

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52001 2001 <i>UO</i> ₃₀	13.6 ^m	X	46.08074	28.10428	103.20433	9.94331	0.1186077	0.17919795	3.1158798	20	3 16.3	17.6
52002 2001 <i>UT</i> ₃₀	13.5	X	278.86117	232.32879	74.64331	11.39575	0.0947679	0.19010158	2.9955661	20	4 21.0	17.8
52003 2001 <i>VB</i> ₇₇	12.6	X	330.35859	113.03567	43.40248	17.40746	0.1693967	0.17431142	3.1738433	20	—	—
52004 2001 <i>YH</i> ₂	13.7	X	232.01058	275.98770	84.82233	9.76440	0.1050563	0.19169119	2.9789825	20	5 2.2	18.3
52005 Maik	14.0	X	17.53134	73.89907	163.91292	20.46408	0.1445711	0.27966163	2.3158697	20	6 21.3	16.7
52006 2002 <i>EK</i> ₃₁	13.8	X	133.37953	224.75024	220.28688	16.11454	0.2472963	0.23290006	2.6163127	20	5 13.3	18.1
52007 2002 <i>EQ</i> ₄₇	13.4	X	132.24609	53.44345	348.39938	15.16501	0.2223638	0.11167284	4.2707518	20	3 22.3	20.0
52008 Johnnaka	14.1	X	29.82640	130.68242	148.87743	12.48354	0.1265574	0.17848226	3.1242037	20	8 31.3	17.9
52009 2002 <i>EU</i> ₁₄₆	15.3	X	44.42333	265.15509	144.97676	2.70668	0.0643328	0.20352139	2.8623936	20	—	—
52010 2002 <i>JA</i> ₅₉	15.2	X	311.98347	229.27469	25.82644	2.16199	0.1788069	0.21257036	2.7805726	20	3 10.7	18.8
52011 2002 <i>LW</i> ₁₉	15.1	X	211.85524	20.75112	279.04529	8.50529	0.2483884	0.25412846	2.4685040	20	1 18.7	19.5
52012 2002 <i>LQ</i> ₅₅	13.7	X	105.64698	59.81253	210.36334	21.53699	0.1242061	0.18016092	3.1047668	20	11 18.3	18.6
52013 2002 <i>LJ</i> ₅₉	14.3	X	293.72620	179.16494	182.62343	15.28978	0.2047261	0.21408145	2.7674728	20	6 30.2	18.0
52014 2002 <i>NZ</i> ₁₃	15.9	X	267.13184	345.81218	284.70390	1.58411	0.1516222	0.25783532	2.4447874	20	2 3.8	19.4
52015 2002 <i>NG</i> ₁₇	14.7	X	280.02823	230.95615	169.44956	25.10569	0.2670196	0.27549891	2.3391395	20	7 26.8	17.9
52016 2002 <i>NO</i> ₁₈	13.0	X	9.33222	219.83902	194.57830	5.64368	0.2528187	0.12383498	3.9863352	20	—	—
52017 2002 <i>NB</i> ₂₇	16.2	X	278.16808	147.17579	164.12067	1.89684	0.2222584	0.26222347	2.4174361	20	3 30.6	19.7
52018 2002 <i>NO</i> ₂₇	14.8	X	130.36542	334.17383	328.42618	2.79798	0.1804798	0.18165022	3.0877735	20	—	—
52019 2002 <i>NO</i> ₃₂	14.7	X	41.70926	80.53728	274.96551	10.96234	0.1600140	0.22920436	2.6443614	20	—	—
52020 2002 <i>NM</i> ₃₃	14.6	X	63.65387	359.08616	294.25710	13.08142	0.1564543	0.22731235	2.6590144	20	11 10.3	18.7
52021 2002 <i>NK</i> ₃₉	15.3	X	60.27579	195.66586	200.73401	15.17937	0.1702630	0.23612994	2.5924000	20	—	—
52022 2002 <i>NQ</i> ₅₂	16.6	X	39.68642	138.90656	120.80515	3.09170	0.2081285	0.27728688	2.3290733	20	9 17.3	19.2
52023 2002 <i>OH</i> ₃	13.9	X	103.49240	111.37638	235.47605	8.17108	0.0679471	0.18229739	3.0804612	20	—	—
52024 2002 <i>OH</i> ₄	13.8	X	144.35607	99.62399	268.66412	8.98987	0.1167906	0.18986152	2.9980906	20	2 8.5	18.5
52025 2002 <i>OR</i> ₁₇	14.0	X	313.12782	211.60135	266.81551	7.98881	0.0417560	0.18219586	3.0816055	20	—	—
52026 2002 <i>OA</i> ₂₄	13.8	X	165.68520	216.32467	276.62033	11.72856	0.0256283	0.20973924	2.8055387	20	8 1.4	17.8
52027 2002 <i>OB</i> ₂₄	13.5	X	93.68228	0.38047	343.87236	20.63696	0.2881033	0.17847439	3.1242955	20	—	—
52028 2002 <i>PT</i> ₂₉	15.2	X	18.53131	143.38597	289.19797	4.32350	0.2389102	0.23746177	2.5826978	20	—	—
52029 2002 <i>PN</i> ₃₂	15.4	X	318.00371	9.85546	303.28950	6.34682	0.1323726	0.26916589	2.3756878	20	6 15.7	17.8
52030 Maxvasile	15.8	X	244.86508	227.16094	140.03121	4.74329	0.1373144	0.26357211	2.4091828	20	5 17.8	19.3
52031 2002 <i>PU</i> ₃₅	16.1	X	177.66685	90.75627	237.36396	0.39924	0.0863135	0.19405021	2.9547901	20	1 26.1	20.5
52032 2002 <i>PK</i> ₃₇	15.3	X	0.71196	21.57508	334.39962	9.07532	0.2787744	0.22255040	2.6968107	20	11 22.7	18.1
52033 2002 <i>PT</i> ₄₁	16.2	X	302.01597	234.32986	118.06397	2.10271	0.2108999	0.26807354	2.3821371	20	7 3.7	18.3
52034 2002 <i>PX</i> ₄₂	14.4	X	204.50116	227.62391	330.58232	13.17347	0.0853451	0.23297086	2.6157826	20	12 10.2	18.3
52035 2002 <i>PS</i> ₄₃	13.9	X	268.97975	277.87393	185.13288	29.49382	0.3905861	0.21682117	2.7441105	20	9 10.0	17.8
52036 2002 <i>PV</i> ₄₆	15.8	X	71.75178	353.68817	333.92546	1.04478	0.2392050	0.28570042	2.2831203	20	—	—
52037 2002 <i>PR</i> ₄₇	14.7	X	194.65085	139.99149	183.96828	15.69729	0.1083582	0.19465878	2.9486285	20	2 4.7	19.5
52038 2002 <i>PX</i> ₄₈	14.2	X	96.25612	342.41090	311.24434	13.43402	0.1632037	0.23089399	2.6314450	20	12 18.4	18.5
52039 2002 <i>PB</i> ₅₉	14.7	X	57.47992	358.24354	334.80537	12.89997	0.2020110	0.23008340	2.6376218	20	—	—
52040 2002 <i>PJ</i> ₆₁	15.8	X	132.67383	81.08317	233.34219	1.37094	0.1522905	0.23876541	2.5732883	20	—	—
52041 2002 <i>PT</i> ₆₁	15.2	X	188.78835	266.13002	165.52163	7.61941	0.0364035	0.26330319	2.4108229	20	6 14.8	18.5
52042 2002 <i>PH</i> ₆₃	15.0	X	249.14859	137.28134	319.78608	12.83564	0.0654537	0.22495498	2.6775585	20	9 22.7	18.8
52043 2002 <i>PM</i> ₇₅	15.8	X	95.52864	65.66435	328.68177	2.11309	0.0969611	0.24264275	2.5458013	20	1 5.9	18.8
52044 2002 <i>PN</i> ₇₅	16.0	X	11.61094	154.52359	141.19783	5.84485	0.2288600	0.27318283	2.3523419	20	9 26.4	18.0
52045 2002 <i>PE</i> ₈₀	14.8	X	65.87588	70.92468	245.00871	13.31131	0.1102799	0.22959932	2.6413279	20	12 9.0	18.5
52046 2002 <i>PH</i> ₈₃	16.4	X	93.95180	210.66858	119.49130	3.00905	0.2014352	0.29168148	2.2518017	20	—	—
52047 2002 <i>PC</i> ₈₅	14.5	X	98.81984	247.88180	86.76835	3.04616	0.1570296	0.18103600	3.0947536	20	—	—
52048 2002 <i>PL</i> ₉₂	14.4	X	64.14027	268.81137	113.90893	9.94778	0.1091669	0.18252738	3.0778731	20	—	—
52049 2002 <i>PL</i> ₉₅	16.1	X	358.52091	131.48673	120.47207	3.14954	0.1717428	0.26962643	2.3729818	20	5 31.9	17.7
52050 2002 <i>PV</i> ₉₆	14.9	X	116.63698	194.79655	133.32960	14.86359	0.1103786	0.23924983	2.5698136	20	—	—
52051 2002 <i>PA</i> ₉₇	15.3	X	232.24519	71.03385	354.50874	6.55447	0.0640889	0.27051458	2.3677850	20	8 1.7	18.3
52052 2002 <i>PJ</i> ₁₁₅	14.5	X	326.81508	148.96517	182.95735	14.62265	0.2169404	0.21763860	2.7372351	20	7 16.8	17.5
52053 2002 <i>PQ</i> ₁₁₉	14.9	X	272.81148	261.31239	165.58038	10.97950	0.1656241	0.22044001	2.7139954	20	9 4.6	18.3
52054 2002 <i>PB</i> ₁₂₁	15.1	X	359.48430	173.34698	185.41872	10.94078	0.0827893	0.22515724	2.6759548	20	11 3.0	18.4
52055 2002 <i>PR</i> ₁₂₆	16.5	X	64.26125	210.68917	70.42977	3.87798	0.2136294	0.28240847	2.3008285	20	11 15.8	19.9
52056 2002 <i>PO</i> ₁₃₀	16.2	X	47.41550	338.76519	327.01611	3.27586	0.2455886	0.28239475	2.3009029	20	12 2.7	19.5
52057 Clarkhowell	14.8	X	58.53413	9.11159	328.17969	9.40971	0.1004521	0.23196067	2.6233716	20	12 27.5	18.6
52058 2002 <i>PQ</i> ₁₃₂	15.9	X	292.40639	333.31858	348.60039	0.99976	0.1947291	0.26727196	2.3868976	20	5 5.0	18.7
52059 2002 <i>PH</i> ₁₃₃	15.6	X	227.43869	321.30650	336.43767	1.58895	0.1686211	0.25410564	2.4686519	20	1 30.7	19.6
52060 2002 <i>QJ</i> ₇	14.4	X	119.17120	105.36403	338.72692	12.35922	0.1146807	0.25727962	2.4483065	20	4 6.9	17.9
52061 2002 <i>QR</i> ₉	14.9	X	88.55557	107.18915	268.33305	1.85492	0.0979589	0.18434130	3.0576489	20	—	—
52062 2002 <i>QL</i> ₁₂	14.9	X	179.83143	209.74544	175.46433	8.08745	0.1884695	0.20076536	2.8885298	20	4 8.5	19.8
52063 2002 <i>QS</i> ₁₈	15.1	X	136.18820	160.92371	352.05940	10.00818	0.1703356	0.26980172	2.3719539	20	8 9.9	18.8
52064 2002 <i>QH</i> ₂₀	14.1	X	172.32258	299.75051	313.66759	8.40602	0.0372955	0.17876498	3.1209089	20	—	—
52065 2002 <i>QA</i> ₂₃	15.3	X	212.17802	9.30540	330.47800	5.98190	0.1741057	0.25631065	2.4544731	20	3 6.8	19.3
52066 2002 <i>QE</i> ₂₇	16.5	X	323.94126	127.84801	115.93177	3.59132	0.1692689	0.26140694	2.4224676	20	3 9.6	19.2
52067 2002 <i>QF</i> ₃₆	13.7	X	59.33836	1.18576	342.43485	8.90820	0.0981149	0.17438586	3.1729401	20	12 21.5	18.4
52068 2002 <i>QX</i> ₄₀	12.8	X	47.48972	299.74710	87.29501	6.37607	0.2789680	0.12547893	3.9514410	20	—	—
52069 2002 <i>QJ</i> ₄₁	16.1	X	64.00315	359.62404	345.12783	7.38862	0.1858204	0.28978059	2.2616385	20	—	—
52070 2002 <i>QP</i> ₄₁	14.9	X	106.14954	331.90468	12.09987	1.37581	0.1976761	0.18502914	3.0500664	20	—	—
52071 2002 <i>QX</i> ₄₁	14.2	X	297.30009	332.43506	72.85331	2.20312	0.1321010	0.16753918	3.2588056	20	9 11.3	18.3
52072 2002 <i>QC</i> ₄₅	15.5	X	342.83133	35.37878	302.42787	1.08166	0.0904073	0.21925429	2.7237714	20	9 4.8	18.6
52073 2002 <i>QD</i> ₄₅	15.4	X</										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52081 2002 <i>RM</i> ₇₁	15.9 ^m	X	0.26312	347.39447	252.60317	5.47308	0.0924689	0.26413342	2.4057684	20	5 15.8	18.3
52082 2002 <i>RU</i> ₈₇	15.8	X	298.27274	290.99255	14.97389	2.64323	0.2271631	0.26299624	2.4126984	20	4 15.7	18.7
52083 2002 <i>RQ</i> ₈₈	16.5	X	118.33552	243.89688	147.53455	3.35179	0.1232799	0.24671861	2.5176853	20	2 4.5	19.7
52084 2002 <i>RC</i> ₉₃	14.1	X	291.17521	317.17216	229.14938	9.10829	0.1228743	0.18685031	3.0302153	20	—	—
52085 2002 <i>RC</i> ₁₀₂	15.0	X	113.63780	310.39611	45.72540	3.74087	0.2452300	0.23773658	2.5807070	20	1 4.2	18.4
52086 2002 <i>RY</i> ₁₀₈	15.5	X	342.64845	31.89416	236.98794	8.23567	0.2194333	0.21018813	2.8015428	20	5 18.1	18.1
52087 2002 <i>RH</i> ₁₁₁	14.0	X	97.95088	306.78323	348.04111	12.54517	0.1765448	0.22809521	2.6529268	20	12 21.2	18.5
52088 2014 <i>P-L</i>	15.0	X	79.25777	338.54918	357.01080	7.72604	0.1328286	0.28323968	2.2963248	20	—	—
52089 2027 <i>P-L</i>	15.7	X	247.18635	110.49476	280.55340	1.50601	0.2097199	0.25972012	2.4329451	20	6 11.7	19.1
52090 2046 <i>P-L</i>	15.8	X	52.96038	96.51685	288.57192	2.91200	0.1614948	0.23412314	2.6071929	20	—	—
52091 2075 <i>P-L</i>	15.9	X	44.40475	82.85885	353.67729	3.80714	0.0990035	0.23585361	2.5944245	20	—	—
52092 2083 <i>P-L</i>	15.3	X	83.01379	199.50686	231.98727	3.14233	0.2298413	0.23680666	2.5874588	20	2 26.0	18.3
52093 2088 <i>P-L</i>	15.2	X	235.88353	120.14235	309.34501	3.35524	0.0432090	0.21127321	2.7919423	20	8 7.5	19.1
52094 2177 <i>P-L</i>	15.4	X	127.98188	197.20797	246.75660	1.28276	0.2523671	0.19005500	2.9960554	20	5 7.9	20.4
52095 2191 <i>P-L</i>	14.7	X	96.55380	94.62662	357.87736	11.00196	0.0454316	0.18978184	2.9989296	20	3 20.9	18.9
52096 2221 <i>P-L</i>	17.0	X	237.51857	72.93073	236.54486	3.58172	0.1234406	0.30597713	2.1811058	20	2 18.3	20.2
52097 2565 <i>P-L</i>	15.0	X	299.08531	297.76965	23.51898	4.83304	0.0220641	0.25938201	2.4350590	20	6 11.6	17.9
52098 2568 <i>P-L</i>	14.5	X	245.01302	27.69834	5.96934	3.35018	0.1007538	0.21018240	2.8015937	20	6 25.0	18.5
52099 2589 <i>P-L</i>	13.9	X	288.16309	19.88640	145.20761	3.23018	0.1508274	0.23485796	2.6017517	20	—	—
52100 2591 <i>P-L</i>	14.8	X	232.28237	232.01040	179.72176	4.88363	0.1264995	0.21008613	2.8024495	20	6 30.4	19.0
52101 2598 <i>P-L</i>	14.5	X	106.55955	153.96289	30.63467	4.67868	0.0081877	0.21092368	2.7950311	20	7 28.4	18.4
52102 2616 <i>P-L</i>	15.8	X	142.12901	43.00928	31.39520	3.92650	0.0127939	0.25733662	2.4479450	20	4 16.0	18.9
52103 2658 <i>P-L</i>	15.3	X	114.40881	289.92106	17.94219	7.01767	0.1518598	0.28396004	2.2924396	20	—	—
52104 2660 <i>P-L</i>	14.5	X	200.66035	134.56978	178.45446	2.69816	0.1328992	0.18883313	3.0089659	20	1 31.6	19.4
52105 2669 <i>P-L</i>	16.3	X	333.11741	233.44084	173.10701	5.87052	0.1651813	0.28091188	2.3089932	20	12 19.9	18.3
52106 2673 <i>P-L</i>	15.0	X	314.23742	279.22596	100.41835	1.79752	0.0816091	0.21308669	2.7760791	20	9 16.5	18.4
52107 2703 <i>P-L</i>	16.0	X	310.82359	266.94214	184.81598	6.57119	0.1000368	0.28190971	2.3035414	20	—	—
52108 2830 <i>P-L</i>	15.0	X	87.63500	307.70115	142.47443	2.79527	0.2265158	0.18881746	3.0091323	20	4 3.5	19.1
52109 2863 <i>P-L</i>	15.0	X	129.65824	353.43771	171.37319	5.25255	0.0347254	0.21098541	2.7944806	20	8 1.1	18.9
52110 3007 <i>P-L</i>	15.3	X	108.90495	126.88675	218.39912	13.46430	0.1016874	0.23545682	2.5973384	20	—	—
52111 3020 <i>P-L</i>	13.6	X	215.48085	62.67054	286.34926	8.68454	0.1135381	0.19126283	2.9834287	20	3 23.7	18.4
52112 3064 <i>P-L</i>	15.4	X	61.08840	39.43791	325.04776	6.61973	0.1284161	0.28350622	2.2948853	20	—	—
52113 3100 <i>P-L</i>	13.7	X	55.73655	250.99636	298.16918	9.48035	0.0439818	0.19261686	2.9694307	20	5 29.3	17.9
52114 3118 <i>P-L</i>	15.2	X	58.65020	242.44283	293.03249	7.65591	0.0503896	0.25802750	2.4435734	20	5 13.6	18.2
52115 3512 <i>P-L</i>	13.5	X	73.32265	229.87644	291.86892	10.62368	0.1051450	0.19147827	2.9811904	20	5 26.2	17.7
52116 4032 <i>P-L</i>	14.5	X	348.47867	126.09406	326.29759	4.95038	0.1286669	0.28359672	2.2943971	20	—	—
52117 4059 <i>P-L</i>	15.7	X	122.02921	103.21278	244.10465	1.44628	0.1733781	0.23614605	2.5922821	20	—	—
52118 4103 <i>P-L</i>	16.1	X	220.47977	124.44952	132.94498	2.33552	0.1636784	0.25984610	2.4321588	20	7 20.3	19.5
52119 4105 <i>P-L</i>	15.5	X	29.17672	205.11153	228.85434	4.04659	0.2488796	0.23444219	2.6048269	20	—	—
52120 4106 <i>P-L</i>	14.1	X	50.36148	288.13756	197.05633	12.07830	0.0626553	0.18931010	3.0039096	20	2 29.7	18.2
52121 4117 <i>P-L</i>	14.9	X	340.94371	341.27539	353.68815	3.55837	0.1033223	0.21267465	2.7796636	20	8 28.6	18.1
52122 4128 <i>P-L</i>	13.8	X	83.34602	318.56312	190.16660	10.28789	0.0515269	0.19179196	2.9779390	20	5 17.3	18.0
52123 4217 <i>P-L</i>	15.9	X	77.05967	29.90259	290.42565	0.75890	0.0956593	0.23308578	2.6149228	20	12 26.0	19.8
52124 4272 <i>P-L</i>	15.8	X	67.79574	192.35459	235.24887	4.24398	0.2425203	0.23600584	2.5933087	20	1 27.8	18.3
52125 4274 <i>P-L</i>	15.9	X	242.84814	248.61040	280.34529	2.14793	0.0744896	0.28274260	2.2990154	20	—	—
52126 4284 <i>P-L</i>	15.9	X	44.13341	114.44426	217.57553	5.63520	0.1387756	0.28161538	2.3051462	20	12 19.9	18.9
52127 4681 <i>P-L</i>	14.4	X	335.68210	190.35710	356.73575	10.21944	0.0388123	0.18904496	3.0067177	20	2 10.8	18.6
52128 4693 <i>P-L</i>	15.6	X	121.13160	297.35103	339.06666	2.36704	0.1631288	0.28316120	2.2967491	20	12 28.9	19.1
52129 4796 <i>P-L</i>	16.6	X	0.68414	192.55140	179.43047	2.11570	0.2274606	0.28104547	2.3082614	20	12 29.2	18.8
52130 4882 <i>P-L</i>	14.5	X	235.17863	192.02847	20.43641	10.02763	0.0532174	0.23514868	2.5996069	20	—	—
52131 4892 <i>P-L</i>	14.9	X	152.93796	151.01105	167.69958	9.69707	0.0950674	0.18674139	3.0313936	20	—	—
52132 5034 <i>P-L</i>	15.0	X	75.22220	215.83253	210.60163	10.61744	0.2529258	0.23629140	2.5912189	20	2 8.0	18.0
52133 6007 <i>P-L</i>	14.7	X	138.28500	326.99928	208.09052	6.35719	0.1671680	0.21216570	2.7841071	20	8 30.3	19.3
52134 6059 <i>P-L</i>	13.8	X	236.59829	199.96119	222.06880	3.61626	0.0517920	0.21123883	2.7922452	20	7 27.3	17.8
52135 6070 <i>P-L</i>	14.3	X	231.53076	91.26105	328.09950	2.24971	0.0971603	0.21065399	2.7974108	20	7 13.4	18.3
52136 6076 <i>P-L</i>	14.9	X	188.71645	339.89025	2.46011	2.88884	0.2092825	0.22289113	2.6940616	20	2 23.7	19.4
52137 6080 <i>P-L</i>	16.0	X	243.66788	333.35635	6.89556	2.28852	0.1923731	0.25826857	2.4420526	20	4 4.6	19.7
52138 6131 <i>P-L</i>	14.9	X	176.41582	64.16310	205.58231	3.60686	0.2590159	0.23652657	2.5895010	20	—	—
52139 6192 <i>P-L</i>	14.4	X	277.04038	76.68542	185.27029	9.26439	0.0852356	0.19026061	2.9938966	20	2 17.9	18.8
52140 6603 <i>P-L</i>	15.7	X	248.73585	244.31042	153.48313	2.57067	0.2425756	0.21050990	2.7986872	20	6 17.8	20.2
52141 6605 <i>P-L</i>	15.3	X	38.31302	259.38265	150.68941	3.68088	0.1906993	0.23455588	2.6039851	20	—	—
52142 6610 <i>P-L</i>	13.8	X	13.35942	55.80048	359.71982	10.34813	0.1194770	0.16894563	3.2406943	20	—	—
52143 6635 <i>P-L</i>	15.7	X	261.17750	171.73787	134.88417	3.09344	0.2153172	0.25813441	2.4428986	20	3 9.0	19.5
52144 6759 <i>P-L</i>	15.6	X	117.87389	166.09014	85.68470	2.58146	0.1079213	0.28181783	2.3040421	20	11 24.3	18.9
52145 6832 <i>P-L</i>	15.4	X	32.89079	201.36242	37.89629	1.72059	0.1543573	0.26105945	2.4246167	20	7 24.1	17.7
52146 7061 <i>P-L</i>	15.3	X	238.63084	179.03248	213.16879	5.57162	0.1288216	0.25960443	2.4336679	20	6 13.2	18.7
52147 9061 <i>P-L</i>	15.5	X	144.45617	350.55870	317.35095	3.36393	0.2079388	0.23599778	2.5933677	20	—	—
52148 9506 <i>P-L</i>	14.6	X	187.55615	247.84118	15.59304	7.04603	0.1649630	0.23646314	2.5899642	20	—	—
52149 1074 <i>T-1</i>	14.3	X	132.92010	287.33276								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52161 4302 T-1	15.0	X	330.24887	127.32408	52.82668	5.41541	0.0795123	0.23867425	2.5739435	20	1 9.4	18.3
52162 4357 T-1	14.1	X	308.13977	27.98117	126.87276	2.09813	0.1237399	0.17610285	3.1522825	20	—	—
52163 1004 T-2	15.2	X	89.72689	20.12462	356.82423	6.90545	0.0456041	0.23831926	2.5764989	20	—	—
52164 1012 T-2	15.7	X	48.30754	225.55756	186.78273	12.89357	0.2229750	0.23714220	2.5850175	20	—	—
52165 1099 T-2	16.2	X	0.48290	346.86558	319.48338	1.39306	0.1714826	0.27205144	2.3588592	20	9 7.1	18.2
52166 1184 T-2	15.3	X	72.41182	279.39291	168.91286	4.30448	0.0527500	0.24121843	2.5558129	20	2 6.6	18.5
52167 1220 T-2	14.2	X	359.61148	167.15915	247.81357	0.32375	0.1743417	0.17238971	3.1973867	20	—	—
52168 1305 T-2	15.4	X	346.99236	354.39511	0.22684	6.87487	0.1319594	0.27332454	2.3515288	20	10 19.9	17.5
52169 1494 T-2	15.5	X	237.59844	146.90434	74.18505	1.55440	0.0125125	0.23785384	2.5798588	20	—	—
52170 2046 T-2	15.9	X	301.32359	121.32862	298.61163	1.78214	0.1359604	0.27358725	2.3500232	20	10 30.1	17.9
52171 2127 T-2	15.3	X	248.67195	315.95614	325.05092	1.97219	0.0265828	0.24204368	2.5500003	20	2 10.6	18.8
52172 2166 T-2	14.0	X	321.03926	126.51307	359.84466	4.62260	0.0694319	0.17349452	3.1837983	20	—	—
52173 2178 T-2	14.8	X	8.11626	35.93841	226.41144	1.16175	0.0406219	0.20551079	2.8438912	20	6 29.2	18.5
52174 2183 T-2	14.9	X	139.04039	227.99932	174.59756	4.17613	0.2194443	0.24193069	2.5507941	20	3 24.1	18.8
52175 2204 T-2	14.4	X	216.45446	23.55893	38.59843	1.23872	0.1454783	0.20485587	2.8499492	20	6 25.6	18.8
52176 2233 T-2	14.9	X	262.75180	195.62887	143.55384	2.46540	0.0960257	0.20432333	2.8548990	20	5 7.9	19.0
52177 2235 T-2	14.7	X	33.15003	195.11513	174.45434	2.08782	0.1515133	0.17071275	3.2182917	20	12 27.3	19.0
52178 2244 T-2	15.3	X	196.37763	148.89995	173.80926	0.98168	0.1198918	0.24163953	2.5528427	20	2 2.5	19.1
52179 2270 T-2	15.2	X	297.63834	84.19887	208.66953	1.34260	0.0436151	0.20343478	2.8632059	20	4 29.6	19.1
52180 2273 T-2	14.5	X	304.45472	86.17749	7.69479	4.55450	0.1325208	0.17092824	3.2155863	20	11 21.8	18.4
52181 3112 T-2	15.7	X	79.97950	315.47231	20.87648	7.87030	0.2080308	0.23587513	2.5942667	20	—	—
52182 3130 T-2	13.9	X	111.92693	104.14901	40.16592	7.09333	0.0701199	0.20453142	2.8529623	20	6 17.4	18.1
52183 3286 T-2	15.8	X	312.41958	244.25002	154.74165	6.54735	0.1319051	0.27334169	2.3514304	20	10 23.9	17.9
52184 3361 T-2	14.2	X	344.36721	165.82608	83.14959	2.45419	0.0410073	0.20407335	2.8572299	20	5 7.7	17.9
52185 3370 T-2	15.4	X	77.06268	34.45893	26.66144	4.30594	0.1735430	0.23938515	2.5688451	20	1 26.9	18.2
52186 4072 T-2	16.5	X	200.25944	284.67296	34.22539	4.65463	0.1891364	0.30556167	2.1830824	20	1 28.8	19.9
52187 4125 T-2	13.9	X	15.51826	197.97141	173.03326	12.50297	0.0629890	0.17004573	3.2267023	20	11 26.4	18.5
52188 4142 T-2	15.3	X	116.50127	189.69096	182.27396	14.43270	0.2853917	0.23954282	2.5677177	20	1 29.2	19.3
52189 4215 T-2	15.6	X	101.76292	349.27866	71.09970	2.32313	0.1291791	0.24076520	2.5590194	20	2 23.9	18.8
52190 4241 T-2	14.9	X	286.49066	242.13797	78.73305	4.03603	0.2039444	0.20551919	2.8438136	20	4 28.3	18.9
52191 4263 T-2	15.9	X	285.15900	324.29377	101.89816	3.24711	0.1974672	0.27254798	2.3559934	20	10 1.4	17.9
52192 5053 T-2	14.3	X	262.11067	331.05704	278.84673	7.74228	0.1544991	0.24189173	2.5510680	20	1 6.5	18.2
52193 5209 T-2	14.6	X	109.24172	51.91611	240.88387	8.72230	0.0790199	0.17122318	3.2118926	20	12 12.4	19.5
52194 1149 T-3	13.5	X	170.67089	150.98974	258.36557	8.66271	0.0742416	0.15140241	3.4864293	20	4 24.8	18.9
52195 2061 T-3	16.3	X	20.08991	69.76645	227.25958	3.83729	0.2194447	0.27500843	2.3419199	20	10 9.6	18.5
52196 2075 T-3	14.3	X	138.04274	84.14927	300.96565	1.84855	0.1763448	0.24040623	2.5615661	20	2 25.7	18.1
52197 2373 T-3	14.5	X	56.13758	300.59059	224.33115	5.15996	0.0281919	0.19775272	2.9177925	20	4 26.6	18.4
52198 2389 T-3	14.3	X	130.76580	3.47232	10.23283	15.62165	0.1063626	0.23920164	2.5701588	20	2 2.3	18.2
52199 2465 T-3	15.8	X	322.57821	138.95801	295.27067	2.10810	0.1251547	0.27780972	2.3261502	20	—	—
52200 3094 T-3	15.2	X	207.65331	231.42313	30.27428	6.91811	0.0599667	0.23724089	2.5843005	20	—	—
52201 3098 T-3	15.7	X	87.43135	225.18048	180.81197	4.70161	0.1801956	0.23795667	2.5791155	20	1 21.8	18.8
52202 3124 T-3	14.8	X	122.72271	275.33760	162.14959	2.45948	0.0956165	0.19613319	2.9338326	20	4 10.1	19.1
52203 3160 T-3	15.3	X	68.66093	294.09012	130.48139	2.26831	0.0983602	0.23793196	2.5792941	20	1 6.7	18.2
52204 3219 T-3	14.9	X	7.80419	333.64683	194.55201	1.26126	0.0610318	0.19473266	2.9478826	20	2 25.0	18.6
52205 3247 T-3	16.2	X	5.42084	143.46318	170.62782	3.07403	0.1849232	0.27470406	2.3436495	20	10 3.8	18.2
52206 3326 T-3	15.3	X	23.56486	96.57200	197.55256	9.53339	0.1628078	0.27462618	2.3440926	20	10 1.5	17.7
52207 3403 T-3	14.3	X	201.56428	306.03759	24.20996	11.45009	0.1551070	0.24180243	2.5516961	20	2 22.2	18.5
52208 3423 T-3	15.5	X	78.56968	343.75474	102.72211	1.61855	0.1660705	0.23946389	2.5682819	20	3 2.2	18.3
52209 3495 T-3	16.0	X	137.97478	281.43064	36.38921	2.90014	0.2626893	0.23738019	2.5832894	20	—	—
52210 4032 T-3	14.8	X	32.67001	326.24327	54.75465	4.67993	0.1756224	0.27962358	2.3160798	20	—	—
52211 4049 T-3	15.7	X	7.41013	42.79684	59.53249	7.05453	0.2959032	0.23464700	2.6033109	20	—	—
52212 4056 T-3	16.0	X	91.69915	225.75332	43.71013	7.56899	0.1042335	0.27711059	2.3300610	20	11 17.2	19.1
52213 4181 T-3	16.0	X	31.10414	236.80283	102.53463	2.75894	0.2340077	0.27787051	2.3258109	20	12 26.2	19.1
52214 4196 T-3	15.2	X	59.80969	256.46258	148.71503	4.81024	0.0978096	0.23630998	2.5910831	20	—	—
52215 4213 T-3	16.1	X	320.47948	293.39379	74.59325	5.90695	0.1537798	0.27430414	2.3459269	20	9 22.0	18.1
52216 5014 T-3	14.7	X	13.56287	303.85691	112.46712	6.64324	0.0593283	0.28048417	2.3113399	20	—	—
52217 5035 T-3	14.3	X	224.31948	201.32471	62.68223	10.86433	0.0663382	0.23870823	2.5736992	20	—	—
52218 5050 T-3	15.1	X	325.61329	271.94514	144.89489	9.04073	0.2343182	0.27676865	2.3319798	20	12 26.6	16.8
52219 5071 T-3	15.5	X	39.34413	298.64609	109.80569	5.96275	0.1209550	0.28140992	2.3062680	20	—	—
52220 5082 T-3	15.4	X	60.13410	247.76753	108.16545	5.57304	0.1482293	0.28014182	2.3132226	20	—	—
52221 5103 T-3	15.0	X	19.65268	80.65746	62.47059	15.16499	0.1049484	0.23989270	2.5652204	20	2 7.4	18.1
52222 5111 T-3	14.6	X	152.19985	279.34301	48.74207	15.01481	0.1312342	0.23828932	2.5767147	20	—	—
52223 5158 T-3	15.1	X	338.54548	250.16422	175.27015	21.93354	0.0514828	0.23231308	2.6207179	20	12 27.1	18.9
52224 5602 T-3	14.8	X	52.19447	286.86326	138.52202	10.50360	0.0415386	0.19112389	2.9848744	20	—	—
52225 Panchenko	13.8	X	254.94505	22.26129	282.70716	13.13389	0.1945178	0.18472613	3.0534009	20	3 1.5	19.0
52226 Saenredam	14.5	X	131.05713	196.28419	152.63274	32.68916	0.0577755	0.22389538	2.6859997	20	—	—
52227 1975 SM ₁	16.0	X	293.65646	219.43923	155.38630	2.99605	0.2228850	0.26066104	3.2708687	20	7 19.9	18.6
52228 Protos	13.6	X	121.32431	331.99772	48.21883	27.91806	0.1228282	0.17157671	2.4207490	20	2 17.4	18.9
52229 1978 NN	13.6	X	79.59970	318.68599	293.62231	35.08206	0.1588383	0.21538237	2.7563177	20	9 14.8	18.5
52230 1978 NR	15.2	X	50.28981	312.06635	305.61140	6.87444	0.1361159	0.26021828	2.4298391	20	9 10.5	18.2
52231 Sitnik	14.4	X	166.38639	221.19393	137.60629	3.96988	0.2067562	0.29455853	2.2371150	20	2 18.4	17.9
52232 1978 UY ₄	16.5	X	120.36328	168.29818	221.89275	3.15099	0.2027544	0.29258005	2.2471889	20	2 9.3	19.4
52233 1978 UQ ₅	14.0	X	8.53976	224.71033	212.60855	16.27856	0.0214675	0.17025659	3.2240376	20	—	—
52234 1978 UX ₇	15.3	X	106.46374	190.56626	239.26204	1.74910	0.1442422	0.24619184	2.5212753	20	3 12.9	18.5
52235 1979 MW ₂	14.1	X	191.55869	201.20083	167.44222	3.64560	0.1443878	0.18598149	3.0396453	20	3 29.7	19.1
52236 1979 MF ₇	14.5	X	150.64246	197.52437	129.85228	7.58076	0.1251203	0.18014088	3.1049971	20	1 3.2	19.2
52237 1979 OW ₂	14.3	X	95.91655	338.52750	290.78557	11.36						

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52241 1980 PW ₂	14.8	X	42.99152	289.39660	43.11910	14.27746	0.2457045	0.22656006	2.6648973	20	12 19.2	18.8
52242 Michelemaoret	14.3	X	318.96454	194.85046	353.85180	12.57219	0.1900500	0.22473340	2.6793182	20	—	—
52243 1981 ED ₃	15.0	X	10.16151	251.10361	210.88403	12.16666	0.1864168	0.17304899	3.1892606	20	—	—
52244 1981 EE ₄	14.5	X	346.78334	271.57923	259.49844	8.12681	0.0328496	0.17420544	3.1751305	20	2 2.5	18.9
52245 1981 EP ₄	14.8	X	179.94051	318.97835	209.95983	11.57758	0.0459193	0.21319876	2.7751061	20	10 5.9	18.9
52246 Donaldjohanson	15.4	X	278.16400	213.20343	262.82195	4.42368	0.1872677	0.26793745	2.3829436	20	12 1.3	17.4
52247 1981 EP ₁₀	15.6	X	131.77538	296.57917	311.08765	5.89142	0.0976147	0.26472236	2.4021989	20	11 28.9	19.1
52248 1981 EE ₁₅	15.4	X	161.06611	253.57616	283.30467	5.02961	0.0680236	0.21211895	2.7845161	20	9 22.1	19.6
52249 1981 EK ₂₁	15.1	X	142.97867	260.77145	346.36812	7.47205	0.0843652	0.21558537	2.7545872	20	11 29.9	19.4
52250 1981 EE ₃₂	16.0	X	152.81777	290.58782	231.37255	6.00033	0.0661923	0.26083894	2.4259830	20	8 29.9	19.4
52251 1981 EF ₃₂	15.2	X	20.98656	354.39882	279.32931	7.73335	0.0672867	0.25838020	2.4413491	20	8 8.5	18.1
52252 1981 EJ ₃₅	16.3	X	238.46919	317.75979	167.56131	5.07543	0.1789567	0.26584227	2.3954477	20	10 13.6	19.3
52253 1981 EZ ₃₅	15.3	X	315.93664	63.52996	91.39464	0.48456	0.1364968	0.17155485	3.2077514	20	—	—
52254 1981 EJ ₃₆	15.3	X	295.73921	18.27766	3.41000	2.07147	0.1978760	0.26201683	2.4187070	20	8 9.6	17.4
52255 1981 EM ₃₇	15.7	X	208.80273	117.28952	262.29588	2.96593	0.1587157	0.30598624	2.1810626	20	4 20.9	19.1
52256 1981 EM ₃₈	15.5	X	238.73535	166.58634	303.77051	4.20578	0.1199814	0.21386655	2.7693264	20	9 21.3	19.4
52257 1981 EJ ₄₂	14.8	X	352.66518	348.89808	183.93218	11.32841	0.1153258	0.17450890	3.1714485	20	2 6.1	18.9
52258 1981 EE ₄₄	15.2	X	322.49739	223.30896	208.05989	8.27450	0.1272891	0.21692930	2.7431985	20	12 8.9	18.2
52259 1981 EY ₄₇	14.6	X	5.70520	312.65164	351.08774	12.77426	0.1511770	0.20971800	2.8057281	20	9 1.8	17.6
52260 Ureshino	14.1	X	81.07548	174.97939	83.10886	24.90778	0.2207053	0.26587289	2.3952638	20	11 10.3	18.2
52261 Izumishikibu	13.8	X	142.89347	319.74816	62.35641	14.00990	0.1524636	0.19276922	2.9678658	20	3 7.9	18.7
52262 1983 QV	14.3	X	126.30371	187.98706	171.39219	6.68224	0.1773825	0.17262328	3.1945018	20	1 21.5	19.3
52263 1985 QD ₆	14.6	X	178.80854	227.08990	121.47116	5.15642	0.2952777	0.24143868	2.5542583	20	2 25.0	19.2
52264 1985 RD ₂	13.9	X	34.68739	346.99070	343.33072	10.70532	0.2265713	0.25772669	2.4454744	20	12 12.2	17.4
52265 1985 RM ₃	15.4	X	155.02060	241.52587	157.27687	3.78002	0.1694348	0.29920621	2.2138880	20	3 27.4	18.6
52266 Van Flandern	14.0	X	192.34703	229.72812	302.15004	23.72032	0.2206405	0.27643043	2.3338816	20	10 5.7	18.4
52267 Rotaryorino	14.7	X	322.72400	161.54769	337.27955	3.02536	0.1955077	0.22597725	2.6694773	20	—	—
52268 1986 WU	15.1	X	103.68010	166.54201	252.63997	8.07663	0.2202038	0.24383628	2.5374870	20	3 3.5	18.6
52269 1988 CU	14.0	X	144.70948	336.97387	139.83663	24.84103	0.2146253	0.25467503	2.4649710	20	7 1.8	18.4
52270 Noamchomsky	15.5	X	205.34443	213.74365	270.48567	5.44832	0.0887009	0.25979242	2.4324937	20	9 8.4	18.9
52271 Lecorbusier	13.7	X	200.58849	36.02864	357.69881	13.24298	0.1824302	0.23715348	2.5849355	20	4 29.1	18.2
52272 1988 RO ₅	14.0	X	29.07645	104.70517	327.69619	10.67505	0.1794575	0.22582886	2.6706466	20	—	—
52273 1988 RG ₁₀	12.3	X	173.80326	268.91539	154.59375	11.72739	0.0869845	0.08298324	5.2056598	20	5 20.8	19.7
52274 1988 RG ₁₂	14.8	X	61.42304	351.19550	356.48555	9.00113	0.2245541	0.22245430	2.6975874	20	—	—
52275 1988 RS ₁₂	12.6	X	185.50296	159.15592	238.02489	3.60869	0.0628476	0.08241675	5.2294865	20	4 29.6	19.8
52276 1988 RZ ₁₂	15.1	X	31.39445	167.19382	196.48541	5.46786	0.2144720	0.22091742	2.7100840	20	—	—
52277 1988 SE ₃	14.6	X	96.03011	234.76209	85.62275	13.60671	0.1611723	0.22397632	2.6853525	20	—	—
52278 1988 SG ₃	12.1	X	275.11260	232.14212	81.16082	19.60167	0.0873128	0.08366845	5.1771995	20	5 2.5	19.1
52279 1989 CH ₃	14.8	X	275.57434	187.19146	263.85890	7.11196	0.1934796	0.21042143	2.7994716	20	10 1.8	18.4
52280 1989 RB	14.2	X	180.89412	325.01618	0.89965	19.73038	0.3186096	0.23965974	2.5668825	20	2 7.7	19.2
52281 1989 SJ ₁	15.3	X	221.29371	268.64983	73.94799	3.71589	0.2215273	0.24318567	2.5420108	20	3 20.3	19.7
52282 1989 SO ₂	16.0	X	274.53944	260.53262	85.63653	2.51983	0.1399888	0.31190433	2.1533855	20	5 23.7	18.3
52283 1989 SE ₅	14.9	X	174.77368	163.56465	168.46639	4.68102	0.2150241	0.23776282	2.5805172	20	1 28.9	19.3
52284 1990 HP	15.1	X	48.03612	188.46293	32.10896	21.55300	0.0509379	0.36454310	1.9407524	20	7 16.4	17.6
52285 Kakurinji	15.5	X	350.03700	207.24283	130.98607	3.05211	0.2376286	0.26480542	2.4016966	20	10 15.0	17.1
52286 1990 QT ₁	15.2	X	345.35437	198.60626	132.90388	2.94316	0.2213402	0.26306577	2.4122732	20	9 17.7	16.8
52287 1990 QP ₄	15.5	X	59.72644	330.13833	347.57673	2.46394	0.1780407	0.26908002	2.3761932	20	12 20.7	18.9
52288 1990 QU ₈	14.4	X	115.24802	350.45133	47.78038	1.65408	0.2052204	0.18092939	3.0959693	20	2 28.6	19.1
52289 1990 QH ₉	15.3	X	5.96582	235.16078	115.18848	3.07547	0.2019742	0.26639909	2.3921086	20	11 28.7	17.6
52290 1990 SF	13.9	X	160.46602	266.42168	75.83408	16.45800	0.2955830	0.18069912	3.0985989	20	2 13.5	19.6
52291 Mott	14.5	X	169.38225	125.34860	260.84772	4.41531	0.1602654	0.18306557	3.0718377	20	3 28.6	19.6
52292 Kamdzhalov	14.9	X	172.05063	29.62948	6.29328	10.15802	0.1446788	0.18385030	3.0630904	20	4 11.3	19.8
52293 Mommsen	13.9	X	32.49007	72.11222	24.17108	10.89259	0.1967763	0.17939245	3.1784518	20	1 10.9	17.5
52294 Detlef	15.0	X	354.17803	89.62736	217.01315	1.81698	0.1772803	0.25968462	2.4331669	20	8 21.4	16.8
52295 Köppen	15.1	X	134.88343	268.47994	137.36810	5.35995	0.1857026	0.24547355	2.5261914	20	3 22.3	18.9
52296 1990 WM ₃	13.8	X	112.55533	155.45322	214.64360	10.27354	0.3157153	0.17621030	3.1510032	20	2 2.3	18.9
52297 1991 CH ₂	14.5	X	350.89358	284.91749	315.26211	27.87793	0.3602734	0.23780692	2.5801981	20	3 8.7	17.1
52298 1991 GM ₇	14.9	X	296.80770	343.53323	211.31338	13.17655	0.1232182	0.23028855	2.6360551	20	—	—
52299 1991 NJ ₁	15.9	X	210.57389	204.35103	120.01562	6.15965	0.2188791	0.29403758	2.2397566	20	2 14.1	19.5
52300 1991 NE ₃	14.2	X	129.83940	94.11083	163.42033	7.12476	0.0600059	0.21394648	2.7686365	20	12 1.0	18.3
52301 Qumran	16.1	X	37.24348	186.94972	203.24734	5.39957	0.2286038	0.28004268	2.3137685	20	—	—
52302 1991 RL ₈	14.9	X	92.99341	338.20612	21.40448	7.36926	0.1903577	0.28315096	2.2968044	20	—	—
52303 1991 RU ₉	15.1	X	115.56152	65.15281	280.59019	1.16429	0.1666778	0.28473021	2.2883038	20	—	—
52304 1991 RB ₁₀	14.6	X	108.60080	37.45761	300.27476	4.54943	0.1376379	0.28326859	2.2961685	20	—	—
52305 1991 RR ₁₀	15.0	X	44.78826	21.84737	4.79758	6.79617	0.1220503	0.28034680	2.3120949	20	—	—
52306 1991 RF ₂₀	15.3	X	343.62446	14.53854	330.19640	6.60023	0.1374197	0.27229196	2.3574700	20	9 27.1	17.5
52307 1991 TH ₁	15.1	X	78.07518	3.21679	18.18069	22.95061	0.2228471	0.28294501	2.2979189	20	—	—
52308 Hanspeterröser	14.4	X	71.37152	206.72311	252.90561	3.82479	0.1584495	0.18559253	3.0438907	20	3 11.6	18.4
52309 Philnicolai	13.3	X	155.74049	261.40848	0.95008	18.24071	0.0420034	0.21183226	2.7870279	20	—	—
52310 1991 VJ	15.0	X	9.48601	261.82231	71.86031	22.90525	0.3394762	0.27520126	2.3408258	20	12 6.2	17.5
52311 1991 VK ₈	14.5	X	67.05075	108.19835	50.95573	11.08822	0.0502038	0.18958405	3.0010152	20	5 7.7	18.6
52312 1991 VG ₉	14.8	X	1.92024	213.17184	91.27154	3.35654	0.0950118	0.19867202	2.9087808	20	8 20.1	18.2
52313 1991 VH ₉	15.5	X	274.61556	77.79146	193.59637	4.24041	0.1849474	0.29128013	2.2538697	20	2 4.3	18.8
52314 1991 XD	14.2	X	206.01144	11.63597	65.33944	22.70614	0.1011691	0.36539467	1.9377359	20	7 15.2	16.9
52315 1992 AM	14.6	X	359.94948	300.23193	99.92167	23.81637	0.2793432	0.27390825	2.3481868	20	—	—
52316 Daveslater	15.1	X	291.52376	21.72267	79.0751							

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52321 1992 DO ₈	14.2	X	50.27112	245.53737	178.19569	11.06376	0.0928981	0.17126237	3.2114025	20	—	—
52322 1992 DD ₉	15.2	X	214.46713	204.95675	185.95224	6.73752	0.1160846	0.25398091	2.4694600	20	5 17.7	18.9
52323 1992 DP ₉	14.1	X	139.65610	142.76965	259.79903	2.39585	0.2521196	0.18004769	3.1060683	20	3 29.1	19.4
52324 1992 DV ₉	16.0	X	182.89860	269.91710	202.44659	3.15195	0.1344307	0.25829372	2.4418941	20	7 28.4	19.8
52325 1992 EX ₂	15.6	X	306.03673	330.42502	124.45650	2.67188	0.1962092	0.26954439	2.3734633	20	—	—
52326 1992 EL ₇	14.0	X	74.40771	291.78343	143.90141	18.24361	0.1696694	0.17515165	3.1636849	20	2 20.5	18.1
52327 1992 EK ₉	16.0	X	199.29239	89.00659	79.11901	3.67405	0.1175221	0.26436027	2.4043919	20	10 31.3	19.3
52328 1992 EK ₁₁	15.9	X	234.68884	326.51466	161.32852	5.21425	0.1450989	0.26484989	2.4014277	20	10 17.4	19.1
52329 1992 ER ₁₂	15.4	X	197.75495	20.98348	197.91874	2.37329	0.1138771	0.26767659	2.3844916	20	—	—
52330 1992 EA ₁₅	14.8	X	353.36946	254.22737	171.86040	13.74701	0.1666426	0.27091071	2.3654763	20	—	—
52331 1992 EC ₁₅	14.8	X	337.27691	296.96838	164.53488	23.32899	0.2578896	0.27341064	2.3510351	20	—	—
52332 1992 EZ ₁₉	15.1	X	211.07407	92.51046	152.14412	22.11341	0.1613433	0.27126461	2.3634185	20	—	—
52333 1992 EE ₂₂	15.8	X	301.73867	20.05660	72.14327	3.28843	0.1634832	0.26862262	2.3788898	20	12 17.9	17.5
52334 Oberammergau	15.3	X	269.34149	70.49596	30.41593	3.01643	0.1266573	0.26446233	2.4037733	20	10 31.7	17.8
52335 1992 HO	15.6	X	208.85192	308.36355	136.18859	2.90971	0.1363266	0.25506273	2.4624725	20	7 19.2	19.4
52336 1992 OE ₇	14.5	X	89.00186	46.98260	309.30061	12.46260	0.1593664	0.22423017	2.6833254	20	—	—
52337 Compton	15.3	X	185.60535	298.92040	54.72646	1.33883	0.2826068	0.26715851	2.3875733	20	3 2.8	19.2
52338 1992 RH ₁	14.3	X	75.12630	1.32758	63.67687	22.82493	0.0725341	0.22731726	2.6589762	20	1 18.3	18.0
52339 1992 RO ₂	15.0	X	212.36775	117.74286	171.07158	13.66022	0.0539243	0.22931652	2.6434990	20	1 8.5	19.1
52340 1992 SY	17.8	X	100.46475	115.55424	5.77508	8.04343	0.5497226	0.29978339	2.2110455	20	6 25.8	22.1
52341 Ballmann	14.8	X	345.55430	345.03220	13.51950	9.57355	0.1479376	0.21195955	2.7859120	20	10 9.7	17.6
52342 1992 SK ₁₉	14.7	X	299.73060	212.75793	181.20523	9.36197	0.2009467	0.21047165	2.7990263	20	8 24.8	17.9
52343 1992 WX ₁	15.2	X	221.48096	101.53761	285.60646	3.10809	0.1273265	0.30638528	2.1791684	20	5 16.7	18.2
52344 Yehudimenuhin	13.4	X	53.19977	276.40655	93.48382	23.30065	0.0836459	0.17761615	3.1343519	20	—	—
52345 1993 FG ₁	14.5	X	313.54733	303.74302	183.34990	22.54246	0.2049849	0.28148450	2.3058607	20	—	—
52346 1993 FG ₈	14.6	X	70.67293	210.53327	169.49254	12.44632	0.1905917	0.28123697	2.3072134	20	—	—
52347 1993 FL ₉	15.5	X	340.35924	164.74791	141.39186	5.53772	0.1450108	0.26237172	2.4165254	20	7 19.2	17.7
52348 1993 FH ₁₂	15.7	X	121.48016	100.55717	105.90652	3.22403	0.1486464	0.26768361	2.3844499	20	10 1.7	19.3
52349 1993 FK ₁₅	15.9	X	312.11914	73.54631	112.12094	4.92357	0.0889173	0.28512971	2.2861658	20	—	—
52350 1993 FH ₁₆	15.8	X	169.11979	40.41575	106.58089	3.27669	0.1227738	0.26758352	2.3850444	20	9 1.3	19.3
52351 1993 FN ₁₇	13.9	X	58.21282	334.51017	167.20934	14.76335	0.2686429	0.18413522	3.0599298	20	5 8.6	17.8
52352 1993 FU ₁₈	14.6	X	323.82755	72.44375	94.00294	5.91557	0.0862475	0.17535909	3.1611894	20	—	—
52353 1993 FP ₁₉	14.9	X	75.60247	343.62708	148.59134	7.84214	0.0867037	0.18370669	3.0646866	20	4 22.6	19.1
52354 1993 FF ₂₂	15.5	X	302.76584	51.25361	6.26610	4.81520	0.1270158	0.27180394	2.3602910	20	10 28.8	17.5
52355 1993 FD ₂₄	15.9	X	139.50945	342.39003	215.98363	1.48339	0.1487477	0.26851055	2.3795517	20	10 6.8	19.7
52356 1993 FP ₂₅	14.6	X	343.18623	289.46797	206.20855	4.86292	0.1053515	0.17478358	3.1681249	20	—	—
52357 1993 FK ₂₆	15.4	X	140.38764	331.39994	270.57140	3.05021	0.0550282	0.27285315	2.3542364	20	12 4.1	18.6
52358 1993 FQ ₂₆	15.4	X	221.79525	297.86964	311.22604	1.99706	0.1589505	0.28063084	2.3105344	20	—	—
52359 1993 FM ₂₇	14.8	X	346.38215	352.72690	349.59932	10.68814	0.2898954	0.26659455	2.3909392	20	10 13.9	16.2
52360 1993 FC ₃₀	14.4	X	348.88877	315.90484	199.79079	14.43930	0.1239526	0.17753811	3.1352703	20	1 8.7	18.7
52361 1993 FT ₃₀	16.3	X	298.97476	320.37826	266.23376	2.18148	0.1819592	0.28664633	2.2780948	20	1 5.8	19.3
52362 1993 FS ₃₁	14.5	X	8.30513	240.86413	51.62773	4.61835	0.0734192	0.26397182	2.4067502	20	8 21.9	17.1
52363 1993 FP ₃₇	14.9	X	302.09705	108.99688	62.06775	1.89722	0.1330382	0.17357211	3.1828494	20	—	—
52364 1993 FQ ₃₈	14.4	X	333.23108	293.69911	166.76816	6.97650	0.1359996	0.17157387	3.2075144	20	—	—
52365 1993 FS ₃₈	14.0	X	43.17049	7.90404	31.47928	6.18181	0.0982275	0.17143764	3.2092134	20	—	—
52366 1993 FN ₃₉	13.9	X	352.97018	196.76985	10.04863	18.14716	0.0898886	0.18176035	3.0865261	20	3 25.6	17.7
52367 1993 FO ₃₉	15.9	X	20.74246	283.74753	172.49666	2.69538	0.1402681	0.28444468	2.2898349	20	—	—
52368 1993 FQ ₄₄	14.2	X	74.20452	269.57070	199.47561	8.10461	0.1657354	0.18289585	3.0737378	20	3 30.4	18.3
52369 1993 FH ₄₆	15.7	X	336.39583	93.16992	187.98897	5.78588	0.0146672	0.26073249	2.4266433	20	6 10.8	18.7
52370 1993 FQ ₄₈	15.6	X	226.42103	273.88018	2.72720	4.38069	0.1547343	0.28410367	2.2916669	20	—	—
52371 1993 FV ₄₉	14.3	X	161.28682	107.22617	266.30129	1.02086	0.1815646	0.18130306	3.0917139	20	3 9.5	19.4
52372 1993 FE ₅₀	14.2	X	330.76172	251.06278	194.40616	7.02483	0.1292766	0.17013091	3.2256251	20	12 24.9	18.2
52373 1993 FO ₅₀	16.3	X	319.01642	144.67492	330.61992	1.26910	0.0985587	0.28001104	2.3139428	20	—	—
52374 1993 FS ₅₀	15.9	X	22.30886	315.43745	338.07373	2.09560	0.1200377	0.26552204	2.3973733	20	9 19.8	18.3
52375 1993 FV ₅₃	14.9	X	298.73100	205.23702	44.08342	6.93696	0.1186720	0.18011929	3.1052452	20	3 1.3	19.3
52376 1993 FW ₆₉	15.9	X	227.37207	330.12422	211.96959	6.61152	0.0527975	0.27602419	2.3361709	20	—	—
52377 1993 FH ₇₈	15.7	X	72.10343	10.95707	8.41062	7.18372	0.1229050	0.28026097	2.3125669	20	—	—
52378 1993 FC ₈₁	16.5	X	13.88085	350.19086	152.95556	5.57067	0.0676760	0.28788840	2.2715377	20	1 14.3	18.8
52379 1993 FL ₈₁	15.5	X	36.68068	104.22153	147.58173	3.02614	0.1217086	0.26285088	2.4135877	20	8 12.9	18.0
52380 1993 FG ₈₃	16.1	X	93.11996	257.62639	93.48896	6.24868	0.0682142	0.27906905	2.3191470	20	—	—
52381 1993 HA	20.0	X	28.00413	263.88190	183.26949	7.72481	0.1441488	0.68202312	1.2782133	20	—	—
52382 1993 HE ₁	15.0	X	275.24248	203.89400	28.74825	7.45268	0.2194878	0.28351118	2.2948586	20	—	—
52383 1993 HU ₂	15.6	X	336.42476	29.50920	158.96247	4.98351	0.1460540	0.28732234	2.2745201	20	1 8.1	18.1
52384 Elenapanko	15.3	X	341.31813	68.08006	68.03498	26.22890	0.1018639	0.39101606	1.8521365	20	—	—
52385 1993 OC	14.1	X	340.04404	26.10446	299.34570	23.60114	0.1952712	0.25620472	2.4551496	20	8 10.7	16.2
52386 1993 OF ₆	16.0	X	193.44119	292.72146	304.56411	1.88496	0.1221363	0.27143525	2.3624279	20	—	—
52387 Huitzilopochtli	17.8	X	338.14308	195.51598	297.58626	24.15440	0.1897253	0.67892193	1.2821027	20	—	—
52388 1993 PV ₄	15.0	X	130.11635	301.77616	295.94587	6.53494	0.1532617	0.26316243	2.4116824	20	11 14.1	18.9
52389 1993 PP ₅	15.4	X	130.60436	158.86426	170.42332	5.05593	0.2322510	0.23381066	2.6095153	20	—	—
52390 1993 QS ₄	14.5	X	139.65846	28.93623	346.93810	13.14657	0.1995600	0.23763896	2.5814138	20	2 21.4	18.4
52391 1993 QP ₅	14.4	X	227.29581	334.60666	329.31293	9.75410	0.1119911	0.24140339	2.5545073	20	2 10.8	18.4
52392 1993 RG ₅	14.8	X	201.53812	319.73191	330.29987	2.22576	0.2706601	0.23739061	2.5832138	20	1 3.2	19.3
52393 1993 RH ₅	15.3	X	177.81652	54.52885	344.32010	4.65062	0.1701432	0.24256053	2.5463766	20	4 18.3	19.5
52394 1993 RF ₆	14.5	X	45.48797	260.51847	185.92603	14.34839	0.1886471	0.23254531	2.6189729	20	1 2.6	17.3
52395 1993 RJ ₆	15.4	X	19.83878	0.99037	354.23665	8.66809	0.2527770	0.22301809	2.6930390	20	12 25.2	19.0
52396 1993 RC ₇ </												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52401 1993 SS ₁₅	14.0	X	155.78840	23.77496	53.20435	10.88992	0.1521060	0.24374236	2.5381389	20	5 16.7	17.9
52402 1993 TL	14.4	X	151.34028	320.98743	17.59384	4.64751	0.2984860	0.23523886	2.5989425	20	1 25.9	18.8
52403 1993 TQ ₁₇	15.1	X	313.04844	191.00206	173.98698	5.31695	0.0745189	0.21590501	2.7518678	20	8 24.4	18.5
52404 1993 TD ₂₀	15.2	X	107.24512	271.53328	66.23259	3.20438	0.0834749	0.22936073	2.6431593	20	—	—
52405 1993 TV ₂₂	15.2	X	126.14170	123.55360	182.83092	10.46415	0.0489988	0.22794975	2.6540553	20	—	—
52406 1993 TV ₂₃	16.0	X	99.56376	239.04187	161.59590	2.45333	0.2140696	0.23372500	2.6101528	20	2 7.7	19.4
52407 1993 TC ₃₁	15.3	X	81.35279	323.25205	54.25798	5.13778	0.1349649	0.22991209	2.6389319	20	—	—
52408 1993 TJ ₃₄	14.9	X	9.76365	349.27021	151.41502	4.64471	0.2027386	0.23265721	2.6181330	20	1 4.7	17.3
52409 1993 UW ₅	15.0	X	99.76567	24.49346	92.25415	5.08000	0.1217899	0.23995125	2.5648031	20	5 5.7	18.4
52410 1993 UG ₆	14.7	X	347.62215	94.16775	163.33950	8.72587	0.0838603	0.24486250	2.5303924	20	5 23.1	17.7
52411 1994 AA ₃	13.6	X	77.87707	75.74729	311.67597	11.90695	0.1557347	0.22370905	2.6874910	20	—	—
52412 1994 AF ₅	14.7	X	282.93830	275.14808	294.27509	10.81670	0.2454096	0.22311251	2.6922792	20	—	—
52413 1994 BF ₄	14.0	X	228.30567	7.72310	148.93220	5.50563	0.0464376	0.21419705	2.7664769	20	11 20.2	17.8
52414 1994 CV ₁₇	14.6	X	303.42205	157.52986	68.14041	3.45044	0.2116583	0.22375247	2.6871433	20	1 16.2	18.4
52415 1994 EP ₆	14.9	X	284.88274	340.35593	140.58261	10.13591	0.2217579	0.21455725	2.7632081	20	11 30.3	17.9
52416 1994 GC ₃	14.1	X	278.78313	242.58139	15.81462	3.43666	0.0629935	0.18546082	3.0453317	20	2 22.3	18.3
52417 1994 GG ₄	15.4	X	74.38150	260.54917	180.72973	0.42990	0.1147218	0.18531397	3.0469403	20	2 17.6	19.4
52418 1994 GX ₁₀	14.5	X	121.12849	128.72089	52.27607	7.34489	0.2247490	0.19902399	2.9053543	20	8 30.2	19.4
52419 1994 HX	17.1	X	235.55404	184.57443	177.39789	1.23411	0.1752748	0.30445999	2.1883455	20	4 24.7	20.2
52420 1994 JX ₁	14.3	X	60.16514	144.89003	31.38051	10.93093	0.0768980	0.19228784	2.9728170	20	5 21.8	18.3
52421 Daihoji	14.0	X	172.40430	255.71545	94.73537	22.23350	0.1825146	0.17845120	3.1245663	20	2 28.8	19.5
52422 LPL	13.8	X	37.40078	201.62008	306.56144	23.91877	0.1680477	0.17736363	3.1373262	20	3 9.6	17.9
52423 1994 LZ	14.5	X	67.59182	222.84335	93.46713	27.67484	0.1566013	0.27734231	3.3287630	20	12 27.1	17.7
52424 1994 LX ₃	15.7	X	71.29932	271.68262	76.34691	4.07854	0.1705951	0.28119916	2.3074203	20	—	—
52425 1994 LU ₈	15.9	X	240.55073	163.19306	93.83460	2.83562	0.1695668	0.29093107	2.2556721	20	—	—
52426 1994 PF	16.5	X	314.21810	12.73256	246.34520	4.18367	0.1478735	0.29518716	2.2339378	20	3 11.5	19.2
52427 1994 PH	15.2	X	54.85989	335.75317	352.44313	4.65047	0.1955231	0.27394586	2.3479719	20	—	—
52428 1994 PE ₄	15.9	X	335.55063	162.78795	223.33522	1.97379	0.1762206	0.26924423	2.3752270	20	11 20.0	17.6
52429 1994 PK ₆	16.2	X	304.53430	5.84524	305.44680	0.53468	0.1853097	0.26029532	2.4293597	20	5 10.4	19.0
52430 1994 PF ₈	16.1	X	289.23497	292.44845	303.16747	6.21143	0.1033633	0.29220857	2.2490930	20	2 20.6	19.0
52431 1994 PS ₁₀	15.5	X	339.59971	16.74152	327.25478	2.22829	0.1931253	0.26629102	2.3927558	20	9 20.7	17.1
52432 1994 PG ₁₁	15.2	X	354.33978	189.76051	170.85115	1.29456	0.2304719	0.26892952	2.3770796	20	11 28.1	17.1
52433 1994 PZ ₁₅	16.2	X	346.09019	113.36017	237.27255	1.61682	0.2063477	0.26726743	2.3869246	20	10 20.1	17.8
52434 1994 PA ₁₇	15.9	X	357.45280	72.64433	273.87716	1.70055	0.2068344	0.26821633	2.3812916	20	11 7.8	17.8
52435 1994 PM ₂₅	15.9	X	348.84503	293.03416	137.29790	2.86218	0.1263401	0.27557203	2.3387257	20	—	—
52436 1994 PM ₂₆	14.9	X	32.03464	38.01004	335.07182	12.66146	0.1640873	0.27437351	2.3455315	20	—	—
52437 1994 PY ₂₇	16.0	X	298.71965	117.03761	127.87277	5.06433	0.0878911	0.29128639	2.2538374	20	2 11.8	18.5
52438 1994 PQ ₃₂	15.5	X	354.44714	142.06321	190.01020	5.47454	0.1244635	0.26669408	2.3903443	20	9 29.1	17.5
52439 1994 QL	14.8	X	226.75056	287.31977	45.79065	26.55710	0.1427864	0.36863611	1.9263601	20	3 22.7	18.1
52440 1994 QN	14.7	X	61.19619	293.98940	66.99275	23.54746	0.2797045	0.27633549	2.3344161	20	—	—
52441 1994 RS ₁	15.2	X	315.22549	208.30240	172.15348	10.43434	0.2750776	0.26520732	2.3992695	20	9 12.2	16.3
52442 1994 SF ₁₀	15.5	X	305.08060	355.26777	38.03740	1.94456	0.1909612	0.26456819	2.4031320	20	9 19.3	17.2
52443 1994 TW	14.6	X	133.11048	353.02688	20.46558	13.82955	0.1783542	0.24470884	2.5314515	20	2 12.8	18.5
52444 1994 TQ ₂	15.2	X	157.78693	295.12700	40.46758	9.44289	0.2576388	0.24470950	2.5314470	20	1 24.7	19.5
52445 1994 TG ₅	16.3	X	260.55335	275.53377	163.23373	2.27515	0.1971860	0.26329449	2.4108760	20	9 4.3	19.2
52446 1994 TR ₅	15.7	X	17.23832	311.77689	30.68592	3.08903	0.1793015	0.26876139	2.3780709	20	12 1.2	18.3
52447 1994 TH ₁₆	15.2	X	3.24734	139.96902	232.27851	12.42679	0.2180153	0.26975759	2.3722125	20	12 26.9	17.9
52448 1994 UW ₉	15.9	X	132.32064	48.88542	317.74573	1.94137	0.2443308	0.24355988	2.5394065	20	2 4.9	19.7
52449 1994 VJ	15.0	X	275.32503	77.05929	301.86770	1.31641	0.1842607	0.25888811	2.4381550	20	7 3.6	17.9
52450 1994 VL	15.3	X	89.02391	49.93973	22.99810	5.57039	0.2203349	0.24286854	2.5442232	20	3 8.9	18.4
52451 1994 VU	14.7	X	139.47829	352.40633	56.69134	13.32117	0.1152711	0.24552364	2.5256510	20	3 29.1	18.5
52452 1994 VQ ₁	15.2	X	88.63832	185.56087	247.17417	4.61104	0.2278423	0.24190636	2.5509652	20	3 4.9	18.3
52453 1994 WC	15.0	X	316.94740	304.90620	38.24517	11.47438	0.3327073	0.26197576	2.4189598	20	6 26.7	17.0
52454 1994 WV ₄	15.7	X	106.36303	153.24052	122.17092	7.40966	0.0973181	0.26720669	2.3872862	20	12 9.7	19.2
52455 Masamika	14.6	X	126.59752	177.86073	281.20176	18.96299	0.2032250	0.24540984	2.5266285	20	5 18.9	18.9
52456 1995 AY ₃	14.9	X	18.05197	56.97113	87.34268	6.96448	0.1713947	0.23820302	2.5773370	20	1 30.6	17.4
52457 Enquist	14.5	X	106.12991	298.26080	92.38572	5.72098	0.2287033	0.23915118	2.5705202	20	2 6.3	17.9
52458 1995 BK ₁	15.7	X	320.69959	222.48975	289.91264	0.94777	0.0661532	0.23009447	2.6375372	20	—	—
52459 1995 DS	14.7	X	297.63124	266.12581	266.62447	13.05005	0.0722446	0.23030336	2.6359421	20	—	—
52460 1995 DA ₃	15.9	X	4.49922	41.95839	227.22741	20.44192	0.0406475	0.36301713	1.9461873	20	7 6.8	18.1
52461 1995 DE ₅	15.1	X	201.42924	1.67161	226.42707	1.50209	0.1482213	0.22445671	2.6815197	20	—	—
52462 1995 FQ ₁₅	15.7	X	18.67503	340.54873	82.07203	4.60099	0.0587983	0.22330998	2.6906919	20	—	—
52463 1995 GA ₈	15.7	X	315.73157	161.35987	13.45902	4.14164	0.2291996	0.22920648	2.6443450	20	—	—
52464 1995 MC ₂	14.3	X	189.66147	168.54302	225.63984	6.46253	0.1193428	0.18766154	3.0214764	20	4 26.5	19.1
52465 1995 OF ₃	14.4	X	206.89734	98.30804	163.14208	9.73777	0.1418418	0.21678413	2.7444231	20	—	—
52466 1995 OF ₄	14.6	X	116.31958	289.20055	147.09985	11.49352	0.0809403	0.18281826	3.0746074	20	4 3.0	19.1
52467 1995 OS ₁₀	14.2	X	63.32824	50.86091	328.71439	12.05946	0.1678156	0.17062923	3.2193419	20	—	—
52468 1995 QB ₁	14.3	X	100.24484	297.14636	191.00672	2.01122	0.1963732	0.18500339	3.0503494	20	5 30.6	18.9
52469 1995 QV ₁	15.7	X	201.43721	355.68234	351.16833	4.45973	0.1559194	0.30258373	2.1973825	20	3 3.6	18.8
52470 1995 ST ₂	14.2	X	252.43240	19.41843	359.79937	18.99164	0.1307561	0.22954802	2.6417214	20	6 8.0	18.5
52471 1995 SG ₄	15.2	X	58.45195	42.08880	312.55082	21.68864	0.2268359	0.28518827	2.2858529	20	—	—
52472 1995 SR ₉	14.2	X	71.85625	91.59290	355.56417	12.98272	0.1292163	0.17645634	3.1480711	20	2 27.4	18.3
52473 1995 SE ₁₇	14.3	X	75.59869	55.58650	42.48705	0.32953	0.2159330	0.17672569	3.1448716	20	3 27.2	18.4
52474 1995 SH ₃₂	15.8	X	119.30212	136.93804	397.33254	3.42570	0.0948363	0.30594892	2.1812399	20	5 19.3	18.6
52475 1995 SO ₃₉	14.0	X	6.57484	247.07588	238.47249	15.21206	0.1076229	0.18369915	3.0647704	20	3 10.8	18.6
5247												

