

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
16001 1999 AY ₂₁	14.4	X	98.97501	352.19656	193.43989	4.83588	0.0962362	0.17914089	3.1165414	17	7 6.6	18.8
16002 Bertin	14.2	X	110.72499	165.21393	149.29857	8.02527	0.2028305	0.25214058	2.4814615	17	—	—
16003 1999 BX ₂	13.1	X	122.22129	1.72505	119.73196	10.72397	0.1360193	0.17460744	3.1702552	17	5 23.5	17.9
16004 1999 BZ ₃	14.2	X	29.71781	188.23603	145.83932	4.48907	0.1793731	0.29637281	2.2279758	17	11 2.9	16.2
16005 1999 BP ₇	14.2	X	114.20711	69.00907	113.92190	30.51254	0.2593614	0.23546673	2.5972655	17	8 9.3	18.4
16006 1999 BJ ₉	15.2	X	257.58113	73.11010	190.08464	2.06475	0.1871599	0.26585382	2.3953783	17	—	—
16007 Kaasalainen	13.8	X	359.87823	292.95439	325.25609	7.56292	0.0957513	0.28004276	2.3137680	17	4 19.3	16.3
16008 1999 CV	14.9	X	39.18918	197.70260	99.82823	6.50239	0.1791208	0.29238316	2.2481976	17	9 26.2	16.9
16009 1999 CM ₈	11.8	X	1.72475	327.47661	38.11975	16.02228	0.1571745	0.24406945	2.5358707	17	10 18.7	14.2
16010 1999 CG ₁₄	13.0	X	94.78099	111.29866	176.67835	10.16538	0.0894723	0.18742334	3.0240359	17	11 8.8	17.5
16011 1999 CM ₁₆	14.0	X	115.02027	73.88409	166.25393	5.64186	0.0582079	0.24171081	2.5523408	17	10 1.2	17.5
16012 Jamierubin	14.5	X	251.27433	278.18777	315.26189	2.30549	0.1668828	0.26183255	2.1984177	17	—	—
16013 Schmidgall	14.4	X	102.44589	137.28548	33.86984	2.29683	0.0651727	0.28388551	2.2928408	17	6 5.9	17.1
16014 Sinha	14.1	X	283.45661	89.12981	83.81264	3.45966	0.0246418	0.20416484	2.8563762	17	—	—
16015 Snell	13.7	X	32.00768	186.33795	73.76696	1.94885	0.1359267	0.17711038	3.1403161	17	7 12.2	17.4
16016 1999 CB ₅₄	14.4	X	120.91917	274.35628	48.07239	0.91219	0.0399496	0.30809803	2.1710847	17	—	—
16017 Street	14.2	X	43.80369	330.74724	280.89491	1.19417	0.0828929	0.23398460	2.6082219	17	7 9.9	17.1
16018 1999 CJ ₆₇	12.5	X	356.65219	76.81799	277.85527	12.39890	0.0369409	0.24310237	2.5425915	17	9 9.9	16.0
16019 Edwardsu	13.7	X	240.79832	10.71264	277.41937	6.53474	0.1386496	0.26774933	2.3840597	17	1 5.4	17.4
16020 Tevelde	14.9	X	336.94600	125.23615	174.68842	5.10120	0.1636476	0.28296982	2.2977845	17	5 7.3	17.2
16021 Caseyvaughn	14.6	X	72.73262	216.43862	298.01620	5.82054	0.0598015	0.27616351	2.3353852	17	3 23.3	17.3
16022 Wissnergross	15.3	X	307.08688	233.49869	12.09168	2.07937	0.1747266	0.27141112	2.3625679	17	1 13.8	18.8
16023 Alisonyee	14.6	X	107.70242	139.52739	97.81340	3.28863	0.1052537	0.24012779	2.5635459	17	9 25.2	18.1
16024 1999 CT ₁₀₁	12.7	X	44.05712	296.39329	6.80756	14.64395	0.1284055	0.23869845	2.5737695	17	9 29.1	15.6
16025 1999 CA ₁₀₄	14.2	X	340.79463	59.17773	228.31520	6.78729	0.2078359	0.28460124	2.2889950	17	4 13.4	16.6
16026 1999 CM ₁₁₈	14.8	X	42.20162	191.32023	208.21047	3.08325	0.0549149	0.31077920	2.1585797	17	—	—
16027 1999 DV ₁	13.7	X	341.88891	92.99629	97.08365	11.17058	0.0424221	0.21728425	2.7402102	17	1 18.3	17.3
16028 1999 DC ₆	13.5	X	17.45162	317.16344	259.71362	11.82317	0.0508577	0.27658440	2.3330154	17	3 21.2	16.5
16029 1999 DQ ₆	12.1	X	162.40500	346.29298	175.62269	15.15573	0.1697893	0.17712415	3.1401534	17	8 18.3	17.4
16030 1999 FS ₃	13.3	X	209.59029	41.07584	115.46993	9.18309	0.0967846	0.24255544	2.5644122	17	10 4.2	17.2
16031 1999 FJ ₁₀	13.2	X	315.96587	218.29712	99.76523	2.22403	0.1567592	0.17161816	3.2069626	17	5 19.8	17.3
16032 1999 FU ₃₀	13.2	X	125.39844	71.16770	215.27210	10.09146	0.0705686	0.19109512	2.9851740	17	12 6.7	17.7
16033 1999 FT ₃₂	13.0	X	136.13711	180.33613	166.97035	2.29177	0.1024914	0.19916897	2.9039442	17	—	—
16034 1999 FW ₃₂	13.9	X	173.32007	331.74259	317.98493	4.75872	0.1058790	0.25475643	2.4644458	17	—	—
16035 Sasandford	12.7	X	266.87208	163.87856	128.67684	9.53360	0.0913489	0.21191325	2.7863178	17	2 21.0	16.8
16036 Moroz	13.0	X	217.16238	296.31734	80.98477	7.08867	0.1448035	0.21696493	2.7428982	17	4 14.6	17.5
16037 Sheehan	12.9	X	353.16880	101.76761	187.20449	15.31230	0.0505093	0.17036267	3.2226991	17	6 18.0	17.5
16038 1999 GD ₁₈	12.2	X	281.90507	24.05593	49.59167	11.52248	0.0844793	0.18785759	3.0193738	17	9 16.0	16.5
16039 Zeglin	13.5	X	52.60595	175.42001	48.80090	1.79736	0.1277121	0.17205493	3.2015329	17	6 27.6	17.4
16040 1999 GN ₁₈	13.1	X	144.76699	70.94928	178.47817	10.29594	0.0535055	0.18966342	3.0001778	17	11 13.9	17.6
16041 1999 GM ₁₉	12.0	X	11.71225	341.59442	31.98130	10.47273	0.1128139	0.18745091	3.0237393	17	11 4.3	15.5
16042 1999 GA ₂₀	13.4	X	291.03489	144.83072	163.50667	4.21508	0.0852219	0.21757250	2.7377895	17	4 8.5	17.1
16043 Yichenzhang	14.3	X	212.22074	260.62187	206.52177	6.60265	0.1008773	0.28893788	2.2660338	17	7 25.6	17.7
16044 Kurtbchmann	13.8	X	158.98385	94.77199	189.04105	1.47568	0.0655909	0.19729943	2.9222599	17	—	—
16045 1999 HU ₂	12.6	X	18.44086	165.37416	108.90572	17.42104	0.0888478	0.17045138	3.2215809	17	7 6.4	16.5
16046 Gregnorman	13.1	X	191.46140	311.02636	229.71148	12.29547	0.1135564	0.18400606	3.0613616	17	10 5.5	18.0
16047 1999 JG ₁₀	13.2	X	166.23710	117.90353	153.54842	10.82538	0.0870291	0.19271915	2.9683798	17	12 30.6	17.9
16048 1999 JU ₂₃	13.7	X	147.16906	194.13525	39.04482	0.85400	0.1018713	0.18455836	3.0552510	17	10 27.9	18.4
16049 1999 JS ₃₂	13.5	X	194.55274	141.41000	145.28994	2.98023	0.0335531	0.19925355	2.9031224	17	—	—
16050 1999 JN ₃₅	13.2	X	217.39256	3.45968	118.78328	2.46001	0.1371802	0.18054681	3.1003412	17	8 23.2	18.1
16051 Bernero	14.0	X	208.77984	243.55591	144.40620	3.87814	0.0893269	0.21570383	2.7535786	17	4 18.4	18.1
16052 1999 JX ₃₆	13.5	X	268.01081	161.54020	226.11634	11.21998	0.2088983	0.22402031	2.6850010	17	6 6.7	17.6
16053 Brennan	14.0	X	62.23128	212.99405	247.08799	1.07013	0.0113462	0.20541794	2.8447480	17	1 15.1	17.9
16054 1999 JP ₅₅	12.9	X	348.28798	247.68856	107.87745	9.37582	0.1412541	0.17578389	3.1560945	17	9 5.6	16.7
16055 1999 JQ ₅₆	13.7	X	87.15649	226.69363	260.72918	8.05590	0.1002821	0.21355896	2.7719848	17	3 27.9	17.4
16056 1999 JN ₇₅	13.2	X	147.90380	274.82955	251.30826	13.69450	0.0893091	0.23199056	2.6231462	17	7 31.4	17.3
16057 1999 JO ₇₅	13.1	X	95.30700	287.95453	242.26242	10.42747	0.1390375	0.22519744	2.6756363	17	6 13.9	16.6
16058 1999 JP ₇₅	13.6	X	237.47648	174.80306	287.01897	7.07162	0.1522851	0.29064688	2.2571423	17	8 11.9	16.9
16059 Marybuda	13.8	X	22.51090	285.50994	103.52904	7.84202	0.0357545	0.24439578	2.5336128	17	12 11.2	17.0
16060 1999 JZ ₈₉	13.6	X	157.23067	169.63178	107.50890	11.57742	0.0732583	0.19252678	2.9703568	17	12 28.6	18.1
16061 1999 JQ ₁₁₇	13.1	X	306.78319	303.75710	117.09565	6.87051	0.1717134	0.18074287	3.0980989	17	9 18.1	17.0
16062 Buncher	14.4	X	96.36374	185.74412	93.96740	9.54279	0.0572042	0.28302168	2.2975038	17	11 4.7	17.4
16063 1999 NV ₃₆	15.6	X	102.11517	306.54909	63.15040	4.11525	0.2224348	0.29407525	2.2395653	17	—	—
16064 Davidharvey	16.7	X	230.82599	104.81674	335.57709	4.53950	0.5890649	0.20496442	2.8489428	17	6 23.8	22.8
16065 Borel	14.7	X	160.83346	165.86880	161.02799	3.43497	0.0415042	0.22701663	2.6613231	17	11 5.1	18.3
16066 Richardbressler	13.3	X	83.12142	318.35067	143.82474	10.88128	0.0863420	0.18635775	3.0355525	17	2 27.6	17.2
16067 1999 RA ₄₇	13.7	X	268.50133	44.89879	168.03676	9.16705	0.0513828	0.19032669	2.9932035	17	—	—
16068 Citron	14.6	X	91.15591	87.07052	137.96816	5.77122	0.1679680	0.27078919	2.3661839	17	8 26.7	17.4
16069 Marshafolger	15.2	X	167.02056	224.45058	133.74402	5.33216	0.1824591	0.24461375	2.5321075	17	1 29.0	18.8
16070 1999 RB ₁₀₁	9.7	X	223.14257	353.67215	300.87387	16.25107	0.1234215	0.08476848	5.1323127	17	2 1.6	17.1
16071 1999 RW ₁₂₅	13.4	X	177.66883	216.10732	293.99560	4.12393	0.1041556	0.21733628	2.7397729	17	8 17.2	17.5
16072 1999 RE ₁₂₈	16.0	X	144.75323	173.47404	154.47757	5.31919	0.2132558	0.24071337	2.5593867	17	—	—
16073 Gaskin	15.2	X	92.15791	51.43103	336.69843	4.92801	0.1447721	0.29411313	2.2393730	17	—	—
16074 Georgekaplan	14.7	X	25.35111	249.46233	129.35558	2.42486	0.0743283	0.22922175	2.6442276	17	12 4.1	17.8
16075 Meglass	14.8	X	233.07062	239.34869	159.51136	4.92707	0.1959887	0.26144890	2.4222084	17	5 17.9	18.7
16076 Barryhaase	13.6	X	326.84294	313.32824	195.03398	9.80752	0.0927111	0.24010035	2.5637412	17	—	—
16077 Ar												

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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>
16081 1999 <i>SR</i> ₁₅	12.9 ^m	X	190.68758 ^o	16.89797 ^o	255.15444 ^o	7.49860 ^o	0.1332877 ^o	0.18141678 ^o	3.0904217	17	—	—
16082 1999 <i>TR</i> ₅	14.2	X	165.04378	322.85403	27.78551	8.19485	0.2085956	0.24170638	2.5523720	17	1 23.8	18.2
16083 Jorvik	15.0	X	234.55017	205.98569	142.42628	6.14343	0.2138041	0.30888454	2.1673977	17	3 9.7	18.4
16084 1999 <i>TY</i> ₁₈	14.9	X	273.88860	229.98336	215.51752	1.38125	0.1825978	0.26712329	2.3877831	17	8 30.5	18.0
16085 Laffan	14.7	X	38.61885	349.82763	355.03090	1.82281	0.0741232	0.21926985	2.7236425	17	11 6.6	18.1
16086 1999 <i>TF</i> ₉₀	13.4	X	259.06691	14.20760	145.59736	1.36971	0.1230516	0.17105334	3.2140183	17	11 20.8	18.0
16087 1999 <i>TR</i> ₁₀₂	13.7	X	162.69761	159.09035	132.63738	15.84300	0.1499412	0.23166351	2.6256145	17	—	—
16088 1999 <i>TJ</i> ₁₂₁	14.0	X	237.12827	313.07180	53.61138	3.99211	0.0353685	0.25519270	2.4616363	17	4 17.6	17.1
16089 Lamb	14.1	X	160.16952	119.62058	119.43053	3.12345	0.1422352	0.22548102	2.6733925	17	11 20.3	18.4
16090 Lukaszewski	15.5	X	237.27690	249.04001	141.53380	5.37501	0.1127757	0.25837973	2.4413521	17	5 15.9	19.2
16091 Malchiodi	14.5	X	125.55822	63.40640	176.86537	4.84611	0.1908518	0.27380533	2.3487752	17	10 26.4	18.1
16092 1999 <i>TP</i> ₁₇₁	15.1	X	71.16103	114.19964	122.89328	0.59852	0.1441443	0.26428696	2.4048365	17	8 10.5	17.7
16093 1999 <i>TQ</i> ₁₈₀	13.3	X	219.16081	35.27491	185.43869	5.33267	0.0859132	0.17136479	3.2101228	17	12 22.7	18.2
16094 Scottmccord	15.4	X	292.68614	192.71880	131.27521	5.71799	0.1148108	0.25771045	2.4455771	17	4 21.6	18.7
16095 1999 <i>TA</i> ₂₄₉	14.7	X	278.07792	327.81129	164.63430	6.94561	0.0566762	0.27468406	2.3437633	17	12 2.7	17.6
16096 1999 <i>US</i> ₆	15.5	X	115.26512	95.47418	211.99891	1.54869	0.1996247	0.22960000	2.6413227	17	—	—
16097 1999 <i>VE</i> ₅₀	15.0	X	62.57079	206.45189	79.62717	3.32094	0.1586931	0.27100361	2.3649357	17	10 11.6	17.7
16098 1999 <i>VR</i> ₉	14.2	X	146.31979	308.50715	100.82336	6.76497	0.2777557	0.24062029	2.5600467	17	3 26.9	18.3
16099 1999 <i>VQ</i> ₂₄	10.7	X	258.30760	276.79178	96.37093	13.45309	0.0819556	0.08339064	5.1886916	17	6 7.3	17.7
16100 1999 <i>VO</i> ₃₀	15.6	X	301.94146	72.15787	219.57971	1.46014	0.1143715	0.30549631	2.1833938	17	3 7.3	18.5
16101 Notskas	13.9	X	344.09985	259.05682	58.91470	2.82787	0.0513185	0.20317935	2.8656051	17	7 10.5	17.5
16102 Barshannon	15.4	X	94.05285	17.17313	218.49841	2.04096	0.1331580	0.26411238	2.4058962	17	9 7.5	18.5
16103 Lorsolomon	14.5	X	74.67468	185.47583	39.01717	2.83991	0.1609684	0.26437131	2.4043250	17	8 1.4	17.2
16104 Stesullivan	14.4	X	246.23721	69.75867	145.78909	6.36346	0.1068597	0.28614856	2.2807360	17	—	—
16105 Marksanders	13.2	X	162.93024	170.83034	196.23183	10.55620	0.1295981	0.18391395	3.0623837	17	2 9.5	18.0
16106 Carmagnola	13.9	X	290.69126	20.40790	105.67627	4.83846	0.0456303	0.27671363	2.3322889	17	12 13.2	16.4
16107 Chanmugam	14.4	X	60.29261	124.09762	198.37156	4.48599	0.0453965	0.21910971	2.7249694	17	11 4.2	17.9
16108 1999 <i>WV</i> ₃	14.2	X	136.40519	292.62053	28.51739	7.67353	0.1224579	0.28352358	2.2947916	17	—	—
16109 1999 <i>WH</i> ₆	14.4	X	183.69769	169.93910	94.63975	4.80934	0.1400699	0.28295235	2.2978791	17	—	—
16110 Paganetti	14.4	X	94.11595	206.42306	129.34351	4.71979	0.1554093	0.28056372	2.3109030	17	—	—
16111 1999 <i>XT</i> ₄	14.6	X	346.28679	198.39896	90.20422	3.88976	0.1677620	0.25754103	2.4466495	17	5 11.1	17.0
16112 Vitaris	15.0	X	5.98018	209.33022	140.03235	6.35992	0.1441464	0.26977145	2.3721313	17	10 3.1	17.1
16113 Ahmed	14.3	X	246.62426	210.24015	150.0370	2.67945	0.0916787	0.19788589	2.9164834	17	4 26.3	18.8
16114 Alyono	14.6	X	347.99391	342.46026	328.05266	1.75618	0.1993798	0.26424241	2.4051068	17	6 10.8	16.6
16115 1999 <i>XH</i> ₂₅	13.1	X	355.81802	336.89114	117.65109	2.67301	0.1442918	0.16969642	3.2311288	17	—	—
16116 Balakrishnan	14.8	X	341.56892	173.86093	161.23863	2.38956	0.2376357	0.26480237	2.4017150	17	6 30.7	16.7
16117 1999 <i>XS</i> ₂₉	13.8	X	82.47104	187.55365	198.12010	6.93495	0.1561902	0.17377077	3.1804231	17	—	—
16118 Therberens	14.6	X	359.48053	99.55151	75.36745	5.77759	0.1501224	0.29121372	2.2542124	17	—	—
16119 Bronner	14.6	X	102.76677	141.30371	132.57177	2.00960	0.1941471	0.27073187	2.3665179	17	11 15.6	18.0
16120 Burnim	14.8	X	169.88636	160.95799	198.09966	2.10998	0.1317009	0.18366632	3.0651357	17	2 9.3	19.5
16121 Burrell	15.1	X	132.23317	18.36670	188.73635	0.84021	0.1112971	0.26159466	2.4213085	17	9 12.5	18.6
16122 Wenyicai	15.7	X	201.64158	312.38017	190.11095	2.12362	0.1701997	0.26119723	2.4237641	17	8 30.2	19.5
16123 Jessiecheng	14.3	X	62.67407	198.35566	116.66005	3.33064	0.2229451	0.26860696	2.3789823	17	11 28.7	17.4
16124 Timdong	14.9	X	254.93107	308.54134	190.65433	1.61065	0.1553008	0.26640477	2.3920746	17	10 23.6	18.1
16125 1999 <i>XK</i> ₈₆	13.6	X	196.74291	84.24112	285.71244	9.19501	0.1312461	0.24080762	2.5587189	17	3 5.6	17.8
16126 1999 <i>XQ</i> ₈₆	12.9	X	137.96133	271.60946	102.92688	13.09681	0.1285859	0.23396343	2.6083792	17	1 26.3	16.6
16127 Farzan-Kashani	15.3	X	7.19937	54.92782	120.89977	2.64000	0.0914567	0.29050764	2.2578635	17	1 2.5	17.7
16128 Kirfrieda	15.6	X	258.56313	295.54819	157.37853	1.37557	0.1460457	0.26233775	2.4167340	17	8 27.4	18.7
16129 Kevingao	14.9	X	96.83056	73.03266	261.93790	4.19650	0.2082668	0.28063741	2.3104984	17	—	—
16130 Giovine	14.3	X	89.85291	301.87048	4.26242	0.64071	0.0793957	0.27211650	2.3584833	17	11 29.8	17.4
16131 Kaganovich	14.3	X	214.73296	75.75941	16.74867	2.03014	0.0183242	0.20185555	2.8781201	17	7 20.3	18.3
16132 Angelakim	14.2	X	83.01594	324.23190	286.25596	1.74312	0.1415328	0.25954173	2.4340599	17	9 14.6	17.1
16133 1999 <i>XC</i> ₁₀₀	12.6	X	265.09209	182.60168	90.36668	8.66657	0.0221966	0.18034137	3.1026954	17	2 9.7	17.1
16134 1999 <i>XE</i> ₁₀₀	12.9	X	38.16087	351.59076	81.37094	8.58498	0.1729168	0.17051527	3.2027761	17	—	—
16135 Ivarsson	13.9	X	339.38679	334.81336	4.03268	3.31012	0.1566408	0.21016758	2.8017254	17	7 21.7	16.9
16136 1999 <i>XR</i> ₁₀₉	14.9	X	272.55501	34.85943	166.33782	3.03656	0.0800744	0.28538177	2.2848195	17	—	—
16137 1999 <i>XX</i> ₁₁₆	15.4	X	14.02678	17.97162	337.88710	2.52087	0.2380088	0.27355415	2.3502127	17	11 8.3	17.1
16138 1999 <i>XV</i> ₁₁₉	13.6	X	141.37803	190.92658	38.46371	9.74319	0.0970712	0.21411756	2.7671616	17	10 19.9	17.8
16139 1999 <i>XO</i> ₁₂₀	12.9	X	298.42551	151.40038	37.74934	9.34162	0.1174721	0.17577570	3.1561926	17	—	—
16140 1999 <i>XD</i> ₁₂₅	13.4	X	245.35436	103.02669	30.52634	9.45944	0.1072400	0.21365323	2.7711694	17	10 9.9	17.4
16141 1999 <i>XT</i> ₁₂₇	14.3	X	223.37312	136.68007	208.12783	8.70768	0.1219947	0.24678175	2.5172558	17	3 1.1	18.3
16142 Leung	14.2	X	179.83897	197.77354	127.85046	8.83810	0.3002331	0.29364910	2.2417315	17	1 2.1	17.7
16143 1999 <i>XK</i> ₁₄₂	14.0	X	151.25125	21.81055	311.62284	9.32716	0.3390322	0.28993352	2.2608431	17	—	—
16144 Korsten	12.9	X	230.93534	42.33661	320.58339	10.08845	0.1064975	0.18924213	3.0046289	17	4 7.1	17.7
16145 1999 <i>XP</i> ₁₆₆	13.1	X	312.33090	90.33750	300.15042	7.47586	0.1521955	0.21121176	2.7924837	17	8 14.9	16.6
16146 1999 <i>XW</i> ₁₇₀	13.3	X	71.44473	0.55063	308.79775	7.34153	0.1462140	0.21295842	2.7771937	17	11 12.9	17.4
16147 Jeanli	14.0	X	214.55029	241.70395	61.38054	5.90044	0.2223706	0.28639222	2.7924421	17	—	—
16148 1999 <i>XG</i> ₁₈₈	13.4	X	235.64991	196.92148	304.50099	8.20495	0.1015696	0.21121176	2.7924837	17	10 3.4	17.7
16149 1999 <i>XS</i> ₂₁₅	13.3	X	244.15206	166.02155	178.40722	9.15380	0.0448701	0.18540214	3.0459742	17	4 9.2	17.7
16150 Clinch	14.4	X	106.40921	254.05940	70.39639	14.48750	0.2264926	0.23108891	2.6299651	17	—	—
16151 1999 <i>XF</i> ₂₃₀	13.6	X	207.81090	222.50100	16.68864	11.67358	0.1452396	0.22577603	2.6710632	17	—	—
16152 1999 <i>YN</i> ₁₂	12.0	X	227.13967	347.71618	64.16267	3.45633	0.0945588	0.08482349	5.1300937	17	6 17.0	19.1
16153 2000 <i>AB</i>	12.8	X	273.64314	116.43876	135.00705	5.75410	0.1132565	0.17356005	3.1829968	17	1 15.2	17.7
16154 Dabramo	12.5	X	175.16422	22.69441	304.75346	6.17115	0.0441895	0.17208287	3.2011863	17	1 5.3	17.2
16155 Buddy	13.8	X	327.49867	319.47647	119.03895	5.33415	0.1484230	0.21757385	2.7377781	17	11 21.0	16.8
16156 2000 <i>AP</i> ₃₉	12.4	X										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16161 2000 AC ₆₈	13.6 ^m	X	62.55856	187.28374	110.31798	11.52081	0.2408866	0.25523794	2.4613454	17	11 11.0	17.0
16162 2000 AD ₆₈	12.5	X	241.34629	272.67342	105.06811	11.12144	0.1018282	0.18750246	3.0231851	17	5 14.9	17.3
16163 Suhanli	14.8	X	332.22847	153.10318	208.42019	1.52155	0.2035073	0.26544899	2.3978131	17	7 29.4	16.8
16164 Yangli	14.5	X	336.11831	183.95821	151.42885	2.61725	0.0393159	0.20363884	2.8612928	17	7 22.8	18.3
16165 Licht	14.7	X	90.05586	250.08993	184.15470	2.71181	0.1275648	0.28911547	2.2651058	17	—	—
16166 Jonlii	14.9	X	140.17245	236.79357	130.00477	5.86056	0.1641921	0.23160425	2.6260624	17	1 11.1	18.4
16167 Oertli	15.1	X	105.43903	184.51008	164.74070	3.77750	0.1947799	0.27784514	2.3259525	17	—	—
16168 Palmen	16.0	X	313.18263	242.21289	197.14188	0.76061	0.1597498	0.26714912	2.3876292	17	10 29.3	18.1
16169 2000 AO ₉₅	14.6	X	317.09497	258.85927	96.46828	1.70343	0.0693386	0.30816077	2.1707900	17	7 10.5	16.7
16170 2000 AS ₉₅	13.0	X	187.20676	282.38829	125.09248	10.57099	0.0949568	0.18445612	3.0563799	17	4 27.6	17.9
16171 2000 AD ₉₇	13.7	X	241.67859	216.98804	344.14982	7.92963	0.2137835	0.26698280	2.3886207	17	12 19.3	17.1
16172 2000 AZ ₉₇	14.1	X	81.20095	343.17138	96.00442	5.66266	0.0893007	0.28254255	2.3001005	17	—	—
16173 2000 AC ₉₈	14.1	X	348.57199	193.96757	70.99218	5.25494	0.2121906	0.29179184	2.2512339	17	3 25.7	16.4
16174 Parihar	14.9	X	120.58071	244.72433	175.24077	5.47479	0.1338512	0.29112669	2.2546616	17	1 30.6	17.2
16175 Rypatterson	14.5	X	12.80455	44.07292	214.75614	6.02857	0.0794938	0.24620357	2.5211953	17	5 26.5	17.4
16176 2000 AZ ₁₂₆	13.3	X	54.90531	41.07476	296.75981	8.11581	0.1670566	0.20988094	2.8042757	17	12 2.3	17.2
16177 Pelzer	14.4	X	152.99037	88.24772	197.29955	1.97185	0.1520379	0.26991037	2.3713173	17	—	—
16178 2000 AT ₁₂₇	13.6	X	16.87964	294.35328	184.08012	1.04717	0.0886007	0.16906311	3.2391929	17	—	—
16179 2000 AL ₁₃₄	13.7	X	292.91187	291.41346	314.75442	0.28913	0.1217282	0.17772510	3.1330708	17	1 27.3	18.1
16180 Rapoport	14.4	X	352.10171	176.69951	117.25331	5.53979	0.1501184	0.29841721	2.2177886	17	5 25.7	16.4
16181 2000 AC ₁₃₇	13.2	X	352.91654	206.66006	16.65441	5.13065	0.1388570	0.17439234	3.1728615	17	3 16.9	17.2
16182 2000 AH ₁₃₇	13.6	X	284.11872	223.79095	130.57764	6.39363	0.2043080	0.29952142	2.2123345	17	5 5.2	16.8
16183 2000 AH ₁₃₈	13.3	X	134.76745	191.56110	108.68733	6.65003	0.1912390	0.17534662	3.1613393	17	—	—
16184 2000 AH ₁₄₂	13.0	X	194.46086	318.30427	282.58048	8.02338	0.1007023	0.21220165	2.7837926	17	12 24.5	17.1
16185 2000 AH ₁₆₄	13.7	X	21.17012	87.19812	179.73410	8.95794	0.0556110	0.19009328	2.9956533	17	6 27.4	17.7
16186 2000 AK ₁₆₄	13.5	X	25.23774	34.94847	188.52661	13.74758	0.1125490	0.23558431	2.5964013	17	4 29.2	16.3
16187 2000 AP ₁₆₄	13.2	X	5.27943	200.76843	316.54075	11.80396	0.0957736	0.22314037	2.6920551	17	—	—
16188 2000 AH ₁₇₅	13.4	X	5.60441	194.19224	177.08494	9.41447	0.1630072	0.21400365	2.7681435	17	10 31.4	16.3
16189 Riehl	13.9	X	323.55183	161.05105	146.43049	13.76721	0.0155348	0.19834162	2.9120142	17	6 4.1	18.2
16190 2000 AK ₁₉₁	13.4	X	281.24223	37.01770	232.65639	14.16074	0.0786868	0.23585836	2.5941916	17	1 28.8	17.4
16191 Rubyroe	15.4	X	4.47263	224.37509	122.93601	0.40528	0.2138463	0.26357160	2.4091858	17	9 27.3	16.8
16192 Laird	15.5	X	85.60573	226.11205	109.27889	2.45362	0.2319405	0.28111267	2.3078935	17	—	—
16193 Nickaiser	14.6	X	285.04218	34.85624	108.83820	3.48377	0.0233476	0.22208842	2.7005493	17	12 22.9	18.3
16194 Roderick	12.7	X	338.96163	38.11933	163.89317	13.02581	0.1103274	0.17526093	3.1623697	17	1 30.0	17.0
16195 2000 AQ ₂₃₆	13.2	X	102.23658	151.95929	303.00146	15.10994	0.0581381	0.17560743	3.1582084	17	3 6.6	17.9
16196 2000 AR ₂₃₆	12.8	X	261.96598	11.50151	311.41585	18.98389	0.0629142	0.17851195	3.1238573	17	3 21.8	17.8
16197 Bluepeter	13.7	X	24.44331	87.63313	267.29101	10.38010	0.2368630	0.26284170	2.4136439	17	11 27.5	16.0
16198 Buzios	13.3	X	283.55180	133.77324	189.44086	12.48406	0.1727402	0.23891521	2.5722126	17	4 3.7	17.1
16199 Rozenblyum	14.3	X	224.04131	344.53835	96.04308	3.03461	0.0716713	0.19528512	2.9423203	17	7 12.4	18.7
16200 2000 BT ₂₈	13.1	X	256.17932	158.28187	131.02612	5.96243	0.1140659	0.17363635	3.1820643	17	2 11.4	18.0
16201 2000 CK ₁	15.0	X	216.61906	177.05360	70.00700	1.36193	0.1700113	0.26967669	2.3726869	17	—	—
16202 Srivastava	14.6	X	120.98663	118.25431	171.70777	2.41096	0.1556978	0.26407181	2.4061425	17	12 18.8	18.3
16203 Jessicastahl	14.5	X	303.55401	143.99952	168.81035	3.72779	0.1552205	0.24045186	2.5612421	17	4 15.7	18.0
16204 2000 CT ₃₃	14.2	X	137.59821	253.26802	2.25334	1.27941	0.0247139	0.20670396	2.8329366	17	11 10.6	18.2
16205 2000 CC ₃₄	15.2	X	279.08504	230.02584	39.19862	0.26642	0.2084810	0.28242002	2.3007657	17	1 11.7	18.8
16206 2000 CL ₃₉	12.9	X	25.45040	58.92480	7.42120	12.31995	0.1287347	0.21633817	2.7481933	17	—	—
16207 Montgomery	13.5	X	335.10369	319.12587	7.20463	9.60817	0.0887053	0.19107107	2.9854245	17	7 6.9	17.4
16208 2000 CL ₅₂	13.2	X	327.76758	33.92746	250.64555	2.73303	0.1662296	0.18039067	3.1021301	17	4 19.2	17.1
16209 Sterner	15.3	X	350.13958	192.18765	190.05439	0.71913	0.1936744	0.26298507	2.4127666	17	10 18.6	16.9
16210 2000 CY ₆₁	13.1	X	5.36119	351.91076	296.04872	10.25997	0.2761321	0.18343651	3.0676952	17	6 26.6	15.6
16211 Samirsur	15.4	X	247.52633	146.76682	120.15615	3.86662	0.1164961	0.27969935	2.1556615	17	—	—
16212 Theberge	14.8	X	91.16344	321.48422	143.11217	6.40205	0.0896322	0.28899339	2.2657437	17	2 11.4	17.0
16213 2000 CG ₈₅	13.0	X	116.64378	55.27343	337.20703	15.85463	0.0826340	0.16938668	3.3350665	17	1 24.2	17.7
16214 Venkatachalam	14.1	X	203.54836	175.79213	119.23370	7.31078	0.1444560	0.27663755	2.3271165	17	—	—
16215 Venkatraman	15.7	X	76.84170	189.22236	9.26946	3.18524	0.0842732	0.29982987	2.2108169	17	6 7.0	17.8
16216 2000 DR ₄	13.2	X	278.54106	239.15572	5.84360	9.39148	0.1001039	0.22588769	2.6701829	17	1 2.5	17.3
16217 Peterbroughton	15.2	X	196.21977	228.08118	170.54971	4.14254	0.2059804	0.24037411	2.5617943	17	4 17.9	19.4
16218 Mintakeyes	13.6	X	18.10035	116.70124	79.71177	2.66568	0.0953038	0.17515692	3.1636214	17	3 25.7	17.6
16219 Venturelli	16.5	X	15.29489	331.57106	73.44723	0.42302	0.2072866	0.27051983	2.3677544	17	—	—
16220 Mikewagner	14.4	X	115.69667	150.39498	196.73959	2.37832	0.0678035	0.21694447	2.7430706	17	—	—
16221 Kevinyang	15.5	X	22.87551	150.33076	167.83600	6.51446	0.1596314	0.25314616	2.4748857	17	9 17.5	17.6
16222 Donnanderson	16.0	X	335.81460	194.33054	109.88386	1.71288	0.0222388	0.29983761	2.2107789	17	5 30.8	18.3
16223 2000 DR ₆₉	13.7	X	43.97998	343.90995	338.47763	1.59414	0.0484829	0.19944989	2.9012168	17	10 11.3	17.6
16224 2000 DU ₆₉	13.4	X	26.87934	164.88856	152.04267	1.89777	0.1047507	0.19553291	2.9398340	17	9 15.9	16.8
16225 Georgebaldo	15.2	X	242.27139	134.93546	228.82475	1.71621	0.0176042	0.23712448	2.5851463	17	4 23.4	18.7
16226 Beaton	13.8	X	324.89138	276.76037	356.40636	8.22254	0.0358026	0.17869225	3.1217557	17	4 17.6	18.1
16227 2000 DY ₇₃	13.8	X	75.26032	63.37827	249.72794	0.95221	0.0809050	0.20195850	2.8771420	17	11 14.4	17.6
16228 2000 EC ₃₉	13.7	X	280.64296	298.76756	34.56303	0.37689	0.1613657	0.17810115	3.1286590	17	4 23.4	18.4
16229 2000 EM ₄₆	14.0	X	151.82937	227.84131	180.65561	0.94182	0.1353201	0.17244245	3.1967347	17	3 24.6	18.9
16230 Benson	14.0	X	211.15770	79.91120	291.42467	7.99855	0.0770640	0.23171115	2.6252546	17	3 22.3	18.0
16231 Jessberger	14.0	X	306.93392	200.48992	113.79404	2.92185	0.1386948	0.18085567	3.0968105	17	5 4.6	18.3
16232 Chijagerbs	12.7	X	100.74143	254.99218	251.21264	7.92943	0.1121156	0.12564254	3.9480099	17	5 28.7	18.2
16233 2000 FA ₁₂	12.7	X	199.36426	83.89808	304.57575	13.95623	0.1195960	0.23283936	2.6167674	17	3 28.9	17.0
16234 Bosse	14.2	X	108.99526	238.55638	132.19091	7.40808	0.1338050	0.27305176	2.3530946	17	—	—
16235 2000 FF ₄₆	13.4	X	52.53409	324.87567	74.81722	9.20924	0.2266098	0.21271070	2.7793495	17	—	—
16236 Stebrehmer	14.7	X	324.76641	130.43694	163.83314	2.81456	0.2094054	0.23147126	2.6270681	17	4 12.2	17.9
16237 2000 GX ₇₆	13.7	X	65.90171	42.78852	213.							

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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>
16241 Dvorsky	14.3	X	105.52995	356.89057	187.82953	8.41583	0.1288758	0.23801840	2.5786695	17	7 13.6	18.0
16242 2000 <i>GT</i> ₁₂₆	13.9	X	255.66733	329.23645	203.49682	11.31732	0.1262166	0.25835068	2.4415351	17	12 11.8	17.2
16243 Rosenbauer	12.9	X	183.88226	83.91975	293.39815	17.52499	0.1955840	0.17531234	3.1617514	17	3 11.2	18.5
16244 Brož	14.6	X	153.54325	296.34923	84.79704	3.81856	0.2612411	0.27808367	2.3246222	17	2 16.4	17.9
16245 2000 <i>GM</i> ₁₆₀	14.4	X	110.93847	166.14638	283.43596	4.19172	0.1476384	0.17206111	3.2014563	17	3 29.0	18.9
16246 Cantor	14.4	X	323.66349	241.88051	109.00397	0.42235	0.1883373	0.18135410	3.0911338	17	7 7.7	18.0
16247 Esner	15.0	X	69.98092	98.16598	269.87171	0.98059	0.0872428	0.20482846	2.8502034	17	—	—
16248 Fox	14.1	X	189.43657	189.64161	230.20524	2.38666	0.1317570	0.28793381	2.2712988	17	4 28.6	17.2
16249 Cauchy	14.2	X	184.91869	208.58129	69.31863	2.95987	0.0280288	0.20620889	2.8374690	17	—	—
16250 Delbó	14.9	X	199.71717	231.07730	149.69971	6.74729	0.1480132	0.28035173	2.3120678	17	3 22.7	18.3
16251 Barbifrank	15.5	X	128.99837	142.11117	189.03623	1.68870	0.2187224	0.26090165	2.4255943	17	—	—
16252 Franfrost	13.9	X	38.68869	195.17712	184.92917	2.28298	0.1810108	0.25555068	2.4593369	17	—	—
16253 Griffis	14.1	X	225.55442	225.00426	223.97047	11.34402	0.1372909	0.18571177	3.0425876	17	7 17.7	19.1
16254 Harper	14.4	X	125.15423	170.79632	157.21004	2.43233	0.0710293	0.20440865	2.8541045	17	—	—
16255 Hampton	14.2	X	339.83987	105.79487	278.81044	0.85829	0.1216273	0.19452168	2.9500137	17	9 27.4	17.5
16256 2000 <i>JM</i> ₂	14.8	X	143.96121	36.79857	190.13140	21.75348	0.0878962	0.36268510	1.9473749	17	10 28.1	17.2
16257 2000 <i>JY</i> ₆	12.4	X	255.91855	131.08252	129.45653	19.95251	0.1144328	0.21333160	2.7739540	17	—	—
16258 Willhayes	14.4	X	54.26786	297.80214	57.21419	8.63605	0.1299460	0.25445970	2.4663614	17	12 24.1	17.5
16259 Housinger	14.1	X	160.95236	346.22945	56.92751	11.28476	0.1626274	0.22338986	2.6900504	17	3 26.9	18.4
16260 Sputnik	13.8	X	129.98767	81.97283	284.76999	4.68007	0.1913797	0.26488613	2.4012087	17	—	—
16261 Iidemachi	12.3	X	34.96809	131.32987	215.98255	10.08376	0.0489049	0.19186011	2.9772337	17	10 30.9	16.3
16262 Rikurtz	14.3	X	94.57439	198.77729	27.80721	2.72690	0.0302791	0.18454535	3.0553947	17	8 14.6	18.6
16263 2000 <i>JV</i> ₃₇	14.2	X	10.01197	239.29667	0.04930	0.12954	0.1543445	0.17159722	3.2072234	17	5 4.7	17.9
16264 Richlee	14.8	X	304.18110	255.46673	57.55336	3.16608	0.0854287	0.22878885	2.6475620	17	4 28.8	18.1
16265 Lemay	13.9	X	284.21434	196.66550	174.75250	1.06228	0.1809777	0.17952555	3.1120880	17	6 11.2	18.4
16266 Johconnell	13.9	X	238.26806	156.02814	57.87474	16.22207	0.0832314	0.20533376	2.8455255	17	—	—
16267 Mcdermott	14.0	X	119.07793	16.07914	222.07712	2.55087	0.0506296	0.18928351	3.0041909	17	9 29.3	18.3
16268 Mcneeley	15.6	X	145.14408	76.34994	227.28998	1.59621	0.1684014	0.25820511	2.4424527	17	—	—
16269 Merkord	14.5	X	301.32955	215.82888	145.83144	0.75837	0.1769916	0.17991983	3.1075397	17	6 20.5	18.7
16270 2000 <i>JH</i> ₄₈	12.8	X	141.79007	76.84976	10.15762	9.47868	0.0653760	0.22802035	2.6535074	17	4 11.5	16.4
16271 Duanenichols	14.9	X	211.09493	38.01580	193.96690	4.52771	0.1412872	0.26086054	2.4258491	17	—	—
16272 2000 <i>JS</i> ₅₅	12.5	X	208.61052	3.96665	69.67065	17.22558	0.2003341	0.17970988	3.1099596	17	6 13.3	17.8
16273 Oneill	14.2	X	8.78637	51.82341	163.86351	4.29646	0.0563264	0.28266954	2.2994116	17	3 10.7	16.5
16274 Pavlica	14.6	X	199.20362	254.82374	74.73281	7.28432	0.1534362	0.27077659	2.3662574	17	1 18.1	18.1
16275 2000 <i>JP</i> ₅₈	13.8	X	356.95023	96.38875	181.09098	4.30338	0.1778344	0.23065311	2.6332768	17	5 19.8	16.3
16276 2000 <i>JX</i> ₆₁	13.7	X	339.25425	83.78667	263.87597	9.67762	0.1843378	0.23265596	2.6181424	17	6 12.0	16.5
16277 Mallada	13.5	X	95.58893	328.38219	93.16650	8.46715	0.0753281	0.21554837	2.7549024	17	1 14.0	17.0
16278 2000 <i>JM</i> ₇₇	13.2	X	190.69418	22.36626	42.35513	0.97913	0.1885734	0.17395943	3.1781232	17	5 20.2	18.4
16279 2000 <i>KJ</i> ₂₃	12.9	X	78.87950	158.39998	77.10975	2.39389	0.1205741	0.18196721	3.0841865	17	8 19.1	17.0
16280 Groussin	14.3	X	29.95237	157.46401	170.48060	5.03678	0.1603597	0.29491330	2.2353205	17	10 20.9	16.2
16281 2071 <i>P-L</i>	15.3	X	74.74963	107.32381	217.61562	2.14420	0.1024390	0.22686829	2.6624830	17	12 4.2	18.8
16282 2512 <i>P-L</i>	14.6	X	217.10998	315.12327	348.65521	1.44326	0.0286966	0.23254676	2.6189619	17	1 6.5	18.3
16283 2545 <i>P-L</i>	14.2	X	136.80497	354.01634	11.26132	9.53959	0.1734878	0.21440732	2.7646680	17	1 13.8	18.2
16284 2861 <i>P-L</i>	14.8	X	111.80305	299.99647	172.18733	0.53523	0.1565495	0.18256778	3.0774190	17	4 28.8	19.0
16285 3047 <i>P-L</i>	13.1	X	17.64581	256.16638	332.76922	13.35300	0.1700835	0.18545137	3.0454351	17	4 24.1	16.8
16286 4057 <i>P-L</i>	14.0	X	218.41636	101.21043	339.91781	5.49168	0.0380509	0.20436308	2.8545287	17	7 8.9	18.1
16287 4096 <i>P-L</i>	14.0	X	222.70778	210.07057	201.08928	14.52120	0.1269101	0.18578481	3.0417901	17	6 2.2	19.0
16288 4169 <i>P-L</i>	14.5	X	84.89325	72.06547	242.98349	4.86399	0.1190398	0.22721831	2.6597481	17	12 5.8	18.2
16289 4201 <i>P-L</i>	14.8	X	303.46946	206.26882	272.90660	3.89368	0.0280310	0.21027739	2.8007499	17	12 14.0	18.3
16290 4204 <i>P-L</i>	14.4	X	17.29164	151.10817	206.35935	9.95762	0.0576038	0.19093448	2.9868482	17	10 20.1	18.3
16291 4315 <i>P-L</i>	14.7	X	359.45885	51.15090	210.84395	1.46069	0.0232679	0.20285427	2.8686657	17	5 19.9	18.4
16292 4557 <i>P-L</i>	15.9	X	359.72742	152.08901	174.61462	3.03855	0.2510409	0.29314667	2.2442922	17	7 31.8	16.7
16293 4613 <i>P-L</i>	15.6	X	8.24774	272.78499	27.12564	3.49538	0.2444587	0.24035743	2.5619128	17	7 17.3	17.2
16294 4758 <i>P-L</i>	14.9	X	124.28196	56.95002	8.99455	4.97776	0.1442761	0.18040972	3.1019116	17	3 16.6	19.4
16295 4820 <i>P-L</i>	14.1	X	131.73792	95.10559	21.78691	9.42878	0.0311565	0.18478280	3.0527766	17	5 9.2	18.4
16296 6308 <i>P-L</i>	14.9	X	71.91975	32.05849	219.44079	2.33690	0.0282157	0.24061019	2.5601183	17	8 13.2	18.2
16297 6346 <i>P-L</i>	13.7	X	289.18906	167.77812	354.83645	13.12517	0.0755473	0.21178991	2.7873994	17	—	—
16298 6529 <i>P-L</i>	14.3	X	165.53657	200.36286	126.42724	2.23648	0.1569558	0.18049374	3.1009490	17	1 2.3	19.1
16299 6566 <i>P-L</i>	14.7	X	356.24684	171.91327	159.20305	4.38258	0.2948830	0.24157264	2.5533139	17	7 30.3	16.0
16300 6569 <i>P-L</i>	13.4	X	4.90259	154.73930	133.23844	2.71397	0.1267737	0.16960889	3.2322403	17	7 2.1	17.2
16301 6576 <i>P-L</i>	14.2	X	10.52096	78.07721	26.99193	4.05870	0.0851731	0.28205355	2.3027582	17	—	—
16302 6634 <i>P-L</i>	14.0	X	61.60921	26.84526	80.28990	3.63750	0.1192792	0.18014998	3.1048925	17	2 7.4	17.7
16303 6639 <i>P-L</i>	14.4	X	83.73671	313.43390	138.88595	2.81575	0.1536533	0.17999152	3.1067146	17	2 25.9	18.4
16304 6704 <i>P-L</i>	15.5	X	224.79156	153.16766	132.13635	1.26470	0.2033070	0.26795162	2.3828596	17	—	—
16305 6707 <i>P-L</i>	14.7	X	161.02576	23.91694	143.76859	3.08270	0.0266600	0.18899700	3.0072263	17	8 20.1	19.0
16306 6797 <i>P-L</i>	15.0	X	252.37119	192.53184	49.96293	1.99544	0.1518738	0.26682021	2.3895909	17	—	—
16307 7569 <i>P-L</i>	14.9	X	307.46589	32.55512	38.84753	4.17300	0.1087220	0.27715985	2.3297849	17	10 15.2	17.0
16308 7627 <i>P-L</i>	15.6	X	86.67492	266.67433	88.75966	3.74208	0.1701632	0.22904940	2.6455539	17	—	—
16309 9054 <i>P-L</i>	14.1	X	51.29528	305.43930	334.57284	3.67531	0.1184322	0.24144082	2.5542432	17	9 5.8	16.9
16310 1043 <i>T-1</i>	14.9	X	258.01028	220.77994	222.56203	2.18702	0.1833001	0.26530312	2.3986919	17	8 7.9	18.3
16311 1102 <i>T-1</i>	14.9	X	336.57570	50.37714	214.09428	6.29509	0.0902009	0.27863891	2.3215330	17	3 25.3	17.7
16312 1122 <i>T-1</i>	14.5	X	208.09008	180.62648	200.65905	4.95239	0.0718748	0.21489807	2.7604574	17	4 7.6	18.4
16313 1199 <i>T-1</i>	14.3	X	130.20245	77.64282	234.84573	1.16168	0.0668984	0.20599714	2.8394131	17	—	—
16314 1248 <i>T-1</i>	13.4	X	178.82658	281.80656	235.16815	4.03202	0.1061756	0.17886796	3.1197109	17	8 26.6	18.3
16315 2055 <i>T-1</i>	13.7	X	316.97523	303.71243	2.57717	16.97413	0.2320996	0.23653626	2.5894304	17	4 8.3	17.2
16316 2089 <i>T-1</i>	13.7	X	308.78299	327.81712	328.08799	0.34011	0.1771503	0.17096256	3.2151560	17	4 8.8	18.0
16317 2127 <i>T-1</i>	14.											

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
16321 4225 <i>T</i> ₁	15.0 ^m	X	31.12159	314.55872	33.18179	8.24893	0.0294328	0.26598440	2.3945943	17	10 29.4	17.8
16322 4409 <i>T</i> ₁	14.9	X	127.89364	350.51759	140.86991	4.80945	0.0499363	0.28048811	2.3113182	17	5 15.9	17.8
16323 1107 <i>T</i> ₂	14.3	X	266.90467	35.11536	276.36273	2.20017	0.1825287	0.21596958	2.7513193	17	3 5.5	18.8
16324 1181 <i>T</i> ₂	14.0	X	181.66116	65.31951	341.55261	1.02877	0.0943499	0.19282156	2.9673286	17	4 15.1	18.6
16325 1332 <i>T</i> ₂	15.0	X	173.10324	108.08173	315.45121	2.27812	0.1475208	0.19295182	2.9659930	17	4 29.2	19.7
16326 2052 <i>T</i> ₂	13.6	X	109.63978	2.62537	307.83378	1.19558	0.0491123	0.20556334	2.8434064	17	12 17.7	17.6
16327 3092 <i>T</i> ₂	14.3	X	145.48614	79.06143	7.75588	12.94041	0.0407738	0.23831337	2.5765413	17	4 9.9	17.7
16328 3111 <i>T</i> ₂	14.3	X	165.61162	330.26551	178.00008	13.46704	0.1082786	0.24352429	2.5396539	17	7 30.9	18.3
16329 3255 <i>T</i> ₂	15.3	X	171.54724	136.47982	152.52497	3.85401	0.0760888	0.20858864	2.8158463	17	—	—
16330 3276 <i>T</i> ₂	14.7	X	16.35508	350.72174	123.73048	5.41288	0.0062403	0.23231018	2.6207397	17	—	—
16331 4101 <i>T</i> ₂	13.4	X	21.57145	174.35620	87.28948	1.84933	0.1304285	0.17478173	3.1681473	17	6 25.3	17.2
16332 4117 <i>T</i> ₂	13.0	X	12.75056	172.89998	130.43906	2.17434	0.1347234	0.17674091	3.1446911	17	8 5.9	16.4
16333 4122 <i>T</i> ₂	13.6	X	83.70575	39.97958	82.95155	2.88168	0.0488458	0.21391536	2.7689051	17	3 16.0	17.2
16334 4278 <i>T</i> ₂	15.5	X	123.48220	283.85889	171.94220	12.68861	0.1692539	0.23606163	2.5929001	17	4 17.5	19.1
16335 5058 <i>T</i> ₂	14.0	X	313.61393	298.46348	270.01018	7.17620	0.1210846	0.21216737	2.7840925	17	—	—
16336 5080 <i>T</i> ₂	15.4	X	315.65389	29.86591	267.42095	5.74747	0.1401611	0.28549069	2.2842383	17	3 30.6	18.3
16337 5087 <i>T</i> ₂	12.7	X	322.52193	170.26205	241.84051	10.27762	0.0908446	0.17983282	3.1085421	17	10 4.5	16.8
16338 1106 <i>T</i> ₃	13.8	X	108.66985	71.96388	241.41131	11.79565	0.1703315	0.25108838	2.4883892	17	—	—
16339 2053 <i>T</i> ₃	14.2	X	108.14011	58.92366	272.10682	4.05418	0.1614680	0.17860474	3.1227752	17	—	—
16340 2110 <i>T</i> ₃	14.3	X	76.03738	250.92692	354.96269	9.34536	0.1462945	0.24410281	2.5356396	17	9 2.0	17.5
16341 2182 <i>T</i> ₃	15.1	X	92.08080	4.48930	237.57456	2.60638	0.0982114	0.29398579	2.2400196	17	9 8.1	17.7
16342 2271 <i>T</i> ₃	13.8	X	318.89265	132.42193	250.93818	1.12990	0.0798039	0.19517337	2.9434433	17	8 26.9	17.4
16343 2326 <i>T</i> ₃	14.9	X	6.96089	83.74014	280.85526	2.28170	0.0446429	0.24651311	2.5190843	17	10 16.1	17.8
16344 2370 <i>T</i> ₃	14.0	X	212.96478	92.49712	220.91448	8.21818	0.1520049	0.20883495	2.8136317	17	1 20.9	18.7
16345 2391 <i>T</i> ₃	14.8	X	6.86729	17.96471	356.04127	1.45920	0.0782664	0.19782865	2.9170459	17	10 28.1	18.3
16346 2682 <i>T</i> ₃	13.1	X	213.68352	94.15448	201.55987	21.91106	0.0962090	0.18297993	3.0727962	17	1 4.5	18.3
16347 3256 <i>T</i> ₃	13.4	X	340.02486	211.84791	152.83728	2.36400	0.0749991	0.19548389	2.9403254	17	9 4.3	16.8
16348 3465 <i>T</i> ₃	13.7	X	225.47420	292.44915	22.45633	11.02163	0.1432738	0.18511620	3.0491100	17	2 13.7	18.8
16349 4062 <i>T</i> ₃	14.5	X	43.36050	201.48490	94.70684	4.65123	0.0735982	0.22022825	2.7157348	17	9 12.5	17.9
16350 1964 <i>VZ</i> ₂	14.0	X	12.13932	7.07964	71.35442	2.77801	0.2520025	0.18807080	3.0170914	17	—	—
16351 1971 <i>US</i>	15.1	X	205.13483	346.36558	50.61433	2.75222	0.2442688	0.27023578	2.3694133	17	4 20.1	19.0
16352 1974 <i>FF</i>	14.1	X	44.78342	244.68837	341.72685	4.98335	0.0989917	0.25470529	2.4647757	17	6 1.5	16.7
16353 1974 <i>WB</i>	14.4	X	281.87908	155.78291	261.02619	11.66861	0.2093072	0.22559765	2.6724710	17	7 26.7	18.3
16354 1975 <i>SN</i> ₁	13.9	X	121.64778	273.67337	61.48874	3.16922	0.0812267	0.19387729	2.9565468	17	—	—
16355 Buber	14.5	X	358.96882	204.86916	190.59157	14.39767	0.1689902	0.23598141	2.5934877	17	11 25.0	17.2
16356 Univalttech	12.6	X	166.40211	39.55725	143.12078	2.78154	0.1228471	0.17609169	3.1524156	17	9 17.3	17.5
16357 Risanpek	15.4	X	257.25078	214.82035	183.72729	6.41890	0.1849004	0.28311161	2.2970173	17	6 7.6	18.8
16358 Plesetsk	12.8	X	127.74606	273.81698	100.07897	13.53400	0.1884044	0.22279398	2.6948447	17	1 11.1	16.3
16359 1978 <i>VO</i> ₄	14.6	X	256.68124	197.58888	89.36934	3.64049	0.1565485	0.26333636	2.4106204	17	1 19.9	18.3
16360 1978 <i>VY</i> ₅	14.7	X	143.38601	11.11701	75.26672	2.16078	0.1598085	0.29070837	2.2568240	17	4 16.5	17.7
16361 1979 <i>MS</i> ₁	14.1	X	113.34687	173.68475	168.45438	2.26672	0.1198786	0.19200794	2.9757053	17	—	—
16362 1979 <i>MJ</i> ₄	14.4	X	47.77069	196.20491	124.06540	12.87975	0.1895943	0.23722787	2.5843951	17	11 12.1	17.8
16363 1979 <i>MT</i> ₄	13.4	X	344.59803	154.98767	276.47038	12.37750	0.1635343	0.24008617	2.5638422	17	12 17.1	15.7
16364 1979 <i>MA</i> ₅	13.3	X	70.73913	132.42948	259.75926	8.54822	0.1067784	0.19196573	2.9761415	17	—	—
16365 1979 <i>MK</i> ₅	14.5	X	166.46245	320.13912	221.03264	2.63915	0.0879945	0.23685040	2.5871402	17	9 13.7	18.5
16366 1979 <i>ME</i> ₇	13.4	X	354.98590	140.75507	273.02008	12.38498	0.1596694	0.23946555	2.5682700	17	12 11.8	16.0
16367 1980 <i>FS</i> ₄	13.5	X	20.43187	229.11951	178.75809	12.95900	0.1116008	0.20333930	2.8641021	17	—	—
16368 Città d'Alba	12.6	X	211.35162	147.68316	331.44131	12.88062	0.1056422	0.17557672	3.1585767	17	8 15.9	17.4
16369 1981 <i>DJ</i>	13.4	X	118.39274	330.02199	230.72372	8.86149	0.0547027	0.17201118	3.2020757	17	8 10.3	18.2
16370 1981 <i>DA</i> ₂	13.9	X	316.05461	97.88099	295.84330	6.74373	0.1219786	0.17555506	3.1588366	17	8 29.2	18.0
16371 1981 <i>DQ</i> ₃	13.6	X	72.88663	260.11042	321.19078	10.49877	0.1477898	0.22378064	2.6869178	17	7 25.6	17.0
16372 1981 <i>EP</i> ₁	13.2	X	198.16716	160.17847	358.20646	11.55632	0.1677731	0.17639859	3.1487582	17	9 16.7	18.3
16373 1981 <i>ES</i> ₅	14.5	X	317.44519	77.86532	299.31069	10.04992	0.1880909	0.22873910	2.6479459	17	7 29.9	17.4
16374 1981 <i>EA</i> ₁₀	13.5	X	265.36261	135.00230	346.33452	16.42404	0.0431330	0.17787402	3.1313218	17	10 17.2	18.1
16375 1981 <i>EM</i> ₁₀	13.2	X	343.28710	21.66049	334.89487	8.76299	0.0820748	0.17449159	3.1716582	17	8 28.9	17.2
16376 1981 <i>EX</i> ₁₀	14.9	X	334.03589	33.95704	204.41210	7.18759	0.2051945	0.21762356	2.7373612	17	2 11.1	18.6
16377 1981 <i>EY</i> ₁₁	14.8	X	260.06948	122.46436	328.17391	6.27409	0.1265224	0.28425916	2.2908311	17	8 28.2	17.6
16378 1981 <i>ET</i> ₁₇	14.7	X	267.11822	152.01104	278.15097	1.18280	0.2412803	0.23062135	2.6335185	17	7 26.4	18.5
16379 1981 <i>EJ</i> ₁₈	14.1	X	252.19034	107.32902	341.61703	4.59472	0.1331392	0.17593558	3.1542802	17	8 18.4	18.7
16380 1981 <i>EJ</i> ₂₀	14.7	X	197.47163	103.92006	359.04703	8.96264	0.0967103	0.22656323	2.6648724	17	7 10.8	18.9
16381 1981 <i>EG</i> ₂₅	14.8	X	295.55855	264.16919	346.40091	9.79550	0.3519386	0.21483601	2.7609890	17	1 7.3	19.7
16382 1981 <i>ER</i> ₂₇	14.8	X	233.55315	34.23061	1.53364	7.28562	0.1101018	0.27758794	2.3273891	17	5 12.4	18.3
16383 1981 <i>EV</i> ₃₀	14.5	X	279.04736	26.03963	327.54365	3.30109	0.1180418	0.22303245	2.6929234	17	5 15.4	18.4
16384 1981 <i>ES</i> ₃₁	13.9	X	296.80262	186.15851	170.64823	13.83312	0.0169507	0.17058812	3.2198591	17	7 2.3	18.7
16385 1981 <i>EQ</i> ₃₂	14.1	X	319.58971	104.18013	228.09338	7.41502	0.3009799	0.22301067	2.6930988	17	5 12.3	17.5
16386 1981 <i>ET</i> ₃₄	14.5	X	329.81471	130.74877	213.77410	11.66735	0.2946837	0.22595371	2.6696628	17	6 15.6	17.6
16387 1981 <i>EB</i> ₃₇	14.1	X	333.53843	303.61076	357.98279	8.22238	0.0283104	0.22369453	2.6876072	17	5 31.5	17.7
16388 1981 <i>EA</i> ₃₉	15.9	X	277.61099	290.53357	311.12175	1.54341	0.1652475	0.26781336	2.3836797	17	—	—
16389 1981 <i>EC</i> ₃₉	14.0	X	81.68726	81.49865	178.09293	26.07392	0.0992557	0.17351319	3.1835699	17	9 17.7	18.4
16390 1981 <i>EG</i> ₃₉	14.2	X	24.00081	359.37569	349.24704	5.00321	0.1726639	0.17759565	3.1345931	17	10 27.3	17.9
16391 1981 <i>EM</i> ₄₀	14.9	X	256.57585	242.08167	128.47435	3.09235	0.1041800	0.22321176	2.6914811	17	5 15.2	18.9
16392 1981 <i>EP</i> ₄₂	14.5	X	289.16024	206.32397	190.73558	3.31546	0.1027948	0.22772365	2.6558118	17	7 28.3	17.9
16393 1981 <i>QS</i>	14.2	X	146.46993	227.44129	161.06062	5.00714</						

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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>
16401 1984 <i>SV</i> ₅	13.1 ^m	X	91.53229	343.32393	0.98438	9.00638	0.0913737	0.18631759	3.0359886	17	—	—
16402 Olgapopova	13.4	X	99.77653	307.40415	48.37370	7.23900	0.1844445	0.27655477	2.3331820	17	—	—
16403 1984 <i>WJ</i> ₁	13.3	X	131.25671	351.52926	34.39332	10.75175	0.2045645	0.27889480	2.3201128	17	1 19.3	16.1
16404 1985 <i>CM</i> ₁	14.2	X	85.15599	70.16999	132.79564	4.87609	0.0952652	0.28315093	2.2968046	17	7 2.4	16.7
16405 1985 <i>DA</i> ₂	13.7	X	20.80627	298.58067	302.65146	6.59519	0.2363197	0.27974671	2.3154001	17	4 20.3	15.2
16406 Oszkiewicz	13.7	X	334.55720	68.35971	316.22250	12.50315	0.2800496	0.21611838	2.7500563	17	8 28.4	16.1
16407 Oiunskij	14.1	X	233.95532	71.96411	281.66950	5.91208	0.1170593	0.26561328	2.3968243	17	3 18.9	17.7
16408 1986 <i>AB</i>	12.6	X	80.14795	55.58054	310.57841	13.71105	0.2004052	0.21781909	2.7357228	17	—	—
16409 1986 <i>CZ</i> ₁	14.5	X	196.61903	320.18905	289.50346	4.94181	0.1137806	0.30648572	2.1786922	17	—	—
16410 1986 <i>QU</i> ₂	13.4	X	71.41066	196.47042	21.22846	3.62299	0.0330544	0.21902657	2.7256589	17	6 29.9	16.9
16411 1986 <i>QY</i> ₂	13.5	X	54.53168	191.04041	147.63141	15.46683	0.2287115	0.22769127	2.6560635	17	12 16.5	17.4
16412 1986 <i>WZ</i>	14.0	X	18.57122	129.80025	255.89794	2.66757	0.1169683	0.22320392	2.6915441	17	12 6.9	17.0
16413 Abulghazi	12.2	X	334.91982	269.99333	258.23710	12.11050	0.0887503	0.19335753	2.9618426	17	—	—
16414 Le Procope	14.8	X	32.49438	63.81638	333.79520	3.99184	0.1403158	0.30351056	2.1929068	17	—	—
16415 1987 <i>QE</i> ₇	13.6	X	3.08258	180.60962	191.03537	11.85022	0.1879933	0.23199016	2.6231493	17	10 30.1	16.0
16416 1987 <i>SM</i> ₃	14.0	X	154.19202	309.73008	307.23251	5.94249	0.1039668	0.30292410	2.1957362	17	12 12.4	17.2
16417 1987 <i>SF</i> ₅	15.3	X	6.92219	74.82002	325.33242	3.23169	0.1488187	0.29892758	2.2152635	17	12 25.4	17.1
16418 Lortzing	14.0	X	127.54813	338.51974	164.10375	8.09776	0.0559166	0.28711805	2.2755989	17	5 31.7	16.9
16419 Kovalev	14.5	X	257.75565	341.10917	21.91252	4.75583	0.1413758	0.28694021	2.2765391	17	4 23.2	17.8
16420 1987 <i>UN</i> ₁	13.8	X	278.09037	170.79251	227.99693	12.79273	0.1631147	0.22400983	2.6850847	17	7 5.7	17.9
16421 Roadrunner	14.5	X	318.03726	234.31528	309.79821	22.82488	0.0636004	0.36740828	1.9306494	17	—	—
16422 1988 <i>BT</i> ₃	14.8	X	217.10708	282.34000	152.44702	5.54983	0.1199190	0.28218378	2.3020497	17	6 18.3	18.2
16423 1988 <i>BZ</i> ₃	13.9	X	32.85388	43.55924	258.04494	5.28994	0.1710455	0.28498347	2.2869479	17	9 10.1	15.9
16424 1988 <i>CD</i> ₂	15.1	X	205.43975	287.44404	142.92083	1.99551	0.1298038	0.28171403	2.3046080	17	5 30.9	18.4
16425 1988 <i>CY</i> ₂	14.6	X	28.04287	316.21390	325.10047	3.45662	0.0911884	0.28328358	2.2960876	17	7 24.0	16.8
16426 1988 <i>EC</i>	14.0	X	124.38724	33.26142	340.19540	19.29623	0.1000078	0.36663923	1.9333483	17	—	—
16427 1988 <i>EB</i> ₂	14.1	X	219.08778	245.95688	182.26596	5.95096	0.1427374	0.27884489	2.3203897	17	6 11.3	17.7
16428 1988 <i>RD</i> ₁₂	11.5	X	173.10861	344.58480	339.99597	3.97348	0.0687003	0.08252394	5.2249574	17	1 23.0	18.7
16429 1988 <i>SB</i> ₂	14.1	X	175.22061	249.04897	111.49721	6.70787	0.1334048	0.28941911	2.2635213	17	1 25.3	17.1
16430 1988 <i>VB</i> ₁	13.9	X	73.61941	3.87889	1.70594	13.26936	0.1777772	0.24389538	2.5370771	17	—	—
16431 1988 <i>VH</i> ₁	14.1	X	8.08141	182.77892	238.97173	4.52183	0.2937227	0.24100003	2.5573568	17	—	—
16432 1988 <i>VL</i> ₂	13.2	X	193.03834	222.10208	236.07001	10.47499	0.0954493	0.26133858	2.4228900	17	6 24.4	16.9
16433 1988 <i>VX</i> ₂	12.5	X	132.70885	83.47779	222.85314	14.22138	0.0929725	0.17560679	3.1582162	17	—	—
16434 1988 <i>VO</i> ₃	14.6	X	29.91447	0.22688	15.01212	4.90423	0.2482820	0.24012735	2.5635491	17	—	—
16435 Fándly	13.7	X	61.74061	292.89599	138.36994	6.70408	0.2195006	0.24580064	2.5239498	17	—	—
16436 1988 <i>XL</i>	13.9	X	193.33957	119.47505	220.56332	3.06050	0.1328933	0.25131204	2.4869126	17	1 26.2	17.7
16437 1988 <i>XX</i> ₁	13.5	X	25.06766	350.02303	25.18695	14.41714	0.1873642	0.23740838	2.5830849	17	12 13.2	16.6
16438 Knöfel	14.1	X	171.54788	118.73575	310.78129	4.59444	0.0544464	0.21794460	2.7346724	17	4 24.3	18.1
16439 Yamehoshinokawa	12.7	X	167.91516	232.03505	330.08924	12.21739	0.0971515	0.22884088	2.6471607	17	10 7.2	16.9
16440 1989 <i>EN</i> ₅	14.3	X	43.49438	230.79312	290.00745	3.99144	0.0930619	0.28061128	2.3106418	17	2 12.2	16.6
16441 Kirchner	13.6	X	148.58851	148.56123	306.67224	8.92343	0.0363203	0.21965228	2.7204802	17	5 29.8	17.5
16442 1989 <i>GM</i> ₁	13.7	X	134.40954	130.15174	219.42260	11.78491	0.2074070	0.23382602	2.6094010	17	—	—
16443 1989 <i>GV</i> ₁	14.3	X	46.70418	308.26451	343.71952	4.93959	0.1556986	0.28884135	2.2665387	17	9 22.1	16.5
16444 Godefroy	14.1	X	353.99614	21.85031	6.77274	5.43252	0.1881374	0.29500992	2.2348324	17	11 10.5	15.6
16445 Klimt	13.0	X	31.52272	308.73776	186.17630	12.16382	0.1950636	0.17334316	3.1856513	17	1 21.7	16.7
16446 1989 <i>MH</i>	12.3	X	160.97202	160.73322	85.46244	11.51604	0.2227523	0.18974663	2.9993006	17	11 27.7	17.5
16447 Vauban	12.9	X	101.80512	132.31120	236.88694	7.19257	0.1994041	0.22348964	2.6892496	17	—	—
16448 1989 <i>RV</i> ₂	14.4	X	65.90238	305.87049	44.54947	5.60057	0.1840762	0.28813331	2.2702503	17	—	—
16449 Kigoyama	12.6	X	314.49008	150.71983	253.99210	4.88151	0.1716835	0.17375949	3.1805608	17	9 3.3	16.7
16450 Messerschmidt	12.9	X	51.92678	137.84733	127.15624	5.87873	0.0928134	0.17120730	3.2120912	17	8 15.5	17.0
16451 1989 <i>SO</i> ₃	15.0	X	167.86858	231.59179	171.76942	6.19364	0.1832513	0.26516216	2.3995420	17	3 24.1	18.6
16452 Godefroy	13.5	X	44.43304	170.23715	333.50385	6.28394	0.0770292	0.26283328	2.4136955	17	1 29.8	16.0
16453 1989 <i>SW</i> ₈	13.7	X	131.42909	190.14972	183.01854	13.40386	0.1904916	0.22538936	2.6741172	17	1 12.3	17.6
16454 1989 <i>TT</i> ₂	13.2	X	43.44900	233.48256	125.30085	6.30310	0.1748433	0.17936888	3.1139000	17	12 11.8	17.3
16455 1989 <i>TK</i> ₁₆	14.8	X	251.45689	122.05379	174.96485	2.13083	0.1899855	0.26667895	2.3904347	17	1 25.2	18.8
16456 1989 <i>UO</i>	14.5	X	214.69572	335.05796	72.77004	3.27205	0.2052144	0.26971301	2.3724739	17	5 11.3	18.3
16457 1989 <i>VF</i>	12.8	X	59.65883	65.48321	35.58051	10.39457	0.0576986	0.18754453	3.0227329	17	1 23.4	16.9
16458 1989 <i>WZ</i> ₂	13.0	X	16.56439	351.62629	24.00463	13.66498	0.1271575	0.17684421	3.1434664	17	11 12.6	17.0
16459 Barth	14.6	X	179.73277	225.58070	151.26571	2.69346	0.2152126	0.26266418	2.4147313	17	3 4.8	18.4
16460 1989 <i>YF</i> ₁	14.2	X	309.19131	196.94654	284.78625	8.96684	0.0850203	0.24467649	2.5316747	17	12 26.5	17.0
16461 1990 <i>BO</i>	11.9	X	39.16199	85.08938	304.77216	15.68858	0.1028809	0.17334885	3.1855817	17	—	—
16462 1990 <i>DZ</i> ₁	13.9	X	52.01845	180.62610	135.68746	5.93634	0.0901564	0.25465729	2.4650854	17	2 2.5	16.5
16463 Navoro	13.5	X	343.31086	250.03101	183.84472	7.39897	0.2999468	0.24337052	2.5407235	17	12 26.5	15.0
16464 1990 <i>EV</i> ₁	14.3	X	239.14077	330.74607	188.87656	9.18465	0.1331250	0.27408887	2.3471551	17	11 5.5	17.4
16465 Basilrowe	15.6	X	69.58542	112.59542	29.70836	24.27302	0.2121505	0.39947381	1.8259008	17	—	—
16466 Piyashiriyama	12.7	X	136.32986	294.64458	210.69342	11.97840	0.1194042	0.22524287	2.6752765	17	6 27.9	16.8
16467 1990 <i>FD</i> ₃	12.3	X	249.58219	91.83596	158.28419	15.71288	0.0433222	0.17702824	3.1412875	17	—	—
16468 1990 <i>HW</i> ₁	13.6	X	351.59612	305.91517	135.56837	15.28130	0.0591482	0.24091319	2.5579713	17	—	—
16469 1990 <i>KR</i>	14.4	X	246.63100	84.74787	181.57837	11.66983	0.2338011	0.24358790	2.5392117	17	—	—
16470 1990 <i>OM</i> ₂	14.5	X	44.53650	337.27428	350.02865	6.60210	0.2068749	0.29639480	2.2278656	17	11 18.6	17.0
16471 1990 <i>OR</i> ₃	14.0	X	134.79446	337.06734	324.81972	5.62820	0.0958703	0.26707202	2.3880887	17	—	—
16472 1990 <i>OE</i> ₅	13.4	X	331.13594	23.13035	244.87336	7.16731	0.1788934	0.21275894	2.7789293	17	3 21.9	17.1
16473 1990 <i>QF</i> ₂	13.3	X	220.87742	181.29278	131.07512	3.10641	0.0499437	0.20178122	2.8788269	17	1 29.9	17.4
16474 1990 <i>QG</i> ₃	16.7	X	17.46868	326.13432	32.36295	1.65012	0.3023758	0.29465949	2.2366040	17	12 7.5	18.2
16475 1990 <i>QS</i> ₄	14.3	X	81.48801	212.07444	107.66720	5.52045	0.1170830	0.29855161				

