07870	0.1099179	0.21301669	2.7766872	20	4 11.5	20.6
281956 2011 GU ₅₅	15.9	X	289.61428	84.62134	82.30778	9.92950	0.1189568	0.18273185	3.0755766	20	—	—
281957 2011 GR ₅₇	16.5	X	246.52397	225.09635	88.98373	5.50811	0.0550079	0.21273622	2.7791272	20	3 24.3	20.5
281958 2011 GP ₅₈	17.8	X	201.89661	329.79861	264.23784	1.33999	0.1676088	0.28043320	2.3116199	20	—	—
281959 2011 GG ₅₉	17.7	X	114.36040	99.31740	139.43619	3.11757	0.1549013	0.25577820	2.4578783	20	11 2.8	21.5
281960 2011 GF ₆₁	17.1	X	171.34470	175.64120	109.94724	6.94809	0.1802322	0.28394025	2.2925461	20	—	—
281961 2011 GK ₆₃	16.7	X	346.96783	77.43327	176.89457	3.40224	0.1579367	0.22458902	2.6804664	20	5 11.5	19.3
281962 2011 GX ₆₃	16.7	X	116.48418	84.14882	90.73693	5.94351	0.1632000	0.24302530	2.5431290	20	8 15.5	20.6
281963 2011 GB ₆₄	16.8	X	42.91157	131.06846	86.75913	6.17529	0.2071993	0.23022941	2.6365065	20	7 15.9	19.7
281964 2011 GN ₆₅	17.7	X	96.39134	244.32507	63.48274	23.22894	0.1059944	0.38021138	1.8870612	20	—	—
281965 2011 GP ₆₆	16.8	X	72.92624	308.83663	203.32221	31.20915	0.2467433	0.22919767	2.6444128	20	6 3.5	20.9
281966 2011 GZ ₆₆	16.7	X	71.55935	81.63647	97.85638	12.53799	0.1336615	0.23180035	2.6245810	20	6 23.1	20.0
281967 2011 GO ₆₉	15.4	X	90.52885	170.28421	199.56084	12.54029	0.0898192	0.18208856	3.0828161	20	—	—
281968 2011 GR ₆₉	16.4	X	179.66384	122.41348	156.55497	1.69549	0.1429230	0.17802727	3.1295245	20	—	—
281969 2011 GT ₆₉	16.1	X	341.11370	279.32685	207.94698	8.52278	0.1764347	0.19064982	2.9898205	20	—	—
281970 2011 GV ₆₉	16.5	X	283.19680	264.66072	40.76648	7.52081	0.2198790	0.21362339	2.7714275	20	4 3.0	20.4
281971 2011 GC ₇₀	17.0	X	73.32682	88.55915	210.97249	5.20164	0.1094020	0.26063907	2.4272232	20	12 3.7	20.4
281972 2011 GF ₇₀	16.1	X	71.94397	269.97797	210.58010	8.86548	0.1017567	0.21327188	2.7744718	20	3 29.0	19.7
281973 2011 GV ₇₁	16.1	X	342.08858	200.86564	72.56184	7.54768	0.1278594	0.22601844	2.6691530	20	5 31.8	18.7
281974 2011 GM ₇₂	16.5	X	291.93830	214.64883	75.20732	10.43550	0.1849184	0.21401441	2.7680507	20	4 1.9	20.5
281975 2011 GR ₇₂	16.1	X	316.56797	337.03366	163.08456	3.96474	0.1296494	0.18882677	3.0090333	20	—	—
281976 2011 GC ₇₈	15.7	X	195.54356	59.82712	213.85643	15.49035	0.0568451	0.18228196	3.0806350	20	—	—
281977 2011 HS ₈	15.9	X	32.02346	98.00234	67.39806	9.37086	0.0552058	0.21591774	2.7517597	20	3 30.8	19.5
281978 2011 HQ ₉	17.2	X	201.16194	233.75613	82.85711	7.86374	0.1194165	0.30433449	2.1889471	20	1 24.3	20.3
281979 2011 HR ₁₀	17.6	X	91.44354	65.97663	203.88638	3.22113	0.2176736	0.25805253	2.4434153	20	11 23.4	21.6
281980 2011 HB ₁₁	16.7	X	60.95371	189.41655	12.08398	3.48686	0.0811120	0.23439158	2.6052019	20	6 30.3	19.9
281981 2011 HJ ₁₂	16.1	X	7.37105	174.11935	117.34600	6.79572	0.1007449	0.23429386	2.6059262	20	8 15.9	19.0
281982 2011 HN ₁₃	15.4	X	265.03517	322.48132	181.77364	10.79274	0.0177264	0.16803748	3.2523600	20	12 12.8	20.1
281983 2011 HX ₁₇	16.3	X	157.06748	283.01449	31.42220	11.02092	0.0261333	0.18896732	3.0075411	20	—	—
281984 2011 HQ ₁₈	16.8	X	51.87334	52.51689	166.08693	10.34553	0.0472795	0.23039191	2.6352666	20	7 4.6	20.3
281985 2011 HR ₁₈	15.6	X	312.34312	56.21997	80.90407	18.62437	0.1022589	0.17949716	3.1124162	20	—	—
281986 2011 HK ₂₀	16.4	X	119.53798	317.49019	93.45029	1.81804	0.0700856	0.20950306	2.8076468	20	2 29.0	20.4
281987 2011 HV ₂₁	17.0	X	19.43054	170.70143	140.46949	4.72645	0.2132039	0.24350929	2.5397581	20	10 23.9	19.8
281988 2011 HY ₂₁	15.9	X	269.50619	351.43828	188.87125	11.00743	0.0963273	0.17964105	3.1107540	20	—	—
281989 2011 HE ₂₃	17.4	X	203.02570	330.15786	226.01345	6.18310	0.0590936	0.27326044	2.3518965	20	12 19.7	20.4
281990 2011 HZ ₂₅	16.5	X	119.67148	183.77845	126.46483	8.13606	0.1593991	0.27300638	2.3533554	20	—	—
281991 2011 HM ₂₆	16.1	X	270.66536	266.38353	14.28159	3.08755	0.0784705	0.21003216	2.8029296	20	3 6.0	20.0
281992 2011 HU ₂₇	16.5	X	117.31369	177.80969	111.83824	7.41747	0.1058437	0.27080875	2.3660700	20	—	—
281993 2011 HW ₂₈	17.3	X	226.12828	89.78616	174.93196	5.20815	0.1534084	0.29457730	2.2370200	20	—	—
281994 2011 HY ₂₈	16.8	X	187.28330	107.44880	102.57416	8.05108	0.0533784	0.26887753	2.3773860	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>
282001 2011 <i>HO</i> ₄₄	15.2	X	158.60119	192.99794	100.49978	9.74338	0.1355629	0.17299144	3.1899679	20	—	—
282002 2011 <i>HA</i> ₄₉	16.1	X	295.85826	301.77716	186.25555	15.78720	0.1871647	0.17567819	3.1573603	20	12 18.2	20.0
282003 2011 <i>HG</i> ₄₉	15.4	X	51.56514	279.58192	136.05008	11.20232	0.0341014	0.18197730	3.0840724	20	—	—
282004 2011 <i>HY</i> ₄₉	17.4	X	59.50838	191.52085	92.99716	7.47903	0.2252764	0.24649156	2.5192311	20	11 12.2	21.1
282005 2011 <i>HS</i> ₅₂	16.2	X	92.12697	17.93938	171.85081	12.06580	0.1242086	0.23510441	2.5999333	20	7 30.6	20.0
282006 2011 <i>HZ</i> ₅₅	16.4	X	320.14892	165.16686	76.92998	5.44236	0.0198522	0.21169888	2.7881985	20	3 30.1	20.2
282007 2011 <i>HJ</i> ₅₆	15.9	X	260.46781	86.93879	97.01806	8.27166	0.1180015	0.17708782	3.1405829	20	—	—
282008 2011 <i>HV</i> ₅₇	15.7	X	303.98915	192.29762	128.01551	14.32056	0.1628149	0.22218233	2.6997882	20	5 31.1	19.2
282009 2011 <i>HW</i> ₅₈	16.2	X	203.53703	250.47189	137.71651	7.62136	0.0392069	0.21975093	2.7196660	20	5 7.9	20.2
282010 2011 <i>HL</i> ₆₁	15.6	X	333.92875	208.29292	94.36055	25.43080	0.1251782	0.22952610	2.6418896	20	6 28.9	18.5
282011 2011 <i>HF</i> ₆₄	16.8	X	301.94333	40.53114	134.72506	2.75402	0.1297592	0.18596515	3.0398233	20	—	—
282012 2011 <i>HF</i> ₆₆	15.7	X	182.69904	212.70818	29.50825	9.45380	0.0405174	0.17426541	3.1744020	20	12 31.3	20.5
282013 2011 <i>HH</i> ₆₆	15.5	X	359.50838	301.10657	144.33534	10.50831	0.0706340	0.17579602	3.1559494	20	—	—
282014 2011 <i>HA</i> ₆₇	16.5	X	4.79676	250.22760	84.86114	8.02676	0.1533514	0.24521785	2.5279472	20	10 25.3	19.2
282015 2011 <i>HE</i> ₇₁	16.1	X	197.85799	344.65823	30.88630	9.82618	0.1750311	0.22003577	2.7173184	20	4 11.0	20.5
282016 2011 <i>HN</i> ₇₈	16.5	X	106.93688	12.37868	145.29624	9.23985	0.0424502	0.23522187	2.5990677	20	6 26.8	20.1
282017 2011 <i>HW</i> ₇₈	15.6	X	281.93067	189.53831	133.25339	12.20409	0.2023398	0.19011895	2.9953836	20	—	—
282018 2011 <i>HC</i> ₈₂	17.4	X	149.70197	117.55729	83.52406	2.45326	0.1310186	0.25748114	2.4470289	20	10 19.9	21.0
282019 2011 <i>HP</i> ₈₂	16.0	X	23.26636	174.61580	69.83460	15.94649	0.0765611	0.22777949	2.6553777	20	6 30.8	19.3
282020 2011 <i>HQ</i> ₈₂	16.0	X	18.91683	347.14289	258.21072	12.45130	0.1414531	0.22687485	2.6624317	20	6 30.4	18.8
282021 2011 <i>HE</i> ₈₃	15.9	X	203.73594	23.17212	231.27449	16.08505	0.2197112	0.17861922	3.1226065	20	—	—
282022 2011 <i>JC</i> ₂	16.3	X	240.66397	90.14018	163.18313	10.38204	0.1861605	0.18935789	3.0034042	20	—	—
282023 2011 <i>JY</i> ₁₀	16.2	X	44.68415	187.36977	66.09612	14.80364	0.0419778	0.23804429	2.5784826	20	8 19.3	19.8
282024 2852 <i>P-L</i>	17.6	X	58.01672	274.07965	75.01593	2.26539	0.2148501	0.26641027	2.3920417	20	—	—
282025 5347 <i>T-2</i>	16.5	X	265.30815	155.85104	237.75015	8.78049	0.2508776	0.22741055	2.6582489	20	6 28.4	20.5
282026 2184 <i>T-3</i>	16.9	X	326.51962	160.19575	239.09191	3.68640	0.1608273	0.25313787	2.4749398	20	11 13.5	19.1
282027 5069 <i>T-3</i>	16.8	X	1.88200	271.34509	80.86179	6.58048	0.1352850	0.25317060	2.4747264	20	11 11.1	19.4
282028 1990 <i>TV</i> ₉	17.5	X	150.17879	114.74280	247.79636	3.87279	0.2470056	0.27898573	2.3196087	20	2 11.2	21.1
282029 1993 <i>OH</i> ₃	16.6	X	239.28091	357.86203	295.75062	6.65878	0.1156951	0.28100646	2.3084750	20	2 3.6	19.9
282030 1994 <i>XK</i> ₂	16.8	X	306.20009	166.76572	191.81658	8.88531	0.2396599	0.22219057	2.6997215	20	7 11.2	19.8
282031 1995 <i>ME</i> ₆	16.3	X	222.43228	64.53122	270.86943	9.58266	0.0800226	0.18578913	3.0417430	20	3 15.9	21.1
282032 1995 <i>OP</i> ₄	15.9	X	207.48021	54.60447	327.91928	7.58738	0.0997087	0.18699210	3.0286834	20	4 27.5	20.7
282033 1995 <i>OA</i> ₁₇	18.2	X	199.66322	129.71104	211.55889	3.92611	0.1508866	0.30213427	2.1995612	20	2 21.8	21.4
282034 1995 <i>UO</i>	15.8	X	256.51227	184.24279	214.54834	13.16643	0.1741137	0.22962954	2.6410961	20	7 4.2	19.8
282035 1995 <i>WG</i> ₁₈	16.8	X	324.53594	111.55047	234.79156	7.05749	0.1423666	0.23192654	2.6236290	20	8 11.7	19.6
282036 1996 <i>FQ</i> ₁₃	17.6	X	177.63503	71.78923	168.06014	6.99805	0.0662162	0.27098119	2.3650661	20	—	—
282037 1998 <i>QD</i> ₄₉	16.0	X	25.36065	330.20361	347.03405	7.94622	0.2236318	0.22790130	2.6544315	20	11 3.0	19.3
282038 1998 <i>QO</i> ₇₉	16.9	X	346.66180	117.33863	209.10239	6.99207	0.3276782	0.22502436	2.6770081	20	9 4.2	18.4
282039 1998 <i>QJ</i> ₈₉	16.0	X	323.67162	106.27681	256.48163	11.35418	0.2881049	0.22258329	2.6965451	20	8 16.1	18.4
282040 1998 <i>QJ</i> ₉₄	15.8	X	12.70116	22.12799	322.26275	13.19599	0.1783447	0.22855041	2.6494031	20	11 10.9	19.2
282041 1998 <i>RT</i> ₅₄	16.0	X	346.77333	345.82268	340.88803	13.65965	0.2553345	0.22293400	2.6937163	20	9 2.8	17.8
282042 1998 <i>SP</i> ₂	16.4	X	0.37856	197.50899	155.60405	9.83438	0.3780701	0.22739998	2.6583312	20	12 12.0	19.1
282043 1998 <i>ST</i> ₁₀₆	17.0	X	227.84796	158.81102	181.62909	5.18981	0.2255949	0.29945245	2.2126742	20	3 17.4	20.6
282044 1998 <i>SF</i> ₁₀₇	17.5	X	164.00452	178.99380	191.06820	7.77431	0.2630757	0.29373613	2.2412887	20	3 3.1	21.2
282045 1998 <i>VL</i> ₅₅	15.3	X	51.21008	335.71553	52.13066	11.95803	0.0549042	0.18678260	3.0309476	20	—	—
282046 1998 <i>XY</i> ₆₅	16.0	X	266.11081	186.64656	255.10074	10.81724	0.2962307	0.21859256	2.7129266	20	8 20.3	20.0
282047 1999 <i>FC</i> ₁₂	16.3	X	287.36345	94.07277	169.94673	4.66543	0.1186750	0.23263958	2.1826253	20	2 24.8	19.8
282048 1999 <i>JY</i> ₁₁₀	16.0	X	126.63392	205.50712	44.93106	11.42208	0.1811419	0.25241331	2.4796738	20	11 25.6	20.2
282049 1999 <i>RE</i> ₆₆	16.6	X	358.50842	178.45001	157.53265	8.03704	0.2190741	0.23712749	2.5851244	20	10 20.7	19.0
282050 1999 <i>RC</i> ₉₁	17.5	X	31.68072	220.29351	160.09552	8.96731	0.3041170	0.24354006	2.5395442	20	—	—
282051 1999 <i>RF</i> ₂₄₀	16.5	X	34.01779	252.01467	119.12326	6.29719	0.2851196	0.24327148	2.5414130	20	—	—
282052 1999 <i>SO</i> ₂	15.3	X	5.11851	92.96324	335.62805	21.85807	0.3709095	0.24196634	2.5505436	20	—	—
282053 1999 <i>TO</i> ₁₈	15.4	X	294.34428	135.08051	206.22224	20.15599	0.2052667	0.17851484	3.1238235	20	6 3.5	19.8
282054 1999 <i>TS</i> ₁₂₉	17.0	X	341.01250	150.65453	203.78228	3.04300	0.2606463	0.23516843	2.5994614	20	10 7.4	18.8
282055 1999 <i>TT</i> ₁₄₈	17.4	X	276.82940	238.11860	132.08412	2.94443	0.2402367	0.27510831	2.3413531	20	6 14.5	20.3
282056 1999 <i>TD</i> ₁₆₈	16.6	X	342.04340	149.77173	209.76939	12.61456	0.1948485	0.23489300	2.6014931	20	10 12.6	18.8
282057 1999 <i>TH</i> ₁₉₃	16.6	X	1.42658	86.29292	294.89081	6.13945	0.2308415	0.23812489	2.5779007	20	12 29.5	19.3
282058 1999 <i>TO</i> ₂₄₄	16.6	X	41.08078	118.95340	197.69138	12.41399	0.1772942	0.23923219	2.5699399	20	11 23.4	20.1
282059 1999 <i>TE</i> ₂₅₅	16.9	X	270.46051	25.26096	348.02462	4.42568	0.1207859	0.22804950	2.6532813	20	6 28.1	20.5
282060 1999 <i>TT</i> ₂₆₅	15.7	X	308.77064	113.43155	230.69399	16.34150	0.2778547	0.18236754	3.0796713	20	6 16.7	19.5
282061 1999 <i>TL</i> ₂₇₀	16.0	X	307.14802	162.22363	229.56701	13.03848	0.2957872	0.23232138	2.6206555	20	8 20.0	18.6
282062 1999 <i>UM</i> ₁₂	16.9	X	343.08429	138.16661	197.59746	12.59617	0.2169796	0.23297241	2.6157710	20	9 4.9	19.2
282063 1999 <i>VJ</i> ₄₄	15.9	X	285.60377	172.28429	222.23468	17.33324	0.1903401	0.22945413	2.6424420	20	7 31.5	19.5
282064 1999 <i>VT</i> ₅₀	16.6	X	23.98611	105.91742	254.31096	3.47260	0.3255160	0.23906312	2.5711514	20	—	—
282065 1999 <i>VO</i> ₁₀₉	15.7	X	286.88639	107.17705	232.10672	9.77379	0.0871900	0.17309111	3.1888743	20	6 8.6	20.2
282066 1999 <i>WE</i> ₁₇	16.2	X	266.52069	211.76358	209.09489	9.46993	0.1649600	0.18199918	3.0838253	20	8 11.5	20.7
282067 1999 <i>XC</i> ₉	16.1	X	291.07941	279.07120	102.02330	14.38791	0.2825087	0.22765029	2.6563823	20	7 11.8	19.1
282068 1999 <i>XH</i> ₁₇	17.1	X	252.59416	349.74842	94.35266	26.49842	0.1232032	0.36921766	1.9243368	20	10 22.9	19.6
282069 1999 <i>XN</i> ₂₄	15.8	X	323.71402	130.30736	234.65126	11.70415	0.2066935	0.23099045	2.6307124	20	8 30.7	18.4
282070 1999 <i>XB</i> ₈₀	15.9	X	293.55863	114.06160	251.94301	10.78344	0.1469526	0.22420762	2.6835054	20	7 14.8	19.3
282071 1999 <i>XE</i> ₁₅₅	16.5	X	18.59470	181.17234	243.25746	6.91171	0.2377792	0.24224121	2.5486138	20	—	—
282072 1999 <i>XT</i> ₂₃₉	16.7	X</										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
282081 2000 NG	16.8	X	153.23770	37.38635	286.60407	12.40124	0.2931667	0.27121983	2.3636786	20	1 4.6	20.5
282082 2000 PE ₆	16.6	X	92.97411	184.68105	129.62257	24.11665	0.0630946	0.35993595	1.9572782	20	—	—
282083 2000 PX ₂₇	16.2	X	140.37814	80.44599	249.11307	22.46193	0.2592368	0.26754899	2.3852496	20	—	—
282084 2000 QN ₇	16.4	X	99.39720	0.33006	348.43654	12.82517	0.3083982	0.26222213	2.4174444	20	—	—
282085 2000 QD ₂₄	17.4	X	113.72140	199.31190	154.24826	2.70777	0.2189193	0.26607713	2.3940379	20	—	—
282086 2000 QS ₃₉	17.4	X	149.92849	197.68848	153.82120	3.04010	0.2544794	0.27178192	2.3604185	20	1 31.1	21.2
282087 2000 QW ₅₉	17.5	X	54.61458	204.69371	140.84312	2.60731	0.1921379	0.25802141	2.4436118	20	—	—
282088 2000 QU ₈₄	17.2	X	98.10798	61.98427	262.54396	3.98628	0.2291370	0.26233430	2.4167552	20	—	—
282089 2000 QK ₁₃₄	17.0	X	175.92712	2.14246	341.63915	6.03054	0.1997525	0.27501809	2.3418651	20	2 10.4	20.8
282090 2000 QE ₁₄₃	15.5	X	233.96086	180.60097	170.49119	20.93018	0.1697963	0.18190885	3.0848461	20	4 17.6	20.6
282091 2000 QL ₁₅₈	16.1	X	194.92307	52.89031	294.46329	9.38147	0.3197434	0.17834168	3.1258453	20	3 3.8	22.0
282092 2000 QM ₂₂₉	17.2	X	152.32529	284.64956	21.92241	2.66628	0.2425246	0.26759166	2.3849960	20	—	—
282093 2000 RR ₇₅	16.7	X	128.82125	97.33198	205.02342	12.54200	0.2976849	0.26298304	2.4127791	20	—	—
282094 2000 RN ₉₀	16.2	X	247.99925	16.78480	323.79427	10.24553	0.1438134	0.23244459	2.6197293	20	4 10.0	20.4
282095 2000 SP ₂₀	16.2	X	45.85704	130.30439	247.40780	7.47230	0.1437718	0.25687024	2.4509072	20	—	—
282096 2000 SG ₂₆	15.5	X	201.60006	150.23677	210.12217	14.02040	0.2927544	0.17961698	3.1110319	20	3 24.4	21.2
282097 2000 ST ₆₃	16.9	X	125.75508	138.13991	201.61782	3.41869	0.2110039	0.26548576	2.3975917	20	—	—
282098 2000 SN ₇₈	17.0	X	106.63831	205.29334	152.43118	4.19008	0.2242438	0.26434431	2.4044887	20	—	—
282099 2000 SH ₉₆	14.9	X	198.12155	2.29025	291.16235	12.07192	0.0883760	0.17081660	3.2169872	20	1 9.5	19.9
282100 2000 SJ ₁₃₄	16.9	X	353.17181	23.37233	285.81692	7.33924	0.2337057	0.29500252	2.2348698	20	9 3.1	18.2
282101 2000 SE ₂₂₅	17.0	X	47.44698	227.58693	158.80943	1.88547	0.1929339	0.25828488	2.4419498	20	—	—
282102 2000 SL ₂₈₆	16.6	X	73.35671	113.31356	260.64532	4.91577	0.1661494	0.26019692	2.4299721	20	—	—
282103 2000 TV ₁₇	16.5	X	351.02640	333.67336	18.20308	6.88634	0.1224748	0.24575272	2.5242779	20	10 16.8	19.2
282104 2000 TN ₆₀	16.0	X	29.33080	265.08589	148.08075	14.07424	0.1840900	0.25806226	2.4433539	20	—	—
282105 2000 UN ₉₅	16.7	X	3.50597	144.04480	262.52070	3.90282	0.1393131	0.252660187	2.4780472	20	—	—
282106 2000 UE ₉₇	16.4	X	37.80915	98.30511	287.80208	3.61642	0.1995247	0.25522363	2.4614374	20	—	—
282107 2000 VW ₆	16.7	X	314.33362	203.65799	194.53205	3.06442	0.1391545	0.24523002	2.5278635	20	10 15.7	19.2
282108 2000 WH ₃₆	16.1	X	45.32415	266.23529	117.15947	8.08698	0.2258752	0.25428644	2.4674815	20	—	—
282109 2000 WL ₆₇	17.2	X	203.93814	189.74560	240.54705	20.41873	0.0818318	0.38216281	1.8806318	20	6 29.5	19.6
282110 2000 WJ ₇₉	16.6	X	84.41407	189.30667	169.34877	5.01497	0.2059452	0.25820935	2.4424260	20	—	—
282111 2000 WW ₁₂₃	16.2	X	294.79790	159.45677	239.93139	6.01921	0.1104010	0.24177277	2.5519048	20	9 9.9	19.1
282112 2000 WT ₁₆₀	16.5	X	32.43340	258.59654	132.39837	7.10114	0.1247658	0.25404698	2.4690318	20	—	—
282113 2000 WY ₁₇₄	16.2	X	15.07822	292.01242	116.60222	11.81067	0.2578811	0.25351582	2.4724794	20	—	—
282114 2000 WL ₁₇₇	15.7	X	43.30761	153.31465	170.56519	2.61641	0.1258189	0.24737435	2.5132341	20	11 29.0	18.9
282115 2000 YS ₉₇	16.0	X	288.00369	298.03447	103.19618	4.78478	0.2532152	0.23654846	2.5893413	20	8 12.1	18.8
282116 2001 AF ₈	15.8	X	202.65790	327.53546	120.01834	15.07712	0.1339616	0.22931086	2.6435426	20	7 15.6	19.9
282117 2001 AN ₁₀	17.1	X	301.20681	344.98287	107.06760	7.43561	0.0988427	0.29488741	2.2354514	20	12 27.8	18.9
282118 2001 AT ₃₇	15.2	X	298.76060	87.58699	83.26484	14.78082	0.1822684	0.19865910	2.9089108	20	—	—
282119 2001 BN ₅₇	15.8	X	1.14097	216.36018	164.94760	12.41847	0.2057908	0.24382266	2.5375815	20	12 26.8	18.9
282120 2001 CU ₄₁	15.3	X	269.32625	236.96733	134.26759	19.23663	0.2086656	0.17737495	3.1371926	20	6 12.8	20.2
282121 2001 DW ₆	15.4	X	219.53559	330.15519	150.36453	10.39667	0.2015686	0.18322166	3.0700928	20	9 3.7	20.3
282122 2001 DD ₈	16.4	X	276.08191	225.20154	150.15442	9.68869	0.1091694	0.22544450	2.6736812	20	7 9.5	20.1
282123 2001 DU ₃₉	16.0	X	64.54048	22.52226	139.85405	10.40949	0.1469989	0.21547886	2.7554948	20	5 24.9	19.6
282124 2001 FV ₁₈₆	16.0	X	103.29656	317.87638	157.45990	13.83084	0.1519078	0.21373917	2.7704265	20	5 15.3	20.2
282125 2001 HP ₆	17.9	X	256.64255	44.66063	131.25690	2.72684	0.2322118	0.29072311	2.2567477	20	—	—
282126 2001 MV ₁	16.4	X	187.42501	65.52232	259.44892	23.30693	0.3044785	0.28877937	2.2668630	20	1 22.4	20.8
282127 2001 MD ₁₈	16.3	X	263.39566	138.67007	122.83025	24.58788	0.1895237	0.29585855	2.2305569	20	1 12.7	19.7
282128 2001 NT ₁₂	17.5	X	267.53630	125.75724	172.34930	8.19669	0.2475035	0.29993618	2.2102945	20	2 25.1	20.9
282129 2001 NG ₁₇	15.7	X	152.12910	45.57673	330.21989	14.93104	0.1467657	0.23974494	2.5662743	20	2 25.1	19.5
282130 2001 ON ₅₅	17.1	X	150.49346	49.94606	241.76107	19.30979	0.0833584	0.38349040	1.8762889	20	—	—
282131 2001 OW ₈₇	16.2	X	92.71012	151.95103	229.03113	16.93634	0.1791063	0.22888686	2.6468062	20	—	—
282132 2001 PM ₃₉	16.9	X	104.83898	297.99256	76.44552	8.01189	0.1804157	0.28207984	2.3026151	20	—	—
282133 2001 QL ₄₈	16.6	X	294.13056	254.78018	32.71165	0.94152	0.3337849	0.19846154	2.9108410	20	3 8.4	21.0
282134 2001 QJ ₁₁₄	17.3	X	210.15234	60.68714	261.10459	4.24053	0.1747707	0.29135251	2.2534964	20	2 8.2	20.9
282135 2001 QJ ₁₃₂	16.8	X	223.88449	39.37883	280.60971	5.51559	0.1510509	0.29353158	2.2423298	20	2 17.9	20.3
282136 2001 QX ₁₃₃	17.3	X	218.31317	41.23909	289.82565	5.77574	0.2480705	0.29391573	2.2403756	20	2 24.9	21.2
282137 2001 QE ₁₅₃	17.9	X	263.70329	164.82390	152.27876	3.07139	0.2534556	0.30058687	2.2071036	20	3 17.8	21.2
282138 2001 QN ₁₅₃	16.5	X	95.96518	148.24566	283.14874	23.39916	0.2524213	0.28674742	2.2775593	20	2 28.4	19.8
282139 2001 QL ₁₅₇	15.9	X	171.81283	172.42489	180.33129	6.07407	0.2472110	0.18529063	3.0471962	20	2 25.0	21.2
282140 2001 QK ₁₆₆	15.9	X	259.69363	164.43166	132.32378	11.32477	0.1890139	0.19254196	2.9702006	20	3 4.8	20.6
282141 2001 QQ ₁₇₀	18.3	X	259.48744	139.15598	171.77074	1.64104	0.3054562	0.29871081	2.2163351	20	3 1.8	22.1
282142 2001 QG ₂₆₈	15.3	X	127.85116	214.42795	177.93921	10.75514	0.2644149	0.18167474	3.0874956	20	3 9.0	20.4
282143 2001 QT ₃₂₇	15.0	X	47.42978	187.19746	225.02821	13.25811	0.1081711	0.17243761	3.1967945	20	—	—
282144 2001 QH ₃₃₀	17.3	X	206.53448	295.93409	44.43729	6.27899	0.2622699	0.29284221	2.2458475	20	3 3.7	21.1
282145 2001 QJ ₃₃₃	15.4	X	174.34057	256.40785	91.00687	15.50534	0.2566158	0.18321781	3.0701358	20	2 27.5	21.0
282146 2001 RJ ₃	15.4	X	179.65073	77.04065	262.16022	9.49798	0.1914935	0.18435446	3.0575034	20	2 11.2	20.6
282147 2001 RV ₃₉	17.6	X	186.11399	83.35691	261.56091	6.90870	0.1787721	0.28981471	2.2614610	20	2 14.4	21.2
282148 2001 RC ₅₄	17.6	X	287.29825	274.95674	167.92263	22.42967	0.1091151	0.36904162	1.9249486	20	12 17.6	19.7
282149 2001 RN ₅₈	17.2	X	182.71528	171.32795	121.94582	3.80531	0.1690146	0.28347844	2.2950352	20	—	—
282150 2001 RE ₇₂	16.8	X	193.20000	7.64402	333.88098	5.55411	0.2486359	0.28934377	2.2639142	20	2 21.3	20.4
282151 2001 RF ₈₂	17.8	X	164.34982	71.65856	257.47653	5.09506	0.2207446	0.28533368	2.2850762	20	1 11.8	21.4
282152 2001 RF ₁₁₅	15.8	X	200.95789	153.03425	164.28577	10.96880	0.1320922	0.18397723	3.0616815	20	2 5.6	20.8
282153 2001 SF ₅	17.3	X	340.31374	181.79315	247.13711	20.03099	0.0837848	0.37470515	1.9055029	20	—	—
282154 2001 SU ₁₂	16.9	X	95.05720	217.62297	173.07523	11.56050	0.1792795	0.28109889	2.30			

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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>		
282161	2001	SO ₁₁₂	17.3	X	259.64727	329.81575	173.02570	22.45334	0.0607348	0.37600436	1.9011109	20	—	—
282162	2001	SC ₁₆₇	15.5	X	148.10399	168.40135	182.64429	9.40899	0.1034005	0.17981848	3.1087073	20	1 24.5	20.3
282163	2001	SK ₂₀₇	18.1	X	226.91839	126.87411	178.49332	0.32236	0.2128327	0.29153680	2.2525467	20	2 3.4	21.6
282164	2001	SA ₂₂₃	15.4	X	164.50836	125.15724	180.68208	10.56807	0.0213422	0.17351156	3.1835898	20	—	—
282165	2001	SF ₂₂₇	16.4	X	295.96452	164.52871	170.89315	2.68114	0.1893060	0.19819960	2.9134050	20	6 1.0	20.0
282166	2001	SU ₂₂₉	16.0	X	170.96839	259.77530	142.23191	2.48218	0.1803715	0.18631338	3.0360344	20	4 21.1	21.0
282167	2001	ST ₂₇₅	18.3	X	216.40604	106.01088	171.35607	2.93527	0.2004267	0.28560409	2.2836336	20	—	—
282168	2001	SJ ₂₈₀	15.5	X	176.77916	152.43395	192.66641	3.74805	0.2863281	0.18212133	3.0824462	20	2 21.2	21.0
282169	2001	SV ₃₁₇	16.4	X	36.31447	158.57605	174.49057	12.95429	0.1339974	0.21277731	2.7787694	20	11 26.8	20.3
282170	2001	SB ₃₂₃	17.7	X	192.51007	87.30622	251.51435	6.13622	0.1408695	0.28927219	2.2642876	20	2 11.7	21.1
282171	2001	ST ₃₄₅	17.2	X	219.08731	57.40203	257.71924	7.05691	0.2562374	0.29195069	2.2504172	20	2 6.0	21.2
282172	2001	SW ₃₅₃	15.1	X	229.16694	80.75864	314.21218	13.86974	0.3297949	0.19137570	2.9822555	20	5 18.9	20.7
282173	2001	SX ₃₅₃	14.8	X	37.45463	189.43059	247.03784	24.09972	0.0718310	0.17060978	3.2195865	20	—	—
282174	2001	TP ₇	17.3	X	117.64805	103.81220	208.46985	21.63213	0.0875910	0.37783845	1.8949538	20	—	—
282175	2001	TC ₁₃	17.5	X	301.62806	260.40423	195.15406	23.59128	0.1212819	0.37119980	1.9174802	20	—	—
282176	2001	TR ₂₁	16.6	X	184.57457	208.56098	117.44810	5.85606	0.1640767	0.28610172	2.2809848	20	1 23.2	19.9
282177	2001	TZ ₂₃	16.9	X	141.86945	135.99122	218.69677	10.53010	0.2240041	0.28322358	2.2982418	20	1 20.4	20.5
282178	2001	TJ ₂₅	17.1	X	114.49372	113.51312	228.83775	6.22198	0.1328811	0.27685501	2.3314949	20	—	—
282179	2001	TK ₄₆	14.9	X	126.05429	287.87443	125.32767	21.54788	0.2126375	0.17961956	3.1110021	20	4 4.6	20.2
282180	2001	TX ₄₈	17.3	X	3.77794	185.67919	285.45316	18.20404	0.0482993	0.38529008	1.8704416	20	—	—
282181	2001	TN ₇₆	16.4	X	240.81728	150.83989	196.81020	14.10908	0.3934442	0.19185664	2.9772695	20	4 1.1	21.8
282182	2001	TZ ₈₆	15.6	X	127.15290	157.33626	207.60320	15.37192	0.0778446	0.17604901	3.1529252	20	1 14.6	20.5
282183	2001	TJ ₈₈	15.5	X	105.97966	165.21733	209.98388	14.56060	0.1799669	0.17452494	3.1712542	20	1 16.3	20.3
282184	2001	TV ₁₁₁	16.6	X	178.37226	82.47522	250.05095	4.79873	0.2074887	0.28471248	2.2883988	20	1 26.7	20.3
282185	2001	TL ₁₇₅	15.4	X	229.13482	66.25165	202.72943	17.40961	0.1698765	0.18062823	3.0994095	20	1 4.3	20.8
282186	2001	TG ₁₈₀	15.2	X	146.07743	149.93704	248.52137	8.80235	0.0777598	0.18159075	3.0884475	20	3 13.5	19.9
282187	2001	TZ ₁₈₀	17.6	X	137.23723	111.56485	220.79542	6.90957	0.1977121	0.27926820	2.3180443	20	—	—
282188	2001	TS ₁₈₁	17.7	X	236.38624	66.24646	282.62668	3.48149	0.1921824	0.29548059	2.2324586	20	4 5.1	21.1
282189	2001	TE ₁₈₈	16.0	X	10.75783	207.51735	236.49674	8.33758	0.1496129	0.21819116	2.7326119	20	—	—
282190	2001	TG ₁₉₈	18.0	X	136.44818	255.61396	92.35509	4.05526	0.1927811	0.28225479	2.3016635	20	1 5.3	20.9
282191	2001	TU ₂₁₃	16.6	X	79.17827	122.32385	329.16233	11.13206	0.1570780	0.23092980	2.6311730	20	3 6.4	19.8
282192	2001	TB ₂₂₉	13.0	X	209.73372	83.19167	300.95193	14.09944	0.0863022	0.08254995	5.2238597	20	5 3.9	20.4
282193	2001	TR ₂₃₉	17.0	X	86.76859	219.54434	121.92748	7.53815	0.1041074	0.27208870	2.3586439	20	—	—
282194	2001	TR ₂₄₃	15.6	X	64.00401	210.84555	200.00393	9.05633	0.0882718	0.17484573	3.1673741	20	—	—
282195	2001	UD ₇	17.3	X	219.52586	116.90685	198.93597	6.40372	0.3193236	0.29000730	2.2604597	20	2 7.4	21.6
282196	2001	UV ₂₉	15.8	X	72.74174	316.91816	45.03623	13.09903	0.2252555	0.22068066	2.7120220	20	—	—
282197	2001	UE ₅₁	17.1	X	137.29571	187.41477	188.25067	10.57578	0.2525010	0.28243325	2.3006938	20	2 15.0	20.6
282198	2001	UM ₁₆₆	12.6	X	332.02265	356.91502	256.14277	7.10723	0.0468190	0.08079670	5.2991590	20	4 28.5	19.5
282199	2001	UA ₁₈₄	17.3	X	12.43587	201.22327	196.09733	23.41886	0.0726253	0.37242127	1.9132853	20	—	—
282200	2001	UX ₁₈₈	15.8	X	125.65542	149.66624	198.03195	10.68564	0.1011241	0.17387531	3.1791482	20	—	—
282201	2001	UE ₂₁₈	15.3	X	121.67821	168.11492	241.45938	8.92545	0.0822369	0.17849968	3.1240005	20	2 29.7	20.1
282202	2001	VX ₂₀	16.5	X	84.05883	113.91588	247.50837	5.17273	0.1453296	0.27239302	2.3568868	20	—	—
282203	2001	VG ₅₁	15.2	X	87.62347	149.20772	291.76188	9.29106	0.2107650	0.17648272	3.1477574	20	3 15.8	19.7
282204	2001	VC ₅₃	15.4	X	167.12514	101.10459	270.55534	9.82962	0.1684767	0.18124294	3.0923975	20	3 7.2	20.7
282205	2001	VG ₅₄	15.1	X	166.80433	100.86031	267.38423	7.94484	0.0993928	0.17985591	3.1082760	20	2 29.8	20.1
282206	2001	VN ₆₁	17.3	X	117.77760	125.23571	268.41264	6.69810	0.1116825	0.28099721	2.3085257	20	1 29.1	20.2
282207	2001	VS ₇₆	17.5	X	201.14779	298.68407	242.61434	18.28299	0.0595451	0.36784092	1.9291353	20	12 21.3	19.4
282208	2001	VY ₉₅	15.6	X	145.45278	252.16101	111.56658	12.76931	0.2983504	0.17729810	3.1380991	20	2 25.6	21.1
282209	2001	VJ ₁₀₉	16.6	X	114.23637	79.35898	55.23657	26.86268	0.3130895	0.23635893	2.5907253	20	6 30.3	21.4
282210	2001	WS ₁₇	16.6	X	17.82531	64.78491	11.32141	4.70805	0.0957395	0.21940119	2.7225554	20	—	—
282211	2001	WX ₅₉	16.6	X	132.81283	46.14313	236.76106	6.30025	0.0936147	0.26742797	2.3859692	20	—	—
282212	2001	XG ₂₆	15.5	X	118.16965	286.20622	100.18197	23.93236	0.2518346	0.27590866	2.3368231	20	2 16.6	19.0
282213	2001	XT ₇₃	15.2	X	160.40976	200.21382	200.64780	10.09923	0.0737558	0.18013788	3.1050315	20	4 4.2	19.8
282214	2001	XG ₇₈	16.8	X	28.01585	292.26405	100.02706	4.83237	0.1486412	0.26663371	2.3907051	20	—	—
282215	2001	XY ₇₈	15.5	X	4.90569	274.14238	83.72172	12.63461	0.0723057	0.20452687	2.8530046	20	11 6.4	19.3
282216	2001	XU ₁₀₃	17.2	X	10.88967	256.32675	97.99523	25.38046	0.1335730	0.36279550	1.9469798	20	12 28.9	18.8
282217	2001	XE ₁₁₂	16.6	X	314.24572	318.84051	106.69309	7.05972	0.0987920	0.25870683	2.4392938	20	11 30.6	19.1
282218	2001	XS ₁₂₆	16.2	X	133.68714	205.98208	189.95005	1.93255	0.1860377	0.17683257	3.1436043	20	3 12.0	21.0
282219	2001	XN ₁₃₀	17.4	X	68.11510	243.71556	128.56009	2.02376	0.1844552	0.27049721	2.3678864	20	—	—
282220	2001	XT ₂₁₈	17.1	X	162.41667	112.35567	246.50312	4.23759	0.1592066	0.28392367	2.2926353	20	2 10.0	20.6
282221	2001	XE ₂₆₂	17.5	X	154.48931	227.52017	127.17432	2.85892	0.2423639	0.28133179	2.3066950	20	2 6.5	21.1
282222	2001	YO ₁	17.1	X	184.23117	80.73469	81.50437	23.02412	0.0463521	0.35879435	1.9614278	20	11 9.2	19.6
282223	2001	YK ₇₈	16.7	X	171.51558	99.22384	298.94776	4.91256	0.1651750	0.28570859	2.2830768	20	4 8.7	20.3
282224	2001	YJ ₁₅₅	15.4	X	176.67321	90.67494	299.20247	19.63432	0.2542873	0.18139845	3.0906299	20	4 1.7	21.2
282225	2001	YB ₁₆₂	16.5	X	45.28133	349.69622	114.93498	14.81574	0.1940456	0.22332929	2.6905367	20	2 3.5	19.0
282226	2002	AU ₁₇	17.0	X	165.82910	83.55478	290.65623	7.03205	0.3640443	0.28338452	2.2955423	20	3 13.0	21.3
282227	2002	AS ₂₀	16.9	X	351.35523	312.07518	121.41733	25.24571	0.0782673	0.36727237	1.9311257	20	—	—
282228	2002	AG ₂₂	16.0	X	100.51009	42.56162	131.18066	33.05917	0.2065202	0.23102817	2.6304260	20	7 30.4	19.9
282229	2002	AZ ₆₅	16.9	X	159.29584	41.24028	127.74844	8.37849	0.0860389	0.24485906	2.5304160	20	9 19.7	20.7
282230	2002	AM ₁₄₃	16.7	X	117.48839	11.31714	189.62047	1.6856						

