ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376001 2010 AF_5	16.4	X	88.53235	3.29144	88.59664	4.80917	0.1542208	0.21232121	2.7827474	20	3 26.8	20.1
376002 2010 AT_{11}	16.5	X	136.14337	275.32906	135.30395	9.63001	0.1597359	0.20940309	2.8085403	20	3 31.1	20.9
376003 2010 AD_{17}	16.1	X	0.39679	355.65411	130.53301	5.22253	0.0180346	0.18750184	3.0231917	20	—	—
376004 2010 AM_{21}	16.2	X	122.97305	132.49090	313.28776	10.46886	0.1257192	0.21827650	2.7318996	20	4 17.2	20.5
376005 2010 AN_{25}	17.1	X	16.67760	1.76981	92.54922	2.05767	0.2076844	0.18872491	3.0101160	20	—	—
376006 2010 AV_{25}	16.2	X	3.17109	5.30042	111.33782	6.78307	0.1335368	0.18841175	3.0134505	20	—	—
376007 2010 AL_{27}	16.8	X	178.31978	356.17634	23.99480	1.71821	0.1086412	0.21572772	2.7533753	20	3 28.4	21.0
376008 2010 AB_{33}	16.3	X	71.90268	102.70768	325.40258	7.50675	0.0939627	0.19660676	2.9291194	20	1 25.3	20.0
376009 2010 AK_{33}	15.3	X	140.61290	318.49621	323.35602	11.81277	0.0418190	0.17275875	3.1928316	20	—	—
376010 2010 AB_{37}	15.6	X	325.53308	161.22023	333.10717	8.88570	0.1659317	0.18113940	3.0935758	20	—	—
376011 2010 AR_{39}	15.9	X	236.10949	234.87513	14.63327	9.37836	0.0828114	0.18771701	3.0208811	20	—	—
376012 2010 AS_{40}	16.5	X	158.35878	148.24357	264.33844	5.53177	0.0656662	0.21869711	2.7283957	20	4 11.9	20.5
376013 2010 AB_{41}	16.3	X	107.52976	346.46158	106.44258	13.45297	0.1253876	0.21753124	2.7381356	20	4 20.6	20.4
376014 2010 AQ_{41}	16.4	X	100.20562	57.72084	47.25951	5.23194	0.0810787	0.21525919	2.7573691	20	4 15.2	20.1
376015 2010 AT_{46}	17.8	X	124.63058	288.23702	161.65304	1.98607	0.1989318	0.22167723	2.7038878	20	5 7.7	22.0
376016 2010 AQ_{64}	15.8	X	269.81942	202.56034	300.84791	12.96923	0.0362253	0.16993556	3.2280968	20	12 15.6	20.4
376017 2010 AC_{68}	16.6	X	80.07881	230.24672	275.79927	6.60015	0.1659839	0.21664089	2.7456326	20	5 24.2	20.2
376018 2010 AD_{68}	18.0	X	235.11226	281.39951	93.80020	4.30380	0.2730489	0.24495870	2.5297298	20	5 6.8	22.3
376019 2010 AZ_{69}	16.9	X	46.49013	278.65973	175.36223	5.12871	0.1515194	0.19802078	2.9151587	20	1 22.3	20.1
376020 2010 AE_{70}	16.2	X	132.76734	274.14522	144.31087	13.99424	0.1655027	0.21084666	2.7957065	20	4 7.7	20.7
376021 2010 AQ_{76}	16.5	X	146.78018	275.50311	132.03601	8.30725	0.2287388	0.21501796	2.7594311	20	4 11.1	21.2
376022 2010 AW_{76}	15.5	X	324.87739	171.73541	309.12059	16.73928	0.1721515	0.17778053	3.1324195	20	—	—
376023 2010 AJ_{80}	15.7	X	20.47884	86.73085	338.18429	8.71502	0.0776055	0.17931424	3.1145325	20	—	—
376024 2010 AD_{87}	15.6	X	50.59995	280.90576	141.18255	10.51073	0.0947903	0.17540520	3.1606355	20	—	—
376025 2010 BK_1	16.8	X	163.05480	171.63747	227.35576	3.61909	0.0724066	0.21527224	2.7572577	20	4 1.9	20.8
376026 2010 BR_{46}	15.6	X	13.48967	58.79551	46.28411	10.50052	0.2063676	0.17772874	3.1330279	20	—	—
376027 2010 CH_2	16.2	X	34.17960	283.34656	142.28941	12.11372	0.0686170	0.18044376	3.1015216	20	—	—
376028 2010 CX_{11}	15.6	X	6.54020	167.74987	276.13286	8.43684	0.0815058	0.17960200	3.1112049	20	—	—
376029 Blahová	15.7	X	289.70043	173.70140	341.12264	14.70000	0.2185163	0.17472496	3.1688334	20	—	—
376030 2010 CA_{20}	16.4	X	292.87552	21.10413	146.17546	14.45625	0.1409499	0.17820972	3.1273882	20	—	—
376031 2010 CF_{22}	16.6	X	16.49126	89.40764	50.71788	4.92014	0.1431243	0.19499645	2.9452234	20	2 2.2	19.9
376032 2010 CA_{35}	16.3	X	94.56393	308.90744	120.29539	9.59072	0.2540029	0.20027953	2.8931992	20	3 22.5	20.5
376033 2010 CB_{51}	15.2	X	334.78840	301.41693	212.42159	17.29186	0.2985564	0.17618930	3.1512513	20	—	—
376034 2010 CJ_{60}	15.4	X	300.46951	232.26840	311.09766	9.23552	0.0705674	0.18282870	3.0744904	20	—	—
376035 2010 CL_{81}	15.9	X	278.39253	209.50730	320.65774	2.69038	0.0742634	0.17198194	3.2024386	20	—	—
376036 2010 CC_{100}	15.9	X	213.35670	136.63650	128.56742	3.15846	0.0568608	0.18281640	3.0746283	20	—	—
376037 2010 CH_{111}	15.7	X	45.78491	60.43927	337.69583	8.89658	0.0591496	0.17644700	3.1481823	20	—	—
376038 2010 CL_{115}	16.3	X	68.57427	65.04897	344.02659	10.23297	0.1096407	0.18648520	3.0341692	20	—	—
376039 2010 CU_{128}	16.0	X	357.34406	231.66111	267.02289	7.97836	0.1193161	0.18945472	3.0023807	20	—	—
376040 2010 CM_{137}	16.2	X	76.54402	97.45399	321.51911	8.54398	0.0667733	0.19118923	2.9841943	20	1 18.1	20.2
376041 2010 CX_{145}	15.9	X	112.10119	353.04816	69.01033	9.81979	0.2684029	0.20380344	2.8597520	20	4 3.4	20.5
376042 2010 CB_{146}	16.6	X	91.28391	16.42471	57.37250	7.95086	0.2421599	0.20375975	2.8601608	20	3 22.4	20.6
376043 2010 CP_{147}	15.1	X	264.00967	161.93310	359.59858	12.98018	0.0481749	0.16990636	3.2284666	20	12 29.2	19.8
376044 2010 CK_{149}	16.1	X	110.48562	62.27587	312.96841	5.43211	0.0688737	0.19150684	2.9808939	20	1 7.5	20.2
376045 2010 CG_{152}	15.4	X	9.18483	114.41205	356.10103	8.93709	0.0526873	0.18108946	3.0941446	20	—	—
376046 2010 CD_{165}	15.8	X	18.94609	266.07253	161.27207	9.98765	0.0602149	0.17562097	3.1580461	20	—	—
376047 2010 DN_{10}	16.0	X	207.08867	210.51604	14.47301	8.82577	0.0767039	0.16952543	3.2333011	20	—	—
376048 2010 DW_{27}	15.6	X	93.00902	358.76999	100.91037	17.61305	0.0537732	0.18633532	3.0357961	20	4 5.6	20.2
376049 2010 DS_{38}	15.8	X	4.68667	103.45450	347.74950	11.89672	0.1099396	0.17665759	3.1456798	20	—	—
376050 2010 DW_{42}	17.1	X	356.07815	209.17997	267.00614	0.81785	0.1262241	0.17970294	3.1100396	20	—	—
376051 2010 EK_{30}	15.4	X	55.47080	29.11666	48.98707	11.34046	0.1054949	0.18350947	3.0668820	20	1 18.8	19.4
376052 2010 EH_{44}	15.3	X	284.86325	155.79395	40.80124	22.67118	0.0881601	0.17664576	3.1458203	20	—	—
376053 2010 EM_{80}	16.1	X	39.69359	51.86852	10.49136	9.04817	0.0863576	0.17551387	3.1593308	20	—	—
376054 2010 EL_{111}	15.8	X	37.64800	53.66302	47.50022	9.84177	0.1603903	0.18223777	3.0811331	20	1 23.9	19.4
376055 2010 EO_{113}	16.0	X	19.82949	109.62127	355.82450	9.88342	0.0957507	0.18523697	3.0477846	20	—	—
376056 2010 EJ_{127}	16.2	X	347.55453	119.73220	19.25634	13.47550	0.1881405	0.17956857	3.1115909	20	—	—
376057 2010 EH_{147}	17.2	X	179.22446	313.37282	103.01811	6.90230	0.2093456	0.23112702	2.6296759	20	5 15.7	21.7
376058 2010 FX_7	16.6	X	350.32728	291.02038	272.95538	3.12880	0.0097085	0.21480744	2.7612338	20	3 16.7	20.3
376059 2010 FY_{14}	15.2	X	41.74577	335.47788	80.20969	16.20248	0.0656097	0.17350757	3.1836386	20	—	—
376060 2010 FT_{16}	16.7	X	344.03778	38.68588	59.21802	2.02298	0.1549673	0.17412434	3.1761163	20	—	—
376061 2010 FF_{82}	14.7	X	131.52831	17.22522	273.25758	24.36684	0.1354420	0.17680370	3.1439465	20	—	—
376062 2010 GU_{28}	14.3	X	90.90042	133.67790	81.48701	11.74732	0.1034750	0.12385203	3.9859694	20	8 24.6	20.2
376063 2010 GT_{134}	15.9	X	21.19561	314.84417	130.86594	2.24184	0.1723352	0.17560417	3.1582476	20	—	—
376064 2010 GX_{141}	16.3	X	340.93625	302.47642	187.12144	9.88941	0.1885657	0.17743141	3.1365271	20	—	—
376065 2010 GR_{144}	16.0	X	0.16859	284.03512	181.71316	11.17643	0.1659408	0.17619230	3.1512155	20	—	—
376066 2010 GT_{145}	15.7	X	283.91087	331.26618	210.35831	24.43591	0.2183312	0.17474817	3.1685529	20	—	—
376067 2010 HY_{30}	12.9	X	8.79361	299.46208	277.19442	20.33760	0.0840277	0.08267471	5.2186030	20	4 30.6	19.7
376068 2010 JQ_5	15.2	X	289.47734	154.89517	336.65001	17.09806	0.0854712	0.17075745	3.2177301	20	12 22.7	19.7
376069 2010 LP_{62}	15.7	X	0.71326	273.00532	227.68713	15.86484	0.1554098	0.17782433	3.1319051	20	1 4.8	19.7
376070 2010 NA_{40}	18.3	X	108.68908	327.84520	309.05565	2.86497	0.2634307	0.31799766	2.1257887	20	12 25.6	22.0
376071 2010 OE_{49}	16.8	X	28.99940	166.14578	210.82108	5.32648	0.0836006	0.21050405	2.7987391	20	12 31.6	20.6
376072 2010 TF_{149}	18.1	X	318.20099	219.45138	186.25741	4.90615	0.1162667	0.29850461	2.2173556	20	11 21.8	19.9
376073 2010 TO_{179}	16.9	X	10.55936	209.43277	54.03336	1.49569	0.1333145	0.18009399	3.1055361	20	7 8.6	20.6
376074 2010 US_{30}	17.7	X	239.49672	260.60602	261.28485	3.86866	0.0511944	0.30754265	2.1736977	20	—	—
376075 2010 UY_{35}	17.8	X	206.34459	20.75650	175.96755	4.67494	0.0973085	0.30967997	2.1636847	20	12 28.9	20.3
376076 2010 UF_{36}	17.8	X	317.96302	91.47372	284.42258	6.04618	0.1261304	0.28763114	2.2728919	20	9 25.4	19.9
376077 2010 UN_{52}	17.4	X	62.93052	257.67423	47.99682	6.94357	0.0677720	0.29918893	2.2139733	20	12 1.9	20.1
376078 2010 UV_{61}	17.4	X	261.41561	153.34032	325.53584	5.23902	0.0818079	0.30074611	2.2063244	20	11 29.4	19.6
376079 2010 UU_{72}	17.4	X	42.54424	358.32881	10.80905	3.97737	0.1242844	0.31079370	2.1585126	20	—	—
376080 2010 UL_{77}	17.9	X	266.89435	152.95359	310.35183	5.57804	0.0919019	0.29768767	2.2214105	20	11 12.2	20.2

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376081 2010 UK_{92}	18.2	X	329.51403	196.18474	226.47844	3.93172	0.0953918	0.30489109	2.1862822	20	—	—
376082 2010 VS_{16}	18.1	X	101.81557	21.57913	296.06389	4.83830	0.0568152	0.31686672	2.1308439	20	—	—
376083 2010 VR_{19}	18.2	X	352.67533	353.90804	43.55905	5.23856	0.1611825	0.30537028	2.1839945	20	—	—
376084 Annettepeter	17.3	X	314.77871	78.11281	9.66958	5.36597	0.1098144	0.30553184	2.1832245	20	—	—
376085 2010 VQ_{47}	18.1	X	319.87389	108.45542	293.45349	2.54161	0.1129039	0.29348308	2.2425769	20	11 15.2	20.1
376086 2010 VK_{53}	17.6	X	143.19714	129.57730	80.85625	3.67546	0.0948424	0.29261805	2.2469943	20	10 31.3	20.6
376087 2010 VX_{81}	17.3	X	344.31894	235.90764	62.23656	6.43337	0.1251911	0.27065095	2.3669896	20	7 17.8	19.5
376088 2010 VN_{84}	17.6	X	328.99363	28.18406	52.08952	4.29481	0.1091129	0.30543323	2.1836944	20	—	—
376089 2010 VA_{106}	18.3	X	48.10723	210.21800	121.79655	2.65863	0.1823709	0.30614186	2.1803234	20	—	—
376090 2010 VM_{117}	17.6	X	58.97408	59.51202	311.75864	3.99952	0.1057577	0.31568850	2.1361424	20	—	—
376091 2010 VF_{119}	18.1	X	305.35204	155.17570	212.18877	3.41957	0.1650364	0.28328547	2.2960774	20	8 12.4	20.0
376092 2010 VP_{159}	18.3	X	352.19908	229.80001	164.34551	1.79989	0.1568309	0.30092118	2.2054686	20	—	—
376093 2010 VA_{161}	17.4	X	50.78276	249.78903	42.21423	7.77969	0.1897151	0.29514474	2.2341518	20	11 13.9	20.3
376094 2010 VB_{166}	17.9	X	342.07806	287.97946	66.02680	4.51454	0.0832148	0.29088192	2.2559263	20	10 14.2	20.0
376095 2010 VB_{168}	18.5	X	51.65097	135.77043	229.76535	1.31043	0.1683366	0.31444963	2.1417494	20	—	—
376096 2010 VH_{169}	17.6	X	289.48726	329.20971	59.87446	5.63540	0.0415656	0.28123896	2.3072026	20	9 8.3	20.2
376097 2010 VA_{171}	17.9	X	351.98946	268.54501	59.52422	6.10144	0.1493119	0.28553295	2.2840129	20	9 29.1	19.8
376098 2010 VJ_{174}	17.7	X	60.14809	257.70066	11.82335	7.98107	0.1550543	0.28945461	2.2633362	20	10 19.4	20.5
376099 2010 VP_{184}	17.2	X	0.60068	245.70162	56.57609	8.78010	0.1273459	0.27990173	2.3145452	20	9 3.3	19.5
376100 2010 VB_{192}	17.9	X	37.10941	289.40250	79.65546	5.25197	0.1763677	0.31079833	2.1584911	20	—	—
376101 2010 VB_{211}	17.5	X	143.14925	224.86832	351.51495	5.14126	0.0647576	0.29601337	2.2297791	20	11 6.3	20.6
376102 2010 VS_{215}	17.4	X	191.31770	56.07173	63.34390	5.94901	0.0759244	0.27751066	2.3278211	20	8 25.3	20.6
376103 2010 WK_{2}	17.9	X	18.06382	283.53878	79.47716	4.28971	0.1735707	0.30357821	2.1925810	20	—	—
376104 2010 WQ_{50}	17.7	X	37.50972	247.02734	84.64248	4.84506	0.1910126	0.29971005	2.2114062	20	12 22.9	20.5
376105 2010 WL_{55}	18.2	X	293.14125	343.95949	93.60718	5.86674	0.1531889	0.28948970	2.2631533	20	11 16.6	20.1
376106 2010 WB_{56}	18.3	X	11.61753	113.51188	273.52418	4.97164	0.1568386	0.30582140	2.1818462	20	—	—
376107 2010 WD_{65}	17.4	X	245.83813	157.38969	270.70882	4.97080	0.1001273	0.27758773	2.3273902	20	8 14.9	20.4
376108 2010 WK_{65}	17.8	X	33.59111	285.09337	85.16170	7.30908	0.1853366	0.30310424	2.1948661	20	—	—
376109 2010 WY_{65}	18.0	X	261.02207	48.39618	40.53770	3.22767	0.1663098	0.28287291	2.2983093	20	9 29.6	20.3
376110 2010 WL_{70}	17.9	X	238.35130	125.68363	30.51113	1.65532	0.0940697	0.30110092	2.2045908	20	12 16.3	20.3
376111 2010 XY_{12}	17.5	X	155.51424	23.25759	91.96976	2.21120	0.1414021	0.25695710	2.4503548	20	7 5.4	21.2
376112 2010 XU_{14}	17.9	X	8.64667	251.66310	106.16223	5.78676	0.1862371	0.29843135	2.2177185	20	12 20.2	20.1
376113 2010 XQ_{32}	18.1	X	315.85129	70.37646	320.02155	5.23748	0.1060092	0.28945589	2.2633295	20	10 16.6	20.3
376114 2010 XY_{34}	18.0	X	342.66834	141.91974	231.39752	2.19380	0.0661128	0.29178247	2.2512821	20	11 9.8	20.1
376115 2010 XB_{45}	18.1	X	38.31414	236.37305	131.88151	4.15670	0.1461326	0.30992813	2.1625295	20	—	—
376116 2010 XQ_{85}	17.8	X	319.79130	21.83664	54.12927	3.36516	0.1056618	0.30477807	2.1868227	20	—	—
376117 2011 AB	17.6	X	203.67023	316.87062	127.58101	5.39054	0.1665859	0.26183972	2.4197976	20	7 11.9	21.2
376118 2011 AH_{7}	17.6	X	235.00284	296.02960	115.92213	5.60197	0.1242477	0.26528066	2.3988274	20	7 6.5	20.9
376119 2011 AG_{8}	18.1	X	306.26740	358.52413	96.70764	2.40997	0.1626575	0.29628557	2.2284132	20	—	—
376120 2011 AP_{12}	17.3	X	178.44394	214.56602	264.63025	4.16102	0.1761965	0.26365125	2.4087006	20	7 31.9	21.1
376121 2011 AP_{13}	16.4	X	256.86505	18.50531	336.08027	8.68431	0.2278009	0.25772115	2.4455094	20	4 28.9	20.4
376122 2011 AC_{24}	16.8	X	197.53447	142.94883	329.03582	5.85603	0.0707650	0.26780578	2.3837247	20	8 19.1	19.8
376123 2011 AT_{28}	18.1	X	296.89853	272.86938	164.65556	2.58894	0.1823431	0.28814358	2.2701963	20	11 21.4	19.6
376124 2011 AK_{33}	17.2	X	135.19125	167.30907	16.17208	2.59778	0.1527754	0.26503524	2.4003080	20	9 14.2	20.9
376125 2011 AM_{35}	16.4	X	147.12280	231.39813	290.48416	12.83551	0.0602963	0.26298550	2.4127640	20	8 20.8	19.9
376126 2011 AH_{45}	16.6	X	32.20984	218.76669	303.95584	6.20125	0.1973617	0.22658241	2.6647221	20	3 26.9	19.2
376127 2011 AJ_{45}	17.6	X	178.35823	115.99556	341.96158	0.83029	0.1371397	0.25565640	2.4586588	20	7 5.6	21.4
376128 2011 AV_{45}	17.9	X	150.83629	312.95543	185.17360	0.83473	0.1248830	0.25608561	2.4559108	20	7 30.1	21.4
376129 2011 AD_{46}	16.5	X	314.25953	271.26021	300.87857	6.28926	0.1575496	0.21477353	2.7615243	20	1 21.2	20.3
376130 2011 AG_{46}	16.5	X	2.34921	74.64810	136.48687	14.60657	0.0845224	0.23092221	2.6312306	20	4 15.9	19.8
376131 2011 AH_{56}	17.7	X	217.15701	134.29438	308.59907	2.73925	0.0951563	0.26320746	2.4114074	20	7 31.0	20.8
376132 2011 AN_{63}	17.1	X	251.10024	267.76211	130.40822	5.32303	0.1738261	0.26186828	2.4196216	20	6 30.3	20.3
376133 2011 AR_{63}	17.4	X	220.87387	175.49526	311.08843	6.44049	0.1798172	0.27431648	2.3458565	20	9 20.9	20.8
376134 2011 AP_{65}	16.8	X	278.21449	136.57638	112.88474	8.95165	0.1565988	0.21735432	2.7396213	20	1 25.6	20.8
376135 2011 AX_{66}	18.3	X	313.33636	180.33134	240.52089	0.58892	0.2040576	0.28867964	2.2673850	20	12 4.3	19.6
376136 2011 AO_{68}	17.8	X	162.38273	229.07614	268.32560	0.38524	0.0892681	0.25883176	2.4385089	20	8 10.5	21.1
376137 2011 AW_{68}	17.5	X	209.15116	306.78903	145.59994	4.15749	0.1260914	0.26211028	2.4181321	20	7 31.1	20.8
376138 2011 AK_{73}	16.6	X	78.45026	12.30884	104.14126	9.46521	0.0776837	0.23417526	2.6068060	20	4 3.3	20.1
376139 2011 BR_{1}	17.0	X	207.27231	356.76950	321.58706	9.52687	0.0902408	0.22635801	2.6664829	20	2 9.8	21.1
376140 2011 BD_{3}	17.4	X	117.58897	151.95407	52.32899	3.57245	0.1135849	0.26862764	2.3788602	20	9 22.9	20.8
376141 2011 BZ_{4}	18.2	X	320.69886	192.27491	200.42736	1.97429	0.2126611	0.28597699	2.2816481	20	11 3.9	19.4
376142 2011 BK_{16}	18.3	X	230.33306	122.80843	344.91443	1.03464	0.1417416	0.27189870	2.3597426	20	9 14.3	21.4
376143 2011 BW_{19}	16.0	X	39.17597	193.44704	336.17422	13.50701	0.0345633	0.22976767	2.6400375	20	4 2.0	19.5
376144 2011 BZ_{19}	16.4	X	288.20639	222.17758	336.94766	14.21318	0.0860538	0.20358812	2.8617680	20	—	—
376145 2011 BG_{20}	17.0	X	41.34302	310.27442	184.78326	4.54534	0.0578428	0.21965063	2.7204938	20	2 26.9	20.4
376146 2011 BX_{27}	16.5	X	148.14093	86.94710	334.03726	6.99679	0.0467874	0.23008464	2.6376123	20	4 7.8	20.3
376147 2011 BL_{28}	16.4	X	180.11434	152.74376	125.23764	13.50999	0.1096844	0.19869311	2.9085789	20	—	—
376148 2011 BM_{31}	17.0	X	210.03593	49.85150	56.67611	3.17484	0.0782904	0.26694463	2.3888484	20	8 27.8	20.3
376149 2011 BP_{32}	18.1	X	275.01772	277.81576	173.97968	3.20641	0.1584307	0.28434018	2.2903959	20	10 29.9	20.0
376150 2011 BP_{34}	17.2	X	267.65803	153.15257	254.87584	1.82284	0.0809865	0.26763298	2.3847506	20	8 20.8	19.9
376151 2011 BE_{59}	16.8	X	189.66657	41.83856	293.82151	5.19913	0.0454972	0.21861583	2.7290719	20	2 11.1	20.6
376152 2011 BN_{66}	17.2	X	304.55659	34.98471	191.21002	5.16453	0.0508235	0.21949171	2.7218069	20	2 8.7	21.0
376153 2011 BT_{69}	17.8	X	159.29342	115.76377	332.20872	2.03531	0.0465827	0.24725384	2.5140506	20	5 29.6	21.3
376154 2011 BQ_{72}	18.6	X	267.20874	228.66980	197.59014	4.34526	0.2290363	0.27410852	2.3470429	20	8 21.5	21.3
376155 2011 BP_{75}	16.3	X	242.65074	151.08126	169.30837	14.12653	0.0821957	0.22658764	2.6646811	20	3 22.1	20.1
376156 2011 BH_{79}	17.4	X	227.13133	354.14701	97.83831	6.42566	0.1493011	0.26995251	2.3710705	20	8 20.8	20.7
376157 2011 BE_{81}	17.4	X	125.22875	327.15506	183.57624	4.04672	0.1281647	0.25210027	2.4817261	20	7 18.9	21.2
376158 2011 BD_{86}	17.2	X	119.86561	242.03224	297.39523	11.39211	0.0159597	0.25731640	2.4480732	20	8 9.3	20.3
376159 2011 BF_{86}	17.8	X	151.47049	290.18255	176.29162	8.02846	0.1079708	0.24722763	2.5142283	20	6 18.2	21.7
376160 2011 BZ_{99}	16.4	X	300.23132	333.32128	272.75872	5.95921	0.0940889	0.22043317	2.7140515	20	2 20.8	20.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376161 2011 BU_{105}	17.1	X	152.40023	82.68152	288.98392	3.30160	0.0987511	0.22090438	2.7101906	20	2 18.0	21.2
376162 2011 BG_{118}	17.5	X	162.10058	135.52461	319.59547	5.36124	0.0469672	0.25029585	2.4936392	20	6 12.2	20.9
376163 2011 BO_{123}	16.2	X	300.33000	273.86868	337.86084	16.26964	0.1188819	0.22389353	2.6860145	20	2 26.8	19.8
376164 2011 BJ_{127}	17.2	X	265.38256	153.58157	122.43495	3.87770	0.0498637	0.22353270	2.6889042	20	2 25.2	20.9
376165 2011 BG_{130}	16.8	X	196.86077	192.93769	144.46669	14.02341	0.1484280	0.22536367	2.6743205	20	2 23.6	21.0
376166 2011 BT_{130}	16.9	X	171.55776	64.10683	266.71702	2.84456	0.1007680	0.21442903	2.7644813	20	1 21.0	21.2
376167 2011 BC_{134}	17.2	X	265.72819	161.92123	85.91101	4.65040	0.1421793	0.21657537	2.7461863	20	1 12.5	21.3
376168 2011 BN_{145}	17.0	X	310.29957	147.21717	105.39697	3.43582	0.0995604	0.23017397	2.6369298	20	3 16.3	20.3
376169 2011 BH_{162}	15.2	X	149.51154	342.40101	295.25087	12.31372	0.1018701	0.17896414	3.1185930	20	—	—
376170 2011 CL_{9}	15.9	X	201.53817	98.83638	134.28781	5.43988	0.2196077	0.18461937	3.0545779	20	12 26.0	21.0
376171 2011 CV_{11}	17.3	X	312.57230	330.90813	297.81985	1.42651	0.0733670	0.23484072	2.6018791	20	4 11.2	20.4
376172 2011 CL_{14}	16.9	X	283.59092	94.18068	125.75877	1.32556	0.0147476	0.21294698	2.7772932	20	1 13.4	20.5
376173 2011 CW_{14}	17.5	X	271.27892	87.34835	308.69085	2.63557	0.1298740	0.26565839	2.3965529	20	8 1.2	20.1
376174 2011 CK_{15}	16.8	X	176.53204	45.88135	313.44314	4.67488	0.0737871	0.22576654	2.6711381	20	2 26.3	20.7
376175 2011 CT_{15}	17.0	X	163.27701	337.22952	113.59750	8.28180	0.0423166	0.24610472	2.5218703	20	6 8.8	20.6
376176 2011 CH_{17}	17.6	X	263.87883	328.75313	116.44781	6.26034	0.1980109	0.27799720	2.3251042	20	9 24.3	20.2
376177 2011 CX_{17}	18.0	X	245.67773	55.58695	40.18099	2.00641	0.1356478	0.27433851	2.3457310	20	9 20.0	20.7
376178 2011 CL_{27}	17.1	X	159.77204	54.69063	115.60405	3.01220	0.1205672	0.26514265	2.3996597	20	9 22.2	20.6
376179 2011 CB_{31}	17.8	X	160.45483	3.77857	121.98348	3.03751	0.1311121	0.25675461	2.4516429	20	7 24.1	21.5
376180 2011 CD_{32}	17.2	X	198.80927	150.78030	173.47068	4.50444	0.0567913	0.21775974	2.7362199	20	2 7.9	21.3
376181 2011 CT_{32}	17.4	X	330.90124	209.77197	70.80609	1.98135	0.0377709	0.24580271	2.5239356	20	5 30.4	20.5
376182 2011 CB_{35}	16.6	X	306.81017	296.43087	312.84713	6.84108	0.1001004	0.22331162	2.6906787	20	3 3.8	20.1
376183 2011 CS_{35}	16.2	X	271.87052	293.19628	321.72331	11.10164	0.0896436	0.21827978	2.7318722	20	2 2.4	20.0
376184 2011 CX_{41}	17.6	X	173.72414	142.46978	284.80504	3.65811	0.1669222	0.24544165	2.5264103	20	5 21.4	21.6
376185 2011 CR_{48}	16.7	X	304.85121	302.18612	19.09820	5.77477	0.0155114	0.25146736	2.4858884	20	6 21.2	19.8
376186 2011 CE_{51}	17.0	X	209.97258	358.35112	334.72486	2.71991	0.0736053	0.22442094	2.6818046	20	3 1.8	21.1
376187 2011 CT_{51}	17.9	X	255.09699	66.11996	332.20390	2.99705	0.1142332	0.25993229	2.4316211	20	7 14.9	21.0
376188 2011 CT_{53}	15.6	X	295.60572	50.79342	106.91564	11.18201	0.0551489	0.19233169	2.9723651	20	—	—
376189 2011 CG_{62}	17.3	X	247.75112	188.91343	149.58854	9.85606	0.1365452	0.23796167	2.5790794	20	4 16.2	21.2
376190 2011 CN_{65}	16.5	X	172.54315	299.54206	151.72678	12.31344	0.0854825	0.24073758	2.5592151	20	6 20.9	20.5
376191 2011 CU_{66}	18.1	X	270.29567	282.00681	160.90166	2.94574	0.2079310	0.28136836	2.3064951	20	9 27.9	20.5
376192 2011 CE_{67}	17.6	X	290.06861	355.41128	46.97980	1.92079	0.1390471	0.27143203	2.3624465	20	9 11.9	19.8
376193 2011 CB_{68}	17.1	X	330.78255	164.87450	57.87273	2.78521	0.0613200	0.22397387	2.6853722	20	3 11.6	20.6
376194 2011 CQ_{71}	16.3	X	39.99888	181.11142	346.96430	12.90286	0.1785798	0.22726115	2.6594138	20	4 15.9	19.2
376195 2011 CL_{72}	17.4	X	224.81938	300.24832	147.14900	5.35240	0.1980702	0.26539831	2.3981183	20	8 3.5	20.9
376196 2011 CD_{73}	17.1	X	189.30224	99.35950	43.45092	1.96434	0.1309172	0.26659093	2.3909608	20	9 16.1	20.7
376197 2011 CR_{75}	17.1	X	185.62167	100.37833	56.55714	5.70387	0.1153649	0.26752180	2.3854112	20	10 3.7	20.5
376198 2011 CN_{81}	16.1	X	256.63979	349.54851	159.15020	17.47123	0.0406955	0.18136239	3.0910395	20	12 9.7	20.7
376199 2011 CO_{86}	16.6	X	246.28124	293.19559	290.52624	4.89235	0.0372492	0.20021985	2.8937741	20	—	—
376200 2011 CP_{116}	17.9	X	246.33004	232.41500	160.57464	1.38025	0.1914173	0.25495762	2.4631492	20	6 15.5	21.5
376201 2011 CA_{117}	16.6	X	227.19640	51.53213	239.04889	3.94772	0.0968065	0.21173092	2.7879172	20	1 27.7	20.9
376202 2011 DP_{1}	17.7	X	223.17113	245.58629	221.94900	0.78291	0.1449022	0.26973431	2.3723491	20	9 4.4	21.0
376203 2011 DE_{2}	17.8	X	214.92014	139.73848	344.36118	2.23121	0.1613207	0.27112793	2.3642127	20	9 15.6	21.2
376204 2011 DD_{4}	17.4	X	196.47631	282.40328	204.36821	1.11413	0.1324268	0.26448118	2.4036590	20	8 31.9	20.8
376205 2011 DV_{9}	16.9	X	6.59054	262.65571	294.83134	1.61723	0.1301193	0.22277749	2.6949777	20	3 26.9	19.7
376206 2011 DT_{11}	17.2	X	105.56161	327.66012	166.25038	12.74799	0.2123877	0.23733111	2.5836456	20	6 15.5	21.4
376207 2011 DD_{12}	16.8	X	211.92616	183.95112	154.12769	8.19383	0.1009542	0.22756257	2.6570649	20	3 10.2	20.9
376208 2011 DH_{15}	17.4	X	312.74849	328.91434	266.99330	1.55845	0.0288145	0.22397081	2.6853966	20	3 6.1	20.9
376209 2011 DA_{18}	17.0	X	261.50052	316.73641	22.58886	2.75483	0.1590330	0.23113219	2.6296368	20	4 26.3	20.8
376210 2011 DB_{24}	16.6	X	205.76785	253.05980	149.26577	10.20498	0.1229061	0.23581740	2.5946901	20	5 24.5	20.7
376211 2011 DJ_{24}	16.7	X	2.17803	278.42794	303.83454	3.17735	0.1841393	0.22690994	2.6621573	20	4 20.7	19.3
376212 2011 DU_{28}	17.8	X	218.23759	261.36641	196.96357	0.71002	0.1364285	0.26527680	2.3988506	20	8 17.8	21.3
376213 2011 DO_{29}	17.7	X	255.37030	91.87751	316.26818	3.05130	0.0986406	0.26132362	2.4229825	20	7 31.5	20.5
376214 2011 DN_{35}	16.9	X	199.59686	39.05346	164.35511	1.85193	0.1330209	0.17501912	3.1652818	20	11 26.1	21.9
376215 2011 DK_{42}	17.3	X	237.18223	341.15349	110.95471	3.03794	0.1824049	0.26771472	2.3842651	20	8 27.2	20.6
376216 2011 EZ_{2}	16.5	X	148.15067	300.48003	307.09122	4.21483	0.1735216	0.17291007	3.1909685	20	11 28.8	21.8
376217 2011 EQ_{4}	16.3	X	31.32423	327.24687	193.40291	14.30144	0.1749702	0.21586578	2.7522012	20	3 24.5	19.0
376218 2011 EZ_{6}	15.3	X	273.37355	74.31049	69.85978	10.55289	0.0303090	0.18045631	3.1013778	20	12 23.5	19.6
376219 2011 ER_{12}	17.2	X	208.91618	41.06848	98.37997	3.14191	0.1443068	0.26856792	2.3792128	20	10 2.9	20.5
376220 2011 EG_{13}	16.9	X	339.98977	188.90452	4.13032	3.85483	0.1361616	0.21582826	2.7525201	20	2 6.5	20.1
376221 2011 EH_{15}	17.0	X	209.30193	94.54001	152.07977	2.53641	0.0964227	0.19189773	2.9768446	20	—	—
376222 2011 EK_{17}	16.7	X	76.84363	47.81679	108.68696	8.51582	0.1378160	0.23315298	2.6144202	20	5 31.7	20.1
376223 2011 EB_{24}	17.7	X	202.17112	310.92732	144.11311	2.53067	0.1351793	0.25734148	2.4479141	20	7 26.2	21.4
376224 2011 ET_{24}	15.8	X	195.32702	194.01353	22.50365	8.98263	0.1264516	0.17259108	3.1948991	20	12 5.5	20.9
376225 2011 ED_{25}	15.7	X	135.72975	282.15385	10.22059	14.07558	0.0462651	0.17835448	3.1256957	20	—	—
376226 2011 EG_{27}	17.3	X	64.64289	128.50060	5.97084	11.44765	0.1347944	0.22393963	2.6856459	20	4 9.3	20.6
376227 2011 EL_{35}	16.9	X	332.92030	240.79649	355.83393	2.22794	0.0449725	0.22446984	2.6814151	20	4 2.1	20.1
376228 2011 EH_{37}	15.5	X	117.51970	293.13854	22.12950	15.95129	0.0933080	0.17920504	3.1157976	20	—	—
376229 2011 EB_{40}	17.1	X	227.86508	169.23076	304.68660	4.83625	0.1743827	0.26953064	2.3735440	20	9 12.9	20.4
376230 2011 ER_{41}	18.0	X	226.67344	65.12468	35.00831	2.84101	0.1725332	0.26571529	2.3962108	20	8 27.3	21.5
376231 2011 EE_{42}	16.5	X	165.37692	223.10177	142.69945	6.62161	0.0515126	0.21375220	2.7703140	20	2 23.4	20.4
376232 2011 EO_{42}	16.6	X	73.31739	5.45317	150.32585	7.90820	0.1375067	0.23136997	2.6278348	20	5 26.2	20.0
376233 2011 EZ_{43}	15.6	X	251.86658	197.46573	7.86477	11.23619	0.0961970	0.18437308	3.0572975	20	—	—
376234 2011 EN_{44}	15.8	X	183.00400	343.98542	28.90821	6.27363	0.0083980	0.21892922	2.7264669	20	3 22.8	19.4
376235 2011 EV_{44}	15.7	X	313.18827	201.58337	11.69881	17.67463	0.0522087	0.20841318	2.8174265	20	2 14.5	19.8
376236 2011 EX_{44}	15.9	X	194.69923	192.83679	27.23442	9.32275	0.0441904	0.17483976	3.1674462	20	12 17.2	20.6
376237 2011 EN_{45}	16.3	X	157.04486	260.09341	96.76773	3.09438	0.0813937	0.20585358	2.8407331	20	2 6.9	20.5
376238 2011 EC_{50}	15.7	X	359.70266	342.71102	122.87328	12.91552	0.0055395	0.19464358	2.9487819	20	—	—
376239 2011 EO_{50}	16.6	X	122.16824	4.30830	64.93796	9.99016	0.0390238	0.22176069	2.7032093	20	3 25.6	20.4
376240 2011 EM_{53}	15.5	X	152.49943	239.62930	48.26684	13.84489	0.1333534	0.17507835	3.1645679	20	—	—

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	m		°	°	°	°		°				
376241 2011 EG_{55}	15.3	X	112.08817	280.05997	23.26190	12.90016	0.1130769	0.17160460	3.2071315	20	12 29.9	20.5
376242 2011 EE_{68}	15.7	X	157.85684	104.12519	174.93564	8.83045	0.0867920	0.18080329	3.0974086	20	—	—
376243 2011 EA_{69}	16.2	X	140.74008	275.83307	112.43375	7.30077	0.0873779	0.21078749	2.7962296	20	2 28.9	20.3
376244 2011 EM_{73}	17.2	X	226.16145	12.17875	99.46815	3.39388	0.1680799	0.26874893	2.3781444	20	9 12.6	20.5
376245 2011 ES_{75}	17.2	X	109.90285	314.31343	191.10771	13.32558	0.2061855	0.24009334	2.5637912	20	7 2.0	21.4
376246 2011 ES_{77}	16.8	X	105.78006	348.23390	144.71070	12.55030	0.3775503	0.23741371	2.5830462	20	6 29.5	21.5
376247 2011 EK_{81}	17.4	X	82.18415	154.18624	354.55383	3.07188	0.0933311	0.23355305	2.6114338	20	5 18.9	20.8
376248 2011 EU_{82}	17.4	X	250.36874	279.99490	167.08884	12.49386	0.1822792	0.26831689	2.3806966	20	9 4.6	20.4
376249 2011 EL_{83}	16.8	X	39.66850	41.56153	91.37076	0.52107	0.0146501	0.21419008	2.7665370	20	2 21.4	20.3
376250 2011 ES_{83}	16.1	X	164.46539	152.21966	118.63342	2.23605	0.1432968	0.17949289	3.1124655	20	—	—
376251 2011 EF_{84}	16.8	X	108.08983	282.85070	150.27125	5.60785	0.0413491	0.21764403	2.7371895	20	3 8.9	20.5
376252 2011 EV_{85}	16.0	X	201.63198	291.27090	69.82644	7.34364	0.0456821	0.21998829	2.7177093	20	4 1.4	20.0
376253 2011 FV_{1}	16.0	X	85.90658	66.29978	48.44936	5.86005	0.0113377	0.22000637	2.7175605	20	3 30.7	19.7
376254 2011 FW_{1}	16.4	X	294.29005	181.76646	346.37843	10.83039	0.0664327	0.19062008	2.9901315	20	—	—
376255 2011 FB_{2}	15.4	X	236.96872	17.96247	205.77668	27.81571	0.1215620	0.18167743	3.0874651	20	—	—
376256 2011 FU_{2}	16.5	X	117.11911	12.89026	137.41707	18.18075	0.0897133	0.24189625	2.5510363	20	7 6.1	20.3
376257 2011 FC_{6}	16.2	X	288.80545	128.24971	81.79177	5.88378	0.0521389	0.19827813	2.9126358	20	1 5.3	20.2
376258 2011 FS_{7}	16.4	X	42.30657	315.23897	199.77088	13.01479	0.1299075	0.21632039	2.7483439	20	4 2.2	19.4
376259 2011 FY_{7}	16.5	X	270.10018	189.60058	11.17537	1.85706	0.1490622	0.18922114	3.0048510	20	—	—
376260 2011 FF_{10}	15.7	X	186.41429	107.63031	174.01233	21.66155	0.0870709	0.19131196	2.9829180	20	—	—
376261 2011 FX_{13}	15.4	X	135.47497	275.94404	27.54370	18.18372	0.0987323	0.17585216	3.1552776	20	—	—
376262 2011 FJ_{18}	16.7	X	125.76161	147.97054	346.71635	3.00410	0.1339234	0.23850290	2.5751762	20	6 29.2	20.6
376263 2011 FR_{18}	17.0	X	80.06782	331.08433	176.12656	6.49405	0.0471491	0.22626522	2.6672119	20	5 9.4	20.6
376264 2011 FD_{19}	15.4	X	163.12367	214.43405	31.53047	8.18985	0.0990569	0.16998964	3.2274121	20	12 10.2	20.5
376265 2011 FO_{21}	16.1	X	110.86795	236.82867	144.52810	8.91996	0.1010011	0.19541342	2.9410323	20	1 18.1	20.2
376266 2011 FJ_{24}	16.4	X	244.63541	35.22430	181.57732	5.63711	0.0287885	0.18857595	3.0117010	20	—	—
376267 2011 FW_{24}	16.3	X	214.71027	167.04360	75.19277	10.76229	0.0307885	0.18447254	3.0561985	20	—	—
376268 2011 FT_{28}	15.5	X	201.84166	147.09749	94.36429	13.50127	0.1919379	0.17784488	3.1316638	20	—	—
376269 2011 FG_{32}	16.1	X	242.67807	207.03628	20.23576	8.65680	0.0717436	0.18335153	3.0686429	20	—	—
376270 2011 FQ_{41}	15.5	X	132.92163	159.10307	114.72129	13.55917	0.0308497	0.17329955	3.1861857	20	12 14.7	20.3
376271 2011 FX_{43}	17.2	X	169.84071	80.26616	21.92351	3.34753	0.0703442	0.24279914	2.5447080	20	7 2.1	20.8
376272 2011 FY_{43}	16.5	X	95.34016	53.60363	15.60488	6.20176	0.0399555	0.21009032	2.8024122	20	2 18.9	20.3
376273 2011 FG_{44}	16.9	X	171.31500	254.17584	184.64836	14.27637	0.0956953	0.23652937	2.5894806	20	6 3.8	21.0
376274 2011 FQ_{45}	15.9	X	245.18576	53.72264	156.37044	5.94874	0.1063711	0.18178812	3.0862118	20	—	—
376275 2011 FM_{47}	15.6	X	142.28658	258.15850	44.36298	12.85618	0.1324574	0.17147200	3.2087847	20	—	—
376276 2011 FW_{55}	16.4	X	284.51551	266.84168	359.01893	6.82444	0.0151698	0.21562616	2.7542398	20	3 12.3	19.9
376277 2011 FG_{62}	16.8	X	15.05574	336.62742	195.43361	4.46865	0.0178213	0.21350298	2.7724693	20	3 8.9	20.5
376278 2011 FB_{71}	17.0	X	26.60137	45.52909	105.57782	1.74712	0.0133731	0.21397046	2.7684297	20	2 27.9	20.7
376279 2011 FT_{72}	17.0	X	57.96516	101.15518	14.31317	4.33967	0.0285294	0.21588962	2.7519986	20	2 25.4	20.6
376280 2011 FO_{73}	17.7	X	133.41666	294.16663	169.03773	3.56981	0.1616251	0.23815759	2.5776648	20	5 29.9	21.7
376281 2011 FS_{73}	16.8	X	120.84653	238.30718	167.68208	8.58211	0.1630365	0.21831442	2.7315832	20	3 5.5	20.7
376282 2011 FH_{74}	16.2	X	115.48550	125.25319	175.88387	0.99517	0.1606785	0.17436340	3.1732125	20	—	—
376283 2011 FR_{77}	16.7	X	341.00714	215.24498	26.32159	5.74356	0.0964836	0.22452419	2.6809824	20	4 16.4	19.8
376284 2011 FO_{78}	16.1	X	169.67898	289.41153	66.05164	6.41456	0.0580504	0.20952304	2.8074683	20	2 18.8	20.3
376285 2011 FH_{79}	16.6	X	201.02821	216.68219	143.45003	6.77041	0.0413046	0.22029083	2.7152205	20	3 29.0	20.5
376286 2011 FD_{80}	17.0	X	210.60758	15.21177	65.71817	5.40311	0.1526218	0.25163712	2.4847703	20	7 15.7	20.8
376287 2011 FH_{82}	15.9	X	179.87857	56.22886	191.79048	10.48919	0.0357774	0.17690061	3.1427982	20	—	—
376288 2011 FW_{82}	16.4	X	224.21145	232.08194	46.63388	3.32709	0.0501917	0.19920394	2.9036043	20	1 15.7	20.6
376289 2011 FL_{83}	17.0	X	130.59246	256.76136	157.62572	5.08583	0.0663343	0.21494041	2.7600948	20	3 16.4	20.8
376290 2011 FT_{89}	16.5	X	207.14905	184.61227	199.71105	12.18993	0.0619225	0.22958270	2.6414553	20	5 4.3	20.3
376291 2011 FG_{90}	16.5	X	90.98561	35.98520	351.26345	9.26081	0.0864267	0.19753167	2.9199689	20	—	—
376292 2011 FY_{97}	16.6	X	187.14327	84.71939	303.57047	1.60057	0.0848604	0.22566755	2.6719191	20	4 14.6	20.5
376293 2011 FK_{101}	16.4	X	246.47188	242.99872	348.68553	4.32106	0.1283519	0.19024402	2.9940706	20	—	—
376294 2011 FJ_{102}	16.4	X	342.52663	311.90693	187.02345	14.93527	0.0929880	0.20322852	2.8651428	20	—	—
376295 2011 FE_{108}	16.5	X	22.87543	227.67553	267.30660	3.66236	0.1072773	0.20986127	2.8044510	20	2 1.0	19.6
376296 2011 FA_{125}	15.6	X	163.34089	304.78619	339.93644	10.68205	0.0970904	0.18082607	3.0971484	20	—	—
376297 2011 FL_{131}	17.4	X	134.70922	240.26738	228.52888	4.18583	0.1514988	0.23901620	2.5714879	20	6 6.2	21.3
376298 2011 FH_{132}	15.6	X	50.41422	164.91094	344.76390	26.24612	0.1158239	0.21981491	2.7191382	20	3 26.9	19.1
376299 2011 FC_{138}	17.2	X	340.72306	296.77651	215.87831	1.38216	0.0120628	0.20151337	2.8813773	20	1 3.5	21.0
376300 2011 FX_{140}	16.7	X	298.86268	237.43035	65.73334	7.50307	0.0263285	0.23221649	2.6214446	20	5 17.2	20.1
376301 2011 FY_{142}	16.4	X	328.01185	178.24016	42.54198	9.77624	0.0815029	0.21103720	2.7940234	20	3 7.7	20.1
376302 2011 FF_{147}	15.9	X	227.40748	243.85055	28.39369	24.68720	0.0884680	0.19321391	2.9633102	20	1 14.5	20.9
376303 2011 FK_{148}	15.7	X	197.38176	24.03466	186.58380	32.24903	0.0477110	0.16967023	3.2314612	20	12 8.4	21.0
376304 2011 FU_{149}	15.3	X	254.95331	291.53448	254.91041	20.45290	0.0680402	0.18339898	3.0681136	20	—	—
376305 2011 FH_{150}	16.1	X	84.41380	48.36682	52.90264	14.70959	0.1158086	0.21375563	2.7702843	20	4 1.0	20.0
376306 2011 FW_{157}	15.9	X	102.70718	275.43199	90.15957	12.57003	0.0872737	0.19189652	2.9768571	20	—	—
376307 2011 FX_{157}	16.3	X	302.75003	238.87478	46.46441	15.07910	0.0684078	0.22514805	2.6760276	20	4 24.2	19.7
376308 2011 GD_{4}	16.1	X	259.46709	252.65663	48.89722	7.11212	0.0600704	0.21304066	2.7764789	20	3 23.4	20.0
376309 2011 GN_{6}	16.4	X	146.05692	266.11272	127.66324	6.95475	0.1298275	0.21462202	2.7628239	20	3 16.2	20.6
376310 2011 GU_{14}	15.8	X	320.55209	119.68180	350.18685	10.32758	0.0577694	0.18021425	3.1041542	20	—	—
376311 2011 GE_{21}	16.0	X	238.50708	248.44120	340.57579	10.74503	0.0781945	0.18700754	3.0285167	20	—	—
376312 2011 GV_{28}	16.5	X	126.33963	281.31714	130.11699	5.30889	0.0704678	0.21429139	2.7656649	20	3 9.1	20.4
376313 2011 GZ_{30}	15.8	X	95.68545	119.56452	204.14357	9.93946	0.0317385	0.17053693	3.2205033	20	12 28.9	20.6
376314 2011 GA_{32}	16.1	X	102.65115	267.98982	222.04811	11.54004	0.1252279	0.22633827	2.6666380	20	5 26.7	19.9
376315 2011 GE_{32}	16.9	X	61.12123	55.64131	73.29240	5.55808	0.0661717	0.21117125	2.7928408	20	3 24.5	20.5
376316 2011 GZ_{33}	16.5	X	277.69997	250.25959	305.20276	2.17184	0.0619662	0.18996690	2.9969818	20	—	—
376317 2011 GC_{34}	16.9	X	73.11947	109.11232	5.81803	8.89607	0.1610252	0.21758177	2.7377117	20	4 1.7	20.1
376318 2011 GX_{36}	16.4	X	127.15867	284.32627	214.54182	21.06404	0.0783420	0.23667456	2.5884215	20	6 27.6	20.6
376319 2011 GJ_{45}	17.2	X	135.34411	292.09348	172.00056	4.94446	0.1425863	0.23480231	2.6021629	20	5 31.6	21.2
376320 2011 GW_{45}	16.2	X	223.90273	187.73550	34.50567	6.97015	0.0868912	0.18246312	3.0785956	20	—	—

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376321 2011 GF_{47}	16.3	X	103.15007	302.33670	208.93342	12.33563	0.1043401	0.23099595	2.6306706	20	6 20.7	20.2
376322 2011 GX_{47}	16.6	X	145.06167	182.46568	195.70717	10.26464	0.0597242	0.20653089	2.8345190	20	2 13.9	20.8
376323 2011 GE_{48}	16.7	X	148.91082	193.38657	211.20730	3.50725	0.0737715	0.21445255	2.7642792	20	3 24.5	20.6
376324 2011 GN_{49}	16.7	X	294.16638	152.36379	11.85337	1.74076	0.1499081	0.18696727	3.0289516	20	—	—
376325 2011 GV_{49}	17.1	X	72.73838	314.11119	194.12939	3.29807	0.0856119	0.22320646	2.6915237	20	5 5.5	20.5
376326 2011 GE_{50}	16.2	X	169.86922	287.61319	93.59829	6.58637	0.0896412	0.21603662	2.7507501	20	3 23.5	20.4
376327 2011 GM_{61}	16.8	X	126.95029	352.75448	102.90664	10.81353	0.1245496	0.22501348	2.6770944	20	5 12.9	20.9
376328 2011 GS_{63}	16.0	X	232.19920	184.83505	25.90725	10.93250	0.1673681	0.17656925	3.1467290	20	—	—
376329 2011 GP_{67}	16.2	X	98.28178	130.94798	53.15586	13.89177	0.0924943	0.23935973	2.5690269	20	8 2.2	20.1
376330 2011 GY_{72}	16.0	X	173.71217	66.00371	196.88826	7.79845	0.0506725	0.17552930	3.1591455	20	—	—
376331 2011 GY_{74}	15.5	X	114.46382	223.92931	95.76087	6.02809	0.1351102	0.17260200	3.1947643	20	—	—
376332 2011 GO_{75}	15.4	X	125.65403	263.08949	50.58091	15.91040	0.1157208	0.17431539	3.1737952	20	—	—
376333 2011 GW_{75}	16.4	X	200.11567	236.67177	124.87121	7.51897	0.0365932	0.21500446	2.7595466	20	3 31.3	20.4
376334 2011 GM_{77}	16.4	X	344.17059	307.78323	205.40222	10.24031	0.0902365	0.19555903	2.9395722	20	—	—
376335 2011 GG_{79}	15.6	X	12.35698	130.27545	135.53790	1.15069	0.1656014	0.12477897	3.9662047	20	7 12.8	20.2
376336 2011 GS_{80}	16.6	X	242.68648	33.99583	180.84807	0.64780	0.1145404	0.18105827	3.0944999	20	—	—
376337 2011 GT_{84}	16.1	X	187.12951	7.55917	237.14737	2.53831	0.0826318	0.17454834	3.1709707	20	—	—
376338 2011 GW_{85}	16.6	X	211.62194	343.95412	220.02704	2.16540	0.0890448	0.17154769	3.2078407	20	12 12.2	21.3
376339 2011 HJ_{14}	16.9	X	100.31159	298.60740	199.82992	10.93766	0.0926338	0.22730918	2.6590392	20	5 30.9	20.7
376340 2011 HD_{15}	16.0	X	99.56759	175.72906	201.17786	15.50083	0.0647873	0.18694876	3.0291514	20	—	—
376341 2011 HT_{16}	16.4	X	90.57710	255.73418	226.88835	4.41357	0.0725574	0.21913138	2.7247897	20	4 22.7	19.9
376342 2011 HU_{20}	15.4	X	43.88363	351.40930	318.70919	4.78002	0.0790568	0.14746509	3.5482149	20	10 13.9	20.3
376343 2011 HY_{23}	16.0	X	229.17525	225.26556	355.09555	8.76033	0.0700015	0.18163266	3.0879724	20	—	—
376344 2011 HL_{27}	15.7	X	2.35464	9.58713	94.48000	11.27158	0.0480475	0.18393440	3.0621567	20	—	—
376345 2011 HS_{31}	16.4	X	10.02860	331.16721	205.54941	4.41599	0.0916633	0.21166569	2.7884899	20	3 6.2	19.7
376346 2011 HG_{36}	16.6	X	65.14017	8.44052	74.62229	4.37839	0.0676761	0.20289656	2.8682671	20	1 30.6	20.3
376347 2011 HM_{36}	16.2	X	16.03036	321.46176	131.81583	8.25357	0.0474354	0.18493466	3.0511052	20	—	—
376348 2011 HZ_{40}	15.6	X	24.11246	359.69317	77.67743	18.98188	0.1135490	0.18115502	3.0933981	20	—	—
376349 2011 HU_{42}	16.4	X	60.62958	282.29428	141.65817	9.78591	0.0902739	0.19137858	2.9822256	20	1 3.3	20.2
376350 2011 HE_{51}	15.9	X	11.52129	335.95565	134.79465	11.60477	0.1053868	0.18798464	3.0180132	20	—	—
376351 2011 HK_{64}	16.6	X	191.39601	341.42954	35.76791	6.59681	0.0405220	0.21858294	2.7293457	20	4 7.6	20.5
376352 2011 HE_{66}	16.3	X	231.44584	201.88412	25.16221	12.30289	0.0562848	0.18453424	3.0555173	20	—	—
376353 2011 HB_{78}	16.5	X	202.06474	60.47476	205.33853	9.72545	0.0267956	0.18543065	3.0456620	20	—	—
376354 2011 HQ_{80}	16.2	X	263.82901	27.26156	159.07019	11.84180	0.1225771	0.17638901	3.1488721	20	—	—
376355 2011 HE_{81}	16.5	X	77.70507	144.65306	58.78340	7.58352	0.0573673	0.23861578	2.5743640	20	7 24.9	19.9
376356 2011 HE_{84}	15.6	X	299.43058	329.82503	190.15676	10.30747	0.0291708	0.18006503	3.1058689	20	—	—
376357 2011 HQ_{93}	16.7	X	40.56107	298.33879	186.81156	5.88112	0.0361995	0.19926684	2.9029933	20	2 14.2	20.5
376358 2011 JO_{5}	15.9	X	165.55419	317.35097	62.54076	5.45644	0.0647009	0.21233652	2.7826137	20	3 15.4	20.0
376359 2011 JL_{16}	15.6	X	322.95474	37.42003	112.09108	9.89677	0.0729156	0.18328280	3.0694101	20	—	—
376360 2011 JL_{21}	16.1	X	333.17897	39.96932	116.59390	11.94243	0.0424502	0.18966259	3.0001866	20	—	—
376361 2011 JG_{27}	15.9	X	98.18176	306.36524	226.02652	11.49987	0.1787032	0.23510265	2.5999462	20	7 19.9	20.0
376362 2011 JH_{31}	15.9	X	122.65728	130.08348	33.45780	12.46875	0.2003192	0.23800524	2.5787646	20	8 13.0	20.3
376363 2011 KV_{4}	15.2	X	60.14288	188.00564	228.35519	14.35168	0.0913789	0.18057345	3.1000364	20	—	—
376364 2011 KG_{9}	15.3	X	34.13599	239.63984	38.16114	3.31294	0.1896326	0.12546856	3.9516588	20	9 6.4	20.3
376365 2011 KG_{42}	16.5	X	119.11926	17.63241	92.80828	2.35007	0.0985775	0.21820289	2.7325139	20	5 17.2	20.4
376366 2011 KB_{43}	17.2	X	145.43629	335.91838	168.35205	4.97822	0.2036496	0.24189979	2.5510114	20	8 2.7	21.4
376367 2011 KM_{43}	15.7	X	142.38451	230.71323	78.99398	9.19722	0.0231491	0.17510416	3.1642570	20	—	—
376368 2011 KY_{47}	15.8	X	30.80951	277.80184	153.71684	10.73169	0.0661852	0.17792185	3.1307606	20	—	—
376369 2011 LH_{15}	16.2	X	116.45737	97.27992	53.99838	14.02211	0.0928070	0.23027968	2.6361228	20	7 6.6	20.2
376370 2011 OX_{26}	13.6	X	241.56766	220.52001	106.00434	8.80157	0.0826164	0.08297566	5.2059768	20	4 9.6	20.8
376371 2011 OU_{44}	14.2	X	261.34039	160.96678	169.71438	3.55283	0.1787474	0.08329767	5.1925515	20	4 20.6	21.4
376372 2011 QU_{70}	18.1	X	135.84280	208.06943	147.50827	1.78817	0.2108871	0.26902896	2.3764939	20	1 18.5	21.4
376373 2011 SV_{21}	13.4	X	342.08581	299.40735	319.00350	5.04849	0.1101505	0.08347755	5.1850894	20	5 13.5	19.8
376374 2011 UC_{202}	16.7	X	286.55476	225.23387	122.11062	1.92527	0.2372532	0.19221874	2.9735294	20	5 27.2	20.8
376375 2012 CB_{55}	17.5	X	172.69346	172.27197	167.49962	22.91184	0.0842389	0.35538824	1.9739403	20	1 10.2	20.4
376376 2012 DR_{8}	17.8	X	166.49108	277.57486	150.58577	22.50183	0.1199042	0.38653970	1.8664083	20	5 19.5	20.7
376377 2012 DK_{16}	17.4	X	75.72541	133.21523	129.93712	7.31919	0.0954422	0.28838750	2.2689161	20	10 26.6	20.5
376378 2012 DP_{18}	17.7	X	73.09751	300.13538	328.27637	3.51008	0.0855410	0.29668489	2.2264132	20	10 25.7	20.6
376379 2012 DU_{24}	17.1	X	278.71693	209.66484	89.69738	4.76353	0.1443962	0.24679333	2.5171771	20	3 29.3	20.6
376380 2012 DP_{25}	16.6	X	235.78671	250.76657	17.68379	10.44120	0.1830646	0.22037772	2.7145068	20	1 7.8	21.3
376381 2012 DQ_{29}	18.2	X	158.76028	210.59526	46.10309	3.06908	0.1278886	0.31387340	2.1443699	20	—	—
376382 2012 DE_{30}	17.4	X	116.12017	181.75129	11.00846	6.99061	0.0335717	0.28316452	2.2967311	20	9 1.7	20.2
376383 2012 DO_{33}	18.0	X	137.70130	230.47363	352.54043	5.13893	0.0890350	0.30088491	2.2056458	20	11 9.4	21.0
376384 2012 DB_{40}	17.7	X	20.28973	18.00955	239.92108	4.36543	0.1114295	0.26831514	2.3807069	20	7 22.0	20.1
376385 2012 DU_{43}	17.3	X	55.15777	143.60449	18.76693	21.16422	0.0855913	0.37542488	1.9030667	20	4 14.9	18.4
376386 2012 DS_{52}	17.7	X	3.02156	269.70994	0.94152	1.95852	0.1316241	0.26547556	2.3976531	20	7 11.4	19.7
376387 2012 DL_{60}	18.0	X	26.22125	126.59381	123.67360	2.03677	0.1448298	0.26699588	2.3885427	20	7 27.2	20.3
376388 2012 DH_{82}	17.5	X	112.21009	337.73686	262.45481	5.11989	0.1093223	0.29409361	2.2394721	20	11 3.9	20.7
376389 2012 DD_{88}	17.6	X	118.68183	199.88936	55.58973	3.28743	0.1175589	0.29878547	2.2159659	20	12 2.7	20.7
376390 2012 DG_{90}	16.0	X	96.32669	350.20155	264.77278	24.62897	0.1703401	0.28653530	2.2786832	20	11 7.8	19.8
376391 2012 EE_{1}	17.9	X	112.33798	273.05499	337.94339	7.81019	0.1100045	0.29971019	2.2114054	20	11 17.9	21.1
376392 2012 EX_{10}	17.8	X	105.88032	106.43441	157.05887	1.63430	0.1942417	0.29743899	2.2226485	20	12 2.7	21.3
376393 2012 FS_{2}	17.4	X	351.84254	305.37445	307.18225	0.69315	0.1587657	0.26011149	2.4305041	20	5 16.5	19.4
376394 2012 FM_{10}	17.5	X	118.92114	236.27489	320.76937	4.54516	0.0977891	0.28590023	2.2820565	20	9 12.7	20.6
376395 2012 FP_{14}	17.0	X	66.56672	216.57879	68.24226	7.41197	0.1449505	0.28981221	2.2614740	20	11 17.2	19.9
376396 2012 FK_{24}	17.6	X	38.10965	32.99240	168.27865	6.21871	0.1463302	0.25966951	2.4332613	20	6 3.7	20.1
376397 2012 FB_{26}	17.8	X	42.96426	83.40968	184.85160	6.07563	0.1302801	0.27878343	2.3207307	20	9 19.7	20.3
376398 2012 FR_{27}	17.5	X	62.25070	6.08435	257.50219	5.05786	0.1531887	0.28483532	2.2877408	20	10 11.9	20.5
376399 2012 FW_{29}	17.6	X	63.19325	240.15432	14.55716	7.54030	0.0848068	0.28243572	2.3006804	20	9 23.9	20.4
376400 2012 FM_{31}	17.0	X	5.99307	248.88018	42.63459	10.72770	0.2595126	0.26631102	2.3926360	20	9 15.3	19.0

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	m		°	°	°	°		°				
376401 2012 FJ_{44}	18.3	X	137.38663	17.02564	198.81750	2.70517	0.1499495	0.28988285	2.2611066	20	10 30.6	21.6
376402 2012 FZ_{53}	16.9	X	274.67450	352.76680	330.17753	5.84303	0.1427030	0.25353801	2.4723351	20	4 19.0	20.4
376403 2012 FP_{54}	16.9	X	307.80961	236.27761	26.18348	9.70702	0.1732293	0.23690296	2.5867576	20	3 15.5	20.2
376404 2012 FG_{59}	17.9	X	264.24021	257.76009	216.56592	3.68305	0.0767237	0.30410114	2.1900667	20	11 30.6	19.9
376405 2012 FB_{62}	16.7	X	286.03637	98.99450	129.18914	3.42149	0.1287754	0.22112711	2.7083704	20	1 10.3	20.7
376406 2012 FC_{62}	16.4	X	294.95443	61.08842	192.14590	11.76103	0.2571935	0.22855421	2.6493738	20	1 31.1	20.7
376407 2012 FJ_{67}	17.7	X	48.11713	189.79685	51.08398	2.21204	0.1361143	0.26648881	2.3915717	20	8 19.4	20.3
376408 2012 FD_{69}	17.5	X	79.46025	112.63860	112.95018	4.25842	0.0269496	0.27216875	2.3581814	20	8 25.6	20.4
376409 2012 FE_{69}	17.0	X	341.63624	132.85965	104.81882	4.60465	0.1602713	0.24155368	2.5534476	20	4 6.1	19.6
376410 2012 FB_{75}	17.4	X	85.46369	333.99746	257.82957	4.16135	0.1216092	0.28139535	2.3063477	20	9 21.9	20.6
376411 2012 FP_{81}	17.5	X	98.81498	184.67517	58.12371	6.97261	0.1338940	0.28979893	2.2615431	20	10 27.7	20.8
376412 2012 GJ_{2}	17.1	X	336.25606	260.61820	27.37809	4.89958	0.1379581	0.25827377	2.4420198	20	6 10.6	19.3
376413 2012 GK_{10}	17.6	X	288.74760	288.92934	1.60382	2.50253	0.1778169	0.24269768	2.5454172	20	3 22.8	20.8
376414 2012 GN_{10}	18.1	X	155.37654	7.31047	203.33821	5.22703	0.1039357	0.29793232	2.2201942	20	11 14.0	21.2
376415 2012 GB_{13}	16.4	X	241.59015	292.82908	16.59227	16.17398	0.2556185	0.22955847	2.6416412	20	2 29.9	21.1
376416 2012 GH_{13}	17.3	X	26.46258	147.47286	111.13432	3.17290	0.1793563	0.26683926	2.3894772	20	8 16.5	19.6
376417 2012 GQ_{21}	17.5	X	116.09359	232.69418	45.92698	7.62652	0.0482685	0.30553271	2.1832204	20	12 31.9	20.3
376418 2012 GJ_{23}	17.3	X	75.82328	274.02634	316.15825	4.83520	0.1966642	0.27413460	2.3468941	20	9 17.1	20.7
376419 2012 GX_{25}	16.4	X	294.64149	334.71289	282.45426	4.11163	0.2145762	0.23191133	2.6237437	20	2 11.1	20.0
376420 2012 GY_{28}	16.1	X	299.76598	205.22744	79.65879	14.22398	0.1239602	0.24000306	2.5644340	20	4 15.1	19.6
376421 2012 GO_{31}	16.8	X	190.85770	69.03039	234.86551	3.64764	0.1650416	0.20960930	2.8066980	20	1 10.8	21.5
376422 2012 GP_{31}	18.0	X	148.80321	186.38035	11.78053	4.03384	0.1208646	0.28920503	2.2646382	20	10 18.4	21.1
376423 2012 GS_{31}	17.4	X	43.59747	343.80522	253.52630	2.05118	0.1549471	0.26349973	2.4096239	20	8 7.8	20.1
376424 2012 GF_{32}	17.7	X	350.94242	254.53166	6.51736	2.29365	0.1898034	0.25401956	2.4692095	20	5 26.6	19.6
376425 2012 GB_{35}	17.3	X	234.27343	272.37422	2.94151	3.04284	0.1617940	0.21690299	2.7434203	20	1 14.9	21.7
376426 2012 HF_{7}	17.4	X	95.71776	113.69511	118.77895	7.54820	0.0601373	0.27827021	2.3235833	20	10 4.2	20.5
376427 2012 HO_{7}	18.3	X	123.64595	20.09755	213.41743	1.99889	0.1010408	0.29125249	2.2540123	20	11 8.1	21.2
376428 2012 HQ_{7}	17.8	X	49.54664	62.36475	186.90158	1.09275	0.1532496	0.26967029	2.3727245	20	9 4.6	20.6
376429 2012 HS_{7}	16.8	X	333.08324	47.34062	165.03490	14.09919	0.1773128	0.23230949	2.6207449	20	2 9.6	20.1
376430 2012 HF_{9}	16.3	X	244.64044	117.76373	139.19304	9.36814	0.1131665	0.21632716	2.7482866	20	1 4.4	20.6
376431 2012 HZ_{10}	16.5	X	255.11767	236.70483	41.81012	13.64028	0.2452192	0.22422408	2.6833740	20	2 3.8	21.2
376432 2012 HB_{14}	17.5	X	35.99215	212.18728	45.76816	2.61923	0.1714682	0.26912868	2.3759067	20	9 1.1	19.9
376433 2012 HZ_{15}	17.2	X	197.37726	165.14866	163.90847	6.55213	0.1492680	0.22392371	2.6857731	20	2 12.8	21.5
376434 2012 HF_{16}	17.2	X	233.66579	265.67438	67.00038	7.12672	0.1540232	0.23774468	2.5806485	20	3 24.4	21.3
376435 2012 HL_{19}	17.5	X	138.84882	112.69604	107.13716	5.95429	0.1143101	0.28997220	2.2606421	20	11 8.3	20.8
376436 2012 HF_{28}	16.2	X	189.90730	200.87835	124.80699	13.41862	0.1949726	0.21215854	2.7841697	20	2 5.8	20.9
376437 2012 HR_{28}	16.9	X	322.68552	90.33041	180.13358	15.20202	0.1138291	0.24570073	2.5246339	20	4 26.4	19.9
376438 2012 HO_{31}	16.4	X	225.94463	245.34710	110.55424	11.70759	0.1521811	0.23829165	2.5766979	20	4 17.1	20.6
376439 2012 HK_{35}	17.6	X	202.54402	18.95622	140.57179	5.01002	0.0541881	0.29484092	2.2356864	20	11 7.4	20.3
376440 2012 HT_{37}	16.9	X	308.31105	72.63998	200.95704	4.00756	0.1711894	0.23832745	2.5764399	20	3 27.3	20.0
376441 2012 HR_{39}	17.2	X	118.98886	198.06172	46.86399	8.39867	0.1434619	0.29179219	2.2512321	20	11 18.3	20.4
376442 2012 HM_{40}	16.3	X	326.86927	257.14818	340.46208	12.39735	0.1422878	0.23839603	2.5759457	20	3 9.7	19.4
376443 2012 HS_{44}	16.6	X	209.37144	250.79592	53.78292	8.42315	0.2141127	0.21160343	2.7890368	20	1 29.7	21.5
376444 2012 HC_{45}	16.7	X	354.80015	134.51235	54.39259	6.81475	0.0133728	0.23161967	2.6259458	20	3 6.5	20.2
376445 2012 HT_{48}	16.2	X	177.11884	214.40656	126.00478	10.74225	0.2248643	0.21115089	2.7930203	20	2 14.1	20.9
376446 2012 HD_{50}	16.2	X	249.76148	63.84566	200.65085	26.76028	0.2113657	0.21670183	2.7451179	20	1 8.1	21.4
376447 2012 HF_{50}	16.4	X	197.79500	257.00539	66.01597	8.73251	0.2265754	0.21288203	2.7778581	20	2 11.7	21.3
376448 2012 HX_{56}	17.3	X	68.95375	94.09673	156.18917	4.76834	0.1961717	0.27497491	2.3421103	20	10 9.7	20.5
376449 2012 HH_{57}	17.1	X	235.67033	89.77206	186.72443	5.15333	0.0643008	0.22117315	2.7079945	20	1 19.9	21.2
376450 2012 HG_{60}	17.0	X	325.64540	275.91130	30.50229	9.97376	0.1094713	0.25904442	2.4371741	20	6 21.7	19.7
376451 2012 HW_{62}	17.6	X	66.09891	153.57435	60.16963	3.51608	0.1406139	0.26616819	2.3934919	20	8 7.5	20.6
376452 2012 HO_{63}	16.6	X	275.28098	225.37399	54.11919	15.52645	0.1744833	0.23190834	2.6237662	20	3 3.6	20.8
376453 2012 HY_{63}	17.1	X	255.63515	280.72689	53.32662	6.08665	0.1794093	0.23940670	2.5686909	20	4 12.7	20.9
376454 2012 HE_{64}	17.8	X	47.84562	98.59731	176.51586	2.43849	0.1748474	0.27311042	2.3527577	20	10 13.4	20.7
376455 2012 HU_{66}	16.4	X	162.49271	86.15033	241.74964	9.30398	0.1567668	0.20487065	2.8498121	20	1 12.7	21.0
376456 2012 HF_{67}	16.6	X	184.53338	63.21789	174.30719	9.41195	0.1011544	0.18593798	3.0401194	20	12 25.0	21.4
376457 2012 HS_{70}	16.7	X	330.09832	103.35203	135.23101	4.47635	0.1540062	0.23647542	2.5898744	20	3 18.1	19.6
376458 2012 HD_{71}	17.4	X	300.52087	239.12889	47.17048	3.57382	0.1081484	0.24161364	2.5530251	20	4 13.6	20.4
376459 2012 HS_{73}	17.1	X	254.55338	243.04971	52.48281	2.70362	0.1686458	0.22945810	2.6424115	20	2 25.1	21.2
376460 2012 HJ_{74}	17.5	X	333.35702	276.69565	43.72475	6.99628	0.1606927	0.26273758	2.4142816	20	7 29.9	19.7
376461 2012 HU_{78}	17.4	X	229.82010	259.51562	17.47293	4.08274	0.1741464	0.21192962	2.7861743	20	1 13.4	22.0
376462 2012 HM_{79}	17.1	X	294.67733	66.54417	203.35953	3.53641	0.1635478	0.23068983	2.6329973	20	3 5.5	20.6
376463 2012 JQ_{2}	16.8	X	252.48331	241.21645	52.27904	12.42995	0.1885170	0.22655999	2.6648979	20	2 24.2	21.3
376464 2012 JD_{8}	16.4	X	254.12794	244.63776	50.31583	9.53006	0.0944005	0.22712142	2.6605044	20	3 5.7	20.4
376465 2012 JC_{13}	16.8	X	240.42960	225.39654	62.89578	6.98418	0.0885130	0.21947213	2.7219687	20	2 10.8	21.0
376466 2012 JH_{13}	16.6	X	293.09921	355.31759	221.03580	7.22458	0.2008170	0.21774626	2.7363327	20	—	—
376467 2012 JL_{16}	16.8	X	53.71432	358.71472	181.83167	15.09059	0.0286752	0.24446454	2.5331377	20	5 15.7	20.2
376468 2012 JU_{17}	16.5	X	192.00917	239.48616	90.62653	10.20805	0.1542547	0.22037850	2.7145003	20	2 13.3	21.0
376469 2012 JG_{19}	16.9	X	281.02642	242.81371	64.97566	3.73774	0.2241704	0.23748194	2.5825515	20	3 31.9	20.7
376470 2012 JK_{19}	15.8	X	225.33412	146.88095	147.68127	10.23534	0.1495604	0.21160549	2.7890187	20	1 29.2	20.4
376471 2012 JN_{20}	17.6	X	133.59631	326.72120	224.28058	3.29371	0.1743916	0.27957726	2.3163356	20	9 22.6	21.2
376472 2012 JF_{26}	16.5	X	311.60524	20.62270	195.44946	16.78586	0.1359388	0.22720718	2.6598349	20	1 20.2	20.5
376473 2012 JH_{27}	16.0	X	218.48821	211.70314	115.93437	15.91452	0.1992069	0.22035636	2.7146822	20	3 4.8	20.7
376474 2012 JY_{27}	16.0	X	79.32714	139.23664	190.69391	27.22544	0.2396280	0.17101451	3.2145048	20	—	—
376475 2012 JY_{31}	16.1	X	157.99195	274.91472	84.17866	9.09731	0.2977227	0.21145927	2.7903043	20	2 27.5	21.1
376476 2012 JM_{32}	16.0	X	156.57419	85.14175	192.19024	15.63960	0.1996632	0.18307000	3.0717882	20	—	—
376477 2012 JK_{38}	17.3	X	247.63118	87.35104	180.61235	8.12413	0.1793111	0.21773573	2.7364210	20	1 15.0	21.8
376478 2012 JU_{45}	15.9	X	75.31072	106.91965	224.31748	12.00359	0.2211736	0.17093196	3.2155396	20	—	—
376479 2012 JP_{53}	16.4	X	239.63254	112.07991	230.37655	14.14260	0.0481641	0.23567260	2.5957528	20	4 15.7	20.1
376480 2012 JE_{54}	17.9	X	341.70710	77.89511	175.99169	4.36746	0.0209042	0.24690111	2.5164445	20	5 11.1	21.0

