

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504001 2005 AO ₉	16.1	X	232.17284	166.01320	292.02209	25.97374	0.2057610	0.21454861	2.7634540	21	8 6.1	20.7
504002 2005 AM ₁₆	16.6	X	205.34369	225.21040	291.23121	12.40866	0.1797717	0.21934953	2.7229828	21	9 25.3	21.2
504003 2005 AH ₇₀	16.9	X	253.38381	139.15375	310.79657	12.89367	0.1715988	0.21718406	2.7410529	21	8 26.5	20.9
504004 2005 BS ₈	16.2	X	238.02472	127.27440	317.85854	16.19942	0.0930641	0.21383533	2.7695959	21	8 14.8	20.0
504005 2005 CA ₇₃	17.3	X	233.57644	97.42949	350.94006	4.28088	0.1333961	0.21109115	2.7935474	21	8 10.9	21.5
504006 2005 EP ₁₁₆	17.8	X	184.63868	73.06855	167.50527	6.29810	0.1094411	0.28153865	2.3055650	21	—	—
504007 2005 EQ ₂₅₂	17.7	X	211.99653	268.77262	5.70080	20.59780	0.0408937	0.35129152	1.9892572	21	—	—
504008 2005 FA ₁	18.3	X	32.58862	284.74718	150.89570	23.67828	0.1250088	0.35430211	1.9779724	21	—	—
504009 2005 FV ₄	17.3	X	204.10293	186.37418	25.92244	24.49090	0.2102194	0.27925709	2.3181058	21	12 7.3	21.2
504010 2005 GQ ₉₆	17.0	X	345.49313	217.94968	73.76702	2.45142	0.0859908	0.19294239	2.9660897	21	6 23.3	20.7
504011 2005 GT ₁₃₃	18.2	X	25.59841	161.95416	115.84150	3.31263	0.2484775	0.25495344	2.4631761	21	9 7.5	20.3
504012 2005 JC ₄₆	16.5	X	314.82620	204.65017	69.23358	38.62482	0.5028790	0.17672667	3.1448600	21	3 6.4	22.0
504013 2005 JF ₈₀	18.0	X	26.87410	117.47971	216.59926	9.91887	0.1965162	0.26219533	2.4176091	21	11 22.9	20.7
504014 2005 JN ₉₂	17.7	X	164.23375	196.78522	42.90848	6.99103	0.1594088	0.27314993	2.3525308	21	12 11.9	21.5
504015 2005 JA ₁₂₅	16.1	X	330.10850	174.91860	106.61186	15.05474	0.1522153	0.18362844	3.0655572	21	5 14.4	20.1
504016 2005 JT ₁₄₉	18.1	X	277.68542	201.06882	46.07168	21.94823	0.0533963	0.35525099	1.9744487	21	—	—
504017 2005 JR ₁₈₂	16.5	X	324.11021	284.65716	42.74335	10.77534	0.0978566	0.19234821	2.9721949	21	7 7.8	20.4
504018 2005 MP ₂₉	17.6	X	132.39612	23.73462	242.92130	4.97401	0.1568051	0.26455721	2.4031985	21	12 15.5	21.3
504019 2005 MH ₃₀	16.5	X	259.50570	77.15188	271.46245	7.76114	0.2141067	0.17290530	3.1910272	21	4 23.8	21.7
504020 2005 NZ ₂₄	16.4	X	297.75087	12.09977	285.41278	14.99977	0.2210838	0.17424819	3.1761112	21	3 26.4	21.4
504021 2005 NH ₆₁	16.2	X	250.36886	262.06330	130.86898	16.98398	0.2404879	0.17610217	3.1522905	21	6 10.4	21.5
504022 2005 ND ₁₂₅	16.3	X	297.78576	5.63416	314.01866	9.83112	0.2060540	0.17685510	3.1433373	21	4 28.8	20.8
504023 2005 QP ₁₃₀	16.6	X	288.59024	212.89410	143.61449	10.05003	0.0948705	0.17559235	3.1583893	21	6 24.4	21.1
504024 2005 QA ₁₈₁	18.7	X	78.86123	127.81985	346.11728	24.03122	0.0864804	0.40828777	1.7995274	21	2 13.8	20.0
504025 2005 RQ ₆	18.9	X	339.17467	5.44983	36.12865	12.46198	0.5497821	0.24827749	2.5071356	21	—	—
504026 2005 SU ₂₂₃	16.8	X	220.41374	227.69053	189.98278	10.84783	0.0747028	0.17009104	3.2261292	21	6 22.3	21.8
504027 2005 SV ₂₄₈	19.9	X	117.48408	346.34413	353.44821	0.98551	0.1722687	0.32898091	2.0782075	21	—	—
504028 2005 SQ ₂₆₆	16.4	X	282.76275	46.70628	287.27386	4.35561	0.2027291	0.17213074	3.2005928	21	5 2.3	21.2
504029 2005 TZ ₁₁₇	18.2	X	305.93107	53.87003	8.36241	5.39112	0.1352564	0.24696233	2.5160286	21	10 18.5	20.8
504030 2005 TF ₁₉₅	18.5	X	319.16775	299.58758	91.93834	0.92139	0.1517132	0.24518003	2.5282071	21	9 27.9	20.8
504031 2005 UG ₁₅₂	18.5	X	297.73405	206.91651	231.19551	3.77203	0.2561909	0.24356527	2.5393689	21	10 7.5	20.8
504032 2005 UL ₁₅₄	18.0	X	354.62889	116.45053	231.71962	1.50782	0.1995450	0.24288604	2.5441010	21	10 7.9	20.1
504033 2005 UM ₁₅₇	18.3	X	12.28946	210.02400	21.64501	44.46957	0.8559711	0.24682558	2.5169578	21	10 13.7	21.1
504034 2005 UJ ₁₅₉	17.6	X	192.60311	95.50024	80.67226	35.48363	0.8315189	0.16142411	3.3405946	21	10 13.2	25.6
504035 2005 UH ₁₉₁	18.3	X	350.21009	121.77562	236.18750	4.28517	0.2104890	0.24418651	2.5350601	21	10 13.3	20.2
504036 2005 US ₂₀₃	18.3	X	307.69412	23.35360	55.78237	1.74469	0.2317438	0.24610448	2.5218720	21	11 7.1	20.2
504037 2005 UP ₂₂₁	18.2	X	348.93951	4.65995	0.96885	3.61060	0.2592632	0.24597179	2.5227789	21	10 28.2	19.8
504038 2005 UQ ₂₃₃	17.8	X	349.11987	315.33471	57.83294	13.35338	0.1699748	0.24546593	2.5262436	21	11 4.6	20.1
504039 2005 UW ₂₉₁	18.7	X	288.56465	199.66741	254.92281	4.26046	0.2693791	0.24420101	2.5349598	21	10 10.9	21.4
504040 2005 UY ₃₀₉	18.4	X	333.64404	332.00968	58.57377	4.47611	0.1901210	0.24475239	2.5311512	21	10 27.3	20.4
504041 2005 UL ₄₀₅	17.5	X	359.93112	147.04798	228.57945	14.17979	0.1325815	0.24549381	2.5260524	21	11 22.6	20.1
504042 2005 UX ₄₁₉	19.1	X	333.92348	133.58892	209.67629	12.64974	0.3005614	0.24161081	2.5530451	21	7 22.5	21.3
504043 2005 VJ ₁₈	18.5	X	13.35505	110.01687	220.93621	5.51237	0.2743229	0.24653001	2.5189692	21	11 4.7	20.6
504044 2005 VJ ₆₅	15.8	X	158.90151	10.35302	48.49152	15.11136	0.0717357	0.15630476	3.4131437	21	4 22.9	21.0
504045 2005 VC ₁₁₃	18.3	X	60.79802	30.38960	35.76278	1.64980	0.1377475	0.26542495	2.3979579	21	—	—
504046 2005 VB ₁₂₇	16.7	X	281.94983	150.54696	185.85358	10.42689	0.0543613	0.16881831	3.2423236	21	5 28.3	21.4
504047 2005 WN ₈	18.3	X	329.04892	135.15966	242.18973	11.97142	0.2603614	0.24234434	2.5478907	21	9 10.1	20.5
504048 2005 WG ₂₁	17.9	X	284.28903	75.82133	23.24708	6.22220	0.0878734	0.24447483	2.5330667	21	11 8.9	20.9
504049 2005 WN ₆₈	18.0	X	287.83125	231.71566	236.08165	4.98454	0.1948844	0.24564631	2.5250068	21	11 12.8	20.2
504050 2005 WC ₉₆	17.9	X	356.44092	190.30052	186.23201	0.80628	0.1900527	0.24468203	2.5316364	21	11 24.3	20.1
504051 2005 WN ₁₃₄	18.1	X	327.16400	118.29886	267.82064	2.79350	0.2796164	0.23990572	2.5651276	21	9 23.2	19.6
504052 2005 WA ₁₄₈	17.4	X	328.29336	331.86174	71.40817	15.73439	0.0942478	0.24287296	2.5441923	21	11 7.6	20.3
504053 2005 XG ₃₂	17.6	X	249.38504	32.40438	77.15925	14.11769	0.1233251	0.23801034	2.5787242	21	10 6.8	21.4
504054 2005 XR ₄₂	18.2	X	307.89743	142.79886	279.39813	4.96186	0.2015849	0.24259315	2.5461483	21	10 11.6	20.7
504055 2005 XX ₅₁	18.3	X	301.46477	42.81335	28.02529	3.59257	0.1438900	0.24024955	2.5626797	21	10 21.5	21.0
504056 2005 XM ₇₀	17.2	X	25.89745	17.47509	285.33370	10.56392	0.1009615	0.23417747	2.6067896	21	9 11.5	20.6
504057 2005 XM ₁₁₅	17.3	X	254.44211	164.16084	298.66136	9.03480	0.2311101	0.23241406	2.6199588	21	9 5.9	21.2
504058 2005 YH ₁₉	19.1	X	317.25326	335.44107	82.78681	5.71985	0.2804977	0.24341606	2.5404066	21	10 25.6	20.6
504059 2005 YS ₃₁	17.8	X	320.22646	302.47150	108.40799	11.06925	0.2869392	0.24059566	2.5602214	21	10 24.6	19.7
504060 2005 YJ ₆₅	16.4	X	52.60736	189.46681	100.83259	13.81328	0.1431964	0.23272660	2.6176126	21	10 24.2	20.1
504061 2005 YE ₇₄	17.0	X	104.02424	297.80863	286.40667	7.85187	0.0223616	0.23027395	2.6361665	21	9 4.2	20.6
504062 2005 YQ ₈₇	17.8	X	326.88999	110.40566	275.70634	1.30155	0.2428616	0.23877152	2.5732444	21	9 26.8	19.6
504063 2005 YZ ₉₂	17.9	X	298.79081	304.54731	137.56137	2.27461	0.0915215	0.23928859	2.5695361	21	11 8.3	20.8
504064 2005 YJ ₁₆₀	16.8	X	31.57747	185.23243	115.48810	15.24846	0.0870493	0.23161020	2.6260174	21	9 29.1	20.3
504065 2005 YC ₁₆₆	18.0	X	278.91791	338.11118	124.55911	5.95299	0.2310612	0.23920488	2.5701356	21	10 16.8	20.9
504066 2005 YR ₁₇₃	16.8	X	315.12540	154.73140	258.83271	12.43483	0.2468912	0.23932877	2.5692485	21	10 4.5	19.2
504067 2005 YM ₁₇₆	17.4	X	341.87653	271.40864	107.19209	9.67003	0.1769715	0.23833151	2.5764106	21	10 29.6	19.9
504068 2005 YD ₁₇₇	17.6	X	235.92033	198.57006	288.83217	5.20699	0.1418770	0.23486536	2.6016971	21	9 29.7	21.4
504069 2005 YB ₁₇₉	17.4	X	282.76909	312.39332	118.92162	12.43064	0.1653374	0.23395867	2.6084146	21	9 21.5	20.7
504070 2005 YS ₂₀₆	17.2	X	358.66489	94.34013	290.89875	14.32133	0.2932060	0.24460203	2.5321883	21	12 28.9	19.5
504071 2005 YU ₂₁₆	17.6	X	293.66400	114.93285	322.90184	3.93091	0.2077281	0.23940375	2.5687120	21	10 5.8	20.2
504072 2005 YW ₂₄₀	17.5	X	313.50470	53.97201	147.34792	2.49431	0.1999301	0.23617845	2.5920450	21	9 23.2	19.6
504073 2005 YU ₂₄₇	17.4	X	306.17384	305.67776								

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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>
504081 2006 <i>BM</i> ₁₁₁	17.7	X	272.73514	12.90496	45.26977	2.99658	0.0364081	0.22637632	2.6663391	21	9 4.6	21.1
504082 2006 <i>BG</i> ₁₃₆	16.7	X	173.29212	204.16083	318.23778	13.94399	0.1494020	0.22663656	2.6642976	21	9 7.3	21.1
504083 2006 <i>BQ</i> ₁₃₆	17.6	X	272.08313	118.97376	338.95860	4.34950	0.1853495	0.23547366	2.5972146	21	10 2.3	20.9
504084 2006 <i>BJ</i> ₁₇₈	17.1	X	340.38437	25.86734	321.13675	13.71471	0.2794500	0.23023018	2.6365006	21	8 24.1	18.6
504085 2006 <i>BW</i> ₁₉₆	16.3	X	42.48062	117.24816	155.95100	17.21316	0.0984564	0.21924412	2.7238556	21	8 31.9	19.7
504086 2006 <i>BY</i> ₂₃₇	16.6	X	27.58102	198.06784	122.90976	14.74561	0.1903265	0.22999163	2.6383234	21	11 4.6	20.0
504087 2006 <i>BU</i> ₂₈₁	17.1	X	310.80811	89.91530	322.59062	9.88375	0.1221885	0.23294020	2.6160121	21	10 7.5	20.2
504088 2006 <i>CT</i> ₁₅	16.3	X	131.96803	217.44319	336.29186	14.43984	0.1109010	0.22261664	2.6962757	21	9 7.8	20.4
504089 2006 <i>CG</i> ₅₄	18.1	X	314.67866	173.52618	335.22105	5.92240	0.0801475	0.31338597	2.1465929	21	—	—
504090 2006 <i>DW</i>	17.9	X	297.90238	86.25044	354.42926	25.79281	0.4544845	0.23781964	2.5801061	21	9 7.9	20.5
504091 2006 <i>DD</i> ₂₁	17.2	X	176.84933	248.84521	270.00998	0.95148	0.0424515	0.22670937	2.6637272	21	9 13.0	20.8
504092 2006 <i>DO</i> ₂₈	17.0	X	110.01815	195.08872	7.65527	4.84958	0.0910259	0.21655876	2.7463268	21	8 27.2	20.9
504093 2006 <i>DP</i> ₃₄	17.5	X	166.03111	359.20632	166.42165	9.94864	0.1001630	0.22028529	2.7152661	21	9 8.8	21.6
504094 2006 <i>DM</i> ₇₈	17.7	X	241.84319	349.51464	150.37272	4.86734	0.2249160	0.23381998	2.6094459	21	10 16.3	21.4
504095 2006 <i>DO</i> ₈₈	17.2	X	202.24846	2.38838	168.97422	11.69028	0.1958649	0.22907695	2.6453418	21	10 19.8	21.5
504096 2006 <i>DT</i> ₁₀₄	18.0	X	127.29018	298.26311	342.20249	7.62994	0.1483718	0.29624378	2.2286227	21	—	—
504097 2006 <i>DO</i> ₁₀₆	18.2	X	252.99912	198.24221	339.76459	5.40181	0.0437916	0.30319265	2.1944395	21	—	—
504098 2006 <i>DN</i> ₁₄₁	16.6	X	314.66929	234.86915	152.74253	14.19865	0.0928063	0.22487992	2.6781543	21	9 18.1	19.7
504099 2006 <i>DJ</i> ₁₈₃	16.4	X	18.49857	293.73025	5.23596	24.52063	0.1264635	0.21536440	2.7564710	21	9 9.8	19.8
504100 2006 <i>DG</i> ₁₉₆	16.4	X	251.37998	167.90161	294.77254	12.78155	0.1953280	0.23146181	2.6271396	21	9 4.6	20.4
504101 2006 <i>DT</i> ₂₀₆	18.7	X	287.63534	307.08447	207.52363	3.69297	0.0527602	0.30571158	2.1823687	21	—	—
504102 2006 <i>DR</i> ₂₁₂	17.7	X	283.84262	201.26786	240.75604	1.60642	0.1895747	0.23093917	2.6311018	21	9 27.7	20.7
504103 2006 <i>EZ</i> ₄₀	17.0	X	256.78166	120.76813	331.17804	3.64375	0.1117457	0.22536730	2.6742917	21	9 14.3	20.5
504104 2006 <i>FN</i> ₂	17.4	X	112.45360	33.38573	186.88869	12.44227	0.0611952	0.21773514	2.7364259	21	9 15.9	21.3
504105 2006 <i>FX</i> ₃₆	16.5	X	135.29018	73.96475	134.04344	12.99235	0.1798111	0.22005909	2.7171264	21	10 8.5	21.1
504106 2006 <i>GT</i> ₂₃	17.0	X	232.07520	88.86385	36.86354	9.46937	0.1216312	0.22363123	2.6881144	21	9 30.6	20.9
504107 2006 <i>HU</i> ₃₆	17.2	X	243.76875	68.87703	76.39992	30.12801	0.1318958	0.22942049	2.6427003	21	10 28.3	21.8
504108 2006 <i>HW</i> ₈₁	18.3	X	151.19663	198.36274	49.73234	7.37799	0.0892024	0.29048156	2.2579986	21	12 15.5	21.4
504109 2006 <i>HJ</i> ₉₅	16.9	X	208.15360	232.19552	225.01969	6.77776	0.10117920	0.20948045	2.8078488	21	7 31.7	20.9
504110 2006 <i>HT</i> ₁₃₁	17.8	X	339.09178	341.14072	335.16312	3.56094	0.0335531	0.21834437	2.7313344	21	8 12.3	20.9
504111 2006 <i>KN</i> ₂₄	18.0	X	198.89052	7.95861	234.35180	6.11933	0.0315335	0.29770130	2.2213427	21	—	—
504112 2006 <i>KA</i> ₅₄	18.5	X	104.36668	107.60221	209.29814	4.84257	0.1571657	0.29014707	2.2597337	21	—	—
504113 2006 <i>KV</i> ₈₄	17.2	X	134.77648	119.59701	92.88889	7.82470	0.0946125	0.21612656	2.7499869	21	10 8.7	21.4
504114 2006 <i>OH</i> ₁	16.9	X	295.01009	190.47711	121.72059	10.92451	0.2842959	0.18791111	3.0188005	21	4 13.5	21.5
504115 2006 <i>PF</i> ₁₉	17.9	X	88.96745	163.34582	140.71094	7.99057	0.1816337	0.27877691	2.3207669	21	12 25.4	21.5
504116 2006 <i>QY</i> ₅₄	16.8	X	124.31653	229.10520	157.12530	15.56162	0.1453179	0.23005076	2.6378713	21	1 30.1	20.5
504117 2006 <i>QM</i> ₈₈	17.7	X	48.96646	13.68838	346.45314	8.76178	0.1338745	0.27680190	2.3317931	21	—	—
504118 2006 <i>RR</i> ₂₉	16.6	X	2.13346	301.23712	315.84563	12.16431	0.1493254	0.18885460	3.0087378	21	5 31.5	20.2
504119 2006 <i>RF</i> ₄₂	18.2	X	17.19180	188.12513	183.95466	5.53035	0.2515552	0.27044828	2.3681719	21	—	—
504120 2006 <i>RF</i> ₄₃	16.6	X	299.41547	151.11601	182.64761	10.83676	0.1024875	0.18313610	3.0710490	21	6 8.7	20.9
504121 2006 <i>RB</i> ₄₄	16.2	X	197.65787	243.29818	182.74525	11.10899	0.1328404	0.17770302	3.1333303	21	6 7.5	21.4
504122 2006 <i>RC</i> ₄₆	16.9	X	251.21199	11.13021	17.56250	11.64570	0.2544771	0.18189636	3.0849872	21	5 30.2	22.1
504123 2006 <i>RQ</i> ₄₉	16.2	X	189.34833	89.28945	14.53885	16.32660	0.0805240	0.18253905	3.0777419	21	7 20.9	21.2
504124 2006 <i>RQ</i> ₅₃	18.0	X	21.27270	226.67200	155.09519	2.43179	0.1906454	0.27173447	2.3606933	21	—	—
504125 2006 <i>RS</i> ₇₅	18.9	X	37.89412	315.56082	29.93894	1.56425	0.2029269	0.27151313	2.3619761	21	12 25.5	21.8
504126 2006 <i>RY</i> ₇₅	16.7	X	223.71339	212.01340	182.88798	10.94422	0.1185646	0.17907951	3.1172534	21	5 27.0	21.7
504127 2006 <i>RN</i> ₇₉	18.4	X	6.18120	356.47512	21.24076	1.77327	0.2055226	0.26960643	2.3730992	21	12 23.7	20.6
504128 2006 <i>RE</i> ₈₄	17.0	X	211.49324	248.20883	192.52046	10.01033	0.1061323	0.18337164	3.0684186	21	7 8.1	21.9
504129 2006 <i>RY</i> ₈₅	18.2	X	12.93279	344.80573	358.04685	2.44834	0.2197533	0.26648432	3.3915985	21	11 15.8	20.4
504130 2006 <i>RG</i> ₈₆	17.2	X	253.52738	42.44283	5.14470	6.08261	0.1851223	0.18519793	3.0482129	21	7 5.1	21.9
504131 2006 <i>RR</i> ₈₉	18.1	X	21.57244	161.00305	219.99044	1.71875	0.2448865	0.27200537	2.3591256	21	—	—
504132 2006 <i>RR</i> ₈₉	16.7	X	201.29124	233.06103	196.17328	9.13849	0.1815330	0.17799197	3.1299383	21	6 12.8	22.0
504133 2006 <i>RA</i> ₉₀	16.4	X	307.81417	158.45813	194.33007	19.01979	0.1317569	0.18748383	3.0233854	21	7 8.3	20.7
504134 2006 <i>RM</i> ₉₇	16.1	X	249.35061	332.48699	11.15689	16.38091	0.1021042	0.17464700	3.1697764	21	4 17.7	20.9
504135 2006 <i>RC</i> ₁₀₅	17.0	X	287.42468	304.47213	40.79274	0.76129	0.2675382	0.18459278	3.0548712	21	5 13.5	21.5
504136 2006 <i>RU</i> ₁₂₀	16.3	X	242.81790	187.46671	200.20567	17.59193	0.2021493	0.17958589	3.1113909	21	5 29.5	21.5
504137 2006 <i>SG</i> ₁₅	18.1	X	74.22885	347.95514	328.80511	3.06349	0.2071518	0.27453021	2.3446388	21	12 28.8	21.7
504138 2006 <i>SP</i> ₂₇	18.0	X	6.24403	86.18996	310.43296	4.92435	0.2404864	0.27160972	2.3614160	21	—	—
504139 2006 <i>SD</i> ₃₈	16.8	X	313.04940	114.54603	208.85207	9.33062	0.2451656	0.18701219	3.0284665	21	5 23.6	20.6
504140 2006 <i>SG</i> ₃₉	16.3	X	293.31185	4.60357	344.31450	8.73308	0.1447028	0.18520905	3.0480909	21	6 12.1	20.6
504141 2006 <i>SH</i> ₆₈	18.5	X	38.99105	321.04503	31.88589	3.21382	0.1103944	0.27223071	2.3578235	21	12 23.1	21.3
504142 2006 <i>SO</i> ₉₄	16.7	X	281.23664	282.50281	63.91337	2.09140	0.1945714	0.18123773	3.0924568	21	5 18.1	21.0
504143 2006 <i>SP</i> ₁₂₉	18.3	X	43.65912	39.31795	300.24695	1.95327	0.1960576	0.27295863	2.3536298	21	12 23.9	21.2
504144 2006 <i>SY</i> ₁₂₉	18.1	X	80.57864	243.17816	185.10055	24.79585	0.0761852	0.35867509	1.9618625	21	—	—
504145 2006 <i>SU</i> ₁₄₆	16.8	X	216.39210	71.21032	9.88522	9.25677	0.0769807	0.18438329	3.0571847	21	7 19.8	21.5
504146 2006 <i>SE</i> ₁₄₇	18.5	X	99									

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504161 2006 SE ₃₁₃	18.4	X	334.34241	235.73486	182.47141	7.29622	0.1563177	0.26825879	2.3810403	21	12 15.7	20.6
504162 2006 SP ₃₁₆	18.5	X	345.44727	4.64531	54.20170	3.29724	0.1840665	0.26988766	2.3714503	21	—	—
504163 2006 SX ₃₁₆	18.1	X	18.02218	272.92395	117.44863	2.04946	0.1877468	0.27223001	2.3578276	21	—	—
504164 2006 SP ₃₂₅	16.5	X	305.32743	276.11399	35.34118	5.52904	0.1331917	0.18000135	3.1066015	21	5 12.9	20.7
504165 2006 SW ₃₃₄	18.0	X	11.51059	107.66044	19.64251	20.23476	0.0758574	0.35568574	1.9728395	21	—	—
504166 2006 SA ₃₅₅	16.7	X	278.35066	259.73291	101.48943	2.48342	0.1889204	0.18190152	3.0849290	21	6 3.3	21.2
504167 2006 SU ₃₅₅	18.2	X	0.03828	242.80340	138.18309	3.10849	0.2038771	0.26711388	2.3878392	21	12 16.6	20.4
504168 2006 SQ ₃₆₀	18.0	X	22.98585	197.17403	189.96779	4.82909	0.1409260	0.27102031	2.3648385	21	—	—
504169 2006 SO ₃₆₅	18.1	X	138.07261	0.73034	26.60552	20.94114	0.0813450	0.36002529	1.9569544	21	1 19.3	20.7
504170 2006 SC ₃₇₈	17.2	X	304.94788	128.80616	175.05703	12.34441	0.1281496	0.18134281	3.0912621	21	5 6.6	21.5
504171 2006 SK ₃₇₉	17.0	X	271.02453	200.09282	148.01501	1.51989	0.1804550	0.18223014	3.0812190	21	5 10.9	21.6
504172 2006 SX ₃₈₀	16.6	X	171.80118	345.59831	124.48621	14.42356	0.1272281	0.17578774	3.1560484	21	7 6.0	21.6
504173 2006 SS ₃₈₈	17.0	X	228.18223	258.29759	137.50429	10.74628	0.1027429	0.17695597	3.1421427	21	6 3.4	22.0
504174 2006 SK ₃₉₆	17.0	X	157.78588	122.55236	219.56087	4.23286	0.0684082	0.22544812	2.6736526	21	1 5.9	20.9
504175 2006 SN ₃₉₇	17.4	X	231.68202	48.23764	3.04075	5.32516	0.2236064	0.17945224	3.1129355	21	6 14.2	22.7
504176 2006 SD ₄₀₁	16.8	X	292.63759	316.92184	20.97588	1.18246	0.1865660	0.18041590	3.1018408	21	5 22.2	21.1
504177 2006 SX ₄₀₂	18.0	X	24.04103	351.49088	31.54665	6.00944	0.1173912	0.27001577	2.3707002	21	—	—
504178 2006 SS ₄₀₂	17.2	X	262.02913	217.43772	167.81883	0.58237	0.1939240	0.18207645	3.0829527	21	6 14.4	22.0
504179 2006 SM ₄₀₃	17.0	X	276.12309	324.01966	37.55634	7.82557	0.1675395	0.17959821	3.1112486	21	6 2.8	21.6
504180 2006 SH ₄₀₈	16.0	X	216.75407	190.55690	234.45062	22.98620	0.1698870	0.17975850	3.1093987	21	6 19.1	21.3
504181 2006 TC	18.7	X	287.58123	61.18909	152.09315	19.60656	0.9118087	0.51656449	1.5383424	21	—	—
504182 2006 TM ₂	18.4	X	232.05610	280.02564	22.29527	20.52671	0.0299755	0.36458515	1.9406031	21	1 18.5	21.1
504183 2006 TU ₉	17.6	X	41.86098	334.51193	23.62764	9.94380	0.2289336	0.27290940	3.2539129	21	—	—
504184 2006 TW ₁₆	18.2	X	1.73932	202.70221	189.19414	2.30720	0.2547448	0.26866696	2.3786281	21	—	—
504185 2006 TK ₂₇	16.6	X	278.70563	329.77853	27.85940	0.56417	0.1894394	0.18125184	3.0922963	21	5 29.8	21.0
504186 2006 TE ₂₉	16.1	X	200.65023	65.51231	36.72341	16.76071	0.1053155	0.18130164	3.0917301	21	7 30.5	21.2
504187 2006 TC ₃₃	16.0	X	230.97401	195.66772	110.12742	21.47567	0.0301204	0.17913699	3.1165867	21	6 21.5	20.9
504188 2006 TQ ₃₇	16.6	X	251.92392	332.76721	35.33333	4.80260	0.2681859	0.17778939	3.1323154	21	5 7.2	21.7
504189 2006 TW ₃₈	16.7	X	256.53319	334.08354	45.83223	2.24891	0.1728511	0.17924553	3.1153283	21	6 4.3	21.5
504190 2006 TA ₃₉	16.7	X	268.40594	298.70418	55.84122	1.91761	0.2867837	0.17975572	3.1094308	21	5 3.9	21.7
504191 2006 TY ₄₂	16.5	X	189.17661	249.19401	220.34003	9.09446	0.1951325	0.17713168	3.1400644	21	7 18.3	21.9
504192 2006 TL ₄₈	18.8	X	356.40191	356.24542	39.38896	2.78663	0.2186141	0.26710742	2.3878777	21	—	—
504193 2006 TM ₅₇	16.9	X	283.10827	140.30244	210.36295	8.82154	0.1272049	0.17985290	3.1083106	21	6 4.8	21.4
504194 2006 TY ₈₃	16.8	X	176.03107	97.91220	346.34746	6.23936	0.1117470	0.17429980	3.1739844	21	6 7.4	21.8
504195 2006 TN ₈₄	16.2	X	102.02429	325.71066	239.41582	10.85281	0.0580595	0.18389294	3.0626170	21	8 8.8	20.8
504196 2006 TH ₈₆	18.4	X	29.99547	87.01266	268.18428	2.54652	0.2662196	0.26923599	2.3752754	21	—	—
504197 2006 TH ₉₇	16.9	X	272.73213	307.52368	31.80076	1.44615	0.1703886	0.17874409	3.1211520	21	5 2.8	21.6
504198 2006 TZ ₁₀₄	16.7	X	261.30034	329.81304	48.80775	9.80779	0.1027956	0.17987316	3.1080773	21	6 15.3	21.2
504199 2006 TM ₁₁₅	16.5	X	306.80820	210.71710	114.61885	12.17398	0.1923855	0.18167094	3.0875387	21	5 27.6	20.6
504200 2006 TC ₁₂₀	16.9	X	222.79813	247.16203	178.30760	9.82081	0.0877366	0.18318578	3.0704937	21	7 3.0	21.7
504201 2006 TE ₁₂₃	16.5	X	115.73214	302.00705	224.60668	26.08734	0.2336597	0.17416513	3.1756203	21	7 21.5	22.2
504202 2006 TB ₁₂₅	17.0	X	213.16504	124.29140	302.12158	4.04625	0.1714925	0.17654716	3.1469914	21	6 19.9	22.1
504203 2006 TA ₁₂₉	16.4	X	170.36060	28.04790	54.04415	9.93192	0.0905461	0.17289414	3.1911646	21	5 29.6	21.3
504204 2006 UY ₁₄	15.7	X	308.48769	281.14202	49.58186	27.06034	0.1622120	0.18099278	3.0952463	21	6 2.5	20.0
504205 2006 UP ₁₈	18.0	X	266.63845	121.30921	5.95876	6.99471	0.0609470	0.26811268	2.3819052	21	11 28.3	20.9
504206 2006 UX ₁₉	16.6	X	202.33615	204.09107	223.72114	8.26629	0.0762146	0.17790131	3.1310016	21	6 15.1	21.3
504207 2006 UV ₃₅	18.2	X	305.06074	71.57405	16.44035	3.06689	0.1595485	0.26507375	2.4000755	21	11 26.9	20.2
504208 2006 UV ₃₈	17.3	X	212.10928	16.12666	43.72771	0.87601	0.1873191	0.17617872	3.1513771	21	6 10.3	22.5
504209 2006 UE ₃₉	18.4	X	179.97287	307.94987	31.96744	21.18261	0.0865086	0.35988053	1.9574791	21	1 4.6	21.2
504210 2006 UM ₃₉	18.6	X	308.85221	61.60320	20.45574	2.27271	0.1883413	0.26457771	2.4030744	21	11 23.9	20.3
504211 2006 UL ₄₂	16.9	X	208.88124	243.56850	218.19098	8.74062	0.1717581	0.17967083	3.1104101	21	7 26.5	22.1
504212 2006 UU ₄₆	18.4	X	51.41775	183.85386	160.98818	1.73134	0.1940266	0.27027638	2.3691760	21	—	—
504213 2006 UG ₅₂	17.2	X	283.36712	141.80500	193.17698	8.73631	0.1575835	0.17922074	3.1156157	21	5 12.8	21.7
504214 2006 UE ₅₇	16.1	X	221.76082	84.18624	344.21535	15.92312	0.1125623	0.18533841	3.0466724	21	7 7.6	21.0
504215 2006 UX ₆₂	17.8	X	354.81668	154.89998	247.86201	7.38480	0.2797914	0.26864567	2.3787538	21	—	—
504216 2006 UM ₆₆	16.8	X	256.85699	100.92421	208.12600	12.87023	0.2690199	0.17269201	3.1936542	21	3 1.1	22.4
504217 2006 UR ₇₂	16.4	X	200.48280	70.48909	0.67759	10.38429	0.0932940	0.17780156	3.1321725	21	6 16.2	21.4
504218 2006 UR ₇₈	16.5	X	237.84841	175.53139	226.62278	10.79333	0.2106335	0.17960442	3.1111769	21	6 9.9	21.6
504219 2006 US ₉₃	18.5	X	53.20990	145.46484	183.50549	3.48009	0.2037140	0.26956877	2.3733202	21	12 21.5	21.9
504220 2006 UL ₉₇	16.9	X	226.07882	215.61834	184.32887	5.87380	0.1757238	0.17693619	3.1423769	21	5 31.1	22.0
504221 2006 UH ₁₀₀	18.5	X	306.32424	11.87515	73.88291	6.24623	0.2174864	0.26405976	2.4062158	21	11 22.5	20.0
504222 2006 UT ₁₀₃	17.9	X	34.27646	270.55253	55.23796	8.43347	0.1848699	0.26288924	2.4133530	21	11 9.8	20.7
504223 2006 UX ₁₁₇	16.6	X	356.33145	250.01229	34.19960	12.38105	0.0170446	0.18091430	3.0961414	21	7 2.2	21.1
504224 2006 UA ₁₂₂	18.1	X	173.58644	153.74359	93.89332	2.26179	0.0934492	0.27518988	2.3408904	21	—	—
504225 2006 UA ₁₂₄	17.0	X	245.68210	175.01080	204.98694	11.63494	0.0770494	0.17848185	3.1242084	21	6 4.0	21.8
504226 2006 UM ₁₃₂	15.7	X	210.01976	196.95248	226.77259	16.09788	0.1760462	0.17756182	3.1349912	21	6 13.0	21.0
504227 2006 UR ₁₃₂	16.7	X	194.62049	53.28182	40.65626	11.20330	0.0484962	0.17961217	3.1110874	21	7 11.9	21.5
504228 2006 UQ ₁₆₈												

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504241 2006 UZ ₂₅₆	16.9	X	290.00304	98.71575	229.84042	8.56224	0.2030082	0.18084170	3.0969700	21	5 4.5	21.4
504242 2006 US ₂₆₆	18.0	X	20.99135	296.56407	79.17571	2.36279	0.0953565	0.26887982	2.3773726	21	12 25.9	20.7
504243 2006 UY ₂₆₇	15.8	X	186.61386	211.28599	243.08744	27.00609	0.2145055	0.17443272	3.1723718	21	6 25.8	21.5
504244 2006 UG ₂₇₈	16.1	X	306.42208	292.64107	37.35825	12.14792	0.1411347	0.18149495	3.0895343	21	6 5.2	20.2
504245 2006 UP ₂₈₀	16.8	X	262.09540	135.64656	219.10622	8.62358	0.0995094	0.17509633	3.1643513	21	5 19.7	21.4
504246 2006 UL ₂₈₂	17.9	X	327.48715	31.95121	50.99723	12.89560	0.1840230	0.26713421	2.3877181	21	—	—
504247 2006 UP ₂₈₃	17.3	X	215.03290	222.90065	226.22873	11.78713	0.2336629	0.17923541	3.1154456	21	7 13.2	22.8
504248 2006 UD ₂₈₇	16.2	X	256.30569	344.26439	54.88683	18.14211	0.1987726	0.18067170	3.0989124	21	6 23.6	21.2
504249 2006 UT ₃₂₃	17.1	X	332.22811	268.34857	44.09975	2.69870	0.0702348	0.18540233	3.0459721	21	7 2.1	21.0
504250 2006 UT ₃₃₁	18.1	X	11.49735	184.47336	194.47500	6.03364	0.1093757	0.27117185	2.3639574	21	12 19.1	20.8
504251 2006 UO ₃₃₄	16.7	X	237.55351	160.94513	220.94130	9.60452	0.1007528	0.17667841	3.1454326	21	5 25.8	21.5
504252 2006 UT ₃₃₄	15.4	X	342.46247	17.18185	242.01712	22.96868	0.1338773	0.16931226	3.2360145	21	5 1.7	19.5
504253 2006 UJ ₃₃₇	16.9	X	191.58295	41.69134	57.52233	11.25586	0.2150422	0.17543850	3.1602355	21	7 10.5	22.4
504254 2006 UC ₃₆₁	17.5	X	8.03294	61.28357	317.67193	8.74934	0.2111049	0.26875867	2.3780870	21	12 30.2	20.1
504255 2006 VK ₉	18.3	X	0.47081	15.95217	31.87173	1.89622	0.1791323	0.26911902	2.3759636	21	—	—
504256 2006 VD ₁₃	18.9	X	110.94598	162.88128	313.97746	11.72514	0.4845560	0.36272650	1.9472268	21	6 14.8	22.3
504257 2006 VU ₁₈	17.9	X	329.17333	145.16704	262.09093	3.33056	0.0979682	0.26313855	2.4118283	21	11 14.1	20.2
504258 2006 VX ₂₀	16.1	X	268.58963	309.40621	53.75511	11.00101	0.1713073	0.17782904	3.1318497	21	5 27.0	20.7
504259 2006 VU ₄₇	17.1	X	201.01599	48.12734	50.59309	17.32753	0.2096817	0.17710746	3.1403507	21	7 19.3	22.7
504260 2006 VV ₄₉	16.3	X	222.59523	175.14563	248.04411	14.47417	0.2549924	0.17574142	3.1566029	21	6 18.9	21.7
504261 2006 VP ₅₂	17.4	X	211.76176	234.66185	298.61305	5.65653	0.1129481	0.26158551	2.4213650	21	11 7.9	20.9
504262 2006 VA ₆₆	17.3	X	222.37042	164.23298	228.91850	2.51585	0.1835253	0.17263718	3.1943303	21	5 18.6	22.4
504263 2006 VC ₈₉	15.7	X	230.30397	338.09991	71.96627	30.00431	0.2056662	0.17580462	3.1558464	21	6 11.2	20.9
504264 2006 VZ ₁₀₁	15.9	X	210.53982	205.58863	230.64049	25.87883	0.0304350	0.17924671	3.1153146	21	7 1.9	20.8
504265 2006 VG ₁₀₄	15.9	X	205.83661	227.20400	216.87345	16.91833	0.2466964	0.17953801	3.1119440	21	6 29.6	21.6
504266 2006 VU ₁₀₅	18.5	X	337.46194	30.98164	49.38612	3.29816	0.1857511	0.26855122	2.3793115	21	—	—
504267 2006 VX ₁₀₅	16.5	X	215.72649	185.76824	238.04350	10.26770	0.0944378	0.17606141	3.1527771	21	6 23.0	21.4
504268 2006 VD ₁₁₈	18.3	X	347.62486	24.92811	29.73671	1.74947	0.1466411	0.26666261	2.3905324	21	—	—
504269 2006 VN ₁₄₃	17.8	X	28.98449	8.28216	17.60976	2.27638	0.2013236	0.27621298	2.3356193	21	—	—
504270 2006 VH ₁₇₃	16.5	X	205.87395	351.55333	70.05723	12.79712	0.1650521	0.17201150	3.2020717	21	6 7.6	21.7
504271 2006 WJ ₂₀	16.1	X	252.74655	349.63356	45.11853	17.89910	0.2236044	0.17896053	3.1186350	21	6 10.9	21.2
504272 2006 WR ₃₀	16.3	X	195.46466	35.00318	56.07566	11.28974	0.0706716	0.17644335	3.1482257	21	7 7.6	21.1
504273 2006 WV ₄₂	18.0	X	324.24757	228.27300	190.08693	5.64852	0.1384661	0.26218836	2.4176520	21	11 23.2	20.2
504274 2006 WO ₅₀	16.3	X	282.03650	250.07082	86.99936	11.03308	0.2417996	0.17551632	3.1593013	21	5 5.1	21.1
504275 2006 WK ₅₉	17.7	X	288.59954	192.05987	266.52659	7.60877	0.1879559	0.26094383	2.4253329	21	11 3.3	20.0
504276 2006 WX ₅₉	15.7	X	321.72930	50.18180	228.67578	26.52267	0.1780903	0.17471589	3.1689432	21	4 17.1	19.9
504277 2006 WV ₆₅	16.1	X	200.73616	164.63431	283.90751	7.11363	0.0472029	0.17654397	3.1470293	21	7 10.6	20.7
504278 2006 WB ₆₉	18.1	X	0.59390	308.57147	83.17652	5.36994	0.2397261	0.26507930	2.4000420	21	—	—
504279 2006 WJ ₈₅	16.3	X	332.89714	75.44135	235.26695	7.73449	0.0699304	0.17556928	3.1586659	21	6 29.9	20.5
504280 2006 WZ ₉₃	18.3	X	344.26324	234.66114	196.19453	3.03121	0.1022941	0.26837052	2.3800379	21	—	—
504281 2006 WE ₁₀₂	16.1	X	228.53898	3.46673	75.83365	19.85934	0.1558642	0.18057601	3.1000071	21	7 22.7	21.2
504282 2006 WR ₁₂₀	16.3	X	261.93169	130.25155	233.47205	21.84076	0.2228259	0.17767533	3.1336558	21	5 15.6	21.3
504283 2006 WZ ₁₃₅	18.2	X	276.80995	7.06021	233.63779	20.74513	0.0234388	0.35464710	1.9766894	21	—	—
504284 2006 WP ₁₇₂	18.3	X	8.64023	136.10152	235.51941	1.38889	0.1850101	0.26347278	2.4069783	21	12 14.1	20.6
504285 2006 XY ₁₂	17.8	X	218.96504	181.09511	340.26006	1.09968	0.1252368	0.25737676	2.4476905	21	10 31.3	21.3
504286 2006 XS ₂₂	17.9	X	351.95521	160.17293	249.51631	6.48700	0.0806415	0.26443723	2.4039254	21	12 25.3	20.5
504287 2006 XG ₂₄	16.3	X	161.27192	62.80907	88.62022	26.47419	0.2856073	0.17232532	3.1981830	21	8 24.8	22.4
504288 2006 XK ₂₅	16.2	X	226.70342	166.43738	233.36678	17.37770	0.2474897	0.17447821	3.1718203	21	5 26.6	21.6
504289 2006 XC ₂₇	15.9	X	107.09220	261.00391	291.36645	26.99610	0.3522489	0.23162261	2.6259236	21	8 21.1	20.9
504290 2006 XP ₄₉	17.9	X	295.68996	338.33954	107.27253	7.15196	0.0901680	0.25591325	2.4570134	21	11 13.5	20.6
504291 2006 XW ₅₁	17.7	X	358.53013	168.13776	242.83780	5.92196	0.1028025	0.26672227	2.3901759	21	—	—
504292 2006 YV ₁₉	16.5	X	240.53101	157.60640	295.97362	14.64702	0.1867172	0.17739883	3.1369112	21	8 13.0	21.6
504293 2007 BA ₅₆	17.9	X	309.39163	133.72421	338.26837	4.40506	0.1821436	0.26167012	2.4208430	21	—	—
504294 2007 BG ₇₂	16.6	X	252.99426	76.90892	64.86147	24.96973	0.2170871	0.25427016	2.4675869	21	11 9.4	19.9
504295 2007 CG ₂	17.2	X	179.20795	329.85666	148.05406	2.01084	0.3164233	0.16739055	3.2607344	21	7 21.7	23.2
504296 2007 DG ₄₆	17.1	X	146.37485	264.51695	298.23961	7.45940	0.1268046	0.24595601	2.5228868	21	10 4.1	21.1
504297 2007 DB ₄₈	16.7	X	118.46242	243.44663	342.65329	13.48244	0.0434492	0.23959566	2.5673402	21	9 28.2	20.4
504298 2007 EM ₄₉	18.6	X	276.60480	211.53536	252.99099	1.19431	0.1576701	0.25093561	2.4893991	21	10 26.4	21.3
504299 2007 EO ₁₀₂	17.1	X	67.40966	230.61550	21.51478	11.35127	0.2350837	0.22807577	2.6530776	21	9 30.7	20.8
504300 2007 EF ₁₁₄	16.6	X	99.02394	231.83480	349.41573	12.88945	0.1996360	0.22985890	2.6393389	21	9 17.9	20.6
504301 2007 EK ₁₃₂	17.5	X	172.28878	0.74313	177.10793	11.35305	0.1054959	0.23913369	2.5706456	21	10 3.2	21.3
504302 2007 EN ₂₂₄	15.1	X	212.27180	280.94927	27.13308	7.81716	0.3003439	0.12456473	3.9707510	21	2 7.4	22.0
504303 2007 GC ₄₄	17.7	X	180.36189	333.43522	204.46710	12.18801	0.1119974	0.23832763	2.5764386	21	10 9.7	21.6
504304 2007 GC ₄₅	17.7	X	172.08740	129.62158	49.04925	12.36285	0.1231017	0.23506111	2.6002525	21	10 7.2	21.8
504305 2007 GV ₄₉	16.8	X	332.23317	125.59402	230.84329	4.68158	0.1847499	0.22708554	2.6607847	21	8 23.9	19.5
504306 2007 HL ₂₂	15.6	X	233.03444	193.92202	97.56877	4.05871	0.1582495	0.12433779	3.9755812	21	2 6.9	21.7
504307 2007 HZ ₄₈	17.3	X	35.82848	189.28018	94.14572	4.91217	0.1438265	0.22440115	2.6189623	21	9 14.7	20.4
504308 2007 HV ₅₁	17.6	X	139.93480	147.92327	56.17658	10.64152	0.1080087	0.23252356	2.6191361	21	10 6.3	21.7
504309 2007 HG ₇₉	16.8	X	46.80079	202.28176	84.80926	13.43749	0.1582778	0.22789708	2.6544643	21	10 14.0	20.5
504310 2007 HR ₇₉	16.6	X	28.90335	47.83264	202.68169	28.91531	0.2072383	0.21620706	2.7493043	21	7 15.0	20.3
504311 2007 HU ₇₉	16.8	X	320.97332	282.09721	60.77855	7.47216	0.0962019	0.22246376	2.6975109	21	7 26.0	20.0
504312 2007 LV ₁	16.5	X	44.13195	192.58066	91.66329	14.28197	0.1723119	0.22370979	2.6874850	21	10 8.8	20.2
504313 2007 LG ₁₄	16.9	X	342.31869	244.46939	123.43594	6.16727	0.1079640	0.22785847	2.65474			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504321 2007 RE ₁₄₁	17.9	X	53.47319	209.47947	166.68218	5.42271	0.1815848	0.29871011	2.2163386	21	—	—
504322 2007 RL ₁₉₂	18.3	X	53.41301	213.65522	132.28223	3.43135	0.2761887	0.29549014	2.2324105	21	—	—
504323 2007 RR ₁₉₉	18.6	X	35.75137	131.93735	230.66506	1.82186	0.1963320	0.29282890	2.2459155	21	—	—
504324 2007 RH ₂₆₉	16.6	X	247.10562	155.52736	196.48019	9.83996	0.1174369	0.19050848	2.9912991	21	4 27.2	21.1
504325 2007 RL ₂₈₇	18.3	X	26.62889	233.19559	179.75277	4.29858	0.0863257	0.29893264	2.2152385	21	—	—
504326 2007 RW ₂₈₈	17.0	X	283.35873	139.85893	239.06938	5.33867	0.2463043	0.19593583	2.9358023	21	6 23.1	21.2
504327 2007 RW ₃₁₈	17.2	X	277.44860	198.64318	181.25820	1.93281	0.0860142	0.19841641	2.9112824	21	7 10.7	21.2
504328 2007 SP ₇	18.2	X	21.93393	43.54947	24.24286	6.39091	0.1598041	0.29898887	2.2149607	21	—	—
504329 2007 TO ₂₇	18.6	X	0.81160	82.16909	19.54478	6.99349	0.2357930	0.29814377	2.2191444	21	—	—
504330 2007 TD ₂₉	18.3	X	50.81216	186.88916	202.08291	1.84506	0.1694043	0.29762990	2.2216979	21	—	—
504331 2007 TH ₈₁	18.0	X	101.67731	286.00387	29.17218	4.62925	0.2253318	0.29840864	2.2178310	21	—	—
504332 2007 TL ₁₀₃	16.9	X	290.75440	281.87367	50.84444	10.73536	0.0691365	0.18936701	3.0033077	21	5 29.3	21.0
504333 2007 TZ ₁₀₆	17.7	X	33.01515	34.55987	12.29183	7.95762	0.0958672	0.29811975	2.2192636	21	—	—
504334 2007 TE ₁₄₀	17.8	X	347.25148	52.13365	44.77772	6.45905	0.0980724	0.29659009	2.2268876	21	—	—
504335 2007 TH ₁₄₅	17.9	X	91.58599	296.92595	21.99858	2.29422	0.2411938	0.29709130	2.2243823	21	—	—
504336 2007 TA ₁₅₂	18.5	X	90.34894	102.63344	244.01971	1.96073	0.2013974	0.30196069	2.2004041	21	—	—
504337 2007 TA ₁₆₉	18.6	X	47.44564	300.58638	61.06082	5.28923	0.2483983	0.29389727	2.2044694	21	—	—
504338 2007 TA ₁₈₅	17.9	X	28.93921	140.19449	260.47074	6.29403	0.0723726	0.29392976	2.2403043	21	—	—
504339 2007 TO ₁₉₉	17.2	X	239.80349	178.74925	218.11404	5.61448	0.1011512	0.19314406	2.9640247	21	6 15.1	21.6
504340 2007 TH ₂₀₀	17.1	X	254.50492	133.70795	210.07199	10.61459	0.1907165	0.18865135	3.0108985	21	4 16.6	21.7
504341 2007 TM ₂₁₄	17.9	X	55.48522	8.50724	12.74836	6.55592	0.1268916	0.29630693	2.2283061	21	—	—
504342 2007 TF ₂₂₆	16.4	X	217.39790	142.11580	225.66494	10.85661	0.1395900	0.18574212	3.0422562	21	4 13.5	21.4
504343 2007 TK ₂₃₂	17.0	X	282.70327	172.06634	208.18550	1.31549	0.1228579	0.19602711	2.9348909	21	7 12.7	21.0
504344 2007 TP ₂₃₃	16.7	X	235.27038	349.68241	50.70542	12.15911	0.1130984	0.18985482	2.9981611	21	6 12.2	21.4
504345 2007 TX ₂₅₅	16.8	X	321.53670	139.55199	283.11467	3.13566	0.0561445	0.21376981	2.7701618	21	11 12.7	20.2
504346 2007 TB ₂₅₉	16.7	X	204.60622	192.77724	207.79606	10.28741	0.1420536	0.18786389	3.0193063	21	5 13.4	21.6
504347 2007 TQ ₃₀₈	17.2	X	279.67699	303.40043	52.85212	6.40595	0.0673917	0.19383686	2.9569579	21	6 15.2	21.2
504348 2007 TG ₃₁₆	17.8	X	108.11643	268.80217	51.37877	6.35007	0.2103803	0.29809892	2.2193669	21	—	—
504349 2007 TU ₃₁₆	17.7	X	239.80790	18.14373	45.19117	17.42532	0.2101469	0.19467242	2.9484907	21	7 8.5	22.7
504350 2007 TV ₃₂₀	17.0	X	129.18329	242.05255	338.12469	7.49335	0.1255032	0.22031156	2.7150502	21	10 7.7	21.3
504351 2007 TN ₃₃₁	18.3	X	329.79235	88.89787	11.84527	5.60961	0.1073242	0.29179325	2.2512267	21	—	—
504352 2007 TO ₃₃₈	18.9	X	344.40919	87.71792	8.12354	3.07892	0.1479020	0.29453677	2.2372252	21	—	—
504353 2007 TD ₃₆₇	18.0	X	248.02843	272.10170	42.99333	21.59162	0.1164162	0.39341325	1.8446051	21	2 28.3	20.9
504354 2007 TV ₃₇₈	17.3	X	254.62677	349.85145	49.12859	11.59315	0.1220308	0.19316573	2.9638029	21	7 2.4	21.8
504355 2007 TW ₄₂₈	17.5	X	247.55236	56.31052	350.15473	1.37529	0.0865982	0.19628321	2.9323374	21	7 8.2	21.6
504356 2007 TX ₄₂₈	17.3	X	328.55034	337.45278	1.60430	1.67322	0.0800298	0.20077304	2.8884562	21	8 1.4	20.9
504357 2007 UP ₂₉	17.6	X	346.14923	180.61684	217.75465	24.24013	0.1558510	0.28508752	2.2863914	21	12 12.1	20.1
504358 2007 US ₃₃	16.0	X	202.05283	144.44752	248.64565	13.24826	0.1500385	0.18329234	3.0693035	21	4 29.4	21.1
504359 2007 UZ ₅₃	16.6	X	322.78975	113.80667	230.35737	11.18169	0.0762039	0.19766777	2.9186285	21	7 26.2	20.5
504360 2007 UN ₈₅	18.8	X	12.61835	205.13811	215.39630	2.68904	0.1194544	0.29309423	2.2445599	21	—	—
504361 2007 UY ₈₆	18.7	X	329.60291	276.36379	173.76240	1.97667	0.1637726	0.28826269	2.2695709	21	—	—
504362 2007 UH ₉₀	17.0	X	295.07160	112.55321	249.82858	1.02745	0.1319679	0.19708164	2.9244123	21	7 4.9	20.9
504363 2007 UL ₉₃	16.6	X	244.04857	28.84086	37.34283	12.57604	0.0221931	0.19715246	2.9237119	21	8 12.7	20.9
504364 2007 US ₉₇	17.1	X	187.05173	234.88969	220.82614	4.23256	0.1452098	0.18892172	3.0080251	21	7 2.2	22.0
504365 2007 UT ₁₀₈	16.6	X	185.62684	244.59035	226.07124	12.36387	0.1436604	0.19064550	2.9898656	21	7 16.7	21.6
504366 2007 US ₁₁₄	16.8	X	256.78055	3.40947	31.01008	5.61306	0.0683487	0.19272569	2.9683126	21	7 6.7	21.0
504367 2007 VK ₉	18.5	X	20.82501	234.62741	170.05881	4.09451	0.2292583	0.29192724	2.2505378	21	—	—
504368 2007 VM ₄₆	17.0	X	122.92051	286.46505	270.95409	5.70803	0.0493925	0.27048467	2.3679596	21	8 30.5	20.2
504369 2007 VE ₅₃	18.0	X	34.18048	141.50356	189.55344	3.78552	0.2087965	0.28375947	2.2935197	21	12 5.4	20.7
504370 2007 VA ₆₀	16.7	X	225.71948	119.78521	265.82222	6.27964	0.2275413	0.18747430	3.0234878	21	5 8.2	21.8
504371 2007 VB ₆₀	16.2	X	311.67259	93.63193	251.30910	12.01949	0.2165426	0.19879554	2.9075797	21	6 22.7	19.7
504372 2007 VK ₇₁	18.3	X	111.81158	186.86240	229.58346	21.03368	0.0609311	0.38643214	1.8667546	21	—	—
504373 2007 VT ₇₂	16.8	X	272.52286	312.67629	70.97021	3.26255	0.1284053	0.19246783	2.9709632	21	7 3.3	21.0
504374 2007 VL ₇₃	17.7	X	323.49788	263.61046	240.31211	21.82897	0.2378994	0.29298438	2.2451209	21	—	—
504375 2007 VV ₇₃	18.5	X	317.11978	264.84810	200.65593	6.01314	0.1031050	0.29295952	2.2452480	21	—	—
504376 2007 VK ₈₁	17.0	X	230.95566	185.60117	223.22633	11.38593	0.0585504	0.19121105	2.9839673	21	6 23.7	21.5
504377 2007 VL ₉₄	17.8	X	111.66694	279.56873	37.47807	3.72712	0.2039202	0.29683511	2.2256620	21	—	—
504378 2007 VR ₉₆	18.2	X	43.52127	105.60199	288.60837	3.94051	0.1127423	0.29497718	2.2349978	21	—	—
504379 2007 VV ₉₆	18.1	X	308.93462	157.51502	337.09425	3.59458	0.0779402	0.29359046	2.2420300	21	—	—
504380 2007 VE ₁₂₄	16.5	X	311.32317	288.01756	61.13201	7.03238	0.2351711	0.19742654	2.9210054	21	6 25.4	19.9
504381 2007 VA ₁₄₅	16.4	X	168.82369	206.80284	224.09937	11.20503	0.1392756	0.17965839	3.1105538	21	5 16.9	21.3
504382 2007 VL ₁₅₃	18.1	X	345.05143	38.46166	46.52831	5.37777	0.1544279	0.29401024	2.2398954	21	—	—
504383 2007 VK ₁₆₁	17.0	X	319.41226	332.07935	5.86878	4.11279	0.0862817	0.19405504	2.9547411	21	7 16.2	20.7
504384 2007 VE ₁₇₀	18.4	X	40.48222	132.21554	263.15975	1.68363	0.1937732	0.29340768	2.2429610	21	—	—
504385 2007 VB ₁₈₅	17.9	X	50.20749	35.16132	353.19899	4.81160	0.1532480	0.29510908	2.2343318	21	—	—
504386 2007 VN ₁₉₂	16.4	X	224.90119	357.59419	90.38522	9.48532	0.2073223	0.18793379	3.0185576	21	7 25.5	21.3
504387 2007 VS ₁₉₃	15.9	X	226.81631	104.96982	281.61771	14.11899	0.0958826	0.17680680	3.1439098	21	5 18.4	20.8
504388 2007 VG ₂₀₀	18.4	X	125.67828	240.38336	45.03659	6.24063	0.1400849	0.29306968	2.2446852	21	—	—
504389 2007 VT ₂₀₂	18.1	X	61.66470	104.89687	251.13852	5.42508	0.2258298	0.29491440	2.2353150	21	—	—
504390 2007 VB ₂₀₅	17.1	X	281.92446	322.16852	181.45912	4.21512	0.1877004	0.19698135	2.9254048	21	6 23.2	21.2
504391 2007 VU ₂₃₈	16.4	X	204.97828	185.75218	243.47354	17.60445	0.0965015	0.18621186	3.0371378	21	6 17.8	21.1
504392 2007 VO ₂₄₃	19.5	X	207.49656	230.60115	95.90756	9.62416	0.4007690	0.39386670	1.8431890	21	1 31.9	22.8
504393 2007 VM ₂₅₉	17.4	X	298.19454	149.46446	185.68876	9.78055	0.1175016	0.19184067	2.9774349	21	6 6.3	21.5
504394 2007 VL ₂₆₅	17.4	X	211.03117	64.64439	14.78009	1.38312	0.1180662	0.18854122	3.0120708	21	7 6.9	22

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504401 2007 VY ₃₃₁	16.9	X	187.82442	34.11071	88.56673	13.68751	0.2291857	0.18401812	3.0612278	21	8 6.0	22.3
504402 2007 WM ₁	16.7	X	251.00517	141.64755	249.22336	11.03703	0.1608362	0.19184133	2.9774280	21	6 13.2	21.3
504403 2007 WF ₁₅	17.3	X	252.14563	271.40796	161.80795	2.14704	0.0814283	0.19601405	2.9350212	21	8 17.7	21.4
504404 2007 WM ₃₆	16.6	X	118.01902	118.51678	51.38406	20.00746	0.0694835	0.18742228	3.0240472	21	7 23.7	21.4
504405 2007 WR ₄₅	17.0	X	240.18410	17.13003	32.88336	11.40304	0.1091173	0.19169590	2.9789336	21	7 1.9	21.6
504406 2007 WB ₆₂	18.1	X	14.74264	56.73684	332.25757	4.74323	0.2612023	0.28773838	2.2723271	21	—	—
504407 2007 XD ₁₆	18.0	X	35.22233	337.67340	60.04465	5.88324	0.1804800	0.29248038	2.2476993	21	—	—
504408 2007 XM ₂₁	16.4	X	212.89222	207.50771	252.74742	15.91536	0.2498176	0.19086417	2.9875816	21	7 22.2	21.8
504409 2007 XM ₃₆	16.0	X	247.47619	348.78434	75.16978	20.69005	0.2198038	0.19239589	2.9717038	21	7 15.2	20.9
504410 2007 XZ ₅₁	18.2	X	335.18851	247.64084	283.36046	17.54530	0.0599759	0.37188790	1.9151142	21	—	—
504411 2007 XO ₅₂	16.5	X	274.98509	282.48707	83.73329	17.01634	0.2577206	0.19152476	2.9807080	21	5 29.1	21.0
504412 2007 XK ₅₈	16.3	X	222.53222	100.77389	314.31571	9.26098	0.0086737	0.18005667	3.1059651	21	6 28.1	20.7
504413 2007 YF ₅	16.3	X	186.99976	140.40850	273.18307	16.22171	0.2092574	0.18108991	3.0941394	21	5 10.4	21.8
504414 2007 YH ₁₈	16.2	X	189.06079	182.32122	261.59303	12.38583	0.1281326	0.18270163	3.0759158	21	6 20.1	21.1
504415 2007 YW ₁₉	18.5	X	326.29742	193.91159	264.76943	2.47233	0.1210384	0.28494093	2.2871755	21	—	—
504416 2007 YM ₂₄	17.5	X	217.34262	35.59374	26.69544	5.96142	0.1546984	0.18255166	3.0776001	21	6 19.3	22.5
504417 2007 YF ₆₆	17.0	X	215.55608	166.07194	296.72588	6.49405	0.1952286	0.18585491	3.0410252	21	8 3.4	22.1
504418 2007 YM ₆₈	17.4	X	177.92112	115.01318	113.35130	7.56612	0.0698471	0.27524714	2.3405657	21	12 19.4	20.6
504419 2007 YS ₇₀	18.4	X	354.68851	312.40696	113.59725	10.98725	0.1657007	0.28327858	2.2961146	21	—	—
504420 2007 YK ₇₃	16.2	X	231.55145	286.24692	117.84733	15.74286	0.0583593	0.17894568	3.1188075	21	6 20.7	20.9
504421 2008 AC ₁₀	17.3	X	196.77652	303.50063	163.54662	2.78531	0.1582485	0.18358161	3.0660785	21	7 24.7	22.4
504422 2008 AL ₁₄	16.1	X	199.26061	161.45117	285.36018	9.54875	0.0428798	0.18007776	3.1057226	21	7 7.1	20.5
504423 2008 AZ ₂₈	17.0	X	237.74290	135.79693	261.46672	7.03837	0.2784956	0.18519007	3.0482992	21	5 29.6	22.2
504424 2008 AB ₄₁	16.7	X	258.02147	64.91097	331.79502	9.84703	0.4202632	0.18902666	3.0069117	21	5 31.9	22.2
504425 2008 AV ₄₄	18.5	X	82.03835	150.29548	307.40826	19.04716	0.0929430	0.37688974	1.8981324	21	1 23.4	19.6
504426 2008 AW ₅₀	17.5	X	224.97300	151.28054	292.70574	9.19426	0.3178800	0.18849346	3.0125796	21	7 12.7	22.9
504427 2008 AW ₅₃	16.3	X	146.00950	192.30600	302.01138	9.50221	0.1083158	0.17809497	3.1287314	21	7 10.1	21.1
504428 2008 AN ₅₅	18.2	X	292.60083	354.85442	139.82495	3.02739	0.1411150	0.28193510	2.3034031	21	—	—
504429 2008 AJ ₅₆	16.6	X	260.31537	262.44749	126.27114	10.75669	0.1343533	0.18401065	3.0613107	21	6 24.6	21.2
504430 2008 AR ₅₆	17.7	X	99.31864	180.48969	123.70621	7.69076	0.1210510	0.27771585	2.3266744	21	12 31.4	21.2
504431 2008 AH ₅₉	16.7	X	257.99276	84.80675	298.96712	15.73607	0.2384182	0.18426241	3.0585216	21	6 2.9	21.8
504432 2008 AP ₈₀	16.4	X	197.83986	131.68975	294.99431	8.33421	0.0951058	0.17501270	3.1653592	21	6 8.3	21.3
504433 2008 AV ₉₃	18.0	X	325.46181	18.52333	91.94931	6.62963	0.0470452	0.28427140	2.2907653	21	—	—
504434 2008 AQ ₉₇	17.8	X	191.92918	190.38793	24.46232	2.94319	0.1112735	0.27471602	2.3435815	21	12 13.2	20.9
504435 2008 AM ₁₁₆	16.5	X	205.34441	309.20745	104.38836	11.06557	0.0981528	0.17543106	3.1603249	21	6 1.7	21.5
504436 2008 AN ₁₁₇	16.6	X	90.47020	34.32156	140.99587	11.21078	0.1621081	0.17121706	3.2119691	21	7 6.2	21.3
504437 2008 AB ₁₂₈	17.5	X	179.14965	285.75724	280.25368	4.28870	0.1904875	0.26816951	2.3815687	21	11 11.4	21.4
504438 2008 BD ₁₇	16.7	X	208.65743	305.47210	122.03167	9.91883	0.1945507	0.18144163	3.0901395	21	6 16.9	21.9
504439 2008 BR ₄₂	18.4	X	11.42605	197.65593	319.74777	19.44137	0.0561497	0.37251593	1.9129611	21	—	—
504440 2008 BA ₄₃	16.4	X	271.59540	272.02189	302.41931	23.85029	0.1354830	0.21718583	2.7410380	21	—	—
504441 2008 BU ₄₆	17.5	X	209.81697	237.43466	327.62245	6.47954	0.0712728	0.27333462	2.3514710	21	12 27.2	20.6
504442 2008 BF ₅₂	16.5	X	154.90377	161.27049	357.32413	6.93700	0.1360716	0.18125702	3.0922374	21	8 20.4	21.5
504443 2008 CU	16.5	X	175.98160	106.47326	39.69011	18.85762	0.3188685	0.18251892	3.0779682	21	8 31.6	22.5
504444 2008 CK ₉	16.5	X	152.75215	1.64276	139.91844	11.94995	0.0626043	0.17766140	3.1338196	21	7 22.6	21.3
504445 2008 CR ₅₇	16.6	X	81.65942	326.86922	259.17086	3.76308	0.0882686	0.17953931	3.1119290	21	8 17.3	21.0
504446 2008 CC ₇₅	17.3	X	203.04162	41.61764	46.76578	7.83475	0.2462193	0.18213555	3.0822858	21	7 5.4	22.7
504447 2008 CF ₇₇	16.2	X	127.50895	39.77812	121.64817	11.28186	0.1605535	0.17499722	3.1655459	21	7 28.3	21.1
504448 2008 CR ₉₁	18.1	X	190.35942	52.07521	151.36726	5.86494	0.1160719	0.26857924	2.3791460	21	11 27.0	21.5
504449 2008 CK ₁₁₀	18.0	X	271.67917	277.52000	210.61991	0.30462	0.1751124	0.27478232	2.3432045	21	11 20.7	20.1
504450 2008 CO ₁₁₈	18.2	X	350.26106	239.24809	305.63160	21.90279	0.0386121	0.37658167	1.8991675	21	1 5.8	20.2
504451 2008 CV ₁₂₄	18.6	X	317.29817	183.82068	268.63666	1.68931	0.1906488	0.27719414	2.3295928	21	—	—
504452 2008 CJ ₁₂₇	16.2	X	208.03117	89.95929	325.16030	7.98662	0.1528414	0.17403236	3.1772353	21	6 1.3	21.5
504453 2008 CH ₁₂₉	17.6	X	207.12883	241.31437	219.94000	1.46734	0.3012583	0.18339805	3.0681240	21	7 20.9	23.1
504454 2008 CK ₁₄₂	18.1	X	345.02101	106.03766	332.87954	5.22757	0.1398002	0.27923948	2.3182032	21	—	—
504455 2008 CS ₁₆₂	16.6	X	225.34750	81.17788	323.61513	10.28767	0.1666662	0.17623357	3.1507235	21	6 3.9	21.9
504456 2008 CC ₁₆₃	16.5	X	167.58898	329.84332	147.05528	15.65051	0.2282431	0.17712863	3.1401005	21	7 11.7	22.1
504457 2008 CY ₁₈₅	18.2	X	16.65532	209.85993	296.80862	19.99472	0.0460282	0.37306017	1.9111002	21	—	—
504458 2008 CZ ₁₈₉	16.6	X	255.21180	231.43857	298.31922	23.19601	0.1929589	0.27580609	2.3374024	21	12 26.3	19.3
504459 2008 CF ₂₀₉	17.5	X	299.89664	284.42579	194.84298	3.50265	0.0854597	0.27938989	2.3173711	21	—	—
504460 2008 CX ₂₀₉	16.2	X	156.87314	350.04688	153.25202	17.80656	0.1347157	0.17746711	3.1361065	21	7 31.5	21.3
504461 2008 CQ ₂₁₀	18.0	X	217.70019	160.10034	14.92216	2.50675	0.1467762	0.26680442	2.3896852	21	11 15.2	21.2
504462 2008 CF ₂₁₁	17.7	X	153.50530	235.61907	348.81422	7.45509	0.1303205	0.26471041	2.4022712	21	11 10.7	21.6
504463 2008 DU ₉	16.3	X	152.08088	5.77257	134.99034	16.12739	0.0521300	0.17859070	3.1229390	21	7 20.5	21.0
504464 2008 DS ₂₀	16.3	X	175.81322	311.40029	191.33785	14.55281	0.1964304	0.18187005	3.0852848	21	8 15.2	21.7
504465 2008 DN ₂₉	16.7	X	210.14149	311.99529	131.55810	10.21534	0.0814300	0.17966017	3.1105332	21	7 12.8	21.5
504466 2008 DQ ₄₅	16.4	X	158.03656	131.32305	6.70575	10.32416	0.1733551	0.17657351	3.1466784	21	7 31.8	21.7
504467 2008 DR ₅₀	16.0	X	126.78106	78.21171	94.56493	17.46103	0.1838233	0.17482218	3.1676586	21	8 15.7	21.3
504468 2008 DT ₅₅	18.6	X	319.26356	216.91433	351.41284	19.43713	0.0430284	0.36889802	1.9254482	21	—	—
504469 2008 DA ₆₂	16.9	X	207.15207	86.89732	347.11834	25.54672	0.2410648	0.17713560	3.1400181	21	6 23.1	22.8
504470 2008 DZ ₆₇	18.1	X	209.49028	258.52134	350.33693	17.38998	0.0866907	0.35053080	1.9921342	21	—	—
504471 2008 DW ₈₃	18.0	X	208.78041	161.98096	23.86015	1.83181	0.1248709	0.26662945	2.3907306	21	11 21.9	21.4
504472 2008 DA ₈₆	16.5	X	134.68614	169.08338	323.37258	2.79394	0.1029015	0.17011579	3.2258164	21	6 25.1	21.3
504473 2008 ER ₂₃	18.6	X	59.91735	127.21856	2.25847	19.08684	0.0954358	0.37347293	1.9096919	21	2 12.9	20.2
504474												