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ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52481 1995 UG ₁₅	14.2	X	346.89642	279.06804	222.43111	16.57396	0.0444980	0.16957373	3.2326871	20	—	—
52482 1995 UW ₂₅	16.0	X	168.15547	0.69297	40.34478	4.09668	0.1816858	0.30086884	2.2057244	20	4 12.6	19.2
52483 1995 VZ ₄	16.0	X	201.38332	232.54419	111.66129	3.54313	0.0797497	0.29815411	2.2190931	20	2 29.6	19.0
52484 1995 VL ₁₂	16.1	X	37.49778	102.65130	64.11061	6.15799	0.0998357	0.29850962	2.2173308	20	4 3.3	18.1
52485 1995 WD	15.5	X	170.28213	329.65192	64.82773	7.78636	0.1524565	0.29838144	2.2179658	20	4 7.6	18.8
52486 1995 WA ₂₈	16.8	X	339.23638	60.34328	47.45839	4.60194	0.1516948	0.28496803	2.2870305	20	—	—
52487 1995 XO ₂	15.4	X	155.65930	277.06909	95.01619	5.45958	0.2358811	0.29288814	2.2456127	20	2 29.8	19.0
52488 1995 XD ₃	15.9	X	263.88709	75.54755	94.26923	8.53014	0.1347620	0.28111284	2.3078926	20	—	—
52489 1995 YG ₃	15.4	X	14.65438	68.09002	331.08270	3.08513	0.1283686	0.27820383	2.3239528	20	—	—
52490 1995 YY ₅	15.4	X	198.94418	227.71082	94.92531	3.96470	0.1752146	0.29504509	2.2346548	20	2 1.2	18.7
52491 1995 YC ₁₀	15.2	X	315.47697	75.50500	268.36461	4.96081	0.1157609	0.26392562	2.4070310	20	7 29.9	17.8
52492 1995 YK ₁₁	16.6	X	210.28190	311.62836	177.04969	2.15682	0.1558304	0.26735672	2.3863931	20	9 16.9	20.1
52493 1995 YC ₁₇	15.8	X	126.61975	215.94069	74.69074	8.25382	0.0806906	0.28217348	2.3021057	20	—	—
52494 1995 AN ₈	15.6	X	212.35270	189.66295	293.54907	5.55975	0.0783441	0.26664730	2.3906239	20	9 17.8	19.0
52495 1996 AK ₁₀	16.3	X	54.70853	166.32429	249.13260	1.87669	0.1229552	0.28312300	2.2969557	20	—	—
52496 1996 AA ₁₁	15.9	X	205.71491	291.41479	206.18599	1.76838	0.1486685	0.26732064	2.3866078	20	9 24.1	19.4
52497 1996 AA ₁₄	15.7	X	332.82666	8.81452	5.32084	6.53916	0.1554963	0.26768427	2.3844460	20	10 21.8	17.7
52498 1996 BG ₈	15.4	X	141.66340	62.84950	269.85781	3.19703	0.2115527	0.28360005	2.2943791	20	—	—
52499 1996 CL ₁	15.1	X	81.79320	67.98596	134.98464	13.61197	0.1867550	0.25667997	2.4521182	20	8 17.9	18.6
52500 Kanata	14.7	X	254.47607	174.50611	334.46761	9.90458	0.1106495	0.27155698	2.3617218	20	12 19.8	17.5
52501 1996 DJ ₂	15.0	X	196.72057	180.67112	17.55891	5.37589	0.1728190	0.26877097	2.3780144	20	11 28.7	18.4
52502 1996 EZ ₄	15.6	X	166.71251	159.54770	354.63210	2.47921	0.1314805	0.26177095	2.4202214	20	9 6.5	19.3
52503 1996 EX ₁₅	15.6	X	299.95185	128.17652	285.17815	5.83867	0.1063135	0.26710756	2.3878769	20	10 15.5	18.2
52504 1996 FQ ₂	16.3	X	132.38480	207.46815	326.61872	0.69119	0.1286569	0.25911269	2.4367460	20	8 27.9	20.0
52505 1996 FD ₄	14.9	X	284.52775	139.11626	164.60949	4.46658	0.2084133	0.27202600	2.3590063	20	12 31.0	16.6
52506 1996 FK ₄	16.3	X	183.58193	190.86931	5.03600	1.26508	0.1226184	0.26802680	2.3824140	20	11 17.5	19.5
52507 1996 GC ₁	15.4	X	81.77976	114.86099	144.69038	3.07463	0.1676704	0.25909723	2.4368429	20	10 29.5	18.9
52508 1996 GK ₅	15.8	X	283.88851	354.61962	85.73346	3.45495	0.1444037	0.26589995	2.3951013	20	10 26.6	18.2
52509 1996 GP ₉	15.4	X	139.40674	113.43352	182.97993	3.08138	0.0875258	0.22931762	2.6434906	20	—	—
52510 1996 GA ₁₁	15.7	X	290.37619	243.33203	164.57568	1.95756	0.1269438	0.21994070	2.7181014	20	9 12.0	18.8
52511 1996 GH ₁₂	12.1	X	6.00564	100.91150	123.28389	9.40454	0.0665768	0.08211303	5.2423740	20	5 12.5	18.8
52512 1996 GO ₁₉	15.1	X	347.47954	355.29487	211.03002	6.92797	0.1142629	0.24327135	2.5414139	20	3 2.1	17.9
52513 1996 GZ ₂₀	15.2	X	325.26743	157.61389	24.02409	11.15390	0.1481066	0.28006380	2.3136521	20	—	—
52514 1996 HG ₃	15.5	X	156.19728	215.98903	74.43587	5.95592	0.1139012	0.22923050	2.6441603	20	—	—
52515 1996 HL ₁₂	15.8	X	191.66785	239.62828	339.48606	0.64218	0.1373881	0.26715733	2.3875803	20	12 24.4	19.2
52516 1996 HO ₂₀	15.0	X	141.94493	182.63652	60.54372	3.29149	0.1452593	0.26332447	2.4106930	20	12 3.4	18.8
52517 1996 HZ ₂₃	15.7	X	41.09629	80.97094	52.85120	12.97144	0.1600587	0.24207778	2.5497608	20	3 9.0	18.5
52518 1996 HE ₂₅	14.9	X	187.66124	69.77677	184.75472	3.57168	0.1613637	0.22835173	2.6509397	20	—	—
52519 1996 JL ₁	14.8	X	196.63121	234.75309	56.28694	14.40530	0.0485152	0.23360299	2.6110616	20	—	—
52520 1996 JK ₃	14.7	X	255.38123	92.92081	60.11658	11.66067	0.1901659	0.26926086	2.3751291	20	12 12.6	17.2
52521 1996 JU ₃	15.4	X	237.44788	48.86768	100.20360	3.59539	0.1140115	0.26602967	2.3943226	20	11 23.0	18.3
52522 1996 JW ₁₀	15.5	X	137.45834	126.34806	121.95155	3.21310	0.1753310	0.26333852	2.4106072	20	12 5.7	19.5
52523 1996 JE ₁₆	15.0	X	76.13744	181.98761	124.19638	4.03277	0.1618121	0.22086473	2.7105149	20	12 12.1	19.1
52524 1996 PH	15.7	X	330.19165	302.03189	308.23649	2.61791	0.1860547	0.23957502	2.5674876	20	3 26.4	18.4
52525 1996 PJ	15.5	X	198.78638	327.64443	141.37670	23.60200	0.0900148	0.37034291	1.9204368	20	8 26.7	17.5
52526 1996 PF ₃	15.3	X	203.04068	306.18961	146.86845	23.09254	0.0944551	0.36782396	1.9291946	20	8 4.6	17.6
52527 1996 PM ₅	14.9	X	355.42589	231.05141	129.58311	10.14092	0.1306252	0.21030023	2.8005471	20	11 2.6	18.3
52528 1996 PM ₉	14.7	X	276.16829	163.37276	176.63628	2.12488	0.1045538	0.19914167	2.9042095	20	5 24.2	18.6
52529 1996 RQ	15.0	X	345.92977	42.06944	272.93956	18.23662	0.0721328	0.36914052	1.9246048	20	8 18.3	17.0
52530 1996 TW ₃	14.4	X	145.04128	296.91679	145.35190	2.96429	0.0199035	0.19073924	2.9888860	20	5 4.9	18.6
52531 1996 TB ₈	13.7	X	202.77929	211.97789	199.06126	7.89732	0.0473664	0.19365491	2.9588097	20	6 3.4	18.1
52532 1996 TP ₈	14.1	X	73.02877	93.66967	10.48178	11.77389	0.0524471	0.18446779	3.0562511	20	3 10.1	18.3
52533 1996 TJ ₁₀	14.7	X	280.99667	307.96104	12.21869	19.01267	0.0804901	0.35994755	1.9572362	20	4 24.7	16.8
52534 1996 TB ₁₅	15.0	X	195.43109	139.05913	347.11584	19.90659	0.0515245	0.36951675	1.9232982	20	9 18.2	16.8
52535 1996 TU ₁₉	14.5	X	150.81875	359.77586	330.47635	9.15406	0.0732775	0.18107789	3.0942763	20	1 2.9	19.1
52536 1996 TB ₂₀	14.5	X	231.72357	358.92416	337.07679	9.33723	0.0749953	0.19119507	2.9841336	20	3 28.4	19.1
52537 1996 TL ₃₂	14.2	X	89.57984	269.12445	81.20644	6.88206	0.1224798	0.17443265	3.1723726	20	—	—
52538 1996 TT ₃₉	15.9	X	255.56836	180.28125	138.73137	3.56262	0.1697037	0.27589597	2.3368947	20	3 22.5	19.2
52539 1996 TB ₄₁	14.6	X	208.44920	180.16810	168.40976	11.29530	0.1063955	0.18976887	2.9990663	20	3 22.2	19.2
52540 1996 TJ ₄₈	13.5	X	218.65554	314.95760	65.48972	11.02100	0.1167781	0.19294068	2.9661072	20	5 9.9	18.2
52541 1996 VB	15.0	X	352.75837	32.23366	285.32090	0.99591	0.0573332	0.20143617	2.8821135	20	8 20.4	18.5
52542 1996 VU ₄	13.9	X	185.75825	338.48227	78.36570	13.90066	0.1632047	0.18979598	2.9987808	20	5 22.2	18.8
52543 1996 VA ₁₁	14.3	X	299.73443	177.91710	340.21566	8.54334	0.0457929	0.17463714	3.1698957	20	—	—
52544 1996 VC ₁₁	13.7	X	123.38987	55.70378	10.76400	16.42897	0.1043247	0.18508576	3.0494444	20	3 29.7	18.2
52545 1996 VW ₁₂	14.4	X	57.28859	31.28270	46.83562	5.42529	0.1622022	0.17680595	3.1439199	20	1 28.5	18.2
52546 1996 XW	14.3	X	204.20011	10.30429	66.16589	11.31681	0.0881932	0.19188057	2.9770221	20	7 4.5	18.9
52547 1996 XQ ₁	13.4	X	214.35869	258.79217	96.98148	22.85052	0.0719821	0.18214147	3.0822190	20	4 18.9	18.5
52548 1996 XD ₂	14.6	X	48.02093	176.76515	204.24889	4.16688	0.1208256	0.17045265	3.2215649	20	—	—
52549 1996 XB ₃₁	14.2	X	47.16808	359.31296	122.39127	10.30555	0.0481020	0.17508611	3.1644744	20	2 26.5	18.5
52550 1996 YB ₃	12.9	X	46.44746	199.37651	285.09123	14.73523	0.0342344	0.17634489	3.1493974	20	2 19.2	17.5
52551 1997 AL	13.9	X	68.30495	158.20017	311.17391	8.37741	0.0512925	0.17531614	3.1617058	20	3 5.4	18.3
52552 1997 AD ₁₇	14.1	X	91.13455	285.01975	118.27685	11.64140	0.1226966	0.17075222	3.2177958	20	1 28.1	18.5
52553 1997 CA ₁₆	14.9	X	142.98821	102.28788	330.46728	5.56154	0.0884636	0.22057714	2.7128704	20	4 21.8	18.9
52554 1997 EN ₃	15.9	X	44.56003	25.11248	4.96691	5.77123	0.1407938	0.28586735	2.2822314	20	—	—
52555 1997 EK ₄	16.1	X	241.88441	210.2								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52561 1997 GT ₁₄	15.3	X	154.49243	56.66484	215.03654	7.27465	0.0996833	0.28123318	2.3072342	20	—	—
52562 1997 GY ₁₇	15.6	X	340.55660	148.48799	22.24286	6.63077	0.0603942	0.29302058	2.2449360	20	1 2.9	18.2
52563 1997 GY ₁₈	15.9	X	293.71707	181.44269	344.72570	3.99343	0.0372288	0.28669168	2.2778546	20	—	—
52564 1997 GN ₂₁	15.9	X	176.75012	199.19623	22.34307	4.74105	0.1600362	0.27723810	2.3293466	20	12 11.1	19.3
52565 1997 GO ₂₂	15.7	X	30.92395	11.75348	222.92043	2.00132	0.1399451	0.26098270	2.4250921	20	7 9.9	18.2
52566 1997 GP ₂₇	15.8	X	162.06231	340.31087	287.63067	1.95492	0.1366676	0.28237173	2.3010280	20	—	—
52567 1997 HN ₂	11.9	X	305.01921	220.55571	54.36435	21.47111	0.0719048	0.08403154	5.1622753	20	4 24.3	18.7
52568 1997 HJ ₈	15.3	X	321.43268	198.44186	176.37806	2.12521	0.2358647	0.26837543	2.3803503	20	9 26.7	16.7
52569 1997 HJ ₁₁	14.9	X	67.51110	71.61445	250.03902	3.40361	0.2924348	0.27214642	2.3583104	20	—	—
52570 1997 JC ₁	14.9	X	103.34171	147.86352	54.27704	13.75158	0.1303679	0.26773865	2.3841231	20	9 12.2	18.6
52571 1997 KJ ₂	15.6	X	39.64396	264.24550	90.93204	5.76603	0.1676892	0.27341879	2.3509883	20	—	—
52572 1997 LL	15.5	X	232.87424	170.84341	170.41805	7.55377	0.2221550	0.25108735	2.4883960	20	3 26.7	19.6
52573 1997 LM ₁₂	15.3	X	8.56819	183.95978	73.50038	7.54800	0.0906237	0.25965456	2.4333547	20	6 27.9	17.9
52574 1997 MS ₂	14.6	X	102.44123	270.39799	102.38392	13.96461	0.1840800	0.23576739	2.5950570	20	1 1.9	17.9
52575 1997 MY ₅	15.5	X	319.69133	318.33906	228.35817	10.16705	0.1249597	0.24072404	2.5593110	20	—	—
52576 1997 MW ₆	16.1	X	293.70824	194.92701	195.77556	11.35808	0.2498327	0.26337203	2.4104028	20	8 5.7	18.8
52577 1997 MJ ₇	15.6	X	349.52308	294.07158	215.63955	10.68924	0.1293464	0.23882362	2.5728701	20	—	—
52578 1997 NE	16.4	X	113.72649	320.70978	216.53891	1.89086	0.1249700	0.25757384	2.4464417	20	8 10.9	19.8
52579 1997 NH	15.9	X	136.43940	258.85961	154.10843	3.79653	0.1631962	0.24205168	2.5499440	20	3 30.1	19.7
52580 1997 NO	15.3	X	139.43307	59.77788	137.84381	6.50526	0.0597664	0.26255926	2.4153746	20	10 6.7	18.7
52581 1997 NB ₁	15.0	X	103.35006	205.44471	38.81810	2.55526	0.1660407	0.26690146	2.3891060	20	10 31.3	18.6
52582 1997 NE ₆	15.4	X	224.22397	196.46967	139.67957	9.90050	0.0669192	0.24528212	2.5275056	20	3 22.9	19.0
52583 1997 NY ₆	14.8	X	159.14517	293.50678	136.99929	12.64206	0.1191436	0.24747337	2.5125636	20	5 14.7	18.8
52584 1997 OV ₁	15.5	X	90.46800	89.20258	247.59932	6.19664	0.0491655	0.27286858	2.3541477	20	—	—
52585 1997 ON ₂	15.1	X	228.48096	4.19068	263.06658	8.43378	0.1511280	0.23914730	2.5705480	20	—	—
52586 1997 PB	14.6	X	202.66874	181.69142	117.15414	4.34856	0.1307000	0.28266590	2.2994313	20	1 5.3	17.9
52587 1997 PD	14.7	X	14.79118	13.16740	286.98530	12.56475	0.2804954	0.26032151	2.4291967	20	10 5.5	17.4
52588 1997 PD ₁	15.4	X	75.03140	174.44989	114.53736	2.34777	0.0568055	0.26291376	2.4132029	20	11 16.9	18.7
52589 Montviloff	15.8	X	209.36166	351.65049	256.11523	3.71271	0.1355901	0.27644252	2.3338136	20	—	—
52590 1997 PC ₅	15.3	X	158.38537	46.76950	214.79866	1.63536	0.1717923	0.27169530	2.3609201	20	—	—
52591 1997 QD	15.0	X	140.06437	345.70706	300.29045	13.00346	0.3095962	0.23109469	2.6299212	20	—	—
52592 1997 QC ₂	14.8	X	79.72331	175.82576	133.00216	6.58866	0.2841122	0.22394394	2.6856114	20	12 28.4	19.4
52593 1997 QF ₂	13.7	X	62.36516	10.04394	5.01523	12.87172	0.1415906	0.18364580	3.0653640	20	—	—
52594 1997 RF ₃	15.5	X	190.14041	83.91131	177.10634	5.50551	0.2282771	0.27496617	2.3421599	20	—	—
52595 1997 RT ₃	15.3	X	202.33904	250.36394	21.29033	3.42803	0.0737517	0.22883191	2.6472299	20	—	—
52596 1997 RO ₈	15.9	X	142.49887	42.00448	337.06191	4.41181	0.1718882	0.23595867	2.5936543	20	2 23.4	19.7
52597 1997 RM ₉	14.9	X	34.58416	324.13283	356.32990	12.55504	0.1633327	0.21616987	2.7496196	20	11 6.6	18.7
52598 1997 SR ₃	15.2	X	111.04664	315.25734	14.41649	2.29484	0.2074234	0.22788335	2.6545709	20	—	—
52599 1997 SK ₄	15.4	X	66.21671	75.39257	304.62087	2.63676	0.1085458	0.22617625	2.6679113	20	—	—
52600 1997 SP ₁₀	14.3	X	149.05078	181.20652	358.78629	10.49164	0.1816611	0.25644310	2.4536279	20	9 21.5	18.2
52601 lwayajii	15.9	X	54.34611	337.22932	53.66505	6.85436	0.0784153	0.22589833	2.6700990	20	—	—
52602 1997 TY ₅	14.0	X	267.31616	208.72542	84.66289	3.25414	0.0639192	0.19759537	2.9193413	20	3 21.9	18.2
52603 1997 TV ₉	15.0	X	49.31251	78.41349	57.38708	4.87314	0.2392917	0.23412702	2.6071641	20	4 3.4	17.3
52604 Thomayer	15.0	X	100.16309	357.43411	28.53872	6.48872	0.1211311	0.22957215	2.6415363	20	1 8.5	18.4
52605 1997 TK ₁₁	14.8	X	1.61506	157.75787	1.67890	14.03683	0.1010863	0.23378425	2.6097118	20	2 1.0	18.0
52606 1997 TM ₁₃	16.0	X	66.80732	300.63525	340.08630	0.91383	0.1826688	0.26233740	2.4167362	20	11 10.4	19.4
52607 1997 TX ₁₆	14.4	X	113.38054	123.00528	48.05006	11.20328	0.0299190	0.24690287	2.5164325	20	7 25.9	17.9
52608 1997 TM ₁₉	15.3	X	58.76427	89.01608	336.86715	12.30672	0.1557558	0.22854068	2.6494783	20	1 1.9	18.3
52609 1997 TK ₂₄	14.8	X	336.57992	89.35781	321.67667	3.74769	0.0521124	0.21798744	2.7343141	20	12 1.1	18.2
52610 1997 UK ₁	15.0	X	89.90897	47.69411	29.53929	6.04481	0.1159570	0.23328883	2.6134052	20	3 1.5	18.4
52611 1997 UL ₃	14.4	X	237.34707	319.97023	39.00817	14.32457	0.2037764	0.24340853	2.5404590	20	4 23.2	18.3
52612 1997 UH ₅	14.4	X	25.12225	252.07939	299.61170	13.04615	0.1306595	0.23621617	2.5917691	20	4 14.9	17.5
52613 1997 UK ₁₀	13.9	X	73.20677	266.09082	48.21287	11.73407	0.1789171	0.21910860	2.7249786	20	12 19.0	18.2
52614 1997 UP ₁₀	14.7	X	123.44888	207.45992	82.68049	6.76119	0.0664814	0.22220209	2.6996282	20	—	—
52615 1997 UY ₁₂	15.7	X	255.41308	317.29459	34.88382	2.35967	0.1028737	0.20136607	2.8827824	20	5 13.8	19.8
52616 1997 UB ₂₀	14.8	X	234.65387	283.67160	266.78409	7.84844	0.1177667	0.22414733	2.6839865	20	12 30.9	18.3
52617 1997 VH ₁	15.2	X	126.41104	97.87088	300.69398	13.08851	0.0867070	0.23382319	2.6094221	20	2 16.6	18.9
52618 1997 VP ₂	14.2	X	101.81480	265.04299	205.32551	14.70168	0.1656776	0.23780002	2.5802480	20	5 5.5	17.8
52619 1997 VR ₂	15.0	X	289.73030	1.77012	283.37916	8.22829	0.0577819	0.24549553	2.5260406	20	3 30.0	18.6
52620 1997 VQ ₃	14.5	X	45.28437	146.33680	230.88137	8.72693	0.1811676	0.22056793	2.7129459	20	—	—
52621 1997 VW ₄	13.7	X	45.28484	129.44111	49.43035	14.12927	0.1148780	0.23908018	2.5710291	20	5 8.9	16.6
52622 1997 VT ₅	14.5	X	182.95040	255.27848	53.39530	9.99181	0.1807943	0.22852503	2.6495993	20	1 9.3	19.0
52623 1997 VY ₆	15.2	X	324.30091	153.83734	252.44787	1.03692	0.2330516	0.21394222	2.7686734	20	11 5.4	17.5
52624 1997 WV ₈	14.8	X	54.48739	139.38748	231.92486	9.75270	0.1860397	0.22187602	2.7022725	20	—	—
52625 1997 WD	14.6	X	118.99481	16.89330	59.20701	15.01387	0.0625279	0.23451520	2.6042863	20	4 3.9	18.4
52626 1997 WL ₁	14.8	X	8.32428	248.93830	269.54789	9.21836	0.1649742	0.22931743	2.6434920	20	1 29.6	17.6
52627 1997 WU ₂	13.4	X	290.89324	61.30072	78.69118	22.86834	0.0737411	0.17433975	3.1734995	20	—	—
52628 1997 WO ₃	14.5	X	239.38726	338.98154	291.92911	2.49395	0.0485521	0.23074728	2.6325602	20	1 17.7	18.2
52629 1997 WA ₈	15.3	X	347.23561	39.08284	65.63551	2.74423	0.2224501	0.22004433	2.7172479	20	—	—
52630 1997 WL ₈	14.3	X	259.53944	75.98758	85.08138	4.93039	0.0349891	0.21922267	2.7240333	20	—	—
52631 1997 WC ₂₁	14.4	X	60.28658	103.10604	307.70772	5.09088	0.3018423	0.22756808	2.6570220	20	—	—
52632 1997 WN ₂₁	13.8	X	172.61260	283.83544	85.60044	16.72643	0.1854029	0.23441108	2.6050574	20	3 20.1	18.4
52633 1997 WL ₂₃	15.2	X	64.35699	318.51323	56.91351	2.79955	0.2053863	0.22279929	2.6948020	20	—	—
52634 1997 WR ₂₈	13.7	X	51.02533	174.21559	237.89812	12.04004	0.1799987	0.22411045	2.6842810	20	—	—
52635 1997 WC ₃₂	14.5	X	315.90330	164.24886	261.98193	4.81847	0.0623309	0.21428613	2.7657102	20	11 20.1	17.8
52636 1997 WO ₃₄	14.4											

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52641 1997 WZ ₅₄	15.2 ^m	X	26.01853	118.49982	314.00220	1.23458	0.0590890	0.22377124	2.6869930	20	—	—
52642 1997 WB ₅₅	15.2	X	203.00422	157.99805	184.28765	2.15820	0.0268187	0.23493272	2.6011998	20	3 4.8	18.7
52643 1997 XK	14.3	X	79.01145	332.73407	36.37833	4.63575	0.1157753	0.22181279	2.7027860	20	—	—
52644 1997 XR ₁₀	14.7	X	73.44251	85.20085	32.47688	2.68416	0.1506742	0.23364519	2.6107472	20	4 4.1	17.7
52645 1997 XR ₁₃	12.4	X	296.29693	26.48979	60.56283	11.96217	0.0423976	0.08337054	5.1895255	20	10 27.7	19.2
52646 1997 YC	14.6	X	77.77078	112.48742	267.25068	5.93278	0.1171950	0.22265611	2.6959571	20	—	—
52647 1997 YD ₄	14.4	X	191.67449	309.81185	115.75983	3.58144	0.0687629	0.19618863	2.9332798	20	6 8.0	18.8
52648 1997 YN ₅	14.2	X	135.34450	270.83086	117.57674	12.06264	0.1699656	0.18473338	3.0533210	20	3 6.5	19.1
52649 Christmith	13.9	X	94.23986	214.92448	252.64016	9.14533	0.0552399	0.18618648	3.0374137	20	4 4.4	18.3
52650 1997 YF ₁₅	13.8	X	5.68865	317.34216	297.24345	8.56142	0.2007249	0.19234224	2.9722564	20	6 20.8	16.7
52651 1997 YF ₁₈	13.4	X	299.83345	190.83009	50.86760	11.68531	0.1285151	0.17707514	3.1407328	20	2 23.8	18.0
52652 1997 YV ₁₈	13.7	X	322.35142	303.54894	101.19717	8.38942	0.1981587	0.20933815	2.8091211	20	11 1.8	16.5
52653 1998 AJ ₃	14.2	X	250.60595	35.31806	73.05816	3.68426	0.0680344	0.20660304	2.8338590	20	10 13.7	18.0
52654 1998 AK ₅	13.6	X	16.66074	295.08525	322.26704	9.48110	0.0574588	0.19125303	2.9835306	20	7 6.9	17.5
52655 1998 AF ₆	15.3	X	89.05930	13.34603	155.26379	7.16666	0.1275866	0.27631148	2.3345514	20	7 1.9	18.3
52656 1998 AN ₆	14.3	X	38.20023	310.11833	102.90155	10.67277	0.0836970	0.17468914	3.1692666	20	—	—
52657 1998 AK ₇	13.3	X	282.16220	253.95808	320.26756	21.38883	0.0957368	0.17580634	3.1558259	20	1 4.8	18.1
52658 1998 BJ ₆	14.3	X	294.82372	354.95419	109.07841	8.30068	0.1916491	0.21115555	2.7929793	20	11 27.9	17.2
52659 1998 BQ ₆	14.5	X	16.64546	267.25455	122.37179	7.20314	0.0275053	0.21162836	2.7888178	20	12 24.8	18.3
52660 1998 BJ ₈	14.3	X	154.52894	332.23630	128.92003	9.38791	0.1691254	0.19115284	2.9845731	20	6 16.6	19.3
52661 1998 BT ₈	13.3	X	326.62883	234.98501	329.63521	21.23360	0.0376036	0.17982273	3.1086583	20	2 18.9	17.6
52662 1998 BW ₁₂	14.4	X	260.44447	260.23452	304.04230	13.21229	0.1698761	0.21642926	2.7474222	20	—	—
52663 1998 BV ₁₈	14.8	X	40.94724	131.60176	71.68480	3.54071	0.2356823	0.18358244	3.0660693	20	6 23.2	18.2
52664 1998 BA ₂₁	15.0	X	344.45981	226.16500	115.95370	3.16928	0.0820977	0.20286285	2.8685849	20	9 12.4	18.4
52665 Brianmay	14.4	X	33.94502	260.95825	316.93509	8.61455	0.1298599	0.18939295	3.0030335	20	6 15.2	18.1
52666 1998 BL ₃₃	13.7	X	333.95580	45.86160	118.33658	14.90323	0.2125523	0.17446854	3.1719376	20	—	—
52667 1998 CT ₁	14.4	X	194.97767	166.22272	130.39166	17.38346	0.0691163	0.19836740	2.9117618	20	8 13.5	18.7
52668 1998 CA ₅	13.3	X	3.83952	227.07268	329.43710	8.29729	0.0461106	0.18223222	3.0811956	20	3 25.4	17.4
52669 1998 DO ₂	13.6	X	248.43200	248.50202	46.09360	14.03039	0.1918203	0.17708832	3.1405770	20	2 26.9	18.9
52670 1998 DC ₃	14.8	X	98.27901	67.04107	139.84236	10.90363	0.0530395	0.19533315	2.9418379	20	8 19.4	18.8
52671 1998 DL ₄	14.1	X	225.09838	174.09797	313.78760	13.01206	0.1570646	0.20302684	2.8670400	20	9 17.9	18.7
52672 1998 DH ₅	13.9	X	354.63525	60.98168	93.87571	9.57294	0.0753924	0.17693867	3.1423475	20	1 24.0	18.0
52673 1998 DW ₅	13.8	X	299.36798	270.64912	327.96392	22.06720	0.1980701	0.17679713	3.1440244	20	2 7.2	18.3
52674 1998 DZ ₈	14.4	X	312.69089	105.61401	137.31646	5.80973	0.1004489	0.18047761	3.1011338	20	3 12.1	18.5
52675 1998 DJ ₉	13.5	X	35.93209	80.19585	33.33307	10.67610	0.0473712	0.17500376	3.1654671	20	2 3.4	17.9
52676 1998 DF ₁₆	13.5	X	50.88754	309.53689	131.41978	18.10805	0.1199970	0.17485537	3.1672577	20	1 16.1	17.5
52677 1998 DY ₂₀	13.1	X	70.21439	229.17386	150.39288	17.85117	0.3105978	0.17385288	3.1794216	20	—	—
52678 1998 DC ₂₁	13.9	X	144.24136	145.33207	340.26610	9.52796	0.0581219	0.19118642	2.9842236	20	7 1.6	18.4
52679 1998 DZ ₂₂	14.0	X	185.90965	111.93058	321.89470	8.48494	0.0481760	0.19195705	2.9762313	20	6 11.8	18.4
52680 1998 DX ₂₉	14.4	X	274.51722	123.84171	101.96527	2.30038	0.1035127	0.17140299	3.2096458	20	1 5.9	19.1
52681 1998 DK ₃₄	14.3	X	353.52099	20.34046	122.58277	9.24208	0.1367799	0.17372686	3.1809589	20	1 1.7	18.3
52682 1998 DM ₃₄	14.2	X	194.58385	302.96352	9.79503	9.07138	0.0747583	0.17394311	3.1783220	20	1 30.3	19.2
52683 1998 DF ₃₅	15.7	X	174.41643	155.63576	28.23629	1.40838	0.1508741	0.28889246	2.2662713	20	10 24.9	19.1
52684 1998 EQ ₈	14.2	X	222.11719	20.91237	189.76800	3.21625	0.0349467	0.21063881	2.7975452	20	—	—
52685 1998 EZ ₉	14.3	X	303.86812	216.42359	12.37314	10.28278	0.1596135	0.17442236	3.1724975	20	2 7.4	18.8
52686 1998 EN ₁₁	14.2	X	298.70072	77.06255	159.69553	26.66078	0.1597753	0.17577711	3.1561757	20	2 5.5	18.9
52687 1998 EO ₁₃	14.3	X	228.56016	316.35420	1.05018	14.50030	0.0426588	0.17859547	3.1228833	20	3 10.9	18.9
52688 1998 FL ₁	13.6	X	30.58340	204.95978	53.84278	11.90457	0.0629245	0.19021433	2.9943822	20	8 1.2	17.7
52689 1998 FF ₂	18.9	X	75.43556	265.10439	4.69568	10.98262	0.2924298	0.50502349	1.5616906	20	12 20.2	21.2
52690 1998 FO ₂	16.0	X	227.26010	137.20675	4.62244	24.20837	0.1169914	0.37944397	1.8896046	20	11 13.2	18.3
52691 1998 FC ₆	15.0	X	56.75741	5.15701	81.65526	2.65023	0.1609237	0.17479969	3.1679302	20	2 6.9	18.8
52692 1998 FO ₈	12.1	X	307.69565	210.65080	13.84515	16.58710	0.1738525	0.17401791	3.1774112	20	2 8.1	16.7
52693 1998 FH ₁₃	13.9	X	293.23357	84.33874	131.75776	6.27703	0.1345443	0.17373446	3.1808662	20	1 10.4	18.6
52694 1998 FL ₂₈	14.1	X	127.67752	56.93050	177.42872	5.1978	0.0916494	0.20034456	2.8925731	20	10 29.3	18.3
52695 1998 FG ₃₂	13.7	X	23.29163	291.88452	187.86035	17.00032	0.1072424	0.17453906	3.1710831	20	1 18.3	18.0
52696 1998 FC ₅₁	14.9	X	11.03843	50.89654	123.36717	2.50712	0.1224312	0.17794007	3.1305469	20	3 11.1	18.7
52697 1998 FJ ₅₁	14.5	X	56.79504	88.05601	21.99713	6.73657	0.1299840	0.17736506	3.1373093	20	3 4.9	18.4
52698 1998 FK ₅₄	13.9	X	206.22437	87.08187	357.13986	10.98787	0.0492529	0.19093021	2.9868927	20	7 22.5	18.4
52699 1998 FO ₅₆	13.9	X	257.82779	260.21427	12.23778	9.37651	0.1289785	0.17403086	3.1772535	20	2 12.2	18.8
52700 1998 FG ₆₂	14.5	X	287.52828	222.31218	286.17903	2.54998	0.2190264	0.16529225	3.2882719	20	12 22.2	18.3
52701 1998 FL ₆₉	14.4	X	16.70917	40.69134	126.83305	2.12330	0.0994168	0.17691320	3.1426491	20	3 11.6	18.3
52702 1998 FR ₇₁	13.4	X	287.06098	163.74249	49.09710	2.42214	0.1309816	0.12570576	3.9466862	20	1 8.4	19.1
52703 1998 FW ₇₂	14.4	X	108.10143	85.39004	30.59212	0.93419	0.1377487	0.18189000	3.0850592	20	5 16.4	18.9
52704 1998 FX ₇₄	12.7	X	263.67112	274.75446	12.94237	9.81277	0.1301431	0.17574654	3.1565417	20	3 6.1	17.4
52705 1998 FA ₇₇	13.2	X	99.39636	64.19643	50.04346	7.94693	0.0616053	0.18113127	3.0936684	20	4 25.1	17.5
52706 1998 FO ₇₇	12.7	X	351.16566	299.41492	49.50593	9.45500	0.0471694	0.15077724	3.4960598	20	9 25.1	17.5
52707 1998 FE ₈₁	14.0	X	290.64009	103.46915	97.56172	6.09998	0.1157594	0.17219403	3.1998086	20	—	—
52708 1998 FS ₈₂	14.5	X	56.19347	15.60771	84.38579	6.75233	0.1608216	0.17845592	3.1245111	20	2 24.3	18.3
52709 1998 FA ₈₄	14.3	X	118.42666	300.91344	144.11741	12.36906	0.1055573	0.18348021	3.0672080	20	4 20.2	19.0
52710 1998 FS ₉₀	14.8	X	275.24412	246.92786	114.33305	4.73890	0.1206228	0.27923066	2.3182520	20	6 19.3	17.6
52711 1998 FE ₁₀₄	13.5	X	183.87871	161.16727	235.18338	9.23707	0.0720716	0.18256403	3.0774611	20	4 22.6	18.1
52712 1998 FK ₁₀₇	13.5	X	63.59915	197.20934	321.44001	8.20568	0.0253902	0.18206596	3.0830711	20	4 25.3	17.9
52713 1998 FQ ₁₁₃	13.0	X	20.85703	247.17315	253.17616	7.07215	0.0663496	0.17428380	3.1741786	20	2 9.2	17.3
52714 1998 FP ₁₁₅	14.6	X	88.51902	173.80672	357.60702	9.00564	0.1935527	0.18536697	3.0463595	20	7 12.5	1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52721 1998 FH ₁₄₈	15.0 ^m	X	24.54611	4.36235	105.74526	3.38197	0.1748149	0.17330347	3.1861377	20	1 11.5	18.6
52722 1998 GK	14.6	X	51.05653	212.05819	33.77274	24.77537	0.1589192	0.36675454	1.9329430	20	9 30.9	17.0
52723 1998 GP ₂	12.6	X	211.88190	265.13856	36.04123	17.87308	0.0633003	0.17452718	3.1712270	20	2 7.7	17.7
52724 1998 GC ₄	13.0	X	142.33033	26.04303	108.40664	14.35350	0.0946537	0.1899554	2.9966805	20	7 11.7	17.4
52725 1998 GF ₅	13.7	X	93.38687	326.26597	128.45760	15.84473	0.1601451	0.18042316	3.1017577	20	4 12.7	18.4
52726 1998 GY ₆	13.6	X	188.89048	162.76588	60.81414	17.66289	0.0393003	0.20503909	2.8482511	20	12 21.5	17.8
52727 1998 GG ₉	14.2	X	304.09825	198.81500	64.86624	20.56032	0.1599659	0.17764015	3.1340695	20	3 28.9	18.8
52728 1998 GW ₉	14.2	X	5.29258	79.77940	69.71353	14.79961	0.1812568	0.17547505	3.1597967	20	1 28.9	17.9
52729 1998 GZ ₉	14.0	X	255.65314	195.44990	98.60910	12.69210	0.0289340	0.17758339	3.1347373	20	3 19.4	18.7
52730 1998 HN ₄	16.1	X	237.41258	266.86578	53.09019	8.25763	0.2957321	0.30682207	2.1770997	20	2 29.7	20.0
52731 1998 HU ₁₂	14.3	X	61.71371	171.50874	48.05572	24.33571	0.1514800	0.18892802	3.0079583	20	8 13.5	19.0
52732 1998 HT ₁₅	14.2	X	321.70906	20.64397	180.57505	10.88129	0.1294518	0.17250941	3.1959074	20	1 26.5	18.6
52733 1998 HP ₂₁	14.7	X	61.36491	289.10448	200.23620	15.48938	0.1790006	0.17979124	3.1090213	20	4 9.5	18.6
52734 1998 HV ₃₂	14.1	X	77.64666	282.15434	201.97534	25.88124	0.1793385	0.18067247	3.0989036	20	4 26.9	18.3
52735 1998 HR ₃₃	14.1	X	0.80398	274.26381	243.72371	4.56660	0.0965338	0.17349943	3.1837382	20	2 2.3	18.1
52736 1998 HA ₆₁	13.5	X	157.35968	25.37225	24.37947	16.82535	0.0536717	0.17855775	3.1233231	20	4 11.5	17.9
52737 1998 HS ₈₃	14.6	X	326.08561	355.44131	177.57683	9.51492	0.0790758	0.16957730	3.2326416	20	1 6.7	19.1
52738 1998 HW ₁₀₈	14.1	X	122.31941	331.78120	139.63980	11.31933	0.2180587	0.18429221	3.0581919	20	6 4.6	19.2
52739 1998 HP ₁₀₉	13.9	X	39.96851	69.56935	153.38073	11.15313	0.1963975	0.18479750	3.0526147	20	7 11.7	17.7
52740 1998 HB ₁₁₃	13.1	X	6.99301	128.90692	70.72735	12.50188	0.1051484	0.17798280	3.1300458	20	4 11.9	17.1
52741 1998 HW ₁₁₆	13.6	X	140.78259	85.52579	59.74143	13.81132	0.1041301	0.18823405	3.0153468	20	7 27.0	18.4
52742 1998 HV ₁₂₆	14.3	X	97.24985	202.44720	284.63929	4.93430	0.1524029	0.18394180	3.0620746	20	5 19.1	18.8
52743 1998 HW ₁₃₅	12.9	X	77.84830	196.03530	29.88372	10.33957	0.19292318	0.19180991	2.9777531	20	8 19.1	17.2
52744 1998 HO ₁₃₆	13.7	X	27.08514	90.25861	50.60793	11.53049	0.0440365	0.17532821	3.1615606	20	2 26.6	18.1
52745 1998 HL ₁₃₇	13.9	X	347.07344	174.06459	46.22780	14.07673	0.1198988	0.17871242	3.1215208	20	4 4.9	17.8
52746 1998 HS ₁₄₉	16.0	X	126.20772	27.82259	259.30360	4.22354	0.2067399	0.28803975	2.2707419	20	—	—
52747 1998 HM ₁₅₁	7.9	X	323.15037	244.78103	64.11981	0.54964	0.0661758	0.00329024	44.7769995	20	6 18.3	24.2
52748 1998 JJ ₁	15.2	X	224.29969	201.60322	229.15267	19.89279	0.2928086	0.36662396	1.9334020	20	7 22.8	17.9
52749 1998 KN ₈	13.7	X	15.72596	131.44103	74.79390	22.78187	0.0666210	0.17771189	3.1332260	20	5 5.6	18.0
52750 1998 KR ₁₇	16.4	X	21.81489	334.09489	141.34842	11.16880	0.252419	0.57818933	1.4269957	20	—	—
52751 1998 KR ₃₇	13.0	X	302.84686	206.41876	76.40021	22.96459	0.0501489	0.17717934	3.1395012	20	5 2.9	17.6
52752 1998 KH ₄₈	16.0	X	215.33259	166.98280	102.39728	5.69422	0.2251253	0.29696003	2.2250377	20	—	—
52753 1998 KG ₅₆	15.4	X	77.68808	19.74132	133.53418	24.34555	0.0546177	0.35615209	1.9711169	20	5 6.9	18.1
52754 1998 KN ₆₂	13.4	X	29.50293	98.30215	53.65222	12.69688	0.2036226	0.17529226	3.1619929	20	3 24.6	17.0
52755 1998 MU	13.8	X	353.42447	5.83706	230.75858	19.21781	0.2733384	0.18033740	3.1027409	20	4 20.1	16.8
52756 1998 MY ₃	16.3	X	346.50617	214.45357	289.56356	1.06778	0.0558326	0.29431930	2.2383271	20	—	—
52757 1998 MH ₄	14.9	X	83.23031	197.99887	106.27044	25.80833	0.1837308	0.28137520	2.3064577	20	12 30.2	18.5
52758 1998 MN ₆	15.9	X	116.78085	188.53990	147.82271	8.45721	0.2334506	0.29033343	2.2587666	20	—	—
52759 1998 MW ₁₃	15.6	X	249.00457	67.34538	309.96872	4.99648	0.2374695	0.26444793	2.4038605	20	5 22.2	19.3
52760 1998 ML ₁₄	17.5	X	285.41890	20.27839	338.72606	2.42832	0.6235972	0.26375203	2.4080870	20	4 21.1	21.7
52761 1998 MN ₁₄	17.9	X	127.94254	350.42606	258.99773	19.48296	0.2242163	0.50850335	1.5545577	20	—	—
52762 1998 MT ₂₄	14.8	X	329.59487	254.41232	309.16276	33.88454	0.6510477	0.26194962	2.4191207	20	—	—
52763 1998 ME ₂₉	15.5	X	19.04651	99.62412	149.69048	0.98604	0.1776821	0.31402046	2.1437004	20	7 20.9	16.6
52764 1998 MG ₃₃	15.3	X	257.25915	66.96798	244.86651	4.17368	0.1937732	0.30407738	2.1901808	20	3 7.1	18.6
52765 1998 MA ₃₆	15.9	X	108.02955	248.29468	82.98252	6.18955	0.2376747	0.28665693	2.2780386	20	—	—
52766 1998 MC ₃₈	15.4	X	217.56723	173.61098	146.57319	8.79493	0.2379260	0.29879193	2.2159339	20	2 12.9	19.0
52767 Ophelestes	11.8	X	281.89648	198.79964	98.46831	12.80247	0.0253343	0.08087041	5.2959388	20	4 28.3	18.9
52768 1998 OR ₂	15.8	X	12.10135	174.56619	27.01548	5.86589	0.5730839	0.26768608	2.3844352	20	1 29.6*	15.7
52769 1998 OF ₄	16.0	X	167.31670	227.85419	139.85137	5.08715	0.1611907	0.29712373	2.2242204	20	2 27.6	19.2
52770 1998 OD ₁₅	15.8	X	66.49685	13.93732	330.82251	3.47360	0.1627500	0.28118691	2.3074873	20	—	—
52771 1998 PX	15.8	X	124.78305	19.96463	342.35616	4.48759	0.1701963	0.29053359	2.2577290	20	1 5.8	18.5
52772 1998 PT ₁	15.9	X	229.12432	101.28287	190.28070	1.55294	0.1505351	0.29815971	2.2190653	20	1 19.3	19.3
52773 1998 QU ₁₂	15.6	X	193.81321	168.95328	183.75436	3.66271	0.2035020	0.29833228	2.2182094	20	3 4.3	19.0
52774 1998 QC ₁₄	15.9	X	129.82002	180.00964	183.78684	6.97642	0.3015693	0.24521405	2.5279733	20	2 3.3	19.9
52775 1998 QQ ₁₈	15.8	X	112.79600	165.44667	179.73642	1.85427	0.2184622	0.28698629	2.2762954	20	—	—
52776 1998 QS ₁₉	16.3	X	27.66056	83.47731	272.49568	1.40466	0.1734054	0.27741729	2.3283434	20	—	—
52777 1998 QR ₂₁	15.5	X	187.54960	97.85319	328.52317	5.69349	0.1216740	0.30538663	2.1839165	20	6 2.7	18.6
52778 1998 QV ₂₄	15.0	X	19.85851	224.17022	169.51844	4.00496	0.1633001	0.27979273	2.3151463	20	—	—
52779 1998 QZ ₂₉	15.7	X	69.04118	26.90751	292.90970	6.35041	0.1332757	0.27904304	2.3192910	20	12 31.0	18.9
52780 1998 QK ₃₁	15.2	X	55.94398	244.50637	121.60897	7.28342	0.1264798	0.28210175	2.3024959	20	—	—
52781 1998 QY ₃₇	15.2	X	84.84972	15.45223	335.56670	5.72048	0.1784913	0.28359841	2.2943880	20	—	—
52782 1998 QA ₃₈	16.2	X	18.07447	349.26553	355.01951	1.94849	0.2384132	0.27470991	2.3436162	20	12 16.3	19.0
52783 1998 QB ₃₈	14.9	X	69.75519	19.65286	336.56697	13.93978	0.1832476	0.23673652	2.5879698	20	—	—
52784 1998 QL ₃₈	15.3	X	96.00272	37.42131	331.58187	5.57104	0.1542248	0.28667327	2.2779521	20	—	—
52785 1998 QN ₃₈	16.4	X	44.06685	138.53885	191.74988	2.15075	0.2278750	0.27681872	2.3316986	20	12 27.5	19.6
52786 1998 QP ₄₂	15.9	X	58.92262	0.47073	304.68946	3.43792	0.1897833	0.27617941	2.3352956	20	12 6.5	19.3
52787 1998 QJ ₄₃	15.4	X	187.23169	268.57143	125.24771	7.06969	0.0084326	0.30229838	2.1987651	20	4 21.8	18.0
52788 1998 QA ₄₆	15.0	X	250.74052	327.52296	324.75585	6.40680	0.0951790	0.29807468	2.2194873	20	2 14.5	17.9
52789 1998 QH ₄₇	15.8	X	55.63044	342.49537	8.56843	7.24730	0.1324549	0.27999806	2.3140143	20	—	—
52790 1998 QD ₄₈	15.8	X	103.92657	179.11734	225.58524	3.88428	0.1792880	0.29043273	2.2582517	20	2 3.4	18.3
52791 1998 QC ₄₉	15.9	X	204.70151	257.16866	146.01655	3.62180	0.1154935	0.30383628	2.1913393	20	5 22.6	18.9
52792 1998 QY ₅₀	15.7	X	44.18768	30.30115	349.90665	6.55738	0.1209923	0.28102127	2.3083939	20	—	—
52793 1998 QN ₅₁	15.1	X	69.21265	277.69241	299.84227	2.99448	0.0071150	0.30959849	2.1641062	20	7 28.5	17.5
52794 1998 QS ₅₁	15.7	X	71.89885	109.55715	240.83493	2.67138	0.1260002	0.28128879	2.3069301	20	—	—
52795 1998 QZ ₅₁	15.5	X	1									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52801 1998 QG ₆₃	15.6	X	333.10646	309.83070	12.54280	6.44872	0.0822757	0.31126341	2.1563405	20	8 11.8	17.5
52802 1998 QP ₆₇	15.1	X	125.56214	89.90148	297.73405	11.01625	0.2118137	0.24714946	2.5147584	20	2 16.6	18.9
52803 1998 QO ₇₁	15.4	X	86.84119	102.37487	261.45903	5.47143	0.1557613	0.28502927	2.2867029	20	—	—
52804 1998 QT ₇₂	15.6	X	115.79892	36.29712	284.16519	6.21838	0.1379124	0.28451165	2.2894755	20	—	—
52805 1998 QT ₇₆	14.9	X	44.38436	273.17899	274.83737	5.92781	0.0853257	0.30295446	2.1955895	20	5 13.5	17.0
52806 1998 QE ₇₉	16.1	X	128.12176	332.42992	294.03985	11.67556	0.2623664	0.28334850	2.2957369	20	12 22.5	20.2
52807 1998 QZ ₈₄	15.8	X	190.96458	14.63571	271.68230	5.49110	0.0935551	0.29016185	2.2596570	20	—	—
52808 1998 QE ₈₆	14.7	X	125.52053	160.99273	206.06741	17.24293	0.2315538	0.24415490	2.5352790	20	1 23.5	18.8
52809 1998 QQ ₉₁	15.1	X	314.70727	222.34992	139.57806	5.31452	0.1986848	0.31142985	2.1555721	20	8 30.1	15.9
52810 1998 QS ₉₁	14.8	X	16.89504	19.03861	5.51454	8.44116	0.2374677	0.27544659	2.3394357	20	—	—
52811 1998 QJ ₉₂	15.4	X	55.67903	325.85793	71.51560	3.27841	0.2359425	0.28089176	2.3091034	20	—	—
52812 1998 QR ₉₂	15.3	X	358.99568	325.65883	42.07451	11.58230	0.2652365	0.27154856	2.3617706	20	12 23.2	17.8
52813 1998 QT ₉₄	16.0	X	35.32338	162.31383	227.66175	1.34457	0.2037327	0.28069752	2.3101685	20	—	—
52814 1998 QE ₉₈	15.5	X	30.77330	234.20450	77.66206	3.87861	0.2575512	0.27287137	2.3541316	20	11 22.5	18.4
52815 1998 QP ₉₈	14.9	X	326.92609	133.59724	255.94037	6.61960	0.2171676	0.26855051	2.3793156	20	11 6.3	16.6
52816 1998 QX ₉₈	16.3	X	35.59203	215.31571	93.13195	3.22851	0.2110881	0.27330668	2.3516312	20	11 17.5	19.1
52817 1998 QF ₉₉	15.5	X	73.24753	70.40144	38.09382	3.93851	0.0404641	0.29581157	2.2307930	20	2 28.8	17.9
52818 1998 QH ₁₀₃	15.0	X	145.73390	320.46737	15.77995	9.32725	0.2173412	0.24374002	2.5381551	20	1 10.7	19.1
52819 1998 QK ₁₀₄	15.3	X	78.13609	184.43571	131.53589	5.82839	0.1608804	0.27847557	2.3224407	20	—	—
52820 1998 RS ₂	15.8	X	268.13069	210.09418	74.58217	2.44797	0.2029816	0.29923029	2.2137692	20	2 14.6	19.0
52821 1998 RU ₄	15.2	X	247.21381	95.17589	359.73047	21.75446	0.3027726	0.26531146	2.3986417	20	9 1.5	18.8
52822 1998 RN ₆	15.6	X	150.97206	167.22537	196.30088	6.96033	0.1550093	0.29308662	2.2445988	20	2 2.3	18.8
52823 1998 RA ₇	15.9	X	157.67377	347.98018	165.15710	2.24075	0.0705909	0.31363640	2.1454501	20	9 1.4	18.5
52824 1998 RN ₁₆	15.7	X	146.96645	136.47658	182.19657	6.57649	0.2211707	0.28926734	2.2643130	20	—	—
52825 1998 RM ₂₈	15.9	X	194.56750	136.98283	165.76422	2.76560	0.1720573	0.29277236	2.2462047	20	1 2.7	19.2
52826 1998 RK ₃₄	15.6	X	142.45427	12.27065	24.25631	6.51647	0.0788908	0.29565209	2.2315952	20	3 2.8	18.4
52827 1998 RY ₃₈	16.4	X	326.23604	219.86074	138.70955	3.16127	0.2347780	0.26869199	2.3784803	20	9 12.3	17.6
52828 1998 RP ₃₉	15.7	X	205.29335	14.76835	27.48250	4.83243	0.1249837	0.30360137	2.1924695	20	5 19.6	18.9
52829 1998 RP ₄₃	16.0	X	323.27763	156.32739	185.57455	5.47596	0.0618058	0.31186750	2.1535550	20	8 21.1	17.9
52830 1998 RN ₄₆	16.0	X	329.38245	10.22066	131.15509	4.50348	0.2420191	0.26604505	2.3942303	20	7 15.2	17.4
52831 1998 RA ₄₇	16.1	X	86.05540	261.00506	209.81200	7.10318	0.1025623	0.29644147	2.2276318	20	3 29.2	18.6
52832 1998 RD ₄₉	16.2	X	51.94665	136.77051	184.27731	2.33316	0.1559576	0.27589573	2.3368960	20	12 15.7	19.5
52833 1998 RK ₅₁	15.7	X	155.46074	6.37483	284.67959	4.75838	0.1603136	0.28566803	2.2832929	20	—	—
52834 1998 RV ₅₃	15.7	X	129.36748	147.22289	260.20164	4.48766	0.1618605	0.29351467	2.2424160	20	3 7.3	18.7
52835 1998 RN ₅₄	15.5	X	165.16280	296.50566	306.65715	5.77966	0.0700758	0.27951153	2.3166988	20	—	—
52836 1998 RK ₅₅	15.5	X	270.52239	306.11036	322.75669	5.03454	0.1538864	0.29715805	2.2240491	20	1 31.9	18.7
52837 1998 RL ₅₅	15.7	X	335.96625	297.77679	138.99297	4.53528	0.1250790	0.30342719	2.1933085	20	4 18.0	17.8
52838 1998 RW ₅₅	15.6	X	137.69812	96.00905	323.07365	4.26380	0.1561530	0.29559706	2.2318722	20	4 1.1	18.6
52839 1998 RZ ₅₅	14.0	X	53.54041	268.24262	320.97796	4.01229	0.0907136	0.30906401	2.1665585	20	8 6.3	16.2
52840 1998 RF ₅₆	15.3	X	122.27998	116.91311	259.37707	2.23183	0.0700521	0.28970738	2.2620195	20	1 5.1	17.8
52841 1998 RR ₅₉	15.5	X	138.31895	335.92215	311.28989	3.57507	0.0728831	0.28161198	2.3051647	20	—	—
52842 1998 RV ₅₉	15.9	X	220.31712	338.99850	339.08562	6.67554	0.1399568	0.29624310	2.2286261	20	2 15.1	19.1
52843 1998 RX ₆₂	15.2	X	143.55598	167.52531	118.26920	2.77134	0.1956062	0.28409927	2.2916906	20	—	—
52844 1998 RB ₆₆	14.8	X	10.15744	312.82587	190.70914	7.19993	0.0604851	0.29085774	2.2560513	20	1 8.3	17.4
52845 1998 RH ₆₇	15.1	X	92.24395	228.47913	243.21758	3.62600	0.0924150	0.29627034	2.2284895	20	4 7.1	17.6
52846 1998 RL ₆₇	16.1	X	182.67892	100.05760	260.85437	2.65937	0.1316322	0.29529582	2.2333897	20	3 1.5	19.5
52847 1998 RU ₆₇	15.7	X	235.48037	87.92667	249.59911	2.05608	0.1794825	0.30007852	2.2095955	20	3 21.8	19.2
52848 1998 RY ₇₁	15.2	X	149.96183	350.77413	17.50250	6.64449	0.1263868	0.29213141	2.2494890	20	2 9.1	18.3
52849 1998 RT ₇₂	15.4	X	13.13483	76.44494	27.55035	2.36296	0.1195290	0.28501765	2.2867650	20	—	—
52850 1998 RG ₇₃	16.0	X	7.28548	130.39154	213.18897	1.69554	0.2201971	0.27187599	2.3598740	20	11 25.6	18.4
52851 1998 RR ₇₄	15.9	X	33.58791	69.61865	348.50014	6.62129	0.1049372	0.28209433	2.3025362	20	—	—
52852 1998 RB ₇₅	14.8	X	110.40665	33.41558	1.89493	7.25682	0.1121461	0.28953679	2.2629079	20	1 23.9	17.4
52853 1998 RG ₇₆	15.8	X	129.57152	130.73378	163.68123	8.55417	0.1529403	0.28227273	2.3015660	20	—	—
52854 1998 RR ₇₆	16.2	X	330.66294	272.92003	61.65512	3.43837	0.2091056	0.26659058	2.3909630	20	8 13.5	17.7
52855 1998 RW ₇₆	15.4	X	251.49015	9.60934	50.51310	5.10276	0.0342633	0.31109311	2.1571274	20	8 31.9	17.7
52856 1998 RD ₇₇	14.8	X	73.65814	345.40543	134.42748	5.31819	0.1391568	0.29470482	2.2363746	20	4 1.9	17.0
52857 1998 RT ₇₈	15.6	X	96.54722	197.39538	143.10262	7.03415	0.1568765	0.28268252	2.2993411	20	—	—
52858 1998 RF ₇₉	15.2	X	136.54380	22.18044	51.27534	5.84455	0.1080912	0.29712894	2.2241944	20	4 17.5	18.1
52859 1998 RG ₇₉	15.6	X	252.82611	237.01930	93.11240	4.01736	0.1840404	0.30163225	2.2020011	20	4 1.1	18.7
52860 1998 SX	15.9	X	155.92135	331.90951	22.72037	6.83598	0.0300118	0.28947598	2.2632248	20	1 16.7	18.7
52861 1998 SG ₄	15.9	X	61.82111	291.74044	292.94164	2.92926	0.0899436	0.30985964	2.1628482	20	8 11.3	18.1
52862 1998 SR ₄	15.8	X	337.26365	245.83863	212.97189	5.92984	0.1836931	0.27915427	2.3186749	20	—	—
52863 1998 SJ ₁₃	15.3	X	296.09117	191.06310	113.25586	4.41829	0.1519422	0.30441151	2.1885779	20	4 23.0	17.6
52864 1998 SR ₂₁	15.0	X	253.34021	248.90186	213.10738	6.20430	0.0641307	0.26873584	2.3782216	20	10 19.2	17.6
52865 1998 SH ₂₂	15.6	X	84.76441	59.35086	350.03341	6.30568	0.1843628	0.28794054	2.2712634	20	1 14.1	17.6
52866 1998 ST ₂₃	15.3	X	111.44360	131.82495	144.34758	7.75766	0.1130145	0.27762483	2.3271829	20	12 18.1	18.8
52867 1998 SD ₂₅	15.2	X	221.54891	274.72936	32.25393	6.21907	0.1746244	0.29484070	2.2356875	20	2 3.5	18.7
52868 1998 SJ ₂₅	15.0	X	67.44160	4.47289	109.28177	5.67276	0.0967791	0.29212558	2.2495189	20	3 6.7	17.2
52869 1998 SZ ₂₅	14.8	X	344.67568	350.04013	162.10885	5.95795	0.0976894	0.28745223	2.2738349	20	—	—
52870 1998 SC ₂₆	15.4	X	19.31820	194.03702	135.38075	5.92167	0.2448489	0.27210514	2.3585489	20	11 29.7	18.1
52871 1998 SR ₂₇	15.1	X	321.84599	137.09896	269.53427	23.07767	0.2662649	0.27055276	2.3675622	20	11 28.0	16.6
52872 1998 Okyrhoe	10.8	X	184.20822	337.82788	173.07272	15.64521	0.3033205	0.04068852	8.3718505	20	8 27.1	21.1
52873 1998 SP ₃₅	16.0	X	139.37424	165.50645	33.19978	7.11872	0.0516306	0.26592668	2.3949408	20	10 7.4	19.3
52874 1998 SD ₃₆	15.7	X	44.97699	86.16618	33.83228	5.93677	0.1052742	0.29236587	2.2482862	20	2 5.4	17.8
52875 1998 SB ₄₃												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52881 1998 SN ₅₃	15.7	X	281.47379	357.72038	336.99125	5.41516	0.1419122	0.30613273	2.1803667	20	5 13.8	18.2
52882 1998 ST ₅₃	14.9	X	98.09788	79.21600	334.72387	6.96884	0.2412757	0.24425354	2.5345963	20	2 25.9	18.1
52883 1998 SO ₅₄	15.4	X	106.11553	79.28924	189.42014	11.04661	0.1208794	0.27635677	2.3342963	20	12 3.9	19.0
52884 1998 SX ₅₄	15.9	X	184.13334	210.35727	168.78247	5.29884	0.1871563	0.29761584	2.2217679	20	3 30.5	19.4
52885 1998 SB ₅₆	15.2	X	147.37630	140.69328	175.60458	7.00080	0.2417691	0.28798901	2.2710086	20	—	—
52886 1998 SF ₅₆	15.8	X	18.40855	157.44568	188.18749	3.62303	0.1970288	0.27397569	2.3478014	20	12 12.2	18.5
52887 1998 SL ₅₈	15.5	X	221.53782	62.56462	180.31147	6.61537	0.1380804	0.28705217	2.2759471	20	—	—
52888 1998 SZ ₅₈	15.7	X	95.82441	162.84735	169.17994	4.42753	0.1919202	0.23627928	2.5913076	20	—	—
52889 1998 SH ₆₁	15.3	X	135.58119	357.43013	249.49465	6.39133	0.0851849	0.27528243	2.3403657	20	12 5.2	18.7
52890 1998 SL ₆₁	15.0	X	152.26981	26.33061	266.20872	4.69671	0.1825204	0.28444744	2.2898201	20	—	—
52891 1998 SM ₆₁	15.5	X	47.91612	331.14644	329.60419	4.41874	0.2264759	0.27295528	2.3536491	20	11 21.9	18.8
52892 1998 SR ₆₂	15.0	X	84.35110	309.99839	41.10900	2.25651	0.2731986	0.27938923	2.3173748	20	—	—
52893 1998 SD ₆₃	15.6	X	351.03587	214.21491	225.49934	6.56197	0.0942327	0.27557421	2.3387134	20	—	—
52894 1998 SL ₆₄	14.8	X	270.16364	96.73012	108.36256	4.52517	0.0671646	0.28479531	2.2879551	20	—	—
52895 1998 SE ₆₅	15.6	X	316.14127	331.56783	94.24352	4.98120	0.1131027	0.27215551	2.3582579	20	12 8.3	17.6
52896 1998 SC ₆₆	15.1	X	357.74383	201.58678	132.50543	3.19085	0.2068289	0.26876800	2.3780319	20	10 22.6	17.0
52897 1998 SE ₆₆	14.2	X	7.06889	259.11973	41.06182	11.13625	0.1393474	0.26539560	2.3981347	20	9 12.7	16.7
52898 1998 SO ₆₇	15.8	X	260.33639	170.54714	141.02059	5.42509	0.1743777	0.29934140	2.2132214	20	3 15.7	18.9
52899 1998 ST ₆₇	15.5	X	191.98360	182.95949	97.78140	5.36185	0.0696034	0.28518355	2.2858781	20	—	—
52900 1998 SO ₇₀	15.7	X	345.87834	282.54837	178.54920	7.38859	0.2056635	0.27893662	2.3198809	20	—	—
52901 1998 SK ₇₃	15.5	X	189.94382	160.72536	148.04076	4.54424	0.0134976	0.28837345	2.2689898	20	—	—
52902 1998 SN ₇₃	15.6	X	200.13055	352.86821	69.80505	2.45080	0.0793041	0.30306391	2.1950609	20	6 14.6	18.4
52903 1998 SG ₇₄	15.6	X	276.49190	18.42684	62.15095	4.62200	0.1048451	0.26901781	2.3765595	20	10 20.4	18.0
52904 1998 ST ₇₄	15.3	X	150.60634	191.61122	87.49872	3.19729	0.2450436	0.28280239	2.2986914	20	—	—
52905 1998 SN ₇₅	15.6	X	353.91958	213.62980	134.16272	3.29981	0.2513220	0.27000462	2.3707654	20	11 12.7	17.4
52906 1998 SW ₈₁	16.7	X	353.04364	199.24936	201.31583	2.25297	0.1855864	0.27524479	2.3405790	20	—	—
52907 1998 ST ₈₂	15.5	X	80.40776	113.43681	287.35419	4.99878	0.0560377	0.28692816	2.2766028	20	—	—
52908 1998 SH ₈₃	16.0	X	44.66624	91.79100	195.99307	5.00975	0.2274547	0.27181760	2.3602119	20	11 3.3	19.1
52909 1998 SZ ₈₆	14.1	X	58.31538	123.79033	213.02474	9.67628	0.0956411	0.18585094	3.0410685	20	12 14.4	18.6
52910 1998 SY ₉₁	16.1	X	96.42070	120.46107	266.62375	3.04471	0.1233534	0.28684543	2.2770405	20	—	—
52911 1998 SP ₉₇	15.6	X	348.91330	26.35979	14.91490	6.65020	0.1005969	0.27520729	2.3407916	20	12 29.9	18.2
52912 1998 SN ₁₀₀	15.8	X	248.27086	22.52789	312.66026	3.22979	0.1903232	0.30121079	2.2040547	20	3 29.8	19.2
52913 1998 SO ₁₀₁	16.2	X	47.64478	77.34658	352.09970	2.28173	0.1509569	0.28465670	2.2886977	20	—	—
52914 1998 SE ₁₀₂	15.3	X	87.39150	53.43516	18.31228	4.67667	0.1006365	0.29060798	2.2573437	20	2 7.1	17.6
52915 1998 SC ₁₀₃	15.5	X	44.39252	39.80157	34.06694	3.43200	0.0595845	0.28610395	2.2809730	20	—	—
52916 1998 SG ₁₀₅	15.4	X	50.61089	325.64108	153.03699	7.10598	0.0212009	0.29302501	2.2449134	20	2 5.2	17.9
52917 1998 SH ₁₀₅	15.2	X	99.92005	53.99810	137.57022	4.79318	0.0699457	0.30862066	2.1686329	20	8 13.6	17.7
52918 1998 SM ₁₀₆	15.0	X	107.73321	109.20438	20.32361	5.14695	0.1561858	0.29939226	2.2129707	20	6 3.9	17.9
52919 1998 SS ₁₀₈	16.1	X	240.90079	64.50789	270.27501	2.46383	0.2122848	0.30037315	2.2081504	20	3 20.9	19.7
52920 1998 SQ ₁₁₀	15.3	X	339.39603	287.09621	353.24520	5.49685	0.1669922	0.30642814	2.1789652	20	6 1.6	16.8
52921 1998 SF ₁₁₃	16.0	X	11.41151	338.71504	99.73200	4.95116	0.1049789	0.28187157	2.3037492	20	—	—
52922 1998 SS ₁₁₃	16.2	X	356.57391	218.22604	154.46800	5.18913	0.2428809	0.27278312	2.3546393	20	12 23.4	18.5
52923 1998 SR ₁₁₄	15.7	X	216.74385	170.77300	117.62820	3.01013	0.1343138	0.29162149	2.2521105	20	1 4.8	18.9
52924 1998 SF ₁₁₇	15.9	X	89.59210	34.25136	341.73783	6.90262	0.1150046	0.28420204	2.2911381	20	—	—
52925 1998 SW ₁₁₇	15.1	X	176.89762	298.81055	0.69707	6.70400	0.0746341	0.28657367	2.2784799	20	—	—
52926 1998 SY ₁₁₇	15.5	X	275.08757	140.65782	313.88880	1.88256	0.2008469	0.26954441	2.3734632	20	10 20.9	17.7
52927 1998 SC ₁₂₂	14.7	X	106.85107	65.76208	350.86375	4.33536	0.1560432	0.24466297	2.5317679	20	2 28.5	18.0
52928 1998 SH ₁₂₂	16.2	X	344.59941	106.26918	231.68371	1.53288	0.2384162	0.26809029	2.3820379	20	9 28.2	17.4
52929 1998 SY ₁₂₂	15.4	X	328.36077	20.36881	13.10707	6.82681	0.1151939	0.27078510	2.3662077	20	11 10.2	17.7
52930 1998 SK ₁₂₇	14.9	X	76.05305	187.01024	149.59903	5.28536	0.2694810	0.27996416	2.3142011	20	—	—
52931 1998 SN ₁₂₇	15.4	X	109.98742	317.31093	103.52371	4.77660	0.0391287	0.29236671	2.2482819	20	2 14.7	17.9
52932 1998 SO ₁₂₉	14.8	X	93.51439	282.39508	27.95865	6.17146	0.1591965	0.27842128	2.3227427	20	—	—
52933 1998 SC ₁₃₀	15.5	X	104.90482	353.59022	12.07059	4.08185	0.1965023	0.28536182	2.2849260	20	—	—
52934 1998 SZ ₁₃₁	15.1	X	218.20248	8.01703	274.75239	5.07333	0.2122918	0.29115349	2.2545232	20	—	—
52935 1998 SF ₁₃₂	16.6	X	138.63001	24.96130	350.08521	6.71764	0.1284671	0.29012724	2.2598366	20	2 4.5	19.5
52936 1998 SC ₁₃₄	15.5	X	336.33496	235.37475	184.13474	2.29344	0.2121593	0.27359237	2.3499939	20	—	—
52937 1998 ST ₁₃₅	15.4	X	65.31043	174.76063	167.82152	6.74204	0.1372087	0.27796443	2.3252870	20	—	—
52938 1998 SW ₁₃₆	15.6	X	21.40687	234.48388	67.64958	7.26037	0.1248492	0.26685065	2.3894092	20	9 22.2	18.2
52939 1998 SO ₁₃₇	15.8	X	294.38678	359.86356	67.32191	5.32651	0.1563553	0.26951047	2.3736624	20	10 26.9	18.0
52940 1998 SV ₁₃₇	15.4	X	107.48185	57.34719	30.24705	7.06376	0.1036550	0.29405977	2.2396439	20	3 30.6	18.1
52941 1998 SC ₁₃₉	15.1	X	126.08596	49.25323	235.82360	4.15837	0.1202577	0.27845180	2.3225279	20	—	—
52942 1998 SU ₁₃₉	15.3	X	167.43382	140.02230	253.03084	4.99182	0.1270167	0.29533034	2.2332157	20	3 26.5	18.6
52943 1998 SV ₁₃₉	15.8	X	330.04933	105.62813	314.40210	4.83613	0.1642542	0.27269361	2.3551546	20	12 31.1	17.8
52944 1998 SO ₁₄₂	15.8	X	307.73130	287.13206	56.40162	7.10645	0.1414036	0.26282664	2.4137362	20	7 13.5	18.3
52945 1998 SQ ₁₄₂	15.5	X	79.15655	2.80394	118.50754	3.94187	0.1423660	0.29379003	2.2410146	20	4 13.7	17.8
52946 1998 SZ ₁₄₂	15.5	X	234.07063	194.43923	71.96147	5.03436	0.1490314	0.29145513	2.2529674	20	—	—
52947 1998 SY ₁₄₄	16.0	X	255.54042	160.17731	185.16830	5.85333	0.1457394	0.25642944	2.4537150	20	4 29.7	19.5
52948 1998 SH ₁₄₅	16.1	X	282.70390	358.12313	30.09182	2.77156	0.2011077	0.26356943	2.4091991	20	7 26.9	18.8
52949 1998 SK ₁₄₅	15.9	X	330.32979	158.73576	187.22049	1.98637	0.2242638	0.26640525	2.3920717	20	8 29.9	17.1
52950 1998 SB ₁₄₆	15.1	X	278.23849	182.55804	17.13929	3.62661	0.0935133	0.28456283	2.2892010	20	—	—
52951 1998 SO ₁₄₇	15.1	X	101.49981	210.12293	37.49384	9.39858	0.1631820	0.27013968	2.3699752	20	11 2.7	18.7
52952 1998 SU ₁₅₄	15.1	X	50.11021	177.79002	273.07326	4.75202	0.2139354	0.24033671	2.5620600	20	1 19.8	17.3
52953 1998 SH ₁₇₀	16.1	X	15.60263	331.59312	99.80854	7.48793	0.0755295	0.28197749	2.3031723	20	—	—
52954 1998 TD	15.0	X	160.04084	301.50779	347.40663	4.67707	0.1832223	0.28475736	2.2881584	20	—	—
52955 1998 TJ	15.5	X	110.96833	316.17464	13.42390	5.						