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	m		°	°	°	°		°				
376481 2012 JS_{54}	17.7	X	337.51131	249.68574	129.25472	6.05562	0.1137204	0.28593685	2.2818616	20	11 14.6	19.9
376482 2012 JN_{58}	17.0	X	299.53411	286.86289	65.98624	2.39285	0.2186247	0.26285008	2.4135926	20	6 28.0	19.5
376483 2012 JX_{62}	17.4	X	311.24621	141.99635	81.62788	4.16080	0.1002987	0.22874462	2.6479033	20	2 8.4	20.9
376484 2012 JR_{65}	16.2	X	168.49708	207.56309	82.06121	5.73645	0.1377745	0.19260745	2.9695274	20	—	—
376485 2012 JZ_{66}	17.5	X	216.31401	15.11736	131.24393	3.07737	0.0931091	0.28880809	2.2667127	20	10 30.9	20.2
376486 2012 KU_{1}	17.0	X	244.32171	176.59363	95.69061	6.29307	0.0764461	0.22121652	2.7076405	20	1 25.1	20.9
376487 2012 KN_{2}	16.1	X	210.06164	20.04061	179.05132	17.60499	0.1742534	0.18233169	3.0800749	20	11 30.2	21.2
376488 2012 KR_{8}	13.2	X	247.32238	128.28173	206.39226	31.00961	0.0265303	0.08283372	5.2119222	20	4 26.9	20.2
376489 2012 KB_{10}	16.5	X	272.95522	206.24297	83.43277	6.26623	0.0622118	0.23058968	2.6337596	20	3 23.1	20.1
376490 2012 KF_{10}	16.9	X	134.39128	261.13353	101.14321	7.01648	0.0362151	0.20874147	2.8144717	20	1 12.7	20.6
376491 2012 KR_{11}	15.6	X	107.34484	95.72755	223.39471	16.54958	0.2633971	0.17617744	3.1513927	20	—	—
376492 2012 KV_{13}	17.6	X	1.66873	119.74147	178.40936	3.14067	0.0177883	0.26581106	2.3956352	20	8 11.9	20.4
376493 2012 KG_{15}	16.9	X	223.54562	214.87930	109.83622	5.09826	0.1113059	0.22330284	2.6907492	20	3 6.5	21.0
376494 2012 KJ_{21}	17.4	X	287.64761	126.23762	194.95520	7.50521	0.1439449	0.24650407	2.5191459	20	5 7.9	20.6
376495 2012 KJ_{27}	17.0	X	131.71364	314.95621	86.71940	6.91788	0.0267446	0.22332436	2.6905763	20	2 27.1	20.7
376496 2012 KP_{29}	17.7	X	308.64770	116.97977	191.21894	6.32928	0.0814020	0.25250256	2.4790894	20	5 31.0	20.6
376497 2012 KT_{29}	17.8	X	183.24627	338.62570	187.10393	6.98379	0.1125219	0.29063710	2.2571929	20	10 14.5	20.9
376498 2012 KP_{38}	16.3	X	224.69374	233.37625	68.84261	10.74220	0.2325336	0.21673423	2.7448443	20	2 7.6	21.2
376499 2012 KL_{40}	17.3	X	269.88722	132.80244	201.91802	8.18129	0.1812273	0.23988379	2.5652840	20	4 27.8	20.9
376500 2012 KD_{41}	16.4	X	113.41256	145.75906	145.16817	6.30752	0.1700449	0.17250514	3.1959601	20	12 19.9	21.6
376501 2012 KN_{42}	15.3	X	164.17497	2.47586	224.80228	28.43869	0.1657298	0.17524880	3.1625157	20	11 19.9	20.5
376502 2012 KY_{45}	16.7	X	172.25330	203.24943	169.82626	13.21615	0.2089164	0.21493865	2.7601099	20	3 18.1	21.4
376503 2012 KN_{46}	16.3	X	297.60890	64.30001	208.42658	7.66407	0.0591986	0.23242038	2.6199113	20	3 28.4	19.8
376504 2012 KT_{46}	16.0	X	277.10129	156.94321	100.53001	18.48951	0.2229461	0.21910471	2.7250109	20	1 27.6	20.4
376505 2012 KM_{47}	16.0	X	107.65567	117.62110	182.30232	25.78261	0.2568852	0.17193881	3.2029742	20	12 28.3	22.0
376506 2012 KK_{48}	17.0	X	254.03671	137.87175	120.17563	8.70411	0.1806888	0.21297244	2.7770719	20	1 10.7	21.6
376507 2012 KT_{48}	16.4	X	172.76591	284.70988	76.92590	7.17009	0.0466654	0.21977164	2.7194951	20	2 28.7	20.4
376508 2012 KY_{48}	16.7	X	178.97443	218.92388	109.54366	5.42884	0.0676844	0.20907761	2.8114543	20	1 25.4	20.8
376509 2012 KG_{49}	17.7	X	97.47531	22.81397	184.85286	1.98382	0.1474032	0.26911797	2.3759698	20	9 6.4	21.2
376510 2012 KG_{51}	16.4	X	246.69483	75.38951	156.38466	15.53469	0.1060770	0.20577195	2.8414843	20	—	—
376511 2012 LQ	16.9	X	233.58565	328.23803	122.96948	7.31248	0.0728939	0.27285172	2.3542446	20	9 8.3	19.9
376512 2012 LG_{2}	16.1	X	146.32514	81.13617	186.58978	13.33142	0.2639966	0.17494797	3.1661400	20	12 20.5	21.9
376513 2012 LG_{3}	16.1	X	315.45062	212.83304	68.17295	15.88741	0.1047072	0.24014421	2.5634290	20	5 3.2	19.2
376514 2012 LA_{5}	16.5	X	226.73714	223.36594	112.67338	13.20329	0.2144246	0.22252397	2.6970242	20	3 21.9	21.3
376515 2012 LD_{7}	16.8	X	235.91188	117.44489	187.75587	8.31839	0.1564151	0.21744615	2.7388499	20	2 18.2	21.3
376516 2012 LH_{8}	16.5	X	149.55575	124.31091	155.05284	16.55007	0.2444812	0.17986118	3.1082153	20	—	—
376517 2012 LU_{10}	16.2	X	0.00358	57.68188	180.60417	17.15857	0.1323761	0.24333391	2.5409784	20	5 16.5	19.1
376518 2012 LQ_{19}	16.5	X	300.56787	69.28770	230.07544	6.87858	0.1110347	0.24043748	2.5613442	20	4 30.0	19.8
376519 2012 LZ_{24}	15.8	X	115.79322	121.11516	182.32429	18.44171	0.1225405	0.17672382	3.1448938	20	—	—
376520 2012 LC_{25}	16.2	X	209.36258	185.77894	153.09820	15.82359	0.0817528	0.22166496	2.7039875	20	3 10.0	20.3
376521 2012 MU_{9}	15.6	X	118.39366	100.16834	235.01949	9.49467	0.0801976	0.17626504	3.1503485	20	—	—
376522 2012 PN_{5}	15.8	X	210.08855	21.79026	252.44021	5.96234	0.0812849	0.18740779	3.0242032	20	—	—
376523 2012 PK_{14}	13.8	X	246.09040	96.09360	257.43446	3.09647	0.0370887	0.08622758	5.0742506	20	5 14.8	20.6
376524 2012 PP_{20}	15.7	X	336.35971	217.47979	285.75776	9.18016	0.0632117	0.17965862	3.1105511	20	—	—
376525 2012 PY_{37}	15.9	X	159.60816	88.13067	203.67995	9.48092	0.0620205	0.17427960	3.1742296	20	—	—
376526 2012 QN_{16}	14.0	X	225.81209	100.14393	256.25061	1.96474	0.0471219	0.08180440	5.2555513	20	4 25.4	21.1
376527 2012 QX_{39}	13.9	X	204.30212	110.20565	270.93752	5.87801	0.0995998	0.08376248	5.1733242	20	4 27.5	21.2
376528 2012 QH_{40}	13.0	X	245.45484	89.46212	244.17515	10.58340	0.0278229	0.08511273	5.1184647	20	4 21.3	19.9
376529 2012 QP_{46}	15.6	X	22.40985	222.19485	244.11583	8.54958	0.0827447	0.18142564	3.0903210	20	—	—
376530 2012 QN_{48}	15.8	X	45.39022	249.44588	205.09322	9.25094	0.0488866	0.18601360	3.0392955	20	1 15.9	20.0
376531 2012 RA_{33}	13.4	X	250.72983	351.41011	331.61654	19.53494	0.1112100	0.08281301	5.2127913	20	3 30.5	20.8
376532 2012 SA_{24}	14.1	X	41.40103	351.61731	206.69606	3.42611	0.0247701	0.08198289	5.2479204	20	5 22.1	20.8
376533 2012 SF_{41}	13.5	X	40.70294	350.60125	205.80020	7.79650	0.0548579	0.08383838	5.1702014	20	5 22.2	20.1
376534 2012 SC_{59}	14.2	X	252.40981	148.60175	186.56205	7.48313	0.1596272	0.08417942	5.1562278	20	4 19.1	21.4
376535 2012 TL	12.9	X	254.14744	316.95681	25.76447	24.27843	0.0864777	0.08263534	5.2202603	20	5 1.3	20.0
376536 2012 TP	13.9	X	325.55115	73.80454	193.77192	5.66845	0.0262034	0.08389020	5.1680720	20	5 10.9	20.7
376537 2012 TW_{9}	14.9	X	184.94483	183.32528	342.02172	7.17719	0.1469922	0.12591050	3.9424066	20	9 21.6	21.1
376538 2012 TO_{146}	13.4	X	272.17009	293.29894	24.07446	23.64570	0.0939605	0.08083100	5.2976601	20	4 23.1	20.4
376539 2012 TT_{146}	13.8	X	266.76412	216.35521	115.60819	5.21180	0.1278737	0.08422843	5.1542273	20	5 4.2	20.8
376540 2012 TR_{207}	15.5	X	58.54324	197.94085	276.65959	5.58388	0.0475045	0.17714394	3.1399196	20	2 27.7	19.9
376541 2012 TQ_{320}	15.8	X	48.25183	345.86783	281.33604	13.46101	0.0540237	0.23711349	2.5852261	20	8 30.9	19.4
376542 2013 AA_{4}	13.3	X	283.27147	279.08440	14.27363	23.51300	0.0769396	0.08248674	5.2265281	20	4 11.1	20.1
376543 2013 BB_{25}	13.6	X	247.36736	326.36156	133.37496	6.98575	0.0121741	0.08090307	5.2945132	20	9 19.3	20.6
376544 2013 EQ_{84}	16.0	X	338.22531	167.44134	140.48638	7.24776	0.1419185	0.17562694	3.1579746	20	7 9.9	19.8
376545 2013 EL_{127}	16.7	X	170.48918	160.05925	140.68539	3.71301	0.1774135	0.23152663	2.6266493	20	—	—
376546 2013 HW_{28}	17.3	X	346.84543	147.85954	192.40846	7.02822	0.2032218	0.28645091	2.2791308	20	10 11.4	18.6
376547 2013 HZ_{137}	17.1	X	260.19828	116.09080	324.27629	1.18248	0.0949815	0.19505756	2.9446082	20	9 12.4	21.1
376548 2013 KH_{2}	15.8	X	198.33483	358.56220	274.86959	7.05018	0.1820479	0.20913832	2.8109102	20	—	—
376549 2013 KJ_{2}	15.8	X	94.10041	142.03178	154.65635	16.61840	0.1047481	0.17340929	3.1848414	20	12 6.8	20.9
376550 2013 MG_{4}	17.5	X	329.19488	53.72863	248.65996	3.91665	0.0983925	0.27306100	2.3530416	20	6 24.3	19.7
376551 2013 NP_{3}	16.9	X	246.69555	233.16267	116.74030	7.95153	0.1922826	0.25523433	2.4613686	20	4 23.9	20.8
376552 2013 NV_{15}	16.7	X	136.21451	151.75653	276.94239	10.00599	0.1130746	0.23509386	2.6000110	20	4 8.3	20.8
376553 2013 NS_{22}	16.1	X	202.11682	54.21056	263.09293	13.15477	0.0828224	0.22693012	2.6619994	20	1 29.8	20.3
376554 2013 OE_{9}	17.6	X	46.16398	148.14846	121.03416	5.76477	0.1743531	0.29006664	2.2601514	20	10 8.4	20.4
376555 2013 OB_{10}	15.0	X	61.70951	170.51985	161.19596	28.51424	0.1665136	0.17182626	3.2043727	20	12 20.6	20.3
376556 2013 PX	16.6	X	88.72452	219.72835	192.54251	9.73376	0.0940460	0.21035002	2.8001052	20	1 22.8	20.4
376557 2013 PC_{3}	17.8	X	62.50282	264.62416	162.71544	23.38184	0.1182585	0.35423919	1.9782066	20	—	—
376558 2013 PQ_{3}	16.2	X	57.68305	170.40782	184.44885	10.74511	0.0720838	0.17723688	3.1388218	20	12 29.3	20.9
376559 2013 PT_{5}	16.6	X	83.71173	126.06395	328.80517	8.96577	0.1331093	0.21873244	2.7281019	20	3 14.9	20.1
376560 2013 PH_{7}	16.1	X	103.17523	290.70403	200.74608	7.55454	0.1805593	0.24619868	2.5212287	20	6 5.6	19.8

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376561 2013 PM_9	17.1	X	230.60185	113.51318	312.37649	6.15250	0.0911759	0.26840263	2.3801895	20	7 25.4	20.2
376562 2013 PP_9	18.2	X	86.18988	73.38441	182.43323	4.15914	0.1317097	0.29806827	2.2195191	20	10 31.9	21.2
376563 2013 PA_{10}	17.2	X	114.97982	334.36312	177.24889	5.28924	0.1002016	0.25891022	2.4380162	20	7 6.2	20.7
376564 2013 PK_{10}	17.3	X	219.07952	116.09853	188.46065	15.89841	0.2437775	0.22675042	2.6634056	20	1 29.8	22.3
376565 2013 PV_{11}	15.5	X	24.21127	212.59514	191.46048	16.51833	0.1664418	0.17413286	3.1760127	20	—	—
376566 2013 PY_{12}	17.3	X	211.43963	54.18754	257.08244	3.54568	0.2130538	0.22432888	2.6825382	20	2 3.3	21.9
376567 2013 PG_{13}	15.8	X	158.89817	33.88342	316.07665	20.21038	0.1702253	0.21124616	2.7921806	20	2 6.1	20.2
376568 2013 PK_{13}	17.2	X	304.42900	132.29233	172.10432	6.66549	0.1504731	0.25770132	2.4456349	20	5 8.4	20.1
376569 2013 PO_{13}	16.6	X	223.27942	43.69020	348.59331	5.90642	0.1437745	0.25362904	2.4717435	20	5 23.9	20.4
376570 2013 PP_{13}	16.2	X	249.12318	111.35570	146.21762	13.40664	0.0869111	0.21777927	2.7360562	20	1 10.9	20.5
376571 2013 PA_{14}	18.0	X	2.99080	70.31085	303.75281	3.66349	0.2501825	0.30076520	2.2062310	20	—	—
376572 2013 PB_{14}	16.7	X	278.18426	312.06740	243.51187	1.84894	0.0485442	0.19943740	2.9013379	20	—	—
376573 2013 PP_{14}	15.9	X	38.47049	213.12574	172.66532	11.09405	0.0525340	0.17656934	3.1467278	20	—	—
376574 Michalkusiak	16.5	X	267.09694	5.72911	338.49739	8.63599	0.2228716	0.25666927	2.4521864	20	4 26.6	20.3
376575 2013 PB_{16}	16.6	X	143.16246	152.47564	214.38796	8.76491	0.2025757	0.21007532	2.8025457	20	2 11.5	21.2
376576 2013 PD_{16}	16.5	X	220.78918	9.03630	335.14769	14.13960	0.1123602	0.23678860	2.5875904	20	3 20.2	20.6
376577 2013 PH_{16}	16.4	X	289.03919	321.03059	323.54005	9.88913	0.2192769	0.23956338	2.5675708	20	3 7.4	20.1
376578 2013 PC_{17}	17.6	X	301.70519	61.41040	244.09569	2.71823	0.2202279	0.26231233	2.4168901	20	4 20.8	20.6
376579 2013 PO_{17}	17.4	X	292.99178	202.62140	115.88525	3.45765	0.2184552	0.25971483	2.4329782	20	4 29.4	20.5
376580 2013 PQ_{17}	16.4	X	195.55609	193.68910	144.36225	15.85040	0.2037808	0.22518298	2.6757509	20	2 23.9	20.9
376581 2013 PZ_{19}	16.6	X	122.60962	297.61113	344.13500	11.93231	0.2754606	0.17955511	3.1117465	20	12 21.5	22.3
376582 2013 PQ_{21}	16.4	X	58.45442	54.59301	333.88896	8.05935	0.1248888	0.18704071	3.0281587	20	—	—
376583 2013 PA_{22}	17.5	X	251.12218	136.95530	177.46583	6.43589	0.0547124	0.23730839	2.5838105	20	3 25.6	21.0
376584 2013 PS_{23}	16.9	X	197.16229	130.31142	173.77634	4.48820	0.0431279	0.21113800	2.7931341	20	1 13.4	20.9
376585 2013 PX_{23}	16.0	X	50.37514	20.32045	334.07906	9.50129	0.1401954	0.16975812	3.2303458	20	12 29.2	20.7
376586 2013 PY_{24}	18.1	X	36.11270	181.61556	146.71888	3.38795	0.2081496	0.30400249	2.1905405	20	12 20.3	20.9
376587 2013 PZ_{24}	15.6	X	70.95363	175.15330	158.08023	18.07238	0.0482748	0.17234141	3.1979840	20	12 17.1	20.5
376588 2013 PE_{25}	15.6	X	171.80946	241.64808	340.92896	25.68450	0.2060123	0.17634468	3.1493999	20	11 9.3	21.4
376589 2013 PX_{25}	15.8	X	84.95818	115.96524	227.14178	13.73087	0.0792773	0.17861647	3.1226385	20	—	—
376590 2013 PB_{26}	14.8	X	342.46478	100.74166	298.36265	14.86207	0.1201161	0.15882060	3.3770033	20	11 8.0	19.2
376591 2013 PV_{26}	17.5	X	238.82662	105.35658	280.58327	1.18195	0.2150565	0.25487540	2.4636789	20	5 26.7	21.3
376592 2013 PX_{27}	17.8	X	6.44791	159.65877	174.68299	6.20354	0.1440885	0.29222298	2.2490191	20	11 5.1	20.0
376593 2013 PC_{28}	17.9	X	45.37937	129.56010	181.21857	4.79074	0.1838872	0.30160950	2.2021118	20	12 4.5	20.8
376594 2013 PG_{28}	16.8	X	102.33268	64.33493	327.86593	10.42807	0.0873730	0.20371876	2.8605444	20	1 19.9	20.7
376595 2013 PH_{28}	16.5	X	158.75642	125.35089	175.16161	11.96834	0.0361519	0.19328173	2.9626170	20	—	—
376596 2013 PP_{28}	17.9	X	236.56357	28.14053	298.61221	2.28099	0.1220692	0.23636460	2.5906839	20	3 17.4	21.8
376597 2013 PC_{29}	16.0	X	31.68891	103.81241	303.70529	3.84843	0.1529514	0.17843063	3.1248063	20	—	—
376598 2013 PG_{29}	18.2	X	349.98124	173.17010	172.57725	4.26485	0.1600555	0.29244507	2.2478803	20	10 24.6	20.0
376599 2013 PK_{31}	16.8	X	312.71788	7.59736	318.73713	4.93127	0.1067313	0.26624287	2.3930442	20	6 30.6	19.2
376600 2013 PM_{31}	16.5	X	170.36203	225.38965	157.24670	5.83335	0.1793281	0.22370697	2.6875077	20	3 26.9	20.9
376601 2013 PY_{31}	15.4	X	357.67081	223.18898	147.41588	12.62300	0.0454723	0.15787868	3.3904217	20	10 31.3	20.2
376602 2013 PH_{33}	16.8	X	81.55776	249.85293	237.44643	3.95178	0.0676582	0.23417638	2.6067977	20	4 14.5	20.1
376603 2013 PU_{33}	16.6	X	194.63243	21.11355	293.32952	3.94030	0.1502460	0.21524695	2.7574737	20	1 25.6	21.0
376604 2013 PH_{34}	17.0	X	221.19142	306.01876	320.11597	8.78641	0.0591946	0.20580313	2.8411973	20	—	—
376605 2013 PZ_{34}	16.4	X	68.37710	203.52966	185.84565	5.02324	0.0383972	0.19607803	2.9343828	20	—	—
376606 2013 PF_{35}	16.1	X	231.71109	320.80171	329.11681	9.31187	0.0503446	0.22406775	2.6846220	20	2 3.6	19.9
376607 2013 PR_{36}	17.8	X	39.44854	36.12610	229.88294	2.57833	0.1086874	0.28401555	2.2921409	20	9 7.2	20.4
376608 2013 PU_{36}	17.5	X	265.88586	256.82728	192.05870	3.81108	0.0412652	0.29739120	2.2228866	20	10 30.1	19.7
376609 2013 PX_{36}	16.2	X	259.08565	224.26831	313.93733	6.89625	0.0142048	0.18670064	3.0318346	20	—	—
376610 2013 PU_{37}	16.0	X	112.39455	30.65868	343.69932	1.37286	0.0813708	0.20297091	2.8675667	20	1 8.2	19.9
376611 2013 PW_{37}	17.0	X	185.66152	36.16620	290.16290	2.32144	0.1954178	0.21698540	2.7427257	20	2 1.8	21.5
376612 2013 PK_{40}	17.0	X	246.96326	155.86926	238.36656	5.43141	0.1951660	0.25713574	2.4492197	20	6 17.3	20.6
376613 2013 PP_{40}	17.3	X	169.98097	44.25369	316.10804	3.57063	0.1093119	0.22006387	2.7170871	20	2 23.7	21.4
376614 2013 PY_{41}	17.1	X	253.11570	30.54207	220.01278	2.71012	0.0537781	0.21315191	2.7755128	20	1 10.1	21.2
376615 2013 PE_{43}	16.3	X	169.54796	156.24845	180.21454	13.34307	0.1229993	0.21218490	2.7839391	20	1 25.7	20.8
376616 2013 PH_{43}	16.1	X	146.91934	87.87289	249.50419	9.07053	0.0810895	0.19860926	2.9093975	20	1 3.0	20.3
376617 2013 PO_{47}	16.6	X	108.98879	155.87099	193.19872	5.00306	0.1090676	0.19706378	2.9245890	20	—	—
376618 2013 PQ_{48}	18.9	X	49.96722	324.82414	318.50195	2.04338	0.1309993	0.29234311	2.2484029	20	10 22.9	21.6
376619 2013 PY_{48}	16.3	X	124.97276	30.98000	231.43597	3.47402	0.0548801	0.17182262	3.2044180	20	11 22.2	21.0
376620 2013 PZ_{48}	16.3	X	105.15683	331.71788	303.09418	5.03395	0.1203027	0.17022770	3.2244024	20	11 19.3	21.3
376621 2013 PB_{49}	17.6	X	313.97489	39.45937	235.77885	1.82876	0.1827572	0.25682702	2.4511821	20	4 3.4	20.2
376622 2013 PP_{49}	16.4	X	211.34453	358.25205	285.64395	2.89525	0.0662350	0.21342266	2.7731649	20	1 5.1	20.4
376623 2013 PR_{49}	16.2	X	160.82749	255.11058	336.77958	8.89295	0.1841254	0.17754901	3.1351420	20	11 20.0	21.6
376624 2013 PB_{50}	15.9	X	352.46877	195.69233	230.57797	4.18571	0.1384219	0.17674787	3.1446085	20	—	—
376625 2013 PE_{50}	17.0	X	168.14671	5.14695	318.70471	3.58642	0.0694895	0.21106788	2.7937526	20	1 8.1	21.1
376626 2013 PJ_{59}	17.3	X	343.87804	67.99376	254.38975	5.18425	0.2292661	0.28446796	2.2897100	20	8 28.9	18.7
376627 2013 PK_{59}	16.1	X	188.64829	76.57636	169.67783	10.59821	0.0608814	0.19514828	2.9436956	20	—	—
376628 2013 PZ_{63}	17.7	X	228.88228	113.26551	185.52416	4.21399	0.2717807	0.23252440	2.6191298	20	1 31.0	22.5
376629 2013 PX_{65}	17.0	X	121.55187	219.73838	204.86090	3.42652	0.0989228	0.22296023	2.6935050	20	3 20.6	20.9
376630 2013 PU_{67}	17.4	X	298.56829	132.27495	161.65632	2.54925	0.1927785	0.25603020	2.4562652	20	4 6.6	20.4
376631 2013 PV_{67}	15.7	X	338.21511	144.90142	333.18340	20.47165	0.1412430	0.19059088	2.9904368	20	—	—
376632 2013 PJ_{68}	17.2	X	129.88596	146.00724	220.10640	3.67315	0.0888072	0.20958282	2.8069344	20	1 17.8	21.2
376633 2013 PL_{68}	17.5	X	255.41105	130.21867	160.07625	9.76135	0.1951445	0.23764971	2.5813359	20	2 14.6	21.6
376634 2013 PY_{69}	15.7	X	230.80342	7.44789	267.94180	10.91129	0.1603477	0.22520060	2.6756113	20	1 9.4	20.1
376635 2013 PD_{70}	16.6	X	270.26633	194.68917	147.37306	4.24934	0.1754356	0.26060630	2.4274266	20	5 8.9	20.0
376636 2013 PE_{70}	17.5	X	13.88891	130.78487	159.92293	4.78730	0.2418362	0.28675053	2.2775429	20	9 27.5	19.4
376637 2013 PF_{70}	16.3	X	194.55940	17.22091	350.97770	13.64855	0.3078650	0.23132002	2.6282131	20	3 26.2	21.2
376638 2013 PH_{70}	16.9	X	240.78667	199.16532	163.84848	7.64891	0.1180630	0.25275907	2.4774119	20	5 10.6	20.6
376639 2013 PS_{70}	16.7	X	93.81392	144.05499	173.01873	10.60110	0.1139763	0.18190958	3.0848378	20	12 29.5	21.6
376640 2013 PE_{71}	17.0	X	204.36680	135.60666	154.17017	9.81569	0.1890184	0.21636447	2.7479706	20	1 5.5	21.7

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376641 2013 PF_{71}	15.5	X	91.39031	355.23357	305.53271	4.94832	0.1187539	0.17169035	3.2060635	20	12 6.7	20.5
376642 2013 PL_{71}	18.0	X	337.81969	219.10701	128.93778	7.21997	0.1988633	0.28573616	2.2829299	20	10 4.9	19.5
376643 2013 PZ_{71}	16.2	X	38.66840	239.79820	150.00750	10.39220	0.1282897	0.18409496	3.0603760	20	—	—
376644 2013 PV_{72}	16.2	X	117.26165	241.40318	97.79743	3.15192	0.0819409	0.19428227	2.9524368	20	—	—
376645 2013 PZ_{72}	18.5	X	98.81239	282.98693	343.58754	3.66272	0.1846583	0.31134094	2.1559825	20	12 1.2	21.8
376646 2013 QG_2	17.5	X	344.22890	25.48767	227.04326	2.82972	0.1946839	0.26031535	2.4292350	20	4 25.3	19.4
376647 2013 QP_2	15.8	X	33.14590	234.03867	158.53266	10.71562	0.1110781	0.18176493	3.0864743	20	—	—
376648 2013 QS_2	16.7	X	343.07957	287.85030	287.80321	3.87747	0.0457835	0.24143506	2.5542838	20	3 16.0	19.9
376649 2013 QM_3	16.0	X	136.05850	322.00463	302.61612	7.97362	0.0538159	0.17499677	3.1655514	20	12 6.5	20.9
376650 2013 QO_3	16.1	X	58.48261	72.54238	316.36954	11.05848	0.0875510	0.18845978	3.0129384	20	—	—
376651 2013 QE_4	18.4	X	339.55142	138.25205	184.85406	2.66781	0.2221882	0.28067777	2.3102769	20	8 18.2	19.7
376652 2013 QO_4	16.1	X	153.25924	101.65551	162.27011	10.10230	0.0478007	0.18111602	3.0938421	20	12 25.6	20.9
376653 2013 QV_4	17.4	X	236.96250	60.82788	240.11221	2.05801	0.1337549	0.23096333	2.6309183	20	2 15.0	21.5
376654 2013 QY_6	16.9	X	132.35349	119.27014	195.79168	9.79017	0.1000399	0.19316191	2.9638421	20	—	—
376655 2013 QB_7	16.8	X	242.48117	112.78361	189.90761	10.52611	0.0944852	0.23356650	2.6113336	20	2 23.7	20.7
376656 2013 QD_7	16.0	X	301.99084	222.38551	280.33768	9.09482	0.0750212	0.18926768	3.0043584	20	—	—
376657 2013 QM_8	15.9	X	114.54341	301.56475	25.20055	8.23092	0.1398775	0.18815978	3.0161401	20	—	—
376658 2013 QR_8	17.5	X	33.35728	351.96182	204.02606	3.93843	0.0677271	0.24639134	2.5199142	20	5 8.6	20.4
376659 2013 QS_8	16.6	X	14.33155	232.90224	210.35964	3.25746	0.1592877	0.18369091	3.0648621	20	—	—
376660 2013 QA_9	16.4	X	63.42788	235.73563	192.33545	4.97072	0.1079331	0.20001229	2.8957757	20	1 11.8	20.1
376661 2013 QF_9	16.8	X	105.22677	36.47468	337.96517	9.34746	0.1118711	0.19810199	2.9143620	20	1 5.9	20.9
376662 2013 QQ_9	18.0	X	8.34165	113.26676	188.24903	2.44864	0.0659830	0.27964018	2.3159881	20	9 2.9	20.4
376663 2013 QS_9	18.3	X	85.52223	1.00116	247.71330	1.37758	0.1836667	0.29612556	2.2292158	20	10 24.8	21.6
376664 2013 QX_9	17.0	X	293.09340	266.11309	323.08869	4.68184	0.1970620	0.22611158	2.6684199	20	1 10.9	21.0
376665 2013 QC_{10}	18.1	X	55.28620	290.94197	316.68336	2.46462	0.1334335	0.28091292	2.3089874	20	9 8.3	20.7
376666 2013 QB_{13}	17.7	X	160.06709	208.05723	331.84560	6.49049	0.0399026	0.28995607	2.2607259	20	10 7.1	20.8
376667 2013 QQ_{13}	17.1	X	195.43680	55.86516	267.71038	5.48380	0.2107639	0.22208630	2.7005665	20	2 4.9	21.7
376668 2013 QK_{14}	17.6	X	327.65373	322.19963	308.70629	2.29651	0.0540182	0.25108762	2.4883942	20	5 8.7	20.6
376669 2013 QB_{15}	17.9	X	115.96187	227.54781	210.45099	3.52980	0.1587957	0.22286371	2.6942826	20	4 8.2	21.8
376670 2013 QE_{15}	16.3	X	238.04636	327.87022	342.40090	14.55245	0.1047220	0.23082851	2.6319427	20	3 1.5	20.3
376671 2013 QM_{15}	16.5	X	84.13794	348.80736	323.49733	3.76424	0.1177424	0.16878193	3.2427895	20	12 12.3	21.4
376672 2013 QX_{22}	16.8	X	146.11431	1.83043	358.93867	3.95289	0.0785095	0.21373012	2.7705048	20	1 29.8	20.8
376673 2013 QA_{29}	17.1	X	144.52217	9.01919	343.01117	2.61502	0.0454357	0.20910285	2.8112281	20	1 13.6	20.9
376674 2013 QD_{29}	16.8	X	117.37502	107.85586	202.98295	1.19997	0.0419091	0.18286388	3.0740960	20	—	—
376675 2013 QP_{31}	16.1	X	287.69766	248.35566	266.05052	7.71818	0.0746818	0.18833726	3.0142450	20	—	—
376676 2013 QV_{33}	16.5	X	105.56733	19.95879	251.20813	2.27168	0.2289893	0.16740564	3.2605384	20	11 23.5	22.0
376677 2013 QF_{34}	17.2	X	78.73908	87.12926	334.74855	5.24035	0.0643478	0.20542085	2.8447212	20	1 21.6	21.0
376678 2013 QY_{35}	18.6	X	341.43568	72.62234	325.33999	2.44724	0.2288933	0.29841531	2.2177980	20	—	—
376679 2013 QA_{39}	16.2	X	23.48294	87.91653	315.15970	9.63886	0.0251692	0.18138787	3.0907501	20	—	—
376680 2013 QB_{39}	15.6	X	126.92208	310.36237	317.84963	10.67807	0.0724097	0.17287395	3.1914130	20	11 30.4	20.6
376681 2013 QS_{39}	15.9	X	285.31957	306.15707	169.20627	14.39494	0.0293983	0.17187496	3.2037674	20	12 4.2	20.6
376682 2013 QH_{43}	16.9	X	45.39971	317.00560	163.55489	9.69403	0.0674322	0.21962626	2.7206951	20	2 14.4	20.2
376683 2013 QC_{44}	16.8	X	131.06263	331.13863	324.09949	5.19566	0.1781509	0.18605761	3.0388162	20	—	—
376684 2013 QC_{47}	15.4	X	308.57353	334.42337	2.25172	0.88731	0.1984599	0.12294048	4.0056479	20	6 18.5	20.6
376685 2013 QM_{51}	16.2	X	96.67047	128.76903	196.91103	2.38861	0.0667073	0.18030956	3.1030603	20	—	—
376686 2013 QM_{56}	16.1	X	72.84453	230.68211	124.21045	9.65727	0.1486234	0.18027572	3.1034486	20	—	—
376687 2013 QF_{58}	16.2	X	99.20309	175.95309	137.44476	10.86244	0.0575344	0.17657970	3.1466048	20	12 25.7	21.0
376688 2013 QB_{60}	15.9	X	54.56188	221.60449	151.75847	9.92701	0.0969454	0.18131170	3.0916157	20	—	—
376689 2013 QX_{65}	17.1	X	278.44700	341.32007	322.37242	2.17046	0.0196854	0.24573299	2.5244130	20	4 18.5	20.4
376690 2013 QG_{68}	17.6	X	275.58147	230.37287	156.95020	6.94723	0.1180181	0.27277879	2.3546642	20	7 27.6	20.4
376691 2013 QR_{68}	16.7	X	138.85545	17.59885	329.15417	5.51306	0.0750897	0.20464522	2.8519045	20	1 5.2	20.7
376692 2013 QU_{75}	16.9	X	152.18097	194.23704	156.44228	6.52427	0.0641997	0.21414494	2.7669257	20	1 20.8	21.0
376693 2013 QH_{79}	17.2	X	272.32661	3.13689	332.55863	0.47938	0.1954657	0.25606956	2.4560135	20	4 28.4	20.7
376694 Kassák	16.6	X	117.32209	119.19962	159.85928	10.21574	0.1886447	0.17667135	3.1455165	20	12 12.0	22.0
376695 2013 QS_{79}	17.4	X	212.40550	112.07564	339.95007	6.68050	0.0950155	0.27275332	2.3548108	20	8 9.0	20.5
376696 2013 QF_{80}	17.2	X	234.79159	125.76455	194.89718	3.02133	0.0189763	0.23334946	2.6129525	20	3 16.6	20.7
376697 2013 QK_{80}	16.9	X	142.56671	70.62547	230.87441	2.27477	0.0904090	0.19070089	2.9892867	20	—	—
376698 2013 QY_{80}	17.1	X	242.75526	142.04152	224.93925	1.69926	0.1706888	0.25456255	2.4656970	20	5 10.4	20.9
376699 2013 QK_{81}	16.1	X	78.68351	113.66462	215.57535	3.91130	0.1225197	0.17704868	3.1410457	20	12 28.4	20.8
376700 2013 RO_1	17.1	X	164.58489	18.01529	326.48409	3.46104	0.1127326	0.21209982	2.7846836	20	2 1.3	21.2
376701 2013 RS_1	17.6	X	144.27941	217.61034	181.58306	4.86758	0.1160033	0.22176554	2.7031699	20	3 16.6	21.6
376702 2013 RU_2	17.3	X	276.88360	172.79724	171.09904	2.66930	0.1875721	0.25759847	2.4462858	20	5 17.3	20.5
376703 2013 RW_2	16.8	X	148.58546	227.47053	136.53826	7.93987	0.0890115	0.21369805	2.7707819	20	2 5.5	20.8
376704 2013 RK_8	17.1	X	172.91361	21.70716	306.41186	3.63446	0.0473239	0.20904823	2.8117177	20	1 16.9	21.1
376705 2013 RA_{12}	15.8	X	224.21389	318.27457	175.52528	9.35136	0.0219548	0.15489426	3.4338329	20	10 10.6	20.7
376706 1994 UT_7	17.0	X	147.23495	46.54851	349.39524	3.59620	0.1143788	0.20881022	2.8138539	20	3 16.6	21.2
376707 1995 OO	16.9	X	359.93813	212.04251	348.81145	23.51467	0.7773582	0.31091472	2.1579524	20	8 22.9	17.2
376708 1995 SV_{32}	16.7	X	97.20659	173.97279	165.23162	4.22246	0.1659071	0.17006444	3.2264656	20	—	—
376709 1995 SZ_{61}	15.5	X	0.86486	121.66359	348.23855	18.90087	0.1354857	0.17233534	3.1980591	20	—	—
376710 1995 SR_{63}	16.8	X	75.61852	285.12436	197.04666	6.65599	0.0747239	0.21900237	2.7258597	20	4 2.2	20.1
376711 1995 SB_{79}	17.4	X	115.83629	239.86349	353.32226	6.73422	0.1523735	0.28156526	2.3054197	20	10 28.2	20.9
376712 1995 TQ_9	16.6	X	319.94579	216.04197	10.06996	8.84370	0.1107622	0.21929639	2.7234228	20	2 25.1	20.1
376713 1995 WQ_5	16.7	X	313.15364	283.91766	88.69920	21.09246	0.4135227	0.27389486	2.3482633	20	7 23.8	18.1
376714 1996 GD_7	16.7	X	220.36791	211.44603	48.79520	2.37117	0.2436379	0.19185776	2.9772580	20	—	—
376715 1996 RC_{19}	17.0	X	35.68419	200.53157	358.45958	10.07472	0.0530143	0.23570830	2.5954906	20	5 11.1	20.3
376716 1996 SA_3	17.4	X	190.96577	276.95419	166.69063	4.03790	0.2288761	0.23657303	2.5891620	20	6 26.1	21.9
376717 1996 TW_{16}	16.2	X	67.98664	71.55369	326.98665	9.64611	0.1250900	0.17841621	3.1249748	20	—	—
376718 1996 VR_{19}	17.4	X	341.24859	350.29074	61.11526	4.98983	0.1771002	0.29099659	2.2553336	20	—	—
376719 1996 VV_{31}	16.2	X	352.54524	135.58677	331.03353	8.19618	0.0634879	0.17477886	3.1681819	20	—	—
376720 1997 CO_5	17.0	X	196.13092	124.39073	317.45512	19.10273	0.4819476	0.23204715	2.6227197	20	6 23.7	22.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376721 1997 GR_{30}	18.1	X	124.83190	89.06160	191.44161	4.79616	0.2689987	0.31989569	2.1173718	20	—	—
376722 1997 HF	16.4	X	31.28925	306.00366	214.82457	8.47550	0.0910425	0.21198800	2.7856627	20	3 18.2	19.8
376723 1997 SB_{26}	16.2	X	107.23853	32.90719	355.12303	9.87898	0.1169479	0.18965689	3.0002467	20	1 28.4	20.5
376724 1997 UH_{6}	17.2	X	94.65288	12.44203	30.37080	1.83370	0.2026144	0.18725020	3.0258997	20	2 10.2	21.4
376725 1998 FP_{74}	16.1	X	312.23880	265.76445	25.54334	11.01704	0.0134438	0.22950449	2.6420554	20	5 18.3	19.7
376726 1998 JZ_{3}	16.3	X	145.17733	184.07184	64.12910	25.10276	0.1944929	0.28713490	2.2755099	20	12 12.6	20.1
376727 1998 QD_{58}	17.1	X	165.86692	190.84177	177.95654	1.97983	0.0853029	0.20407649	2.8572006	20	3 1.1	21.5
376728 1998 WC_{44}	18.0	X	245.22417	244.28135	206.09201	1.71099	0.1874312	0.26310741	2.4120187	20	8 31.8	21.1
376729 1998 YB_{8}	19.0	X	248.65464	343.53369	106.45315	8.92168	0.4690157	0.26133380	2.4229196	20	8 2.2	23.1
376730 1999 JY_{102}	16.6	X	271.90413	178.30963	83.82345	7.70148	0.2822871	0.22497876	2.6773698	20	1 22.5	21.0
376731 1999 JS_{126}	15.0	X	287.90607	122.68424	72.84148	14.94701	0.2319895	0.17427186	3.1743236	20	—	—
376732 1999 KP_{3}	16.6	X	310.24320	50.75483	228.26504	15.05817	0.1622245	0.23230657	2.6207668	20	4 5.9	20.0
376733 1999 PQ_{2}	17.0	X	210.52490	16.17766	336.86765	6.10202	0.0745436	0.21923876	2.7239000	20	3 25.9	21.0
376734 1999 RS_{206}	15.8	X	217.60438	96.37012	247.94141	11.95358	0.2331594	0.21784554	2.7355013	20	3 13.4	20.7
376735 1999 TA_{22}	16.9	X	94.41803	275.74055	167.06412	3.93604	0.0739787	0.21215277	2.7842202	20	3 8.3	20.6
376736 1999 TU_{58}	18.5	X	8.35489	176.90939	167.95380	2.70857	0.2048739	0.28290325	2.2981450	20	11 30.2	20.8
376737 1999 TQ_{67}	17.0	X	194.77353	288.79758	56.70283	5.06105	0.2151176	0.21215553	2.7841961	20	3 5.6	21.8
376738 1999 TG_{83}	17.2	X	228.53653	158.70253	154.87331	2.63391	0.1929896	0.21549883	2.7553247	20	2 21.9	21.6
376739 1999 TT_{83}	17.3	X	210.41767	285.07209	18.79873	7.31484	0.3011070	0.21193698	2.7861097	20	1 29.1	22.5
376740 1999 TY_{84}	16.8	X	200.88052	110.21943	239.42998	1.10459	0.2354458	0.21504594	2.7591917	20	3 11.9	21.7
376741 1999 TY_{112}	15.9	X	231.13983	101.56139	233.05688	8.20671	0.1772822	0.21838055	2.7310317	20	3 17.6	20.5
376742 1999 TS_{226}	17.8	X	346.22069	39.55684	334.49459	0.97719	0.2234835	0.28347390	2.2950598	20	12 6.1	19.6
376743 1999 TV_{252}	16.2	X	242.54319	290.06516	27.33065	8.68242	0.1551533	0.21744892	2.7388267	20	3 14.9	20.5
376744 1999 TZ_{261}	17.9	X	300.67638	73.09088	8.43533	5.19694	0.1786234	0.28421721	2.2910565	20	12 3.7	19.6
376745 1999 TE_{270}	16.0	X	176.31616	180.08135	220.99139	13.05949	0.1979745	0.21668700	2.7452431	20	4 22.3	20.5
376746 1999 TS_{270}	15.6	X	176.59543	33.43353	359.09393	11.77619	0.0900202	0.21608220	2.7503632	20	4 7.5	19.9
376747 1999 US_{11}	17.6	X	19.58773	265.03085	54.35926	2.77607	0.2454602	0.28244832	2.3006120	20	11 17.6	19.9
376748 1999 UC_{12}	17.6	X	159.78635	15.77143	8.67003	20.09265	0.0636996	0.35775072	1.9652405	20	3 4.5	20.0
376749 1999 UQ_{27}	16.7	X	141.73460	48.54472	6.72780	7.60336	0.2237714	0.21444248	2.7643658	20	4 11.2	21.1
376750 1999 UO_{31}	16.2	X	134.71848	43.37583	33.45030	12.29206	0.0908102	0.21455156	2.7634287	20	4 21.0	20.0
376751 1999 UU_{40}	15.9	X	17.85982	351.49815	39.00287	6.18836	0.0485001	0.14767666	3.5448250	20	12 12.9	20.8
376752 1999 VE_{14}	16.0	X	327.42121	137.28493	241.93646	22.18362	0.2475231	0.28016889	2.3130735	20	10 25.2	17.7
376753 1999 VB_{40}	17.9	X	298.46529	39.12256	45.99378	6.25613	0.1203545	0.28569640	2.2831417	20	12 7.4	19.8
376754 1999 VV_{41}	16.9	X	232.89585	311.73367	348.14953	4.29279	0.1547998	0.21256931	2.7805818	20	2 12.4	21.2
376755 1999 VH_{70}	17.9	X	287.99568	16.06351	47.41089	7.63966	0.2100349	0.27940058	2.3173120	20	10 4.2	19.8
376756 1999 VM_{103}	17.7	X	339.04040	98.40306	285.59834	0.53941	0.2109740	0.28274947	2.2989782	20	12 4.1	19.4
376757 1999 VP_{123}	17.0	X	178.29301	181.33010	213.47589	5.15489	0.0456861	0.21334612	2.7738281	20	4 13.4	20.9
376758 1999 VO_{138}	17.6	X	286.17229	16.60939	68.36281	6.21464	0.1346736	0.28131544	2.3067844	20	11 12.2	19.6
376759 1999 VT_{152}	16.6	X	346.46552	91.56588	71.56067	7.74681	0.0101131	0.20417243	2.8563055	20	1 24.9	20.5
376760 1999 VZ_{164}	16.6	X	121.69594	55.07205	36.33069	2.31643	0.2122463	0.21181653	2.7871658	20	5 7.4	21.0
376761 1999 VZ_{210}	16.2	X	194.63648	287.02273	84.23413	10.38274	0.3663022	0.21583819	2.7524357	20	4 6.8	21.6
376762 1999 WW_{23}	16.9	X	136.44539	187.21639	234.21606	3.47535	0.0567199	0.21094433	2.7948434	20	3 29.4	21.0
376763 1999 XB_{9}	17.0	X	4.70157	312.74299	82.17831	23.66231	0.2948476	0.28695665	2.2764521	20	—	—
376764 1999 XS_{16}	15.4	X	344.72544	99.14073	77.36212	10.07982	0.5359070	0.19542470	2.9409191	20	—	—
376765 1999 XZ_{144}	16.7	X	109.98624	138.22721	232.82304	9.29216	0.1549975	0.20306062	2.8667220	20	1 9.6	20.8
376766 1999 XB_{150}	17.1	X	133.54637	178.75811	236.80501	1.95014	0.1771690	0.20975366	2.8054100	20	3 31.9	21.6
376767 1999 XM_{225}	17.9	X	338.69219	137.85708	288.55142	6.72635	0.1253558	0.28249045	2.3003833	20	—	—
376768 1999 XD_{253}	17.4	X	124.96805	322.06175	99.31915	2.74310	0.2008522	0.20918392	2.8105017	20	4 4.1	21.7
376769 2000 AL_{253}	18.0	X	237.43295	202.70826	289.35348	2.34335	0.1192796	0.27566757	2.3381853	20	10 30.3	20.7
376770 2000 CJ_{74}	16.7	X	97.12876	285.28663	136.59822	12.88810	0.0024385	0.19686216	2.9265856	20	2 6.3	20.7
376771 2000 DH_{17}	17.3	X	285.61174	66.99409	158.06952	11.05712	0.3060009	0.28662848	2.2781894	20	—	—
376772 2000 FD_{6}	15.8	X	190.65177	242.02126	16.25322	16.37360	0.1826465	0.17805529	3.1291962	20	—	—
376773 2000 GJ_{149}	17.5	X	65.87179	53.47088	166.71557	2.71928	0.1549311	0.25704852	2.4497738	20	8 15.8	20.6
376774 2000 GT_{178}	15.7	X	104.92281	269.58848	57.35241	26.23161	0.2535894	0.17111033	3.2133046	20	—	—
376775 2000 HW_{23}	18.4	X	90.64902	245.07196	46.39089	7.74755	0.4226779	0.31147525	2.1553627	20	—	—
376776 2000 HG_{38}	16.3	X	281.91278	147.71034	36.55598	6.73752	0.1097380	0.18291691	3.0735019	20	—	—
376777 2000 HC_{102}	15.5	X	198.65072	213.13828	57.87927	23.53993	0.1947732	0.17846907	3.1243576	20	—	—
376778 2000 JY_{8}	17.2	X	139.10295	41.25247	109.00551	16.53575	0.6059470	0.21228335	2.7830784	20	8 17.6	23.4
376779 2000 LU_{25}	15.8	X	238.53044	94.21839	238.42325	32.86873	0.4407232	0.23372766	2.6101330	20	2 28.0	21.6
376780 2000 NG_{15}	15.8	X	241.92692	45.53108	315.11106	12.85496	0.2042417	0.23611928	2.5924780	20	4 22.6	20.2
376781 2000 OY_{12}	16.7	X	245.50297	59.63392	301.76163	3.69928	0.3123054	0.23734365	2.5835545	20	4 22.6	21.1
376782 2000 QC_{70}	18.2	X	270.78024	336.57184	339.85569	20.73921	0.0669496	0.38407469	1.8743855	20	3 29.9	20.5
376783 2000 QK_{138}	16.6	X	256.01538	332.86270	5.38426	7.84665	0.2313538	0.23412353	2.6071900	20	4 10.3	20.9
376784 2000 QW_{144}	18.0	X	282.21792	334.99551	6.46705	5.85280	0.2929471	0.28821194	2.2698373	20	5 1.7	21.0
376785 2000 QV_{147}	16.1	X	283.37785	324.65944	332.86055	19.71308	0.2566691	0.23524748	2.5988790	20	3 10.6	20.2
376786 2000 QO_{194}	16.6	X	298.32191	293.58855	132.44988	10.53643	0.5007843	0.19690254	2.9261854	20	8 13.0	19.8
376787 2000 RQ_{8}	15.4	X	251.35574	340.50141	8.30470	33.77451	0.2115835	0.23279218	2.6171209	20	4 11.8	19.8
376788 2000 RV_{37}	19.4	X	348.73993	210.95115	330.33331	16.33280	0.4958850	0.92811006	1.0408858	20	—	—
376789 2000 RP_{40}	17.5	X	49.17065	38.68805	286.92218	6.13481	0.2543976	0.30409084	2.1901162	20	—	—
376790 2000 SK_{20}	15.8	X	217.77928	132.28271	237.72281	13.82957	0.1755476	0.22995860	2.6385760	20	4 18.2	20.3
376791 2000 SS_{30}	17.5	X	198.16826	242.74391	146.20022	3.40267	0.3317109	0.22994885	2.6386506	20	4 25.4	22.4
376792 2000 SU_{92}	16.5	X	232.03922	105.21300	282.13343	7.57534	0.1801689	0.23559571	2.5963175	20	5 24.4	20.6
376793 2000 SC_{99}	16.7	X	249.46803	79.79920	277.05656	2.15254	0.2043103	0.23428850	2.6059659	20	4 30.6	20.9
376794 2000 SN_{125}	17.9	X	288.69200	316.78405	56.76287	5.60242	0.3312813	0.29023346	2.2592852	20	6 20.9	20.2
376795 2000 SN_{129}	16.2	X	228.59022	47.99544	298.68017	15.88671	0.2597366	0.23206243	2.6226046	20	3 19.4	21.2
376796 2000 SC_{135}	16.8	X	212.40098	64.74314	323.63817	11.37706	0.2266671	0.23237817	2.6202285	20	5 1.3	21.5
376797 2000 SZ_{156}	16.4	X	239.76857	45.84884	299.91972	15.85146	0.2343040	0.23178706	2.6246814	20	3 28.5	21.2
376798 2000 SU_{288}	16.4	X	201.07154	68.96166	340.09546	12.22785	0.1764837	0.23278249	2.6171935	20	5 20.3	21.0
376799 2000 SP_{301}	17.0	X	180.15277	160.11231	264.00102	3.45152	0.2422739	0.22970575	2.6405120	20	5 23.9	21.5
376800 2000 SD_{314}	16.7	X	231.74306	68.00691	279.34473	13.84200	0.2341881	0.23241876	2.6199234	20	3 25.3	21.5

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
376801 2000 SG_{326}	17.3	X	164.11886	58.59268	13.20034	3.23629	0.0559823	0.23049007	2.6345184	20	5 14.1	21.0
376802 2000 SH_{357}	16.7	X	186.33171	335.77741	84.40060	12.85985	0.2609362	0.23001236	2.6381649	20	5 25.7	21.4
376803 2000 SO_{357}	16.6	X	217.86705	320.31027	61.11561	14.74165	0.2589940	0.23158762	2.6261880	20	5 3.3	21.2
376804 2000 TQ_{42}	16.7	X	219.61679	317.47461	82.47107	6.36413	0.2967309	0.23372438	2.6101574	20	5 23.4	21.2
376805 2000 TK_{60}	16.2	X	239.63449	270.51638	74.80410	13.95305	0.2281976	0.23133306	2.6281143	20	4 12.8	20.7
376806 2000 UM_{97}	16.6	X	162.67627	183.04373	251.07254	8.84028	0.3466267	0.22609484	2.6685516	20	5 25.4	21.6
376807 2000 VK_{5}	16.5	X	255.24789	281.19037	35.95716	11.47917	0.3092944	0.23042213	2.6350362	20	3 15.2	21.1
376808 2000 WT_{4}	16.3	X	157.08141	159.39527	290.56484	12.84951	0.2093842	0.22634866	2.6665564	20	6 5.8	20.9
376809 2000 WG_{13}	17.8	X	165.95033	190.22218	230.06639	20.75465	0.0771147	0.37683044	1.8983315	20	4 26.0	19.9
376810 2000 WZ_{116}	16.6	X	204.69678	136.89933	279.41818	11.19865	0.2820139	0.22910948	2.6450914	20	5 31.9	21.3
376811 2000 WU_{124}	16.6	X	170.71881	64.78803	63.72427	29.33953	0.3854528	0.22980449	2.6397556	20	8 11.3	22.3
376812 2000 WA_{148}	16.0	X	216.08666	291.02507	89.45930	13.42852	0.2204849	0.22621718	2.6675895	20	5 4.7	20.7
376813 2000 YH_{39}	16.3	X	172.67490	147.93084	283.65834	7.30355	0.2877666	0.22558600	2.6725630	20	5 27.5	21.2
376814 2000 YN_{48}	16.3	X	198.12826	345.61250	105.31886	15.53679	0.1909941	0.22944965	2.6424764	20	7 12.6	20.5
376815 2000 YW_{51}	16.9	X	159.70031	132.64935	290.19724	8.13176	0.3291771	0.22286013	2.6943114	20	5 7.6	22.0
376816 2000 YP_{64}	17.5	X	110.74768	182.38992	287.65909	17.19973	0.0878460	0.37122068	1.9174083	20	4 19.6	20.0
376817 2001 AT_{43}	16.4	X	43.84213	105.91696	284.51367	21.58962	0.2956093	0.30322222	2.1942968	20	—	—
376818 2001 AG_{54}	17.6	X	282.68988	6.14524	103.02416	8.56577	0.2764337	0.29302364	2.2449204	20	11 30.9	18.7
376819 2001 BE_{3}	17.4	X	269.14330	144.76010	347.14843	5.63783	0.1715954	0.29496216	2.2350737	20	12 20.6	19.2
376820 2001 BZ_{13}	17.7	X	327.74709	170.09929	265.83096	3.88041	0.1033460	0.29624015	2.2286409	20	—	—
376821 2001 CL_{18}	16.3	X	118.87661	10.49467	112.79119	10.58596	0.2329765	0.21948719	2.7218442	20	6 16.4	20.8
376822 2001 DD_{56}	17.6	X	137.18731	61.03193	145.84250	3.64344	0.1645130	0.28103977	2.3082926	20	10 18.9	21.1
376823 2001 EU_{23}	17.6	X	136.65782	231.27003	340.60268	4.96231	0.1854998	0.28012059	2.3133394	20	10 21.3	21.3
376824 2001 FN_{11}	16.3	X	345.11620	174.98983	28.67812	8.17553	0.2393043	0.20460234	2.8523029	20	2 20.0	19.4
376825 2001 FP_{59}	17.0	X	155.60607	191.14469	21.91784	8.64778	0.1671344	0.28310100	2.2970747	20	11 9.6	20.6
376826 2001 FF_{64}	17.1	X	186.62537	67.58740	111.57392	4.47915	0.1086088	0.28331059	2.2959417	20	11 5.4	20.3
376827 2001 FR_{113}	17.4	X	124.74808	1.37374	214.86780	3.92326	0.1539812	0.27826442	2.3236155	20	10 16.8	21.0
376828 2001 FC_{186}	16.9	X	115.60272	177.09923	45.49853	8.40387	0.2372639	0.27676412	2.3320052	20	10 21.2	20.7
376829 2001 FY_{208}	17.3	X	60.31845	308.61655	165.30191	1.73011	0.0695562	0.20544746	2.8444755	20	3 1.7	21.0
376830 2001 MJ_{11}	17.7	X	265.06937	217.96006	94.63372	8.64999	0.2670312	0.30084405	2.2058455	20	3 15.9	21.2
376831 2001 OL_{1}	15.5	X	62.77891	275.21739	104.92730	17.01134	0.2588588	0.17337272	3.1852892	20	—	—
376832 2001 OW_{3}	15.4	X	153.24975	316.73109	325.45870	16.30122	0.2089796	0.17692392	3.1425221	20	—	—
376833 2001 OM_{25}	18.2	X	343.18421	175.76439	144.71732	4.90649	0.2419947	0.31259533	2.1502109	20	9 7.3	18.8
376834 2001 OH_{92}	15.3	X	93.53533	27.86550	326.97279	13.95881	0.2113418	0.17554342	3.1589761	20	—	—
376835 2001 QD_{9}	15.4	X	81.62804	52.81615	334.05434	16.01012	0.2045960	0.17568899	3.1572309	20	1 9.5	19.7
376836 2001 QD_{61}	16.6	X	148.74616	253.67880	134.85132	29.40832	0.3717972	0.23411602	2.6072457	20	4 1.2	21.9
376837 2001 QA_{114}	16.6	X	121.50421	284.68001	125.80958	28.48463	0.4194056	0.23091384	2.6312942	20	4 15.8	21.9
376838 2001 QP_{146}	16.0	X	111.15296	202.07467	130.03882	3.10624	0.1971684	0.17435646	3.1732968	20	—	—
376839 2001 QZ_{148}	15.1	X	66.14206	255.48727	131.83765	26.43174	0.3010274	0.17355172	3.1830987	20	—	—
376840 2001 QG_{161}	17.1	X	358.15563	332.95791	344.91329	1.78632	0.1757315	0.26082712	2.4260564	20	9 18.8	18.9
376841 2001 QE_{162}	15.5	X	119.28216	315.66713	351.72537	11.28711	0.1574851	0.17194668	3.2028764	20	—	—
376842 2001 QM_{259}	16.7	X	224.24105	281.32415	337.78260	23.47830	0.2893573	0.28632525	2.2797976	20	—	—
376843 2001 QW_{267}	15.6	X	93.50000	181.61652	172.09843	16.81415	0.1894645	0.17333735	3.1857225	20	—	—
376844 2001 QV_{316}	17.2	X	94.90530	265.49159	102.80766	1.88030	0.1815447	0.17639941	3.1487484	20	—	—
376845 2001 QO_{318}	17.4	X	356.36811	318.53213	345.17665	2.44896	0.1366218	0.25931640	2.4354697	20	8 19.7	19.4
376846 2001 RU	15.4	X	130.28125	66.59793	245.83604	24.15010	0.2844002	0.17249690	3.1960620	20	—	—
376847 2001 RK_{15}	15.5	X	125.79649	77.08353	246.87472	11.10763	0.1999798	0.17294541	3.1905338	20	—	—
376848 2001 RY_{47}	19.4	X	348.48089	214.05708	11.22287	17.60742	0.3928486	1.14190270	0.9065324	20	10 22.5	18.3
376849 2001 RM_{66}	15.6	X	133.87526	131.88382	251.99720	4.77509	0.1761127	0.17981009	3.1088040	20	2 24.1	20.5
376850 2001 RU_{129}	15.6	X	43.00609	31.22200	1.16680	15.82805	0.0920249	0.16930449	3.2361135	20	—	—
376851 2001 RG_{152}	16.4	X	292.06429	323.05652	23.08194	14.96916	0.1367168	0.25236764	2.4799729	20	6 17.5	19.7
376852 2001 SX_{85}	15.9	X	67.91824	80.42161	298.14743	3.85958	0.1939147	0.17174618	3.2053687	20	—	—
376853 2001 SQ_{94}	15.4	X	222.81190	235.61933	338.33117	11.15245	0.0952674	0.17084379	3.2166459	20	—	—
376854 2001 SK_{96}	15.2	X	287.34825	191.23457	355.00746	16.85186	0.1715652	0.17550176	3.1594760	20	—	—
376855 2001 SY_{272}	15.7	X	118.55771	113.56014	207.18246	25.25444	0.2166510	0.17266852	3.1939438	20	—	—
376856 2001 SN_{290}	15.5	X	86.77931	131.96824	250.22402	16.16697	0.3274600	0.17511882	3.1640803	20	1 20.9	20.0
376857 2001 SW_{299}	16.9	X	47.27979	339.03973	343.76506	7.64827	0.2153798	0.21462651	2.7627853	20	12 5.9	21.0
376858 2001 SJ_{301}	17.3	X	277.07703	215.62307	231.59380	1.38944	0.1389995	0.26207304	2.4183611	20	10 22.5	19.7
376859 2001 SS_{316}	16.9	X	218.14134	109.29302	319.36673	8.30793	0.2659380	0.24537645	2.5268578	20	6 28.8	21.3
376860 2001 SC_{323}	16.0	X	59.07538	277.00861	116.68922	6.89014	0.1786475	0.17046982	3.2213486	20	—	—
376861 2001 TH_{7}	17.4	X	199.80151	285.07613	62.98700	7.63915	0.3552054	0.24008931	2.5638198	20	3 12.1	22.4
376862 2001 TP_{25}	17.7	X	223.02482	125.90109	219.03620	12.37338	0.2859522	0.24161732	2.5529992	20	3 17.2	22.5
376863 2001 TU_{90}	16.7	X	286.29951	123.84582	249.97259	5.47889	0.1200569	0.25253778	2.4788589	20	7 22.0	19.6
376864 2001 TP_{103}	19.9	X	208.88777	243.10847	224.17478	4.73675	0.3595676	0.40766444	1.8013613	20	8 8.6	22.8
376865 2001 TJ_{153}	15.6	X	105.38129	266.50506	60.70567	7.04400	0.1992244	0.17050117	3.2209536	20	—	—
376866 2001 TU_{190}	16.3	X	250.27335	133.79913	239.89132	10.99811	0.0598518	0.24459160	2.5322604	20	6 10.9	19.6
376867 2001 TN_{222}	13.2	X	331.89589	227.28990	33.33038	24.41157	0.0350527	0.08273464	5.2160827	20	5 5.5	20.0
376868 2001 TU_{254}	16.2	X	64.11457	289.31856	95.83492	5.87156	0.1404001	0.16921499	3.2372544	20	—	—
376869 2001 TQ_{260}	13.7	X	75.04496	57.33128	96.54905	5.67156	0.0083422	0.08392021	5.1668399	20	5 9.9	20.6
376870 2001 UR_{60}	17.2	X	294.85896	357.85693	341.50510	4.81870	0.2140972	0.25113999	2.4880483	20	5 30.2	20.3
376871 2001 UT_{108}	16.1	X	271.31919	296.73063	61.33829	11.04429	0.1529244	0.24598389	2.5226961	20	6 2.5	19.3
376872 2001 UM_{160}	17.2	X	245.42924	159.61737	224.62056	7.31365	0.2415367	0.24577498	2.5241255	20	5 28.9	21.2
376873 2001 UW_{230}	13.6	X	229.59969	315.26251	27.98179	28.16855	0.1053882	0.08305132	5.2028147	20	4 12.9	20.8
376874 2001 VE	15.7	X	68.11403	333.16501	62.58895	27.11527	0.4740992	0.17069894	3.2184653	20	2 22.1	20.4
376875 2001 VD_{37}	15.7	X	251.69155	133.16711	242.15717	10.24519	0.1277436	0.24347142	2.5400215	20	6 5.7	19.2
376876 2001 VC_{56}	17.8	X	120.13497	84.62762	283.89192	4.09750	0.2822730	0.28016333	2.3131041	20	1 25.1	20.8
376877 2001 VV_{85}	17.1	X	177.92325	130.44901	343.33672	4.94219	0.2544805	0.24429456	2.5343126	20	7 24.3	21.5
376878 2001 VY_{114}	16.7	X	227.85271	139.73844	260.67030	6.24033	0.1986110	0.24391168	2.5369641	20	6 5.4	20.7
376879 2001 WW_{1}	22.2	X	290.44566	45.93367	59.80370	21.73955	0.1217296	0.74061638	1.2098750	20	—	—
376880 2001 WE_{12}	17.7	X	216.24262	333.36287	95.70817	5.31778	0.2017891	0.24529517	2.5274159	20	7 1.2	21.6

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	m		°	°	°	°		°				
376881 2001 WL_{46}	17.4	*X*	267.55873	294.32833	55.27827	14.76777	0.2624136	0.24617898	2.5213632	20	5 5.2	21.1
376882 2001 WO_{70}	17.1	*X*	295.34666	269.81211	59.80184	9.79308	0.0782321	0.24564283	2.5250307	20	6 8.9	20.3
376883 2001 XE_{1}	19.2	*X*	345.82657	273.03056	231.11952	20.95132	0.2109789	0.48538254	1.6035406	20	—	—
376884 2001 XS_{24}	15.9	*X*	252.04609	314.93061	79.30268	9.42608	0.2676419	0.24467196	2.5317059	20	6 14.1	19.7
376885 2001 XM_{39}	17.4	*X*	215.92800	30.42114	51.89088	12.11988	0.3291558	0.24490884	2.5300731	20	7 10.4	22.1
376886 2001 XR_{46}	15.8	*X*	173.30875	63.50137	68.95231	12.73100	0.2156971	0.24193177	2.5507865	20	8 17.2	20.3
376887 2001 XY_{47}	16.1	*X*	234.43067	29.98421	57.04288	12.23228	0.1620668	0.24665741	2.5181018	20	8 22.9	19.9
376888 2001 XP_{73}	15.7	*X*	26.61879	20.37694	75.33923	17.75811	0.2977615	0.16595391	3.2795258	20	—	—
376889 2001 XU_{91}	17.2	*X*	220.98952	327.47059	63.15933	13.12829	0.1882903	0.24247917	2.5469461	20	5 18.7	21.3
376890 2001 XA_{95}	17.3	*X*	209.42140	21.83290	64.23143	4.61046	0.2724320	0.24519442	2.5281082	20	7 12.9	21.6
376891 2001 XF_{104}	16.1	*X*	116.03531	265.26081	260.74995	10.07112	0.3686067	0.23971228	2.5665074	20	8 11.3	21.0
376892 2001 XG_{107}	16.6	*X*	179.97776	152.39839	279.18042	12.75365	0.1537517	0.23929857	2.5694647	20	6 2.1	20.7
376893 2001 XK_{116}	17.0	*X*	221.69142	350.36220	77.20434	9.56251	0.3064633	0.24326710	2.5414436	20	6 26.7	21.5
376894 2001 XX_{137}	16.4	*X*	274.89957	284.05618	88.76871	13.03139	0.0728847	0.24554439	2.5257055	20	7 12.2	19.6
376895 2001 XF_{142}	17.4	*X*	195.77133	224.01223	242.71879	2.38795	0.1655245	0.24557216	2.5255151	20	7 31.9	21.3
376896 2001 XN_{145}	16.3	*X*	114.44269	235.92462	260.27157	11.41156	0.0994964	0.23730697	2.5838208	20	6 14.4	19.9
376897 2001 XJ_{155}	17.3	*X*	184.96847	193.26156	255.00054	10.46224	0.1731235	0.24092687	2.5578745	20	6 27.6	21.5
376898 2001 XD_{208}	16.7	*X*	217.43151	286.44623	96.47995	16.27562	0.2505968	0.24061709	2.5600694	20	5 8.4	21.4
376899 2001 XB_{237}	17.2	*X*	223.68976	100.66688	324.20531	1.93253	0.2465777	0.24491911	2.5300024	20	6 29.4	21.5
376900 2001 XQ_{237}	17.5	*X*	237.08849	333.58037	59.42915	6.63044	0.1667251	0.24425941	2.5345558	20	6 7.6	21.4
376901 2001 XU_{248}	17.6	*X*	192.07592	188.75358	257.47589	4.06783	0.2299677	0.24020122	2.5630234	20	6 30.2	21.8
376902 2001 XZ_{259}	17.7	*X*	207.63111	103.95367	313.00639	4.70717	0.2443942	0.24237762	2.5476575	20	6 5.4	22.1
376903 2001 YB_{6}	15.7	*X*	127.48621	95.23390	71.33576	27.67115	0.2221606	0.23833292	2.5764004	20	8 28.7	20.6
376904 2001 YJ_{15}	16.8	*X*	215.18548	317.65572	91.37607	5.29429	0.1736431	0.24025214	2.5626613	20	6 6.4	20.9
376905 2001 YA_{16}	16.3	*X*	71.74012	122.00281	86.09057	14.33874	0.0965493	0.24061053	2.5601159	20	7 29.7	19.8
376906 2001 YE_{53}	15.9	*X*	143.53357	216.99084	278.51121	9.93510	0.0743623	0.24091103	2.5579866	20	7 14.9	19.5
376907 2001 YM_{85}	16.3	*X*	128.01413	173.60047	295.14366	14.73094	0.1232537	0.23321080	2.6139881	20	5 25.7	20.4
376908 2001 YK_{96}	16.2	*X*	143.46587	174.48974	318.02263	9.07762	0.1448589	0.23756881	2.5819219	20	7 16.5	20.3
376909 2001 YV_{96}	17.8	*X*	217.74706	287.12168	129.95070	5.43751	0.2893547	0.24366273	2.5386918	20	6 12.3	22.2
376910 2001 YU_{123}	17.0	*X*	225.83124	359.61223	54.50974	8.17582	0.2410693	0.24429179	2.5343318	20	6 17.4	21.2
376911 2001 YU_{131}	16.0	*X*	197.10652	149.32865	289.18814	12.57672	0.1443140	0.24256493	2.5463458	20	6 28.8	20.1
376912 2001 YX_{149}	16.6	*X*	246.15058	4.73047	31.02895	9.45947	0.1568183	0.24374991	2.5380865	20	6 22.5	20.4
376913 2002 AF_{31}	17.2	*X*	107.26435	236.49128	275.21351	3.28782	0.1729621	0.23476651	2.6024274	20	7 5.1	21.0
376914 2002 AO_{37}	17.4	*X*	173.37179	338.35517	113.39004	6.06441	0.2010314	0.24018823	2.5631158	20	6 22.2	21.6
376915 2002 AP_{40}	17.1	*X*	211.45975	141.84212	277.09161	6.80874	0.1920949	0.24085734	2.5583667	20	6 14.3	21.2
376916 2002 AV_{46}	16.8	*X*	98.29445	229.76758	287.40243	3.87620	0.1672675	0.23352857	2.6116163	20	7 1.8	20.4
376917 2002 AM_{49}	17.2	*X*	109.17351	239.22624	284.05478	3.53963	0.2254608	0.23483279	2.6019377	20	7 26.9	21.4
376918 2002 AM_{97}	16.3	*X*	212.72045	295.84520	105.37330	12.67308	0.1869325	0.23801640	2.5786840	20	5 26.9	20.6
376919 2002 AT_{103}	17.1	*X*	188.28311	41.88228	66.68241	3.35443	0.1771067	0.24125108	2.5555823	20	7 28.0	21.3
376920 2002 AR_{127}	17.1	*X*	112.19809	45.41103	126.69758	5.38448	0.1777216	0.23743793	2.5828706	20	8 6.8	21.1
376921 2002 AV_{172}	16.7	*X*	178.40663	337.58535	98.32412	5.99594	0.1814449	0.23638996	2.5904986	20	6 6.8	21.0
376922 2002 AR_{203}	17.2	*X*	188.13456	135.38732	303.55667	3.34630	0.1590701	0.23833376	2.5763943	20	6 19.5	21.4
376923 2002 BY_{27}	17.2	*X*	168.61504	13.96434	90.01333	8.14813	0.2929424	0.23797005	2.5790189	20	7 3.9	21.8
376924 2002 CM_{29}	17.4	*X*	208.32905	39.60407	38.10568	4.20606	0.2905064	0.24125501	2.5555546	20	6 30.4	21.9
376925 2002 CX_{32}	17.0	*X*	167.47453	70.40697	54.20598	5.13538	0.2522092	0.23897665	2.5717716	20	7 29.9	21.6
376926 2002 CH_{44}	18.5	*X*	198.57988	109.73929	326.63079	19.86162	0.0654119	0.39767671	1.8313975	20	7 14.5	20.6
376927 2002 CM_{67}	16.4	*X*	206.73262	282.26948	120.70941	10.20452	0.0514969	0.23523823	2.5989471	20	5 29.9	20.2
376928 2002 CG_{71}	17.3	*X*	200.94550	89.32681	334.54854	5.63051	0.3129722	0.23895154	2.5719518	20	6 6.3	22.1
376929 2002 CN_{86}	16.4	*X*	176.07669	83.84491	320.68919	13.15291	0.1010799	0.22947759	2.6422619	20	4 17.6	20.7
376930 2002 CG_{109}	16.8	*X*	111.54186	159.69834	333.18540	8.57198	0.1382607	0.22983043	2.6395569	20	6 10.5	20.8
376931 2002 CS_{118}	15.3	*X*	94.96214	102.39153	71.73323	28.04227	0.3462376	0.23003787	2.6379698	20	8 16.1	20.3
376932 2002 CD_{141}	17.1	*X*	171.94288	276.08653	193.95005	4.25838	0.2279435	0.23763180	2.5814656	20	7 13.0	21.5
376933 2002 CW_{153}	17.0	*X*	54.08158	2.04772	163.94014	5.70927	0.0782990	0.22418490	2.6836867	20	5 2.4	20.3
376934 2002 CM_{166}	16.9	*X*	127.08278	147.54401	8.21421	4.76363	0.2164981	0.23513096	2.5997376	20	8 3.9	21.2
376935 2002 CX_{171}	16.4	*X*	162.06805	108.42509	346.12594	11.70011	0.2166149	0.23474345	2.6025978	20	6 15.8	21.0
376936 2002 CO_{189}	17.3	*X*	157.78181	8.65850	107.63549	5.32684	0.1554680	0.23703517	2.5857956	20	7 8.6	21.5
376937 2002 CC_{194}	17.7	*X*	188.05941	305.16843	121.15479	3.49932	0.2387997	0.23602867	2.5931415	20	6 2.6	22.1
376938 2002 CS_{229}	16.8	*X*	6.57475	227.76995	336.30333	8.15413	0.1338728	0.22201734	2.7011256	20	4 2.8	19.7
376939 2002 CA_{253}	17.3	*X*	188.18264	230.62603	226.41124	3.10423	0.1929522	0.23906916	2.5711081	20	7 11.2	21.5
376940 2002 CT_{255}	16.2	*X*	147.60055	304.77365	151.90531	31.72204	0.2181952	0.23268543	2.6179213	20	6 12.5	21.3
376941 2002 CR_{265}	16.9	*X*	85.77152	201.92492	332.73601	5.90580	0.1744929	0.23364313	2.6107625	20	7 12.4	20.5
376942 2002 CF_{290}	16.6	*X*	255.42779	340.45530	76.75464	9.04946	0.2570387	0.24540733	2.5266458	20	7 20.5	20.3
376943 2002 CD_{314}	17.5	*X*	142.59033	102.46595	9.70556	6.10160	0.2810737	0.23550313	2.5969979	20	6 24.9	22.1
376944 2002 DP_{3}	16.5	*X*	185.11976	355.45758	67.54482	10.69098	0.4908252	0.23655350	2.5893045	20	5 25.7	21.9
376945 2002 DV_{14}	16.7	*X*	203.12925	275.77024	153.80117	11.76497	0.1710111	0.23739674	2.5831693	20	6 21.7	21.0
376946 2002 EC_{4}	17.2	*X*	154.86411	122.29115	346.30052	3.19819	0.0995969	0.23189644	2.6238560	20	6 23.8	21.1
376947 2002 ET_{33}	16.7	*X*	150.48031	68.75035	31.12011	4.65387	0.1715664	0.23171925	2.6251934	20	6 10.7	20.9
376948 2002 EZ_{48}	17.7	*X*	247.94136	163.15415	0.97119	5.61659	0.1329339	0.30807760	2.1711807	20	—	—
376949 2002 EG_{64}	17.7	*X*	182.59785	251.60485	341.12039	6.21417	0.1408899	0.30493540	2.1860705	20	—	—
376950 2002 ER_{97}	17.3	*X*	59.66586	52.97266	73.47012	2.89761	0.3905933	0.22297417	2.6933927	20	5 6.6	20.2
376951 2002 EG_{119}	17.3	*X*	170.71398	254.05979	218.34201	3.51414	0.2513806	0.23619084	2.5919544	20	7 14.9	21.9
376952 2002 EM_{162}	16.1	*X*	246.67925	84.85654	215.23834	10.52774	0.0715986	0.21243350	2.7817667	20	2 27.8	20.4
376953 2002 FE_{28}	16.8	*X*	178.67878	285.22110	181.11571	13.46615	0.1920579	0.23485069	2.6018055	20	7 13.2	21.4
376954 2002 FP_{30}	16.5	*X*	96.56173	350.85586	150.19918	17.88461	0.2640161	0.22702618	2.6612485	20	6 21.7	20.9
376955 2002 GR_{3}	16.6	*X*	177.44527	288.16723	204.58936	27.59470	0.4330660	0.23927383	2.5696417	20	8 5.6	22.3
376956 2002 GG_{4}	17.9	*X*	359.57654	35.45375	202.53805	17.34310	0.0807034	0.38585205	1.8686251	20	5 9.0	19.0
376957 2002 GN_{28}	17.6	*X*	218.28743	355.47766	11.99220	3.66377	0.1274400	0.22722304	2.6597111	20	4 19.6	21.8
376958 2002 GM_{40}	16.2	*X*	98.17478	147.76917	353.61088	13.66501	0.1461013	0.22629693	2.6669627	20	6 5.3	20.3
376959 2002 GJ_{69}	16.9	*X*	101.00875	125.63148	18.69364	5.17694	0.1602543	0.22626023	2.6672511	20	6 16.5	20.8
376960 2002 GQ_{84}	16.2	*X*	87.46101	108.16684	48.39955	13.60745	0.2268186	0.22562305	2.6722704	20	6 25.4	20.2

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	m		°	°	°	°		°				
376961 2002 GB_{91}	16.7	X	57.09129	144.11730	47.06659	8.40865	0.1683328	0.22385871	2.6862930	20	6 23.1	20.0
376962 2002 GB_{132}	16.5	X	210.94473	328.20846	21.61290	7.14774	0.0201696	0.21707927	2.7419350	20	3 27.5	20.3
376963 2002 GC_{139}	16.8	X	58.00318	9.66509	164.84814	9.38995	0.1750161	0.22416602	2.6838374	20	6 3.9	20.2
376964 2002 HD	16.9	X	166.04113	83.64949	51.70646	28.41571	0.3890060	0.23678760	2.5875977	20	8 22.1	22.5
376965 2002 JY_{54}	17.4	X	57.67634	212.20242	57.24360	5.91435	0.2015875	0.28538673	2.2847930	20	10 24.7	20.5
376966 2002 JW_{57}	16.5	X	337.25246	155.34924	52.78604	9.90847	0.1536131	0.21227578	2.7831445	20	2 24.5	19.9
376967 2002 JV_{79}	16.7	X	343.81477	4.26286	218.28585	8.37372	0.1474302	0.21663147	2.7457123	20	3 18.3	19.9
376968 2002 JJ_{101}	17.2	X	9.98604	140.95384	156.38167	14.12505	0.3177094	0.27926774	2.3180468	20	10 17.0	19.3
376969 2002 JR_{102}	16.1	X	48.02707	134.80827	70.44196	14.98072	0.2079937	0.22222903	2.6994100	20	7 5.4	19.4
376970 2002 JR_{149}	16.8	X	346.13807	126.92564	95.12444	4.46603	0.0622382	0.21434592	2.7651959	20	4 4.1	20.2
376971 2002 KA_{1}	17.6	X	228.89467	330.56144	335.78575	5.34559	0.3104619	0.31475338	2.1403713	20	2 3.3	21.3
376972 2002 KO_{13}	15.9	X	196.99325	279.22874	45.69598	15.65856	0.2253795	0.20454860	2.8528025	20	2 17.9	21.1
376973 2002 LK_{34}	17.0	X	358.18253	29.89774	266.54119	10.61910	0.2702494	0.27770199	2.3267518	20	8 23.0	18.6
376974 2002 NF_{5}	17.7	X	83.69323	357.50241	276.26045	3.93634	0.1650895	0.28604996	2.2812600	20	11 20.8	21.0
376975 2002 NY_{5}	16.2	X	185.73572	161.64278	122.56303	14.52283	0.1364762	0.19188113	2.9770162	20	—	—
376976 2002 NQ_{68}	18.2	X	5.69416	145.85011	167.22443	2.34385	0.2150622	0.27790728	2.3256058	20	10 8.8	19.9
376977 2002 NJ_{69}	17.4	X	32.71276	353.85638	256.99667	5.84558	0.1575184	0.27522321	2.3407014	20	8 9.7	19.8
376978 2002 NV_{74}	17.7	X	41.97615	55.08881	262.95364	3.51739	0.1683999	0.28442773	2.2899259	20	12 3.6	20.6
376979 2002 OS_{2}	15.2	X	91.40681	187.84336	228.26547	9.47024	0.4299340	0.18600570	3.0393815	20	3 19.9	20.0
376980 2002 OO_{6}	17.5	X	355.77342	85.13372	240.20707	6.43588	0.2153987	0.27655012	2.3332082	20	10 2.7	19.3
376981 2002 OV_{26}	17.9	X	161.62713	264.69435	148.14956	22.98036	0.1257584	0.36855706	1.9266355	20	4 22.3	20.9
376982 2002 OZ_{26}	16.2	X	144.76309	27.58260	274.79398	8.65927	0.1086182	0.18653731	3.0336042	20	—	—
376983 2002 OD_{31}	16.6	X	122.47070	342.80511	12.07985	2.22868	0.1869554	0.18970939	2.9996932	20	1 12.7	20.9
376984 2002 OR_{31}	17.3	X	15.58210	211.61957	120.80059	8.15132	0.1421055	0.28169965	2.3046864	20	11 15.4	19.9
376985 2002 OE_{33}	16.8	X	122.60598	55.87931	292.40815	0.56275	0.2006828	0.18883477	3.0089484	20	1 6.4	21.2
376986 2002 PP_{2}	15.8	X	179.76558	42.32106	252.18282	11.40510	0.2075915	0.19063402	2.9899857	20	—	—
376987 2002 PX_{16}	17.8	X	6.72807	24.96314	276.54264	4.67775	0.1657267	0.27666410	2.3325673	20	9 10.0	19.9
376988 2002 PQ_{27}	18.3	X	347.65538	176.33610	152.17925	3.20255	0.2409513	0.27580667	2.3373991	20	9 24.8	19.5
376989 2002 PM_{33}	16.2	X	120.44296	12.86176	329.38234	10.70333	0.1829107	0.18587942	3.0407579	20	—	—
376990 2002 PN_{83}	16.6	X	310.02530	44.19427	328.74336	25.36712	0.1870293	0.27385608	2.3484850	20	8 26.6	18.5
376991 2002 PO_{118}	18.1	X	312.58025	139.44392	249.24166	3.83508	0.2274570	0.27583305	2.3372501	20	9 26.3	19.7
376992 2002 PW_{118}	16.1	X	82.02187	96.13497	302.14504	10.15171	0.2669251	0.18608746	3.0384911	20	1 27.7	19.9
376993 2002 PX_{129}	17.2	X	159.85674	352.54490	313.61092	1.46494	0.2780199	0.18869033	3.0104837	20	—	—
376994 2002 PF_{130}	17.7	X	22.30373	152.91295	133.22922	4.27850	0.2696868	0.27793579	2.3254467	20	10 10.4	20.0
376995 2002 PP_{138}	17.3	X	49.50636	73.33109	245.35107	8.56547	0.2777703	0.28436556	2.2902596	20	12 24.8	20.8
376996 2002 PC_{178}	16.2	X	137.53502	162.11867	187.85922	11.54236	0.1691443	0.19027436	2.9937523	20	1 17.6	21.0
376997 2002 PM_{178}	16.6	X	152.25668	254.13653	68.21150	3.55845	0.2363985	0.18963544	3.0004730	20	1 7.2	21.5
376998 2002 PZ_{182}	16.8	X	141.54267	31.37027	351.69893	1.31346	0.1187552	0.19500439	2.9451434	20	2 26.2	21.2
376999 2002 PJ_{198}	18.4	X	24.48913	222.55170	67.75754	3.13845	0.2262281	0.27806398	2.3247320	20	10 11.6	20.7
377000 2002 QY_{33}	16.7	X	90.62122	314.57940	56.36925	1.90157	0.2542101	0.18420830	3.0591205	20	1 4.8	20.6
377001 2002 QU_{54}	17.8	X	347.13937	220.17726	126.25216	3.43107	0.2521971	0.27662532	2.3327852	20	10 28.4	19.2
377002 2002 QB_{64}	16.5	X	121.83957	178.66151	145.46870	5.74034	0.1978043	0.18410750	3.0602370	20	—	—
377003 2002 QZ_{82}	16.4	X	180.99733	335.33326	299.56208	7.40443	0.0783785	0.18688426	3.0298484	20	—	—
377004 2002 QT_{83}	16.8	X	174.60139	115.09565	180.02923	5.13261	0.1711884	0.18916989	3.0053938	20	—	—
377005 2002 QO_{87}	18.1	X	297.42966	61.82135	0.29609	1.24451	0.1662138	0.27847195	2.3224609	20	10 24.7	20.0
377006 2002 QY_{99}	18.3	X	330.16364	285.87420	71.46835	2.40927	0.1925869	0.27513811	2.3411840	20	9 24.6	19.8
377007 2002 QL_{100}	17.2	X	29.64919	207.03436	87.40383	7.42279	0.1306461	0.27814389	2.3242867	20	10 12.2	19.9
377008 2002 QQ_{113}	17.5	X	137.55182	325.92990	248.98796	7.62790	0.0899930	0.28158889	2.3052907	20	10 26.2	20.9
377009 2002 QC_{119}	16.8	X	138.32862	352.97632	344.95823	4.92313	0.1614203	0.18938922	3.0030729	20	1 6.3	21.4
377010 2002 QE_{125}	16.2	X	105.00503	39.02239	338.14128	14.27706	0.1008127	0.18700448	3.0285497	20	1 10.9	20.6
377011 2002 QZ_{129}	17.9	X	27.69039	115.14444	227.91325	1.52025	0.1266504	0.28308767	2.2971468	20	12 12.5	20.6
377012 2002 QJ_{130}	17.0	X	190.02134	78.72740	101.29660	6.98858	0.1110698	0.28485883	2.2876149	20	11 10.9	20.1
377013 2002 RE_{11}	15.7	X	123.01779	342.95926	341.34200	17.40515	0.1937140	0.18392233	3.0622907	20	—	—
377014 2002 RO_{12}	17.7	X	309.74310	56.23141	347.65153	3.93779	0.2354485	0.27497081	2.3421335	20	10 15.6	19.1
377015 2002 RP_{27}	16.5	X	102.97666	111.10362	245.83449	1.41637	0.1998885	0.18291753	3.0734949	20	—	—
377016 2002 RS_{33}	16.3	X	89.43470	148.10300	255.34685	2.85076	0.2831951	0.18638697	3.0352352	20	2 14.3	20.4
377017 2002 RY_{74}	17.7	X	334.08905	355.02950	337.98556	4.48342	0.2312402	0.27281726	2.3544429	20	8 19.9	18.7
377018 2002 RK_{80}	17.4	X	333.28359	16.38108	352.54443	6.27125	0.1887283	0.27569621	2.3380234	20	10 18.4	19.0
377019 2002 RY_{91}	15.5	X	97.39436	331.93905	1.81405	17.27497	0.2451802	0.17861808	3.1226198	20	—	—
377020 2002 RT_{98}	16.2	X	99.75407	84.33600	300.39070	8.62851	0.2414783	0.18641159	3.0349679	20	1 29.7	20.5
377021 2002 RW_{98}	16.5	X	15.05642	358.44608	5.44318	11.06747	0.3885934	0.22486072	2.6783068	20	—	—
377022 2002 RQ_{131}	16.3	X	168.68709	47.62045	232.15012	11.54282	0.2965218	0.18592329	3.0402795	20	—	—
377023 2002 RZ_{132}	17.5	X	3.19350	250.27000	81.22469	3.34149	0.2310762	0.27726804	2.3291789	20	11 4.8	19.5
377024 2002 RA_{140}	17.1	X	320.29039	292.87616	73.84362	10.53932	0.2389647	0.27310184	2.3528070	20	9 18.0	18.8
377025 2002 RT_{204}	16.1	X	156.67937	129.46768	167.26605	10.13709	0.1050409	0.18438496	3.0571662	20	—	—
377026 2002 RU_{204}	17.9	X	322.61397	202.60419	174.70576	2.76686	0.1745796	0.27408267	2.3471905	20	10 8.4	19.4
377027 2002 RA_{238}	16.0	X	251.91757	258.58587	359.14130	8.48809	0.0470435	0.19262945	2.9693013	20	1 24.0	20.4
377028 2002 RZ_{238}	17.6	X	308.69430	88.88714	308.77185	2.51300	0.2261434	0.27548363	2.3392260	20	10 2.4	19.0
377029 2002 RT_{240}	15.6	X	50.58066	115.17096	321.16253	8.78556	0.1132279	0.18724937	3.0259087	20	1 7.9	19.3
377030 2002 RQ_{243}	15.8	X	108.53908	129.45829	256.15183	8.47110	0.1937670	0.18933832	3.0036111	20	1 31.8	20.3
377031 2002 RK_{270}	17.0	X	143.22387	197.90804	170.31557	4.59042	0.0984106	0.19302351	2.9652586	20	2 7.5	21.5
377032 2002 RA_{278}	16.2	X	59.55665	149.66442	292.78246	9.30814	0.0434133	0.19035505	2.9929062	20	1 20.5	20.3
377033 2002 RG_{279}	16.0	X	133.87132	62.01819	269.51313	8.87755	0.1124059	0.18369524	3.0648139	20	—	—
377034 2002 SR_{13}	15.2	X	352.03898	167.67233	252.62831	17.14446	0.1300524	0.17339662	3.1849966	20	12 27.4	19.2
377035 2002 SM_{15}	15.7	X	115.23675	29.33566	319.30583	14.23551	0.3078201	0.18378473	3.0638190	20	1 14.8	20.5
377036 2002 SA_{35}	17.2	X	147.19532	57.41207	10.64645	24.12810	0.1397399	0.36543645	1.9375882	20	4 14.5	19.7
377037 2002 SW_{43}	17.9	X	302.85590	359.97066	8.53577	2.67725	0.2012547	0.27043518	2.3682484	20	8 3.9	19.9
377038 2002 SH_{56}	16.1	X	126.51942	53.86324	312.18355	3.21478	0.1895862	0.18820745	3.0156308	20	1 30.0	20.7
377039 2002 SW_{66}	17.7	X	106.44472	165.21980	271.13787	17.11937	0.0908334	0.36176307	1.9506824	20	2 18.3	20.0
377040 2002 SG_{73}	15.9	X	133.26618	335.95885	8.57994	10.80471	0.1006722	0.18769224	3.0211469	20	1 2.7	20.5