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>
282241 2002 CE ₃₁₄	17.1	X	132.31669	333.20654	188.62082	4.76166	0.1420249	0.23734121	2.5835722	20	8 9.5	21.1
282242 2002 DM ₈	16.7	X	178.87606	15.26197	99.50178	15.53217	0.2024771	0.23959784	2.5673246	20	7 26.8	21.1
282243 2002 ES ₇₉	17.0	X	115.59075	327.83264	201.24851	7.62672	0.1584151	0.23419925	2.6066280	20	8 1.8	21.1
282244 2002 EZ ₁₆₀	16.0	X	132.89707	74.75590	129.17598	12.82803	0.0850025	0.23843327	2.5756775	20	10 7.4	20.0
282245 2002 GJ ₆	16.5	X	71.34413	62.11298	170.66231	11.72326	0.2044561	0.23082125	2.6319978	20	9 13.2	20.2
282246 2002 GE ₁₁	15.6	X	260.51841	174.56731	107.47542	17.53211	0.2168755	0.21059357	2.7979459	20	2 13.6	20.3
282247 2002 GO ₄₉	16.0	X	110.39491	25.51723	210.56141	13.56284	0.1395446	0.24073907	2.5592046	20	10 22.3	19.9
282248 2002 GD ₆₁	16.4	X	16.13888	117.33085	46.64187	5.20961	0.0433627	0.21501638	2.7594446	20	3 3.2	19.9
282249 2002 GA ₆₉	15.2	X	355.15988	260.29611	18.69863	11.92021	0.0640372	0.17355140	3.1831025	20	7 2.4	19.5
282250 2002 GW ₁₁₅	16.5	X	74.68476	97.53871	169.42653	9.12193	0.0925926	0.23721881	2.5844609	20	10 19.9	20.1
282251 2002 GH ₁₆₀	16.4	X	174.19867	337.61081	141.52960	4.95627	0.1091082	0.23414280	2.6070469	20	7 28.0	20.4
282252 2002 GJ ₁₈₃	15.3	X	266.62394	0.94888	42.23087	6.61329	0.1211932	0.17947613	3.1126593	20	7 31.8	19.7
282253 2002 GM ₁₈₃	16.4	X	58.44416	345.68582	195.71249	9.64203	0.0703852	0.22301797	2.6930401	20	5 28.4	19.9
282254 2002 HP ₁₂	16.0	X	44.12467	145.43104	99.40804	13.55118	0.3256322	0.22767324	2.6562038	20	9 20.3	19.8
282255 2002 JX ₄₉	16.4	X	27.64599	55.49383	231.97703	12.28667	0.1684292	0.22906670	2.6454206	20	9 16.1	19.8
282256 2002 JH ₆₇	15.9	X	7.07053	96.91496	219.11945	10.28141	0.2599151	0.22796217	2.6539589	20	10 7.7	18.5
282257 2002 JA ₇₅	16.5	X	25.90433	38.73894	230.07205	12.62070	0.2211363	0.22614687	2.6681423	20	8 24.4	19.7
282258 2002 JQ ₉₀	17.5	X	22.54396	253.99220	348.03408	1.82685	0.1686028	0.27761533	2.3272360	20	7 11.4	19.3
282259 2002 JZ ₉₈	16.6	X	79.99564	160.62185	149.10157	16.85590	0.2128952	0.24190139	2.5510001	20	12 28.4	21.0
282260 2002 JT ₁₁₆	16.3	X	65.56128	137.52835	112.05981	14.94764	0.2275091	0.23243937	2.6197686	20	10 8.9	20.5
282261 2002 JV ₁₁₆	16.1	X	54.86396	160.81781	124.05995	16.00806	0.1816065	0.23562129	2.5961295	20	11 4.7	20.1
282262 2002 JK ₁₃₁	16.5	X	347.56651	2.21609	214.64996	13.88827	0.1802792	0.21661347	2.7458643	20	3 11.8	19.8
282263 2002 JJ ₁₄₅	16.0	X	29.18106	58.48990	244.18611	10.94939	0.1972387	0.23246277	2.6195927	20	10 17.2	19.3
282264 2002 JT ₁₄₉	16.8	X	302.92458	35.95699	220.22926	9.81606	0.1953207	0.21151776	2.7897898	20	2 22.1	20.8
282265 2002 KP ₁₄	16.0	X	43.27355	172.39761	121.01688	15.71794	0.1255623	0.23158635	2.6261976	20	10 23.8	19.8
282266 2002 LS ₁₈	16.4	X	54.69835	80.86004	230.80707	4.83612	0.2836238	0.23259252	2.6186184	20	12 12.7	20.4
282267 2002 LY ₆₁	16.1	X	331.01248	33.41974	295.29953	13.91700	0.1250590	0.22059248	2.7127446	20	7 30.3	19.2
282268 2002 NB ₄	16.6	X	356.42839	55.66614	192.97980	11.62918	0.2054088	0.21737027	2.7394873	20	5 22.3	19.0
282269 2002 NQ ₁₇	16.6	X	278.77617	219.28516	116.82615	18.58262	0.2805104	0.21145605	2.7903326	20	5 4.9	21.1
282270 2002 NP ₂₅	16.0	X	307.55840	82.79698	268.66508	5.85624	0.2866033	0.21531725	2.7568735	20	6 25.8	18.9
282271 2002 NL ₆₆	16.2	X	335.31501	162.81359	109.84159	10.54600	0.1734236	0.21411497	2.7671839	20	5 16.9	19.3
282272 2002 NT ₇₅	15.8	X	329.70198	199.97631	226.32547	8.51134	0.1075857	0.17755376	3.1350861	20	12 1.7	19.6
282273 2002 NU ₇₆	16.3	X	117.44558	43.10510	197.87541	8.29264	0.1436110	0.23020641	2.6366821	20	11 3.9	20.5
282274 2002 OB ₆	16.3	X	291.46682	139.07404	184.05821	8.92906	0.1629847	0.21205476	2.7850780	20	5 14.5	20.0
282275 2002 OM ₁₂	16.1	X	289.10965	91.58247	240.22636	16.50934	0.2828076	0.21123828	2.7922500	20	5 1.5	20.0
282276 2002 OQ ₁₄	16.1	X	275.08042	101.11863	274.76477	11.83187	0.2181965	0.21361421	2.7715069	20	6 21.9	19.8
282277 2002 OR ₁₅	16.1	X	312.84382	112.92014	203.39022	8.47650	0.1471948	0.21407541	2.7675248	20	6 8.2	19.5
282278 2002 OS ₁₆	15.7	X	325.98253	190.40147	140.70513	15.18325	0.1668288	0.21938827	2.7226623	20	7 21.4	18.5
282279 2002 OH ₁₈	15.8	X	324.02109	99.01365	281.94972	13.59145	0.1396618	0.22323199	2.6913185	20	9 24.4	19.1
282280 2002 OQ ₂₁	16.4	X	13.88180	107.49240	135.53871	8.46362	0.2773633	0.21681110	2.7441955	20	7 1.7	18.5
282281 2002 PF ₁₆	16.3	X	343.16132	119.78716	141.19617	15.38791	0.1688733	0.21355684	2.7720032	20	5 17.8	19.6
282282 2002 PK ₃₈	16.3	X	318.35070	179.30267	136.28111	6.94429	0.0367714	0.21527831	2.7572059	20	6 29.2	20.0
282283 2002 PJ ₄₁	16.7	X	299.94038	79.62873	296.73829	7.23257	0.3295835	0.21406301	2.7676317	20	7 10.5	19.5
282284 2002 PW ₆₃	16.5	X	3.89310	140.85265	165.72850	11.73909	0.2207559	0.22136736	2.7064104	20	9 10.7	18.8
282285 2002 PS ₆₉	15.8	X	277.59302	102.58131	291.57967	12.40138	0.2181599	0.21406806	2.7675882	20	7 19.3	19.5
282286 2002 PM ₈₃	15.9	X	330.74694	88.44794	327.32705	6.92616	0.3227363	0.22503370	2.6769341	20	12 21.1	17.6
282287 2002 PX ₈₉	15.4	X	293.97190	78.31761	261.60783	10.87744	0.1547609	0.21205841	2.7850461	20	6 9.4	19.0
282288 2002 PS ₁₀₉	16.2	X	305.11971	148.69456	180.01413	17.64586	0.1521107	0.21306373	2.7762785	20	6 12.6	20.0
282289 2002 PJ ₁₂₃	16.4	X	346.53227	99.36856	239.99880	6.52434	0.2029611	0.22101813	2.7092606	20	9 15.4	19.0
282290 2002 PU ₁₂₈	15.8	X	344.09229	254.65099	77.36911	10.06410	0.1793622	0.21852537	2.7298250	20	9 6.9	18.6
282291 2002 PF ₁₃₁	16.4	X	340.95841	178.74089	141.66803	7.20128	0.0466301	0.21907664	2.7252436	20	8 8.4	19.9
282292 2002 PK ₁₇₀	16.1	X	331.62278	104.96562	209.62462	14.10022	0.1418879	0.21708362	2.7418983	20	7 7.6	19.5
282293 2002 QP	15.5	X	285.58408	75.42339	284.52247	7.68802	0.1720678	0.21145167	2.7903711	20	6 21.9	19.0
282294 2002 QN ₅	15.9	X	296.62914	112.92209	242.44528	6.75572	0.0889552	0.21436296	2.7650493	20	7 13.8	19.4
282295 2002 QB ₁₄	15.7	X	271.88938	138.49861	256.67237	8.14364	0.1738257	0.21477926	2.7614753	20	7 18.7	19.6
282296 2002 QF ₃₈	16.2	X	196.34832	188.29626	171.39429	11.49341	0.1069357	0.19808410	2.9145375	20	3 23.0	20.6
282297 2002 QW ₇₉	15.9	X	279.77843	265.97288	133.33746	17.35875	0.2106723	0.21908750	2.7251536	20	7 31.4	19.2
282298 2002 QR ₈₂	17.0	X	356.95129	69.29355	180.51774	7.82467	0.1767636	0.21207958	2.7848607	20	5 25.9	19.8
282299 2002 QA ₁₁₉	16.5	X	273.64847	155.14226	133.88733	10.47889	0.0639422	0.20410440	2.8569401	20	3 25.3	20.6
282300 2002 QT ₁₂₇	16.3	X	292.17838	246.51204	99.43222	3.70426	0.0941868	0.21308100	2.7761285	20	6 24.7	19.8
282301 2002 RT ₄	17.1	X	347.46169	135.03059	233.37455	10.08974	0.1497043	0.22310171	2.6923661	20	10 29.8	19.8
282302 2002 RA ₁₁₈	15.6	X	339.02794	348.10645	282.32141	11.40079	0.1390996	0.20884522	2.8135396	20	5 19.0	19.0
282303 2002 RN ₂₅₅	15.8	X	202.35819	181.15504	266.02284	12.89269	0.1572424	0.21199091	2.7856372	20	7 11.2	20.3
282304 2002 SL ₄₆	16.5	X	347.92125	174.87572	183.06012	1.48473	0.2310103	0.21931496	2.7232690	20	10 23.4	18.8
282305 2002 SQ ₅₁	16.5	X	335.66570	214.51283	152.48975	5.02760	0.1329636	0.21989483	2.7184793	20	10 6.5	19.4
282306 2002 TC ₆	15.9	X	331.20850	159.30443	170.50199	8.64557	0.2968427	0.21431819	2.7654344	20	7 15.5	18.1
282307 2002 TX ₁₂	16.4	X	270.70257	277.01570	98.13421	3.77354	0.2099805	0.21026300	2.8008777	20	6 16.6	20.4
282308 2002 TH ₂₆	17.8	X	177.87414	198.04940	181.22299	6.10533	0.1536774	0.30685443	2.1769466	20	3 22.1	20.7
282309 2002 TY ₇₁	15.3	X	103.68226	155.79184	254.37485	8.44010	0.1238885	0.18759623	3.0221776	20	2 14.5	19.7
282310 2002 TA ₈₂	16.5	X	224.38522	285.02043	115.36416	6.74663	0.1551976	0.26153289	2.4216898	20	6 6.4	20.2
282311 2002 TW ₉₀	16.2	X	325.05334	117.94479	220.79162	9.69509	0.2852286	0.21417073	2.7667036	20	7 13.4	18.7
282312 2002 TP ₉₅	15.7	X	309.68739	138.94886	255.45871	8.13615	0.1399761	0.21819713	2.7325620	20	9 19.7	18.9
282313 2002 TQ ₁₁₂	15.8	X	337.76582	18.13536</								

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>		
282321	2002	TB ₁₉₂	16.0	X	276.00491	127.34336	263.31507	11.67935	0.1678711	0.21032960	2.8002864	20	7 18.2	19.9
282322	2002	TG ₁₉₃	17.3	X	205.11216	352.65957	15.27261	5.38238	0.2124023	0.25587291	2.4572717	20	4 4.7	21.3
282323	2002	TN ₂₁₈	16.2	X	300.01956	147.03667	249.40184	8.71512	0.2521262	0.21629952	2.7485207	20	8 18.6	19.4
282324	2002	TB ₂₃₁	15.9	X	291.83424	255.63833	131.38267	9.92250	0.2222146	0.21496618	2.7598742	20	7 30.8	18.9
282325	2002	TM ₂₃₂	15.6	X	323.29303	64.25779	252.73562	12.18152	0.2155989	0.21189602	2.7864688	20	6 17.8	18.5
282326	2002	TW ₃₁₃	16.2	X	348.44043	357.03446	110.91756	9.99580	0.0397058	0.17731081	3.1379492	20	—	—
282327	2002	TB ₃₁₄	15.4	X	293.47299	48.79482	131.72505	10.70420	0.0744614	0.17973087	3.1097175	20	—	—
282328	2002	TD ₃₁₅	15.6	X	145.05354	211.64735	130.36630	11.97293	0.0663928	0.18315083	3.0708843	20	1 8.1	20.2
282329	2002	TP ₃₁₅	15.7	X	105.93848	281.88620	114.04244	12.06026	0.1375229	0.18468322	3.0538739	20	2 7.2	20.0
282330	2002	TG ₃₈₄	15.6	X	12.05207	286.16857	193.31472	9.66843	0.0565786	0.18186292	3.0853655	20	1 2.9	19.8
282331	2002	UK ₃₅	15.4	X	51.54473	201.90914	229.24311	8.85749	0.0732600	0.18025876	3.1036433	20	—	—
282332	2002	UO ₄₂	15.8	X	102.71909	225.58925	207.08684	10.39770	0.0112364	0.19079747	2.9882779	20	2 25.2	20.1
282333	2002	UX ₅₁	17.1	X	323.90326	97.83711	268.28289	7.90147	0.2210553	0.21948444	2.7218670	20	8 30.8	19.7
282334	2002	UN ₅₉	15.7	X	189.37610	247.42947	88.92581	10.88205	0.0881664	0.19038645	2.9925772	20	2 20.8	20.4
282335	2002	UV ₇₀	15.5	X	130.95663	149.96579	221.23577	9.29989	0.0863658	0.18329150	3.0693129	20	1 26.6	20.1
282336	2002	VT	12.9	X	175.90322	139.62448	263.37468	9.15483	0.0418216	0.08316837	5.1979320	20	4 23.2	20.0
282337	2002	VC ₃	15.8	X	164.08772	91.42609	262.84976	8.71454	0.1221113	0.19015586	2.9949959	20	2 12.7	20.6
282338	2002	VQ ₁₁	16.7	X	151.70933	114.58867	245.43665	8.23628	0.1229953	0.29771674	2.2212659	20	1 24.7	19.7
282339	2002	VW ₉₃	15.8	X	334.30558	193.94448	137.38924	8.83486	0.2874261	0.21342574	2.7731383	20	7 30.1	17.5
282340	2002	XM ₂₁	15.4	X	160.65069	148.44225	270.50179	9.01182	0.1112397	0.19320352	2.9634165	20	4 25.6	20.1
282341	2002	XZ ₃₀	15.4	X	142.81978	177.62395	257.47126	11.38612	0.0556721	0.19260842	2.9695173	20	4 22.4	19.8
282342	2002	XA ₃₃	17.5	X	304.03861	56.52325	80.60844	3.00231	0.1496402	0.28075650	2.3098450	20	—	—
282343	2002	XB ₄₇	16.6	X	142.34696	270.88437	114.85236	5.89002	0.2164362	0.29680650	2.2258050	20	3 3.3	19.8
282344	2002	XN ₁₁₇	15.8	X	237.93364	228.38578	116.78843	10.84084	0.0872499	0.19650667	2.9301140	20	4 22.3	20.3
282345	2002	YE ₅	15.5	X	349.24605	121.80834	77.60919	31.84136	0.1122289	0.23146108	2.6271451	20	2 24.1	18.9
282346	2002	YY ₃₂	15.4	X	27.34639	227.75495	262.99672	9.07561	0.0663535	0.18044636	3.1014918	20	2 5.1	19.5
282347	2003	AZ ₂₂	15.6	X	212.98258	251.08505	130.29786	21.36177	0.2996521	0.26994235	2.3711300	20	12 5.8	19.7
282348	2003	AF ₄₁	17.9	X	121.63773	245.25400	31.32322	24.33997	0.0357525	0.39973109	1.8251172	20	—	—
282349	2003	BA ₅₆	16.5	X	73.22766	279.02446	137.53616	6.84462	0.1742816	0.22948102	2.6422356	20	1 14.6	19.3
282350	2003	BW ₇₂	14.8	X	34.88448	172.96784	296.74856	21.54101	0.0795687	0.17249548	3.1960794	20	1 24.4	18.9
282351	2003	DQ ₂	17.2	X	212.55037	28.96022	151.15404	4.51362	0.0905544	0.26573005	2.3961220	20	12 5.1	20.4
282352	2003	FN ₇₅	16.4	X	307.89733	299.14732	312.56536	12.25274	0.2283864	0.22968565	2.6406660	20	2 17.3	20.0
282353	2003	FS ₉₁	16.3	X	103.64141	13.26469	114.15176	6.25302	0.2084286	0.23900601	2.5715610	20	6 4.4	20.1
282354	2003	FZ ₁₀₇	16.6	X	28.09727	146.40391	117.51257	4.84549	0.2079001	0.24105189	2.5569900	20	8 29.4	19.2
282355	2003	FC ₁₂₄	16.8	X	38.22219	192.31120	161.39527	6.47227	0.1354959	0.26476892	2.4019173	20	—	—
282356	2003	GE ₁	16.1	X	262.85505	168.93372	15.90370	7.72358	0.1313178	0.21424979	2.7660230	20	—	—
282357	2003	HL ₁	17.4	X	140.96316	248.44683	47.79089	3.80396	0.2091494	0.26198899	2.4188783	20	—	—
282358	2003	HK ₅	17.2	X	165.24565	94.09554	159.10089	3.57601	0.1294743	0.26173927	2.4204166	20	—	—
282359	2003	HG ₁₆	16.8	X	106.33141	186.80540	106.04270	6.89839	0.2503431	0.25490445	2.4634917	20	—	—
282360	2003	HR ₂₂	17.3	X	138.18397	50.07420	182.50661	22.23571	0.0540931	0.36905534	1.9249010	20	12 12.4	20.1
282361	2003	KD ₁₉	16.1	X	45.54336	191.82426	141.96902	12.93584	0.1320412	0.24525312	2.5277048	20	12 15.8	19.8
282362	2003	LS ₂	15.5	X	74.23396	69.39766	214.65656	13.67870	0.2646403	0.24297143	2.5435049	20	11 27.3	19.7
282363	2003	MD ₂	15.8	X	64.21566	202.35064	114.19906	8.61323	0.2114846	0.24509043	2.5288233	20	12 22.5	19.7
282364	2003	NR ₂	17.3	X	109.37159	221.28468	109.21331	24.79736	0.0733124	0.37330668	1.9102588	20	—	—
282365	2003	NU ₁₁	16.1	X	57.21500	139.48679	142.29702	12.13120	0.0337475	0.23931451	2.5693505	20	10 11.3	19.6
282366	2003	OO ₁₀	15.8	X	51.17625	306.17262	116.77903	10.06364	0.1915424	0.23790845	2.5794640	20	9 22.6	19.3
282367	2003	OD ₁₁	16.2	X	0.61043	156.78026	161.94170	34.36506	0.2348026	0.23477429	2.6023699	20	9 30.3	18.8
282368	2003	OA ₁₃	15.7	X	98.43112	336.72708	302.57146	15.89478	0.1510088	0.24700896	2.5157119	20	12 4.0	19.9
282369	2003	OB ₁₉	16.6	X	80.27549	48.98608	194.55625	12.07868	0.2363353	0.24056008	2.5604738	20	10 11.2	20.5
282370	2003	PR ₉	15.5	X	355.16726	82.01348	248.37186	27.07118	0.2442294	0.23261983	2.6184135	20	9 20.1	18.6
282371	2003	PB ₁₃	16.5	X	328.81583	162.96299	201.54727	12.29587	0.1510635	0.23441296	2.6050434	20	9 18.2	19.1
282372	2003	QN ₁₅	16.6	X	11.02648	163.06750	186.34704	14.73982	0.1040349	0.23850276	2.5751772	20	11 14.4	19.8
282373	2003	QK ₁₆	16.9	X	221.55323	110.03188	296.14475	6.79114	0.0873813	0.28137568	2.3064552	20	6 16.8	20.0
282374	2003	QU ₂₁	16.2	X	298.80967	175.54479	176.70249	11.34311	0.1766672	0.22691934	2.6620837	20	6 30.6	19.5
282375	2003	QT ₃₃	16.6	X	339.00435	206.63406	142.05569	6.03554	0.2591194	0.23377487	2.6097816	20	9 23.5	18.3
282376	2003	QH ₄₀	17.4	X	60.54898	166.97415	160.44557	6.27183	0.2713951	0.24367474	2.5386084	20	—	—
282377	2003	QN ₆₀	15.9	X	258.59622	248.17868	144.01009	11.84077	0.2658311	0.22253301	2.6969512	20	6 18.9	20.3
282378	2003	QQ ₆₃	15.8	X	307.58717	218.71781	144.55359	10.84708	0.1366454	0.22759421	2.6568186	20	8 7.7	18.8
282379	2003	QU ₇₁	16.5	X	28.39412	70.75162	297.58647	11.47789	0.2782504	0.24104835	2.5570150	20	—	—
282380	2003	QL ₈₆	16.4	X	330.73824	146.20098	206.46188	12.78730	0.1079648	0.23361438	2.6109767	20	9 3.5	19.5
282381	2003	QS ₁₀₉	16.2	X	52.43731	57.22100	239.38666	13.01345	0.1773918	0.23965687	2.5669030	20	11 9.6	19.7
282382	2003	RU ₂₂	16.5	X	334.23935	246.12036	146.51563	14.15357	0.1744240	0.23713721	2.5850537	20	11 19.9	19.3
282383	2003	RU ₂₅	15.9	X	32.99825	68.25552	240.22795	13.06485	0.1856163	0.23577062	2.5950332	20	10 30.8	19.2
282384	2003	SB ₁₁	15.0	X	25.67838	311.22870	10.35188	9.03655	0.0780572	0.17534668	3.1613386	20	10 10.2	19.1
282385	2003	SU ₂₆	16.9	X	328.57732	42.54637	251.89486	5.75120	0.0813918	0.28307554	2.2972124	20	6 12.6	19.0
282386	2003	SN ₃₅	15.1	X	53.41488	297.68784	9.03273	11.28488	0.0523862	0.17776925	3.1325520	20	10 23.1	19.5
282387	2003	SC ₃₈	15.3	X	311.91704	230.48531	248.31915	11.68787	0.1143167	0.18769836	3.0210812	20	—	—
282388	2003	SM ₈₁	16.6	X	6.73581	68.51474	284.31095	10.98077	0.1176770	0.23670253	2.5882176	20	11 8.3	19.8
282389	2003	SA ₉₈	16.8	X	79.50922	34.03868	316.26224	11.92459	0.1210288	0.24643586	2.5196107	20	—	—
282390	2003	SQ ₁₁₈	17.0	X	212.33163	244.97888								