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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>
16481 1990 QU ₇	13.3	X	58.79629	309.24580	147.91810	2.38105	0.1806079	0.19810013	2.9143802	17	1 16.2	16.4
16482 1990 QK ₈	13.6	X	132.34759	146.60868	122.71867	2.22590	0.0746656	0.18964862	3.0003339	17	11 24.0	18.0
16483 1990 QX ₈	13.6	X	160.31505	338.42192	17.55714	2.11220	0.0739998	0.20030389	2.8929647	17	1 18.5	17.7
16484 1990 QJ ₉	13.7	X	204.57012	245.04470	47.87301	2.88911	0.0222842	0.19882668	2.9072761	17	—	—
16485 1990 RG ₂	13.3	X	288.51537	169.59852	185.22533	10.71453	0.2284254	0.17621194	3.1509814	17	5 22.0	18.1
16486 1990 RM ₃	14.2	X	69.81144	269.45732	354.65555	6.40717	0.1473135	0.29184321	2.2509697	17	9 17.7	16.5
16487 1990 RV ₅	14.3	X	305.49792	292.38669	344.81058	4.71790	0.1506956	0.28187264	2.3037434	17	2 21.9	17.4
16488 1990 RX ₈	14.6	X	85.24652	111.16405	246.97972	4.97722	0.1943473	0.30201024	2.2001634	17	—	—
16489 1990 SG	13.0	X	250.94502	303.17220	70.01179	20.32189	0.1063757	0.17335770	3.1854732	17	5 19.5	17.8
16490 1990 ST ₂	14.7	X	328.95399	309.77337	39.95769	2.07265	0.2349590	0.28845450	2.2685647	17	6 24.8	16.8
16491 1990 SA ₃	14.4	X	76.57010	119.27309	143.52100	6.73519	0.1495175	0.29127873	2.2538770	17	9 28.5	17.0
16492 1990 SQ ₅	14.5	X	128.90698	349.30497	127.87920	4.54432	0.1375194	0.27923709	2.3182164	17	5 10.8	17.4
16493 1990 SB ₆	14.1	X	103.48153	263.15280	125.05893	3.27265	0.1085958	0.19542903	2.9408757	17	—	—
16494 Oka	13.0	X	218.98648	8.71448	150.26901	10.38284	0.0341595	0.18437187	3.0573110	17	10 19.9	17.5
16495 1990 SR ₈	15.4	X	336.89683	8.78985	79.45574	4.89912	0.0689801	0.29790330	2.2203384	17	12 27.9	17.5
16496 1990 SS ₈	13.4	X	120.31974	161.90845	163.43955	10.49769	0.0986345	0.19235530	2.9721218	17	—	—
16497 Toinevermeylen	14.3	X	123.35498	142.49594	154.03050	6.41303	0.2081913	0.30062254	2.2069290	17	—	—
16498 Passau	13.0	X	226.05881	283.19434	168.15583	17.27212	0.1065984	0.21388814	2.7691400	17	7 23.1	17.5
16499 1990 SU ₉	14.5	X	190.22556	60.16822	52.73515	4.51525	0.1079327	0.28582560	2.2824537	17	7 11.3	17.7
16500 1990 SX ₁₀	13.6	X	247.54110	34.38585	310.74218	5.81267	0.0797465	0.27955565	2.3164550	17	3 21.7	16.9
16501 1990 SX ₁₃	15.1	X	76.55573	150.18010	120.29714	1.81474	0.1336940	0.29364065	2.2417745	17	10 5.6	17.6
16502 1990 SB ₁₄	14.0	X	101.60722	50.28804	317.64230	1.17149	0.1012985	0.19438441	2.9514025	17	—	—
16503 Ayato	14.0	X	182.04739	272.77392	184.05316	22.22739	0.2465945	0.28034411	2.3121096	17	6 15.3	18.4
16504 1990 TR ₅	15.0	X	327.10534	98.90956	234.70864	5.84564	0.2540627	0.28821612	2.2698154	17	5 23.1	17.3
16505 Sulzer	13.1	X	118.45156	189.54866	132.33175	10.65724	0.0818546	0.19066929	2.9896170	17	—	—
16506 1990 UH ₁	14.0	X	142.05595	306.81490	91.13773	9.54630	0.2431593	0.27101162	2.3648891	17	2 27.5	17.4
16507 Fuuren	12.8	X	88.66758	277.66393	62.71946	11.19004	0.1218118	0.18807349	3.0170626	17	—	—
16508 1990 UB ₃	14.6	X	265.96519	99.51843	353.60958	2.39244	0.1656934	0.28794651	2.2712320	17	9 3.4	17.6
16509 1990 UE ₄	13.4	X	268.30643	301.08797	131.91597	6.19520	0.1547910	0.17670507	3.1451162	17	8 13.5	18.1
16510 1990 UL ₄	14.3	X	169.15985	62.08137	82.64808	7.14114	0.0463894	0.28469668	2.2884835	17	7 29.5	17.2
16511 1990 UR ₄	14.8	X	107.35770	76.64898	80.64053	6.32681	0.0726676	0.27937169	2.3174718	17	5 26.6	17.6
16512 1990 VQ ₄	14.7	X	120.25402	43.98604	104.39330	7.06368	0.0763935	0.27811318	2.3244578	17	6 2.6	17.6
16513 Vasks	12.8	X	246.69353	121.47343	203.08353	12.75835	0.0596488	0.23626781	2.5913914	17	3 3.2	16.7
16514 Stevelia	13.1	X	289.46510	70.33113	24.10840	8.47187	0.1967868	0.17844239	3.1246691	17	9 30.9	17.3
16515 Usman grad	13.1	X	255.75731	299.85459	127.52801	2.23815	0.1730235	0.17505583	3.1648394	17	7 21.3	17.9
16516 Efremlivitan	14.8	X	271.43246	354.36972	52.02418	3.40949	0.1544403	0.28493467	2.2872090	17	7 7.6	17.7
16517 1990 WD	14.2	X	332.19818	228.18189	92.22990	7.18096	0.2178112	0.28656179	2.2785428	17	5 20.1	16.4
16518 Akihikoito	13.8	X	353.85583	255.69752	130.78425	4.52782	0.1451210	0.29132755	2.2536252	17	11 7.4	15.5
16519 1990 WV	15.5	X	3.23784	280.38491	106.69529	5.68517	0.1586652	0.29253699	2.2474094	17	11 28.9	17.3
16520 1990 WO ₃	14.2	X	320.15314	209.10512	165.85623	4.91228	0.1612619	0.28735412	2.2743524	17	7 31.9	16.4
16521 1990 WR ₅	13.9	X	124.29512	239.46815	97.53889	10.10468	0.0965999	0.18992649	2.9974068	17	—	—
16522 Tell	12.9	X	38.44833	22.09916	288.54325	14.65093	0.0564480	0.17350621	3.1836552	17	9 10.9	17.5
16523 1991 BP	13.3	X	96.20884	167.33655	273.82029	12.54506	0.1190154	0.22810617	2.6528419	17	2 5.9	16.7
16524 Hausmann	14.8	X	4.81513	191.58204	296.10910	1.30310	0.1281574	0.25974444	2.4327933	17	—	—
16525 Shumarinaiko	13.6	X	30.74966	180.18994	7.65458	2.42795	0.1394591	0.26517677	2.3994538	17	3 5.4	15.8
16526 1991 DC	14.7	X	168.01272	54.47374	17.74038	3.57933	0.1723027	0.27163866	2.3612483	17	4 27.4	18.1
16527 1991 DH ₁	13.8	X	106.89139	38.67716	155.78095	12.85149	0.1591623	0.23706740	2.5855612	17	8 2.1	17.5
16528 Terakado	12.8	X	118.50494	234.57804	63.71422	9.13684	0.2093989	0.24445327	2.5332155	17	12 27.2	17.0
16529 Dangoldin	13.4	X	221.45066	251.28085	191.92293	22.69430	0.3155872	0.27549709	2.3391498	17	6 25.7	18.2
16530 1991 GR ₇	14.3	X	326.12571	284.05340	230.75297	5.01221	0.0688249	0.29068551	2.2569423	17	—	—
16531 1991 GO ₈	15.1	X	112.13374	270.31953	324.31193	2.70090	0.0877511	0.23798502	2.5789107	17	9 21.9	18.8
16532 1991 LY	13.2	X	19.65384	184.36140	117.45730	15.73289	0.1792768	0.23085332	2.6317540	17	8 20.2	15.7
16533 1991 LA ₁	13.9	X	136.22729	99.74961	132.86818	14.52018	0.1292287	0.23731509	2.5837618	17	10 26.2	18.2
16534 1991 NB ₁	14.3	X	256.16112	70.95167	237.91093	7.66775	0.2462466	0.25376062	2.4708890	17	2 10.1	18.7
16535 1991 NF ₃	13.1	X	332.00906	102.92833	272.30525	11.79022	0.2066322	0.22931808	2.6434870	17	8 15.9	15.9
16536 1991 PV ₁	14.6	X	33.29710	135.43641	163.15425	6.55576	0.1616523	0.22872161	2.6480809	17	9 7.9	17.2
16537 1991 PF ₁₁	13.4	X	304.75369	346.44117	288.15503	8.37996	0.1323549	0.21559415	2.7545124	17	3 2.0	17.4
16538 1991 PO ₁₂	14.0	X	147.89137	274.07024	145.66677	5.12200	0.1708369	0.28822806	2.2697527	17	3 19.0	16.9
16539 1991 PY ₁₂	13.5	X	246.02648	104.48540	327.99189	12.28918	0.1790978	0.22368183	2.6877090	17	7 17.4	17.8
16540 1991 PO ₁₆	13.6	X	38.20734	111.34240	162.22733	13.31114	0.1596859	0.22540611	2.6739848	17	8 9.1	16.5
16541 1991 PW ₁₈	12.9	X	30.47737	205.86652	202.84034	1.73451	0.0633118	0.19960547	2.8997090	17	—	—
16542 1991 PK ₃₁	13.5	X	158.15626	65.46110	339.49816	12.91061	0.1811610	0.17356665	3.1829161	17	3 26.1	18.8
16543 Rosetta	14.2	X	70.49528	83.21419	333.11276	7.38677	0.1264385	0.27892677	2.3199356	17	—	—
16544 Hochlehnert	14.0	X	159.94212	98.50751	238.72212	4.92624	0.0771794	0.20442462	2.8539559	17	—	—
16545 1991 RN ₄	14.6	X	359.92473	227.00672	159.10792	6.28478	0.2337142	0.26829488	2.3808267	17	11 25.1	16.3
16546 1991 RP ₅	12.6	X	276.37154	92.73662	176.84290	21.87197	0.1311817	0.17240489	3.1971990	17	2 4.2	17.8
16547 1991 RS ₇	13.9	X	300.03667	180.69175	108.20517	8.50499	0.1115888	0.21519643	2.7579053	17	3 25.6	17.9
16548 1991 RR ₉	14.9	X	91.31236	6.25683	347.07035	3.29046	0.2512815	0.27521691	2.3407371	17	—	—
16549 1991 RE ₁₀	13.1	X	165.56508	129.81437	307.21341	6.83679	0.2038227	0.21262952	2.7800568	17	5 8.5	17.8
16550 1991 RB ₁₃	14.0	X	210.91389	16.46429	343.87212	7.65506	0.2305778	0.21151801	2.7897877	17	3 16.7	19.0
16551 1991 RT ₁₄	13.1	X	164.79061	261.11267	169.75351	15.28374	0.1036136	0.21372764	2.7705262	17	4 28.6	17.4
16552 Sawamura	14.2	X	295.60203	180.39727	216.33853	2.49496	0.1338393	0.26165971	2.4209072	17	7 30.3	17.1
16553 1991 TL ₁₄	15.0	X	322.42553	248.44022	28.81639	6.40354	0.1504967	0.29241675	2.2480254	17	3 14.3	17.8
16554 1991 UE ₂	13.6	X	60.70810	52.38115	47.18426	3.66747	0.0871582	0.24078766	2.5588602	17	1 2.4	16.4
16555 Nagaomasami	13.0	X	137.38139	272.84519	64.96832	15.57082	0.1639934	0.23823328	2.5771187	17	—	—
16556 1991 VQ ₁	13.6	X	199.26796	297.74723	71.68770	7.34179	0.2065622					

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
16561 Rawls	13.6 ^m	X	121.83186	112.32693	212.58867	14.21207	0.0515853	0.19626271	2.9325417	17	—	—
16562 1992 AV ₁	14.5	X	185.62367	329.33617	110.55241	24.76674	0.0734231	0.36295757	1.9464002	17	5 19.3	17.4
16563 Ob	12.6	X	239.47446	317.42396	143.72729	12.51394	0.0953140	0.17805686	3.1291778	17	8 23.5	17.3
16564 Coriolis	13.5	X	121.20764	184.00003	158.20841	10.32926	0.0846240	0.19179706	2.9778862	17	—	—
16565 1992 CZ ₁	12.6	X	209.97643	196.38921	321.91915	3.54879	0.1291785	0.17687868	3.1430580	17	9 27.1	17.5
16566 1992 CZ ₂	14.8	X	44.88323	13.33134	233.01664	4.61512	0.1410437	0.28596191	2.2817283	17	7 3.7	16.8
16567 1992 CQ ₃	14.9	X	96.20469	336.93122	261.98930	4.02901	0.1076440	0.29058619	2.2574565	17	9 9.7	17.7
16568 1992 DX ₅	13.5	X	337.78078	219.54194	99.78481	2.60283	0.1037009	0.16819601	3.2503160	17	6 30.7	17.6
16569 1992 DA ₁₀	13.6	X	327.74350	128.48099	232.69224	4.21068	0.1834226	0.17481845	3.1677036	17	7 28.7	17.3
16570 1992 DE ₁₁	15.8	X	281.96672	122.02015	146.70331	3.01295	0.1523227	0.27161837	2.3613659	17	1 18.9	19.2
16571 1992 EE	14.8	X	7.11524	216.96893	352.16985	6.47631	0.1646600	0.27433220	2.3457669	17	2 15.1	17.2
16572 1992 EU ₅	13.1	X	296.70869	1.62276	97.39872	4.33436	0.1598732	0.18133353	3.0913675	17	10 23.1	17.1
16573 1992 EC ₁₀	13.3	X	61.73617	221.39896	152.07120	12.61059	0.1412723	0.18567767	3.0429601	17	—	—
16574 1992 EU ₁₀	14.9	X	2.83503	161.19362	142.58308	5.21142	0.0752832	0.28572291	2.2830005	17	7 10.7	17.1
16575 1992 EH ₁₁	13.5	X	273.07391	305.84856	155.14083	2.16410	0.1403746	0.17859868	3.1228459	17	9 25.3	17.7
16576 1992 EY ₁₁	13.6	X	185.66544	66.58045	70.50972	2.53073	0.1253400	0.17239803	3.1972838	17	8 11.9	18.7
16577 1992 ET ₂₃	15.1	X	51.69958	126.82819	161.80970	2.87555	0.1223304	0.28890725	2.2661940	17	9 21.4	17.4
16578 Essjayess	13.8	X	184.58514	201.74094	345.11918	24.69985	0.1151005	0.28944660	2.2633779	17	10 2.4	17.5
16579 1992 GO	13.0	X	203.99130	129.71519	152.66120	13.42833	0.1643396	0.22501801	2.6770585	17	—	—
16580 1992 HA	14.3	X	44.94632	214.08661	41.73106	7.05845	0.0777876	0.28095412	2.3087617	17	7 14.8	16.8
16581 1992 JF ₃	14.5	X	344.16725	267.00398	351.50883	2.08580	0.1970377	0.27289033	2.3540226	17	3 13.6	17.1
16582 1992 JS ₃	14.1	X	324.80930	162.68454	40.56845	6.92969	0.1335872	0.26631691	2.3926007	17	—	—
16583 Oersted	12.2	X	146.86444	144.27141	135.40931	22.62909	0.0517474	0.16958644	3.2325256	17	12 20.6	17.4
16584 1992 PM	14.5	X	138.34996	191.15040	219.34632	2.32815	0.1686836	0.25880231	2.4386939	17	2 26.8	17.6
16585 1992 QR	14.6	X	101.81912	239.92062	150.39341	22.99759	0.1048291	0.36949881	1.9233605	17	—	—
16586 1992 RZ ₆	15.9	X	65.12903	302.11352	19.48221	3.83005	0.1677492	0.24155696	2.5534245	17	11 28.1	19.3
16587 Nagamori	14.2	X	358.21918	220.98939	184.42862	12.85453	0.2789659	0.23942315	2.5685732	17	12 19.6	16.4
16588 Johngée	15.3	X	19.63776	16.58964	30.61069	8.12731	0.3887311	0.24090509	2.5580286	17	—	—
16589 Hastrup	14.4	X	96.83059	19.53628	4.60677	20.01940	0.0784346	0.36653723	1.9337069	17	—	—
16590 Brunowalter	13.8	X	185.41294	219.37041	15.27855	12.69276	0.1090285	0.24437757	2.5337387	17	12 8.4	17.8
16591 1992 SY ₁₇	14.2	X	105.60481	72.04727	239.53715	8.41474	0.2802143	0.28445912	2.2897574	17	—	—
16592 1992 TM ₁	12.1	X	188.85322	243.71375	269.18532	12.20570	0.1018194	0.23293612	2.6160427	17	8 27.0	16.3
16593 1992 UB ₃	12.8	X	307.48997	313.69320	43.53876	13.18754	0.1218586	0.22804043	2.6533517	17	6 26.6	16.3
16594 Sorachi	12.7	X	71.35696	201.59200	87.01193	10.67579	0.0345302	0.23415307	2.6069707	17	10 10.3	16.3
16595 1992 UU ₆	13.4	X	347.19602	270.12608	157.88234	13.22696	0.1595469	0.24001704	2.5643344	17	12 18.1	16.2
16596 Stephenstraus	14.6	X	120.84596	345.90529	195.40401	2.14764	0.1545582	0.26718397	2.3874216	17	7 30.7	17.9
16597 1992 YU ₁	13.5	X	249.79839	86.51574	286.18277	5.11318	0.0830521	0.21931662	2.7232553	17	5 10.4	17.5
16598 1992 YC ₂	14.5	X	337.41253	105.43710	286.82395	1.62726	0.2201038	0.23245517	2.6196498	17	9 27.7	16.6
16599 Shorland	13.8	X	29.28621	125.16013	355.00232	4.65559	0.1922595	0.20270678	2.8700570	17	—	—
16600 1993 DQ	14.5	X	166.65882	174.16499	84.96773	2.61575	0.1248691	0.30984550	2.1629140	17	12 28.7	17.5
16601 1993 FQ ₁	13.9	X	147.90521	122.76062	138.49749	6.85144	0.0991579	0.26596126	2.3947332	17	12 8.7	17.5
16602 Anabuki	14.3	X	337.66319	67.40342	202.75730	3.45124	0.1236206	0.28710133	2.2756873	17	3 28.7	16.6
16603 1993 FG ₆	13.8	X	96.26953	319.74713	38.48361	2.06359	0.2127233	0.19184746	2.9773645	17	—	—
16604 1993 FQ ₁₀	13.6	X	23.17345	55.01884	21.25380	10.31045	0.1024962	0.19300701	2.9654276	17	—	—
16605 1993 FR ₁₀	14.3	X	181.19502	256.58410	31.52780	5.92497	0.1122312	0.27217754	2.3581306	17	—	—
16606 1993 FH ₁₁	13.9	X	30.05329	343.27597	20.92952	10.67753	0.1518855	0.26518709	2.3993916	17	12 4.9	16.7
16607 1993 FN ₁₂	13.6	X	2.48040	238.13395	51.52095	5.64867	0.1110240	0.17104034	3.2141811	17	6 30.8	17.5
16608 1993 FA ₂₃	13.6	X	36.63596	180.15072	210.70007	5.50627	0.0450101	0.18776673	3.0203477	17	12 24.6	17.7
16609 1993 FB ₂₃	13.9	X	1.12947	75.71529	205.83457	5.89639	0.0744988	0.17004968	3.2266523	17	6 18.9	18.1
16610 1993 FV ₂₃	14.9	X	325.03580	133.68703	357.17158	3.72668	0.1626418	0.23273177	2.6175738	17	—	—
16611 1993 FY ₂₃	13.8	X	223.04600	9.65298	343.19052	2.48342	0.1488333	0.20264857	2.8706066	17	3 19.9	18.3
16612 1993 FF ₂₅	15.3	X	33.88081	338.14611	204.12599	4.99195	0.0975477	0.28531842	2.2851577	17	2 24.3	17.7
16613 1993 FD ₂₈	14.0	X	291.25042	123.60884	345.98007	7.63289	0.0190879	0.18527415	3.0473768	17	11 12.1	18.4
16614 1993 FS ₃₅	13.5	X	214.79870	136.21055	43.44140	3.55132	0.0423570	0.18380737	3.0635673	17	11 4.9	17.8
16615 1993 FW ₄₀	14.2	X	343.44951	210.39392	89.23301	2.16061	0.1466060	0.16922120	3.2371752	17	6 9.0	18.0
16616 1993 FB ₄₄	13.8	X	143.65640	202.78946	212.68117	1.51833	0.0475314	0.20302929	2.8670169	17	3 7.9	17.9
16617 1993 FC ₄₈	15.7	X	235.09766	73.28020	154.82962	0.73992	0.1599729	0.31209260	2.1525194	17	—	—
16618 1993 FX ₅₂	15.9	X	192.74737	89.43334	137.04168	4.51828	0.0818707	0.30778977	2.1725341	17	12 16.5	18.7
16619 1993 FR ₅₈	13.9	X	151.58156	191.75047	236.14613	1.01660	0.0973879	0.20641737	2.8355581	17	4 6.1	18.1
16620 1993 FE ₇₈	14.1	X	344.03259	98.52765	205.40707	1.27991	0.1388259	0.16974518	3.2305099	17	6 16.6	17.8
16621 1993 FA ₈₄	14.0	X	344.85017	290.64036	46.85282	9.76951	0.1639833	0.21493401	2.7601496	17	7 31.9	17.1
16622 1993 GG ₁	13.0	X	123.82894	155.30329	68.87238	6.31523	0.0876459	0.17687208	3.1431361	17	9 24.9	17.7
16623 Muenzel	13.3	X	164.79804	280.39295	229.41893	4.24306	0.1446249	0.17556949	3.1586634	17	8 5.6	18.4
16624 Hoshizawa	14.1	X	122.48404	145.22592	133.65262	3.05365	0.0441514	0.26362670	2.4088502	17	11 29.8	17.3
16625 Kunitsugu	14.5	X	241.41138	74.19990	164.30353	3.13923	0.0835027	0.31294065	2.1486288	17	—	—
16626 Thumper	13.7	X	65.29927	0.64215	104.48343	3.19983	0.0274926	0.19961272	2.8996388	17	1 28.3	17.4
16627 1993 JK	13.9	X	110.65922	49.61180	200.84419	4.49452	0.1392148	0.29788599	2.2004244	17	10 20.4	16.9
16628 1993 KF	12.3	X	60.84385	325.49513	82.46125	11.03422	0.0690565	0.18873638	3.0099940	17	—	—
16629 1993 LK ₁	14.6	X	72.24129	57.05168	205.97186	5.41659	0.2101352	0.29304145	2.2448294	17	9 29.3	17.2
16630 1993 NZ ₁	12.9	X	68.38278	116.17733	292.56165	9.18277	0.1250688	0.18245721	3.0786621	17	—	—
16631 1993 OY ₃	15.3	X	202.72043	314.07790	135.08865	2.94166	0.0717549	0.28493661	2.2871986	17	6 22.1	18.4
16632 1993 OH ₄	15.9	X	18.58533	178.57468	68.89234	1.21864	0.0718307	0.28316467	2.2967303	17	5 12.3	18.1
16633 1993 OV ₅	15.5	X	109.95869	97.17378	123.04194	3.73211	0.0856014	0.29066725	2.2570369	17	9 1.8	18.3
16634 1993 OD ₈	15.2	X	38.46035	64.80450	282.44759	2.84879	0.2206441	0.29418793	2.2389934	17	12 12.2	17.6
16635 1993 QO	14.2	X	287.42557	78.08555	313.75023	21.92905	0.2855318	0.28296746	2.2977973	17	6 21.2	17.9
16636 1993 QP	18.7											

ELEMENTS AND OPPOSITION DATES IN 2017

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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>
16641 Esteban	13.6 ^m	X	330.26665	25.25831	276.73373	20.64975	0.1434259	0.27956530	2.3164017	17	4 24.9	16.9
16642 1993 <i>RK</i> ₄	15.0	X	290.43845	234.67398	306.21215	1.79881	0.1195293	0.25926687	2.4357799	17	—	—
16643 1993 <i>RV</i> ₁₅	14.5	X	57.09405	262.77427	0.75119	7.71332	0.0888987	0.28492735	2.2872482	17	8 19.9	16.9
16644 Otemaedaigaku	14.1	X	323.84826	163.65787	174.75789	6.74597	0.1477138	0.28171941	2.3045786	17	6 15.1	16.7
16645 Aldalara	14.5	X	275.71228	212.41782	178.66041	3.72831	0.1936491	0.27994993	2.3142795	17	6 16.3	17.7
16646 Sparrman	14.0	X	146.54052	106.66290	347.95071	6.55216	0.0795517	0.27435271	2.3456500	17	4 20.2	17.1
16647 Robbydesmet	14.7	X	339.91319	213.56536	8.37363	4.54619	0.0541842	0.26963763	2.3729161	17	2 10.3	17.5
16648 1993 <i>SH</i> ₇	14.8	X	30.18757	83.56203	170.53287	4.29737	0.1064361	0.28013886	2.3132389	17	6 14.6	17.0
16649 1993 <i>TY</i> ₁	14.4	X	340.24872	337.07727	12.81000	6.91567	0.1528489	0.28305168	2.2973415	17	8 7.1	16.4
16650 Sakushingakuin	13.7	X	323.33158	335.99542	11.70963	8.21356	0.1186262	0.28146198	2.3059837	17	7 4.6	16.3
16651 1993 <i>TS</i> ₁₁	14.1	X	310.74600	32.14309	7.99715	6.18974	0.1123085	0.28453911	2.2893283	17	9 4.2	16.3
16652 1993 <i>TT</i> ₁₂	14.4	X	288.05549	240.06751	67.73479	4.19669	0.1768763	0.27427374	2.3461002	17	3 15.2	17.9
16653 1993 <i>TP</i> ₁₉	14.3	X	271.94714	91.63391	173.97525	6.04241	0.0945333	0.26679284	2.3897544	17	1 9.1	17.8
16654 1993 <i>TY</i> ₂₉	14.6	X	62.82299	260.49490	187.62219	9.04623	0.1419108	0.26057967	2.4275920	17	—	—
16655 1993 <i>TS</i> ₃₃	14.9	X	128.53700	313.18332	116.78276	4.32588	0.1175786	0.26630102	2.3926958	17	3 5.2	17.8
16656 1993 <i>TP</i> ₃₇	14.8	X	66.12344	17.63046	78.03250	6.32960	0.0808305	0.26218258	2.4176875	17	—	—
16657 1993 <i>UB</i>	16.6	X	330.71473	21.15216	31.29910	24.98651	0.0617447	0.28705344	2.2759404	17	9 21.1	17.9
16658 1993 <i>UD</i> ₁	15.5	X	310.81183	238.67580	70.32142	6.10160	0.1729844	0.27635331	2.3343157	17	4 12.3	18.5
16659 1993 <i>UH</i> ₁	13.9	X	322.25529	105.26336	195.17673	22.90441	0.2348366	0.27778701	2.3262770	17	4 2.5	16.8
16660 1993 <i>US</i> ₇	14.1	X	276.56188	167.98254	97.13218	6.74771	0.0823549	0.26567634	2.3964450	17	1 15.7	17.5
16661 1993 <i>VS</i> ₁	14.8	X	153.02807	131.80460	279.45256	2.44061	0.2049860	0.26596354	2.3947195	17	3 19.3	18.2
16662 1993 <i>VU</i> ₁	13.6	X	276.49419	116.47856	242.73387	10.30184	0.1576624	0.19307837	2.9646969	17	5 19.4	17.9
16663 1993 <i>VG</i> ₄	12.9	X	299.33983	50.56268	245.80470	9.18900	0.0858159	0.18758283	3.0223215	17	4 4.6	17.4
16664 1993 <i>VO</i> ₄	14.9	X	195.89322	310.26014	82.10891	5.89266	0.2230610	0.26881542	2.3777522	17	4 8.9	18.9
16665 1993 <i>XK</i>	14.6	X	193.37341	258.85177	110.67703	5.41394	0.1124717	0.26489392	2.4011616	17	3 2.8	18.1
16666 Liroma	12.8	X	199.34244	209.64436	240.41809	23.08669	0.2398224	0.27318087	2.3523532	17	6 18.5	17.0
16667 1993 <i>XM</i> ₁	10.8	X	165.90438	239.12712	96.60069	16.68909	0.1982643	0.08292542	5.2080794	17	2 4.7	18.5
16668 1993 <i>XN</i> ₁	13.4	X	76.81618	183.09225	94.85026	16.42244	0.1467264	0.23672127	2.5880810	17	10 23.3	17.2
16669 Rionuevo	14.3	X	346.20013	329.13105	67.54135	24.60077	0.0851529	0.36648621	1.9338864	17	11 18.1	15.7
16670 1994 <i>AS</i> ₂	14.8	X	152.29480	36.21778	354.63756	1.84831	0.2112886	0.26013190	2.4303770	17	2 23.9	18.3
16671 Tago	12.9	X	185.57122	157.68481	284.15810	11.53315	0.1925861	0.18552058	3.0446777	17	6 4.4	18.1
16672 Bedini	14.4	X	296.36252	76.43286	7.06723	6.64417	0.1368394	0.23824138	2.5770603	17	10 6.3	17.3
16673 1994 <i>BF</i> ₁	14.1	X	159.99732	52.09620	358.43489	3.67845	0.2001591	0.26114377	2.4240948	17	3 26.8	17.8
16674 Birkeland	14.0	X	4.40361	46.04075	277.06672	8.46067	0.0796146	0.23307140	2.6150303	17	8 12.6	17.2
16675 1994 <i>CY</i> ₁	14.0	X	142.78736	300.23040	300.55284	7.96684	0.0860966	0.27731478	2.3289171	17	11 3.5	17.4
16676 Tinne	14.5	X	3.74010	29.51217	327.17485	3.87678	0.2140303	0.23566532	2.5958062	17	10 6.7	16.5
16677 1994 <i>CT</i> ₁₁	14.2	X	278.88152	279.96548	91.84550	3.09243	0.0883349	0.22577714	2.6710544	17	6 13.4	17.9
16678 1994 <i>CC</i> ₁₈	14.0	X	348.20847	56.70481	358.14038	12.91724	0.1737847	0.24011712	2.5636218	17	11 26.1	16.7
16679 1994 <i>EQ</i> ₂	13.3	X	44.26745	193.93945	328.03005	8.42843	0.0946228	0.21408516	2.7674408	17	3 8.1	16.5
16680 1994 <i>EP</i> ₃	13.1	X	163.98397	113.89315	21.40272	14.12489	0.1775776	0.22507691	2.6765915	17	7 23.2	17.7
16681 1994 <i>EV</i> ₇	14.3	X	107.37470	63.75185	342.51050	23.41953	0.0634194	0.37828715	1.8934550	17	—	—
16682 Donati	15.0	X	67.97482	259.93762	193.39570	2.28426	0.0504187	0.29329726	2.2435239	17	—	—
16683 Alepieri	13.2	X	126.18320	142.36116	93.93869	3.89202	0.1135853	0.18569845	3.0427332	17	10 13.3	17.9
16684 1994 <i>JQ</i> ₁	6.9	X	331.20664	246.37380	25.58236	3.73753	0.0550220	0.00333017	44.4110927	17	5 20.1	23.1
16685 1994 <i>JU</i> ₈	13.4	X	245.11403	58.33385	331.17221	15.80255	0.1262987	0.24630353	2.5205131	17	1 12.2	17.6
16686 1994 <i>PL</i> ₉	12.6	X	352.61602	45.62444	332.10819	10.18456	0.0928959	0.17490517	3.1666564	17	10 5.3	16.6
16687 1994 <i>PN</i> ₂₀	16.0	X	78.56194	82.16813	251.67517	0.41445	0.1912782	0.26584456	2.3954340	17	—	—
16688 1994 <i>PN</i> ₂₁	13.5	X	13.43696	285.93567	144.90035	2.29510	0.1619220	0.18088783	3.0964434	17	—	—
16689 Vistula	12.9	X	314.40593	293.95699	141.26215	11.60404	0.1556635	0.17565874	3.1575934	17	10 22.6	16.9
16690 1994 <i>UR</i> ₆	14.8	X	209.19554	262.86909	285.26348	2.30673	0.1527240	0.30142641	2.2030035	17	11 6.9	17.9
16691 1994 <i>VS</i>	14.5	X	222.65794	261.32260	258.34168	4.87837	0.0581113	0.29717520	2.2239636	17	10 24.0	17.2
16692 1994 <i>VO</i> ₁	15.5	X	358.49511	170.32987	239.85535	1.34937	0.1511020	0.30158255	2.2022430	17	12 25.3	17.0
16693 Moseley	13.8	X	114.13076	120.15059	271.40311	11.25531	0.1830933	0.22758318	2.6569045	17	1 11.5	17.0
16694 1995 <i>AJ</i>	13.9	X	52.72276	39.66592	286.02403	6.41734	0.2070420	0.29444110	2.2377098	17	11 29.5	16.6
16695 1995 <i>AM</i>	16.9	X	116.29020	257.73400	108.74455	4.78326	0.3598703	0.31114820	2.1568728	17	—	—
16696 1995 <i>BE</i> ₇	14.6	X	266.15810	95.16207	113.49435	3.34925	0.1419690	0.25678056	2.4514777	17	—	—
16697 1995 <i>CQ</i>	15.1	X	150.35445	152.46106	331.14173	4.29518	0.1810672	0.27942272	2.3171896	17	6 17.3	18.5
16698 1995 <i>CX</i>	13.5	X	238.84147	208.58919	124.66894	13.02770	0.2175097	0.26950627	2.3736871	17	3 1.9	17.6
16699 1995 <i>DC</i>	15.0	X	117.50638	194.21768	11.80891	5.34435	0.2381208	0.23661017	2.5888910	17	9 9.1	19.1
16700 Seiwa	14.5	X	276.45434	42.20709	42.01011	3.82511	0.0678744	0.28764040	2.2728431	17	9 22.6	17.2
16701 1995 <i>DH</i> ₄	14.4	X	267.89805	320.17257	313.28681	6.26872	0.1392776	0.26548091	2.3976209	17	1 14.2	18.1
16702 1995 <i>DZ</i> ₈	15.3	X	64.28127	101.21689	5.61800	2.62006	0.1261642	0.26468989	2.4023954	17	1 9.3	17.4
16703 1995 <i>ER</i> ₇	14.0	X	186.70095	155.95615	162.07157	8.93959	0.1740329	0.25857088	2.4401488	17	—	—
16704 1995 <i>ED</i> ₈	13.6	X	80.95381	221.63129	351.68633	22.86730	0.2147432	0.27560300	2.3385505	17	8 12.7	16.7
16705 Reinhardt	14.3	X	255.32854	175.55686	14.60972	7.03082	0.0992313	0.25236040	2.4800203	17	—	—
16706 Svojsik	14.7	X	134.45765	253.04221	153.66584	2.49995	0.0618604	0.20338072	2.8637133	17	2 16.2	18.4
16707 1995 <i>QP</i> ₁₀	13.3	X	244.48787	324.13627	162.52052	13.38934	0.1156705	0.18061066	3.0996105	17	9 28.7	17.9
16708 1995 <i>SP</i> ₁	13.0	X	300.62299	116.49812	313.77724	25.83321	0.2068468	0.17811996	3.1284387	17	9 1.5	17.4
16709 Auratian	13.9	X	71.40039	92.21632	296.48752	0.67441	0.1057627	0.19092455	2.9869517	17	—	—
16710 1995 <i>SL</i> ₂₀	15.7	X	38.38442	46.27429	16.00861	7.09902	0.1743522	0.27862756	2.3215961	17	—	—
16711 Ka-Dar	13.4	X	296.31491	338.04797	54.81758	2.80367	0.1786727	0.17363000	3.1821418	17	7 25.3	17.8
16712 1995 <i>SW</i> ₂₉	12.6	X	308.27612	111.24953	317.74001	25.55774	0.2045639	0.17690826	3.1427075	17	9 10.2	16.9
16713 1995 <i>SV</i> ₅₂	13.0	X	302.03407	257.84754	141.56899	7.11655	0.1555257	0.17656512	3.1467781	17	8 13.4	17.2
16714 Arndt	13.4	X	225.78352	230.12925	102.12828	3.25832	0.0797563	0.20347156	2.8628609	17	2 28.5	17.6
16715 Trettenaro	14.2	X	44.63549	43.398								

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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>
16721 1995 <i>WF</i> ₃	14.5	X	329.04070	68.60936	57.42998	11.53643	0.2279098	0.22754121	2.6572312	17	—	—
16722 1995 <i>WG</i> ₇	13.0	X	2.78296	117.99567	245.86282	17.79035	0.2276366	0.17794947	3.1304367	17	10 7.0	16.4
16723 Fumiofuke	14.0	X	353.51863	280.18626	77.98977	2.21982	0.1956517	0.17539240	3.1607892	17	9 15.2	17.2
16724 1995 <i>YV</i> ₃	13.9	X	282.86691	276.45881	118.90332	29.82069	0.4389094	0.21130688	2.7916456	17	6 13.5	19.1
16725 Toudono	12.9	X	60.49564	79.28998	358.21749	21.88641	0.0539795	0.22599450	2.6693415	17	—	—
16726 1996 <i>DC</i>	14.2	X	48.01586	96.18554	134.21458	6.60895	0.1006154	0.28833421	2.2691956	17	6 10.4	16.3
16727 1996 <i>EK</i> ₂	15.1	X	136.57230	120.42069	192.87624	2.91964	0.1901266	0.30826527	2.1702994	17	—	—
16728 1996 <i>GB</i> ₁₈	15.0	X	33.66461	359.70900	38.15190	5.29708	0.0542496	0.30479022	2.1867646	17	—	—
16729 1996 <i>GA</i> ₁₉	14.9	X	82.29923	178.13666	48.51120	4.38047	0.0561864	0.28882925	2.2666020	17	7 28.5	17.4
16730 Nijisseiki	16.2	X	253.42548	267.50419	42.02842	1.61026	0.2156620	0.27156730	2.3616619	17	2 10.6	20.1
16731 Mitsumata	15.5	X	359.52416	343.26246	40.07593	6.87448	0.0946635	0.29718029	2.2239382	17	11 8.5	17.5
16732 1996 <i>HZ</i> ₁₆	14.6	X	155.54952	292.14680	33.75029	1.14446	0.1996269	0.21518059	2.7580406	17	—	—
16733 1996 <i>HM</i> ₂₂	15.1	X	34.28821	229.38220	41.24243	2.74919	0.1659520	0.28683762	2.2770818	17	7 26.3	16.7
16734 1996 <i>HZ</i> ₂₂	14.4	X	310.90743	285.83778	204.32906	6.16024	0.0704730	0.30591278	2.1814117	17	—	—
16735 1996 <i>JJ</i>	14.3	X	103.01754	122.94712	108.36646	6.75365	0.2222492	0.29096779	2.2554824	17	9 28.7	17.6
16736 Tongariyama	14.2	X	186.38526	67.44333	164.08787	8.04573	0.0747479	0.25352855	2.4723965	17	12 11.6	17.9
16737 1996 <i>KN</i> ₁	14.4	X	43.05401	187.74330	82.10555	7.56665	0.0906299	0.28625885	2.2801501	17	8 4.4	16.7
16738 1996 <i>KQ</i> ₁	15.8	X	346.68697	75.59703	177.32511	9.55929	0.1965417	0.27661770	2.3328281	17	3 7.8	18.5
16739 1996 <i>KX</i> ₂	13.4	X	248.56028	179.32656	171.65756	12.02127	0.1295275	0.22816320	2.6523998	17	4 10.2	17.5
16740 1996 <i>KT</i> ₈	14.5	X	32.47729	35.60796	222.30481	5.70359	0.1457756	0.28458939	2.2890586	17	6 26.4	16.3
16741 1996 <i>NZ</i> ₃	14.9	X	118.22933	116.75308	276.64960	2.91949	0.0906869	0.25744083	2.4472843	17	—	—
16742 Zink	15.6	X	243.52269	71.52629	269.38837	3.81686	0.2495440	0.26723979	2.3870891	17	3 9.8	19.7
16743 1996 <i>OQ</i>	14.4	X	195.40302	0.63918	297.40467	1.69110	0.1790127	0.25889602	2.4381053	17	—	—
16744 Antonioleone	14.2	X	163.71052	79.01318	295.50364	9.97891	0.2544866	0.26007761	2.4307152	17	2 16.1	18.0
16745 Zappa	14.8	X	81.46056	273.11787	292.17788	10.56172	0.1427509	0.23184788	2.6242223	17	7 13.1	18.1
16746 1996 <i>PW</i> ₆	14.6	X	178.86747	19.04701	340.49753	1.71622	0.1979085	0.25978763	2.4325237	17	2 9.8	18.3
16747 1996 <i>PS</i> ₈	14.7	X	173.25760	211.08192	325.71916	3.25617	0.1075337	0.23851602	2.5750817	17	9 15.8	18.5
16748 1996 <i>PD</i> ₉	13.8	X	60.20670	231.68530	119.12807	3.08383	0.0836994	0.19827150	2.9127007	17	12 12.6	17.9
16749 1996 <i>QE</i>	14.3	X	34.30631	168.93339	174.58085	14.44306	0.1503406	0.23842732	2.5757203	17	11 14.8	17.5
16750 Marisandoz	13.8	X	109.58961	230.72869	154.92211	4.82462	0.1701897	0.23099652	2.6306662	17	7 27.5	17.4
16751 1996 <i>QG</i> ₁	14.8	X	163.30034	170.90026	148.39304	1.03420	0.2151452	0.25472448	2.4646519	17	—	—
16752 1996 <i>QP</i> ₁	15.0	X	212.58774	176.06373	162.73222	2.69359	0.2398529	0.26235706	2.4166154	17	2 14.4	19.2
16753 1996 <i>QS</i> ₁	14.8	X	201.69511	98.88305	279.35584	5.31004	0.1407798	0.26491951	2.4010070	17	3 18.9	18.5
16754 1996 <i>RW</i>	14.1	X	292.95849	183.31567	260.61056	2.09993	0.2024182	0.23619870	2.5918968	17	9 20.1	17.2
16755 Cayley	14.8	X	316.13238	330.36572	76.55980	4.63936	0.2668965	0.23646917	2.5899201	17	8 29.9	17.4
16756 1996 <i>RQ</i> ₁₁	14.3	X	60.33088	236.04031	47.28530	1.69027	0.1349050	0.23628572	2.5912604	17	9 27.9	17.4
16757 Luoxiahong	13.8	X	240.09373	114.15010	185.16144	5.87823	0.0385388	0.21089822	2.7952507	17	1 31.7	17.9
16758 1996 <i>TR</i> ₁	13.6	X	122.10769	304.23619	164.33917	5.08452	0.0515750	0.21642587	2.7474508	17	4 17.7	17.3
16759 Furuyama	15.4	X	205.18006	209.01506	197.36802	4.48810	0.1613652	0.21697177	2.7428406	17	5 6.9	20.0
16760 Masanori	15.1	X	347.74906	357.77463	42.55985	6.90952	0.2650194	0.23536028	2.5980486	17	11 8.2	16.7
16761 Hertz	14.2	X	293.14544	193.91984	171.64237	12.26139	0.1819714	0.22677431	2.6632186	17	6 10.5	18.1
16762 1996 <i>TK</i> ₁₀	14.8	X	294.25650	28.01191	334.19763	5.61990	0.1490719	0.27249499	2.3562988	17	6 4.9	18.0
16763 1996 <i>TG</i> ₁₂	14.3	X	348.56275	96.69937	254.40162	10.24194	0.0748298	0.23332372	2.6131447	17	8 24.0	17.7
16764 1996 <i>TV</i> ₁₄	14.0	X	168.55157	336.27993	340.77757	1.48808	0.0696296	0.20300670	2.8672296	17	—	—
16765 Agnesi	13.8	X	4.23726	314.92615	17.76448	12.26626	0.1100547	0.23174889	2.6249696	17	9 4.7	16.8
16766 Righi	13.2	X	100.38088	316.86526	155.77887	9.52316	0.1181035	0.21336951	2.7736254	17	4 5.9	16.9
16767 1996 <i>US</i>	14.4	X	19.38702	322.16168	20.04090	5.22080	0.2642533	0.23507253	2.6001683	17	10 29.3	16.5
16768 1996 <i>UA</i> ₁	12.9	X	287.73862	233.47993	231.55852	16.50947	0.1324048	0.18500247	3.0503596	17	10 17.9	17.1
16769 1996 <i>UN</i> ₁	13.8	X	29.59193	67.22651	260.81626	13.36786	0.1342092	0.23439536	2.6051738	17	10 3.7	17.1
16770 1996 <i>UD</i> ₃	13.8	X	336.16697	283.64065	347.92258	4.80825	0.0060793	0.21625916	2.7488627	17	4 28.3	17.5
16771 1996 <i>UQ</i> ₃	13.2	X	29.94785	248.99430	13.99361	11.41619	0.1693519	0.22530665	2.6747717	17	7 12.5	16.1
16772 1996 <i>UC</i> ₄	14.6	X	286.07201	336.23229	38.82222	3.70892	0.0816756	0.22528618	2.6749336	17	6 28.4	18.1
16773 1996 <i>VO</i> ₁	12.7	X	36.21948	329.80456	34.27433	14.10877	0.1786222	0.23612995	2.5923999	17	12 14.4	16.0
16774 1996 <i>VP</i> ₁	13.2	X	338.98894	83.69784	268.75275	13.34009	0.2918292	0.22899814	2.6459487	17	7 16.0	15.4
16775 1996 <i>VB</i> ₆	13.6	X	99.06072	292.21671	126.05452	3.08032	0.0546432	0.20080052	2.8881927	17	1 16.3	17.5
16776 1996 <i>VA</i> ₈	14.4	X	329.22967	238.17313	144.16526	4.87546	0.2468148	0.23130355	2.6283378	17	8 20.7	16.7
16777 1996 <i>VD</i> ₂₉	13.7	X	246.99154	9.60592	144.49520	1.59543	0.1818476	0.18474233	3.0532224	17	10 25.8	18.2
16778 1996 <i>WU</i> ₁	13.6	X	284.61099	4.31093	90.33768	10.41366	0.0530814	0.18192645	3.0846471	17	10 19.4	18.0
16779 1996 <i>WH</i> ₂	13.2	X	340.07359	76.34668	246.66388	11.94904	0.1960979	0.22378417	2.6868895	17	6 20.8	16.0
16780 1996 <i>XT</i> ₁	13.9	X	190.50993	269.30243	79.63609	3.22610	0.0794332	0.20199586	2.8767872	17	2 12.3	18.2
16781 Renčín	13.2	X	249.66338	331.95332	123.66335	2.43510	0.1515085	0.17516875	3.1634791	17	8 21.7	18.0
16782 1996 <i>XC</i> ₁₉	13.4	X	50.13813	280.29784	107.08559	9.90410	0.0467899	0.18862146	3.0112164	17	—	—
16783 Bychkov	14.2	X	328.68937	208.28015	144.61219	13.72949	0.1755318	0.23121434	2.6290138	17	7 16.1	17.1
16784 1996 <i>YD</i> ₂	12.6	X	321.01993	107.73341	3.99349	12.18943	0.1007767	0.18632266	3.0359336	17	12 20.1	16.6
16785 1997 <i>AL</i> ₁	11.5	X	323.56188	90.51357	300.81218	18.40356	0.0972789	0.17558657	3.1584586	17	9 2.9	15.9
16786 1997 <i>AT</i> ₁	12.1	X	237.16297	170.98630	296.70025	12.63443	0.1069047	0.17447065	3.1719121	17	8 23.2	17.1
16787 1997 <i>AZ</i> ₁	13.6	X	270.10083	56.41802	4.01742	5.92075	0.1165846	0.17304615	3.1892955	17	8 6.7	18.2
16788 Alyssarose	12.8	X	243.36352	1.51801	116.48168	2.36819	0.1367771	0.17424480	3.1746522	17	9 13.5	17.7
16789 1997 <i>AU</i> ₃	13.3	X	99.70303	23.88453	336.44573	10.29817	0.1508338	0.19656704	2.9295140	17	—	—
16790 Yuuzou	13.6	X	86.83275	284.70341	291.66510	3.00573	0.0660955	0.22062129	2.7125085	17	7 24.3	17.2
16791 1997 <i>AR</i> ₅	12.9	X	101.10206	296.83113	111.83598	14.28674	0.1992109	0.19642748	2.9309015	17	1 29.4	16.5
16792 1997 <i>AK</i> ₁₃	12.4	X	231.46086	49.66295	92.33548	13.43847	0.1581797	0.17500569	3.1654438	17	10 4.4	17.6
16793 1997 <i>AA</i> ₁₈	12.8	X	38.13276	300.50306	109.33532	11.12154	0.0850345	0.18609370	3.0384232	17	—	—
16794 Cucullia	13.5	X	269.62551	267.73762	142.56629	19.20235	0.1684729	0.17109314	3.2135199	17	7 15.5	18.5
16795 1997 <i>CA</i> ₃												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16801 Petřínpragensis	15.3 ^m	X	77.54548	195.13658	205.03093	3.17619	0.1063270	0.25976488	2.4326657	17	—	—
16802 Rainer	15.7	X	233.86929	309.90554	0.97821	7.31596	0.2200706	0.27501566	2.3418789	17	1 28.6	19.7
16803 1997 SU ₁₀	15.3	X	343.67764	160.57359	230.06135	3.36473	0.1588530	0.29357639	2.2421017	17	10 19.4	16.8
16804 Bonini	13.3	X	288.42737	181.06221	23.74209	10.40915	0.1779007	0.26056361	2.4276917	17	—	—
16805 1997 SE ₁₆	15.2	X	352.06655	217.53527	14.10217	4.11736	0.0837499	0.27641419	2.3339730	17	3 6.5	17.9
16806 1997 SB ₃₄	14.1	X	105.07585	340.10215	31.93153	5.51678	0.1653785	0.30850235	2.1691874	17	—	—
16807 Terasako	15.2	X	202.20269	339.04776	128.45491	4.31187	0.1053762	0.28650084	2.2788660	17	7 16.5	18.2
16808 1997 TV ₂₆	14.3	X	306.16573	79.56353	72.96409	1.94045	0.1493768	0.25584128	2.4574742	17	—	—
16809 Galápagos	14.4	X	339.11852	41.14141	211.92757	8.62052	0.0634114	0.22915554	2.6447369	17	3 28.9	17.7
16810 Pavelaleksandrov	15.2	X	237.97044	181.65068	222.50363	10.44698	0.2398449	0.28127178	2.3070231	17	5 24.4	19.1
16811 1997 UP ₃	14.1	X	66.19034	186.17056	281.12939	2.52020	0.0381991	0.26525720	2.3989687	17	1 11.5	16.8
16812 1997 UQ ₃	14.5	X	48.43133	61.68632	44.51843	1.54387	0.1386613	0.26154645	2.4216060	17	—	—
16813 1997 UT ₆	14.3	X	268.69162	341.47824	208.43310	3.07528	0.1336213	0.30557067	2.1830396	17	—	—
16814 1997 UY ₈	14.8	X	77.94868	274.35810	57.43724	5.12975	0.2042629	0.30105667	2.2048069	17	—	—
16815 1997 UA ₉	12.6	X	174.95803	126.65700	58.74216	11.05200	0.0223421	0.24072184	2.5593267	17	10 5.3	16.2
16816 1997 UF ₉	16.1	X	56.37136	157.93478	37.18300	25.91253	0.6040599	0.56901035	1.4423011	17	8 19.1	17.4
16817 Onderlička	14.9	X	5.10276	112.62538	21.86448	4.02354	0.1481971	0.26015309	2.4302450	17	—	—
16818 1997 UL ₂₄	13.5	X	287.34302	54.02690	268.71117	14.16986	0.1302875	0.23452349	2.6042248	17	4 6.3	17.7
16819 1997 VV	12.9	X	67.33417	289.71677	255.40620	10.90732	0.1128477	0.22498155	2.6773477	17	5 18.3	16.0
16820 1997 VA ₃	14.3	X	42.07692	17.38730	270.76142	2.86198	0.0883029	0.28854045	2.2681142	17	8 27.4	16.5
16821 1997 VZ ₄	14.2	X	9.64067	254.39438	54.82132	6.31472	0.1920057	0.28836867	2.2690148	17	8 4.8	15.7
16822 1997 VA ₅	15.2	X	256.02710	351.98522	56.63991	6.70527	0.1712405	0.28365052	2.2941070	17	6 20.3	18.0
16823 1997 VE ₆	15.5	X	233.71581	102.43038	253.98360	1.12462	0.1303547	0.27287023	2.3541382	17	3 23.5	19.0
16824 1997 VA ₈	14.2	X	281.65072	259.10677	40.12709	7.83395	0.1033483	0.27245450	2.3565323	17	3 6.4	17.6
16825 1997 VC ₈	14.3	X	110.45263	43.02769	298.13240	2.73292	0.0309226	0.25371609	2.4711781	17	—	—
16826 Daisuke	14.6	X	32.00806	138.04363	122.46885	3.58392	0.1230727	0.28511299	2.2862552	17	6 28.8	16.4
16827 1997 WD ₂	13.9	X	240.58353	259.91844	86.86941	6.23930	0.2741127	0.27521452	2.3407507	17	3 18.4	18.1
16828 1997 WR ₂	14.9	X	271.77908	196.70611	239.44480	1.43674	0.0485751	0.28713726	2.2754974	17	9 4.5	17.4
16829 1997 WG ₇	15.2	X	4.46077	147.44450	301.62938	5.67568	0.1678388	0.29903693	2.2147234	17	—	—
16830 1997 WQ ₇	15.0	X	103.89433	80.74838	259.10307	1.59976	0.1249814	0.30423824	2.1894088	17	—	—
16831 1997 WM ₂₁	14.0	X	267.85483	264.57680	232.45794	5.64805	0.1464419	0.29314817	2.2442846	17	11 10.3	16.5
16832 1997 WR ₂₁	15.0	X	329.19823	112.97188	276.09109	4.62977	0.1673412	0.28904569	2.2654704	17	9 9.2	16.9
16833 1997 WU ₂₁	13.0	X	25.37290	240.46462	353.92208	12.81330	0.1308869	0.22208969	2.7005389	17	5 10.8	16.2
16834 1997 WU ₂₂	15.6	X	246.72330	334.30709	260.80076	15.98930	0.4422086	0.55416321	1.4679488	17	—	—
16835 1997 WT ₃₄	14.2	X	240.81771	183.01426	142.01280	3.50592	0.2381683	0.27323211	2.3520591	17	2 18.2	18.1
16836 1997 WG ₃₆	14.8	X	349.34425	190.50675	339.37277	1.76166	0.1452406	0.25982330	2.4323010	17	—	—
16837 1997 WM ₃₉	15.3	X	83.76899	351.72214	116.08720	3.11863	0.1412408	0.26530170	2.3987005	17	2 18.3	17.4
16838 1997 WT ₃₉	13.4	X	235.21560	342.92899	98.06331	6.62435	0.1827900	0.18413618	3.0599192	17	7 17.1	18.2
16839 1997 WT ₄₁	13.3	X	26.85346	284.28109	166.50288	2.11630	0.0223869	0.20615739	2.8379416	17	—	—
16840 1997 WT ₄₄	13.9	X	348.52095	296.90967	211.90786	1.27341	0.1608760	0.20555085	2.8435216	17	—	—
16841 1997 WY ₄₉	14.5	X	70.89948	87.91029	315.90463	2.86369	0.1028081	0.25691849	2.4506002	17	—	—
16842 1997 XS ₃	13.7	X	92.09767	120.21553	102.57902	5.44068	0.1759256	0.17397695	3.1779098	17	8 28.3	18.3
16843 1997 XX ₃	12.1	X	77.86040	135.50617	158.61834	5.36925	0.1823370	0.12517874	3.9577559	17	11 4.3	17.7
16844 1997 XY ₃	13.6	X	139.85991	324.87307	136.38594	5.20681	0.0296838	0.21077301	2.7963576	17	4 29.4	17.5
16845 1997 XA ₉	13.4	X	77.07644	306.50585	128.68592	2.99361	0.0627758	0.19946401	2.9010797	17	1 8.8	17.0
16846 1997 XA ₁₀	14.2	X	59.21824	138.88294	69.14993	3.10355	0.1402616	0.22430139	2.6827575	17	6 10.9	17.1
16847 Sanpoloamosciano	13.0	X	282.89537	152.55847	257.59172	14.92068	0.1817402	0.23610420	2.5925884	17	7 21.7	16.8
16848 1997 XN ₁₂	15.3	X	292.00402	109.36279	239.88554	4.24124	0.1957988	0.28297959	2.2977317	17	5 7.3	18.2
16849 1997 YV	14.8	X	190.21482	220.67579	162.61268	2.38622	0.2114991	0.26866896	2.3786163	17	3 20.8	18.5
16850 1997 YS ₁	14.6	X	159.39966	293.09737	99.36620	7.19416	0.1206229	0.26260844	2.4150730	17	2 24.8	18.0
16851 1997 YU ₁	15.3	X	293.87748	91.39610	292.68854	20.77577	0.3658070	0.28363348	2.2941988	17	6 4.9	19.1
16852 Nuredduna	14.0	X	352.88810	168.79786	207.77464	4.13357	0.1874707	0.29035024	2.2586794	17	10 18.6	15.3
16853 Masafumi	13.2	X	186.77480	48.01952	105.33936	2.19179	0.1219863	0.18058524	3.0999015	17	9 1.5	18.1
16854 1997 YL ₃	14.0	X	109.52229	197.16500	90.89981	8.36319	0.1632212	0.24007697	2.5639076	17	12 4.6	17.9
16855 1997 YN ₇	13.7	X	338.01091	274.93003	110.53571	15.57707	0.1268802	0.23484560	2.6018430	17	10 6.1	16.9
16856 Banach	14.9	X	141.72386	190.93690	180.92305	7.30540	0.1628103	0.25947596	2.4344712	17	1 10.3	18.1
16857 Goodall	14.6	X	49.27721	358.71705	102.97375	5.64773	0.1532296	0.25970317	2.4330510	17	—	—
16858 1997 YG ₁₀	13.7	X	270.04426	79.26159	34.02393	3.63634	0.1381824	0.23823230	2.5771258	17	10 9.9	17.0
16859 1997 YJ ₁₀	13.5	X	282.52596	27.22811	85.80486	10.63848	0.1283130	0.23982204	2.5657243	17	11 1.3	16.8
16860 1997 YT ₁₀	13.2	X	344.71971	135.76487	105.62435	8.55232	0.0495515	0.21265443	2.7798397	17	4 2.1	16.9
16861 Lipovetsky	14.2	X	15.26154	171.82915	158.94834	9.16289	0.0830574	0.23247603	2.6194931	17	9 15.6	17.1
16862 1997 YM ₁₄	14.4	X	60.21583	354.81261	127.55182	8.21820	0.1015371	0.25948495	2.4344149	17	1 25.8	16.9
16863 1997 YJ ₁₆	14.1	X	227.99287	63.68436	17.71295	8.91003	0.1812028	0.28195314	2.3033049	17	7 6.8	17.8
16864 1998 AL	14.6	X	174.71742	305.37832	120.31034	5.62144	0.1826172	0.26894038	2.3770157	17	4 29.7	18.3
16865 1998 AQ	13.4	X	112.46343	77.29124	130.53327	22.77551	0.1333568	0.17421311	3.1750373	17	8 27.3	18.3
16866 1998 AR	13.6	X	124.92762	133.43358	341.22513	4.02137	0.0992452	0.26673384	2.3901068	17	4 24.6	16.7
16867 1998 AX	14.2	X	135.31610	101.16120	346.31554	5.99416	0.1076235	0.26539573	2.3981339	17	4 2.3	17.3
16868 1998 AK ₈	16.6	X	46.51970	11.77881	126.79534	48.22878	0.1820713	0.40885158	1.7978727	17	—	—
16869 Košinár	14.5	X	18.45987	208.23678	202.65752	4.24491	0.1155111	0.29731225	2.2232801	17	—	—
16870 1998 BB	14.6	X	289.74014	1.37223	34.45823	3.57602	0.1535824	0.28294231	2.2979335	17	7 17.5	17.3
16871 1998 BD	14.6	X	1.28182	319.53094	52.10422	5.30796	0.1778259	0.28943552	2.2634357	17	10 31.4	16.1
16872 1998 BZ	14.0	X	220.55695	308.52402	87.18088	7.89849	0.2190955	0.27359397	2.3499847	17	5 2.6	18.0
16873 1998 BO ₁	14.0	X	211.85131	84.43136	347.15243	5.29382	0.0979329	0.27498249	2.3420672	17	6 8.3	17.4
16874 Kurtwahl	14.8	X	319.84611	254.97447	140.44776	3.18209	0.0385532	0.28486874	2.2875619	17	9 21.4	17.3
16875 1998 BD ₄	14.3	X	304.93836	93.90384	316.22332	12.23713	0.1600546	0.23510371	2.5999384	17	8 27.6	17.4
16876 1998 BV ₆	13.4	X	44.10509	139.04095	126.75424	10.37669	0.0369933	0.17457872	3.1706029			

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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>
16881 1998 <i>BH</i> ₁₂	14.2	X	334.61638	289.28442	115.52480	15.56760	0.1051851	0.23855336	2.5748130	17	10 28.8	17.4
16882 1998 <i>BO</i> ₁₃	13.5	X	24.53112	225.88540	339.87833	0.53696	0.1916144	0.16360436	3.3108497	17	4 18.5	16.9
16883 1998 <i>BA</i> ₂₀	14.5	X	185.31360	151.43255	205.03915	0.23835	0.0709702	0.21071226	2.7968951	17	2 12.2	18.6
16884 1998 <i>BL</i> ₂₅	13.8	X	93.32022	325.24520	151.10591	4.25601	0.0485236	0.21096682	2.7946448	17	3 20.7	17.4
16885 1998 <i>BX</i> ₂₅	13.0	X	28.47662	156.22651	294.24445	11.60523	0.0749046	0.20056259	2.8904764	17	—	—
16886 1998 <i>BC</i> ₂₆	13.1	X	179.40066	319.67422	64.41960	8.70195	0.1796014	0.26253761	2.4155074	17	3 15.3	16.9
16887 Blouke	13.8	X	43.16947	240.90107	172.96047	10.54917	0.1086804	0.19177575	2.9781067	17	—	—
16888 Michaelbarber	14.1	X	62.55389	253.99182	65.75397	13.71939	0.1783202	0.23755106	2.5820505	17	11 24.8	17.4
16889 1998 <i>BD</i> ₂₇	14.4	X	6.50056	145.38926	128.41964	2.06161	0.1037251	0.17018940	3.2248861	17	6 16.4	18.2
16890 1998 <i>BJ</i> ₃₃	13.0	X	217.73529	236.32572	307.19769	13.98849	0.0296794	0.23942436	2.5685646	17	11 15.3	16.8
16891 1998 <i>BQ</i> ₄₅	13.5	X	116.17011	354.00339	157.05895	9.99170	0.1102395	0.22004323	2.7172570	17	6 13.0	17.5
16892 Vaissière	13.1	X	74.80147	201.81192	84.87283	2.28689	0.1467674	0.17951999	3.1121523	17	10 20.9	17.5
16893 1998 <i>DS</i> ₃	12.6	X	300.74474	306.69226	148.75769	10.69870	0.0790290	0.18809263	3.0168580	17	11 6.4	16.7
16894 1998 <i>DP</i> ₉	13.1	X	303.83561	70.72988	79.00808	11.44234	0.0481742	0.19148445	2.9811263	17	—	—
16895 1998 <i>DQ</i> ₉	12.5	X	331.21762	22.01740	72.97288	11.12719	0.0775855	0.18836975	3.0138984	17	12 15.7	16.2
16896 1998 <i>DS</i> ₉	13.2	X	46.26797	144.12880	158.62400	24.31142	0.1924254	0.27113253	2.3641859	17	10 19.9	16.2
16897 1998 <i>DH</i> ₁₀	13.3	X	20.40401	195.87233	178.20715	9.45235	0.1485804	0.18540535	3.0459391	17	11 24.9	17.1
16898 1998 <i>DJ</i> ₁₀	13.5	X	38.83434	105.66137	348.55224	2.01546	0.1896653	0.19951662	2.9005698	17	—	—
16899 1998 <i>DK</i> ₁₀	13.8	X	149.10159	298.49256	167.51042	9.20970	0.1222075	0.21581185	2.7526597	17	5 26.3	18.1
16900 Lozère	13.4	X	256.39641	56.81432	107.59028	2.48593	0.1034492	0.18552386	3.0446418	17	11 27.3	17.6
16901 Johnbrooks	14.3	X	281.99498	259.75928	138.28329	14.34313	0.1040006	0.22936288	2.6431428	17	7 19.9	17.9
16902 1998 <i>DT</i> ₁₄	13.6	X	316.66564	309.85136	163.42590	10.90274	0.0414739	0.24097187	2.5575560	17	12 28.0	17.0
16903 1998 <i>DT</i> ₁₅	14.3	X	275.10801	268.74989	179.66033	11.38861	0.2544410	0.23412039	2.6072132	17	8 24.4	18.2
16904 1998 <i>DQ</i> ₁₅	13.5	X	220.58469	283.36477	204.93340	9.31531	0.0867027	0.17729302	3.1381591	17	9 3.2	18.4
16905 1998 <i>DT</i> ₂₁	13.8	X	47.80348	297.35025	51.46733	2.02014	0.2201001	0.18644632	3.0345911	17	12 12.2	17.9
16906 Giovannisilva	14.7	X	225.78309	57.57994	144.50160	11.16405	0.0418933	0.19110066	2.9851163	17	12 16.2	19.1
16907 1998 <i>DS</i> ₂₉	12.7	X	73.55168	101.02445	168.91038	9.44188	0.0231067	0.17943546	3.1131296	17	9 9.7	17.0
16908 Groeselenberg	14.2	X	152.21482	272.16763	167.75333	6.58411	0.2444986	0.26792686	2.3830064	17	5 1.4	17.9
16909 Miladejager	13.1	X	285.21117	218.01633	41.46182	2.54852	0.0213215	0.20416661	2.8563597	17	2 10.2	17.0
16910 1998 <i>DE</i> ₃₄	13.2	X	261.38540	137.25874	1.94868	0.99561	0.1531337	0.18475646	3.0530667	17	10 26.2	17.5
16911 1998 <i>EL</i> ₆	13.7	X	30.15940	184.79383	175.53445	11.97971	0.1338028	0.18376108	3.0640819	17	11 21.2	17.7
16912 Rhiannon	17.9	X	258.93883	221.21730	169.21054	24.52108	0.2727371	0.42531810	1.7511639	17	5 12.9	21.0
16913 1998 <i>EK</i> ₉	13.2	X	157.48822	297.61885	125.36540	25.88258	0.1313130	0.26749225	2.3855869	17	4 11.9	17.2
16914 1998 <i>ER</i> ₁₃	13.5	X	45.88994	204.26510	159.47276	10.65695	0.0933339	0.18508928	3.0494057	17	12 11.0	17.8
16915 Bredthauer	11.9	X	131.74894	256.84268	349.39420	7.63541	0.1515679	0.12606619	3.9391601	17	10 25.8	18.0
16916 1998 <i>FM</i> ₁₅	13.3	X	244.71745	188.48868	188.01466	1.66660	0.0598018	0.21608379	2.7503498	17	5 13.7	17.3
16917 1998 <i>FB</i> ₂₉	13.4	X	219.76164	133.55778	182.68337	1.99231	0.0598801	0.20256507	2.8713955	17	2 1.4	17.7
16918 1998 <i>FF</i> ₃₂	12.9	X	217.15783	146.46181	224.38721	4.67830	0.0851387	0.15905868	3.3736327	17	4 12.1	18.1
16919 1998 <i>FF</i> ₃₅	13.3	X	178.67061	44.07876	201.08292	1.19166	0.0613546	0.18575444	3.0421217	17	12 12.6	17.9
16920 Larrywalker	13.8	X	326.23634	170.24997	145.49282	5.55811	0.0352612	0.21817280	2.7327651	17	6 11.8	17.4
16921 1998 <i>FZ</i> ₅₂	13.3	X	44.30265	150.22120	196.79465	3.77291	0.0746266	0.18094664	3.0957725	17	11 14.8	17.3
16922 1998 <i>FR</i> ₅₇	13.1	X	302.04149	46.97524	322.45716	3.89726	0.1316450	0.17005438	3.2265928	17	7 9.9	17.4
16923 1998 <i>FB</i> ₆₁	13.3	X	352.19367	16.02151	331.86697	0.57940	0.1709627	0.17291467	3.1909120	17	8 28.5	16.7
16924 1998 <i>FL</i> ₆₁	12.1	X	119.92851	328.00555	3.24460	10.71520	0.1176100	0.18787566	3.0191803	17	—	—
16925 1998 <i>FB</i> ₆₃	13.2	X	73.61678	224.69972	188.03923	17.13380	0.2199276	0.19633689	2.9318029	17	—	—
16926 1998 <i>FH</i> ₆₃	13.2	X	135.08236	282.96772	138.67789	2.66348	0.0598950	0.20424544	2.8556248	17	3 7.8	17.3
16927 1998 <i>FX</i> ₆₈	11.9	X	77.87439	93.27730	207.18265	12.91533	0.1395440	0.12390383	3.9848583	17	11 5.2	17.5
16928 1998 <i>FF</i> ₇₀	13.1	X	274.24213	345.47617	135.80569	4.91953	0.0030638	0.18040050	3.1020173	17	11 11.4	17.5
16929 Hurnik	13.6	X	308.54235	338.55291	119.62201	3.84418	0.1336234	0.18428363	3.0582868	17	11 12.0	17.4
16930 Respighi	13.4	X	279.15672	301.49823	78.03519	3.10314	0.1612967	0.16946379	3.2340851	17	6 19.1	18.0
16931 1998 <i>FO</i> ₇₅	13.2	X	318.16231	214.90987	191.13907	13.59999	0.1399999	0.17642450	3.1484499	17	9 16.4	17.1
16932 1998 <i>FG</i> ₈₈	13.2	X	44.65399	219.87861	155.79973	14.23802	0.2154846	0.23934478	2.5691339	17	—	—
16933 1998 <i>FV</i> ₈₈	13.3	X	296.27779	52.38629	45.51809	6.34666	0.0289475	0.18391647	3.0623557	17	11 5.7	17.4
16934 1998 <i>FA</i> ₉₁	13.6	X	356.67370	2.37328	89.09946	6.54404	0.0797940	0.19176860	2.9781808	17	—	—
16935 1998 <i>FX</i> ₁₁₁	12.5	X	344.22390	230.93854	247.85434	9.34251	0.0526655	0.19005676	2.9960370	17	—	—
16936 1998 <i>FJ</i> ₁₁₂	12.1	X	37.24412	157.78238	249.39337	9.07459	0.1003312	0.18844892	3.0130543	17	—	—
16937 1998 <i>FR</i> ₁₁₇	12.6	X	10.53945	215.50184	237.06704	9.03596	0.0679457	0.18924475	3.0046012	17	—	—
16938 1998 <i>FR</i> ₁₂₁	13.6	X	179.11561	260.96263	172.75714	9.22230	0.1427984	0.21416143	2.7667837	17	5 17.8	18.1
16939 1998 <i>FP</i> ₁₂₁	13.6	X	105.55497	327.53566	181.56555	5.64239	0.0291680	0.21251794	2.7810298	17	5 16.4	17.4
16940 1998 <i>GC</i> ₃	12.9	X	288.99483	311.89350	104.96783	13.84317	0.1454359	0.22873885	2.6479479	17	8 21.9	16.5
16941 1998 <i>GR</i> ₇	12.6	X	218.63756	329.76135	91.55268	14.07461	0.1980236	0.21750025	2.7383957	17	6 6.1	17.2
16942 1998 <i>HA</i> ₃₄	12.4	X	309.71638	187.01548	202.79115	16.12856	0.1137819	0.17260865	3.1946823	17	8 13.6	17.0
16943 1998 <i>HP</i> ₄₂	12.6	X	4.55033	338.90268	69.61904	14.20867	0.1784271	0.23553681	2.5967503	17	12 23.0	15.2
16944 Wangler	14.6	X	311.93731	292.68685	8.45775	9.87108	0.1872468	0.25787611	2.4445296	17	4 1.3	17.8
16945 1998 <i>HD</i> ₄₆	13.0	X	233.43899	5.87355	85.74295	2.08784	0.1734696	0.17240792	3.1971615	17	7 29.7	18.0
16946 Farnham	14.1	X	325.39186	252.60608	103.22059	6.58973	0.1436084	0.26773116	2.3841676	17	7 17.3	16.3
16947 Wikrent	14.8	X	241.43772	252.90692	15.08305	2.03434	0.1489773	0.29460571	2.2368762	17	—	—
16948 1998 <i>HA</i> ₁₃₃	13.1	X	333.60016	194.82306	205.94568	16.22961	0.0987302	0.17839665	3.1252032	17	10 8.7	17.0
16949 1998 <i>HS</i> ₁₃₃	13.4	X	91.88574	216.33376	159.33026	10.58753	0.0995941	0.19127552	2.9832968	17	—	—
16950 1998 <i>JQ</i>	14.2	X	88.92567	306.56801	7.34454	7.44861	0.1415838	0.27868265	2.3212902	17	12 16.4	17.5
16951 Carolus Quartus	12.7	X	191.68107	190.87585	76.07361	11.10630	0.0559665	0.19055671	2.9907944	17	—	—
16952 Peteschultz	13.2	X	319.53525	321.73540	137.02384	4.06665	0.0822038	0.18032697	3.1028606	17	12 3.1	17.1
16953 Besicovitch	12.9	X	113.21811	182.33481	176.03612	14.75987	0.2109622	0.17693606	3.1423784	17	—	—
16954 1998 <i>KT</i> ₄₈	13.5	X	115.62871	2								

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
16961 1998 QV ₇₃	13.6 ^m	X	35.60052	214.37306	260.34169	14.25356	0.1788001	0.22841789	2.6504278	17	—	—
16962 Elizawoolard	14.0	X	29.12530	269.68557	108.74330	6.95295	0.1218470	0.26297345	2.4128377	17	12 20.7	16.8
16963 1998 RE ₂	12.9	X	142.87349	287.26184	132.91638	10.64980	0.0860211	0.18358474	3.0660437	17	3 25.6	17.5
16964 1998 RD ₅₉	12.8	X	6.27934	262.46660	186.50367	17.67903	0.0894551	0.22000822	2.7175452	17	—	—
16965 1998 RX ₇₉	13.4	X	178.58745	78.11206	340.78050	8.26556	0.1904781	0.23863774	2.5742060	17	4 22.9	17.7
16966 1998 SM ₆₃	14.0	X	76.50831	117.46664	324.38291	5.68329	0.0620941	0.28182133	2.3040230	17	—	—
16967 Marcosbosso	15.4	X	79.66706	184.38640	287.42031	3.00823	0.0873293	0.28362829	2.2942268	17	2 3.3	17.7
16968 1998 TT ₅	12.8	X	35.98850	83.21062	62.03757	11.92344	0.2159097	0.17431938	3.1737467	17	2 21.9	16.3
16969 Helamuda	13.8	X	60.11041	339.98311	91.20852	2.60553	0.1612511	0.16944139	3.2343700	17	—	—
16970 1998 VV ₂	11.8	X	258.65405	45.52117	233.45151	8.79014	0.1143869	0.12460063	3.9699882	17	2 8.1	17.9
16971 1998 WJ ₃	12.8	X	25.92362	71.85108	92.49344	13.99826	0.1115500	0.22291874	2.6938392	17	2 11.1	16.0
16972 1998 WK ₁₁	13.7	X	8.47304	182.65111	83.52281	9.76946	0.1827444	0.24358332	2.5392435	17	5 24.2	16.0
16973 Gaspari	14.3	X	166.40109	259.84515	280.15365	4.36532	0.0984088	0.29545873	2.2325687	17	9 11.6	17.5
16974 1998 WR ₂₁	9.8	X	245.27038	134.48503	241.55773	15.03505	0.0700047	0.08330755	5.1921411	17	5 28.1	16.8
16975 Delamere	13.9	X	291.32404	229.67037	8.21694	10.69995	0.2180250	0.26644795	2.3918162	17	—	—
16976 1999 AC ₂	13.9	X	286.88253	38.00550	204.31852	2.00711	0.1812876	0.27086835	2.3657229	17	—	—
16977 1999 AS ₃	13.8	X	344.68015	71.38472	100.07266	7.82603	0.0667973	0.26767457	2.3845035	17	—	—
16978 1999 AN ₄	14.1	X	354.93088	276.73278	316.02935	22.25867	0.2366348	0.27522236	2.3407062	17	2 11.8	16.7
16979 1999 AO ₄	13.5	X	12.73132	121.93818	116.84913	11.96923	0.2300643	0.22570471	2.6716259	17	4 26.3	16.1
16980 1999 AP ₅	14.4	X	130.37575	203.70146	26.34633	4.85019	0.1147460	0.29625014	2.2285909	17	10 12.9	17.5
16981 1999 AU ₇	14.7	X	164.19929	204.66975	43.66707	4.97973	0.0691608	0.30401003	2.1905043	17	12 12.8	17.7
16982 Tsinghua	15.2	X	157.43873	180.34216	92.20373	5.97396	0.1019097	0.30533713	2.1841526	17	—	—
16983 1999 AQ ₂₁	14.6	X	319.43927	347.88278	201.63103	0.84404	0.1278305	0.26626026	2.3929401	17	—	—
16984 Veillet	14.9	X	248.52580	6.87272	151.75683	5.74434	0.0719535	0.30140547	2.2031055	17	11 27.8	17.5
16985 1999 AE ₂₈	14.6	X	260.62387	139.60461	130.01651	7.11158	0.1362389	0.26889743	2.3772688	17	1 1.2	18.2
16986 Archivistef	14.4	X	77.39820	24.46999	169.02206	2.20837	0.1581006	0.28206500	2.3026959	17	6 16.1	16.5
16987 1999 BN ₁₃	15.0	X	17.95592	24.40115	166.04622	1.99846	0.1381931	0.27120042	2.3637914	17	2 9.8	17.2
16988 1999 BK ₁₄	13.6	X	51.56026	211.65817	63.39439	5.57605	0.1246766	0.17702794	3.1412911	17	9 3.7	17.7
16989 1999 CX	14.7	X	95.48290	199.03453	77.34602	3.52676	0.1612616	0.29680086	2.2258332	17	11 9.9	17.7
16990 1999 CS ₁	14.2	X	70.09344	148.56792	89.70142	6.62350	0.1321371	0.28681966	2.2771769	17	8 9.4	16.6
16991 1999 CW ₄	14.8	X	327.21803	329.77640	202.56386	0.67344	0.1568131	0.26168873	2.4207283	17	—	—
16992 1999 CU ₅	14.0	X	199.46091	16.60834	143.56030	15.65939	0.1390178	0.24192259	2.5508485	17	9 25.1	18.1
16993 1999 CC ₁₀	13.7	X	131.65756	34.38880	134.12653	9.61825	0.1493373	0.28476590	2.2881126	17	7 24.5	16.9
16994 1999 CJ ₁₄	13.3	X	240.68267	40.26079	179.74914	17.55173	0.1543955	0.19944183	2.9012950	17	—	—
16995 1999 CX ₁₄	14.0	X	325.32028	357.36984	348.63593	4.93736	0.1532557	0.28640210	2.2793897	17	6 28.1	16.2
16996 Dahir	14.6	X	61.21720	241.44515	16.84870	5.59789	0.1744421	0.28919955	2.2646668	17	9 2.2	16.9
16997 Garrone	14.6	X	65.42978	211.10100	52.75572	4.90046	0.1765097	0.29056710	2.2575554	17	9 18.5	17.0
16998 Estelleweber	14.7	X	161.57127	11.49836	144.83382	5.49716	0.0446157	0.29029689	2.2589561	17	8 2.9	17.6
16999 Ajstewart	14.2	X	263.93398	221.25830	18.22051	3.05335	0.1658331	0.26161739	2.4211683	17	—	—
17000 Medvedev	14.2	X	152.52717	249.24395	6.64640	5.35490	0.1360999	0.30122464	2.2039871	17	12 8.4	17.5
17001 1999 CT ₅₄	13.7	X	238.40259	207.48786	354.07030	6.08615	0.0689471	0.25349137	2.4726383	17	—	—
17002 Kouzel	15.2	X	295.86653	155.82927	64.67187	3.44924	0.1361248	0.26373409	2.4081962	17	—	—
17003 1999 CE ₅₅	13.5	X	44.07322	142.53554	133.26691	14.91967	0.0854880	0.23514069	2.5996658	17	8 15.4	16.4
17004 Sinkovich	14.7	X	282.19855	128.04185	221.79901	3.44256	0.1328343	0.28653162	2.2787028	17	5 4.4	17.8
17005 1999 CD ₆₃	13.2	X	162.12096	144.15692	177.27838	9.25687	0.1554804	0.21092110	2.7950486	17	—	—
17006 1999 CH ₆₃	13.3	X	33.20092	100.55250	182.07936	12.93884	0.1860266	0.23638629	2.5905254	17	8 14.4	16.1
17007 1999 CK ₆₅	14.1	X	91.00301	194.23945	171.04244	12.04214	0.2246924	0.26213347	2.4179894	17	—	—
17008 1999 CL ₆₅	13.5	X	351.39870	98.45477	263.56168	7.58019	0.1117352	0.19200731	2.9757118	17	9 12.9	17.3
17009 1999 CM ₇₀	13.6	X	95.15042	36.50532	222.83330	5.46684	0.1771681	0.24017116	2.5632373	17	10 15.4	17.2
17010 1999 CQ ₇₂	13.3	X	79.01958	31.34032	210.58351	12.65469	0.2286984	0.23398937	2.6081864	17	9 7.9	17.0
17011 1999 CR ₈₀	12.7	X	98.21022	326.21960	281.36494	8.44960	0.0252825	0.18700351	3.0285602	17	9 8.7	17.1
17012 1999 CY ₈₀	13.2	X	120.14499	35.50602	203.02664	13.46883	0.1302163	0.24012072	2.5635963	17	10 11.1	17.0
17013 1999 CA ₈₂	13.8	X	340.99178	309.91140	333.77239	8.35939	0.2219066	0.27756168	2.3275359	17	4 4.6	16.5
17014 1999 CC ₉₆	14.0	X	205.71809	226.07629	121.85646	5.31153	0.1094169	0.21947156	2.7219734	17	2 24.4	18.2
17015 1999 CN ₁₁₇	14.2	X	145.84603	60.72791	187.51228	3.58185	0.1102165	0.29883968	2.2156979	17	11 22.8	17.4
17016 1999 CV ₁₂₃	13.2	X	350.15676	255.16971	38.80124	13.26615	0.1767601	0.23153268	2.6266035	17	5 27.2	15.9
17017 1999 CJ ₁₃₈	15.2	X	164.13475	158.89464	164.39727	1.45346	0.1707638	0.31261306	2.1501296	17	—	—
17018 1999 DB ₁	14.9	X	51.43051	52.99110	228.46631	2.10979	0.1343552	0.29210841	2.2496071	17	9 10.3	17.1
17019 Aldo	13.0	X	67.75632	211.95795	54.18803	15.00861	0.1461460	0.23737900	2.5832981	17	9 25.3	16.6
17020 Hopemeraengus	13.6	X	299.91468	165.43030	132.21684	10.35327	0.1238186	0.21534288	2.7566547	17	4 3.8	17.6
17021 1999 DS ₆	13.3	X	106.32678	48.80115	98.98446	13.39142	0.1059969	0.22017170	2.7161998	17	5 27.8	17.0
17022 Huisjen	14.1	X	154.26490	222.90114	88.42238	4.23757	0.1881188	0.25576158	2.4579847	17	—	—
17023 Abbott	14.9	X	28.17085	186.83221	287.60054	1.85502	0.1223876	0.26244266	2.4160899	17	—	—
17024 Costello	14.2	X	227.68949	315.07389	327.28663	5.34501	0.0671182	0.25989127	2.4318769	17	—	—
17025 Pilachowski	14.2	X	65.31378	296.86196	7.92096	7.39880	0.2026770	0.23974791	2.5662532	17	11 10.2	17.7
17026 1999 EC ₈	13.9	X	80.94330	108.61160	168.76965	12.05996	0.1439307	0.23338334	2.6126996	17	10 21.1	17.5
17027 1999 EF ₁₂	13.3	X	299.26097	212.48005	135.28332	8.27578	0.0879093	0.22871052	2.6481665	17	6 8.8	16.9
17028 1999 FJ ₅	15.1	X	44.75812	344.55971	354.29493	4.52382	0.2068235	0.29680702	2.2258024	17	12 6.9	17.6
17029 Cuillandre	13.5	X	210.27214	109.67422	202.11789	1.53361	0.0630104	0.20730350	2.8274719	17	1 16.1	17.8
17030 Sierks	13.2	X	65.39868	102.12767	104.18458	2.90432	0.0480587	0.17434223	3.1734694	17	6 12.8	17.5
17031 Piethut	13.9	X	140.37512	233.34936	156.81814	7.90270	0.1173847	0.26613019	2.3937197	17	1 23.9	17.0
17032 Edlu	14.1	X	348.58722	95.24354	90.24801	2.32989	0.2345566	0.21257119	2.7805654	17	—	—
17033 Rusty	14.2	X	324.81160	259.38564	40.56855	2.05681	0.0621167	0.27915752	2.3186569	17	5 4.1	16.9
17034 Vasylyshev	13.5	X	26.94115	329.57151	4.71159	8.34547	0.1544934	0.23963526	2.5670574	17	10 15.9	16.1
17035 Velichko	13.5	X	123.83474	174.72725	179.78019	6.24508	0.1475528	0.25815299	2.4427814	17	—	—
17036 Krugly	14.2	X	239.49855	325.21875	181.28786	2.46173	0.0901571	0.24508258	2.5288773	17	10 22.3	17.7
17037 1999 FV ₁₀	14.3	X	80.51898	262.11592	347.12951							