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
52961 1998 TH ₉	15.8 ^m	X	347.01930	169.04674	208.72586	1.61883	0.1530646	0.27086129	2.3657640	20	11 28.2	17.8
52962 1998 TS ₁₃	15.9	X	217.09637	92.49148	48.54871	2.75122	0.1516444	0.26643531	2.3918918	20	10 12.1	19.1
52963 Vercingetorix	15.8	X	219.95088	68.49955	249.17041	2.18532	0.2132213	0.29493979	2.2351867	20	2 11.6	19.3
52964 1998 TE ₁₆	16.0	X	6.79990	327.76326	345.21695	1.68742	0.1709075	0.26667204	2.3904761	20	9 29.5	18.0
52965 1998 TK ₁₇	16.0	X	33.55407	171.23065	15.67379	5.28858	0.1214749	0.29706050	2.2245361	20	4 25.5	17.8
52966 1998 TQ ₁₇	16.1	X	118.41992	300.84565	54.58254	7.69416	0.1352998	0.28476727	2.2881053	20	—	—
52967 1998 TV ₂₆	15.3	X	42.74032	217.37070	31.18059	4.23796	0.1681554	0.26112604	2.4242045	20	8 28.0	18.1
52968 1998 TL ₂₈	16.4	X	11.05227	99.58537	5.94225	2.43246	0.0872281	0.28309836	2.2970889	20	—	—
52969 1998 TG ₃₀	15.8	X	69.59033	352.89315	30.85067	1.60013	0.2060087	0.28154175	2.3055481	20	—	—
52970 1998 TS ₃₀	14.3	X	152.38957	327.12867	34.74926	15.71973	0.1336550	0.24376840	2.5379581	20	2 15.2	18.4
52971 1998 TQ ₃₁	14.9	X	205.12264	61.81226	199.87850	7.10727	0.0971294	0.28537121	2.2848759	20	—	—
52972 1998 TH ₃₃	15.2	X	219.77892	266.46877	43.29989	6.85425	0.1672366	0.29323989	2.2438166	20	2 5.9	18.8
52973 1998 TP ₃₃	15.0	X	134.74569	278.07422	51.16817	7.27810	0.1417961	0.28418815	2.2912127	20	—	—
52974 1998 TE ₃₄	15.5	X	244.38047	149.86676	131.38015	3.73124	0.1845430	0.29293503	2.2453731	20	1 20.2	19.1
52975 Cyllarus	9.4	X	83.16980	300.45850	52.00675	12.64397	0.3804372	0.00740825	26.0610825	20	1 19.5	23.9
52976 1998 UX ₂	15.5	X	269.04079	246.52702	223.34915	7.28146	0.0685201	0.27093031	2.3653622	20	11 23.5	18.1
52977 1998 UE ₄	14.8	X	43.38455	234.63568	126.95009	9.87026	0.2344280	0.27521803	2.3407307	20	—	—
52978 1998 UH ₇	15.5	X	259.91309	313.46766	107.52604	5.48696	0.1288496	0.26314308	2.4118007	20	8 22.1	18.4
52979 1998 UL ₇	14.8	X	35.84991	311.14810	74.45717	7.50496	0.1566970	0.27715056	2.3298370	20	—	—
52980 1998 UP ₇	15.4	X	356.02552	15.25792	42.78303	7.57337	0.0955772	0.27503901	2.3417464	20	—	—
52981 1998 UX ₁₅	15.0	X	94.06651	41.50744	48.21198	2.56882	0.1184370	0.24492851	2.5299376	20	3 21.3	18.2
52982 1998 UY ₁₅	15.5	X	345.85496	328.80067	22.15773	6.67478	0.2470325	0.26896384	2.3768774	20	10 25.9	17.1
52983 1998 UY ₁₆	14.3	X	339.25423	260.28760	88.06628	24.21977	0.2623937	0.26712440	2.3877765	20	10 23.9	16.7
52984 1998 UZ ₁₆	15.1	X	307.72000	349.88892	148.53313	25.93077	0.2109504	0.27683685	2.3315968	20	—	—
52985 1998 UV ₁₉	14.7	X	48.01240	111.55276	40.77626	6.76950	0.0581126	0.29293277	2.2453846	20	3 27.2	17.0
52986 1998 UE ₂₁	15.2	X	100.49192	130.87924	229.24858	0.25478	0.1381374	0.28212259	2.3023825	20	—	—
52987 1998 UK ₂₁	15.1	X	119.84465	50.34162	280.50728	4.80458	0.1837268	0.28422615	2.2910085	20	—	—
52988 1998 UN ₂₂	15.7	X	23.74640	275.03443	223.34473	5.70742	0.1047821	0.28883906	2.2665507	20	1 20.4	18.0
52989 1998 UT ₂₃	14.7	X	338.53849	78.70684	132.42709	6.11142	0.0979128	0.29481106	2.2358373	20	2 20.8	17.1
52990 1998 UP ₂₄	15.4	X	304.40253	235.56924	141.37515	2.83753	0.1314083	0.26392736	2.4070204	20	8 29.5	17.5
52991 1998 UM ₂₅	15.6	X	101.33663	201.46169	182.05219	6.23546	0.1153526	0.28530123	2.2852495	20	—	—
52992 1998 UB ₂₆	14.7	X	80.18744	224.54004	78.05540	7.41719	0.1209642	0.27372375	2.3492418	20	12 18.3	17.9
52993 1998 UT ₂₆	16.0	X	25.60798	272.08798	147.37290	3.71577	0.2334322	0.27885874	2.3203128	20	—	—
52994 1998 UY ₂₉	15.9	X	114.03441	343.61435	82.34984	7.41629	0.0508793	0.29105422	2.2550358	20	3 3.3	18.7
52995 1998 UJ ₃₂	14.2	X	247.28750	171.28686	225.92272	5.93642	0.1128326	0.30262807	2.1971679	20	7 3.7	16.9
52996 1998 UL ₃₂	15.0	X	59.58436	0.66333	56.71045	7.46371	0.0358295	0.28094209	2.3088276	20	—	—
52997 1998 UY ₃₂	15.2	X	69.62490	345.94699	43.99636	8.13220	0.2290007	0.28344047	2.2952402	20	—	—
52998 1998 UM ₃₃	15.3	X	66.21133	59.81994	278.27157	4.05360	0.2527953	0.27852193	2.3221831	20	—	—
52999 1998 UQ ₃₄	15.6	X	260.36058	278.17457	58.66983	6.91688	0.2115699	0.30300795	2.1953311	20	4 15.1	18.7
53000 1998 UO ₄₀	14.8	X	228.04806	165.01613	344.25769	6.11418	0.0579781	0.27125567	2.3634704	20	11 17.6	17.8
53001 1998 UL ₄₂	15.9	X	71.49520	198.53431	210.36430	6.02317	0.1020471	0.28462687	2.2888577	20	—	—
53002 1998 UV ₄₂	15.7	X	14.60726	61.67242	254.92853	1.38630	0.2229724	0.26902415	2.3765222	20	10 28.9	17.9
53003 1998 UO ₄₈	15.9	X	18.81592	255.72576	163.06294	6.82187	0.0897932	0.27974243	2.3154238	20	—	—
53004 1998 VF ₂	16.2	X	159.59736	252.49217	236.13571	2.05690	0.0155449	0.25829514	2.4418851	20	7 24.9	19.3
53005 1998 VW ₂	15.7	X	156.96341	265.47425	50.01845	5.71386	0.1763515	0.28468527	2.2885446	20	—	—
53006 1998 VD ₄	15.7	X	216.22259	262.94889	178.89543	1.98712	0.1756510	0.25764174	2.4460119	20	7 19.9	19.6
53007 1998 VZ ₄	16.0	X	93.36592	63.75151	162.39816	2.86296	0.1046660	0.30845911	2.1693901	20	9 28.5	18.6
53008 1998 VY ₅	13.6	X	275.16334	292.98120	107.03017	13.91008	0.1929904	0.26075912	2.4264781	20	8 2.9	16.4
53009 1998 VR ₆	14.7	X	214.66271	90.38632	210.99306	5.78047	0.1149127	0.28730646	2.2746039	20	1 18.1	18.1
53010 1998 VW ₈	14.7	X	138.39777	326.37992	321.80836	4.07115	0.1656979	0.28023895	2.3126880	20	—	—
53011 1998 VH ₉	15.0	X	161.87714	8.75518	64.61780	8.00928	0.1085533	0.29894176	2.2151934	20	5 16.2	18.0
53012 1998 UV ₉	14.9	X	114.62505	128.09997	297.49758	2.57700	0.0856398	0.24668188	2.5179352	20	3 8.9	18.3
53013 1998 VF ₁₄	13.6	X	137.16875	205.35618	19.28283	13.85911	0.1307408	0.22359977	2.6883665	20	10 28.8	17.8
53014 1998 VZ ₁₄	15.4	X	30.32961	42.56775	248.99199	2.32264	0.1676769	0.26666088	2.3905427	20	10 7.5	18.2
53015 1998 VN ₁₈	16.1	X	141.70132	10.79803	352.93028	4.73336	0.1352320	0.28832003	2.2692700	20	1 24.7	19.0
53016 1998 VB ₂₂	15.3	X	132.52166	324.83967	9.81899	7.10319	0.1442598	0.28390277	2.2927479	20	—	—
53017 1998 VF ₂₆	15.6	X	259.32911	84.24035	247.42224	3.38372	0.2150904	0.30073686	2.2063696	20	4 3.1	18.8
53018 1998 VO ₂₆	16.0	X	308.36910	67.66697	352.30759	2.35457	0.1805272	0.26898982	2.3767244	20	11 10.4	17.7
53019 1998 UV ₃₂	15.3	X	322.98195	238.58529	54.23960	0.77112	0.1175493	0.25563278	2.4588103	20	5 26.3	17.8
53020 1998 VH ₃₃	15.5	X	194.96043	241.33474	74.90102	3.54012	0.1903229	0.28985918	2.2612297	20	1 21.7	19.2
53021 1998 VX ₃₆	15.2	X	76.11124	307.70135	339.93715	2.72932	0.1512978	0.27211361	2.3584999	20	11 27.0	18.5
53022 1998 VU ₄₄	15.3	X	335.05344	95.50426	291.33322	5.48396	0.1280624	0.26946479	2.3739307	20	11 13.8	17.6
53023 1998 VD ₅₀	15.4	X	153.92315	254.61228	65.72325	5.83901	0.1835592	0.28548949	2.2842448	20	—	—
53024 1998 VZ ₅₀	15.1	X	16.52870	282.75367	91.72063	6.21708	0.2635351	0.27448391	2.3449025	20	—	—
53025 1998 WD	14.6	X	62.24795	186.82307	206.40643	24.58173	0.2633994	0.27969518	2.3156846	20	—	—
53026 1998 WV ₃	15.1	X	342.46453	39.35153	302.79718	3.36797	0.1727756	0.31089904	2.1580250	20	10 4.9	16.5
53027 1998 WM ₅	15.2	X	279.97575	182.65651	49.30121	4.73481	0.0862591	0.28652504	2.2787376	20	1 2.8	18.1
53028 1998 WX ₅	14.4	X	148.85543	134.79706	78.20771	3.08147	0.1048044	0.31206971	2.1526246	20	11 12.4	17.3
53029 Wodetzky	15.0	X	144.79873	217.51162	342.33492	6.00383	0.0367243	0.26448843	2.4036151	20	10 11.4	18.2
53030 1998 WC ₇	15.1	X	35.41118	113.30783	261.92327	3.94330	0.1200581	0.27499603	2.3419903	20	—	—
53031 1998 WE ₇	14.0	X	312.26221	166.74525	66.66097	15.42564	0.1342206	0.24426522	2.5345156	20	2 20.9	17.6
53032 1998 WE ₈	14.7	X	41.18535	3.70694	29.28874	3.01971	0.0614279	0.27375209	2.3490797	20	—	—
53033 1998 WN ₉	15.4	X	268.89440	20.05650	64.00137	7.40314	0.0807487	0.26614558	2.3936274	20	10 17.6	18.2
53034 1998 WO ₁₀	15.2	X	44.45211	328.93711	54.58558	7.42808	0.1172085	0.27706330	2.3303262	20	—	—
53035 1998 WX ₁₀	15.5	X	299.69949	254.18271	138.83505	1.71663	0.1790751	0.26485202	2.40			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53041 1998 WL ₂₀	14.6 ^m	X	298.42218	174.96238	41.32675	5.71665	0.1011735	0.28679642	2.2772999	20	1 2.6	17.5
53042 1998 WX ₂₀	15.9	X	349.22000	31.55934	43.62927	0.52512	0.1793573	0.27522776	2.3406756	20	—	—
53043 1998 WY ₂₁	15.7	X	210.95718	49.59737	62.95955	6.81788	0.2327314	0.26051131	2.4280167	20	8 23.1	19.6
53044 1998 WA ₂₂	15.0	X	28.38751	228.81906	78.17499	3.45380	0.2148343	0.26757028	2.3851231	20	11 5.4	17.8
53045 1998 WS ₂₂	14.9	X	140.93173	209.15248	78.23884	6.07788	0.1301115	0.27760885	2.3272722	20	—	—
53046 1998 WU ₂₂	15.7	X	294.77613	166.72784	195.72450	3.04410	0.2009377	0.26143050	2.4223220	20	7 6.9	18.3
53047 1998 WK ₂₃	14.5	X	13.42642	209.95823	51.02138	4.48531	0.1466418	0.25749563	2.4469371	20	7 19.0	16.8
53048 1998 WR ₂₈	14.6	X	207.52370	265.69803	270.44840	5.66353	0.1109027	0.26383448	2.4075853	20	11 19.0	17.8
53049 1998 WM ₃₂	14.8	X	355.33385	153.77251	290.29629	22.84399	0.2314872	0.27639968	2.3340547	20	—	—
53050 1998 WM ₄₁	15.4	X	342.13169	350.94842	30.05096	7.34192	0.1214310	0.26904521	2.3763981	20	11 17.8	17.6
53051 1998 XT ₄	14.4	X	105.41814	297.97833	79.81996	7.15295	0.1236935	0.28114972	2.3076908	20	—	—
53052 1998 XN ₈	14.5	X	154.28044	241.21547	117.08481	15.06674	0.1474604	0.23658086	2.5891049	20	2 8.6	18.5
53053 1998 XH ₉	16.5	X	316.22228	193.96089	247.22752	1.50310	0.0563245	0.27013275	2.3700157	20	12 27.4	18.9
53054 1998 XW ₁₁	14.5	X	286.55386	292.89148	274.49122	22.69121	0.2476614	0.27837188	2.3230174	20	—	—
53055 1998 XT ₁₄	15.8	X	271.34675	89.14927	160.37256	2.86858	0.1239113	0.28691729	2.2766603	20	1 11.3	19.1
53056 1998 XY ₁₄	13.7	X	335.50291	143.35642	82.00368	17.86841	0.1127400	0.24550318	2.5259881	20	3 23.0	17.1
53057 1998 XZ ₁₆	15.8	X	211.64637	30.57120	101.65899	6.85312	0.0613665	0.25966314	2.4333011	20	10 7.3	19.1
53058 1998 XE ₁₈	15.4	X	67.97586	169.77634	65.56596	7.05503	0.0771289	0.25990598	2.4317851	20	9 1.6	18.6
53059 1998 XH ₂₀	14.1	X	27.45892	341.38215	109.08571	14.99179	0.0696336	0.23148150	2.6269907	20	—	—
53060 1998 XM ₂₁	15.3	X	23.94724	77.07901	286.09537	4.62929	0.0300697	0.21962576	2.7206992	20	12 2.8	18.9
53061 1998 XN ₂₄	14.9	X	176.92100	167.38643	101.24178	3.70615	0.0397817	0.22629408	2.6669851	20	—	—
53062 1998 XH ₂₈	15.1	X	197.68068	79.16013	301.23002	6.68700	0.0662381	0.29511993	2.2342770	20	4 9.5	18.3
53063 1998 XM ₂₉	15.1	X	78.61969	1.16878	320.97277	6.61730	0.1377762	0.27360198	2.3499388	20	—	—
53064 1998 XY ₃₄	15.0	X	274.52488	182.37852	284.30410	1.71678	0.1220778	0.26765183	2.3846386	20	11 19.2	17.3
53065 1998 XQ ₄₂	14.8	X	322.97788	81.33958	55.04975	7.57393	0.0587151	0.27623708	2.3349705	20	—	—
53066 1998 XX ₄₄	15.0	X	11.45708	56.18484	29.40849	7.41175	0.0776135	0.27656476	2.3331258	20	—	—
53067 1998 XY ₄₅	13.9	X	259.37988	159.37429	73.85765	7.29280	0.0628739	0.28013647	2.3132520	20	—	—
53068 1998 XS ₄₇	15.3	X	260.45119	227.30743	308.45772	11.15046	0.2004265	0.27072463	2.3665601	20	—	—
53069 1998 XC ₄₉	14.7	X	7.84360	21.22535	86.91676	13.08008	0.1444277	0.23172527	2.6251480	20	—	—
53070 1998 XE ₅₂	14.2	X	271.05500	282.88613	331.59198	12.94230	0.1112785	0.23757842	2.5818523	20	1 28.6	18.0
53071 1998 XO ₅₄	14.8	X	328.29060	68.14512	113.72589	5.82712	0.1231028	0.28285299	2.2984172	20	—	—
53072 1998 XB ₆₁	15.2	X	140.21899	64.42141	124.98396	5.16774	0.0600146	0.21052776	2.7985290	20	9 19.2	19.3
53073 1998 XL ₆₃	15.0	X	46.36399	83.18282	292.69639	9.81006	0.1952072	0.23080291	2.6321372	20	—	—
53074 1998 XN ₆₄	14.4	X	40.46154	221.59324	66.07006	12.52438	0.1798338	0.26447528	2.4036948	20	10 24.3	17.5
53075 1998 XQ ₆₆	15.2	X	245.06612	139.46111	14.80488	8.34471	0.1664467	0.26877284	2.3780034	20	11 30.7	18.0
53076 1998 XV ₇₀	15.2	X	43.64469	315.89077	73.91285	3.82109	0.2239882	0.27681233	2.3317345	20	—	—
53077 1998 XY ₇₂	15.1	X	8.61114	129.85410	334.07536	5.55646	0.0697786	0.27851871	2.3222009	20	—	—
53078 1998 XX ₈₀	14.6	X	290.74181	269.03000	90.94354	12.19423	0.1364891	0.21237245	2.7822998	20	7 5.2	18.1
53079 1998 XD ₈₁	15.5	X	158.50139	271.04112	237.09681	6.32722	0.1616019	0.25641486	2.4538081	20	8 17.7	19.6
53080 1998 XC ₈₃	15.0	X	349.83476	116.46367	247.78672	5.66367	0.1393332	0.26650639	2.3914665	20	11 9.2	17.2
53081 1998 XS ₈₆	16.0	X	276.24772	329.13485	114.48719	3.94172	0.1638681	0.26487668	2.4012658	20	10 15.1	18.5
53082 1998 XV ₈₆	15.0	X	276.82973	20.86705	107.42527	12.75142	0.1315200	0.22334999	2.6903705	20	12 10.4	18.2
53083 1998 XZ ₈₆	15.3	X	66.58183	32.53999	125.88367	9.41616	0.1770907	0.24515450	2.5283827	20	5 26.8	18.4
53084 1998 XH ₈₉	14.5	X	24.54994	116.54315	115.37578	7.82562	0.1138848	0.29578424	2.2309305	20	6 22.0	16.4
53085 1998 XV ₉₃	13.4	X	146.11771	329.64794	229.08260	13.40763	0.1141643	0.25961058	2.4336295	20	10 10.1	17.2
53086 1998 XK ₉₅	13.8	X	177.74249	229.25710	146.93238	14.04231	0.2098236	0.24491610	2.5300232	20	3 27.4	18.1
53087 1998 YQ	15.3	X	273.44763	70.93974	86.92835	3.30851	0.1516196	0.27041803	2.3683486	20	—	—
53088 1998 YF ₅	14.8	X	10.76284	325.96322	110.69539	5.04967	0.1919366	0.22723347	2.6596298	20	—	—
53089 1998 YM ₅	14.0	X	89.40337	320.72646	89.23152	14.83743	0.0613498	0.23735531	2.5834700	20	1 14.0	17.3
53090 1998 YS ₇	13.8	X	84.33325	81.45525	329.87922	23.20325	0.2655359	0.28275536	2.2989463	20	2 4.7	16.0
53091 1998 YD ₈	14.4	X	321.27323	89.72294	101.73128	16.01665	0.0801710	0.23553802	2.5967414	20	1 11.8	17.8
53092 1998 YA ₁₂	14.2	X	278.80329	28.44471	323.27691	7.12321	0.1619371	0.25117126	2.4842824	20	6 1.9	17.5
53093 La Orotava	15.6	X	281.42457	154.34171	245.10621	1.24338	0.1129768	0.30609935	2.1805252	20	8 30.8	17.5
53094 1998 YW ₁₂	15.4	X	284.71984	107.75853	107.07023	2.46926	0.0530851	0.23257977	2.6187141	20	—	—
53095 1998 YU ₁₆	15.2	X	259.85707	243.38548	254.47126	1.38061	0.1243132	0.26581815	2.3955926	20	12 8.7	17.6
53096 1998 YK ₁₇	14.7	X	165.02626	88.76954	294.79168	12.23137	0.1832977	0.24186655	2.5512451	20	3 14.7	19.1
53097 1998 YS ₁₇	13.9	X	108.19975	256.46030	117.31621	13.73206	0.2086864	0.23388016	2.6089983	20	1 14.9	17.2
53098 1998 YM ₂₂	15.3	X	222.42859	30.93376	135.79237	8.06912	0.1833976	0.26381547	2.4077010	20	11 18.2	18.7
53099 1998 YW ₂₉	14.5	X	108.43025	72.57649	25.41216	9.91822	0.0687737	0.24078451	2.5588826	20	4 12.4	17.7
53100 1998 YH ₃₀	13.9	X	10.76609	343.55453	119.51028	23.02155	0.0655498	0.22751112	2.6574655	20	—	—
53101 1999 AY	13.4	X	187.57100	329.70522	326.41819	8.55012	0.0570685	0.18511482	3.0491252	20	—	—
53102 1999 AZ	14.9	X	29.13892	16.97663	98.49957	14.15127	0.1448707	0.23414520	2.6070291	20	1 11.6	17.6
53103 1999 AB ₂	15.4	X	258.17090	292.91341	124.33916	5.65351	0.0894376	0.25792357	2.4442298	20	8 19.4	18.3
53104 1999 AP ₃	13.5	X	229.02011	51.82563	120.76060	18.11509	0.1083481	0.17193179	3.2030614	20	11 27.0	18.5
53105 1999 AT ₃	14.3	X	314.14754	301.47287	93.72210	9.16927	0.0343124	0.21308039	2.7761338	20	10 14.2	18.0
53106 1999 AG ₄	14.9	X	252.67916	129.10059	130.46449	4.13408	0.1337739	0.28122933	2.3072552	20	1 4.9	18.2
53107 1999 AU ₄	14.5	X	147.33518	102.66231	99.28333	5.48329	0.1612871	0.21067673	2.7972096	20	10 14.5	19.1
53108 1999 AW ₄	14.7	X	194.58168	350.67834	28.25853	3.11402	0.1493952	0.24356658	2.5393599	20	4 10.5	18.8
53109 1999 AD ₅	14.5	X	162.67259	279.04116	126.44011	27.60432	0.1273015	0.24217407	2.5490848	20	4 23.9	19.1
53110 1999 AR ₇	16.7	X	7.73489	58.17953	85.44507	40.63058	0.2144582	0.46736597	1.6444903	20	—	—
53111 1999 AJ ₈	14.7	X	25.33676	317.43632	103.14569	11.31824	0.0664240	0.22733424	2.6588438	20	—	—
53112 1999 AK ₈	14.7	X	146.12424	41.56708	336.08304	3.57870	0.2115651	0.23979776	2.5658975	20	2 28.1	18.8
53113 1999 AP ₈	15.0	X	33.19378	4.17406	117.63015	7.71491	0.1458844	0.28479584	2.2879522	20	1 14.8	16.6
53114 1999 AV ₉	14.5	X	179.51382	254.10957	121.78015	13.52127	0.1053660	0.23814774	2.5777358	20	3 28.1	18.6
53115 1999 AM ₁₄	14.6	X	51.51691	64.32036								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53121 1999 AJ ₂₁	14.2	X	56.99208	232.02862	130.06156	12.78360	0.2104943	0.22589711	2.6701086	20	—	—
53122 1999 AS ₂₂	14.6	X	152.86763	227.56828	67.22572	16.10742	0.0562787	0.22326052	2.6910892	20	—	—
53123 1999 AB ₂₃	14.4	X	199.06519	125.72739	107.09651	14.42085	0.1581423	0.21922073	2.7240493	20	—	—
53124 1999 AC ₂₃	13.8	X	157.63079	160.96722	131.19164	14.34572	0.1480648	0.18006154	3.1059092	20	—	—
53125 1999 AL ₂₄	14.4	X	56.66841	288.52655	148.50697	27.55056	0.2077831	0.23686421	2.5870397	20	1 15.4	17.2
53126 1999 AO ₂₄	14.0	X	289.47075	310.81146	324.28655	4.85046	0.1231565	0.19038108	2.9926334	20	3 15.0	18.2
53127 1999 AH ₂₅	14.0	X	353.98541	37.76904	131.14124	2.87114	0.0361589	0.18396707	3.0617942	20	2 10.3	18.2
53128 1999 AS ₂₅	13.7	X	295.88126	130.99184	142.40136	10.90006	0.0729757	0.19132190	2.9828146	20	4 2.2	17.9
53129 1999 AY ₂₉	15.2	X	323.61951	310.41215	119.00429	3.15456	0.0655647	0.21821339	2.7324263	20	12 7.6	18.4
53130 1999 AY ₃₀	14.8	X	191.55390	200.35796	128.45733	14.54229	0.2917076	0.23685922	2.5870760	20	2 10.6	19.6
53131 1999 AM ₃₁	14.9	X	78.49119	305.28136	126.29194	5.66515	0.0455502	0.23304901	2.6151978	20	1 25.4	18.1
53132 1999 AS ₃₁	14.2	X	312.24452	322.33487	330.99926	5.28485	0.2163978	0.24265533	2.5457133	20	4 19.9	17.3
53133 1999 AQ ₃₄	14.7	X	87.39118	329.49936	146.71678	11.63257	0.1320235	0.23978884	2.5659611	20	4 22.9	18.2
53134 1999 BG ₁	13.6	X	266.41887	136.74958	101.67097	16.75162	0.2581631	0.23379141	2.6096585	20	—	—
53135 1999 BA ₃	14.8	X	70.36456	28.04702	111.41775	7.71757	0.2236426	0.24000813	2.5643979	20	5 13.8	18.0
53136 1999 BB ₃	14.8	X	104.86227	344.89769	108.72779	7.20594	0.1864509	0.24003759	2.5641881	20	4 22.2	18.5
53137 1999 BL ₄	15.1	X	263.97323	47.86367	146.62065	4.15079	0.1987945	0.22336094	2.6902826	20	—	—
53138 1999 BW ₄	15.6	X	93.29546	147.17157	331.90562	5.77290	0.0871357	0.24000960	2.5643874	20	4 20.6	19.1
53139 1999 BG ₅	14.3	X	243.31874	230.86623	245.27139	25.02096	0.2371163	0.21439189	2.7648006	20	9 9.6	19.0
53140 1999 BT ₅	15.2	X	131.48300	246.28432	171.65497	1.76876	0.1738562	0.24053522	2.5606502	20	3 31.6	19.1
53141 1999 BW ₆	13.7	X	231.03645	149.40552	74.52055	5.70280	0.2027059	0.21919569	2.7242568	20	—	—
53142 1999 BR ₇	15.3	X	92.97863	292.92413	131.77087	8.98015	0.0234363	0.23787318	2.5797190	20	3 1.3	18.6
53143 1999 BB ₉	14.7	X	114.13600	58.59296	320.04617	6.42086	0.0820336	0.23160598	2.6260492	20	1 11.3	18.2
53144 1999 BN ₉	15.5	X	108.25514	24.50000	71.71587	4.74968	0.0562701	0.24166092	2.5526921	20	4 9.8	18.9
53145 1999 BT ₉	14.7	X	116.65305	194.85285	165.07227	4.79438	0.1633114	0.23120320	2.6290983	20	1 1.5	18.3
53146 1999 BG ₁₀	14.1	X	120.65359	124.95599	139.99294	8.33073	0.1829780	0.21451202	2.7637683	20	12 4.7	18.8
53147 1999 BB ₁₄	14.0	X	298.69464	217.95025	11.76042	16.02149	0.2412939	0.22721154	2.6598009	20	1 15.2	18.2
53148 1999 BV ₁₄	15.4	X	45.52286	132.86681	31.63031	0.99030	0.0615917	0.24150659	2.5537795	20	4 12.2	18.2
53149 1999 BZ ₁₄	14.8	X	242.56203	304.18504	227.67479	8.12842	0.1094882	0.21893065	2.7264550	20	12 17.6	18.4
53150 1999 BV ₁₇	14.9	X	312.30640	111.01734	88.28901	5.70341	0.0995716	0.28080730	2.3095664	20	—	—
53151 1999 BC ₂₄	14.6	X	269.17848	256.77368	269.18658	5.25330	0.0505292	0.27122142	2.3636694	20	—	—
53152 1999 BH ₂₅	14.3	X	78.17975	212.82231	252.69987	7.51477	0.1453014	0.23927264	2.5696503	20	3 19.6	17.6
53153 1999 BZ ₂₅	15.1	X	285.98689	86.70904	341.34842	5.42246	0.0712628	0.21489055	2.7605218	20	10 7.2	18.7
53154 1999 BT ₂₇	15.8	X	243.59979	273.93333	245.07839	2.71276	0.0561732	0.27178190	2.3604186	20	12 24.9	18.6
53155 1999 BB ₃₀	15.4	X	243.89593	87.55993	108.91385	5.21411	0.0404798	0.22508801	2.6765034	20	—	—
53156 1999 CF	14.5	X	21.31209	317.74167	109.08592	12.95127	0.1775809	0.22700525	2.6614121	20	—	—
53157 1999 Akaihidake	14.1	X	26.67431	95.37759	135.72076	23.31915	0.3458681	0.24082552	2.5585921	20	7 31.2	16.2
53158 1999 CW ₁	14.1	X	179.65856	43.82286	355.99798	14.98726	0.1151057	0.24214733	2.5492725	20	4 16.2	18.2
53159 1999 Mysliveček	15.3	X	290.86809	288.57410	156.03024	6.65451	0.0976535	0.26428492	2.4048489	20	11 19.7	17.9
53160 1999 CO ₄	14.5	X	213.06888	190.96324	158.09912	14.61114	0.0667282	0.23960157	2.5672980	20	3 26.9	18.2
53161 1999 CP ₆	14.4	X	98.29558	283.01680	131.35972	27.36464	0.2242422	0.23618018	2.5920323	20	2 28.1	18.0
53162 1999 CG ₇	14.1	X	106.49816	321.91144	124.72599	23.06292	0.1050861	0.23916494	2.5704217	20	4 9.8	18.1
53163 1999 CK ₈	14.6	X	134.59405	94.74375	64.12336	2.73865	0.1262892	0.20162926	2.8802732	20	8 6.9	19.1
53164 1999 CV ₉	13.9	X	359.96426	297.75101	328.70913	14.86390	0.2107754	0.24087904	2.5582130	20	7 2.0	16.2
53165 1999 CX ₉	13.2	X	27.39638	36.15911	143.66389	11.25717	0.0325977	0.19060717	2.9902665	20	4 12.0	17.3
53166 1999 CG ₁₀	14.1	X	325.55701	186.67274	36.67177	7.04342	0.0813003	0.23331002	2.6132470	20	3 3.1	17.4
53167 1999 CJ ₁₀	13.7	X	314.23281	276.32088	11.47144	14.64788	0.1134260	0.23946726	2.5682578	20	4 30.1	17.0
53168 1999 CV ₁₀	12.8	X	343.98050	235.50823	139.64268	33.86410	0.2263726	0.21711266	2.7416538	20	11 20.5	16.4
53169 1999 CA ₁₈	14.7	X	313.56052	45.12353	18.25886	6.70298	0.1149362	0.26500280	2.4005038	20	11 25.4	17.2
53170 1999 CH ₁₉	15.0	X	224.26406	74.27030	118.54630	3.26834	0.1100081	0.26659442	2.3909400	20	—	—
53171 1999 CP ₂₁	14.7	X	238.60059	30.72487	101.13992	5.83631	0.0505004	0.21563047	2.7542031	20	11 2.3	18.5
53172 1999 CR ₂₁	14.2	X	77.77959	313.18387	345.91263	6.63329	0.1311089	0.26210772	2.4181478	20	12 9.2	17.8
53173 1999 CF ₂₂	13.2	X	282.58895	70.95318	103.67260	20.21795	0.1302145	0.17904565	3.1176465	20	—	—
53174 1999 CH ₂₈	13.4	X	142.82248	128.07166	120.93969	23.12811	0.0593837	0.17045677	3.2215129	20	12 1.2	18.6
53175 1999 CP ₃₀	15.1	X	342.00852	338.00026	96.92321	3.09225	0.0279703	0.22073136	2.7116066	20	—	—
53176 1999 CF ₃₁	14.6	X	63.35738	68.83553	357.95774	5.13247	0.0267268	0.23023406	2.6364710	20	—	—
53177 1999 CR ₃₁	13.8	X	356.33426	312.92386	343.00174	14.54988	0.1411347	0.20407434	2.8572207	20	8 4.3	17.0
53178 1999 CT ₃₅	14.5	X	220.65855	115.68300	92.76738	12.08602	0.2068290	0.26554805	2.3972168	20	—	—
53179 1999 CB ₃₆	14.3	X	96.16016	229.21630	31.96177	10.46194	0.2032784	0.25623287	2.4549698	20	11 13.7	18.3
53180 1999 CS ₃₈	14.4	X	234.40057	123.31229	138.92317	13.65622	0.2368186	0.22641406	2.6660428	20	—	—
53181 1999 CT ₄₀	14.3	X	9.01126	159.49737	19.30591	12.25540	0.0714330	0.23681405	2.5874049	20	3 10.8	17.4
53182 1999 CW ₄₀	14.8	X	341.76108	172.00305	23.99590	11.28676	0.1569153	0.23425414	2.6062208	20	2 11.2	17.9
53183 1999 CZ ₄₁	14.6	X	256.18699	310.14971	133.32350	15.95775	0.1423059	0.21158944	2.7891597	20	9 9.9	18.5
53184 1999 CM ₄₃	14.9	X	349.54101	53.24639	42.20244	3.34075	0.1675864	0.22496850	2.6774513	20	—	—
53185 1999 CZ ₄₄	13.7	X	37.57423	324.59919	125.45928	14.47346	0.1127220	0.22999083	2.6383295	20	—	—
53186 1999 CB ₄₅	13.8	X	77.49244	9.05397	120.96279	11.51554	0.0528805	0.19283235	2.9672180	20	4 19.4	18.0
53187 1999 CD ₄₈	14.1	X	248.61496	293.85548	332.92688	17.36322	0.2368041	0.22818659	2.6522185	20	1 15.4	18.8
53188 1999 CM ₄₉	15.0	X	4.36620	129.63334	89.55097	8.75851	0.1430271	0.23916135	2.5704474	20	4 27.0	17.6
53189 1999 CR ₄₉	14.5	X	105.16630	193.81545	83.54620	10.41765	0.1203691	0.21384567	2.7695067	20	12 1.8	18.7
53190 1999 CT ₄₉	14.7	X	84.74836	338.12462	92.58780	12.22178	0.1524768	0.23442326	2.6049671	20	2 21.6	18.1
53191 1999 CU ₄₉	14.4	X	293.82666	215.94345	92.35120	14.44949	0.1821872	0.24222387	2.5487354	20	4 28.5	17.9
53192 1999 CB ₅₀	14.0	X	189.60241	188.98027	41.07190	4.67515	0.0201896	0.21927076	2.7236350	20	—	—
53193 1999 CQ ₅₁	13.8	X	257.34802	215.34015	349.53148	13.51055	0.1301897	0.22350644	2.6891149	20	—	—
53194 1999 CA ₅₂	14.7	X	335.83213	153.47856	50.68866	5.86933	0.1521564	0.23357795	2.6112482	20	2 10.8	17.8
53195 1999 CL ₅₃	13.7	X</										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53201 1999 CG ₇₀	14.2	X	186.15668	32.52207	219.91742	7.07816	0.1644455	0.22041387	2.7142099	20	—	—
53202 1999 CX ₇₂	14.7	X	169.97085	355.26600	218.50790	8.96307	0.1190687	0.21418692	2.7665642	20	11 17.5	18.9
53203 1999 CA ₇₃	14.8	X	86.86608	201.67816	192.53628	10.92355	0.2409906	0.23151705	2.6267217	20	1 15.0	18.0
53204 1999 CZ ₇₃	14.8	X	304.28212	103.30920	155.43897	15.28865	0.0928853	0.23731636	2.5837526	20	3 16.6	18.1
53205 1999 CA ₇₄	14.8	X	67.57908	318.86964	155.41023	12.97767	0.0539590	0.23645944	2.5899911	20	3 7.9	18.0
53206 1999 CK ₇₄	14.9	X	266.26334	167.84486	295.97729	3.44765	0.0889696	0.21464983	2.7625853	20	10 23.9	18.5
53207 1999 CQ ₇₄	14.4	X	20.55974	286.19509	300.47368	9.35912	0.1919664	0.24131044	2.5551632	20	6 12.0	16.7
53208 1999 CE ₇₅	14.3	X	63.34820	326.16973	209.43094	11.26408	0.2128534	0.19492295	2.9459638	20	6 17.4	18.3
53209 1999 CQ ₇₅	13.9	X	121.40146	9.92552	245.64123	8.35315	0.1518029	0.21232707	2.7826963	20	11 21.4	18.3
53210 1999 CE ₇₆	14.1	X	170.94871	127.41995	158.54933	11.95242	0.1695444	0.22261845	2.6962611	20	—	—
53211 1999 CY ₇₇	14.3	X	265.50396	271.16490	291.17811	11.50070	0.1119964	0.22441031	2.6818893	20	—	—
53212 1999 CD ₈₀	14.2	X	78.21607	239.02262	179.97747	13.50803	0.1511992	0.23173635	2.6250643	20	1 20.3	17.5
53213 1999 CU ₈₀	14.6	X	244.15854	190.28606	157.66996	14.77872	0.1804956	0.24326474	2.5414599	20	4 20.9	18.7
53214 1999 CZ ₈₂	15.2	X	211.15693	96.83170	49.97724	6.83084	0.0754193	0.26111797	2.4242545	20	10 22.2	18.3
53215 1999 CC ₈₃	14.3	X	6.76587	329.98297	77.85041	13.51444	0.1359244	0.22457731	2.6805596	20	—	—
53216 1999 CX ₈₃	14.1	X	338.11064	155.80027	94.98350	18.69347	0.1464813	0.24282203	2.5445481	20	4 28.3	17.2
53217 1999 CS ₈₆	15.0	X	272.69550	11.07446	75.14697	13.61234	0.0813461	0.21552249	2.5551229	20	10 19.5	18.8
53218 1999 CN ₈₈	14.7	X	352.65711	146.59953	81.33925	14.23001	0.1286321	0.24086655	2.5583015	20	4 21.1	17.6
53219 1999 CO ₈₈	14.4	X	252.55341	141.45568	81.79578	14.67302	0.1254327	0.22747030	2.6577834	20	—	—
53220 1999 CM ₈₉	15.3	X	301.83584	87.64973	2.19222	2.57413	0.0250209	0.21886572	2.7269942	20	11 29.6	18.4
53221 1999 CU ₈₉	14.6	X	328.09970	338.17732	104.06824	14.72632	0.1258098	0.22190302	2.7020533	20	—	—
53222 1999 CX ₉₂	13.9	X	223.06320	334.60523	338.40757	14.55345	0.1091083	0.23560416	2.5962554	20	2 19.2	17.9
53223 1999 CX ₉₃	14.3	X	116.75313	291.83330	123.29610	10.84976	0.0738672	0.18995456	2.9971115	20	3 6.7	18.6
53224 1999 CA ₉₄	15.8	X	118.81132	129.41340	22.26089	4.66260	0.1000992	0.29373759	2.2412813	20	7 14.4	18.8
53225 1999 CG ₉₄	13.3	X	311.25442	271.35806	105.90410	14.79287	0.1884681	0.21146957	2.7902136	20	8 31.9	16.5
53226 1999 CB ₉₈	15.0	X	15.13488	271.75596	337.43001	12.02609	0.1522289	0.24370620	2.5383899	20	7 4.5	17.7
53227 1999 CH ₉₈	14.7	X	224.00062	68.84842	72.05353	1.52611	0.0149534	0.21289280	2.7777643	20	10 28.9	18.3
53228 1999 CA ₁₀₀	15.0	X	314.02981	50.38583	28.09707	0.03907	0.0687755	0.21697995	2.7427716	20	12 2.9	18.4
53229 1999 CL ₁₀₀	15.0	X	295.84323	327.75820	150.24571	8.96031	0.1848246	0.21987629	2.7186322	20	12 22.1	17.8
53230 1999 CP ₁₀₃	15.0	X	101.74468	248.91392	238.15481	9.44363	0.1284860	0.24378276	2.5378584	20	5 21.4	18.2
53231 1999 CN ₁₁₂	14.5	X	34.51245	307.82772	206.86923	10.38046	0.0463138	0.19028166	2.9936757	20	3 15.0	18.5
53232 1999 CD ₁₁₃	14.0	X	212.52871	63.54019	263.08971	6.33978	0.0771235	0.18905672	3.0065930	20	2 26.1	18.7
53233 1999 CO ₁₁₇	13.6	X	161.29869	85.79995	321.55356	12.57300	0.1850083	0.24076326	2.5590331	20	4 9.9	18.1
53234 1999 CU ₁₁₇	14.5	X	0.64217	315.40823	261.67273	10.40545	0.2084550	0.23656256	2.5892384	20	4 2.6	16.9
53235 1999 CZ ₁₁₇	14.2	X	298.44165	290.54429	289.85678	4.66831	0.1121426	0.22991135	2.6389375	20	1 15.8	17.7
53236 1999 CC ₁₁₈	14.4	X	324.17503	294.07500	310.68519	13.06149	0.2031633	0.23439423	2.6051822	20	3 2.5	17.5
53237 Simonson	13.7	X	11.34483	152.88793	253.90042	15.92810	0.2541675	0.17821269	3.1273535	20	—	—
53238 1999 CM ₁₂₁	14.0	X	246.15626	181.01245	93.32030	30.58705	0.0537118	0.23447181	2.6046075	20	1 29.9	18.0
53239 1999 CE ₁₂₃	14.3	X	35.99536	164.94342	24.22573	13.44046	0.0747143	0.24204390	2.5499987	20	4 30.6	17.4
53240 1999 CT ₁₂₆	14.3	X	39.16677	104.48532	57.20421	14.65267	0.0396067	0.23779844	2.5802595	20	4 4.6	17.7
53241 1999 CU ₁₂₈	14.8	X	354.10848	136.40965	107.00127	14.57032	0.1167215	0.23898588	2.5717054	20	5 15.9	17.8
53242 1999 CH ₁₃₈	14.6	X	48.83015	152.55884	196.64581	1.19896	0.1745115	0.21555470	2.7548485	20	—	—
53243 1999 CW ₁₄₀	14.9	X	128.27073	268.04113	131.49503	5.84959	0.2288891	0.23976678	2.5661185	20	3 12.7	18.8
53244 1999 CQ ₁₄₅	14.9	X	330.17699	82.34135	319.17432	1.36303	0.0614667	0.21316123	2.7754319	20	11 8.6	18.2
53245 1999 CH ₁₅₂	15.4	X	216.49638	58.96341	328.55167	0.93240	0.1470785	0.19963397	2.8994331	20	5 12.8	19.9
53246 1999 DA ₂	14.9	X	30.39462	119.14822	67.92845	5.30149	0.1040424	0.23877508	2.5732188	20	4 25.1	17.6
53247 1999 DE ₂	13.2	X	85.78593	75.42487	329.12371	11.63665	0.1858443	0.22904417	2.6455942	20	1 23.4	16.3
53248 1999 DA ₃	14.0	X	70.28166	146.18479	113.63764	8.44498	0.0412736	0.20445299	2.8536918	20	9 24.6	18.0
53249 1999 DD ₃	15.2	X	190.09895	109.42772	142.05754	5.63266	0.1160701	0.21968442	2.7202149	20	—	—
53250 Beucher	14.8	X	4.50975	325.48317	352.58087	1.44372	0.0176035	0.20738983	2.8266871	20	9 6.4	18.6
53251 1999 EV ₃	14.6	X	301.41460	292.07039	329.91527	9.66112	0.0584992	0.19151714	2.9807870	20	3 21.1	18.9
53252 Sardegna	14.6	X	147.06101	139.77984	128.60413	9.91637	0.2035650	0.21410754	2.7672480	20	12 28.4	19.3
53253 Zeiler	14.6	X	40.97508	20.80363	47.61376	2.48514	0.0722151	0.22515828	2.6759465	20	—	—
53254 1999 ES ₁₀	14.6	X	344.03758	65.33412	176.29612	9.60644	0.0119579	0.19258082	2.9698010	20	5 1.4	18.7
53255 1999 EE ₁₁	14.0	X	173.09654	270.04395	13.13239	8.69780	0.0402216	0.17214578	3.2004064	20	—	—
53256 Sinitiere	14.3	X	3.44310	100.82661	151.20287	5.56846	0.1888095	0.23911737	2.5707625	20	6 13.0	16.5
53257 1999 FF	14.2	X	234.98246	343.02588	39.69423	2.30843	0.1095892	0.19597440	2.9354171	20	5 28.8	18.7
53258 1999 FN	14.1	X	288.32556	12.26031	198.31387	13.36178	0.1193834	0.22490216	2.6779778	20	—	—
53259 1999 FQ ₁	14.7	X	264.87405	131.81685	172.87925	9.81305	0.0693645	0.19062355	2.9900952	20	4 1.4	18.9
53260 1999 FX ₁	14.7	X	263.68300	227.94894	346.97744	4.57329	0.1036673	0.17787742	3.1312820	20	—	—
53261 1999 FR ₄	14.7	X	346.70604	297.64142	13.03536	1.98221	0.0610612	0.19826459	2.9127683	20	8 2.5	18.3
53262 1999 FE ₆	15.5	X	137.42995	106.23042	332.78486	2.80254	0.2021626	0.24430865	2.5342152	20	5 4.2	19.5
53263 1999 FW ₆	14.1	X	276.12673	281.33076	14.23633	9.15709	0.1274384	0.18594306	3.0400640	20	3 26.6	18.4
53264 1999 FL ₈	14.4	X	45.41755	4.66709	171.92871	16.00881	0.1260895	0.23787910	2.5796762	20	5 11.1	17.6
53265 1999 FB ₁₁	14.2	X	221.76513	342.04651	24.87409	11.08312	0.0579019	0.18980501	2.9986856	20	4 27.7	18.7
53266 1999 FY ₁₁	14.9	X	133.56354	242.19327	150.12565	1.34637	0.1772697	0.18685169	3.0302005	20	3 6.6	19.6
53267 1999 FP ₁₇	14.1	X	217.08322	143.02666	175.82530	1.33263	0.0733848	0.22898551	2.6460459	20	2 20.3	18.1
53268 1999 FU ₁₈	14.2	X	339.11472	174.43674	10.30997	4.86175	0.1406323	0.18302239	3.0723208	20	1 31.3	18.1
53269 1999 FY ₁₈	15.2	X	309.04992	346.39818	196.60955	4.29065	0.2332271	0.22624755	2.6673508	20	—	—
53270 1999 FR ₂₂	14.2	X	43.56579	281.41824	243.23493	1.22865	0.0067967	0.23831468	2.5765318	20	4 4.3	17.4
53271 1999 FJ ₂₄	14.5	X	270.46995	246.84804	345.87056	12.84389	0.2240077	0.22450639	2.6811241	20	—	—
53272 1999 FK ₂₄	13.6	X	194.59749	291.93476	352.08530	13.25238	0.2513066	0.17196089	3.2027000	20	—	—
53273 1999 FZ ₂₄	13.4	X	290.76772	126.85882	163.62321	10.71524	0.0694620	0.18947860	3.0021284	20	4 17.1	17.6
53274 1999 FH ₂₅	14.4	X	38.24543	139.24494	119.98371	6.05099	0.0930674	0.24529119	2.5274433	20	8 20.9	17.3
53275 1999 FI ₃₁												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53281 1999 FS ₃₃	14.1	X	103.58963	223.02512	163.68560	9.49377	0.1625056	0.22559856	2.6724638	20	1 19.9	17.7
53282 1999 FT ₃₄	14.7	X	66.11174	173.80536	313.90771	1.51571	0.1614294	0.23470905	2.6028521	20	4 6.8	17.7
53283 1999 FG ₄₂	14.7	X	33.41671	285.12134	134.35214	4.95837	0.0942635	0.22423931	2.6832526	20	—	—
53284 1999 FK ₄₇	13.5	X	223.28540	44.88829	321.78156	6.96972	0.2140445	0.24117899	2.5560915	20	4 15.5	17.9
53285 Mojmir	14.8	X	55.41657	311.11650	286.31031	2.71669	0.1248517	0.19783302	2.9170029	20	8 13.7	18.6
53286 1999 FH ₅₇	14.0	X	131.78471	237.50611	163.77899	14.62114	0.1033224	0.23371435	2.6102321	20	3 3.1	17.5
53287 1999 GR	13.7	X	234.93229	319.56493	5.62780	8.95694	0.0860846	0.18722511	3.0261700	20	3 21.7	18.3
53288 1999 GO ₁	14.2	X	64.90608	300.22148	339.40244	1.20945	0.0350487	0.20673433	2.8326591	20	10 8.3	17.9
53289 1999 GD ₅	14.2	X	107.41238	5.58080	133.78520	7.11393	0.1879159	0.24166357	2.5526734	20	6 21.3	18.0
53290 1999 GY ₈	14.4	X	85.62301	114.03592	134.18102	4.73540	0.0622554	0.20216460	2.8751862	20	9 29.3	18.4
53291 1999 GQ ₁₀	14.7	X	326.35210	42.29158	119.33223	0.28576	0.1478322	0.17866323	3.1220936	20	—	—
53292 1999 GY ₁₀	14.7	X	251.13034	158.76640	49.69974	2.01263	0.1370490	0.17310393	3.1885857	20	—	—
53293 1999 GA ₁₄	14.7	X	338.28990	357.83367	166.77528	1.38214	0.0956091	0.18093307	3.0959273	20	1 9.3	18.8
53294 1999 GS ₁₆	14.0	X	169.77405	215.86793	18.25386	9.32391	0.0972015	0.21389528	2.7690784	20	12 11.1	18.3
53295 1999 GX ₂₀	13.9	X	33.02861	198.35594	67.07885	16.08817	0.1545883	0.24342606	2.5403370	20	9 9.1	17.3
53296 1999 GJ ₂₃	14.6	X	319.23383	111.49920	15.54933	3.28063	0.0989315	0.22151189	2.7052331	20	—	—
53297 1999 GR ₂₃	14.8	X	0.21347	330.47860	178.28950	3.11300	0.2169492	0.23009536	2.6375304	20	—	—
53298 1999 GF ₂₅	13.5	X	173.17716	350.70190	125.59842	3.21361	0.0035709	0.19926457	2.9030153	20	7 22.5	17.4
53299 1999 GJ ₂₆	14.5	X	97.81507	121.55606	137.86697	2.74753	0.0236695	0.20709575	2.8293625	20	10 23.7	18.4
53300 1999 GD ₃₁	14.8	X	60.23103	7.77334	142.94079	2.89655	0.2451888	0.18991890	2.9974867	20	5 16.9	18.5
53301 1999 GL ₃₄	14.9	X	353.27279	307.36830	306.57381	3.50669	0.2005367	0.23766214	2.5812459	20	5 19.7	17.2
53302 1999 GZ ₃₄	14.1	X	340.12452	225.16444	11.09199	15.22229	0.0808229	0.23548546	2.5971278	20	4 6.8	17.2
53303 1999 GF ₄₅	13.9	X	203.92327	226.46203	86.93316	10.66309	0.0439789	0.18025026	3.1037408	20	2 8.5	18.6
53304 1999 GQ ₄₇	14.0	X	292.12217	217.10426	22.67697	12.03708	0.1400477	0.23043422	2.6349440	20	2 2.5	17.9
53305 1999 GQ ₅₃	13.8	X	294.53573	328.05240	253.19600	7.72497	0.1099489	0.22661181	2.6644916	20	1 11.9	17.7
53306 1999 HA ₃	13.8	X	98.36089	122.30194	45.68403	11.22147	0.0512416	0.19144389	2.9815474	20	6 29.0	18.2
53307 1999 HC ₈	14.5	X	147.88437	33.12649	48.55867	1.62211	0.1007054	0.23976520	2.5661298	20	5 11.7	18.0
53308 1999 HJ ₈	13.9	X	340.17953	275.17791	319.03816	6.12728	0.1810024	0.23455498	2.6039918	20	3 21.4	16.8
53309 1999 HT ₈	14.4	X	105.38066	354.97532	207.37649	11.93770	0.0201858	0.20023780	2.8936012	20	8 14.3	18.7
53310 1999 HJ ₉	13.9	X	258.03168	318.32361	18.80082	8.25018	0.0547333	0.19004760	2.9961332	20	5 4.0	18.1
53311 Deucalion	6.6	X	306.68138	239.57450	51.36296	0.37282	0.0669047	0.00334322	44.2954901	20	5 11.6	22.9
53312 1999 JZ	13.7	X	241.97128	35.02923	63.07701	26.69803	0.3466735	0.21477816	2.7614847	20	8 27.9	18.8
53313 1999 JF ₂	14.4	X	314.55366	47.38417	172.27253	10.24619	0.0906468	0.18205590	3.0831848	20	2 12.9	18.6
53314 1999 JT ₂	14.4	X	233.51758	122.36898	121.15622	13.78689	0.1627446	0.21900674	2.7258235	20	—	—
53315 1999 JD ₃	14.0	X	268.63708	132.04035	140.01951	12.26681	0.1708754	0.22561251	2.6723536	20	2 9.3	18.1
53316 Michielford	14.3	X	78.64924	174.33546	102.89688	3.26475	0.0951492	0.20178989	2.8787444	20	10 30.9	18.4
53317 1999 JJ ₆	13.3	X	329.30117	37.14273	87.00201	35.75614	0.1989564	0.21963826	2.7205960	20	—	—
53318 1999 JV ₇	14.0	X	326.76122	292.35118	246.55714	11.62916	0.1146169	0.22298295	2.6933220	20	—	—
53319 1999 JM ₈	15.2	X	237.91504	166.80595	133.61830	13.84073	0.6416825	0.21904946	2.7254691	20	1 30.0	21.3
53320 1999 JW ₈	14.1	X	252.86809	226.78849	85.54896	10.66241	0.1275239	0.18266388	3.0763395	20	3 26.7	18.9
53321 1999 JL ₁₂	14.6	X	260.97168	19.57963	144.84584	9.80738	0.1264232	0.21491474	2.7603146	20	12 29.9	18.1
53322 1999 JK ₁₅	14.5	X	298.21723	72.65292	162.41830	11.71258	0.2709425	0.22603374	2.6690325	20	1 12.9	18.6
53323 1999 JV ₁₆	13.7	X	322.25710	248.91024	56.41901	10.50048	0.0513401	0.19104333	2.9857135	20	6 18.0	17.7
53324 1999 JZ ₁₈	13.9	X	352.51672	38.82546	240.31348	10.65720	0.1310736	0.19296337	2.9658747	20	6 26.8	17.4
53325 1999 JN ₂₁	13.9	X	293.10898	69.69602	230.40147	8.34499	0.1200255	0.18788586	3.0190709	20	4 21.2	17.9
53326 1999 JV ₂₂	14.4	X	33.35644	285.20581	227.86790	3.37863	0.1253747	0.18439712	3.0570318	20	3 17.7	18.1
53327 1999 JL ₂₃	14.4	X	191.02834	24.28066	217.84266	11.18324	0.2388810	0.21370280	2.7707409	20	12 29.9	19.1
53328 1999 JS ₂₆	14.5	X	39.05797	54.13828	44.95696	13.67556	0.2452663	0.22638299	2.6662867	20	1 15.8	16.9
53329 1999 JZ ₂₇	14.3	X	7.17390	202.27631	92.75715	3.58820	0.0614941	0.19674782	2.9277193	20	8 12.9	18.0
53330 1999 JN ₃₂	13.8	X	281.52654	75.88138	210.22565	11.17050	0.0725365	0.18415918	3.0596645	20	3 26.2	18.2
53331 1999 JW ₃₄	13.0	X	44.23832	163.48532	37.31158	11.42351	0.0273628	0.18977252	2.9990278	20	5 25.8	17.1
53332 1999 JL ₃₆	15.2	X	239.37464	352.05985	200.17378	3.28606	0.1686270	0.21528821	2.7571214	20	12 29.3	18.8
53333 1999 JZ ₃₆	13.9	X	87.70938	121.28273	51.74532	10.44440	0.0197206	0.19161453	3.9797770	20	6 16.5	18.1
53334 1999 JJ ₄₁	14.5	X	20.49359	329.34501	213.95494	10.03776	0.0276536	0.18308566	3.0716130	20	4 1.9	18.6
53335 1999 JL ₄₁	13.8	X	347.57059	1.40376	203.51404	11.10987	0.0785866	0.18272303	3.0756756	20	3 11.8	18.0
53336 1999 JP ₄₂	13.2	X	311.17145	54.32490	227.08538	12.61060	0.1643004	0.18646707	3.0343660	20	4 14.9	17.1
53337 1999 JX ₄₂	14.5	X	292.33551	264.14272	251.31410	7.12149	0.1315069	0.21746115	2.7387240	20	—	—
53338 1999 JY ₄₆	14.2	X	47.00606	147.14716	186.73127	2.03832	0.0581945	0.20584942	2.8407713	20	11 26.9	18.2
53339 1999 JA ₄₇	13.9	X	21.58392	202.07658	77.69756	3.08563	0.0753759	0.19555804	2.9395822	20	8 15.5	17.6
53340 1999 JH ₄₇	13.9	X	136.29959	11.07607	51.96424	17.91923	0.0171648	0.18311648	3.0712684	20	4 6.9	18.5
53341 1999 JP ₄₉	13.9	X	168.17853	21.74900	62.09357	11.91790	0.0845483	0.19022676	2.9942517	20	6 4.4	18.4
53342 1999 JK ₅₁	14.6	X	103.13409	80.99819	70.93955	6.50173	0.2244830	0.23992192	2.5650122	20	7 7.3	18.6
53343 1999 JO ₅₄	13.2	X	309.74780	4.49482	253.03675	11.75674	0.1295899	0.22953278	2.6418383	20	3 9.4	16.9
53344 1999 JX ₅₄	13.8	X	306.39231	326.74049	237.22987	11.99668	0.1150411	0.22365477	2.6879258	20	1 3.8	17.6
53345 1999 JZ ₅₄	14.5	X	285.20194	283.94625	243.91355	4.84594	0.1718231	0.21769930	2.7367263	20	—	—
53346 1999 JE ₅₇	13.9	X	137.18165	305.79428	195.73385	9.05444	0.1591644	0.19417042	2.9535705	20	7 17.4	18.8
53347 1999 JE ₅₈	13.3	X	300.14038	309.14243	252.89529	12.93438	0.1869674	0.17549104	3.1596047	20	—	—
53348 1999 JC ₅₉	13.9	X	49.65585	89.94617	76.15555	14.38197	0.0951157	0.23257484	2.6			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53361 1999 JF ₇₆	14.6	X	281.33316	266.74390	251.47285	2.58982	0.1175759	0.21639267	2.7477319	20	—	—
53362 1999 JY ₇₆	13.3	X	294.04728	252.64103	73.17957	14.38830	0.1774781	0.19045034	2.9919079	20	5 19.7	17.4
53363 1999 JD ₇₇	14.4	X	53.57371	40.88234	81.91385	13.13398	0.1313597	0.23048144	2.6345842	20	3 14.7	17.7
53364 1999 JL ₇₇	13.0	X	338.07430	93.77971	184.55716	9.65917	0.0468916	0.18989200	2.9977697	20	6 6.9	17.1
53365 1999 JO ₇₈	13.6	X	233.63164	322.19867	113.80914	15.12431	0.0137396	0.24636736	2.5200777	20	8 24.6	17.0
53366 1999 JU ₇₉	13.5	X	295.16992	79.65947	120.25765	26.35949	0.2117091	0.17547829	3.1597578	20	—	—
53367 1999 JR ₈₀	13.8	X	290.50200	164.88365	91.81705	17.02219	0.2171258	0.17977055	3.1092598	20	2 16.9	18.6
53368 1999 JF ₈₁	13.5	X	251.56403	48.49870	109.84931	12.91481	0.1553635	0.22027705	2.7153338	20	1 8.6	18.1
53369 1999 JQ ₈₁	15.4	X	315.01510	132.18925	210.65811	7.33943	0.2109318	0.27732329	2.3288695	20	2 13.5	18.1
53370 1999 JY ₈₁	14.7	X	214.80275	148.33463	82.89498	14.05849	0.1705004	0.21642572	2.7474521	20	—	—
53371 1999 JA ₈₃	14.3	X	328.64961	39.85117	120.77516	14.35015	0.1165029	0.22327442	2.6909775	20	—	—
53372 1999 JB ₈₃	14.6	X	187.75393	126.86684	104.49228	13.70377	0.2022084	0.21222286	2.7836072	20	12 19.0	19.1
53373 1999 JP ₈₃	15.1	X	328.92340	340.33190	198.23275	12.16934	0.2076560	0.22524535	2.6752569	20	—	—
53374 1999 JC ₈₄	13.7	X	258.21577	38.47139	105.50832	14.22578	0.1074456	0.21088672	2.7953523	20	12 4.0	17.5
53375 1999 JF ₈₆	14.7	X	287.10025	82.70613	94.60833	9.93867	0.1441314	0.22107813	2.7087704	20	—	—
53376 1999 JJ ₈₆	13.7	X	340.52469	64.78163	113.64486	9.64923	0.1643497	0.18110820	3.0939311	20	1 21.4	17.6
53377 1999 JB ₈₆	14.2	X	75.54605	161.98848	122.76793	3.01073	0.0389146	0.20531582	2.8456913	20	10 30.0	18.1
53378 1999 JO ₈₇	13.8	X	249.17229	126.17282	152.24265	11.46697	0.0545986	0.18072032	3.0983565	20	2 12.5	18.2
53379 1999 JZ ₈₈	14.9	X	278.52830	98.65378	114.11116	10.80800	0.0954116	0.22271978	2.6954432	20	—	—
53380 1999 JS ₈₉	14.0	X	284.45368	125.85127	146.60466	12.39972	0.0920338	0.18329470	3.0692772	20	3 14.4	18.3
53381 1999 JK ₉₀	14.4	X	196.17204	123.23049	121.62039	12.88226	0.1380714	0.21493312	2.7601572	20	—	—
53382 1999 JL ₉₁	13.6	X	189.90184	4.35967	96.55405	17.78869	0.1305883	0.19697499	2.9254678	20	7 18.9	18.3
53383 1999 JO ₉₁	13.8	X	230.84869	138.43170	149.51641	11.34820	0.1824927	0.17633721	3.1494888	20	1 28.7	19.1
53384 1999 JY ₉₂	13.9	X	310.27272	3.32769	157.57501	14.37380	0.0806478	0.17299785	3.1898891	20	—	—
53385 1999 JB ₉₃	13.7	X	248.88138	94.99440	119.76263	16.94024	0.0801144	0.17123869	3.2116986	20	—	—
53386 1999 JF ₉₃	13.8	X	321.74038	337.39991	186.83271	14.66316	0.1001811	0.17483302	3.1675276	20	—	—
53387 1999 JF ₉₄	13.4	X	351.40869	295.79303	177.88281	14.74315	0.1295989	0.17268747	3.1937101	20	—	—
53388 1999 JZ ₉₅	14.1	X	112.17490	285.83096	114.34731	14.05372	0.1563601	0.22325805	2.6911090	20	2 18.7	17.9
53389 1999 JZ ₉₆	14.2	X	92.48234	38.26198	112.98017	12.15374	0.1203991	0.18991337	2.9975448	20	6 11.1	18.5
53390 1999 JM ₁₀₀	14.6	X	327.95502	33.12024	146.12703	13.11476	0.1092089	0.22308476	2.6925025	20	1 3.2	18.2
53391 1999 JX ₁₀₀	13.6	X	355.71217	314.06991	197.25961	27.11230	0.1638010	0.17616067	3.1515927	20	1 8.3	18.0
53392 1999 JZ ₁₀₀	14.1	X	38.27688	83.30709	138.36757	12.62915	0.0504291	0.18925274	3.0045166	20	6 19.6	18.3
53393 1999 JA ₁₀₂	15.0	X	226.57143	100.19167	137.78088	5.10824	0.2014762	0.21834783	2.7313045	20	—	—
53394 1999 JD ₁₀₂	14.9	X	299.56953	107.04245	187.97542	7.08207	0.0405975	0.18872358	3.0101302	20	5 7.3	19.0
53395 1999 JZ ₁₀₂	14.9	X	73.73652	104.94479	130.78937	6.25270	0.0758352	0.19810351	2.9143471	20	8 30.3	18.9
53396 1999 JL ₁₀₄	14.0	X	67.72502	342.00977	127.45786	9.85906	0.0523427	0.18361953	3.0656564	20	3 9.7	18.2
53397 1999 JJ ₁₀₇	14.2	X	130.09766	252.27857	127.00927	9.48605	0.0371878	0.19114602	2.9846440	20	6 3.9	18.4
53398 1999 JM ₁₁₁	14.3	X	320.86148	48.25131	239.38824	5.86648	0.0515700	0.17649182	3.1476492	20	1 13.4	18.5
53399 1999 JG ₁₁₂	13.9	X	243.00869	1.71159	58.86440	2.89813	0.1297381	0.19645860	2.9305919	20	7 23.9	18.1
53400 1999 JB ₁₁₃	14.2	X	305.41351	255.85206	22.40196	9.79236	0.0590741	0.18567703	3.0429672	20	4 18.9	18.4
53401 1999 JT ₁₁₅	13.4	X	251.87391	98.98373	229.27036	14.89598	0.0388145	0.18487410	3.0517714	20	4 16.4	17.9
53402 1999 JG ₁₁₉	13.0	X	182.18075	293.66843	56.60248	14.32714	0.1483384	0.17683460	3.1435802	20	3 7.5	18.3
53403 1999 KM	13.7	X	248.52870	279.71103	86.15187	16.26128	0.0159147	0.19107584	2.9853749	20	6 5.0	17.9
53404 1999 KX	14.2	X	75.29622	172.76553	62.16585	9.10938	0.1846866	0.24434651	2.5339534	20	9 25.6	18.0
53405 1999 KX ₈	14.1	X	295.08068	282.54288	49.83399	10.28897	0.0184955	0.19306433	2.9648406	20	6 20.1	18.2
53406 1999 KL ₁₂	14.3	X	291.43903	72.33341	106.83799	2.79281	0.1240073	0.17137117	3.2100432	20	—	—
53407 1999 KC ₁₇	13.9	X	168.55303	172.40958	228.41747	9.67557	0.1120321	0.18386243	3.0629557	20	4 12.9	18.7
53408 1999 LU ₆	14.5	X	159.54576	258.25101	139.58914	23.43512	0.0634270	0.18138797	3.0907489	20	4 5.8	19.5
53409 1999 LU ₇	18.7	X	286.97135	147.70924	206.71950	10.87328	0.6282363	0.32368873	2.1007982	20	4 15.5	22.4
53410 1999 LL ₂₈	14.1	X	315.93692	83.90542	127.79899	17.54409	0.0789464	0.17644874	3.1481615	20	2 9.8	18.4
53411 1999 LM ₃₂	14.1	X	294.49273	296.45830	251.33763	11.26047	0.1178100	0.22281460	2.6946784	20	—	—
53412 1999 NQ ₁	14.0	X	299.45897	97.49596	151.10702	26.21249	0.2984316	0.22470351	2.6795559	20	1 27.7	18.3
53413 1999 NE ₁₂	14.2	X	310.60711	111.94552	133.34100	17.65252	0.1480819	0.17615276	3.1516870	20	3 7.7	18.5
53414 1999 NK ₁₉	14.2	X	27.71750	287.22705	285.18885	14.86220	0.1483741	0.18412542	3.0600384	20	5 30.1	18.0
53415 1999 NC ₂₁	13.7	X	293.00105	324.91305	301.11474	26.08748	0.1228965	0.17805810	3.1291633	20	2 26.7	18.6
53416 1999 NB ₂₃	14.2	X	129.31441	299.46829	274.89413	5.23971	0.2256016	0.19911487	2.9044701	20	10 9.4	19.2
53417 1999 NP ₃₈	14.9	X	275.06761	333.64769	107.31467	27.23849	0.0805619	0.38364718	1.8757777	20	12 2.9	16.8
53418 1999 PY ₃	11.6	X	310.12668	129.39240	148.53504	26.37076	0.0945557	0.08432783	5.1501763	20	5 2.7	18.5
53419 1999 PJ ₄	12.2	X	279.63856	348.13111	342.69727	30.60825	0.0883119	0.08384546	5.1699103	20	5 6.7	19.5
53420 1999 RH ₄	12.9	X	352.30885	351.25747	290.08456	8.60111	0.0668315	0.18392076	3.0623081	20	6 30.9	16.7
53421 1999 RY ₁₈	15.8	X	301.40284	333.60589	349.55541	19.46972	0.0846771	0.36983495	1.9221949	20	6 7.2	18.1
53422 1999 RN ₃₀	15.8	X	342.97151	95.52942	186.92850	21.57230	0.0841103	0.37005604	1.9214292	20	6 22.9	17.9
53423 1999 RC ₂₃₈	13.3	X	12.59791	224.23885	67.51764	12.12511	0.1177276	0.18359131	3.0659705	20	8 24.9	17.3
53424 1999 SC ₃	15.3	X	62.24466	50.93160	316.51035	23.14998	0.0627273	0.38668343	1.8659457	20	—	—
53425 1999 SO ₄	14.3	X	193.76128	67.17518	17.94852	4.93263	0.0524071	0.27228445	2.3575133	20	7 10.2	17.4
53426 1999 SL ₅	17.2	X	296.64256	43.32631	239.09495	22.77514	0.5386619	0.36964886	1.9228399	20	1 23.1	21.3
53427 1999 SJ ₉	15.8	X	294.32492	186.96986	148.93039	22.62623	0.0741350	0.37055089	1.9197182	20	6 25.0	18.1
53428 1999 TD ₂	15.6	X	202.30321	32.13575	40.23590	21.65312	0.0916335	0.36752130	1.9302536	20	7 2.9	18.4
53429 1999 TF ₅	18.9	X	93.38518	64.04678	199.24368	26.78997	0.6401452	0.34263784	2.0226116	20	12 8.6	24.0
53430 1999 TY ₁₆	16.7	X	291.64492	156.92480	241.93315	60.39715	0.4033032	0.32407057	2.0991477	20	6 22.1	20.2
53431 1999 UQ ₁₀	14.4	X	172.38073	299.12190	37.94558	25.36771	0.1441027	0.39598698	1.8366037	20	1 8.7	17.1
53432 1999 UT ₅₅	15.7	X	9.17067	126.89947	268.69995	22.44003	0.1156406	0.38496410	1.8714974	20	—	—
53433 1999 VV ₁₀	15.4	X	104.05037	321.84931	65.96296	23.08247	0.0700492	0.39358177	1.8440785	20	—	—
53434 1999 VD ₂₅	13.2	X	5.49995	246.52456	75.88080	16.27659	0.1181199	0.22762605	2.656			

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53441 1999 <i>XL</i> ₇₇	16.3	X	291.72169	283.44788	226.13794	2.77392	0.1215588	0.28677441	2.2774164	20	—	—
53442 1999 <i>XU</i> ₈₁	15.4	X	255.87265	322.61021	249.79170	2.86174	0.0973051	0.29090829	2.2557899	20	—	—
53443 1999 <i>XX</i> ₈₁	15.1	X	283.06334	269.65248	254.50105	6.81190	0.1290411	0.28727433	2.2747736	20	—	—
53444 1999 <i>XV</i> ₉₀	15.4	X	328.69757	313.35806	264.80320	6.38528	0.1466642	0.29852653	2.2172471	20	2 3.4	17.8
53445 1999 <i>XB</i> ₁₀₃	14.7	X	66.04422	104.78049	91.50268	13.86080	0.1871180	0.25958020	2.4338193	20	7 19.8	17.8
53446 1999 <i>XD</i> ₁₀₃	15.2	X	18.20109	283.10319	79.17945	7.55852	0.1532285	0.28093068	2.3088901	20	12 29.3	17.8
53447 1999 <i>XL</i> ₁₀₅	15.7	X	317.25007	45.46504	48.47929	6.00285	0.1528832	0.28496286	2.2870582	20	—	—
53448 1999 <i>XT</i> ₁₀₅	15.1	X	32.31713	336.33288	238.19414	6.84839	0.1472992	0.30592066	2.1813742	20	6 13.5	16.7
53449 1999 <i>XG</i> ₁₃₂	11.9	X	217.43515	213.97877	290.02575	19.84563	0.1173758	0.08278786	5.2138471	20	9 14.7	19.5
53450 1999 <i>XX</i> ₁₃₂	15.5	X	218.12064	262.90323	0.83041	7.53832	0.0854917	0.29289276	2.2455891	20	—	—
53451 1999 <i>XU</i> ₁₃₄	15.6	X	223.08840	262.50890	92.42454	23.96718	0.1068478	0.35761268	1.9657462	20	4 18.2	18.8
53452 1999 <i>XW</i> ₁₃₄	15.7	X	91.63794	126.73077	113.15825	24.54108	0.0613961	0.36796835	1.9286899	20	11 4.2	18.6
53453 1999 <i>XX</i> ₁₃₅	14.9	X	193.66857	157.11006	269.87654	17.88050	0.0786519	0.36223841	1.9489755	20	6 14.3	17.0
53454 1999 <i>XX</i> ₁₃₆	15.0	X	340.20771	247.17371	66.02777	24.78811	0.0183266	0.36368907	1.9437894	20	8 29.4	17.7
53455 1999 <i>XX</i> ₁₃₉	15.5	X	175.88365	155.79836	109.85635	7.26787	0.0975723	0.28567979	2.2832302	20	—	—
53456 1999 <i>XR</i> ₁₄₂	15.2	X	261.10567	294.50518	86.09396	24.65796	0.1078918	0.36266259	1.9474555	20	7 1.7	17.1
53457 1999 <i>XR</i> ₁₄₂	15.4	X	216.46356	270.53664	72.75563	23.19625	0.0775567	0.35738743	1.9665721	20	3 26.3	18.5
53458 1999 <i>XH</i> ₁₅₃	16.3	X	223.44585	32.41811	280.02531	5.10461	0.1939212	0.30514211	2.1850831	20	2 6.9	19.8
53459 1999 <i>XD</i> ₁₅₆	15.2	X	275.25251	147.39420	101.73729	6.98929	0.1073217	0.29979725	2.2109773	20	1 15.4	18.0
53460 1999 <i>XG</i> ₁₇₄	15.2	X	180.91820	170.78692	73.64364	7.85117	0.1027826	0.28229177	2.3014625	20	—	—
53461 1999 <i>XS</i> ₁₇₇	15.9	X	38.41601	218.11566	328.02194	3.12006	0.0892605	0.30427782	2.1892189	20	4 29.6	18.0
53462 1999 <i>XR</i> ₁₇₈	15.5	X	323.51351	186.73401	71.23331	4.68973	0.0646051	0.30418401	2.1896690	20	4 11.7	17.7
53463 1999 <i>XW</i> ₁₉₆	15.5	X	46.26367	210.01439	42.04451	6.68899	0.1301843	0.31542563	2.1373291	20	9 10.8	17.8
53464 1999 <i>XG</i> ₂₀₅	13.9	X	89.14850	166.27076	46.32684	8.41458	0.1980342	0.21562421	2.7542564	20	9 8.5	18.2
53465 1999 <i>XY</i> ₂₂₂	15.6	X	294.06105	177.03947	334.42606	5.37081	0.0505038	0.28582479	2.2824579	20	—	—
53466 1999 <i>XS</i> ₂₃₀	13.4	X	209.66272	239.89618	32.53495	12.48612	0.1594301	0.20317768	2.8656208	20	—	—
53467 2000 <i>AD</i> ₁	15.3	X	77.76896	300.41742	129.90845	5.63029	0.0948009	0.26601668	2.3944005	20	9 16.5	18.6
53468 Varros	16.0	X	64.61552	336.54758	296.72630	2.75694	0.0709607	0.29768510	2.2214233	20	2 8.8	18.2
53469 2000 <i>AX</i> ₈	12.4	X	341.75363	9.88114	11.61072	7.36065	0.0640113	0.08516729	5.1162783	20	10 6.1	18.9
53470 2000 <i>AG</i> ₁₆	15.0	X	355.99548	87.66143	276.87910	3.31182	0.2308862	0.23251102	2.6192303	20	11 23.6	17.5
53471 2000 <i>AU</i> ₃₀	15.0	X	348.88812	301.93077	66.75279	7.08195	0.0501129	0.22725871	2.6594328	20	10 29.1	18.2
53472 2000 <i>AE</i> ₃₃	15.5	X	66.60105	249.32758	347.86881	6.16396	0.0816140	0.26584689	2.3954199	20	8 31.4	18.3
53473 2000 <i>AN</i> ₃₉	15.7	X	155.81777	193.57609	23.95660	4.49433	0.1069617	0.27404873	2.3473843	20	11 16.9	19.2
53474 2000 <i>AC</i> ₄₀	15.6	X	160.19899	282.56369	40.13244	4.42735	0.1889288	0.29398840	2.2400064	20	—	—
53475 2000 <i>AH</i> ₄₉	16.1	X	131.25472	107.04963	285.56255	4.12218	0.1715282	0.29993014	2.2103242	20	2 20.1	19.1
53476 2000 <i>AQ</i> ₄₉	15.8	X	32.41505	8.51456	261.36817	4.38083	0.1264190	0.31532484	2.1377845	20	9 8.5	17.9
53477 2000 <i>AA</i> ₅₄	11.9	X	308.12010	112.84302	303.60025	11.02712	0.0310051	0.08118954	5.2820520	20	9 30.2	18.9
53478 2000 <i>AK</i> ₅₄	14.9	X	12.92848	316.51416	297.65310	12.67057	0.2347289	0.25893583	2.4378554	20	7 17.2	16.6
53479 2000 <i>AG</i> ₅₆	15.3	X	53.12776	212.45914	118.83867	6.69600	0.1415016	0.27832581	2.3232738	20	12 28.9	18.4
53480 2000 <i>AM</i> ₅₆	15.5	X	199.98452	251.23742	312.92776	4.60264	0.1646125	0.27735717	2.3286798	20	12 11.7	18.7
53481 2000 <i>AC</i> ₅₇	15.9	X	314.95042	254.37603	322.99211	1.12112	0.1654131	0.29621175	2.2287834	20	1 13.6	18.4
53482 2000 <i>AQ</i> ₅₇	14.9	X	162.91735	312.13385	297.97784	5.39815	0.0905933	0.27969904	2.3156632	20	—	—
53483 2000 <i>AC</i> ₅₈	14.7	X	9.46972	125.79487	119.76052	6.25058	0.0733296	0.25846999	2.4407837	20	6 11.0	17.3
53484 2000 <i>AT</i> ₅₈	15.8	X	207.86902	217.08237	28.89706	2.25062	0.0510917	0.28573590	2.2829313	20	—	—
53485 2000 <i>AU</i> ₅₈	15.5	X	75.44578	167.15476	63.37639	3.21528	0.1656596	0.26400887	2.4065250	20	9 15.7	18.8
53486 2000 <i>AJ</i> ₅₉	15.0	X	28.54394	244.44264	104.08628	7.09363	0.1124174	0.27713115	2.3299458	20	12 17.5	17.7
53487 2000 <i>AQ</i> ₅₉	15.4	X	136.13023	313.01953	303.73753	4.73304	0.1195785	0.27632519	2.3344741	20	12 17.7	18.8
53488 2000 <i>AG</i> ₆₁	13.7	X	196.01170	247.74439	319.05646	10.14338	0.0673869	0.18132127	3.0915068	20	12 1.6	18.4
53489 2000 <i>AJ</i> ₆₂	14.9	X	149.59491	185.16805	122.40460	6.48815	0.1879670	0.28563250	2.2834822	20	—	—
53490 2000 <i>AZ</i> ₆₅	15.0	X	209.75592	111.95896	105.11984	7.14895	0.1050135	0.27989153	2.3146014	20	—	—
53491 2000 <i>AM</i> ₆₆	15.2	X	265.32451	65.04834	87.95259	7.54920	0.0607920	0.28009233	2.3134951	20	—	—
53492 2000 <i>AK</i> ₆₇	14.5	X	83.33362	219.80297	121.30974	14.24841	0.2059810	0.23491847	2.6013050	20	—	—
53493 2000 <i>AP</i> ₆₇	15.4	X	145.29395	260.19117	330.84484	2.31572	0.0482826	0.27425257	2.3462210	20	11 25.7	18.6
53494 2000 <i>AM</i> ₆₈	13.3	X	177.23500	108.38869	84.02053	13.35794	0.0560899	0.18434955	3.0575577	20	11 1.9	18.0
53495 2000 <i>AW</i> ₆₉	14.2	X	153.10787	349.99022	112.86679	9.77485	0.0150655	0.16825233	3.2495906	20	6 9.9	19.0
53496 2000 <i>AH</i> ₇₄	15.8	X	21.46568	6.07718	175.06119	4.30941	0.0351499	0.30423796	2.1894101	20	3 21.9	18.1
53497 2000 <i>AV</i> ₇₆	15.7	X	111.71105	33.55552	131.18290	3.05550	0.0117929	0.31367441	2.1452767	20	7 13.2	17.9
53498 2000 <i>AR</i> ₈₆	15.8	X	59.35872	67.41740	151.04793	3.65710	0.0630219	0.31066978	2.1590865	20	7 24.1	18.0
53499 2000 <i>AT</i> ₈₇	15.7	X	251.87659	84.06495	270.38488	5.08266	0.0780370	0.30841855	2.1695802	20	5 12.7	18.2
53500 2000 <i>AQ</i> ₈₈	15.3	X	56.44659	293.33306	277.93829	1.57690	0.0402936	0.26090286	2.4255868	20	7 2.0	18.0
53501 2000 <i>AC</i> ₉₅	14.6	X	175.97125	31.23730	311.48070	6.66747	0.1886187	0.29565775	2.2315667	20	2 5.1	17.9
53502 2000 <i>AG</i> ₉₇	14.5	X	89.39163	112.93779	117.53318	9.26016	0.0726560	0.26395335	2.4068624	20	9 23.2	17.8
53503 2000 <i>AH</i> ₉₈	14.6	X	14.42747	218.61856	21.90891	7.35639	0.1146001	0.25369984	2.4712836	20	6 13.2	17.2
53504 2000 <i>AN</i> ₉₈	15.0	X	213.56680	33.76309	117.81556	7.61034	0.0553691	0.27164111	2.3612341	20	11 7.2	18.1
53505 2000 <i>AL</i> ₁₁₂	15.4	X	337.50889	97.53123	191.84647	2.50514	0.0929061	0.31095827	2.1577509	20	6 21.5	17.1
53506 2000 <i>AU</i> ₁₁₉	15.7	X	220.07736	351.05982	177.88342	6.38991	0.0627855	0.27732623	2.3288530	20	12 7.1	18.6
53507 2000 <i>AX</i> ₁₂₀	14.9	X	94.82778	66.37574	176.05064	6.49902	0.1019794	0.26938881	2.3743770	20	10 16.8	18.2
53508 2000 <i>AO</i> ₁₂₂	15.8	X	214.18564	136.11474	157.63241	7.10422	0.1824915	0.29461955	2.2368061	20	1 8.7	19.4
53509 2000 <i>AT</i> ₁₂₂	16.2	X	183.93730	3.61114	175.15315	3.99381	0.1542844	0.27319983	2.3522444	20	10 26.5	19.8
53510 2000 <i>AJ</i> ₁₂₆	14.8	X	219.95044	330.60345	282.60085	12.55719	0.1605876	0.23740327	2.5831220	20	—	—
53511 2000 <i>AV</i> ₁₂₆	14.6	X	135.44570	124.69502	141.74587	6.05435	0.1740883	0.27648041	2.3336003	20	12 27.8	18.3
53512 2000 <i>AZ</i> ₁₂₇	13.5	X	49.64202	7.42077	306.40093	19.65712	0.1305697	0.1756714				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53521 2000 AZ ₁₄₄	15.1	X	20.95857	285.36273	291.50839	7.58073	0.0838837	0.25331876	2.4737615	20	5 16.9	17.9
53522 2000 AE ₁₄₆	16.1	X	9.19654	118.62106	105.51612	24.69441	0.0417580	0.35735405	1.9666945	20	5 17.2	18.5
53523 2000 AC ₁₅₃	14.7	X	13.62172	157.72591	97.77414	5.17389	0.1541270	0.30157252	2.2022918	20	7 14.7	16.2
53524 2000 AN ₁₅₃	15.8	X	16.29572	180.63570	128.54808	7.10705	0.1208003	0.26815651	2.3816457	20	10 7.7	18.4
53525 2000 AN ₁₆₁	15.0	X	332.36431	212.33955	1.94998	5.29657	0.1139948	0.29695164	2.2250797	20	2 13.5	17.2
53526 2000 AJ ₁₆₂	15.6	X	62.65428	249.25550	315.85869	4.51759	0.0808273	0.30779348	2.1725166	20	7 12.6	17.8
53527 2000 AM ₁₆₄	13.5	X	11.09964	89.94742	324.38933	21.68085	0.0214686	0.22837576	2.6507537	20	—	—
53528 2000 AW ₁₇₇	14.2	X	347.43914	135.93607	236.75294	11.66368	0.1727916	0.23049087	2.6345123	20	11 9.9	16.7
53529 2000 AN ₁₉₈	15.5	X	95.88195	41.96703	188.75302	7.91464	0.0664809	0.26705620	2.3881830	20	9 26.7	18.7
53530 2000 AV ₂₀₀	14.9	X	198.44144	275.31140	120.46800	24.37288	0.1160528	0.35954259	1.9587056	20	5 14.1	18.1
53531 2000 AD ₂₁₂	15.1	X	165.47419	135.78978	145.14891	8.99917	0.1277230	0.28114385	2.3077229	20	—	—
53532 2000 AJ ₂₁₂	15.7	X	263.04726	9.06455	320.21690	5.24466	0.2217712	0.30233968	2.1985649	20	4 1.9	18.9
53533 2000 AA ₂₁₆	15.1	X	8.46998	339.38371	314.84883	5.60814	0.1522012	0.26191499	2.4193339	20	8 29.7	17.2
53534 2000 AM ₂₃₃	15.2	X	146.27875	101.56789	96.14704	3.40671	0.1437256	0.26624024	2.3930600	20	10 14.2	18.9
53535 2000 AH ₂₃₇	13.7	X	115.91249	142.79620	278.02018	5.98055	0.0634147	0.24591511	2.5231665	20	2 28.3	17.2
53536 2000 AE ₂₃₉	15.2	X	232.85367	20.93889	292.35367	4.25353	0.1741540	0.30043716	2.2078367	20	2 17.4	18.6
53537 2000 AZ ₂₃₉	14.4	X	36.87649	244.10901	358.36604	4.83597	0.0795140	0.25702570	2.4499188	20	7 24.7	17.2
53538 2000 AE ₂₄₀	14.9	X	297.61777	211.98938	324.86971	5.47945	0.0901745	0.28439170	2.2901193	20	—	—
53539 2000 AO ₂₄₃	15.9	X	27.11084	125.53006	35.16077	4.05305	0.1303569	0.29581265	2.2307876	20	3 3.9	17.6
53540 2000 AE ₂₅₂	15.5	X	217.53172	165.35259	109.96057	7.08520	0.1067051	0.29111942	2.2546991	20	—	—
53541 2000 AK ₂₅₂	15.5	X	273.26917	199.75879	117.97338	13.14909	0.1875406	0.25845345	2.4408879	20	4 13.4	19.2
53542 2000 BE ₁	15.3	X	344.07553	326.61421	184.58487	25.05952	0.2556005	0.28701182	2.2761604	20	—	—
53543 2000 BD ₃	15.5	X	88.62434	180.83821	21.57251	2.48814	0.1432863	0.26130601	2.4230913	20	8 20.3	18.7
53544 2000 BF ₃	15.3	X	111.59436	262.40783	313.13036	1.95667	0.1162520	0.26631500	2.3926121	20	9 28.5	18.6
53545 2000 BT ₅	15.1	X	154.40239	304.72341	32.01217	13.15750	0.2363440	0.24630790	2.5204833	20	1 22.3	19.4
53546 2000 BY ₆	14.2	X	140.22848	169.05220	10.75053	14.81696	0.1193655	0.21951483	2.7216157	20	9 12.3	18.5
53547 2000 BF ₈	15.5	X	262.66205	70.41221	347.52338	6.56519	0.0945787	0.27052827	2.3677051	20	8 27.7	18.3
53548 2000 BA ₁₄	15.6	X	164.53561	147.97242	34.83157	1.20059	0.1619709	0.26938258	2.3744136	20	10 11.1	19.2
53549 2000 BN ₁₄	14.5	X	95.94441	290.39243	123.93913	11.85270	0.0892180	0.24429352	2.5343198	20	1 31.6	17.7
53550 2000 BF ₁₉	19.0	X	284.85077	324.90829	313.21556	7.17607	0.4196761	0.53896832	1.4954109	20	1 13.5	21.1
53551 2000 BP ₂₈	16.4	X	349.90777	102.03212	32.90815	8.65518	0.1611786	0.29040809	2.2583794	20	—	—
53552 2000 BC ₃₃	15.8	X	223.42745	213.89315	125.79212	2.63853	0.1456729	0.30110596	2.2045662	20	3 16.6	19.0
53553 2000 CB ₂	14.9	X	170.57387	102.91062	105.46241	6.00169	0.1137942	0.27198431	2.3592474	20	11 22.7	18.3
53554 2000 CH ₂	15.3	X	245.18331	263.68047	353.11787	8.52428	0.1047752	0.28893805	2.2660330	20	—	—
53555 2000 CG ₅	15.6	X	278.73671	336.89846	264.19667	5.38132	0.1320989	0.29470422	2.2363777	20	1 6.4	18.6
53556 2000 CW ₈	15.6	X	295.85412	146.47344	254.27697	3.74187	0.1117015	0.27315046	2.3525278	20	9 20.7	17.9
53557 2000 CT ₁₄	15.3	X	162.65083	181.03413	134.80444	5.97572	0.2017761	0.28993060	2.2608583	20	—	—
53558 2000 CR ₁₇	15.0	X	55.79897	106.69684	173.78683	2.39020	0.1934252	0.26841546	2.3801137	20	11 1.4	18.2
53559 2000 CJ ₂₁	16.1	X	231.44026	32.45256	216.13469	4.82656	0.0682852	0.28785017	2.2717388	20	—	—
53560 2000 CT ₂₁	16.6	X	49.79748	287.90010	223.05022	2.67135	0.1153189	0.29936865	2.2130871	20	3 29.8	18.6
53561 2000 CM ₂₂	15.3	X	133.13831	10.33502	290.52866	4.95445	0.1019834	0.28202869	2.3028935	20	—	—
53562 2000 CL ₂₅	14.9	X	98.29181	56.43159	173.39632	6.21336	0.0859614	0.26668005	2.3904282	20	10 1.6	18.1
53563 2000 CJ ₂₉	15.4	X	202.69478	224.27135	154.50328	4.70150	0.1819577	0.30403256	2.1903961	20	4 16.3	18.8
53564 2000 CR ₂₉	15.3	X	232.58316	219.57091	192.97260	3.96313	0.0286027	0.27760836	2.3272749	20	—	—
53565 2000 CG ₃₀	15.7	X	148.27089	13.08258	168.66131	1.22263	0.1255891	0.26661043	2.3908443	20	9 24.1	19.3
53566 2000 CU ₃₀	15.1	X	252.66903	122.88241	156.14074	6.34625	0.0948941	0.29539171	2.2329064	20	1 29.8	18.2
53567 2000 CB ₃₃	15.2	X	224.14067	133.75681	151.47651	6.34810	0.1237079	0.28986421	2.2612035	20	1 7.8	18.6
53568 2000 CB ₃₄	15.1	X	171.48920	88.59897	150.69141	13.27377	0.1353203	0.22689388	2.6622828	20	12 21.2	19.5
53569 2000 CF ₃₆	15.7	X	246.40887	34.91458	161.30737	8.98368	0.1515133	0.28051194	2.3111873	20	—	—
53570 2000 CR ₃₆	15.6	X	179.00744	174.74649	320.78880	1.56131	0.0898600	0.26473503	2.4021223	20	8 27.3	19.1
53571 2000 CY ₃₆	15.9	X	213.21143	191.70473	305.62001	3.11628	0.1007355	0.26946604	2.3739234	20	10 6.9	19.2
53572 2000 CM ₃₈	16.0	X	149.55633	160.72854	325.74070	4.80678	0.0230833	0.30984189	2.1629308	20	7 12.8	18.4
53573 2000 CW ₃₈	14.2	X	303.83774	326.58254	129.29338	9.82263	0.0919455	0.18173339	3.0868313	20	12 2.6	18.2
53574 2000 CH ₄₁	16.0	X	241.75888	31.59125	345.35874	2.88664	0.1988730	0.30861944	2.1686386	20	5 18.0	19.2
53575 2000 CN ₄₃	14.8	X	12.15804	88.22534	227.89428	5.05365	0.1476152	0.26758715	2.3850229	20	10 9.8	17.2
53576 2000 CS ₄₇	15.6	X	327.83687	334.29638	270.85156	5.54864	0.1409579	0.29798733	2.2199210	20	3 12.7	17.8
53577 2000 CT ₄₇	15.9	X	236.53990	228.85784	277.19501	4.80388	0.1771087	0.27480224	2.3430912	20	11 7.6	18.7
53578 2000 CM ₄₈	15.4	X	220.63345	339.37952	221.40068	4.97691	0.1066087	0.27823358	2.3237872	20	—	—
53579 2000 CN ₄₈	15.4	X	270.73405	43.92060	248.51177	5.48680	0.1421066	0.29707793	2.2244490	20	2 29.9	18.6
53580 2000 CR ₄₈	15.1	X	212.28598	251.51249	271.81543	6.01008	0.0660960	0.27306198	2.3530359	20	11 15.9	18.2
53581 2000 CY ₄₉	15.0	X	146.85449	21.55829	238.73022	5.01090	0.0748143	0.27613419	2.3355505	20	—	—
53582 2000 CZ ₄₉	15.5	X	306.60941	227.92692	288.61741	6.52224	0.0501220	0.28476222	2.2881323	20	—	—
53583 2000 CR ₅₀	16.2	X	57.13132	5.58394	276.26808	1.99481	0.0162182	0.31660232	2.1320300	20	10 17.4	18.6
53584 2000 CF ₅₁	14.9	X	251.31892	359.37851	313.44108	3.91903	0.1054643	0.29779490	2.2208772	20	3 11.3	18.0
53585 2000 CY ₅₂	15.9	X	80.80762	163.38624	291.28248	0.98454	0.1190192	0.29605587	2.2295657	20	2 29.4	18.2
53586 2000 CA ₅₃	15.5	X	196.04968	22.93407	242.95832	1.37255	0.1550450	0.28184529	2.3038924	20	—	—
53587 2000 CD ₅₃	14.5	X	162.15944	136.18729	159.98571	14.09920	0.1296718	0.23342658	2.6123769	20	—	—
53588 2000 CH ₅₃	14.3	X	235.71663	278.83408	330.50358	26.51330	0.0959377	0.23677271	2.5877061	20	—	—
53589 2000 CQ ₅₃	14.9	X	259.69171	319.79227	305.26650	2.93254	0.1273052	0.29000808	2.2604556	20	1 18.6	18.1
53590 2000 CL ₅₄	15.1	X	85.52898	14.48532	317.80080	6.16768	0.1328210	0.27818625	2.3240508	20	—	—
53591 2000 CY ₅₅	16.0	X	281.25395	183.90280	318.21322	1.79176	0.0820499	0.28064262	2.3104698	20	—	—
53592 2000 CH ₅₆	15.7	X	143.78084	49.57579	88.32804	3.77297	0.0683843	0.30905966	2.1665789	20	7 23.9	18.3
53593 2000 CJ ₅₈	14.6	X	42.03515	170.50371	55.25976	6.88143	0.0591304	0.30334700	2.1936950	20	7 7.0	16.9
53594 2000 CK ₆₂	15.5	X	123.32677	195.08378	292.30926	3.93050	0.0587744	0.30437921	2.1887327	20	6 9.3	18.2