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>
282401 2003 <i>SF</i> ₃₀₅	15.6	X	13.68530	303.94817	353.30660	13.53737	0.1493486	0.22730571	2.6590662	20	9 9.4	18.3
282402 2003 <i>SA</i> ₃₁₃	16.2	X	356.98677	56.36000	210.13968	7.90471	0.0587736	0.22094349	2.7098707	20	6 18.7	19.7
282403 2003 <i>SV</i> ₃₂₀	16.6	X	3.91750	185.63604	60.14777	2.01943	0.0740945	0.21875420	2.7279210	20	5 31.8	19.6
282404 2003 <i>SH</i> ₃₃₆	16.1	X	333.39564	186.42369	99.99281	13.39801	0.1863767	0.21801747	2.7340630	20	5 30.9	19.1
282405 2003 <i>TW</i> ₁₃	17.1	X	7.55149	117.71598	250.61039	18.49498	0.0885125	0.35707790	1.9677084	20	—	—
282406 2003 <i>TR</i> ₂₁	15.8	X	280.69170	250.06221	122.61457	14.18460	0.2293644	0.22215188	2.7000350	20	6 24.3	19.5
282407 2003 <i>TC</i> ₅₆	17.1	X	305.08247	224.37449	88.71686	5.30114	0.1306945	0.27852027	2.3221923	20	5 24.2	19.4
282408 2003 <i>UW</i> ₈	15.9	X	345.26309	81.99013	235.35498	10.44338	0.20133207	0.22676585	2.6632849	20	8 7.7	18.5
282409 2003 <i>UL</i> ₁₁	17.0	X	359.26762	105.84114	277.32434	18.19690	0.0804432	0.35537289	1.9739971	20	—	—
282410 2003 <i>UX</i> ₁₄	16.4	X	32.85206	91.32123	219.70090	11.06145	0.2810398	0.23501679	2.6005794	20	11 19.5	19.7
282411 2003 <i>UJ</i> ₁₇	16.3	X	304.36754	115.94702	250.02813	5.02665	0.0733386	0.22467122	2.6798126	20	8 11.9	19.6
282412 2003 <i>UF</i> ₆₂	16.4	X	26.48497	200.67555	116.42185	8.63150	0.1911158	0.23382557	2.6094043	20	11 7.5	19.7
282413 2003 <i>UQ</i> ₁₄₄	16.0	X	358.48666	98.50464	250.41519	11.08285	0.1745616	0.23064523	2.6333367	20	10 26.0	18.9
282414 2003 <i>UQ</i> ₁₇₉	16.0	X	252.07102	203.37545	178.90324	6.77393	0.2311669	0.21846127	2.7303590	20	6 3.5	20.3
282415 2003 <i>UK</i> ₂₀₀	16.0	X	236.96561	169.12458	203.38038	12.26741	0.1276409	0.21483194	2.7610238	20	5 17.5	20.2
282416 2003 <i>UX</i> ₂₀₂	16.4	X	277.39189	133.78505	215.15283	11.66553	0.1386143	0.21857867	2.7293812	20	6 1.4	20.1
282417 2003 <i>UA</i> ₂₀₅	15.5	X	293.19995	126.68493	245.01821	20.86791	0.0245212	0.22348347	2.6892991	20	8 1.9	19.6
282418 2003 <i>UF</i> ₂₁₃	17.1	X	316.79917	258.87638	98.46251	2.37876	0.3233539	0.22625232	2.6673133	20	7 19.8	19.3
282419 2003 <i>UX</i> ₂₂₃	16.9	X	36.53650	355.19552	12.11849	4.73887	0.3372963	0.23976267	2.5661479	20	—	—
282420 2003 <i>UB</i> ₂₅₁	16.2	X	323.29980	129.99277	225.70559	25.24729	0.2636479	0.22536460	2.6743131	20	8 1.5	19.3
282421 2003 <i>UQ</i> ₂₇₄	15.9	X	321.87529	127.53262	232.26009	8.22253	0.0998041	0.22691025	2.6621548	20	8 28.0	19.2
282422 2003 <i>UF</i> ₃₂₂	16.5	X	156.46956	218.03451	202.85256	7.05027	0.0431570	0.20973890	2.8055417	20	4 21.9	20.3
282423 2003 <i>UZ</i> ₃₂₃	16.2	X	312.22470	179.27032	247.86527	14.71594	0.1877569	0.24159770	2.5531374	20	11 20.3	18.3
282424 2003 <i>UM</i> ₃₆₂	16.2	X	281.50593	185.92297	163.13009	9.44643	0.1026743	0.21950402	2.7217050	20	6 13.3	19.9
282425 2003 <i>UQ</i> ₃₇₄	17.1	X	46.96348	21.99225	273.20512	3.94240	0.1109057	0.23629186	2.5912156	20	10 20.4	20.5
282426 2003 <i>UO</i> ₃₈₁	16.7	X	341.31316	94.67000	165.10413	7.19183	0.0895228	0.21653773	2.7465046	20	5 15.7	20.0
282427 2003 <i>WG</i> ₅₄	15.5	X	311.83827	56.99767	35.01458	13.27145	0.0506260	0.17789948	3.1310231	20	12 6.1	19.9
282428 2003 <i>WU</i> ₆₆	17.4	X	257.53798	304.59284	59.47340	2.21329	0.2007390	0.27416760	2.3467057	20	5 18.8	20.8
282429 2003 <i>WW</i> ₇₈	15.9	X	227.19731	164.93147	260.58321	8.21278	0.1258429	0.21721815	2.7407661	20	7 12.2	20.0
282430 2003 <i>WS</i> ₈₆	17.2	X	258.07584	157.89332	255.13772	4.52887	0.1524618	0.27966777	2.3158358	20	8 2.4	20.0
282431 2003 <i>WU</i> ₈₆	15.9	X	349.02200	94.54981	245.31180	6.84421	0.3600953	0.22907385	2.6453656	20	10 16.0	17.4
282432 2003 <i>WK</i> ₈₉	16.0	X	260.19219	127.10114	233.05435	13.57866	0.0952393	0.21387705	2.7692357	20	5 31.3	19.8
282433 2003 <i>WO</i> ₁₃₇	15.8	X	3.22061	104.10011	250.06747	11.04731	0.2227304	0.23034090	2.6356557	20	11 20.6	18.4
282434 2003 <i>WX</i> ₁₃₉	15.6	X	332.37844	131.60621	254.14353	11.06631	0.2644042	0.22909096	2.6452339	20	10 30.1	17.5
282435 2003 <i>WY</i> ₁₆₁	15.8	X	258.98773	174.99208	226.64571	16.81227	0.1346431	0.21785140	2.7354523	20	7 13.8	20.0
282436 2003 <i>WR</i> ₁₈₉	15.7	X	19.51489	304.68076	152.03259	16.28528	0.2551330	0.18520988	3.0480818	20	—	—
282437 2003 <i>XE</i> ₆	15.7	X	324.30774	77.04385	295.04257	11.62969	0.2046136	0.22568716	2.6717643	20	9 10.6	18.3
282438 2003 <i>XV</i> ₂₁	15.9	X	214.49407	114.47806	131.21646	10.48001	0.2546424	0.21500393	2.7595511	20	7 15.7	20.6
282439 2003 <i>XE</i> ₂₂	15.7	X	206.87607	275.38341	118.97017	17.55458	0.3002545	0.21065958	2.7973614	20	5 13.4	21.1
282440 2003 <i>YL</i> ₃₅	16.3	X	355.53181	71.14894	277.38498	10.17464	0.3197486	0.22940889	2.6427897	20	11 10.6	18.6
282441 2003 <i>YY</i> ₄₂	17.5	X	195.85818	294.23570	131.51225	2.15344	0.1635671	0.26741505	2.3860458	20	6 10.2	21.1
282442 2003 <i>YX</i> ₅₅	17.4	X	179.30668	221.36099	241.50410	4.22445	0.1906084	0.27134549	2.3629488	20	7 11.9	21.2
282443 2003 <i>YT</i> ₉₀	16.4	X	6.44666	197.69007	190.75177	5.71948	0.3702552	0.23614607	2.5922819	20	—	—
282444 2003 <i>YJ</i> ₁₀₂	15.0	X	2.32580	330.58533	110.85230	29.16601	0.1713925	0.17749238	3.1358088	20	—	—
282445 2003 <i>YP</i> ₁₀₂	17.1	X	203.36132	11.71708	140.71446	4.04987	0.1647343	0.27965706	2.3158949	20	10 13.2	20.4
282446 2003 <i>YK</i> ₁₅₂	15.5	X	304.43040	94.21711	83.02895	10.14789	0.0423844	0.18177854	3.0863202	20	—	—
282447 2004 <i>BC</i> ₃₅	16.1	X	258.57045	184.23918	111.55620	9.80175	0.0577215	0.19181796	2.9776698	20	3 18.3	20.5
282448 2004 <i>BL</i> ₈₁	15.3	X	218.81003	123.26777	131.36948	16.54080	0.0560332	0.17704861	3.1410465	20	—	—
282449 2004 <i>BS</i> ₁₀₀	15.5	X	318.00716	85.24030	126.46471	22.51735	0.1010255	0.18566591	3.0430887	20	2 8.0	19.6
282450 2004 <i>BE</i> ₁₀₉	15.9	X	256.89477	266.52068	120.63711	14.23892	0.1614642	0.20967471	2.8061143	20	6 23.4	20.0
282451 2004 <i>BH</i> ₁₅₁	15.2	X	351.56573	4.08319	240.26437	16.94154	0.0698356	0.18271617	3.0757526	20	1 5.5	19.4
282452 2004 <i>CT</i> ₁₈	15.2	X	86.74989	298.62581	119.72023	18.53899	0.0759335	0.18289364	3.0737625	20	2 1.6	19.3
282453 2004 <i>CH</i> ₃₂	16.3	X	300.04894	311.56032	294.54713	10.01991	0.1166618	0.18849721	3.0125396	20	2 20.5	20.7
282454 2004 <i>CP</i> ₄₇	17.4	X	303.95163	291.39169	123.04565	5.76859	0.1315328	0.27965459	2.3159086	20	11 2.0	19.5
282455 2004 <i>CY</i> ₄₈	16.5	X	100.19176	99.02301	126.32827	7.09343	0.0883898	0.27029956	2.3690405	20	10 1.1	19.8
282456 2004 <i>CB</i> ₆₈	15.2	X	38.49578	314.19940	125.70224	12.49096	0.1190110	0.17851226	3.1238536	20	—	—
282457 2004 <i>CC</i> ₈₈	16.1	X	213.95683	155.99599	86.95015	7.37683	0.1302946	0.17194165	3.2029389	20	—	—
282458 2004 <i>CC</i> ₉₉	15.3	X	12.22626	340.83150	110.77879	18.48628	0.0608671	0.17514350	3.1637831	20	—	—
282459 2004 <i>CF</i> ₁₁₃	15.4	X	271.66797	85.82864	107.98425	10.77794	0.0416930	0.17629951	3.1499379	20	—	—
282460 2004 <i>DN</i> ₁₁	15.9	X	85.00124	310.33501	169.81550	9.56417	0.0421423	0.18995410	2.9971163	20	4 11.9	20.0
282461 2004 <i>DO</i> ₃₃	16.8	X	174.32280	102.82537	146.73494	6.39600	0.1642444	0.28273087	2.2990790	20	—	—
282462 2004 <i>DO</i> ₃₅	15.5	X	10.98474	285.34155	162.79789	26.40328	0.0998490	0.17440529	3.1727044	20	—	—
282463 2004 <i>EJ</i> ₅₉	17.3	X	357.97343	286.39672	276.16272	6.17460	0.0957930	0.30634669	2.1793514	20	3 6.3	19.4
282464 2004 <i>FY</i> ₅₉	16.9	X	275.69195	66.62738	159.73752	6.86634	0.1426775	0.29551530	2.2322838	20	—	—
282465 2004 <i>FF</i> ₁₃	16.6	X	178.01354	286.82694	283.02439	4.65967	0.1885318	0.27634419	2.3343671	20	11 25.2	20.3
282466 2004 <i>FK</i> ₃₀	15.2	X	293.64370	217.96842	249.83885	23.06994	0.2044834	0.22397915	2.6853299	20	12 2.3	17.7
282467 2004 <i>FS</i> ₅₆	16.9	X	272.01571	215.37820	43.75489	6.39000	0.1726860	0.29726976	2.2234919	20	1 20.3	20.2
282468 2004 <i>FE</i> ₆₁	17.7	X	260.20739	70.66098	153.22223	3.34891	0.1660262	0.29292676	2.2454153	20	—	—
282469 2004 <i>FE</i> ₁₄₁	17.4	X	152.73307	28.66708	207.16427	5.06578	0.1823008	0.27441677	2.3452849	20	12 5.5	21.2
282470 2004 <i>FY</i> ₁₄₃	17.8	X	213.04329	79.02360	184.44587	5.73370	0.3410858	0.28531341	2.2851844	20	—	—
282471 2004 <i>GZ</i> ₄	16.8	X	351.87829	90.17707	98.41337	5.45622	0.0903573	0.30112071	2.2044942	20	2 10.3	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
282481 2004 KO ₁₂	17.3	X	211.39720	124.60962	145.08018	8.01309	0.1708701	0.28561600	2.2835702	20	—	—
282482 2004 LP ₁₆	16.0	X	240.73728	114.54982	102.97020	24.33250	0.2385760	0.27984333	2.3148672	20	—	—
282483 2004 MG ₆	17.0	X	182.80872	61.67490	259.13977	11.05538	0.2544183	0.28083894	2.3093929	20	1 18.1	21.0
282484 2004 NL ₅	16.0	X	204.50468	276.52394	313.58854	21.70750	0.2681367	0.27382652	2.3486540	20	—	—
282485 2004 NQ ₁₃	17.0	X	230.73854	17.95799	254.27023	4.56696	0.1249314	0.28502058	2.2867494	20	—	—
282486 2004 NL ₁₈	16.5	X	184.44882	90.66536	159.92657	6.82843	0.0708845	0.27361165	2.3498834	20	—	—
282487 2004 NW ₁₉	17.3	X	151.13056	147.41496	158.06340	4.66853	0.2242839	0.27521152	2.3407676	20	—	—
282488 2004 NW ₃₂	17.1	X	145.02066	34.04526	298.89077	4.79684	0.2516339	0.27519623	2.3408544	20	1 3.7	20.4
282489 2004 OL ₁	15.8	X	270.86976	135.83295	133.88271	13.29377	0.0763699	0.22879072	2.6475476	20	2 20.3	19.6
282490 2004 PY ₅	17.1	X	166.23494	41.48088	300.24410	6.36522	0.1242448	0.28125449	2.3071177	20	1 22.2	20.1
282491 2004 PC ₉	17.2	X	150.09493	195.72310	127.51388	3.54368	0.1830474	0.27450443	2.3447856	20	—	—
282492 2004 PE ₁₁	15.2	X	266.66694	165.83663	140.52991	19.91872	0.0570664	0.16973974	3.2305790	20	4 13.7	20.2
282493 2004 PB ₁₅	16.5	X	143.05619	250.06279	12.69546	5.10598	0.1768096	0.26548519	2.3975951	20	12 28.2	20.3
282494 2004 PZ ₂₆	17.4	X	13.79645	266.52013	107.75816	27.55397	0.1079715	0.38227153	1.8802752	20	—	—
282495 2004 PK ₃₄	17.4	X	193.96967	147.90922	132.20542	7.05582	0.2162216	0.27788160	2.3257491	20	—	—
282496 2004 PW ₄₀	17.1	X	129.65985	218.66613	126.78096	4.89389	0.2377529	0.27178580	2.3603960	20	1 1.9	20.4
282497 2004 PC ₄₃	16.0	X	303.16184	75.57012	231.87967	12.52884	0.2935684	0.17529788	3.1619253	20	4 17.6	20.4
282498 2004 PA ₅₄	17.4	X	179.54016	41.88023	286.71525	2.02584	0.2269053	0.28075997	2.3098259	20	1 25.6	21.1
282499 2004 PE ₅₅	16.4	X	134.50809	249.91512	136.87765	24.85193	0.2651476	0.27935442	2.3175673	20	3 4.3	20.1
282500 2004 PL ₆₂	17.1	X	182.55554	76.48857	192.37028	2.09057	0.1821195	0.27297108	2.3535583	20	—	—
282501 2004 PJ ₆₄	16.2	X	298.19255	177.84479	223.03698	5.05395	0.2420109	0.18456975	3.0551253	20	8 20.7	19.8
282502 2004 PK ₈₃	16.9	X	154.57839	199.21404	153.20676	12.34978	0.2124011	0.27796864	2.3252636	20	1 31.4	20.6
282503 2004 PM ₉₄	16.9	X	194.08947	122.36996	151.25480	13.24728	0.2144433	0.27517100	2.3240974	20	—	—
282504 2004 PA ₁₀₁	16.8	X	197.58719	24.61549	318.30048	6.65385	0.1932475	0.28385395	2.2930107	20	2 23.9	20.2
282505 2004 PA ₁₀₂	16.6	X	166.93061	105.32018	240.81093	1.64605	0.2361937	0.27637666	2.3341843	20	2 5.9	20.4
282506 2004 PD ₁₀₂	15.4	X	337.57929	179.20150	97.98892	19.87622	0.1991746	0.17774878	3.1327925	20	5 27.4	19.1
282507 2004 PW ₁₀₂	17.0	X	99.57115	134.34943	205.87431	4.51735	0.2859696	0.26646861	2.3916925	20	—	—
282508 2004 PZ ₁₁₂	17.2	X	155.44670	251.76015	86.43737	6.78428	0.1558587	0.27820238	2.3239609	20	1 10.1	20.5
282509 2004 PL ₁₁₄	16.2	X	4.90179	145.31516	144.30287	13.76520	0.2770099	0.24392502	2.5368716	20	8 31.9	17.9
282510 2004 QJ ₁₀	16.8	X	52.30512	261.81521	108.31781	8.98144	0.2169146	0.26260712	2.4150811	20	—	—
282511 2004 QL ₂₀	16.6	X	153.10587	107.81036	253.60429	21.61177	0.3266631	0.27691139	2.3311784	20	2 10.1	21.1
282512 2004 QU ₂₇	16.0	X	276.34255	355.25587	355.85509	4.73105	0.1826287	0.17552874	3.1591522	20	5 25.9	20.6
282513 2004 RR ₇	17.0	X	62.44472	257.95602	107.97789	12.88823	0.2799400	0.26186898	2.4196173	20	—	—
282514 2004 RN ₄₅	17.6	X	117.50713	137.38914	170.84826	1.07880	0.1990815	0.26665841	2.3905575	20	—	—
282515 2004 RY ₄₆	16.9	X	203.28565	151.20803	172.60448	5.73204	0.1295548	0.28290434	2.2981391	20	2 5.2	20.3
282516 2004 RH ₄₈	17.4	X	103.16932	185.69099	138.88547	3.21537	0.2153868	0.26603354	2.3942994	20	—	—
282517 2004 RT ₅₄	16.6	X	212.39922	355.75683	244.45373	4.69250	0.1905795	0.27307566	2.3529573	20	—	—
282518 2004 RX ₆₆	17.2	X	172.94898	285.91757	131.31225	5.65409	0.2337031	0.27456020	2.3444681	20	—	—
282519 2004 RA ₇₅	17.0	X	52.17047	256.03857	98.47233	2.54518	0.2062886	0.25934285	2.4353041	20	—	—
282520 2004 RW ₇₉	16.6	X	171.41556	199.21875	107.29488	16.62094	0.3156479	0.27517364	2.3409825	20	—	—
282521 2004 RV ₈₅	17.6	X	123.62556	169.98615	184.23251	6.31466	0.1272094	0.27396397	2.3478684	20	—	—
282522 2004 RP ₉₇	16.9	X	152.35821	99.89332	166.58456	4.46701	0.1921537	0.26724849	2.3870373	20	—	—
282523 2004 RX ₁₀₃	17.1	X	213.35598	108.21194	229.92813	5.13317	0.2184106	0.28609381	2.2810269	20	3 1.6	21.1
282524 2004 RJ ₁₅₅	17.0	X	196.36681	80.05090	289.12646	4.46570	0.1854762	0.28704091	2.2760066	20	3 25.9	20.7
282525 2004 RS ₁₆₉	17.8	X	170.25939	47.25159	261.07659	1.70866	0.2099268	0.27540839	2.3396520	20	—	—
282526 2004 RF ₁₈₀	17.0	X	82.06338	153.36065	190.30722	8.72654	0.2015019	0.26416848	2.4055555	20	—	—
282527 2004 RK ₁₈₀	16.5	X	117.75993	62.16900	237.74171	5.69655	0.1407932	0.26372785	2.4082342	20	—	—
282528 2004 RK ₁₉₄	16.5	X	182.35637	6.07008	328.70100	4.14711	0.1724256	0.27908835	2.3190400	20	2 2.6	19.9
282529 2004 RG ₁₉₅	16.5	X	193.81253	345.96223	338.87768	5.54360	0.1773040	0.27936351	2.3175170	20	2 1.4	20.1
282530 2004 RV ₂₀₃	15.8	X	238.64137	296.86541	310.09177	22.93769	0.2134037	0.27732631	2.3288526	20	—	—
282531 2004 RR ₂₁₅	16.9	X	189.01441	44.29885	251.67184	7.22260	0.2928924	0.27739417	2.3284727	20	—	—
282532 2004 RM ₂₂₄	17.2	X	141.20985	201.54644	187.45456	6.22741	0.2106747	0.27797095	2.3252507	20	3 4.2	20.6
282533 2004 RT ₂₃₄	18.1	X	166.93594	78.93369	194.70836	1.97870	0.2815742	0.27321974	2.3521300	20	—	—
282534 2004 RD ₂₄₈	16.4	X	42.88360	123.00688	251.73207	13.32852	0.2315885	0.26048549	2.4281771	20	—	—
282535 2004 RF ₂₅₇	17.4	X	119.43849	156.51399	141.64574	3.10578	0.1748615	0.26504424	2.4002536	20	—	—
282536 2004 RZ ₂₆₀	16.9	X	300.45964	298.65656	183.72822	5.64999	0.0760684	0.26169429	2.4206939	20	—	—
282537 2004 RF ₂₇₇	17.3	X	132.58578	126.62182	140.62795	5.47466	0.1081096	0.26349321	2.4096637	20	12 24.9	21.0
282538 2004 RX ₂₈₉	17.7	X	162.11667	160.82898	152.55799	3.52186	0.2346558	0.27395400	2.3479254	20	—	—
282539 2004 RC ₃₁₆	15.5	X	227.35281	208.24274	217.69977	5.17693	0.1009827	0.17037807	3.2225048	20	7 13.3	20.4
282540 2004 RE ₃₂₅	17.5	X	135.87060	34.96728	308.72382	4.13118	0.2525631	0.27095953	2.3651921	20	1 8.8	20.9
282541 2004 ST ₁₃	17.4	X	117.75203	243.98061	140.89308	5.27726	0.1519959	0.27547494	2.3392752	20	1 25.8	20.2
282542 2004 SB ₅₉	17.1	X	14.14005	199.80994	169.50115	4.26436	0.1535920	0.25529648	2.4609691	20	12 25.5	20.1
282543 2004 ST ₆₀	16.0	X	284.44849	284.69552	139.87843	13.78106	0.1590576	0.24414119	2.5353739	20	9 30.2	18.9
282544 2004 TB ₅₄	16.1	X	6.50587	99.26274	215.26356	7.11327	0.0721761	0.24015777	2.5633326	20	9 11.1	19.2
282545 2004 TL ₆₈	16.0	X	248.42133	247.37383	92.79990	6.93126	0.1820727	0.22783111	2.6549766	20	4 15.0	20.2
282546 2004 TG ₁₂₁	16.9	X	58.74268	198.67725	211.06818	6.27131	0.1041146	0.26614651	2.3936218	20	—	—
282547 2004 TE ₁₃₁	17.4	X	116.25325	213.15663	140.13637	1.34558	0.2341596	0.26843340	2.3800076	20	—	—
282548 2004 TV ₁₆₀	17.6	X	70.12718	107.21210	218.51184	1.74648	0.2083034	0.25628567	2.4546326	20	—	—
282549 2004 TN ₁₉₉	17.5	X	199.15804	83.13208	189.93504	4.17898	0.1802975	0.27058368	2.3673819	20	—	—
282550 2004 TX ₁₉₉	16.3	X	113.94160	250.13118	199.86661	11.32691	0.0603812	0.21913670	2.7247457	20	4 8.7	20.1
282551 2004 TG ₂₁₅	16.3	X	288.55750	162.01908	222.35762	3.79631	0.1339966	0.17757089	3.1348845	20	7 31.4	20.4
282552 2004 TV ₃₂₈	16.9	X	103.82482	231.16380	114.08387	7.68095	0.1376624	0.26655911	2.3911512	20	—	—
282553 2004 TF ₃₄₆	16.0	X	94.01842	30.77086	221.91432	13.89777	0.0635771	0.24569097	2.5247008	20	10 18.9	19.5
282554 2004 TH ₃₅₆	16.0	X	312.89152	287.97528	116.01940	17.79299	0.2023458	0.24404418	2.5360458	20	10 27.7	18.7
282555 2004 TU 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>
282561 2004 XO ₆₁	15.2	X	274.19534	308.89914	80.75559	29.19532	0.2313201	0.23059897	2.6336889	20	7 5.8	19.0
282562 2004 XO ₆₆	15.9	X	67.92828	66.40597	83.43289	10.34842	0.0992443	0.21236406	2.7823731	20	5 5.9	19.5
282563 2004 XR ₆₈	16.3	X	304.02226	274.65544	134.01780	13.83215	0.1874614	0.24274968	2.5450536	20	10 11.8	18.9
282564 2004 XE ₈₀	16.1	X	306.68788	140.55278	289.15987	13.02447	0.1791247	0.24135313	2.5548618	20	11 8.3	18.7
282565 2004 XZ ₈₀	15.7	X	17.60796	301.65003	46.86686	3.07816	0.2536137	0.24477530	2.5309933	20	12 15.5	18.8
282566 2004 XY ₉₀	16.6	X	335.44822	231.17129	76.54912	5.50394	0.0476503	0.22669245	2.6638597	20	7 14.5	19.8
282567 2004 XH ₉₅	16.3	X	357.74904	180.45208	108.72706	12.60990	0.0630706	0.22452676	2.6809619	20	7 23.1	19.4
282568 2004 YJ ₁₄	16.4	X	143.92444	340.44111	104.69196	4.25925	0.0628599	0.21315257	2.7755070	20	5 10.7	20.5
282569 2004 YF ₂₄	16.5	X	247.83165	291.80462	98.76030	5.08823	0.1206805	0.22447461	2.6813771	20	6 22.1	20.2
282570 2005 AT ₂₈	17.6	X	16.15181	277.94965	116.23441	22.81524	0.0931252	0.37528974	1.9035236	20	—	—
282571 2005 AX ₃₄	15.9	X	240.18521	328.23840	109.46655	14.35578	0.0424019	0.22831707	2.6512080	20	8 30.3	19.7
282572 2005 AH ₃₈	16.1	X	269.10771	250.41825	131.80148	12.91667	0.1951675	0.22700857	2.6613861	20	6 27.1	19.9
282573 2005 AE ₄₀	16.0	X	304.16347	253.31706	115.67545	10.51422	0.1306106	0.23082881	2.6319404	20	8 13.3	18.9
282574 2005 AB ₄₁	16.2	X	320.86884	247.78153	122.32158	6.30583	0.2149572	0.23538783	2.5978458	20	9 11.0	18.3
282575 2005 AM ₅₅	16.3	X	88.28005	57.93986	89.34223	5.44719	0.0185820	0.21437243	2.7649679	20	5 16.1	20.0
282576 2005 AP ₅₅	17.5	X	115.27390	138.27167	12.92846	1.40073	0.1825742	0.28148813	2.3058409	20	7 16.4	20.9
282577 2005 CU	16.2	X	226.78147	277.91778	126.06511	13.00246	0.2117796	0.22411300	2.6842606	20	6 9.8	20.8
282578 2005 CG ₄	17.1	X	34.42228	254.35333	138.15961	22.60817	0.1519515	0.37541143	1.9031122	20	—	—
282579 2005 CQ ₁₃	15.5	X	276.68074	211.73406	128.01081	15.11097	0.0972157	0.21399388	2.7682278	20	5 29.1	19.6
282580 2005 CQ ₁₅	15.9	X	276.26752	287.49799	291.13123	6.64427	0.1959019	0.18903396	3.0068343	20	—	—
282581 2005 CS ₆₁	17.3	X	121.18506	188.38163	145.53813	24.55187	0.0740896	0.37783033	1.8949809	20	—	—
282582 2005 EG ₁₀₂	15.8	X	306.02002	5.21421	145.79748	9.30859	0.2275810	0.18041013	3.1019070	20	—	—
282583 2005 EW ₁₃₈	16.1	X	204.86509	91.77213	185.15124	7.43904	0.2311705	0.17575577	3.1564312	20	—	—
282584 2005 EV ₁₄₅	16.2	X	210.45925	158.04681	169.71258	11.53645	0.0492982	0.19337608	2.9616533	20	2 27.8	20.6
282585 2005 ED ₁₄₆	16.1	X	244.19082	114.97541	172.86971	10.36649	0.0740429	0.19115792	2.9845202	20	2 14.4	20.6
282586 2005 EX ₁₇₁	15.8	X	284.31681	358.04623	212.23142	8.50074	0.0962464	0.18605896	3.0388014	20	—	—
282587 2005 EW ₁₇₃	15.7	X	145.98190	194.81783	207.70236	7.57086	0.0221917	0.19665780	2.9286127	20	3 13.9	19.8
282588 2005 EX ₁₇₄	16.3	X	179.76806	298.69510	187.21920	4.92353	0.0583324	0.22047610	2.7136992	20	8 11.4	20.2
282589 2005 EP ₂₀₃	16.3	X	353.87889	160.82200	129.69445	9.74589	0.0638941	0.21921487	2.7240979	20	7 17.9	19.5
282590 2005 EU ₂₁₇	16.0	X	171.55800	157.08639	166.87779	4.52417	0.0809596	0.18309786	3.0714765	20	1 14.4	20.5
282591 2005 EC ₂₃₆	15.8	X	300.67468	56.24517	164.44825	8.08685	0.0245664	0.19092650	2.9869314	20	2 5.2	20.0
282592 2005 EL ₂₅₂	16.1	X	282.21525	341.31693	195.54318	5.58866	0.0972464	0.17783622	3.1317655	20	—	—
282593 2005 EQ ₂₆₄	16.2	X	208.62405	200.01062	189.21714	13.14278	0.1482217	0.20623959	2.8371874	20	5 9.5	20.9
282594 2005 EF ₂₇₅	15.9	X	288.30123	121.24772	123.29180	3.00564	0.0368531	0.19448924	2.9503418	20	2 18.7	20.0
282595 2005 FU ₁	16.0	X	169.99165	148.52189	182.04541	9.08655	0.0063610	0.18358735	3.0660146	20	1 15.7	20.5
282596 2005 FG ₆	15.5	X	298.60622	48.16040	179.07118	10.66132	0.0583611	0.18983610	2.9983582	20	2 5.1	19.8
282597 2005 GK ₃₁	16.0	X	336.19382	345.71534	160.77082	9.99971	0.2032442	0.18481687	3.0524014	20	—	—
282598 2005 GF ₅₀	15.9	X	252.59147	39.37837	197.99348	10.02152	0.0313365	0.18137750	3.0908679	20	—	—
282599 2005 GX ₅₅	16.0	X	213.46700	58.00910	238.99884	1.30019	0.0575349	0.18707276	3.0278127	20	1 26.4	20.5
282600 2005 GR ₈₂	15.7	X	307.75256	120.82895	167.30809	15.03550	0.1414548	0.20456313	2.8526674	20	4 26.6	19.5
282601 2005 GA ₉₄	15.6	X	280.89851	45.84094	110.73646	15.66022	0.2279354	0.17489301	3.1668033	20	12 24.1	19.4
282602 2005 GY ₁₁₄	15.7	X	215.87647	46.88286	211.60625	11.21127	0.0321795	0.17733736	3.1376360	20	—	—
282603 2005 GP ₁₃₀	15.7	X	266.20585	124.98346	110.86372	17.52666	0.1779108	0.18059921	3.0997416	20	—	—
282604 2005 GQ ₁₅₁	16.1	X	3.15839	7.08124	214.08763	4.60503	0.1003918	0.20055998	2.8905015	20	4 26.7	19.5
282605 2005 GA ₁₅₃	15.1	X	289.12170	330.33160	196.28181	16.15419	0.1545092	0.17610905	3.1522084	20	—	—
282606 2005 GW ₁₅₄	15.7	X	149.75754	133.20761	198.33148	6.81780	0.0585245	0.17802113	3.1295965	20	—	—
282607 2005 GR ₁₆₃	15.8	X	337.75391	280.97751	204.86252	11.81070	0.0829204	0.17809998	3.1286728	20	—	—
282608 2005 GN ₁₇₇	16.1	X	141.99189	108.32301	210.17008	16.87923	0.1484839	0.17306115	3.1891111	20	—	—
282609 2005 JN ₂	16.1	X	241.07735	55.25891	202.37260	12.12918	0.1554235	0.18195057	3.0843745	20	1 3.0	21.3
282610 2005 JV ₂₀	15.7	X	324.79951	27.45713	163.08439	12.71178	0.1009445	0.18501476	3.0502245	20	1 20.1	20.0
282611 2005 JH ₂₄	16.0	X	91.57005	170.77833	213.19755	8.70612	0.0836226	0.17524684	3.1625392	20	—	—
282612 2005 JQ ₃₁	15.5	X	264.70394	316.81258	231.36647	27.22974	0.1787557	0.17487711	3.1669952	20	—	—
282613 2005 JA ₃₃	15.9	X	222.72568	131.05798	160.20648	14.47128	0.2742606	0.17966379	3.1104914	20	1 22.6	21.5
282614 2005 JZ ₃₇	15.8	X	355.03547	284.39826	205.74620	8.81692	0.1075718	0.18308261	3.0716471	20	—	—
282615 2005 JH ₄₄	15.6	X	269.31392	329.32710	223.15371	15.91648	0.1596907	0.17579427	3.1559703	20	—	—
282616 2005 JZ ₅₁	15.9	X	171.57232	115.94392	190.67066	5.10072	0.1024633	0.17488308	3.1669231	20	—	—
282617 2005 JK ₉₉	15.8	X	211.09428	169.09448	171.53272	9.15558	0.2219253	0.18447486	3.0561729	20	3 11.7	21.2
282618 2005 JZ ₉₉	15.9	X	226.92644	64.68022	181.43812	9.97723	0.0182276	0.17345765	3.1842494	20	—	—
282619 2005 JM ₁₀₀	15.9	X	252.78210	351.21785	200.52066	13.54267	0.0378585	0.16908454	3.2389192	20	—	—
282620 2005 JK ₁₃₅	15.7	X	197.34694	209.92422	113.51414	12.67256	0.2039371	0.17872781	3.1213415	20	2 13.2	21.0
282621 2005 JG ₁₅₇	15.2	X	151.37709	273.68692	84.69363	14.09732	0.3188598	0.17474863	3.1685473	20	2 27.3	21.0
282622 2005 KH ₇	15.4	X	237.38796	92.57820	125.31158	16.87971	0.0860311	0.16968260	3.2313042	20	—	—
282623 2005 LR ₁₉	15.6	X	271.30652	139.79223	98.04916	13.31369	0.0429554	0.17893596	3.1189205	20	1 23.1	20.1
282624 2005 LN ₂₀	17.0	X	258.46432	334.16781	121.22431	6.86230	0.0431904	0.28285070	2.2984296	20	10 27.5	19.8
282625 2005 LL ₂₈	15.3	X	172.27773	203.47904	123.54498	18.83932	0.1525339	0.16929890	3.2361846	20	1 26.1	20.5
282626 2005 MQ ₄	15.8	X	216.06362	189.51697	148.19854	12.89071	0.1010727	0.18499177	3.0504771	20	3 18.7	20.6
282627 2005 PO ₂₄	16.4	X	98.15329	155.03470	330.21745	14.90033	0.1107240	0.24362516	2.5389528	20	5 4.9	20.2
282628 2005 QC ₁₀₄	16.9	X	14.68814	184.80323	229.50442	3.66429	0.0676505	0.21465464	2.7625440	20	—	—
282629 2005 QY ₁₈₂	18.3	X	275.18604	117.55516	177.98901	4.82199	0.2109746	0.31230483	2.1515441	20	3 3.0	21.1
282630 2005 RL ₅₀	15.2	X	230.82197	130.79952	205.50914	10.23717	0.1265109	0.17642315	3.1484660	20	3 26.9	20.2
282631 2005 SV ₁	15.4	X	274.21673	108.23647	237.46023	8.48476	0.0868369	0.18141307	3.0904639	20	5 31.5	19.6
282632 2005 SE ₃₄	17.2	X	244.36988	169.06903	136.52967	3.74037	0.1725895	0.30440274	2.1886199	20	2 19.7	20.5
282633 2005 SG ₂₀₈	16.2	X	40.55850	107.51478	2.66124	12.63311	0.1443206	0.22318583	2.6916896	20	2 2.5	19.2
282634 2005 SQ ₂₆₃	16.8	X	272.73696	349.41455	18							

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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>		
282641	2005	<i>TK</i> ₇₄	15.9	X	232.56853	232.49508	173.79357	10.11011	0.1820164	0.17889609	3.1193838	20	6 18.3	21.0
282642	2005	<i>TB</i> ₁₀₀	17.4	X	129.36001	148.38924	221.22866	6.26198	0.0982014	0.29132173	2.2536552	20	1 8.7	20.2
282643	2005	<i>TQ</i> ₁₀₄	16.4	X	281.27563	294.72600	358.40080	10.66493	0.1240200	0.24107140	2.5568520	20	3 24.1	19.7
282644	2005	<i>TN</i> ₁₃₈	15.7	X	272.72711	155.08166	198.61428	20.46832	0.0994471	0.18014341	3.1049680	20	6 6.9	20.4
282645	2005	<i>TA</i> ₁₇₂	17.3	X	355.61739	242.85649	16.41213	21.51260	0.0458980	0.38007678	1.8875067	20	5 31.0	19.4
282646	2005	<i>UR</i> ₁₇	15.5	X	262.88380	177.77749	209.14637	11.24462	0.2240977	0.18151333	3.0893257	20	6 19.7	20.4
282647	2005	<i>UB</i> ₅₃	17.3	X	123.12402	314.22959	75.10299	3.67759	0.2042682	0.29251535	2.2475202	20	2 14.6	20.1
282648	2005	<i>UM</i> ₆₀	17.4	X	266.52117	121.96377	128.18665	4.46416	0.2124981	0.31170671	2.1542955	20	4 27.0	20.3
282649	2005	<i>UP</i> ₉₈	17.9	X	260.85462	152.20835	114.80362	3.12174	0.1205741	0.29486278	2.2355759	20	1 21.1	21.1
282650	2005	<i>UF</i> ₉₉	16.8	X	277.29627	321.83974	201.24117	10.80374	0.0654464	0.27534769	2.3399959	20	—	—
282651	2005	<i>UU</i> ₁₀₆	17.1	X	209.17315	98.58513	110.73197	2.74914	0.0855318	0.27160113	2.3614658	20	—	—
282652	2005	<i>UP</i> ₁₁₃	15.8	X	307.57883	27.04317	40.35798	6.51091	0.0781364	0.19527476	2.9424243	20	11 4.2	19.5
282653	2005	<i>UO</i> ₁₄₁	17.6	X	175.10723	171.61973	198.98447	6.78304	0.2355975	0.29963066	2.2117967	20	3 11.1	21.3
282654	2005	<i>UF</i> ₁₅₆	15.9	X	102.08257	148.56633	262.57379	23.09782	0.2946726	0.28651843	2.2787727	20	2 17.2	19.3
282655	2005	<i>US</i> ₁₆₆	17.2	X	219.53541	323.14496	219.49449	6.11688	0.1204432	0.26963936	2.3729059	20	12 13.3	20.2
282656	2005	<i>UU</i> ₁₉₈	17.5	X	190.53603	66.59069	189.58787	6.22979	0.1496968	0.28665465	2.2780507	20	—	—
282657	2005	<i>UJ</i> ₃₁₂	17.1	X	215.68638	47.89227	270.17167	3.94568	0.2012565	0.29867772	2.2164988	20	2 7.9	20.7
282658	2005	<i>UJ</i> ₃₄₇	17.1	X	227.69614	322.74518	219.20988	1.76425	0.1360259	0.26796738	2.3827662	20	12 20.2	19.9
282659	2005	<i>UD</i> ₃₅₂	17.2	X	106.08766	129.55919	307.17598	4.96070	0.1050843	0.29619054	2.2288898	20	3 9.2	19.8
282660	2005	<i>UR</i> ₃₅₃	15.4	X	339.16382	259.11293	357.56344	7.58488	0.2306085	0.24137724	2.5546917	20	4 14.6	17.7
282661	2005	<i>UN</i> ₃₉₃	17.2	X	103.30753	286.94145	93.49593	7.76792	0.1143300	0.28685471	2.2769914	20	—	—
282662	2005	<i>UJ</i> ₃₉₉	15.9	X	92.89341	251.42667	100.95268	10.84349	0.1809147	0.21640365	2.7476389	20	—	—
282663	2005	<i>UE</i> ₄₀₅	17.8	X	200.50397	118.50362	195.16901	2.80351	0.1924877	0.29291254	2.2454880	20	1 21.7	21.5
282664	2005	<i>UL</i> ₄₃₆	17.3	X	179.16563	337.80326	218.47430	4.08662	0.1776130	0.26186995	2.4196113	20	11 8.7	20.9
282665	2005	<i>UT</i> ₄₆₉	15.7	X	113.60457	238.78467	254.01278	9.85221	0.0747033	0.17113376	3.2130113	20	6 1.9	20.2
282666	2005	<i>UE</i> ₄₇₉	15.7	X	316.50309	193.44129	115.25489	1.98195	0.2505514	0.18414800	3.0597883	20	5 18.8	19.3
282667	2005	<i>UF</i> ₅₁₃	17.5	X	246.96956	356.63418	256.33605	0.38568	0.0773704	0.28755847	2.2732748	20	—	—
282668	2005	<i>UK</i> ₅₂₁	17.8	X	12.16285	268.37825	170.27874	5.44867	0.0982290	0.28151303	2.3057049	20	—	—
282669	2005	Erguél	17.4	X	275.72583	288.53602	228.08816	5.61076	0.0327323	0.27515949	2.3410627	20	—	—
282670	2005	<i>VP</i> ₆₇	18.2	X	277.34802	26.26189	256.72641	3.02159	0.1844496	0.30237928	2.1983729	20	2 20.8	21.4
282671	2005	<i>VC</i> ₉₅	15.6	X	290.68189	183.22370	224.33335	9.07720	0.0744362	0.18754008	3.0227808	20	9 10.2	19.7
282672	2005	<i>WZ</i> ₂	17.3	X	164.51169	188.40159	164.35752	5.48976	0.1954352	0.29433623	2.2382413	20	2 7.1	20.7
282673	2005	<i>WX</i> ₇	17.1	X	208.48489	100.33131	241.28288	5.48831	0.0374339	0.29545589	2.2325830	20	3 1.5	20.1
282674	2005	<i>WF</i> ₄₄	15.7	X	280.42850	118.04751	261.89741	10.84627	0.0671969	0.17842957	3.1248187	20	7 23.0	20.1
282675	2005	<i>WX</i> ₇₃	16.2	X	260.94579	272.15226	153.35135	13.90117	0.1752633	0.18409740	3.0603489	20	8 11.7	20.5
282676	2005	<i>WO</i> ₉₃	17.9	X	175.99849	285.33503	73.90573	1.33874	0.0982063	0.29271580	2.2464941	20	2 21.7	20.8
282677	2005	<i>WN</i> ₁₀₅	15.7	X	248.51967	19.89989	22.34676	2.08942	0.1573507	0.17882697	3.1201875	20	7 2.1	20.3
282678	2005	<i>WG</i> ₁₁₀	16.3	X	299.53033	280.72406	75.69884	4.41196	0.2343814	0.18274656	3.0754115	20	6 26.7	20.1
282679	2005	<i>WG</i> ₁₁₉	15.3	X	215.82763	179.37860	262.10900	16.87727	0.1638916	0.17630562	3.1498651	20	7 13.5	20.5
282680	2005	<i>WM</i> ₁₇₉	15.5	X	341.25274	165.10492	199.27156	9.86589	0.0958186	0.19073106	2.9889714	20	10 3.1	19.1
282681	2005	<i>WG</i> ₁₈₀	15.5	X	255.38053	24.69403	45.19472	10.34530	0.0748443	0.18540761	3.0459142	20	8 31.3	19.9
282682	2005	<i>WN</i> ₁₈₀	17.2	X	105.00463	262.64950	106.05286	6.56490	0.1197718	0.28293550	2.2979703	20	—	—
282683	2005	<i>XT</i> ₂	17.3	X	194.29557	88.80109	296.14002	5.36013	0.1353479	0.30181967	2.2010895	20	4 12.2	20.5
282684	2005	<i>XB</i> ₁₉	15.7	X	182.40232	317.87213	115.76252	33.76228	0.2909657	0.23398570	2.6082137	20	6 13.9	20.9
282685	2005	<i>XC</i> ₂₄	16.6	X	118.53526	127.10133	283.03096	9.85931	0.1020984	0.29042830	2.2582746	20	2 16.4	19.5
282686	2005	<i>XB</i> ₃₁	16.6	X	290.52083	292.93824	151.89409	2.01191	0.2429500	0.19198254	2.9759678	20	10 10.6	19.8
282687	2005	<i>YJ</i> ₂₇	16.5	X	354.46070	202.95708	88.53058	5.08293	0.1507593	0.23753762	2.5821479	20	7 25.1	18.9
282688	2005	<i>YJ</i> ₃₂	16.2	X	183.64403	119.16721	109.80690	10.82113	0.0291797	0.19185245	2.9773129	20	12 17.7	20.5
282689	2005	<i>YO</i> ₅₃	17.1	X	176.21651	354.78253	292.78285	5.74628	0.0881413	0.27125865	2.3634531	20	—	—
282690	2005	<i>YN</i> ₉₀	16.6	X	202.73961	276.85429	275.75472	5.03182	0.1534274	0.25495898	2.4631404	20	11 28.1	20.0
282691	2005	<i>YM</i> ₁₆₄	16.8	X	4.23859	219.00421	272.35649	5.87778	0.0547857	0.27950123	2.3167557	20	—	—
282692	2005	<i>YZ</i> ₁₇₆	17.2	X	176.56991	118.48066	106.60768	3.30493	0.1268748	0.25799938	2.4437510	20	12 15.0	20.8
282693	2005	<i>YD</i> ₂₇₀	16.5	X	225.04819	83.10568	127.23311	7.81404	0.0325427	0.26366171	2.4086369	20	—	—
282694	2006	<i>AO</i> ₅	16.8	X	262.24676	49.39383	332.47505	19.10432	0.0808103	0.37513322	1.9040530	20	7 20.3	18.8
282695	2006	<i>AJ</i> ₂₂	15.6	X	239.30864	69.92869	52.99900	10.66628	0.1333109	0.18180013	3.0860758	20	10 7.7	20.2
282696	2006	<i>AD</i> ₆₂	16.9	X	78.48213	66.67678	188.76261	3.23559	0.1544958	0.24381503	2.5376345	20	10 16.2	20.6
282697	2006	<i>AS</i> ₈₆	15.9	X	217.40408	111.06894	85.20832	4.79696	0.1841050	0.18709620	3.0275599	20	12 2.2	20.5
282698	2006	<i>BF</i> ₂₇	16.8	X	150.58833	26.60441	128.32437	6.06986	0.0456521	0.23775392	2.5805816	20	8 18.7	20.5
282699	2006	<i>BY</i> ₃₇	16.7	X	33.85163	61.80344	143.17925	10.82006	0.2572010	0.21933880	2.7230717	20	6 17.9	19.5
282700	2006	<i>BS</i> ₄₃	15.9	X	223.02952	216.13999	325.38182	8.27622	0.2041825	0.18477457	3.0528672	20	11 15.0	20.8
282701	2006	<i>BD</i> ₆₅	16.0	X	264.91295	107.66638	335.05202	15.57585	0.2433099	0.17945596	3.1128925	20	8 28.9	20.5
282702	2006	<i>BL</i> ₇₄	16.7	X	148.12497	19.67976	115.20472	9.52841	0.1345705	0.23407506	2.6075499	20	7 22.5	20.6
282703	2006	<i>BF</i> ₇₇	17.1	X	160.87238	81.07475	172.66551	2.40634	0.1627853	0.25796735	2.4439532	20	12 31.9	20.9
282704	2006	<i>BJ</i> ₇₉	16.1	X	342.67716	89.95784	130.06723	10.15908	0.0907196	0.21373096	2.7704974	20	3 26.2	19.6
282705	2006	<i>BD</i> ₉₆	16.4	X	341.10766	205.20637	156.16412	12.20154	0.0381118	0.24216868	2.5491227	20	10 11.6	19.6
282706	2006	<i>BZ</i> ₉₆	16.4	X	130.25746	176.34327	157.92935	10.22380	0.2211812	0.26282925	2.4137202	20	—	—
282707	2006	<i>BK</i> ₁₁₅	16.3	X	33.47701	40.86615	258.98793	2.13636	0.1061484	0.24105732	2.5569516	20	10 8.8	19.3
282708	2006	<i>BC</i> ₁₂₂	17.2	X	48.24010	100.61213	151.59919	8.47290	0.1168016</					