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
17041 Castagna	15.3 ^m	X	223.95743 ^o	15.47834 ^o	82.61616 ^o	3.49925 ^o	0.0893357 ^o	0.28785548 ^o	2.2717108	17	7 30.4	18.3
17042 Madiraju	14.7	X	338.47940	111.30859	32.83104	3.79367	0.0920737	0.25787084	2.4445629	17	—	—
17043 1999 <i>FJ</i> ₃₀	14.4	X	352.82103	80.69584	38.09321	2.84823	0.0366599	0.30918645	2.1659865	17	—	—
17044 Mubdirahman	14.6	X	164.09393	135.38548	26.31666	7.87869	0.0638796	0.28741871	2.2740117	17	8 19.5	17.7
17045 Markert	14.2	X	162.26541	279.65512	73.01398	14.00157	0.2509272	0.26017731	2.4300942	17	1 23.7	18.0
17046 Kenway	14.1	X	66.97626	37.69867	217.39596	0.51039	0.1650740	0.17654571	3.1470087	17	9 2.8	18.3
17047 1999 <i>FP</i> ₃₃	13.7	X	42.37877	174.27896	180.63703	11.01417	0.0875515	0.19021202	2.9944064	17	11 25.8	17.8
17048 1999 <i>FD</i> ₃₄	14.8	X	122.23503	169.85964	172.14885	1.32296	0.1668684	0.30579497	2.1819719	17	—	—
17049 Miron	14.5	X	38.30444	234.85703	126.57385	5.33754	0.0584800	0.24424176	2.5346779	17	11 30.1	17.7
17050 Weiskopf	14.7	X	27.85345	323.29358	24.74250	1.52306	0.1305030	0.29694630	2.2251063	17	11 10.6	16.8
17051 O'lynn	14.1	X	334.70871	297.15428	21.61594	6.65774	0.1322294	0.28286683	2.2983423	17	6 4.3	16.6
17052 1999 <i>FS</i> ₅₁	13.7	X	341.72210	57.24982	272.31506	1.84735	0.1580764	0.23279598	2.6170924	17	7 8.8	16.2
17053 1999 <i>FX</i> ₅₆	13.6	X	112.58010	232.04611	72.78964	3.15688	0.0777051	0.19567167	2.9384440	17	12 15.6	17.8
17054 1999 <i>GL</i> ₂	13.1	X	290.61416	358.11907	213.24877	1.26049	0.0113100	0.20557614	2.8432884	17	—	—
17055 1999 <i>GP</i> ₃	14.3	X	98.70395	53.25136	178.23998	14.78852	0.0855426	0.23475825	2.6024884	17	8 30.8	17.9
17056 Boschetti	14.6	X	94.89080	217.44638	110.68344	3.30402	0.1129207	0.29913575	2.2142357	17	—	—
17057 1999 <i>GS</i> ₄	13.9	X	294.63739	112.16690	175.51748	5.20738	0.1424493	0.26697623	2.3886599	17	2 26.3	17.1
17058 Rocknroll	13.9	X	276.93461	68.06990	25.72887	14.95290	0.0715827	0.23847270	2.5753936	17	10 5.7	17.2
17059 Elvis	14.1	X	157.24234	108.95638	272.41081	3.50832	0.0824220	0.26201529	2.4187165	17	1 30.2	17.2
17060 Mikecombi	13.5	X	128.49730	280.56716	340.83430	12.23051	0.1497843	0.24233038	2.5479886	17	11 14.4	17.7
17061 Tegler	14.7	X	259.56429	0.98882	122.46590	4.21565	0.1587566	0.24290453	2.5439719	17	10 8.6	18.1
17062 Bardot	13.7	X	34.56147	172.58623	113.90533	4.26168	0.0288761	0.17662342	3.1460855	17	8 12.0	18.0
17063 Papaloizou	13.9	X	140.74552	150.64666	328.46099	5.23884	0.0376934	0.27540436	2.3396748	17	5 11.3	16.9
17064 1999 <i>GX</i> ₁₆	13.8	X	66.98168	51.03712	137.80947	6.98136	0.0723012	0.27777602	2.3263384	17	5 11.6	16.4
17065 1999 <i>GK</i> ₁₇	14.2	X	37.23132	25.07368	134.29657	6.91263	0.1640223	0.26966816	2.3727370	17	1 29.3	16.0
17066 Ginagallant	14.2	X	165.07683	3.49018	165.60363	5.72131	0.0741594	0.23617227	2.5920902	17	8 27.6	17.9
17067 1999 <i>GF</i> ₁₉	13.2	X	133.19174	167.96124	97.49342	12.14180	0.0601472	0.18946455	3.0022769	17	11 21.7	17.8
17068 1999 <i>GO</i> ₁₉	13.2	X	205.97125	330.46691	28.50691	6.08912	0.0565001	0.21363075	2.7713638	17	3 10.8	17.2
17069 1999 <i>GD</i> ₂₀	14.0	X	239.73421	176.25155	162.85103	6.70617	0.0971797	0.26857702	2.3791591	17	3 9.8	17.3
17070 1999 <i>GG</i> ₂₀	14.3	X	146.19276	117.89708	96.76629	10.09494	0.1810243	0.23709308	2.5853745	17	10 15.2	18.7
17071 1999 <i>GK</i> ₂₁	14.1	X	307.72811	21.24999	179.14962	4.31764	0.1649297	0.25912718	2.4366552	17	—	—
17072 Athiviraham	15.3	X	312.29927	355.79895	41.31871	7.76436	0.0901415	0.28991412	2.2609440	17	9 8.3	17.7
17073 Alexblank	13.9	X	224.74456	27.69764	213.84711	1.76168	0.1005800	0.20061503	2.8899727	17	—	—
17074 1999 <i>GQ</i> ₃₆	13.9	X	181.62024	309.76999	214.22542	15.09808	0.1281962	0.23832463	2.5764602	17	9 4.1	18.1
17075 Pankonin	14.2	X	316.05503	2.01367	11.95633	6.32027	0.1861096	0.28570665	2.2830871	17	7 21.5	16.6
17076 Betti	14.8	X	354.66703	108.52195	48.60890	7.04947	0.0844582	0.26105284	2.4245677	17	—	—
17077 Pampaloni	14.5	X	152.39373	229.64855	202.13488	11.95652	0.0599570	0.27020838	2.3695734	17	3 26.6	17.7
17078 Sellers	13.3	X	84.61481	312.47059	45.52249	13.63191	0.1202520	0.19038299	2.9926135	17	—	—
17079 Lavrovsky	14.4	X	213.85879	291.28305	8.73425	6.19344	0.1414960	0.25824428	2.4422057	17	—	—
17080 1999 <i>HE</i> ₉	13.3	X	41.01559	149.58802	215.22091	9.89236	0.1137432	0.19027641	2.9937308	17	12 8.4	17.3
17081 Jaytee	14.0	X	293.08274	207.85006	153.78481	6.41169	0.2138676	0.27981713	2.3150117	17	5 25.7	17.3
17082 1999 <i>JC</i> ₃	13.3	X	262.00587	143.32121	112.85420	3.18405	0.0208820	0.20354462	2.8621757	17	1 8.7	17.2
17083 1999 <i>JB</i> ₄	14.8	X	25.93423	45.80761	26.27665	21.35888	0.1001470	0.35975285	1.9579423	17	—	—
17084 1999 <i>JV</i> ₁₄	13.5	X	58.86516	175.70133	198.11594	10.43945	0.0901562	0.19106760	2.9854607	17	—	—
17085 1999 <i>JM</i> ₁₆	14.7	X	246.24081	156.52265	230.84210	5.75245	0.1376998	0.27376066	2.3490307	17	5 16.2	18.2
17086 Ruima	14.7	X	35.55654	271.57863	235.04386	1.73992	0.1466011	0.26600936	2.3944445	17	1 10.0	16.8
17087 1999 <i>JC</i> ₁₉	13.4	X	2.93464	323.80544	10.56591	5.18824	0.1434835	0.17794870	3.1304457	17	9 1.5	17.0
17088 Giupalazzolo	14.5	X	213.44675	138.04175	19.32121	4.00351	0.1021962	0.23953449	2.5677772	17	10 4.8	18.1
17089 Mercado	14.3	X	162.94794	18.83259	263.37268	5.89242	0.1418341	0.24684568	2.5168212	17	—	—
17090 Mundaca	14.6	X	113.64489	201.48935	254.94486	1.40537	0.1730910	0.27020649	2.3695845	17	3 26.3	17.4
17091 Senthali	14.1	X	189.19564	30.44764	346.73070	1.89522	0.1257701	0.21210257	2.7846595	17	3 16.2	18.5
17092 Sharanya	14.7	X	94.89417	83.15119	27.47333	7.03614	0.0707119	0.26767350	2.3845099	17	3 5.9	17.4
17093 1999 <i>JH</i> ₂₂	13.6	X	203.44435	254.25063	288.82394	4.15779	0.0844143	0.24049888	2.5609082	17	10 25.8	17.3
17094 1999 <i>JV</i> ₂₅	13.4	X	126.35928	91.75591	223.61555	4.21207	0.0772383	0.19310028	2.9644726	17	—	—
17095 Mahadik	14.3	X	349.79041	329.32336	201.47760	4.42607	0.0859292	0.26079295	2.4262683	17	—	—
17096 1999 <i>JX</i> ₂₆	13.6	X	169.88944	283.57974	66.36496	2.91751	0.0867076	0.20472240	2.8511877	17	1 22.2	17.8
17097 Ronneuman	14.2	X	95.06729	72.22758	186.20785	1.70750	0.1227291	0.17921025	3.1157372	17	10 5.9	18.6
17098 Ikedamai	14.0	X	103.06636	310.34165	336.04350	4.84599	0.1165977	0.23760607	2.5816520	17	11 19.4	17.8
17099 1999 <i>JE</i> ₃₇	13.7	X	50.92757	0.16747	33.17867	4.34921	0.1889550	0.24670486	2.5177788	17	—	—
17100 Kamiokanatsu	13.7	X	63.83417	116.48592	19.66573	5.59444	0.0527492	0.21163088	2.7887957	17	3 6.4	17.3
17101 Sakenova	14.5	X	301.22635	133.39980	285.85936	5.21506	0.1115503	0.28865751	2.2675010	17	9 12.0	17.1
17102 Begzhigitova	14.8	X	32.46478	238.09318	152.88818	4.22486	0.1458568	0.29724902	2.2235954	17	—	—
17103 Kadyrsizova	14.1	X	152.03485	215.00415	166.79946	2.00238	0.0792917	0.20600465	2.8393442	17	2 7.8	18.0
17104 McCloskey	14.0	X	87.51105	79.03310	135.92875	2.15375	0.1476957	0.17223046	3.1993573	17	8 7.2	18.4
17105 1999 <i>JC</i> ₄₇	13.3	X	87.87580	77.17314	228.15552	14.48596	0.1306135	0.23723292	2.5843584	17	11 29.6	17.0
17106 1999 <i>JT</i> ₄₈	13.8	X	169.64351	4.19775	39.46759	3.80855	0.0903766	0.21148367	2.7900896	17	3 27.8	18.0
17107 1999 <i>JJ</i> ₅₁	13.3	X	170.09756	224.26890	93.65469	3.27395	0.0413236	0.19902858	2.9053096	17	—	—
17108 Patricorbett	14.4	X	238.34662	91.26036	166.66235	2.25385	0.0333425	0.20065977	2.8895431	17	—	—
17109 1999 <i>JF</i> ₅₂	12.7	X	263.14985	82.20239	260.65953	7.57099	0.1701270	0.21355711	3.7720008	17	4 8.3	17.1
17110 1999 <i>JG</i> ₅₂	12.9	X	81.30909	70.70258	272.32220	8.48632	0.1006895	0.18803502	3.0174741	17	12 28.7	17.3
17111 1999 <i>JH</i> ₅₂	12.4	X	77.05135	81.36537	265.35842	8.61742	0.1266884	0.18759302	3.0222121	17	12 31.2	16.9
17112 1999 <i>JM</i> ₅₂	13.0	X	246.14077	103.23815	248.66421	7.92933	0.1639989	0.21252438	2.7809737	17	4 4.2	17.6
17113 1999 <i>JE</i> ₅₄	13.6	X	36.20714	191.63365	87.86611	2.00645	0.1383097	0.17143406	3.2092581	17	8 15.9	17.4
17114 1999 <i>JJ</i> ₅₄	13.2	X	183.17079	271.54225	234.75138	5.54695	0.1063231	0.17696655	3.1420175	17	8 17.3	18.2
17115 Justiniano	14.2	X	162.38034	346.67559	349.60087	1.59732	0.0665951	0.19937120	2.9019801	17	—	—
17116 1999 <i>JO</i> ₅₇	13.3	X	275.70380	147.71173	111.25650	3.21198	0.0297811	0.20565040				

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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>
17121 Fernandonido	14.0 ^m	X	8.70132	257.09991	106.11200	6.23164	0.1009041	0.23335035	2.6129459	17	10 23.9	17.0
17122 1999 JH ₆₃	13.3	X	222.11068	256.35165	54.90879	2.83479	0.0526749	0.20362438	2.8614283	17	1 30.1	17.4
17123 1999 JQ ₆₃	13.3	X	135.06306	229.99185	84.72897	11.84076	0.0978933	0.19089580	2.9872516	17	—	—
17124 1999 JC ₆₅	14.0	X	52.72588	94.23032	192.80329	0.89212	0.0407540	0.23341340	2.6124753	17	9 6.7	17.2
17125 1999 JB ₆₈	14.1	X	178.26179	285.33482	126.26735	6.11650	0.0023001	0.21716161	2.7412418	17	4 10.4	17.8
17126 1999 JH ₆₈	13.7	X	332.24950	127.71193	121.30258	5.93898	0.0760662	0.21496438	2.7598896	17	3 19.6	17.3
17127 1999 JE ₆₉	13.7	X	8.25493	134.48285	195.60652	12.12974	0.1760682	0.22997120	2.6384796	17	9 1.5	16.4
17128 1999 JS ₇₅	13.7	X	113.62387	306.77573	2.69263	11.89361	0.1420911	0.24414740	2.5353309	17	—	—
17129 1999 JM ₇₈	12.7	X	85.63810	113.01102	134.66896	15.19922	0.0392769	0.23263085	2.6183308	17	9 1.3	16.2
17130 1999 JV ₇₉	14.1	X	312.80829	334.78604	92.72201	5.75930	0.1427507	0.29055264	2.2576304	17	10 18.0	16.1
17131 1999 JL ₈₀	14.0	X	98.76787	204.50058	139.41469	10.59845	0.1013820	0.19123698	2.9836976	17	—	—
17132 1999 JV ₈₀	13.2	X	281.90135	208.52816	128.94809	10.11449	0.1300736	0.21568108	2.7537723	17	5 2.6	17.4
17133 1999 JC ₈₁	12.9	X	132.62443	80.32322	182.85777	13.72173	0.1442324	0.23690195	2.5867649	17	11 25.9	17.2
17134 1999 JX ₈₁	13.8	X	51.22093	198.29855	95.22557	7.54022	0.2444256	0.17715274	3.1398156	17	10 15.9	17.9
17135 1999 JD ₈₂	12.9	X	115.88378	178.09918	109.33353	11.63219	0.0407787	0.18867638	3.0106321	17	11 27.0	17.4
17136 1999 JE ₈₂	13.2	X	214.45977	322.90899	120.13660	9.33604	0.1441879	0.22912100	2.6450027	17	6 29.5	17.4
17137 1999 JQ ₈₄	12.8	X	220.65815	306.16942	143.66920	16.82680	0.1092316	0.17337650	3.1852430	17	7 18.5	17.8
17138 1999 JM ₈₄	13.8	X	189.15051	327.40218	152.88387	14.54364	0.1061321	0.22750956	2.6574776	17	7 21.5	18.0
17139 Malyshev	14.5	X	273.58414	158.70069	169.32799	6.59180	0.1271267	0.27048036	2.3679847	17	3 30.3	17.8
17140 1999 JU ₈₆	15.0	X	85.94371	307.92036	90.01080	7.79880	0.0866679	0.30898927	2.1669079	17	—	—
17141 1999 JV ₉₄	13.5	X	345.77908	334.78604	97.54520	16.10864	0.0869450	0.24410681	2.5356119	17	12 18.6	16.3
17142 1999 JQ ₉₅	13.5	X	342.54391	254.28819	112.39174	10.16752	0.2396288	0.22940051	2.6428537	17	9 2.1	15.7
17143 1999 JN ₉₇	13.7	X	93.69651	145.58389	162.46029	9.62497	0.0659996	0.18505308	3.0488034	17	11 28.3	18.2
17144 1999 JW ₉₈	13.4	X	235.79253	294.18487	185.61309	13.23946	0.1079987	0.18005334	3.1060035	17	9 8.2	18.1
17145 1999 JG ₉₉	13.6	X	234.20371	230.10603	189.15970	16.07049	0.1802089	0.22299329	2.6932388	17	6 16.7	18.3
17146 1999 JB ₁₀₂	13.0	X	217.58737	67.83219	147.25108	14.82021	0.0205850	0.18970437	2.9997461	17	12 24.4	17.5
17147 1999 JF ₁₀₂	13.7	X	135.46677	224.17895	127.38096	2.99591	0.0906180	0.20006926	2.8952260	17	—	—
17148 1999 JI ₁₀₅	13.7	X	355.65953	172.05992	187.60396	9.66730	0.1938498	0.17718206	3.1394692	17	9 19.7	17.0
17149 1999 JM ₁₀₅	13.9	X	289.31516	280.62066	11.49483	3.40476	0.0715218	0.21465055	2.7625791	17	3 18.5	17.6
17150 1999 JP ₁₀₉	13.4	X	335.75604	230.83255	120.49208	2.60358	0.1726905	0.17453953	3.1710774	17	8 1.6	17.1
17151 1999 JB ₁₁₄	13.9	X	145.38250	207.83138	149.09410	2.64909	0.1047677	0.20002443	2.8956586	17	1 5.9	18.1
17152 1999 JA ₁₁₈	12.8	X	203.72866	26.19147	249.57393	8.77451	0.0510664	0.25145695	2.4859570	17	—	—
17153 1999 JK ₁₁₉	13.4	X	334.58269	33.94677	289.86348	2.77969	0.0840661	0.16865478	3.2444191	17	7 3.8	17.7
17154 1999 JS ₁₂₁	12.3	X	148.05976	40.22031	261.70972	9.04832	0.0877027	0.19160579	2.9798676	17	—	—
17155 1999 KZ ₁	14.5	X	70.91069	238.37605	100.58820	1.50273	0.0813767	0.18738169	3.0244839	17	12 9.5	18.8
17156 Kennethseitz	12.5	X	212.74219	219.00250	229.85263	25.50851	0.0415670	0.17209637	3.2010190	17	7 6.7	17.6
17157 1999 KP ₆	12.8	X	77.71590	138.04926	157.52702	15.00872	0.1204278	0.23578497	2.5949280	17	11 8.1	16.6
17158 1999 KA ₈	13.0	X	68.35244	54.77506	250.01434	9.72979	0.1054791	0.18298751	3.0727113	17	10 26.7	17.3
17159 1999 KG ₁₅	13.2	X	296.81558	45.12703	100.14096	9.84839	0.0277648	0.19089756	2.9872332	17	—	—
17160 1999 LT ₁₀	13.7	X	12.05476	193.28369	169.37636	9.70655	0.0312894	0.17995429	3.1071430	17	10 19.4	17.9
17161 1999 LQ ₁₃	13.1	X	297.30504	145.72060	185.41578	6.72034	0.1615278	0.16086325	3.3483549	17	5 13.5	17.9
17162 1999 LX ₁₃	13.5	X	46.49325	334.99353	163.24494	6.39860	0.0779217	0.25905220	2.4371253	17	1 24.4	16.3
17163 Vasilfedoseev	14.0	X	163.48362	2.87126	343.22545	1.32208	0.0800707	0.19924137	2.9032406	17	1 10.8	18.1
17164 1999 LP ₂₄	12.2	X	327.60721	143.73245	251.41868	12.74112	0.1017336	0.17680828	3.1454104	17	9 16.4	16.4
17165 1999 LS ₂₇	13.4	X	145.00384	347.85994	202.67960	6.09985	0.0829911	0.17434942	3.1733822	17	9 1.1	18.3
17166 Secombe	13.7	X	58.23988	318.69345	39.29394	4.65899	0.0743951	0.18168464	3.0873834	17	12 14.9	17.9
17167 1999 NB	13.8	X	335.39110	180.33931	10.77582	2.70939	0.1170533	0.25585853	2.4573638	17	—	—
17168 1999 NP ₃	13.0	X	197.18653	260.75783	250.67964	10.05061	0.1590826	0.22667899	2.6639651	17	9 2.3	17.6
17169 Tatarinov	13.7	X	148.93535	98.07449	256.85707	0.69165	0.1656629	0.19208692	2.9748896	17	1 16.9	18.3
17170 Vsevustinov	13.9	X	194.31696	152.58358	87.83058	7.01937	0.1377805	0.29448160	2.2375046	17	12 30.5	17.1
17171 1999 NB ₃₈	10.5	X	195.53179	356.91621	137.99498	25.28918	0.0815441	0.08463263	5.1378033	17	2 2.8	17.7
17172 1999 NZ ₄₁	10.7	X	169.39501	216.84609	315.23517	29.16610	0.0567895	0.08277702	5.2143021	17	2 17.2	17.8
17173 Evgenyamosov	14.5	X	202.09247	110.34131	341.47220	0.83366	0.1531237	0.26594258	2.3948453	17	6 26.1	18.0
17174 1999 RX ₅₃	13.9	X	268.24385	347.92562	146.93849	10.71836	0.0466062	0.23017399	2.6369297	17	11 20.6	17.6
17175 1999 SS ₃	11.9	X	54.09690	81.31752	355.44346	21.67599	0.0844392	0.17466416	3.1695687	17	—	—
17176 Viktorov	14.4	X	2.95128	85.57334	74.89057	5.15201	0.0554840	0.30178862	2.2012404	17	—	—
17177 1999 TA ₄₁	13.1	X	79.92516	154.91705	203.43338	21.89400	0.0902938	0.17102940	3.2143182	17	—	—
17178 1999 TK ₂₁₈	13.8	X	234.02993	220.93375	21.56432	5.08460	0.1985827	0.17896936	3.1185324	17	—	—
17179 Codina	13.3	X	128.59943	76.90931	310.84468	9.00936	0.0706337	0.18410028	3.0603171	17	1 23.8	17.6
17180 1999 TS ₂₉₁	13.6	X	33.72416	264.04728	201.61830	12.85391	0.1320955	0.23033920	2.6356687	17	—	—
17181 1999 UM ₃	16.4	X	293.67770	36.82836	113.57585	10.64791	0.6729433	0.26965076	2.3728390	17	10 12.6	19.9
17182 1999 VU	16.9	X	257.08616	203.13790	333.54344	9.27212	0.5533178	0.60335924	1.3870286	17	11 8.7	17.5
17183 1999 VO ₂	13.6	X	69.97905	277.45560	115.63911	27.57562	0.3246766	0.22545203	2.6736217	17	—	—
17184 Carlrogers	12.7	X	221.25107	19.87148	261.37721	8.56608	0.0696729	0.18416399	3.0596112	17	—	—
17185 Mcdavid	13.5	X	79.40197	274.06536	186.64694	11.02164	0.1373464	0.23990202	2.5651540	17	2 5.3	16.5
17186 Sergivanov	15.2	X	269.61888	202.94012	248.53828	1.58410	0.1564004	0.26716661	2.3875250	17	9 5.9	18.2
17187 1999 VM ₇₂	13.9	X	4.45223	241.23083	109.59472	7.21895	0.1764143	0.25832463	2.4416992	17	10 5.1	16.0
17188 1999 WC ₂	16.5	X	115.52158	287.25525	269.83425	29.44571	0.6368691	0.29868666	2.2164545	17	9 6.2	21.8
17189 1999 WU ₃	13.9	X	212.63652	330.37467	209.03179	6.81701	0.0703516	0.26930071	2.3748948	17	11 6.2	17.0
17190 Retopezoli	13.9	X	71.32026	336.59857	117.29217	6.28130	0.0895360	0.23633568	2.5908953	17	1 13.4	16.8
17191 1999 XS ₁₀₇	15.2	X	184.05065	83.19277	243.68999	11.52678	0.1677707	0.24057095	2.5603967	17	1 5.5	19.3
17192 Loharu	14.2	X	195.59972	76.11159	329.60287	4.61705	0.0936102	0.24548333	2.5261243	17	4 18.9	17.9
17193 Alexeybaran	14.7	X	285.48047	217.51155	8.52097	6.74447	0.1046286	0.28401491	2.2921443	17	—	—
17194 1999 XA ₂₂₁	12.9	X	223.83674	89.27710	261.78002	14.02443	0.1539896	0.23722880	2.5843883	17	3 6.2	17.5
17195 Jimrichardson	14.0	X	30.46840	273.05966	154.53029	6.06165	0.1213237	0.17075931	3.2177067	17	—	—
17196 Mastrodemos	14.0	X										

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
17201 Matjazhumar	14.4 ^m	X	102.25897	168.01533	355.96462	1.52756	0.1441548	0.18838434	3.0137428	17	6 19.6	18.6
17202 2000 AJ ₆₄	13.4	X	165.57565	129.97170	115.35913	10.30098	0.1112008	0.20875740	2.8143286	17	12 2.6	18.0
17203 2000 AM ₆₄	13.4	X	269.93940	218.64679	34.08538	3.88250	0.0364913	0.17198057	3.2024557	17	1 21.7	18.0
17204 2000 AR ₇₅	14.7	X	190.53094	202.02006	141.34093	5.01394	0.3293423	0.24155013	2.5534726	17	2 10.9	19.3
17205 2000 AM ₁₀₅	14.0	X	75.62120	279.32087	112.41410	15.75929	0.1149837	0.22753729	2.6572617	17	—	—
17206 2000 AJ ₁₂₅	12.9	X	105.87178	273.53985	154.44128	9.05258	0.0567198	0.17581555	3.1557156	17	2 12.7	17.3
17207 2000 AV ₁₂₆	13.1	X	182.67025	10.98468	300.07788	12.91997	0.1941511	0.22423901	2.6832550	17	—	—
17208 Pokrovska	14.4	X	102.55705	78.15656	276.08294	5.63054	0.0405485	0.21820927	2.7324606	17	—	—
17209 2000 AH ₁₄₈	13.0	X	42.50680	158.33513	291.83141	12.60620	0.1341105	0.22366782	2.6878213	17	—	—
17210 2000 AY ₁₇₂	13.4	X	159.50355	96.76995	235.18624	13.47970	0.0481042	0.17469045	3.1692508	17	—	—
17211 Brianfisher	14.8	X	225.75374	319.24014	168.50316	6.22401	0.0891251	0.26231585	2.4168685	17	9 11.2	18.2
17212 2000 AV ₁₈₃	12.5	X	170.63248	185.82735	162.32723	9.05634	0.2648800	0.12493497	3.9629023	17	2 15.1	19.2
17213 2000 AF ₁₈₆	13.2	X	179.79377	333.62067	116.45067	10.63168	0.1866827	0.19888250	2.9067320	17	6 9.9	18.1
17214 2000 AR ₁₈₉	14.2	X	62.76179	150.14571	177.06717	11.63502	0.1269458	0.27145173	2.3623322	17	12 2.2	17.4
17215 Slivan	15.1	X	316.92641	331.65805	171.99634	6.45040	0.1172101	0.28223716	2.3017594	17	—	—
17216 Scottstuart	13.5	X	49.45292	285.45227	199.15596	10.71245	0.1299357	0.17374975	3.1806796	17	2 8.4	17.5
17217 2000 AV ₂₄₃	14.4	X	161.51729	304.41638	114.67972	11.66618	0.1590073	0.23705231	2.5856710	17	4 14.0	18.5
17218 2000 BV ₁₆	14.0	X	343.34541	94.05931	105.63852	3.20612	0.1284654	0.23226921	2.6210479	17	1 14.9	17.4
17219 Gianninoto	13.0	X	8.94358	337.96625	147.66249	14.11348	0.1187476	0.22285922	2.6943188	17	—	—
17220 Johnpenna	14.9	X	128.41169	167.77884	228.71223	2.68971	0.1440913	0.28669140	2.2778560	17	1 13.4	17.3
17221 2000 CZ ₂₈	13.4	X	130.58592	253.60896	150.23096	9.08553	0.2131558	0.17611808	3.1521007	17	3 6.5	18.2
17222 Perlmutter	15.2	X	64.72521	351.60604	212.68179	3.95854	0.1964017	0.24135760	2.5548304	17	6 21.8	17.8
17223 2000 CX ₅₆	13.2	X	145.21204	225.03914	150.86986	15.37201	0.1189811	0.23971388	2.5664960	17	1 19.4	16.8
17224 Rendoross	14.3	X	51.99063	328.57290	106.03533	10.01960	0.1300988	0.27496162	2.3421858	17	—	—
17225 Alanschorn	14.0	X	199.91328	41.09246	248.63495	5.87111	0.1198114	0.27547742	2.3392612	17	—	—
17226 2000 CC ₇₆	13.7	X	190.79865	235.86990	334.02962	6.38512	0.0863619	0.25913723	2.4365922	17	11 15.8	17.3
17227 2000 CW ₈₀	14.5	X	76.11386	311.09243	16.54270	4.41171	0.0705507	0.21092156	2.7950446	17	12 2.2	18.5
17228 2000 CJ ₉₄	13.7	X	355.46692	189.92214	20.46412	1.63374	0.1259901	0.17219608	3.1997831	17	3 5.9	17.7
17229 2000 CR ₉₇	15.5	X	256.44553	125.85969	94.23016	0.72381	0.1213739	0.27136043	2.3628621	17	—	—
17230 2000 CX ₁₁₆	12.5	X	234.15098	247.98947	83.11170	10.89817	0.2281449	0.17561909	3.1580686	17	3 11.3	18.1
17231 2000 CB ₁₂₂	13.8	X	245.64068	178.53385	132.11631	1.80182	0.1620504	0.17807531	3.1289617	17	2 22.6	18.9
17232 2000 DE ₃	14.8	X	289.52290	155.40883	45.21772	8.42803	0.1617401	0.27380247	2.3487916	17	—	—
17233 Stanshapiro	14.7	X	121.65484	115.10621	168.14452	9.24481	0.2264445	0.25895951	2.4377068	17	12 14.9	18.9
17234 2000 EL ₁₁	14.6	X	192.19014	350.23286	41.95407	7.60089	0.2862372	0.24182054	2.5515687	17	4 9.9	19.1
17235 2000 EC ₂₉	13.8	X	135.84236	30.07413	40.05971	17.31256	0.1145593	0.17639483	3.1488029	17	4 5.5	18.6
17236 2000 EK ₄₅	13.9	X	73.94376	267.55045	186.80998	5.54632	0.1676153	0.28275209	2.2989640	17	—	—
17237 2000 EC ₅₀	15.0	X	129.95341	341.46084	189.15346	1.76674	0.1055382	0.24365355	2.5387556	17	7 22.3	18.6
17238 2000 EP ₅₆	13.9	X	106.90105	337.60314	135.62893	2.39696	0.1346933	0.17811951	3.1284440	17	4 22.7	18.3
17239 2000 EH ₉₅	12.7	X	5.10127	321.39655	327.48672	8.96711	0.0352462	0.18545372	3.0454094	17	7 5.3	16.9
17240 Gletorreence	14.3	X	24.10970	310.45412	233.09799	2.29864	0.0849596	0.28517607	2.2859181	17	2 11.3	16.6
17241 Wooden	13.7	X	257.49678	183.62053	157.45557	14.40840	0.1869346	0.23467409	2.6031106	17	4 2.7	18.0
17242 Leslieyoung	15.0	X	81.59061	93.86931	131.56734	2.86274	0.0957589	0.24532438	2.5272153	17	8 2.1	18.1
17243 2000 FX ₃₅	13.7	X	15.19559	118.83371	72.76161	12.22859	0.2548296	0.22925571	2.6439664	17	2 11.8	16.4
17244 2000 FF ₅₀	13.4	X	186.43137	60.35170	76.33978	11.40640	0.0350307	0.18980792	2.9986550	17	8 15.1	17.9
17245 2000 GS ₄₂	14.0	X	109.59185	314.99727	8.46214	5.65020	0.1277535	0.26075174	2.4265239	17	—	—
17246 2000 GL ₇₄	13.8	X	180.58204	229.77300	34.45060	2.44446	0.0220179	0.20595955	2.8397586	17	—	—
17247 Vanverst	15.1	X	282.33559	164.04111	151.60052	4.50998	0.1778958	0.28506403	2.2865170	17	3 16.0	18.5
17248 2000 GC ₁₀₇	14.8	X	272.94664	307.02614	152.69101	3.32483	0.0732953	0.30968934	2.1636411	17	10 9.6	17.1
17249 Eliotyoung	13.9	X	298.79424	24.51612	327.65939	2.90019	0.1341976	0.18355405	3.0663854	17	6 10.7	18.1
17250 Genelucas	13.7	X	272.25739	332.27800	221.68162	1.97088	0.1610519	0.20961149	2.8066785	17	—	—
17251 Vondracek	13.9	X	349.57756	142.07930	131.50017	7.09154	0.1690314	0.28502042	2.2867503	17	4 19.9	16.2
17252 2000 GJ ₁₂₇	11.8	X	335.27006	229.27366	117.96248	15.87940	0.2229209	0.17831204	3.1261917	17	7 18.9	15.1
17253 Vonsecker	14.0	X	214.54094	173.94706	155.79762	8.50820	0.1433298	0.27396115	2.3478845	17	1 29.9	17.6
17254 2000 GG ₁₃₇	12.2	X	269.13916	288.52015	75.77867	22.21063	0.1412451	0.17561163	3.1581580	17	5 23.9	17.0
17255 2000 GS ₁₆₃	14.0	X	271.71814	182.28531	186.34455	12.70484	0.1590645	0.23322732	2.6138647	17	5 23.3	18.1
17256 2000 HZ ₂₂	13.7	X	83.34094	228.17244	173.50689	7.44731	0.2864370	0.21544607	2.7557744	17	—	—
17257 Strazzulla	13.7	X	87.62874	274.85292	198.11646	12.19506	0.1203731	0.22373720	2.6872655	17	3 11.3	17.0
17258 Whalen	15.5	X	246.33574	326.79590	70.55252	4.65334	0.1838408	0.29182509	2.2510629	17	5 24.7	19.0
17259 2000 JE ₁	14.9	X	35.83630	244.90409	44.04474	22.26098	0.0720490	0.36056199	1.9550120	17	9 2.1	17.3
17260 2000 JQ ₅₈	14.3	X	200.90776	290.25658	199.88410	5.28576	0.1834529	0.30118232	2.2041936	17	8 11.1	17.8
17261 2000 JB ₆₂	13.0	X	259.28633	187.64874	255.53275	7.25073	0.0723584	0.18619253	3.0373480	17	8 22.7	17.5
17262 Winokur	14.5	X	127.64187	120.22679	299.55660	5.81048	0.1094706	0.28143521	2.3061299	17	2 9.5	17.1
17263 2000 JL ₆₅	14.0	X	104.42331	258.38236	219.03966	20.90782	0.0191115	0.22335067	2.6903650	17	3 25.3	17.9
17264 2000 JM ₆₆	12.3	X	264.43915	233.04233	130.30338	12.94775	0.2110758	0.17158904	3.2073254	17	5 13.4	17.6
17265 Debenett	14.7	X	218.60758	277.29255	97.73157	3.93228	0.1305363	0.28328221	2.2960950	17	4 2.5	18.1
17266 2000 KT ₆	13.4	X	92.37883	282.91224	128.23649	8.49871	0.2254592	0.21098451	2.7944885	17	1 16.8	16.5
17267 2000 KY ₄₈	13.8	X	185.04986	288.52806	147.14330	5.33237	0.0689542	0.17497910	3.1657645	17	5 27.1	18.6
17268 2000 KZ ₅₀	13.6	X	192.95350	49.90814	273.24959	2.81022	0.0974271	0.21106666	2.7937634	17	1 12.8	17.8
17269 Dicksmith	14.0	X	150.99339	91.50650	130.92898	4.18929	0.1165117	0.21827076	2.7319475	17	3 4.8	18.0
17270 2000 LB ₂	13.3	X	49.52049	349.70424	269.51221	7.11357	0.0232224	0.18062478	3.0994490	17	7 25.0	17.7
17271 2000 LL ₂	12.6	X	103.47772	251.07839	233.91489	20.77782	0.1164422	0.22489921	2.6780012	17	4 19.0	16.2
17272 2000 LU ₄	13.3	X	139.83524	202.19356	144.67290	9.52413	0.0748569	0.20639343	2.8357774	17	—	—
17273 Karnik	14.2	X	171.33478	296.76943	167.48140	5.42276	0.0232500	0.28852281	2.2682066	17	5 31.9	17.0
17274 2000 LC ₁₆	16.6	X	282.64270	21.20311	305.85488	5.57000	0.5535449	0.21792041	2.7348748	17	3 9.4	22.0
17275 2000 LX ₁₉	13.4	X	225.56123	259.34773	271.47449	11.95240	0.1056818	0.24350709	2.5397734	17	10 4.5	17.3
17276 2000 LU ₂₂	12.8	X	305.23022	161.49229	235.64542	11.97236	0.30454					

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
17281 Mattblythe	14.0 ^m	X	306.29699	120.83930	163.31700	5.23282	0.1341651	0.21789519	2.7350858	17	3 19.8	17.6
17282 2000 <i>LS</i> ₃₄	12.6	X	171.60058	36.11085	245.76258	11.16273	0.1408980	0.19775493	2.9177707	17	—	—
17283 Ustinov	12.6	X	64.36422	117.10272	100.65238	22.30816	0.0733325	0.17259750	3.1948199	17	6 29.7	16.8
17284 2000 <i>MJ</i> ₅	12.9	X	11.93739	52.17960	314.54679	10.54852	0.2026323	0.23665492	2.5885647	17	11 6.2	15.6
17285 Bezout	13.6	X	319.85131	200.70494	141.46678	2.81470	0.1692301	0.22905189	2.6455347	17	6 17.1	16.6
17286 Bisei	14.6	X	266.23821	77.57211	257.99805	5.98515	0.1407008	0.27557069	2.3387333	17	3 26.2	18.2
17287 2000 <i>NP</i> ₁₀	13.2	X	250.50268	10.85402	307.62848	11.63885	0.0865020	0.21371956	2.7705960	17	3 1.8	17.5
17288 2000 <i>NZ</i> ₁₀	14.2	X	309.57272	30.39707	319.39549	4.08929	0.1799910	0.28507010	2.2864846	17	6 1.9	16.9
17289 2037 <i>P-L</i>	13.2	X	47.82070	251.87919	2.03841	18.38335	0.1335613	0.16986886	3.2289417	17	8 7.5	17.6
17290 2060 <i>P-L</i>	15.2	X	110.57153	258.71414	313.97176	2.98244	0.0980657	0.29229539	2.2486476	17	8 22.9	18.0
17291 2547 <i>P-L</i>	14.0	X	354.36640	271.76590	74.05785	2.48887	0.2083743	0.17375576	3.1806062	17	8 30.1	17.2
17292 2656 <i>P-L</i>	14.5	X	129.16821	248.02259	30.60258	4.01725	0.0629043	0.20998176	2.8033781	17	12 1.8	18.7
17293 2743 <i>P-L</i>	14.9	X	338.60391	58.80386	126.70978	0.78640	0.1589183	0.26699568	2.3885439	17	—	—
17294 2787 <i>P-L</i>	13.8	X	56.83446	75.19084	171.09667	3.97650	0.1107711	0.25712192	2.4493075	17	7 25.0	16.6
17295 2827 <i>P-L</i>	15.2	X	337.64549	199.59119	27.74004	4.95978	0.1000920	0.26928677	2.3749768	17	2 7.9	18.1
17296 3541 <i>P-L</i>	12.8	X	146.13952	33.64154	307.26913	8.42223	0.2989671	0.18039537	3.1020761	17	1 14.9	17.9
17297 3560 <i>P-L</i>	11.9	X	10.24263	18.57933	353.45486	15.25904	0.1022724	0.17418564	3.1753710	17	10 23.9	16.2
17298 4031 <i>P-L</i>	14.9	X	175.88855	87.85792	341.44933	5.08165	0.1844247	0.27034198	2.3687927	17	4 30.9	18.6
17299 4168 <i>P-L</i>	14.6	X	48.87598	271.89791	268.97630	2.00514	0.0288094	0.21851605	2.7299026	17	4 7.0	18.0
17300 4321 <i>P-L</i>	16.3	X	251.52748	88.28690	200.22952	7.90240	0.2742933	0.26961247	2.3730637	17	1 12.4	20.7
17301 4609 <i>P-L</i>	14.5	X	257.70157	314.73758	25.22714	4.51393	0.1173674	0.21901113	2.7257870	17	4 6.3	18.7
17302 4610 <i>P-L</i>	14.1	X	281.40686	311.19179	184.49657	4.74219	0.1041418	0.24452759	2.5327023	17	11 30.7	17.2
17303 4629 <i>P-L</i>	15.6	X	48.35261	187.15190	171.90461	5.85133	0.0570531	0.29630568	2.283123	17	12 16.9	18.2
17304 4637 <i>P-L</i>	15.6	X	348.23170	216.28383	162.66576	5.35997	0.1571565	0.29425550	2.2386506	17	10 13.2	17.2
17305 Caniff	12.0	X	306.81160	119.59730	349.12270	6.68169	0.1373112	0.12272559	4.0103225	17	11 12.0	17.4
17306 4865 <i>P-L</i>	15.9	X	196.03906	279.04191	37.43380	2.01767	0.0099725	0.31871088	2.1226161	17	—	—
17307 4895 <i>P-L</i>	13.7	X	211.73231	224.54114	158.72135	6.89358	0.1067350	0.21839701	2.7308945	17	4 15.7	18.0
17308 6079 <i>P-L</i>	12.8	X	294.09009	91.87184	0.06301	21.17144	0.1831315	0.17306558	3.1890567	17	10 1.5	17.1
17309 6528 <i>P-L</i>	13.8	X	211.27652	138.72673	140.47475	2.78431	0.0711310	0.19722320	2.9230128	17	—	—
17310 6574 <i>P-L</i>	14.6	X	234.44929	0.35703	10.78019	6.94229	0.1142341	0.27126895	2.3633933	17	4 12.7	18.1
17311 6584 <i>P-L</i>	13.6	X	128.67881	164.54146	29.61597	3.39529	0.0303340	0.22334856	2.6903820	17	8 15.2	17.2
17312 7622 <i>P-L</i>	13.9	X	41.19196	323.41584	42.85521	6.84068	0.1811503	0.29636539	2.2280130	17	—	—
17313 9542 <i>P-L</i>	14.1	X	83.50206	300.62672	62.42847	3.00948	0.0371721	0.19476980	2.9475078	17	—	—
17314 Aisakos	10.9	X	64.40522	85.65067	353.79315	10.72435	0.0749767	0.08396152	5.1651450	17	2 4.3	17.6
17315 1089 <i>T-1</i>	13.4	X	284.11424	119.35461	346.22797	9.23281	0.0559174	0.18220677	3.0814825	17	10 23.2	17.8
17316 1198 <i>T-1</i>	13.9	X	224.75231	194.77995	313.99705	4.05925	0.1084758	0.18100037	3.0951598	17	10 1.6	18.7
17317 1208 <i>T-1</i>	14.8	X	236.94189	169.91551	218.99581	4.37409	0.0577535	0.28086548	2.3092474	17	5 11.9	17.8
17318 2091 <i>T-1</i>	13.8	X	271.29730	164.60408	179.62227	13.35844	0.1586076	0.21602600	2.7508403	17	4 24.3	18.1
17319 3078 <i>T-1</i>	15.0	X	244.52286	229.46035	203.99251	4.04965	0.2438758	0.28541924	2.2846195	17	7 5.6	18.8
17320 3182 <i>T-1</i>	14.0	X	37.07195	104.45106	260.46481	2.43445	0.0496242	0.18240901	3.0792045	17	11 23.5	18.0
17321 3188 <i>T-1</i>	14.2	X	73.84580	56.99231	187.74166	27.05081	0.2075987	0.17567532	3.1573947	17	9 2.6	18.9
17322 3274 <i>T-1</i>	13.4	X	291.01022	190.20290	181.97553	13.24808	0.1786066	0.21922084	2.7240484	17	6 17.1	17.4
17323 3284 <i>T-1</i>	13.8	X	351.03385	43.41043	8.87051	9.70630	0.0990805	0.18305297	3.0719787	17	11 18.4	17.7
17324 3292 <i>T-1</i>	15.0	X	220.62073	269.91308	321.44364	2.43122	0.0255452	0.22762545	2.6565756	17	—	—
17325 3300 <i>T-1</i>	14.9	X	131.80136	345.21368	327.76609	2.33046	0.1940874	0.31103653	2.1573890	17	—	—
17326 4023 <i>T-1</i>	15.0	X	270.60610	262.50143	175.19549	6.71637	0.1879366	0.28681330	2.2721067	17	8 13.3	18.1
17327 4155 <i>T-1</i>	14.1	X	206.01054	20.99846	72.33154	3.04224	0.0410383	0.21933568	2.2720975	17	7 7.9	17.8
17328 1176 <i>T-2</i>	14.8	X	56.83130	323.65599	305.12883	2.24258	0.1406442	0.29025082	2.2591952	17	9 1.5	17.0
17329 1277 <i>T-2</i>	14.3	X	346.66625	205.02713	162.07815	1.58863	0.2071002	0.17975802	3.1094043	17	9 11.4	17.5
17330 1358 <i>T-2</i>	15.2	X	328.00330	186.65498	176.36852	1.96734	0.1394323	0.26716985	2.3875057	17	8 2.4	17.6
17331 2056 <i>T-2</i>	15.3	X	317.11347	6.83349	350.89793	4.65405	0.0754958	0.28856011	2.2680112	17	7 16.2	17.7
17332 2120 <i>T-2</i>	15.7	X	359.12182	322.90916	12.61893	5.25260	0.1654485	0.29024157	2.2592432	17	8 24.8	17.3
17333 2174 <i>T-2</i>	14.2	X	61.21688	166.62637	344.61654	5.26493	0.0204883	0.21435656	2.7651044	17	3 16.9	17.9
17334 2275 <i>T-2</i>	13.3	X	216.07456	326.74987	172.98206	2.95974	0.2277793	0.17712525	3.1401403	17	9 6.1	18.5
17335 2281 <i>T-2</i>	14.1	X	256.29480	310.19675	346.90530	2.08520	0.0333753	0.21349827	2.7725101	17	2 18.0	17.9
17336 3193 <i>T-2</i>	13.6	X	17.97865	240.66659	150.03150	9.07967	0.0526118	0.18232840	3.0801119	17	12 2.2	17.9
17337 3198 <i>T-2</i>	13.7	X	290.43092	66.50871	34.61637	5.62088	0.1517167	0.18018020	3.1045553	17	10 16.6	17.7
17338 3212 <i>T-2</i>	15.5	X	84.59887	222.42124	167.38423	6.57646	0.1477074	0.25335509	2.4735249	17	—	—
17339 4060 <i>T-2</i>	15.3	X	140.64541	305.20924	151.63365	2.50678	0.0394453	0.21607398	2.7504330	17	4 23.8	19.1
17340 4096 <i>T-2</i>	14.2	X	76.27745	188.10465	170.38246	10.16980	0.1295552	0.18432600	3.0578181	17	—	—
17341 4120 <i>T-2</i>	16.4	X	321.00768	258.33483	134.69915	3.93635	0.1520022	0.29054872	2.2576506	17	9 4.9	18.2
17342 5185 <i>T-2</i>	13.8	X	14.33108	265.64482	322.89326	8.18014	0.0580434	0.21683672	2.7439793	17	4 17.6	17.3
17343 1111 <i>T-3</i>	13.2	X	273.27408	61.96261	334.74889	11.01834	0.0166183	0.16834582	3.2483874	17	7 26.4	17.8
17344 1120 <i>T-3</i>	14.1	X	189.32095	108.34425	297.46477	7.43299	0.1550755	0.21172633	2.7879574	17	4 18.1	18.7
17345 2216 <i>T-3</i>	14.7	X	143.03159	298.42395	324.10469	2.98676	0.1137575	0.29906211	2.2145991	17	12 7.4	17.8
17346 2395 <i>T-3</i>	14.0	X	266.52535	124.73350	283.21015	2.71936	0.0276390	0.16849180	3.2465110	17	7 27.8	18.5
17347 3449 <i>T-3</i>	13.1	X	30.06020	311.59308	35.86997	6.82889	0.1816455	0.17462246	3.1700734	17	11 7.1	16.8
17348 4166 <i>T-3</i>	14.4	X	42.23701	348.89469	84.50173	5.69621	0.0388531	0.25353558	2.4723509	17	—	—
17349 4353 <i>T-3</i>	13.0	X	196.50630	159.55406	62.75761	6.85127	0.0657501	0.17533786	3.1614447	17	12 2.9	17.8
17350 1968 <i>OJ</i>	14.2	X	281.55403	156.36348	152.96481	13.22530	0.1361639	0.21622376	2.7491627	17	3 25.3	18.3
17351 Pheidippos	11.3	X	218.31105	45.79513	2.91577	15.28181	0.0962359	0.08394122	5.1659776	17	6 1.9	18.7
17352 1975 <i>SG</i> ₁	14.6	X	312.28375	48.77195	25.32126	10.06318	0.0960310	0.23527972	2.5986416	17	10 24.0	17.4
17353 1975 <i>TE</i>	14.3	X	181.30698	325.90510	24.22908	4.34129	0.2175995	0.29316517	2.2441978	17	1 27.7	17.6
17354 Matrosov	14.0	X	207.09308	14.15056	154.98199	2.02149	0.1038928	0.23220554	2.6215270	17	10 12.9	18.0
17355 1978 <i>NK</i>	15.2	X	318.06107	103.26689	255.90198	3.11130	0.1344352	0.22652576	2.6651663			

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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>
17361 1978 <i>UF</i> ₇	14.0 ^m	X	71.05131	93.92518	216.29878	13.72235	0.2409087	0.17980680	3.1088419	17	11 26.2	18.6
17362 1978 <i>UT</i> ₇	13.9	X	79.64210	105.26280	210.14968	7.62804	0.2901474	0.18144591	3.0900910	17	12 15.6	18.8
17363 1978 <i>VF</i> ₃	15.7	X	164.75605	6.11145	50.54898	1.46404	0.2295570	0.26534679	2.3984288	17	4 10.8	19.4
17364 1978 <i>VR</i> ₁₀	14.1	X	41.29166	111.03289	68.52167	10.34936	0.1390003	0.21308711	2.7760754	17	4 5.5	17.2
17365 1978 <i>VF</i> ₁₁	10.4	X	141.64624	118.41542	252.12896	11.64141	0.0773590	0.08144442	5.2710259	17	2 6.9	17.7
17366 1979 <i>OV</i> ₄	13.5	X	42.79286	165.96523	317.06133	0.82954	0.0433093	0.19724309	2.9228162	17	1 21.3	17.3
17367 1979 <i>OU</i> ₁₁	14.6	X	305.70559	259.48264	138.19573	14.20595	0.1992322	0.23424280	2.6063048	17	8 7.2	17.5
17368 1979 <i>QV</i> ₁	14.7	X	160.73450	244.43417	314.74381	6.40669	0.1227228	0.28809086	2.2704733	17	9 30.9	18.2
17369 1979 <i>QR</i> ₂	14.0	X	146.80041	90.25896	333.13201	1.05148	0.0868127	0.19771315	2.9181818	17	3 27.5	18.3
17370 1980 <i>CJ</i>	12.8	X	233.72829	230.72077	316.22054	13.56807	0.0200618	0.17678431	3.1441764	17	12 6.5	17.5
17371 1981 <i>DT</i>	13.2	X	268.86710	188.43134	328.74592	14.81923	0.0526674	0.18025579	3.1036773	17	12 8.7	17.8
17372 1981 <i>DV</i>	14.2	X	256.82141	267.17802	209.42728	14.08406	0.0496837	0.23098852	2.6307270	17	10 7.9	17.7
17373 1981 <i>EQ</i> ₃	13.7	X	53.01274	12.76377	311.32509	12.95925	0.2132694	0.17684488	3.1434585	17	11 12.9	18.2
17374 1981 <i>EF</i> ₄	14.8	X	9.93796	349.59919	245.82536	6.74981	0.1741122	0.27411762	2.3469910	17	3 25.6	17.1
17375 1981 <i>EJ</i> ₄	13.8	X	32.91825	156.63937	215.13773	10.04385	0.0427714	0.17924180	3.1153716	17	11 26.2	18.0
17376 1981 <i>EQ</i> ₄	14.1	X	263.81577	273.25836	228.33891	8.50164	0.1383258	0.17911169	3.1168801	17	11 2.4	18.6
17377 1981 <i>EF</i> ₅	14.6	X	324.34017	224.64178	224.45485	10.48041	0.2151111	0.23573734	2.5952775	17	11 26.9	16.7
17378 1981 <i>EM</i> ₅	14.0	X	338.59047	182.40205	271.91764	8.17675	0.0494008	0.18130431	3.0916996	17	12 24.9	17.9
17379 1981 <i>ED</i> ₈	15.1	X	188.57666	176.91322	306.69786	4.23776	0.0658704	0.28098435	2.3085961	17	7 23.8	18.2
17380 1981 <i>EB</i> ₁₀	15.2	X	62.41246	339.99293	203.99374	4.51140	0.0987684	0.27537507	2.3398407	17	4 26.8	17.6
17381 1981 <i>EC</i> ₁₁	14.7	X	32.37890	2.54071	286.14010	4.40169	0.1146218	0.22581111	2.6707865	17	8 15.6	17.6
17382 1981 <i>EH</i> ₁₁	13.4	X	21.06673	359.83825	244.13137	13.77848	0.1866296	0.22974466	2.6402138	17	10 17.4	16.3
17383 1981 <i>EE</i> ₁₂	14.9	X	262.90771	147.16762	381.57353	5.29979	0.0995509	0.28252421	2.3002000	17	8 3.8	17.9
17384 1981 <i>EM</i> ₁₂	14.7	X	53.97726	293.31023	339.67140	15.67141	0.0747490	0.17208601	3.2011474	17	8 27.1	18.9
17385 1981 <i>EU</i> ₁₃	15.3	X	185.57515	273.97600	199.00438	8.49318	0.1875352	0.28064682	3.2104468	17	7 6.4	19.1
17386 1981 <i>EA</i> ₂₃	14.8	X	86.44322	239.12820	352.36921	8.56081	0.0466376	0.22642990	2.6659185	17	8 12.9	18.4
17387 1981 <i>EV</i> ₂₃	14.4	X	334.24307	104.72397	358.47964	7.09486	0.1560132	0.23704127	2.5857512	17	—	—
17388 1981 <i>EZ</i> ₂₄	14.3	X	99.15738	59.18064	180.78842	12.84742	0.1172885	0.22727901	2.6592744	17	9 17.3	18.0
17389 1981 <i>EN</i> ₃₀	13.3	X	81.98739	278.75517	58.83796	1.93593	0.1822316	0.18049644	3.1009180	17	12 31.8	18.1
17390 1981 <i>EZ</i> ₃₇	14.3	X	348.93974	212.99128	190.08038	7.33773	0.0564800	0.17852072	3.1237550	17	11 6.9	18.4
17391 1981 <i>EK</i> ₃₉	15.2	X	219.80073	215.01563	178.51445	3.35587	0.1581558	0.27710449	2.3300953	17	4 27.4	18.7
17392 1981 <i>EY</i> ₄₀	15.1	X	359.55352	84.54325	217.72288	1.36814	0.0683073	0.22495690	2.6775433	17	7 9.2	18.2
17393 1981 <i>EA</i> ₄₁	14.3	X	242.87264	316.79028	182.89193	6.29358	0.0460668	0.17729198	3.1381714	17	10 20.1	18.8
17394 1981 <i>ER</i> ₄₂	14.0	X	44.90676	25.79507	12.31996	1.55608	0.1013530	0.18242359	3.0790404	17	—	—
17395 1981 <i>EA</i> ₄₄	14.4	X	352.53279	162.75485	180.95140	13.02019	0.1838768	0.22752708	2.6573412	17	8 18.2	17.0
17396 1981 <i>EK</i> ₄₅	15.5	X	244.24982	6.05727	332.54349	6.46369	0.1188253	0.27298362	2.3534862	17	3 10.9	18.9
17397 1981 <i>EF</i> ₄₈	13.1	X	26.77199	182.42016	221.50999	1.72226	0.0238611	0.12636344	3.9329802	17	12 17.8	18.5
17398 1982 <i>UR</i> ₂	13.6	X	162.32342	284.82522	189.66901	18.68468	0.1377955	0.21532756	2.7567854	17	6 19.0	18.3
17399 Andysanto	14.8	X	261.52918	29.24629	339.81241	19.06417	0.1177178	0.37069725	1.9192129	17	4 14.4	17.7
17400 1985 <i>PL</i> ₁	14.3	X	189.22898	141.60477	192.15137	11.91445	0.0605950	0.20137760	2.8826723	17	1 19.1	18.7
17401 1985 <i>RP</i> ₃	14.5	X	309.09877	283.11151	3.39076	2.11161	0.2045371	0.26945125	2.3740102	17	3 5.9	17.9
17402 Valeryshuvalov	14.3	X	190.19977	305.36150	25.41143	8.92390	0.1673780	0.26059373	2.4275047	17	1 15.3	18.1
17403 Masciarelli	13.1	X	21.21452	69.53902	2.18492	5.21578	0.0786005	0.24368636	2.5385277	17	—	—
17404 1986 <i>TZ</i> ₃	14.5	X	25.56805	228.27076	60.37347	3.76001	0.2151517	0.28363904	2.2941688	17	8 12.6	15.9
17405 1986 <i>VQ</i> ₂	14.4	X	21.13887	75.97624	278.56954	5.36086	0.2010593	0.28715137	2.2754229	17	11 17.4	16.3
17406 1987 <i>DO</i>	14.8	X	140.68622	357.72957	143.86178	2.72631	0.1711942	0.27038619	2.3685345	17	7 1.0	18.2
17407 1987 <i>TG</i>	13.8	X	312.41868	357.55902	32.55541	9.15095	0.2721836	0.22714521	2.6603187	17	7 29.5	17.0
17408 McAdams	14.2	X	164.87052	214.15725	224.17026	25.69095	0.1070983	0.38139259	1.8831629	17	4 2.8	16.5
17409 1988 <i>BA</i> ₄	14.6	X	163.44731	216.00024	274.02729	5.96757	0.0461268	0.28159734	2.3052446	17	6 29.4	17.4
17410 1988 <i>CQ</i> ₄	13.9	X	343.37785	70.42486	254.95694	5.65070	0.1440903	0.28129019	2.3069225	17	7 1.1	15.9
17411 1988 <i>DF</i> ₃	14.3	X	41.26150	120.70921	265.91084	6.58405	0.1284370	0.29337135	2.2431462	17	—	—
17412 Kroll	15.0	X	291.08091	167.26027	84.15755	5.56681	0.1521743	0.26424131	2.4051135	17	1 8.6	18.5
17413 1988 <i>RT</i> ₄	13.6	X	25.40865	234.70809	151.24782	1.74095	0.2403845	0.17501335	3.1653515	17	12 27.2	17.3
17414 1988 <i>RN</i> ₁₀	12.1	X	280.39138	78.16380	153.67167	16.58982	0.0331051	0.08487935	5.1278427	17	1 29.0	19.0
17415 1988 <i>RO</i> ₁₀	12.1	X	219.73101	121.87921	160.34132	23.74766	0.0476313	0.08432129	5.1504425	17	1 20.3	19.3
17416 1988 <i>RR</i> ₁₀	12.3	X	227.50059	123.28109	164.46524	17.30049	0.0600622	0.08509053	5.1193549	17	2 1.3	19.5
17417 1988 <i>RY</i> ₁₀	11.5	X	157.93981	236.84992	112.01114	2.22201	0.0823173	0.08388048	5.1684715	17	2 3.7	18.7
17418 1988 <i>RT</i> ₁₂	12.2	X	166.00091	135.83034	197.61657	6.50210	0.1591991	0.08334369	5.1906401	17	1 27.9	19.7
17419 1988 <i>RH</i> ₁₃	11.3	X	148.41474	333.35773	45.55630	15.94917	0.0660720	0.08311299	5.2002407	17	3 5.1	18.6
17420 1988 <i>RL</i> ₁₃	11.9	X	180.63373	258.45419	59.31393	15.85812	0.0821425	0.08298120	5.2057453	17	1 25.4	19.3
17421 1988 <i>SW</i> ₁	11.8	X	256.51062	216.96728	32.15866	16.92734	0.0990627	0.08454714	5.1412663	17	1 21.4	19.1
17422 1988 <i>SE</i> ₂	14.3	X	223.17742	256.96650	45.01397	8.76917	0.1153454	0.25567848	2.4585173	17	1 8.9	18.1
17423 1988 <i>SK</i> ₂	12.2	X	258.55696	82.89600	158.72496	1.62095	0.0940142	0.08264895	5.2196874	17	1 12.2	19.3
17424 1988 <i>SP</i> ₂	12.3	X	180.62972	161.38886	170.09345	12.68902	0.1566524	0.08304146	5.2032264	17	2 6.4	19.9
17425 1989 <i>AM</i> ₃	13.9	X	254.73056	179.92162	299.06793	10.83286	0.1344816	0.23061933	2.6335339	17	9 21.7	17.9
17426 1989 <i>CS</i> ₁	13.4	X	198.84115	170.43900	341.35941	12.88952	0.1123802	0.22545173	2.6736240	17	9 10.0	17.5
17427 Poe	12.9	X	158.81035	228.34050	189.23735	10.83839	0.1013836	0.14634621	3.5662769	17	4 13.2	18.3
17428 Charleroi	11.3	X	175.71670	326.62330	255.98896	8.42129	0.1155100	0.12597651	3.9410294	17	11 7.1	17.4
17429 1989 <i>GD</i> ₁	15.7	X	69.73691	254.90336	342.30599	3.39893	0.1060338	0.28705242	2.2759457	17	8 1.4	18.0
17430 1989 <i>KF</i>	12.4	X	309.94136	154.44447	83.00905	16.25479	0.0966574	0.20440579	2.8541311	17	2 5.0	16.7
17431 Sainte-Colombe	14.0	X	319.77886	340.17239	323.07262	6.73779	0.1258248	0.27421954	2.3464093	17	4 18.0	16.9
17432 1989 <i>SR</i>	12.9	X	149.79413	126.68374	239.86093	8.88592	0.0976220	0.19080246	2.9882258	17	1 21.6	17.4
17433 1989 <i>SV</i> ₂	13.1	X	238.97127	163.68554	43.78861	10.40696	0					

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
17441 1989 <i>UE</i>	14.5 ^m	X	248.97952 ^o	325.17900 ^o	68.15654	3.23267 ^o	0.2268376	0.27217581 ^o	2.3581406	17	5 21.1	18.2
17442 1989 <i>UO</i> ₅	11.8	X	137.95780	324.09367	31.36211	15.75722	0.0452527	0.08193075	5.2501465	17	1 23.3	19.0
17443 1989 <i>UU</i> ₅	13.2	X	283.95592	244.39816	199.37691	15.03450	0.0725434	0.17387339	3.1791716	17	9 25.1	17.6
17444 1989 <i>VQ</i> ₁	14.4	X	353.74523	22.85212	145.01043	7.36170	0.1008634	0.25843343	2.4410139	17	—	—
17445 Avatcha	12.5	X	33.37694	47.11821	311.76749	15.17761	0.2640773	0.17522541	3.1627971	17	12 9.2	16.6
17446 Mopaku	13.5	X	77.45098	314.22983	203.67957	5.98144	0.0671573	0.26030065	2.4293264	17	4 13.2	16.2
17447 Heindl	14.5	X	332.24867	255.81032	35.49680	24.80122	0.1149239	0.36453886	1.9407674	17	4 12.1	16.4
17448 1990 <i>HU</i> ₁	14.0	X	135.04100	123.59412	141.59415	14.35911	0.0283047	0.23667398	2.5884257	17	11 26.7	17.9
17449 1990 <i>OD</i> ₅	13.7	X	331.05840	14.14870	236.22517	7.37596	0.1728965	0.21151394	2.7898235	17	2 27.9	17.4
17450 1990 <i>QO</i> ₄	13.3	X	104.57106	309.10101	353.70839	9.62922	0.0792465	0.18979486	2.9987925	17	12 2.4	17.9
17451 1990 <i>QF</i> ₈	15.3	X	319.31400	290.54543	106.13582	2.31535	0.1584844	0.29235470	2.2483435	17	9 6.6	17.1
17452 Amurreka	14.0	X	91.77232	13.88527	354.55028	5.62461	0.0739510	0.19406061	2.9546846	17	—	—
17453 1990 <i>RQ</i> ₉	14.2	X	280.46781	135.03053	208.69505	5.82952	0.1949000	0.28444559	2.2898300	17	4 17.3	17.3
17454 1990 <i>SA</i> ₇	15.1	X	153.54638	196.06836	41.00650	7.32888	0.0733087	0.29593415	2.2301770	17	11 14.4	17.9
17455 1990 <i>SH</i> ₇	14.2	X	162.00821	251.56017	92.38457	3.07540	0.0804793	0.19821016	2.9133016	17	1 6.8	18.5
17456 1990 <i>SS</i> ₇	13.7	X	69.46685	348.02113	87.58014	3.30558	0.0926682	0.19651911	2.9299904	17	1 1.7	17.2
17457 1990 <i>SC</i> ₁₁	14.9	X	96.17890	63.50309	214.24934	7.25762	0.1587368	0.29576589	2.2310227	17	11 11.9	18.0
17458 Dick	13.8	X	32.08617	59.66825	9.71675	1.42430	0.1012372	0.18920070	3.0050674	17	—	—
17459 Andreashofer	14.6	X	90.39831	224.26334	44.51628	6.11754	0.1805118	0.29139547	2.2532749	17	10 27.0	17.5
17460 Mang	15.8	X	297.10124	110.43718	302.66183	2.29030	0.1247198	0.28940617	2.2635887	17	8 26.9	18.1
17461 1990 <i>UD</i> ₁	14.2	X	81.25600	41.60197	319.55794	2.78912	0.2132572	0.18952976	3.0015882	17	—	—
17462 Takahisa	14.4	X	295.15104	354.69732	55.82934	8.86323	0.1787640	0.28782917	2.2718492	17	8 15.5	17.1
17463 1990 <i>UO</i> ₅	13.4	X	137.38998	29.29692	66.86858	12.47077	0.1485071	0.23858344	2.5745965	17	5 1.8	17.1
17464 1990 <i>VX</i> ₁	14.6	X	81.17775	124.85259	249.21277	1.58012	0.2162262	0.29964676	2.2117175	17	—	—
17465 Inawashiroko	14.1	X	49.46623	302.39248	144.50524	1.31242	0.1307564	0.19139860	2.9820176	17	—	—
17466 Vargasillosa	14.5	X	194.45047	49.43026	113.26019	7.51014	0.1001333	0.28683573	2.2770918	17	9 25.7	17.8
17467 1990 <i>VE</i> ₆	15.5	X	60.25741	197.71384	201.92446	10.50504	0.0899596	0.18801409	3.0176981	17	—	—
17468 1990 <i>WT</i> ₆	13.3	X	277.39868	241.71772	173.65075	4.73235	0.1535175	0.28526758	2.2854292	17	7 26.8	18.1
17469 1991 <i>BT</i>	13.4	X	55.55071	335.20886	211.00710	6.16745	0.0834053	0.26991480	2.3712913	17	4 17.2	15.5
17470 Mitsuhashi	13.2	X	289.48552	216.42198	246.08118	4.12094	0.1425314	0.17561796	3.1580822	17	10 16.1	17.4
17471 1991 <i>EO</i> ₂	14.4	X	7.03309	219.62966	316.44967	1.71954	0.1571020	0.26203060	2.4186223	17	1 3.1	17.1
17472 Dinah	13.9	X	198.32540	341.28736	137.71191	8.35903	0.0562206	0.27609222	2.3357872	17	7 29.2	16.9
17473 1991 <i>FM</i> ₃	14.4	X	112.25776	100.59040	0.85097	0.91094	0.1557819	0.26669375	2.3903463	17	3 29.9	17.0
17474 1991 <i>GK</i> ₅	14.8	X	150.85839	57.18742	22.60683	2.64439	0.1690084	0.26620629	2.3932634	17	4 20.2	18.1
17475 1991 <i>GA</i> ₇	14.8	X	71.10609	306.94802	194.13660	3.80952	0.1404110	0.26355037	2.4093152	17	3 14.9	17.1
17476 1991 <i>GG</i> ₇	14.9	X	109.55965	93.94679	18.70001	4.20638	0.1590079	0.26507473	2.4000696	17	4 11.6	17.6
17477 1991 <i>GN</i> ₉	15.4	X	241.41591	24.69802	88.30290	1.82591	0.1520567	0.27904244	2.3192944	17	9 3.7	18.7
17478 1991 <i>LQ</i>	13.6	X	87.54020	206.36980	94.11521	15.20655	0.1504699	0.23790269	2.5795057	17	11 28.2	17.4
17479 1991 <i>PV</i> ₉	13.3	X	103.40241	109.00286	169.30173	14.14904	0.1763401	0.23565003	2.5959184	17	11 19.9	17.5
17480 1991 <i>PE</i> ₁₀	13.9	X	185.62552	37.98010	338.22604	8.66634	0.1741682	0.21115735	2.7929635	17	3 13.1	18.5
17481 1991 <i>PE</i> ₁₁	14.0	X	267.17044	10.42171	340.56784	4.76883	0.1709117	0.21847392	2.7302535	17	4 22.8	18.3
17482 1991 <i>PY</i> ₁₄	13.4	X	0.31956	76.33563	304.02777	10.07573	0.1800380	0.23087036	2.6316245	17	10 29.5	16.2
17483 1991 <i>RA</i>	14.7	X	154.16071	310.72616	356.78030	21.12311	0.0409796	0.39067317	1.8532201	17	—	—
17484 Ganghofer	14.6	X	306.87656	148.15149	214.92718	2.21119	0.1710090	0.22199780	2.7012841	17	6 26.8	17.9
17485 1991 <i>RP</i> ₉	12.9	X	71.23363	20.24722	50.44003	16.18089	0.1090059	0.24532452	2.5272143	17	—	—
17486 Hodler	14.6	X	328.36979	133.80193	173.93171	9.05292	0.3262017	0.22133160	2.7067019	17	4 19.7	17.9
17487 1991 <i>SY</i>	13.3	X	62.43772	206.90802	28.77864	13.65209	0.1251369	0.22412298	2.6841809	17	7 29.5	16.9
17488 Mantl	14.2	X	107.91865	242.00401	284.79838	3.93549	0.1010365	0.21820242	2.7325179	17	6 21.3	17.9
17489 Trenker	14.1	X	200.67265	273.20406	205.85217	11.22169	0.1268845	0.22149575	2.7053645	17	7 29.5	18.6
17490 1991 <i>UC</i> ₃	14.4	X	273.65505	182.84453	190.12856	3.11668	0.1930604	0.21794902	2.7346354	17	5 27.5	18.4
17491 1991 <i>UM</i> ₃	13.8	X	251.86962	290.82513	59.01392	9.43131	0.2018479	0.21266149	2.7797782	17	4 10.9	18.4
17492 Hippasos	10.0	X	224.67257	219.09414	89.02820	29.19888	0.0674169	0.08450950	5.1427928	17	3 2.9	17.4
17493 Wildcat	14.5	X	238.51143	175.05136	274.18207	44.37969	0.4423095	0.21777566	2.7360865	17	7 6.2	20.0
17494 Antaviana	13.7	X	197.50971	138.85423	293.79362	14.79450	0.2062439	0.21021327	2.8013194	17	6 1.0	18.7
17495 1992 <i>DY</i>	13.9	X	222.15505	110.91645	112.43369	5.90135	0.1052610	0.29980026	2.2109625	17	—	—
17496 Augustinus	15.0	X	30.33296	204.62270	32.02129	7.12773	0.1729820	0.28006773	2.3136305	17	5 15.3	16.7
17497 1992 <i>DO</i> ₆	13.7	X	78.51882	213.99200	122.81488	3.09349	0.0851219	0.18166428	3.0876141	17	12 15.7	18.0
17498 1992 <i>EP</i> ₄	15.0	X	285.05248	168.47289	101.53298	2.60719	0.0229241	0.31289317	2.1488462	17	1 24.1	17.5
17499 1992 <i>EJ</i> ₅	15.1	X	81.38043	134.17658	105.25296	2.77691	0.0872474	0.28700752	2.2761831	17	8 20.2	17.6
17500 1992 <i>EQ</i> ₁₀	14.4	X	75.30091	118.53838	156.90365	5.22750	0.0102647	0.17478539	3.1681031	17	9 17.9	18.8
17501 Tetsuro	14.0	X	108.91704	245.35497	15.17694	6.15715	0.1527532	0.28922534	2.2645321	17	10 31.3	17.3
17502 Manabeseiji	14.9	X	132.64914	175.72379	25.79743	4.20735	0.1190108	0.28667336	2.2779516	17	9 8.2	18.0
17503 Celestechild	14.1	X	148.46813	238.35721	273.96170	22.15478	0.2480598	0.28594549	2.2818156	17	7 22.9	18.0
17504 1992 <i>GB</i> ₂	15.0	X	172.54259	312.05521	209.55154	3.69367	0.0838070	0.28623645	2.2802690	17	8 24.9	18.3
17505 1992 <i>GO</i> ₂	14.8	X	287.73839	88.04241	212.31792	3.22466	0.1369984	0.27222826	2.3578377	17	3 6.2	18.3
17506 Walschap	14.8	X	69.29508	171.90979	38.76579	7.22738	0.1017494	0.27916538	2.3186134	17	6 18.8	17.2
17507 1992 <i>HH</i> ₅	14.6	X	18.44211	279.96562	344.83979	3.26819	0.2126266	0.27843519	2.3226653	17	6 3.5	16.0
17508 Takumadan	14.8	X	315.33334	129.28234	154.87341	3.29966	0.2231350	0.27168696	2.3609685	17	3 6.9	18.1
17509 Ikumadan	14.2	X	72.63796	95.72673	115.80039	8.12484	0.2536100	0.27906800	2.3191528	17	7 24.3	16.5
17510 1992 <i>PD</i> ₆	14.2	X	274.19968	238.76775	80.42851	3.49804	0.0710067	0.26661928	2.3907914	17	3 26.6	17.5
17511 1992 <i>QN</i>	17.1	X	196.53859	202.37030	355.94227	9.58362	0.3588767	0.75922581	1.1900231	17	11 19.5	17.4
17512 1992 <i>RN</i>	13.4	X	40.30013	299.56921	337.86031	8.14672	0.3229931	0.27512735	2.3412450	17	8 31.5	15.2
17513 1992 <i>UM</i>	14.1	X	34.40173	355.92406	15.57500	6.95991	0.1621661	0.24038523	2.5617153	17	12 21.4	17.3
17514 1992 <i>UA</i> ₁	13.8	X	295.02872	64.82970	10.12445	14.79748	0.1785832	0.23428220	2.6060126	17	9 19.1	16.9
17515 1992 <i>UT</i> ₁	13.7	X	157.52640	213.31932	82.98781	4.589						