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377041 2002 TU_{1}	17.2	X	268.39122	341.86667	8.01762	1.05059	0.2310110	0.26220929	2.4175233	20	5 7.9	20.7
377042 2002 TR_{14}	18.0	X	346.99628	282.28559	69.77569	2.17070	0.2138973	0.27515001	2.3411165	20	10 29.6	19.5
377043 2002 TD_{33}	17.7	X	328.96212	319.81916	18.41540	2.82418	0.1864451	0.27109076	2.3644288	20	8 17.3	19.4
377044 2002 TH_{44}	17.7	X	8.28277	283.38239	57.00998	2.99506	0.2168858	0.27829038	2.3234710	20	11 23.7	20.0
377045 2002 TA_{47}	17.8	X	221.19388	116.54977	203.87056	22.49615	0.1176882	0.36064256	1.9547208	20	2 4.9	21.0
377046 2002 TU_{49}	15.7	X	29.99070	16.04918	42.58198	16.41510	0.2615970	0.17472489	3.1688344	20	—	—
377047 2002 TF_{97}	16.0	X	172.74328	278.62214	9.21152	10.82254	0.0691956	0.18282811	3.0744969	20	—	—
377048 2002 TG_{119}	16.0	X	127.08900	112.55027	241.45168	8.42438	0.2337835	0.18539760	3.0460239	20	1 19.6	20.9
377049 2002 TQ_{121}	15.8	X	91.64013	64.87817	340.16414	8.30877	0.0899404	0.18445020	3.0564454	20	1 25.6	20.0
377050 2002 TR_{121}	16.2	X	129.45923	78.75293	248.17621	8.02414	0.2678939	0.18196916	3.0841644	20	—	—
377051 2002 TY_{124}	15.8	X	70.16918	43.84169	317.28715	10.20521	0.1501983	0.17784697	3.1316393	20	—	—
377052 2002 TB_{142}	16.6	X	11.54087	312.24461	94.05199	11.38262	0.3773376	0.22689814	2.6622495	20	—	—
377053 2002 TX_{167}	15.2	X	115.25007	110.46160	239.59537	15.55510	0.1769122	0.18363225	3.0655147	20	—	—
377054 2002 TT_{190}	16.0	X	84.02023	87.04183	314.63011	14.76541	0.3138125	0.18221135	3.0814309	20	2 10.6	20.2
377055 2002 TK_{256}	15.8	X	74.44829	6.29096	27.29143	15.25132	0.1926250	0.18029547	3.1032219	20	1 1.8	19.9
377056 2002 TH_{262}	16.0	X	104.56461	11.62984	18.76919	9.91902	0.1195463	0.18491834	3.0512847	20	1 29.6	20.4
377057 2002 TG_{265}	15.5	X	144.22409	301.95827	20.91633	18.11904	0.1388425	0.18181976	3.0858537	20	—	—
377058 2002 TR_{276}	17.9	X	295.65191	10.72941	2.59156	2.87298	0.2501701	0.26826811	2.3809851	20	7 18.1	20.2
377059 2002 TX_{283}	15.6	X	36.95204	159.11516	227.59369	14.11049	0.2550292	0.17384917	3.1794668	20	—	—
377060 2002 TT_{298}	16.4	X	102.59712	154.01829	230.06064	9.00670	0.2440934	0.18339640	3.0681424	20	1 30.4	21.0
377061 2002 TC_{299}	17.5	X	182.03139	99.38287	267.55060	17.66913	0.1006664	0.36188386	1.9502483	20	2 20.6	20.5
377062 2002 TY_{302}	17.9	X	313.07149	146.25905	204.74381	3.68607	0.2068798	0.26919874	2.3754945	20	7 24.9	19.8
377063 2002 TZ_{305}	17.6	X	282.65581	332.28112	101.75893	4.11733	0.2306802	0.27297495	2.3535361	20	10 3.5	19.6
377064 2002 TC_{317}	16.2	X	106.08253	76.54678	297.21936	9.54503	0.1149329	0.18743927	3.0238645	20	1 7.4	20.4
377065 2002 TT_{324}	18.1	X	152.71976	172.85310	14.43729	5.18833	0.0738292	0.27530615	2.3402313	20	10 7.7	21.4
377066 2002 TL_{329}	16.0	X	180.86821	226.92062	12.54017	28.04702	0.2143889	0.17862605	3.1225269	20	12 10.4	21.7
377067 2002 TT_{333}	16.5	X	273.09034	139.70785	47.53047	6.12074	0.0717338	0.18113152	3.0936655	20	—	—
377068 2002 TE_{346}	15.8	X	126.18157	282.50042	70.06398	10.39385	0.0533526	0.18305790	3.0719235	20	—	—
377069 2002 TU_{346}	16.2	X	327.82599	281.46846	182.86914	20.16052	0.1382989	0.17267044	3.1939201	20	—	—
377070 2002 TV_{370}	16.1	X	342.86191	3.34930	118.33070	11.27507	0.1839932	0.17508334	3.1645078	20	—	—
377071 2002 TQ_{373}	16.4	X	37.16354	149.62442	217.24670	9.82869	0.0808294	0.17244040	3.1967601	20	12 19.5	20.9
377072 2002 TA_{382}	15.5	X	303.85275	338.00444	235.18104	13.90345	0.0878115	0.19143513	2.9816383	20	1 19.2	19.9
377073 2002 TE_{385}	17.8	X	352.71703	289.46068	60.47333	5.97089	0.1115046	0.27475074	2.3433841	20	10 25.5	20.1
377074 2002 UZ_{6}	17.3	X	267.10192	325.48006	86.35496	8.85468	0.1915910	0.26749903	2.3855466	20	8 10.3	20.2
377075 2002 UD_{14}	15.7	X	42.31658	359.99399	69.80673	19.34870	0.2051857	0.17765620	3.1338807	20	—	—
377076 2002 UB_{44}	16.0	X	117.82023	92.89739	219.64892	15.01617	0.2447818	0.17644830	3.1481668	20	—	—
377077 2002 UK_{44}	16.4	X	230.88840	58.53790	190.30267	5.19216	0.0825089	0.18036271	3.1024507	20	—	—
377078 2002 UD_{58}	15.9	X	92.63522	281.12764	85.44622	10.63502	0.0905803	0.17963294	3.1108476	20	—	—
377079 2002 UE_{72}	16.2	X	37.97496	72.09896	15.36032	9.85584	0.2167932	0.17879439	3.1205666	20	1 9.8	19.6
377080 2002 UG_{75}	15.8	X	11.34349	27.98873	40.24958	27.68083	0.0670456	0.17424253	3.1746798	20	—	—
377081 2002 VA_{1}	16.5	X	72.27462	104.79549	260.20552	9.73463	0.2136968	0.17769464	3.1334288	20	—	—
377082 2002 VP_{5}	16.6	X	107.37720	198.73359	175.12356	1.80238	0.1563045	0.18189937	3.0849532	20	1 14.9	20.9
377083 2002 VR_{15}	17.1	X	280.31352	60.94200	39.35165	2.61634	0.1708535	0.27534988	2.3399835	20	11 16.4	19.3
377084 2002 VX_{64}	16.8	X	316.53713	347.09421	19.53962	9.20660	0.1981681	0.26958854	2.3732041	20	9 6.2	18.6
377085 2002 VK_{76}	15.6	X	70.72998	322.44116	60.27784	15.92635	0.2116681	0.17727317	3.1383933	20	—	—
377086 2002 VJ_{100}	15.3	X	61.20963	354.93915	56.41191	28.32866	0.0992617	0.17781881	3.1319699	20	—	—
377087 2002 VB_{109}	15.8	X	173.98032	272.64469	256.38846	19.29334	0.2758148	0.26293673	2.4130624	20	9 17.9	20.6
377088 2002 VP_{142}	17.2	X	194.07424	28.67345	104.19167	3.62565	0.1322515	0.26573812	2.3960735	20	9 8.7	20.6
377089 2002 VY_{142}	18.1	X	296.20206	204.47000	155.69488	1.72989	0.2003740	0.26557731	2.3970407	20	7 6.6	20.6
377090 2002 VF_{144}	17.4	X	200.53716	15.90736	74.51708	2.60141	0.1493456	0.26045342	2.4283764	20	7 18.2	21.1
377091 2002 VW_{144}	15.7	X	319.41902	277.02386	220.60988	17.57788	0.1901864	0.17257417	3.1951079	20	—	—
377092 2002 VX_{145}	16.0	X	123.92983	311.21954	60.79445	14.43669	0.0412793	0.18265853	3.0763995	20	1 18.7	20.6
377093 2002 VX_{146}	16.6	X	85.15094	170.88926	236.00876	3.51744	0.2487831	0.18211484	3.0825194	20	2 8.4	20.7
377094 2002 WD_{1}	13.1	X	236.26619	299.92428	61.59086	28.90646	0.1039018	0.08581769	5.0903951	20	5 11.3	20.2
377095 2002 WD_{2}	15.5	X	62.84633	335.00265	67.81799	18.39681	0.1818167	0.17705298	3.1409949	20	—	—
377096 2002 WM_{2}	15.7	X	85.35383	335.16254	61.74016	17.37834	0.1238957	0.17937044	3.1138818	20	1 12.2	20.1
377097 2002 WQ_{4}	19.6	X	105.30539	244.44451	267.05232	3.94076	0.5551700	0.35929674	1.9595990	20	8 4.5	23.5
377098 2002 WD_{7}	17.1	X	272.45656	338.95631	65.79373	13.50458	0.1507526	0.26546263	2.3977310	20	8 18.7	20.2
377099 2002 WN_{7}	16.0	X	98.57358	102.61670	263.38910	2.49981	0.2759943	0.18001161	3.1064834	20	1 12.1	20.2
377100 2002 WR_{15}	15.7	X	80.10860	320.44877	84.52936	13.22312	0.2979530	0.18040532	3.1019621	20	2 12.2	19.9
377101 2002 WP_{19}	15.7	X	76.06561	350.10951	65.12451	10.43663	0.0779279	0.17991684	3.1075742	20	1 16.3	19.9
377102 2002 WT_{21}	18.1	X	264.95473	304.78927	101.06142	3.39391	0.1941350	0.26455110	2.4032355	20	7 26.6	21.1
377103 2002 WX_{24}	16.7	X	120.92031	350.12189	343.02420	0.70321	0.1946228	0.17734454	3.1375513	20	—	—
377104 2002 WK_{25}	17.8	X	184.04726	62.98480	65.52491	2.26027	0.1519122	0.26189072	2.4194834	20	8 21.4	21.4
377105 2002 WQ_{25}	15.9	X	60.34821	354.38545	78.24590	11.51477	0.1044216	0.17994480	3.1072523	20	1 18.7	19.9
377106 2002 WJ_{26}	15.9	X	35.35969	14.21321	71.32333	17.36776	0.1095298	0.17748188	3.1359325	20	—	—
377107 2002 WK_{28}	16.2	X	63.74154	309.85976	108.58542	4.80741	0.2071549	0.17878629	3.1206609	20	1 17.8	19.8
377108 2002 WL_{28}	15.9	X	355.00180	45.70978	64.57492	27.29543	0.1628537	0.17414181	3.1759039	20	—	—
377109 2002 WS_{29}	15.5	X	95.52214	293.12639	60.98715	11.57957	0.1053089	0.17696626	3.1420209	20	—	—
377110 2002 WA_{30}	13.5	X	278.95846	47.33050	248.64349	13.56617	0.0605911	0.08353492	5.1827150	20	4 10.4	20.5
377111 2002 XS_{2}	16.0	X	21.67009	346.19022	104.71844	6.47540	0.2152027	0.17435793	3.1732790	20	—	—
377112 2002 XE_{20}	15.5	X	94.68158	99.03424	259.47456	15.41558	0.2532188	0.17808551	3.1288422	20	—	—
377113 2002 XK_{23}	15.7	X	86.30334	122.14730	263.62714	14.26615	0.2827013	0.17995638	3.1071190	20	1 18.9	19.9
377114 2002 XL_{29}	16.0	X	194.91591	87.24205	82.79236	22.40687	0.3161427	0.26546835	2.3976965	20	10 23.5	20.6
377115 2002 XS_{30}	17.0	X	286.45799	115.45739	302.57109	10.29258	0.2647341	0.26888040	2.3773691	20	8 31.7	19.3
377116 2002 XF_{48}	15.3	X	98.69840	304.31809	77.74072	27.87567	0.1950560	0.17884034	3.1200321	20	1 21.4	20.0
377117 2002 XA_{78}	17.0	X	117.22898	133.45463	265.78689	19.12480	0.0897236	0.35280705	1.9835563	20	1 16.1	19.1
377118 2002 XQ_{117}	16.1	X	50.39793	201.46222	220.55535	10.85257	0.0822768	0.17719195	3.1393523	20	—	—
377119 2002 YO_{24}	15.6	X	78.07578	181.75486	275.57301	17.58553	0.3151172	0.18172163	3.0869645	20	4 4.8	20.2
377120 2003 AA_{11}	15.2	X	9.73842	228.20725	251.06468	21.62940	0.2445674	0.17372407	3.1809931	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377121 2003 AB_{24}	15.9	X	29.18738	10.45760	91.24937	6.45827	0.2719258	0.17481634	3.1677291	20	1 11.3	18.8
377122 2003 AW_{80}	15.6	X	64.11549	68.23728	77.03996	26.08755	0.3976941	0.17987706	3.1080324	20	6 7.7	19.9
377123 2003 BP_{10}	17.0	X	213.91353	159.94296	333.24102	11.79841	0.2469656	0.26154012	2.4216452	20	9 14.1	20.9
377124 2003 BS_{34}	15.7	X	37.73841	339.97853	111.56070	8.46819	0.1900064	0.17295677	3.1903942	20	1 12.9	18.9
377125 2003 BF_{55}	16.7	X	133.44838	66.70977	124.50214	11.33472	0.1961410	0.25532541	2.4607832	20	9 26.5	20.9
377126 2003 BU_{66}	17.2	X	285.26683	167.53624	283.84542	3.02995	0.1948450	0.26734853	2.3864418	20	11 5.7	19.4
377127 2003 EV_{52}	17.3	X	37.12359	241.68099	5.13807	29.18165	0.3647165	0.24109118	2.5567121	20	9 20.2	20.5
377128 2003 FV_{93}	16.0	X	298.50953	214.50250	58.43425	14.53245	0.2307656	0.22746133	2.6578532	20	3 14.3	19.9
377129 2003 GW_{31}	16.2	X	15.42804	217.37687	23.34644	28.44319	0.1056845	0.23850321	2.5751739	20	6 5.9	19.7
377130 2003 GX_{34}	15.9	X	288.08735	185.42407	99.72442	11.83046	0.2649591	0.22586679	2.6703476	20	3 10.4	20.1
377131 2003 GW_{56}	16.4	X	312.40873	161.99070	118.32212	6.47649	0.1524979	0.23248406	2.6194328	20	4 19.2	19.6
377132 2003 HZ_{12}	16.5	X	286.58614	65.64308	193.74994	12.65369	0.2295496	0.22306108	2.6926930	20	2 2.7	20.8
377133 2003 HE_{55}	17.4	X	75.06796	357.17454	207.04285	4.64666	0.1649108	0.24187837	2.5511620	20	8 4.6	20.9
377134 2003 JJ_{16}	16.8	X	95.10293	66.57731	240.48070	22.56246	0.3241582	0.31109409	2.1571228	20	—	—
377135 2003 KR_{3}	16.5	X	46.77102	179.79872	47.00392	19.52645	0.1985622	0.23737766	2.5833078	20	8 12.4	20.1
377136 2003 KR_{15}	16.0	X	247.39109	195.30805	215.25315	9.35186	0.1766441	0.24547066	2.5262112	20	7 9.9	19.9
377137 2003 MO_{5}	15.5	X	209.70657	41.43904	278.81027	12.42111	0.2023327	0.21112190	2.7932761	20	2 10.5	20.5
377138 2003 NU_{2}	16.0	X	232.03315	35.00987	270.74446	6.95776	0.2033527	0.21374394	2.7703853	20	2 12.9	20.7
377139 2003 NF_{8}	15.7	X	213.76898	204.37027	106.99196	10.07183	0.1553777	0.21001693	2.8030651	20	2 10.1	20.4
377140 2003 OC_{16}	15.8	X	180.67912	123.78474	259.50982	6.61456	0.2354020	0.21126358	2.7920270	20	4 3.2	20.7
377141 2003 OY_{19}	18.4	X	78.11465	172.77750	127.28519	3.19702	0.1969927	0.30472715	2.1870663	20	12 24.9	21.8
377142 2003 QJ_{10}	16.6	X	30.76406	65.87343	279.70488	24.31674	0.2410263	0.29885434	2.2156254	20	—	—
377143 2003 QU_{20}	18.0	X	252.85705	321.14397	17.73933	2.90509	0.2397817	0.27614935	2.3354650	20	4 6.7	21.6
377144 Okietex	16.0	X	227.90413	204.21029	119.52562	7.78174	0.2252812	0.21264244	2.7799442	20	3 5.5	20.8
377145 2003 QM_{99}	17.2	X	259.49788	258.58438	155.38487	20.77160	0.3217394	0.28235408	2.3011239	20	7 12.4	20.8
377146 2003 RM_{8}	17.9	X	70.95184	323.57955	4.09464	5.33951	0.1877318	0.30383146	2.1913625	20	—	—
377147 2003 RW_{18}	16.0	X	152.87942	92.65841	313.20065	3.98889	0.1206006	0.20895593	2.8125456	20	4 2.3	20.3
377148 2003 SK_{19}	17.5	X	86.51771	337.94667	346.80398	7.08071	0.1309981	0.30593009	2.1813294	20	—	—
377149 2003 SV_{47}	16.2	X	183.08768	123.22918	269.28239	6.10942	0.3114570	0.21141763	2.7906706	20	4 16.9	21.5
377150 2003 SH_{51}	17.8	X	10.61648	266.41989	123.43287	5.35858	0.0969350	0.30063280	2.2068788	20	—	—
377151 2003 SO_{68}	18.4	X	357.56721	91.48107	278.91045	2.76753	0.1617278	0.29683643	2.2256554	20	12 15.9	20.6
377152 2003 SY_{71}	17.9	X	84.11078	75.78223	237.86192	3.02774	0.1993047	0.30421040	2.1895423	20	—	—
377153 2003 SR_{137}	16.1	X	128.77964	28.99276	15.35467	9.01241	0.1031640	0.20164578	2.8801159	20	3 9.4	20.3
377154 2003 SF_{155}	17.9	X	352.40697	93.48840	294.34059	2.35175	0.1593541	0.29629412	2.2283703	20	—	—
377155 2003 SV_{181}	18.5	X	228.73757	28.30694	347.83982	19.62614	0.0508813	0.39361335	1.8439798	20	5 4.1	20.9
377156 2003 SB_{198}	16.7	X	141.27622	316.77272	73.46047	3.28002	0.1933730	0.20343139	2.8632377	20	3 12.9	21.2
377157 2003 SH_{318}	16.8	X	344.62241	294.89678	297.21929	2.90280	0.0424358	0.21407339	2.7675422	20	4 12.8	20.3
377158 2003 SO_{318}	18.0	X	19.85379	158.04354	241.74965	6.40848	0.1277784	0.30392263	2.1909242	20	—	—
377159 2003 SE_{326}	17.1	X	96.69921	70.51368	353.61551	1.57221	0.0549153	0.20276188	2.8695371	20	2 15.4	20.9
377160 2003 SF_{327}	16.8	X	145.82590	5.70284	16.44057	1.91040	0.0828791	0.20404265	2.8575165	20	2 25.6	20.9
377161 2003 SG_{328}	16.7	X	144.39825	120.13940	291.69622	4.26300	0.0456649	0.21011718	2.8021734	20	3 24.6	20.7
377162 2003 SK_{331}	15.9	X	182.68229	271.05150	53.54101	17.88679	0.1569179	0.20037290	2.8923003	20	2 3.4	20.9
377163 2003 SA_{335}	17.2	X	161.35109	311.11308	50.03636	2.79250	0.1167701	0.20328030	2.8646563	20	2 20.1	21.7
377164 2003 SG_{335}	16.9	X	149.40700	287.90863	50.38959	8.12544	0.1583001	0.19780777	2.9172511	20	1 16.7	21.5
377165 2003 SK_{339}	16.6	X	198.32381	275.05933	61.05568	8.66189	0.0439926	0.20387189	2.8591119	20	2 28.6	20.9
377166 2003 SN_{349}	18.1	X	277.02333	116.76444	24.73187	2.98362	0.0752483	0.30371549	2.1919203	20	—	—
377167 2003 SS_{371}	17.1	X	152.71927	47.21535	313.85722	1.14904	0.0791377	0.20276249	2.8695313	20	2 6.8	21.3
377168 2003 TA_{8}	17.2	X	4.48549	105.72618	296.56938	6.11696	0.0956340	0.29976053	2.2111579	20	—	—
377169 2003 TB_{8}	16.0	X	180.09229	74.17016	259.52743	9.39252	0.1200917	0.20096491	2.8866174	20	2 1.8	20.6
377170 2003 TO_{37}	16.4	X	170.72755	119.53525	239.69441	9.84007	0.0821117	0.20327785	2.8646793	20	2 19.4	21.0
377171 2003 TG_{40}	16.6	X	52.57049	173.21418	328.00847	5.44780	0.0276569	0.20618838	2.8376572	20	3 19.9	20.5
377172 2003 US_{5}	17.6	X	285.14008	68.84554	328.65423	5.02202	0.2809284	0.28423122	2.2909812	20	8 1.4	19.6
377173 2003 UE_{7}	17.6	X	80.89618	250.22757	89.99026	7.48138	0.3228499	0.30695221	2.1764843	20	—	—
377174 2003 UR_{38}	16.3	X	200.86746	267.29749	62.74021	11.52901	0.1408739	0.20420819	2.8559720	20	2 25.0	21.1
377175 2003 UA_{72}	17.7	X	46.12681	283.82805	70.96285	7.02051	0.2085410	0.30116971	2.2042551	20	—	—
377176 2003 UN_{100}	15.7	X	111.74624	271.54613	92.99989	11.14296	0.1545106	0.19171124	2.9787748	20	1 7.5	19.9
377177 2003 UJ_{112}	17.6	X	4.26682	320.64958	74.55424	5.51114	0.1450506	0.29806052	2.2195576	20	—	—
377178 2003 UW_{114}	17.1	X	89.26896	198.41978	218.90643	5.24414	0.0842418	0.19548338	2.9403305	20	1 31.4	21.2
377179 2003 US_{135}	16.0	X	94.35857	7.88905	19.08179	17.30248	0.1634900	0.19212004	2.9745477	20	1 19.1	20.3
377180 2003 UE_{151}	18.0	X	7.34389	255.08754	117.62845	0.78177	0.2125259	0.29661959	2.2267399	20	—	—
377181 2003 UY_{229}	17.9	X	10.27288	37.88393	317.86733	2.12101	0.1948412	0.29429584	2.2384461	20	12 19.7	20.2
377182 2003 UZ_{233}	17.7	X	314.92615	187.64582	202.33918	5.75395	0.1068336	0.28944708	2.2633755	20	10 17.3	19.8
377183 2003 UH_{234}	17.6	X	27.27226	109.57284	244.61769	4.74352	0.2288554	0.29584216	2.2306393	20	—	—
377184 2003 UE_{239}	17.6	X	247.76066	150.37891	16.80362	4.83878	0.1464267	0.29903267	2.2147444	20	—	—
377185 2003 UX_{239}	16.1	X	150.15706	350.17404	29.80585	18.38262	0.1445591	0.20281098	2.8690740	20	3 12.0	20.8
377186 2003 UG_{248}	17.4	X	56.64804	111.53555	229.38695	5.75011	0.1340490	0.30077621	2.2061772	20	—	—
377187 2003 UV_{255}	17.2	X	138.21327	339.88756	52.40866	2.89316	0.0945493	0.20075569	2.8886227	20	3 2.9	21.4
377188 2003 UB_{338}	16.9	X	42.55631	125.36400	16.05513	6.30531	0.0110617	0.20636522	2.8360358	20	3 9.3	20.8
377189 2003 UZ_{343}	16.8	X	176.15752	132.43132	185.48860	12.13126	0.1153609	0.19892966	2.9062726	20	1 11.9	21.6
377190 2003 UR_{346}	17.1	X	98.77891	227.84948	187.75454	5.43333	0.0420377	0.20126556	2.8837421	20	2 4.0	21.1
377191 2003 UU_{350}	17.3	X	134.69912	347.98444	50.62954	6.90911	0.1564911	0.20300344	2.8672602	20	3 14.9	21.7
377192 2003 VV_{10}	17.2	X	318.61476	14.35839	71.36984	6.90450	0.0041658	0.29654167	2.2271300	20	—	—
377193 2003 WR_{9}	15.9	X	352.06071	186.39752	293.66300	9.47093	0.0859441	0.18679548	3.0308083	20	—	—
377194 2003 WP_{12}	18.4	X	263.14423	273.36591	51.15737	22.43475	0.1326505	0.38862542	1.8597244	20	4 13.3	20.7
377195 2003 WX_{31}	16.2	X	5.27490	163.37612	245.06610	8.32647	0.0930617	0.18070049	3.0985832	20	12 31.4	20.3
377196 2003 WS_{36}	17.4	X	24.18689	74.40487	276.88830	7.03709	0.1906556	0.29507130	2.2345225	20	12 31.9	20.1
377197 2003 WZ_{39}	17.9	X	22.48908	45.11789	311.80234	3.03719	0.1699719	0.29530597	2.2333385	20	—	—
377198 2003 WG_{56}	15.3	X	149.29053	95.87757	254.01167	15.93371	0.1620046	0.19449841	2.9502490	20	1 24.6	20.2
377199 2003 WU_{62}	16.5	X	75.84574	106.41104	358.89528	8.72865	0.2301620	0.19787383	2.9166018	20	4 4.5	20.2
377200 2003 WT_{72}	16.0	X	7.39385	212.72696	264.48445	7.38642	0.2192700	0.18581720	3.0414366	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377201 2003 WM_{78}	17.5	X	289.21654	56.37699	30.72832	8.11812	0.1566091	0.29053465	2.2577236	20	11 19.9	19.2
377202 2003 WH_{85}	16.8	X	184.26862	98.59637	233.43682	3.65793	0.1080555	0.19895495	2.9060264	20	2 5.3	21.4
377203 2003 WT_{117}	17.8	X	337.76045	355.18892	39.71939	4.40497	0.1842763	0.29104172	2.2551004	20	12 17.8	19.5
377204 2003 WM_{141}	16.4	X	281.01135	75.16821	79.06113	21.88175	0.3755921	0.29157702	2.2523395	20	—	—
377205 2003 WZ_{144}	17.9	X	303.14815	206.52175	188.88827	0.79451	0.2210816	0.28632102	2.2798200	20	9 18.9	19.0
377206 2003 WY_{145}	15.8	X	97.70817	149.08790	240.18206	12.51725	0.0962036	0.19110779	2.9850421	20	1 9.6	20.0
377207 2003 WH_{162}	17.6	X	359.74385	225.78597	165.48433	5.66872	0.2185460	0.29437142	2.2380629	20	—	—
377208 2003 WC_{175}	16.5	X	104.38185	338.91380	9.90694	2.61647	0.2376975	0.18832718	3.0143525	20	—	—
377209 2003 WY_{193}	17.8	X	255.69368	229.93644	253.34414	4.97193	0.0835711	0.28974295	2.2618344	20	11 24.1	20.2
377210 2003 XJ_{10}	15.4	X	129.41736	114.50546	290.45544	32.38703	0.2576888	0.20204878	2.8762848	20	3 3.4	20.7
377211 2003 XP_{11}	17.7	X	175.57509	344.21093	107.75568	25.82359	0.0976542	0.38977843	1.8560550	20	6 30.4	19.7
377212 2003 XK_{15}	17.6	X	198.23777	86.40376	314.40649	19.07226	0.1021669	0.38462021	1.8726128	20	4 29.3	20.5
377213 2003 XU_{25}	17.5	X	299.94756	14.04759	91.62336	7.62245	0.0451259	0.29435612	2.2381404	20	—	—
377214 2003 XG_{26}	18.1	X	246.02319	302.34272	161.00148	4.57549	0.1745846	0.28353408	2.2947350	20	9 26.5	20.9
377215 2003 XQ_{38}	16.0	X	58.85395	3.82230	65.28135	13.14601	0.2510301	0.18838638	3.0137210	20	1 30.3	19.4
377216 2003 YX_{10}	16.3	X	116.54348	114.12213	304.95089	6.19794	0.4084595	0.19775114	2.9178081	20	4 9.2	21.5
377217 2003 YK_{13}	14.8	X	315.53904	232.98993	297.83713	21.52987	0.1679949	0.17986312	3.1081930	20	—	—
377218 2003 YM_{15}	15.8	X	3.74165	216.43677	269.21373	10.09126	0.1633116	0.18625044	3.0367183	20	—	—
377219 2003 YF_{37}	18.1	X	212.89414	51.66294	62.00922	2.39114	0.1360376	0.27626217	2.3348291	20	9 4.2	21.3
377220 2003 YR_{93}	15.5	X	13.23838	180.89489	297.33176	8.44115	0.0586287	0.18296180	3.0729991	20	1 4.3	19.4
377221 2003 YX_{112}	16.5	X	1.82146	177.90675	308.74603	4.35728	0.2441260	0.18283637	3.0744044	20	—	—
377222 2003 YD_{117}	13.0	X	250.58717	53.02793	297.39430	20.49098	0.0827172	0.08442637	5.1461682	20	5 6.3	20.3
377223 2003 YR_{126}	15.7	X	357.65758	158.40932	301.13285	16.29894	0.1767321	0.18001623	3.1064303	20	—	—
377224 2003 YL_{133}	12.9	X	270.63555	219.97736	101.47716	30.16912	0.0743269	0.08178608	5.2563362	20	5 13.7	20.2
377225 2003 YC_{146}	16.1	X	55.40014	142.35967	331.57834	6.61318	0.2100573	0.18889663	3.0082914	20	3 12.6	19.4
377226 2003 YN_{152}	15.4	X	357.67568	23.87099	96.91311	23.01659	0.1180111	0.17965277	3.1106186	20	—	—
377227 2003 YL_{163}	16.6	X	119.35778	323.72282	66.54684	10.75793	0.0719859	0.19293135	2.9662028	20	2 8.6	21.0
377228 2003 YD_{175}	17.4	X	345.57772	311.05047	81.97205	4.45125	0.0895733	0.28632019	2.2798244	20	12 14.4	19.7
377229 2004 AE_{4}	17.1	X	143.81965	277.40609	305.86998	6.03108	0.0825339	0.28122568	2.3072752	20	11 12.9	20.4
377230 2004 AF_{6}	15.6	X	39.06400	330.14277	133.00332	18.11541	0.1560667	0.18510175	3.0492687	20	1 25.2	19.0
377231 2004 BA	18.0	X	72.12051	191.59878	298.81161	17.47730	0.0878309	0.37532364	1.9034089	20	3 12.6	20.0
377232 2004 BY_{13}	16.5	X	337.55087	77.23313	308.32464	21.57101	0.2194183	0.28489538	2.2874193	20	12 5.0	18.9
377233 2004 BB_{14}	17.7	X	235.45564	54.78428	95.70645	3.71156	0.1049109	0.28390880	2.2927154	20	11 27.9	20.2
377234 2004 BF_{33}	17.8	X	327.61581	294.95939	106.28343	4.65370	0.2053744	0.28584082	2.2823726	20	12 6.8	19.4
377235 2004 BS_{34}	15.8	X	32.58085	162.66832	326.01111	5.47334	0.1415401	0.18646884	3.0343467	20	2 15.5	19.2
377236 2004 BV_{35}	15.8	X	358.45302	143.97134	321.04564	8.69458	0.0564612	0.17693066	3.1424424	20	—	—
377237 2004 BW_{39}	17.8	X	279.92501	332.54897	139.26068	3.01078	0.1384202	0.28713491	2.2755098	20	12 12.3	19.7
377238 2004 BL_{46}	16.2	X	353.83477	242.67072	258.65378	1.92924	0.2454167	0.18105482	3.0945392	20	—	—
377239 2004 BH_{49}	15.6	X	240.04760	266.63584	299.59644	7.76693	0.0535124	0.17361048	3.1823804	20	—	—
377240 2004 BG_{65}	16.2	X	39.69140	146.30670	328.66542	6.17789	0.1649016	0.18670193	3.0318207	20	2 11.8	19.4
377241 2004 BY_{68}	16.0	X	297.97865	182.84884	255.53166	25.10907	0.1728584	0.28321986	2.2964319	20	11 23.2	17.9
377242 2004 BY_{69}	16.3	X	79.41546	336.60498	108.48277	2.98975	0.2416607	0.18997460	2.9969007	20	3 20.2	20.2
377243 2004 BU_{80}	16.0	X	85.24131	287.87390	129.21502	10.03251	0.1495264	0.18564874	3.0432762	20	2 7.8	20.0
377244 2004 BB_{83}	16.4	X	352.59265	125.90446	24.95516	2.79156	0.1240877	0.18218991	3.0816727	20	1 10.2	20.3
377245 2004 BN_{88}	17.6	X	152.96981	35.28891	165.27951	5.74677	0.1747237	0.27617838	2.3353013	20	10 24.8	21.3
377246 2004 BA_{95}	17.1	X	159.51330	141.77133	303.54328	19.46671	0.1038284	0.38031612	1.8867147	20	5 27.1	19.8
377247 2004 BY_{108}	15.4	X	16.89630	343.85663	115.22536	17.17873	0.1725968	0.17865686	3.1221679	20	—	—
377248 2004 BD_{115}	16.8	X	37.35113	107.07880	347.65432	2.22048	0.1056540	0.18274379	3.0754426	20	1 10.3	20.6
377249 2004 BE_{124}	17.4	X	340.01176	245.66121	209.82519	3.96647	0.2774478	0.23541483	2.5976472	20	—	—
377250 2004 BP_{129}	13.1	X	248.06756	66.18843	289.87406	11.14668	0.0424640	0.08038152	5.3173906	20	5 17.9	20.3
377251 2004 CN_{39}	15.6	X	314.12828	112.60465	29.98429	11.73376	0.1406785	0.17208343	3.2011794	20	—	—
377252 2004 CQ_{45}	16.1	X	330.00837	25.71332	123.88289	11.67331	0.1791596	0.17704491	3.1410903	20	—	—
377253 2004 CV_{46}	17.3	X	94.28780	160.57823	47.36866	3.02176	0.1541909	0.26599261	2.3945450	20	9 5.5	20.7
377254 2004 CG_{52}	17.3	X	46.48564	151.88698	30.37450	22.38825	0.0908725	0.37444756	1.9063767	20	5 2.0	18.5
377255 2004 CM_{55}	16.4	X	341.28895	7.50379	158.77568	4.00129	0.1465312	0.17950813	3.1122894	20	1 9.4	20.4
377256 2004 CA_{56}	18.1	X	282.67053	27.92855	86.89802	2.98889	0.1644408	0.28612719	2.2808495	20	12 19.4	19.6
377257 2004 CG_{59}	15.2	X	50.50535	346.64983	98.92874	11.26781	0.1239810	0.18280907	3.0747105	20	1 20.8	19.0
377258 2004 CV_{70}	15.8	X	309.85248	16.89351	136.92431	11.09590	0.1845408	0.17432830	3.1736385	20	—	—
377259 2004 CV_{85}	16.2	X	353.37342	33.75409	110.57670	2.67456	0.1293500	0.17924918	3.1152861	20	1 2.8	19.8
377260 2004 CQ_{106}	16.0	X	330.94188	305.94654	235.69515	8.72981	0.2154495	0.17887227	3.1196608	20	1 2.9	20.0
377261 2004 CK_{108}	17.6	X	289.66370	47.30176	39.61866	5.86185	0.1759812	0.28364983	2.2941107	20	11 17.1	19.1
377262 2004 CF_{118}	17.2	X	287.38467	307.11857	137.71013	7.41333	0.0804092	0.28167105	2.3048424	20	11 21.1	19.7
377263 2004 DS_{1}	17.7	X	166.21179	299.78229	154.08440	23.52896	0.1103988	0.38364136	1.8757967	20	6 22.8	20.6
377264 2004 DY_{2}	15.5	X	28.48465	114.49908	323.64855	10.31447	0.0579768	0.17426175	3.1744464	20	—	—
377265 2004 DB_{7}	17.1	X	185.54777	205.61639	323.35912	6.14009	0.0530152	0.27536118	2.3399195	20	10 20.7	20.2
377266 2004 DV_{25}	16.6	X	38.35886	353.78690	111.80795	3.22773	0.2329440	0.18460680	3.0547165	20	2 2.4	19.4
377267 2004 DA_{40}	17.5	X	93.97797	293.29158	295.58684	1.82182	0.1314084	0.26828894	2.3808619	20	9 28.3	20.7
377268 2004 DK_{40}	17.1	X	77.35513	42.21065	173.71709	5.27671	0.1849537	0.26284288	2.4136367	20	8 29.1	20.3
377269 2004 DA_{50}	17.4	X	92.17139	287.09984	305.51749	1.42597	0.1636045	0.26850567	2.3795805	20	10 4.7	20.9
377270 2004 DC_{53}	16.1	X	298.71122	30.40027	128.64071	4.99084	0.0999047	0.17198370	3.2024168	20	—	—
377271 2004 DM_{54}	15.7	X	351.47449	140.38694	330.19335	8.19323	0.0685995	0.17427397	3.1742981	20	—	—
377272 2004 DN_{56}	16.5	X	44.20651	147.35454	300.94612	2.54847	0.1935570	0.18166918	3.0875587	20	1 19.1	19.8
377273 2004 DM_{58}	16.5	X	334.98295	37.55052	124.62127	4.05793	0.1368525	0.17897027	3.1185218	20	—	—
377274 2004 EM_{2}	17.3	X	149.96557	358.89827	198.34476	4.91973	0.1716173	0.27181286	2.3602394	20	10 15.9	21.1
377275 2004 EZ_{3}	15.7	X	357.54872	62.42905	47.93085	22.62901	0.2848201	0.17527252	3.1622303	20	—	—
377276 2004 EB_{4}	15.5	X	347.78532	94.57719	48.46701	22.16494	0.2472849	0.17656849	3.1467380	20	—	—
377277 2004 EU_{7}	16.9	X	196.49899	153.66210	17.27668	10.07798	0.1340135	0.27510251	2.3413860	20	10 28.8	20.1
377278 2004 ED_{10}	16.1	X	315.22113	183.41968	328.02744	4.50214	0.1565390	0.17230936	3.1983805	20	—	—
377279 2004 EQ_{16}	17.2	X	146.70830	147.43503	61.07357	5.71471	0.1076508	0.27186477	2.3599389	20	10 29.1	20.5
377280 2004 EZ_{35}	16.0	X	304.22286	319.31896	228.75850	6.62983	0.1724120	0.17563151	3.1579197	20	—	—

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377281 2004 EZ_{39}	15.3	X	333.43209	348.28903	143.83154	9.11703	0.1148187	0.17299750	3.1898933	20	—	—
377282 2004 EZ_{57}	16.1	X	12.53048	95.57692	32.13533	13.04565	0.1970266	0.17928705	3.1148474	20	1 11.1	19.7
377283 2004 EB_{61}	17.3	X	142.60187	336.58741	189.33881	2.20950	0.1580880	0.26711334	2.3878424	20	8 28.7	21.1
377284 2004 EJ_{67}	17.5	X	82.85850	103.64169	133.71659	2.78183	0.1425549	0.26563719	2.3966804	20	9 30.2	20.7
377285 2004 ED_{70}	17.2	X	79.88271	63.19968	175.12000	3.42469	0.0921839	0.26571011	2.3962419	20	9 20.5	20.2
377286 2004 EK_{84}	15.4	X	342.23411	132.56709	358.34870	18.05460	0.1757098	0.17523595	3.1626702	20	—	—
377287 2004 FQ	17.6	X	58.72698	359.30994	183.18845	24.53942	0.1186509	0.37444641	1.9063806	20	6 8.6	19.9
377288 2004 FL_{23}	17.2	X	134.38559	155.96194	2.41233	4.28706	0.1422239	0.26346795	2.4098177	20	8 11.8	20.8
377289 2004 FX_{25}	16.4	X	107.77361	158.59770	16.99123	21.21038	0.0950764	0.25867549	2.4394908	20	8 10.5	20.3
377290 2004 FE_{30}	17.5	X	33.40452	108.09172	48.66030	22.08834	0.0797907	0.36689514	1.9324492	20	3 13.2	19.7
377291 2004 FM_{40}	15.6	X	36.75151	290.10842	163.05716	15.53278	0.1016788	0.17853627	3.1235737	20	1 7.1	19.7
377292 2004 FF_{46}	15.6	X	16.41882	312.45251	137.76470	11.27412	0.0877395	0.17308825	3.1887783	20	—	—
377293 2004 FF_{58}	16.3	X	30.82051	105.63712	8.57225	12.48550	0.2357744	0.18121642	3.0926993	20	2 3.5	19.5
377294 2004 FV_{62}	17.3	X	133.98541	151.17393	33.83682	3.98122	0.1190572	0.26597134	2.3946727	20	9 14.9	20.8
377295 2004 FA_{67}	17.1	X	46.79050	195.99218	77.43979	3.62813	0.1697684	0.26316332	2.4116770	20	10 8.6	20.0
377296 2004 FF_{79}	16.9	X	351.61664	337.67783	158.26310	0.81700	0.1364881	0.17447438	3.1718668	20	—	—
377297 2004 FX_{82}	15.6	X	10.51061	263.10800	228.24258	15.05477	0.2209709	0.17806676	3.1290618	20	1 5.5	19.1
377298 2004 FD_{88}	17.7	X	160.25783	102.79111	82.95289	5.69484	0.1615813	0.27139540	2.3626591	20	10 13.7	21.4
377299 2004 FE_{91}	17.3	X	187.79001	107.23004	67.15036	6.58596	0.1452006	0.27381451	2.3487227	20	10 26.6	20.8
377300 2004 FM_{92}	16.2	X	353.94069	130.46081	3.49789	11.16102	0.2729905	0.17625852	3.1504262	20	—	—
377301 2004 FH_{96}	15.9	X	343.42368	80.32282	42.40718	12.24896	0.2296660	0.17414882	3.1758186	20	—	—
377302 2004 FG_{100}	17.4	X	163.81278	337.04082	187.44636	6.83834	0.0494258	0.26837256	2.3803673	20	9 19.2	20.4
377303 2004 FN_{102}	16.7	X	237.31055	283.60099	233.01749	18.55972	0.2350814	0.28070382	2.3101340	20	11 16.7	19.6
377304 2004 FL_{129}	15.9	X	343.65161	117.37557	22.21235	26.75154	0.3358597	0.17683110	3.1436217	20	—	—
377305 2004 FF_{137}	14.9	X	338.26614	108.79792	65.69844	26.70874	0.2318480	0.17560020	3.1582952	20	1 2.2	19.0
377306 2004 FG_{151}	17.6	X	67.24960	214.94991	19.95111	6.60981	0.1380747	0.26023888	2.4297109	20	9 7.9	20.8
377307 2004 GW_{15}	17.0	X	72.96571	127.47512	100.04620	2.59729	0.1447924	0.25971467	2.4329792	20	9 4.7	20.2
377308 2004 GB_{16}	16.9	X	113.42828	151.34935	55.64668	8.60169	0.1011724	0.26438908	2.4042173	20	9 23.5	20.4
377309 2004 GG_{31}	17.5	X	127.52953	149.92425	51.69334	3.24335	0.1259797	0.26558033	2.3970225	20	9 29.9	21.0
377310 2004 GW_{39}	16.7	X	104.83826	307.90471	244.67475	8.55683	0.1699189	0.25996718	2.4314035	20	8 22.6	20.5
377311 2004 GF_{46}	17.8	X	146.60928	147.58359	42.57390	3.54104	0.1729108	0.26778606	2.3838417	20	10 4.4	21.6
377312 2004 HA_{14}	17.8	X	258.47604	73.69747	62.46275	3.33410	0.1575094	0.28148687	2.3058477	20	12 3.7	20.1
377313 2004 HS_{20}	16.8	X	171.08199	123.40330	48.85838	13.02795	0.1246358	0.26795146	2.3828606	20	10 10.2	20.4
377314 2004 HM_{25}	17.5	X	72.76738	186.33169	58.63543	4.24246	0.1818900	0.26071391	2.4267586	20	10 3.6	20.9
377315 2004 HB_{31}	16.3	X	256.94511	1.08142	263.35557	12.63078	0.2123801	0.23389301	2.6089027	20	1 14.2	20.6
377316 2004 HZ_{31}	17.0	X	178.13805	103.92287	51.42643	7.53217	0.0661673	0.26690410	2.3890902	20	9 27.5	20.4
377317 2004 HM_{44}	17.3	X	52.68345	8.56662	230.46541	11.64079	0.1250133	0.25694838	2.4504102	20	8 13.8	20.6
377318 2004 HJ_{47}	16.9	X	215.20075	71.67529	66.04212	3.19453	0.1311698	0.27097211	2.3651190	20	10 9.4	20.0
377319 2004 HE_{57}	17.2	X	227.48757	209.55567	96.73445	25.19001	0.0554488	0.35725894	1.9670436	20	2 1.9	19.8
377320 2004 JD_{17}	17.6	X	47.11321	259.69864	235.65882	20.43154	0.0542637	0.36193679	1.9500581	20	2 3.4	20.0
377321 2004 JN_{28}	16.3	X	270.24921	194.71410	125.07934	19.95027	0.3009227	0.23918239	2.5702966	20	4 2.3	20.8
377322 2004 JM_{54}	17.7	X	230.57653	256.14085	60.07391	22.55672	0.0713386	0.35887676	1.9611275	20	3 2.9	20.8
377323 2004 LN_{2}	15.9	X	236.23704	56.63739	277.06845	16.76977	0.3262661	0.22979876	2.6397994	20	3 6.5	21.1
377324 2004 MU_{3}	16.8	X	255.34993	78.69006	233.91408	11.81523	0.2892051	0.23122411	2.6289398	20	3 1.6	21.6
377325 2004 NP_{1}	17.2	X	257.86361	35.52040	276.98745	4.65435	0.2043296	0.23256491	2.6188257	20	3 12.8	21.3
377326 2004 NL_{2}	16.7	X	273.79760	255.53709	75.64721	4.88263	0.1986234	0.23698603	2.5861530	20	4 26.3	20.4
377327 2004 NE_{16}	17.0	X	273.25427	16.81893	282.37043	5.40819	0.3071269	0.23305915	2.6151220	20	2 29.9	21.5
377328 2004 NA_{21}	16.6	X	293.96302	97.67008	231.85458	4.44982	0.1480866	0.24115450	2.5562645	20	5 27.2	19.7
377329 2004 NG_{23}	15.8	X	255.14693	13.33088	318.32885	12.90082	0.1841500	0.23055974	2.6339876	20	3 31.6	20.2
377330 2004 OK_{3}	16.5	X	230.63615	3.26628	307.35342	13.52462	0.2510948	0.22648238	2.6655066	20	2 14.6	21.2
377331 2004 OF_{10}	17.8	X	176.70916	259.83600	86.27180	6.18559	0.2830892	0.28317532	2.2966727	20	2 18.3	21.8
377332 2004 PW_{11}	16.8	X	248.92718	325.08613	310.21462	12.14601	0.2588855	0.22565430	2.6720237	20	1 21.4	21.5
377333 2004 PP_{12}	16.0	X	275.23815	177.64315	134.26079	10.67800	0.1773496	0.23359562	2.6111166	20	4 8.8	19.9
377334 2004 PE_{31}	16.0	X	164.98225	3.18095	320.82900	24.72200	0.1756553	0.21561213	2.7543592	20	1 17.5	20.6
377335 2004 PF_{39}	16.3	X	241.68729	178.83004	160.96674	12.37719	0.1823425	0.22959827	2.6413360	20	4 7.4	20.6
377336 2004 PF_{50}	16.5	X	236.76672	342.98268	335.16121	12.28887	0.2088280	0.22742576	2.6581303	20	3 2.4	20.8
377337 2004 PK_{71}	16.3	X	313.72631	167.05725	128.87005	5.82258	0.1546386	0.23887460	2.5725041	20	5 11.7	19.2
377338 2004 PO_{72}	16.9	X	279.07301	195.26160	109.21554	3.36592	0.1937019	0.23406715	2.6076086	20	3 29.8	20.7
377339 2004 PG_{84}	16.1	X	261.62066	19.69942	292.47883	13.94402	0.1839971	0.23068959	2.6329992	20	3 12.9	20.4
377340 2004 PM_{102}	16.5	X	144.75096	191.28194	172.45474	16.13983	0.2833062	0.21511127	2.7586331	20	2 16.5	21.3
377341 2004 PG_{104}	16.9	X	227.18973	339.60975	356.86648	13.74962	0.2642167	0.22882222	2.6473046	20	3 15.3	21.5
377342 2004 PM_{110}	16.2	X	184.45322	262.25630	147.32447	13.43189	0.1853969	0.22884337	2.6471415	20	5 13.9	20.8
377343 2004 QJ_{14}	15.8	X	158.81075	128.79988	297.36351	21.11078	0.0481435	0.22875788	2.6478010	20	4 21.2	20.1
377344 2004 QQ_{19}	16.6	X	292.10687	7.61921	283.84132	6.38801	0.2253951	0.23310195	2.6148018	20	3 18.6	20.4
377345 2004 RP_{7}	16.0	X	233.68454	176.62769	144.42252	18.04463	0.2462709	0.22469447	2.6796277	20	3 4.5	20.6
377346 2004 RB_{13}	16.6	X	265.92288	315.32538	11.16376	7.73850	0.1628481	0.23127103	2.6285842	20	4 13.5	20.3
377347 2004 RB_{15}	16.4	X	314.01409	297.80950	337.27411	12.02889	0.1357683	0.23332404	2.6131423	20	4 7.8	19.8
377348 2004 RA_{16}	16.9	X	224.05815	12.39121	313.89541	3.17681	0.2516927	0.22533305	2.6745627	20	2 29.7	21.7
377349 2004 RK_{34}	16.7	X	272.94655	208.00970	122.04974	3.01446	0.1387535	0.23359186	2.6111446	20	5 1.9	20.2
377350 2004 RH_{42}	16.6	X	214.63799	310.50659	15.61040	10.84076	0.2127892	0.22020208	2.7159500	20	2 28.3	21.3
377351 2004 RW_{54}	16.7	X	276.88398	173.12296	148.84482	6.01835	0.1795684	0.23266854	2.6180480	20	4 21.4	20.4
377352 2004 RQ_{57}	16.2	X	245.05936	33.49003	326.31680	14.62034	0.1048827	0.23255839	2.6188746	20	5 4.6	20.3
377353 2004 RL_{62}	16.5	X	232.67607	14.04944	347.91995	12.56189	0.1762045	0.23001558	2.6381403	20	4 18.9	20.9
377354 2004 RL_{63}	17.3	X	188.67551	44.58049	346.48247	1.10674	0.2716923	0.22500301	2.6771775	20	4 20.4	22.2
377355 2004 RS_{63}	16.6	X	231.52754	136.23133	170.42413	15.64538	0.2780380	0.22368768	2.6876621	20	2 10.6	21.6
377356 2004 RM_{70}	16.4	X	212.05394	334.00558	52.49851	4.10335	0.1249767	0.22996874	2.6384985	20	5 8.2	20.5
377357 2004 RK_{73}	16.5	X	216.28218	4.14758	3.45775	10.69353	0.1628251	0.22702891	2.6612271	20	4 14.2	20.8
377358 2004 RF_{74}	16.6	X	179.95410	242.29852	182.76490	10.69235	0.2102417	0.22797725	2.6538419	20	5 26.7	21.3
377359 2004 RQ_{76}	16.3	X	255.04480	305.59198	29.05073	4.78614	0.1463615	0.22897755	2.6461073	20	4 15.2	20.1
377360 2004 RK_{86}	16.9	X	214.03318	95.38779	276.61495	4.61568	0.2452227	0.22988295	2.6391549	20	4 14.9	21.5

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377361 2004 RY_{88}	17.2	X	248.22046	134.71885	178.86433	11.96666	0.3051428	0.22962017	2.6411680	20	2 29.0	22.0
377362 2004 RG_{105}	16.4	X	276.86297	93.35400	216.65312	10.64878	0.2067766	0.23079100	2.6322278	20	3 29.1	20.4
377363 2004 RK_{111}	16.6	X	201.02077	145.27758	261.35283	11.50067	0.0798232	0.23162388	2.6259140	20	5 23.8	20.4
377364 2004 RN_{112}	15.8	X	240.52785	44.13529	274.40535	15.64880	0.1727140	0.22466285	2.6798791	20	3 1.3	20.5
377365 2004 RJ_{113}	17.4	X	161.80105	213.56454	186.67013	1.68757	0.1848187	0.22288749	2.6940909	20	4 8.9	21.8
377366 2004 RW_{116}	16.9	X	201.37326	223.78768	142.73068	9.36974	0.2728090	0.22623916	2.6674167	20	4 3.7	21.8
377367 2004 RZ_{133}	17.1	X	231.28307	335.25042	358.55881	7.81259	0.1068121	0.22662394	2.6643965	20	3 23.2	20.9
377368 2004 RP_{142}	16.8	X	232.29549	133.66470	168.79593	13.65905	0.2108441	0.22236874	2.6982793	20	2 9.1	21.5
377369 2004 RL_{150}	16.8	X	213.09810	222.89081	119.86367	3.08158	0.2011409	0.22323094	2.6913269	20	3 15.0	21.3
377370 2004 RW_{152}	17.0	X	215.25609	129.63228	207.78473	8.60043	0.1956115	0.22445910	2.6815007	20	3 6.9	21.6
377371 2004 RX_{152}	16.8	X	268.13684	93.55979	216.25756	8.32804	0.1212172	0.22950126	2.6420802	20	3 30.3	20.7
377372 2004 RM_{154}	16.7	X	2.96195	54.92413	210.35546	10.87368	0.2063371	0.23985199	2.5655107	20	7 2.5	19.0
377373 2004 RQ_{154}	17.0	X	182.26498	103.82344	296.18573	5.94804	0.1741413	0.22588973	2.6701668	20	4 23.5	21.5
377374 2004 RY_{185}	16.3	X	219.70503	115.85736	245.68710	4.94058	0.0872822	0.22671335	2.6636960	20	4 15.0	20.3
377375 2004 RF_{202}	16.4	X	269.16910	102.76841	215.73136	10.41064	0.2134346	0.23188544	2.6239389	20	3 31.0	20.5
377376 2004 RT_{202}	17.0	X	208.00077	177.60458	164.62512	11.62416	0.0902530	0.22358398	2.6884931	20	3 11.4	21.1
377377 2004 RU_{203}	16.8	X	212.79465	64.43116	316.63135	10.57710	0.2151409	0.22876097	2.6477771	20	4 23.1	21.5
377378 2004 RU_{207}	16.8	X	218.85440	78.91515	247.13163	11.58902	0.2781648	0.22411047	2.6842809	20	2 20.7	22.0
377379 2004 RN_{208}	16.0	X	258.83851	75.07235	260.65978	13.73439	0.1382882	0.23092397	2.6312172	20	4 17.3	20.1
377380 2004 RP_{208}	16.5	X	226.62495	56.74006	267.64888	9.97682	0.3326485	0.22525590	2.6751734	20	2 23.0	21.6
377381 2004 RZ_{208}	16.5	X	286.35778	50.74998	265.76909	10.04384	0.1756639	0.23514352	2.5996450	20	4 20.6	20.3
377382 2004 RU_{209}	16.9	X	228.65136	96.14790	231.72767	9.29173	0.2324582	0.22606746	2.6687671	20	3 3.6	21.6
377383 2004 RB_{218}	15.9	X	201.31205	106.75847	256.45430	12.55746	0.1464036	0.22240737	2.6979668	20	3 23.6	20.5
377384 2004 RM_{254}	16.4	X	255.73023	165.33200	142.26214	14.36299	0.1476387	0.22685304	2.6626024	20	3 15.8	20.5
377385 2004 RK_{263}	16.8	X	194.37105	203.56901	165.17893	6.83197	0.0730606	0.22475239	2.6791674	20	3 30.9	20.8
377386 2004 RF_{273}	17.0	X	289.37416	152.58246	153.99626	6.04878	0.1242568	0.23278705	2.6171594	20	4 25.1	20.4
377387 2004 RC_{288}	16.8	X	207.61583	177.27039	188.56591	8.16425	0.2400874	0.22345130	2.6895572	20	4 5.4	21.4
377388 2004 RW_{308}	17.1	X	193.31620	261.87869	121.79177	3.24067	0.1713011	0.22601740	2.6691612	20	4 17.2	21.5
377389 2004 RG_{310}	16.6	X	259.20989	294.65532	359.83638	12.53113	0.2628845	0.22556896	2.6726976	20	2 23.0	21.1
377390 2004 RA_{317}	16.7	X	153.77052	166.44625	237.86643	9.23083	0.2211660	0.22023760	2.7156580	20	4 6.4	21.4
377391 2004 RH_{326}	16.4	X	210.18622	68.24893	292.67374	5.30922	0.0367491	0.22520745	2.6755570	20	4 4.5	20.2
377392 2004 RN_{336}	17.3	X	174.60242	168.23635	259.94687	2.09538	0.1084776	0.22639787	2.6661699	20	5 23.2	21.2
377393 2004 RK_{338}	17.4	X	201.10158	333.61074	24.08693	5.42286	0.1299527	0.22146722	2.7055968	20	3 23.8	21.6
377394 2004 RO_{340}	15.6	X	179.25653	159.32582	263.66959	14.33492	0.0571828	0.22957519	2.6415130	20	5 20.4	19.6
377395 2004 RW_{349}	17.0	X	4.83417	26.19512	177.31314	6.86240	0.1515568	0.22753087	2.6573117	20	4 1.9	19.5
377396 2004 RU_{354}	17.3	X	182.07951	95.48562	324.03220	1.30093	0.1334805	0.22972582	2.6403582	20	5 19.6	21.5
377397 2004 RB_{357}	16.1	X	267.88488	308.47430	77.90575	15.41087	0.2173538	0.23940355	2.5687135	20	6 27.3	19.7
377398 2004 SQ_{1}	16.9	X	215.59979	8.03504	5.08487	2.49740	0.1111922	0.22882862	2.6472553	20	4 24.8	20.9
377399 2004 SY_{3}	16.2	X	284.76701	302.59672	357.45060	14.96357	0.1276629	0.22922465	2.6442053	20	4 4.1	19.8
377400 2004 SQ_{8}	16.7	X	198.61831	22.64768	16.69411	4.99804	0.1716591	0.22820592	2.6520687	20	5 8.6	21.1
377401 2004 SN_{22}	16.8	X	210.35032	116.91327	192.90241	13.99062	0.3550279	0.21915557	2.7245892	20	1 29.7	22.3
377402 2004 SC_{53}	16.8	X	240.73245	65.35238	289.26252	2.62551	0.1211648	0.22994802	2.6386570	20	4 26.6	20.7
377403 2004 TK_{22}	17.3	X	164.78957	181.54724	242.12660	2.73040	0.0691084	0.22587420	2.6702892	20	5 5.4	21.1
377404 2004 TQ_{35}	17.1	X	148.18474	52.98643	11.39654	5.00440	0.1585364	0.22056088	2.7130038	20	4 23.6	21.3
377405 2004 TY_{45}	17.0	X	243.21269	119.73003	213.33066	5.41570	0.1101255	0.22370941	2.6874881	20	4 3.4	20.9
377406 2004 TF_{62}	17.1	X	260.07436	323.76943	347.79893	4.14774	0.1685121	0.22507020	2.6766447	20	3 19.8	21.2
377407 2004 TA_{63}	16.1	X	213.27848	351.07315	19.30140	14.51617	0.0654757	0.22427925	2.6829340	20	4 19.9	20.1
377408 2004 TA_{66}	16.4	X	174.61442	322.05783	56.82302	5.89365	0.1298791	0.21978314	2.7194002	20	3 26.1	20.7
377409 2004 TS_{68}	16.6	X	221.74709	312.76582	59.48177	7.01998	0.1903419	0.22728956	2.6591922	20	4 27.4	21.0
377410 2004 TB_{74}	16.3	X	63.92520	279.06350	207.80353	12.26743	0.1646845	0.21403036	2.7679132	20	4 4.1	19.6
377411 2004 TE_{95}	17.3	X	257.21315	313.91883	26.33719	2.26219	0.0888817	0.22760577	2.6567287	20	5 1.5	20.8
377412 2004 TP_{104}	16.3	X	207.57967	300.17456	40.57090	9.56528	0.0908560	0.22035159	2.7147214	20	3 13.3	20.5
377413 2004 TU_{104}	17.6	X	121.58496	169.29635	256.20309	2.45667	0.1834732	0.21656792	2.7462494	20	3 31.9	21.9
377414 2004 TA_{107}	16.3	X	277.08267	282.66314	19.03115	13.44902	0.1802082	0.22805038	2.6532745	20	3 26.7	20.1
377415 2004 TZ_{112}	16.2	X	197.54039	85.42176	273.01725	7.66862	0.1417211	0.21930382	2.7233613	20	3 16.2	20.7
377416 2004 TH_{113}	17.1	X	196.03956	289.13991	30.49473	10.14104	0.2830441	0.21558897	2.7545566	20	2 7.8	22.2
377417 2004 TX_{116}	16.6	X	135.83848	200.39710	222.17198	12.32902	0.2123887	0.21830627	2.7316512	20	4 13.7	21.0
377418 2004 TZ_{122}	17.0	X	186.47164	326.56252	66.55553	3.59729	0.1729052	0.22391893	2.6858113	20	4 22.3	21.3
377419 2004 TX_{127}	16.7	X	201.29373	208.22563	158.95609	9.05433	0.1659580	0.22332913	2.6905381	20	4 4.9	21.1
377420 2004 TP_{132}	16.0	X	236.19905	86.04360	247.22539	10.41172	0.2039553	0.22481883	2.6786394	20	3 16.9	20.6
377421 2004 TU_{138}	16.5	X	205.38652	36.87320	346.12100	10.49659	0.1250048	0.22621741	2.6675877	20	4 22.7	20.8
377422 2004 TR_{146}	16.5	X	171.19672	187.61025	236.07895	4.57213	0.0440251	0.22613054	2.6682708	20	5 12.2	20.1
377423 2004 TT_{153}	17.0	X	210.87198	16.75817	10.38921	2.03528	0.1014366	0.22718299	2.6600237	20	5 8.4	21.1
377424 2004 TW_{165}	17.3	X	189.97032	341.15426	344.71695	2.99949	0.1943480	0.21694263	2.7430862	20	2 5.6	21.9
377425 2004 TL_{166}	17.1	X	198.38396	18.53650	342.65453	3.92234	0.1074519	0.22259486	2.6964516	20	3 23.5	21.1
377426 2004 TF_{180}	17.4	X	248.33542	193.10077	113.03410	1.52182	0.1961300	0.22486808	2.6782483	20	2 29.6	21.8
377427 2004 TQ_{187}	17.3	X	213.78545	157.06345	202.61013	5.06473	0.0844833	0.22397435	2.6853683	20	4 7.8	21.3
377428 2004 TW_{198}	17.0	X	158.07577	164.36306	197.49833	4.08799	0.0861869	0.21303088	2.7765639	20	2 11.6	21.1
377429 2004 TV_{202}	17.0	X	180.51177	317.39118	34.36208	9.02238	0.2411352	0.21538556	2.7562905	20	3 3.9	21.9
377430 2004 TS_{203}	16.6	X	193.05541	303.17980	39.66088	12.28746	0.1363121	0.21424335	2.7660784	20	3 3.9	21.2
377431 2004 TC_{205}	17.1	X	165.10244	141.89542	220.99228	3.21171	0.1153895	0.21222668	2.7835737	20	2 22.3	21.3
377432 2004 TK_{214}	17.3	X	98.10497	245.83158	185.28085	0.98488	0.0544552	0.21370021	2.7707632	20	2 23.9	20.9
377433 2004 TT_{218}	15.9	X	149.11119	187.64052	246.90259	13.90766	0.1157959	0.22328792	2.6908691	20	5 3.9	20.0
377434 2004 TM_{220}	16.3	X	260.52005	256.82506	74.53373	14.15112	0.1974535	0.22876223	2.6477675	20	4 17.6	20.5
377435 2004 TM_{231}	16.8	X	112.05897	234.28234	229.22886	6.68190	0.1964448	0.21796361	2.7345134	20	5 11.4	20.7
377436 2004 TH_{244}	16.4	X	127.38471	181.00620	215.19596	8.95157	0.1600481	0.21395509	2.7685623	20	2 26.5	20.7
377437 2004 TH_{273}	16.3	X	225.90555	124.13949	249.44324	5.36792	0.0447355	0.22411725	2.6842267	20	5 12.2	19.9
377438 2004 TC_{288}	16.7	X	140.93725	157.34341	227.01405	10.06302	0.2584278	0.21269434	2.7794920	20	3 4.7	21.5
377439 2004 TW_{290}	16.6	X	284.61321	276.53273	6.26299	5.60674	0.1149780	0.22410957	2.6842880	20	3 18.8	20.3
377440 2004 TK_{295}	16.6	X	186.35626	128.97458	236.64425	6.65046	0.1909328	0.21764313	2.7371971	20	3 16.8	21.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377441 2004 TX_{307}	16.1	X	214.03248	134.21535	229.33405	13.63353	0.1849403	0.22430830	2.6827023	20	4 6.3	20.7
377442 2004 TM_{319}	17.0	X	214.63553	106.44594	204.71860	8.70993	0.2048832	0.21709955	2.7417642	20	2 4.9	21.8
377443 2004 TJ_{323}	16.1	X	221.33499	134.35667	229.67662	5.74170	0.0471778	0.22106210	2.7089013	20	4 23.9	19.9
377444 2004 TS_{323}	16.6	X	107.81324	20.74232	59.65904	5.50672	0.0397534	0.21386138	2.7693710	20	3 20.0	20.4
377445 2004 TU_{338}	16.4	X	189.93156	322.73436	28.48421	13.86463	0.1982502	0.21787886	2.7352225	20	3 11.3	21.2
377446 2004 TR_{345}	16.5	X	167.23049	348.96254	37.47482	8.61467	0.1443718	0.21758602	2.7376761	20	3 29.0	20.9
377447 2004 TE_{359}	16.6	X	225.24945	153.78914	207.74250	2.09270	0.1474902	0.22537444	2.6742352	20	4 18.6	20.8
377448 2004 TK_{366}	16.0	X	224.36163	62.05306	274.13021	4.88039	0.0785352	0.21961096	2.7208215	20	3 18.9	20.2
377449 2004 VW_{8}	16.0	X	163.99601	86.74754	274.35853	11.42373	0.2325468	0.21498889	2.7596798	20	2 21.8	20.9
377450 2004 VG_{26}	16.1	X	167.42044	152.55905	241.18200	12.75064	0.1958405	0.21769581	2.7367555	20	4 2.8	20.8
377451 2004 VK_{29}	16.8	X	108.57036	65.36695	59.47692	10.53913	0.2096798	0.21859079	2.7292803	20	6 4.7	21.0
377452 2004 VF_{42}	16.7	X	244.58310	85.60891	223.69771	4.98023	0.0312469	0.21619664	2.7493925	20	3 13.1	20.5
377453 2004 VR_{46}	16.0	X	236.09640	254.07749	70.52658	13.98957	0.2333896	0.22033680	2.7148428	20	3 17.3	20.8
377454 2004 VT_{47}	16.5	X	170.34648	331.58386	73.09310	12.14087	0.1266392	0.21852687	2.7298125	20	4 24.4	20.9
377455 2004 VG_{57}	16.3	X	162.19663	143.07517	275.42287	10.57671	0.1532394	0.22179502	2.7029304	20	4 27.0	20.8
377456 2004 VX_{73}	16.6	X	151.00966	334.31953	91.47944	4.41808	0.1818912	0.21908143	2.7252039	20	5 1.9	21.0
377457 2004 VP_{79}	17.2	X	262.63608	109.39824	200.28563	2.66903	0.1337469	0.22268371	2.6957343	20	3 24.2	21.0
377458 2004 VS_{91}	17.2	X	190.86458	307.12118	86.81831	2.32671	0.2156740	0.22255637	2.6967625	20	4 26.8	21.8
377459 2004 WW_{6}	16.7	X	199.06319	134.95514	294.03158	6.07700	0.3326629	0.22603725	2.6690049	20	6 11.2	21.6
377460 2004 WN_{8}	16.2	X	227.00172	109.59566	272.45026	9.21342	0.2855951	0.22590607	2.6700381	20	5 5.1	21.0
377461 2004 XZ_{10}	15.9	X	186.64534	347.16807	84.69278	15.67060	0.2473757	0.22189747	2.7020983	20	6 8.2	20.7
377462 2004 XP_{32}	16.1	X	236.14507	258.36381	76.27763	14.55858	0.1624851	0.21816865	2.7327998	20	4 3.1	20.7
377463 2004 XE_{45}	16.5	X	115.22455	58.88937	81.95576	12.22325	0.4374778	0.21721891	2.7407597	20	7 19.5	21.8
377464 2004 XS_{76}	15.8	X	227.71997	110.70737	243.44601	8.91812	0.2550395	0.22337287	2.6901868	20	4 2.9	20.5
377465 2004 XP_{80}	16.2	X	141.37136	4.45168	84.97335	5.84780	0.2979468	0.21668500	2.7452600	20	5 28.3	21.1
377466 2004 XC_{105}	16.0	X	100.84316	153.03372	314.03663	7.95959	0.1135165	0.21049180	2.7988477	20	4 18.6	20.1
377467 2004 XX_{106}	16.0	X	193.69875	315.26813	59.09672	8.43671	0.2773698	0.21848080	2.7301962	20	4 7.9	21.0
377468 2004 XL_{107}	16.4	X	162.93250	110.06405	284.79286	8.65958	0.3171657	0.21571633	2.7534722	20	4 4.7	21.6
377469 2004 XD_{108}	16.7	X	105.96101	83.67317	46.09761	7.60768	0.2930513	0.21336486	2.7736657	20	6 17.1	21.3
377470 2004 XX_{161}	15.8	X	187.95656	330.96618	41.68822	10.17956	0.3916020	0.21926873	2.7236517	20	4 2.5	21.2
377471 2004 YG_{16}	13.3	X	302.80440	192.35183	107.98685	12.36132	0.0687688	0.08521920	5.1142007	20	5 18.8	20.1
377472 2004 YG_{25}	16.7	X	69.02928	152.20073	287.52748	5.34349	0.0742325	0.19864316	2.9090664	20	1 31.2	20.6
377473 2005 AQ	16.8	X	150.22820	244.02163	158.64448	8.30715	0.2347621	0.20995416	2.8036237	20	4 7.4	21.6
377474 2005 AW_{18}	15.2	X	182.78386	286.89112	294.53866	19.84556	0.2811207	0.17363436	3.1820886	20	11 21.3	21.1
377475 2005 AA_{79}	13.6	X	291.30099	343.61494	330.11779	18.52837	0.0299462	0.08300817	5.2046174	20	5 16.6	20.7
377476 2005 AF_{79}	17.8	X	286.47585	63.83774	83.60824	4.23271	0.0666092	0.31041970	2.1602459	20	—	—
377477 2005 BV_{33}	18.2	X	10.26331	256.49821	137.80108	2.41583	0.0931712	0.30893074	2.1671816	20	—	—
377478 2005 CX_{9}	18.2	X	311.00646	24.92033	81.16105	3.14394	0.1279936	0.30776228	2.1726634	20	—	—
377479 2005 CK_{47}	16.1	X	263.98180	48.26602	145.25785	16.61449	0.0521763	0.18306817	3.0718086	20	—	—
377480 2005 CL_{50}	15.6	X	245.66777	250.23341	325.68274	25.84187	0.2014091	0.18092923	3.0959711	20	—	—
377481 2005 CJ_{65}	15.5	X	216.70580	228.77771	339.61046	27.18639	0.0858402	0.17591844	3.1544850	20	12 28.8	20.6
377482 2005 EK_{8}	15.9	X	321.38504	158.98099	359.38925	10.98407	0.1209670	0.18378635	3.0638010	20	—	—
377483 2005 EW_{16}	15.7	X	256.88560	220.69442	354.27217	9.51518	0.1222952	0.18140333	3.0905745	20	—	—
377484 2005 EW_{18}	16.2	X	213.13646	43.70227	174.71882	19.35637	0.1704997	0.17279130	3.1924306	20	12 22.3	21.5
377485 2005 ED_{27}	17.7	X	215.33933	160.36701	357.58030	6.96212	0.1024060	0.29604691	2.2296106	20	11 10.8	20.5
377486 2005 EB_{31}	15.9	X	332.55774	139.20666	9.95560	9.84396	0.0543542	0.18512631	3.0489990	20	—	—
377487 2005 EX_{49}	16.9	X	122.99533	133.75697	70.08543	3.81275	0.1470251	0.28541141	2.2846613	20	10 2.1	20.3
377488 2005 EY_{49}	17.4	X	185.10213	109.02453	130.88080	5.82996	0.1096237	0.30222747	2.1991090	20	—	—
377489 2005 EY_{60}	16.9	X	42.81302	313.99389	334.51805	13.88579	0.2450417	0.28282980	2.2985429	20	10 29.9	20.2
377490 2005 EM_{75}	16.1	X	36.56901	71.52205	355.87678	10.47136	0.0202242	0.18137645	3.0908798	20	—	—
377491 2005 EK_{103}	16.7	X	303.77081	37.36016	139.45304	2.19254	0.0984446	0.18483723	3.0521772	20	—	—
377492 2005 EB_{104}	18.2	X	344.90429	297.46293	158.49878	3.67927	0.0616822	0.30881011	2.1677459	20	—	—
377493 2005 EK_{122}	13.9	X	0.90334	78.73401	167.38109	6.08950	0.0220044	0.07941616	5.3603948	20	5 29.0	20.9
377494 2005 EA_{144}	17.8	X	233.43933	147.59153	20.31264	2.53741	0.0678261	0.29995275	2.2102131	20	12 29.6	20.1
377495 2005 EN_{144}	16.1	X	318.27953	164.91022	6.00314	9.31087	0.0880123	0.18561541	3.0436406	20	—	—
377496 2005 EP_{145}	16.8	X	3.54756	81.78556	50.82610	2.20909	0.1357677	0.18823919	3.0152919	20	1 1.5	20.5
377497 2005 EJ_{147}	17.8	X	330.79520	305.78365	146.70047	3.39802	0.0808630	0.30483808	2.1865357	20	—	—
377498 2005 EC_{148}	15.5	X	248.54978	214.19889	26.30728	9.57944	0.0430234	0.18303119	3.0722224	20	—	—
377499 2005 EW_{151}	16.5	X	23.46093	321.76344	167.93622	8.26789	0.1228991	0.18965824	3.0002324	20	1 29.7	20.1
377500 2005 ET_{157}	16.1	X	189.35007	270.77381	350.02007	3.89213	0.1505361	0.17515244	3.1636754	20	—	—
377501 2005 ER_{158}	16.6	X	40.15465	238.56245	176.79329	9.36730	0.0499837	0.18012985	3.1051239	20	—	—
377502 2005 EJ_{159}	15.9	X	191.19522	277.69905	359.67983	11.53409	0.0931122	0.17926879	3.1150589	20	—	—
377503 2005 EE_{160}	16.3	X	232.00363	201.62135	24.14661	5.71629	0.1132759	0.17601742	3.1533023	20	—	—
377504 2005 EY_{176}	16.9	X	23.50353	126.01919	15.97137	7.46024	0.1525986	0.19149503	2.9810165	20	2 19.4	20.3
377505 2005 EJ_{179}	15.4	X	118.44617	353.53616	352.13316	18.41688	0.2208726	0.18086980	3.0966492	20	1 6.2	20.3
377506 2005 EG_{183}	17.0	X	51.02396	107.40223	350.73592	2.50451	0.0641178	0.18978629	2.9988828	20	1 31.1	21.0
377507 2005 EY_{212}	16.2	X	72.41970	246.68876	172.28738	10.26708	0.1120062	0.18795001	3.0183840	20	1 15.9	20.2
377508 2005 EM_{219}	17.8	X	268.67944	138.27973	3.91867	6.95939	0.0663857	0.30013042	2.2093408	20	—	—
377509 2005 EL_{239}	16.3	X	312.38190	74.61013	103.16579	2.24342	0.0916207	0.18538928	3.0461150	20	—	—
377510 2005 EV_{254}	16.3	X	234.76348	261.77313	331.87741	7.95917	0.0859256	0.18224305	3.0810735	20	—	—
377511 2005 EA_{255}	16.1	X	67.94683	109.17678	333.24351	9.59522	0.0207761	0.19197114	2.9760856	20	1 30.9	20.2
377512 2005 EV_{295}	15.5	X	296.98763	137.72280	72.42035	11.43643	0.0536882	0.18743212	3.0239414	20	1 17.7	19.8
377513 2005 EG_{314}	15.9	X	192.09509	268.67526	1.94705	10.42104	0.0360631	0.17853899	3.1235419	20	—	—
377514 2005 FB_{13}	17.5	X	168.28175	146.54335	65.40149	6.97659	0.1235472	0.29351435	2.2424176	20	11 26.8	20.8
377515 2005 GD_{1}	18.0	X	107.03205	164.06230	73.38179	8.83601	0.2211091	0.28387490	2.2928979	20	11 2.7	21.8
377516 2005 GU_{6}	15.5	X	312.61352	111.72850	31.45105	27.13094	0.0742299	0.17671893	3.1449519	20	—	—
377517 2005 GR_{11}	17.0	X	206.99144	111.31725	92.85376	5.72393	0.0965739	0.29868599	2.2164579	20	—	—
377518 2005 GD_{17}	18.2	X	246.07030	349.81204	184.56033	4.07464	0.0990159	0.30386104	2.1912203	20	—	—
377519 2005 GP_{17}	18.4	X	84.30013	265.69782	356.67285	7.09875	0.1687926	0.28713651	2.2755014	20	11 5.5	21.9
377520 2005 GO_{19}	17.7	X	11.41813	86.70648	200.56142	8.55613	0.0535133	0.27622258	2.3350522	20	8 12.9	20.4