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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>		
282721	2006	CX ₆₅	17.1	X	170.68325	128.92670	164.40067	5.17478	0.2357337	0.26199827	2.4188212	20	—	—
282722	2006	DD ₁₅	16.8	X	40.12101	225.23676	59.66863	3.13268	0.1430484	0.23838617	2.5760167	20	10 5.8	20.0
282723	2006	DD ₃₉	16.7	X	109.65167	342.90115	169.46665	9.65949	0.1213666	0.22448208	2.6813176	20	7 2.0	20.7
282724	2006	DV ₄₆	17.2	X	60.02677	79.13269	173.35821	4.58371	0.1628388	0.23068610	2.6330257	20	9 19.7	20.6
282725	2006	DF ₅₇	15.7	X	263.84961	347.14950	110.92969	16.23496	0.3426782	0.18258793	3.0771925	20	9 7.9	20.5
282726	2006	DU ₅₇	16.4	X	312.43341	183.08079	178.83571	12.13084	0.1901603	0.23513077	2.5997389	20	8 6.5	19.2
282727	2006	DG ₇₁	16.2	X	92.67911	28.46856	164.12364	14.98593	0.0175845	0.23004405	2.6379226	20	7 20.1	19.9
282728	2006	DK ₇₆	17.1	X	47.64309	93.91481	122.82995	4.04984	0.1042116	0.22492469	2.6777989	20	7 4.4	20.3
282729	2006	DR ₇₈	17.3	X	99.09625	38.78756	128.71789	2.42525	0.0356618	0.22729455	2.6591532	20	6 28.4	20.9
282730	2006	DB ₉₁	16.6	X	24.22442	146.83335	154.38181	5.12215	0.2403048	0.23128631	2.6284684	20	10 19.3	19.6
282731	2006	DL ₁₁₉	16.4	X	45.47985	80.36154	77.48781	10.39495	0.1871484	0.21675465	2.7446718	20	4 24.4	19.4
282732	2006	DO ₁₃₀	16.6	X	48.67186	122.17525	141.33569	12.09188	0.1687144	0.23548708	2.5971158	20	9 24.5	20.0
282733	2006	DA ₁₄₀	16.4	X	260.58122	267.00105	144.74223	10.71865	0.0464145	0.23587818	2.5942443	20	8 18.7	19.9
282734	2006	DC ₁₉₆	16.2	X	109.89837	122.49272	105.74602	13.04399	0.1350483	0.23813866	2.5778013	20	10 18.2	20.4
282735	2006	DK ₁₉₈	16.6	X	186.82410	51.72243	117.60659	15.11202	0.1110456	0.24470835	2.5314548	20	10 22.8	20.7
282736	2006	DG ₂₀₀	16.2	X	53.15881	313.20985	324.45576	14.95884	0.2968385	0.23046915	2.6346778	20	10 24.7	20.4
282737	2006	DO ₂₀₄	16.2	X	109.27915	330.06539	204.04374	24.44843	0.0940112	0.22818225	2.6522521	20	7 22.0	20.6
282738	2006	DJ ₂₀₆	16.8	X	37.92230	102.72789	186.41837	4.65848	0.2010630	0.23314723	2.6144633	20	10 15.9	20.1
282739	2006	DY ₂₁₃	14.8	X	204.74608	256.36534	243.04030	24.46743	0.2077028	0.17591840	3.1544855	20	8 31.9	20.5
282740	2006	DR ₂₁₄	15.7	X	285.87396	160.56488	122.66578	13.12683	0.0820468	0.20392613	2.8586049	20	4 1.7	19.9
282741	2006	DD ₂₁₇	16.2	X	345.40873	206.52748	114.77187	15.48287	0.0450400	0.22267059	2.6958402	20	8 19.8	19.7
282742	2006	ET ₃₉	16.6	X	26.15813	87.94582	156.63445	6.39778	0.0689463	0.22456979	2.6806194	20	7 4.8	19.9
282743	2006	EZ ₅₁	16.4	X	292.31004	142.54276	177.99933	9.44036	0.1744857	0.22034001	2.7148165	20	5 10.5	20.1
282744	2006	EY ₇₀	16.0	X	145.97047	4.77022	127.92497	29.76197	0.1318832	0.23069625	2.6329485	20	7 17.7	20.3
282745	2006	FL ₇	15.9	X	327.66665	199.66971	196.39114	13.33491	0.2717367	0.24108600	2.5567488	20	11 13.8	17.6
282746	2006	FO ₂₇	16.8	X	227.14764	173.02126	191.72961	6.08378	0.0092347	0.21382111	2.7697187	20	5 7.4	20.6
282747	2006	FL ₄₆	15.8	X	186.76099	63.37934	130.78289	14.86031	0.2444062	0.17570862	3.1569958	20	11 2.9	21.5
282748	2006	GA ₃	16.2	X	324.77203	209.37386	127.49027	15.56041	0.1589356	0.22738270	2.6584659	20	7 30.1	18.5
282749	2006	GN ₃₅	16.4	X	38.27623	338.92454	192.48578	13.20398	0.0994294	0.21217005	2.7840690	20	4 17.3	19.7
282750	2006	GO ₃₉	16.1	X	45.01946	136.80540	116.04942	11.65759	0.1914748	0.22514461	2.6760548	20	9 7.4	19.6
282751	2006	GW ₄₁	15.8	X	344.18702	153.49966	97.74771	14.71440	0.1579727	0.21255065	2.7807445	20	5 7.5	19.0
282752	2006	GE ₄₉	15.7	X	8.70119	128.99274	140.78761	16.06707	0.2353736	0.22051810	2.7133546	20	7 26.5	18.1
282753	2006	GK ₅₀	16.2	X	344.33512	36.23197	227.01394	8.79129	0.2895747	0.21177426	2.7875368	20	5 4.5	18.2
282754	2006	HF ₁₃	16.0	X	295.94975	144.40855	184.72856	10.93904	0.1837161	0.21599952	2.7510650	20	5 25.6	19.6
282755	2006	HL ₁₄	17.3	X	348.76767	49.57678	203.07158	2.73683	0.0489598	0.21487611	2.7606454	20	5 18.4	20.8
282756	2006	HX ₁₇	15.7	X	8.19685	53.59219	240.29938	12.25801	0.2503831	0.22301115	2.6930949	20	8 29.0	18.4
282757	2006	HE ₂₆	16.3	X	288.21859	260.44531	196.98633	5.21947	0.0989861	0.24253993	2.5465208	20	11 25.6	19.2
282758	2006	HK ₂₇	15.8	X	62.87169	27.88675	224.25637	13.87424	0.1165694	0.22582549	2.6706731	20	9 10.0	19.6
282759	2006	HO ₃₁	15.9	X	59.39193	337.38493	200.37625	13.27723	0.0877793	0.21564999	2.7540369	20	5 27.4	19.6
282760	2006	HB ₃₇	16.3	X	74.61595	299.16081	124.74908	7.39182	0.1829726	0.21852987	2.7297875	20	5 31.3	19.8
282761	2006	HU ₄₉	16.0	X	291.46748	201.51382	190.35665	10.36222	0.1591029	0.23435920	2.6054418	20	8 16.2	19.2
282762	2006	HV ₄₉	17.7	X	5.35814	235.93744	47.73024	2.89259	0.1778185	0.29244951	2.2478575	20	8 17.8	19.3
282763	2006	HA ₆₈	16.3	X	240.56362	115.51397	227.65931	5.36106	0.0289084	0.20898977	2.8122420	20	4 22.7	20.1
282764	2006	HT ₇₁	15.9	X	270.19600	42.89257	195.69197	11.80322	0.0210711	0.19442791	2.9509622	20	1 19.7	20.3
282765	2006	HT ₇₉	16.3	X	276.64587	81.45946	219.05563	9.14840	0.0574029	0.20698317	2.8303884	20	4 8.4	20.3
282766	2006	HV ₇₉	16.6	X	46.40116	58.38763	218.14056	4.97667	0.0815196	0.22743222	2.6580800	20	9 18.7	20.0
282767	2006	HT ₁₀₃	16.2	X	304.97463	95.36088	178.21050	14.73061	0.1160131	0.20543985	2.8445458	20	4 4.9	19.9
282768	2006	HZ ₁₀₅	15.4	X	187.91870	344.73977	251.07365	11.88039	0.1306153	0.17886973	3.1196903	20	12 22.4	20.3
282769	2006	HK ₁₀₆	16.3	X	126.89439	279.74853	184.93878	8.91576	0.1227673	0.21478311	2.7614422	20	5 22.4	20.5
282770	2006	HY ₁₅₁	16.5	X	23.92236	148.33900	123.88743	5.93945	0.1342341	0.22103372	2.7091332	20	8 18.9	19.6
282771	2006	JF ₂₆	15.8	X	54.70192	355.65525	259.75208	10.83786	0.1361896	0.22595353	2.6696642	20	9 5.6	19.6
282772	2006	JU ₂₇	16.6	X	1.61705	100.94351	214.12912	11.91576	0.1780287	0.22476021	2.6791052	20	9 9.7	19.4
282773	2006	JG ₄₈	16.7	X	86.23184	146.34875	145.99390	4.63930	0.1476090	0.23728942	2.5839482	20	12 7.5	20.6
282774	2006	JA ₄₉	15.7	X	163.43690	18.89717	134.14637	14.63199	0.1985870	0.23253264	2.6190680	20	8 31.1	20.1
282775	2006	JO ₅₅	16.0	X	115.39970	37.93098	161.07369	13.44557	0.1160826	0.22963623	2.6410449	20	9 8.1	19.8
282776	2006	JB ₅₇	15.1	X	333.38797	251.75263	86.13183	25.45709	0.1824107	0.21970921	2.7200102	20	8 26.7	18.4
282777	2006	KP ₁₁	17.5	X	314.41562	188.21158	108.85600	3.38487	0.1761029	0.27990189	2.3145443	20	5 8.4	19.8
282778	2006	KH ₁₂	15.8	X	16.67111	172.48998	157.99672	12.31595	0.1794344	0.23061909	2.6333557	20	11 8.3	19.1
282779	2006	KZ ₁₃	15.3	X	257.24484	323.40385	183.77015	16.02834	0.0261743	0.17559075	3.1584085	20	12 7.9	20.0
282780	2006	KL ₁₆	15.8	X	275.65709	218.22184	145.04514	14.50463	0.1155188	0.21953482	2.7214505	20	6 22.7	19.7
282781	2006	KO ₁₆	15.9	X	358.40723	139.97551	159.69423	12.15592	0.1899495	0.22228135	2.6989864	20	8 13.7	18.4
282782	2006	KK ₁₈	16.2	X	245.75634	225.99501	183.70362	14.92763	0.1222555	0.22449842	2.6811875	20	7 12.7	20.3
282783	2006	KM ₂₆	15.9	X	4.61683	170.29114	138.73777	13.70982	0.1418167	0.22490044	2.6772772	20	9 9.9	18.8
282784	2006	KP ₃₇	15.2	X	25.94470	221.61849	144.39940	11.33395	0.1090366	0.17114380	3.2128857	20	12 9.6	19.7
282785	2006	KC ₅₃	15.8	X	216.63896	261.13386	86.87835	10.13570	0.0587670	0.20269723	2.8701472	20	4 4.5	20.2
282786	2006	KD ₅₅	15.9	X	175.77164	137.87367	137.29113	3.60174	0.0393478	0.18109638	3.0940658	20	—	—
282787	2006	KL ₈₂	16.0	X	352.02605	4.29346	214.44341	17.81415	0.0626774	0.20418359	2.8562013	20	4 4.9	19.7
282788	2006	KX ₁₀₂	16.1	X	218.68257	350.20833	129.68748	11.18123	0.0308913	0.23384885	2.6092311	20	9 30.4	19.8
282789	2006	KO ₁₁₄	17.2	X	345.14878	252.68634	94.70244	23.31400	0.1107373	0.36787520	1.9290154	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>
282801 2006 QN ₉₁	15.6 ^m	X	161.84106	178.47317	163.56180	17.91080	0.2136448	0.17838730	3.1253124	20	2 3.9	20.9
282802 2006 QG ₉₂	17.5	X	269.54143	252.13134	143.45821	1.09413	0.2059995	0.27802513	2.3249486	20	7 16.7	20.3
282803 2006 QD ₁₀₀	15.2	X	133.41802	128.43801	216.97721	19.85390	0.2364451	0.17056981	3.2200895	20	1 14.8	20.7
282804 2006 QC ₁₁₆	15.3	X	157.41998	107.72030	279.67139	7.68547	0.0615689	0.18267208	3.0762474	20	3 11.1	20.1
282805 2006 QU ₁₃₆	15.4	X	169.67846	140.06250	275.20584	9.65038	0.1267158	0.19261757	2.9694233	20	4 30.6	20.3
282806 2006 QN ₁₄₁	15.5	X	196.50520	32.77523	306.54455	8.75925	0.0960392	0.18169984	3.0872113	20	2 25.9	20.4
282807 2006 QG ₁₄₇	16.3	X	222.43694	157.82942	153.82517	2.61590	0.2454835	0.18364846	3.0653344	20	2 15.6	21.6
282808 2006 QP ₁₈₄	15.7	X	250.24507	196.79800	157.76091	9.71652	0.0828239	0.19338512	2.9615610	20	5 16.4	20.1
282809 2006 RB ₃	15.2	X	236.31214	333.89656	308.86799	14.94477	0.0532192	0.17798783	3.1299869	20	2 3.9	19.8
282810 2006 RC ₅	15.1	X	224.07394	27.72063	293.11262	10.05809	0.0831322	0.18368947	3.0648782	20	2 29.9	20.0
282811 2006 RZ ₉	15.7	X	318.79373	45.32988	288.16214	5.00531	0.0707173	0.20278616	2.8693081	20	7 20.3	19.1
282812 2006 RQ ₁₈	16.0	X	185.93537	121.09555	197.55674	16.01924	0.3095181	0.17617492	3.1514227	20	1 27.4	22.0
282813 2006 RJ ₂₀	15.6	X	170.59585	87.60215	289.10081	9.54000	0.1915780	0.18126920	3.0920988	20	3 16.9	20.9
282814 2006 RQ ₃₈	15.5	X	153.96281	120.47787	207.93029	10.02516	0.1534244	0.17133559	3.2104876	20	1 9.6	20.7
282815 2006 RN ₆₀	16.1	X	208.36863	164.03081	172.47475	10.31440	0.0701780	0.18286974	3.0740304	20	3 7.9	20.8
282816 2006 RL ₈₀	15.9	X	191.07189	156.63206	176.28235	9.22672	0.0941753	0.17707017	3.1407915	20	2 14.7	20.8
282817 2006 RQ ₉₀	16.3	X	196.77711	126.58329	189.19479	9.70119	0.2290233	0.17636559	3.1491510	20	1 31.7	22.0
282818 2006 SD ₄₃	16.9	X	107.82591	219.04108	193.58491	17.56258	0.1784315	0.24217424	2.5490836	20	2 23.9	20.6
282819 2006 SR ₄₄	15.1	X	182.33832	242.84315	101.84253	12.45738	0.1588259	0.17889891	3.1193510	20	2 26.7	20.3
282820 2006 SH ₅₉	15.9	X	189.92299	96.31163	204.36711	25.73795	0.1939430	0.17401541	3.1774416	20	1 7.5	21.7
282821 2006 SP ₁₁₁	17.1	X	106.89072	80.74232	206.06508	20.74694	0.0710720	0.36721762	1.9313177	20	—	—
282822 2006 SA ₁₁₈	17.5	X	115.22171	199.33348	193.64009	3.40926	0.2109101	0.24144043	2.5542620	20	2 14.8	21.0
282823 2006 SL ₂₁₄	16.5	X	278.10608	188.55349	147.75850	2.51497	0.1328799	0.19512353	2.9439445	20	5 18.0	20.6
282824 2006 SY ₂₁₉	15.5	X	124.34964	197.86889	176.31632	8.53821	0.0530417	0.17170125	3.2059278	20	1 21.6	20.3
282825 2006 SS ₂₄₉	15.9	X	199.81807	67.43187	216.04239	3.27909	0.1353107	0.16908276	3.2389419	20	—	—
282826 2006 SL ₃₀₆	16.8	X	154.74183	145.59746	188.40779	8.52981	0.1741029	0.23947380	2.5682110	20	1 10.0	20.9
282827 2006 SD ₃₄₉	15.6	X	206.27833	244.33181	122.23999	19.61822	0.3630541	0.18334124	3.0687577	20	4 11.8	21.7
282828 2006 SL ₄₀₅	15.9	X	191.99091	188.35439	118.92286	2.17982	0.1562006	0.17207898	3.2012345	20	1 20.3	21.2
282829 2006 TP ₄₅	17.2	X	122.05848	171.30498	213.48598	8.23666	0.1687470	0.23930732	2.5694020	20	2 5.0	20.9
282830 2006 TZ ₆₇	16.0	X	200.93495	46.72437	287.99052	11.73350	0.2150625	0.17904047	3.1177066	20	2 22.3	21.5
282831 2006 TZ ₇₀	17.2	X	135.00530	232.60524	145.17684	4.95662	0.1747998	0.24322803	2.5417157	20	2 13.6	20.8
282832 2006 TN ₇₇	15.5	X	246.37259	25.42434	287.13173	9.98290	0.1441355	0.18446159	3.0563194	20	3 8.2	20.5
282833 2006 TK ₉₅	15.4	X	173.26373	263.80392	109.49432	26.75132	0.2241346	0.17885836	3.1198225	20	4 1.1	21.3
282834 2006 UZ ₂	15.2	X	183.53958	273.61984	55.62654	15.11917	0.2570722	0.17346590	3.1841484	20	2 14.9	21.0
282835 2006 UG ₈	16.1	X	171.55633	165.21202	165.34402	4.82909	0.1238116	0.16948075	3.2338693	20	1 27.2	21.2
282836 2006 UJ ₂₈	16.4	X	264.42783	46.18570	211.56066	12.81166	0.0309749	0.24401032	2.5362803	20	1 26.4	20.1
282837 2006 UO ₄₇	15.5	X	207.72899	70.46689	233.18828	10.45911	0.0704214	0.17607458	3.1526199	20	1 26.5	20.5
282838 2006 UU ₇₆	15.8	X	163.24896	116.72296	232.82400	10.71491	0.1623568	0.17181457	3.2045181	20	2 8.9	21.2
282839 2006 UH ₁₂₄	15.4	X	233.12983	32.19969	297.46050	9.30053	0.2029797	0.18479384	3.0526549	20	3 12.8	20.6
282840 2006 UJ ₁₃₉	16.8	X	98.16856	252.28388	179.20699	3.07945	0.1378330	0.24046531	2.5611466	20	3 4.5	19.9
282841 2006 UW ₁₄₆	16.3	X	259.94026	81.91427	251.55036	9.07788	0.1355606	0.19246995	2.9709414	20	4 19.6	20.9
282842 2006 UM ₁₈₄	16.3	X	94.80204	66.18741	320.02071	6.53532	0.2069698	0.23387184	2.6090601	20	1 13.5	19.3
282843 2006 UX ₁₈₆	15.2	X	158.12571	100.65159	222.59682	24.61572	0.1942335	0.16940406	3.2348452	20	1 6.8	20.9
282844 2006 UP ₂₀₃	16.2	X	140.82959	256.76636	247.64130	20.27578	0.1834322	0.26399573	2.4066048	20	7 23.8	20.5
282845 2006 UZ ₂₉₁	15.7	X	77.94752	186.85081	283.60114	9.24380	0.0545954	0.18403969	3.0609887	20	3 16.6	20.1
282846 2006 VQ ₁₂	16.4	X	266.20505	169.10148	280.93085	22.36768	0.0361433	0.35156785	1.9882147	20	11 10.7	18.8
282847 2006 VJ ₃₀	16.7	X	27.80799	236.26175	257.04964	3.71775	0.1087462	0.23628057	2.5912981	20	2 1.5	19.4
282848 2006 VL ₃₄	15.7	X	242.02266	315.01280	35.83729	1.45654	0.2150717	0.18572364	3.0424580	20	4 17.8	20.7
282849 2006 VV ₅₆	16.3	X	217.54537	239.21826	141.98126	1.23037	0.2488713	0.18490522	3.0514290	20	5 2.1	21.4
282850 2006 WX ₁₀₀	15.4	X	150.76218	88.38629	295.30086	6.26728	0.0772497	0.17001082	3.2271440	20	3 3.4	20.3
282851 2006 XE ₆	16.6	X	98.52679	117.06550	253.88051	19.68289	0.0953355	0.37655859	1.8992451	20	—	—
282852 2006 XK ₆₉	16.8	X	118.52639	166.60543	111.20407	7.63182	0.0951332	0.27782732	2.3260520	20	12 26.8	20.2
282853 2007 AL ₃₀	17.6	X	239.91931	117.86154	229.51591	1.51905	0.1527648	0.31799109	2.1258180	20	4 9.9	20.6
282854 2007 BZ ₁₂	17.7	X	239.10881	184.63133	17.52206	2.08424	0.1341073	0.28254625	2.3000804	20	—	—
282855 2007 BP ₂₁	16.8	X	29.85539	231.38101	331.00488	3.98653	0.1403163	0.24126743	2.5554669	20	5 17.1	19.5
282856 2007 BA ₄₂	16.3	X	143.07183	15.42781	137.02161	7.00166	0.0760448	0.25442128	2.4666096	20	8 8.1	19.9
282857 2007 BN ₄₇	17.6	X	276.06908	102.34242	90.64636	3.40284	0.0969066	0.28710016	2.2756935	20	—	—
282858 2007 CX ₁₂	17.2	X	64.59589	73.14486	119.05927	5.65123	0.1496979	0.24412593	2.5354795	20	7 3.9	20.2
282859 2007 CU ₂₃	17.1	X	237.42984	295.41003	142.54133	7.81967	0.1510736	0.26140751	2.4224641	20	8 10.5	20.2
282860 2007 CM ₂₇	17.7	X	263.47577	32.30395	141.34049	5.00194	0.1747654	0.28197000	2.3032131	20	—	—
282861 2007 DQ ₂₅	16.4	X	246.36287	259.47909	357.51582	5.69469	0.0197575	0.21863627	2.7289018	20	1 13.8	20.2
282862 2007 DE ₃₁	17.9	X	263.51678	125.51031	156.33329	3.90103	0.1450874	0.29924861	2.2136789	20	2 10.0	21.1
282863 2007 DF ₃₃	17.6	X	240.40922	143.73915	152.52103	5.68456	0.1376624	0.29680001	2.2258374	20	2 5.6	20.8
282864 2007 DQ ₄₉	17.0	X	217.72146	109.07138	126.55773	6.06962	0.1134106	0.28238392	2.3009618	20	—	—
282865 2007 DB ₉₇	17.3	X	192.24481	37.17493	185.65029	2.59392	0.1819700	0.27085771	2.3657848	20	12 25.4	20.8
282866 2007 DC ₁₁₀	15.7	X	255.03857	221.00621	194.02552	4.79810	0.1568689	0.17879285	3.1205846	20	7 24.2	20.3
282867 2007 DZ ₁₁₆	16.4	X	49.70270	88.56555	8.11784	25.30908	0.3596610	0.22696137	2.6617551	20	3 6.8	18.7
282868 2007 EQ ₁	16.3	X	303.01123	268.40722	333.28742	11.82944	0.2284068	0.22388110	2.6861139	20	2 3.8	20.0
282869 2007 EV ₁₇	17.6	X	212.12200	36.97098	172.77771	0.97949	0.1336777	0.27328186	2.3517736	20	—	—
282870 2007 EV ₃₀	17.2	X	225.94181	185.60282	125.84325	4.17008	0.1797790	0.30074262	2.2063415	20	2 10.3	20.7
282871 2007 EO ₄₇	17.7	X	178.97259	70.16034	176.09721	6.41921	0.0676147	0.27280202	2.3545305	20	—	—
282872 2007 EV ₅₅	17.4	X	169.80447	221.71395	111.94248	3.89036	0.1497305	0.29015348	2.2597004	20	1 16.8	20.6
282873 2007 ET ₆₅	17.3	X	266.57035	222.46039	103.96100	3.65652	0.2375654	0.305834				

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>		
282881	2007	EN ₁₅₈	17.2	X	237.04511	108.04113	158.81474	5.93188	0.0765319	0.29455021	2.2371571	20	—	—
282882	2007	EA ₁₅₉	18.4	X	217.19702	67.24510	177.06208	2.83420	0.1448863	0.28374305	2.2936081	20	—	—
282883	2007	EQ ₁₆₀	17.3	X	189.94803	359.46724	208.31160	10.75941	0.1707656	0.26608328	2.3940010	20	12 5.1	21.0
282884	2007	ED ₁₆₇	17.1	X	182.27309	111.63029	151.78709	2.48711	0.1718661	0.27156196	2.3616929	20	—	—
282885	2007	ES ₁₆₉	17.7	X	167.43136	37.60929	184.90016	6.52713	0.0754333	0.26325613	2.4111102	20	12 7.7	21.1
282886	2007	ER ₁₇₅	17.2	X	145.66924	66.28161	209.19182	3.87567	0.0881323	0.26942003	2.3741936	20	—	—
282887	2007	EE ₁₉₁	17.4	X	22.99504	230.09955	188.86247	6.91397	0.0497102	0.27649635	2.3335106	20	—	—
282888	2007	EO ₂₁₀	17.7	X	266.90983	347.08083	186.42895	4.21998	0.0949413	0.28051243	2.3111846	20	—	—
282889	2007	FP ₂₅	17.6	X	182.13198	153.72662	30.23500	1.95235	0.1352361	0.26153063	2.4217037	20	10 29.8	21.0
282890	2007	FZ ₃₀	17.3	X	146.74258	102.96289	190.19367	5.86445	0.1415156	0.27207946	2.3586973	20	—	—
282891	2007	GE ₈	17.6	X	194.00722	116.73230	196.80976	4.12061	0.1750774	0.28599965	2.2815275	20	1 15.9	21.2
282892	2007	GB ₁₁	17.5	X	324.53061	54.13399	153.79224	5.72474	0.0268169	0.29651062	2.2272854	20	2 4.0	20.0
282893	2007	GQ ₁₈	17.0	X	9.37435	31.03578	234.84742	1.85657	0.1741277	0.23454293	2.6040810	20	7 17.1	19.4
282894	2007	GH ₂₁	17.3	X	170.82619	92.72155	185.45643	2.16393	0.1812905	0.27003456	2.3705902	20	—	—
282895	2007	GZ ₂₄	15.9	X	24.87180	30.92467	93.99054	19.52723	0.0659739	0.21693369	2.7431616	20	1 22.9	19.4
282896	2007	GW ₂₅	17.5	X	110.97847	124.62626	148.35546	4.75918	0.1312094	0.25889108	2.4381364	20	12 10.6	21.2
282897	2007	Kaltenbrunner	17.4	X	164.31496	201.34261	81.45083	2.62985	0.1318749	0.26983888	2.3717361	20	—	—
282898	2007	GQ ₃₀	16.8	X	144.69715	63.09600	201.99205	5.95756	0.0985478	0.26536127	2.3983415	20	—	—
282899	2007	GW ₃₅	16.6	X	340.54051	195.23488	68.27006	4.88712	0.1845425	0.22928759	2.6437214	20	5 8.9	19.2
282900	2007	GG ₅₀	15.7	X	18.34831	332.80318	221.49888	14.09618	0.1226141	0.22662515	2.6643870	20	4 12.2	18.5
282901	2007	GV ₅₀	15.7	X	0.90029	72.00516	199.42836	28.81552	0.3404941	0.23089898	2.6314071	20	7 12.4	18.2
282902	2007	HN ₁₁	17.4	X	159.23727	300.82588	278.83220	0.52415	0.1396397	0.25987709	2.4319653	20	11 20.4	21.0
282903	2007	Masada	17.1	X	265.17080	106.88883	120.13467	6.85975	0.0566063	0.28196930	2.3032168	20	—	—
282904	2007	HV ₂₇	17.2	X	171.91834	41.54619	205.49197	5.46949	0.1730311	0.26487495	2.4012762	20	—	—
282905	2007	HP ₄₇	17.1	X	182.82509	36.51919	154.16291	3.14307	0.0352524	0.25812500	2.4429580	20	11 17.6	20.2
282906	2007	HV ₅₄	16.8	X	239.69578	31.26610	103.80248	6.86543	0.0495111	0.26032238	2.4291913	20	11 17.2	19.8
282907	2007	HA ₆₆	16.8	X	132.78567	169.91166	128.15287	11.96611	0.2704048	0.26219823	2.4175913	20	—	—
282908	2007	HE ₈₁	17.0	X	225.03544	331.46455	211.56335	5.84750	0.026416	0.26713333	2.3877233	20	12 31.6	20.0
282909	2007	HQ ₈₈	16.9	X	121.71064	177.66198	110.82906	5.13398	0.0774699	0.26590374	2.3950785	20	—	—
282910	2007	HY ₉₅	16.6	X	166.01173	201.08935	92.66572	8.07682	0.1137870	0.27173429	2.3606943	20	—	—
282911	2007	HD ₉₇	16.2	X	336.28610	85.12109	122.52665	6.25997	0.0959193	0.21854748	2.7296408	20	2 25.2	19.5
282912	2007	JR ₃	17.0	X	116.30516	112.34241	145.35922	6.93161	0.1156175	0.25488649	2.4636075	20	11 26.8	20.9
282913	2007	JE ₄₃	15.9	X	293.14680	175.20427	74.71310	13.38725	0.2543359	0.21322592	2.7748705	20	2 2.3	20.2
282914	2007	LR ₁₄	17.2	X	133.18094	222.04700	125.50985	3.24109	0.2450695	0.27086132	2.3657639	20	1 9.5	20.5
282915	2007	LF ₁₉	16.1	X	35.61913	153.32146	89.47681	13.16894	0.2903256	0.23092117	2.6312385	20	8 29.1	19.4
282916	2007	LH ₂₄	17.5	X	180.09856	45.68145	212.29875	2.10431	0.1692032	0.26733366	2.3865303	20	—	—
282917	2007	LA ₃₃	16.6	X	127.61263	52.42114	284.45868	7.56767	0.3313533	0.25986165	2.4320617	20	1 2.8	20.0
282918	2007	NA ₃	16.2	X	359.51760	219.11526	99.66492	13.09613	0.1925598	0.23377662	2.6097686	20	9 27.3	19.0
282919	2007	NW ₆	15.9	X	319.01184	241.21808	102.90922	17.63632	0.2482103	0.22648562	2.6654812	20	7 17.2	18.3
282920	2007	OS ₅	16.4	X	158.51014	347.60644	345.75671	6.30348	0.1312309	0.26622532	2.3931494	20	1 7.2	19.8
282921	2007	OA ₆	16.2	X	91.96389	163.16474	110.08551	7.49903	0.1372399	0.24197109	2.5505102	20	11 21.1	20.1
282922	2007	PL ₃	16.4	X	40.00345	180.58699	132.39430	9.33696	0.1354110	0.23857387	2.5746654	20	11 13.0	19.9
282923	2007	PO ₃	16.4	X	3.09148	226.94402	133.25454	16.91582	0.1945901	0.23702565	2.5858649	20	12 1.5	19.6
282924	2007	PP ₁₁	17.1	X	144.53860	346.93856	343.31147	7.95206	0.2178346	0.26237796	2.4164871	20	—	—
282925	2007	PF ₁₆	16.0	X	345.44978	195.21668	139.65124	9.05406	0.1187081	0.22750146	2.6575406	20	9 9.8	18.8
282926	2007	PN ₁₈	16.7	X	128.69219	77.60411	306.62705	6.68484	0.1177589	0.26951488	2.3733635	20	2 3.7	19.7
282927	2007	PB ₂₄	16.6	X	111.31466	86.88249	279.76092	5.45734	0.1858843	0.26003352	2.4309899	20	1 1.4	19.6
282928	2007	PD ₂₄	15.3	X	303.87446	333.59108	318.86419	12.96420	0.1853328	0.21329078	2.7743079	20	4 8.2	19.2
282929	2007	PH ₂₉	15.8	X	353.45059	357.13012	287.08162	13.28020	0.2285336	0.22550460	2.6732061	20	7 10.4	17.6
282930	2007	PM ₃₀	15.9	X	308.94548	170.10269	142.73793	10.45905	0.1698545	0.21658461	2.7461082	20	5 26.6	19.4
282931	2007	PC ₃₁	16.4	X	90.36022	180.55913	154.15597	7.62486	0.1878822	0.25303986	2.4755788	20	—	—
282932	2007	PU ₃₄	16.4	X	312.39886	193.44005	151.96723	9.65176	0.2935513	0.22303604	2.6928946	20	6 25.7	19.2
282933	2007	PP ₄₀	15.5	X	235.93968	185.84006	209.38667	14.04047	0.3183575	0.21143253	2.7905395	20	5 28.6	20.5
282934	2007	PX ₄₄	15.6	X	334.19731	260.35727	125.26988	29.60707	0.3243428	0.22924098	2.6440797	20	11 27.4	18.3
282935	2007	PK ₄₉	16.8	X	64.77524	124.26255	196.29625	0.20261	0.1312303	0.24537089	2.5268959	20	12 19.5	20.3
282936	2007	QA ₁₀	15.3	X	114.66483	265.49185	148.08445	9.46319	0.0941699	0.19117395	2.9843533	20	3 2.8	19.4
282937	2007	QV ₁₁	15.7	X	2.09193	253.44860	181.11209	10.65898	0.0240900	0.17240818	3.1971583	20	—	—
282938	2007	RQ ₁₁	16.6	X	251.64281	192.76127	182.84254	13.05450	0.1957086	0.21295508	2.7772227	20	5 30.2	21.1
282939	2007	RG ₁₃	16.5	X	22.94711	159.71924	161.95069	14.33770	0.1837052	0.23242716	2.6198603	20	11 7.4	19.9
282940	2007	RD ₁₈	16.1	X	204.31977	118.89866	217.85199	7.93676	0.0619225	0.19650319	2.9301486	20	2 29.3	20.7
282941	2007	RO ₂₄	15.2	X	279.69165	135.68583	266.60864	21.07066	0.0864443	0.22592787	2.6698663	20	8 14.1	19.1
282942	2007	RQ ₃₇	15.8	X	68.22254	263.88891	154.91527	5.89462	0.1401791	0.17982563	3.1086249	20	1 15.5	19.7
282943	2007	RU ₃₉	17.1	X	10.08725	59.49416	237.82255	3.28601	0.2507334	0.23057347	2.6338831	20	9 14.9	19.5
282944	2007	RQ ₄₂	16.2	X	220.42809	164.37997	238.05630	5.76518	0.0193403	0.21144327	2.7904450	20	6 15.6	20.0
282945	2007	RS ₄₅	16.5	X	23.20355	111.35519	205.89282	6.51087	0.1951768	0.23187487	2.6240187	20	10 30.9	19.4
282946	2007	RA ₇₅	16.3	X	36.75676	284.45118	137.08779	2.06385	0.1650221	0.17563318	3.1578997	20	—	—
282947	2007	RG ₉₉	16.5	X	247.91740	222.70388	190.59660	2.93104	0.0958506	0.22079434	2.7110910	20	7 24.9	20.3
282948	2007	RY ₁₀₁	16.1	X	304.75119	84.32381	214.96948	6.89057	0.2112319	0.21325285	2.7746369	20	4 21.6	19.3
282949	2007	RQ ₁₁₂	15.7	X	10.31389	298.10943	177.82188	10.34730	0.0656468	0.17957538	3.1115123	20	—	—
282950	2007	RZ ₁₂₅	16.2	X	253.69881	199.02537	163.10177	12.36972	0.2231412	0.20952884	2.8074165			