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504481 2008 FA ₂₇	16.5	X	136.85910	131.12877	31.99515	17.94487	0.1638597	0.16943407	3.2344632	21	8 16.5	22.0
504482 2008 FP ₃₁	16.7	X	147.99284	296.68503	181.96870	5.47714	0.1195943	0.17050128	3.2209522	21	6 22.8	21.8
504483 2008 FE ₇₂	18.2	X	305.06051	23.60905	86.66619	2.83002	0.1279350	0.27471910	2.3435640	21	—	—
504484 2008 FL ₁₀₃	17.4	X	21.72621	91.72096	189.26978	14.64174	0.2643680	0.23640081	2.5904193	21	8 30.5	19.9
504485 2008 FV ₁₁₉	16.3	X	173.43290	317.17033	170.70959	12.68404	0.2095182	0.17453630	3.1711165	21	7 27.8	21.8
504486 2008 FO ₁₂₀	17.9	X	235.75197	34.36330	125.78131	5.22008	0.0532669	0.26570136	2.3962945	21	12 2.9	20.8
504487 2008 FN ₁₂₄	18.6	X	64.73081	283.58262	202.00890	21.58426	0.0675018	0.37074630	1.9190435	21	1 28.7	20.8
504488 2008 FK ₁₂₆	17.6	X	156.67423	147.82909	70.37706	5.87080	0.0621549	0.25795097	2.4440567	21	11 10.1	21.1
504489 2008 GE ₁₆	16.3	X	53.51040	296.16465	25.23124	7.10549	0.0949226	0.18354869	3.0664451	21	11 10.9	20.6
504490 2008 GD ₂₇	16.5	X	170.39658	307.48137	182.06719	27.53182	0.2111677	0.17704137	3.1411322	21	7 26.3	22.3
504491 2008 GD ₁₀₁	18.1	X	214.72407	116.14165	60.57264	2.29808	0.1159533	0.26189617	2.4194498	21	11 17.6	21.4
504492 2008 GK ₁₁₂	17.0	X	262.31451	109.97518	72.66223	22.69566	0.2764458	0.27558412	2.3386573	21	—	—
504493 2008 GD ₁₁₄	18.1	X	182.86876	330.93987	252.41660	1.64034	0.0723062	0.26536377	2.3983264	21	12 16.2	21.3
504494 2008 HN ₅	18.0	X	264.22113	149.95629	355.04354	1.11471	0.1168318	0.26876915	2.3780251	21	12 12.9	20.4
504495 2008 HT ₄₇	17.8	X	308.16177	309.16486	210.62756	20.70721	0.0573216	0.35009466	1.9937884	21	—	—
504496 2008 JZ ₃	18.4	X	274.94856	37.98805	202.23871	22.10085	0.0438073	0.35874571	1.9616050	21	—	—
504497 2008 JZ ₁₉	16.2	X	358.96445	67.68375	237.53575	29.11538	0.3199060	0.23200532	2.6230350	21	7 27.4	18.8
504498 2008 JH ₂₇	17.9	X	124.78299	343.93271	59.25685	23.75065	0.0897096	0.36189815	1.9501969	21	1 19.9	20.3
504499 2008 KF ₁₂	17.6	X	17.87397	235.30127	61.89346	13.19798	0.2967341	0.23657709	2.5891324	21	10 4.2	20.2
504500 2008 KQ ₃₀	17.4	X	44.09103	128.89475	172.97404	13.14897	0.1865635	0.24351003	2.5397530	21	11 1.2	20.7
504501 2008 LD ₂	17.9	X	22.64564	244.93841	228.39901	19.77342	0.0932133	0.35275275	1.9837599	21	—	—
504502 2008 LX ₄	17.3	X	72.74207	25.75164	265.04689	5.21724	0.2012902	0.24282558	2.5445232	21	11 19.1	21.1
504503 2008 LM ₁₀	17.9	X	47.23763	75.19303	71.56104	25.03189	0.1425614	0.36929098	1.9240820	21	2 19.4	19.9
504504 2008 MS	17.2	X	31.63697	194.20662	107.42923	17.05079	0.3114143	0.23577712	2.5949855	21	11 7.0	20.7
504505 2008 MH ₁	18.3	X	317.28422	15.58662	303.37818	7.73474	0.1662302	0.22117024	2.7080183	21	3 25.0	22.6
504506 2008 MX ₁	17.4	X	28.90360	6.10555	271.91254	11.48699	0.1052596	0.23121387	2.6290174	21	8 13.5	20.7
504507 2008 NB ₂	16.1	X	70.48437	300.27165	302.21641	30.25048	0.2196984	0.23401290	2.6080116	21	8 31.1	20.3
504508 2008 OS ₂₂	17.6	X	316.49351	204.89059	166.56713	5.89767	0.1460593	0.22593616	2.6698009	21	8 20.2	20.5
504509 2008 PS ₁₀	16.8	X	340.68087	8.58462	322.66177	13.41975	0.2582433	0.22644579	2.6657938	21	8 2.5	18.8
504510 2008 PO ₁₉	17.0	X	244.08679	105.49566	336.23721	21.51136	0.0559303	0.22540180	2.6574019	21	8 25.7	20.5
504511 2008 QT ₁₃	17.8	X	292.24431	131.29831	249.78517	8.03450	0.2945457	0.22050098	2.7134950	21	6 29.3	21.3
504512 2008 QO ₂₁	17.1	X	2.42238	28.02266	301.48138	8.92539	0.2001502	0.22904597	2.6455803	21	9 18.7	19.7
504513 2008 QC ₂₇	16.6	X	42.01197	129.26015	153.78496	31.37387	0.3018113	0.23236422	2.6203333	21	10 24.6	20.6
504514 2008 QC ₃₂	16.6	X	306.40527	130.82532	238.96857	7.67262	0.2136683	0.22128097	2.7071148	21	7 18.2	19.7
504515 2008 QT ₄₆	16.5	X	12.07081	335.51234	328.38191	16.60804	0.2227146	0.22700087	2.6614463	21	9 4.8	18.9
504516 2008 RL ₅	17.3	X	297.31783	241.06325	160.95973	5.92185	0.0657926	0.22458050	2.6805342	21	9 11.7	20.7
504517 2008 RA ₆	16.5	X	70.06410	305.98309	334.40034	14.34253	0.0995293	0.23337099	2.6127918	21	10 12.9	20.4
504518 2008 RP ₁₅	17.2	X	309.33596	148.08420	249.79654	3.29743	0.2338438	0.22504089	2.6768770	21	8 31.6	20.0
504519 2008 RH ₃₇	17.7	X	292.91126	71.46363	340.74647	1.98781	0.1729310	0.22467217	2.6798050	21	9 3.3	20.5
504520 2008 RA ₅₁	17.1	X	250.85365	80.53530	285.30803	5.41369	0.0566508	0.21146833	2.7902245	21	5 22.5	21.1
504521 2008 RC ₅₂	17.3	X	311.20859	181.02043	220.03642	5.92328	0.3032260	0.22474563	2.6792210	21	7 31.0	20.1
504522 2008 RE ₆₈	17.3	X	320.57179	310.24727	53.90104	3.55528	0.1679004	0.22244606	2.6976539	21	8 16.8	20.0
504523 2008 RX ₆₈	16.9	X	287.81902	83.85288	350.95245	14.16779	0.1392452	0.22677874	2.6631839	21	9 29.0	20.2
504524 2008 RO ₇₂	17.1	X	345.51392	185.21229	168.51698	2.01003	0.2251945	0.22914060	2.6448519	21	9 23.4	18.8
504525 2008 RD ₈₆	17.0	X	261.85573	124.70026	329.65440	11.94059	0.1800335	0.22405740	2.6847047	21	9 11.5	20.8
504526 2008 RK ₈₉	17.4	X	324.01823	27.87243	339.58086	9.02107	0.1281136	0.22308490	2.6925013	21	8 31.1	20.3
504527 2008 RY ₁₀₃	16.9	X	202.82264	141.72615	346.76177	12.32387	0.1250403	0.22008022	2.7169525	21	8 31.1	21.1
504528 2008 RZ ₁₀₃	17.3	X	310.69453	142.75395	235.48590	5.23518	0.0945105	0.22240269	2.6980047	21	8 23.9	20.7
504529 2008 RQ ₁₂₁	17.7	X	327.97784	61.87305	319.97511	1.09855	0.0890468	0.22816225	2.6524071	21	9 30.2	20.8
504530 2008 RD ₁₃₅	17.1	X	321.66815	25.12925	1.11911	8.85154	0.0824041	0.22721690	2.6597591	21	9 26.4	20.1
504531 2008 RR ₁₄₄	17.0	X	324.72387	71.86175	227.01985	5.91881	0.1929123	0.21534336	2.7566506	21	5 14.8	20.2
504532 2008 SH ₂	17.1	X	325.61748	184.44759	194.66758	7.79026	0.2235619	0.22611665	2.6683801	21	9 10.2	19.5
504533 2008 SS ₁₅	17.6	X	302.58032	23.98949	308.14742	1.62814	0.1672846	0.21786551	2.7353342	21	5 29.2	20.9
504534 2008 ST ₂₀	17.2	X	359.83708	37.74554	303.76647	2.85595	0.1734865	0.23057375	2.6338809	21	10 2.9	19.9
504535 2008 SX ₄₆	17.9	X	312.99072	180.65760	190.65227	9.00668	0.1831529	0.22013438	2.7165068	21	8 5.8	21.0
504536 2008 SF ₄₈	17.0	X	333.42628	356.61215	354.89120	10.09676	0.1945297	0.22414158	2.6840324	21	8 23.6	19.6
504537 2008 SG ₅₅	17.1	X	232.48024	297.54032	194.55954	17.66785	0.1451914	0.22596633	2.6695633	21	10 2.9	21.1
504538 2008 SR ₆₁	17.7	X	327.58572	147.73609	198.96190	2.20265	0.2015268	0.22498754	2.6773002	21	7 28.9	20.2
504539 2008 ST ₉₀	17.3	X	323.78669	158.47377	210.34494	4.22857	0.1794245	0.22281348	2.6946875	21	8 25.3	19.9
504540 2008 SZ ₉₄	17.4	X	319.48135	130.66255	236.01486	4.24704	0.1327960	0.22058588	2.7127987	21	8 18.5	20.5
504541 2008 SP ₉₅	17.1	X	295.78737	66.44738	130.18546	2.33672	0.0717935	0.21670322	2.7451061	21	8 4.1	20.3
504542 2008 SD ₁₁₇	16.7	X	320.50579	318.44389	13.85766	10.55298	0.1764211	0.21590716	2.7518496	21	6 27.5	20.0
504543 2008 SJ ₁₂₅	17.5	X	310.84059	160.38068	214.51905	4.92225	0.1081816	0.21921151	2.7241257	21	8 18.1	20.8
504544 2008 SQ ₁₂₅	17.1	X	323.28406	334.21094	8.86916	4.98461	0.1712075	0.21750789	2.7383316	21	7 20.6	20.1
504545 2008 SY ₁₃₁	17.2	X	336.21844	318.16243	16.06549	5.46345	0.0727594	0.21612829	2.7499722	21	8 10.0	20.5
504546 2008 SX ₁₃₉	17.5	X	319.43050	27.65088	335.58444	4.41656	0.2430529	0.22250407	2.6971851	21	8 1.1	20.1
504547 2008 SX ₁₄₀	16.8	X	9.23666	17.00100	260.43532	9.48131	0.1447772	0.21766368	2.7370248	21	7 13.8	19.8
504548 2008 SC ₁₄₇	17.0	X	302.89577	125.72150	196.91726	27.17028	0.2678079	0.21418404	2.7665890	21	5 2.6	20.9
504549 2008 SJ ₁₉₄	17.5	X	297.77754	255.55968	118.72844	4.33001	0.2068605	0.21716440	2.7412183	21	7 13.3	20.9
504550 2008 SZ ₂₁₀	17.3	X	324.06236	52.33977	330.41483	10.35005	0.1289680	0.22590738	2.6700277	21	9 18.9	20.3
504551 2008 SW ₂₂₉	17.3	X	256.07114	147.56045	333.06623	7.04089	0.2051225	0.22885063	2.6470855	21	10 5.6	20.9
504552 2008 SK ₂₆₀	17.5	X	325.37992	112.93988	253.29879	4.99119	0.0547316	0.22070515	2.7118213	21	9 2.9	21.1
504553 2008 SQ ₂₆₀	17.5	X	315.82127	94.52328	248.68811	2.47304	0.1055207	0.2146948				

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504561 2008 SG ₂₉₈	17.9	X	273.20890	241.56046	196.54624	8.13409	0.2950557	0.22121196	2.7076778	21	8 18.4	21.8
504562 2008 SO ₃₀₄	17.3	X	334.76490	155.57493	193.74722	5.88569	0.0828978	0.21990843	2.7183673	21	8 24.6	20.5
504563 2008 SF ₃₀₅	17.5	X	252.74842	141.54915	285.02022	3.26199	0.0391596	0.21594222	2.7515517	21	8 16.2	21.2
504564 2008 TB ₁₀	16.8	X	326.15274	265.34030	101.19042	8.66793	0.1089971	0.22352571	2.6889603	21	9 8.2	19.9
504565 2008 TS ₁₆	17.6	X	286.87076	158.47089	234.93637	1.34512	0.1261646	0.21999266	2.7176733	21	8 5.3	20.9
504566 2008 TQ ₁₇	16.7	X	295.27055	28.99368	29.90216	13.86382	0.0924029	0.22209221	2.7005186	21	10 2.2	20.1
504567 2008 TN ₂₁	17.4	X	279.31864	30.61110	32.37032	5.41802	0.1162226	0.21913557	2.7247550	21	9 8.3	20.9
504568 2008 TO ₂₆	19.9	X	26.27245	330.07774	37.96842	19.84514	0.0849473	0.54545588	1.4835299	21	—	—
504569 2008 TL ₃₄	17.3	X	297.07691	223.36540	139.96457	2.80424	0.1631353	0.21516466	2.7581767	21	7 4.1	20.8
504570 2008 TC ₃₆	17.2	X	359.59922	345.37603	357.99335	8.28212	0.0757590	0.22673663	2.6635136	21	9 27.9	20.3
504571 2008 TV ₃₈	17.1	X	4.38120	320.10675	352.98809	3.45529	0.0850453	0.21823780	2.7322225	21	8 25.4	20.1
504572 2008 TF ₅₀	17.3	X	314.76464	354.53413	21.33932	5.43560	0.0544033	0.22171638	2.7035694	21	9 5.9	20.6
504573 2008 TM ₅₀	17.6	X	42.98800	121.24876	184.84521	2.00890	0.2029932	0.23052207	2.6342746	21	11 3.2	20.8
504574 2008 TE ₅₉	16.6	X	273.08088	17.22513	35.39173	5.79041	0.0516068	0.21878865	2.7276346	21	8 26.9	20.2
504575 2008 TY ₆₇	16.8	X	206.03232	64.26990	42.65622	12.36125	0.0605039	0.21345387	2.7728946	21	8 15.4	21.1
504576 2008 TK ₇₀	17.5	X	288.98135	258.06503	160.22513	4.74770	0.0868251	0.22174447	2.7033412	21	9 19.1	20.8
504577 2008 TJ ₇₀	17.3	X	1.83741	336.15962	344.96012	11.07972	0.0880532	0.22232720	2.6986153	21	9 2.1	20.5
504578 2008 TC ₁₀₇	17.6	X	271.39811	310.41148	139.50446	4.00880	0.1530655	0.22534588	2.6744612	21	9 27.3	20.9
504579 2008 TV ₁₀₇	15.8	X	171.96266	44.06835	44.24812	11.08523	0.2145965	0.12486767	3.9643261	21	6 10.9	22.4
504580 2008 TJ ₁₀₉	17.5	X	327.81414	19.34935	37.32810	13.30403	0.2773100	0.22951431	2.6419800	21	11 14.5	19.1
504581 2008 TB ₁₃₂	16.8	X	286.70294	89.43358	295.17171	3.59218	0.1395393	0.21606721	2.7504904	21	7 22.0	20.4
504582 2008 TT ₁₃₈	17.6	X	252.38279	199.99568	224.32016	8.61749	0.1559199	0.21457015	2.7632691	21	7 25.6	21.8
504583 2008 TX ₁₅₂	17.9	X	268.78612	41.40441	48.54859	3.26038	0.1635550	0.22414737	2.6839862	21	9 21.9	21.4
504584 2008 TB ₁₈₄	16.8	X	345.39905	54.11682	335.80597	12.86984	0.2304808	0.22964149	2.6410045	21	11 14.3	19.4
504585 2008 TN ₁₈₈	17.5	X	283.47336	9.52871	11.02820	8.20149	0.2354842	0.21410020	2.7673112	21	6 27.4	21.4
504586 2008 UY ₇	17.3	X	298.82229	150.79471	222.79288	4.14169	0.1150637	0.21953118	2.7214806	21	7 27.7	20.7
504587 2008 UK ₁₀	17.5	X	282.14342	64.04399	337.66264	3.68725	0.1353864	0.21963215	2.7206464	21	8 9.5	21.0
504588 2008 UY ₁₈	17.4	X	269.79168	214.00143	218.12621	1.56042	0.0528719	0.22156181	2.7048267	21	9 14.2	20.8
504589 2008 UY ₂₈	17.3	X	335.49274	158.95622	207.04352	5.77736	0.0503965	0.22021224	2.7158665	21	9 19.4	20.7
504590 2008 UY ₅₀	17.2	X	325.79420	310.66110	33.09674	6.81303	0.0628109	0.21592426	2.7517043	21	8 8.2	20.7
504591 2008 UM ₅₅	17.5	X	304.26988	217.43365	201.36164	4.35361	0.1364618	0.22712884	2.6604465	21	10 7.5	20.4
504592 2008 UB ₆₂	16.8	X	349.26765	92.00529	230.41505	13.45420	0.1456000	0.21657664	2.7461756	21	8 5.5	20.0
504593 2008 UB ₆₅	17.5	X	282.87013	152.32514	258.06568	7.38050	0.1861906	0.21648944	2.7469130	21	8 10.3	21.2
504594 2008 UE ₇₄	16.3	X	168.39110	260.57289	264.43840	8.61795	0.1005757	0.21267623	2.7796497	21	9 5.4	20.7
504595 2008 UR ₇₉	16.7	X	299.24892	175.57503	231.03549	9.91563	0.2217267	0.22131946	2.7068010	21	8 23.6	20.1
504596 2008 UP ₁₀₆	17.1	X	19.79566	267.84022	21.19340	12.65106	0.2681473	0.22438453	2.6820947	21	9 15.5	19.7
504597 2008 UH ₁₁₃	17.3	X	327.95025	25.80388	347.57015	4.23659	0.0505788	0.22066819	2.7121241	21	9 19.2	20.7
504598 2008 UH ₁₁₃	17.6	X	253.98397	162.98969	284.93022	2.39396	0.1642279	0.221702743	2.7423715	21	8 28.1	21.5
504599 2008 UP ₁₁₆	17.2	X	334.79714	79.64018	279.73753	4.86202	0.0348224	0.21867436	2.7285849	21	9 8.5	20.8
504600 2008 UR ₁₂₁	17.0	X	229.42475	206.58810	277.92104	7.75277	0.1506859	0.21731129	2.7399829	21	9 14.7	21.2
504601 2008 UD ₁₂₆	17.3	X	306.93692	11.75307	356.25220	3.83093	0.1177363	0.21298124	2.7769954	21	8 3.7	20.7
504602 2008 UH ₁₃₄	17.3	X	318.43690	345.98786	34.98000	5.72615	0.0884983	0.22029763	2.7151646	21	9 15.2	20.5
504603 2008 UT ₁₃₉	17.3	X	340.54508	303.13991	51.00561	3.16412	0.1163280	0.21970480	2.7200467	21	9 13.1	20.2
504604 2008 UP ₁₄₃	17.9	X	320.21086	140.11637	218.63508	7.01791	0.2422459	0.21842341	2.7306745	21	7 23.4	20.8
504605 2008 UT ₁₄₇	17.4	X	268.64898	64.82967	340.99496	0.77236	0.0898438	0.21201063	2.7854644	21	8 2.8	21.2
504606 2008 UM ₁₅₃	17.4	X	303.02963	218.17431	169.15018	1.81313	0.0990001	0.21936728	2.7228360	21	8 26.1	20.5
504607 2008 UC ₁₅₉	17.1	X	240.87050	203.89497	259.52402	11.31369	0.3010314	0.21197845	2.7857464	21	8 14.3	21.9
504608 2008 UL ₁₆₀	16.9	X	287.13317	50.35332	52.20229	13.64126	0.1651376	0.22436479	2.6822521	21	11 5.5	19.8
504609 2008 UO ₁₇₁	17.4	X	266.27416	42.47178	29.89822	6.77859	0.0722963	0.21694198	2.7430916	21	9 9.9	21.1
504610 2008 UT ₁₈₈	17.2	X	259.99678	44.34095	47.59368	1.63585	0.0863642	0.22182189	2.7027121	21	9 23.5	20.6
504611 2008 UO ₁₉₄	17.6	X	294.33801	234.83457	163.96871	4.39276	0.1838269	0.21787961	2.7352162	21	8 14.6	20.7
504612 2008 UO ₂₃₃	17.2	X	353.77926	349.18074	359.10188	6.99843	0.0912954	0.22138133	2.7062966	21	9 25.8	20.2
504613 2008 UY ₂₅₉	17.8	X	276.52338	327.40795	59.69855	5.25667	0.2139217	0.21171533	2.7880539	21	6 30.3	21.7
504614 2008 UG ₂₆₄	17.1	X	7.10095	55.50730	279.18224	5.04070	0.0446175	0.22156437	2.7048059	21	9 22.6	20.7
504615 2008 UN ₂₆₈	17.3	X	243.25181	6.99175	60.58496	5.04715	0.0888312	0.21206767	2.7849650	21	7 31.9	21.3
504616 2008 UB ₂₇₇	17.5	X	275.21461	211.25964	215.60177	2.55383	0.0836358	0.21973321	2.7198122	21	9 9.3	21.1
504617 2008 UA ₃₁₃	17.3	X	220.20323	289.69052	163.99224	4.56870	0.0301483	0.21392673	2.7688070	21	8 11.6	21.2
504618 2008 UF ₃₁₄	16.9	X	298.40036	103.48780	245.45982	8.47970	0.2913317	0.21471830	2.7619979	21	5 26.5	20.3
504619 2008 UG ₃₁₄	16.4	X	348.52278	43.02650	300.28394	4.66940	0.0903305	0.22085577	2.7105883	21	9 7.9	19.6
504620 2008 UK ₃₁₇	16.7	X	319.72014	96.80170	258.23010	16.69466	0.1737266	0.22030511	2.7151032	21	7 23.8	20.0
504621 2008 UQ ₃₂₃	17.0	X	268.74158	201.74876	252.21169	9.84554	0.2651758	0.21921531	2.7240942	21	9 4.3	20.9
504622 2008 UK ₃₄₂	17.0	X	92.47229	205.21778	49.39087	11.68434	0.0373466	0.22234776	2.6984490	21	10 9.2	20.8
504623 2008 UN ₃₄₇	17.3	X	307.01768	145.29293	239.27117	10.44477	0.0867528	0.21863646	2.7289002	21	8 24.9	20.9
504624 2008 UL ₃₅₀	17.1	X	208.40928	191.20891	271.57670	3.66418	0.1176922	0.20884108	2.8135767	21	8 1.9	21.5
504625 2008 UO ₃₅₇	17.2	X	305.39902	228.65783	176.86001	11.97004	0.2254813	0.22133693	2.7066585	21	9 5.7	20.0
504626 2008 UN ₃₅₈	16.7	X	244.72620	338.06789	90.92225	10.12501	0.1303078	0.20989044	2.8041911	21	7 30.1	20.9
504627 2008 UL ₃₆₀	17.5	X	270.11353	101.84487	301.25793	2.50734	0.0958166	0.21127334	2.7919411	21	7 30.9	21.3
504628 2008 VY ₁₃	16.3	X	307.42964	179.56638	216.39041	14.75489	0.2131069	0.21934791	2.7229963	21	8 23.4	19.7
504629 2008 VG ₁₅	17.2	X	259.45633	0.53886	42.93624	4.96348	0.0682688	0.21204760	2.7851407	21	7 22.9	21.1
504630 2008 VB ₄₉	17.5	X	270.08680	208.70658	230.29197	7.09023	0.1413182	0.21642961	2.7474192	21	9 6.9	21.3
504631 2008 VF ₆₉	16.9	X	43.66545	192.51263	66.91032	4.77468	0.0474287	0.20961872	2.8066139	21	8 8.7	20.5
504632 2008 WO ₄	17.2	X	7.08321	79.48902	230.31025	7.28455	0.0792405	0.21675369	2.7446800	21	8 20.4	20.7
504633 2008 WR ₃₂	16.9	X	349.05396	317.45146	59.59965							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504641 2008 WY ₁₂₇	17.4	X	266.25910	349.24432	57.02893	1.15345	0.0729910	0.20958368	2.8069267	21	8 2.9	21.3
504642 2008 WD ₁₂₈	17.2	X	321.30349	264.67067	75.94078	5.41117	0.0733910	0.20936357	2.8088937	21	7 24.6	20.8
504643 2008 WE ₁₃₄	17.9	X	268.13645	319.33071	107.69421	2.76946	0.2376891	0.21491423	2.7603189	21	8 8.8	21.7
504644 2008 XL ₄	16.4	X	290.77365	351.99575	62.34497	15.82822	0.1746599	0.21630597	2.7484660	21	9 11.7	20.1
504645 2008 XF ₃₃	17.5	X	305.36269	0.99240	30.23584	3.88744	0.2016750	0.21702308	2.7424082	21	8 22.4	20.6
504646 2008 XD ₃₄	17.3	X	306.75656	324.96569	34.92683	5.60481	0.0707399	0.20910807	2.8111813	21	7 30.3	20.9
504647 2008 XW ₃₈	17.0	X	326.83122	64.80374	274.93416	4.30460	0.0506245	0.20802393	2.8209400	21	7 31.9	20.6
504648 2008 YP ₁	17.2	X	10.06667	95.39848	226.37414	14.82032	0.1715000	0.22397648	2.6853513	21	9 19.2	20.3
504649 2008 YQ ₃₉	16.3	X	281.59017	255.81246	93.21884	9.68603	0.0352188	0.19219299	2.9737949	21	6 13.9	20.5
504650 2008 YM ₁₀₂	18.9	X	22.94128	257.65488	159.02306	1.33139	0.1147096	0.31054796	2.1596511	21	—	—
504651 2008 YS ₁₂₂	16.5	X	193.25418	184.86466	271.55946	6.55381	0.0478109	0.19719536	2.9232879	21	7 11.7	20.8
504652 2008 YY ₁₅₀	16.9	X	172.68715	23.20011	117.44611	11.45079	0.0921309	0.20059101	2.8902034	21	8 15.6	21.3
504653 2008 YQ ₁₅₂	17.1	X	187.16984	204.37462	267.64075	4.68419	0.0445880	0.19821709	2.9132337	21	7 24.4	21.4
504654 2008 YQ ₁₅₄	16.0	X	325.60227	332.37053	294.25436	22.23748	0.1516957	0.18180271	3.0860466	21	3 29.5	20.5
504655 2008 YT ₁₅₆	17.3	X	224.61951	38.08938	34.01211	2.22736	0.0800233	0.19593970	2.9357637	21	7 15.5	21.5
504656 2008 YJ ₁₆₀	16.2	X	335.64252	328.12637	319.24884	11.61006	0.0492577	0.18548397	3.0450782	21	6 4.1	20.5
504657 2008 AD ₁₈	16.3	X	155.00570	162.96324	289.15442	11.41820	0.1298817	0.18931304	3.0038785	21	5 27.4	21.1
504658 2009 AH ₂₅	16.7	X	279.75830	289.59231	114.83881	11.17094	0.0841171	0.20536796	2.8452096	21	8 18.4	20.5
504659 2009 AK ₂₉	16.2	X	332.04864	16.00887	295.98949	10.88479	0.0270341	0.19759180	2.9193765	21	7 5.2	20.0
504660 2009 AT ₃₂	17.8	X	166.21600	332.72751	121.54730	3.94343	0.1217978	0.26798808	2.3826435	21	6 9.1	21.3
504661 2009 AS ₃₅	16.9	X	252.33545	99.28763	307.10696	5.46387	0.0799121	0.19878981	2.9076356	21	7 15.0	20.9
504662 2009 AC ₄₀	17.4	X	267.36085	232.05667	200.44267	1.60665	0.0560897	0.20692331	2.8309342	21	9 9.7	21.2
504663 2009 AW ₄₅	16.6	X	230.59202	339.83850	119.15318	16.31569	0.1011315	0.20513053	2.8474046	21	8 26.4	20.9
504664 2009 BR ₈₅	17.2	X	161.95995	198.22707	298.02994	6.27284	0.1334306	0.19448496	2.9503850	21	7 28.8	21.8
504665 2009 BW ₁₀₆	17.8	X	325.23705	180.26854	294.43614	5.10463	0.0866855	0.30591815	2.1813862	21	—	—
504666 2009 BX ₁₃₅	17.8	X	107.25134	24.52598	302.50562	5.82100	0.0209377	0.30488579	2.1863076	21	—	—
504667 2009 BA ₁₅₄	17.0	X	301.62906	324.89362	61.50780	2.99972	0.1024327	0.20388967	2.8589456	21	8 22.7	20.6
504668 2009 BU ₁₇₈	17.7	X	217.49320	242.44636	336.46429	7.54236	0.1217184	0.29587247	2.3048691	21	—	—
504669 2009 BN ₁₈₄	15.9	X	23.70791	245.75474	331.21636	15.33856	0.1796336	0.17695312	3.1421765	21	5 15.1	19.8
504670 2009 BB ₁₉₀	16.7	X	129.45746	43.49632	147.60563	6.74547	0.0231597	0.19574289	2.9377312	21	8 25.9	20.7
504671 2009 CC ₁₂	16.6	X	321.58403	339.99527	110.02971	8.97566	0.0779663	0.18046615	3.1012651	21	5 13.9	20.9
504672 2009 CE ₁₈	16.4	X	204.37461	83.99485	292.19864	8.93392	0.1597195	0.17990108	3.1077556	21	4 8.8	21.6
504673 2009 CE ₅₁	16.5	X	181.50893	28.16631	139.70650	17.38531	0.1675053	0.20320175	2.8653945	21	9 28.5	21.4
504674 2009 CP ₅₂	17.0	X	199.73148	141.36870	326.87881	13.15806	0.1339693	0.19688612	2.9263480	21	8 1.8	21.7
504675 2009 DN ₃	17.7	X	67.96325	84.66188	171.50264	5.01009	0.1645468	0.26887740	2.3773868	21	9 29.6	20.7
504676 2009 DU ₁₆	18.0	X	246.06132	67.40591	128.98685	6.06941	0.1681464	0.30114668	2.2043675	21	—	—
504677 2009 DJ ₃₇	18.1	X	284.20057	188.43340	328.97613	5.69469	0.0736179	0.30345525	2.1931733	21	—	—
504678 2009 DK ₆₉	15.8	X	296.51663	331.37890	337.73719	13.49759	0.0472495	0.17801819	3.1296309	21	5 5.7	20.5
504679 2009 DV ₁₀₄	16.4	X	128.93547	1.54543	172.26390	9.59027	0.1748571	0.18673520	3.0314606	21	8 13.6	21.4
504680 2009 EO ₂	19.8	X	194.81473	220.51789	264.70792	11.48191	0.4807393	0.43986050	1.7123508	21	8 6.2	23.2
504681 2009 FA ₂	16.7	X	99.63143	141.97240	16.91114	8.00244	0.1100816	0.17854680	3.1234508	21	6 18.9	21.3
504682 2009 FQ ₆	16.1	X	53.52577	229.96240	347.69630	11.28571	0.0450103	0.18331507	3.0690498	21	6 26.1	20.4
504683 2009 FG ₂₆	18.6	X	227.36114	51.70349	154.22409	4.96907	0.0973858	0.29624911	2.2285960	21	—	—
504684 2009 FT ₃₅	16.4	X	173.52273	112.81537	22.30826	10.07699	0.0504241	0.18964076	3.0004168	21	8 11.9	21.0
504685 2009 FL ₄₀	15.9	X	294.77993	64.40506	13.52343	15.09913	0.1291313	0.20618070	2.8377276	21	10 14.2	19.2
504686 2009 FH ₅₇	16.5	X	170.27542	274.75696	186.63227	21.20998	0.0939416	0.18217949	3.0817901	21	6 22.3	21.7
504687 2009 FZ ₅₇	16.4	X	124.47783	126.04577	30.37283	16.19190	0.2254795	0.18221342	3.0814076	21	7 29.8	21.8
504688 2009 FT ₆₄	15.9	X	326.71085	271.71452	24.44284	10.73284	0.1109240	0.17370640	3.1812087	21	5 26.3	20.0
504689 2009 HV ₇	17.7	X	218.86804	182.16891	38.48604	7.71864	0.1305614	0.29360354	2.2419634	21	—	—
504690 2009 HO ₄₃	16.8	X	163.19932	20.61410	125.88371	3.74255	0.1280642	0.18522349	3.0479324	21	8 11.9	21.7
504691 2009 HV ₆₀	18.4	X	183.28987	161.73373	63.10227	4.16617	0.0781649	0.28836088	2.2690557	21	12 22.5	21.2
504692 2009 HP ₆₅	18.0	X	118.48920	179.19258	109.97083	5.17325	0.0959787	0.28178384	3.2042273	21	12 31.9	21.4
504693 2009 HT ₇₂	18.2	X	143.87015	43.23447	50.60857	25.03444	0.0646456	0.40683768	1.8038009	21	4 29.1	19.8
504694 2009 HE ₉₂	16.9	X	150.82705	78.44907	76.78191	3.37223	0.2203457	0.18340641	3.0680308	21	8 14.8	22.1
504695 2009 HR ₉₂	18.3	X	93.70141	96.66061	198.66592	6.04225	0.1592336	0.27604846	2.3360340	21	12 17.0	21.9
504696 2009 HE ₉₉	17.7	X	29.83874	348.30438	44.11763	7.50826	0.0921708	0.28806370	2.2706160	21	—	—
504697 2009 HP ₁₀₀	16.8	X	56.47185	204.01753	126.13630	3.91827	0.0932080	0.19480539	2.9471488	21	11 28.9	20.9
504698 2009 JF ₈	17.7	X	204.57823	112.90309	117.27342	5.71774	0.1365577	0.28959085	2.2626263	21	—	—
504699 2009 KF ₂₀	16.0	X	129.05640	284.99739	237.27683	13.76712	0.0539917	0.17567801	3.1573625	21	7 17.7	20.8
504700 2009 PK ₁₀	18.2	X	17.01165	189.51810	156.53415	2.92457	0.2180351	0.25586739	2.4573070	21	11 26.2	20.7
504701 2009 PX ₁₇	17.7	X	37.70256	1.69652	347.89415	6.23501	0.1386121	0.25933273	2.4353674	21	12 18.2	20.9
504702 2009 QE ₂	18.0	X	146.99299	84.20613	295.89432	18.71169	0.1360789	0.37452074	1.9061283	21	1 20.1	19.6
504703 2009 RU ₁₀	17.9	X	259.50601	272.17208	1.82600	20.08713	0.0579998	0.37495777	1.9046469	21	1 10.4	20.6
504704 2009 RZ ₂₁	17.2	X	306.25043	183.03648	241.90268	5.33578	0.1708793	0.25326441	2.4741153	21	10 19.9	19.6
504705 2009 RT ₃₉	17.7	X	321.87735	123.07227	269.46968	4.93341	0.0866230	0.24656962	2.5186994	21	10 5.7	20.5
504706 2009 SD ₁₉	18.6	X	13.74422	169.43317	180.69610	2.05545	0.2732991	0.25332305	2.4737335	21	12 4.9	21.0
504707 2009 SH ₃₅	17.0	X	329.81019	12.80815	8.31127	13.49330	0.0947011	0.24432590	2.5340959	21	10 4.5	19.5
504708 2009 SY ₆₅	18.5	X	344.68020	167.78073	21.60633	20.46010	0.0496447	0.37113356	1.9177084	21	1 1.2	21.0
504709 2009 SC ₁₀₄	17.6	X	36.07960	280.62705	53.68070	1.97741	0.1961675	0.25661822	2.4525115	21	12 4.2	20.5
504710 2009 SH ₁₄₄	17.7	X	17.23259	332.56938	29.02017	2.02475	0.1919952	0.25539660	2.4603259	21	12 12.8	20.3
504711 2009 SP ₁₇₁	19.3	X	50.42009	285.17625	223.10564	25.62029	0.3561167	0.62443615	1.3556389	21	—	—
504712 2009 SO ₁₈₇	17.6	X	10.84114	180.84229	157.47683	5.51308	0.2039828	0.24702091	2.5156308	21	10 31.9	20.1
504713 2009 SH ₂₅₈	18.5	X	0.59780	231.37498	147.79611	3.16818	0.2042886	0.25304072	2.4595732	21	12 11.0	20.9

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504721 2009 UD ₃₅	17.1	X	274.69835	168.04821	230.17281	10.46420	0.2061416	0.23091287	2.6313015	21	7 11.6	20.9
504722 2009 UR ₅₂	18.1	X	339.92003	157.80819	212.64368	8.50039	0.0712827	0.24258196	2.5462266	21	10 5.5	21.0
504723 2009 UG ₅₅	17.5	X	271.93480	178.84149	219.79265	13.20228	0.2453768	0.23213628	2.6220484	21	7 3.3	21.5
504724 2009 UQ ₁₀₈	17.3	X	324.32171	194.89663	224.94487	15.38121	0.0837806	0.24664275	2.5182015	21	11 20.9	20.1
504725 2009 US ₁₂₇	18.2	X	4.85335	317.82780	19.85538	7.43352	0.2875396	0.24610424	2.5218736	21	10 28.4	20.1
504726 2009 UR ₁₂₉	17.1	X	286.44185	180.84306	236.75244	21.33373	0.1092586	0.23789892	2.5795329	21	9 1.9	20.9
504727 2009 UG ₁₄₃	18.8	X	316.90058	346.80456	49.95730	6.15401	0.2690177	0.24136473	2.5547801	21	9 19.4	20.7
504728 2009 UD ₁₄₉	19.2	X	329.52168	147.65376	231.71857	4.08316	0.2844066	0.24259147	2.5461601	21	9 18.5	20.7
504729 2009 VH ₇	18.0	X	140.60328	338.19532	43.19494	22.55064	0.0600597	0.36528207	1.9381340	21	1 1.2	20.4
504730 2009 VO ₃₂	18.1	X	307.70275	78.91933	288.49469	4.02625	0.2717812	0.23448513	2.6045089	21	7 8.9	20.8
504731 2009 VS ₃₇	16.6	X	277.55588	181.89738	236.96334	32.01825	0.1395240	0.23437796	2.6053028	21	8 10.6	20.9
504732 2009 VO ₃₉	16.5	X	241.49517	241.24800	228.75616	25.82221	0.1511392	0.23638874	2.5905075	21	9 6.5	20.8
504733 2009 VD ₅₂	18.0	X	88.40463	243.01489	224.46893	19.54203	0.0992858	0.37332579	1.9101936	21	2 13.0	20.2
504734 2009 VY ₆₈	17.7	X	244.22515	202.70673	254.06746	12.37253	0.1370082	0.23203563	2.6228065	21	8 27.1	21.7
504735 2009 VW ₆₉	17.0	X	341.72714	298.49555	60.55760	15.54762	0.1330116	0.23726042	2.5841587	21	10 3.1	20.0
504736 2009 VC ₇₀	17.3	X	42.38576	32.53355	291.17501	2.60020	0.1685325	0.24466290	2.5317684	21	11 21.6	20.6
504737 2009 VD ₇₀	18.1	X	318.22934	28.05022	32.20334	2.90746	0.1525663	0.24345320	2.5401482	21	11 6.9	20.4
504738 2009 VX ₇₃	15.8	X	96.68858	274.52122	215.74992	2.06473	0.2046995	0.12348523	3.9938587	21	5 26.2	21.5
504739 2009 VB ₇₄	18.1	X	308.59645	202.33802	215.51588	1.56688	0.1792581	0.24420637	2.5349237	21	10 12.4	20.6
504740 2009 VD ₉₅	17.9	X	277.46489	15.56931	59.79825	4.62140	0.1940434	0.23518580	2.5993334	21	9 11.8	21.2
504741 2009 VL ₁₀₆	17.1	X	257.74003	256.49182	189.17132	28.74893	0.3176479	0.23364337	2.6107608	21	8 7.1	21.7
504742 2009 VC ₁₀₇	16.6	X	239.84200	180.08302	250.65952	12.37102	0.1585168	0.22948640	2.6421943	21	7 19.5	20.7
504743 2009 VH ₁₁₃	17.0	X	189.24302	268.64678	232.78972	13.37907	0.0517972	0.23331588	2.6132032	21	8 30.5	21.1
504744 2009 WH ₁₀	16.7	X	322.40825	176.74121	222.47923	8.47039	0.2762953	0.24146015	2.5541069	21	10 1.7	18.6
504745 2009 WJ ₂₄	16.3	X	304.99205	314.24948	72.86436	32.40040	0.1875073	0.23417923	2.6067765	21	9 4.9	20.1
504746 2009 WJ ₂₅	16.4	X	350.91939	86.09707	300.60283	28.77286	0.3400977	0.24028625	2.5624187	21	12 25.5	18.7
504747 2009 WU ₃₁	17.4	X	357.36207	124.14647	242.54009	14.50700	0.1291304	0.24266293	2.5456601	21	11 2.3	20.1
504748 2009 WY ₅₀	18.1	X	254.71025	80.29031	21.57782	2.27787	0.0949738	0.23787548	2.5797023	21	9 29.9	21.5
504749 2009 WE ₅₁	17.1	X	273.02072	169.08900	263.71098	13.94045	0.0592239	0.23725322	2.5842110	21	9 12.6	20.9
504750 2009 WR ₅₁	17.2	X	274.51271	15.81663	83.01163	15.36069	0.2067363	0.23556237	2.5965625	21	10 14.1	20.7
504751 2009 WW ₅₂	17.8	X	315.50887	326.03084	69.68482	10.24126	0.1619714	0.23889468	2.5723599	21	9 30.8	20.5
504752 2009 WR ₆₄	18.3	X	315.32326	276.92181	117.41876	2.87300	0.2313505	0.23862845	2.5742728	21	9 14.3	20.3
504753 2009 WU ₆₆	18.2	X	161.51289	305.70822	56.28683	23.21340	0.0845220	0.36695675	1.9322329	21	1 8.2	20.7
504754 2009 WD ₆₉	17.1	X	331.23584	122.26194	263.96875	14.07762	0.1138978	0.23859468	2.5745157	21	10 6.6	20.2
504755 2009 WW ₇₁	17.1	X	255.68303	359.34102	67.17822	15.33307	0.0658086	0.23117777	2.6292911	21	8 25.4	21.0
504756 2009 WA ₇₅	17.2	X	253.88821	41.34709	75.16366	12.70995	0.1451946	0.23926408	2.5697115	21	10 16.9	20.8
504757 2009 WM ₇₅	17.5	X	333.73419	159.17549	223.01635	7.99857	0.1648954	0.24118304	2.5560629	21	10 10.5	19.9
504758 2009 WK ₈₀	17.4	X	332.89148	86.85053	281.55921	7.06340	0.2147360	0.23735497	2.5834724	21	9 10.9	19.7
504759 2009 WP ₈₀	16.5	X	2.50014	90.30495	266.36255	12.24002	0.1981428	0.24186664	2.5512444	21	11 4.2	19.1
504760 2009 WA ₈₉	17.2	X	20.00549	122.55042	226.00740	5.43778	0.1826041	0.24470296	2.5314921	21	11 25.7	19.9
504761 2009 WX ₈₉	17.3	X	295.15420	171.52495	188.43894	3.93861	0.2180240	0.22797113	2.6538894	21	6 17.5	20.6
504762 2009 WL ₉₂	17.6	X	21.26209	39.75324	273.63363	10.76238	0.0763215	0.23643997	2.5901333	21	9 15.9	21.0
504763 2009 WZ ₉₃	17.9	X	294.19981	313.70210	100.81063	6.90197	0.2272141	0.23770601	2.5809283	21	9 4.2	20.7
504764 2009 WN ₁₀₃	18.1	X	333.03637	3.80772	30.64136	7.52186	0.2323638	0.24442151	2.5334350	21	10 30.5	19.9
504765 2009 WB ₁₄₂	16.9	X	274.86303	162.99541	221.96347	11.37120	0.1928210	0.22783502	2.6549462	21	6 26.9	20.7
504766 2009 WQ ₁₅₂	17.1	X	7.96080	41.83426	302.70798	5.79675	0.2530043	0.24529293	2.5274313	21	11 7.4	19.5
504767 2009 WY ₁₅₅	17.9	X	123.66502	348.00621	64.76143	23.66869	0.0949666	0.36605915	1.9353902	21	2 7.7	20.4
504768 2009 WF ₁₆₃	17.9	X	301.17935	26.42115	44.87688	2.69470	0.1030786	0.24144391	2.5542214	21	10 26.8	20.6
504769 2009 WY ₁₇₁	17.3	X	344.53580	304.58031	39.70102	12.14718	0.0771710	0.23543784	2.5974779	21	9 13.3	20.5
504770 2009 WJ ₂₀₈	17.1	X	166.54216	268.72778	269.71506	6.48521	0.1068827	0.23227534	2.6210017	21	9 22.9	21.3
504771 2009 WQ ₂₀₈	17.6	X	325.62719	354.91298	44.66370	3.58419	0.0863111	0.24119392	2.5559861	21	10 24.5	20.2
504772 2009 WG ₂₁₂	17.6	X	317.13324	24.79402	349.58052	4.20819	0.0811591	0.23352410	2.6116496	21	9 3.7	20.4
504773 2009 WV ₂₄₄	16.9	X	321.88140	67.78506	243.36045	9.68398	0.0543854	0.21898874	2.7259729	21	6 15.4	20.3
504774 2009 WD ₂₅₂	16.5	X	268.18827	206.46280	254.34067	21.36917	0.0265441	0.24003120	2.5642336	21	10 22.5	20.3
504775 2009 WO ₂₆₃	16.2	X	289.75812	206.60793	240.39571	21.58192	0.0824662	0.24026492	2.5625704	21	10 30.2	19.5
504776 2009 XV ₇	18.2	X	140.46933	314.61742	74.17910	27.12742	0.1322805	0.36600343	1.9355866	21	1 30.7	20.8
504777 2009 XA ₁₆	17.0	X	273.13591	331.78778	109.09575	13.91088	0.1256916	0.23086282	2.6316818	21	9 28.1	20.6
504778 2009 XO ₂₄	16.5	X	204.20328	177.76142	267.73648	16.25692	0.2085577	0.21946065	2.7220637	21	7 2.6	21.2
504779 2009 YB ₂	17.1	X	292.05998	317.83759	108.71256	11.91284	0.2270526	0.23444773	2.6047859	21	9 20.5	20.2
504780 2009 YE ₂	17.4	X	255.14077	2.97664	111.23587	14.25279	0.1494650	0.23355846	2.6113935	21	10 15.2	21.2
504781 2009 YR ₁₁	18.0	X	272.74865	100.51025	349.44541	2.79137	0.1894701	0.23357297	2.6112853	21	9 22.6	21.4
504782 2009 YV ₁₁	16.9	X	200.37218	16.78677	88.92912	10.36777	0.0896860	0.21871508	2.7282462	21	8 1.7	21.1
504783 2009 YA ₁₄	18.7	X	283.89196	100.39615	335.90871	4.10788	0.2596132	0.23407430	2.6075555	21	9 8.5	21.8
504784 2009 YX ₂₃	17.6	X	261.78696	150.31937	330.51199	13.90116	0.3506456	0.23604658	2.5930103	21	9 20.7	21.6
504785 2009 YA ₂₅	16.2	X	336.51731	227.46603	121.18603	15.96385	0.1041163	0.21875096	2.7279479	21	8 31.0	19.4
504786 2010 AB ₆	17.6	X	318.23222	96.64516	280.26756	2.52890	0.2071053	0.23397617	2.6082845	21	8 24.3	19.9
504787 2010 AH ₂₅	17.6	X	242.90064	347.28058	111.32771	3.29360	0.1685698	0.22470332	2.6795573	21	8 31.2	21.5
504788 2010 AM ₃₂	17.6	X	261.00826	333.58445	136.97533	11.01108	0.1691092	0.23016713	2.6369821	21	10 11.6	21.2
504789 2010 AY ₃₃	17.1	X	28.92820	205.87280	105.95852	7.73795	0.0895475	0.22400904	2.6850910	21	10 6.7	20.5
504790 2010 AF ₆₁	17.1	X	233.64152	220.67270	262.86286	11.10455	0.2414277	0.22874865	2.6478722	21	9 7.3	21.5
504791 2010 AM ₆₂	17.1	X	278.52078	156.86458	292.63807	3.71454	0.1404743	0.23470032	2.6029166	21	10 6.8	20.3
504792 2010 AO ₆₂	16.9	X	266.79373	352.39735	102.89027	13.06513	0.1880971	0.23298023	2.6157125	21	9 29.0	20.5
504793 2010 AF ₆₅	17.1	X										

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504801 2010 <i>CY</i> ₃	16.6	X	182.26483	162.13743	337.64842	16.34841	0.1979174	0.21271191	2.7793390	21	8 22.9	21.3
504802 2010 <i>CG</i> ₂₀	17.5	X	229.67655	9.38519	141.08579	13.66111	0.2210992	0.22910641	2.6451150	21	10 20.1	21.8
504803 2010 <i>CO</i> ₂₈	17.5	X	202.10281	316.29263	182.04201	9.14702	0.2488305	0.22125884	2.7072953	21	9 1.9	22.3
504804 2010 <i>CT</i> ₆₅	16.8	X	219.04624	258.52072	262.10416	10.26459	0.2403644	0.22907684	2.6453426	21	10 11.6	21.3
504805 2010 <i>CZ</i> ₉₄	17.4	X	225.49348	322.21807	129.73089	2.83821	0.0617027	0.21116628	2.7928847	21	8 13.3	21.5
504806 2010 <i>CL</i> ₁₀₀	17.3	X	229.39606	315.25415	137.85441	5.42902	0.0402792	0.21624386	2.7489923	21	8 22.7	21.2
504807 2010 <i>CD</i> ₁₀₄	17.8	X	237.82830	98.87602	19.01496	3.31917	0.1548212	0.22124758	2.7073872	21	9 20.4	21.8
504808 2010 <i>CP</i> ₁₂₅	17.1	X	266.22566	308.22797	159.92857	14.86100	0.1977668	0.22732135	2.6589443	21	10 9.5	20.7
504809 2010 <i>CZ</i> ₁₆₀	17.1	X	254.70881	146.32534	301.10211	4.50541	0.1550298	0.21930089	2.7233855	21	8 29.3	21.0
504810 2010 <i>CX</i> ₁₈₂	16.2	X	30.84844	297.50857	316.94840	9.03145	0.0732135	0.20159542	2.8805955	21	7 15.9	19.8
504811 2010 <i>CN</i> ₂₂₁	16.2	X	333.35494	337.67987	306.36443	15.61285	0.0413723	0.18373494	3.0643725	21	5 27.5	20.6
504812 2010 <i>DB</i> ₅₃	15.5	X	21.29606	307.90775	252.12852	25.73966	0.1863186	0.17559092	3.1584064	21	4 17.7	19.3
504813 2010 <i>EM</i> ₃₁	16.3	X	199.14826	156.34133	147.88668	25.51356	0.0841123	0.21740106	2.7392286	21	9 15.2	20.3
504814 2010 <i>EW</i> ₁₀₄	16.4	X	306.97296	92.64252	35.86843	26.90202	0.3474934	0.23873003	2.5735425	21	11 21.2	18.7
504815 2010 <i>EU</i> ₁₂₇	17.0	X	255.01510	55.11511	86.80801	12.75593	0.2241274	0.23328932	2.6134016	21	11 6.3	20.6
504816 2010 <i>ET</i> ₁₃₉	16.8	X	358.30274	195.46860	48.74159	4.29040	0.2020710	0.18225460	3.0809434	21	5 5.4	20.0
504817 2010 <i>FF</i> ₂	16.7	X	209.68683	110.87227	12.80963	15.19248	0.0730194	0.21418772	2.7665573	21	9 8.9	20.8
504818 2010 <i>GH</i> ₃₂	16.5	X	308.35099	254.60647	38.87267	26.03369	0.3209544	0.17539784	3.1607238	21	4 6.7	21.1
504819 2010 <i>GL</i> ₆₇	17.2	X	275.00115	288.55759	208.90858	28.03864	0.3655212	0.23510299	2.5999438	21	11 1.1	20.3
504820 2010 <i>GW</i> ₁₄₉	15.2	X	330.19903	216.41008	70.33319	28.71689	0.1510893	0.17095061	3.2153058	21	5 21.1	19.2
504821 2010 <i>HS</i> ₁₀₆	17.3	X	239.73195	297.95115	205.83155	3.10801	0.2459785	0.22566160	2.6719660	21	10 13.6	21.1
504822 2010 <i>JV</i> ₁	16.2	X	4.52380	177.42099	72.58533	18.65940	0.2072255	0.18212292	3.0824283	21	5 28.5	19.1
504823 2010 <i>JO</i> ₆₆	17.0	X	228.73418	301.13624	185.97293	6.38626	0.0465767	0.22390633	2.6859122	21	10 5.1	20.5
504824 2010 <i>JW</i> ₁₁₅	16.5	X	317.41564	123.51882	173.86909	16.56462	0.1233113	0.17894377	3.1188297	21	5 17.4	20.8
504825 2010 <i>JK</i> ₁₅₇	17.0	X	320.45517	123.58088	159.37353	10.75336	0.1790858	0.17673208	3.1447958	21	4 25.4	21.1
504826 2010 <i>KH</i> ₃₈	16.4	X	295.32456	226.65986	94.83905	13.46526	0.0873590	0.17937377	3.1138433	21	5 22.8	20.8
504827 2010 <i>KZ</i> ₁₁₇	19.1	X	78.64088	321.34340	314.17710	33.17091	0.5125948	0.28840486	2.2688250	21	12 5.9	24.2
504828 2010 <i>LL</i> ₆₂	16.0	X	246.48202	210.44213	170.47077	27.69172	0.1412213	0.17887541	3.1196242	21	6 1.8	21.3
504829 2010 <i>MR</i> ₁₄	15.5	X	260.39227	56.66529	298.00163	8.57686	0.0331986	0.15755426	3.3950743	21	5 25.3	20.5
504830 2010 <i>MU</i> ₂₄	17.2	X	1.59058	167.80714	188.75041	12.17695	0.2603741	0.27310278	2.3528016	21	11 26.1	19.3
504831 2010 <i>MV</i> ₇₅	17.9	X	44.54720	187.79923	195.74480	2.73526	0.1454093	0.28839482	2.2688777	21	—	—
504832 2010 <i>NE</i>	17.8	X	115.00031	349.10140	288.62834	3.27138	0.2431988	0.29571372	2.2312851	21	12 20.1	21.6
504833 2010 <i>NZ</i> ₁₅	17.5	X	94.41627	280.04853	41.16317	22.02630	0.2102831	0.29035459	2.2586568	21	—	—
504834 2010 <i>NE</i> ₈₈	15.8	X	301.10545	80.25597	238.39537	15.12649	0.1655883	0.18638522	3.0352541	21	5 11.2	19.9
504835 2010 <i>OT</i> ₂₅	18.0	X	41.30115	229.99370	112.33386	7.22268	0.2653642	0.27906565	2.3191658	21	—	—
504836 2010 <i>PO</i> ₁₄	16.0	X	358.50578	324.67062	268.75479	16.09403	0.1188634	0.17770160	3.1333469	21	4 20.8	20.1
504837 2010 <i>RC</i> ₄₇	18.2	X	45.73982	25.05781	343.04933	4.18256	0.1512671	0.28639114	2.2794479	21	—	—
504838 2010 <i>RA</i> ₆₅	18.2	X	61.35649	6.21649	341.01592	3.06995	0.2458901	0.28748505	2.2736618	21	—	—
504839 2010 <i>RO</i> ₆₈	17.9	X	84.96249	160.30204	173.73501	6.01172	0.2376120	0.29095029	2.2555728	21	—	—
504840 2010 <i>RB</i> ₁₂₈	18.0	X	343.94832	128.18983	262.75698	4.86644	0.1686617	0.27502531	2.3418241	21	11 26.2	19.8
504841 2010 <i>RM</i> ₁₂₉	18.0	X	40.50582	354.02507	28.89546	6.39671	0.2162539	0.28677240	2.2774271	21	—	—
504842 2010 <i>RE</i> ₁₃₇	16.9	X	29.97510	101.54218	261.24950	20.54541	0.2558483	0.27507523	2.3415408	21	—	—
504843 2010 <i>RT</i> ₁₆₄	18.2	X	63.74443	332.26953	17.53414	0.47982	0.2310556	0.28870244	2.2672657	21	—	—
504844 2010 <i>RL</i> ₁₆₇	17.6	X	10.28884	172.38801	169.35305	13.64296	0.2351351	0.27370710	2.3493371	21	11 18.1	20.0
504845 2010 <i>RO</i> ₁₇₆	19.0	X	354.05112	65.25823	352.82260	2.93986	0.2653298	0.27958588	2.3162880	21	—	—
504846 2010 <i>RS</i> ₁₈₁	17.8	X	15.41743	122.82607	284.36167	6.60746	0.0849899	0.28964437	2.2623475	21	—	—
504847 2010 <i>RE</i> ₁₈₈	6.3	X	351.76837	208.94665	189.15480	6.74510	0.1515117	0.00313205	46.2647490	21	10 21.5	22.3
504848 2010 <i>SG</i> ₃	18.9	X	46.39591	25.05755	318.88806	2.50726	0.3202448	0.28188245	2.3036899	21	—	—
504849 2010 <i>SA</i> ₄	18.1	X	16.22525	158.85037	261.84158	5.03385	0.1178168	0.29040894	2.2583750	21	—	—
504850 2010 <i>SC</i> ₁₀	18.1	X	152.24039	265.04681	348.30521	4.32816	0.1014074	0.28196557	2.3032372	21	12 21.9	21.5
504851 2010 <i>TU</i> ₁₀	18.0	X	348.60932	224.28862	210.30778	3.00716	0.0802236	0.28673713	2.2776138	21	—	—
504852 2010 <i>TB</i> ₁₃	18.6	X	26.63429	88.09113	328.41442	4.36776	0.1422992	0.29004548	2.2662613	21	—	—
504853 2010 <i>TB</i> ₂₀	18.6	X	74.62721	138.26710	184.73198	5.32742	0.1924431	0.28534104	2.2850369	21	—	—
504854 2010 <i>TO</i> ₄₆	18.3	X	336.95921	35.18595	21.08653	4.35214	0.1572760	0.27629637	2.3346365	21	12 20.3	20.4
504855 2010 <i>TP</i> ₁₀₀	18.1	X	13.34059	31.87268	36.96888	3.91891	0.1349972	0.28947678	2.2632206	21	—	—
504856 2010 <i>TZ</i> ₁₄₀	18.0	X	18.58761	142.34043	234.87975	7.59729	0.1305375	0.27829388	2.3234519	21	12 31.5	20.8
504857 2010 <i>TY</i> ₁₄₈	17.7	X	18.10275	342.09534	6.59210	5.87721	0.2898724	0.27500008	2.3419674	21	12 17.5	20.3
504858 2010 <i>TZ</i> ₁₆₇	18.4	X	57.65540	325.84526	13.62864	2.77361	0.2176171	0.28268972	2.2993021	21	—	—
504859 2010 <i>TH</i> ₁₇₆	17.8	X	55.64960	206.59157	133.34556	2.70869	0.2331041	0.28156975	2.3053952	21	—	—
504860 2010 <i>UT</i> ₁₂	17.7	X	70.98228	324.43045	23.13364	7.28764	0.1232949	0.28496018	2.2870725	21	—	—
504861 2010 <i>UT</i> ₁₄	18.3	X	28.60104	134.37899	244.44390	1.81876	0.2555272	0.27936706	2.3174974	21	—	—
504862 2010 <i>UG</i> ₃₃	17.8	X	58.53894	324.00756	0.84632	6.21197	0.2404892	0.27956244	2.3164175	21	12 28.2	21.3
504863 2010 <i>UU</i> ₅₃	18.5	X	351.99488	22.14206	11.26150	4.67973	0.1767015	0.27377369	2.3489562	21	12 17.1	20.6
504864 2010 <i>UR</i> ₅₆	18.0	X	358.11871	21.55983	31.26119	5.80617	0.2049249	0.27684174	2.3315693	21	—	—
504865 2010 <i>US</i> ₅₆	17.8	X	337.35375	192.68801	249.61177	7.08921	0.0724642	0.27783922	2.3259856	21	—	—
504866 2010 <i>UB</i> ₆₇	18.0	X	321.20696	281.65042	107.31915	2.58994	0.2025994	0.26550428	2.3974802	21	9 28.9	19.7
504867 2010 <i>UD</i> ₇₄	18.3	X	59.96824	41.90746	304.41442	4.55671	0.1798198	0.28101621	2.3084216	21	—	—
504868 2010 <i>UU</i> ₈₁	18.0	X	19.79053	333.43940	43.12488	6.15070	0.2496938	0.27825667	2.3236586	21	—	—
504869 2010 <i>VQ</i> ₂₅	17.9	X	14.80580	307.93423	53.52904	9.56905	0.3080544	0.27405707	2.3473367	21	—	—
504870 2010 <i>VD</i> ₂₇	18.5	X	31.77434	316.48838	65.42594	5.87128	0.2445414	0.27997362	2.3141490	21	—	—
504871 2010 <i>VA</i> ₃₈	18.1	X	52.49058	189.93452	157.12910	3.15456	0.2211386	0.28083378	2.3094212	21	—	—
504872 2010 <i>VY</i> ₃₈	18.3	X	356.24533	282.52742	140.88499	3.99191	0.1743072	0.27902525				

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504881 2010 VQ ₁₃₈	17.8	X	36.78694	121.01505	227.61144	5.33354	0.1391487	0.27397378	2.3478123	21	12 19.1	20.7
504882 2010 VQ ₁₆₀	18.3	X	35.96510	104.90878	258.98825	5.81010	0.1310588	0.27914276	2.3187386	21	—	—
504883 2010 VG ₁₇₀	18.6	X	29.67837	149.31108	241.65353	6.03670	0.1137505	0.27982040	2.3149937	21	—	—
504884 2010 VN ₁₇₀	18.3	X	319.74799	210.13040	246.75136	3.38551	0.1816336	0.27450477	2.3447837	21	—	—
504885 2010 VT ₁₉₃	18.0	X	4.74527	304.13091	106.27922	3.42834	0.1741097	0.27851781	2.3222060	21	—	—
504886 2010 VZ ₂₀₈	18.0	X	308.52922	139.87382	331.44434	3.12584	0.1199683	0.27800554	2.3250578	21	—	—
504887 2010 WL	19.8	X	15.74111	129.72523	266.26649	22.84867	0.5356079	0.28051908	2.3111481	21	—	—
504888 2010 WZ ₁₄	18.5	X	329.05565	241.54495	185.75752	2.02434	0.1790346	0.27161918	2.3613612	21	12 20.9	20.4
504889 2010 WR ₃₁	18.1	X	30.56511	143.17122	220.69170	0.52317	0.1981692	0.27539248	2.3397421	21	—	—
504890 2010 WM ₃₅	18.1	X	3.50987	314.31360	106.28732	1.65982	0.2006405	0.27888105	2.3201891	21	—	—
504891 2010 WG ₄₅	18.6	X	348.81685	37.10573	17.89350	3.72922	0.1897318	0.27439917	2.3453852	21	—	—
504892 2010 WE ₆₅	17.7	X	304.07243	199.16941	270.48789	5.60189	0.0932418	0.27322617	2.3520932	21	—	—
504893 2010 XH ₂₁	17.6	X	16.11921	11.02428	32.64742	8.05632	0.1192026	0.27785459	2.3258998	21	—	—
504894 2010 XK ₂₅	16.4	X	280.24252	238.40709	265.93820	23.96310	0.1157254	0.27490478	2.3425086	21	—	—
504895 2010 XK ₂₆	17.9	X	326.31655	225.11790	242.87142	5.47346	0.1384496	0.278402299	2.3228444	21	—	—
504896 2010 XV ₄₇	17.6	X	346.99085	337.62217	70.71908	7.70965	0.1420490	0.27495254	2.3422373	21	12 25.6	19.7
504897 2010 XB ₆₉	18.1	X	344.99047	276.07828	151.90481	3.92485	0.1691999	0.27453216	2.3446277	21	—	—
504898 2010 XP ₇₄	16.5	X	340.65639	3.95286	68.64686	10.86024	0.0866749	0.18294036	3.0732392	21	12 17.2	20.4
504899 2011 AX ₄	17.7	X	318.97047	340.51268	118.87740	5.75362	0.2426831	0.26982131	2.3718391	21	—	—
504900 2011 AX ₉	18.3	X	344.89258	297.25684	99.07353	3.45278	0.1672216	0.26300924	2.4126189	21	12 3.4	20.2
504901 2011 AJ ₁₁	17.5	X	302.75177	73.62386	73.84428	21.69235	0.3440431	0.27216526	2.3582015	21	—	—
504902 2011 AP ₁₁	18.3	X	303.49333	344.07387	124.64853	3.41447	0.1751161	0.26838640	2.3802855	21	12 26.7	20.1
504903 2011 AQ ₁₆	18.6	X	21.66565	322.40198	65.67328	2.45334	0.1913524	0.27878088	2.3207448	21	—	—
504904 2011 AV ₃₂	18.1	X	358.09894	86.67669	322.10299	3.81371	0.2188912	0.27016347	2.3698360	21	—	—
504905 2011 AF ₃₃	15.8	X	112.87056	83.40555	35.25665	3.16226	0.1858845	0.12426519	3.9771294	21	5 26.2	21.7
504906 2011 AL ₄₂	17.8	X	236.17233	94.00301	41.05586	2.64868	0.1301806	0.25369373	2.4713233	21	10 17.1	21.0
504907 2011 AD ₅₃	17.6	X	265.99455	61.87680	95.40844	5.99029	0.1660982	0.26304525	2.4123986	21	12 24.2	19.9
504908 2011 AZ ₅₅	18.6	X	300.73906	132.30341	343.63198	3.81821	0.1362989	0.26738845	2.3862043	21	—	—
504909 2011 AS ₅₈	17.9	X	329.70564	323.98292	118.23179	7.86984	0.1081944	0.26705071	2.3882157	21	—	—
504910 2011 AE ₆₂	18.1	X	284.25250	1.27454	117.18643	5.24688	0.2105469	0.26119884	2.4237541	21	11 24.9	20.3
504911 2011 AM ₇₀	18.5	X	324.95270	15.65342	78.93582	2.91242	0.1370842	0.26915519	2.3757508	21	—	—
504912 2011 BR ₄	18.0	X	268.33830	327.41796	155.42152	1.65391	0.1341179	0.25972895	2.4328900	21	11 14.4	20.6
504913 2011 BU ₁₁	17.2	X	290.82161	132.88818	339.42068	5.45517	0.1672270	0.26216869	2.4177729	21	12 2.6	19.4
504914 2011 BH ₂₂	17.0	X	113.92605	251.72618	313.25181	11.64579	0.1464737	0.23199168	2.6231378	21	9 4.5	21.0
504915 2011 BO ₂₃	18.2	X	242.36105	223.55424	278.16741	1.87262	0.1247155	0.25445333	2.4664025	21	11 2.5	21.2
504916 2011 BH ₂₉	18.4	X	308.31118	66.42367	17.86965	3.56918	0.1595080	0.26219246	2.4176267	21	11 27.1	20.5
504917 2011 BK ₃₄	17.8	X	200.12205	186.22368	3.91863	5.16679	0.0794718	0.25203846	2.4821318	21	11 19.1	21.4
504918 2011 BL ₃₆	18.5	X	315.24791	218.36023	245.92024	1.19547	0.1468678	0.26625189	2.3929902	21	—	—
504919 2011 BW ₅₂	17.8	X	324.67947	98.47120	331.42612	7.07727	0.0931607	0.26070034	2.4268428	21	12 7.9	20.5
504920 2011 BF ₇₄	17.3	X	27.04632	23.01782	309.09261	9.17904	0.1104975	0.24394834	2.5367099	21	10 28.9	20.5
504921 2011 BO ₇₅	16.8	X	27.38252	336.33935	305.41600	9.91358	0.1977206	0.22569237	2.6717232	21	8 30.4	19.7
504922 2011 BN ₁₀₀	17.1	X	215.92806	261.06141	277.33246	5.37011	0.0715527	0.25312284	2.4750377	21	11 24.8	20.4
504923 2011 BA ₁₀₁	17.4	X	173.33896	192.00752	319.80177	6.76189	0.1362099	0.23540314	2.5977332	21	8 29.2	21.5
504924 2011 BN ₁₀₇	17.1	X	355.87930	124.85105	254.40751	4.13324	0.0876608	0.25264069	2.4781857	21	11 16.9	19.8
504925 2011 BU ₁₂₃	17.0	X	327.01610	181.72599	123.35511	9.20315	0.0223425	0.22419400	2.6836141	21	6 18.7	20.5
504926 2011 BT ₁₃₃	18.6	X	314.31712	123.66156	336.70463	1.92237	0.1367595	0.26759425	2.3849807	21	—	—
504927 2011 BE ₁₅₄	18.4	X	340.59147	80.19865	323.47694	1.22206	0.1829986	0.26203001	2.4186259	21	12 6.3	20.3
504928 2011 CO ₂	18.4	X	10.88232	352.90141	104.08220	32.44047	0.4522790	0.28859886	2.2678081	21	—	—
504929 2011 CB ₅	18.2	X	121.30684	303.61752	151.91304	23.02481	0.0543250	0.39508336	1.8394030	21	3 27.7	20.1
504930 2011 CC ₁₈	18.1	X	255.34761	59.34166	81.56593	2.27722	0.1349728	0.25705103	2.4497578	21	11 18.9	21.1
504931 2011 CB ₃₀	17.7	X	283.75212	131.42160	352.73294	2.78524	0.1909179	0.26269777	2.4145255	21	12 3.9	19.8
504932 2011 CK ₃₅	17.8	X	282.42370	232.61300	262.07023	4.05970	0.1450691	0.26255194	2.4154195	21	12 23.6	19.9
504933 2011 CW ₃₅	16.9	X	87.98653	285.02310	329.93149	7.34934	0.0697216	0.24233546	2.5479530	21	10 2.9	20.6
504934 2011 CQ ₄₅	18.1	X	327.15463	325.91097	99.12957	6.05901	0.2262133	0.26153276	2.4216906	21	12 11.8	19.8
504935 2011 CF ₅₄	18.6	X	338.42046	73.16977	355.98973	1.03281	0.1516552	0.26346005	2.4098659	21	—	—
504936 2011 CT ₅₇	16.7	X	7.62264	326.35954	323.90687	15.44206	0.2567922	0.22466194	2.6798864	21	8 11.3	18.7
504937 2011 CU ₇₄	17.8	X	321.69643	147.37589	351.92196	4.92053	0.1686346	0.27279072	2.3545956	21	—	—
504938 2011 CC ₇₈	16.3	X	150.61556	303.70061	165.82524	25.04346	0.1486345	0.21682713	2.7440602	21	6 17.3	21.2
504939 2011 CH ₇₉	18.3	X	9.18124	96.83256	287.17821	1.65918	0.2635499	0.26202331	2.4186671	21	—	—
504940 2011 CU ₈₃	17.5	X	134.19954	278.67033	289.11140	4.47038	0.1419632	0.23691523	2.5866682	21	9 29.8	21.7
504941 2011 CG ₈₇	18.7	X	131.66677	119.10662	312.80946	20.70055	0.0562242	0.39595099	1.8367150	21	2 21.0	20.4
504942 2011 DK ₃	17.0	X	308.21055	193.66060	331.23914	13.23300	0.0365856	0.27437494	2.3455233	21	—	—
504943 2011 DP ₃	18.9	X	97.39623	126.90166	348.07246	19.76399	0.0591184	0.39452305	1.8411442	21	3 12.5	20.1
504944 2011 DV ₁₁	17.2	X	205.83704	328.96379	168.22353	15.49212	0.0726543	0.23696011	2.5863416	21	9 19.3	20.8
504945 2011 DM ₂₂	18.7	X	83.13271	88.97116	353.64856	20.34411	0.1103038	0.38293342	1.8781079	21	1 1.1	20.5
504946 2011 DV ₃₀	17.9	X	318.81344	72.37916	32.85524	1.81461	0.1415307	0.26660791	2.3908594	21	—	—
504947 2011 DL ₃₈	17.6	X	57.61303	57.94409	189.42016	2.65238	0.0951460	0.22546038	2.6735556	21	8 17.7	20.9
504948 2011 EO ₃₃	16.4	X	148.64138	337.24362	164.75750	25.68535	0.0625976	0.22476981	2.6790289	21	7 18.9	20.7
504949 2011 EK ₆₂	16.0	X	48.92576	335.73034	105.06276	10.60806	0.0917066	0.18302738	3.0722650	21	—	—
504950 2011 ED ₆₆	16.8	X	30.09629	343.33112	352.85034	13.78508	0.0731529	0.24171440	2.5523156	21	10 31.5	20.3
504951 2011 EC ₈₄	17.7	X	307.15128	353.56657	76.96784	2.41977	0.1663742	0.25459838	2.4654657	21	11 2.6	19.7
504952 2011 FA ₅	16.9	X	112.66380	221.01516	27.13919	14.17257	0.1236950	0.23643706	2.5901546	21	10 28.7	20.8
504953 2011 FO ₁₅	17.1	X	142.04439	298.17391	13.83479	6.86883	0.1264450	0.26003847	2.4309590	21	—	—
504954 2011 FV ₄₁	16.8	X	125.67152	116.42537	102.12910	10.30125	0.0706799	0.23378262	2.6097239	21	10 8.2	20.7