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53601 2000 CK ₇₂	16.2	X	185.00601	320.45012	15.79298	2.23655	0.0635645	0.29479271	2.2359301	20	1 30.1	19.1
53602 2000 CL ₇₂	14.8	X	192.64468	53.56738	339.70643	3.77554	0.0636410	0.30268175	2.1969081	20	4 23.1	17.6
53603 2000 CF ₇₅	15.6	X	216.92081	226.52457	94.02417	4.33814	0.2243033	0.29729862	2.2233481	20	2 14.6	19.2
53604 2000 CJ ₇₅	15.4	X	289.29230	186.40500	19.00177	1.09989	0.1302974	0.28812979	2.2702688	20	—	—
53605 2000 CY ₇₆	14.7	X	275.73337	230.55977	351.01173	16.37000	0.1729985	0.23756319	2.5819626	20	—	—
53606 2000 CN ₈₁	15.4	X	318.16332	126.15571	143.34146	4.48030	0.1873693	0.30008132	2.2095818	20	3 30.3	17.6
53607 2000 CV ₈₁	15.7	X	256.43478	115.90883	36.80391	1.49896	0.1451013	0.27827119	2.3235778	20	12 25.3	18.1
53608 2000 CC ₈₂	14.7	X	163.73575	275.85535	345.71705	4.46285	0.0943143	0.27908967	2.3190327	20	—	—
53609 2000 CE ₈₂	15.3	X	315.83616	260.28693	338.76054	4.69711	0.1692520	0.29528828	2.2334278	20	2 13.8	17.7
53610 2000 CM ₈₂	14.3	X	241.14354	316.24003	334.92740	6.17712	0.1567869	0.24449001	2.5329618	20	2 6.2	18.3
53611 2000 CQ ₈₂	15.7	X	312.71467	169.13235	328.28344	2.84507	0.1067626	0.28393697	2.2925638	20	—	—
53612 2000 CD ₈₅	16.0	X	167.68532	51.48243	118.87153	3.07258	0.0729275	0.26793793	2.3829408	20	10 2.9	19.3
53613 2000 CP ₈₅	15.5	X	321.10846	248.98517	51.10903	2.23790	0.1687144	0.30466589	2.1873595	20	5 25.8	17.1
53614 2000 CC ₈₆	15.3	X	223.98103	328.68102	333.56951	6.24223	0.0566811	0.29284822	2.2458168	20	1 31.6	18.3
53615 2000 CF ₈₆	15.1	X	54.87850	245.13580	32.28009	2.30978	0.2015805	0.26426274	2.4049835	20	10 26.9	18.4
53616 2000 CS ₈₆	16.2	X	345.08462	162.43557	357.17119	5.32387	0.0892878	0.29018735	2.2595246	20	—	—
53617 2000 CV ₈₈	15.9	X	241.81622	147.05532	6.21422	5.92159	0.0998925	0.27494250	2.3422943	20	12 7.9	18.6
53618 2000 CJ ₉₂	15.4	X	104.81013	45.42515	144.52270	5.46210	0.1608156	0.25994723	2.4315279	20	8 22.7	18.9
53619 2000 CC ₉₃	14.6	X	37.25306	355.89885	353.74741	14.25067	0.0877424	0.27269345	2.3551554	20	12 26.3	18.0
53620 2000 CN ₉₃	14.6	X	155.10196	158.76558	108.80228	4.86834	0.2149108	0.27236291	2.3570606	20	—	—
53621 2000 CO ₉₃	15.4	X	330.80874	106.02416	98.62933	4.02075	0.1182309	0.29106285	2.2549913	20	1 27.4	17.8
53622 2000 CS ₉₃	13.6	X	76.32797	103.17159	272.47523	10.37581	0.0886168	0.18745824	3.0236605	20	—	—
53623 2000 CT ₉₃	15.5	X	124.14474	138.81877	114.30916	3.07175	0.1920287	0.27156018	2.3617032	20	12 1.6	19.3
53624 2000 CT ₉₅	15.3	X	156.43991	177.05218	159.82293	2.80006	0.1780958	0.23910639	2.5708412	20	1 16.4	19.2
53625 2000 CZ ₉₆	15.6	X	2.16701	52.26098	225.82865	4.72603	0.0755780	0.31208709	2.1525447	20	9 8.2	17.6
53626 2000 CE ₉₇	16.3	X	325.59395	142.28726	351.45302	2.31125	0.1706468	0.28399167	2.2922694	20	—	—
53627 2000 CN ₉₈	14.8	X	216.69631	156.82508	149.32117	4.27354	0.2367313	0.24436803	2.5338046	20	1 31.1	19.3
53628 2000 CW ₁₀₁	14.9	X	149.52146	328.96447	352.53516	8.86278	0.2002852	0.28418273	2.2912418	20	—	—
53629 Andrewpottner	16.1	X	276.84903	245.85731	214.85806	5.66331	0.1949007	0.27574679	2.3377375	20	11 7.2	17.9
53630 2000 CW ₁₁₆	15.1	X	35.96117	262.79103	72.45685	8.14051	0.1330637	0.27285581	2.3542211	20	12 11.0	18.0
53631 2000 CD ₁₁₉	15.5	X	165.32126	307.71401	252.27029	6.24334	0.0877547	0.27152333	2.3619169	20	11 5.4	18.9
53632 2000 CP ₁₂₃	15.6	X	244.47245	307.15789	107.62302	7.09729	0.1044845	0.26592998	2.3949209	20	7 25.8	18.7
53633 2000 DQ	14.9	X	244.29813	225.19378	11.97457	7.65554	0.2086687	0.23493383	2.6011916	20	—	—
53634 2000 DF ₁	14.4	X	258.92718	219.10094	36.78073	5.92155	0.1290632	0.28728468	2.2747189	20	1 6.9	17.7
53635 2000 DZ ₃	15.3	X	238.06932	285.42510	56.18424	4.84031	0.2027997	0.30263145	2.1971515	20	3 31.1	18.7
53636 2000 DD ₁₁	15.6	X	45.98916	16.55081	341.50559	2.62818	0.1919642	0.27918152	2.3185240	20	—	—
53637 2000 DO ₁₁	16.4	X	342.59935	50.40668	35.44555	0.34547	0.1798985	0.28047360	2.3113979	20	—	—
53638 2000 DD ₁₃	15.2	X	75.22304	222.52120	101.25974	1.46849	0.1566137	0.27140972	2.3625760	20	—	—
53639 2000 DJ ₁₃	14.7	X	116.31885	352.51545	329.54871	6.99157	0.1683629	0.28041080	2.3117430	20	—	—
53640 2000 DT ₁₄	15.6	X	198.24737	335.00559	87.13746	2.81587	0.1082241	0.30697854	2.1763598	20	6 10.3	18.3
53641 2000 DD ₁₆	14.6	X	279.28514	218.48749	52.08688	4.63962	0.1173836	0.29204498	2.2499328	20	2 19.6	17.6
53642 2000 DH ₁₈	15.6	X	243.96801	250.24383	19.01639	2.03060	0.0849679	0.24246164	2.5470689	20	1 17.3	19.3
53643 2000 DL ₁₈	15.7	X	341.83247	197.89540	125.25155	3.46132	0.0935485	0.26342250	2.4100949	20	8 20.4	17.9
53644 2000 DS ₂₂	15.7	X	118.66926	23.87604	285.93544	3.21035	0.1851513	0.28057154	2.3108600	20	—	—
53645 2000 DY ₂₂	15.2	X	40.77922	0.24932	334.86123	7.39807	0.2120121	0.27487089	2.3427011	20	12 28.6	18.5
53646 2000 DS ₂₃	15.1	X	31.72209	194.49171	140.98182	6.36544	0.1695157	0.27343301	2.3500968	20	12 12.4	18.1
53647 2000 DE ₂₆	15.2	X	117.16379	256.59772	15.64325	2.15142	0.1921854	0.27283210	2.3543575	20	12 18.5	18.9
53648 2000 DF ₂₈	16.1	X	240.54776	169.17964	120.75162	1.09624	0.1702881	0.29256562	2.2472628	20	1 28.4	19.6
53649 2000 DH ₄₀	16.1	X	172.46506	329.22902	181.02422	2.37510	0.1557371	0.26611097	2.3938349	20	9 6.2	19.9
53650 2000 DD ₄₁	15.3	X	118.70987	188.46378	156.45222	7.06712	0.1455685	0.28509540	2.2863493	20	—	—
53651 2000 DX ₄₂	15.1	X	169.44631	290.51946	9.89869	3.32148	0.1681503	0.23508129	2.6001037	20	—	—
53652 2000 DZ ₄₂	16.2	X	268.97335	172.93975	17.88967	2.27495	0.0922006	0.28335669	2.2956926	20	—	—
53653 2000 DG ₄₃	15.1	X	52.25310	149.47953	144.37845	2.62670	0.2114645	0.26620324	2.3932817	20	11 16.8	18.5
53654 2000 DD ₅₁	14.6	X	75.66396	19.92998	348.23752	14.31304	0.1426222	0.23365904	2.6106441	20	—	—
53655 2000 DC ₅₂	14.8	X	185.65216	356.20151	347.92621	6.53050	0.2454608	0.24486667	2.5303636	20	2 22.8	19.1
53656 2000 DV ₅₂	15.8	X	253.91185	74.44967	286.82413	0.83786	0.0509810	0.25652143	2.4531284	20	5 30.8	19.1
53657 2000 DG ₅₃	16.2	X	160.56762	277.65890	175.69605	4.47738	0.0458607	0.30528375	2.1844072	20	6 9.2	19.0
53658 2000 DQ ₅₆	15.1	X	82.82683	183.28065	158.59878	3.96263	0.2168785	0.27882251	2.3205138	20	—	—
53659 2000 DP ₅₇	15.5	X	35.93888	51.21131	224.14104	2.16118	0.2083681	0.21216488	2.7841142	20	9 20.3	18.8
53660 2000 DT ₆₁	15.1	X	218.01543	150.90985	158.73552	6.28862	0.1645519	0.24209376	2.5496485	20	2 6.1	19.2
53661 2000 DU ₆₂	14.9	X	123.29318	335.89252	334.50379	4.82868	0.0368764	0.27953871	2.3165486	20	—	—
53662 2000 DV ₆₂	15.4	X	207.75399	58.94384	330.13261	2.06038	0.1491916	0.30381892	2.1914228	20	5 3.2	18.5
53663 2000 DX ₆₃	16.0	X	249.55312	229.80545	308.41336	3.46209	0.0772770	0.27871950	2.3210855	20	—	—
53664 2000 DJ ₆₄	15.8	X	133.03798	142.50782	181.07679	5.53999	0.0749934	0.28226221	2.3016232	20	—	—
53665 2000 DV ₆₈	15.6	X	196.28509	243.30574	336.77439	3.91307	0.1338154	0.27561955	2.3384569	20	—	—
53666 2000 DK ₇₀	15.7	X	218.10607	141.62305	151.32031	5.66251	0.1716180	0.28766748	2.2727005	20	1 12.0	19.2
53667 2000 DT ₇₀	16.2	X	245.97990	224.88259	165.77868	3.04317	0.1338098	0.30824152	2.1704109	20	6 20.3	18.8
53668 2000 DY ₇₀	15.1	X	220.69447	35.09210	225.85604	1.64043	0.1408552	0.23485649	2.6017626	20	—	—
53669 2000 DD ₇₁	15.8	X	295.49081	138.25423	332.49080	4.90963	0.1278823	0.27728088	2.3291070	20	—	—
53670 2000 DJ ₇₁	16.6	X	107.07716	268.15829	187.97060	2.53490	0.1169179	0.29858938	2.2169359	20	4 11.6	19.0
53671 2000 DO ₇₁	15.0	X	327.34232	172.91148	173.33118	4.29602	0.1968040	0.26266591	2.4147207	20	8 22.3	16.7
53672 2000 DS ₇₁	15.8	X	243.56849	334.89326	336.25004	2.78515	0.1741606	0.29376354	2.2411493	20	2 26.5	19.2
53673 2000 DT ₇₁	15.2	X	345.22275	323.95171	346.92089	2.58070	0.1779756	0.25847223	2.4407697	20	8 8.2	17.1
53674 2000 DU ₇₁	15.3	X	285.42178	274.73563	346.49241	1.55091	0.1044399	0.24417968	2.5351074	20	2 20.2	18.8
53675 2000 DC ₇₃	15.5	X	73.02199	192.60109								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53681 2000 DE ₇₆	15.2	X	193.38071	285.09337	346.09233	7.16719	0.1177620	0.23319694	2.6140917	20	—	—
53682 2000 DO ₇₇	14.8	X	350.94313	318.13065	21.37011	2.87172	0.1740657	0.26521961	2.3991955	20	10 9.2	16.6
53683 2000 DR ₇₇	14.7	X	277.82884	174.43638	162.20014	13.49673	0.1296443	0.20627490	2.8368636	20	5 20.9	18.9
53684 2000 DA ₇₈	14.8	X	210.29283	321.64607	349.73336	5.13353	0.1595330	0.28956364	2.2627680	20	1 29.3	18.3
53685 2000 DX ₇₈	15.0	X	343.94058	91.26794	237.83394	1.54264	0.1944975	0.26117606	2.4238950	20	9 4.7	16.8
53686 2000 DV ₇₉	15.8	X	261.39250	240.23301	8.38540	2.62774	0.1212415	0.29081011	2.2562976	20	—	—
53687 2000 DP ₈₀	15.2	X	209.97661	245.94174	38.09764	3.72245	0.1552041	0.24017424	2.5632154	20	—	—
53688 2000 DV ₈₀	15.3	X	218.77007	174.03136	98.47449	4.72801	0.1521156	0.28786990	2.2716350	20	—	—
53689 2000 DO ₈₁	15.8	X	146.04453	208.97395	20.00871	4.24873	0.1242461	0.27238681	2.3569227	20	11 21.0	19.3
53690 2000 DK ₈₃	14.9	X	45.87219	3.98390	86.48206	2.48264	0.0577144	0.19355420	2.9598360	20	1 12.9	18.5
53691 2000 DM ₈₃	15.3	X	294.72741	156.18990	109.95173	4.62004	0.1905559	0.29600681	2.2298120	20	2 20.9	18.3
53692 2000 DQ ₈₄	15.3	X	64.94804	62.33668	133.17079	7.17785	0.0747675	0.25821361	2.4423991	20	6 27.4	18.3
53693 2000 DC ₈₅	15.5	X	122.79640	306.50655	64.11628	5.72256	0.1681641	0.29177540	2.2513185	20	1 14.0	18.1
53694 2000 DV ₈₅	14.9	X	228.18369	222.09798	71.05332	5.68021	0.2208263	0.24219614	2.5489300	20	1 26.7	19.3
53695 2000 DJ ₈₆	15.1	X	161.34413	227.22172	79.53477	5.00830	0.1240652	0.28458000	2.2891090	20	—	—
53696 2000 DS ₈₆	15.0	X	333.53304	199.23047	111.19463	8.09093	0.0284664	0.26047700	2.4282299	20	7 18.2	17.9
53697 2000 DQ ₈₆	15.7	X	246.74021	117.94862	48.78731	5.18095	0.1234296	0.27789839	2.3256554	20	—	—
53698 2000 DW ₉₃	15.7	X	1.36497	135.13260	120.65266	6.74325	0.0884077	0.25650241	2.4532497	20	6 12.5	18.2
53699 2000 DB ₉₄	15.6	X	133.06894	134.78453	105.32158	3.04204	0.1632109	0.27084145	2.3658796	20	11 23.3	19.3
53700 2000 DU ₉₄	16.3	X	89.11845	119.12385	85.99334	2.01104	0.0765221	0.31008338	2.1618077	20	8 20.7	18.7
53701 2000 DA ₉₈	15.6	X	94.60315	47.47039	108.25204	4.58291	0.0657621	0.30481759	2.1866337	20	6 12.5	18.0
53702 2000 DW ₁₀₀	15.0	X	128.69805	300.74130	23.14208	6.34668	0.1631508	0.28224563	2.3017133	20	—	—
53703 2000 DA ₁₀₁	14.8	X	104.80684	310.11493	16.32182	7.35904	0.1372553	0.27950348	2.3167432	20	—	—
53704 2000 DN ₁₀₁	15.6	X	247.62599	29.14743	119.57296	7.15740	0.0582096	0.27557882	2.3386873	20	12 18.0	18.2
53705 2000 DH ₁₀₂	15.4	X	249.79768	171.04524	111.43467	6.19947	0.1740305	0.29112855	2.2544520	20	1 27.9	18.8
53706 2000 DB ₁₀₃	15.6	X	352.23842	281.71039	91.08377	5.17404	0.1499074	0.27216126	2.3582247	20	11 30.8	17.8
53707 2000 DC ₁₀₃	14.6	X	203.23871	279.72064	13.85936	9.39740	0.1985617	0.23729150	2.5839331	20	1 8.6	19.1
53708 2000 DZ ₁₀₃	15.9	X	292.77136	315.20059	37.32253	5.89816	0.0124820	0.25974553	2.4327865	20	7 21.2	18.9
53709 2000 DS ₁₀₄	15.7	X	106.46822	188.44678	108.03782	6.47276	0.1265025	0.27403812	2.3474448	20	—	—
53710 2000 DZ ₁₀₇	16.2	X	15.51352	196.11172	68.62527	2.28298	0.0969675	0.30804948	2.1713128	20	7 28.4	18.1
53711 2000 DP ₁₀₈	16.1	X	268.64061	306.99134	175.78834	3.24642	0.1132185	0.27647177	2.3336489	20	12 7.2	18.4
53712 2000 DR ₁₀₉	15.2	X	134.52075	243.00140	44.32750	6.55975	0.1290959	0.22768094	2.6561439	20	—	—
53713 2000 DF ₁₁₀	16.8	X	101.18998	317.04745	229.76225	0.68369	0.0769702	0.30794540	2.1718020	20	8 8.7	19.5
53714 2000 EY	14.6	X	179.97140	348.96483	6.22652	3.07844	0.1737904	0.28984525	2.2613021	20	2 25.3	18.0
53715 2000 EB ₂	16.3	X	295.40703	167.48865	165.64290	6.06049	0.0418502	0.30687191	2.1768640	20	6 22.6	18.6
53716 2000 EU ₇	15.8	X	231.53454	161.54336	130.37586	3.14996	0.1767696	0.29028209	2.2590329	20	1 22.6	19.1
53717 2000 EG ₁₀	16.1	X	124.72349	60.76639	210.40332	1.25706	0.0491127	0.27344660	2.3508289	20	12 24.0	19.3
53718 2000 EB ₁₇	16.1	X	217.08364	193.00201	6.78084	2.31701	0.1557307	0.27569330	2.3380398	20	12 29.3	18.9
53719 2000 EP ₁₉	15.1	X	34.63283	323.65887	111.11478	8.09158	0.0760106	0.28466832	2.2886355	20	—	—
53720 2000 EN ₂₄	15.9	X	282.70532	77.52683	358.71083	4.57821	0.1195541	0.26970771	2.3725051	20	10 19.8	18.2
53721 2000 EO ₂₄	16.1	X	159.88648	342.15870	189.57326	1.04578	0.1208573	0.26457965	2.4030626	20	9 22.6	19.6
53722 2000 ER ₂₇	15.8	X	152.09678	196.34460	70.07096	7.25489	0.0859399	0.27853354	2.3221185	20	—	—
53723 2000 EY ₂₉	15.4	X	124.83384	199.53147	129.12185	7.39581	0.1321333	0.28328086	2.2961023	20	—	—
53724 2000 ET ₃₀	16.2	X	296.92402	203.21341	51.50376	7.30342	0.0511144	0.29534693	2.2331321	20	3 2.9	18.9
53725 2000 EG ₃₂	15.0	X	353.14380	230.32404	72.79896	3.46395	0.1987254	0.26030596	2.4292934	20	8 17.6	16.8
53726 2000 EL ₃₄	15.4	X	334.35103	202.81180	60.04995	9.14876	0.0396844	0.25213399	2.4815048	20	5 10.8	18.4
53727 2000 ET ₃₄	13.8	X	207.99484	170.02989	107.96768	17.85180	0.0751903	0.23409857	2.6073753	20	—	—
53728 2000 ET ₃₆	15.3	X	320.03614	353.61516	158.62334	3.32890	0.1142876	0.28432117	2.2904980	20	—	—
53729 2000 EF ₃₇	15.6	X	53.77155	325.05078	183.05699	7.29736	0.0885088	0.29646530	2.2275124	20	3 31.2	17.8
53730 2000 EL ₃₇	15.4	X	112.23277	249.95403	311.10701	2.18900	0.1426753	0.26127873	2.4232600	20	9 11.7	19.0
53731 2000 EL ₃₉	14.5	X	118.52330	205.85470	9.58187	6.73382	0.0372363	0.26435917	2.4043986	20	10 1.7	17.6
53732 2000 EZ ₄₀	16.1	X	123.48014	138.42933	23.98662	1.48784	0.1311726	0.25820743	2.4424381	20	8 3.7	19.6
53733 2000 EA ₄₅	16.2	X	147.86655	196.90126	203.06637	4.33370	0.0702761	0.29400473	2.2399234	20	3 9.4	19.1
53734 2000 EB ₄₆	14.9	X	5.30192	61.69590	347.06943	6.33322	0.1326137	0.27628189	2.3347180	20	—	—
53735 2000 EQ ₄₇	14.8	X	220.18421	286.50168	15.98275	4.10735	0.1758171	0.23763007	2.5814781	20	2 1.8	19.0
53736 2000 EJ ₄₈	15.5	X	358.33419	158.63216	15.43969	6.92101	0.0328605	0.29079973	2.2563513	20	2 9.5	18.1
53737 2000 EQ ₄₈	15.3	X	86.76928	36.93846	212.26035	1.11805	0.1363991	0.26213333	2.4179903	20	10 17.5	18.8
53738 2000 EZ ₄₈	16.0	X	146.65223	110.10320	334.47449	3.07824	0.0871128	0.30020798	2.2089602	20	5 10.6	19.0
53739 2000 EB ₄₉	15.4	X	0.39691	353.16618	282.98700	1.26691	0.0748485	0.25461712	2.4653447	20	7 10.8	17.8
53740 2000 EN ₅₀	14.3	X	323.17385	39.49206	359.35079	26.28838	0.2870881	0.22320737	2.6915164	20	10 11.8	16.5
53741 2000 ER ₅₀	16.1	X	47.70304	237.71026	177.36712	4.42964	0.1464950	0.28371738	2.2937465	20	—	—
53742 2000 ED ₅₅	14.5	X	163.82838	225.82636	68.24221	6.86805	0.1229931	0.27743424	2.3282486	20	—	—
53743 2000 EX ₅₅	15.7	X	20.96100	162.24561	151.47246	7.42748	0.1356724	0.26702326	2.3883794	20	10 23.4	18.4
53744 2000 ET ₅₆	14.2	X	106.61330	297.23572	7.08808	12.38448	0.1664235	0.22446588	2.6814467	20	—	—
53745 2000 EG ₅₇	15.7	X	143.33904	301.65471	214.26597	0.69345	0.1257312	0.26113174	2.4241693	20	8 15.2	19.3
53746 2000 EM ₅₇	16.4	X	158.10351	306.94291	247.89370	0.50200	0.1273757	0.26732547	2.3865790	20	10 20.6	19.9
53747 2000 EQ ₅₇	15.9	X	271.77310	338.18717	237.42321	1.36531	0.1709001	0.28431650	2.2905231	20	—	—
53748 2000 EW ₅₇	15.6	X	60.90258	313.96495	327.22444	2.77319	0.1834994	0.26327042	2.4110229	20	11 4.0	19.0
53749 2000 EL ₅₈	14.5	X	86.61401	87.77249	174.72280	9.11484	0.1234308	0.21565731	2.7539745	20	10 27.8	18.7
53750 2000 EC ₆₁	16.4	X	132.06222	264.97122	190.96337	3.54403	0.0616633	0.30021508	2.2089254	20	5 7.4	19.1
53751 2000 EN ₆₂	16.1	X	290.36372	268.37727	148.78451	2.95145	0.1148665	0.26843715	2.3799854	20	10 7.9	18.6
53752 2000 EC ₆₄	15.4	X	127.02104	333.12489	16.74886	3.27082	0.1758632	0.28334515	2.2957549	20	—	—
53753 2000 EV ₆₆	15.6	X	27.76467	296.12009	26.07078	2.18323	0.1435839	0.26497037	2.4006997	20	11 11.9	18.4
53754 2000 ED ₆₉	15.4	X	331.38354	28.96592	11.63174	7.17235	0.1156207	0.27042786	2.3682912	20	11 26.5	17.9
53755 2000 EA ₇₀												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53761 2000 EB ₇₇	16.0	X	180.28627	351.75699	75.26421	6.25326	0.0456305	0.30444506	2.1884171	20	5 27.7	18.7
53762 2000 EM ₇₉	15.4	X	99.75210	203.26978	12.19790	6.19949	0.0797949	0.26341515	2.4101397	20	9 13.6	18.6
53763 2000 EH ₈₀	15.9	X	305.06983	152.04665	21.24407	3.28749	0.0894405	0.28592273	2.2819367	20	—	—
53764 2000 EV ₈₁	15.2	X	197.24004	236.22118	92.99272	4.20337	0.2207229	0.29114145	2.2545854	20	2 9.8	19.0
53765 2000 EZ ₈₂	14.8	X	157.45918	246.45894	18.93333	13.10942	0.1542344	0.22719341	2.6599424	20	—	—
53766 2000 EG ₈₃	15.3	X	123.89246	232.84253	51.09720	6.31423	0.1268696	0.27402810	2.3475020	20	—	—
53767 2000 EV ₈₄	14.0	X	28.07083	152.57249	173.40461	18.65234	0.1777407	0.22049932	2.7135087	20	11 16.2	17.7
53768 2000 EW ₈₄	15.6	X	211.89834	341.12752	318.90434	8.57234	0.0732545	0.29016190	2.2596567	20	1 15.2	18.6
53769 2000 EU ₈₅	15.9	X	256.90876	218.44462	50.54363	3.99860	0.1220839	0.28890353	2.2662135	20	1 22.0	19.1
53770 2000 EA ₈₆	15.4	X	67.39685	87.97706	106.13248	3.53525	0.1314470	0.25413692	2.4684493	20	7 8.3	18.5
53771 2000 EL ₈₆	16.0	X	62.67962	2.58454	254.98621	3.32639	0.1937461	0.30981852	2.1630396	20	10 14.5	18.9
53772 2000 EJ ₈₇	15.4	X	50.17018	234.05992	334.35926	3.72437	0.1079675	0.25381135	2.4705597	20	6 28.9	18.3
53773 2000 EA ₉₂	14.9	X	55.08437	232.88071	329.93433	5.80137	0.0976781	0.25381444	2.4705397	20	6 26.9	17.9
53774 2000 EL ₉₂	14.7	X	102.37097	284.15628	343.45932	11.97229	0.1813791	0.21816459	2.7328337	20	11 17.6	19.3
53775 2000 EN ₉₂	15.9	X	78.46336	180.04116	272.61601	2.73792	0.0336293	0.29188819	2.2507385	20	2 10.6	18.5
53776 2000 EO ₉₂	14.2	X	135.45721	156.21498	198.14203	14.41787	0.2038922	0.23635306	2.5907683	20	1 17.4	18.4
53777 2000 EP ₉₂	15.2	X	67.90221	130.75144	335.69653	8.12963	0.0443248	0.29249389	2.2476301	20	2 17.3	17.6
53778 2000 ER ₉₂	15.1	X	10.53820	298.48287	329.35234	5.98939	0.1972417	0.30273216	2.1966642	20	8 6.0	16.4
53779 2000 EV ₉₃	15.0	X	294.53439	19.53189	199.08526	14.19383	0.1393147	0.23944455	2.5684202	20	1 2.2	18.9
53780 2000 ED ₉₄	14.8	X	190.42951	41.12343	214.28207	12.51880	0.1321417	0.22996241	2.6385469	20	—	—
53781 2000 EY ₉₄	15.5	X	174.78356	323.95267	268.48993	4.29177	0.1833372	0.27238588	2.3569280	20	12 20.4	19.0
53782 2000 EZ ₉₄	15.4	X	5.81577	322.99688	259.25489	4.42253	0.1278957	0.29777563	2.2209730	20	4 24.8	17.1
53783 2000 EC ₉₅	14.2	X	139.46128	337.74565	304.55906	6.40717	0.1123518	0.22560233	2.6724340	20	—	—
53784 2000 EJ ₉₇	15.4	X	2.28070	239.11303	225.67343	6.11581	0.0476234	0.28176032	2.3043556	20	—	—
53785 2000 EL ₉₇	14.9	X	209.59448	311.58927	270.51600	5.51625	0.0575964	0.27569133	2.3380510	20	—	—
53786 2000 EM ₉₇	14.3	X	326.14549	63.87583	271.36148	2.95206	0.1930906	0.25569709	2.4583980	20	7 30.3	16.1
53787 2000 EX ₁₀₁	14.9	X	357.17009	351.21409	338.01629	4.45333	0.2030355	0.26280410	2.4138742	20	10 7.5	17.0
53788 2000 EW ₁₀₃	14.4	X	6.43353	114.38992	197.33946	13.34173	0.0318213	0.25965241	2.4333681	20	9 5.7	17.5
53789 2000 ED ₁₀₄	17.3	X	334.15095	218.34346	190.02751	40.78362	0.2691273	0.61422067	1.3706285	20	—	—
53790 2000 EV ₁₀₅	14.3	X	348.00047	35.81632	118.95362	10.07661	0.0765922	0.18931755	3.0038308	20	1 11.2	18.3
53791 2000 EF ₁₀₆	15.6	X	221.78060	185.61448	65.37805	7.53090	0.1045458	0.28156666	2.3054121	20	—	—
53792 2000 EU ₁₀₉	15.0	X	95.27001	236.19895	104.67760	4.95577	0.1612311	0.27455910	2.3444744	20	—	—
53793 2000 EJ ₁₁₀	15.8	X	225.83014	100.46190	83.21322	5.58776	0.0385264	0.27513127	2.3412228	20	—	—
53794 2000 EZ ₁₁₀	15.5	X	288.21673	46.27639	83.36204	6.33732	0.0820504	0.27731047	2.3289413	20	—	—
53795 2000 EB ₁₁₁	14.0	X	217.76184	253.53199	51.86530	9.53205	0.0708872	0.19194955	2.9763088	20	2 13.1	18.6
53796 2000 EK ₁₁₁	15.8	X	339.41737	184.31288	67.83396	7.88109	0.1820668	0.29736131	2.2230356	20	4 16.3	17.5
53797 2000 EL ₁₁₁	13.8	X	78.31801	194.81912	112.45916	10.83133	0.2760125	0.21899450	2.7259259	20	12 24.5	18.5
53798 2000 ER ₁₁₂	14.8	X	227.50588	77.72062	212.54383	6.15863	0.1437009	0.28811063	2.2703694	20	1 16.4	18.3
53799 2000 EP ₁₁₈	14.8	X	7.53824	1.13642	26.35950	11.22971	0.1806775	0.27876880	2.3208119	20	—	—
53800 2000 EZ ₁₁₈	15.8	X	79.97639	18.68374	73.48094	8.03603	0.0553246	0.29510789	2.2343378	20	2 19.5	18.3
53801 2000 EN ₁₁₉	15.0	X	24.46527	202.30911	86.98543	7.67735	0.1195724	0.26310705	2.4120208	20	9 22.1	17.8
53802 2000 EQ ₁₂₀	14.1	X	111.86944	225.30028	50.95970	7.51461	0.2822473	0.22203529	2.7009800	20	12 13.2	19.0
53803 2000 ER ₁₂₁	14.6	X	76.79797	187.60176	35.72764	9.90802	0.0873387	0.21368249	2.7709164	20	8 25.3	18.6
53804 2000 ES ₁₂₇	15.7	X	277.06470	182.21651	77.03845	4.71754	0.1513025	0.29046035	2.2581086	20	1 28.2	18.9
53805 2000 EH ₁₂₈	15.6	X	178.16685	170.64918	113.03778	3.19205	0.2180723	0.27920727	2.3183815	20	—	—
53806 2000 EG ₁₃₀	15.8	X	131.47919	128.46896	29.91263	2.84035	0.0832391	0.30866969	2.1684033	20	8 8.6	18.7
53807 2000 EV ₁₃₀	15.8	X	177.48286	180.50254	37.74956	2.58443	0.1662624	0.27223330	2.3578086	20	12 6.5	19.5
53808 2000 EH ₁₃₂	16.4	X	79.60668	233.93850	203.98667	2.72948	0.1016236	0.29154482	2.2525053	20	1 31.2	18.8
53809 2000 EH ₁₃₄	15.9	X	128.04605	188.53035	83.64294	7.26311	0.1196572	0.27104848	2.3646747	20	12 27.8	19.3
53810 2000 EU ₁₃₄	15.0	X	178.47561	74.27552	156.21544	7.25030	0.1456741	0.22423862	2.6832580	20	12 15.8	19.3
53811 2000 EV ₁₃₅	15.6	X	349.80744	18.32741	67.94312	7.07866	0.0641199	0.27919423	2.3184537	20	—	—
53812 2000 EL ₁₃₆	14.2	X	122.32339	307.03654	8.96731	11.46265	0.1952110	0.22879574	2.6475089	20	—	—
53813 2000 EM ₁₃₆	14.6	X	141.43290	173.52442	152.99420	7.59485	0.2391172	0.28167970	2.3047952	20	—	—
53814 2000 EH ₁₃₇	16.3	X	145.48670	31.97954	26.36328	3.19434	0.1197973	0.29812815	2.2192219	20	4 7.3	19.3
53815 2000 EQ ₁₃₇	14.5	X	166.25003	53.64142	142.69131	6.48345	0.1764003	0.26609781	2.3939138	20	10 30.9	18.3
53816 2000 EV ₁₃₇	14.2	X	231.24240	52.10062	161.07360	8.10944	0.1343694	0.22732779	2.6588940	20	—	—
53817 2000 EO ₁₃₈	14.5	X	65.01421	226.83706	43.07996	17.77829	0.1739185	0.21315807	2.7754593	20	10 20.6	18.5
53818 2000 EV ₁₃₈	14.3	X	182.33987	222.17808	70.31728	13.19845	0.1427569	0.23196149	2.6233654	20	—	—
53819 2000 ER ₁₃₉	13.5	X	15.84471	49.57738	49.49077	11.12728	0.1139321	0.18712811	3.0272157	20	—	—
53820 2000 EA ₁₄₀	15.6	X	298.86091	113.31766	302.18940	2.19785	0.0522467	0.26867654	2.3785715	20	10 23.5	18.3
53821 2000 ET ₁₄₄	15.5	X	118.81900	128.69877	263.72786	3.12802	0.1226290	0.28969764	2.2620702	20	1 30.0	18.2
53822 2000 EW ₁₄₄	15.3	X	25.54635	345.77548	294.57887	1.93835	0.1809759	0.25775198	2.4453144	20	9 13.9	17.8
53823 2000 ED ₁₄₅	15.8	X	115.03640	145.63136	315.94406	3.23439	0.0590445	0.29813528	2.2191865	20	4 19.4	18.5
53824 2000 EV ₁₄₅	15.5	X	313.95917	65.99961	78.06774	6.68154	0.0519713	0.28373808	2.2936350	20	—	—
53825 2000 EB ₁₄₈	15.5	X	22.41939	3.18889	178.59704	6.07244	0.1253104	0.24634264	2.5202463	20	4 2.1	17.8
53826 2000 ER ₁₄₈	15.4	X	236.52620	265.33182	14.69805	5.06684	0.1797205	0.28529088	2.2853048	20	1 14.1	19.0
53827 2000 EH ₁₄₉	15.5	X	301.09713	203.22510	128.12375	4.19773	0.0721110	0.25913935	2.4365789	20	6 22.7	18.2
53828 2000 ED ₁₅₅	14.7	X	84.76113	308.14998	320.39890	6.95557	0.1587273	0.21641042	2.7475817	20	11 1.0	19.0
53829 2000 EN ₁₅₆	15.3	X	217.36894	101.64879	78.84025	11.29795	0.0607670	0.27680543	2.3317732	20	12 18.1	18.0
53830 2000 ED ₁₅₇	14.1	X	70.25067	255.42896	92.77054	13.20507	0.1840398	0.22426160	2.6830748	20	—	—
53831 2000 ED ₁₅₈	14.9	X	321.92029	8.30940	208.94013	15.63807	0.0890029	0.24252374	2.5466341	20	2 7.7	18.5
53832 2000 EQ ₁₅₈	15.2	X	236.20930	9.65389	244.66536	9.54480	0.1616178	0.28339081	2.2955084	20	—	—
53833 2000 EB ₁₆₅	15.3	X	147.26244	168.81945	164.94980	6.41345	0.1323044	0.28470336	2.2884477	20	—	—
53834 2000 ES ₁₇₉	14.9	X	173.25990	181.46742	69.37697	11.70294	0.2160215	0.22810671	2.6528377	20	12 30.6	19.3
53835 20												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53841 2000 FX	15.3	X	342.64427	186.88770	160.63926	3.25694	0.1872373	0.26256980	2.4153099	20	10 4.7	17.1
53842 2000 FT ₉	16.7	X	275.97206	266.55716	180.11943	1.97612	0.1724311	0.27035280	2.3687295	20	10 17.3	19.1
53843 Antjiekrog	14.1	X	121.17299	218.63695	72.59722	10.02613	0.0764311	0.27195145	2.3594374	20	—	—
53844 2000 FO ₁₁	14.2	X	246.35602	183.07078	77.53476	14.55016	0.1223415	0.23993328	2.5649312	20	1 6.8	18.2
53845 2000 FZ ₁₁	14.4	X	63.72350	178.50069	66.37676	9.94269	0.2501139	0.21138610	2.7909482	20	9 29.1	18.6
53846 2000 FD ₁₃	14.8	X	62.49261	193.90304	98.89931	15.23075	0.1828841	0.21630659	2.7484608	20	11 17.7	19.0
53847 2000 FJ ₁₃	14.9	X	72.80575	136.47726	143.58025	9.52665	0.1376494	0.21694423	2.7430727	20	11 6.7	19.1
53848 2000 FT ₁₃	13.4	X	151.69861	249.17901	60.78684	18.77311	0.1228236	0.18093634	3.0958899	20	—	—
53849 2000 FU ₁₅	15.6	X	89.95219	317.72334	99.42327	4.13753	0.1316013	0.29094463	2.2556021	20	1 24.3	17.7
53850 2000 FP ₁₆	15.5	X	128.30971	61.71595	89.38241	7.38740	0.0704498	0.25805743	2.4433844	20	7 20.1	18.8
53851 2000 FR ₁₆	13.9	X	77.50261	331.13660	40.13426	14.59653	0.1726448	0.23289499	2.6163507	20	—	—
53852 2000 FM ₁₇	15.7	X	186.86772	299.60960	96.38824	7.01519	0.1665005	0.30044483	2.2077991	20	4 25.7	19.1
53853 2000 FN ₁₈	15.1	X	288.47845	307.54241	125.50922	9.86620	0.0972348	0.22077213	2.7112728	20	10 22.4	18.5
53854 2000 FB ₁₉	15.2	X	41.76732	164.08485	131.55491	12.85992	0.0361794	0.26433677	2.4045344	20	10 15.2	18.4
53855 2000 FT ₁₉	15.1	X	116.64376	177.22105	104.87303	7.68718	0.1080196	0.27186983	2.3599096	20	12 29.0	18.4
53856 2000 FF ₂₁	15.6	X	68.42154	359.19806	61.56675	10.50339	0.1146772	0.28743051	2.2739494	20	—	—
53857 2000 FQ ₂₁	14.2	X	183.81224	193.94611	142.73539	14.57092	0.2574378	0.23843099	2.5756939	20	2 12.7	18.6
53858 2000 FT ₂₂	15.8	X	7.85192	121.33529	26.80600	6.63820	0.0721158	0.28918533	2.2647410	20	1 13.1	18.2
53859 2000 FZ ₂₃	15.1	X	113.60503	267.94091	130.83790	12.95036	0.0325769	0.23880958	2.5729709	20	1 26.9	18.4
53860 2000 FV ₂₅	15.9	X	254.43835	322.79259	112.93186	3.06406	0.0955208	0.26446157	2.4037779	20	9 9.6	18.7
53861 2000 FW ₂₅	14.8	X	345.30042	342.79484	37.18545	7.68139	0.1482190	0.26828434	2.3808891	20	11 25.2	17.1
53862 2000 FA ₂₆	14.5	X	51.03410	279.73695	60.18547	3.04705	0.0932645	0.22211774	2.7003116	20	12 17.7	18.1
53863 2000 FJ ₂₆	15.0	X	128.94351	82.90018	89.04112	3.18642	0.1260469	0.26004140	2.4309408	20	8 23.9	18.7
53864 2000 FM ₂₈	16.1	X	295.61283	244.12630	354.17873	5.40914	0.1254286	0.28919118	2.2647105	20	1 25.8	19.0
53865 2000 FS ₂₉	14.9	X	188.29666	332.62714	15.00210	5.65405	0.1302020	0.24086049	2.5583444	20	2 27.5	18.9
53866 2000 FK ₃₀	15.8	X	178.91590	51.17553	53.45395	4.14110	0.1034456	0.30695970	2.1764489	20	7 19.3	18.8
53867 2000 FL ₃₀	15.0	X	281.46675	67.50613	152.67435	3.38275	0.1740680	0.23623660	2.5916196	20	—	—
53868 2000 FP ₃₀	15.2	X	157.46583	112.03332	80.44491	3.23053	0.1192737	0.26582886	2.3955282	20	10 18.6	18.7
53869 2000 FS ₃₀	15.4	X	120.79416	222.28337	88.12707	5.13271	0.0869439	0.22655719	2.6649198	20	—	—
53870 2000 FT ₃₀	14.4	X	286.58709	291.62678	51.45532	7.24541	0.1382520	0.25354531	2.4722876	20	6 5.3	17.4
53871 2000 FN ₃₁	14.5	X	137.61500	333.45802	59.75697	9.45973	0.1661973	0.29398227	2.2400375	20	3 6.2	17.7
53872 2000 FG ₃₂	15.6	X	253.50217	155.43128	146.66544	4.81577	0.1716256	0.29175976	2.2513989	20	2 25.2	18.8
53873 2000 FS ₃₂	15.8	X	197.60030	134.12188	40.02414	5.94472	0.0742506	0.26954432	2.3734637	20	11 10.6	18.9
53874 2000 FB ₃₃	13.9	X	155.24854	246.11313	109.09178	15.48646	0.1368141	0.23922763	2.5699726	20	2 4.6	17.8
53875 2000 FN ₃₃	13.9	X	133.86429	344.31891	92.01456	13.31416	0.0376846	0.20019529	2.8940108	20	4 20.6	18.2
53876 2000 FY ₃₄	15.2	X	132.98629	251.02628	131.21479	4.24488	0.1879521	0.28892013	2.2661267	20	2 13.8	18.1
53877 2000 FS ₃₅	15.6	X	17.60682	286.31490	152.31327	7.22593	0.1242919	0.28207614	2.3026352	20	—	—
53878 2000 FY ₃₅	14.2	X	185.38507	184.36434	78.24773	14.72590	0.0802368	0.22971735	2.6404231	20	—	—
53879 2000 FE ₃₆	14.1	X	188.42602	305.10955	36.21130	15.15640	0.1986395	0.23955122	2.5676577	20	2 27.6	18.7
53880 2000 FJ ₃₇	14.9	X	116.21813	334.64345	94.23573	5.06167	0.1380576	0.24519387	2.5281120	20	3 26.7	18.4
53881 2000 FM ₃₇	15.3	X	340.30739	342.09961	69.35916	7.58406	0.0994430	0.27225575	2.3576790	20	12 28.7	17.7
53882 2000 FN ₃₈	15.1	X	9.29396	356.16058	40.74260	6.91972	0.1335530	0.27397951	2.3477796	20	—	—
53883 2000 FN ₃₉	16.0	X	42.07798	62.85540	99.02399	2.94725	0.0879128	0.29512930	2.2342298	20	4 2.0	18.0
53884 2000 FT ₃₉	15.3	X	168.13819	52.46962	96.57917	3.65957	0.0509779	0.26128640	2.4232122	20	9 4.9	18.6
53885 2000 FX ₃₉	16.1	X	1.10597	151.43175	46.79040	6.37590	0.1050562	0.29372584	2.2413411	20	3 14.3	18.2
53886 2000 FY ₃₉	14.6	X	269.81034	146.96265	156.97376	6.84471	0.1905147	0.24370000	2.5384330	20	3 18.1	18.3
53887 2000 FS ₄₀	15.1	X	347.87631	33.39685	170.32413	14.52580	0.0200963	0.24366306	2.5386895	20	3 11.1	18.4
53888 2000 FW ₄₀	14.6	X	72.65649	239.67257	77.62194	6.92376	0.1325351	0.26877008	2.3780197	20	12 29.0	17.9
53889 2000 FB ₄₁	15.7	X	101.72758	78.36942	74.91935	4.74026	0.1068458	0.25329954	2.4738866	20	6 23.3	18.9
53890 2000 FR ₄₁	14.8	X	1.86523	224.80526	69.15585	6.73723	0.1991111	0.30358161	2.1925647	20	9 5.6	16.3
53891 2000 FM ₄₂	15.2	X	241.10517	186.85002	25.38014	13.23242	0.0309038	0.27896993	2.3196963	20	—	—
53892 2000 FE ₄₃	15.7	X	29.13535	20.87736	112.41396	4.54181	0.0838542	0.29122571	2.2541505	20	1 24.9	17.7
53893 2000 FQ ₄₄	15.6	X	180.31143	164.77457	122.28888	5.14775	0.0732272	0.28143719	2.3061191	20	—	—
53894 2000 FV ₄₄	15.7	X	238.22879	86.87149	51.15144	6.81049	0.0452755	0.27082068	2.3660005	20	11 19.9	18.4
53895 2000 FB ₄₆	15.4	X	189.74140	43.82550	128.09512	7.58540	0.0434023	0.26773644	2.3841362	20	11 4.8	18.6
53896 2000 FL ₄₆	16.0	X	9.98688	90.81182	62.41906	7.53919	0.0920456	0.29015495	2.2596928	20	1 22.2	18.3
53897 2000 FD ₄₈	15.6	X	173.83795	154.15076	78.07383	8.17793	0.0759843	0.27231549	2.3573342	20	12 28.9	18.7
53898 2000 FU ₄₈	15.0	X	226.14866	223.44238	279.71938	6.41828	0.0676157	0.26869795	2.3784452	20	11 4.7	18.2
53899 2000 FM ₄₉	15.6	X	263.99407	321.44807	250.40131	5.45399	0.0547555	0.28142427	2.3061897	20	—	—
53900 2000 FV ₄₉	15.3	X	124.81559	295.80862	259.00468	4.64987	0.1139817	0.30928030	2.1655483	20	9 18.8	18.3
53901 2000 FE ₅₀	14.3	X	36.03102	25.90335	17.81360	26.95747	0.2490311	0.27809197	2.3245760	20	—	—
53902 2000 FW ₅₂	16.2	X	289.03105	242.09083	154.52410	1.31565	0.1864416	0.26335441	2.4105103	20	8 21.5	18.4
53903 2000 FD ₅₅	15.5	X	341.97158	280.97909	126.69594	5.89466	0.0857647	0.27117377	2.3639462	20	12 24.2	18.1
53904 2000 FE ₅₆	15.4	X	133.75707	212.33618	81.86075	5.22433	0.0640274	0.22690081	2.6622286	20	—	—
53905 2000 FY ₅₉	16.2	X	85.61143	296.63922	118.03093	8.22247	0.1314986	0.28864398	2.2675718	20	1 13.2	18.2
53906 2000 FH ₆₁	14.8	X	136.62828	145.13796	146.19618	4.63146	0.0803098	0.22555083	2.6728408	20	—	—
53907 2000 GL ₁	14.8	X	88.37875	195.57054	164.97889	6.94930	0.1439806	0.28124718	2.3071576	20	—	—
53908 2000 GT ₂	15.2	X	231.08294	332.22611	121.77631	7.47259	0.0726092	0.26529572	2.3987366	20	9 7.9	18.4
53909 2000 GC ₄	14.8	X	111.94140	260.25208	342.46266	1.50080	0.1695664	0.26303083	2.4124868	20	11 5.4	18.7
53910 Janfischer	15.5	X	260.03581	113.24820	118.30907	0.02207	0.1209850	0.26417872	2.4054934	20	9 6.2	18.4
53911 2000 GZ ₄	16.2	X	157.18339	112.54969	26.72731	4.18077	0.0610741	0.30953197	2.1643743	20	8 13.4	18.9
53912 2000 GS ₅	16.1	X	243.66281	313.47103	198.10695	5.79651	0.0788391	0.27431151	2.3458849	20	12 12.6	18.9
53913 2000 GL ₆	15.3	X	40.84953	214.55627	176.70688	6.18723	0.1151797	0.27765485	2.3270151	20	—	—
53914 2000 GO ₇	14.8	X	53.38335	144.26035	116.32004	7.31433	0.1093755	0.25782924	2.4448259	20	9 20.9	17.9
53915 2000 GR ₇												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
53921 2000 GC ₂₅	14.4	X	333.32711	63.22122	205.58316	4.36245	0.0607860	0.20108785	2.8854408	20	5 16.8	18.1
53922 2000 GC ₂₇	15.0	X	140.60463	198.98034	160.83863	2.65828	0.2439834	0.23563850	2.5960031	20	2 4.7	19.0
53923 2000 GW ₃₀	15.0	X	281.07873	206.17929	187.49667	2.29666	0.2268548	0.26145370	2.4221787	20	7 25.9	17.8
53924 2000 GJ ₃₇	14.2	X	138.90387	287.73121	29.04255	3.04236	0.1892070	0.22722477	2.6596976	20	—	—
53925 2000 GF ₃₈	15.7	X	317.21714	276.25607	173.03719	3.00437	0.0172049	0.22425248	2.6831475	20	12 24.8	19.3
53926 2000 GR ₃₈	14.7	X	230.58364	0.00983	31.07425	8.47679	0.0698922	0.25334547	2.4735876	20	6 7.1	18.2
53927 2000 GB ₃₉	15.4	X	278.23091	156.81253	26.26940	5.58599	0.0352219	0.23147459	2.6270429	20	—	—
53928 2000 GT ₃₉	16.1	X	216.16092	227.40480	192.04160	2.03024	0.1193523	0.25602683	2.4562862	20	6 25.0	19.7
53929 2000 GO ₄₀	14.7	X	213.65399	231.32146	17.69614	12.68144	0.1218792	0.23004424	2.6379211	20	—	—
53930 2000 GO ₄₂	15.8	X	245.99894	191.02772	213.36718	5.48664	0.1089089	0.25709686	2.4494667	20	7 10.4	19.1
53931 2000 GQ ₄₂	15.7	X	209.57217	305.32622	229.67517	1.54169	0.1492999	0.27056305	2.3675022	20	11 17.2	18.6
53932 2000 GB ₄₃	15.3	X	39.42051	256.15186	19.26283	3.94651	0.0861115	0.20999256	2.8032819	20	9 8.4	18.8
53933 2000 GG ₄₄	15.0	X	140.09475	188.96277	143.99368	2.12835	0.2168003	0.18084523	3.0969297	20	1 8.0	19.9
53934 2000 GQ ₄₄	15.4	X	240.70046	248.31400	74.83074	1.42147	0.1140210	0.24352375	2.5396576	20	3 19.1	19.2
53935 2000 GK ₄₅	15.7	X	349.86233	320.51067	185.71694	6.04238	0.0240921	0.23610762	2.5925634	20	—	—
53936 2000 GO ₄₅	15.9	X	335.68558	255.02267	138.11155	1.87806	0.1860010	0.26806380	2.3821948	20	12 2.2	17.8
53937 2000 GS ₄₅	15.6	X	201.39243	344.48959	189.38976	5.99259	0.0565627	0.26879295	2.3778847	20	11 18.6	18.6
53938 2000 GZ ₄₅	14.0	X	104.90082	84.14205	177.97834	3.38181	0.0598183	0.21759530	2.7375982	20	11 9.4	17.9
53939 2000 GM ₄₆	14.5	X	142.31385	150.75428	205.47764	8.37720	0.1109950	0.23515972	2.5995256	20	1 17.5	18.4
53940 2000 GU ₄₇	16.2	X	352.83082	283.76703	200.32886	2.66989	0.1277336	0.23493378	2.6011920	20	—	—
53941 2000 GD ₄₈	14.7	X	12.73718	246.70718	22.79643	15.04179	0.1253332	0.20479464	2.8505171	20	7 28.1	18.3
53942 2000 GH ₄₉	14.9	X	109.41695	124.71007	221.19568	1.41197	0.1067218	0.22860970	2.6489451	20	—	—
53943 2000 GF ₅₀	15.6	X	122.18763	264.06519	32.08628	7.00071	0.1133831	0.27208933	2.3586403	20	—	—
53944 2000 GZ ₅₁	15.5	X	281.96009	284.73410	166.45542	3.36012	0.1055792	0.26939212	2.3743576	20	11 13.6	17.9
53945 2000 GK ₅₂	15.3	X	270.28574	189.11081	21.51168	5.41398	0.0521897	0.28297907	2.2977345	20	—	—
53946 2000 GC ₅₃	15.1	X	19.16827	358.11280	2.75110	2.17941	0.1937728	0.26703391	2.3883159	20	12 31.2	17.9
53947 2000 GY ₅₃	15.0	X	115.16790	98.15687	144.10163	1.65979	0.0036011	0.21660664	2.7459220	20	10 22.8	18.7
53948 2000 GZ ₅₃	16.4	X	244.55685	187.34183	30.82792	2.89842	0.1170718	0.27932663	2.3177210	20	—	—
53949 2000 GO ₅₄	15.6	X	87.68270	170.32942	4.67042	3.00299	0.1379459	0.25340950	2.4731709	20	7 10.6	18.8
53950 2000 GX ₅₆	15.1	X	174.24523	234.26309	34.03097	6.84417	0.0704778	0.27584687	2.3371720	20	—	—
53951 2000 GC ₅₈	14.5	X	48.79733	40.76470	17.06702	8.50042	0.0955649	0.28075318	2.3098632	20	—	—
53952 2000 GF ₅₉	14.8	X	174.55491	40.09073	197.82335	12.74189	0.1106286	0.22311973	2.6922211	20	12 22.1	19.1
53953 2000 GP ₅₉	15.0	X	294.16495	6.81010	34.62211	10.45552	0.2122908	0.26298542	2.4127645	20	9 10.0	17.3
53954 2000 GD ₆₀	16.3	X	231.11699	240.03559	19.46587	2.20508	0.1283327	0.28178108	2.3042424	20	—	—
53955 2000 GJ ₆₀	15.1	X	233.79297	325.82312	197.56069	1.50865	0.1108282	0.22278664	2.6949039	20	11 26.8	18.9
53956 2000 GP ₆₀	14.5	X	78.05019	166.03017	206.50326	8.22563	0.1210052	0.22795367	2.6540248	20	—	—
53957 2000 GJ ₆₁	15.1	X	154.42643	350.20770	21.08732	4.00822	0.1013898	0.23932410	2.5692819	20	2 20.6	18.9
53958 2000 GN ₆₁	15.7	X	32.57240	304.06985	23.01654	1.53261	0.0787239	0.21603668	2.7507495	20	11 4.3	19.3
53959 2000 GY ₆₁	15.4	X	42.17224	302.09812	51.83041	1.96310	0.0869325	0.22113407	2.7083135	20	12 23.3	19.1
53960 2000 GK ₆₂	14.8	X	189.48789	359.09519	292.25721	0.41472	0.1378329	0.18150652	3.0894029	20	—	—
53961 2000 GB ₆₃	15.2	X	327.57644	326.32561	9.56317	2.35667	0.1805470	0.25535835	2.4605716	20	8 6.9	17.2
53962 2000 GK ₆₃	15.2	X	227.35880	292.60386	45.53596	2.69672	0.0956180	0.19458035	2.9494207	20	3 28.7	19.7
53963 2000 GQ ₆₃	15.1	X	118.37096	287.71465	45.39821	4.67685	0.1825298	0.22619702	2.6677480	20	—	—
53964 2000 GO ₆₄	15.2	X	99.04611	329.67227	145.74384	15.02685	0.1235192	0.24745852	2.5126641	20	5 6.7	18.9
53965 2000 GY ₆₄	15.9	X	205.23835	17.35215	56.20721	1.85331	0.0942392	0.25519566	2.4616172	20	7 3.8	19.3
53966 2000 GA ₆₅	15.4	X	252.96906	157.61259	193.03492	3.93033	0.1670257	0.24783971	2.5100871	20	5 1.1	18.9
53967 2000 GC ₆₅	16.3	X	269.84518	115.84093	89.08550	1.09753	0.1485473	0.28110239	2.3079498	20	—	—
53968 2000 GO ₆₅	16.2	X	163.51995	133.95287	20.69121	0.31209	0.1512792	0.26156273	2.4215056	20	9 3.4	19.9
53969 2000 GV ₆₅	15.2	X	321.87249	209.32641	31.18203	3.66836	0.1193762	0.29207329	2.2497874	20	3 5.8	17.5
53970 2000 GC ₆₆	16.1	X	198.26027	148.41340	17.92040	1.57690	0.1292806	0.26744190	2.3858863	20	10 25.7	19.5
53971 2000 GJ ₆₆	16.0	X	32.84449	296.36466	209.06011	4.64552	0.1183795	0.24229734	2.5482202	20	2 26.1	18.7
53972 2000 GM ₆₆	15.4	X	91.97607	291.03749	3.22815	2.56921	0.0267288	0.26853030	2.3794350	20	12 12.0	18.5
53973 2000 GB ₆₇	16.0	X	158.57878	117.09155	22.24739	2.88371	0.1362604	0.25863392	2.4397523	20	8 10.4	19.6
53974 2000 GD ₆₇	15.1	X	298.44058	27.27155	246.82629	0.98590	0.0742228	0.19518685	2.9433078	20	4 1.9	18.9
53975 2000 GA ₆₈	14.3	X	170.42147	275.72322	53.97587	5.99771	0.2080108	0.18342492	3.0678243	20	1 30.3	19.5
53976 2000 GY ₆₉	15.9	X	15.63575	229.16481	316.85269	0.62611	0.0599306	0.29302846	2.2448957	20	3 20.1	18.2
53977 2000 GM ₇₀	15.3	X	342.05049	13.25076	211.03874	5.96476	0.1332039	0.29281280	2.2459979	20	3 9.5	17.6
53978 2000 GH ₇₁	15.4	X	56.10285	31.21740	45.87966	5.61107	0.0245641	0.28347856	2.2950346	20	—	—
53979 2000 GC ₇₃	14.9	X	102.10140	204.30896	30.06551	9.89245	0.1326584	0.21230306	2.7829061	20	10 9.2	19.1
53980 2000 GK ₇₃	14.5	X	338.25852	206.17057	19.74561	5.58072	0.1004180	0.29240812	2.2480696	20	3 14.2	16.6
53981 2000 GQ ₇₃	15.9	X	354.09872	256.80125	221.17398	6.21690	0.0565273	0.28084536	2.3093578	20	—	—
53982 2000 GG ₇₄	14.7	X	45.35961	59.69925	38.75223	5.34460	0.0255087	0.23559296	2.5963377	20	1 13.7	18.0
53983 2000 GW ₇₄	15.9	X	118.94426	308.83920	188.23354	2.67662	0.1344620	0.25245460	2.4794034	20	6 25.0	19.5
53984 2000 GZ ₇₆	16.3	X	249.40370	13.84529	171.64644	0.94809	0.1616116	0.27583162	2.3372581	20	—	—
53985 2000 GK ₇₇	14.5	X	356.40995	289.66347	47.34350	5.15598	0.1041140	0.25924502	2.4359167	20	10 8.4	16.9
53986 2000 GH ₇₇	14.9	X	349.42756	309.13328	44.11277	9.71202	0.0715922	0.21208042	2.7848534	20	10 8.6	18.3
53987 2000 GR ₇₇	16.3	X	312.68621	110.59433	48.67919	0.92309	0.1736537	0.28248036	2.3004381	20	—	—
53988 2000 GW ₇₈	16.0	X	307.32602	350.42266	57.67289	2.51739	0.0628977	0.26464564	2.4026632	20	10 26.6	18.7
53989 2000 GT ₇₉	16.8	X	13.93945	144.21199	30.85743	2.73703	0.1225820	0.29219928	2.2491407	20	2 28.6	18.7
53990 2000 GZ ₇₉	16.0	X	135.80193	176.28183	258.08939	4.57337	0.0543681	0.29624947	2.2285942	20	4 7.7	18.8
53991 2000 GF ₈₁	16.1	X	32.84141	142.55576	28.21201	2.58598	0.0937715	0.29430362	2.2384066	20	3 28.9	18.1
53992 2000 GJ ₈₃	15.7	X	318.24100	344.54909	187.58675	6.28268	0.2011202	0.28826488	2.2695595	20	—	—
53993 2000 GN ₈₃	14.2	X	236.52349	285.76577	36.34933	10.63485	0.2364880	0.24542872	2.5264990	20	3 10.1	18.6
53994 2000 GS ₈₄	15.6	X	212.63940	145.10288	116.71024	11.35484	0.1700674	0.27987992	2.3146654	20	—	—
53995 2000 GA ₈₈	15.7											