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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>
282961 2007 RU ₂₆₃	17.2	X	107.95909	195.16889	168.06664	2.64471	0.1895653	0.25903185	2.4372529	20	—	—
282962 2007 RV ₂₇₃	16.7	X	323.56526	128.99158	211.22801	5.48584	0.0276180	0.21859003	2.7292867	20	8 8.6	20.4
282963 2007 RO ₂₇₇	16.1	X	39.61014	148.82828	123.45106	15.52210	0.2152304	0.22923583	2.6441193	20	10 3.4	19.7
282964 2007 RN ₂₈₁	15.2	X	238.88628	151.35372	296.20618	21.27294	0.0486969	0.22612678	2.6683003	20	8 25.9	19.3
282965 2007 RB ₂₈₇	16.6	X	356.67161	165.81903	150.86312	10.37683	0.2677190	0.22599042	2.6693736	20	9 18.7	18.6
282966 2007 RA ₃₁₀	16.3	X	299.48581	158.47502	175.55005	17.42104	0.1282976	0.21894444	2.7263405	20	6 15.0	20.1
282967 2007 RK ₃₁₁	16.2	X	309.23206	136.02767	154.51945	20.98179	0.1944282	0.21298028	2.7770036	20	4 25.6	20.0
282968 2007 SS	16.4	X	11.11214	216.00044	127.94390	16.64652	0.1955365	0.23435983	2.6054371	20	11 22.9	19.7
282969 2007 SP ₄	15.3	X	203.81878	242.45105	352.78496	15.84905	0.1870513	0.17701301	3.1414677	20	—	—
282970 2007 SA ₉	15.8	X	115.29660	226.24437	177.61099	11.04951	0.0242255	0.18607009	3.0386803	20	2 9.0	20.2
282971 2007 SE ₂₃	16.8	X	13.35903	4.29676	300.39892	5.71236	0.1986336	0.22806986	2.6531234	20	9 22.2	19.6
282972 2007 TE ₄	16.0	X	305.69973	258.26266	78.88002	13.65811	0.1838240	0.21264036	2.7799624	20	6 19.1	19.3
282973 2007 TJ ₁₁	17.1	X	17.44944	126.62130	205.73292	2.34012	0.2597692	0.23116904	2.6293573	20	11 21.7	20.0
282974 2007 TQ ₁₄	16.1	X	276.02143	101.56482	223.11115	13.89841	0.2067849	0.20951914	2.8075032	20	4 17.9	20.3
282975 2007 TS ₁₄	15.2	X	107.39256	142.73956	251.07223	9.94242	0.1722663	0.18032822	3.1028462	20	2 6.5	19.8
282976 2007 TP ₂₇	16.3	X	340.24228	92.78109	199.85578	2.80126	0.1495664	0.21377880	2.7700841	20	6 23.9	19.1
282977 2007 TR ₃₉	15.9	X	107.16734	172.71756	200.48037	9.99787	0.1083331	0.17556616	3.1587033	20	1 7.3	20.5
282978 2007 TA ₄₁	16.7	X	276.45537	162.35120	210.44072	8.06130	0.2052303	0.21210164	2.7846676	20	6 21.1	20.6
282979 2007 TV ₄₁	16.5	X	358.48497	144.21187	250.14943	6.74724	0.1930656	0.23360164	2.6110717	20	—	—
282980 2007 TQ ₅₅	16.5	X	298.44905	9.23729	299.22208	0.98676	0.0586295	0.20368990	2.8608146	20	5 18.8	20.3
282981 2007 TL ₆₆	15.8	X	148.90530	223.25776	117.65406	16.17356	0.0758702	0.18040882	3.1019220	20	1 12.5	20.3
282982 2007 TM ₈₀	16.1	X	121.57874	262.59124	120.74133	3.25315	0.1477413	0.18261220	3.0769199	20	2 10.4	20.7
282983 2007 TE ₉₄	16.0	X	282.75657	200.68128	208.29278	13.01465	0.1699729	0.22326972	2.6910153	20	8 21.2	19.5
282984 2007 TU ₁₀₉	16.6	X	350.20136	94.54078	229.39147	3.79634	0.1753224	0.22339758	2.6899884	20	8 31.4	19.1
282985 2007 TO ₁₂₂	15.8	X	236.98849	194.14528	95.92184	2.52239	0.2003288	0.19049287	2.9914626	20	2 4.1	20.7
282986 2007 TA ₁₃₆	16.0	X	14.41656	16.33028	301.14354	13.73027	0.1698518	0.22910213	2.6451479	20	10 2.8	19.3
282987 2007 TK ₁₅₅	16.6	X	58.76153	33.99990	294.85991	3.62535	0.2601809	0.23964294	2.5670025	20	—	—
282988 2007 TD ₁₅₆	15.4	X	143.31281	140.11377	218.48928	12.99296	0.1136360	0.18268813	3.0760673	20	1 26.9	20.3
282989 2007 TP ₁₈₄	16.1	X	35.23750	213.91350	135.80304	6.16802	0.3415954	0.23639076	2.5904927	20	—	—
282990 2007 TJ ₂₂₂	16.0	X	207.50343	96.69354	185.89624	6.94251	0.1216308	0.18081646	3.0972582	20	1 3.7	21.0
282991 2007 TC ₂₄₅	16.1	X	340.07484	94.39937	336.57820	12.70442	0.1444311	0.23739811	2.5831594	20	—	—
282992 2007 TL ₂₄₆	16.4	X	322.11757	328.47670	359.43155	13.00925	0.2371664	0.21840002	2.7308694	20	7 1.4	19.3
282993 2007 TN ₂₄₆	16.3	X	32.38831	19.86677	342.44287	10.37526	0.1630497	0.23473164	2.6026851	20	—	—
282994 2007 TJ ₂₄₈	16.6	X	292.27456	111.41849	258.01950	7.36187	0.1943482	0.21627614	2.7487188	20	7 10.6	19.9
282995 2007 TF ₂₈₂	16.4	X	209.91378	101.03024	227.26799	0.99689	0.0828638	0.19447909	2.9504444	20	2 27.3	20.9
282996 2007 TP ₂₈₃	16.6	X	305.44020	127.76575	194.60148	11.64006	0.1881484	0.21336480	2.7736663	20	5 29.7	20.1
282997 2007 TR ₃₁₆	15.9	X	136.26617	285.14551	74.27850	4.54379	0.1592359	0.17978574	3.1090847	20	1 30.7	20.7
282998 2007 TV ₃₇₀	15.1	X	151.18676	123.63248	250.78842	15.92353	0.1200896	0.18527132	3.0474079	20	2 24.9	20.4
282999 2007 TM ₃₇₃	16.0	X	139.52305	231.64619	125.48697	1.96744	0.1705731	0.18095643	3.0956608	20	1 31.1	20.9
283000 2007 TE ₃₈₆	15.4	X	199.83849	181.13920	136.43476	10.58534	0.1089887	0.18836853	3.0139114	20	2 5.7	20.1
283001 2007 TH ₃₈₆	16.5	X	301.71817	228.51677	116.02388	8.67806	0.1398277	0.21551744	2.7551660	20	6 30.5	19.7
283002 2007 TH ₃₈₇	16.1	X	183.10390	102.33959	206.33210	4.49871	0.1021418	0.18142130	3.0903704	20	1 10.5	21.0
283003 2007 TS ₃₉₀	16.5	X	170.74421	160.87239	187.41871	3.83544	0.1277750	0.18769046	3.0211660	20	2 13.9	21.2
283004 2007 TQ ₃₉₃	15.6	X	332.31576	336.91457	239.74569	13.29442	0.0337454	0.19007369	2.9958590	20	3 5.3	20.0
283005 2007 TZ ₄₁₁	16.0	X	341.32272	58.14656	267.83224	13.37145	0.1792412	0.22303293	2.6929196	20	8 10.0	18.8
283006 2007 TU ₄₁₈	16.2	X	284.96885	185.60466	186.78363	13.32365	0.1512384	0.21378670	2.7700159	20	7 9.5	20.1
283007 2007 UF	17.9	X	39.39382	28.38471	259.16046	1.72146	0.1742757	0.30355265	2.1927041	20	10 23.9	20.4
283008 2007 UR ₄₆	16.4	X	289.57329	174.68177	205.94584	7.94029	0.2008072	0.21560392	2.7544292	20	7 19.7	20.0
283009 2007 UT ₅₀	16.8	X	339.34019	188.38217	183.54302	6.14600	0.3299035	0.22584669	2.6705060	20	11 6.9	18.3
283010 2007 UG ₈₃	16.9	X	342.59541	117.30656	228.45240	8.24540	0.1604996	0.22102685	2.7091894	20	9 14.3	19.8
283011 2007 UH ₁₁₆	15.5	X	154.11443	349.66338	67.54712	11.69099	0.0939166	0.19067594	2.9895475	20	4 22.5	20.1
283012 2007 VQ ₃₈	15.2	X	143.71578	118.33652	270.09243	11.60180	0.0557163	0.18289158	3.0737857	20	2 24.1	19.9
283013 2007 VA ₅₀	16.1	X	172.53072	125.32578	259.08478	7.36391	0.0374644	0.18944085	3.0025273	20	3 22.8	20.6
283014 2007 VC ₉₄	16.4	X	35.94459	17.69492	6.95210	6.38285	0.1993399	0.23852067	2.5750482	20	—	—
283015 2007 VT ₉₈	18.3	X	11.66263	17.57671	331.01012	1.74264	0.1976176	0.30782580	2.1723645	20	12 15.9	20.6
283016 2007 VF ₁₂₄	15.9	X	288.93332	74.70356	244.37943	8.50187	0.1811661	0.20224800	2.8743957	20	4 30.2	20.0
283017 2007 VW ₁₂₆	15.4	X	82.97615	172.20116	269.55802	9.17354	0.0923752	0.17982487	3.1086337	20	2 23.0	19.8
283018 2007 VA ₁₅₆	16.5	X	58.89747	302.16024	323.57857	3.47316	0.0271424	0.21671683	2.7449912	20	9 12.2	20.1
283019 2007 VD ₁₈₂	16.3	X	253.21410	188.13968	287.23713	11.89035	0.1163265	0.22482593	2.6785831	20	10 14.6	20.2
283020 2007 VU ₁₉₃	17.5	X	302.32388	145.67640	288.95135	4.83556	0.1610258	0.29843273	2.2177117	20	12 3.5	19.0
283021 2007 VN ₂₀₈	15.5	X	191.99875	203.36966	131.24711	14.09133	0.1132109	0.18660739	3.0328446	20	2 19.7	20.3
283022 2007 VA ₂₃₄	15.3	X	82.11189	161.70582	239.71671	26.99933	0.1838839	0.17197916	3.2024731	20	1 13.7	20.0
283023 2007 VJ ₂₅₃	15.4	X	71.25737	197.26749	260.12973	10.45983	0.1087189	0.18159043	3.0884512	20	2 27.7	19.7
283024 2007 VV ₂₆₇	15.7	X	146.45280	142.57437	293.37324	9.43021	0.1195538	0.19264227	2.9691695	20	5 2.2	20.4
283025 2007 VN ₂₆₉	15.6	X	120.88882	123.24158	239.38534	14.44601	0.2080072	0.17429590	3.1740318	20	1 20.1	20.7
283026 2007 VH ₂₈₄	15.2	X	273.91650	9.62296	239.22706	17.27609	0.0813001	0.17879023	3.1206151	20	1 27.6	20.1
283027 2007 VQ ₃₂₁	15.5	X	157.55392	238.47484	136.09521	15.43027	0.1706851	0.18497977	3.0506091	20	3 9.9	20.5
283028 2007 VY ₃₂₁	17.8	X	8.12966	254.71176	107.91358	5.45742	0.1600502	0.30693274	2.1765764	20	12 24.3	20.1
283029 2007 WH ₅	16.0	X	257.58621	81.50595	230.79572	9.37485	0.0985475	0.19279521	2.9675990	20	3 25.5	20.5
283030 2007 WG ₈	15.6	X	255.57559	47.59889	268.44304	8.99060	0.0954478	0.19319238	2.9635304	20	3 26.6	20.2
283031 2007 WV ₁₅	16.2	X	328.78411	95.61450	230.43176	7.50230	0.1810452	0.21166081	2.7885327	20	7 15.9	19.2
283032 2007 WD ₁₉	15.6	X	253.52168	28.81499	225.50308	7.59556	0.0794595	0.17461476	3.1701665	20	1 17.2	20.5
283033 2007 WH ₄₀	15.1	X	202.65890	72.37770	278.96039	15.06222	0.0941934	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>
283041 2008 CC	17.3	X	94.24653	221.31043	113.66617	24.45634	0.0512281	0.38490829	1.8716783	20	—	—
283042 2008 CC ₇₃	16.7	X	23.88090	236.21564	124.69863	24.30668	0.0839513	0.37305884	1.9111048	20	—	—
283043 2008 DD ₁₅	17.3	X	280.62283	148.50642	330.25577	5.05545	0.0981410	0.29564759	2.2316178	20	12 31.1	19.3
283044 2008 DH ₆₇	16.3	X	290.46194	358.79514	342.19915	8.08549	0.0549560	0.26109912	2.4243712	20	6 23.3	19.3
283045 2008 EW ₁₆	17.8	X	245.35268	62.48712	13.45832	1.62969	0.2104399	0.27748858	2.3279446	20	8 11.4	20.8
283046 2008 EB ₃₆	15.7	X	328.84893	83.79442	280.41402	8.13238	0.0345809	0.19883151	2.9072290	20	9 12.1	19.7
283047 2008 EU ₈₄	17.0	X	50.12691	239.15241	127.15107	22.64711	0.1001052	0.37973830	1.8886281	20	—	—
283048 2008 EA ₁₄₃	17.0	X	181.59724	90.40018	94.76739	7.38028	0.1342680	0.28228167	2.3015174	20	11 6.0	20.4
283049 2008 EQ ₁₄₈	17.4	X	149.90703	236.69473	211.06759	3.94691	0.1561057	0.25802676	2.4435781	20	5 25.6	21.1
283050 2008 FX ₂₂	15.6	X	348.46475	284.78691	43.55693	12.21976	0.1673407	0.18500500	3.0503317	20	9 5.0	19.1
283051 2008 FZ ₁₂₃	15.3	X	321.00188	265.55265	53.88190	16.64034	0.0763441	0.17429463	3.1740472	20	7 2.3	19.6
283052 2008 GA ₃₈	15.5	X	309.96616	315.84513	55.03579	11.64579	0.0761573	0.18334009	3.0687706	20	8 30.5	19.7
283053 2008 GJ ₁₂₀	17.0	X	205.30364	358.63650	114.69726	5.56480	0.1782597	0.27612026	2.3356291	20	8 22.5	20.4
283054 2008 HN ₁₉	16.2	X	202.11436	212.29288	91.10933	16.20075	0.1348804	0.22268553	2.6957196	20	1 19.1	20.6
283055 2008 HS ₂₉	16.0	X	44.24940	116.49207	163.10942	12.84357	0.1157390	0.18336762	3.0684634	20	9 21.1	20.0
283056 2008 OH	16.2	X	335.00950	198.40390	122.77995	3.81613	0.1819954	0.24653374	2.5189438	20	7 28.8	18.3
283057 Casteldipiazza	17.3	X	147.79870	168.08869	140.58227	7.80245	0.2120781	0.28499332	2.2868952	20	—	—
283058 2008 ON ₂₃	16.0	X	226.19637	259.84163	193.92341	21.55930	0.0604389	0.23577236	2.5950205	20	8 23.5	19.9
283059 2008 PM ₂₂	17.1	X	142.82669	171.55594	187.90263	3.52850	0.1911620	0.27937323	2.3174633	20	1 26.3	20.4
283060 2008 QF ₃	17.3	X	239.73781	149.28020	159.98483	6.54292	0.1727020	0.30252375	2.1976729	20	2 19.3	20.7
283061 2008 QZ ₅	17.3	X	221.93611	154.40001	156.21336	7.43500	0.1947507	0.29959099	2.2119920	20	2 4.4	20.8
283062 2008 QB ₁₃	17.2	X	93.52140	122.70262	166.23688	7.64217	0.1870720	0.26440563	2.4041169	20	12 17.4	21.1
283063 2008 QH ₁₃	18.0	X	183.86599	184.42705	147.95924	0.49613	0.2132694	0.29227748	2.2487395	20	2 1.1	21.3
283064 2008 QE ₂₉	17.1	X	235.18613	99.23525	245.63948	5.83470	0.2305542	0.30327261	2.1940537	20	3 26.4	20.7
283065 2008 RQ ₃₆	18.2	X	196.73926	94.72452	200.43512	1.84412	0.1700652	0.28802562	2.2708161	20	—	—
283066 2008 RC ₄₁	17.1	X	184.96758	328.41204	179.94676	4.33114	0.0281191	0.24532224	2.5272300	20	9 22.6	20.4
283067 2008 RL ₄₅	18.3	X	190.57287	183.82121	151.73247	1.88938	0.2390461	0.29377930	2.2410691	20	2 11.2	21.8
283068 2008 RB ₉₈	15.9	X	49.66862	31.91558	229.56695	16.39908	0.1914179	0.23322010	2.6139186	20	9 16.9	19.7
283069 2008 RK ₁₁₂	17.3	X	256.36006	304.58278	129.50933	2.68187	0.0688886	0.26643523	2.3918923	20	—	—
283070 2008 RE ₁₃₂	16.8	X	55.65327	261.31944	203.04745	6.73322	0.1044935	0.26681912	2.3895975	20	—	—
283071 2008 RS ₁₄₅	17.3	X	104.78144	116.55125	169.55603	7.54931	0.0479228	0.26033121	2.4291363	20	12 17.1	20.7
283072 2008 SZ ₂	17.1	X	235.59852	174.85808	123.21136	4.98384	0.1913143	0.29993177	2.2103162	20	2 1.7	20.3
283073 2008 SP ₈₁	17.5	X	131.11257	98.52383	238.38126	5.27635	0.1249177	0.28076503	2.3097982	20	—	—
283074 2008 SK ₉₂	16.8	X	317.75264	100.15995	196.77465	11.45710	0.1620326	0.22904314	2.6456021	20	5 18.6	19.9
283075 2008 SK ₁₄₅	15.5	X	312.52233	82.81831	27.01455	9.61068	0.0618197	0.17608589	3.1524849	20	12 30.6	19.8
283076 2008 SW ₁₅₅	16.8	X	213.04035	309.38177	43.74835	8.96813	0.1782764	0.29970070	2.2114521	20	3 25.9	20.3
283077 2008 SW ₁₇₅	17.6	X	227.23189	103.67257	240.00177	5.81736	0.2047678	0.30131523	2.2035454	20	3 19.3	21.2
283078 2008 ST ₁₇₆	17.5	X	167.12307	160.62790	157.14398	5.50848	0.1893738	0.28346859	2.2950884	20	—	—
283079 2008 SS ₂₄₂	17.0	X	225.55753	199.78864	187.89046	4.67879	0.0201112	0.22180390	2.7028582	20	6 3.2	20.7
283080 2008 SS ₂₄₄	17.4	X	139.56043	131.62384	157.16592	6.32045	0.1158790	0.26945437	2.3739919	20	—	—
283081 2008 SZ ₂₆₉	17.6	X	238.58095	101.73982	236.32438	5.47714	0.1654362	0.30207629	2.1998427	20	3 25.2	20.9
283082 2008 ST ₂₇₁	15.3	X	11.17019	275.64715	193.44211	12.73715	0.1324341	0.18155137	3.0888942	20	—	—
283083 2008 SA ₂₈₁	16.7	X	271.14541	109.25294	236.21075	5.49222	0.0391412	0.21915317	2.7246091	20	6 3.4	20.3
283084 2008 TD ₉	17.9	X	157.53390	335.20673	38.59774	3.25449	0.1768991	0.28885753	2.2664540	20	2 28.5	21.3
283085 2008 TZ ₁₈	17.3	X	145.48163	237.17937	33.90763	1.80147	0.1650275	0.26227346	2.4171289	20	—	—
283086 2008 TB ₂₁	16.9	X	265.07174	300.82596	31.48662	6.11666	0.0439325	0.21784263	2.7355257	20	5 7.1	20.6
283087 2008 TT ₈₉	17.4	X	182.55191	105.49326	174.19571	0.66063	0.1253521	0.27448992	2.3448683	20	—	—
283088 2008 TX ₉₄	17.1	X	256.96535	357.58609	336.72808	6.06180	0.1963141	0.30433509	2.1889442	20	4 4.9	20.3
283089 2008 TN ₁₁₇	16.4	X	217.68361	172.63232	237.63307	4.49413	0.0387161	0.22399791	2.6851800	20	6 20.8	20.0
283090 2008 TK ₁₆₆	17.3	X	74.20634	226.51874	137.79181	6.94079	0.1224315	0.26798999	2.3826322	20	—	—
283091 2008 TK ₁₇₁	16.1	X	335.14622	243.63677	78.86743	6.08052	0.0452165	0.23156326	2.6263723	20	8 5.8	19.3
283092 2008 UK ₅₁	16.7	X	282.59091	115.36328	239.53581	4.66048	0.0729592	0.22410347	2.6843368	20	6 26.6	20.2
283093 2008 US ₈₀	16.2	X	109.70475	326.38656	255.89629	10.81435	0.2211136	0.23712260	2.5851600	20	10 4.9	20.7
283094 2008 UX ₈₁	16.7	X	254.78089	144.85861	122.59090	3.06656	0.0177388	0.20288545	2.8683718	20	2 7.5	20.7
283095 2008 UK ₁₀₀	16.3	X	160.94941	224.45599	210.02116	4.92860	0.1035429	0.21374640	2.7703641	20	5 17.7	20.5
283096 2008 UB ₁₂₈	16.4	X	25.02765	111.76645	212.36247	3.84256	0.1605542	0.24280176	2.5446897	20	11 8.8	19.3
283097 2008 UZ ₁₃₀	16.9	X	126.04293	80.47203	228.93695	8.90263	0.0991744	0.26572948	2.3961255	20	—	—
283098 2008 UR ₁₃₈	16.4	X	38.07054	65.49713	217.50745	9.42843	0.1133607	0.23797636	2.5789732	20	9 21.1	19.7
283099 2008 UE ₁₄₅	17.3	X	95.07149	144.23480	218.10193	12.15218	0.2174043	0.27101989	2.3648410	20	—	—
283100 2008 UX ₁₅₉	15.7	X	225.33689	153.85337	244.66400	26.11893	0.1001603	0.21885908	2.7270494	20	6 7.7	19.8
283101 2008 UV ₁₇₃	16.9	X	205.31681	60.06922	292.98125	4.77895	0.1650559	0.29758070	2.2219428	20	3 12.8	20.3
283102 2008 UY ₁₇₆	16.1	X	199.46430	196.96674	224.36841	8.77752	0.1187776	0.22159422	2.7045630	20	6 9.5	20.4
283103 2008 UB ₁₈₈	16.6	X	308.59329	91.85264	185.02541	4.72407	0.1255920	0.21083006	2.7958532	20	4 11.7	20.0
283104 2008 UX ₁₈₈	18.1	X	238.58432	112.69237	202.93405	2.87256	0.2196272	0.29824433	2.2186455	20	2 23.9	21.6
283105 2008 UD ₂₁₀	17.3	X	95.50132	40.77721	229.32527	4.66091	0.1810234	0.25153280	2.4854573	20	11 23.6	21.2
283106 2008 UJ ₂₄₃	15.9	X	87.09533	328.20862	260.69297	16.72701	0.1498462	0.23202024	2.6229256	20	9 9.9	20.2
283107 2008 UX ₂₆₁	16.8	X	338.64698	142.73136	173.58686	2.83907	0.1100711	0.22981743	2.6396564	20	7 28.9	19.7
283108 2008 UR ₂₇₁	16.3	X	157.85438	8.73589	250.14593	5.32470	0.0876657	0.25877319	2.4388768	20	—	—
283109 2008 UK ₂₈₀	16.4	X	298.11266	287.98225	101.68048	14.41081	0.1823168	0.23862467	2.5743000	20	8 30.4	19.3
283110 2008 UD ₂₉₀	15.7	X	78.10687	5.35875	79.81947	11.44008	0.0934530	0.19362073	2.9591579	20	2 28.9	19.8
283111 2008 UU ₂₉₈	15.8	X	87.36152	231.62358	34.02736	13.74094	0.1480178	0.24397253	2.5365422	20	11 5.1	19.7
283112 2008 US ₃₀₄	17.0	X	153.01314	137.49859	164.45310	5.73141	0.1187921	0.27015666	2.3698758	20	—	—
283113 2008 UE ₃₃₆	16.3	X	122.02732	31.10824	235.16154	13.73243	0.1116295	0.25005597	2.4952338	20	12 10.3	20.1
283114 2008 UD ₃₄₂	16.9	X	210.67981	3								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
283121 2008 VA ₅₀	16.6	X	224.58062	215.43738	227.63386	13.56214	0.0381999	0.23422844	2.6064114	20	8 8.3	20.6
283122 2008 VQ ₅₃	16.4	X	10.79831	218.10298	103.59626	5.70606	0.1120056	0.24141693	2.5544117	20	10 9.3	19.3
283123 2008 VD ₅₇	16.5	X	281.27691	277.18155	88.32542	3.59944	0.0708132	0.22690267	2.6622141	20	7 10.3	19.7
283124 2008 VS ₅₉	16.5	X	295.20632	298.25844	77.93826	3.58303	0.0866854	0.23392614	2.6086564	20	8 15.1	19.6
283125 2008 WF ₃₇	16.1	X	298.77097	144.09484	75.70190	2.80309	0.0961469	0.19271883	2.9683831	20	1 24.2	20.1
283126 2008 WK ₃₈	16.5	X	45.72354	311.82136	197.78639	1.34021	0.0209990	0.20179899	2.8786579	20	3 23.0	20.2
283127 2008 WE ₄₃	16.9	X	140.68800	27.95245	261.21347	3.81023	0.1692957	0.26080265	2.4262081	20	—	—
283128 2008 WO ₆₇	16.5	X	311.27670	81.35483	89.92814	2.72004	0.0596547	0.18228645	3.0805845	20	—	—
283129 2008 WR ₇₆	16.2	X	61.58077	5.67320	84.55863	6.63126	0.1188151	0.19063336	2.9899926	20	2 12.4	19.9
283130 2008 WC ₈₅	15.3	X	59.89246	317.99236	96.77080	12.84980	0.1570108	0.17719481	3.1393186	20	—	—
283131 2008 WM ₉₀	15.8	X	83.23741	297.15898	110.05004	16.79838	0.1907040	0.18137986	3.0908411	20	1 31.2	19.9
283132 2008 WS ₉₆	16.6	X	274.71905	174.21000	222.92184	5.23481	0.2810857	0.23068147	2.6330609	20	7 10.1	20.1
283133 2008 XH ₃₉	16.5	X	340.75773	263.40101	54.59474	5.14680	0.1601473	0.22835649	2.6509028	20	8 6.4	19.1
283134 2008 XO ₄₈	15.9	X	147.76506	258.01693	116.64392	11.07170	0.1239361	0.18806861	3.0171148	20	2 26.0	20.6
283135 2008 XL ₅₀	14.7	X	97.70568	197.55954	125.40549	15.47643	0.0754303	0.15580958	3.4203715	20	—	—
283136 2008 XV ₅₂	15.7	X	308.08624	127.47635	282.53476	21.16871	0.0470577	0.23635722	2.5907379	20	10 13.9	19.5
283137 2008 XM ₅₅	15.6	X	355.46965	19.60374	93.91325	12.60263	0.0541449	0.17706234	3.1408841	20	—	—
283138 2008 YJ ₄	16.2	X	333.73156	243.06054	128.01196	5.58922	0.2816403	0.23672587	2.5880475	20	10 19.9	17.8
283139 2008 YQ ₁₁	16.1	X	241.83906	269.33183	94.37197	5.40265	0.0742738	0.21427947	2.7657675	20	5 17.3	20.1
283140 2008 YX ₂₄	16.1	X	303.70944	153.66411	265.09357	13.81042	0.1506249	0.23756028	2.5819837	20	10 16.3	19.2
283141 2008 YW ₂₆	15.7	X	168.08970	286.01922	242.86309	16.63169	0.1069711	0.22976839	2.6400320	20	9 16.6	20.2
283142 Weena	15.6	X	261.41044	171.44620	253.37283	21.26010	0.0407528	0.23000777	2.6382000	20	8 25.9	19.7
283143 2008 YO ₃₄	15.5	X	353.25321	44.03904	117.45293	18.19954	0.1176183	0.18028631	3.1033271	20	1 25.3	19.2
283144 2008 YJ ₅₀	15.8	X	66.37837	296.60720	95.85633	6.12572	0.1665636	0.17098676	3.2148526	20	—	—
283145 2008 YW ₇₃	16.7	X	236.98896	34.75590	19.105106	2.14905	0.0704020	0.21808723	2.7334799	20	7 16.5	20.5
283146 2008 YW ₁₂₁	16.0	X	284.52731	113.59836	121.45121	8.94213	0.1393238	0.18127942	3.0919827	20	1 21.6	20.7
283147 2008 YS ₁₂₄	16.3	X	247.51648	277.96194	104.66416	10.45332	0.2239854	0.21637456	2.7478852	20	5 31.9	20.6
283148 2008 YF ₁₃₄	17.2	X	273.99661	14.25423	263.44596	5.48772	0.0992963	0.28671319	2.2777406	20	2 20.5	20.4
283149 2008 YX ₁₃₉	15.6	X	135.22051	246.77890	120.78201	10.74952	0.1248213	0.18396498	3.0618174	20	2 3.6	20.1
283150 2008 YT ₁₄₉	15.3	X	243.10910	318.27622	292.77380	25.39425	0.1441862	0.17393266	3.1784493	20	1 2.4	20.4
283151 2009 AD ₈	15.4	X	331.92716	296.78236	275.44541	10.60294	0.0395464	0.18947110	3.0022077	20	2 28.3	19.7
283152 2009 AH ₃₁	15.9	X	277.08628	236.90351	119.43304	7.36790	0.0677505	0.21165947	2.7885445	20	6 21.7	19.6
283153 2009 AZ ₄₃	17.0	X	113.91195	231.70647	148.86080	7.29189	0.1065083	0.26712069	2.3877986	20	1 9.2	20.0
283154 2009 AD ₄₇	16.1	X	343.38355	199.64717	135.90426	14.61101	0.2522593	0.22503669	2.6769104	20	9 12.5	18.2
283155 2009 BC ₁₄	16.3	X	87.08380	127.75199	330.50177	22.77374	0.3118128	0.27531771	2.3401657	20	4 11.2	19.8
283156 2009 BR ₅₅	16.8	X	300.79181	134.50211	274.20177	6.42467	0.0934685	0.23293173	2.6160755	20	9 27.3	20.1
283157 2009 BL ₆₀	15.8	X	119.43742	358.13755	134.72292	15.92754	0.0807280	0.20395982	2.8582901	20	6 15.4	20.2
283158 2009 BZ ₆₅	16.5	X	356.40064	345.03335	138.41617	2.94120	0.0859027	0.21005253	2.8027484	20	8 9.2	19.5
283159 2009 BW ₉₉	15.4	X	311.75003	86.48415	124.06838	10.97592	0.0253535	0.17833710	3.1258988	20	2 10.1	19.8
283160 2009 BC ₁₅₁	15.6	X	81.76286	314.31329	106.53762	28.60075	0.1802363	0.18098112	3.0953792	20	2 15.9	20.0
283161 2009 BX ₁₆₂	16.0	X	127.77797	337.05255	78.56695	4.19576	0.0534309	0.18604292	3.0389761	20	3 17.2	20.4
283162 2009 BV ₁₇₂	15.6	X	9.86747	200.32917	277.76387	5.38598	0.0310404	0.16998740	3.2274403	20	1 2.8	19.8
283163 2009 BL ₁₉₀	14.5	X	81.70637	73.84356	154.41615	14.20380	0.0968733	0.12485324	3.9646316	20	8 24.4	20.1
283164 2009 CR ₂₄	15.7	X	212.35296	141.11055	147.53482	27.53968	0.1571447	0.16943216	3.2344876	20	1 16.9	21.3
283165 2009 CP ₆₄	15.4	X	228.47962	42.85573	181.04083	10.33567	0.0408458	0.15692133	3.4041974	20	—	—
283166 2009 DZ ₁₅	15.3	X	341.33100	11.71316	153.83855	16.61979	0.0349050	0.17312722	3.1882998	20	1 21.6	19.9
283167 2009 DN ₂₆	16.3	X	341.24075	212.95122	135.83164	13.01990	0.1795227	0.22508119	2.6765575	20	9 26.4	19.0
283168 2009 DT ₁₁₇	14.9	X	202.17592	156.47130	171.39109	15.21085	0.2755654	0.17429740	3.1740135	20	2 18.6	20.7
283169 2009 DC ₁₄₀	17.7	X	159.20557	264.07778	167.19162	23.48214	0.0700470	0.37106097	1.9179585	20	5 10.5	20.4
283170 2009 ER ₄	15.3	X	320.10625	94.71758	157.80073	15.49017	0.2535338	0.17814373	3.1281605	20	3 12.1	19.1
283171 2009 FR ₅	16.0	X	300.97084	183.28100	169.45249	4.21633	0.1143560	0.20830992	2.8183575	20	7 13.5	19.5
283172 2009 FV ₂₆	17.7	X	0.97862	221.94822	79.51584	4.03838	0.1177823	0.29006627	2.2601533	20	8 31.1	19.7
283173 2009 HZ ₆₂	16.2	X	247.33621	155.45925	161.96897	12.61167	0.0463951	0.08244427	5.2283229	20	4 7.7	20.3
283174 2009 HD ₈₁	13.2	X	26.66266	161.37271	153.89044	11.05688	0.0834205	0.20300190	2.8672747	20	10 13.4	20.0
283175 2009 JU ₁₀	16.3	X	121.58692	108.87899	148.73591	10.31866	0.1136647	0.21621326	2.7492517	20	11 25.9	20.8
283176 2009 QF ₅₉	13.0	X	283.62687	36.79283	31.66709	7.13196	0.2085779	0.08315497	5.1984905	20	8 31.8	19.7
283177 2009 RR ₅₂	17.0	X	75.00096	117.86255	39.77850	4.77098	0.1714049	0.23473596	2.6026532	20	6 2.9	20.3
283178 2009 SF ₁	13.6	X	299.59207	128.08111	157.75637	14.64346	0.1659295	0.08288326	5.2098456	20	4 16.2	20.4
283179 2009 SS ₃₅	15.8	X	225.56670	169.82523	6.99276	7.17053	0.0305329	0.18937494	3.0032239	20	12 5.7	20.2
283180 2009 SC ₁₆₀	15.9	X	74.46978	120.26219	12.11422	13.93677	0.1268353	0.22817648	2.6522969	20	4 18.8	19.3
283181 2009 US	16.7	X	175.35637	308.75101	258.38744	20.42086	0.0522779	0.36940553	1.9236842	20	12 24.1	18.6
283182 2009 UJ ₂₈	16.0	X	139.73169	226.25117	229.61741	12.71439	0.0510154	0.23500698	2.6006518	20	5 17.1	19.6
283183 2009 UG ₁₀₆	16.1	X	106.67090	88.56390	50.60142	12.67292	0.0096261	0.23515311	2.5995743	20	5 25.8	19.5
283184 2009 WA ₃₃	17.5	X	301.12845	150.85250	69.01624	5.09071	0.1165257	0.30256292	2.1974833	20	1 5.6	20.2
283185 2010 AR ₃₀	16.7	X	101.34011	115.64021	112.95376	6.13323	0.1667545	0.23740601	2.5831021	20	10 8.9	20.8
283186 2010 BG ₃	17.5	X	197.16841	94.10934	128.06722	3.43404	0.1466788	0.26236822	2.4165469	20	—	—
283187 2010 BB ₁₃	15.2	X	23.49474	287.78903	97.88099	10.72985	0.1346471	0.15440908	3.4410223	20	12 27.2	19.6
283188 2010 BV ₁₅	14.5	X	249.47395	329.50646	275.12634	26.39722	0.1487558	0.17311041	3.1885062	20	—	—
283189 2010 CG ₄	16.4	X	307.25466	208.27519	153.83509	8.26759	0.0511051	0.23471937	2.6027758	20	8 16.3	19.6
283190 2010 CO ₅	17.7	X	161.20073	306.55905	331.47446	0.43711	0.1695368	0.26749580	2.3855658	20	—	—
283191 2010 CQ ₃₉	17.5	X	265.84481	340.29902	338.07193	5.30855	0.1849989	0.30385694	2.1912400	20	3 26.1	20.5
283192 2010 CE ₄₄	16.2	X	217.24762	280.25721	149.49330	22.28754	0.0511983	0.22768533	2.6561098	20	7 15.4	20.2
283193 2010 CM ₈₈	17.0	X	106.54664	31.79581	241.94380	2.04539	0.1623997	0.25041926	2.4928199	20	12 6.6	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
283201 2010 DG ₅₅	15.5	X	246.00017	119.73318	180.22493	15.95591	0.2117209	0.17661212	3.1462197	20	2 20.6	20.9
283202 2010 EA ₄₃	15.4	X	290.53943	337.01994	195.81195	18.16949	0.1639583	0.17555091	3.1588863	20	—	—
283203 2010 FV ₁₃	15.9	X	253.95272	94.18469	166.61308	13.16913	0.0812680	0.17984899	3.1083557	20	1 24.5	20.7
283204 2010 FE ₂₀	15.0	X	32.10895	166.23034	116.91425	5.26597	0.2162949	0.12588644	3.9429090	20	9 14.2	19.9
283205 2010 FV ₄₈	16.4	X	0.95436	114.82889	163.66968	5.08369	0.0896027	0.21475535	2.7616803	20	7 12.2	19.6
283206 2010 GK ₁₃₉	16.0	X	127.80141	178.85197	173.58579	9.52874	0.0761398	0.17488607	3.1668870	20	1 3.2	20.7
283207 2010 HH ₇₉	16.0	X	219.96391	181.47146	140.32416	10.21720	0.1453250	0.18224254	3.0810793	20	3 1.0	21.0
283208 2010 HG ₁₀₅	16.4	X	214.42911	254.52520	208.53079	2.81825	0.0414573	0.22319045	2.6916524	20	8 25.2	20.2
283209 2010 LE ₉₂	15.3	X	319.66644	300.39783	190.19607	21.74620	0.1534146	0.17230794	3.1983981	20	—	—
283210 2010 MG ₄₆	15.9	X	195.81125	256.96038	336.81241	13.06069	0.1639403	0.22806679	2.6531472	20	—	—
283211 2010 MH ₆₉	16.9	X	135.56966	2.16977	341.12126	11.75734	0.1827177	0.23718806	2.5846843	20	1 6.5	20.8
283212 2010 NM ₂₄	17.0	X	325.13558	345.65003	258.87196	4.65725	0.1915035	0.26612646	2.3937420	20	3 3.8	19.6
283213 2010 NY ₅₅	16.7	X	68.50428	46.97466	269.69746	3.78853	0.2006262	0.21172500	2.7879691	20	12 18.9	20.9
283214 2010 OL ₂₃	17.2	X	164.40389	92.74509	195.46740	11.08631	0.1940798	0.23063013	2.6334517	20	—	—
283215 2010 OQ ₄₆	15.5	X	231.55327	167.33955	136.04222	28.72132	0.1107101	0.18039270	3.1021068	20	2 21.0	20.4
283216 2010 OO ₆₃	15.4	X	279.72532	186.84240	191.30186	17.76343	0.1403180	0.17892340	3.1190664	20	7 8.9	20.1
283217 2010 OV ₇₀	15.6	X	228.62614	122.73725	182.30182	16.79774	0.1485369	0.17831635	3.1261413	20	2 14.8	20.8
283218 2010 OQ ₉₅	16.8	X	120.86278	258.54649	116.40219	6.02491	0.2973288	0.23603040	2.5931288	20	2 11.5	20.6
283219 2010 OW ₁₂₃	15.5	X	281.63304	155.97990	216.68403	27.10441	0.1297037	0.17763311	3.1341523	20	7 2.5	20.3
283220 2010 PG ₁₀	15.5	X	269.35197	124.50073	260.87199	7.89055	0.1375948	0.18792347	3.0186681	20	7 7.3	19.8
283221 2010 PR ₂₆	17.0	X	281.35336	130.76110	167.39367	6.40037	0.1395657	0.27309116	2.3528683	20	3 27.9	20.0
283222 2010 PM ₄₁	15.1	X	245.25467	13.88103	52.61351	13.23131	0.0707140	0.17942193	3.1132861	20	8 14.6	19.8
283223 2010 PS ₇₉	15.6	X	285.67757	3.27594	325.34523	8.84521	0.0913035	0.17724311	3.1387482	20	5 21.2	20.1
283224 2010 QO ₁	15.5	X	153.14424	45.90701	293.04059	13.28484	0.2548166	0.23681450	2.5874017	20	1 22.1	19.6
283225 2010 QX ₂	17.2	X	245.58992	271.05216	21.66794	3.24048	0.1827773	0.26053872	2.4278464	20	2 9.3	21.1
283226 2010 RA ₅₁	16.9	X	333.08874	359.85796	48.01222	0.60885	0.1666312	0.20390582	2.8587947	20	11 22.6	19.8
283227 2010 RW ₆₀	17.2	X	56.61651	254.25673	349.56889	2.71645	0.0472313	0.28543906	2.2845138	20	8 23.2	19.7
283228 2010 RD ₆₅	16.2	X	180.44808	118.63327	231.65569	6.32196	0.1450935	0.25537558	2.4604609	20	2 17.9	20.2
283229 2010 RS ₇₄	16.3	X	130.95928	96.82473	179.01926	15.72332	0.1659845	0.22773557	2.6557191	20	12 26.1	21.0
283230 2010 RL ₁₁₈	15.5	X	223.47476	40.67786	31.65279	14.09680	0.0953513	0.17799110	3.1299485	20	7 27.2	20.4
283231 2010 RX ₁₆₉	16.8	X	230.79259	291.83142	286.62712	1.58904	0.0620869	0.23242198	2.6198992	20	—	—
283232 2010 RY ₁₇₁	17.2	X	187.16335	227.83584	180.95671	4.91629	0.1085504	0.26520278	2.3992970	20	5 11.9	20.7
283233 2010 SB ₁₄	15.6	X	311.13805	125.29196	194.93420	11.89104	0.0202544	0.17517559	3.1569123	20	6 24.9	20.2
283234 2010 TG ₃₄	17.5	X	57.16036	195.83299	48.33999	5.07101	0.0767485	0.28519857	2.2857979	20	8 31.9	20.2
283235 2010 TX ₁₄₇	16.3	X	121.90596	9.15778	19.67310	7.71999	0.2327194	0.23643279	2.5901858	20	2 24.2	20.2
283236 2010 TT ₁₆₂	13.3	X	255.78536	23.42121	65.40274	7.60651	0.1377317	0.08376882	5.1730630	20	9 2.8	20.4
283237 2010 UY ₂	16.7	X	133.88643	354.58662	339.05240	2.32989	0.2004818	0.23030276	2.6359467	20	—	—
283238 2010 UL ₁₆	17.3	X	283.34014	276.59310	53.05482	4.30177	0.2493247	0.27350720	2.3504817	20	4 26.0	20.4
283239 2010 UC ₆₅	16.7	X	130.63185	338.37255	22.74111	1.81542	0.0932511	0.23247853	2.6194743	20	1 10.6	20.3
283240 2010 VJ ₄₅	16.9	X	167.95721	290.61786	55.00226	4.00263	0.2542116	0.24027202	2.5625199	20	2 12.7	21.2
283241 2010 VA ₇₄	16.4	X	129.47542	300.14111	63.54899	8.42374	0.2018084	0.23497277	2.6009042	20	1 27.7	20.3
283242 2011 AS ₃₀	17.7	X	331.51338	152.21140	291.92478	2.66977	0.0841447	0.29841939	2.2177778	20	—	—
283243 2011 DR ₃	15.4	X	258.39122	14.15700	143.90671	6.97134	0.0609798	0.17906950	3.1173697	20	12 18.0	19.7
283244 2011 DO ₈	16.1	X	64.99520	102.23606	20.13232	12.68698	0.1172096	0.21910470	2.7250109	20	3 26.8	19.4
283245 2011 DM ₁₁	16.1	X	21.74654	148.41007	13.87297	27.47401	0.1926658	0.21636284	2.7479845	20	3 18.3	18.9
283246 2011 DK ₁₆	16.4	X	316.19409	311.19438	154.88757	2.38133	0.1399568	0.18809014	3.0168846	20	—	—
283247 2011 EU ₁₇	16.2	X	83.83681	313.25719	179.99726	25.53947	0.2036806	0.23064779	2.6333173	20	5 21.2	20.3
283248 2011 EY ₁₉	15.5	X	142.04392	237.73894	49.57936	10.54149	0.0441831	0.18117486	3.0931721	20	—	—
283249 2011 ET ₂₈	15.2	X	204.95238	7.10236	121.15176	4.30569	0.0517715	0.15498307	3.4325210	20	9 8.8	20.2
283250 2011 EC ₂₉	15.6	X	306.53076	333.65826	158.99619	10.99325	0.0669988	0.18626446	3.0365660	20	—	—
283251 2011 EY ₂₉	14.9	X	265.13816	317.08595	118.07574	9.60080	0.1400274	0.16206838	3.3317355	20	9 4.5	19.6
283252 2011 EL ₅₃	16.4	X	52.22228	197.95782	114.01640	7.56746	0.1256723	0.26097704	2.4251272	20	11 28.6	19.7
283253 2011 EO ₇₈	15.5	X	257.84624	20.96961	116.95282	3.69667	0.1198354	0.17137946	3.2099397	20	11 13.9	20.0
283254 2011 FH ₁	15.8	X	245.33230	122.40543	84.21090	11.69023	0.0501241	0.18472769	3.0533837	20	—	—
283255 2011 FA ₃	15.7	X	207.59447	176.94699	88.53160	4.75144	0.0531519	0.19205737	2.9751948	20	—	—
283256 2011 FG ₄	17.1	X	340.54632	61.24762	46.19899	8.15694	0.0548632	0.29500043	2.2348804	20	—	—
283257 2011 FA ₈	15.3	X	244.25114	322.14683	191.05158	15.44667	0.0741224	0.16913219	3.2383109	20	11 22.2	20.1
283258 2011 FH ₁₈	17.1	X	224.49656	33.21005	215.96246	4.51745	0.1119746	0.29576060	2.2310493	20	—	—
283259 2011 FD ₃₄	17.1	X	159.22375	131.29745	144.69278	3.34558	0.2429609	0.27447229	2.3449687	20	—	—
283260 2011 FN ₄₇	17.3	X	137.55483	265.92397	50.97191	6.09253	0.1138612	0.28373034	2.2936767	20	—	—
283261 2011 FR ₁₄₂	15.7	X	201.14196	260.52062	116.72908	5.50327	0.1393178	0.18252331	3.0779188	20	—	—
283262 2011 FU ₁₄₇	15.9	X	0.25444	299.72299	187.75985	17.75253	0.1421676	0.19858528	2.9096317	20	—	—
283263 2011 FH ₁₅₁	16.2	X	122.70124	19.49741	216.62851	11.02820	0.1940345	0.25859806	2.4399778	20	11 7.9	20.1
283264 2011 FT ₁₅₁	15.2	X	306.19267	240.35104	314.03527	13.88594	0.1036902	0.19730430	2.9222118	20	1 1.7	19.5
283265 2011 FM ₁₅₅	15.6	X	120.68040	217.07271	124.74906	8.73093	0.0908539	0.18329709	3.0692506	20	—	—
283266 2011 GX ₄₆	15.8	X	163.91523	234.94675	53.74245	5.00903	0.0646412	0.17757888	3.1347904	20	—	—
283267 2011 GC ₅₇	16.7	X	179.95701	193.24378	38.06691	7.40536	0.0690335	0.27394418	2.3479814	20	—	—
283268 2011 HB ₄	15.3	X	260.41270	71.14886	190.04467	13.98203	0.2181199	0.19134733	2.9825503	20	1 17.4	20.4
283269 2011 HY ₅	16.4	X	45.41566	117.51992	146.34377	5.92635	0.1787331	0.24073650	2.5592228	20	9 20.9	19.5
283270 2011 HS ₁₂	16.1	X	350.11224	186.11218	101.05438	13.22540	0.1953724	0.22714042	2.6603560	20	7 6.7	18.4
283271 2011 HS ₁₈	17.2	X	113.46616	148.02906	128.41042	7.80674	0.1946579	0.26198895	2.4188786	20	12 19.2	21.2
283272 2011 HR ₁₉	15.9	X	139.19808	114.98445	211.33219	8.59732	0.0542995	0.18174279	3.0867249	20	—	—
283273 2011 HU ₂₅	17.0	X	134.66918	156.83729	123.25926	7.08167	0.1038184	0.27227645	2.3575595	20	—	—
283274 2011 HR ₂₈	17.2	X	174.01678	157.03732	89.09962	6.68454	0.082					