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
504961 2011 FQ ₁₀₃	17.4	X	109.26327	78.77064	159.67494	13.48559	0.2209335	0.23220360	2.6215416	21	10 24.9	21.9
504962 2011 FJ ₁₁₁	17.1	X	332.33228	31.59607	352.62179	15.38768	0.1381950	0.23840104	2.5759096	21	10 7.1	19.8
504963 2011 FG ₁₂₅	16.6	X	353.62047	28.32622	341.32266	10.82071	0.0951637	0.23822446	2.5771823	21	10 23.5	19.7
504964 2011 FQ ₁₃₈	17.4	X	26.23677	153.84732	194.03074	4.05515	0.1130263	0.24556085	2.5255926	21	11 23.9	20.3
504965 2011 FW ₁₄₃	17.5	X	292.93552	197.37962	252.26129	3.78633	0.2368806	0.25087040	2.4898304	21	10 19.9	19.9
504966 2011 FS ₁₅₂	18.4	X	174.03958	300.19931	34.00381	20.77882	0.0869586	0.36774171	1.9294822	21	—	—
504967 2011 FS ₁₅₆	17.3	X	22.31129	58.82784	55.04861	6.76850	0.1033978	0.27271714	2.3294640	21	—	—
504968 2011 GY ₃	18.8	X	141.25759	253.43301	190.97799	20.59502	0.0981538	0.39446940	1.8413111	21	4 14.8	20.5
504969 2011 GD ₁₇	17.4	X	167.97968	270.53731	277.66474	2.40859	0.1230489	0.23578957	2.5948942	21	10 8.9	21.5
504970 2011 GB ₃₁	17.2	X	191.49423	148.40128	23.55857	8.32736	0.0727564	0.23614838	2.5922650	21	10 16.9	20.8
504971 2011 GP ₃₂	17.0	X	122.14320	353.38060	199.28802	13.61715	0.1277102	0.22014888	2.7163875	21	8 26.3	21.3
504972 2011 GG ₃₆	17.3	X	76.64234	63.61630	196.01930	12.23165	0.1082972	0.22759476	2.6568143	21	10 1.1	21.0
504973 2011 GA ₄₆	16.5	X	6.19094	336.36563	30.59304	15.44151	0.1250713	0.24170382	2.5523900	21	11 15.5	19.4
504974 2011 GQ ₆₃	16.4	X	43.42943	194.78288	52.08349	21.82804	0.2386691	0.21160456	2.8902629	21	8 31.9	20.3
504975 2011 GF ₆₈	17.7	X	184.99803	270.37998	102.71445	23.96001	0.1341265	0.38346191	1.78763819	21	3 8.9	20.6
504976 2011 GA ₆₉	18.1	X	177.87229	157.51174	172.35601	22.10262	0.0862939	0.36529802	1.9380777	21	—	—
504977 2011 GF ₇₇	16.7	X	229.47742	116.84238	29.22656	16.24457	0.0933174	0.23900163	2.5715924	21	10 25.4	20.1
504978 2011 GN ₈₀	16.7	X	312.27239	5.95734	37.22628	10.66443	0.0369491	0.23163699	2.6258149	21	10 11.8	20.1
504979 2011 HM	18.3	X	1.74885	142.88059	47.78437	22.82142	0.0233371	0.38146278	1.8829318	21	2 13.5	20.8
504980 2011 HO ₉	16.8	X	132.32849	131.21933	66.06977	10.36437	0.0266358	0.22510685	2.6763541	21	9 16.0	20.7
504981 2011 HD ₁₃	16.7	X	65.67840	169.10935	50.72643	10.60418	0.1782563	0.21237911	2.7822417	21	8 9.4	20.5
504982 2011 HN ₁₈	17.4	X	275.80358	2.58686	77.61020	9.84550	0.0513006	0.23314874	2.6144520	21	10 10.9	20.9
504983 2011 HS ₂₈	18.0	X	295.60061	213.42744	51.59634	21.59916	0.0387982	0.38150059	1.8828074	21	2 25.3	20.6
504984 2011 HC ₃₂	16.8	X	122.70333	154.44738	86.54575	13.62967	0.1275553	0.22952465	2.6419007	21	11 4.7	21.1
504985 2011 HT ₃₃	17.3	X	50.69099	111.24349	143.92452	8.21921	0.1847014	0.21290899	2.7762325	21	9 2.4	20.8
504986 2011 HE ₃₉	16.4	X	52.77582	126.49458	135.54129	9.02165	0.1436875	0.21393300	2.7687529	21	9 9.4	19.9
504987 2011 HZ ₅₀	17.5	X	210.59232	73.97867	91.75802	12.79449	0.1910874	0.23913720	2.5706205	21	10 25.5	21.7
504988 2011 HD ₅₉	17.0	X	103.64273	37.84862	191.27754	12.52760	0.1372717	0.22216695	2.6999129	21	9 25.9	21.0
504989 2011 HT ₅₉	16.6	X	148.73970	128.49791	77.67941	13.88014	0.1131517	0.22906666	2.6454209	21	10 19.5	20.9
504990 2011 HV ₅₉	16.8	X	125.19234	118.75409	77.38493	14.77678	0.1495917	0.22079021	2.7111228	21	9 16.2	21.4
504991 2011 HY ₆₂	16.7	X	7.77754	229.56043	77.76965	16.26798	0.2559443	0.21183596	2.7869955	21	9 17.2	19.6
504992 2011 HC ₇₈	17.6	X	198.73613	306.39692	203.66441	7.23003	0.1208709	0.23388847	2.6089365	21	9 21.8	21.7
504993 2011 HT ₁₀₀	16.4	X	339.42798	160.31041	181.81478	25.79760	0.2057346	0.21064354	2.7975034	21	8 13.6	19.6
504994 2011 JU ₂	18.4	X	130.92293	301.29040	47.22810	56.09345	0.4606761	0.34479819	2.0141543	21	—	—
504995 2011 JS ₁₄	16.6	X	78.33075	164.89520	91.51164	14.30708	0.0486204	0.22242465	2.6978271	21	9 28.7	20.6
504996 2011 JE ₂₂	17.0	X	16.19864	220.56264	75.31933	15.37281	0.1146673	0.21378456	2.7700344	21	8 30.2	20.6
504997 2011 JQ ₃₁	16.5	X	81.77386	121.07226	131.16899	13.66980	0.2351382	0.22545111	2.6736289	21	10 19.4	20.8
504998 2011 KU ₂	17.2	X	78.09231	153.16881	90.01622	9.41887	0.2202267	0.21626858	2.7487828	21	10 1.3	21.4
504999 2011 KS ₉	16.3	X	251.52572	8.78344	83.02423	12.31143	0.0356250	0.22363906	2.6880516	21	9 26.7	20.2
505000 2011 KO ₁₀	16.4	X	322.71001	255.51122	96.89417	8.13006	0.1291259	0.21187421	2.7866600	21	8 7.4	19.6
505001 2011 KU ₁₅	16.7	X	330.15188	326.45360	258.81630	24.68081	0.5039895	0.18668328	3.0320226	21	—	—
505002 2011 KR ₃₇	17.2	X	39.93843	160.16860	107.57365	5.51172	0.0274629	0.21259917	2.7803214	21	8 11.6	20.9
505003 2011 LP ₂₄	16.7	X	92.61455	124.87137	122.79713	6.30896	0.1053246	0.22077687	2.7112340	21	10 7.3	20.6
505004 2011 LF ₂₈	17.0	X	313.02159	32.17263	284.92360	5.37714	0.2199755	0.19653754	2.9298071	21	5 16.4	20.6
505005 2011 MA ₉	16.3	X	270.13223	61.61901	278.83223	14.80325	0.1278014	0.18170345	3.0871704	21	4 20.5	21.4
505006 2011 MH ₉	16.4	X	332.78269	358.14384	273.79267	10.77534	0.1036698	0.18551265	3.0447645	21	5 3.2	20.5
505007 2011 NK ₃	16.0	X	236.29075	70.26249	294.98325	18.34708	0.2177636	0.17184644	3.2041218	21	4 17.4	21.7
505008 2011 OY ₁₂	16.6	X	324.37630	167.58684	134.64854	19.02937	0.2287028	0.18845987	3.0129375	21	5 21.9	20.5
505009 2011 OD ₁₃	16.2	X	284.90580	48.16310	286.62088	7.78866	0.1519141	0.18333586	3.0688178	21	5 11.7	20.7
505010 2011 OH ₁₅	18.4	X	270.94215	256.97061	318.76807	16.74281	0.0734209	0.34992317	1.9944397	21	—	—
505011 2011 OW ₃₉	16.3	X	264.73016	20.70808	313.31275	29.04440	0.2173009	0.17380677	3.1799839	21	3 26.3	22.0
505012 2011 PR ₃	16.9	X	353.34511	9.93090	285.99902	11.00040	0.0100607	0.18809538	3.1068286	21	7 12.9	21.1
505013 2011 PU ₅	16.4	X	310.48241	23.34820	293.06180	8.39716	0.1334625	0.18669188	3.0319294	21	5 25.9	20.5
505014 2011 PP ₁₂	16.3	X	277.21208	258.98617	75.68198	7.07323	0.1814747	0.18015497	3.1048351	21	5 2.5	20.9
505015 2011 QF ₁	16.6	X	280.41149	124.02182	163.16087	26.09571	0.3413155	0.17073208	3.2180488	21	2 19.4	22.0
505016 2011 QJ ₂	16.4	X	239.17963	64.47793	336.78477	17.45376	0.1078078	0.17915357	3.1163944	21	6 20.5	21.4
505017 2011 QU ₂	16.6	X	341.17472	338.80250	292.11869	11.98745	0.2577489	0.18905062	3.0066576	21	4 23.5	20.1
505018 2011 QR ₁₆	16.5	X	325.26688	333.74685	314.10037	6.99901	0.2329551	0.18211327	3.0825372	21	4 23.8	20.4
505019 2011 QH ₂₁	18.7	X	47.19966	269.38167	241.29577	22.84120	0.2335450	0.65916535	1.3075946	21	—	—
505020 2011 QR ₂₂	16.0	X	296.75452	68.27591	275.85360	7.90812	0.0829860	0.18456289	3.0552010	21	6 20.7	20.1
505021 2011 QW ₂₄	16.3	X	328.77100	326.47938	339.84547	14.87918	0.1577344	0.18339173	3.0681944	21	6 6.8	20.3
505022 2011 QQ ₃₂	16.2	X	313.09435	143.81000	155.32986	16.52507	0.2509549	0.17937476	3.1138319	21	4 25.4	20.5
505023 2011 QP ₃₄	16.1	X	318.05712	309.11179	336.70883	14.80470	0.2355223	0.18045372	3.1014074	21	4 6.0	20.2
505024 2011 QY ₄₀	16.2	X	275.96650	90.76988	260.25124	15.22581	0.2710191	0.17772254	3.1331008	21	5 6.6	21.1
505025 2011 QN ₆₀	15.8	X	29.97386	320.29651	307.01313	8.83592	0.0735848	0.18664920	3.0323916	21	7 30.5	19.7
505026 2011 QJ ₆₁	16.4	X	307.69194	32.73900	299.29860	8.14915	0.0765589	0.18107792	3.0942760	21	6 21.4	20.6
505027 2011 QR ₆₁	16.2	X	252.92551	76.84551	323.02577	9.55453	0.0596427	0.18227354	3.0807300	21	7 10.9	20.7
505028 2011 QE ₆₃	16.1	X	30.03608	335.97882	282.25360	9.18801	0.0459876	0.18808314	3.0169595	21	7 15.3	19.9
505029 2011 QK ₆₃	16.1	X	247.57429	35.92764	343.06691	25.48057	0.1002784	0.17603676	3.1530714	21	5 26.1	21.3
505030 2011 QP ₆₄	16.6	X	226.19047	243.60685	175.50127	11.97169	0.1712082	0.17753040	3.1353611	21	6 22.9	21.9
505031 2011 QE ₆₉	16.8	X	291.75113	200.39187	134.67802	1.89155	0.1953387	0.18084190	3.0969677	21	5 16.9	21.0
505032 2011 QH ₇₆	16.7	X	272.16857	208.93695	134.92619	2.32738	0.1536117	0.17481465	3.1677495	21	5 11.0	21.3
505033 2011 QA ₇₇	16.8	X	268.93420	83.47136	271.68209	3.53370	0.2014453	0.17634049	3.1494497			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505041 2011 <i>RN</i> ₅	17.0	X	231.62408	177.61091	203.99694	8.59609	0.0970581	0.17513273	3.1639128	21	5 20.0	21.8
505042 2011 <i>RJ</i> ₇	16.7	X	118.97603	165.75700	338.87978	9.42378	0.0571251	0.17570242	3.1570700	21	6 17.5	21.4
505043 2011 <i>RE</i> ₁₁	16.5	X	275.76302	165.58977	203.84045	17.88027	0.1905572	0.17842677	3.1248514	21	6 10.1	21.3
505044 2011 <i>RU</i> ₁₁	16.9	X	292.55597	133.04568	186.53884	27.87723	0.2574130	0.17493375	3.1663116	21	4 21.4	21.6
505045 2011 <i>RY</i> ₁₅	16.5	X	279.95712	124.27621	216.77944	9.29242	0.0316887	0.17883896	3.1200481	21	6 2.6	20.9
505046 2011 <i>RD</i> ₁₆	17.0	X	283.97629	83.73883	286.87997	8.27968	0.0501109	0.18688571	3.0298327	21	7 12.8	21.2
505047 2011 <i>SG</i> ₁	16.6	X	304.82062	120.33218	190.38862	8.34623	0.0612770	0.17553921	3.1590267	21	5 23.9	21.0
505048 2011 <i>SU</i> ₆	16.8	X	209.50610	73.30285	341.07688	8.65315	0.0827748	0.17410433	3.1763597	21	6 4.8	21.8
505049 2011 <i>SV</i> ₇	16.3	X	256.63467	170.20370	190.76692	9.95286	0.1038926	0.17459770	3.1703731	21	5 21.6	21.1
505050 2011 <i>SO</i> ₃₄	16.7	X	281.72832	182.82333	167.55019	5.80094	0.1961797	0.17508656	3.1644689	21	5 24.9	21.4
505051 2011 <i>SV</i> ₃₄	15.8	X	339.20236	281.70622	17.09365	26.76561	0.0619695	0.17598450	3.1536955	21	6 23.2	20.5
505052 2011 <i>SN</i> ₃₈	16.0	X	273.75807	154.86704	194.07091	10.09831	0.1295475	0.17504606	3.1649571	21	5 22.9	20.7
505053 2011 <i>SO</i> ₄₁	16.7	X	231.47193	54.18200	334.18392	8.65728	0.0969517	0.17329652	3.1862229	21	5 25.3	21.7
505054 2011 <i>SV</i> ₄₄	15.9	X	173.13056	274.59623	224.36050	7.94535	0.0295308	0.18998491	2.9967923	21	8 8.9	20.4
505055 2011 <i>SX</i> ₄₅	18.3	X	268.36322	61.70464	182.98001	22.35498	0.0110143	0.34644982	2.0077478	21	—	—
505056 2011 <i>SS</i> ₆₀	17.3	X	316.89036	97.51296	185.58698	7.60879	0.2719188	0.17789463	3.1310800	21	4 2.7	21.3
505057 2011 <i>SG</i> ₆₃	16.6	X	161.83152	288.26417	198.49462	9.88194	0.06188035	0.18096146	3.0956034	21	7 15.5	21.7
505058 2011 <i>SD</i> ₉₅	16.6	X	267.23321	6.70066	3.41877	10.71233	0.1129143	0.17747315	3.1360353	21	6 10.4	21.3
505059 2011 <i>SN</i> ₉₈	16.6	X	237.97610	241.24830	182.78933	9.74253	0.1522465	0.17880107	3.1204889	21	7 10.9	21.6
505060 2011 <i>SN</i> ₁₀₇	16.3	X	229.10392	92.43330	327.89600	14.64472	0.2358045	0.17635041	3.1493317	21	6 23.9	21.8
505061 2011 <i>SG</i> ₁₂₁	16.3	X	248.39122	26.16977	13.76669	10.36614	0.0940748	0.17607162	3.1526552	21	6 30.5	21.1
505062 2011 <i>SS</i> ₁₃₃	16.5	X	205.90779	238.35661	201.06816	15.52615	0.1294260	0.17004277	3.2267397	21	6 29.4	21.9
505063 2011 <i>SQ</i> ₁₅₇	16.6	X	229.25333	236.47743	173.64401	7.88584	0.2251669	0.1762968	3.1944229	21	6 11.8	22.0
505064 2011 <i>SS</i> ₁₆₃	16.3	X	230.97988	154.36401	251.93056	7.20615	0.0637102	0.17176431	3.2051431	21	6 20.9	21.0
505065 2011 <i>SS</i> ₁₆₃	16.5	X	326.72915	331.29907	341.60664	8.37244	0.0521686	0.17459436	3.1704135	21	6 26.8	20.8
505066 2011 <i>SS</i> ₁₇₃	15.8	X	255.98444	2.88064	13.54978	28.10083	0.1769740	0.17338909	3.1850888	21	5 19.5	21.2
505067 2011 <i>SM</i> ₁₇₅	16.7	X	278.81030	339.00009	22.36996	9.86883	0.0941856	0.17672973	3.1448237	21	6 16.7	21.2
505068 2011 <i>SQ</i> ₁₇₆	15.8	X	276.18695	82.52790	329.82090	25.31167	0.2317711	0.18523692	3.0747851	21	8 4.8	20.2
505069 2011 <i>SE</i> ₁₈₅	16.6	X	205.89220	35.18856	51.26943	13.08356	0.1196117	0.17104653	3.2141036	21	7 11.1	21.8
505070 2011 <i>SA</i> ₁₉₈	16.4	X	266.23845	216.69655	166.68265	9.93944	0.0810200	0.18158757	3.0884836	21	7 1.4	21.0
505071 2011 <i>SO</i> ₂₁₀	16.0	X	276.26747	341.08306	343.88335	11.89290	0.1580132	0.17413010	3.1760463	21	4 16.2	20.8
505072 2011 <i>SV</i> ₂₂₅	16.4	X	273.21886	126.70333	229.30296	10.26547	0.1655728	0.17326902	3.1856600	21	5 25.4	21.0
505073 2011 <i>SV</i> ₂₃₄	16.1	X	224.42940	22.80578	36.29108	9.89513	0.0899412	0.17478124	3.1681531	21	6 27.4	21.0
505074 2011 <i>SS</i> ₂₅₄	16.3	X	344.05418	296.52602	344.85300	15.41574	0.0873278	0.18072820	3.0982664	21	6 4.8	20.6
505075 2011 <i>SV</i> ₂₇₁	16.4	X	287.92470	109.93879	220.71346	9.25394	0.1390863	0.17659077	3.1464732	21	5 14.8	20.9
505076 2011 <i>TX</i> ₂	16.1	X	261.47990	54.54903	342.15501	12.72541	0.3117474	0.17570249	3.1570692	21	6 14.7	21.5
505077 2011 <i>TJ</i> ₁₅	16.4	X	190.67130	99.63812	9.84642	8.24943	0.0961076	0.17810118	3.1286586	21	7 26.7	21.3
505078 2011 <i>UY</i> ₃₉	16.1	X	106.72554	62.25614	112.08469	12.83167	0.0146278	0.17200904	3.2021023	21	7 4.7	20.7
505079 2011 <i>UY</i> ₄₅	16.0	X	328.42910	232.07989	56.95581	24.76244	0.2662245	0.17491595	3.1665263	21	5 4.7	19.8
505080 2011 <i>UY</i> ₉₀	16.8	X	268.21586	175.47523	191.87252	12.28572	0.1505522	0.17765725	3.1338684	21	6 5.2	21.6
505081 2011 <i>UY</i> ₁₃₀	17.5	X	168.67424	138.11174	250.64255	18.93477	0.0823686	0.35382020	1.9797680	21	2 17.8	20.4
505082 2011 <i>UD</i> ₁₅₈	16.8	X	230.15175	240.71035	182.83727	20.19724	0.1985765	0.17200238	3.2021850	21	6 29.0	22.4
505083 2011 <i>UF</i> ₁₆₇	16.3	X	255.09910	101.32338	289.69803	8.04994	0.0968905	0.17715213	3.1398228	21	6 26.2	20.8
505084 2011 <i>UY</i> ₁₆₈	17.1	X	313.45116	113.55735	195.29215	12.03200	0.0741730	0.17658512	3.1465404	21	5 31.4	21.5
505085 2011 <i>UK</i> ₁₆₉	17.4	X	101.54205	47.49681	45.48184	21.82311	0.0915852	0.34845766	2.0000278	21	3 16.9	19.9
505086 2011 <i>UM</i> ₂₄₈	18.6	X	54.69574	167.94016	220.84514	2.63334	0.0648918	0.31528806	1.2379508	21	—	—
505087 2011 <i>UA</i> ₃₂₃	16.1	X	272.52266	320.77354	39.16560	16.54763	0.2114945	0.17608720	3.1524692	21	5 20.4	20.9
505088 2011 <i>UK</i> ₃₂₆	16.1	X	231.44078	353.76123	52.49684	19.84789	0.1347804	0.17201687	3.2020051	21	6 12.5	21.3
505089 2011 <i>UH</i> ₃₄₁	16.3	X	176.43951	1.47052	46.14601	4.73133	0.1153341	0.15264393	3.4674992	21	4 26.9	21.6
505090 2011 <i>UC</i> ₃₉₇	15.8	X	254.95989	342.30188	41.96583	15.64993	0.1164110	0.17376646	3.1804757	21	6 12.7	20.7
505091 2011 <i>UT</i> ₃₉₇	16.2	X	218.60786	351.52952	71.76619	9.73547	0.1194836	0.17179487	3.2047630	21	6 24.1	21.3
505092 2011 <i>UO</i> ₄₀₇	15.6	X	304.08889	33.08339	271.28504	12.98775	0.1781071	0.17522236	3.1628337	21	4 22.2	20.1
505093 2011 <i>VQ</i> ₅	20.1	X	55.64805	89.61411	30.29271	7.19507	0.4375144	0.33311877	2.0609620	21	2 25.2	18.8
505094 2011 <i>WB</i> ₁₅	16.1	X	260.44710	31.73508	25.38267	17.70284	0.2270228	0.17584893	3.1553163	21	7 23.5	21.2
505095 2011 <i>WH</i> ₃₃	15.7	X	328.81723	278.38215	75.54781	10.86470	0.1308625	0.18208182	3.0828921	21	8 21.1	19.5
505096 2011 <i>WV</i> ₃₉	15.8	X	318.40115	237.32251	65.44288	27.21558	0.1751238	0.17171102	3.2058063	21	5 18.7	19.8
505097 2011 <i>WU</i> ₄₈	16.0	X	240.14273	26.47659	79.29741	18.13590	0.1656686	0.17909963	3.1170200	21	9 11.8	21.1
505098 2011 <i>YB</i> ₇₇	18.2	X	351.65799	72.42503	37.12591	5.47980	0.0626133	0.30724973	1.2750790	21	—	—
505099 2012 <i>BN</i> ₁₀	15.7	X	61.81365	358.04680	159.06911	10.71527	0.1536821	0.12405498	3.9816209	21	5 11.4	21.1
505100 2012 <i>BY</i> ₆₃	15.9	X	41.66693	260.82226	256.23272	1.82048	0.0880610	0.12545798	3.9518810	21	4 1.5	21.1
505101 2012 <i>BJ</i> ₁₀₅	15.4	X	134.55283	291.10702	316.19654	12.39419	0.1322227	0.17356894	3.1828882	21	11 7.6	20.7
505102 2012 <i>BY</i> ₁₃₈	18.2	X	301.22672	3.14179	146.35486	4.32222	0.0817427	0.29977161	2.2111034	21	—	—
505103 2012 <i>CD</i> ₁₂	18.4	X	9.01336	321.96283	123.06933	3.51161	0.0933588	0.30249736	2.1978008	21	—	—
505104 2012 <i>CP</i> ₁₂	18.5	X	240.41056	187.64910	352.47562	3.41702	0.1100561	0.28809547	2.2704490	21	—	—
505105 2012 <i>CW</i> ₁₅	18.6	X	35.41452	101.76865	322.16389	8.27628	0.1031199	0.30581425	2.1818802	21	—	—
505106 2012 <i>CE</i> ₄₄	18.1	X	285.22656	13.89100	121.23028	5.26613	0.1280269	0.28911880	2.2650884	21	—	—
505107 2012 <i>CR</i> ₅₀	17.7	X	232.14755	297.84012	276.50008	2.98635	0.1159731	0.29327534	2.2436358	21	—	—
505108 2012 <i>DV</i> ₁₀	17.9	X	129.56916	164.87918	118.41114	5.22343	0.1153779	0.28105361	2.3082168	21	—	—
505109 2012 <i>DV</i> ₁₂	17.8	X	234.85967	186.59612	346.15083	4.07601	0.1395631	0.27928672	2.3179418	21	12 6.5	20.6
505110 2012 <i>DU</i> ₃₃	18.0	X	221.84035	73.61184	112.45932	2.85528	0.1401203	0.27962799	2.3160555	21	12 8.5	21.0
505111 2012 <i>DR</i> ₃₈	17.9	X	201.84260	61.20225	140.38842	5.87431	0.1593694	0.27796435	2.3252875</			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505121 2012 <i>EH</i> ₂	17.7	X	94.85707	49.25229	222.89473	1.68111	0.1950061	0.26298180	2.4127866	21	11 20.2	21.5
505122 2012 <i>EY</i> ₁₀	18.1	X	281.27628	351.38138	153.18907	1.95594	0.0942212	0.28702280	2.2761023	21	—	—
505123 2012 <i>FY</i> ₂₆	18.0	X	320.43754	86.70713	17.98884	8.70874	0.0778024	0.28569630	2.2831422	21	—	—
505124 2012 <i>FZ</i> ₃₁	17.7	X	307.51465	4.27637	94.60284	4.22753	0.1571639	0.28179752	2.3041528	21	12 25.9	19.3
505125 2012 <i>FU</i> ₄₉	18.2	X	18.37638	251.73093	177.50814	5.10614	0.2012349	0.29707122	2.2244825	21	—	—
505126 2012 <i>FH</i> ₅₇	17.4	X	200.51494	210.14865	11.55362	23.65551	0.1739216	0.27812723	2.3243796	21	12 25.2	21.3
505127 2012 <i>FO</i> ₆₇	17.5	X	221.15368	76.26078	105.22603	7.21416	0.0329163	0.26950897	2.3736712	21	12 15.3	20.4
505128 2012 <i>FU</i> ₇₃	18.2	X	241.03426	343.81943	198.03517	4.43606	0.1280317	0.28272485	2.2991117	21	12 30.5	20.9
505129 2012 <i>HB</i> ₁₆	17.9	X	311.54066	3.76385	128.34141	7.38481	0.1895453	0.28869200	2.2673204	21	—	—
505130 2012 <i>HU</i> ₁₉	16.6	X	134.20109	50.08397	220.36756	21.14857	0.1008508	0.26639453	2.3921359	21	12 19.8	20.5
505131 2012 <i>HZ</i> ₁₉	18.0	X	214.58983	136.07400	37.71692	10.58450	0.1917522	0.26869721	2.3784996	21	11 5.3	21.4
505132 2012 <i>HC</i> ₂₈	16.8	X	180.02795	26.71976	212.66302	23.88200	0.1748569	0.27190547	2.3597034	21	12 22.9	20.9
505133 2012 <i>HA</i> ₄₇	17.5	X	274.13414	267.05562	224.22943	10.51212	0.1324583	0.27357141	2.3501139	21	12 9.0	20.0
505134 2012 <i>HH</i> ₄₈	17.0	X	153.32878	139.66987	84.83106	15.29543	0.0425182	0.25923150	2.4360014	21	11 17.7	20.4
505135 2012 <i>HQ</i> ₅₇	17.7	X	136.85238	50.61425	215.18515	6.53229	0.1183707	0.26564071	2.3966593	21	12 18.7	21.4
505136 2012 <i>HJ</i> ₅₈	17.5	X	176.43106	147.34368	67.48348	3.53010	0.1275816	0.26865725	2.3786854	21	11 24.7	20.9
505137 2012 <i>HO</i> ₃₂	17.4	X	59.22022	86.16685	184.77262	12.49457	0.0329163	0.23888808	2.5724072	21	10 15.4	20.8
505138 2012 <i>JO</i> ₄₈	17.6	X	10.71618	111.80090	174.60258	2.05523	0.2821161	0.22895526	2.6462790	21	8 15.5	19.2
505139 2012 <i>JY</i> ₅₃	18.0	X	26.93534	212.52737	93.77725	7.46429	0.1526977	0.24195730	2.5506071	21	10 7.8	20.9
505140 2012 <i>KL</i> ₂	17.3	X	206.08131	330.23443	211.65789	23.48548	0.1879415	0.26424681	2.4050801	21	11 7.9	21.0
505141 2012 <i>KR</i> ₁₆	17.1	X	341.61488	243.54338	93.95422	8.23657	0.3047585	0.22861266	2.6489222	21	8 13.9	18.7
505142 2012 <i>LA</i> ₈	16.4	X	57.92727	159.62138	80.14214	17.08015	0.1132700	0.23213434	2.6220630	21	8 17.7	20.0
505143 2012 <i>LX</i> ₁₁	17.4	X	41.01517	159.73784	143.15070	9.81894	0.2192404	0.24038014	2.5617515	21	11 3.8	20.8
505144 2012 <i>LA</i> ₁₉	17.3	X	0.90137	229.49733	75.44006	14.34517	0.2700975	0.22768864	2.6560840	21	8 25.7	19.6
505145 2012 <i>MF</i> ₁₃	16.8	X	99.52175	156.22939	103.64451	12.90635	0.1420761	0.24239514	2.5475347	21	11 7.6	20.8
505146 2012 <i>OU</i> ₂	16.9	X	306.57486	17.21605	6.00241	8.93738	0.1723597	0.21283182	2.7782949	21	8 18.9	20.1
505147 2012 <i>PG</i> ₁	16.9	X	258.67794	299.03470	166.73784	22.10611	0.0482392	0.23159722	2.6261155	21	10 20.5	20.6
505148 2012 <i>PR</i> ₇	16.5	X	236.01878	170.12201	195.28622	13.06694	0.1490611	0.19324003	2.9630432	21	4 30.0	21.2
505149 2012 <i>PU</i> ₈	17.0	X	14.95333	149.27518	171.75582	19.27732	0.2047723	0.22569144	2.6717305	21	10 10.9	19.8
505150 2012 <i>PW</i> ₉	17.2	X	306.89235	101.89773	263.75456	6.60378	0.1767695	0.21308365	2.7761055	21	7 19.8	20.5
505151 2012 <i>PZ</i> ₁₁	17.1	X	262.77315	122.14439	264.62353	4.90421	0.0882068	0.20301560	2.8671457	21	6 30.6	21.1
505152 2012 <i>PT</i> ₂₀	17.3	X	288.56236	134.00625	223.41393	1.18722	0.0806420	0.20404430	2.8575011	21	6 26.9	21.0
505153 2012 <i>PZ</i> ₂₁	17.1	X	289.51983	221.36234	168.03407	9.60074	0.1675254	0.21477597	2.7615034	21	7 26.7	20.7
505154 2012 <i>PK</i> ₂₂	16.9	X	321.63159	48.68999	309.76115	13.52895	0.0978670	0.21835673	2.7312304	21	8 14.2	20.0
505155 2012 <i>QL</i> ₁	16.0	X	28.52843	317.04926	328.88924	13.43925	0.1939737	0.22257572	2.6966061	21	9 7.4	18.9
505156 2012 <i>QE</i> ₂₂	17.1	X	267.63251	197.34794	181.68203	8.95464	0.1590686	0.20165667	2.8800122	21	6 17.0	21.4
505157 2012 <i>QZ</i> ₂₅	16.1	X	346.23891	149.07026	174.82300	21.16937	0.1488620	0.21211329	2.7845657	21	8 4.3	19.4
505158 2012 <i>QM</i> ₄₉	16.4	X	296.70754	127.97577	213.36170	10.66862	0.2276244	0.20512698	2.8474375	21	5 25.3	20.3
505159 2012 <i>QN</i> ₄₉	16.6	X	80.44012	15.53693	258.51090	10.88855	0.1487797	0.23334024	2.6130213	21	10 27.9	20.5
505160 2012 <i>RE</i> ₁₂	16.3	X	28.86636	6.93143	284.56729	8.22026	0.1591646	0.22070927	2.7117876	21	9 8.7	19.6
505161 2012 <i>RV</i> ₁₈	16.5	X	303.08472	15.38848	7.56090	9.29038	0.1629063	0.20996844	2.8034966	21	8 14.1	19.9
505162 2012 <i>RL</i> ₃₉	17.2	X	335.59513	330.62151	356.38847	16.30299	0.3062537	0.21458705	2.7631240	21	7 5.8	19.8
505163 2012 <i>SP</i> ₁₂	17.3	X	295.76262	330.42828	36.18348	2.49945	0.0848221	0.20341328	2.8634076	21	7 19.6	21.0
505164 2012 <i>SY</i> ₁₆	16.7	X	192.32155	191.91096	211.07947	14.59337	0.1946644	0.17760985	2.1344260	21	5 5.2	22.1
505165 2012 <i>ST</i> ₂₆	16.7	X	294.63532	311.55963	7.38736	13.83131	0.1644337	0.19282665	2.9672765	21	4 28.6	20.9
505166 2012 <i>SW</i> ₃₃	16.5	X	338.40130	328.29625	342.15131	12.01799	0.0744312	0.20587314	2.8405532	21	7 11.3	20.2
505167 2012 <i>SZ</i> ₃₈	17.3	X	290.97208	57.64024	340.87276	2.80930	0.0969492	0.21178958	2.7874024	21	8 23.3	20.9
505168 2012 <i>SJ</i> ₅₃	17.2	X	46.50207	333.21381	296.19310	2.37373	0.1580201	0.21666948	2.7453911	21	9 9.5	20.6
505169 2012 <i>SQ</i> ₅₆	17.7	X	242.48312	30.00522	36.31162	29.48920	0.5673972	0.19025464	2.9939592	21	6 12.5	24.1
505170 2012 <i>TS</i> ₂₂	16.9	X	267.19567	328.49357	22.48426	15.03095	0.1527074	0.18931238	3.0038855	21	5 9.1	21.5
505171 2012 <i>TE</i> ₃₁	17.0	X	346.76182	298.79884	3.41785	9.00934	0.1233878	0.20643511	2.8353957	21	7 10.2	20.4
505172 2012 <i>TH</i> ₃₁	18.1	X	63.85109	119.20724	342.01765	20.53344	0.0355834	0.38373400	1.8754948	21	—	—
505173 2012 <i>TK</i> ₃₁	16.7	X	329.62690	123.47386	222.49060	12.31261	0.2186795	0.21257280	2.7805513	21	7 25.6	19.7
505174 2012 <i>TC</i> ₃₂	16.3	X	257.16627	107.54670	208.86224	10.53045	0.1096893	0.17663714	3.1459226	21	3 24.8	21.2
505175 2012 <i>TW</i> ₃₈	15.9	X	104.19697	247.03459	217.61484	11.75103	0.0537868	0.17159378	3.2072663	21	4 8.9	20.4
505176 2012 <i>TG</i> ₄₈	16.3	X	176.16579	209.12301	203.04202	15.77797	0.0760768	0.17805028	3.1292549	21	4 29.9	21.0
505177 2012 <i>TG</i> ₅₁	17.3	X	300.40413	184.22844	214.10528	4.67747	0.0243731	0.21338579	2.7734844	21	9 13.4	20.9
505178 2012 <i>TV</i> ₇₈	19.4	X	145.53172	244.64125	251.98945	7.47316	0.5493048	0.40261156	1.8164017	21	7 29.3	23.2
505179 2012 <i>TO</i> ₈₀	17.5	X	348.94759	351.20837	349.06262	3.12709	0.1018764	0.21522322	2.7576763	21	9 6.2	20.5
505180 2012 <i>TQ</i> ₈₇	16.8	X	354.05772	101.20454	200.36439	7.17744	0.1323282	0.20245171	2.8724672	21	7 18.8	20.1
505181 2012 <i>TU</i> ₁₀₁	16.9	X	7.05882	268.30674	9.77679	4.77623	0.0944726	0.19928393	2.9028273	21	7 11.2	20.4
505182 2012 <i>TO</i> ₁₀₈	16.6	X	271.85167	58.33207	220.69993	16.26589	0.2011810	0.17414500	3.1758651	21	2 10.8	21.9
505183 2012 <i>TQ</i> ₁₀₈	16.6	X	203.09042	180.23631	244.15063	8.04774	0.0691339	0.18885102	3.0087758	21	6 11.8	21.1
505184 2012 <i>TW</i> ₁₁₀	16.9	X	282.01212	135.64295	351.39510	11.45176	0.1013506	0.23079356	2.6322083	21	12 7.1	20.3
505185 2012 <i>TW</i> ₁₁₃	16.9	X	21.48989	67.04939	240.01032	8.65213	0.1603346	0.21485499	2.7608263	21	9 17.7	20.2
505186 2012 <i>TW</i> ₁₁₄	16.8	X	242.71134	221.39075	218.58061	11.98249	0.0849559	0.20483329	2.8501586	21	8 10.5	21.2
505187 2012 <i>TC</i> ₁₂₀	16.5	X	207.59220	151.28175	223.94111	10.33596	0.1338306	0.17670139	3.1451599	21	4 14.4	21.6
505188 2012 <i>TJ</i> ₁₂₆	17.3	X	319.05887	207.08111	156.99279	2.47071	0.1964750	0.21095977	2.7947070	21	8 6.8	20.1
505189 2012 <i>TL</i> ₁₂₆	16.7	X	141.89235	109.97227	19.18979	10.39522	0.0712736	0.18935523	3.0034323	21	6 25.9	21.3
505190 2012 <i>TH</i> ₁₃₃	17.0	X	306.71442	242.01787	136.73506	5.16297	0.0844447	0.21062850	2.7976365	21	8 21.9	20.5
505191 2012 <i>TJ</i> ₁₃₃	16.6	X	248.18534	185.13475	174.55858	14.05665	0.1791466					

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505201 2012 TY ₁₆₆	16.8	X	244.71519	223.07897	153.92900	5.38112	0.2066874	0.18737545	3.0245511	21	5 18.1	21.7
505202 2012 TQ ₁₇₄	17.1	X	265.59275	90.56114	272.79165	3.63072	0.1673911	0.19347234	2.9606709	21	5 24.1	21.6
505203 2012 TF ₁₈₇	16.4	X	232.97424	172.26595	231.79789	8.28655	0.0429957	0.18438950	3.0571161	21	6 22.2	20.9
505204 2012 TP ₁₈₇	16.5	X	182.59913	227.23629	225.54574	11.78884	0.2459686	0.17825340	3.1268773	21	6 23.9	22.1
505205 2012 TP ₁₉₅	16.2	X	181.02965	177.03157	219.17621	16.18392	0.1249422	0.17332628	3.1858581	21	4 15.1	21.4
505206 2012 TV ₂₃₇	16.6	X	7.53116	197.50653	129.31153	4.90905	0.1045581	0.21398545	2.7683004	21	9 21.2	19.8
505207 2012 TA ₂₃₈	18.6	X	336.57922	184.89491	24.19847	21.78193	0.0235104	0.39160836	1.8502685	21	1 27.4	21.0
505208 2012 TJ ₂₃₈	16.8	X	310.36733	281.87409	107.22970	4.53771	0.1023351	0.21246898	2.7814571	21	9 10.7	20.2
505209 2012 TK ₂₄₄	16.6	X	5.00862	100.66098	194.79921	14.44205	0.1517103	0.20170535	2.8759488	21	7 29.6	20.1
505210 2012 TO ₂₅₄	16.4	X	133.27553	200.16138	301.34893	9.31171	0.0420858	0.18809364	3.0168471	21	6 29.5	20.7
505211 2012 TG ₂₅₉	17.3	X	251.92648	349.83452	37.92728	6.23312	0.0953167	0.19741796	2.9210901	21	6 17.5	21.5
505212 2012 TZ ₂₆₀	17.0	X	275.39212	232.20123	179.20969	11.03259	0.1582967	0.20462715	2.8520724	21	8 5.9	21.0
505213 2012 TC ₂₆₁	17.3	X	302.57810	338.77676	62.09222	5.68972	0.0718661	0.21225659	2.7833122	21	9 19.2	20.8
505214 2012 TE ₂₇₅	16.3	X	236.42184	111.60711	230.89860	11.86898	0.1833220	0.17841434	3.1249966	21	3 28.2	21.5
505215 2012 TO ₂₈₀	16.5	X	123.87825	289.96337	224.82488	9.95390	0.0656440	0.19112627	2.9848497	21	7 5.6	20.9
505216 2012 TE ₂₈₇	16.8	X	5.98804	323.51754	353.06674	8.71048	0.0856718	0.21292551	2.7774798	21	9 2.3	20.2
505217 2012 TC ₂₉₇	16.7	X	13.60989	56.22915	232.08367	6.95903	0.1970574	0.20967598	2.8076109	21	8 10.6	19.6
505218 2012 TY ₃₀₁	16.9	X	0.11517	271.80440	38.77970	14.60790	0.1948712	0.21026388	2.8008699	21	8 26.9	20.0
505219 2012 TF ₃₀₄	16.7	X	214.31428	246.25080	175.79085	9.16788	0.1749402	0.18767434	3.0213389	21	6 15.7	21.8
505220 2012 TY ₃₀₅	16.8	X	352.04909	311.31135	1.29208	12.49459	0.0689638	0.20536268	2.8452583	21	8 7.6	20.5
505221 2012 TL ₃₀₆	16.9	X	325.96096	80.83424	270.30651	3.75466	0.1324816	0.20982688	2.8047574	21	8 7.9	20.0
505222 2012 TT ₃₀₆	16.7	X	258.93014	153.11527	211.71224	11.10340	0.1024471	0.18956587	3.0012070	21	5 27.8	21.1
505223 2012 TQ ₃₁₁	18.9	X	119.91946	45.31971	13.79069	19.49191	0.1282356	0.38758965	1.8630361	21	2 15.3	20.9
505224 2012 TX ₃₁₉	17.9	X	132.48155	94.37749	1.21010	20.97346	0.1271096	0.39448688	1.8412567	21	4 14.0	19.9
505225 2012 US	19.0	X	92.27679	114.43466	16.87836	21.78897	0.0738432	0.39852424	1.8288000	21	4 5.1	20.2
505226 2012 UZ ₆	17.0	X	238.23186	343.56439	95.31637	6.18513	0.0678172	0.20275426	2.8696090	21	8 11.9	21.1
505227 2012 UM ₁₂	17.2	X	266.91315	171.85744	185.75541	9.95975	0.1178610	0.19057524	2.9906004	21	5 26.7	21.6
505228 2012 UU ₁₃	16.7	X	137.46869	74.38904	122.48394	5.97287	0.0949184	0.21055324	2.7983031	21	9 19.8	21.0
505229 2012 UJ ₂₄	16.9	X	206.94964	144.02129	289.53502	7.29243	0.0927287	0.19026417	2.9938592	21	6 26.7	21.4
505230 2012 UE ₂₉	16.5	X	271.24791	86.34552	264.61955	8.53004	0.1221690	0.19152033	2.9807540	21	5 20.6	20.8
505231 2012 UR ₃₀	16.7	X	250.20410	201.57904	177.36018	5.70280	0.1620432	0.18849256	3.0125892	21	5 29.4	21.4
505232 2012 UK ₃₅	16.6	X	307.08226	105.08033	220.91884	9.96837	0.0734141	0.18859194	3.0115307	21	6 12.4	20.7
505233 2012 UO ₃₇	16.1	X	305.81670	53.28291	252.33123	10.40792	0.0123825	0.18111689	3.0938321	21	5 23.5	20.4
505234 2012 UO ₄₄	16.3	X	268.48712	85.52257	250.53894	11.50935	0.0756152	0.18033272	3.1027946	21	5 4.7	20.9
505235 2012 UQ ₅₅	16.4	X	217.63818	224.20548	236.49977	11.01779	0.1305707	0.19642438	2.9309323	21	8 4.2	21.1
505236 2012 UQ ₅₇	17.2	X	293.96447	117.49822	249.18076	0.91801	0.1082620	0.19682433	2.9269605	21	7 12.7	21.1
505237 2012 US ₅₈	16.5	X	223.91799	180.49157	234.67775	8.04848	0.0828023	0.18674032	3.0314051	21	6 22.0	21.1
505238 2012 UU ₆₀	16.5	X	278.64557	278.91070	54.91866	10.90129	0.2087687	0.18412128	3.0600843	21	4 29.1	21.0
505239 2012 UX ₆₀	16.7	X	237.94558	291.05823	93.88125	2.32441	0.1979693	0.18352719	3.0666846	21	5 21.4	21.7
505240 2012 UE ₆₆	16.7	X	144.91483	262.05768	220.84818	12.39036	0.2492884	0.17431729	3.1737721	21	6 30.9	22.3
505241 2012 UO ₇₀	17.2	X	323.49545	102.18358	243.69266	2.53019	0.1069038	0.20991890	2.8039376	21	7 30.1	20.5
505242 2012 UW ₇₃	17.2	X	116.34200	153.00906	26.19932	4.58845	0.0348869	0.19526500	2.9425224	21	7 27.6	21.3
505243 2012 UB ₈₈	16.9	X	234.87683	198.59417	231.30369	9.17461	0.0954717	0.19213046	2.9744401	21	7 19.8	21.5
505244 2012 UJ ₉₆	16.5	X	153.52215	95.48800	31.50200	11.83979	0.1942620	0.18385886	3.0629954	21	7 13.9	21.8
505245 2012 UV ₁₀₅	16.9	X	201.06085	196.82977	250.05989	8.61098	0.0904483	0.19037761	2.9926698	21	7 6.1	21.5
505246 2012 UL ₁₁₂	16.3	X	307.32533	321.29144	51.62308	16.09473	0.1514859	0.20293335	2.8679205	21	8 11.7	20.1
505247 2012 UW ₁₁₂	16.6	X	324.94599	123.77601	211.04680	16.78847	0.1399547	0.20233635	2.7835590	21	7 9.9	20.4
505248 2012 UK ₁₁₈	16.1	X	217.88564	126.42838	213.98617	16.07196	0.1171906	0.17020280	3.2247168	21	3 12.5	21.4
505249 2012 UT ₁₂₂	17.3	X	213.19973	170.76547	278.55618	3.24076	0.1277644	0.19006974	2.9959006	21	7 20.4	22.0
505250 2012 UM ₁₂₃	16.4	X	261.59045	122.89386	246.59008	8.30954	0.0962547	0.18507291	3.0495855	21	6 6.2	20.7
505251 2012 UJ ₁₂₄	16.1	X	171.96072	225.74644	250.18385	12.21963	0.0899003	0.18491954	3.0512715	21	7 10.7	20.9
505252 2012 UT ₁₂₆	15.9	X	195.85510	39.47820	34.85787	23.75309	0.1533770	0.18084872	3.0968898	21	6 9.6	21.3
505253 2012 UW ₁₂₆	16.1	X	209.78757	141.72312	262.63314	8.49730	0.0697093	0.17808525	3.1288452	21	5 24.9	20.9
505254 2012 UJ ₁₄₂	16.9	X	321.54516	152.02844	194.77889	17.55732	0.1354387	0.20226169	2.8742660	21	7 21.4	20.8
505255 2012 UY ₁₄₄	16.5	X	317.20449	40.23061	48.50684	22.62885	0.0447245	0.22858267	2.6491539	21	12 10.6	20.1
505256 2012 UD ₁₄₆	16.6	X	226.19674	115.74948	300.99535	9.64924	0.0670096	0.19101983	2.9859584	21	6 28.9	21.0
505257 2012 UF ₁₄₆	16.3	X	240.70489	54.36423	272.74996	11.67850	0.0382646	0.16985014	3.2291789	21	3 22.9	21.3
505258 2012 UK ₁₄₉	16.3	X	189.35761	44.77053	28.19559	12.20744	0.0436476	0.18249046	3.0782882	21	6 5.7	20.9
505259 2012 UY ₁₅₅	16.4	X	155.03828	231.29806	234.54748	11.77489	0.1458790	0.17632464	3.1496385	21	6 15.1	21.5
505260 2012 UR ₁₆₃	17.1	X	283.48846	84.03529	267.90736	5.06352	0.1928158	0.19083768	2.9878581	21	5 27.1	21.2
505261 2012 UF ₁₆₆	18.1	X	342.89320	284.67020	268.91868	18.98159	0.0311518	0.38387299	1.8750421	21	1 1.6	19.7
505262 2012 UH ₁₆₆	18.1	X	162.90543	57.03776	332.74311	22.25225	0.0569911	0.39012416	1.8549583	21	2 14.6	19.8
505263 2012 US ₁₆₇	18.5	X	105.22455	196.50319	235.66934	21.29897	0.0395893	0.38389912	1.8749570	21	1 7.9	20.6
505264 2012 UC ₁₇₄	18.2	X	151.52916	310.32141	76.26559	22.93904	0.0650388	0.38500248	1.8713730	21	1 26.1	20.4
505265 2012 VW	17.1	X	270.42791	223.92604	200.60076	12.36405	0.1417418	0.21217025	2.7840672	21	8 18.2	21.1
505266 2012 VL ₁	16.8	X	334.53510	187.83676	150.93032	13.08072	0.0874176	0.20353733	2.8622441	21	8 8.9	20.3
505267 2012 VA ₁₆	16.5	X	164.66925	200.52534	26.11225	9.75783	0.0282692	0.22209955	2.7004591	21	11 22.4	20.3
505268 2012 VW ₁₆	18.3	X	125.64330	33.70364	44.94010	21.61898	0.1361347	0.38661416	1.8661686	21	4 1.1	20.4
505269 2012 VH ₁₇	18.3	X	167.30576	110.69837	242.80060	20.20215	0.0769495	0.37345454	1.9097545	21	—	—
505270 2012 VZ ₁₇	16.6	X	173.85727	242.49189	210.01459	7.83061	0.1193158	0.17815937	3.1279773	21	6 16.2	21.6
505271 2012 VE ₂₀	19.2	X	139.30428	217.92552	195.22074	21.85180	0.1198533	0.38837992	1.8605080	21	2 18.4	21.4
505272 2012 VX ₂₅	17.8	X	42.82388	224.38174	621.84847	19.81431	0.0865082	0.38503496	1.8712678	21	1 18.3	19.0
505273 2012 VJ ₃₀	16.1	X	155.76007									

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505281 2012 VE ₅₁	16.6 ^m	X	60.49872	207.89680	47.04678	15.84266	0.0944569	0.20413961	2.8566116	21	9 9.6	20.7
505282 2012 VQ ₇₀	16.6	X	173.74266	65.75211	60.52702	21.23641	0.2384968	0.18437876	3.0572348	21	8 1.8	22.3
505283 2012 VH ₇₂	16.4	X	215.94274	183.63967	233.74780	17.43872	0.0710140	0.18195443	3.0843308	21	6 16.2	21.1
505284 2012 VM ₇₄	16.0	X	76.86898	296.00087	261.26142	10.51932	0.0615099	0.18260887	3.0769573	21	7 1.9	20.3
505285 2012 VP ₇₉	19.4	X	227.38196	96.74449	224.66307	23.96320	0.0762619	0.38908726	1.8582524	21	1 20.6	22.3
505286 2012 VJ ₈₁	16.1	X	299.89351	315.53719	42.84044	10.69969	0.0503542	0.19152442	2.9807115	21	7 20.9	20.3
505287 2012 VF ₈₆	16.0	X	67.79472	301.22237	246.36041	20.52203	0.0440914	0.17898408	3.1183614	21	6 5.2	20.2
505288 2012 VU ₈₈	16.3	X	216.90482	11.50572	62.80659	12.44248	0.0557285	0.18724559	3.0259493	21	7 11.7	20.9
505289 2012 VA ₉₈	15.8	X	180.27975	221.48474	235.56332	18.94832	0.1098957	0.18202007	3.0835893	21	6 25.4	20.8
505290 2012 VO ₉₉	16.8	X	228.35032	291.49531	108.15994	2.73586	0.1703344	0.18464735	3.0542693	21	6 1.4	21.7
505291 2012 VU ₁₀₇	15.6	X	320.13719	51.27951	244.03124	11.97790	0.1336473	0.17937545	3.1138239	21	5 13.6	19.6
505292 2012 VQ ₁₀₈	16.1	X	202.98848	16.14356	45.89428	18.97203	0.0847885	0.17946046	3.1128405	21	6 5.2	21.0
505293 2012 WL ₆	17.1	X	192.39098	1.97301	89.42814	2.09692	0.1766484	0.18148528	3.0896440	21	7 1.8	22.2
505294 2012 WJ ₁₂	16.5	X	184.55746	206.23412	232.40566	8.58993	0.0979692	0.17710802	3.1403441	21	6 9.7	21.4
505295 2012 WG ₁₈	16.9	X	207.00923	23.64663	52.12666	18.03818	0.2028250	0.18303679	3.0721597	21	6 22.9	22.3
505296 2012 WL ₁₈	17.2	X	257.05015	76.72498	305.73839	1.89844	0.1258276	0.18655738	3.0333865	21	6 13.5	21.7
505297 2012 WF ₂₂	17.2	X	265.78141	75.90385	312.91373	8.5181	0.2852768	0.19267969	2.9687851	21	6 11.8	21.9
505298 2012 WJ ₂₄	16.4	X	235.01463	328.17409	59.20497	13.16114	0.1541392	0.18083374	3.0970609	21	5 24.4	21.4
505299 2012 WM ₂₆	16.7	X	217.23884	20.56006	52.07518	10.05379	0.0778668	0.18512834	3.0489768	21	7 8.1	21.4
505300 2012 WJ ₂₈	15.9	X	286.22842	53.80206	253.39885	15.35537	0.1954394	0.17486639	3.1671247	21	3 30.9	20.9
505301 2012 XB ₁₇	17.7	X	355.55898	104.86714	109.17845	24.10067	0.0197239	0.38611384	1.8677804	21	3 8.7	20.0
505302 2012 XU ₂₁	16.5	X	91.56943	94.22707	69.92033	11.03425	0.0373003	0.17454362	3.1710279	21	6 5.4	20.8
505303 2012 XZ ₂₃	17.0	X	268.64262	304.40187	58.84928	13.15593	0.1953460	0.18858217	3.0116348	21	5 24.1	21.6
505304 2012 XH ₃₄	16.7	X	192.56373	255.55573	245.82741	4.34533	0.2158550	0.19051305	2.9912513	21	8 28.3	21.8
505305 2012 XA ₄₀	16.9	X	250.08605	268.69869	103.14304	3.03857	0.2295051	0.18205960	3.0831429	21	5 14.3	22.0
505306 2012 XD ₄₀	16.0	X	25.47193	28.45342	240.43907	8.69545	0.1092557	0.18654539	3.0335165	21	7 26.2	19.8
505307 2012 XS ₄₂	15.8	X	98.41895	300.21410	255.18563	14.73598	0.1039913	0.18092133	3.0906612	21	7 28.5	20.5
505308 2012 XZ ₄₅	17.0	X	281.43993	225.08740	123.58022	2.29776	0.2138932	0.18946029	3.0023219	21	5 18.6	21.3
505309 2012 XO ₄₇	18.1	X	301.98700	300.85193	269.52210	17.38394	0.0246475	0.36220404	1.9490988	21	—	—
505310 2012 XW ₅₄	18.4	X	41.77711	272.76037	231.70900	19.00669	0.0625995	0.37897673	1.8911575	21	1 13.9	20.5
505311 2012 XH ₆₀	17.1	X	167.79962	320.30255	154.73850	0.80954	0.1582504	0.18153890	3.0890356	21	7 8.7	22.1
505312 2012 XW ₆₃	16.3	X	193.33434	224.99137	219.71647	14.15927	0.1041606	0.18030303	3.1031352	21	6 24.6	21.4
505313 2012 XZ ₇₇	17.3	X	237.11816	172.24078	198.26459	3.94625	0.1506081	0.17772543	3.1303669	21	5 7.3	22.1
505314 2012 XO ₈₄	17.0	X	188.08670	350.76804	100.28734	9.88103	0.1792037	0.17202401	3.2019166	21	6 27.7	22.2
505315 2012 XY ₉₁	16.9	X	154.90212	226.80341	296.33894	2.14352	0.0667753	0.19129186	2.9831269	21	8 21.9	21.4
505316 2012 XQ ₁₀₉	16.7	X	260.48833	303.73866	76.53769	11.32358	0.1166408	0.18287888	3.0739279	21	6 15.7	21.0
505317 2012 XG ₁₂₈	18.5	X	116.21735	95.11851	319.93147	19.90764	0.0862978	0.37107994	1.9178931	21	1 21.8	20.1
505318 2012 XH ₁₃₁	15.6	X	247.72502	146.26836	237.12782	21.05381	0.0881852	0.17960371	3.1111851	21	6 8.0	20.3
505319 2012 XB ₁₃₄	16.5	X	235.83334	128.47018	283.77775	14.29728	0.3326221	0.18456721	3.0551533	21	6 12.0	22.0
505320 2012 XF ₁₃₆	16.7	X	217.69173	166.80437	276.52523	17.33146	0.0772627	0.18076810	3.0978106	21	7 7.7	22.1
505321 2012 XR ₁₄₁	16.6	X	237.39437	164.71632	224.32237	4.50288	0.1570321	0.18066681	3.0989683	21	5 29.1	21.4
505322 2012 XC ₁₄₉	15.7	X	99.22898	325.29565	232.99427	21.00073	0.0807017	0.18296376	3.0729772	21	7 27.4	20.6
505323 2012 XX ₁₅₁	16.3	X	203.62571	203.37599	269.36199	11.05827	0.1927063	0.18169429	3.0827242	21	8 2.5	21.6
505324 2012 XZ ₁₅₂	16.5	X	264.67677	299.42885	86.47628	9.55536	0.1671821	0.18897686	3.0074400	21	6 21.2	20.9
505325 2012 YH ₆	18.2	X	126.84913	163.59719	254.52937	18.73434	0.1100801	0.37611316	1.9007443	21	2 2.4	20.4
505326 2012 YQ ₆	18.2	X	268.24876	259.14395	338.44293	17.74755	0.0780461	0.35730711	1.9668668	21	—	—
505327 2012 YY ₈	15.9	X	240.70047	319.26408	94.13889	30.40455	0.1870513	0.17840959	3.1250521	21	6 28.1	20.8
505328 2013 AY ₁	16.3	X	283.90250	246.94436	133.22356	11.38739	0.1396269	0.19151435	2.9808160	21	7 11.5	20.4
505329 2013 AC ₆	16.8	X	259.58025	135.66398	248.53690	7.45956	0.0962198	0.18357268	3.0661779	21	6 22.3	21.3
505330 2013 AH ₆	16.6	X	222.63044	339.31391	89.15172	7.70590	0.0567965	0.18347691	3.0672448	21	7 10.3	21.1
505331 2013 AQ ₁₄	16.5	X	215.23875	115.37319	110.01155	12.75274	0.2957997	0.17601491	3.1533323	21	6 15.2	22.2
505332 2013 AY ₁₅	16.6	X	222.86213	283.09900	345.87824	14.00419	0.2873637	0.17678175	3.1442068	21	6 25.5	22.2
505333 2013 AR ₂₀	18.3	X	337.02844	240.57821	306.48880	18.30772	0.0432925	0.36575472	1.9364640	21	—	—
505334 2013 AT ₂₀	16.4	X	139.34984	140.31271	16.45926	9.02667	0.2129188	0.17042645	3.2218949	21	8 8.8	21.9
505335 2013 AH ₂₇	19.0	X	75.84803	295.08477	209.52041	2.77195	0.2881412	0.37663780	1.8989788	21	5 14.7	19.9
505336 2013 AJ ₃₆	16.6	X	245.67255	294.29000	101.22639	11.07102	0.2243206	0.17770390	3.1333199	21	6 8.8	21.7
505337 2013 AM ₅₀	17.8	X	105.28052	123.74308	307.96663	17.35980	0.1010322	0.36823391	1.9277625	21	1 28.1	18.9
505338 2013 AJ ₇₄	16.1	X	231.89910	314.72544	114.29081	17.88386	0.2058493	0.17694389	3.1422857	21	7 7.8	21.2
505339 2013 AX ₈₈	18.1	X	285.73627	223.40964	335.74283	16.76220	0.0566684	0.34874793	1.9989179	21	—	—
505340 2013 AQ ₉₃	16.5	X	162.92067	149.91364	338.53835	4.81860	0.1444623	0.17116808	3.2125818	21	7 21.2	21.7
505341 2013 AX ₁₁₁	18.4	X	75.52094	153.93486	303.83008	18.87440	0.0492120	0.37168093	1.9158251	21	1 11.2	19.9
505342 2013 AO ₁₂₅	16.4	X	206.37734	61.79715	51.39780	14.57705	0.2399032	0.18144486	3.0901029	21	8 11.9	21.9
505343 2013 AG ₁₂₈	16.6	X	196.95125	118.46330	335.89195	9.32024	0.2004458	0.17617899	3.1513742	21	7 10.2	22.0
505344 2013 AD ₁₅₇	16.1	X	261.17894	205.47453	171.56646	10.96575	0.2329400	0.17682037	3.1437489	21	5 31.7	21.2
505345 2013 AV ₁₈₃	18.4	X	65.99281	119.85732	330.51088	19.76743	0.0764012	0.36335068	1.9449961	21	—	—
505346 2013 AD ₁₈₄	17.7	X	342.66102	72.65142	141.44649	23.42949	0.0746050	0.36449641	1.9409181	21	1 31.8	19.5
505347 2013 BM ₅₆	15.8	X	193.37303	156.58252	290.01941	10.85503	0.0582143	0.16907663	3.2390202	21	6 29.9	20.6
505348 2013 BL ₇₀	18.7	X	55.75691	201.83382	277.78230	8.80114	0.2198727	0.36601976	1.9355291	21	1 1.0	18.7
505349 2013 CT	18.0	X	213.96369	220.52281	98.65537	24.04100	0.1502617	0.37168634	1.9158065	21	1 17.9	20.6
505350 2013 CA ₂₀	16.4	X	195.80949	234.44301	235.56610	9.45965	0.2412244	0.17283560	3.1918851	21	7 22.7	22.1
505351 2013 CB ₃₅	18.0	X	306.96492	262.23970	311.53084	16.25302	0.0702423	0.35566642	1.9729109	21	—	—
505352 2013 CO ₃₆	17.9	X	222.74589	47.82287	312.19507	16.58919	0.0958296	0.38094257	1.8846457	21	3 13.8	20.5
505353 2013 CK ₄₇	18.7	X	13.31649	170.33360	331.01544	17.660						

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505361 2013 EV ₁₂₆	18.0	X	83.61604	286.42913	179.81772	21.89209	0.0996378	0.36317926	1.9456081	21	2 10.4	19.9
505362 2013 FA ₉	16.1	X	218.84928	102.58492	22.85659	25.87977	0.2990683	0.17695934	3.1421028	21	9 9.1	21.9
505363 2013 GA ₁	17.2	X	297.60783	198.03495	85.71044	7.09988	0.1656717	0.24153747	2.5535618	21	3 20.7	20.7
505364 2013 GO ₁₀	18.1	X	98.16613	54.61764	185.84707	21.74773	0.1613813	0.28275510	2.2989477	21	10 15.2	21.4
505365 2013 GQ ₁₀	18.1	X	92.59636	258.88974	177.32022	22.82052	0.1119759	0.35510823	1.9749778	21	1 13.9	20.3
505366 2013 GV ₆₇	16.7	X	31.84398	277.87671	168.24980	22.10259	0.0642340	0.22641384	2.6660446	21	—	—
505367 2013 GU ₁₂₂	18.5	X	119.56956	169.03204	159.64963	2.94273	0.1387517	0.31468204	2.1406948	21	—	—
505368 2013 HB ₁₁	17.1	X	145.05405	47.78446	197.12158	22.16803	0.1700924	0.29255254	2.2473297	21	12 4.5	21.0
505369 2013 HX ₂₃	17.9	X	159.69516	329.41110	290.36846	3.48957	0.1639854	0.30497614	2.1858758	21	—	—
505370 2013 HN ₃₇	17.7	X	49.33190	335.78363	16.43669	26.78727	0.2940647	0.29716292	2.2240249	21	—	—
505371 2013 HU ₄₀	18.4	X	89.79821	41.14291	283.06946	2.81592	0.2154956	0.30093716	2.2053905	21	—	—
505372 2013 HV ₄₀	18.8	X	80.00470	10.12154	325.07281	2.91405	0.2339117	0.30133530	2.2034475	21	—	—
505373 2013 HC ₄₉	18.3	X	138.88710	272.49722	3.11587	4.56168	0.0980480	0.30493859	2.1860552	21	—	—
505374 2013 HU ₇₆	18.3	X	109.44479	289.38658	8.78971	6.26524	0.1903111	0.29905241	2.2146470	21	—	—
505375 2013 HW ₇₆	17.3	X	49.03056	199.12252	259.72308	3.19403	0.0868505	0.22275248	2.6951794	21	1 10.8	20.4
505376 2013 HV ₁₀₄	15.7	X	40.58765	145.96931	24.46822	8.95232	0.1378031	0.12490552	3.9635252	21	4 20.9	20.7
505377 2013 HH ₁₃₁	18.3	X	124.82913	22.65299	302.44870	2.72154	0.1607798	0.31582790	2.1355138	21	—	—
505378 2013 HJ ₁₅₃	16.0	X	162.17873	301.55574	209.11895	10.62715	0.0905298	0.15644435	3.4111132	21	8 10.3	21.4
505379 2013 JM ₂	18.4	X	118.61634	156.87372	133.09353	2.69446	0.1749351	0.29746317	2.2252820	21	—	—
505380 2013 HJ ₂₅	18.6	X	174.25408	78.49414	214.44129	2.67966	0.0824398	0.31919581	2.1204658	21	—	—
505381 2013 JX ₄₆	18.0	X	96.95068	184.53689	131.85664	6.53981	0.2247887	0.29155037	2.2524767	21	—	—
505382 2013 HV ₁₆	18.1	X	112.24045	222.98794	93.41392	7.57869	0.2150095	0.29833733	2.2181844	21	—	—
505383 2013 MM ₉	17.4	X	160.72833	178.47267	93.05424	7.30861	0.1978334	0.29767881	2.2214546	21	—	—
505384 2013 NA	18.1	X	48.95570	250.56967	116.17791	7.14204	0.2343361	0.29117678	2.2544030	21	—	—
505385 2013 OE ₆	17.7	X	4.20364	102.35374	247.93376	3.16716	0.1722932	0.25657790	2.4527685	21	10 31.3	20.1
505386 2013 PA ₁₁	17.6	X	29.87625	44.15301	283.17649	15.77304	0.2622014	0.26339730	2.4102486	21	11 27.4	20.7
505387 2013 PS ₁₈	17.6	X	163.02315	280.08347	318.60813	6.62140	0.0643041	0.28052125	2.3111362	21	12 16.5	20.8
505388 2013 PD ₂₇	17.5	X	140.49403	317.62393	298.64775	5.71825	0.0822138	0.27373255	2.3491915	21	12 11.9	21.0
505389 2013 PL ₃₄	17.7	X	196.12435	312.42331	279.89191	5.76228	0.0925115	0.28956178	2.2627777	21	—	—
505390 2013 PD ₃₅	18.3	X	32.53631	17.75927	323.20547	5.53728	0.2318817	0.26419473	2.4053962	21	12 15.3	21.3
505391 2013 PE ₃₈	18.2	X	101.54810	295.37569	329.60837	1.03046	0.1044273	0.26523930	2.3990767	21	11 10.4	21.7
505392 2013 PF ₃₈	17.9	X	111.15033	309.38288	328.15484	2.96141	0.2016656	0.27670245	2.3323518	21	12 12.9	21.6
505393 2013 PS ₄₉	18.0	X	318.77234	173.68618	162.10595	4.40697	0.2096004	0.23697635	2.5862234	21	6 23.2	20.8
505394 2013 PE ₅₇	17.5	X	352.46090	167.58881	164.74352	14.78658	0.1323375	0.25199659	2.4824067	21	9 5.8	19.7
505395 2013 QC ₄	18.1	X	75.88774	341.83936	296.62358	1.74557	0.1697742	0.26348537	2.4097115	21	11 6.0	21.5
505396 2013 QD ₁₇	17.8	X	39.45828	215.18771	137.87695	16.35918	0.2436364	0.26688422	2.3892088	21	—	—
505397 2013 QZ ₂₃	18.3	X	93.57123	168.83777	100.47089	2.33821	0.1676919	0.26727366	2.3868875	21	11 14.3	21.7
505398 2013 QZ ₂₈	18.2	X	339.53696	234.15788	172.01270	1.17219	0.1762122	0.26213179	2.4179998	21	12 7.6	20.2
505399 2013 QR ₄₁	18.0	X	154.60935	304.89567	302.15443	4.46296	0.1349600	0.27936038	2.3175343	21	12 14.5	21.4
505400 2013 QE ₅₄	17.8	X	34.19633	182.09519	147.11710	16.08606	0.0764055	0.26159497	2.4213066	21	11 12.5	21.2
505401 2013 QC ₆₂	18.2	X	51.44377	303.98760	358.09101	0.40065	0.1972756	0.26223398	2.4173715	21	11 12.5	21.1
505402 2013 QS ₆₅	17.3	X	328.25031	15.87401	323.21328	13.84718	0.2742269	0.23726308	2.5841394	21	7 11.4	19.6
505403 2013 QL ₆₈	17.8	X	131.69098	72.07617	185.26904	1.01801	0.1575896	0.27477162	2.3432653	21	12 5.1	21.3
505404 2013 QY ₇₃	17.1	X	307.18408	125.44574	266.99993	10.24926	0.1004200	0.24654233	2.5188852	21	9 5.6	20.2
505405 2013 QO ₇₆	18.0	X	72.73374	155.15026	172.48289	6.90052	0.1257223	0.27438920	2.3454421	21	—	—
505406 2013 QY ₇₈	18.3	X	75.26316	345.35703	320.87697	2.96480	0.1908357	0.27007069	2.3703788	21	12 14.1	21.7
505407 2013 QA ₈₄	18.2	X	342.77319	57.78325	287.53527	10.09868	0.2568855	0.24671183	2.5177314	21	8 28.6	20.0
505408 2013 QM ₈₄	17.3	X	5.84163	56.43877	330.25223	13.43567	0.2093018	0.26201804	2.4168995	21	—	—
505409 2013 QK ₉₁	18.5	X	102.80396	306.78071	325.58357	2.09645	0.1827660	0.27362924	2.3497828	21	11 27.7	22.2
505410 2013 QC ₉₂	17.9	X	104.87226	340.29573	306.69047	4.69357	0.0834294	0.27544478	2.3394460	21	12 12.6	21.1
505411 2013 QX ₉₂	17.3	X	193.76101	63.27678	169.39140	6.41495	0.0739157	0.28605635	2.2812261	21	—	—
505412 2013 QO ₉₅	6.7	X	5.05074	311.47868	358.04433	20.62093	0.0359947	0.00388104	40.1024274	21	11 9.1	22.6
505413 2013 RO ₄	17.5	X	32.35063	334.65681	11.97648	1.73522	0.1849095	0.26126645	2.4233360	21	12 14.8	20.3
505414 2013 RY ₆	17.9	X	9.62159	149.80026	221.40213	1.42714	0.2201940	0.26166955	2.4208465	21	12 20.5	20.4
505415 2013 RL ₈	17.5	X	263.59268	160.86482	321.57874	5.27750	0.0679272	0.26281745	2.4137924	21	11 14.9	20.4
505416 2013 RT ₁₆	17.2	X	6.00714	234.10437	188.58934	20.15637	0.3373962	0.26404190	2.4063242	21	—	—
505417 2013 RZ ₁₇	17.6	X	46.61247	304.91835	16.22592	3.13095	0.2377255	0.26187572	2.4195758	21	12 6.8	20.8
505418 2013 RH ₁₉	17.6	X	18.81763	97.96212	277.03020	3.69512	0.1743990	0.26464787	2.4026496	21	—	—
505419 2013 RE ₂₂	16.9	X	294.02296	16.43998	348.06886	13.19148	0.1857439	0.23088884	2.6314841	21	6 29.0	20.5
505420 2013 RT ₂₅	17.4	X	61.61373	72.35442	327.62446	6.24250	0.1135470	0.28482297	2.2878069	21	—	—
505421 2013 RE ₃₁	17.0	X	57.77808	346.31543	333.60990	6.35809	0.1452446	0.26209379	2.4182335	21	12 5.2	20.3
505422 2013 RA ₃₂	17.4	X	5.34617	241.57443	141.91246	6.92553	0.1418827	0.26035651	2.4289790	21	12 18.2	20.1
505423 2013 RS ₃₆	17.7	X	31.21075	354.42725	5.92272	2.32158	0.2032766	0.26375594	2.4080632	21	—	—
505424 2013 RJ ₄₀	17.7	X	349.71256	170.63349	218.87377	1.94629	0.2030229	0.25632797	2.4543625	21	12 5.1	19.6
505425 2013 RU ₄₁	18.0	X	342.05354	31.67936	24.12892	2.75848	0.2116852	0.25973282	2.4328658	21	12 31.3	20.0
505426 2013 RF ₄₆	17.7	X	7.60849	61.56740	308.54346	3.34824	0.2119513	0.25800777	2.4436980	21	12 12.8	20.0
505427 2013 RV ₄₇	17.8	X	339.77620	167.52917	180.45535	17.20586	0.1734525	0.24241932	2.5473653	21	8 30.3	20.3
505428 2013 RV ₆₁	17.9	X	356.26043	38.41442	345.16487	1.73565	0.1990751	0.25836349	2.4414544	21	12 9.3	20.1
505429 2013 RM ₆₄	18.3	X	34.81738	342.69043	353.81631	2.24290	0.2239126	0.26169116	2.4207132	21	12 10.6	21.4
505430 2013 RR ₇₀	17.0	X	343.77290	34.09790	279.59661	9.33347	0.1387056	0.23325130	2.6136855	21	7 18.2	19.6
505431 2013 RV ₇₅	18.4	X	294.91555	35.62837	346.19271	4.74803	0.2679297	0.23549964	2.5970235	21	7 10.2	21.5
505432 2013 RS ₈₃	17.9	X	66.13175	0.50946	310.28406	4.90972	0.1046152	0.26015084	2.4302590	21	11 27.6	21.2
505433 2013 RR ₉₅	17.5	X	79.29160	351.10803	314.49547	4.05824	0.1195816	0.26584251	2.3954462	21	12 9.5	20.9
505434 2013 SF ₁₅	17.9	X	11.16518	328.96903	31.27010	1.63950	0.1984186	0.25631280	2.			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505441 2013 SF ₅₈	17.0	X	302.03418	168.30380	222.37671	31.74757	0.1331478	0.23680721	2.5874548	21	8 13.7	21.0
505442 2013 SE ₆₅	16.1	X	85.58909	85.63966	359.27307	24.77665	0.3306305	0.17461563	3.1701561	21	3 29.2	20.5
505443 2013 ST ₆₈	17.0	X	281.67852	113.58346	10.31317	12.14538	0.1847811	0.26239761	2.4163664	21	11 27.2	19.6
505444 2013 SY ₇₆	17.5	X	23.84075	189.73762	189.38544	6.27811	0.1095721	0.26569209	2.3963503	21	—	—
505445 2013 SC ₈₄	18.0	X	19.54612	6.46878	10.94327	5.44662	0.1252467	0.26425548	2.4050275	21	12 30.0	20.9
505446 2013 SP ₉₉	7.3	X	50.27332	254.36393	71.94476	0.79090	0.0648763	0.00337301	44.0343037	21	10 16.7	23.5
505447 2013 SQ ₉₉	6.4	X	142.64664	178.53852	52.02956	3.46364	0.0896611	0.00333291	44.3868085	21	10 13.5	23.2
505448 2013 SA ₁₀₀	5.9	X	254.14102	112.87729	27.82625	8.45950	0.1613596	0.00310836	46.4995524	21	10 12.6	22.9
505449 2013 TT ₁₄	17.7	X	37.75543	7.75495	335.72336	6.26476	0.1328117	0.26032995	2.4291442	21	12 8.9	20.8
505450 2013 TC ₂₁	17.8	X	326.87487	248.15226	179.20517	9.90027	0.1839940	0.25628980	2.4546062	21	12 11.6	20.1
505451 2013 TR ₂₄	16.6	X	231.64245	71.39220	22.43930	22.04315	0.0674762	0.22946414	2.6423651	21	9 4.7	20.7
505452 2013 TD ₂₉	17.3	X	102.97191	96.12242	202.92877	4.82391	0.1528283	0.26542842	2.3979370	21	12 27.9	21.0
505453 2013 TE ₃₂	18.2	X	33.37301	151.53461	169.41379	2.69604	0.2248779	0.26059220	2.4275142	21	11 18.8	21.0
505454 2013 TE ₃₃	17.8	X	62.58183	331.28174	344.14292	5.34223	0.0273582	0.26133428	2.4229166	21	11 17.7	21.0
505455 2013 TE ₄₉	17.2	X	326.62935	187.10127	197.40017	11.48443	0.0169492	0.24276095	2.5549749	21	10 6.6	20.3
505456 2013 TU ₄₉	17.8	X	1.52911	15.14940	21.25724	1.13283	0.1836267	0.25850719	2.4405496	21	—	—
505457 2013 TU ₅₉	17.5	X	285.23814	215.65913	261.56497	5.80599	0.0803005	0.25851179	2.4404866	21	12 9.8	20.3
505458 2013 TO ₆₆	18.2	X	8.23755	209.53493	168.56824	13.13690	0.2168337	0.25817758	2.4426263	21	12 26.3	21.1
505459 2013 TB ₇₁	17.7	X	339.11294	118.18119	191.87679	12.14131	0.2338586	0.23260235	2.6185446	21	6 23.2	20.3
505460 2013 TY ₇₈	17.0	X	296.07377	169.33004	241.77390	12.02817	0.1687559	0.23225586	2.6211483	21	8 23.2	20.5
505461 2013 TZ ₈₀	17.7	X	301.50099	15.83452	99.81854	3.72563	0.3601915	0.25424398	2.4677563	21	12 6.2	18.5
505462 2013 TV ₉₀	18.2	X	12.21430	328.42309	354.33120	2.44658	0.1423076	0.24488993	2.5302033	21	9 29.7	20.8
505463 2013 TV ₉₂	18.4	X	335.80745	47.50393	30.92768	4.54285	0.3945251	0.25375752	2.4709091	21	—	—
505464 2013 TA ₉₃	16.5	X	232.12753	196.08486	208.19777	11.72849	0.1413781	0.21216864	2.7840813	21	6 12.1	21.0
505465 2013 TE ₉₄	17.5	X	310.10816	231.50419	164.45663	4.30193	0.1341076	0.23566265	2.5958258	21	9 17.3	20.2
505466 2013 TU ₉₄	17.3	X	266.46822	29.01949	39.89133	8.89387	0.1768930	0.22964573	2.6409720	21	8 22.9	21.0
505467 2013 TP ₉₅	17.3	X	223.91334	88.22654	40.76019	22.64753	0.0534784	0.23762774	2.5814950	21	10 10.6	21.1
505468 2013 TH ₁₀₇	18.1	X	343.52938	233.59144	146.34951	2.15208	0.1314565	0.24672725	2.5176265	21	10 30.6	20.6
505469 2013 TS ₁₁₁	17.6	X	333.28350	155.15036	222.48704	11.55447	0.1897350	0.24123874	2.5556695	21	9 30.2	20.0
505470 2013 TM ₁₁₂	18.2	X	44.86956	157.17396	161.96411	2.50550	0.1948476	0.25428434	2.4674951	21	11 25.7	21.3
505471 2013 TP ₁₂₉	16.6	X	280.88161	253.97370	204.46885	28.21146	0.3292043	0.23530865	2.5984286	21	9 20.0	20.1
505472 2013 TQ ₁₃₀	17.2	X	320.96778	109.78891	285.18801	11.81935	0.1823844	0.24447221	2.5330848	21	9 25.3	19.8
505473 2013 TH ₁₃₂	17.7	X	304.02866	306.32321	177.35935	11.15618	0.1937463	0.26521345	2.3992326	21	—	—
505474 2013 TB ₁₃₅	16.8	X	352.56219	249.25908	68.93121	30.08361	0.3463381	0.23495409	2.6010421	21	9 17.9	19.4
505475 2013 UG ₇	18.0	X	303.95404	282.43377	143.40499	4.93065	0.2399181	0.24187356	2.5511957	21	10 8.1	20.2
505476 2013 UL ₁₅	6.6	X	54.21547	237.26763	81.94544	2.02406	0.1023127	0.00315266	46.0629291	21	10 18.2	23.0
505477 2013 UM ₁₅	6.9	X	79.97721	185.85580	110.91032	1.84105	0.0778880	0.00323384	45.2887849	21	10 20.2	23.4
505478 2013 UT ₁₅	6.2	X	354.34729	251.65417	191.92889	10.63299	0.7821755	0.00034208	202.4826233	21	10 16.2	23.8
505479 2013 VS ₁	17.6	X	293.66699	257.69055	193.79203	10.53764	0.1631760	0.24731415	2.5136419	21	11 6.8	20.1
505480 2013 VJ ₁₄	17.9	X	325.54629	133.53560	264.57936	6.55644	0.2454313	0.24388497	2.5371493	21	10 11.6	19.9
505481 2013 VB ₁₅	17.3	X	345.86756	126.13191	215.70939	13.01028	0.1905230	0.23657289	2.5891630	21	8 30.6	19.9
505482 2013 VQ ₁₈	16.7	X	278.08792	100.30198	4.71880	7.59821	0.1593526	0.24242426	2.5473307	21	10 25.8	19.6
505483 2013 VA ₂₀	17.5	X	343.44091	314.75889	90.80730	6.05077	0.2459645	0.25245454	2.4794038	21	12 20.1	19.3
505484 2013 VB ₂₃	17.1	X	323.45396	71.68842	309.79943	6.16147	0.1593039	0.23919592	2.5701997	21	9 15.9	19.6
505485 2013 WM ₂	16.3	X	215.96794	252.86560	237.00714	21.04609	0.0604843	0.22608830	2.6686031	21	9 12.9	20.7
505486 2013 WG ₃	17.5	X	332.91773	41.03112	3.03367	5.51766	0.2074443	0.24399628	2.5363776	21	11 12.8	19.5
505487 2013 WV ₈	17.7	X	343.52360	126.53107	249.26000	13.14001	0.1966645	0.24147932	2.5539717	21	10 21.6	20.2
505488 2013 WV ₁₄	17.3	X	6.03363	107.13733	238.17079	15.15057	0.2115366	0.23968620	2.5666936	21	10 27.9	19.8
505489 2013 WO ₁₇	16.7	X	341.95894	148.10141	221.43853	11.07257	0.0902062	0.23312494	2.6146299	21	10 5.3	19.7
505490 2013 WD ₃₇	17.5	X	331.78020	334.66957	29.96362	5.36476	0.1458780	0.22956242	2.6416109	21	9 12.6	20.2
505491 2013 WH ₃₇	17.2	X	249.13549	201.49209	270.00992	12.08863	0.1210866	0.23026777	2.6362137	21	9 23.4	21.1
505492 2013 WT ₄₈	17.6	X	249.30887	65.61082	329.92960	7.24841	0.2034187	0.21378638	2.7700187	21	6 12.1	22.1
505493 2013 WA ₄₉	17.2	X	339.44305	41.62488	329.25721	8.32632	0.1558334	0.23853333	2.5749571	21	10 2.6	19.9
505494 2013 WC ₅₆	16.9	X	16.50375	84.00117	257.23006	8.73848	0.1248124	0.24172118	2.5522678	21	10 28.7	19.9
505495 2013 WH ₆₃	16.6	X	322.43595	164.18550	273.66864	16.02856	0.1839123	0.23424778	2.6062679	21	12 9.1	19.0
505496 2013 WM ₆₄	17.2	X	301.62515	189.14833	225.33702	6.77520	0.3186637	0.23556840	2.5965181	21	8 25.0	19.8
505497 2013 WW ₆₄	15.9	X	284.35352	286.88017	87.77033	12.99420	0.1037851	0.21681912	2.7441278	21	7 11.0	19.5
505498 2013 WY ₆₅	16.1	X	166.39618	36.24106	80.59087	15.92713	0.0974767	0.20417926	2.8562418	21	7 8.3	20.5
505499 2013 WS ₆₉	17.6	X	330.48601	347.67425	37.09715	2.82161	0.2258877	0.23978586	2.5659824	21	10 7.5	19.4
505500 2013 WE ₇₄	17.1	X	260.12144	27.34650	81.18244	15.03015	0.2255051	0.23318458	2.6141840	21	10 4.1	21.0
505501 2013 WV ₇₄	17.8	X	280.25033	190.60321	220.69983	5.28157	0.1369005	0.22689915	2.6622416	21	8 17.1	21.2
505502 2013 WW ₇₆	16.9	X	310.24925	273.62290	80.44065	12.88723	0.2305476	0.22408104	2.6845158	21	6 30.9	19.9
505503 2013 WC ₈₅	17.2	X	336.07351	244.02967	87.95244	14.73558	0.3042694	0.22719367	2.6599403	21	7 12.8	19.1
505504 2013 WA ₈₇	16.5	X	260.73250	36.20838	54.54924	22.79233	0.0356122	0.23084736	2.6317994	21	10 12.8	20.3
505505 2013 WW ₈₈	17.3	X	39.84175	59.57501	251.96410	12.69616	0.1776398	0.24195533	2.5506209	21	11 1.4	20.6
505506 2013 WC ₈₉	17.3	X	30.90792	42.46518	258.76580	6.46429	0.1896587	0.23532181	2.5983317	21	10 4.2	20.3
505507 2013 WL ₉₈	17.5	X	277.67132	160.75467	278.27969	2.06697	0.1308032	0.23242698	2.6198617	21	9 23.2	20.6
505508 2013 WX ₁₀₃	17.8	X	318.95519	126.94306	271.66115	4.43642	0.3172009	0.23921568	2.5700581	21	9 12.5	19.7
505509 2013 WT ₁₀₄	18.1	X	293.42998	323.88484	121.37759	5.19746	0.2418697	0.24123485	2.5556969	21	10 15.9	20.6
505510 2013 WP ₁₀₅	16.6	X	322.54043	140.54831	286.64127	21.36762	0.0494983	0.22575646	2.6712175	21	11 21.6	20.4
505511 2013 WS ₁₀₈	15.8	X	255.99096	182.27397	256.89758	21.03320	0.0420126	0.22415813	2.6839003	21	8 26.6	20.0
505512 2013 WL ₁₀₉	17.0	X	259.18895	40.56999	94.63856	7.89258	0.2399176	0.23247088	2.6195318	21	10 30.1	20.5
505513 2013 XO ₁	16.6	X	75.07153	196.82424	71.62320	26.84307	0					