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377521 2005 GD_{20}	17.6	X	67.71418	226.63037	30.67584	13.03258	0.2129889	0.27914766	2.3187115	20	10 19.4	20.7
377522 2005 GQ_{36}	16.6	X	211.32826	44.28760	198.83600	9.00115	0.0413710	0.17456345	3.1707877	20	—	—
377523 2005 GC_{52}	16.1	X	295.13176	338.15617	213.01010	10.55334	0.0841457	0.17955192	3.1117833	20	—	—
377524 2005 GQ_{66}	16.2	X	110.30161	166.93454	198.20886	8.84741	0.0778979	0.17890827	3.1192423	20	—	—
377525 2005 GJ_{74}	17.2	X	77.81256	185.62548	63.14967	10.63042	0.1684157	0.28133835	2.3066591	20	10 17.9	20.6
377526 2005 GF_{78}	17.0	X	82.02513	162.27171	98.35209	11.53055	0.0391460	0.28501099	2.2868007	20	10 26.1	20.1
377527 2005 GA_{89}	17.9	X	142.50823	17.08346	229.17303	4.68096	0.1652244	0.29161846	2.2521261	20	12 12.4	21.3
377528 2005 GE_{105}	15.9	X	322.45324	148.35487	33.42797	15.27545	0.1695538	0.18540234	3.0459720	20	—	—
377529 2005 GG_{112}	17.6	X	205.23594	329.21856	235.16375	5.08966	0.1039433	0.29758392	2.2219268	20	—	—
377530 2005 GD_{115}	16.0	X	238.85273	45.28798	213.88684	9.21951	0.0104813	0.18194488	3.0844388	20	1 11.3	20.6
377531 2005 GC_{124}	16.8	X	6.11695	301.12253	202.48483	3.79501	0.1688900	0.19207880	2.9749734	20	1 15.6	20.1
377532 2005 GH_{131}	18.0	X	68.17716	190.31643	83.09065	1.83856	0.2194675	0.28148106	2.3058795	20	11 10.3	21.3
377533 2005 GB_{154}	15.9	X	305.09140	337.84188	192.36672	14.36351	0.0821756	0.17807825	3.1289272	20	—	—
377534 2005 GQ_{155}	15.3	X	252.02996	129.85079	55.38288	5.48117	0.1126086	0.17185914	3.2039640	20	—	—
377535 2005 GG_{158}	15.7	X	177.59373	53.67781	236.66422	8.42185	0.0375354	0.17662915	3.1460175	20	—	—
377536 2005 GN_{162}	15.9	X	287.33110	57.93881	114.54726	10.87441	0.2457086	0.17753859	3.1352647	20	—	—
377537 2005 GP_{172}	17.9	X	42.12324	207.79508	64.01081	3.19602	0.2091122	0.27637068	2.3342179	20	10 8.1	20.6
377538 2005 GH_{178}	16.1	X	45.13317	290.67804	166.78086	6.92099	0.1237825	0.18532880	3.0467778	20	1 25.0	19.8
377539 2005 GF_{181}	16.1	X	314.87913	328.97128	183.13986	10.44698	0.0750191	0.17913562	3.1166025	20	—	—
377540 2005 GT_{200}	16.6	X	24.59679	77.42025	350.98426	15.84887	0.1665234	0.18510143	3.0492723	20	—	—
377541 2005 GT_{202}	18.1	X	141.02310	23.60150	186.44837	4.80715	0.1285412	0.28575123	2.2828497	20	10 26.7	21.5
377542 2005 GD_{206}	16.3	X	143.76217	250.90980	42.88815	9.05035	0.1088276	0.17082783	3.2168462	20	—	—
377543 2005 GA_{209}	15.8	X	285.71518	132.05892	42.98313	23.83655	0.2060960	0.17991084	3.1076433	20	—	—
377544 2005 GQ_{217}	15.6	X	311.81775	103.90150	33.90293	7.83110	0.0824582	0.17690543	3.1427411	20	—	—
377545 2005 HP_{6}	16.7	X	61.90752	227.32449	68.43222	24.70060	0.1239888	0.28352202	2.2948001	20	11 23.7	19.8
377546 2005 HO_{10}	16.2	X	288.57397	161.72276	34.16467	3.64920	0.1219777	0.17990258	3.1077384	20	—	—
377547 2005 JQ_{13}	18.2	X	43.56822	75.94183	210.18650	6.35565	0.1127444	0.28009967	2.3134546	20	10 13.3	20.9
377548 2005 JL_{16}	16.1	X	278.90811	350.60358	186.46422	17.60470	0.1539304	0.17986605	3.1081591	20	—	—
377549 2005 JD_{24}	15.7	X	46.90444	39.39388	54.64491	11.25719	0.0597650	0.18170529	3.0871496	20	1 23.3	19.9
377550 2005 JN_{35}	16.3	X	327.86101	7.50935	180.50981	7.39739	0.1544718	0.18321549	3.0701618	20	1 14.3	20.3
377551 2005 JP_{43}	15.2	X	238.93004	128.13563	92.72620	11.95633	0.1300770	0.17155697	3.2077251	20	—	—
377552 2005 JV_{47}	15.4	X	295.76511	147.31652	57.42438	10.68551	0.0538934	0.18105070	3.0945862	20	1 10.5	19.9
377553 2005 JZ_{54}	17.5	X	152.44011	100.79324	131.09848	5.38076	0.0650722	0.28901195	2.2656467	20	12 9.0	20.5
377554 2005 JM_{56}	15.6	X	14.42582	27.17437	83.16262	29.17512	0.1698569	0.17929073	3.1148047	20	—	—
377555 2005 JE_{76}	18.3	X	12.71439	72.00011	240.97588	1.52988	0.2179741	0.27501107	2.3419049	20	10 20.9	20.4
377556 2005 JR_{78}	17.9	X	23.06326	300.41777	1.98437	1.18455	0.1844839	0.27580600	2.3374029	20	10 17.3	20.4
377557 2005 JD_{79}	17.8	X	139.70404	200.96029	41.25850	3.65151	0.1191266	0.28900962	2.2656588	20	12 5.1	21.2
377558 2005 JO_{89}	15.6	X	331.69424	108.44952	25.27139	17.30641	0.0464164	0.18011485	3.1052963	20	—	—
377559 2005 JF_{117}	15.4	X	305.13781	335.23781	216.35856	16.74571	0.1340099	0.17986916	3.1081234	20	—	—
377560 2005 JT_{117}	16.0	X	279.90293	127.70398	86.64786	11.37736	0.0896085	0.17830348	3.1262918	20	—	—
377561 2005 JR_{127}	17.2	X	326.53130	91.45272	217.55326	10.66045	0.2871857	0.26379634	2.4078174	20	6 2.2	18.9
377562 2005 JG_{137}	16.1	X	111.42122	280.88640	64.97874	14.26036	0.0341768	0.17203952	3.2017240	20	—	—
377563 2005 JE_{140}	15.4	X	263.44092	157.10330	60.20532	16.60284	0.1585865	0.17603295	3.1531169	20	—	—
377564 2005 JQ_{149}	17.9	X	244.67665	334.40168	200.10029	2.51510	0.0793939	0.29798896	2.2199129	20	—	—
377565 2005 JF_{152}	15.9	X	26.10816	99.01570	17.07586	9.87383	0.0968930	0.18833978	3.0142182	20	1 21.0	19.8
377566 2005 KV_{7}	15.5	X	273.99685	339.59856	235.14112	16.13334	0.1673639	0.17676405	3.1444166	20	—	—
377567 2005 LV_{4}	15.5	X	354.60182	18.23859	92.19384	11.17407	0.0899790	0.17488510	3.1668987	20	—	—
377568 2005 LH_{7}	17.8	X	53.89750	130.99248	107.79828	3.89852	0.2459945	0.27166632	2.3610881	20	9 13.3	20.8
377569 2005 LW_{17}	17.6	X	86.41324	34.48832	205.99652	5.06340	0.1227967	0.27791257	2.3255763	20	10 6.1	20.9
377570 2005 LR_{18}	15.6	X	49.60068	8.59748	75.33746	10.64322	0.0662497	0.17786203	3.1314626	20	1 14.1	19.7
377571 2005 LC_{20}	17.2	X	111.39831	177.67486	69.71359	6.24927	0.1257197	0.28419318	2.2911857	20	11 13.5	20.5
377572 2005 LA_{24}	16.2	X	20.88231	86.59796	272.56589	23.03437	0.2172098	0.27674122	2.3321339	20	—	—
377573 2005 LH_{25}	17.9	X	352.11683	89.84279	223.07057	4.81292	0.2630878	0.26887791	2.3773838	20	9 5.7	19.3
377574 2005 LU_{27}	17.7	X	233.20195	331.64042	174.58634	5.31445	0.0817988	0.29041346	2.2583516	20	11 24.8	20.4
377575 2005 LB_{52}	17.0	X	23.78567	359.82017	281.91952	7.52348	0.1370528	0.26676371	2.3899284	20	9 3.7	19.7
377576 2005 NB_{16}	17.7	X	75.96648	207.73421	54.44758	1.20664	0.1759453	0.27423192	2.3463388	20	10 29.0	20.9
377577 2005 NN_{17}	17.9	X	347.16723	175.31795	124.86013	3.35796	0.1795798	0.26215580	2.4178521	20	7 25.4	19.6
377578 2005 NJ_{21}	17.6	X	347.48132	45.67447	252.91516	4.98232	0.1911495	0.26213789	2.4179622	20	7 21.9	19.3
377579 2005 NB_{29}	17.5	X	310.25425	181.75052	183.04049	2.11658	0.2172597	0.26282111	2.4137700	20	8 8.7	19.6
377580 2005 NC_{33}	17.5	X	289.78227	86.08391	298.28602	1.45720	0.1788110	0.26348631	2.4097057	20	8 5.2	20.0
377581 2005 NL_{33}	17.6	X	78.17466	107.27974	118.74697	2.47304	0.1336022	0.26806502	2.3821876	20	9 8.3	20.6
377582 2005 NE_{34}	17.1	X	277.39598	295.39404	120.55902	12.91596	0.1510155	0.26705135	2.3882120	20	9 10.8	19.8
377583 2005 NP_{41}	18.1	X	280.53467	196.23120	172.27456	1.24873	0.1985160	0.25912862	2.4366461	20	6 23.6	21.0
377584 2005 NH_{43}	18.2	X	319.57419	85.73510	228.15579	2.24837	0.1990901	0.25889001	2.4381431	20	6 9.5	20.5
377585 2005 NA_{46}	18.1	X	33.30440	121.91280	157.70849	1.51946	0.1658382	0.26763640	2.3847302	20	9 26.3	20.8
377586 2005 NE_{79}	17.5	X	248.57762	289.09252	126.69673	5.29465	0.0945447	0.26210777	2.4181475	20	8 2.6	20.5
377587 2005 NG_{85}	18.2	X	342.98747	199.90089	124.50379	3.32617	0.2353217	0.26527730	2.3988476	20	8 30.1	19.4
377588 2005 NJ_{87}	17.8	X	44.48224	127.54426	128.13053	3.07989	0.1583716	0.26792392	2.3830239	20	9 8.3	20.4
377589 2005 NB_{88}	17.8	X	51.42075	67.38203	222.34986	5.77667	0.1153129	0.27248197	2.3563739	20	10 28.1	20.5
377590 2005 NG_{102}	17.8	X	320.07162	214.84263	125.32911	2.61802	0.2093058	0.26267102	2.4146894	20	7 23.4	19.5
377591 2005 ON_{11}	16.7	X	335.71890	324.43266	327.59012	14.58836	0.2022837	0.25775315	2.4453070	20	6 8.9	19.2
377592 2005 OT_{12}	17.3	X	285.95124	317.10250	51.51610	2.95769	0.2087134	0.25693054	2.4505236	20	6 30.3	20.0
377593 2005 QV_{27}	17.5	X	264.37636	237.82992	132.24446	5.17719	0.1902707	0.25136834	2.4865412	20	6 6.2	21.0
377594 2005 QM_{45}	17.8	X	300.71069	318.47139	353.53537	9.80327	0.1806148	0.25230845	2.4803608	20	5 2.5	20.9
377595 2005 QR_{53}	17.2	X	257.56263	272.92584	152.15450	2.49157	0.2025808	0.25986165	2.4320617	20	8 10.4	20.2
377596 2005 QM_{65}	15.8	X	324.14240	316.11457	30.35833	23.79009	0.2288067	0.26375298	2.4080812	20	9 1.7	18.3
377597 2005 QT_{70}	15.1	X	324.42651	2.78442	320.71806	7.46381	0.3099518	0.12448015	3.9725495	20	6 12.2	19.5
377598 2005 QW_{123}	17.6	X	233.08753	245.47011	169.16469	2.09782	0.2095752	0.25245970	2.4793700	20	6 28.1	21.5
377599 2005 QL_{129}	18.2	X	343.05414	199.95916	115.71411	3.61546	0.1098239	0.25944254	2.4346802	20	8 10.6	20.4
377600 2005 QU_{152}	16.9	X	298.17529	150.44532	259.19512	5.76682	0.0705684	0.26782937	2.3835847	20	10 10.7	19.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377601 2005 QB_{153}	16.7	X	52.52486	346.88383	276.00541	5.89245	0.1072060	0.26512518	2.3997651	20	9 16.7	19.8
377602 2005 QJ_{158}	17.4	X	266.56466	3.13818	34.42189	5.63646	0.1954961	0.25565054	2.4586964	20	7 17.1	20.7
377603 2005 QW_{160}	18.4	X	237.01487	307.64836	100.96630	2.82099	0.3685965	0.24910718	2.5015655	20	6 10.7	22.7
377604 2005 QY_{164}	17.3	X	269.35516	275.78995	101.76087	5.60317	0.1439628	0.25315094	2.4748546	20	6 29.4	20.6
377605 2005 QV_{180}	16.6	X	317.57444	313.03487	26.91447	14.68660	0.1497007	0.25812712	2.4429447	20	7 31.6	19.4
377606 2005 RW_{2}	17.7	X	259.63107	69.75542	250.65518	20.25503	0.0391840	0.37951968	1.8893533	20	3 25.7	20.2
377607 2005 RU_{24}	16.2	X	307.73015	114.07152	223.34121	12.38479	0.2303161	0.25828531	2.4419471	20	6 16.4	18.8
377608 2005 RB_{34}	18.7	X	276.75080	151.56883	136.69932	9.82547	0.3947134	0.31265590	2.1499332	20	2 8.9	22.5
377609 2005 RC_{43}	17.6	X	291.22973	24.90902	325.03931	3.34322	0.2193459	0.25498628	2.4629646	20	6 8.8	20.6
377610 2005 RU_{43}	18.1	X	234.91899	120.95090	224.78520	2.82820	0.2276071	0.24293903	2.5437310	20	4 1.3	22.2
377611 2005 SJ_{7}	18.0	X	21.25416	328.16711	188.81853	22.12785	0.0650058	0.36674454	1.9329781	20	1 26.6	20.3
377612 2005 SM_{8}	17.7	X	194.93919	318.82107	13.84676	19.96723	0.0712143	0.36481082	1.9398028	20	2 5.9	20.5
377613 2005 SM_{27}	17.4	X	279.85274	165.18650	224.23268	5.95413	0.1227845	0.25611834	2.4557016	20	8 2.6	20.4
377614 2005 SK_{51}	17.9	X	194.48197	178.70952	194.17209	3.30574	0.2815127	0.23745229	2.5827665	20	4 2.8	22.4
377615 2005 SP_{53}	17.3	X	172.34821	196.86285	208.00226	14.09761	0.0991390	0.23816541	2.5776083	20	4 20.7	21.2
377616 2005 SO_{70}	17.4	X	277.05051	260.81277	101.29944	4.52071	0.2537269	0.25297091	2.4760286	20	6 1.5	20.6
377617 2005 SS_{78}	18.1	X	332.82707	166.16907	146.40020	2.09638	0.1875270	0.25631334	2.4544559	20	7 9.2	20.2
377618 2005 SP_{102}	16.5	X	330.90830	332.19161	350.47673	10.36330	0.0571650	0.18630183	3.0361599	20	7 27.3	20.6
377619 2005 SE_{115}	17.6	X	128.95768	339.52726	205.97277	2.22796	0.1102954	0.25732903	2.4479931	20	9 6.5	21.3
377620 2005 SB_{133}	15.0	X	270.36654	74.08837	24.50398	9.78401	0.2255832	0.12697028	3.9204386	20	9 22.6	20.5
377621 2005 SY_{154}	17.6	X	249.48067	135.97249	191.33026	14.80137	0.1537135	0.24246627	2.5470364	20	3 29.1	21.5
377622 2005 SC_{183}	17.7	X	162.15628	200.32897	252.65971	1.46683	0.1296222	0.24292730	2.5438129	20	6 12.2	21.5
377623 2005 SZ_{203}	17.9	X	217.33011	284.15386	189.70686	2.15923	0.1370228	0.25925607	2.4358475	20	9 5.7	21.4
377624 2005 SY_{206}	16.7	X	340.46599	251.11432	151.91435	4.45021	0.2049055	0.26908589	2.3761587	20	12 29.9	18.7
377625 2005 SV_{223}	17.3	X	111.59114	123.05186	23.77538	4.00918	0.1161959	0.24571282	2.5245511	20	6 27.8	20.9
377626 2005 SR_{238}	15.1	X	344.05083	309.28713	356.60488	2.29835	0.1635224	0.12218934	4.0220473	20	7 13.5	19.8
377627 2005 SF_{245}	18.3	X	283.75001	161.89779	200.78997	5.69117	0.1526067	0.25262291	2.4783020	20	6 27.2	21.4
377628 2005 SO_{252}	16.3	X	295.58012	298.22161	36.47576	2.09053	0.2174168	0.18607023	3.0386788	20	5 25.3	20.2
377629 2005 SY_{265}	17.4	X	247.24307	95.98189	204.96980	11.26667	0.1841345	0.23856951	2.5746968	20	2 18.2	21.8
377630 2005 SF_{290}	17.7	X	301.14986	277.43460	24.53433	8.59878	0.1452947	0.24599159	2.5226435	20	4 27.9	20.8
377631 2005 TJ_{16}	17.7	X	222.75154	48.20705	334.54313	2.42489	0.1573081	0.24537667	2.5268562	20	5 10.9	21.8
377632 2005 TN_{25}	16.6	X	321.68301	274.25431	51.12980	0.95119	0.1504373	0.18436193	3.0574209	20	7 4.5	20.1
377633 2005 TW_{51}	17.7	X	275.37648	89.61544	223.47150	21.53063	0.0978429	0.37466864	1.9056267	20	4 3.9	19.9
377634 2005 TL_{52}	17.3	X	222.44708	101.80536	229.95853	19.07281	0.0914074	0.36937757	1.9237813	20	2 18.9	20.3
377635 2005 TA_{58}	17.3	X	337.21921	74.18419	198.85802	9.60799	0.0919054	0.24559996	2.5253245	20	5 26.2	20.2
377636 2005 TW_{62}	17.3	X	217.67544	17.75895	78.48733	1.94858	0.1298668	0.25286329	2.4767311	20	8 14.9	20.8
377637 2005 TV_{75}	16.9	X	242.48450	187.22469	249.87054	11.47305	0.2330941	0.25437110	2.4669340	20	7 30.9	20.7
377638 2005 TN_{94}	17.5	X	98.50525	289.49527	266.81198	4.13727	0.1130982	0.25293127	2.4762873	20	8 16.5	21.1
377639 2005 TN_{102}	17.5	X	208.24758	58.10121	9.69691	7.62024	0.0783872	0.24746397	2.5126273	20	7 1.0	21.2
377640 2005 TP_{124}	17.8	X	268.80525	349.80487	333.47697	1.43149	0.1094160	0.24305887	2.5428948	20	4 19.6	21.4
377641 2005 UH_{64}	17.3	X	186.58674	282.83987	147.69837	5.47225	0.1664015	0.24041924	2.5614737	20	6 7.9	21.5
377642 2005 US_{82}	17.8	X	222.85845	2.52695	38.01869	4.12472	0.0999660	0.24520964	2.5280036	20	6 8.3	21.5
377643 2005 UT_{96}	17.2	X	164.44583	265.87678	191.26123	6.10395	0.1016664	0.24174786	2.5520800	20	6 19.3	21.2
377644 2005 UM_{97}	17.3	X	198.21350	310.38674	142.15076	2.72406	0.0597057	0.24772377	2.5108702	20	7 23.0	20.7
377645 2005 UM_{107}	17.0	X	119.27796	76.79594	74.80206	5.19051	0.0599604	0.24294650	2.5436789	20	7 7.2	20.5
377646 2005 UH_{114}	17.5	X	240.12544	66.02053	334.99562	0.94189	0.1267137	0.24584188	2.5236675	20	6 26.8	21.1
377647 2005 UF_{128}	15.7	X	270.85663	59.36884	41.01988	6.72808	0.2426084	0.12496994	3.9621630	20	9 22.7	21.2
377648 2005 UD_{135}	14.7	X	259.03787	50.00680	62.64115	10.07637	0.1779771	0.12592407	3.9421234	20	10 4.3	20.4
377649 2005 UB_{136}	18.0	X	226.32346	177.37709	178.93190	2.31159	0.2404123	0.24196705	2.5505386	20	4 7.6	22.4
377650 2005 UH_{136}	17.9	X	204.18311	81.86593	24.22349	5.49652	0.1441855	0.25238708	2.4798456	20	8 13.6	21.6
377651 2005 UZ_{138}	17.7	X	223.66081	223.68698	180.53076	3.20434	0.1733236	0.24446999	2.5331001	20	6 8.6	21.7
377652 2005 UK_{147}	17.6	X	252.78768	103.59108	263.57656	2.39477	0.1873656	0.24561673	2.5252095	20	5 19.3	21.4
377653 2005 UE_{153}	16.0	X	268.97897	265.41887	47.87746	29.51736	0.0196810	0.23542867	2.5975454	20	4 26.7	19.6
377654 2005 UV_{167}	16.0	X	252.21230	126.12007	343.68649	1.95253	0.1936143	0.12538002	3.9535189	20	9 16.9	21.9
377655 2005 UL_{169}	17.7	X	243.86158	160.97981	237.01104	6.18647	0.1443723	0.24745965	2.5126565	20	6 24.5	21.3
377656 2005 UY_{175}	17.0	X	157.40175	13.18433	15.94162	4.03031	0.2306171	0.23002408	2.6380753	20	3 25.1	21.3
377657 2005 UO_{202}	17.3	X	300.74265	232.62374	89.90636	2.19382	0.1074091	0.24594033	2.5229940	20	6 3.4	20.1
377658 2005 UY_{221}	17.8	X	129.42799	118.36790	10.66697	4.32451	0.0688834	0.24235217	2.5478359	20	6 19.6	21.5
377659 2005 UG_{222}	16.3	X	354.53568	1.80152	227.62306	15.05098	0.0894598	0.23784537	2.5799200	20	4 20.1	19.4
377660 2005 UM_{225}	17.1	X	166.66317	62.21657	23.51017	10.30846	0.0445630	0.24231084	2.5481256	20	6 3.1	20.8
377661 2005 UZ_{226}	15.2	X	169.83316	118.45377	63.95083	4.34274	0.0765070	0.12395712	3.9837163	20	10 1.5	21.1
377662 2005 UZ_{231}	17.0	X	76.28709	17.72787	218.92883	5.75342	0.1001881	0.25313798	2.4749391	20	9 10.6	20.3
377663 2005 UU_{234}	17.3	X	164.30907	323.97085	149.40788	3.66399	0.1075776	0.24363836	2.5388611	20	7 10.5	21.0
377664 2005 UM_{252}	17.0	X	241.64347	156.85101	247.82575	7.26251	0.1150170	0.24771788	2.5109100	20	7 4.3	20.5
377665 2005 UX_{254}	14.8	X	273.56353	32.90634	66.98995	4.77348	0.2313488	0.12637125	3.9328180	20	9 26.7	20.3
377666 2005 UE_{260}	18.6	X	233.34432	324.85137	55.91212	4.03560	0.1090265	0.31048648	2.1599362	20	5 23.8	21.2
377667 2005 UF_{271}	17.3	X	117.00911	351.71782	57.68191	22.55043	0.0811742	0.35928411	1.9596449	20	2 14.3	20.0
377668 2005 UF_{274}	17.5	X	245.55653	48.40783	244.39161	20.17351	0.0440934	0.36475770	1.9399911	20	1 25.3	20.2
377669 2005 UM_{282}	16.5	X	353.97879	56.60565	187.96901	4.34360	0.1965728	0.24296968	2.5435171	20	5 8.3	18.6
377670 2005 UM_{287}	16.7	X	352.35082	65.76581	186.66104	8.00882	0.1364436	0.24357886	2.5392745	20	5 21.0	19.3
377671 2005 UU_{299}	17.6	X	256.03226	294.14841	48.05181	4.11542	0.2003134	0.24218829	2.5489850	20	4 20.0	21.6
377672 2005 UM_{353}	17.0	X	245.29881	353.81699	7.79542	7.65577	0.1532431	0.24301517	2.5431997	20	5 5.8	20.9
377673 2005 UG_{358}	17.7	X	185.48197	254.86103	224.24778	4.18990	0.1420012	0.25124841	2.4873324	20	8 7.5	21.7
377674 2005 UD_{369}	17.2	X	344.82307	161.32604	81.69910	6.17107	0.0693009	0.23629483	2.5911939	20	4 28.6	20.3
377675 2005 UU_{380}	15.9	X	264.46723	307.96101	159.87066	3.00039	0.1977672	0.12515821	3.9581887	20	9 28.1	21.4
377676 2005 UZ_{401}	16.9	X	14.56777	7.73652	214.50588	12.08745	0.1543815	0.23692682	2.5865838	20	5 20.2	19.4
377677 2005 UU_{404}	17.5	X	164.82166	256.22628	221.23548	14.09323	0.1210829	0.24380045	2.5377357	20	7 13.4	21.7
377678 2005 UD_{424}	15.5	X	234.60415	284.21759	217.49724	9.97672	0.2083442	0.12616916	3.9370167	20	10 3.4	21.6
377679 2005 UE_{431}	17.8	X	152.40253	108.00962	349.60153	2.00087	0.1151266	0.23873816	2.5734841	20	6 7.2	21.7
377680 2005 UM_{440}	16.0	X	255.84460	90.43132	270.21666	11.02977	0.0122179	0.24404943	2.5360093	20	6 7.5	19.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377681 2005 UJ_{512}	17.1	X	164.11002	201.99099	250.77421	2.47343	0.0962920	0.23451975	2.6042525	20	6 12.9	20.9
377682 2005 VJ	17.5	X	222.80448	26.14995	25.37614	3.48586	0.1480376	0.24444085	2.5333014	20	6 18.9	21.4
377683 2005 VC_{30}	17.4	X	229.58573	288.37328	93.21794	4.05876	0.1022904	0.24035937	2.5618990	20	5 22.7	21.0
377684 2005 VE_{32}	16.4	X	229.83450	80.29085	238.63339	13.59873	0.0148209	0.22743655	2.6580463	20	3 3.2	20.3
377685 2005 VR_{41}	17.2	X	234.12789	268.39062	117.48905	4.82410	0.2050620	0.24221846	2.5487734	20	5 24.3	21.2
377686 2005 VZ_{45}	17.5	X	187.96599	19.10814	59.34308	2.63476	0.0226960	0.24376311	2.5379948	20	6 22.6	20.8
377687 2005 VH_{65}	17.2	X	108.09885	296.69175	203.59551	8.13545	0.1089660	0.23943620	2.5684799	20	6 13.6	20.9
377688 2005 VY_{67}	17.3	X	205.54799	190.39218	218.51197	16.33692	0.1099121	0.24120903	2.5558793	20	5 31.1	21.2
377689 2005 VG_{94}	17.8	X	220.28298	136.17160	251.28383	10.83341	0.2036390	0.24073602	2.5592262	20	5 11.8	21.9
377690 2005 VS_{97}	16.5	X	341.03172	283.34638	7.07889	4.69427	0.1451697	0.24702564	2.5155987	20	6 24.4	18.9
377691 2005 VG_{107}	17.3	X	267.90792	320.11222	355.81207	3.56405	0.2405426	0.24078101	2.5589074	20	3 24.6	21.1
377692 2005 VU_{112}	17.3	X	163.40194	167.42661	259.92448	6.10116	0.1111319	0.23488111	2.6015808	20	5 9.6	21.3
377693 2005 VE_{119}	17.4	X	302.76080	271.12005	142.40751	3.66666	0.1197682	0.26151699	2.4217879	20	10 23.6	19.7
377694 2005 VZ_{119}	16.3	X	135.20187	164.82303	284.19091	13.13472	0.1571256	0.22714540	2.6603171	20	5 9.7	20.7
377695 2005 VF_{134}	16.9	X	16.20812	351.43520	250.76453	4.64343	0.0370339	0.24208415	2.5497160	20	6 14.2	19.9
377696 2005 WF_{1}	17.2	X	217.78762	64.62714	275.50492	17.73229	0.0927180	0.37137176	1.9168883	20	2 23.3	20.0
377697 2005 WL_{1}	17.4	X	184.26640	45.59044	2.21619	20.51886	0.1053069	0.37173888	1.9156260	20	4 23.6	20.1
377698 2005 WJ_{9}	17.1	X	328.74804	48.44165	239.13398	3.88694	0.1366414	0.24278992	2.5447724	20	5 26.7	19.7
377699 2005 WG_{16}	17.0	X	183.17958	233.65720	248.84837	10.97524	0.1965600	0.24536715	2.5269216	20	8 4.6	21.4
377700 2005 WC_{18}	16.6	X	246.94713	144.78947	250.09381	8.04489	0.0823447	0.24431844	2.5341474	20	7 1.9	20.0
377701 2005 WU_{19}	17.5	X	278.87003	55.68840	287.88101	3.61614	0.1536707	0.24435661	2.5338836	20	5 23.5	20.7
377702 2005 WC_{22}	17.5	X	169.22869	150.69751	257.01654	5.17077	0.2715410	0.23396406	2.6083745	20	4 25.2	22.2
377703 2005 WW_{24}	16.8	X	303.74675	237.12470	55.24843	13.12915	0.2456827	0.23963521	2.5670577	20	4 9.3	20.2
377704 2005 WZ_{32}	17.5	X	191.82433	326.68409	60.93125	5.79622	0.1985761	0.23460359	2.6036321	20	4 20.4	21.9
377705 2005 WG_{33}	16.3	X	263.36350	62.04349	261.86997	12.46729	0.2059311	0.23701187	2.5859651	20	3 28.5	20.6
377706 2005 WD_{44}	15.9	X	230.36318	38.82707	262.67749	14.35872	0.1120343	0.22310688	2.6923245	20	2 6.4	20.3
377707 2005 WN_{54}	17.4	X	25.60080	268.89474	253.01737	18.12037	0.0818553	0.36055962	1.9550205	20	2 6.6	19.5
377708 2005 WW_{56}	17.3	X	272.47870	314.76980	27.05207	3.74501	0.2343785	0.24361304	2.5390370	20	5 1.7	20.8
377709 2005 WL_{76}	16.7	X	231.31683	322.68269	63.61228	14.44984	0.0653165	0.24019251	2.5630854	20	6 2.4	20.2
377710 2005 WL_{82}	17.6	X	241.04752	320.31594	20.11044	22.16420	0.0737749	0.37841255	1.8930367	20	4 6.3	19.5
377711 2005 WP_{88}	16.1	X	160.68290	212.92858	246.55944	11.09279	0.1448747	0.23733064	2.5836490	20	6 19.1	20.3
377712 2005 WU_{96}	17.2	X	24.73879	140.48407	103.69688	3.08073	0.1002329	0.23907976	2.5710322	20	7 6.7	20.0
377713 2005 WE_{99}	16.0	X	340.27850	15.99116	248.63995	13.47861	0.0543615	0.23625516	2.5914839	20	5 20.6	19.2
377714 2005 WK_{101}	17.5	X	197.09528	215.51293	230.25909	4.50839	0.1025603	0.24439397	2.5336253	20	7 9.2	21.4
377715 2005 WV_{101}	15.8	X	289.66558	81.71145	276.75875	2.43712	0.1787226	0.24549676	2.5260321	20	6 25.9	18.7
377716 2005 WU_{109}	17.1	X	278.52905	292.55311	76.65025	3.30454	0.1109547	0.24702670	2.5155915	20	7 6.1	20.2
377717 2005 WD_{111}	16.6	X	52.02353	333.37357	243.91519	12.22453	0.1333168	0.23959350	2.5673556	20	7 14.6	19.9
377718 2005 WE_{120}	16.2	X	142.49850	10.93314	69.49315	22.76806	0.0254658	0.23292055	2.6161593	20	5 4.6	20.0
377719 2005 WB_{122}	16.5	X	263.10695	122.83704	245.48834	10.73948	0.1792077	0.24460116	2.5321944	20	6 3.1	19.9
377720 2005 WD_{129}	16.7	X	284.86438	206.58719	63.15898	9.91431	0.1502351	0.22984487	2.6394463	20	3 1.9	20.6
377721 2005 WS_{143}	17.1	X	237.17821	286.07546	74.75688	13.50093	0.2264792	0.23964813	2.5669654	20	4 27.6	21.4
377722 2005 WC_{148}	17.2	X	205.79396	113.15759	316.81792	11.02722	0.2735027	0.24364665	2.5388035	20	6 19.9	21.9
377723 2005 WJ_{150}	15.1	X	292.77643	50.63702	26.61728	10.87130	0.2531178	0.12568635	3.9470926	20	9 22.7	20.1
377724 2005 WZ_{162}	17.2	X	183.75701	349.03917	86.90563	6.83149	0.2476460	0.23606450	2.5928791	20	6 10.7	21.6
377725 2005 WL_{177}	16.6	X	220.81762	99.08339	295.10129	6.36462	0.1590774	0.23760995	2.5816239	20	5 23.4	20.7
377726 2005 WR_{179}	16.5	X	133.69072	169.29282	314.47172	8.45498	0.1095099	0.23866563	2.5740054	20	6 21.6	20.3
377727 2005 WR_{180}	17.8	X	98.71976	60.05633	69.52230	22.74167	0.0985725	0.37037443	1.9203279	20	5 17.7	19.7
377728 2005 WQ_{183}	16.7	X	182.37828	15.38369	52.87604	14.55041	0.0899768	0.23868441	2.5738705	20	5 30.1	20.6
377729 2005 WQ_{211}	17.2	X	150.30251	239.08182	240.64055	6.16444	0.0963956	0.23840763	2.5758622	20	7 2.8	21.0
377730 2005 XF_{1}	17.4	X	185.30839	105.12823	259.09207	20.23212	0.1189182	0.36459941	1.9405525	20	2 19.9	20.6
377731 2005 XR_{3}	17.3	X	205.36252	8.58578	77.24672	5.54299	0.2288132	0.24329245	2.5412670	20	7 11.5	21.5
377732 2005 XJ_{8}	17.0	X	109.66164	67.33282	115.94736	23.57730	0.6212065	0.36746173	1.9304622	20	9 24.8	21.7
377733 2005 XQ_{15}	17.6	X	217.25187	194.56555	227.67231	1.83862	0.0380708	0.24338385	2.5406307	20	7 7.3	21.0
377734 2005 XB_{20}	16.1	X	207.01746	137.14795	273.88280	14.11338	0.0594165	0.23892468	2.5721446	20	6 7.4	19.8
377735 2005 XH_{21}	15.5	X	301.17894	254.36654	62.68202	12.42457	0.2253116	0.24189688	2.5510318	20	5 9.1	18.6
377736 2005 XX_{21}	16.7	X	157.98612	127.18953	9.66313	4.03183	0.1722210	0.24325129	2.5415536	20	8 6.1	20.8
377737 2005 XZ_{25}	16.7	X	236.95892	303.67621	73.71900	11.52367	0.2352883	0.24129682	2.5552594	20	5 14.5	20.8
377738 2005 XW_{28}	16.7	X	125.14315	221.66775	256.04865	16.24624	0.1612382	0.23457915	2.6038129	20	6 8.5	20.7
377739 2005 XB_{33}	16.9	X	265.02127	238.12948	90.02423	7.81988	0.1259374	0.23639795	2.5904402	20	4 23.6	20.6
377740 2005 XY_{36}	17.0	X	191.24782	52.30009	332.57971	3.17654	0.0747576	0.22879905	2.6474834	20	4 14.0	20.9
377741 2005 XZ_{52}	16.6	X	251.55326	287.37441	78.37901	17.43393	0.2087186	0.24021519	2.5629241	20	5 17.6	20.6
377742 2005 XG_{61}	17.3	X	311.29489	247.42420	49.35484	1.86580	0.1744777	0.24024428	2.5627172	20	5 3.3	20.0
377743 2005 XF_{62}	16.1	X	219.49624	288.10751	93.27036	22.70698	0.0818971	0.23531934	2.5983499	20	5 19.4	20.2
377744 2005 XM_{68}	17.7	X	92.34429	110.23102	21.12999	2.42434	0.0855249	0.23088624	2.6315039	20	5 8.3	21.2
377745 2005 XY_{77}	16.1	X	198.21013	24.42712	56.97486	36.70012	0.3076935	0.23689074	2.5868465	20	6 19.0	21.3
377746 2005 XV_{81}	18.0	X	161.82104	169.05368	310.17893	1.16944	0.1658385	0.23928236	2.5695807	20	7 16.6	22.1
377747 2005 XN_{105}	17.2	X	220.05889	277.07385	103.45964	3.05004	0.0904733	0.22892461	2.6465152	20	5 11.9	21.0
377748 2005 XA_{118}	16.1	X	275.29403	352.99495	300.19562	13.38022	0.1188322	0.22313110	2.6921297	20	3 12.8	20.2
377749 2005 YV_{5}	17.0	X	247.13098	293.73207	79.15054	5.96863	0.2681126	0.24329594	2.5412427	20	5 14.2	21.1
377750 2005 YA_{13}	17.6	X	181.44173	345.93497	106.16349	2.61397	0.1336758	0.23696855	2.5862802	20	6 30.4	21.4
377751 2005 YT_{14}	17.1	X	202.83031	84.28198	299.31445	5.05177	0.0662990	0.22762808	2.6565550	20	4 24.6	21.0
377752 2005 YG_{15}	16.2	X	305.59541	311.74587	298.79831	13.62594	0.1013701	0.21822620	2.7323193	20	2 29.2	20.1
377753 2005 YM_{15}	16.8	X	200.33615	140.56113	288.23396	10.80653	0.2875269	0.23833108	2.5764137	20	6 13.5	21.4
377754 2005 YQ_{16}	17.3	X	230.12417	138.78695	252.25991	0.80361	0.2518387	0.23846323	2.5754617	20	5 22.6	21.4
377755 2005 YG_{25}	18.1	X	162.34718	171.96420	283.63707	3.43031	0.1924192	0.23393531	2.6085882	20	6 17.2	22.5
377756 2005 YX_{32}	17.4	X	148.16148	195.36649	255.88773	1.94940	0.0709986	0.22950923	2.6420190	20	5 22.5	21.0
377757 2005 YL_{33}	17.3	X	225.22675	152.31058	254.59960	1.48793	0.1380661	0.23881305	2.5729461	20	6 16.3	21.2
377758 2005 YT_{47}	16.6	X	204.79175	339.90987	91.39477	10.26833	0.1668009	0.23903405	2.5713599	20	6 25.2	20.6
377759 2005 YF_{48}	17.0	X	216.83105	274.11208	111.34848	3.44932	0.1985205	0.23381901	2.6094532	20	5 8.6	21.3
377760 2005 YN_{55}	17.4	X	252.28346	255.41154	91.21237	4.68561	0.1531138	0.23951888	2.5678888	20	4 28.1	21.2

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377761 2005 YO_{60}	17.2	X	87.14505	204.93451	319.68571	4.51674	0.1488624	0.22900273	2.6459133	20	6 25.9	20.8
377762 2005 YQ_{60}	15.5	X	312.14008	355.69339	92.67763	5.49938	0.2607984	0.12445227	3.9731428	20	11 4.6	20.0
377763 2005 YH_{70}	16.3	X	235.69596	230.48150	90.76797	6.45666	0.0314307	0.22135378	2.7065211	20	3 22.6	20.1
377764 2005 YK_{79}	17.2	X	143.48508	135.41002	295.63482	0.67985	0.0444310	0.22629239	2.6669984	20	4 17.9	20.9
377765 2005 YH_{87}	17.4	X	140.08064	166.66480	291.39189	1.93431	0.0589990	0.23018038	2.6368809	20	5 20.6	21.2
377766 2005 YK_{114}	17.2	X	66.83497	52.89126	75.59270	4.03634	0.0269711	0.22043588	2.7140293	20	3 25.3	20.7
377767 2005 YX_{118}	17.0	X	206.82281	156.61266	266.36315	2.76148	0.1845263	0.23878503	2.5731473	20	6 15.5	21.1
377768 2005 YC_{124}	16.4	X	275.60920	275.03508	102.33240	9.07883	0.2804423	0.24489378	2.5301769	20	6 16.3	19.9
377769 2005 YN_{129}	17.4	X	136.52769	23.53447	91.44589	3.55812	0.0682016	0.23338593	2.6126803	20	6 9.3	21.2
377770 2005 YQ_{130}	16.8	X	174.69703	318.96304	104.87799	7.95762	0.1041804	0.23129857	2.6283755	20	5 19.8	20.9
377771 2005 YR_{135}	17.1	X	87.12608	64.73717	58.82347	3.43726	0.0467154	0.22477968	2.6789504	20	4 16.6	20.6
377772 2005 YV_{160}	16.7	X	53.53705	29.34932	122.68200	11.92891	0.1099155	0.22236742	2.6982899	20	4 20.6	20.2
377773 2005 YQ_{168}	17.1	X	188.29901	177.38345	253.49708	4.04379	0.2045215	0.23622864	2.5916778	20	6 8.5	21.5
377774 2005 YO_{171}	16.9	X	223.69183	37.09046	22.76950	12.98679	0.2901642	0.24227103	2.5484047	20	6 18.9	21.6
377775 2005 YR_{178}	17.0	X	49.92637	78.39675	60.26640	4.56790	0.0317960	0.21937182	2.7227984	20	3 16.4	20.5
377776 2005 YG_{185}	16.4	X	186.35669	286.61877	119.21014	13.65534	0.1797923	0.23083277	2.6319102	20	5 11.8	21.0
377777 2005 YA_{186}	16.8	X	135.84904	278.16318	119.02165	12.19862	0.0149767	0.21486080	2.7607766	20	2 25.7	20.6
377778 2005 YS_{200}	16.5	X	204.46124	216.27723	112.40430	5.28363	0.0469910	0.21646577	2.7471133	20	2 22.1	20.4
377779 2005 YG_{211}	15.8	X	80.30957	237.64454	283.36202	11.69844	0.2026363	0.22216615	2.6999194	20	6 20.3	19.4
377780 2005 YQ_{218}	16.8	X	107.21722	96.74752	77.15030	6.23462	0.1309775	0.23459041	2.6037296	20	7 31.4	20.6
377781 2005 YU_{224}	16.8	X	287.67384	337.34739	293.22713	5.89564	0.0888998	0.22464691	2.6800059	20	3 7.3	20.6
377782 2005 YD_{228}	16.7	X	0.58250	224.14224	326.59388	6.73815	0.0745652	0.21893519	2.7264173	20	3 9.5	20.1
377783 2005 YC_{251}	17.5	X	133.09580	296.44982	151.24443	4.04341	0.0692408	0.22610137	2.6685002	20	5 1.6	21.2
377784 2005 YL_{263}	17.5	X	147.79925	98.70438	347.70717	3.26466	0.0425371	0.22927581	2.6438119	20	5 12.5	21.1
377785 2005 YL_{271}	16.9	X	11.39903	53.93736	145.04274	5.34430	0.0547525	0.22160595	2.7044675	20	4 10.6	20.3
377786 2005 YD_{272}	17.5	X	236.86075	1.50815	349.15118	2.42989	0.0329035	0.22649409	2.6654148	20	4 26.3	21.2
377787 2005 YK_{287}	16.7	X	142.26655	123.76997	319.11338	10.40968	0.1477841	0.22848124	2.6499379	20	5 7.1	21.0
377788 2006 AB_{1}	17.1	X	214.33602	245.64882	159.29220	1.99087	0.1935361	0.23661175	2.5888796	20	5 30.3	21.4
377789 2006 AV_{11}	17.2	X	236.20035	67.34687	276.72772	3.62128	0.3628903	0.23576395	2.5950822	20	3 23.5	22.0
377790 2006 AF_{15}	16.3	X	244.44667	21.24928	292.36882	6.60248	0.0141266	0.21973478	2.7197993	20	3 18.3	20.2
377791 2006 AW_{20}	16.2	X	186.65136	314.67637	91.93635	15.37897	0.1504165	0.23080651	2.6321099	20	5 12.9	20.6
377792 2006 AY_{21}	16.4	X	178.44147	66.62952	43.19448	13.44665	0.1980406	0.23615349	2.5922276	20	7 22.2	21.0
377793 2006 AY_{23}	16.7	X	131.16535	105.13301	314.73734	7.90912	0.3452301	0.22394043	2.6856395	20	4 14.0	21.5
377794 2006 AM_{25}	17.5	X	207.50058	64.08230	300.15123	4.52048	0.0852580	0.22706396	2.6609532	20	4 4.3	21.5
377795 2006 AM_{27}	17.4	X	83.01526	277.82801	217.35842	2.41403	0.0403642	0.22392375	2.6857729	20	4 24.5	20.8
377796 2006 AW_{32}	16.8	X	108.98684	56.24877	65.54174	13.81681	0.2203264	0.22513138	2.6761597	20	6 2.6	20.8
377797 2006 AQ_{35}	16.7	X	25.09828	80.90302	123.08619	6.50368	0.1242743	0.22310068	2.6923744	20	5 13.5	19.7
377798 2006 AP_{42}	17.3	X	105.11417	327.78531	188.17655	2.09731	0.1399450	0.22990284	2.6390026	20	7 4.2	21.1
377799 2006 AJ_{55}	16.4	X	304.80101	4.08533	265.12267	5.99845	0.0582806	0.22320390	2.6915443	20	4 1.6	20.0
377800 2006 AZ_{57}	15.8	X	256.19015	6.33558	292.19322	8.23737	0.1605841	0.21709080	2.7418378	20	2 27.5	20.2
377801 2006 AN_{62}	17.1	X	202.53836	304.30223	78.01977	4.35659	0.0980762	0.22872766	2.6480342	20	4 25.4	21.0
377802 2006 AG_{67}	17.2	X	159.18439	279.70832	143.43308	5.79651	0.1753358	0.22823107	2.6518740	20	5 6.2	21.5
377803 2006 AH_{67}	17.4	X	148.96980	329.95236	157.59481	4.54403	0.1634877	0.23492886	2.6012283	20	7 14.3	21.6
377804 2006 AW_{70}	17.1	X	63.52998	265.76567	290.70055	2.29063	0.1108189	0.22881050	2.6473950	20	7 1.3	20.2
377805 2006 AL_{72}	16.9	X	67.89785	263.78293	284.93221	4.13982	0.1095306	0.22883596	2.6471986	20	6 26.6	20.3
377806 2006 AN_{77}	16.5	X	313.56318	266.03043	295.69896	6.40909	0.0888727	0.20915796	2.8107343	20	1 18.1	20.3
377807 2006 AG_{82}	16.2	X	236.37205	253.19226	118.61030	14.31774	0.1877731	0.23925718	2.5697610	20	5 14.1	20.5
377808 2006 AN_{102}	16.1	X	168.43957	281.69217	339.58640	10.66901	0.2932569	0.18077874	3.0976890	20	12 29.3	21.8
377809 2006 BX_{4}	16.7	X	169.71918	62.13746	292.55362	4.81215	0.0710910	0.21550937	2.7552348	20	2 14.0	20.7
377810 2006 BN_{9}	17.1	X	169.27984	296.26061	163.10122	3.55285	0.1065266	0.23507836	2.6001253	20	6 27.2	21.1
377811 2006 BM_{12}	16.6	X	138.19889	325.73022	140.34369	14.60308	0.2167732	0.22691656	2.6621054	20	6 12.3	21.2
377812 2006 BH_{13}	16.3	X	103.11596	180.85502	295.02244	9.58411	0.0726325	0.22453030	2.6809337	20	4 26.4	20.2
377813 2006 BO_{15}	17.1	X	241.29937	238.17776	125.68356	3.07048	0.1888860	0.23356007	2.6113815	20	5 4.8	21.1
377814 2006 BB_{31}	17.6	X	178.04901	131.33905	334.43139	3.14778	0.2255503	0.23644512	2.5900957	20	7 13.9	22.0
377815 2006 BA_{37}	16.6	X	138.12095	338.13634	127.43680	5.31930	0.1030810	0.22626177	2.6672390	20	6 2.4	20.5
377816 2006 BE_{51}	17.3	X	148.10041	95.01295	3.89352	1.77466	0.1674767	0.22960697	2.6412692	20	6 7.2	21.6
377817 2006 BD_{68}	17.3	X	201.16156	66.12208	330.01492	5.12510	0.2446066	0.23221264	2.6214735	20	5 4.2	21.9
377818 2006 BN_{74}	16.5	X	186.36849	267.47324	98.94259	6.77568	0.0322888	0.21755026	2.7379761	20	3 21.2	20.5
377819 2006 BB_{75}	16.9	X	10.58722	136.60505	38.71429	3.11016	0.0178276	0.21578350	2.7529008	20	3 9.2	20.5
377820 2006 BP_{80}	16.5	X	180.62139	12.63203	13.51770	6.25651	0.0428559	0.21677462	2.7445033	20	4 5.1	20.4
377821 2006 BZ_{84}	17.4	X	206.76183	73.98025	339.49840	2.52221	0.2615731	0.23589933	2.5940892	20	5 30.7	22.1
377822 2006 BM_{85}	17.3	X	189.45216	29.02734	5.28990	1.73801	0.2163349	0.22833510	2.6510684	20	4 24.8	21.8
377823 2006 BS_{86}	16.6	X	338.05716	76.30044	116.68992	5.39714	0.0130033	0.21270177	2.7794273	20	2 18.7	20.4
377824 2006 BA_{94}	17.0	X	151.58064	121.45374	312.19274	3.65331	0.0550694	0.22177838	2.7030656	20	4 30.9	21.0
377825 2006 BW_{99}	17.0	X	95.64544	61.74480	60.90317	12.21544	0.1526386	0.22384022	2.6864409	20	5 12.6	20.6
377826 2006 BA_{101}	17.3	X	160.74695	127.35242	347.49339	3.91976	0.1930030	0.23411934	2.6072210	20	7 10.8	21.6
377827 2006 BM_{102}	16.9	X	92.46542	320.21990	175.05442	3.02737	0.0379599	0.22283931	2.6944793	20	5 8.0	20.5
377828 2006 BC_{104}	16.9	X	206.06715	303.45057	96.71298	4.81486	0.1075287	0.23532392	2.5983162	20	5 21.1	20.7
377829 2006 BL_{109}	16.8	X	104.48582	3.63953	124.01269	10.70468	0.1479383	0.22514028	2.6760892	20	5 30.6	20.8
377830 2006 BD_{111}	16.7	X	228.98682	242.46852	62.13516	2.88827	0.0740722	0.21259048	2.7803972	20	2 18.8	20.9
377831 2006 BU_{112}	16.5	X	83.25461	72.89873	104.82164	4.11818	0.0528663	0.22889038	2.6467790	20	6 23.8	19.9
377832 2006 BR_{113}	17.3	X	132.76259	340.46590	106.50706	3.30054	0.1790666	0.22513323	2.6761450	20	5 10.4	21.6
377833 2006 BY_{116}	16.7	X	8.67772	33.25088	152.04852	5.62362	0.0872725	0.21403855	2.7678425	20	3 18.1	19.9
377834 2006 BT_{119}	16.5	X	172.25251	66.26438	304.56425	6.74920	0.2359171	0.21703322	2.7423228	20	3 12.8	21.3
377835 2006 BU_{120}	16.5	X	97.16626	199.32414	281.90507	3.99503	0.1123913	0.22127389	2.7071725	20	5 4.6	20.2
377836 2006 BS_{122}	16.7	X	275.37472	308.57895	328.66394	2.97104	0.0609870	0.21324380	2.7747154	20	3 7.9	20.6
377837 2006 BL_{125}	16.5	X	184.75146	10.95017	343.32721	6.49431	0.0346158	0.21152459	2.7897298	20	3 1.3	20.6
377838 2006 BL_{142}	16.7	X	104.98434	130.73174	334.54003	4.39679	0.1211767	0.21994458	2.7180694	20	4 24.1	20.5
377839 2006 BQ_{142}	16.4	X	353.68296	40.61261	139.84046	5.24947	0.1306605	0.21070545	2.7969554	20	2 12.4	19.4
377840 2006 BU_{148}	15.6	X	217.84705	212.83434	137.58585	16.54338	0.1148768	0.22167660	2.7038929	20	4 4.9	20.0

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377841 2006 BG_{152}	16.7	X	118.17850	330.09190	120.02274	7.09075	0.1069879	0.22101771	2.7092640	20	4 23.5	20.6
377842 2006 BC_{166}	16.8	X	231.63876	313.54226	139.78340	5.39045	0.1324904	0.24274610	2.5450786	20	8 25.8	20.4
377843 2006 BL_{167}	17.1	X	211.99796	298.02594	137.13207	5.03101	0.2458254	0.23811944	2.5779401	20	7 1.9	21.4
377844 2006 BR_{169}	13.9	X	185.06994	242.46551	157.06708	11.51734	0.0499030	0.08229535	5.2346282	20	5 5.3	21.1
377845 2006 BV_{173}	16.3	X	225.52670	329.43324	79.95391	10.56743	0.0563723	0.24181547	2.5516043	20	6 28.3	19.9
377846 2006 BP_{174}	16.3	X	211.94682	220.81847	95.39940	7.11938	0.0616847	0.21223539	2.7834976	20	2 16.0	20.4
377847 2006 BF_{178}	17.2	X	269.53007	308.55843	334.51656	4.21446	0.0815271	0.21686808	2.7437147	20	3 5.3	21.0
377848 2006 BX_{197}	16.6	X	272.62743	17.77977	266.76523	2.84352	0.0285522	0.21563063	2.7542018	20	3 17.0	20.4
377849 2006 BB_{198}	16.4	X	120.08155	1.91754	302.05689	7.58250	0.0844632	0.18925270	3.0045169	20	—	—
377850 2006 BU_{198}	16.0	X	48.00494	189.99105	341.11336	8.90335	0.2208579	0.21810025	2.7333711	20	5 15.7	19.1
377851 2006 BQ_{199}	14.3	X	69.68595	154.83404	12.27405	1.70923	0.0913888	0.08242053	5.2293266	20	5 27.5	21.1
377852 2006 BU_{199}	17.0	X	81.53580	308.58879	145.45307	4.99529	0.0378461	0.21054398	2.7983852	20	3 1.3	20.8
377853 2006 BL_{200}	16.6	X	12.32552	116.74062	92.46847	3.87430	0.1134648	0.22109449	2.7086368	20	4 26.4	19.5
377854 2006 BF_{204}	16.9	X	181.11528	295.46183	108.38692	3.67844	0.1355758	0.22557761	2.6726293	20	4 30.8	21.2
377855 2006 BP_{211}	16.6	X	131.54115	265.84176	141.82273	6.47701	0.0942365	0.21276750	2.7788548	20	3 13.4	20.5
377856 2006 BG_{216}	16.1	X	96.94533	234.94580	250.26966	13.38185	0.1142275	0.22373654	2.6872708	20	5 10.1	19.9
377857 2006 BP_{221}	16.5	X	192.05831	67.97026	309.36564	5.49204	0.0549291	0.22063498	2.7123963	20	4 4.3	20.5
377858 2006 BS_{223}	16.4	X	24.39599	198.04631	322.73987	8.16181	0.0538649	0.21397667	2.7683761	20	3 6.3	19.9
377859 2006 BJ_{232}	16.4	X	177.06683	271.82302	100.22557	6.47100	0.0710022	0.21812813	2.7331382	20	3 18.6	20.5
377860 2006 BC_{238}	17.2	X	195.83887	28.95736	349.26405	4.82630	0.0543729	0.22267298	2.6958209	20	4 10.9	21.2
377861 2006 BB_{242}	17.3	X	132.55994	25.98329	58.48673	2.53954	0.0741917	0.22238339	2.6981607	20	4 26.4	21.1
377862 2006 BV_{244}	16.9	X	182.63432	327.14030	104.55685	3.30356	0.1561302	0.23098416	2.6307601	20	6 5.3	21.1
377863 2006 BC_{251}	17.0	X	166.06059	270.14798	151.35426	6.72888	0.0990898	0.22721783	2.6597518	20	5 7.8	21.1
377864 2006 BZ_{254}	16.9	X	23.10360	4.92683	158.86964	3.81049	0.0287629	0.21429641	2.7656218	20	3 10.4	20.5
377865 2006 BK_{259}	17.0	X	81.46358	20.79208	124.64487	3.92171	0.0619530	0.22090091	2.7102189	20	5 11.1	20.5
377866 2006 BS_{277}	17.1	X	118.04849	270.73136	162.86705	2.87597	0.1078774	0.21583275	2.7524820	20	3 31.0	21.1
377867 2006 BE_{284}	14.2	X	289.59199	318.61398	353.11676	8.24685	0.0522298	0.08285150	5.2111767	20	5 12.3	21.1
377868 2006 CG_{21}	15.8	X	11.38342	140.19366	59.12437	16.14931	0.2374727	0.21314026	2.7756139	20	4 17.4	18.3
377869 2006 CQ_{21}	15.9	X	69.04693	110.34746	68.65083	17.33302	0.3043830	0.22086983	2.7104732	20	7 15.9	19.9
377870 2006 CN_{23}	17.2	X	148.45467	346.20289	125.69117	1.94713	0.0604586	0.23365070	2.6107061	20	6 18.8	21.0
377871 2006 CU_{40}	17.1	X	152.18249	50.20884	10.73022	6.89563	0.0583763	0.21799433	2.7342565	20	4 16.1	21.0
377872 2006 CB_{47}	16.9	X	77.80415	183.12956	355.14308	4.16139	0.1047527	0.22733800	2.6588144	20	6 25.4	20.4
377873 2006 CL_{54}	17.1	X	62.77951	22.98870	126.18800	4.40275	0.0379810	0.22118481	2.7078993	20	4 17.4	20.6
377874 2006 CY_{68}	17.1	X	166.09277	23.28479	41.68697	3.46692	0.0252017	0.22315006	2.6919772	20	5 6.9	20.8
377875 2006 DV_{8}	16.4	X	35.09451	95.73657	64.05174	9.04202	0.1952431	0.21427879	2.7657734	20	4 7.8	19.2
377876 2006 DB_{18}	16.8	X	193.14737	10.36716	17.11474	6.12960	0.0579023	0.22126400	2.7072532	20	4 20.5	20.8
377877 2006 DW_{18}	16.6	X	219.70859	209.39761	123.29333	5.18795	0.0795715	0.21465181	2.7625682	20	3 14.5	20.7
377878 2006 DQ_{19}	16.0	X	36.65738	166.98662	340.29232	13.25451	0.0246841	0.21347203	2.7727374	20	3 6.2	19.6
377879 2006 DJ_{20}	16.8	X	213.81389	355.50118	6.03714	4.24679	0.0714391	0.22043642	2.7140248	20	4 10.5	20.9
377880 2006 DM_{25}	16.9	X	98.61270	321.26302	128.01399	0.72507	0.0414297	0.21345843	2.7728551	20	3 17.3	20.6
377881 2006 DK_{32}	16.5	X	70.68436	319.89160	168.10588	4.86973	0.1813020	0.21559067	2.7545421	20	4 21.2	19.8
377882 2006 DL_{36}	16.4	X	38.65862	159.96387	353.71433	9.03272	0.0952889	0.21121570	2.7924490	20	3 22.3	19.6
377883 2006 DY_{36}	17.1	X	164.39516	98.71519	349.56035	4.18052	0.2329392	0.22716688	2.6601494	20	6 10.1	21.7
377884 2006 DH_{39}	16.5	X	112.18574	271.54846	156.20517	4.11821	0.0813312	0.20980424	2.8049591	20	3 13.5	20.2
377885 2006 DJ_{42}	18.6	X	105.05833	311.13452	202.16179	2.21157	0.1284901	0.29865879	2.2165925	20	7 1.8	21.3
377886 2006 DO_{43}	17.4	X	182.29985	42.15104	1.63138	2.74452	0.1847925	0.22429842	2.6827811	20	4 30.1	22.0
377887 2006 DA_{49}	16.9	X	21.26636	25.86647	151.15717	3.99035	0.0273355	0.21376581	2.7701964	20	3 25.9	20.4
377888 2006 DN_{56}	16.5	X	151.98657	320.87155	36.80089	5.71274	0.1227411	0.20562580	2.8428306	20	2 7.8	20.9
377889 2006 DD_{67}	16.4	X	180.12464	226.59935	267.21140	12.08586	0.1589043	0.23742378	2.5829732	20	8 15.8	20.8
377890 2006 DN_{68}	16.2	X	71.46537	81.42712	75.63941	3.73406	0.2749959	0.21927564	2.7235946	20	6 14.2	19.8
377891 2006 DF_{69}	16.7	X	144.76743	110.00228	352.60783	5.07594	0.1318366	0.22736273	2.6586216	20	6 6.1	20.9
377892 2006 DK_{74}	17.1	X	124.69913	61.83087	58.38231	0.70741	0.0825147	0.22729110	2.6591802	20	6 3.3	20.8
377893 2006 DB_{76}	16.6	X	146.68884	241.93889	144.80272	6.28324	0.0724251	0.21076600	2.7964196	20	3 1.6	20.7
377894 2006 DZ_{78}	16.6	X	130.60740	131.14848	336.23306	8.27735	0.2187951	0.22506022	2.6767238	20	6 4.1	21.1
377895 2006 DT_{87}	16.7	X	329.68686	119.35575	72.05955	3.07257	0.0131369	0.20478546	2.8506023	20	2 6.9	20.6
377896 2006 DD_{89}	16.7	X	218.04522	330.26246	353.72771	5.80570	0.0570532	0.20894237	2.8126674	20	3 2.2	20.7
377897 2006 DZ_{92}	16.9	X	159.05199	261.43840	173.07635	4.71470	0.2006371	0.22261474	2.6962911	20	5 20.3	21.5
377898 2006 DJ_{94}	15.9	X	129.87748	95.83683	181.11161	24.01459	0.2795992	0.17466116	3.1696051	20	12 20.1	22.0
377899 2006 DD_{106}	16.7	X	124.19644	274.13147	155.31078	5.61025	0.0432698	0.21294964	2.7772701	20	3 25.6	20.5
377900 2006 DQ_{106}	16.9	X	234.16226	314.12827	359.37960	7.20241	0.0256317	0.21007932	2.8025100	20	3 9.7	20.9
377901 2006 DN_{108}	15.5	X	148.22282	285.36190	351.70791	23.10512	0.4115533	0.17650151	3.1475340	20	—	—
377902 2006 DR_{117}	16.3	X	237.72088	303.22218	20.95620	6.57003	0.0089228	0.21115876	2.7929510	20	3 29.1	20.1
377903 2006 DR_{118}	13.8	X	184.05298	57.88412	1.49382	25.31148	0.0820323	0.08258987	5.2221764	20	5 13.7	21.3
377904 2006 DW_{120}	16.3	X	50.87166	190.50498	351.24708	13.71811	0.1282847	0.22199214	2.7013301	20	5 19.6	19.9
377905 2006 DL_{150}	16.7	X	139.97481	209.81911	213.65467	2.93402	0.0857216	0.21536114	2.7564989	20	4 8.7	20.8
377906 2006 DZ_{163}	16.5	X	113.89634	98.72430	332.48194	5.82216	0.0124775	0.21143477	2.7905198	20	3 8.5	20.3
377907 2006 DL_{167}	16.5	X	162.05824	351.55013	41.18816	4.84565	0.1205510	0.21384901	2.7694778	20	3 29.5	20.8
377908 2006 DQ_{174}	16.7	X	181.33225	233.24092	136.91635	4.31787	0.1079684	0.21217734	2.7840052	20	3 20.5	21.1
377909 2006 DE_{200}	17.0	X	153.56504	242.22912	253.14287	4.86457	0.3027304	0.23365700	2.6106592	20	7 30.3	21.8
377910 2006 DB_{206}	17.0	X	162.93231	278.80464	140.88436	2.69360	0.1118458	0.22108992	2.7086741	20	5 1.7	21.1
377911 2006 DU_{214}	17.1	X	102.25758	248.34922	204.97719	3.56989	0.0718304	0.21277186	2.7788168	20	3 31.0	21.0
377912 2006 DX_{214}	17.1	X	143.99920	302.06394	182.56512	3.83496	0.1860450	0.23068984	2.6329972	20	7 6.8	21.5
377913 2006 EG_{3}	16.6	X	196.84400	224.30534	119.07517	3.37624	0.0825346	0.21126460	2.7920181	20	3 3.0	20.7
377914 2006 EP_{7}	16.7	X	143.93988	159.70058	320.02500	3.51370	0.2527387	0.22925616	2.6439630	20	7 4.2	21.2
377915 2006 EO_{10}	16.7	X	14.22849	172.90728	18.85438	4.12417	0.0367956	0.21354987	2.7720635	20	4 3.6	20.1
377916 2006 EH_{14}	16.7	X	96.65583	295.16704	171.06731	3.59488	0.0495569	0.21403195	2.7678994	20	4 7.3	20.4
377917 2006 EX_{18}	16.9	X	45.29582	174.86616	353.05468	4.82761	0.0183114	0.21455081	2.7634352	20	4 12.7	20.5
377918 2006 ET_{21}	17.0	X	148.78832	49.68803	17.75697	1.91451	0.0641589	0.21983280	2.7189907	20	4 21.8	20.7
377919 2006 EA_{36}	16.2	X	64.71297	354.33419	132.38709	5.28203	0.0121363	0.21277171	2.7788182	20	3 18.8	19.9
377920 2006 EF_{38}	16.6	X	183.58502	293.99986	12.24593	6.17132	0.2238090	0.19629200	2.9322499	20	1 12.7	21.7

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
377921 2006 EJ_{39}	16.0	X	152.24611	307.22825	343.75593	10.72211	0.1145426	0.18750756	3.0231302	20	—	—
377922 2006 EN_{45}	16.8	X	82.26790	242.00465	277.48565	3.95241	0.1380110	0.22415786	2.6839025	20	6 10.6	20.2
377923 2006 EZ_{52}	16.4	X	112.32518	128.04890	175.95469	22.95713	0.1284878	0.18141540	3.0904373	20	—	—
377924 2006 EX_{72}	16.5	X	100.21545	75.49366	26.41773	3.91608	0.1169008	0.21321818	2.7749376	20	4 15.5	20.3
377925 2006 FQ_{3}	16.3	X	63.62953	108.01683	19.99024	9.00643	0.0635485	0.20924400	2.8099637	20	3 25.3	19.8
377926 2006 FK_{18}	16.0	X	201.84884	255.93223	29.94323	13.93937	0.1696102	0.18989913	2.9976947	20	1 3.1	21.2
377927 2006 FZ_{36}	15.0	X	146.38181	224.39145	61.95612	19.82561	0.3392827	0.17626560	3.1503418	20	—	—
377928 2006 GR_{10}	16.3	X	244.45241	237.26210	26.69006	12.88195	0.1270965	0.19763916	2.9189101	20	1 17.3	21.1
377929 2006 GV_{21}	16.2	X	306.27672	204.59748	64.02708	5.33785	0.0125061	0.21030377	2.8005157	20	4 15.2	19.9
377930 2006 GE_{22}	16.3	X	152.68953	118.47761	177.83381	7.96063	0.1441702	0.18229340	3.0805062	20	—	—
377931 2006 GX_{25}	16.3	X	143.28950	139.17988	199.75403	10.62302	0.0690993	0.19061266	2.9902091	20	—	—
377932 2006 GM_{32}	16.5	X	102.27409	349.02248	135.23035	5.77448	0.0807240	0.21694517	2.7430648	20	5 13.9	20.3
377933 2006 GP_{39}	15.7	X	184.23345	113.65836	134.71458	13.20366	0.2166636	0.18133537	3.0913466	20	12 29.0	20.9
377934 2006 GO_{54}	16.2	X	151.84292	207.86191	100.25179	2.85534	0.1069586	0.18453572	3.0555009	20	—	—
377935 2006 HY_{15}	17.0	X	145.03981	20.39396	141.23405	2.85195	0.1375920	0.22984523	2.6394436	20	8 22.6	21.1
377936 2006 HZ_{30}	15.8	X	153.25216	81.88494	212.19182	13.98837	0.1230344	0.18126208	3.0921798	20	—	—
377937 2006 HU_{40}	15.0	X	99.28969	279.95183	77.13261	25.26231	0.4005317	0.17634028	3.1494523	20	1 20.1	20.0
377938 2006 HB_{58}	16.1	X	52.12880	74.78872	87.32096	10.05516	0.1569664	0.21054490	2.7983771	20	5 7.1	19.5
377939 2006 HP_{58}	18.4	X	57.62220	302.19902	221.40391	19.44596	0.1220097	0.42315012	1.7571401	20	4 27.9	18.9
377940 2006 HT_{59}	15.9	X	262.36668	190.00736	69.29251	13.55139	0.1483009	0.19667202	2.9284715	20	1 26.9	20.6
377941 2006 HZ_{63}	16.7	X	72.20099	320.08884	111.59043	2.79938	0.0392871	0.19469813	2.9482311	20	1 23.2	20.5
377942 2006 HT_{76}	16.4	X	240.47514	95.09197	132.82427	12.72764	0.0535451	0.18498600	3.0505406	20	—	—
377943 2006 HR_{84}	15.8	X	123.39376	87.93060	218.56547	15.08305	0.1052769	0.17585277	3.1552703	20	—	—
377944 2006 HX_{86}	16.5	X	125.31282	342.27753	91.99384	2.91030	0.0545580	0.20981129	2.8048964	20	4 4.0	20.4
377945 2006 HH_{89}	16.1	X	176.28582	46.81996	213.18065	30.03248	0.3323831	0.17707081	3.1407840	20	12 25.4	22.3
377946 2006 HZ_{90}	16.0	X	165.52739	266.84561	78.04611	11.45455	0.1085691	0.19304082	2.9650813	20	2 7.3	20.7
377947 2006 HS_{97}	16.6	X	119.72064	234.53235	237.07580	6.88091	0.1859055	0.21488074	2.7606058	20	5 28.6	20.9
377948 2006 HA_{102}	16.3	X	98.72574	327.89962	82.47928	10.97813	0.0797885	0.19323850	2.9630589	20	2 8.4	20.5
377949 2006 HP_{152}	17.8	X	105.75360	196.89852	126.84530	4.18701	0.2250668	0.31421494	2.1428158	20	—	—
377950 2006 JJ_{2}	16.1	X	252.46106	112.95956	92.97263	7.98172	0.1139071	0.18466036	3.0541259	20	—	—
377951 2006 JA_{15}	16.5	X	21.32983	327.94906	207.33820	12.25092	0.1226731	0.20863552	2.8154245	20	3 23.1	19.7
377952 2006 JV_{16}	16.3	X	189.60491	163.82887	108.25965	4.05088	0.0810936	0.18403777	3.0610100	20	—	—
377953 2006 JQ_{17}	16.6	X	171.84010	54.06897	209.91142	8.88422	0.0626785	0.17931695	3.1145010	20	—	—
377954 2006 JE_{20}	15.8	X	108.43494	240.18963	112.13502	10.12759	0.0982070	0.18272652	3.0756364	20	—	—
377955 2006 JV_{21}	16.3	X	285.09295	20.93923	188.46313	11.61650	0.0272191	0.19136822	2.9823332	20	1 3.3	20.7
377956 2006 JR_{31}	16.2	X	211.66862	58.59273	201.44905	12.03235	0.0347808	0.18632406	3.0359184	20	—	—
377957 2006 JS_{42}	16.2	X	182.97358	205.97150	73.45266	10.36209	0.0616976	0.18397647	3.0616898	20	—	—
377958 2006 JL_{48}	15.9	X	195.74536	226.56992	43.95761	10.47077	0.2267207	0.18350036	3.0669834	20	—	—
377959 2006 JK_{61}	16.7	X	29.67649	331.52740	218.61663	7.25110	0.1510673	0.21202858	2.7853072	20	5 2.5	19.5
377960 2006 JU_{63}	16.2	X	227.40465	9.80956	352.30321	5.35553	0.0577320	0.22033097	2.7148907	20	4 26.5	20.1
377961 2006 JE_{64}	17.0	X	241.69197	318.86969	353.14696	4.24237	0.0565665	0.21221725	2.7836562	20	3 13.0	20.8
377962 2006 JN_{81}	16.6	X	147.44875	303.33333	34.05315	6.56258	0.0795397	0.18831375	3.0144958	20	1 6.7	21.1
377963 2006 KR	15.6	X	190.83556	213.09179	67.31781	19.87100	0.2255177	0.18244275	3.0788248	20	—	—
377964 2006 KN_{9}	15.2	X	88.09728	245.15013	79.29318	27.30385	0.1977611	0.17053886	3.2204791	20	—	—
377965 2006 KP_{12}	15.8	X	118.06442	159.50258	140.68776	9.85856	0.1990549	0.17352264	3.1834543	20	—	—
377966 2006 KA_{29}	16.5	X	121.61123	356.07070	58.80387	10.23690	0.1077251	0.19950546	2.9006781	20	3 17.8	20.8
377967 2006 KN_{45}	16.2	X	12.05095	101.19922	58.31422	12.33610	0.0664084	0.20023203	2.8936568	20	2 26.0	20.1
377968 2006 KC_{56}	17.8	X	355.41418	189.97426	30.85019	3.54495	0.1692499	0.27806137	2.3247465	20	3 31.9	19.7
377969 2006 KT_{83}	16.6	X	20.32546	90.92588	59.00125	11.52220	0.1069677	0.20087520	2.8874768	20	2 25.4	20.2
377970 2006 KG_{117}	16.3	X	102.97471	231.15257	212.63779	8.64923	0.0918679	0.20085861	2.8876358	20	3 22.1	20.3
377971 2006 LW_{6}	18.1	X	67.66232	156.70086	152.48344	4.14986	0.3070800	0.29863088	2.2167306	20	—	—
377972 2006 MF_{10}	19.4	X	84.07004	64.42049	196.67042	3.04625	0.4229520	0.29781996	2.2207526	20	11 23.7	23.6
377973 2006 NF	17.6	X	131.65639	157.19787	120.01291	9.14831	0.2639242	0.30546327	2.1835512	20	—	—
377974 2006 OU_{2}	17.7	X	22.69104	213.86747	111.90266	8.66480	0.2686498	0.29223335	2.2489659	20	12 7.8	20.4
377975 2006 OO_{6}	17.5	X	3.87383	16.42012	347.88612	7.04715	0.1466357	0.28762817	2.2729075	20	12 11.1	20.0
377976 2006 OC_{12}	17.8	X	358.59878	212.73642	132.26206	5.42013	0.2411144	0.28718849	2.2752268	20	11 22.4	19.8
377977 2006 OH_{20}	17.6	X	106.83810	350.50595	298.20625	4.51934	0.1957919	0.30302787	2.1952349	20	—	—
377978 2006 PZ_{17}	17.9	X	332.37454	86.82252	238.30085	1.42975	0.2579282	0.27997337	2.3141503	20	7 27.7	18.9
377979 2006 QJ_{21}	18.2	X	356.95137	205.03942	182.87920	2.26249	0.2066990	0.29364860	2.2417341	20	—	—
377980 2006 QH_{22}	17.7	X	60.98736	192.29426	129.93187	5.86489	0.2056187	0.29758169	2.2219379	20	—	—
377981 2006 QM_{32}	17.7	X	65.64310	28.89522	279.39739	4.95267	0.2167435	0.29663167	2.2266795	20	12 23.8	21.1
377982 2006 QV_{52}	17.6	X	24.02491	238.05341	100.32487	3.25896	0.2354453	0.29187864	2.2507875	20	12 20.2	20.2
377983 2006 QX_{55}	18.0	X	350.94442	22.47718	351.69839	5.47962	0.1899837	0.28966838	2.2622225	20	12 11.7	20.1
377984 2006 QW_{120}	17.8	X	31.02599	130.85272	199.43688	4.65415	0.2155985	0.29219825	2.2491460	20	12 15.3	20.7
377985 2006 QA_{124}	16.7	X	276.98820	95.09084	276.99578	5.16221	0.2098461	0.27232563	2.3572757	20	6 22.2	19.4
377986 2006 QX_{131}	18.1	X	5.97330	259.67473	111.12463	3.32814	0.1564904	0.29245187	2.2478454	20	12 27.5	20.3
377987 2006 QJ_{157}	17.8	X	324.14354	206.18032	154.31043	2.42601	0.1114384	0.28266930	2.2994129	20	9 17.3	19.9
377988 2006 QY_{160}	18.6	X	321.28626	183.16398	173.80213	2.03803	0.2331731	0.28052699	2.3111047	20	8 26.7	19.9
377989 2006 QT_{167}	16.7	X	333.49314	326.77504	61.56017	2.73046	0.2344362	0.21525355	2.7574173	20	11 2.5	18.9
377990 2006 RJ_{17}	17.2	X	13.69354	352.37519	15.51271	6.43359	0.2002212	0.29191593	2.2505959	20	—	—
377991 2006 RQ_{31}	18.5	X	331.32810	180.63931	219.89499	1.47990	0.2044627	0.28694467	2.2765155	20	12 14.4	20.1
377992 2006 RP_{35}	17.8	X	328.71299	297.83929	79.98667	2.93644	0.2634879	0.28396265	2.2924255	20	11 4.2	18.7
377993 2006 RC_{39}	17.3	X	44.70284	140.65558	181.52763	4.11990	0.1759929	0.29046181	2.2581010	20	12 14.9	20.4
377994 2006 RS_{39}	17.7	X	25.14275	162.26596	193.90719	3.75154	0.1726736	0.29240521	2.2480846	20	—	—
377995 2006 RE_{45}	18.0	X	68.33092	266.43737	33.99534	3.64111	0.1492405	0.29075133	2.2566017	20	12 8.9	21.1
377996 2006 RU_{50}	15.6	X	116.17496	100.97033	197.29305	8.95254	0.0787078	0.15309299	3.4607151	20	12 21.7	20.9
377997 2006 RF_{61}	18.0	X	355.66721	65.10017	322.38643	1.13769	0.2391321	0.29154127	2.2525236	20	—	—
377998 2006 RZ_{83}	17.5	X	247.80123	272.79194	185.41238	20.84462	0.3019794	0.27701133	2.3306176	20	8 28.5	21.1
377999 2006 RK_{90}	18.3	X	326.70359	64.21384	354.50748	2.56589	0.1971485	0.28805592	2.2706569	20	—	—
378000 2006 RC_{94}	17.3	X	287.02875	242.89789	208.05352	6.79271	0.0558954	0.28754401	2.2733510	20	12 1.1	19.7