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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>
283281 2011 <i>HR</i> ₅₄	15.7	X	313.93811	195.34015	98.71653	19.18772	0.1413341	0.21722820	2.7406815	20	5 17.1	19.3
283282 2011 <i>HS</i> ₅₅	15.7	X	203.12567	122.53977	137.98871	10.91027	0.1744709	0.17404155	3.1771234	20	—	—
283283 2011 <i>HF</i> ₆₃	15.5	X	280.70749	305.35023	183.42932	12.58914	0.0631198	0.17021395	3.2245760	20	12 9.4	20.1
283284 2011 <i>HK</i> ₆₆	15.4	X	240.25196	144.18448	114.48567	11.48192	0.0685752	0.18882516	3.0090505	20	1 8.9	19.9
283285 2011 <i>HJ</i> ₆₇	17.0	X	79.12068	157.21900	147.76046	12.19415	0.2092135	0.25665570	2.4522728	20	12 24.3	21.1
283286 2011 <i>HL</i> ₆₇	16.1	X	340.59267	102.10962	135.09198	12.07637	0.1296286	0.21219617	2.7838406	20	4 12.6	19.5
283287 2011 <i>HN</i> ₇₄	16.5	X	319.14506	161.85497	134.45550	11.19854	0.3181299	0.21534415	2.7566438	20	4 27.5	19.7
283288 2011 <i>HQ</i> ₇₄	15.2	X	83.01721	222.72521	146.59943	14.41744	0.1067279	0.16872087	3.2435717	20	—	—
283289 2011 <i>HK</i> ₈₀	15.5	X	117.57595	255.76227	97.77454	15.77415	0.1673575	0.17571353	3.1569370	20	1 5.1	20.0
283290 2011 <i>HJ</i> ₈₁	15.7	X	234.51978	169.37796	58.37813	5.46239	0.1659231	0.17788058	3.1312449	20	—	—
283291 2011 <i>JB</i> ₁₈	17.4	X	248.20927	6.27604	227.00965	6.62317	0.1199478	0.29309747	2.2445434	20	—	—
283292 2011 <i>JQ</i> ₂₇	15.9	X	285.92428	83.57651	121.61071	6.09777	0.0838985	0.18705174	3.0280395	20	—	—
283293 2011 <i>JZ</i> ₂₈	15.8	X	250.91169	40.42111	213.18049	8.25910	0.1009533	0.18786442	3.0193007	20	1 10.3	20.6
283294 2011 <i>JA</i> ₃₁	17.6	X	176.73450	215.45118	19.63173	2.52145	0.1449145	0.27221795	2.3578973	20	12 29.1	20.9
283295 2011 <i>KK</i> ₁	17.2	X	37.26463	129.88371	182.90396	3.55407	0.2273954	0.24535057	2.5270354	20	11 21.7	20.5
283296 2011 <i>KZ</i> ₁	15.2	X	357.74705	259.19632	191.72676	22.20625	0.1359121	0.17234995	3.1978783	20	—	—
283297 2011 <i>KT</i> ₇	17.9	X	255.50990	359.60231	201.26921	3.48386	0.1252090	0.28730805	2.2745956	20	—	—
283298 2011 <i>KB</i> ₈	17.6	X	168.70312	251.80758	73.80393	6.14538	0.1995676	0.28840916	2.2688024	20	1 10.4	21.1
283299 2011 <i>KN</i> ₈	16.4	X	125.21594	125.95187	61.90171	10.30698	0.0780021	0.24367122	2.5386328	20	9 8.7	20.2
283300 2011 <i>KT</i> ₈	16.1	X	50.04306	72.29809	191.89954	13.15594	0.1665233	0.23666036	2.5885250	20	9 22.5	19.4
283301 2011 <i>KA</i> ₉	17.5	X	200.25956	357.01230	246.44253	2.40636	0.1299239	0.27861920	2.3216426	20	—	—
283302 2011 <i>KB</i> ₉	16.4	X	257.13768	160.21171	72.26934	1.48077	0.2095558	0.18535909	3.0464458	20	—	—
283303 2011 <i>KH</i> ₁₁	17.7	X	188.24409	136.94283	120.97395	3.27500	0.1642433	0.27980140	2.3150984	20	—	—
283304 2011 <i>KL</i> ₂₂	17.6	X	175.41234	144.35070	146.93794	5.94228	0.0879582	0.28428901	2.2906707	20	—	—
283305 2011 <i>KK</i> ₂₃	16.9	X	23.11399	94.31156	173.11215	7.27572	0.1903561	0.23072403	2.6327371	20	8 17.7	19.7
283306 2011 <i>KS</i> ₂₄	16.3	X	21.20906	347.28202	130.78325	1.66917	0.0386613	0.18984790	2.9982339	20	1 13.5	20.1
283307 2011 <i>KU</i> ₂₄	16.7	X	75.59026	44.39425	110.85435	3.22792	0.0194953	0.21657952	2.7461512	20	5 9.7	20.4
283308 2011 <i>KW</i> ₂₄	15.8	X	223.56780	160.98573	58.03174	19.06218	0.0624366	0.17282942	3.1919612	20	—	—
283309 2011 <i>KZ</i> ₂₄	18.0	X	247.64465	108.89018	119.61998	4.35581	0.0866381	0.29068110	2.2569651	20	—	—
283310 2011 <i>KB</i> ₂₅	16.7	X	246.36917	130.04342	167.13746	2.08993	0.0414493	0.20048639	2.8912087	20	3 2.5	20.6
283311 2011 <i>KO</i> ₂₆	17.1	X	336.47084	274.23700	135.80830	5.37358	0.1038553	0.26267704	2.4146525	20	12 17.8	19.6
283312 2011 <i>KR</i> ₂₆	17.0	X	30.14380	295.98716	91.62038	7.76800	0.1178323	0.27110007	2.3643746	20	—	—
283313 2011 <i>KE</i> ₂₇	17.2	X	200.30019	239.86850	75.69797	6.44820	0.2135175	0.29478258	2.2359813	20	1 26.2	20.8
283314 2011 <i>KG</i> ₂₉	16.4	X	303.17858	185.62671	106.21264	5.96477	0.1316942	0.21454286	2.7635034	20	4 24.9	20.0
283315 2011 <i>KE</i> ₃₅	15.5	X	275.44765	345.66354	225.05187	8.31589	0.0621900	0.18678896	3.0308789	20	—	—
283316 1029 <i>T</i> ₃	16.1	X	171.97193	132.35053	228.86864	14.47486	0.2868424	0.17377629	3.1803557	20	3 3.4	22.0
283317 2049 <i>T</i> ₃	16.5	X	190.21254	80.03272	248.86860	2.59515	0.3165604	0.17498843	3.1656520	20	2 12.6	22.3
283318 1992 <i>DE</i> ₁	14.4	X	160.73602	202.25660	346.96026	8.25391	0.0628343	0.12389655	3.9850145	20	10 2.1	20.3
283319 1992 <i>WR</i> ₄	17.9	X	2.10813	201.63311	228.74751	5.34255	0.3361249	0.35882632	1.9613113	20	—	—
283320 1994 <i>SB</i> ₁₂	17.8	X	179.69403	148.86481	176.44766	4.74978	0.1387465	0.28450523	2.2895100	20	1 15.2	21.1
283321 1995 <i>SR</i> ₂₇	17.2	X	279.49505	262.48982	13.88336	5.46048	0.1749094	0.30193672	2.2005206	20	2 19.1	20.3
283322 1995 <i>SX</i> ₃₅	15.9	X	142.77056	252.12678	175.21300	13.08882	0.1736495	0.18164916	3.0877854	20	4 28.1	21.0
283323 1996 <i>AZ</i> ₅	16.8	X	237.72872	357.34218	82.68232	3.81045	0.0626811	0.22471690	2.6794494	20	8 24.4	20.4
283324 1996 <i>VE</i> ₁₉	17.1	X	240.72449	127.06462	210.88582	15.76776	0.2925841	0.19239196	2.9717443	20	3 24.6	22.4
283325 1997 <i>AA</i> ₂₃	16.1	X	140.77509	223.22993	146.33009	10.96197	0.0862755	0.17271833	3.1933297	20	2 8.1	20.9
283326 1997 <i>CE</i> ₂	16.4	X	36.21615	217.36624	121.93676	8.32135	0.1249594	0.24156988	2.5533334	20	12 9.1	19.8
283327 1997 <i>JN</i> ₅	16.5	X	356.63430	174.03131	141.40726	6.26794	0.0684821	0.22360804	2.6883003	20	8 28.0	19.8
283328 1997 <i>KN</i> ₂	17.2	X	1.10088	104.16542	170.76348	3.47456	0.1629976	0.21726356	2.7403842	20	7 10.6	19.8
283329 1997 <i>RG</i> ₈	17.1	X	185.46609	128.89373	170.00882	22.41909	0.2727444	0.27922410	2.3182883	20	—	—
283330 1998 <i>FL</i> ₁₄	16.6	X	132.35081	223.33601	328.38003	4.51793	0.2141278	0.23908432	2.5709995	20	9 19.5	20.9
283331 1998 <i>HJ</i> ₁₂₉	16.8	X	109.11433	349.22290	224.67643	3.20349	0.2191172	0.23760115	2.5816876	20	9 27.5	21.1
283332 1998 <i>MW</i> ₁₇	17.1	X	51.97030	179.96624	147.13417	4.26815	0.2525858	0.23744291	2.5828345	20	12 26.1	21.1
283333 1998 <i>QW</i> ₂₉	16.2	X	356.02617	10.99446	303.53259	10.93053	0.1825695	0.22420852	2.6834982	20	8 28.1	19.0
283334 1998 <i>VE</i> ₁₃	15.5	X	266.22018	113.97569	239.95150	12.02168	0.2254279	0.21308382	2.7761040	20	5 12.6	19.5
283335 1998 <i>XN</i> ₆	16.7	X	279.89310	283.65501	90.26618	4.43734	0.1981771	0.21467214	2.7623938	20	6 28.7	20.4
283336 1999 <i>CW</i> ₁₃₃	17.0	X	271.19795	20.06519	142.87853	5.52586	0.1071134	0.26819763	2.3814022	20	—	—
283337 1999 <i>CW</i> ₁₃₇	17.8	X	228.48679	252.33645	321.35294	1.65509	0.1616809	0.26711888	2.3878094	20	—	—
283338 1999 <i>RR</i> ₆₂	17.2	X	40.41867	193.50822	159.85076	6.11242	0.2619331	0.24397618	2.5365169	20	—	—
283339 1999 <i>RT</i> ₁₇₄	17.2	X	35.64392	213.57607	148.85692	4.65057	0.2674466	0.24330469	2.5411818	20	—	—
283340 1999 <i>TY</i> ₁₆₅	17.0	X	358.23650	115.51326	267.62236	3.22712	0.2151022	0.23932254	2.5692931	20	12 24.3	19.7
283341 1999 <i>TF</i> ₂₀₉	16.8	X	42.83333	351.03870	348.40833	6.85055	0.2157543	0.24062319	2.5600261	20	12 28.9	20.5
283342 1999 <i>TV</i> ₂₄₉	16.6	X	328.88838	154.06417	231.11235	7.08913	0.1296215	0.23582139	2.5946608	20	10 20.9	19.2
283343 1999 <i>TA</i> ₂₆₃	17.1	X	33.91529	124.97580	218.20255	2.32785	0.2205136	0.23971376	2.5664969	20	12 23.3	20.6
283344 1999 <i>UE</i> ₃₀	16.4	X	253.67588	255.80768	189.92779	6.93886	0.1785512	0.23156819	2.6263349	20	9 1.9	20.0
283345 1999 <i>VT</i> ₁₃	17.9	X	259.29445	69.57364	6.89632	19.30366	0.1752465	0.37338275	1.9099993	20	9 24.7	19.1
283346 1999 <i>VG</i> ₃₅	16.3	X	339.93361	345.00177	61.25114	6.82908	0.2835317	0.23640470	2.5903909	20	12 31.5	18.3
283347 1999 <i>VP</i> ₄₈	16.6	X	45.42201	56.23847	293.85240	3.70176	0.2383936	0.24137503	2.5547073	20	—	—
283348 1999 <i>VH</i> ₅₁	16.3	X	2.56560	128.61245	245.11299	12.34015	0.2650407	0.23720430	2.5845663	20	12 25.3	19.2
283349 1999 <i>VG</i> ₅₅	16.8	X	16.96990	127.97146	218.92662	12.41804	0.2199609	0.23731160	2.5837872	20	12 5.5	20.0
283350 1999 <i>VL</i> ₆₁	17.3	X	24.95912	312.85158	49.26228	2.31102	0.2423530	0.23960361	2.5672834	20	—	—
283351 1999 <i>VX</i> ₆₁	16.8	X	17.80335	138.15779	227.13880	4.76521	0.2356461	0.23889289	2.5723728	20	—	—
283352 1999 <i>VV</i> ₆₄	16.6	X	311.55290	179.76437	221.94560	11.30222	0.183					

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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>
283361 2000 AU ₁₄₆	16.9	X	27.39460	292.58736	134.56279	12.67598	0.3212539	0.24317466	2.5420875	20	—	—
283362 2000 AL ₁₈₅	15.8	X	268.40563	186.87069	253.26595	7.56749	0.2343621	0.22619240	2.6677843	20	9 1.9	19.4
283363 2000 AQ ₁₉₆	15.6	X	291.39250	134.98188	269.16158	12.12539	0.2426896	0.22491203	2.6778994	20	8 15.4	18.9
283364 2000 BE ₂₀	17.0	X	8.77662	308.31326	307.97331	3.08767	0.0542390	0.21065277	2.7974217	20	6 22.7	20.4
283365 2000 BO ₂₀	16.4	X	330.84297	71.43928	312.05150	5.69537	0.2988048	0.22798711	2.6537654	20	10 21.4	18.0
283366 2000 CW ₁₁₄	15.4	X	323.19773	248.84962	134.77004	15.29410	0.2114707	0.22557735	2.6726313	20	10 10.4	18.1
283367 2000 DO ₆₃	15.8	X	246.26823	104.65325	333.20715	8.30972	0.2542586	0.21992260	2.7182505	20	8 5.7	20.0
283368 2000 DW ₁₀₄	16.6	X	221.96003	114.02802	129.56008	7.34092	0.2077834	0.28145011	2.3060485	20	—	—
283369 2000 EX ₁₃	17.4	X	214.91634	271.22723	340.12668	4.82890	0.3726397	0.27884700	2.3203780	20	—	—
283370 2000 EF ₄₅	17.0	X	238.35267	239.04418	344.00418	4.45418	0.2261283	0.27944319	2.3170765	20	—	—
283371 2000 ES ₉₉	16.6	X	258.81046	206.01939	168.37471	4.62439	0.0850620	0.20951872	2.8075069	20	6 18.9	20.6
283372 2000 FE ₇	17.6	X	230.25821	103.99033	192.56336	5.22430	0.0532537	0.28917224	2.2648094	20	1 29.5	20.7
283373 2000 GL ₁₁₉	15.9	X	215.43563	310.48389	188.49716	13.41176	0.1491568	0.21619999	2.7493642	20	9 29.9	19.9
283374 2000 HA ₄₆	17.4	X	121.66892	237.67580	43.83503	21.59526	0.0747928	0.36731125	1.9309894	20	—	—
283375 2000 HZ ₉₄	17.1	X	131.76795	203.54211	84.67654	23.04411	0.0442105	0.36998611	1.9216713	20	—	—
283376 2000 KJ ₃₉	17.9	X	175.98309	117.72312	174.61668	3.08162	0.2463786	0.27471171	2.3436060	20	—	—
283377 2000 KO ₉	16.4	X	3.59097	84.67844	143.05124	16.31957	0.3094656	0.35326422	1.9818447	20	—	—
283378 2000 QV ₁	15.6	X	199.32200	120.75043	233.85594	25.63963	0.3503838	0.17852488	3.1237064	20	3 10.7	21.9
283379 2000 QY ₂	17.4	X	156.56716	187.62889	146.83608	4.98172	0.2516606	0.27073785	2.3664831	20	1 15.9	21.1
283380 2000 QY ₆	16.8	X	135.16518	354.72513	335.04620	12.13250	0.2618919	0.26794854	2.3828779	20	—	—
283381 2000 QH ₇	16.9	X	129.55152	358.52357	329.07839	24.54438	0.1832539	0.26627031	2.3928798	20	—	—
283382 2000 QY ₂₃	17.5	X	115.13794	37.07416	319.53108	0.91026	0.2009212	0.26670869	2.3902570	20	—	—
283383 2000 QH ₄₃	17.8	X	112.35024	125.18987	228.06649	0.98372	0.2628077	0.26638973	2.3921646	20	—	—
283384 2000 QR ₄₇	17.3	X	108.14699	8.32390	334.63481	3.89042	0.1367515	0.26518124	2.3994269	20	—	—
283385 2000 QY ₇₁	16.9	X	149.77846	342.24563	328.49804	6.38730	0.2401304	0.26810942	2.3819246	20	—	—
283386 2000 QN ₈₁	17.3	X	105.95303	5.73061	344.83090	2.20396	0.2058942	0.26501472	2.4004319	20	—	—
283387 2000 QO ₁₆₇	17.1	X	115.91643	54.03756	310.66534	4.55930	0.1941075	0.26768202	2.3844593	20	1 5.1	19.9
283388 2000 QO ₂₀₁	17.0	X	99.95160	258.49651	92.05743	3.30717	0.2251465	0.26414650	2.4056889	20	—	—
283389 2000 QV ₂₀₂	16.9	X	161.58947	282.94609	8.47724	7.23570	0.3480658	0.26888283	2.3773548	20	—	—
283390 2000 QV ₂₀₅	15.4	X	192.49551	11.46678	349.43788	17.86985	0.2196672	0.17771670	3.1331695	20	3 19.0	20.9
283391 2000 RD ₂₅	16.0	X	76.60161	123.55167	259.71764	8.19978	0.2023262	0.26373547	2.4081878	20	—	—
283392 2000 RR ₃₆	16.8	X	359.35201	82.10552	303.67919	18.67411	0.1053823	0.35506650	1.9751326	20	—	—
283393 2000 RO ₄₉	16.4	X	38.90007	262.18447	185.08490	20.02319	0.3902947	0.26047641	2.4282335	20	—	—
283394 2000 RR ₈₂	15.5	X	221.50549	191.78385	185.31803	17.59646	0.2065440	0.18258864	3.0771845	20	5 4.4	20.8
283395 2000 RK ₉₆	16.6	X	85.97476	83.68283	289.87707	4.37445	0.1007369	0.26442620	2.4039922	20	—	—
283396 2000 RC ₉₈	12.7	X	252.55901	27.58145	319.21408	25.42214	0.1368897	0.08303638	5.2034389	20	4 21.6	20.2
283397 2000 RV ₁₀₀	14.6	X	104.39171	207.92582	214.51072	29.51046	0.1907450	0.16979002	3.2299412	20	3 10.3	19.8
283398 2000 RE ₁₀₂	16.6	X	59.41097	107.51026	297.19902	9.02840	0.2206028	0.26191690	2.4193221	20	—	—
283399 2000 SZ ₆	16.3	X	207.96669	92.67237	260.53398	10.72503	0.1391814	0.22868957	2.6483283	20	3 17.6	20.8
283400 2000 SR ₁₅	16.7	X	133.36333	50.21673	233.91971	9.91924	0.2494296	0.26193345	2.4192202	20	—	—
283401 2000 SV ₁₅	12.5	X	287.42365	335.70806	322.67122	16.00162	0.1111269	0.08250989	5.2255506	20	4 11.9	19.5
283402 2000 SX ₁₆	12.8	X	283.23181	344.17193	331.26018	17.09238	0.0649000	0.08281504	5.2127060	20	5 3.2	19.9
283403 2000 SX ₁₈	17.1	X	42.93852	84.90635	313.60404	4.40019	0.1559995	0.26030900	2.4292745	20	—	—
283404 2000 SW ₂₅	16.4	X	63.15321	202.54470	180.23111	20.70419	0.1684253	0.26329966	2.4108444	20	—	—
283405 2000 SK ₂₆	15.0	X	159.95178	119.93877	291.06646	15.35861	0.3122137	0.17863226	3.1224545	20	4 20.6	21.0
283406 2000 SA ₃₃	16.7	X	63.57243	317.46197	97.68499	3.52734	0.1995117	0.26128879	2.4231978	20	—	—
283407 2000 SZ ₃₉	16.8	X	64.40128	260.27077	103.55540	4.99426	0.1668194	0.25862823	2.4397881	20	—	—
283408 2000 SA ₆₃	16.7	X	76.87764	181.00845	205.83613	5.63476	0.1416146	0.26337035	2.4104130	20	—	—
283409 2000 SS ₆₅	17.1	X	105.90732	217.42335	163.23746	4.12139	0.2247208	0.26648827	2.3915749	20	1 16.9	19.9
283410 2000 SC ₁₀₀	17.1	X	142.68941	56.78932	288.08992	1.73181	0.2092870	0.26795207	2.3828570	20	1 12.3	20.3
283411 2000 SJ ₁₀₆	17.3	X	94.85057	41.85940	307.99247	0.36774	0.2054578	0.26177432	2.4202006	20	—	—
283412 2000 SE ₁₁₂	16.7	X	101.17280	16.24040	2.84372	1.84006	0.2214568	0.26504817	2.4002299	20	1 8.6	19.3
283413 2000 SS ₁₃₀	15.5	X	202.35333	126.40213	223.40793	15.80455	0.2252462	0.17860568	3.1227643	20	3 11.4	21.2
283414 2000 SZ ₁₃₉	15.8	X	166.59169	6.19665	353.89881	11.35686	0.2258648	0.17268530	3.1937369	20	3 2.9	21.2
283415 2000 SU ₁₄₈	16.6	X	42.18017	190.45492	209.64997	4.27876	0.1941031	0.25841402	2.4411362	20	—	—
283416 2000 SO ₁₅₃	17.2	X	132.79065	171.36429	178.78837	3.63792	0.2645763	0.26651538	2.3914127	20	1 14.8	20.6
283417 2000 SR ₁₈₀	15.1	X	198.67740	112.68543	227.29876	24.93972	0.2635595	0.17374429	3.1807462	20	2 23.2	21.2
283418 2000 SV ₁₉₇	15.5	X	171.42166	174.77046	187.82943	9.12354	0.0949631	0.17457248	3.1706784	20	3 1.3	20.5
283419 2000 SK ₂₀₁	13.3	X	261.28958	332.88005	359.30965	17.51920	0.1772409	0.08343882	5.1866938	20	4 16.2	20.6
283420 2000 SO ₂₂₈	17.0	X	106.60730	315.47246	6.88590	1.46571	0.1922963	0.25984610	2.4321587	20	—	—
283421 2000 SL ₂₄₉	16.7	X	120.62517	273.19888	42.64214	6.35292	0.1399309	0.26191034	2.4193626	20	—	—
283422 2000 SH ₂₇₆	16.2	X	182.53956	117.99237	229.46854	14.37245	0.3263559	0.17555076	3.1588880	20	2 24.3	22.3
283423 2000 SZ ₂₈₅	15.3	X	153.55905	54.01170	325.28819	10.95048	0.1101755	0.17257442	3.1951048	20	3 3.7	20.2
283424 2000 SN ₃₁₇	12.8	X	257.79813	18.12007	318.88065	28.44422	0.0987356	0.08319310	5.1969020	20	4 17.6	20.3
283425 2000 SX ₃₂₂	15.6	X	166.90516	91.07927	269.68733	12.95296	0.2616508	0.17321637	3.1872057	20	2 26.7	21.4
283426 2000 SL ₃₂₄	17.5	X	14.52549	254.80361	188.35021	0.98484	0.1578696	0.25995343	2.4314892	20	—	—
283427 2000 SB ₃₆₃	17.1	X	327.85168	99.90519	300.18426	17.06929	0.0985976	0.35187836	1.9870449	20	12 20.1	18.8
283428 2000 TZ ₁₃	17.7	X	117.46997	290.45254	50.30394	0.32999	0.2548489	0.26384879	2.4074982	20	—	—
283429 2000 TW ₂₉	16.3	X	88.18739	38.85568	282.18522	12.52123	0.3042255	0.25844463	2.4409434	20	—	—
283430 2000 TB ₃₃	16.0	X	29.44664	155.76795	252.63362	23.59004	0.1924330	0.25717217	2.4489884	20	—	—
283431 2000 TZ ₄₀	16.9	X	127.53625	63.30611	259.46582	5.84870	0.1760622	0.26479740	2.4017450	20	—	—
283432 2000 TH ₄₁	15.5	X	216.21692	15.29269	11.60336	9.69964	0.0982359	0.18372375	3.0644968	20	5 12.6	20.3
283433 2000 UB ₁₁	15.7	X	117.59635	171.62058	221.58263	13.40120	0.1775554	0.21707773	2.7419479	20	2 12.2	19.9
283434 2000 UR ₇₁	16.4	X	70.68806	129.52650	243.02898	6.46130	0.1423416	0.25821596	2.4423842	20	—	—
283435 2000 UJ ₇₅	16.											

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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>
283441 2000 WU ₇₁	16.2	X	75.62923	65.00861	301.95769	5.96006	0.1636708	0.25821371	2.4423985	20	—	—
283442 2000 WO ₈₄	16.3	X	302.35540	58.67894	28.80305	4.88498	0.0833552	0.24739295	2.5131081	20	12 6.0	19.2
283443 2000 WO ₁₀₅	16.5	X	155.79888	314.87519	248.49660	6.30707	0.0926783	0.24253392	2.5465628	20	10 24.9	20.4
283444 2000 WS ₁₁₁	15.7	X	255.50261	171.28452	302.56962	5.58384	0.2182326	0.24232897	2.5479985	20	10 5.9	19.1
283445 2000 WP ₁₃₈	16.1	X	136.72288	91.49539	279.28698	1.04292	0.3058352	0.16732309	3.2616107	20	2 24.9	21.6
283446 2000 WD ₁₆₈	16.1	X	24.89371	241.31783	139.92439	13.70989	0.2069631	0.25306318	2.4754267	20	—	—
283447 2000 WA ₁₉₀	16.1	X	99.09901	80.85765	254.20209	2.68379	0.1906520	0.25801981	2.4436219	20	—	—
283448 2000 YK ₁₁	15.0	X	173.04164	258.86827	129.73940	25.28876	0.3235179	0.17545310	3.1600602	20	4 18.5	21.2
283449 2000 YC ₆₅	16.7	X	350.49978	275.13881	135.71445	3.31425	0.1879064	0.24719323	2.5144616	20	—	—
283450 2001 AW ₁	15.3	X	333.51218	198.64519	344.62016	32.83479	0.3663759	0.30527388	2.1844542	20	—	—
283451 2001 DL ₄₇	17.1	X	72.09971	72.29505	143.24257	12.41103	0.1516713	0.22180902	2.7028166	20	8 13.9	20.8
283452 2001 FJ ₄	16.5	X	234.12195	300.03277	134.55973	4.15272	0.0356393	0.22535557	2.6743845	20	8 14.8	20.1
283453 2001 FV ₁₀₄	16.0	X	113.19549	61.46943	136.21337	11.78042	0.0737990	0.22392197	2.6857871	20	8 31.9	19.8
283454 2001 FX ₁₉₆	15.7	X	349.39742	153.56828	105.47649	10.35571	0.1042474	0.20909863	2.8112659	20	5 27.9	19.1
283455 2001 FV ₂₂₁	16.9	X	10.47649	244.83696	347.28189	1.56897	0.1917079	0.21167598	2.7883995	20	5 27.6	19.5
283456 2001 HB ₄₆	15.6	X	108.35030	98.95267	75.25254	10.38844	0.0715206	0.21717000	2.7411712	20	7 25.4	19.6
283457 2001 MQ ₃	19.1	X	221.29113	25.17991	313.33565	5.56853	0.4549514	0.29533625	2.2331859	20	3 4.0	23.6
283458 2001 NZ ₄	17.8	X	238.50159	178.00294	118.16629	5.97875	0.1946133	0.29563449	2.2316838	20	2 2.4	21.2
283459 2001 OA ₇₈	17.1	X	186.22667	324.39232	53.05754	8.03817	0.2503124	0.29478951	2.2359463	20	4 2.8	20.9
283460 2001 PD ₁	18.3	X	210.71084	95.24495	292.01639	5.96164	0.4585365	0.29531153	2.2333105	20	4 11.4	22.9
283461 Leacipaola	17.8	X	196.86892	35.38386	316.51376	6.48830	0.2897348	0.29290920	2.2455051	20	3 5.9	21.8
283462 2001 PT ₆₁	17.5	X	154.74877	55.00244	333.06843	6.49921	0.2304586	0.29030455	2.2589164	20	3 15.9	21.0
283463 2001 QZ ₃₇	17.6	X	236.93946	161.47748	135.59485	4.98602	0.2170614	0.29472764	2.2362592	20	1 31.9	21.4
283464 2001 QN ₇₂	17.6	X	146.50239	47.17106	325.74070	6.62224	0.0451003	0.28982545	2.2614051	20	1 30.2	20.4
283465 2001 PD ₁₁₁	15.2	X	245.37828	33.99194	296.49390	24.28549	0.3567436	0.19195523	2.9762501	20	3 4.9	21.0
283466 2001 QZ ₁₁₆	16.9	X	182.92053	40.73584	311.66582	6.23401	0.1323975	0.28938652	2.2636912	20	2 20.6	20.3
283467 2001 QA ₁₂₄	17.3	X	227.40703	308.89159	10.80111	5.29830	0.1782712	0.29460055	2.2369023	20	2 23.9	20.7
283468 2001 QJ ₁₄₅	16.1	X	187.29668	185.37149	212.21065	1.67632	0.1485374	0.19051680	2.9912120	20	4 28.6	21.0
283469 2001 QK ₁₅₁	16.8	X	132.47133	143.42607	293.01823	23.13348	0.2524077	0.28978829	2.2615984	20	4 20.5	21.0
283470 2001 QM ₁₅₃	16.3	X	207.13629	87.43633	323.80054	22.05294	0.3897446	0.29504891	2.2346355	20	5 18.7	21.1
283471 2001 QW ₁₇₂	17.4	X	155.88404	131.79610	235.68536	4.80486	0.1197137	0.28914623	2.2649452	20	2 9.6	20.6
283472 2001 QT ₂₀₅	17.8	X	190.67530	122.40081	237.11683	3.64646	0.1994789	0.29307055	2.2446808	20	3 9.3	21.5
283473 2001 QA ₂₃₃	18.1	X	209.19123	332.36947	342.40892	1.78112	0.2240864	0.29053186	2.2577380	20	2 1.1	21.7
283474 2001 QJ ₂₅₉	15.7	X	180.62124	100.05219	289.55066	8.69409	0.1363889	0.18802818	3.0175473	20	4 8.6	20.8
283475 2001 QY ₂₈₉	16.9	X	258.65011	294.24995	309.38298	6.63067	0.0878922	0.28934382	2.2639139	20	—	—
283476 2001 QY ₂₉₃	17.5	X	183.03797	74.08814	301.24616	4.51893	0.1994899	0.29392831	2.2403116	20	3 21.9	21.3
283477 2001 QY ₃₀₅	15.6	X	221.38668	116.13133	175.68981	10.58337	0.0147518	0.18252916	3.0778530	20	1 29.5	20.2
283478 2001 QR ₃₂₇	16.4	X	166.55153	131.06160	292.18143	11.12242	0.2477783	0.24169963	2.5524195	20	5 9.8	21.1
283479 2001 RO ₄₀	15.9	X	219.25896	42.50488	357.59607	14.88494	0.2731834	0.19516757	2.9435016	20	5 19.4	21.4
283480 2001 RT ₆₄	15.6	X	190.34283	86.93281	324.08988	10.00434	0.0135692	0.19254674	2.9701515	20	5 16.8	20.0
283481 2001 RT ₉₆	18.0	X	225.04526	354.36388	321.03228	1.60475	0.1728486	0.29329413	2.2435399	20	2 14.9	21.4
283482 2001 RU ₁₁₃	17.8	X	160.71140	338.78136	23.71728	3.24279	0.1396105	0.28838990	2.2689035	20	2 13.9	20.9
283483 2001 RC ₁₃₀	17.1	X	219.65973	105.37827	162.20131	7.89799	0.0978375	0.28427307	2.2907563	20	—	—
283484 2001 SR ₇	16.1	X	176.81227	274.85569	133.00763	2.21306	0.1730070	0.19149875	2.9809779	20	5 2.1	20.8
283485 2001 SQ ₁₈	16.3	X	189.41706	252.71338	145.41143	2.53513	0.2781415	0.18903293	3.0068452	20	5 1.3	21.6
283486 2001 SW ₂₄	16.6	X	148.40853	13.85928	359.19408	4.80717	0.1755854	0.28640990	2.2793483	20	2 18.2	19.9
283487 2001 SZ ₄₀	17.7	X	180.81839	182.83920	164.98300	4.81588	0.2212104	0.28800778	2.2709099	20	2 17.8	21.4
283488 2001 SU ₁₀₂	17.4	X	138.56129	46.09258	342.17777	6.58870	0.1440399	0.28698417	2.2763066	20	2 23.0	20.3
283489 2001 SJ ₁₀₃	18.0	X	167.98524	161.67379	196.36311	4.34798	0.1590061	0.28796174	2.2711519	20	2 14.5	21.3
283490 2001 SZ ₁₁₆	17.0	X	100.47354	154.74870	275.71821	5.44376	0.1349830	0.28796711	2.2711237	20	2 26.5	19.7
283491 2001 ST ₁₂₂	17.3	X	190.67172	61.64510	311.49103	7.23934	0.1672697	0.29432665	2.2382899	20	3 24.1	20.8
283492 2001 SH ₁₃₁	17.3	X	179.73046	36.38138	336.88309	2.96731	0.1758014	0.29134805	2.2535194	20	3 17.5	20.8
283493 2001 SA ₁₃₂	17.2	X	105.00439	92.36810	187.02708	4.85162	0.2287949	0.27074652	2.3664325	20	12 17.9	21.2
283494 2001 SZ ₁₅₅	17.2	X	69.06067	32.93668	12.56205	21.13408	0.0506603	0.38331797	1.8768516	20	—	—
283495 2001 SZ ₁₅₆	17.0	X	156.05638	101.63935	279.08030	4.41491	0.1702286	0.28852924	2.2681729	20	3 2.6	20.3
283496 2001 ST ₁₅₇	15.6	X	186.18914	160.01473	232.40489	4.67315	0.1423375	0.18864976	3.0109154	20	4 20.7	20.6
283497 2001 SL ₁₈₃	18.1	X	220.27875	306.42112	5.75350	3.46192	0.2347442	0.29281299	2.2459969	20	2 7.1	21.9
283498 2001 SO ₂₂₇	16.0	X	173.63075	357.42822	11.35513	4.09313	0.1284209	0.18364065	3.0654213	20	3 13.6	20.7
283499 2001 SH ₂₃₂	15.8	X	214.67901	211.30404	164.30630	1.75035	0.1949553	0.18980013	2.9987370	20	4 25.5	20.8
283500 2001 SK ₂₅₈	15.9	X	251.03162	323.96187	330.06769	8.98657	0.0456753	0.18727451	3.0256378	20	3 3.7	20.2
283501 2001 SW ₂₆₃	16.7	X	183.70263	87.71479	242.38183	22.12209	0.1998056	0.28725129	2.2748952	20	1 21.3	20.8
283502 2001 SJ ₂₉₀	17.0	X	196.24357	70.40162	279.12302	7.53778	0.1354384	0.29116870	2.2544447	20	2 27.6	20.5
283503 2001 SU ₂₉₉	17.5	X	234.99647	285.16322	343.44892	5.82829	0.2008957	0.28822628	2.2697621	20	—	—
283504 2001 SF ₃₀₉	15.7	X	306.08883	271.08020	348.73466	10.77802	0.0227173	0.18899309	3.0072678	20	3 30.2	20.0
283505 2001 SA ₃₂₅	17.5	X	181.69054	247.51875	107.93613	6.94220	0.1419052	0.28998899	2.2605548	20	2 27.3	20.9
283506 2001 SV ₃₃₄	16.5	X	232.68161	213.89068	135.02210	1.54464	0.1490188	0.19307739	2.9647070	20	4 12.2	21.0
283507 2001 SN ₃₃₈	17.1	X	202.05592	164.70415	220.60742	3.23950	0.1782692	0.18969851	2.999			