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54001 2000 GP ₉₀	15.8 ^m	X	141.77832	70.31635	67.90528	7.23468	0.0897631	0.25595049	2.4567751	20	7 20.3	19.3
54002 2000 GS ₉₀	15.0	X	34.53708	161.63104	112.03758	4.95591	0.1307853	0.30584300	2.1817435	20	9 22.8	17.2
54003 2000 GN ₉₁	14.1	X	1.10165	261.86242	66.16090	17.13061	0.2037885	0.20967936	2.8060727	20	10 11.8	17.3
54004 2000 GP ₉₁	15.6	X	245.15096	175.51201	76.06284	10.90620	0.1942001	0.28219894	2.3019672	20	—	—
54005 2000 GJ ₉₃	14.3	X	59.31646	255.11073	68.24670	13.00651	0.1979008	0.21788000	2.7352129	20	12 18.2	18.4
54006 2000 GM ₉₃	14.7	X	71.07998	238.70094	65.09199	12.25337	0.1482504	0.21730598	2.7400275	20	12 1.4	18.7
54007 2000 GE ₉₄	13.5	X	185.65167	195.96910	135.02899	11.72681	0.1898560	0.18687039	3.0299983	20	2 10.4	18.7
54008 2000 GU ₉₄	14.6	X	161.59521	212.10411	105.03068	13.76928	0.1663079	0.22977406	2.6399886	20	—	—
54009 2000 GN ₉₅	15.1	X	306.72271	133.60857	1.66277	5.40796	0.0911322	0.27753751	2.3276710	20	—	—
54010 2000 GU ₉₅	15.2	X	210.23549	48.02373	222.30994	11.67231	0.1951720	0.27883598	2.3204391	20	—	—
54011 2000 GB ₉₆	15.4	X	306.63872	304.99389	246.86581	5.70010	0.0639091	0.28346441	2.2951110	20	—	—
54012 2000 GQ ₉₆	13.8	X	191.99635	42.37039	224.05469	12.10325	0.1437258	0.22685165	2.6626133	20	—	—
54013 2000 GA ₉₇	16.4	X	31.54989	162.78184	38.70228	5.98016	0.2516049	0.29620837	2.2288003	20	6 5.4	17.7
54014 2000 GJ ₉₇	15.2	X	81.03578	277.53799	255.34516	4.94777	0.0845277	0.30187973	2.2007975	20	6 21.1	17.5
54015 2000 GC ₉₈	16.0	X	151.06434	168.32221	313.87547	3.60664	0.0598360	0.30477458	2.1868394	20	7 9.4	18.8
54016 2000 GF ₉₈	14.8	X	90.46487	64.48481	310.30192	4.13298	0.1910045	0.28115186	2.3076791	20	—	—
54017 2000 GQ ₉₈	15.9	X	276.81228	14.55895	242.32646	3.16610	0.0649543	0.28980856	2.2614930	20	2 3.8	18.7
54018 2000 GO ₉₉	16.3	X	268.10098	244.03552	344.70221	5.51207	0.1237207	0.28404259	2.2919954	20	—	—
54019 2000 GP ₉₉	15.8	X	346.08218	300.31664	230.27537	6.38441	0.0341255	0.28791927	2.2713753	20	1 13.5	18.4
54020 2000 GT ₉₉	16.1	X	0.33235	9.34078	218.58528	5.43708	0.1121749	0.29669436	2.2263658	20	4 24.7	17.8
54021 2000 GU ₉₉	14.9	X	144.84127	87.76168	227.31625	4.11980	0.1055446	0.22930443	2.6435920	20	—	—
54022 2000 GX ₉₉	14.9	X	45.56353	35.29824	283.62674	1.60407	0.1982887	0.26411049	2.4059077	20	12 8.4	18.0
54023 2000 GQ ₁₀₀	15.3	X	26.46463	32.89995	341.50283	4.50674	0.0653572	0.27156899	2.3616521	20	—	—
54024 2000 GS ₁₀₀	14.6	X	222.94618	63.24434	238.16895	2.82041	0.0687522	0.23835742	2.5762239	20	2 3.3	18.3
54025 2000 GQ ₁₀₃	14.8	X	236.59187	173.95766	74.86810	4.22120	0.1130351	0.23307936	2.6149707	20	—	—
54026 2000 GH ₁₀₄	14.6	X	80.53518	264.91582	89.42313	4.64900	0.1092816	0.22628680	2.6670423	20	—	—
54027 2000 GT ₁₀₄	15.6	X	293.17649	356.67417	136.35633	3.85472	0.1286864	0.27675613	2.3320501	20	—	—
54028 2000 GW ₁₀₄	15.4	X	39.78504	70.72317	81.23452	3.59847	0.1097972	0.24433920	2.5340039	20	3 22.3	18.0
54029 2000 GB ₁₀₅	16.1	X	8.66688	103.23391	53.89915	5.45001	0.1728154	0.24120042	2.5559401	20	1 29.6	18.6
54030 2000 GF ₁₀₅	15.4	X	44.87664	76.27142	109.91657	3.35260	0.1057578	0.29769131	2.2213924	20	5 17.1	17.4
54031 2000 GP ₁₀₅	16.2	X	259.49253	336.31609	228.86810	4.95898	0.0721385	0.28127476	2.3070068	20	—	—
54032 2000 GL ₁₀₆	15.3	X	82.55785	250.80591	7.79802	4.91079	0.1880566	0.26080493	2.4261939	20	10 28.9	18.9
54033 2000 GV ₁₀₆	16.0	X	188.71098	119.10619	64.46859	3.91927	0.1517400	0.26795166	2.3828594	20	11 5.4	19.6
54034 2000 GG ₁₀₇	16.0	X	64.68784	262.11336	240.83124	2.88098	0.0971978	0.29550794	2.2323208	20	4 11.1	18.1
54035 2000 GG ₁₀₉	15.2	X	282.58540	164.65298	53.88764	5.23040	0.1093875	0.23530341	2.5984672	20	—	—
54036 2000 GP ₁₀₉	14.7	X	165.74233	333.05000	142.10452	7.02190	0.0907754	0.25545585	2.4599455	20	7 14.7	18.3
54037 2000 GE ₁₁₀	15.1	X	12.00081	271.30854	112.40429	3.77356	0.1854653	0.27195586	2.3594119	20	—	—
54038 2000 GS ₁₁₀	14.2	X	151.31531	314.59415	2.91834	8.32836	0.1511177	0.18099690	3.0951993	20	—	—
54039 2000 GW ₁₁₀	14.9	X	59.91281	206.70994	220.85132	7.00671	0.0262346	0.23559661	2.5963108	20	—	—
54040 2000 GZ ₁₁₂	15.8	X	233.51158	61.87770	82.47907	3.11869	0.1099531	0.27199711	2.3591734	20	11 13.2	18.7
54041 2000 GQ ₁₁₃	14.6	X	119.39839	70.31481	261.04003	5.51866	0.1317695	0.27821808	2.3238735	20	—	—
54042 2000 GR ₁₁₃	14.2	X	65.05450	95.50830	221.73797	12.59873	0.2184455	0.21855597	2.7295702	20	12 18.9	18.6
54043 2000 GC ₁₁₄	16.2	X	18.52053	318.35812	211.66584	6.23816	0.0326184	0.29223938	2.2489349	20	2 28.6	18.8
54044 2000 GV ₁₁₄	14.3	X	144.08720	57.95412	222.21115	12.20102	0.1667194	0.22355545	2.6887219	20	—	—
54045 2000 GO ₁₁₅	15.7	X	89.45642	171.90942	138.21002	3.37220	0.1791520	0.27002894	2.3706231	20	—	—
54046 2000 GK ₁₂₃	14.1	X	238.74506	95.74743	118.15441	4.58325	0.1541918	0.22807829	2.6530580	20	—	—
54047 2000 GM ₁₂₃	14.1	X	93.50197	251.75842	192.02312	11.96118	0.1032964	0.23990175	2.5651559	20	3 7.6	17.5
54048 2000 GE ₁₂₅	15.5	X	128.62744	43.21706	163.06274	10.09629	0.2450132	0.26108380	2.4244660	20	10 10.8	19.7
54049 2000 GO ₁₂₅	14.2	X	152.69239	270.62235	150.50240	9.61177	0.0442725	0.24455581	2.5325074	20	4 19.1	17.8
54050 2000 GE ₁₂₆	13.8	X	256.37815	49.34205	197.73078	11.19798	0.1951211	0.18277438	3.0750995	20	1 1.9	19.1
54051 2000 GL ₁₂₆	13.7	X	20.39423	303.43017	210.53324	14.62461	0.0934237	0.23791128	2.5794435	20	2 13.3	16.9
54052 2000 GQ ₁₂₆	14.1	X	178.61433	129.47101	205.58105	11.93443	0.2678998	0.22896585	2.6461974	20	2 4.8	19.0
54053 2000 GV ₁₂₆	13.6	X	295.22043	119.52357	101.25706	11.09283	0.2133006	0.18485610	3.0519695	20	1 6.7	18.1
54054 2000 GK ₁₂₇	15.1	X	221.34750	295.75091	307.00915	2.71209	0.0409952	0.23064793	2.6333162	20	—	—
54055 2000 GL ₁₃₃	15.1	X	215.93099	46.33709	161.86524	5.11211	0.1541623	0.22400028	2.6851611	20	12 25.6	19.1
54056 2000 GT ₁₃₃	13.5	X	314.53668	306.67233	176.06693	14.51609	0.1967978	0.17964345	3.1107262	20	—	—
54057 2000 GF ₁₃₄	15.0	X	321.85958	47.85497	162.76284	8.76412	0.0929624	0.28609106	2.2810415	20	1 25.6	17.7
54058 2000 GG ₁₃₄	14.1	X	317.23088	139.27860	143.36116	12.86419	0.1523291	0.19557616	2.9394005	20	5 3.8	18.0
54059 2000 GN ₁₃₄	14.5	X	175.82917	258.66675	57.52344	15.67344	0.0871847	0.23453125	2.6041674	20	1 4.4	18.5
54060 2000 GR ₁₃₄	15.4	X	324.52659	152.95289	52.83022	7.00033	0.0611074	0.28954459	2.2628673	20	1 31.1	18.1
54061 2000 GX ₁₃₄	16.1	X	334.77770	158.58358	79.07495	5.25647	0.1352091	0.29398996	2.2399984	20	3 22.2	18.2
54062 2000 GX ₁₃₅	15.0	X	77.78931	333.48992	186.69395	7.11729	0.1346272	0.29782761	2.2207146	20	6 6.4	17.6
54063 2000 GC ₁₃₆	14.3	X	60.14614	128.38596	108.87065	8.45475	0.1972310	0.20626529	2.8369518	20	9 4.8	18.2
54064 2000 GF ₁₃₈	15.5	X	44.39278	315.52617	101.86432	3.42852	0.1328287	0.28114753	2.3077028	20	—	—
54065 2000 GZ ₁₃₈	14.9	X	264.24757	161.86364	140.01439	11.77054	0.1289996	0.19476174	2.9475891	20	3 22.6	19.4
54066 2000 GN ₁₃₉	16.0	X	106.90638	23.07434	102.22245	6.31977	0.0696781	0.29876013	2.2160912	20	5 17.9	18.7
54067 2000 GR ₁₄₀	15.5	X	306.73661	99.64989	49.86473	5.09389	0.0395765	0.27931879	2.3177643	20	—	—
54068 2000 GD ₁₄₂	14.4	X	95.46131	182.82874	150.66219	13.76032	0.1740979	0.22230999	2.6987546	20	—	—
54069 2000 GM ₁₄₂	14.9	X	214.06558	58.10431	89.79548	10.42623	0.0496079	0.21739581	2.7392727	20	10 26.1	18.9
54070 2000 GQ ₁₄₃	15.5	X	358.11970	353.36243	108.88474	5.32233	0.0954855	0.28076939	2.3097743	20	—	—
54071 2000 GQ ₁₄₆	17.2	X	83.87128	128.25943	36.36111	23.44074	0.1974059	0.64304639	1.3293556	20	8 9.1	18.9
54072 2000 GV ₁₄₈	15.7	X	49.48418	5.48771	357.41357	3.60067	0.1744196	0.27597059	2.3364735	20	—	—
54073 2000 GG ₁₄₉	15.3	X	36.41004	313.95525	18.73040	2.98019	0.1875993	0.26866802	2.3786218	20	12 14.9	18.5
54074 2000 GV ₁₄₉	16.6	X	279.04807	43.24498	23.48178	2.55465	0.1697228	0.26888327	2.3773522	20	9 23.0	18.9
54075 2000 GY ₁₅₃	14.6											

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54081 2000 <i>GH</i> ₁₆₂	14.2	X	91.98730	114.65714	109.61233	25.64941	0.0581474	0.20966449	2.8062054	20	9 13.3	18.6
54082 2000 <i>GO</i> ₁₆₂	15.4	X	204.39184	78.31359	52.36070	5.92565	0.0490550	0.26551491	2.3974162	20	9 27.3	18.6
54083 2000 <i>GQ</i> ₁₆₂	14.9	X	255.10665	285.53334	102.57013	6.82248	0.1153508	0.25803399	2.4435324	20	6 29.7	18.2
54084 2000 <i>GF</i> ₁₆₃	14.6	X	34.50003	176.63160	125.47994	6.64212	0.1261788	0.25980118	2.4324391	20	10 24.7	17.6
54085 2000 <i>GY</i> ₁₆₃	13.6	X	144.46682	319.09879	65.09452	16.38647	0.1461295	0.23825462	2.5769649	20	3 9.1	17.8
54086 2000 <i>GH</i> ₁₆₅	16.0	X	71.87697	187.86390	209.23694	6.42542	0.1033535	0.28210814	2.3024611	20	—	—
54087 2000 <i>GO</i> ₁₇₂	14.7	X	257.93068	178.67830	268.29050	6.08645	0.0906504	0.26849683	2.3796327	20	9 27.2	17.8
54088 2000 <i>GR</i> ₁₇₃	16.5	X	54.20884	162.58433	321.18507	4.63947	0.0948165	0.29236225	2.2483048	20	2 23.8	18.5
54089 2000 <i>GA</i> ₁₇₆	15.3	X	346.72658	170.87109	175.27334	1.89970	0.0688727	0.21590218	2.7518918	20	9 22.1	18.5
54090 2000 <i>GH</i> ₁₇₈	15.7	X	351.19793	315.73577	124.28269	5.79558	0.1313730	0.27865981	2.3214170	20	—	—
54091 2000 <i>GD</i> ₁₇₉	14.2	X	208.96818	294.52780	81.05549	14.71978	0.2133312	0.24505442	2.5290710	20	4 24.0	18.7
54092 2000 <i>GZ</i> ₁₈₀	15.4	X	184.11654	145.81662	138.87665	24.09725	0.1431727	0.27923332	2.3182373	20	—	—
54093 2000 <i>GC</i> ₁₈₂	15.8	X	288.80561	29.04834	342.95245	1.99630	0.2454312	0.26191065	2.4193607	20	7 3.7	18.4
54094 2000 <i>GU</i> ₁₈₃	13.1	X	98.95697	242.29225	81.64793	23.58373	0.0681347	0.17799999	3.1298443	20	—	—
54095 2000 <i>HS</i> ₁	14.4	X	304.89944	350.09645	50.24717	7.21675	0.1256630	0.26138301	2.4226155	20	10 8.5	16.7
54096 2000 <i>HX</i> ₁	14.8	X	222.40834	14.62228	191.47348	6.05613	0.1492264	0.27330029	2.3516679	20	—	—
54097 2000 <i>HZ</i> ₁	15.1	X	329.72618	130.67854	79.89745	7.12700	0.1669034	0.23954416	2.5677082	20	2 6.2	18.2
54098 2000 <i>HW</i> ₃	14.9	X	153.27479	180.51215	209.55444	11.68513	0.2110138	0.23951719	2.5679009	20	3 18.2	19.2
54099 2000 <i>HF</i> ₄	16.0	X	264.14859	39.42839	55.49849	4.42686	0.1271401	0.26527570	2.3988572	20	10 16.6	18.7
54100 2000 <i>HL</i> ₅	14.6	X	324.31594	166.94420	45.09000	15.36412	0.1398309	0.23895168	2.5719508	20	2 9.1	18.1
54101 2000 <i>HM</i> ₅	15.5	X	276.37880	44.49659	59.48397	7.57536	0.1736317	0.26783123	2.3835736	20	11 12.4	17.7
54102 2000 <i>HN</i> ₅	14.3	X	118.68435	227.49909	77.29841	1.99580	0.1325542	0.17053280	3.2205553	20	—	—
54103 2000 <i>HX</i> ₆	15.7	X	250.32018	202.96678	220.87994	1.98643	0.1812605	0.25796078	2.4439947	20	8 1.9	18.9
54104 2000 <i>HN</i> ₇	15.5	X	0.48488	94.44645	84.22384	2.00744	0.1104794	0.24183740	2.5514500	20	2 18.6	18.3
54105 2000 <i>HZ</i> ₇	15.7	X	306.86804	258.19430	203.82240	4.19617	0.0987081	0.27309486	2.3528471	20	—	—
54106 2000 <i>HX</i> ₈	14.9	X	12.42162	20.15847	52.85169	7.52406	0.0791658	0.27728462	2.3290860	20	—	—
54107 2000 <i>HM</i> ₉	15.1	X	355.81024	179.73868	158.32854	1.64162	0.0868130	0.21038960	2.7997540	20	9 25.7	18.5
54108 2000 <i>HU</i> ₉	13.9	X	156.44288	219.70205	48.40422	23.71267	0.1438426	0.17298968	3.1899895	20	12 27.8	19.4
54109 2000 <i>HD</i> ₁₀	13.9	X	135.13595	212.83357	108.73538	2.44081	0.1843883	0.17552354	3.1592146	20	—	—
54110 2000 <i>HA</i> ₁₁	15.1	X	315.81252	260.55922	87.11555	3.02774	0.0433791	0.20669529	2.8330158	20	8 8.2	18.8
54111 2000 <i>HP</i> ₁₁	15.9	X	238.73182	6.45278	129.10102	3.29535	0.1787373	0.26848958	2.3796756	20	10 28.6	18.8
54112 2000 <i>HB</i> ₁₂	14.9	X	290.37307	33.02685	225.65875	9.73420	0.0634813	0.19146602	2.9813175	20	3 1.7	19.3
54113 2000 <i>HP</i> ₁₂	15.7	X	81.51733	46.82842	229.20119	6.63256	0.1075497	0.26251167	2.4156665	20	11 12.6	19.0
54114 2000 <i>HZ</i> ₁₂	14.4	X	72.55033	332.89149	317.88591	6.31081	0.0577170	0.21425864	2.7659468	20	11 3.2	18.4
54115 2000 <i>HX</i> ₁₅	15.8	X	85.53415	11.56428	41.03095	7.16564	0.1020190	0.28499914	2.2868640	20	1 7.7	18.2
54116 2000 <i>HT</i> ₁₆	15.2	X	49.22631	253.31979	74.06894	2.41240	0.0517578	0.21831874	2.7315472	20	11 23.3	18.9
54117 2000 <i>HB</i> ₂₀	14.2	X	297.00446	241.10949	159.28114	8.26799	0.1293315	0.21022442	2.8012204	20	9 10.9	17.4
54118 2000 <i>HK</i> ₂₁	15.0	X	208.83967	152.17903	164.91689	4.58271	0.1619166	0.23544390	2.5974334	20	2 7.7	19.3
54119 2000 <i>HW</i> ₂₁	15.8	X	238.78576	285.86300	225.71869	5.03631	0.0703517	0.26944492	2.3740474	20	12 5.5	18.7
54120 2000 <i>HM</i> ₂₄	16.8	X	310.12722	238.52735	300.16624	0.74372	0.1524984	0.28324549	2.2962934	20	—	—
54121 2000 <i>HP</i> ₂₄	15.0	X	158.72095	31.71701	26.77868	4.71280	0.0723977	0.24504230	2.5291544	20	4 21.2	18.4
54122 2000 <i>HO</i> ₂₆	15.7	X	331.21133	333.42603	145.55663	3.28285	0.1778926	0.27988273	2.3146499	20	—	—
54123 2000 <i>HZ</i> ₂₆	13.8	X	208.43464	31.32752	160.11745	10.88874	0.0970868	0.17285264	3.1916753	20	11 25.9	18.8
54124 2000 <i>HK</i> ₂₇	14.6	X	153.35197	177.09629	118.14263	6.13231	0.1112741	0.17625777	3.1504351	20	—	—
54125 2000 <i>HL</i> ₂₇	16.1	X	194.57522	104.37925	152.92261	3.76229	0.1886647	0.27524878	2.3405564	20	—	—
54126 2000 <i>HK</i> ₂₉	15.6	X	350.98998	104.47926	354.87429	4.84441	0.1114123	0.27960228	2.3161975	20	—	—
54127 2000 <i>HN</i> ₂₉	14.2	X	230.54952	62.51923	252.32283	11.18688	0.1824649	0.23846599	2.5754419	20	2 18.5	18.7
54128 2000 <i>HW</i> ₃₀	14.5	X	81.03983	0.41999	137.02436	13.53661	0.1057992	0.24683298	2.5169075	20	5 9.6	18.0
54129 2000 <i>HY</i> ₃₀	14.4	X	146.53894	176.06143	111.41340	15.34712	0.0571556	0.22462796	2.6801566	20	—	—
54130 2000 <i>HE</i> ₃₁	13.8	X	182.22654	168.30226	91.84195	17.07911	0.1945657	0.22616688	2.6679850	20	—	—
54131 2000 <i>HM</i> ₃₁	15.9	X	286.08555	22.84587	31.82398	6.76270	0.0846643	0.26373750	2.4081754	20	9 30.5	18.5
54132 2000 <i>HB</i> ₃₂	15.2	X	123.33230	275.56180	52.02302	3.35941	0.1067039	0.22580795	2.6708114	20	—	—
54133 2000 <i>HU</i> ₃₂	13.6	X	179.37482	122.37037	97.06555	24.30215	0.1244478	0.17169894	3.2059566	20	11 30.4	18.9
54134 2000 <i>HK</i> ₃₄	14.8	X	335.57186	44.98988	13.55139	10.01618	0.1550870	0.27086054	2.3657684	20	—	—
54135 2000 <i>HU</i> ₃₄	15.9	X	257.86365	102.26891	78.26244	7.65245	0.0581123	0.27561807	2.3384653	20	—	—
54136 2000 <i>HG</i> ₃₅	16.2	X	307.35951	139.69650	98.09338	5.88008	0.0703979	0.29069986	2.2568681	20	2 18.2	18.9
54137 2000 <i>HA</i> ₃₆	14.4	X	233.83119	133.15446	174.81737	14.24749	0.1888019	0.23750896	2.5823556	20	2 16.2	18.8
54138 2000 <i>HC</i> ₃₆	14.4	X	208.81371	94.74444	94.79889	11.05491	0.0963738	0.22179084	2.7029643	20	12 2.7	18.3
54139 2000 <i>HZ</i> ₃₆	13.7	X	99.69738	320.32212	109.81781	15.46707	0.0804652	0.23871110	2.5736785	20	3 1.5	17.2
54140 2000 <i>HB</i> ₃₇	13.9	X	129.66251	234.77108	127.21046	15.86984	0.1297080	0.23095816	2.6309575	20	1 15.1	17.6
54141 2000 <i>HF</i> ₃₇	14.9	X	60.27891	314.18184	154.82707	15.64594	0.0791859	0.23871433	2.5736554	20	2 20.3	18.0
54142 2000 <i>HL</i> ₃₉	15.0	X	162.19133	191.05973	76.48528	7.45869	0.1058091	0.27192763	2.3595752	20	—	—
54143 2000 <i>HO</i> ₃₉	15.1	X	157.74017	343.24701	70.79568	14.39016	0.1411464	0.24309688	2.5426298	20	4 24.4	19.2
54144 2000 <i>HG</i> ₄₀	14.9	X	347.09775	4.49750	65.06615	6.45839	0.2507633	0.22692871	2.6620104	20	—	—
54145 2000 <i>HN</i> ₄₀	14.9	X	88.90700	296.37756	109.67360	13.80272	0.1549665	0.23276449	2.6173285	20	1 22.6	17.9
54146 2000 <i>HY</i> ₄₀	14.6	X	140.81070	334.87962	10.97647	8.27986	0.1856909	0.23206784	2.6225639	20	1 16.1	18.6
54147 2000 <i>HN</i> ₄₁	14.8	X	11.25872	346.04525	172.09758	13.54593	0.0922528	0.23831517	2.5765284	20	2 6.9	17.9
54148 2000 <i>HS</i> ₄₁	13.7	X	254.05813	155.05205	116.90910	13.87869	0.0149338	0.23583496	2.5945613	20	2 9.0	17.2
54149 2000 <i>HU</i> ₄₂	16.0	X	314.13038	162.46484	51.50933	7.51486	0.0717938	0.28781784	2.2719089	20	1 26.1	18.8
54150 2000 <i>HF</i> ₄₃	15.4	X	161.52305	266.20721	77.14704	3.19288	0.0217620	0.23477538	2.6023618	20	1 16.2	18.8
54151 2000 <i>HO</i> ₄₅	15.0	X	50.53967	305.71117	56.66811	7.53049	0.1511631	0.27162480	2.3613286	20	—	—
54152 2000 <i>HX</i> ₄₅	15.0	X	259.04138	73.94981	55.89094	7.08385	0.0487036	0.27007913	2.3703294	20	12 7.4	17.6
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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54161 2000 HO ₅₁	15.7	X	316.18490	156.56295	59.19421	4.58505	0.0967684	0.28723083	2.2750032	20	1 26.6	18.4
54162 2000 HF ₅₃	15.5	X	194.37840	19.34946	171.51186	1.19108	0.1276503	0.26789762	2.3831798	20	11 22.9	18.8
54163 2000 HE ₅₄	14.4	X	50.55846	293.27704	58.24097	11.45715	0.1296816	0.21740723	2.7391768	20	—	—
54164 2000 HH ₅₄	15.3	X	206.90518	135.30068	69.01436	3.13423	0.1634733	0.27093072	2.3653598	20	12 20.2	18.4
54165 2000 HO ₅₄	15.8	X	204.19402	346.96962	178.67529	2.50310	0.1237667	0.26600578	2.3944660	20	11 1.8	19.1
54166 2000 HV ₅₄	15.3	X	353.88345	89.21065	214.32449	2.84587	0.0597517	0.25305350	2.4754898	20	8 7.8	18.2
54167 2000 HZ ₅₄	14.5	X	37.87355	184.25677	226.96103	11.54571	0.1849045	0.22602832	2.6690752	20	—	—
54168 2000 HX ₅₆	15.6	X	214.09944	27.87585	81.18117	6.13419	0.0804991	0.26076855	2.4264196	20	9 6.1	19.0
54169 2000 HF ₅₇	15.3	X	244.62085	112.48452	83.53236	8.08043	0.0516402	0.27543610	2.3394951	20	—	—
54170 2000 HK ₅₇	15.7	X	261.72482	325.35506	169.82001	2.93209	0.1704161	0.27199787	2.3591690	20	12 3.4	18.1
54171 2000 HP ₅₇	15.2	X	56.21702	294.91459	56.31550	9.45577	0.0570990	0.26986172	2.3716023	20	—	—
54172 2000 HF ₅₈	15.7	X	90.15190	355.24530	45.45162	4.46410	0.0774345	0.23234284	2.6204941	20	1 6.3	18.9
54173 2000 HS ₅₈	14.6	X	74.57902	71.81944	244.60854	5.56299	0.1430232	0.26657253	2.3910709	20	12 29.9	18.1
54174 2000 HD ₅₉	14.8	X	326.41471	17.08080	19.97627	13.45455	0.1725140	0.21632621	2.7482946	20	10 26.6	17.6
54175 2000 HB ₆₀	16.0	X	251.51713	10.48764	40.24002	1.71718	0.1736001	0.25705943	2.4497045	20	7 18.5	19.4
54176 2000 HO ₆₁	15.5	X	278.39466	54.84975	71.26949	5.11311	0.1416746	0.27283407	2.3543461	20	12 24.7	17.7
54177 2000 HX ₆₁	15.1	X	74.73757	115.65217	185.20207	1.85276	0.1033148	0.19487568	2.9464401	20	4 9.9	19.2
54178 2000 HY ₆₁	15.9	X	262.75161	103.96920	31.69685	3.02860	0.1072997	0.27124701	2.3635207	20	12 14.2	18.5
54179 2000 HO ₆₂	15.4	X	14.80088	106.49744	115.16715	3.44660	0.0846111	0.24663074	2.5182832	20	5 16.5	18.1
54180 2000 HT ₆₃	15.3	X	318.98453	171.42600	223.58402	1.18681	0.0504582	0.21558837	2.7545617	20	10 15.4	18.8
54181 2000 HR ₆₅	14.5	X	91.85820	348.82228	59.52556	14.61789	0.0649960	0.23364725	2.6107319	20	1 18.2	18.1
54182 2000 HA ₆₆	14.6	X	168.94146	127.69260	169.32495	1.23260	0.1244716	0.17715375	3.1398036	20	—	—
54183 2000 HN ₆₆	14.7	X	114.07780	300.74113	50.66057	14.91951	0.0801318	0.22676266	2.6633098	20	—	—
54184 2000 HJ ₆₇	16.2	X	257.41612	253.07669	207.10364	0.92172	0.1488517	0.26653470	2.3912971	20	10 8.8	18.7
54185 2000 HK ₆₈	16.1	X	181.37947	307.27681	194.47502	3.40443	0.1670406	0.26198244	2.4189187	20	9 2.4	19.9
54186 2000 HG ₆₈	15.3	X	134.27290	144.06023	100.06393	6.30001	0.0232269	0.21763504	2.7372649	20	11 19.7	19.1
54187 2000 HR ₇₄	14.8	X	233.02424	248.69280	77.93755	1.61457	0.1438588	0.19229996	2.9726920	20	3 17.4	19.5
54188 2000 HB ₇₅	15.2	X	245.70868	211.57902	122.84537	3.48606	0.0413464	0.24585612	2.5235700	20	4 23.2	18.5
54189 2000 HQ ₇₅	14.9	X	225.90973	165.80504	131.00392	3.13311	0.0876140	0.18668835	3.0319677	20	2 7.4	19.5
54190 2000 HT ₇₅	14.8	X	325.53850	151.61703	167.28659	4.93324	0.1050674	0.25194610	2.4827383	20	7 10.7	17.4
54191 2000 HE ₇₆	15.4	X	202.23744	148.21600	95.04554	4.18486	0.0456104	0.22607690	2.6686929	20	—	—
54192 2000 HH ₇₆	15.8	X	238.16953	16.12249	200.11754	6.52943	0.0629880	0.27667442	2.3325093	20	—	—
54193 2000 HN ₇₆	14.0	X	61.00193	228.66312	195.81888	13.35048	0.1710904	0.23266686	2.6180606	20	—	—
54194 2000 HV ₇₆	16.1	X	314.85427	1.22617	206.57231	9.06212	0.1381340	0.28641198	2.2793373	20	1 4.9	19.1
54195 2000 HW ₇₇	15.8	X	257.15378	300.67084	257.43150	6.07219	0.0601357	0.27911397	2.3188981	20	—	—
54196 2000 HH ₇₈	14.7	X	333.78314	65.68111	272.53051	6.71467	0.1684914	0.25709998	2.4494469	20	8 21.8	16.8
54197 2000 HM ₇₈	15.3	X	120.67637	170.31809	295.04518	4.59000	0.0953372	0.29759104	2.2218913	20	5 7.9	18.2
54198 2000 HJ ₇₉	14.2	X	36.05385	6.79205	307.02129	5.02520	0.0963623	0.21339164	2.7734337	20	10 22.7	17.9
54199 2000 HP ₇₉	15.0	X	225.66600	83.88836	101.87839	13.77039	0.0591584	0.27298506	2.3534779	20	—	—
54200 2000 HK ₈₀	15.1	X	189.81517	129.99977	100.69219	12.46094	0.0130195	0.22368880	2.6876531	20	—	—
54201 2000 HO ₈₀	14.5	X	95.18588	253.82692	132.95638	14.08165	0.1717581	0.23054063	2.6341332	20	1 8.9	17.8
54202 2000 HQ ₈₀	14.7	X	107.63394	337.34185	96.51454	15.29666	0.0602178	0.24024424	2.5627174	20	3 16.6	18.4
54203 2000 HR ₈₀	14.9	X	339.68636	295.83619	114.75691	10.95076	0.0094397	0.21955563	2.7212785	20	12 5.5	18.7
54204 2000 HX ₈₀	14.0	X	67.35387	194.20143	164.23053	15.19938	0.2075331	0.22218628	2.6997563	20	—	—
54205 2000 HY ₈₂	15.0	X	8.51439	311.95062	53.10862	9.62717	0.1926522	0.21497998	2.7597561	20	12 4.5	18.2
54206 2000 HM ₈₃	13.7	X	53.31418	186.12047	95.93020	18.56275	0.1589975	0.21404919	2.7677508	20	10 26.0	17.9
54207 2000 HY ₈₃	14.1	X	273.17844	188.99316	94.14700	15.21707	0.1489159	0.24313386	2.5423720	20	3 5.7	18.1
54208 2000 HX ₈₅	15.3	X	191.39197	36.68922	143.64279	5.89650	0.0563940	0.21721755	2.7407712	20	11 5.8	19.3
54209 2000 HD ₈₆	15.1	X	253.78281	53.47617	154.47076	5.33744	0.0897044	0.27779614	2.3262260	20	—	—
54210 2000 HV ₈₇	14.3	X	170.34348	261.64339	57.15069	13.30260	0.1570111	0.18148188	3.0896827	20	1 15.3	19.4
54211 2000 HW ₈₈	15.9	X	289.83907	151.31967	8.42246	2.69909	0.0161320	0.22847058	2.6500202	20	—	—
54212 2000 HJ ₈₉	16.4	X	172.28668	350.78009	223.80178	4.26353	0.0542367	0.26799075	2.3826276	20	12 5.5	19.7
54213 2000 HZ ₈₉	15.1	X	10.47373	155.41837	27.20865	2.32452	0.1110090	0.19218371	2.9738906	20	3 19.1	18.6
54214 2000 HA ₉₂	15.6	X	241.46205	224.45012	222.14707	3.12439	0.0617233	0.21225984	2.7832838	20	9 2.4	19.5
54215 2000 HR ₉₅	15.2	X	333.62394	134.39732	329.51105	7.19852	0.0524976	0.27602344	2.3361752	20	—	—
54216 2000 HQ ₉₆	14.5	X	28.71220	163.68134	8.03793	7.44575	0.0264107	0.29125683	2.2539899	20	3 21.2	17.0
54217 2000 HW ₉₆	15.0	X	321.12980	261.61138	121.58643	7.63625	0.0709968	0.21144281	2.7904491	20	10 5.3	18.5
54218 2000 HC ₉₇	13.9	X	79.89255	250.94267	75.30810	6.71651	0.0747258	0.17230029	3.1984928	20	12 20.2	18.5
54219 2000 HC ₉₉	15.0	X	15.93780	328.51072	349.16879	3.85436	0.1003717	0.21041380	2.7995393	20	9 30.1	18.3
54220 2000 HJ ₁₀₀	15.0	X	26.35194	295.16706	71.98489	7.49447	0.1270949	0.21863744	2.7288921	20	12 24.9	18.6
54221 2000 HN ₁₀₀	14.9	X	262.21899	332.91722	74.84120	7.53814	0.1294812	0.25799068	2.4438059	20	8 6.6	18.1
54222 2000 JF	13.7	X	208.08837	247.30912	102.20739	11.53651	0.1117097	0.19169094	2.9789850	20	3 27.4	18.5
54223 2000 JU	14.4	X	65.10026	276.63478	77.51815	13.62327	0.1927197	0.22190711	2.7020201	20	—	—
54224 2000 JM ₆	14.3	X	342.68472	276.42448	94.75850	13.51937	0.1036483	0.21389434	2.7690865	20	10 27.7	17.8
54225 2000 JU ₇	15.4	X	80.51383	1.31354	39.67647	2.01472	0.0787844	0.23200643	2.6230266	20	—	—
54226 2000 JA ₁₀	13.8	X	356.98919	273.38771	88.53585	14.55540	0.1539186	0.25943251	2.4347430	20	11 22.8	16.4
54227 2000 JE ₁₁	15.0	X	131.95840	9.70326	46.93916	10.43767	0.0450182	0.19220592	2.9736616	20	3 24.2	19.3
54228 2000 JA ₁₂	15.1	X	16.37251	157.35811	225.87026	6.16948	0.1248235	0.27079118	2.3661723	20	—	—
54229 2000 JA ₁₃	14.5	X	147.36073	326.19929	53.34502	13.42316	0.1908702	0.23641585	2.5903095	20	3 8.5	18.8
54230 2000 JO ₁₃	16.5	X	272.73151	111.99336	78.13749	3.26400	0.1541561	0.27905404	2.3192301	20	—	—
54231 2000 JO ₁₄	15.9	X	222.19000	349.90664	163.95160	2.19304	0.1493706	0.26790740	2.3831218	20	11 4.6	19.1
54232 2000 JL ₁₅	14.9	X	14.93920	37.47881	173.83258	2.12635	0.0244738	0.19530290	2.9421417	20	5 1.7	18.7
54233 2000 JZ ₁₅	14.6	X	248.87811	118.31736	190.45947	9.92163	0.0973766	0.19240864	2.9715726	20	3 13.7	19.0
54234 2000 JD ₁₆	15.5	X	24.82175	181.70766	234.86003	19.39831	0.0896062	0.37103505	1.9180478	20	—	—
54235 2000 JO ₁₆	15.3											