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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>
17521 Kiek	13.9 ^m	X	266.46192 ^o	327.62500 ^o	338.46327	0.96073 ^o	0.0591509	0.20860178 ^o	2.8157281	17	3 11.3	17.9
17522 1993 <i>BL</i> ₇	13.8	X	179.41036	182.53365	261.07106	2.85692	0.0687771	0.21555376	2.7548565	17	5 24.9	17.9
17523 1993 <i>FX</i> ₂	14.2	X	184.02212	238.80112	115.43531	3.19968	0.1010093	0.20014913	2.8944557	17	2 13.2	18.6
17524 1993 <i>FS</i> ₄	14.4	X	109.36707	130.59275	116.21964	2.40604	0.1247906	0.17859741	3.1228607	17	10 8.7	19.0
17525 1993 <i>FH</i> ₅	14.1	X	119.41991	21.40405	45.38273	2.84743	0.0300790	0.20203323	2.8764325	17	2 19.7	18.0
17526 1993 <i>FV</i> ₅	14.5	X	54.82112	175.65836	128.03472	2.61878	0.1590237	0.17908062	3.1172405	17	10 18.4	18.5
17527 1993 <i>FC</i> ₁₄	13.6	X	73.29616	275.47889	21.95808	15.99954	0.2335433	0.17960134	3.1112124	17	11 8.2	18.3
17528 1993 <i>FX</i> ₁₄	14.2	X	101.94733	187.68030	155.68425	11.11618	0.0992720	0.18984070	2.9983097	17	—	—
17529 1993 <i>FJ</i> ₂₃	13.8	X	176.84081	176.66605	200.82282	12.93000	0.0852400	0.20148758	2.8816232	17	2 28.6	18.3
17530 1993 <i>FZ</i> ₂₃	12.9	X	54.98873	302.50669	10.46176	16.57420	0.2273444	0.17866905	3.1220259	17	11 2.9	17.3
17531 1993 <i>FU</i> ₂₅	14.0	X	201.65723	146.86748	261.13514	2.30777	0.0890448	0.20928103	2.8096322	17	5 4.9	18.3
17532 1993 <i>FD</i> ₃₄	14.6	X	133.49036	159.58578	171.13601	9.76254	0.0834799	0.19122176	2.9838559	17	—	—
17533 1993 <i>FR</i> ₃₆	14.0	X	74.77661	197.02138	106.17907	2.29484	0.1437662	0.18096973	3.0955091	17	11 9.5	18.4
17534 1993 <i>FB</i> ₄₀	14.2	X	120.60393	267.00497	83.53062	1.69356	0.1695004	0.19267199	2.9688642	17	—	—
17535 1993 <i>FF</i> ₄₀	13.7	X	113.71135	160.36866	176.45417	10.73567	0.0532362	0.19053115	2.9910618	17	—	—
17536 1993 <i>FM</i> ₄₀	14.8	X	101.99619	150.44711	136.40506	2.29880	0.1728011	0.18199754	3.0838438	17	11 22.1	19.7
17537 1993 <i>FN</i> ₄₀	13.2	X	190.54044	269.64969	48.02934	2.75090	0.0893378	0.19645842	2.9305938	17	1 7.3	17.5
17538 1993 <i>FZ</i> ₄₄	14.3	X	30.24602	337.11832	155.62135	2.09046	0.1026478	0.20013742	2.8945686	17	1 12.2	17.7
17539 1993 <i>FR</i> ₄₆	13.9	X	120.11898	150.85475	166.15198	2.16533	0.0637948	0.18926421	3.0043952	17	—	—
17540 1993 <i>RZ</i> ₃₁	12.9	X	331.51606	72.34786	83.04466	6.22252	0.1186418	0.19524165	2.9427570	17	—	—
17541 1993 <i>OL</i> ₅	16.4	X	101.46989	154.51488	93.11088	0.48614	0.1449594	0.29312720	2.2443916	17	10 6.6	19.2
17542 1993 <i>OW</i> ₆	15.5	X	325.46126	258.87369	128.88337	3.78782	0.1691727	0.28997842	2.2606097	17	9 2.9	17.4
17543 Sosva	12.6	X	151.21425	260.12313	306.67590	18.02121	0.1035287	0.16931462	3.2359843	17	9 20.3	18.0
17544 1993 <i>RF</i> ₂	14.1	X	49.57784	326.30763	353.67307	4.80521	0.1829760	0.29033882	2.2587386	17	11 11.6	16.7
17545 1993 <i>RZ</i> ₃	14.7	X	55.30141	259.85768	343.23987	3.69959	0.1430160	0.28257440	2.2999276	17	7 22.2	16.8
17546 Osadakentaro	14.2	X	136.94897	348.75154	328.01647	4.57396	0.1289238	0.30009454	2.2095169	17	—	—
17547 1993 <i>SN</i> ₂	16.4	X	216.54215	146.00148	264.31515	1.94895	0.1575727	0.27613073	2.3355700	17	5 15.1	20.1
17548 1993 <i>SX</i> ₆	14.9	X	199.14699	117.45131	8.26856	4.97249	0.0519588	0.28281088	2.2986453	17	8 10.9	17.9
17549 1993 <i>TW</i> ₁₂	14.4	X	245.74462	17.82021	48.03555	6.80624	0.1165425	0.27991411	2.3144769	17	7 9.2	17.6
17550 1993 <i>TO</i> ₁₈	15.1	X	282.89188	208.20074	27.17907	2.98943	0.1450083	0.26456620	2.4031441	17	—	—
17551 1993 <i>TZ</i> ₃₁	14.7	X	46.82224	202.73418	48.80117	9.17959	0.1191262	0.28023268	2.3127225	17	7 16.9	17.1
17552 1993 <i>TZ</i> ₃₆	15.4	X	342.16393	193.74981	167.06336	5.43313	0.1492134	0.28469504	2.2884923	17	8 26.1	17.0
17553 1993 <i>UQ</i> ₅	14.9	X	286.22788	336.03525	69.40486	6.77560	0.1179941	0.28192817	2.3034409	17	8 2.9	17.7
17554 1993 <i>VY</i> ₅	14.0	X	318.27879	30.31156	26.15343	25.09875	0.1939072	0.28705776	2.2759175	17	10 7.4	15.9
17555 1993 <i>VC</i> ₅	14.9	X	175.73382	251.88488	161.92250	21.59045	0.3255280	0.26981788	2.3718592	17	4 26.2	19.4
17556 Pierofrancesca	14.7	X	213.94496	122.96500	337.57725	1.73619	0.1832623	0.27692795	2.3310854	17	7 18.0	18.2
17557 1994 <i>AX</i> ₁	15.0	X	144.55832	181.97959	199.88568	2.17250	0.1906217	0.25854418	2.4403168	17	1 31.5	18.2
17558 1994 <i>AA</i> ₁	14.2	X	142.46339	320.04501	148.04710	4.41467	0.1027021	0.26638589	2.3921876	17	5 12.3	17.4
17559 1994 <i>AR</i> ₁	14.0	X	174.17140	212.03282	269.40515	10.51075	0.1293886	0.27061176	2.3672181	17	7 5.7	17.6
17560 1994 <i>AD</i> ₃	15.5	X	208.99506	313.25263	111.77389	3.82307	0.2220313	0.27233219	2.3572378	17	5 28.3	19.4
17561 1994 <i>AE</i> ₁₁	14.8	X	64.31772	347.64403	77.68514	4.73213	0.1491624	0.25226703	2.4806322	17	—	—
17562 1994 <i>BG</i> ₄	14.0	X	66.80313	307.90644	271.20993	6.02468	0.0708174	0.26853808	2.3793891	17	6 24.7	16.7
17563 Tsuneyoshi	13.4	X	130.65475	236.26023	278.98805	10.32752	0.2218374	0.22550991	2.6731641	17	7 15.6	17.7
17564 1994 <i>CQ</i> ₁	14.8	X	163.18196	238.68134	187.30296	3.70513	0.1950044	0.26464494	2.4026674	17	4 18.6	18.3
17565 1994 <i>CG</i> ₂	13.4	X	109.18374	271.03088	0.10176	14.83492	0.1184519	0.23296741	2.6158084	17	11 2.7	17.5
17566 1994 <i>CE</i> ₁₁	14.8	X	326.92333	47.87739	38.96850	2.62475	0.1521482	0.24130618	2.5551933	17	12 3.4	17.0
17567 1994 <i>GP</i> ₁	12.7	X	13.75320	160.39264	44.33154	8.73424	0.1576025	0.21245312	2.7815955	17	3 17.9	15.8
17568 1994 <i>GT</i> ₈	13.2	X	132.89893	345.49149	191.39452	27.93719	0.0815145	0.22395788	2.6855000	17	7 28.1	17.7
17569 1994 <i>LB</i> ₈	13.0	X	247.26653	14.59304	253.84809	16.61846	0.1010922	0.24264752	2.5457680	17	—	—
17570 1994 <i>NQ</i> ₁	14.1	X	110.71764	238.49499	104.04100	24.04685	0.2790096	0.27208220	2.3586815	17	—	—
17571 1994 <i>PV</i> ₁	13.3	X	65.10130	183.33560	147.91633	6.23786	0.1642959	0.17847484	3.1242903	17	12 4.7	17.7
17572 1994 <i>PX</i> ₁₁	13.9	X	221.27154	45.95547	301.81363	1.07373	0.1676892	0.19833323	2.9120962	17	3 13.9	18.3
17573 1994 <i>PJ</i> ₁₃	13.5	X	328.46117	227.05835	159.23632	1.29258	0.1619832	0.17221691	3.1995251	17	9 6.3	17.1
17574 1994 <i>PT</i> ₁₃	13.6	X	115.83777	212.87385	163.01090	10.31582	0.0818558	0.18889699	3.0082876	17	—	—
17575 1994 <i>PQ</i> ₁₄	13.7	X	143.25572	59.99714	193.56231	3.99709	0.1025543	0.17958964	3.1113476	17	11 17.3	18.5
17576 1994 <i>PL</i> ₂₅	13.9	X	181.97580	109.82226	140.59269	11.00533	0.0625301	0.18409817	3.0603404	17	12 22.4	18.7
17577 1994 <i>PD</i> ₃₈	13.6	X	160.01111	76.83896	151.85747	7.58572	0.1497942	0.17968855	3.1102057	17	11 6.9	18.7
17578 1994 <i>QQ</i> ₁	13.5	X	341.10714	266.66854	341.54782	9.93217	0.0986025	0.20211619	2.8756453	17	3 25.5	17.3
17579 Lewkoplew	15.3	X	167.02365	302.25429	33.01110	7.06944	0.1415321	0.27390887	2.3481832	17	—	—
17580 1994 <i>VV</i> ₁	13.3	X	92.39225	192.90052	245.04263	21.13091	0.0614247	0.22886918	2.6469425	17	1 17.3	17.0
17581 1994 <i>VE</i> ₁	13.8	X	249.51742	193.32086	170.39807	2.45362	0.1603499	0.24158135	2.5532526	17	4 21.9	17.7
17582 1994 <i>WL</i> ₁	13.7	X	187.22068	268.70960	57.10498	7.48695	0.1378140	0.27198505	2.3592431	17	—	—
17583 1994 <i>WV</i> ₂	14.4	X	339.55919	28.56839	271.13290	5.12140	0.2022104	0.28633399	2.2797512	17	4 30.3	16.7
17584 1994 <i>XF</i> ₁	13.9	X	229.42531	111.16688	82.74842	8.44036	0.1578470	0.25407132	2.4688741	17	12 2.7	17.5
17585 1994 <i>YC</i> ₄	15.0	X	288.63084	318.67478	296.18939	1.58286	0.1743384	0.26808149	2.3820900	17	1 7.7	18.4
17586 1995 <i>AT</i> ₂	15.5	X	328.20440	90.28016	34.36371	2.78583	0.0359249	0.30258058	2.1973978	17	—	—
17587 1995 <i>BD</i> ₁	12.6	X	45.54462	192.34577	91.02244	10.11721	0.1292012	0.15742900	3.3968749	17	9 7.9	17.1
17588 1995 <i>BH</i> ₂	15.4	X	109.37013	76.95939	109.21602	2.09843	0.1861463	0.27864543	2.3214969	17	7 28.2	18.3
17589 1995 <i>BR</i> ₁₀	14.6	X	14.11829	149.37195	119.10201	7.24518	0.1009010	0.27865407	2.3214489	17	6 6.8	16.8
17590 1995 <i>CG</i> ₁	14.7	X	290.92876	163.18929	137.65373	24.48614	0.0750809	0.35892255	1.9609607	17	3 1.9	17.0
17591 1995 <i>DG</i> ₁	12.5	X	77.18082	294.90757	148.37090	17.09713	0.2045037	0.17735223	3.1374606	17	2 11.2	16.2
17592 1995 <i>DR</i> ₁	14.9	X	262.83010	86.37976	155.78467	6.95696	0.1398998	0.25869610	2.4393613	17	—	—
17593 1995 <i>DV</i> ₁												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17601 Sheldonschafer	15.2 ^m	X	65.86765	46.96096	225.18654	24.20239	0.0643622	0.40154937	1.8196034	17	8 29.2	17.5
17602 Dr. G.	13.4	X	304.68072	128.38182	285.86197	21.26666	0.1595930	0.17684893	3.1434105	17	8 24.7	18.0
17603 Qoyllurwasi	13.4	X	265.38216	326.74523	20.43026	16.61262	0.2340829	0.21111587	2.7933293	17	4 13.2	18.0
17604 1995 SO ₂₆	13.6	X	353.95612	274.48357	196.83496	9.91532	0.0510239	0.18995072	2.9971519	17	—	—
17605 1995 SR ₂₆	14.0	X	205.36242	142.63109	200.82872	1.71197	0.0729361	0.20165950	2.8799853	17	2 19.3	18.3
17606 Wumengchao	14.1	X	129.19173	262.34634	40.52247	13.57462	0.2996550	0.23313578	2.6145489	17	—	—
17607 Táborsko	14.1	X	222.29204	343.01665	312.92859	0.88753	0.0218166	0.19905343	2.9050678	17	1 11.9	18.2
17608 Terezin	13.8	X	26.68090	35.26121	1.42589	10.37377	0.0375626	0.18456143	3.0552172	17	12 17.4	18.1
17609 1995 UR	13.9	X	55.32320	155.69329	297.76192	25.32619	0.2054319	0.28236135	2.3010844	17	—	—
17610 1995 UJ ₁	12.8	X	99.38028	172.16182	196.02999	10.11211	0.0995183	0.19155314	2.9804136	17	—	—
17611 Jožkakubik	13.2	X	357.47753	103.48508	24.85915	10.59405	0.0531658	0.19037878	2.9926575	17	—	—
17612 Whiteknight	14.0	X	352.01156	21.49483	29.47847	8.41023	0.0167457	0.18230349	3.0803925	17	11 18.1	18.3
17613 1995 UP ₇	13.7	X	104.47707	250.37253	175.69721	5.48534	0.1145710	0.24048199	2.5610281	17	1 28.2	16.7
17614 1995 UT ₇	13.9	X	37.99011	118.58228	250.83661	8.79834	0.0520838	0.18403904	3.0609958	17	11 30.8	18.1
17615 Takeomasaru	12.9	X	324.12074	78.49455	12.03287	9.03126	0.1858444	0.18039261	3.1021078	17	11 18.6	16.5
17616 1995 UE ₁₅	14.1	X	193.48396	309.22227	240.12535	4.10422	0.0788865	0.17725293	3.1386323	17	10 20.7	18.9
17617 Takimotoikuo	12.4	X	96.90105	330.00150	48.12597	12.41669	0.1573809	0.19001001	2.9965283	17	—	—
17618 1995 VO	12.8	X	340.69497	103.45569	45.58707	10.87066	0.0512246	0.18938511	3.0031164	17	—	—
17619 1995 VT	12.4	X	284.59120	289.33149	231.35574	8.78023	0.0345726	0.18432521	3.0578269	17	—	—
17620 1995 WY	12.9	X	347.75476	37.27432	70.36285	10.39812	0.0475864	0.18463695	3.0543840	17	—	—
17621 1995 WD ₁	14.3	X	194.26480	217.20651	195.71446	2.47803	0.1376635	0.20478934	2.8505664	17	5 5.7	18.9
17622 1995 WW ₂	13.4	X	58.04432	164.81892	219.06447	8.16010	0.1722772	0.18434883	3.0575656	17	—	—
17623 1995 WO ₄₂	13.0	X	6.79196	340.27053	44.84075	18.46556	0.1329199	0.18022505	3.1040303	17	11 11.9	16.8
17624 1996 AT	14.6	X	356.50350	156.73990	125.69054	3.57505	0.1053111	0.29385124	2.2407033	17	5 22.5	16.7
17625 Josefada	14.2	X	333.53205	272.86459	121.11909	17.28913	0.1826611	0.17151530	3.0582446	17	10 1.1	18.1
17626 1996 AG ₂	12.2	X	3.23360	98.88438	311.33621	12.89325	0.0904043	0.17520040	3.1630980	17	12 4.8	16.4
17627 Humptydumpty	13.0	X	299.74190	308.18611	150.28834	0.94896	0.1482029	0.17200902	3.2021025	17	10 26.2	17.0
17628 1996 FB ₅	14.8	X	38.78881	56.99087	180.34897	22.60071	0.2716098	0.28490551	2.2873651	17	6 18.7	16.9
17629 Koichisuzuki	14.8	X	24.01101	98.78197	189.37126	6.17017	0.1301108	0.28678613	2.2773544	17	7 26.6	16.7
17630 1996 HM ₂₁	15.5	X	218.64323	149.72469	53.46618	4.90000	0.0799813	0.30288262	2.1959367	17	12 16.8	18.1
17631 1996 HV ₂₁	15.4	X	199.35618	188.47114	37.83464	4.47706	0.0985778	0.30398752	2.1906124	17	12 22.5	18.4
17632 1996 HW ₂₁	14.8	X	130.27160	289.79234	221.57094	2.38084	0.0993137	0.28715296	2.2754145	17	6 22.1	17.7
17633 1996 JU	13.7	X	38.69170	352.60965	159.54709	24.79753	0.1828778	0.27652517	2.3333485	17	1 15.3	16.3
17634 1996 NM ₃	15.0	X	250.60718	76.78320	167.73792	2.68729	0.1483995	0.25871735	2.4392277	17	—	—
17635 1996 OC ₁	14.5	X	129.32300	320.06286	114.74604	6.47271	0.1145944	0.26453853	2.4033116	17	3 14.1	17.5
17636 1996 PQ	14.3	X	245.86344	273.30957	147.64488	7.15406	0.1080263	0.27725305	2.3292628	17	7 2.5	17.6
17637 Blaschke	14.3	X	244.15778	213.56169	133.43589	7.41218	0.1343072	0.26872454	2.3782883	17	3 25.8	18.0
17638 Sualan	15.2	X	272.70230	336.98069	343.19098	2.07001	0.2153248	0.26859808	2.3790347	17	3 11.4	18.9
17639 1996 PA ₄	14.9	X	31.01491	125.99289	102.61648	3.13021	0.1665239	0.27456554	2.3444377	17	5 7.5	16.5
17640 Mount Stromlo	13.6	X	315.27025	303.92652	85.66987	25.44523	0.3529354	0.27832185	2.3232959	17	7 9.8	16.3
17641 1996 SW ₇	14.9	X	248.42791	128.12224	184.85194	6.20675	0.1124959	0.26171201	2.4205847	17	2 12.8	18.6
17642 1996 TY ₄	13.9	X	233.98585	121.09764	16.45635	13.93482	0.1328323	0.23337634	2.6127518	17	9 30.2	17.7
17643 1996 TJ ₅	14.4	X	60.13434	190.61520	114.88098	5.37280	0.2360110	0.23679119	2.5875715	17	11 13.3	17.8
17644 1996 TW ₈	13.0	X	219.66382	156.85404	286.77428	21.29374	0.0685442	0.22566448	2.6719433	17	7 9.4	16.8
17645 Inarimori	12.9	X	320.31842	267.03440	28.61424	7.12048	0.2132310	0.17430006	3.1739812	17	4 17.7	16.9
17646 1996 TM ₃₆	14.4	X	229.47851	294.64766	345.61185	12.51133	0.2153098	0.25805885	2.4433755	17	—	—
17647 1996 TR ₄₁	14.2	X	294.23443	344.92034	123.91681	3.73381	0.1134258	0.23903781	2.5713330	17	11 12.4	17.3
17648 1996 UU	14.1	X	25.46266	200.29070	209.80732	12.75145	0.1528614	0.24090622	2.5580206	17	—	—
17649 Brunorossi	14.2	X	59.47020	68.78673	215.29486	15.50576	0.1780025	0.23345491	2.6121656	17	10 1.1	17.6
17650 1996 HU ₅	14.0	X	51.98566	199.70704	214.58356	13.97048	0.1706101	0.24554903	2.5256737	17	—	—
17651 Tajimi	13.5	X	98.42878	62.31478	54.38609	7.05999	0.0999632	0.25731487	2.4480829	17	3 27.3	16.4
17652 Nepoti	13.7	X	81.11061	293.03272	312.67390	11.42851	0.0643732	0.22709449	2.6607148	17	8 22.8	17.3
17653 Bochner	14.2	X	326.72715	275.79533	68.63682	12.27531	0.2180117	0.22628015	2.6670945	17	6 23.3	17.2
17654 1996 VK ₃	14.2	X	196.43380	206.39125	226.11396	2.55710	0.0770000	0.21704252	2.7422445	17	5 30.1	18.2
17655 1996 VL ₃	14.0	X	326.08127	135.37170	246.08519	2.60924	0.1018288	0.22844741	2.6501994	17	8 31.9	17.1
17656 Hayabusa	14.6	X	246.24579	261.43446	53.56772	3.47490	0.0768356	0.20949766	2.8076950	17	2 28.3	18.7
17657 Himawari	15.0	X	343.51165	289.40120	52.48297	23.07795	0.0870344	0.36839339	1.9272061	17	8 12.1	17.3
17658 1996 VS ₄	13.3	X	66.08453	196.94818	58.98390	4.10687	0.0481245	0.22311152	2.6922872	17	8 17.5	16.7
17659 1996 VX ₅	14.9	X	324.25004	180.82189	233.47476	5.17024	0.1897367	0.23188453	2.6239458	17	10 4.6	17.4
17660 1996 VP ₆	14.0	X	80.34637	65.56673	325.98806	4.97314	0.1931989	0.24689095	2.5165135	17	—	—
17661 1996 VW ₇	14.1	X	317.16159	260.63429	188.54815	6.99725	0.2587071	0.23531918	2.5983511	17	11 5.5	16.2
17662 1996 VG ₃₀	13.3	X	206.60706	228.87310	246.34425	7.77456	0.2069006	0.22226896	2.6990867	17	7 28.8	17.9
17663 1996 VK ₃₀	14.2	X	293.91167	304.99105	125.06358	5.07820	0.2564722	0.22919284	2.6444500	17	8 26.6	17.4
17664 1996 VP ₃₀	13.6	X	14.30189	154.75271	233.22516	11.87873	0.2464778	0.23657598	2.5891405	17	12 22.6	16.2
17665 1996 WD	13.3	X	313.16661	308.77491	61.37658	11.17211	0.2000791	0.22529285	2.6748809	17	7 12.4	16.6
17666 1996 XR	14.4	X	35.54669	272.54116	51.69245	1.66117	0.1112307	0.23027191	2.6361821	17	10 12.2	17.5
17667 1996 XT ₅	13.4	X	5.01345	177.13083	289.67247	8.76363	0.0578452	0.19192288	2.9765845	17	—	—
17668 1996 XW ₅	12.9	X	173.37372	297.35411	299.23067	9.25589	0.0448559	0.18324790	3.0697997	17	11 25.6	17.5
17669 1996 XF ₆	13.3	X	217.80458	89.50985	41.62100	2.17733	0.1654343	0.17452429	3.1712620	17	9 2.1	18.5
17670 Liddell	14.4	X	196.01361	140.22261	254.50036	2.40465	0.0834699	0.21163047	2.7887993	17	4 11.3	18.6
17671 1996 XS ₁₉	13.8	X	4.80648	243.38942	281.75231	10.03819	0.0819639	0.20115976	2.8847531	17	1 16.3	17.6
17672 1996 XS ₂₅	13.2	X	117.50356	161.15725	101.08728	20.35846	0.1812963	0.17901785	3.1179692	17	11 14.9	18.5
17673 Houkidaissen	14.2	X	94.10458	167.31369	117.65492	6.25801	0.1748847	0.17943852	3.1130942	17	11 10.8	18.9
17674 1996 YG	13.8	X	312.38459	178.37952	331.10201	4.50335	0.0943771	0.18878193	3.0095099	17	—	—
17675 1996 YU	14.3	X	206.30935	282.34890	129.76587	4.53450	0.0917223	0.21143369	2.7905293	17	5 16.7	18.6
17676 1997 AG ₁	13.4	X	141.62836	340.63171	311.77305	8.01938	0.0240260	0.18460608	3.0547245	17	12 28.4	17.8
17677 1997 AW ₂	13.											

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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>
17681 Tweedledum	14.3 ^m	X	121.27480	7.72983	68.18697	24.37954	0.0297181	0.39964065	1.8253926	17	—	—
17682 1997 AR ₁₂	13.3	X	45.20623	84.04291	317.24243	9.12497	0.0902463	0.18740327	3.0242518	17	—	—
17683 Kanagawa	12.6	X	332.01847	194.70638	358.73191	18.29823	0.1584993	0.19123955	2.9836708	17	1 3.6	17.1
17684 1997 AS ₁₆	13.4	X	303.34197	81.11370	47.72537	2.43995	0.0252820	0.18524470	3.0476998	17	12 22.6	17.7
17685 1997 AJ ₁₉	14.1	X	213.93753	157.87110	243.83129	1.93205	0.0442739	0.21029285	2.8006127	17	5 11.1	18.1
17686 1997 BC ₂	12.4	X	90.90808	260.75369	119.41325	11.63068	0.1196986	0.19021873	2.9943360	17	—	—
17687 1997 BN ₂	13.7	X	161.70430	298.04304	345.81761	9.60774	0.0805230	0.18374949	3.0642106	17	—	—
17688 1997 BM ₃	13.8	X	195.60029	109.21253	342.92414	7.13962	0.1940444	0.21300839	2.7767593	17	6 24.2	18.6
17689 1997 CS	12.7	X	273.55656	240.66730	348.36723	10.04873	0.0950131	0.18965160	3.0003025	17	—	—
17690 1997 CY ₂	14.0	X	290.81416	2.02652	120.36230	3.76595	0.1904722	0.17914706	3.1164698	17	11 7.8	18.0
17691 1997 CF ₁₇	13.8	X	254.29271	173.07022	284.60015	3.95042	0.1418978	0.17335869	3.1854610	17	8 28.2	18.6
17692 1997 CX ₂₇	13.4	X	339.18778	270.43899	136.46394	5.77158	0.1675134	0.17910642	3.1169412	17	10 26.1	16.9
17693 Wangdaheng	13.7	X	54.00822	110.86156	320.51904	10.09155	0.0949288	0.19090117	2.9871955	17	—	—
17694 Jiránek	13.6	X	172.05465	303.88219	84.67035	3.18834	0.0838503	0.20516688	2.8470683	17	3 12.9	17.8
17695 1997 EE ₇	13.9	X	76.06183	185.36226	181.42222	15.19700	0.1062737	0.18338778	3.0682386	17	—	—
17696 Bombelli	13.2	X	55.88133	76.97430	352.97968	9.70904	0.0847938	0.18755414	3.0226297	17	—	—
17697 Evanchen	13.5	X	297.14774	28.09171	170.84054	10.33903	0.0266959	0.18969678	2.9998261	17	—	—
17698 Racheldavis	13.2	X	81.34100	173.27380	160.53644	11.19964	0.0546488	0.17914298	3.1165171	17	12 12.1	17.9
17699 1997 GX ₇	13.7	X	355.82941	327.10882	100.73536	2.41078	0.1855034	0.17391822	3.1786252	17	12 21.4	17.2
17700 1997 GM ₄₀	14.0	X	343.14116	55.37498	66.11652	8.48996	0.1919106	0.27869226	2.3212368	17	—	—
17701 1997 GU ₄₁	12.6	X	347.17339	28.41866	53.85806	10.13508	0.0600684	0.17487613	3.1670070	17	12 20.5	16.9
17702 Kryštofharant	13.5	X	354.76392	241.15038	226.72591	8.72431	0.0697754	0.18295584	3.0730659	17	—	—
17703 Bombieri	16.1	X	192.51977	26.85837	189.04542	1.36872	0.0245679	0.30123987	2.2039129	17	12 7.3	18.6
17704 1997 UM ₅	15.0	X	138.61046	220.67139	29.74278	4.53438	0.1738723	0.29906552	2.2145823	17	11 18.8	18.4
17705 1997 UM ₂₄	13.8	X	125.82913	121.51806	40.13052	6.58546	0.0583796	0.27945225	2.3170263	17	6 25.7	16.8
17706 1997 VA ₆	14.5	X	218.64585	213.78557	246.16407	7.86755	0.0995098	0.28270969	2.2991939	17	7 23.1	17.9
17707 1997 VM ₇	14.9	X	347.47758	233.11864	51.08135	4.98856	0.1263259	0.27992273	2.3144294	17	5 7.3	16.9
17708 1997 WB	15.3	X	342.78988	133.57274	166.68005	6.61225	0.1290548	0.28524899	2.2855285	17	5 24.1	17.7
17709 1997 WV ₁	14.9	X	174.20132	238.31956	289.48736	3.44756	0.0775780	0.28573591	2.2829313	17	9 4.3	17.9
17710 1997 WT ₂	15.4	X	257.36597	5.69084	73.23688	7.51903	0.0722268	0.28550774	2.2841474	17	8 19.7	18.3
17711 1997 WA ₇	12.3	X	88.70732	192.23042	95.97910	15.19184	0.1946075	0.23636307	2.5906951	17	11 20.4	16.3
17712 Fatherwilliam	13.9	X	199.69755	108.49296	42.96457	4.37919	0.0891457	0.28832157	2.2692619	17	9 15.3	16.9
17713 1997 WJ ₂₀	15.2	X	67.25682	250.87573	218.72515	4.49468	0.0805521	0.26477525	2.4018790	17	1 16.2	17.9
17714 1997 WR ₃₈	14.8	X	24.69183	22.64754	295.29440	3.87553	0.1796899	0.29035853	2.2586364	17	9 21.9	16.6
17715 1997 WZ ₃₉	14.5	X	127.54824	226.54796	213.03525	4.18025	0.1472676	0.26819279	2.3814309	17	3 18.2	17.3
17716 1997 WW ₄₃	15.1	X	25.79186	59.70785	307.72943	3.10993	0.0783424	0.29457075	2.2370532	17	11 27.3	17.4
17717 1997 XL	14.3	X	215.57403	73.79783	44.18757	5.83407	0.1096047	0.28396169	2.2924307	17	8 18.1	17.6
17718 1997 XZ	14.9	X	15.99303	210.15521	337.99969	2.23382	0.1068949	0.26297261	2.4128429	17	2 10.8	17.4
17719 1997 XV ₁	14.7	X	180.34345	356.58361	118.81766	7.06839	0.0669227	0.27965616	2.3158999	17	7 1.8	17.8
17720 Manuboccuni	15.1	X	222.63946	56.09863	61.20818	6.06140	0.1250584	0.28527016	2.2854154	17	8 24.3	18.4
17721 1997 XT ₁₀	13.2	X	238.33047	216.22093	304.32848	13.29756	0.2628770	0.18337505	3.0683805	17	10 9.7	18.5
17722 1997 YT ₁	13.7	X	117.01417	105.18397	250.92080	12.01512	0.2299018	0.25477594	2.4643200	17	—	—
17723 1997 YA ₄	14.8	X	109.01875	39.19679	313.87361	5.38461	0.1884797	0.30124521	2.2038868	17	—	—
17724 1997 YZ ₅	14.4	X	16.17769	64.94618	79.34392	5.66129	0.1499124	0.25632785	2.4543634	17	—	—
17725 1997 YQ ₇	13.1	X	213.31846	86.89522	336.37885	11.48071	0.1656142	0.22346206	2.6894709	17	6 1.0	17.7
17726 1997 YS ₁₀	13.9	X	191.64891	166.16967	209.08431	2.88415	0.1257705	0.26360722	2.4089688	17	3 6.4	17.6
17727 1997 YU ₁₁	14.0	X	280.00357	353.53608	20.30596	7.03858	0.1133505	0.27314669	2.3525494	17	6 7.7	17.1
17728 1997 YM ₁₂	15.1	X	204.38544	209.85575	108.87222	3.77787	0.1854086	0.25962526	2.4335377	17	1 13.2	19.0
17729 1997 YW ₁₄	14.9	X	43.87949	238.21964	295.09868	3.43522	0.0124101	0.26534543	2.3984370	17	3 9.0	17.7
17730 1998 AS ₄	12.9	X	21.61812	236.21732	303.82026	11.09674	0.1395932	0.26059292	2.4275097	17	2 4.1	15.4
17731 1998 AD ₁₀	15.1	X	123.34994	53.32708	241.49320	5.87377	0.1597452	0.30134182	2.2034157	17	12 30.5	18.5
17732 1998 AQ ₁₀	14.7	X	172.23006	55.24356	112.18925	5.25083	0.0588122	0.23164912	2.6257233	17	9 4.8	18.4
17733 1998 BS ₁	13.9	X	39.37388	127.54011	352.86238	4.41347	0.1225002	0.25647887	2.4533997	17	—	—
17734 Boole	15.8	X	119.03470	218.88731	222.29795	2.10528	0.1006599	0.26346586	2.4098305	17	3 2.5	18.6
17735 1998 BG ₇	15.0	X	321.41600	89.10902	283.64074	4.31842	0.1939226	0.28292044	2.2980519	17	7 25.6	17.3
17736 1998 BA ₁₂	13.7	X	103.94962	316.48751	291.35515	5.35831	0.0937610	0.23345653	2.6121535	17	9 27.9	17.4
17737 Sigmundjähn	15.0	X	65.53165	344.11184	135.62344	6.48678	0.1442161	0.25963675	2.4334659	17	2 2.0	17.2
17738 1998 BS ₁₅	13.1	X	307.92118	99.28979	337.60990	6.48615	0.1830509	0.28918419	2.2647469	17	10 10.1	15.2
17739 1998 BY ₁₅	13.9	X	164.42716	81.40333	276.07828	6.71132	0.1619670	0.25779184	2.4450624	17	1 19.3	17.3
17740 1998 BC ₁₉	14.1	X	84.70923	195.99519	67.41356	8.38234	0.1301344	0.23028818	2.6360579	17	10 6.9	17.8
17741 1998 BS ₂₃	14.1	X	129.68835	85.82059	301.21498	0.88367	0.1164448	0.20649400	2.8348566	17	1 24.1	18.0
17742 1998 BP ₂₅	13.5	X	143.23569	59.78974	131.77148	2.97329	0.1407398	0.17557565	3.1564087	17	9 6.9	18.4
17743 1998 BA ₃₁	15.1	X	216.27391	260.07498	174.70136	5.07832	0.1644334	0.27722573	2.3294158	17	6 16.6	18.7
17744 Jodiefooster	15.1	X	219.20118	101.99756	240.75164	3.07207	0.3119509	0.26618730	2.3933772	17	2 23.6	19.6
17745 1998 BG ₃₄	14.9	X	47.74340	237.17031	62.16805	1.09340	0.1808633	0.17744864	3.1363241	17	10 5.1	18.7
17746 Haigha	13.9	X	166.54291	152.71958	304.41919	7.86005	0.1597739	0.27039929	2.3684580	17	5 27.4	17.5
17747 1998 BJ ₄₂	15.4	X	172.69181	318.03671	155.83683	2.27455	0.1712920	0.27938784	2.3173824	17	6 26.0	18.8
17748 Uedashoji	15.3	X	213.15877	277.90930	126.02201	3.77922	0.2080894	0.27219777	2.3580138	17	5 5.8	19.3
17749 1998 DW ₁	14.5	X	230.51890	260.25041	94.92827	7.28444	0.2723317	0.26582159	2.3955719	17	3 22.9	18.8
17750 1998 DZ ₁	14.4	X	185.83661	250.78697	332.27793	12.38067	0.1587105	0.23890420	2.5722915	17	11 20.6	18.8
17751 1998 DN ₃	13.0	X	115.04764	150.15689	349.34215	8.50332	0.1159615	0.21858792	2.7293042	17	5 24.7	17.0
17752 1998 DM ₄	14.1	X	291.60490	154.65155	266.17435	2.96890	0.1180281	0.23253599	2.6190428	17	8 30.4	17.4
17753 1998 DZ ₅	14.1	X	284.74483	348.00120	164.93244	4.53766	0.1744075	0.24160525	2.5530842	17	12 17.6	17.0
17754 1998 DN ₈	13.1	X	68.63519	21.79861	314.84825	8.36025	0.1422891	0.18584870	3.0410930	17	12 11.7	17.6
17755 1998 DU ₁₁	13.2	X	127.55516	175.89014	88.21808	2.25008	0.1613515	0.18100739	3.0950798	17	11 17.9	18.1
17756 1998 DM ₁₃	13.7	X	125.55064	74.4562								

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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>
17761 1998 DV ₃₄	14.5	X	47.08374	72.57513	154.86048	3.63116	0.0379267	0.21639234	2.7477347	17	6 9.1	18.0
17762 1998 DY ₃₄	13.7	X	50.07361	84.64743	20.48580	2.00050	0.0564650	0.20084762	2.8877411	17	1 8.1	17.3
17763 1998 EG	14.8	X	111.35962	103.98506	137.81539	6.81489	0.0433648	0.23145944	2.6271575	17	9 28.1	18.4
17764 Schatzman	14.0	X	354.14586	221.04109	189.72446	5.09599	0.2325037	0.23459867	2.6036685	17	12 11.1	16.2
17765 1998 EZ ₂	13.7	X	200.75728	243.33643	43.70408	6.33324	0.1681204	0.24687319	2.5166342	17	—	—
17766 1998 ES ₃	13.4	X	190.57673	195.46164	20.72374	13.59286	0.0988202	0.23337961	2.6127274	17	11 19.3	17.5
17767 1998 EJ ₆	14.3	X	223.08644	265.44455	184.64461	4.46803	0.1269641	0.27535213	2.3399707	17	7 14.8	17.9
17768 Tigerlily	13.4	X	354.42272	245.81258	179.33786	8.85563	0.0846169	0.19008608	2.9957289	17	12 13.8	17.3
17769 1998 EM ₉	14.2	X	145.09595	76.43958	27.92970	7.65166	0.0626513	0.26655811	2.3911571	17	5 2.4	17.3
17770 Baumé	13.3	X	72.71003	232.58333	133.23374	8.27602	0.2736872	0.24161987	2.5529812	17	—	—
17771 Elsheimer	13.8	X	353.88261	224.57466	87.99731	2.26670	0.1364715	0.16861367	3.2449464	17	7 16.1	17.4
17772 1998 EP ₁₃	13.6	X	237.70134	235.03014	80.46698	3.12165	0.0623029	0.20429397	2.8551725	17	2 21.2	17.8
17773 1998 EX ₁₃	13.2	X	67.39094	203.60275	127.69607	4.52486	0.0796963	0.18285128	3.0742373	17	11 26.2	17.5
17774 1998 ER ₁₄	14.5	X	296.10010	217.33940	93.43371	4.69856	0.1813215	0.31145674	2.1554480	17	3 20.7	17.4
17775 1998 FH	14.5	X	249.39962	179.09668	199.32947	12.44070	0.1028857	0.21797761	2.7343963	17	5 18.6	18.6
17776 Troska	14.4	X	336.04679	236.13531	320.61698	7.46157	0.0818621	0.25185496	2.4833373	17	1 3.1	17.7
17777 Ornicar	14.7	X	73.23785	12.36611	331.67916	4.75456	0.1579124	0.29292518	2.2454234	17	—	—
17778 1998 FT ₁₁	13.3	X	4.87406	48.10392	339.11651	17.16003	0.1033859	0.23379944	2.6095988	17	11 8.8	16.7
17779 Migomueller	13.5	X	218.30212	99.97555	218.17389	1.07994	0.0611231	0.19801333	2.9152318	17	2 3.3	17.9
17780 1998 FY ₁₃	12.9	X	250.10661	14.36459	181.52071	10.54390	0.0416583	0.18978851	2.9988594	17	—	—
17781 Kepping	14.1	X	237.58418	223.01573	113.98864	3.08600	0.0611557	0.25942964	2.4347609	17	3 8.4	17.4
17782 1998 FD ₂₆	13.5	X	237.51527	101.50888	350.10457	6.29079	0.1964272	0.22810937	2.6528170	17	7 31.1	17.7
17783 1998 FO ₂₉	13.5	X	353.86340	99.95947	347.33013	11.95152	0.1580144	0.24282732	2.5445111	17	—	—
17784 Banerjee	14.9	X	113.65656	276.90134	195.65238	7.22115	0.0943508	0.26161786	2.4211654	17	4 7.9	17.6
17785 Wesleyfuller	14.6	X	95.45938	229.95586	156.08901	4.82210	0.1563744	0.29740738	2.2228060	17	—	—
17786 1998 FL ₃₆	13.3	X	356.52407	120.32991	164.77089	6.76329	0.1132750	0.21533195	2.7567480	17	6 8.7	16.5
17787 1998 FT ₃₉	14.3	X	93.92525	237.71205	346.07930	5.22206	0.0988359	0.17045957	3.2214777	17	8 20.2	18.8
17788 1998 FT ₄₁	12.8	X	214.73577	31.19293	189.19517	10.12149	0.0482333	0.18762548	3.0218634	17	12 23.1	17.3
17789 1998 FJ ₄₉	13.7	X	215.40696	27.62116	184.86238	12.58816	0.0951535	0.23630243	2.5911383	17	12 15.7	17.7
17790 1998 FN ₄₉	13.3	X	75.92832	202.62247	188.11084	12.01998	0.0667188	0.19245137	2.9711327	17	—	—
17791 1998 FN ₅₄	14.0	X	125.49924	249.08234	192.16307	6.29331	0.2091596	0.25969836	2.4330811	17	3 30.2	17.0
17792 1998 FR ₅₆	14.0	X	17.92891	217.09479	179.92466	18.50060	0.1681003	0.23642122	2.5902703	17	12 29.5	17.4
17793 1998 FO ₅₈	13.9	X	273.88868	242.83321	182.36491	11.95272	0.1642412	0.22651527	2.6652486	17	8 4.3	17.9
17794 Kowalinski	14.3	X	191.73379	247.28157	135.74864	2.76335	0.0829057	0.20645273	2.8352344	17	3 26.1	18.6
17795 Elysiasegal	14.6	X	168.49620	107.32695	345.31420	1.73166	0.1722609	0.26646582	2.3917092	17	5 25.5	18.3
17796 1998 FM ₆₂	12.9	X	261.19739	167.26551	199.22834	17.43350	0.1456551	0.21322112	2.7749121	17	5 12.8	17.3
17797 1998 FO ₆₂	13.6	X	219.95411	170.13336	210.84034	5.05448	0.1192000	0.20988091	2.8042760	17	4 19.9	17.9
17798 1998 FC ₆₃	13.4	X	115.18987	36.10364	171.69485	1.30459	0.0868029	0.17002614	3.2269501	17	8 22.6	18.2
17799 Petewilliams	14.0	X	230.42777	22.02152	36.70370	5.47217	0.1063204	0.21813614	2.7330713	17	6 16.9	18.1
17800 1998 FG ₆₆	12.4	X	94.00156	148.82953	195.27464	11.08244	0.1329499	0.18555706	3.0442786	17	—	—
17801 Zolkowicz	13.8	X	187.27152	148.93806	47.36921	8.07092	0.1024278	0.17817952	3.1277415	17	10 22.9	18.7
17802 1998 FA ₇₁	12.7	X	313.10817	28.09258	18.46246	15.56381	0.0458482	0.17523780	3.1626479	17	9 25.6	17.0
17803 Barish	14.7	X	60.00036	122.18493	349.35705	1.94124	0.1784950	0.25277735	2.4772924	17	1 13.5	16.7
17804 1998 FH ₇₁	13.1	X	178.63298	85.56982	208.03606	9.87808	0.0868743	0.18979462	2.9987951	17	—	—
17805 Svestka	14.2	X	13.50586	263.61509	165.25212	10.49413	0.0670843	0.18944991	3.0024316	17	—	—
17806 Adolfborn	14.8	X	249.91297	186.49501	255.22221	3.34760	0.1104606	0.28053524	2.3110594	17	8 4.2	18.0
17807 Ericpearce	12.7	X	102.13787	352.57026	182.47524	18.45178	0.1301408	0.21951451	2.7216184	17	6 28.2	16.8
17808 1998 FV ₇₄	13.3	X	43.55650	176.26233	199.07962	9.42823	0.1039482	0.18328767	3.0693556	17	12 21.8	17.6
17809 1998 FR ₇₈	12.6	X	301.74756	209.42649	178.09817	15.65254	0.1189671	0.17091757	3.2157201	17	7 31.6	17.2
17810 1998 FM ₁₀₀	14.1	X	201.49142	280.47521	222.62889	12.29825	0.1421981	0.22696406	2.6617340	17	8 27.7	18.5
17811 1998 FH ₁₀₅	13.4	X	111.32011	246.54998	249.19147	6.05548	0.1519788	0.21315771	2.7754624	17	5 23.2	17.2
17812 1998 FH ₁₀₉	13.0	X	68.33293	119.74867	209.67746	14.63606	0.1115704	0.18032539	3.1028786	17	11 28.9	17.5
17813 1998 FL ₁₀₉	13.5	X	228.05609	15.86243	219.52701	10.11285	0.0435878	0.19027275	2.9937693	17	—	—
17814 1998 FH ₁₁₃	12.0	X	123.93388	89.31764	252.12948	8.75076	0.1200022	0.18910700	3.0060600	17	—	—
17815 Kulawik	14.7	X	191.89423	175.21539	283.69640	5.94884	0.0912742	0.26891026	2.3771931	17	6 24.4	18.1
17816 1998 FY ₁₁₃	13.2	X	46.83114	115.53155	250.99707	6.41698	0.1051715	0.18297382	3.0728645	17	12 15.7	17.2
17817 1998 FU ₁₁₆	12.5	X	27.32295	162.70381	238.97367	9.28372	0.1125901	0.18517882	3.0484226	17	—	—
17818 1998 FE ₁₁₈	12.9	X	92.82798	326.08888	223.25324	9.14237	0.0557023	0.21437519	2.7649442	17	6 24.1	16.7
17819 1998 FK ₁₁₈	13.6	X	178.31846	306.11368	216.66521	12.88926	0.0290643	0.17220050	3.1997284	17	8 30.2	18.5
17820 1998 FZ ₁₂₅	13.8	X	358.74832	46.95692	277.68524	6.68828	0.0474534	0.16987233	3.2288977	17	8 9.6	18.1
17821 Bölsche	15.0	X	104.58319	220.49357	58.31321	7.29262	0.0929318	0.27996440	2.3141997	17	11 14.3	17.9
17822 1998 FM ₁₃₅	13.6	X	3.36425	122.20486	221.41902	4.21819	0.1336940	0.17405603	3.1769472	17	9 11.2	17.4
17823 Bartels	14.5	X	91.28070	101.31957	29.01876	4.06266	0.1336344	0.26060491	2.4274353	17	4 5.8	17.2
17824 1998 GF	15.1	X	97.50752	122.37773	35.16463	22.40747	0.0318138	0.36469144	1.9402261	17	4 19.4	16.6
17825 1998 GQ ₈	13.5	X	102.27313	194.62204	107.73251	15.26131	0.1196934	0.17985906	3.1082397	17	12 6.7	18.3
17826 Normanwisdom	13.6	X	272.68057	281.43608	227.72740	9.93597	0.1238297	0.18270208	3.0759107	17	11 25.5	17.7
17827 1998 HW	13.2	X	158.75169	294.44682	188.30320	14.15654	0.1619987	0.21671640	2.7449948	17	6 26.9	17.8
17828 1998 HK ₈	14.1	X	138.33920	1.20097	3.55073	0.61158	0.0905002	0.19293960	2.9661182	17	1 7.6	18.1
17829 1998 HX ₃₂	13.1	X	353.16351	167.91761	199.73746	5.30137	0.1153046	0.17533091	3.1615281	17	9 26.6	16.8
17830 1998 HR ₃₅	13.7	X	267.44753	163.57521	128.18324	3.12802	0.0315539	0.20264913	2.8706014	17	2 27.6	17.6
17831 Ussery	14.1	X	269.31735	306.19355	129.98916	2.38994	0.0633118	0.22480823	2.6787237	17	8 31.3	17.7
17832 Pitman	13.9	X	35.82600	80.40307	50.24199	3.01032	0.0302418	0.19879073	2.9076266	17	1 21.9	17.7
17833 1998 HO ₄₂	13.4	X	139.16603	7.30607	99.05138	10.00706	0.1107040	0.21195899	2.7859169	17	5 15.8	17.6
17834 1998 HL ₄₃	12.9	X	22.71209	248.77964	201.49892	9.68566	0.0811424	0.18983474	2.9983725	17	—	—
17835 Anoelsuri	14.5	X	236.50339	344.18053	70.67633	3.25184	0.1940635	0.26834938	2.3805044	17	6 8.7	18.2
17836 Canup	14.1	X	199.20471	111.03380	18.50036	13.189						

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
17841 1998 HZ ₉₆	13.7	X	125.10674	239.42497	43.60059	14.94440	0.0484859	0.22980006	2.6397894	17	12 1.9	17.6
17842 Jorgegarcia	14.2	X	270.40954	96.95217	33.19077	5.48761	0.1458762	0.23147553	2.6270358	17	10 30.2	17.6
17843 1998 HD ₉₉	13.5	X	176.05265	104.44918	96.06082	2.88150	0.1031111	0.17506752	3.1646984	17	10 18.1	18.4
17844 Judson	13.8	X	102.22443	347.30036	112.53816	3.19671	0.0221826	0.20117599	2.8845979	17	3 10.4	17.6
17845 1998 HY ₁₁₂	12.9	X	180.78341	312.09528	76.90435	13.65507	0.1311365	0.20298011	2.8674799	17	3 31.7	17.6
17846 1998 HB ₁₁₅	13.0	X	275.12244	345.01909	140.59021	14.73647	0.0909729	0.23156994	2.6263217	17	11 13.4	16.7
17847 1998 HQ ₁₁₅	14.0	X	296.41922	308.64044	129.55162	10.51695	0.2130733	0.22924597	2.6440413	17	9 20.5	17.3
17848 1998 HR ₁₃₃	13.8	X	114.00115	199.25286	100.44825	6.02114	0.1484033	0.18187545	3.0852237	17	12 15.6	18.6
17849 1998 HL ₁₃₄	12.7	X	247.40285	333.30869	148.34933	9.46119	0.0324277	0.17756010	3.1350115	17	10 7.1	17.2
17850 1998 HR ₁₅₀	13.4	X	255.93563	252.16187	206.21895	12.47724	0.1434736	0.22395922	2.6854893	17	8 28.2	17.5
17851 Kaler	13.7	X	71.21622	133.81874	68.25084	3.23297	0.1439491	0.26535589	2.3983739	17	6 18.0	16.0
17852 1998 JN ₁	14.3	X	99.36912	101.22918	40.47547	14.58862	0.1048643	0.25896378	2.4376800	17	4 30.3	17.0
17853 Ronaldsayer	13.1	X	96.41441	212.89094	122.89454	6.35887	0.1670091	0.17924528	3.1153313	17	—	—
17854 1998 JC ₄	12.5	X	21.14170	211.64103	213.77806	8.95245	0.0807377	0.18354467	3.0664898	17	—	—
17855 Geffert	12.8	X	296.48743	225.51628	245.10690	5.19319	0.1435639	0.18052644	3.1005745	17	11 6.0	16.7
17856 Gomes	14.2	X	133.17424	210.69524	32.59962	2.48567	0.0398179	0.22464506	2.6800206	17	10 23.7	18.0
17857 Hsieh	13.0	X	60.20905	271.40871	50.94992	13.22866	0.2044166	0.22279693	2.6948210	17	11 25.9	16.6
17858 Beaugé	14.5	X	116.53067	128.79243	207.37524	5.07178	0.2256401	0.28288324	2.2982534	17	—	—
17859 Galinaryabova	12.4	X	165.62570	223.69067	64.75905	10.43646	0.0628740	0.18383987	3.0632063	17	—	—
17860 Roig	14.3	X	213.84824	123.22203	165.97244	4.17012	0.1694260	0.29095257	2.2556101	17	—	—
17861 1998 KN ₂₄	12.4	X	35.15759	289.16242	45.25687	16.22313	0.0875873	0.17160055	3.2071820	17	10 21.5	16.7
17862 1998 KT ₂₈	13.1	X	42.25517	205.18159	207.28529	9.45172	0.0955282	0.18460544	3.0547316	17	—	—
17863 1998 KN ₃₀	12.9	X	60.89130	22.66204	42.51087	11.18924	0.0863656	0.18837022	3.0138933	17	—	—
17864 1998 KK ₃₈	12.6	X	130.69252	142.00945	239.45807	8.74477	0.0980634	0.19018917	2.9946462	17	1 18.2	16.9
17865 1998 KS ₃₉	13.8	X	172.49668	282.70496	165.91356	2.34378	0.0323576	0.20660173	2.8338710	17	5 18.6	17.7
17866 1998 KV ₄₅	13.2	X	319.72367	184.89149	68.90330	21.20524	0.0934983	0.19918855	2.9037538	17	3 20.5	17.6
17867 1998 KD ₄₆	12.3	X	183.58379	113.83216	105.09928	8.19238	0.0666606	0.12404661	3.9818000	17	11 14.4	18.2
17868 1998 KW ₄₆	12.7	X	135.80209	71.61431	244.77405	11.56654	0.0937724	0.18102049	3.0949304	17	—	—
17869 Descamps	15.1	X	156.23253	33.47194	150.38558	6.95769	0.0885269	0.26540072	2.3981038	17	9 8.0	18.4
17870 1998 QU ₉₂	13.8	X	46.50664	306.22359	70.22049	6.77174	0.1629506	0.26586622	2.3953038	17	—	—
17871 1998 RD ₅₈	11.9	X	22.52592	277.63005	2.46790	14.96758	0.0764118	0.14899417	3.5238969	17	7 26.6	16.7
17872 1998 SP ₂₂	12.8	X	199.65261	232.89876	1.94068	6.76183	0.0663948	0.21820926	2.7324608	17	12 26.3	16.8
17873 1998 XO ₉₆	14.2	X	28.27248	276.55690	342.30723	1.43143	0.1140935	0.28728988	2.2746914	17	6 17.2	15.9
17874 1998 YM ₃	11.7	X	221.81347	49.84663	45.99208	2.54711	0.0450979	0.08266699	5.2189280	17	8 5.3	18.7
17875 1999 AQ ₂	14.2	X	126.38220	163.45359	18.50075	5.75240	0.0877365	0.28862616	2.2676651	17	7 31.9	17.1
17876 1999 AX ₂₁	14.5	X	4.63890	325.20566	278.53591	4.47967	0.0693995	0.28007765	2.3135759	17	4 10.5	17.0
17877 1999 AZ ₂₂	13.9	X	116.81812	85.83887	47.82397	7.27659	0.0407836	0.28089156	2.3091045	17	4 30.4	16.5
17878 1999 AR ₂₅	14.9	X	329.86283	289.10880	335.11716	1.57057	0.2157170	0.27444239	2.3451390	17	2 25.9	18.0
17879 Robutel	14.9	X	131.08876	134.08779	52.27620	4.72931	0.1109281	0.28552376	2.2840620	17	8 16.1	18.0
17880 1999 BA ₂₄	13.4	X	244.05499	139.63619	264.13205	8.71862	0.0975621	0.18612195	3.0381158	17	6 16.4	17.7
17881 Radmall	14.9	X	72.19694	121.02378	131.80225	3.06646	0.1513014	0.28837316	2.2689913	17	9 6.2	17.2
17882 Thielemann	14.6	X	46.24853	233.82275	4.60631	5.27669	0.0772456	0.28656953	2.2785018	17	6 16.9	16.9
17883 Scobuchanan	14.6	X	83.19264	351.15441	240.21673	3.40714	0.1125075	0.28987590	2.2611427	17	8 12.6	17.2
17884 Jeffthompson	15.0	X	36.18674	77.88203	171.80119	1.39973	0.1002474	0.28379739	2.2933154	17	6 18.3	16.9
17885 Brianbeyt	14.5	X	140.34505	332.51324	232.56087	6.88543	0.1420781	0.23794312	2.5792134	17	9 17.8	18.6
17886 1999 CH ₁₁₈	14.9	X	253.55965	350.77774	214.24381	2.67854	0.0484932	0.30931776	2.1653735	17	—	—
17887 1999 DE ₁	15.1	X	205.49421	28.98573	183.51049	3.45997	0.0757395	0.30384559	2.1912945	17	12 14.1	17.8
17888 1999 DB ₃	13.6	X	104.54841	130.83802	147.73108	14.14427	0.1601940	0.24013340	2.5635060	17	11 21.1	17.8
17889 Liechty	14.0	X	343.42990	57.80322	161.06879	4.64667	0.1061170	0.26388627	2.4072703	17	2 2.2	17.0
17890 1999 DU ₆	12.3	X	26.67257	274.02440	108.70228	14.90837	0.1206111	0.23983783	2.5656117	17	12 19.7	15.4
17891 Buraliforti	14.7	X	108.18673	287.62755	352.23962	11.88808	0.2552935	0.24180927	2.5516480	17	11 26.9	19.2
17892 Morecabewise	15.7	X	159.23794	244.12001	324.60641	3.83525	0.0787372	0.29295192	2.2452868	17	10 12.7	18.9
17893 Arlot	14.6	X	48.55044	303.84305	1.80091	4.96537	0.1637240	0.28793410	2.2712973	17	10 17.1	16.8
17894 1999 FP	13.7	X	212.61407	357.60386	2.05404	5.13101	0.0719069	0.21522551	2.7576568	17	3 16.9	17.9
17895 1999 FZ ₂	15.3	X	96.55893	0.56828	192.76315	6.70085	0.0709022	0.28143317	2.3061410	17	7 1.1	18.1
17896 1999 FW ₄	14.7	X	164.47336	198.21818	16.44461	3.31552	0.0886193	0.29405332	2.2396767	17	10 28.0	17.7
17897 Gallardo	15.1	X	328.14097	178.09488	24.94568	1.52061	0.1292283	0.26598695	2.3945790	17	—	—
17898 Scottsheppard	14.5	X	213.92761	40.34556	256.72367	2.84593	0.0544271	0.31461726	2.1409886	17	—	—
17899 Mariacristina	14.7	X	231.91133	82.57907	349.09489	4.43387	0.1082753	0.28647491	2.2790035	17	7 1.1	17.9
17900 Leiferman	15.3	X	120.66883	349.41127	216.26386	4.43460	0.1293922	0.28691261	2.2766851	17	8 28.3	18.4
17901 1999 FT ₂₅	13.8	X	324.61370	98.28865	191.66933	2.86753	0.0711095	0.22189535	2.7021155	17	4 29.5	17.1
17902 Britbaker	14.9	X	46.19295	33.45823	196.70144	7.64223	0.1043852	0.27881035	2.3205813	17	6 8.1	17.2
17903 1999 FS ₂₇	13.8	X	243.63486	158.45944	173.17424	4.53315	0.0927101	0.21572523	2.7533965	17	3 14.2	18.0
17904 Annakoupal	14.7	X	214.62022	281.89559	169.62127	4.53585	0.0992473	0.28546932	2.2843524	17	7 8.3	17.9
17905 Kabtamu	15.6	X	273.96834	75.83841	157.03194	2.70440	0.1428310	0.25863437	2.4397495	17	—	—
17906 1999 FG ₃₂	13.6	X	117.53597	305.58752	46.80590	10.70530	0.1718571	0.25366088	2.4715366	17	—	—
17907 Danielgude	14.7	X	128.24645	248.96336	34.42934	5.14056	0.1409078	0.24401864	2.5362227	17	12 14.4	18.6
17908 Chriskuyi	15.5	X	52.32208	46.31329	155.90140	6.54794	0.1667886	0.27605421	2.3360016	17	5 14.4	17.5
17909 Nikhilshukla	14.4	X	272.03153	129.94218	173.46860	8.58973	0.1375713	0.21455477	2.7634012	17	3 5.1	18.7
17910 Munyan	13.9	X	238.93785	196.45324	206.19419	8.62850	0.1280751	0.23291286	2.6162169	17	6 3.2	18.0
17911 1999 FF ₄₁	16.0	X	295.92310	228.77222	320.00736	1.04411	0.0616575	0.31338392	2.1466022	17	—	—
17912 1999 FV ₄₄	14.3	X	237.13623	181.69458	203.74616	6.31059	0.2099209	0.28298136	2.2977221	17	4 30.7	17.9
17913 1999 FT ₅₂	14.9	X	103.38960	243.86821	130.63162	3.40361	0.1270430	0.31327343	2.1471069	17	—	—
17914 Joannelee	14.8	X	281.59426	330.32159	275.69715	3.65295	0.1398072	0.26383407	2.4075878	17	—	—
17915 1999 GU	15.6	X	203.93364	173.42012	10.45063	0.88904	0.0429941	0.29580323	2.2308349	17	11 5.4	18.2
17916 1999 GZ ₃	15.6	X	244.72705	231.47884	246.32520	4.88179	0.0873511	0.29062340	2.2572639	17	9 19.0	18.5
17917 Cartan	14.3	X	125.13887									

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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>
17921 Aldeobaldia	14.5	X	66.33465	95.65624	114.92406	7.59674	0.0620696	0.27791938	2.3255383	17	6 9.5	17.0
17922 1999 GS ₁₃	14.7	X	34.77622	78.72454	151.29747	13.13966	0.0884858	0.27380577	2.3487727	17	5 20.7	17.4
17923 1999 GY ₁₆	14.0	X	339.19118	21.70867	135.45266	6.98413	0.0722724	0.26064926	2.4271599	17	—	—
17924 1999 GA ₁₇	14.3	X	269.51558	225.19829	53.08042	2.32002	0.2091108	0.26403650	2.4063571	17	1 18.6	18.1
17925 Dougweinberg	14.9	X	318.69930	144.71882	83.20551	3.48497	0.1353741	0.26549120	2.3975590	17	1 9.9	18.0
17926 Jameswu	14.7	X	178.29480	230.54826	16.81467	4.32243	0.0998812	0.30197124	2.2003528	17	12 26.3	17.7
17927 Ghoshal	14.9	X	217.00321	82.12266	81.19740	4.64314	0.0549268	0.29445968	2.2376157	17	10 25.6	17.6
17928 Neuwirth	13.6	X	161.30500	319.50336	34.71785	6.98472	0.1592393	0.25822420	2.4423323	17	1 13.6	17.1
17929 1999 GQ ₂₁	13.5	X	96.18614	262.75507	55.16628	15.43972	0.1704392	0.24228324	2.5483191	17	12 27.4	17.6
17930 Kennethott	14.6	X	100.12920	87.94356	208.75407	2.79532	0.1498267	0.29601079	2.2297920	17	12 9.6	17.7
17931 1999 GA ₂₇	13.5	X	64.54183	100.49964	115.01670	2.23728	0.1482349	0.17186260	3.2039209	17	7 7.4	17.4
17932 Viswanathan	14.9	X	256.46731	339.36013	354.66098	2.34937	0.0836580	0.27243207	2.3566616	17	3 21.0	18.1
17933 Haraguchi	14.9	X	129.88646	18.37381	243.51908	5.40363	0.1491727	0.29563534	2.2316795	17	11 24.6	18.0
17934 Deleon	14.7	X	346.51520	175.26433	51.74180	6.69385	0.0672559	0.27043926	2.3682246	17	2 26.4	17.6
17935 Vinhoward	14.9	X	93.76164	143.62815	190.48680	5.75664	0.1893966	0.24443322	2.5333541	17	—	—
17936 Nilus	14.6	X	255.38171	203.91313	272.97549	3.16785	0.0665435	0.29037166	2.2585683	17	10 6.1	17.3
17937 1999 HO ₄	14.5	X	10.17741	136.92196	201.97089	3.91609	0.2269600	0.23078393	2.6322816	17	9 26.2	16.5
17938 Tamsendrew	14.6	X	44.30152	339.18353	209.38813	3.78866	0.1884256	0.27240251	2.3568321	17	3 31.3	16.1
17939 1999 HH ₈	13.4	X	97.00334	329.71930	320.94010	9.55532	0.1301866	0.29494431	2.2351639	17	11 23.8	16.6
17940 1999 JK ₂	15.4	X	83.26556	58.14436	92.12559	5.2819	0.0767554	0.27356181	2.3501689	17	4 12.9	18.0
17941 Horbatt	13.9	X	57.52669	358.25138	65.82127	20.27719	0.1548521	0.30735438	2.1745853	17	—	—
17942 Whiterabbit	14.6	X	337.49943	81.80406	159.75357	4.53611	0.1172039	0.26687099	2.3892878	17	2 22.7	17.5
17943 1999 JZ ₆	14.9	X	183.72953	324.51504	101.02057	7.75054	0.0825484	0.27316610	2.3524380	17	5 2.5	18.2
17944 1999 JF ₇	14.1	X	182.46295	71.82838	119.84955	6.31898	0.1351744	0.23853664	2.5749333	17	10 17.4	18.2
17945 Hawass	14.1	X	167.95292	320.22449	268.73611	2.23797	0.0988110	0.23866750	2.5739920	17	11 15.4	17.9
17946 1999 JC ₉	15.5	X	333.18714	128.19294	151.92278	6.84542	0.1172199	0.27146125	2.3622770	17	4 13.2	18.2
17947 1999 JV ₁₀	14.7	X	162.97929	18.46533	185.76169	4.76343	0.1323321	0.23847181	2.5753999	17	10 11.8	18.7
17948 1999 JQ ₁₅	13.9	X	281.33256	154.48908	157.37861	5.03650	0.2078992	0.26463520	2.4027264	17	3 10.7	17.5
17949 1999 JA ₁₈	13.4	X	357.34440	294.09361	10.48222	12.22505	0.1827708	0.22477070	2.6790218	17	7 3.1	16.3
17950 Grover	14.7	X	320.71731	328.26184	357.38035	6.71065	0.1674258	0.27646218	2.3337029	17	5 15.9	17.6
17951 Fenska	14.5	X	15.37954	36.08562	294.68517	3.28221	0.1032534	0.28625076	2.2801930	17	9 15.3	16.5
17952 Folsom	15.4	X	50.34738	327.42522	268.61528	5.87689	0.0969474	0.27854920	2.3220315	17	6 24.2	17.7
17953 1999 JB ₂₀	13.4	X	167.22289	14.87142	233.46353	10.61780	0.3252048	0.18983583	2.9983610	17	12 3.1	18.9
17954 Hopkins	14.7	X	154.85311	145.49049	38.84892	3.07243	0.1013973	0.28783371	2.2718254	17	9 8.5	17.8
17955 Sedransk	14.9	X	95.25828	340.82577	224.46836	2.16615	0.0513923	0.22754246	2.6572214	17	7 17.7	18.3
17956 Andrewlenoir	15.4	X	238.04469	303.32034	207.87266	1.95354	0.0735946	0.29476258	2.2360825	17	10 31.9	18.2
17957 1999 JF ₂₉	14.6	X	62.21804	40.44263	118.80778	4.47589	0.2142620	0.29506796	2.2345394	17	—	—
17958 Schoof	15.0	X	58.26683	344.44451	348.95996	1.70318	0.0383226	0.26436354	2.4043721	17	2 4.8	17.9
17959 Camierickson	14.3	X	280.58143	36.69603	297.44855	3.82716	0.1177977	0.21721948	2.7407549	17	4 22.1	18.3
17960 Liberatore	14.2	X	257.25103	160.15429	132.46135	3.38194	0.1808436	0.26089191	2.4256547	17	1 26.5	18.2
17961 Mariagorodnitsky	14.3	X	277.19598	318.32911	50.31564	7.12625	0.1470883	0.27585922	2.3371022	17	5 23.5	17.5
17962 Andrewherron	14.9	X	204.39613	281.19808	228.98896	5.47262	0.1028170	0.28951976	2.2629967	17	9 13.5	18.3
17963 Vonderheydt	14.9	X	124.88833	74.57205	69.68246	4.34817	0.1175141	0.27709176	2.3301666	17	6 8.4	17.7
17964 1999 JY ₄₁	14.0	X	287.68107	208.25672	201.48336	5.25638	0.1603005	0.28520017	2.2857893	17	7 31.1	16.8
17965 Brodersen	14.8	X	62.09109	355.48429	310.98660	3.20439	0.1246370	0.23374129	2.6100316	17	10 27.6	18.1
17966 1999 JS ₄₃	13.7	X	236.52479	199.61790	292.79092	4.92603	0.1116252	0.29140274	2.2532375	17	9 25.6	16.7
17967 Bacampbell	14.7	X	205.01924	2.06801	108.93228	3.06191	0.1396132	0.28396155	2.2924314	17	7 24.1	18.2
17968 1999 JX ₄₆	13.8	X	37.42422	149.86259	132.92405	1.36069	0.1715117	0.17211434	3.2007961	17	8 25.8	17.4
17969 Truong	14.5	X	308.45515	310.61932	123.49261	1.44427	0.0522140	0.23800535	2.5787638	17	10 24.6	17.5
17970 Palepu	14.4	X	110.86733	232.09207	21.23433	5.11606	0.1510969	0.28786185	2.2716773	17	10 24.4	17.4
17971 Samuelhowell	14.4	X	83.13552	167.73389	128.42878	2.93762	0.1680528	0.28840312	2.2688342	17	11 22.4	17.5
17972 Ascione	14.4	X	16.12555	43.88253	201.38126	5.14052	0.0142616	0.21930617	2.7233418	17	5 19.1	17.9
17973 1999 JP ₅₁	12.5	X	316.57656	37.64571	228.18549	10.55425	0.2149668	0.21181455	2.7871833	17	2 21.9	16.7
17974 1999 JL ₅₂	14.1	X	98.44645	27.89037	267.02493	3.66905	0.1657332	0.29032537	2.2588084	17	12 6.2	17.2
17975 1999 JB ₅₃	14.1	X	10.39899	165.29647	202.03315	7.21464	0.1925037	0.23398678	2.6082057	17	11 8.2	16.5
17976 Schulman	14.4	X	98.57672	151.81044	9.09278	6.45272	0.0697193	0.27364133	2.3497136	17	5 16.4	17.3
17977 1999 JR ₅₄	14.0	X	359.00444	308.61080	34.06765	12.94002	0.2437058	0.22676256	2.6633106	17	9 11.8	16.2
17978 1999 JS ₅₄	14.7	X	181.14712	226.70773	293.74950	4.17340	0.1598250	0.28717080	2.2753202	17	9 2.1	18.3
17979 1999 JF ₅₅	13.4	X	288.18589	215.07813	86.71975	10.21330	0.1362890	0.21190195	2.7864168	17	3 26.9	17.7
17980 Vanschaik	14.1	X	171.88810	290.98085	80.82747	3.22500	0.0817584	0.20654624	2.8343786	17	2 19.5	18.2
17981 1999 JZ ₅₆	13.1	X	234.75259	47.82008	42.64627	1.50072	0.0743550	0.17556198	3.1587535	17	8 7.2	17.7
17982 Simcmillan	15.0	X	44.91270	179.98611	97.55169	4.67510	0.1355652	0.28055354	2.3109589	17	8 26.7	17.1
17983 Buhrmester	14.8	X	212.20066	179.82134	152.94222	3.73164	0.1955102	0.25762270	2.4461324	17	2 6.3	18.6
17984 Ahantonoli	14.3	X	50.99392	60.67983	178.09956	3.14632	0.1423431	0.22273699	2.6953044	17	7 11.3	17.3
17985 1999 JC ₆₂	14.0	X	188.00794	233.50136	53.11109	6.55742	0.1559280	0.30219889	2.1992477	17	—	—
17986 1999 JF ₆₂	13.5	X	142.78379	242.40105	68.83505	14.82505	0.0471321	0.24624537	2.5209100	17	—	—
17987 1999 JQ ₆₂	14.0	X	91.54259	197.47190	102.47220	10.32526	0.0635187	0.18305231	3.0719861	17	11 16.8	18.5
17988 Joannehsieh	14.6	X	8.61329	46.51077	180.95577	6.01538	0.0733078	0.26857069	2.3791965	17	3 29.5	17.0
17989 1999 JE ₆₄	12.8	X	302.70868	212.28206	76.05416	9.13131	0.1969833	0.21090046	2.7952309	17	3 18.2	17.0
17990 1999 JK ₆₄	13.5	X	18.30979	177.98876	69.76925	8.38822	0.1536685	0.21821535	2.7324099	17	5 23.3	16.2
17991 Joshuaegan	15.0	X	175.08131	352.66378	134.61220	2.55058	0.0864580	0.28373329	2.2936608	17	7 12.6	18.1
17992 Japellegrino	15.2	X	41.72578	345.56767	198.44590	5.40972	0.0615122	0.27109882	2.3643819	17	3 19.5	17.6
17993 Kluesing	15.4	X	152.56247	321.38332	173.85529	3.15683	0.0865705	0.28042725	2.3116526	17	6 26.6	18.4
17994 1999 JF ₇₀	12.2	X	197.27679	198.79743	60.30326	13.58841	0.0628071	0.19622757	2.9328917	17	—	—
17995 Jolinefan	14.6	X	214.92351	293.24390	183.04248	6.39886	0.0608273	0.28552903	2.2840338	17	8 13.5	17.7
17996 1999 JQ ₇₅	14.0	X	35.64799	68.25271	232.08334	3.91136	0.0851930	0.28604942	2.2812629	17	9 2.9	16.4
17997 1999 JN ₇₈	14.6	X	72.68118	56.1076								