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>		
283521	2001	<i>TM</i> ₈₃	15.7	X	174.46952	119.58433	257.09795	4.02194	0.1698415	0.18480320	3.0525519	20	3 22.2	20.7
283522	2001	<i>TF</i> ₉₂	17.9	X	170.20922	132.74423	217.03689	5.06548	0.2367569	0.28670322	2.2777934	20	2 10.9	21.8
283523	2001	<i>TX</i> ₁₁₂	16.9	X	221.72596	272.53077	10.06347	7.95902	0.1114836	0.28323994	2.2963234	20	1 4.6	20.4
283524	2001	<i>TD</i> ₁₁₈	15.8	X	232.63811	18.66104	285.19416	15.90077	0.2316666	0.18597222	3.0397463	20	2 9.7	21.3
283525	2001	<i>TE</i> ₁₂₀	15.1	X	111.01285	148.43415	295.19133	11.86392	0.2477479	0.18015594	3.1048241	20	4 17.1	20.2
283526	2001	<i>TH</i> ₁₃₀	17.1	X	352.30657	304.98333	209.74488	6.45941	0.0461113	0.28100971	2.3084572	20	1 1.1	19.9
283527	2001	<i>TG</i> ₁₃₁	16.1	X	229.59752	220.51252	135.73158	7.56055	0.2686201	0.19078048	2.9884553	20	4 13.3	21.3
283528	2001	<i>TF</i> ₁₄₁	16.9	X	85.76975	320.91511	111.68440	5.18700	0.1042053	0.28417370	2.2912903	20	2 6.3	19.2
283529	2001	<i>TV</i> ₁₇₃	16.2	X	188.25894	203.08612	161.01039	1.45130	0.1239903	0.18443702	3.0565910	20	3 20.9	21.1
283530	2001	<i>TT</i> ₁₇₅	17.5	X	197.29935	80.09739	232.70903	4.59885	0.2034027	0.28726792	2.2748074	20	1 18.5	21.2
283531	2001	<i>TJ</i> ₁₇₉	15.3	X	116.60344	56.79690	7.83445	10.71981	0.0922937	0.18072530	3.0982997	20	3 19.5	19.8
283532	2001	<i>TW</i> ₁₈₄	13.1	X	201.76402	9.46910	12.13185	11.35997	0.0666983	0.08238792	5.2307065	20	4 26.1	20.3
283533	2001	<i>TR</i> ₁₉₄	15.7	X	120.16548	168.44862	275.87214	7.92033	0.1763552	0.18071322	3.0984377	20	4 21.9	20.6
283534	2001	<i>TQ</i> ₂₀₈	18.0	X	142.86698	4.59266	10.18847	2.75107	0.1629690	0.28416516	2.2913362	20	2 13.1	21.0
283535	2001	<i>TE</i> ₂₁₆	15.6	X	123.77745	102.88456	307.38321	8.77975	0.1567669	0.17855045	3.1234082	20	3 12.8	20.4
283536	2001	<i>TA</i> ₂₁₈	17.4	X	155.49522	106.63499	244.22748	6.06278	0.1235027	0.28438856	2.2901361	20	1 20.1	20.6
283537	2001	<i>TN</i> ₂₂₃	18.3	X	120.95495	81.49862	330.34986	3.50804	0.2148640	0.28509704	2.2863405	20	3 12.8	21.2
283538	2001	<i>TB</i> ₂₃₄	13.3	X	256.33096	112.10034	231.52104	3.30841	0.0598342	0.08428919	5.1517502	20	5 12.5	20.1
283539	2001	<i>TK</i> ₂₄₀	17.6	X	252.47048	344.82558	348.72456	5.23248	0.1882730	0.29597223	2.2299857	20	4 1.6	20.7
283540	2001	<i>UA</i> ₁₉	17.0	X	232.05807	267.18894	37.55636	8.19779	0.1353092	0.29139709	2.2532666	20	2 13.1	20.4
283541	2001	<i>UA</i> ₄₁	15.6	X	172.21574	323.41619	52.30079	8.87466	0.1135573	0.18271803	3.0757317	20	3 23.2	20.5
283542	2001	<i>UN</i> ₅₃	15.2	X	122.78571	198.09377	206.90163	18.38950	0.1758016	0.17593615	3.1542733	20	3 7.8	20.3
283543	2001	<i>UG</i> ₅₉	13.3	X	282.92482	283.01905	29.99615	14.43128	0.1264888	0.08508962	5.1193913	20	4 27.7	20.1
283544	2001	<i>UK</i> ₈₉	15.5	X	151.68272	264.99357	126.19062	11.45968	0.1110169	0.18153863	3.0890387	20	3 21.4	20.4
283545	2001	<i>UL</i> ₉₇	16.3	X	224.75246	293.26317	67.23792	2.31590	0.1943169	0.18896964	3.0075165	20	4 11.6	21.1
283546	2001	<i>UK</i> ₁₂₃	17.1	X	116.11364	133.07604	228.90221	19.91548	0.1251528	0.38217537	1.8805906	20	—	—
283547	2001	<i>UQ</i> ₁₂₄	15.7	X	208.74221	273.18222	99.52132	12.75497	0.1552752	0.18790889	3.0188243	20	4 23.7	20.8
283548	2001	<i>UU</i> ₁₃₁	17.5	X	150.44169	335.97147	51.15933	6.96920	0.2220321	0.28654500	2.2786318	20	3 15.6	21.1
283549	2001	<i>UJ</i> ₁₃₄	13.3	X	252.68724	120.19604	171.93014	34.44474	0.1381343	0.08325805	5.1941988	20	4 23.7	20.4
283550	2001	<i>UM</i> ₁₄₀	16.7	X	254.14889	133.50952	183.05766	5.01860	0.3364989	0.19129458	2.9830986	20	3 8.8	22.0
283551	2001	<i>UY</i> ₁₇₂	17.6	X	166.75303	111.03820	208.85502	5.60646	0.1364758	0.28048306	2.3113460	20	—	—
283552	2001	<i>UY</i> ₂₂₀	17.5	X	152.51978	135.94073	243.57692	2.57969	0.1743503	0.28491293	2.2873254	20	2 28.1	20.9
283553	2001	<i>UY</i> ₂₂₅	13.8	X	212.51091	234.83990	147.39527	10.38795	0.0845692	0.08504125	5.1213325	20	5 11.8	21.0
283554	2001	<i>UR</i> ₂₂₇	16.0	X	226.33984	261.08185	88.75328	4.86507	0.1710942	0.18927658	3.0042642	20	4 7.9	20.9
283555	2001	<i>UV</i> ₂₃₀	16.6	X	172.21998	240.41012	151.57184	9.10943	0.2372290	0.18431675	3.0579204	20	4 13.6	22.0
283556	2001	<i>VT</i> ₁	16.9	X	70.65952	71.50199	306.89368	19.50349	0.0570643	0.38008399	1.8874828	20	—	—
283557	2001	<i>VV</i> ₂	16.3	X	173.65050	261.02204	79.20816	10.60006	0.2910935	0.28405392	2.2919345	20	2 10.3	20.4
283558	2001	<i>VO</i> ₃₂	16.8	X	116.39538	114.92103	262.92764	5.94128	0.1185850	0.27729138	2.3290482	20	1 8.7	19.6
283559	2001	<i>VW</i> ₃₂	15.5	X	113.16528	175.73070	252.24523	5.92699	0.2262230	0.17619129	3.1512276	20	4 1.3	20.4
283560	2001	<i>VF</i> ₅₆	13.1	X	232.21351	144.14817	237.31138	29.20020	0.0805655	0.08330814	5.1921166	20	5 27.3	20.2
283561	2001	<i>VP</i> ₅₇	17.1	X	126.20687	145.58137	256.54814	7.77497	0.1355913	0.28241422	2.3007972	20	2 21.5	20.2
283562	2001	<i>VK</i> ₆₀	15.8	X	75.90336	307.36154	242.70674	11.34132	0.0179328	0.24411580	2.5355497	20	6 24.8	19.1
283563	2001	<i>VA</i> ₆₃	15.4	X	178.73522	5.52482	25.91837	10.41490	0.1414247	0.18346707	3.0673545	20	4 13.8	20.2
283564	2001	<i>VB</i> ₇₄	15.5	X	125.51306	159.68214	271.99841	16.50422	0.1874377	0.18070319	3.0985523	20	4 9.3	20.7
283565	2001	<i>VR</i> ₉₃	15.9	X	174.29742	263.37319	134.17698	11.23113	0.3125900	0.18348767	3.0671249	20	4 24.4	21.7
283566	2001	<i>VS</i> ₁₀₇	17.6	X	159.02594	152.58103	231.04028	5.41895	0.2121030	0.28674477	2.2775734	20	3 12.3	21.2
283567	2001	<i>VH</i> ₁₀₈	18.1	X	116.36260	46.82651	342.04221	1.76258	0.1946731	0.28026832	2.3125265	20	2 4.8	20.8
283568	2001	<i>VF</i> ₁₂₈	17.1	X	237.63533	83.86478	132.61715	7.63316	0.0646772	0.27401880	2.3475552	20	—	—
283569	2001	<i>VM</i> ₁₃₃	17.4	X	25.04296	312.05783	141.92168	7.22986	0.0702645	0.27678805	2.3318708	20	—	—
283570	2001	<i>WN</i> ₁₈	15.3	X	201.87341	129.07985	229.96122	8.22148	0.1288725	0.18451370	3.0557441	20	3 24.7	20.2
283571	2001	<i>WL</i> ₂₆	16.0	X	196.57493	281.23044	85.08402	2.12024	0.2166675	0.18418974	3.0593260	20	3 27.8	21.2
283572	2001	<i>WF</i> ₇₅	16.2	X	158.26993	321.74552	62.42411	2.59662	0.1911633	0.18060367	3.0996905	20	3 24.9	21.2
283573	2001	<i>WM</i> ₇₇	17.4	X	37.38719	193.72907	228.82252	5.33209	0.0666611	0.27221027	2.3579416	20	—	—
283574	2001	<i>XV</i> ₂₀	16.5	X	144.79257	15.10215	334.59300	6.52259	0.1842060	0.27586606	2.3370636	20	1 17.9	19.8
283575	2001	<i>XB</i> ₃₂	16.0	X	149.52533	18.26286	4.76814	0.63167	0.1599706	0.17834584	3.1257967	20	3 9.7	21.0
283576	2001	<i>XT</i> ₃₈	16.7	X	71.01342	118.86679	315.47113	7.54496	0.2252245	0.27700572	2.3306491	20	2 2.3	18.3
283577	2001	<i>XO</i> ₆₇	15.8	X	147.38271	124.95776	267.88620	16.73473	0.2701909	0.23027262	2.6361767	20	3 14.8	20.7
283578	2001	<i>XP</i> ₇₆	15.5	X	143.31168	141.02750	235.37241	15.74091	0.1754942	0.17641434	3.1485707	20	2 20.2	20.9
283579	2001	<i>XU</i> ₈₀	15.6	X	199.55069	275.89074	88.83757	9.22845	0.2591733	0.18287202	3.0740048	20	4 3.8	21.2
283580	2001	<i>XC</i> ₉₇	15.4	X	166.69698	109.99642	281.04794	7.33308	0.2621672	0.18101450	3.0949987	20	4 3.0	20.9
283581	2001	<i>XN</i> ₁₀₉	15.7	X	157.72792	279.50452	92.81267	6.17482	0.1293712	0.17855321	3.1233760	20	3 5.3	20.6
283582	2001	<i>XP</i> ₁₃₄	16.9	X	304.57522	222.50129	259.82262	6.10891	0.0876710	0.26450633	2.4035067	20	—	—
283583	2001	<i>XK</i> ₁₈₂	17.4	X	26.44492	295.32338	101.48685	24.54902	0.1007808	0.37002683	1.9215303	20	—	—
283584	2001	<i>XP</i> ₁₈₃	15.8	X	162.10447	131.99815	273.24239	11.84782	0.1608871	0.23109341	2.6299310	20	4 8.4	20.3
283585	2001	<i>XR</i> ₂₀₀	16.9	X	49.10009	135.77640	282.81442	6.51063	0.0936688	0.27222167	2.3578758	20	—	—
283586	2001	<i>XJ</i> ₂₀₅	15.0	X	79.21502	321.12341	106.39839	8.89203	0.1520101	0.17147684	3.2087243	20	2 16.6	19.3
283587	2001	<i>XH</i> ₂₂₈	15.4	X	121.45041	140.59657	260.49461	15.48899	0.2240420	0.17524579	3.1625518	20	3 3.1	20.6
283588	2001	<i>XN</i> ₂₂₉	16.7	X	59.09463	68.76508	68.26313	6.57557</						

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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>	
283601	2001 YW ₁₁₄	16.2	X	178.57603	249.86391	174.35827	14.78902	0.3453399	0.18551942	3.0446904	20	5 25.9	22.1
283602	2001 YL ₁₁₈	15.2	X	163.87981	285.68303	107.86875	16.86792	0.2491521	0.17656067	3.1468309	20	4 15.0	20.9
283603	2001 YH ₁₅₃	16.1	X	211.19702	37.51558	335.65413	13.38015	0.1920291	0.23583493	2.5945615	20	4 11.4	20.6
283604	2002 AV ₄₉	16.8	X	337.57294	148.25927	296.41146	5.84272	0.0687495	0.26034394	2.4290572	20	—	—
283605	2002 AH ₉₆	17.6	X	61.69187	107.59582	310.98482	2.64004	0.2296946	0.27209865	2.3585864	20	—	—
283606	2002 AX ₉₆	17.4	X	213.51690	229.59153	301.77023	9.75805	0.1735312	0.25249478	2.4791403	20	11 7.1	21.1
283607	2002 AB ₉₉	17.2	X	343.55612	142.26147	323.21118	6.35709	0.1596883	0.26455992	2.4031821	20	—	—
283608	2002 AK ₁₃₁	17.2	X	6.67485	308.56354	130.70824	23.47665	0.0938614	0.37142148	1.9167172	20	—	—
283609	2002 AT ₁₇₃	16.8	X	112.89791	264.93076	304.28998	25.48065	0.3162468	0.23900678	2.5715555	20	9 16.1	22.0
283610	2002 CO ₈	17.2	X	65.28160	139.18296	278.28223	3.19830	0.1950934	0.27111517	2.3642869	20	—	—
283611	2002 CD ₂₃	14.9	X	186.06761	98.40884	304.53760	19.42341	0.1839998	0.17714651	3.1398891	20	4 26.5	20.6
283612	2002 CV ₄₃	16.7	X	69.80878	336.44133	347.28572	18.99457	0.0839235	0.35900792	1.9606498	20	—	—
283613	2002 CG ₄₈	16.5	X	41.55507	237.15805	204.98693	6.05472	0.2314317	0.21639193	2.7477381	20	—	—
283614	2002 CZ ₅₀	16.7	X	128.36299	279.42428	140.70530	5.49026	0.1150639	0.22420402	2.6835341	20	3 27.3	20.6
283615	2002 CG ₆₆	16.0	X	200.68068	275.93604	125.66569	28.81881	0.1548250	0.23525921	2.5987926	20	5 25.1	20.8
283616	2002 CL ₈₇	17.0	X	148.20403	37.13558	129.94407	12.73343	0.1139593	0.24072753	2.5592863	20	9 4.7	20.9
283617	2002 CH ₁₁₀	16.0	X	31.11767	140.73019	355.25128	9.00147	0.0997185	0.21744229	2.7388823	20	2 18.1	19.2
283618	2002 CB ₁₃₈	15.0	X	143.34532	96.72305	301.58681	23.65959	0.3779904	0.17470601	3.1690626	20	3 22.2	21.2
283619	2002 CE ₁₄₄	16.9	X	53.73936	106.22811	316.45043	10.69891	0.2354751	0.26820805	2.3813406	20	—	—
283620	2002 CO ₁₅₃	17.6	X	73.08399	94.94741	324.78273	0.77363	0.1849973	0.27214140	2.3583394	20	1 9.9	19.6
283621	2002 CO ₁₇₂	16.6	X	152.44658	143.62268	61.54615	5.26642	0.1299879	0.24524885	2.5277341	20	10 26.3	20.6
283622	2002 CQ ₁₇₅	16.6	X	230.58975	74.73047	95.83539	8.00751	0.0579344	0.25661923	2.4525051	20	12 18.1	19.5
283623	2002 CU ₁₇₅	16.7	X	75.72050	73.33906	331.97081	6.93166	0.1052633	0.27034328	2.3687851	20	—	—
283624	2002 CZ ₁₉₄	17.2	X	99.19682	52.68098	335.80233	3.05501	0.2137863	0.27071190	2.3666343	20	1 16.4	19.7
283625	2002 CO ₂₀₈	16.8	X	76.14860	221.55921	27.37211	2.83337	0.2109754	0.23791200	2.5794384	20	10 10.9	20.6
283626	2002 CK ₂₁₀	16.5	X	145.32418	43.05306	348.88042	3.27088	0.3039578	0.27808898	2.3245927	20	3 20.1	20.4
283627	2002 CN ₂₃₀	17.1	X	120.87336	49.90252	153.60068	5.45526	0.2189947	0.23770460	2.5809385	20	9 26.9	21.5
283628	2002 CN ₂₇₃	17.1	X	98.06036	297.39634	142.13050	2.66654	0.1810329	0.22230448	2.6987992	20	3 24.5	20.6
283629	2002 CK ₂₇₄	17.3	X	84.90542	256.89113	133.62383	9.49216	0.2055962	0.26831389	2.3807143	20	—	—
283630	2002 CV ₃₀₉	16.7	X	240.58870	19.49827	157.97444	11.65123	0.1109205	0.25572113	2.4582439	20	12 27.4	19.8
283631	2002 DO ₁₀	16.5	X	139.24537	40.93410	183.86109	4.58199	0.0668386	0.24618058	2.5213522	20	11 6.6	20.2
283632	2002 DL ₁₇	16.8	X	183.85918	49.68107	133.42969	24.89965	0.0671895	0.35377483	1.9799373	20	12 3.3	19.7
283633	2002 EG ₅	16.9	X	133.85438	220.03857	7.97574	2.50032	0.0796299	0.24413077	2.5354460	20	11 2.9	20.6
283634	2002 EM ₃₉	16.6	X	327.06507	58.03629	168.36625	11.57659	0.1383902	0.21820250	2.7325172	20	2 28.0	20.0
283635	2002 EE ₅₀	16.7	X	317.93432	73.51058	168.58782	9.49295	0.1436506	0.21897747	2.7260664	20	3 5.8	20.0
283636	2002 EZ ₁₁₂	16.9	X	292.29794	108.86825	156.82288	8.84324	0.2500550	0.21566433	2.7539148	20	2 17.2	21.0
283637	2002 EX ₁₆₀	16.4	X	183.51896	61.95665	122.17968	12.90114	0.1173621	0.24529765	2.5273989	20	11 4.8	20.4
283638	2002 FL ₂₂	16.2	X	129.54311	113.78816	107.17593	11.63241	0.1124928	0.24095592	2.5576689	20	10 26.9	20.3
283639	2002 FT ₂₂	15.7	X	112.23339	153.46349	99.74810	13.10690	0.1181296	0.24358976	2.5391988	20	11 17.6	19.7
283640	2002 GC ₁₆	16.4	X	150.04962	198.49687	21.87247	4.73920	0.0779453	0.24393337	2.5368137	20	11 10.4	20.0
283641	2002 GX ₅₅	15.6	X	70.09739	320.92148	351.91235	11.26760	0.0591203	0.24485886	2.5304174	20	12 5.4	19.3
283642	2002 GJ ₅₆	16.4	X	189.27084	275.01286	256.64398	5.19801	0.1761653	0.24318042	2.5420474	20	10 13.9	20.5
283643	2002 GJ ₇₁	16.4	X	124.89023	196.74212	43.11958	8.16643	0.1057002	0.24186417	2.5512618	20	11 8.9	20.1
283644	2002 GJ ₁₃₃	16.2	X	19.02690	13.14514	348.18040	2.50738	0.3020839	0.24361765	2.5390050	20	11 29.9	19.4
283645	2002 GJ ₁₈₂	16.7	X	33.89224	285.66498	186.08172	12.63672	0.2048559	0.21317989	2.7752699	20	1 19.5	19.6
283646	2002 HA ₆	17.2	X	138.99764	329.09133	206.64940	6.54000	0.1468039	0.23304976	2.6151922	20	9 1.9	21.4
283647	2002 JW ₃₆	17.4	X	86.91432	73.95821	169.30630	5.47399	0.3020183	0.23278240	2.6171942	20	10 22.5	21.8
283648	2002 JV ₈₇	16.3	X	11.84237	64.58329	228.68384	13.43317	0.2165272	0.22682304	2.6628371	20	9 1.3	19.2
283649	2002 JS ₁₄₅	16.4	X	52.92133	164.65358	110.31962	15.49269	0.2445154	0.23150680	2.6267992	20	10 29.3	20.5
283650	2002 JJ ₁₅₀	17.2	X	24.61141	195.60321	118.98282	3.00967	0.1960442	0.23082091	2.6320004	20	10 30.2	20.2
283651	2002 KR ₁₃	16.3	X	13.02461	227.68511	74.82240	9.61983	0.2955196	0.22604524	2.6689420	20	10 13.2	19.0
283652	2002 KU ₁₅	17.4	X	20.84032	46.87066	225.83510	3.27707	0.1893053	0.22549108	2.6733130	20	8 19.9	20.1
283653	2002 LH ₁₃	17.1	X	13.93018	163.37231	142.94344	5.27079	0.3063041	0.22601433	2.6691854	20	10 19.5	19.8
283654	2002 LJ ₄₇	16.2	X	354.68435	80.57737	208.10595	11.66141	0.1263050	0.22207503	2.7006574	20	7 15.0	19.4
283655	2002 LB ₆₂	16.3	X	28.39305	20.36656	261.12515	4.01483	0.2402328	0.22436164	2.6822771	20	9 22.9	19.4
283656	2002 MZ ₁	15.9	X	339.91658	273.80238	103.53826	14.53922	0.3688250	0.22419129	2.6836357	20	11 26.8	17.6
283657	2002 NT ₅₇	16.3	X	324.70275	106.08132	241.84848	5.76312	0.1155618	0.21938516	2.7226881	20	8 15.1	19.5
283658	2002 OE ₁₅	16.2	X	314.48266	144.35533	203.24911	8.98433	0.2824795	0.21582135	2.7525789	20	7 3.6	19.1
283659	2002 OE ₃₁	16.8	X	253.03360	275.17914	109.43703	7.35136	0.0564497	0.21511600	2.7585927	20	6 29.3	20.7
283660	2002 PV ₇	16.9	X	7.10674	29.34164	273.66081	3.33341	0.1677130	0.22176478	2.7031761	20	9 3.3	19.7
283661	2002 PM ₁₃	16.1	X	341.35215	4.79138	297.28288	8.81427	0.1538463	0.21833124	2.7314429	20	7 11.2	18.7
283662	2002 PD ₃₃	16.1	X	314.33378	85.82224	262.50857	3.82534	0.1758319	0.21692593	2.7432269	20	7 22.4	18.9
283663	2002 PK ₉₀	16.4	X	325.88393	44.16005	259.58514	10.91093	0.1868958	0.21348029	2.7726658	20	6 7.7	19.3
283664	2002 PW ₉₀	15.3	X	297.28030	100.35214	277.40390	11.19112	0.1965221	0.21521964	2.7577070	20	7 28.6	18.7
283665	2002 PV ₉₈	16.1	X	15.17726	218.00315	133.11890	7.53022	0.2342096	0.22580750	2.6708150	20	12 8.3	19.3
283666	2002 PK ₁₀₆	16.2	X	263.17224	139.84540	253.46765	7.80540	0.1709961	0.21398389	2.7683139	20	7 6.2	20.1
283667	2002 PH ₁₁₃	16.2	X	315.75122	65.17908	325.92004	23.66718	0.2908185	0.22022413	2.7157687	20	9 6.5	18.7
283668	2002 PD ₁₁₅	16.7	X	302.93016	184.37645	161.43408	3.79516	0.1010441	0.21423720	2.7661313	20	7 9.5	20.2
283669	2002 PD ₁₁₈	16.0	X	342.25648	350.34701	276.57710	8.29047	0.2389793	0.21334045	2.7738773	20	5 9.5	18.7
283670	2002 PN ₁₃₇	16.8	X	329.87514	198.20406	120.27100	10.83003	0.2901982	0.21579569	2.7527971	20	6 25.4	19.1
283671	2002 PV ₁₆₃	16.1	X	302.18771	33.14914	321.20173	8.61647	0.0297193	0.21813274	2.7330997	20	7 31.2	19.5
283672	2002 PG ₁₇₆ </												

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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>
283681 2002 QB ₉₀	16.5	X	322.20014	214.31523	93.94792	6.16974	0.1209011	0.21239692	2.7820861	20	6 16.0	19.7
283682 2002 QX ₁₀₃	16.4	X	289.45058	216.08263	173.05696	13.81221	0.0699686	0.21887210	2.7269413	20	8 21.4	19.9
283683 2002 QV ₁₁₂	15.8	X	294.35287	261.52254	167.62602	13.76480	0.1128371	0.17003789	3.2268015	20	10 11.6	20.0
283684 2002 QL ₁₂₁	17.1	X	313.40971	160.56583	197.61957	3.01959	0.2065424	0.21708327	2.7419012	20	7 30.7	19.8
283685 2002 QD ₁₂₄	16.7	X	30.55328	318.50705	280.31324	5.27863	0.1081377	0.21582249	2.7525692	20	7 8.1	20.0
283686 2002 QD ₁₂₈	16.3	X	292.92834	210.89157	138.24131	7.25525	0.0665133	0.21365584	2.7711468	20	7 4.1	19.9
283687 2002 QG ₁₃₉	16.5	X	327.10168	206.82379	132.84227	15.55638	0.1168213	0.21945197	2.7221354	20	8 10.6	19.3
283688 2002 QM ₁₄₆	16.5	X	288.79238	352.27776	354.84267	4.37589	0.0833951	0.21339054	2.7734432	20	6 23.1	20.1
283689 2002 RZ ₃₄	16.0	X	83.36650	347.42076	326.79416	10.48261	0.1230003	0.17561883	3.1580718	20	12 15.7	21.0
283690 2002 RS ₃₆	16.8	X	331.06685	46.73713	316.02454	8.34437	0.2050164	0.21968699	2.7201936	20	9 14.3	19.3
283691 2002 RH ₈₀	16.1	X	256.49567	240.08515	170.58516	13.00331	0.1354709	0.21302577	2.7766083	20	7 24.9	20.2
283692 2002 RJ ₁₀₉	15.9	X	238.69318	52.23438	329.21155	6.75451	0.0816485	0.20839502	2.8175902	20	6 2.7	20.0
283693 2002 RE ₁₁₂	16.0	X	256.04393	151.11621	262.02525	5.20593	0.0618396	0.21559331	2.7545196	20	8 7.9	19.9
283694 2002 RC ₁₁₆	17.7	X	335.30184	201.59870	112.80232	2.94964	0.3077758	0.21655215	2.7463827	20	7 1.6	19.3
283695 2002 RY ₁₃₃	16.3	X	282.25577	261.20419	98.86668	9.35914	0.2237831	0.21111206	2.7933628	20	6 9.8	20.2
283696 2002 RR ₁₅₅	16.7	X	214.22846	114.81976	304.61973	3.32894	0.0972540	0.20871600	2.8147007	20	6 23.5	20.9
283697 2002 RM ₁₈₃	15.9	X	259.26575	81.02636	304.95840	14.19241	0.2386374	0.20921286	2.8102425	20	6 14.3	20.3
283698 2002 RT ₁₈₆	16.3	X	306.10799	51.62556	294.37174	8.00980	0.1777726	0.21268232	2.7795967	20	7 4.3	19.4
283699 2002 RP ₂₂₂	17.0	X	308.51085	239.48505	94.89092	2.89580	0.2323464	0.21275491	2.7789645	20	6 12.2	19.9
283700 2002 RG ₂₃₉	16.4	X	260.09647	47.27160	317.38817	5.78811	0.0689726	0.20986147	2.8044492	20	6 9.4	20.4
283701 2002 RP ₂₄₃	16.5	X	308.95314	67.70781	255.51109	7.97432	0.1618573	0.21316422	2.7754059	20	6 8.7	19.8
283702 2002 RV ₂₄₃	16.9	X	285.45740	216.00651	156.92370	9.33892	0.1780013	0.21456807	2.7632870	20	7 7.9	20.6
283703 2002 RH ₂₅₅	16.7	X	269.81876	241.70850	144.73868	8.41754	0.2220922	0.21289285	2.7777639	20	6 28.7	20.8
283704 2002 RT ₂₆₉	17.3	X	312.92450	330.95642	323.22672	1.41743	0.0897301	0.21704020	2.7422640	20	8 9.2	20.4
283705 2002 SX	15.6	X	316.20932	87.86866	224.22320	22.93681	0.3229918	0.21929668	2.7234203	20	9 30.8	18.1
283706 2002 SA ₅	16.7	X	261.35982	208.35476	183.45848	1.94862	0.2332555	0.20962570	2.8065516	20	6 24.2	20.8
283707 2002 SA ₁₀	16.9	X	308.88388	162.96864	167.79651	4.50144	0.2021581	0.21108482	2.7936032	20	6 13.2	20.1
283708 2002 SW ₅₅	16.2	X	288.49949	297.91763	63.46592	6.75184	0.2075746	0.21083456	2.7958134	20	6 21.9	19.7
283709 2002 TJ ₁₇	17.3	X	284.23386	69.99176	350.05580	3.60395	0.1884265	0.27285879	2.3542039	20	9 19.1	19.2
283710 2002 TK ₅₇	15.7	X	7.40202	287.58113	34.04443	11.95648	0.0994603	0.21496059	2.7599221	20	9 28.5	19.1
283711 2002 TR ₉₈	16.7	X	285.97907	354.51702	357.93403	3.34993	0.1072785	0.20890329	2.8130181	20	6 22.4	20.3
283712 2002 TA ₁₀₄	16.1	X	301.51385	27.01321	317.02101	8.30177	0.0847893	0.21218605	2.7839290	20	7 8.5	19.7
283713 2002 TS ₁₀₈	16.1	X	343.70960	261.06782	67.48034	8.75564	0.2217087	0.21700784	2.7425366	20	8 31.3	18.6
283714 2002 TL ₁₄₃	16.5	X	315.65969	258.53301	67.20440	8.72183	0.2926521	0.21228653	2.7830505	20	6 2.1	19.2
283715 2002 TL ₁₄₄	15.6	X	324.70192	218.70153	97.29141	12.71660	0.2277394	0.21181383	2.7871896	20	6 18.3	18.4
283716 2002 TU ₁₄₈	15.6	X	276.66643	145.20114	255.12294	11.15758	0.1696564	0.21538629	2.7562843	20	7 30.8	19.3
283717 2002 TB ₁₆₀	16.6	X	302.01631	210.29118	132.54537	10.38086	0.2696444	0.21091143	2.7951341	20	6 8.4	20.1
283718 2002 TP ₁₆₂	15.4	X	279.16634	274.77013	107.51248	13.98575	0.2169261	0.21002454	2.8029973	20	7 5.9	19.1
283719 2002 TX ₁₆₅	15.0	X	94.55801	40.39266	258.32152	15.56935	0.1020102	0.17481041	3.1678008	20	12 6.9	19.9
283720 2002 TA ₁₇₀	15.7	X	251.18765	142.66785	282.65246	11.40151	0.0607165	0.21369317	2.7708241	20	8 15.3	19.7
283721 2002 TC ₁₇₂	15.9	X	306.78965	99.09985	241.94643	11.25660	0.1974036	0.21268106	2.7796077	20	6 23.9	19.1
283722 2002 TR ₁₈₆	15.7	X	289.93784	12.95616	342.21433	8.94745	0.1902006	0.21080766	2.7960512	20	6 18.6	19.5
283723 2002 TU ₁₈₉	15.9	X	262.64204	75.00860	324.07272	7.71192	0.1954066	0.21059967	2.7978918	20	7 11.5	19.8
283724 2002 TO ₂₁₈	16.2	X	257.59829	87.21241	307.34846	7.53140	0.1491115	0.21015765	2.8018136	20	7 5.4	20.2
283725 2002 TA ₂₂₆	15.6	X	175.00795	299.55326	62.65926	15.17758	0.1577765	0.24570659	2.5245938	20	3 11.1	19.9
283726 2002 TR ₂₃₀	15.8	X	359.65321	246.21193	102.75949	13.15971	0.1702128	0.22233025	2.6985906	20	11 3.4	19.0
283727 2002 TM ₂₉₂	15.8	X	334.16436	18.72988	338.37095	8.93954	0.2652223	0.21577162	2.7530019	20	9 13.0	17.8
283728 2002 TY ₃₄₁	16.4	X	322.01375	172.12293	135.56058	5.76300	0.1085609	0.20842926	2.8172816	20	6 16.5	19.8
283729 2002 UX	18.0	X	333.94535	84.30668	263.86133	20.20596	0.1634499	0.55098793	1.4735832	20	12 26.9	18.1
283730 2002 VU ₂	16.0	X	327.97362	99.22175	250.24188	3.66308	0.1652014	0.21302793	2.7765895	20	8 20.3	18.8
283731 2002 VJ ₁₃	16.2	X	217.03913	107.12219	319.27475	1.34464	0.1890346	0.20345639	2.8630031	20	6 28.3	20.9
283732 2002 VB ₆₈	13.6	X	267.02046	108.89448	213.67396	11.59137	0.1638366	0.08376778	5.1731060	20	4 17.5	20.7
283733 2002 VZ ₁₂₅	15.5	X	264.13717	299.58443	280.69865	24.37202	0.2386139	0.27864437	3.2315028	20	—	—
283734 2002 VT ₁₄₇	15.8	X	210.62347	63.94902	322.13051	9.52950	0.1314902	0.19783684	2.9169654	20	5 2.6	20.6
283735 2002 WY ₆	17.7	X	172.03592	87.37391	326.31908	3.72203	0.0970876	0.30743584	2.1742011	20	4 27.3	20.7
283736 2002 WO ₇	15.9	X	334.65833	254.53025	71.34979	10.34110	0.2898100	0.21132553	2.7914814	20	7 23.7	18.1
283737 2002 WB ₉	15.9	X	331.66517	306.25337	23.09552	9.80067	0.2712455	0.21240473	2.7820179	20	7 24.7	18.3
283738 2002 XB ₂₁	15.9	X	120.07707	138.61865	302.87727	2.67830	0.1109660	0.19065286	2.9897887	20	4 12.2	20.2
283739 2002 XO ₃₄	15.5	X	312.35560	44.66621	296.87425	10.59297	0.1738024	0.20976733	2.8052882	20	7 9.7	18.7
283740 2002 XF ₇₅	15.2	X	43.64898	208.47226	286.58237	8.97045	0.2173973	0.18128863	3.0918779	20	3 17.8	18.8
283741 2002 XH ₁₁₈	17.3	X	270.56275	77.92750	125.58073	2.27889	0.1636495	0.27734434	3.2875177	20	—	—
283742 2003 AG ₉	16.2	X	333.95658	237.34986	304.27875	22.65163	0.2193744	0.28707203	2.2758421	20	—	—
283743 2003 AP ₄₀	15.4	X	64.59923	211.44215	267.57346	7.72081	0.1908708	0.17961158	3.1110942	20	3 29.9	19.5
283744 2003 AR ₄₁	14.9	X	26.99316	351.56605	143.31072	18.39923	0.1709515	0.17436729	3.1731654	20	2 17.4	18.4
283745 2003 BL ₈	15.1	X	327.90531	262.70780	291.09204	13.53186	0.0884410	0.17443550	3.1723381	20	1 30.8	19.5
283746 2003 BJ ₁₆	15.2	X	126.13118	302.05295	126.70773	14.37960	0.1377637	0.18121499	3.0927155	20	4 13.9	20.1
283747 2003 BT ₅₃	15.4	X	59.05308	168.45044	280.80371	8.43523	0.0737156	0.17424649	3.1746317	20	2 1.2	19.6
283748 2003 CN ₁₄	17.6	X	76.77749	343.91390	109.65416	7.20889	0.1120806	0.29101071	2.2552606	20	2 23.7	19.8
283749 2003 CJ ₂₀	17.2	X	28.66131	8.84611	101.39782	6.96992	0.1165228	0.28523854	2.2855843	20	—	—
283750 2003 CD ₂₅	16.3	X	163.44558	144.82794	76.09033	13.67464	0.1744511	0.26314336	2.4117990	20	11 25.9	20.2
283751 2003 DR ₁₁	17.3	X	133.37751	255.99595	167.89065	3.78394	0.1144996	0.29384197	2.2407505	20	3 31.7	20.3
283752 2003 DN ₂₄	17.0	X	324.88932	170.32219	347.63642	6.80649	0.0779183	0.27988309	2.3146480	20	—	—
283753 2003 EW ₆	16.8	X	353.48843	160.86888	327.08719	6.77992	0.0419145					