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505521 2013 YZ ₁₆	17.0	X	270.90735	291.46211	133.85490	5.64757	0.1491757	0.21530142	2.7570086	21	8 23.5	20.8
505522 2013 YK ₁₈	17.3	X	296.31919	323.69869	81.72552	13.92622	0.1533792	0.23152743	2.6266432	21	9 11.3	20.6
505523 2013 YW ₂₃	17.0	X	253.66673	221.04835	256.87970	12.06770	0.2115837	0.23383772	2.6093140	21	9 25.7	20.9
505524 2013 YU ₂₄	17.8	X	306.87106	326.83832	86.75797	1.91815	0.1777710	0.23604427	2.5930272	21	10 2.5	20.4
505525 2013 YW ₂₄	16.8	X	266.09423	8.70586	69.51715	8.80055	0.1421187	0.22739632	2.6583598	21	9 9.7	20.5
505526 2013 YL ₂₇	17.4	X	213.74592	170.77674	300.85159	1.66572	0.1298048	0.20917931	2.8105430	21	8 18.4	21.7
505527 2013 YO ₂₇	17.5	X	252.22082	5.52378	100.49337	4.82798	0.2872957	0.22248620	2.6973295	21	9 6.0	21.6
505528 2013 YJ ₃₂	16.0	X	94.86536	245.17137	303.28520	11.89877	0.0856200	0.18386999	3.0628718	21	7 18.6	20.3
505529 2013 YP ₃₉	17.3	X	254.02061	346.86418	118.39245	13.55355	0.1083264	0.22090376	2.7101957	21	10 5.5	21.2
505530 2013 YU ₄₁	17.3	X	330.57188	144.57706	229.88259	5.08703	0.2910092	0.23646061	2.5899826	21	9 9.9	19.0
505531 2013 YQ ₄₂	16.7	X	353.79847	337.09352	53.30702	5.96401	0.2742783	0.24263165	2.5458789	21	12 21.1	18.9
505532 2013 YE ₄₃	17.4	X	259.68786	114.45541	311.24140	6.60803	0.2178866	0.21406379	2.7676250	21	7 30.6	21.4
505533 2013 YS ₄₄	16.7	X	192.32059	211.45030	298.49421	12.09435	0.1828483	0.20974079	2.8055248	21	9 6.2	21.5
505534 2013 YU ₅₁	17.1	X	308.31905	77.46399	283.74924	5.12325	0.0926646	0.20828850	2.8185507	21	7 28.7	20.6
505535 2013 YQ ₅₄	16.9	X	334.00871	80.33280	269.07721	10.75289	0.1951261	0.22603339	2.6690353	21	8 13.1	19.7
505536 2013 YC ₅₇	17.4	X	259.22806	83.66274	49.82803	7.12331	0.2623497	0.23331684	2.6131961	21	10 22.7	21.0
505537 2013 YE ₅₈	17.1	X	281.51393	150.21473	276.55624	8.47196	0.1209601	0.22973177	2.6403125	21	9 9.6	20.6
505538 2013 YY ₇₆	17.3	X	297.54174	356.47445	74.78184	4.06843	0.2112121	0.23123198	2.6288802	21	10 5.8	19.9
505539 2013 YL ₈₁	16.8	X	137.81462	36.37714	106.13823	10.48961	0.0633628	0.19099906	2.9861748	21	7 7.6	21.1
505540 2013 YW ₈₂	16.7	X	237.37658	148.19445	301.84317	8.62432	0.1115243	0.21133120	2.7914315	21	8 16.9	20.8
505541 2013 YJ ₉₇	16.4	X	59.37600	86.54861	106.72316	8.56359	0.1298327	0.17645989	3.1480289	21	6 13.8	20.6
505542 2013 YN ₁₀₀	17.2	X	286.19455	285.85472	167.06514	5.53570	0.2030617	0.23166074	2.6256354	21	10 17.1	20.0
505543 2013 YF ₁₁₄	16.2	X	315.12245	332.67045	304.34399	14.84506	0.0430467	0.17149005	2.2085596	21	4 18.9	20.9
505544 2013 YY ₁₁₅	17.0	X	209.93500	190.53275	298.56275	6.91057	0.1669601	0.21019901	2.8014461	21	8 31.6	21.6
505545 2013 YH ₁₁₆	16.0	X	229.24526	252.45139	119.06358	10.62398	0.0944491	0.17529008	3.1620191	21	5 8.4	21.0
505546 2013 YH ₁₂₀	17.1	X	246.07176	310.09810	127.34726	4.25623	0.0407078	0.21067966	2.7971836	21	8 23.1	21.0
505547 2013 YW ₁₂₆	16.2	X	82.93861	229.03477	299.26430	26.04494	0.1921168	0.17757246	3.1348660	21	6 26.2	20.8
505548 2013 YF ₁₃₁	16.7	X	250.01959	9.91995	77.22650	12.42209	0.0418111	0.21532606	2.7567983	21	9 16.7	20.7
505549 2013 YF ₁₃₃	17.0	X	284.94468	67.58841	327.00748	10.96438	0.2096354	0.21685137	2.7438557	21	7 24.1	20.7
505550 2013 YS ₁₃₉	16.2	X	151.03402	163.18864	308.72915	9.04370	0.0516943	0.18032830	3.1028454	21	6 13.1	20.9
505551 2013 YD ₁₄₀	17.2	X	320.86775	122.79440	273.60608	4.17725	0.1915534	0.23812354	2.5779104	21	9 30.9	19.7
505552 2013 YN ₁₄₄	17.2	X	198.33653	51.40610	46.79842	6.64817	0.0274891	0.20058456	2.8902654	21	7 23.3	21.4
505553 2013 YS ₁₄₉	16.7	X	238.90760	235.13513	253.76148	12.25336	0.2272350	0.22749063	2.6576250	21	9 20.7	21.1
505554 2014 AW ₂	17.5	X	256.39370	168.97809	3.42563	3.35183	0.1327385	0.24129961	2.5552396	21	12 29.3	20.6
505555 2014 AS ₇	16.7	X	188.41353	222.48582	305.20932	12.34492	0.1766694	0.21471643	2.7620139	21	9 23.9	21.4
505556 2014 AC ₈	17.0	X	282.29012	335.40288	93.37637	6.23994	0.0979262	0.22028998	2.7152275	21	9 24.6	20.5
505557 2014 AC ₁₃	16.9	X	286.72563	182.09921	239.95485	14.08099	0.0772243	0.23172774	2.6251293	21	9 16.2	20.5
505558 2014 AY ₁₄	17.6	X	239.28100	244.92859	193.96428	8.97874	0.2123289	0.20996661	2.8035129	21	7 24.4	22.3
505559 2014 AD ₃₆	16.4	X	206.87762	150.98458	253.23799	9.36779	0.1365040	0.19453783	2.9498504	21	5 18.4	21.1
505560 2014 AV ₃₆	17.9	X	303.02204	231.71978	165.58444	2.46845	0.2117770	0.22926368	2.6439052	21	8 24.1	20.4
505561 2014 AC ₃₇	17.1	X	303.47370	239.54645	137.32556	3.19357	0.1818860	0.22269239	2.6956643	21	7 30.7	20.2
505562 2014 AW ₄₀	17.2	X	219.61337	196.16354	298.36555	6.82048	0.1616764	0.21553569	2.7550105	21	9 16.7	21.6
505563 2014 AX ₄₂	17.9	X	276.71452	346.62784	96.63679	2.05729	0.1739405	0.23169338	2.6253888	21	9 23.0	21.0
505564 2014 AA ₄₃	16.9	X	8.79583	223.65645	113.95362	6.54426	0.2679303	0.23899808	2.5716179	21	11 5.3	19.3
505565 2014 AT ₄₅	16.8	X	222.61625	24.82299	109.49085	16.19466	0.2487647	0.21455120	2.7634318	21	9 21.6	21.6
505566 2014 AX ₅₁	16.7	X	298.60122	82.09742	337.79452	21.53595	0.0952444	0.23026281	2.6362516	21	9 26.0	20.1
505567 2014 BC ₁	17.3	X	260.75709	189.74876	292.80804	6.51419	0.2456488	0.23050226	2.6344255	21	10 7.4	21.0
505568 2014 BY ₄	16.3	X	288.71487	115.72557	299.51435	12.18182	0.1036881	0.22032826	2.7149130	21	9 5.2	19.9
505569 2014 BS ₆	16.3	X	249.16183	35.03257	320.82885	8.38887	0.0928706	0.17516900	3.1634760	21	5 3.3	21.2
505570 2014 BY ₁₀	16.7	X	337.79848	275.68194	95.94970	14.71010	0.0955750	0.22223678	2.6993472	21	10 10.9	20.2
505571 2014 BK ₁₅	16.9	X	323.61489	344.30778	13.09943	3.04819	0.1917672	0.21401807	2.7680191	21	8 8.6	19.6
505572 2014 BQ ₁₅	16.7	X	348.29663	267.53935	71.42704	5.93148	0.0884096	0.21146991	2.7902106	21	9 6.1	20.0
505573 2014 BS ₁₆	17.4	X	284.32588	333.90988	99.28707	12.85334	0.0802621	0.22268391	2.6957327	21	10 10.1	21.1
505574 2014 AA ₂₂	16.3	X	267.76172	51.19240	312.34914	10.24974	0.0414726	0.18303301	3.0720220	21	6 13.9	20.8
505575 2014 BB ₂₄	17.1	X	210.74430	351.88556	157.13654	17.74856	0.1965287	0.21293141	2.7774285	21	9 29.1	21.7
505576 2014 BZ ₃₁	17.1	X	223.86641	350.17938	141.81815	10.22647	0.2510367	0.21454784	2.7634606	21	9 15.1	21.6
505577 2014 BX ₃₈	16.3	X	262.34250	235.39052	152.75545	16.01741	0.0802410	0.18602581	3.0391625	21	7 3.3	20.9
505578 2014 BA ₃₉	16.8	X	227.34540	317.58248	150.20972	15.62165	0.0976433	0.20264801	2.8706119	21	8 31.9	21.1
505579 2014 BM ₃₉	16.7	X	241.00959	145.55980	320.09245	10.20073	0.2520492	0.21226245	2.7832610	21	8 25.5	21.0
505580 2014 BL ₄₇	16.2	X	345.59775	329.22852	321.35395	8.88710	0.0276177	0.18181355	3.0859239	21	6 25.8	20.4
505581 2014 BR ₄₇	16.7	X	206.53394	9.75156	138.37497	17.99043	0.1722312	0.21134804	2.7912832	21	9 27.7	21.4
505582 2014 BN ₄₈	16.1	X	5.97092	309.64689	337.77198	8.73736	0.0466667	0.18065633	3.0990881	21	7 21.7	20.2
505583 2014 BV ₅₀	17.5	X	301.52890	89.86123	30.54101	5.93222	0.1440452	0.24503697	2.5291911	21	—	—
505584 2014 BP ₅₃	16.9	X	288.72110	272.19964	126.63065	9.27478	0.1558071	0.21152406	2.7897345	21	8 11.5	20.4
505585 2014 BC ₆₁	16.9	X	262.53939	315.91330	123.57790	14.89821	0.2179568	0.21605515	2.7505928	21	8 22.8	20.9
505586 2014 BT ₆₂	16.5	X	20.51248	255.85742	341.35856	9.87607	0.0976878	0.17554243	3.1589880	21	6 5.6	20.6
505587 2014 BV ₆₃	15.8	X	127.01705	191.90838	322.40485	21.64312	0.0538009	0.18162175	3.0880961	21	7 13.9	20.5
505588 2014 CX	16.1	X	98.25390	219.81612	311.59239	11.03671	0.0615073	0.18295236	3.0731048	21	7 11.4	20.5
505589 2014 CZ ₄	16.3	X	179.51083	299.68011	229.56781	24.35154	0.3793820	0.20333486	2.8641438	21	9 12.7	22.3
505590 2014 CA ₅	17.7	X	295.29252	96.08111	350.88420	27.33030	0.4247293	0.23659191	2.5890243	21	9 13.3	20.0
505591 2014 CL ₅	17.5	X	263.32078	26.86900	38.17807	3.03710	0.1767271	0.21074521	2.7966036	21	8 9.6	21.4
505592 2014 CE ₁₁	16.7	X	190.19590	131.62035	345.83725	12.11149	0.1133048	0.19744421	2.9208311	21	8 5.9	21.3
505593 2014 CR ₁₅	16.3	X	137.83255	209.24385	30							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>		
505601	2014	DC ₅₀	16.6 ^m	X	165.73230	339.74757	154.51008	13.14610	0.1080267	0.18434319	3.0576280	21	7 28.4	21.5
505602	2014	DV ₅₀	16.7	X	170.41228	97.77113	21.69731	8.99523	0.0445842	0.17946899	3.1127418	21	7 16.9	21.4
505603	2014	DM ₉₁	16.1	X	44.86524	243.83930	346.33057	8.02993	0.1343363	0.17132821	3.2105798	21	7 12.5	20.3
505604	2014	DC ₉₂	16.8	X	173.37332	123.82763	339.52064	7.00350	0.1169015	0.18085785	3.0967856	21	6 29.7	21.7
505605	2014	DV ₉₅	16.7	X	213.73926	125.82025	327.89014	8.34517	0.1095010	0.18749685	3.0232454	21	7 29.2	21.3
505606	2014	DP ₁₀₆	17.0	X	202.07406	290.34436	169.56353	8.92502	0.1686104	0.19049065	2.9914857	21	7 19.7	22.0
505607	2014	DM ₁₁₃	17.3	X	175.29894	173.20992	292.92290	1.10244	0.2168825	0.18535905	3.0464462	21	7 5.2	22.3
505608	2014	DJ ₁₂₃	15.6	X	253.65064	349.15408	292.70151	1.32097	0.2216843	0.12684698	3.9229787	21	2 7.8	21.8
505609	2014	DH ₁₄₄	18.1	X	213.66339	73.06609	190.97224	21.51582	0.0588256	0.36964797	1.9228430	21	—	—
505610	2014	EZ ₄	16.1	X	32.38794	256.98394	349.45348	10.04963	0.0776310	0.17167590	3.2062435	21	7 8.3	20.4
505611	2014	EK ₅	16.3	X	345.21578	125.03511	165.08687	10.96648	0.0499259	0.17313872	3.1881585	21	6 23.2	20.8
505612	2014	EX ₇	16.0	X	203.69882	82.68936	8.30367	14.51418	0.1372037	0.18513943	3.0488549	21	7 16.4	21.1
505613	2014	EF ₂₁	16.1	X	291.72521	48.78068	304.30901	8.61948	0.0764608	0.18242569	3.0790167	21	6 27.1	20.3
505614	2014	EA ₄₅	16.7	X	197.39867	30.42439	57.46645	10.33913	0.0804364	0.18023138	3.1039576	21	7 5.1	21.5
505615	2014	EK ₄₆	16.2	X	280.59378	272.72123	128.93533	11.98263	0.1026557	0.19475015	2.9477061	21	8 11.0	20.2
505616	2014	EL ₄₆	16.1	X	104.19837	43.36073	144.58274	17.54996	0.0865432	0.17881419	3.1203363	21	7 27.8	20.7
505617	2014	EX ₄₇	16.1	X	91.93499	158.13651	30.01637	10.98980	0.0679751	0.17610542	3.1522518	21	7 13.2	20.8
505618	2014	FE ₁₈	16.7	X	158.16327	297.35286	186.34432	16.06848	0.1759577	0.18000222	3.1065915	21	7 9.4	22.1
505619	2014	FZ ₁₉	16.1	X	124.00231	216.85799	303.55514	8.45906	0.0285128	0.18224905	3.0810059	21	7 10.9	20.5
505620	2014	FJ ₃₉	18.2	X	225.80143	82.11290	176.01561	22.36240	0.0703804	0.37770627	1.8953958	21	—	—
505621	2014	FL ₃₉	15.9	X	254.73552	25.03354	69.65078	12.86430	0.0256724	0.19312343	2.9642357	21	10 2.7	20.2
505622	2014	FA ₅₁	16.2	X	22.57413	70.58033	165.41720	9.77739	0.1897614	0.16219015	3.3300678	21	6 16.6	20.1
505623	2014	GB ₃₉	16.3	X	263.01994	27.37006	67.15408	6.78575	0.0146601	0.19944099	2.9013031	21	10 11.3	20.4
505624	2014	HU ₅₃	5.7	X	324.55305	117.35217	178.66592	23.51049	0.1744978	0.00341590	43.6649214	21	5 29.8	21.6
505625	2014	HT ₁₁	16.1	X	140.64636	299.08863	197.62813	26.30850	0.1816601	0.17294743	3.1905901	21	7 7.9	21.8
505626	2014	HE ₈₃	16.5	X	148.16463	94.23527	47.88160	16.27988	0.2048068	0.17432958	3.1736230	21	7 30.4	22.1
505627	2014	HP ₁₁₃	16.8	X	189.15730	39.81356	79.18754	10.95728	0.2394116	0.18182486	3.0857960	21	8 2.2	22.3
505628	2014	HL ₁₄₃	16.5	X	198.10290	287.31306	193.07666	20.16112	0.1594993	0.18244211	3.0788320	21	8 7.4	21.8
505629	2014	HW ₁₄₅	16.6	X	141.94106	107.50538	38.69735	12.95338	0.1162214	0.17552088	3.1592465	21	7 23.8	21.7
505630	2014	HB ₁₈₇	15.4	X	315.33600	166.02153	79.40638	10.20606	0.1931807	0.12521877	3.9569123	21	3 9.9	20.8
505631	2014	HA ₁₈₈	16.3	X	121.96082	94.38113	69.60759	14.23561	0.2311189	0.17205218	3.2015670	21	8 4.0	21.8
505632	2014	HQ ₅	15.2	X	91.35045	108.66426	75.72253	25.64947	0.2219565	0.15991034	3.3616437	21	7 28.6	20.6
505633	2014	HJ ₅₆	18.9	X	247.94407	126.82720	196.98930	26.18520	0.0436306	0.40081365	1.8218294	21	2 22.7	21.4
505634	2014	KA	18.0	X	197.88233	88.86896	192.20999	21.10505	0.0473042	0.36918399	1.9244537	21	—	—
505635	2014	KG ₁₀₂	19.0	X	231.64354	64.72929	233.73747	20.50926	0.0645596	0.38349170	1.8762847	21	—	—
505636	2014	LA ₂₉	17.8	X	84.03434	241.17154	169.00186	23.38257	0.0760197	0.36862814	1.9263878	21	—	—
505637	2014	MH ₂₇	18.5	X	88.81484	237.04107	227.77589	21.34040	0.1280491	0.39134388	1.8511020	21	2 6.3	20.4
505638	2014	MM ₇₀	18.8	X	110.14990	90.70506	317.38226	16.83849	0.0949734	0.36180913	1.9050168	21	1 2.8	20.6
505639	2014	MO ₇₀	18.0	X	347.14593	189.81573	332.75764	17.73135	0.0600245	0.36109614	1.9530835	21	—	—
505640	2014	NB ₃₇	17.9	X	309.08183	267.51426	299.46777	17.08094	0.0528303	0.36513941	1.9386388	21	—	—
505641	2014	OS ₄₀	18.7	X	294.25339	272.78357	312.97182	17.87919	0.0718703	0.37097181	1.9182658	21	—	—
505642	2014	OX ₆₃	18.5	X	74.56575	87.98418	330.94394	16.24589	0.1120305	0.35036079	1.9927786	21	—	—
505643	2014	OQ ₉₈	17.8	X	307.99369	237.29700	317.92107	20.87821	0.0517122	0.35508807	1.9750526	21	—	—
505644	2014	OF ₁₅₂	16.1	X	152.80531	184.12376	347.47429	7.40142	0.1068442	0.15496201	3.4328321	21	8 30.7	21.4
505645	2014	OB ₃₀₀	18.2	X	348.79387	174.32021	0.09092	16.38794	0.0893491	0.37322015	1.9105541	21	—	—
505646	2014	QT ₃₂	17.9	X	294.40293	279.64384	309.68719	17.54680	0.0624318	0.36815455	1.9280395	21	—	—
505647	2014	QH ₃₂₇	18.1	X	217.62137	134.14166	177.00965	21.94124	0.0736457	0.35776266	1.9651968	21	1 7.5	21.0
505648	2014	QO ₃₅₄	18.4	X	71.18323	300.57837	170.04000	23.66155	0.0928331	0.36024104	1.9561730	21	1 25.0	20.5
505649	2014	QL ₄₄₃	18.4	X	216.37947	97.42567	197.19402	21.25868	0.0760071	0.35689502	1.9683805	21	—	—
505650	2014	RW ₁₁	18.2	X	81.87622	292.05551	180.59714	23.32436	0.0944496	0.36990150	1.9219643	21	2 15.5	19.9
505651	2014	RK ₁₈	18.3	X	7.30951	339.07903	181.75023	24.04737	0.0842933	0.35903449	1.9605531	21	—	—
505652	2014	RL ₂₅	18.4	X	91.67371	56.79120	324.84326	17.29543	0.0446126	0.34257550	2.0228570	21	—	—
505653	2014	RY ₄₁	17.7	X	64.84350	89.84857	11.15887	18.92333	0.1014257	0.35207820	1.9862929	21	1 5.1	19.8
505654	2014	RU ₆₃	18.2	X	111.65678	247.35719	170.58468	24.52780	0.0814947	0.36018979	1.9563585	21	1 14.6	20.6
505655	2014	SZ ₃₀₇	18.7	X	79.30444	129.11055	205.41250	6.24608	0.2665810	0.31138341	2.1557864	21	—	—
505656	2014	SG ₃₃₇	18.5	X	75.45734	191.30556	137.99987	2.52530	0.2037948	0.30782085	2.1723878	21	—	—
505657	2014	SR ₃₃₉	18.5	X	138.75073	299.63737	138.75454	29.79618	0.3038596	0.66534999	1.2994790	21	4 12.2	19.7
505658	2014	SU ₃₅₀	18.5	X	124.98563	179.94973	203.97941	20.67564	0.0843280	0.34643798	2.0077935	21	—	—
505659	2014	TN ₃₂	18.3	X	81.78993	310.42079	56.57431	1.85190	0.1479350	0.31298460	2.1484277	21	—	—
505660	2014	TN ₃₃	18.3	X	1.42836	285.60416	222.54856	20.19158	0.0827144	0.34667005	2.0068974	21	—	—
505661	2014	TU ₃₅	18.2	X	16.44859	309.41150	217.57916	19.86306	0.0710944	0.35663641	1.9693320	21	1 11.3	20.6
505662	2014	TL ₄₄	16.3	X	32.93872	244.93960	204.89312	6.92264	0.1417447	0.17707985	3.1406771	21	—	—
505663	2014	UR ₅	16.9	X	236.17104	221.57074	107.67573	5.89905	0.0663673	0.21251462	2.7810588	21	3 22.2	21.0
505664	2014	UU ₇	16.2	X	185.64005	270.81614	158.21964	14.53894	0.0575226	0.23628390	2.5912738	21	5 30.3	20.2
505665	2014	UP ₁₀	18.4	X	333.74432	71.73059	28.91014	4.16408	0.1492155	0.29861989	2.2167849	21	—	—
505666	2014	UL ₃₂	18.7	X	82.40445	170.99666	166.99749	3.22442	0.1300725	0.30502674	2.1856340	21	—	—
505667	2014	UV ₃₃	17.8	X	91.12371	335.31714	115.69527	8.86256	0.4138919	0.34441117	2.0156629	21	4 16.7	19.9
505668	2014	UY ₄₁	16.9	X	214.17078	13.93332	52.69287	14.12649	0.1456188	0.23870066	2.5737536	21	6 20.5	21.0
505669	2014	UA ₄₇	18.4	X	82.32904	234.07133	113.03662	1.19388	0.1729632	0.31202635	2.1528240	21	—	—
505670	2014	UZ ₅₁	17.7	X	6.52226	7.85501	3.45046	4.81647	0.1630386	0.29151875	2.2526396	21	12 13.	

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505681 2014 <i>WT</i> ₁₂₅	18.1	X	13.76265	121.62971	259.56926	7.34416	0.1357439	0.28933380	2.2639662	21	—	—
505682 2014 <i>WJ</i> ₁₃₈	17.7	X	104.13113	4.17368	253.66041	1.60705	0.1918234	0.27426825	2.3461315	21	11 11.8	21.5
505683 2014 <i>WL</i> ₂₃₉	18.3	X	160.27547	158.47386	113.64303	7.52871	0.0257586	0.30404790	2.1903224	21	—	—
505684 2014 <i>WP</i> ₂₇₉	18.6	X	24.73615	264.53038	152.49446	4.73796	0.1438332	0.30506608	2.1854461	21	—	—
505685 2014 <i>WC</i> ₂₉₉	17.7	X	10.73206	129.70750	312.54222	5.57484	0.1126106	0.29939921	2.2129365	21	—	—
505686 2014 <i>WF</i> ₃₆₀	18.9	X	300.66665	158.36426	338.46979	6.05913	0.0582877	0.30123822	2.2039209	21	—	—
505687 2014 <i>WP</i> ₄₂₇	17.8	X	240.29455	1.53028	159.02389	6.09448	0.1828119	0.26109532	2.4243947	21	11 19.7	21.1
505688 2014 <i>WR</i> ₄₂₈	16.6	X	105.77336	165.37404	90.40503	10.17232	0.0122673	0.24083810	2.5585030	21	10 27.2	20.1
505689 2014 <i>WH</i> ₄₆₉	16.7	X	184.09341	358.25387	144.21900	14.23209	0.0990324	0.23175896	2.6248936	21	8 31.1	20.6
505690 2014 <i>WG</i> ₄₇₈	16.5	X	253.09613	160.80211	260.63377	13.49805	0.0850642	0.23458625	2.6037604	21	7 30.9	20.3
505691 2014 <i>WV</i> ₄₇₉	18.0	X	325.83288	223.81733	235.24325	4.43269	0.1766132	0.28001860	2.3139011	21	—	—
505692 2014 <i>WA</i> ₄₈₄	19.0	X	16.95057	66.98236	354.43610	1.58575	0.1088639	0.30241627	2.1981936	21	—	—
505693 2014 <i>WA</i> ₄₈₅	18.1	X	302.70310	235.87255	263.23565	8.89132	0.1322214	0.29821514	2.2187903	21	—	—
505694 2014 <i>WB</i> ₄₉₂	17.1	X	355.22397	56.43653	358.61202	8.71761	0.1025396	0.28533941	2.2850456	21	—	—
505695 2014 <i>WS</i> ₄₉₈	16.6	X	222.85756	293.15309	119.41365	15.27803	0.1574795	0.23981862	2.2657487	21	6 13.4	20.8
505696 2014 <i>YD</i> ₅	17.9	X	350.39624	327.66299	99.31904	3.54125	0.1465810	0.28441676	2.2899847	21	—	—
505697 2014 <i>YE</i> ₅	15.7	X	100.12302	341.92335	108.29799	10.48886	0.1259151	0.18513096	3.0489479	21	4 1.3	20.1
505698 2014 <i>YO</i> ₁₉	17.8	X	247.49078	180.33892	32.02288	5.86815	0.0750406	0.30529581	2.1843496	21	—	—
505699 2014 <i>YS</i> ₃₂	18.0	X	23.72855	338.00854	85.01427	4.38491	0.1472301	0.29892723	2.2152652	21	—	—
505700 2014 <i>YD</i> ₄₁	16.3	X	120.96305	185.19418	312.93095	12.94748	0.1391793	0.21051524	2.7986399	21	6 21.3	20.7
505701 2014 <i>YF</i> ₄₁	17.0	X	296.30544	58.11541	2.89514	6.63081	0.0971107	0.25723278	2.4486037	21	10 6.2	19.6
505702 2014 <i>AX</i> ₁₁	17.1	X	165.72359	218.68384	343.30404	14.59608	0.0422106	0.25676383	2.4515842	21	10 23.1	20.7
505703 2015 <i>AU</i> ₂₈	19.0	X	12.69035	118.35530	305.50152	0.97637	0.1775449	0.29518286	2.2339595	21	—	—
505704 2015 <i>AK</i> ₅₄	16.4	X	349.08378	325.49830	285.41034	6.77429	0.1209052	0.20472441	2.8511691	21	4 27.6	19.8
505705 2015 <i>AF</i> ₇₆	16.7	X	114.73517	290.52249	284.09102	10.24885	0.1495790	0.23595070	2.5937127	21	9 15.9	20.9
505706 2015 <i>AA</i> ₈₉	17.9	X	265.45342	19.41653	137.04717	5.67831	0.0964146	0.28121739	2.3073205	21	—	—
505707 2015 <i>AU</i> ₁₁₁	18.2	X	295.61743	328.14707	178.61322	1.45788	0.0702970	0.28824592	2.2696589	21	—	—
505708 2015 <i>AU</i> ₁₁₄	17.7	X	226.38934	91.72573	117.73014	7.35431	0.0640311	0.28358287	2.2944718	21	—	—
505709 2015 <i>AB</i> ₁₂₀	16.7	X	86.38864	319.26348	289.05452	13.35083	0.0738857	0.24012235	2.5635846	21	9 17.5	20.5
505710 2015 <i>AJ</i> ₁₂₁	18.0	X	47.60277	60.00392	289.34219	5.65987	0.1344096	0.27490266	2.3425206	21	—	—
505711 2015 <i>AM</i> ₁₂₉	18.0	X	178.54417	140.37628	114.29868	2.13546	0.1000111	0.28136746	2.3065000	21	—	—
505712 2015 <i>AO</i> ₁₃₂	17.9	X	352.05968	160.46710	309.07413	5.21149	0.0807885	0.29779073	2.2208979	21	—	—
505713 2015 <i>AI</i> ₁₃₇	18.0	X	49.51356	82.05715	307.30823	5.88121	0.1448450	0.29520483	2.2338486	21	—	—
505714 2015 <i>AB</i> ₁₄₉	18.7	X	335.49153	75.71259	41.41337	2.45105	0.1510085	0.29370122	2.2414863	21	—	—
505715 2015 <i>AA</i> ₁₅₀	17.3	X	143.78295	270.14715	330.90177	6.16555	0.0855370	0.26037299	2.4248874	21	11 22.4	20.9
505716 2015 <i>AU</i> ₁₅₃	19.2	X	8.95816	89.89028	14.70164	1.70094	0.1784028	0.30410870	2.1900305	21	—	—
505717 2015 <i>AP</i> ₁₆₈	18.0	X	208.08630	199.81529	356.20500	1.10592	0.1366250	0.26544409	2.3978426	21	12 2.7	21.2
505718 2015 <i>AC</i> ₁₇₈	17.1	X	113.78495	322.62195	322.12694	7.63842	0.0998803	0.26666658	2.3905087	21	12 18.9	20.7
505719 2015 <i>AP</i> ₁₈₇	18.2	X	9.5942	291.95944	138.83073	3.00056	0.1332551	0.29260647	2.2470536	21	—	—
505720 2015 <i>AP</i> ₂₃₂	16.4	X	264.13514	15.77573	296.09207	10.34344	0.1224838	0.18446134	3.0563213	21	3 20.8	21.2
505721 2015 <i>AP</i> ₂₃₄	16.7	X	53.29885	339.07365	273.06948	8.17569	0.1629000	0.21426348	2.7659051	21	8 24.7	20.3
505722 2015 <i>AZ</i> ₂₃₇	17.2	X	136.68250	256.12024	285.31185	11.20001	0.1787931	0.22555902	2.6727761	21	8 28.5	21.7
505723 2015 <i>AO</i> ₂₄₄	16.9	X	180.33712	91.57424	58.30666	14.61149	0.0007381	0.22891316	2.6466035	21	9 16.7	20.7
505724 2015 <i>AQ</i> ₂₄₄	17.6	X	223.29886	88.01411	52.63143	13.75993	0.1261146	0.24537860	2.5268430	21	10 13.6	21.3
505725 2015 <i>AQ</i> ₂₅₄	18.4	X	56.34073	273.75536	105.30626	7.19927	0.1160196	0.28944143	2.2634049	21	—	—
505726 2015 <i>AN</i> ₂₅₆	17.7	X	136.71364	127.85308	75.61796	3.72616	0.0603722	0.24459038	2.5322688	21	9 28.3	21.2
505727 2015 <i>AY</i> ₂₅₇	18.5	X	16.81456	66.19280	22.16480	2.92806	0.1556745	0.30298770	2.1954289	21	—	—
505728 2015 <i>AN</i> ₂₆₆	17.9	X	48.66459	246.50327	113.17337	9.31168	0.2888295	0.29308989	2.245821	21	—	—
505729 2015 <i>BV</i> ₂	18.2	X	349.35792	124.71919	272.95398	5.30546	0.1278209	0.27126986	2.3633880	21	12 11.5	20.6
505730 2015 <i>BX</i> ₂	17.1	X	20.20971	186.05549	144.70114	7.27076	0.1107728	0.25238299	2.4798723	21	10 25.6	20.0
505731 2015 <i>BZ</i> ₄	16.7	X	129.66305	296.68680	267.82688	10.91557	0.1338010	0.23696855	2.5862802	21	9 17.2	20.9
505732 2015 <i>BD</i> ₅	17.5	X	200.24798	14.03213	156.61903	7.80051	0.1181588	0.25519049	2.4616505	21	10 26.0	21.1
505733 2015 <i>BX</i> ₈	17.8	X	297.34673	335.82562	137.48665	7.91518	0.0838949	0.27061280	2.3672120	21	12 27.2	20.3
505734 2015 <i>BP</i> ₁₆	17.5	X	239.80448	219.29386	304.47422	5.92374	0.0627050	0.26815105	2.3816780	21	12 11.1	20.6
505735 2015 <i>BX</i> ₁₉	17.4	X	308.63939	354.74528	112.52444	5.30360	0.1897533	0.27456189	2.3444585	21	—	—
505736 2015 <i>BB</i> ₂₈	17.6	X	246.62223	274.94171	260.58382	2.73199	0.1968072	0.26626095	2.3929359	21	12 15.1	20.3
505737 2015 <i>BX</i> ₃₁	16.5	X	333.91932	193.36113	129.05366	15.79310	0.0818270	0.22759292	2.6568287	21	7 17.6	19.6
505738 2015 <i>BM</i> ₃₃	17.5	X	103.71244	165.03844	81.65800	2.85241	0.1162609	0.24257372	2.5462843	21	10 20.2	21.2
505739 2015 <i>BQ</i> ₃₈	16.2	X	203.28185	300.13864	84.49248	13.35583	0.0612014	0.20297895	2.8674909	21	4 27.7	20.6
505740 2015 <i>BK</i> ₄₀	16.5	X	348.76910	311.97773	323.47389	11.90751	0.0513143	0.21562637	2.7542380	21	6 6.1	20.2
505741 2015 <i>BU</i> ₅₅	17.0	X	122.38296	231.00082	330.67676	11.76883	0.2328364	0.22940651	2.6428077	21	9 15.2	21.5
505742 2015 <i>BW</i> ₅₈	17.6	X	152.18680	255.04324	325.07893	4.82073	0.0945293	0.25174500	2.4840604	21	11 3.3	21.3
505743 2015 <i>BO</i> ₆₀	18.0	X	240.60060	74.68954	83.00471	2.34689	0.1232318	0.26410508	2.4059405	21	11 24.3	20.8
505744 2015 <i>BX</i> ₆₂	17.3	X	158.24730	245.65237	354.57714	6.14140	0.0505233	0.26470450	2.4023070	21	12 9.9	20.7
505745 2015 <i>BJ</i> ₇₁	17.2	X	299.76658	209.80768	269.34882	6.04075	0.0794438	0.27382059	2.3486879	21	—	—
505746 2015 <i>BD</i> ₇₂	18.0	X	356.92407	253.94387	158.08079	6.26238	0.0951689	0.27283432	2.3543447	21	—	—
505747 2015 <i>BU</i> ₈₆	16.7	X	249.93131	205.61928	146.43263	6.41271	0.0852363	0.19962783	2.8994925	21	5 4.3	21.0
505748 2015 <i>BG</i> ₈₈	18.0	X	276.69573	301.55941	161.75071	3.90020	0.1443168	0.26063214	2.4272662	21	10 30.6	20.7
505749 2015 <i>BD</i> ₈₉	17.2	X	103.95630	111.64174	126.56296	10.24728	0.2365687	0.22809704	2.6529126	21	10 21.7	21.7
505750 2015 <i>BM</i> ₉₀	16.6	X	353.98698	27.63341	289.87638	3.27971	0.0615402	0.22380715	2.6867056	21	8 12.7	19.9
505751 2015 <i>BX</i> ₉₈	17.6	X	305.07493	336.88710	115.04248	4.53809	0.1067975	0.27046147	2.3680950	21	12 8.9	19.9
505752 2015 <i>BH</i> ₉₉	17.9	X	29.15075	253.86467	127.72583	7.25889</						

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505761 2015 BR ₁₄₁	17.5	X	52.63953	284.72579	64.40379	6.97273	0.1431174	0.27075081	2.3664075	21	—	—
505762 2015 BF ₁₆₇	17.2	X	121.57877	109.90642	99.58022	4.86817	0.1810394	0.23020666	2.6366802	21	9 26.6	21.4
505763 2015 BH ₁₇₂	17.4	X	92.42619	284.62981	21.21390	2.23713	0.1186938	0.26575197	2.3959903	21	12 24.1	20.8
505764 2015 BZ ₁₈₆	18.1	X	47.65333	311.22160	59.92432	5.08986	0.1769763	0.28110631	2.3079283	21	—	—
505765 2015 BV ₁₈₉	16.4	X	50.61988	313.60930	317.56129	13.48628	0.1105594	0.22861066	2.6489376	21	9 7.8	19.9
505766 2015 BK ₂₀₆	18.0	X	18.01359	94.60698	313.88259	7.10797	0.2022546	0.29427707	2.2385412	21	—	—
505767 2015 BC ₂₂₇	16.7	X	192.98621	227.15313	202.59675	5.74175	0.0024844	0.21394749	2.7686278	21	6 8.1	20.4
505768 2015 BL ₂₂₉	17.4	X	93.37113	248.53955	31.82079	2.92333	0.1666678	0.26007446	2.4307348	21	11 25.8	—
505769 2015 BR ₂₃₈	18.1	X	349.53395	201.01221	254.83530	6.92901	0.0435252	0.29143111	2.2530912	21	—	—
505770 2015 BN ₂₅₂	16.4	X	64.94971	314.63746	280.27739	3.28317	0.1753793	0.21301342	2.7767157	21	8 22.6	20.1
505771 2015 BH ₂₅₄	18.8	X	32.34054	270.44866	157.88593	5.73196	0.1739640	0.29956545	2.2121177	21	—	—
505772 2015 BP ₂₅₄	16.9	X	115.90693	274.61063	304.21734	14.34838	0.0984994	0.23318890	2.6141517	21	9 16.4	21.0
505773 2015 BN ₂₆₀	15.9	X	29.23465	241.76247	302.18803	7.76852	0.0326858	0.18497910	3.0506164	21	4 3.4	20.2
505774 2015 BL ₂₆₄	16.9	X	303.40786	155.86424	256.21515	14.35151	0.1245272	0.24538284	2.5268139	21	9 23.1	20.0
505775 2015 BJ ₂₆₆	17.5	X	204.76431	11.34398	171.79524	1.31857	0.1296437	0.25768861	2.4457153	21	11 12.8	20.8
505776 2015 BF ₂₆₇	18.1	X	279.86408	176.65074	316.43221	3.21505	0.1304990	0.27191610	2.3596419	21	12 21.4	20.5
505777 2015 BE ₂₆₈	16.0	X	75.29658	302.00883	147.81388	16.95479	0.1171158	0.18956322	3.0012350	21	2 19.6	19.7
505778 2015 BZ ₂₆₈	17.3	X	252.37349	21.73061	138.70431	7.31982	0.0512969	0.27332064	2.3515512	21	12 27.4	20.1
505779 2015 BM ₂₇₀	17.8	X	245.45886	106.08981	25.97547	2.85613	0.1561296	0.25607681	2.4559671	21	10 20.8	21.1
505780 2015 BR ₂₇₁	16.2	X	318.19148	282.91326	319.99478	9.74640	0.0888295	0.17555614	3.1588235	21	3 9.1	20.5
505781 2015 BW ₂₇₈	17.7	X	217.68848	180.81998	324.46095	3.19662	0.0848474	0.24660421	2.5184639	21	10 11.4	21.3
505782 2015 BP ₂₈₅	17.0	X	86.97178	39.28797	211.38357	7.21626	0.1555987	0.23525322	2.5988367	21	10 8.3	20.8
505783 2015 BZ ₂₈₆	16.2	X	20.20724	43.94679	234.67669	12.05388	0.1475876	0.22285781	2.6943301	21	8 3.1	19.4
505784 2015 BO ₂₉₂	17.9	X	325.89996	276.60854	148.04855	4.87354	0.1275945	0.26619381	2.3933382	21	12 8.1	19.9
505785 2015 BH ₂₉₄	17.1	X	65.35360	65.07358	208.36467	13.16424	0.1460486	0.23390871	2.6087860	21	10 11.0	20.7
505786 2015 BB ₂₉₅	17.4	X	290.06036	217.07382	175.85698	16.87987	0.1240070	0.23739288	2.5831973	21	8 8.4	20.8
505787 2015 BS ₂₉₆	16.5	X	63.98853	351.18727	256.59694	12.83488	0.1417105	0.22055178	2.7130783	21	8 28.1	20.4
505788 2015 BD ₂₉₇	16.6	X	12.03638	201.47843	146.79953	14.80815	0.0571997	0.24175995	2.5519949	21	10 30.9	20.0
505789 2015 BG ₂₉₉	17.4	X	175.78435	44.64115	148.81162	6.12951	0.1513260	0.23879949	2.5730435	21	10 25.8	21.5
505790 2015 BP ₃₀₁	17.7	X	347.20210	311.88608	124.38262	5.38468	0.2035168	0.27223565	2.3577951	21	—	—
505791 2015 BC ₃₀₂	17.3	X	187.51669	118.97224	62.13853	8.22275	0.1311523	0.23807294	2.5782757	21	10 23.0	21.2
505792 2015 BJ ₃₀₃	16.4	X	103.45406	165.89613	24.73800	10.63118	0.0401682	0.20387725	2.8590617	21	7 29.4	20.6
505793 2015 BZ ₃₀₃	17.5	X	226.92722	15.70052	124.62451	4.98536	0.1826907	0.24167606	2.5525855	21	10 7.4	21.3
505794 2015 BK ₃₀₅	17.3	X	237.51921	27.98157	102.43151	4.68431	0.0866017	0.23974286	2.5662892	21	10 18.9	20.8
505795 2015 BP ₃₀₅	18.0	X	278.01676	120.48686	24.64357	4.02928	0.1459002	0.26745229	2.3858245	21	—	—
505796 2015 BX ₃₁₅	17.5	X	208.88784	342.78690	191.24011	8.04594	0.0489754	0.28342698	2.2953130	21	11 20.6	20.5
505797 2015 BQ ₃₃₁	17.6	X	0.44905	317.39014	357.02176	3.25371	0.0767659	0.23219494	2.6216068	21	8 21.6	20.6
505798 2015 BH ₃₃₂	17.5	X	175.38309	280.67549	319.28423	6.24583	0.0794120	0.27131394	2.3631320	21	12 30.0	20.8
505799 2015 BO ₃₄₂	18.0	X	243.76716	79.92878	44.87134	3.77205	0.1449736	0.25358670	2.4720186	21	10 11.4	21.3
505800 2015 BH ₃₅₃	16.8	X	319.81815	58.32092	104.79681	10.09342	0.0249578	0.23270929	2.6177424	21	8 24.3	20.1
505801 2015 BT ₃₅₅	18.4	X	25.85085	313.12904	313.39018	4.53526	0.1941674	0.29537294	2.2330010	21	—	—
505802 2015 BQ ₃₅₇	17.7	X	31.12524	357.38669	2.39466	6.62316	0.1100843	0.26705778	2.3881736	21	12 20.3	20.7
505803 2015 BG ₃₆₇	17.7	X	354.86889	11.79451	16.07496	6.98531	0.1151973	0.27205703	2.3588270	21	12 4.2	20.1
505804 2015 BJ ₃₇₈	17.4	X	344.40502	35.12348	49.23658	7.15808	0.0475529	0.28020112	2.3128962	21	—	—
505805 2015 BT ₃₉₇	17.2	X	66.60813	249.45022	1.81317	2.13189	0.1149366	0.22730199	2.6590952	21	9 9.1	20.7
505806 2015 BF ₄₀₀	17.6	X	129.95385	197.05475	86.31504	7.14323	0.0920853	0.26895506	2.3769292	21	—	—
505807 2015 BM ₄₀₂	17.8	X	22.32350	82.28552	282.67604	0.54344	0.1801046	0.26513529	2.3997041	21	12 25.7	20.5
505808 2015 BP ₄₀₅	17.8	X	15.70583	171.78608	143.21297	7.89875	0.0298911	0.23362788	2.6108761	21	9 13.1	21.0
505809 2015 BS ₄₀₅	17.0	X	0.41322	23.34768	311.22720	5.43691	0.1955803	0.23756133	2.5819761	21	9 25.7	19.3
505810 2015 BJ ₄₁₁	17.2	X	65.11540	280.04107	345.75891	2.81425	0.0800423	0.23126260	2.6286481	21	9 20.9	20.7
505811 2015 BV ₄₁₆	16.5	X	358.60746	2.45333	331.98043	14.28362	0.2643492	0.23718439	2.5847109	21	9 24.7	18.5
505812 2015 BG ₄₂₅	16.0	X	248.87778	357.25070	326.18763	17.49892	0.0750202	0.18122483	3.0926036	21	3 21.4	20.8
505813 2015 BT ₄₂₆	17.7	X	9.87666	271.06118	70.24258	0.59383	0.1140583	0.24230197	2.5481877	21	10 19.1	20.5
505814 2015 BR ₄₂₇	17.0	X	296.00904	12.89622	11.04170	1.67640	0.0888543	0.23169348	2.6253880	21	8 13.5	20.3
505815 2015 BX ₄₂₉	16.8	X	297.06297	60.45677	331.40632	13.61057	0.0836300	0.23529350	2.5985402	21	8 26.4	19.8
505816 2015 BP ₄₃₂	17.8	X	293.43758	32.01044	343.99748	11.26390	0.2017533	0.23172980	2.6251138	21	7 12.9	21.2
505817 2015 BU ₄₃₆	18.5	X	310.95377	34.74476	27.02821	1.53141	0.1631997	0.25810810	2.4430647	21	10 28.3	20.6
505818 2015 BL ₄₄₂	17.2	X	67.54847	284.36393	339.54243	6.47257	0.0807415	0.22718541	2.6600049	21	9 20.3	20.8
505819 2015 BL ₄₄₃	17.8	X	199.76720	80.99894	87.21963	2.43820	0.0263904	0.24724025	2.5141427	21	10 28.6	21.1
505820 2015 BZ ₄₄₇	16.8	X	247.48648	57.08671	359.71137	9.69995	0.0795985	0.22391308	2.6858582	21	7 25.9	20.7
505821 2015 BQ ₄₄₉	17.7	X	349.49205	265.16963	114.32115	6.33932	0.1123645	0.25105232	2.4886275	21	11 11.2	20.4
505822 2015 BP ₄₅₁	17.9	X	35.49423	92.09214	349.87953	5.92051	0.0726254	0.29730759	2.2233033	21	—	—
505823 2015 BK ₄₅₄	16.4	X	247.43641	33.98673	324.57197	8.97545	0.0401889	0.19955706	2.9001780	21	5 8.9	20.7
505824 2015 BK ₄₅₅	16.2	X	242.67216	176.49241	126.03816	7.09351	0.1179030	0.16844394	3.2471258	21	2 25.3	21.2
505825 2015 BF ₄₅₇	16.9	X	19.49038	191.85323	145.29158	18.98527	0.2326720	0.24690102	2.5164451	21	11 23.4	20.2
505826 2015 BN ₄₆₃	16.9	X	254.13180	110.58607	343.75846	14.58381	0.0509351	0.24120070	2.5559381	21	9 22.4	20.4
505827 2015 BE ₄₆₄	16.2	X	223.67421	163.88639	288.77030	21.17627	0.0244099	0.22507108	2.6766376	21	8 9.3	20.1
505828 2015 BP ₄₈₃	17.8	X	47.35654	218.77165	144.30637	7.13192	0.2093916	0.27943253	2.3171354	21	—	—
505829 2015 BJ ₄₉₀	17.0	X	292.19343	188.75056	161.63227	2.99745	0.1861322	0.22080438	2.7110088	21	6 5.8	20.5
505830 2015 BL ₄₉₆	17.4	X	345.20310	347.40349	349.81520	2.02366	0.2068931	0.23468029	2.6030647	21	8 27.2	19.3
505831 2015 CA	17.8	X	348.30410	235.68651	185.81823	24.49933	0.3456656	0.28135611	2.3065621	21	—	—
505832 2015 CT ₂	17.6	X	264.24773	176.41344	342.58362	8.73964	0.1743092	0.27255017	2.3559808	21	12 25.8	20.1
505833 2015 CD ₄	17.1	X	171.10575	209.19429	334.56762	11.44369	0.1201893	0.24178013	2.5518529	21	1	

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505841 2015 CO ₂₅	17.3	X	217.78316	132.00398	358.12307	1.80946	0.0204060	0.23226220	2.6211006	21	9 29.1	20.8
505842 2015 CQ ₃₁	17.7	X	53.78656	286.05024	70.31256	6.55068	0.0790980	0.27157703	2.3616055	21	—	—
505843 2015 CA ₃₃	17.2	X	216.25644	38.31534	100.57317	3.71973	0.0587762	0.23729290	2.5839229	21	10 6.8	20.7
505844 2015 CS ₃₉	17.1	X	194.04212	324.22762	180.08347	14.25476	0.1443619	0.22997759	2.6384308	21	9 8.2	21.3
505845 2015 CN ₄₀	17.3	X	212.58757	134.91191	57.75164	5.72098	0.1447413	0.25796036	2.4439974	21	12 1.1	20.9
505846 2015 CA ₄₂	16.3	X	133.07645	359.54317	147.69844	10.22907	0.0958281	0.20796116	2.8215076	21	7 10.6	20.6
505847 2015 CR ₄₃	17.0	X	47.24868	333.04230	282.62253	2.14113	0.1203783	0.21309266	2.7760272	21	8 16.9	20.3
505848 2015 CS ₄₅	16.2	X	133.49427	74.59409	348.73774	10.21606	0.1048673	0.17490740	3.1666295	21	3 28.6	20.9
505849 2015 CR ₄₆	17.4	X	290.77987	161.99308	330.79406	6.16562	0.0681784	0.26913786	2.3758527	21	—	—
505850 2015 CS ₅₀	18.0	X	327.16904	316.90274	136.56569	3.04271	0.1585737	0.27341483	2.3510110	21	—	—
505851 2015 CD ₅₁	16.4	X	39.29382	300.64582	338.04699	10.27892	0.1084318	0.21235663	2.7824380	21	9 3.8	19.6
505852 2015 CP ₅₁	16.7	X	119.18850	234.95147	328.81631	8.85805	0.1339891	0.21660010	2.7459773	21	9 8.5	20.9
505853 2015 CM ₅₃	16.4	X	194.69559	318.30180	133.13415	2.91713	0.0505357	0.20437882	2.8543822	21	7 7.2	20.4
505854 2015 CK ₅₇	16.7	X	14.75973	192.76877	66.55420	3.01325	0.0435567	0.19438503	2.9513961	21	6 24.9	20.6
505855 2015 CL ₅₉	17.1	X	167.04950	245.07770	273.86745	1.24475	0.0708339	0.22134033	2.7066307	21	8 31.9	21.1
505856 2015 CH ₆₁	16.5	X	149.10210	241.24655	294.41245	11.47936	0.1104957	0.22350834	2.6890996	21	8 30.4	20.8
505857 2015 DC ₄	17.9	X	315.59233	57.47030	6.41080	1.27315	0.1550843	0.26742080	2.3860118	21	11 13.2	19.7
505858 2015 DV ₈	17.1	X	43.64750	139.31154	131.18813	12.55671	0.1740222	0.22600702	2.6692429	21	9 14.9	20.4
505859 2015 DQ ₃₃	17.3	X	101.04483	137.02980	122.18316	2.88997	0.1580204	0.23316626	2.6143210	21	11 4.6	21.2
505860 2015 DB ₃₄	17.3	X	127.02534	170.97994	4.27502	4.38442	0.0259976	0.21509994	2.7587299	21	8 4.5	21.1
505861 2015 DE ₃₈	16.9	X	318.28411	223.41306	141.55075	13.26143	0.1811451	0.22610353	2.6684833	21	8 9.9	19.6
505862 2015 DT ₄₁	17.3	X	129.14792	114.64017	123.77028	11.51714	0.1015752	0.23810540	2.5780414	21	11 7.3	21.4
505863 2015 DU ₆₄	16.9	X	52.63933	159.42170	128.56388	3.51504	0.1054741	0.23202688	2.6287252	21	10 9.8	20.3
505864 2015 DJ ₇₀	17.5	X	76.52352	203.53187	69.33812	1.14441	0.0256437	0.23833551	2.5763817	21	10 8.9	20.9
505865 2015 DM ₇₈	17.3	X	323.91911	30.20350	353.15539	11.27548	0.0798550	0.241116474	2.5561922	21	9 26.7	20.1
505866 2015 DH ₇₉	17.3	X	43.21716	240.15756	41.34518	4.29822	0.0498795	0.22574953	2.6712722	21	9 8.9	20.7
505867 2015 DK ₈₅	17.2	X	62.62892	133.63024	133.41376	3.67102	0.0363421	0.22794849	2.6540651	21	9 13.6	20.6
505868 2015 DN ₉₂	16.2	X	269.19468	181.17738	137.35948	14.38252	0.0990395	0.18264213	3.0765837	21	4 17.3	20.9
505869 2015 DL ₉₄	16.1	X	348.02692	274.22075	347.40214	25.68549	0.1882911	0.18489819	3.0515063	21	4 24.2	20.1
505870 2015 DO ₉₅	17.4	X	180.91889	22.90919	162.58372	12.49638	0.0185782	0.23999598	2.5644845	21	10 29.7	21.0
505871 2015 DZ ₉₅	18.0	X	228.76114	8.17013	128.66945	1.53245	0.0919543	0.24232810	2.5480045	21	10 14.5	21.3
505872 2015 DD ₉₇	16.7	X	288.89170	220.57029	143.61696	9.98307	0.1728368	0.21049429	2.7988256	21	6 22.5	20.6
505873 2015 DC ₉₉	17.0	X	43.31064	60.72445	352.75438	22.51308	0.1932737	0.28575854	2.2828107	21	—	—
505874 2015 DU ₁₀₁	18.2	X	301.80076	120.30116	12.56949	7.17770	0.0721058	0.28205250	2.3027639	21	—	—
505875 2015 DV ₁₀₁	17.5	X	42.67890	310.70343	45.09575	7.43634	0.1288841	0.27091486	2.3654521	21	—	—
505876 2015 DO ₁₀₂	17.4	X	263.67782	197.49768	35.82366	6.24672	0.0722339	0.30427443	2.1892351	21	—	—
505877 2015 DT ₁₀₆	16.8	X	48.81648	237.08310	55.49992	9.01325	0.1332310	0.23737148	2.5833526	21	10 17.1	20.1
505878 2015 DR ₁₁₉	17.5	X	289.45728	339.93470	52.61061	6.94585	0.0141241	0.22082201	2.7108645	21	8 28.9	21.2
505879 2015 DW ₁₁₉	17.1	X	253.71520	81.72908	13.97489	14.79748	0.0537644	0.23569329	2.5956008	21	9 28.0	20.5
505880 2015 DR ₁₂₀	16.6	X	232.00798	29.09134	69.59605	7.24725	0.0422980	0.22578184	2.6710174	21	9 6.4	20.3
505881 2015 DY ₁₃₂	17.1	X	285.56711	329.53795	98.52876	13.59079	0.0644585	0.23298561	2.6156722	21	10 9.1	20.7
505882 2015 DC ₁₃₃	16.1	X	130.36897	131.87042	74.07634	14.36498	0.0359576	0.22202768	2.7010417	21	9 26.7	20.2
505883 2015 DR ₁₃₄	16.2	X	340.34697	292.29754	67.87747	14.21069	0.1103729	0.22344012	2.6896469	21	9 29.4	19.5
505884 2015 DU ₁₃₄	17.0	X	239.50869	40.49407	64.43573	14.05786	0.1227417	0.23178812	2.6246734	21	9 18.2	21.0
505885 2015 DQ ₁₄₂	16.6	X	66.40286	346.32525	245.27608	8.49959	0.1783276	0.21838248	2.7310156	21	8 18.0	20.4
505886 2015 DY ₁₄₂	17.6	X	297.76319	248.08789	225.56999	4.40946	0.0929371	0.27622086	2.3346675	21	12 29.2	20.0
505887 2015 DL ₁₄₅	18.5	X	2.79589	182.82748	261.89024	5.94269	0.1077222	0.29301226	2.2449785	21	—	—
505888 2015 DH ₁₄₇	17.6	X	176.76288	20.19995	200.58060	6.49516	0.0853433	0.26376902	2.4079836	21	12 5.2	21.0
505889 2015 DW ₁₄₉	16.5	X	72.37690	356.87674	268.74793	9.80830	0.0589602	0.24027799	2.5624775	21	9 22.8	20.2
505890 2015 DB ₁₅₂	18.1	X	319.86039	136.79245	40.42718	3.42568	0.1549610	0.29610122	2.2293380	21	—	—
505891 2015 DE ₁₅₂	16.6	X	281.67410	246.49575	132.69404	8.63088	0.0925446	0.21317791	2.7752871	21	7 14.6	20.4
505892 2015 DM ₁₆₅	17.6	X	181.76373	256.99437	6.17218	6.69571	0.0674206	0.26845396	2.3798861	21	—	—
505893 2015 DO ₁₆₅	16.4	X	264.62994	300.36361	71.33253	3.08833	0.0845016	0.19928621	2.9028051	21	6 13.8	20.6
505894 2015 DZ ₁₇₀	16.6	X	271.97134	183.82732	199.70000	13.58790	0.1554821	0.22813417	2.6526248	21	6 26.9	20.5
505895 2015 DE ₁₇₂	16.0	X	300.74163	351.27259	262.72146	17.67379	0.1034500	0.17436233	3.1732255	21	2 20.7	20.9
505896 2015 DO ₁₉₇	15.8	X	105.64228	166.82091	299.97531	11.09581	0.0426697	0.17326987	3.1865496	21	4 7.0	20.5
505897 2015 DD ₂₀₄	16.2	X	356.89731	289.45831	332.44636	15.93517	0.1409635	0.18526469	3.0474806	21	5 26.6	20.1
505898 2015 DH ₂₁₃	16.5	X	14.95086	145.20336	118.22111	11.43865	0.1198402	0.18207220	3.0830007	21	7 4.5	20.3
505899 2015 DK ₂₁₃	16.5	X	94.66472	83.89519	141.25313	9.30500	0.0743973	0.20405503	2.8574009	21	9 3.8	20.5
505900 2015 DT ₂₁₃	16.1	X	345.74263	203.63793	90.30851	12.48855	0.1681329	0.18100034	3.0951601	21	6 21.9	19.5
505901 2015 DP ₂₁₉	16.6	X	182.25495	205.66819	344.45415	14.40233	0.0833879	0.23784463	2.5799254	21	10 22.7	20.7
505902 2015 DW ₂₂₀	16.8	X	318.11458	60.78746	311.62188	5.26595	0.0328505	0.21958780	2.7210127	21	9 3.3	20.2
505903 2015 DO ₂₂₂	17.6	X	272.25958	157.42566	356.91176	4.68884	0.1837063	0.26575502	2.3959719	21	12 29.6	20.0
505904 2015 DZ ₂₂₂	17.0	X	162.60893	96.40141	109.17500	3.53537	0.0929478	0.24568486	2.5247427	21	10 29.7	20.7
505905 2015 DV ₂₂₃	16.6	X	323.58018	81.12651	294.24713	4.52664	0.0566677	0.22164521	2.7041481	21	9 13.2	19.9
505906 2015 DV ₂₂₃	16.9	X	131.41835	187.55265	6.33680	12.58945	0.1031715	0.22794890	2.6540619	21	9 11.8	20.9
505907 2015 DC ₂₂₄	17.3	X	4.54490	354.89601	45.81331	7.92483	0.1215582	0.27340874	2.3510459	21	—	—
505908 2015 EH ₄	17.7	X	283.13516	326.80912	182.15239	2.87207	0.1250960	0.27101990	2.3648409	21	—	—
505909 2015 EZ ₉	15.7	X	93.46715	137.35245	14.47970	21.84938	0.0370835	0.18358550	3.0660352	21	5 14.9	20.4
505910 2015 EC ₁₀	17.3	X	230.32011	113.31527	15.48345	9.68139	0.1536152	0.23802770	2.5786024	21	9 28.2	21.0
505911 2015 ET ₁₁	18.0	X	287.05713	78.26012	46.70330	5.08273	0.1573233	0.27243558	2.3566414	21	12 19.5	20.2
505912 2015 EJ ₂₀	16.9	X	53.17662	358.15893	294.74308	2.68886	0.1643514	0.23212027	2.6221689	21	10 22.9	20.5
505913 2015 EU ₂₂	17.1	X	109.02750	282.99370	335.57534	4.22497	0.0290974	0.24470483	2.5314792	21	10 30.7	20.6