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54241 2000 JY ₁₉	14.9 ^m	X	34.50206	104.14436	335.27303	6.27836	0.1376666	0.28293190	2.2979899	20	—	—
54242 2000 JC ₂₀	15.7	X	41.18628	299.09976	301.92092	3.85132	0.1435545	0.30284543	2.1961164	20	8 12.3	17.7
54243 2000 JG ₂₀	15.2	X	154.64193	320.79640	233.49176	11.20348	0.1079706	0.26447129	2.4037190	20	10 14.3	18.9
54244 2000 JR ₂₀	15.7	X	229.10243	196.15547	323.52809	4.99588	0.1613792	0.27120209	2.3637817	20	11 17.6	18.7
54245 2000 JE ₂₁	14.2	X	1.99474	165.76578	257.03037	6.44854	0.0919332	0.22516088	2.6759259	20	—	—
54246 2000 JF ₂₁	15.5	X	5.10746	17.00971	275.85889	3.90944	0.1704135	0.25362066	2.4717979	20	8 20.8	17.7
54247 2000 JN ₂₄	14.7	X	52.14063	323.76265	340.25172	6.60360	0.0729705	0.21401253	2.7680669	20	10 27.7	18.6
54248 2000 JH ₂₅	15.6	X	195.82724	270.40291	331.58337	6.33927	0.0877267	0.27478338	2.3431984	20	—	—
54249 2000 JV ₂₅	15.5	X	154.53748	77.48806	36.54303	6.76732	0.0988920	0.25301688	2.4757287	20	7 1.6	19.2
54250 2000 JC ₂₆	15.2	X	326.88583	159.27413	275.95933	6.21031	0.0794453	0.27089368	2.3655754	20	—	—
54251 2000 JO ₂₆	15.1	X	221.98013	176.75262	345.52262	6.09517	0.0806376	0.26856194	2.3792481	20	11 23.2	18.2
54252 2000 JV ₂₆	14.2	X	320.75153	345.26377	241.79587	9.96878	0.1627316	0.19123179	2.9837515	20	2 15.9	18.3
54253 2000 JP ₂₇	13.7	X	3.76706	28.56228	315.76201	3.02161	0.2045455	0.21043989	2.7993079	20	10 28.9	16.6
54254 2000 JQ ₂₇	15.8	X	17.99538	96.65664	5.87138	3.78065	0.0901741	0.28169348	2.3047201	20	—	—
54255 2000 JL ₂₈	15.3	X	124.79831	310.59494	301.77684	2.86026	0.0825986	0.26565771	2.3965570	20	11 28.0	18.6
54256 2000 JC ₃₀	14.2	X	34.54351	323.84515	352.64758	6.22884	0.0627067	0.21238931	2.7821526	20	10 19.4	17.8
54257 2000 JK ₃₀	14.8	X	286.33868	157.09805	242.88284	5.62220	0.1059874	0.25846646	2.4408060	20	8 31.0	17.6
54258 2000 JV ₃₀	15.5	X	300.85103	291.04199	247.30794	12.54693	0.2332178	0.23333261	2.6130783	20	—	—
54259 2000 JC ₃₂	15.1	X	311.47630	319.15848	338.91692	3.61018	0.1315890	0.24629159	2.5205946	20	5 10.8	18.1
54260 2000 JF ₃₂	16.1	X	237.52070	324.68546	250.71152	5.86521	0.1906452	0.27652245	2.3333638	20	—	—
54261 2000 JV ₃₂	14.7	X	46.35375	247.04971	43.01035	1.47234	0.0852908	0.25883761	2.4384721	20	10 15.1	17.7
54262 2000 JX ₃₂	15.6	X	245.13303	337.38664	233.42961	3.87923	0.1035603	0.27657724	2.3330556	20	—	—
54263 2000 JD ₃₃	15.3	X	334.96437	259.80036	276.64647	3.26374	0.1832570	0.23679245	2.5875623	20	—	—
54264 2000 JN ₃₃	15.5	X	220.16229	163.78330	3.67528	2.45047	0.1500324	0.26875594	2.3781030	20	11 18.7	18.5
54265 2000 JS ₃₃	15.7	X	265.92816	284.16843	272.27215	6.30051	0.0493333	0.27833548	2.3232200	20	—	—
54266 2000 JC ₃₄	15.9	X	317.57018	92.45013	35.80843	6.32177	0.0933462	0.27636849	2.3342303	20	—	—
54267 2000 JD ₃₅	15.6	X	287.32275	337.38447	227.22177	6.25735	0.0657701	0.28195987	2.3032682	20	—	—
54268 2000 JR ₃₅	14.7	X	110.62326	108.21379	237.75834	3.95611	0.1385984	0.17678864	3.1441250	20	—	—
54269 2000 JZ ₃₆	15.2	X	300.64295	5.48903	300.13984	2.30118	0.1088045	0.24522709	2.5278837	20	5 8.7	18.3
54270 2000 JC ₃₉	14.2	X	202.84461	321.28380	271.14086	2.31579	0.1281332	0.17385886	3.1793487	20	—	—
54271 2000 JD ₃₉	15.1	X	351.83825	119.05059	55.25874	7.64784	0.0462411	0.28536820	2.2848919	20	1 30.2	17.8
54272 2000 JT ₄₀	15.0	X	336.10899	112.94371	162.93923	2.19657	0.0379512	0.19999187	2.8959729	20	5 31.9	18.7
54273 2000 JK ₄₁	15.7	X	150.68315	16.10720	172.24227	1.41170	0.1338839	0.26101656	2.4248824	20	10 4.4	19.4
54274 2000 JK ₄₂	15.8	X	304.40180	266.33201	40.15129	3.83734	0.1510801	0.24624813	2.5208911	20	5 9.4	18.8
54275 2000 JF ₄₃	15.8	X	279.57443	44.53913	74.57416	3.25978	0.1607495	0.27164184	2.3612299	20	12 13.9	17.9
54276 2000 JG ₄₅	14.4	X	347.29453	339.19607	59.34294	9.58087	0.1379100	0.21668483	2.7452615	20	12 7.4	17.4
54277 2000 JD ₄₆	14.7	X	206.24634	328.14660	59.57123	16.37715	0.1176055	0.24431817	2.5341494	20	5 6.1	18.6
54278 2000 JZ ₄₆	15.0	X	298.71319	287.26786	278.12020	7.57072	0.1551097	0.23547453	2.5972082	20	—	—
54279 2000 JC ₄₇	15.7	X	218.03575	150.51287	357.79977	6.35198	0.0841543	0.26623157	2.3931119	20	10 29.0	18.8
54280 2000 JF ₄₇	13.9	X	276.08053	47.12764	277.64911	11.25777	0.0967882	0.19758078	2.9194850	20	5 1.9	18.1
54281 2000 JP ₄₇	14.6	X	69.39536	272.88832	339.33286	6.12948	0.1111943	0.25795544	2.4440284	20	9 25.9	17.9
54282 2000 JX ₄₇	15.6	X	181.13326	228.83213	328.31591	6.20510	0.1086150	0.26706356	2.3881391	20	11 15.7	19.2
54283 2000 JG ₄₈	14.3	X	138.12984	0.22638	272.89988	10.02288	0.0418889	0.27003239	2.3706029	20	—	—
54284 2000 JM ₅₀	14.6	X	26.45943	43.84389	258.20569	11.99041	0.0697552	0.20873828	2.8145004	20	9 14.9	18.6
54285 2000 JR ₅₀	15.2	X	126.97518	225.59300	44.58223	3.55410	0.0513557	0.21874803	2.7279722	20	12 12.6	19.1
54286 2000 JD ₅₁	13.9	X	224.93548	201.27855	27.21921	10.85844	0.1726236	0.17705603	3.1409587	20	—	—
54287 2000 JE ₅₁	14.3	X	88.43175	18.63554	265.83641	12.33054	0.1586801	0.21387360	2.7692655	20	11 25.7	18.7
54288 Daikikawasaki	14.2	X	219.52101	84.10892	218.91886	11.93138	0.1890306	0.23238331	2.6201899	20	1 28.1	18.8
54289 2000 JE ₅₆	15.1	X	354.79520	348.86202	110.00896	5.47375	0.1562417	0.27719392	2.3295941	20	—	—
54290 2000 JM ₅₆	15.2	X	13.67169	40.80772	73.89973	7.50305	0.1287246	0.28163227	2.3050540	20	—	—
54291 2000 JD ₅₇	14.5	X	214.61716	202.23424	68.98919	15.82841	0.0457566	0.22958361	2.6414484	20	—	—
54292 2000 JT ₅₈	14.6	X	115.20588	284.73705	192.93873	6.86924	0.0612913	0.29352035	2.2423870	20	5 16.7	17.3
54293 2000 JB ₅₉	13.1	X	238.63144	232.83902	79.75393	11.24234	0.0942885	0.18790195	3.0188986	20	3 15.2	17.9
54294 2000 JC ₅₉	14.6	X	272.60681	34.78590	230.42360	12.11782	0.1084829	0.23583450	2.5945646	20	2 5.8	18.6
54295 2000 JO ₅₉	15.1	X	264.10861	239.52990	255.04172	10.64017	0.0771987	0.27170364	2.3608718	20	12 18.9	17.6
54296 2000 JN ₆₀	15.2	X	272.25251	95.84976	8.46712	4.16266	0.1810382	0.26833804	2.3805715	20	11 2.3	17.5
54297 2000 JA ₆₁	14.8	X	329.87446	325.14584	0.40833	1.55724	0.0232521	0.20454571	2.8528294	20	7 30.2	18.4
54298 2000 JE ₆₂	14.9	X	267.49628	337.83606	236.92404	11.28345	0.1430780	0.27914825	2.3187083	20	—	—
54299 2000 JV ₆₂	14.9	X	3.25471	133.83107	293.92883	6.13125	0.0880732	0.27501283	2.3418949	20	—	—
54300 2000 JZ ₆₃	16.0	X	219.47119	88.08671	51.89144	2.80674	0.1595392	0.26593614	2.3948839	20	10 12.4	19.2
54301 2000 JG ₆₄	14.7	X	4.91411	126.10635	72.48618	6.45651	0.1192261	0.24199488	2.5503430	20	3 28.4	17.4
54302 2000 JA ₆₆	14.9	X	222.98536	192.93241	127.31194	10.96728	0.0690935	0.23764131	2.5813967	20	3 1.3	18.7
54303 2000 JD ₆₆	14.3	X	168.37289	276.73314	110.02770	13.06445	0.0983327	0.23959259	2.5673621	20	3 30.5	18.4
54304 2000 JE ₆₆	14.7	X	278.51404	77.71200	93.47136	14.36208	0.1127172	0.22745166	2.6579286	20	—	—
54305 2000 JB ₆₉	14.9	X	191.79631	211.64566	84.57367	9.56175	0.0573498	0.23783232	2.5800144	20	—	—
54306 2000 JC ₇₀	13.9	X	279.44572	120.22205	110.70853	29.12661	0.2036409	0.23424830	2.6062641	20	—	—
54307 2000 JT ₇₁	15.6	X	276.67501	25.68598	80.61128	4.70858	0.2030874	0.27152504	2.3619070	20	11 13.5	17.6
54308 2000 JF ₇₃	14.6	X	280.60741	330.03295	116.12678	10.37396	0.1272463	0.21521838	2.7577177	20	10 23.1	18.1
54309 2000 JN ₇₃	15.0	X	248.27880	263.01559	132.97255	12.84154	0.0570800	0.25163028	2.4848153	20	7 9.9	18.4
54310 2000 JO ₇₃	14.5	X	340.18641	354.45258	164.13097	15.52258	0.0486288	0.23220633	2.6215210	20	—	—
54311 2000 JR ₇₃	13.7	X	94.89002	181.58819	160.09148	14.49480	0.0494724	0.17359293	3.1825948	20	—	—
54312 2000 JZ ₇₃	15.2	X	36.36416	71.61871	124.30001	3.66442	0.0680175	0.24618031	2.5213541	20	5 14.2	18.1
54313 2000 JF ₇₅	16.4	X	178.16037	96.91925	29.68925	1.51077	0.1476875	0.25892391	2.4379303	20	8 12.8	20.1
54314 2000 JS ₇₅	16.1	X	348.00146	41.19735	130.17181	5.39453	0.1288962	0.28609249	2.2810339	20	1 5.4	18.4
54315 2000 JU ₇₅	15.5	X	32									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54321 2000 JA ₈₁	14.4	X	328.58761	91.33249	91.28906	6.76896	0.2505660	0.23674722	2.5878918	20	—	—
54322 2000 JZ ₈₃	15.0	X	206.85664	154.93906	177.86234	6.31401	0.1404986	0.23720757	2.5845426	20	2 24.4	19.1
54323 2000 JQ ₈₆	14.0	X	334.58651	303.58124	115.54236	22.60742	0.0570372	0.22350211	2.6891496	20	12 14.8	17.7
54324 2000 KO ₃	15.6	X	343.40605	22.67861	102.22667	7.42962	0.0642913	0.27845038	2.3225808	20	—	—
54325 2000 KP ₃	14.2	X	97.47314	171.56862	154.49524	5.47729	0.1192384	0.17049654	3.2210120	20	—	—
54326 2000 KY ₃	15.1	X	293.49118	327.77314	80.86740	7.50379	0.1139131	0.25961549	2.4335988	20	10 2.4	17.8
54327 2000 KB ₄	14.7	X	4.52634	107.77703	120.66207	5.64758	0.1826512	0.24265851	2.5456911	20	5 9.5	16.9
54328 2000 KO ₅	15.0	X	213.57227	168.28940	73.82843	24.48388	0.1538931	0.27440254	2.3453660	20	—	—
54329 2000 KD ₆	14.1	X	70.86360	164.00540	186.47173	5.61941	0.1055828	0.17043811	3.2217480	20	—	—
54330 2000 KH ₇	13.9	X	243.85586	202.25776	85.16755	12.92279	0.0862275	0.18590003	3.0405332	20	2 18.9	18.7
54331 2000 KS ₇	15.2	X	169.37189	317.16089	229.58327	5.57563	0.0538120	0.21271458	2.7793157	20	10 15.9	19.3
54332 2000 KQ ₉	16.6	X	242.37420	280.81497	250.79605	1.77392	0.1177425	0.27241379	2.3567670	20	12 31.4	19.1
54333 2000 KJ ₁₀	15.1	X	54.07223	306.56212	58.78261	6.97504	0.0604463	0.22154032	2.7050016	20	—	—
54334 2000 KS ₁₀	14.4	X	252.33816	268.18611	63.47587	12.88127	0.0555275	0.19496476	2.9455425	20	4 24.4	18.7
54335 2000 KJ ₁₂	14.8	X	279.76555	221.67816	58.66776	14.32125	0.1257279	0.24000288	2.5644353	20	3 14.7	18.7
54336 2000 KU ₁₃	14.7	X	154.14583	143.81713	232.00342	12.84189	0.1950321	0.23502155	2.6005443	20	2 26.9	19.2
54337 2000 KL ₁₅	15.5	X	220.79855	48.97576	81.55863	4.90060	0.1400817	0.26389987	2.4071876	20	10 5.5	18.8
54338 2000 KN ₁₈	15.0	X	218.01860	231.90436	87.18056	4.47060	0.0315721	0.23680939	2.5874389	20	2 24.3	18.5
54339 2000 KA ₁₉	15.3	X	307.87786	106.80616	40.31702	8.05888	0.0916693	0.22747346	2.6577588	20	—	—
54340 2000 KX ₂₂	14.7	X	354.76718	13.74112	52.58155	3.17694	0.0578796	0.22094606	2.7098498	20	—	—
54341 2000 KD ₂₄	15.1	X	346.86040	192.95361	73.66399	14.29176	0.0409209	0.24701091	2.5156987	20	6 3.8	18.0
54342 2000 KF ₂₄	13.1	X	289.00165	194.13444	75.37850	11.25964	0.0640531	0.19022972	2.9942207	20	3 23.7	17.5
54343 2000 KY ₂₆	14.4	X	36.85251	284.17214	68.34668	5.75588	0.0692625	0.21523486	2.7575769	20	12 10.7	18.0
54344 2000 KK ₂₇	14.2	X	172.48309	330.75046	71.76209	14.97642	0.1446012	0.24070968	2.5594129	20	4 24.8	18.4
54345 2000 KS ₂₈	14.5	X	354.13128	313.29963	74.39459	6.96122	0.0745714	0.21435479	2.7651196	20	11 27.9	17.7
54346 2000 KZ ₂₈	15.5	X	131.55939	163.84099	63.70523	1.78122	0.1158548	0.26200710	2.4187669	20	11 4.3	19.1
54347 2000 KB ₂₉	15.2	X	292.08344	267.08619	249.15538	6.39176	0.0610252	0.27440471	2.3453537	20	—	—
54348 2000 KP ₂₉	13.6	X	91.47613	367.66716	72.39148	7.24723	0.1819260	0.16948124	3.2338630	20	—	—
54349 2000 KX ₂₉	13.7	X	113.61998	249.81359	87.78548	2.39812	0.1780307	0.17241468	3.1970779	20	—	—
54350 2000 KO ₃₀	15.7	X	219.50130	157.66182	34.02221	0.8725	0.1523805	0.27019525	2.3696502	20	12 20.5	18.6
54351 2000 KV ₃₀	14.3	X	185.82071	25.85306	261.38296	4.82823	0.1043254	0.27572148	2.3378805	20	—	—
54352 2000 KK ₃₁	15.0	X	304.71724	315.42791	265.34179	3.16413	0.1633109	0.28488926	2.2874520	20	1 7.4	18.0
54353 2000 KH ₃₂	15.4	X	133.64611	324.82209	227.13238	5.18513	0.0814748	0.25794511	2.4440937	20	9 17.6	19.1
54354 2000 KO ₃₂	14.2	X	136.22646	68.69337	250.40287	8.24457	0.0624753	0.17459218	3.1704399	20	—	—
54355 2000 KJ ₃₃	14.5	X	314.99854	145.62382	89.64901	7.51072	0.1408611	0.28707589	2.2758217	20	2 15.3	17.2
54356 2000 KK ₃₃	14.2	X	205.43630	164.30620	88.36405	8.60472	0.0956053	0.27360995	2.3498932	20	—	—
54357 2000 KN ₃₃	15.1	X	156.38411	2.17180	232.73142	2.55756	0.1530912	0.26566225	2.3965297	20	12 7.1	18.6
54358 2000 KM ₃₅	14.1	X	268.87214	335.73010	224.81593	17.11923	0.1722057	0.17974120	3.1095983	20	—	—
54359 2000 KD ₃₆	15.1	X	199.36322	64.44183	133.97443	4.30649	0.1232887	0.21869181	2.7284398	20	11 29.2	19.1
54360 2000 KK ₃₆	14.6	X	339.37149	352.24581	186.61714	5.20293	0.2118137	0.23633336	2.5909122	20	—	—
54361 2000 KM ₃₇	15.9	X	158.08655	345.89944	38.97520	2.13791	0.1094462	0.23853422	2.5749507	20	3 12.5	19.6
54362 2000 Restitutum	14.8	X	243.00936	166.08270	94.08017	13.77314	0.1302111	0.23014875	2.6371225	20	1 3.9	18.8
54363 2000 KH ₃₉	16.3	X	251.84453	288.03954	186.10496	4.36478	0.0801417	0.26468418	2.4024299	20	10 31.9	19.1
54364 2000 KN ₄₂	14.4	X	356.86031	315.09329	157.57464	15.37174	0.0884367	0.22752335	2.6573702	20	—	—
54365 2000 KO ₄₂	14.6	X	36.56270	29.58041	140.33836	15.63123	0.0371176	0.24061389	2.5600921	20	4 10.1	18.0
54366 2000 KL ₄₃	15.4	X	202.86389	356.23946	55.65177	6.16484	0.0655408	0.19988252	2.8970289	20	6 2.5	19.6
54367 2000 KL ₄₈	15.2	X	61.81925	33.72039	220.55109	10.38611	0.1560336	0.25480062	2.4641609	20	9 23.7	18.6
54368 2000 KM ₅₀	14.8	X	180.59990	34.52766	324.53931	6.70309	0.1292689	0.28951957	2.2629977	20	2 26.9	18.1
54369 2000 KS ₅₀	13.4	X	263.39669	197.33158	104.37531	12.16506	0.0857676	0.19059046	2.9904412	20	3 29.8	17.9
54370 2000 KT ₅₀	13.8	X	200.65050	217.12291	113.57821	11.87081	0.1085739	0.18485113	3.0520242	20	2 24.8	18.7
54371 2000 KC ₅₂	15.9	X	237.18115	51.38325	115.68144	3.00704	0.0966716	0.27132207	2.3630848	20	12 20.6	18.6
54372 2000 KN ₅₃	13.5	X	87.63916	287.51097	77.96301	16.03440	0.0638779	0.17373195	3.1808969	20	—	—
54373 2000 KZ ₅₃	15.0	X	63.61129	12.50159	124.82317	14.61322	0.0992599	0.24479119	2.5308837	20	4 14.1	18.3
54374 2000 KM ₅₅	15.0	X	147.84018	143.56227	93.27404	6.67952	0.0789164	0.26536268	2.3983330	20	12 4.3	18.4
54375 2000 KO ₅₅	14.2	X	337.40241	252.83953	87.93322	10.24107	0.1190056	0.20475731	2.8508636	20	9 2.6	17.6
54376 2000 KV ₅₆	15.5	X	117.20983	170.87873	93.43121	3.55229	0.1656227	0.26383408	2.4075877	20	12 7.3	19.1
54377 2000 KE ₅₈	15.0	X	24.19673	260.99944	191.57822	14.14656	0.0808064	0.23206118	2.6226141	20	—	—
54378 2000 KB ₆₀	15.3	X	175.32209	57.28526	86.01181	7.12106	0.0600277	0.25863502	2.4397453	20	9 7.2	18.8
54379 2000 KA ₆₁	15.2	X	32.07277	278.23636	158.94956	5.28406	0.0970446	0.27867687	2.3213222	20	—	—
54380 2000 KR ₆₁	15.0	X	212.17281	309.85882	81.72399	3.99257	0.1297976	0.24574462	2.5243333	20	5 14.8	18.8
54381 2000 KD ₆₂	14.3	X	318.72639	293.55393	120.64506	14.18401	0.1071626	0.21593119	2.7516454	20	11 14.1	17.8
54382 2000 KM ₆₂	13.6	X	157.35688	205.91772	156.75737	11.68112	0.1679518	0.18512966	3.0489622	20	2 21.7	18.4
54383 2000 KC ₆₃	14.3	X	296.27952	103.93603	90.63438	13.12075	0.0498610	0.18307338	3.0717504	20	—	—
54384 2000 KU ₆₃	15.2	X	86.51194	36.43221	90.99421	14.02299	0.1460649	0.24610521	2.5218670	20	5 9.6	18.6
54385 2000 KB ₆₄	15.3	X	323.23629	10.70344	137.71850	12.54160	0.1255033	0.23160996	2.6260192	20	—	—
54386 2000 KD ₆₄	14.1	X	96.53142	205.44235	152.96464	13.89172	0.1842792	0.22462693	2.6801648	20	—	—
54387 2000 KF ₆₄	14.3	X	143.75722	182.08204	180.20912	15.45016	0.1251876	0.23299822	2.6155778	20	1 27.9	18.4
54388 2000 KD ₆₅	14.2	X	354.88402	262.36148	135.82515	7.47387	0.2743476	0.21666708	2.7454114	20	—	—
54389 2000 KS ₆₅	15.3	X	245.08052	160.03012	129.39991	15.78156	0.0877635	0.23583025	2.5945958	20	2 13.6	19.0
54390 2000 KZ ₆₆	14.7	X	277.10696	24.89456	224.44496	24.74711	0.1878544	0.28428494	2.2906926	20	1 5.8	18.7
54391 2000 KO ₆₇	13.5	X	43.19064	262.15727	122.60782	17.98058	0.1694012	0.21965466	2.7204605	20	—	—
54392 2000 KH ₇₀	15.2	X	265.06907	54.64813	289.09589	0.93558	0.1197527	0.19855209	2.9099559	20	5 12.3	19.2
54393 2000 KX ₇₂	15.0	X	244.25114	155.75918	124.94639	14.34220	0.0808434	0.23426845	2.6061146	20	2 1.9	18.6
54394 2000 KB ₇₃	14.4	X	39.47247	358.51311	140.72507	13.79560	0.1230977	0.23837720	2.5760813	20	3 5.4	17.1
54395 2000 KD ₇₅	15.6	X	201.5									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54401 2000 <i>LM</i>	17.1	X	312.22765	67.07295	240.86435	18.95210	0.2624602	0.44051435	1.7106560	20	4 19.4	18.5
54402 2000 <i>LA</i> ₂	13.9	X	292.56868	227.40751	50.25985	10.61415	0.0721943	0.19134658	2.9825581	20	4 3.9	18.1
54403 2000 <i>LD</i> ₂	14.7	X	296.19015	276.87858	260.55341	11.04714	0.1635809	0.23026451	2.6362386	20	—	—
54404 2000 <i>LO</i> ₃	14.8	X	179.82753	153.66590	130.35232	10.85340	0.1118195	0.22470411	2.6795510	20	—	—
54405 2000 <i>LL</i> ₄	14.4	X	124.85387	123.58964	157.75390	9.56542	0.1319462	0.21596485	2.7513594	20	12 25.2	19.0
54406 2000 <i>LR</i> ₄	14.3	X	210.13116	215.67818	164.60005	7.63858	0.0629404	0.24238498	2.5476059	20	5 2.9	18.0
54407 2000 <i>LU</i> ₆	15.1	X	149.50911	224.04032	161.13894	3.95348	0.0092090	0.23737703	2.5833123	20	2 21.1	18.3
54408 2000 <i>LZ</i> ₆	15.5	X	244.15128	237.99023	189.42409	6.11442	0.1078807	0.20651081	2.8347027	20	8 4.3	19.6
54409 2000 <i>LD</i> ₈	15.6	X	279.36211	84.68661	137.67486	0.43000	0.0953824	0.28085381	2.3093114	20	—	—
54410 2000 <i>LG</i> ₉	14.9	X	135.87204	113.55328	114.41949	3.65544	0.1601422	0.26229676	2.4169858	20	11 10.3	18.7
54411 Bobestelle	14.3	X	38.55288	75.41380	254.61652	10.30254	0.1848603	0.20428860	2.8552225	20	11 28.9	18.0
54412 2000 <i>LU</i> ₁₀	14.5	X	277.59825	110.54231	142.13539	12.17225	0.0867144	0.23468209	2.6030515	20	2 2.9	18.0
54413 2000 <i>LL</i> ₁₁	13.8	X	247.43638	161.41762	123.96505	16.86928	0.1705570	0.23303646	2.6152917	20	2 5.1	17.9
54414 2000 <i>LA</i> ₁₃	13.3	X	232.44702	243.68020	123.63540	11.41711	0.1171158	0.19202526	2.9755264	20	5 10.6	18.1
54415 2000 <i>LR</i> ₁₃	13.6	X	261.08087	102.41044	164.18579	10.37394	0.0504979	0.18378760	3.0633871	20	2 11.2	18.0
54416 2000 <i>LR</i> ₁₄	15.1	X	8.50586	140.39014	93.76296	4.57534	0.0658675	0.24475288	2.5311478	20	5 23.2	17.9
54417 2000 <i>LH</i> ₁₇	14.9	X	25.28402	340.08936	149.15056	7.69928	0.0476970	0.28276956	2.2988693	20	1 14.9	17.4
54418 2000 <i>LO</i> ₁₇	13.0	X	268.28616	249.15761	82.86414	14.15909	0.2023610	0.23884463	2.5727192	20	4 25.4	17.0
54419 2000 <i>LA</i> ₂₀	14.1	X	190.90263	76.79936	127.97494	13.20572	0.1892790	0.26483112	2.4015412	20	12 2.6	18.0
54420 2000 <i>LT</i> ₂₀	14.3	X	154.77562	153.29981	271.13332	19.55488	0.0822797	0.33460078	2.0548428	20	4 12.9	17.4
54421 2000 <i>LG</i> ₂₃	14.4	X	248.69191	317.15596	288.99456	12.16051	0.1369656	0.22621648	2.6675950	20	—	—
54422 2000 <i>LK</i> ₂₃	14.8	X	249.65781	359.62570	231.23711	12.51009	0.1372640	0.22404576	2.6847977	20	—	—
54423 2000 <i>LO</i> ₂₄	13.1	X	111.23878	114.42768	202.10186	22.37933	0.1122263	0.16909571	3.2387766	20	—	—
54424 2000 <i>LP</i> ₂₄	14.9	X	138.06197	194.89200	157.94454	15.61212	0.1025643	0.22713501	2.6603983	20	1 10.0	18.9
54425 2000 <i>LX</i> ₂₄	14.6	X	166.42024	89.66310	194.00869	15.68229	0.1361833	0.21985828	2.7187806	20	—	—
54426 2000 <i>LR</i> ₂₅	13.8	X	277.32886	330.96138	304.85822	7.96973	0.1119535	0.18632302	3.0359296	20	3 2.2	18.2
54427 2000 <i>LG</i> ₂₇	13.5	X	267.55673	351.42574	319.40917	8.87865	0.1039379	0.18577522	3.0418948	20	4 2.4	18.0
54428 2000 <i>LN</i> ₂₇	12.4	X	202.59324	18.29128	299.26154	16.40158	0.1010381	0.17714115	3.1399524	20	2 6.5	17.4
54429 2000 <i>LN</i> ₂₈	14.6	X	167.96425	131.85590	132.55911	3.89798	0.1668958	0.21594910	2.7514933	20	—	—
54430 2000 <i>LZ</i> ₂₉	14.0	X	198.37523	118.89415	251.61987	12.88222	0.1276777	0.23980413	2.5658521	20	3 29.6	18.3
54431 2000 <i>LA</i> ₃₁	16.1	X	123.78947	30.61036	170.41073	6.65587	0.0635594	0.25817194	2.4426619	20	9 19.9	19.3
54432 2000 <i>LG</i> ₃₁	13.4	X	262.22668	14.50530	303.08514	12.48153	0.1855191	0.23535263	2.5981048	20	3 20.7	17.7
54433 2000 <i>LH</i> ₃₂	14.1	X	357.13602	47.51993	208.39946	9.87954	0.0566599	0.19197765	2.9760184	20	6 4.5	18.0
54434 2000 <i>LU</i> ₃₃	14.8	X	194.16035	2.07598	274.26463	12.56524	0.1937001	0.22342329	2.6897820	20	—	—
54435 2000 <i>LM</i> ₃₅	13.9	X	202.27280	95.98504	274.44786	8.19365	0.0677599	0.18417696	3.0594675	20	4 7.9	18.7
54436 2000 <i>LK</i> ₃₆	14.4	X	299.20153	335.93430	100.02671	16.96801	0.0696110	0.21607084	2.7504596	20	11 14.9	18.1
54437 2000 <i>MW</i>	14.0	X	136.29224	151.27958	272.48278	13.99141	0.0794063	0.23753621	2.5821581	20	3 26.6	18.0
54438 2000 <i>MB</i> ₂	14.5	X	20.95393	296.88706	306.67768	3.97502	0.1989859	0.24123545	2.5556927	20	7 11.6	16.6
54439 <i>Topeka</i>	14.5	X	36.15741	89.70748	155.49980	16.53622	0.1902846	0.24346951	2.5400348	20	8 10.3	17.3
54440 2000 <i>MP</i> ₃	14.8	X	301.49272	182.58575	103.03914	5.35891	0.1895446	0.24103816	2.5570870	20	4 3.3	18.0
54441 2000 <i>MP</i> ₅	13.8	X	339.36297	153.99224	140.56454	13.57268	0.2156585	0.24232924	2.5479965	20	6 22.7	16.1
54442 2000 <i>MS</i> ₅	14.3	X	246.52741	110.08675	147.89032	15.40211	0.2074687	0.22854974	2.6494083	20	1 1.2	19.0
54443 2000 <i>MT</i> ₅	13.9	X	213.51176	148.30521	141.90049	24.39134	0.1887839	0.27574828	2.3377291	20	1 7.7	18.0
54444 2000 <i>MU</i> ₅	12.4	X	2.97215	190.51489	283.19417	20.05712	0.0361536	0.16967443	3.2314079	20	—	—
54445 2000 <i>MW</i> ₅	13.9	X	288.93665	119.97831	173.97954	14.32425	0.2013295	0.23527261	2.5986940	20	3 25.8	17.4
54446 2000 <i>MY</i> ₅	15.1	X	173.76952	120.24077	155.20991	5.35305	0.1280057	0.21991620	2.7183033	20	—	—
54447 2000 <i>NX</i> ₁	14.0	X	262.68733	157.64593	107.95179	16.04994	0.0844212	0.23148387	2.6269727	20	2 4.7	17.8
54448 2000 <i>NZ</i> ₂	14.6	X	25.35175	58.89659	119.90583	22.24575	0.1610818	0.29011543	2.2598980	20	4 11.9	17.2
54449 2000 <i>NY</i> ₇	14.4	X	189.08955	46.15501	144.20827	9.68723	0.0895530	0.21077437	2.7963457	20	11 12.6	18.7
54450 2000 <i>NT</i> ₁₀	14.9	X	184.82913	257.82465	355.60987	8.55328	0.1079927	0.21710192	2.7417443	20	—	—
54451 2000 <i>NV</i> ₁₀	13.4	X	206.77304	293.93618	349.20418	10.42679	0.1516250	0.17411270	3.1762579	20	1 6.9	18.7
54452 2000 <i>NX</i> ₁₃	14.8	X	228.89427	94.02846	140.49659	10.66295	0.1474967	0.22055635	2.7130409	20	—	—
54453 2000 <i>NL</i> ₁₅	13.8	X	267.13745	44.00526	328.94333	9.29302	0.1176368	0.19161044	2.9798193	20	6 22.7	18.1
54454 2000 <i>NA</i> ₁₆	14.2	X	229.03941	121.19458	10.89043	1.86438	0.0147263	0.20473947	2.8510292	20	10 21.9	18.1
54455 2000 <i>NW</i> ₁₆	15.0	X	37.33587	92.09407	103.47586	9.81539	0.1671049	0.23899578	2.5716344	20	5 28.5	17.7
54456 2000 <i>NJ</i> ₁₇	13.9	X	53.75638	137.50682	335.85413	15.19352	0.0311109	0.17744067	3.1364180	20	2 21.7	18.0
54457 2000 <i>NC</i> ₂₄	13.6	X	65.04890	24.47619	124.32314	18.49646	0.1241221	0.23656278	2.5892368	20	5 7.9	17.2
54458 2000 <i>NM</i> ₂₄	14.7	X	294.03772	328.50671	293.27150	14.18007	0.1717317	0.23458002	2.6038065	20	2 17.6	18.6
54459 2000 <i>NX</i> ₂₄	14.5	X	175.20640	307.02772	280.10800	3.30487	0.0915852	0.21340943	2.7732795	20	12 9.6	18.6
54460 2000 <i>NU</i> ₂₈	14.1	X	259.16105	201.61382	133.97192	3.32110	0.2015138	0.18840557	3.0135164	20	4 17.9	18.8
54461 2000 <i>NA</i> ₂₉	13.5	X	324.53258	273.03902	272.68919	13.72757	0.1926490	0.17928859	3.1148295	20	1 2.8	17.5
54462 2000 <i>NC</i> ₂₉	14.0	X	89.72061	155.45782	148.06037	17.34608	0.1918266	0.21086072	2.7955822	20	12 23.1	18.8
54463 2000 <i>OS</i> ₁	14.9	X	66.05087	268.80245	2.67891	4.87043	0.1680957	0.25688181	2.4508335	20	10 25.1	18.4
54464 2000 <i>OX</i> ₁	14.0	X	191.28223	102.81285	316.25192	8.67346	0.0963399	0.18829459	3.0147004	20	5 27.9	18.8
54465 2000 <i>OE</i> ₄	14.0	X	211.30734	97.17437	190.39497	8.05615	0.1728737	0.22476899	2.6790354	20	1 6.9	18.6
54466 2000 <i>OE</i> ₄	14.2	X	254.37893	54.14962	177.94955	13.47571	0.1279210	0.22336997	2.6902101	20	—	—
54467 2000 <i>OE</i> ₆	13.4	X	351.63408	311.02568	279.81659	10.85914	0.1073981	0.23542203	2.5975943	20	4 11.9	16.5
54468 2000 <i>OA</i> ₇	14.5	X	5.49863	323.56708	277.78376	12.64749	0.1456641	0.24146336	2.5540843	20	5 28.8	17.1
54469 2000 <i>OM</i> ₈	14.1	X	223.44447	114.69763	189.71660	9.52645	0.0851189	0.17939394	3.1136099	20	2 12.4	18.9
54470 2000 <i>OE</i> ₁₀	14.6	X	109.10867	8.77298	277.64871	7.65151	0.2292536	0.21301340	2.7767158	20	12 20.3	19.3
54471 2000 <i>OC</i> ₁₁	14.4	X	83.18527	67.92872	272.42060	5.12205	0.0191939	0.21607668	2.7504101	20	—	—
54472 2000 <i>OL</i> ₁₁	14.3	X	358.07883	157.56558	126.80989	3.05984	0.0602113	0.19661446	2.9290430	20		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54481 2000 <i>OB</i> ₂₅	14.1	X	345.29407	199.88186	317.78058	12.65929	0.1124552	0.22741323	2.6582281	20	—	—
54482 2000 <i>OE</i> ₂₅	14.6	X	239.18970	299.77561	324.69448	8.06766	0.1731903	0.22775198	2.6555915	20	1 5.0	19.0
54483 2000 <i>OF</i> ₂₆	15.4	X	358.92297	273.41263	70.67246	4.11378	0.1497377	0.30169168	2.2017119	20	11 9.1	17.2
54484 2000 <i>OJ</i> ₂₆	15.3	X	338.39978	150.31097	103.57156	5.71130	0.2011745	0.24023348	2.5627939	20	4 19.1	17.8
54485 2000 <i>OR</i> ₂₇	14.2	X	247.46345	110.62943	146.73713	15.53818	0.0948621	0.22509145	2.6764762	20	1 7.6	18.4
54486 2000 <i>OO</i> ₂₉	14.2	X	248.23958	73.39034	262.96216	8.98590	0.1098962	0.18692324	3.0294272	20	4 12.5	18.9
54487 2000 <i>OD</i> ₃₀	14.5	X	245.81299	158.24300	173.91875	10.12859	0.0981018	0.18598981	3.0395546	20	4 11.1	19.0
54488 2000 <i>OG</i> ₃₂	14.1	X	228.96744	23.56558	299.36919	9.55943	0.0619242	0.18175839	3.0865483	20	3 9.9	18.9
54489 2000 <i>OZ</i> ₃₂	14.5	X	270.19110	96.40780	150.94864	14.51498	0.0546712	0.22926851	2.6438681	20	1 22.7	18.3
54490 2000 <i>ON</i> ₃₄	14.1	X	129.52512	65.71671	199.22668	8.86024	0.1164782	0.21247725	2.7813849	20	12 9.6	18.5
54491 2000 <i>OD</i> ₃₅	14.4	X	245.94655	151.85248	196.40982	9.80987	0.1267746	0.18811823	3.0165843	20	4 27.3	19.0
54492 2000 <i>OB</i> ₃₆	13.8	X	185.90456	184.04496	112.17384	17.50790	0.0842611	0.17464824	3.1697614	20	—	—
54493 2000 <i>OP</i> ₃₇	14.6	X	60.76413	99.01335	197.75680	10.32357	0.1246518	0.20598999	2.8394788	20	11 7.9	18.6
54494 2000 <i>OB</i> ₃₈	13.7	X	147.37829	71.06581	239.09114	10.02971	0.0266107	0.16919216	3.2375456	20	—	—
54495 2000 <i>OL</i> ₃₈	14.7	X	317.33479	348.08976	210.83071	9.15200	0.1451447	0.22862193	2.6488505	20	1 6.3	18.3
54496 2000 <i>OT</i> ₄₀	13.9	X	195.43852	153.27380	232.12507	7.78933	0.0372355	0.18408061	3.0605350	20	4 22.3	18.3
54497 2000 <i>OF</i> ₄₁	14.3	X	229.13720	99.12663	225.54320	9.46731	0.0398940	0.18257581	3.0773287	20	3 14.9	18.9
54498 2000 <i>OK</i> ₄₁	14.3	X	227.45878	149.34147	210.76218	9.67635	0.0287812	0.18626102	3.0366034	20	4 30.2	18.7
54499 2000 <i>OS</i> ₄₁	14.3	X	72.94076	26.90657	242.13251	11.90280	0.0916273	0.20508015	2.8478709	20	10 9.4	18.5
54500 2000 <i>OR</i> ₄₄	14.4	X	247.23771	315.46926	138.39520	13.63382	0.0979776	0.22518825	2.6757092	20	1 28.6	18.4
54501 2000 <i>OB</i> ₅₂	13.4	X	307.00844	342.07534	4.25948	15.65952	0.1265963	0.23842572	2.5757318	20	7 21.3	16.7
54502 2000 <i>OX</i> ₅₂	15.3	X	199.68943	233.07153	70.30242	5.67204	0.1573872	0.27027195	2.3692019	20	1 11.3	19.1
54503 2000 <i>OV</i> ₅₃	13.9	X	209.54850	10.01991	316.29352	15.30920	0.0968608	0.17595160	3.1540887	20	2 23.3	18.8
54504 2000 <i>OV</i> ₅₄	14.7	X	221.78897	311.58474	176.89686	1.97210	0.0198918	0.20483831	2.8501120	20	10 8.2	18.4
54505 2000 <i>OK</i> ₅₅	14.5	X	59.76410	121.87692	155.72175	2.42609	0.0284338	0.20295914	2.8671675	20	9 28.5	18.2
54506 2000 <i>OA</i> ₅₇	14.0	X	138.82742	93.07666	325.76067	14.11378	0.1728988	0.18023312	3.1039376	20	4 4.9	19.2
54507 2000 <i>OD</i> ₅₉	14.8	X	343.15887	53.25891	134.30004	9.70507	0.1228337	0.23046809	2.6346859	20	2 1.9	17.6
54508 2000 <i>PD</i> ₄	14.4	X	68.06336	290.05704	141.18083	14.50554	0.0283759	0.22534278	2.6744857	20	1 10.1	18.1
54509 YORP	22.7	X	336.35564	278.93163	278.23276	1.59949	0.2299585	0.97680506	1.0059988	20	—	—
54510 2000 <i>PD</i> ₇	14.3	X	347.15019	305.05002	257.72876	1.75491	0.0465433	0.23241125	2.6199799	20	3 6.7	17.5
54511 2000 <i>PX</i> ₁₀	13.7	X	297.77016	264.51912	42.20236	11.04869	0.0779193	0.18665601	3.0323179	20	5 12.4	17.7
54512 2000 <i>PO</i> ₁₁	14.8	X	185.49875	158.45449	107.44065	14.15572	0.1468431	0.21609455	2.7502584	20	—	—
54513 2000 <i>PS</i> ₁₁	12.9	X	149.96752	287.90250	105.72422	15.93418	0.1336974	0.17529672	3.1619393	20	3 28.1	18.1
54514 2000 <i>PA</i> ₁₂	12.8	X	100.77295	323.47553	125.03702	20.83903	0.2340145	0.12330591	3.9977300	20	4 27.3	19.1
54515 2000 <i>PH</i> ₁₉	14.4	X	256.77782	112.93626	116.63816	14.24506	0.1298997	0.22372456	2.6873668	20	—	—
54516 2000 <i>PB</i> ₂₀	13.4	X	49.50935	106.52092	353.17682	17.14469	0.1317498	0.17252688	3.1956917	20	2 13.8	17.5
54517 2000 <i>PK</i> ₂₁	14.9	X	203.54290	99.72930	335.17822	8.75166	0.0450016	0.19294233	2.9660903	20	7 5.8	19.3
54518 2000 <i>PH</i> ₂₈	13.4	X	93.97823	304.14587	135.24326	20.37912	0.0569635	0.17490232	3.1666909	20	3 8.3	18.0
54519 2000 <i>PF</i> ₂₉	14.9	X	132.91106	170.39552	112.00235	10.51082	0.1339327	0.21292572	2.7774781	20	—	—
54520 2000 <i>PJ</i> ₃₀	8.0	X	12.02448	304.45939	293.09634	5.68511	0.7722022	0.00069469	126.2632691	20	8 21.8	25.2
54521 Aladdin	13.1	X	248.05590	260.50731	341.84991	14.52276	0.1337299	0.17287734	3.1913714	20	—	—
54522 Menaechmus	14.3	X	323.03456	325.05673	324.49763	8.97910	0.0833669	0.18920768	3.0049935	20	5 24.3	18.3
54523 2000 <i>QV</i> ₂	12.8	X	23.89273	169.43783	320.18986	8.88448	0.0779226	0.17337260	3.1852907	20	2 3.9	16.8
54524 2000 <i>QX</i> ₂	14.2	X	231.35907	342.38802	338.78091	15.53033	0.1922336	0.23035959	2.6355132	20	3 2.5	18.4
54525 2000 <i>QZ</i> ₃	14.2	X	343.16608	276.22911	345.53690	8.50045	0.2024474	0.18961597	3.0006784	20	5 7.4	17.5
54526 2000 <i>QS</i> ₁₃	14.4	X	122.25512	30.32278	315.33954	4.29628	0.1177976	0.16912968	3.2383428	20	—	—
54527 2000 <i>QJ</i> ₁₆	14.4	X	119.66044	74.15949	127.67015	3.03865	0.0225932	0.19865324	2.9089680	20	9 5.6	18.5
54528 2000 <i>QF</i> ₁₈	15.3	X	16.89846	97.01754	152.19659	14.35440	0.1452260	0.24222124	2.5487539	20	7 4.6	18.1
54529 2000 <i>QH</i> ₂₀	14.6	X	300.82356	296.76387	335.36691	8.05080	0.0961890	0.18286358	3.0740994	20	3 28.6	18.9
54530 2000 <i>QN</i> ₂₆	15.1	X	342.53436	286.24602	353.28661	5.58186	0.1879233	0.24123877	2.5556692	20	6 5.6	17.4
54531 2000 <i>QH</i> ₃₃	14.0	X	291.43428	191.33291	87.92934	14.51033	0.1409744	0.23258885	2.6186460	20	3 26.2	17.8
54532 2000 <i>QR</i> ₃₅	15.7	X	129.71148	167.55306	260.47914	1.61569	0.2047474	0.27623302	2.3349934	20	4 11.9	19.0
54533 2000 <i>QM</i> ₃₈	14.0	X	308.64334	352.89635	40.70371	0.66193	0.0783066	0.15119342	3.4896413	20	9 15.9	18.7
54534 2000 <i>QE</i> ₃₉	14.3	X	250.59717	347.55660	299.11702	3.88501	0.1240769	0.18008029	3.1056935	20	2 17.2	19.1
54535 2000 <i>QJ</i> ₃₉	13.9	X	185.99930	111.38244	321.37948	12.42563	0.0897158	0.18805735	3.0172353	20	6 9.6	18.8
54536 2000 <i>QD</i> ₄₆	15.2	X	250.06717	274.80248	329.72636	4.91933	0.1715443	0.22430459	2.6827319	20	—	—
54537 2000 <i>QD</i> ₄₉	15.0	X	172.42187	80.09641	156.14243	4.30409	0.1641581	0.26195250	2.4191029	20	12 22.4	18.7
54538 2000 <i>QC</i> ₅₁	13.2	X	245.47746	268.07439	341.91897	18.01768	0.1931091	0.17395360	3.1781942	20	1 1.2	18.7
54539 2000 <i>QR</i> ₅₆	14.8	X	28.48057	77.41955	160.48821	11.99173	0.0150178	0.19021485	2.9943767	20	6 23.3	19.1
54540 2000 <i>QQ</i> ₅₈	14.5	X	349.38901	232.66814	10.29734	10.02556	0.0338328	0.18654394	3.0335322	20	5 4.3	18.6
54541 2000 <i>QV</i> ₅₈	14.5	X	120.86324	210.17479	24.65080	7.91289	0.1252721	0.25466623	2.4650278	20	10 31.5	18.2
54542 2000 <i>QO</i> ₅₉	15.8	X	272.91445	173.83306	79.56575	5.33922	0.0920377	0.27747124	2.3280416	20	1 24.0	18.9
54543 2000 <i>QC</i> ₆₀	14.0	X	109.88921	18.68263	127.96873	14.38544	0.1131661	0.24062276	2.5600292	20	6 25.6	17.8
54544 2000 <i>QK</i> ₆₂	13.7	X	110.69315	80.16961	24.46076	10.96774	0.1878792	0.17819808	3.1275243	20	5 9.0	18.6
54545 2000 <i>QS</i> ₆₄	13.8	X	208.30049	288.41712	14.87686	17.25105	0.1481796	0.17407453	3.1767221	20	2 4.9	19.2
54546 2000 <i>QQ</i> ₆₉	14.7	X	348.90906	312.31189	281.18514	2.68658	0.0880092	0.18293005	3.0733547	20	4 20.4	18.7
54547 2000 <i>QO</i> ₇₁	14.0	X	9.11785	60.36687	326.48914	14.54776	0.0345877	0.15790048	3.3901096	20	11 26.5	19.0
54548 2000 <i>QO</i> ₇₆	14.2	X	12.03201	307.09706	333.07991	9.02552	0.0481104	0.19301478	2.9653480	20	7 30.6	18.0
54549 2000 <i>QX</i> ₈₄	14.5	X	127.55394	148.58696	311.53780	10.02336	0.0444952	0.18437863	3.0572361	20	5 4.1	19.1
54550 2000 <i>QA</i> ₈₇	14.0	X	86.14586	201.78401	305.99244	8.22638	0.0303291	0.18516049	3.0486238	20	5 12.6	18.3
54551 2000 <i>QX</i> ₈₇	13.4	X	6.82405	203.07967	321.22454	14.34481	0.1671196	0.17640795	3.1486468	20	2 16.6	16.9
54552 2000 <i>QO</i> ₁₀₀	14.2	X	213.63180	296.92726	20.94519	9.53						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54561 2000 QH ₁₃₅	14.2	X	219.34660	169.02170	144.12342	24.19675	0.0878575	0.17846468	3.1244089	20	2 21.3	18.9
54562 2000 QU ₁₄₀	13.1	X	10.35211	238.80479	5.39686	17.31013	0.2683977	0.18897994	3.0074072	20	6 19.9	16.2
54563 Kinokonasu	13.1	X	67.76409	247.83386	267.51229	11.88101	0.1911344	0.17977043	3.1092613	20	5 24.0	17.2
54564 2000 QZ ₁₄₈	13.8	X	331.66180	3.89703	266.64109	7.31939	0.0629524	0.18695060	3.0291316	20	5 15.1	17.8
54565 2000 QK ₁₄₉	14.1	X	281.68876	282.72978	354.32804	12.31038	0.0866977	0.17999835	3.1066360	20	3 15.4	18.4
54566 2000 QW ₁₅₁	14.7	X	301.37544	25.32495	246.31363	3.25775	0.1260149	0.18285289	3.0742192	20	3 26.0	18.9
54567 2000 QZ ₁₅₁	13.9	X	131.48854	279.54710	346.74155	14.78340	0.1317840	0.15720183	3.4001467	20	11 30.5	19.6
54568 2000 QO ₁₅₂	13.9	X	272.74945	123.95498	207.38724	4.14490	0.1118505	0.18955955	3.0012737	20	5 7.8	18.2
54569 2000 QV ₁₅₂	14.4	X	251.60567	323.77692	289.93701	5.03002	0.0852250	0.17541358	3.1605348	20	1 15.6	19.1
54570 2000 QB ₁₅₄	14.1	X	304.82787	72.71094	201.59399	12.20221	0.0190133	0.18510578	3.0492245	20	4 19.9	18.4
54571 2000 QG ₁₅₅	13.7	X	147.76831	254.01155	168.74896	17.78042	0.2557792	0.18114213	3.0935448	20	5 2.7	19.2
54572 2000 QU ₁₅₅	14.0	X	66.37703	207.91232	242.05107	7.88063	0.0789868	0.17410448	3.1763578	20	2 11.1	18.3
54573 2000 QP ₁₅₅	14.6	X	264.81312	38.36729	260.43727	8.57826	0.0970878	0.18285680	3.0741754	20	3 16.6	19.3
54574 2000 QL ₁₅₇	14.0	X	145.36828	139.42234	223.46245	10.13942	0.0960421	0.17504765	3.1649379	20	2 2.7	18.9
54575 2000 QY ₁₅₇	14.4	X	107.36061	210.85213	180.89956	12.75644	0.1075618	0.17342478	3.1846517	20	1 28.9	19.1
54576 2000 QE ₁₅₉	14.0	X	80.37340	250.52965	259.49400	7.78290	0.0830338	0.18425013	3.0586575	20	5 17.6	18.3
54577 2000 QA ₁₆₀	14.4	X	117.11402	214.23334	245.84881	9.13427	0.0638877	0.18179977	3.0860799	20	4 26.4	18.9
54578 2000 QK ₁₆₁	14.2	X	69.55432	309.67765	187.86502	12.06252	0.0796708	0.18309688	3.0714875	20	4 18.8	18.3
54579 2000 QA ₁₆₅	14.2	X	172.56253	144.71115	299.03180	10.81075	0.0464639	0.18669954	3.0318465	20	6 9.0	18.8
54580 2000 QE ₁₆₈	14.2	X	356.37463	290.19740	326.34834	15.23915	0.0360803	0.18724073	3.0260016	20	6 1.9	18.5
54581 2000 QW ₁₇₀	12.2	X	240.88681	101.81347	256.98459	5.45756	0.0989743	0.08387843	5.1685554	20	5 8.5	19.4
54582 2000 QU ₁₇₉	12.5	X	256.02925	242.85452	101.32460	2.89269	0.0863205	0.08402422	5.1625752	20	5 10.4	19.5
54583 2000 QT ₁₈₀	14.9	X	280.99260	76.39551	264.34094	5.90878	0.1484794	0.28082964	2.3094439	20	5 23.1	17.5
54584 2000 QC ₁₈₁	14.7	X	234.66911	314.90437	32.03622	8.84555	0.1718707	0.27505362	2.3416635	20	4 6.8	18.3
54585 2000 QJ ₁₈₇	14.8	X	263.01948	175.99463	71.38712	6.36728	0.2096668	0.22712751	2.6604569	20	1 2.5	19.1
54586 2000 QV ₁₈₈	14.3	X	92.94364	289.31066	140.39837	16.97208	0.0890209	0.17398336	3.1778318	20	2 27.1	18.7
54587 2000 QM ₁₈₉	14.1	X	270.67995	161.93935	110.25165	11.16716	0.0428364	0.17892959	3.1189945	20	3 6.5	18.7
54588 2000 QE ₁₉₂	13.7	X	308.71627	191.61994	12.03383	17.99644	0.0978893	0.17522525	3.1627989	20	1 24.9	18.4
54589 2000 QF ₁₉₅	15.0	X	358.71245	218.14997	23.44194	3.15825	0.1732090	0.23977842	2.5660355	20	5 14.0	17.2
54590 2000 QA ₂₀₂	14.1	X	120.19492	40.23771	113.74960	3.73005	0.0924547	0.18906444	3.0065111	20	7 12.0	18.4
54591 2000 QC ₂₀₂	14.9	X	37.53852	101.19566	136.99877	6.39905	0.1453598	0.24235742	2.5477990	20	7 26.5	17.7
54592 2000 QA ₂₁₆	14.1	X	319.66878	187.11214	29.61243	9.70445	0.0231365	0.17488276	3.1669270	20	3 2.4	18.6
54593 2000 QR ₂₁₉	15.0	X	231.07069	257.13888	352.74057	10.80630	0.1635729	0.22351606	2.6890377	20	—	—
54594 2000 QZ ₂₂₀	15.2	X	141.36518	121.98806	142.57525	4.21884	0.0517366	0.21101497	2.7942197	20	12 20.2	19.3
54595 2000 QZ ₂₂₂	13.9	X	87.08868	122.56787	109.50755	14.95407	0.2427581	0.20179628	2.8786837	20	10 6.4	18.8
54596 2000 QD ₂₂₅	12.5	X	289.95447	155.03679	147.28040	5.35069	0.0726384	0.08610176	5.0791927	20	5 3.6	19.2
54597 2000 QZ ₂₂₉	15.8	X	336.84433	36.14671	138.69066	7.25689	0.0492465	0.27137233	2.3627930	20	1 8.4	18.7
54598 Bienor	7.5	X	318.47306	153.37374	337.72833	20.74452	0.1989369	0.01478128	16.4435141	20	12 4.7	19.1
54599 2000 QN ₂₄₄	13.6	X	16.82164	155.75866	9.10099	0.34796	0.0586075	0.12657968	3.9284996	20	3 12.9	18.7
54600 2000 RU ₈	14.5	X	162.40500	314.99927	83.75805	7.05151	0.1140376	0.27173125	2.3607119	20	4 4.7	18.0
54601 2000 RZ ₁₃	13.5	X	79.33512	277.97910	187.04728	21.81480	0.0914402	0.17659106	3.1464698	20	3 22.0	17.7
54602 2000 RB ₁₅	14.1	X	335.86225	302.58555	296.69389	10.76353	0.1330950	0.18373760	3.0643429	20	3 29.1	18.2
54603 2000 RF ₁₆	13.6	X	131.79190	288.11250	302.46936	9.65883	0.0736565	0.20298572	2.8674272	20	10 24.2	18.1
54604 2000 RG ₁₈	14.0	X	294.60498	264.88144	121.03816	10.59599	0.1232148	0.17321239	3.1872545	20	1 15.8	18.5
54605 2000 RP ₂₆	14.1	X	347.04966	284.43075	305.51631	11.52443	0.02315976	0.23380458	2.6095605	20	3 17.9	16.8
54606 2000 RA ₂₈	13.6	X	57.16857	298.63857	277.13378	9.07045	0.0570772	0.18895745	3.0076459	20	7 7.9	17.7
54607 2000 RX ₂₈	13.5	X	133.67047	311.61407	271.81819	9.33651	0.0906338	0.20079658	2.8882305	20	10 18.4	18.0
54608 2000 RH ₃₃	13.9	X	304.76929	286.07531	348.29707	11.04791	0.1794748	0.18259894	3.0770689	20	3 25.3	18.0
54609 2000 RN ₃₆	14.4	X	239.46817	329.23726	342.65446	16.28205	0.1114717	0.17961341	3.1110731	20	3 7.7	19.2
54610 2000 RG ₅₂	14.0	X	93.19473	171.54648	254.46008	8.89142	0.2041863	0.21968388	2.7202193	20	2 28.0	17.8
54611 2000 RO ₆₃	14.6	X	179.80693	93.82424	153.10826	9.64383	0.1099180	0.21651457	2.7467004	20	—	—
54612 2000 RA ₆₈	14.3	X	247.18532	296.34844	333.34486	14.20235	0.0654594	0.22827859	2.6515059	20	1 27.3	18.2
54613 2000 RD ₈₀	13.7	X	101.96344	284.14864	288.46387	11.72123	0.0697265	0.19582389	2.9369210	20	8 27.6	18.2
54614 2000 RL ₈₄	13.0	X	218.11070	198.39641	183.89427	11.80916	0.1365859	0.08325742	5.1942251	20	5 12.9	20.4
54615 2000 RF ₈₇	14.6	X	3.69016	235.99780	354.60248	8.21057	0.2032417	0.23473594	2.6026533	20	5 4.8	16.9
54616 2000 RZ ₉₇	13.5	X	296.24627	255.42462	311.32545	25.65677	0.0245917	0.16972281	3.2307938	20	1 21.4	18.2
54617 2000 RS ₉₈	14.0	X	356.27757	336.20374	273.55862	12.15216	0.2400480	0.23836053	2.5762014	20	5 18.1	16.1
54618 2000 RB ₁₀₂	13.2	X	124.21020	112.29566	290.76433	11.43218	0.0193631	0.17149604	3.2084848	20	2 17.8	17.9
54619 2000 SS ₃	14.1	X	108.87260	345.40692	109.02185	11.81398	0.0597598	0.17844501	3.1246385	20	4 16.5	18.8
54620 2000 ST ₈	13.4	X	249.81372	267.35632	359.73787	13.78016	0.2067390	0.17359522	3.1825668	20	1 24.5	18.8
54621 2000 SS ₁₂	14.7	X	270.32226	186.55634	113.70123	7.69782	0.1035284	0.18372122	3.0645250	20	3 31.8	19.3
54622 2000 SH ₃₁	14.0	X	142.03924	46.51296	177.08383	10.16695	0.0415870	0.15231746	3.4724520	20	10 23.9	19.1
54623 2000 SR ₃₄	14.5	X	230.80218	287.12726	5.89065	8.73626	0.0534325	0.17400249	3.1775989	20	2 14.1	19.2
54624 2000 SH ₄₅	13.2	X	152.74994	70.35898	255.33324	15.95849	0.0910502	0.17132097	3.2106702	20	—	—
54625 2000 SC ₄₉	12.4	X	238.27858	133.15768	198.11536	11.23833	0.0505076	0.08105836	5.2877491	20	4 10.8	19.6
54626 2000 SJ ₄₉	12.3	X	251.65490	135.94166	217.92430	9.78841	0.0620219	0.08425154	5.1532850	20	5 19.3	19.3
54627 2000 SN ₇₂	15.8	X	267.55481	173.74525	116.88365	5.56547	0.1400295	0.27829060	2.3234698	20	3 1.9	19.1
54628 2000 SB ₈₁	12.9	X	40.27097	102.72943	59.15137	6.13277	0.1409033	0.12494076	3.9627798	20	4 18.9	17.9
54629 2000 SL ₉₈	13.8	X	358.83675	201.30913	354.10483	15.62696	0.0569016	0.17632609	3.1496212	20	3 19.3	18.0
54630 2000 SM ₁₁₂	12.9	X	114.79332	252.11004	201.72854	9.01467	0.1373126	0.12437656	3.9747548	20	4 29.2	18.8
54631 2000 SJ ₁₁₅	12.7	X	45.96191	126.63535	28.78273	6.10225	0.0563908	0.12455602	3.9709362	20	4 9.4	18.1
54632 2000 SD ₁₃₀	12.2	X	256.70003	66.34781	261.38572	17.99152	0.1119646	0.08352251	5.1832284	20	4 14.3	19.5
54633 2000 SL ₁₃₀	14.3	X	177.32305	100.08365	293.15487	16.18752	0.0227771	0.18051498	3.1070058			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54641 2000 SA ₂₄₂	14.8	X	356.39345	223.27838	342.12086	5.06207	0.1573943	0.23242618	2.6198676	20	3 15.9	17.3
54642 2000 SH ₂₄₃	14.7	X	202.34705	297.37669	15.68814	8.92899	0.0661447	0.17358218	3.1827263	20	2 7.9	19.6
54643 2000 SP ₂₈₃	12.2	X	1.82464	264.37353	325.42561	11.41664	0.0736795	0.08365612	5.1777084	20	5 6.3	18.9
54644 2000 SN ₂₈₄	13.0	X	1.06599	230.52575	306.56694	6.52335	0.0489038	0.12387705	3.9854326	20	3 4.8	18.4
54645 2000 SR ₂₈₄	12.2	X	311.38086	52.31919	235.01409	16.75466	0.0898091	0.08197258	5.2483605	20	5 8.5	18.9
54646 2000 SS ₂₉₁	12.5	X	285.93704	53.07130	259.33302	3.56273	0.1083614	0.08231396	5.2338393	20	5 3.3	19.3
54647 2000 ST ₃₀₄	14.0	X	242.18774	270.80545	353.74995	12.70069	0.2431522	0.17152064	3.2081781	20	1 12.5	19.6
54648 2000 SL ₃₀₇	13.6	X	327.43427	234.80199	322.71263	8.1408	0.0904217	0.16980915	3.2296985	20	2 6.8	17.9
54649 2000 SE ₃₁₀	11.9	X	281.46983	23.13721	290.75068	25.21751	0.1107667	0.08194510	5.2495335	20	4 21.8	19.1
54650 2000 SE ₃₁₅	13.1	X	232.75960	309.52435	337.02006	21.11268	0.0199360	0.17040642	3.2221474	20	2 12.3	17.8
54651 2000 SF ₃₂₇	13.8	X	174.01020	305.43846	55.38347	17.95914	0.1289345	0.17432046	3.1737336	20	3 14.4	19.2
54652 2000 SZ ₃₄₄	12.0	X	268.95334	210.21900	118.52060	17.73728	0.0429306	0.08364734	5.1780703	20	5 17.4	19.1
54653 2000 SB ₃₅₀	12.3	X	250.11992	259.63229	97.70872	16.47749	0.0508260	0.08258112	5.2225450	20	5 25.7	19.4
54654 2000 SM ₃₅₅	14.2	X	292.69218	217.98198	44.49793	17.86118	0.1703499	0.17886785	3.1197122	20	3 9.4	18.9
54655 2000 SQ ₃₆₂	12.2	X	251.63473	213.64659	131.55092	17.44240	0.0920545	0.08443805	5.1456935	20	5 11.3	19.4
54656 2000 SX ₃₆₂	10.7	X	308.43155	178.50313	120.79492	32.81414	0.0773091	0.08124397	5.2796924	20	5 30.7	17.8
54657 2000 SA ₃₆₆	13.0	X	248.47096	231.68236	31.96873	4.90610	0.1198879	0.12484354	3.9648370	20	1 28.8	19.0
54658 2000 TN ₃₉	13.7	X	40.03079	146.92650	43.14017	10.16478	0.0307689	0.18274068	3.0754775	20	5 8.1	17.9
54659 2000 TM ₅₁	15.3	X	283.18567	106.83346	94.24673	10.17689	0.1581477	0.26377817	2.4079279	20	—	—
54660 2000 UJ ₁	17.8	X	328.59943	158.00407	223.71162	46.68666	0.2806389	0.54920922	1.4767631	20	—	—
54661 2000 UY ₁₈	15.5	X	32.08444	285.16266	268.41575	4.99465	0.1930374	0.27525663	2.3405119	20	5 13.6	17.2
54662 2000 UY ₈₀	15.5	X	51.37200	259.23001	270.86595	3.52638	0.0994723	0.27288651	2.3540445	20	5 1.3	17.9
54663 2000 UT ₈₂	14.0	X	6.91845	313.32388	276.84153	10.29129	0.2130798	0.18139422	3.0906780	20	5 16.5	17.2
54664 2000 UH ₁₀₇	15.6	X	223.04075	168.60204	110.33277	7.42877	0.1093496	0.26717115	2.3874979	20	1 2.7	19.0
54665 2000 UL ₁₁₀	13.4	X	44.81773	230.22452	75.71103	18.49079	0.2393249	0.19618252	2.9333407	20	11 16.7	17.6
54666 2000 WJ ₆	15.3	X	358.04949	96.21047	242.62683	4.40033	0.2132172	0.29289782	2.2455633	20	11 5.9	17.2
54667 2000 WJ ₃₆	15.3	X	9.42902	91.00858	139.31817	7.44313	0.0748186	0.27493480	2.3423380	20	5 20.5	17.9
54668 2000 WO ₈₅	15.8	X	287.12496	279.74466	276.98928	4.82713	0.0744950	0.25870196	2.4393245	20	—	—
54669 2000 WB ₈₉	15.4	X	58.30004	145.50769	46.09564	3.17713	0.1765493	0.27620732	2.3351382	20	6 29.7	18.0
54670 2000 WW ₉₂	15.7	X	30.77607	51.66901	259.11995	4.50791	0.1757978	0.29301419	2.2449686	20	11 8.7	18.2
54671 2000 WW ₁₀₂	13.5	X	232.36453	9.19900	110.05285	10.69389	0.1820974	0.19038432	2.9925995	20	9 21.3	18.2
54672 2000 WO ₁₈₀	11.7	X	229.09517	287.18424	64.52737	28.11975	0.1387413	0.08117373	5.2827377	20	4 27.1	19.3
54673 2000 WS ₁₈₉	14.3	X	301.45667	155.24540	39.84123	6.65686	0.1956593	0.21079570	2.7961570	20	—	—
54674 2000 XN ₄	13.0	X	145.46428	185.76040	263.65200	25.89714	0.1415836	0.17482880	3.1675785	20	5 22.8	18.2
54675 2000 XZ ₂₅	13.8	X	65.09185	102.00944	334.61261	8.47538	0.1806974	0.21114528	2.7930699	20	2 3.7	16.8
54676 2000 YP ₁₂	14.8	X	239.03059	330.16180	119.90550	11.70262	0.2088637	0.23419923	2.6066281	20	8 20.9	18.6
54677 2000 YD ₄₀	15.3	X	192.11656	340.23279	101.60578	3.44086	0.0616704	0.22786120	2.6547429	20	6 30.3	18.9
54678 2000 YW ₄₇	12.3	X	236.68114	201.83677	274.19063	11.15671	0.0800787	0.08449185	5.1435089	20	9 11.1	19.4
54679 2000 YF ₁₁₃	15.9	X	51.10277	69.17443	321.09752	2.79788	0.1181843	0.30223443	2.1990752	20	—	—
54680 2001 AS ₉	11.9	X	180.11246	266.23323	268.55293	11.86058	0.0351204	0.08362997	5.1787876	20	9 21.5	19.1
54681 2001 AE ₄₉	15.6	X	137.14476	316.90341	55.13084	5.68605	0.0318308	0.26030327	2.4293102	20	1 20.3	18.8
54682 2001 BU ₈	14.6	X	142.12239	119.25547	95.19337	3.97200	0.1150208	0.18390938	3.0624344	20	10 19.7	19.4
54683 2001 CJ ₂₀	15.6	X	113.01491	15.27266	104.75645	24.12654	0.0690244	0.36561408	1.9369605	20	5 25.1	18.1
54684 2001 CS ₂₀	15.7	X	143.79946	338.46969	108.42340	25.11810	0.0403549	0.36650343	1.9338258	20	5 17.3	18.4
54685 2001 CT ₃₃	14.3	X	224.31427	0.46451	69.66905	14.27277	0.1339300	0.22791232	2.6543459	20	7 17.1	18.4
54686 2001 DU ₈	16.5	X	101.47747	265.91898	161.71185	33.20450	0.3419708	0.41622171	1.7765860	20	3 20.8	17.8
54687 2001 DC ₁₅	13.9	X	334.86463	41.22867	157.69310	24.25471	0.1388821	0.25700865	2.4500271	20	1 26.9	17.1
54688 2001 DZ ₆₉	15.7	X	178.65483	319.11138	329.53681	4.85816	0.2167639	0.29597853	2.2299541	20	—	—
54689 2001 DH ₁₀₁	12.1	X	292.08298	38.94963	9.35768	12.87936	0.1167591	0.08274048	5.2158372	20	9 1.6	18.8
54690 2001 EB	17.1	X	116.93657	99.58896	33.54283	35.35824	0.2564259	0.47377406	1.6296282	20	7 6.1	20.2
54691 2001 EL ₆	14.2	X	31.10535	197.69284	139.33378	12.20293	0.0325848	0.18089783	3.0963293	20	11 6.1	18.7
54692 2001 EJ ₁₀	15.8	X	92.62316	235.02714	35.73704	3.65327	0.2236781	0.27927532	2.3180049	20	11 28.1	19.4
54693 Garymyers	15.5	X	349.82088	336.12650	3.06194	3.60424	0.1769814	0.27324508	2.3519846	20	10 8.1	17.1
54694 2001 FJ ₅₄	15.7	X	298.83884	220.39321	17.75556	5.74622	0.1327977	0.30258119	2.1973948	20	1 26.9	18.5
54695 2001 FM ₅₄	15.1	X	283.72462	271.93300	25.94011	5.37088	0.1946964	0.30611696	2.1804416	20	3 20.4	18.0
54696 2001 FO ₆₉	15.7	X	229.67031	149.12331	137.40898	5.98085	0.1924545	0.30046669	2.2076920	20	1 12.7	19.1
54697 2001 FA ₇₀	14.9	X	9.65125	129.32665	168.45513	13.09309	0.3319439	0.26798754	2.3826467	20	10 15.3	16.9
54698 2001 FF ₇₀	16.2	X	353.44976	252.71966	39.36956	6.56444	0.2845289	0.26558308	2.3970059	20	8 8.8	17.4
54699 2001 FP ₁₃₇	14.9	X	317.02161	229.74067	99.35876	7.07995	0.0528291	0.21609063	2.7502917	20	7 14.7	18.3
54700 2001 FE ₁₄₃	15.6	X	62.78423	160.48812	131.58774	9.05510	0.1930379	0.27538057	2.3398096	20	11 26.7	19.2
54701 2001 FY ₁₅₀	16.3	X	149.78436	89.76586	204.05652	5.01532	0.1801684	0.28846895	2.2684890	20	—	—
54702 2001 FO ₁₅₉	16.0	X	227.38001	161.91632	161.80045	1.26223	0.1911762	0.30532586	2.1842063	20	2 25.8	19.4
54703 2001 FE ₁₆₀	15.7	X	307.92018	88.86526	206.33050	5.49524	0.1192495	0.26195433	2.4190917	20	5 4.2	18.3
54704 2001 FC ₁₇₂	14.2	X	357.48573	217.40887	113.90452	16.50345	0.1558194	0.22092621	2.7100120	20	10 5.5	17.5
54705 2001 GW ₃	15.2	X	124.08915	229.11778	85.15145	6.99988	0.2002723	0.28588088	2.2821594	20	—	—
54706 2001 HG ₁	16.0	X	174.57311	231.40449	44.07336	1.22124	0.1664698	0.28985192	2.2612674	20	—	—
54707 2001 HL ₆	14.4	X	25.51205	79.19716	235.77566	20.83973	0.1995949	0.26982180	2.3718362	20	11 8.9	17.1
54708 2001 HH ₁₈	15.3	X	143.81787	255.82028	145.79067	23.74465	0.1158718	0.35494931	1.9755673	20	3 10.0	17.6
54709 2001 HS ₂₀	15.5	X	216.44829	281.46141	42.73558	3.07823	0.1647190	0.29976949	2.2111138	20	2 19.1	18.9
54710 2001 HT ₂₀	15.7	X	353.18809	233.43752	41.02012	2.68187	0.1897448	0.26122771	2.4235755	20	6 25.8	17.4
54711 2001 HJ ₂₃	16.0	X	355.28708	296.10323	22.95713	2.60087	0.2289619	0.27181165	2.3602464	20	9 25.4	17.6
54712 2001 HD ₃₀	15.3	X	25.81097	46.13348	233.89679	4.66745	0.1712697	0.26654442	2.3912390	20	9 12.4	17.8
54713 2001 HK ₃₇	15.2	X	321.70048	205.66123	65.79592	9.56268	0.1965459	0.25588506	2.4571939	20	4 13.8	17.8
54714 2001 HB ₃₈	15.4	X	59.32556	157.22414	214.36							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54721 2001 JX ₃	15.7	X	207.20137	235.65840	76.51064	3.80410	0.1717159	0.29693827	2.2251465	20	1 26.4	19.1
54722 2001 JD ₁₀	15.3	X	25.67210	115.36115	177.10982	2.99966	0.1724907	0.26505423	2.4001933	20	10 3.4	17.8
54723 2001 KW ₁	14.5	X	154.75884	156.66726	168.88014	13.39041	0.2686066	0.23765213	2.5813184	20	1 8.5	19.0
54724 2001 KM ₄	15.7	X	13.18001	290.11383	18.13905	2.50842	0.1934916	0.26852955	2.3794394	20	10 9.2	17.7
54725 2001 KT ₅	15.9	X	164.78403	80.78269	240.10010	7.42669	0.1852621	0.29232496	2.2484960	20	—	—
54726 2001 KU ₉	15.4	X	261.63965	249.02889	98.84615	4.27834	0.2654478	0.25629724	2.4545587	20	4 26.6	19.2
54727 2001 KO ₁₀	14.8	X	178.44098	210.23787	79.17866	9.10506	0.1663012	0.23776206	2.5805226	20	—	—
54728 2001 KP ₁₁	14.6	X	131.50259	143.54120	205.26758	4.43080	0.3484936	0.23519799	2.5992436	20	1 23.9	18.8
54729 2001 KQ ₁₃	14.6	X	187.58188	220.21042	126.88960	6.83928	0.2296178	0.24145422	2.5541488	20	2 28.2	19.0
54730 2001 KR ₁₃	14.1	X	200.82878	37.40962	255.71681	15.29925	0.1871081	0.23784856	2.5798970	20	1 2.7	18.4
54731 2001 KJ ₁₅	16.0	X	170.85259	142.48229	136.66475	3.55347	0.1432088	0.28799332	2.2709859	20	—	—
54732 2001 KH ₁₉	15.6	X	193.46345	323.70040	353.00665	5.47639	0.2424615	0.29683215	2.2256768	20	1 22.9	19.3
54733 2001 KP ₁₉	15.4	X	117.84668	77.92029	250.77635	3.04886	0.2293867	0.23377197	2.6098032	20	—	—
54734 2001 KF ₂₀	14.8	X	231.46443	155.66701	104.59957	9.02251	0.1124103	0.19114948	2.9846081	20	—	—
54735 2001 KW ₂₄	16.1	X	264.76565	248.81637	310.27887	2.98735	0.1014889	0.29178230	2.2512830	20	—	—
54736 2001 KC ₂₆	16.0	X	35.45207	345.68572	290.47980	4.35662	0.1291846	0.26782321	2.3836212	20	9 15.5	18.8
54737 2001 KM ₂₇	14.6	X	116.56314	276.55909	58.13841	13.16438	0.1709248	0.23356350	2.6113559	20	—	—
54738 2001 KZ ₂₇	15.8	X	212.28071	185.24639	70.03643	3.84189	0.1959243	0.29003131	2.2603349	20	—	—
54739 2001 KC ₃₁	15.8	X	242.59343	194.21301	86.01433	4.07970	0.1970354	0.29704949	2.2245910	20	1 16.9	19.3
54740 2001 KN ₃₁	14.9	X	141.44996	159.71267	72.26217	24.81945	0.1080931	0.27881205	2.5545719	20	11 25.0	18.4
54741 2001 KT ₃₁	15.9	X	159.71354	117.54673	152.13922	7.20120	0.1004515	0.28453837	2.2893322	20	—	—
54742 2001 KS ₃₄	15.3	X	350.00530	137.62658	197.13697	5.86344	0.0839466	0.21783940	2.7355527	20	9 11.1	18.5
54743 2001 KQ ₃₆	15.9	X	144.40876	173.41263	98.01681	5.68852	0.0171974	0.28371595	2.2937542	20	—	—
54744 2001 KK ₃₇	14.6	X	321.35587	102.33390	192.45991	5.08590	0.2978584	0.20457382	2.8525680	20	4 29.5	17.7
54745 2001 KS ₃₈	15.2	X	147.06984	220.74958	126.82070	5.61210	0.12734881	0.23879075	2.5731062	20	1 29.4	19.4
54746 2001 KE ₃₉	14.7	X	174.51869	71.96087	202.72091	12.34713	0.1278283	0.23468519	2.6030285	20	—	—
54747 2001 KB ₄₂	15.6	X	322.41930	207.64799	114.95141	7.37166	0.1498758	0.26265500	2.4147876	20	7 7.1	17.8
54748 2001 KO ₄₄	14.9	X	221.42053	86.29636	204.85312	12.28668	0.1542635	0.24384658	2.5374156	20	1 16.0	19.2
54749 2001 KR ₄₅	15.6	X	214.49826	76.64482	163.84448	6.15355	0.1270909	0.28855432	2.2680415	20	—	—
54750 2001 KW ₄₅	13.3	X	43.71437	110.09930	228.59834	17.29553	0.1727296	0.17022474	3.2244397	20	12 6.3	17.9
54751 2001 KO ₄₆	15.8	X	40.95018	167.05607	122.45948	7.31500	0.0916242	0.26940905	2.3742581	20	10 13.3	18.7
54752 2001 KL ₄₈	15.7	X	66.55817	254.26860	26.28692	7.11969	0.1153280	0.27346319	2.3507339	20	11 3.2	18.8
54753 2001 KJ ₄₈	15.5	X	121.73917	287.12792	73.08193	3.90963	0.1726684	0.29022753	2.2593160	20	—	—
54754 2001 KJ ₅₆	14.0	X	273.93418	290.12263	106.41544	22.85078	0.3553364	0.26356417	2.4092312	20	6 30.3	17.2
54755 2001 KZ ₅₆	14.4	X	56.36950	11.65786	147.13634	11.74185	0.0733144	0.20630485	2.8365891	20	4 28.7	18.2
54756 2001 KJ ₅₈	14.5	X	173.71716	145.50042	178.50501	10.63985	0.1273922	0.19024773	2.9940317	20	1 18.6	19.4
54757 2001 KY ₅₈	15.4	X	94.20616	155.82133	118.68404	7.95028	0.1269997	0.27476434	2.3433067	20	12 1.9	19.0
54758 2001 KP ₅₉	14.3	X	190.15691	94.81107	240.56734	10.86877	0.2135922	0.23985028	2.5655229	20	2 10.3	18.9
54759 2001 KA ₆₀	14.4	X	175.32919	137.56616	245.34667	12.68544	0.1761621	0.24252224	2.5466446	20	3 24.3	18.8
54760 2001 KD ₆₀	14.6	X	97.12430	163.94132	209.55457	12.00895	0.2619139	0.22893157	2.6464615	20	1 6.9	18.1
54761 2001 KJ ₆₆	15.9	X	303.28383	220.37167	115.84145	3.51170	0.2286330	0.26177303	2.4202085	20	6 7.6	18.4
54762 2001 KL ₇₃	14.7	X	72.24644	89.95010	284.27380	11.78359	0.2016075	0.22631010	2.6668592	20	—	—
54763 2001 KQ ₇₅	14.8	X	119.05663	101.04215	224.29264	14.38371	0.1684081	0.22822230	2.6519419	20	—	—
54764 2001 LB ₄	15.4	X	203.16723	230.57931	112.66675	5.35157	0.2158108	0.29596938	2.2300000	20	3 3.1	19.0
54765 2001 LB ₅	15.1	X	137.50555	188.67352	204.73116	12.74964	0.2171801	0.23772186	2.5808136	20	3 8.2	19.3
54766 2001 LT ₅	15.5	X	0.71413	254.05309	44.15588	1.97971	0.1795669	0.26161519	2.4211819	20	8 25.5	17.4
54767 2001 LW ₆	15.4	X	44.54254	330.39970	38.93951	6.86738	0.1268486	0.27598300	2.3364034	20	—	—
54768 2001 LA ₈	15.0	X	34.02154	100.70225	208.23133	8.32359	0.1698334	0.21405229	2.7677241	20	10 27.6	18.6
54769 2001 LJ ₈	14.6	X	299.87956	356.59142	275.36963	14.03221	0.0689852	0.24567675	2.5247982	20	3 20.7	18.3
54770 2001 LS ₁₀	15.0	X	3.15960	152.07699	169.74769	6.61075	0.2077039	0.26494752	2.4008377	20	10 13.7	17.0
54771 2001 LJ ₁₂	14.7	X	186.57549	11.01346	278.77314	13.10255	0.0878783	0.23422039	2.6064711	20	—	—
54772 2001 LN ₁₂	15.1	X	221.41490	107.29937	263.77150	5.92299	0.1625884	0.30061669	2.2069576	20	4 21.1	18.4
54773 2001 LP ₁₂	15.3	X	319.21929	197.43602	136.29480	13.37876	0.1934754	0.25789464	2.4444126	20	7 11.8	17.5
54774 2001 LY ₁₄	14.6	X	319.22800	238.23842	118.53048	13.77984	0.1377583	0.20898959	2.8121629	20	8 19.7	17.8
54775 2001 LK ₁₆	15.1	X	248.56316	59.46296	239.68696	5.78197	0.0743042	0.24595554	2.5228900	20	2 25.8	18.8
54776 2001 LL ₁₆	15.1	X	176.88880	114.30431	226.68746	4.93089	0.0861324	0.24067439	2.5596630	20	2 2.3	18.9
54777 2001 LF ₁₇	15.7	X	53.75144	202.85911	155.07070	2.44818	0.1944367	0.27577494	2.3375784	20	—	—
54778 2001 LP ₁₇	15.1	X	232.61694	43.98223	279.47377	6.54759	0.1774715	0.29601684	2.2297616	20	2 28.4	18.7
54779 2001 LS ₁₇	14.8	X	326.64198	47.67330	208.03195	5.24879	0.1392639	0.25892128	2.4379468	20	7 24.3	17.0
54780 2001 LW ₁₈	15.8	X	276.38641	125.55136	204.74462	7.35578	0.0634325	0.30498246	2.1858456	20	5 16.3	18.2
54781 2001 LA ₁₉	14.9	X	285.62771	171.83470	224.50233	8.79968	0.2356387	0.25863065	2.4397728	20	8 1.6	17.7
54782 2001 LJ ₁₉	14.3	X	342.88947	204.39524	166.31710	8.43730	0.2296595	0.21185095	2.7868640	20	10 30.5	16.8
54783 2001 MM ₁	15.9	X	60.86089	172.82586	57.57364	3.30324	0.1532813	0.26214397	2.4179248	20	8 25.9	18.9
54784 2001 MV ₃	15.0	X	80.46254	359.19924	262.19037	9.42638	0.2739389	0.27222073	2.3578812	20	11 7.9	18.9
54785 2001 MZ ₃	15.8	X	76.02620	61.60492	269.07643	6.48816	0.1400676	0.27973869	2.3154444	20	—	—
54786 2001 MJ ₄	15.8	X	203.55644	224.59778	91.29735	7.84670	0.1588873	0.29094075	2.2556221	20	1 28.5	19.3
54787 2001 MO ₅	15.3	X	205.53915	198.94970	239.55211	8.02044	0.1450757	0.25201016	2.4823176	20	7 5.9	19.2
54788 2001 MZ ₆	15.3	X	149.41629	34.80231	290.50225	24.47168	0.1733047	0.28334442	2.2957589	20	—	—
54789 2001 MZ ₇	15.0	X	119.22265	20.00509	130.08267	24.46607	0.2870959	0.41623935	1.7765358	20	8 1.8	17.4
54790 2001 MT ₈	14.5	X	117.69819	295.12423	114.37974	14.55047	0.1726102	0.23671310	2.5881405	20	3 11.2	18.4
54791 2001 ME ₉	14.6	X	103.88579	88.89828	287.05923	11.82709	0.2014538	0.22884097	2.6471600	20	1 11.7	18.1
54792 2001 MJ ₉	14.4	X	352.66754	158.20627	265.42409	7.81621	0.1355900	0.21934321	2.7230352	20	—	—
54793 2001 MD ₁₀	14.9	X	140.95828	88.83957	285.80702	9.61112	0.2722953	0.23711844	2.5851902	20	2 21.6	19.2
54794 2001 MN ₁₀	15.2	X	308.06537	92.72647	271.35473	4.62975	0.0640023	0.26206309	2.4184223	20	8 20.9	17.9
54795 2001												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54801 2001 <i>MT</i> ₁₇	15.8	X	113.47190	274.57800	330.91000	1.73132	0.1697457	0.27209376	2.3586147	20	11 11.5	19.5
54802 2001 <i>ME</i> ₁₉	14.2	X	306.58839	171.18701	251.98931	11.92492	0.2710936	0.21153715	2.7896193	20	10 7.8	17.1
54803 2001 <i>MK</i> ₁₉	15.3	X	171.03454	239.61913	317.89432	5.51379	0.1955141	0.27481601	2.3430130	20	11 1.1	19.1
54804 2001 <i>MT</i> ₂₁	16.4	X	236.50002	219.98507	25.85606	2.03730	0.1026936	0.28906547	2.2653670	20	—	—
54805 2001 <i>MW</i> ₂₂	14.1	X	24.48876	310.39179	105.51930	18.69512	0.1369082	0.17601162	3.1533717	20	—	—
54806 2001 <i>MX</i> ₂₂	13.6	X	137.87346	313.49644	304.55248	16.64130	0.1626613	0.17271238	3.1934031	20	12 1.7	19.1
54807 2001 <i>MZ</i> ₂₃	14.7	X	346.71106	48.55526	314.14933	21.76401	0.2238174	0.26338182	2.4103430	20	10 29.8	17.4
54808 2001 <i>ME</i> ₂₄	12.2	X	77.58055	114.18086	297.43255	25.05314	0.2473614	0.17594797	3.1541321	20	2 1.4	16.3
54809 2001 <i>MN</i> ₂₄	14.8	X	120.66850	109.18754	223.61778	12.76105	0.1238962	0.22905344	2.6455228	20	—	—
54810 Molleigh	15.1	X	51.24258	74.50113	148.03313	9.47239	0.2064380	0.26034146	2.4290726	20	8 6.9	18.0
54811 2001 <i>MJ</i> ₂₆	15.0	X	306.80859	144.22386	232.84401	6.01558	0.1582839	0.26353408	2.4094145	20	8 27.1	17.5
54812 2001 <i>MQ</i> ₂₆	15.1	X	343.98502	120.83705	191.65980	7.99329	0.1459951	0.20897909	2.8123379	20	7 28.7	18.3
54813 2001 <i>MV</i> ₂₇	16.8	X	167.99543	143.10695	228.14104	1.71984	0.1240727	0.29442060	2.2378137	20	2 28.9	20.0
54814 2001 <i>MK</i> ₂₈	15.2	X	131.09271	235.60214	110.42483	3.08221	0.1492515	0.23120017	2.6291213	20	—	—
54815 2001 <i>MS</i> ₂₈	15.1	X	212.39840	169.82551	194.37820	15.91470	0.2252463	0.24440168	2.5335721	20	4 6.4	19.4
54816 2001 <i>MC</i> ₃₀	14.5	X	147.59361	69.03228	285.89967	4.44815	0.1614571	0.18436308	3.0574081	20	2 3.0	19.2
54817 2001 <i>NB</i>	13.8	X	197.11648	100.46367	258.22343	17.45205	0.2240500	0.24070130	2.5594722	20	3 10.2	18.7
54818 2001 <i>NR</i>	15.4	X	92.37385	203.20532	100.68905	5.20088	0.2705132	0.27565423	2.3382608	20	—	—
54819 2001 <i>NA</i> ₁	15.0	X	304.25285	296.89915	87.25932	7.49596	0.2045619	0.26203683	2.4185839	20	9 3.4	17.1
54820 Svenders	14.2	X	79.13869	211.32406	138.18750	10.04976	0.2210583	0.22516618	2.6758839	20	—	—
54821 2001 <i>NB</i> ₂	16.0	X	349.91547	44.32527	298.48476	0.76837	0.2559716	0.26431844	2.4046456	20	10 22.8	17.5
54822 2001 <i>NQ</i> ₂	13.9	X	211.83972	41.60062	131.06613	15.69317	0.3092898	0.16951418	3.2334441	20	11 15.9	18.9
54823 2001 <i>NN</i> ₃	15.4	X	318.48953	273.07237	119.13704	3.04659	0.1928295	0.26547251	2.3976715	20	10 21.4	17.0
54824 2001 <i>NJ</i> ₅	16.1	X	166.43617	106.46212	75.59413	4.26656	0.1101863	0.26988342	2.3714752	20	10 15.9	19.6
54825 2001 <i>NE</i> ₇	14.3	X	334.71729	40.71764	317.14361	8.82535	0.1210788	0.15757771	3.3947375	20	9 5.6	18.6
54826 2001 <i>NV</i> ₇	15.2	X	267.13391	94.42729	301.10702	5.84272	0.1272839	0.25919066	2.4362573	20	7 25.1	18.1
54827 Kurpfalz	15.4	X	345.88626	292.53628	83.96822	3.12842	0.2095292	0.26711706	2.3878203	20	11 30.9	17.3
54828 2001 <i>NJ</i> ₉	14.9	X	100.58749	252.74606	154.41636	5.94465	0.3208407	0.23397812	2.6082700	20	3 4.3	18.4
54829 2001 <i>NF</i> ₁₀	15.2	X	186.50913	58.42433	314.60684	12.69712	0.2025046	0.24345535	2.5401332	20	3 21.2	19.8
54830 2001 <i>NC</i> ₁₁	15.0	X	54.98282	71.87714	262.18100	4.11789	0.1063923	0.22060028	2.7126807	20	12 16.6	18.9
54831 2001 <i>NE</i> ₁₁	16.2	X	63.35145	214.16614	144.96043	7.08680	0.1324322	0.27681627	2.3317124	20	—	—
54832 2001 <i>NL</i> ₁₂	15.1	X	215.83362	46.84944	288.12105	3.63456	0.0664309	0.24474229	2.5312208	20	3 7.2	18.8
54833 2001 <i>NW</i> ₁₂	15.4	X	292.10803	230.90870	30.89427	2.39792	0.0720348	0.24648478	2.5192773	20	3 5.5	18.6
54834 2001 <i>NH</i> ₁₈	14.7	X	117.40572	70.52856	206.03628	13.12352	0.1509239	0.22270482	2.6955639	20	12 14.4	19.2
54835 2001 <i>NU</i> ₁₈	14.6	X	46.26785	165.57225	260.36135	13.25450	0.0947655	0.23013559	2.6372230	20	—	—
54836 2001 <i>NA</i> ₂₀	15.9	X	190.04491	287.83293	318.92858	2.40386	0.1280143	0.28301533	2.2975382	20	—	—
54837 2001 <i>NK</i> ₂₀	13.7	X	80.43017	226.63773	185.02189	23.06652	0.2202698	0.17851478	3.1238243	20	2 2.1	18.1
54838 2001 <i>NO</i> ₂₁	15.2	X	71.81501	245.86133	188.65276	6.36650	0.2256680	0.23019581	2.6367631	20	2 12.1	18.0
54839 2001 <i>NQ</i> ₂₁	13.7	X	322.83209	91.01471	316.40722	8.22468	0.1512444	0.21195770	2.7859282	20	10 31.4	16.8
54840 2001 <i>OE</i>	14.7	X	92.20648	229.79467	168.95667	16.73476	0.0973736	0.18156340	3.0887577	20	1 16.8	19.2
54841 2001 <i>OD</i> ₂	16.1	X	104.48944	242.81680	7.90966	6.10677	0.0961079	0.26959434	2.3731701	20	11 3.9	19.5
54842 2001 <i>OF</i> ₂	14.4	X	166.01562	46.59846	245.05963	11.16178	0.1932891	0.17829672	3.1263708	20	—	—
54843 2001 <i>OX</i> ₂	14.8	X	77.64174	206.83728	127.15638	2.73454	0.1619241	0.17105662	3.2139772	20	—	—
54844 2001 <i>OY</i> ₂	14.6	X	210.14810	206.28563	122.89392	10.84913	0.0810388	0.19077993	2.9884610	20	3 3.1	19.2
54845 2001 <i>OF</i> ₃	14.8	X	114.98759	1.43479	324.75132	6.61151	0.1330271	0.27882574	2.3204959	20	—	—
54846 2001 <i>OJ</i> ₅	14.3	X	146.78981	101.45452	284.83624	12.01089	0.2060594	0.23637516	2.5906067	20	3 3.9	18.6
54847 2001 <i>OM</i> ₅	13.8	X	67.38037	292.27538	189.00735	13.37370	0.1145561	0.24028128	2.5624541	20	3 23.3	16.6
54848 2001 <i>OC</i> ₈	14.5	X	319.78339	358.07257	294.33263	9.54329	0.0655413	0.19937197	2.9019726	20	5 26.1	18.4
54849 2001 <i>OM</i> ₈	15.2	X	6.12736	140.39104	187.54361	2.29768	0.1743469	0.26396921	2.4067660	20	10 21.8	17.4
54850 2001 <i>OZ</i> ₁₁	13.5	X	176.95434	309.88552	66.21704	9.35035	0.2106876	0.18625082	3.0367142	20	3 30.8	18.8
54851 2001 <i>OA</i> ₁₅	14.6	X	140.26778	349.29460	10.02001	11.13540	0.0854486	0.18408397	3.0604978	20	1 29.1	19.3
54852 Mercatali	16.7	X	38.73282	50.13805	212.95451	2.24087	0.0786476	0.31362299	2.1455112	20	9 1.3	18.8
54853 2001 <i>OQ</i> ₁₉	15.3	X	314.29832	353.98156	5.18797	0.79950	0.2044817	0.26025533	2.4296085	20	8 11.5	17.0
54854 2001 <i>OU</i> ₂₀	13.3	X	100.72742	112.65430	262.53736	18.32810	0.1509955	0.17599149	3.1536121	20	1 6.8	17.8
54855 2001 <i>OA</i> ₂₁	13.5	X	45.11195	87.28851	340.21097	14.81065	0.2077610	0.17227025	3.1988646	20	—	—
54856 2001 <i>OF</i> ₂₁	14.1	X	10.05457	16.57677	335.83569	3.75771	0.0843528	0.21194544	2.7860356	20	11 3.9	17.7
54857 2001 <i>OY</i> ₂₂	14.1	X	147.20423	64.57892	208.65161	29.02209	0.3456278	0.22599611	2.6693288	20	12 28.7	19.7
54858 2001 <i>OE</i> ₂₄	14.9	X	123.99076	145.36400	110.90574	15.40868	0.0571001	0.22032092	2.7149733	20	11 26.9	19.1
54859 2001 <i>OG</i> ₂₄	15.5	X	89.89517	82.85264	155.87940	5.41301	0.1701184	0.26700005	2.3885178	20	10 13.1	19.0
54860 2001 <i>OZ</i> ₂₄	15.1	X	27.72856	141.79227	236.96249	6.18857	0.1512512	0.27227438	2.3575714	20	—	—
54861 2001 <i>OJ</i> ₂₅	14.6	X	140.46469	57.61667	294.01706	11.33998	0.2937961	0.23324404	2.6137398	20	1 29.7	19.0
54862 Sundaigakuen	15.2	X	269.92805	15.17848	14.74288	4.94830	0.1883792	0.25645874	2.4535281	20	7 11.8	18.3
54863 Gasnault	15.2	X	126.88101	335.65783	72.31454	5.19310	0.0967063	0.24040020	2.5616089	20	3 7.3	18.7
54864 2001 <i>OP</i> ₂₈	14.8	X	196.49129	300.16973	68.41468	10.98219	0.0596264	0.19347194	2.9606749	20	4 7.9	19.3
54865 2001 <i>OZ</i> ₃₃	14.7	X	27.79767	259.60311	80.86210	9.82607	0.1936675	0.21618086	2.7495264	20	12 2.9	18.2
54866 2001 <i>OO</i> ₃₉	14.0	X	275.11927	182.45033	106.42845	11.02458	0.0514078	0.19139126	2.9820939	20	3 31.7	18.4
54867 2001 <i>OS</i> ₃₉	14.1	X	303.21261	6.32945	114.80402	16.00627	0.0215888	0.22253673	2.6962111	20	—	—
54868 2001 <i>OS</i> ₄₀	15.6	X	26.67543	317.03237	89.96191	7.38821	0.0959135	0.27494317	2.3422905	20	—	—
54869 2001 <i>OP</i> ₄₃	13.7	X	196.21791	313.14594	316.52171	8.44910	0.0439788	0.17380568	3.1799972	20	—	—
54870 2001 <i>OT</i> ₄₃	14.8	X	358.37552	159.35356	191.13104	3.29151	0.0915905	0.20934728	2.8090394	20	10 16.7	18.2
54871 2001 <i>OH</i> ₄₄	13.6	X	22.13341	202.72291	298.86609	9.16028	0.0237958	0.18126203	3.0921804	20	2 12.0	17.8
54872 2001 <i>OW</i> ₄₆	14.9	X	45.67308	149.08105	222.16316	4.16543	0.1660272	0.17084031	3.2166895	20	—	—
54873 2001 <i>OC</i> ₄₇	15.7	X	268.96957	249.55422	127.92368							

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54881 2001 OV ₅₄	15.6	X	33.98807	263.48750	318.16424	17.02739	0.0577979	0.35987972	1.9574821	20	6 19.4	17.7
54882 2001 OK ₅₇	14.6	X	103.37462	326.14541	124.42009	10.05908	0.0716594	0.19057774	2.9905744	20	4 4.5	18.9
54883 2001 OS ₅₇	13.8	X	138.70307	147.06704	32.67484	2.42104	0.0115608	0.20428037	2.8552992	20	9 1.0	17.7
54884 2001 OW ₅₈	14.3	X	307.37969	351.87385	40.12724	2.73654	0.0774266	0.20714139	2.8289469	20	9 21.9	17.7
54885 2001 OH ₆₁	15.9	X	56.95157	269.32004	141.67492	7.14741	0.0957380	0.28219927	2.3019654	20	—	—
54886 2001 OO ₆₁	16.1	X	86.56152	27.52609	7.21191	5.44212	0.1293921	0.28383598	2.2931075	20	—	—
54887 2001 OG ₆₃	14.3	X	49.03013	335.01267	37.98978	0.76606	0.2369282	0.16939192	3.2349998	20	—	—
54888 2001 OS ₆₃	14.3	X	182.33214	276.80556	113.07250	11.04109	0.1137407	0.19336901	2.9617255	20	4 19.5	19.1
54889 2001 OZ ₆₃	16.0	X	282.42647	155.39208	67.71502	4.03467	0.1135661	0.29097855	2.2554268	20	—	—
54890 2001 OS ₆₅	15.7	X	351.70662	216.50969	118.38640	2.21085	0.1375295	0.26313659	2.4118403	20	9 30.1	17.8
54891 2001 OP ₆₆	14.8	X	350.76176	260.48556	48.30816	8.88863	0.1980857	0.25930711	2.4355278	20	8 25.2	16.8
54892 2001 OW ₆₈	14.6	X	122.18682	8.99028	303.39233	12.51201	0.1697145	0.22458279	2.6805159	20	—	—
54893 2001 OR ₆₉	13.3	X	69.73052	255.55779	148.38490	23.57800	0.1133120	0.17560704	3.1582131	20	—	—
54894 2001 OR ₆₉	14.9	X	209.36702	334.15128	3.70879	3.65923	0.2295484	0.24045703	2.5612053	20	3 4.1	19.2
54895 2001 OO ₇₀	15.3	X	197.66568	23.92887	333.68809	3.84052	0.2258909	0.24058743	2.5602798	20	3 17.1	19.7
54896 2001 OP ₇₀	13.8	X	137.33191	46.07909	328.24247	21.84963	0.0655771	0.23448366	2.6045198	20	2 3.8	17.4
54897 2001 OY ₇₁	14.2	X	315.85267	302.52663	353.60227	1.36291	0.0790737	0.19573848	2.9377752	20	5 24.6	17.9
54898 2001 OP ₇₂	14.6	X	343.73798	17.92967	342.49064	10.80958	0.0990642	0.26103179	2.4247880	20	10 13.5	17.3
54899 2001 OT ₇₂	14.1	X	97.12400	28.84080	333.26154	11.87295	0.2548339	0.22517300	2.6758299	20	—	—
54900 2001 OL ₇₄	13.8	X	13.40675	278.69888	20.50336	9.26375	0.1211791	0.20579007	2.8413092	20	9 7.0	17.2
54901 2001 OX ₇₅	15.8	X	38.40594	357.93380	330.57292	10.23633	0.1107958	0.27071634	2.3666084	20	11 29.4	19.0
54902 Close	15.4	X	329.36412	311.33504	130.63225	2.97746	0.1800686	0.27177462	2.3604608	20	—	—
54903 2001 OV ₇₇	15.9	X	10.27817	117.33063	321.22290	6.10237	0.0890378	0.28144377	2.3060831	20	—	—
54904 2001 OZ ₇₈	14.7	X	305.75767	318.92600	114.27903	7.20174	0.0293982	0.21535034	2.7565910	20	11 18.8	18.3
54905 2001 OA ₈₀	15.7	X	0.44831	239.50151	308.99993	10.77754	0.1547791	0.24474230	2.5312207	20	2 23.7	18.2
54906 2001 OT ₈₀	13.2	X	161.67629	128.79911	294.08179	12.04230	0.1580963	0.24081396	2.5586740	20	4 30.7	17.6
54907 2001 OW ₈₀	14.0	X	193.65157	68.71208	259.32687	12.17965	0.0712070	0.23436466	2.6054013	20	2 1.7	18.0
54908 2001 OY ₈₀	13.1	X	37.29528	353.56102	372.49001	11.70942	0.0649547	0.20240387	2.8729198	20	8 13.5	17.0
54909 2001 OP ₈₁	15.5	X	68.26176	221.45480	108.30402	3.27667	0.1689752	0.27353395	2.3503284	20	—	—
54910 2001 OC ₈₃	16.0	X	201.41286	319.05910	69.61830	7.06140	0.0914855	0.30000504	2.2099563	20	4 30.5	19.1
54911 2001 OM ₈₃	13.7	X	125.19200	285.95137	103.71023	13.90726	0.2733156	0.18203140	3.0834613	20	3 10.4	18.9
54912 2001 OX ₈₆	14.1	X	143.19024	206.20251	154.25453	12.43416	0.0811101	0.18056217	3.1001654	20	1 28.8	18.8
54913 2001 OY ₈₇	15.0	X	81.90691	1.43235	89.36841	14.20101	0.2010208	0.23309276	2.6148705	20	3 27.3	18.6
54914 2001 OS ₈₈	16.2	X	111.44469	111.21056	327.51666	2.05749	0.1292350	0.29417215	2.2390735	20	3 24.9	18.8
54915 2001 OE ₈₉	15.0	X	36.61019	271.31291	84.87089	3.08757	0.1032811	0.21947655	2.7219322	20	12 21.1	18.6
54916 2001 OD ₉₂	15.6	X	101.91358	354.05846	356.89070	7.41389	0.0892225	0.28188582	2.3036716	20	—	—
54917 2001 OL ₉₂	15.2	X	137.84724	343.22018	64.37912	7.42964	0.1443659	0.24153572	2.5353742	20	3 25.7	19.0
54918 2001 OC ₉₄	15.6	X	234.19426	18.41036	325.93114	1.31509	0.1601667	0.24625755	2.5208268	20	4 3.3	19.4
54919 2001 OH ₉₄	14.9	X	36.88273	38.32985	20.26181	4.04220	0.0749671	0.22808874	2.6529770	20	—	—
54920 2001 OJ ₉₅	14.9	X	154.31136	274.03186	75.55593	2.22779	0.1903384	0.18515497	3.0486844	20	2 6.5	19.8
54921 2001 OL ₉₅	15.1	X	317.24434	11.48002	305.83375	6.75897	0.1233413	0.20516868	2.8470517	20	6 19.9	18.6
54922 2001 OO ₉₅	15.8	X	264.25266	7.55488	39.25736	1.82482	0.1765879	0.25923880	2.4359557	20	7 29.7	19.0
54923 2001 OL ₉₆	14.3	X	72.47288	209.36432	182.58955	15.09234	0.1220941	0.22525198	2.6752044	20	—	—
54924 2001 OA ₉₇	15.5	X	65.37249	297.87298	70.18922	4.81902	0.2687767	0.22288887	2.6940798	20	—	—
54925 2001 OT ₉₈	15.2	X	257.88511	3.11032	315.69329	7.57179	0.1692947	0.29675822	2.2260464	20	3 18.5	18.5
54926 2001 OZ ₉₉	15.3	X	81.69905	67.67956	346.10320	1.92738	0.0943778	0.23427362	2.6060762	20	1 13.1	18.3
54927 2001 OD ₁₀₀	13.8	X	152.08784	30.56930	319.33472	9.69346	0.1205605	0.18355464	3.0663789	20	1 30.7	18.6
54928 2001 OF ₁₀₀	14.9	X	94.24689	268.82602	96.95280	1.79215	0.1225518	0.17688940	3.1429310	20	—	—
54929 2001 OZ ₁₀₁	14.1	X	220.35601	56.58168	309.54296	11.53492	0.2001518	0.24163751	2.5528570	20	4 10.2	18.7
54930 2001 OM ₁₀₂	14.5	X	238.03223	220.47141	157.28428	12.13398	0.1396038	0.19812455	2.9141407	20	5 25.8	19.2
54931 2001 OY ₁₀₂	13.6	X	133.63842	113.40213	305.80874	12.77523	0.1744197	0.23590965	2.5940136	20	3 28.4	17.9
54932 2001 OH ₁₀₃	14.8	X	129.82691	307.13423	54.56334	1.78208	0.1742678	0.18082673	3.0971409	20	1 27.9	19.5
54933 2001 OY ₁₀₃	14.4	X	288.77128	351.83722	309.07341	11.15193	0.1534997	0.24518991	2.5281392	20	4 2.6	18.0
54934 2001 OH ₁₀₅	13.7	X	90.73842	155.49540	292.15107	10.08956	0.0473479	0.23578914	2.5948973	20	2 27.4	17.3
54935 2001 OY ₁₀₅	15.5	X	263.55522	15.45463	230.65682	9.86263	0.1476385	0.28975897	2.2617510	20	—	—
54936 2001 OA ₁₀₆	14.9	X	108.74744	357.05448	373.46697	5.61803	0.2606525	0.27554258	2.3388924	20	—	—
54937 2001 OH ₁₀₆	13.9	X	352.71868	204.52013	216.38405	12.17918	0.1194794	0.22557592	2.6726426	20	—	—
54938 2001 OG ₁₀₇	15.1	X	110.54224	10.87010	292.19918	5.61265	0.1123386	0.27235934	2.3570812	20	—	—
54939 2001 OP ₁₀₇	14.7	X	239.37920	351.70515	7.90016	2.99292	0.1169451	0.24451978	2.5327562	20	5 1.8	18.2
54940 2001 OQ ₁₀₇	14.9	X	223.33688	271.51176	89.92669	5.08474	0.1866128	0.24636198	2.5201144	20	4 15.9	19.0
54941 2001 OA ₁₀₈	13.1	X	41.13966	137.35856	295.59655	10.62334	0.1667768	0.22373958	2.6872465	20	—	—
54942 2001 OC ₁₁₁	14.8	X	203.30165	172.51980	58.09990	10.30512	0.0656782	0.22272666	2.6953878	20	—	—
54943 2001 PC ₁	15.1	X	14.07159	208.29797	148.29154	4.88535	0.1113909	0.21832489	2.7314959	20	11 23.3	18.5
54944 2001 PV ₁	16.4	X	134.84020	358.74851	29.32464	4.04124	0.0893441	0.29094295	2.2556108	20	2 11.7	19.1
54945 2001 PF ₂	14.5	X	282.18038	206.56123	331.83025	13.55410	0.0467341	0.23008798	2.6375868	20	—	—
54946 2001 PO ₂	15.6	X	9.89243	179.09141	217.43225	6.02155	0.0997886	0.27241399	2.3567659	20	—	—
54947 2001 PM ₃	13.3	X	55.13626	220.17554	202.11428	16.47663	0.1626991	0.17453523	3.1711295	20	1 1.6	17.4
54948 2001 PP ₃	16.3	X	121.76032	174.05209	220.72433	5.48315	0.0494113	0.29010407	2.2599570	20	1 24.7	19.0
54949 2001 PR ₃	14.5	X	36.02039	252.61068	156.31842	12.58742	0.1841000	0.22760076	2.6567677	20	—	—
54950 2001 PF ₅	15.6	X	200.49423	275.03473	78.96769	7.73666	0.1267928	0.24241442	2.5473997	20	3 20.3	19.7
54951 2001 PH ₆	14.0	X	129.73792	268.13052	77.46709	2.18134	0.1514137	0.17771607	3.1331769	20	1 6.7	18.6
54952 2001 PL ₆	14.9	X	129.41376	335.81153	101.28437	3.16714	0.0897676	0.24192763	2.5508156	20	4 14.9	18.4
54953 2001 PS ₆	14.8	X	25.58766	55.41443	324.04194	6.44848	0.1450919	0.21820369	2.7325073	20	—	—
54954 2001 PU ₆	15.4	X	42.57659	6.35879	325.56525	6.24346	0.1380099	0.26815184	2.3816734	20	12 14.4	18.6
54955 2001 PL ₇	15.1	X	177.44754	229.								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
54961 2001 <i>PX</i> ₁₀	15.5	X	145.12297	197.74162	93.24378	3.78846	0.1250805	0.22779694	2.6552421	20	—	—
54962 2001 <i>PH</i> ₁₂	14.8	X	22.62936	46.80073	14.94520	3.93985	0.0844900	0.22287745	2.6941719	20	—	—
54963 Sotin	14.6	X	18.78268	256.71609	105.15942	8.36777	0.1758190	0.21408358	2.7674544	20	12 14.5	18.1
54964 2001 <i>PF</i> ₂₇	15.6	X	193.30736	135.39690	324.24209	5.85109	0.0906609	0.25391559	2.4698835	20	7 26.3	19.1
54965 2001 <i>PN</i> ₂₇	15.6	X	36.54160	170.10260	181.54137	6.50419	0.0542896	0.26945278	2.3740012	20	12 21.1	18.7
54966 2001 <i>PA</i> ₂₈	14.8	X	192.15943	308.88514	101.84826	6.91510	0.1281318	0.19685593	2.9266472	20	5 20.7	19.6
54967 Millucci	14.9	X	213.72125	228.34579	294.23959	3.94090	0.0494867	0.21663813	2.7456559	20	11 6.9	18.9
54968 2001 <i>PY</i> ₃₁	14.9	X	132.01386	344.20737	15.93988	14.73122	0.1227629	0.23322737	2.6138643	20	1 18.5	18.9
54969 2001 <i>PL</i> ₃₄	14.1	X	175.55893	136.43916	193.44317	16.01393	0.0859656	0.18174951	3.0866488	20	1 24.5	19.1
54970 2001 <i>PE</i> ₃₈	15.1	X	91.22185	23.54964	93.83258	18.86443	0.1211834	0.24331659	2.5410989	20	5 2.5	18.8
54971 2001 <i>PU</i> ₄₂	13.8	X	215.57137	96.86325	288.38622	8.05421	0.0915638	0.19361486	2.9592178	20	5 10.8	18.5
54972 2001 <i>PY</i> ₄₂	13.6	X	276.84066	141.14217	252.54284	9.82620	0.1620730	0.20215693	2.8752589	20	7 23.4	17.5
54973 2001 <i>PE</i> ₄₄	15.2	X	235.50880	172.83448	236.91986	1.04659	0.0610082	0.20258334	2.8712228	20	7 9.1	19.4
54974 2001 <i>PA</i> ₄₅	14.3	X	4.45413	202.07191	359.51102	10.38163	0.0776350	0.19055045	2.9908598	20	4 1.9	18.0
54975 2001 <i>PL</i> ₄₇	14.2	X	277.98360	273.51998	82.44636	13.08200	0.0836339	0.19909017	2.9047103	20	6 19.2	18.2
54976 2001 <i>PJ</i> ₄₉	14.4	X	91.71048	316.16529	87.22621	14.61064	0.1427100	0.23100534	2.6305993	20	1 22.6	17.7
54977 2001 <i>PY</i> ₄₉	14.5	X	211.25305	289.96653	194.53370	29.81531	0.1157783	0.21029602	2.8005845	20	9 6.9	19.1
54978 2001 <i>PZ</i> ₄₉	14.4	X	10.35573	37.62508	31.10008	13.40922	0.0536172	0.22394724	2.6855851	20	—	—
54979 2001 <i>PP</i> ₅₆	15.9	X	314.44855	143.97540	301.38790	2.11151	0.1347420	0.27161649	2.3613768	20	—	—
54980 2001 <i>PN</i> ₆₀	16.5	X	109.76850	128.99222	283.23591	1.61715	0.0946948	0.29031065	2.2588847	20	2 9.7	19.2
54981 2001 <i>PU</i> ₆₁	15.5	X	205.10783	24.44489	332.20612	3.87026	0.1017695	0.24264328	2.5457976	20	3 23.0	19.2
54982 2001 <i>PH</i> ₆₂	15.2	X	18.06346	275.19399	97.16779	7.40728	0.0477144	0.21779263	2.7359444	20	12 9.5	18.7
54983 2001 <i>QE</i>	15.6	X	215.09899	320.93902	5.07667	0.29394	0.1516166	0.24057532	2.5603657	20	2 24.4	19.6
54984 2001 <i>QR</i>	14.3	X	177.39546	346.57446	313.08756	8.11536	0.0155163	0.17940057	3.1135332	20	—	—
54985 2001 <i>QQ</i> ₁	15.5	X	114.73875	302.49530	172.42940	3.63616	0.1056033	0.247113871	2.5148313	20	5 18.8	19.0
54986 2001 <i>QZ</i> ₂	15.0	X	108.47102	112.84221	268.38115	2.44554	0.1584544	0.23268139	2.6179516	20	1 17.3	18.4
54987 2001 <i>QT</i> ₄	15.2	X	319.82959	252.62695	159.15885	9.19469	0.1524226	0.21420504	2.7664082	20	11 8.6	18.2
54988 2001 <i>QW</i> ₅	15.6	X	352.18540	269.51668	152.89860	3.67211	0.0764609	0.27401864	2.3475561	20	—	—
54989 2001 <i>QB</i> ₈	16.0	X	129.42903	234.85540	161.48754	4.63251	0.1045440	0.28947371	2.2632367	20	2 16.0	18.8
54990 2001 <i>QW</i> ₈	14.9	X	186.98202	210.80808	104.94124	2.41473	0.0735284	0.18310709	3.0713733	20	1 22.2	19.4
54991 2001 <i>QT</i> ₁₀	14.4	X	347.48736	52.54759	334.03125	5.58313	0.3252882	0.21180422	2.7872739	20	12 14.4	16.7
54992 2001 <i>QO</i> ₁₁	15.1	X	49.82568	200.91507	142.23566	5.68601	0.0609366	0.21835052	2.7312821	20	12 15.4	18.9
54993 2001 <i>QF</i> ₁₂	15.1	X	21.05301	105.90755	317.20356	5.56847	0.1674713	0.27535999	2.3399262	20	—	—
54994 2001 <i>QF</i> ₁₃	15.6	X	159.57655	327.35495	155.23271	3.53195	0.0868003	0.25272790	2.4776156	20	7 17.5	19.2
54995 2001 <i>QS</i> ₁₃	14.3	X	189.36072	242.22118	127.74987	2.93929	0.0883929	0.18897772	3.0074308	20	3 29.5	18.9
54996 2001 <i>QW</i> ₁₃	15.4	X	282.27441	296.50763	146.29752	6.14578	0.1157013	0.26412811	2.4058006	20	10 31.8	17.9
54997 2001 <i>QZ</i> ₁₃	13.9	X	108.50649	5.74108	338.94711	11.66329	0.1998624	0.22617408	2.6679283	20	—	—
54998 2001 <i>QA</i> ₁₄	14.6	X	351.81536	77.04631	341.67636	10.86163	0.1658654	0.21750315	2.7383714	20	—	—
54999 2001 <i>QE</i> ₁₆	14.2	X	330.39598	290.32690	112.94733	8.68208	0.1930093	0.21310332	2.7759347	20	11 17.8	16.9
55000 2001 <i>QL</i> ₁₈	15.7	X	216.10713	243.92891	123.80017	1.74023	0.1685304	0.24448994	2.5329623	20	4 16.6	19.7
55001 2001 <i>QW</i> ₁₈	14.2	X	45.57190	242.95192	140.58189	1.62586	0.1402405	0.16924990	3.2368092	20	—	—
55002 2001 <i>QF</i> ₁₉	14.4	X	207.08434	218.04861	226.95249	1.25206	0.0389823	0.20116761	2.8846780	20	7 22.4	18.4
55003 2001 <i>QV</i> ₂₁	13.8	X	158.27443	270.39304	159.05993	11.08479	0.1103295	0.18994081	2.9972561	20	5 11.9	18.6
55004 2001 <i>QT</i> ₂₂	14.0	X	235.96587	289.49598	109.82244	3.32743	0.0939445	0.19903701	2.9052276	20	6 22.1	18.1
55005 2001 <i>QO</i> ₂₃	15.1	X	351.69359	12.37556	40.72367	1.56599	0.1993042	0.26647843	2.3916338	20	—	—
55006 2001 <i>QZ</i> ₂₄	13.4	X	105.01852	230.35074	145.34649	17.17144	0.2120718	0.17624151	3.1506289	20	1 22.4	18.0
55007 2001 <i>QC</i> ₂₆	14.1	X	42.00030	307.67806	126.00670	6.20825	0.1541783	0.17457585	3.1706376	20	—	—
55008 2001 <i>QW</i> ₂₆	14.6	X	286.55380	88.45601	149.60392	1.20467	0.1460901	0.18517047	3.0485143	20	1 25.9	19.0
55009 2001 <i>QZ</i> ₂₆	14.9	X	98.80837	193.34921	257.19128	1.61810	0.1651127	0.23652088	2.5895426	20	4 3.6	18.3
55010 2001 <i>QD</i> ₂₇	15.3	X	237.05173	289.85201	159.47815	2.45626	0.1567682	0.25659699	2.4526468	20	8 24.4	18.6
55011 2001 <i>QV</i> ₂₉	14.1	X	316.48278	256.16567	96.95693	3.26038	0.0750733	0.20010189	2.8949112	20	8 13.2	17.6
55012 2001 <i>QG</i> ₃₀	13.3	X	237.67202	0.22651	13.24378	10.94153	0.1147471	0.19113505	2.9847583	20	5 16.8	18.0
55013 2001 <i>QB</i> ₃₁	14.2	X	210.57022	296.01993	82.29146	3.06772	0.0686682	0.24012830	2.5635423	20	4 29.3	17.9
55014 2001 <i>QO</i> ₃₁	13.7	X	88.29513	117.66293	39.57861	13.46194	0.1080037	0.24010592	2.5637016	20	6 9.1	17.3
55015 2001 <i>QQ</i> ₃₁	14.3	X	136.61553	255.34749	119.58837	7.37383	0.1995210	0.23117339	2.6293243	20	2 16.9	18.3
55016 2001 <i>QE</i> ₃₂	14.3	X	308.69456	281.34241	285.48802	7.52560	0.1354549	0.23497586	2.6008814	20	1 7.1	17.8
55017 2001 <i>QH</i> ₃₂	14.4	X	231.26492	72.50101	167.23730	12.14033	0.0582612	0.17848971	3.1241168	20	—	—
55018 2001 <i>QH</i> ₃₃	14.2	X	342.95394	268.52009	310.46252	12.96750	0.2443594	0.24165034	2.5527666	20	2 21.6	16.7
55019 2001 <i>QO</i> ₃₄	15.6	X	108.35971	200.76530	161.23435	0.92182	0.1541609	0.23164708	2.6257386	20	—	—
55020 2001 <i>QS</i> ₃₄	15.0	X	349.40237	99.74435	244.92068	2.78835	0.1058093	0.21265250	2.7798566	20	9 23.9	18.2
55021 2001 <i>QK</i> ₃₈	14.3	X	16.31375	276.57463	112.75476	10.39394	0.2691504	0.21913566	2.7247543	20	—	—
55022 2001 <i>QQ</i> ₃₈	15.4	X	245.60011	25.90862	25.24215	2.45798	0.1665882	0.25798877	2.4438179	20	7 12.9	18.7
55023 2001 <i>QV</i> ₃₈	15.2	X	277.36847	279.57827	102.87595	7.06560	0.1393137	0.25754173	2.4466451	20	7 19.6	18.2
55024 2001 <i>QB</i> ₄₀	15.2	X	77.54817	344.75699	317.02555	1.80102	0.0497341	0.21974251	2.7197354	20	11 25.2	19.1
55025 2001 <i>QF</i> ₄₀	14.8	X	248.70419	7.37230	349.60489	1.72916	0.0844559	0.19922942	2.9033567	20	5 14.1	18.9
55026 2001 <i>QG</i> ₄₁	15.8	X	347.96835	69.45039	325.37464	1.94674	0.1553161	0.26952191	2.3735953	20	12 24.6	18.2
55027 2001 <i>QL</i> ₄₂	14.0	X	47.50922	34.39415	50.33801	1.36242	0.1582143	0.18104019	3.0947059	20	1 17.8	17.5
55028 2001 <i>QO</i> ₄₂	14.9	X	204.98787	345.89178	343.56245	2.56910	0.1193811	0.18898272	3.0073778	20	2 24.4	19.6
55029 2001 <i>QN</i> ₄₅	14.4	X	348.96411	107.28084	42.30209	2.27800	0.0311502	0.18338264	3.0682958	20	1 12.0	18.5
55030 2001 <i>QP</i> ₄₅	14.3	X	125.49285	313.40418	136.88151	12.63206	0.0677752	0.19352737	2.9601096	20	4 30.4	18.8
55031 2001 <i>QJ</i> ₄₇	15.5	X	214.66515	105.35420	0.74225	2.14820	0.1394082	0.26005127	2.4308793	20	8 24.2	19.0
55032 2001 <i>QX</i> ₄₇	16.3	X	273.06814	141.51296	288.82874	0.89444	0.1090088	0.26302492	2.412			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55041 2001 QD ₅₇	15.1	X	242.33041	106.06987	8.72614	4.59470	0.1514226	0.26466831	2.4025260	20	10 6.8	18.2
55042 2001 QX ₅₈	14.5	X	47.71900	154.28212	260.15077	5.96283	0.2464624	0.22716772	2.6601429	20	—	—
55043 2001 QL ₅₉	14.8	X	20.83122	212.55391	127.59772	5.23240	0.3034162	0.26888176	2.3773611	20	12 22.9	17.8
55044 2001 QZ ₅₉	15.7	X	87.55601	71.63872	240.46983	1.06669	0.0781396	0.22113574	2.7082999	20	12 22.9	19.6
55045 2001 QH ₆₂	15.0	X	17.47754	275.55105	233.03397	2.56898	0.1251522	0.23710382	2.5852965	20	2 4.2	17.6
55046 2001 QQ ₆₄	14.7	X	323.44438	125.65903	260.26923	2.36566	0.0904424	0.20938048	2.8087424	20	10 6.5	18.1
55047 2001 QX ₆₅	14.6	X	162.61617	174.12499	204.48171	5.72665	0.1586045	0.18548605	3.0450555	20	3 14.3	19.5
55048 2001 QK ₆₆	15.5	X	267.91757	60.29254	252.86925	2.86345	0.0962164	0.29817272	2.2190007	20	4 2.1	18.2
55049 2001 QJ ₆₇	14.3	X	113.22612	253.81818	150.27056	12.72281	0.1618844	0.22998125	2.6384028	20	2 22.5	17.8
55050 2001 QU ₆₇	16.1	X	295.14057	305.63148	294.62821	4.07457	0.0859914	0.29355032	2.2422344	20	1 30.7	18.9
55051 2001 QT ₆₈	13.8	X	355.80829	23.97606	338.16921	1.60937	0.1259027	0.20924474	2.8099570	20	10 30.4	16.9
55052 2001 QO ₆₈	13.8	X	161.46911	354.09755	21.77635	8.99827	0.2613404	0.18295281	3.0730997	20	3 18.6	19.2
55053 2001 QV ₆₈	14.6	X	91.87919	265.61318	84.52135	4.95896	0.1480303	0.22221542	2.6995202	20	—	—
55054 2001 QH ₆₉	16.1	X	267.75540	3.50572	284.09177	4.83113	0.1328750	0.29561447	2.2317845	20	2 22.2	19.1
55055 2001 QR ₆₉	14.6	X	46.94107	75.86749	287.43550	3.91780	0.1752436	0.21866397	2.7286713	20	—	—
55056 2001 QU ₆₉	14.5	X	225.78814	336.27220	327.26663	14.43562	0.1077841	0.23789737	2.5795441	20	2 9.7	18.5
55057 2001 QJ ₇₀	13.5	X	62.54630	69.98557	317.43057	11.19154	0.0969764	0.17126618	3.2113549	20	—	—
55058 2001 QC ₇₃	14.7	X	352.22669	288.78979	148.58788	23.61319	0.2616154	0.27410839	2.3470437	20	—	—
55059 2001 QG ₇₃	12.9	X	218.26018	166.31843	98.70750	24.01151	0.0965039	0.17695243	3.1421846	20	—	—
55060 2001 QM ₇₃	11.1	X	311.06240	177.54911	105.89085	26.58602	0.0467404	0.08550348	5.1028584	20	5 18.3	18.1
55061 2001 QK ₇₄	14.4	X	190.40697	87.95104	332.60758	2.41974	0.0188123	0.24350781	2.5397684	20	5 31.7	17.7
55062 2001 QU ₇₇	13.9	X	32.93486	311.64500	41.52870	7.88255	0.1990520	0.21095953	2.7947091	20	12 24.3	17.8
55063 2001 QS ₇₈	13.9	X	164.53922	88.10688	218.01405	12.46914	0.1937311	0.22391065	2.6858776	20	—	—
55064 2001 QP ₈₀	13.5	X	188.89026	72.10312	269.13772	8.48582	0.1305454	0.18343631	3.0676973	20	2 19.6	18.5
55065 2001 QJ ₈₀	15.1	X	158.22878	82.13087	286.08377	5.06870	0.1310185	0.28678426	2.2773643	20	2 14.9	18.3
55066 2001 QF ₈₁	14.1	X	304.61352	298.34154	314.30152	8.02371	0.1170476	0.23987311	2.5653601	20	2 29.6	17.6
55067 2001 QQ ₈₁	14.8	X	232.92749	51.23853	274.66161	6.84396	0.1660157	0.24017514	2.5632089	20	3 7.3	19.0
55068 2001 QK ₈₃	13.8	X	52.68872	31.93494	358.41275	20.59784	0.2236239	0.16749631	3.2593617	20	—	—
55069 2001 QR ₈₅	14.7	X	184.09359	3.84899	198.05959	4.26844	0.0406515	0.21691284	2.7433373	20	11 24.0	18.6
55070 2001 QZ ₈₅	14.7	X	282.86008	205.00487	30.41154	2.78699	0.1212072	0.23436434	2.6054037	20	1 15.3	18.4
55071 2001 QE ₈₆	13.3	X	152.79476	254.10825	89.61400	19.17272	0.1758958	0.17618275	3.1513294	20	1 30.7	18.5
55072 2001 QK ₈₉	14.4	X	274.87603	285.94917	88.64286	14.57949	0.1973143	0.20270457	2.8700779	20	6 22.6	18.2
55073 2001 QJ ₉₂	13.6	X	318.29356	183.69852	270.50296	14.98445	0.1868530	0.21566404	2.7539173	20	—	—
55074 2001 QH ₉₃	14.1	X	124.79549	56.89187	358.73013	13.92387	0.0758077	0.17977000	3.1092662	20	3 15.4	18.5
55075 2001 QR ₉₆	15.0	X	159.89899	27.19269	347.61295	7.56051	0.1283920	0.28763643	2.2728641	20	2 27.5	18.2
55076 2001 QQ ₉₆	14.3	X	129.33305	228.48625	190.10372	13.67252	0.1537893	0.23513707	2.5996925	20	3 27.9	18.1
55077 2001 QB ₉₈	14.2	X	91.41689	279.16321	159.39847	11.70747	0.2498537	0.18397314	3.0617268	20	3 29.4	18.6
55078 2001 QP ₁₀₁	14.5	X	157.98943	289.70793	109.09617	13.56444	0.1832738	0.23944483	2.5684182	20	4 9.5	18.9
55079 2001 QM ₁₀₃	15.7	X	343.04230	106.06198	354.69239	4.17645	0.0969947	0.27826082	2.3236355	20	—	—
55080 2001 QM ₁₀₄	14.1	X	9.23277	203.09831	178.77427	9.58186	0.1538808	0.21446676	2.7641571	20	12 22.6	17.6
55081 2001 QP ₁₀₉	15.3	X	197.98648	299.13302	28.28034	6.43500	0.1936142	0.23968826	2.5666789	20	2 13.9	19.6
55082 Xlendi	15.4	X	7.40677	105.71750	335.17488	4.55504	0.0692710	0.27744322	2.3281983	20	—	—
55083 2001 QV ₁₁₀	14.0	X	211.23796	120.13978	239.86924	7.71446	0.1030544	0.19085439	2.9876837	20	4 4.4	18.7
55084 2001 QE ₁₁₅	14.2	X	65.41442	257.11958	206.22838	9.60496	0.0461625	0.18345748	3.0674614	20	2 21.5	18.4
55085 2001 QL ₁₁₅	15.2	X	270.53817	257.68291	245.01375	5.91741	0.0510502	0.27215693	2.3582497	20	—	—
55086 2001 QK ₁₁₇	14.4	X	136.58009	124.35414	318.54095	6.72238	0.1691280	0.23899111	2.5716679	20	5 4.1	18.5
55087 2001 QB ₁₂₀	14.4	X	207.59281	154.97995	19.82381	8.15209	0.1898039	0.26741919	2.3860214	20	11 7.6	17.8
55088 2001 QV ₁₂₀	14.9	X	285.27702	36.15562	359.04192	5.32356	0.0520393	0.21019924	2.8014440	20	8 28.2	18.6
55089 2001 QD ₁₂₁	14.7	X	126.27843	11.42775	61.02930	4.21942	0.2267462	0.24109487	2.5566861	20	4 19.9	18.7
55090 2001 QX ₁₂₁	15.5	X	252.69198	300.97990	124.97815	7.05150	0.1128523	0.25914684	2.4365319	20	8 20.5	18.5
55091 2001 QT ₁₂₂	14.9	X	154.60024	301.73418	74.91640	3.58883	0.1041625	0.18629058	3.0362821	20	3 3.9	19.5
55092 2001 QO ₁₂₃	16.1	X	74.56107	164.24099	59.31861	3.16931	0.0823059	0.31157670	2.1548948	20	8 29.8	18.5
55093 2001 QZ ₁₂₃	15.5	X	285.37016	97.93555	11.21579	6.08757	0.1036470	0.27056511	2.3674902	20	12 14.5	18.0
55094 2001 QS ₁₂₇	14.8	X	147.42858	330.55377	281.08092	10.79224	0.1554526	0.22292138	2.6938179	20	12 11.6	19.2
55095 2001 QZ ₁₂₉	14.7	X	223.03250	83.69864	248.77841	4.88531	0.1584144	0.19062234	2.9901079	20	3 11.4	19.7
55096 2001 QB ₁₃₂	15.4	X	241.06997	293.10843	268.68445	6.07422	0.0575685	0.27848260	2.3224017	20	—	—
55097 2001 QT ₁₃₂	13.8	X	214.91810	199.93562	160.98753	11.23970	0.1071472	0.18936591	3.0033194	20	4 14.3	18.5
55098 2001 QS ₁₃₃	13.8	X	166.88287	168.03003	193.77323	14.75328	0.0848180	0.18494557	3.0509852	20	2 21.8	18.6
55099 2001 QK ₁₃₇	13.6	X	118.22071	37.28332	345.02106	9.85079	0.1144039	0.17572868	3.1567556	20	2 4.3	18.2
55100 2001 QM ₁₃₇	13.7	X	22.88861	300.84729	358.72755	17.95211	0.2139019	0.20579966	2.8412292	20	9 30.4	16.9
55101 2001 QW ₁₃₇	14.8	X	124.86604	329.70793	348.58058	13.60554	0.2589781	0.22321748	2.6914351	20	—	—
55102 2001 QX ₁₃₇	15.2	X	339.70461	279.90423	297.61060	6.84600	0.0570641	0.28952105	2.2629899	20	3 5.2	17.7
55103 2001 QE ₁₃₈	13.5	X	214.69779	258.42641	320.75363	6.59790	0.0597346	0.27091580	2.3654467	20	—	—
55104 2001 QU ₁₃₈	14.6	X	159.75375	343.83008	329.84541	11.40249	0.2226887	0.22734920	2.6587271	20	—	—
55105 2001 QN ₁₃₉	13.8	X	26.82263	332.94404	339.28762	8.74870	0.1334094	0.25850657	2.4405535	20	10 20.9	16.8
55106 2001 QR ₁₄₁	14.8	X	175.98331	315.25010	112.95903	3.27771	0.0746253	0.19493405	2.9458519	20	5 25.3	19.2
55107 2001 QS ₁₄₁	14.5	X	39.48203	351.02217	80.01776	2.41724	0.1634271	0.17370054	3.1812803	20	—	—
55108 Beauvueller	13.7	X	148.85350	64.96266	8.35086	10.67991	0.1036356	0.18844632	3.0130819	20	4 30.6	18.5
55109 2001 QL ₁₄₅	14.4	X	55.68713	356.41476	175.66406	12.72534	0.0973548	0.19196386	2.9761609	20	5 17.5	18.4
55110 2001 QF ₁₄₆	14.4	X	136.95170	266.50531	173.69721	10.27758	0.1215210	0.18888046	3.0084631	20	5 3.6	19.1
55111 2001 QD ₁₅₂	14.1	X	246.17276	354.72562	316.66882	30.61485	0.1574958	0.23700515	2.5860139	20	2 24.6	18.5
55112 Mariangela	13.7	X	231.56041	323.74588	30.54776	10.56247	0.1242166	0.19247151	2.9709254	20	4 19.0	18.3
55113 2001 QD ₁₅₈	15.3	X	247.07674	151.53230	243.18178	1.03855	0.0758036	0.20076975	2.8884877	20	7 1.7	19.2
55114 2001 QD ₁₆₀	14.7	X	262.47763	16.04371	3.73025	1.55213	0.071876					