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>		
283761	2003	FO ₇₃	16.5	X	174.10200	132.83865	119.96171	7.06082	0.0912966	0.26501155	2.4004510	20	—	—
283762	2003	FG ₉₂	16.7	X	168.81452	81.80569	166.62179	8.04285	0.2401186	0.26191966	2.4193052	20	12 28.4	20.8
283763	2003	FO ₁₃₁	16.9	X	144.55923	81.16204	175.26938	7.04081	0.1908872	0.26001326	2.4311162	20	12 20.4	21.0
283764	2003	GW ₈	16.9	X	183.59430	20.87786	196.97627	3.85137	0.1740757	0.26068173	2.4269583	20	12 9.7	20.5
283765	2003	GP ₄₈	16.7	X	200.88186	160.34785	139.89835	4.53533	0.1607520	0.27541185	2.3396325	20	1 7.2	20.3
283766	2003	GR ₄₉	16.6	X	133.64134	245.97207	40.87607	12.01553	0.2167556	0.26095153	2.4252852	20	—	—
283767	2003	GB ₅₁	17.0	X	285.42290	87.54160	72.92442	5.31933	0.1415321	0.27019988	2.3696231	20	—	—
283768	2003	HE ₁₉	17.3	X	150.02203	343.10330	297.33046	1.15658	0.1936974	0.26348950	2.4096863	20	—	—
283769	2003	HH ₂₂	16.9	X	179.57474	118.60964	108.78723	3.61612	0.1791741	0.26031383	2.4292445	20	12 16.9	20.7
283770	2003	HN ₄₄	16.9	X	282.45776	58.78563	96.29615	7.24712	0.0937223	0.26808651	2.3820603	20	—	—
283771	2003	JN ₁₆	16.1	X	165.38054	175.99270	93.99073	13.03590	0.1609957	0.26296778	2.4128724	20	—	—
283772	2003	JX ₁₆	15.9	X	85.64696	130.11236	188.04836	9.88099	0.3056108	0.25293783	2.4762445	20	—	—
283773	2003	NE ₅	15.5	X	30.89472	56.50910	278.50099	29.01527	0.3944032	0.23838331	2.5760373	20	12 31.7	19.3
283774	2003	OE ₁	17.2	X	54.78792	156.21005	152.61803	7.27097	0.2912704	0.24266978	2.5456122	20	12 12.6	21.3
283775	2003	OX ₁	16.3	X	88.71539	141.36302	118.39561	17.66331	0.1288604	0.24329260	2.5412659	20	11 6.1	20.4
283776	2003	OR ₉	16.5	X	64.11543	171.75797	155.55687	4.55264	0.1612612	0.24681925	2.5170009	20	12 30.4	20.2
283777	2003	OB ₂₁	16.3	X	63.60398	2.47228	302.33656	7.86832	0.1568223	0.24440360	2.5335588	20	11 30.4	20.0
283778	2003	PS ₉	15.1	X	346.55972	69.58585	269.51798	28.16554	0.3601004	0.23152659	2.6266495	20	9 13.9	17.6
283779	2003	QA ₁₀	16.8	X	60.79971	247.58542	64.12625	6.66686	0.2337365	0.24370346	2.5384089	20	12 14.8	20.7
283780	2003	QJ ₂₂	17.0	X	19.35568	26.98170	307.83862	8.56943	0.1398186	0.23775937	2.5805421	20	11 6.5	20.3
283781	2003	QZ ₂₈	16.5	X	56.93285	249.36844	55.55259	4.66430	0.2024051	0.24040419	2.5615806	20	11 28.7	20.1
283782	2003	QX ₃₅	17.0	X	34.57374	23.25639	333.60803	12.38263	0.2733076	0.24247467	2.5469777	20	—	—
283783	2003	QF ₅₉	16.5	X	65.96029	230.60484	50.63542	4.31576	0.2786025	0.23987008	2.5653817	20	11 16.8	20.6
283784	2003	QN ₇₀	17.5	X	151.37430	276.17859	329.71746	16.75213	0.0612085	0.36348295	1.9445242	20	—	—
283785	2003	QE ₁₀₃	16.7	X	35.20948	176.06580	154.65934	9.36986	0.1123613	0.24050233	2.5608837	20	11 25.7	20.2
283786	2003	Rutebeuf	14.5	X	303.41627	179.39121	254.55471	7.50342	0.1158042	0.12364491	3.9904195	20	10 16.1	19.8
283787	2003	QD ₁₀₅	16.6	X	36.88524	176.47988	156.26854	7.27264	0.1554079	0.23939332	2.5687866	20	12 5.5	20.1
283788	2003	QF ₁₀₆	16.9	X	34.06588	199.55884	159.07066	7.94332	0.3300969	0.24085002	2.5584185	20	—	—
283789	2003	QD ₁₀₇	16.4	X	11.35335	215.16473	136.48555	15.10907	0.1625279	0.23960117	2.5673008	20	11 28.7	19.7
283790	2003	RG ₁	16.7	X	324.32780	274.06497	121.35991	6.76925	0.2655419	0.23315787	2.6143837	20	10 31.1	18.5
283791	2003	RJ ₁₁	16.7	X	29.69886	40.10331	292.48522	6.98781	0.1804003	0.23886863	2.5725469	20	11 27.5	20.0
283792	2003	RY ₁₉	16.8	X	12.78607	219.07624	173.93105	12.22926	0.2112136	0.24250879	2.5467387	20	—	—
283793	2003	RS ₁₃	17.4	X	12.37774	200.14918	151.91619	3.71683	0.2264615	0.23796571	2.5790502	20	12 7.0	20.3
283794	2003	SC ₂₃	16.2	X	81.72550	49.00281	224.57207	5.52421	0.2399934	0.23881233	2.5729512	20	11 18.1	20.2
283795	2003	SN ₃₂	16.9	X	174.17571	251.15049	358.20304	21.23101	0.0534597	0.36581974	1.9362345	20	—	—
283796	2003	SD ₃₇	16.0	X	329.24008	195.69503	237.44306	13.00656	0.0682662	0.24455662	2.5325018	20	12 27.3	19.1
283797	2003	SJ ₄₂	16.2	X	46.78527	68.66666	265.38089	6.51908	0.0819506	0.24184866	2.5513709	20	12 8.3	19.4
283798	2003	SS ₅₉	16.8	X	22.16084	336.18929	9.45678	3.47427	0.1715288	0.23941453	2.5686349	20	12 3.3	20.0
283799	2003	SJ ₇₇	15.2	X	44.16928	169.87726	216.25741	10.53720	0.0609528	0.18838764	3.0137076	20	—	—
283800	2003	SJ ₈₅	16.1	X	16.10718	12.42999	269.00080	12.95492	0.2292835	0.23045087	2.6348171	20	8 24.7	19.0
283801	2003	SA ₉₄	15.8	X	20.33244	5.79187	11.14944	17.56298	0.2293318	0.18042202	3.1017707	20	—	—
283802	2003	SX ₁₀₁	15.5	X	321.74771	183.32836	244.52727	10.11579	0.1090944	0.17857119	3.1231664	20	11 20.9	19.2
283803	2003	SR ₁₀₆	17.3	X	13.93088	257.85598	53.64290	2.70604	0.1289313	0.23001352	2.6381560	20	9 27.9	20.3
283804	2003	SW ₁₁₆	16.6	X	15.85917	78.50941	299.78650	11.44839	0.2054222	0.24079332	2.5588201	20	—	—
283805	2003	SE ₁₃₀	16.3	X	336.10190	181.31036	194.94830	21.61227	0.0469131	0.23494512	2.6011083	20	10 21.0	19.4
283806	2003	SM ₁₃₃	16.1	X	38.17983	26.92116	285.24262	8.95375	0.1168351	0.23889689	2.5723440	20	10 30.9	19.5
283807	2003	SM ₁₃₇	16.8	X	3.01542	353.87956	356.25002	4.59424	0.1993715	0.23354389	2.6115021	20	11 10.6	19.5
283808	2003	SN ₁₄₃	17.0	X	318.58735	52.62595	338.22384	4.98004	0.1589903	0.23144575	2.6272611	20	10 6.3	19.7
283809	2003	SE ₁₇₆	16.4	X	328.77749	152.13064	178.35973	11.81726	0.0470229	0.22703187	2.6612040	20	8 2.3	19.9
283810	2003	SU ₁₈₂	17.4	X	112.93044	277.68649	6.94086	19.70873	0.1115491	0.36201002	1.9497952	20	—	—
283811	2003	SA ₂₀₄	16.5	X	276.80440	156.55260	280.55615	5.45591	0.1877234	0.23135684	2.6279342	20	9 19.9	19.6
283812	2003	SQ ₂₀₈	17.0	X	349.35801	123.75950	285.31843	3.92122	0.2034970	0.24157578	2.5532918	20	—	—
283813	2003	SD ₂₃₃	17.0	X	28.69906	236.60021	111.04788	4.00647	0.2544778	0.23916306	2.5704351	20	12 27.4	20.3
283814	2003	SS ₂₄₄	17.2	X	51.05889	301.34966	16.40044	4.67688	0.2134143	0.24022312	2.5628676	20	12 9.3	20.9
283815	2003	SU ₂₅₁	16.5	X	350.99750	338.55053	41.31912	6.48699	0.2780595	0.23353131	2.6115959	20	12 13.7	18.9
283816	2003	SK ₂₆₆	17.2	X	316.98110	177.10392	230.06951	1.73511	0.2260575	0.23314122	2.6145082	20	10 26.7	19.3
283817	2003	SP ₂₇₄	16.9	X	297.19570	317.58616	65.59772	2.11570	0.0621016	0.22712746	2.6604573	20	8 30.0	20.0
283818	2003	SV ₂₉₇	15.8	X	278.90350	188.34428	234.32995	14.31767	0.2381898	0.17114725	3.2128425	20	8 14.9	20.5
283819	2003	SE ₃₀₃	17.5	X	5.03535	125.19576	233.27933	5.03828	0.2605298	0.23579561	2.5948499	20	12 8.4	20.1
283820	2003	SE ₃₀₉	16.6	X	335.94431	73.71772	291.15262	11.63714	0.0704435	0.23079494	2.6321978	20	9 26.3	20.1
283821	2003	SK ₃₂₄	16.0	X	226.72991	257.07294	183.44310	10.66650	0.0585561	0.22671089	2.6637153	20	8 7.5	19.9
283822	2003	SB ₃₄₀	16.5	X	56.41029	255.71997	67.89591	13.41881	0.2230073	0.23943743	2.5684711	20	12 22.7	20.4
283823	2003	SX ₄₀₁	16.0	X	78.29250	51.87281	153.17105	14.38962	0.0314839	0.21747953	2.7385697	20	7 19.4	19.9
283824	2003	TB ₅	16.5	X	307.51429	145.45789	229.79205	6.58478	0.0970487	0.22739104	2.6584010	20	8 26.8	19.8
283825	2003	TE ₉	16.2	X	13.14907	59.94379	253.74514	13.23775	0.2163252	0.23079005	2.6322350	20	10 5.9	19.3
283826	2003	TP ₁₂	17.0	X	13.91508	62.67498	286.48478	2.55901	0.2678729	0.23632987	2.5909377	20	12 11.1	19.9
283827	2003	TP ₁₅	17.1	X	33.05368	267.00919	95.77173	7.16220	0.3493019	0.24050968	2.5608316	20	—	—
283828	2003	TE ₂₈	16.9	X	6.57445	97.22212	229.29034	1.76600	0.0968433	0.23090643	2.6313505	20	10 1.1	19.8
283829	2003	TT ₅₃	16.4	X	180.41851	292.02819	187.80093	21.23811	0.0794404	0.22195697	2.7016154	20	8 1.0	20.8
283830	2003	TT ₅₈	17.2	X	321.89752	242.17868	181.75535	11.26555						

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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>
283841 2003 UW ₁₀₆	15.1	X	302.12306	202.02604	252.31485	11.30614	0.0255836	0.17728314	3.1382757	20	11 29.5	19.3
283842 2003 UQ ₁₀₈	17.1	X	9.40677	60.37463	250.20145	1.15510	0.1291577	0.22680749	2.6629588	20	9 16.2	20.1
283843 2003 UH ₁₁₃	16.2	X	5.75841	257.70095	65.63305	12.84493	0.2022049	0.23060805	2.6336198	20	10 15.9	19.0
283844 2003 UH ₁₁₆	16.6	X	310.09218	328.62674	72.36903	4.51136	0.1989339	0.23021157	2.6366427	20	10 4.7	19.0
283845 2003 UE ₁₂₆	16.1	X	352.14375	257.75085	101.57954	15.97174	0.2116038	0.23129250	2.6284215	20	11 12.4	18.9
283846 2003 UO ₁₃₄	16.5	X	335.91917	9.03940	343.47829	4.07812	0.1010180	0.22788763	2.6545376	20	9 15.4	19.5
283847 2003 UX ₁₃₆	17.2	X	359.47498	187.21496	188.86305	3.49975	0.2424139	0.23617993	2.5920342	20	12 20.1	19.8
283848 2003 UG ₁₄₆	17.5	X	347.67302	201.87749	190.11349	5.95548	0.3450477	0.23470626	2.6028727	20	—	—
283849 2003 UR ₁₅₁	16.4	X	264.68284	336.07955	85.23668	4.93506	0.1997502	0.22381713	2.6866257	20	8 13.6	20.0
283850 2003 UL ₁₈₁	17.5	X	314.93086	177.83650	173.84793	4.00052	0.2167649	0.28444390	2.2898391	20	7 31.6	18.9
283851 2003 UU ₂₁₂	16.1	X	22.08597	278.12243	49.09917	15.62905	0.2592838	0.23316860	2.6143035	20	11 20.5	19.2
283852 2003 UF ₂₃₃	16.1	X	344.92692	12.32856	316.67385	3.76972	0.1019499	0.22463443	2.6801051	20	8 27.6	19.1
283853 2003 UQ ₂₅₆	15.9	X	2.02879	280.10150	61.23781	12.59140	0.2593882	0.23167806	2.6255045	20	11 8.8	18.3
283854 2003 UX ₂₇₄	16.3	X	36.60466	300.53283	93.98369	8.91275	0.2528621	0.24228740	2.5482899	20	—	—
283855 2003 UD ₂₇₇	16.5	X	289.22976	181.46528	247.06922	4.17194	0.2923719	0.22771982	2.6558415	20	9 11.2	19.3
283856 2003 UW ₃₃₁	17.7	X	342.94763	100.97592	297.14128	3.52178	0.2007332	0.23816154	2.5776362	20	12 14.3	20.1
283857 2003 UP ₃₄₁	15.8	X	292.39880	338.60783	212.57088	14.68692	0.0844634	0.20226505	2.8742342	20	—	—
283858 2003 VY ₁₀	16.4	X	252.16383	162.19464	248.86111	6.07229	0.1473184	0.22012201	2.7166086	20	7 19.4	20.4
283859 2003 WS ₂₈	16.4	X	304.24413	85.71972	288.55079	9.18087	0.1155854	0.22357971	2.6885273	20	8 17.1	19.7
283860 2003 WG ₃₈	16.4	X	339.60293	52.77190	325.53300	6.62574	0.1998280	0.23000188	2.6382450	20	11 1.1	18.9
283861 2003 WB ₃₉	17.1	X	337.35345	63.60946	301.28260	5.15774	0.1386435	0.22891685	2.6465750	20	10 4.1	19.9
283862 2003 WB ₇₃	16.6	X	0.79428	58.51597	309.20707	3.82157	0.3276960	0.23369930	2.6103442	20	12 24.9	19.3
283863 2003 WG ₇₆	16.1	X	274.01861	314.11093	47.21814	4.72937	0.1542655	0.21432207	2.7654010	20	7 2.5	19.8
283864 2003 WY ₈₂	17.2	X	25.25864	5.71338	331.56524	2.86810	0.1685780	0.23528665	2.5985906	20	11 24.9	20.5
283865 2003 WC ₉₈	16.1	X	275.42141	285.34009	145.80375	8.58040	0.2854297	0.22268740	2.6957046	20	8 26.6	19.5
283866 2003 WY ₁₀₂	16.3	X	293.45491	89.30122	319.97986	14.40137	0.1530229	0.22643677	2.6658646	20	9 10.6	19.5
283867 2003 WC ₁₀₄	15.8	X	275.98333	338.36500	74.70066	6.42626	0.1882249	0.22296543	2.6934631	20	8 21.1	19.2
283868 2003 WU ₁₅₀	16.2	X	234.46065	249.64937	161.70439	5.14635	0.1111443	0.21646514	2.7471186	20	7 4.2	20.2
283869 2003 WL ₁₆₆	16.8	X	35.08453	95.04309	259.56569	18.99577	0.0570570	0.35219733	1.9858450	20	—	—
283870 2003 WC ₁₆₈	16.7	X	272.26384	301.74734	130.54481	6.92149	0.2783817	0.22598515	2.6694151	20	8 25.8	20.1
283871 2003 WB ₁₈₉	16.3	X	352.57511	203.97600	157.09770	14.47987	0.2759707	0.23058677	2.6337818	20	11 22.5	19.0
283872 2003 XP ₅	16.8	X	4.11616	157.77652	256.76140	18.87335	0.0800274	0.35835933	1.9630148	20	—	—
283873 2003 XX ₂₃	16.6	X	81.01220	81.45032	80.65836	3.06331	0.1163096	0.20578766	2.8413397	20	6 8.9	20.5
283874 2003 YB	15.8	X	199.97708	345.86941	100.82588	14.04886	0.2645788	0.20964189	2.8064071	20	7 5.2	20.7
283875 2003 YS ₉	16.2	X	329.17538	109.62716	284.48146	11.28086	0.2325612	0.23238587	2.6201706	20	11 2.1	18.5
283876 2003 YP ₃₅	16.5	X	340.55951	138.71571	240.56754	3.99073	0.3008959	0.23032387	2.6357856	20	11 19.8	18.0
283877 2003 YV ₄₃	15.5	X	278.84293	88.40645	292.65348	23.68412	0.1898424	0.21431802	2.7654359	20	7 9.4	19.2
283878 2003 YB ₅₈	15.9	X	325.09182	316.39219	95.40507	12.70284	0.1852167	0.22983816	2.6394978	20	11 24.8	18.5
283879 2003 YZ ₁₁₃	15.9	X	127.33556	241.49071	259.74085	5.45717	0.1586618	0.20494873	2.8490882	20	7 9.3	20.5
283880 2003 YV ₁₅₄	14.9	X	331.81614	73.44208	95.99698	18.53497	0.2126401	0.17721154	3.1391210	20	—	—
283881 2003 YW ₁₅₇	15.9	X	322.42722	7.66350	321.38234	5.78968	0.0533221	0.21834648	2.7313158	20	7 23.6	19.2
283882 2003 YB ₁₅₈	15.9	X	18.35588	68.92686	275.92692	12.41513	0.1686976	0.23401756	2.6079770	20	11 24.5	19.2
283883 2003 YM ₁₈₀	15.7	X	63.62557	201.33200	298.63176	10.40235	0.0543572	0.19543488	2.9408169	20	4 2.2	19.8
283884 2004 BT ₂₂	15.9	X	293.06031	248.35683	118.70524	10.26385	0.1988558	0.21390166	2.7690234	20	7 8.5	19.4
283885 2004 BE ₅₄	15.5	X	296.72326	249.26077	318.09879	13.47133	0.1805920	0.17997368	3.1069198	20	—	—
283886 2004 BN ₅₄	14.8	X	306.31772	97.51295	115.12595	13.56890	0.2288893	0.18091928	3.0960846	20	1 7.7	19.2
283887 2004 BZ ₆₈	16.2	X	340.16350	280.20576	182.50781	27.45038	0.3884379	0.23492351	2.6012678	20	—	—
283888 2004 BY ₇₀	15.9	X	227.02127	117.74818	322.40670	6.94877	0.1989826	0.21224026	2.7834550	20	7 25.4	20.3
283889 2004 BL ₈₉	16.6	X	256.28166	287.58065	282.57554	7.17277	0.2651701	0.29161810	2.2521280	20	—	—
283890 2004 BY ₁₁₀	15.7	X	254.08148	90.54604	296.19259	23.47982	0.2050856	0.21060712	2.7978259	20	6 15.5	20.2
283891 2004 BF ₁₃₀	16.9	X	171.07683	222.67025	216.68964	1.27108	0.0378409	0.20262038	2.8708729	20	6 1.9	20.9
283892 2004 BY ₁₅₃	16.0	X	301.35443	223.16025	344.77414	9.58896	0.0417986	0.17923355	3.1307406	20	1 24.7	20.4
283893 2004 CB ₆	15.7	X	40.40135	202.19502	305.82577	5.26503	0.0428531	0.18937003	3.0032758	20	3 14.5	19.7
283894 2004 CL ₈	16.0	X	170.02079	324.65883	131.92039	11.66587	0.0853168	0.20473115	2.8511065	20	6 24.1	20.4
283895 2004 CD ₂₀	16.1	X	225.76641	216.56582	122.96137	12.68801	0.0079224	0.19331950	2.9622311	20	4 8.9	20.5
283896 2004 CL ₂₀	14.9	X	247.90827	303.11057	322.38316	22.94569	0.1960345	0.18112446	3.0937459	20	1 21.4	20.2
283897 2004 CD ₅₆	15.7	X	306.14391	253.51862	301.67144	14.58725	0.1972792	0.17793888	3.1305609	20	—	—
283898 2004 CZ ₆₃	15.6	X	334.88912	47.15484	119.52794	17.57745	0.1666407	0.17889252	3.1194253	20	—	—
283899 2004 CU ₉₈	15.2	X	23.51841	332.51257	159.75782	17.89421	0.1685453	0.18167987	3.0874375	20	2 3.9	18.7
283900 2004 DQ ₁₅	15.7	X	304.69071	300.06520	290.42528	12.79646	0.0829722	0.18476004	3.0530272	20	2 11.9	20.0
283901 2004 DO ₂₈	15.7	X	51.58304	320.12603	147.66952	17.46281	0.0706619	0.18344200	3.0676339	20	2 13.6	19.6
283902 2004 DP ₂₈	15.8	X	352.29097	196.01115	350.12546	6.70262	0.1073823	0.18457256	3.0550944	20	2 24.9	19.5
283903 2004 DT ₄₃	17.6	X	264.02553	190.39572	17.99641	4.01184	0.1050917	0.29283784	2.2458699	20	—	—
283904 2004 DX ₄₃	17.4	X	317.05977	142.56862	98.43701	3.05428	0.0631189	0.30718362	2.1753911	20	3 6.4	19.6
283905 2004 EB ₄₂	17.2	X	149.62057	291.28688	257.85755	1.27767	0.1487176	0.26986530	2.3715813	20	10 4.5	20.9
283906 2004 EH ₄₅	17.8	X	344.63708	42.37282	4.80979	2.07848	0.0302905	0.28078495	2.3096889	20	12 24.1	20.5
283907 2004 ES ₉₃	18.4	X	348.85003	52.15209	152.48545	6.38742	0.1911210	0.30497500	2.1858812	20	2 10.9	20.3
283908 2004 FY ₈	15.6	X	5.67494	346.94129	150.58340	11.25891	0.1740988	0.17689420	3.1428741	20	1 10.5	19.3
283909 2004 FM ₁₃	16.0	X	35.35059	174.56251	332.30030	8.76215	0.0461466	0.18350189	3.0669664	20	3 7.8	20.1
283910 2004 FK ₂₃	18.1	X	296.14126	87.79809	182.14033	3.23678	0.1466614	0.30606672	2.1806802	20	3 2.0	20.5
283911 2004 FE ₃₈	17.3	X	301.12593	341.51610	270.29345	3.84318	0.1371372	0.30339833	2.1934476	20	2 13.2	19.9
283912 2004 FW ₁₁₁	15.3	X	351.72737	226.63272	301.15723	8.92150	0.1693323	0.17793077	3.1306559	20	1 25.6	18.9
283913 2004 FX ₁₁₁	15.7	X	256.25026	113.55480	180.11387	10.61293	0.0582023	0.18259893	3.0770689	20	3 8.8	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
283921 2004 HH ₅₃	15.9	X	36.98124	289.80375	221.73262	7.17457	0.0797383	0.18044767	3.1014768	20	3 17.7	20.0
283922 2004 HX ₆₀	17.0	X	280.46901	95.75617	136.18267	5.88399	0.1137585	0.29336363	2.2431856	20	—	—
283923 2004 JH ₂₆	17.0	X	290.67208	202.80708	48.77874	7.86894	0.0680429	0.29735515	2.2230662	20	2 15.9	19.8
283924 2004 KA ₁₁	17.5	X	260.04983	129.99874	123.05550	6.79648	0.1733830	0.29239577	2.2481330	20	—	—
283925 2004 LJ ₁₂	16.9	X	9.63164	161.38653	165.05908	6.80455	0.1537681	0.26026417	2.4295535	20	10 23.5	19.4
283926 2004 NT ₈	17.5	X	179.67128	315.65470	345.76946	4.01881	0.2104390	0.27995771	2.3142366	20	—	—
283927 2004 NW ₁₄	17.3	X	167.17039	215.48592	128.73696	6.83078	0.2281113	0.28222647	2.3018175	20	2 3.5	20.8
283928 2004 OZ ₆	17.5	X	156.03041	247.16781	111.319677	4.41580	0.2274853	0.28235307	2.3011294	20	2 12.1	20.9
283929 2004 PA ₂	17.1	X	132.80548	347.39551	32.70049	3.66036	0.2361866	0.27956160	2.3164221	20	2 18.9	20.5
283930 2004 PM ₇	17.6	X	192.17292	349.37258	305.40339	1.74983	0.2056629	0.27948779	2.3168299	20	—	—
283931 2004 PT ₁₇	16.9	X	81.44272	291.68025	122.27465	9.02830	0.1986616	0.27579223	2.3374807	20	1 18.4	19.0
283932 2004 PS ₁₈	17.2	X	159.99025	4.80379	314.63530	7.16229	0.1079038	0.27630366	2.3345954	20	—	—
283933 2004 PS ₃₀	17.3	X	165.15860	204.99730	113.25233	2.50848	0.2476322	0.27803652	2.3248851	20	1 2.9	20.8
283934 2004 PH ₃₀	17.6	X	233.62295	124.50793	139.45517	4.38247	0.1101088	0.28203866	2.3028393	20	—	—
283935 2004 PH ₃₁	17.3	X	160.07907	199.03574	140.89901	2.76827	0.2474114	0.27894709	2.3198229	20	1 24.6	20.9
283936 2004 PG ₃₄	17.5	X	162.01081	222.01223	133.58662	2.35115	0.2456608	0.28064573	2.3104527	20	2 14.4	21.1
283937 2004 PY ₃₅	16.5	X	189.65460	180.04889	173.88927	6.53881	0.2500606	0.28304860	2.2973582	20	3 4.6	20.3
283938 2004 PR ₄₀	16.8	X	153.68207	31.35871	280.40182	5.92011	0.1300131	0.27320841	2.3521951	20	—	—
283939 2004 PJ ₄₈	17.0	X	175.62464	348.74822	299.75231	5.31010	0.1894771	0.27651450	2.3334085	20	—	—
283940 2004 PU ₅₅	17.2	X	133.31318	208.80317	128.34335	6.41312	0.1279104	0.27307701	2.3529496	20	—	—
283941 2004 PJ ₅₉	17.2	X	153.32412	218.07079	164.36329	7.94034	0.2725245	0.28256320	2.2999884	20	3 13.2	20.8
283942 2004 PD ₆₁	17.1	X	140.70545	16.00906	308.82531	6.33606	0.1235889	0.27222890	2.3578340	20	—	—
283943 2004 PL ₆₁	17.2	X	141.69029	187.34069	172.06999	6.41622	0.1166459	0.27768272	2.3268594	20	1 15.9	20.3
283944 2004 PS ₆₂	17.5	X	131.69438	276.81134	75.86277	3.58820	0.2187085	0.27613133	2.3355666	20	1 10.7	20.7
283945 2004 PB ₆₃	17.9	X	167.58173	120.33750	204.04412	0.80816	0.2049849	0.27844724	2.3225983	20	1 8.9	21.5
283946 2004 PV ₆₄	17.4	X	162.47835	59.10041	309.49747	1.73207	0.2261632	0.27964161	2.3159802	20	2 28.9	21.2
283947 2004 PF ₆₅	16.4	X	139.11332	341.93574	355.74200	8.97754	0.1982365	0.27053015	2.3676941	20	—	—
283948 2004 PU ₈₅	17.3	X	168.09561	210.83407	146.11005	5.86503	0.2946324	0.27869333	2.3212309	20	2 23.9	21.2
283949 2004 PG ₉₄	17.5	X	189.62547	9.98976	297.94964	2.97852	0.1546079	0.28003431	2.3138146	20	1 5.7	20.9
283950 2004 PL ₁₀₃	16.4	X	144.95272	27.43655	332.40530	7.43375	0.2055583	0.27488611	2.3426146	20	2 2.2	19.7
283951 2004 PY ₁₁₂	17.3	X	182.28928	74.95087	259.09830	6.24199	0.1371812	0.28224767	2.3017023	20	1 28.1	20.8
283952 2004 QH ₁	16.1	X	157.70709	94.06061	277.23245	10.88555	0.2718875	0.27490377	2.3425143	20	2 26.7	20.2
283953 2004 QT ₃	17.8	X	194.92275	79.68984	223.54780	4.91299	0.2528983	0.28109482	2.3079912	20	1 7.8	21.8
283954 2004 QS ₇	17.4	X	166.19943	313.81680	341.34262	1.68115	0.2175819	0.27364328	2.3497024	20	—	—
283955 2004 QW ₁₉	17.4	X	156.71631	164.97903	169.27000	5.33816	0.2418464	0.27600270	2.3362922	20	1 14.0	21.0
283956 2004 QH ₂₄	15.7	X	152.74573	144.60180	254.96655	24.77828	0.2182900	0.28003493	2.3138112	20	3 19.3	20.0
283957 2004 RF	17.0	X	196.35488	326.74050	291.85642	6.21242	0.0930286	0.27268320	2.3552145	20	—	—
283958 2004 RX	18.4	X	130.88251	304.66007	347.12850	21.66729	0.1654503	0.39154755	1.8504600	20	—	—
283959 2004 RZ ₁₂	17.2	X	155.70343	211.38429	138.52525	6.26349	0.1721671	0.27770105	2.3267571	20	1 26.3	20.5
283960 2004 RJ ₁₃	17.1	X	170.14310	257.25419	65.07153	5.77782	0.1912397	0.27668583	2.3324451	20	1 8.5	20.7
283961 2004 RB ₁₉	17.5	X	209.07644	130.41888	161.61474	3.28264	0.2209259	0.28118321	2.3075075	20	1 4.9	21.3
283962 2004 RD ₂₁	18.0	X	123.15605	61.15140	296.02000	1.18266	0.1891032	0.27333537	2.3514667	20	1 2.3	20.7
283963 2004 RO ₂₇	18.1	X	176.54592	337.35444	325.69464	1.98127	0.1746741	0.27676135	2.3320208	20	—	—
283964 2004 RA ₄₇	17.5	X	174.60077	310.05345	330.13744	1.89738	0.1966051	0.27268331	2.3552138	20	—	—
283965 2004 RW ₄₉	17.4	X	156.78947	152.47568	146.78163	1.92454	0.1937630	0.27193189	2.3595506	20	—	—
283966 2004 RQ ₅₅	17.4	X	69.08250	109.80159	291.72652	3.92358	0.2068693	0.26941016	2.3742516	20	—	—
283967 2004 RG ₅₈	17.1	X	99.72811	219.38996	158.57735	7.70675	0.2388578	0.27064239	2.3670395	20	1 5.6	19.7
283968 2004 RV ₆₅	17.5	X	54.78139	241.53531	176.53082	2.22393	0.2175488	0.26785986	2.3834038	20	—	—
283969 2004 RG ₆₆	17.4	X	102.87035	85.86876	280.69778	0.46983	0.2029175	0.26994366	2.3711223	20	—	—
283970 2004 RN ₈₃	18.0	X	95.86340	263.14430	137.91216	2.58913	0.2109583	0.27338672	2.3511722	20	1 27.0	20.4
283971 2004 RZ ₉₇	17.2	X	144.23256	16.21437	305.11518	5.14715	0.1361593	0.27263494	2.3554924	20	—	—
283972 2004 RP ₁₀₁	17.1	X	167.72056	87.99364	193.80257	5.46142	0.2230766	0.27160442	2.3614468	20	—	—
283973 2004 RW ₁₀₉	17.3	X	49.09122	340.93309	336.28483	24.22405	0.0739567	0.37854125	1.8926076	20	12 26.4	20.1
283974 2004 RE ₁₄₈	17.1	X	198.05081	294.01683	26.22886	6.72461	0.1391820	0.28073837	2.3099444	20	1 30.6	20.7
283975 2004 RL ₁₅₅	17.1	X	121.81033	80.08491	238.76189	5.42163	0.1245068	0.26719792	2.3873385	20	—	—
283976 2004 RW ₁₅₈	17.8	X	94.15837	136.84690	252.02543	1.24938	0.1920311	0.27120372	2.3637722	20	1 4.4	20.0
283977 2004 RS ₁₆₁	16.8	X	157.48745	333.51219	183.65026	11.33240	0.1085271	0.24412772	2.5354671	20	8 28.1	20.8
283978 2004 RQ ₁₆₉	17.2	X	124.20086	14.77620	320.07269	6.55463	0.1311238	0.27031834	2.3689308	20	—	—
283979 2004 RN ₁₇₀	17.5	X	193.82045	247.58130	6.61068	2.73304	0.1675939	0.27296189	2.3536111	20	—	—
283980 2004 RN ₁₇₂	16.9	X	136.37923	141.12096	234.23159	6.05910	0.1281905	0.27843068	2.3226904	20	1 30.7	20.1
283981 2004 RZ ₁₈₁	16.9	X	108.74600	36.65214	331.86767	7.20229	0.1261264	0.27152782	2.3618909	20	—	—
283982 2004 RO ₁₈₄	17.0	X	22.44460	156.29862	311.12335	6.19642	0.0623331	0.27487246	2.3426922	20	—	—
283983 2004 RC ₁₈₉	17.0	X	105.57626	170.29068	230.99593	5.30754	0.1969182	0.27420549	2.3464895	20	2 5.9	19.9
283984 2004 RB ₁₉₂	16.8	X	152.80524	328.39157	337.27408	6.03031	0.1101950	0.26931284	2.3748235	20	—	—
283985 2004 RS ₂₂₂	16.1	X	97.34642	123.71144	298.44128	23.64469	0.2574861	0.27607676	2.3358744	20	2 22.6	19.3
283986 2004 RJ ₂₂₄	17.5	X	172.43257	36.69025	319.35909	1.17998	0.2458907	0.28029143	2.3123993	20	2 23.2	21.2
283987 2004 RK ₂₃₇	18.1	X	171.04842	58.36103	250.11434	1.71101	0.1942390	0.27532363	2.3401322	20	—	—
283988 2004 RY ₃₁₀	17.2	X	74.24961	233.03866	144.75938	2.02079	0.1780024	0.26465494	2.4026068	20	—	—
283989 2004 RR ₃₂₃	16.5	X	131.21097	75.81148	249.85688	6.79504	0.2280954	0.26890358	2.3772325	20	—	—
283990 Randallrosenfeld	17.6	X	127.17620	266.11181	77.64992	2.35326	0.2038605	0.27160971	2.3614161	20	—	—
283991 2004 SL ₃₀	16.9	X	143.24804	292.59274	53.00300	1.20890	0.1635703	0.27369390	2.3494127	20	1 7.7	20.1
283992 2004 SS ₃₁	15.0	X	333.24998	173.99211	237.20741	1.67384	0.2345905	0.12687657	3.9223689	20	11 1.5	19.2
283993 2004 SG ₄₄	17.4	X	95.86165	178.18444	236.18319	5.97627	0.2148500	0.27418422	2.3466109	20	2 12.4	20.1
283994 2004 TT ₃₃	17.3	X	208.52842	7.17252	249.57555	1.59875	0.1662286	0.26915934	2.3757263	20	—	—
283995 2004 TC ₃₄	17.6	X	86.									