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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>
18001 1999 <i>JY</i> ₈₃	13.6 ^m	X	284.15644	115.06714	178.16227	9.87498	0.0722641	0.21130187	2.7916898	17	3 13.5	17.6
18002 1999 <i>JJ</i> ₈₄	14.0	X	210.06345	3.37463	124.12066	16.16506	0.0693044	0.23147942	2.6270064	17	8 27.7	17.9
18003 1999 <i>JU</i> ₈₄	13.8	X	72.76824	252.03743	53.77946	13.76339	0.1606125	0.23883872	2.5727617	17	11 16.6	17.2
18004 1999 <i>Krystosek</i>	14.9	X	312.72185	297.25033	113.05032	6.71288	0.1662933	0.29223736	2.2489453	17	9 16.7	16.9
18005 1999 <i>JD</i> ₉₁	14.2	X	178.77570	230.19115	164.34959	11.35815	0.2577899	0.26551682	2.3974047	17	3 29.7	18.2
18006 1999 <i>JE</i> ₉₄	13.5	X	105.00652	147.98180	156.46390	10.98627	0.0801877	0.18719957	3.0264452	17	12 8.0	18.1
18007 1999 <i>JK</i> ₉₇	13.6	X	43.51589	258.41174	113.38628	12.31096	0.2061418	0.23943534	2.5684861	17	—	—
18008 1999 <i>JV</i> ₉₉	13.2	X	136.62528	283.08223	119.25178	15.50244	0.1133585	0.20501112	2.8485101	17	2 22.9	17.3
18009 1999 <i>Patrickgeer</i>	13.9	X	31.40800	3.94687	155.43246	9.71117	0.0865041	0.20840428	2.8175067	17	2 15.3	17.4
18010 1999 <i>JQ</i> ₁₀₀	13.9	X	241.46219	332.48473	193.33715	11.64220	0.0924607	0.18674064	3.0314016	17	11 14.5	18.4
18011 1999 <i>JQ</i> ₁₁₃	13.9	X	330.98972	192.51935	143.40170	1.80381	0.1750973	0.17043021	3.2218477	17	7 2.8	17.8
18012 1999 <i>Marsland</i>	14.0	X	76.21786	345.83937	236.58249	5.15771	0.1140891	0.27916470	2.3186172	17	7 19.9	16.6
18013 1999 <i>Shedletsky</i>	13.9	X	227.48815	341.67836	22.01059	4.09474	0.1162520	0.21269585	2.7794789	17	4 6.0	18.3
18014 1999 <i>JC</i> ₁₂₁	13.9	X	67.56868	263.79528	99.83590	8.41336	0.0985842	0.18831171	3.0145177	17	—	—
18015 1999 <i>Semenkovich</i>	14.6	X	99.46693	334.50977	190.55096	6.29301	0.0458585	0.27330360	2.3516489	17	5 23.2	17.4
18016 1999 <i>Grondahl</i>	14.1	X	335.11763	27.26076	232.17413	6.74228	0.0696384	0.26708880	2.3879887	17	3 20.8	17.0
18017 1999 <i>JC</i> ₁₂₄	13.3	X	30.76900	12.86442	233.39832	9.63376	0.2395238	0.21983096	2.7190058	17	6 21.0	15.6
18018 1999 <i>JR</i> ₁₂₅	14.5	X	328.46997	95.83166	12.94008	6.19257	0.0518762	0.29880594	2.2158647	17	—	—
18019 1999 <i>Dascoli</i>	15.5	X	236.85138	294.36001	104.02922	3.21119	0.0840079	0.27658338	2.3330211	17	5 24.3	18.7
18020 1999 <i>Amend</i>	14.3	X	165.38657	89.31388	247.82518	1.48284	0.0702870	0.20010999	2.8948331	17	—	—
18021 1999 <i>Waldman</i>	14.4	X	273.82205	232.14631	117.57696	4.10465	0.1042066	0.21655308	2.7463748	17	5 9.4	18.3
18022 1999 <i>Pepper</i>	14.3	X	251.78312	330.99084	356.33487	2.46013	0.1228690	0.20900731	2.8120847	17	3 16.6	18.7
18023 1999 <i>JQ</i> ₁₂₉	13.9	X	325.24862	184.88415	177.97514	13.55589	0.1787771	0.22631529	2.6668184	17	7 22.6	17.2
18024 1999 <i>Dobson</i>	13.9	X	91.25413	42.38307	182.57419	9.55390	0.0673765	0.17353061	3.1833569	17	8 10.7	18.5
18025 1999 <i>KF</i> ₅	14.0	X	61.23391	327.12010	65.64502	3.98437	0.1749550	0.24706310	2.5153444	17	—	—
18026 1999 <i>Juliabaldwin</i>	15.4	X	133.19847	348.04210	148.22126	4.74718	0.1957305	0.27635738	2.3342928	17	6 18.2	18.7
18027 1999 <i>Gokcay</i>	14.3	X	13.63353	243.24738	147.71398	5.05632	0.1359526	0.29116016	2.2544888	17	12 20.3	16.5
18028 1999 <i>Ramchandani</i>	14.8	X	334.05524	209.31396	163.83685	3.58216	0.1507025	0.28186287	2.3037966	17	8 29.3	16.6
18029 1999 <i>KA</i> ₁₆	13.8	X	71.04994	29.83303	127.11017	12.98008	0.1939360	0.27751000	2.3278248	17	9 11.2	16.9
18030 1999 <i>LX</i> ₄	14.4	X	11.30144	209.38997	222.81249	13.83572	0.1640141	0.22954637	2.6417341	17	9 20.1	17.2
18031 1999 <i>LO</i> ₁₄	13.5	X	247.24097	316.99588	123.14089	13.43299	0.1392564	0.22536264	2.6743286	17	7 30.2	17.4
18032 1999 <i>Geiss</i>	13.3	X	312.06149	357.58340	268.46834	11.65262	0.1402297	0.20641377	2.8355911	17	2 26.9	17.5
18033 1999 <i>NR</i> ₄	13.3	X	155.28779	49.45193	286.57886	9.07242	0.1172646	0.19077095	2.9885548	17	—	—
18034 1999 <i>NF</i> ₆	13.4	X	138.64191	194.78279	189.42622	1.81157	0.0621207	0.19501670	2.9450196	17	1 26.5	17.6
18035 1999 <i>NJ</i> ₇	13.9	X	38.76722	285.27217	129.57521	5.44136	0.0662340	0.23841284	2.5758246	17	—	—
18036 1999 <i>ND</i> ₂₆	13.0	X	145.16555	163.90590	82.93898	3.91029	0.1450999	0.12421482	3.9782045	17	11 9.9	19.2
18037 1999 <i>NA</i> ₃₈	11.5	X	130.96102	255.23301	114.47556	15.36518	0.0820190	0.08205066	5.2450300	17	1 31.9	18.6
18038 1999 <i>NR</i> ₄₈	13.2	X	45.22488	99.82534	235.99239	8.67598	0.0415524	0.17508642	3.1644707	17	10 26.8	17.5
18039 1999 <i>ND</i> ₄₉	13.3	X	29.38331	138.20181	277.11325	8.09281	0.0715144	0.18281612	3.0746314	17	—	—
18040 1999 <i>NC</i> ₆₀	13.7	X	298.86183	186.22573	217.99855	12.25121	0.1512654	0.22124786	2.7073849	17	8 9.6	17.4
18041 1999 <i>RX</i> ₁₃	12.6	X	222.87027	80.37053	77.68491	3.11176	0.1145318	0.16982203	3.2295352	17	10 12.9	17.6
18042 1999 <i>RF</i> ₂₇	13.4	X	241.06623	71.28983	140.46636	8.03365	0.2501001	0.23344173	2.6122639	17	12 23.6	17.3
18043 1999 <i>Laszkowska</i>	14.0	X	208.29637	237.40301	116.27858	3.10329	0.0816260	0.19850707	2.9103958	17	3 9.2	18.3
18044 1999 <i>RS</i> ₈₉	14.5	X	151.51928	221.21798	154.17684	5.80018	0.2869933	0.24381670	2.5376229	17	2 14.9	18.5
18045 1999 <i>RR</i> ₁₀₀	12.2	X	227.10589	242.04222	282.77807	15.09591	0.1437745	0.17335773	3.1854729	17	10 15.3	17.4
18046 1999 <i>RN</i> ₁₁₆	10.4	X	183.77372	152.34008	164.64481	33.28323	0.0571863	0.08288342	5.2098388	17	1 23.6	17.8
18047 1999 <i>RP</i> ₁₄₅	12.5	X	70.97352	346.40570	321.44596	13.70415	0.1359493	0.17194523	3.2028944	17	11 2.3	17.3
18048 1999 <i>RG</i> ₁₇₀	13.6	X	0.82104	174.89528	236.68147	1.11922	0.0688867	0.17251325	3.1958600	17	12 2.5	17.8
18049 1999 <i>RI</i> ₁₉₅	12.9	X	15.92466	269.33826	227.23496	13.92425	0.0894540	0.24355323	2.5394526	17	—	—
18050 1999 <i>RS</i> ₁₉₆	12.9	X	288.35921	16.27226	214.96742	8.98284	0.0393505	0.19076601	2.9886063	17	1 9.2	17.3
18051 1999 <i>RU</i> ₁₉₆	13.4	X	66.41455	216.02680	225.20115	9.57601	0.0234988	0.18886519	3.0086253	17	1 1.7	17.6
18052 1999 <i>RV</i> ₁₉₉	11.9	X	343.72569	179.98697	233.03611	14.04427	0.0499642	0.17007109	3.2263815	17	11 9.8	16.2
18053 1999 <i>RU</i> ₂₀₈	12.8	X	64.34460	314.20924	228.13317	12.26455	0.2528046	0.20008889	2.8950367	17	6 5.0	16.1
18054 1999 <i>SW</i> ₇	10.7	X	274.65627	124.03399	124.86337	19.67780	0.0149340	0.08260210	5.2216606	17	2 15.4	17.7
18055 1999 <i>Fernhildebrandt</i>	13.7	X	206.31136	247.36380	293.13911	11.12839	0.1219967	0.22308537	2.6924976	17	10 18.6	18.1
18056 1999 <i>TV</i> ₁₅	13.9	X	237.63602	66.85309	170.72382	4.30354	0.0844590	0.28833883	2.2691713	17	—	—
18057 1999 <i>VK</i> ₁₀	13.9	X	198.95884	113.64810	219.11331	11.04532	0.2768293	0.24247982	2.5469415	17	1 29.5	18.6
18058 1999 <i>XY</i> ₁₂₉	12.0	X	186.07836	50.46404	26.14103	9.07064	0.0780861	0.08493336	5.1256685	17	6 4.7	19.3
18059 1999 <i>Cavalieri</i>	12.4	X	239.04508	290.24303	298.09983	8.84209	0.0593613	0.22262483	2.6962096	17	—	—
18060 1999 <i>XJ</i> ₁₅₆	11.1	X	247.97556	151.73640	224.91280	6.63826	0.0569369	0.08482986	5.1298369	17	6 2.0	18.1
18061 1999 <i>XH</i> ₁₇₉	14.0	X	196.37591	16.89440	63.70500	11.95749	0.0952653	0.19316390	2.9638217	17	6 10.9	18.6
18062 1999 <i>XY</i> ₁₈₇	10.9	X	191.84282	33.56229	38.38114	17.38441	0.0479163	0.08429515	5.1515075	17	6 3.7	18.1
18063 1999 <i>XW</i> ₂₁₁	11.1	X	250.25125	64.63461	327.02033	17.98856	0.0562337	0.08435431	5.1490983	17	6 23.2	18.3
18064 1999 <i>XY</i> ₂₄₂	13.3	X	114.22821	264.41597	210.69139	13.22193	0.1259674	0.23997668	2.5646220	17	4 21.5	16.5
18065 2000 <i>AM</i> ₄₁	13.8	X	27.75702	236.87806	324.02798	12.44834	0.1127838	0.18164264	3.0878594	17	4 6.2	17.8
18066 2000 <i>AR</i> ₇₉	14.3	X	4.09531	11.14005	163.85145	3.94948	0.1408189	0.23252853	2.6190988	17	1 9.9	17.3
18067 2000 <i>AB</i> ₉₈	12.5	X	29.15501	21.97697	118.55694	13.73574	0.1130222	0.22671295	2.6636991	17	1 10.1	15.4
18068 2000 <i>AF</i> ₁₈₄	13.6	X	58.50507	277.96915	228.06052	9.08090	0.2270124	0.18066262	3.0990162	17	4 1.5	17.0
18069 2000 <i>AS</i> ₁₉₉	13.2	X	179.31780	232.77269	117.67896	17.30655	0.2605552	0.24458977	2.5322730	17	2 7.9	17.4
18070 2000 <i>AC</i> ₂₀₅	13.3	X	202.57647	299.56374	35.46980	23.60183	0.2740682	0.27711260	2.3300498	17	2 13.1	17.8
18071 2000 <i>BA</i> ₂₇	11.6	X	239.33042	80.27586	341.46802	3.65116	0.0554386	0.08126392	5.2788285	17	7 14.9	18.8
18072 2000 <i>CL</i> ₇₁	14.1	X	72.35081	35.63337	180.55046	14.49207	0.1495395	0.24220066	2.5488983	17	7 12.7	17.5
18073 2000												

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18081 2000 <i>GB</i> ₁₂₆	12.5	X	172.88688	234.50035	58.37225	24.37419	0.1865224	0.26180151	2.4200330	17	—	—
18082 2000 <i>GB</i> ₁₃₆	14.4	X	298.19372	262.91869	72.48847	7.33245	0.2011462	0.28905421	2.2654259	17	4 26.7	17.6
18083 2000 <i>HD</i> ₂₂	12.3	X	38.53548	57.96038	113.82072	22.42775	0.1214807	0.17237712	3.1975423	17	4 5.9	16.7
18084 Adamwohl	14.7	X	133.09032	92.16643	207.69777	5.86207	0.1427450	0.25808570	2.4432060	17	—	—
18085 2000 <i>JZ</i> ₁₄	14.1	X	197.07769	272.46472	73.17970	6.23145	0.2319496	0.27203825	2.3589355	17	2 11.0	18.0
18086 Emilykraft	14.7	X	114.27457	288.52527	269.06594	3.07030	0.1280021	0.18564764	3.0432883	17	8 12.6	19.3
18087 Yamanaka	15.7	X	233.24331	182.50237	350.91230	2.27154	0.1497910	0.25821724	2.4423762	17	11 11.0	19.2
18088 Roberteunice	14.8	X	344.36145	239.81847	307.14028	3.31888	0.1052858	0.27649132	2.3335389	17	—	—
18089 2000 <i>JB</i> ₄₁	15.0	X	196.71489	254.01110	102.27385	5.28900	0.2494752	0.27361729	2.3498512	17	2 23.9	19.0
18090 Kevinkuo	14.1	X	345.31728	137.42817	216.71779	8.68412	0.1013749	0.24205930	2.5498905	17	8 23.1	17.1
18091 Iranmanesh	14.0	X	326.02109	304.26838	168.27335	6.47339	0.0821645	0.25947564	2.4344731	17	—	—
18092 Reinhold	13.8	X	92.98418	117.96095	268.33000	0.99784	0.0903229	0.20620098	2.8375416	17	—	—
18093 2000 <i>KS</i> ₃₁	13.0	X	153.92238	239.79700	249.44698	15.31767	0.1974394	0.17907276	3.1173318	17	7 3.7	18.3
18094 2000 <i>KN</i> ₅₆	13.2	X	9.59242	137.74287	232.27996	9.91915	0.1096565	0.18966327	3.0001794	17	10 27.2	16.8
18095 Frankblock	14.4	X	271.05508	94.86069	166.96564	6.97276	0.1043080	0.27095863	2.3651974	17	1 2.1	17.9
18096 2000 <i>LM</i> ₁₆	13.9	X	214.93356	146.88606	162.33923	13.50008	0.2469487	0.26467907	2.4024608	17	1 11.4	18.2
18097 2000 <i>LU</i> ₁₉	14.7	X	245.51903	63.39325	232.87579	9.61614	0.2066440	0.26929243	2.3749435	17	1 16.8	18.9
18098 2000 <i>LR</i> ₂₀	13.3	X	330.21673	9.80286	215.33729	8.62131	0.0891045	0.21474108	2.7618026	17	2 6.6	17.1
18099 Flamini	13.6	X	69.10378	268.88147	102.27157	11.27255	0.1329998	0.19063881	2.9899356	17	—	—
18100 Lebreton	15.1	X	34.06715	97.61584	187.51504	3.46776	0.1725756	0.28957078	2.2627308	17	8 18.4	16.7
18101 Coustenis	15.6	X	324.97289	164.21206	170.65281	5.09862	0.1908991	0.28553983	2.2839762	17	6 3.5	18.1
18102 Angrilli	14.6	X	269.55577	7.21431	210.22947	5.10600	0.1348195	0.26049831	2.4280974	17	—	—
18103 2000 <i>MC</i> ₅	13.9	X	199.77982	95.44506	290.26287	5.53530	0.1409653	0.27137346	2.3627864	17	3 25.4	17.6
18104 Mahalingam	14.2	X	9.92933	131.99388	132.64874	5.36391	0.1371483	0.28531386	2.2851820	17	5 19.6	16.1
18105 2000 <i>NT</i> ₃	13.1	X	22.87864	4.23987	22.15936	1.28395	0.3082782	0.18366555	3.0651442	17	—	—
18106 Blume	17.7	X	162.02668	234.94018	109.24968	4.22024	0.5125409	0.25815403	2.4427748	17	2 3.8	22.3
18107 2000 <i>NC</i> ₅	14.6	X	227.12506	355.39639	9.30388	2.50075	0.2282999	0.26921745	2.3753845	17	3 28.1	18.4
18108 2000 <i>NT</i> ₅	12.5	X	47.63847	46.82347	294.12430	8.71058	0.1873261	0.23759284	2.5817478	17	12 3.1	15.7
18109 2000 <i>NG</i> ₁₁	17.0	X	204.16548	319.20750	59.53624	0.80859	0.3676148	0.38194364	1.8813511	17	3 19.2	19.9
18110 HASI	15.4	X	280.09366	77.40937	236.74595	4.23844	0.1430004	0.27487533	2.3426759	17	3 13.9	18.9
18111 Pinet	14.3	X	165.31301	144.94412	256.21832	2.93285	0.1012615	0.21009728	2.8023504	17	3 18.5	18.4
18112 Jeanlucjosset	14.6	X	105.50478	295.90432	329.99855	12.05884	0.2504340	0.24248987	2.5468712	17	11 5.9	19.0
18113 Bibring	14.4	X	3.73904	231.88448	45.76846	1.32313	0.1341905	0.28434320	2.2903797	17	5 26.4	16.4
18114 Rosenbush	13.1	X	180.84372	220.92534	309.63942	13.87631	0.1155902	0.23729988	2.5838723	17	9 10.4	17.3
18115 Rathbun	14.0	X	79.05085	209.27605	147.59086	10.33322	0.0890859	0.19102825	2.9858706	17	—	—
18116 Prato	15.2	X	254.41225	229.20378	206.88153	5.06609	0.1765428	0.28735514	2.2743470	17	7 24.3	18.6
18117 Jonhodge	14.6	X	312.54385	347.24775	274.78730	1.14040	0.0876285	0.27315483	2.3525026	17	2 19.7	17.5
18118 2000 <i>NB</i> ₂₄	15.2	X	7.27911	246.12294	177.92712	0.75583	0.1036699	0.30654035	2.1784334	17	—	—
18119 Braude	15.3	X	278.85007	325.35700	73.15748	0.75068	0.1173008	0.28794101	2.2712610	17	7 10.9	18.0
18120 Lytvynenko	15.6	X	293.33807	186.03891	153.75422	0.61994	0.2285176	0.28072166	2.3100361	17	4 22.8	18.9
18121 Konovaleenko	14.1	X	304.61695	310.89028	44.72741	0.98234	0.2345809	0.17060590	3.2196353	17	6 9.2	18.4
18122 Forestamartin	13.1	X	71.72791	8.80533	32.18449	2.32242	0.1146077	0.19680559	2.9271463	17	—	—
18123 Pavan	13.5	X	133.66565	101.09006	201.11826	1.29224	0.0809770	0.19338370	2.9615755	17	—	—
18124 Leeperry	14.9	X	267.52858	150.91940	155.58381	5.88638	0.1120986	0.27435671	2.3456272	17	2 23.3	18.3
18125 Brianwilson	13.8	X	349.85174	302.57810	53.77820	2.50103	0.1304908	0.17793126	3.1306502	17	9 7.6	17.4
18126 2000 <i>OU</i> ₃	13.8	X	282.39020	45.93741	213.58242	7.45482	0.1830750	0.21153628	2.7896270	17	1 17.2	18.3
18127 Denversmith	14.6	X	259.12302	217.40853	193.38226	5.53729	0.1710699	0.28385111	2.2930260	17	6 26.6	17.9
18128 Wysner	14.9	X	64.24112	17.48978	232.09840	5.51648	0.1214725	0.28885089	2.2664888	17	8 10.2	17.3
18129 2000 <i>OH</i> ₅	13.3	X	36.78994	284.70778	302.15516	9.83044	0.0508045	0.27943993	2.3170945	17	5 9.5	16.0
18130 2000 <i>OK</i> ₅	14.0	X	144.92382	183.82529	236.95360	6.93625	0.2061001	0.26500575	2.4004860	17	3 21.7	17.5
18131 2000 <i>OM</i> ₅	13.2	X	340.45027	213.53165	250.64673	7.19198	0.0324152	0.19073893	2.9888893	17	—	—
18132 Spector	15.4	X	20.37907	161.57876	83.08249	2.80103	0.1820378	0.28402378	2.2920966	17	5 4.9	17.0
18133 2000 <i>OL</i> ₁₂	14.2	X	256.20036	174.70938	213.06039	1.74462	0.2033501	0.22444484	2.6816142	17	5 26.9	18.6
18134 2000 <i>OS</i> ₁₄	12.5	X	87.31416	280.87329	301.50496	16.14843	0.0901894	0.17509647	3.1643496	17	8 5.8	16.9
18135 2000 <i>OQ</i> ₂₀	13.2	X	15.63056	166.39999	185.29028	10.53499	0.1893285	0.17504197	3.1650064	17	10 21.3	16.7
18136 2000 <i>OD</i> ₂₁	14.2	X	120.45617	310.79806	351.98983	6.35621	0.2608864	0.24431726	2.5341556	17	—	—
18137 2000 <i>OU</i> ₃₀	11.0	X	54.01169	211.19423	218.94100	7.66455	0.0158253	0.08521519	5.1143608	17	1 3.9	17.8
18138 2000 <i>OP</i> ₃₅	15.0	X	89.54802	349.59254	24.12162	4.33672	0.1508355	0.30717553	2.1754293	17	—	—
18139 2000 <i>OF</i> ₃₇	13.3	X	6.58064	163.48953	258.69605	9.31051	0.0907764	0.18869716	3.0104112	17	12 27.3	17.1
18140 2000 <i>OD</i> ₃₉	14.0	X	346.28957	125.21005	223.20395	7.86703	0.2497962	0.23141996	2.6274563	17	8 3.2	16.4
18141 2000 <i>OK</i> ₄₂	13.9	X	37.64143	159.43249	253.16826	8.89532	0.0625232	0.19130909	2.9829477	17	—	—
18142 Adamsidman	15.4	X	31.30941	191.21851	173.44442	3.91462	0.1546653	0.29612198	2.2292338	17	12 15.5	17.6
18143 2000 <i>OK</i> ₄₈	13.8	X	218.95851	207.69943	167.68259	15.07402	0.1903642	0.20970972	2.8058019	17	4 14.0	18.6
18144 2000 <i>OO</i> ₄₈	14.0	X	74.60270	202.06060	149.46337	15.85308	0.1453404	0.24366311	2.5386891	17	—	—
18145 2000 <i>OX</i> ₄₈	15.3	X	295.29522	245.79233	96.14623	5.47101	0.2343887	0.27806603	2.3247206	17	4 29.4	18.6
18146 2000 <i>OU</i> ₄₉	13.9	X	309.17146	284.49989	153.81556	14.03514	0.1448361	0.23317399	2.6142632	17	10 23.9	17.0
18147 2000 <i>OY</i> ₅₀	14.0	X	41.67748	168.38697	169.51993	14.25569	0.1776638	0.23608715	2.5927132	17	11 22.5	17.4
18148 Bellier	12.8	X	222.79793	67.20323	54.47595	1.19383	0.1356885	0.17683462	3.1435800	17	8 27.9	17.6
18149 Colombatti	14.7	X	229.30766	210.90581	76.48012	3.06216	0.0362071	0.20559254	2.8431372	17	1 8.1	18.7
18150 Lopez-Moreno	12.4	X	63.90595	350.31309	153.30196	12.75719	0.0996452	0.15416506	3.4446525	17	4 4.7	17.0
18151 Licchelli	13.9	X	333.38049	344.81137	83.38477	2.42637	0.3167846	0.17962239	3.1109694	17	10 29.3	16.4
18152 Heidimanning	13.3	X	107.58877	297.05226	343.27322	9.26332	0.0621336	0.18473292	3.0533261	17	11 4.9	17.9
18153 2000 <i>OC</i> ₆₁	12.4	X	52.05601	352.66126	329.61507	15.05643	0.2064881	0.17872227	3.1214060	17	11 6.2	16.8
18154 2000 <i>PA</i>	14.3	X	129.60646	258.50711	93.87236	3.17412	0.0990542	0.19756019	2.9196878	17	—	—
18155 Jasonschuler	14.7	X	6.52258	64.69799	347.65034	4.51516	0.1864305	0.24241159	2.5474194	17	—	—
18156 Kamisaibara	12.5	X	332.162									

ELEMENTS AND OPPOSITION DATES IN 2017

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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>
18161 Koshiishi	12.2 ^m	X	122.41731 ^o	5.67689 ^o	0.78918 ^o	9.57191 ^o	0.1011331	0.19008294 ^o	2.9957619	17	—	—
18162 Denlea	16.0	X	350.10785	59.61147	232.95501	1.32205	0.0757841	0.28447429	2.2896760	17	5 31.4	18.2
18163 Jennalewis	14.8	X	112.22827	313.79342	134.52792	5.24781	0.1430161	0.26866463	2.3786419	17	3 10.4	17.4
18164 2000 PA ₂₀	13.3	X	77.82402	323.72890	7.02652	9.39504	0.0885313	0.18622606	3.0369834	17	12 6.9	17.8
18165 2000 PN ₂₀	15.8	X	216.91193	305.79969	93.58652	3.22865	0.2039781	0.27391109	2.3481705	17	5 2.6	19.6
18166 2000 PG ₂₇	14.5	X	47.77004	193.69335	110.02284	4.66317	0.1182553	0.29267860	2.2466844	17	10 9.6	16.8
18167 Buttani	13.8	X	85.82970	359.99985	149.29161	9.63232	0.0761842	0.21371034	2.7706757	17	4 28.5	17.5
18168 2000 PN ₂₈	14.0	X	319.07054	252.31948	227.60245	15.41930	0.1425577	0.24041615	2.5614957	17	—	—
18169 Amaldi	12.6	X	291.68162	198.08999	246.39393	10.09783	0.1595094	0.17592520	3.1544042	17	9 20.6	17.1
18170 Ramjeawan	14.4	X	279.76942	43.98934	351.31203	4.54494	0.1930032	0.22560749	2.6723933	17	7 1.7	18.3
18171 Romaneskue	15.9	X	292.01596	70.72239	184.92735	2.16424	0.1766177	0.26755514	2.3852131	17	1 11.4	19.5
18172 2000 QL ₇	15.6	X	143.46954	100.70381	338.53874	17.82384	0.5101963	0.26084850	2.4259238	17	5 5.9	20.6
18173 2000 QD ₈	15.3	X	316.16743	88.44851	181.34255	5.45692	0.2032914	0.27336087	2.3513204	17	2 17.8	18.5
18174 Khachatryan	14.8	X	242.33674	52.89856	340.90021	5.76094	0.1069624	0.27948978	2.3168190	17	5 20.1	18.1
18175 Jenniferchoy	14.3	X	159.97592	317.76969	14.38164	1.97174	0.0537288	0.20023243	2.8936529	17	—	—
18176 Julianhong	14.7	X	31.20070	243.80674	122.30983	2.56068	0.1285528	0.23652282	2.5895284	17	12 4.3	17.6
18177 Harunaga	14.0	X	207.47152	242.81278	156.33378	7.83740	0.0801005	0.21461924	2.7628477	17	5 2.3	18.2
18178 2000 QP ₂₈	15.0	X	113.12123	182.74022	145.02308	3.05275	0.1581269	0.30582164	2.1818451	17	—	—
18179 2000 QV ₂₉	14.0	X	113.15359	86.98240	11.99040	6.89206	0.0934174	0.26629430	2.3927361	17	3 18.9	16.6
18180 Irenesun	14.7	X	123.84406	218.71609	53.41171	4.51425	0.1586533	0.29972814	2.2113171	17	12 2.3	18.1
18181 2000 QD ₃₄	13.1	X	342.15069	251.89563	330.43383	21.19049	0.2963450	0.27546908	2.3393084	17	1 10.6	16.6
18182 Wiener	14.6	X	60.49367	221.72530	258.36753	1.05182	0.0016836	0.20671176	2.8328653	17	2 5.8	18.6
18183 2000 QG ₃₇	15.0	X	203.80796	194.18542	181.98403	2.06243	0.2165639	0.26910483	2.3760471	17	3 23.3	18.9
18184 Dianepark	14.7	X	10.69219	155.63663	205.56926	2.10952	0.0704898	0.23806561	2.5783287	17	10 19.4	17.7
18185 2000 QW ₄₉	13.4	X	211.98901	183.49833	19.29859	1.30535	0.0905315	0.18714559	3.0270272	17	11 25.3	17.8
18186 2000 QW ₅₀	14.1	X	244.06407	103.19188	103.27491	2.38069	0.0892327	0.19293949	2.9661194	17	—	—
18187 2000 QD ₅₃	13.3	X	199.81473	211.60368	83.04107	2.58016	0.2733742	0.20277127	2.8694485	17	—	—
18188 2000 QD ₅₅	14.2	X	26.30435	301.07603	51.89693	3.36637	0.2327865	0.18017857	3.1045641	17	11 16.1	17.6
18189 Medeobaldia	14.3	X	137.40254	139.18033	7.28254	1.84298	0.0392598	0.22191311	2.7019713	17	6 22.9	18.0
18190 Michaelpizer	14.2	X	358.70502	149.54478	270.15740	5.52055	0.1832254	0.24081785	2.5586463	17	12 30.1	16.6
18191 Rayhe	13.9	X	139.26915	232.66499	215.87677	3.67591	0.0366765	0.21212548	2.7844590	17	4 10.2	17.7
18192 Craigwallace	14.4	X	349.95945	355.04654	238.40641	3.88681	0.0460314	0.21285671	2.7780783	17	3 24.0	18.1
18193 Hollilydrury	15.1	X	323.10297	273.51854	237.66261	4.04464	0.1582043	0.25409239	2.4687377	17	—	—
18194 2000 QE ₁₀₀	13.8	X	263.10681	317.52238	150.25704	10.17748	0.0123400	0.17561221	3.1581511	17	10 12.1	18.3
18195 2000 QG ₁₁₆	15.9	X	341.44999	259.54796	133.12201	2.01485	0.2623138	0.29133505	2.2535865	17	10 15.3	16.4
18196 Rowberry	14.7	X	18.69741	217.12418	35.23420	3.44215	0.1682561	0.28382552	2.2931638	17	5 13.9	16.4
18197 2055 P-L	14.8	X	357.57509	247.05296	344.42676	8.79808	0.1369208	0.27064559	2.3670208	17	3 6.9	17.4
18198 2056 P-L	13.8	X	302.35461	350.62088	205.39956	12.35150	0.1194297	0.19691202	2.9260915	17	—	—
18199 2583 P-L	14.3	X	198.69252	246.11777	56.56312	2.93867	0.0816213	0.19739734	2.9212935	17	—	—
18200 2714 P-L	15.4	X	125.66964	106.96868	9.13428	2.05893	0.2710455	0.26954971	2.3734321	17	5 22.8	18.8
18201 2733 P-L	15.1	X	45.42846	307.89769	109.07320	2.88061	0.1232617	0.24658558	2.5185907	17	—	—
18202 2757 P-L	14.1	X	15.64906	308.45075	37.82878	1.40926	0.2307524	0.17496449	3.1659407	17	10 16.9	17.2
18203 2837 P-L	15.0	X	244.82238	325.49527	197.30229	3.04686	0.0915619	0.24399019	2.5364198	17	11 18.7	18.4
18204 3065 P-L	14.7	X	341.76831	46.32614	261.49641	5.58923	0.1273537	0.22189712	2.7021012	17	6 11.9	17.7
18205 3090 P-L	13.0	X	356.49665	196.71622	231.33960	14.20066	0.2278308	0.17453933	3.1710799	17	12 24.6	16.4
18206 3093 P-L	13.1	X	329.05638	306.06125	300.34232	12.34550	0.0874359	0.20083828	2.8878307	17	3 5.2	17.2
18207 4041 P-L	15.9	X	216.89500	97.54612	291.87316	1.86939	0.1704044	0.27083706	2.3659051	17	4 18.3	19.5
18208 4095 P-L	15.5	X	207.42250	208.77077	231.13029	4.35979	0.1415515	0.22067244	2.7120893	17	6 19.1	19.8
18209 4158 P-L	15.2	X	122.25522	164.39538	333.88401	4.25063	0.0567527	0.27179130	2.3603642	17	5 17.0	18.1
18210 4529 P-L	14.2	X	27.64873	335.45630	356.88484	4.74374	0.1455750	0.17414346	3.1758838	17	10 9.7	18.0
18211 4597 P-L	15.4	X	73.57211	253.17599	167.55102	3.73598	0.1990419	0.28240026	2.3008730	17	—	—
18212 4603 P-L	13.4	X	294.75192	351.77825	81.90037	3.03884	0.2006538	0.17270654	3.1934750	17	9 11.1	17.6
18213 4607 P-L	13.8	X	89.11979	183.89141	18.64126	5.41845	0.1177947	0.22195454	2.7016351	17	7 18.3	17.4
18214 4615 P-L	14.2	X	319.06933	277.11092	105.27183	2.53572	0.1793329	0.17327679	3.1864647	17	8 14.3	18.2
18215 4792 P-L	14.4	X	208.46433	257.97997	14.55432	2.40257	0.0470538	0.19642108	2.9309651	17	—	—
18216 4917 P-L	14.8	X	249.61332	190.90562	18.84457	2.20135	0.0671419	0.24705820	2.5153777	17	—	—
18217 5021 P-L	14.5	X	313.69250	90.60288	210.85023	9.77724	0.1723199	0.27238818	2.3569148	17	4 2.4	17.6
18218 6245 P-L	14.4	X	346.20483	16.24034	193.38488	13.03464	0.0884855	0.23464286	2.6033416	17	2 2.5	18.0
18219 6260 P-L	12.0	X	215.02820	172.84813	353.48446	16.21724	0.0475293	0.17345506	3.1842811	17	10 13.7	16.9
18220 6286 P-L	13.9	X	126.94101	230.14578	322.42586	2.81050	0.0930239	0.17073917	3.2179598	17	8 17.8	18.6
18221 6526 P-L	14.5	X	13.65824	183.70947	179.23227	18.10706	0.1409194	0.17469042	3.1692511	17	10 29.7	18.4
18222 6669 P-L	15.5	X	33.11039	322.32966	358.51755	6.39975	0.1776019	0.29450518	2.2373852	17	10 15.1	17.3
18223 6700 P-L	15.1	X	216.90438	46.00554	13.64437	3.21489	0.0943108	0.22071916	2.7117066	17	6 3.7	19.3
18224 6726 P-L	14.9	X	144.30444	210.82172	118.12071	3.02199	0.0580573	0.19623716	2.9327961	17	—	—
18225 7069 P-L	14.4	X	53.71697	215.80563	207.35859	11.50861	0.1306876	0.24729551	2.5137682	17	—	—
18226 1182 T-1	13.1	X	11.20141	208.71351	188.33290	12.96151	0.1629344	0.22616548	2.6679960	17	12 16.5	16.3
18227 1222 T-1	14.4	X	286.75473	355.16941	346.99942	11.25135	0.2307975	0.25859927	2.4399702	17	4 17.0	18.2
18228 Hyperenor	11.8	X	148.68563	348.23402	12.82200	3.20018	0.1263691	0.08117398	5.2827269	17	2 11.9	19.2
18229 3222 T-1	15.1	X	241.73008	82.79280	230.89466	1.60111	0.2097205	0.31751754	2.1279311	17	1 28.0	18.3
18230 3285 T-1	15.0	X	73.55648	297.13706	189.20872	4.85325	0.2108817	0.25642714	2.4537297	17	3 8.0	16.8
18231 3286 T-1	14.6	X	140.89993	129.74321	6.58429	13.22267	0.1263651	0.21836247	2.7311825	17	6 23.9	19.0
18232 3322 T-1	13.8	X	256.00059	350.07797	8.40774	15.36125	0.2236720	0.23679982	2.5875086	17	4 14.1	18.2
18233 4068 T-1	13.9	X	331.59912	236.98017	163.52217	11.55337	0.0867227	0.18139556	3.0906627	17	10 9.8	17.8
18234 4262 T-1	13.8	X	100.70500	90.03463	74.55587	3.27694	0.0851898	0.21730363	2.7400473	17	6 6.3	17.2
18235 Lynden-Bell	13.9	X	290.81843	261.61112	217.98982	0.71388	0.1548876	0.18114038	3.0935647	17	11 8.3	17.9
18236 Bernardburke	14.2	X	4.76289	53.35158	209.29405	3.86794	0.0443966	0.26364322	2.4087495	17	5 17.8	16.8</

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18241 Genzel	13.9 ^m	X	261.03117 ^o	358.51120 ^o	17.74085 ^o	5.19204 ^o	0.0668630	0.21891227	2.7266077	17	5 30.5	17.8
18242 Peebles	15.5	X	264.22226	143.04785	23.00797	2.54257	0.1463805	0.27278089	2.3546521	17	12 12.9	18.4
18243 Gunn	13.3	X	235.26950	162.53697	5.12878	6.87503	0.0931739	0.29343900	2.2428014	17	11 14.8	16.1
18244 Anneila	14.9	X	303.44312	145.16461	176.45850	9.09273	0.1068523	0.21878821	2.7276383	17	5 9.4	18.6
18245 3061 <i>T</i> -2	14.4	X	39.25686	189.27703	171.21158	16.75165	0.0135877	0.18183486	3.0856828	17	11 19.9	19.0
18246 3088 <i>T</i> -2	15.4	X	270.69295	296.52958	64.86526	3.22720	0.1151503	0.21883797	2.7272248	17	5 17.9	19.1
18247 3151 <i>T</i> -2	15.1	X	313.81183	55.14201	32.87315	3.74908	0.0832749	0.29344211	2.2427856	17	11 23.2	17.1
18248 3152 <i>T</i> -2	15.8	X	204.93185	147.89781	23.33480	6.35576	0.0646142	0.29234506	2.2483929	17	10 18.2	18.6
18249 3175 <i>T</i> -2	16.2	X	55.49330	268.19552	30.24419	5.53664	0.1545906	0.29200528	2.2501367	17	10 17.9	18.5
18250 3178 <i>T</i> -2	13.9	X	337.91164	349.15132	29.58131	3.16635	0.0698616	0.20147706	2.8817235	17	9 21.1	17.5
18251 3207 <i>T</i> -2	15.0	X	226.09249	115.19198	38.29539	7.07481	0.0930779	0.29230143	2.2403677	17	10 18.1	17.8
18252 3282 <i>T</i> -2	14.9	X	195.87495	263.32329	34.13181	5.53271	0.0731580	0.25539169	2.4686154	17	—	—
18253 3295 <i>T</i> -2	14.8	X	197.51808	179.55665	159.97119	6.80998	0.1417335	0.25799862	2.4437557	17	1 28.9	18.5
18254 4062 <i>T</i> -2	14.0	X	157.86437	329.27289	180.69354	13.08440	0.1157149	0.22038942	2.7144107	17	7 26.3	18.3
18255 4188 <i>T</i> -2	14.8	X	168.62397	334.84816	124.88836	3.15532	0.0322621	0.21813264	2.7331006	17	5 31.3	18.6
18256 4195 <i>T</i> -2	14.5	X	305.98357	193.55082	130.88234	3.43581	0.0777004	0.21875488	2.7279153	17	5 19.9	18.0
18257 4209 <i>T</i> -2	14.1	X	167.47541	184.84160	42.78315	5.80677	0.1044678	0.18116305	3.0933065	17	11 9.6	19.0
18258 4250 <i>T</i> -2	14.0	X	133.54688	5.76513	176.92896	14.07169	0.1210057	0.24379446	2.5377772	17	8 11.3	17.9
18259 4311 <i>T</i> -2	15.4	X	67.85990	116.29418	138.96525	3.50123	0.0983329	0.28955324	2.2628222	17	8 24.1	17.9
18260 5056 <i>T</i> -2	15.1	X	87.51809	129.93441	334.44309	13.34849	0.2055806	0.25689792	2.4507311	17	3 2.2	17.3
18261 5065 <i>T</i> -2	15.0	X	343.49196	243.89185	243.35471	9.79397	0.0743747	0.25291330	2.4764046	17	—	—
18262 5125 <i>T</i> -2	13.7	X	134.10415	342.93786	295.46718	9.46159	0.2168200	0.18401672	3.0612434	17	12 12.0	19.0
18263 Anchialos	11.3	X	202.69624	147.11882	311.41296	10.61489	0.0391187	0.08352917	5.1829531	17	7 19.5	18.3
18264 5184 <i>T</i> -2	14.4	X	7.39801	181.32864	227.63516	9.20473	0.1105064	0.18222968	3.0812243	17	12 12.9	18.3
18265 1136 <i>T</i> -3	14.9	X	92.35220	317.55788	269.13214	4.87639	0.1100472	0.29276141	2.2462607	17	8 18.1	17.5
18266 1189 <i>T</i> -3	15.6	X	214.06767	13.25858	291.74247	4.02640	0.2055779	0.25838465	2.4413211	17	1 6.3	19.7
18267 2122 <i>T</i> -3	16.1	X	160.64232	320.11161	239.88096	2.79987	0.0784270	0.29527593	2.2334900	17	10 3.2	19.2
18268 Dardanos	11.9	X	178.31662	112.92129	218.38906	16.59601	0.0953969	0.08403664	5.1620666	17	1 30.2	19.4
18269 2206 <i>T</i> -3	15.0	X	169.92827	141.64995	258.24419	2.65295	0.0983616	0.21011242	2.8022158	17	3 21.8	19.2
18270 2312 <i>T</i> -3	15.3	X	114.27322	330.41659	357.42150	2.66576	0.0526722	0.30106986	2.2047424	17	—	—
18271 2332 <i>T</i> -3	14.0	X	292.21875	350.28241	215.83268	5.52962	0.0785376	0.25520339	2.4615676	17	—	—
18272 2495 <i>T</i> -3	15.1	X	99.00422	96.36554	285.64547	2.84937	0.0968587	0.25407284	2.4688643	17	—	—
18273 3140 <i>T</i> -3	15.6	X	134.45546	47.12377	267.55553	0.25110	0.0411967	0.30143630	2.2029553	17	—	—
18274 3150 <i>T</i> -3	14.8	X	223.13666	255.81552	126.76784	1.32935	0.0818320	0.21299318	2.7768915	17	4 26.4	19.0
18275 3173 <i>T</i> -3	14.5	X	194.37920	206.41041	205.18142	8.39857	0.0219924	0.21299569	2.7768697	17	4 30.5	18.3
18276 3355 <i>T</i> -3	14.8	X	295.89436	67.88559	202.26421	8.65299	0.0772420	0.21091251	2.7951245	17	2 23.8	18.9
18277 3446 <i>T</i> -3	14.0	X	13.35913	55.06621	174.62209	4.08596	0.0323183	0.21322762	2.7748557	17	4 25.0	17.6
18278 Drymas	11.4	X	260.50416	206.66133	31.53234	17.92513	0.0685306	0.08351413	5.1835752	17	1 16.3	18.7
18279 4221 <i>T</i> -3	13.9	X	138.30077	349.09483	176.68168	9.32245	0.1442779	0.21657290	2.7462073	17	7 29.0	18.2
18280 4245 <i>T</i> -3	14.3	X	167.36325	9.35499	62.10196	7.53613	0.1299262	0.26140078	2.4225056	17	4 26.0	17.9
18281 Tros	12.5	X	179.79738	170.35270	171.18595	9.54555	0.1023194	0.08315325	5.1985619	17	2 15.3	19.9
18282 Ilos	12.4	X	138.74156	213.80169	164.41971	8.70740	0.0763114	0.08248497	5.2266027	17	2 15.5	19.6
18283 5165 <i>T</i> -3	15.1	X	195.55260	253.08279	88.04185	7.12999	0.1652053	0.25856062	2.4402133	17	2 1.9	18.9
18284 Tsereteli	14.6	X	125.54532	344.68659	330.93100	4.28298	0.2518321	0.30019386	2.2090295	17	—	—
18285 Vladplatonov	12.7	X	164.66721	141.65039	35.88783	12.36618	0.1248098	0.22571414	2.6715514	17	9 15.0	17.0
18286 Kneipp	15.1	X	157.12856	75.08005	48.01268	3.27178	0.1555222	0.26185337	2.4197134	17	6 22.9	18.8
18287 Verkin	13.4	X	60.72055	10.60041	44.73002	8.81173	0.0501351	0.28823604	2.2697108	17	—	—
18288 Nozdrachev	13.4	X	168.01878	350.14151	58.58909	8.27906	0.1653731	0.20020106	2.8939551	17	4 10.6	18.0
18289 1976 <i>UB</i> ₁₆	13.6	X	274.84351	299.24252	37.36679	12.20056	0.1783645	0.20866018	2.8152026	17	4 16.7	18.0
18290 1977 <i>DR</i> ₂	13.8	X	83.96953	253.07247	344.46722	6.72170	0.0849131	0.27839990	2.3228616	17	8 21.4	16.5
18291 1977 <i>DL</i> ₄	14.3	X	257.66346	215.13006	355.65573	4.43076	0.2297292	0.23834222	2.5763334	17	—	—
18292 Zoltowski	14.1	X	41.73499	306.49875	150.39291	2.68872	0.0695131	0.19419352	2.9533362	17	—	—
18293 Pilyugin	14.2	X	280.04863	38.67529	354.34016	4.48733	0.2228245	0.27382306	2.3486738	17	6 20.6	17.5
18294 Rudenko	15.1	X	142.84982	308.16131	32.12641	6.49187	0.1989523	0.28703861	2.2760188	17	—	—
18295 Borispetrov	12.9	X	5.81334	257.69153	84.85664	10.39993	0.2644915	0.22677756	2.6631931	17	10 1.8	15.1
18296 1978 <i>VW</i> ₂	14.4	X	268.58262	353.87732	134.50896	1.73831	0.1461336	0.17385406	3.1794072	17	10 22.8	19.0
18297 1978 <i>VG</i> ₄	14.8	X	108.69013	132.11112	57.67146	3.39399	0.0099639	0.21967385	2.7203022	17	7 9.8	18.4
18298 1979 <i>MZ</i> ₄	14.9	X	85.81328	198.68458	123.30044	8.64262	0.2016073	0.24016329	2.5632933	17	12 25.9	18.8
18299 1979 <i>MT</i> ₈	13.8	X	115.83924	249.33267	224.35743	4.80866	0.1078548	0.20159588	2.8805911	17	4 25.3	17.9
18300 1979 <i>PA</i>	14.3	X	124.44164	67.51925	227.33868	12.04991	0.2652914	0.24095567	2.5576706	17	12 28.7	19.0
18301 Konyukhov	13.4	X	94.77067	30.60555	310.23169	3.24405	0.1791287	0.29144408	2.2530244	17	—	—
18302 1980 <i>FL</i> ₃	13.5	X	63.38117	8.26362	181.80263	9.04600	0.1110770	0.21618513	2.7494902	17	5 22.6	16.9
18303 1980 <i>PU</i>	14.4	X	178.48821	57.02249	222.80173	4.26288	0.2055149	0.30386707	2.1911913	17	—	—
18304 1981 <i>DH</i> ₁	13.8	X	81.53125	105.37325	279.99134	7.22895	0.1940556	0.18432589	3.0578194	17	—	—
18305 1981 <i>DL</i> ₁	14.1	X	32.39882	34.57050	322.56792	13.94772	0.1496213	0.17787915	3.1312616	17	11 15.0	18.3
18306 1981 <i>EF</i> ₉	14.8	X	137.33956	261.93401	283.75774	3.98420	0.1047997	0.28111740	2.3078677	17	8 18.4	17.9
18307 1981 <i>ER</i> ₁₀	14.7	X	34.85008	98.43697	255.51800	2.23533	0.1516510	0.28599986	2.2815264	17	12 3.3	16.8
18308 1981 <i>EZ</i> ₁₁	15.2	X	136.07463	235.73377	328.46926	3.74158	0.0561380	0.28222666	2.3018165	17	9 7.7	18.1
18309 1981 <i>EV</i> ₁₃	13.4	X	70.55249	79.17694	205.32025	9.89013	0.1687932	0.17335400	3.1855186	17	10 14.7	17.7
18310 1981 <i>EJ</i> ₁₆	15.7	X	22.96734	286.28401	343.50490	6.50105	0.1026353	0.27776303	2.3264109	17	6 26.2	17.9
18311 1981 <i>EV</i> ₁₆	15.8	X	312.69049	346.00891	311.82502	5.94642	0.1625244	0.27413980	2.3468644	17	3 26.5	19.1
18312 1981 <i>EC</i> ₁₉	15.1	X	352.15323	32.36187	350.95964	5.58038	0.1188415	0.28585120	2.2823174	17	10 23.3	17.2
18313 1981 <i>EB</i> ₂₃	14.2	X	33.98841	327.22673	24.65604	2.70551	0.2128720	0.25869857	2.4393457	17	12 4.9	16.7
18314 1981 <i>EX</i> ₂₇	15.7	X	343.68849	57.76408	156.62613	0.30281	0.1585812	0.27076692	2.3663137	17	1 17.9	18.3
18315 1981 <i>ED</i> ₃₇	14.8	X	355.23860	291.57269	287.76884	4.07448	0.2151308	0.27945924				

ELEMENTS AND OPPOSITION DATES IN 2017

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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>
18321 Bobrov	14.3 ^m	X	275.50683	61.64328	24.31145	3.32684	0.2804410	0.22204682	2.7008866	17	8 21.7	18.3
18322 1982 VF ₅	14.1	X	336.19685	154.96091	205.85434	5.33900	0.1627389	0.22166962	2.7039496	17	8 12.4	17.1
18323 1983 RZ ₂	13.4	X	87.69911	215.67238	112.81346	8.90581	0.2031596	0.23904988	2.5712464	17	—	—
18324 1984 HA ₂	13.5	X	134.58903	332.35735	255.15489	7.78495	0.2998497	0.18669703	3.0318737	17	10 17.4	19.0
18325 1984 SB ₂	13.6	X	38.19321	162.74150	206.64668	26.35903	0.1600606	0.24201080	2.5502312	17	12 21.1	17.3
18326 1985 CV ₁	13.6	X	229.91853	107.83646	43.89370	1.90761	0.1172426	0.16997114	3.2276462	17	10 11.5	18.5
18327 1985 CX ₁	14.9	X	235.37832	331.18761	219.99221	2.57186	0.0785434	0.29590281	2.2303344	17	12 21.7	17.6
18328 1985 UU	14.1	X	124.65621	17.04179	48.67916	10.43315	0.1852441	0.26031656	2.4292275	17	3 10.5	17.3
18329 1986 RY ₄	14.6	X	39.30747	338.93758	358.21183	4.36390	0.1864903	0.28992400	2.2608926	17	11 21.3	17.0
18330 1987 BW ₁	15.0	X	281.62340	211.53401	243.28372	3.99812	0.1541334	0.28038783	2.3118693	17	9 27.1	17.6
18331 1987 DQ ₆	11.8	X	353.55248	16.80937	352.44112	16.07156	0.0839163	0.18015241	3.1048646	17	9 27.6	15.7
18332 1987 ON	14.1	X	69.18373	154.84657	158.22346	13.94785	0.1983299	0.23523505	2.5989706	17	11 29.4	18.0
18333 1987 OV	14.2	X	93.85770	149.85119	190.74033	8.47623	0.1765669	0.23922697	2.5699773	17	—	—
18334 Drozdov	14.2	X	125.56210	167.99380	139.58001	4.37978	0.2462713	0.23957359	2.5674979	17	—	—
18335 San Cassiano	14.1	X	44.85670	262.70808	139.30912	5.36047	0.2533818	0.23672551	2.5880501	17	—	—
18336 1988 LG	13.5	X	200.18272	252.95630	72.08081	15.20183	0.1492790	0.25976942	2.4326373	17	1 15.8	17.4
18337 1988 RB ₁₁	14.0	X	353.77351	244.18244	162.88962	0.94682	0.2031006	0.17350353	3.1836881	17	11 20.9	17.3
18338 1989 EP ₂	13.6	X	35.78063	264.07422	281.69415	7.89364	0.0989804	0.21278149	2.7787330	17	3 24.1	17.1
18339 1989 GM ₂	14.0	X	181.18316	297.10462	216.68912	6.07699	0.1679477	0.22217864	2.6998181	17	8 24.2	18.6
18340 1989 OM	13.6	X	201.96456	289.19258	25.62695	17.08621	0.2908024	0.19638899	2.9312844	17	1 27.5	19.2
18341 1989 SJ ₅	13.6	X	69.09565	184.40727	47.83136	7.13781	0.0717758	0.27515604	2.3410823	17	7 19.7	16.3
18342 1989 ST ₉	15.9	X	285.23056	315.62971	19.23285	2.27199	0.2351195	0.27343964	2.3508688	17	4 8.3	19.3
18343 1989 TN	14.3	X	197.71666	222.68521	98.77556	3.52476	0.1940660	0.26292145	2.4131558	17	1 10.5	18.0
18344 1989 TN ₁₁	14.3	X	296.11574	347.84107	10.24816	6.56770	0.1751583	0.27540014	2.3396987	17	5 27.4	17.3
18345 1989 UP ₄	13.5	X	345.38896	30.59600	352.48514	1.14610	0.1976685	0.17528638	3.1620636	17	10 1.3	16.8
18346 1989 WG	14.5	X	259.08004	296.10287	85.81988	5.68976	0.1988362	0.27132407	2.3630731	17	5 18.6	18.0
18347 1989 WU	14.2	X	106.74480	174.95262	270.20975	4.95560	0.1545374	0.29543156	2.2327056	17	2 14.2	16.4
18348 1989 BM ₁	13.4	X	247.11603	316.91282	120.29341	25.29840	0.2423984	0.27257667	2.3558281	17	7 14.6	17.3
18349 Dafydd	13.6	X	158.25181	69.92494	281.91618	16.35680	0.2310203	0.20080857	2.8881155	17	1 24.1	18.3
18350 1990 QJ ₂	15.6	X	79.14667	0.91600	34.13952	1.54676	0.1599769	0.30380141	2.1915070	17	—	—
18351 1990 QN ₅	13.2	X	248.75813	41.06640	345.13895	8.62893	0.1746545	0.21145878	2.7903085	17	5 18.6	17.8
18352 1990 QB ₈	14.2	X	181.58680	331.73678	150.70110	6.55735	0.0555292	0.21525976	2.7573643	17	7 16.4	18.2
18353 1990 QF ₉	13.3	X	106.99586	13.49014	149.53707	15.38090	0.1153053	0.21219537	2.7838476	17	6 19.2	17.4
18354 1990 RK ₅	14.3	X	220.37773	119.88302	207.69908	4.69658	0.2692485	0.20355215	2.8621051	17	2 14.6	19.6
18355 1990 RN ₉	13.7	X	70.47846	73.38434	304.56175	10.90729	0.2483311	0.22873921	2.6479451	17	—	—
18356 1990 SF ₁	14.0	X	190.92212	146.86514	264.83919	3.60479	0.1755288	0.20530479	2.8457931	17	4 30.6	18.7
18357 1990 SR ₂	14.7	X	154.91770	280.19342	32.42528	4.73694	0.1965867	0.30461275	2.1876139	17	—	—
18358 1990 SB ₁₁	14.8	X	97.69518	82.34698	284.72340	4.45814	0.1752466	0.30308115	2.1949776	17	—	—
18359 Jakobstaude	14.4	X	89.59515	234.63708	213.30879	1.18467	0.0905242	0.19666073	2.9285836	17	2 14.9	18.3
18360 Sachs	14.6	X	19.79597	96.49866	224.79854	8.29199	0.1863387	0.21759343	2.7376139	17	9 13.6	17.5
18361 1990 VN ₆	14.6	X	242.34728	348.02111	142.40464	6.66924	0.0438759	0.28865042	2.2675381	17	10 15.5	17.4
18362 1990 VX ₆	13.8	X	121.55904	248.34257	101.60389	11.24159	0.1188467	0.19167989	2.9790996	17	—	—
18363 1990 VW ₈	13.8	X	115.05161	238.65320	222.72085	12.98535	0.1632639	0.23642291	2.5902579	17	4 8.4	17.2
18364 1990 WF ₄	13.6	X	229.99958	46.63821	95.43531	11.98314	0.1441283	0.17641293	3.1485875	17	10 3.5	18.7
18365 Shimomoto	11.9	X	212.88948	175.04946	57.59118	11.17241	0.0414110	0.18840304	3.0135434	17	—	—
18366 1991 DG ₁	13.5	X	9.13837	270.27669	174.09812	4.96184	0.1539769	0.18059014	3.0998454	17	—	—
18367 1991 FS ₁	14.4	X	321.07320	179.91639	51.59947	0.40815	0.1502588	0.26138466	2.4226052	17	1 16.3	17.8
18368 Flandrau	14.6	X	348.74614	106.31796	48.25738	23.79468	0.0542555	0.36830872	1.9275015	17	—	—
18369 1991 LM	12.9	X	101.70142	193.72127	103.38288	16.54616	0.0870566	0.23927737	2.5696164	17	12 2.9	16.8
18370 1991 NS ₂	13.8	X	169.37177	99.47893	185.00492	7.66379	0.1738221	0.24188752	2.5510976	17	—	—
18371 1991 PH ₁₀	13.9	X	11.98305	275.84056	116.11910	1.67581	0.1501532	0.23263307	2.6183141	17	12 10.3	16.7
18372 1991 RF ₁₆	14.1	X	30.68134	290.89664	62.83776	4.06628	0.1371597	0.23082076	2.6320015	17	11 17.1	17.0
18373 1991 RQ ₁₆	14.7	X	347.34230	260.44334	71.88544	4.09169	0.1552452	0.22447321	2.6813883	17	7 26.7	17.3
18374 1991 RA ₁₈	14.4	X	306.47775	154.90689	215.39147	3.05420	0.1346644	0.22368282	2.6877011	17	7 11.6	17.8
18375 1991 RC ₂₇	13.5	X	21.92793	343.70882	27.95675	13.61335	0.1776610	0.23026596	2.6362275	17	11 29.5	16.6
18376 Quirk	14.5	X	266.72260	323.86566	38.64592	10.50222	0.2328670	0.21901367	2.7257660	17	5 2.5	18.9
18377 1991 SH ₁	13.4	X	141.97047	199.92442	74.11241	14.01546	0.1968564	0.23854572	2.5748680	17	12 16.5	17.7
18378 1991 UX ₂	13.7	X	230.77601	228.13852	44.40376	16.08400	0.0716792	0.24064892	2.5598436	17	—	—
18379 Josévandam	14.3	X	223.24617	182.06170	193.94967	10.42054	0.1377098	0.21108741	2.7935803	17	4 17.3	18.6
18380 1991 VZ ₈	14.5	X	330.51957	316.09680	59.62675	6.83270	0.1535130	0.22383009	2.6865220	17	8 30.9	17.5
18381 Massenet	13.2	X	172.07975	325.02441	138.08520	6.63743	0.1435657	0.21056240	2.7982220	17	6 15.8	17.8
18382 1992 EG ₂₂	14.5	X	199.46087	225.71436	96.72707	5.15857	0.1759481	0.30846263	2.1693736	17	1 1.4	17.5
18383 1992 ER ₂₈	14.2	X	75.18735	221.28637	108.72085	2.51620	0.1624863	0.18079516	3.0975014	17	12 13.6	18.6
18384 1992 ES ₂₈	14.1	X	263.70270	286.35579	21.02233	2.61586	0.0187287	0.19814252	2.9139646	17	3 16.7	18.2
18385 1992 EG ₃₁	13.8	X	112.80498	183.30055	162.65773	10.44274	0.0981949	0.18656156	3.0333413	17	—	—
18386 1992 EL ₃₅	15.0	X	56.63793	114.95603	175.69308	5.48477	0.1600069	0.28859420	2.2678325	17	10 9.6	17.3
18387 1992 GN ₃	15.3	X	300.26748	288.72434	6.24528	2.22425	0.2383930	0.27154385	2.3617979	17	3 3.4	18.8
18388 1992 GX ₄	14.5	X	136.48779	174.30323	38.74850	4.14962	0.0968995	0.28654407	2.2786368	17	9 26.3	17.5
18389 1992 JU ₂	14.8	X	220.85879	125.81980	211.49897	5.19874	0.2298930	0.30493611	2.1860670	17	2 10.4	18.4
18390 1992 JD ₃	14.0	X	164.79242	159.63301	48.03882	6.63242	0.1119543	0.28852122	2.2682150	17	10 20.8	17.3
18391 1992 PO ₁	15.2	X	272.09929	20.35427	299.20812	3.12455	0.2483744	0.26551488	2.3974164	17	3 7.3	19.3
18392 1992 PT ₄	14.1	X	273.21880	153.53544	134.89162	9.61517	0.1752679	0.26303083	2.4124868	17	2 4.6	18.0
18393 1992 QB	14.2	X	315.21918	243.44799	55.60869	24.11568	0.2259869	0.27007830	2.3703342	17	4 8.5	17.8
18394 1992 RR ₅	14.1	X	60.49863	38.78846	88.55103	4.05610	0.1790195	0.25620675	2.4551366	17	2 7.4	16.0
18395 Schmiedmayer	13.9	X	260.38680	300.92528	32.56032	4.78118	0.1124260	0.26300659	2.4126350	17	3 25.9	17.4
18396 Nellysachs	14.7	X	224.									

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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>
18401 1992 <i>WE</i> ₄	14.1 ^m	X	90.82288	304.85649	68.13439	16.49488	0.1882749	0.24514775	2.5284291	17	—	—
18402 1992 <i>YU</i> ₂	14.5	X	10.07133	200.20539	227.79315	4.01887	0.2648371	0.23858901	2.5745565	17	—	—
18403 Atsuhirotaisei	14.8	X	272.05303	310.87145	174.59336	3.64785	0.3102115	0.23091349	2.6312968	17	10 2.8	18.6
18404 Kenichi	12.9	X	128.34138	141.51328	25.31077	9.89625	0.1740693	0.21481602	2.7611602	17	7 28.0	17.3
18405 1993 <i>FY</i> ₁₂	13.0	X	352.49783	67.77630	164.30203	9.46934	0.0765426	0.20495528	2.8490275	17	3 27.5	16.7
18406 1993 <i>FT</i> ₁₄	14.5	X	351.11963	343.92225	131.50807	5.54695	0.2467700	0.23577011	2.5950370	17	—	—
18407 1993 <i>FQ</i> ₂₄	14.1	X	269.82194	152.26492	201.49781	7.91294	0.1221381	0.20937010	2.8088353	17	5 8.3	18.2
18408 1993 <i>FP</i> ₃₀	13.6	X	101.80941	74.16150	224.40808	7.30879	0.0752068	0.18426421	3.0585017	17	11 25.6	18.0
18409 1993 <i>FF</i> ₃₆	16.3	X	216.42083	89.25963	171.54517	6.16115	0.0715622	0.31348679	2.1461326	17	—	—
18410 1993 <i>FC</i> ₅₁	14.5	X	199.48336	45.84252	320.40089	1.21244	0.0695892	0.20345051	2.8630583	17	3 12.4	18.7
18411 1993 <i>FB</i> ₈₂	13.9	X	126.02128	136.83324	172.31054	8.04752	0.1087539	0.18851030	3.0124001	17	—	—
18412 Kruszelnicki	13.7	X	245.13845	244.68688	300.70770	11.71393	0.0843195	0.18597044	3.0397656	17	12 11.5	18.2
18413 Adams Spencer	13.9	X	123.84779	338.84149	335.42322	11.19267	0.1216822	0.18492694	3.0511901	17	—	—
18414 1993 <i>OY</i> ₆	14.0	X	352.12605	149.20836	121.20119	6.16529	0.2208580	0.28316514	2.2967278	17	4 10.7	16.2
18415 1993 <i>PW</i> ₅	14.8	X	18.89034	217.30004	226.61398	2.91708	0.1119266	0.30046334	2.2077085	17	—	—
18416 1993 <i>QW</i>	15.2	X	31.29910	161.13091	157.07988	25.58125	0.2275746	0.28897475	2.2658411	17	10 24.9	17.8
18417 1993 <i>QY</i> ₉	16.0	X	87.84213	156.76977	139.54534	5.08672	0.1442234	0.29313740	2.2443395	17	11 26.0	19.0
18418 Ujibe	13.9	X	49.32582	317.68807	42.16846	9.13961	0.2024978	0.29247394	2.2477324	17	—	—
18419 1993 <i>TS</i> ₂₀	14.8	X	73.40883	118.91099	146.94063	2.23654	0.1117725	0.28544923	2.2844595	17	9 20.1	17.4
18420 1993 <i>TR</i> ₂₅	15.4	X	126.53149	356.85712	87.40319	3.59875	0.1317744	0.26772161	2.3842242	17	3 24.4	18.3
18421 1993 <i>TV</i> ₃₄	14.8	X	67.60789	357.83671	86.09544	0.97457	0.0695974	0.30306865	2.1950380	17	—	—
18422 1993 <i>UE</i> ₆	14.7	X	21.71402	178.59776	145.58852	6.06694	0.1898577	0.28604318	2.2812961	17	10 3.9	16.4
18423 1993 <i>UF</i> ₇	14.6	X	47.32460	266.82689	146.60001	4.53225	0.1102750	0.29635234	2.2280784	17	—	—
18424 1993 <i>YG</i>	15.1	X	296.61628	138.64449	286.09317	2.80124	0.1412771	0.28062748	2.3105529	17	9 9.0	17.6
18425 1993 <i>YL</i>	14.4	X	47.72533	123.75750	79.62632	3.24132	0.1566574	0.26679055	2.3897681	17	5 5.8	16.4
18426 Maffei	15.2	X	156.43484	202.96846	254.12941	2.83913	0.1745762	0.26852454	2.3794691	17	5 19.4	18.6
18427 1994 <i>AY</i>	15.1	X	228.00058	180.82494	238.00593	1.55244	0.1938817	0.27218876	2.3580658	17	6 5.9	19.0
18428 1994 <i>AC</i> ₁	15.3	X	215.60779	105.02936	301.02203	8.02137	0.1923424	0.27030654	2.3689998	17	5 6.6	19.4
18429 1994 <i>AO</i> ₁	13.0	X	62.58384	190.30046	287.00186	11.40316	0.1068394	0.25709420	2.4494835	17	1 22.4	15.5
18430 Balzac	14.2	X	145.37406	264.15934	213.52228	6.61869	0.1007531	0.26659477	2.3909379	17	5 27.9	17.4
18431 Stazzema	14.2	X	175.02483	112.50409	316.37293	6.02286	0.1153166	0.26439987	2.4041518	17	4 24.6	17.8
18432 1994 <i>CJ</i> ₂	14.2	X	207.15037	84.96774	130.73611	7.68618	0.1327381	0.23958649	2.5674057	17	12 8.3	18.1
18433 1994 <i>EJ</i>	14.0	X	184.88445	232.66028	22.38257	12.85301	0.1466918	0.23849288	2.5752483	17	—	—
18434 Mikesandras	13.7	X	63.62339	29.36000	133.96001	24.88959	0.2311296	0.25792576	2.4442159	17	4 29.6	16.6
18435 1994 <i>GW</i> ₁₀	14.4	X	85.22893	97.80019	61.87167	7.71582	0.1834133	0.25871704	2.4392297	17	5 17.5	16.8
18436 1994 <i>GY</i> ₁₀	13.9	X	174.12892	172.06102	49.93557	8.70075	0.1461984	0.23189338	2.6238791	17	11 12.1	18.2
18437 1994 <i>JR</i>	13.4	X	188.27866	170.57930	82.69386	15.09278	0.1190744	0.23685926	2.5870757	17	—	—
18438 1994 <i>JM</i> ₆	14.4	X	217.50213	23.17599	58.67435	6.00347	0.0212690	0.21992321	2.7182455	17	7 8.2	18.1
18439 1994 <i>LJ</i> ₁	13.5	X	148.02505	93.24057	84.16994	12.29931	0.2062338	0.22371845	2.6874157	17	9 2.3	18.2
18440 1994 <i>NV</i> ₁	14.8	X	132.45514	162.18488	128.20853	6.53228	0.2829374	0.18654789	3.0334894	17	12 26.8	20.2
18441 1994 <i>PE</i>	14.1	X	97.15368	17.67922	297.45616	10.07735	0.0953890	0.18139588	3.0906591	17	12 11.6	18.8
18442 1994 <i>PK</i> ₃	13.7	X	121.09256	125.86356	320.81472	1.36943	0.0689718	0.19800928	2.9152716	17	3 23.3	17.7
18443 1994 <i>PW</i> ₈	14.0	X	72.49967	109.13857	332.24793	8.64564	0.0422407	0.19192041	2.9766100	17	1 12.8	18.0
18444 1994 <i>PL</i> ₁₀	14.0	X	51.00735	8.47124	322.83305	2.82323	0.1911124	0.17781612	3.1320015	17	11 19.1	18.2
18445 1994 <i>PC</i> ₁₂	14.2	X	134.75019	292.33234	320.07687	12.91586	0.1142120	0.17868621	3.1218260	17	11 2.4	19.4
18446 1994 <i>PN</i> ₁₃	14.1	X	346.77072	76.84471	323.98871	1.02424	0.2147443	0.17483717	3.1674775	17	10 27.9	17.2
18447 1994 <i>PU</i> ₁₃	14.3	X	57.40937	208.66180	150.27001	2.13470	0.0375889	0.18050862	3.1007785	17	12 10.5	18.6
18448 1994 <i>PW</i> ₁₇	14.0	X	104.46214	176.33274	136.77757	0.80739	0.1956263	0.18239170	3.0793993	17	12 25.9	18.9
18449 Rikwouters	13.6	X	89.39622	124.44793	182.03276	1.85309	0.1811238	0.17989008	3.1078823	17	12 3.1	18.2
18450 1994 <i>PG</i> ₂₇	14.1	X	288.27418	29.27317	131.70339	1.40059	0.1346325	0.18468607	3.0538424	17	12 29.3	18.0
18451 1994 <i>PZ</i> ₂₇	13.9	X	348.31932	354.08180	126.39220	2.98657	0.1279616	0.18577269	3.0419225	17	—	—
18452 1994 <i>PL</i> ₃₃	13.9	X	316.33783	270.95153	166.53686	5.60913	0.1691284	0.17647909	3.1478005	17	10 24.2	17.6
18453 Nishiyamayukio	14.5	X	222.01676	33.92512	358.21589	5.92941	0.2358990	0.24269804	2.5454146	17	4 27.8	18.9
18454 1995 <i>BF</i> ₁	14.2	X	250.41050	275.04701	296.39341	4.01224	0.0767523	0.30170653	2.2016397	17	—	—
18455 1995 <i>DF</i>	15.4	X	256.34311	56.20639	116.93177	4.50875	0.1464623	0.29485957	2.2355921	17	12 15.1	17.8
18456 Mišik	14.7	X	273.03387	106.30871	0.55325	7.13441	0.0963584	0.28979661	2.2615552	17	10 12.3	17.4
18457 1995 <i>EX</i> ₇	14.3	X	154.40201	133.74032	69.46152	0.57073	0.1485704	0.28529077	2.2853053	17	10 3.8	17.8
18458 Caesar	14.9	X	129.21158	220.42118	353.75421	5.87254	0.1381371	0.28263502	2.2995988	17	9 21.1	18.2
18459 1995 <i>FD</i> ₁	14.4	X	4.85170	243.65071	347.35236	1.82267	0.1648168	0.26810707	2.3819385	17	3 15.6	16.7
18460 Pecková	14.8	X	44.88484	123.98600	332.24875	14.55067	0.1388725	0.24211782	2.5494796	17	—	—
18461 Seiichikanno	13.9	X	81.14940	333.32783	314.17219	13.74785	0.1108022	0.22838301	2.6506976	17	10 19.3	17.9
18462 Riccò	14.3	X	134.35487	202.04593	162.67176	2.30974	0.0892635	0.19947900	2.9009345	17	—	—
18463 1995 <i>SV</i> ₁₆	14.6	X	43.68795	342.09778	170.75957	0.28030	0.0881612	0.20411955	2.8567987	17	2 27.8	17.9
18464 1995 <i>SK</i> ₂₃	14.3	X	189.78743	41.82438	24.16695	9.06196	0.1433462	0.20906838	2.8115370	17	5 15.0	18.9
18465 1995 <i>SB</i> ₃₄	14.6	X	25.03063	54.45493	168.19186	4.56086	0.0120814	0.21127592	2.7919183	17	5 3.0	18.3
18466 1995 <i>SU</i> ₃₇	14.3	X	97.79091	176.98700	353.32242	13.56083	0.1305424	0.21375463	2.7702929	17	6 17.1	18.3
18467 Nagatatsu	13.7	X	265.38292	92.16812	237.06275	3.34710	0.1775928	0.20868624	2.8149683	17	3 26.7	18.3
18468 1995 <i>UE</i> ₈	13.8	X	72.88193	170.76537	35.56895	8.31365	0.0616639	0.20969571	2.8059269	17	6 20.7	17.5
18469 Hakodate	14.5	X	30.22302	87.62188	40.58362	2.40399	0.0518576	0.19616383	2.9335270	17	1 10.9	18.2
18470 1995 <i>UX</i> ₄₄	14.1	X	81.29878	45.04237	22.87852	1.90832	0.0803022	0.19407609	2.9545274	17	1 9.5	17.8
18471 1995 <i>UZ</i> ₄₅	14.0	X	156.64900	315.68612	204.01122	9.33056	0.1608856	0.21581811	2.7526065	17	8 8.4	18.6
18472 Hatada	14.5	X	173.09152	116.04045	130.85060	1.49958	0.2291854	0.20442198	2.8539804	17	5 6.4	19.5
18473 Kikuchijun	14.1	X	278.00363	102.93215	335.20559	1.79817	0.0736862	0.21880483	2.7275001	17	9 12.1	17.8
18474 1995 <i>VW</i> ₃	12.8	X	1.15010	236.36320	286.27338	18.10319	0.2196996	0.				