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55121 2001 QU ₁₆₈	15.6	X	73.58735	284.54800	107.56054	7.75062	0.1040789	0.28195004	2.3033217	20	—	—
55122 2001 QW ₁₆₉	14.8	X	61.81330	8.07791	326.80712	3.71075	0.0763110	0.21299520	2.7768740	20	12 19.9	18.7
55123 2001 QL ₁₇₀	14.0	X	107.63544	158.24597	263.60177	18.19593	0.1445959	0.17728478	3.1382563	20	3 2.3	18.9
55124 2001 QU ₁₇₀	15.1	X	257.93857	141.99970	258.17166	0.96208	0.0686731	0.20264340	2.8706555	20	7 23.7	19.0
55125 2001 QD ₁₇₃	14.8	X	347.13652	275.42444	306.77653	11.70512	0.1273265	0.24583952	2.5236836	20	3 18.2	17.8
55126 2001 QQ ₁₇₄	15.1	X	52.39274	247.26847	185.67244	2.56023	0.1842925	0.22834200	2.6510150	20	—	—
55127 2001 QZ ₁₇₄	15.3	X	265.42980	323.67160	172.08444	3.15382	0.0534032	0.22074947	2.7114584	20	12 11.2	18.8
55128 2001 QH ₁₇₇	15.7	X	0.43102	81.54752	282.17589	6.43591	0.1179123	0.26737441	2.3862878	20	11 23.9	18.3
55129 2001 QZ ₁₇₇	14.2	X	114.73313	267.25009	132.12058	10.63596	0.2080130	0.22852757	2.6495797	20	2 25.9	18.0
55130 2001 QR ₁₇₉	14.8	X	0.31940	248.64735	117.66887	3.76767	0.0121440	0.21370400	2.7707305	20	11 4.6	18.5
55131 2001 QY ₁₈₀	15.0	X	126.91519	153.49481	271.13994	3.83480	0.0977782	0.23866644	2.5739996	20	3 24.2	18.6
55132 2001 QB ₁₈₂	13.5	X	276.72986	138.71428	171.88722	10.31263	0.0985198	0.19178272	2.9780345	20	4 20.0	17.8
55133 2001 QL ₁₈₂	14.1	X	198.49587	326.25128	81.96333	12.59787	0.1003949	0.18714294	3.0270558	20	5 24.7	18.8
55134 2001 QM ₁₈₃	14.1	X	213.36950	134.36323	136.50365	1.90996	0.1410338	0.17678442	3.1441751	20	—	—
55135 2001 QP ₁₈₃	14.6	X	312.41445	24.56377	218.38650	9.37274	0.0425934	0.18949046	3.0020032	20	3 14.3	18.8
55136 2001 QD ₁₈₅	16.4	X	142.86176	344.75988	12.27186	1.79400	0.1212071	0.28760955	2.2730057	20	1 14.6	19.2
55137 2001 QK ₁₈₅	14.3	X	13.00280	138.23502	254.13281	3.92377	0.1941667	0.21618900	2.7494574	20	—	—
55138 2001 QL ₁₈₅	15.4	X	221.04898	50.55409	284.67594	4.03264	0.1470531	0.24069212	2.5595373	20	3 10.1	19.6
55139 2001 QQ ₁₉₀	13.9	X	53.75216	156.03301	254.69623	13.68503	0.1255467	0.22550026	2.6732404	20	—	—
55140 2001 QC ₁₉₃	13.9	X	255.78182	41.14309	240.15568	10.67132	0.0927680	0.18538318	3.0461819	20	2 14.8	18.7
55141 2001 QP ₁₉₃	14.2	X	43.31604	127.86655	259.06331	11.85671	0.1675202	0.21962646	2.7206934	20	—	—
55142 2001 QD ₁₉₄	13.7	X	0.87197	252.47524	288.56440	12.88448	0.1059144	0.23628927	2.5912345	20	2 17.4	16.8
55143 2001 QS ₁₉₅	14.0	X	283.11677	207.16344	306.62364	24.16845	0.1428922	0.27308390	2.3529100	20	—	—
55144 2001 QK ₁₉₈	14.3	X	138.82451	188.73953	165.15850	1.55062	0.1838122	0.17524416	3.1625715	20	1 28.3	19.3
55145 2001 QE ₁₉₉	15.4	X	24.26071	257.12855	150.98512	3.03255	0.1611857	0.26865849	2.3786781	20	—	—
55146 2001 QO ₁₉₉	14.3	X	330.53468	3.27392	39.87490	13.38728	0.0395863	0.20576649	2.8415346	20	11 8.8	17.9
55147 2001 QT ₁₉₉	14.0	X	54.82273	161.84408	9.16902	12.85494	0.1765204	0.23718618	2.5846979	20	5 18.8	17.2
55148 2001 QE ₂₀₀	14.7	X	235.35878	344.40658	271.50643	14.76841	0.1073176	0.22867587	2.6484340	20	—	—
55149 2001 QD ₂₀₂	15.5	X	51.22838	78.64603	293.93372	2.32337	0.0397874	0.22603314	2.6690372	20	—	—
55150 2001 QO ₂₀₂	14.8	X	161.27535	336.40106	336.51486	9.07699	0.0550161	0.18002185	3.1063656	20	—	—
55151 2001 QE ₂₁₄	15.2	X	56.44660	312.24206	191.62277	2.44196	0.0535760	0.24146525	2.5540710	20	3 30.1	18.3
55152 2001 QN ₂₁₈	14.4	X	335.30716	322.07492	191.85598	0.34567	0.1210887	0.17884122	3.1200218	20	—	—
55153 2001 QZ ₂₁₈	15.3	X	32.86199	207.15145	175.09272	5.39384	0.0810237	0.22012683	2.7165689	20	—	—
55154 2001 QD ₂₂₀	14.2	X	147.44914	32.04280	299.17964	12.06197	0.1713670	0.22652830	2.6651464	20	1 3.2	18.2
55155 2001 QV ₂₂₀	15.0	X	7.26680	199.02832	246.42484	7.93610	0.1036048	0.22756835	2.6570199	20	—	—
55156 2001 QX ₂₂₂	14.7	X	357.35750	121.47374	308.00460	13.26305	0.1386176	0.22187632	2.7022701	20	—	—
55157 2001 QV ₂₂₇	15.1	X	313.75464	225.10304	277.49834	8.55900	0.1368125	0.27837769	2.3229851	20	—	—
55158 2001 QS ₂₃₀	14.8	X	61.94991	229.91960	210.96608	8.09665	0.1158007	0.17928592	3.1148604	20	1 28.9	18.9
55159 2001 QW ₂₃₄	15.1	X	290.69862	139.97751	359.55401	3.80333	0.0942217	0.27352813	2.3503618	20	—	—
55160 2001 QT ₂₃₆	16.1	X	260.47399	267.60923	250.19306	1.21280	0.1587666	0.27166982	2.3610678	20	—	—
55161 2001 QB ₂₃₈	14.5	X	32.62574	127.89106	319.51885	1.49067	0.0931583	0.17428504	3.1741636	20	—	—
55162 2001 QT ₂₃₈	15.2	X	153.88972	53.51233	314.35840	1.82247	0.0434194	0.23403359	2.6078579	20	2 8.9	18.8
55163 2001 QV ₂₃₈	14.7	X	345.73222	3.59790	237.81699	0.87136	0.0388800	0.19132157	2.9828180	20	4 29.6	18.7
55164 2001 QU ₂₃₉	14.7	X	31.10645	112.63234	220.85136	5.50642	0.0368989	0.21161560	2.7889299	20	11 3.9	18.4
55165 2001 QC ₂₄₂	14.9	X	37.03434	277.42892	183.06619	11.18691	0.1386738	0.22846642	2.6500525	20	1 5.5	17.9
55166 2001 QV ₂₄₃	14.7	X	68.45327	236.92465	193.29522	2.43480	0.0705972	0.22567845	2.6718331	20	1 13.2	17.9
55167 2001 QY ₂₄₃	14.2	X	109.53671	243.84888	210.60446	1.07265	0.0681010	0.18627834	3.0364151	20	4 12.1	18.3
55168 2001 QK ₂₅₀	14.2	X	33.72549	42.71528	84.79299	10.11716	0.1986117	0.18126853	3.0921065	20	2 24.9	17.6
55169 2001 QO ₂₅₂	15.2	X	69.72421	66.41838	161.32834	3.98926	0.1615368	0.23305075	2.6151848	20	2 6.0	18.0
55170 2001 QU ₂₅₅	14.5	X	43.08045	281.34331	191.51616	9.64085	0.0776312	0.18247246	3.0784906	20	2 6.3	18.6
55171 2001 QO ₂₅₆	15.2	X	123.78661	269.13497	85.15747	5.47891	0.0628075	0.22843295	2.6503112	20	—	—
55172 2001 QY ₂₅₇	14.1	X	117.60505	225.71587	170.86193	14.38981	0.1040108	0.23121594	2.6290017	20	2 7.8	17.9
55173 2001 QZ ₂₅₇	14.8	X	339.66480	292.74382	162.03374	10.51100	0.0655166	0.21898688	2.7259883	20	—	—
55174 2001 QW ₂₅₈	15.0	X	344.05214	191.00664	231.93387	5.65214	0.1001175	0.26926623	2.3750976	20	—	—
55175 2001 QN ₂₆₁	14.6	X	166.62150	104.26356	301.05583	6.77431	0.1589113	0.23965890	2.5668886	20	4 14.2	18.8
55176 2001 QD ₂₆₂	14.8	X	171.82285	221.14085	213.39279	8.06946	0.1623043	0.24414972	2.5353148	20	5 30.1	19.0
55177 2001 QM ₂₆₃	14.6	X	274.73089	68.01189	357.70770	1.63403	0.0538790	0.20279024	2.8692695	20	9 20.4	18.3
55178 2001 QF ₂₆₅	14.4	X	106.13497	347.38575	245.45649	2.44693	0.0681329	0.20861457	2.8156130	20	10 2.6	18.5
55179 2001 QT ₂₇₆	13.5	X	106.27954	0.15629	358.86625	17.99904	0.2719299	0.17625480	3.1504705	20	1 17.7	18.4
55180 2001 QW ₂₇₉	15.5	X	82.05938	206.11656	125.41354	14.44412	0.1008835	0.27347998	2.3506376	20	—	—
55181 2001 QD ₂₈₀	14.5	X	58.36624	39.66630	54.82333	13.97317	0.2256413	0.23129211	2.6284245	20	2 25.2	17.4
55182 2001 QB ₂₈₂	13.7	X	54.08860	207.28936	248.12159	21.17597	0.0279223	0.23081317	2.6320593	20	1 15.2	17.5
55183 2001 QK ₂₈₄	12.9	X	247.95581	223.55458	126.13001	11.50369	0.1124623	0.19117873	2.9843036	20	5 6.1	17.5
55184 2001 QX ₂₈₆	14.5	X	260.03963	46.29613	181.42385	12.74953	0.0526237	0.17961336	3.1110736	20	—	—
55185 2001 QB ₂₈₇	14.4	X	136.01576	59.29146	246.94995	3.47025	0.1288852	0.17298983	3.1899876	20	—	—
55186 2001 QQ ₂₈₉	14.9	X	98.00726	262.09423	175.89324	1.59369	0.0775416	0.18739448	3.0243463	20	3 8.8	19.1
55187 2001 QX ₂₉₀	14.9	X	49.13673	74.38293	17.03246	2.63841	0.0803309	0.23172485	2.6251511	20	1 13.9	17.9
55188 2001 QF ₂₉₂	13.7	X	108.46782	276.31126	112.99500	2.45507	0.1887152	0.17600761	3.1534195	20	2 9.3	18.3
55189 2001 QW ₂₉₄	15.2	X	31.63337	307.72610	156.92873	12.75532	0.2300546	0.22836491	2.6508377	20	1 1.1	17.7
55190 2001 QC ₂₉₇	14.9	X	135.99083	169.52315	43.60451	6.68169	0.0420990	0.25870545	2.4393025	20	10 20.7	18.1
55191 2001 QG ₂₉₇	13.9	X	213.25533	251.37011	147.73576	13.63025	0.1951798	0.24220323	2.5488802	20	5 24.9	18.3
55192 2001 RN ₂	14.4	X	289.42707	295.92128	179.94596	11.58978	0.1683586	0.16429226	3.3016014	20	11 22.9	18.7
55193 2001 RH ₄	15.4	X	346.29683	145.28382	263.50771	4.01607	0.1875853	0.21661677	2.7458364	20	12 25.8	18.3
55194 2001 RP ₁₁	15.0	X	140.19977	21.38422	42.02002	2.57874	0.11823					

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55201 2001 <i>RL</i> ₂₃	15.8	X	297.04019	300.98624	155.38504	2.23292	0.1791282	0.26779162	2.3838086	20	12 13.2	17.6
55202 2001 <i>RW</i> ₂₃	15.0	X	78.67109	290.62564	158.48802	6.68690	0.1917869	0.18182417	3.0858037	20	3 16.9	19.0
55203 2001 <i>RZ</i> ₂₄	14.5	X	335.87084	299.09311	246.56582	0.28437	0.1209068	0.18438237	3.0571949	20	1 28.2	18.4
55204 2001 <i>RE</i> ₂₈	14.9	X	91.39862	119.22029	302.01725	3.30276	0.2249766	0.17992692	3.1074582	20	3 1.8	19.3
55205 2001 <i>RQ</i> ₂₉	13.9	X	155.07342	277.33091	352.81230	8.99746	0.1564988	0.17155875	3.2077029	20	12 31.2	19.3
55206 2001 <i>RM</i> ₃₂	15.1	X	302.89652	26.13222	272.48753	4.55115	0.0440873	0.19780117	2.9173161	20	5 13.5	19.0
55207 2001 <i>RN</i> ₃₂	15.1	X	336.04181	212.54726	187.49118	5.35176	0.1771143	0.21426500	2.7658920	20	11 22.7	17.9
55208 2001 <i>RJ</i> ₃₅	14.8	X	91.60908	325.50418	174.06684	11.06830	0.1149037	0.24678557	2.5172299	20	5 25.5	18.3
55209 2001 <i>RA</i> ₃₆	15.2	X	339.72405	145.30212	303.16724	5.12075	0.1416226	0.27347594	2.3506608	20	—	—
55210 2001 <i>RN</i> ₃₆	15.4	X	351.37669	198.92658	296.27691	3.20692	0.1074859	0.23018355	2.6368567	20	—	—
55211 2001 <i>RL</i> ₄₃	14.2	X	123.25715	222.34618	149.95294	5.79055	0.1614842	0.17704505	3.1410887	20	1 31.6	19.0
55212 Yukitoayatsuji	14.2	X	343.45881	126.53655	145.58772	3.00220	0.0817752	0.19587229	2.9364372	20	6 4.5	17.8
55213 2001 <i>RC</i> ₄₉	14.2	X	258.11523	210.76803	67.19263	28.22985	0.0146394	0.23550273	2.5970008	20	3 8.1	18.4
55214 2001 <i>RJ</i> ₄₉	15.4	X	195.94761	191.67009	335.06553	8.85496	0.1357452	0.26388219	2.4072951	20	10 18.7	19.0
55215 2001 <i>RG</i> ₅₄	15.1	X	209.20615	230.87140	90.07916	1.43643	0.0549266	0.23574732	2.5952043	20	2 14.6	18.7
55216 2001 <i>RH</i> ₆₀	14.9	X	254.17449	105.95875	81.84696	5.34946	0.0483974	0.22293860	2.6936792	20	—	—
55217 2001 <i>RV</i> ₆₀	14.6	X	97.09238	10.54220	99.02896	5.96310	0.1116244	0.18642608	3.0348106	20	4 24.6	18.9
55218 2001 <i>RW</i> ₆₀	13.9	X	164.16790	119.80557	155.96872	14.08518	0.1317720	0.17155558	3.2077423	20	—	—
55219 2001 <i>RQ</i> ₆₁	14.9	X	111.48201	295.57107	137.32635	2.37143	0.1619468	0.18407654	3.0605801	20	4 1.0	19.3
55220 2001 <i>RE</i> ₆₃	14.4	X	273.95975	218.12804	109.97509	10.62258	0.0511231	0.19280932	2.9674543	20	5 16.8	18.7
55221 Nancynoblitt	13.2	X	32.70202	267.94559	192.79719	20.36383	0.2711960	0.17627273	3.1502569	20	1 14.2	16.6
55222 Makotoshinkai	14.5	X	4.28986	354.42891	94.30071	1.56387	0.2289511	0.16719360	3.2632946	20	—	—
55223 Akiraifukube	14.9	X	126.16587	350.96869	84.36129	3.47647	0.1483438	0.23678463	2.5876193	20	4 15.9	18.6
55224 2001 <i>RR</i> ₆₉	14.9	X	145.36608	95.68279	208.90232	8.34645	0.0214612	0.22254405	2.6968620	20	—	—
55225 2001 <i>RG</i> ₇₀	14.4	X	31.39261	171.20586	288.05786	4.45109	0.1546717	0.17264942	3.1941794	20	1 9.6	18.1
55226 2001 <i>RV</i> ₇₀	13.5	X	146.69911	45.31079	282.78396	4.96783	0.1185699	0.17419189	3.1752951	20	—	—
55227 2001 <i>RB</i> ₇₁	15.0	X	341.85593	264.27044	219.86226	8.06322	0.0377631	0.22368716	2.6876663	20	—	—
55228 2001 <i>RR</i> ₇₂	14.4	X	16.44120	52.57500	239.70114	1.18369	0.0154372	0.20089319	2.8873044	20	8 17.9	18.4
55229 2001 <i>RH</i> ₇₃	14.3	X	213.15791	132.17478	214.93787	10.69155	0.1178993	0.18598583	3.0395980	20	3 21.6	19.3
55230 2001 <i>RO</i> ₇₃	15.8	X	242.01839	197.01710	311.48982	6.12775	0.0549167	0.26686002	2.3893533	20	12 6.7	18.9
55231 2001 <i>RC</i> ₇₄	15.2	X	129.12272	329.67016	235.25000	5.48584	0.1040149	0.25818605	2.4425729	20	9 30.6	18.8
55232 2001 <i>RR</i> ₇₄	14.3	X	239.75705	178.32785	327.15928	2.21210	0.1300851	0.20989012	2.8041940	20	11 5.2	18.3
55233 2001 <i>RZ</i> ₇₄	15.4	X	355.58282	190.99299	3.24946	3.73567	0.1068237	0.28853230	2.2681569	20	2 24.9	17.4
55234 2001 <i>RC</i> ₇₅	13.5	X	46.19135	78.72842	21.43331	15.68233	0.1958626	0.17313544	3.1881989	20	2 17.3	17.4
55235 2001 <i>RD</i> ₈₀	15.4	X	143.60179	196.97205	218.62254	8.10380	0.1028134	0.24010611	2.5637002	20	4 1.6	19.1
55236 2001 <i>RW</i> ₈₀	14.0	X	239.04378	69.93064	72.71365	7.70734	0.0389470	0.21090954	2.7951507	20	11 15.9	17.9
55237 2001 <i>RK</i> ₈₁	15.2	X	211.74742	342.86767	357.30032	6.04856	0.1403045	0.23924357	2.5698584	20	3 10.3	19.3
55238 2001 <i>RJ</i> ₈₃	15.6	X	207.73043	183.43764	325.33682	1.96343	0.1282901	0.26380135	2.4121780	20	10 12.2	19.0
55239 2001 <i>RZ</i> ₈₄	14.5	X	124.65948	93.55994	213.39448	4.59171	0.1242770	0.17131211	3.2107810	20	—	—
55240 2001 <i>RP</i> ₈₅	13.9	X	245.31099	71.12074	187.37475	10.47838	0.0638461	0.18023380	3.1039298	20	1 14.0	18.7
55241 2001 <i>RL</i> ₈₆	15.5	X	121.06374	255.67920	198.91772	5.27465	0.0827193	0.24055369	2.5605192	20	4 26.2	19.0
55242 2001 <i>RP</i> ₈₆	14.3	X	85.55438	130.40865	289.25796	1.05535	0.2027487	0.17641913	3.1485138	20	2 19.7	18.6
55243 2001 <i>RF</i> ₈₇	14.9	X	13.60671	109.34996	342.14373	3.23152	0.1867139	0.22222964	2.6994051	20	—	—
55244 2001 <i>RA</i> ₈₉	14.8	X	260.22106	96.03758	43.75930	2.99824	0.1446272	0.26732790	2.3865646	20	12 9.2	17.1
55245 2001 <i>RQ</i> ₉₂	14.4	X	64.80748	51.79374	174.09734	13.76370	0.0783228	0.20157084	2.8808297	20	8 2.9	18.5
55246 2001 <i>RM</i> ₉₃	14.8	X	335.92615	272.42066	76.02272	2.19325	0.1613674	0.20538052	2.8450936	20	9 6.3	17.8
55247 2001 <i>RO</i> ₉₃	14.6	X	259.27517	338.29359	34.40952	5.47416	0.1057468	0.19666955	2.9284960	20	6 13.4	18.8
55248 2001 <i>RF</i> ₉₉	14.9	X	278.57583	301.39327	150.18105	7.48543	0.1052267	0.21390998	2.7689515	20	10 27.6	18.5
55249 2001 <i>RQ</i> ₁₀₂	15.4	X	8.70890	324.76427	136.72904	7.46514	0.0541340	0.28053021	2.3110870	20	—	—
55250 2001 <i>RX</i> ₁₀₂	14.9	X	290.93911	286.37174	70.25314	3.12182	0.0842387	0.20145657	2.8819189	20	7 8.7	18.7
55251 2001 <i>RZ</i> ₁₀₅	15.2	X	11.52918	297.27317	284.28694	1.00408	0.0608919	0.19572811	2.9378791	20	5 10.3	19.0
55252 2001 <i>RL</i> ₁₀₇	15.1	X	14.66852	215.03526	11.06938	1.46620	0.0375961	0.19596056	2.9355553	20	5 20.2	19.0
55253 2001 <i>RL</i> ₁₁₀	14.5	X	83.03303	102.28318	78.87294	3.00097	0.0251050	0.19833191	2.9121092	20	6 22.9	18.4
55254 2001 <i>RP</i> ₁₁₇	14.6	X	251.88846	52.74497	167.57977	0.93363	0.0916356	0.17662560	3.1460596	20	—	—
55255 2001 <i>RJ</i> ₁₁₈	15.0	X	25.61872	11.75775	70.93483	1.11393	0.1522329	0.17263938	3.1943032	20	—	—
55256 2001 <i>RZ</i> ₁₁₉	13.9	X	70.44013	291.41012	122.79963	6.44316	0.1436097	0.17579322	3.1559828	20	1 14.9	17.8
55257 2001 <i>RQ</i> ₁₂₀	15.5	X	195.29760	63.43720	89.09651	2.37540	0.1325585	0.26204663	2.4185236	20	10 4.9	19.0
55258 2001 <i>RL</i> ₁₂₀	15.2	X	134.87079	85.91835	122.37773	4.29383	0.0329027	0.20978878	2.8050970	20	10 5.9	19.2
55259 2001 <i>RH</i> ₁₂₂	15.6	X	159.85758	273.11364	164.09422	8.53801	0.0366725	0.24578918	2.5240283	20	5 17.9	19.2
55260 2001 <i>RG</i> ₁₂₃	16.2	X	134.50296	249.46053	0.95277	6.02610	0.0398951	0.26871479	2.3783458	20	12 6.7	19.6
55261 2001 <i>RV</i> ₁₂₅	14.7	X	12.38813	220.93937	81.49017	3.99427	0.0131139	0.20521428	2.8466298	20	8 28.6	18.6
55262 2001 <i>RE</i> ₁₂₆	16.0	X	60.79163	338.38275	129.21883	5.72526	0.0799878	0.28799261	2.2709896	20	2 11.8	18.1
55263 2001 <i>RR</i> ₁₂₆	15.6	X	96.31784	281.48771	73.15352	4.33906	0.0935536	0.22498174	2.6773462	20	—	—
55264 2001 <i>RW</i> ₁₂₇	15.0	X	355.60270	27.68122	84.09463	3.26522	0.1583626	0.22461437	2.6802647	20	—	—
55265 2001 <i>RF</i> ₁₃₀	14.7	X	119.11414	295.34114	164.92200	11.65204	0.1226110	0.18859495	3.0114987	20	5 10.2	19.4
55266 2001 <i>RX</i> ₁₃₀	15.2	X	342.19283	49.61160	141.48129	3.98472	0.1350598	0.23722799	2.5843943	20	2 2.1	17.9
55267 2001 <i>RP</i> ₁₃₂	11.9	X	177.00350	18.74292	15.65789	17.34463	0.0296845	0.08458614	5.1396859	20	4 15.8	18.9
55268 2001 <i>RE</i> ₁₃₃	15.0	X	90.73026	53.89972	67.94741	5.57546	0.1593166	0.23998146	2.5645879	20	5 5.8	18.3
55269 2001 <i>RG</i> ₁₄₁	14.5	X	321.41902	58.42317	41.37930	10.21084	0.0755339	0.21791516	2.7349187	20	—	—
55270 2001 <i>RT</i> ₁₄₇	14.2	X	98.81441	47.40038	99.96384	10.57222	0.0919124	0.19852794	2.9101919	20	6 9.5	18.4
55271 2001 <i>RV</i> ₁₅₀	15.5	X	239.59089	26.03709	129.79262	7.51380	0.0572584	0.26805042	2.3822741	20	12 14.5	18.5
55272 2001 <i>RG</i> ₁₅₅	13.5	X	210.92263	44.67547	139.46325	9.53300	0.1869983	0.21470185	2.7621390	20	11 18.5	17.9

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55281 2001 SH ₂₀	14.5	X	100.47406	179.75357	98.96088	1.80798	0.0340823	0.21274984	2.7790086	20	11 21.2	18.3
55282 2001 SK ₂₀	14.7	X	268.89855	307.85174	68.43212	2.91333	0.1077823	0.19775306	2.9177892	20	6 30.6	18.6
55283 2001 SN ₂₀	13.7	X	64.99478	199.66671	179.24219	10.28836	0.0737096	0.16876001	3.2430702	20	—	—
55284 2001 SN ₂₁	14.3	X	344.08769	59.67184	33.71960	7.17629	0.1002488	0.21854785	2.7296378	20	—	—
55285 2001 SQ ₂₂	14.8	X	352.11491	237.74582	322.88347	3.03611	0.1660801	0.23949892	2.5680314	20	2 27.9	17.4
55286 2001 SS ₂₂	14.8	X	291.47556	290.41653	193.20001	13.14650	0.1146208	0.21659051	2.7460584	20	12 25.2	18.3
55287 2001 SC ₂₄	15.4	X	17.76005	327.71024	182.45007	2.57817	0.1099100	0.23373002	2.6101155	20	2 8.5	18.3
55288 2001 SZ ₃₀	14.3	X	212.02837	2.60383	130.78723	2.83550	0.0200602	0.20716052	2.8287728	20	10 3.6	18.2
55289 2001 SB ₃₇	14.6	X	17.70272	206.05613	23.36461	10.61010	0.0416931	0.19257491	2.9698618	20	5 27.1	18.6
55290 2001 SV ₃₇	14.5	X	165.89046	98.30398	137.11165	4.44198	0.1886712	0.21726746	2.7403514	20	12 6.9	19.2
55291 2001 SG ₃₈	15.7	X	273.57922	128.36026	29.72613	7.05131	0.0688612	0.27150196	2.3620408	20	—	—
55292 2001 SN ₃₉	14.8	X	76.47844	282.53289	83.21307	3.67651	0.1060723	0.22111926	2.7084345	20	—	—
55293 2001 SY ₃₉	16.0	X	165.79200	116.65868	147.05551	6.84186	0.1029673	0.27346346	2.3507323	20	—	—
55294 2001 ST ₄₂	14.8	X	340.14749	105.85665	133.30336	1.54500	0.0772653	0.19064881	2.9898310	20	4 16.7	18.6
55295 2001 SJ ₄₃	15.2	X	128.08780	304.96865	83.75374	3.42305	0.1240020	0.23257026	2.6187855	20	2 16.2	18.9
55296 2001 SG ₄₄	15.4	X	293.40961	247.74836	117.14236	4.85169	0.0529078	0.25363437	2.4717088	20	8 1.6	18.2
55297 2001 SO ₄₄	15.1	X	46.36215	14.53476	79.48134	4.17438	0.0824320	0.22907516	2.6453555	20	1 12.3	18.0
55298 2001 ST ₄₄	15.4	X	257.14280	103.12637	75.25470	3.48768	0.1496865	0.27319263	2.3522857	20	—	—
55299 2001 SX ₄₄	14.9	X	46.69307	136.35207	18.91506	13.24722	0.1145349	0.23849339	2.5752446	20	4 7.2	17.7
55300 2001 SL ₄₅	14.7	X	129.64059	224.12286	159.84419	10.91341	0.1868475	0.17934608	3.1141638	20	2 23.1	19.4
55301 2001 SR ₄₆	14.7	X	184.14146	9.56223	94.20621	3.26281	0.0429176	0.19773786	2.9179387	20	7 19.2	19.0
55302 2001 SC ₄₈	14.1	X	35.72312	274.63705	69.58255	5.47026	0.0791520	0.21308368	2.7761053	20	11 29.9	17.7
55303 2001 SB ₅₁	15.0	X	245.24494	347.27691	132.66548	4.53325	0.0488068	0.21037238	2.7999068	20	10 25.5	18.8
55304 2001 SM ₅₁	15.0	X	194.05460	154.08933	131.77473	3.35324	0.0267744	0.22783445	2.6549506	20	—	—
55305 2001 SE ₅₃	14.3	X	357.16035	129.22038	80.40475	3.05348	0.0300357	0.18564636	3.0433023	20	4 6.7	18.4
55306 2001 SP ₅₃	13.9	X	136.62195	307.52761	50.52676	6.01130	0.1809070	0.17688029	3.1430389	20	2 1.7	18.8
55307 2001 SO ₅₆	14.0	X	108.62395	285.14079	75.67959	6.04603	0.1531694	0.17260354	3.1947454	20	1 2.6	18.4
55308 2001 SJ ₅₆	14.7	X	213.26051	159.24393	61.72997	6.00593	0.1040505	0.21924502	2.7238482	20	—	—
55309 2001 SN ₅₈	14.0	X	228.83711	279.54977	28.69972	11.08460	0.1570286	0.18393541	3.0621455	20	2 25.1	19.1
55310 2001 SY ₅₈	14.7	X	22.77118	195.39611	100.64473	3.15695	0.0577965	0.20260176	2.8710488	20	9 7.3	18.5
55311 2001 SR ₅₉	14.6	X	30.44909	159.73676	137.82482	2.61388	0.0525493	0.20351450	2.8624582	20	9 19.0	18.2
55312 2001 SK ₆₀	14.5	X	100.19688	106.49864	280.51262	3.06548	0.0983964	0.17399740	3.1776609	20	1 15.5	18.8
55313 2001 SS ₆₃	14.9	X	139.13655	178.39076	169.79996	0.64951	0.0779318	0.22712299	2.6604921	20	1 3.0	18.4
55314 2001 SC ₆₄	14.4	X	307.57675	46.51787	42.99813	7.95414	0.1271132	0.21114574	2.7930658	20	12 3.9	17.6
55315 2001 SJ ₆₅	14.6	X	338.79042	5.24129	188.06982	6.28179	0.0678232	0.28475152	2.2881896	20	1 30.1	17.3
55316 2001 SQ ₆₆	13.8	X	227.16394	162.34355	186.77893	5.81668	0.1560596	0.18764906	3.0216103	20	4 6.9	18.6
55317 2001 SF ₆₇	14.5	X	309.66852	226.90604	38.31365	15.31171	0.1524417	0.24034408	2.5620077	20	3 27.8	17.8
55318 2001 SR ₇₁	15.3	X	17.86932	113.75472	85.78393	3.43720	0.1223085	0.29168487	2.2517843	20	4 17.1	17.1
55319 Takanashi Busler	14.1	X	205.54805	159.57872	186.96671	6.03731	0.0953743	0.18670181	3.0318219	20	3 15.9	18.8
55320	14.4	X	268.58276	17.10582	290.42129	5.02587	0.0608015	0.19176927	2.9781739	20	4 6.5	18.7
55321 2001 SC ₇₈	15.2	X	57.33269	167.96988	194.76999	1.95510	0.0550827	0.22004420	2.7172490	20	—	—
55322 2001 SH ₈₂	15.8	X	220.75311	289.20134	192.57241	5.07981	0.1148565	0.26215289	2.4178700	20	9 23.5	19.1
55323 2001 SN ₉₄	15.2	X	289.18307	246.41513	234.62154	6.20648	0.1288185	0.21632820	2.7482778	20	12 17.4	18.2
55324 2001 SJ ₁₀₆	13.5	X	228.14388	302.59525	358.39618	14.59857	0.0857118	0.18045618	3.1013793	20	2 19.6	18.3
55325 2001 SL ₁₀₆	14.0	X	109.38192	87.48520	349.65228	8.85652	0.0883974	0.18059520	3.0997874	20	3 23.3	18.4
55326 2001 SR ₁₀₇	13.7	X	11.61355	27.62456	18.42027	14.32681	0.0685420	0.21295422	2.7772303	20	—	—
55327 2001 SD ₁₀₉	13.9	X	88.52286	310.37174	19.72828	9.28476	0.1626453	0.21428496	2.7657203	20	—	—
55328 2001 SJ ₁₁₀	13.6	X	249.65267	11.59759	10.93884	10.86815	0.1161099	0.19268988	2.9686804	20	6 12.4	18.1
55329 2001 SQ ₁₁₁	15.0	X	346.73517	346.15615	317.94772	6.47756	0.1428342	0.30410675	2.9003998	20	8 6.2	16.5
55330 2001 SD ₁₁₄	14.9	X	101.94618	122.41567	303.19500	3.22958	0.0729209	0.23323137	2.6138345	20	2 21.5	18.2
55331 Putzi	13.4	X	138.54465	122.69457	252.37264	12.21311	0.1899447	0.17847563	3.1242810	20	2 16.4	18.6
55332 2001 SR ₁₁₇	15.2	X	154.18018	209.64170	296.99986	5.36419	0.0599856	0.25541520	2.4602065	20	8 12.0	18.6
55333 2001 SZ ₁₁₇	15.1	X	55.56228	233.18046	256.99212	5.28523	0.3622444	0.23383432	2.6093393	20	4 26.9	17.7
55334 2001 SU ₁₂₀	13.9	X	236.36323	5.87482	238.41419	4.22993	0.1149656	0.17787278	3.1313364	20	—	—
55335 2001 SO ₁₂₃	14.2	X	192.11924	214.31644	189.25608	9.94612	0.1208569	0.19289805	2.9665442	20	5 12.2	18.9
55336 2001 SS ₁₂₃	14.9	X	317.70193	191.28774	270.49677	2.71928	0.1781372	0.21820490	2.7324971	20	—	—
55337 2001 SL ₁₂₄	15.7	X	24.41012	116.93516	286.38424	2.05100	0.0718276	0.22121692	2.7076373	20	—	—
55338 2001 SK ₁₂₅	14.6	X	96.19219	285.75373	190.85064	9.30287	0.0280344	0.19011322	2.9954438	20	4 18.6	18.8
55339 2001 SO ₁₂₅	15.1	X	55.83724	235.42250	258.11320	3.38828	0.1186745	0.23832013	2.5764926	20	3 21.1	18.1
55340 2001 ST ₁₂₅	15.9	X	249.01798	217.09729	265.82590	2.13279	0.0969343	0.26509657	2.3999377	20	11 4.8	18.8
55341 2001 SK ₁₂₈	16.0	X	244.67464	275.70512	205.74730	6.24317	0.1318388	0.26456668	2.4031412	20	10 22.6	18.9
55342 2001 SX ₁₂₈	14.9	X	341.03066	354.21116	271.15073	2.78663	0.0491083	0.19512819	2.9438976	20	5 23.6	18.6
55343 2001 SU ₁₃₅	15.3	X	175.63506	281.71798	185.27398	14.15149	0.2307262	0.19402260	2.9550704	20	7 9.8	20.7
55344 2001 SH ₁₃₈	15.5	X	53.32907	140.76123	355.97830	5.57504	0.0568983	0.23711908	2.5851855	20	3 16.6	18.6
55345 2001 SL ₁₃₈	16.0	X	155.31496	55.59785	349.99092	2.36187	0.0747040	0.23877535	2.5732169	20	3 31.7	19.8
55346 2001 SS ₁₃₉	16.0	X	149.16927	216.22955	351.59853	1.05007	0.1311130	0.26303645	2.4124524	20	10 27.4	19.8
55347 2001 SH ₁₄₂	13.8	X	187.40731	92.27164	204.70348	8.13885	0.0592992	0.12456247	3.9707991	20	1 7.6	19.8
55348 2001 SV ₁₄₄	14.8	X	325.45070	283.67700	224.40427	2.68198	0.0965158	0.22645655	2.6657093	20	—	—
55349 2001 SF ₁₄₇	14.7	X	136.86097	270.46398	193.73071	11.45846	0.0959939	0.19021791	2.9943446	20	5 29.9	19.4
55350 2001 SK ₁₄₇	14.2	X	243.58353	191.56902	198.46727	1.48571	0.1089515	0.19505081	2.9446762	20	6 17.2	18.6
55351 2001 ST ₁₄₇	14.2	X	262.26838	285.01799	282.10265	5.80502	0.0725503	0.17381352	3.1799016	20	—	—
55352 2001 SD ₁₅₀	15.8	X	0.52279	38.17477	284.61051	3.38663	0.0736582	0.25791941	2.4425660	20	9 17.2	18.6
55353 2001 SW ₁₅₂	14.4	X	310.77681	247.83692	252.84636	1.40939	0.0155963	0.22055191	2.7130773	20	—	—
55354 2001 SQ ₁₅₄	14.1	X	269.77197	19.63375	203.57337	4.42075	0.0928816	0.17573531	3.1566761	20	—	—
553												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55361 2001 SN ₁₇₆	14.9	X	43.62924	119.96883	36.76464	13.05762	0.1094364	0.23631518	2.5910451	20	4 7.0	17.8
55362 2001 SM ₁₇₈	14.5	X	277.63917	50.55742	194.57572	14.95440	0.1018842	0.23092171	2.6312344	20	1 20.6	18.7
55363 2001 SZ ₁₇₈	14.3	X	53.72644	300.69685	175.13729	9.83751	0.0368370	0.17634807	3.1493595	20	2 23.3	18.6
55364 2001 ST ₁₈₀	15.1	X	246.29075	53.32839	34.31500	2.21892	0.0560057	0.20970825	2.8058151	20	9 12.8	18.9
55365 2001 ST ₁₈₁	14.6	X	326.12420	180.58866	345.99549	8.39311	0.0631889	0.18104998	3.0945943	20	—	—
55366 2001 SA ₁₈₄	15.9	X	192.26713	185.91345	349.43178	2.41256	0.0923710	0.26739843	2.3861449	20	11 2.9	19.2
55367 2001 SX ₂₀₈	14.6	X	125.06800	98.81358	13.89432	10.16794	0.0313021	0.19232191	2.9724658	20	5 16.5	18.9
55368 2001 SJ ₂₁₈	14.6	X	344.09858	53.42112	83.76928	2.36951	0.1399116	0.17333297	3.1857761	20	—	—
55369 2001 SX ₂₂₄	15.6	X	157.36090	131.20300	71.93360	3.16624	0.1562366	0.26332283	2.4107030	20	10 29.9	19.2
55370 2001 SG ₂₃₂	14.9	X	349.43704	246.30118	29.41790	2.63634	0.0437776	0.19476881	2.9475178	20	6 19.4	18.8
55371 2001 SP ₂₃₉	14.5	X	207.79815	254.65440	119.88723	4.61995	0.1350400	0.18799808	3.0178694	20	4 21.9	19.3
55372 2001 SZ ₂₃₉	14.2	X	125.24099	301.92343	113.26505	5.67558	0.1541092	0.18007809	3.1057188	20	3 26.2	18.9
55373 2001 SE ₂₄₀	15.7	X	157.72556	75.95551	129.12416	2.71889	0.1518499	0.26302161	2.4125432	20	11 2.1	19.4
55374 2001 SE ₂₄₄	15.8	X	142.23655	100.76509	79.27658	2.41458	0.0621780	0.25632038	2.4544110	20	9 14.5	19.2
55375 2001 SW ₂₄₇	14.5	X	354.46188	302.97208	188.16931	10.13934	0.0733591	0.17190562	3.2033865	20	—	—
55376 2001 SM ₂₅₀	15.1	X	108.90914	62.03493	174.90461	6.39852	0.0967788	0.25935347	2.4352376	20	10 23.5	18.6
55377 2001 SX ₂₅₄	14.3	X	342.27209	292.11252	151.15698	6.21164	0.0544179	0.21555628	2.7548350	20	—	—
55378 2001 SA ₂₅₅	14.3	X	334.16081	117.49266	142.97830	5.89188	0.0873420	0.24150020	2.5538245	20	5 4.4	17.2
55379 2001 SX ₂₅₅	14.2	X	85.95362	156.61090	150.07909	7.60363	0.1193418	0.21218134	2.7839702	20	12 17.1	18.5
55380 2001 SB ₂₆₄	14.6	X	239.92573	259.46826	287.36432	21.34218	0.3032001	0.27122366	2.3636563	20	12 19.5	17.4
55381 Lautakwah	14.1	X	66.55786	328.90734	53.95358	6.38715	0.1016843	0.16878164	3.2427931	20	—	—
55382 Kootinok	14.7	X	56.79371	308.25738	4.06065	2.53392	0.0534747	0.20953695	2.8073440	20	11 11.3	18.5
55383 Cheungkwokwing	14.8	X	291.76470	160.79751	164.34798	2.06176	0.0774705	0.19185235	2.9773139	20	5 29.6	18.9
55384 Muiyimfong	15.1	X	145.01200	127.58066	118.26594	3.55236	0.1445782	0.26422435	2.4052164	20	12 10.2	18.7
55385 2001 SJ ₂₇₁	15.7	X	285.15859	347.49414	195.67339	3.77212	0.1277713	0.27658067	2.3303633	20	—	—
55386 2001 SY ₂₇₁	14.3	X	137.44695	200.85948	207.31614	0.51873	0.1470939	0.18129132	3.0918474	20	3 26.4	19.1
55387 2001 SD ₂₇₂	15.1	X	185.04155	231.75403	350.38693	1.98212	0.1454672	0.26826206	2.3810209	20	12 20.4	18.4
55388 2001 SN ₂₇₆	15.9	X	201.49623	239.95684	101.20016	7.72645	0.1724873	0.29411300	2.2393737	20	2 28.9	19.5
55389 2001 SX ₂₇₆	14.0	X	344.86295	163.25089	0.04104	12.93385	0.1139104	0.22555299	2.6728237	20	1 8.3	17.5
55390 2001 SY ₂₇₆	14.4	X	189.07551	58.09659	318.89046	9.05267	0.1306200	0.18375257	3.0641764	20	4 1.5	19.3
55391 2001 ST ₂₇₇	14.7	X	123.80981	285.30639	340.68561	11.86384	0.1977881	0.26630561	2.3926683	20	12 15.2	18.9
55392 2001 SA ₂₈₀	14.3	X	356.77008	289.65213	59.73699	2.91335	0.0773070	0.20568051	2.8423264	20	10 11.6	17.7
55393 2001 SB ₂₈₀	14.3	X	357.45143	281.68049	72.34188	3.11123	0.0834107	0.20643752	2.8353736	20	10 19.6	17.7
55394 2001 SN ₂₈₀	14.7	X	322.83122	0.80762	211.33786	5.64795	0.1230160	0.23323463	2.6138100	20	2 1.8	18.0
55395 2001 SY ₂₈₅	14.7	X	130.67319	288.92427	107.19074	14.87539	0.2027855	0.23249186	2.6193742	20	3 12.8	19.0
55396 2001 SZ ₂₈₇	14.6	X	58.35902	356.18670	126.23552	14.62993	0.0461798	0.23629198	2.5912146	20	3 7.6	18.0
55397 2001 SY ₂₈₈	14.1	X	57.16586	283.93336	100.89835	6.60315	0.0779991	0.21981498	2.7191377	20	—	—
55398 2001 SX ₂₈₉	13.8	X	298.01491	235.67726	301.80937	7.71219	0.0493983	0.17377358	3.1803888	20	—	—
55399 2001 SQ ₂₉₁	14.5	X	261.92980	138.07855	72.93905	14.13231	0.1193182	0.22329993	2.6907726	20	—	—
55400 2001 SB ₃₁₅	15.5	X	267.81256	277.21301	261.25346	9.38484	0.1583966	0.27536192	2.3399153	20	—	—
55401 2001 SX ₃₁₆	13.9	X	168.35784	268.50374	283.55643	21.24123	0.3152196	0.26496017	2.4007613	20	10 9.8	18.8
55402 2001 SS ₃₂₂	14.4	X	52.39557	349.58009	89.04675	6.60325	0.1538057	0.17443286	3.1723701	20	1 19.6	18.2
55403 2001 SG ₃₂₅	14.0	X	296.62738	78.06267	107.72197	10.38888	0.1304095	0.17201030	3.2020867	20	—	—
55404 2001 SJ ₃₄₃	13.8	X	117.91891	258.87156	113.76881	14.68660	0.0857699	0.17423223	3.1748050	20	1 17.9	18.3
55405 2001 SV ₃₄₈	14.2	X	64.78122	228.55866	294.07938	9.05901	0.0387353	0.18856965	3.01117681	20	5 4.2	18.4
55406 2001 TD ₁	14.0	X	308.75277	23.71329	143.45144	11.32172	0.1214357	0.17469126	3.1692410	20	—	—
55407 2001 TQ ₁	14.7	X	30.48527	215.69705	336.30694	9.44358	0.0278809	0.18428478	3.0582741	20	4 23.6	19.0
55408 2001 TC ₂	18.8	X	279.24988	353.51787	193.83840	30.38940	0.2245291	0.85453075	1.0998098	20	—	—
55409 2001 TF ₂	15.0	X	161.58185	58.58329	272.83512	2.27404	0.1890851	0.23135893	2.6279183	20	1 16.7	19.1
55410 2001 TB ₄	15.4	X	141.95398	317.47482	268.73929	1.53311	0.1694218	0.26308765	2.4121394	20	11 12.1	19.2
55411 2001 TM ₄	14.7	X	98.06514	127.32222	355.68116	4.81760	0.1245137	0.18480829	3.0524959	20	5 10.5	19.2
55412 2001 TO ₄	15.3	X	230.89388	275.31552	295.13394	1.26141	0.1523213	0.27269773	2.3551308	20	—	—
55413 2001 TA ₉	13.7	X	247.91553	95.46772	265.24260	9.18258	0.1279671	0.19037503	2.9926968	20	5 12.4	18.2
55414 2001 TM ₉	14.4	X	13.63310	243.08301	197.49441	12.62561	0.1647822	0.22616266	2.6680181	20	—	—
55415 2001 TA ₁₁	15.3	X	211.37065	98.46355	209.04877	1.91675	0.0990925	0.23242234	2.6198965	20	1 30.3	19.4
55416 2001 TF ₁₆	14.7	X	26.38454	37.56491	93.73279	12.85928	0.1432327	0.22939747	2.6428771	20	1 31.9	17.5
55417 2001 TR ₁₆	13.4	X	3.79770	26.92461	165.34347	26.51269	0.2306553	0.17503269	3.1651183	20	3 19.1	16.5
55418 Bianciardi	13.9	X	243.90954	149.20236	236.38495	11.78651	0.1101040	0.19582696	2.9368904	20	6 11.5	18.2
55419 2001 TF ₁₉	11.2	X	296.28927	166.62911	110.46503	28.68358	0.0467041	0.08172277	5.2590503	20	4 27.2	18.4
55420 2001 TV ₂₀	13.1	X	108.52468	161.25714	248.83930	21.58127	0.0905921	0.17506172	3.1647683	20	2 10.9	18.1
55421 2001 TJ ₂₄	14.8	X	35.37273	270.48893	235.42129	4.28258	0.1142990	0.18066486	3.0989906	20	3 10.8	18.7
55422 2001 TW ₃₀	14.6	X	251.96139	328.43762	110.48959	6.18522	0.0921152	0.20146519	2.8818368	20	9 3.8	18.6
55423 2001 TT ₃₃	14.5	X	116.47000	50.13955	7.44398	9.87838	0.0060651	0.17651697	3.1473502	20	3 1.5	19.0
55424 2001 TQ ₃₄	14.9	X	291.57751	44.81362	258.48869	11.82356	0.1610130	0.24138172	2.5546601	20	4 10.6	18.6
55425 2001 TR ₄₃	14.4	X	60.28245	350.98466	24.98896	9.00374	0.1801667	0.21234998	2.7824961	20	—	—
55426 2001 TL ₄₅	14.4	X	76.53967	112.46937	319.66300	2.93674	0.0965413	0.22746412	2.6578315	20	1 31.1	17.7
55427 2001 TF ₄₇	14.8	X	354.06992	322.73843	92.25604	8.08682	0.0735243	0.21450258	2.7638493	20	—	—
55428 Cappellaro	14.9	X	63.94227	44.96075	109.13205	8.06979	0.1794983	0.23723952	2.5843105	20	5 17.0	18.0
55429 2001 TQ ₅₂	14.4	X	318.99377	84.53566	92.64541	3.65459	0.0865680	0.17480557	3.1678592	20	1 1.7	18.8
55430 2001 TY ₅₂	14.1	X	314.35789	128.66663	180.49575	1.62097	0.1099012	0.19643784	2.9307984	20	6 5.5	17.7
55431 2001 TG ₅₅	14.4	X	225.15092	45.16965	277.96222	3.96809	0.0351104	0.18229501	3.0804880	20	3 10.1	19.0
55432 2001 TR ₅₆	13.6	X	278.28426	232.23421	71.61932	10.64764	0.0047387	0.18289613	3.0737347	20	4 28.3	18.0
55433 2001 TU ₆₀	15.3	X	45.54844	266.19442	358.95227	2.31142	0.0952729	0.25468741	2.4648911	20	9 10.2	18.1
55434 2001 TZ ₆₆	15.0	X	235.18462	302.22462	161.18065	2.37157	0.0225828	0.20298475	2.8674363	20	9 22.4	18.9