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378001 2006 RR_{98}	17.9	X	353.33460	36.65059	2.15902	4.05649	0.1177429	0.29238039	2.2482118	20	—	—
378002 `Akialoa	17.9	X	228.93992	131.91424	17.46335	7.59751	0.0395747	0.28908049	2.2652885	20	11 26.5	20.8
378003 2006 SW	17.8	X	2.26398	72.74232	297.57108	2.40474	0.1976337	0.28911119	2.2651282	20	12 27.1	19.9
378004 2006 SX_{25}	17.7	X	335.04778	61.38682	287.12649	6.05837	0.2324307	0.28151566	2.3056905	20	9 19.1	19.0
378005 2006 SR_{31}	17.7	X	358.86587	6.61766	350.77360	5.75184	0.1558674	0.28667178	2.2779600	20	11 22.9	20.0
378006 2006 SX_{32}	17.9	X	45.70668	122.08725	199.61818	3.65256	0.2303985	0.29206881	2.2498104	20	12 21.9	21.1
378007 2006 SQ_{38}	17.6	X	137.45423	284.45388	323.51412	4.38890	0.0641070	0.29305969	2.2447363	20	12 12.7	20.6
378008 2006 SO_{43}	17.3	X	317.34457	201.12816	231.63953	6.53510	0.0958735	0.29151857	2.2526406	20	12 26.3	19.5
378009 2006 SG_{46}	17.7	X	341.57739	147.35787	192.88440	4.36988	0.2883330	0.28050256	2.3112388	20	10 5.1	18.5
378010 2006 SP_{60}	17.2	X	26.64096	288.54403	49.95979	9.10199	0.2044324	0.28958046	2.2626804	20	12 17.8	20.0
378011 2006 SK_{69}	18.5	X	289.73493	125.23537	11.45896	5.13540	0.1141041	0.29877088	2.2160380	20	—	—
378012 2006 SU_{70}	17.8	X	20.57940	141.87022	180.46040	5.93505	0.1973371	0.28484357	2.2876966	20	11 17.2	20.3
378013 2006 SV_{71}	17.3	X	128.08316	338.84227	27.87940	7.30129	0.2250282	0.24046592	2.5611422	20	2 1.6	21.2
378014 2006 SP_{149}	17.7	X	332.14958	208.63634	208.05988	6.52659	0.1023090	0.28944247	2.2633995	20	12 28.3	20.0
378015 2006 SM_{156}	17.9	X	37.64908	155.13385	172.29651	5.22861	0.1432984	0.29113693	2.2546087	20	12 9.5	20.7
378016 2006 SS_{161}	18.2	X	329.40334	39.92835	12.51055	5.03251	0.1450824	0.28901438	2.2656340	20	12 22.3	20.2
378017 2006 SB_{163}	18.3	X	248.69093	260.62742	184.85709	6.05988	0.0938494	0.27689704	2.3312589	20	9 15.4	21.1
378018 2006 SW_{164}	17.3	X	91.30358	67.05057	217.11395	5.31327	0.1693688	0.29452266	2.2372967	20	12 13.7	20.7
378019 2006 SL_{185}	18.3	X	312.02705	89.89958	348.82122	4.58834	0.1333474	0.28807396	2.2705621	20	12 27.0	20.2
378020 2006 SQ_{256}	17.7	X	356.95362	10.35892	0.93902	6.27482	0.0369481	0.28693661	2.2765581	20	11 22.7	20.4
378021 2006 SM_{259}	18.3	X	58.84093	308.04161	351.01199	1.20059	0.2033159	0.28914783	2.2649368	20	12 2.7	21.5
378022 2006 SD_{283}	17.8	X	25.44287	275.94537	50.04937	4.80661	0.2529120	0.28908669	2.2652561	20	12 6.9	20.6
378023 2006 SS_{311}	17.8	X	195.87411	257.93947	302.66782	2.19620	0.1475094	0.29339167	2.2430427	20	12 9.7	20.7
378024 2006 SV_{314}	17.1	X	43.77459	300.07603	42.16060	4.36340	0.1194712	0.21967021	2.7203322	20	12 14.7	20.9
378025 2006 SX_{321}	17.6	X	306.08531	27.63961	34.07084	7.18360	0.0868257	0.28593452	2.2818740	20	11 16.6	19.9
378026 2006 SQ_{324}	17.1	X	275.41447	287.95881	156.44551	4.73948	0.0447861	0.21246594	2.7814836	20	10 20.3	20.7
378027 2006 SX_{326}	17.9	X	304.08905	17.08199	36.89989	4.48106	0.1133469	0.28270057	2.2992433	20	10 31.4	19.8
378028 2006 SU_{337}	18.2	X	295.14319	244.65075	158.76805	5.57685	0.2238596	0.27922043	2.3183086	20	9 11.2	19.8
378029 2006 SZ_{337}	18.4	X	281.67357	2.33872	80.09044	4.03249	0.1718627	0.28327674	2.2961245	20	10 26.7	20.4
378030 2006 SG_{352}	18.1	X	326.64161	98.23262	288.08220	3.97031	0.1821489	0.28359684	2.2943964	20	11 3.6	19.8
378031 2006 SZ_{355}	17.8	X	350.92138	322.63218	45.71068	7.58849	0.1942066	0.28504996	2.2865922	20	12 1.4	19.7
378032 2006 SH_{363}	18.0	X	290.87720	258.84520	177.14943	5.36423	0.2010205	0.28041638	2.3117124	20	10 31.2	19.6
378033 2006 SQ_{391}	18.4	X	332.24224	348.11593	25.48215	7.47734	0.0980111	0.28150273	2.3057611	20	10 22.3	20.5
378034 2006 SH_{392}	17.8	X	86.10117	54.20529	197.91663	6.72084	0.0420447	0.28026741	2.3125314	20	10 13.3	20.6
378035 2006 SE_{394}	17.3	X	166.29028	356.60289	184.70025	4.99816	0.0759116	0.27894522	2.3198332	20	10 16.6	20.5
378036 2006 SD_{398}	17.5	X	246.15241	67.81444	53.25173	8.19283	0.0468200	0.28019660	2.3129210	20	11 10.4	20.1
378037 2006 SE_{401}	18.7	X	319.76374	119.28274	241.56513	0.51180	0.2152191	0.27615817	2.3354153	20	8 30.2	19.9
378038 2006 SM_{402}	18.5	X	36.18826	84.94337	228.19116	2.76886	0.2066213	0.28642778	2.2792535	20	11 26.1	21.4
378039 2006 SP_{405}	18.2	X	38.25617	338.00216	324.81431	1.75319	0.2410722	0.28833491	2.2691919	20	11 19.4	21.0
378040 2006 SY_{410}	18.0	X	315.67462	146.39300	206.52017	5.86640	0.1366136	0.27833943	2.3231980	20	8 12.4	20.1
378041 2006 SX_{411}	17.1	X	329.01908	109.12109	297.09122	6.05175	0.0311462	0.28843145	2.2686856	20	12 1.3	19.7
378042 2006 TN_{12}	17.8	X	303.02413	135.43170	274.92776	3.64006	0.1624595	0.28320036	2.2965374	20	10 18.2	19.5
378043 2006 TX_{20}	18.7	X	314.54190	153.62296	208.64978	1.58030	0.2001882	0.27600164	2.3362982	20	8 19.9	20.2
378044 2006 TT_{22}	17.9	X	61.66836	262.44193	46.36411	7.56328	0.2436420	0.29016029	2.2596650	20	12 21.5	21.4
378045 2006 TR_{23}	17.2	X	228.59947	320.09587	201.04709	8.43241	0.1216519	0.28610827	2.2809501	20	12 1.2	19.9
378046 2006 TX_{23}	17.9	X	280.68869	48.01947	59.71451	2.98383	0.1908897	0.28445381	2.2897859	20	11 29.8	19.4
378047 2006 TH_{32}	18.6	X	301.84716	198.48065	217.27120	1.07140	0.1710691	0.28148068	2.3058815	20	10 25.2	20.3
378048 2006 TD_{33}	17.4	X	126.34878	170.97923	34.68360	10.08891	0.1351696	0.27724248	2.3293220	20	10 6.9	20.9
378049 2006 TM_{34}	18.2	X	294.55984	199.55605	243.16965	3.07205	0.1414350	0.28383797	2.2930968	20	11 24.8	20.1
378050 2006 TJ_{39}	16.1	X	57.14937	125.85058	217.26060	9.07792	0.0982757	0.14712153	3.5537365	20	12 12.2	21.2
378051 2006 TY_{46}	18.5	X	319.10206	339.03472	43.31180	3.32160	0.1945203	0.27919898	2.3184274	20	10 10.1	19.8
378052 2006 TA_{51}	17.6	X	54.10129	77.47721	218.11074	5.89473	0.2511169	0.28436543	2.2902603	20	11 28.5	20.8
378053 2006 TC_{60}	17.9	X	326.47160	322.83032	26.17345	7.99656	0.1068433	0.27398883	2.3477263	20	9 5.6	20.2
378054 2006 TF_{60}	18.5	X	343.32933	112.56472	234.95948	6.04785	0.3065733	0.28066305	2.3103577	20	10 27.6	19.6
378055 2006 TN_{64}	17.6	X	72.43059	321.41253	297.28794	5.95250	0.0871408	0.28401201	2.2921599	20	10 7.6	20.7
378056 2006 TM_{74}	17.9	X	25.41682	245.64294	76.85758	6.74689	0.2962030	0.28707046	2.2758504	20	12 8.4	20.6
378057 2006 TW_{83}	17.8	X	58.00322	285.27591	342.73328	5.05300	0.1611392	0.27943642	2.3171138	20	10 13.3	20.8
378058 2006 TY_{84}	17.5	X	286.18442	170.90136	273.25620	3.93296	0.1383393	0.28226050	2.3016325	20	11 8.6	19.5
378059 2006 TL_{86}	18.1	X	254.89352	123.85381	345.79853	3.26720	0.1147932	0.28042722	2.3116528	20	10 25.8	20.8
378060 2006 TE_{91}	17.4	X	260.47110	222.82142	229.24858	6.60678	0.1769495	0.27711170	2.3300548	20	9 26.5	20.2
378061 2006 TZ_{91}	17.8	X	330.54202	138.73223	248.41763	2.57290	0.1611508	0.28192764	2.3034437	20	11 13.5	19.6
378062 2006 TH_{93}	17.5	X	3.24899	310.65183	5.03149	6.96451	0.1254771	0.27751328	2.3278065	20	9 23.6	19.6
378063 2006 TL_{98}	16.7	X	239.20772	316.00100	207.32294	22.63441	0.1856968	0.28890504	2.2662056	20	12 8.3	19.6
378064 2006 TU_{99}	18.0	X	235.34158	218.01900	273.20617	3.40678	0.2547204	0.27884920	2.3203657	20	10 5.7	21.3
378065 2006 TL_{125}	17.5	X	26.42119	79.23912	243.75271	4.51627	0.1880058	0.28431754	2.2905175	20	11 23.3	20.1
378066 2006 TN_{129}	17.3	X	290.47534	128.43439	281.14567	10.29473	0.1166102	0.27857611	2.3218820	20	9 20.2	19.9
378067 2006 UD_{6}	17.7	X	322.31486	11.82222	47.95958	7.92102	0.2148792	0.28537289	2.2848669	20	12 24.9	19.3
378068 2006 UP_{13}	17.8	X	17.16930	286.78687	72.34258	2.15600	0.1644046	0.28732754	2.2744927	20	12 27.2	20.2
378069 2006 UT_{14}	18.3	X	277.92973	318.18150	100.47396	2.20600	0.1743722	0.27559487	2.3385965	20	9 9.8	20.5
378070 2006 US_{23}	16.5	X	175.14822	182.72148	24.23318	22.24354	0.1746030	0.28783326	2.2718278	20	11 15.7	20.3
378071 2006 UB_{31}	18.0	X	148.02053	350.29716	211.52532	1.24196	0.0525783	0.28071325	2.3100822	20	10 22.9	21.0
378072 2006 UY_{51}	17.0	X	136.48400	201.91545	15.54426	6.48232	0.1190168	0.28184834	2.3038758	20	10 29.0	20.3
378073 2006 UB_{53}	17.9	X	290.97421	3.38697	53.15592	2.69142	0.1788825	0.27834966	2.3231411	20	10 1.7	19.7
378074 2006 UK_{54}	17.6	X	24.38505	61.93246	274.72569	4.42228	0.2571793	0.28848578	2.2684007	20	12 20.6	20.3
378075 2006 UJ_{62}	17.8	X	331.94430	148.10897	228.84235	2.72588	0.0981234	0.27900447	2.3195048	20	10 26.2	20.1
378076 2006 UQ_{64}	17.3	X	354.54770	90.02963	272.66847	6.91743	0.1582143	0.28292260	2.2980402	20	11 23.3	19.5
378077 2006 UE_{67}	17.8	X	161.93894	60.64092	191.95521	5.58793	0.0417861	0.29724289	2.2236259	20	—	—
378078 2006 UQ_{69}	17.5	X	35.31613	282.41083	50.30522	6.99972	0.1566543	0.28814352	2.2701966	20	12 13.7	20.4
378079 2006 US_{69}	17.5	X	282.63262	281.24782	162.39155	4.51031	0.1213681	0.28278910	2.2987634	20	11 6.2	19.7
378080 2006 UW_{71}	17.3	X	330.17291	83.31700	333.80387	9.99614	0.0580597	0.29233348	2.2484523	20	12 23.4	19.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378081 2006 UY_{72}	17.8	X	93.11911	321.36081	311.79806	4.57841	0.1592740	0.28861541	2.2677215	20	11 29.1	21.2
378082 2006 UW_{82}	17.8	X	346.94560	48.94514	316.10660	2.59580	0.1615178	0.28298432	2.2977060	20	11 12.6	19.8
378083 2006 UH_{85}	17.9	X	258.29929	199.16902	271.68496	1.38726	0.1169381	0.28113702	2.3077603	20	11 2.6	20.4
378084 2006 UM_{87}	17.0	X	181.40823	130.91060	46.37126	12.67083	0.1207290	0.27737600	2.3285745	20	10 26.2	20.4
378085 2006 UT_{88}	18.0	X	276.63389	40.33670	34.93982	2.66992	0.2031235	0.27748006	2.3279923	20	9 27.9	20.3
378086 2006 UB_{89}	18.0	X	286.01663	1.69874	25.78319	4.91647	0.1682509	0.27270839	2.3550694	20	8 8.8	20.6
378087 2006 UG_{90}	17.9	X	25.44803	60.31561	240.93737	6.14073	0.1248059	0.27632677	2.3344652	20	10 7.3	20.6
378088 2006 UM_{92}	17.5	X	137.12510	165.96294	85.64963	1.86999	0.1389327	0.29089308	2.2558686	20	12 14.6	20.9
378089 2006 UY_{93}	18.6	X	282.13984	275.65692	154.93330	2.51078	0.1835375	0.27912407	2.3188421	20	10 5.1	20.7
378090 2006 UD_{96}	17.6	X	275.96252	340.23390	111.97663	2.93934	0.2069632	0.28102496	2.3083737	20	10 24.0	19.6
378091 2006 UD_{107}	17.8	X	8.40988	251.00451	65.39991	6.01065	0.1841562	0.27860605	2.3217156	20	10 16.4	20.0
378092 2006 UY_{108}	17.6	X	344.15072	205.11646	176.99106	4.11244	0.1570534	0.28361606	2.2942927	20	12 4.8	19.7
378093 2006 UH_{111}	17.5	X	7.91421	80.93085	268.62557	5.29008	0.1439422	0.28800199	2.2709403	20	11 26.4	19.9
378094 2006 UF_{134}	18.3	X	256.65847	281.84863	193.03798	4.91951	0.1775964	0.28067648	2.3102840	20	10 27.8	20.9
378095 2006 UP_{142}	17.6	X	76.86247	33.73401	261.44202	5.21074	0.1936251	0.28822344	2.2697770	20	12 14.3	21.1
378096 2006 UY_{147}	18.0	X	341.44985	351.52111	20.88548	6.22950	0.1135129	0.28332783	2.2958485	20	11 7.3	20.0
378097 2006 UJ_{156}	18.3	X	73.41274	134.93979	145.56107	3.23723	0.1466941	0.28687704	2.2768732	20	11 18.9	21.4
378098 2006 UV_{169}	17.6	X	268.02001	59.01323	60.11467	6.06243	0.1790246	0.28491065	2.2873375	20	11 23.3	19.6
378099 2006 UF_{170}	18.1	X	298.67937	286.25968	166.88369	3.92551	0.2006223	0.28612363	2.2808684	20	12 19.9	19.5
378100 2006 UZ_{171}	17.9	X	325.91432	93.17276	222.61373	13.31596	0.3158172	0.27082752	2.3659607	20	6 6.4	19.5
378101 2006 UG_{173}	17.9	X	299.81751	314.51445	125.21041	2.81535	0.1687006	0.28240854	2.3008281	20	11 30.1	19.5
378102 2006 UR_{184}	17.4	X	295.59056	95.73147	337.07532	6.64614	0.1570056	0.28313189	2.2969076	20	11 6.5	19.5
378103 2006 UG_{200}	17.6	X	349.00060	1.10503	4.40833	5.92790	0.1865598	0.28352910	2.2947619	20	11 20.6	19.6
378104 2006 UR_{210}	17.3	X	350.77801	347.03440	18.79929	7.49778	0.1352795	0.28203060	2.3028831	20	11 16.2	19.6
378105 2006 UD_{218}	18.1	X	305.93229	22.59569	15.03540	5.56130	0.1461054	0.27903817	2.3193180	20	10 6.2	20.1
378106 2006 UG_{219}	17.5	X	52.82191	267.87292	58.13668	10.03788	0.1524901	0.29200530	2.2501367	20	12 25.9	20.7
378107 2006 UH_{219}	17.6	X	327.74947	305.37226	91.90537	6.73245	0.1029657	0.28585853	2.2822784	20	11 22.4	19.7
378108 2006 UO_{223}	15.3	X	58.44252	340.66889	7.81060	9.62057	0.1093920	0.15260759	3.4680495	20	12 22.3	20.4
378109 2006 UU_{224}	17.2	X	312.44869	148.62342	272.10030	5.09560	0.1404251	0.28465316	2.2887167	20	11 27.7	18.9
378110 2006 UK_{236}	17.8	X	201.47477	311.89777	204.25585	4.86222	0.0990366	0.28152359	2.3056472	20	10 22.1	20.8
378111 2006 UQ_{237}	18.0	X	56.43930	256.16402	55.72425	3.44412	0.1431029	0.28851110	2.2682680	20	12 9.8	20.9
378112 2006 UG_{239}	17.3	X	122.53027	173.66322	24.66830	7.43483	0.0601606	0.27422940	2.3463531	20	9 18.8	20.4
378113 2006 UM_{244}	18.3	X	328.26527	121.31875	217.98752	0.87337	0.1983942	0.27627804	2.3347397	20	8 15.7	19.8
378114 2006 UW_{253}	18.6	X	304.97150	206.15331	221.03887	5.83371	0.1508197	0.28310850	2.2970341	20	11 22.2	20.3
378115 2006 UV_{257}	17.7	X	185.59026	319.82148	217.23494	4.59481	0.1506196	0.28235857	2.3010995	20	10 26.5	21.1
378116 2006 UC_{259}	17.6	X	178.78052	160.83847	26.48456	6.94324	0.0991709	0.28394051	2.2925447	20	11 5.4	20.8
378117 2006 UH_{280}	18.5	X	270.18477	259.61464	214.80814	4.69956	0.1874123	0.28252843	2.3001771	20	11 18.7	20.3
378118 2006 UK_{280}	17.3	X	237.39634	102.74297	47.09503	22.97253	0.1993654	0.28207050	2.3026659	20	11 12.5	20.0
378119 2006 UW_{319}	17.7	X	242.11393	243.63660	221.17570	5.61959	0.0684073	0.27510376	2.3413789	20	10 6.6	20.7
378120 2006 UC_{328}	18.4	X	264.42778	241.97376	225.14276	1.22630	0.1575272	0.28062607	2.3105607	20	10 31.9	20.6
378121 2006 UU_{329}	17.0	X	293.99543	144.12454	259.64186	7.72196	0.0914148	0.26908499	2.3761639	20	9 21.1	19.7
378122 2006 UC_{335}	17.8	X	298.93449	304.82835	142.80816	4.79733	0.2190876	0.28446981	2.2897000	20	12 10.3	19.1
378123 2006 UK_{338}	18.1	X	258.19073	58.60921	65.03988	3.11695	0.1542375	0.28066075	2.3103703	20	11 15.5	20.5
378124 2006 VT_{2}	18.1	X	109.98901	152.62518	59.45881	31.81748	0.7230014	0.69467969	1.2626403	20	11 9.7	20.5
378125 2006 VO_{7}	17.8	X	287.29707	146.38948	232.71294	4.44714	0.1763275	0.27081473	2.3660352	20	7 23.6	20.3
378126 2006 VO_{9}	17.8	X	258.16254	175.59446	236.30722	2.08022	0.2040661	0.27032847	2.3688716	20	7 23.9	20.8
378127 2006 VH_{10}	18.0	X	305.87620	141.39897	227.20634	4.10110	0.1977797	0.27437896	2.3455004	20	8 8.7	20.1
378128 2006 VA_{16}	17.1	X	130.74221	295.13308	35.19151	5.52476	0.1141141	0.23045559	2.6347812	20	—	—
378129 2006 VB_{16}	18.0	X	9.76275	308.35612	16.74049	2.70137	0.2548998	0.28110425	2.3079396	20	11 10.9	20.1
378130 2006 VJ_{17}	17.6	X	143.66948	158.12273	5.43035	1.43197	0.1189431	0.26720497	2.3872965	20	8 26.7	21.2
378131 2006 VZ_{20}	17.7	X	19.33742	256.22896	55.34793	6.46788	0.0519375	0.27517589	2.3409697	20	10 6.5	20.4
378132 2006 VR_{25}	17.5	X	183.09329	165.66924	37.07360	3.57594	0.0982051	0.28362836	2.2942265	20	12 1.1	20.5
378133 2006 VV_{29}	17.0	X	230.30506	217.50755	248.68603	6.23115	0.0558028	0.27282029	2.3544254	20	9 21.7	20.1
378134 2006 VK_{35}	17.8	X	4.69139	262.03305	56.12207	3.31977	0.1002586	0.27510185	2.3413897	20	9 27.6	20.2
378135 2006 VE_{36}	17.9	X	343.28040	298.72446	54.34549	6.38761	0.1901400	0.27895655	2.3197704	20	10 21.9	19.5
378136 2006 VX_{41}	16.9	X	223.24130	249.13240	152.83219	2.44217	0.3508479	0.18903944	3.0067762	20	5 25.7	22.4
378137 2006 VS_{44}	17.3	X	137.90954	53.20605	128.38251	1.89503	0.1195866	0.27064738	2.3670104	20	9 14.2	20.8
378138 2006 VW_{45}	17.6	X	264.83532	53.42463	55.30329	5.89475	0.1804485	0.27926757	2.3180478	20	10 31.9	19.8
378139 2006 VW_{46}	17.4	X	114.85359	171.35993	29.84737	2.85199	0.1331642	0.26992404	2.3712372	20	9 16.7	20.9
378140 2006 VF_{60}	17.5	X	253.60495	245.70131	217.15592	6.52396	0.0619000	0.27810368	2.3245107	20	10 23.1	20.1
378141 2006 VP_{67}	18.0	X	225.45588	78.49543	57.92521	5.20654	0.1318981	0.27596042	2.3365308	20	10 21.0	20.9
378142 2006 VR_{78}	17.7	X	291.03418	327.00979	77.14480	7.18948	0.1347827	0.27529449	2.3402973	20	9 21.6	20.1
378143 2006 VT_{78}	18.1	X	328.38789	179.41980	212.42931	5.39295	0.2427321	0.28177739	2.3042625	20	11 25.3	19.3
378144 2006 VG_{79}	18.0	X	288.84807	333.78723	99.76757	4.46761	0.0162108	0.28008981	2.3135089	20	11 10.8	20.7
378145 2006 VP_{83}	17.5	X	351.64930	37.38261	246.33617	4.61607	0.0903409	0.26529152	2.3987619	20	7 6.9	20.0
378146 2006 VZ_{89}	17.1	X	281.02645	204.30169	247.77987	7.46320	0.0267625	0.28105209	2.3082251	20	11 23.0	19.7
378147 2006 VW_{90}	17.9	X	213.78300	162.12998	348.00330	3.62899	0.1447388	0.27813355	2.3243443	20	10 20.9	21.0
378148 2006 VF_{107}	17.5	X	338.32973	333.00409	37.66247	6.86633	0.2428289	0.28083310	2.3094249	20	11 13.3	18.9
378149 2006 VR_{113}	17.6	X	303.64803	5.76796	31.94604	4.63859	0.1902361	0.27602158	2.3361857	20	9 27.3	19.4
378150 2006 VY_{114}	17.0	X	153.94929	295.16233	34.55030	14.94014	0.1307963	0.23657426	2.5891530	20	1 1.9	21.1
378151 2006 VS_{115}	18.0	X	289.70966	218.31429	213.14854	0.90242	0.1888581	0.27927957	2.3179813	20	10 20.6	19.6
378152 2006 VQ_{117}	18.9	X	303.37021	331.76504	42.70834	2.15225	0.2076675	0.27381568	2.3487160	20	8 14.5	20.7
378153 2006 VK_{140}	17.8	X	267.33816	32.48082	76.74536	5.18137	0.1377774	0.27961115	2.3161484	20	11 13.1	20.1
378154 2006 VT_{140}	17.1	X	247.41313	221.73374	233.61948	5.51527	0.0744273	0.27394406	2.3479821	20	9 28.7	19.9
378155 2006 VU_{140}	17.7	X	286.69784	331.10329	68.40206	2.40252	0.1823952	0.27234694	2.3571527	20	8 25.3	20.0
378156 2006 VV_{146}	18.5	X	327.10268	202.32519	188.63510	4.94764	0.1673720	0.28083973	2.3093886	20	11 13.6	20.2
378157 2006 VQ_{150}	17.3	X	18.83095	97.62283	247.34421	5.55982	0.1606915	0.28517530	2.2859222	20	12 8.9	19.7
378158 2006 VM_{153}	16.8	X	284.45594	359.16579	84.83441	7.30698	0.0635049	0.28301028	2.2975655	20	11 16.1	19.3
378159 2006 VB_{170}	17.4	X	218.66093	88.18599	71.63594	3.64520	0.1156365	0.27933142	2.3176945	20	11 15.0	20.4
378160 2006 WX_{1}	19.5	X	317.32810	290.94487	328.00110	11.64377	0.3002000	1.12316051	0.9165894	20	11 28.6	18.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378161 2006 WK_4	17.0	X	242.17544	109.28373	246.71200	3.82012	0.2187350	0.25848179	2.4407095	20	4 20.2	21.0
378162 2006 WQ_7	17.1	X	275.68935	252.75701	228.87892	20.48094	0.2746783	0.28203905	2.3028371	20	11 26.6	18.8
378163 2006 WC_8	17.0	X	263.41378	220.74197	231.62503	22.10270	0.2266907	0.27745952	2.3281071	20	9 17.5	20.3
378164 2006 WT_{39}	16.9	X	232.35046	141.08526	225.48197	5.53857	0.1349268	0.25625683	2.4548168	20	5 1.9	20.3
378165 2006 WC_{43}	18.0	X	13.03821	232.36943	83.16841	6.47024	0.2623493	0.27971632	2.3155679	20	11 6.2	20.3
378166 2006 WV_{45}	17.8	X	132.28980	110.71527	136.13630	3.77211	0.1008790	0.28700449	2.2761992	20	12 4.3	21.1
378167 2006 WR_{51}	17.5	X	215.70800	95.55233	59.23496	7.01614	0.1395303	0.27706760	2.3303021	20	11 1.6	20.5
378168 2006 WC_{60}	17.8	X	314.18055	304.25376	77.68034	5.97983	0.2531928	0.27724602	2.3293022	20	9 23.9	19.1
378169 2006 WF_{75}	17.7	X	179.28128	222.03868	308.18462	1.30061	0.1383714	0.27412412	2.3469539	20	10 10.4	21.1
378170 2006 WF_{79}	17.9	X	250.69994	213.18950	281.05328	4.10549	0.1048563	0.28159177	2.3052750	20	11 26.1	20.5
378171 2006 WY_{79}	17.9	X	224.02771	99.88490	32.48383	2.68087	0.1527007	0.27475537	2.3433577	20	10 9.5	20.8
378172 2006 WV_{96}	17.1	X	53.45346	180.37315	57.99659	8.48683	0.0722015	0.26474845	2.4020411	20	8 15.8	20.1
378173 2006 WN_{106}	18.1	X	340.87461	257.52667	82.22220	4.98452	0.1670642	0.27393102	2.3480567	20	9 21.8	19.9
378174 2006 WF_{110}	18.0	X	239.03315	302.20807	177.66938	1.10836	0.1174063	0.27532318	2.3401348	20	10 17.1	20.9
378175 2006 WA_{129}	17.6	X	227.39816	338.41713	142.28414	5.14174	0.1624027	0.27485049	2.3428171	20	9 27.9	20.8
378176 2006 WB_{162}	17.9	X	240.15855	65.28655	71.44018	7.76011	0.0527485	0.28157025	2.3053925	20	11 23.2	20.6
378177 2006 WY_{167}	18.2	X	216.06620	70.98689	83.06189	3.08986	0.1520677	0.27733029	2.3288303	20	10 30.2	21.2
378178 2006 WG_{171}	18.1	X	260.86927	271.00386	196.63027	1.26156	0.1403130	0.27805213	2.3247981	20	10 29.2	20.3
378179 2006 WL_{182}	17.9	X	277.96319	236.54977	223.02190	1.89771	0.1609199	0.27991966	2.3144463	20	11 13.9	20.0
378180 2006 WY_{183}	17.9	X	248.24084	136.18315	306.41030	2.72249	0.1454850	0.26693096	2.3889300	20	8 31.6	20.8
378181 2006 WG_{198}	17.7	X	293.28432	313.14104	91.08674	3.64990	0.1865702	0.27031786	2.3689336	20	9 14.7	19.8
378182 2006 WU_{202}	17.4	X	216.46182	15.85845	104.71482	3.24239	0.0189835	0.26620098	2.3932952	20	10 2.6	20.3
378183 2006 XK_7	17.3	X	340.76414	313.11655	75.65544	6.86245	0.2648280	0.28215069	2.3022296	20	12 24.6	19.0
378184 2006 XD_{10}	17.7	X	274.79318	320.06674	80.95259	3.55804	0.1667775	0.26815308	2.3816660	20	8 9.1	20.3
378185 2006 XF_{11}	17.6	X	253.42865	203.42626	259.50892	5.66686	0.0653403	0.27842130	2.3227425	20	10 20.7	20.3
378186 2006 XZ_{16}	14.9	X	231.31615	52.86751	80.81162	8.41250	0.1787861	0.12429761	3.9764379	20	9 29.8	21.0
378187 2006 XG_{17}	17.1	X	220.78287	34.65209	77.62497	7.55602	0.0665109	0.26653418	2.3913003	20	9 22.8	20.3
378188 2006 XA_{23}	17.2	X	337.76057	4.34481	92.61352	5.82322	0.1547730	0.29082438	2.2562238	20	—	—
378189 2006 XD_{29}	17.9	X	226.43472	359.31135	106.95901	2.78644	0.0608718	0.27087354	2.3656927	20	9 20.4	20.8
378190 2006 XO_{33}	18.2	X	236.59748	105.97451	334.77933	1.98325	0.1923385	0.26677536	2.3898588	20	8 8.9	21.7
378191 2006 XP_{33}	18.0	X	323.41860	357.54125	18.96961	2.38404	0.2044551	0.27520602	2.3407988	20	10 8.8	19.1
378192 2006 XH_{43}	17.5	X	143.32527	71.07599	108.94700	3.01952	0.1522845	0.26054035	2.4278363	20	9 17.9	21.4
378193 2006 XF_{45}	18.2	X	170.06897	141.47297	338.53694	0.84092	0.1452620	0.25956758	2.4338983	20	7 26.5	22.0
378194 2006 XN_{53}	17.0	X	193.06544	63.44319	67.89240	6.94383	0.1646625	0.26474458	2.4020645	20	9 5.3	20.8
378195 2006 XA_{55}	17.3	X	272.91196	24.85210	71.86483	6.78382	0.2008068	0.27582032	2.3373220	20	10 25.8	19.5
378196 2006 XT_{58}	18.0	X	244.25845	72.76569	23.49876	2.12756	0.1504525	0.26919667	2.3755067	20	9 15.5	21.0
378197 2006 XG_{70}	17.0	X	146.73697	72.22618	121.87311	6.80475	0.1360282	0.26485462	2.4013991	20	10 11.4	20.7
378198 2006 XJ_{70}	17.5	X	229.20497	39.27753	75.81391	5.93131	0.1491033	0.26793595	2.3829525	20	9 24.9	20.8
378199 2006 YL_{21}	17.1	X	73.91603	167.07376	87.27151	7.03232	0.0882769	0.26680710	2.3896692	20	10 8.3	20.3
378200 2006 YL_{26}	16.9	X	101.57333	128.12299	61.05398	3.16521	0.1552386	0.25470417	2.4647829	20	8 18.5	20.6
378201 2006 YY_{29}	16.9	X	89.90553	137.82981	81.54359	7.16186	0.0759081	0.25944879	2.4346411	20	9 8.2	20.3
378202 2006 YV_{36}	17.5	X	206.00518	47.85807	46.11548	3.48827	0.1456256	0.25986773	2.4320237	20	7 29.6	21.2
378203 2006 YW_{42}	18.2	X	213.41031	54.97143	42.54962	1.68796	0.2203764	0.26175861	2.4202974	20	8 4.4	22.0
378204 Bettyhesser	17.4	X	211.61065	243.52120	191.52683	7.90445	0.0804992	0.25336669	2.4734495	20	7 12.8	21.0
378205 2006 YP_{49}	17.3	X	1.27830	99.25897	250.49535	8.48806	0.2525728	0.28058188	2.3108032	20	12 2.6	19.4
378206 2006 YQ_{55}	15.6	X	281.56165	8.64258	330.37437	14.40603	0.1834049	0.24336922	2.5407325	20	5 11.0	19.3
378207 2007 AH_1	17.3	X	140.26137	47.76058	121.67478	2.11647	0.1338223	0.25780462	2.4449816	20	8 30.7	20.9
378208 2007 AK_1	16.9	X	148.17906	74.32202	119.99239	2.63974	0.1089336	0.26431411	2.4046718	20	10 11.3	20.4
378209 2007 AA_4	17.4	X	256.76488	127.00745	330.87325	6.74181	0.2319647	0.27123148	2.3636109	20	9 19.4	20.2
378210 2007 AR_8	17.0	X	88.80353	289.78731	281.62025	5.06536	0.1173385	0.25523619	2.4613566	20	8 25.5	20.5
378211 2007 AK_9	17.9	X	218.52135	119.74450	356.31586	3.15618	0.1564398	0.26516021	2.3995537	20	9 9.3	21.1
378212 2007 AO_9	17.2	X	170.60605	51.08402	85.21867	4.81131	0.1182468	0.25961330	2.4336125	20	8 19.8	20.8
378213 2007 AF_{11}	17.1	X	209.59436	340.01480	137.90515	5.39929	0.1766393	0.26382126	2.4076657	20	8 31.5	20.6
378214 Sauron	17.7	X	214.39965	252.32818	266.33632	1.04481	0.3069083	0.26909008	2.3761340	20	10 14.1	21.5
378215 2007 AZ_{12}	17.5	X	246.07507	209.01067	280.30991	6.06784	0.1585769	0.27673654	2.3321602	20	10 31.3	20.3
378216 2007 AZ_{18}	15.7	X	176.24149	349.27356	285.33931	24.76620	0.1798908	0.28320266	2.2965249	20	—	—
378217 2007 AB_{25}	16.5	X	85.15123	269.80807	309.08177	5.61326	0.1873805	0.25543912	2.4600529	20	9 8.9	20.1
378218 2007 BD_{12}	17.2	X	175.73506	43.85506	56.92342	4.16747	0.0858560	0.25201168	2.4823076	20	7 7.4	20.8
378219 2007 BY_{16}	17.3	X	207.09314	54.47345	82.79962	2.20659	0.1341536	0.26652414	2.3913603	20	9 28.3	20.6
378220 2007 BD_{17}	16.6	X	67.66697	277.62507	308.64544	10.02906	0.1217214	0.25337416	2.4734008	20	8 19.6	19.7
378221 2007 BO_{17}	17.6	X	287.06545	128.45812	284.01223	5.31151	0.2084248	0.26994023	2.3711424	20	9 5.6	20.0
378222 2007 BW_{18}	16.6	X	157.54547	84.12138	88.96020	6.70741	0.0586911	0.26349021	2.4096820	20	9 26.8	20.0
378223 2007 BJ_{21}	17.6	X	248.87646	48.51527	55.07182	2.77140	0.1711088	0.27130080	2.3632083	20	9 29.7	20.3
378224 2007 BW_{21}	17.3	X	129.26221	78.59816	102.33936	4.56464	0.1491309	0.25671873	2.4518714	20	9 5.5	21.1
378225 2007 BD_{27}	18.2	X	219.98516	358.10215	107.53261	3.18046	0.2194131	0.26383106	2.4076061	20	8 21.9	21.8
378226 2007 BK_{27}	17.7	X	250.70364	344.55180	116.50388	3.08661	0.1752887	0.26899673	2.3766837	20	9 28.0	20.5
378227 2007 BT_{29}	17.9	X	202.69555	129.13637	342.23204	4.37923	0.1867365	0.26025437	2.4296145	20	8 14.8	21.7
378228 2007 BD_{39}	17.2	X	166.28733	221.56905	281.39803	5.02361	0.0775330	0.25882738	2.4385364	20	8 20.7	20.6
378229 2007 BO_{55}	17.9	X	261.86980	64.43759	37.81408	2.82913	0.1651780	0.27218460	2.3580899	20	10 17.6	20.6
378230 2007 BY_{64}	17.4	X	43.38851	52.23699	149.02782	7.66273	0.1492407	0.23969791	2.5666100	20	6 13.4	20.3
378231 2007 BF_{74}	17.4	X	281.16433	113.70387	296.28958	5.55986	0.0906357	0.26700033	2.3885162	20	9 10.3	20.1
378232 2007 BO_{77}	18.0	X	265.33546	108.00215	321.23198	2.46739	0.1584686	0.26477592	2.4018750	20	9 4.0	20.8
378233 2007 BJ_{78}	17.6	X	216.24072	222.07904	253.05012	1.48339	0.1359738	0.26261599	2.4150267	20	9 6.4	21.1
378234 2007 BJ_{81}	16.3	X	297.07829	333.74038	319.99809	14.27837	0.1756203	0.23783777	2.5799750	20	3 30.6	20.1
378235 2007 BO_{96}	17.5	X	68.86104	285.96081	302.66718	2.76811	0.0763182	0.25467045	2.4650005	20	8 18.9	20.7
378236 2007 BD_{101}	17.4	X	225.20838	3.97023	124.01964	5.72240	0.1354128	0.26693017	2.3889347	20	10 8.7	20.6
378237 2007 CF	17.0	X	341.80841	119.06669	149.07598	6.19473	0.0977359	0.24274309	2.5450997	20	5 27.1	19.9
378238 2007 CB_1	17.7	X	183.37697	359.48285	132.95037	2.22957	0.1218035	0.25861486	2.4398721	20	8 26.4	21.4
378239 2007 CJ_5	17.7	X	233.98878	134.51658	329.73117	2.17117	0.1641524	0.26494872	2.4008305	20	9 9.7	20.8
378240 2007 CJ_7	18.0	X	201.13461	59.73861	74.54809	1.87989	0.1502348	0.26502881	2.4003468	20	9 15.9	21.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378241 2007 CY_{10}	18.0	X	257.19073	314.64125	139.10151	2.78118	0.1823019	0.26897756	2.3767966	20	9 25.3	20.8
378242 2007 CR_{12}	17.6	X	228.39849	139.30066	328.99496	2.36321	0.1286976	0.26491095	2.4010587	20	9 13.1	20.8
378243 2007 CU_{22}	17.5	X	221.26733	193.75930	296.83116	2.50516	0.1211540	0.26684102	2.3894667	20	10 4.9	20.8
378244 2007 CN_{36}	17.8	X	258.05346	98.54036	348.74643	1.01636	0.1529789	0.26764684	2.3846683	20	9 20.8	20.5
378245 2007 CZ_{40}	17.1	X	349.59574	73.74714	146.71317	4.07643	0.1455632	0.23264947	2.6181911	20	3 28.3	19.8
378246 2007 CD_{44}	17.8	X	167.70127	168.88702	321.03258	1.73920	0.1607288	0.25648248	2.4533767	20	8 5.8	21.7
378247 2007 CK_{61}	17.2	X	186.52214	286.00030	208.70140	3.09095	0.1337127	0.25882792	2.4385330	20	8 30.5	20.8
378248 2007 CX_{63}	16.6	X	318.71435	69.71077	153.67293	13.71967	0.2798875	0.22109285	2.7086502	20	1 20.7	20.4
378249 2007 DK_{4}	18.0	X	208.89636	282.24158	209.73099	2.64799	0.2835695	0.26320191	2.4114413	20	9 7.1	22.1
378250 2007 DW_{9}	16.9	X	250.72992	329.04063	103.91901	15.64872	0.1030260	0.26261702	2.4150204	20	9 3.4	20.2
378251 2007 DN_{10}	14.0	X	299.76867	292.17361	354.31718	26.95674	0.0697509	0.08454876	5.1412006	20	4 14.4	21.0
378252 2007 DP_{18}	16.7	X	237.77178	110.94532	154.21143	16.29285	0.2649885	0.21318441	2.7752307	20	1 2.1	21.8
378253 2007 DT_{19}	16.3	X	144.16464	189.72336	152.35504	11.24641	0.0963802	0.21614600	2.7498220	20	1 5.1	20.4
378254 2007 DD_{20}	17.8	X	216.72700	110.41946	0.21440	2.94047	0.1543160	0.26035690	2.4289765	20	8 31.1	21.2
378255 2007 DP_{35}	16.9	X	249.94975	22.55484	344.93030	12.53623	0.1172980	0.24300146	2.5432953	20	5 21.3	20.7
378256 2007 DO_{37}	17.7	X	207.13715	145.23673	337.88102	3.91454	0.1266982	0.25823792	2.4422458	20	9 7.7	21.3
378257 2007 DS_{48}	15.7	X	258.94573	14.70359	331.83332	12.46748	0.2477489	0.24077306	2.5589637	20	4 16.8	20.0
378258 2007 DW_{51}	17.5	X	39.67619	16.13253	218.43130	4.55110	0.0980154	0.24404671	2.5360282	20	7 16.6	20.5
378259 2007 DO_{69}	16.6	X	235.25498	300.24071	343.99309	9.47881	0.2157504	0.21743778	2.7389202	20	1 25.5	21.3
378260 2007 DN_{73}	18.0	X	255.48794	84.11201	343.71738	4.56734	0.2122189	0.26036019	2.4289561	20	8 11.3	21.1
378261 2007 DD_{78}	16.5	X	64.07963	218.84677	283.48941	11.30611	0.1338781	0.23560510	2.5962485	20	4 14.8	19.8
378262 2007 DH_{101}	17.1	X	279.52853	199.45224	147.12838	1.00639	0.1680975	0.24471484	2.5314101	20	5 27.2	20.4
378263 2007 DC_{103}	17.9	X	274.57240	268.64870	138.10639	4.72521	0.0707518	0.26109537	2.4243944	20	9 1.1	20.6
378264 2007 DX_{111}	17.8	X	243.10258	279.77750	145.90473	1.47309	0.1604163	0.25572128	2.4582430	20	7 29.9	21.3
378265 2007 ES_{8}	16.6	X	37.56562	202.88476	0.24911	5.30444	0.1721592	0.23349540	2.6118636	20	6 7.1	19.4
378266 2007 ED_{10}	17.2	X	62.24934	34.24411	154.39777	13.35062	0.1933832	0.24260712	2.5460505	20	7 2.5	20.6
378267 2007 EE_{10}	17.3	X	44.60586	215.76493	357.65463	1.54862	0.0648845	0.23968057	2.5667338	20	6 19.8	20.5
378268 2007 EM_{12}	16.9	X	169.59036	206.61281	306.50371	5.53330	0.0594993	0.25736722	2.4477509	20	9 7.5	20.4
378269 2007 ER_{14}	18.0	X	255.66333	260.65695	190.47581	1.10799	0.1484269	0.26584422	2.3954360	20	9 23.2	20.8
378270 2007 EA_{22}	17.6	X	174.96652	314.17267	162.92893	4.07403	0.1269694	0.25390119	2.4699769	20	7 26.7	21.4
378271 2007 ER_{30}	17.5	X	70.53883	144.30266	40.93517	1.82767	0.0611200	0.24355290	2.5394549	20	6 18.1	20.7
378272 2007 EJ_{40}	16.6	X	268.23464	235.28161	39.88434	5.53356	0.1283983	0.22080972	2.7109651	20	2 20.2	20.7
378273 2007 EB_{51}	13.9	X	293.19527	305.14042	14.25696	8.86840	0.0573901	0.08495078	5.1249676	20	5 25.3	20.7
378274 2007 EB_{53}	17.9	X	125.04664	142.61638	351.59256	20.22505	0.0454868	0.39086480	1.8526143	20	6 25.5	20.3
378275 2007 ET_{54}	13.8	X	264.91952	49.09019	263.05875	2.14851	0.0886761	0.08509957	5.1189923	20	4 12.1	20.6
378276 2007 EO_{69}	17.2	X	38.99834	136.26767	52.17942	3.47239	0.0616084	0.23304877	2.6151996	20	5 6.3	20.3
378277 2007 EU_{69}	16.1	X	280.38914	246.89309	13.29505	11.54894	0.0927253	0.22113956	2.7082687	20	2 21.7	20.0
378278 2007 EE_{70}	17.2	X	98.47816	43.40534	150.86585	5.32944	0.0850883	0.24604670	2.5222668	20	8 10.9	20.5
378279 2007 EH_{86}	17.7	X	308.71815	84.72284	196.91165	21.24238	0.0737598	0.38035195	1.8865962	20	4 15.2	19.0
378280 2007 EL_{89}	18.1	X	240.25615	239.28729	200.53624	0.41364	0.1450598	0.26011078	2.4305086	20	8 17.3	21.4
378281 2007 EM_{89}	16.5	X	284.77628	137.64145	160.67899	10.72264	0.1078405	0.23528326	2.5986155	20	4 10.9	20.1
378282 2007 EA_{96}	18.1	X	95.39329	121.26088	2.76677	20.74808	0.0952146	0.38421725	1.8739219	20	4 17.8	20.0
378283 2007 EW_{116}	16.3	X	247.64107	318.78072	39.75166	13.83156	0.0480596	0.23280614	2.6170163	20	5 17.4	19.9
378284 2007 ES_{118}	17.4	X	94.92932	301.52780	187.76567	18.87234	0.0789553	0.23090985	2.6313245	20	5 10.9	21.2
378285 2007 EQ_{119}	17.1	X	303.36059	122.39613	136.12879	3.08044	0.0510681	0.22308156	2.6925282	20	3 21.9	20.7
378286 2007 EM_{129}	16.6	X	234.12060	104.98625	168.66234	8.62847	0.1221368	0.21549758	2.7553353	20	1 12.9	21.0
378287 2007 EF_{131}	17.9	X	222.03091	80.15493	27.56146	0.16541	0.1544788	0.25859356	2.4400061	20	9 1.4	21.3
378288 2007 EX_{132}	16.9	X	333.86773	240.51601	3.23127	3.58956	0.0889443	0.23024533	2.6363850	20	4 7.6	20.0
378289 2007 EH_{134}	17.3	X	79.00222	175.14972	10.25366	4.93442	0.0590688	0.24076363	2.5590305	20	6 30.5	20.6
378290 2007 EF_{136}	16.1	X	248.66913	188.32903	176.70490	27.08417	0.2219745	0.24058887	2.5602696	20	5 12.5	20.6
378291 2007 ER_{146}	17.7	X	185.20009	115.91082	19.37940	5.69332	0.1411361	0.25587252	2.4572742	20	9 1.6	21.4
378292 2007 EP_{150}	16.9	X	245.56095	247.93116	130.78097	4.73463	0.0767112	0.24293240	2.5437773	20	6 9.9	20.5
378293 2007 EW_{153}	16.6	X	326.42513	272.71474	13.69460	12.82949	0.0605665	0.23854402	2.5748802	20	5 25.8	19.9
378294 2007 EO_{157}	17.7	X	29.11550	171.80016	359.80072	3.43370	0.1212971	0.23265362	2.6181599	20	3 30.9	20.5
378295 2007 EP_{157}	17.6	X	267.12204	299.46258	125.87171	2.99260	0.1907688	0.26499921	2.4005256	20	8 27.9	20.5
378296 2007 EC_{158}	17.1	X	68.31240	30.92341	160.13322	4.73727	0.1908796	0.23778340	2.5803683	20	7 13.4	20.4
378297 2007 EL_{176}	16.9	X	166.44779	113.35956	351.93149	6.96775	0.1033686	0.24275545	2.5450133	20	7 3.3	20.8
378298 2007 ES_{178}	16.4	X	153.32387	238.81432	201.98564	21.47871	0.0666774	0.23335527	2.6129091	20	5 15.8	20.3
378299 2007 EX_{180}	15.9	X	325.89508	231.82566	7.65007	12.98582	0.2169115	0.22255876	2.6967431	20	3 6.5	19.0
378300 2007 EG_{191}	16.4	X	219.48803	130.81952	191.92142	13.41226	0.2056953	0.21710784	2.7416944	20	2 22.0	21.2
378301 2007 EH_{200}	16.9	X	62.30861	151.69059	32.72927	12.23877	0.1157635	0.23770400	2.5809429	20	6 11.7	20.2
378302 2007 EE_{212}	16.5	X	272.58204	2.71991	351.61338	9.98254	0.0957419	0.24434293	2.5339781	20	6 7.2	20.0
378303 2007 EP_{214}	16.6	X	287.03848	86.26483	184.10171	11.57504	0.1637268	0.22395303	2.6855387	20	2 25.8	20.5
378304 2007 EN_{217}	14.0	X	268.32128	140.53213	182.70253	27.13945	0.0750663	0.08435232	5.1491795	20	5 3.1	21.1
378305 2007 FC_{1}	17.7	X	284.20916	223.42541	43.07110	28.13162	0.2738397	0.37069631	1.9192161	20	1 31.7	21.3
378306 2007 FB_{11}	16.6	X	349.00639	7.36687	212.99379	13.57803	0.1896132	0.22477035	2.6790246	20	3 18.1	19.5
378307 2007 FO_{12}	17.4	X	117.23149	334.34234	196.35725	12.17565	0.1102227	0.24242792	2.5473051	20	8 1.0	21.3
378308 2007 FD_{14}	16.1	X	278.33512	223.15316	31.48081	12.94638	0.1673266	0.21815578	2.7329073	20	2 4.4	20.4
378309 2007 FK_{21}	17.9	X	240.87689	254.65877	161.49528	4.50710	0.1829635	0.25587276	2.4572726	20	7 11.0	21.4
378310 2007 FB_{27}	17.2	X	236.31401	188.84650	183.88945	4.98164	0.0637871	0.23708665	2.5854212	20	5 23.2	20.8
378311 2007 FR_{36}	16.2	X	249.81792	84.84367	193.37577	16.80947	0.1809224	0.21423639	2.7661383	20	1 27.0	21.0
378312 2007 FY_{43}	16.2	X	263.12747	359.99290	2.23258	6.93032	0.2682859	0.24268756	2.5454879	20	5 12.6	20.1
378313 2007 FF_{45}	16.9	X	303.04726	244.42057	20.27307	6.65901	0.0264747	0.22620886	2.6676549	20	4 1.4	20.2
378314 2007 FV_{46}	16.3	X	307.29463	199.54833	33.19552	8.26297	0.0264015	0.21849333	2.7300919	20	2 29.7	20.1
378315 2007 FL_{47}	17.0	X	218.31139	181.50855	188.15494	3.71597	0.0740799	0.23339648	2.6126016	20	4 26.6	20.7
378316 2007 FM_{49}	16.0	X	294.72063	157.68366	120.61374	15.27161	0.1094860	0.22601545	2.6691765	20	4 1.9	19.9
378317 2007 FA_{50}	16.7	X	71.51936	52.37569	142.81032	9.38178	0.1011337	0.23793374	2.5792812	20	7 9.4	20.2
378318 2007 GC_{4}	16.1	X	297.55931	205.88987	53.13327	11.72295	0.2297147	0.22137445	2.7063527	20	2 23.0	20.1
378319 2007 GM_{5}	17.2	X	66.23825	131.27336	82.05015	2.56149	0.1219291	0.23948251	2.5681488	20	7 31.9	20.4
378320 2007 GR_{6}	16.6	X	281.98147	117.40916	118.04414	10.44123	0.2310096	0.21362075	2.7714503	20	1 4.9	20.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378321 2007 GC_{17}	16.1	X	219.24686	314.83508	30.42206	14.56222	0.1938845	0.21901432	2.7257606	20	3 26.7	20.7
378322 2007 GX_{26}	16.4	X	348.31429	19.34109	171.14913	6.59522	0.0094988	0.21599561	2.7510982	20	2 26.8	20.1
378323 2007 GS_{36}	17.2	X	76.82067	325.81687	184.27933	7.01361	0.0798321	0.23027121	2.6361874	20	5 13.6	20.6
378324 2007 GO_{37}	16.5	X	213.84350	234.54100	71.55143	4.89896	0.0850926	0.21271262	2.7793328	20	2 4.7	20.7
378325 2007 GT_{40}	16.7	X	216.55376	158.01255	213.19015	14.91591	0.0780259	0.22647128	2.6655937	20	4 26.1	20.6
378326 2007 GH_{45}	17.3	X	61.47883	129.57275	52.79096	9.07182	0.1442596	0.23230348	2.6207901	20	6 13.1	20.5
378327 2007 GA_{46}	16.9	X	109.22164	97.89575	49.07921	12.15415	0.1323676	0.23554152	2.5967157	20	6 26.1	20.8
378328 2007 GQ_{55}	16.8	X	199.69882	293.65771	76.75217	7.49636	0.0583589	0.22466210	2.6798851	20	4 10.4	20.8
378329 2007 GG_{56}	16.9	X	256.66162	162.40757	149.53005	5.34129	0.1229254	0.22206551	2.7007350	20	3 23.5	20.8
378330 2007 GO_{64}	17.0	X	257.47664	7.46560	249.87803	2.41154	0.0449570	0.21110336	2.7934396	20	1 24.4	20.9
378331 2007 GX_{64}	16.4	X	245.39306	248.77774	27.10159	7.48131	0.1972556	0.20969097	2.8059692	20	1 25.7	21.1
378332 2007 GY_{75}	14.2	X	343.65216	55.26016	190.91997	4.41095	0.0923335	0.08290224	5.2090503	20	5 4.9	20.6
378333 2007 HW_{6}	16.7	X	235.57169	199.38455	193.57180	7.68902	0.0858503	0.23995641	2.5647664	20	6 15.3	20.4
378334 2007 HM_{9}	16.8	X	251.39200	87.86433	226.26568	4.23378	0.1065646	0.22098097	2.7095643	20	3 19.4	20.9
378335 2007 HS_{9}	17.0	X	63.94147	341.82225	180.40134	2.44219	0.0250416	0.23063205	2.6334371	20	5 2.9	20.3
378336 2007 HM_{13}	17.2	X	83.64044	9.34082	178.55973	4.55511	0.1780778	0.23961539	2.5671993	20	7 26.4	20.9
378337 2007 HP_{31}	17.2	X	83.76975	157.76556	30.20037	9.33925	0.0980566	0.23791881	2.5793891	20	7 18.4	20.8
378338 2007 HX_{31}	16.5	X	240.66324	84.47585	230.06958	10.71084	0.1478116	0.21740716	2.7391773	20	3 2.8	21.0
378339 2007 HB_{35}	16.9	X	42.47954	185.93729	29.16650	8.12817	0.1417008	0.23376662	2.6098430	20	6 30.5	20.0
378340 2007 HV_{42}	16.7	X	229.51582	177.28520	127.31104	3.33792	0.2357891	0.21130582	2.7916550	20	2 11.3	21.4
378341 2007 HV_{47}	16.8	X	240.57317	165.78263	122.86330	2.85864	0.1700579	0.21142374	2.7906169	20	2 4.7	21.2
378342 2007 HP_{48}	16.8	X	289.30349	208.22942	72.29759	4.33689	0.0463529	0.22285108	2.6943844	20	4 2.8	20.3
378343 2007 HR_{51}	16.3	X	213.42733	277.42247	67.57010	7.62313	0.0950835	0.21885424	2.7270896	20	3 24.1	20.5
378344 2007 HS_{59}	16.8	X	351.76604	178.51589	40.16895	10.95973	0.0576900	0.22450478	2.6811369	20	4 7.9	20.1
378345 2007 HQ_{63}	16.3	X	248.47646	244.66966	47.21667	13.67297	0.2050013	0.21341900	2.7731966	20	2 19.1	21.1
378346 2007 HN_{69}	16.3	X	220.74109	256.20462	73.45332	13.25162	0.1779441	0.21745485	2.7387769	20	3 12.7	21.1
378347 2007 HS_{80}	16.5	X	351.54642	16.79455	211.00520	12.46809	0.1341042	0.22646482	2.6656444	20	4 10.9	19.5
378348 2007 HA_{83}	15.9	X	307.81962	171.05277	71.10960	12.89895	0.0376054	0.21961467	2.7207908	20	3 15.3	19.8
378349 2007 HK_{87}	16.3	X	289.55687	226.53074	68.22114	9.26165	0.0931069	0.22303264	2.6929219	20	4 16.4	19.9
378350 2007 HP_{87}	16.5	X	12.84631	165.75196	39.65645	14.77143	0.1792872	0.22686852	2.6624812	20	4 22.4	18.8
378351 2007 HF_{97}	16.3	X	216.65354	308.35252	65.12413	14.05445	0.0591827	0.22338976	2.6900512	20	5 3.5	20.2
378352 2007 JC_{9}	15.8	X	241.55022	265.75466	51.82063	15.75999	0.1595808	0.21621172	2.7492648	20	3 19.4	20.4
378353 2007 JR_{21}	16.4	X	233.54080	85.59899	227.37058	7.21684	0.1480283	0.21370513	2.7707207	20	2 24.9	20.9
378354 2007 JU_{23}	16.4	X	343.69305	178.27819	57.18625	10.66453	0.2049098	0.22279533	2.6948338	20	4 5.8	19.2
378355 2007 KG_{2}	12.9	X	42.59240	104.58126	75.54780	19.15925	0.1372669	0.08177085	5.2569888	20	5 16.9	19.4
378356 2007 KL_{2}	16.6	X	15.93441	329.88006	252.71869	11.97384	0.1995976	0.22806187	2.6531854	20	5 25.9	18.9
378357 2007 KS_{3}	16.5	X	341.56980	209.71079	60.73232	13.00349	0.1667939	0.23209638	2.6223489	20	5 22.7	18.8
378358 2007 LD	19.3	X	282.46583	316.86723	226.24841	16.49396	0.4391224	0.43456155	1.7262427	20	—	—
378359 2007 LX_{2}	17.8	X	63.73163	284.05544	214.81505	21.15564	0.0614853	0.37233838	1.9135692	20	3 15.2	19.7
378360 2007 LH_{7}	16.9	X	126.51924	4.30254	136.36448	5.20195	0.2249254	0.23793059	2.5793040	20	7 14.1	21.1
378361 2007 LA_{14}	17.9	X	136.20222	187.84770	240.05532	19.80860	0.0786532	0.37028099	1.9206509	20	3 20.9	20.5
378362 2007 LZ_{15}	16.8	X	316.38569	39.52487	206.01932	13.63513	0.1155711	0.21814680	2.7329823	20	3 9.4	20.5
378363 2007 LK_{17}	15.9	X	232.31726	268.83137	60.98781	13.50144	0.1412744	0.21627588	2.7487210	20	3 25.4	20.4
378364 2007 LU_{24}	16.9	X	209.82922	109.78331	220.71148	5.02126	0.0534337	0.21248025	2.7813587	20	2 27.1	21.1
378365 2007 LL_{25}	16.3	X	108.46309	134.92828	244.08068	9.81128	0.0914213	0.19100720	2.9860900	20	1 10.6	20.6
378366 2007 MR_{2}	16.3	X	238.60773	180.70130	166.83064	13.38687	0.1044978	0.22012971	2.7165453	20	4 21.5	20.5
378367 2007 MB_{5}	16.4	X	18.66007	90.22362	123.74652	13.08323	0.1083940	0.22538898	2.6741202	20	5 17.7	19.7
378368 2007 MR_{5}	15.8	X	165.49169	237.18217	110.81876	7.22563	0.1370830	0.19712223	2.9240109	20	2 10.4	20.5
378369 2007 ME_{16}	16.5	X	106.73068	214.22744	134.38439	13.36509	0.3109122	0.18151333	3.0893258	20	1 5.1	21.1
378370 2007 ON_{5}	15.9	X	100.23945	93.98855	238.12632	15.63064	0.1896577	0.17428157	3.1742058	20	—	—
378371 2007 PH_{13}	15.8	X	118.68593	227.88626	127.67637	11.99151	0.1835117	0.18555539	3.0442969	20	1 9.1	20.3
378372 2007 PA_{14}	16.3	X	95.08807	183.94435	122.49319	5.21134	0.2294761	0.17184616	3.2041253	20	12 25.5	21.7
378373 2007 PU_{14}	15.8	X	134.35586	191.88445	125.07167	9.38977	0.2517795	0.18126923	3.0920985	20	—	—
378374 2007 PP_{23}	15.1	X	67.12569	64.06425	287.85779	12.59904	0.2686027	0.17166043	3.2064361	20	—	—
378375 2007 PZ_{23}	15.6	X	99.97766	26.83666	303.40446	8.49721	0.2281599	0.17503710	3.1650651	20	—	—
378376 2007 PM_{25}	15.5	X	72.71961	79.62767	307.40278	14.93069	0.2624947	0.17798951	3.1299671	20	1 2.7	19.2
378377 2007 PY_{29}	15.4	X	92.48282	222.73273	152.72806	28.33546	0.1398390	0.17998372	3.1068043	20	—	—
378378 2007 PF_{34}	16.3	X	170.37723	309.08141	323.50929	11.63618	0.3493634	0.18259591	3.0771029	20	—	—
378379 2007 QM	15.6	X	71.62110	225.04338	167.46192	28.95327	0.2952189	0.17612157	3.1520591	20	1 11.4	19.9
378380 2007 QN_{10}	15.8	X	52.69290	71.48708	336.50594	10.97181	0.0532028	0.17820265	3.1274709	20	—	—
378381 2007 QG_{13}	15.4	X	104.40008	316.16500	45.29860	17.63479	0.2029382	0.17796953	3.1302014	20	1 4.4	20.1
378382 2007 QB_{14}	16.2	X	32.97518	62.43566	351.24332	10.43460	0.0679848	0.17480449	3.1678723	20	—	—
378383 2007 QN_{14}	16.6	X	80.82649	343.03529	56.32503	1.65889	0.1743774	0.18114712	3.0934879	20	1 15.1	20.4
378384 2007 QR_{14}	16.2	X	57.19196	74.32555	330.98835	12.54429	0.2969063	0.17489838	3.1667384	20	1 4.4	19.5
378385 2007 QB_{15}	16.3	X	99.36294	72.22160	287.24717	2.03562	0.1767300	0.17893322	3.1189522	20	—	—
378386 2007 QH_{15}	16.1	X	44.65172	250.77194	180.63804	10.55175	0.0311898	0.18114063	3.0935618	20	—	—
378387 2007 QR_{16}	15.5	X	133.53655	126.96391	154.46723	27.31373	0.1775554	0.17378241	3.1802811	20	12 27.9	21.2
378388 2007 QW_{17}	16.0	X	61.51498	24.47333	7.35101	10.55108	0.0549533	0.17623986	3.1506485	20	—	—
378389 2007 RL_{3}	16.7	X	129.07303	333.14502	351.87771	0.87227	0.1894403	0.18088229	3.0965066	20	—	—
378390 2007 RX_{6}	15.5	X	132.76636	47.02695	292.63872	9.59568	0.0276927	0.18356119	3.0663059	20	—	—
378391 2007 RX_{28}	16.1	X	34.16673	239.05687	173.39496	9.38712	0.0444780	0.17354693	3.1831572	20	—	—
378392 2007 RP_{29}	16.1	X	153.78321	106.16706	191.49032	21.31161	0.2267310	0.18102345	3.0948967	20	—	—
378393 2007 RG_{31}	15.6	X	66.10941	88.49380	318.99840	15.13130	0.2490708	0.17796202	3.1302895	20	1 16.4	19.2
378394 2007 RC_{40}	15.9	X	107.36560	245.55821	112.77485	3.14580	0.1023340	0.17827686	3.1266030	20	—	—
378395 2007 RU_{45}	16.5	X	243.87355	13.16237	236.51271	4.59802	0.1102724	0.18660845	3.0328331	20	—	—
378396 2007 RO_{46}	15.6	X	80.69405	58.38441	339.10623	9.01408	0.0303307	0.18007409	3.1057648	20	—	—
378397 2007 RQ_{52}	16.2	X	72.98239	224.41261	191.92922	5.27850	0.1390589	0.17883275	3.1201204	20	1 18.9	20.3
378398 2007 RN_{53}	15.8	X	65.65153	80.06339	275.47566	3.91880	0.1202985	0.16778146	3.2556677	20	—	—
378399 2007 RY_{55}	15.5	X	114.59557	6.78533	348.83943	15.24914	0.2186297	0.17931217	3.1145565	20	1 13.9	20.3
378400 2007 RM_{59}	16.3	X	35.22834	271.43267	178.57717	9.53462	0.1011993	0.18134337	3.0912557	20	—	—

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378401 2007 RD_{70}	16.6	X	78.90828	264.11611	111.37502	3.18532	0.1804411	0.17622387	3.1508391	20	—	—
378402 2007 RE_{71}	15.7	X	170.15089	295.56083	357.90702	21.13040	0.2274746	0.18345415	3.0674984	20	—	—
378403 2007 RL_{74}	16.2	X	118.80644	12.64893	2.45899	2.54917	0.1089401	0.18588768	3.0406678	20	1 23.6	20.5
378404 2007 RS_{77}	16.5	X	100.36441	147.87804	180.16943	0.61571	0.1610502	0.17400190	3.1776060	20	—	—
378405 2007 RS_{90}	16.0	X	81.40781	2.15070	5.92685	9.26296	0.0774474	0.17373407	3.1808710	20	—	—
378406 2007 RB_{95}	15.6	X	144.66279	289.93094	19.57351	17.40156	0.0413331	0.17374941	3.1806837	20	—	—
378407 2007 RQ_{96}	15.5	X	332.27725	148.39417	27.63691	15.29518	0.1445983	0.18249519	3.0782350	20	1 10.8	19.8
378408 2007 RV_{108}	16.2	X	335.43396	305.54660	231.39089	1.60805	0.1245335	0.18673200	3.0314951	20	1 15.5	20.0
378409 2007 RZ_{108}	15.9	X	6.64166	123.98966	359.22230	16.07452	0.0639442	0.18096206	3.0955966	20	1 3.3	20.3
378410 2007 RR_{118}	15.8	X	82.66589	213.16035	191.31635	7.80475	0.0644419	0.17791514	3.1308393	20	1 8.2	20.2
378411 2007 RS_{119}	15.8	X	143.58094	151.82126	166.23972	9.77993	0.0750735	0.17832240	3.1260706	20	—	—
378412 2007 RJ_{128}	16.9	X	52.09055	284.55865	149.66888	1.63444	0.1600022	0.17690329	3.1427664	20	1 12.8	20.4
378413 2007 RR_{128}	16.7	X	7.42418	75.84691	15.68672	12.18795	0.1338776	0.17102888	3.2143248	20	—	—
378414 2007 RX_{129}	17.5	X	129.10982	241.05839	128.21672	1.15841	0.2103208	0.26121470	2.4236560	20	1 29.7	20.9
378415 2007 RL_{130}	16.4	X	76.91125	250.12584	130.99804	1.30012	0.2052034	0.17329110	3.1862893	20	—	—
378416 2007 RU_{143}	17.5	X	94.17992	90.32756	343.89310	14.86664	0.1133233	0.34516614	2.0127226	20	2 15.9	19.2
378417 2007 RV_{166}	16.5	X	83.80309	225.15021	157.79360	7.34192	0.0804518	0.17924032	3.1153887	20	—	—
378418 2007 RV_{174}	16.1	X	122.90316	314.73199	43.03226	8.47679	0.0563817	0.17945091	3.1129509	20	1 1.6	20.7
378419 2007 RU_{187}	15.9	X	90.94258	164.58073	213.60914	18.10982	0.2357937	0.17868798	3.1218054	20	1 8.5	20.4
378420 2007 RR_{201}	16.1	X	41.41917	67.51501	2.06089	8.92408	0.1442177	0.17438111	3.1729976	20	—	—
378421 2007 RX_{205}	16.1	X	89.51752	74.59882	348.09496	13.08913	0.2473788	0.18520578	3.0481268	20	3 5.5	20.2
378422 2007 RP_{207}	16.1	X	100.01693	1.99850	18.16285	7.40020	0.1621702	0.18002412	3.1063395	20	1 16.9	20.5
378423 2007 RM_{209}	15.4	X	90.74324	337.82649	9.24285	27.35774	0.1344467	0.17243312	3.1968500	20	—	—
378424 2007 RK_{212}	16.3	X	59.25606	90.82802	328.18919	4.47107	0.1996015	0.17636413	3.1491683	20	1 10.9	20.0
378425 2007 RY_{220}	16.0	X	288.33690	321.86547	214.90503	4.52234	0.1256864	0.17377642	3.1803542	20	—	—
378426 2007 RV_{221}	16.2	X	157.58142	113.62979	204.22179	9.26533	0.1006567	0.17839562	3.1252151	20	—	—
378427 2007 RU_{222}	15.6	X	103.61911	281.03940	46.85468	16.70620	0.2391052	0.17446269	3.1720084	20	—	—
378428 2007 RD_{224}	16.5	X	52.43704	75.58541	306.88475	3.62764	0.1698083	0.17183071	3.2043174	20	—	—
378429 2007 RL_{224}	15.8	X	21.07425	288.26315	177.08932	18.70241	0.1345729	0.18123232	3.0925183	20	—	—
378430 2007 RE_{230}	16.2	X	93.62092	335.63211	22.54263	2.38438	0.0995392	0.17541327	3.1605385	20	—	—
378431 2007 RV_{232}	15.8	X	52.95260	233.26470	168.67111	15.35077	0.1996109	0.17309438	3.1887030	20	—	—
378432 2007 RP_{239}	15.6	X	118.67899	7.86041	341.27219	8.65354	0.0629663	0.18051296	3.1007288	20	—	—
378433 2007 RT_{246}	15.8	X	67.63362	71.77773	312.01194	7.79692	0.2061690	0.17267343	3.1938833	20	—	—
378434 2007 RT_{249}	15.6	X	127.29436	84.97701	235.34307	14.67119	0.2509711	0.17654530	3.1470136	20	—	—
378435 2007 RA_{250}	15.9	X	164.75923	95.33720	223.45290	9.05676	0.1016257	0.18297573	3.0728431	20	1 3.7	20.7
378436 2007 RG_{267}	16.9	X	120.20430	241.86338	98.99592	2.37396	0.1797537	0.17778342	3.1323856	20	—	—
378437 2007 RJ_{269}	16.3	X	59.29446	108.08929	334.86818	4.08513	0.1126940	0.18205028	3.0832481	20	1 30.1	20.2
378438 2007 RO_{272}	16.0	X	307.93888	286.10133	214.08246	7.36877	0.0213564	0.17175380	3.2052739	20	—	—
378439 2007 RJ_{285}	16.3	X	124.38286	319.44951	32.50061	3.28166	0.1206575	0.17976851	3.1092833	20	1 4.6	20.8
378440 2007 RO_{289}	16.1	X	53.32231	42.64206	22.46221	9.24318	0.0739530	0.17557667	3.1585773	20	—	—
378441 2007 RO_{292}	16.1	X	62.75830	357.68523	21.75598	5.00315	0.1473838	0.17102450	3.2143796	20	—	—
378442 2007 RO_{293}	16.3	X	179.02827	157.76798	132.38810	1.73469	0.1390908	0.18037030	3.1023636	20	—	—
378443 2007 RQ_{293}	15.9	X	49.61863	52.02411	13.70298	15.95432	0.0773330	0.17708272	3.1406432	20	—	—
378444 2007 RA_{296}	16.3	X	341.39210	229.97690	257.40334	2.68318	0.1541485	0.17255108	3.1953929	20	—	—
378445 2007 RA_{301}	16.0	X	56.37560	62.60326	19.18305	5.07004	0.1350901	0.18033558	3.1027618	20	1 27.9	19.8
378446 2007 RD_{301}	16.5	X	231.75235	231.51636	27.19570	9.06194	0.0505308	0.18071488	3.0984187	20	1 3.1	21.2
378447 2007 RS_{310}	15.8	X	146.38057	8.47644	300.42439	6.87519	0.2543983	0.17919092	3.1159612	20	—	—
378448 2007 RS_{311}	16.3	X	92.99676	134.53727	246.13899	4.20871	0.1640636	0.18065280	3.0991285	20	1 6.6	20.4
378449 2007 RP_{312}	16.3	X	109.33930	186.48165	189.96660	11.39249	0.1335709	0.18169308	3.0872879	20	1 15.6	20.9
378450 2007 RS_{312}	15.8	X	64.25187	269.87544	101.50463	13.79046	0.2101275	0.17036396	3.2226828	20	—	—
378451 2007 RY_{312}	16.3	X	122.71749	346.83532	14.77010	5.97304	0.1798430	0.18441097	3.0568788	20	1 21.9	21.0
378452 2007 RA_{313}	15.8	X	152.37817	112.23439	241.04981	11.01322	0.1323038	0.18987143	2.9979862	20	1 30.6	20.7
378453 2007 RD_{315}	15.5	X	120.71517	31.46874	317.85559	11.48939	0.0992906	0.18172197	3.0869606	20	—	—
378454 2007 RZ_{317}	16.2	X	105.48294	346.11354	30.29428	8.96968	0.0721463	0.17867914	3.1219084	20	1 5.9	20.7
378455 2007 RA_{318}	16.0	X	84.80441	337.83098	37.24807	9.72162	0.1607150	0.17441066	3.1726393	20	—	—
378456 2007 RO_{318}	16.4	X	30.97497	284.59447	176.49364	10.23393	0.2080870	0.17767498	3.1336600	20	1 10.2	19.9
378457 2007 RZ_{318}	15.9	X	172.30214	274.80253	23.73047	10.79847	0.1070984	0.18220599	3.0814914	20	—	—
378458 2007 ST	15.7	X	70.58321	266.47430	109.60184	14.14342	0.3000492	0.17429420	3.1740525	20	—	—
378459 2007 SG_{6}	15.4	X	83.07654	345.82948	37.75366	15.77156	0.1264103	0.17355699	3.1830342	20	—	—
378460 2007 SL_{23}	15.9	X	102.05143	313.02253	23.12303	7.57678	0.1461501	0.17451165	3.1714152	20	—	—
378461 2007 TV	16.1	X	122.79932	136.92742	198.50000	15.18759	0.2238670	0.18029825	3.1031901	20	—	—
378462 2007 TF_{6}	15.6	X	69.80337	91.23252	301.06048	7.90374	0.0857031	0.17428763	3.1741322	20	—	—
378463 2007 TN_{7}	16.2	X	93.94035	157.53897	231.07064	4.66413	0.1726186	0.17779132	3.1322928	20	1 18.5	20.5
378464 2007 TP_{15}	15.9	X	86.47177	297.66786	80.60241	10.14721	0.0865542	0.17426498	3.1744072	20	—	—
378465 2007 TV_{19}	16.0	X	75.73154	195.84435	206.47258	5.07413	0.1797851	0.17625789	3.1504336	20	1 11.9	20.1
378466 2007 TF_{20}	15.6	X	65.99029	38.78884	11.34789	11.09721	0.0730490	0.17620601	3.1510520	20	—	—
378467 2007 TK_{24}	17.1	X	82.22339	62.24266	301.65044	2.09957	0.2172681	0.17342738	3.1846200	20	—	—
378468 2007 TL_{26}	15.5	X	223.80487	233.11287	356.22288	16.10022	0.1622779	0.17970607	3.1100036	20	—	—
378469 2007 TA_{32}	15.7	X	112.09356	259.20463	75.55110	16.05824	0.2930283	0.17623572	3.1506978	20	—	—
378470 2007 TV_{59}	15.7	X	357.38383	294.27617	172.61374	25.96277	0.1450779	0.17578770	3.1560489	20	—	—
378471 2007 TH_{68}	16.1	X	94.25031	52.14181	309.86311	9.32380	0.2408010	0.17642578	3.1484346	20	—	—
378472 2007 TS_{76}	16.5	X	98.82464	250.09490	125.56855	2.57044	0.0995653	0.18164440	3.0878394	20	—	—
378473 2007 TL_{90}	16.3	X	69.09885	235.10766	154.20356	4.45704	0.1764430	0.17046807	3.2213706	20	—	—
378474 2007 TV_{103}	15.7	X	0.03247	68.93106	54.60228	9.69088	0.0858460	0.17131935	3.2106905	20	—	—
378475 2007 TJ_{106}	15.7	X	53.26802	256.49346	154.52815	16.59250	0.1565841	0.18033358	3.1027848	20	—	—
378476 2007 TM_{110}	16.1	X	79.76943	56.28371	317.47547	8.56785	0.2663048	0.17497360	3.1658308	20	—	—
378477 2007 TO_{115}	15.8	X	118.37586	275.79102	69.29853	10.13690	0.2174728	0.17606827	3.1526951	20	1 2.3	20.5
378478 2007 TU_{117}	15.8	X	210.87124	201.89153	65.18254	10.69805	0.0578309	0.17468738	3.1692879	20	—	—
378479 2007 TJ_{123}	16.0	X	123.40805	297.94015	46.66226	10.22486	0.0845410	0.17389342	3.1789274	20	—	—
378480 2007 TM_{138}	16.1	X	92.07179	239.16332	124.96524	1.25830	0.2210372	0.17836340	3.1255915	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378481 2007 TD_{148}	15.4	X	117.55978	285.87167	45.41724	16.76528	0.2303214	0.17399706	3.1776649	20	—	—
378482 2007 TY_{150}	15.9	X	98.41210	120.82913	237.83561	6.88112	0.1938637	0.17567341	3.1574176	20	—	—
378483 2007 TF_{152}	15.7	X	111.71969	64.57490	264.61888	4.06677	0.1389137	0.17261462	3.1946087	20	—	—
378484 2007 TB_{156}	15.8	X	95.14504	134.40149	210.81663	26.21088	0.1784528	0.17102663	3.2143529	20	—	—
378485 2007 TV_{157}	16.3	X	50.55268	88.65334	341.42680	3.73258	0.2426097	0.17375920	3.1805643	20	1 15.2	19.5
378486 2007 TT_{168}	15.9	X	127.07084	111.95618	279.86758	3.95395	0.1673411	0.18347709	3.0672428	20	2 26.1	20.6
378487 2007 TS_{173}	15.9	X	49.87191	167.23390	230.97556	3.52402	0.1482597	0.16987737	3.2288339	20	—	—
378488 2007 TT_{180}	15.5	X	75.24782	145.98087	240.56062	16.43320	0.2137983	0.17415808	3.1757060	20	—	—
378489 2007 TB_{182}	16.1	X	79.09215	168.58329	218.48939	15.62193	0.0994670	0.17278878	3.1924616	20	—	—
378490 2007 TB_{212}	15.8	X	89.92409	141.92877	244.29572	8.11387	0.0871790	0.17432182	3.1737171	20	—	—
378491 2007 TA_{222}	16.0	X	42.97058	45.44698	31.17208	12.10379	0.0660715	0.17532353	3.1616169	20	—	—
378492 2007 TE_{235}	15.6	X	358.30209	90.29153	30.50241	16.25001	0.0624051	0.17390330	3.1788070	20	—	—
378493 2007 TL_{259}	16.0	X	63.21916	68.56153	350.58796	2.26060	0.1652829	0.17590290	3.1546709	20	1 13.3	19.7
378494 2007 TZ_{274}	16.7	X	138.17164	67.70694	271.24054	1.86617	0.0864838	0.18378875	3.0637742	20	—	—
378495 2007 TL_{280}	15.7	X	79.79820	169.08044	224.37375	11.93940	0.1378141	0.17733469	3.1376675	20	—	—
378496 2007 TL_{281}	16.1	X	153.25215	50.93566	240.81682	3.88596	0.1500531	0.17452572	3.1712447	20	—	—
378497 2007 TJ_{300}	16.1	X	202.29910	76.66168	204.39613	7.64602	0.0857098	0.17753340	3.1353257	20	—	—
378498 2007 TE_{311}	15.6	X	69.56434	5.14780	17.16729	12.10704	0.0528825	0.17200389	3.2021662	20	—	—
378499 2007 TU_{311}	16.0	X	275.94444	132.34345	68.59936	4.48528	0.1066372	0.17532645	3.1615818	20	—	—
378500 2007 TG_{379}	16.6	X	97.19508	33.01077	352.80351	0.39470	0.1583789	0.17809339	3.1287499	20	1 18.3	20.9
378501 2007 TE_{393}	15.2	X	307.75484	109.48448	79.12211	7.96418	0.0536561	0.17852225	3.1237372	20	1 5.4	19.5
378502 2007 TW_{404}	17.4	X	128.84644	306.30096	4.57627	2.98224	0.1313260	0.24556416	2.5255699	20	—	—
378503 2007 TR_{413}	15.7	X	71.30825	316.45019	69.34964	19.14720	0.2056269	0.17276871	3.1927089	20	—	—
378504 2007 TK_{418}	16.4	X	104.23618	54.63285	40.01680	2.82694	0.1695980	0.18881552	3.0091529	20	4 19.7	20.9
378505 2007 TS_{421}	15.5	X	54.53343	272.28703	120.15917	16.91975	0.2026928	0.17014960	3.2253890	20	—	—
378506 2007 TB_{438}	16.1	X	134.49605	131.42420	193.82308	4.76728	0.1253074	0.17737877	3.1371476	20	—	—
378507 2007 TH_{445}	14.9	X	105.42952	255.20520	71.25933	24.13423	0.1882762	0.17000999	3.2271544	20	—	—
378508 2007 TH_{449}	15.4	X	150.73548	57.43147	245.11811	14.74425	0.0935399	0.16881480	3.2423685	20	—	—
378509 2007 UP_{9}	15.8	X	58.38549	314.46005	99.28744	6.64508	0.1390601	0.17361209	3.1823608	20	—	—
378510 2007 UB_{14}	16.0	X	239.97502	67.91487	168.44594	6.48098	0.0070044	0.17831244	3.1261870	20	—	—
378511 2007 UO_{14}	16.2	X	54.20121	358.01002	21.15143	3.29716	0.0309698	0.16763358	3.2575821	20	—	—
378512 2007 UE_{19}	16.5	X	69.54698	71.65679	352.27230	0.77946	0.1050563	0.17858531	3.1230018	20	1 20.5	20.6
378513 2007 UN_{23}	15.7	X	26.88210	30.22311	61.59178	8.83470	0.0290225	0.17246309	3.1964797	20	—	—
378514 2007 UX_{28}	16.0	X	50.82751	68.13467	0.67023	9.91251	0.1004227	0.17532620	3.1615848	20	—	—
378515 2007 UU_{56}	15.3	X	19.74514	253.60194	220.82372	16.32391	0.0630873	0.17489296	3.1668038	20	1 6.5	19.8
378516 2007 UG_{62}	15.8	X	233.13185	207.59513	14.90156	8.91121	0.0452576	0.17393224	3.1784545	20	—	—
378517 2007 UF_{88}	17.9	X	159.16358	219.30208	41.89465	4.66554	0.0322359	0.31545799	2.1371829	20	—	—
378518 2007 UP_{93}	15.8	X	111.57217	121.38051	224.96125	18.02092	0.1417928	0.17173687	3.2054846	20	—	—
378519 2007 UT_{121}	15.9	X	150.68803	107.69579	217.54084	3.93845	0.1467351	0.17923132	3.1154930	20	1 2.6	20.7
378520 2007 VP_{20}	15.6	X	73.26576	38.67898	17.71629	18.64992	0.2600253	0.17925322	3.1152393	20	2 16.2	19.8
378521 2007 VB_{26}	16.3	X	158.11671	269.08817	19.27527	10.51375	0.1750456	0.17364558	3.1819515	20	—	—
378522 2007 VV_{67}	16.2	X	107.65447	329.94531	22.73688	7.51792	0.1116683	0.17681921	3.1437627	20	—	—
378523 2007 VY_{88}	15.4	X	83.73746	191.26020	279.66523	10.14970	0.0574733	0.18646959	3.0343386	20	3 24.4	19.8
378524 2007 VP_{154}	16.2	X	119.00865	331.58345	8.16221	6.58247	0.0441146	0.16810808	3.2514494	20	—	—
378525 2007 VV_{177}	16.2	X	43.53966	253.04972	202.36922	15.26345	0.2416105	0.17799350	3.1299203	20	1 28.3	19.8
378526 2007 VH_{186}	20.1	X	108.72507	15.24196	51.47407	19.23727	0.1969358	0.49915968	1.5738973	20	3 1.4	21.3
378527 2007 VK_{243}	15.3	X	225.50324	356.84370	135.89065	3.59215	0.1785627	0.12588504	3.9429382	20	9 20.5	21.3
378528 2007 WT_{63}	18.2	X	32.07019	345.86091	69.41176	3.61891	0.1863877	0.31584682	2.1354286	20	—	—
378529 2007 YC_{22}	18.0	X	76.22788	163.47231	198.36641	1.30939	0.0328651	0.31303808	2.1481830	20	—	—
378530 2007 YF_{51}	17.6	X	66.98566	53.59589	290.17075	5.71434	0.0818243	0.30634117	2.1793776	20	—	—
378531 2008 AR_{8}	15.3	X	147.92659	76.24107	120.29214	2.29896	0.1531265	0.12372204	3.9887608	20	9 27.5	21.6
378532 2008 AP_{28}	16.5	X	267.19627	220.21644	151.56887	26.45826	0.4037859	0.27710313	2.3301029	20	5 22.3	20.9
378533 2008 AB_{55}	18.1	X	306.07913	355.02749	111.68277	3.09806	0.0965873	0.30438300	2.1887145	20	—	—
378534 2008 AZ_{91}	15.4	X	123.25976	243.37552	326.57571	7.97714	0.1128258	0.12498477	3.9618496	20	9 15.5	21.5
378535 2008 AN_{98}	17.7	X	172.12580	226.55652	333.42666	5.85539	0.0456406	0.29265742	2.2467928	20	11 20.2	20.6
378536 2008 AX_{100}	15.5	X	85.52347	328.34557	144.92498	22.63642	0.0232018	0.17449013	3.1716759	20	4 6.1	20.3
378537 2008 AY_{127}	18.2	X	347.89838	199.14524	158.38200	2.68981	0.0891924	0.28979061	2.2615864	20	10 29.2	20.3
378538 2008 AC_{138}	17.6	X	332.19587	157.06857	274.82428	5.15667	0.1031928	0.30200341	2.2001966	20	—	—
378539 2008 BA_{6}	15.6	X	135.54347	258.15966	138.37744	8.62811	0.0664243	0.17141586	3.2094853	20	3 5.1	20.3
378540 2008 BF_{36}	16.7	X	58.11150	117.35308	152.35256	7.26324	0.1985257	0.27314478	2.3525604	20	10 24.4	20.0
378541 2008 BO_{36}	17.4	X	103.28708	87.95349	145.56025	4.48800	0.0946055	0.27782002	2.3260927	20	10 15.8	20.6
378542 2008 CE_{4}	18.0	X	178.16079	121.04967	84.66728	4.12189	0.0829290	0.29394751	2.2402141	20	12 3.8	20.9
378543 2008 CY_{11}	16.9	X	139.66615	243.41893	344.11534	6.63547	0.0700917	0.28762722	2.2729126	20	11 14.9	20.2
378544 2008 CA_{25}	17.9	X	292.73932	343.44223	96.35303	3.11560	0.1232076	0.29183320	2.2510212	20	11 21.4	19.7
378545 2008 CJ_{25}	17.4	X	138.62407	84.46026	126.77862	4.26854	0.1408693	0.28108547	2.3080424	20	10 26.2	20.9
378546 2008 CP_{34}	17.4	X	290.40450	153.00895	327.85786	4.57205	0.0368557	0.29963814	2.2117599	20	—	—
378547 2008 CU_{43}	17.5	X	143.61421	47.46964	146.85241	5.96443	0.1840435	0.27678162	2.3319069	20	10 9.0	21.2
378548 2008 CW_{44}	17.9	X	331.27938	299.90669	126.25976	6.55347	0.1277076	0.29688135	2.2254309	20	—	—
378549 2008 CW_{80}	17.9	X	25.03523	215.23648	41.58693	2.74837	0.1377787	0.26673536	2.3900977	20	8 4.4	20.2
378550 2008 CU_{103}	15.9	X	255.54163	195.72042	260.27222	4.76386	0.0563196	0.12455789	3.9708963	20	9 19.8	21.5
378551 2008 CM_{108}	17.3	X	164.99637	324.87459	253.28120	3.62033	0.1857863	0.28803505	2.2707666	20	11 26.1	20.9
378552 2008 CZ_{110}	17.5	X	227.47895	126.27476	359.57137	6.30569	0.1093682	0.28803315	2.2707765	20	10 11.7	20.2
378553 2008 CN_{138}	17.7	X	259.66313	154.50097	346.91622	4.06191	0.1356585	0.29627257	2.2284784	20	12 22.4	19.7
378554 2008 CD_{147}	17.7	X	5.85154	96.96094	295.97964	5.49063	0.0686455	0.29716308	2.2240241	20	—	—
378555 2008 CW_{152}	17.3	X	215.47478	267.33402	242.37096	5.44742	0.0965916	0.28845140	2.2685810	20	10 31.5	20.1
378556 2008 CL_{156}	17.6	X	77.90066	173.17386	58.92823	2.29145	0.1962603	0.26984687	2.3716893	20	9 24.4	21.0
378557 2008 CY_{159}	17.8	X	288.75883	238.18616	198.63726	2.96266	0.0866211	0.28809043	2.2704756	20	11 10.9	19.9
378558 2008 CB_{164}	17.2	X	317.37156	158.87610	298.02523	7.61816	0.0590408	0.30181439	2.2011151	20	—	—
378559 2008 CW_{170}	17.1	X	160.05377	286.58836	302.35417	6.61560	0.0928899	0.29155073	2.2524749	20	12 11.6	20.2
378560 2008 CH_{172}	17.3	X	196.02410	211.75261	342.26452	6.49726	0.0370112	0.29620349	2.2288248	20	12 16.8	20.2