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18481 1995 <i>YH</i>	12.6 ^m	X	163.31060 ^o	92.07191 ^o	252.32993 ^o	8.83243 ^o	0.1301588	0.19126076 ^o	2.9834503	17	1 14.0	17.2
18482 1995 <i>YO</i>	13.1	X	357.31758	290.67910	108.95653	10.39096	0.0871746	0.17443902	3.1722954	17	11 16.9	17.2
18483 1995 <i>YY</i> ₂	13.1	X	38.48384	268.07071	100.13235	10.80927	0.2436790	0.17751339	3.1355614	17	12 25.8	17.0
18484 1995 <i>YB</i> ₃	13.5	X	17.00823	342.53942	96.70184	2.64017	0.1770360	0.18125338	3.0922788	17	—	—
18485 1996 <i>AB</i>	13.3	X	325.53572	133.24583	298.56076	2.54085	0.1354596	0.17252546	3.1957091	17	11 1.6	17.3
18486 1996 <i>AS</i> ₂	13.5	X	343.40793	47.39037	38.78446	1.99744	0.1809375	0.17572721	3.1567731	17	12 21.8	17.0
18487 1996 <i>AU</i> ₃	12.8	X	164.17876	195.55866	133.68809	15.11261	0.1805183	0.22972709	2.6403484	17	—	—
18488 1996 <i>AY</i> ₃	12.0	X	4.25537	257.34328	138.13277	17.67890	0.2701693	0.17413780	3.1759527	17	12 6.8	15.5
18489 1996 <i>BV</i> ₂	12.7	X	115.69501	333.72019	116.54888	16.08509	0.1125182	0.23812904	2.5778708	17	3 26.5	16.3
18490 1996 <i>BG</i> ₁₇	13.6	X	210.75444	69.52333	343.94972	7.10609	0.2242060	0.21101895	2.7941845	17	5 17.7	18.5
18491 1996 <i>DP</i> ₂	14.7	X	17.76228	51.52135	130.17496	7.25476	0.1210068	0.27860922	2.3216980	17	1 27.7	16.8
18492 1996 <i>GS</i> ₂	14.5	X	50.68521	94.99478	159.73805	7.38300	0.1471838	0.29307049	2.2446811	17	7 29.7	16.5
18493 Demoleon	10.7	X	194.10003	89.33463	215.54905	17.19811	0.0917093	0.08080146	5.2989511	17	1 17.6	18.3
18494 1996 <i>HH</i> ₁₀	16.0	X	179.35923	101.68931	198.60194	3.27382	0.1136257	0.30892143	2.1672251	17	—	—
18495 1996 <i>HH</i> ₂₄	14.8	X	152.86911	257.73708	70.97544	4.27596	0.2090303	0.30703996	2.1760696	17	—	—
18496 1996 <i>JN</i> ₁	14.8	X	199.91266	71.31871	233.16524	1.65859	0.1920030	0.26352679	2.4094589	17	—	—
18497 Nevézice	14.7	X	14.85132	245.06127	75.61911	8.14566	0.1432800	0.28650563	2.2788406	17	9 8.4	16.7
18498 Cesaro	15.1	X	48.76652	49.64863	263.43752	5.93783	0.1463142	0.28819778	2.2699117	17	10 24.4	17.5
18499 Showalter	15.9	X	252.55844	193.26757	134.66193	4.28514	0.3498763	0.26637546	2.3922500	17	3 1.0	20.3
18500 1996 <i>NX</i> ₃	14.6	X	155.22282	207.91892	311.21230	4.72199	0.0464475	0.28015203	2.3131663	17	7 30.7	17.5
18501 1996 <i>OB</i>	14.8	X	34.82713	63.98962	240.31094	3.05992	0.0383324	0.28516532	2.2859755	17	9 2.7	17.4
18502 1996 <i>PK</i> ₁	16.3	X	159.23504	221.99219	143.83071	3.16460	0.1940247	0.25783431	2.4447938	17	1 28.7	19.6
18503 1996 <i>PY</i> ₄	14.1	X	9.75884	69.45219	151.35378	23.88135	0.2634267	0.27168001	2.3610087	17	2 19.7	16.0
18504 1996 <i>PB</i> ₅	14.9	X	26.93979	85.66780	305.41928	3.32482	0.1720118	0.29061445	2.2573102	17	—	—
18505 Caravelli	14.8	X	157.23374	63.12087	190.32715	4.17999	0.1261329	0.29445678	2.2376304	17	12 10.5	18.1
18506 1996 <i>PY</i> ₆	14.3	X	7.96972	283.68629	30.03690	23.21429	0.2322937	0.28073934	2.3099391	17	8 26.9	16.5
18507 1996 <i>QM</i> ₁	14.8	X	254.89500	231.46134	195.07017	6.80544	0.0987666	0.28094410	2.3088166	17	7 20.9	18.0
18508 1996 <i>RJ</i> ₂	14.8	X	283.79091	263.67760	182.47935	6.21278	0.0746786	0.28266577	2.2994320	17	10 3.8	17.5
18509 Bellini	13.3	X	312.37327	137.63757	288.42459	12.24995	0.1365761	0.23367223	2.6105458	17	9 30.7	16.6
18510 Chasles	15.6	X	72.97716	169.12344	44.53996	2.78770	0.1395000	0.22715181	2.6602671	17	7 12.2	18.8
18511 1996 <i>SH</i> ₄	14.7	X	267.54767	71.85309	39.17243	28.80848	0.0445230	0.23097782	2.6308082	17	10 22.5	18.3
18512 1996 <i>SO</i> ₇	14.4	X	250.62479	69.33786	285.98321	1.29124	0.2209251	0.26745132	2.3858303	17	4 4.3	18.4
18513 1996 <i>ST</i> ₅	13.6	X	277.77166	216.99285	297.43938	23.59218	0.1890290	0.28719301	2.2752029	17	12 15.7	16.2
18514 1996 <i>TE</i> ₁₁	15.9	X	10.63317	262.61224	175.89301	24.93007	0.4729369	0.23953418	2.5677795	17	—	—
18515 1996 <i>TL</i> ₁₄	13.6	X	258.33385	12.56522	2.57542	11.76885	0.1224783	0.22168709	2.7038076	17	5 16.6	17.9
18516 1996 <i>TL</i> ₂₉	14.7	X	220.54743	196.65944	214.20026	4.19110	0.1956655	0.26656957	2.3910886	17	5 20.7	18.5
18517 1996 <i>VG</i> ₂	14.5	X	214.25832	210.17375	192.36242	1.90703	0.2062426	0.26389185	2.4072364	17	5 4.7	18.5
18518 1996 <i>VT</i> ₃	14.0	X	219.72966	26.61448	45.27131	8.15670	0.0615279	0.22209888	2.7004645	17	6 24.5	18.0
18519 1996 <i>VH</i> ₄	13.4	X	178.85533	92.77527	77.38479	13.69230	0.1233395	0.22334351	2.6904226	17	9 21.6	17.9
18520 Wolfratshausen	15.1	X	190.37816	276.90326	207.29373	3.56713	0.1869989	0.22478230	2.6789297	17	9 2.3	19.7
18521 1996 <i>VV</i> ₅	13.9	X	120.23586	147.29600	237.33839	5.69053	0.1015235	0.24480244	2.5308062	17	—	—
18522 1996 <i>VA</i> ₆	14.0	X	39.23091	327.96620	84.65487	14.39487	0.1403831	0.24047381	2.5610862	17	—	—
18523 1996 <i>VA</i> ₇	14.3	X	244.30892	323.88988	209.54939	3.89339	0.0888298	0.23776247	2.5805197	17	12 1.3	17.8
18524 1996 <i>VE</i> ₈	13.8	X	114.60376	152.32918	255.09759	5.50160	0.0699408	0.25164315	2.4847306	17	1 8.7	16.7
18525 1996 <i>VO</i> ₈	14.5	X	236.96909	352.60279	72.57839	3.28326	0.1879124	0.26996693	2.3709861	17	6 23.0	18.2
18526 1996 <i>VB</i> ₃₀	15.0	X	218.07369	195.31511	150.29068	2.61520	0.2348319	0.25991432	2.4317331	17	2 27.4	19.0
18527 1996 <i>VJ</i> ₃₀	13.9	X	269.97759	104.66568	243.44171	5.45395	0.1433513	0.26522095	2.3991874	17	4 18.6	17.3
18528 1996 <i>VX</i> ₃₀	14.9	X	347.05959	80.05463	46.58842	9.82815	0.1937099	0.24339216	2.5405729	17	—	—
18529 1996 <i>WK</i> ₃	14.8	X	220.82643	251.36031	230.66020	4.07039	0.1540912	0.27398309	2.3477592	17	8 21.6	18.4
18530 1996 <i>XS</i> ₁	14.2	X	330.94242	63.10082	289.32923	4.35375	0.1333333	0.22209305	2.7005118	17	7 26.7	17.0
18531 Strakonice	14.4	X	201.36155	249.16252	82.58582	5.00712	0.2406600	0.29962264	2.2118362	17	1 22.8	17.9
18532 1996 <i>XW</i> ₂	14.2	X	239.59733	52.15420	74.17447	13.14293	0.1280827	0.22633856	2.6666357	17	9 28.2	18.4
18533 1996 <i>XJ</i> ₆	14.8	X	156.07503	349.97792	83.58697	7.40162	0.2278667	0.25807637	2.4432649	17	4 27.4	18.7
18534 1996 <i>XE</i> ₁₂	14.3	X	187.45071	301.23444	42.12167	2.57912	0.1083742	0.19949470	2.9007823	17	2 4.7	18.8
18535 1996 <i>XQ</i> ₁₃	13.6	X	40.52825	91.80471	240.87406	11.51932	0.1187806	0.23095448	2.6309855	17	10 30.6	16.9
18536 1996 <i>XN</i> ₁₅	14.6	X	248.17685	280.57316	91.17639	3.02456	0.0785069	0.21240684	2.7819995	17	5 10.8	18.6
18537 1996 <i>XH</i> ₁₈	13.7	X	208.05691	300.62935	122.72747	10.28487	0.1580284	0.21318348	2.7752387	17	6 1.3	18.3
18538 1996 <i>XY</i> ₁₈	14.6	X	146.64663	210.18013	231.19281	2.90415	0.1679712	0.25761743	2.4461658	17	4 18.5	18.0
18539 1996 <i>XX</i> ₃₀	14.2	X	3.02835	184.47390	241.15486	3.65474	0.2132073	0.23526902	2.5987204	17	—	—
18540 1996 <i>XK</i> ₃₁	14.7	X	292.51945	248.23776	162.39760	3.08776	0.2519154	0.22480999	2.6787097	17	7 28.4	18.2
18541 1996 <i>YA</i> ₁	14.4	X	106.80803	315.77124	101.45282	3.44973	0.0168308	0.19792165	2.9161320	17	1 21.4	18.3
18542 Broglio	13.9	X	165.37441	181.11632	63.66622	14.98178	0.0621446	0.23734133	2.5835714	17	12 2.4	17.7
18543 1997 <i>AE</i>	13.3	X	16.90106	357.96512	311.43198	7.46591	0.1241270	0.21980507	2.7192194	17	8 18.8	16.2
18544 1997 <i>AA</i> ₂	13.4	X	217.67790	132.60531	28.52365	2.81718	0.1413544	0.22417412	2.6837727	17	10 10.3	17.5
18545 1997 <i>AO</i> ₂	13.3	X	18.40942	11.88909	92.23811	11.79816	0.0653523	0.19162518	2.9796665	17	—	—
18546 1997 <i>AP</i> ₄	14.0	X	146.75594	309.55986	198.36056	1.51258	0.1509340	0.26070670	2.4268033	17	7 14.6	17.7
18547 1997 <i>AU</i> ₅	13.1	X	340.42208	167.35325	349.29258	9.60259	0.0431917	0.19201210	2.9756623	17	—	—
18548 Christoffel	14.1	X	268.29699	323.96976	205.52678	7.37447	0.0386396	0.23826343	2.5769013	17	—	—
18549 1997 <i>AD</i> ₁₃	13.4	X	269.86227	126.24110	93.36982	12.16720	0.2475216	0.23568815	2.5956386	17	—	—
18550 Maoyisheng	13.8	X	32.20144	189.46728	255.78615	6.78491	0.0350996	0.18970390	2.9997510	17	—	—
18551 1997 <i>AQ</i> ₁₇	13.4	X	262.84776	47.47983	293.71180	5.44696	0.1955006	0.20982890	2.8047394	17	4 4.7	18.1
18552 1997 <i>AM</i> ₂₁	13.7	X	191.91950	346.30733	114.08604	10.19543	0.1110112	0.21420975	2.7663676	17	6 30.6	18.0
18553 Kinkakuji	13.4	X	146.30489	251.02597	17.39519	1.01265	0.1378982	0.17949867	3.1123987	17	12	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18561 Fengningding	14.5 ^m	X	155.83371 ^o	283.43793 ^o	110.09656	3.14172 ^o	0.0846806	0.19929393 ^o	2.9027302	17	3 1.9	18.7
18562 1997 <i>EK</i> ₅₄	13.4	X	112.92827	248.44151	35.58701	1.59792	0.0938359	0.17180777	3.2046026	17	11 20.6	18.3
18563 Danigoldman	13.6	X	206.64256	155.70442	217.54749	0.86835	0.1282576	0.19596111	2.9355498	17	3 30.6	18.2
18564 Caseyo	13.6	X	275.48045	126.14566	65.06808	0.09633	0.1139951	0.18007857	3.1057133	17	—	—
18565 Selg	14.0	X	340.78819	286.01758	202.46267	5.00143	0.1181096	0.18041711	3.1018269	17	—	—
18566 1997 <i>RS</i> ₃	13.7	X	210.12757	73.05854	22.36298	5.09347	0.1078853	0.18537957	3.0462214	17	7 15.8	18.5
18567 Segenthau	14.5	X	154.19756	77.51126	241.86387	3.36415	0.0701919	0.21298217	2.7769873	17	—	—
18568 Thuillot	12.8	X	222.88068	161.93790	202.30743	21.83423	0.0636391	0.17726761	3.1384590	17	4 8.5	17.4
18569 1997 <i>UC</i> ₁₁	13.7	X	235.01162	264.90335	7.25297	23.20080	0.2086913	0.27163360	2.3612776	17	—	—
18570 1997 <i>VB</i> ₆	15.4	X	71.00267	140.49312	249.76271	1.83334	0.1134896	0.30435253	2.1888606	17	—	—
18571 1997 <i>WQ</i> ₂₁	13.5	X	186.84749	12.73145	275.24762	12.13228	0.1832629	0.25337035	2.4734256	17	—	—
18572 Rocher	15.2	X	9.22701	67.70307	310.13420	1.82366	0.1777932	0.28978416	2.2616199	17	11 27.1	16.9
18573 1997 <i>WM</i> ₂₃	14.2	X	155.54332	252.43028	112.89446	3.26762	0.0948775	0.20630671	2.8365721	17	1 25.1	18.3
18574 Jeansimon	14.5	X	84.52122	52.10191	111.72419	7.65064	0.1305652	0.21618054	2.7495291	17	5 22.6	18.0
18575 1997 <i>WS</i> ₃₁	15.6	X	272.02123	218.99221	233.27286	7.62326	0.0927875	0.29081458	2.2562745	17	9 18.3	18.4
18576 1997 <i>WA</i> ₄₂	15.0	X	152.93596	211.65650	103.81034	6.60335	0.1229307	0.30688933	2.1767816	17	—	—
18577 1997 <i>XH</i>	14.4	X	242.67270	273.59942	139.15563	5.61877	0.1426461	0.29643249	2.2276768	17	—	—
18578 1997 <i>XP</i>	14.6	X	69.43608	257.54868	69.79912	8.35874	0.1901540	0.29422497	2.2388055	17	12 20.1	17.6
18579 Duongtuyenvu	14.2	X	331.38101	187.35522	133.34728	0.80967	0.1465925	0.23483944	2.6018886	17	6 8.0	17.0
18580 1997 <i>XN</i> ₈	14.3	X	12.83496	116.74411	311.43363	3.60146	0.0854777	0.29603430	2.2296740	17	—	—
18581 Batllo	13.8	X	111.41597	225.62600	309.32254	6.68973	0.0465201	0.27266409	2.3553245	17	6 23.8	16.7
18582 1997 <i>XK</i> ₉	13.5	X	11.17487	39.91905	238.24919	21.33010	0.0673773	0.38899324	1.8585519	17	5 28.6	14.4
18583 1997 <i>XN</i> ₁₀	15.7	X	65.29868	29.34847	67.02537	3.08233	0.1760284	0.26086105	2.4258460	17	—	—
18584 1997 <i>YB</i> ₂	14.9	X	162.96805	350.75000	281.04710	1.84916	0.1077058	0.29570501	2.2313289	17	—	—
18585 1997 <i>YE</i> ₂	14.2	X	26.37404	15.32480	75.33617	5.60650	0.1054910	0.30290731	2.1958173	17	—	—
18586 1997 <i>YD</i> ₃	13.9	X	338.86926	33.22684	131.18318	6.48923	0.1746757	0.25338704	2.4733170	17	—	—
18587 1997 <i>YR</i> ₅	14.7	X	80.30562	220.54205	109.90171	3.69066	0.0644000	0.29274547	2.2463422	17	12 20.9	17.5
18588 1997 <i>YO</i> ₉	14.4	X	335.79655	28.65364	177.69473	6.43569	0.0888716	0.25877347	2.4388750	17	1 10.2	17.6
18589 1997 <i>YL</i> ₁₀	14.8	X	15.94251	357.23268	27.80194	3.19318	0.1302851	0.29271288	2.2465090	17	12 14.5	16.8
18590 1997 <i>YO</i> ₁₀	13.6	X	96.99768	208.26682	60.05355	6.20981	0.1310409	0.28438351	2.2901632	17	10 28.3	16.6
18591 1997 <i>YT</i> ₁₁	13.5	X	240.40089	6.94926	121.12666	14.57019	0.0829618	0.23214925	2.6219507	17	10 5.8	17.5
18592 1997 <i>YO</i> ₁₈	14.8	X	265.10720	258.22810	342.02487	6.96731	0.1451421	0.25152955	2.4854786	17	—	—
18593 Wangzhongcheng	15.0	X	269.60302	184.74987	76.71830	2.87547	0.0802008	0.25865249	2.4396354	17	1 5.2	18.5
18594 1998 <i>BJ</i>	14.9	X	8.13366	119.98724	284.07380	6.35497	0.1899698	0.29526878	2.2335261	17	—	—
18595 1998 <i>BR</i> ₁	13.7	X	237.88197	312.16425	43.83543	5.83181	0.2553042	0.27023723	2.3694048	17	3 27.4	17.9
18596 Superbus	16.0	X	118.38445	13.45503	124.95211	3.34840	0.1154928	0.26944304	2.3740584	17	5 23.9	19.0
18597 1998 <i>BE</i> ₈	14.6	X	65.95178	64.96632	342.91491	4.05730	0.1536278	0.30095721	2.2052926	17	—	—
18598 1998 <i>BH</i> ₈	13.2	X	33.91466	165.34923	122.38832	11.04005	0.1256340	0.22534737	2.6744494	17	8 21.5	16.2
18599 1998 <i>BK</i> ₈	15.0	X	209.07597	98.84817	84.39747	3.56121	0.0971330	0.28606404	2.2811852	17	11 6.1	18.0
18600 1998 <i>BK</i> ₁₀	14.0	X	46.01972	283.88698	56.61568	6.89352	0.2332738	0.24148166	2.5539552	17	12 8.1	17.1
18601 Zafar	14.8	X	10.58752	111.62674	98.26625	3.23992	0.1480729	0.26359542	2.4090407	17	2 28.5	17.1
18602 Lagillespie	15.0	X	358.05986	105.08320	102.41110	3.68913	0.1260975	0.26100116	2.4249777	17	2 7.6	17.6
18603 1998 <i>BM</i> ₂₅	14.8	X	207.35436	157.62152	342.03552	5.95097	0.1341981	0.28033518	2.3121587	17	9 3.4	18.3
18604 1998 <i>BK</i> ₂₆	15.5	X	229.12982	121.04677	159.72608	5.83108	0.1544656	0.29647908	2.2274434	17	—	—
18605 Jacqueslaskar	14.9	X	62.41838	88.32642	142.88982	3.03055	0.0329341	0.21733535	2.7397807	17	7 5.3	18.5
18606 1998 <i>BS</i> ₃₃	14.3	X	2.43042	62.92481	116.50832	6.42748	0.1337218	0.25453942	2.4658464	17	1 6.8	17.3
18607 1998 <i>BT</i> ₃₃	14.2	X	275.21409	310.08855	81.60863	6.07469	0.1559922	0.27629369	2.3346515	17	6 21.6	17.3
18608 1998 <i>BU</i> ₄₅	15.0	X	105.65681	191.79657	320.41174	1.64962	0.1518233	0.26847462	2.3797640	17	5 30.7	17.8
18609 1998 <i>BN</i> ₄₈	13.9	X	343.23588	239.07414	133.15105	5.70916	0.1405695	0.28465977	2.2886813	17	9 20.8	15.7
18610 Arthurdent	14.3	X	321.77221	139.41820	319.48719	5.58784	0.2142158	0.24240324	2.5474779	17	12 6.1	16.4
18611 Baudelaire	14.9	X	170.35397	42.55717	327.15724	2.43695	0.1935642	0.25769163	2.4456962	17	2 14.1	18.6
18612 1998 <i>CK</i> ₃	14.2	X	310.19764	241.85810	0.82734	2.34504	0.1412690	0.25541622	2.4601999	17	1 21.3	17.6
18613 1998 <i>DR</i>	14.6	X	298.14461	219.56891	101.24245	6.27606	0.1671951	0.21610250	2.7501910	17	4 23.9	18.5
18614 1998 <i>DN</i> ₂	13.8	X	42.86127	313.56160	8.83176	28.51086	0.1161600	0.22915391	2.6447494	17	10 14.0	17.1
18615 1998 <i>DJ</i> ₅	13.1	X	120.65818	188.14435	114.05423	12.98900	0.1657848	0.23917468	2.5703519	17	12 31.3	17.3
18616 1998 <i>DR</i> ₅	12.9	X	116.66942	320.72952	310.01447	14.76296	0.1741443	0.23162249	2.6259245	17	11 16.1	17.3
18617 Puntel	14.6	X	73.03236	211.30525	303.38022	3.08497	0.0648895	0.31472594	2.1404957	17	3 15.6	16.7
18618 1998 <i>DD</i> ₁₀	14.0	X	14.80546	183.53044	265.29274	5.63659	0.0451726	0.29553799	2.2321695	17	—	—
18619 1998 <i>DD</i> ₁₀	14.3	X	4.21475	199.38213	187.80483	4.63225	0.1273220	0.28618467	2.2805441	17	11 26.1	16.3
18620 1998 <i>DS</i> ₁₀	16.2	X	277.05598	347.35368	103.94050	3.01021	0.3304502	0.28583859	2.2823845	17	8 22.5	19.4
18621 1998 <i>DD</i> ₁₂	15.3	X	140.20502	291.89675	152.06392	7.09497	0.0984901	0.26130919	2.4230717	17	4 7.6	18.5
18622 1998 <i>DN</i> ₁₃	13.7	X	154.74590	357.86990	68.79114	3.56884	0.1274500	0.20929865	2.8094745	17	4 13.4	17.9
18623 Pises	14.1	X	308.06471	203.29131	58.70278	2.71027	0.0291089	0.20580396	2.8411897	17	3 12.3	17.9
18624 Prevert	14.0	X	139.23613	67.39406	177.20795	19.01281	0.0508307	0.17908650	3.1171723	17	11 2.2	18.8
18625 1998 <i>DZ</i> ₁₃	15.4	X	148.36662	183.90189	103.14024	1.59178	0.1852291	0.28545272	2.2844409	17	—	—
18626 Michaelcarr	15.3	X	252.82192	53.25030	10.26633	19.84121	0.0862079	0.37252803	1.9129197	17	7 17.9	18.0
18627 1998 <i>DH</i> ₃₃	13.8	X	270.92486	300.39817	52.61027	9.33230	0.0732638	0.27040764	2.3684092	17	5 5.3	17.0
18628 1998 <i>DJ</i> ₃₃	14.6	X	238.32056	55.44070	109.85415	5.76118	0.1084819	0.28716530	2.2753493	17	11 16.7	17.5
18629 1998 <i>DZ</i> ₃₃	14.3	X	248.78678	13.71796	165.40370	12.18130	0.1437688	0.23806294	2.5783479	17	12 7.6	18.1
18630 1998 <i>DT</i> ₃₄	15.2	X	182.85951	302.62036	16.01186	5.36673	0.1840953	0.29779345	2.2208844	17	—	—
18631 1998 <i>DQ</i> ₃₅	12.7	X	82.11228	289.97845	327.37206	11.69703	0.1404485	0.22614458	2.6681604	17	9 18.6	16.4
18632 1998 <i>DN</i> ₃₇	14.5	X	159.81222	216.75587	127.70025	3.81256	0.1724221	0.19648124	2.9303668	17	1 10.5	18.8
18633 1998 <i>EU</i>	14.2	X	94.24580	65.15517	180.37989	9.13072	0.0089048	0.17564797	3.1577225	17	9 1.9	18.7
18634 Champigneulles	14.3	X	218.95990	306.58642	188.43738	14.37202	0.0929501	0.22638535	2.6662682	17		

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18641 1998 <i>EG</i> ₁₀	13.9 ^m	X	237.49189 ^o	103.89692 ^o	308.26433 ^o	7.15499 ^o	0.1040398	0.27246883 ^o	2.3564497	17	6 11.3	17.3
18642 1998 <i>EF</i> ₁₂	14.7	X	226.48455	122.83276	36.78029	4.93417	0.1543029	0.28364193	2.2941533	17	10 19.0	17.9
18643 van Rysselberghe	13.3	X	325.70037	316.59681	27.05940	10.39397	0.0953363	0.22180512	2.7028483	17	7 12.9	16.8
18644 1998 <i>EX</i> ₁₄	14.2	X	319.51915	49.12539	186.75692	5.70860	0.0705622	0.25777248	2.4451848	17	1 30.4	17.4
18645 1998 <i>EM</i> ₁₉	13.7	X	115.30518	0.03452	256.74166	0.34319	0.1454834	0.17919089	3.1159616	17	10 27.3	18.5
18646 1998 <i>ED</i> ₂₁	14.7	X	189.37785	296.21681	157.31082	8.88662	0.1067451	0.27154449	2.3617942	17	6 14.9	18.3
18647 Václavhübner	15.3	X	286.92520	40.42628	141.20365	3.71749	0.0425136	0.24365202	2.5387662	17	—	—
18648 1998 <i>FW</i> ₉	16.0	X	124.51557	62.64648	194.69303	12.69539	0.1818835	0.27863904	2.3215323	17	11 15.9	19.7
18649 Fabrega	13.9	X	335.64232	298.36409	356.88728	8.64685	0.1373209	0.21234023	2.7825813	17	5 11.6	17.4
18650 1998 <i>FX</i> ₁₀	14.0	X	232.68641	61.52842	351.93670	5.24877	0.0174365	0.21694877	2.7430344	17	6 19.8	17.8
18651 1998 <i>FP</i> ₁₁	13.9	X	76.63982	27.37972	168.02232	5.96324	0.1128061	0.26498760	2.4005956	17	6 12.8	16.6
18652 1998 <i>FD</i> ₁₅	13.9	X	158.26906	24.80755	215.25561	2.31224	0.1670621	0.28144661	2.3060676	17	11 23.2	17.3
18653 Christagünt	14.7	X	87.75425	142.77882	59.47281	10.47124	0.1659053	0.26748890	2.3856068	17	7 21.3	17.7
18654 1998 <i>FR</i> ₂₂	13.4	X	314.21727	261.93997	169.44275	14.33933	0.1797256	0.23607743	2.5927844	17	10 16.8	16.1
18655 1998 <i>FS</i> ₂₆	13.6	X	358.89646	136.79882	160.28800	13.41480	0.0757455	0.21923924	2.7238961	17	6 30.9	17.1
18656 Mergler	14.2	X	224.71521	97.66966	327.67626	6.49759	0.0872463	0.27095799	2.3652011	17	6 15.9	17.7
18657 1998 <i>FE</i> ₃₀	13.7	X	335.99356	341.24647	290.02892	2.78888	0.0615713	0.21184286	2.7869349	17	4 21.9	17.3
18658 Rajdev	15.2	X	163.93914	224.71549	226.26108	1.54079	0.1868212	0.26735406	2.3864089	17	5 20.3	18.8
18659 Megangross	14.5	X	334.05282	158.72347	135.58354	2.19064	0.0486822	0.21501715	2.7594380	17	5 23.4	18.0
18660 1998 <i>FL</i> ₃₄	13.8	X	94.06707	340.18449	211.80365	3.94307	0.0148925	0.21792957	2.7347982	17	6 23.3	17.5
18661 Zoccoli	15.1	X	299.99759	34.61982	197.94147	6.00281	0.0962289	0.25129780	2.4870065	17	1 2.1	18.7
18662 Erinwhite	14.1	X	275.01115	51.39717	242.07531	1.26748	0.0247584	0.20610795	2.8383953	17	3 9.4	17.9
18663 Lynnta	14.6	X	145.14625	266.84466	192.73352	5.83720	0.1084909	0.26406874	2.4061612	17	5 4.5	17.9
18664 Rafaela	14.9	X	216.79849	28.99478	232.40769	1.12140	0.1218323	0.19253697	2.9702519	17	—	—
18665 Sheenahayes	14.1	X	211.19821	350.99028	197.89437	2.23159	0.1203825	0.23288202	2.6164478	17	11 9.2	18.0
18666 1998 <i>FT</i> ₅₃	13.0	X	37.44972	357.41726	348.59885	12.14762	0.1779405	0.22973963	2.6402523	17	11 18.9	16.4
18667 1998 <i>FF</i> ₆₂	13.9	X	63.25837	268.17290	357.12006	10.85601	0.0670993	0.22113370	2.7083166	17	8 29.9	17.4
18668 Gottesman	14.4	X	239.57248	80.95075	309.05136	1.47493	0.0703220	0.21430099	2.7655824	17	5 23.8	18.5
18669 Lalitpatel	14.2	X	145.56852	137.71838	123.19213	2.95116	0.1388375	0.18107551	3.0943035	17	11 29.2	19.2
18670 Shantanugaur	14.1	X	136.54782	107.69388	155.95825	1.21864	0.1416913	0.18003189	3.1062501	17	11 24.2	18.9
18671 Zacharyrice	14.0	X	167.94925	21.24288	10.58993	5.36654	0.1099667	0.25510534	2.4621983	17	3 4.8	17.5
18672 Ashleyamini	14.3	X	315.19541	200.26144	280.58635	1.49339	0.0772203	0.23815269	2.5777001	17	—	—
18673 1998 <i>FG</i> ₆₆	13.6	X	30.22845	39.03369	250.21964	0.21684	0.0927571	0.16824150	3.2497302	17	8 14.0	17.8
18674 1998 <i>FG</i> ₆₉	12.7	X	153.25187	131.95377	196.14235	10.22382	0.1152953	0.19100303	2.9861335	17	—	—
18675 Amiamini	13.6	X	331.82611	292.35702	116.65853	2.65956	0.0988984	0.22996990	2.6384896	17	10 22.8	16.6
18676 Zdeňkaplavcová	14.7	X	294.66099	2.20179	77.84681	4.90192	0.0805336	0.23348244	2.6119603	17	10 10.3	17.9
18677 1998 <i>FZ</i> ₈₃	12.8	X	358.16590	266.31382	17.52188	9.51857	0.1525285	0.21637964	2.7478422	17	6 3.3	15.9
18678 1998 <i>FS</i> ₈₅	13.6	X	44.58610	122.92130	104.07847	4.94781	0.0613123	0.21626292	2.7488308	17	6 6.6	16.9
18679 Heatherena	14.1	X	237.63971	307.66736	254.25435	5.11857	0.0908976	0.28887906	2.2663414	17	—	—
18680 Weirather	14.6	X	220.32230	209.23201	232.81136	6.30367	0.0765766	0.27110202	2.3643633	17	7 3.7	18.0
18681 Caseyliipp	14.8	X	285.67579	173.13154	224.34908	6.77030	0.1028055	0.27365160	2.3496548	17	7 20.2	17.8
18682 1998 <i>FH</i> ₁₀₇	13.4	X	147.60498	83.91841	241.65705	8.45149	0.0948502	0.19140559	2.9819450	17	—	—
18683 1998 <i>FB</i> ₁₁₁	12.9	X	146.73651	335.23716	292.38918	7.24797	0.1944230	0.18025039	3.1037393	17	12 8.5	18.2
18684 1998 <i>FW</i> ₁₁₆	13.4	X	150.95332	97.52165	236.31393	10.05449	0.1190676	0.19094122	2.9867779	17	—	—
18685 1998 <i>FL</i> ₁₁₇	14.1	X	285.59671	333.89296	217.63713	13.22741	0.0885421	0.24237089	2.5477046	17	—	—
18686 1998 <i>FZ</i> ₁₁₉	13.3	X	307.19608	349.05171	290.83863	3.61241	0.0788416	0.20864851	2.8153076	17	3 22.7	17.2
18687 1998 <i>FA</i> ₁₂₀	13.9	X	131.45830	115.93458	193.34479	9.91142	0.1008453	0.18856713	3.0117949	17	—	—
18688 1998 <i>FA</i> ₁₂₃	14.0	X	82.50215	142.38815	119.48875	3.35559	0.1338333	0.17090053	3.2159339	17	9 28.3	18.5
18689 Rodrick	14.0	X	250.58336	191.79777	149.51238	2.55529	0.0804331	0.20643708	2.8353776	17	4 5.9	18.3
18690 1998 <i>GB</i> ₁₀	13.1	X	199.90166	191.33283	43.38905	24.19475	0.0614399	0.18598753	3.0395794	17	12 19.1	18.0
18691 1998 <i>HE</i> ₁	13.2	X	71.21878	278.22900	10.54854	7.64058	0.1276374	0.17249702	3.1960605	17	10 14.3	17.5
18692 1998 <i>HJ</i> ₁₄	13.4	X	155.97991	155.58830	122.26276	11.84379	0.1000661	0.18395422	3.0619368	17	12 27.5	18.2
18693 1998 <i>HS</i> ₁₉	14.1	X	146.55063	327.99594	118.58152	6.30663	0.1230309	0.25809261	2.4431624	17	4 23.4	17.5
18694 1998 <i>HQ</i> ₂₄	13.9	X	68.82490	321.04881	236.48031	3.88654	0.1393357	0.21166178	2.7885243	17	6 13.9	17.3
18695 1998 <i>HH</i> ₂₇	14.3	X	228.10705	297.15902	123.86359	4.58773	0.0855158	0.21302170	2.7766437	17	6 19.6	18.4
18696 1998 <i>HB</i> ₃₄	13.6	X	71.16697	192.24883	201.54065	10.73329	0.1123349	0.19040171	2.9924173	17	—	—
18697 Kathanson	14.0	X	91.05558	309.20650	9.92958	1.18144	0.1346744	0.18031780	3.1029658	17	12 14.1	18.5
18698 Racharles	15.4	X	119.63541	70.53128	52.65614	2.98580	0.0995526	0.26144738	2.4222178	17	5 2.3	18.4
18699 Quigley	14.3	X	139.24553	174.85629	328.70189	3.91150	0.0299965	0.21489477	2.7604856	17	6 20.9	18.1
18700 1998 <i>HK</i> ₅₄	13.7	X	206.40974	66.26248	219.63801	9.86192	0.0729906	0.19239327	2.9717308	17	—	—
18701 1998 <i>HB</i> ₅₇	13.5	X	130.69682	127.99631	202.97411	6.96398	0.0622930	0.18812861	3.0164733	17	—	—
18702 Sadowski	14.3	X	350.85950	131.77979	336.88585	4.21119	0.1833384	0.24172816	2.5522187	17	—	—
18703 1998 <i>HN</i> ₆₈	13.8	X	63.42229	17.62512	271.75111	3.27850	0.1148310	0.17129725	3.2109666	17	10 2.3	18.3
18704 Brychristian	14.0	X	69.93246	130.34295	237.19599	6.03417	0.0334318	0.18406724	3.0606833	17	—	—
18705 1998 <i>HX</i> ₈₈	13.6	X	35.28498	262.93209	34.12410	1.62093	0.1291130	0.16764157	3.2574786	17	9 5.6	17.5
18706 1998 <i>HV</i> ₉₃	13.9	X	171.15406	285.74979	335.11446	3.27609	0.0551520	0.18264419	3.0765606	17	12 22.9	18.6
18707 Annchi	14.4	X	335.77643	62.45797	64.54811	6.84960	0.1866245	0.24126874	2.5554576	17	—	—
18708 Danielappel	14.0	X	279.66605	147.82489	19.14639	7.29557	0.0546210	0.18554183	3.0444452	17	—	—
18709 Laurawong	14.0	X	330.79746	237.50647	198.56990	8.23386	0.0283886	0.23045403	2.6347930	17	11 29.2	17.4
18710 1998 <i>HF</i> ₁₀₀	13.8	X	189.41510	55.44324	123.09716	4.68132	0.1529507	0.22594204	2.6697546	17	10 6.0	18.1
18711 1998 <i>HL</i> ₁₀₀	14.1	X	223.33958	297.80078	204.58792	12.77813	0.1161493	0.22603938	2.6689882	17	9 22.4	18.3
18712 1998 <i>HN</i> ₁₀₈	13.3	X	30.07058	175.06503	87.17240	9.30490	0.1746901	0.21344516	2.7729700	17	7 11.0	16.0
18713 1998 <i>HM</i> ₁₁₄	13.1	X	124.30521	226.76342	92.94586	10.88396	0.0851026	0.18457699	3.0550454	17	—	—
18714 1998 <i>HQ</i> ₁₁₄	13.9	X	192.90074	156.43847	89.11777	12.44510	0.1009476	0.18447582	3.0561623	17	12 25.2	

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18721 1998 <i>HC</i> ₁₄₆	13.6 ^m	X	98.14677	152.28143	106.02909	7.21980	0.0545692	0.17161873	3.2069555	17	10 3.8	18.3
18722 1998 <i>HF</i> ₁₄₈	13.8	X	40.62135	153.56487	185.05204	2.22635	0.0792834	0.17266146	3.1940309	17	10 30.3	18.0
18723 1998 <i>JO</i> ₁	13.0	X	50.99785	239.44064	58.76971	2.05535	0.1471040	0.16941766	3.2346721	17	10 3.5	17.3
18724 1998 <i>JV</i> ₁	12.8	X	116.64284	140.27727	121.53533	7.45210	0.0877517	0.17419385	3.1752713	17	11 1.2	17.6
18725 Atacama	13.2	X	225.03197	245.69771	196.78932	8.81682	0.1339324	0.21521828	2.7577186	17	7 9.2	17.6
18726 1998 <i>KC</i> ₂	15.1	X	161.68684	290.56635	219.53323	20.92419	0.3118679	0.27135396	2.3628996	17	8 1.5	19.9
18727 Peacock	13.4	X	150.60050	74.39873	179.55659	5.35844	0.1105425	0.17748606	3.1358832	17	11 25.2	18.3
18728 Grammier	13.7	X	223.42211	8.61853	112.47828	5.43050	0.1981287	0.22319695	2.6916002	17	8 23.9	18.2
18729 Potentino	14.1	X	227.88450	216.70483	102.77984	3.44499	0.0853165	0.19609781	2.9341854	17	2 16.5	18.5
18730 Wingip	13.9	X	238.75585	135.36196	149.48863	2.92745	0.0549660	0.19332407	2.9621844	17	1 17.7	18.2
18731 Vil'bakirov	12.8	X	307.11471	298.66995	220.31824	8.99847	0.0384085	0.18632245	3.0359359	17	—	—
18732 1998 <i>KP</i> ₁₉	12.7	X	48.28356	78.31264	216.83627	22.87269	0.1017985	0.16808045	3.2518057	17	9 13.2	17.4
18733 1998 <i>KV</i> ₃₁	13.6	X	301.76886	219.05932	68.23751	13.50884	0.0340261	0.20254196	2.8716139	17	4 10.6	17.7
18734 Darboux	14.3	X	279.53551	260.73254	231.46327	11.33660	0.1155493	0.22893336	2.6464478	17	11 19.2	17.6
18735 Chubko	13.8	X	279.18449	243.83837	358.81949	0.31632	0.1551975	0.18904803	3.0066851	17	1 3.6	18.5
18736 1998 <i>NU</i>	15.8	X	209.14528	222.83690	297.54047	2.80577	0.4880301	0.27301185	2.3533240	17	9 15.1	20.6
18737 Aliciaworley	14.1	X	125.82729	196.43985	196.93320	8.37112	0.1000851	0.28588282	2.2821491	17	—	—
18738 1998 <i>SN</i> ₂₂	13.6	X	347.21155	309.20277	191.31113	13.04556	0.0977087	0.22383529	2.6864804	17	—	—
18739 Larryhu	14.3	X	188.06108	255.30718	76.45909	4.72651	0.1520362	0.28463679	2.2888045	17	1 5.4	17.6
18740 1998 <i>VH</i> ₃₁	14.7	X	117.13074	324.30581	62.07551	1.90931	0.2095558	0.27526553	2.3404615	17	—	—
18741 1998 <i>WB</i> ₆	14.0	X	105.76710	251.13794	243.71473	5.94153	0.0890687	0.28811627	2.2703398	17	4 19.9	16.5
18742 1998 <i>XX</i> ₃₀	13.5	X	76.16166	136.81088	30.55660	5.71215	0.2051164	0.23239559	2.6200975	17	5 20.4	16.3
18743 1998 <i>YD</i> ₅	12.9	X	111.31918	331.35641	122.75889	19.15668	0.1346363	0.17104976	3.2140631	17	4 12.8	17.8
18744 1999 <i>AU</i>	13.7	X	316.46539	281.24527	310.47929	12.80925	0.1468120	0.27262484	2.3555506	17	1 10.2	17.0
18745 San Pedro	13.3	X	289.24196	237.91904	166.06625	15.01478	0.1047676	0.23506923	2.6001926	17	8 5.3	16.8
18746 1999 <i>FT</i> ₂₀	15.6	X	213.30118	297.35840	6.53754	4.32065	0.2878584	0.25932635	2.4354074	17	1 8.1	19.9
18747 Lexcen	14.5	X	245.49251	297.09064	306.39849	3.31555	0.1207104	0.30861202	2.1686734	17	—	—
18748 1999 <i>GV</i>	14.7	X	260.12463	115.81360	62.31635	7.46001	0.0159919	0.30135618	2.2033457	17	—	—
18749 Ayyubguliev	15.8	X	209.38435	291.29366	250.04435	3.91882	0.0947346	0.29823437	2.2186949	17	11 3.2	18.6
18750 Leonidakimov	14.8	X	76.84134	197.22005	100.33455	5.62614	0.2361781	0.23430120	2.6058718	17	11 21.5	18.7
18751 Yualexandrov	14.8	X	120.14516	328.85559	343.69351	4.64341	0.2513587	0.29640002	2.2278395	17	—	—
18752 1999 <i>GZ</i> ₁₆	15.1	X	175.71896	164.66207	111.55886	3.66426	0.1358903	0.30449743	2.1881661	17	—	—
18753 1999 <i>GE</i> ₁₇	13.6	X	303.64349	276.97406	19.62938	8.40487	0.2727145	0.21661472	2.7458538	17	3 16.3	17.8
18754 1999 <i>GL</i> ₂₁	13.6	X	276.64618	252.69425	39.21158	7.26471	0.1157656	0.26587671	2.3952408	17	2 19.4	17.1
18755 Meduna	14.7	X	127.34547	144.50082	101.70889	7.08449	0.0800844	0.29184936	2.2509381	17	10 31.1	17.8
18756 1999 <i>GY</i> ₃₄	15.2	X	172.68962	109.24386	193.41762	5.70345	0.1693461	0.30722640	2.1751891	17	—	—
18757 1999 <i>HT</i>	14.5	X	211.93611	108.16577	209.83258	1.77020	0.2060569	0.25750937	2.4468500	17	1 19.7	18.5
18758 1999 <i>HD</i> ₂	14.8	X	81.88244	247.46875	128.94172	5.73864	0.1853540	0.30451894	2.1880631	17	—	—
18759 1999 <i>HO</i> ₂	14.8	X	332.16595	306.46929	14.26993	4.75033	0.2424617	0.27572995	2.3378327	17	5 14.9	17.3
18760 1999 <i>HY</i> ₇	14.6	X	241.78156	260.03319	72.36625	2.29237	0.1909608	0.26428854	2.4048270	17	3 2.9	18.5
18761 1999 <i>HA</i> ₈	14.8	X	265.45995	213.68571	37.48794	0.40448	0.1875590	0.26031278	2.4292510	17	—	—
18762 1999 <i>HC</i> ₉	14.9	X	206.21100	45.24137	303.87355	1.97874	0.1880067	0.31821583	2.1248170	17	2 9.8	17.9
18763 1999 <i>JV</i> ₂	14.5	X	185.46439	69.62760	168.88049	12.93218	0.1370983	0.24282442	2.5445314	17	12 14.7	18.7
18764 1999 <i>JA</i> ₁₂	14.0	X	26.45729	155.05747	105.73995	24.81993	0.1803412	0.27680171	2.3317941	17	6 22.6	15.9
18765 1999 <i>JN</i> ₁₇	14.0	X	156.12790	79.68229	215.79338	4.27385	0.2087632	0.29481988	2.2357927	17	—	—
18766 Broderick	14.8	X	132.67132	3.45099	289.82542	1.08972	0.1083849	0.24433940	2.5340026	17	12 29.8	18.6
18767 1999 <i>JD</i> ₂₂	14.6	X	78.37865	39.41669	0.87377	5.50661	0.1125292	0.30805815	2.1712721	17	—	—
18768 Sarahbates	15.4	X	61.80361	245.02975	336.11895	4.59842	0.1281528	0.27809458	2.3245615	17	6 26.8	17.6
18769 1999 <i>JS</i> ₂₄	12.2	X	167.80390	241.09473	27.70545	13.70895	0.1351774	0.19223801	2.9733306	17	12 28.4	17.2
18770 Yingqiuqilei	14.5	X	156.69866	298.61580	1.99943	2.16354	0.1788687	0.30102185	2.2049769	17	—	—
18771 Sisiliang	15.2	X	247.51422	119.75032	208.85377	2.14369	0.1894849	0.26484745	2.4014425	17	3 1.2	19.0
18772 1999 <i>JR</i> ₃₄	14.7	X	139.05609	6.82784	1.28476	2.83850	0.1347834	0.30918481	2.1659942	17	—	—
18773 Bredehoft	14.8	X	107.22928	219.65149	53.28599	0.97974	0.0690524	0.29087303	2.2559722	17	11 7.5	17.6
18774 Lavanture	14.5	X	333.88060	204.31826	16.59370	2.79330	0.1173955	0.26420640	2.4053253	17	1 22.9	17.5
18775 Donaldeng	14.7	X	328.03240	24.56577	287.75382	3.06078	0.0956217	0.27507580	2.3415375	17	5 22.1	17.3
18776 Coulter	14.6	X	31.30012	40.21154	333.57719	1.04960	0.1698483	0.29346622	2.2426628	17	12 30.5	16.9
18777 Hobson	14.9	X	125.69075	180.88863	105.45062	4.32206	0.1837013	0.24021138	2.5629511	17	12 17.8	19.0
18778 1999 <i>JW</i> ₄₃	12.4	X	105.28288	54.91319	269.61630	9.48693	0.1087305	0.18943230	3.0026176	17	—	—
18779 Hattyhong	14.3	X	147.01952	103.88281	37.54198	7.31017	0.0620332	0.27860642	2.3217136	17	6 25.9	17.5
18780 Kuncham	14.9	X	61.89574	314.12704	48.23018	4.29511	0.1277202	0.29612244	2.2292315	17	—	—
18781 Indaram	14.6	X	283.82696	87.06351	202.93249	1.78534	0.1776657	0.26418029	2.4054838	17	2 15.3	18.4
18782 Joanrho	15.4	X	279.84149	139.03117	160.83818	3.84563	0.1336748	0.26519677	2.3993332	17	2 27.9	18.7
18783 Sychamberlin	15.0	X	72.98994	54.95531	260.85269	0.96152	0.1693962	0.23589936	2.5940890	17	11 30.4	18.6
18784 1999 <i>JS</i> ₄₇	15.3	X	296.23534	34.44559	299.09765	1.33697	0.2148587	0.27079343	2.3661592	17	4 19.8	18.5
18785 Betsywelsh	14.0	X	347.01639	142.34684	239.94165	4.06705	0.1495702	0.28796962	2.2711105	17	10 11.8	15.8
18786 Tyjorgenson	14.0	X	329.88177	269.59992	194.15247	4.74928	0.1317899	0.24661094	2.5184180	17	—	—
18787 Katherrmann	14.8	X	316.29742	157.04949	63.25843	9.65687	0.1962212	0.26111995	2.4242422	17	—	—
18788 Carriemiller	14.7	X	181.42618	314.85474	82.53213	5.58712	0.1207426	0.26563160	2.3967141	17	3 27.5	18.3
18789 Metzger	15.0	X	59.21763	177.07939	124.64913	3.77984	0.1908492	0.28504053	2.2866427	17	11 4.0	17.6
18790 Ericaburden	14.4	X	60.85713	169.30943	141.82615	4.15038	0.0711846	0.23413918	2.6070738	17	10 27.3	17.7
18791 1999 <i>JF</i> ₅₈	14.1	X	245.95033	328.33636	37.44365	5.68586	0.1494643	0.26843500	2.3799982	17	4 17.9	17.5
18792 1999 <i>JL</i> ₆₀	13.7	X	75.98972	313.99497	265.31908	11.47424	0.1289013	0.22412875	2.6841349	17	7 20.3	17.2
18793 1999 <i>JW</i> ₆₀	13.0	X	58.78040	266.70150	83.29551	12.22425	0.3101673	0.18171734	3.0870131	17	—	—
18794 Kianafank	15.0	X	352.48126	115.57466	125.55591	2.07907	0.0412984	0.26776559	2.3839632	17	3 28.7	17.6
18795 1999 <i>JT</i> ₆₃	14.3	X	242.95540	110.61126	136.42426	4.68259	0.1000237	0.30612665	2.1803956	17	—	—
18796 Acosta	15.1	X	121.07300	161.65873	63.63389	5.75243	0.1579458	0.28				

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18801 Noelleoas	14.2 ^m	X	321.29221	163.51216	125.67021	6.86258	0.1424874	0.26912851	2.3759078	17	4 5.8	17.2
18802 1999 JR ₇₆	14.0	X	24.47107	74.68865	212.27085	11.71378	0.1554642	0.22361512	2.6882435	17	7 29.8	17.0
18803 Hillaryoas	14.3	X	108.41810	126.01068	110.10019	6.04647	0.1320186	0.28582703	2.2824460	17	9 30.3	17.4
18804 1999 JS ₇₇	13.5	X	293.92652	220.26859	113.96411	7.49707	0.1150837	0.27189991	2.3597356	17	5 5.4	16.7
18805 Kellyday	14.5	X	144.38171	109.57900	162.99447	7.45818	0.0422146	0.29542559	2.2327357	17	12 21.4	17.5
18806 Zachpenn	14.3	X	7.12219	82.86182	160.72158	4.98173	0.1077651	0.21646094	2.7471541	17	4 30.0	17.4
18807 1999 JL ₈₅	14.2	X	230.90886	218.10284	171.21379	26.48602	0.1894254	0.27040341	2.3684339	17	5 5.8	18.5
18808 1999 JP ₈₅	14.1	X	218.10851	39.51850	173.25007	10.33778	0.0591809	0.24306972	2.5428191	17	12 23.7	17.8
18809 Meileawertz	15.3	X	350.92945	83.35109	111.82222	2.23320	0.1246109	0.26466422	2.4025507	17	1 9.4	18.0
18810 1999 JF ₉₆	13.7	X	170.26735	339.33842	135.10318	13.81222	0.1260043	0.22520747	2.6755569	17	6 26.7	18.0
18811 1999 KJ ₁	13.6	X	289.20091	227.28288	76.80513	9.71035	0.2525944	0.21004085	2.8028523	17	3 17.8	18.2
18812 Aliadler	13.8	X	310.72432	77.35988	238.23888	6.21512	0.1248966	0.27042653	2.3682989	17	4 26.3	16.9
18813 1999 KH ₁₅	13.0	X	163.02425	33.74157	212.64156	12.96889	0.1339118	0.23594015	2.5937900	17	12 2.2	17.2
18814 Ivanovsky	14.5	X	145.00827	48.50348	202.21553	4.72947	0.1101057	0.28704209	2.2760004	17	11 24.1	17.7
18815 1999 LT ₈	12.9	X	96.05899	46.91318	191.70394	9.53274	0.0749529	0.17530322	3.1618611	17	9 4.2	17.4
18816 1999 LW ₂₅	13.7	X	81.55788	80.10747	270.32294	9.66845	0.1888702	0.23860782	2.5744212	17	—	—
18817 1999 LF ₃₂	14.9	X	228.35610	332.14079	112.69215	2.84386	0.1711646	0.27283692	2.3543298	17	7 11.5	18.5
18818 Yasuhiko	13.6	X	156.53946	87.69187	129.87335	6.08386	0.1367468	0.28534433	2.2850194	17	10 26.7	17.1
18819 1999 NK ₈	13.8	X	270.62462	160.17406	280.68590	3.28972	0.0909956	0.22233141	2.6985813	17	9 1.9	17.6
18820 1999 NS ₉	13.1	X	21.36362	93.46451	144.83487	9.65013	0.1004005	0.21096789	2.7946353	17	5 20.1	16.5
18821 Markhavel	13.8	X	151.94515	228.88634	160.55185	2.36169	0.1024408	0.19515418	2.9436363	17	2 22.3	18.1
18822 1999 NL ₁₉	13.9	X	264.17254	96.92070	121.27432	11.73933	0.0528207	0.19270375	2.9685380	17	—	—
18823 Zachozer	14.3	X	63.20023	125.75504	29.36966	2.63141	0.1440189	0.26202522	2.4186553	17	3 23.1	16.4
18824 Graves	14.8	X	36.55166	351.60914	221.63343	1.89858	0.1620622	0.26755009	2.3852431	17	4 25.3	16.7
18825 Alicechai	14.9	X	306.67894	27.54931	275.70571	2.65606	0.0682959	0.21018175	2.8015995	17	4 23.4	18.7
18826 Leifer	14.6	X	165.58921	3.28686	76.67606	2.88835	0.1751934	0.26210638	2.4181561	17	5 7.7	18.1
18827 1999 NA ₂₆	12.1	X	105.72513	236.71173	107.04796	15.21076	0.1159671	0.18481720	3.0523977	17	—	—
18828 1999 NT ₂₇	13.6	X	30.44603	218.56229	77.20948	1.91985	0.1143234	0.16777351	3.2557705	17	8 25.9	17.5
18829 1999 NE ₃₀	13.4	X	178.22188	339.16122	119.18108	10.31739	0.1219311	0.21297303	2.7770667	17	6 15.2	17.9
18830 Pothier	14.4	X	273.58778	225.48345	291.00690	2.76365	0.1163200	0.29211103	2.2495937	17	12 22.1	16.8
18831 1999 NP ₃₇	12.9	X	287.84399	245.17417	302.95705	9.69814	0.0540593	0.18973432	2.9994303	17	—	—
18832 1999 NV ₄₂	14.1	X	236.72890	271.99743	340.45065	10.17348	0.1241264	0.19131471	2.9828894	17	—	—
18833 1999 NT ₅₃	13.6	X	105.01125	35.27545	209.85896	11.18982	0.1397825	0.22552173	2.6730708	17	10 2.5	17.6
18834 1999 NN ₅₅	14.2	X	169.54611	42.58256	243.85029	13.19869	0.0612733	0.23887151	2.5725262	17	—	—
18835 1999 NK ₅₆	12.4	X	121.88404	4.71554	264.46383	12.06358	0.1333444	0.22956404	2.6415985	17	11 18.9	16.6
18836 Raymundo	14.9	X	263.08146	297.63972	261.64744	3.79054	0.0817089	0.29761929	2.2217507	17	—	—
18837 1999 NY ₆₂	13.8	X	143.56884	192.67938	258.10113	12.55604	0.1933390	0.25802316	2.4436008	17	4 28.3	17.5
18838 Shannon	14.4	X	205.90458	169.64378	216.43011	1.29022	0.0793572	0.20293162	2.8679367	17	4 13.1	18.7
18839 Whiteley	13.4	X	167.57455	246.75222	73.00702	10.60233	0.0823665	0.19160995	2.9798245	17	—	—
18840 Yoshioba	13.6	X	182.63774	218.26590	263.51863	2.63510	0.0098675	0.26700478	2.3884896	17	7 12.6	16.6
18841 Hruška	13.2	X	75.98527	69.74907	36.12703	15.39760	0.0780077	0.23666030	2.5885255	17	2 13.1	16.6
18842 1999 RB ₂₂	12.9	X	141.34975	167.01593	13.12613	8.74078	0.0618409	0.21394955	2.7686101	17	8 18.1	16.9
18843 Ningzhou	14.2	X	66.46313	67.40395	45.82985	1.49294	0.1690829	0.18907668	3.0063814	17	2 24.6	17.6
18844 1999 RU ₂₇	13.3	X	329.06351	77.40843	356.41967	15.22358	0.1042968	0.16961821	3.2321219	17	11 6.7	17.6
18845 Cichocki	13.0	X	178.49142	228.98944	352.92091	12.57431	0.1200231	0.22976989	2.6400205	17	11 12.0	17.4
18846 1999 RB ₂₈	13.5	X	64.81516	144.44475	156.72689	15.62429	0.0402992	0.22740652	2.6582803	17	10 27.1	17.2
18847 1999 RJ ₃₂	12.6	X	76.80428	354.14204	354.70384	8.11198	0.0866826	0.17515772	3.1636118	17	12 30.2	17.3
18848 1999 RH ₄₁	12.8	X	342.03221	161.99063	155.42835	23.94717	0.1250605	0.21165162	2.7886135	17	6 29.6	16.6
18849 1999 RK ₅₅	13.4	X	30.66886	205.05886	115.30097	2.85399	0.1075655	0.16836547	3.2481347	17	9 27.0	17.4
18850 1999 RO ₈₁	13.2	X	282.02170	236.61097	290.85134	1.34267	0.0821070	0.17910198	3.1169927	17	—	—
18851 Winmessor	14.3	X	143.14977	266.28855	272.19968	3.58606	0.1693350	0.26893880	2.3770249	17	8 20.5	17.9
18852 1999 RP ₉₁	13.0	X	111.17152	236.24348	56.74469	1.44157	0.1600885	0.17411605	3.1762171	17	12 5.3	17.9
18853 1999 RO ₉₂	13.6	X	76.40607	270.48663	154.66669	3.94406	0.0982582	0.18407661	3.0605794	17	1 3.5	17.5
18854 1999 RJ ₁₀₂	13.7	X	303.70411	5.85675	206.85020	12.83610	0.0841776	0.19322247	2.9632227	17	—	—
18855 Sarahgutman	14.5	X	296.73608	61.72316	218.18808	4.51719	0.1749065	0.25929568	2.4355994	17	2 15.6	18.3
18856 1999 RT ₁₁₆	13.5	X	254.20356	314.33130	258.21047	4.45151	0.1925082	0.24388849	2.5371249	17	—	—
18857 Lalchandani	14.5	X	267.98668	159.09868	284.20487	5.89195	0.0742989	0.27620025	2.3351781	17	9 2.9	17.6
18858 Tecleveland	14.0	X	268.84395	288.75403	262.77619	9.98608	0.1280396	0.24086132	2.5583385	17	—	—
18859 1999 RM ₁₃₀	13.5	X	38.42772	222.71890	324.38889	5.76912	0.1272416	0.20402798	2.8576534	17	4 4.4	16.8
18860 1999 RL ₁₃₃	12.8	X	199.69161	332.43788	197.95852	12.67881	0.0871332	0.16924322	3.2368944	17	10 4.2	17.6
18861 Eugenishmidt	14.2	X	224.24696	121.14095	110.61179	6.65180	0.1212243	0.23803295	2.5785645	17	—	—
18862 Warot	14.5	X	78.85804	71.71232	88.56999	1.85126	0.1474716	0.25584875	2.4574264	17	5 2.0	17.0
18863 1999 RC ₁₉₁	12.6	X	34.22522	0.07189	330.83028	12.54864	0.1752602	0.22610742	2.6684527	17	10 20.8	15.9
18864 1999 RQ ₁₉₅	13.0	X	357.38700	234.96418	203.22640	15.51474	0.1116400	0.17705225	3.1410035	17	12 31.3	17.2
18865 1999 RQ ₂₀₄	12.7	X	77.02552	143.93518	276.81135	9.57476	0.0474368	0.18397079	3.0617529	17	—	—
18866 1999 RA ₂₀₈	13.8	X	13.64516	10.89272	237.25236	11.68497	0.1581323	0.26082391	2.4260763	17	5 1.6	16.0
18867 1999 RX ₂₂₃	13.3	X	193.43284	309.33504	225.76346	12.20486	0.1290376	0.22162504	2.7043122	17	10 1.1	17.7
18868 1999 TD ₁₀₁	12.6	X	10.52954	297.12804	116.09464	12.73839	0.0368684	0.17110842	3.2133285	17	12 16.5	17.0
18869 1999 TU ₂₂₂	13.1	X	87.44811	141.76663	52.36114	16.36822	0.2350033	0.20408915	2.8570825	17	7 26.3	17.4
18870 1999 US ₁₃	13.9	X	334.75877	256.56984	286.70286	3.71535	0.1479321	0.24180302	2.5516919	17	—	—
18871 Grauer	12.6	X	281.48040	321.40086	218.03278	11.90366	0.1059781	0.22603660	2.6690100	17	—	—
18872 Tammann	13.3	X	269.51816	16.96519	222.94527	14.24903	0.0716025	0.23573551	2.5952909	17	—	—
18873 Larryrobinson	15.0	X	353.59022	189.20636	117.98862	9.20354	0.2104114	0.26397427	2.4067353	17	6 17.7	16.9
18874 Raoulbehrend	15.0	X	101.08398	273.78847	103.57327	4.46878	0.1069503	0.28763870	2.2728521	17	—	—
18875 1999 VT ₃₉	13.6	X	283.15927	158.51428	32.00183	2.95510	0.1205843	0.18053748	3.1004480	17	—	—
18876 Sooner	14.4	X	269.17997	356.79357	75.52074	8.84681	0.2426946	0.26308665	2.4121456	17	8 1.2	18.0
18877 Stevendodds	13.6	X	1									

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18881 1999 <i>XL</i> ₁₉₅	12.6 ^m	X	326.03410	291.60652	311.23677	14.23143	0.0974180	0.23987082	2.5653765	17	2 16.4	15.9
18882 1999 <i>YN</i> ₄	15.9	X	318.40739	242.67549	291.70730	36.81392	0.2318475	0.45056848	1.6851123	17	—	—
18883 Domegge	13.8	X	190.11189	43.93014	315.97397	8.56395	0.0990138	0.18330993	3.0691072	17	2 26.6	18.5
18884 1999 <i>YE</i> ₉	13.1	X	254.88351	27.12855	284.44665	12.27722	0.2006474	0.23742277	2.5829805	17	2 15.1	17.7
18885 2000 <i>AH</i> ₈₀	14.7	X	236.63330	190.01396	177.56791	3.52127	0.1608842	0.30344740	2.1932111	17	4 5.7	18.1
18886 2000 <i>AN</i> ₁₆₄	13.6	X	92.92875	179.26478	317.53972	13.99435	0.0874910	0.23413433	2.6071098	17	4 7.6	17.1
18887 Yiliuchen	14.2	X	132.96301	163.43600	179.85839	6.72101	0.1692169	0.28197851	2.3031667	17	—	—
18888 2000 <i>AV</i> ₂₄₆	13.5	X	168.41273	178.08529	131.60580	0.25649	0.2607617	0.16963410	3.2319200	17	—	—
18889 2000 <i>CC</i> ₂₈	13.2	X	60.15749	112.83558	27.25557	11.90487	0.1364130	0.22795017	2.6540521	17	3 11.5	16.1
18890 2000 <i>EV</i> ₂₆	14.6	X	297.26367	265.66483	184.41445	22.97908	0.0742013	0.37130353	1.9171231	17	11 11.9	16.5
18891 Kamler	15.2	X	41.21207	16.73075	349.45588	3.83931	0.1202105	0.26096876	2.4251784	17	12 21.0	18.2
18892 2000 <i>ET</i> ₁₃₇	13.6	X	314.77641	200.09780	80.05409	13.28172	0.1713886	0.22596583	2.6695673	17	3 25.2	17.5
18893 2000 <i>GH</i> ₁	13.2	X	73.63250	120.32499	20.48555	16.37152	0.0743456	0.17410018	3.1764101	17	4 5.5	17.5
18894 2000 <i>GF</i> ₄₂	14.0	X	139.32046	102.29379	4.56604	4.93530	0.1439484	0.17965230	3.1106240	17	5 19.9	18.8
18895 2000 <i>GJ</i> ₁₀₈	12.1	X	103.08772	267.58882	189.64453	18.31780	0.1717019	0.17087850	3.2162102	17	4 4.1	16.6
18896 2000 <i>GN</i> ₁₁₃	13.2	X	64.54376	42.73320	49.44270	10.87423	0.0714778	0.27325802	2.3519104	17	—	—
18897 2000 <i>HG</i> ₃₀	12.6	X	328.56531	191.64436	101.08364	15.01187	0.1368826	0.23214903	2.6219524	17	5 3.6	16.1
18898 2000 <i>JX</i>	12.9	X	160.86412	287.55376	111.51921	26.36641	0.3064599	0.17309101	3.1887444	17	4 14.3	19.0
18899 2000 <i>IQ</i> ₂	14.8	X	292.90653	110.13131	221.84041	22.65869	0.3742786	0.28251030	2.3002755	17	3 24.3	19.1
18900 2000 <i>LD</i> ₁₂	12.8	X	76.97027	9.38037	259.73106	16.41546	0.1529599	0.18040164	3.1020043	17	9 24.1	17.5
18901 2000 <i>MR</i> ₅	12.1	X	13.72433	158.81055	239.33920	21.78287	0.1141561	0.18129964	3.0917527	17	12 8.5	16.0
18902 2000 <i>NN</i> ₅	13.4	X	264.59494	343.25754	341.10821	8.77654	0.1531063	0.21314081	2.7756091	17	3 20.8	17.7
18903 Matsuura	13.2	X	55.79153	149.24012	164.61986	9.31906	0.1981612	0.24075910	2.5590626	17	11 13.9	16.6
18904 2000 <i>OY</i> ₈	14.3	X	215.19665	65.22910	315.41650	1.43824	0.2185952	0.26751306	2.3854632	17	4 6.7	18.4
18905 Weigan	15.2	X	287.09519	191.49777	173.49310	1.55303	0.1075217	0.28582374	2.2824636	17	6 5.2	18.1
18906 2000 <i>OJ</i> ₁₉	14.5	X	163.83978	80.09904	248.98030	3.70945	0.2967680	0.25937378	2.4351105	17	—	—
18907 Kevinclaytor	14.3	X	196.95028	32.07369	345.12615	6.23891	0.1361193	0.26437486	2.4043035	17	3 15.1	18.0
18908 2000 <i>OC</i> ₂₁	14.9	X	188.08898	272.46893	49.72597	2.82924	0.2236414	0.25736879	2.4477410	17	1 6.5	18.9
18909 2000 <i>OE</i> ₂₁	13.6	X	349.30006	234.93214	182.32855	6.10087	0.1870998	0.17709818	3.1404604	17	11 26.5	17.0
18910 Nolaureis	14.4	X	62.08572	221.95231	131.64265	3.84768	0.1741027	0.29743155	2.2226856	17	—	—
18911 2000 <i>OY</i> ₃₁	13.2	X	61.91124	145.33678	154.49311	18.55300	0.0968374	0.18265891	3.0763953	17	10 17.8	17.6
18912 Kayfurman	14.1	X	140.45304	238.63478	180.69351	8.98596	0.1478906	0.20820149	2.8193360	17	3 21.0	18.1
18913 2000 <i>OU</i> ₃₂	14.4	X	156.94378	271.22732	175.62781	8.76166	0.1980318	0.21474985	2.7617273	17	5 16.5	18.0
18914 2000 <i>OT</i> ₃₅	14.4	X	52.04012	202.32167	154.92988	13.33047	0.2040257	0.23911688	2.5707660	17	—	—
18915 2000 <i>OR</i> ₃₈	13.1	X	311.64787	230.61912	230.76399	14.42407	0.1531348	0.18570708	3.0426389	17	11 17.8	16.7
18916 2000 <i>OG</i> ₄₄	14.5	X	74.83319	98.66203	301.59513	7.40556	0.5851641	0.13040533	3.8512864	17	2 27.2	19.6
18917 2000 <i>OG</i> ₄₈	13.8	X	185.48123	274.75517	176.82098	11.44735	0.1621940	0.27277266	2.3546995	17	6 10.1	17.7
18918 Nishashah	14.7	X	32.05354	247.55380	57.81240	6.32416	0.1851645	0.28842983	2.2686941	17	9 24.8	16.6
18919 2000 <i>OJ</i> ₅₂	15.1	X	59.75940	333.62701	345.26365	7.27981	0.4368298	0.23909426	2.5709282	17	12 23.4	19.3
18920 2000 <i>OY</i> ₅₂	14.5	X	170.78021	326.59344	47.61278	4.83107	0.2097242	0.25846021	2.4408453	17	2 23.7	18.3
18921 2000 <i>PT</i> ₇	13.0	X	67.41562	280.65272	123.50398	11.65077	0.0952245	0.19001305	2.9964964	17	—	—
18922 2000 <i>PU</i> ₁₂	12.6	X	314.00535	176.21897	278.78517	12.34502	0.1352552	0.23639428	2.5904670	17	11 19.9	15.6
18923 Jennifersass	15.0	X	24.37444	215.78479	19.16830	6.75998	0.1687747	0.28195611	2.3032887	17	4 26.9	16.8
18924 Vinjamoori	15.0	X	276.91522	133.87476	151.68506	6.75565	0.1303178	0.26870738	2.3783895	17	2 5.8	18.6
18925 2000 <i>PY</i> ₂₅	13.4	X	201.40541	116.14623	171.02276	11.45669	0.0401195	0.20864314	2.8153559	17	4 2.6	17.7
18926 2000 <i>PO</i> ₂₆	15.5	X	102.02094	160.91053	169.04603	4.11036	0.1079061	0.30116047	2.2043002	17	—	—
18927 2000 <i>PQ</i> ₂₆	13.7	X	263.53882	145.83926	237.19304	10.65597	0.0631061	0.21786289	2.7353561	17	6 13.1	17.6
18928 Pontremoli	13.4	X	53.03388	54.80631	318.12895	9.77620	0.1171262	0.18811605	3.0166075	17	—	—
18929 2000 <i>QU</i> ₂₅	15.6	X	42.87606	85.57259	8.45832	21.67711	0.0908924	0.37044449	1.9200857	17	—	—
18930 Athreya	14.2	X	350.75421	177.10527	18.81933	2.00848	0.0066104	0.20582585	2.8409883	17	2 13.8	18.1
18931 2000 <i>QX</i> ₃₁	14.3	X	105.88216	282.35998	118.86262	8.28050	0.2726434	0.19677345	2.9274650	17	2 6.8	18.0
18932 Robinhood	14.7	X	279.37442	275.41898	37.22603	2.57774	0.2366876	0.27357152	2.3501133	17	3 6.8	18.5
18933 2000 <i>QY</i> ₃₆	15.4	X	200.31240	167.30682	233.65377	1.14246	0.2037398	0.27221762	2.3578991	17	4 19.2	19.1
18934 2000 <i>QW</i> ₃₆	14.2	X	280.34870	153.61410	244.91031	7.22241	0.1183429	0.17107963	3.2136890	17	7 19.7	18.7
18935 Alfandmedina	15.3	X	11.37482	220.31425	166.75268	2.88770	0.1527777	0.29853104	2.2172247	17	12 14.4	17.1
18936 2000 <i>QA</i> ₄₂	13.0	X	181.81778	275.03009	333.37872	9.83899	0.0720787	0.19117539	2.9843384	17	12 19.9	17.7
18937 2000 <i>QF</i> ₄₂	13.8	X	225.37808	252.88324	326.50135	9.57396	0.0450159	0.19275043	2.9680587	17	—	—
18938 Zarabeth	14.9	X	259.62705	27.39308	351.47027	3.91529	0.1533445	0.22108282	2.7087321	17	5 22.6	19.1
18939 Sariancel	13.5	X	166.32182	331.63295	221.77203	0.14846	0.1008959	0.17824636	3.1269596	17	9 28.9	18.3
18940 2000 <i>QV</i> ₄₉	11.6	X	131.50545	221.12933	133.67754	3.70427	0.0733140	0.08182176	5.2548077	17	1 14.8	18.7
18941 2000 <i>QX</i> ₅₀	13.5	X	257.16013	334.95448	140.23238	6.02604	0.1163089	0.17727234	3.1384032	17	9 28.8	18.0
18942 2000 <i>QE</i> ₅₄	13.2	X	19.65106	299.79156	350.30010	14.85677	0.0603530	0.22807064	2.6531174	17	7 30.1	16.6
18943 Elaisponton	14.9	X	156.14214	39.09435	4.57639	6.41973	0.1194246	0.26558457	2.3969970	17	3 5.4	18.1
18944 Sawilliams	14.0	X	58.10123	231.05354	114.12514	3.46012	0.1001001	0.18330464	3.0691662	17	12 3.9	18.1
18945 2000 <i>QH</i> ₇₁	14.8	X	273.01700	4.22833	216.61185	2.56209	0.2031575	0.26109244	2.4244125	17	—	—
18946 Massar	14.2	X	40.13249	45.58391	340.56100	0.51965	0.1781957	0.18530466	3.0470424	17	—	—
18947 Cindyfulton	14.9	X	85.26358	156.94258	328.01020	1.99432	0.1405990	0.26643886	2.3918705	17	3 16.5	17.3
18948 Hinkle	15.0	X	330.61459	29.00975	346.44082	1.80670	0.1166875	0.23046880	2.6346805	17	8 31.0	17.9
18949 Tumaneng	15.2	X	61.43340	48.03745	176.31325	6.85505	0.0676645	0.28280333	2.2986863	17	6 21.5	17.8
18950 Marakessler	14.7	X	242.77251	22.02847	3.76254	5.04298	0.0612113	0.21739925	2.7392438	17	5 21.5	18.7
18951 2000 <i>QQ</i> ₉₈	15.1	X	90.78419	319.57548	105.06875	3.16401	0.2156492	0.25447094	2.4662887	17	1 12.3	17.1
18952 2000 <i>QF</i> ₁₀₅	12.1	X	169.30194	190.80273	76.77976	9.64716	0.0438007	0.18645891	3.0344545	17	12 29.4	16.6
18953 Laurensmit	15.3	X	257.93187	351.10595	37.77448	2.38842	0.0907061	0.22082492	2.7108407	17	6 10.3	19.1
18954 Sarahbounds	14.8	X	122.41999	330.71910	274.59552	5.09579	0.1499685	0.29				

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
18961 Hampfreeman	15.3 ^m	X	159.91397	49.98772	18.06206	2.46062	0.1897202	0.26571340	2.3962221	17	4 16.6	19.0
18962 2000 QV ₁₄₀	15.3	X	248.68547	242.19618	20.21214	1.64479	0.0978413	0.31622597	2.1337213	17	—	—
18963 2000 QB ₁₄₁	13.3	X	33.33484	30.87990	167.66106	8.34527	0.1577994	0.21180945	2.7872280	17	4 14.6	16.2
18964 Fairhurst	14.4	X	89.41610	275.83727	157.30883	2.85135	0.1617613	0.25511219	2.4621542	17	1 14.3	16.8
18965 Lazenby	15.6	X	53.72620	193.54189	91.06538	2.54919	0.0546403	0.28721568	2.2750832	17	9 8.8	18.0
18966 2000 QO ₁₄₅	15.8	X	103.02300	217.17506	38.03189	4.73630	0.2018007	0.29401740	2.2398591	17	10 24.8	18.8
18967 2000 QP ₁₅₁	13.4	X	308.99494	43.36094	271.36156	8.02621	0.1545312	0.21375692	2.7702732	17	4 26.3	17.4
18968 2000 QX ₁₅₂	14.1	X	98.05818	20.63887	173.52378	8.22165	0.0258640	0.16836420	3.2481510	17	7 6.7	18.8
18969 Valfriedmann	15.3	X	90.30305	320.96578	242.68423	2.79090	0.0863719	0.28498471	2.2869413	17	7 9.6	17.8
18970 Jenniharper	15.3	X	331.42408	277.29278	282.70667	3.51257	0.1025653	0.26293510	2.4130723	17	—	—
18971 2000 QY ₁₇₇	11.8	X	269.11891	43.27480	189.98631	14.03065	0.1190751	0.08299679	5.2050933	17	1 9.3	19.1
18972 2000 QD ₁₉₀	13.3	X	341.25644	333.68655	40.26366	6.15187	0.2262158	0.17481280	3.1677718	17	9 10.9	16.6
18973 Crouch	14.5	X	150.64913	347.10013	114.08928	5.71818	0.0441288	0.21742231	2.7390501	17	5 13.4	18.4
18974 Brungardt	15.9	X	178.34533	236.71533	111.72465	3.79623	0.1674814	0.26069174	2.4268962	17	5 23.6	19.5
18975 2000 QZ ₂₀₀	14.4	X	203.91578	320.14776	148.42481	15.76761	0.0763115	0.22606554	2.6687822	17	7 23.0	18.5
18976 Kunilraval	15.5	X	60.72763	250.89912	351.94401	4.24636	0.1043797	0.28355763	2.2946079	17	7 25.9	17.9
18977 2000 QK ₂₁₇	12.8	X	82.28454	278.86276	42.90203	14.15341	0.1952130	0.23339552	2.6126087	17	12 19.3	16.9
18978 2000 QH ₂₃₂	14.1	X	230.93793	226.77316	299.50609	10.81374	0.1274153	0.24059754	2.5602080	17	10 27.7	18.1
18979 Henryfong	14.0	X	182.20478	16.82657	180.99013	3.78828	0.0256454	0.23470549	2.6028784	17	10 25.5	17.4
18980 Johannatang	14.7	X	56.03726	84.18072	173.74565	3.35609	0.1658649	0.28822777	2.2697543	17	9 18.9	16.9
18981 2000 RT ₃	13.6	X	28.68863	256.72766	21.65322	10.56864	0.1601642	0.22500089	2.6771943	17	8 4.0	16.5
18982 2000 RH ₅	14.7	X	269.32264	85.00095	220.20556	1.58017	0.2129416	0.26871556	2.3783413	17	2 17.7	18.4
18983 Allentran	14.7	X	213.31423	336.48218	11.19669	2.73247	0.1800805	0.26301727	2.4125697	17	2 25.0	18.6
18984 Olathe	12.9	X	115.07013	248.27217	321.63601	14.05857	0.0304226	0.16820507	3.2501994	17	8 17.8	17.4
18985 2000 RR ₂₁	15.1	X	322.04573	300.76055	148.40885	4.92966	0.2740031	0.27385058	2.3485164	17	2 3.1	18.5
18986 2000 RF ₂₂	14.2	X	139.36146	303.34470	232.49679	3.73788	0.2080950	0.22475963	2.6791097	17	8 16.8	18.5
18987 Irani	16.1	X	26.12119	100.55374	284.30410	1.36481	0.1714325	0.29730163	2.2233331	17	—	—
18988 2000 RB ₂₄	13.9	X	115.57595	354.26071	193.71091	12.29052	0.1134515	0.22263950	2.6960912	17	7 27.6	18.0
18989 2000 RV ₂₆	13.4	X	67.82887	186.20714	227.30676	10.85012	0.1674713	0.19156597	2.9802805	17	—	—
18990 2000 RW ₃₁	13.3	X	290.93154	192.03276	330.57559	9.49713	0.0490251	0.18777527	3.0202562	17	—	—
18991 Tonivanov	15.2	X	169.78607	204.35120	337.30982	4.99990	0.0710582	0.28678485	2.2773612	17	9 18.6	18.2
18992 Katharvard	13.7	X	65.75466	122.38088	283.94061	8.68201	0.0142577	0.19123260	2.9837431	17	—	—
18993 2000 RB ₄₃	12.8	X	89.75966	121.29807	267.92882	7.61122	0.0861872	0.19078074	2.9884525	17	—	—
18994 Nhannguyen	14.5	X	255.60498	327.54841	35.58783	7.41603	0.1519734	0.27019669	2.3696418	17	4 23.4	18.1
18995 2000 RF ₅₃	15.2	X	206.49459	225.57693	113.17432	2.30964	0.2045518	0.26064249	2.4272019	17	2 9.2	19.1
18996 Torasan	11.6	X	265.59295	210.94964	241.17552	20.48838	0.0340768	0.17183528	3.2042606	17	9 10.9	16.6
18997 Mizrahi	14.6	X	136.00096	169.80834	144.06031	2.82002	0.0883191	0.24002360	2.5642877	17	—	—
18998 2000 RH ₅₅	13.6	X	318.67601	31.43611	285.29143	7.38253	0.1344684	0.27351881	2.3504152	17	5 5.7	16.6
18999 2000 RC ₆₀	14.3	X	208.50320	336.59472	68.71072	5.40930	0.2036865	0.20980671	2.8049372	17	5 9.2	19.0
19000 2000 RM ₆₀	13.5	X	250.56633	98.21100	270.65484	7.78377	0.1755805	0.21407863	2.7674970	17	4 28.8	18.0
19001 2000 RV ₆₀	12.9	X	176.84082	171.48433	340.45550	11.96912	0.0311824	0.22326922	2.6910193	17	8 20.4	16.6
19002 Tongkexue	14.4	X	254.84614	279.61244	72.39794	7.39459	0.1258878	0.26596907	2.3946863	17	4 13.6	18.0
19003 Erinfrey	14.2	X	205.37764	241.69884	196.27578	3.59644	0.0811853	0.21075172	2.7965460	17	6 16.6	18.3
19004 Chirayath	15.4	X	36.51808	128.93252	190.57313	1.56682	0.1755645	0.29609351	2.2293767	17	10 21.4	17.4
19005 Teckman	14.3	X	243.55073	69.28492	224.39392	1.18193	0.0474458	0.20335486	2.8639561	17	1 31.2	18.4
19006 2000 RY ₆₅	14.0	X	267.38561	307.09269	165.67743	11.85920	0.1451291	0.22996408	2.6385341	17	10 5.9	17.5
19007 Nirajnathan	14.9	X	9.45730	302.32479	359.11521	5.08443	0.1601741	0.28890547	2.2662033	17	7 19.7	16.5
19008 Kristibutler	14.2	X	107.26435	356.19211	62.89529	2.85036	0.0477003	0.19879504	2.9075845	17	1 28.6	18.0
19009 Galenmaly	14.1	X	311.22078	3.32320	12.30859	7.20168	0.1643033	0.22350491	2.6891271	17	7 24.7	17.5
19010 2000 RT ₇₂	13.1	X	326.47527	204.29801	211.63531	21.02765	0.0432763	0.17173237	3.2055406	17	10 21.6	17.5
19011 2000 RU ₇₅	15.1	X	200.51565	91.25368	204.20281	24.62857	0.0397649	0.36725751	1.9311778	17	—	—
19012 2000 RZ ₇₅	13.7	X	277.28105	165.22697	335.64173	12.51442	0.0903610	0.23369856	2.6103497	17	11 28.7	17.3
19013 2000 RN ₇₆	13.6	X	113.36603	278.14820	9.29953	6.81706	0.1861495	0.24014787	2.5634030	17	12 7.4	17.8
19014 2000 RW ₇₇	14.4	X	196.53926	343.13304	80.66513	5.21832	0.0904511	0.21060324	2.7978602	17	5 20.4	18.6
19015 2000 RX ₇₇	13.4	X	256.88944	173.41842	179.04020	9.35599	0.1621240	0.21103982	2.7940003	17	4 19.9	17.8
19016 2000 RY ₇₈	13.8	X	274.87522	149.73489	212.27003	10.78723	0.0743139	0.21671022	2.7450470	17	5 29.8	17.7
19017 Susanlederer	14.9	X	29.43613	251.40574	236.83449	1.01217	0.0268346	0.19996581	2.8962245	17	1 9.4	18.6
19018 2000 RL ₁₀₀	11.2	X	170.34855	123.67463	231.16527	27.68817	0.0999204	0.08298748	5.2054827	17	2 12.8	18.9
19019 Sunflower	14.4	X	53.25965	161.64749	220.01620	4.86636	0.1783549	0.24261667	2.5459837	17	—	—
19020 2000 SC ₆	10.6	X	189.36865	224.43931	93.21509	17.09869	0.1120231	0.08275480	5.2152355	17	2 1.7	18.1
19021 2000 SC ₈	13.3	X	272.47766	286.58280	182.22075	46.63945	0.3054036	0.22479724	2.6788109	17	9 11.9	17.6
19022 Penzel	15.1	X	29.16756	60.34923	11.15238	2.17826	0.0838522	0.24411317	2.5355679	17	—	—
19023 Varela	14.5	X	228.60170	333.71601	155.84618	2.57544	0.1519511	0.22732159	2.6589424	17	9 10.9	18.6
19024 2000 SS ₁₁₂	13.8	X	69.54068	333.58800	21.62407	2.90577	0.1388708	0.18300888	3.0724721	17	—	—
19025 Arthurpetron	14.8	X	323.28354	42.03582	173.25446	6.41215	0.0845453	0.25849082	2.4406526	17	1 6.9	18.2
19026 2000 SR ₁₄₅	13.7	X	310.47403	250.59988	234.59362	1.75132	0.0375976	0.18285654	3.0741783	17	12 25.9	17.7
19027 2000 SZ ₁₄₉	13.5	X	30.25846	84.79995	23.19927	10.59972	0.0659414	0.19168900	2.9790052	17	—	—
19028 2000 SC ₁₆₅	12.1	X	58.58927	40.78599	283.79530	11.98192	0.0135525	0.17772562	3.1330647	17	10 22.8	16.8
19029 Briede	15.0	X	76.15240	137.17957	22.21671	2.74596	0.1559461	0.26558078	2.3970198	17	4 23.7	17.3
19030 2000 SJ ₂₇₆	13.0	X	330.56828	139.24763	228.71420	15.89296	0.1840008	0.17100775	3.2145895	17	8 6.9	17.1
19031 2000 SU ₂₉₅	13.2	X	36.99488	323.06696	31.58385	15.96291	0.1213007	0.23107183	2.6300946	17	11 21.9	16.6
19032 2053 P-L	14.0	X	123.56309	0.04535	223.45687	3.13946	0.1506763	0.22415472	2.6839275	17	9 26.4	18.0
19033 2157 P-L	13.6	X	322.54114	231.89884	193.62741	20.54169	0.1498800	0.17339585	3.1850060	17	10 20.5	17.4
19034 Santorini	12.9	X	45.97106	358.53857	50.40088	3.52754	0.2465408	0.12502766	3.9609434	17	—	—
19035 4634 P-L	14.9	X	13.44912	306.70569	15.77392	4.78906	0.1972263	0.29358858	2.2420396	17	9 8.7	16.1
19036 4642 P-L	16.0	X	288.91475	268.60187	42.89107							