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
505921 2015 <i>EL</i> ₅₈	15.6	X	334.41877	245.73185	102.12818	21.40316	0.1586780	0.21073731	2.7966735	21	8 23.9	18.9
505922 2015 <i>EZ</i> ₅₈	17.2	X	200.68373	71.37114	102.71804	18.18204	0.1143453	0.23898889	2.5716838	21	11 3.9	21.4
505923 2015 <i>EL</i> ₆₀	15.8	X	291.85771	233.31701	94.68257	16.14057	0.2397759	0.18126755	3.0921176	21	5 7.3	20.4
505924 2015 <i>EX</i> ₆₁	15.8	X	352.63439	126.00530	134.53088	10.52549	0.0584423	0.19343336	2.9610686	21	5 27.3	19.8
505925 2015 <i>EP</i> ₆₃	16.6	X	124.99375	95.29603	153.78393	13.51954	0.1440881	0.23282029	2.6169102	21	11 16.6	21.0
505926 2015 <i>EH</i> ₆₅	15.8	X	10.86078	232.86858	36.85729	16.83162	0.2042847	0.18423317	3.0588452	21	7 12.8	19.3
505927 2015 <i>ER</i> ₇₂	17.6	X	328.81888	107.60007	310.39245	5.93902	0.0992834	0.25910967	2.4367649	21	11 27.5	20.2
505928 2015 <i>FF</i>	15.7	X	346.01684	230.55628	17.12616	27.32791	0.2050782	0.17198810	3.2023622	21	4 12.8	19.4
505929 2015 <i>FV</i> ₂	16.2	X	13.72347	257.12126	54.82924	12.27401	0.1444061	0.22959184	2.6413853	21	9 22.6	19.3
505930 2015 <i>FT</i> ₈	16.0	X	26.30979	201.43961	23.21141	15.70254	0.1904067	0.17566641	3.1575015	21	6 3.2	19.7
505931 2015 <i>FK</i> ₁₉	16.6	X	331.55822	168.33058	121.06990	12.52741	0.0584522	0.18323802	3.0699101	21	6 3.8	20.8
505932 2015 <i>FB</i> ₂₁	16.5	X	313.03810	288.35024	115.77663	13.37319	0.1513807	0.23103977	2.6303380	21	10 9.1	19.5
505933 2015 <i>FZ</i> ₂₁	16.9	X	126.36968	87.51269	128.10073	12.89118	0.1044054	0.22205383	2.7008298	21	10 5.9	21.2
505934 2015 <i>FN</i> ₂₃	16.2	X	356.50584	309.25878	53.22697	18.80682	0.0812352	0.22866030	2.6485542	21	10 26.3	19.4
505935 2015 <i>FT</i> ₃₉	16.2	X	336.09290	274.19512	34.58208	10.75942	0.0577570	0.18898260	3.0073791	21	7 4.5	20.3
505936 2015 <i>FT</i> ₄₇	17.5	X	227.44387	21.64055	185.29873	6.62952	0.0556024	0.27508554	2.3414823	21	—	—
505937 2015 <i>FB</i> ₅₆	16.1	X	110.72520	42.77368	213.61621	14.20034	0.1165015	0.24256407	2.5463518	21	11 8.2	19.9
505938 2015 <i>FV</i> ₅₉	16.6	X	257.63649	140.38099	265.56974	11.36226	0.0146855	0.21925600	2.7237572	21	7 27.6	20.4
505939 2015 <i>FC</i> ₆₁	17.0	X	357.41402	53.65478	287.13347	10.70575	0.0947820	0.23432180	2.6057191	21	9 16.9	20.2
505940 2015 <i>FW</i> ₆₅	16.6	X	41.10701	54.55548	242.09943	13.52508	0.0535523	0.22210678	2.7004005	21	9 18.3	20.4
505941 2015 <i>FA</i> ₆₈	15.9	X	329.40110	171.83596	104.13239	18.59531	0.1724800	0.17059871	3.2197258	21	5 7.1	20.2
505942 2015 <i>FC</i> ₇₂	16.8	X	170.45138	150.98439	24.13593	13.94913	0.0240323	0.22091295	2.7101205	21	9 30.2	20.6
505943 2015 <i>FY</i> ₇₅	16.4	X	28.25536	35.70358	208.30072	16.30983	0.1508378	0.18028732	3.1033155	21	7 1.2	20.4
505944 2015 <i>HH</i> ₇₇	17.1	X	248.09397	94.73681	46.47705	15.33697	0.1292092	0.24214159	2.5493128	21	11 7.6	20.4
505945 2015 <i>FA</i> ₇₈	16.0	X	292.05049	330.61933	182.28893	10.20232	0.1412362	0.18955374	3.0013351	21	6 24.2	20.2
505946 2015 <i>FV</i> ₁₁₁	17.1	X	110.07761	76.46363	198.45322	14.12349	0.0684848	0.23853919	2.5749150	21	11 27.2	20.9
505947 2015 <i>FG</i> ₁₂₃	16.0	X	194.56854	278.53700	149.13310	9.88524	0.0117474	0.18991733	2.9975031	21	6 9.1	20.4
505948 2015 <i>FK</i> ₁₄₂	18.0	X	314.02642	94.62986	9.94519	2.02209	0.1765030	0.26488104	2.4012394	21	—	—
505949 2015 <i>FM</i> ₁₄₈	16.6	X	154.39937	178.69123	32.56834	11.09588	0.0344378	0.23240684	2.6200130	21	10 25.3	20.1
505950 2015 <i>FY</i> ₁₅₆	17.1	X	280.25522	246.41750	172.57935	14.60793	0.0717083	0.22186815	2.7023364	21	9 8.2	20.6
505951 2015 <i>FK</i> ₁₇₄	17.4	X	203.74457	123.84530	50.00626	13.71475	0.1315998	0.23768258	2.5810980	21	10 29.9	21.3
505952 2015 <i>FF</i> ₁₇₅	16.5	X	304.56983	152.71436	156.87959	13.57921	0.0589191	0.17498866	3.1656492	21	5 24.5	21.1
505953 2015 <i>FL</i> ₁₇₈	15.7	X	323.36871	265.04983	20.22676	24.89133	0.1359839	0.17604233	3.1530049	21	4 28.9	19.9
505954 2015 <i>FB</i> ₂₀₇	17.2	X	334.41844	52.90985	7.88878	1.48910	0.1605567	0.25814946	2.4428037	21	12 16.1	19.3
505955 2015 <i>FN</i> ₂₁₃	16.8	X	114.42620	31.08968	160.35336	15.58198	0.0755511	0.20301016	2.8671970	21	8 12.3	21.1
505956 2015 <i>FW</i> ₂₁₃	16.7	X	232.26053	291.65968	132.06492	12.89241	0.0208430	0.19780889	2.9172402	21	7 19.4	20.8
505957 2015 <i>FB</i> ₂₁₄	16.2	X	9.04610	166.40699	77.20748	11.61341	0.1545752	0.17636245	3.1491884	21	5 29.1	19.6
505958 2015 <i>FH</i> ₂₃₅	17.3	X	150.39810	193.09358	37.28972	4.95003	0.1746096	0.23662015	2.5888183	21	11 13.6	21.4
505959 2015 <i>FB</i> ₂₃₈	16.6	X	350.92217	217.54659	132.11978	7.00855	0.0718236	0.22515593	2.6759651	21	9 26.0	19.8
505960 2015 <i>FO</i> ₂₈₅	17.4	X	150.24664	110.51676	56.74819	4.14995	0.1285532	0.21644038	2.7473280	21	8 28.2	21.7
505961 2015 <i>FO</i> ₂₈₆	16.5	X	118.74235	171.65694	108.44659	12.89704	0.1573290	0.23270209	2.6177964	21	12 15.8	20.7
505962 2015 <i>FA</i> ₂₈₇	16.6	X	137.98934	107.09370	99.40154	14.11411	0.1818674	0.21581105	2.7526665	21	10 11.2	21.4
505963 2015 <i>FM</i> ₂₈₇	17.5	X	290.37274	300.56840	187.02606	6.31586	0.1159733	0.26486491	2.4013369	21	12 30.9	20.1
505964 2015 <i>FU</i> ₂₈₉	15.7	X	294.27530	228.95659	100.19999	16.43192	0.0792028	0.17307000	3.1890024	21	6 1.6	20.2
505965 2015 <i>FF</i> ₂₉₁	16.4	X	21.55727	187.69542	80.29301	9.77543	0.1586896	0.20007554	2.8951655	21	7 28.4	19.7
505966 2015 <i>FE</i> ₂₉₂	17.3	X	241.62960	25.12417	89.55852	9.63737	0.1040799	0.24137223	2.5547271	21	10 4.3	20.9
505967 2015 <i>FD</i> ₂₉₉	16.5	X	15.34567	148.71299	127.52607	9.78929	0.0549493	0.18598746	3.0395802	21	7 18.7	20.4
505968 2015 <i>FA</i> ₃₀₁	16.3	X	249.58627	23.11904	90.91412	13.68952	0.0966485	0.22673954	2.6634909	21	10 14.9	20.2
505969 2015 <i>FL</i> ₃₀₄	16.4	X	31.73964	96.89320	161.09300	11.22379	0.0961321	0.18139750	3.0906407	21	7 21.5	20.5
505970 2015 <i>FS</i> ₃₁₁	17.5	X	167.32625	137.10487	52.60626	9.70946	0.1443579	0.23054860	2.6340725	21	10 13.8	21.7
505971 2015 <i>FK</i> ₃₂₀	16.8	X	134.49509	120.56477	84.06581	9.75421	0.0286270	0.22018170	2.7161176	21	9 26.4	20.8
505972 2015 <i>FA</i> ₃₂₁	16.4	X	29.39892	173.98484	113.25055	10.51744	0.1078837	0.20566945	2.8424283	21	9 3.3	20.0
505973 2015 <i>FG</i> ₃₂₆	17.0	X	228.95117	44.52919	60.49161	11.45529	0.0865321	0.22108564	2.7087091	21	9 7.5	21.1
505974 2015 <i>FM</i> ₃₂₈	17.0	X	187.48861	136.72515	29.25553	15.69387	0.1325231	0.23031991	2.6358158	21	10 4.7	21.1
505975 2015 <i>FO</i> ₃₂₉	16.0	X	300.11891	237.24680	58.17494	16.88588	0.0738810	0.17141414	3.2095067	21	4 29.3	20.5
505976 2015 <i>FG</i> ₃₃₅	17.3	X	237.31386	79.21969	59.56842	27.97398	0.1853679	0.23330010	2.6133210	21	10 25.3	21.4
505977 2015 <i>FY</i> ₃₄₄	17.0	X	16.68921	67.48697	22.88435	23.92981	0.3539168	0.28204173	2.3028225	21	—	—
505978 2015 <i>FF</i> ₃₆₈	16.3	X	294.13867	50.61770	256.19755	8.81910	0.0251704	0.19096504	2.9865295	21	5 6.3	20.4
505979 2015 <i>GK</i> ₂	16.9	X	150.11401	92.79240	98.79535	10.23631	0.0756305	0.22736118	2.6586337	21	9 30.6	21.0
505980 2015 <i>GB</i> ₂₃	16.1	X	226.15989	314.28381	94.66088	16.84330	0.0390355	0.18436439	3.0573936	21	6 21.3	20.5
505981 2015 <i>GE</i> ₂₄	16.6	X	337.21530	211.22342	126.52139	11.36540	0.0958245	0.20244994	2.8724840	21	8 13.1	20.1
505982 2015 <i>GX</i> ₂₇	16.5	X	17.35269	232.47980	20.54782	9.39579	0.0568414	0.18680218	3.0307358	21	6 20.5	20.6
505983 2015 <i>GA</i> ₂₈	17.0	X	243.84308	78.30864	17.28828	21.80513	0.0550121	0.22174961	2.7032994	21	9 19.1	20.9
505984 2015 <i>GX</i> ₂₈	16.3	X	180.28282	70.67605	13.36988	5.94342	0.0627471	0.19500802	2.9451070	21	6 10.5	20.7
505985 2015 <i>GJ</i> ₂₉	17.1	X	247.19716	66.64902	19.34996	5.41234	0.0619466	0.22163173	2.7042578	21	9 3.9	20.7
505986 2015 <i>GT</i> ₃₀	17.1	X	122.05630	191.14667	8.40317	3.73202	0.0355709	0.21225668	2.7833114	21	8 30.8	21.0
505987 2015 <i>GM</i> ₃₂	15.8	X	352.92678	210.73484	91.92759	13.34258	0.0554193	0.19613956	2.9337691	21	7 21.9	19.6
505988 2015 <i>GO</i> ₃₃	16.1	X	194.96799	268.54041	147.81442	10.15437	0.0387580	0.17869310	3.1217457	21	5 27.0	20.8
505989 2015 <i>GN</i> ₃₄	16.3	X	79.29644	48.78565	191.57545	28.84767	0.1506134	0.21014680	2.8019101	21	9 11.9	20.6
505990 2015 <i>GO</i> ₃₅	17.2	X	28.31425	183.51878	99.92121	3.24092	0.0244819	0.20277544	2.8694092	21	8 15.5	20.9
505991 2015 <i>GU</i> ₃₅	17.1	X	332.76414	113.75579	189.							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506001 2015 <i>GL</i> ₅₀	16.3	X	288.93577	221.69304	115.36483	12.35530	0.1019365	0.17604560	3.1529659	21	5 31.9	20.8
506002 2015 <i>HN</i> ₂	16.9	X	183.59795	291.18360	219.33357	13.73579	0.0851243	0.23254109	2.6190045	21	9 4.5	21.0
506003 2015 <i>HT</i> ₃	16.4	X	145.09313	226.40574	309.44756	12.85091	0.0787802	0.21761968	2.7373938	21	8 26.2	20.5
506004 2015 <i>HU</i> ₄	17.3	X	42.73741	39.59836	243.94466	9.04911	0.1004686	0.21425331	2.7659926	21	9 10.3	21.0
506005 2015 <i>HQ</i> ₁₂	17.1	X	169.61773	98.89443	65.34134	1.32756	0.0118370	0.21327626	2.7744339	21	9 11.8	21.0
506006 2015 <i>HP</i> ₁₄	16.3	X	338.37146	198.56922	106.21344	13.25595	0.1157335	0.18311477	3.0712875	21	6 27.8	19.9
506007 2015 <i>HB</i> ₂₂	16.4	X	1.67548	60.06938	191.15838	16.17902	0.0859722	0.17689424	3.1428736	21	5 27.7	20.6
506008 2015 <i>HC</i> ₂₄	16.4	X	295.67426	144.01662	183.55510	10.10045	0.0927422	0.17940512	3.1134806	21	5 28.7	20.8
506009 2015 <i>HT</i> ₃₂	16.5	X	103.95496	114.66402	46.67824	16.11000	0.0942080	0.18620334	3.0372304	21	6 24.2	21.1
506010 2015 <i>HK</i> ₃₉	16.1	X	307.81826	221.82880	99.83472	10.79122	0.0923742	0.17731128	3.1379436	21	6 6.7	20.2
506011 2015 <i>HM</i> ₅₁	16.7	X	348.00812	180.70348	115.52875	9.94093	0.0911740	0.18803636	3.0174598	21	7 3.5	20.5
506012 2015 <i>HG</i> ₅₉	16.1	X	123.08507	158.37386	31.70397	12.45500	0.0019389	0.19391239	2.9561900	21	8 20.1	20.4
506013 2015 <i>HH</i> ₆₁	17.0	X	132.41695	354.84272	247.33944	12.45956	0.1318735	0.23296420	2.6158324	21	11 10.2	21.2
506014 2015 <i>HB</i> ₆₃	17.4	X	223.93518	110.09716	30.54040	11.96888	0.1244826	0.23238421	2.6201831	21	10 9.9	21.2
506015 2015 <i>HO</i> ₆₇	17.0	X	321.25206	285.84370	31.72095	0.93012	0.1479290	0.18050673	3.1008002	21	6 12.6	20.8
506016 2015 <i>HV</i> ₇₃	16.6	X	315.18692	216.45129	97.04181	2.80126	0.1032043	0.17767886	3.1336143	21	6 4.2	20.8
506017 2015 <i>HG</i> ₈₀	16.2	X	321.41123	273.19134	35.44459	11.22896	0.1196017	0.17659209	3.1464576	21	6 2.9	20.4
506018 2015 <i>HE</i> ₈₄	16.5	X	338.71867	270.43389	48.96598	8.58883	0.1188483	0.18902615	3.0069171	21	7 20.1	20.2
506019 2015 <i>HN</i> ₈₄	16.9	X	198.84943	298.37167	208.62070	12.62817	0.2048204	0.22521976	2.6754596	21	9 10.4	21.6
506020 2015 <i>HV</i> ₈₉	16.5	X	320.87484	269.75630	47.55623	15.16105	0.0780762	0.18122410	3.0926118	21	6 19.0	20.7
506021 2015 <i>HO</i> ₉₈	16.1	X	307.83484	241.07823	27.48338	7.66942	0.1111117	0.15479575	3.4352897	21	3 31.2	20.7
506022 2015 <i>HV</i> ₁₀₀	16.7	X	9.11179	104.33801	186.70366	8.59559	0.3107920	0.18081550	3.0972691	21	8 14.2	19.3
506023 2015 <i>HG</i> ₁₀₂	17.1	X	108.68583	350.38554	238.48722	3.09675	0.0627377	0.21165105	2.7886185	21	9 19.9	21.1
506024 2015 <i>HL</i> ₁₀₃	16.1	X	290.93121	256.34177	65.80376	19.73077	0.0894671	0.17554857	3.1589143	21	5 16.8	20.4
506025 2015 <i>HE</i> ₁₅₂	16.4	X	88.52106	164.48897	33.66886	10.80867	0.0265556	0.18926774	3.0043578	21	7 16.0	20.8
506026 2015 <i>HA</i> ₁₅₅	15.6	X	289.38343	53.34732	264.56199	10.57273	0.0578409	0.18035415	3.1025488	21	5 10.1	20.0
506027 2015 <i>HB</i> ₁₅₆	16.3	X	10.31611	45.50988	237.36211	18.19818	0.0430062	0.18897545	3.0074549	21	7 14.7	20.7
506028 2015 <i>HO</i> ₁₇₁	11.8	X	75.45840	63.43852	278.49322	33.24964	0.2343726	0.03854757	8.6790343	21	12 23.9	21.1
506029 2015 <i>JY</i> ₂	15.9	X	32.29333	159.63436	107.65408	11.39899	0.0421841	0.18971078	2.9996785	21	7 31.7	19.9
506030 2015 <i>JC</i> ₇	16.4	X	347.70450	347.96019	283.91408	7.84689	0.0607630	0.17340991	3.1848338	21	6 1.7	20.6
506031 2015 <i>JL</i> ₈	16.7	X	175.63000	3.37414	185.12150	13.88933	0.1794298	0.22807516	2.6530823	21	10 16.8	21.0
506032 2015 <i>JT</i> ₈	16.3	X	283.50046	283.06943	88.59229	11.25690	0.1102291	0.19322782	2.9631681	21	7 4.5	20.4
506033 2015 <i>KO</i> ₁₂	16.5	X	216.00086	301.19408	146.57798	11.03474	0.0118531	0.18779775	3.0200152	21	7 30.3	20.8
506034 2015 <i>KS</i> ₁₉	17.0	X	226.59563	88.75663	51.57523	8.15882	0.2125526	0.22784548	2.6548650	21	10 3.6	21.1
506035 2015 <i>KA</i> ₂₈	16.9	X	203.56398	213.45511	257.94125	6.47751	0.0230886	0.20146825	2.8818075	21	8 11.9	21.1
506036 2015 <i>KP</i> ₂₉	16.1	X	357.19996	22.48050	238.05883	12.20825	0.1115951	0.17217468	3.2000482	21	5 31.1	20.0
506037 2015 <i>KD</i> ₃₃	16.5	X	327.94520	277.60362	32.75880	9.77111	0.0950260	0.17799443	3.1290995	21	6 19.6	20.6
506038 2015 <i>KW</i> ₆₂	15.9	X	342.51625	213.27572	94.97295	11.35438	0.1026284	0.18327820	3.0694614	21	7 10.4	19.6
506039 2015 <i>KV</i> ₆₅	16.8	X	258.14938	36.00889	79.98929	12.71698	0.1468826	0.23245173	2.6196757	21	10 20.6	20.4
506040 2015 <i>KL</i> ₇₂	16.3	X	20.96443	164.91369	120.84883	10.40457	0.0971870	0.18969096	2.9998874	21	8 13.9	20.1
506041 2015 <i>KQ</i> ₇₃	16.6	X	72.78443	17.80900	189.79545	9.25032	0.1351331	0.18444595	3.0564922	21	7 19.8	20.9
506042 2015 <i>KA</i> ₇₄	16.3	X	315.63248	230.25307	88.44544	14.31276	0.0630828	0.17666992	3.1455334	21	6 16.9	20.3
506043 2015 <i>KG</i> ₇₆	17.0	X	334.22665	150.81736	176.27854	10.72081	0.0271627	0.18851519	3.0123481	21	7 25.5	21.2
506044 2015 <i>KL</i> ₇₈	16.0	X	284.72315	268.70506	99.60997	11.19833	0.0971019	0.18227404	3.0807243	21	7 3.8	20.3
506045 2015 <i>KW</i> ₇₉	15.9	X	18.20333	160.52457	86.86900	17.44571	0.0610293	0.17352377	3.1834404	21	6 15.5	19.9
506046 2015 <i>KW</i> ₈₀	16.4	X	302.57007	224.77381	102.87631	14.25390	0.0935003	0.17191475	3.2032730	21	6 7.8	20.8
506047 2015 <i>KD</i> ₈₆	16.9	X	159.00830	312.87093	190.83528	13.24149	0.1207046	0.19789353	3.1964082	21	8 1.2	21.7
506048 2015 <i>KF</i> ₉₂	16.3	X	333.16092	209.16288	86.96699	14.18487	0.0843620	0.17069899	3.2184647	21	6 11.1	20.4
506049 2015 <i>KS</i> ₁₀₅	16.6	X	127.71527	76.02601	100.23091	14.32557	0.1141211	0.19236713	2.9720000	21	8 15.4	21.3
506050 2015 <i>KF</i> ₁₀₅	16.2	X	148.42859	32.96916	108.01949	12.00168	0.0772260	0.18424351	3.0587307	21	7 18.8	20.7
506051 2015 <i>KK</i> ₁₀₅	17.2	X	163.77326	24.01021	148.87863	8.28126	0.1837889	0.21024132	2.8010703	21	9 16.5	21.8
506052 2015 <i>KW</i> ₁₁₇	15.9	X	264.11618	290.84987	97.09999	12.79360	0.1199411	0.18089085	3.0964090	21	6 29.6	20.3
506053 2015 <i>KS</i> ₁₂₉	16.6	X	304.69960	161.14146	150.95037	5.67024	0.0892293	0.16877153	3.2429226	21	5 22.2	21.0
506054 2015 <i>KS</i> ₁₃₀	15.0	X	238.60225	131.49881	166.10315	9.22834	0.1996856	0.12381950	2.9866675	21	2 14.1	21.5
506055 2015 <i>KT</i> ₁₅₂	17.0	X	133.84698	290.14968	357.55090	8.41630	0.0646685	0.24032903	2.5621147	21	—	—
506056 2015 <i>LG</i> ₆	16.2	X	57.18975	315.62228	291.55031	8.58301	0.1501947	0.19067109	2.9895981	21	8 20.9	20.2
506057 2015 <i>LC</i> ₇	16.0	X	318.37644	132.32053	192.10936	13.26714	0.0620453	0.17604271	3.1530003	21	6 27.3	20.4
506058 2015 <i>LQ</i> ₈	16.9	X	220.14351	259.90284	251.65587	11.90841	0.1149946	0.22805587	2.6532319	21	10 14.3	20.9
506059 2015 <i>LG</i> ₁₉	15.9	X	83.66572	303.04728	251.51164	12.19732	0.1292171	0.17764199	3.1340479	21	7 15.3	20.4
506060 2015 <i>LF</i> ₃₉	15.7	X	59.93476	117.63964	102.21881	22.75509	0.0336398	0.17404035	3.1771380	21	7 5.3	19.9
506061 2015 <i>MT</i> ₇	18.1	X	322.99061	21.10141	161.45609	1.56111	0.1288798	0.26580084	2.3956966	21	—	—
506062 2015 <i>MR</i> ₁₀	16.4	X	24.42239	157.64029	125.85975	9.70545	0.0671167	0.18855794	3.0118927	21	8 13.0	20.3
506063 2015 <i>MW</i> ₁₀	16.0	X	159.59244	337.95054	158.44595	17.10828	0.0593716	0.18019931	3.1043259	21	7 23.0	20.9
506064 2015 <i>MG</i> ₂₀	16.1	X	308.14911	272.21174	43.52177	16.61129	0.0702630	0.17287652	3.1913814	21	5 29.8	20.5
506065 2015 <i>MU</i> ₂₇	16.0	X	253.34028	96.28790	278.55791	8.95417	0.0592182	0.17444325	3.1722442	21	6 8.1	20.5
506066 2015 <i>MO</i> ₃₅	16.1	X	239.93611	306.53739	114.32684	11.15202	0.0781288	0.19038719	2.9925695	21	7 18.5	20.4
506067 2015 <i>MJ</i> ₉₉	15.5	X	71.32336	18.11329	128.69121	10.97126	0.0793040	0.12602681	3.9399806	21	5 2.7	21.0
506068 2015 <i>PJ</i> ₁₀₂	16.7	X	159.15356	236.20478	329.21025	9.98078	0.0164922	0.19185174	2.9773203	21	10 13.6	21.0
506069 2015 <i>PE</i> ₂₁₀	15.5	X	128.00591	177.77756	58.41219	16.44574	0.0636845	0.18299476	3.0726301	21	10 25.9	20.2
506070 2015 <i>PL</i> ₃₀₃	16.1	X	13.43640	248.03920	114.79250	11.46161	0.1568387	0.18015297	3.1048581	21	11 19.3	20.0
506071 2015 <i>RD</i> ₁₁₇	16.4	X	137.58599	209.91965	94							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506081 2015 VY ₁₄₈	16.7	X	357.97927	300.87600	112.45860	10.52839	0.0673598	0.17445373	3.1721171	21	12 16.4	20.9
506082 2015 VX ₁₅₂	17.8	X	226.11595	341.91836	306.13288	17.88404	0.0508988	0.37275601	1.9121397	21	—	—
506083 2015 VZ ₁₅₂	17.7	X	271.69967	281.44192	298.96023	17.68924	0.0631420	0.35740567	1.9665052	21	—	—
506084 2015 XE ₁₁₁	17.8	X	72.57009	31.82684	161.59584	4.78014	0.1140028	0.26530665	2.3986707	21	6 28.8	20.6
506085 2015 XH ₃₇₈	18.0	X	276.78477	326.81719	285.75568	19.53397	0.0578008	0.39330060	1.8449573	21	—	—
506086 2015 XD ₃₈₅	18.2	X	8.12180	239.69550	289.27989	18.90714	0.1159602	0.38633866	1.8670557	21	—	—
506087 2015 XG ₃₈₅	17.8	X	186.70830	17.66732	282.87605	17.47199	0.0614253	0.36774336	1.9294765	21	—	—
506088 2015 XH ₃₈₅	19.1	X	53.72995	199.46906	299.67208	17.76787	0.0722754	0.39555877	1.8379289	21	1 27.7	19.9
506089 2015 YU ₂₁	18.4	X	350.98143	251.93457	296.25102	18.54246	0.0338074	0.39087326	1.8525875	21	1 6.6	19.8
506090 2016 AB ₄	16.2	X	48.54072	305.05073	117.89844	12.55203	0.0964339	0.18166506	3.0876053	21	—	—
506091 2016 AB ₈	15.8	X	328.65557	271.64607	296.21490	13.49535	0.0971172	0.20417974	2.8562373	21	2 2.1	19.7
506092 2016 AX ₁₀	18.4	X	340.51205	276.15039	277.05067	15.76496	0.0627966	0.38029556	1.8867827	21	—	—
506093 2016 AL ₄₂	17.0	X	4.20828	301.99688	259.55398	2.75487	0.0160494	0.22737207	2.6585488	21	3 20.4	20.4
506094 2016 AF ₉₄	17.4	X	147.56841	216.03133	246.07309	9.80065	0.1575485	0.24531415	2.5272855	21	6 2.5	21.3
506095 2016 AY ₉₉	17.0	X	341.24281	151.22029	91.65420	3.63557	0.1768717	0.21857043	2.7294498	21	3 29.7	19.9
506096 2016 AP ₁₀₄	18.1	X	250.07995	324.56403	312.30652	17.61652	0.0479009	0.37976717	1.8885324	21	—	—
506097 2016 AR ₁₀₄	17.7	X	145.47334	167.68831	335.43258	5.14437	0.0987930	0.25919993	2.4361992	21	7 21.7	21.2
506098 2016 AS ₁₀₉	16.6	X	155.53647	175.37277	322.23908	12.23690	0.0770198	0.26115789	2.4240074	21	7 25.7	20.0
506099 2016 AF ₁₂₈	18.0	X	224.82175	301.41195	11.15528	20.41701	0.0621248	0.37097630	1.9182503	21	1 26.0	20.8
506100 2016 AQ ₁₄₃	17.2	X	51.37637	17.31210	168.31892	13.87051	0.0633173	0.23332064	2.6131677	21	5 12.8	20.6
506101 2016 AT ₁₄₇	18.0	X	350.46274	31.32655	180.19952	21.49052	0.0519580	0.38481874	1.8719687	21	2 5.1	20.0
506102 2016 AT ₁₇₁	17.4	X	168.75876	334.21215	118.78910	3.35637	0.1316176	0.25597458	2.4566210	21	6 10.6	21.1
506103 2016 AO ₁₇₂	15.9	X	39.71828	119.78778	322.25883	10.67363	0.0919287	0.18329833	3.0692366	21	—	—
506104 2016 AF ₁₈₁	16.0	X	352.36902	267.47663	259.89103	8.07651	0.1025482	0.18442750	3.0566961	21	1 19.7	19.9
506105 2016 AM ₁₉₄	18.5	X	100.58982	92.30393	327.55975	17.48663	0.1006709	0.37875603	1.8918920	21	—	—
506106 2016 AN ₁₉₄	18.0	X	135.11027	36.15900	300.77617	15.65254	0.0873225	0.35587495	1.9721401	21	—	—
506107 2016 AR ₁₉₄	17.9	X	353.04279	237.63154	310.55713	18.70455	0.1079653	0.38400567	1.8746101	21	—	—
506108 2016 AZ ₁₉₄	17.4	X	67.83623	237.05701	166.57924	24.03549	0.0879777	0.34904466	1.9977849	21	—	—
506109 2016 AD ₁₉₅	18.1	X	6.97803	348.30145	184.35201	21.53774	0.0584012	0.37383960	1.9084429	21	1 4.7	20.6
506110 2016 AL ₁₉₅	18.1	X	273.67813	269.31084	324.42557	17.99560	0.0798030	0.36913570	1.9246216	21	—	—
506111 2016 AM ₁₉₅	18.3	X	99.90117	77.04625	345.52765	19.77638	0.0880677	0.37329086	1.9103128	21	1 4.2	20.3
506112 2016 AQ ₁₉₅	17.9	X	36.24247	326.47845	172.50021	19.19513	0.0653098	0.38417129	1.8740713	21	—	—
506113 2016 AG ₁₉₆	18.1	X	207.15083	289.83268	24.12665	20.78418	0.0795871	0.35996628	1.9571683	21	1 1.2	21.0
506114 2016 AH ₁₉₆	18.8	X	26.47044	159.27168	356.01188	20.25353	0.1391489	0.37437790	1.9066131	21	1 6.6	20.7
506115 2016 AB ₂₀₀	18.3	X	213.07642	116.18513	172.28960	22.42304	0.0588064	0.36176645	1.9506702	21	—	—
506116 2016 BY ₁	15.9	X	11.72832	156.71471	291.83531	9.09943	0.1525836	0.17535050	3.1612927	21	—	—
506117 2016 BV ₁₃	18.0	X	173.38202	184.56659	159.32544	24.26483	0.0586064	0.37740687	1.8963981	21	—	—
506118 2016 BW ₃₁	17.4	X	108.73268	110.84451	352.75775	12.49659	0.2189282	0.22775692	2.6555531	21	4 27.0	21.4
506119 2016 BQ ₆₁	18.6	X	145.30714	169.90246	309.32821	19.63962	0.1362229	0.42940551	1.7400336	21	6 20.2	20.8
506120 2016 BM ₆₇	15.8	X	320.25992	68.86788	92.16380	19.62378	0.1416889	0.17122645	3.2118516	21	—	—
506121 2016 BP ₈₁	6.2	X	70.84690	276.65344	29.00436	4.17400	0.0798461	0.00338596	43.9219268	21	10 19.4	22.5
506122 2016 BT ₈₁	17.9	X	75.07965	273.06546	155.43433	23.53520	0.1255085	0.35924871	1.9597736	21	—	—
506123 2016 BV ₈₁	18.1	X	54.20810	112.46547	28.58133	21.16668	0.1032896	0.37649352	1.8994639	21	2 26.1	20.0
506124 2016 BX ₈₁	18.3	X	317.58876	222.50781	342.99099	19.61756	0.0574316	0.37285840	1.9117896	21	—	—
506125 2016 BF ₈₂	17.8	X	264.54014	208.72680	76.92668	20.77374	0.0413248	0.38681191	1.8655325	21	1 31.3	20.1
506126 2016 CV	17.8	X	86.97305	354.55895	286.0512	5.32293	0.171753	0.29433013	2.2382722	21	11 25.8	21.1
506127 2016 CN ₂₃	16.2	X	28.80353	21.67973	97.05054	11.12424	0.0711728	0.19162387	2.9796801	21	1 14.6	20.0
506128 2016 CK ₂₈	15.7	X	43.43494	316.34291	145.01883	28.08962	0.1473439	0.17971020	3.1099559	21	1 20.1	19.6
506129 2016 CK ₁₉₃	18.4	X	252.45632	308.82674	346.02311	20.35503	0.0579753	0.38601053	1.8681136	21	1 31.9	20.7
506130 2016 CN ₁₉₃	18.0	X	220.60364	278.34546	2.12503	19.56766	0.0649041	0.36136572	1.9521121	21	—	—
506131 2016 CL ₂₄₇	17.9	X	46.83716	119.19765	317.97812	17.66878	0.0952028	0.35913770	1.9601774	21	—	—
506132 2016 CJ ₂₅₅	18.3	X	96.61891	55.56922	326.24083	18.10753	0.1307010	0.36256539	1.9478036	21	—	—
506133 2016 CJ ₂₆₅	18.4	X	266.28741	268.45364	9.38678	21.40635	0.0221023	0.37942898	1.8896544	21	1 31.9	20.9
506134 2016 CL ₂₆₅	18.6	X	39.10560	141.10265	336.19404	18.89260	0.0794718	0.36802250	1.9255007	21	—	—
506135 2016 CQ ₂₆₅	18.9	X	112.24878	47.73676	354.33348	19.16449	0.1025395	0.36189133	1.9502215	21	—	—
506136 2016 CA ₂₆₆	18.5	X	70.10543	312.52745	188.81391	22.00180	0.1054399	0.38174467	1.8820048	21	3 13.7	19.7
506137 2016 CK ₂₆₆	19.3	X	24.81026	180.34965	322.18609	18.02087	0.0714394	0.37299002	1.9113398	21	—	—
506138 2016 DX ₁	18.3	X	98.09865	162.57282	284.12532	18.23763	0.0871281	0.38618292	1.8675576	21	1 26.6	19.6
506139 2016 DB ₂	18.6	X	188.69389	106.18797	265.98464	19.63781	0.0643239	0.39400122	1.8427695	21	2 10.4	21.1
506140 2016 DG ₃₁	17.9	X	65.15971	72.62808	48.66979	22.73334	0.0692560	0.37958998	1.8891201	21	2 8.5	20.1
506141 2016 DL ₃₁	19.1	X	73.10676	124.12307	9.90181	20.41150	0.0892245	0.39067683	1.8532085	21	3 13.2	20.3
506142 2016 EM ₁	18.0	X	196.16399	356.78158	16.99964	20.75829	0.0585169	0.39262783	1.8470642	21	3 15.5	20.1
506143 2016 EU ₄	15.8	X	327.42790	228.53683	343.29673	12.39515	0.1332425	0.18006153	3.1059092	21	2 10.1	19.9
506144 2016 EF ₂₃	18.1	X	359.67097	341.60652	195.73673	21.92193	0.0289183	0.36965480	1.9228193	21	1 5.0	20.7
506145 2016 EL ₂₆	16.3	X	257.13840	335.28807	317.01480	14.48201	0.1964369	0.17432511	3.1736771	21	2 17.1	21.4
506146 2016 ET ₂₇	18.6	X	119.26257	97.13701	309.23576	17.73547	0.1237518	0.37089810	1.9185199	21	1 17.6	19.9
506147 2016 EK ₅₂	17.4	X	88.12794	38.52601	243.63451	7.61191	0.1325077	0.27278122	2.3546502	21	11 21.8	20.8
506148 2016 EX ₅₄	18.4	X	50.72771	348.68712	189.46181	21.46292	0.0519342	0.40104174	1.8211386	21	4 3.4	19.3
506149 2016 EW ₆₅	17.3	X	115.86636	290.04211	347.36564	6.22311	0.1196817	0.28121828	2.3073157	21	12 14.5	20.7
506150 2016 EL ₇₉	17.1	X	173.64124	175.65094	29.12947	25.25043	0.1741656	0.27761043	2.3272634	21	11 3.5	20.8
506151 2016 EE ₈₄	18.4	X	143.23551	76.60817	313.98210	18.22445	0.0796130	0.37813420	1.8939656	21	1 22.9	20.0
506152 2016 ES ₈₈	18.3	X	142.04591	59.35522	200.23277	3.28708	0.1588578	0.30100423	2.2050629	21	12 21.1	21.7
506153 2016 EV ₁₁₀	17.9	X	76.27405	271.59700	44.42975	7.45540	0.1049384	0.28175853	3.3043653	21	12 20.8	21.1
506154 2016 ED ₁₃₁	17.9	X	196.26090	224.24895	350.58510	7.00232						

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506161 2016 ET ₂₀₃	18.0	X	138.85675	349.38383	27.39523	21.07579	0.0750423	0.35304275	1.9826734	21	—	—
506162 2016 EX ₂₀₃	19.2	X	123.40658	52.73719	26.31411	21.49624	0.0842544	0.38967055	1.8563976	21	3 17.8	21.2
506163 2016 EZ ₂₀₄	18.5	X	292.83751	192.19602	38.67016	21.17099	0.0533137	0.36176430	1.9506780	21	—	—
506164 2016 EA ₂₀₅	19.1	X	98.89201	102.01556	19.98112	21.74638	0.0410479	0.40003033	1.8242069	21	3 30.2	20.4
506165 2016 EF ₂₀₆	18.3	X	66.08830	303.58864	171.10930	23.56163	0.1218068	0.37303851	1.9111742	21	1 17.8	20.1
506166 2016 FL	18.2	X	49.27456	260.56950	227.22678	20.81480	0.0589600	0.37345379	1.9097571	21	1 3.5	20.3
506167 2016 FS ₁₁	18.0	X	153.61173	180.95527	90.17275	3.95404	0.1480120	0.30069333	2.2065826	21	—	—
506168 2016 FC ₃₀	17.5	X	77.05373	201.10128	64.98664	3.38178	0.1622344	0.25579346	2.4577805	21	10 22.2	21.0
506169 2016 FR ₃₇	17.8	X	136.01253	146.59652	71.43504	5.91822	0.1903479	0.26482180	2.4015975	21	10 22.9	21.8
506170 2016 FF ₄₂	18.4	X	45.22595	97.38019	21.44943	20.05347	0.0908851	0.36951803	1.9232938	21	—	—
506171 2016 FD ₅₆	18.0	X	226.63068	91.56814	191.65696	21.26317	0.0587138	0.35546277	1.9736644	21	—	—
506172 2016 FX ₆₀	18.9	X	97.91050	81.30284	35.11889	19.04580	0.0794718	0.39024221	1.8545842	21	3 31.6	20.5
506173 2016 FE ₆₁	18.7	X	41.57540	101.97705	18.77366	20.84159	0.0930119	0.36644573	1.9340288	21	—	—
506174 2016 FH ₆₁	18.3	X	311.68292	345.76656	219.81076	20.22691	0.0445356	0.36510802	1.9387500	21	—	—
506175 2016 GX ₁	18.0	X	107.11991	47.64966	30.47151	23.94415	0.1509168	0.37624144	1.9003122	21	3 8.9	20.2
506176 2016 GM ₆	17.3	X	339.22519	349.27427	334.14630	4.74854	0.2732886	0.23648160	2.5898293	21	7 12.8	19.1
506177 2016 GK ₇	16.7	X	13.77129	52.68324	200.85695	11.51278	0.0227574	0.22979000	2.6398626	21	6 14.1	20.3
506178 2016 GB ₁₂	17.6	X	36.90502	144.73549	160.18395	5.29419	0.1508874	0.25428747	2.4674749	21	10 20.8	20.5
506179 2016 GN ₂₀	16.2	X	180.19746	214.63189	189.16614	14.16959	0.1002759	0.21069769	2.7970240	21	4 22.8	20.5
506180 2016 GU ₂₄	16.8	X	65.98643	205.82147	350.28947	9.08961	0.1017747	0.22501106	2.6771137	21	6 21.6	20.3
506181 2016 GV ₃₇	16.7	X	209.92258	19.42210	309.11666	1.15533	0.1562640	0.17392005	3.1786030	21	2 22.1	21.9
506182 2016 GT ₅₇	18.2	X	51.21962	345.29178	306.87311	2.87280	0.1637032	0.25958620	2.4337818	21	10 23.2	21.2
506183 2016 GE ₆₁	18.3	X	71.72198	89.27922	220.47409	3.31890	0.1911148	0.27569831	2.3380115	21	12 16.2	21.7
506184 2016 GV ₆₃	18.4	X	69.61079	347.47443	309.92440	0.93083	0.1704370	0.26813653	2.3817640	21	11 24.7	21.6
506185 2016 GR ₈₂	17.0	X	332.23764	140.55480	193.05186	13.61909	0.2791241	0.22972370	2.6403744	21	7 6.1	19.5
506186 2016 GJ ₉₅	18.0	X	87.34104	224.32534	63.19163	5.60698	0.0992930	0.27245905	2.3565060	21	11 24.6	21.1
506187 2016 GC ₉₉	17.4	X	338.23851	157.92885	157.92903	6.01669	0.1652723	0.22663157	2.6643368	21	7 8.3	20.1
506188 2016 GZ ₁₀₂	16.9	X	314.83497	117.24512	196.18334	9.66180	0.0466153	0.22109576	2.7086264	21	6 9.7	20.5
506189 2016 GB ₁₀₆	18.0	X	58.49474	183.16086	147.50506	3.15319	0.1517607	0.27877892	2.3207557	21	12 24.8	21.1
506190 2016 GI ₁₀₇	18.7	X	27.57506	337.24480	194.65882	22.26508	0.0592429	0.37694918	1.8979329	21	2 4.3	21.0
506191 2016 GN ₁₀₈	16.8	X	321.68264	139.30386	190.38754	11.73921	0.2150295	0.22281523	2.6946734	21	6 19.0	19.9
506192 2016 GX ₁₂₀	18.1	X	25.36103	160.59184	133.18078	2.61767	0.1819694	0.23943564	2.5684839	21	9 17.5	20.6
506193 2016 GF ₁₂₆	17.1	X	55.95170	271.22543	21.25347	6.66352	0.1116975	0.25602040	2.4563279	21	10 22.3	20.3
506194 2016 GG ₁₂₇	16.2	X	279.79699	96.61273	211.84208	13.39780	0.3456073	0.18327452	3.0695025	21	3 11.1	21.4
506195 2016 GK ₁₅₆	17.2	X	70.10359	154.07310	125.56217	11.13916	0.1552580	0.26014849	2.4302736	21	11 4.3	20.8
506196 2016 GE ₁₆₅	17.0	X	9.59227	276.43177	28.62880	15.16645	0.1311711	0.23769836	2.5809837	21	9 5.4	20.0
506197 2016 GG ₁₉₀	17.2	X	74.74946	41.86994	195.90779	9.95223	0.1227456	0.23170502	2.6253009	21	8 31.4	20.9
506198 2016 GP ₁₉₀	17.5	X	94.61436	86.95818	199.22046	11.02205	0.1157036	0.26318402	2.4115505	21	12 1.9	21.2
506199 2016 GD ₁₉₃	17.2	X	50.72783	104.77030	186.33022	10.27659	0.1828625	0.23672383	2.5880623	21	10 23.7	20.5
506200 2016 GT ₂₀₆	17.0	X	20.34973	257.94105	25.31022	28.63619	0.3582612	0.23393565	2.6085857	21	10 2.7	19.5
506201 2016 GA ₂₀₈	17.0	X	29.85851	165.06885	123.33118	9.42274	0.2345592	0.24340730	2.5404675	21	9 30.9	19.8
506202 2016 GH ₂₁₀	18.0	X	53.49551	88.45878	200.84243	0.89761	0.1802388	0.25373000	2.4710878	21	10 25.6	21.0
506203 2016 GR ₂₁₁	17.3	X	329.36597	138.06930	184.94654	13.11482	0.1830513	0.22903993	2.6456268	21	6 28.3	20.3
506204 2016 GR ₂₂₂	18.3	X	86.84788	273.55677	205.88230	21.15069	0.0897073	0.37200595	1.9147090	21	3 5.9	20.3
506205 2016 GW ₂₃₁	15.5	X	269.66143	225.54681	97.57103	11.32230	0.0774682	0.18536740	3.0463548	21	4 25.7	20.1
506206 2016 GO ₂₄₆	16.7	X	1.02287	53.69306	224.67883	7.73095	0.2830793	0.21195736	2.7859311	21	6 29.2	18.7
506207 2016 GN ₂₅₂	18.5	X	37.36230	4.02293	175.99678	22.48585	0.0456769	0.37841829	1.8930175	21	3 15.1	19.9
506208 2016 GT ₂₅₂	18.2	X	313.79611	151.11269	72.18366	23.73626	0.0316953	0.35863354	1.9620141	21	1 11.2	20.6
506209 2016 GM ₂₅₃	18.2	X	76.10052	236.66733	233.66886	19.35144	0.0711549	0.36593825	1.9358165	21	1 24.4	20.4
506210 2016 HT	16.5	X	357.21984	229.85793	70.04715	11.37891	0.2101115	0.22078360	2.7111789	21	7 28.7	19.0
506211 2016 HJ ₃	17.8	X	276.87384	264.51077	61.48356	23.42239	0.0562265	0.38908100	1.8582724	21	4 26.7	19.8
506212 2016 HE ₆	17.0	X	68.45959	64.42531	184.86861	8.91063	0.2128362	0.23572296	2.5953830	21	9 24.9	20.5
506213 2016 JS ₁₁	15.9	X	287.59183	230.51118	81.73108	29.87790	0.3101086	0.17622505	3.1508251	21	4 16.3	21.3
506214 2016 JE ₁₃	16.3	X	288.39903	79.92368	217.02600	25.29543	0.1925898	0.17758133	3.1347616	21	3 22.8	21.2
506215 2016 JC ₁₅	16.9	X	4.60154	197.38639	138.26453	17.16325	0.2178570	0.23382609	2.6094004	21	10 19.5	19.7
506216 2016 JY ₁₆	17.2	X	39.12081	240.16202	35.53351	31.05881	0.3130030	0.23444359	2.6048166	21	10 15.4	20.6
506217 2016 JY ₂₄	15.9	X	310.59376	146.47036	127.68499	19.64772	0.1924691	0.18079434	3.0975108	21	4 1.3	20.4
506218 2016 JN ₂₈	16.8	X	302.30958	190.91671	158.00617	16.84473	0.2475100	0.21699348	2.7426576	21	6 10.5	20.6
506219 2016 JE ₃₀	16.5	X	37.64396	60.13142	224.13831	30.49996	0.2540515	0.23105285	2.6302387	21	9 30.3	20.1
506220 2016 JO ₃₀	17.2	X	90.58503	184.49833	90.34461	10.11127	0.2285435	0.25596516	2.4566812	21	11 23.1	21.1
506221 2016 JK ₃₁	17.0	X	10.39477	182.13939	88.65261	10.05061	0.2152439	0.21132712	2.7914674	21	7 12.2	19.5
506222 2016 JW ₃₁	17.3	X	23.84410	134.81107	122.25441	8.57562	0.1927358	0.21354342	2.7721193	21	7 19.1	20.0
506223 2016 JN ₃₃	17.4	X	41.40205	106.68253	170.23569	11.47221	0.1204028	0.23349313	2.6118805	21	9 8.6	20.5
506224 2016 JS ₃₅	16.7	X	71.57947	9.98480	234.30281	13.29397	0.2143875	0.23294248	2.6159950	21	9 15.5	20.6
506225 2016 JC ₃₆	17.5	X	70.84260	98.08986	148.92889	4.76178	0.2392453	0.23400315	2.6080840	21	9 28.5	21.2
506226 2016 JH ₃₆	16.8	X	26.67797	257.52246	1.68923	6.21674	0.2625916	0.21806880	2.7336340	21	8 11.0	19.3
506227 2016 LR ₁₇	17.5	X	65.29814	66.39157	188.75046	11.56982	0.1498552	0.23047494	2.6346337	21	9 16.6	21.0
506228 2016 LZ ₁₈	16.4	X	272.96132	281.25527	118.01268	16.72108	0.1522659	0.22034088	2.7148093	21	7 21.2	20.1
506229 2016 LK ₂₁	17.2	X	2.36380	166.94615	151.25621	4.01825	0.1276134	0.22638944	2.6662361	21	8 31.9	20.0
506230 2016 LR ₃₂	17.5	X	109.66935	208.13023	113.62805	6.48143	0.0575782	0.28649834	2.2788792	21	—	—
506231 2016 LO ₄₉	16.7	X	210.95985	295.22878	257.67930	19.42871	0.2175904	0.28561872	2.2835557	21	11 25.8	20.0
506232 2016 LO ₅₂	15.0	X	228.13306	49.12315	256.57028	12.77408	0.2243594	0.12342344	3.9951917	21	2 9.8	21.7
506233 2016 MX ₂	16.0	X	327.31358	62.54316	255.57421	15.14299	0.1565169	0.18542042	3.0457740	21	6 21.7	1

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506241 2016 NJ ₂₈	17.0	X	141.42087	15.34187	193.23636	12.34565	0.1475045	0.23138356	2.6277319	21	10 10.0	21.2
506242 2016 NU ₃₁	16.2	X	290.05102	87.33718	278.38445	9.02949	0.1378309	0.18860959	3.0113428	21	7 1.4	20.2
506243 2016 NQ ₄₀	16.9	X	105.03676	333.43451	283.87372	2.68711	0.1528811	0.23639193	2.5904842	21	11 4.0	20.8
506244 2016 NE ₄₅	16.1	X	226.45866	315.28140	127.62082	11.07748	0.0600558	0.19124793	2.9835837	21	8 1.9	20.5
506245 2016 NK ₄₆	17.2	X	41.42549	141.80423	147.87486	4.09187	0.0675978	0.21070016	2.7970022	21	9 17.2	20.7
506246 2016 NX ₄₇	16.8	X	216.08746	256.84844	220.12116	3.36192	0.0532944	0.21201391	2.7854358	21	9 2.8	20.9
506247 2016 NK ₄₈	16.7	X	330.05899	160.79170	159.71365	8.68160	0.0606048	0.18932914	3.0037082	21	7 9.5	20.7
506248 2016 OJ ₂	16.4	X	323.37631	62.84012	235.27395	12.25280	0.1178899	0.17275497	3.1928781	21	5 25.6	20.6
506249 2016 OE ₅	16.2	X	1.37149	316.48148	337.91101	8.91493	0.0953194	0.19773803	2.9179370	21	7 25.6	19.7
506250 2016 PR ₅	16.3	X	16.08768	145.11058	120.14840	9.90036	0.0611549	0.18140247	3.0905842	21	7 5.6	20.2
506251 2016 PB ₁₃	16.4	X	300.81582	236.70838	98.89584	14.16885	0.1694315	0.17383438	3.1796471	21	6 4.3	20.8
506252 2016 PE ₂₄	16.1	X	334.86590	158.43912	122.51047	15.91794	0.2393882	0.17314232	3.1881144	21	5 11.9	20.0
506253 2016 PB ₂₅	16.5	X	248.58381	42.06674	355.33211	9.56431	0.0724729	0.17623969	3.1506506	21	6 30.4	21.2
506254 2016 PA ₃₅	16.3	X	188.28544	8.42115	84.87768	9.95340	0.0570949	0.17586152	3.1551656	21	7 2.2	21.0
506255 2016 PQ ₃₆	16.4	X	313.24449	304.21138	25.87378	13.37682	0.0322817	0.17562208	3.1580329	21	7 2.8	21.0
506256 2016 PZ ₅₈	15.9	X	326.71438	274.09972	44.54041	11.20328	0.0105017	0.17194807	3.2028592	21	7 8.2	20.5
506257 2016 PJ ₆₂	16.8	X	138.90150	163.20227	73.73832	14.96127	0.0790060	0.24190188	2.5509966	21	11 13.9	20.6
506258 2016 PW ₆₅	16.1	X	219.37131	41.48773	27.03414	11.08253	0.1085424	0.17413823	3.1759474	21	7 3.1	21.2
506259 2016 PY ₇₀	16.3	X	345.27507	207.08426	83.92602	13.23667	0.2035205	0.17982621	3.1086182	21	6 13.9	19.6
506260 2016 QH ₅	16.3	X	243.42599	82.43959	317.24243	8.58085	0.1050763	0.17218331	3.1999413	21	6 23.1	21.2
506261 2016 QP ₂₃	15.7	X	93.45684	259.30904	301.37089	8.22464	0.0211749	0.17659550	3.1464171	21	7 22.6	20.1
506262 2016 QR ₂₄	17.0	X	62.43779	25.42277	306.40253	11.12972	0.0715402	0.23382192	2.6094315	21	12 11.5	20.8
506263 2016 QU ₄₇	15.4	X	20.77197	262.26111	2.52188	15.55871	0.1226417	0.17765656	3.1338766	21	7 21.8	19.5
506264 2016 QB ₅₄	15.9	X	7.03998	95.34982	185.29295	17.22952	0.1178725	0.17949501	3.1124410	21	7 11.8	20.0
506265 2016 QO ₅₅	15.9	X	213.78309	183.78990	259.37788	8.82239	0.0647964	0.17885744	3.1198332	21	7 16.3	20.5
506266 2016 QE ₅₇	16.3	X	208.60954	192.35218	269.54556	8.94129	0.1349170	0.18289053	3.0737974	21	7 28.9	21.2
506267 2016 QR ₅₉	16.4	X	318.45638	45.65215	263.18089	6.18304	0.0613427	0.16796920	3.2532413	21	6 8.3	20.7
506268 2016 QH ₆₅	16.3	X	23.57879	300.85288	313.30742	11.04328	0.1387952	0.18084550	3.0969266	21	7 9.8	20.0
506269 2016 QS ₇₅	15.3	X	337.72961	32.31701	269.13907	14.90276	0.0602892	0.17024268	3.2242132	21	6 26.1	19.4
506270 2016 RF ₅	16.2	X	45.50365	50.93638	188.38283	15.45527	0.0405481	0.17938434	3.1137210	21	7 9.8	20.7
506271 2016 RK ₅	15.6	X	217.73365	202.14825	239.10983	8.68115	0.0445552	0.18112184	3.0937758	21	7 19.4	20.2
506272 2016 RV ₇	16.4	X	5.32197	79.52546	179.53729	11.37990	0.1169709	0.17056748	3.2201188	21	6 12.6	20.5
506273 2016 RW ₁₀	16.5	X	301.80371	77.87821	300.78609	8.89213	0.1769794	0.18719920	3.0264492	21	7 29.5	20.2
506274 2016 RQ ₁₃	16.6	X	144.98855	289.88107	282.47158	10.12197	0.1917157	0.22838363	2.6506928	21	10 13.5	21.2
506275 2016 RY ₁₄	16.2	X	337.29340	22.81431	283.55268	8.07407	0.0187078	0.16943280	3.2344794	21	7 4.9	20.7
506276 2016 RY ₂₆	15.6	X	321.37820	41.21119	296.51676	10.40381	0.1060601	0.17423101	3.1748198	21	7 15.6	19.4
506277 2016 RO ₂₇	16.1	X	300.70180	108.03729	249.31314	9.31128	0.0250093	0.18250015	3.0781792	21	7 19.2	20.4
506278 2016 RC ₃₂	15.5	X	144.73458	279.10882	163.32592	5.40595	0.0867747	0.12552408	3.9504935	21	5 8.1	21.4
506279 2016 SC ₆	15.5	X	56.44900	349.70230	236.41478	15.98033	0.1468433	0.17160056	3.2071819	21	7 19.8	20.0
506280 2016 TN ₄₉	15.6	X	148.01176	308.58497	242.12331	12.82329	0.0338855	0.17145320	3.2090192	21	9 9.5	20.6
506281 2016 TH ₈₁	16.3	X	95.01720	272.53582	358.24318	12.07002	0.0119378	0.19272267	2.9225241	21	10 18.4	20.5
506282 2016 TP ₈₁	16.3	X	4.16898	332.53478	354.95571	8.80473	0.0785653	0.18146803	3.0898398	21	9 10.0	20.2
506283 2016 UR ₉₁	17.2	X	224.58397	169.08245	49.68741	4.03833	0.1229433	0.24045411	2.5612261	21	—	—
506284 2016 UC ₁₄₅	16.8	X	95.90139	283.41671	354.17521	4.04703	0.0653490	0.21332096	2.7740463	21	11 7.8	20.8
506285 2016 VM ₅	16.2	X	32.87152	26.50139	339.25677	32.74506	0.1953679	0.23266901	2.6180445	21	—	—
506286 2017 AP ₁₆	17.3	X	326.63249	0.50170	164.38006	2.02280	0.1525787	0.22062361	2.7124894	21	—	—
506287 2017 BQ ₁₈	16.2	X	290.03223	12.86324	118.86151	14.19210	0.1820201	0.17991889	3.1075506	21	12 7.4	20.1
506288 2017 BP ₃₅	15.8	X	301.21735	342.55394	137.54549	28.65041	0.1452597	0.17583784	3.1554489	21	12 17.1	20.2
506289 2017 BS ₄₃	16.2	X	305.68989	319.86025	128.76499	9.36664	0.0644404	0.16879269	3.2426516	21	11 18.0	20.6
506290 2017 DG ₃	17.2	X	94.59601	124.49914	328.88265	8.42005	0.1003455	0.25642556	2.4537398	21	3 7.5	20.0
506291 2017 DQ ₁₃	16.4	X	295.43689	356.70561	136.55621	16.70789	0.0097087	0.17748303	3.1359190	21	—	—
506292 2017 DU ₇₉	16.0	X	293.08171	181.80206	333.45305	9.38258	0.0602452	0.18487583	3.0517524	21	—	—
506293 2017 DX ₁₀₂	16.4	X	315.08096	289.58113	185.19385	16.01466	0.1720540	0.17252130	3.1957606	21	12 24.7	20.4
506294 2017 FT ₉₈	17.3	X	323.56458	13.37002	200.25363	3.09982	0.1950914	0.23257735	2.6187323	21	2 21.5	20.7
506295 2017 HY ₃₆	16.6	X	273.96365	190.88230	101.96501	9.35900	0.1958373	0.21319561	2.7751334	21	3 6.0	21.0
506296 2017 KG ₁₁	16.9	X	283.68789	156.06698	120.70744	16.12096	0.2075886	0.21588656	2.7520246	21	2 21.4	21.2
506297 2017 MS ₆	17.6	X	332.89371	217.41411	102.41812	7.62889	0.4201997	0.23059482	2.6337205	21	5 20.4	19.8
506298 2017 ME ₈	18.1	X	25.68654	247.42586	98.51662	3.34831	0.3032396	0.27797178	2.3252461	21	12 27.1	19.0
506299 2017 NR ₁	16.9	X	16.80279	154.61068	117.72984	7.05979	0.1556784	0.24268591	2.5454994	21	7 25.1	20.9
506300 2017 NN ₂	15.6	X	318.83669	53.14094	257.69149	12.70141	0.3027469	0.22058926	2.7127710	21	4 29.3	18.9
506301 2017 NR ₂	16.8	X	317.15032	30.67272	305.53429	13.48363	0.2611736	0.22866799	2.6484949	21	6 11.9	19.9
506302 2017 NG ₄	18.2	X	54.62874	10.66695	301.36799	2.28571	0.1824675	0.28441809	2.2899776	21	11 30.8	21.3
506303 2017 NM ₄	16.9	X	55.89988	332.43493	316.60173	6.35902	0.1392356	0.27133831	2.3629905	21	10 21.3	20.0
506304 2017 OF	16.1	X	345.83780	336.96446	280.48361	11.40690	0.1681888	0.21507582	2.7589362	21	4 22.7	19.4
506305 2017 OK	16.2	X	293.47266	49.68833	279.54181	13.84625	0.2134420	0.21311938	2.7757952	21	5 2.2	20.3
506306 2017 OO	16.2	X	230.27083	84.56493	266.56099	11.02377	0.2365139	0.17879664	3.1205404	21	3 28.6	21.7
506307 2017 OR	16.6	X	293.31070	70.06323	254.12360	11.96175	0.2169790	0.21167797	2.7883821	21	4 26.4	20.6
506308 2017 OT	16.5	X	267.95673	58.45412	245.79438	9.92589	0.2666995	0.18486100	3.0519156	21	3 2.3	21.7
506309 2017 OU	17.1	X	325.19135	60.52537	251.85708	10.74682	0.3017475	0.22879260	2.6475331	21	5 13.9	19.9
506310 2017 OV	16.7	X	337.18415	52.93121	228.22741	10.45629	0.1464637	0.22202092	2.7010966	21	5 18.1	19.5
506311 2017 OT ₁	17.4	X	57.06852	113.97674	165.88651	12.49840	0.2464306	0.27600724	2.3362666	21	11 2.4	20.8
506312 2017 OW ₁	16.3	X	313.87347	69.51734	233.00666	5.64916	0.0613683	0.20858049	3.1815917	21	5 22.6	20.0
506313 2017 OD ₂	16.9	X	320.90804	5.04174	307.90692	16.01577	0.2281676	0.22248048	2.6973757	21	5 17.4	20.3
506314 2017 OS ₂	16.3											

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506321 2017 OA ₉	16.9	X	344.85629	332.77471	296.51074	14.17621	0.1757914	0.21983052	2.7190095	21	5 6.7	20.1
506322 2017 OH ₉	17.4	X	45.02393	25.66325	300.16025	6.10832	0.1392102	0.29030782	2.2588994	21	12 1.9	20.3
506323 2017 OO ₉	16.6	X	301.78604	347.36126	303.10131	10.46751	0.1913875	0.19915981	2.9040332	21	3 26.4	20.9
506324 2017 OU ₉	17.9	X	73.45882	49.24405	256.23054	6.88852	0.1321642	0.29994075	2.2102721	21	12 10.5	20.9
506325 2017 OZ ₉	16.1	X	107.02132	190.05169	279.22231	15.51405	0.0331759	0.18363544	3.0654792	21	4 8.0	20.7
506326 2017 OX ₁₀	15.3	X	335.76830	280.87496	291.48698	14.68734	0.1981857	0.17947550	3.1126666	21	2 6.9	19.3
506327 2017 OC ₁₂	17.6	X	62.53125	295.07886	323.76199	6.36853	0.0945761	0.26771785	2.3842466	21	9 12.2	20.6
506328 2017 OP ₁₂	16.9	X	333.85939	81.14681	214.44985	10.81161	0.1842998	0.22447636	2.6813632	21	5 28.3	19.7
506329 2017 OS ₁₃	17.9	X	52.85590	183.40464	101.41971	3.00868	0.2024193	0.27974956	2.3153844	21	10 27.2	20.7
506330 2017 OR ₁₅	18.0	X	81.21234	159.76396	113.19655	4.53403	0.1674926	0.29244274	2.2478922	21	11 10.6	21.2
506331 2017 OG ₂₀	17.0	X	359.26152	358.57458	329.75159	7.62612	0.2852898	0.25450410	2.4660745	21	9 26.7	18.5
506332 2017 OM ₂₀	17.8	X	359.96505	332.65810	42.86487	2.24184	0.2024574	0.28089922	2.3090625	21	12 11.9	19.9
506333 2017 OR ₂₁	16.5	X	23.95564	119.81962	163.14200	14.75914	0.1193199	0.23915049	2.5705252	21	8 18.4	19.4
506334 2017 OV ₂₅	16.5	X	356.96371	351.98114	280.21914	13.31115	0.2209948	0.22524324	2.6752736	21	6 8.4	18.7
506335 2017 OC ₂₉	16.3	X	310.04466	68.61703	269.97457	12.14978	0.1890922	0.22144057	2.7058139	21	6 16.9	19.3
506336 2017 OX ₂₉	16.2	X	250.06395	62.41042	283.92493	11.53580	0.2306236	0.18163499	3.0879461	21	4 7.7	21.5
506337 2017 OJ ₃₃	17.0	X	57.80548	15.32335	252.26742	7.16178	0.0937926	0.25574328	2.4581020	21	9 14.3	20.2
506338 2017 OV ₃₆	17.7	X	37.80233	180.40718	172.23334	6.64955	0.1347672	0.29650445	2.2273163	21	12 29.9	20.5
506339 2017 OX ₃₈	17.4	X	351.18130	156.08776	154.92360	6.00889	0.2947419	0.23650135	2.5896851	21	7 26.1	18.7
506340 2017 OW ₃₉	17.3	X	23.79954	9.69087	278.40659	9.36593	0.2228176	0.25815857	2.4427462	21	9 7.9	19.8
506341 2017 OQ ₄₈	17.4	X	25.07034	7.59182	315.36281	10.46464	0.2879685	0.27111017	2.3643159	21	11 18.1	20.2
506342 2017 OS ₄₈	17.1	X	286.56438	198.92202	152.91449	10.71773	0.2377863	0.21940203	2.7225485	21	5 25.8	21.2
506343 2017 OT ₄₈	17.0	X	308.66727	163.82926	147.36217	13.45760	0.1291754	0.21766776	2.7369906	21	5 20.0	20.7
506344 2017 OV ₄₈	16.0	X	257.41370	33.57303	281.60792	9.92510	0.0603927	0.18221472	3.0813929	21	3 24.6	20.8
506345 2017 OW ₄₈	16.2	X	286.06128	109.16230	177.70590	6.52310	0.2173536	0.18939072	3.0030571	21	3 7.2	20.6
506346 2017 OY ₄₈	16.6	X	262.14227	131.60145	156.57315	10.23337	0.3123183	0.17491388	3.1665514	21	2 9.1	22.1
506347 2017 OD ₄₉	16.9	X	316.11823	183.31275	123.14818	4.48479	0.1793538	0.21711321	2.7416492	21	5 14.5	20.3
506348 2017 OK ₅₂	17.2	X	34.25174	356.88919	377.39079	4.91342	0.2934658	0.28430556	2.2905819	21	12 21.9	20.3
506349 2017 OF ₅₆	16.8	X	230.94973	103.79302	323.62185	4.45644	0.0989798	0.21903550	2.7255849	21	7 15.2	20.7
506350 2017 OS ₅₆	16.9	X	247.49302	261.96400	146.62669	6.20802	0.1164392	0.21605722	2.7505752	21	7 6.3	20.9
506351 2017 OD ₆₄	16.9	X	319.52997	204.86334	111.55086	6.00240	0.1498311	0.21238268	2.7822105	21	6 7.3	20.1
506352 2017 OG ₆₅	17.0	X	321.75420	223.66326	141.50262	8.75869	0.2574971	0.23775031	2.5806077	21	8 6.9	19.0
506353 2017 OT ₆₇	18.2	X	15.44370	184.00406	304.68037	18.34670	0.2822891	0.38520081	1.8707306	21	—	—
506354 2017 PT ₅	17.4	X	351.07698	7.61225	340.39493	0.81101	0.1964672	0.25410464	2.4686583	21	10 1.6	19.4
506355 2017 PB ₂₅	17.2	X	343.36303	67.04388	289.47454	10.79993	0.3518643	0.23989117	2.5652314	21	9 17.5	18.5
506356 2017 QX	16.8	X	15.22083	251.56980	65.16298	3.25582	0.2143019	0.25344496	2.4729402	21	10 10.5	19.0
506357 2017 QF ₄	17.7	X	309.55386	101.91921	272.48018	4.15312	0.1753587	0.24660964	2.5184269	21	8 8.2	20.3
506358 2017 QK ₄	17.2	X	339.54707	14.58739	274.18838	4.13374	0.0855928	0.22204020	2.7009402	21	6 8.4	20.3
506359 2017 QF ₆	16.9	X	226.54412	134.88670	270.55858	4.85373	0.0393024	0.21731052	2.7399894	21	6 16.2	20.5
506360 2017 QB ₁₀	18.1	X	29.82958	18.51341	293.49549	0.51156	0.1953140	0.26834521	2.3805291	21	10 27.5	20.6
506361 2017 QJ ₁₀	15.3	X	168.32004	6.98667	336.91322	9.56285	0.3239723	0.12536983	3.9537332	21	2 17.5	22.1
506362 2017 QT ₁₃	15.8	X	339.18801	313.08872	301.18825	9.55811	0.0727210	0.19958263	2.8999303	21	4 19.4	19.7
506363 2017 QG ₁₆	15.1	X	177.90713	278.27515	62.86073	5.33077	0.2415342	0.12579771	3.9447628	21	2 19.8	21.7
506364 2017 QC ₁₉	18.0	X	156.53136	278.31355	277.68549	3.76096	0.0887778	0.28347583	2.9504093	21	10 11.7	21.4
506365 2017 QJ ₁₉	16.8	X	185.46754	237.23331	170.37801	8.25204	0.1583244	0.18051624	3.1006913	21	5 5.9	22.0
506366 2017 QX ₂₀	17.9	X	331.04408	104.57131	281.48702	4.27499	0.1214963	0.26916988	2.3756643	21	10 16.5	20.1
506367 2017 QQ ₂₂	16.3	X	258.15599	117.16507	193.44316	0.35189	0.0659410	0.17734349	3.1375637	21	3 25.1	20.9
506368 2017 QS ₂₄	16.0	X	180.03780	286.82395	152.20625	9.74824	0.0495098	0.17995735	3.1071178	21	6 6.4	20.7
506369 2017 QT ₂₄	17.0	X	240.29666	41.60310	47.22208	5.32929	0.1412159	0.22397476	2.6853650	21	8 20.3	21.0
506370 2017 QZ ₂₄	16.7	X	349.91071	124.98992	164.08537	13.65543	0.1880212	0.22967372	2.6407574	21	6 21.4	19.5
506371 2017 QA ₂₅	15.7	X	330.91332	314.37921	314.19870	12.72654	0.1972609	0.20425511	2.8555346	21	4 5.9	19.5
506372 2017 QB ₂₅	16.4	X	252.55867	263.24352	91.25764	4.62146	0.2350243	0.18539489	3.0460537	21	4 26.0	21.3
506373 2017 QT ₂₅	18.0	X	32.26620	150.36572	201.98996	6.52679	0.2355351	0.28493823	2.2871900	21	—	—
506374 2017 QH ₂₆	16.1	X	338.31194	332.52049	265.78230	9.29314	0.1376741	0.19086031	2.9876219	21	3 21.2	20.0
506375 2017 QD ₂₇	16.6	X	216.88822	210.10936	175.59926	10.06635	0.2757450	0.17930709	3.1146152	21	5 3.3	22.2
506376 2017 QY ₃₀	17.4	X	228.43956	208.97892	220.03195	5.76326	0.1048417	0.21628595	2.7486356	21	7 12.0	21.6
506377 2017 QF ₃₁	17.2	X	330.44012	65.54410	263.61344	6.42859	0.2686721	0.23294556	2.6159720	21	6 27.8	19.2
506378 2017 QE ₃₃	17.2	X	347.78005	290.55924	79.36050	8.20190	0.2955585	0.25342733	2.4730549	21	11 12.6	18.6
506379 2017 QE ₃₄	16.2	X	323.87400	105.07809	240.74213	20.70792	0.0784668	0.22487553	2.6781892	21	7 26.4	19.9
506380 2017 QK ₃₄	17.1	X	327.03111	107.91846	184.85608	12.73163	0.2224466	0.21328839	2.7743286	21	5 7.9	20.3
506381 2017 RH	18.0	X	242.36460	344.34544	240.20085	18.01691	0.0560977	0.34355791	2.0189989	21	—	—
506382 2017 RH ₃	17.9	X	317.02207	215.31797	178.81417	7.86344	0.1603164	0.25295467	2.4761346	21	9 27.9	20.1
506383 2017 RV ₃	16.8	X	343.59741	291.24428	350.51132	0.89578	0.0601548	0.19533778	2.9417914	21	6 8.1	20.5
506384 2017 RA ₇	16.3	X	229.81473	213.67252	163.17267	17.18537	0.2186309	0.17810798	3.1285790	21	5 7.2	21.8
506385 2017 RB ₇	16.4	X	332.24780	94.27196	164.45351	21.04056	0.1391817	0.18560646	3.0437384	21	4 17.6	20.4
506386 2017 RW ₇	16.1	X	116.96893	166.02493	336.51966	8.47742	0.0418653	0.19238568	2.9718089	21	6 9.2	20.4
506387 2017 RN ₁₀	17.4	X	63.64017	116.03307	172.60559	5.98678	0.1101539	0.26501843	2.4004095	21	10 30.5	20.5
506388 2017 RL ₁₂	17.9	X	30.52779	343.64501	349.90889	12.15924	0.2483878	0.27589362	2.3369080	21	12 5.8	21.0
506389 2017 RP ₁₂	17.9	X	96.94683	241.37784	46.77023	6.62545	0.1661582	0.29148415	2.2528179	21	12 13.3	21.2
506390 2017 RQ ₁₂	17.0	X	348.63414	319.56847	45.44512	7.09657	0.1465798	0.25474885	2.4644947	21	10 21.4	19.3
506391 2017 RS ₁₂	16.8	X	266.08461	298.38369	119.33744	7.09362	0.1196818	0.22538766	2.6741306	21	8 12.1	20.4
506392 2017 RU ₁₂	17.3	X	348.10580	175.14062	149.35427	8.64987	0.2087199	0.23452946	2.6041807	21	8 12.4	19.4
506393 2017 RV ₁₃	15.9	X	250.41269	160.29524	181.62259	14.92039	0.1952849	0.17218647				

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506401 2017 <i>SP</i> ₄	17.0	X	256.58884	353.28216	78.13163	10.24915	0.1611530	0.22033428	2.7148635	21	8 14.7	21.0
506402 2017 <i>SV</i> ₄	16.8	X	323.49040	224.96741	121.97689	7.12551	0.0399559	0.21801905	2.7340498	21	8 8.8	20.2
506403 2017 <i>SA</i> ₅	16.4	X	23.63419	231.70629	42.67783	12.42190	0.1175273	0.21776331	2.7361900	21	8 10.9	19.8
506404 2017 <i>SM</i> ₅	17.9	X	20.48529	301.39556	111.92665	6.69622	0.1278512	0.30048447	2.2076050	21	—	—
506405 2017 <i>SK</i> ₆	16.0	X	250.28485	276.79135	91.27591	10.64700	0.1004542	0.18066202	3.0990230	21	5 23.8	20.7
506406 2017 <i>SN</i> ₆	16.5	X	332.48918	245.60237	49.02389	14.92184	0.2106604	0.20368929	2.8608204	21	5 19.8	19.5
506407 2017 <i>SQ</i> ₈	15.5	X	200.66332	256.12226	146.85460	9.75024	0.0488034	0.17393926	3.1783689	21	5 17.4	20.3
506408 2017 <i>SX</i> ₉	16.9	X	334.46320	129.12099	169.97283	12.99148	0.1679280	0.21457355	2.7632399	21	6 7.6	20.2
506409 2017 <i>SF</i> ₁₃	18.3	X	102.85619	139.83656	150.05133	6.11368	0.2725578	0.29519236	2.2339115	21	12 26.4	22.2
506410 1131 <i>T</i> ₋₃	17.3	X	316.88999	141.83599	236.09321	8.73677	0.3266292	0.22260973	2.6963315	21	7 29.4	19.9
506411 1995 <i>TP</i> ₅	17.0	X	216.44582	76.65044	23.46404	17.72795	0.1709675	0.22056394	2.7129786	21	8 12.5	21.6
506412 1995 <i>WY</i> ₃₉	17.8	X	341.13980	295.73945	80.50058	8.12655	0.1352053	0.26379805	2.4078069	21	10 27.1	20.1
506413 1996 <i>VZ</i> ₁₀	16.5	X	348.41396	14.15102	10.37577	14.92759	0.0570581	0.23776594	2.5804946	21	11 2.6	19.7
506414 1996 <i>VG</i> ₂₆	16.6	X	256.32903	266.68193	79.48299	15.36160	0.2580613	0.18453054	3.0555581	21	4 22.3	21.8
506415 1997 <i>EH</i> ₁	17.1	X	305.64154	279.81105	204.82419	6.62076	0.0558287	0.23357348	2.6112815	21	—	—
506416 1998 <i>QD</i> ₆₀	18.5	X	27.84677	11.49926	359.11299	3.00466	0.1913684	0.26398426	2.4066745	21	—	—
506417 1999 <i>TO</i> ₇₆	18.6	X	16.39817	192.27790	213.26837	4.59233	0.1622916	0.27528980	2.3403239	21	—	—
506418 1999 <i>TZ</i> ₂₂₆	18.0	X	76.25035	106.10241	29.00435	22.33385	0.0377549	0.38482561	1.8719464	21	3 21.9	19.9
506419 1999 <i>TC</i> ₂₆₉	16.3	X	338.90349	146.79105	253.50251	7.50779	0.3216482	0.22541055	2.6739496	21	11 25.2	17.6
506420 1999 <i>VW</i> ₂₉	18.2	X	25.10002	152.73881	236.09260	7.11154	0.2919353	0.27465389	2.3439349	21	—	—
506421 1999 <i>VY</i> ₁₀₆	17.4	X	295.61578	177.48389	227.23520	7.24431	0.2630853	0.21852190	2.7298539	21	8 9.0	20.8
506422 1999 <i>VE</i> ₁₂₂	17.2	X	359.06342	256.56480	72.31435	6.10834	0.1684599	0.21907281	2.7252754	21	9 15.7	20.0
506423 1999 <i>WJ</i> ₅	18.6	X	341.44320	29.50881	59.21720	6.43467	0.2030285	0.27441213	2.3453114	21	—	—
506424 1999 <i>XV</i> ₁₄₁	16.8	X	315.19837	152.73044	284.08109	23.14405	0.2329038	0.26692326	2.3889759	21	11 30.8	18.9
506425 2000 <i>DQ</i> ₁₁₀	16.6	X	189.67692	95.45725	247.81934	58.27155	0.6295746	0.16009398	3.3590726	21	—	—
506426 2000 <i>QH</i> ₃₄	16.8	X	14.43991	25.73803	343.25474	13.33465	0.2647788	0.24109041	2.5567176	21	12 28.6	20.0
506427 2000 <i>RE</i> ₃₄	17.5	X	337.87393	72.77884	268.37028	4.34891	0.3760127	0.23355083	2.6114504	21	7 22.5	18.6
506428 2000 <i>SJ</i> ₁₀₀	17.6	X	61.92091	77.76824	288.57466	6.80730	0.2678387	0.29218809	2.2491981	21	—	—
506429 2000 <i>SS</i> ₂₈₄	17.2	X	350.47561	141.04680	218.32134	12.70044	0.2808027	0.23519386	2.5992740	21	10 21.3	19.0
506430 2000 <i>SW</i> ₂₉₁	17.2	X	5.65946	120.94498	225.68980	2.31623	0.2736982	0.23629456	2.5911958	21	11 9.3	19.4
506431 2000 <i>TV</i> ₄₄	17.3	X	12.19753	300.83213	31.63028	13.54606	0.2926225	0.23696972	2.5862717	21	11 3.9	19.6
506432 2000 <i>UN</i> ₃	17.5	X	355.49934	298.92255	48.14099	5.58125	0.3447499	0.23500489	2.6006672	21	10 27.4	18.8
506433 2000 <i>UT</i> ₃₃	17.0	X	350.87112	340.64246	56.66967	12.65586	0.2443099	0.23663786	2.5886891	21	12 16.9	19.3
506434 2000 <i>UR</i> ₅₉	16.2	X	257.60536	27.20811	356.29599	14.55883	0.2830665	0.17684457	3.1434620	21	5 25.7	21.7
506435 2000 <i>UR</i> ₆₇	15.9	X	260.57969	144.08217	243.34439	15.53989	0.2888248	0.17723233	3.1388754	21	6 5.2	20.9
506436 2000 <i>UE</i> ₇₃	17.6	X	325.47674	356.94487	22.57522	8.08520	0.3498647	0.23234331	2.6204906	21	8 30.9	19.2
506437 2000 <i>WL</i> ₁₀	18.0	X	255.30886	115.21302	252.04402	10.25789	0.1717135	0.17722048	3.1390154	21	4 9.4	24.8
506438 2000 <i>XJ</i> ₁₄	17.0	X	336.48092	95.32666	292.17305	15.71815	0.3518415	0.23405713	2.6076830	21	10 16.2	18.7
506439 2000 <i>YB</i> ₂	6.7	X	106.78892	201.41573	135.47310	3.82827	0.0332905	0.00410214	38.6482085	21	12 20.1	22.6
506440 2000 <i>YZ</i> ₁₁₉	17.0	X	45.51014	342.79649	88.95440	24.04449	0.2109335	0.29260740	2.2470488	21	—	—
506441 2001 <i>AV</i> ₁₉	15.9	X	255.85349	80.06613	93.01513	28.22444	0.3745902	0.23273585	2.6175432	21	11 27.9	19.8
506442 2001 <i>AW</i> ₁₉	17.6	X	30.44448	112.69488	291.29677	22.48179	0.3188659	0.28713562	2.2755061	21	—	—
506443 2001 <i>CM</i> ₃₅	17.7	X	227.48832	93.67570	85.58671	8.48958	0.4134846	0.22555999	2.6727684	21	11 1.3	22.5
506444 2001 <i>EE</i> ₃	18.4	X	222.11081	57.38290	128.12845	2.81410	0.1554022	0.27422117	2.3464001	21	12 5.1	21.4
506445 2001 <i>EQ</i> ₁₀₅	16.0	X	274.67089	170.42760	204.78648	3.29231	0.2800908	0.19190125	2.9768082	21	6 4.6	20.6
506446 2001 <i>RD</i> ₁₄₂	16.5	X	280.07118	282.22793	102.13515	14.61066	0.4612371	0.18901998	3.0069826	21	6 2.3	21.6
506447 2001 <i>SW</i> ₂₀₉	17.2	X	306.15871	314.29172	34.72671	2.96294	0.2409166	0.19141661	2.9818306	21	6 15.9	20.8
506448 2001 <i>SN</i> ₃₅₅	18.4	X	107.11012	198.17939	131.17376	4.90823	0.2415146	0.31053198	2.1597252	21	—	—
506449 2001 <i>TV</i> ₅₅	16.7	X	321.41074	209.20660	121.36529	2.80811	0.3072154	0.19198628	2.9759291	21	6 5.4	19.8
506450 2001 <i>TU</i> ₁₅₈	18.6	X	96.08985	314.08614	36.32878	1.78615	0.1866720	0.31070637	2.1589170	21	—	—
506451 2001 <i>UG</i> ₁₃₃	17.3	X	244.10866	110.46172	302.02165	0.93356	0.2512207	0.18610820	3.0382654	21	6 24.6	22.4
506452 2001 <i>UH</i> ₁₅₅	16.2	X	298.17727	326.42842	65.30291	18.85145	0.2753243	0.18930520	3.0039614	21	7 29.7	20.3
506453 2001 <i>VW</i> ₇₇	16.2	X	137.68833	52.52402	35.98852	3.02828	0.1735342	0.12350257	3.9934850	21	5 13.2	22.4
506454 2001 <i>WB</i> ₁₅	17.6	X	84.31176	217.11746	257.70287	18.87365	0.0702773	0.36999055	1.9216559	21	2 12.2	19.8
506455 2001 <i>XZ</i> ₅₃	17.5	X	326.52062	263.03894	155.41355	6.64753	0.1967532	0.24557957	2.5254643	21	11 24.4	19.6
506456 2001 <i>XA</i> ₂₂₄	15.9	X	167.06113	37.72554	66.83302	17.07708	0.2041298	0.17746655	3.1361130	21	6 25.5	21.3
506457 2001 <i>YG</i> ₄	17.8	X	258.63595	191.08413	282.90334	14.59665	0.1889442	0.23851233	2.5751082	21	9 27.9	21.7
506458 2001 <i>YW</i> ₁₅₅	16.6	X	322.75721	116.40553	303.03926	16.26288	0.1696079	0.24403712	2.5360946	21	11 8.9	19.5
506459 2002 <i>AL</i> ₁₄	17.8	X	292.68025	226.16385	128.51691	22.99905	0.1261702	0.93263900	1.0375133	21	5 16.5	18.6
506460 2002 <i>CR</i> ₁₆₁	17.2	X	252.95329	169.01395	333.65753	11.82879	0.2122759	0.23983490	2.5656326	21	10 27.9	20.9
506461 2002 <i>FS</i>	17.1	X	229.37399	301.61635	232.81152	4.74421	0.2193043	0.23635471	2.5907562	21	11 14.5	20.8
506462 2002 <i>GY</i> ₅₉	16.8	X	220.16317	183.87409	344.11195	12.52685	0.2197712	0.23395881	2.6084135	21	10 22.8	21.2
506463 2002 <i>HZ</i> ₈	16.9	X	198.54128	123.71781	63.96162	32.44460	0.2941653	0.23201061	2.6229951	21	11 6.7	21.8
506464 2002 <i>JM</i> ₉₁	18.1	X	242.85252	357.17186	212.69214	2.48195	0.1593296	0.29010742	2.2599396	21	—	—
506465 2002 <i>LC</i> ₃₅	17.6	X	115.34849	57.07937	227.79293	9.42344	0.2670387	0.27776466	2.3264018	21	12 26.4	21.8
506466 2002 <i>LG</i> ₄₇	16.8	X	198.86304	91.77600	152.63991	17.24134	0.3764931	0.18386095	3.0629721	21	12 22.9	22.6
506467 2002 <i>NJ</i> ₆₈	18.2	X	27.28850	271.69175	95.72434	3.46494	0.2052997	0.26938679	2.3743889	21	—	—
506468 2002 <i>PA</i> ₁₄₇	18.7	X	41.67411	78.88872	270.97616	0.75303	0.2035095	0.26962403	2.3729959	21	—	—
506469 2002 <i>QZ</i> ₁₁₇	17.3	X	335.92230	357.24022	337.81109	1.43659	0.1008244	0.20689647	2.8311790	21	8 6.5	20.5
506470 2002 <i>QP</i> ₁₃₁	18.5	X	53.93091	280.81100	59.17615	2.06485	0.1942395	0.27017576	2.3697642	21	—	—
506471 2002 <i>RE</i> ₂₅₉	18.6	X	62.22342	344.19022	349.34181	1.10536	0.2037798	0.26990192	2.3713668	21	—	—
506472 2002 <i>RJ</i> ₂₇₂												