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378561 2008 CC_{183}	17.7	X	208.01697	65.25993	91.25331	5.74924	0.0818525	0.28635105	2.2796606	20	11 4.9	20.6
378562 2008 CG_{184}	17.7	X	229.50140	100.76990	32.89098	6.57199	0.0828067	0.28817651	2.2700234	20	10 30.7	20.2
378563 2008 CU_{193}	18.0	X	148.02847	32.98100	177.75199	3.77557	0.0661053	0.28400960	2.2921729	20	11 5.1	21.1
378564 2008 CF_{197}	18.3	X	213.87790	9.75596	167.97913	2.05627	0.0583579	0.29357968	2.2420849	20	12 14.9	21.0
378565 2008 CK_{201}	17.7	X	20.76677	195.50362	69.99828	3.07688	0.1663984	0.26386940	2.4073729	20	8 14.3	19.9
378566 2008 CL_{205}	15.6	X	172.51097	207.17885	322.81101	4.12648	0.0188008	0.12394466	3.9839832	20	9 17.5	21.4
378567 2008 CM_{205}	17.5	X	72.08683	341.56583	259.71917	1.58470	0.1422141	0.27172194	2.3607658	20	9 21.4	20.6
378568 2008 CM_{213}	17.8	X	180.70928	24.16050	153.00566	2.24360	0.1510600	0.28091303	2.3089869	20	10 22.4	21.1
378569 2008 CP_{214}	17.4	X	155.43924	221.40905	357.10694	2.39135	0.1505774	0.28719415	2.2751969	20	11 18.8	20.7
378570 2008 DY_{14}	17.6	X	102.23412	72.37051	150.46371	1.63406	0.1422398	0.27303895	2.3531682	20	10 2.4	21.0
378571 2008 DX_{31}	17.6	X	91.98708	183.74566	55.90167	3.27452	0.1643848	0.27446219	2.3450262	20	10 16.2	21.1
378572 2008 DY_{31}	17.8	X	105.84892	154.15305	98.05138	3.65097	0.1321778	0.28087057	2.3092195	20	11 13.9	21.2
378573 2008 DR_{53}	17.8	X	164.50513	3.75031	192.31605	3.56546	0.1211621	0.28209957	2.3025078	20	11 1.0	21.0
378574 2008 DY_{53}	17.1	X	167.90204	357.13059	197.57613	24.82480	0.2040028	0.28292167	2.2980452	20	10 30.2	20.9
378575 2008 DF_{55}	17.5	X	264.86556	122.29985	346.51087	4.35574	0.1011657	0.28960171	2.2625697	20	11 13.9	19.9
378576 2008 DB_{56}	17.3	X	158.45145	96.59219	104.42771	3.68790	0.1077269	0.28063372	2.3105186	20	11 2.4	20.6
378577 2008 DC_{56}	17.8	X	298.76053	24.75683	82.45449	4.00126	0.1186426	0.29450695	2.2373762	20	—	—
378578 2008 DE_{56}	15.6	X	226.20669	358.72364	138.58734	3.72097	0.1708545	0.12592918	3.9420167	20	9 27.2	21.7
378579 2008 DT_{59}	17.9	X	296.94359	277.20414	198.71297	3.40580	0.1702061	0.30040034	2.2080171	20	—	—
378580 2008 DA_{60}	16.9	X	39.62297	305.93517	321.48882	7.86502	0.1896654	0.26826047	2.3810303	20	9 18.9	19.7
378581 2008 DV_{67}	17.5	X	269.95315	248.85984	281.27015	2.93669	0.2184985	0.30095184	2.2053188	20	—	—
378582 2008 DK_{82}	17.7	X	36.07957	249.68745	36.96710	7.15434	0.1216006	0.27035896	2.3686935	20	10 5.5	20.4
378583 2008 DM_{84}	17.5	X	203.34650	232.43661	337.04650	5.31105	0.0713193	0.29825534	2.2185909	20	—	—
378584 2008 DK_{89}	17.6	X	70.52870	206.65170	51.66709	1.83681	0.1646113	0.27154232	2.3618068	20	10 16.7	20.9
378585 2008 EY_{6}	18.0	X	252.38640	120.62451	18.54324	5.78545	0.1016059	0.29220053	2.2491342	20	12 9.2	20.3
378586 2008 EJ_{15}	17.2	X	276.93184	6.38409	15.18264	6.83997	0.1236485	0.26817108	2.3815594	20	7 23.1	20.0
378587 2008 ER_{20}	17.9	X	191.17838	214.55545	304.07634	2.07453	0.1417447	0.28116303	2.3076179	20	10 7.9	21.4
378588 2008 EQ_{21}	17.4	X	175.83328	353.19860	183.45894	2.88162	0.1254339	0.27997909	2.3141188	20	10 17.9	20.8
378589 2008 EZ_{22}	17.4	X	176.42762	118.06048	74.00338	3.13997	0.0888890	0.28632748	2.2797857	20	11 11.8	20.4
378590 2008 EA_{23}	17.4	X	118.76972	142.04844	76.69614	3.03929	0.1673737	0.27706877	2.3302955	20	10 16.3	21.0
378591 2008 EO_{35}	17.1	X	77.46584	241.75348	339.52270	3.15931	0.1490319	0.26486904	2.4013120	20	9 1.7	20.2
378592 2008 EK_{42}	13.5	X	288.41578	267.74402	14.91081	27.22411	0.0325943	0.08395971	5.1652193	20	4 10.4	20.4
378593 2008 EV_{44}	17.6	X	261.79680	255.47306	186.11539	7.25168	0.0991793	0.28038491	2.3118853	20	9 29.8	19.9
378594 2008 EO_{46}	17.5	X	141.36031	98.44938	109.72675	4.14442	0.1867302	0.27663656	2.3327221	20	10 24.2	21.3
378595 2008 EK_{47}	17.4	X	49.89807	122.80903	139.39520	4.89178	0.1346336	0.26551319	2.3974266	20	9 21.8	20.2
378596 2008 EH_{48}	17.1	X	95.93545	236.61733	18.64713	7.01666	0.0807129	0.27572272	2.3378735	20	10 31.5	20.2
378597 2008 EV_{52}	16.8	X	154.77857	70.35833	126.11169	7.06352	0.0857884	0.27992600	2.3144114	20	10 25.9	20.1
378598 2008 EL_{58}	17.3	X	31.02147	357.07463	311.58938	6.68277	0.1251810	0.28290439	2.2981388	20	10 26.8	20.2
378599 2008 EP_{88}	17.1	X	166.14636	164.48461	40.49573	6.14876	0.1000967	0.28539854	2.2847300	20	11 15.1	20.3
378600 2008 EM_{89}	16.9	X	106.61529	293.76978	302.79526	7.23972	0.1579092	0.27796761	2.3252693	20	10 22.2	20.6
378601 2008 EA_{108}	17.9	X	31.52257	63.49036	323.42806	3.84301	0.1614309	0.30596870	2.1811459	20	—	—
378602 2008 EQ_{116}	17.6	X	46.68856	143.68434	107.80829	2.30122	0.1505608	0.26353262	2.4094235	20	9 3.6	20.4
378603 2008 EG_{121}	17.4	X	58.42611	78.83087	171.36061	9.31020	0.0709760	0.26841219	2.3801330	20	9 4.6	20.3
378604 2008 ER_{137}	17.3	X	54.85979	250.07775	47.30661	4.06223	0.1114670	0.27642850	2.3338924	20	11 12.2	20.2
378605 2008 EF_{149}	16.7	X	98.96702	210.16561	61.37563	7.74704	0.0931197	0.28135905	2.3065460	20	11 28.3	19.7
378606 2008 EN_{154}	17.4	X	20.18986	209.40367	57.00103	7.46164	0.1313908	0.25661810	2.4525123	20	8 10.3	20.0
378607 2008 EW_{156}	18.2	X	274.83326	19.29571	81.81790	1.65191	0.1401642	0.28727299	2.2747806	20	11 15.8	20.3
378608 2008 EW_{157}	17.6	X	192.59103	81.87982	63.58599	6.40721	0.0457043	0.27916843	2.3185965	20	10 5.3	20.6
378609 2008 ES_{164}	17.0	X	124.27917	255.89118	327.10501	6.48819	0.0577121	0.27912855	2.3188174	20	10 19.3	20.2
378610 2008 FT_{6}	17.4	X	26.76451	52.21892	41.94423	13.58186	0.4268548	0.31536141	2.1376193	20	—	—
378611 2008 FY_{15}	16.7	X	176.06457	352.36122	149.62034	7.59043	0.0586691	0.26941514	2.3742223	20	9 4.6	19.9
378612 2008 FW_{39}	18.1	X	198.37436	56.07302	121.76551	2.30298	0.1987244	0.28506971	2.2864866	20	11 6.5	21.5
378613 2008 FE_{41}	17.4	X	209.01604	56.03759	90.04579	3.53485	0.1494081	0.28126081	2.3070831	20	10 13.1	20.5
378614 2008 FK_{42}	17.4	X	22.57842	276.65158	353.15055	3.09613	0.1067543	0.26469189	2.4023832	20	8 14.8	19.9
378615 2008 FQ_{53}	17.7	X	46.71116	154.00888	107.42397	1.34920	0.1735918	0.26376654	2.4079987	20	9 21.4	20.5
378616 2008 FN_{55}	17.6	X	62.16023	81.39770	193.71049	6.81299	0.1116005	0.27128544	2.3632975	20	10 22.3	20.6
378617 2008 FS_{66}	13.2	X	304.61215	238.89655	47.25656	26.98219	0.0538477	0.08200489	5.2469819	20	5 4.5	19.9
378618 2008 FT_{66}	17.0	X	97.25807	53.01128	195.52313	7.27960	0.0743020	0.27202882	2.3589900	20	10 25.0	20.2
378619 2008 FW_{66}	18.0	X	235.91479	290.85385	205.51191	3.55576	0.1925734	0.28451730	2.2894452	20	10 25.6	20.8
378620 2008 FY_{66}	13.5	X	311.62568	64.61402	216.64062	23.80867	0.0737294	0.08257766	5.2226911	20	5 4.3	20.1
378621 2008 FV_{68}	17.3	X	81.25141	122.26831	107.50768	2.36695	0.1578539	0.26543063	2.3979237	20	9 20.1	20.5
378622 2008 FE_{69}	17.9	X	215.28087	5.67458	166.92064	4.21101	0.1438706	0.28611489	2.2809148	20	11 25.8	20.9
378623 2008 FY_{74}	17.4	X	156.60859	29.07401	137.50603	6.09318	0.0576679	0.27268663	2.3551947	20	9 16.0	20.6
378624 2008 FV_{76}	18.5	X	57.75230	202.66447	77.72554	2.75049	0.0154201	0.27942320	2.3171870	20	10 11.3	21.2
378625 2008 FM_{83}	17.3	X	27.65580	212.37142	56.27688	7.17686	0.1289939	0.26160682	2.4212335	20	8 28.4	20.0
378626 2008 FY_{89}	17.5	X	57.92535	135.42547	124.08678	2.95355	0.1888942	0.27268663	2.3551947	20	10 7.9	20.7
378627 2008 FP_{97}	17.5	X	147.84274	297.96621	262.58864	1.55839	0.1495882	0.27979599	2.3151283	20	10 18.7	20.9
378628 2008 FK_{102}	17.3	X	172.25075	70.27646	96.04038	6.08107	0.1654699	0.27516331	2.3410411	20	10 1.0	21.0
378629 2008 FZ_{102}	17.2	X	232.29878	317.33199	138.91773	7.29584	0.0720103	0.27067821	2.3668307	20	9 12.9	20.1
378630 2008 FT_{104}	17.1	X	103.04070	139.18920	49.96390	6.95379	0.0734461	0.26096762	2.4251855	20	8 13.2	20.4
378631 2008 FV_{107}	17.7	X	35.91627	232.13273	37.13695	9.97960	0.1941707	0.26209813	2.4182068	20	9 23.5	20.5
378632 2008 FX_{107}	18.0	X	282.71392	38.53369	79.45176	4.40379	0.1802747	0.29215899	2.2493475	20	12 26.1	19.6
378633 2008 FD_{115}	17.4	X	81.94238	196.75968	30.14775	6.77238	0.0672044	0.26837535	2.3803508	20	9 7.4	20.5
378634 2008 FM_{116}	17.3	X	323.12640	310.59576	29.57691	4.53127	0.0854152	0.26303498	2.4124614	20	8 13.9	19.8
378635 2008 FQ_{127}	18.1	X	210.43132	150.38444	8.36145	0.45215	0.1273977	0.28545910	2.2844069	20	11 2.3	21.0
378636 2008 FM_{128}	17.2	X	95.76283	146.61301	56.67027	5.69394	0.0495633	0.26316729	2.4116527	20	8 20.3	20.4
378637 2008 FM_{129}	17.1	X	87.07667	202.06191	55.56178	6.93556	0.1004576	0.27301218	2.3533221	20	10 28.4	20.2
378638 2008 FT_{129}	17.2	X	294.02160	305.59818	16.09059	3.87673	0.2694519	0.24635177	2.5201840	20	4 25.4	20.4
378639 2008 FG_{130}	18.2	X	225.98098	89.41774	70.10553	5.11515	0.1320918	0.28524983	2.2855240	20	11 22.9	20.9
378640 2008 FC_{133}	14.0	X	308.63360	151.59399	130.46456	7.99376	0.0857174	0.08333316	5.1910772	20	5 2.7	20.7

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378641 2008 FX_{134}	13.7	X	253.33578	257.18074	87.11217	8.44759	0.1463042	0.08162020	5.2634556	20	5 3.1	20.9
378642 2008 FR_{136}	17.6	X	174.50022	160.41122	26.44282	4.85071	0.1298697	0.28001111	2.3139424	20	10 28.6	20.8
378643 2008 FT_{137}	17.2	X	53.19763	16.63753	227.22439	3.71344	0.1523573	0.26070855	2.4267919	20	8 30.2	20.1
378644 2008 GG_{4}	16.7	X	106.71380	9.16317	219.81348	25.52338	0.1843512	0.27207662	2.3587137	20	10 15.3	20.6
378645 2008 GU_{10}	17.5	X	112.08769	159.91681	64.22913	2.20166	0.1350248	0.27057239	2.3674477	20	10 13.8	21.0
378646 2008 GQ_{27}	18.0	X	194.47130	350.81620	176.18372	4.48635	0.0875986	0.28334742	2.2957427	20	10 30.9	20.9
378647 2008 GF_{35}	16.5	X	69.80936	188.73666	49.80566	12.86121	0.1655600	0.26395708	2.4068397	20	9 24.9	20.0
378648 2008 GM_{35}	13.9	X	298.08619	177.39015	113.90465	7.41367	0.0531439	0.08261871	5.2209610	20	5 4.2	20.7
378649 2008 GH_{37}	17.8	X	358.88364	181.94804	86.33840	2.91449	0.1680704	0.25183148	2.4834917	20	6 28.4	19.9
378650 2008 GS_{37}	17.3	X	64.21740	166.78217	80.23222	4.84509	0.0918461	0.26347612	2.4097679	20	9 14.4	20.4
378651 2008 GF_{41}	17.9	X	245.61853	56.29519	66.34564	7.32061	0.0481561	0.28087158	2.3092140	20	11 12.4	20.5
378652 2008 GR_{41}	14.2	X	231.83689	162.88513	197.15917	18.89032	0.0627665	0.08474372	5.1333124	20	5 6.2	21.3
378653 2008 GY_{46}	17.2	X	271.77578	107.55049	188.45677	11.41725	0.2897537	0.23353257	2.6115865	20	2 26.7	21.6
378654 2008 GZ_{52}	13.6	X	312.19643	239.07089	36.14330	15.51163	0.1261083	0.08470405	5.1349149	20	4 22.3	20.0
378655 2008 GY_{72}	18.0	X	305.50150	56.43748	41.82855	2.51226	0.1035440	0.29317648	2.2441401	20	—	—
378656 2008 GB_{73}	17.6	X	72.82927	217.86840	25.90374	6.46598	0.0911552	0.26905097	2.3763642	20	9 21.3	20.6
378657 2008 GO_{77}	17.3	X	280.49201	335.16709	97.97080	6.74919	0.0769836	0.27619518	2.3352067	20	10 23.6	19.9
378658 2008 GV_{82}	17.1	X	25.83212	249.76396	67.43501	6.06526	0.1473595	0.27122694	2.3636373	20	11 5.9	19.8
378659 2008 GU_{97}	17.5	X	105.80749	300.36395	270.71267	1.59067	0.1460127	0.26754139	2.3852948	20	9 18.9	20.9
378660 2008 GQ_{100}	17.7	X	277.56193	208.10335	182.72942	2.55567	0.1025999	0.26484059	2.4014840	20	8 7.0	20.6
378661 2008 GR_{103}	17.4	X	8.23404	196.15979	74.58679	6.30486	0.2199090	0.25526762	2.4611546	20	8 2.1	19.3
378662 2008 GK_{104}	17.5	X	320.06947	314.87727	56.15990	7.43170	0.1428012	0.27130532	2.3631820	20	9 26.3	19.6
378663 2008 GU_{106}	17.2	X	186.47872	95.78396	82.77772	4.52398	0.0934210	0.28432715	2.2904659	20	11 5.6	20.3
378664 2008 GL_{107}	17.5	X	9.30337	192.77360	107.41645	7.17196	0.0879164	0.26611171	2.3938305	20	9 6.9	20.1
378665 2008 GB_{116}	13.7	X	18.49362	13.00175	198.34682	21.84411	0.0542331	0.08421437	5.1548009	20	5 11.9	20.4
378666 2008 GS_{117}	17.6	X	236.21780	321.78688	145.00239	5.16076	0.0509467	0.27381239	2.3487348	20	10 7.1	20.5
378667 2008 GK_{137}	17.2	X	67.59338	34.97403	210.00630	6.21454	0.1508221	0.26637743	2.3922383	20	9 20.6	20.4
378668 2008 GN_{140}	14.1	X	6.11122	20.62747	195.79620	6.20433	0.0344307	0.08107880	5.2868602	20	5 1.3	20.8
378669 Rivas	17.5	X	130.82941	49.77216	138.18530	5.11837	0.1370021	0.26828748	2.3808705	20	9 16.3	21.1
378670 2008 HR_{8}	17.2	X	202.78436	247.17216	176.19436	14.29790	0.0611858	0.25574492	2.4580915	20	6 19.4	21.0
378671 2008 HZ_{11}	17.5	X	55.07538	40.34206	197.60087	14.25581	0.0636313	0.25915560	2.4364770	20	8 7.1	20.9
378672 2008 HD_{13}	13.9	X	317.81173	227.50879	36.34157	5.51511	0.1677182	0.08273628	5.2160138	20	4 11.9	20.2
378673 2008 HT_{19}	17.4	X	281.61357	213.27564	98.93510	11.72696	0.1858619	0.24175646	2.5520195	20	4 16.8	21.1
378674 2008 HV_{21}	17.3	X	94.82897	143.64331	60.50445	2.36913	0.1097812	0.26191586	2.4193285	20	8 26.2	20.6
378675 2008 HW_{39}	17.9	X	63.12185	232.25336	16.99514	2.02900	0.1777705	0.26615225	2.3935874	20	9 26.6	21.1
378676 2008 HB_{42}	17.2	X	139.15376	330.45351	223.63955	5.61283	0.0646132	0.26970014	2.3725494	20	9 28.3	20.4
378677 2008 HX_{45}	17.4	X	264.14931	236.01240	83.28971	5.04097	0.2988573	0.23626162	2.5914367	20	3 22.9	21.7
378678 2008 HG_{50}	17.7	X	350.14134	238.59526	59.06008	6.81065	0.1097137	0.25574291	2.4581043	20	7 28.3	20.2
378679 2008 HU_{55}	17.5	X	268.71738	193.87935	113.87671	2.39061	0.2216319	0.23587234	2.5942871	20	3 18.9	21.5
378680 2008 HX_{62}	13.3	X	256.73127	241.70896	97.99246	12.14636	0.0584826	0.08372874	5.1747138	20	5 12.2	20.3
378681 2008 HJ_{64}	13.9	X	227.50541	166.10558	198.16665	16.50153	0.0228276	0.08211007	5.2424999	20	5 9.9	21.0
378682 2008 JD_{4}	17.3	X	244.03161	99.79904	198.59142	11.80579	0.2578972	0.22750985	2.6574754	20	2 9.3	22.2
378683 2008 JZ_{11}	17.3	X	232.09727	76.89774	217.08574	10.40382	0.1753922	0.22561340	2.6723466	20	1 29.5	21.9
378684 2008 JC_{17}	17.9	X	308.73003	173.50751	167.67353	5.48394	0.0931287	0.25654190	2.4529979	20	7 15.9	20.7
378685 2008 JJ_{22}	16.5	X	290.24426	305.74355	295.86363	11.81765	0.2100684	0.23286022	2.6166111	20	1 19.7	20.4
378686 2008 JW_{26}	13.9	X	311.05087	232.81071	56.28801	13.56893	0.0797741	0.08241239	5.2296710	20	5 12.1	20.5
378687 2008 JM_{30}	17.2	X	6.28219	213.88604	69.95476	7.72485	0.0994788	0.25590336	2.4570767	20	8 6.8	19.9
378688 2008 JN_{38}	17.3	X	213.68615	124.54814	183.70052	16.13128	0.1857004	0.22289363	2.6940415	20	1 31.3	22.1
378689 2008 KT_{4}	17.2	X	211.94004	327.92956	136.47226	7.85513	0.0463223	0.26365617	2.4086707	20	8 30.2	20.2
378690 2008 KL_{5}	18.1	X	211.28889	316.13818	178.12294	6.21347	0.0942920	0.27306176	2.3530372	20	10 4.2	21.2
378691 2008 KU_{7}	13.5	X	104.88152	261.67091	221.02654	13.77996	0.0453654	0.08141003	5.2725102	20	5 11.9	20.4
378692 2008 KO_{10}	17.5	X	64.78117	65.82636	166.40290	4.14429	0.0995707	0.26064988	2.4271561	20	8 22.8	20.5
378693 2008 KE_{15}	17.7	X	35.28838	200.81151	63.79486	6.22165	0.1315911	0.25914999	2.4365122	20	9 3.7	20.5
378694 2008 KT_{28}	13.2	X	325.46316	168.64101	102.69635	10.68919	0.0368271	0.08342936	5.1870858	20	5 16.2	20.0
378695 2008 KG_{30}	16.7	X	302.73858	138.71437	168.93348	13.09687	0.1796695	0.24373889	2.5381629	20	5 7.6	19.9
378696 2008 KU_{38}	17.4	X	100.27779	120.35984	88.69557	3.52742	0.1616635	0.26400145	2.4065701	20	9 14.3	21.0
378697 2008 LS	17.1	X	205.56764	24.98857	61.62997	6.50759	0.0147598	0.26161770	2.4211664	20	7 31.8	20.2
378698 2008 LT_{11}	17.2	X	147.23285	20.87964	130.36321	7.15599	0.0690350	0.26000148	2.4311896	20	8 12.0	20.5
378699 2008 LE_{17}	17.3	X	275.72389	154.77688	138.05881	6.17936	0.2075975	0.23453522	2.6041381	20	3 9.5	21.2
378700 2008 MU	16.0	X	322.81294	247.08140	39.74802	12.85544	0.2688336	0.24026775	2.5625503	20	4 23.7	18.4
378701 2008 NJ_{1}	18.0	X	226.04030	107.50462	279.07983	21.67541	0.2775189	0.39617429	1.8360247	20	5 5.1	21.3
378702 2008 OV_{3}	16.7	X	182.41960	27.71012	298.94852	8.14269	0.2767688	0.20985423	2.8045137	20	2 2.3	21.6
378703 2008 OS_{19}	17.0	X	247.04745	138.69723	158.44561	5.40446	0.1413295	0.21832647	2.7314827	20	2 21.6	21.0
378704 2008 OR_{20}	16.8	X	238.96102	185.79922	153.87705	6.38975	0.0466852	0.22464902	2.6799891	20	4 16.3	20.6
378705 2008 OQ_{23}	16.4	X	172.44397	249.52888	151.87810	10.63300	0.1773369	0.21883576	2.7272431	20	4 22.9	21.0
378706 2008 OD_{24}	16.8	X	183.22121	81.54783	289.14421	2.60792	0.1111995	0.21748113	2.7385562	20	3 20.0	21.1
378707 2008 PP_{6}	16.5	X	209.13925	268.70153	84.60797	9.63917	0.2419611	0.22023315	2.7156946	20	3 27.5	21.4
378708 2008 PD_{13}	16.8	X	257.73100	356.89615	318.14907	11.81848	0.1675812	0.22648325	2.6654998	20	3 17.1	21.1
378709 2008 PP_{14}	16.0	X	215.05318	336.52065	329.38174	11.79274	0.2020755	0.21317370	2.7753236	20	2 3.7	20.7
378710 2008 PN_{15}	16.0	X	172.30371	21.17777	335.31577	9.21909	0.2343596	0.21046379	2.7990960	20	2 28.1	20.9
378711 2008 PP_{16}	15.7	X	170.19385	27.77917	286.02177	14.02645	0.1306839	0.20421937	2.8558677	20	1 3.6	20.0
378712 2008 PO_{20}	15.8	X	264.75724	254.13185	40.38730	15.71245	0.1783423	0.22218256	2.6997864	20	3 11.4	20.2
378713 2008 PT_{20}	16.4	X	205.77082	192.20692	125.63142	14.34094	0.1865759	0.21302939	2.7765769	20	2 9.5	21.1
378714 2008 PY_{20}	15.3	X	140.41032	222.62364	92.56190	12.93124	0.2289043	0.19792902	2.9160596	20	—	—
378715 2008 PH_{21}	15.8	X	175.98800	220.30749	133.57863	16.35194	0.2821176	0.21077958	2.7962995	20	3 3.0	20.9
378716 2008 QK_{1}	16.5	X	144.87576	283.03777	143.09954	8.89265	0.2883593	0.21451707	2.7637249	20	5 4.9	21.5
378717 2008 QL_{6}	16.5	X	207.00899	75.73006	271.07042	9.78201	0.1379362	0.21743686	2.7389280	20	3 9.9	21.1
378718 2008 QH_{9}	16.4	X	151.21752	210.88123	162.51905	9.66886	0.1616819	0.20889608	2.8130828	20	2 26.1	20.8
378719 2008 QJ_{10}	16.5	X	210.57941	169.60779	162.66644	12.20349	0.2718240	0.21545416	2.7557054	20	2 27.7	21.5
378720 2008 QQ_{13}	16.0	X	230.91302	330.87959	349.83954	9.37896	0.1589962	0.21608989	2.7502980	20	3 5.5	20.3

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	m		°	°	°	°		°				
378721 Thizy	16.8	X	211.51257	144.87009	174.87810	4.31486	0.0627531	0.21260261	2.7802914	20	2 16.9	20.9
378722 2008 QG_{17}	16.8	X	215.17609	341.72093	337.82924	7.31342	0.1795355	0.21394420	2.7686562	20	2 18.9	21.5
378723 2008 QH_{21}	16.5	X	151.04206	157.57552	245.48627	7.04889	0.2204821	0.21278076	2.7787394	20	4 2.9	21.2
378724 2008 QO_{22}	16.1	X	247.87039	25.68181	270.91556	8.00242	0.1347963	0.21901273	2.7257738	20	2 18.9	20.5
378725 2008 QS_{26}	16.3	X	182.66215	252.92698	138.67671	9.76256	0.1737458	0.21965869	2.7204273	20	4 20.1	20.9
378726 2008 QL_{28}	15.9	X	252.53914	181.29681	123.52126	9.44167	0.1736005	0.22001412	2.7174966	20	3 7.2	20.2
378727 2008 QJ_{36}	16.6	X	221.27816	189.33819	162.69780	6.29731	0.1524669	0.22346793	2.6894238	20	4 4.3	20.8
378728 2008 QH_{38}	16.6	X	200.00574	154.22264	178.44532	5.43585	0.0862573	0.20948972	2.8077660	20	2 20.4	21.0
378729 2008 QD_{42}	17.2	X	165.22301	205.68305	163.00713	1.55587	0.1059784	0.21130918	2.7916254	20	3 1.2	21.5
378730 2008 QD_{43}	16.4	X	146.90606	145.41435	255.41996	3.00724	0.1059271	0.21039561	2.7997006	20	3 20.1	20.7
378731 2008 QK_{45}	16.4	X	217.22836	77.42556	244.56233	6.43403	0.2192982	0.21366225	2.7710914	20	2 19.2	21.3
378732 2008 QA_{46}	16.8	X	221.04300	118.81809	209.44790	8.65714	0.1878814	0.21726867	2.7403412	20	3 1.4	21.6
378733 2008 QJ_{47}	16.3	X	206.19826	227.74255	127.65815	5.26467	0.1567636	0.22025257	2.7155349	20	3 26.3	20.7
378734 2008 RN_{3}	16.3	X	267.81087	61.07642	187.32212	8.98339	0.1154811	0.20837798	2.8177437	20	1 17.1	20.7
378735 2008 RH_{4}	17.5	X	309.69320	59.93467	228.53999	1.71127	0.1154044	0.22736936	2.6585699	20	4 28.9	20.8
378736 2008 RB_{16}	16.7	X	185.57184	111.88081	239.81943	3.49558	0.0790260	0.21043228	2.7993754	20	2 27.7	21.0
378737 2008 RH_{18}	16.7	X	290.71505	63.98421	221.47930	4.79268	0.0602663	0.22109325	2.7086469	20	4 6.0	20.3
378738 2008 RJ_{28}	17.3	X	187.50324	37.93259	330.94307	4.71777	0.0577968	0.21539661	2.7561963	20	3 21.3	21.5
378739 2008 RK_{33}	17.3	X	223.98980	105.34118	221.81515	3.28160	0.0622072	0.21475423	2.7616898	20	3 9.9	21.4
378740 2008 RC_{35}	17.3	X	154.47329	220.27817	192.88196	4.12029	0.0703661	0.21573932	2.7532766	20	4 11.3	21.1
378741 2008 RK_{36}	16.9	X	192.30630	201.30332	182.92637	3.76110	0.1059024	0.21808301	2.7335152	20	4 16.7	21.1
378742 2008 RA_{41}	16.7	X	55.07620	297.84270	179.88992	14.25522	0.1154417	0.20512957	2.8474135	20	3 2.6	20.1
378743 2008 RJ_{58}	16.6	X	257.09796	112.93739	166.77954	5.55467	0.1008506	0.21263598	2.7800006	20	2 14.3	20.7
378744 2008 RR_{67}	17.2	X	170.21564	24.35649	21.68166	5.98914	0.0167930	0.21808060	2.7335354	20	4 16.8	21.0
378745 2008 RS_{67}	16.6	X	158.76240	311.22682	45.43288	2.72997	0.0752472	0.20436813	2.8544817	20	2 8.6	20.8
378746 2008 RR_{69}	16.9	X	154.78788	223.48540	204.80328	4.51356	0.0990675	0.22018394	2.7160992	20	5 2.8	20.8
378747 2008 RM_{77}	17.4	X	65.22276	359.31248	353.00927	6.09509	0.3514963	0.26651014	2.3914440	20	—	—
378748 2008 RW_{91}	17.1	X	147.69126	27.92179	333.78465	1.30049	0.0818003	0.20309656	2.8663838	20	2 2.5	21.1
378749 2008 RR_{92}	16.7	X	266.76516	276.40769	11.97543	3.44442	0.0637310	0.21477542	2.7615082	20	3 12.3	20.4
378750 2008 RD_{94}	16.5	X	191.14614	299.66347	6.13854	9.63239	0.1485881	0.20170452	2.8795567	20	1 16.6	21.3
378751 2008 RB_{95}	17.1	X	207.56203	56.66426	316.92983	4.19208	0.0841396	0.22312095	2.6922113	20	4 16.9	21.2
378752 2008 RB_{99}	17.0	X	191.92615	71.48659	358.73442	4.45155	0.0306134	0.22980918	2.6397196	20	6 15.6	20.7
378753 2008 RV_{101}	17.0	X	147.84049	180.26834	197.59378	0.98150	0.0754742	0.20476359	2.8508053	20	2 20.9	21.3
378754 2008 RV_{103}	16.8	X	182.43642	74.40593	313.40662	5.64332	0.0556228	0.21587585	2.7521156	20	4 6.9	20.9
378755 2008 RJ_{105}	16.4	X	52.00310	127.62518	24.50807	7.37040	0.0991495	0.21017089	2.8016959	20	4 12.0	19.6
378756 2008 RD_{111}	16.7	X	191.96732	158.02685	200.72705	3.70550	0.1807061	0.21551026	2.7552272	20	3 15.3	21.2
378757 2008 RT_{113}	17.2	X	185.62443	159.92629	222.05511	2.69760	0.1066329	0.21684878	2.7438775	20	4 6.0	21.4
378758 2008 RF_{116}	17.2	X	148.82236	37.23780	336.45076	1.30220	0.0826597	0.20304080	2.8669086	20	2 18.2	21.4
378759 2008 RS_{117}	16.4	X	86.35081	240.44711	205.44121	14.40961	0.1206874	0.20425536	2.8555323	20	3 5.7	20.4
378760 2008 RF_{118}	17.2	X	258.89339	78.73913	229.26029	2.94490	0.0847056	0.21511368	2.7586125	20	3 23.4	21.1
378761 2008 RU_{118}	16.3	X	65.56573	354.47726	54.27642	6.52584	0.1745409	0.18465323	3.0542045	20	1 2.9	19.9
378762 2008 RF_{120}	15.2	X	86.09761	291.18507	55.55257	23.05245	0.0759731	0.17413819	3.1759478	20	—	—
378763 2008 RX_{121}	17.1	X	200.80470	137.79796	200.38195	7.10496	0.1089920	0.21254802	2.7807674	20	2 26.5	21.5
378764 2008 RH_{124}	17.0	X	132.59183	168.71410	212.19764	1.31828	0.0796557	0.20364864	2.8612010	20	2 7.9	21.1
378765 2008 RM_{125}	16.9	X	157.98867	46.33348	10.15640	2.57653	0.0658677	0.21831526	2.7315762	20	4 18.4	20.9
378766 2008 RP_{126}	16.8	X	145.77583	207.21454	160.19562	7.85800	0.1454800	0.20304211	2.8668962	20	2 12.6	21.1
378767 2008 RL_{130}	17.1	X	107.58980	2.03169	81.47894	2.85715	0.0351531	0.21044796	2.7992363	20	3 22.1	20.8
378768 2008 RQ_{140}	16.7	X	140.77477	148.11488	249.71549	2.72053	0.1039274	0.21011482	2.8021944	20	3 9.8	20.9
378769 2008 RM_{142}	15.7	X	251.35966	64.98298	246.54363	12.61039	0.0977680	0.21980540	2.7192166	20	3 12.8	19.9
378770 2008 RD_{143}	15.8	X	256.32157	184.51247	359.80873	12.18935	0.0728884	0.18658353	3.0331031	20	—	—
378771 2008 RS_{143}	17.3	X	299.33749	116.14673	139.26593	1.34982	0.0157867	0.21516525	2.7581717	20	3 17.8	21.0
378772 2008 RN_{146}	16.1	X	148.05768	96.41691	279.68067	12.07968	0.1243954	0.20426467	2.8554455	20	2 18.8	20.7
378773 2008 SJ_{1}	16.2	X	186.87494	33.70440	332.23747	8.59820	0.1733789	0.21450010	2.7638707	20	3 17.9	20.8
378774 2008 SH_{5}	16.0	X	60.16398	202.05199	148.11822	6.34327	0.2095897	0.17997810	3.1068690	20	—	—
378775 2008 SH_{9}	16.3	X	238.40441	357.07556	331.21330	5.57618	0.0352999	0.21899336	2.7259345	20	3 29.0	20.2
378776 2008 SY_{14}	16.8	X	159.78786	234.25733	257.78667	2.34763	0.0536698	0.24096605	2.5575972	20	7 29.1	20.5
378777 2008 SV_{24}	16.7	X	156.62871	23.09276	14.29266	5.44427	0.0805252	0.21272122	2.7792578	20	3 26.1	20.7
378778 2008 SL_{27}	17.0	X	149.06619	229.77163	188.45274	2.60893	0.0765020	0.21435706	2.7651001	20	4 12.2	20.9
378779 2008 SC_{28}	16.5	X	145.32689	226.26708	209.59864	10.32705	0.2551166	0.21264403	2.7799304	20	5 13.0	21.2
378780 2008 SG_{29}	16.8	X	200.33273	94.00221	244.52960	2.67996	0.1011870	0.20970096	2.8058801	20	2 27.5	21.2
378781 2008 SU_{30}	16.5	X	160.02824	38.32617	324.09735	8.43819	0.1460351	0.20523461	2.8464418	20	2 20.3	21.1
378782 2008 SH_{31}	16.2	X	160.59302	342.25814	339.72653	10.22318	0.0902070	0.19644643	2.9307130	20	1 2.9	20.7
378783 2008 SK_{33}	17.0	X	241.59047	162.44255	158.45112	4.83516	0.1023242	0.22101344	2.7092989	20	3 19.9	21.1
378784 2008 SD_{48}	16.6	X	213.63158	348.52930	331.45383	2.05663	0.0824381	0.21042080	2.7994772	20	2 20.0	20.9
378785 2008 SV_{50}	16.8	X	258.40333	99.62589	188.05689	4.10370	0.0360835	0.21214473	2.7842906	20	3 3.6	20.6
378786 2008 SW_{54}	16.6	X	103.08172	231.43454	189.41416	7.77806	0.0972472	0.20228431	2.8740518	20	2 23.3	20.6
378787 2008 SR_{67}	16.6	X	193.41801	301.44778	38.07632	2.39059	0.0742108	0.20488287	2.8496987	20	2 24.3	20.8
378788 2008 SF_{71}	16.6	X	199.18195	145.45094	188.52518	13.42526	0.2078011	0.21114011	2.7931154	20	2 19.8	21.6
378789 2008 SU_{75}	16.6	X	185.64821	38.71164	331.98144	3.51853	0.0960374	0.21385331	2.7694407	20	3 22.7	20.7
378790 2008 SA_{79}	16.6	X	163.52850	75.67770	309.76830	2.77511	0.1193399	0.21129812	2.7917228	20	3 19.5	21.0
378791 2008 SQ_{84}	17.0	X	248.97880	353.75621	307.04267	4.02308	0.0979426	0.21285525	2.7780910	20	3 2.1	21.0
378792 2008 SY_{86}	16.9	X	137.28762	162.06410	258.59249	5.21478	0.1090149	0.21082256	2.7959195	20	4 2.8	21.1
378793 2008 SR_{92}	16.0	X	179.65925	77.93177	268.07124	12.12303	0.2120338	0.21172555	2.7879643	20	2 15.9	21.0
378794 2008 SL_{99}	16.7	X	117.07347	288.14464	161.34750	5.93383	0.0320846	0.21065182	2.7974300	20	4 10.4	20.6
378795 2008 SU_{99}	16.3	X	232.88907	229.82950	51.89517	10.31256	0.0451447	0.20014169	2.8945275	20	1 31.5	20.7
378796 2008 SE_{103}	16.6	X	163.62913	168.24408	204.82069	6.06036	0.0896913	0.20386033	2.8592199	20	3 2.7	20.9
378797 2008 SQ_{110}	16.5	X	84.96548	336.95045	81.40894	2.96056	0.1015471	0.19725656	2.9226832	20	1 31.7	20.4
378798 2008 SG_{114}	16.7	X	139.06191	278.30595	141.57493	4.44849	0.0886514	0.21035225	2.8000853	20	4 5.9	20.8
378799 2008 SS_{121}	16.8	X	212.92581	152.71612	209.13814	5.58048	0.0461525	0.21430916	2.7655121	20	4 11.8	20.6
378800 2008 SF_{134}	17.2	X	219.80861	142.27081	187.15235	5.06122	0.0836065	0.21674213	2.7447776	20	3 7.5	21.3

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	m		°	°	°	°		°				
378801 2008 SZ_{137}	15.2	X	115.40917	296.81685	38.94153	19.84126	0.0110103	0.18310653	3.0713795	20	—	—
378802 2008 ST_{164}	16.6	X	201.71786	158.39362	184.09132	7.25684	0.2129571	0.21165046	2.7886237	20	3 4.1	21.3
378803 2008 SW_{172}	15.9	X	146.92337	97.35444	269.67672	13.38244	0.1719880	0.20497230	2.8488698	20	2 10.8	20.7
378804 2008 SJ_{173}	16.2	X	206.13359	68.39647	253.83014	7.74036	0.2753449	0.21237090	2.7823134	20	2 10.8	21.4
378805 2008 SD_{187}	16.7	X	261.52794	56.93622	226.42403	6.03728	0.1226819	0.21105085	2.7939029	20	2 19.6	21.1
378806 2008 ST_{188}	17.1	X	198.24716	29.82108	283.42000	2.56342	0.1580265	0.20393553	2.8585171	20	1 28.6	21.8
378807 2008 SH_{189}	16.5	X	82.30403	159.11908	326.50069	7.84953	0.1487497	0.21592486	2.7516991	20	4 24.1	20.3
378808 2008 SJ_{196}	16.8	X	184.51827	148.02849	192.14174	1.79506	0.0638996	0.20126429	2.8837541	20	2 14.3	21.0
378809 2008 SX_{206}	15.8	X	63.22994	296.92666	63.02878	10.50351	0.1033295	0.17734633	3.1375301	20	—	—
378810 2008 SG_{209}	18.7	X	312.66165	130.52988	167.83949	3.71201	0.2514392	0.31671645	2.1315178	20	4 20.7	20.7
378811 2008 SB_{210}	16.9	X	222.75887	78.61013	226.45621	3.54429	0.0534422	0.21002613	2.8029832	20	2 11.2	20.9
378812 2008 SL_{212}	16.2	X	239.86618	250.05972	19.00095	7.67236	0.1897855	0.21020143	2.8014246	20	1 12.8	20.9
378813 2008 SC_{215}	17.0	X	103.64187	41.57425	16.51203	1.92214	0.0638655	0.20440356	2.8541519	20	2 18.0	20.9
378814 2008 SY_{217}	16.4	X	96.49076	283.30993	107.61708	9.69975	0.2097473	0.18887637	3.0085065	20	1 29.9	20.5
378815 2008 SO_{225}	17.0	X	150.85186	145.03273	204.48808	10.20991	0.1131680	0.19793334	2.9160172	20	1 23.3	21.6
378816 2008 SC_{233}	16.9	X	161.16769	266.36112	144.21923	4.75487	0.0721166	0.21516914	2.7581384	20	4 17.3	21.0
378817 2008 SW_{250}	17.2	X	80.32207	275.75726	170.07320	2.11125	0.0357737	0.20307267	2.8666085	20	2 18.1	21.1
378818 2008 SO_{254}	16.0	X	161.71300	121.45654	255.22336	7.99751	0.1765729	0.20934245	2.8090826	20	3 7.8	20.7
378819 2008 SE_{259}	17.0	X	119.77351	214.00460	220.31601	3.18132	0.0824895	0.20945785	2.8080508	20	3 29.7	21.0
378820 2008 SF_{259}	16.3	X	98.23408	19.12179	342.36472	9.88620	0.1012190	0.18883712	3.0089234	20	—	—
378821 2008 SY_{259}	16.2	X	135.70809	54.83125	330.89943	5.21344	0.0729939	0.20182024	2.8784558	20	2 17.4	20.3
378822 2008 ST_{260}	16.7	X	79.18321	255.99354	218.64038	14.24447	0.1075601	0.20418785	2.8561617	20	4 1.1	20.5
378823 2008 SB_{261}	17.3	X	116.56094	247.71313	124.70016	2.53522	0.2426610	0.19485728	2.9466256	20	2 1.9	21.5
378824 2008 SK_{264}	17.1	X	142.47773	139.70612	262.31622	2.38313	0.0785797	0.20681405	2.8319311	20	3 14.7	21.2
378825 2008 SN_{270}	16.7	X	0.49387	58.16117	55.48042	13.31318	0.2054866	0.17869609	3.1217109	20	—	—
378826 2008 SH_{271}	16.2	X	322.29415	120.67621	31.73039	11.24729	0.0763643	0.18663753	3.0325181	20	—	—
378827 2008 ST_{272}	16.2	X	37.51460	35.84824	45.22776	14.35535	0.0394790	0.18454168	3.0554351	20	—	—
378828 2008 SD_{273}	16.2	X	81.63463	302.60183	79.79643	12.31103	0.0932149	0.18162491	3.0880603	20	—	—
378829 2008 SV_{276}	17.2	X	181.56012	25.85019	7.72832	6.19348	0.0400608	0.21656368	2.7462852	20	4 14.7	21.1
378830 2008 SM_{278}	17.2	X	93.01842	326.68455	227.38841	1.19519	0.1094328	0.23909408	2.5709295	20	8 6.4	20.8
378831 2008 SA_{279}	16.2	X	63.75780	203.85118	231.13516	11.73679	0.1150708	0.19121652	2.9839104	20	1 21.0	20.2
378832 2008 SV_{280}	16.0	X	342.01638	260.81291	229.53293	25.00157	0.2694706	0.17560575	3.1582285	20	—	—
378833 2008 SW_{281}	16.2	X	216.69653	168.93928	287.11168	13.67375	0.1305643	0.23300349	2.6155384	20	8 7.4	20.3
378834 2008 SK_{282}	16.2	X	309.24485	297.19116	217.85039	8.62074	0.0301274	0.17936543	3.1139399	20	—	—
378835 2008 SH_{283}	16.5	X	357.55761	123.50523	18.93741	1.77808	0.0866078	0.19087364	2.9874828	20	1 8.5	20.3
378836 2008 SK_{283}	17.1	X	93.81749	114.35643	325.73384	1.15643	0.0423621	0.20249541	2.8720540	20	2 29.4	21.1
378837 2008 SF_{288}	16.8	X	116.77505	211.89844	186.50356	5.78423	0.0859787	0.19637766	2.9313972	20	2 11.7	20.9
378838 2008 SR_{290}	15.8	X	54.31083	160.24347	182.80746	16.69093	0.0943814	0.17319331	3.1874886	20	12 14.7	20.6
378839 2008 SG_{291}	16.0	X	231.31610	37.07162	244.16406	7.03091	0.1985178	0.20970759	2.8058209	20	1 16.7	20.8
378840 2008 SS_{307}	16.1	X	236.97997	46.89818	276.80374	5.39064	0.0512457	0.21099160	2.7944260	20	3 19.8	20.3
378841 2008 SU_{307}	16.2	X	74.15357	221.50810	169.34212	10.79132	0.1900125	0.18739855	3.0243025	20	—	—
378842 2008 TD_{4}	19.7	X	292.54973	54.86690	221.89838	14.46033	0.6175450	0.40074814	1.8220280	20	1 12.9	23.7
378843 2008 TX_{6}	16.4	X	75.63014	178.71894	193.47357	9.84947	0.1141699	0.18769340	3.0211344	20	—	—
378844 2008 TX_{15}	17.0	X	192.16144	71.43027	284.80604	2.61428	0.1020103	0.21184263	2.7869369	20	3 11.6	21.4
378845 2008 TE_{17}	16.7	X	53.71513	136.84155	337.42293	1.18796	0.0465860	0.19891068	2.9064575	20	2 20.7	20.6
378846 2008 TF_{18}	16.6	X	108.12890	350.13846	34.79339	15.60774	0.0112853	0.19144165	2.9815706	20	1 9.6	21.1
378847 2008 TS_{18}	16.9	X	133.77580	123.34552	237.91621	0.83204	0.1373078	0.19436723	2.9515764	20	1 24.9	21.2
378848 2008 TR_{19}	16.2	X	156.96411	274.68509	37.47398	12.29015	0.2143691	0.19170698	2.9788189	20	—	—
378849 2008 TW_{23}	16.9	X	211.62589	351.88921	347.31985	3.81238	0.0757357	0.21285538	2.7780899	20	3 12.1	20.8
378850 2008 TK_{29}	16.0	X	175.32981	345.33527	24.85068	9.86980	0.3003821	0.21160159	2.7890530	20	3 21.7	21.2
378851 2008 TG_{30}	16.9	X	165.70948	176.77351	183.47108	1.81436	0.0778589	0.20371835	2.8605483	20	2 19.0	21.2
378852 2008 TJ_{30}	17.2	X	84.28819	21.47863	32.95597	2.20030	0.1037715	0.19512020	2.9439780	20	1 26.5	21.0
378853 2008 TC_{31}	16.8	X	104.90923	234.73794	173.38594	2.19472	0.0541810	0.19888784	2.9066801	20	2 5.5	20.8
378854 2008 TK_{51}	17.3	X	113.49166	60.80258	42.27702	1.88635	0.1880999	0.21055260	2.7983089	20	5 11.4	21.3
378855 2008 TP_{53}	16.9	X	56.97740	68.51835	37.73638	6.58345	0.0440172	0.20208244	2.8759655	20	2 17.3	20.7
378856 2008 TC_{61}	16.2	X	209.69266	241.69955	95.84720	8.90823	0.2351556	0.21429456	2.7656377	20	3 8.9	21.1
378857 2008 TE_{64}	17.2	X	129.25769	223.94059	208.38966	3.08639	0.0782825	0.20908587	2.8113803	20	4 7.3	21.2
378858 2008 TT_{74}	16.7	X	220.26808	289.41429	0.48338	1.58769	0.0600438	0.19707675	2.9244607	20	1 24.5	20.9
378859 2008 TE_{77}	17.0	X	186.51230	293.36266	37.27873	1.54191	0.1802992	0.20616599	2.8378627	20	2 8.9	21.8
378860 2008 TD_{83}	16.9	X	169.58749	140.28345	265.53228	3.16202	0.0748047	0.21523640	2.7575638	20	4 17.6	21.0
378861 2008 TN_{83}	16.2	X	130.02456	142.70658	299.34922	2.30838	0.0641686	0.21372920	2.7705126	20	4 17.9	20.2
378862 2008 TZ_{85}	16.9	X	167.43568	27.51788	14.08905	6.37702	0.0777671	0.21445187	2.7642850	20	4 10.8	21.1
378863 2008 TX_{88}	16.1	X	184.08989	297.17683	35.94011	6.61981	0.0599861	0.20313192	2.8660511	20	2 8.1	20.4
378864 2008 TS_{96}	16.5	X	154.76706	144.08140	284.20814	5.29223	0.0369091	0.21806295	2.7336828	20	4 26.1	20.4
378865 2008 TR_{98}	17.0	X	119.47653	226.54787	179.24344	1.98421	0.0697312	0.20307460	2.8665904	20	2 22.1	20.9
378866 2008 TH_{99}	17.0	X	62.64371	285.52344	173.52625	1.98899	0.0255785	0.20299485	2.8673412	20	2 10.4	20.9
378867 2008 TU_{101}	16.7	X	135.61356	41.84245	20.40261	5.47126	0.0186530	0.21007630	2.8025369	20	3 27.2	20.5
378868 2008 TE_{103}	16.2	X	343.49382	190.53410	33.13171	9.56317	0.1109783	0.21379765	2.7699213	20	3 29.2	19.5
378869 2008 TB_{106}	16.6	X	134.51759	309.30906	72.15224	3.10528	0.0834878	0.20228294	2.8740647	20	2 13.1	20.7
378870 2008 TB_{113}	17.1	X	220.19821	264.02196	56.06637	3.90045	0.0663707	0.20660927	2.8338021	20	2 29.9	21.4
378871 2008 TX_{119}	16.7	X	96.58951	41.07839	6.54600	11.89658	0.0060171	0.19810507	2.9143317	20	1 23.2	20.9
378872 2008 TB_{120}	16.3	X	175.09517	102.07219	213.63073	10.85845	0.1018976	0.19785112	2.9168250	20	1 7.6	21.0
378873 2008 TY_{124}	16.7	X	146.38670	161.15326	249.82072	4.22526	0.0658678	0.21082972	2.7958562	20	3 28.1	20.8
378874 2008 TQ_{125}	16.7	X	237.06657	30.72595	272.38537	2.99491	0.0852397	0.20953138	2.8073938	20	2 22.6	20.8
378875 2008 TB_{127}	16.7	X	200.99867	352.48377	328.07011	6.62348	0.0551278	0.20438054	2.8543662	20	2 8.8	20.9
378876 2008 TJ_{132}	16.2	X	318.53076	284.22239	230.54085	10.63661	0.0949098	0.18759699	3.0221695	20	—	—
378877 2008 TZ_{134}	16.4	X	44.82159	256.42977	226.41445	8.98390	0.1471467	0.19768417	2.9184670	20	2 23.4	19.9
378878 2008 TN_{137}	17.1	X	84.01992	101.38231	5.16082	0.75314	0.0901015	0.20418266	2.8562101	20	3 28.1	20.9
378879 2008 TF_{147}	16.6	X	25.13549	152.58265	27.77697	8.24007	0.1477131	0.21288297	2.7778499	20	4 9.9	19.6
378880 2008 TD_{149}	16.2	X	129.31106	55.06693	25.80043	13.47584	0.1855673	0.21108707	2.7935833	20	4 27.6	20.6

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
378881 2008 TW_{149}	16.8	X	110.67248	48.47709	42.72281	3.99091	0.0622510	0.21222896	2.7835538	20	4 7.9	20.6
378882 2008 TB_{167}	16.9	X	240.63998	191.22140	128.96713	1.29717	0.0378808	0.21162400	2.7888561	20	3 24.4	20.7
378883 2008 TN_{169}	17.0	X	105.28791	231.17765	204.60311	5.60476	0.0694495	0.20285299	2.8686778	20	3 12.0	20.9
378884 2008 TJ_{174}	16.7	X	16.45952	317.03756	225.46724	14.29023	0.0831222	0.20388923	2.8589497	20	3 22.6	20.4
378885 2008 TK_{175}	16.4	X	71.69592	234.32039	158.81143	6.68453	0.1757474	0.18349238	3.0670724	20	—	—
378886 2008 TW_{176}	16.8	X	162.96905	92.96878	220.14608	5.69459	0.1016115	0.18767566	3.0213248	20	—	—
378887 2008 TQ_{183}	16.8	X	199.30320	168.67499	142.27012	2.68786	0.0139696	0.19800876	2.9152767	20	1 26.1	20.9
378888 2008 TY_{184}	16.8	X	117.32127	267.35012	156.88684	8.45755	0.2090773	0.20349657	2.8626263	20	4 1.9	21.2
378889 2008 TQ_{188}	16.9	X	115.64954	210.47882	203.76630	1.48837	0.0635088	0.20312848	2.8660835	20	2 26.9	20.9
378890 2008 UK_{7}	15.7	X	217.30756	249.70227	69.80859	20.58641	0.3183103	0.21253100	2.7809159	20	2 26.0	21.2
378891 2008 UV_{10}	16.2	X	253.89197	296.62030	0.72575	8.83106	0.1406571	0.21458165	2.7631704	20	3 1.9	20.5
378892 2008 UG_{13}	17.1	X	118.79956	63.52840	339.01007	1.28714	0.0728781	0.20280722	2.8691094	20	2 18.2	21.1
378893 2008 UH_{26}	17.0	X	68.87336	263.25981	194.10763	1.66382	0.0260939	0.20284559	2.8687476	20	2 16.3	20.9
378894 2008 UC_{29}	16.9	X	61.49485	338.14470	128.48720	1.33784	0.1064406	0.19694775	2.9257375	20	2 28.9	20.6
378895 2008 UF_{32}	16.3	X	10.39254	53.41622	70.99138	6.09006	0.1284774	0.18837854	3.0138047	20	1 2.8	19.8
378896 2008 UK_{32}	16.9	X	103.28614	340.39188	97.95500	3.31144	0.0430396	0.20229119	2.8739866	20	3 12.1	20.8
378897 2008 UZ_{36}	16.3	X	99.03414	357.21472	32.66943	10.02914	0.0968095	0.19010639	2.9955155	20	1 16.9	20.5
378898 2008 UM_{38}	16.1	X	57.64171	11.90773	38.93965	9.65546	0.1353051	0.18415681	3.0596907	20	—	—
378899 2008 UB_{39}	16.0	X	42.34583	217.92109	241.86691	9.56062	0.0665262	0.19043820	2.9920350	20	1 17.9	20.0
378900 2008 UR_{42}	17.0	X	22.75460	168.46697	266.61636	0.34187	0.1549822	0.17972156	3.1098248	20	—	—
378901 2008 UX_{45}	16.8	X	176.79996	133.14439	182.30946	2.22220	0.1331601	0.19742642	2.9210066	20	1 12.2	21.3
378902 2008 UZ_{45}	16.1	X	282.81598	199.46361	40.62494	13.31645	0.0457593	0.19542430	2.9409232	20	2 10.4	20.5
378903 2008 UX_{48}	16.8	X	52.25288	195.43353	254.05267	4.09701	0.1428208	0.18864148	3.0110035	20	1 27.4	20.4
378904 2008 UL_{51}	16.0	X	20.58288	79.28281	53.04961	15.65184	0.0819759	0.19067134	2.9895955	20	2 4.3	20.1
378905 2008 UF_{54}	16.7	X	56.43968	244.95826	202.38287	2.19785	0.0939798	0.18918591	3.0052241	20	1 26.8	20.5
378906 2008 UV_{57}	16.7	X	176.50539	241.16727	104.06419	3.11964	0.0748688	0.20133683	2.8830615	20	2 13.7	20.9
378907 2008 UK_{60}	16.4	X	153.22594	84.60271	241.85108	8.73667	0.0716512	0.19012996	2.9952679	20	—	—
378908 2008 UP_{60}	16.5	X	198.56109	325.55385	1.90602	5.56777	0.0236937	0.19964428	2.8993333	20	2 16.0	20.6
378909 2008 UD_{63}	16.1	X	103.03697	333.94465	35.55972	10.37120	0.0730125	0.18719737	3.0264690	20	—	—
378910 2008 UM_{63}	16.5	X	133.59045	112.58883	235.30231	7.91342	0.0901199	0.18996956	2.9969537	20	1 3.3	20.9
378911 2008 UX_{66}	16.5	X	78.04237	207.91849	253.14832	7.78760	0.1929936	0.19736213	2.9216409	20	3 25.3	20.4
378912 2008 UM_{71}	16.0	X	156.53186	57.47038	257.89887	11.06602	0.1196022	0.18591369	3.0403842	20	—	—
378913 2008 UX_{75}	16.1	X	99.33674	6.73456	49.69118	17.98890	0.0665683	0.19294958	2.9660161	20	2 20.8	20.6
378914 2008 UN_{76}	15.8	X	41.50304	3.42530	41.60968	7.07966	0.0713328	0.17661730	3.1461582	20	—	—
378915 2008 UD_{80}	16.1	X	180.94690	52.35537	235.42803	10.83672	0.1149260	0.18834315	3.0141822	20	—	—
378916 2008 UV_{84}	16.5	X	42.34139	209.27689	227.89082	14.37299	0.0995298	0.18721113	3.0263206	20	—	—
378917 Stefankarge	16.8	X	102.52525	333.67407	78.51734	5.47733	0.1270966	0.19533604	2.9418089	20	2 21.2	20.9
378918 2008 UQ_{91}	15.6	X	99.97151	93.20399	275.96271	14.47322	0.1174606	0.18325780	3.0696891	20	—	—
378919 2008 UH_{93}	16.0	X	154.06816	357.29545	90.21937	10.79538	0.1782450	0.21432142	2.7654066	20	5 31.2	20.5
378920 2008 UP_{95}	17.1	X	48.23165	308.21141	160.01506	4.14680	0.1923037	0.19592081	2.9359524	20	2 18.7	20.3
378921 2008 UU_{97}	15.9	X	64.26849	206.48986	203.65426	11.68154	0.1526051	0.18683607	3.0303693	20	—	—
378922 2008 UD_{106}	16.9	X	135.00269	158.88948	219.45941	5.07171	0.0788015	0.20172012	2.8794082	20	2 6.4	21.1
378923 2008 UA_{109}	15.6	X	149.38946	236.00732	61.06812	17.91781	0.2205186	0.18086155	3.0967434	20	—	—
378924 2008 UW_{109}	16.8	X	139.06137	101.21139	254.21909	6.64801	0.2077383	0.19649429	2.9302371	20	1 28.5	21.5
378925 2008 UT_{111}	16.5	X	0.94673	131.22794	343.09015	4.19838	0.0655183	0.18639623	3.0351346	20	—	—
378926 2008 UG_{112}	16.4	X	79.04094	138.54319	244.24786	6.41348	0.0891983	0.18569339	3.0427884	20	—	—
378927 2008 UQ_{116}	16.2	X	169.05007	46.11940	257.51601	8.84227	0.0385396	0.18753615	3.0228230	20	—	—
378928 2008 UA_{119}	16.2	X	111.86454	10.17633	348.15333	4.74436	0.0043253	0.18510174	3.0492688	20	—	—
378929 2008 UM_{120}	16.0	X	230.62670	201.17434	12.55851	10.99174	0.0425167	0.17768372	3.1335572	20	—	—
378930 2008 UZ_{121}	15.6	X	8.91347	170.37759	256.20347	11.88969	0.0565531	0.17610536	3.1522525	20	—	—
378931 2008 UR_{125}	15.7	X	98.00777	76.24462	264.97614	11.53257	0.1546284	0.17881535	3.1203228	20	—	—
378932 2008 UK_{126}	16.5	X	56.95071	112.68775	310.40939	3.88324	0.1284812	0.18422817	3.0589005	20	1 2.3	20.1
378933 2008 UC_{127}	16.2	X	328.75597	131.21017	61.27138	7.65333	0.1077271	0.19107175	2.9854174	20	1 29.4	20.2
378934 2008 UH_{132}	16.6	X	193.46815	80.56209	246.71915	2.26282	0.1064847	0.20057868	2.8903218	20	2 8.8	21.2
378935 2008 UB_{133}	16.5	X	109.77298	325.91882	17.44324	1.17385	0.1725155	0.18560964	3.0437037	20	—	—
378936 2008 UT_{135}	16.7	X	94.23639	142.20451	217.51970	1.06278	0.0984396	0.18402806	3.0611177	20	—	—
378937 2008 UM_{138}	16.6	X	128.39941	351.42416	51.73958	6.58171	0.0803042	0.20020221	2.8939441	20	3 5.6	20.8
378938 2008 UT_{138}	16.4	X	23.30023	258.79347	221.01459	15.10510	0.2925053	0.18600324	3.0394083	20	1 13.0	19.2
378939 2008 UZ_{139}	16.2	X	309.40979	338.34817	226.97575	9.73527	0.0598431	0.19472350	2.9479751	20	1 21.1	20.5
378940 2008 UP_{141}	16.8	X	83.32383	121.47651	225.38467	4.01390	0.1501944	0.17863851	3.1223816	20	—	—
378941 2008 UZ_{142}	15.7	X	125.05891	264.22858	48.73022	21.66315	0.1165072	0.18080824	3.0973521	20	—	—
378942 2008 UN_{144}	16.7	X	122.86190	140.62278	217.63120	6.17203	0.1369103	0.19032274	2.9932449	20	1 9.3	21.1
378943 2008 UC_{147}	16.8	X	208.36465	9.95057	326.08155	1.23921	0.0701438	0.20342003	2.8633443	20	3 5.7	21.0
378944 2008 UM_{148}	16.7	X	102.71037	2.92152	26.01815	1.25283	0.1351104	0.19015308	2.9950251	20	1 23.9	20.7
378945 2008 UO_{157}	16.3	X	356.76940	279.91578	229.48974	8.68633	0.1609420	0.18709093	3.0276167	20	1 7.9	20.0
378946 2008 UQ_{159}	15.6	X	288.20667	140.95425	17.13046	11.83207	0.1662335	0.17476588	3.1683389	20	—	—
378947 2008 UZ_{166}	16.7	X	185.09771	161.95375	175.64167	2.45754	0.1080639	0.20085218	2.8876974	20	2 13.3	21.1
378948 2008 UP_{176}	16.7	X	168.38699	3.40236	2.49660	2.09408	0.1281842	0.20442424	2.8539594	20	3 3.2	21.0
378949 2008 UM_{177}	17.1	X	191.18305	105.04037	224.28492	13.94894	0.1674685	0.20331814	2.8643009	20	2 5.8	22.1
378950 2008 UM_{178}	16.6	X	102.90045	357.71140	1.49486	4.64408	0.1647328	0.18851026	3.0124006	20	—	—
378951 2008 UU_{184}	16.6	X	131.36814	87.30239	245.64583	2.17022	0.0427230	0.18233240	3.0800670	20	—	—
378952 2008 UH_{185}	16.8	X	139.85992	270.77984	86.72158	1.63289	0.0965722	0.19167614	2.9791384	20	1 23.2	21.0
378953 2008 UQ_{185}	16.5	X	59.52301	217.40131	219.21082	2.80772	0.0548843	0.18811150	3.0166562	20	1 14.5	20.4
378954 2008 UK_{187}	16.4	X	67.63035	295.47759	126.23643	2.65731	0.0975495	0.18581123	3.0415018	20	1 12.5	20.1
378955 2008 UH_{188}	15.4	X	106.01008	112.18307	232.47358	21.60690	0.0587862	0.17799611	3.1298898	20	—	—
378956 2008 UC_{189}	17.4	X	138.63647	63.86191	19.03238	5.10216	0.1357272	0.21555624	2.7548353	20	5 5.7	21.6
378957 2008 UN_{189}	16.6	X	128.85174	225.24700	179.12084	2.21940	0.0716138	0.20663678	2.8335506	20	3 2.3	20.4
378958 2008 UP_{189}	16.8	X	198.46831	256.13220	28.68308	2.47012	0.0502985	0.19716091	2.9236284	20	—	—
378959 2008 UY_{190}	18.3	X	306.50663	261.87411	55.08678	5.93785	0.2535172	0.31542147	2.1373479	20	5 8.3	20.2
378960 2008 UL_{196}	16.8	X	126.70611	329.42423	97.84041	3.30989	0.0559488	0.20588830	2.8404137	20	3 28.5	20.8