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19041 6055 <i>P-L</i>	15.8 ^m	X	244.98704	77.75791	326.74764	1.86549	0.2149629	0.27294211	2.3537248	17	6 1.1	19.6
19042 6104 <i>P-L</i>	14.2	X	346.64579	200.35992	199.24330	3.64795	0.0876570	0.17436258	3.1732224	17	10 28.9	18.1
19043 6214 <i>P-L</i>	15.2	X	187.18241	226.18477	221.96561	4.33676	0.1159845	0.27226186	2.3576437	17	6 4.9	18.7
19044 6516 <i>P-L</i>	16.0	X	52.30595	2.38898	13.08964	6.45206	0.2443240	0.29728149	2.2234334	17	—	—
19045 6593 <i>P-L</i>	15.3	X	135.37588	115.55945	155.62723	3.16605	0.1851160	0.29749464	2.2223713	17	12 13.1	18.7
19046 7607 <i>P-L</i>	15.6	X	195.47277	340.62235	99.25242	3.41018	0.2081145	0.27180105	2.3603077	17	6 4.5	19.5
19047 9516 <i>P-L</i>	15.7	X	126.52549	126.20164	171.10052	2.35754	0.0729666	0.29773922	2.2211541	17	—	—
19048 9567 <i>P-L</i>	13.5	X	79.43953	268.50009	29.67667	9.41275	0.0547016	0.17423074	3.1748231	17	10 26.2	17.9
19049 1105 <i>T-1</i>	14.1	X	203.87255	286.99914	186.56228	6.67145	0.0879348	0.22086228	2.7105350	17	7 28.6	18.2
19050 1162 <i>T-1</i>	14.0	X	190.52566	247.95010	344.79614	10.63203	0.0966652	0.18307962	3.0716805	17	12 6.8	18.9
19051 3210 <i>T-1</i>	15.5	X	57.13256	124.76269	341.44097	1.69828	0.1391280	0.25420940	2.4679801	17	—	—
19052 1017 <i>T-2</i>	14.0	X	8.26919	229.02085	182.29336	9.46692	0.0132349	0.18299124	3.0726694	17	12 10.9	18.4
19053 1054 <i>T-2</i>	14.0	X	60.15374	163.53317	186.50224	3.60453	0.2055632	0.18346590	3.0673675	17	12 26.2	18.3
19054 1058 <i>T-2</i>	14.2	X	289.06845	322.37204	204.68205	5.35516	0.0648029	0.18496686	3.0507510	17	—	—
19055 1066 <i>T-2</i>	14.2	X	137.94691	139.86097	199.19636	3.88317	0.1217164	0.18732302	3.0251154	17	—	—
19056 1162 <i>T-2</i>	14.9	X	320.89851	3.54268	24.29431	2.84900	0.1200087	0.22323238	2.6913154	17	9 1.7	18.0
19057 1166 <i>T-2</i>	15.1	X	236.94520	285.04556	355.76459	7.11985	0.1909390	0.25784444	2.4447298	17	—	—
19058 1331 <i>T-2</i>	14.7	X	323.10692	73.14285	266.50700	1.62919	0.0831579	0.22073682	2.7115619	17	7 2.9	18.1
19059 1352 <i>T-2</i>	14.5	X	11.73596	317.93974	216.42058	0.54341	0.1223652	0.25763439	2.4460584	17	1 14.9	17.3
19060 2176 <i>T-2</i>	14.8	X	1.07313	339.28768	2.49035	13.85406	0.1165415	0.22317592	2.6917693	17	9 9.8	17.7
19061 2261 <i>T-2</i>	14.8	X	178.92015	71.14751	349.46506	2.09875	0.1690975	0.26037860	2.4288416	17	4 24.2	18.6
19062 2289 <i>T-2</i>	13.6	X	67.55022	175.05172	199.24978	9.42628	0.1088017	0.18422826	3.0588996	17	—	—
19063 3147 <i>T-2</i>	14.1	X	317.56372	30.07076	104.22791	3.38541	0.0916640	0.18416477	3.0596026	17	—	—
19064 3176 <i>T-2</i>	14.9	X	104.87544	103.43539	25.80351	4.15387	0.0573045	0.26077266	2.4263941	17	4 12.8	17.8
19065 3351 <i>T-2</i>	14.4	X	150.21953	47.13893	68.35520	2.73865	0.1575529	0.26229965	2.4169680	17	6 5.5	18.0
19066 4068 <i>T-2</i>	15.2	X	236.69272	20.36560	51.70608	3.62768	0.0659800	0.22057215	2.7129113	17	7 15.6	19.2
19067 4087 <i>T-2</i>	15.3	X	157.48669	180.87026	114.85876	1.89822	0.2180892	0.18694266	3.0292174	17	—	—
19068 4232 <i>T-2</i>	15.1	X	148.41418	328.71575	69.77335	3.97548	0.1726148	0.25730136	2.4481687	17	2 27.0	18.5
19069 5149 <i>T-2</i>	13.5	X	51.96536	157.66500	238.88574	9.51913	0.0832877	0.18439573	3.0570471	17	—	—
19070 5491 <i>T-2</i>	14.2	X	177.34145	279.66006	328.88389	12.31188	0.0297079	0.18298981	3.0726855	17	12 15.8	18.8
19071 1047 <i>T-3</i>	14.1	X	315.59317	40.87021	272.16346	6.34125	0.1239594	0.21564539	2.7540761	17	5 8.8	17.7
19072 1222 <i>T-3</i>	13.8	X	3.39661	69.70736	328.93760	5.94651	0.1568344	0.17410804	3.1763145	17	11 23.9	17.5
19073 3157 <i>T-3</i>	15.2	X	266.81645	140.08490	59.70258	3.77986	0.1112965	0.30239729	2.1982856	17	—	—
19074 4236 <i>T-3</i>	13.5	X	210.29219	161.01638	66.66447	6.41396	0.1051384	0.17737308	3.1372147	17	12 20.4	18.3
19075 4288 <i>T-3</i>	14.0	X	22.84985	148.28248	128.30649	5.71255	0.0782134	0.21742103	2.7390608	17	7 11.7	17.2
19076 5002 <i>T-3</i>	14.4	X	73.15837	121.90613	93.09165	7.06836	0.0416806	0.21635587	2.7480434	17	6 29.9	17.9
19077 5123 <i>T-3</i>	14.8	X	159.21417	321.79760	107.44964	7.16543	0.0858501	0.26080269	2.4262079	17	4 11.3	18.2
19078 5187 <i>T-3</i>	12.8	X	291.20833	86.91212	64.63056	17.72688	0.1193603	0.17581945	3.1556690	17	12 21.1	17.1
19079 Hernandez	13.2	X	284.59522	217.15996	38.91420	8.04544	0.1788370	0.19273238	2.9682439	17	1 23.4	18.0
19080 Martinfierro	13.8	X	167.58809	281.91077	288.80085	20.65098	0.2822710	0.27953886	2.3165477	17	10 16.0	18.4
19081 Mravinskij	13.0	X	232.18465	187.74800	201.48477	14.71062	0.1152692	0.23961598	2.5671950	17	5 10.5	16.9
19082 Vikchernov	14.7	X	67.47803	4.22030	331.59688	6.04627	0.2550013	0.29292184	2.2454405	17	—	—
19083 1977 <i>DA</i> ₄	13.4	X	186.34913	344.46053	68.67179	3.23922	0.0540891	0.20084420	2.8877739	17	4 26.1	17.7
19084 1978 <i>RQ</i> ₉	13.8	X	146.21887	233.38839	349.83265	6.73677	0.0592792	0.28047435	2.3113938	17	10 15.1	16.8
19085 1978 <i>UR</i> ₄	15.5	X	212.14275	136.05787	311.77677	2.45931	0.1952386	0.27196239	2.3593741	17	6 29.4	19.2
19086 1978 <i>VB</i> ₃	12.7	X	118.70094	289.95382	57.89189	13.20269	0.0865916	0.18154284	3.0889909	17	—	—
19087 1978 <i>VT</i> ₄	13.9	X	342.77671	66.84051	35.38229	1.52394	0.1242931	0.17783505	3.1317793	17	—	—
19088 1978 <i>VW</i> ₄	16.0	X	193.57547	23.16198	39.02154	1.69905	0.1762238	0.26775529	2.3840243	17	5 10.1	19.7
19089 1978 <i>VZ</i> ₆	14.3	X	92.86539	93.83873	241.86161	1.81949	0.0710689	0.17863265	3.1224500	17	12 28.1	18.8
19090 1978 <i>VM</i> ₉	15.0	X	165.10310	15.97631	79.45920	5.31298	0.1123365	0.26746235	2.3857647	17	5 21.9	18.3
19091 1978 <i>XX</i>	12.9	X	212.80494	111.31343	62.86193	13.66390	0.1143197	0.22568323	2.6717953	17	10 27.5	17.0
19092 1979 <i>MF</i> ₂	15.7	X	40.26419	135.50071	176.01155	1.07482	0.2073644	0.28787794	2.2715927	17	10 21.0	17.8
19093 1979 <i>MM</i> ₃	13.7	X	243.00626	254.91426	119.69977	17.68430	0.1130286	0.20299352	2.8673537	17	5 13.3	18.4
19094 1979 <i>MR</i> ₆	15.5	X	173.37672	72.69551	164.85943	4.07152	0.1308917	0.29323807	2.2438259	17	12 6.4	18.8
19095 1979 <i>MA</i> ₈	14.6	X	41.58674	260.86739	151.53681	3.96814	0.1596990	0.19100859	2.9860755	17	—	—
19096 Leonfridman	13.8	X	298.03309	31.23953	33.08129	8.50303	0.1503544	0.28382066	2.2931900	17	9 15.2	16.2
19097 1981 <i>EY</i> ₂	13.9	X	117.10291	116.35782	222.90015	9.26011	0.1035629	0.18320804	3.0702450	17	—	—
19098 1981 <i>EM</i> ₃	15.4	X	3.82182	170.54999	251.94658	5.83482	0.0717988	0.28951855	2.2630030	17	—	—
19099 1981 <i>EC</i> ₄	14.8	X	23.24633	205.44803	230.71761	10.24233	0.1123993	0.23832180	2.5764806	17	—	—
19100 1981 <i>EH</i> ₅	14.3	X	103.58536	118.21328	238.79868	8.99655	0.0652554	0.18337288	3.0684047	17	—	—
19101 1981 <i>EV</i> ₆	13.9	X	88.38422	82.24305	281.69931	7.60479	0.1069336	0.18257423	3.0773465	17	—	—
19102 1981 <i>EH</i> ₈	15.4	X	217.15539	209.45192	322.75548	7.28301	0.1363782	0.28631036	2.2798766	17	10 23.3	18.9
19103 1981 <i>ER</i> ₁₁	15.5	X	265.21209	211.98230	289.86233	2.40517	0.0646292	0.23374158	2.6100294	17	11 19.6	18.9
19104 1981 <i>EY</i> ₁₃	14.3	X	117.64602	145.27016	209.70013	8.37671	0.0999642	0.18416084	3.0596461	17	—	—
19105 1981 <i>EB</i> ₁₅	14.9	X	355.17690	215.23783	257.45249	2.59355	0.1387072	0.23882633	2.5728507	17	—	—
19106 1981 <i>EV</i> ₁₅	15.0	X	193.77679	217.89940	346.63434	10.45938	0.0454175	0.23220107	2.6215606	17	11 10.9	19.0
19107 1981 <i>EU</i> ₁₉	14.6	X	46.02828	288.97244	345.78256	5.39514	0.1392373	0.28000699	2.3139651	17	8 23.8	16.8
19108 1981 <i>EV</i> ₂₁	14.5	X	84.33202	79.65771	355.24447	10.59960	0.1089403	0.18858743	3.0115787	17	1 30.5	18.4
19109 1981 <i>EZ</i> ₂₃	15.9	X	155.86244	17.79236	210.40829	2.91572	0.0602926	0.23128346	2.6284900	17	11 1.4	19.7
19110 1981 <i>EF</i> ₂₉	14.2	X	132.43307	325.56584	327.29477	4.27681	0.1385559	0.18027308	3.1034789	17	12 23.6	19.1
19111 1981 <i>EM</i> ₂₉	15.3	X	82.49397	311.36138	293.39259	5.76318	0.0994339	0.28055611	2.3109447	17	8 28.5	18.0
19112 1981 <i>EN</i> ₃₁	15.4	X	0.20645	171.75778	160.04008	4.21182	0.1117961	0.28119925	2.3074198	17	8 19.2	17.4
19113 1981 <i>EB</i> ₃₃	14.4	X	70.98867	341.69733	328.46787	12.17295	0.1762555	0.23029432	2.6360111	17	11 19.4	18.4
19114 1981 <i>EP</i> ₃₇	15.1	X	24.47569	131.70600	262.91587	2.63067	0.1344561	0.23518469	2.5993416	17	—	—
19115 1981 <i>EM</i> ₃₉												

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19121 1985 <i>CY</i> ₁	14.0 ^m	X	301.35895	338.73961	159.34414	12.27785	0.2615007	0.17414675	3.1758438	17	12 3.4	17.9
19122 Amandabosh	14.6	X	262.29557	152.04003	271.62312	1.22273	0.2161834	0.27217077	2.3581697	17	7 13.7	18.1
19123 Stephenlevine	14.7	X	253.97827	211.11178	127.03832	2.97113	0.2686674	0.27594513	2.3366172	17	3 15.7	18.8
19124 1986 <i>TH</i> ₃	13.5	X	274.95703	219.80098	192.67007	15.52038	0.3160302	0.21745799	2.7387505	17	7 2.2	18.2
19125 1987 <i>CH</i>	14.4	X	138.40189	351.43330	147.17287	5.43310	0.0755063	0.30143686	2.2029526	17	6 10.3	17.1
19126 Ottobahn	14.2	X	184.17672	82.03621	202.65027	12.38944	0.1936903	0.24394676	2.5367209	17	—	—
19127 Olegfremov	15.3	X	142.34766	4.72139	336.86501	5.22931	0.3173872	0.30881392	2.1677281	17	—	—
19128 1987 <i>YR</i> ₁	14.3	X	211.35327	245.48387	226.50924	13.89868	0.1893349	0.22018781	2.7160673	17	7 27.4	19.1
19129 Loos	13.6	X	324.12394	15.69446	91.34348	5.87271	0.1325588	0.22872284	2.6480714	17	12 25.6	16.2
19130 Tytgat	13.2	X	150.71423	61.64170	125.20395	15.23363	0.1469384	0.21831837	2.7315503	17	9 12.1	17.7
19131 1988 <i>CY</i> ₃	14.0	X	255.59358	169.07554	224.08909	8.68091	0.1602907	0.21460057	2.7630080	17	6 6.9	18.2
19132 Le Clézio	14.2	X	167.29270	241.63854	236.91270	7.56386	0.1560267	0.21369989	2.7707660	17	6 29.8	18.7
19133 1988 <i>PC</i> ₂	12.9	X	249.78544	148.32382	175.25403	12.12241	0.1915015	0.22688451	2.6623562	17	3 2.8	17.3
19134 1988 <i>TQ</i> ₁	14.0	X	143.01633	83.20783	345.91287	5.84948	0.1439726	0.25572125	2.4582432	17	3 25.8	17.4
19135 1988 <i>XQ</i>	14.2	X	51.84563	165.44799	256.99254	9.68453	0.2709276	0.24450095	2.5328862	17	—	—
19136 Strassmann	14.8	X	306.03202	351.13577	137.30422	4.77422	0.1030449	0.23543754	2.5974802	17	12 27.1	17.7
19137 Copiapó	13.8	X	275.41876	338.42442	273.25724	8.82877	0.1652910	0.24294807	2.5436679	17	—	—
19138 1989 <i>EJ</i> ₁	14.4	X	267.51493	77.26557	166.79825	4.16561	0.1167419	0.30855951	2.1689195	17	—	—
19139 Apian	13.5	X	105.05918	336.67729	48.22191	8.02416	0.0770850	0.23738932	2.5832232	17	—	—
19140 Jansmit	14.1	X	308.47315	131.93140	249.91293	21.64202	0.2548478	0.27840867	2.3228128	17	7 2.3	17.1
19141 Poelkapelle	14.6	X	235.05343	343.80191	121.36109	4.07973	0.1729652	0.27681396	2.3317253	17	8 14.8	18.2
19142 Langemarck	15.5	X	321.60544	223.57644	129.42382	3.59696	0.1801113	0.27703722	2.3304724	17	6 28.1	17.7
19143 1989 <i>SA</i> ₁₀	14.7	X	296.55302	72.22889	4.52010	7.65174	0.0804445	0.28310932	2.2970296	17	10 11.6	17.3
19144 1989 <i>UP</i> ₁	13.4	X	314.59451	305.54420	81.64453	6.71692	0.2010870	0.27794344	2.3254041	17	8 6.6	15.7
19145 1989 <i>YC</i>	14.1	X	209.73783	280.40171	100.65293	10.39985	0.2707171	0.26466829	2.4025261	17	4 9.8	18.5
19146 1989 <i>YY</i>	15.0	X	104.88927	88.46081	110.42498	3.00632	0.1595432	0.26619859	2.3933096	17	8 6.4	18.0
19147 1989 <i>YV</i> ₄	15.1	X	171.07402	73.82502	33.81850	1.56834	0.1262955	0.26548057	2.3976229	17	6 14.6	18.7
19148 Alaska	12.6	X	293.58829	239.56377	299.98777	19.58160	0.1437880	0.17856624	3.1232241	17	—	—
19149 Boccaccio	12.8	X	209.35221	280.83339	187.77517	6.73369	0.0743686	0.15866281	3.3792420	17	7 31.2	18.0
19150 1990 <i>HY</i>	13.1	X	173.24553	159.56272	88.03552	16.32857	0.0759460	0.23648750	2.5897862	17	12 14.9	16.8
19151 1990 <i>KD</i> ₁	14.0	X	310.88515	346.58401	185.96954	12.38147	0.0914628	0.24236993	2.5477113	17	—	—
19152 1990 <i>OB</i> ₅	13.3	X	36.90424	67.62791	259.35533	11.74109	0.1913154	0.22378010	2.6869221	17	10 25.6	16.5
19153 1990 <i>QB</i> ₃	15.3	X	76.52432	240.14617	159.62086	3.83881	0.1657106	0.30398179	2.1906399	17	—	—
19154 1990 <i>QX</i> ₄	14.9	X	137.70692	289.25868	46.89207	5.19865	0.1829600	0.30568384	2.1825007	17	—	—
19155 Lifeson	13.3	X	172.86511	61.00930	307.93814	12.28834	0.2161686	0.23682480	2.5873267	17	2 18.4	17.5
19156 Heco	13.4	X	269.65424	272.21709	213.31089	1.24394	0.0067191	0.22201274	2.7011630	17	11 12.4	17.1
19157 1990 <i>SS</i> ₆	14.7	X	155.78839	227.22357	144.49545	3.37548	0.1498214	0.30901573	2.1667842	17	1 12.1	17.1
19158 1990 <i>SN</i> ₇	14.4	X	138.93266	277.10173	48.65226	4.23438	0.2060948	0.30461017	2.1876262	17	—	—
19159 1990 <i>TT</i>	13.4	X	291.30683	25.17254	12.09322	8.49556	0.0584460	0.21414146	2.7669557	17	8 12.6	17.2
19160 Chikayoshitomi	14.8	X	19.03289	166.48155	207.82399	4.10204	0.1979932	0.29435135	2.2381646	17	12 15.8	16.7
19161 1990 <i>TQ</i> ₁	15.2	X	338.12790	243.54545	123.45065	5.96450	0.1786602	0.29017286	2.2595998	17	8 26.4	16.7
19162 Wambsganss	13.6	X	359.82746	96.12480	278.88912	2.28315	0.0883634	0.21961642	2.7207764	17	10 19.3	16.8
19163 1990 <i>WE</i> ₅	15.3	X	6.35516	269.80211	114.00773	5.74934	0.0574691	0.29110406	2.2547785	17	11 19.5	17.7
19164 1991 <i>AU</i> ₁	14.1	X	220.15142	138.51479	334.72375	22.31842	0.0545548	0.38987200	1.8557580	17	8 19.2	15.8
19165 1991 <i>CD</i>	13.8	X	271.42636	113.44176	349.10593	7.79127	0.0743310	0.28417066	2.2913067	17	10 6.4	16.5
19166 1991 <i>EY</i> ₁	14.7	X	155.40852	245.86711	318.15797	5.05069	0.1384834	0.28050948	2.3112008	17	10 2.8	18.3
19167 1991 <i>ED</i> ₂	14.1	X	282.74334	343.74451	162.07256	4.70468	0.0950838	0.28890984	2.2661805	17	12 24.1	16.4
19168 1991 <i>EO</i> ₅	13.1	X	110.77178	218.94511	167.49722	10.47011	0.1078422	0.18459939	3.0547983	17	1 4.1	17.4
19169 1991 <i>FD</i>	14.1	X	142.14065	358.93584	167.66414	24.87251	0.1796321	0.27393242	2.3480486	17	8 3.9	18.1
19170 1991 <i>FH</i>	13.1	X	240.48872	338.52361	206.69418	19.45949	0.1307220	0.17390781	3.1787521	17	11 29.7	18.0
19171 1991 <i>FS</i>	14.9	X	214.07308	109.56477	35.57759	4.78979	0.1751225	0.28043827	2.3115921	17	9 16.9	18.4
19172 1991 <i>FC</i> ₄	15.0	X	163.12532	268.49381	252.09449	2.31902	0.1397428	0.27503610	2.3417629	17	8 15.7	18.4
19173 Virginatière	13.5	X	306.37092	182.65828	100.95827	14.22343	0.1976142	0.26078184	2.4263372	17	3 7.3	17.2
19174 1991 <i>NS</i> ₆	14.6	X	322.72216	244.68939	128.15875	8.28323	0.0752574	0.22947723	2.6422647	17	8 19.8	17.7
19175 Peterpiot	14.4	X	48.10000	111.59198	336.09737	3.17118	0.0301759	0.24598988	2.5226551	17	—	—
19176 1991 <i>PK</i> ₃	13.8	X	132.88352	288.14557	57.80291	2.38131	0.1097478	0.24370419	2.5384039	17	—	—
19177 1991 <i>PJ</i> ₁₁	14.0	X	101.23333	87.28598	241.51346	2.88553	0.2048018	0.23680764	2.5874516	17	—	—
19178 Walterbothe	14.4	X	148.73052	11.90887	276.23074	3.88968	0.2593569	0.23868297	2.5738808	17	—	—
19179 1991 <i>RK</i> ₈	13.4	X	21.85747	247.59471	40.99149	10.33165	0.0800542	0.22262765	2.6961868	17	7 31.0	16.8
19180 1991 <i>RK</i> ₁₆	14.0	X	87.28133	283.30651	61.53891	2.84608	0.1398070	0.23605531	2.5929464	17	—	—
19181 1991 <i>SD</i> ₁	13.9	X	244.57543	92.28643	132.23284	13.79713	0.1301328	0.24168787	2.5525023	17	—	—
19182 Pitz	14.6	X	304.90426	190.96128	256.86805	2.40127	0.0911234	0.22928003	2.6437795	17	10 31.3	17.8
19183 Amati	14.3	X	30.81368	315.03369	10.44992	12.82463	0.1809140	0.22668816	2.6638933	17	10 13.2	17.2
19184 1991 <i>TB</i> ₆	13.1	X	110.41265	302.82285	37.55593	15.99847	0.1581907	0.23711096	2.5852445	17	—	—
19185 Guarneri	14.5	X	74.87771	337.07565	12.88118	9.55030	0.1405632	0.23494245	2.6011280	17	—	—
19186 1991 <i>VY</i> ₁	14.0	X	52.91833	91.85880	273.91801	22.04999	0.2817707	0.27051067	2.3678078	17	—	—
19187 1991 <i>VU</i> ₂	13.9	X	343.36050	296.95545	79.04283	12.49257	0.2022894	0.22525752	2.6751606	17	9 27.4	16.6
19188 Dittebesard	13.4	X	323.61927	140.74543	265.95304	11.70047	0.1773324	0.22217457	2.6998511	17	9 17.8	16.6
19189 Stradivari	13.3	X	357.73003	294.63751	97.63886	14.27529	0.1917039	0.22519025	2.6756933	17	11 20.4	16.0
19190 Morihiroshi	13.1	X	349.06845	269.30164	111.35116	6.46324	0.0864966	0.21818035	2.7327022	17	10 14.0	16.4
19191 1992 <i>DT</i> ₂	14.7	X	330.15145	70.14621	140.87002	2.95789	0.0352042	0.19532106	2.9419593	17	2 4.9	18.8
19192 1992 <i>DY</i> ₅	13.9	X	133.76137	293.00839	99.88099	3.40008	0.0969798	0.19447917	2.9504436	17	2 6.3	17.9
19193 1992 <i>DK</i> ₆	13.9	X	153.12284	327.56431	55.74656	2.89712	0.1169641	0.19538444	2.9413231	17	2 19.2	18.2
19194 1992 <i>DG</i> ₇	14.1	X	128.76458	213.01073	143.87277	8.14861	0.1111453	0.18958318	3.0010243	17	—	—
19195 1992 <i>DM</i> ₇	13.8	X	41.74396	9.95353	131.15500	2.98677	0.0405975	0.19536026	2.9415657	17	2 12.2	17.7
19196 19												

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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>
19201 1992 <i>GZ</i> ₄	13.3 ^m	X	46.17239	291.10331	73.47895	2.41486	0.0393373	0.17636847	3.1491167	17	12 2.9	17.7
19202 1992 <i>HN</i>	14.6	X	292.07079	112.37191	66.67344	5.05839	0.1250130	0.30043910	2.2078272	17	—	—
19203 1992 <i>HJ</i> ₂	15.4	X	205.69137	69.76092	66.31671	7.34357	0.0392634	0.28587882	2.2821704	17	9 6.2	18.4
19204 Joshuatree	14.0	X	79.98550	134.58122	120.32700	24.23304	0.2524331	0.28271551	2.2991623	17	10 16.2	17.8
19205 1992 <i>PT</i>	15.2	X	228.47049	124.82031	211.65496	0.80936	0.2033376	0.26202691	2.4186449	17	2 23.6	19.3
19206 1992 <i>PH</i> ₄	14.5	X	353.38092	331.68579	323.82773	2.11239	0.2264983	0.27268332	2.3552138	17	5 21.8	16.3
19207 1992 <i>QS</i> ₁	13.4	X	282.28872	310.86106	80.26994	8.89812	0.1238097	0.27079262	2.3661640	17	7 5.3	16.5
19208 Starrfield	14.6	X	208.12127	8.34920	30.02315	2.89402	0.2040647	0.26258083	2.4152423	17	4 23.9	18.6
19209 1992 <i>UW</i> ₂	14.4	X	111.58904	285.29208	53.81809	5.93419	0.2155715	0.28620395	2.2804417	17	—	—
19210 1992 <i>YE</i> ₄	14.4	X	38.42441	240.46447	150.35004	4.08806	0.2349496	0.23797419	2.5789889	17	—	—
19211 1993 <i>DM</i>	14.3	X	317.89193	275.77232	277.33236	4.21350	0.0732569	0.24007669	2.5639096	17	—	—
19212 1993 <i>FL</i> ₁₈	14.1	X	276.98016	315.95998	89.63350	5.05980	0.0828143	0.21717023	2.7411693	17	7 28.9	17.8
19213 1993 <i>FF</i> ₂₁	14.6	X	176.63813	97.49671	355.14508	3.07144	0.0605419	0.21119371	2.7926428	17	6 2.2	18.7
19214 1993 <i>FT</i> ₂₂	13.8	X	245.09712	221.06092	266.91099	2.59335	0.0582267	0.18189376	3.0850167	17	10 4.8	18.2
19215 1993 <i>FS</i> ₂₉	14.4	X	303.32267	351.01707	289.17928	3.72940	0.0618788	0.20486157	2.8498963	17	3 21.4	18.4
19216 1993 <i>FA</i> ₃₇	13.9	X	342.51262	284.19940	142.50348	3.65926	0.1570123	0.22800774	2.6536053	17	12 3.9	16.4
19217 1993 <i>FE</i> ₄₃	15.1	X	232.74733	237.20979	152.78060	3.15769	0.0914739	0.21071565	2.7968651	17	5 16.4	19.4
19218 1993 <i>FH</i> ₄₉	14.4	X	110.09334	225.18454	190.18854	1.65224	0.0734457	0.19996484	2.8962338	17	1 29.5	18.2
19219 1993 <i>OH</i> ₅	13.9	X	161.60319	120.53319	142.85645	0.88021	0.1206243	0.17926970	3.1150484	17	12 15.4	18.8
19220 1993 <i>OX</i> ₁₁	12.9	X	8.56778	110.77809	297.50228	2.88844	0.1486241	0.17582465	3.1550607	17	12 16.1	16.5
19221 1993 <i>PD</i> ₃	14.8	X	47.23057	230.79338	265.96491	3.10801	0.0182029	0.31221943	2.1519364	17	1 8.8	16.9
19222 1993 <i>QK</i> ₁	14.5	X	267.05001	353.50018	273.48471	2.32939	0.1680734	0.27039807	2.3684651	17	1 2.6	18.2
19223 1993 <i>QH</i> ₈	13.7	X	121.43959	198.32765	81.79474	2.74718	0.1465642	0.17303727	3.1894046	17	11 29.1	18.7
19224 Orosei	15.3	X	26.70204	128.16816	242.55603	6.48497	0.1595451	0.29173367	2.2515332	17	12 16.6	17.4
19225 1993 <i>RX</i> ₅	16.0	X	94.65872	108.26442	191.59233	2.16253	0.1662056	0.29347563	2.2426148	17	12 9.3	19.2
19226 Peiresc	12.7	X	347.28661	154.28399	191.02478	8.04752	0.0438162	0.16098194	3.3467089	17	8 20.2	17.3
19227 1993 <i>RH</i> ₁₆	15.0	X	175.86741	180.51946	204.72434	2.63988	0.1654679	0.26887990	2.3773721	17	3 5.4	18.6
19228 Uemuraiuko	15.0	X	68.27363	190.38146	160.79010	5.76995	0.1915319	0.29489531	2.2354115	17	—	—
19229 1993 <i>SD</i> ₅	14.1	X	103.89420	0.39791	353.63238	6.32051	0.1145989	0.30011737	2.2094048	17	—	—
19230 Sugazi	13.9	X	191.48142	328.19206	334.78687	4.37214	0.1284982	0.30309611	2.1949054	17	—	—
19231 1993 <i>TL</i> ₅	15.9	X	200.04750	245.29798	320.86672	3.28075	0.1108474	0.29127267	2.2539082	17	11 23.4	18.9
19232 1993 <i>TJ</i> ₁₅	15.8	X	105.31834	256.64711	22.19052	6.63608	0.1918744	0.29190368	2.2506589	17	11 23.7	19.1
19233 1993 <i>UD</i> ₇	15.2	X	105.13614	311.81851	110.80061	3.87460	0.1062349	0.30388136	2.1911226	17	—	—
19234 Victoriahiggs	14.5	X	22.40804	138.55439	235.02202	24.78965	0.2107093	0.28951291	2.2630324	17	12 18.7	17.0
19235 van Schurman	13.5	X	93.87506	293.94064	74.43277	11.02367	0.1490107	0.25463113	2.4652543	17	—	—
19236 1993 <i>XV</i>	14.3	X	48.63758	137.43566	288.81163	6.39056	0.2104287	0.25315104	2.4748540	17	—	—
19237 1994 <i>AP</i>	14.1	X	246.36798	42.03752	84.43881	7.10921	0.0815988	0.28033943	2.3121354	17	10 10.5	17.1
19238 1994 <i>AV</i> ₁	14.4	X	101.82018	207.49806	301.71033	6.00784	0.1777540	0.26420033	2.4053622	17	5 24.9	17.4
19239 1994 <i>AM</i> ₂	13.2	X	128.09378	264.77523	299.34031	18.18345	0.1263947	0.27260290	2.3556769	17	8 28.1	16.8
19240 1994 <i>AZ</i> ₁₀	15.7	X	116.43595	228.50869	53.18385	3.74636	0.1627709	0.23846255	2.5754666	17	12 2.3	19.8
19241 1994 <i>BH</i> ₄	15.1	X	116.21892	293.01140	179.68130	2.15031	0.1190651	0.26300428	2.4126492	17	4 15.8	18.1
19242 1994 <i>CB</i> ₁	13.9	X	288.47043	198.39888	247.64764	3.16363	0.2960108	0.23933326	2.5692163	17	8 31.7	17.3
19243 Bunting	13.3	X	266.51042	59.64207	6.06224	23.73547	0.2440064	0.27711074	2.3300602	17	7 27.7	17.3
19244 1994 <i>CX</i> ₁₂	13.9	X	127.91860	147.24258	39.92038	4.01907	0.0645838	0.26937180	2.3744770	17	8 7.6	17.0
19245 1994 <i>EL</i> ₂	14.3	X	262.45381	194.03847	1.92640	12.57844	0.1883354	0.24181514	2.5516066	17	—	—
19246 1994 <i>EL</i> ₇	14.3	X	166.67494	137.96152	30.85502	3.02107	0.1741503	0.27015079	2.3699102	17	9 2.5	18.1
19247 1994 <i>LO</i> ₁	14.7	X	299.49748	247.68423	96.67542	27.42099	0.0638458	0.38551501	1.8697140	17	5 25.5	17.0
19248 1994 <i>PT</i>	13.9	X	76.81043	214.30764	133.59082	2.71715	0.2078737	0.18108422	3.0942042	17	—	—
19249 1994 <i>PO</i> ₂₅	14.3	X	277.89501	223.48750	51.00840	2.70913	0.0567112	0.19804662	2.9149052	17	2 17.5	18.4
19250 1994 <i>PF</i> ₂₆	14.0	X	228.96282	43.32427	101.71619	3.48562	0.1283262	0.17557188	3.1586347	17	10 3.0	18.9
19251 Totziens	13.6	X	134.93536	180.83959	169.57622	16.39282	0.2870913	0.23128539	2.6284754	17	1 1.4	17.6
19252 1994 <i>RG</i> ₇	14.4	X	167.26856	332.13827	314.17760	1.47283	0.0397887	0.18332430	3.0689468	17	—	—
19253 1994 <i>RN</i> ₂₈	14.7	X	197.24165	295.93583	2.97664	1.54975	0.0975332	0.19169828	2.9789090	17	—	—
19254 1994 <i>VD</i> ₇	12.6	X	119.14578	71.33075	234.66762	20.82581	0.1186603	0.17583356	3.1555001	17	12 22.5	17.7
19255 1994 <i>VK</i> ₈	7.0	X	262.82952	119.27872	72.39214	1.48886	0.0359417	0.00353493	42.6791214	17	12 22.7	23.3
19256 1994 <i>WA</i> ₄	13.5	X	15.53735	251.32178	208.98202	11.71461	0.0837368	0.22172209	2.7035230	17	—	—
19257 1995 <i>DS</i> ₅	14.0	X	14.33971	354.02087	312.56060	6.74539	0.1066034	0.28343241	2.2952837	17	8 7.0	15.8
19258 Gongyi	14.8	X	61.40426	159.88662	132.17631	7.45925	0.1389271	0.28360606	2.2943467	17	10 17.8	17.5
19259 1995 <i>GB</i>	14.5	X	12.75116	121.48519	120.73234	2.92917	0.1718353	0.26900165	2.3766547	17	4 19.1	16.4
19260 1995 <i>GT</i>	13.8	X	46.99432	209.33543	13.18705	24.04286	0.2404702	0.27171345	2.3608150	17	6 5.1	16.2
19261 1995 <i>MB</i>	12.7	X	327.45702	10.87792	279.85456	26.31410	0.2226645	0.26326898	2.4110317	17	3 15.1	16.7
19262 1995 <i>OB</i> ₁	15.1	X	44.40275	32.47057	284.91974	6.35954	0.2001671	0.22827483	2.6515350	17	10 26.9	18.3
19263 Lavater	14.5	X	6.64121	43.59548	291.13076	2.87117	0.2252368	0.22602940	2.6690667	17	9 8.9	16.6
19264 1995 <i>SE</i> ₁₀	14.8	X	321.69577	345.07619	162.12075	4.19830	0.2192911	0.23688797	2.5868667	17	—	—
19265 1995 <i>SD</i> ₂₄	14.1	X	321.64659	162.68219	163.57030	5.12344	0.1054557	0.21579616	2.7527931	17	6 9.8	17.6
19266 1995 <i>TF</i> ₁	14.1	X	66.01661	77.77277	238.78602	13.11288	0.2212756	0.23042588	2.6350076	17	11 29.9	17.8
19267 1995 <i>TB</i> ₈	14.1	X	286.83356	306.50405	257.43526	1.56763	0.0594686	0.23690004	2.5867788	17	—	—
19268 Morstadt	15.3	X	317.73866	318.19051	39.52459	3.56185	0.0855152	0.21752015	2.7382287	17	7 20.9	18.7
19269 1995 <i>UQ</i> ₁₁	13.8	X	207.58826	260.24630	9.91099	14.71469	0.0834710	0.23942578	2.5685544	17	—	—
19270 1995 <i>VS</i> ₈	14.4	X	282.39799	216.80135	58.09545	2.99136	0.0276498	0.19875603	2.9079650	17	2 26.7	18.4
19271 1995 <i>VG</i> ₁₃	14.9	X	281.24658	206.49601	113.42320	3.51692	0.0329489	0.20660889	2.8338056	17	4 20.9	18.8
19272 1995 <i>WO</i> ₁₅	14.8	X	153.52386	126.40822	26.92456	2.38227	0.0171472	0.21499025	2.7596682	17	7 21.8	18.6
19273 1995 <i>XJ</i>	14.1	X	237.84713	346.30780	81.45057	10.40117	0.1376841	0.21007379	2.8025592	17	7 4.9	18.5
19274 1995 <i>XA</i> ₁	13.1	X	62.08557	10.59039	78.50388	12.07617	0.0666898	0.18989916	2.9976943			

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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>
19281 1996 <i>AP</i> ₃	13.6 ^m	X	190.62415	66.15817	273.38957	6.82137	0.1938991	0.28490246	2.2873814	17	1 20.4	17.0
19282 Zhangcunhao	13.9	X	45.60087	244.25299	177.15879	0.24511	0.1669800	0.18160015	3.0883410	17	—	—
19283 1996 <i>BJ</i> ₂	13.1	X	46.11078	146.11391	301.11374	9.06508	0.0462792	0.18467530	3.0539611	17	—	—
19284 1996 <i>BU</i> ₃	13.0	X	280.63811	6.25095	129.01215	21.46365	0.0858721	0.17109409	3.2135079	17	11 28.6	17.8
19285 1996 <i>CM</i> ₉	12.3	X	53.96956	290.38180	327.00869	14.35621	0.0573520	0.15734340	3.3981069	17	8 6.1	16.9
19286 1996 <i>DU</i>	14.0	X	55.53341	37.07312	154.25112	13.16855	0.2219662	0.23875165	2.5733872	17	5 22.3	16.6
19287 Paronelli	13.1	X	44.52048	249.75484	146.85109	13.01497	0.1144048	0.17598336	3.1537092	17	—	—
19288 1996 <i>FJ</i> ₅	12.4	X	219.78415	16.99379	12.78142	15.52166	0.1247680	0.23858068	2.5746165	17	4 23.2	16.5
19289 1996 <i>HY</i> ₁₂	15.4	X	264.97933	101.40557	197.10481	1.63391	0.1261994	0.31926652	2.1201526	17	1 30.5	18.3
19290 Schroeder	14.1	X	356.84585	251.97050	67.51361	23.29120	0.2277122	0.28525703	2.2854855	17	7 11.9	16.0
19291 Karelzeman	12.8	X	307.39613	101.27178	76.99108	16.32516	0.1441684	0.17475686	3.1684478	17	—	—
19292 1996 <i>NG</i> ₅	15.5	X	115.01396	292.88807	343.36660	1.71746	0.1656199	0.29113536	2.2546169	17	11 28.7	18.8
19293 Dedekind	16.0	X	350.75268	287.60709	105.87090	6.91668	0.1112908	0.28832255	2.2692568	17	11 10.8	18.1
19294 Weymouth	14.4	X	78.86033	213.02925	271.87577	5.91725	0.1039360	0.26434138	2.4045065	17	2 26.5	16.9
19295 1996 <i>RC</i> ₁	15.1	X	145.66512	173.94202	138.02648	2.46405	0.1273762	0.29702060	2.2247352	17	—	—
19296 1996 <i>RO</i> ₄	15.6	X	233.66181	343.17712	114.34017	1.63438	0.2086189	0.27580393	2.3374146	17	7 31.0	19.2
19297 1996 <i>RS</i> ₂₄	15.0	X	23.50562	120.54064	168.75885	6.22184	0.1246597	0.27808646	2.3246067	17	7 28.4	17.0
19298 Zhongkeda	14.7	X	123.04625	122.31999	20.13680	6.71182	0.0761770	0.26638790	2.3921756	17	5 27.9	17.7
19299 1996 <i>SZ</i> ₄	7.9	X	9.52251	30.07833	16.02018	4.74314	0.2542443	0.00398850	39.3788664	17	11 24.7	22.6
19300 1996 <i>SH</i> ₆	13.9	X	195.37460	356.69027	195.01373	7.95421	0.0634923	0.28317457	2.2966768	17	11 4.1	16.9
19301 1996 <i>SF</i> ₈	15.4	X	51.79519	170.58194	194.73006	0.98349	0.2734477	0.24143030	2.5543174	17	—	—
19302 1996 <i>TD</i>	15.1	X	347.23075	112.92793	288.66275	4.01624	0.1713698	0.28450747	2.2894980	17	11 13.7	16.7
19303 1996 <i>TP</i> ₁	15.1	X	185.97224	19.75248	17.32057	3.81241	0.2090668	0.26168044	2.4207794	17	4 3.9	19.0
19304 1996 <i>TQ</i> ₁	15.1	X	253.78256	194.37834	186.54035	2.11515	0.2134756	0.26944317	2.3740577	17	5 10.8	18.8
19305 1996 <i>TH</i> ₁₀	14.0	X	51.40415	5.72673	4.14841	14.78804	0.1942921	0.24156556	2.5533639	17	—	—
19306 Voves	15.0	X	215.50472	230.35471	240.80836	1.46035	0.1659359	0.27261776	2.3555914	17	8 2.6	18.7
19307 1996 <i>TG</i> ₁₃	15.4	X	83.98002	121.72091	341.90588	2.14578	0.1560441	0.25488067	2.4636449	17	2 17.6	17.6
19308 1996 <i>TO</i> ₆₆	4.5	X	138.40025	239.67179	355.26841	27.47603	0.1227006	0.00347873	43.1375445	17	10 7.4	21.3
19309 1996 <i>UK</i> ₁	14.6	X	283.90096	301.71810	50.18569	3.23528	0.1815123	0.26979291	2.3720055	17	5 5.7	18.0
19310 Osawa	15.3	X	181.24305	40.75816	31.14344	3.78142	0.1563518	0.26406100	2.4062082	17	5 10.2	18.9
19311 1996 <i>VF</i> ₃	13.7	X	206.01900	33.10761	44.84238	8.91144	0.2224896	0.26672565	2.3901557	17	6 10.2	17.8
19312 1996 <i>VR</i> ₇	14.9	X	176.90598	346.09958	71.07998	5.09691	0.1087661	0.25958458	2.4337920	17	4 16.3	18.5
19313 1996 <i>VF</i> ₈	13.5	X	333.08826	34.01151	33.15595	13.72731	0.1608742	0.23477937	2.6023323	17	11 13.3	16.0
19314 1996 <i>VT</i> ₈	13.5	X	302.69390	282.63637	62.42094	13.46669	0.1894075	0.22353677	2.6888716	17	5 24.2	17.2
19315 1996 <i>VY</i> ₈	14.5	X	306.97360	335.06667	65.93321	5.37542	0.1452380	0.27644996	2.3337717	17	8 25.5	17.0
19316 1996 <i>WB</i>	13.6	X	295.17463	337.33694	59.02104	13.95157	0.1752203	0.22532381	2.6746358	17	7 28.7	17.3
19317 1996 <i>WS</i> ₁	14.6	X	5.82609	192.37873	263.55642	4.22278	0.0470216	0.24097922	2.5575040	17	—	—
19318 Somanah	13.8	X	291.52927	158.33318	263.96872	24.37397	0.2388821	0.27368323	2.3494737	17	8 1.4	17.3
19319 1996 <i>XX</i> ₂	14.4	X	79.93266	27.94038	22.80023	2.33553	0.1421049	0.24516701	2.5282966	17	—	—
19320 1996 <i>XB</i> ₆	14.2	X	10.41761	59.22726	84.83695	13.49292	0.0750929	0.24464270	2.5319077	17	—	—
19321 1996 <i>XY</i> ₇	13.9	X	152.11678	77.99873	87.16213	8.09856	0.0603651	0.22274165	2.6952668	17	8 9.5	17.8
19322 1996 <i>XQ</i> ₁₁	14.9	X	211.29005	1.01620	73.70570	3.53735	0.1819842	0.21553003	2.7550587	17	6 15.7	19.6
19323 1996 <i>XM</i> ₁₃	14.4	X	87.25808	196.79541	79.15674	3.46380	0.0603037	0.22808422	2.6530120	17	10 13.7	18.0
19324 1996 <i>XA</i> ₁₈	14.9	X	245.08463	111.77577	56.13684	5.92991	0.1226294	0.23434795	2.6055252	17	11 19.8	18.5
19325 1996 <i>XC</i> ₁₈	14.7	X	332.80010	163.74633	56.75974	8.13093	0.0990684	0.25407279	2.4688646	17	1 28.2	18.0
19326 1996 <i>XD</i> ₁₉	14.3	X	88.66879	297.74008	222.39781	4.24603	0.1247897	0.25668185	2.4521062	17	5 14.1	17.1
19327 1996 <i>XH</i> ₁₉	13.2	X	209.96372	111.99946	97.97208	15.84498	0.1470677	0.23086616	2.6316565	17	12 3.4	17.3
19328 1996 <i>XY</i> ₂₈	14.6	X	60.67110	92.15405	66.24651	1.77065	0.1111515	0.25608203	2.4559337	17	3 22.8	17.0
19329 1996 <i>XZ</i> ₃₀	14.1	X	208.85569	123.03440	269.56454	5.48623	0.1434744	0.25832269	2.4417115	17	4 14.8	18.0
19330 1996 <i>XJ</i> ₃₁	13.2	X	168.03132	21.16721	107.54560	10.30111	0.0655802	0.21559588	2.7544977	17	7 9.7	17.1
19331 1996 <i>XL</i> ₃₃	14.8	X	345.15542	84.38945	73.40200	9.09572	0.1802273	0.24354401	2.5395168	17	—	—
19332 1996 <i>YQ</i> ₁	14.4	X	82.34801	306.79388	122.43655	8.22756	0.2495639	0.24464595	2.5318853	17	1 9.9	16.2
19333 1996 <i>YT</i> ₁	13.1	X	21.97308	82.90146	295.99070	14.18572	0.1316275	0.23038179	2.6353438	17	12 5.8	16.3
19334 1996 <i>YV</i> ₁	14.8	X	339.62553	117.21301	330.03430	1.57168	0.1842583	0.23103516	2.6303729	17	12 28.4	17.1
19335 1996 <i>YL</i> ₂	14.3	X	90.41142	96.96973	96.81368	7.15026	0.0635963	0.26473007	2.4021523	17	6 23.7	17.2
19336 1997 <i>AF</i>	14.0	X	76.87307	281.26892	98.99608	7.52729	0.3079076	0.24132002	2.5550956	17	—	—
19337 1997 <i>AT</i>	13.6	X	227.90291	250.53222	109.70119	8.55995	0.2331232	0.25605519	2.4561053	17	3 28.9	17.9
19338 1997 <i>AB</i> ₂	14.2	X	257.82687	125.37725	104.39205	15.49254	0.0145148	0.23983826	2.5656086	17	—	—
19339 1997 <i>AF</i> ₄	13.7	X	156.49596	12.39997	130.88917	8.88381	0.1612218	0.21361863	2.7714686	17	7 21.4	18.1
19340 1997 <i>AV</i> ₄	13.2	X	69.07048	83.81437	132.51288	7.56582	0.0570527	0.21141408	2.7907019	17	6 28.4	16.8
19341 1997 <i>AQ</i> ₅	13.2	X	83.09436	100.95418	62.74398	6.61714	0.0260771	0.20667524	2.8331990	17	5 5.6	17.0
19342 1997 <i>AA</i> ₇	14.8	X	88.33911	283.22702	136.00940	2.78384	0.2308107	0.24423705	2.5347104	17	1 6.0	17.0
19343 1997 <i>AR</i> ₇	15.1	X	197.56020	117.52973	343.18374	2.10439	0.1540486	0.26719838	2.3873358	17	7 3.5	18.8
19344 1997 <i>AD</i> ₁₄	14.1	X	274.53557	83.12292	290.20860	6.31144	0.1104526	0.21520151	2.7578618	17	6 7.7	18.0
19345 1997 <i>BV</i> ₂	14.2	X	181.43105	332.42276	67.74947	3.21798	0.0481961	0.20273761	2.8697661	17	4 4.2	18.4
19346 1997 <i>CG</i> ₁	13.8	X	66.01920	311.83137	95.65771	6.17924	0.1428363	0.23689542	2.5868124	17	—	—
19347 1997 <i>CH</i> ₉	14.3	X	255.15393	49.12660	339.05136	5.34226	0.1723695	0.21199035	2.7856421	17	5 28.9	18.7
19348 Cueva	14.6	X	220.52123	7.10917	349.87867	1.79616	0.0359737	0.20075992	2.8885821	17	3 24.7	18.8
19349 Denjoy	13.7	X	330.63584	173.83372	158.59647	5.70829	0.0297641	0.21145869	2.7903094	17	7 11.0	17.4
19350 1997 <i>CU</i> ₂₈	14.3	X	314.53638	121.63908	306.51049	2.80166	0.1975787	0.22684733	2.6626471	17	10 4.6	16.9
19351 1997 <i>EK</i>	13.3	X	41.68321	162.20313	9.42989	12.71885	0.0823620	0.19850038	2.9104612	17	3 23.9	16.8
19352 1997 <i>EL</i>	12.0	X	144.41759	212.36563	148.24311	10.96539	0.1213593	0.18951750	3.0017176	17	1 13.7	16.5
19353 Pierrehierry	13.8	X	190.07918	112.43777	102.79237	11.54353	0.1423320	0.22358422	2.6884912	17	11 21.1	18.2
19354 Fredkoehler	14.0	X	50.55532	213.17799	193.37716	11.3814						

ELEMENTS AND OPPOSITION DATES IN 2017
ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19361 1997 <i>KH</i> ₄	14.1 ^m	X	44.59403	72.68644	103.36396	6.32428	0.0796125	0.28988754	2.2610822	17	3 11.2	16.3
19362 1997 <i>MX</i> ₃	13.8	X	236.85318	273.24051	96.60455	11.20176	0.1090250	0.18893188	3.0079172	17	4 30.9	18.6
19363 1997 <i>OL</i> ₂	13.9	X	241.37725	75.75091	290.85737	2.79965	0.1421540	0.18468811	3.0538200	17	4 24.2	18.8
19364 Semafor	12.8	X	336.15352	7.21627	199.04968	13.40960	0.1077619	0.22445643	2.6815219	17	1 16.2	16.7
19365 1997 <i>VL</i> ₅	14.6	X	359.14601	230.87027	48.87794	8.28049	0.1624699	0.27975653	2.3153460	17	5 17.0	16.3
19366 Sudingqiang	12.9	X	203.95042	340.54584	47.17438	13.84549	0.1659397	0.22375859	2.6870943	17	4 15.0	17.4
19367 Pink Floyd	14.6	X	114.73662	305.17491	91.59860	3.68535	0.1641355	0.25776344	2.4452419	17	1 6.9	17.3
19368 1997 <i>XZ</i> ₄	15.3	X	93.93368	302.45938	119.82850	0.66335	0.0396382	0.30367836	2.1920989	17	—	—
19369 1997 <i>YO</i>	12.0	X	174.45967	27.13363	107.02207	17.62596	0.1718968	0.17750975	3.1356043	17	7 29.3	17.2
19370 Yukyung	12.4	X	212.20938	332.22305	89.77346	15.43867	0.1658353	0.22845117	2.6501704	17	6 1.7	16.8
19371 1997 <i>YP</i> ₁₁	14.3	X	5.30932	245.70479	197.12677	3.12098	0.0274918	0.29696745	2.2250007	17	—	—
19372 1997 <i>YP</i> ₁₃	14.2	X	114.46800	299.09221	263.34669	6.49491	0.1952670	0.27564276	2.3383257	17	8 23.3	17.7
19373 1997 <i>YC</i> ₁₄	13.9	X	124.58985	330.03475	312.01077	6.22931	0.1718598	0.28883829	2.2665547	17	12 15.3	17.4
19374 1997 <i>YG</i> ₁₇	15.1	X	335.10075	166.26484	107.53159	8.47509	0.0987025	0.26925722	2.3751506	17	4 12.8	18.0
19375 1998 <i>AB</i> ₅	14.7	X	61.48981	155.78357	120.73729	7.68900	0.1291996	0.28260431	2.2997654	17	9 23.6	17.3
19376 1998 <i>BE</i> ₁	15.0	X	269.49461	11.76197	91.30396	6.16978	0.0498571	0.28644767	2.2791479	17	10 14.4	17.7
19377 1998 <i>BE</i> ₄	15.0	X	138.40446	231.90739	375.74738	4.39129	0.0811978	0.27846792	2.3224833	17	9 3.8	18.2
19378 1998 <i>BB</i> ₇	14.6	X	34.61262	231.61925	345.14219	6.14560	0.0754357	0.26559808	2.3969157	17	4 24.4	17.3
19379 Labrecque	13.5	X	259.18913	71.09682	333.68316	23.08515	0.2809331	0.27867312	2.3213431	17	6 7.8	17.8
19380 1998 <i>BB</i> ₁₁	14.7	X	341.96099	147.16214	101.84764	7.19565	0.0737594	0.26561275	2.3968275	17	3 23.0	17.6
19381 1998 <i>BB</i> ₁₅	15.5	X	316.19319	323.14938	179.14502	3.73847	0.1305392	0.29762186	2.2217379	17	—	—
19382 1998 <i>BH</i> ₂₅	14.5	X	344.04745	142.87601	69.39647	2.88106	0.0730277	0.25790764	2.4443304	17	2 2.9	17.5
19383 Rolling Stones	14.5	X	10.46966	337.35781	354.78365	6.79176	0.1522845	0.28080140	2.3095987	17	9 13.1	16.3
19384 Winton	15.0	X	139.27389	170.87277	173.43679	2.98595	0.1756712	0.30137677	2.2032454	17	—	—
19385 1998 <i>CE</i> ₄	15.0	X	315.91588	300.64684	57.31108	4.64228	0.1797775	0.27821933	2.3238666	17	6 25.9	17.6
19386 Axelcronstedt	13.7	X	4.33247	199.91879	149.29987	7.57480	0.1718297	0.28149062	2.3058272	17	10 1.4	15.4
19387 1998 <i>DA</i> ₂	14.4	X	115.36195	248.33350	22.75503	6.07413	0.1820387	0.28708363	2.2757808	17	11 22.5	18.0
19388 1998 <i>DQ</i> ₃	14.5	X	254.89620	287.90256	157.85985	20.50531	0.3419872	0.28400605	2.2921920	17	7 22.3	18.7
19389 1998 <i>DD</i> ₁₄	13.3	X	61.75950	136.12472	196.30095	11.53379	0.2263130	0.17615529	3.1516568	17	12 9.8	17.9
19390 1998 <i>DK</i> ₁₄	15.0	X	45.17987	237.53211	356.66374	3.78381	0.1700591	0.26848576	2.3796982	17	6 20.6	17.0
19391 1998 <i>DR</i> ₁₅	14.5	X	324.82597	55.34846	358.03077	6.14404	0.0714465	0.28295192	2.2978815	17	10 19.9	16.9
19392 Oyamada	14.9	X	233.72988	196.01704	316.66100	6.63444	0.0585085	0.28400713	2.2921861	17	10 26.2	17.9
19393 Davidthompson	15.5	X	126.85326	341.04008	157.25622	5.80175	0.0578688	0.26686215	2.3893406	17	5 27.3	18.6
19394 1998 <i>DA</i> ₃₄	14.2	X	299.59216	211.95614	4.52703	5.16459	0.0295520	0.25072160	2.4908155	17	—	—
19395 Barrera	14.8	X	309.73769	281.88394	190.82641	2.79496	0.0817656	0.28949274	2.2631374	17	12 22.8	17.1
19396 1998 <i>EV</i> ₁	14.6	X	340.33746	321.31084	23.49715	2.25046	0.1284121	0.21970147	2.7200741	17	8 3.6	17.7
19397 Lagarini	15.3	X	71.97341	148.55246	24.98282	2.29140	0.1420195	0.26174661	2.4203713	17	5 6.3	17.8
19398 Crecedence	14.9	X	327.89201	260.89280	107.33181	3.87861	0.2627175	0.27974422	2.3154139	17	7 19.1	16.6
19399 1998 <i>EP</i> ₁₀	14.7	X	336.72136	298.38699	121.92452	7.45076	0.0481546	0.23519487	2.5992666	17	11 18.5	18.0
19400 Emileclaus	15.3	X	160.46611	20.85885	102.47450	2.89896	0.1962953	0.27101659	2.3648602	17	6 28.8	18.9
19401 1998 <i>ES</i> ₁₁	15.1	X	329.46317	108.04239	46.11165	4.19676	0.0783685	0.24671463	2.5177123	17	—	—
19402 1998 <i>EG</i> ₁₄	14.8	X	353.94149	317.50917	121.54420	3.30979	0.2690597	0.29363239	2.2418166	17	—	—
19403 1998 <i>FA</i> ₁	14.4	X	47.56214	270.42893	73.82334	3.63377	0.0475986	0.23115120	2.6294926	17	11 16.7	17.7
19404 1998 <i>FO</i> ₅	14.2	X	201.40841	69.67866	133.82213	4.79713	0.0541637	0.23280710	2.6170091	17	11 23.2	17.9
19405 1998 <i>FT</i> ₈	14.0	X	113.95564	212.91740	21.31303	11.10075	0.1397926	0.22378047	2.6869191	17	10 1.7	18.0
19406 1998 <i>FM</i> ₁₀	14.4	X	247.03997	167.02578	193.58166	16.51638	0.2664697	0.21063126	2.7976121	17	4 13.9	19.3
19407 Standing Bear	13.0	X	139.90265	274.74209	34.13550	15.04606	0.1182396	0.23643166	2.5901940	17	—	—
19408 1998 <i>FM</i> ₁₁	13.8	X	165.40036	249.21932	79.52144	11.67391	0.1132457	0.19351590	2.9602265	17	—	—
19409 1998 <i>FA</i> ₁₂	14.9	X	180.46914	149.06269	29.18340	8.53310	0.0476636	0.27826111	2.3236339	17	9 30.3	17.9
19410 Guisard	15.1	X	38.75101	89.12873	205.00868	6.25807	0.1076905	0.27237655	2.3569819	17	9 1.6	17.6
19411 Collinarnold	14.6	X	272.47491	335.30206	202.05969	3.14264	0.1199380	0.29242311	2.2479928	17	—	—
19412 1998 <i>FC</i> ₂₄	14.1	X	291.80902	222.10094	167.77043	2.89160	0.1069549	0.27585151	2.3371458	17	7 18.6	16.8
19413 Grantlewis	14.5	X	216.74505	199.37159	206.32395	6.13897	0.1257584	0.26732389	2.3865885	17	5 11.6	18.0
19414 1998 <i>FP</i> ₃₂	14.1	X	321.59205	28.84986	332.06757	2.26666	0.2292081	0.27429210	2.3459955	17	7 2.0	16.4
19415 Parvamenon	15.1	X	123.31752	320.31290	191.87769	4.68302	0.1686253	0.26806408	2.3821931	17	6 25.6	18.5
19416 Benglass	14.8	X	83.51444	329.43682	198.77801	5.88081	0.0689402	0.26387381	2.4073461	17	5 8.3	17.4
19417 Madelynho	15.4	X	63.03116	166.09096	358.88734	1.13063	0.1130161	0.26077074	2.4264061	17	4 3.5	17.8
19418 1998 <i>FL</i> ₄₉	14.4	X	254.18916	312.95994	344.83050	2.01233	0.1473624	0.30298951	2.1954202	17	1 22.9	17.6
19419 Pinkham	14.0	X	357.02791	25.16980	357.94587	7.82860	0.1046844	0.28158678	2.3053023	17	10 30.6	16.3
19420 Vivekbuch	13.9	X	191.93543	236.34326	308.16350	2.21289	0.0298627	0.22942602	2.6426578	17	10 17.8	17.5
19421 Zachulett	14.5	X	69.97179	250.70723	49.64082	4.40128	0.0643175	0.22778122	2.6553643	17	10 22.9	18.0
19422 1998 <i>FV</i> ₅₆	14.0	X	126.39214	332.24333	19.97631	5.37924	0.2317645	0.24299452	2.5433438	17	—	—
19423 Hefter	15.1	X	122.92248	173.31846	301.59938	1.00675	0.1107338	0.26217282	2.4177475	17	4 26.1	18.2
19424 Andrewsong	14.9	X	264.41964	37.78956	196.08215	4.52560	0.1009339	0.24533908	2.5271144	17	—	—
19425 Nicholasrapp	14.2	X	129.55112	214.02618	216.40373	5.27294	0.1733765	0.25733545	2.4479524	17	3 14.3	17.4
19426 Leal	14.2	X	39.87348	65.67054	211.98160	7.64480	0.1612320	0.21777742	2.7360718	17	8 17.2	17.3
19427 1998 <i>FJ</i> ₆₆	13.8	X	259.70116	221.87511	12.04333	9.63690	0.0618894	0.24475861	2.5311083	17	—	—
19428 Gracehsu	14.3	X	324.83309	187.43480	173.41380	6.06527	0.0836495	0.22138530	2.7062642	17	8 3.0	17.7
19429 Grubaugh	15.0	X	190.33274	108.19021	344.66709	2.07094	0.1804012	0.26890409	2.3772295	17	6 16.1	18.7
19430 Kristinaufer	14.5	X	106.93631	336.60470	162.55392	3.51943	0.1455959	0.26285013	2.4135923	17	5 15.1	17.5
19431 1998 <i>FS</i> ₇₀	13.2	X	86.42423	267.83854	19.75048	13.51809	0.1895139	0.17494343	3.1661947	17	11 5.4	18.0
19432 1998 <i>FL</i> ₇₁	14.5	X	162.24189	136.86123	0.37303	5.74939	0.0821457	0.26917023	2.3756623	17	7 13.2	17.9
19433 Naftz	14.3	X	243.44624	132.76650	344.54323	2.50322	0.0345703	0.22717323	2.6600999	17	9 24.6	17.7
19434 Bahuffman	15.2	X	273.06167	148.32983	24.56809	0.74319	0.1143103	0.23843514	2.5756640	17	—	—
19435 1998 <i>FN</i> ₇₅	13.5	X	352.72559	38.67167	22.72069	15.54748	0.1134424	0.23451240	2.6043070	17	12 11.3	16.7