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506481 2003 <i>SJ</i> ₆₉	17.0	X	234.34101	103.99091	346.27485	3.47034	0.0685267	0.21363130	2.7713591	21	8 21.5	20.9
506482 2003 <i>SQ</i> ₁₃₀	17.1	X	347.47983	162.77414	193.31304	14.35998	0.2166049	0.21937079	2.7228069	21	9 28.7	19.4
506483 2003 <i>SX</i> ₂₁₇	17.1	X	79.13164	331.98064	31.03134	27.88947	0.2121986	0.28898938	2.2657646	21	—	—
506484 2003 <i>SL</i> ₂₇₆	18.0	X	309.49133	358.94521	2.57543	4.33055	0.2136813	0.21242548	2.7818368	21	7 14.6	21.3
506485 2003 <i>SX</i> ₃₃₈	17.5	X	307.92671	319.48858	50.85341	5.81817	0.1775201	0.21385259	2.7694469	21	7 31.6	20.7
506486 2003 <i>SV</i> ₃₅₉	19.0	X	23.55625	232.36213	175.03522	4.27608	0.2512724	0.28462950	2.2888435	21	—	—
506487 2003 <i>SZ</i> ₄₁₁	17.4	X	308.96299	72.19254	357.61860	12.79006	0.1704893	0.22196305	2.7015661	21	10 22.3	20.5
506488 2003 <i>SU</i> ₄₂₉	17.3	X	24.09880	274.83715	36.62167	5.64612	0.0463604	0.21602649	2.7508361	21	9 20.8	20.8
506489 2003 <i>SN</i> ₄₃₂	17.4	X	284.42708	216.71655	193.89689	3.98338	0.0680414	0.21493659	2.7601275	21	9 2.3	21.1
506490 2003 <i>UO</i> ₂₇	16.8	X	316.98945	332.86298	61.41056	14.84621	0.4505183	0.21713317	2.7414811	21	8 6.8	19.4
506491 2003 <i>UW</i> ₂₉	20.6	X	40.89433	55.21588	196.52769	3.75840	0.8384217	0.77924323	1.1695551	21	11 30.7	23.0
506492 2003 <i>US</i> ₈₂	16.7	X	296.30918	277.66065	124.00429	8.50630	0.2457696	0.21262135	2.7801280	21	8 12.5	20.0
506493 2003 <i>UZ</i> ₁₀₃	17.0	X	331.38638	103.75676	279.12197	8.91153	0.3315737	0.21814512	2.7329963	21	9 15.2	18.8
506494 2003 <i>UK</i> ₃₃₆	17.8	X	328.44883	182.80624	186.12982	3.22598	0.1021722	0.21736704	2.7395144	21	9 10.6	21.0
506495 2003 <i>UJ</i> ₃₇₁	17.4	X	309.95387	144.74224	233.31165	12.41976	0.1900853	0.21836934	2.7311252	21	8 5.9	20.7
506496 2003 <i>UZ</i> ₃₇₇	18.8	X	24.79401	223.72603	193.17839	3.69384	0.1703357	0.28694278	2.2765255	21	—	—
506497 2003 <i>VP</i> ₁₂	18.4	X	20.54903	231.40720	226.85569	3.17424	0.2129867	0.28770516	2.2725021	21	—	—
506498 2003 <i>WA</i> ₃₆	16.8	X	300.83993	142.46205	251.75511	12.56479	0.1988015	0.21221552	2.7836713	21	8 10.7	20.4
506499 2003 <i>WS</i> ₁₈₁	17.4	X	277.27900	340.15852	62.46855	4.42729	0.1740696	0.20972156	2.8056963	21	7 29.0	21.2
506500 2003 <i>WZ</i> ₁₈₁	17.4	X	319.87693	129.30544	250.70482	3.87841	0.1696869	0.21548327	2.7554572	21	9 2.9	20.5
506501 2003 <i>YC</i> ₂₇	17.6	X	133.69597	152.76404	282.16743	17.43859	0.0952772	0.35476996	1.9762330	21	3 10.7	20.2
506502 2003 <i>YZ</i> ₄₁	17.8	X	9.78676	317.97379	102.27691	6.63247	0.2134919	0.27784889	2.3259316	21	—	—
506503 2003 <i>YP</i> ₁₂₄	16.7	X	227.48843	228.93423	110.02239	21.10201	0.2487426	0.26673583	2.3900949	21	11 12.7	20.7
506504 2004 <i>BT</i> ₆₈	18.0	X	323.45573	252.19181	289.87674	22.25442	0.3438132	0.28077104	2.3097652	21	—	—
506505 2004 <i>BE</i> ₁₂₀	17.6	X	349.20818	138.10790	11.09052	7.08201	0.2435547	0.28284427	2.2984644	21	—	—
506506 2004 <i>BZ</i> ₁₆₃	14.9	X	310.54934	307.50059	310.40136	8.91830	0.1933652	0.12540935	3.9529026	21	3 9.8	20.3
506507 2004 <i>CB</i> ₁₀₅	17.1	X	198.18848	159.21882	337.20015	13.86220	0.1912371	0.19971768	2.8986228	21	8 30.5	21.9
506508 2004 <i>EZ</i> ₇₆	17.8	X	183.19064	170.70818	32.23751	3.95156	0.1711787	0.25987666	2.4319680	21	11 12.0	21.4
506509 2004 <i>EN</i> ₁₀₄	17.0	X	105.39128	193.90430	359.22945	10.98148	0.0190470	0.19008123	2.9957798	21	7 31.9	21.3
506510 2004 <i>FJ</i> ₉₀	17.9	X	293.36316	11.17362	146.33079	6.24062	0.2773355	0.27172386	2.3670547	21	—	—
506511 2004 <i>PX</i> ₆₈	17.6	X	52.94626	111.22939	186.05428	4.47835	0.2877806	0.23950969	2.5679545	21	11 18.1	21.2
506512 2004 <i>PV</i> ₇₇	16.9	X	334.78642	42.76813	297.98225	11.95885	0.1999474	0.23116975	2.6293519	21	8 4.6	19.1
506513 2004 <i>RV</i> ₁₃₃	17.7	X	319.72347	298.38765	121.00005	2.48116	0.1199729	0.23756588	2.5819431	21	11 9.9	20.4
506514 2004 <i>RQ</i> ₁₅₈	16.8	X	288.98136	53.94849	340.90143	14.05886	0.1460314	0.22792223	2.6542689	21	8 11.8	20.2
506515 2004 <i>RG</i> ₁₇₄	18.9	X	92.22211	135.26517	200.38126	3.98822	0.2481642	0.30741055	2.1743204	21	—	—
506516 2004 <i>RL</i> ₂₀₈	16.9	X	319.94728	145.57216	260.23229	13.10570	0.0885437	0.23302255	2.6153958	21	10 1.8	19.5
506517 2004 <i>RC</i> ₂₁₅	16.7	X	348.22642	61.08551	305.38004	10.64505	0.1914899	0.23321681	2.6139432	21	10 12.4	19.4
506518 2004 <i>RB</i> ₃₃₆	17.4	X	305.53700	185.03505	206.43547	11.60351	0.1935668	0.22750213	2.6575355	21	8 18.9	20.6
506519 2004 <i>SA</i> ₅	16.6	X	352.87549	254.38045	134.92708	29.69469	0.3583937	0.23394345	2.6085277	21	—	—
506520 2004 <i>TW</i> ₆	17.1	X	330.36509	305.79026	67.86680	6.61870	0.3417881	0.23072040	2.6327648	21	9 8.4	18.5
506521 2004 <i>TW</i> ₈	17.8	X	123.29517	1.83279	21.90924	22.11867	0.0885437	0.37460440	1.9058445	21	—	—
506522 2004 <i>TX</i> ₃₁	17.5	X	304.67496	174.05856	237.88194	4.52806	0.2124067	0.22936195	2.6431499	21	9 15.8	20.2
506523 2004 <i>TM</i> ₅₇	17.5	X	45.37287	103.10256	198.58360	11.02029	0.2208317	0.23493478	2.6011846	21	11 4.9	20.8
506524 2004 <i>TK</i> ₆₉	16.9	X	296.01254	24.37815	22.62351	14.25604	0.2640785	0.22791268	2.6543431	21	8 24.5	20.1
506525 2004 <i>TR</i> ₆₉	17.4	X	333.29104	329.67530	40.23412	5.97418	0.2687441	0.23065733	2.6332447	21	9 18.2	19.1
506526 2004 <i>TR</i> ₈₈	17.7	X	313.94118	289.89048	131.53806	1.67075	0.1288260	0.23393177	2.6086145	21	10 31.8	20.5
506527 2004 <i>TQ</i> ₉₆	17.3	X	300.10951	74.40860	25.96399	12.88304	0.2882926	0.23381533	2.6094805	21	11 6.8	19.5
506528 2004 <i>TR</i> ₉₇	17.3	X	30.48398	156.89237	166.51505	2.45538	0.1612405	0.23316873	2.6143025	21	11 2.5	20.2
506529 2004 <i>TG</i> ₁₄₇	18.8	X	95.23776	29.39352	313.23762	2.32007	0.1290239	0.30529110	2.1843721	21	—	—
506530 2004 <i>TU</i> ₁₄₉	17.8	X	312.32588	172.54600	219.50999	3.66873	0.1111567	0.22902929	2.6457087	21	9 15.4	20.7
506531 2004 <i>TY</i> ₁₆₁	17.4	X	353.10241	166.21894	203.84328	1.45099	0.1252268	0.23157082	2.6263151	21	10 29.5	20.2
506532 2004 <i>TR</i> ₁₉₄	16.3	X	176.46977	299.69307	222.28655	12.74557	0.0752786	0.22615764	2.6680577	21	9 11.7	20.5
506533 2004 <i>TR</i> ₂₀₈	17.8	X	330.26496	62.74432	272.28792	2.10514	0.2665686	0.22717794	2.6600631	21	7 7.7	19.8
506534 2004 <i>TH</i> ₂₃₃	18.4	X	102.63059	319.56251	19.42616	4.54911	0.1648019	0.30548214	2.1834613	21	—	—
506535 2004 <i>TJ</i> ₂₄₁	17.0	X	351.73403	355.90243	344.11396	5.77002	0.3339918	0.23053854	2.6341492	21	9 24.3	18.0
506536 2004 <i>TW</i> ₂₄₂	16.4	X	313.82537	322.49955	62.70974	14.26669	0.1919322	0.22930956	2.6435525	21	9 9.2	19.4
506537 2004 <i>TX</i> ₂₇₄	17.2	X	355.06726	13.23295	36.62379	16.68253	0.1612957	0.23612413	2.5924425	21	—	—
506538 2004 <i>VS</i> ₈₂	18.6	X	56.58906	356.63166	44.79415	3.51392	0.1300219	0.30434001	2.1889206	21	—	—
506539 2004 <i>XY</i> ₁₃	17.0	X	349.46665	325.10446	67.03313	6.36042	0.3258949	0.23061135	2.6335947	21	12 17.5	18.8
506540 2004 <i>XT</i> ₂₉	16.7	X	307.81362	40.84089	71.52257	30.25412	0.2100552	0.23416217	2.6069031	21	12 22.6	19.2
506541 2004 <i>XB</i> ₁₈₁	16.9	X	208.74983	213.27912	287.40075	12.15091	0.1384201	0.21717637	2.7411176	21	9 12.3	21.5
506542 2005 <i>AH</i> ₂	16.3	X	327.94863	324.02754	118.36742	33.80964	0.2173509	0.23009279	2.6375500	21	12 31.3	19.0
506543 2005 <i>AE</i> ₆₈	18.0	X	143.43813	156.54394	296.37788	16.99844	0.1143039	0.37895499	1.8912298	21	4 25.4	20.7
506544 2005 <i>EN</i> ₄₇	18.2	X	178.60847	281.65485	317.04328	0.98087	0.1835501	0.27980852	2.3150592	21	12 24.3	21.6
506545 2005 <i>EX</i> ₄₇	16.9	X	249.73682	167.09940	347.58682	13.47185	0.1791760	0.22216295	2.6999453	21	11 10.8	20.9
506546 2005 <i>GZ</i> ₆₇	18.6	X	280.60044	341.27465	193.26046	4.84041	0.1142099	0.28635046	2.2796637	21	—	—
506547 2005 <i>GT</i> ₁₁₀	18.1	X	172.50017	152.06581	200.04956	22.27840	0.1277880	0.35489841	1.9757562	21	1 12.8	21.1
506548 2005 <i>NP</i> ₁₈	17.9	X	36.06592	196.16288	143.60286	3.03571	0.1750862	0.25787925	2.4445098	21	12 8.9	20.9
506549 2005 <i>NE</i> ₃₇	16.4	X	306.82053	176.94083	134.60002	18.63973	0.1938793	0.17717131	3.1395961	21	5 13.5	20.9
506550 2005 <i>NM</i> ₈₂	18.0	X	18.55490	91.83573	120.84204	26.33266	0.0340541	0.35915736	1.9601059	21	4 24.9	20.7
506551 2005 <i>NZ</i> ₁₂₂	15.8	X	308.41972	240.22408	67.39424	19.96955	0.3355636	0.17709743	3.1404692	21	4 20	

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>		
506561	2005	<i>TS</i> ₁₁₅	16.9	X	214.17734	219.76392	206.89348	4.47102	0.1144581	0.16960004	3.2323527	21	6 24.2	22.0
506562	2005	<i>TA</i> ₁₃₆	18.0	X	310.83794	306.46958	145.06246	2.13023	0.1542144	0.25275629	2.4774301	21	12 11.7	20.3
506563	2005	<i>TY</i> ₁₄₆	16.1	X	293.95497	160.87290	195.64391	32.17122	0.1034064	0.17252427	3.1957239	21	6 26.5	21.1
506564	2005	<i>TV</i> ₁₉₁	16.1	X	238.50894	194.64382	220.07266	8.62273	0.0206809	0.17077814	3.2174701	21	7 13.7	20.9
506565	2005	<i>UU</i> ₃₄	17.8	X	300.20095	191.22700	222.76902	7.05051	0.1401159	0.24169378	2.5524607	21	9 22.9	20.8
506566	2005	<i>UD</i> ₄₇	18.4	X	332.89022	324.79248	70.88279	3.61093	0.2108542	0.24552381	2.5258466	21	11 2.9	20.1
506567	2005	<i>UC</i> ₅₁	17.9	X	325.23871	101.23777	261.12370	3.40651	0.2667457	0.24161530	2.5530134	21	8 8.9	19.8
506568	2005	<i>UQ</i> ₉₁	17.3	X	357.19648	17.11343	304.88744	4.41791	0.1726584	0.23997244	2.5646521	21	8 29.5	19.6
506569	2005	<i>UV</i> ₁₂₅	17.6	X	336.84459	260.35665	230.86494	5.91485	0.0704184	0.26070319	2.4268251	21	—	—
506570	2005	<i>UV</i> ₁₅₁	18.5	X	317.41110	48.93942	11.01412	1.79776	0.2079212	0.24533852	2.5271182	21	11 1.7	20.6
506571	2005	<i>UH</i> ₁₆₉	16.1	X	308.12259	109.33215	232.22254	12.44780	0.0354601	0.16873999	3.2433268	21	7 7.2	20.7
506572	2005	<i>UB</i> ₁₇₄	17.7	X	5.99520	110.99840	263.08393	5.10252	0.1301938	0.24767545	2.5111968	21	11 30.4	20.5
506573	2005	<i>UC</i> ₁₈₁	17.2	X	196.02367	144.29433	202.46686	3.08995	0.1054307	0.21298522	2.7769607	21	2 25.1	21.4
506574	2005	<i>UT</i> ₂₃₁	18.9	X	319.19499	185.03069	222.25434	12.82121	0.1743698	0.24452677	2.5327079	21	10 17.9	21.2
506575	2005	<i>UV</i> ₂₅₉	17.3	X	271.60418	24.57228	42.62614	22.80893	0.0445301	0.24035670	2.5619180	21	9 27.3	21.0
506576	2005	<i>UK</i> ₂₆₄	16.4	X	285.48956	158.67688	205.45291	8.72464	0.0362536	0.16994688	3.2279533	21	7 7.0	21.0
506577	2005	<i>UB</i> ₃₄₅	18.1	X	328.04800	344.86309	74.38354	5.19521	0.1766686	0.24631666	2.5204235	21	11 27.4	20.2
506578	2005	<i>UX</i> ₄₁₁	17.3	X	80.95504	225.46058	69.56265	11.20152	0.0921944	0.24601369	2.5224924	21	11 22.6	20.7
506579	2005	<i>UQ</i> ₄₆₁	16.6	X	77.37103	9.60629	190.12163	5.67482	0.0459333	0.16702750	3.2654578	21	7 3.6	21.3
506580	2005	<i>VR</i> ₈	18.0	X	337.96047	335.82111	55.17078	7.76169	0.1687602	0.24658910	2.5185668	21	11 6.4	20.1
506581	2005	<i>VQ</i> ₅₈	17.8	X	23.62673	26.32383	310.32079	3.46870	0.1464413	0.24723502	2.5141782	21	11 8.0	20.7
506582	2005	<i>VA</i> ₁₂₇	18.5	X	9.02104	186.46211	186.77366	5.71065	0.1451591	0.25219416	2.4811101	21	12 8.3	21.3
506583	2005	<i>WX</i> ₁₀	18.3	X	5.36241	185.95453	226.78629	1.34785	0.1784285	0.25282178	2.4770022	21	—	—
506584	2005	<i>WO</i> ₁₇	17.7	X	14.69170	128.65359	227.13375	2.33914	0.2075733	0.24657962	2.5186313	21	12 1.4	20.4
506585	2005	<i>WJ</i> ₂₀	17.9	X	295.35259	198.92720	257.01344	9.37664	0.1989988	0.24506785	2.5289786	21	11 7.7	20.4
506586	2005	<i>WT</i> ₇₆	17.7	X	326.46285	357.98994	64.89413	15.85086	0.0904757	0.24553423	2.5257752	21	11 27.9	20.4
506587	2005	<i>WE</i> ₈₈	17.4	X	304.76596	344.73872	94.55687	14.06299	0.1134460	0.24154986	2.5534745	21	11 16.6	20.4
506588	2005	<i>WU</i> ₈₉	17.9	X	353.84425	257.14245	167.79444	4.04570	0.2440689	0.25226940	2.4806167	21	—	—
506589	2005	<i>WP</i> ₁₅₈	16.4	X	321.35341	108.87722	272.11747	26.45719	0.3125725	0.23959245	2.5673631	21	8 6.8	19.1
506590	2005	<i>XB</i> ₁	22.0	X	61.14755	232.92510	73.3158	8.70990	0.4187791	0.81914576	1.1312587	21	—	—
506591	2005	<i>XE</i> ₁₅	17.7	X	299.39372	249.80425	187.23346	4.17888	0.1960079	0.24173398	2.5521777	21	10 20.7	20.2
506592	2005	<i>XK</i> ₂₆	18.9	X	308.93609	9.16211	77.14376	5.77823	0.2416809	0.24609060	2.5219668	21	11 21.3	20.8
506593	2005	<i>XM</i> ₅₃	18.1	X	19.56979	63.08870	286.42338	2.90228	0.1928378	0.24795118	2.5093347	21	11 27.9	20.9
506594	2005	<i>YV</i> ₃₂	17.4	X	301.07620	231.93754	215.44390	1.33720	0.1878358	0.24096056	2.5576360	21	11 8.8	19.8
506595	2005	<i>YF</i> ₈₃	18.9	X	293.72387	181.38644	279.39509	8.34668	0.2760019	0.24205449	2.5499243	21	10 27.3	21.4
506596	2005	<i>YQ</i> ₁₅₄	17.8	X	278.00734	102.05404	14.22610	2.62628	0.1303443	0.24035570	2.5619251	21	11 15.8	20.7
506597	2005	<i>YY</i> ₁₅₉	17.5	X	339.42004	228.65702	163.61686	3.44462	0.1690405	0.24102576	2.5571747	21	11 10.4	19.9
506598	2005	<i>YQ</i> ₂₆₄	16.1	X	272.62379	17.41640	320.86087	8.88891	0.0672120	0.15178479	3.4805714	21	5 14.0	21.3
506599	2006	<i>AL</i> ₃₅	17.3	X	221.36412	355.29788	118.02411	14.08975	0.0925969	0.22918313	2.6445246	21	9 6.9	21.3
506600	2006	<i>AJ</i> ₄₁	16.7	X	312.52264	24.56763	44.06786	10.31197	0.1710575	0.23888380	2.5724380	21	11 5.8	19.0
506601	2006	<i>AD</i> ₁₀₄	18.0	X	333.77780	88.60961	332.34033	5.48545	0.4186067	0.24247835	2.5469519	21	—	—
506602	2006	<i>BE</i> ₁₈	16.9	X	289.65426	147.32961	300.32193	12.88724	0.1478660	0.23807743	2.5782433	21	10 16.2	20.2
506603	2006	<i>BS</i> ₁₉	17.8	X	220.32082	275.27797	244.21795	1.12518	0.1386904	0.23583127	2.5945883	21	10 26.2	21.5
506604	2006	<i>BP</i> ₂₀	17.3	X	259.91560	175.95263	294.75293	10.81422	0.0213937	0.23549803	2.5970354	21	10 24.0	20.9
506605	2006	<i>BW</i> ₃₄	18.6	X	231.73417	244.87394	353.43463	1.47839	0.0524686	0.31512967	2.1386671	21	—	—
506606	2006	<i>BJ</i> ₁₃₈	18.0	X	289.92445	153.84341	312.44571	3.88179	0.2159986	0.23896450	2.5718588	21	11 8.1	20.6
506607	2006	<i>BX</i> ₁₄₃	17.6	X	309.34574	166.80706	296.91703	12.46695	0.2513440	0.24362977	2.5389207	21	12 19.1	19.5
506608	2006	<i>BA</i> ₁₈₅	17.6	X	294.07502	342.49474	110.74031	4.91357	0.1074568	0.23825531	2.5769599	21	11 14.9	20.5
506609	2006	<i>BS</i> ₁₉₆	18.1	X	318.89306	296.68840	165.93622	4.23337	0.1626940	0.24288390	2.5441159	21	—	—
506610	2006	<i>CV</i> ₂₂	17.3	X	160.72080	209.64689	350.61033	4.45854	0.1532517	0.22635284	2.6665235	21	10 15.6	21.6
506611	2006	<i>CP</i> ₂₆	17.5	X	263.83663	339.33767	121.90326	1.98737	0.1006227	0.23373816	2.6100549	21	10 10.7	20.9
506612	2006	<i>DU</i> ₆	17.3	X	289.86008	1.90942	87.10754	3.29212	0.1479106	0.23565934	2.5958501	21	10 26.9	20.1
506613	2006	<i>DW</i> ₄₈	17.7	X	224.52173	345.92771	150.20630	4.61051	0.1635799	0.22908040	2.6453152	21	9 29.4	21.7
506614	2006	<i>DX</i> ₆₈	16.6	X	230.67520	140.37707	358.84493	32.84453	0.1880618	0.23104070	2.6303309	21	9 29.7	20.7
506615	2006	<i>DX</i> ₇₄	17.7	X	290.15942	83.24654	10.98276	2.56699	0.1611679	0.23678581	2.5876107	21	10 31.1	20.6
506616	2006	<i>DH</i> ₉₀	17.8	X	242.05873	347.96098	162.43326	3.99628	0.1416939	0.23291094	2.6162312	21	11 9.6	21.4
506617	2006	<i>DH</i> ₁₁₈	16.9	X	213.21176	14.18453	164.44741	5.73918	0.1757362	0.23090396	2.6313692	21	11 9.0	21.0
506618	2006	<i>DC</i> ₁₄₀	17.3	X	184.37438	72.85989	124.55966	6.23823	0.1648403	0.22951804	2.6419515	21	11 6.1	21.6
506619	2006	<i>EB</i> ₁₁	17.7	X	306.74372	43.90098	24.22275	3.70644	0.1996969	0.23251458	2.6192036	21	10 19.1	20.2
506620	2006	<i>ES</i> ₅₁	17.0	X	179.71214	63.33218	124.29295	3.04140	0.0962061	0.22798303	2.6537970	21	10 22.9	21.1
506621	2006	<i>FF</i> ₁	18.1	X	295.80943	265.81843	2.12927	21.46217	0.0594442	0.38973222	1.8562017	21	2 21.3	20.2
506622	2006	<i>FV</i> ₅₅	15.4	X	276.53077	255.01610	17.16148	7.74437	0.1780350	0.12610458	3.9383606	21	2 24.3	21.3
506623	2006	<i>GA</i> ₁₃	18.3	X	187.04766	195.60155	72.07932	4.09730	0.1436074	0.30165583	2.2018864	21	—	—
506624	2006	<i>GX</i> ₄₅	19.4	X	53.80801	141.59875	25.53209	18.36504	0.0794257	0.39257452	1.8472314	21	3 29.9	20.5
506625	2006	<i>GX</i> ₅₂	17.4	X	221.59425	213.36164	326.03984	7.07787	0.3114008	0.23222418	2.6213867	21	10 31.4	22.0
506626	2006	<i>HG</i> ₇₄	17.3	X	49.90834	86.78620	168.13091	4.55322	0.0608042	0.20826386	2.8187731	21	8 10.6	21.0
506627	2006	<i>JR</i> ₁₁	17.9	X	281.10138	76.87064	107.32124	6.48701	0.0517370	0.30318973	2.1944536	21	—	—
506628	2006	<i>JS</i> ₁₆	18.0	X	205.89611	170.80185	65.91815							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506641 2006 RH ₅₀	17.0	X	263.53492	193.37315	181.48022	0.61897	0.2042722	0.18231915	3.0802161	21	6 1.8	21.7
506642 2006 RE ₅₄	17.2	X	297.99177	218.41313	134.24927	1.83566	0.1934364	0.18576804	3.0419732	21	6 16.7	21.1
506643 2006 RG ₅₈	18.3	X	136.81934	238.15709	177.84817	25.97550	0.0800236	0.36732434	1.9309435	21	2 18.8	20.5
506644 2006 RN ₆₇	16.3	X	273.30127	223.25980	162.45429	23.19011	0.2246485	0.18986374	2.9980671	21	6 24.6	21.2
506645 2006 RE ₇₅	18.4	X	52.62770	188.74612	173.16504	3.68705	0.2032711	0.27617747	2.3353065	21	—	—
506646 2006 RK ₇₈	18.4	X	44.45902	226.11946	131.74715	2.06077	0.2003199	0.27422200	2.3463953	21	—	—
506647 2006 RT ₉₅	18.4	X	55.68978	23.87774	299.23854	0.42320	0.2000770	0.27053982	2.3676377	21	12 16.5	21.6
506648 2006 RP ₁₂₂	18.3	X	19.89300	4.88292	21.92661	1.92449	0.1860557	0.27390265	2.3482188	21	—	—
506649 2006 SE ₃₇	17.0	X	261.44417	164.32937	239.24655	2.76933	0.2190437	0.18489353	3.0515576	21	7 3.4	21.7
506650 2006 SZ ₄₉	17.6	X	54.23575	16.57412	13.56111	7.78062	0.1832069	0.27834238	2.3231816	21	—	—
506651 2006 SR ₅₀	17.9	X	58.64617	32.75774	341.32939	10.13992	0.2432927	0.27773226	2.3265827	21	—	—
506652 2006 SO ₁₀₃	17.1	X	252.19940	212.38088	179.27053	4.71207	0.1644632	0.18335792	3.0685717	21	6 15.5	21.8
506653 2006 SL ₁₁₆	17.1	X	238.43594	207.97037	184.88765	0.63384	0.1912842	0.17903837	3.1177310	21	5 31.9	22.1
506654 2006 SE ₁₃₃	17.7	X	199.62387	73.43545	308.34658	18.58778	0.1015153	0.37306991	1.9110669	21	3 16.4	20.6
506655 2006 SZ ₁₄₂	16.8	X	261.73256	217.28362	205.18746	9.85357	0.0859982	0.18926092	3.0044300	21	8 11.8	21.3
506656 2006 SJ ₁₄₈	18.5	X	19.94942	245.18089	155.94542	2.80500	0.1922180	0.27491409	2.3424557	21	—	—
506657 2006 SK ₁₅₄	16.3	X	212.58387	199.35039	179.69979	19.82347	0.2103966	0.17803893	3.1293878	21	4 24.9	21.8
506658 2006 SL ₁₆₁	18.6	X	3.81773	274.76448	138.64377	1.67132	0.1818007	0.27238731	2.3569198	21	—	—
506659 2006 SS ₂₀₀	16.8	X	323.01523	283.02061	19.34223	13.75719	0.2048839	0.18298161	3.0727773	21	5 13.4	20.7
506660 2006 SF ₂₀₄	17.9	X	6.83291	37.63552	27.79584	7.52085	0.0870165	0.27680683	2.3317654	21	—	—
506661 2006 SV ₂₁₁	18.6	X	343.47347	277.51973	147.23540	1.32306	0.1552198	0.27000037	2.3707903	21	—	—
506662 2006 SO ₂₂₅	17.3	X	355.07835	201.86491	242.21680	5.07249	0.1177710	0.27819034	2.3240280	21	—	—
506663 2006 SL ₂₄₁	17.0	X	239.84513	359.53360	31.28340	5.25694	0.1387121	0.18100136	3.0951485	21	6 3.4	21.9
506664 2006 SH ₂₅₅	18.9	X	31.18987	178.05070	198.55700	2.18130	0.2007016	0.27440403	2.3453575	21	—	—
506665 2006 SO ₂₆₅	18.5	X	354.58307	154.05477	261.54149	4.05675	0.1745468	0.27036291	3.3686705	21	—	—
506666 2006 SU ₂₆₈	18.2	X	324.41983	186.39803	266.28030	4.17147	0.1661203	0.27059359	2.3673241	21	—	—
506667 2006 SL ₂₇₉	16.2	X	245.76121	34.35660	43.47950	18.28395	0.3013266	0.18208412	3.0828662	21	7 26.8	21.6
506668 2006 SD ₂₈₅	18.7	X	82.35860	308.85572	0.25285	4.88755	0.2655510	0.27590471	2.3368454	21	12 28.6	22.5
506669 2006 SE ₂₈₆	18.0	X	28.59395	317.89942	51.21258	7.31905	0.1714871	0.27272874	2.3549523	21	—	—
506670 2006 SS ₂₉₈	18.6	X	82.37377	61.45468	243.60048	1.67967	0.2341912	0.27296773	2.3535775	21	12 23.4	22.2
506671 2006 SN ₃₂₄	16.4	X	238.73717	198.21313	180.87812	10.74393	0.0861995	0.17853709	3.1235640	21	5 26.1	21.2
506672 2006 SL ₃₃₃	17.4	X	267.69044	329.62586	57.35213	3.62858	0.2309489	0.18476882	3.0529305	21	6 17.9	21.9
506673 2006 SN ₃₄₈	17.0	X	242.09013	197.22936	200.58123	11.84225	0.1150636	0.18091327	3.0961531	21	6 17.4	21.8
506674 2006 SO ₃₅₀	16.7	X	306.03987	338.94278	8.95177	8.29637	0.2099105	0.18965372	3.0002801	21	6 19.2	20.6
506675 2006 SA ₃₆₁	16.6	X	252.68297	347.14439	46.83439	10.11594	0.1229701	0.18023012	3.1039720	21	6 23.2	21.3
506676 2006 SH ₃₉₇	17.5	X	252.93808	171.28137	236.15228	0.14069	0.1814643	0.18412271	3.0600684	21	7 3.9	22.2
506677 2006 SH ₃₉₉	17.4	X	237.61959	280.64186	130.04410	1.83667	0.1766129	0.18197887	3.0840547	21	6 23.0	22.3
506678 2006 SH ₄₀₂	17.5	X	237.29845	314.75843	107.08137	1.75880	0.2185177	0.18250338	3.0781429	21	7 2.7	22.5
506679 2006 SS ₄₀₃	17.0	X	197.67396	70.39444	18.82555	8.80424	0.1823839	0.17772848	3.1330310	21	7 4.4	22.4
506680 2006 SE ₄₀₇	17.0	X	200.42830	12.85358	94.19658	2.72086	0.0375073	0.18454880	3.0553566	21	8 4.1	21.3
506681 2006 SE ₄₀₈	17.0	X	204.15072	231.96109	216.97805	9.60394	0.2126956	0.17743720	3.1364589	21	7 6.2	22.4
506682 2006 SF ₄₁₁	16.9	X	286.37387	215.84956	138.08278	1.53750	0.1834532	0.18241514	3.0791355	21	6 4.5	21.3
506683 2006 TN ₁₇	17.9	X	3.69318	236.05469	159.62249	2.28505	0.1677992	0.26948165	2.3738317	21	—	—
506684 2006 TZ ₁₉	18.5	X	36.11733	115.85339	231.50758	3.76815	0.1974952	0.26917592	2.3756288	21	12 24.2	21.4
506685 2006 TG ₂₈	18.7	X	347.51365	0.67830	56.23432	1.91944	0.1896737	0.26861988	2.3789060	21	—	—
506686 2006 TJ ₂₈	18.5	X	340.72628	3.69454	43.88249	5.24976	0.1854486	0.26617105	2.3934747	21	12 14.0	20.4
506687 2006 TV ₂₉	18.1	X	33.05931	172.20462	179.60198	0.97392	0.2040141	0.26915334	2.3757616	21	12 27.3	21.0
506688 2006 TW ₃₃	15.8	X	129.56339	148.00737	34.15721	17.76507	0.1384025	0.18330088	3.0692082	21	9 1.6	20.9
506689 2006 TV ₄₉	16.0	X	231.29481	344.41364	42.46334	11.30965	0.2272780	0.17682457	3.1436991	21	5 14.9	21.4
506690 2006 TZ ₅₀	17.0	X	286.94068	113.04139	220.24058	9.26579	0.2378716	0.17879138	3.1206016	21	5 2.5	21.6
506691 2006 TN ₈₂	17.1	X	220.69577	86.10820	8.93703	6.71739	0.2163578	0.18126060	3.0921967	21	7 30.8	22.3
506692 2006 TO ₈₈	17.3	X	223.54468	204.36247	227.10940	12.42124	0.2430235	0.17895335	3.1187184	21	6 29.4	22.7
506693 2006 TU ₉₀	17.4	X	273.74572	128.87903	236.62807	8.25243	0.3252635	0.18167760	3.0874632	21	5 17.7	22.2
506694 2006 TA ₉₂	18.6	X	28.97012	20.58416	350.29265	1.03959	0.1985966	0.26993155	2.3711933	21	—	—
506695 2006 TB ₉₃	18.3	X	34.85030	61.80011	307.78663	2.71643	0.1356575	0.27144844	2.3623513	21	—	—
506696 2006 TV ₁₀₀	18.7	X	28.27608	106.17001	268.96067	1.65363	0.1957169	0.27106463	2.3645807	21	—	—
506697 2006 UZ	16.6	X	229.46451	39.85594	24.61453	9.36724	0.1091358	0.18138743	3.0907551	21	7 9.2	21.4
506698 2006 US ₅₁	16.3	X	261.26621	155.17475	247.64755	7.20976	0.0654784	0.18395351	3.0619446	21	7 21.1	20.7
506699 2006 UD ₅₈	18.5	X	348.30989	258.65983	159.88959	2.50892	0.1959333	0.26767512	2.3845003	21	—	—
506700 2006 UM ₅₉	16.1	X	278.95445	340.98922	350.42724	9.08377	0.1996039	0.17867909	3.1219089	21	4 22.9	20.9
506701 2006 UF ₇₆	15.8	X	242.66499	356.18595	30.83238	28.56175	0.1189467	0.17913540	3.1166051	21	5 26.5	20.9
506702 2006 UP ₇₆	16.9	X	223.17170	203.38050	249.11975	6.73257	0.1721928	0.18309399	3.0715198	21	7 29.0	21.9
506703 2006 UD ₇₇	16.9	X	263.98019	58.42670	317.53054	3.82388	0.1895561	0.18127138	3.0920741	21	6 4.9	21.7
506704 2006 UR ₈₁	17.6	X	28.80729	255.44446	74.20618	3.74798	0.1870456	0.26371524	2.4083110	21	11 18.2	20.3
506705 2006 UD ₈₆	18.1	X	30.42722	49.12457	352.55115	9.27292	0.2128723	0.27602198	2.3361834	21	—	—
506706 2006 UA ₈₉	16.6	X	247.58559	174.52434	227.33805	17.21226	0.1944467	0.17987521	3.1080536	21	6 18.8	21.7
506707 2006 UE ₉₃	17.1	X	271.44054	167.71022	190.15903	4.17558	0.2069081	0.18033547	3.1027631	21	5 20.5	21.7
506708 2006 UB ₉₇	17.1	X	253.00189	310.00353	95.34116	3.29723	0.2078275	0.18235140	3.0798529	21	6 28.4	21.8
506709 2006 UU ₁₁₂	17.0	X	312.56181	334.13224	359.59719	2.25935	0.0987723	0.18414401	3.0598325	21	6 27.5	20.9
506710 2006 UE ₁₁₇	16.7	X	319.03803	290.82350	57.28786	3.71323	0.2087998	0.18532084	3.0468650	21	6 6.5	20.2
506711 2006 UN ₁₅₄	18.2	X	64.15301	85.73202	261.76189	4.08035	0.1832017	0.27629399	2.3346499	21	—	—
506712 2006 UC ₁₅₇	17.2	X	248.69082	2.80865	51.10999	5.32289	0.2512847	0.18306713	3.0718202	21	6 30.6	22.2
506713 2006 UY ₁₆₆	16.5	X	124.03071	136.16485	46.54999	13.35506	0.0419247	0.18449837	3.0559133	21	8 15.5	21.2
506714 2006 UB ₁₉₀	16.1	X	248.54608	138.37084	245.89810	10.86992	0.1505246					

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>		
506721	2006	UE ₂₃₇	17.3	X	293.66757	144.33227	200.15626	10.23011	0.1157012	0.18173724	3.0867878	21	6 12.2	21.6
506722	2006	UM ₂₄₇	17.0	X	193.38015	255.60886	219.65085	11.55786	0.0559845	0.18352664	3.0666907	21	7 31.9	21.8
506723	2006	UQ ₂₅₀	17.0	X	185.84094	57.89143	59.18988	1.42158	0.1219873	0.18048091	3.1010959	21	7 28.5	21.8
506724	2006	UK ₂₅₄	18.4	X	344.86235	336.36884	220.47874	19.81465	0.0302976	0.36134392	1.9521906	21	1 11.5	20.9
506725	2006	UF ₂₆₀	17.7	X	17.84009	76.32651	213.59733	9.37458	0.2922074	0.25853452	2.4403776	21	9 13.3	19.6
506726	2006	UQ ₂₆₃	16.9	X	290.86033	98.83439	225.89721	5.93480	0.2813150	0.18257117	3.0773809	21	4 19.5	21.4
506727	2006	UH ₂₆₈	17.7	X	41.85904	346.54590	23.41186	8.61186	0.2166538	0.27196983	2.3593311	21	—	—
506728	2006	UR ₂₇₂	16.4	X	217.22165	15.02743	38.94382	16.32619	0.0762370	0.17499439	3.1655801	21	6 11.8	21.4
506729	2006	UN ₂₇₄	17.4	X	251.54965	182.34934	195.75129	9.99935	0.1363178	0.18014884	3.1049056	21	6 1.8	22.2
506730	2006	UM ₂₈₇	16.4	X	153.72185	98.71696	51.94195	14.93294	0.1958255	0.17663662	3.1459288	21	8 15.7	21.9
506731	2006	UX ₂₈₈	17.1	X	314.72647	106.57261	223.48502	2.24396	0.2379871	0.18771139	3.0209414	21	6 4.8	20.8
506732	2006	VW ₂	21.2	X	149.22831	299.64237	229.79290	10.04751	0.2945304	0.71732994	1.2359192	21	9 27.2	21.9
506733	2006	VW ₁₀	16.2	X	207.97694	205.73197	230.51333	19.28597	0.1820032	0.17611193	3.1521741	21	6 24.4	21.7
506734	2006	VY ₁₈	18.6	X	356.31167	15.31143	351.11264	2.08472	0.2268187	0.26339550	2.4102596	21	11 18.5	20.5
506735	2006	VA ₃₀	16.2	X	199.51685	63.83167	59.96410	26.88483	0.12127309	0.17879885	3.1205147	21	8 27.1	22.0
506736	2006	VU ₃₂	17.9	X	14.77381	346.83933	55.70256	4.08121	0.1938665	0.27140203	2.3626206	21	—	—
506737	2006	VW ₃₈	17.2	X	229.38892	61.29730	22.26734	0.88178	0.1524992	0.18117427	3.0931789	21	7 27.9	21.9
506738	2006	VY ₃₈	17.1	X	196.11914	203.84840	233.35123	8.04163	0.2059560	0.17431703	3.1737753	21	6 17.1	22.5
506739	2006	VT ₄₀	17.4	X	241.43753	265.58892	154.14159	0.61553	0.1738923	0.18024400	3.1038127	21	7 8.1	22.1
506740	2006	VU ₅₃	16.4	X	283.92982	306.15289	34.17046	9.65950	0.0889286	0.17535694	3.1612153	21	5 27.3	20.8
506741	2006	VG ₅₉	16.9	X	345.06803	252.79969	67.98921	16.60201	0.0553866	0.18183068	3.0857301	21	8 6.9	21.2
506742	2006	VG ₆₀	18.4	X	45.67920	278.36160	76.31491	3.51562	0.2066401	0.27000839	2.3707434	21	—	—
506743	2006	VJ ₆₀	16.1	X	325.99228	243.00293	63.84104	17.50502	0.2012908	0.17942389	3.1132634	21	5 29.0	19.6
506744	2006	VL ₆₁	16.6	X	258.10563	346.12920	52.49614	2.00781	0.1634714	0.17972017	3.1098409	21	6 30.7	21.2
506745	2006	VG ₆₂	17.1	X	230.72754	4.32437	40.43265	1.57231	0.1863822	0.17597263	3.1538374	21	6 12.9	22.2
506746	2006	VC ₇₇	17.1	X	185.32766	30.79255	85.39291	5.66998	0.1811192	0.17651753	3.1473436	21	7 26.3	22.3
506747	2006	VC ₇₉	16.8	X	242.68394	328.14538	79.01565	6.43611	0.2264512	0.17895764	3.1186686	21	6 18.9	21.8
506748	2006	VN ₇₉	18.2	X	321.48081	1.73593	87.58791	5.35647	0.1194322	0.26705188	2.3882088	21	—	—
506749	2006	VV ₇₉	18.9	X	6.55126	280.20733	116.69706	3.09321	0.2183113	0.26818460	2.3814794	21	—	—
506750	2006	VM ₈₀	16.4	X	178.91017	42.62115	84.13506	9.66766	0.0235010	0.17960668	3.1111508	21	8 5.2	20.9
506751	2006	VK ₈₅	17.3	X	359.34242	23.40053	76.11756	12.98144	0.1627281	0.27410330	2.3470727	21	—	—
506752	2006	VU ₈₆	16.8	X	305.45119	313.87819	31.32495	6.11859	0.0515581	0.18060812	3.0996397	21	7 9.5	21.0
506753	2006	VJ ₁₀₄	18.9	X	19.57378	146.15398	235.20042	1.19795	0.2185047	0.27072214	2.3665746	21	—	—
506754	2006	VP ₁₃₇	16.9	X	203.59158	28.06839	65.53547	15.77653	0.2519651	0.17536617	3.1611044	21	7 11.9	22.6
506755	2006	VP ₁₃₈	16.8	X	173.69265	72.01459	72.66874	3.39027	0.1541817	0.17801067	3.1297191	21	8 20.4	21.9
506756	2006	VS ₁₄₀	18.1	X	284.30992	44.30664	77.51296	6.05179	0.1267096	0.26409817	2.4059824	21	12 11.0	20.6
506757	2006	WB ₁₈	19.0	X	339.23813	62.29861	1.32030	2.64062	0.1780619	0.26759965	2.3849486	21	—	—
506758	2006	WP ₄₁	17.4	X	310.95108	45.65659	73.31225	23.60168	0.2543840	0.26710525	2.3878906	21	—	—
506759	2006	WC ₄₉	18.8	X	329.64187	278.40194	173.70787	2.45012	0.1502594	0.26787836	2.3832940	21	—	—
506760	2006	WM ₆₅	16.5	X	331.58053	274.88614	45.41167	18.63389	0.0732956	0.17910552	3.1169517	21	7 12.9	20.9
506761	2006	WH ₆₈	17.4	X	345.62314	343.55688	88.20487	10.11158	0.1999444	0.26733272	2.3865359	21	—	—
506762	2006	WH ₉₄	18.8	X	8.12132	315.89267	90.18655	3.41485	0.1646991	0.26923115	2.3753039	21	—	—
506763	2006	WH ₁₀₂	16.9	X	244.85958	347.08281	68.10464	2.81208	0.0845746	0.17848487	3.1241733	21	7 16.5	21.4
506764	2006	WZ ₁₀₅	16.3	X	136.09278	71.29094	84.45092	2.45658	0.0992791	0.17407922	3.1766650	21	7 25.5	21.0
506765	2006	WK ₁₀₆	16.5	X	178.88900	244.63678	240.73070	9.43749	0.0669527	0.17728259	3.1382821	21	7 28.8	21.4
506766	2006	WR ₁₁₁	18.0	X	60.16371	167.14205	169.50701	1.23178	0.1995925	0.26787242	2.3833293	21	—	—
506767	2006	WU ₁₅₀	17.7	X	306.09871	28.21329	81.60516	6.45988	0.1817200	0.26464343	2.4026765	21	—	—
506768	2006	WX ₁₅₁	16.3	X	253.93758	132.52929	261.04802	13.90133	0.3221940	0.18054368	3.1003771	21	6 3.9	21.6
506769	2006	WV ₁₅₅	16.7	X	282.48046	311.38126	59.34741	11.17278	0.0963937	0.18004679	3.1060788	21	7 4.3	21.1
506770	2006	WH ₁₇₁	19.1	X	7.29584	196.72945	206.17137	1.74173	0.1967875	0.26817675	2.3815259	21	—	—
506771	2006	WZ ₁₇₈	18.7	X	0.79830	100.29141	302.51245	0.66022	0.1842992	0.26816056	2.3816217	21	—	—
506772	2006	WV ₂₀₀	16.9	X	234.23885	256.98675	151.29645	0.95960	0.1764600	0.17611620	3.1521232	21	6 16.9	21.8
506773	2006	WV ₂₀₄	16.8	X	251.13101	339.62704	65.42348	12.38615	0.1914683	0.18056172	3.1001706	21	6 27.6	21.6
506774	2006	WV ₂₀₄	16.6	X	201.00248	190.44744	250.81138	15.59993	0.1496587	0.17513480	3.1638879	21	6 26.5	21.8
506775	2006	XP ₂₂	18.3	X	299.40177	20.14990	96.66674	4.39313	0.1524812	0.26477539	2.4018781	21	12 30.3	20.4
506776	2006	XO ₄₅	16.9	X	207.88296	27.59515	79.26095	2.68184	0.1790623	0.17614231	3.1518116	21	8 3.6	22.1
506777	2006	XH ₅₅	18.4	X	224.56648	259.64693	73.18760	23.58290	0.0893077	0.36360442	1.9440911	21	3 1.8	21.5
506778	2006	XE ₆₁	17.4	X	220.19494	227.28754	208.02630	2.73547	0.2242424	0.17648401	3.1477421	21	7 3.6	22.8
506779	2006	YY ₂	17.8	X	22.53338	68.47638	105.14605	31.43922	0.4059257	0.35047692	1.9923384	21	—	—
506780	2006	YE ₂₈	18.3	X	343.13615	5.04915	65.76638	2.55028	0.1694345	0.26456862	2.4031294	21	—	—
506781	2007	AF ₁	16.1	X	279.91244	119.87910	297.83119	21.94112	0.2502253	0.18087690	3.0965681	21	8 3.7	20.6
506782	2007	AN ₁₀	17.4	X	50.54294	274.08508	104.91273	22.36394	0.3312170	0.27026459	2.3692449	21	—	—
506783	2007	AL ₁₅	15.8	X	243.79856	291.96252	116.50013	26.15663	0.3323592	0.17574183	3.1565981	21	6 17.0	21.5
506784	2007	AC ₁₆	15.6	X	222.91660	132.11733	314.16851	26.45314	0.2425494	0.17324657	3.1868353	21	7 22.4	21.1
506785	2007	AR ₂₇	16.6	X	157.54525	92.71672	88.09960	9.90678	0.1371747	0.24309544	2.5426398	21	9 26.7	20.7
506786	2007	BG ₁	16.2	X	261.58475	100.71441	308.90301	18.65284	0.3328676	0.17807362	3.1289815	21	7 1.1	21.4
506787	2007	BM ₂	15.5	X	41.05286	272.02333	303.54049	13.26947	0.0914994	0.16119106	3.3438138	21	6 10.7	20.0
506788	2007	BL ₁₆	15.8	X	197.36423	179.01348	333.74011	16.86148	0.1464691	0.17806441	3.1290894	21	9 15.1	20.9
506789	2007	BY ₄₂	18.1	X	289.16602	354.19295	116.51194	2.57255	0.1443414	0.25758606	2.4463644	21	11 30.3	20.6
506790	2007	BK ₄₇	18.1	X	302.52410	15.96484	92.85990	3.53582	0.1268379	0.25765032				

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506801 2007 <i>GT</i> ₁₆	17.5	X	84.85831	358.32334	248.77587	2.54879	0.1201076	0.22907159	2.6453831	21	9 25.9	21.2
506802 2007 <i>GG</i> ₃₅	17.3	X	85.30651	225.21992	44.01432	10.03826	0.1511268	0.23346376	2.6120996	21	10 30.8	21.2
506803 2007 <i>HE</i> ₃₄	17.3	X	137.68178	204.07677	38.12100	17.38091	0.0715498	0.23860576	2.5744360	21	11 13.3	21.0
506804 2007 <i>HH</i> ₈₇	17.5	X	82.65299	63.09965	203.75765	7.66165	0.1017017	0.23032428	2.6357825	21	10 17.8	21.1
506805 2007 <i>JL</i> ₄₆	15.4	X	261.35137	135.98208	140.12058	8.12281	0.2106203	0.12535106	3.9541278	21	2 9.1	21.5
506806 2007 <i>LE</i> ₂₂	16.7	X	58.30770	162.76962	101.97823	16.06368	0.1965279	0.22441112	2.6818828	21	10 6.7	20.7
506807 2007 <i>MZ</i> ₂	17.4	X	73.05393	84.84839	178.35293	2.34429	0.1556232	0.22102406	2.7092121	21	10 8.2	21.2
506808 2007 <i>MG</i> ₆	17.2	X	356.11501	74.01711	229.21575	15.10199	0.4707847	0.21268967	2.7795327	21	7 20.8	18.0
506809 2007 <i>PG</i> ₃₇	18.1	X	112.10617	25.64466	304.81683	5.64078	0.2154424	0.30655548	2.1783617	21	—	—
506810 2007 <i>RH</i> ₃₂	17.9	X	117.50920	259.37641	72.32799	5.22677	0.2373294	0.30670674	2.1776454	21	—	—
506811 2007 <i>RP</i> ₄₀	18.5	X	47.21827	312.06804	57.23773	2.60396	0.1431783	0.29668592	2.2264080	21	—	—
506812 2007 <i>RJ</i> ₄₇	18.7	X	350.42879	324.64842	0.27871	2.04677	0.1986870	0.27838239	2.3229590	21	8 26.2	19.9
506813 2007 <i>RQ</i> ₅₆	18.3	X	131.99364	87.21710	216.09674	4.44468	0.2568534	0.30479001	2.1867656	21	—	—
506814 2007 <i>RT</i> ₅₉	16.2	X	137.68463	268.77326	358.36073	14.12700	0.1421950	0.22934399	2.6432879	21	12 14.4	20.7
506815 2007 <i>RA</i> ₁₃₆	18.1	X	62.10703	193.83309	191.86492	4.40770	0.1811233	0.30094855	2.2053349	21	—	—
506816 2007 <i>RX</i> ₂₂₅	17.3	X	16.70906	111.55421	186.09915	4.98169	0.0918126	0.20819665	2.8193797	21	8 21.7	20.8
506817 2007 <i>RJ</i> ₂₈₈	17.4	X	310.62967	311.60192	43.50949	2.59652	0.20835167	0.20271548	2.8699749	21	7 26.5	20.9
506818 2007 <i>RS</i> ₂₉₂	17.3	X	333.07393	296.60537	38.85946	2.54461	0.0741924	0.20266639	2.8704383	21	8 4.7	20.7
506819 2007 <i>RS</i> ₂₉₄	17.0	X	232.95291	184.26060	188.53864	9.83233	0.1160749	0.19014565	2.9951032	21	5 8.9	21.6
506820 2007 <i>SD</i> ₉	18.4	X	85.70253	328.30028	31.70023	5.92785	0.1776880	0.30183458	2.2010169	21	—	—
506821 2007 <i>SH</i> ₂₄	16.1	X	256.82255	318.05955	88.30502	18.64920	0.1521703	0.18738803	3.0244157	21	7 10.2	20.6
506822 2007 <i>SQ</i> ₂₄	15.8	X	41.94255	248.84432	310.52753	1.45097	0.0960199	0.12470549	3.9677624	21	5 24.4	21.0
506823 2007 <i>SR</i> ₂₄	15.6	X	208.23360	141.12159	277.43178	14.61388	0.1617265	0.17967282	3.1103872	21	6 6.4	20.7
506824 2007 <i>TX</i> ₃₇	18.0	X	75.62514	191.04381	182.25253	6.58540	0.1320141	0.30196195	2.2003980	21	—	—
506825 2007 <i>TZ</i> ₃₈	18.3	X	357.44674	22.51180	37.42993	6.61080	0.0320322	0.29096454	2.2554992	21	—	—
506826 2007 <i>TQ</i> ₅₁	17.2	X	335.91578	353.23886	351.93887	1.50921	0.1026882	0.20301773	2.8671257	21	8 20.5	20.6
506827 2007 <i>TK</i> ₅₆	19.1	X	30.04864	34.65059	21.60894	4.05041	0.2003380	0.29652737	2.2272016	21	—	—
506828 2007 <i>TE</i> ₈₂	18.6	X	72.32466	341.26053	27.23217	4.07856	0.1726345	0.29917336	2.2140501	21	—	—
506829 2007 <i>TT</i> ₁₃₂	18.2	X	132.12526	103.49529	207.57060	7.14769	0.1003205	0.29918226	2.2140062	21	—	—
506830 2007 <i>TP</i> ₁₃₇	16.3	X	218.51863	118.96055	292.36843	8.33615	0.2174388	0.18986356	2.9980691	21	6 3.3	21.5
506831 2007 <i>TT</i> ₁₄₁	17.3	X	313.24920	312.23896	57.59797	5.38640	0.1131709	0.20167324	2.8798544	21	8 17.9	20.8
506832 2007 <i>TN</i> ₁₅₁	18.2	X	68.47113	44.29686	326.86151	5.08602	0.2048340	0.30095050	2.2053254	21	—	—
506833 2007 <i>TL</i> ₁₈₉	17.7	X	321.84668	348.66112	353.16824	9.61021	0.1511477	0.20566289	2.8424888	21	7 19.8	21.1
506834 2007 <i>TN</i> ₂₃₈	17.5	X	274.21141	16.81970	43.49597	2.63119	0.0529217	0.20212401	2.8755711	21	9 4.7	21.3
506835 2007 <i>TW</i> ₂₅₄	18.4	X	222.65213	228.64862	25.74872	21.65616	0.0212656	0.37787446	1.8948334	21	—	—
506836 2007 <i>TH</i> ₂₆₇	18.7	X	43.01444	23.27945	27.88020	4.81876	0.1681086	0.29947277	2.2125741	21	—	—
506837 2007 <i>TO</i> ₂₆₈	18.9	X	116.70533	123.19738	194.88244	5.53957	0.2053271	0.30138466	2.2032069	21	—	—
506838 2007 <i>TA</i> ₂₇₂	17.9	X	40.43473	1.49020	45.25675	7.83030	0.1541914	0.29762194	2.2217375	21	—	—
506839 2007 <i>TM</i> ₃₁₅	19.0	X	37.51815	213.90774	199.76515	1.10838	0.1378662	0.29773188	2.2211906	21	—	—
506840 2007 <i>TH</i> ₃₁₆	17.8	X	127.51124	251.90361	53.94380	6.62110	0.1656824	0.29822652	2.2187338	21	—	—
506841 2007 <i>TS</i> ₃₃₀	18.0	X	47.05353	344.93670	9.98116	4.71222	0.1465612	0.29077755	2.2564660	21	—	—
506842 2007 <i>TD</i> ₃₃₉	17.0	X	284.78546	347.23225	38.53497	0.93433	0.2112901	0.19799956	2.9153670	21	7 9.5	20.9
506843 2007 <i>TD</i> ₃₈₅	16.4	X	274.94162	253.76973	92.90880	10.85020	0.0925839	0.18762223	3.0218984	21	5 26.4	20.7
506844 2007 <i>TF</i> ₄₀₈	17.0	X	208.46187	190.47127	227.16800	15.78462	0.1284660	0.18607904	3.0386710	21	6 6.4	21.9
506845 2007 <i>TJ</i> ₄₃₀	16.2	X	209.05788	338.41202	92.35457	17.21281	0.2325971	0.18214613	3.0821665	21	6 19.3	21.5
506846 2007 <i>TC</i> ₄₄₆	17.9	X	334.07316	69.09349	340.67061	5.87416	0.1599375	0.28546644	2.2843677	21	12 6.5	19.8
506847 2007 <i>US</i> ₉	18.6	X	68.32090	309.40654	59.33781	6.49048	0.2501348	0.29946721	2.2126015	21	—	—
506848 2007 <i>UB</i> ₈₀	17.4	X	303.07562	135.10258	253.70952	1.04203	0.0769981	0.20262567	2.8708230	21	8 29.4	21.0
506849 2007 <i>UU</i> ₉₀	17.4	X	294.03061	347.58652	40.68847	2.56919	0.1154446	0.20032395	2.8927715	21	8 11.2	21.1
506850 2007 <i>UF</i> ₉₉	16.6	X	267.62361	347.72312	55.82706	6.77209	0.0916578	0.19540934	2.9410733	21	7 30.4	20.7
506851 2007 <i>UX</i> ₁₀₀	16.4	X	243.00867	294.81242	239.35775	7.41487	0.1018176	0.21364340	2.7712544	21	12 11.8	20.3
506852 2007 <i>UD</i> ₁₁₉	16.6	X	336.23666	167.66693	197.83242	20.78819	0.1163630	0.20909128	2.8113318	21	9 15.3	20.0
506853 2007 <i>UT</i> ₁₂₈	18.2	X	80.20468	315.58363	11.91271	6.19075	0.2141856	0.29250164	2.2475905	21	—	—
506854 2007 <i>VG</i> ₃₀	18.3	X	100.58188	314.31112	12.49325	4.61786	0.2044782	0.29974275	2.2112453	21	—	—
506855 2007 <i>VH</i> ₄₉	17.0	X	268.72807	22.64402	29.36348	9.67010	0.1126551	0.19762137	2.9190853	21	8 11.2	21.2
506856 2007 <i>VR</i> ₆₃	17.2	X	256.03621	332.61264	70.92196	8.44308	0.0721000	0.19221437	2.9735745	21	7 17.4	21.4
506857 2007 <i>YJ</i> ₁₁₁	17.1	X	273.73663	325.77351	64.33119	2.93821	0.1086873	0.19460260	2.9491959	21	7 16.6	21.1
506858 2007 <i>VP</i> ₁₃₆	19.1	X	334.05646	261.41732	198.70280	4.28339	0.1032472	0.29283953	2.2458612	21	—	—
506859 2007 <i>WV</i> ₁₃₇	18.2	X	358.03109	245.04439	299.66712	5.94554	0.7391247	0.29630693	2.2283061	21	—	—
506860 2007 <i>VP</i> ₁₃₉	16.8	X	355.16099	214.46368	100.08873	4.56866	0.1767938	0.20071017	2.8890594	21	8 12.3	19.7
506861 2007 <i>VT</i> ₁₃₉	19.4	X	96.92678	254.08044	230.65033	19.49527	0.1011422	0.39288168	1.8462685	21	4 1.9	21.1
506862 2007 <i>VU</i> ₁₇₅	17.1	X	331.04972	225.33683	129.04670	2.87516	0.0757029	0.20148952	2.8816047	21	8 26.9	20.5
506863 2007 <i>VT</i> ₂₀₁	18.3	X	116.86033	84.31456	233.68681	5.01273	0.1205436	0.29750333	2.2232801	21	—	—
506864 2007 <i>UV</i> ₂₃₅	19.0	X	59.36159	57.04171	298.57338	2.70533	0.1611116	0.29344751	2.2427581	21	—	—
506865 2007 <i>VV</i> ₂₈₀	18.0	X	249.81640	331.06758	236.38797	3.43169	0.1027618	0.29606490	2.2295203	21	—	—
506866 2007 <i>VX</i> ₃₃₁	16.4	X	186.69013	206.60624	287.25368	9.71679	0.1070693	0.18693411	3.0293097	21	8 16.1	21.2
506867 2007 <i>WF</i> ₆₃	18.2	X	295.89398	201.64847	297.86762	1.80423	0.1786963	0.28130457	2.3068438	21	—	—
506868 2007 <i>XP</i> ₁₂	17.6	X	162.01376	245.42109	38.55157	9.95684	0.0945007	0.29692859	2.2251948	21	—	—
506869 2007 <i>XX</i> ₅₁	16.8	X	192.25737	173.44111	310.37905	6.65429	0.0842201	0.18711353	3.0273729	21	8 12.8	21.5
506870 2007 <i>YK</i> ₁₆	16.6	X	189.64968	124.89572	264.43545	7.11536	0.1054029	0.17516669	3.1635039	21	4 13.1	21.7
506871 2007 <i>YR</i> ₂₆	16.8	X	148.49040	143.21378	22.16727	5.28699	0.1408777	0.18367391	3.0650512	21	8 23.1	21.8
506872 2007 <i>YH</i> ₃₅	16.5	X	244.91657	271.78119	100.90579	16.86641	0.3170488	0.18422380	3.0			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506881 2008 AU ₆₉	18.8	X	313.65781	179.25702	319.38913	2.64519	0.1904822	0.28601507	2.2814455	21	—	—
506882 2008 AV ₇₀	16.5	X	212.10914	132.03045	298.71236	9.59165	0.0880220	0.17871319	3.1215118	21	6 29.4	21.2
506883 2008 AG ₇₅	16.9	X	209.44040	140.01201	304.47404	5.89356	0.1215916	0.18160330	3.0883053	21	7 11.5	21.7
506884 2008 AT ₇₅	16.4	X	223.73122	318.96053	141.73891	6.14785	0.1065301	0.18681380	3.0306102	21	8 16.6	20.9
506885 2008 AM ₇₆	16.9	X	188.33000	59.15441	67.42216	2.95311	0.1554448	0.18448410	3.0560709	21	8 11.5	21.9
506886 2008 AT ₇₉	17.1	X	164.74293	350.74219	146.66892	2.91065	0.1893339	0.17962571	3.1109311	21	8 2.5	22.4
506887 2008 AA ₁₁₆	16.9	X	215.83665	338.28645	115.37009	10.83322	0.1122529	0.18413637	3.0599171	21	7 30.2	21.6
506888 2008 AH ₁₂₈	16.5	X	242.48876	316.92278	102.98780	4.00901	0.1042299	0.18677008	3.0310831	21	7 17.3	20.8
506889 2008 AJ ₁₂₈	16.4	X	254.70374	106.00653	314.85102	6.96313	0.0243762	0.18569432	3.0427782	21	8 12.5	20.7
506890 2008 AK ₁₂₈	16.7	X	225.53984	117.65689	312.43778	8.37335	0.1160728	0.18342360	3.0678390	21	7 11.1	21.4
506891 2008 AR ₁₃₆	16.1	X	195.67184	4.13661	129.22039	16.38948	0.0784368	0.18850707	3.0124345	21	8 31.8	20.7
506892 2008 BQ ₅	17.9	X	226.71728	262.12253	301.62858	6.37740	0.0571843	0.28074313	2.3099183	21	—	—
506893 2008 BD ₃₆	18.0	X	284.38486	349.16747	154.52098	1.83927	0.1240247	0.27708967	2.3301783	21	—	—
506894 2008 BA ₅₃	16.1	X	90.44376	235.04695	331.83888	11.45401	0.0802640	0.17844655	3.1246206	21	8 6.1	20.5
506895 2008 BQ ₅₄	16.5	X	221.74537	322.97833	133.12569	17.23721	0.0450461	0.18513488	3.0489050	21	8 15.1	20.8
506896 2008 CM ₂₂	15.7	X	138.79198	208.77073	291.95613	16.70115	0.1404360	0.17628809	3.1500738	21	7 12.5	20.7
506897 2008 CY ₄₆	16.6	X	194.45401	309.32320	174.83928	12.11690	0.1040614	0.17991882	3.1075514	21	8 10.1	21.9
506898 2008 CS ₆₇	16.4	X	98.51159	184.62947	359.35120	13.86236	0.0591028	0.17293537	3.1906573	21	7 16.6	21.2
506899 2008 CM ₁₀₂	16.3	X	127.99987	46.48588	145.02972	19.55406	0.0575054	0.18326989	3.0695542	21	8 27.5	20.7
506900 2008 CX ₁₀₈	18.3	X	276.21989	34.01746	140.82915	5.22912	0.2074916	0.27770577	2.3267307	21	—	—
506901 2008 CU ₁₂₇	18.4	X	307.77114	177.75782	308.55427	2.02714	0.1343044	0.28047692	2.3113797	21	—	—
506902 2008 CT ₁₄₂	17.9	X	290.09750	0.50805	163.86187	6.82743	0.1742917	0.27805913	2.3247590	21	—	—
506903 2008 CS ₁₄₅	16.9	X	226.25730	263.84428	168.55886	3.65319	0.0979022	0.17867684	3.1219351	21	7 14.8	21.7
506904 2008 CV ₁₆₂	17.1	X	215.67555	283.64981	154.73716	6.00141	0.1259567	0.17957632	3.1115014	21	7 9.1	22.0
506905 2008 CQ ₁₆₉	17.3	X	140.22653	179.85264	87.32134	6.95181	0.1943804	0.27127620	2.3633511	21	12 23.8	21.0
506906 2008 CK ₁₉₄	18.1	X	51.75574	161.77046	345.01301	19.14568	0.0610065	0.37767443	1.8955024	21	2 19.1	19.4
506907 2008 CL ₂₁₄	18.2	X	268.76260	178.11141	352.31565	4.35835	0.1395030	0.27638801	2.3341204	21	—	—
506908 2008 DM ₂	18.4	X	276.88991	230.02054	297.98105	1.83143	0.1614497	0.28183062	2.3039724	21	—	—
506909 2008 DW ₃	17.6	X	33.03841	261.62180	132.41130	5.39700	0.1080880	0.27982579	2.3149639	21	—	—
506910 2008 DE ₁₂	17.2	X	161.43755	72.38896	68.29262	2.39712	0.1063779	0.17949832	3.1124027	21	8 2.7	22.1
506911 2008 DZ ₁₄	16.6	X	153.96556	333.62498	172.09292	21.74349	0.1429552	0.17446454	3.1719861	21	7 30.8	22.0
506912 2008 DE ₄₉	17.7	X	292.61771	39.50861	108.99974	7.67507	0.1859732	0.27950688	2.3167244	21	—	—
506913 2008 DG ₇₄	18.3	X	275.66416	112.22505	32.82995	1.67852	0.1250040	0.27574546	2.3377450	21	—	—
506914 2008 DN ₈₁	16.5	X	202.14089	306.46709	173.90446	16.36631	0.1573030	0.18018771	3.1044590	21	8 13.1	21.7
506915 2008 DW ₈₄	18.1	X	179.38962	337.55743	260.90912	0.48765	0.1447831	0.27205194	2.3588564	21	12 26.5	21.5
506916 2008 DS ₈₆	17.3	X	200.11583	355.76685	106.60936	2.60212	0.1356294	0.17828973	3.1264525	21	7 23.5	22.3
506917 2008 EK ₁₁	16.3	X	35.35153	222.09769	25.73264	11.75531	0.0599648	0.16957725	3.2326424	21	7 13.0	20.8
506918 2008 EE ₃₉	17.7	X	138.96520	143.66537	107.86825	4.55225	0.1398846	0.26362294	2.4088731	21	12 3.4	21.3
506919 2008 EB ₇₃	17.9	X	256.40305	108.60207	60.65881	2.22591	0.1254004	0.27422952	2.3463524	21	—	—
506920 2008 EQ ₈₆	16.3	X	203.64638	94.49990	12.31092	15.62739	0.1972554	0.17776109	3.1326479	21	8 4.3	21.8
506921 2008 ED ₈₉	16.7	X	285.44925	76.63580	12.15641	22.94337	0.2354486	0.26832767	2.3806328	21	10 7.9	18.9
506922 2008 EZ ₁₁₈	16.8	X	147.20786	284.17661	255.58301	1.19512	0.1765911	0.18207310	3.0829905	21	9 6.8	21.8
506923 2008 EF ₁₂₃	17.7	X	268.90687	148.29413	14.61048	2.58726	0.1553824	0.27349429	2.3505557	21	—	—
506924 2008 EK ₁₃₁	18.0	X	194.20501	159.27839	63.58545	3.63809	0.1380718	0.26887888	2.3737811	21	12 22.2	21.2
506925 2008 EF ₁₆₀	18.4	X	33.48865	137.10585	254.02265	3.32218	0.1158227	0.27736585	2.3286312	21	—	—
506926 2008 FF ₁₀	18.4	X	217.80288	82.30946	126.91765	1.90709	0.1373661	0.27395293	2.3479315	21	—	—
506927 2008 FE ₁₈	18.1	X	267.02662	6.22644	176.50711	5.51413	0.1721589	0.27857592	2.3218830	21	—	—
506928 2008 FZ ₂₀	17.7	X	324.74032	31.36206	67.77846	7.35855	0.1370173	0.27314105	2.3525818	21	—	—
506929 2008 FF ₂₂	18.1	X	221.79342	116.90963	81.85810	6.74862	0.0817612	0.26897986	2.3767831	21	12 31.3	21.2
506930 2008 FY ₅₈	16.6	X	183.08145	303.55215	191.86793	10.02768	0.1750327	0.17513952	3.1638310	21	8 13.2	22.0
506931 2008 FC ₆₄	16.8	X	179.44728	148.32252	336.85415	9.57125	0.0905957	0.17844225	3.1246707	21	8 3.0	21.7
506932 2008 FA ₈₉	18.3	X	251.80637	51.55496	132.63976	1.81980	0.1262998	0.27400478	2.3476352	21	—	—
506933 2008 FZ ₁₀₅	16.2	X	234.33918	60.71862	45.52163	10.31704	0.0459279	0.17881709	3.1203026	21	9 15.9	20.8
506934 2008 FD ₁₁₆	16.8	X	159.16104	303.10172	166.50328	8.33778	0.0441189	0.17094575	3.2153667	21	7 22.1	21.6
506935 2008 GU ₈	16.2	X	134.48635	144.18189	23.68319	27.93581	0.1430134	0.17229173	3.1985987	21	8 26.4	21.8
506936 2008 GL ₃₃	17.0	X	166.48565	77.94206	44.93001	0.84070	0.1323533	0.17123062	3.2117996	21	7 16.7	22.0
506937 2008 GG ₈₉	18.1	X	200.78410	33.09332	187.99958	4.80206	0.1912207	0.26725996	2.3869690	21	12 21.1	21.8
506938 2008 GQ ₈₉	16.6	X	154.04347	126.22050	15.35689	15.38152	0.1467280	0.17158850	3.2073321	21	8 2.9	22.0
506939 2008 GC ₉₂	17.8	X	230.40193	351.41065	188.16283	4.73203	0.1472422	0.26744189	2.3858864	21	12 7.4	20.9
506940 2008 GH ₁₀₀	17.9	X	201.42062	130.80304	77.22564	2.23723	0.1141138	0.26499416	2.4005560	21	12 13.3	21.0
506941 2008 GH ₁₁₄	17.8	X	209.30167	326.53883	29.35580	21.90087	0.0661859	0.37323704	1.9104964	21	3 14.2	20.4
506942 2008 GF ₁₃₀	18.2	X	198.59993	160.84010	51.76913	10.97043	0.1880093	0.26589332	2.3951411	21	12 7.4	21.9
506943 2008 HL ₆	18.0	X	96.83618	275.32176	19.02254	1.34998	0.1745953	0.25835850	2.4414858	21	12 16.9	21.8
506944 2008 HG ₂₆	17.8	X	215.88824	74.53872	130.53171	5.47608	0.1819366	0.26580950	2.3956446	21	12 17.9	21.2
506945 2008 HC ₄₃	18.4	X	314.47401	7.14687	212.61345	21.20954	0.0364055	0.36281236	1.9469195	21	—	—
506946 2008 HS ₆₃	18.0	X	227.99603	66.98218	125.90113	6.79107	0.0696735	0.26596033	2.3947387	21	—	—
506947 2008 KW ₉	18.4	X	283.12824	169.88674	66.09080	23.33462	0.0391485	0.35899124	1.9607105	21	—	—
506948 2008 KE ₁₀	18.2	X	90.92905	44.83267	66.60327	23.70618	0.0810275	0.37009859	1.9212819	21	3 25.1	20.6
506949 2008 KK ₁₁	18.1	X	109.38733	338.78893	97.59495	24.17636	0.0753220	0.36467913	1.9402697	21	2 14.6	20.2
506950 2008 KL ₁₈	18.0	X	49.04428	70.31640	82.39501	24.04251	0.0712460	0.37019625	1.9209440	21	3 8.8	20.4
506951 2008 KV ₂₈	20.8	X	266.61608	116.71509	226.94489	21.05481	0.3888720	0.44323052	1.7036601	21	3 18.7	24.0
506952 2008 KV ₃₂	16.4	X	146.17254	76.09551	90.19043	16.90347	0.1757296	0.16937303	3.2352403	21	8 26.2	21.9
506953 2008 KC ₃₄	17.4	X	40.52268	12.12453	293.84127	3.84325	0.1547374	0.23694373	2.5864608	21	10 21.6	20.7
506954 2008 LY ₁₀	17.2	X	124.75963	25.21358	236.2444							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
506961 2008 <i>RM</i> ₈₂	17.5	X	302.74835	250.59191	180.18086	9.56458	0.1127003	0.23440735	2.6050850	21	10 28.1	20.4
506962 2008 <i>RQ</i> ₈₇	17.2	X	290.30770	169.03535	227.13912	7.13245	0.2370109	0.21969781	2.7201043	21	7 25.1	20.7
506963 2008 <i>RB</i> ₈₈	17.0	X	345.69381	66.49518	265.79700	4.79418	0.1839064	0.22262614	2.6961990	21	8 16.6	19.5
506964 2008 <i>RB</i> ₉₂	17.6	X	265.55695	262.07830	182.18836	2.19722	0.1714349	0.22385214	2.6863456	21	9 6.8	21.1
506965 2008 <i>RM</i> ₉₂	17.7	X	352.82626	244.60952	118.15010	0.60329	0.1363633	0.22948323	2.6422186	21	10 19.2	20.4
506966 2008 <i>RC</i> ₁₀₇	15.5	X	180.27173	61.76556	14.71398	15.01538	0.2310053	0.12356784	3.9920785	21	6 1.9	22.3
506967 2008 <i>RT</i> ₁₁₉	16.8	X	250.14296	145.48104	19.16247	15.96001	0.0738689	0.24102753	2.5571622	21	12 17.0	20.4
506968 2008 <i>RQ</i> ₁₂₉	17.1	X	312.41407	32.67836	15.14684	7.23669	0.2206615	0.22780896	2.6551487	21	9 27.9	19.4
506969 2008 <i>RC</i> ₁₃₀	16.5	X	312.10423	106.57936	289.73980	11.62999	0.1844951	0.22373605	2.6872747	21	9 6.2	19.6
506970 2008 <i>RB</i> ₁₄₁	17.3	X	346.67127	5.74734	322.85616	5.64488	0.1775095	0.22564245	2.6721172	21	8 15.9	19.5
506971 2008 <i>SD</i> ₃₁	17.1	X	306.09708	181.28475	239.21565	7.01925	0.2288039	0.22641238	2.6660560	21	9 27.7	19.8
506972 2008 <i>SP</i> ₃₉	17.2	X	9.15332	296.15133	34.02514	6.22923	0.1328231	0.22602914	2.6690688	21	10 2.9	20.2
506973 2008 <i>SE</i> ₈₆	17.7	X	345.81962	60.21773	344.66378	12.77045	0.1621621	0.23379006	2.6096685	21	12 5.7	20.6
506974 2008 <i>SU</i> ₉₄	16.9	X	45.80723	59.22561	243.78638	3.66417	0.2277780	0.23038835	2.6352938	21	11 5.7	20.3
506975 2008 <i>SP</i> ₁₀₃	16.7	X	351.95068	10.67880	10.129718	14.54229	0.1376674	0.23100998	2.6305641	21	11 7.4	19.7
506976 2008 <i>SU</i> ₁₂₃	17.2	X	11.87105	305.69334	24.29639	3.43466	0.1119479	0.22447445	2.6813784	21	10 3.6	20.0
506977 2008 <i>ST</i> ₁₂₇	17.5	X	322.36789	28.86075	357.42884	5.61872	0.1321979	0.22344927	2.6895735	21	9 23.6	20.1
506978 2008 <i>SG</i> ₁₃₆	17.2	X	359.50755	359.49248	332.52956	4.48845	0.2704062	0.22628031	2.6670932	21	9 26.7	19.1
506979 2008 <i>SQ</i> ₁₅₄	17.2	X	342.51631	327.41836	29.62739	4.33355	0.2676479	0.22699713	2.6614755	21	9 21.9	19.0
506980 2008 <i>SE</i> ₁₆₂	17.3	X	327.58334	28.81794	22.85647	5.26368	0.2764117	0.22960876	2.6412555	21	11 6.4	18.9
506981 2008 <i>SR</i> ₁₇₁	17.4	X	322.57068	116.89752	257.05887	3.44476	0.1487022	0.22552311	2.6730599	21	9 2.9	20.4
506982 2008 <i>SA</i> ₁₈₄	16.9	X	303.58130	52.55278	29.46170	15.87694	0.1859338	0.22849456	2.6498349	21	11 1.1	19.7
506983 2008 <i>SK</i> ₁₈₄	16.9	X	332.04868	347.20995	41.33278	14.77877	0.2498588	0.22339567	2.6900037	21	10 16.4	18.9
506984 2008 <i>SU</i> ₁₉₇	17.2	X	266.09410	52.44445	53.63117	5.28883	0.1323063	0.22437411	2.6821778	21	10 14.7	20.6
506985 2008 <i>SG</i> ₂₀₀	17.5	X	337.31739	4.66564	356.26377	4.76011	0.1314929	0.22245402	2.6975896	21	9 15.4	20.2
506986 2008 <i>SE</i> ₂₀₅	16.8	X	328.04680	300.97576	48.59219	13.27289	0.2321148	0.21924108	2.7238807	21	8 5.9	19.6
506987 2008 <i>SC</i> ₂₀₆	16.9	X	315.46567	259.53044	147.58036	4.71625	0.1492513	0.22449277	2.6812325	21	10 11.7	19.7
506988 2008 <i>SK</i> ₂₁₈	16.9	X	16.51626	340.36569	5.90788	14.87392	0.3574752	0.23065771	2.6332417	21	12 10.3	20.1
506989 2008 <i>SM</i> ₂₁₈	16.6	X	354.82317	127.12231	260.91822	13.16333	0.1152891	0.23103901	2.6303438	21	11 24.9	19.5
506990 2008 <i>SF</i> ₂₂₆	17.1	X	28.99304	253.73542	43.62115	13.28130	0.1638714	0.22160700	2.7044590	21	9 29.3	20.4
506991 2008 <i>SY</i> ₂₃₄	17.4	X	278.14697	332.92514	47.06649	4.13730	0.1769866	0.21594783	2.7515040	21	6 28.3	21.1
506992 2008 <i>SZ</i> ₂₃₉	17.1	X	300.03107	340.90638	45.63227	11.87641	0.0824534	0.21923491	2.7239319	21	8 29.6	20.7
506993 2008 <i>SY</i> ₂₆₄	17.4	X	234.96284	114.78028	0.70228	1.31864	0.0834235	0.22222337	2.6994558	21	9 22.4	21.3
506994 2008 <i>SQ</i> ₂₆₈	16.1	X	260.44170	64.40013	12.02416	24.51697	0.1122596	0.21904425	2.7255123	21	9 9.5	20.1
506995 2008 <i>SA</i> ₂₈₉	17.7	X	327.45762	20.12017	353.75588	2.55396	0.1159976	0.22409232	2.6844258	21	9 16.5	20.5
506996 2008 <i>SJ</i> ₂₈₉	16.9	X	294.44350	13.88703	46.53731	13.71678	0.1536843	0.21884992	2.7271255	21	9 27.0	20.3
506997 2008 <i>SD</i> ₂₉₇	17.2	X	335.00885	129.43550	239.64590	12.54323	0.2865264	0.22658773	2.6646804	21	9 8.2	19.4
506998 2008 <i>SQ</i> ₃₀₈	17.1	X	348.31252	263.22106	92.76999	14.80215	0.2379509	0.22511508	2.6762889	21	10 14.3	19.7
506999 2008 <i>TJ</i> ₂₃	17.4	X	301.91815	242.03738	184.67804	2.56960	0.1928381	0.23023800	2.6364410	21	10 8.1	20.0
507000 2008 <i>TM</i> ₂₉	17.9	X	334.49925	3.63306	12.37677	7.09037	0.1836481	0.22720047	2.6598873	21	10 1.6	20.4
507001 2008 <i>TF</i> ₄₆	17.4	X	329.44636	299.16376	86.79334	3.85190	0.1380085	0.22429588	2.6828014	21	10 8.9	20.2
507002 2008 <i>TA</i> ₆₃	17.2	X	350.77696	151.70846	206.91619	5.95542	0.1869858	0.22636283	2.6664451	21	10 10.7	19.7
507003 2008 <i>TV</i> ₇₇	17.7	X	25.67071	143.55133	169.14900	2.60169	0.2080005	0.22866042	2.6485533	21	10 17.6	20.5
507004 2008 <i>TC</i> ₈₂	17.6	X	41.64203	113.62974	182.76882	1.89780	0.1882802	0.22869956	2.6482511	21	10 16.7	20.7
507005 2008 <i>TR</i> ₉₃	17.3	X	311.52652	216.03058	178.36841	7.42831	0.1794113	0.22406459	2.6846473	21	9 9.1	20.1
507006 2008 <i>TC</i> ₁₀₁	17.7	X	243.88425	111.61856	341.60556	1.26770	0.0415294	0.22131251	2.7068576	21	9 10.1	21.4
507007 2008 <i>TP</i> ₁₀₁	17.5	X	7.60727	147.94824	200.66448	5.13552	0.0897827	0.22762812	2.6565548	21	10 20.3	20.6
507008 2008 <i>TT</i> ₁₄₂	17.5	X	0.38964	305.70670	36.13393	2.92790	0.0970417	0.22629746	2.6669585	21	9 30.2	20.5
507009 2008 <i>TO</i> ₁₅₇	16.4	X	346.79285	356.12168	35.07039	34.00106	0.1804418	0.23159656	2.6261205	21	11 11.5	19.2
507010 2008 <i>TT</i> ₁₆₂	17.4	X	283.54673	257.45873	188.93137	14.82465	0.2563499	0.22585949	2.6704051	21	9 21.0	20.7
507011 2008 <i>TH</i> ₁₆₃	16.7	X	262.67103	323.44818	73.24689	9.87746	0.2479362	0.21375716	2.7027071	21	6 22.2	21.0
507012 2008 <i>TV</i> ₁₆₄	17.2	X	56.46858	226.04731	66.46407	3.49429	0.1187232	0.22662274	2.6644059	21	10 21.6	20.8
507013 2008 <i>TP</i> ₁₆₅	15.6	X	181.72539	22.28136	45.88796	14.31220	0.2995148	0.12038533	4.0621286	21	5 26.3	22.5
507014 2008 <i>TB</i> ₁₆₈	17.4	X	263.66409	149.61357	289.38343	1.25588	0.0310565	0.22139224	2.7062077	21	9 18.3	21.0
507015 2008 <i>TW</i> ₁₇₂	16.5	X	263.37228	239.12400	225.50907	20.97708	0.0648278	0.22576003	2.6711894	21	10 15.6	20.1
507016 2008 <i>TU</i> ₁₈₀	16.7	X	338.04864	229.85286	141.53560	14.20634	0.2736785	0.22615185	2.6681032	21	10 7.2	18.8
507017 2008 <i>UY</i> ₁₃	17.0	X	253.87208	98.62850	282.29765	2.84048	0.1143822	0.21019296	2.8014999	21	6 8.5	21.0
507018 2008 <i>UL</i> ₃₈	17.1	X	353.11240	105.46321	245.03781	5.98235	0.1598766	0.22215399	2.6995205	21	9 28.6	19.9
507019 2008 <i>UQ</i> ₅₁	17.2	X	236.09686	88.66348	51.74374	9.88007	0.1807002	0.22060479	2.7126437	21	10 16.0	21.2
507020 2008 <i>UU</i> ₅₈	17.5	X	244.76441	231.12789	206.68964	7.59942	0.2354653	0.21500294	2.7595596	21	7 26.2	21.9
507021 2008 <i>UU</i> ₇₂	16.9	X	301.40689	16.30152	25.82084	8.91310	0.2310018	0.21851531	2.7299087	21	8 28.8	20.0
507022 2008 <i>UM</i> ₇₃	16.6	X	303.68151	16.83760	26.48016	11.68300	0.1584064	0.21929030	2.7234732	21	9 15.8	19.7
507023 2008 <i>UD</i> ₇₄	17.2	X	269.50146	82.32236	298.74908	3.94399	0.1854611	0.20891982	2.8128697	21	6 17.9	21.2
507024 2008 <i>UD</i> ₇₇	16.7	X	50.81718	323.17475	57.42205	23.09797	0.0343157	0.23633704	2.5908853	21	—	—
507025 2008 <i>UK</i> ₈₅	17.1	X	28.11043	93.95898	211.48878	12.45613	0.2564493	0.22812902	2.6526647	21	10 18.3	20.0
507026 2008 <i>UO</i> ₈₅	17.8	X	308.49559	173.17723	238.00152	3.15980	0.0802935	0.22675161	2.6633963	21	10 8.9	21.0
507027 2008 <i>UM</i> ₉₇	16.6	X	230.04275	60.54853	52.23053	24.63905	0.3634325	0.21205258	2.7850971	21	8 29.9	22.0
507028 2008 <i>UU</i> ₁₀₁	17.7	X	14.45674	288.43939	7.83804	5.82328	0.2712606	0.22232328	2.6993829	21	9 10.6	19.9
507029 2008 <i>UL</i> ₁₀₂	17.6	X	309.85016	42.28064	17.23636	4.84927	0.0400253	0.22788809	2.6545340	21	10 26.1	20.9
507030 2008 <i>UU</i> ₁₁₆	17.4	X	340.39513	79.21399	284.09565	5.24606	0.0641261	0.22111674	2.7084551	21	9 21.6	20.9
507031 2008 <i>UD</i> ₁₂₈	17.4	X	328.26225</									