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	m		°	°	°	°		°				
378961 2008 UH_{204}	16.1	X	163.12596	124.39180	287.35992	4.97077	0.0701272	0.21103575	2.7940362	20	4 16.8	20.3
378962 2008 UK_{207}	16.9	X	184.48250	125.50469	249.18720	2.92304	0.1144005	0.20941701	2.8084158	20	3 26.7	21.3
378963 2008 UC_{210}	16.6	X	210.50140	319.12792	343.10265	1.34403	0.0570694	0.19853730	2.9101004	20	1 28.6	20.9
378964 2008 UF_{217}	16.7	X	89.95788	294.40050	150.46355	2.57623	0.0427012	0.20613380	2.8381580	20	3 1.5	20.6
378965 2008 UO_{217}	16.0	X	206.57282	253.52867	22.26989	9.77240	0.0833523	0.19052889	2.9910855	20	—	—
378966 2008 UU_{218}	16.1	X	319.46136	226.18459	259.91946	4.09748	0.1056937	0.17719018	3.1393732	20	—	—
378967 2008 UR_{221}	15.9	X	75.79069	116.27941	257.24724	8.25208	0.0506673	0.18037980	3.1022547	20	—	—
378968 2008 UC_{226}	15.8	X	50.70144	167.82394	286.29046	9.40554	0.1855318	0.19068323	2.9894713	20	2 2.8	19.1
378969 2008 UV_{229}	15.9	X	25.14537	210.98782	261.82033	11.42777	0.0706430	0.18598598	3.0395963	20	1 11.4	19.9
378970 2008 UN_{237}	16.3	X	122.82045	9.08537	15.74247	8.69110	0.0993219	0.19535404	2.9416282	20	2 8.9	20.6
378971 2008 UT_{239}	17.9	X	319.63392	253.54403	34.25800	22.13286	0.0137421	0.38783624	1.8622463	20	5 17.9	19.7
378972 2008 UN_{240}	16.5	X	169.13664	17.79141	322.25701	5.44732	0.0991186	0.19631559	2.9320150	20	2 1.6	20.8
378973 2008 UQ_{240}	16.3	X	95.34320	333.57870	17.41869	9.81291	0.0847003	0.18066471	3.0989923	20	—	—
378974 2008 UD_{242}	16.0	X	34.09079	123.79240	326.97768	8.14507	0.1111727	0.18531695	3.0469077	20	—	—
378975 2008 UT_{242}	16.1	X	63.13925	141.83415	293.10998	8.78318	0.0912912	0.18903632	3.0068092	20	1 20.9	20.0
378976 2008 UH_{244}	15.7	X	186.06437	263.95424	74.36339	15.62922	0.1674905	0.20470683	2.8513323	20	2 22.9	20.7
378977 2008 UG_{247}	15.9	X	176.82732	227.33049	60.74597	12.01221	0.2238463	0.18471480	3.0535258	20	—	—
378978 2008 UV_{258}	16.5	X	6.90154	57.52485	51.55947	12.34987	0.1924723	0.18068939	3.0987101	20	—	—
378979 2008 UJ_{259}	15.9	X	180.06181	215.13992	51.05366	11.57284	0.0767220	0.17887524	3.1196262	20	—	—
378980 2008 UH_{263}	15.5	X	115.50430	77.81257	261.29227	9.44919	0.0886746	0.17939379	3.1136117	20	—	—
378981 2008 UJ_{263}	16.1	X	120.24762	110.75560	256.50831	10.48305	0.0879803	0.18695766	3.0290554	20	1 10.8	20.5
378982 2008 US_{267}	16.6	X	158.90973	293.84209	46.28763	8.87245	0.0287973	0.19393279	2.9559827	20	1 17.7	20.9
378983 2008 UB_{270}	16.3	X	156.23127	216.18394	70.71548	6.46841	0.1109141	0.18179897	3.0860889	20	—	—
378984 2008 UC_{272}	16.4	X	115.60726	27.43827	349.88764	2.06838	0.0835271	0.19127182	2.9833352	20	1 18.1	20.6
378985 2008 UF_{279}	16.9	X	105.80376	224.69253	214.48357	7.92274	0.0417930	0.20420525	2.8559994	20	3 11.8	21.0
378986 2008 US_{282}	16.7	X	44.77345	268.37601	211.32572	10.83006	0.0830765	0.19767785	2.9185292	20	2 14.0	20.6
378987 2008 UO_{288}	16.7	X	164.59268	235.27546	105.42106	3.13020	0.0871670	0.19726882	2.9225621	20	1 27.7	21.1
378988 2008 UG_{289}	16.1	X	37.83903	335.94973	74.38525	13.70975	0.0803175	0.17682548	3.1436884	20	—	—
378989 2008 UW_{289}	16.3	X	211.08597	20.11048	216.16460	9.22541	0.0694758	0.17579657	3.1559428	20	—	—
378990 2008 UC_{290}	15.9	X	287.20820	88.77155	78.00111	12.52740	0.0601788	0.17607101	3.1526625	20	—	—
378991 2008 UV_{291}	16.4	X	338.93185	99.55003	26.59319	9.17529	0.0323241	0.18465415	3.0541943	20	—	—
378992 2008 UF_{295}	16.5	X	182.22693	116.96357	229.58318	16.57986	0.1557008	0.20325863	2.8648599	20	2 16.4	21.5
378993 2008 US_{300}	16.0	X	40.26859	180.80546	273.34273	8.11690	0.0976228	0.18797653	3.0181000	20	1 11.6	19.8
378994 2008 UK_{308}	16.4	X	143.17044	73.22700	274.56690	7.01568	0.1145488	0.19229782	2.9727141	20	1 16.1	20.8
378995 2008 UG_{309}	15.7	X	145.59028	222.44831	252.22696	11.71654	0.1284930	0.21821771	2.7323902	20	6 22.3	19.9
378996 2008 UD_{314}	15.7	X	46.45091	46.21816	31.62817	11.11245	0.1322764	0.18495927	3.0508345	20	1 4.9	19.5
378997 2008 UK_{316}	16.1	X	237.18313	6.19830	233.83059	7.97088	0.0669494	0.18213267	3.0823183	20	—	—
378998 2008 UZ_{316}	16.3	X	90.04574	205.56889	270.65943	5.96747	0.1613482	0.19288980	2.9666287	20	4 26.7	20.5
378999 2008 UY_{324}	15.6	X	204.36978	22.44554	255.00324	14.14093	0.0480611	0.18399017	3.0615379	20	—	—
379000 2008 UN_{330}	16.2	X	105.39554	305.31156	45.80691	9.05613	0.0699105	0.18397163	3.0617435	20	—	—
379001 2008 UE_{335}	16.3	X	299.19623	158.69269	18.47947	8.10401	0.0638749	0.18290832	3.0735981	20	—	—
379002 2008 UO_{336}	16.9	X	113.17011	295.76607	52.64623	3.47413	0.1183794	0.18523413	3.0478157	20	—	—
379003 2008 UN_{340}	17.0	X	49.89895	255.69739	163.85110	1.57696	0.0798320	0.18558261	3.0439992	20	—	—
379004 2008 UP_{344}	17.0	X	24.77087	253.21522	234.30381	1.67181	0.1458113	0.18817224	3.0160070	20	1 30.3	20.5
379005 2008 UQ_{344}	16.6	X	43.66281	209.64049	234.47603	2.36015	0.1099852	0.18443803	3.0565797	20	1 5.9	20.3
379006 2008 UY_{346}	16.4	X	34.22816	274.73372	202.75625	1.85781	0.1657415	0.18054114	3.1004062	20	2 5.4	19.8
379007 2008 UZ_{347}	16.3	X	73.92308	22.95713	51.64743	6.06729	0.1011253	0.19321474	2.9633018	20	2 8.1	20.2
379008 2008 UH_{349}	16.4	X	33.22287	29.69110	99.63853	3.02504	0.2260444	0.19021899	2.9943333	20	2 23.2	19.2
379009 2008 UN_{350}	16.8	X	74.87716	347.12621	73.08549	3.01421	0.1350926	0.18767677	3.0213129	20	1 26.2	20.6
379010 2008 UY_{352}	15.6	X	285.67597	303.99570	242.57994	9.53802	0.0122501	0.18102934	3.0948296	20	—	—
379011 2008 UA_{354}	15.8	X	32.51275	174.52394	238.58416	9.71763	0.0476072	0.17567663	3.1573790	20	—	—
379012 2008 UJ_{354}	15.7	X	157.43890	289.40576	119.63108	13.05372	0.1367153	0.20702150	2.8300389	20	4 19.7	20.4
379013 2008 UJ_{359}	16.5	X	24.33173	357.20295	111.50850	2.79086	0.1350612	0.18583950	3.0411933	20	1 6.2	19.9
379014 2008 UD_{369}	16.0	X	110.03680	85.59060	71.23747	10.52698	0.0956409	0.21505993	2.7590721	20	7 5.7	20.0
379015 2008 UG_{369}	16.6	X	117.45565	313.90389	64.01906	12.94785	0.0413643	0.19032256	2.9932469	20	1 16.4	20.9
379016 2008 VZ_{4}	17.1	X	328.12037	329.90016	239.47644	20.38390	0.0656434	0.37190029	1.9150717	20	1 15.3	19.5
379017 2008 VJ_{7}	16.4	X	112.59362	97.64115	356.54938	12.85766	0.1753399	0.21660350	2.7459486	20	4 22.9	20.6
379018 2008 VE_{19}	16.6	X	118.27934	341.90719	91.00288	3.29774	0.0596680	0.20417520	2.8562797	20	3 26.1	20.6
379019 2008 VH_{21}	16.8	X	351.02478	337.40829	177.72167	3.88936	0.0408726	0.19197070	2.9760902	20	1 17.9	20.8
379020 2008 VM_{23}	16.0	X	22.93184	3.51335	84.26183	6.54860	0.1203830	0.18026893	3.1035265	20	—	—
379021 2008 VY_{34}	15.6	X	179.04538	39.21127	234.44332	25.97134	0.0486069	0.17691896	3.1425809	20	—	—
379022 2008 VP_{35}	16.1	X	80.47907	137.97581	265.90973	8.95005	0.0990099	0.18758820	3.0222638	20	1 7.6	20.1
379023 2008 VW_{35}	16.2	X	250.96458	347.58869	263.23233	9.30551	0.0638584	0.19079834	2.9882688	20	1 10.1	20.7
379024 2008 VR_{38}	17.2	X	110.01100	78.95740	342.21272	2.65839	0.1582645	0.19673258	2.9278704	20	3 13.4	21.3
379025 2008 VE_{39}	16.7	X	159.64785	17.24516	7.51035	1.46303	0.0728319	0.20128085	2.8835959	20	3 13.8	20.8
379026 2008 VJ_{39}	15.0	X	355.39764	240.80053	263.40877	13.01768	0.1178992	0.17810861	3.1285717	20	1 5.8	18.9
379027 2008 VP_{44}	17.2	X	125.05798	103.09736	203.00244	13.68736	0.3202536	0.18330724	3.0691372	20	—	—
379028 2008 VN_{46}	16.1	X	43.06064	5.44664	58.53480	15.91449	0.0537111	0.18157579	3.0886172	20	—	—
379029 2008 VP_{51}	16.8	X	67.28763	104.02045	336.65118	0.42187	0.2183567	0.18904456	3.0067219	20	2 20.7	20.4
379030 2008 VA_{59}	15.9	X	330.86081	98.91286	61.03867	11.13981	0.0463768	0.18676484	3.0311398	20	—	—
379031 2008 VW_{60}	16.7	X	82.87657	289.89285	165.60520	1.98323	0.0460467	0.20059705	2.8901454	20	3 6.6	20.5
379032 2008 VS_{70}	16.8	X	26.23071	145.51861	333.92389	0.42151	0.0621665	0.19030041	2.9934791	20	1 22.1	20.4
379033 2008 VV_{70}	16.2	X	292.92978	112.88496	40.64888	10.07820	0.0501721	0.17504176	3.1650089	20	—	—
379034 2008 VJ_{73}	16.1	X	242.82717	344.35824	232.11787	2.54324	0.0954162	0.17755758	3.1350411	20	—	—
379035 2008 VL_{76}	15.8	X	352.68875	50.76765	66.89800	6.74715	0.1317795	0.18114227	3.0935431	20	—	—
379036 2008 VG_{77}	16.0	X	92.11265	272.85589	91.29926	10.23400	0.0643510	0.18125424	3.0922689	20	—	—
379037 2008 WV_{9}	16.2	X	50.56397	312.36982	85.16460	2.28890	0.1752645	0.17978564	3.1090858	20	—	—
379038 2008 WC_{13}	18.3	X	132.40297	60.54939	57.42063	23.07693	0.1064936	0.38593961	1.8683424	20	6 10.1	20.5
379039 2008 WA_{15}	16.6	X	129.09989	113.64051	294.25251	0.85752	0.0804185	0.20292532	2.8679961	20	3 8.3	20.7
379040 2008 WO_{18}	16.7	X	193.33652	344.09832	314.27680	1.14908	0.1402242	0.19567404	2.9384202	20	1 8.3	21.4

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	m		°	°	°	°		°				
379041 2008 WW_{19}	16.7	X	226.29529	268.38140	51.07236	2.80241	0.0587623	0.20276118	2.8695437	20	3 6.9	20.9
379042 2008 WV_{23}	16.2	X	110.19744	190.16032	247.54177	7.84405	0.0518666	0.20195440	2.8771809	20	3 15.8	20.3
379043 2008 WM_{25}	17.0	X	120.88048	213.70965	211.18136	1.32345	0.0537730	0.20312454	2.8661205	20	3 16.3	21.0
379044 2008 WR_{25}	17.0	X	194.95095	138.33943	210.24099	1.37633	0.0765618	0.20464490	2.8519075	20	3 6.4	21.3
379045 2008 WF_{29}	16.2	X	178.61625	39.33355	218.42624	7.65628	0.0393336	0.17569234	3.1571908	20	—	—
379046 2008 WU_{29}	15.8	X	250.64201	291.59608	269.82485	7.52357	0.0385114	0.17471675	3.1689327	20	—	—
379047 2008 WV_{31}	16.8	X	78.40886	81.91235	358.87649	1.43161	0.1732556	0.19096356	2.9865449	20	3 1.6	20.7
379048 2008 WL_{33}	15.9	X	114.86970	111.93716	274.96906	14.36754	0.2008818	0.19249297	2.9707046	20	2 7.3	20.5
379049 2008 WB_{37}	16.1	X	86.75634	182.49042	238.35265	8.07481	0.1155826	0.19152709	2.9806838	20	2 5.1	20.2
379050 2008 WE_{42}	16.4	X	134.74531	304.40413	35.72714	4.44539	0.0152353	0.18323146	3.0699834	20	—	—
379051 2008 WD_{43}	16.5	X	155.20471	279.82224	58.01609	10.01187	0.1227318	0.19013500	2.9952151	20	1 20.0	21.2
379052 2008 WT_{45}	15.6	X	197.55521	331.43633	256.40247	7.14838	0.0460170	0.16976778	3.2302233	20	12 28.5	20.2
379053 2008 WC_{47}	16.0	X	122.20209	260.90120	67.30780	16.35194	0.2760962	0.18382677	3.0633519	20	—	—
379054 2008 WO_{48}	16.2	X	203.93254	268.94860	58.12229	8.86590	0.1707877	0.20358385	2.8618081	20	2 22.8	21.1
379055 2008 WA_{49}	16.6	X	57.65438	238.51768	223.48989	10.30165	0.0635353	0.19510781	2.9441026	20	2 8.6	20.7
379056 2008 WK_{53}	16.4	X	302.72833	326.41341	211.32248	7.99199	0.0934166	0.18676284	3.0311614	20	—	—
379057 2008 WJ_{58}	15.9	X	58.51131	169.25194	231.00589	10.04187	0.0055038	0.18022514	3.1040292	20	—	—
379058 2008 WG_{64}	16.0	X	94.56693	153.37353	264.14886	9.08005	0.1717528	0.19216349	2.9740993	20	2 18.1	20.3
379059 2008 WN_{65}	16.0	X	114.28213	115.35175	244.53346	11.05070	0.1237359	0.18975860	2.9991745	20	—	—
379060 2008 WV_{66}	16.1	X	50.12156	350.36556	73.11504	11.09688	0.1286279	0.18311906	3.0712395	20	—	—
379061 2008 WY_{73}	16.2	X	100.29109	322.37206	75.96378	4.08716	0.2514038	0.18775955	3.0204247	20	2 19.0	20.6
379062 2008 WU_{76}	16.0	X	81.22102	168.20415	224.99172	9.03684	0.0745885	0.18397054	3.0617556	20	—	—
379063 2008 WY_{79}	16.5	X	287.55538	18.03676	202.75654	6.96045	0.0202308	0.18992753	2.9973958	20	1 20.6	20.9
379064 2008 WN_{83}	16.2	X	95.90698	282.65825	83.93318	20.42967	0.3053772	0.18581245	3.0414884	20	1 13.1	20.5
379065 2008 WN_{86}	16.7	X	13.65356	95.48410	49.66451	13.67319	0.0900267	0.19573255	2.9378347	20	2 9.4	20.6
379066 2008 WN_{88}	15.6	X	120.16980	252.68847	63.61855	11.88710	0.0761469	0.17612243	3.1520488	20	—	—
379067 2008 WY_{91}	16.3	X	87.79459	343.14064	62.32770	2.93401	0.1488551	0.18944773	3.0024545	20	1 27.6	20.2
379068 2008 WD_{92}	15.7	X	22.51500	188.91814	243.42439	7.98638	0.0451229	0.17896296	3.1186067	20	—	—
379069 2008 WW_{99}	16.4	X	183.94557	274.74880	73.09274	7.64533	0.0714980	0.20113263	2.8850124	20	2 27.3	20.8
379070 2008 WS_{103}	16.8	X	125.00481	172.91863	229.77589	10.06018	0.1400870	0.19883915	2.9071546	20	3 1.0	21.4
379071 2008 WK_{107}	16.9	X	138.93446	203.72561	205.69356	1.36538	0.0660207	0.20352215	2.8623864	20	3 19.8	21.1
379072 2008 WZ_{113}	16.0	X	20.19150	237.75914	249.32551	7.57664	0.0548752	0.18774614	3.0205686	20	1 21.6	20.1
379073 2008 WD_{115}	16.5	X	32.32119	340.51844	66.02626	1.51241	0.1842118	0.17587948	3.1549508	20	—	—
379074 2008 WS_{119}	16.6	X	18.27253	223.36703	258.48285	7.27045	0.1163247	0.18529581	3.0471393	20	1 12.4	20.2
379075 2008 WR_{125}	16.5	X	53.33208	161.55209	264.61726	3.57334	0.1516527	0.17560205	3.1582730	20	1 4.1	20.1
379076 2008 WT_{125}	16.4	X	70.70821	39.46198	4.57609	1.21083	0.1920312	0.18013182	3.1051012	20	1 8.5	20.1
379077 2008 WV_{125}	16.9	X	21.86669	286.70392	163.28078	1.12323	0.1630767	0.17422180	3.1749317	20	—	—
379078 2008 WE_{128}	16.4	X	346.44193	322.61751	128.95428	1.74722	0.0617124	0.17205820	3.2014924	20	—	—
379079 2008 WW_{131}	16.4	X	7.10057	270.52438	189.69667	15.76507	0.2692142	0.17938423	3.1137223	20	—	—
379080 2008 WG_{133}	16.1	X	106.49309	297.38309	88.65509	6.31469	0.1333210	0.18499130	3.0504824	20	1 26.1	20.3
379081 2008 WJ_{135}	16.5	X	136.55741	311.22567	68.27344	2.12412	0.1624553	0.19389379	2.9563790	20	2 22.1	20.9
379082 2008 WF_{137}	15.5	X	262.74479	184.15430	75.67151	10.91603	0.0491063	0.19233637	2.9723169	20	2 8.4	19.9
379083 2008 WX_{138}	16.0	X	19.85302	198.46405	243.24080	7.21743	0.1169921	0.17741337	3.1367397	20	—	—
379084 2008 WS_{139}	15.4	X	59.86858	340.89787	88.54463	29.88376	0.1961686	0.17972093	3.1098321	20	1 23.9	19.4
379085 2008 XZ_{1}	15.6	X	17.33123	48.49705	70.66752	28.10244	0.2449122	0.17404890	3.1770340	20	1 4.6	19.0
379086 2008 XG_{11}	15.9	X	61.33130	150.94773	229.75538	15.88707	0.1575660	0.17665785	3.1456768	20	—	—
379087 2008 XR_{15}	16.7	X	22.71307	223.03681	248.37379	3.19063	0.1227871	0.18358206	3.0660735	20	1 7.3	20.3
379088 2008 XL_{17}	16.0	X	53.97315	197.47059	211.57024	3.89460	0.1253997	0.17978919	3.1090449	20	—	—
379089 2008 XY_{20}	16.0	X	51.00507	297.88393	97.10521	17.12635	0.2264764	0.17467968	3.1693810	20	—	—
379090 2008 XY_{27}	16.0	X	61.36141	5.53953	38.16882	11.44528	0.0559144	0.18072103	3.0983485	20	—	—
379091 2008 XE_{29}	16.0	X	137.33313	38.98269	249.58721	8.26110	0.0548647	0.17492416	3.1664273	20	—	—
379092 2008 XM_{31}	16.8	X	13.91104	177.25984	301.10267	3.82970	0.1352399	0.18436513	3.0573855	20	1 1.5	20.5
379093 2008 XK_{45}	16.1	X	77.72382	304.10090	125.15426	8.01623	0.1831001	0.18576915	3.0419610	20	2 18.2	20.0
379094 2008 XL_{53}	16.0	X	37.51625	125.71105	327.49129	14.26143	0.1997525	0.18054211	3.1003951	20	1 16.3	19.4
379095 2008 XQ_{55}	16.4	X	24.44650	99.48121	51.89898	5.25371	0.2017181	0.18693737	3.0292745	20	3 7.0	19.5
379096 2008 YD	15.8	X	97.46844	299.46540	74.81460	12.40178	0.1766010	0.18704912	3.0280679	20	1 5.8	19.9
379097 2008 YO_{5}	16.3	X	57.85050	300.75098	126.27118	4.19094	0.2296138	0.18418079	3.0594251	20	1 20.1	19.6
379098 2008 YV_{5}	16.0	X	9.62559	34.35383	80.84422	24.83050	0.3271019	0.17488016	3.1669583	20	—	—
379099 2008 YE_{6}	17.9	X	151.13720	228.77759	125.96269	0.77090	0.2397423	0.28163924	2.3050160	20	2 3.2	21.3
379100 2008 YQ_{7}	15.9	X	117.21273	292.48154	90.27288	9.89104	0.2427393	0.19055170	2.9908468	20	2 18.1	20.6
379101 2008 YE_{12}	15.6	X	219.75667	150.68063	77.37092	10.34154	0.0467303	0.17427566	3.1742775	20	—	—
379102 2008 YF_{13}	15.8	X	70.51237	133.33151	279.64051	8.72926	0.0981395	0.17852128	3.1237485	20	1 7.2	19.8
379103 2008 YS_{13}	15.4	X	68.52715	86.94539	298.34507	24.13647	0.3226315	0.17458776	3.1704934	20	1 4.8	19.0
379104 2008 YL_{14}	15.6	X	256.85329	189.25161	66.63016	11.44389	0.0824936	0.19062433	2.9900870	20	1 23.8	20.2
379105 2008 YU_{22}	15.7	X	40.19582	291.62897	130.57987	10.46720	0.1102648	0.17001827	3.2270497	20	—	—
379106 2008 YW_{23}	15.0	X	39.58097	95.40636	286.24113	23.42439	0.3315524	0.17180984	3.2045769	20	—	—
379107 2008 YL_{25}	15.8	X	55.94479	321.37037	142.68865	17.01552	0.3337144	0.18356419	3.0662725	20	3 27.5	19.3
379108 2008 YY_{40}	16.0	X	44.21464	174.12942	266.18307	5.13137	0.1310639	0.17604336	3.1529925	20	1 5.2	19.7
379109 2008 YE_{41}	16.1	X	23.89701	45.25780	81.08695	12.43032	0.2560010	0.17969873	3.1100882	20	2 2.8	19.1
379110 2008 YW_{55}	15.9	X	62.24272	119.81894	298.67664	9.60114	0.1560336	0.17986414	3.1081812	20	1 9.0	19.6
379111 2008 YU_{60}	15.8	X	40.92566	144.02531	299.46431	16.68355	0.2262574	0.17853637	3.1235725	20	1 10.7	19.0
379112 2008 YD_{64}	15.4	X	68.38301	113.91572	286.58160	14.85127	0.2574221	0.17724029	3.1387814	20	1 10.0	19.0
379113 2008 YN_{108}	16.1	X	66.82620	281.57757	109.87472	6.38749	0.1396142	0.17048213	3.2211934	20	—	—
379114 2008 YG_{125}	15.5	X	13.14998	96.59923	297.51790	16.84884	0.0126947	0.15705437	3.4022746	20	12 10.9	20.5
379115 2008 YZ_{127}	16.0	X	29.52552	314.14282	122.40596	6.27007	0.1749879	0.17161341	3.2070217	20	—	—
379116 2008 YX_{135}	16.2	X	221.24529	142.47137	77.34531	5.19276	0.0155927	0.16752444	3.2589968	20	—	—
379117 2008 YT_{136}	15.6	X	210.32043	150.68767	96.89222	9.21431	0.0086737	0.17181067	3.2045665	20	—	—
379118 2008 YA_{138}	16.6	X	9.81487	333.18474	146.04879	1.72270	0.1529918	0.17654518	3.1470150	20	—	—
379119 2008 YL_{171}	16.2	X	81.94027	115.70192	293.93525	4.00663	0.1915388	0.18373920	3.0643251	20	1 30.7	20.2
379120 2009 AD_{15}	16.7	X	79.68180	308.26616	98.36308	0.55953	0.2230080	0.17939795	3.1135635	20	1 29.8	20.7

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379121 2009 AO_{21}	16.4	X	345.39915	99.23620	41.54850	1.18565	0.1248601	0.17667206	3.1455081	20	—	—
379122 2009 AD_{35}	15.9	X	18.95688	141.26981	312.71792	6.38273	0.1414127	0.17558104	3.1585249	20	—	—
379123 2009 AD_{48}	16.5	X	72.59043	306.99279	163.69992	5.32773	0.2741478	0.18883236	3.0089740	20	4 17.7	20.4
379124 2009 BE_{10}	16.4	X	89.75027	245.27482	164.15412	1.23279	0.2294746	0.18451852	3.0556908	20	2 15.5	20.5
379125 2009 BT_{14}	16.0	X	66.07485	98.67601	342.39324	5.42781	0.1954008	0.18216411	3.0819636	20	2 17.7	19.7
379126 2009 BN_{31}	16.0	X	43.46276	330.06815	105.36629	3.80440	0.2322019	0.17569041	3.1572140	20	1 5.3	19.1
379127 2009 BY_{74}	15.1	X	328.65646	71.48140	75.91583	13.46326	0.1049653	0.17054938	3.2203467	20	—	—
379128 2009 BW_{135}	16.1	X	31.46869	133.34335	223.89557	1.54479	0.0902092	0.15094545	3.4934621	20	11 27.5	20.7
379129 2009 BV_{183}	15.9	X	8.07557	79.89482	58.34019	14.88059	0.2052584	0.17788802	3.1311575	20	1 15.8	19.5
379130 2009 CA_{20}	15.7	X	69.83850	340.18376	71.58797	10.77489	0.2746694	0.17836379	3.1255870	20	2 1.2	19.5
379131 2009 CL_{40}	15.9	X	56.97490	50.43656	0.29470	5.05611	0.1305952	0.17214443	3.2004231	20	—	—
379132 2009 CX_{42}	16.4	X	164.49086	329.16439	100.85919	9.42283	0.2127241	0.21024824	2.8010088	20	5 20.9	21.3
379133 2009 CL_{45}	16.5	X	16.41635	321.28014	122.43935	2.98396	0.0786450	0.16964278	3.2318098	20	—	—
379134 2009 CJ_{53}	15.6	X	29.70612	336.48197	130.33192	17.11159	0.1558320	0.17878684	3.1206545	20	1 14.8	19.1
379135 2009 CR_{55}	15.9	X	51.66425	289.28519	166.58661	25.66789	0.3482789	0.18090681	3.0962268	20	3 6.1	18.8
379136 2009 DL_{22}	15.4	X	69.77130	4.83965	243.13476	0.93536	0.1804911	0.12677496	3.9244643	20	9 14.1	21.0
379137 2009 DA_{24}	16.0	X	102.15153	336.14131	90.36485	10.82051	0.0889424	0.19469372	2.9482756	20	3 6.7	20.3
379138 2009 DE_{51}	17.7	X	142.47760	65.17279	6.92138	19.23752	0.0889423	0.36345850	1.9446114	20	4 10.7	20.0
379139 2009 DS_{124}	17.6	X	78.24377	309.77488	351.79055	8.24662	0.2792798	0.30586449	2.1816413	20	—	—
379140 2009 EK_{16}	18.0	X	292.86125	300.55952	184.33549	6.31681	0.2578495	0.24085162	2.5584072	20	12 28.0	19.9
379141 2009 EF_{26}	15.4	X	133.39234	175.85472	22.93953	2.78371	0.1525744	0.12356666	3.9921041	20	9 17.2	21.7
379142 2009 FR_{40}	14.9	X	117.85190	209.65551	14.79812	8.81926	0.1334619	0.12490613	3.9635123	20	10 1.2	20.9
379143 2009 HU_{11}	13.1	X	278.63085	234.65277	68.21152	22.88954	0.1387765	0.08341344	5.1877459	20	4 20.7	20.2
379144 2009 HV_{11}	17.5	X	95.35877	70.57501	36.16073	22.12536	0.0934301	0.35702312	1.9679096	20	4 8.5	19.5
379145 2009 HP_{55}	18.0	X	62.44435	64.98083	220.61208	4.28477	0.1389528	0.29436811	2.2380797	20	11 13.2	20.9
379146 2009 OM	17.5	X	33.52280	358.68917	318.54374	1.10839	0.2496494	0.28285156	2.2984250	20	12 3.3	20.5
379147 2009 OF_{4}	18.2	X	10.97021	54.19998	270.09528	4.79629	0.1712251	0.27758001	2.3274334	20	10 25.6	20.6
379148 2009 PR_{6}	17.3	X	122.10090	3.90901	235.92038	7.87066	0.0963949	0.28810641	2.2703916	20	11 13.8	20.5
379149 2009 PH_{10}	17.7	X	329.26156	349.91640	317.54319	2.04884	0.2248888	0.26359104	2.4090674	20	6 17.3	19.5
379150 2009 PK_{12}	17.4	X	337.51001	206.66180	126.50046	3.19469	0.2242038	0.26815600	2.3816487	20	8 30.1	18.6
379151 2009 PA_{17}	16.1	X	356.68984	218.96443	87.02458	24.81615	0.2069714	0.26778089	2.3838723	20	9 18.8	19.0
379152 2009 PE_{21}	17.5	X	302.80181	89.34602	249.44480	3.92276	0.1921617	0.26132003	2.4230047	20	6 16.9	20.0
379153 2009 QV_{1}	17.8	X	284.26120	245.82141	90.13058	3.80250	0.1956501	0.25474635	2.4645109	20	5 14.9	20.9
379154 2009 QU_{4}	17.9	X	9.23240	279.62153	33.78557	0.46984	0.2288903	0.27426481	2.3461511	20	10 17.3	20.0
379155 Volkerheinrich	17.9	X	1.90712	167.51014	132.68881	5.43036	0.2118374	0.26915466	2.3757539	20	9 7.2	19.7
379156 2009 QN_{8}	17.0	X	317.78286	129.45426	184.05150	11.36592	0.3515770	0.25940736	2.4349004	20	5 8.8	19.4
379157 2009 QB_{11}	17.0	X	359.82376	113.14242	169.86340	7.43538	0.2112188	0.26394977	2.4068842	20	7 28.7	18.8
379158 2009 QO_{12}	17.7	X	283.24490	79.73406	302.02446	3.40769	0.2052395	0.26137090	2.4226903	20	7 16.4	20.4
379159 2009 QW_{12}	17.7	X	0.32843	63.13452	237.21451	1.64885	0.1957413	0.26705856	2.3881689	20	8 29.0	19.4
379160 2009 QA_{17}	17.6	X	332.37995	152.48944	177.71177	2.34022	0.2152664	0.26572235	2.3961684	20	8 6.9	19.2
379161 2009 QL_{19}	17.8	X	254.45667	59.27225	0.30630	7.19967	0.2281848	0.25953156	2.4341235	20	7 28.6	21.3
379162 2009 QY_{21}	17.8	X	329.19128	208.55365	97.16938	2.49803	0.2920032	0.26274448	2.4142393	20	6 2.4	19.1
379163 2009 QS_{22}	17.5	X	336.15815	324.10849	25.30053	2.69928	0.2183156	0.26981785	2.3718593	20	9 25.2	18.9
379164 2009 QG_{39}	18.5	X	317.82656	165.31908	173.40446	2.23254	0.2186394	0.26247254	2.4159066	20	7 13.4	20.3
379165 2009 QR_{40}	17.7	X	358.80786	186.63101	135.17887	2.74225	0.1583486	0.27030332	2.3690185	20	9 28.2	19.7
379166 2009 QV_{42}	17.4	X	346.72301	271.23843	53.95598	5.26621	0.2014098	0.26897509	2.3768112	20	9 12.5	19.1
379167 2009 QK_{53}	18.0	X	238.19310	159.42238	267.11839	1.46549	0.1780673	0.25942205	2.4348084	20	7 23.1	21.4
379168 2009 QO_{53}	17.0	X	162.25396	172.72184	344.87123	5.45147	0.0508169	0.26595949	2.3947438	20	9 8.1	19.9
379169 2009 QP_{53}	17.0	X	161.56110	158.14305	343.18456	3.87221	0.0914295	0.26016571	2.4301664	20	8 15.8	20.5
379170 2009 QJ_{55}	18.0	X	323.24564	296.79604	32.39944	2.73658	0.1337595	0.26103572	2.4247637	20	7 22.2	20.2
379171 2009 QM_{57}	18.0	X	264.76278	62.67272	354.03421	1.97882	0.2169237	0.26210248	2.4181800	20	8 7.1	21.1
379172 2009 QY_{57}	17.2	X	317.33560	321.71064	353.16816	8.79622	0.2121718	0.25839504	2.4412557	20	6 1.9	19.7
379173 Gamaovalia	16.4	X	180.06687	16.13978	356.95919	13.90691	0.2049295	0.23204438	2.6227406	20	3 21.9	20.9
379174 2009 RY_{2}	17.0	X	229.27466	329.48718	355.68181	12.41653	0.2960599	0.23740778	2.5830893	20	3 3.4	21.6
379175 2009 RT_{3}	17.8	X	324.34724	286.91303	54.58961	7.21572	0.2300820	0.26601704	2.3943984	20	8 8.0	19.5
379176 2009 RD_{6}	17.1	X	341.60115	343.89715	321.22740	4.09200	0.1909661	0.26290733	2.4132423	20	7 20.3	18.6
379177 2009 RC_{8}	18.3	X	6.36479	85.71977	208.24244	2.05765	0.2062625	0.26501562	2.4004264	20	9 2.7	20.2
379178 2009 RF_{11}	17.6	X	283.12827	191.47905	189.15176	1.19318	0.1958290	0.25904652	2.4371609	20	7 15.6	20.4
379179 2009 RK_{13}	17.5	X	206.53499	22.75423	63.40534	1.28669	0.1759176	0.25141302	2.4862466	20	7 16.3	21.4
379180 2009 RV_{18}	18.2	X	348.95788	359.27103	325.26277	2.79300	0.2534049	0.26871446	2.3783477	20	9 18.2	19.3
379181 2009 RL_{19}	17.6	X	269.43876	113.70372	283.10505	1.30411	0.2052274	0.25986034	2.4320698	20	7 17.3	20.7
379182 2009 RQ_{19}	17.8	X	349.92723	91.19154	233.78212	2.44031	0.1688842	0.26777849	2.3838866	20	9 11.6	19.7
379183 2009 RB_{32}	17.0	X	125.52094	297.77211	218.18066	5.41777	0.1200237	0.25170490	2.4843242	20	7 24.8	20.7
379184 2009 RR_{39}	17.3	X	80.48221	16.17738	237.59659	6.67328	0.0853247	0.27009271	2.3702499	20	10 9.8	20.5
379185 2009 RP_{52}	16.5	X	223.55763	152.83556	190.09086	14.38049	0.0036534	0.23239782	2.6200808	20	4 2.4	19.8
379186 2009 RH_{59}	17.7	X	323.61540	197.82184	167.67605	3.96803	0.1576094	0.26721990	2.3872076	20	9 19.2	19.4
379187 2009 RV_{63}	13.3	X	215.61115	117.37832	13.20304	22.23566	0.0684808	0.08425952	5.1529597	20	9 18.3	20.4
379188 2009 RF_{69}	17.1	X	315.42612	60.79624	299.37021	7.86777	0.1390784	0.26661801	2.3907990	20	8 21.5	19.3
379189 2009 RO_{69}	17.3	X	281.64913	193.03084	220.24686	7.10437	0.1991857	0.26739448	2.3861684	20	8 28.5	20.1
379190 2009 SE_{14}	17.8	X	266.01663	176.98490	264.44766	2.42083	0.1441511	0.26938531	2.3743976	20	9 25.1	20.5
379191 2009 SG_{15}	17.5	X	295.33798	303.35766	42.34853	4.37603	0.2246124	0.26037491	2.4288645	20	6 8.1	20.3
379192 2009 SG_{16}	17.5	X	287.28641	260.36199	123.86346	3.39836	0.2343734	0.26059056	2.4275244	20	7 21.2	19.9
379193 2009 SH_{17}	17.2	X	297.52701	76.80254	316.36023	5.14429	0.0484350	0.27128188	2.3633182	20	9 18.8	19.8
379194 2009 SD_{26}	17.2	X	190.48983	160.19512	188.50069	14.82669	0.1482656	0.22964181	2.6410021	20	2 27.9	21.6
379195 2009 SO_{29}	17.2	X	266.49125	44.04281	15.95911	6.42625	0.1413506	0.26194403	2.4191551	20	8 29.2	20.0
379196 2009 SD_{38}	17.2	X	92.13322	218.87325	9.47419	6.65942	0.0751564	0.26296189	2.4129084	20	9 20.5	20.3
379197 2009 SR_{45}	16.9	X	146.03581	203.53035	344.45020	6.18413	0.0857562	0.26409567	2.4059976	20	9 27.9	20.5
379198 2009 SD_{52}	16.5	X	261.21532	11.90619	267.32348	12.73566	0.1388723	0.23756003	2.5819855	20	2 7.4	20.6
379199 2009 SF_{53}	16.9	X	42.74451	8.16254	273.65688	4.06593	0.1975305	0.27216619	2.3581962	20	10 16.7	19.9
379200 2009 SP_{58}	17.9	X	316.94409	99.62128	227.61252	7.04352	0.1957611	0.25673900	2.4517423	20	6 25.3	20.2

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	m		°	°	°	°		°				
379201 2009 SO_{59}	16.8	X	228.66796	250.15975	220.88236	9.01673	0.0622790	0.26573970	2.3960640	20	9 24.7	20.0
379202 2009 SG_{63}	17.5	X	213.16562	240.05862	187.97898	1.36394	0.1503350	0.25380226	2.4706187	20	6 30.7	21.1
379203 2009 SF_{66}	17.1	X	295.35069	352.92337	74.00044	3.33539	0.1830572	0.26922373	2.3753475	20	10 24.8	19.0
379204 2009 SO_{70}	16.7	X	92.41708	99.21674	53.67020	7.85135	0.0845696	0.23893919	2.5720404	20	6 6.4	20.1
379205 2009 ST_{87}	17.8	X	284.06328	305.49241	74.28570	2.57501	0.1930225	0.25761905	2.4461555	20	7 16.9	20.6
379206 2009 SK_{96}	17.2	X	233.79078	9.94441	41.68484	9.70783	0.2028867	0.24569303	2.5246867	20	6 25.2	21.2
379207 2009 ST_{101}	17.4	X	335.30332	221.88981	118.49201	3.61221	0.2289204	0.26854244	2.3793633	20	9 6.9	18.8
379208 2009 SL_{122}	17.9	X	311.20839	124.40054	209.88779	4.07426	0.0929917	0.25619197	2.4552311	20	7 9.9	20.8
379209 2009 SD_{124}	16.5	X	272.64752	309.10680	358.99949	14.00396	0.1336391	0.24094540	2.5577433	20	3 30.5	20.2
379210 2009 SO_{125}	17.0	X	21.68295	314.12273	309.64949	3.84527	0.1024625	0.25617516	2.4553385	20	8 1.5	19.4
379211 2009 SR_{130}	17.6	X	278.78402	342.83529	40.60741	4.89270	0.0705614	0.25717238	2.4489871	20	8 5.5	20.6
379212 2009 SZ_{130}	17.8	X	17.90303	140.08553	168.27161	3.85046	0.0948574	0.26608876	2.3939681	20	10 1.8	20.3
379213 2009 SG_{134}	16.9	X	121.35768	119.10769	54.04287	7.01082	0.0984707	0.25300650	2.4757964	20	8 15.4	20.5
379214 2009 SY_{134}	17.4	X	265.48679	337.98900	3.77498	5.46326	0.1330483	0.24525978	2.5276590	20	5 5.7	20.9
379215 2009 SC_{141}	17.9	X	278.07868	135.87105	247.25516	1.98647	0.1871088	0.25750261	2.4468929	20	7 12.8	20.7
379216 2009 SW_{153}	18.0	X	1.02132	99.55430	188.09728	4.17872	0.2282861	0.26224244	2.4173196	20	8 11.2	19.6
379217 2009 SY_{156}	17.9	X	260.35114	238.34346	147.27828	1.97121	0.1961777	0.25347321	2.4727564	20	6 21.0	21.1
379218 2009 SB_{182}	18.0	X	151.84376	183.65521	7.94091	1.21498	0.1304477	0.27254529	2.3560089	20	10 10.9	21.4
379219 2009 SG_{184}	16.4	X	259.78415	258.90355	1.69062	12.07658	0.1522647	0.22374359	2.6872143	20	1 23.5	20.7
379220 2009 SP_{184}	17.1	X	6.86281	305.64422	335.57896	5.89619	0.1316922	0.25790640	2.4443383	20	8 5.5	19.4
379221 2009 SY_{192}	17.8	X	239.39159	237.12730	227.92479	4.34065	0.2030904	0.26392629	2.4070269	20	9 10.2	21.1
379222 2009 SJ_{193}	17.4	X	178.07143	42.29985	358.26985	6.47704	0.1636558	0.23553493	2.5967641	20	4 20.6	21.7
379223 2009 SM_{201}	17.4	X	237.57951	147.21896	186.49754	11.50597	0.2069873	0.23856892	2.5747010	20	3 21.8	21.7
379224 2009 SQ_{213}	17.9	X	254.57800	22.05609	48.95835	1.25809	0.2158257	0.25920981	2.4361373	20	8 13.6	21.1
379225 2009 SZ_{214}	17.7	X	194.59285	244.71663	168.50849	4.14521	0.1656665	0.24035242	2.5619484	20	5 24.4	21.8
379226 2009 SV_{217}	17.9	X	261.49166	159.35082	252.53297	3.00557	0.1988956	0.26165562	2.4209324	20	7 28.1	21.1
379227 2009 SJ_{230}	17.0	X	296.17094	253.74263	128.62778	7.64028	0.1043451	0.26302126	2.4125453	20	8 27.3	19.6
379228 2009 SN_{233}	17.0	X	277.01866	168.47356	198.91012	14.25775	0.1317134	0.25380854	2.4705780	20	6 26.6	20.4
379229 2009 SV_{240}	16.1	X	112.91670	198.44174	232.59684	15.55083	0.1961614	0.22404241	2.6848244	20	3 27.5	20.3
379230 2009 SG_{253}	16.6	X	133.48235	47.50546	52.89623	8.35642	0.2158925	0.22663627	2.6642999	20	5 29.2	21.0
379231 2009 SO_{264}	17.5	X	264.41750	312.36846	112.74264	3.95982	0.1762034	0.26216713	2.4177825	20	8 26.1	20.4
379232 2009 SJ_{269}	18.1	X	261.94767	40.81766	15.82993	1.33261	0.1805760	0.25982705	2.4322776	20	8 8.7	21.3
379233 2009 ST_{273}	17.9	X	2.23235	261.15461	45.18824	1.94947	0.1805087	0.26580544	2.3956690	20	9 12.3	19.8
379234 2009 SP_{274}	17.8	X	241.02000	229.90148	181.72240	7.59964	0.0678634	0.25532145	2.4608087	20	7 19.3	21.3
379235 2009 SU_{275}	18.5	X	276.98656	233.88725	132.58718	2.17496	0.1929953	0.25472405	2.4646547	20	6 16.5	21.6
379236 2009 SN_{276}	18.0	X	350.75577	267.09597	34.82703	4.38241	0.1820121	0.26201871	2.4186954	20	8 9.1	19.8
379237 2009 SP_{278}	17.7	X	239.39333	295.06562	132.70550	2.79252	0.1971774	0.25570547	2.4583443	20	7 23.7	21.2
379238 2009 SC_{280}	17.5	X	270.53495	358.79427	39.79942	7.25853	0.1511323	0.25836408	2.4414507	20	8 2.4	20.5
379239 2009 SE_{300}	17.3	X	237.16141	262.56907	148.06185	2.47016	0.1490455	0.24522850	2.5278740	20	7 3.3	20.9
379240 2009 SE_{320}	17.3	X	156.31389	195.50086	237.39793	4.22455	0.1968918	0.22868599	2.6483559	20	5 14.5	21.6
379241 2009 SA_{338}	16.6	X	207.42069	2.63980	7.18742	12.59800	0.2806377	0.23631879	2.5910187	20	4 6.8	21.3
379242 2009 SW_{341}	18.7	X	274.67767	179.39934	170.28089	1.22261	0.2161523	0.25178876	2.4837725	20	5 17.9	22.1
379243 2009 SJ_{349}	16.0	X	85.26631	61.98050	41.73832	22.45806	0.0591792	0.22632699	2.6667266	20	3 30.6	19.8
379244 2009 SW_{349}	16.5	X	182.77819	287.57703	56.97503	9.76323	0.1697840	0.21952021	2.7215713	20	2 24.6	21.1
379245 2009 SZ_{354}	17.5	X	273.02740	282.34427	49.48496	6.99282	0.2947559	0.24486058	2.5304056	20	4 14.3	21.3
379246 2009 SJ_{355}	16.7	X	150.99900	9.40083	44.05748	9.49964	0.0237741	0.22463930	2.6800664	20	4 5.8	20.4
379247 2009 TY_{8}	17.7	X	212.58976	133.45196	206.67731	5.61155	0.2992246	0.23334998	2.6129486	20	3 6.3	22.5
379248 2009 TK_{15}	17.1	X	70.93759	204.07359	74.49916	5.36437	0.1250442	0.27391514	2.3481474	20	11 9.1	20.2
379249 2009 TZ_{17}	16.5	X	208.38133	286.58070	141.30668	13.73041	0.1624686	0.24347449	2.5400001	20	6 25.3	20.7
379250 2009 TR_{18}	17.7	X	320.99842	95.74919	211.04940	6.44017	0.2123708	0.25511936	2.4621080	20	5 30.4	20.1
379251 2009 TW_{19}	17.6	X	322.84241	228.04287	62.95882	1.58488	0.0596783	0.24398453	2.5364590	20	5 30.6	20.7
379252 2009 TA_{38}	17.7	X	266.17232	133.34717	243.40406	6.54747	0.2816328	0.25226643	2.4806362	20	6 4.3	21.2
379253 2009 TG_{38}	16.2	X	189.91359	316.04207	62.27958	18.84615	0.2035111	0.22981979	2.6396384	20	4 14.4	20.9
379254 2009 TT_{39}	16.4	X	228.92901	101.89804	222.15793	12.85542	0.0971584	0.22988098	2.6391699	20	3 4.8	20.6
379255 2009 TH_{43}	16.9	X	135.84000	42.54871	79.67928	4.93742	0.0380210	0.24438511	2.5336866	20	6 15.5	20.3
379256 2009 TZ_{47}	17.9	X	317.72218	141.78117	209.17365	5.82804	0.1417971	0.25970996	2.4330086	20	8 10.2	20.2
379257 2009 UR_{2}	16.7	X	233.42069	4.54549	80.87738	7.16839	0.0890236	0.25780370	2.4449874	20	8 27.8	20.0
379258 2009 UT_{16}	18.6	X	263.13621	195.54456	177.39502	0.61182	0.2845393	0.25215580	2.4813617	20	5 26.8	22.3
379259 2009 UP_{19}	15.9	X	317.72950	294.11474	17.65193	13.93714	0.1141147	0.24641523	2.5197513	20	6 12.8	19.0
379260 2009 UJ_{23}	17.3	X	237.24738	286.81821	168.07138	3.36885	0.1333060	0.26533571	2.3984955	20	9 5.6	20.5
379261 2009 UU_{30}	17.5	X	140.68517	244.55304	213.95349	2.77458	0.2326885	0.23123439	2.6288618	20	6 4.1	21.8
379262 2009 UJ_{44}	16.4	X	354.73922	197.71436	39.26736	8.15345	0.1496245	0.23859632	2.5745039	20	4 29.8	18.9
379263 2009 UZ_{44}	17.0	X	354.52770	174.77618	73.51534	1.76564	0.1395945	0.24155365	2.5534478	20	5 17.5	19.4
379264 2009 UW_{47}	16.4	X	111.51329	240.22756	229.33718	13.60679	0.2635256	0.22524975	2.6752220	20	5 25.8	20.6
379265 2009 UO_{48}	17.8	X	307.40693	121.64463	215.26106	2.21847	0.1897710	0.25556635	2.4592364	20	6 22.8	20.1
379266 2009 UF_{51}	16.6	X	179.19073	119.14940	260.69812	2.65092	0.1096601	0.22767572	2.6561845	20	3 26.5	20.7
379267 2009 UF_{61}	17.9	X	247.35166	320.08226	90.64971	3.33865	0.2023778	0.25423070	2.4678422	20	7 9.2	21.5
379268 2009 UE_{81}	17.8	X	183.16309	52.17637	15.73410	4.56558	0.3083358	0.23738742	2.5832370	20	5 30.1	22.7
379269 2009 UA_{88}	16.6	X	264.57275	69.22972	233.54045	13.96239	0.1029549	0.23259700	2.6185848	20	3 15.6	20.6
379270 2009 UW_{88}	17.2	X	258.79271	1.67166	345.57785	3.42638	0.2730403	0.24481888	2.5306929	20	4 19.8	21.4
379271 2009 UG_{98}	17.2	X	158.24341	260.18278	202.90530	4.57504	0.0778163	0.24024540	2.5627092	20	6 19.5	21.0
379272 2009 UJ_{98}	17.2	X	243.97521	261.46231	103.04236	1.69209	0.0566516	0.24007270	2.5639381	20	5 21.9	20.5
379273 2009 UN_{98}	17.4	X	247.29208	29.40149	54.45780	6.91131	0.0950948	0.25877033	2.4388948	20	9 12.9	20.5
379274 2009 UN_{100}	17.5	X	244.20380	135.61196	190.47373	4.66776	0.3044558	0.23752737	2.5822222	20	3 11.9	22.2
379275 2009 UT_{111}	17.1	X	195.12524	181.61321	241.76240	5.56353	0.1844758	0.23855063	2.5748326	20	6 5.5	21.3
379276 2009 UL_{114}	17.8	X	268.18034	43.80811	28.22136	1.83064	0.1637760	0.26438701	2.4042298	20	9 12.8	20.4
379277 2009 UD_{127}	15.9	X	100.35716	268.72744	238.53455	15.87122	0.1392570	0.23346585	2.6120840	20	6 16.5	19.7
379278 2009 UP_{131}	16.5	X	224.08606	125.09011	284.79551	9.01965	0.0761799	0.24360157	2.5391167	20	6 25.4	20.0
379279 2009 UQ_{138}	17.5	X	181.46106	196.15696	206.13020	3.60236	0.1980052	0.23383657	2.6093225	20	4 28.4	21.9
379280 2009 UP_{146}	16.6	X	286.08632	58.83428	235.04090	8.24925	0.0971383	0.22934547	2.6432766	20	4 3.3	20.2

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	m		°	°	°	°		°				
379281 2009 UU_{146}	16.9	X	250.20570	80.55706	236.08380	11.20322	0.1862312	0.23336345	2.6128481	20	3 9.9	21.3
379282 2009 UX_{146}	16.8	X	299.32790	266.88068	63.79174	5.60047	0.0594146	0.24173956	2.5521384	20	6 19.9	20.0
379283 2009 VF_{1}	16.0	X	115.35077	116.90739	38.45405	13.01222	0.2184403	0.23722413	2.5844222	20	7 26.2	20.4
379284 2009 VZ_{1}	17.0	X	259.84108	21.22701	333.36603	13.47141	0.1837265	0.24486834	2.5303521	20	5 5.4	21.0
379285 2009 VB_{10}	17.2	X	196.91567	20.53842	9.24729	3.22612	0.2907767	0.23466033	2.6032124	20	4 23.9	21.9
379286 2009 VD_{10}	17.6	X	190.26341	48.57953	36.12743	6.59258	0.2294945	0.24040012	2.5616095	20	6 27.1	22.1
379287 2009 VU_{16}	16.7	X	223.28635	254.51452	52.52330	8.02698	0.0378949	0.21435514	2.7651166	20	2 19.6	20.8
379288 2009 VO_{27}	16.8	X	266.17182	266.92194	56.94854	15.28918	0.1287901	0.23690920	2.5867121	20	4 20.4	20.6
379289 2009 VU_{30}	16.6	X	119.92961	231.68142	256.29794	10.49046	0.1378999	0.23306839	2.6150529	20	6 13.9	20.4
379290 2009 VH_{37}	16.9	X	191.60260	346.57314	62.65432	10.09420	0.1217509	0.23529509	2.5985284	20	5 16.9	20.9
379291 2009 VM_{38}	16.8	X	249.89196	90.10965	237.38702	10.21615	0.1512809	0.23433019	2.6056568	20	3 27.2	20.9
379292 2009 VB_{43}	17.6	X	188.52282	183.68960	194.59236	6.59484	0.1988626	0.23018058	2.6368794	20	4 4.9	22.0
379293 2009 VK_{44}	17.6	X	238.81850	223.51977	135.27014	7.04356	0.2690509	0.24254853	2.5464606	20	4 21.6	22.0
379294 2009 VO_{44}	16.0	X	232.58761	308.00203	59.50559	12.52322	0.2093740	0.23375323	2.6099427	20	4 30.8	20.4
379295 2009 VR_{61}	17.1	X	278.56450	82.18020	237.07916	10.50350	0.1843762	0.23961240	2.5672206	20	4 14.2	20.8
379296 2009 VJ_{64}	16.7	X	201.75858	296.85467	89.48419	6.19735	0.2214062	0.23184331	2.6242568	20	4 27.5	21.2
379297 2009 VJ_{68}	15.9	X	261.15296	33.97065	251.43005	14.00208	0.1486714	0.22165640	2.7040572	20	2 14.2	20.3
379298 2009 VO_{70}	17.4	X	119.66346	66.37940	1.16397	2.42864	0.0554975	0.21886275	2.7270189	20	3 17.5	21.1
379299 2009 VF_{71}	16.5	X	288.89465	47.83509	262.25641	7.86068	0.1002412	0.23306430	2.6150834	20	4 28.5	20.1
379300 2009 VL_{71}	16.9	X	149.58364	229.79957	228.63833	6.65782	0.1564631	0.23309958	2.6148196	20	6 7.9	21.1
379301 2009 VH_{72}	17.1	X	235.26417	318.54707	95.61576	8.25766	0.1701015	0.24740607	2.5130192	20	7 3.8	20.7
379302 2009 VB_{76}	17.4	X	227.77680	229.83984	138.77868	2.13499	0.2207008	0.23737137	2.5833534	20	4 25.7	21.6
379303 2009 VQ_{78}	16.1	X	266.33524	253.08363	105.93623	15.89352	0.1564795	0.24383478	2.5374975	20	5 31.9	19.7
379304 2009 VN_{81}	17.0	X	211.95464	125.55863	287.58023	1.88980	0.0677112	0.23897818	2.5717607	20	6 15.5	20.6
379305 2009 VH_{83}	17.3	X	152.77816	134.11507	353.79346	4.36212	0.1320708	0.24250026	2.5467984	20	7 19.4	21.3
379306 2009 VR_{84}	16.7	X	175.52504	28.52961	63.16143	16.69587	0.2555100	0.23597380	2.5935434	20	6 22.5	21.4
379307 2009 VB_{88}	17.6	X	213.79195	66.21457	322.77576	2.53233	0.2428245	0.23702406	2.5858764	20	5 6.3	22.1
379308 2009 VQ_{90}	17.0	X	177.99179	338.88956	18.48131	6.55170	0.0760979	0.21851532	2.7299087	20	2 29.7	21.1
379309 2009 VA_{91}	17.6	X	130.91402	130.78442	5.81135	4.13669	0.0282202	0.23927620	2.5696248	20	6 28.1	21.1
379310 2009 VH_{91}	16.1	X	263.05284	262.37780	66.08759	14.45946	0.2011044	0.23763556	2.5814384	20	4 15.5	20.2
379311 2009 VN_{103}	16.4	X	196.81753	304.94835	75.66116	6.83227	0.0485447	0.21895642	2.7262411	20	4 19.7	20.4
379312 2009 WY_{4}	16.6	X	251.63848	270.74907	36.79709	7.43814	0.1875743	0.22996887	2.6384974	20	3 8.3	20.8
379313 2009 WF_{10}	16.7	X	235.68143	233.66356	162.44323	5.73116	0.2023605	0.24273795	2.5451356	20	6 7.9	20.8
379314 2009 WN_{14}	17.6	X	221.93336	259.79030	128.81200	2.33871	0.1426133	0.23719291	2.5846491	20	5 20.3	21.6
379315 2009 WA_{19}	17.2	X	314.22159	176.75900	110.00367	3.04968	0.1156182	0.23851200	2.5751106	20	5 4.5	20.1
379316 2009 WL_{19}	15.7	X	266.24520	323.61074	255.90641	12.93406	0.1341710	0.20053481	2.8907433	20	—	—
379317 2009 WM_{25}	16.5	X	54.37763	285.14187	90.26845	23.67410	0.3011410	0.28800109	2.2709450	20	—	—
379318 2009 WZ_{27}	17.5	X	229.65428	302.00787	79.09292	0.84718	0.1318193	0.23906098	2.5711668	20	5 18.9	21.4
379319 2009 WA_{28}	16.8	X	154.50308	7.60388	66.59929	5.10653	0.0375043	0.23058002	2.6338332	20	5 6.1	20.4
379320 2009 WS_{32}	17.1	X	71.57636	229.97847	245.36875	1.99989	0.1085680	0.21576381	2.7530683	20	3 22.9	20.4
379321 2009 WT_{34}	17.0	X	158.03915	22.62962	71.52275	5.50690	0.1614596	0.23087390	2.6315977	20	6 10.4	21.0
379322 2009 WC_{36}	16.8	X	291.67216	328.13695	4.19019	4.37519	0.1318613	0.24436760	2.5338076	20	5 29.2	20.0
379323 2009 WW_{39}	16.4	X	294.80545	54.16705	271.27331	4.87393	0.2501168	0.24396159	2.5366180	20	5 4.1	19.6
379324 2009 WZ_{41}	16.8	X	205.46249	344.59674	69.44503	14.85390	0.1571988	0.23705470	2.5856535	20	6 3.8	20.8
379325 2009 WM_{42}	16.4	X	180.04129	325.02044	57.59127	6.74628	0.0413235	0.22149586	2.7053636	20	4 2.6	20.2
379326 2009 WF_{52}	16.2	X	178.36745	324.34518	84.70754	19.37421	0.2796730	0.23127109	2.6285838	20	5 10.9	21.2
379327 2009 WJ_{67}	16.6	X	25.64292	313.28409	201.46203	7.39645	0.1640751	0.21364736	2.7712202	20	3 2.8	19.4
379328 2009 WA_{69}	16.6	X	40.87744	144.00052	62.73669	9.77819	0.0751952	0.23009844	2.6375069	20	6 5.0	19.7
379329 2009 WY_{70}	17.7	X	151.06480	317.26835	182.87869	1.32357	0.1306033	0.24311656	2.5424926	20	8 1.2	21.5
379330 2009 WP_{71}	16.5	X	206.96846	126.94139	234.06884	10.19303	0.0993891	0.22771538	2.6558760	20	3 29.5	20.7
379331 2009 WG_{73}	17.0	X	276.27309	261.84644	83.54490	7.13922	0.0346318	0.24012066	2.5635967	20	6 11.2	20.1
379332 2009 WG_{74}	17.1	X	322.83169	297.13547	90.23209	3.63238	0.1734750	0.26426937	2.4049432	20	10 23.8	19.0
379333 2009 WU_{75}	17.3	X	263.43584	2.36383	91.14695	5.49114	0.1347817	0.26192295	2.4192849	20	10 13.2	20.1
379334 2009 WX_{75}	17.1	X	168.56047	248.32836	224.97660	8.87861	0.1313360	0.24066205	2.5597506	20	7 13.2	21.2
379335 2009 WT_{77}	17.2	X	236.26034	48.76659	285.04074	5.12383	0.0617661	0.22637173	2.6663751	20	3 29.8	21.2
379336 2009 WY_{77}	16.9	X	222.32440	49.33955	314.43317	3.85412	0.0650191	0.23020658	2.6366808	20	4 21.8	20.6
379337 2009 WK_{83}	16.8	X	188.17310	342.01362	39.22493	12.48558	0.0693338	0.22762357	2.6565902	20	4 10.2	20.8
379338 2009 WZ_{83}	17.0	X	260.27767	296.25741	45.34795	17.17860	0.2379797	0.24135579	2.5548431	20	4 21.9	20.9
379339 2009 WS_{85}	17.0	X	250.21253	4.67749	331.54384	4.51116	0.0928658	0.23224614	2.6212214	20	4 15.5	20.8
379340 2009 WY_{87}	17.1	X	192.69055	20.60005	24.36211	5.11510	0.1303713	0.23336692	2.6128222	20	5 10.9	21.3
379341 2009 WT_{89}	16.0	X	324.36691	233.34620	232.55283	12.67303	0.0437553	0.18664824	3.0324020	20	—	—
379342 2009 WN_{92}	17.0	X	327.50314	278.07691	311.92270	6.68657	0.1147092	0.22253843	2.6969074	20	3 5.6	20.3
379343 2009 WO_{92}	17.1	X	185.27988	350.25281	87.48915	14.05457	0.1488662	0.23541432	2.5976510	20	6 15.5	21.2
379344 2009 WA_{93}	16.1	X	164.97321	334.94309	92.55669	15.93779	0.1075882	0.22781011	2.6551398	20	5 16.9	20.3
379345 2009 WC_{101}	16.7	X	333.88943	97.24077	196.54234	3.97570	0.1479768	0.24505467	2.5290693	20	6 14.4	19.1
379346 2009 WS_{101}	16.3	X	80.71610	289.07411	226.11920	12.08172	0.1630097	0.22837127	2.6507884	20	6 6.8	19.9
379347 2009 WQ_{105}	16.3	X	185.93412	11.19214	70.89406	7.18933	0.2872606	0.23269666	2.6178371	20	6 19.0	21.1
379348 2009 WF_{116}	16.8	X	49.74394	269.43152	252.91009	5.30454	0.1370168	0.22339087	2.6900423	20	4 24.9	19.9
379349 2009 WL_{125}	17.0	X	210.63305	84.66901	235.22671	4.10864	0.1678507	0.21928476	2.7235190	20	2 13.0	21.5
379350 2009 WG_{132}	16.8	X	193.94581	17.83681	72.61391	19.84395	0.1613947	0.24187083	2.5512150	20	7 9.7	21.1
379351 2009 WN_{132}	16.3	X	251.71240	126.82603	246.22734	1.52900	0.1830209	0.24132606	2.5550529	20	5 26.7	20.0
379352 2009 WT_{136}	17.4	X	180.37816	116.50892	298.11060	1.64388	0.1076607	0.23409123	2.6074298	20	5 11.3	21.2
379353 2009 WP_{150}	17.2	X	135.71016	292.10991	203.99146	8.21916	0.1078822	0.23974873	2.5662473	20	7 8.3	21.2
379354 2009 WB_{159}	16.9	X	184.03719	180.42016	224.13273	6.88254	0.1792712	0.23048300	2.6345723	20	5 3.1	21.1
379355 2009 WJ_{159}	16.8	X	288.75343	131.37159	210.48251	3.18965	0.1437804	0.24496485	2.5296874	20	6 6.8	19.9
379356 2009 WO_{165}	16.9	X	208.34994	141.62204	265.76088	9.97939	0.0767632	0.23531527	2.5983799	20	6 2.7	20.6
379357 2009 WY_{171}	16.3	X	336.92800	340.87540	276.79106	7.18557	0.1329750	0.23516231	2.5995064	20	4 24.8	19.2
379358 2009 WG_{175}	16.8	X	288.24035	311.18583	319.02044	5.96237	0.1736716	0.22615230	2.6680996	20	2 26.3	20.6
379359 2009 WX_{176}	17.1	X	193.29180	187.63238	222.68192	7.75295	0.1103794	0.23766019	2.5812600	20	5 20.1	21.1
379360 2009 WJ_{180}	17.1	X	219.21716	153.49618	191.68435	2.61140	0.1680229	0.22755515	2.6571227	20	3 22.5	21.2

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379361 2009 WV_{180}	17.0	X	285.57760	152.31770	126.83962	4.34611	0.0450599	0.22343765	2.6896668	20	3 27.1	20.6
379362 2009 WE_{188}	17.5	X	166.58879	238.54679	247.38345	8.65421	0.1162546	0.24547358	2.5261912	20	7 27.2	21.5
379363 2009 WH_{192}	17.5	X	135.45531	51.33080	43.83770	4.57716	0.1303575	0.23039065	2.6352763	20	5 17.9	21.5
379364 2009 WO_{209}	17.5	X	218.58333	100.92832	263.38432	2.17264	0.2022768	0.23137869	2.6277688	20	4 11.9	21.8
379365 2009 WC_{211}	17.2	X	264.78189	219.59114	148.37186	2.38935	0.0499013	0.24230240	2.5481847	20	6 24.2	20.4
379366 2009 WE_{212}	16.3	X	227.54847	151.12223	227.77942	9.02975	0.0961683	0.23613985	2.5923275	20	5 17.0	20.0
379367 2009 WT_{212}	17.3	X	217.39443	71.42882	292.29898	5.14630	0.0578192	0.22815751	2.6524439	20	4 15.8	21.2
379368 2009 WU_{214}	17.5	X	163.58582	36.29901	8.53742	2.19556	0.1274758	0.22566591	2.6719320	20	4 12.9	21.5
379369 2009 WN_{216}	16.2	X	281.02812	308.50420	7.45220	8.90821	0.1707317	0.23906889	2.5711101	20	4 15.3	19.7
379370 2009 WX_{242}	16.9	X	51.62909	35.96687	165.84378	2.66801	0.1297342	0.23188946	2.6239087	20	6 23.8	20.0
379371 2009 WA_{248}	17.6	X	213.11389	324.46371	102.63409	5.17721	0.2048539	0.24227325	2.5483891	20	6 25.5	21.7
379372 2009 WA_{250}	17.3	X	189.15904	36.36813	70.26594	13.18396	0.1361166	0.24281749	2.5445798	20	7 30.0	21.4
379373 2009 WS_{253}	17.6	X	245.34469	298.34960	30.65398	4.67310	0.3157586	0.23632909	2.5909434	20	3 17.7	22.2
379374 2009 WV_{255}	16.7	X	99.25220	51.80720	80.37809	14.15885	0.2178558	0.22277122	2.6950283	20	6 6.4	20.7
379375 2009 WW_{259}	16.3	X	69.99807	41.77602	77.70399	12.94672	0.1094258	0.21490620	2.7603878	20	4 3.8	20.0
379376 2009 WR_{261}	16.0	X	97.41543	143.56288	290.69622	7.66677	0.0583670	0.21351924	2.7723286	20	2 24.7	19.8
379377 2009 WZ_{261}	16.3	X	196.59131	338.67695	79.44165	15.44065	0.1689962	0.23269105	2.6178791	20	6 1.3	20.4
379378 2009 WT_{262}	16.6	X	254.82900	332.39119	92.97059	15.12217	0.0292216	0.24380232	2.5377227	20	9 9.5	20.2
379379 2009 XT_{3}	17.2	X	167.02583	49.69107	71.65103	13.03240	0.2163804	0.24012285	2.5635811	20	7 26.1	21.7
379380 2009 XF_{4}	16.9	X	91.96646	22.73670	81.48775	12.81885	0.0995016	0.21839628	2.7309006	20	4 11.9	20.8
379381 2009 XN_{10}	16.2	X	277.01293	8.73152	254.30787	6.22873	0.1071273	0.21529904	2.7570289	20	2 12.9	20.2
379382 2009 XP_{12}	17.2	X	171.98468	29.22182	57.82374	4.34190	0.2014433	0.23644137	2.5901231	20	6 14.7	21.5
379383 2009 XX_{13}	17.1	X	30.74744	134.49637	32.48768	5.04660	0.0494338	0.21876772	2.7278086	20	3 26.7	20.5
379384 2009 XC_{15}	17.0	X	208.45900	73.42391	296.22423	5.27664	0.0483475	0.22010295	2.7167654	20	4 13.7	21.0
379385 2009 XB_{17}	16.8	X	102.33691	31.00372	113.78474	5.08930	0.2083683	0.22173247	2.7034386	20	6 24.6	20.9
379386 2009 XV_{19}	17.1	X	46.00607	155.22880	306.51655	1.91702	0.1348360	0.19919375	2.9037034	20	1 31.2	20.5
379387 2009 YM_{5}	16.4	X	2.90577	108.28990	107.39154	4.13955	0.0293504	0.21573642	2.7533013	20	4 21.1	19.9
379388 2009 YR_{5}	17.2	X	120.49584	124.67110	341.86675	1.24362	0.2048648	0.22001608	2.7174805	20	5 24.3	21.4
379389 2009 YD_{6}	16.9	X	107.10308	9.54459	105.05179	4.66140	0.1521173	0.21778356	2.7360203	20	5 16.1	20.8
379390 2009 YE_{6}	17.2	X	189.27641	91.14054	28.20760	5.80341	0.2866736	0.23465576	2.6032462	20	8 8.5	22.0
379391 2009 YR_{9}	16.7	X	88.07677	272.30309	230.62437	4.35472	0.1176463	0.21994832	2.7180386	20	5 24.1	20.2
379392 2009 YB_{10}	16.7	X	288.36171	347.86034	297.30575	3.30322	0.0356395	0.21524875	2.7574583	20	4 5.8	20.5
379393 2009 YR_{10}	17.1	X	132.51436	111.10832	263.84239	6.37707	0.2410059	0.21486273	2.7607600	20	2 14.9	21.5
379394 2009 YV_{12}	16.2	X	136.18348	181.79201	272.63135	6.08186	0.0663863	0.22222040	2.6994799	20	5 11.1	20.0
379395 2009 YZ_{13}	17.3	X	109.07703	50.90598	19.11312	3.62161	0.0792642	0.20916359	2.8106838	20	3 12.7	21.0
379396 2009 YM_{20}	16.4	X	100.91674	43.87771	88.08054	10.37459	0.0348278	0.22211562	2.7003288	20	5 16.1	20.1
379397 2009 YY_{20}	16.6	X	121.28128	2.36536	68.54623	6.06789	0.0300821	0.21159777	2.7890865	20	3 24.1	20.5
379398 2010 AU_{2}	16.1	X	134.05451	153.82772	308.51728	11.00801	0.0761424	0.22165354	2.7040804	20	5 18.5	20.3
379399 2010 AZ_{3}	16.7	X	176.86330	117.55225	314.54989	10.73110	0.1807397	0.22922228	2.6442235	20	5 29.7	21.3
379400 2010 AG_{8}	16.3	X	78.11589	58.62992	73.58868	7.57891	0.0204767	0.21661914	2.7458164	20	4 14.9	20.0
379401 2010 AH_{8}	16.5	X	134.39211	346.45772	67.83996	6.79444	0.1011425	0.21355478	2.7720210	20	3 27.5	20.6
379402 2010 AL_{8}	16.2	X	66.67609	118.63801	311.07809	11.07473	0.0253035	0.19774183	2.9178997	20	1 12.7	20.1
379403 2010 AA_{10}	16.8	X	178.41641	132.38105	308.86405	11.76846	0.2892608	0.23166686	2.6255892	20	6 12.9	21.7
379404 2010 AH_{23}	15.6	X	277.49243	274.55507	289.06349	8.03152	0.0105238	0.18845612	3.0129775	20	—	—
379405 2010 AU_{32}	15.9	X	329.58412	42.06688	106.34529	10.45329	0.0741307	0.18769547	3.0211122	20	—	—
379406 2010 AY_{40}	16.5	X	97.15317	359.12446	122.62590	10.84260	0.1549856	0.21328635	2.7743463	20	5 16.6	20.6
379407 2010 AX_{41}	16.0	X	28.82470	234.63446	267.20768	7.86282	0.2399457	0.20120872	2.8842851	20	2 23.7	18.7
379408 2010 AA_{42}	17.1	X	192.64394	310.68542	125.12591	7.19076	0.3218537	0.23495442	2.6010396	20	6 16.1	22.0
379409 2010 AD_{43}	16.5	X	157.03820	317.72144	81.97002	8.34738	0.1848013	0.21765777	2.7370744	20	4 8.3	21.1
379410 2010 AP_{50}	15.9	X	349.69877	295.03359	254.70620	4.83697	0.1466779	0.19921811	2.9034666	20	2 16.0	19.3
379411 2010 AW_{56}	16.8	X	184.32505	354.62783	65.92855	7.10142	0.2103490	0.23060820	2.6336187	20	5 23.3	21.1
379412 2010 AO_{59}	16.2	X	111.77044	3.13291	99.27379	12.49688	0.2177168	0.21592745	2.7516771	20	5 15.8	20.6
379413 2010 AA_{61}	16.4	X	77.88317	307.69274	159.09257	8.08573	0.1858055	0.20972226	2.8056901	20	4 5.2	20.0
379414 2010 AU_{67}	16.5	X	140.59002	305.84913	97.06671	5.82311	0.0820713	0.21504387	2.7592094	20	3 17.6	20.5
379415 2010 AB_{71}	17.3	X	159.22023	253.55640	218.30526	3.19668	0.2143774	0.23052357	2.6342632	20	7 4.9	21.8
379416 2010 AV_{73}	16.2	X	65.52850	12.85012	103.56155	11.38734	0.0559091	0.21213790	2.7843503	20	3 15.3	20.0
379417 2010 AY_{73}	15.6	X	310.98280	168.32651	313.22603	14.76660	0.0699558	0.17720219	3.1392314	20	—	—
379418 2010 AE_{74}	15.6	X	310.16230	222.28049	321.70913	12.02375	0.0554711	0.18916163	3.0054813	20	1 2.0	19.9
379419 2010 AD_{75}	16.4	X	152.28048	318.54488	93.59090	10.29468	0.1751912	0.22007586	2.7169884	20	4 19.3	20.9
379420 2010 AP_{75}	16.2	X	135.32775	206.65551	248.98147	10.68009	0.1517337	0.22209773	2.7004738	20	5 20.4	20.5
379421 2010 AF_{77}	16.1	X	110.26375	174.44159	281.71105	16.68257	0.0977036	0.21444075	2.7643806	20	4 9.7	20.5
379422 2010 AW_{77}	16.4	X	127.73164	32.15559	62.05134	9.44416	0.1738272	0.22036375	2.7146214	20	5 13.9	20.5
379423 2010 AB_{122}	15.2	X	338.63714	69.80166	79.17185	14.13072	0.1359322	0.17795637	3.1303557	20	—	—
379424 2010 BW	16.9	X	193.81754	259.60787	104.51866	5.40477	0.0834565	0.21332999	2.7739679	20	3 26.8	21.1
379425 2010 BK_{6}	14.7	X	283.93887	287.00669	282.76210	24.69102	0.1794090	0.17802583	3.1295415	20	—	—
379426 2010 BF_{10}	15.0	X	49.67319	265.36491	73.35851	10.38726	0.0711998	0.14645431	3.5645218	20	11 25.2	20.0
379427 2010 BV_{93}	15.4	X	6.55098	353.68163	115.96670	30.14324	0.1917304	0.17481905	3.1676964	20	—	—
379428 2010 CL_{5}	16.4	X	133.16081	356.42558	92.23559	4.88523	0.0654881	0.21364803	2.7712144	20	5 3.1	20.3
379429 2010 CK_{11}	15.9	X	26.41360	61.01076	64.50422	20.98334	0.1972262	0.18219222	3.0816466	20	2 10.2	19.6
379430 2010 CF_{18}	16.6	X	9.56695	37.33044	96.58308	9.90364	0.0608154	0.19001293	2.9964977	20	1 17.1	20.5
379431 2010 CU_{25}	16.4	X	286.01082	233.78876	321.36488	2.99124	0.1049401	0.18445528	3.0563892	20	—	—
379432 2010 CB_{26}	16.9	X	75.60184	314.15197	154.29470	2.49660	0.0505459	0.20488050	2.8497207	20	3 13.9	20.5
379433 2010 CS_{34}	15.7	X	320.77556	36.90382	122.25127	8.16604	0.1048151	0.18097385	3.0954621	20	—	—
379434 2010 CH_{35}	15.9	X	324.32582	8.27993	126.80353	11.64780	0.0246022	0.17495313	3.1660778	20	—	—
379435 2010 CX_{41}	15.2	X	209.37654	282.75213	319.61676	15.59047	0.0909931	0.17478723	3.1680808	20	—	—
379436 2010 CK_{43}	15.8	X	22.62449	6.50381	73.41213	13.68499	0.1216332	0.18792774	3.0186224	20	—	—
379437 2010 CD_{53}	16.1	X	221.56582	255.28891	107.35009	14.36334	0.0489295	0.23074702	2.6325622	20	4 29.2	20.1
379438 2010 CE_{57}	15.7	X	249.66022	19.24749	199.08733	0.30083	0.1244089	0.17606993	3.1526754	20	—	—
379439 2010 CH_{61}	16.7	X	115.47790	144.24942	340.47633	15.40371	0.2820459	0.22051242	2.7134012	20	6 19.2	21.5
379440 2010 CW_{67}	16.5	X	83.18656	124.18245	314.28527	7.45861	0.1499654	0.19885512	2.9069989	20	2 27.7	20.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379441 2010 CV_{70}	15.6	X	192.46686	282.48263	308.74065	9.05184	0.0766434	0.17199857	3.2022323	20	12 25.5	20.5
379442 2010 CD_{80}	16.8	X	52.19639	65.97292	38.26218	1.09699	0.1015438	0.19255006	2.9701174	20	2 12.1	20.3
379443 2010 CV_{80}	15.5	X	169.32629	256.55449	341.61546	11.54757	0.0419499	0.15933690	3.3697044	20	12 6.9	20.7
379444 2010 CE_{81}	15.9	X	74.35214	164.40446	227.78189	1.42320	0.0299057	0.17784475	3.1316654	20	—	—
379445 2010 CX_{81}	16.5	X	7.95263	336.15027	140.45178	0.67938	0.1367201	0.18233558	3.0800311	20	—	—
379446 2010 CK_{85}	16.5	X	350.77534	342.91153	153.96554	11.52041	0.1828216	0.18563169	3.0434627	20	—	—
379447 2010 CZ_{92}	16.5	X	315.40345	124.96307	53.80840	2.17697	0.1209260	0.18263171	3.0767008	20	—	—
379448 2010 CM_{95}	16.6	X	320.49482	308.07207	205.43283	0.52794	0.0850630	0.18261140	3.0769289	20	—	—
379449 2010 CN_{98}	16.6	X	356.69769	180.35579	323.73193	6.34695	0.0997248	0.19052038	2.9911745	20	1 8.8	20.4
379450 2010 CY_{98}	16.7	X	311.59698	158.49150	18.34024	3.30855	0.0386446	0.18097545	3.0954439	20	—	—
379451 2010 CV_{100}	17.2	X	144.08956	304.52724	109.44333	2.84282	0.2217672	0.21266045	2.7797873	20	4 14.1	21.7
379452 2010 CD_{114}	16.6	X	277.20393	120.17834	83.53885	2.65154	0.1168858	0.18117637	3.0931550	20	—	—
379453 2010 CH_{117}	16.3	X	34.07165	124.72776	332.35370	8.78311	0.1263177	0.18566292	3.0431213	20	1 9.2	20.0
379454 2010 CG_{118}	16.6	X	109.64641	96.26238	348.56406	3.82017	0.0354632	0.21020111	2.8014274	20	3 24.2	20.3
379455 2010 CP_{141}	16.7	X	39.16017	17.84157	123.41231	2.43345	0.1684577	0.19717116	2.9235271	20	3 16.5	19.8
379456 2010 CW_{144}	15.4	X	298.66509	222.63053	286.69699	12.89554	0.0855242	0.17330860	3.1860748	20	—	—
379457 2010 CD_{155}	16.3	X	80.82351	16.26794	27.07575	3.07173	0.0499402	0.18371285	3.0646180	20	1 3.0	20.4
379458 2010 CG_{156}	15.5	X	358.25961	136.61760	347.93018	16.28865	0.0417600	0.18222084	3.0813239	20	—	—
379459 2010 CH_{157}	16.5	X	31.02318	99.83063	2.90354	9.30562	0.0766251	0.18522120	3.0479576	20	1 11.1	20.5
379460 2010 CS_{159}	16.7	X	358.29076	331.08286	188.92509	4.33385	0.1954519	0.18901169	3.0070705	20	1 20.9	20.1
379461 2010 CP_{161}	17.0	X	81.69507	320.31687	147.65826	1.50612	0.1367767	0.20565686	2.8425444	20	4 3.3	20.6
379462 2010 CG_{165}	16.3	X	308.95908	343.31242	158.92383	10.99175	0.0672002	0.17517109	3.1634509	20	—	—
379463 2010 CK_{172}	16.5	X	8.74200	128.31144	344.30934	8.98335	0.1646837	0.18162787	3.0880268	20	—	—
379464 2010 CA_{177}	16.7	X	335.23582	292.63219	215.50366	1.50744	0.0916696	0.18368389	3.0649401	20	—	—
379465 2010 CE_{177}	15.7	X	149.19556	150.09074	159.59510	8.61770	0.0353852	0.17622667	3.1508058	20	—	—
379466 2010 CJ_{183}	16.2	X	323.01234	149.17155	5.61842	9.41848	0.0556305	0.17699405	3.1416920	20	—	—
379467 2010 CV_{183}	15.6	X	56.16394	59.44094	28.79631	15.55724	0.0402974	0.18577741	3.0418709	20	1 29.6	20.0
379468 2010 CC_{185}	16.2	X	18.22553	253.08991	162.80537	9.82679	0.0898415	0.17405782	3.1769255	20	—	—
379469 2010 CM_{185}	16.1	X	174.55226	185.36788	124.85751	5.22619	0.0412829	0.18413931	3.0598846	20	—	—
379470 2010 DQ_{4}	16.6	X	119.19968	96.10188	323.46539	8.14623	0.1462865	0.20669078	2.8330570	20	3 16.8	20.8
379471 2010 DG_{34}	16.0	X	340.69580	108.17543	57.23306	26.84646	0.2278819	0.17761558	3.1343586	20	—	—
379472 2010 DT_{40}	16.3	X	100.33774	223.12304	168.64800	9.93010	0.1074361	0.18873638	3.0099940	20	1 19.1	20.6
379473 2010 DC_{42}	16.6	X	355.97786	15.31708	135.25587	5.79220	0.0827202	0.19295216	2.9659895	20	1 15.7	20.3
379474 2010 DA_{47}	16.1	X	224.34446	72.10278	177.03757	11.68690	0.0534341	0.17466114	3.1696053	20	—	—
379475 2010 DB_{47}	15.9	X	66.80905	68.55939	338.95939	8.53194	0.1006379	0.17907269	3.1173326	20	—	—
379476 2010 DU_{76}	15.9	X	141.17062	332.87248	106.35981	9.44641	0.1633656	0.21455334	2.7634134	20	5 10.1	20.4
379477 2010 DE_{79}	16.1	X	303.30452	335.74814	176.77200	4.99394	0.1681972	0.17383491	3.1796407	20	—	—
379478 2010 DE_{86}	16.5	X	290.45415	147.05427	146.75974	5.96227	0.0467383	0.22790017	2.6544402	20	4 21.8	20.0
379479 2010 EH_{10}	16.9	X	180.26266	157.24183	269.28685	7.87000	0.1371762	0.23290880	2.6162473	20	5 26.7	21.1
379480 2010 EQ_{35}	16.2	X	5.84819	296.78918	172.39788	9.13493	0.0467059	0.17958603	3.1113892	20	—	—
379481 2010 ET_{45}	15.9	X	336.66325	130.34139	15.06256	11.39644	0.0942391	0.17985720	3.1082611	20	—	—
379482 2010 EZ_{77}	16.2	X	118.02695	319.98217	65.41132	3.94181	0.0529405	0.18531086	3.0469744	20	1 28.1	20.5
379483 2010 EP_{91}	16.1	X	29.62778	262.92741	162.18097	10.11428	0.1013294	0.17801907	3.1296207	20	—	—
379484 2010 EB_{98}	15.8	X	218.53422	228.24285	22.00785	9.27535	0.0472678	0.17398835	3.1777711	20	—	—
379485 2010 EL_{98}	16.4	X	318.40040	47.80536	139.14999	5.85300	0.0852812	0.18049997	3.1008776	20	1 11.4	20.7
379486 2010 EB_{106}	15.8	X	163.34652	357.64561	113.12757	15.13568	0.1464276	0.22205342	2.7008330	20	7 6.2	20.1
379487 2010 ED_{107}	16.1	X	346.85679	93.28422	14.27784	15.76938	0.0987830	0.17466439	3.1695660	20	—	—
379488 2010 EK_{107}	16.1	X	312.70135	315.91502	197.60690	1.58764	0.1332794	0.17165586	3.2064929	20	—	—
379489 2010 EZ_{107}	16.3	X	12.76908	300.85180	190.01770	15.32905	0.2738659	0.18522222	3.0479465	20	1 4.5	19.4
379490 2010 EB_{112}	16.3	X	31.08930	38.68549	29.87969	4.95366	0.1301114	0.17678315	3.1441902	20	—	—
379491 2010 EQ_{127}	16.1	X	326.44489	131.07921	353.49167	13.22102	0.1280551	0.17165080	3.2065560	20	—	—
379492 2010 EH_{139}	16.0	X	282.86153	167.84806	12.15503	9.13076	0.0588527	0.17307888	3.1888934	20	—	—
379493 2010 ER_{139}	16.6	X	342.34777	93.07367	41.35164	0.74225	0.1326501	0.17628972	3.1500545	20	—	—
379494 2010 EK_{141}	16.4	X	88.53513	262.53812	155.75837	3.15258	0.1098837	0.18737993	3.0245028	20	2 6.9	20.5
379495 2010 EN_{143}	15.6	X	310.86477	289.47233	266.66002	13.42867	0.2219474	0.18064343	3.0992357	20	—	—
379496 2010 ER_{143}	16.4	X	333.10893	113.92483	49.99754	14.21428	0.2475494	0.18108875	3.0941526	20	—	—
379497 2010 FN_{21}	15.4	X	135.32205	76.67422	160.46312	10.40265	0.0253828	0.14696536	3.5562537	20	10 31.9	20.6
379498 2010 FZ_{30}	16.0	X	344.80977	110.07264	26.05893	18.75621	0.1142481	0.17527668	3.1621802	20	—	—
379499 2010 FE_{53}	16.3	X	206.93986	28.34734	31.50819	11.88743	0.1867821	0.23606041	2.5929090	20	6 9.8	20.7
379500 2010 FU_{56}	15.8	X	353.71739	9.20179	145.20131	9.92690	0.0796903	0.18437593	3.0572661	20	1 18.8	19.8
379501 2010 FR_{87}	15.8	X	352.35901	253.47314	213.40187	12.58268	0.0878926	0.16999279	3.2273722	20	—	—
379502 2010 FW_{91}	16.3	X	2.26397	168.11586	345.38430	4.77162	0.1705902	0.18642082	3.0348678	20	1 24.9	19.6
379503 2010 FM_{101}	15.5	X	349.23328	86.43754	47.60755	16.98863	0.1614384	0.17765067	3.1339459	20	—	—
379504 2010 GB_{74}	16.3	X	81.90278	287.61871	214.13293	30.33929	0.3487144	0.21502360	2.7593829	20	6 12.9	21.0
379505 2010 GX_{99}	15.8	X	306.46695	151.55614	25.70264	9.81704	0.0622172	0.17612509	3.1520171	20	—	—
379506 2010 GN_{105}	15.7	X	40.61544	67.58510	59.55675	16.82860	0.1791164	0.18647998	3.0342259	20	3 12.1	19.5
379507 2010 GL_{135}	17.0	X	41.87320	85.66879	42.17790	5.66936	0.2142201	0.19184108	2.9774306	20	3 10.7	20.1
379508 2010 GU_{157}	16.1	X	345.98718	113.83506	37.45048	11.03083	0.1845344	0.17914911	3.1164460	20	—	—
379509 2010 GC_{159}	15.2	X	250.38001	318.38379	246.54341	16.81789	0.1977864	0.16831814	3.2487435	20	—	—
379510 2010 GC_{161}	16.1	X	11.50985	315.78359	165.06260	11.70444	0.1961740	0.17876518	3.1209065	20	—	—
379511 2010 HC_{1}	13.5	X	238.48766	134.16334	231.74871	10.89638	0.0830262	0.08276256	5.2149095	20	5 16.4	20.6
379512 2010 HJ_{63}	15.2	X	335.41617	142.79864	64.48489	14.61945	0.2152865	0.19770123	2.9182991	20	2 14.8	18.9
379513 2010 JG_{35}	15.7	X	8.75289	90.49697	44.66915	23.20277	0.1575647	0.17942756	3.1132209	20	1 17.7	19.8
379514 2010 JW_{78}	18.3	X	252.28050	303.70458	60.50762	22.60108	0.0930225	0.39635845	1.8354560	20	5 24.9	19.8
379515 2010 JD_{113}	16.1	X	340.47692	269.18156	240.43660	8.68333	0.2011269	0.17664448	3.1458354	20	—	—
379516 2010 LM_{6}	15.7	X	283.24255	129.63144	47.98205	9.99156	0.0707886	0.17397503	3.1779332	20	—	—
379517 2010 LH_{33}	15.4	X	26.71502	351.67836	101.84136	23.63662	0.0877719	0.18030524	3.1031099	20	—	—
379518 2010 LB_{49}	15.9	X	250.09255	256.60676	112.28258	9.38388	0.1130010	0.17655110	3.1469446	20	5 29.9	20.7
379519 2010 LS_{68}	17.3	X	236.59497	143.49838	190.98512	8.24908	0.2373716	0.26606654	2.3941014	20	3 18.1	21.3
379520 2010 OS_{23}	17.0	X	104.81994	206.78018	81.21627	13.72354	0.4992683	0.22347159	2.6893945	20	12 28.4	22.5