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19441 Trucpham	14.0 ^m	X	43.86713	44.78054	224.66671	8.79994	0.1740168	0.21762274	2.7373681	17	8 13.6	17.3
19442 Brianrice	14.2	X	294.92001	86.48290	273.22817	4.40731	0.0859732	0.21733404	2.7397917	17	6 19.5	17.8
19443 Yanzhong	14.9	X	298.27302	173.25954	234.06536	5.14797	0.1430027	0.27686167	2.3314574	17	8 15.2	17.5
19444 Addicott	14.3	X	349.47033	147.27865	286.81856	5.65523	0.1505164	0.28853732	2.2681306	17	—	—
19445 1998 FE ₁₁₂	12.7	X	48.43635	175.71572	230.33319	13.83794	0.0515207	0.23999338	2.5645030	17	—	—
19446 Muroski	15.0	X	153.08314	177.68342	297.35187	4.41701	0.1858787	0.26700042	2.3885156	17	6 9.9	18.6
19447 Jessicapearl	14.4	X	347.29971	140.25028	275.48878	5.94723	0.1063216	0.28393543	2.2925720	17	12 4.1	16.4
19448 Jenniferling	15.3	X	292.60979	194.33913	241.24925	2.29459	0.1071388	0.27967612	2.3157897	17	9 24.9	17.7
19449 1998 FE ₁₂₅	14.0	X	162.05781	76.89880	168.95464	11.59718	0.1447398	0.23089781	2.6314159	17	12 1.5	18.4
19450 Sussman	14.2	X	130.15794	66.68771	85.52632	5.67574	0.0546976	0.26638918	2.3921679	17	6 18.9	17.1
19451 1998 FP ₁₂₅	14.0	X	110.64238	50.98760	211.64356	12.40997	0.1063580	0.22836465	2.6508397	17	10 28.9	17.8
19452 Keeney	14.6	X	277.71964	245.22317	278.39429	5.85587	0.0505921	0.28905563	2.2654184	17	—	—
19453 Murdochorne	15.0	X	277.79447	1.69283	189.80290	4.39119	0.1581976	0.29545159	2.2326047	17	—	—
19454 Henrymarr	14.4	X	261.12238	256.35949	139.08080	7.12772	0.1313460	0.27293299	2.3537772	17	6 14.0	17.8
19455 1998 FJ ₁₄₅	13.6	X	286.49442	206.75794	109.88067	6.72677	0.1416373	0.26083189	2.4260268	17	4 1.4	17.1
19456 Pimdouglas	14.7	X	167.86607	300.16167	65.36092	6.20963	0.1937186	0.29895139	2.2151459	17	1 29.9	17.7
19457 Robcastillo	13.5	X	280.69710	225.13109	180.04718	7.84660	0.1137942	0.17053355	3.2205459	17	7 28.2	18.1
19458 Legault	14.0	X	358.14136	38.02607	210.86027	6.81683	0.0758888	0.25843422	2.4410090	17	4 13.9	16.8
19459 1998 HM ₁₁	14.3	X	230.60595	89.81115	107.03277	7.86954	0.1697539	0.28493926	2.2871844	17	12 9.8	17.4
19460 1998 HW ₁₃	13.8	X	84.52247	312.62437	347.20241	13.29447	0.2378773	0.22758420	2.6568965	17	11 27.1	18.1
19461 Feingold	14.3	X	318.15759	203.43944	304.20455	5.06938	0.0916317	0.24296383	2.5435579	17	—	—
19462 Ulissedini	13.2	X	198.56117	193.26810	176.51706	2.22136	0.1024139	0.19844788	2.9109746	17	3 18.0	17.5
19463 Emillystoll	14.4	X	5.58153	232.36603	56.13738	2.12270	0.0412626	0.21631954	2.7483511	17	7 1.3	17.8
19464 Ciarabarr	15.2	X	248.51234	315.93664	166.24530	3.29664	0.0112786	0.22790654	2.6543907	17	10 12.2	18.8
19465 Amandarusso	14.4	X	284.47066	102.26713	265.56335	3.96867	0.0782940	0.21623088	2.7491023	17	6 17.8	18.0
19466 Darcydiegel	15.1	X	290.07125	197.99357	167.15719	6.37713	0.0292860	0.21691082	2.7433543	17	6 28.9	18.8
19467 Amandanagy	14.4	X	28.31587	104.39755	178.67608	2.12505	0.0110093	0.21853344	2.7297578	17	7 25.6	18.1
19468 1998 HO ₄₅	14.0	X	198.62633	324.51179	329.76869	4.34789	0.1311214	0.24221591	2.5487913	17	—	—
19469 1998 HV ₄₅	13.1	X	78.69628	163.68901	212.08963	15.64413	0.1646516	0.23798616	2.5789025	17	—	—
19470 Wenpingchen	14.0	X	249.05364	75.74312	236.66319	1.06981	0.0608111	0.20085644	2.8876566	17	2 28.7	18.2
19471 1998 HK ₅₂	13.5	X	186.88176	134.22596	64.42902	10.67726	0.1550310	0.17537420	3.1610078	17	10 26.7	18.7
19472 1998 HL ₅₂	13.2	X	205.97059	206.97786	62.37783	14.42864	0.0205308	0.23862947	2.5742655	17	—	—
19473 Marygardner	14.6	X	172.63301	201.77572	246.97599	6.89976	0.0876518	0.26333541	2.4106262	17	5 19.2	17.8
19474 1998 HJ ₈₀	14.3	X	66.53958	251.14532	22.17155	5.50826	0.0780890	0.16939148	3.2350054	17	9 14.5	18.7
19475 Mispagel	14.1	X	209.90311	297.16652	133.79710	5.22492	0.2007866	0.26601432	2.3944147	17	6 6.4	18.0
19476 Denduluri	14.4	X	161.44979	265.27876	240.15998	1.96285	0.0304600	0.21671950	2.7449686	17	7 21.2	18.2
19477 Teresajentz	13.9	X	239.01631	217.14595	79.51795	3.23686	0.0825647	0.19655947	2.9295893	17	1 31.5	18.3
19478 Jaimeflores	15.0	X	85.01793	343.88125	168.71196	2.26035	0.1294358	0.25916897	2.4363932	17	4 27.8	17.5
19479 1998 HG ₉₇	13.7	X	100.80282	261.92062	52.03200	5.91962	0.1837084	0.17820046	3.1274965	17	12 22.1	18.7
19480 1998 HJ ₁₀₀	13.4	X	143.78709	297.92857	191.30631	8.92456	0.1100964	0.21304001	2.7764846	17	6 16.7	17.6
19481 1998 HX ₁₀₁	13.7	X	147.79746	211.74543	50.30769	12.83469	0.0597596	0.17825010	3.1269158	17	11 28.2	18.4
19482 1998 HL ₁₀₂	13.6	X	118.12246	215.45442	52.51863	11.15461	0.1777363	0.17448743	3.1717087	17	11 14.4	18.5
19483 1998 HA ₁₁₆	13.9	X	94.17798	310.93393	170.28994	11.34438	0.1316275	0.25672198	2.4518506	17	3 30.1	16.5
19484 Vanessaspini	14.2	X	174.32707	92.69075	122.26419	6.45556	0.0701849	0.27876961	2.3208074	17	11 10.9	17.5
19485 1998 HC ₁₂₂	12.8	X	211.43043	160.74988	127.82462	11.27193	0.0757808	0.19185691	2.9772667	17	—	—
19486 1998 HW ₁₂₂	13.2	X	166.52191	36.41247	89.71879	9.60405	0.0460290	0.21460697	2.7629530	17	7 3.5	17.2
19487 Rosscoleman	14.1	X	155.29174	321.04201	155.61991	6.08649	0.1188633	0.26325915	2.4110917	17	6 9.8	17.6
19488 Abramcoley	14.9	X	232.39829	17.27245	108.10430	7.85316	0.1600625	0.27572789	2.3378443	17	9 12.2	18.4
19489 1998 HL ₁₄₉	13.9	X	284.31722	179.92496	31.36700	5.77123	0.1189930	0.24175671	2.5520177	17	—	—
19490 1998 HC ₁₅₀	13.2	X	359.17248	1.25106	40.24404	15.08807	0.1785907	0.23211066	2.6222413	17	11 29.4	15.9
19491 1998 HG ₁₅₃	13.4	X	316.73139	243.69102	153.65317	16.96651	0.1834651	0.22698412	2.6615772	17	8 28.8	16.2
19492 1998 JT	14.5	X	160.28169	86.49313	251.04435	6.11510	0.2208261	0.29125501	2.2539993	17	—	—
19493 1998 JY ₁	13.4	X	46.57546	74.81918	302.99528	6.09939	0.1252926	0.22997650	2.6384391	17	—	—
19494 Gerbs	13.2	X	303.27449	102.44567	85.30202	12.01747	0.0495547	0.19050360	2.9913502	17	—	—
19495 Terentyeva	12.9	X	85.05295	321.12128	96.34920	15.93846	0.0703287	0.24206420	2.5498561	17	—	—
19496 Josephbarone	14.5	X	172.71296	9.38392	78.32193	3.53287	0.1569869	0.25990052	2.4318192	17	5 23.6	18.2
19497 Pineda	14.6	X	202.60411	56.02803	63.91595	3.21700	0.1660797	0.26993347	2.3711820	17	8 3.4	18.4
19498 1998 KG ₃₈	13.6	X	307.09140	183.39595	173.38153	2.88815	0.0992084	0.21154460	2.7895538	17	6 30.9	17.2
19499 Eugenybiryukov	14.1	X	157.68397	349.77293	189.85026	12.94539	0.0984838	0.21901779	2.7257318	17	9 1.2	18.4
19500 Hillaryfultz	14.3	X	150.02222	80.70165	116.56512	7.20244	0.0778004	0.22065012	2.7122722	17	9 19.9	18.3
19501 1998 KC ₅₀	12.3	X	130.84415	195.66675	91.50145	16.89545	0.1207033	0.17791971	3.1307857	17	12 15.0	17.1
19502 1998 KB ₅₁	13.3	X	298.93498	62.60557	178.70965	8.49652	0.1092561	0.24689705	2.5164721	17	1 11.1	17.0
19503 1998 KE ₆₅	12.9	X	285.63276	81.41668	82.94849	15.22751	0.1555949	0.18446982	3.0562286	17	12 26.5	16.7
19504 Vladalekseev	13.1	X	328.91994	46.24191	140.51369	11.00790	0.0456190	0.19063227	2.9900040	17	1 4.5	17.4
19505 1998 MC	14.1	X	271.13069	158.88686	49.13986	6.11069	0.0918255	0.23684225	2.5871996	17	—	—
19506 1998 MN ₄	13.9	X	65.84587	51.53089	137.99589	20.74877	0.1614504	0.20564202	2.8426811	17	6 6.9	17.8
19507 1998 MZ ₁₃	13.5	X	184.40493	62.93174	266.47486	10.16439	0.1244707	0.18427494	3.0583830	17	1 17.9	18.3
19508 1998 MC ₁₇	14.0	X	333.16405	60.65447	47.62149	1.22452	0.2154127	0.17167745	3.2062242	17	12 29.2	17.3
19509 Niigata	14.3	X	222.58374	333.22034	246.11300	12.65524	0.2138488	0.23436903	2.6053690	17	12 18.2	18.4
19510 1998 MV ₄₂	14.2	X	47.07092	178.02229	276.05119	4.04728	0.1244148	0.28686218	2.2768919	17	—	—
19511 1998 MC ₄₅	13.5	X	86.39617	187.00247	208.35627	13.29742	0.1630627	0.23397925	2.6082616	17	—	—
19512 1998 QU ₂	13.6	X	199.17727	203.55461	162.56887	15.58530	0.2084310	0.23938013	2.5688810	17	3 11.9	17.8
19513 1998 QN ₇	12.4	X	10.76216	352.32504	323.19434	17.17785	0.1231446	0.15825527	3.3850409	17	8 18.6	16.4
19514 1998 QB ₇₅	13.9	X	206.80269	104.61385	294.55374	11.59100	0.1797548	0.24254052	2.5465166	17	4 20.8	18.3
19515 1998 QM ₇₆	12.9	X	327.89034	292.24914	244.86933	9.93888	0.1315035	0.22957279	2.6415314	17	—	—
19516 1998 QF ₈₀	13.3	X	102.44081	41.96843	293.64100	11.66706	0.2662414	0.27455085	2.3445213	17	—	—
19517 Robertocarlos	13.1	X	337.64159	85.04540	1							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19521 Chaos	4.8	X	338.48055	59.04681	50.05416	12.06053	0.1016329	0.00320260	45.5827813	17	12 14.2	21.0
19522 1998 XQ ₈₃	13.3	X	56.46376	298.96260	193.18659	12.00418	0.1264167	0.22463765	2.6800796	17	2 12.4	16.5
19523 Paolofrisi	14.0	X	57.85873	277.46562	121.20619	9.04836	0.1344717	0.21459691	2.7630394	17	—	—
19524 Acaciacoleman	13.3	X	134.65916	98.60155	295.69778	12.74981	0.2075312	0.22840065	2.6505612	17	2 11.6	17.1
19525 1999 CO	13.8	X	209.59753	123.24335	118.85582	5.74135	0.0651357	0.25660787	2.4525775	17	—	—
19526 1999 FS ₇	15.4	X	222.39674	167.84106	114.14975	1.45972	0.1879567	0.31252593	2.1505292	17	—	—
19527 1999 FN ₃₀	13.8	X	182.42438	312.90559	14.72279	7.60177	0.1216342	0.25897606	2.4376030	17	—	—
19528 Delloro	14.1	X	45.30138	120.13289	127.31721	1.95827	0.1350138	0.17356022	3.1829948	17	7 17.6	17.8
19529 1999 GQ ₁₅	14.6	X	263.78558	114.44162	206.81542	1.55392	0.2284230	0.26562807	2.3967353	17	3 4.4	18.6
19530 1999 GQ ₂₃	14.5	X	15.93448	3.20025	294.81990	2.44485	0.2364989	0.28247322	2.3004768	17	7 31.3	15.4
19531 Charton	15.3	X	101.21543	87.13219	198.35209	5.68006	0.1720708	0.29204313	2.2499423	17	11 28.5	18.6
19532 1999 GB ₃₄	14.1	X	268.90100	77.49470	203.89106	3.52835	0.0854850	0.26717414	2.3874802	17	1 25.9	17.6
19533 Garrison	15.0	X	149.39964	58.97109	230.12771	2.96247	0.1678421	0.30062190	2.2069321	17	—	—
19534 Miyagi	15.1	X	56.09180	198.36454	87.71347	6.06888	0.1229240	0.28944561	2.2633831	17	9 28.5	17.5
19535 Rowanatkinson	13.9	X	60.20360	13.12782	306.83522	2.35853	0.1875900	0.23369877	2.6103482	17	11 22.1	17.4
19536 1999 JM ₄	14.9	X	334.68915	136.23923	227.18196	24.03406	0.1882446	0.28333282	2.2958215	17	7 28.3	17.8
19537 1999 JL ₈	14.3	X	101.72709	296.86996	83.17460	27.13548	0.0595443	0.35898829	1.9607213	17	—	—
19538 1999 JD ₁₂	14.1	X	314.49053	105.29134	176.85354	22.93204	0.2700166	0.26523878	2.3990799	17	2 24.5	17.9
19539 Anaverdu	15.2	X	28.45299	128.41264	139.09474	6.84815	0.1821585	0.27771406	2.3266844	17	7 7.1	16.8
19540 1999 JF ₂₃	15.6	X	240.47872	190.56643	102.52224	1.23891	0.1659626	0.31318930	2.1474914	17	1 1.6	18.7
19541 1999 JA ₂₇	15.1	X	306.23181	160.58061	169.81981	2.35436	0.2430659	0.27269994	2.3551181	17	4 24.4	18.3
19542 Lindperkins	14.9	X	5.66610	169.64811	144.97189	2.64755	0.0564784	0.28252757	2.3001818	17	8 3.1	17.3
19543 Burgoyne	14.8	X	55.30488	354.79451	10.19323	6.10376	0.1896334	0.29572062	2.2312504	17	—	—
19544 Avramkottke	14.4	X	285.53145	267.58707	31.44873	2.70691	0.1947495	0.26566338	2.3965229	17	2 28.3	17.9
19545 1999 JY ₃₃	13.8	X	104.08547	49.72052	261.95919	5.42972	0.1439090	0.29467230	2.2365391	17	12 31.3	17.1
19546 1999 JN ₃₄	14.6	X	250.63744	305.34395	26.99326	8.76398	0.2656572	0.26344912	2.4099325	17	3 10.1	18.8
19547 Collier	15.6	X	156.32686	158.25542	134.08953	1.72893	0.0879745	0.29960040	2.2119457	17	—	—
19548 1999 JJ ₅₈	12.8	X	287.17568	38.87812	53.97623	14.61653	0.0393517	0.23649292	2.5897467	17	10 24.5	16.2
19549 1999 JS ₅₈	14.3	X	63.63916	257.44685	71.88031	6.10259	0.2167321	0.28851787	2.2682325	17	12 19.0	17.3
19550 Samabates	14.5	X	87.22113	59.86500	210.72352	3.42931	0.1778600	0.28531042	2.2852004	17	10 24.4	17.3
19551 Peterborden	14.3	X	41.25566	148.20992	214.16175	7.05488	0.1949023	0.29005404	2.2602168	17	12 31.6	17.0
19552 1999 JJ ₆₈	14.7	X	237.85496	201.99653	136.39486	3.49222	0.2027145	0.26503478	2.4003107	17	3 6.2	18.7
19553 1999 JF ₇₁	14.4	X	94.38969	232.17526	112.31410	8.24886	0.2134212	0.24466165	2.5317770	17	—	—
19554 1999 JU ₇₄	14.3	X	65.88631	136.92511	131.56875	13.04883	0.1370799	0.22922784	2.6441808	17	9 19.4	17.8
19555 1999 JO ₇₇	13.7	X	41.79509	226.68696	144.94624	8.20044	0.2018630	0.23929593	2.5694835	17	—	—
19556 1999 JV ₇₇	13.9	X	270.86529	217.81645	95.14804	12.30271	0.1825520	0.26409352	2.4060107	17	3 9.5	17.9
19557 1999 JC ₇₉	12.7	X	51.45643	205.08627	135.85665	16.34207	0.1612488	0.23858410	2.5745918	17	12 8.3	16.3
19558 1999 JK ₈₀	14.0	X	56.67823	22.77771	105.43777	12.18935	0.1179985	0.26380736	2.4077503	17	1 27.3	16.3
19559 1999 JY ₈₀	13.7	X	323.91142	214.84189	135.63321	13.64490	0.1837623	0.22336730	2.6902315	17	7 4.1	17.0
19560 1999 JH ₈₁	13.4	X	122.24324	49.50916	238.41296	12.89707	0.1403640	0.23520968	2.5991574	17	12 13.5	17.4
19561 1999 JK ₈₁	13.5	X	314.97095	133.12450	159.87073	8.89889	0.2422756	0.20969972	2.8058911	17	3 29.0	17.3
19562 1999 JM ₈₁	13.3	X	93.97587	69.58327	282.79330	12.25089	0.1922356	0.23609140	2.5926821	17	—	—
19563 Brzezinska	14.9	X	118.34902	72.22243	195.15847	5.25565	0.1342087	0.28924289	2.2644406	17	11 19.6	18.2
19564 Ajburnetti	15.2	X	317.30269	176.45043	187.98141	7.32232	0.1389639	0.27968419	2.3157452	17	7 14.1	17.9
19565 1999 KF ₄	12.6	X	125.84496	54.97977	247.20853	23.40691	0.2999414	0.18257347	3.0773551	17	12 31.9	18.4
19566 1999 KO ₆	14.5	X	221.08010	270.66381	56.62706	2.90587	0.2074202	0.26001866	2.4310826	17	2 8.4	18.5
19567 1999 KS ₇	12.7	X	202.17409	24.86843	242.32093	11.29888	0.0512749	0.24157425	2.5533026	17	—	—
19568 Rachelmarie	13.9	X	96.77026	316.64682	300.89074	3.76579	0.1618819	0.28470619	2.2884325	17	10 13.9	17.2
19569 1999 KM ₁₅	13.1	X	155.65361	7.66921	248.52694	11.01500	0.1158168	0.23402238	2.6079411	17	12 6.4	17.0
19570 Jessedouglas	13.2	X	350.35896	344.15768	269.47467	5.06487	0.0737730	0.26497371	2.4006796	17	4 4.6	16.1
19571 1999 LA ₇	14.3	X	42.14321	308.73782	222.93831	1.24632	0.1613422	0.26159247	2.4213220	17	3 3.2	16.3
19572 Leahmarie	15.2	X	116.63508	41.03271	148.69125	7.14078	0.1261283	0.27980827	2.3150605	17	8 2.0	18.3
19573 Cummings	14.3	X	66.81516	188.42276	145.41009	6.64223	0.1499493	0.28831579	2.2692923	17	12 20.1	17.3
19574 Davidwards	14.9	X	84.00927	247.61232	91.35367	3.30578	0.1897841	0.29211267	2.2495852	17	—	—
19575 Feeny	15.3	X	131.39396	119.11325	129.24893	4.94544	0.1154139	0.28903300	2.2655367	17	11 8.5	18.5
19576 1999 LP ₂₂	14.6	X	252.39944	359.11932	272.51689	2.83123	0.1901929	0.30952272	2.1644175	17	—	—
19577 Bobbyfisher	14.5	X	11.60153	219.52831	200.90565	5.30282	0.0847445	0.29494435	2.2351637	17	—	—
19578 Kirkdouglas	14.7	X	334.65311	243.49176	18.22367	2.30301	0.1797482	0.26477760	2.4018648	17	3 9.7	17.4
19579 1999 MB ₁	15.3	X	300.43671	228.56559	198.26009	5.15801	0.1139471	0.22661145	2.6644945	17	9 22.2	18.6
19580 1999 ND	13.2	X	273.24886	197.80163	106.90085	18.11499	0.0816055	0.20592486	2.8400776	17	3 23.8	17.7
19581 1999 NC ₃	14.0	X	38.85159	145.46704	168.23548	5.46885	0.1480990	0.22592742	2.6698699	17	10 8.6	17.0
19582 Blow	14.8	X	155.67665	226.85459	38.42501	2.07878	0.0445333	0.23606232	2.5928951	17	12 17.5	18.4
19583 1999 NT ₄	14.2	X	245.82882	96.86416	338.16557	2.19668	0.0790761	0.26904480	2.3764006	17	7 26.6	17.2
19584 Sarahgerin	14.6	X	3.12367	178.91016	202.02302	1.46393	0.0520607	0.22832788	2.6511243	17	11 1.9	17.9
19585 Zachopkins	14.1	X	133.39742	56.74296	225.46249	2.66554	0.1847131	0.18129840	3.0917669	17	12 14.4	19.1
19586 1999 NA ₁₀	13.6	X	155.22088	139.97618	300.34659	0.98360	0.0558192	0.20454854	2.8528031	17	4 22.8	17.7
19587 Keremane	13.6	X	217.44653	271.74255	59.22042	2.92867	0.0623534	0.19761489	2.9191491	17	2 19.6	17.9
19588 1999 NL ₁₁	13.8	X	21.64015	268.69982	148.53346	1.31751	0.1712153	0.17789606	3.1310632	17	—	—
19589 Kirkland	14.2	X	286.15193	19.02831	305.84756	6.00059	0.1170959	0.26451547	2.4034513	17	4 7.3	17.5
19590 1999 NG ₁₈	12.0	X	333.60402	260.88256	98.06768	22.80831	0.0284002	0.16892470	3.2409620	17	8 28.1	16.8
19591 Michaelklein	14.4	X	305.04830	254.92837	92.18868	6.29652	0.0954233	0.21575263	2.7531634	17	6 15.2	18.1
19592 1999 NZ ₂₂	14.7	X	61.92789	250.71540	136.10884	5.18040	0.2275075	0.23671939	2.5880947	17	—	—
19593 Justinkoh	15.0	X	84.30303	127.56845	166.12639	1.29336	0.1976234	0.17641941	3.1485105	17	11 14.7	19.6
19594 1999 NL ₃₁	14.3	X	82.64621	309.45864	134.32146	6.13904	0.2122332	0.28075638	2.3098457	17	10 11.1	17.5
19595 Lafer–Souza	14.9	X	156.63493	156.68880	318.95481	1.79153	0.0525756	0.24051959	2.5607612	17	—	—
19596 Spegorlarson	14.1	X	242.73352	85.73092	148.21212	1.87610	0.0704379	0.24516094	2.5283384	17	—	—
19597 Ryanlee	14.6	X	252.24611	189.95042	147.66790	2.5						

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19601 1999 <i>ND</i> ₄₂	14.2 ^m	X	43.89626 ^o	156.55409 ^o	158.00639 ^o	1.60957 ^o	0.1858257 ^o	0.17212031 ^o	3.2007221	17	10 19.3	18.2
19602 Austinminor	14.7	X	303.12970	268.06565	333.27563	2.44970	0.1012207	0.25534770	2.4606400	17	1 16.2	18.2
19603 Monier	14.3	X	292.32142	175.86292	210.81900	7.15801	0.0859064	0.21958584	2.7210289	17	7 20.5	18.0
19604 1999 <i>NY</i> ₄₈	14.2	X	284.55070	179.45753	196.61791	8.91531	0.1613212	0.21435581	2.7651108	17	6 16.9	18.2
19605 1999 <i>NU</i> ₅₂	13.5	X	47.34990	190.16312	179.08951	14.95763	0.1090815	0.23277080	2.6172812	17	12 26.9	17.2
19606 1999 <i>NV</i> ₅₄	14.4	X	136.54747	128.09752	197.19180	10.50204	0.1302996	0.18506033	3.0497237	17	—	—
19607 1999 <i>NF</i> ₅₅	13.7	X	128.49026	128.15413	258.83999	14.08832	0.1320722	0.24531622	2.5272713	17	1 10.8	17.0
19608 1999 <i>NC</i> ₅₇	12.3	X	120.72457	112.92950	262.59042	10.36285	0.1038881	0.18670919	3.0317420	17	1 2.2	16.5
19609 1999 <i>ND</i> ₅₇	13.6	X	21.55377	116.04285	244.38805	10.73722	0.0344230	0.22471060	2.6794995	17	10 28.7	17.1
19610 1999 <i>NR</i> ₆₀	13.1	X	44.80614	237.39811	154.46623	14.25071	0.1039509	0.23746646	2.5826637	17	—	—
19611 1999 <i>NP</i> ₆₄	14.0	X	195.47553	170.97089	125.27549	11.49029	0.0697208	0.19172721	2.9786093	17	—	—
19612 Noordung	13.9	X	333.05928	19.07277	275.50258	5.88727	0.1196035	0.26750492	2.3855116	17	4 29.7	16.6
19613 1999 <i>OX</i>	13.8	X	171.64623	202.94794	281.46343	8.29092	0.1049957	0.21468871	2.7622516	17	7 9.8	17.9
19614 Montelongo	14.6	X	25.12931	73.67021	313.79803	5.55051	0.1520833	0.28155952	2.3054511	17	—	—
19615 1999 <i>OB</i> ₃	12.2	X	202.87321	89.68595	256.20143	12.25873	0.0946419	0.19073688	2.9889107	17	2 17.3	17.0
19616 1999 <i>OS</i> ₃	14.4	X	101.14556	282.32163	6.03940	5.59704	0.1918196	0.28530655	2.2852211	17	12 1.4	17.9
19617 Duhamel	13.6	X	326.81711	291.77217	138.54883	1.88027	0.1453605	0.17091012	3.2158136	17	11 2.7	17.5
19618 Maša	14.2	X	15.64534	36.68685	264.32301	9.11200	0.2048702	0.27359635	2.3499711	17	7 31.9	15.9
19619 Bethbell	15.0	X	348.75716	129.73699	168.61609	7.18139	0.1070535	0.26554703	2.3972229	17	6 7.2	17.6
19620 Auckland	13.7	X	278.41907	30.19531	365.70701	14.06696	0.1454434	0.22291870	2.6938395	17	10 3.6	17.5
19621 1999 <i>RE</i> ₁	13.6	X	220.64788	288.52040	304.60839	14.19713	0.0774222	0.23442658	2.6049426	17	—	—
19622 1999 <i>RY</i> ₂	13.3	X	107.18579	83.40953	176.71265	12.33183	0.1710128	0.16926512	3.2366152	17	10 27.7	18.4
19623 1999 <i>RS</i> ₃	14.7	X	147.81885	264.59319	211.92506	5.98035	0.0653052	0.26381919	2.4076783	17	5 25.4	17.9
19624 1999 <i>RJ</i> ₁₀	13.5	X	56.49686	301.70978	19.01352	0.68726	0.2680314	0.17353024	3.1833614	17	11 24.6	17.7
19625 Ovaitt	13.8	X	178.18411	117.94430	307.96130	3.09785	0.0882731	0.25833043	2.4416627	17	4 24.4	17.3
19626 1999 <i>RJ</i> ₁₆	13.5	X	322.78027	56.84032	157.89038	2.06834	0.0252396	0.19388123	2.9565067	17	2 1.8	17.6
19627 1999 <i>RU</i> ₁₆	13.4	X	287.45904	57.53437	271.28527	1.10521	0.0419458	0.20552851	2.8437276	17	5 7.3	17.1
19628 1999 <i>RD</i> ₂₂	13.3	X	233.84508	159.07472	102.24064	2.29487	0.0565673	0.18648606	3.0341599	17	—	—
19629 Serra	13.9	X	31.58393	251.85586	12.45574	2.42721	0.0243361	0.21176999	2.7875742	17	7 6.7	17.4
19630 Janebell	14.0	X	317.91851	338.90076	136.90962	15.65958	0.0349457	0.23334550	2.6129821	17	—	—
19631 Greensleeves	13.9	X	282.22596	279.37226	121.44279	9.74901	0.1689108	0.21377125	2.7701493	17	7 15.6	17.9
19632 1999 <i>RP</i> ₃₉	13.5	X	63.94912	327.55359	31.94876	8.10210	0.2030976	0.17436708	3.1731679	17	—	—
19633 Rusjan	13.9	X	270.13055	147.83441	179.63368	12.96897	0.2594879	0.25764311	2.4460032	17	3 16.7	18.1
19634 1999 <i>RG</i> ₄₅	12.7	X	86.67491	334.65741	327.38916	6.52727	0.1838096	0.17444311	3.1722458	17	11 23.2	17.5
19635 1999 <i>RC</i> ₄₇	14.5	X	67.03162	311.15040	337.74353	11.15580	0.1857585	0.22575291	2.6712455	17	10 16.4	18.2
19636 1999 <i>RD</i> ₄₈	13.3	X	28.96017	268.04487	142.19343	1.78397	0.1819449	0.17883053	3.1201462	17	—	—
19637 Presbrey	15.0	X	235.13437	318.92622	274.95270	4.44124	0.1211642	0.29805761	2.2195720	17	—	—
19638 Johngenereid	14.5	X	18.46109	151.26474	136.39693	5.76348	0.0342109	0.21541528	2.7560370	17	7 19.0	18.0
19639 1999 <i>RO</i> ₆₃	13.7	X	44.41495	212.15973	201.90600	2.85089	0.0882064	0.23574675	2.5952084	17	—	—
19640 Etharoth	14.2	X	237.06085	323.13508	147.19619	3.44276	0.1428376	0.21542725	2.7559349	17	8 26.9	18.2
19641 1999 <i>RV</i> ₉₁	13.5	X	24.61814	325.21984	357.56035	9.11899	0.1119338	0.21852426	2.7298342	17	9 21.0	16.6
19642 1999 <i>RK</i> ₉₄	13.9	X	151.48207	25.32706	13.06648	15.57997	0.1241882	0.19147287	2.9812465	17	3 12.1	18.4
19643 Jacobrucker	14.1	X	13.66178	321.69727	149.69462	1.02405	0.1248874	0.18052963	3.1005380	17	—	—
19644 1999 <i>RD</i> ₁₀₂	12.8	X	198.21139	30.80981	247.12870	10.86696	0.1341909	0.18730117	3.0253507	17	—	—
19645 1999 <i>RE</i> ₁₀₂	12.7	X	93.61957	161.16944	199.42181	16.41420	0.1384476	0.18090705	3.0962241	17	—	—
19646 1999 <i>RF</i> ₁₀₂	12.4	X	51.77295	160.35961	292.99894	14.22294	0.0961731	0.18735847	3.0247339	17	1 1.5	16.1
19647 1999 <i>RZ</i> ₁₀₃	13.1	X	157.52097	71.84989	269.92127	8.82070	0.1151776	0.18770234	3.0210385	17	1 5.4	17.7
19648 1999 <i>RK</i> ₁₀₄	12.7	X	58.97570	32.32320	281.03819	12.10865	0.1738846	0.22484598	2.6784238	17	11 6.6	16.4
19649 1999 <i>RQ</i> ₁₀₄	13.4	X	96.28178	141.37814	205.35628	10.27188	0.0624596	0.17929002	3.1148130	17	—	—
19650 1999 <i>RY</i> ₁₀₅	13.0	X	240.70939	261.69187	287.68573	14.34037	0.0312155	0.17522076	3.1628530	17	12 17.3	17.5
19651 1999 <i>RC</i> ₁₁₂	13.0	X	303.21347	338.02858	176.95340	14.63942	0.1543913	0.24078712	2.5588641	17	—	—
19652 Saris	14.0	X	348.38251	83.41182	215.52184	4.11807	0.0580567	0.21354391	2.7721151	17	6 18.8	17.4
19653 1999 <i>RD</i> ₁₁₉	13.5	X	114.80212	100.23877	294.42534	14.21245	0.1138762	0.24428445	2.5343825	17	1 2.4	16.5
19654 1999 <i>RV</i> ₁₁₉	13.7	X	71.66704	322.25437	326.87017	12.19337	0.1823466	0.22575266	2.6712475	17	10 20.9	17.6
19655 1999 <i>RC</i> ₁₂₁	13.4	X	16.39452	287.01222	202.95680	9.32406	0.0513627	0.19077979	2.9884625	17	—	—
19656 Simpkins	14.9	X	59.13155	272.39655	318.40906	5.98844	0.0896230	0.26943861	2.3740845	17	7 2.8	17.5
19657 1999 <i>RE</i> ₁₂₃	13.5	X	84.00070	323.35953	287.05903	6.25421	0.0778698	0.27314851	2.3525390	17	9 3.5	16.5
19658 Sloop	14.9	X	31.37635	200.12057	238.62565	2.16766	0.0688256	0.23766348	2.5812362	17	—	—
19659 1999 <i>RB</i> ₁₂₈	14.3	X	204.10669	159.87448	152.33457	11.31455	0.0896080	0.19308610	2.9646178	17	1 14.2	19.0
19660 Danielsteck	14.8	X	259.36407	324.08782	143.76318	7.32025	0.1084596	0.27785302	2.3259085	17	9 25.9	17.7
19661 1999 <i>RR</i> ₁₃₀	13.2	X	67.51726	248.91894	317.65307	6.56764	0.1614192	0.21254362	2.7808059	17	6 28.5	16.5
19662 Stunzi	14.3	X	107.96295	357.24706	289.53013	6.33850	0.1136033	0.28395681	2.2924570	17	11 29.9	17.6
19663 Rykerwatts	14.3	X	249.26228	245.46523	209.12530	8.42089	0.0603429	0.21897664	2.7260733	17	8 26.8	18.2
19664 Yancey	14.1	X	184.22862	266.86783	355.06303	9.44097	0.1762468	0.18468141	3.0538937	17	—	—
19665 1999 <i>RT</i> ₁₃₇	12.9	X	119.59676	63.55272	333.52320	9.01476	0.0818061	0.19025256	2.9939810	17	1 25.3	17.1
19666 1999 <i>RO</i> ₁₄₄	13.6	X	225.97874	333.03060	194.26752	13.66564	0.1254431	0.22714670	2.6603070	17	10 29.2	17.5
19667 1999 <i>RS</i> ₁₄₄	13.3	X	237.17517	357.87831	271.37015	8.84065	0.0524700	0.19053764	2.9909940	17	—	—
19668 1999 <i>RB</i> ₁₄₅	12.7	X	34.66435	106.86799	323.28186	20.93595	0.2070369	0.17911389	3.1168546	17	—	—
19669 1999 <i>RB</i> ₁₅₀	14.1	X	151.54282	296.98054	311.40920	2.20227	0.0257739	0.22863981	2.6487125	17	11 19.9	17.8
19670 1999 <i>RH</i> ₁₅₁	13.1	X	170.68351	282.59324	356.18517	10.15590	0.0772840	0.18269811	3.0759553	17	—	—
19671 1999 <i>RX</i> ₁₅₁	13.0	X	358.21859	20.68150	127.82279	4.48391	0.0591307	0.18954144	3.0014649	17	—	—
19672 1999 <i>RP</i> ₁₅₅	14.8	X	148.62003	310.06510	306.19356	6.28165	0.1404854	0.28527559	2.2853864	17	12 3.8	18.3
19673 1999 <i>RR</i> ₁₅₈	13.5	X	95.18979	310.82613	346.56729	14.59273	0.2657006	0.17565844	3.1575970	17	12 3.0	18.9
19674 1999 <i>RN</i> ₁₆₀	13.4	X	242.75912	41.83109	12.95315	9.32506	0.1549784	0.20987714	2.8043096	17	6 21.9	17.9

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19681 1999 <i>RE</i> ₁₉₄	12.9	X	101.05500	187.78895	301.15227	5.35523	0.0990571	0.19884945	2.9070542	17	4 22.8	16.9
19682 1999 <i>RW</i> ₁₉₄	13.9	X	282.92848	225.90987	237.65273	12.28506	0.1592729	0.22455577	2.6807310	17	10 6.1	17.5
19683 1999 <i>RK</i> ₁₉₆	13.4	X	77.61661	293.96687	305.18568	7.28111	0.2235917	0.21724565	2.7405348	17	9 2.8	17.2
19684 1999 <i>RL</i> ₁₉₆	12.9	X	40.31655	171.01946	312.43768	8.20129	0.0734540	0.18907684	3.0063796	17	1 21.3	16.6
19685 1999 <i>RB</i> ₁₉₇	12.8	X	358.27364	216.74126	322.33592	12.31928	0.0800374	0.19252508	2.9703743	17	1 29.8	16.6
19686 1999 <i>RL</i> ₁₉₇	12.6	X	47.51329	193.95525	253.94346	8.57248	0.0610782	0.18408055	3.0605357	17	—	—
19687 1999 <i>RP</i> ₁₉₉	13.2	X	70.14721	342.32014	293.10780	7.10627	0.1333140	0.21873896	2.7280476	17	9 25.6	16.9
19688 1999 <i>RR</i> ₂₀₄	12.8	X	232.30688	13.86675	263.60602	9.33939	0.0718496	0.18798128	3.0180492	17	1 2.9	17.4
19689 1999 <i>RX</i> ₂₀₅	13.1	X	236.12616	107.75402	293.31254	8.49165	0.0964731	0.15061067	3.4986370	17	6 7.6	18.4
19690 1999 <i>RD</i> ₂₁₂	12.8	X	140.12354	316.83814	325.04210	9.74675	0.1743002	0.17420537	3.1751313	17	12 18.6	18.2
19691 Iwate	13.3	X	306.20797	247.90500	162.57232	5.51752	0.0599388	0.21691740	2.7432989	17	9 17.4	16.7
19692 1999 <i>RR</i> ₂₂₀	14.8	X	104.76272	295.21397	240.15015	7.31128	0.0642468	0.26416426	2.4055811	17	6 18.1	17.7
19693 1999 <i>RU</i> ₂₃₀	12.7	X	177.10819	278.72873	69.24157	11.32423	0.1120418	0.18984972	2.9982148	17	2 4.4	17.5
19694 Dunkelman	12.6	X	287.68382	194.40812	121.14554	12.27700	0.0829163	0.14724579	3.5517370	17	4 29.7	17.9
19695 1999 <i>RP</i> ₂₃₄	14.1	X	224.54662	123.50470	88.77148	6.76125	0.1046163	0.28774500	2.2722923	17	12 31.2	17.0
19696 1999 <i>SW</i> ₁	12.7	X	8.28692	152.98368	255.60989	16.63911	0.1253144	0.17273338	3.1931442	17	12 13.4	16.5
19697 1999 <i>SY</i> ₃	13.7	X	97.55160	301.03515	346.84545	0.49406	0.1264378	0.16995450	3.2278569	17	11 12.4	18.6
19698 1999 <i>SR</i> ₄	12.8	X	97.61025	17.37337	198.20839	8.90748	0.0863989	0.21028146	2.8007138	17	8 7.7	16.8
19699 1999 <i>SC</i> ₇	13.7	X	42.89448	260.23273	25.66357	9.59504	0.2521629	0.22108253	2.7087345	17	9 24.7	16.6
19700 1999 <i>SG</i> ₁₅	13.9	X	108.25212	42.72373	275.07102	12.67607	0.1725377	0.23212082	2.6221648	17	—	—
19701 Aomori	14.1	X	27.92259	148.19208	247.95354	20.97794	0.0447255	0.22912356	2.6449830	17	12 23.9	17.6
19702 1999 <i>SK</i> ₂₃	13.2	X	99.35023	336.33870	56.91482	7.11740	0.1614327	0.18329672	3.0692546	17	1 6.1	17.2
19703 1999 <i>TJ</i> ₄	13.6	X	285.52189	42.00212	219.68035	6.31258	0.0807119	0.19146860	2.9812908	17	2 5.9	18.2
19704 Medlock	13.3	X	311.98205	28.26886	88.62371	2.75833	0.0969772	0.16949800	3.2336500	17	12 11.3	17.5
19705 1999 <i>TR</i> ₁₀	13.0	X	138.47336	348.51736	20.19064	10.48765	0.0505738	0.18375618	3.0641363	17	1 11.6	17.5
19706 1999 <i>TU</i> ₁₁	12.7	X	124.74949	105.16267	208.99199	13.62668	0.2318568	0.17497397	3.1658263	17	—	—
19707 Tokunai	13.7	X	134.62477	274.54388	81.30513	4.69208	0.1903611	0.29174290	2.2514857	17	—	—
19708 1999 <i>TM</i> ₃₂	15.1	X	335.85821	206.47815	206.94786	3.75517	0.2351632	0.27447482	2.3449543	17	11 3.9	16.1
19709 1999 <i>TT</i> ₁₀₅	13.2	X	0.97622	338.92252	204.52802	9.29868	0.0492682	0.18772890	3.0207535	17	2 8.2	17.4
19710 1999 <i>TC</i> ₁₈₅	13.6	X	195.63735	331.30385	278.78082	13.13765	0.1378942	0.23216681	2.6218185	17	—	—
19711 1999 <i>TG</i> ₂₁₉	13.6	X	111.42142	283.50353	286.51752	21.09632	0.2357933	0.27415355	2.3467859	17	8 26.3	17.5
19712 1999 <i>TL</i> ₂₂₀	12.8	X	179.93313	322.81367	295.51057	5.21914	0.0906772	0.17580847	3.1558004	17	12 27.1	17.6
19713 Ibaraki	13.2	X	215.11776	63.27872	157.52874	5.46119	0.1003603	0.17755699	3.1349303	17	12 18.2	18.0
19714 1999 <i>UD</i>	14.7	X	152.91986	105.01246	198.03079	7.18855	0.1989920	0.29108025	2.2549014	17	—	—
19715 1999 <i>UA</i> ₄	13.0	X	145.83103	174.33763	192.65420	9.73149	0.0604297	0.18360013	3.0658722	17	1 15.6	17.6
19716 1999 <i>UH</i> ₂₃	13.5	X	134.73606	233.95450	300.99338	7.55534	0.1387240	0.21107884	2.7936560	17	8 6.7	17.7
19717 1999 <i>UZ</i> ₄₀	14.0	X	329.58307	83.75483	123.62324	2.06046	0.1332498	0.24242092	2.5473536	17	1 3.1	17.4
19718 Albertainjarvis	13.3	X	187.20324	152.52481	100.17027	14.65038	0.1315951	0.23442902	2.6049245	17	12 31.9	17.4
19719 Glasser	13.2	X	189.31830	260.82206	150.51796	13.25396	0.3270597	0.19645581	2.9306197	17	5 7.7	18.8
19720 1999 <i>VP</i> ₁₀	13.1	X	42.50134	184.14708	113.27532	9.30563	0.2005845	0.21039595	2.7996976	17	10 3.2	16.4
19721 Wray	12.6	X	162.02160	328.34915	46.07796	13.95010	0.1059988	0.19179393	2.9779185	17	2 23.1	17.3
19722 1999 <i>VU</i> ₄₇	13.8	X	276.66702	327.28984	259.64270	13.78989	0.0595970	0.24073961	2.5592007	17	—	—
19723 1999 <i>VG</i> ₈₇	14.0	X	158.91992	100.70909	293.64127	10.24908	0.2757917	0.23653195	2.5894618	17	3 11.5	18.4
19724 1999 <i>VR</i> ₁₁₄	13.2	X	108.00375	173.81610	280.43145	8.17762	0.0337110	0.19138610	2.9821475	17	3 8.9	17.4
19725 1999 <i>WT</i> ₄	10.8	X	176.27122	34.18023	43.32286	9.95822	0.0703565	0.08391165	5.1671912	17	5 27.3	17.9
19726 1999 <i>XL</i>	12.6	X	232.80001	267.10191	18.05067	16.92998	0.0743914	0.19159484	2.9799811	17	1 16.3	17.5
19727 Allen	13.1	X	64.32021	324.77193	253.15128	13.35994	0.1874253	0.25956777	2.4338971	17	7 6.1	15.7
19728 1999 <i>XQ</i> ₁₄	13.7	X	338.73122	0.95413	265.12191	23.89269	0.1213463	0.26248055	2.4158574	17	3 17.6	17.4
19729 1999 <i>XZ</i> ₁₅	14.9	X	276.88499	181.25903	260.56438	2.45693	0.2049045	0.26152534	2.4217364	17	8 25.3	17.9
19730 Machiavelli	13.9	X	36.04756	98.17782	36.27717	22.94571	0.4216934	0.17818815	3.1276406	17	2 10.5	16.3
19731 Tochigi	12.3	X	5.17058	20.15077	54.55799	15.43599	0.1033923	0.17285068	3.1916994	17	—	—
19732 1999 <i>XF</i> ₁₆₅	13.0	X	39.41859	247.00099	89.37534	12.49176	0.2096486	0.26251154	2.4156673	17	11 24.7	15.7
19733 1999 <i>XA</i> ₁₆₆	13.4	X	122.71929	9.25286	280.55184	12.50696	0.1516653	0.22446183	2.6814818	17	12 16.3	17.6
19734 1999 <i>XE</i> ₁₇₅	14.0	X	140.68857	56.47574	8.34546	5.28811	0.2738692	0.24061264	2.5600996	17	4 5.6	18.0
19735 1999 <i>XN</i> ₂₁₂	13.1	X	176.92340	220.09941	75.27472	14.52998	0.1768750	0.23375805	2.6099068	17	—	—
19736 2000 <i>AM</i> ₅₁	12.9	X	31.73500	234.34475	255.50065	8.79072	0.0465192	0.18461845	3.0545880	17	1 16.7	17.1
19737 2000 <i>AQ</i> ₅₁	13.0	X	92.26024	109.10320	312.07987	6.49870	0.0634184	0.18310918	3.0713500	17	1 17.9	17.0
19738 Calinger	14.1	X	165.64658	280.16440	90.75257	7.73558	0.1848186	0.28582756	2.2824432	17	2 5.6	17.3
19739 2000 <i>AL</i> ₁₀₄	13.9	X	161.29481	121.88741	166.98961	5.59473	0.1770455	0.28144750	2.3060627	17	—	—
19740 2000 <i>AG</i> ₁₃₈	13.2	X	169.49298	121.18421	65.52647	10.28241	0.0848124	0.21516014	2.7582153	17	9 30.1	17.5
19741 Callahan	14.4	X	163.76239	227.28508	167.38601	8.05059	0.1300654	0.29236005	2.2483161	17	2 23.8	17.4
19742 2000 <i>AS</i> ₁₆₂	15.0	X	285.40563	82.07988	358.27605	4.16161	0.2847875	0.26161326	2.4211938	17	8 24.4	18.2
19743 2000 <i>AF</i> ₁₆₄	13.0	X	12.33978	84.19013	139.68297	14.34485	0.1583763	0.23716048	2.5848847	17	4 5.0	15.8
19744 2000 <i>AC</i> ₁₇₆	13.2	X	183.43754	69.28579	190.22519	7.53091	0.1335220	0.21962586	2.7206984	17	—	—
19745 2000 <i>AP</i> ₁₉₉	13.8	X	231.36235	167.76013	101.05467	14.90661	0.1441035	0.23904739	2.5712642	17	—	—
19746 2000 <i>AE</i> ₂₀₀	13.5	X	105.33499	246.80195	173.59180	14.62431	0.0462724	0.18407468	3.0606007	17	1 28.7	17.9
19747 2000 <i>AK</i> ₂₄₅	13.5	X	109.20394	246.31931	186.63480	15.09976	0.1698081	0.23861026	2.5744037	17	2 20.9	16.8
19748 2000 <i>BD</i> ₅	11.9	X	186.33606	308.48946	314.60206	27.13121	0.1905188	0.17185823	3.2039753	17	—	—
19749 2000 <i>CG</i> ₁₉	13.7	X	89.36535	50.10507	144.38135	11.91473	0.0683558	0.19070588	2.9892345	17	7 1.2	17.9
19750 2000 <i>CM</i> ₆₂	13.3	X	241.66382	167.02520	179.94651	15.08541	0.1149418	0.23496484	2.6009627	17	3 27.4	17.3
19751 2000 <i>CG</i> ₆₃	14.0	X	242.70742	30.55990	299.72275	3.50058	0.2418458	0.23043975	2.6349019	17	3 2.5	18.6
19752 2000 <i>CH</i> ₆₇	11.7	X	139.55302	316.25644	155.34110	23.91667	0.1522954	0.12361352	3.9910951	17	6 6.3	18.2
19753 2000 <i>CL</i> ₉₄	14.6	X	342.54617	131.59378	152.51032	3.91402	0.2062358	0.29243272	2.2479436	17	4 12.8	16.8

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19761 2000 <i>JP</i> ₁₀	13.9 ^m	X	46.58106 ^o	257.83892 ^o	241.33539	22.12281 ^o	0.2626719	0.28066241 ^o	2.3103612	17	—	—
19762 Lacrowder	14.3	X	139.64731	232.54090	188.29869	5.90143	0.1238300	0.27780708	2.3261649	17	3 2.9	17.2
19763 Klimesh	12.9	X	216.27510	56.65184	287.17752	23.29851	0.1978452	0.26659064	2.3909626	17	2 12.0	17.2
19764 2000 <i>NF</i> ₅	15.9	X	59.01984	9.53114	281.52138	1.32561	0.4427117	0.29527480	2.2334957	17	11 23.9	19.0
19765 2000 <i>NM</i> ₁₁	14.8	X	283.05919	109.42462	119.62387	3.16880	0.1605027	0.26672117	2.3901825	17	—	—
19766 Katiedavis	14.8	X	302.71085	33.19574	248.98526	6.60052	0.1057609	0.27412378	2.3469558	17	2 28.5	18.0
19767 2000 <i>ON</i> ₅	13.5	X	220.77804	72.75459	305.91813	10.27446	0.0604781	0.21557626	2.7546648	17	4 13.1	17.8
19768 Ellendoane	14.2	X	160.29819	106.96440	299.62657	5.88602	0.1416408	0.26946880	2.3739071	17	3 11.7	17.6
19769 Dolyniuk	14.3	X	161.88995	354.88098	341.45884	2.06023	0.1989953	0.25876681	2.4389169	17	—	—
19770 2000 <i>OP</i> ₂₂	14.5	X	73.29336	238.23628	128.70532	7.88397	0.2435571	0.24364680	2.5388025	17	—	—
19771 2000 <i>OF</i> ₄₄	13.3	X	186.64855	169.90661	315.12450	12.37770	0.1051113	0.22535494	2.6743895	17	7 27.3	17.3
19772 2000 <i>OU</i> ₄₆	14.9	X	323.77085	178.78617	168.65856	13.48459	0.1653135	0.22547639	2.6734291	17	7 1.6	18.3
19773 2000 <i>OU</i> ₅₀	13.3	X	294.33167	258.04740	152.13209	13.25799	0.1743026	0.22601592	2.6691728	17	8 11.4	16.8
19774 2000 <i>OS</i> ₅₁	12.5	X	83.67320	299.58920	280.07584	11.05867	0.2370435	0.22762843	2.6565524	17	8 15.7	16.2
19775 Medmondson	15.7	X	250.08302	201.18929	169.30450	3.57046	0.0969886	0.27892705	2.3199340	17	4 30.9	18.8
19776 Balears	15.2	X	40.15162	307.44600	321.43747	6.85817	0.1626145	0.28864997	2.2675405	17	8 4.8	17.0
19777 2000 <i>Pu</i> ₇	13.5	X	290.18572	332.79303	54.74918	14.75597	0.1727971	0.22357980	2.6885266	17	7 7.3	17.4
19778 Louisgarcia	14.4	X	200.28972	213.55782	120.91845	2.99610	0.0860299	0.20385571	2.8592632	17	2 4.2	18.8
19779 2000 <i>QU</i> ₅₃	14.1	X	80.82419	313.51165	0.06591	4.43582	0.2001434	0.24254256	2.5465024	17	12 10.1	17.9
19780 2000 <i>QU</i> ₆₅	13.8	X	23.90846	3.84661	47.31833	10.10241	0.0860191	0.18551474	3.0447415	17	—	—
19781 2000 <i>QK</i> ₆₈	14.5	X	41.02380	134.33895	157.80848	4.07877	0.1986899	0.23157065	2.6263163	17	9 19.2	17.2
19782 2000 <i>QT</i> ₆₈	13.5	X	49.81133	111.51160	303.31839	0.70617	0.1275698	0.18940616	3.0028938	17	—	—
19783 Antoniromanya	13.3	X	344.86048	13.16339	83.70717	2.41885	0.1491983	0.18411860	3.0601140	17	—	—
19784 2000 <i>QJ</i> ₈₁	14.1	X	107.60396	48.78886	165.53173	8.63609	0.0616135	0.17160043	3.2071834	17	8 17.8	18.7
19785 2000 <i>QU</i> ₁₀₃	14.0	X	128.30083	31.34596	158.12300	12.31180	0.1266692	0.22650398	2.6653372	17	8 16.9	17.9
19786 2000 <i>QR</i> ₁₀₄	13.6	X	236.80955	76.86504	137.07596	10.17746	0.0165730	0.18788708	3.0190579	17	—	—
19787 Betsyglass	14.1	X	270.75756	10.93840	352.43482	5.97539	0.0730227	0.21909295	2.7251084	17	5 24.1	18.1
19788 Hunker	14.1	X	302.36562	314.35201	130.92160	9.70487	0.1856252	0.23300049	2.6155608	17	10 15.8	17.2
19789 Susanjohnson	14.4	X	11.63944	153.73811	210.13666	5.48732	0.1564984	0.29024036	2.2592494	17	11 8.1	16.1
19790 2000 <i>RJ</i> ₁₀	13.6	X	231.20745	357.98714	76.57016	9.41079	0.2078156	0.21365185	2.7711813	17	7 2.1	18.2
19791 2000 <i>RV</i> ₁₅	13.1	X	76.24926	71.59274	276.78096	8.49664	0.1000904	0.18643440	3.0347204	17	12 29.2	17.5
19792 2000 <i>RO</i> ₃₃	13.8	X	252.62527	37.27069	313.40046	5.96430	0.1301205	0.21234712	2.7825211	17	4 11.1	18.2
19793 2000 <i>RX</i> ₄₂	12.3	X	93.68121	346.27981	236.36207	12.48102	0.1202658	0.22457806	2.6805536	17	8 13.8	16.3
19794 2000 <i>RV</i> ₄₉	13.7	X	106.73482	82.02737	24.16751	12.09167	0.0795323	0.26020263	2.4299365	17	3 21.6	16.6
19795 2000 <i>RJ</i> ₅₀	13.9	X	80.10128	151.20081	71.98655	23.07048	0.2210385	0.18422498	3.0589358	17	—	—
19796 2000 <i>RX</i> ₅₀	15.0	X	264.01666	259.86013	213.30176	3.07012	0.2180880	0.26830807	2.3807487	17	3 19.9	18.8
19797 2000 <i>RO</i> ₅₁	13.3	X	10.36159	193.37590	209.77611	17.03675	0.1817468	0.17634958	3.1493416	17	12 15.3	17.2
19798 2000 <i>RP</i> ₅₁	13.8	X	28.04152	43.26676	38.08704	1.76465	0.1551556	0.18335589	3.0685943	17	—	—
19799 2000 <i>RT</i> ₅₁	14.4	X	252.50734	139.77871	224.16587	7.56803	0.1789100	0.20930132	2.8094507	17	4 26.7	19.0
19800 2000 <i>RX</i> ₅₁	13.9	X	319.19598	85.03755	6.51311	0.60501	0.1568793	0.17078735	3.2173545	17	11 15.1	17.6
19801 Karenlemmon	14.5	X	209.35079	113.21905	211.58656	1.41805	0.0769944	0.20284009	2.8687994	17	2 1.1	18.8
19802 2000 <i>RD</i> ₇₂	15.3	X	199.43278	219.31308	195.41533	2.66725	0.2233754	0.26803487	2.3823662	17	5 7.5	19.1
19803 2000 <i>RX</i> ₉₀	14.0	X	183.38579	280.34293	254.00986	10.20282	0.2237724	0.22860393	2.6489896	17	9 17.4	18.8
19804 2000 <i>RJ</i> ₁₀₃	13.1	X	7.05138	74.95014	351.35663	9.80818	0.0632556	0.18121132	3.0927572	17	12 31.1	17.3
19805 2000 <i>SR</i> ₁₁	15.4	X	192.59266	16.08258	30.63593	1.51718	0.1834336	0.26748237	2.3856457	17	4 19.8	19.1
19806 Domatthews	14.6	X	101.23920	321.15913	312.49543	2.50405	0.1539391	0.30112289	2.2044836	17	11 10.5	17.7
19807 2000 <i>SE</i> ₁₆	13.8	X	187.81234	15.54359	202.51408	14.54272	0.1264562	0.18327794	3.0694643	17	11 18.5	18.8
19808 Elaineccall	14.0	X	342.94986	212.27444	96.78843	3.67511	0.0537232	0.21943681	2.7222608	17	6 24.3	17.5
19809 Nancyowen	15.1	X	129.05293	33.43618	140.94180	6.36246	0.0342014	0.27826338	2.3236213	17	7 14.9	18.1
19810 Partridge	13.8	X	331.59885	79.35772	20.54530	5.99425	0.0132968	0.18265104	3.0764836	17	12 23.3	18.1
19811 Kimperkins	14.6	X	5.42094	54.69956	26.15428	2.81410	0.1635963	0.24140219	2.5545157	17	—	—
19812 2000 <i>SG</i> ₁₁₉	13.8	X	113.14849	53.01569	195.75079	12.61886	0.0638395	0.17130491	3.2108708	17	10 6.9	18.4
19813 Ericsands	15.0	X	148.16728	322.96258	160.19710	6.49217	0.0524308	0.27183859	2.3600904	17	6 2.2	18.1
19814 2000 <i>ST</i> ₁₂₄	15.9	X	167.11742	208.30676	175.73026	11.23858	0.1251018	0.25932418	2.4354209	17	2 19.6	19.4
19815 Marshasega	14.7	X	286.42362	217.79434	92.34261	3.02769	0.0845163	0.21071182	2.7968990	17	4 7.0	18.6
19816 Wayneseyfert	15.2	X	228.25206	70.19568	130.73073	5.11867	0.1099138	0.29739886	2.2228484	17	12 21.4	18.1
19817 Larashelton	14.2	X	351.25467	37.93470	342.76911	2.11594	0.1410598	0.23198130	2.6232161	17	10 14.4	16.6
19818 Shotwell	13.5	X	63.89079	352.54462	206.01666	8.79074	0.1683430	0.27119818	2.3638044	17	6 2.4	15.7
19819 2000 <i>SQ</i> ₁₅₂	13.9	X	13.43920	307.44207	24.15252	3.62861	0.1163291	0.16992275	3.2282590	17	9 14.7	17.7
19820 Stowers	14.7	X	172.79042	280.96912	193.02755	8.72918	0.1211850	0.21475200	2.7617089	17	6 27.9	19.1
19821 Caroltolin	13.9	X	166.07018	213.93908	159.92275	2.60710	0.0776137	0.19897714	2.9058103	17	2 15.3	18.3
19822 Vonzielonka	15.1	X	291.36801	141.59190	241.95942	4.78391	0.1164255	0.28051564	2.3111670	17	7 6.6	17.8
19823 2000 <i>SD</i> ₁₇₀	14.0	X	10.97564	303.93615	326.21072	2.26882	0.1741638	0.21815053	2.7329512	17	6 9.5	16.5
19824 2000 <i>SL</i> ₁₇₆	13.9	X	168.21227	316.67499	347.74443	7.67879	0.0309352	0.18862086	3.0112229	17	—	—
19825 2000 <i>SN</i> ₁₇₉	14.0	X	56.62209	14.73913	236.61902	12.05163	0.0637440	0.21911618	2.7249157	17	7 24.5	17.7
19826 Patwalker	14.1	X	291.46156	274.75514	227.96320	2.83353	0.0593658	0.18216853	3.0819138	17	12 20.3	18.3
19827 2000 <i>SN</i> ₂₁₂	13.6	X	78.12534	183.07739	89.48078	9.95434	0.1434428	0.17240369	3.1972138	17	10 11.1	18.3
19828 2000 <i>SB</i> ₂₁₄	13.9	X	132.57304	48.84636	78.44513	12.26805	0.1466191	0.26832133	2.3806703	17	5 31.3	17.1
19829 2000 <i>SH</i> ₂₁₇	13.3	X	36.24692	65.75278	149.46494	9.49684	0.1010003	0.21173601	2.7878725	17	5 13.4	16.7
19830 2000 <i>SC</i> ₂₁₈	14.0	X	23.04631	227.94618	92.71820	6.86876	0.2153442	0.28810528	2.2703975	17	10 5.9	15.7
19831 2000 <i>SV</i> ₂₂₅	13.8	X	150.99586	178.72317	70.73368	14.93254	0.1784708	0.23505688	2.6002837	17	11 25.7	18.0
19832 2000 <i>SS</i> ₂₂₆	14.1	X	337.90073	294.07574	170.85284	11.04762	0.1295792	0.23775963	2.5805403	17	—	—
19833 Wickwar	14.9	X	18.80835	26.19305	145.69539	2.47003	0.0298630	0.20057262	2.8903800	17	2 18.6	18.6
19834 2000 <i>SO</i> ₂₃₈	13.6	X	47.72507	144.40965	67.72386	10.00242	0.101731					

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19841 2000 <i>SO</i> ₂₈₀	15.2	X	271.06742	97.41705	333.03992	3.60982	0.0868340	0.22487780	2.6781711	17	8 21.9	18.8
19842 2000 <i>SU</i> ₂₉₈	13.8	X	67.88505	251.95011	287.40723	6.59927	0.1606803	0.21208948	2.7847740	17	5 19.6	17.0
19843 2000 <i>SM</i> ₃₀₉	15.4	X	329.36983	185.17764	193.60629	2.36053	0.2435048	0.28346713	2.2950963	17	8 12.3	17.1
19844 2000 <i>ST</i> ₃₁₇	10.9	X	205.14134	104.29154	207.53897	40.43181	0.0491586	0.08335249	5.1902745	17	1 31.4	18.5
19845 2000 <i>SY</i> ₃₁₉	12.9	X	3.88751	32.23774	22.46376	9.74156	0.0910600	0.17454247	3.1710418	17	12 10.9	17.1
19846 2000 <i>SN</i> ₃₂₇	13.9	X	94.98977	118.89529	287.29077	3.86611	0.0619533	0.25131722	2.4868784	17	—	—
19847 2000 <i>ST</i> ₃₃₉	14.5	X	111.92842	272.11126	241.57696	4.73347	0.1833754	0.26871876	2.3783224	17	6 15.8	17.6
19848 Yeungchuchiu	12.2	X	94.29003	350.16253	54.75893	11.06138	0.0765540	0.18902176	3.0069637	17	—	—
19849 2000 <i>TL</i> ₁₈	14.6	X	276.99160	261.07653	338.73051	1.22283	0.0459083	0.19580018	2.9371581	17	1 6.3	18.9
19850 2000 <i>TQ</i> ₂₅	14.1	X	325.61303	162.10581	224.41726	12.54023	0.1757543	0.22494077	2.6776713	17	8 24.5	17.4
19851 2000 <i>TD</i> ₄₂	13.5	X	82.76276	249.65262	134.97013	10.84996	0.0948931	0.19111089	2.9850098	17	—	—
19852 Jamesalbers	11.5	X	80.23381	215.95665	55.56882	19.20613	0.1578222	0.17322550	3.1870937	17	10 16.9	16.3
19853 Ichinomiya	13.4	X	83.70210	149.44168	115.30725	14.86706	0.1302234	0.17161979	3.2069422	17	10 7.9	18.3
19854 2000 <i>UV</i> ₅	14.9	X	187.90445	204.12358	142.91309	2.75085	0.1048766	0.19762850	2.9190151	17	2 8.6	19.3
19855 Borisalexeev	14.4	X	155.30505	122.06272	206.04632	9.08431	0.0883340	0.19128096	2.9832402	17	—	—
19856 2000 <i>UP</i> ₈	13.7	X	26.22456	74.38623	227.60495	9.27881	0.1409709	0.22360826	2.6882985	17	8 23.3	16.9
19857 Amandajane	14.4	X	319.47235	117.21075	267.91180	5.52962	0.0856015	0.28255785	2.3000174	17	8 26.0	16.8
19858 2000 <i>UT</i> ₁₈	13.2	X	330.34434	94.91138	5.60094	8.24393	0.2220126	0.17486817	3.1671031	17	12 12.2	16.6
19859 2000 <i>UK</i> ₂₂	14.0	X	39.66756	202.47906	109.81407	3.91438	0.1358232	0.17030924	3.2233731	17	10 4.4	18.0
19860 Anahtar	14.2	X	260.44212	141.37891	168.20552	3.17878	0.1351000	0.20368856	2.8608272	17	3 3.7	18.7
19861 Auster	13.7	X	289.60481	84.36596	255.07982	7.90244	0.1348596	0.21187687	2.7866367	17	5 8.9	17.6
19862 2556 <i>P-L</i>	13.4	X	38.13328	20.33345	23.13766	10.73025	0.2280762	0.17614088	3.1518287	17	—	—
19863 2725 <i>P-L</i>	15.7	X	263.60333	263.67315	184.94790	1.37250	0.1740043	0.22347430	2.6893727	17	8 23.9	19.7
19864 2775 <i>P-L</i>	15.4	X	278.29507	218.82800	61.95483	3.05765	0.1986754	0.26986407	2.3715885	17	1 28.9	19.1
19865 2825 <i>P-L</i>	14.4	X	244.71960	314.91551	203.80815	0.94975	0.0931728	0.17334282	3.1856556	17	11 7.1	19.0
19866 4014 <i>P-L</i>	14.7	X	72.63102	68.20792	344.25108	5.94915	0.1415878	0.29957782	2.2120568	17	—	—
19867 4061 <i>P-L</i>	14.0	X	119.91741	57.40396	237.99085	4.80761	0.1614345	0.17706364	3.1408687	17	12 16.3	19.0
19868 4072 <i>P-L</i>	14.7	X	33.36004	19.56176	235.57502	2.60522	0.2269737	0.27451614	2.3447189	17	7 2.6	16.0
19869 4202 <i>P-L</i>	13.9	X	323.86791	78.66453	338.16502	8.71398	0.0642373	0.22548463	2.6733639	17	10 17.5	17.3
19870 4780 <i>P-L</i>	13.6	X	292.98851	306.09824	185.07300	5.29888	0.1156355	0.17422367	3.1749090	17	12 1.1	17.8
19871 6058 <i>P-L</i>	15.0	X	118.55578	321.03661	343.42278	6.76627	0.1919825	0.24623228	2.5209993	17	—	—
19872 Chendonghua	15.4	X	261.00995	38.31665	275.74033	1.26928	0.2101993	0.27059135	2.3673371	17	2 21.5	19.3
19873 Chentao	14.1	X	101.31411	349.83034	117.27240	3.10040	0.0288033	0.20002264	2.8956758	17	3 19.6	17.9
19874 Liudongyan	16.4	X	221.64668	331.86465	102.67645	1.52357	0.2020745	0.27296339	2.3536025	17	6 20.2	20.1
19875 Guedes	14.5	X	178.58869	198.26709	17.47621	13.00694	0.1464416	0.22696475	2.6617286	17	11 5.3	18.8
19876 7637 <i>P-L</i>	14.1	X	57.15832	172.43802	54.62500	6.18805	0.1750573	0.27389231	2.3482779	17	7 5.4	16.3
19877 9086 <i>P-L</i>	16.8	X	26.67017	158.85068	214.40271	4.86597	0.3114007	0.29594137	2.2301407	17	—	—
19878 1030 <i>T-1</i>	14.3	X	153.93319	265.31753	324.15454	4.57073	0.1515090	0.28699829	2.2762319	17	11 4.1	17.8
19879 1274 <i>T-1</i>	13.4	X	328.88001	328.43402	5.12596	5.04274	0.1062515	0.21877452	2.7277520	17	6 30.9	16.7
19880 2247 <i>T-1</i>	14.4	X	331.02307	119.32695	44.78255	2.63889	0.1000690	0.18844360	3.0131109	17	—	—
19881 2288 <i>T-1</i>	14.4	X	216.30570	61.52960	30.85158	5.09544	0.0709704	0.22021484	2.7158451	17	7 18.6	18.4
19882 3024 <i>T-1</i>	15.0	X	138.63539	266.15726	163.90214	0.56047	0.1038852	0.25657924	2.4527599	17	3 17.2	18.3
19883 4058 <i>T-1</i>	15.0	X	50.81209	142.32069	170.33268	6.72703	0.0938028	0.28584361	2.2823578	17	10 22.2	17.5
19884 4125 <i>T-1</i>	15.5	X	228.69112	271.47675	55.37148	2.02116	0.1269396	0.31827472	2.1245549	17	1 31.8	18.4
19885 4283 <i>T-1</i>	14.4	X	358.11655	46.59303	28.12363	7.80380	0.1073010	0.29109981	2.2548004	17	—	—
19886 1167 <i>T-2</i>	15.4	X	276.13182	199.17508	239.75795	1.35697	0.0430888	0.22354169	2.6888322	17	9 14.9	18.8
19887 1279 <i>T-2</i>	15.5	X	32.46159	213.96331	173.46069	1.33100	0.1676402	0.29471299	2.2363333	17	—	—
19888 2048 <i>T-2</i>	13.9	X	70.84624	198.50788	196.66217	9.81572	0.0756557	0.18556670	3.0441731	17	—	—
19889 2304 <i>T-2</i>	14.4	X	75.91964	23.21563	43.34772	2.69062	0.0787638	0.18726424	3.0253639	17	1 2.2	18.3
19890 3042 <i>T-2</i>	15.5	X	336.37706	321.82392	145.61691	4.19180	0.0451439	0.29646221	2.2275279	17	—	—
19891 3326 <i>T-2</i>	15.2	X	307.02698	272.21252	57.63801	3.59284	0.1839324	0.21972016	2.7199199	17	5 11.2	18.8
19892 4128 <i>T-2</i>	16.5	X	194.31388	221.00457	127.55267	3.72413	0.1933326	0.25820882	2.4424293	17	2 10.5	20.3
19893 4524 <i>T-2</i>	14.4	X	324.16717	27.66769	100.70900	2.20504	0.1307005	0.18341140	3.0679752	17	—	—
19894 5124 <i>T-2</i>	13.9	X	167.48869	323.36247	236.55097	11.89654	0.1158957	0.22434517	2.6824084	17	10 6.4	18.2
19895 5161 <i>T-2</i>	13.7	X	323.42200	88.29583	337.99542	12.28047	0.1706555	0.22480713	2.6787324	17	10 17.8	16.7
19896 5366 <i>T-2</i>	14.1	X	244.09587	345.17293	257.58446	7.60323	0.0563008	0.18748340	3.0233900	17	—	—
19897 1097 <i>T-3</i>	13.9	X	251.92682	158.83941	244.18695	8.22743	0.1382301	0.21632532	2.7483021	17	6 17.4	18.0
19898 1177 <i>T-3</i>	12.9	X	310.16110	250.83158	283.14385	7.52090	0.1686292	0.17941383	3.1133798	17	—	—
19899 1188 <i>T-3</i>	15.5	X	165.33396	21.62055	309.27285	6.18145	0.1141233	0.25577888	2.4578739	17	—	—
19900 2172 <i>T-3</i>	13.8	X	258.73633	190.15640	216.39314	12.17751	0.0102967	0.16808422	3.2517571	17	7 16.0	18.6
19901 2191 <i>T-3</i>	15.3	X	195.89952	116.29680	342.55296	3.94360	0.1093051	0.21596278	2.7513770	17	7 3.0	19.6
19902 3420 <i>T-3</i>	15.1	X	84.23698	318.43760	145.08867	2.34281	0.1342396	0.25759350	2.4463173	17	2 13.9	17.6
19903 3464 <i>T-3</i>	16.3	X	183.36280	351.88587	7.13378	2.56413	0.2127525	0.25866700	2.4395443	17	2 15.2	20.2
19904 3487 <i>T-3</i>	14.4	X	265.31636	67.30033	12.99189	3.62421	0.0882397	0.21957867	2.7210882	17	8 28.6	18.1
19905 4086 <i>T-3</i>	16.2	X	124.83337	206.24112	111.82485	3.73842	0.1880270	0.30211515	2.1996540	17	—	—
19906 4138 <i>T-3</i>	13.4	X	39.04470	8.82019	34.95277	19.15993	0.1734178	0.17663908	3.1458996	17	—	—
19907 4220 <i>T-3</i>	13.4	X	8.16771	45.39920	30.74451	22.20161	0.1220351	0.17612657	3.1519994	17	—	—
19908 4324 <i>T-3</i>	14.3	X	256.96950	281.98406	96.29728	6.06287	0.0594433	0.21522214	2.7576856	17	5 31.2	18.2
19909 4326 <i>T-3</i>	14.9	X	224.98853	310.42231	70.44835	5.71919	0.1564424	0.26245352	2.4160233	17	4 19.1	18.6
19910 5078 <i>T-3</i>	12.3	X	193.77551	216.76276	67.24336	10.78363	0.0573843	0.18044007	3.1015638	17	—	—
19911 Rigaux	12.4	X	318.01206	144.94792	44.08150	14.79829	0.2926420	0.18533461	3.0467140	17	—	—
19912 Aurapenta	13.8	X	330.53185	22.98346	319.45178	7.22472	0.2526904	0.26867800	2.3785629	17	6 15.5	16.3
19913 Aigyptos	11.2	X	139.13390	339.28895	141.49204	7.12291	0.0567117	0.08502735	5.1218905	17	6 8.7	18.2
19914 Klagenfurt	14.6	X	186.22998	44.07198	46.81122	3.01475	0.1573721	0.26196874	2.4190030	17	6 9.4	18.3
19915 Bochkarev	14.6	X	305.13022	139.56083	235.32060	2.12466	0.2433852	0.27274117	2.3548807	17	6 23.7	17.5
19916 Donbass	14.5	X	134.83229	132.86054								

ELEMENTS AND OPPOSITION DATES IN 2017

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2017 SEPTEMBER 4.0 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>
19921 1978 VV ₃	13.1 ^m	X	49.50182	84.71252	62.70303	12.23988	0.1004063	0.18616627	3.0376335	17	3 14.7	17.1
19922 1978 VV ₄	14.8	X	18.27357	358.04128	12.90137	2.79680	0.1006327	0.22673347	2.6635384	17	11 14.7	17.8
19923 1978 VA ₈	13.9	X	219.47371	145.85636	45.67543	1.67987	0.1044362	0.17472059	3.1688864	17	11 17.6	18.7
19924 1979 MQ ₆	15.2	X	204.60894	306.72399	272.57779	4.50602	0.1063243	0.29414604	2.2392060	17	12 17.3	18.1
19925 1979 QD ₃	15.7	X	49.26148	242.73494	150.86369	4.45341	0.1321722	0.29235424	2.2483459	17	—	—
19926 1979 YQ	13.1	X	55.34828	318.67503	84.02853	9.06095	0.2432325	0.23748684	2.5825159	17	—	—
19927 1980 FM ₄	13.6	X	99.53059	20.05672	350.23299	8.84824	0.0941792	0.17960992	3.1111134	17	—	—
19928 1981 DB ₃	14.3	X	52.17432	131.51943	231.47245	8.11811	0.2049142	0.23377774	2.6097603	17	—	—
19929 1981 DL ₃	15.2	X	29.17542	88.55451	283.45468	5.71380	0.1236198	0.28678026	2.2773855	17	12 15.7	17.5
19930 1981 EV ₂	13.7	X	245.84255	65.76616	249.73740	9.28760	0.0298033	0.19058531	2.9904952	17	2 28.9	18.2
19931 1981 EF ₃	15.8	X	223.07893	279.77595	244.06350	6.52474	0.0388568	0.28605002	2.2812597	17	11 1.7	18.7
19932 1981 EU ₄	12.5	X	287.35160	25.81229	261.11961	9.01030	0.0738524	0.19096105	2.9865711	17	3 9.0	16.9
19933 1981 EW ₅	13.9	X	88.49197	189.55731	223.74373	12.62149	0.1506305	0.24174689	2.5520868	17	—	—
19934 1981 EG ₁₁	15.6	X	359.90748	270.26806	211.61189	5.80051	0.2369968	0.24049478	2.5609373	17	—	—
19935 1981 EG ₁₂	14.7	X	258.86238	9.92422	220.33218	7.29644	0.1433896	0.23861887	2.5743417	17	—	—
19936 1981 EZ ₁₂	14.9	X	34.29481	133.41241	278.05486	4.52178	0.1214512	0.29106292	2.2549909	17	—	—
19937 1981 EF ₁₅	14.6	X	172.07190	323.16698	325.76763	9.00275	0.0687853	0.18275936	3.0752679	17	—	—
19938 1981 EN ₁₅	15.9	X	316.61927	174.92443	284.12918	2.37373	0.1051648	0.28871969	2.2671754	17	12 13.2	17.7
19939 1981 EG ₁₆	14.5	X	341.55480	241.48935	342.98872	12.68627	0.1578356	0.24432432	2.5341068	17	2 8.7	17.6
19940 1981 EK ₂₀	14.6	X	134.72722	268.21749	358.22455	11.28945	0.1652608	0.23166361	2.6256137	17	11 27.7	19.0
19941 1981 ES ₂₄	15.9	X	274.37839	166.33567	337.47065	6.60487	0.0379981	0.28840474	2.2688256	17	12 16.1	18.6
19942 1981 EV ₂₄	15.3	X	7.00252	101.70983	357.96182	3.17723	0.1292291	0.23900480	2.5715697	17	—	—
19943 1981 EB ₃₁	14.4	X	333.53182	8.36426	165.28083	6.42913	0.0992446	0.18710587	3.0274555	17	—	—
19944 1981 EF ₃₁	15.4	X	3.95867	260.44938	161.16533	4.24193	0.0536876	0.28918301	2.2647531	17	—	—
19945 1981 ET ₃₁	14.1	X	88.39454	268.73217	178.51381	9.57095	0.2262734	0.18985816	2.9981259	17	3 5.1	17.8
19946 1981 EB ₃₅	15.1	X	321.81948	267.28472	183.57125	5.61984	0.0497100	0.28846191	2.2685259	17	12 12.9	17.7
19947 1981 EE ₃₉	14.5	X	121.54332	204.14567	167.03070	6.91629	0.0725723	0.18644627	3.0345916	17	—	—
19948 1981 EP ₄₀	15.1	X	63.80520	130.46150	192.65955	7.10225	0.2159588	0.28462185	2.2888846	17	12 11.2	18.2
19949 1981 EM ₄₆	15.9	X	20.45077	145.34028	249.24090	1.36688	0.0832175	0.28875270	2.2670026	17	12 28.2	18.3
19950 1981 EP ₄₇	14.2	X	89.80722	196.73137	185.51834	11.62736	0.1308998	0.18453717	3.0554849	17	—	—
19951 1982 UW ₂	13.6	X	58.58868	255.58453	127.39118	12.64166	0.1197473	0.17259396	3.1948636	17	—	—
19952 Ashkinazi	14.0	X	216.85318	189.96891	222.68935	7.42906	0.2869693	0.21554582	2.7549241	17	5 22.5	19.0
19953 1982 VU ₂	12.8	X	190.00334	210.56407	54.83222	14.28805	0.1432488	0.23075915	2.6324700	17	—	—
19954 1982 VY ₃	14.1	X	152.59752	198.24996	67.23207	6.53186	0.1361035	0.28426597	2.2907945	17	12 19.5	17.6
19955 Holly	13.3	X	112.77961	221.95069	127.73835	12.12242	0.1453930	0.18354988	3.0664319	17	—	—
19956 1985 QW ₁	15.0	X	293.44828	176.82153	225.07762	7.23980	0.1076371	0.27671240	2.3322959	17	8 5.2	17.8
19957 1985 QG ₄	14.5	X	26.73759	297.38156	337.06948	9.82651	0.2260624	0.27640755	2.3340104	17	7 22.9	16.0
19958 1985 RN ₄	16.0	X	262.90378	288.70690	53.23256	2.39504	0.3103982	0.26813729	2.3817595	17	3 25.8	20.3
19959 1985 UJ ₃	14.5	X	47.51737	222.48703	107.88230	1.26965	0.2406578	0.27927899	2.3179846	17	12 3.2	17.0
19960 1986 CN ₁	14.0	X	91.93842	255.43958	318.96699	10.39578	0.1906536	0.26189156	2.4194782	17	8 15.4	16.9
19961 1986 QP ₃	14.9	X	71.40136	329.92645	40.86593	3.14245	0.2114369	0.29419286	2.2389684	17	—	—
19962 Martynenko	15.1	X	342.40461	131.08807	243.02956	4.53787	0.1797225	0.28568011	2.2832285	17	9 13.7	16.9
19963 1986 TR	13.8	X	48.07003	89.72265	251.21094	9.75644	0.3085851	0.22605164	2.6688916	17	12 20.7	17.4
19964 1987 BX ₁	13.6	X	194.18091	261.43133	241.42245	6.61748	0.1712761	0.21128185	2.7918661	17	8 21.7	18.4
19965 1987 RO ₁	12.8	X	95.75347	165.40132	132.02149	3.94585	0.1527912	0.17137264	3.2100248	17	11 25.7	17.6
19966 1987 SL ₃	12.3	X	65.26262	85.33790	317.56720	9.94475	0.0823646	0.17459240	3.1704372	17	—	—
19967 1987 SN ₁₂	14.0	X	118.17532	183.79230	144.84246	1.54919	0.2160336	0.24000761	2.5644016	17	—	—
19968 Palazzolasca	13.8	X	108.36300	317.48298	248.23857	1.49554	0.1009347	0.21172372	2.7879804	17	8 12.5	17.8
19969 Davidfreedman	14.6	X	53.87472	110.77245	170.55085	6.83509	0.0413415	0.27242974	2.3566751	17	8 30.9	17.3
19970 Johannpeter	14.6	X	338.79572	292.68241	356.88439	2.32201	0.1579822	0.26532267	2.3985741	17	4 27.1	17.0
19971 1988 RZ ₅	14.4	X	352.16054	166.29568	170.69055	3.37405	0.1133375	0.27123082	2.3636147	17	8 11.2	16.6
19972 1988 RD ₆	15.0	X	223.80192	313.10625	49.39882	2.08029	0.1945758	0.26061148	2.4273944	17	3 24.7	19.0
19973 1988 RZ ₁₀	14.2	X	132.42010	155.43703	153.54107	4.58365	0.0696334	0.18013270	3.1050911	17	—	—
19974 1989 GR ₁	14.7	X	28.24246	225.72093	216.89020	13.58629	0.0638536	0.23458924	2.6037382	17	—	—
19975 1989 GX ₂	14.4	X	117.04418	208.22781	219.01696	3.51193	0.0296059	0.31048723	2.1599327	17	1 14.0	16.8
19976 1989 TD	15.3	X	327.99559	51.48297	306.34662	3.00989	0.2556188	0.27861488	2.3216666	17	7 3.6	17.4
19977 1989 TQ	14.0	X	197.79257	61.57339	242.10047	5.55650	0.2145582	0.29764573	2.2216191	17	—	—
19978 1989 TN ₆	15.0	X	109.22799	113.78349	153.43791	6.06637	0.1259774	0.28381018	2.2932465	17	11 9.8	18.3
19979 1989 VJ	12.9	X	53.53050	178.97842	257.57104	5.16754	0.1027290	0.25569403	2.4584176	17	—	—
19980 Barrysimon	14.2	X	223.39773	261.39989	221.61159	21.63520	0.2542323	0.27345970	2.3507539	17	8 12.9	18.7
19981 Bialystock	13.1	X	254.03471	64.89710	119.72725	14.63544	0.2058884	0.17312167	3.1883679	17	12 6.3	18.0
19982 Barbaradoore	13.6	X	307.08757	106.85700	290.02796	22.32545	0.2865822	0.27626510	2.3348126	17	7 19.6	16.2
19983 1990 DW	13.3	X	246.65864	98.34834	331.48210	6.37954	0.0584526	0.26687182	2.3892829	17	7 23.8	16.5
19984 1990 EP ₂	14.5	X	105.09147	298.08212	241.42763	5.48234	0.1041201	0.26220078	2.4175756	17	6 30.9	17.5
19985 1990 GD	14.5	X	359.45936	254.18093	350.88494	7.47021	0.1071585	0.25735443	2.4478321	17	4 4.9	17.3
19986 1990 KD	14.2	X	243.76833	165.36370	101.27516	13.85317	0.2575319	0.24364217	2.5388346	17	—	—
19987 1990 QJ ₃	13.3	X	106.40193	71.10383	349.11723	12.62236	0.1509078	0.19884294	2.9071175	17	2 14.7	17.2
19988 1990 QW ₃	15.5	X	253.61495	341.82200	317.69076	1.78379	0.1540051	0.31444353	2.1417771	17	1 21.8	18.6
19989 1990 RN ₈	14.3	X	341.36317	221.03315	168.05326	3.09873	0.0899318	0.22094417	2.7098652	17	10 10.3	17.4
19990 1990 SE ₈	14.7	X	261.63432	255.79718	142.69503	4.43438	0.1008264	0.21281965	2.7784008	17	6 27.0	18.6
19991 1990 SW ₈	13.8	X	276.80919	206.57567	160.38338	12.07042	0.1355359	0.21159257	2.7891322	17	6 1.7	18.1
19992 Schönbein	13.8	X	223.13284	181.03395	344.68056	7.17685	0.1426529	0.21923018	2.7239710	17	10 18.2	18.0
19993 Günterseeber	14.8	X	218.53823	119.59900	231.47928	3.20767	0.2517860	0.23997159	2.5646583	17	3 7.4	19.5
19994 Tresini	13.4	X	298.86800	70.39961	307.28117	8.07749	0.1771382	0.21322832	2.7748497	17	7 6.1	17.0
19995 1990 VU ₈	13.4	X	343.13968	188.73812	130.86552	9.85616	0.1433179	0.21136125	2.7911669	17	7 1.1	16.6
19996 1990 WZ	13.9	X	248.50394	247.11553	190.28734	8.91346	0.0583375					