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507041 2008 UV ₂₂₄	17.2	X	335.87326	37.10549	313.12165	5.43464	0.0816475	0.21537316	2.7563963	21	8 27.9	20.4
507042 2008 US ₂₂₆	16.7	X	2.04160	64.61086	246.25008	13.20117	0.1469925	0.21424849	2.7660341	21	8 13.1	20.0
507043 2008 UR ₂₄₅	17.3	X	316.70843	108.85241	284.34728	4.46516	0.1400002	0.21978777	2.7193620	21	9 19.4	20.4
507044 2008 UU ₂₅₅	17.6	X	278.12645	290.40047	115.71402	0.83387	0.0697160	0.21522980	2.7576202	21	8 19.5	21.2
507045 2008 UU ₂₅₆	16.9	X	80.51400	197.57904	57.22375	10.28820	0.0880492	0.21814723	2.7329787	21	10 1.6	20.8
507046 2008 UA ₂₉₂	17.8	X	288.16062	153.98903	231.63849	8.70764	0.1843517	0.21529604	2.7570545	21	7 16.1	21.5
507047 2008 UP ₂₉₂	17.8	X	261.56446	182.80279	256.27996	1.54457	0.1684863	0.21739141	2.7393097	21	8 25.4	21.5
507048 2008 UA ₃₀₀	17.1	X	349.51722	184.64592	359.87732	3.67136	0.2069729	0.22202559	2.7010587	21	9 22.9	19.5
507049 2008 UK ₃₀₇	17.1	X	307.99351	305.36862	120.70884	8.82737	0.3225242	0.22450268	2.6811536	21	10 2.4	19.5
507050 2008 UU ₃₁₄	17.5	X	351.00192	42.60337	309.11895	3.97555	0.1270327	0.22140851	2.7060751	21	9 25.4	20.4
507051 2008 UJ ₃₃₆	17.7	X	263.51846	37.73737	32.48334	7.19067	0.1259691	0.21400812	2.7681050	21	8 26.5	21.5
507052 2008 UM ₃₅₈	17.7	X	285.12865	258.18458	153.15783	3.78942	0.1884058	0.21635440	2.7480559	21	8 17.4	21.1
507053 2008 UM ₃₅₉	16.3	X	10.97176	284.96328	69.70752	29.31794	0.3612209	0.23151850	2.6267107	21	12 13.1	19.0
507054 2008 VV ₃₂	17.2	X	22.26109	229.19515	97.60114	5.47622	0.0983739	0.22261166	2.6963159	21	10 16.5	20.5
507055 2008 VE ₃₄	17.0	X	334.93841	285.64658	83.74900	7.21317	0.0506004	0.21957132	2.7211489	21	9 28.9	20.5
507056 2008 VR ₄₁	16.9	X	295.71041	141.02289	280.45025	8.20387	0.2222717	0.22259978	2.6964119	21	9 7.9	20.1
507057 2008 UN ₄₃	17.2	X	316.84084	92.56874	285.74638	7.70234	0.2156675	0.21937522	2.7227703	21	8 18.7	20.0
507058 2008 VY ₆₁	17.3	X	355.64862	302.03886	48.82827	5.25988	0.1256986	0.22249342	2.6972711	21	10 7.0	20.2
507059 2008 VD ₇₀	17.3	X	339.12189	47.04335	298.48610	3.48638	0.0917590	0.21506743	2.7590079	21	8 26.4	20.4
507060 2008 WC ₁₆	17.3	X	301.68545	26.68533	23.77401	6.60823	0.0860241	0.22250268	2.6971962	21	9 28.7	20.5
507061 2008 WJ ₁₇	17.6	X	316.38340	216.25652	182.77620	2.14272	0.1269119	0.22379870	2.6867732	21	10 1.8	20.6
507062 2008 WY ₃₄	17.5	X	320.20761	151.42031	197.88106	4.50446	0.1349444	0.21586159	2.7522369	21	7 25.8	20.6
507063 2008 WW ₃₉	17.1	X	316.14918	299.76897	83.79787	3.21987	0.1476506	0.21848711	2.7301436	21	9 8.1	20.0
507064 2008 WD ₇₈	17.6	X	285.91327	286.21487	124.46010	4.08539	0.0900003	0.21499107	2.7596612	21	9 3.6	21.0
507065 2008 WM ₉₂	17.4	X	323.29406	328.77418	48.78223	5.28101	0.1202341	0.21853943	2.7297079	21	9 16.2	20.4
507066 2008 WN ₁₀₁	16.8	X	328.04354	159.19785	270.45531	11.81876	0.2634318	0.22905892	2.6454806	21	12 8.9	18.6
507067 2008 WL ₁₀₇	17.4	X	333.00171	122.23262	224.04703	4.13241	0.1720101	0.21767848	2.7369008	21	8 10.7	20.2
507068 2008 WB ₁₁₅	17.3	X	280.60121	8.08868	65.50913	4.36376	0.1770075	0.21775308	2.7362757	21	9 14.9	20.7
507069 2008 WD ₁₂₂	17.3	X	299.01725	173.21102	234.11588	9.54183	0.1162439	0.21898510	2.7260031	21	9 9.8	20.8
507070 2008 XH ₁₈	17.4	X	297.75201	217.40023	193.15774	2.95532	0.0657940	0.21593289	2.7516309	21	9 22.7	21.0
507071 2008 XC ₂₆	17.1	X	320.19581	317.30583	47.40043	14.55556	0.1938773	0.21657073	2.7462256	21	8 19.4	20.3
507072 2008 XW ₃₇	17.9	X	271.01035	88.68616	326.64710	3.10646	0.1012220	0.21157681	2.7892708	21	8 16.8	21.5
507073 2008 XZ ₅₂	17.4	X	294.57534	184.82450	276.92486	9.63177	0.2462729	0.22216717	2.6999111	21	10 30.9	20.4
507074 2008 YU ₄₃	17.3	X	281.57678	336.15549	89.50163	9.87978	0.1897667	0.21620860	2.7492911	21	9 5.7	20.9
507075 2008 YH ₁₀₁	17.4	X	254.11542	314.60321	141.84552	3.31186	0.1523200	0.21054308	2.7983932	21	9 11.2	21.4
507076 2008 YO ₁₀₉	17.4	X	248.83567	162.20194	296.90520	4.12306	0.0863752	0.21529503	2.7570631	21	9 15.1	21.2
507077 2008 YX ₁₇₄	17.2	X	252.98765	195.32481	210.54497	1.33142	0.0676399	0.19916238	2.9040083	21	7 16.1	21.2
507078 2008 AB ₁₅	18.1	X	307.01494	181.77434	296.54165	7.05545	0.0541900	0.30374065	2.1917992	21	—	—
507079 2009 AQ ₃₉	17.5	X	262.31909	173.53241	277.22680	3.17855	0.1720903	0.21083410	2.7958174	21	9 8.7	21.4
507080 2009 BE ₁₃	16.6	X	251.54099	223.51764	284.16162	14.74171	0.1838183	0.21671519	2.7450051	21	11 3.7	20.7
507081 2009 BY ₁₉	17.4	X	265.03920	320.03219	101.46059	3.20601	0.0449259	0.20431129	2.8550111	21	8 26.3	21.2
507082 2009 BS ₁₄₂	18.6	X	247.64775	91.97989	115.60982	4.95179	0.0782581	0.30609280	2.1805563	21	—	—
507083 2009 BZ ₁₆₁	16.4	X	244.68078	18.39245	306.01695	8.48864	0.0674624	0.17415087	3.1757937	21	3 22.9	21.3
507084 2009 BN ₁₇₃	17.7	X	260.77442	71.32403	32.96070	8.50229	0.3438341	0.21303669	2.7675134	21	9 6.7	22.0
507085 2009 CZ ₂₅	16.9	X	248.10241	313.55803	136.57972	16.01765	0.1055056	0.20249380	2.8720691	21	9 3.1	21.0
507086 2009 DV ₈₄	16.4	X	235.40012	32.61148	24.18143	11.19153	0.0288723	0.18622058	3.0370430	21	7 15.9	20.9
507087 2009 DY ₁₀₄	18.3	X	184.81922	242.56366	5.94751	7.54599	0.1006927	0.29393670	2.2402690	21	—	—
507088 2009 DA ₁₀₆	18.1	X	162.09821	94.78447	180.76986	3.28237	0.0899933	0.29483996	2.2356912	21	—	—
507089 2009 DV ₁₄₂	16.6	X	293.73810	117.74047	343.70506	11.24072	0.1097344	0.21403361	2.7678852	21	11 14.0	20.2
507090 2009 EK ₂	16.6	X	232.29547	309.57786	244.89408	10.50206	0.2308951	0.21648215	2.7469747	21	12 7.6	20.7
507091 2009 ES ₁₃	16.7	X	58.93754	55.80649	185.34144	5.08439	0.0878906	0.18708758	3.0276528	21	8 7.4	20.8
507092 2009 FT ₈	17.8	X	140.95090	243.38056	32.37570	6.81754	0.1693741	0.28819613	2.2699203	21	—	—
507093 2009 FM ₁₀	17.5	X	209.89987	150.03893	334.83864	0.87115	0.0676155	0.19663395	3.0288495	21	9 4.6	21.6
507094 2009 FP ₁₇	16.2	X	71.42751	215.66630	13.60396	12.64941	0.0975826	0.18563817	2.9439197	21	8 17.1	20.6
507095 2009 FV ₃₅	18.0	X	177.51985	234.02786	32.95041	6.53530	0.1001530	0.29703619	2.2246574	21	—	—
507096 2009 FT ₅₇	18.0	X	272.76997	359.85981	193.89003	4.02628	0.0517891	0.30100017	2.2050827	21	—	—
507097 2009 FW ₇₂	16.7	X	208.59205	55.79661	49.25904	2.23660	0.0293704	0.18680588	3.0306959	21	8 12.5	21.1
507098 2009 FF ₇₇	18.1	X	230.26410	40.59110	179.03577	5.51773	0.1057237	0.29684768	2.2255991	21	—	—
507099 2009 HQ ₂₆	16.8	X	169.01733	62.27131	77.80565	2.39966	0.0874757	0.18513104	3.0489471	21	8 9.7	21.4
507100 2009 HM ₄₄	16.0	X	84.04120	139.27627	93.85124	15.63829	0.1879979	0.18280460	3.0747605	21	9 21.0	20.9
507101 2009 HO ₆₀	18.0	X	214.46856	167.92388	48.89170	6.22767	0.1151885	0.29340341	2.2429828	21	—	—
507102 2009 HN ₉₃	16.7	X	227.15810	12.28173	150.31815	9.14325	0.2370128	0.20338195	2.8637017	21	10 26.3	21.3
507103 2009 HG ₁₀₀	17.0	X	140.67126	75.40435	111.86319	8.02018	0.2096626	0.18693567	3.0292928	21	9 15.5	22.2
507104 2009 JX ₅	17.8	X	209.84211	175.57005	63.44025	6.71153	0.1298439	0.29167471	2.2518366	21	—	—
507105 2009 JU ₁₆	16.1	X	103.41220	146.08653	66.12102	16.21762	0.1568477	0.18231710	3.0802392	21	9 13.4	21.2
507106 2009 KK ₅	16.5	X	90.35186	73.53555	143.93570	9.76241	0.0917159	0.17972810	3.1097494	21	8 19.3	20.9
507107 2009 KC ₈	17.8	X	170.22277	211.42485	46.79541	7.30875	0.2019954	0.28551624	2.2841021	21	—	—
507108 2009 LG ₁	17.9	X	147.62952	151.49733	129.11010	7.49878	0.0925029	0.28481278	2.2878615	21	—	—
507109 2009 OO ₁₃	17.4	X	30.98372	213.37232	139.07929	16.87486	0.1731949	0.26055367	2.4277535	21	12 20.6	20.7
507110 2009 PD ₄	18.2	X	51.95967	149.74131	176.32912	5.46557	0.2381510	0.26062695	2.4272984	21	12 19.3	21.7
507111 2009 PE ₈	17.5	X	87.27741	355.34091	318.39983	5.73117	0.1392214	0.26523912	2.3990778	21	12 30.6	21.1
507112 2009 SN ₅	17.5	X	358.86398	133.78867	240.46861	4.42178	0.2832854	0.25319373	2.4745758	21	12 13.4	19.4
507113 2009 SR ₄₁	17.7	X	301.44012	288.44892	207.25337	2.74726	0.1839546	0.26591128	2.3950332	21	—	—
507114 2009 SY												

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507121 2009 SR ₃₀₇	17.8	X	281.27205	232.91841	253.24802	6.36120	0.0667386	0.25633431	2.4543221	21	12 16.9	20.6
507122 2009 SF ₃₁₃	16.0	X	200.14245	263.36604	62.13688	5.14208	0.2557486	0.12226303	4.0204309	21	2 18.2	22.7
507123 2009 SQ ₃₄₉	18.4	X	306.70876	180.09905	212.97155	14.98442	0.1987849	0.24116858	2.5561651	21	8 22.4	21.5
507124 2009 SG ₃₇₀	17.2	X	285.93154	24.57608	43.66145	15.69593	0.0998060	0.24375177	2.5380735	21	10 5.4	20.4
507125 2009 UQ ₈	18.2	X	37.77415	233.67866	105.75205	2.82264	0.1820215	0.25489834	2.4635311	21	12 10.9	21.4
507126 2009 UM ₁₅	18.2	X	4.16891	105.02236	233.65278	11.80011	0.3064201	0.24375320	2.5380636	21	10 31.4	20.2
507127 2009 US ₂₆	17.3	X	316.15089	156.77058	187.71358	3.25836	0.3179386	0.23556372	2.5965525	21	6 11.5	20.0
507128 2009 UF ₂₇	17.9	X	215.46435	235.51173	47.83347	21.76025	0.0417014	0.36072085	1.9544379	21	—	—
507129 2009 UT ₇₂	16.6	X	275.77761	347.71015	57.17099	14.56443	0.1258667	0.23304459	2.6152309	21	8 12.5	20.3
507130 2009 UH ₁₀₉	18.1	X	302.99510	353.73913	58.36641	6.07525	0.1366305	0.24052166	2.5607465	21	10 1.3	20.9
507131 2009 UH ₁₅₃	17.1	X	247.02463	239.94331	272.76074	11.16580	0.2249138	0.24499060	2.5295102	21	11 4.5	20.7
507132 2009 UG ₁₅₉	18.1	X	294.95923	228.09485	215.44900	2.02399	0.0463707	0.24579242	2.5240061	21	11 9.3	21.2
507133 2009 VY ₁₀	16.0	X	127.17466	283.14292	188.69237	2.69422	0.2163404	0.12571406	3.9465125	21	6 3.8	22.3
507134 2009 VS ₂₃	16.5	X	60.63365	255.07388	54.93226	13.44050	0.1963349	0.24580723	2.5239047	21	11 29.6	20.1
507135 2009 VB ₆₇	18.7	X	332.57243	127.22190	261.05684	4.28915	0.2600915	0.24321420	2.5318120	21	10 16.3	20.3
507136 2009 VW ₇₁	16.6	X	350.14172	8.82806	259.38325	6.44060	0.1600339	0.21972414	2.7198870	21	5 22.0	19.4
507137 2009 VM ₈₉	17.9	X	322.34916	142.32112	271.31314	8.40820	0.0750246	0.24450882	2.5328319	21	11 5.9	20.9
507138 2009 VB ₉₇	17.8	X	311.54007	357.69659	67.11531	2.58232	0.1831511	0.24219255	2.5489552	21	10 29.4	20.1
507139 2009 WS ₃	18.2	X	343.43089	236.07049	98.61857	2.52011	0.1894387	0.23681274	2.5874145	21	8 19.9	20.3
507140 2009 WB ₆	17.7	X	241.26150	116.23106	260.01225	19.60658	0.0825755	0.38696164	1.8650513	21	5 9.4	19.9
507141 2009 WV ₂₆	17.5	X	332.42494	302.29686	48.56252	9.41025	0.1200872	0.23475993	2.6024760	21	8 29.6	20.4
507142 2009 WC ₇₃	17.9	X	301.57244	311.93269	114.20240	3.06464	0.1659893	0.24141757	2.5544072	21	10 14.0	20.4
507143 2009 WX ₁₀₂	17.2	X	208.37830	10.63714	161.27002	2.61213	0.1863844	0.23761038	2.5816208	21	10 26.1	21.1
507144 2009 WC ₁₁₉	17.4	X	66.63435	67.18224	236.29255	5.57829	0.0714138	0.24472991	2.5313062	21	11 12.3	20.5
507145 2009 WQ ₁₆₅	17.5	X	324.74999	358.64134	64.01491	6.45807	0.1767304	0.24436180	2.5338477	21	11 24.5	19.5
507146 2009 WV ₁₇₉	17.6	X	56.17987	214.74208	105.12283	3.42350	0.1325812	0.24799363	2.5090484	21	11 30.4	21.0
507147 2009 WL ₂₀₅	16.0	X	136.65500	201.42878	272.91558	4.49603	0.2306663	0.12541651	2.5752521	21	6 15.3	22.2
507148 2009 WY ₂₂₄	17.4	X	98.23002	188.78686	268.68513	18.89827	0.1170331	0.36332760	1.9450785	21	2 17.8	19.5
507149 2009 WL ₂₄₂	17.9	X	323.90415	343.67366	48.14437	13.64351	0.0777526	0.23910795	2.5708301	21	10 15.0	20.9
507150 2009 WB ₂₄₈	17.7	X	341.95944	81.52863	351.85786	2.01388	0.2158583	0.25194968	2.4827149	21	—	—
507151 2009 WL ₂₆₃	17.8	X	277.49910	356.21496	134.41484	3.55136	0.2069169	0.24428476	2.5343804	21	11 25.6	20.4
507152 2009 XY ₁	16.1	X	264.03580	206.50204	260.66052	32.98246	0.2355905	0.23426007	2.6061768	21	9 8.5	20.6
507153 2009 XX ₈	17.9	X	283.29570	42.41851	60.91137	4.79425	0.1893528	0.24254879	2.5464587	21	10 30.6	20.7
507154 2009 XO ₁₁	16.5	X	278.30712	156.73811	283.00519	14.24266	0.0850431	0.23158537	2.6262051	21	9 24.5	20.2
507155 2009 XY ₁₇	17.1	X	308.22240	110.54659	296.30211	9.58247	0.0616826	0.23056886	2.6339182	21	9 30.2	20.6
507156 2009 YE	15.8	X	217.96609	110.42424	82.43866	29.56376	0.3811225	0.22863581	2.6487434	21	11 18.9	20.8
507157 2009 YD ₅	17.7	X	293.99415	11.71995	81.63481	4.40372	0.2132672	0.23850170	2.5751848	21	10 31.8	20.3
507158 2009 YJ ₁₃	16.1	X	76.55889	306.62618	296.63851	22.42919	0.1536184	0.221761407	2.7374408	21	9 3.1	20.4
507159 2010 AQ ₈	17.5	X	136.50948	346.99504	113.28420	24.99670	0.0270093	0.37278314	1.9120469	21	5 7.4	20.2
507160 2010 AT ₃₂	17.8	X	276.20338	32.52812	71.89476	3.86370	0.1269230	0.23486956	2.6016661	21	10 29.1	20.9
507161 2010 AK ₃₈	18.0	X	174.50224	71.31246	315.96142	19.84340	0.0979841	0.36370112	1.9437465	21	2 27.0	20.4
507162 2010 AF ₄₁	17.7	X	179.93573	253.54608	288.81212	2.26886	0.1869241	0.22597643	2.6694838	21	10 10.2	22.2
507163 2010 AE ₅₆	17.2	X	292.77482	338.43393	98.47322	4.30719	0.2019050	0.23176096	2.6248784	21	10 7.1	20.0
507164 2010 BE ₃₃	16.7	X	257.67829	241.74171	286.50741	28.85877	0.3139051	0.23327248	2.6135273	21	11 25.0	20.6
507165 2010 BO ₅₅	16.1	X	20.57096	255.25401	116.87054	18.27371	0.2309550	0.21991833	2.7182857	21	12 29.9	19.5
507166 2010 CZ ₂	17.4	X	265.58086	18.79942	127.12779	4.63947	0.1544537	0.23668506	2.5883449	21	12 3.8	20.4
507167 2010 CN ₇₀	16.4	X	352.71623	206.63802	119.91925	9.86506	0.1374258	0.22059224	2.7127466	21	8 27.7	19.2
507168 2010 CQ ₁₇₀	17.5	X	193.30339	164.16326	3.56086	1.60260	0.0301598	0.22278257	2.6949367	21	10 15.0	21.1
507169 2010 CR ₁₇₃	16.5	X	331.54137	238.55227	148.28078	15.64721	0.1736812	0.22688087	2.6823846	21	10 17.2	19.3
507170 2010 CV ₁₈₄	16.8	X	216.54895	244.44869	286.83672	8.13476	0.2186163	0.22815848	2.6524364	21	10 24.9	21.1
507171 2010 DP ₈₀	16.5	X	317.15898	254.97202	63.70324	9.85190	0.1383027	0.18373956	3.0643211	21	6 8.2	20.3
507172 2010 EM ₃₀	17.7	X	248.88935	295.93381	185.56711	12.22144	0.2154098	0.22676035	2.6633279	21	9 29.5	21.5
507173 2010 EK ₁₃₂	17.9	X	290.33820	146.77178	351.25176	6.79914	0.2974635	0.23900298	2.5715827	21	12 14.1	20.0
507174 2010 ED ₁₇₃	16.2	X	261.36826	237.81864	185.27909	4.07662	0.0363219	0.21353479	2.7721940	21	8 23.2	20.1
507175 2010 GB ₁₄₉	16.9	X	230.76567	195.33874	314.62030	9.83541	0.0640979	0.23318622	2.6141718	21	10 31.3	20.8
507176 2010 GJ ₁₆₁	16.9	X	264.23784	77.80692	71.10008	29.08525	0.3469638	0.23291051	2.6162344	21	11 12.5	20.5
507177 2010 GF ₁₇₂	16.8	X	228.46669	160.68680	36.70291	15.06986	0.2005069	0.23207922	2.6224781	21	12 11.2	20.9
507178 2010 HO ₂₂	13.3	X	275.78570	265.08934	97.37631	29.65519	0.0316034	0.08230390	5.2342657	21	6 25.9	20.1
507179 2010 JB ₇	16.9	X	280.05836	51.57314	46.09829	12.11535	0.1615145	0.23332259	2.6131531	21	10 21.7	20.0
507180 2010 JT ₇₇	16.5	X	288.31551	99.84151	229.51084	12.06829	0.2849310	0.17601775	3.1532984	21	4 22.0	21.3
507181 2010 JK ₈₆	15.8	X	355.64806	177.03246	122.98641	22.37260	0.1526022	0.17616126	3.1515857	21	7 20.6	19.4
507182 2010 JN ₁₃₇	16.9	X	254.32755	349.26285	133.21435	12.67123	0.1308898	0.22940070	2.6428523	21	10 25.2	20.7
507183 2010 MA ₂	17.5	X	53.96915	138.57906	238.38218	24.13981	0.1974495	0.28902121	2.2655983	21	—	—
507184 2010 NC ₄	18.2	X	99.05462	8.18924	318.35450	7.50534	0.1202488	0.29818080	2.2189606	21	—	—
507185 2010 PT ₄₃	15.7	X	170.38338	44.65656	47.27080	18.61437	0.0356849	0.14886541	3.5259287	21	6 7.7	21.0
507186 2010 PC ₅₃	17.3	X	45.60194	0.35232	43.97140	25.65369	0.1709770	0.28870487	2.2672529	21	—	—
507187 2010 RA ₄₈	18.8	X	28.89362	211.49018	190.08726	3.24076	0.2092859	0.28745972	2.2737954	21	—	—
507188 2010 RM ₅₀	17.5	X	147.26495	262.79544	8.93708	9.89295	0.2158440	0.29280268	2.2460497	21	—	—
507189 2010 RC ₇₈	17.9	X	103.63996	292.69765	29.14122	4.88925	0.1450464	0.29184753	2.2509475	21	—	—
507190 2010 RN ₁₁₂	18.7	X	51.92332	256.89748	62.67624	2.07555	0.1890858	0.27925598	2.3181119	21	12 7.8	21.7
507191 2010 RG ₁₃₉	18.4	X	63.40684	176.17746	197.15224	4.10974	0.1655485	0.29390532	2.2404285	21	—	—
507192 2010 RN ₁₄₆	18.9	X	44.20038	169.30964	199.27063	4.02813	0.2025643	0.28537233	2.2848699	21	—	—
507193 2010 RF ₁₅₄	18.1	X	46.34582	349.42199	329.46418	5.02873	0.1940268	0.27735541	2.3286897			

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507201 2010 TH ₉₀	18.3	X	336.47204	50.61094	40.00707	5.56242	0.0597815	0.28730243	2.2746252	21	—	—
507202 2010 TB ₁₂₂	17.8	X	65.21498	319.33618	50.98723	6.28781	0.1358547	0.29096121	2.2555164	21	—	—
507203 2010 TB ₁₂₄	18.2	X	328.40341	75.11141	42.65706	5.60601	0.1031338	0.28922862	2.2645150	21	—	—
507204 2010 TH ₁₃₀	18.1	X	64.86234	23.11566	327.86218	6.73473	0.1435867	0.28649293	2.2789079	21	—	—
507205 2010 UE ₃₁	18.4	X	46.47009	49.23251	310.55782	2.11594	0.1401581	0.28099284	2.3085496	21	—	—
507206 2010 UP ₃₄	18.2	X	55.40567	58.26575	309.55696	3.71019	0.1700137	0.28556320	2.2838516	21	—	—
507207 2010 UQ ₄₅	18.1	X	73.75828	65.69311	258.45844	6.19962	0.1427958	0.28045502	2.3115000	21	—	—
507208 2010 UR ₄₇	18.0	X	54.31245	36.16265	296.95185	1.88699	0.1840011	0.27922994	2.3182560	21	12 27.4	21.1
507209 2010 UG ₄₉	15.5	X	329.66884	241.35399	54.21560	10.50978	0.0473520	0.15224059	3.4736208	21	6 7.9	20.2
507210 2010 UA ₅₀	17.7	X	193.30906	143.18822	73.84478	5.72498	0.0930001	0.27996359	2.3142042	21	12 20.7	20.9
507211 2010 UL ₅₈	18.6	X	10.42326	59.47333	333.41861	1.57114	0.2224055	0.27599803	2.3363186	21	—	—
507212 2010 VP ₃₁	18.1	X	20.84340	258.76736	125.55332	3.21146	0.1041598	0.27819981	2.3239752	21	—	—
507213 2010 VH ₃₂	18.1	X	243.82047	51.96215	136.70049	3.63338	0.0630178	0.28271577	2.2991609	21	—	—
507214 2010 VC ₃₈	17.9	X	43.14002	314.96850	71.03146	7.93240	0.1102276	0.28433485	2.2904245	21	—	—
507215 2010 VS ₃₈	17.5	X	1.63439	280.56212	80.04162	7.46595	0.1532910	0.26881969	2.3777270	21	11 13.7	19.7
507216 2010 VF ₈₁	17.3	X	148.50486	203.06165	54.00346	8.35403	0.0870260	0.27852694	2.3221552	21	12 22.2	20.6
507217 2010 VJ ₁₇₀	18.1	X	285.32893	251.09960	242.29001	5.19676	0.1235408	0.27445280	2.3450797	21	—	—
507218 2010 VT ₁₈₀	18.0	X	27.25536	311.18247	66.61276	6.55070	0.1263411	0.27665922	2.3325947	21	—	—
507219 2010 VS ₂₀₆	17.9	X	103.37658	83.87840	245.98410	5.32186	0.1458644	0.28840388	2.2688302	21	—	—
507220 2010 WJ ₁₉	14.0	X	162.51619	305.67702	282.36126	5.79584	0.0346380	0.08287410	5.2102293	21	11 1.9	21.2
507221 2010 WP ₂₆	18.9	X	42.08375	349.73723	0.33304	1.30006	0.2141272	0.27589326	2.3369100	21	—	—
507222 2010 WU ₂₆	18.2	X	87.00396	79.92861	258.33385	7.03814	0.1466181	0.28273450	2.2990593	21	—	—
507223 2010 WJ ₇₂	18.4	X	15.98486	83.65894	315.55331	2.39653	0.1820806	0.27755506	2.3275728	21	—	—
507224 2010 XD ₅	18.3	X	32.96010	197.14653	186.18932	0.80091	0.2634479	0.28043121	2.3116309	21	—	—
507225 2010 XP ₄₅	17.1	X	356.49649	336.68718	106.67697	24.85926	0.2213462	0.27474091	2.3434399	21	—	—
507226 2010 XR ₈₄	18.5	X	33.63352	173.13588	257.20601	5.74553	0.2122037	0.28761179	2.2729938	21	—	—
507227 2010 XD ₈₆	16.6	X	308.33486	60.56542	88.94151	23.31304	0.1612746	0.27984737	2.3148449	21	—	—
507228 2010 YF ₁	18.3	X	274.84478	330.04912	201.47052	1.59576	0.2206897	0.27104535	2.3646929	21	—	—
507229 2011 AE ₂₁	18.4	X	293.03296	26.89013	84.86036	4.21047	0.1452483	0.26351410	2.4095363	21	12 10.3	20.7
507230 2011 AU ₃₃	17.9	X	220.53468	122.31335	54.54430	4.83283	0.1000077	0.25953011	2.4341325	21	11 26.1	21.1
507231 2011 AP ₃₆	18.2	X	296.37820	10.88080	126.80042	7.75649	0.1827248	0.26937531	2.3744564	21	—	—
507232 2011 AQ ₃₈	16.3	X	127.64701	229.20643	232.82224	1.89987	0.1922496	0.12541912	3.9526972	21	5 21.6	22.4
507233 2011 AM ₄₀	17.6	X	342.28793	306.86825	141.69746	11.54071	0.1831154	0.27228344	2.3575192	21	—	—
507234 2011 AM ₄₂	17.9	X	338.25907	86.57552	340.39551	4.20890	0.0661094	0.26509189	2.3999660	21	12 27.2	20.6
507235 2011 AZ ₄₅	18.5	X	325.30514	179.06308	255.72808	1.69024	0.1709927	0.26295422	2.4129553	21	12 20.5	20.5
507236 2011 AX ₅₁	18.7	X	272.84472	196.95777	313.21864	1.31270	0.1634791	0.26388524	2.4072765	21	12 26.6	21.0
507237 2011 AB ₅₈	18.1	X	262.41912	353.54102	149.37111	2.91080	0.1672433	0.26213418	2.4179850	21	11 28.5	20.8
507238 2011 AZ ₆₈	18.4	X	277.85801	188.57755	285.12743	1.84697	0.1518532	0.25770191	2.4456311	21	11 12.5	20.8
507239 2011 BA ₁₅	18.0	X	283.20910	2.61171	141.26807	5.65740	0.1419483	0.26369968	2.4084057	21	—	—
507240 2011 BP ₁₇	17.7	X	285.66709	9.04780	112.41290	2.49850	0.0928586	0.26271631	2.4144119	21	12 16.3	20.2
507241 2011 BS ₂₆	17.8	X	333.83777	322.24216	115.80349	2.93698	0.1680282	0.26785235	2.3834483	21	—	—
507242 2011 BA ₃₅	17.9	X	266.46784	194.66565	130.40082	3.82883	0.1731103	0.26138790	2.4225852	21	12 5.6	20.5
507243 2011 BZ ₄₇	17.4	X	271.44970	172.71216	303.55314	13.92838	0.0374054	0.25525202	2.4612549	21	11 19.3	20.8
507244 2011 BD ₈₀	18.1	X	254.12797	68.98967	95.38459	3.61690	0.1673762	0.26303803	2.4124428	21	12 14.9	20.7
507245 2011 BC ₈₁	17.8	X	208.98872	48.48457	153.70636	8.16057	0.1710009	0.25812992	2.4429270	21	12 7.8	21.5
507246 2011 BF ₈₈	16.0	X	146.36180	355.48431	92.57252	4.48299	0.1934445	0.12643535	3.9314889	21	5 22.3	22.3
507247 2011 BV ₈₈	17.6	X	352.00089	94.76412	329.69452	2.99174	0.1009249	0.26500524	2.4004891	21	—	—
507248 2011 BP ₉₄	18.0	X	2.32790	76.59754	314.70431	8.25138	0.2415787	0.26774024	2.3841137	21	—	—
507249 2011 BZ ₁₀₀	18.1	X	319.19016	156.36839	311.13389	3.32902	0.1397505	0.26578252	2.3958067	21	—	—
507250 2011 BQ ₁₀₃	15.9	X	102.55276	65.06703	72.03609	2.12363	0.1263973	0.12361386	3.9910878	21	5 30.7	21.6
507251 2011 BP ₁₁₀	17.6	X	54.02909	31.04425	261.25287	6.12312	0.1962404	0.23724581	2.5842648	21	10 28.3	21.1
507252 2011 BR ₁₁₂	16.9	X	34.58310	21.09716	302.00060	10.84441	0.1220485	0.24254053	2.5465166	21	10 28.8	20.3
507253 2011 BP ₁₁₈	18.6	X	311.11295	70.49147	57.33958	4.78550	0.1941486	0.27135318	2.3629041	21	—	—
507254 2011 BL ₁₂₄	17.6	X	253.62660	158.54584	359.01382	7.60445	0.0726972	0.26051152	2.4280153	21	12 18.7	20.7
507255 2011 BD ₁₄₆	17.5	X	61.35054	334.94369	314.32632	13.78255	0.0967403	0.24626251	2.5207930	21	10 14.1	21.1
507256 2011 BE ₁₆₄	17.6	X	215.97393	23.43898	178.37521	6.56900	0.0793314	0.26029399	2.4293679	21	12 25.9	20.9
507257 2011 CQ ₂	18.6	X	304.27021	336.33664	136.26770	2.86433	0.1670811	0.26602381	2.3943577	21	—	—
507258 2011 CV ₃₆	18.4	X	268.55733	156.59065	336.93927	0.77693	0.1345559	0.25969562	2.4330982	21	11 28.8	21.1
507259 2011 CS ₄₀	17.8	X	234.50957	66.20563	117.34954	2.25519	0.1415475	0.26109084	2.4244224	21	12 17.0	20.8
507260 2011 CT ₄₅	17.6	X	350.76620	52.87633	4.35792	6.20595	0.1166023	0.26322357	2.4113090	21	—	—
507261 2011 CO ₄₆	18.2	X	128.30595	216.67798	321.46702	12.60087	0.2530289	0.41560199	1.7783516	21	9 1.5	20.8
507262 2011 CV ₅₂	18.7	X	40.80207	215.74842	325.33650	16.45549	0.0849567	0.39855971	1.8286915	21	3 10.7	19.8
507263 2011 CU ₅₈	18.7	X	334.27644	303.89216	147.37206	1.64489	0.1457532	0.26738866	2.3862030	21	—	—
507264 2011 CE ₆₂	18.1	X	245.78390	321.92463	183.12891	1.77591	0.1211679	0.25486887	2.4637210	21	11 13.2	21.0
507265 2011 CL ₁₁₂	18.3	X	307.08129	180.35280	288.42513	3.94648	0.1274288	0.26300943	2.4126176	21	—	—
507266 2011 CP ₁₁₄	16.8	X	357.16220	29.14146	298.73552	7.03310	0.1872557	0.23676754	2.5877438	21	9 6.1	19.1
507267 2011 DZ ₁₁	18.1	X	225.18006	282.14786	346.33728	18.86498	0.0504266	0.36981280	1.9222716	21	—	—
507268 2011 DO ₄₂	18.2	X	359.63614	0.59808	154.39528	21.81109	0.0557519	0.37784629	1.8949275	21	—	—
507269 2011 DK ₄₈	18.4	X	311.26348	338.32941	130.79765	2.18653	0.1411685	0.26242882	2.4161748	21	—	—
507270 2011 EL ₁	17.7	X	264.57039	334.07330	167.15516	2.36195	0.1304649	0.25929047	2.4356320	21	12 4.4	20.3
507271 2011 EB ₁₄	17.1	X	66.72534	228.75072	32.12567	7.20630	0.2246700	0.22236405	2.6983172	21	10 8.4	20.9
507272 2011 EK ₃₆	17.5	X	186.50588	260.74238	5.43502	14.51827	0.1119732	0.26046695	2.4282923	21	—	—
507273 2011 ET ₄₄	18.3	X	264.22136	38.24915	116.57592	5.95250	0.1820570	0.25878990	2.4387718	21	12 14.5	20.9
507274 2011 EV ₄₇	16.9	X	26.30655	306.76095	30.23183	12.96930	0.1788199	0.24224113	2.5486144	21	11 15.5	19.9
507275 2011 EJ ₆₆	18.4	X	307.47492	192.8								

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507281 2011 FE ₁₀₂	17.0	X	119.09226	193.94850	317.72259	12.11320	0.0868201	0.22059838	2.7126963	21	7 1.4	21.0
507282 2011 FG ₁₅₀	16.8	X	174.21060	176.86521	44.21907	14.73174	0.1409933	0.24306573	2.5428470	21	11 23.9	20.8
507283 2011 GU ₄₀	17.4	X	290.89818	49.82551	81.22055	9.40833	0.1571381	0.25845568	2.4408738	21	12 31.8	19.8
507284 2011 GO ₄₆	17.6	X	133.90582	201.23529	28.09746	9.42969	0.0834764	0.23807326	2.5782734	21	10 26.2	21.3
507285 2011 HW ₂₀	17.2	X	272.18852	181.69262	240.70862	10.05174	0.0277380	0.22586703	2.6703457	21	9 4.1	20.9
507286 2011 HW ₃₁	16.9	X	110.86713	145.24686	99.85656	12.22316	0.0849817	0.22759100	2.6568436	21	10 26.1	21.0
507287 2011 HL ₄₃	17.8	X	198.33059	279.24399	74.45814	22.66310	0.0970300	0.37557275	1.9025672	21	2 24.7	20.7
507288 2011 HX ₅₁	17.5	X	220.48493	52.16248	116.99279	12.51785	0.1194665	0.24071886	2.5593478	21	11 15.3	21.3
507289 2011 HG ₆₁	17.8	X	125.28029	348.70524	88.97468	24.43955	0.0165661	0.37926097	1.8902124	21	3 9.8	20.4
507290 2011 HZ ₆₁	18.7	X	317.93912	55.34810	195.26765	22.61528	0.0033548	0.38093400	1.8846739	21	2 23.6	21.0
507291 2011 HK ₇₅	17.6	X	212.87275	65.77809	106.46026	12.15849	0.1021867	0.24366467	2.5386784	21	11 12.9	21.4
507292 2011 HZ ₈₃	17.1	X	68.98803	165.32846	79.91941	10.45478	0.1509465	0.21628704	2.7486264	21	9 14.3	21.1
507293 2011 JG ₉	18.4	X	21.81061	298.03228	201.83916	20.85250	0.0767298	0.37135024	1.9196623	21	—	—
507294 2011 JJ ₉	16.5	X	309.30552	247.52149	84.20405	16.28010	0.1630927	0.20434758	2.8546731	21	6 10.0	20.0
507295 2011 KJ ₁₁	17.0	X	179.23850	145.84792	53.97548	12.89258	0.1878745	0.23594778	2.5937341	21	11 3.3	21.2
507296 2011 KM ₁₉	17.6	X	346.01692	331.69584	253.82179	18.75641	0.0932376	0.38104564	1.8843058	21	2 6.6	19.8
507297 2011 KB ₃₁	17.6	X	178.80391	109.10066	92.26150	3.54916	0.1574415	0.23495851	2.6010094	21	11 5.5	21.7
507298 2011 KV ₃₃	16.9	X	35.42951	64.67115	225.07009	7.58731	0.1865145	0.21345103	2.7729192	21	9 22.6	20.3
507299 2011 KS ₃₇	16.0	X	297.16979	113.91294	233.55660	13.71345	0.1708547	0.20486527	2.8498619	21	6 11.2	19.8
507300 2011 KS ₄₀	17.4	X	172.99141	194.08262	7.84337	1.63692	0.0984296	0.23151261	2.6267553	21	11 1.2	21.4
507301 2011 LY ₇	16.8	X	359.82569	313.91371	79.82005	12.54432	0.1202940	0.23501141	2.6006191	21	12 12.9	19.5
507302 2011 LL ₁₂	17.4	X	41.18709	89.06802	202.13213	4.44718	0.1446760	0.21579134	2.7528341	21	9 29.3	20.8
507303 2011 LO ₁₂	17.0	X	43.43709	53.85042	222.11326	11.94502	0.1755724	0.21288491	2.7778330	21	9 12.9	20.7
507304 2011 LM ₁₈	18.1	X	58.06725	245.64867	230.67199	18.52874	0.1170892	0.37033776	1.9204546	21	—	—
507305 2011 LO ₁₁	17.1	X	319.88103	85.10539	241.86811	2.15953	0.1773752	0.19199048	2.9758857	21	6 18.7	20.5
507306 2011 OH ₁₇	16.1	X	223.60277	277.70854	299.59902	13.82700	0.0703487	0.23256366	2.6188350	21	—	—
507307 2011 OO ₆₀	14.1	X	266.82383	101.27287	266.48027	9.69922	0.10709882	0.08593009	5.0859551	21	6 16.2	20.8
507308 2011 OQ ₆₀	16.5	X	271.41800	42.95775	325.47922	12.48617	0.1879103	0.18456692	3.0551566	21	6 2.7	21.3
507309 2011 PJ ₁₁	17.0	X	326.35560	131.77100	184.62505	9.55597	0.0811708	0.18947169	3.0022015	21	6 26.7	21.0
507310 2011 QF ₉	15.9	X	295.57548	168.93341	168.41281	26.37181	0.2638209	0.18178818	3.0862111	21	5 18.3	20.7
507311 2011 QP ₂₁	15.5	X	268.15861	332.35940	319.57287	18.96021	0.1208330	0.16309852	3.3176918	21	3 3.5	20.7
507312 2011 QS ₂₂	16.2	X	273.60150	7.04085	315.62673	15.06089	0.2827244	0.17502392	3.1652239	21	3 25.0	21.6
507313 2011 QW ₂₈	17.3	X	311.91095	75.78042	237.41554	2.78584	0.3162126	0.18376789	3.0640061	21	4 25.7	21.4
507314 2011 QH ₃₇	16.9	X	355.89728	213.24402	91.61975	2.30792	0.1931602	0.19185056	2.9773325	21	7 29.2	19.8
507315 2011 QF ₄₀	16.0	X	244.98485	119.90480	188.57517	6.17922	0.1390024	0.16362621	3.3105550	21	3 2.9	21.2
507316 2011 QS ₆₅	16.2	X	283.52213	71.22665	287.72204	15.31069	0.1474691	0.18353401	3.0666086	21	6 12.9	20.6
507317 2011 QO ₆₇	15.9	X	253.19826	28.83367	20.68199	19.06919	0.2901702	0.18030998	3.1030554	21	6 24.8	21.4
507318 2011 QY ₇₃	17.0	X	265.85735	115.89421	280.22586	5.28282	0.1765287	0.18393376	3.0621638	21	7 4.4	21.6
507319 2011 QH ₇₉	16.0	X	238.54022	232.39109	155.78222	22.45346	0.1213990	0.17629394	3.1500041	21	6 5.2	21.3
507320 2011 RR ₁₅	17.0	X	336.25412	34.84116	280.03413	7.22171	0.0478658	0.18769440	3.0211237	21	7 12.5	21.0
507321 2011 RM ₁₈	17.0	X	212.95137	247.86969	187.13799	8.66406	0.1757573	0.17466554	3.1695521	21	6 29.4	22.3
507322 2011 RG ₁₉	16.4	X	268.87801	333.90750	29.34533	9.65396	0.0960028	0.17544355	3.1601748	21	6 5.8	21.0
507323 2011 SD ₁₄	16.1	X	218.19785	173.90576	298.12268	9.03251	0.0284450	0.19524686	2.9427047	21	8 29.4	20.4
507324 2011 SE ₅₀	17.7	X	256.75853	226.05664	185.98842	6.35888	0.1491433	0.18452894	3.0555758	21	7 16.6	22.2
507325 2011 SS ₉₀	16.9	X	292.56926	117.72326	209.13674	12.71089	0.3027710	0.17453490	3.1711335	21	4 22.7	21.6
507326 2011 SC ₁₀₅	16.0	X	289.76716	129.81088	220.34963	18.94595	0.2132495	0.17551481	3.1593195	21	5 30.8	20.5
507327 2011 SB ₁₂₄	16.3	X	238.92359	231.59523	193.84353	16.62859	0.2051252	0.17685505	3.1433380	21	7 7.6	21.6
507328 2011 SL ₁₃₁	15.9	X	206.80853	75.50672	26.82972	26.39956	0.2658147	0.17349073	3.1838447	21	8 2.6	21.9
507329 2011 SN ₁₉₈	16.4	X	258.29931	264.30784	165.12506	13.55661	0.1141646	0.18941673	3.0027822	21	8 14.2	20.7
507330 2011 SO ₂₀₃	16.9	X	215.27034	88.79480	346.70176	24.73770	0.2973734	0.17280540	3.1922569	21	6 30.7	23.0
507331 2011 SC ₂₁₅	16.8	X	238.07410	225.37217	202.00292	27.27362	0.2183474	0.17396472	3.1780587	21	7 5.8	22.5
507332 2011 SP ₂₃₅	16.3	X	6.25531	66.79922	225.78482	9.56161	0.0842266	0.18033751	3.1027397	21	7 24.9	20.5
507333 2011 SB ₂₇₈	17.0	X	271.06142	264.89833	138.35659	2.60407	0.0300632	0.18497755	3.0506335	21	8 10.3	21.2
507334 2011 UX ₁	16.7	X	213.40784	176.91503	265.00890	3.52654	0.1780089	0.17154651	3.2078554	21	7 8.4	21.9
507335 2011 UJ ₁₃	16.1	X	259.10709	321.83018	61.50751	17.73259	0.2187487	0.17604459	3.1529779	21	6 4.9	21.2
507336 2011 UO ₂₂	16.8	X	229.90391	176.01026	160.01257	6.40946	0.1122850	0.17625347	3.1504863	21	7 21.2	21.6
507337 2011 UB ₅₉	16.6	X	293.58621	203.70646	134.54771	3.01474	0.2326287	0.17746806	3.1360953	21	5 18.3	20.9
507338 2011 UK ₆₂	16.5	X	177.78079	259.96491	231.38703	8.47849	0.0536879	0.17917195	3.1161812	21	8 4.1	21.2
507339 2011 UR ₇₁	16.9	X	276.48360	102.18491	250.38149	5.31564	0.1419239	0.17498780	3.1656595	21	5 27.6	21.3
507340 2011 UF ₉₃	16.5	X	0.58859	92.63372	208.56239	14.50614	0.1225870	0.18294425	3.0731956	21	7 26.9	20.5
507341 2011 UX ₁₁₁	16.9	X	246.69423	171.72826	232.88095	11.71344	0.0693770	0.17477624	3.1682136	21	7 4.8	21.7
507342 2011 UQ ₁₃₀	15.9	X	286.08315	87.39047	244.66109	24.46927	0.2853373	0.17332540	3.1858690	21	4 21.5	21.0
507343 2011 UR ₁₄₈	16.8	X	260.56271	215.12128	224.85691	7.36532	0.2573033	0.18042785	3.1017038	21	8 9.5	21.7
507344 2011 UC ₁₉₅	16.4	X	267.88999	344.96604	30.78523	12.61861	0.2040770	0.17614630	3.1517640	21	6 5.5	21.3
507345 2011 UQ ₂₅₉	18.0	X	291.36942	209.28121	39.69335	20.82097	0.0391973	0.34303168	2.0210632	21	1 27.5	20.9
507346 2011 UJ ₂₇₀	16.4	X	288.90765	238.96416	90.72889	6.91585	0.1544254	0.17068453	3.2186464	21	5 14.2	21.0
507347 2011 UG ₃₂₅	16.8	X	250.54797	187.46999	215.33148	10.07981	0.0878068	0.17517543	3.1633986	21	7 5.1	21.5
507348 2011 UK ₃₂₉	16.7	X	257.97599	137.83301	248.16622	25.65606	0.1813859	0.17435816	3.1732762	21	6 11.6	21.6
507349 2011 US ₃₃₀	16.0	X	215.24801	54.92632	86.14414	21.37855	0.1814999	0.18248374	3.0783638	21	10 1.5	21.3
507350 2011 UO ₃₃₇	17.0	X	245.00023	185.72649	209.61146	7.02459	0.1850228	0.17466763	3.1695269	21	6 10.9	22.0
507351 2011 UU ₃₃₇	16.4	X	268.77209	351.32286	31.13982	10.85936	0.1031213	0.17659809	3.1463864	21	7 1.1	21.1
507352 2011 UW ₃₆₁	16.1	X	238.19321	223.88647	241.99173	14.76183	0.1651746	0.17869181	3.1217607	21	8 24.9	21.2
507353 2011 US ₃₈₅	16.4	X	221.39365	205.63981	287							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507361 2011 <i>WH</i> ₁₂₄	17.6	X	189.38210	326.66166	136.19655	2.54060	0.3454849	0.16259910	3.3244817	21	7 10.4	23.7
507362 2011 <i>WN</i> ₁₄₆	15.9	X	226.92587	10.90347	79.82889	28.27285	0.1420830	0.17037203	3.2225811	21	8 8.0	21.3
507363 2011 <i>WM</i> ₁₅₀	16.1	X	293.75778	306.80371	128.37702	9.66965	0.0845599	0.18899257	3.0072732	21	10 18.2	20.1
507364 2011 <i>WE</i> ₁₅₃	16.4	X	249.89359	356.51692	119.42237	13.77830	0.1159984	0.18560112	3.0437968	21	10 8.9	21.0
507365 2011 <i>WY</i> ₁₅₇	15.6	X	4.51345	248.68137	83.22526	19.44705	0.2065140	0.18194588	3.0844275	21	10 7.3	19.4
507366 2011 <i>XO</i> ₃	16.8	X	207.48343	209.80154	321.31182	23.90210	0.6614587	0.16932245	3.2358846	21	9 15.8	23.9
507367 2011 <i>YW</i> ₂₁	15.7	X	258.45016	187.22418	271.56262	24.08006	0.1912031	0.17689484	3.1428665	21	8 27.9	20.9
507368 2011 <i>YQ</i> ₄₂	15.8	X	186.84416	284.19637	285.27641	24.30796	0.2664877	0.17893964	3.1188776	21	11 5.1	21.7
507369 2011 <i>YM</i> ₆₆	18.8	X	13.72062	108.07120	354.72943	4.73747	0.0910563	0.31272680	2.1496082	21	—	—
507370 2011 <i>YF</i> ₇₅	14.2	X	290.88756	22.21063	93.71643	8.44316	0.0676167	0.08245322	5.2279444	21	11 15.2	21.0
507371 2012 <i>AL</i> ₂₁	15.5	X	220.01937	174.59105	300.81630	27.52454	0.1460630	0.16941914	3.2346532	21	8 16.9	20.8
507372 2012 <i>BO</i> ₃₄	15.2	X	204.90483	232.90050	308.03204	21.88031	0.1167720	0.17581272	3.1557495	21	10 20.9	20.6
507373 2012 <i>BG</i> ₉₉	18.9	X	342.06285	155.04786	326.43394	2.04544	0.1311657	0.30620481	2.1800245	21	—	—
507374 2012 <i>CA</i> ₁₇	18.6	X	295.25761	46.90902	125.54656	3.41963	0.1414187	0.30190752	2.2006624	21	—	—
507375 2012 <i>CR</i> ₃₄	18.8	X	281.18290	211.39275	323.09131	3.57847	0.1020633	0.29996593	2.2101484	21	—	—
507376 2012 <i>CB</i> ₅₈	18.1	X	295.66075	38.52678	125.37861	6.45969	0.0347598	0.29962781	2.2118108	21	—	—
507377 2012 <i>DO</i> ₂₀	17.9	X	140.44416	280.89318	320.85254	4.48931	0.1591879	0.27249312	2.3563096	21	11 22.3	21.7
507378 2012 <i>DW</i> ₂₂	17.8	X	211.13261	297.21250	280.22288	2.69271	0.1137428	0.28598092	2.2816272	21	—	—
507379 2012 <i>DK</i> ₇₁	18.4	X	260.84718	237.86624	297.89397	6.50769	0.0758087	0.29181553	2.2511121	21	—	—
507380 2012 <i>DA</i> ₁₀₀	18.3	X	296.48571	332.21472	160.30155	5.99055	0.0823291	0.28995083	2.2607532	21	—	—
507381 2012 <i>EH</i>	18.8	X	312.85194	266.13608	217.67813	5.64539	0.1024970	0.29406886	2.2395978	21	—	—
507382 2012 <i>EZ</i> ₁₈	17.4	X	20.42375	64.96078	204.80732	15.11601	0.1653973	0.23405485	2.6077000	21	7 24.4	20.5
507383 2012 <i>FV</i> ₃₉	17.7	X	176.42664	331.68454	276.26683	4.81734	0.1364919	0.27890082	2.3200794	21	—	—
507384 2012 <i>FU</i> ₅₀	18.3	X	145.33379	221.67435	43.85629	6.50291	0.1106879	0.27640753	2.3340105	21	12 28.9	21.8
507385 2012 <i>FS</i> ₅₉	17.8	X	115.20135	160.52065	95.84827	2.97157	0.1695835	0.26363721	2.4087861	21	11 18.3	21.6
507386 2012 <i>FZ</i> ₆₇	17.4	X	38.13776	329.06129	41.92941	7.40526	0.1125373	0.27966922	2.3158278	21	—	—
507387 2012 <i>HM</i> ₈₂	17.6	X	197.65806	333.58822	274.09246	4.55506	0.2013238	0.28607560	2.2811237	21	—	—
507388 2012 <i>FB</i> ₈₅	17.1	X	5.12795	244.15710	71.39733	9.88078	0.1722989	0.23885665	2.5726329	21	9 14.1	19.8
507389 2012 <i>GA</i> ₁₄	17.9	X	124.41058	18.42521	234.19516	2.18454	0.1372724	0.26304453	2.4124030	21	11 20.3	21.6
507390 2012 <i>GT</i> ₂₆	17.8	X	132.78099	60.40321	217.96339	1.20215	0.1350856	0.26946923	2.3739046	21	12 30.5	21.5
507391 2012 <i>GP</i> ₃₃	17.6	X	92.38918	247.65690	61.65930	2.91651	0.1729233	0.26685351	2.3893922	21	—	—
507392 2012 <i>GF</i> ₃₉	17.8	X	263.07418	130.90196	64.45717	7.47377	0.1204793	0.28937068	2.2637738	21	—	—
507393 2012 <i>HB</i> ₃₅	18.0	X	172.33571	66.41578	149.71296	6.68638	0.0742460	0.26744693	2.3858564	21	11 26.7	21.4
507394 2012 <i>HA</i> ₄₀	17.1	X	185.47062	162.26489	73.99778	25.35472	0.2352224	0.27289214	2.3540121	21	12 20.6	21.0
507395 2012 <i>HF</i> ₄₉	18.4	X	236.90796	292.70811	266.98041	0.50101	0.1670218	0.28391857	2.2926628	21	—	—
507396 2012 <i>HM</i> ₅₆	17.1	X	30.02822	242.50174	18.29826	12.41805	0.2460145	0.23307502	2.6150032	21	8 23.5	19.8
507397 2012 <i>HN</i> ₆₈	18.4	X	252.34410	93.24820	107.06149	6.22187	0.1701197	0.28519615	2.2858108	21	—	—
507398 2012 <i>HO</i> ₇₁	18.1	X	209.75608	359.47715	228.80731	3.62319	0.1987899	0.27851900	2.3221994	21	—	—
507399 2012 <i>JN</i> ₇	17.6	X	64.56840	78.79833	241.25219	5.65434	0.1208372	0.25768599	2.4457318	21	12 10.4	21.0
507400 2012 <i>JT</i> ₉	18.0	X	118.17017	220.51470	52.09921	1.63263	0.1317161	0.26019816	2.4299643	21	12 8.3	21.7
507401 2012 <i>JY</i> ₁₉	17.5	X	229.17534	148.43379	64.32053	24.27996	0.1366400	0.27989781	2.3145668	21	—	—
507402 2012 <i>JW</i> ₃₆	18.3	X	256.24656	126.04843	69.20593	3.22990	0.1648168	0.28323063	2.2963737	21	—	—
507403 2012 <i>JT</i> ₃₇	18.2	X	279.48807	97.74376	64.52389	10.26247	0.1530068	0.28404419	2.2919868	21	—	—
507404 2012 <i>KN</i> ₉	17.7	X	116.13079	150.59310	109.52670	3.35348	0.1908152	0.25825874	2.4421145	21	11 24.1	21.6
507405 2012 <i>KP</i> ₁₅	17.9	X	133.32805	64.88067	191.72800	6.04886	0.0861225	0.26040749	2.4286619	21	12 3.3	21.4
507406 2012 <i>KL</i> ₂₂	18.1	X	61.41021	178.99586	139.11930	3.20739	0.1916703	0.25513071	2.4620350	21	12 12.9	21.5
507407 2012 <i>KY</i> ₂₄	17.7	X	151.06173	146.00345	86.49980	3.43376	0.1411345	0.26358178	2.4091238	21	11 21.2	21.5
507408 2012 <i>KY</i> ₅₁	17.0	X	333.40783	273.14815	97.30292	13.90248	0.1476983	0.24224431	2.5485921	21	10 3.3	19.9
507409 2012 <i>LM</i> ₁₆	17.2	X	26.63242	223.13425	99.18278	4.00866	0.2164333	0.24234633	2.5478767	21	11 6.3	20.0
507410 2012 <i>LD</i> ₂₃	17.9	X	200.32473	112.21562	105.95510	7.52178	0.0612087	0.26908315	2.3761747	21	—	—
507411 2012 <i>MQ</i> ₆	16.7	X	26.66979	264.79606	85.41357	28.71914	0.3621741	0.23408066	2.6075082	21	12 31.4	20.2
507412 2012 <i>OK</i>	17.1	X	346.14336	172.33627	152.59829	21.62573	0.3092064	0.21724795	2.7405154	21	7 31.3	19.1
507413 2012 <i>OC</i> ₄	16.6	X	4.85695	153.62548	141.38051	18.92212	0.3035642	0.22298390	2.6933144	21	8 14.9	17.9
507414 2012 <i>PE</i>	18.3	X	157.98168	228.41591	287.49444	20.62864	0.0389256	0.44279512	1.7047767	21	8 20.0	20.2
507415 2012 <i>PY</i> ₆	16.7	X	72.39243	16.85174	267.33465	15.35749	0.1410076	0.23549592	2.5970509	21	10 29.9	20.7
507416 2012 <i>PL</i> ₁₀	17.4	X	91.05948	111.33317	171.87933	13.30731	0.1901194	0.24030626	2.5622765	21	11 28.9	21.6
507417 2012 <i>PH</i> ₁₇	17.5	X	56.33816	271.75135	13.93551	6.01638	0.0843858	0.22979381	2.6398374	21	10 6.5	20.8
507418 2012 <i>PR</i> ₂₀	17.6	X	334.42248	43.09319	301.05178	2.40877	0.1049558	0.21467602	2.7623605	21	8 16.4	20.6
507419 2012 <i>PW</i> ₂₉	17.5	X	7.66641	298.06951	41.68287	4.77985	0.0738468	0.22889365	2.6467538	21	10 8.1	20.6
507420 2012 <i>PG</i> ₃₀	17.0	X	43.75803	162.21882	144.21074	6.66858	0.2461093	0.23253727	2.6190332	21	11 13.4	20.5
507421 2012 <i>PS</i> ₃₀	16.2	X	8.59719	305.36680	11.61475	13.53863	0.2871173	0.22212151	2.7002811	21	9 30.9	18.3
507422 2012 <i>QB</i> ₁₇	20.1	X	156.62142	147.47555	232.53108	5.74917	0.3687926	0.38872315	1.8594126	21	2 27.1	22.8
507423 2012 <i>QS</i> ₂₂	17.3	X	347.21226	59.32726	308.75531	4.67481	0.0539197	0.22440099	2.6819635	21	10 9.4	20.7
507424 2012 <i>QT</i> ₂₈	17.7	X	12.93517	82.91826	227.77146	6.80885	0.2110967	0.21971836	2.7199347	21	9 15.2	20.4
507425 2012 <i>QQ</i> ₃₃	17.3	X	289.96895	210.04733	195.94624	9.83936	0.1259497	0.21380891	2.7698241	21	8 24.6	20.9
507426 2012 <i>QA</i> ₃₆	16.9	X	252.71707	234.38875	201.66045	7.36665	0.1285495	0.21025831	2.8009193	21	8 14.1	20.9
507427 2012 <i>QD</i> ₃₇	16.7	X	355.04154	137.69326	208.88460	12.06162	0.1388939	0.22037098	2.7145621	21	9 25.7	19.6
507428 2012 <i>QL</i> ₃₇	17.1	X	325.45690	52.33268	283.98488	7.95129	0.1639327	0.20857511	2.8159681	21	7 13.7	20.3
507429 2012 <i>QQ</i> ₅₂	17.0	X	13.50089	56.52313	237.27222	7.29722	0.0744373	0.21198655	2.7856754	21	8 8.1	20.5
507430 2012 <i>RR</i> ₄	17.1	X	359.41724	192.92480	138.27684	6.67161	0.1383274	0.21741627	2.7391008	21	9 15.7	20.0
507431 2012 <i>RR</i> ₇	16.7	X	315.12611	17.48871	354.40226	7.80281	0.2342675	0.21383447	2.7696033	21	8 7.9	19.5
507432 2012 <i>RY</i> ₈	16.9	X	337.83084	144.10736	209.87963	12.537						

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507441 2012 SE ₄₀	17.4	X	347.75617	356.03034	339.46973	4.11571	0.0824028	0.21326355	2.7745441	21	8 28.2	20.6
507442 2012 SR ₄₀	16.9	X	294.97428	208.49640	188.34857	13.53312	0.1792986	0.21138819	2.7909297	21	8 10.5	20.6
507443 2012 SL ₄₅	16.9	X	2.00994	173.64001	147.37389	6.62627	0.1646111	0.21636657	2.7479528	21	9 6.4	19.5
507444 2012 ST ₄₉	17.0	X	333.18214	277.68210	42.22979	2.60937	0.0581592	0.20311124	2.8662457	21	7 15.1	20.5
507445 2012 SF ₆₈	16.9	X	35.33549	64.35660	234.77774	4.14534	0.0293004	0.21111929	2.7932991	21	9 13.3	20.6
507446 2012 TR ₁₆	17.4	X	347.32550	145.05573	189.01417	4.96179	0.0831156	0.20963281	2.8064882	21	8 23.5	20.9
507447 2012 TG ₃₁	17.1	X	3.68858	91.43255	223.53504	26.03159	0.2103228	0.21489309	2.7605000	21	8 23.2	20.5
507448 2012 TC ₃₈	16.9	X	329.32621	86.50081	267.67345	3.24169	0.0861768	0.20940774	2.8084987	21	8 21.7	20.4
507449 2012 TU ₃₉	17.1	X	29.26914	75.12035	212.97380	14.72272	0.1907196	0.21353889	2.7721585	21	9 8.5	20.5
507450 2012 TD ₅₄	16.5	X	222.35696	140.37332	257.45370	9.36064	0.1386312	0.18278218	3.0750120	21	5 26.0	21.3
507451 2012 TS ₆₆	16.7	X	262.41094	102.95686	24.67216	11.83837	0.0463890	0.22344255	2.6896274	21	11 15.1	20.3
507452 2012 TH ₈₄	17.1	X	309.00546	0.51655	357.77637	1.65734	0.0834643	0.20290999	2.8681405	21	7 28.0	20.6
507453 2012 TW ₈₆	17.5	X	238.70460	176.72416	271.87900	1.03305	0.0274872	0.20672759	2.8327207	21	8 28.7	21.4
507454 2012 TC ₁₃₁	17.1	X	357.48613	341.51882	35.21301	14.98773	0.2561429	0.22426581	2.6830412	21	11 26.3	19.6
507455 2012 TJ ₁₃₉	16.2	X	226.12961	153.55616	243.43659	14.16381	0.0540358	0.18038415	3.1022048	21	6 4.5	20.8
507456 2012 TY ₁₄₁	17.7	X	274.72288	41.78591	31.83468	2.83528	0.1608620	0.20989860	2.8041185	21	9 7.0	21.3
507457 2012 TD ₁₄₂	17.5	X	31.39507	319.90300	340.60158	2.57742	0.162310	0.22133507	2.7066736	21	9 30.6	20.7
507458 2012 TV ₁₄₂	16.7	X	355.69248	192.46943	143.78404	9.22708	0.1877303	0.21389241	2.7691032	21	9 18.4	19.3
507459 2012 TW ₁₄₆	17.2	X	252.35122	172.92775	217.16088	8.08731	0.1579410	0.19789962	2.9163485	21	6 13.9	21.7
507460 2012 TO ₁₄₇	16.4	X	320.15853	205.37701	222.54871	12.95782	0.2322523	0.22371721	2.6874257	21	11 13.6	18.4
507461 2012 TD ₁₅₇	17.3	X	298.39303	190.55775	179.71987	1.89939	0.0805107	0.20399871	2.8579268	21	7 27.9	20.9
507462 2012 TS ₁₆₁	17.2	X	87.03921	51.84271	70.36874	5.95154	0.087389	0.21470298	2.7621293	21	9 26.4	20.9
507463 2012 TY ₁₆₈	16.9	X	335.18184	260.17472	29.26371	6.77553	0.0863035	0.20401458	2.8577786	21	8 14.4	20.4
507464 2012 TR ₁₇₅	17.1	X	264.18782	51.85780	14.60020	4.33065	0.0512257	0.21114486	2.7930735	21	8 31.6	20.9
507465 2012 TE ₁₇₆	17.3	X	323.28588	331.83091	3.21742	1.68352	0.0709427	0.20359756	2.8616795	21	7 19.5	20.8
507466 2012 TN ₁₈₇	17.1	X	311.38057	2.09800	53.62487	6.33325	0.2238572	0.21201613	2.7854163	21	10 6.0	19.8
507467 2012 TF ₁₉₉	16.7	X	32.11401	288.77231	6.11082	8.87973	0.1438154	0.21325500	2.7746183	21	9 21.4	20.0
507468 2012 TM ₂₀₈	17.1	X	12.12445	349.41280	15.99820	15.10141	0.1137558	0.22334638	2.6903995	21	11 16.1	20.5
507469 2012 TN ₂₁₅	18.8	X	73.53281	71.72264	33.63463	21.46220	0.1162709	0.38085564	1.8849324	21	1 28.6	20.7
507470 2012 TL ₂₃₉	17.0	X	247.99900	134.02706	334.52204	7.51181	0.1842878	0.21217915	2.7839894	21	9 13.3	20.9
507471 2012 TO ₂₄₀	17.2	X	299.73796	46.79045	38.43440	10.18105	0.2420420	0.21963144	2.7206523	21	10 22.2	20.0
507472 2012 TQ ₂₄₀	17.0	X	326.78824	298.17869	47.83623	6.65642	0.0886182	0.20577324	2.8414725	21	8 10.2	20.5
507473 2012 TR ₂₄₆	17.4	X	311.27457	46.87462	333.43490	3.32393	0.2161745	0.21316302	2.7754164	21	8 13.3	20.4
507474 2012 TQ ₂₅₅	17.3	X	273.97566	85.09985	13.93133	13.26492	0.1753298	0.21409990	2.7673138	21	10 6.8	20.7
507475 2012 TZ ₂₅₈	16.9	X	273.64705	325.23488	2.88307	3.55684	0.2637442	0.18578147	3.0418266	21	4 8.4	21.6
507476 2012 TS ₂₆₀	17.3	X	353.75277	275.50133	70.86954	7.28576	0.0873874	0.21562232	2.7542725	21	9 26.8	20.6
507477 2012 TV ₂₆₁	17.2	X	336.88545	256.20720	69.66414	3.11854	0.0810079	0.20368914	2.8608218	21	7 27.9	20.6
507478 2012 TR ₂₆₂	17.5	X	215.72301	60.30519	34.42565	6.45519	0.2135581	0.19559185	2.9392434	21	7 26.3	22.4
507479 2012 TP ₂₈₈	16.5	X	227.23971	120.99335	267.24922	7.84770	0.1524104	0.18560141	3.0437936	21	5 17.4	21.3
507480 2012 TE ₂₈₉	17.3	X	267.64687	80.34093	317.33847	8.54063	0.1008633	0.19989702	2.8968889	21	7 20.5	21.3
507481 2012 TN ₂₉₃	16.1	X	246.06702	31.00947	14.80789	9.68918	0.0769981	0.19178819	2.9779779	21	7 8.1	20.6
507482 2012 TP ₃₀₆	17.2	X	335.36708	62.06488	287.59514	5.05961	0.0811049	0.21218678	2.7839227	21	8 25.2	20.5
507483 2012 TP ₃₂₅	17.2	X	298.26739	46.81468	351.49067	6.00401	0.0223111	0.21269484	2.7794876	21	9 12.4	21.0
507484 2012 TS ₃₂₅	16.8	X	325.36837	333.95425	126.66391	12.07946	0.0433165	0.23706100	2.5856077	21	—	—
507485 2012 UE ₃	17.1	X	320.69061	269.06949	118.33235	4.42774	0.1022556	0.21455649	2.7633864	21	9 25.8	20.3
507486 2012 UZ ₁₀	17.4	X	308.66838	341.67470	50.09820	5.05087	0.0762278	0.21213478	2.7843776	21	9 15.1	20.8
507487 2012 UC ₁₉	17.4	X	275.68691	351.44655	82.31666	1.62545	0.0490110	0.21408716	2.7674236	21	9 25.7	20.9
507488 2012 UX ₁₉	17.0	X	241.98380	334.61667	137.07077	4.80898	0.0534830	0.21476937	2.7615601	21	10 1.4	20.8
507489 2012 UF ₂₈	16.1	X	153.75062	267.74097	202.87233	16.58827	0.0498913	0.18357042	3.0662031	21	6 14.1	20.9
507490 2012 UZ ₂₈	16.6	X	315.05125	289.39548	84.49057	14.12444	0.2162976	0.21140412	2.7907895	21	8 15.5	19.8
507491 2012 UE ₄₄	16.3	X	264.51426	154.47032	282.38657	12.44150	0.0596169	0.21005491	2.8027272	21	9 4.9	20.4
507492 2012 UY ₅₉	17.0	X	273.67009	93.95451	24.52363	13.01693	0.1586030	0.21914081	2.7247116	21	11 2.1	20.3
507493 2012 UG ₆₂	17.2	X	314.94201	245.19975	115.21369	3.24896	0.0749068	0.19943257	2.9013847	21	8 9.9	20.8
507494 2012 UG ₆₇	16.9	X	318.53557	12.02316	65.25344	15.11718	0.0926047	0.22289326	2.6940445	21	11 28.9	20.0
507495 2012 UB ₇₁	16.8	X	69.58879	222.49677	32.79194	9.35431	0.1070834	0.20937046	2.8088321	21	9 19.0	20.7
507496 2012 UD ₈₉	18.7	X	102.17460	232.39912	223.98905	21.10564	0.0740487	0.38625931	1.8673114	21	2 12.7	21.0
507497 2012 UJ ₉₀	16.9	X	272.01829	66.48636	55.03953	9.70390	0.1585666	0.21596707	2.7513406	21	11 6.4	20.3
507498 2012 UM ₉₁	17.5	X	236.39503	68.85078	24.87864	4.66125	0.0311438	0.20838764	2.8176567	21	9 3.5	21.3
507499 2012 UP ₉₁	17.2	X	332.42508	128.83873	200.47083	1.40241	0.0612040	0.20240755	2.8728851	21	7 25.6	20.7
507500 2012 UB ₁₄₁	16.5	X	77.72233	223.58662	41.56610	13.33851	0.0519468	0.21232714	2.7826957	21	10 5.5	20.4
507501 2012 UG ₁₄₅	16.9	X	41.88732	252.86219	54.10788	7.50800	0.0267056	0.21355038	2.7720591	21	10 7.5	20.6
507502 2012 UR ₁₅₅	16.5	X	179.85407	26.97363	42.35731	17.13671	0.0691474	0.17575877	3.1563952	21	5 21.4	21.3
507503 2012 UZ ₁₅₇	18.4	X	139.55432	169.02106	183.77586	21.25195	0.0899325	0.37403210	1.9077881	21	—	—
507504 2012 UD ₁₆₃	17.3	X	279.49071	239.47275	167.33321	15.31652	0.1454409	0.20405288	2.8574209	21	8 7.6	21.3
507505 2012 UL ₁₆₅	17.3	X	298.98833	109.31168	0.25446	13.92463	0.1995130	0.22264929	2.6960121	21	11 25.8	20.3
507506 2012 UA ₁₇₉	16.6	X	270.47517	307.24749	64.88245	11.29344	0.1200539	0.19120093	2.9840725	21	6 16.2	20.8
507507 2012 VN ₁₂	17.2	X	1.44503	246.84427	65.55334	3.02055	0.0547499	0.20279410	2.8692331	21	8 18.0	20.8
507508 2012 VY ₁₂	17.5	X	4.19798	260.57660	55.93503	4.85159	0.2046775	0.21034899	2.8001143	21	9 8.8	20.1
507509 2012 VP ₁₃	17.4	X	315.42286	303.02846	52.21882	2.85130	0.0841385	0.20183842	2.8782830	21	8 3.2	21.1
507510 2012 VS ₂₀	17.1	X	284.46313	356.28305	22.56715	2.75983	0.0515070	0.19915276	2.9041017	21	7 25.3	20.9
507511 2012 VX ₂₂	17.1	X	214.92018	45.37727	37.66757	6.11724	0.0166972	0.19361957	2.9591697	21	7 25.0	21.3
507512 2012 VA ₂₇	16.8	X	345.54300	286.65783	28.63045	7.87529	0.1735162	0.20421008	2.8559544	21	7 25.4	19.8
507513 2012 VD ₃₁	16.4	X	212.55033	347.61467	63.69687	16.99212	0.15709					