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55441 2001 <i>TS</i> ₈₇	12.5	X	34.41740	312.51118	237.51779	10.94721	0.0388791	0.08323610	5.1951119	20	5 4.5	19.2
55442 2001 <i>TQ</i> ₉₂	14.8	X	77.30168	276.85465	223.99349	8.97256	0.0511168	0.18663295	3.0325677	20	4 27.3	19.0
55443 2001 <i>TY</i> ₉₂	14.9	X	77.72494	154.16324	309.57894	4.14771	0.1015853	0.18027370	3.1034717	20	3 18.2	19.1
55444 2001 <i>TC</i> ₉₆	13.9	X	143.82792	67.19217	270.54236	2.84356	0.1277757	0.17444222	3.1722566	20	1 9.5	18.8
55445 2001 <i>TB</i> ₁₀₂	14.4	X	31.17846	121.87851	346.05886	3.29906	0.0524505	0.17400372	3.1775839	20	1 18.2	18.6
55446 2001 <i>TZ</i> ₁₀₈	14.2	X	320.34615	45.02399	245.51612	9.09379	0.0816559	0.19317733	2.9636844	20	5 23.8	17.9
55447 2001 <i>TJ</i> ₁₁₁	15.1	X	119.63525	59.54633	259.30266	3.95692	0.0214902	0.21859233	2.7292675	20	—	—
55448 2001 <i>TT</i> ₁₁₄	15.1	X	23.67211	256.41625	341.70136	4.38749	0.0970033	0.29713816	2.2241484	20	6 28.7	17.2
55449 2001 <i>TB</i> ₁₁₈	13.8	X	32.18405	320.02774	318.93272	18.99257	0.0606883	0.20253840	2.8716475	20	8 24.3	17.6
55450 2001 <i>TG</i> ₁₂₀	14.6	X	212.27216	19.03079	278.63755	11.80061	0.2527662	0.23378814	2.6096829	20	1 18.0	19.3
55451 2001 <i>TM</i> ₁₂₃	14.1	X	315.06855	250.60985	262.09267	10.29029	0.1382555	0.22358536	2.6884820	20	—	—
55452 2001 <i>TE</i> ₁₂₅	14.4	X	296.09472	312.85250	321.84506	10.19631	0.0631207	0.18726485	3.0257419	20	3 28.4	18.8
55453 2001 <i>TZ</i> ₁₂₇	13.8	X	121.33930	16.34274	37.65524	16.09840	0.0896829	0.18151548	3.0893013	20	3 17.9	18.5
55454 2001 <i>TJ</i> ₁₂₈	15.2	X	304.82052	346.82581	157.40124	10.46738	0.1551826	0.27266920	2.3552951	20	—	—
55455 2001 <i>TR</i> ₁₃₁	14.4	X	229.48340	67.04609	128.72115	12.75855	0.2092698	0.22274075	2.6952741	20	12 19.2	18.3
55456 2001 <i>TW</i> ₁₃₁	15.3	X	316.09713	331.64252	104.67344	7.48961	0.1323378	0.26701281	2.3884417	20	12 22.5	17.4
55457 2001 <i>TH</i> ₁₃₃	12.0	X	251.18835	262.04858	77.89598	16.21289	0.1803363	0.08451330	5.1426386	20	4 26.2	19.4
55458 2001 <i>TK</i> ₁₃₇	14.0	X	251.03582	219.71107	121.24759	11.22477	0.1232866	0.19178999	2.9779593	20	4 27.8	18.6
55459 2001 <i>TW</i> ₁₃₉	15.5	X	211.21244	3.24941	108.10698	7.28742	0.0891217	0.25746863	2.4471082	20	9 3.7	18.9
55460 2001 <i>TR</i> ₁₄₈	12.1	X	3.27291	106.31692	126.72115	7.85944	0.0347251	0.08370571	5.1756632	20	5 18.1	18.9
55461 2001 <i>TC</i> ₁₅₄	15.1	X	53.01059	77.37967	36.25772	14.90444	0.0593008	0.23447284	2.6045999	20	2 22.9	18.6
55462 2001 <i>TR</i> ₁₆₀	13.4	X	343.74627	142.55197	98.26922	14.12530	0.1423010	0.18899132	3.0072865	20	4 25.7	17.2
55463 2001 <i>TL</i> ₁₆₀	15.5	X	142.90455	286.62263	270.59042	1.34174	0.1746212	0.25522344	2.4614386	20	10 6.5	19.4
55464 2001 <i>TG</i> ₁₆₅	14.8	X	5.87630	139.56293	86.49125	11.64583	0.0616729	0.24069170	2.5595403	20	5 10.2	17.9
55465 2001 <i>TS</i> ₁₆₇	14.8	X	140.88640	34.17946	281.22264	10.57410	0.1488702	0.22226351	2.6991308	20	—	—
55466 2001 <i>TM</i> ₁₆₈	13.3	X	153.33074	51.56126	274.12307	12.56002	0.1214544	0.22424656	2.6831947	20	—	—
55467 2001 <i>TH</i> ₁₇₃	15.2	X	335.89790	36.30338	171.04770	1.54056	0.1543832	0.28489732	2.2874089	20	2 2.4	17.4
55468 2001 <i>TE</i> ₁₉₅	14.7	X	123.16347	6.14979	69.60265	10.30574	0.1317294	0.23642344	2.5902215	20	4 14.2	18.5
55469 2001 <i>TT</i> ₂₀₅	14.7	X	355.53080	136.54733	62.01958	14.21295	0.1265828	0.23779350	2.5802952	20	3 16.6	17.8
55470 2001 <i>TS</i> ₂₂₆	14.1	X	91.28141	276.38742	149.79441	17.20671	0.1206959	0.17773922	3.1329048	20	2 23.6	18.3
55471 2001 <i>TZ</i> ₂₂₆	13.7	X	70.44070	149.37587	23.87536	16.93190	0.1348843	0.19595749	2.9355860	20	6 8.9	18.0
55472 2001 <i>TJ</i> ₂₂₇	14.5	X	113.39843	335.90314	42.15253	15.94950	0.1546596	0.23038325	2.6353327	20	1 23.7	18.4
55473 2001 <i>TK</i> ₂₂₇	14.4	X	172.71866	313.13572	91.12550	11.20418	0.1712877	0.24166633	2.5526540	20	4 26.9	18.7
55474 2001 <i>TY</i> ₂₂₉	12.0	X	106.04987	327.47753	149.61627	18.00003	0.0929121	0.08318025	5.1974371	20	5 16.7	19.2
55475 2001 <i>TO</i> ₂₃₃	14.3	X	263.59947	253.65391	74.73493	12.59220	0.1406889	0.19176555	2.9782123	20	4 23.9	18.8
55476 2001 <i>TS</i> ₂₃₉	12.8	X	232.67529	175.74769	72.43591	25.59479	0.1538920	0.17668464	3.1453588	20	—	—
55477 Soroban	14.1	X	167.00293	204.30591	115.98548	2.75889	0.2006493	0.17572239	3.1568308	20	1 15.7	19.3
55478 2001 <i>UH</i> ₇	14.9	X	90.84886	4.59933	97.17399	14.59826	0.2528349	0.23418861	2.6067069	20	4 29.1	18.8
55479 2001 <i>UO</i> ₁₅	14.5	X	271.38410	14.27454	227.29507	12.21696	0.1369487	0.23041280	2.6351074	20	1 6.7	18.7
55480 2001 <i>UO</i> ₂₀	14.9	X	332.05234	155.98245	83.41558	9.96422	0.1626917	0.23850521	2.5751595	20	3 25.6	17.9
55481 2001 <i>UN</i> ₂₁	13.8	X	49.63755	270.98199	264.87086	9.97055	0.0657272	0.19011307	2.9954453	20	5 4.9	17.8
55482 2001 <i>UJ</i> ₂₂	15.2	X	248.82574	292.59853	270.22168	6.70398	0.0937979	0.27534800	2.3399941	20	—	—
55483 2001 <i>UD</i> ₂₃	13.6	X	331.02602	180.20668	250.13568	13.68185	0.1028496	0.16018058	3.3578617	20	12 3.5	17.8
55484 2001 <i>UC</i> ₂₄	13.4	X	66.08807	185.25807	244.34169	12.17098	0.1468544	0.22594988	2.6696929	20	1 14.6	16.5
55485 2001 <i>UM</i> ₂₅	14.8	X	201.30899	26.93099	334.12000	9.19986	0.0458804	0.18389751	3.0625662	20	3 27.5	19.4
55486 2001 <i>UR</i> ₃₃	15.1	X	83.88584	117.24333	131.81697	6.97317	0.0964433	0.25652989	2.4530744	20	10 12.1	18.5
55487 2001 <i>UR</i> ₃₅	14.3	X	82.79310	281.29274	156.32042	9.78481	0.0808242	0.17532894	3.1615518	20	2 20.8	18.7
55488 2001 <i>UZ</i> ₄₄	14.4	X	111.59184	206.18759	57.37946	2.70360	0.0432572	0.20899624	2.8121840	20	11 15.2	18.5
55489 2001 <i>UJ</i> ₄₅	15.1	X	279.47413	17.25665	181.86894	5.23825	0.1284796	0.27584005	2.3372105	20	—	—
55490 2001 <i>UZ</i> ₄₅	15.0	X	88.05349	66.12078	173.35316	2.52502	0.1318428	0.25508919	2.4623022	20	10 5.3	18.5
55491 2001 <i>UU</i> ₄₆	14.1	X	164.56910	223.12213	109.43507	2.61243	0.1976648	0.17668534	3.1453504	20	1 27.5	19.3
55492 2001 <i>UZ</i> ₄₇	15.6	X	104.33362	150.49110	131.89450	6.16591	0.0990613	0.26434432	2.4044886	20	12 15.4	19.2
55493 2001 <i>UJ</i> ₄₈	13.6	X	209.81029	182.00994	74.67733	14.79494	0.1297042	0.22224796	2.6992568	20	—	—
55494 2001 <i>UG</i> ₅₀	14.4	X	195.78560	25.35803	67.04063	11.34322	0.0758080	0.19234265	2.9725222	20	7 17.3	19.0
55495 2001 <i>UY</i> ₅₃	14.5	X	273.28838	128.74927	214.27088	9.70008	0.0940034	0.19103110	2.9858409	20	5 26.3	18.7
55496 2001 <i>UC</i> ₇₃	11.8	X	310.42991	186.89414	101.59143	9.48207	0.0438713	0.08206121	5.2445808	20	5 16.5	18.6
55497 2001 <i>UA</i> ₈₃	15.1	X	24.09483	142.63327	115.92459	3.18641	0.0403178	0.19440717	2.9511721	20	7 16.8	19.0
55498 2001 <i>UT</i> ₈₃	13.6	X	106.22269	19.09621	69.49226	1.57319	0.2202918	0.12464387	3.9690700	20	4 23.3	19.5
55499 2001 <i>UE</i> ₈₄	14.0	X	102.17516	247.49623	62.58875	9.92119	0.1527291	0.21299855	2.7768448	20	—	—
55500 2001 <i>UK</i> ₉₀	14.8	X	13.03759	195.40071	72.10969	3.48920	0.0367983	0.19461460	2.9490747	20	7 13.0	18.6
55501 2001 <i>UH</i> ₉₂	14.6	X	127.44158	116.79105	42.62705	4.82667	0.0715398	0.19354245	2.9599558	20	7 26.9	19.0
55502 2001 <i>UK</i> ₉₃	14.2	X	89.54659	352.81828	117.43508	12.02023	0.0698859	0.18208227	3.0828870	20	4 13.5	18.7
55503 2001 <i>UC</i> ₁₀₀	14.3	X	156.99956	135.56777	67.86882	14.29102	0.0769030	0.20335686	2.8639372	20	10 27.0	18.8
55504 2001 <i>UG</i> ₁₁₂	14.9	X	306.03502	124.78809	223.84466	7.79377	0.0178420	0.19562285	2.9389329	20	7 24.9	19.0
55505 2001 <i>UK</i> ₁₁₃	13.4	X	334.68810	88.48271	93.80292	4.09587	0.1304745	0.12547030	3.9516222	20	2 1.3	18.4
55506 2001 <i>UZ</i> ₁₁₆	15.2	X	45.38512	202.19682	62.38963	8.62895	0.1192457	0.25217302	2.4812287	20	9 17.6	18.4
55507 2001 <i>UG</i> ₁₂₂	15.1	X	210.84417	230.33783	93.42863	2.35202	0.1036700	0.23197299	2.6232787	20	2 20.0	19.2
55508 2001 <i>UE</i> ₁₂₄	14.1	X	176.10229	279.74534	115.67232	13.10783	0.0803492	0.18593465	3.0401558	20	4 20.6	19.0
55509 2001 <i>UA</i> ₁₄₀	15.3	X	77.61036	140.11731	63.10833	2.77463	0.0503437	0.19478304	2.9473743	20	7 19.0	19.4
55510 2001 <i>UU</i> ₁₆₀	14.4	X	344.13046	203.08123	68.01898	10.78948	0.0551946	0.18850710	3.0124342	20	6 4.5	18.2
55511 2001 <i>US</i> ₁₇₇	15.1	X	129.42366	61.92092	268.15587	1.91510	0.0862797	0.22086936	2.7104771	20	—	—
55512 2001 <i>UL</i> ₁₇₈	14.6	X	97.									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55521 2001 VG ₄₉	14.1	X	340.22817	301.04467	253.61665	13.68008	0.1006538	0.23418078	2.6067650	20	2 3.4	17.5
55522 2001 VY ₅₀	14.3	X	357.35936	137.51629	340.69199	7.53127	0.0579618	0.16863235	3.2447068	20	—	—
55523 2001 VB ₅₁	13.6	X	247.50326	292.90880	6.91098	11.04755	0.1140032	0.18192309	3.0846851	20	3 4.8	18.3
55524 2001 VP ₅₅	14.4	X	239.29971	336.22471	261.33125	6.91493	0.2197778	0.27704476	2.3304301	20	—	—
55525 2001 VW ₅₅	14.5	X	100.90190	258.01968	267.89360	9.49106	0.0432660	0.19092861	2.9869094	20	6 28.2	18.8
55526 2001 VV ₅₈	14.4	X	34.99935	198.68168	15.10410	9.90828	0.0478152	0.18848674	3.0126512	20	6 1.0	18.5
55527 2001 VN ₅₉	14.7	X	83.32920	191.59842	2.95249	4.61146	0.1112363	0.19162056	2.9797144	20	7 24.6	18.9
55528 2001 VF ₇₇	14.2	X	161.39598	312.79225	72.82708	14.28084	0.1627184	0.23510419	2.5999348	20	3 27.7	18.6
55529 2001 VC ₈₈	14.3	X	15.49962	105.06530	89.17363	10.38333	0.0910264	0.18341098	3.0679798	20	4 17.1	18.3
55530 2001 VV ₉₃	13.9	X	306.81499	175.31646	114.89651	21.39112	0.2385159	0.18884729	3.0088154	20	4 20.7	18.3
55531 2001 VL ₁₂₁	13.9	X	230.24369	271.20912	87.34248	11.79288	0.1045952	0.19050771	2.9913072	20	4 28.9	18.6
55532 2001 WG ₂	16.0	X	198.17495	132.35001	81.47875	38.51424	0.6955119	0.40999692	1.7945228	20	11 29.2	19.4
55533 2001 WN ₈	14.6	X	337.63474	88.40636	102.41457	6.36005	0.1204770	0.17337381	3.1852758	20	2 9.5	18.7
55534 2001 WU ₂₃	14.8	X	318.30935	143.42607	43.42265	1.10888	0.1122979	0.17060005	3.2197090	20	1 9.8	19.2
55535 2001 WD ₂₇	15.0	X	302.44453	111.86605	134.18411	4.73644	0.0099682	0.23217040	2.6217915	20	3 9.7	18.5
55536 2001 WQ ₂₉	15.0	X	314.05607	298.90456	207.66209	8.75712	0.0923031	0.21619468	2.7494092	20	—	—
55537 2001 WY ₃₇	14.7	X	316.65937	236.80178	74.97262	10.44154	0.0399492	0.19214718	2.9742676	20	6 20.2	18.5
55538 2001 WX ₃₉	12.3	X	73.91634	242.12888	95.90558	16.56764	0.2589184	0.21308584	2.7760864	20	—	—
55539 2001 WV ₄₁	14.6	X	15.62381	57.30595	35.96975	10.90939	0.1980403	0.22296238	2.6934876	20	—	—
55540 2001 WC ₄₅	13.6	X	98.47872	29.53925	41.78869	11.87098	0.1760397	0.18023724	3.1038904	20	3 21.9	18.2
55541 2001 WV ₄₇	15.2	X	325.60834	108.83995	148.32596	8.43202	0.1680118	0.23935203	2.5690820	20	4 4.7	18.1
55542 2001 XO ₅	15.1	X	169.64352	121.41139	140.56225	13.76383	0.1412070	0.26913851	2.3758489	20	—	—
55543 Nemeghaire	14.3	X	199.89301	197.50172	94.12002	13.87978	0.1591298	0.22354876	2.6887755	20	1 2.9	18.5
55544 2001 XW ₂₄	14.9	X	197.20196	23.65675	85.56665	16.13980	0.0856524	0.24330592	2.5411732	20	8 16.1	18.8
55545 2001 XY ₃₄	14.8	X	317.11903	339.06097	306.36479	11.11407	0.0553581	0.24187607	2.5511781	20	5 10.4	18.3
55546 2001 XQ ₄₈	13.8	X	215.35826	83.39169	273.85663	12.99155	0.2065809	0.24040107	2.5616028	20	3 25.2	18.4
55547 2001 XA ₄₉	14.3	X	301.35126	156.58329	61.73021	13.11556	0.0647123	0.17383300	3.1796640	20	2 5.2	19.0
55548 2001 XB ₅₀	15.5	X	202.01813	84.87162	180.03807	0.33998	0.1911776	0.27386649	2.3484255	20	—	—
55549 2001 XC ₅₉	14.9	X	67.13267	273.82825	97.31101	5.74701	0.1830652	0.26884189	2.3775961	20	—	—
55550 2001 XW ₇₀	15.0	X	340.88826	180.59386	86.51335	14.54355	0.1278415	0.24246081	2.5470747	20	5 22.8	17.7
55551 2001 XZ ₈₈	14.5	X	275.62812	209.27372	18.48186	6.69307	0.0452340	0.17352727	3.1833976	20	1 17.5	19.1
55552 2001 XN ₁₀₆	14.5	X	58.06300	98.61644	341.39154	4.75510	0.0710154	0.17034788	3.2228856	20	1 22.9	18.7
55553 2001 XE ₂₅₇	14.7	X	27.00302	85.75592	210.02212	16.35115	0.0693225	0.19985361	2.8973083	20	9 8.0	18.7
55554 2001 XY ₂₅₇	14.4	X	224.48494	345.92640	298.32547	12.10622	0.1574144	0.23070552	2.6328779	20	1 15.0	18.6
55555 DNA	13.5	X	256.05913	42.66036	280.09964	14.61851	0.1318316	0.24017834	2.5631862	20	3 24.7	17.6
55556 2001 YJ ₃₄	14.2	X	338.19968	204.21312	69.28859	10.04893	0.1777663	0.18743980	3.0238588	20	5 21.0	17.3
55557 2001 YH ₅₃	15.2	X	226.34238	205.33267	62.66437	7.66664	0.0941751	0.27386695	2.3484228	20	—	—
55558 2001 YL ₁₀₁	13.6	X	257.82349	350.62251	268.92929	11.25378	0.1360453	0.16906179	3.2392097	20	1 22.7	18.6
55559 2001 YS ₁₁₀	13.8	X	151.91457	188.40099	214.83888	19.11911	0.1499309	0.17968399	3.1102583	20	4 1.6	18.8
55560 2001 YB ₁₃₆	14.5	X	71.09337	136.80810	1.32506	16.38700	0.0367358	0.18169991	3.0872105	20	4 10.1	18.9
55561 Madenberg	16.2	X	252.46399	241.59669	95.04442	5.70114	0.1403546	0.28577652	2.2827150	20	4 15.5	19.4
55562 2002 AM ₂₉	14.5	X	342.61292	247.03664	279.55535	12.14190	0.0952244	0.22440383	2.6819409	20	1 8.8	17.8
55563 2002 AW ₃₄	11.6	X	351.37026	52.94275	313.11787	29.58867	0.0452804	0.08477515	5.1320434	20	9 14.6	18.6
55564 2002 XE ₁₈₈	13.6	X	7.11717	14.16249	185.86297	15.99680	0.1901093	0.17009447	3.2260858	20	4 7.6	17.0
55565 2002 AW ₁₉₇	3.3	X	294.55724	297.46880	297.60616	24.45084	0.1301041	0.00305443	47.0453114	20	2 16.4	19.9
55566 2002 BZ ₂₅	13.7	X	93.59244	51.71554	35.83876	22.43724	0.1183318	0.22488462	2.6781170	20	3 28.7	17.5
55567 2002 CS ₆	13.7	X	208.19000	292.24167	23.18900	22.94626	0.2714615	0.27908723	2.3190463	20	2 13.3	18.3
55568 2002 CU ₁₅	11.5	X	350.00847	320.12878	43.09648	25.74188	0.0347804	0.08494116	5.1253545	20	10 7.1	18.3
55569 2002 CZ ₆₁	14.5	X	195.20982	256.99491	61.01155	8.95518	0.2855382	0.21646614	2.7471102	20	2 4.2	19.6
55570 2002 CV ₇₈	16.0	X	286.68889	195.11327	97.71695	1.58971	0.1337068	0.27915597	2.3186655	20	3 27.6	18.9
55571 2002 CP ₈₂	12.0	X	44.96985	164.39768	148.75887	12.07252	0.0864130	0.08353167	5.1828495	20	10 14.5	18.7
55572 2002 CN ₁₄₀	14.3	X	251.09153	37.06855	296.43369	12.14101	0.2141433	0.22742221	2.6581581	20	3 27.4	18.9
55573 2002 CF ₁₇₂	15.6	X	263.30074	231.63922	68.24070	6.61348	0.1917203	0.27570722	2.3379611	20	3 6.0	19.1
55574 2002 CQ ₂₄₅	12.0	X	56.32967	15.89874	286.16472	7.66759	0.0777677	0.08286611	5.2105644	20	10 7.5	18.9
55575 2002 DC ₁₆	13.9	X	71.93672	59.52452	162.45830	7.96581	0.1963451	0.17567280	3.1574249	20	8 23.4	18.4
55576 Amycus	7.8	X	49.08771	239.86897	315.56962	13.31346	0.3939178	0.00778947	25.2036855	20	7 13.4	21.2
55577 2002 GY ₉₄	15.8	X	88.17447	346.21260	337.38194	4.95730	0.1532066	0.30090454	2.2055499	20	—	—
55578 2002 GK ₁₀₅	11.5	X	229.25953	83.69483	43.05478	20.40274	0.0600751	0.08032390	5.3199334	20	10 1.1	18.8
55579 2002 JM ₅₁	15.5	X	237.36717	185.78620	34.74285	4.75504	0.0580921	0.25262580	2.4782831	20	—	—
55580 2002 JB ₁₁₀	13.3	X	345.75387	303.67895	55.93206	16.07645	0.2007277	0.23124721	2.6287647	20	10 26.7	15.8
55581 2002 NH	16.2	X	57.61524	212.29078	218.76775	4.20398	0.0787946	0.30431403	2.1890452	20	—	—
55582 2002 PM ₄₂	14.7	X	258.37482	12.78246	31.07275	8.90609	0.2307061	0.20947725	2.8078774	20	7 7.9	19.0
55583 2002 PQ ₄₂	15.4	X	274.84917	339.85573	18.66655	13.21790	0.1282271	0.26355271	2.4093010	20	6 10.6	18.7
55584 2002 PV ₄₄	15.1	X	300.58464	310.12419	33.49852	11.84761	0.2329729	0.26570202	2.3962906	20	6 11.0	17.8
55585 2002 PQ ₄₅	15.9	X	139.94345	304.23344	60.09133	6.30676	0.1948132	0.29866631	2.2165552	20	1 30.2	18.9
55586 2002 PT ₄₇	14.6	X	11.40562	165.20783	299.01640	12.26107	0.2328158	0.23854933	2.5748420	20	—	—
55587 2002 PD ₅₀	14.7	X	300.60234	346.24523	36.53776	7.31421	0.1341236	0.26928512	2.3749865	20	9 4.8	17.1
55588 2002 PV ₈₁	14.3	X	251.04645	82.62883	138.14610	3.73978	0.2065717	0.21223421	2.7835079	20	6 28.2	18.6
55589 2002 PO ₉₃	15.1	X	271.61618	249.03900	198.69429	22.83927	0.2145818	0.27581199	2.3373691	20	10 3.4	17.5
55590 2002 PB ₉₇	15.3	X	350.14178	328.01791	0.14915	3.85667	0.2521008	0.27543148	2.3395213	20	10 1.2	16.5
55591 2002 PD ₁₁₆	14.0	X	123.87634	140.30979	256.46291	9.80216	0.1100165	0.19136995	2.9823153	20	2 18.5	18.6
55592 2002 PY ₁₂₈	14.2	X	302.77889	298.14092	98.62683	10.69501	0.2596788	0.21660250	2.7459570	20	9 2.2	17.1
55593 2002 RM ₂₀	15.3	X	65.17232	235.19751	135.02941	4.39034	0.1855343	0.23436057	2.6054317	20	—	—
55594 2002 RE ₆₂	15.3	X	359.23234	218.12788	164.29287	6.44939	0.1215560	0.22325057	2.6911692	20	12 7.2	

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55601 2002 RC ₁₁₀	14.1	X	166.49162	31.14979	318.94103	9.33282	0.0702046	0.19161602	2.9797615	20	2 8.9	18.6
55602 2002 RT ₁₁₆	14.0	X	112.66644	356.69480	293.93242	6.87566	0.1280426	0.17353859	3.1832592	20	12 16.8	19.1
55603 2002 RE ₁₁₇	15.1	X	70.50804	153.49767	213.07476	13.71713	0.0920478	0.23291136	2.6162281	20	—	—
55604 2002 RS ₁₃₅	14.6	X	315.97073	317.26024	97.75036	11.42977	0.1235126	0.22274708	2.6952230	20	11 10.6	17.7
55605 2002 RW ₁₃₉	14.8	X	270.63348	267.20180	50.87897	13.73842	0.2106710	0.26083737	2.4259928	20	4 6.9	18.5
55606 2002 RN ₁₅₄	15.5	X	324.00496	10.19233	306.20246	4.84545	0.2354700	0.26805402	2.3822527	20	6 18.1	17.4
55607 2002 RV ₁₈₃	13.3	X	84.43057	102.31760	250.92910	12.89933	0.0622876	0.17878844	3.1206358	20	—	—
55608 2002 SO ₁	14.8	X	35.85552	54.38319	39.83648	3.53788	0.1492174	0.18457860	3.0550277	20	1 8.5	18.3
55609 2002 SC ₉	15.8	X	262.44463	186.25078	193.59134	4.77185	0.2195886	0.26459564	2.4029658	20	6 12.8	19.1
55610 2002 SO ₄₀	15.3	X	82.47867	199.54475	127.71454	6.60603	0.3189483	0.23276784	2.6173034	20	—	—
55611 2002 SR ₅₀	14.3	X	21.05639	80.75800	32.24393	10.27767	0.0714282	0.18310450	3.0714023	20	1 9.4	18.4
55612 2002 TW ₄₉	15.7	X	94.04240	315.39999	52.83479	5.80136	0.1408734	0.29088825	2.2558935	20	—	—
55613 2002 TY ₄₉	14.6	X	211.54513	325.52704	58.34600	8.88044	0.0559455	0.19826391	2.9127750	20	5 9.4	18.9
55614 2002 TJ ₅₉	13.8	X	155.97725	46.31910	291.79539	7.96749	0.1379296	0.18542493	3.0457246	20	1 20.9	18.6
55615 2002 TL ₆₅	13.9	X	146.51405	233.81063	8.14341	14.20066	0.2652088	0.22757551	2.6569641	20	11 25.1	18.9
55616 2002 TA ₇₈	14.1	X	49.91059	183.00022	288.84625	2.64633	0.1092462	0.18779547	3.0200397	20	2 18.5	17.9
55617 2002 TF ₇₉	13.8	X	57.48215	18.56122	63.20660	13.04563	0.1122097	0.18338403	3.0682804	20	1 27.9	17.8
55618 2002 TB ₈₁	15.4	X	277.54539	243.00976	117.46490	7.73460	0.2280134	0.26280552	2.4138654	20	6 4.5	18.6
55619 2002 TM ₁₀₈	14.4	X	169.92180	8.45065	320.41378	13.36464	0.2842020	0.23929304	2.5695042	20	1 27.2	18.9
55620 2002 TK ₁₂₁	15.2	X	116.78341	57.11577	234.90438	12.75927	0.0769029	0.22857607	2.6492049	20	12 29.7	19.3
55621 2002 TQ ₁₃₈	13.8	X	163.89414	72.20627	115.03055	9.17854	0.1217770	0.19303095	2.9651824	20	3 20.6	18.6
55622 2002 TY ₁₄₃	13.8	X	345.06787	6.74628	92.48579	10.55644	0.1674673	0.17323137	3.1870217	20	—	—
55623 2002 TZ ₁₅₈	14.8	X	280.52432	82.87329	159.82591	15.30752	0.0962673	0.24614293	2.5216093	20	1 21.0	18.6
55624 2002 TE ₁₉₆	14.3	X	156.51862	101.98835	240.76358	7.98749	0.1910525	0.23903162	2.5713774	20	1 22.8	18.4
55625 2002 TF ₁₉₆	14.1	X	99.49773	119.71774	229.90019	13.62420	0.1298181	0.23001701	2.6381293	20	—	—
55626 2002 TN ₂₀₆	15.7	X	110.26099	337.44441	355.52416	5.25899	0.1487088	0.29001682	2.2604102	20	—	—
55627 2002 TW ₂₃₂	13.6	X	74.21903	20.27316	284.30126	14.12192	0.0674105	0.16889796	3.2413041	20	11 14.7	18.5
55628 2002 TN ₂₄₉	15.5	X	149.00669	308.47234	233.09597	1.55627	0.1515556	0.27028322	2.3691360	20	9 24.3	19.2
55629 2002 TJ ₂₅₁	15.1	X	328.32055	5.43393	94.67637	15.22360	0.1366358	0.22866975	2.6484813	20	—	—
55630 2002 TD ₂₆₁	14.6	X	37.12564	345.83909	66.91707	15.08901	0.0813481	0.22983482	2.6395233	20	—	—
55631 2002 TX ₂₈₁	15.0	X	190.08652	263.79819	356.39892	6.96362	0.0987391	0.28954846	2.2628471	20	—	—
55632 2002 TR ₂₈₂	15.1	X	288.65440	106.62222	11.96631	12.10484	0.1085669	0.22339727	2.6899908	20	12 16.4	18.5
55633 2002 TU ₂₈₃	15.2	X	14.05624	291.96947	7.50840	6.56319	0.1145187	0.26868077	2.3785466	20	9 16.0	17.7
55634 2002 TH ₂₈₄	15.4	X	210.25605	249.67999	356.84643	7.00268	0.1353549	0.28977573	2.2616638	20	—	—
55635 2002 TK ₂₈₄	14.2	X	264.51486	50.89467	262.75349	9.78941	0.1771119	0.25502466	2.4627175	20	3 19.2	18.1
55636 2002 TX ₃₀₀	3.4	X	77.72425	340.33214	324.40901	25.83165	0.1261402	0.00346291	43.2688032	20	10 18.5	19.8
55637 2002 UX ₂₅	3.6	X	300.30367	277.64200	204.62429	19.44074	0.1389769	0.00354754	42.5779394	20	11 11.5	19.6
55638 2002 VE ₉₅	5.3	X	27.94822	206.22635	199.79920	16.33160	0.2854752	0.00403533	39.0735686	20	12 27.3	20.2
55639 2070 P-L	14.9	X	66.17479	283.68107	351.24311	4.97191	0.0348266	0.21372907	2.7705138	20	10 4.3	18.7
55640 2114 P-L	15.5	X	309.60615	134.07633	204.08849	4.81996	0.0613257	0.26053130	2.4278925	20	7 16.9	18.4
55641 2125 P-L	15.4	X	296.48860	10.90720	342.53980	6.15167	0.1839994	0.26075541	2.4265011	20	6 30.4	18.0
55642 2138 P-L	15.5	X	118.20650	201.76467	236.65389	3.56958	0.1331562	0.23924921	2.5698180	20	4 6.2	19.1
55643 2179 P-L	14.9	X	267.28526	137.09979	0.85478	17.94946	0.1708550	0.21540374	2.7561354	20	11 22.6	18.7
55644 2582 P-L	15.9	X	273.60322	25.67742	30.26022	3.30822	0.1492125	0.26173568	2.4204387	20	8 31.9	18.5
55645 2625 P-L	15.8	X	76.00477	234.55710	146.25241	2.58696	0.1921961	0.23510342	2.5999406	20	—	—
55646 2637 P-L	15.1	X	159.12418	223.14408	199.04878	1.92869	0.1409453	0.24056697	2.5604250	20	5 1.1	18.9
55647 2676 P-L	15.6	X	99.14997	100.63603	309.99676	0.56915	0.1175227	0.23734675	2.5835321	20	2 5.2	18.8
55648 2786 P-L	15.1	X	71.59929	86.75240	16.34025	12.86848	0.1440651	0.23814711	2.5777404	20	3 14.1	18.1
55649 3023 P-L	14.2	X	83.98228	257.14814	236.95352	10.12831	0.1381707	0.24059520	2.5602246	20	5 8.7	17.5
55650 3536 P-L	14.7	X	175.82676	59.63455	348.63599	11.42695	0.1813597	0.25722282	2.4486670	20	4 25.1	18.9
55651 4043 P-L	13.9	X	290.47986	123.32069	198.58136	9.52961	0.0980555	0.19350526	2.9603350	20	5 21.3	17.9
55652 4048 P-L	14.3	X	228.59360	138.08733	217.77114	2.43934	0.0831238	0.19207274	2.9750361	20	4 20.8	18.9
55653 4088 P-L	15.4	X	78.20715	150.36520	132.38852	2.69074	0.1977336	0.23824494	2.5770347	20	3 27.1	18.4
55654 4093 P-L	15.0	X	150.21618	44.18382	203.84493	11.43561	0.2055732	0.26666472	2.3905198	20	12 15.5	19.2
55655 4101 P-L	15.1	X	225.07360	215.57810	297.64735	2.28474	0.1886466	0.26454429	2.4032767	20	10 30.4	18.3
55656 4708 P-L	15.7	X	287.82704	276.06804	11.93238	4.43395	0.0987493	0.25812492	2.4429585	20	3 28.9	18.8
55657 4905 P-L	16.2	X	183.89465	124.63263	353.00168	2.13691	0.1455455	0.26030881	2.4292757	20	8 6.7	20.0
55658 6061 P-L	15.4	X	54.19284	319.42881	353.97006	2.26474	0.2213535	0.26531418	2.3986253	20	12 13.5	18.9
55659 6110 P-L	16.2	X	63.90558	48.74336	349.36133	5.08150	0.1616488	0.28490499	2.2873679	20	—	—
55660 6119 P-L	16.0	X	100.25970	160.12766	186.34565	13.46513	0.2761569	0.23519742	2.5992477	20	—	—
55661 6184 P-L	16.0	X	104.52240	174.92990	204.80121	5.88378	0.1087971	0.28624098	2.2802450	20	—	—
55662 6224 P-L	15.4	X	29.48762	106.84433	211.45928	4.37636	0.0408857	0.21435820	2.7650902	20	10 13.9	19.0
55663 6247 P-L	16.1	X	17.39707	94.49050	348.06365	4.02711	0.0948490	0.28479061	2.2879802	20	—	—
55664 6281 P-L	16.3	X	248.83148	76.61364	2.56930	0.43782	0.1589154	0.26167224	2.4208300	20	8 25.9	19.4
55665 6527 P-L	15.8	X	277.82178	280.52175	133.37349	1.85140	0.1834196	0.26193254	2.4192259	20	8 28.7	18.5
55666 6631 P-L	16.0	X	80.02940	251.29063	151.10605	5.15622	0.1570774	0.28586038	2.2822685	20	—	—
55667 6691 P-L	14.7	X	259.67365	143.34929	14.97785	6.22214	0.0963794	0.26684521	2.3894417	20	—	—
55668 6722 P-L	15.8	X	74.42207	16.01665	16.81355	6.79503	0.0927238	0.28542316	2.2845986	20	—	—
55669 6810 P-L	16.3	X	297.45696	183.86952	133.88292	4.14516	0.2026170	0.25997694	2.4313426	20	5 7.6	19.2
55670 9581 P-L	15.0	X	331.84969	232.73171	157.30286	7.67896	0.0934706	0.21475424	2.7616897	20	10 31.0	18.3
55671 9587 P-L	14.9	X	281.81715	338.50686	58.90512	5.22647	0.0703937	0.21251771	2.7810318	20	8 25.4	18.5
55672 1049 T-1	15.9	X	296.41200	234.60036	239.79568	2.70663	0.1081447	0.27394945	2.3479514	20	—	—
55673 1150 T-1	15.4	X	271.16207	316.01965	272.23264	2.40592	0.1735303	0.23740343	2.5831208	20	—	—
55674 2112 T-1	15.8	X	266.45469	116.35725	9.58857	6.52829	0.0638982	0.27267150	2.3552818	20	12 11.7	18.5
55675 2316 T-1	15.8	X	331.03974	33.57154	86.01445	3.28972	0.1630588	0.27634629	2.3343553	20	—	—
55676 Klythios	12.4	X	21.48221	212.06751	35							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55681 1143 T-2	16.4	X	173.28449	72.00133	327.95303	2.97327	0.1693960	0.30743325	2.1742134	20	4 13.2	19.6
55682 1303 T-2	14.4	X	158.63565	85.50289	200.19680	4.91871	0.1407437	0.17372802	3.1809448	20	—	—
55683 1361 T-2	14.8	X	157.89285	350.93602	215.43213	1.89762	0.0243867	0.21129507	2.7917497	20	10 28.9	18.5
55684 1510 T-2	14.5	X	269.00464	31.32812	180.93181	4.70877	0.1207303	0.17597030	3.1538653	20	—	—
55685 2030 T-2	15.8	X	159.87854	10.05445	8.89987	2.48401	0.1083847	0.24239278	2.5475512	20	3 6.2	19.5
55686 2041 T-2	16.0	X	262.23899	157.42494	177.88635	1.00143	0.1792579	0.30989491	2.1626841	20	4 16.3	18.8
55687 2049 T-2	15.5	X	105.14730	274.74632	341.27154	1.59184	0.1986711	0.27560754	2.3385248	20	11 18.9	19.1
55688 2053 T-2	14.6	X	65.45959	103.18512	204.55653	6.96719	0.2183286	0.21275885	2.7789301	20	12 7.9	18.9
55689 2237 T-2	15.0	X	189.82220	150.63833	200.50523	4.25277	0.1094976	0.24268289	2.5455206	20	2 29.5	19.0
55690 2696 T-2	14.2	X	10.17615	107.39845	16.89074	13.60705	0.1718523	0.17555202	3.1588729	20	1 4.2	18.0
55691 3028 T-2	14.4	X	277.32230	272.15111	80.32263	3.11937	0.0801653	0.20591271	2.8401892	20	6 14.5	18.2
55692 3118 T-2	15.6	X	61.20268	144.82093	161.27987	6.46536	0.1762544	0.27578374	2.3375287	20	12 9.6	19.0
55693 4149 T-2	16.1	X	291.73452	294.34790	58.20056	2.67784	0.1651639	0.31217322	2.1521487	20	6 25.8	18.0
55694 4199 T-2	15.6	X	150.92970	324.86968	91.90738	3.40876	0.1443200	0.24348700	2.5399131	20	4 17.4	19.5
55695 4225 T-2	15.4	X	8.94582	88.78145	39.09090	6.32923	0.0790985	0.28172873	2.3045278	20	—	—
55696 4227 T-2	14.1	X	9.52376	51.52314	60.10116	6.03868	0.1300938	0.17526927	3.1622694	20	—	—
55697 4233 T-2	16.2	X	100.39107	245.97094	145.92579	3.93364	0.1551963	0.23930737	2.5694016	20	1 18.5	19.4
55698 4301 T-2	14.8	X	68.26523	347.18210	28.75330	6.06475	0.1626629	0.17377808	3.1803340	20	—	—
55699 5396 T-2	14.9	X	194.59652	141.98933	221.41560	13.05182	0.1955509	0.24377952	2.5378809	20	3 18.6	19.4
55700 1092 T-3	16.3	X	46.49333	123.04506	317.47958	5.71558	0.0695329	0.28392926	2.2926053	20	—	—
55701 Ukalegon	12.4	X	263.16823	106.15347	227.36471	20.95941	0.1399221	0.08409375	5.1597290	20	4 28.4	19.5
55702 Thymoitos	12.2	X	151.51276	192.83733	254.55330	9.34376	0.0310818	0.08248887	5.2664381	20	5 20.2	19.3
55703 2032 T-3	14.5	X	232.75824	112.63638	324.83443	5.18139	0.0498893	0.20298658	2.8674190	20	8 12.8	18.4
55704 2165 T-3	14.8	X	297.66642	29.70963	355.52361	4.90400	0.1142197	0.20421676	2.8558921	20	8 23.9	18.2
55705 2190 T-3	15.4	X	192.71749	6.07258	237.06659	4.16837	0.1013812	0.28158607	2.3053061	20	—	—
55706 2241 T-3	15.8	X	125.15945	107.03111	303.57796	2.00607	0.1093849	0.24090398	2.5580365	20	3 6.6	19.3
55707 2246 T-3	15.8	X	90.04447	345.10901	326.61246	4.84601	0.0076214	0.27890965	2.3200305	20	—	—
55708 2288 T-3	14.9	X	74.55462	7.93438	351.65637	5.07483	0.1973538	0.28129580	2.3068918	20	—	—
55709 2434 T-3	15.2	X	284.74149	223.83833	358.22998	5.69412	0.1126536	0.28570457	2.2830982	20	—	—
55710 3081 T-3	15.1	X	289.89796	294.95585	50.73907	2.68636	0.0809165	0.20150526	2.8814547	20	6 22.6	18.8
55711 3122 T-3	15.5	X	137.00082	357.60715	39.84564	4.06632	0.0461671	0.24101496	2.5572512	20	2 27.6	19.0
55712 3174 T-3	15.5	X	253.43894	138.50274	205.61220	1.36151	0.0808944	0.19940098	2.9016912	20	5 4.4	19.6
55713 3463 T-3	15.4	X	298.19931	185.85888	13.62877	6.79830	0.1198922	0.28494684	2.2871439	20	—	—
55714 3491 T-3	16.2	X	282.77087	103.84076	25.68494	2.12986	0.1058200	0.27893583	2.3198853	20	—	—
55715 3536 T-3	16.1	X	156.40653	351.32143	30.29872	5.98579	0.1422887	0.24152525	2.5536479	20	3 10.4	20.0
55716 4249 T-3	15.2	X	214.65040	188.46102	112.64975	4.00691	0.1008965	0.24055249	2.5605277	20	1 25.6	19.0
55717 5027 T-3	15.9	X	188.48762	171.14660	125.08308	5.83551	0.1617245	0.28532724	2.2851106	20	—	—
55718 5096 T-3	15.8	X	242.56896	146.03532	91.53956	7.68211	0.0616812	0.28406763	2.2918607	20	—	—
55719 5131 T-3	15.5	X	163.23344	214.95484	101.28309	7.73479	0.1333070	0.28460895	2.2889537	20	—	—
55720 Daandehoop	15.6	X	262.34363	274.23787	178.43666	22.61602	0.0986417	0.37133759	1.9170058	20	11 14.8	17.5
55721 1978 UX ₄	15.0	X	124.99757	273.49664	356.80442	7.14445	0.0888634	0.26210516	2.4181635	20	12 20.6	18.6
55722 1978 VU ₃	14.4	X	50.74912	113.53159	242.68303	5.50508	0.2494855	0.21387353	2.7692661	20	—	—
55723 1979 MP ₂	14.9	X	16.08292	340.10426	272.32356	8.83884	0.0645102	0.19119971	2.9840853	20	6 28.3	18.7
55724 1979 MB ₅	14.8	X	201.20678	127.94774	201.55259	3.49440	0.1999055	0.23192120	2.6236692	20	2 15.9	19.3
55725 1979 MG ₅	15.2	X	182.63959	61.94297	237.94315	3.56730	0.2033738	0.27756108	2.3275392	20	—	—
55726 1979 MG ₈	14.1	X	131.54686	292.58234	124.43989	14.96924	0.1912411	0.18477980	3.0528096	20	4 10.4	19.2
55727 1981 ED ₅	15.4	X	170.61350	347.72438	263.48174	7.36935	0.1429419	0.26711449	2.3878356	20	—	—
55728 1981 EV ₁₇	15.9	X	126.33362	22.39763	233.86682	1.79053	0.1470309	0.26470385	2.4023109	20	12 5.5	19.7
55729 1981 ER ₃₀	14.7	X	37.15219	201.52603	214.58700	2.06746	0.1050312	0.22093698	2.7099240	20	—	—
55730 1981 EM ₃₃	14.4	X	82.82224	36.18456	332.24062	12.20011	0.1451639	0.22034166	2.7148029	20	—	—
55731 1981 EO ₃₇	15.3	X	14.85636	170.71645	201.19293	4.05323	0.1159743	0.26638870	2.3921708	20	12 27.2	18.1
55732 1986 QN ₂	14.4	X	163.64127	304.97404	336.22628	12.73135	0.2028670	0.21470560	2.7621068	20	—	—
55733 Lepsius	14.0	X	183.80681	337.88298	64.11492	12.32564	0.1150875	0.19183364	2.9775076	20	5 3.0	18.7
55734 1986 WD ₆	14.2	X	105.86776	142.57941	275.35650	14.70491	0.2069411	0.24355525	2.5394386	20	2 27.9	18.0
55735 Magdeburg	13.9	X	271.60634	54.10033	269.44415	10.95796	0.2856181	0.23325024	2.6136934	20	3 28.0	18.3
55736 1987 QC ₁	13.8	X	156.45631	8.09442	332.80699	14.40266	0.2653806	0.22424223	2.6832293	20	2 1.5	18.4
55737 Coquimbo	14.6	X	331.43513	354.27139	122.80171	6.59855	0.1144928	0.27168587	2.3609748	20	—	—
55738 1988 VG ₃	14.6	X	107.85763	306.37036	41.04769	11.88876	0.1319771	0.28640021	2.2793997	20	—	—
55739 1989 TV	14.9	X	181.54553	192.40626	186.34969	15.67841	0.2995776	0.24195766	2.5506046	20	4 1.4	19.4
55740 1989 YL ₂	13.8	X	302.80599	315.80213	127.53215	6.14227	0.1710395	0.15522479	3.4289567	20	11 1.5	18.0
55741 1990 QZ ₃	15.3	X	137.49903	185.51146	154.79172	5.88899	0.1476477	0.27757235	2.3274762	20	—	—
55742 1990 QC ₁₀	15.6	X	185.14701	305.36427	351.48587	5.76982	0.1131748	0.27871103	2.3211325	20	—	—
55743 1990 RF ₆	14.3	X	212.28681	229.33951	165.96985	4.69150	0.2673846	0.18899558	3.0072413	20	5 14.7	19.6
55744 1990 RL ₇	15.3	X	292.20423	256.72118	355.51102	3.10876	0.1505250	0.28517974	2.2858985	20	2 5.7	18.2
55745 1990 SY ₇	15.0	X	264.24685	188.22184	52.52401	5.32560	0.0869497	0.27984489	2.3148586	20	—	—
55746 1990 SW ₉	14.9	X	290.55135	217.01201	31.66731	5.09147	0.1118582	0.28342717	2.2953120	20	2 5.7	17.9
55747 1990 SQ ₁₄	16.0	X	227.71819	24.03947	354.34249	18.96213	0.0943830	0.35467566	1.9765833	20	5 4.3	18.9
55748 1990 VV ₁₁	14.3	X	134.81714	352.95013	63.34347	2.29997	0.2854441	0.18022160	3.1040699	20	4 14.3	19.5
55749 Eulenspiegel	13.6	X	75.29611	340.61308	145.11884	4.30810	0.1591918	0.17429441	3.1740498	20	4 23.9	17.8
55750 1991 GP ₈	15.2	X	23.95574	10.43500	228.73030	4.20808	0.1353302	0.24117818	2.5560973	20	7 1.5	17.8
55751 1991 NM ₄	14.1	X	105.75104	45.34624	276.89845	8.96639	0.1840212	0.21651134	2.7467278	20	—	—
55752 1991 PD ₁₂	14.2	X	74.33283	162.92279	181.24300	13.84090	0.2021030	0.21277453	2.7787936	20	—	—
55753 Raman	14.7	X	191.24038	303.09195	356.43010	9.07784	0.1850068	0.21917804	2.7244030	20	1 7.6	19.4
55754 1991 RP ₁₈	16.1	X	197.65523	40.17071	317.58261	1.23187	0.1960506	0.29393113	2.2402973	20	3 14.3	19.6
55755 Blythe	16.5	X	326.15724	349.96965	66.54524	3.72938	0.1584974	0.27376027	2.3490329	20	12 17.1	18.2
55756 1991 VJ ₉	14.5	X	200.80905	69.93733	56.82013	10.46548	0.1715354	0.19775202	2.9177994	20	9 2.3	19.4
55757 1991 XN	15.4	X	20.63135									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55761 1992 <i>CM</i> ₂	13.9	X	90.58589	155.20943	289.56627	18.10816	0.2299944	0.18056535	3.1001290	20	3 20.9	18.7
55762 1992 <i>CE</i> ₃	15.1	X	27.24952	276.41922	177.89325	4.80464	0.1449395	0.27875913	2.3208655	20	—	—
55763 1992 <i>DO</i> ₇	14.9	X	300.19078	127.76915	104.42106	3.44147	0.0765987	0.17406803	3.1768012	20	2 15.6	19.3
55764 1992 <i>DG</i> ₁₂	15.4	X	339.16517	94.27286	8.95394	6.77892	0.0638758	0.27254485	2.3560115	20	—	—
55765 1992 <i>EN</i> ₄	15.7	X	293.31044	339.07982	123.81463	3.31308	0.1279917	0.26874241	2.3781828	20	12 18.4	17.7
55766 1992 <i>EL</i> ₆	14.5	X	323.20592	43.18857	133.79081	12.29006	0.0823564	0.17175890	3.2052105	20	1 7.7	18.9
55767 1992 <i>EW</i> ₁₀	14.1	X	37.09806	196.95420	342.96127	18.92202	0.0568316	0.17969529	3.1101279	20	4 14.5	18.5
55768 1992 <i>GH</i> ₄	15.0	X	67.08614	259.10767	22.14169	2.22176	0.1525958	0.25703973	2.4498296	20	11 6.9	18.5
55769 1992 <i>HJ</i> ₅	15.0	X	112.27202	158.30899	53.43526	2.89360	0.1398492	0.25610192	2.4558066	20	9 26.9	18.7
55770 1992 <i>OW</i>	14.6	X	142.87604	311.18573	46.76508	13.69181	0.2765811	0.22937846	2.6430231	20	2 14.2	19.2
55771 1992 <i>PD</i> ₁	14.8	X	259.67879	184.45618	160.70955	4.43547	0.0964090	0.24047223	2.5610974	20	5 11.5	18.3
55772 Loder	15.5	X	109.68744	130.09730	258.77181	5.17989	0.1346198	0.29251568	2.2475186	20	1 13.7	17.9
55773 1993 <i>BG</i> ₆	15.5	X	224.49510	144.57047	311.77663	2.02721	0.0337926	0.30719533	2.1753358	20	9 10.7	17.8
55774 1993 <i>FA</i> ₈	16.6	X	340.72401	168.51048	75.14261	3.64851	0.0882929	0.29339189	2.2430415	20	4 16.2	18.7
55775 1993 <i>FY</i> ₁₀	15.9	X	10.10471	56.38644	168.97213	5.65826	0.1540318	0.29407933	2.2395446	20	5 14.4	17.5
55776 1993 <i>FH</i> ₁₄	16.2	X	337.38177	84.11320	123.18542	4.73969	0.0666326	0.28970841	2.2620141	20	2 18.9	18.7
55777 1993 <i>FC</i> ₁₇	16.1	X	340.38154	56.01707	164.99099	6.92939	0.0511722	0.29119285	2.2543201	20	3 16.0	18.4
55778 1993 <i>FW</i> ₂₃	15.7	X	164.72650	333.39186	1.23942	6.19622	0.0714385	0.28409746	2.2917003	20	1 6.4	18.7
55779 1993 <i>FX</i> ₂₃	14.9	X	353.20342	286.94830	333.76727	1.67037	0.0749095	0.18671862	2.30316400	20	6 3.9	18.6
55780 1993 <i>FQ</i> ₃₄	16.0	X	328.89883	184.90616	22.97332	5.68747	0.0835124	0.28854293	2.0681012	20	2 5.9	18.6
55781 1993 <i>FN</i> ₃₆	16.5	X	335.95418	55.62553	147.20261	3.22334	0.1263888	0.28878140	2.2668524	20	1 30.9	19.0
55782 1993 <i>FF</i> ₄₁	14.9	X	104.16149	28.06231	174.47154	10.87883	0.0542846	0.19301250	2.9653714	20	8 18.7	19.3
55783 1993 <i>FZ</i> ₄₃	16.2	X	335.19061	337.77732	188.35642	6.18232	0.1113206	0.28587981	2.2821651	20	—	—
55784 1993 <i>FK</i> ₇₄	15.7	X	130.99238	338.35923	355.07451	1.31422	0.1788807	0.28009698	2.3134694	20	—	—
55785 1993 <i>FF</i> ₈₀	15.5	X	255.03466	202.57006	94.70166	3.44324	0.1678203	0.28906916	2.2653477	20	2 22.2	18.7
55786 1993 <i>OE</i> ₃	14.7	X	197.96473	355.28785	299.40983	6.58234	0.1240122	0.27684547	2.3315484	20	—	—
55787 1993 <i>OB</i> ₁₀	15.5	X	26.02796	45.74194	295.67590	5.08388	0.1615882	0.26296435	2.4128934	20	12 7.9	18.4
55788 1993 <i>PX</i> ₆	14.9	X	341.97030	42.73362	317.63400	6.73101	0.2281561	0.25743759	2.4473048	20	10 21.3	16.8
55789 1993 <i>RF</i> ₁₁	15.6	X	119.57767	69.19809	174.41981	7.33704	0.0860123	0.26033318	2.4291241	20	11 12.6	19.1
55790 1993 <i>RP</i> ₁₅	14.7	X	130.45268	278.44765	358.28163	22.20486	0.1340731	0.26505279	2.4002020	20	—	—
55791 1993 <i>SA</i> ₂	14.3	X	13.86184	14.22542	332.73829	9.62926	0.2177479	0.25927495	2.4357293	20	12 5.0	17.3
55792 1993 <i>SV</i> ₃	14.5	X	53.75213	298.40539	15.61988	22.71889	0.2881063	0.26132558	2.4229704	20	12 17.6	18.8
55793 1993 <i>SS</i> ₄	15.6	X	168.19424	42.38606	357.26128	1.75529	0.2267100	0.24217610	2.5490706	20	4 13.9	19.8
55794 1993 <i>TV</i> ₁₄	15.6	X	192.16001	10.71270	23.36089	1.59882	0.1827643	0.24305506	2.5429214	20	4 26.7	19.8
55795 1993 <i>TF</i> ₁₈	15.2	X	119.70280	32.78318	33.08557	3.32433	0.2023805	0.23766715	2.5812096	20	4 2.1	18.9
55796 1994 <i>AX</i> ₁₃	15.8	X	129.35237	10.64730	12.15773	2.96023	0.1692136	0.22843508	2.6502948	20	2 15.9	19.6
55797 1994 <i>CN</i> ₁₅	14.4	X	37.77785	347.68733	41.85582	3.87339	0.0790843	0.21635334	2.7480649	20	—	—
55798 1994 <i>ES</i> ₅	14.9	X	324.97936	128.85476	358.96373	13.10499	0.1155036	0.21887810	2.7268914	20	—	—
55799 1994 <i>EC</i> ₆	14.3	X	353.91282	2.28707	77.09161	5.08352	0.0388566	0.21645774	2.7471812	20	—	—
55800 1994 <i>ED</i> ₇	14.4	X	319.33642	98.02906	20.22025	9.58043	0.0528937	0.21676881	2.7445523	20	—	—
55801 1994 <i>PV</i> ₄	15.9	X	71.43745	83.33337	333.03655	6.29689	0.1547999	0.28252201	2.3002120	20	—	—
55802 1994 <i>PM</i> ₆	13.9	X	108.05712	284.21325	158.07296	20.81289	0.1173471	0.17465528	3.1696762	20	4 6.6	18.7
55803 1994 <i>PD</i> ₇	15.9	X	191.57610	239.07513	150.10524	7.29884	0.1260046	0.29297629	2.2451623	20	4 21.1	19.2
55804 1994 <i>PD</i> ₁₃	15.8	X	154.91181	183.69783	163.83062	8.89550	0.1860180	0.28507751	2.2864449	20	1 22.0	19.1
55805 1994 <i>PE</i> ₁₅	16.3	X	306.68670	275.71857	318.34009	5.35509	0.1139656	0.29081912	2.2562510	20	2 3.3	18.8
55806 1994 <i>PB</i> ₂₆	14.2	X	52.55661	355.86357	113.73254	3.66436	0.1534683	0.17179924	3.2047087	20	2 29.1	18.1
55807 1994 <i>PM</i> ₃₈	16.4	X	11.53710	65.19699	218.35904	2.19238	0.1609108	0.30345436	2.1931776	20	8 27.9	18.2
55808 1994 <i>RN</i>	14.5	X	273.76562	89.33290	168.01307	9.58053	0.0384600	0.17415535	3.1757392	20	2 17.5	19.1
55809 1994 <i>RW</i> ₁₅	16.2	X	338.53915	124.96468	151.61036	8.53441	0.1759139	0.29934850	2.2131864	20	5 26.8	17.9
55810 Fabiofazio	14.9	X	51.08414	234.20350	171.54422	23.03713	0.2182476	0.27825460	2.3236701	20	—	—
55811 1994 <i>TE</i> ₁₂	16.0	X	44.65797	330.04707	23.29055	3.78213	0.1484591	0.27153054	2.3618751	20	—	—
55812 1994 <i>UC</i> ₉	15.7	X	341.47297	238.78004	239.82919	6.23910	0.0556827	0.27617272	2.3353332	20	—	—
55813 1994 <i>VQ</i> ₂	15.5	X	3.14767	346.01000	29.90287	3.21029	0.1762567	0.26707239	2.3880865	20	12 25.6	18.1
55814 1994 <i>YD</i>	14.7	X	193.36021	172.52539	292.30399	11.34168	0.1270480	0.25397915	2.4694714	20	7 29.1	18.5
55815 Melindakim	15.2	X	336.78249	262.71461	162.87263	24.70410	0.2345551	0.26820243	2.3813738	20	—	—
55816 1995 <i>CO</i>	15.0	X	157.96857	59.60909	110.46321	4.48318	0.0356321	0.21671936	2.7449699	20	9 15.6	18.9
55817 1995 <i>DA</i> ₆	15.0	X	201.54706	351.30680	350.01255	7.79074	0.2015261	0.23587041	2.5943013	20	3 2.6	19.2
55818 1995 <i>DG</i> ₁₁	15.2	X	131.25945	345.60638	88.86303	4.37884	0.1185510	0.23894489	2.5719995	20	4 17.5	18.9
55819 1995 <i>EF</i> ₇	15.6	X	321.79644	51.37605	4.88302	2.32351	0.0492704	0.21866024	2.7287024	20	11 16.8	19.1
55820 1995 <i>FW</i>	16.7	X	131.79993	213.61442	345.29204	18.92285	0.0660150	0.36806231	1.9283616	20	10 4.9	19.2
55821 1995 <i>JA</i> ₁	14.2	X	213.35077	279.07102	52.26448	15.10957	0.1166453	0.23072645	2.6327187	20	3 10.1	18.6
55822 1995 <i>LV</i>	15.0	X	8.37246	5.34270	106.78936	12.83073	0.0478151	0.22380441	2.6867275	20	—	—
55823 1995 <i>OF</i> ₁₂	14.1	X	80.61162	314.93117	146.53567	17.98059	0.1885481	0.18084915	3.0968850	20	4 7.8	18.5
55824 1995 <i>QN</i> ₁	15.2	X	128.26473	262.14542	186.28110	1.83728	0.0390912	0.1852481	3.0477206	20	4 23.8	19.4
55825 1995 <i>SD</i> ₄	16.0	X	295.30185	142.86648	218.67109	3.93779	0.2264915	0.31190568	2.1533793	20	7 4.8	17.8
55826 1995 <i>SY</i> ₇	15.2	X	125.57170	223.60372	349.09406	7.43681	0.0624742	0.19875048	2.9080191	20	9 27.3	19.6
55827 1995 <i>SL</i> ₄₃	15.2	X	58.17937	35.86211	90.48984	2.80790	0.1184805	0.17765357	3.1339117	20	3 25.2	19.1
55828 1995 <i>UN</i> ₆	15.1	X	144.91961	86.56068	297.77227	8.67039	0.1156995	0.17747837	3.1359739	20	2 28.9	20.1
55829 1995 <i>UG</i> ₁₂	15.2	X	332.06391	348.70042	340.75000	1.29870	0.0850138	0.19174751	2.9783992	20	8 3.3	18.8
55830 1995 <i>WA</i> ₁₉	14.6	X	308.32454	116.21790	73.61029	13.14561	0.0629368	0.16891114	3.2411356	20	1 8.1	19.2
55831 1995 <i>XL</i>	16.3	X	173.95707	176.54300	247.45526	3.38191	0.1535181	0.30064254	2.2068311	20	5 16.9	19.6
55832 1996 <i>GD</i> ₁₇	15.7	X	334.11260	1.45748	167.01776	25.35603	0.1877939	0.28218004	2.3020700	20	—	—
55833 1996 <i>GM</i> ₁₈	16.0	X	178.22517	21.63747	214.15086	2.70433						

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55841 1996 <i>NW</i> ₄	14.9	X	96.12662	249.03283	161.14302	2.59205	0.0891405	0.22700441	2.6614186	20	1 28.5	18.3
55842 1996 <i>PU</i>	15.4	X	144.43196	304.00192	317.21299	10.71656	0.2468958	0.26083488	2.4260082	20	12 25.3	19.8
55843 1996 <i>PD</i> ₁	15.1	X	207.89853	54.31051	306.84967	1.60805	0.0546448	0.23516861	2.5994601	20	4 2.9	18.7
55844 1996 <i>Bicak</i>	14.5	X	345.03672	40.84468	283.00829	18.36614	0.0529846	0.36891707	1.9253819	20	8 29.8	16.6
55845 1996 <i>RO</i> ₂	15.4	X	349.12600	129.22216	188.28565	14.64514	0.1495928	0.24409577	2.5356884	20	8 20.1	18.0
55846 1996 <i>RJ</i> ₅	14.8	X	69.64762	22.72054	340.52392	6.27998	0.2256738	0.21612395	2.7500090	20	—	—
55847 1996 <i>SQ</i>	14.4	X	187.62869	19.85805	350.35279	10.12878	0.0398354	0.18989075	2.9977829	20	3 24.5	18.7
55848 1996 <i>SF</i> ₆	14.6	X	344.96403	87.86552	190.37273	8.48524	0.1804191	0.23972719	2.5664010	20	6 11.4	17.0
55849 1996 <i>TZ</i> ₁₁	14.0	X	65.50547	152.36670	228.74398	12.68745	0.1180724	0.21802797	2.7339752	20	—	—
55850 1996 <i>TV</i> ₂₁	15.3	X	213.75288	166.37549	342.39599	2.35338	0.1000685	0.20558383	2.8432175	20	10 13.4	19.5
55851 1996 <i>TA</i> ₃₁	15.0	X	116.61104	261.93408	73.28938	5.59355	0.0991954	0.21758054	2.7377220	20	—	—
55852 1996 <i>TS</i> ₃₄	15.6	X	356.61302	96.05613	255.53492	1.01418	0.0767284	0.20368889	2.8608241	20	10 12.3	19.1
55853 1996 <i>TF</i> ₅₂	13.8	X	57.48368	143.48807	355.19851	13.53387	0.1102099	0.23059220	2.6337404	20	3 29.9	17.0
55854 1996 <i>Stoppani</i>	14.3	X	242.12976	51.66802	51.90126	23.28927	0.0898665	0.36746676	1.9304446	20	10 29.3	16.0
55855 1996 <i>VB</i> ₇	14.6	X	222.83222	348.24931	42.92214	14.16818	0.1877719	0.19253656	2.9702562	20	5 19.4	19.6
55856 1996 <i>VQ</i> ₁₅	14.9	X	340.61273	287.26446	57.92331	2.80103	0.0922044	0.20065345	2.8896038	20	9 10.2	18.3
55857 1996 <i>XU</i> ₂	14.6	X	144.18418	141.79003	281.85690	7.48191	0.1242992	0.18181722	3.0858824	20	4 15.6	19.5
55858 1996 <i>XT</i> ₂₀	15.1	X	128.58724	34.62983	62.17250	8.81603	0.0882088	0.18618212	3.0374612	20	5 10.5	19.7
55859 1996 <i>AO</i> ₈	15.6	X	237.35361	44.26797	254.41430	1.66821	0.0286859	0.216226634	2.7488018	20	2 21.5	19.3
55860 1996 <i>BQ</i> ₆	15.1	X	13.82841	98.31928	57.87165	0.90458	0.1216269	0.17233249	3.1980943	20	2 21.8	18.7
55861 1996 <i>CZ</i> ₁₂	14.3	X	18.42407	27.26936	127.70034	10.05680	0.0347520	0.17419805	3.1752202	20	2 28.5	18.6
55862 1996 <i>CV</i> ₂₈	16.0	X	281.33874	261.65683	133.20880	4.82647	0.1125045	0.29414398	2.2392164	20	—	—
55863 1996 <i>OM</i> ₂	15.6	X	352.89947	201.47507	158.3812	2.93634	0.1856034	0.26172185	2.4205240	20	11 15.5	17.8
55864 1996 <i>PC</i>	15.2	X	24.41519	359.46522	329.05497	2.09686	0.2036179	0.26383918	2.4075567	20	11 24.9	18.1
55865 1996 <i>PZ</i>	15.4	X	310.32953	92.09814	137.77816	3.72505	0.0782632	0.28444798	2.2898172	20	2 9.0	18.2
55866 1996 <i>PV</i> ₄	15.3	X	247.27261	156.30851	152.92749	8.28088	0.1845002	0.28801687	2.2708621	20	2 27.7	18.8
55867 1996 <i>RX</i> ₂	15.6	X	198.88736	341.86969	314.96180	6.81208	0.1179517	0.28036710	2.3119832	20	—	—
55868 1996 <i>SH</i> ₃₁	16.2	X	232.25087	208.14529	295.14328	0.50895	0.1420112	0.26273988	2.4142675	20	11 2.2	19.3
55869 1996 <i>TB</i> ₂	15.5	X	202.36607	61.51462	221.72813	4.28956	0.1606945	0.27648001	2.3336026	20	—	—
55870 1996 <i>TD</i> ₂₆	15.0	X	346.87453	22.44419	26.89782	9.68356	0.2073231	0.21913960	2.7247217	20	12 31.9	18.0
55871 1996 <i>UE</i> ₁	14.9	X	166.74595	349.37513	32.23626	6.01603	0.3231772	0.23798383	2.5789193	20	3 27.8	19.6
55872 1996 <i>UW</i> ₅	14.4	X	313.02077	31.51861	37.01169	7.87623	0.1634267	0.21555453	2.7548500	20	11 14.8	17.3
55873 1996 <i>Shiomidake</i>	14.5	X	141.71503	105.14549	338.10500	2.49567	0.2296869	0.23901936	2.5714652	20	5 15.7	18.8
55874 1996 <i>Brilka</i>	14.8	X	81.80472	74.02680	36.75251	14.29419	0.2173216	0.23429784	2.6058967	20	4 18.7	18.1
55875 1996 <i>Hirohatagaoka</i>	15.2	X	145.93289	7.10381	22.37670	5.88784	0.2126159	0.23498743	2.6007960	20	3 15.9	19.3
55876 1996 <i>VH</i> ₃	15.0	X	145.49759	339.46270	54.55159	3.78780	0.0358404	0.23306283	2.6150944	20	3 4.3	18.5
55877 1996 <i>VZ</i> ₆	15.1	X	206.21583	154.27774	203.02057	2.39456	0.2023092	0.23982274	2.5657193	20	3 24.2	19.3
55878 1996 <i>VX</i> ₇	14.9	X	130.81914	227.85050	7.89669	7.84222	0.0825190	0.25928845	2.4356447	20	11 10.4	18.5
55879 1996 <i>WG</i>	15.0	X	202.36149	317.59723	42.28301	5.04816	0.1902840	0.23790502	2.5794888	20	3 26.5	19.2
55880 1996 <i>WS</i>	14.9	X	214.28223	319.87134	36.21375	14.70934	0.1465985	0.24079716	2.5587929	20	4 4.6	19.0
55881 1996 <i>WU</i> ₁	14.6	X	162.35140	230.70331	73.15915	14.18175	0.2602590	0.27102132	2.3648326	20	—	—
55882 1996 <i>WY</i> ₁	15.0	X	49.89995	91.20292	237.94553	5.26898	0.1177834	0.26133688	2.4229005	20	12 15.5	18.3
55883 1996 <i>WF</i> ₈	14.8	X	145.08875	337.81706	67.51574	8.33847	0.1816938	0.23669473	2.5882744	20	4 2.9	18.9
55884 1996 <i>WG</i> ₉	15.5	X	107.81775	73.35638	45.38031	14.52234	0.0448020	0.24033019	2.5621064	20	5 5.8	18.8
55885 1996 <i>WV</i> ₁₈	15.8	X	49.31031	79.77639	84.92061	4.28045	0.1288710	0.23631422	2.5910521	20	4 28.7	18.7
55886 1996 <i>WT</i> ₃₅	14.2	X	55.00419	184.89702	252.80338	12.58482	0.1434334	0.22683879	2.6627139	20	1 6.8	17.1
55887 1996 <i>WE</i> ₃₇	14.5	X	115.12693	308.16571	99.23480	5.61569	0.1336728	0.23170343	2.6253129	20	2 26.9	18.1
55888 1996 <i>WG</i> ₄₄	14.4	X	140.94203	295.62926	83.50425	6.67718	0.1352705	0.23119730	2.6291430	20	2 21.3	18.3
55889 1996 <i>WD</i> ₅₂	15.0	X	141.48298	41.45240	62.47794	23.70992	0.0722978	0.23977188	2.5660821	20	5 30.2	18.7
55890 1996 <i>WO</i> ₅₄	14.9	X	98.24375	83.03363	219.68216	6.24495	0.2363883	0.26378513	2.4078856	20	—	—
55891 1996 <i>XF</i> ₃	14.9	X	161.72577	32.70173	41.82549	3.44133	0.1813131	0.24220987	2.5488336	20	5 20.3	19.1
55892 1996 <i>Fuzhougezhi</i>	15.4	X	290.70986	60.13185	25.34829	7.67354	0.2997936	0.21235670	2.7824375	20	10 7.4	18.3
55893 1996 <i>YL</i>	14.3	X	7.41799	289.70084	108.51715	16.44981	0.2468876	0.21574638	2.7532166	20	—	—
55894 1996 <i>YS</i> ₃	14.7	X	199.56983	133.37308	264.01079	5.99071	0.2800011	0.24206500	2.5498505	20	5 5.8	19.0
55895 1996 <i>AP</i>	14.6	X	264.29201	37.03744	127.32220	8.85364	0.1588168	0.21178946	2.7874034	20	12 29.3	17.9
55896 1996 <i>AM</i> ₅	14.4	X	87.24440	146.12212	323.31065	10.56303	0.0725122	0.18324141	3.0698722	20	3 30.1	18.9
55897 1996 <i>AH</i> ₆	13.5	X	129.01734	226.64094	1.57977	1.26453	0.0534715	0.19948016	2.9009233	20	10 20.9	17.7
55898 1996 <i>AG</i> ₁₀	14.5	X	76.49073	329.52344	82.41154	8.77404	0.1367234	0.22764175	2.6564488	20	1 9.7	17.6
55899 1996 <i>BJ</i> ₁₀	14.7	X	283.27864	103.93754	143.58425	12.69227	0.1224989	0.22568217	2.6718037	20	1 30.6	18.6
55900 1996 <i>CQ</i>	14.6	X	342.14018	144.60606	0.49967	6.14464	0.0699360	0.21915397	2.7246025	20	—	—
55901 1996 <i>Xuaoao</i>	15.0	X	125.73475	326.80522	106.66103	5.67313	0.2127352	0.23600795	2.5932933	20	4 20.9	19.1
55902 1996 <i>CO</i> ₂	14.6	X	26.47999	224.05757	245.14665	11.19646	0.1306880	0.22736525	2.6586020	20	—	—
55903 1996 <i>DN</i>	14.7	X	207.29597	311.11049	128.94940	18.49189	0.1096786	0.19477922	2.9474128	20	7 11.0	19.3
55904 1996 <i>DR</i> ₁	15.2	X	294.02563	263.41014	150.27505	2.56889	0.0665008	0.20339588	2.8635709	20	10 1.1	18.7
55905 1996 <i>DD</i> ₃	14.8	X	111.08194	130.54374	319.91451	7.84363	0.2188395	0.18653129	3.0336694	20	4 23.9	19.6
55906 1996 <i>DS</i> ₂₀	14.8	X	280.92719	56.78849	174.83135	15.54092	0.1343833	0.17200524	3.2021495	20	1 14.1	19.8
55907 1996 <i>DW</i> ₂₇	13.4	X	135.57280	0.54185	285.86966	20.91411	0.0585247	0.16891960	3.2410272	20	12 31.2	18.2
55908 1996 <i>EV</i> ₄	15.4	X	215.44305	165.41819	283.09407	0.90660	0.0533473	0.19737995	2.9214650	20	8 4.6	19.6
55909 1996 <i>EB</i> ₁₁	14.7	X	31.75457	77.73533	149.00076	12.19202	0.0893788	0.18725418	3.0258567	20	6 20.7	18.7
55910 1996 <i>EN</i> ₁₂	14.4	X	336.78428	78.01707	135.40880	10.82732	0.0703557	0.17894680	3.1187944	20	3 13.6	18.5
55911 1996 <i>EP</i> ₁₂	14.1	X	150.85654	224.96786	74.98124	5.45543	0.0442468	0.21133288	2.7914167	20	—	—
55912 1996 <i>FD</i> ₉	13.7	X	191.95509	344.27539	38.13111	12.97182	0.1438989	0.17959388	3.1112986	20	4 16.7	18.7
55913 1996 <i>FL</i> ₁₂	15.3	X	113.39289</									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
55921 1998 FK ₅₀	14.7	X	11.69474	294.98083	9.20452	10.08235	0.0919100	0.19322152	2.9632324	20	9 5.4	18.4
55922 1998 FL ₅₁	14.1	X	101.89735	337.59694	108.80414	2.75796	0.1804471	0.18109721	3.0940563	20	4 9.9	18.7
55923 1998 FD ₅₅	14.3	X	189.49351	71.69204	14.84778	8.62348	0.0494961	0.18930904	3.0039209	20	7 3.4	18.8
55924 1998 FE ₅₅	14.5	X	77.60632	113.47508	11.37296	11.30597	0.0727065	0.18072516	3.0983012	20	4 9.9	18.8
55925 1998 FY ₅₇	14.4	X	356.31941	305.03266	357.05811	8.51082	0.0799589	0.19027812	2.9937129	20	8 7.6	18.2
55926 1998 FE ₆₀	14.0	X	80.09770	303.30662	175.73509	10.97309	0.1867314	0.18119976	3.0928888	20	4 26.2	18.3
55927 1998 FN ₆₀	13.9	X	309.10926	301.74683	18.06976	9.74035	0.0999299	0.18667554	3.0321065	20	6 11.6	17.9
55928 1998 FG ₆₄	14.5	X	26.09479	61.83335	178.11261	9.45925	0.0941714	0.18623492	3.0368870	20	6 28.8	18.5
55929 1998 FW ₆₄	13.5	X	228.44706	295.10748	10.95497	17.10758	0.1254940	0.17430774	3.1738881	20	2 26.4	18.7
55930 1998 FY ₆₄	13.7	X	178.97726	231.67752	6.96327	14.98789	0.1019985	0.20469945	2.8514008	20	12 25.0	18.3
55931 1998 FM ₆₇	14.2	X	283.68851	114.73841	164.07240	9.63801	0.0187073	0.17897466	3.1184709	20	3 31.5	18.6
55932 1998 FE ₆₈	14.5	X	11.94255	309.87404	191.24074	2.09144	0.1474384	0.17401554	3.1774400	20	1 28.4	18.2
55933 1998 FD ₇₃	15.1	X	59.36393	135.31463	93.15731	4.07405	0.2664456	0.18808624	3.0169263	20	8 30.2	19.3
55934 1998 FF ₇₃	15.9	X	259.90617	359.17124	5.17499	19.56269	0.0878733	0.36497033	1.9392376	20	6 1.8	18.5
55935 1998 FO ₇₄	14.5	X	263.77807	51.20077	159.26328	9.53543	0.0799388	0.21527565	2.7572286	20	—	—
55936 1998 FO ₇₆	14.1	X	88.00046	74.94062	65.60693	6.61771	0.1040794	0.18313726	3.0710361	20	5 19.4	18.4
55937 1998 FN ₁₀₅	13.7	X	263.32892	58.09257	332.30906	9.10380	0.1009314	0.19098513	2.9863200	20	7 14.3	17.9
55938 1998 FO ₁₁₃	14.0	X	137.49121	106.53649	327.94210	8.34973	0.0164850	0.18050785	3.1007873	20	4 11.0	18.5
55939 1998 FD ₁₁₈	14.2	X	145.96379	279.87022	225.45966	8.73940	0.1124109	0.18958594	3.0009952	20	7 27.3	19.1
55940 1998 GU ₈	13.1	X	111.73357	353.16917	57.52636	27.47674	0.1281544	0.17508945	3.1644342	20	3 18.3	18.3
55941 1998 HS ₄	14.8	X	343.93237	40.57919	212.27393	6.76490	0.1098239	0.18054839	3.1003232	20	5 8.6	18.6
55942 1998 HJ ₁₂	14.5	X	340.08202	252.43848	15.82449	7.55869	0.1333454	0.18216068	3.0820023	20	5 18.6	18.3
55943 1998 HJ ₁₅	13.7	X	60.31025	56.50442	57.87613	21.08204	0.1014274	0.1732167	3.1859147	20	3 22.7	18.3
55944 1998 HP ₁₈	14.6	X	31.13594	245.20605	7.36213	9.90078	0.0633359	0.18818396	3.0158818	20	7 24.1	18.7
55945 1998 HF ₂₃	13.7	X	240.66227	294.22687	29.12622	11.08791	0.1575083	0.17832042	3.1260938	20	3 23.1	18.7
55946 1998 HP ₂₄	12.9	X	242.81709	259.73641	66.40252	17.77122	0.2027238	0.17441591	3.1725756	20	3 31.3	18.3
55947 1998 HQ ₄₂	13.4	X	244.58501	224.81914	64.30722	21.59779	0.0336661	0.17230642	3.1984169	20	3 6.1	18.5
55948 1998 HY ₄₅	14.3	X	184.31397	322.85073	27.26112	11.52910	0.0251961	0.17438747	3.1729206	20	3 4.2	19.0
55949 1998 HZ ₄₅	14.3	X	19.81659	82.54115	41.27200	1.19497	0.1825215	0.17288553	3.1912705	20	1 20.7	17.8
55950 1998 HG ₅₈	14.8	X	257.52036	124.88427	160.73198	1.84815	0.1319083	0.17461634	3.1701475	20	2 23.4	19.5
55951 1998 HP ₅₈	14.9	X	238.33716	160.29166	123.70229	2.02180	0.1107802	0.17183832	3.2042227	20	2 5.1	19.8
55952 1998 HR ₆₁	14.7	X	37.97382	123.12894	41.48777	2.12946	0.1391389	0.17846521	3.1244027	20	4 13.3	18.3
55953 1998 HG ₆₅	14.6	X	338.87320	301.34897	261.00594	3.58612	0.0921747	0.17486908	3.1670921	20	2 25.4	18.7
55954 1998 HX ₆₈	14.5	X	211.79818	300.59663	20.86635	12.20751	0.0908513	0.21707147	2.7420006	20	2 24.3	18.8
55955 1998 HJ ₈₁	14.3	X	250.30021	214.60787	61.61909	2.54104	0.1555539	0.17123750	3.2117135	20	2 4.9	19.3
55956 1998 HO ₁₀₀	12.7	X	254.41211	248.96727	51.65225	15.52092	0.0946021	0.17452849	3.1712112	20	3 20.8	17.7
55957 1998 HZ ₁₀₀	13.5	X	158.76545	53.86302	47.83248	11.97739	0.1381025	0.18448463	3.0560650	20	6 18.3	18.5
55958 1998 HK ₁₀₉	14.1	X	353.33138	359.31342	186.12413	28.07569	0.1281061	0.17483119	3.1675497	20	2 21.3	18.3
55959 1998 HC ₁₂₆	14.3	X	15.64099	307.69559	201.54751	23.29950	0.1377950	0.17216647	3.2001500	20	2 9.7	18.6
55960 1998 HB ₁₃₃	13.9	X	110.97793	24.81234	40.26819	13.16832	0.0185017	0.17642098	3.1484918	20	3 9.4	18.5
55961 1998 HB ₁₄₃	13.4	X	262.01584	231.23444	32.06620	16.12134	0.0457912	0.17188282	3.2036697	20	2 19.2	18.3
55962 1998 HA ₁₅₂	14.1	X	353.05394	180.27147	19.82991	17.78692	0.1393267	0.17812652	3.1283619	20	3 18.4	17.9
55963 1998 HV ₁₅₂	14.5	X	304.80539	101.49921	163.39432	5.45129	0.1087029	0.17622679	3.1508043	20	3 27.7	18.7
55964 1998 KB ₂	15.5	X	285.57890	140.44445	224.12525	19.84097	0.0962791	0.36394447	1.9428800	20	7 14.4	17.8
55965 1998 KN ₁₄	13.7	X	161.03915	111.90162	37.35513	13.34857	0.2082153	0.19194508	2.9763549	20	8 26.3	19.0
55966 1998 KV ₁₄	14.8	X	39.22264	246.94922	306.78693	4.12777	0.2009177	0.18031293	3.1030217	20	5 31.7	18.3
55967 1998 KT ₄₇	13.5	X	303.38721	179.04836	82.36759	18.59384	0.0762376	0.17382257	3.1797913	20	4 4.9	18.2
55968 1998 KV ₅₄	13.4	X	27.09704	81.79319	123.95877	23.16676	0.1024462	0.17849669	3.1240353	20	5 24.6	17.8
55969 1998 KH ₅₆	15.9	X	115.17718	106.22452	114.87328	25.75088	0.1571898	0.37049064	1.9199263	20	11 9.1	19.3
55970 1998 NO ₁	15.8	X	37.02669	245.10499	110.54845	3.88936	0.2542324	0.27926324	2.3180717	20	—	—
55971 1998 OA ₉	16.2	X	346.65099	112.00935	231.58535	1.91702	0.1862064	0.31662165	2.1319433	20	10 23.4	17.5
55972 1998 OS ₂₀	16.3	X	279.58223	111.83851	248.21759	1.00419	0.1745621	0.30934056	2.1652671	20	6 15.2	18.5
55973 1998 QA ₄₉	15.5	X	201.64264	47.94405	338.75777	6.94938	0.1700916	0.30131356	2.2035535	20	4 21.3	18.9
55974 1998 QH ₇₂	14.1	X	16.89805	71.84802	231.51109	14.29339	0.0320811	0.17848325	3.1241922	20	8 25.9	18.7
55975 1998 QB ₉₄	15.6	X	201.20632	175.40940	188.24529	7.18053	0.2258217	0.29948910	2.2124937	20	3 24.6	19.1
55976 1998 RE ₅	15.8	X	309.49023	271.74312	62.85187	4.66720	0.2195551	0.30917900	2.1660213	20	6 20.0	17.2
55977 1998 RJ ₁₉	16.1	X	335.68342	243.07783	74.58387	2.33794	0.1919811	0.26708985	2.3879824	20	7 27.5	17.8
55978 1998 RN ₅₂	15.9	X	197.48459	45.83953	26.55060	6.90414	0.1590548	0.30485327	2.1864631	20	6 21.1	19.2
55979 1998 RP ₅₄	15.8	X	146.54687	142.23150	245.36665	3.60090	0.1674594	0.29365096	2.2417221	20	3 1.4	19.1
55980 1998 RG ₆₁	15.0	X	152.41286	27.06994	344.70497	4.41253	0.1634399	0.29273745	2.2463833	20	2 18.2	18.2
55981 1998 RO ₆₁	16.4	X	159.61734	200.94667	115.04061	3.32973	0.1739817	0.29778659	2.2209185	20	4 23.0	19.6
55982 1998 RS ₆₁	15.7	X	136.95829	187.70050	192.73165	7.14496	0.1063605	0.29174570	2.2514713	20	2 2.4	18.6
55983 1998 RC ₇₂	16.3	X	278.95036	344.11869	56.96995	1.34887	0.1140560	0.31160694	2.1547553	20	8 31.3	18.1
55984 1998 RZ ₇₇	15.6	X	301.46248	221.71778	128.83284	3.25209	0.1770173	0.30942876	2.1648556	20	7 8.9	17.4
55985 1998 RU ₇₉	16.0	X	163.93247	39.09897	28.77022	7.01471	0.1034543	0.29987526	2.2105938	20	5 8.8	19.1
55986 1998 ST ₂₄	15.5	X	171.90371	303.14402	108.98708	4.68241	0.1295553	0.29877657	2.2160099	20	4 30.4	18.8
55987 1998 SO ₂₇	14.5	X	117.14380	321.42193	50.26670	23.38003	0.2348111	0.28733965	2.2744288	20	1 23.0	17.9
55988 1998 SD ₄₇	16.1	X	327.75407	139.33009	32.95117	4.28889	0.0879661	0.28651523	2.2787897	20	—	—
55989 1998 SA ₆₂	14.9	X	309.67686	81.47224	292.09503	5.39599	0.1404254	0.26717077	2.3875002	20	8 31.1	17.1
55990 1998 SQ ₇₁	16.3	X	283.75882	343.13073	36.21902	4.19252	0.0411354	0.30879478	2.1678177	20	8 17.9	18.6
55991 1998 SL ₇₈	14.4	X	107.72418	287.94201	335.08410	13.20741	0.2134675	0.18624811	3.0367437	20	11 13.4	19.7
55992 1998 SX ₈₂	14.9	X	334.16877	358.02004	341.84553	9.70819	0.0403204	0.22094790	2.7098347	20	8 26.6	18.3
55993 1998 SZ ₁₀₂	15.9	X	246.17794	156.11145	173.87502	6.92758	0.1246688	0.25488162	2.4636388	20	4 1.2	19.3
55994 1998 SR ₁₀₅	14.4	X	3									