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379521 2010 OR_{86}	15.4	X	306.66246	295.05241	248.46423	17.61465	0.1193743	0.17290804	3.1909936	20	—	—
379522 2010 UV_{4}	16.9	X	178.27271	301.49302	359.91679	3.61734	0.2262553	0.23518118	2.5993675	20	—	—
379523 2010 UY_{66}	18.1	X	34.51357	302.99811	73.02838	3.52062	0.1524090	0.31401696	2.1437163	20	—	—
379524 2010 UP_{76}	17.5	X	47.19067	57.36329	274.47877	5.42014	0.1799248	0.30646592	2.1787861	20	—	—
379525 2010 UC_{93}	17.8	X	48.79680	57.06554	279.25943	5.00486	0.2012951	0.30838858	2.1697208	20	—	—
379526 2010 UH_{104}	18.3	X	114.13435	199.96494	65.97566	7.50981	0.1758648	0.30601214	2.1809395	20	12 13.4	21.7
379527 2010 US_{106}	16.0	X	124.07939	156.28064	325.76244	29.55472	0.0878515	0.24003461	2.5642093	20	6 4.3	20.4
379528 2010 VW_{23}	18.0	X	283.03728	134.35719	37.16727	0.75172	0.0278075	0.31945184	2.1193326	20	—	—
379529 2010 VM_{71}	17.6	X	93.56318	135.64936	124.10863	6.05306	0.0923540	0.28867293	2.2674202	20	11 10.7	20.7
379530 2010 VL_{112}	17.7	X	37.08216	141.04596	224.12772	5.64750	0.1428077	0.30891543	2.1672532	20	—	—
379531 2010 WP_{10}	14.5	X	250.56598	329.21819	128.70379	2.58146	0.0723013	0.08156049	5.2660241	20	9 12.3	21.5
379532 2010 WW_{45}	18.0	X	249.76340	296.56765	237.22756	0.98769	0.0143639	0.30853804	2.1690201	20	—	—
379533 2010 WV_{55}	17.7	X	6.48377	120.27513	280.81372	6.70519	0.1486940	0.30175131	2.2014219	20	—	—
379534 2010 WO_{58}	18.4	X	29.51898	260.93427	135.66486	0.73886	0.1200049	0.31226509	2.1517266	20	—	—
379535 2010 WS_{60}	17.6	X	180.41988	107.03001	77.59696	2.59527	0.0930502	0.28907415	2.2653217	20	11 6.8	20.7
379536 2010 WP_{63}	18.0	X	284.23701	59.06432	77.13707	3.37250	0.0486629	0.30640352	2.1790819	20	—	—
379537 2010 WT_{72}	17.8	X	110.32178	161.85769	150.32946	1.74596	0.1006629	0.31324284	2.1472467	20	—	—
379538 2010 XP_{15}	18.1	X	5.86273	282.25522	149.38132	1.73576	0.0571586	0.31040141	2.1603308	20	—	—
379539 2010 XA_{48}	17.8	X	186.60031	122.97304	93.36572	4.07199	0.1593971	0.30771408	2.1728903	20	12 21.9	20.6
379540 2010 XW_{62}	17.6	X	340.69528	353.20522	82.38011	8.09024	0.0845181	0.30315579	2.1946173	20	—	—
379541 2011 AN	18.4	X	251.14642	25.04050	83.95708	1.22543	0.1590063	0.28284338	2.2984693	20	10 14.2	21.0
379542 2011 AQ_{3}	17.6	X	137.73374	286.00451	260.62298	4.91498	0.1173775	0.27700043	2.3306787	20	9 17.8	21.2
379543 2011 AZ_{7}	17.9	X	178.69446	241.05618	274.29719	1.22850	0.1470327	0.27232958	2.3572529	20	9 19.7	21.3
379544 2011 AQ_{14}	17.4	X	23.08550	303.24941	79.00362	6.05232	0.1637358	0.29967485	2.2115793	20	—	—
379545 2011 AC_{15}	16.5	X	15.28109	143.73230	45.19447	8.24937	0.1361373	0.22148193	2.7054770	20	4 4.3	19.3
379546 2011 AJ_{15}	15.5	X	341.89844	283.32046	103.37707	23.70377	0.0862800	0.18435667	3.0574789	20	11 11.8	19.8
379547 2011 AR_{19}	17.1	X	143.95159	256.20998	281.62970	6.02816	0.0625576	0.26453196	2.4033514	20	9 9.8	20.5
379548 2011 AN_{21}	17.1	X	37.11626	246.09174	321.98432	9.18244	0.0378112	0.24520208	2.5280556	20	5 26.3	20.4
379549 2011 AT_{21}	17.7	X	279.49633	2.56729	94.78111	3.66825	0.1231366	0.28691749	2.2766593	20	11 21.3	19.7
379550 2011 AE_{24}	17.4	X	149.29678	175.95878	327.13707	3.98613	0.1534299	0.25902872	2.4372726	20	8 5.7	21.2
379551 2011 AN_{24}	16.8	X	109.38699	157.55922	96.71311	6.59873	0.1365322	0.28193865	2.3033838	20	11 20.9	20.2
379552 2011 AT_{32}	18.0	X	305.63595	261.67571	168.29527	4.86708	0.1040167	0.28790342	2.2714586	20	11 30.9	20.1
379553 2011 AU_{34}	18.1	X	286.69800	270.06028	201.12501	4.66168	0.1210234	0.29301774	2.2449505	20	12 27.7	20.0
379554 2011 AR_{41}	16.7	X	290.10007	168.11224	87.27584	9.99578	0.2105895	0.22467282	2.6797999	20	2 9.2	20.8
379555 2011 AU_{44}	18.1	X	294.65325	140.12553	330.20577	2.42898	0.0887140	0.29284932	2.2458112	20	—	—
379556 2011 AA_{47}	17.5	X	244.29768	213.08892	292.33597	4.66789	0.1021531	0.28527526	2.2853882	20	12 3.7	20.1
379557 2011 AR_{53}	17.8	X	302.39173	135.28062	325.31499	6.20178	0.1389549	0.29750526	2.2223184	20	—	—
379558 2011 AL_{56}	16.6	X	281.95111	353.87128	310.86516	8.40918	0.1570350	0.23885382	2.5726533	20	3 31.8	20.4
379559 2011 AF_{57}	17.8	X	122.25561	114.75026	96.85723	2.36766	0.1415110	0.26823886	2.3811582	20	10 8.3	21.3
379560 2011 AL_{66}	17.3	X	187.22699	212.29623	315.54835	4.85022	0.0749739	0.27574619	2.3377408	20	10 19.7	20.5
379561 2011 AR_{66}	18.5	X	217.89979	177.91368	311.01271	0.94473	0.1224729	0.27473719	2.3434611	20	9 30.6	21.5
379562 2011 AK_{69}	17.5	X	102.07567	250.81295	312.77434	2.74403	0.1646333	0.26011719	2.4304686	20	9 6.1	21.2
379563 2011 AJ_{72}	17.4	X	131.05314	156.31725	354.91811	3.24869	0.1147243	0.25824398	2.4422076	20	7 27.2	21.0
379564 2011 AE_{78}	16.9	X	204.12459	2.35167	119.77620	12.79160	0.1764569	0.26829168	2.3808457	20	9 3.4	20.6
379565 2011 AS_{79}	18.2	X	217.59428	168.93531	346.55503	1.43270	0.0872865	0.28235579	2.3011146	20	11 11.6	21.0
379566 2011 BA_{2}	17.7	X	165.94605	219.39941	327.74621	1.63787	0.1372566	0.27537730	2.3398281	20	10 18.9	21.1
379567 2011 BC_{3}	18.2	X	256.82951	50.06807	59.69968	3.60261	0.1163668	0.28546522	2.2843742	20	11 1.0	20.5
379568 2011 BL_{4}	16.8	X	321.30422	130.74254	121.50130	12.94224	0.1504081	0.23434932	2.6055150	20	3 27.9	20.1
379569 2011 BK_{8}	18.3	X	202.77316	111.48922	34.24956	0.83354	0.1438342	0.27570817	2.3379558	20	10 3.8	21.6
379570 2011 BY_{14}	17.8	X	265.00079	89.28875	44.07053	6.80412	0.0983822	0.29178923	2.2512473	20	12 22.8	20.1
379571 2011 BH_{25}	17.4	X	145.32374	118.46744	46.46193	1.70943	0.1381347	0.26191390	2.4193406	20	8 30.6	21.0
379572 2011 BD_{32}	18.0	X	273.83835	154.37401	273.17114	3.39415	0.1987675	0.27930800	2.3178241	20	9 9.0	20.3
379573 2011 BB_{33}	17.3	X	140.27871	220.20105	310.77530	2.31705	0.0945222	0.26133434	2.4229162	20	8 30.6	20.7
379574 2011 BW_{37}	16.1	X	70.98869	192.80434	341.75533	13.03911	0.1013305	0.23578719	2.5949116	20	6 8.7	19.7
379575 2011 BD_{43}	16.9	X	355.82345	151.17314	61.47832	9.43276	0.1133396	0.22873224	2.6479988	20	4 4.1	19.9
379576 2011 BP_{45}	17.8	X	248.98952	113.31745	1.51608	4.11381	0.1428489	0.28038482	2.3118859	20	10 19.8	20.3
379577 2011 BV_{50}	17.2	X	168.13547	327.54201	189.96059	4.80768	0.1535683	0.26538865	2.3981766	20	9 10.9	20.9
379578 2011 BS_{52}	17.6	X	167.61031	132.70218	48.93261	5.33255	0.1137959	0.27274002	2.3548874	20	10 16.3	21.1
379579 2011 BM_{54}	17.7	X	131.81125	146.78515	71.37475	5.69106	0.0372831	0.27422210	2.3463948	20	10 25.8	20.8
379580 2011 BD_{63}	16.5	X	197.40362	197.85484	158.95629	6.86123	0.0451898	0.22321323	2.6914693	20	3 19.1	20.3
379581 2011 BC_{67}	18.0	X	291.81719	204.33127	235.47995	1.54337	0.1479140	0.28523460	2.2856054	20	11 14.5	19.9
379582 2011 BM_{68}	17.9	X	236.92900	9.81089	144.12133	3.64791	0.1198695	0.28460392	2.2889807	20	12 2.8	20.5
379583 2011 BY_{71}	17.0	X	316.60364	63.22162	211.60521	3.80610	0.0948327	0.23407731	2.6075332	20	4 23.4	20.0
379584 2011 BO_{80}	17.5	X	171.91829	165.23151	16.86629	2.44473	0.1268712	0.27427538	2.3460909	20	10 19.3	20.8
379585 2011 BF_{83}	16.8	X	55.35504	84.95354	105.16102	5.48685	0.0586969	0.23923921	2.5698896	20	6 2.9	19.9
379586 2011 BG_{84}	18.0	X	336.49235	309.84648	113.57020	2.56674	0.1425019	0.29360926	2.2419343	20	—	—
379587 2011 BE_{100}	17.4	X	145.31076	286.25234	209.42034	5.73826	0.0842732	0.25168856	2.4844317	20	7 17.7	21.1
379588 2011 BO_{114}	17.6	X	266.49527	164.71003	278.05271	3.71196	0.0893260	0.27937949	2.3174286	20	10 8.1	20.1
379589 2011 BT_{115}	16.5	X	279.14195	161.62272	119.02057	15.19798	0.1396087	0.23187804	2.6239948	20	3 9.7	20.4
379590 2011 BE_{139}	17.4	X	33.37825	297.44918	347.74401	5.23096	0.0920242	0.26742545	2.3859842	20	9 21.0	20.0
379591 2011 CZ_{1}	17.3	X	176.86824	347.48681	159.12609	2.87434	0.1366675	0.26432402	2.4046117	20	9 6.9	21.0
379592 2011 CZ_{2}	17.2	X	243.69656	350.68733	110.95905	11.13431	0.1687580	0.27519615	2.3408548	20	9 25.4	20.3
379593 2011 CX_{12}	17.0	X	338.11537	17.10705	252.56328	3.11234	0.1656246	0.23912421	2.5707136	20	5 13.9	19.4
379594 2011 CS_{15}	18.1	X	229.63821	157.57802	354.68993	5.05125	0.1728184	0.28195636	2.3032874	20	11 8.7	20.9
379595 2011 CY_{18}	16.3	X	283.69716	347.41644	277.71300	3.82531	0.1187438	0.22213318	2.7001865	20	2 21.9	20.0
379596 2011 CF_{19}	17.7	X	274.68613	167.74496	288.79236	2.60061	0.1213423	0.28214056	2.3022847	20	11 8.3	19.8
379597 2011 CS_{33}	17.9	X	183.07056	263.16214	279.85436	1.64867	0.1127563	0.27830244	2.3234039	20	11 2.7	21.2
379598 2011 CW_{33}	17.5	X	143.26724	237.54052	312.47314	5.81984	0.0619283	0.27014205	2.3699613	20	9 26.6	20.9
379599 2011 CY_{37}	17.6	X	185.90502	60.72911	74.14029	2.30564	0.1176777	0.26625569	2.3929674	20	9 3.2	21.0
379600 2011 CB_{42}	16.6	X	166.50878	122.51064	32.51421	10.36791	0.2200129	0.26230194	2.4169540	20	9 10.1	20.8

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379601 2011 CZ_{45}	17.2	X	325.48332	357.55308	5.15850	6.16373	0.1276589	0.26985256	2.3716559	20	9 20.5	19.1
379602 2011 CZ_{46}	17.4	X	273.40522	37.82841	65.85798	7.56365	0.1069912	0.28565832	2.2833446	20	11 21.0	19.5
379603 2011 CD_{49}	17.7	X	182.67793	107.83750	35.98998	5.93835	0.1532658	0.26612734	2.3937367	20	9 11.0	21.3
379604 2011 CY_{52}	17.5	X	207.82407	136.34491	335.65753	7.07671	0.0949287	0.26556232	2.3971309	20	8 28.9	20.9
379605 2011 CJ_{54}	17.4	X	273.05929	181.65673	142.19797	11.66574	0.0486770	0.23942946	2.5685281	20	5 9.9	21.0
379606 2011 CO_{61}	17.9	X	280.00445	258.25626	172.75028	2.50440	0.0287409	0.27407923	2.3472101	20	10 22.1	20.5
379607 2011 CY_{67}	17.6	X	115.76101	172.55064	16.72030	2.74952	0.1098871	0.25633901	2.4542921	20	8 29.7	21.0
379608 2011 CS_{68}	17.6	X	245.35871	128.85801	301.19360	0.36209	0.1527511	0.26706749	2.3881157	20	8 9.9	20.5
379609 2011 CS_{72}	17.5	X	175.17982	125.79901	56.49238	3.20393	0.1385283	0.27422942	2.3463530	20	10 23.2	20.9
379610 2011 CY_{73}	15.6	X	281.06185	204.91302	340.31477	9.11733	0.0182803	0.20176963	2.8789371	20	—	—
379611 2011 CZ_{74}	17.4	X	12.37913	107.77568	345.72961	3.68410	0.0695456	0.30713337	2.1756283	20	—	—
379612 2011 CC_{75}	16.2	X	6.09528	278.39108	328.23245	13.80638	0.0947642	0.23892282	2.5721579	20	6 4.8	19.4
379613 2011 CE_{83}	17.2	X	179.49202	67.09328	316.69746	11.98849	0.2364690	0.23635859	2.5907278	20	3 29.7	22.0
379614 2011 CS_{86}	16.6	X	355.09842	336.69502	289.49918	4.49275	0.1045651	0.24249813	2.5468133	20	6 15.8	19.2
379615 2011 CA_{88}	17.7	X	254.40701	279.36342	162.61486	2.09469	0.1768607	0.27228895	2.3574874	20	9 4.8	20.6
379616 2011 CO_{88}	17.7	X	271.19290	126.59109	314.31943	7.72329	0.1786664	0.27626908	2.3347902	20	9 25.5	20.3
379617 2011 CK_{112}	17.4	X	251.42501	209.79373	176.69403	6.65495	0.2175514	0.25763041	2.4460836	20	6 9.9	21.2
379618 2011 CY_{115}	17.1	X	334.60072	70.66479	228.03065	3.35421	0.1237072	0.24572694	2.5244544	20	6 25.4	19.6
379619 2011 DB_{3}	18.1	X	227.05147	333.36084	134.77178	2.81525	0.1657042	0.27002497	2.3706463	20	9 8.3	21.2
379620 2011 DU_{3}	18.1	X	246.95635	1.75732	132.30865	2.60901	0.1753573	0.28158939	2.3052880	20	11 10.1	20.5
379621 2011 DB_{6}	17.0	X	179.14521	89.84840	29.44229	8.81958	0.1850226	0.25614179	2.4555517	20	8 5.7	21.1
379622 2011 DF_{6}	17.4	X	173.92357	358.25297	177.75864	3.69504	0.1330755	0.26838831	2.3802742	20	10 13.2	20.9
379623 2011 DY_{7}	17.5	X	114.02796	118.27933	14.22998	3.04493	0.0783518	0.23606091	2.5929053	20	6 5.9	21.1
379624 2011 DM_{8}	16.7	X	107.58939	120.05509	358.98573	11.73032	0.1442173	0.23211427	2.6222142	20	5 15.9	20.7
379625 2011 DZ_{8}	17.4	X	198.86986	103.95903	36.56995	7.27252	0.1699896	0.26424242	2.4051068	20	9 21.8	21.0
379626 2011 DN_{9}	16.6	X	286.33345	108.56692	145.87266	5.26961	0.0852820	0.21697039	2.7428522	20	2 18.6	20.4
379627 2011 DM_{10}	17.4	X	302.65019	126.19887	312.17313	6.64378	0.0702752	0.28902002	2.2656045	20	12 7.1	19.7
379628 2011 DM_{13}	16.9	X	143.52130	93.09776	312.48556	8.20019	0.1114793	0.22957838	2.6414885	20	3 19.2	21.0
379629 2011 DN_{13}	17.6	X	109.46465	348.98654	247.69362	2.19182	0.0177469	0.27130247	2.3631986	20	10 17.8	20.7
379630 2011 DM_{14}	17.7	X	331.73781	204.83234	178.38859	1.86960	0.2032399	0.28046543	2.3114428	20	11 14.1	19.2
379631 2011 DH_{18}	16.6	X	197.04912	232.80294	170.16971	11.02934	0.1349766	0.23596297	2.5936228	20	5 16.1	20.8
379632 2011 DH_{22}	17.9	X	210.55469	2.80585	122.45097	1.77706	0.1181568	0.26411326	2.4058908	20	9 17.2	21.3
379633 2011 DC_{23}	16.6	X	282.30462	255.55276	35.34635	5.20260	0.0846386	0.22081998	2.7108811	20	3 31.9	20.4
379634 2011 DH_{24}	16.8	X	185.72821	292.54405	205.80282	8.94063	0.2218736	0.26321898	2.4113370	20	8 28.5	21.0
379635 2011 DX_{24}	17.7	X	223.13589	75.61840	46.83064	2.15548	0.1356469	0.27194287	2.3594870	20	9 27.3	20.9
379636 2011 DO_{25}	17.6	X	197.89084	105.50788	9.75914	4.47296	0.1702775	0.26081706	2.4261187	20	8 17.2	21.4
379637 2011 DE_{27}	17.2	X	303.48822	157.45888	147.94018	4.99057	0.0906886	0.24142452	2.5543582	20	5 18.3	20.4
379638 2011 DG_{31}	16.8	X	335.22915	278.93980	345.48848	6.92774	0.1225367	0.23318998	2.6141437	20	5 2.9	19.7
379639 2011 DK_{37}	16.4	X	252.77532	181.68559	164.32918	14.84783	0.0814078	0.23630094	2.5911492	20	5 8.6	20.3
379640 2011 DP_{39}	17.6	X	198.41906	257.39524	248.87071	1.79788	0.1176961	0.26849468	2.3796455	20	9 30.3	20.9
379641 2011 DX_{39}	17.3	X	70.42089	318.54809	223.40492	2.18888	0.0342600	0.23952811	2.5678229	20	6 9.1	20.6
379642 2011 EB_{1}	16.9	X	42.79075	248.96162	301.07547	5.10973	0.0249641	0.23786076	2.5798088	20	5 8.3	20.3
379643 2011 ET_{6}	18.5	X	261.51676	194.26610	289.93081	1.82644	0.1748091	0.28472201	2.2883477	20	11 19.1	20.5
379644 2011 EY_{7}	15.9	X	181.94833	231.00491	353.87862	9.21073	0.0696605	0.17418128	3.1754241	20	12 6.3	20.9
379645 2011 EY_{17}	16.5	X	80.24881	200.49141	344.27584	5.86357	0.2052419	0.23820039	2.5773560	20	7 24.3	20.1
379646 2011 EL_{18}	17.9	X	163.60996	71.95531	68.41254	3.14452	0.1411260	0.25848671	2.4406785	20	8 17.0	21.7
379647 2011 EG_{19}	17.1	X	219.85049	8.58573	134.58125	5.38815	0.1694112	0.27193631	2.3595250	20	10 18.4	20.3
379648 2011 EA_{22}	16.4	X	156.44039	25.00727	6.42596	6.43171	0.0447826	0.22308656	2.6924880	20	3 14.9	20.1
379649 2011 EF_{22}	16.9	X	151.38954	47.36811	113.18511	6.56153	0.0911795	0.25613252	2.4556110	20	8 31.2	20.4
379650 2011 EU_{23}	16.3	X	240.25487	7.88223	348.50739	14.69757	0.0971524	0.23690927	2.5867116	20	4 24.9	20.3
379651 2011 EZ_{24}	17.3	X	210.25352	90.80230	22.76620	7.88684	0.1708813	0.26119735	2.4237633	20	8 29.3	21.0
379652 2011 EK_{25}	17.0	X	53.88193	151.12430	59.17428	5.78760	0.1078015	0.23564387	2.5959637	20	7 6.6	20.2
379653 2011 EF_{28}	16.7	X	100.48459	357.29037	163.06796	7.44629	0.0592432	0.23956365	2.5675689	20	6 24.4	20.2
379654 2011 EF_{29}	16.3	X	183.66468	202.00414	146.37119	9.88377	0.1306290	0.21870895	2.7282972	20	2 24.7	20.5
379655 2011 EA_{38}	16.6	X	216.15803	268.01470	97.95446	7.27753	0.0605208	0.22516976	2.6758556	20	4 23.2	20.5
379656 2011 EN_{39}	15.9	X	149.88055	105.48649	177.68574	16.33403	0.1126047	0.17419398	3.1752697	20	—	—
379657 2011 EN_{42}	16.8	X	256.94617	176.20233	146.06391	8.97905	0.0737160	0.22581465	2.6707586	20	4 13.4	20.6
379658 2011 EB_{43}	18.0	X	227.08194	294.25911	199.84684	1.21381	0.0892805	0.27225990	2.3576550	20	10 24.2	20.9
379659 2011 EB_{44}	16.9	X	99.77345	291.36054	248.20784	5.30423	0.1458881	0.24164165	2.5528278	20	7 29.4	20.7
379660 2011 EZ_{49}	17.3	X	239.31899	37.02368	86.91029	7.25349	0.0681935	0.27299021	2.3534483	20	11 2.2	20.2
379661 2011 EN_{53}	16.6	X	173.74323	5.19117	53.36011	12.19701	0.1409612	0.22884675	2.6471155	20	5 11.1	20.6
379662 2011 EW_{66}	17.6	X	232.13896	302.36015	183.84328	5.65605	0.1180380	0.27183635	2.3601034	20	10 16.4	20.6
379663 2011 EF_{68}	17.0	X	61.62127	23.36972	163.45211	6.24130	0.2034817	0.23359545	2.6111178	20	6 30.1	20.3
379664 2011 EX_{68}	16.6	X	174.11617	275.82613	131.39531	7.78613	0.0764704	0.22746580	2.6578184	20	4 28.5	20.6
379665 2011 EG_{75}	16.1	X	106.55551	167.76785	338.86791	15.08061	0.1990631	0.23928846	2.5695370	20	7 3.5	20.3
379666 2011 EB_{77}	16.2	X	14.78398	133.41458	52.97273	9.28010	0.0909264	0.22107727	2.7087774	20	3 31.9	19.5
379667 2011 EN_{78}	16.2	X	183.32352	170.96337	76.67335	2.47568	0.1306776	0.17534656	3.1613400	20	12 31.4	21.1
379668 2011 EQ_{78}	16.9	X	128.12177	315.19544	167.28607	9.50291	0.1122906	0.23955045	2.5676632	20	6 14.2	20.8
379669 2011 EM_{81}	16.3	X	164.34922	10.67822	10.76161	6.09607	0.0378423	0.22062479	2.7124798	20	3 11.8	20.2
379670 2011 ER_{86}	17.8	X	257.25029	81.01254	51.06050	22.76531	0.2011610	0.28128114	2.3069719	20	11 17.0	19.9
379671 2011 FE_{7}	17.1	X	235.74515	74.75534	9.52278	10.96411	0.1634240	0.26043177	2.4285110	20	8 20.3	20.6
379672 2011 FT_{11}	17.1	X	143.61340	354.69974	146.14863	5.10797	0.1934473	0.24441231	2.5334986	20	7 27.9	21.3
379673 2011 FE_{16}	16.5	X	63.35343	7.09051	67.98397	6.73445	0.0364590	0.20176825	2.8789503	20	1 14.9	20.3
379674 2011 FO_{16}	16.1	X	180.95689	249.14558	9.93979	9.96349	0.0992587	0.17982254	3.1086606	20	—	—
379675 2011 FC_{17}	17.1	X	19.65093	39.39339	147.37463	2.08476	0.0203382	0.22447214	2.6813968	20	4 4.1	20.4
379676 2011 FC_{19}	17.2	X	49.98650	47.43581	124.31787	3.20535	0.1341262	0.22546424	2.6735251	20	5 10.9	20.3
379677 2011 FD_{21}	17.0	X	238.97880	355.20348	21.98794	7.06344	0.0692291	0.23718354	2.5847171	20	5 29.5	20.7
379678 2011 FG_{24}	16.5	X	256.95980	207.13583	177.60767	4.51018	0.1595784	0.24501547	2.5293390	20	6 20.6	20.0
379679 2011 FF_{26}	16.5	X	203.93593	144.12316	109.94387	10.07270	0.0775108	0.18329756	3.0692452	20	—	—
379680 2011 FP_{27}	15.6	X	22.67326	301.63033	91.67456	11.66428	0.0713687	0.17310485	3.1885744	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379681 2011 FJ_{28}	16.1	X	335.04780	201.39754	51.74174	10.44107	0.1301098	0.22259264	2.6964695	20	4 21.6	19.1
379682 2011 FX_{29}	16.0	X	188.70868	250.69705	24.91693	7.55066	0.1752824	0.17774734	3.1328094	20	—	—
379683 2011 FZ_{30}	16.8	X	104.63523	44.30063	63.63463	7.03563	0.0153160	0.21902389	2.7256812	20	4 16.3	20.5
379684 2011 FB_{31}	16.5	X	354.39619	156.62487	37.78087	13.54614	0.0662322	0.21182370	2.7871030	20	3 15.0	20.2
379685 2011 FM_{37}	16.1	X	167.01696	170.04655	211.31893	11.64063	0.0469029	0.21568569	2.7537330	20	3 11.5	20.3
379686 2011 FR_{37}	16.9	X	75.38783	234.09427	316.26246	5.01065	0.0900564	0.23979834	2.5658933	20	7 7.4	20.2
379687 2011 FV_{38}	16.7	X	152.46334	358.84859	46.53866	6.36791	0.0322202	0.21760974	2.7374771	20	3 28.9	20.5
379688 2011 FW_{39}	16.4	X	212.22050	293.60681	50.79957	7.28811	0.0077194	0.21653279	2.7465464	20	3 24.9	20.2
379689 2011 FY_{46}	16.7	X	234.18216	57.39346	209.22542	3.29034	0.0535966	0.19285019	2.9670350	20	1 11.6	21.2
379690 2011 FL_{47}	16.8	X	29.14742	113.74102	48.29694	8.35655	0.1589908	0.21273301	2.7791552	20	3 26.5	19.7
379691 2011 FH_{57}	16.2	X	197.12261	43.55829	201.78030	10.30058	0.1823292	0.17723729	3.1388169	20	—	—
379692 2011 FT_{58}	18.0	X	221.17742	293.25560	207.37727	0.61368	0.1315820	0.26875810	2.3780903	20	10 18.6	20.9
379693 2011 FY_{60}	16.7	X	344.27305	354.13505	214.45676	11.78314	0.0843265	0.21358598	2.7717510	20	3 6.0	20.3
379694 2011 FQ_{72}	18.1	X	243.53888	57.59137	31.59884	1.90029	0.1453224	0.26725129	2.3870206	20	9 5.4	21.2
379695 2011 FW_{74}	18.0	X	238.54606	103.21411	1.66056	3.22276	0.1294049	0.26806143	2.3822088	20	9 22.3	21.0
379696 2011 FO_{79}	16.6	X	224.67892	217.89774	111.23463	4.24405	0.0920338	0.21613046	2.7499538	20	3 14.5	20.7
379697 2011 FB_{81}	16.0	X	207.64695	339.36355	10.58653	7.86279	0.1624467	0.21737692	2.7394314	20	3 19.9	20.5
379698 2011 FH_{84}	16.6	X	86.74821	105.30990	32.01828	21.86007	0.1202541	0.23007720	2.6376692	20	5 9.9	20.3
379699 2011 FF_{93}	17.5	X	351.28554	47.23125	186.40095	4.55665	0.0197407	0.22616708	2.6679834	20	4 27.5	20.9
379700 2011 FT_{121}	16.7	X	267.64926	318.51828	0.19161	6.55408	0.0475367	0.22474678	2.6792119	20	4 20.4	20.5
379701 2011 FP_{126}	17.8	X	230.84794	242.94098	256.32519	1.52435	0.1141595	0.27384314	2.3485590	20	11 1.3	20.7
379702 2011 FT_{140}	16.7	X	62.21247	10.93575	176.48461	5.15274	0.1158702	0.23165052	2.6257126	20	6 17.7	20.0
379703 2011 FS_{141}	16.4	X	51.32836	235.52251	317.27786	11.30149	0.1127509	0.22940147	2.6428464	20	6 6.9	19.8
379704 2011 FK_{142}	15.7	X	213.83858	207.96675	53.82468	15.29818	0.1265203	0.18193807	3.0845157	20	—	—
379705 2011 FC_{144}	17.0	X	115.19703	108.43092	15.36904	6.16556	0.0592210	0.23015243	2.6370943	20	5 23.1	20.6
379706 2011 FK_{150}	16.5	X	65.33597	85.14041	44.33613	10.10045	0.1085186	0.21746684	2.7386762	20	4 5.7	19.9
379707 2011 FR_{151}	16.1	X	178.50654	59.66615	1.07999	13.29229	0.0023621	0.22961440	2.6412122	20	5 11.7	19.8
379708 2011 FK_{153}	15.7	X	132.18501	63.43511	249.01191	8.80038	0.0902693	0.17989131	3.1078682	20	—	—
379709 2011 GG_{2}	16.0	X	322.57234	250.29570	207.04185	17.28971	0.1013245	0.17781183	3.1320519	20	12 27.3	20.2
379710 2011 GV_{3}	18.0	X	173.00961	13.11417	148.43416	5.19544	0.1354932	0.25781192	2.4449354	20	9 22.9	21.7
379711 2011 GE_{11}	17.3	X	195.55377	92.56202	346.36928	6.24456	0.1707206	0.24389005	2.5371141	20	6 26.7	21.5
379712 2011 GS_{11}	17.0	X	201.20224	150.35316	233.90653	5.84317	0.0569691	0.22408208	2.6845076	20	4 25.6	20.9
379713 2011 GA_{12}	16.7	X	202.67621	206.00136	207.16594	10.60071	0.0939914	0.23498541	2.6008109	20	6 3.7	20.7
379714 2011 GL_{17}	17.0	X	78.53086	261.50065	234.98748	4.40308	0.1357344	0.22503706	2.6769075	20	5 4.6	20.3
379715 2011 GR_{25}	16.9	X	86.63642	148.89808	327.25746	4.89879	0.0806647	0.21890426	2.7266742	20	4 8.3	20.6
379716 2011 GY_{28}	17.0	X	170.13257	298.86178	83.51572	4.07341	0.0289203	0.21708992	2.7418453	20	3 20.6	20.9
379717 2011 GA_{29}	16.0	X	146.33072	220.29428	54.03842	5.68173	0.1388574	0.17224151	3.1992205	20	12 27.9	21.1
379718 2011 GB_{30}	16.7	X	250.52628	179.39309	170.00495	10.58538	0.0867503	0.22955436	2.6416727	20	5 8.7	20.6
379719 2011 GQ_{31}	17.2	X	121.96589	184.40490	296.82251	1.95654	0.0811772	0.23178739	2.6246789	20	5 31.9	20.7
379720 2011 GR_{31}	15.9	X	194.05233	248.23539	11.46676	13.12130	0.1702885	0.17897523	3.1184642	20	—	—
379721 2011 GM_{39}	16.6	X	177.28296	196.24689	115.39199	5.42528	0.0510748	0.19782339	2.9170976	20	1 3.7	20.7
379722 2011 GQ_{40}	16.8	X	93.86427	84.18637	48.18434	13.76954	0.1288482	0.23024439	2.6363921	20	5 17.7	20.4
379723 2011 GM_{42}	16.6	X	195.37944	172.69967	165.53918	13.55392	0.1853978	0.21439289	2.7647920	20	2 23.0	21.2
379724 2011 GP_{42}	17.1	X	214.20052	173.51031	171.07905	5.89140	0.0478931	0.22232436	2.6986383	20	3 22.5	20.8
379725 2011 GQ_{44}	16.6	X	149.63737	243.24902	159.48855	7.14985	0.0545271	0.21816343	2.7328434	20	3 23.0	20.4
379726 2011 GV_{45}	16.8	X	266.17769	155.71075	157.59553	5.39022	0.0431015	0.22282423	2.6946008	20	4 15.9	20.5
379727 2011 GB_{46}	16.9	X	351.46885	107.80750	140.48262	5.88742	0.1168348	0.22690818	2.6621710	20	5 14.9	19.8
379728 2011 GJ_{46}	16.9	X	134.02748	325.68363	167.33293	12.24297	0.1166467	0.24075302	2.5591057	20	7 3.8	20.9
379729 2011 GM_{47}	16.3	X	317.65949	128.36551	50.12931	10.71106	0.0757387	0.19271932	2.9683780	20	—	—
379730 2011 GY_{47}	16.3	X	212.83824	327.88029	11.56894	13.84849	0.0298075	0.21445114	2.7642913	20	3 17.9	20.2
379731 2011 GS_{48}	16.8	X	283.42289	58.78529	211.93410	4.55871	0.1283787	0.20930852	2.8093862	20	2 28.6	20.9
379732 2011 GY_{54}	16.5	X	150.55656	22.78887	112.51669	14.17629	0.0913397	0.24325017	2.5415614	20	7 24.8	20.2
379733 2011 GQ_{55}	16.8	X	292.40969	62.14085	124.22081	7.03665	0.0850030	0.18795477	3.0183330	20	—	—
379734 2011 GR_{55}	15.3	X	129.78964	250.92680	78.06567	11.13417	0.0642189	0.17834652	3.1257887	20	—	—
379735 2011 GL_{57}	16.5	X	181.11037	113.50208	164.49788	9.40004	0.1186516	0.17969557	3.1101247	20	—	—
379736 2011 GN_{57}	16.1	X	164.71879	359.58847	54.63682	12.38338	0.0691958	0.22108757	2.7086933	20	4 26.1	20.1
379737 2011 GZ_{58}	16.4	X	41.16013	216.07512	8.88686	12.29660	0.0215229	0.23772985	2.5807557	20	6 25.8	20.0
379738 2011 GF_{63}	16.0	X	128.59576	177.58918	322.40552	15.19489	0.0793092	0.24171371	2.5523204	20	7 7.4	19.8
379739 2011 GW_{63}	15.7	X	221.43098	344.24811	231.76984	15.42531	0.1677119	0.17454226	3.1710444	20	12 26.4	20.7
379740 2011 GY_{63}	15.9	X	270.66564	123.08868	75.27860	11.88016	0.0674955	0.18591810	3.0403361	20	—	—
379741 2011 GD_{65}	15.9	X	59.39232	45.49131	73.83802	9.88523	0.0636581	0.21015216	2.8018624	20	3 11.8	19.7
379742 2011 GH_{66}	16.2	X	336.74478	174.67086	26.15012	13.47084	0.1203247	0.20991448	2.8039770	20	2 20.4	19.9
379743 2011 GW_{66}	16.5	X	121.01529	356.90052	136.66192	9.78818	0.1300039	0.23520876	2.5991642	20	6 22.3	20.4
379744 2011 GB_{70}	15.8	X	126.38181	278.91305	29.92610	12.89150	0.0555781	0.17289819	3.1911148	20	—	—
379745 2011 GN_{72}	16.4	X	232.48065	66.38912	176.79750	10.94689	0.0871645	0.18715907	3.0268818	20	—	—
379746 2011 GP_{72}	16.6	X	56.34860	112.18538	56.99577	7.78399	0.0073116	0.22380367	2.6867334	20	4 30.4	20.2
379747 2011 GW_{74}	15.8	X	238.98174	339.75050	245.30767	9.38551	0.1065387	0.18191405	3.0847873	20	—	—
379748 2011 GE_{75}	15.9	X	113.77949	146.37528	167.26030	9.87763	0.1005811	0.17187894	3.2037179	20	—	—
379749 2011 GU_{75}	16.6	X	299.32211	105.12891	136.59584	6.81592	0.0081572	0.20918084	2.8105293	20	3 2.9	20.3
379750 2011 GK_{79}	17.0	X	298.61474	274.32797	353.73471	2.39712	0.0581979	0.21523267	2.7575957	20	3 26.2	20.6
379751 2011 GE_{81}	15.3	X	193.33623	195.26083	74.70040	12.23945	0.0909443	0.17868425	3.1218488	20	—	—
379752 2011 GN_{82}	16.5	X	352.18311	152.32713	50.03203	10.00156	0.0700690	0.21388791	2.7691420	20	3 20.1	20.1
379753 2011 GJ_{84}	17.1	X	128.71137	316.94973	192.70234	4.84814	0.2130709	0.24103596	2.5571026	20	7 25.9	21.4
379754 2011 GP_{84}	16.5	X	231.02733	98.71563	196.71779	1.89654	0.1275325	0.20073722	2.8887998	20	2 6.6	21.1
379755 2011 GU_{84}	16.2	X	252.19444	359.40757	198.88337	9.30586	0.1195731	0.18158894	3.0884682	20	—	—
379756 2011 GC_{85}	15.7	X	90.18483	323.22085	45.44550	9.59619	0.0193474	0.18341283	3.0679592	20	—	—
379757 2011 GB_{88}	16.2	X	180.96907	295.15922	90.60016	8.23910	0.0762925	0.22206433	2.7007446	20	4 9.9	20.3
379758 2011 HU_{2}	15.7	X	133.79040	233.88393	79.88574	15.24282	0.0449511	0.17814528	3.1281423	20	—	—
379759 2011 HU_{5}	16.1	X	93.13922	295.65353	211.10538	12.62157	0.1332879	0.22742712	2.6581198	20	6 7.1	19.9
379760 2011 HZ_{5}	16.3	X	60.27039	64.83426	143.87298	5.58235	0.1950386	0.23264818	2.6182008	20	7 27.2	19.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379761 2011 HL_6	15.6	X	209.35556	227.78773	16.96868	16.92812	0.1794445	0.17870526	3.1216042	20	—	—
379762 2011 HP_8	16.5	X	153.80684	72.56748	67.57710	15.81100	0.0489531	0.24283924	2.5444278	20	8 7.3	20.4
379763 2011 HW_9	16.2	X	231.44843	253.47570	94.26603	7.66080	0.0464957	0.21739205	2.7393043	20	4 19.5	20.2
379764 2011 HF_{10}	16.0	X	184.54799	192.96777	97.53064	8.91754	0.0897490	0.18379194	3.0637388	20	—	—
379765 2011 HO_{10}	16.7	X	22.97490	130.07380	28.52756	9.24953	0.0991955	0.21310722	2.7759008	20	3 8.4	20.0
379766 2011 HY_{16}	16.3	X	251.93085	167.93909	49.49258	5.86777	0.1361600	0.18501377	3.0502354	20	—	—
379767 2011 HH_{20}	16.4	X	206.64590	257.95636	51.95785	2.49052	0.0748952	0.20155771	2.8809547	20	2 2.7	20.7
379768 2011 HL_{21}	16.5	X	22.27446	262.79271	285.71703	1.56415	0.0453842	0.21499254	2.7596486	20	4 9.9	20.1
379769 2011 HC_{25}	15.4	X	109.26066	267.81988	53.52775	9.62738	0.0505769	0.17115132	3.2127916	20	—	—
379770 2011 HL_{26}	17.5	X	88.41503	137.12046	15.79540	2.65419	0.1609368	0.23072252	2.6327486	20	6 13.0	21.0
379771 2011 HE_{28}	16.8	X	41.20944	1.85801	229.42566	2.70088	0.1606454	0.23265137	2.6181768	20	7 23.7	19.7
379772 2011 HK_{28}	18.4	X	263.51835	109.08745	162.77283	7.99913	0.2579059	0.30514688	2.1850603	20	1 18.8	22.1
379773 2011 HB_{29}	16.9	X	64.97922	135.52894	67.19134	3.43670	0.1116018	0.23317280	2.6142721	20	7 12.9	20.1
379774 2011 HE_{31}	16.0	X	28.07431	305.92581	198.95114	8.56262	0.0916365	0.20949210	2.8077447	20	2 20.9	19.6
379775 2011 HZ_{37}	15.7	X	178.73995	206.45159	85.17811	13.82899	0.0634821	0.18068963	3.0987073	20	—	—
379776 2011 HD_{45}	15.9	X	169.03641	255.82616	53.38718	21.75437	0.1515244	0.18101013	3.0950486	20	—	—
379777 2011 HU_{47}	15.7	X	164.20739	257.21064	54.15509	11.34672	0.1002138	0.18208166	3.0828939	20	—	—
379778 2011 HX_{48}	16.0	X	351.20040	37.54019	92.17195	12.93265	0.0752884	0.18926276	3.0044105	20	—	—
379779 2011 HG_{51}	16.2	X	113.86803	192.78618	154.81324	9.87123	0.0624074	0.17745324	3.1362698	20	—	—
379780 2011 HR_{56}	15.6	X	157.72114	90.13841	189.26107	13.95062	0.1171449	0.17543991	3.1602186	20	—	—
379781 2011 HB_{57}	15.1	X	13.77972	166.70957	127.48004	12.73679	0.2323471	0.12565593	3.9477296	20	8 29.3	19.6
379782 2011 HF_{58}	17.1	X	103.57188	107.72013	73.05201	13.82753	0.2180341	0.24081015	2.5587009	20	8 18.3	21.4
379783 2011 HV_{62}	16.6	X	94.15774	316.20997	223.94955	4.80736	0.1765912	0.23554778	2.5966697	20	7 27.2	20.5
379784 2011 HY_{65}	17.0	X	342.15861	158.16358	92.07804	2.32438	0.0567249	0.22449867	2.6811856	20	5 4.5	20.2
379785 2011 HG_{67}	16.2	X	263.30272	30.05066	151.61104	12.94019	0.1087943	0.17569604	3.1571464	20	—	—
379786 2011 HB_{68}	16.6	X	316.64652	146.46104	126.55788	3.47776	0.0574466	0.22072815	2.7116329	20	4 28.5	20.1
379787 2011 HO_{69}	16.2	X	211.74289	222.01651	24.41984	14.37000	0.1450028	0.18089526	3.0963587	20	—	—
379788 2011 HP_{69}	16.5	X	101.67325	321.52072	126.63364	5.27668	0.0418760	0.21160374	2.7890341	20	3 21.9	20.4
379789 2011 HQ_{69}	16.8	X	31.02779	94.50123	102.01010	4.18448	0.0123104	0.22148620	2.7054423	20	5 3.5	20.3
379790 2011 HT_{69}	17.4	X	100.71548	120.90611	36.67632	5.31971	0.1187083	0.23423320	2.6063760	20	6 29.2	21.2
379791 2011 HH_{71}	17.0	X	126.47012	84.51130	87.72863	9.41563	0.1126928	0.24488652	2.5302268	20	8 20.4	20.9
379792 2011 HO_{82}	15.3	X	223.05298	359.90404	219.58441	27.12585	0.1330662	0.17168415	3.2061408	20	12 31.8	20.5
379793 2011 HB_{84}	15.5	X	263.96927	136.71554	98.98620	10.07719	0.0730899	0.18910123	3.0061211	20	1 6.8	19.9
379794 2011 HC_{84}	16.7	X	131.77370	160.09844	347.03821	6.82279	0.1536181	0.24178319	2.5518314	20	7 24.9	20.7
379795 2011 HF_{84}	16.2	X	125.72708	36.80753	71.05851	14.39748	0.1003515	0.22241318	2.6979198	20	5 22.3	20.0
379796 2011 HL_{85}	17.3	X	122.02440	344.38111	146.01759	2.27042	0.1493925	0.23538342	2.5978783	20	6 20.7	21.1
379797 2011 HB_{86}	16.5	X	209.13338	96.26022	155.70755	5.07508	0.1056379	0.18123136	3.0925293	20	—	—
379798 2011 HL_{87}	16.3	X	100.32563	260.13807	120.52807	11.36054	0.1100160	0.18803876	3.0174341	20	1 7.3	20.4
379799 2011 HP_{93}	15.3	X	127.39793	296.03343	59.43142	16.42944	0.1056425	0.18215330	3.0820855	20	1 10.2	20.0
379800 2011 JJ_4	15.9	X	142.23284	176.25477	123.59714	8.69804	0.0175015	0.17369459	3.1813530	20	—	—
379801 2011 JK_6	17.2	X	112.37292	24.10602	142.71718	4.73509	0.1367556	0.24199006	2.5503769	20	7 26.9	21.0
379802 2011 JP_7	16.5	X	227.51298	88.63545	133.68849	4.83608	0.1076112	0.17439709	3.1728038	20	—	—
379803 2011 JS_7	15.7	X	322.92263	49.66015	79.46162	11.81569	0.0685382	0.17794114	3.1305343	20	—	—
379804 2011 JF_9	16.1	X	295.81946	345.84925	184.28807	10.30966	0.0285419	0.17950396	3.1123376	20	—	—
379805 2011 JY_{16}	16.1	X	223.52600	148.73866	112.95902	6.33215	0.1792338	0.18224126	3.0810937	20	—	—
379806 2011 JK_{20}	16.3	X	240.75177	119.34083	71.89134	10.75890	0.0654134	0.17091822	3.2157120	20	—	—
379807 2011 JB_{25}	16.5	X	292.14227	347.39884	200.60290	5.66659	0.0649761	0.18536272	3.0464061	20	—	—
379808 2011 JJ_{25}	16.4	X	71.45551	356.53447	53.72824	12.73496	0.0462726	0.19168785	2.9790171	20	—	—
379809 2011 JT_{26}	16.5	X	102.51999	31.32256	84.99445	5.82023	0.0641086	0.21608100	2.7503734	20	5 1.4	20.2
379810 2011 KO_3	16.0	X	247.82924	159.35796	49.34265	11.23422	0.0834259	0.17878908	3.1206284	20	—	—
379811 2011 KV_3	16.0	X	123.76592	47.37254	59.94534	12.39608	0.0564992	0.21900767	2.7258157	20	5 13.9	19.7
379812 2011 KT_4	16.4	X	10.98958	130.72737	85.37649	5.83923	0.0965657	0.21625519	2.7488963	20	5 4.1	19.5
379813 2011 KE_5	16.2	X	165.53420	98.67147	219.50652	9.30317	0.0563704	0.18163283	3.0879706	20	—	—
379814 2011 KT_{11}	15.1	X	198.24421	25.88358	247.89992	16.40230	0.1649255	0.17733224	3.1376964	20	—	—
379815 2011 KG_{18}	16.5	X	234.59543	68.13627	162.68867	0.64811	0.1168151	0.17564383	3.1577721	20	—	—
379816 2011 KT_{20}	16.6	X	85.45770	56.62268	74.67549	4.33012	0.1429178	0.21711429	2.7416401	20	5 9.6	20.3
379817 2011 KE_{28}	15.8	X	236.18865	353.36140	247.92904	11.66184	0.1997709	0.17902021	3.1179419	20	—	—
379818 2011 KC_{29}	15.5	X	270.42468	121.57058	79.94807	9.23620	0.0356651	0.17736056	3.1373623	20	—	—
379819 2011 KK_{34}	16.0	X	253.29072	352.11725	211.67354	10.42667	0.1005448	0.17602984	3.1531540	20	—	—
379820 2011 KU_{43}	16.5	X	65.51625	18.06278	76.61584	10.24172	0.0594081	0.19740307	2.9212369	20	2 17.6	20.5
379821 2011 KV_{43}	16.5	X	311.91503	309.11218	210.32300	9.05505	0.0566199	0.18263159	3.0767021	20	—	—
379822 2011 KV_{44}	16.4	X	282.22771	187.23201	84.93609	6.81470	0.0188397	0.20453399	2.8529383	20	3 21.2	20.4
379823 2011 KD_{45}	16.8	X	25.78365	29.98329	121.99634	3.03702	0.0850359	0.20234454	2.8734814	20	3 2.2	20.2
379824 2011 KO_{45}	16.1	X	167.12673	8.10475	88.04627	12.41001	0.1442336	0.22695492	2.6618055	20	6 21.2	20.2
379825 2011 KE_{47}	15.9	X	127.50414	146.16310	226.50446	11.75641	0.0189564	0.18681666	3.0305793	20	1 15.4	20.4
379826 2011 LW_6	16.0	X	324.71214	309.42715	211.66463	8.45998	0.0899204	0.18481809	3.0523880	20	—	—
379827 2011 LN_7	15.5	X	82.70602	337.83358	78.24993	12.63021	0.1347622	0.18434917	3.0575619	20	2 3.8	19.7
379828 2011 LA_8	15.5	X	28.53295	345.35449	89.35002	11.17488	0.0577230	0.17737275	3.1372187	20	—	—
379829 2011 LK_9	16.3	X	215.93220	67.44089	222.55431	9.32262	0.0596680	0.18953470	3.0015360	20	1 18.4	21.0
379830 2011 LU_9	15.7	X	109.36786	184.63429	212.50812	8.71676	0.0752764	0.18893857	3.0078462	20	1 30.6	20.1
379831 2011 LL_{10}	15.6	X	222.20767	12.77086	253.08459	7.82821	0.0910937	0.18125055	3.0923110	20	—	—
379832 2011 LA_{18}	15.4	X	20.84884	266.62006	157.71073	21.22662	0.0932852	0.16916850	3.2378475	20	—	—
379833 2011 LT_{22}	16.0	X	17.45846	56.64313	96.88840	3.16061	0.0527865	0.19694234	2.9257911	20	2 21.6	19.7
379834 2011 LZ_{22}	16.5	X	306.00154	198.78246	337.41006	0.70941	0.0299751	0.18136683	3.0909891	20	—	—
379835 2011 PE_3	13.0	X	302.54884	184.62435	93.09858	16.83755	0.1033335	0.08257143	5.2229536	20	4 22.8	19.9
379836 2011 QF	12.6	X	265.08264	44.44832	281.90026	23.83869	0.0375067	0.08195771	5.2489950	20	4 30.3	19.9
379837 2011 QP_3	12.9	X	247.06051	43.72982	294.77026	19.00624	0.0964453	0.08090898	5.2942554	20	4 15.1	20.4
379838 2011 QD_{37}	17.7	X	90.86749	312.45967	54.46648	1.19424	0.2334599	0.25791622	2.4442762	20	—	—
379839 2011 QQ_{42}	14.0	X	259.56566	110.23424	229.09588	10.13566	0.1070905	0.08139826	5.2730185	20	5 5.4	21.1
379840 2011 SG_{69}	14.1	X	307.00973	332.36170	327.40464	3.71885	0.0368269	0.07980784	5.3428421	20	5 22.8	21.0

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379841 2011 UV_{173}	17.7	X	245.80357	250.50997	119.35008	7.53567	0.2534937	0.30108400	2.2046734	20	5 11.1	21.1
379842 2011 UK_{178}	16.4	X	255.05119	230.44418	145.11577	2.99331	0.2446620	0.18904794	3.0066861	20	5 27.4	21.2
379843 2012 AM_{17}	18.2	X	175.32500	54.03378	294.34289	15.73931	0.0787495	0.37030636	1.9205632	20	1 22.6	20.1
379844 2012 BJ_{72}	13.4	X	23.66834	209.54104	154.81819	9.59762	0.0585677	0.08197085	5.2484340	20	11 10.3	20.2
379845 2012 BP_{84}	16.9	X	294.94205	16.02336	26.98865	1.78506	0.0904257	0.19017890	2.9947541	20	9 13.1	20.7
379846 2012 BB_{123}	16.9	X	215.08921	348.52379	120.65831	3.72023	0.0842511	0.18300605	3.0725037	20	8 27.2	21.5
379847 2012 CT_{25}	17.0	X	8.08470	43.18090	219.44538	5.98052	0.0899408	0.27490387	2.3425137	20	7 5.0	19.4
379848 2012 DB_{31}	17.6	X	24.82285	229.69536	323.49226	18.21588	0.0393679	0.37824614	1.8935919	20	3 25.9	19.6
379849 2012 DK_{38}	18.5	X	223.66249	267.27978	31.95499	21.14539	0.0624840	0.35333052	1.9815968	20	1 23.3	21.5
379850 2012 DJ_{49}	17.7	X	101.79736	171.48361	123.37364	4.53246	0.1158541	0.30704252	2.1760575	20	—	—
379851 2012 EB_{8}	18.0	X	61.41657	184.15456	83.46005	3.19577	0.2055460	0.28257029	2.2999499	20	10 26.3	21.2
379852 2012 EO_{9}	18.0	X	140.13021	228.28534	192.69852	21.63315	0.0728645	0.37169232	1.9157860	20	3 21.9	20.1
379853 2012 FO_{32}	16.3	X	282.38125	142.42411	166.67033	18.21513	0.3165366	0.24318306	2.5420290	20	3 23.3	20.2
379854 2012 FK_{74}	17.8	X	70.39265	272.56665	341.30928	1.61418	0.1794037	0.27636889	2.3342280	20	10 12.2	21.0
379855 2012 FN_{76}	17.5	X	153.40800	183.37728	44.48727	7.38521	0.1644477	0.30303637	2.1951938	20	11 30.5	20.7
379856 2012 GP_{6}	17.8	X	15.97869	335.54855	9.06500	3.56074	0.1274415	0.29515357	2.2341073	20	11 30.7	20.2
379857 2012 GP_{26}	17.3	X	282.41535	69.06172	20.74896	7.29958	0.0536232	0.29967315	2.2115877	20	11 23.2	19.7
379858 2012 GQ_{26}	17.7	X	220.25364	268.97192	222.30818	4.99180	0.1015039	0.29457189	2.2370474	20	10 12.5	20.4
379859 2012 GV_{31}	16.8	X	314.37704	259.47212	15.74871	7.00085	0.2047462	0.24174461	2.5521029	20	4 2.6	19.5
379860 2012 GU_{32}	17.8	X	127.59973	152.32437	140.95525	2.67424	0.1676061	0.30921391	2.1658583	20	—	—
379861 2012 GA_{33}	18.1	X	119.15345	39.91252	194.10754	1.94447	0.0708186	0.29143473	2.2530726	20	11 3.2	21.1
379862 2012 HJ	17.7	X	102.13273	312.57797	223.21235	23.96909	0.0922603	0.38754331	1.8631846	20	7 23.5	20.5
379863 2012 HP	17.9	X	138.66184	74.10779	48.83559	21.06640	0.0728303	0.38528543	1.8704567	20	6 25.2	20.3
379864 2012 HK_{3}	16.2	X	214.58913	231.49149	90.67818	10.84320	0.3097138	0.21957339	2.7211318	20	2 21.9	21.4
379865 2012 HA_{5}	17.2	X	39.92679	241.23650	52.24563	9.40983	0.2436913	0.27792965	2.3254810	20	11 8.4	20.0
379866 2012 HP_{14}	17.2	X	44.23517	195.13938	123.97381	7.38476	0.1424315	0.28794600	2.2712347	20	12 6.2	20.2
379867 2012 HC_{17}	16.7	X	201.74840	82.67254	196.27645	14.36881	0.1315551	0.20365504	2.8611411	20	—	—
379868 2012 HV_{22}	17.5	X	64.62629	250.58938	202.61868	21.02886	0.0818581	0.35314069	1.9823068	20	1 7.4	19.8
379869 2012 HH_{23}	17.0	X	323.99478	230.08527	111.96788	9.78503	0.2474311	0.26689311	2.3891558	20	8 3.2	18.3
379870 2012 HA_{26}	15.6	X	119.30403	217.99411	99.66636	16.77270	0.3029652	0.18179514	3.0861322	20	—	—
379871 2012 HW_{33}	17.7	X	148.34219	9.49818	48.49804	21.81442	0.0920990	0.36320347	1.9455216	20	4 12.4	20.2
379872 2012 HU_{34}	18.0	X	111.95292	150.74944	116.32851	2.78556	0.1892105	0.29524194	2.2336615	20	12 11.8	21.5
379873 2012 HS_{35}	17.9	X	10.64038	268.26763	133.99576	5.64266	0.0064032	0.30910501	2.1663669	20	—	—
379874 2012 HB_{39}	17.5	X	206.68637	4.14509	153.47220	4.52005	0.0339560	0.29646025	2.2275377	20	11 13.2	20.2
379875 2012 HP_{39}	16.3	X	146.25202	273.46668	4.98908	14.95860	0.3911256	0.18059792	3.0997563	20	—	—
379876 2012 HX_{44}	18.0	X	65.34906	75.90365	207.04236	4.95500	0.1565357	0.28161714	2.3051366	20	11 13.0	21.1
379877 2012 HB_{47}	18.2	X	122.78578	246.45027	209.90731	20.87213	0.0982460	0.36631694	1.9344821	20	4 27.4	20.1
379878 2012 HN_{47}	16.8	X	327.04932	40.88678	218.59660	12.07925	0.1966573	0.23849554	2.5752291	20	3 31.4	19.8
379879 2012 HB_{49}	16.1	X	218.44385	192.04142	87.50429	13.47073	0.1839769	0.20958039	2.8069561	20	1 6.2	20.8
379880 2012 HL_{51}	17.7	X	35.05529	83.47625	183.52148	2.91283	0.1627111	0.27024433	2.3693633	20	9 9.7	20.1
379881 2012 HH_{55}	16.1	X	258.07238	211.65125	129.36325	5.73183	0.2244747	0.23770408	2.5809423	20	4 20.2	20.2
379882 2012 HX_{60}	17.8	X	16.40961	84.05136	201.57624	4.65277	0.1511834	0.26726117	2.3869618	20	9 1.3	20.1
379883 2012 HV_{61}	17.5	X	85.27113	220.93847	71.64546	6.23796	0.1378725	0.29599467	2.2298730	20	12 16.7	20.8
379884 2012 HJ_{62}	16.7	X	265.53271	51.31114	187.63818	14.18925	0.0812649	0.22050237	2.7134837	20	1 4.9	20.9
379885 2012 HG_{63}	17.9	X	3.93988	217.83966	77.40778	3.37105	0.2030175	0.26231123	2.4168969	20	9 1.3	19.8
379886 2012 HL_{63}	17.8	X	18.01041	191.51255	102.33075	3.49893	0.1885474	0.26645136	2.3917957	20	9 27.0	20.2
379887 2012 HC_{67}	17.2	X	19.69946	245.30053	40.43985	7.15545	0.1080821	0.26744736	2.3858538	20	9 6.9	19.8
379888 2012 HH_{67}	16.9	X	278.33799	235.38891	76.06712	12.63916	0.2032703	0.23745973	2.5827125	20	4 10.3	20.8
379889 2012 HV_{67}	16.9	X	270.86263	223.93938	90.05464	7.65164	0.0979108	0.23649398	2.5897390	20	4 16.2	20.5
379890 2012 HE_{68}	17.4	X	50.90453	298.54177	202.75762	22.21585	0.0494214	0.35647205	1.9699372	20	2 25.5	19.7
379891 2012 HF_{71}	17.9	X	45.16495	212.09321	42.06767	2.20523	0.1326171	0.26725895	2.3869750	20	9 2.8	20.6
379892 2012 HO_{72}	16.5	X	185.06760	215.92234	110.46668	12.55995	0.2224224	0.21059704	2.7979152	20	2 4.2	21.3
379893 2012 HB_{73}	17.7	X	42.21206	207.46076	64.50776	3.23487	0.1902207	0.27263572	2.3554879	20	10 4.9	20.5
379894 2012 HN_{80}	17.9	X	273.05392	19.42447	105.41440	4.95119	0.0584113	0.30133565	2.2034458	20	12 31.2	20.0
379895 2012 HZ_{81}	17.1	X	59.06362	199.61163	72.91173	7.99503	0.0984783	0.27620529	2.3351497	20	10 16.9	20.1
379896 2012 HN_{82}	16.1	X	269.20387	134.07478	205.82053	4.49118	0.2500566	0.24079009	2.5588430	20	4 24.6	19.8
379897 2012 JF_{2}	16.4	X	308.03695	96.33594	171.38487	12.63316	0.1340197	0.23387578	2.6090309	20	3 27.1	19.6
379898 2012 JG_{4}	17.4	X	246.11289	157.63621	172.00449	7.57544	0.1891969	0.23259021	2.6186357	20	3 27.4	21.5
379899 2012 JX_{7}	17.7	X	44.10406	84.39778	258.08099	2.07757	0.1627747	0.29129414	2.2537974	20	—	—
379900 2012 JQ_{13}	16.8	X	220.99863	169.35678	144.81656	9.96994	0.1083472	0.21885628	2.7270726	20	2 19.0	21.1
379901 2012 JA_{16}	17.7	X	181.10097	209.66982	37.85732	1.08694	0.1092229	0.31174549	2.1541169	20	—	—
379902 2012 JZ_{19}	17.7	X	117.09844	109.00673	146.65789	3.88698	0.1296104	0.29193363	2.2505049	20	12 1.2	21.0
379903 2012 JF_{25}	16.6	X	278.94150	211.89940	71.06498	11.19113	0.1636020	0.22949174	2.6421533	20	3 11.1	20.6
379904 2012 JG_{26}	17.1	X	67.50369	118.94270	125.63166	10.15296	0.1058480	0.26995927	2.3710309	20	9 19.5	20.3
379905 2012 JH_{26}	16.0	X	160.48027	251.60355	43.57271	16.15619	0.2710240	0.18910785	3.0060510	20	—	—
379906 2012 JR_{27}	17.8	X	252.15650	162.19257	231.83124	6.13366	0.0369282	0.26170659	2.4206181	20	7 15.0	20.9
379907 2012 JJ_{34}	17.2	X	333.61358	215.90008	44.53013	4.75929	0.1627708	0.24259086	2.5461643	20	4 22.0	19.6
379908 2012 JW_{34}	16.7	X	159.21812	69.58945	233.96227	9.42810	0.0733569	0.19791123	2.9162344	20	—	—
379909 2012 JF_{37}	17.2	X	296.59518	184.96562	109.56834	4.05907	0.1311743	0.23754559	2.5820901	20	4 17.2	20.5
379910 2012 JN_{53}	16.8	X	222.59229	90.92066	224.57845	11.97016	0.1543790	0.21680653	2.7442340	20	2 15.9	21.5
379911 2012 JH_{58}	17.4	X	336.51505	279.69219	59.58231	4.90946	0.0815651	0.27494427	2.3422842	20	9 8.8	19.8
379912 2012 JZ_{58}	17.9	X	155.61612	231.19932	60.85039	1.96569	0.0879809	0.31833003	2.1243088	20	—	—
379913 2012 JX_{59}	18.4	X	341.48447	259.83230	66.50908	2.56281	0.1214855	0.26499853	2.4005296	20	8 26.3	20.6
379914 2012 JK_{63}	17.3	X	26.70198	211.96108	50.01084	6.91089	0.0922006	0.26394079	2.4069388	20	8 10.3	20.0
379915 2012 JU_{64}	17.1	X	26.39386	343.45607	209.64319	6.53832	0.0736080	0.23874382	2.5734434	20	4 23.4	19.9
379916 2012 JL_{65}	17.5	X	94.03878	240.99302	54.76359	4.07598	0.1518952	0.29136026	2.2534565	20	12 29.4	20.8
379917 2012 JT_{65}	16.7	X	312.05268	311.52984	64.79056	15.04306	0.1323767	0.27163406	2.3612750	20	9 24.9	19.3
379918 2012 JE_{66}	17.2	X	73.66524	122.46671	126.88610	5.64586	0.1988084	0.27447190	2.3449709	20	10 15.0	20.6
379919 2012 JG_{66}	15.7	X	281.34500	288.66922	49.67444	6.42452	0.2626164	0.24278362	2.5448164	20	5 4.2	19.1
379920 2012 KQ_{11}	16.6	X	300.35661	180.25526	132.56554	3.15428	0.1980906	0.24353164	2.5396027	20	5 5.9	19.6

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
379921 2012 KL_{15}	16.4	X	267.10812	245.97547	87.22511	11.09523	0.1801866	0.23876676	2.5732786	20	4 26.8	20.3
379922 2012 KT_{18}	16.5	X	282.28915	112.04235	146.24667	14.01592	0.1994547	0.22223904	2.6993290	20	2 3.0	20.5
379923 2012 KC_{27}	17.3	X	8.90084	274.43226	67.88182	6.36140	0.1908306	0.28028165	2.3124531	20	11 23.9	19.6
379924 2012 KX_{27}	16.6	X	315.60871	181.07584	94.62560	6.00966	0.1646463	0.23864867	2.5741274	20	4 15.2	19.6
379925 2012 KO_{34}	16.5	X	263.52957	159.33131	181.83703	4.61172	0.2352105	0.23744620	2.5828107	20	4 22.9	20.3
379926 2012 KZ_{42}	16.0	X	271.76113	136.84910	122.77818	14.16057	0.1293261	0.21797369	2.7344291	20	2 3.2	19.9
379927 2012 KJ_{44}	17.2	X	269.49432	63.75681	192.82988	8.64452	0.1568815	0.22345344	2.6895400	20	1 22.2	21.4
379928 2012 KW_{44}	16.5	X	318.52981	31.69094	220.39456	13.72472	0.2046207	0.23324667	2.6137201	20	3 3.7	19.9
379929 2012 KK_{49}	17.0	X	63.55170	81.53262	206.95507	6.18019	0.1042881	0.27869537	2.3212195	20	11 11.3	20.0
379930 2012 KX_{49}	16.0	X	142.92753	76.10882	213.58831	8.70937	0.0549833	0.18472200	3.0534464	20	—	—
379931 2012 LQ_{2}	17.1	X	36.52008	48.97067	253.76117	5.31683	0.1511573	0.27320484	2.3522156	20	10 30.6	19.9
379932 2012 LW_{2}	16.1	X	254.59076	226.30338	69.80324	15.06544	0.1720267	0.22165343	2.7040813	20	3 3.6	20.6
379933 2012 LM_{4}	15.4	X	112.60534	184.88859	120.31479	21.56847	0.2096402	0.17340414	3.1849044	20	—	—
379934 2012 LN_{4}	16.6	X	244.75824	63.10776	222.31043	8.14434	0.2199255	0.21679847	2.7443020	20	1 29.4	21.4
379935 2012 LM_{7}	16.9	X	267.92318	163.02014	181.63586	15.06972	0.1485543	0.24308691	2.5426993	20	5 14.9	20.6
379936 2012 LX_{7}	17.2	X	354.48549	218.01453	121.88932	6.42141	0.1589063	0.27007371	2.3703611	20	10 20.2	19.4
379937 2012 LG_{8}	16.4	X	236.79929	92.52611	234.19819	10.21629	0.2018314	0.22220988	2.6995651	20	3 10.4	21.1
379938 2012 LW_{9}	16.5	X	94.03716	114.53566	196.63644	21.46407	0.1851604	0.16902481	3.2396822	20	12 24.8	22.1
379939 2012 LV_{11}	17.6	X	80.44594	58.77287	185.45956	6.28656	0.0893101	0.27320633	2.3522070	20	9 29.9	20.5
379940 2012 LX_{14}	16.0	X	85.48291	121.06167	199.52130	21.41873	0.0484599	0.17427536	3.1742811	20	12 16.5	21.0
379941 2012 LE_{17}	16.7	X	58.23700	285.89161	300.41453	5.94205	0.0811671	0.26103348	2.4247776	20	8 1.9	19.5
379942 2012 LH_{19}	17.4	X	100.10109	48.22951	166.26275	3.11916	0.1518647	0.27214716	2.3583061	20	9 19.7	20.7
379943 2012 LK_{19}	17.9	X	349.77726	246.57618	206.13604	3.25688	0.0271368	0.31279421	2.1492994	20	—	—
379944 2012 LH_{23}	17.6	X	349.15585	262.55186	174.84654	3.81331	0.0618380	0.30723908	2.1751293	20	—	—
379945 2012 MG_{1}	17.2	X	167.92440	49.70256	97.92045	6.99270	0.0603873	0.27019453	2.3696544	20	9 4.9	20.5
379946 2012 MD_{9}	17.8	X	58.41377	68.83575	229.50580	5.94920	0.1262334	0.28073920	2.3099399	20	11 21.0	20.7
379947 2012 MP_{12}	16.0	X	308.59653	20.82696	155.97857	10.31251	0.0286291	0.19140179	2.9819845	20	—	—
379948 2012 MV_{12}	15.7	X	101.27276	206.00554	152.54254	11.52308	0.0981527	0.17724176	3.1387641	20	—	—
379949 2012 OM_{1}	13.2	X	258.02268	355.35569	342.65848	20.43128	0.0783510	0.08428615	5.1518740	20	4 26.7	20.4
379950 2012 OC_{2}	16.4	X	73.83738	52.06306	185.00465	14.89743	0.1337933	0.25556725	2.4592306	20	9 14.1	19.8
379951 2012 OY_{3}	16.7	X	277.18422	59.61488	242.39811	5.31569	0.0153567	0.21803941	2.7338796	20	4 16.5	20.4
379952 2012 PV_{14}	15.7	X	212.61271	330.84823	305.57584	6.08419	0.1194004	0.18324219	3.0698635	20	1 2.1	20.5
379953 2012 PC_{18}	15.7	X	268.10577	259.10958	338.47941	9.25681	0.0289911	0.18810625	3.0167123	20	1 20.6	20.1
379954 2012 PM_{20}	15.5	X	148.21702	13.19953	293.20969	9.42126	0.0421182	0.17264634	3.1942173	20	—	—
379955 2012 PC_{30}	15.3	X	196.45392	337.99448	297.18008	10.07926	0.0567162	0.18113775	3.0935946	20	—	—
379956 2012 PJ_{33}	16.5	X	271.59206	324.15316	279.24011	6.94452	0.2588527	0.20457282	2.8525773	20	1 3.9	21.1
379957 2012 PX_{33}	15.8	X	126.55625	53.74913	273.73771	8.07867	0.0647589	0.17247403	3.1963445	20	—	—
379958 2012 PB_{39}	16.0	X	89.21665	195.94775	180.04233	9.35651	0.0823329	0.17390125	3.1788320	20	—	—
379959 2012 QD_{2}	16.6	X	204.92462	32.79892	255.70450	4.77179	0.1211789	0.18863037	3.0111216	20	1 7.4	21.4
379960 2012 QC_{6}	16.0	X	161.63478	252.82032	74.59026	2.12912	0.1155419	0.18383870	3.0632193	20	1 12.9	20.6
379961 2012 QA_{9}	15.8	X	145.93400	75.53757	265.43493	8.09070	0.0970048	0.18212266	3.0824312	20	1 10.5	20.5
379962 2012 QZ_{21}	15.7	X	238.91549	309.58964	292.59021	4.74304	0.1780697	0.18069920	3.0985979	20	—	—
379963 2012 QR_{25}	15.9	X	340.11092	288.61711	253.39752	1.95246	0.1058381	0.18683725	3.0303566	20	1 30.7	19.9
379964 2012 QH_{30}	13.2	X	281.46359	3.61271	306.10524	11.88749	0.0417512	0.08584693	5.0892391	20	4 30.1	20.2
379965 2012 QV_{34}	13.4	X	317.38641	54.57022	214.74010	9.16316	0.0420761	0.08429294	5.1515974	20	5 1.0	20.0
379966 2012 QT_{35}	15.6	X	299.11047	225.53635	322.46450	7.01845	0.0321562	0.17471369	3.1689697	20	—	—
379967 2012 QP_{39}	15.2	X	217.72146	340.48316	282.61179	9.53887	0.0322989	0.17826993	3.1266840	20	—	—
379968 2012 QO_{40}	15.5	X	286.42222	220.85583	113.74587	12.68315	0.1435962	0.22564121	2.6721271	20	5 27.3	19.2
379969 2012 QG_{44}	16.3	X	124.36795	215.34083	128.37373	2.61107	0.1538902	0.17497098	3.1658624	20	—	—
379970 2012 RL_{26}	15.4	X	83.90284	254.86041	145.98948	5.95001	0.0220271	0.17610393	3.1522696	20	1 1.5	19.9
379971 2012 RA_{30}	16.6	X	229.85853	253.54991	153.03425	10.82832	0.2220071	0.22319901	2.6915836	20	6 14.2	21.1
379972 2012 SA_{1}	12.9	X	261.40476	148.64345	175.36648	15.88902	0.1491618	0.08119487	5.2818208	20	4 18.0	20.2
379973 2012 SQ_{21}	13.2	X	330.78035	190.84717	89.23905	5.38198	0.0132992	0.08298157	5.2057299	20	5 31.8	19.9
379974 2012 SH_{28}	13.8	X	270.77030	316.51305	20.11258	27.84841	0.0517248	0.08417597	5.1563687	20	5 12.2	20.9
379975 2012 TJ_{7}	14.1	X	220.37006	172.94236	203.23954	2.78321	0.0635170	0.08473871	5.1335149	20	5 11.5	21.0
379976 2012 TP_{7}	13.3	X	188.12832	98.40676	307.29429	8.82409	0.0748465	0.08135783	5.2747652	20	5 9.3	20.7
379977 2012 TN_{15}	12.6	X	271.36901	302.90024	31.32311	21.06704	0.1170245	0.08298264	5.2056851	20	5 7.6	19.6
379978 2012 TH_{52}	13.9	X	312.96763	349.24399	288.63681	3.41029	0.0537112	0.08102711	5.2891085	20	5 3.0	20.7
379979 2012 TM_{52}	13.4	X	240.66825	11.06234	353.20711	13.33951	0.0150055	0.08183644	5.2541793	20	5 20.1	20.6
379980 2012 TF_{78}	13.2	X	324.49876	244.34240	30.91255	18.75098	0.0781668	0.08438921	5.1476788	20	5 9.6	19.9
379981 2012 TK_{108}	16.1	X	212.46006	60.28458	205.96251	12.67959	0.1330018	0.18093553	3.0958992	20	—	—
379982 2012 TY_{135}	15.8	X	219.68248	188.50885	71.04642	6.05114	0.1134681	0.17103708	3.2142220	20	—	—
379983 2012 TJ_{144}	14.1	X	306.23999	58.27158	231.90971	11.78726	0.1356618	0.08280109	5.2132917	20	4 29.2	20.8
379984 2012 TQ_{145}	14.1	X	27.46623	246.22169	343.23786	2.14256	0.0271179	0.08243458	5.2287324	20	6 9.8	21.0
379985 2012 TM_{191}	14.0	X	318.73983	310.28181	328.63868	8.07283	0.1359583	0.08335309	5.1902498	20	4 30.3	20.6
379986 2012 TM_{241}	14.3	X	288.38873	270.03272	31.41841	8.61702	0.1857470	0.08343094	5.1870205	20	4 14.9	21.1
379987 2012 TK_{294}	16.9	X	152.42444	354.41465	249.85719	5.05787	0.1287898	0.25812096	2.4429835	20	12 14.4	20.7
379988 2012 TP_{308}	15.4	X	81.75176	179.11008	286.90583	10.28296	0.1003807	0.17904802	3.1176189	20	3 22.3	19.8
379989 2012 UH_{134}	15.6	X	119.85619	112.75006	308.56059	13.26249	0.0748056	0.18269229	3.0760206	20	3 9.8	20.3
379990 2012 UL_{161}	15.8	X	66.93949	214.28609	278.44390	6.12376	0.1101471	0.18019157	3.1044148	20	4 9.0	20.1
379991 2012 US_{166}	15.8	X	31.75382	220.36691	290.14871	7.62797	0.0318726	0.18222149	3.0813165	20	3 4.9	20.1
379992 2012 VZ_{111}	15.7	X	347.11059	24.10650	302.96283	13.81916	0.1335411	0.23642903	2.5902132	20	8 26.7	18.6
379993 2013 BU_{39}	17.8	X	298.61410	108.72038	137.34731	3.25899	0.1871684	0.28078128	2.3097091	20	1 30.8	21.0
379994 2013 CS_{1}	17.8	X	357.66828	5.75666	134.64556	2.02942	0.1270524	0.27068355	2.3667995	20	—	—
379995 2013 CC_{68}	16.5	X	284.96054	176.16626	244.72313	3.87479	0.0541100	0.21270250	2.7794209	20	9 28.0	20.0
379996 2013 CX_{126}	17.5	X	270.57462	121.18109	124.15476	4.75350	0.0989951	0.27039833	2.3684636	20	1 10.2	20.9
379997 2013 CM_{156}	13.5	X	316.08338	262.82981	146.14774	13.94855	0.1017847	0.08073531	5.3018453	20	10 4.2	20.2
379998 2013 CG_{159}	13.7	X	317.71524	256.81104	159.70796	12.90848	0.0691059	0.08252322	5.2249877	20	10 17.2	20.4
379999 2013 CY_{212}	16.8	X	296.14279	255.28486	153.31480	5.03844	0.0694977	0.21168721	2.7883009	20	9 29.1	20.2
380000 2013 CB_{213}	17.6	X	278.21303	7.26487	141.30880	2.07338	0.1389934	0.23704288	2.5857395	20	—	—