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507521 2012 <i>VD</i> ₇₆	16.4	X	169.88850	244.86007	232.83393	13.34818	0.1677182	0.17906618	3.1174082	21	7 11.2	21.7
507522 2012 <i>VS</i> ₇₈	16.0	X	298.17439	233.31525	76.59952	14.91984	0.1142362	0.18320369	3.0702935	21	5 8.5	20.3
507523 2012 <i>VE</i> ₈₆	17.6	X	349.15774	109.00807	77.87824	24.42716	0.0482576	0.37779699	1.8950924	21	—	—
507524 2012 <i>VT</i> ₉₀	16.2	X	230.66009	190.08022	229.70431	9.76317	0.1186623	0.18660233	3.0328994	21	7 1.3	21.0
507525 2012 <i>VV</i> ₉₁	16.3	X	165.07370	76.57089	72.85010	12.34320	0.1079668	0.19010030	2.9955795	21	8 21.9	21.2
507526 2012 <i>VA</i> ₉₄	16.6	X	357.59125	188.24201	113.02908	10.52244	0.0914773	0.19052927	2.9910815	21	7 26.7	20.1
507527 2012 <i>VK</i> ₁₀₈	16.9	X	223.86313	248.33309	233.95275	17.08569	0.1798742	0.20000278	2.8958676	21	8 30.2	21.9
507528 2012 <i>VM</i> ₁₁₄	16.1	X	221.61592	178.29074	250.40905	12.10081	0.1330179	0.18505162	3.0498194	21	7 1.8	21.0
507529 2012 <i>WW</i>	16.8	X	137.17461	285.04069	231.39986	9.49747	0.0350068	0.18797428	3.0181242	21	7 19.6	21.3
507530 2012 <i>WZ</i> ₇	17.5	X	305.72996	12.74032	45.54172	9.68419	0.1619054	0.20963835	2.8064387	21	10 7.3	20.7
507531 2012 <i>WM</i> ₁₀	16.9	X	205.99414	7.15160	95.61673	0.32062	0.1810373	0.18787141	3.0192257	21	7 27.4	21.8
507532 2012 <i>WS</i> ₁₂	17.3	X	241.75953	286.83592	122.43017	2.14847	0.2154255	0.18817853	3.0159398	21	6 21.7	22.2
507533 2012 <i>WY</i> ₂₆	16.6	X	243.33548	290.30195	93.02382	14.06129	0.3179172	0.18514358	3.0488094	21	5 18.3	22.0
507534 2012 <i>WL</i> ₂₈	18.5	X	210.93439	126.41943	230.71945	20.44527	0.0692456	0.38732402	1.8638878	21	2 20.8	21.3
507535 2012 <i>WB</i> ₃₀	17.1	X	344.92011	239.13354	102.13523	3.14687	0.0812557	0.20279167	2.8692561	21	8 31.8	20.6
507536 2012 <i>XU</i> ₃₃	16.2	X	66.17619	355.91345	250.81936	7.72104	0.0514449	0.18972168	2.9995636	21	8 17.0	20.4
507537 2012 <i>XW</i> ₃₉	17.0	X	224.24623	229.95965	208.47917	1.84157	0.1513297	0.18740700	3.0242116	21	7 16.0	21.6
507538 2012 <i>XK</i> ₄₁	17.2	X	211.73739	201.58485	257.32296	3.88871	0.1248376	0.18726288	3.0257630	21	7 30.2	21.9
507539 2012 <i>XL</i> ₄₆	16.2	X	140.38307	39.70543	87.96406	15.70709	0.1633890	0.17151414	3.2082590	21	6 29.1	21.3
507540 2012 <i>XV</i> ₅₅	18.2	X	289.20539	158.38139	91.00717	25.15349	0.0743670	0.37733282	1.8966462	21	1 4.8	20.3
507541 2012 <i>XP</i> ₅₇	17.2	X	239.88627	8.21872	48.06781	2.71885	0.1860122	0.18945057	3.0024246	21	7 1.4	22.0
507542 2012 <i>XM</i> ₇₀	16.5	X	196.12421	226.58587	211.27937	11.96737	0.1541570	0.17870306	3.1216297	21	6 18.6	21.7
507543 2012 <i>XK</i> ₈₀	16.9	X	123.17379	329.96647	223.27035	14.54530	0.0401937	0.19215776	2.9741584	21	8 16.3	21.5
507544 2012 <i>XS</i> ₉₁	17.2	X	214.10534	134.69901	316.28429	1.49730	0.1451497	0.18768860	3.0211859	21	7 22.6	22.0
507545 2012 <i>XJ</i> ₉₉	16.7	X	239.01993	90.65504	349.41680	4.19341	0.1318918	0.19218552	2.9738721	21	8 5.8	21.1
507546 2012 <i>XZ</i> ₁₀₀	15.9	X	54.15978	304.52967	291.71987	9.25846	0.0975271	0.18251868	3.0779708	21	7 26.9	19.9
507547 2012 <i>XD</i> ₁₀₈	16.9	X	261.39618	140.27987	262.38967	12.31734	0.1741371	0.18996220	2.9970312	21	7 6.7	21.3
507548 2012 <i>XY</i> ₁₁₅	16.6	X	314.25917	214.40480	213.62634	13.18678	0.1760875	0.21344937	2.7729336	21	11 2.0	19.2
507549 2012 <i>XY</i> ₁₁₆	18.0	X	152.63050	172.29633	259.96572	18.73800	0.0807303	0.39222213	1.8483377	21	3 28.9	20.4
507550 2012 <i>XB</i> ₁₃₁	16.2	X	140.85857	72.25677	108.53078	11.05955	0.0493069	0.19045947	2.9918122	21	8 31.3	20.7
507551 2012 <i>XK</i> ₁₄₈	16.2	X	75.48871	136.31808	98.25728	11.20052	0.0360797	0.18949915	3.0019114	21	8 17.7	20.4
507552 2012 <i>XV</i> ₁₅₀	16.2	X	267.21426	117.68919	288.33675	10.59141	0.3033870	0.19116425	2.9844543	21	7 2.8	20.9
507553 2012 <i>XV</i> ₁₅₅	18.0	X	189.22729	243.87052	109.69064	24.45154	0.0956769	0.37252575	1.9129275	21	2 3.9	20.3
507554 2012 <i>YY</i> ₁	16.4	X	264.46818	305.69521	103.61105	13.97062	0.2684049	0.18985698	2.9981383	21	7 8.0	20.9
507555 2012 <i>YR</i> ₅	17.4	X	208.41605	287.35885	316.82166	15.47627	0.0601740	0.34538804	2.0118605	21	—	—
507556 2012 <i>YV</i> ₉	16.8	X	212.50019	129.40601	296.63278	14.22399	0.1167933	0.17251465	3.1958428	21	6 22.7	21.9
507557 2013 <i>AF</i> ₂₀	16.8	X	244.46550	316.99549	117.58661	28.87059	0.4421177	0.18760087	3.0221277	21	7 7.6	22.4
507558 2013 <i>AV</i> ₂₂	15.6	X	236.97327	303.07403	129.09175	27.96344	0.0841930	0.17578592	3.1560702	21	7 28.4	20.2
507559 2013 <i>AM</i> ₂₇	18.4	X	147.92612	342.58939	79.13303	24.96707	0.0903049	0.38194860	1.8813349	21	4 6.6	21.2
507560 2013 <i>AH</i> ₃₇	16.2	X	257.14242	97.95177	295.67697	7.92038	0.0985333	0.17501751	3.1653013	21	7 1.8	20.8
507561 2013 <i>AL</i> ₃₉	18.3	X	153.45544	172.04348	276.88437	18.83892	0.1047822	0.39242046	1.8477149	21	5 4.2	20.8
507562 2013 <i>AE</i> ₄₃	16.2	X	133.48959	52.93267	114.89424	19.89933	0.0875964	0.16923026	3.2370597	21	8 6.2	21.1
507563 2013 <i>AV</i> ₄₅	16.2	X	180.07714	126.15366	325.40554	7.36343	0.0584756	0.16161342	3.3379854	21	6 21.3	21.3
507564 2013 <i>AZ</i> ₆₁	16.5	X	252.78508	58.32694	333.61667	9.33598	0.0335352	0.17430883	3.1738748	21	7 4.0	21.2
507565 2013 <i>AY</i> ₆₃	18.2	X	121.17810	130.75434	292.66803	19.03003	0.1244634	0.37455543	1.9060106	21	2 7.4	19.9
507566 2013 <i>AL</i> ₆₉	18.1	X	260.29760	317.91778	307.82970	17.50420	0.0395239	0.36126615	1.9524707	21	—	—
507567 2013 <i>AX</i> ₇₄	16.2	X	164.82468	41.22589	81.28815	20.99733	0.1465087	0.17119906	3.2121942	21	7 14.9	21.6
507568 2013 <i>AB</i> ₇₇	16.2	X	230.36112	312.91870	138.35564	16.35120	0.1614313	0.18482991	3.0522578	21	8 6.2	20.9
507569 2013 <i>AC</i> ₉₉	16.5	X	189.72224	77.68233	63.84517	9.57526	0.1793764	0.18460153	3.0547747	21	9 2.8	21.7
507570 2013 <i>AP</i> ₉₉	16.1	X	236.76090	302.76518	127.98744	19.26533	0.1792278	0.18203763	3.0833909	21	7 16.6	20.9
507571 2013 <i>AL</i> ₁₀₀	16.6	X	262.96625	294.68572	98.28371	11.34062	0.2227149	0.18389939	3.0625453	21	6 21.7	21.3
507572 2013 <i>AC</i> ₁₀₈	16.2	X	147.35297	34.53947	130.02134	17.51495	0.1399699	0.17370882	3.1811793	21	8 19.7	21.3
507573 2013 <i>AT</i> ₁₀₉	16.5	X	158.48321	225.53217	285.40255	7.84928	0.1226213	0.17383118	3.1796862	21	8 9.9	21.6
507574 2013 <i>AN</i> ₁₁₇	16.7	X	196.78879	34.26512	63.46289	5.98669	0.1382327	0.17352589	3.1834146	21	7 15.1	21.8
507575 2013 <i>AM</i> ₁₂₆	16.3	X	238.62962	138.15674	287.47665	7.99683	0.1258393	0.18158538	3.0885085	21	7 17.3	20.9
507576 2013 <i>AK</i> ₁₂₇	16.8	X	184.13464	44.16928	71.91205	2.68273	0.1306390	0.17547976	3.1597401	21	7 25.6	21.7
507577 2013 <i>AE</i> ₁₅₂	16.4	X	282.90956	126.17028	231.41032	10.49868	0.0427005	0.17028317	3.2237021	21	6 24.9	21.1
507578 2013 <i>AP</i> ₁₅₅	16.9	X	260.85900	148.28708	231.44343	10.63308	0.1179526	0.17290808	3.1909931	21	6 15.5	21.6
507579 2013 <i>AB</i> ₁₅₆	18.1	X	138.09782	132.35115	275.48356	19.82369	0.1002043	0.37472453	1.9054372	21	2 3.5	20.3
507580 2013 <i>AB</i> ₁₅₈	18.2	X	251.43280	182.16087	214.51824	7.57484	0.2478940	0.18027625	3.1034425	21	6 12.4	23.3
507581 2013 <i>AJ</i> ₁₅₈	17.1	X	210.70402	262.44160	178.61530	10.94680	0.1603894	0.17594407	3.1541786	21	7 5.1	22.3
507582 2013 <i>AY</i> ₁₇₁	16.8	X	176.30096	297.03648	185.20435	10.79386	0.0718701	0.17371390	3.1811172	21	7 22.9	21.8
507583 2013 <i>AY</i> ₁₇₃	16.8	X	219.47670	205.58008	225.29468	10.17677	0.1288196	0.17485429	3.1672707	21	7 2.6	21.9
507584 2013 <i>AS</i> ₁₇₅	16.9	X	188.75333	280.90931	190.61193	15.01457	0.1542327	0.17521008	3.1629816	21	7 20.6	22.3
507585 2013 <i>BP</i> ₈	17.3	X	184.59676	162.99353	331.34729	6.27180	0.1916479	0.17908978	3.1171343	21	8 16.0	22.4
507586 2013 <i>BM</i> ₉	16.3	X	229.46163	312.69521	105.35506	12.76660	0.1448109	0.17566497	3.1575188	21	6 27.0	21.2
507587 2013 <i>BN</i> ₂₂	16.6	X	218.98107	86.67201	332.21609	2.00586	0.1570273	0.17231394	3.1983238	21	6 16.9	21.6
507588 2013 <i>BW</i> ₃₁	18.0	X	275.57571	296.43394	313.00047	17.43110	0.0696557	0.36153603	1.9514990	21	—	—
507589 2013 <i>BF</i> ₃₅	17.7	X	132.77775	236.44677	121.30724	24.91273	0.0629214	0.35548148	1.9735951	21	—	—
507590 2013 <i>BP</i> ₃₇	16.6	X	163.71229	316.80387	158.93141	1.21734	0.0664320	0.16780870	3.2553153	21	7 3.0	21.5
507591 2013 <i>BY</i> ₃₉	16.2	X	252.07609	270.70811	135.13574	1						

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507601 2013 CH ₁₆	16.1	X	126.12143	243.74480	338.52999	13.12356	0.2413084	0.17482183	3.1676627	21	10 7.4	21.6
507602 2013 CQ ₂₀	16.4	X	137.66415	86.26583	16.71049	5.17218	0.0533249	0.15383745	3.4495412	21	5 17.8	21.4
507603 2013 CW ₂₅	16.6	X	182.06698	314.57995	165.10395	5.81155	0.0815258	0.17101360	3.2145162	21	7 26.9	21.5
507604 2013 CM ₂₈	15.9	X	246.69867	269.68729	127.75161	32.71607	0.0744817	0.16988093	3.2287887	21	6 30.9	21.0
507605 2013 CE ₃₅	15.9	X	215.18572	161.41855	292.81408	9.47479	0.1826283	0.17551822	3.1592785	21	7 24.3	21.1
507606 2013 CS ₅₅	16.5	X	174.31854	86.42729	43.03720	16.08355	0.1952810	0.17360610	3.1824339	21	8 6.9	22.1
507607 2013 CQ ₅₆	17.2	X	212.69448	231.13131	223.09871	3.70218	0.2503650	0.17546234	3.1599492	21	7 18.3	22.6
507608 2013 CV ₇₈	16.9	X	251.97270	275.40273	126.25534	11.79780	0.1289320	0.17553966	3.1590213	21	7 1.9	21.7
507609 2013 CL ₈₁	16.7	X	234.28471	260.31162	165.83123	19.22402	0.2173657	0.17484567	3.1673748	21	7 4.9	22.2
507610 2013 CV ₉₀	18.8	X	157.26740	38.93129	324.12070	17.77598	0.0808150	0.36107848	1.9531472	21	1 8.7	21.0
507611 2013 CA ₁₁₈	17.0	X	229.19105	296.42780	148.65108	21.12798	0.3532420	0.17912518	3.1167236	21	7 14.5	22.9
507612 2013 CX ₁₂₇	17.8	X	126.89155	236.84166	139.69706	24.74724	0.0931294	0.35601629	1.9716181	21	—	—
507613 2013 CQ ₁₅₃	15.9	X	268.74711	52.22164	343.43581	15.22254	0.2296206	0.17469262	3.1692246	21	7 2.6	20.9
507614 2013 CL ₁₈₃	16.2	X	164.79357	82.05624	72.08155	15.12767	0.2359031	0.17082215	3.2169176	21	8 29.5	22.0
507615 2013 CV ₁₉₀	16.6	X	206.78540	307.52001	157.78244	13.00238	0.1481320	0.17380166	3.1800463	21	7 31.3	21.8
507616 2013 CZ ₂₀₅	16.9	X	183.85028	335.79571	143.18061	9.71038	0.1129898	0.17433337	3.1735769	21	7 27.9	21.9
507617 2013 CL ₂₁₀	16.8	X	197.10981	228.37090	235.08633	4.29106	0.1044326	0.17162271	3.2069058	21	7 21.8	21.9
507618 2013 DM ₄	14.8	X	283.01778	306.85895	324.92189	4.82707	0.1816920	0.12559759	3.9489520	21	2 26.7	20.5
507619 2013 ED ₂₁	16.1	X	163.48337	266.31229	204.37773	9.52968	0.0516915	0.15849456	3.3816330	21	6 25.5	21.2
507620 2013 FP ₁	16.2	X	181.47240	100.41377	60.29570	17.83267	0.0859797	0.17566124	3.1575635	21	9 25.7	21.4
507621 2013 FM ₂	18.2	X	76.55969	296.87259	161.24679	23.78335	0.0610178	0.35678572	1.9687825	21	1 15.5	20.5
507622 2013 FK ₁₅	16.6	X	185.59585	144.91749	35.60460	1.80373	0.1120073	0.17955158	3.1117872	21	10 13.2	21.3
507623 2013 GE ₁₇	16.9	X	205.11240	94.14401	32.57384	10.11242	0.1803621	0.17206946	3.2013527	21	8 28.7	22.2
507624 2013 GX ₁₉	17.9	X	115.48208	29.20232	94.42978	24.91147	0.0719398	0.37555892	1.9026139	21	5 16.9	20.3
507625 2013 GS ₂₉	18.1	X	145.11112	273.23370	1.49360	3.63724	0.2186917	0.30663427	2.1779885	21	—	—
507626 2013 GC ₆₉	17.8	X	169.91828	322.37336	50.66310	23.14949	0.0591357	0.35219251	1.9858631	21	2 18.2	20.8
507627 2013 GJ ₉₇	15.9	X	151.41886	288.59468	276.40933	3.63799	0.1211144	0.17320048	3.1874006	21	10 7.1	21.0
507628 2013 GG ₁₁₃	16.3	X	197.95202	309.29691	217.29377	13.30601	0.2315930	0.17492210	3.1664521	21	9 29.2	21.8
507629 2013 GM ₁₁₅	18.2	X	95.50109	274.34390	350.21083	7.30411	0.1355583	0.28884425	2.2665235	21	11 6.9	21.5
507630 2013 HY ₈₄	16.5	X	285.68203	142.54473	287.76278	3.20277	0.1027717	0.17432597	3.1736668	21	9 20.4	20.8
507631 2013 HK ₁₀₁	19.1	X	120.77902	313.66716	32.40709	2.34317	0.1021182	0.32451510	2.0972302	21	—	—
507632 2013 JA ₇	17.8	X	57.96868	113.31657	93.64077	22.25780	0.0868977	0.37602214	1.9010510	21	6 19.2	19.0
507633 2013 JZ ₇	18.0	X	103.17235	232.39454	70.45798	9.74492	0.1776376	0.29393255	2.2402901	21	—	—
507634 2013 JR ₄₁	16.1	X	182.95143	113.18922	80.93854	16.29689	0.2048153	0.17728445	3.1382602	21	10 29.3	21.6
507635 2013 JS ₅₂	17.9	X	50.85353	85.48851	75.16189	23.41555	0.0758159	0.35714049	1.9674785	21	4 2.0	20.3
507636 2013 KZ ₄	18.3	X	106.37288	73.41044	232.59483	7.49746	0.2298492	0.29534467	2.2331435	21	—	—
507637 2013 KG ₇	17.3	X	51.49072	230.14351	84.03764	23.10554	0.2324945	0.27570821	2.3379555	21	12 7.1	20.5
507638 2013 KD ₁₃	18.5	X	146.53144	239.58516	67.96430	4.54800	0.1715195	0.30920243	2.1659119	21	—	—
507639 2013 LU ₃₄	18.2	X	86.89530	66.78973	240.22199	21.43003	0.3090247	0.28416055	2.2913610	21	12 31.7	22.5
507640 2013 MP ₁	15.5	X	53.42319	64.78600	116.68586	9.08095	0.1473468	0.12435399	3.9752358	21	5 27.3	20.7
507641 2013 NP ₂	18.3	X	100.46777	17.83074	268.91436	2.80275	0.2063163	0.27978085	2.3152118	21	12 15.8	21.9
507642 2013 NE ₇	18.2	X	165.81026	36.19907	237.77277	3.03086	0.1511785	0.29931834	2.2133351	21	—	—
507643 2013 NF ₁₂	17.8	X	156.76341	148.21911	135.97963	5.48552	0.1688224	0.29690407	2.2253173	21	—	—
507644 2013 NN ₁₂	17.9	X	64.22564	119.19299	256.26523	6.94985	0.0582704	0.29369262	2.2415100	21	—	—
507645 2013 NH ₁₇	18.2	X	74.69008	33.75662	277.68552	4.24847	0.2233879	0.27451108	2.3447477	21	12 23.9	21.7
507646 2013 OY	18.2	X	145.86798	21.45985	246.96563	5.90302	0.0958937	0.28355078	2.2946449	21	—	—
507647 2013 OV ₁₁	17.2	X	301.51548	284.14191	73.72750	3.34944	0.2209038	0.22581255	2.6707752	21	6 23.6	20.5
507648 2013 PQ ₄	18.3	X	174.40716	327.06592	302.58583	4.49497	0.1009079	0.29873512	2.2162148	21	—	—
507649 2013 PY ₅	18.2	X	94.98185	336.84792	334.90610	6.21835	0.1893753	0.28353914	2.2947077	21	—	—
507650 2013 PB ₁₈	18.5	X	95.31657	144.35296	166.17783	1.90148	0.1842767	0.28054444	2.3110088	21	—	—
507651 2013 PH ₂₇	17.9	X	216.38106	286.87072	297.15380	5.08116	0.1202869	0.29004856	2.2602453	21	—	—
507652 2013 PA ₃₇	18.0	X	216.11695	329.65104	271.22588	4.53682	0.0981998	0.29947900	2.2125434	21	—	—
507653 2013 PK ₄₂	18.0	X	80.76839	323.85028	335.42897	7.72932	0.1914056	0.27026094	2.3692662	21	12 10.4	21.8
507654 2013 PW ₄₄	18.1	X	109.35921	90.84758	199.10911	4.95474	0.1623634	0.28061248	2.3106352	21	12 25.6	21.7
507655 2013 PG ₆₁	17.7	X	42.18040	174.74191	203.70519	6.34133	0.1446979	0.28020239	2.3128892	21	—	—
507656 2013 PN ₇₁	17.9	X	123.77474	0.67915	300.35492	5.59284	0.1889324	0.28815190	2.2701527	21	—	—
507657 2013 QV ₉	18.4	X	19.40461	70.95669	297.30160	1.30428	0.2225527	0.26323754	2.4112237	21	—	—
507658 2013 QX ₁₆	17.6	X	340.85585	24.18771	33.11219	7.80981	0.1847624	0.26608414	2.3939958	21	12 29.9	19.8
507659 2013 QZ ₃₅	18.2	X	28.38302	357.34204	338.13964	5.68712	0.1278048	0.25848114	2.4407135	21	11 12.2	21.1
507660 2013 QH ₈₃	17.9	X	25.98856	133.90776	223.53877	10.88816	0.2546990	0.26353279	2.4094224	21	12 30.6	21.1
507661 2013 QF ₉₂	18.1	X	82.99090	90.86530	250.34697	4.82518	0.1284790	0.28296615	2.2978044	21	—	—
507662 2013 RZ ₁₂	17.7	X	32.54349	351.71767	11.63307	4.99098	0.1972353	0.26503449	2.4003125	21	—	—
507663 2013 RM ₁₈	18.5	X	57.95664	110.73332	217.55168	2.44719	0.2049673	0.26771292	2.3842758	21	12 25.4	21.8
507664 2013 RM ₂₂	17.8	X	100.90774	276.80615	347.26121	8.35829	0.2028040	0.26330308	2.4108235	21	11 13.4	21.7
507665 2013 RA ₂₇	17.9	X	64.94831	276.38549	48.00017	5.63415	0.1293199	0.26600374	2.3944782	21	12 18.6	21.2
507666 2013 RF ₄₁	18.1	X	353.57971	231.57149	164.14868	6.78868	0.1745021	0.25857413	2.4401283	21	12 19.1	20.6
507667 2013 RZ ₄₁	16.7	X	218.02103	75.85724	131.01584	22.31680	0.0446691	0.23139175	2.6276699	21	8 14.2	20.8
507668 2013 RD ₆₈	17.5	X	142.64848	301.33680	323.73815	7.50378	0.1948923	0.27931139	2.3178053	21	12 24.9	21.3
507669 2013 RF ₉₁	18.5	X	9.92334	80.27020	293.58969	1.51230	0.2097765	0.25841485	2.4411309	21	12 22.0	20.8
507670 2013 RW ₉₁	18.0	X	60.03390	4.22781	333.84170	2.88193	0.1446564	0.26609885	2.3939076	21	—	—
507671 2013 RC ₉₃	17.7	X	16.78841	192.57940	199.46221	7.60777	0.1261958	0.26444571	2.4038740	21	—	—
507672 2013 RK ₉₉	17.9	X	351.60494	318.08496	342.22476	1.37978	0.1852291	0.23524451	2.5989009	21	7 13.5	20.2
507673 2013 RL ₁₀₀	16.5	X	47.00315	260.82397	27.00475	7.88217	0.1192763	0.23919876	2.5701793	21	10 4.5	19.6
507674 2013 RZ ₁₀₀	18.3	X	335.86920	129.84195	223.90440	1.74290	0.1937643					

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507681 2013 SE ₅₃	18.1	X	49.85251	229.27537	124.39356	2.21489	0.1891567	0.26909102	2.3761284	21	—	—
507682 2013 SF ₅₄	18.1	X	53.49607	97.06488	218.77956	1.84802	0.2310888	0.26065040	2.4271528	21	12 7.2	21.4
507683 2013 SA ₆₂	18.1	X	343.82999	230.12274	171.44689	2.08123	0.1661621	0.25817244	2.4426587	21	12 7.4	20.2
507684 2013 SD ₆₂	18.2	X	47.29751	191.11162	149.70049	3.09531	0.1928748	0.26522731	2.3991490	21	12 27.7	21.4
507685 2013 SS ₇₉	18.2	X	177.25833	59.98143	200.01613	2.65233	0.1718573	0.28422953	2.2909903	21	—	—
507686 2013 SL ₈₀	16.6	X	180.54759	105.15636	8.38892	21.96868	0.0511729	0.22419639	2.6835950	21	7 28.9	20.9
507687 2013 SK ₈₄	17.9	X	12.47496	320.91258	121.49244	7.49799	0.2016955	0.27333418	2.3514735	21	—	—
507688 2013 SQ ₈₄	17.5	X	20.25872	81.51668	308.52696	5.66827	0.1102939	0.26907460	2.3762251	21	—	—
507689 2013 SG ₁₀₀	17.7	X	326.38476	192.84134	204.34587	12.63658	0.1661500	0.24251540	2.5466924	21	10 19.9	20.0
507690 2013 TM ₉	17.2	X	37.34667	230.43822	109.68058	6.63981	0.1407797	0.25698138	2.4502004	21	12 6.1	20.2
507691 2013 TV ₁₀	17.4	X	283.78230	205.23888	214.49986	13.93226	0.2326923	0.23480755	2.6021241	21	8 15.7	20.9
507692 2013 TC ₁₂	18.0	X	52.50851	169.46269	183.34239	6.64175	0.1231980	0.26658490	2.3909969	21	—	—
507693 2013 TE ₁₃	18.0	X	52.34905	164.71497	156.95279	2.81843	0.2201999	0.26034853	2.4290286	21	12 12.0	21.3
507694 2013 TZ ₁₈	17.9	X	37.03109	26.59200	301.32650	4.49319	0.2135193	0.25763517	2.4460535	21	11 29.3	21.0
507695 2013 TM ₂₈	17.6	X	15.40127	354.37867	28.20632	4.07828	0.3070730	0.25920691	2.4361555	21	—	—
507696 2013 TO ₄₄	18.2	X	86.96799	44.86364	254.29742	0.69819	0.1774595	0.26342979	2.4100504	21	12 14.6	21.7
507697 2013 TU ₄₆	17.6	X	21.51258	169.75838	216.98474	5.59280	0.1489716	0.26369488	2.4084349	21	—	—
507698 2013 TE ₅₀	18.4	X	21.15066	147.45357	208.82408	0.47728	0.1968489	0.25558515	2.4591158	21	12 12.6	20.9
507699 2013 TD ₆₇	17.6	X	193.35265	352.23452	250.10312	6.98603	0.1921734	0.29241296	2.2480448	21	—	—
507700 2013 TJ ₇₂	18.0	X	49.80483	34.74097	303.38036	1.79758	0.2143307	0.26249490	2.4157694	21	12 29.4	21.4
507701 2013 TH ₈₀	18.3	X	3.13757	264.77378	102.47804	2.26734	0.1969569	0.25328954	2.4739517	21	11 27.4	20.6
507702 2013 TY ₈₂	18.1	X	17.54702	43.18224	322.29191	4.98178	0.1251158	0.25587199	2.4527276	21	12 7.7	21.0
507703 2013 TB ₉₁	18.1	X	75.93975	5.63667	4.68783	7.39092	0.0931489	0.28017237	2.3130544	21	—	—
507704 2013 TB ₉₄	16.9	X	227.83642	38.19492	42.01443	13.51183	0.1406335	0.22032106	2.7149721	21	7 27.7	21.3
507705 2013 TD ₉₄	17.9	X	291.66377	23.33545	47.94795	6.06921	0.2211157	0.23905889	2.5711818	21	9 25.3	20.6
507706 2013 TH ₁₀₈	18.1	X	1.42536	273.20089	122.96153	2.32791	0.1874632	0.25764920	2.4459647	21	—	—
507707 2013 TK ₁₀₈	16.6	X	273.59576	351.34483	38.56392	13.89191	0.0878884	0.22456790	2.6806344	21	7 23.1	20.5
507708 2013 TP ₁₂₈	17.0	X	355.90999	279.18746	345.35163	11.82633	0.2326319	0.22641076	2.6660687	21	5 18.1	19.5
507709 2013 TV ₁₂₈	17.6	X	341.11241	222.69285	224.80033	5.80248	0.1886001	0.26888988	2.3773132	21	—	—
507710 2013 TU ₁₃₆	17.0	X	355.89087	273.31358	18.76337	28.83342	0.3066893	0.23344557	2.6123353	21	7 19.2	19.6
507711 2013 TR ₁₃₉	18.3	X	4.51177	185.47240	175.83812	1.12842	0.1991381	0.25460230	2.4654404	21	11 21.9	20.7
507712 2013 TX ₁₄₀	18.1	X	324.93414	60.97240	35.35439	3.31909	0.1781008	0.26375115	2.4080924	21	—	—
507713 2013 TU ₁₆₁	16.4	X	108.53625	13.33249	207.03959	13.31672	0.1074062	0.23553133	2.5967906	21	9 15.9	20.3
507714 2013 UN	17.1	X	315.74265	122.74517	237.64968	30.16239	0.3094904	0.23452086	2.6042444	21	6 28.5	20.3
507715 2013 UE ₈	18.4	X	336.34845	267.76707	163.53924	3.96916	0.2229638	0.25679967	2.4513561	21	—	—
507716 2013 UP ₈	16.4	X	25.78423	187.36545	55.16816	47.75947	0.6175090	0.24360170	2.5391158	21	10 27.4	20.5
507717 2013 UL ₁₁	18.0	X	331.13697	346.34363	92.06913	4.43144	0.2015682	0.25637545	2.4540595	21	—	—
507718 2013 US ₁₆	16.5	X	39.43708	270.77994	29.64538	12.31455	0.1792904	0.23772209	2.5808119	21	10 19.1	19.6
507719 2013 UT ₁₆	17.2	X	321.59144	151.36992	244.63279	8.02829	0.0892461	0.23731717	2.5837467	21	10 8.2	20.3
507720 2013 UV ₁₆	16.2	X	296.88599	306.13901	64.61287	15.78995	0.1403632	0.22051849	2.7133514	21	7 20.1	19.8
507721 2013 VK ₄	16.4	X	299.39950	45.59979	9.15570	32.01645	0.2339496	0.23472721	2.6027179	21	9 20.1	19.3
507722 2013 VE ₁₄	17.5	X	300.95855	211.02497	243.78885	9.68513	0.1090128	0.25212691	2.4815512	21	11 30.2	20.1
507723 2013 VX ₁₇	17.2	X	314.60561	24.88574	18.21024	5.91924	0.2347144	0.23835928	2.5762105	21	9 25.9	19.2
507724 2013 VU ₂₄	17.5	X	281.42306	200.83776	251.15735	3.12425	0.1332169	0.23694173	2.5864753	21	10 17.2	20.5
507725 2013 VD ₂₅	16.4	X	351.67052	243.66714	67.98230	12.93212	0.1572782	0.21744966	2.7388204	21	8 4.4	19.4
507726 2013 WV ₁₂	17.9	X	318.09559	226.32857	156.01819	1.65580	0.1557836	0.23190098	2.6238218	21	9 9.0	20.5
507727 2013 WF ₂₂	16.6	X	182.22878	50.64303	88.43595	14.70719	0.1551532	0.21640916	2.7475923	21	8 26.8	21.3
507728 2013 WZ ₄₇	16.4	X	260.10523	5.87168	22.87490	17.97036	0.1379511	0.21536407	2.7564739	21	6 21.9	20.8
507729 2013 WJ ₅₃	16.8	X	17.87868	43.18699	287.00444	9.76567	0.0876753	0.23566376	2.5958176	21	10 6.2	20.1
507730 2013 WA ₅₈	16.9	X	170.46522	303.10338	230.52736	10.91355	0.0192858	0.23080806	2.6320981	21	9 22.1	20.8
507731 2013 WG ₆₁	17.0	X	331.59238	275.58346	69.89764	29.82830	0.2924586	0.23412034	2.6072137	21	7 29.8	19.7
507732 2013 WC ₆₆	17.5	X	305.98223	217.59201	214.12205	5.77315	0.2357162	0.24015960	2.5653196	21	10 19.4	19.7
507733 2013 WH ₆₉	17.4	X	356.00037	2.09928	49.95803	6.98271	0.1128077	0.25768532	2.4457361	21	—	—
507734 2013 WB ₇₀	18.1	X	327.53024	132.44085	255.25620	6.04889	0.2818125	0.24051437	2.5607982	21	9 25.1	19.8
507735 2013 WM ₉₇	16.9	X	337.48943	129.27477	255.88040	16.76662	0.1956038	0.24017710	2.5631950	21	10 19.9	19.5
507736 2013 WO ₁₁₀	15.9	X	258.54511	166.37540	268.65800	21.21852	0.0525481	0.22644799	2.6657765	21	8 22.7	20.1
507737 2013 WQ ₁₁₀	16.4	X	212.17359	184.15469	271.65553	11.94943	0.1534425	0.21246100	2.7815267	21	7 24.1	21.0
507738 2013 XP	16.5	X	357.31559	31.29114	335.20993	10.26326	0.2462309	0.24043675	2.5613494	21	11 13.0	18.9
507739 2013 XR ₁₀	16.4	X	309.05982	133.81696	252.40711	13.58181	0.1215858	0.23044702	2.6348465	21	8 24.9	19.8
507740 2013 XO ₁₁	17.4	X	298.57618	49.13610	37.79191	4.39447	0.1779914	0.23665392	2.5885720	21	11 3.2	19.7
507741 2013 XN ₁₃	17.6	X	238.83844	99.73220	70.74782	6.03860	0.1834131	0.24289938	2.5440079	21	11 26.0	21.0
507742 2013 XD ₁₅	17.4	X	350.69643	297.73199	66.98231	3.74576	0.0597457	0.23335410	2.6129178	21	10 15.9	20.4
507743 2013 XU ₁₇	16.5	X	256.73540	136.17737	253.59564	14.04431	0.1477812	0.20353455	2.8622701	21	6 18.9	20.7
507744 2013 XL ₂₄	16.8	X	274.59353	52.55393	53.36808	14.38078	0.1325703	0.23076952	2.6323912	21	10 29.1	20.0
507745 2013 YW ₉	16.7	X	277.82701	339.97938	111.99486	22.73651	0.0319273	0.22652970	2.6651354	21	11 5.7	20.7
507746 2013 YP ₁₁	17.2	X	292.78462	28.31592	67.83145	5.72566	0.2501212	0.23416922	2.6068508	21	10 26.8	19.7
507747 2013 YG ₁₃	17.1	X	318.94514	330.97903	76.82302	10.08146	0.1539858	0.23801903	2.5786650	21	10 24.7	19.7
507748 2013 YB ₁₅	17.1	X	222.35892	279.04706	256.22891	11.40689	0.2060862	0.23890943	2.5722540	21	11 8.8	21.1
507749 2013 YF ₁₇	17.0	X	310.37207	289.77055	127.99170	6.05550	0.2176179	0.23030338	2.6359419	21	10 11.9	19.5
507750 2013 YT ₁₇	16.3	X	210.33377	122.00322	293.57974	21.59623	0.1202238	0.18876401	3.0097003	21	6 6.9	21.3
507751 2013 YP ₂₀	15.5	X	254.78933	203.91532	104.72696	11.12295	0.0314613	0.16029106	3.3563186	21	3 30.2	20.5
507752 2013 YH ₂₆	17.0	X	234.07100	50.31721	90.12068	3.34281	0.1443925	0.22612070	2.6683482	21	10 17.5	20.8
507753 2013 YY ₃₀	17.3	X	214.45857	195.78102	289.50910	8.90270	0.2149767	0.20954490	2.8027371	21	8 26.6	22.0
507754 2013 YS ₃₁	17.8	X	29									

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507761 2013 YX ₇₄	17.4	X	289.82763	146.08925	295.78292	4.58324	0.1512441	0.22909126	2.6452316	21	10 11.2	20.6
507762 2013 YK ₈₈	16.6	X	272.28810	331.40829	98.41179	5.66599	0.0459086	0.21243373	2.7817647	21	9 18.3	20.3
507763 2013 YN ₈₉	17.0	X	276.29332	353.08611	116.02265	13.23988	0.1960133	0.23005136	2.6378667	21	10 29.3	20.4
507764 2013 YD ₉₃	16.2	X	342.70090	232.75870	85.35539	12.18145	0.1434417	0.20314606	2.8659182	21	7 23.9	19.5
507765 2013 YR ₁₀₁	17.2	X	305.84346	355.24599	43.28941	7.78562	0.1086610	0.22299332	2.6932385	21	9 18.7	20.4
507766 2013 YK ₁₀₂	17.1	X	220.05080	268.00264	201.27759	3.22268	0.0500817	0.20855248	2.8161718	21	8 29.0	21.1
507767 2013 YG ₁₀₃	16.4	X	177.09811	110.70821	311.52848	2.27806	0.1036202	0.19091803	2.9870197	21	5 11.5	21.1
507768 2013 YW ₁₀₅	17.0	X	289.93550	307.09244	102.69869	6.59787	0.0242161	0.21772108	2.7365438	21	9 19.8	20.7
507769 2013 YJ ₁₀₆	17.3	X	296.76766	283.81023	110.29852	14.17075	0.2076680	0.22048400	2.7136343	21	8 10.7	20.5
507770 2013 YT ₁₀₇	17.4	X	345.97051	72.88340	293.10687	3.67745	0.0924734	0.23397624	2.6082840	21	10 7.6	20.4
507771 2013 YK ₁₀₉	16.9	X	232.73337	12.01095	118.25064	12.16502	0.0207399	0.22309734	2.6924013	21	10 23.4	20.8
507772 2013 YH ₁₁₃	17.1	X	338.61886	248.03058	100.18114	6.78299	0.0606094	0.20861243	2.8156322	21	9 4.4	20.9
507773 2013 YR ₁₁₆	16.3	X	103.64314	218.03710	319.95940	18.11040	0.0591610	0.18503033	3.0500533	21	7 15.2	20.8
507774 2013 YC ₁₂₃	16.8	X	262.18637	346.64650	112.87769	22.66249	0.0159308	0.22384932	2.8653682	21	10 28.0	21.0
507775 2013 YN ₁₃₀	16.7	X	87.53580	171.86297	70.80761	10.79395	0.0838341	0.20974292	2.6055059	21	9 24.2	20.9
507776 2013 YQ ₁₃₂	17.2	X	185.68432	121.60686	16.06817	7.08634	0.0615272	0.20918743	2.8104703	21	8 28.3	21.3
507777 2013 YX ₁₅₁	17.1	X	255.04115	226.29962	184.90378	1.85427	0.0624175	0.20277860	2.8693794	21	9 26.3	21.0
507778 2013 YY ₁₅₁	17.6	X	309.90240	216.33539	189.46527	3.69452	0.1445860	0.22456138	2.6806863	21	9 27.8	20.4
507779 2013 YZ ₁₅₁	17.6	X	227.96679	205.89649	281.66538	2.95543	0.0420690	0.21936542	2.7228514	21	10 2.9	21.5
507780 2014 AE ₈	17.3	X	239.11665	33.88201	89.25140	12.40304	0.1839244	0.22088115	2.7103806	21	10 1.1	21.5
507781 2014 AF ₁₂	16.8	X	267.40124	320.26261	97.33357	12.79135	0.1677938	0.22312733	2.6921600	21	8 7.6	20.6
507782 2014 AF ₁₄	16.9	X	197.22957	198.84921	289.66431	14.14637	0.0928132	0.20065137	2.8896238	21	8 19.4	21.5
507783 2014 AK ₃₈	17.3	X	196.49375	8.31042	115.90547	5.93532	0.0577735	0.20782851	2.8227081	21	8 22.1	21.4
507784 2014 AJ ₄₄	17.1	X	216.95507	196.13009	286.64690	9.12728	0.2193786	0.21374603	2.7703672	21	8 25.5	21.7
507785 2014 AR ₅₁	16.6	X	291.66095	36.08013	112.71977	35.11410	0.2445798	0.23905003	2.5712453	21	—	—
507786 2014 AF ₅₆	16.4	X	81.78384	255.30772	303.14104	20.41715	0.1339896	0.17924728	3.1153081	21	7 22.1	20.8
507787 2014 AT ₅₆	17.0	X	296.81930	208.11588	180.84920	4.31022	0.1134915	0.20857379	2.8159800	21	8 14.9	20.4
507788 2014 AU ₅₆	16.0	X	87.18234	274.42024	320.41723	13.17545	0.1110348	0.19266701	2.9689153	21	9 6.0	20.3
507789 2014 BF ₄	17.6	X	269.21529	274.66180	156.70100	2.36182	0.2146119	0.21894425	2.7263421	21	8 18.7	21.3
507790 2014 BD ₆	17.5	X	268.84747	334.21299	120.28683	3.86819	0.1637330	0.22149558	2.7053658	21	9 28.1	21.0
507791 2014 BP ₇	17.4	X	195.73598	34.72289	125.15760	5.94820	0.0928138	0.21205990	2.7850330	21	10 5.0	21.6
507792 2014 BX ₉	16.8	X	249.37968	63.27096	77.83614	13.60006	0.2093461	0.22951648	2.6419634	21	10 31.4	20.6
507793 2014 BO ₁₃	16.9	X	299.93281	92.60471	314.03071	13.26768	0.1968226	0.21886677	2.7269855	21	8 29.8	20.1
507794 2014 BJ ₁₅	17.3	X	246.29501	96.22112	38.61663	13.36033	0.2123599	0.22625027	2.6673294	21	10 16.4	21.1
507795 2014 BG ₁₉	17.2	X	191.61943	6.70513	137.86730	9.65832	0.0561482	0.20657976	2.8340729	21	9 12.4	21.4
507796 2014 BZ ₂₁	16.5	X	72.69390	260.74838	309.16245	8.41148	0.1122627	0.18033624	3.1027542	21	7 21.7	20.7
507797 2014 BH ₂₉	16.6	X	63.96673	91.27250	136.70218	16.59246	0.1111200	0.18688382	3.0298532	21	8 1.6	20.7
507798 2014 BU ₃₇	16.4	X	332.00102	281.88159	156.85704	14.57338	0.0912040	0.23210742	2.6222657	21	12 25.9	19.7
507799 2014 BV ₅₇	17.1	X	312.28422	73.52733	348.12469	28.33333	0.3772447	0.23447194	2.6046066	21	9 17.4	18.9
507800 2014 BR ₆₀	16.9	X	209.01190	34.58210	119.59973	6.11107	0.0974482	0.21444442	2.7643491	21	10 12.3	21.1
507801 2014 BZ ₆₃	17.5	X	301.12948	328.90760	82.77329	6.15881	0.1558263	0.22044373	2.7139648	21	9 22.4	20.7
507802 2014 BL ₆₅	17.3	X	266.11759	278.02664	166.15240	4.79896	0.0371397	0.21315228	2.7755096	21	9 28.0	21.0
507803 2014 BR ₆₅	16.6	X	329.10545	20.60625	312.82844	8.22815	0.0845002	0.19481897	2.9470119	21	7 25.1	20.1
507804 2014 CS ₂₂	16.0	X	98.00524	234.80252	322.82776	15.33245	0.1522228	0.18228122	3.0806434	21	8 11.7	20.6
507805 2014 CY ₂₂	16.1	X	293.77412	138.45027	340.76947	33.05136	0.2216094	0.23379461	2.6096347	21	11 20.7	19.8
507806 2014 DF ₄	16.3	X	226.80146	134.96720	304.02054	13.55859	0.0490828	0.19282913	2.9672510	21	7 29.2	20.5
507807 2014 DF ₅	16.3	X	48.61970	329.02164	293.97638	9.46752	0.0651823	0.19000330	2.9965990	21	8 17.2	20.3
507808 2014 DH ₉	17.5	X	300.96587	137.87312	329.04168	3.60459	0.1661939	0.23438914	2.6052199	21	12 7.0	20.1
507809 2014 DB ₁₄	15.8	X	116.57063	171.39175	8.91910	17.24692	0.1135497	0.18260250	3.0770289	21	8 12.8	20.7
507810 2014 DJ ₂₁	16.7	X	278.78361	44.59086	114.08651	15.36640	0.0863997	0.23815940	2.5776517	21	—	—
507811 2014 DG ₃₀	16.3	X	2.42636	340.20228	310.71637	8.83380	0.0247424	0.18518868	3.0483144	21	7 19.7	20.4
507812 2014 DY ₃₅	16.8	X	267.88904	319.25875	74.80392	3.36569	0.1290198	0.18927177	3.0043151	21	7 11.1	21.1
507813 2014 BD ₃₈	17.4	X	325.53612	281.94753	165.03304	5.12776	0.2364339	0.23412740	2.6077121	21	12 30.9	19.5
507814 2014 DY ₄₀	17.3	X	321.96832	320.96267	121.22784	6.51524	0.1945820	0.23297226	2.6157712	21	12 14.4	19.5
507815 2014 DM ₅₄	16.8	X	198.87088	111.96701	14.34998	3.21307	0.0766306	0.19241372	2.9715203	21	8 25.3	21.1
507816 2014 DK ₅₉	16.2	X	167.75711	341.26334	154.48976	16.38925	0.0223105	0.18272728	3.0756278	21	7 30.9	20.7
507817 2014 DF ₇₃	16.5	X	202.13054	50.66080	34.19813	11.81023	0.0682907	0.17700402	3.1415740	21	7 7.8	21.4
507818 2014 DJ ₇₈	17.3	X	312.42609	99.85561	17.10242	13.23016	0.2281452	0.23698853	2.5861348	21	—	—
507819 2014 DQ ₁₀₃	16.6	X	43.26332	263.15110	328.81150	4.33658	0.0737626	0.17822316	3.1272309	21	7 3.5	20.8
507820 2014 DL ₁₁₇	16.1	X	36.60222	141.22217	97.47436	6.70412	0.1113019	0.16962343	3.2320556	21	7 6.3	20.0
507821 2014 DJ ₁₂₁	16.3	X	118.47707	209.74363	339.70674	9.50699	0.0458777	0.18677729	3.0310051	21	8 13.6	20.7
507822 2014 DF ₁₂₃	16.8	X	148.33734	102.14938	67.13725	0.75951	0.0932635	0.18929992	3.0040172	21	8 24.3	21.2
507823 2014 DD ₁₂₆	16.2	X	265.44551	53.62770	334.83392	9.48379	0.0738047	0.18538782	3.0461311	21	7 10.2	20.6
507824 2014 DP ₁₃₄	16.5	X	180.35728	305.93187	149.75922	10.52086	0.0734489	0.17615167	3.1517000	21	6 26.5	21.4
507825 2014 DO ₁₄₂	17.3	X	293.43774	36.35204	75.20048	7.93921	0.3074474	0.23446668	2.6046455	21	11 10.1	19.6
507826 2014 DT ₁₄₅	16.6	X	266.52034	99.21176	342.88828	11.14918	0.1814802	0.21328569	2.7743521	21	9 3.5	20.1
507827 2014 DV ₁₄₅	17.4	X	267.17266	297.50501	182.30375	3.22904	0.0429620	0.21450592	2.7638207	21	11 13.8	21.0
507828 2014 DE ₁₄₆	16.1	X	325.10345	6.27145	308.30861	8.93310	0.0247988	0.18048564	3.1010417	21	6 29.3	20.3
507829 2014 EC ₃	16.0	X	69.36856	95.96647	151.96762	11.05361	0.0807155	0.18535726	3.0464659	21	8 30.8	20.2
507830 2014 EP ₁₀	16.7	X	77.81344	167.71007	68.10721	5.09877	0.0872260	0.18327279	3.0695218	21	8 29.1	21.0
507831 2014 EM ₃₁	16.5	X	131.38099	45.94451	157.83486	11.12320	0.1226948	0.19019972	2.9945355	21	9 21.3	21.2
507832 2014 EQ ₃₁	16.0	X	72.00389	50.60905	174.97125	27.08367	0.1415079	0.17361088	3.1823754	21	8 11.1	20.8
507833 2014 EB ₃₂	15.7	X	71.50468	212.86966	21.86363							

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507841 2014 FA ₂₂	16.8	X	298.75644	193.31193	198.96422	11.60562	0.0493759	0.19520901	2.9430850	21	8 27.9	20.9
507842 2014 FT ₂₃	15.9	X	192.77364	177.12378	307.62895	8.67015	0.0686913	0.19076455	2.9886216	21	8 14.7	20.3
507843 2014 FA ₂₇	16.2	X	87.79034	252.68824	315.39615	4.20105	0.0703653	0.17769754	3.1333948	21	8 1.2	20.6
507844 2014 FQ ₅₃	16.2	X	191.70976	78.28807	58.86047	7.06495	0.1254243	0.18733139	3.0250253	21	8 31.1	21.1
507845 2014 FM ₇₃	15.8	X	85.77916	235.76153	27.87935	10.82900	0.0728728	0.18643425	3.0347221	21	10 9.9	20.1
507846 2014 FN ₇₃	16.0	X	346.27373	306.81332	38.15878	14.40411	0.0949095	0.18022843	3.1039914	21	9 12.2	20.1
507847 2014 GM ₁	17.3	X	329.64011	75.82454	48.17751	7.45944	0.05290147	0.24616256	2.5214753	21	—	—
507848 2014 GV ₆	16.0	X	125.88414	159.94525	14.45985	28.87460	0.1583101	0.17850032	3.1239930	21	8 27.4	21.4
507849 2014 GX ₆	16.4	X	144.73111	138.25356	10.29431	11.92174	0.1214003	0.17715778	3.1397560	21	7 30.7	21.5
507850 2014 GY ₁₅	16.8	X	96.98497	74.79309	142.74364	4.21653	0.1419022	0.17960044	3.1112229	21	9 2.8	21.5
507851 2014 GX ₃₅	16.4	X	144.15893	16.21645	173.94356	15.67189	0.0531943	0.18841173	3.0134507	21	9 12.1	20.9
507852 2014 GD ₄₄	16.7	X	128.47511	327.45364	232.22078	15.30355	0.2044537	0.18211096	3.0825632	21	9 10.8	22.1
507853 2014 GB ₄₆	15.5	X	45.19238	165.71093	88.48432	16.91005	0.0472336	0.17491071	3.1665896	21	8 3.1	20.0
507854 2014 HL ₁₀	16.5	X	220.25206	248.94610	205.48580	20.74799	0.1445568	0.18096049	3.0956145	21	7 27.4	21.8
507855 2014 HE ₁₁	15.8	X	23.03060	110.01802	173.61044	11.26556	0.0464632	0.17642545	3.1484386	21	8 5.9	20.1
507856 2014 HQ ₁₃₇	16.8	X	164.10544	300.07594	191.14358	11.83855	0.1668418	0.17483567	3.1674957	21	7 22.8	22.2
507857 2014 HC ₁₃₉	15.7	X	270.68189	280.91378	64.51730	8.94142	0.0592748	0.15078471	3.4959443	21	5 24.5	20.7
507858 2014 HM ₁₄₇	16.6	X	77.34022	350.44724	219.65122	1.95601	0.0171814	0.17199034	3.2023344	21	7 12.9	21.1
507859 2014 HP ₁₅₀	17.0	X	194.97362	107.62963	18.17505	9.58665	0.1517121	0.19043364	2.9920828	21	8 19.9	21.9
507860 2014 HX ₁₅₀	16.0	X	134.55360	122.78546	40.74763	21.13910	0.1808737	0.17177145	3.2050544	21	8 17.5	21.6
507861 2014 HM ₁₅₄	15.9	X	211.61439	47.59541	34.64895	26.43256	0.1744208	0.17308287	3.1888444	21	7 9.2	21.6
507862 2014 HN ₁₆₈	15.9	X	140.53288	313.68403	227.18230	17.27931	0.1866033	0.17782246	3.1319271	21	8 27.7	21.4
507863 2014 HU ₁₈₂	16.0	X	115.31611	26.22055	165.79827	19.26453	0.0563547	0.16708117	3.2647583	21	8 9.9	20.9
507864 2014 HS ₁₈₃	16.5	X	149.12902	104.05204	61.26561	16.26771	0.2254093	0.17851843	3.1237818	21	9 1.3	22.1
507865 2014 HU ₁₈₄	15.6	X	299.90464	303.83898	108.91164	25.51670	0.1845406	0.18859393	3.0115095	21	10 1.6	20.0
507866 2014 JF ₉	16.4	X	177.71511	274.86868	214.74564	17.71660	0.1074329	0.17219803	3.1997590	21	7 30.1	21.8
507867 2014 JJ ₁₅	18.5	X	297.83875	194.95309	72.59790	23.71059	0.0466548	0.40304315	1.8151047	21	2 25.7	21.0
507868 2014 JA ₃₈	16.1	X	101.12288	177.83298	68.64083	18.76970	0.0540207	0.18151314	3.0893279	21	10 12.4	20.9
507869 2014 JP ₅₃	15.6	X	159.84223	275.76048	227.12821	23.97329	0.1958069	0.17279814	3.1923463	21	7 28.1	21.4
507870 2014 JM ₅₅	18.6	X	39.54008	295.70949	180.37207	22.96448	0.0497258	0.38641263	1.8668174	21	—	—
507871 2014 JQ ₇₆	15.9	X	147.63105	349.10116	176.84416	21.48702	0.1105172	0.16719473	3.2632799	21	8 16.3	21.2
507872 2014 KF ₇	16.8	X	204.26570	344.07601	229.24054	9.46185	0.1083444	0.21380857	2.7698270	21	12 14.4	20.9
507873 2014 KU ₁₉	16.8	X	158.33953	86.79749	81.11543	6.91719	0.1802917	0.18156189	3.0887748	21	9 6.1	22.0
507874 2014 KN ₂₅	16.4	X	265.82950	359.46129	82.25984	11.64300	0.0289458	0.18053019	3.1005315	21	9 28.0	20.9
507875 2014 KR ₃₈	18.2	X	156.02788	275.50805	104.09802	23.68599	0.1256878	0.38848193	1.8601823	21	1 29.8	20.1
507876 2014 KK ₄₃	16.0	X	297.32189	260.20151	157.94646	12.24615	0.0764781	0.18067553	3.0988685	21	9 29.2	20.1
507877 2014 MG ₂₆	15.5	X	118.67306	292.02392	313.30750	20.86152	0.1687082	0.17310401	3.1885847	21	10 17.8	21.1
507878 2014 MX ₃₃	15.4	X	157.18332	263.26003	301.78208	16.43612	0.1604929	0.17091267	3.2157816	21	10 5.8	21.0
507879 2014 MD ₃₈	17.4	X	263.23069	122.20493	117.50773	24.30475	0.0805376	0.35898416	1.9607363	21	—	—
507880 2014 MX ₄₁	16.5	X	277.18574	11.50292	125.43798	26.81278	0.1595596	0.22521307	2.6755125	21	12 11.9	20.2
507881 2014 MK ₅₇	18.4	X	278.10627	302.79453	305.21067	18.52430	0.0453722	0.37114981	1.9176524	21	—	—
507882 2014 NQ ₄₇	18.0	X	70.57655	244.11830	261.91888	19.80146	0.0818770	0.39018303	1.8547717	21	3 5.2	20.1
507883 2014 OO ₁₉₃	18.0	X	268.54427	142.19170	152.42963	22.64429	0.0596253	0.37388036	1.9083042	21	2 15.7	19.8
507884 2014 OJ ₂₄₄	18.3	X	283.33014	4.59717	32.17754	3.69441	0.1310109	0.28578751	2.2826565	21	8 9.5	20.8
507885 2014 OO ₃₄₄	18.3	X	56.82979	94.75085	328.21789	17.35343	0.0990685	0.34985484	1.9946994	21	—	—
507886 2014 PH ₅₃	18.5	X	191.90322	334.42635	338.67650	17.92095	0.0434549	0.35336903	1.9814528	21	—	—
507887 2014 PW ₆₆	18.8	X	165.93677	32.62485	315.14784	17.26715	0.0699198	0.36130782	1.9523206	21	—	—
507888 2014 QD ₁₆₉	18.0	X	304.67929	299.73333	273.43503	17.09772	0.0422231	0.36715229	1.9315467	21	—	—
507889 2014 QA ₃₂₈	18.4	X	105.67664	257.67355	173.83627	21.56608	0.0762725	0.35479917	1.9761246	21	1 25.3	20.7
507890 2014 QB ₄₀₉	18.6	X	24.51252	183.20708	184.91680	3.03355	0.2477250	0.29640012	2.2278390	21	—	—
507891 2014 QM ₄₄₂	18.2	X	221.17543	287.70132	0.28071	18.98914	0.0734781	0.35960206	1.9584896	21	—	—
507892 2014 RG ₁₂	17.3	X	194.65063	91.99058	250.39789	17.96784	0.0899429	0.36396351	1.9428122	21	1 18.8	19.9
507893 2014 SG ₂₁₇	18.1	X	228.80718	280.36860	59.89789	22.42565	0.1093036	0.36334038	1.9450328	21	3 20.1	21.2
507894 2014 SF ₂₆₁	17.3	X	356.51727	310.80526	248.07609	19.42374	0.0637436	0.36653760	1.9363056	21	1 23.6	19.6
507895 2014 SH ₂₆₂	18.6	X	301.61756	335.86657	328.12734	19.07621	0.0748467	0.39025508	1.8545434	21	4 2.3	20.9
507896 2014 SV ₃₅₀	18.4	X	106.81698	241.96405	175.86940	23.93364	0.1275293	0.35078312	1.9911788	21	1 15.3	20.8
507897 2014 SL ₃₅₁	18.7	X	108.87993	228.69471	221.54504	20.22991	0.0559330	0.37131033	1.9170997	21	2 16.0	21.0
507898 2014 TS ₁₇	18.3	X	39.96828	251.27748	259.35603	17.13186	0.0498393	0.36835869	1.9273271	21	1 24.7	20.3
507899 2014 TU ₃₄	17.8	X	224.62721	251.40006	50.63463	22.13474	0.0671824	0.35533939	1.9741212	21	1 5.1	20.6
507900 2014 TO ₈₆	18.1	X	136.23577	162.34538	213.88127	20.73052	0.0783684	0.34966654	1.9954154	21	—	—
507901 2014 UZ ₁₁	18.5	X	27.73102	32.71039	349.57187	4.02399	0.2141305	0.30295397	2.1955919	21	—	—
507902 2014 UX ₅₀	18.4	X	56.29453	344.72192	41.65103	4.64055	0.1759721	0.31036283	2.1605099	21	—	—
507903 2014 UE ₁₁₉	17.8	X	44.04568	55.38118	261.07237	1.23841	0.2328154	0.28936106	2.2638240	21	12 2.3	20.4
507904 2014 UB ₁₄₈	17.8	X	75.53881	258.87179	41.80655	6.19573	0.1796715	0.29210081	2.2496461	21	12 9.4	21.1
507905 2014 US ₂₂₇	17.7	X	8.98910	201.69119	173.10066	5.81755	0.1177515	0.27400306	2.3476451	21	12 11.9	20.4
507906 2014 VY ₁	17.6	X	14.64628	132.91383	106.62966	22.70067	0.0420550	0.38266413	1.8789889	21	5 25.4	19.6
507907 2014 VX ₂₂	17.8	X	314.70699	257.62923	242.42579	4.39903	0.0672975	0.30791462	2.1719468	21	—	—
507908 2014 VS ₃₀	18.7	X	69.80834	329.41738	63.17001	5.38640	0.1885282	0.31866697	2.1228111	21	—	—
507909 2014 WQ ₃	18.7	X	136.74451	3.11984	64.60478	24.04498	0.0975687	0.35809562	1.9639784	21	4 3.2	21.5
507910 2014 WU ₆₉	17.1	X	26.95109	302.80833	267.58192	20.78261	0.0778807	0.36789276	1.9289541	21	4 7.1	19.2
507911 2014 WO ₁₁₉	18.4	X	345.33750	80.01340	320.44380	3.75744	0.1667856	0.28375730	2.2935314	21	12 16.7	20.3
507912 2014 WQ ₁₃₅	17.8	X	34.36371	72.09370	230.07832	4.29301	0.1137568	0.26695686	2.3887755	21	10 5.5	20.4
507913 2014 WX ₁₄₁	18.0	X	64.78723	139.27658	210.60822	4.89332	0.1448622	0.30052769	2.2073933	21	—	—
507914 20												

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 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>
507921 2014 WH ₅₁₆	16.9 ^m	X	280.55501	106.83101	255.48056	5.27222	0.0756806	0.22238284	2.6981652	21	6 22.9	20.5
507922 2014 XA ₈	17.6	X	72.17720	259.69584	276.70882	22.20928	0.1215077	0.36623427	1.9347732	21	5 29.7	19.4
507923 2014 XX ₃₇	17.1	X	252.73751	73.61807	98.32808	7.98506	0.0436998	0.28000239	2.3139904	21	—	—
507924 2014 XH ₃₈	17.1	X	193.48926	291.41478	296.65707	10.39287	0.1860026	0.26551034	2.3974438	21	12 23.3	20.7
507925 2014 YK ₅	17.2	X	154.37549	273.18246	308.32067	5.51619	0.0769777	0.25846499	2.4408152	21	11 8.5	20.8
507926 2014 YY ₃₃	17.5	X	50.45737	118.87929	284.98176	7.22495	0.0804437	0.30086326	2.2057516	21	—	—
507927 2014 YC ₅₄	17.9	X	191.27544	186.54138	25.98760	7.87501	0.0578485	0.27064355	2.3670327	21	12 13.8	21.1
507928 2014 YD ₅₄	18.1	X	247.08261	102.03766	63.88869	9.03867	0.0219227	0.27596093	2.3365279	21	—	—
507929 2015 AK ₁₄	16.5	X	183.80273	97.76567	59.60492	15.76306	0.0811495	0.24445589	2.5331974	21	9 28.8	20.5
507930 2015 AF ₁₅	16.9	X	307.84666	351.35061	31.46937	12.88343	0.1222789	0.24567827	2.5247878	21	9 3.6	19.9
507931 2015 AM ₃₉	17.4	X	163.10257	147.25788	103.74050	8.57558	0.0798484	0.27538940	2.3397596	21	12 30.6	20.7
507932 2015 AS ₄₁	18.6	X	49.11912	280.29977	87.14363	3.24054	0.2367578	0.29095423	2.2555525	21	—	—
507933 2015 AQ ₁₀₈	17.5	X	120.60319	35.44966	272.16974	4.52233	0.2056016	0.28577930	2.2827002	21	—	—
507934 2015 AM ₁₂₃	18.3	X	0.80879	181.55450	273.41140	3.52104	0.0218159	0.29481973	2.2357935	21	—	—
507935 2015 AL ₁₂₅	18.0	X	264.46539	209.09188	298.58976	6.19996	0.0443263	0.27505059	2.3416806	21	12 29.1	20.7
507936 2015 AZ ₁₅₆	18.1	X	343.73100	153.28162	301.44727	6.59695	0.0565781	0.28785219	2.2717282	21	—	—
507937 2015 AJ ₁₅₉	18.2	X	334.98189	160.13157	301.86009	5.54125	0.1129864	0.28767494	2.2726612	21	—	—
507938 2015 AR ₁₇₈	18.3	X	5.94248	71.58633	350.79525	2.01579	0.1726859	0.28842270	2.2687315	21	—	—
507939 2015 AQ ₁₉₂	17.2	X	40.62741	315.83446	344.42670	3.25027	0.1838609	0.24429475	2.5343113	21	10 20.6	20.3
507940 2015 AS ₁₉₆	17.8	X	173.56617	236.24882	351.87849	2.48569	0.1320726	0.26327096	2.4110196	21	12 6.9	21.4
507941 2015 AA ₂₁₀	18.9	X	53.53959	8.43416	38.02018	4.16312	0.1838549	0.30604505	2.1807831	21	—	—
507942 2015 AY ₂₂₃	17.8	X	240.91507	287.55947	257.59200	8.66849	0.1537127	0.27306802	2.3530012	21	12 28.2	20.6
507943 2015 AM ₂₂₄	16.7	X	77.62605	30.94026	250.96419	11.98402	0.2558561	0.24145461	2.5541460	21	11 18.5	20.8
507944 2015 AF ₂₃₃	16.8	X	128.84160	1.05661	265.75355	5.67172	0.0901202	0.25814502	2.4428317	21	12 10.3	20.4
507945 2015 AM ₂₃₉	17.0	X	60.66645	55.85929	273.27084	5.06570	0.1276215	0.25499564	2.4629044	21	12 4.8	20.2
507946 2015 AE ₂₄₅	17.7	X	262.66509	42.81835	94.61719	11.70128	0.1042710	0.26058916	2.4275331	21	12 1.9	20.7
507947 2015 AV ₂₅₃	18.4	X	338.45006	133.88356	317.70930	5.79570	0.1093552	0.28490705	2.2873568	21	—	—
507948 2015 AF ₂₆₃	18.0	X	16.15331	105.40725	327.55199	2.90521	0.1533709	0.29089368	2.2558655	21	—	—
507949 2015 AT ₂₆₄	17.8	X	196.52441	149.05518	82.92557	10.35033	0.1682078	0.27009553	2.3702334	21	—	—
507950 2015 BE ₃	17.8	X	124.98358	204.22323	270.23469	4.22592	0.1094458	0.26537043	2.3982863	21	12 17.4	21.3
507951 2015 BO ₆	16.8	X	272.89784	92.99693	317.04461	13.35111	0.0850822	0.23527829	2.5986521	21	8 15.2	20.0
507952 2015 BE ₁₅	17.9	X	340.98899	0.83062	121.77429	7.87664	0.0407760	0.29528362	2.2334512	21	—	—
507953 2015 BT ₁₇	18.2	X	330.72416	167.80202	324.56112	2.82353	0.1058195	0.29205975	2.2498570	21	—	—
507954 2015 BQ ₁₉	18.1	X	50.99015	70.79236	312.63637	7.52722	0.1326276	0.29650305	2.2273234	21	—	—
507955 2015 BZ ₁₉	17.7	X	244.83601	94.71590	84.17753	3.66055	0.1633823	0.26791464	2.3830789	21	12 22.9	20.2
507956 2015 BY ₂₅	17.6	X	212.91762	287.63623	273.37241	1.14966	0.1266052	0.26292818	2.4131147	21	12 15.6	20.8
507957 2015 BB ₂₆	17.7	X	329.68543	278.62284	150.82950	5.24084	0.0859436	0.26524048	2.3990696	21	12 18.1	20.3
507958 2015 BY ₃₂	17.2	X	77.55820	246.05083	21.14801	3.91135	0.1588392	0.24054312	2.5605942	21	10 20.6	20.9
507959 2015 BE ₃₃	17.9	X	346.82617	310.63517	50.74336	2.90857	0.1977811	0.25567385	2.4585470	21	10 14.9	19.6
507960 2015 BZ ₃₇	18.4	X	1.54140	5.80999	40.76540	6.40372	0.1577962	0.28318412	2.2966251	21	—	—
507961 2015 BV ₅₉	18.5	X	304.24551	140.85867	357.17697	1.49886	0.1367224	0.28498757	2.2869259	21	—	—
507962 2015 BJ ₆₂	18.0	X	263.73095	198.20096	344.16643	5.77971	0.0479301	0.28576618	2.2827700	21	—	—
507963 2015 BA ₆₄	18.1	X	286.26044	138.23172	349.31018	6.75965	0.0499355	0.27293857	2.3537452	21	—	—
507964 2015 BU ₆₄	17.4	X	297.43448	5.02103	44.51890	6.94815	0.1623479	0.25095606	2.4892638	21	9 15.8	20.0
507965 2015 BJ ₆₅	17.3	X	250.73748	353.46157	104.23706	9.37399	0.0551217	0.24529168	2.5274399	21	9 30.8	20.7
507966 2015 BO ₆₅	16.7	X	96.66687	150.51113	98.98905	5.75421	0.1656514	0.23583101	2.5945902	21	10 21.8	20.7
507967 2015 BR ₆₉	17.8	X	136.35701	48.45580	216.05689	5.44823	0.0686098	0.26550607	2.3974695	21	12 16.7	21.2
507968 2015 BM ₇₁	17.6	X	194.57268	328.23941	269.71929	5.37375	0.1001857	0.27424070	2.3462887	21	—	—
507969 2015 BX ₇₁	17.6	X	182.00116	325.75240	606.03219	2.90977	0.1660973	0.26223901	2.4173406	21	12 17.5	21.3
507970 2015 BA ₇₅	17.9	X	358.38042	332.46134	88.49650	5.54506	0.1076469	0.28105691	2.3081987	21	—	—
507971 2015 BS ₇₆	18.1	X	236.53105	110.93010	94.57515	7.06888	0.0576149	0.28153509	2.3055844	21	—	—
507972 2015 BT ₇₆	17.2	X	88.23085	303.95715	9.06525	4.28982	0.1260527	0.26712214	2.3877900	21	12 29.9	20.8
507973 2015 BD ₇₉	18.1	X	257.91544	343.81720	186.29756	3.92334	0.0678137	0.28256691	2.2999683	21	—	—
507974 2015 BU ₉₀	17.5	X	246.78510	41.13079	141.72702	7.79179	0.1003103	0.27096899	2.3651371	21	—	—
507975 2015 BY ₉₀	17.9	X	70.16778	286.69973	125.32608	4.23130	0.1203281	0.30172681	2.2015410	21	—	—
507976 2015 BU ₉₅	18.6	X	356.52621	132.72121	311.24513	6.79001	0.1084195	0.29351900	2.2423939	21	—	—
507977 2015 BH ₉₈	16.0	X	162.44898	165.55401	312.02700	20.97506	0.0307132	0.21678750	2.7443946	21	7 6.3	20.0
507978 2015 BP ₁₀₀	17.2	X	300.22178	345.37321	137.45668	3.69807	0.0865233	0.27564160	2.3383322	21	—	—
507979 2015 BA ₁₀₄	17.0	X	269.58579	199.98609	161.37079	4.01638	0.1077097	0.20891889	2.8128781	21	6 3.6	21.0
507980 2015 BC ₁₀₇	16.5	X	252.34408	177.68957	297.75666	10.63259	0.1564711	0.24535297	2.5270190	21	9 29.8	20.2
507981 2015 BM ₁₁₄	18.2	X	24.96463	284.72058	168.12019	4.03973	0.1009242	0.30747337	2.1740242	21	—	—
507982 2015 BS ₁₁₉	18.2	X	270.65181	97.57416	82.55214	3.85664	0.1146026	0.28124043	2.3071945	21	—	—
507983 2015 BN ₁₂₀	18.5	X	279.13122	140.36322	12.19567	4.17670	0.0826057	0.28081116	2.3095452	21	—	—
507984 2015 BG ₁₃₀	17.5	X	96.23373	186.93538	55.91341	1.23415	0.1517575	0.23428962	2.6059577	21	10 9.2	21.3
507985 2015 BM ₁₄₀	17.7	X	45.01111	287.88814	76.68148	6.60352	0.1658868	0.27729760	2.3290133	21	—	—
507986 2015 BC ₁₄₉	17.7	X	324.45982	18.78146	113.83065	7.44237	0.0580268	0.29016410	2.2596453	21	—	—
507987 2015 BA ₁₅₇	17.5	X	300.65759	30.76569	88.71298	5.21697	0.0881403	0.27176004	2.3605452	21	—	—
507988 2015 BF ₁₆₁	17.1	X	56.82814	323.26445	330.63774	6.98047	0.1820673	0.23727735	2.5840358	21	10 30.5	20.7
507989 2015 BK ₁₆₉	18.4	X	212.66727	210.11830	6.12865	2.43511	0.0356955	0.27809760	2.3245446	21	—	—
507990 2015 BJ ₁₇₀	18.2	X	220.07946	79.85894	119.64144	4.78415	0.0577381	0.27349347	2.3505604	21	—	—
507991 2015 BS ₁₇₁	18.0	X	32.51861	65.39470	308.47276	6.38420	0.1445436	0.27633687	2.3344084	21	—	—
507992 2015 BG ₁₈₉	17.2	X	221.22888	69.83380	115.10550	7.21311	0.0640941	0.26701546	2.3884260	21	12 14.9	20.2
507993 2015 BA ₁₉₂	17.7	X	294.46050	147.08697	332.61694	3.95628	0.1410749	0.27412765	2.3469337	21	12 29.1	19.8
507994 2015 BS ₁₉₅	17.5	X	125.77328	191.26440	64.85574	4.49165	0.1181061	0.25244616	2.4794587	21	11 23.9	21.1
507995 2015 BT ₂₀₂	18.0											