

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16001 1999 AY ₂₁	14.4	X	277.97878	352.21480	193.42822	4.83421	0.0953310	0.17892331	3.1190675	20	—	—
16002 Bertin	14.2	X	3.13913	165.00355	149.26614	8.02764	0.2030538	0.25211394	2.4816363	20	9 28.5	16.4
16003 1999 BX ₂	13.1	X	297.32765	1.35219	119.72022	10.72590	0.1363009	0.17459040	3.1704615	20	12 17.3	17.0
16004 1999 BZ ₃	14.3	X	326.36997	188.02724	145.81645	4.48994	0.1796252	0.29631218	2.2282798	20	8 5.7	15.7
16005 1999 BP ₇	14.3	X	349.54881	69.03764	113.90131	30.51159	0.2587047	0.23538768	2.5978470	20	1 16.1	16.8
16006 1999 BJ ₉	15.2	X	163.43815	73.03010	190.07353	2.06435	0.1867600	0.26572571	2.3961482	20	—	—
16007 Kaasalainen	13.8	X	279.53480	293.30751	325.23741	7.56342	0.0956600	0.28003638	2.3138032	20	2 6.4	16.8
16008 1999 CV	15.0	X	331.60336	197.70016	99.82416	6.50326	0.1797423	0.29238855	2.2481700	20	6 13.5	16.5
16009 1999 CM ₈	11.9	X	246.13169	327.23598	38.11249	16.02111	0.1573515	0.24414988	2.5353137	20	5 11.3	15.6
16010 1999 CG ₁₄	13.0	X	282.00136	111.58704	176.65694	10.16773	0.0902430	0.18763477	3.0217638	20	3 29.4	17.3
16011 1999 CM ₁₆	14.1	X	356.16877	74.49064	166.23723	5.64218	0.0584705	0.24178748	2.5518012	20	5 13.5	17.1
16012 Jamierubin	14.5	X	153.28876	278.03282	315.22025	2.30609	0.1668869	0.26184151	2.4197865	20	11 30.5	18.3
16013 Schmidgall	14.4	X	26.21741	137.33888	33.86238	2.29647	0.0645858	0.28387091	2.2929194	20	3 18.3	16.7
16014 Sinha	14.1	X	124.73647	91.84320	83.80293	3.45751	0.0263560	0.20390474	2.8588048	20	8 10.1	18.0
16015 Snell	13.7	X	208.60168	186.69367	73.76904	1.94846	0.1357842	0.17691403	3.1426393	20	—	—
16016 1999 CB ₅₄	14.5	X	69.51830	273.85431	48.05214	0.91139	0.0393245	0.30813203	2.1709250	20	—	—
16017 Street	14.2	X	277.17306	331.26719	280.87024	1.19431	0.0956600	0.23393405	2.6085976	20	2 2.5	17.7
16018 1999 CJ ₆₇	12.6	X	240.48842	76.11826	277.84869	12.40081	0.0374017	0.24318182	2.5420376	20	5 1.5	16.2
16019 Edwardsu	13.8	X	148.52065	10.67289	277.38227	6.53706	0.1380301	0.26763185	2.3847573	20	—	—
16020 Tevelde	14.9	X	259.72252	125.39197	174.67109	5.10167	0.1640894	0.28300412	2.2975989	20	2 29.4	18.3
16021 Caseyvaughn	14.6	X	349.50629	215.90201	297.99619	5.82194	0.0595192	0.27619616	2.3352011	20	—	—
16022 Wisnerygross	15.2	X	218.47670	233.51097	12.06594	2.07804	0.1741859	0.27133773	2.3629939	20	—	—
16023 Alisonyee	14.7	X	347.46714	139.89205	97.80795	3.28896	0.1053329	0.24022402	2.5628613	20	4 21.7	17.4
16024 1999 CT ₁₀₁	12.8	X	282.70146	296.49054	6.78801	14.64507	0.1290724	0.23883441	2.5727926	20	4 6.4	16.3
16025 1999 CA ₁₀₄	14.3	X	265.20578	59.32362	228.30364	6.78687	0.2081320	0.28462843	2.2888493	20	2 12.6	17.9
16026 1999 CM ₁₁₈	14.8	X	352.21866	192.06316	208.18589	3.08244	0.0543424	0.31081915	2.1583947	20	—	—
16027 1999 DV ₁	13.8	X	201.05678	91.10418	97.03505	11.17937	0.0431515	0.21738389	2.7393728	20	11 27.9	17.7
16028 1999 DC ₆	13.5	X	293.95860	317.26931	259.70920	11.82432	0.0502694	0.27660345	2.3329082	20	1 5.1	16.5
16029 1999 DQ ₆	12.1	X	339.45564	346.24788	175.60076	15.15094	0.1689925	0.17701309	3.1414668	20	—	—
16030 1999 FS ₃	13.3	X	91.79048	41.46517	115.45690	9.18456	0.0964099	0.24249630	2.5468262	20	6 14.5	16.7
16031 1999 FJ ₁₀	13.3	X	127.26929	218.56122	99.76216	2.22407	0.1571313	0.17147498	3.2087475	20	—	—
16032 1999 FU ₃₀	13.2	X	316.55007	71.25040	215.26480	10.09114	0.0714803	0.19122693	2.9838021	20	5 14.8	17.0
16033 1999 FT ₃₂	12.9	X	335.75417	179.74051	166.81802	2.29202	0.1002328	0.19891120	2.9064525	20	9 1.9	16.2
16034 1999 FW ₃₂	13.9	X	68.53081	331.28872	317.93415	4.76053	0.1055744	0.25478707	2.4642483	20	11 11.3	17.3
16035 Sasandford	12.7	X	118.70859	164.06852	128.59224	9.53588	0.0901476	0.21200133	2.7855460	20	12 30.8	17.0
16036 Moroz	13.0	X	73.93118	296.73658	80.97483	7.09217	0.1455802	0.21716409	2.7412209	20	—	—
16037 Sheehan	12.9	X	162.47870	102.72523	187.18984	15.30718	0.0506843	0.17016207	3.2252313	20	—	—
16038 1999 GD ₁₈	12.3	X	110.27982	23.52254	49.58004	11.52237	0.0842815	0.18796802	3.0181911	20	3 25.0	16.7
16039 Zeglin	13.5	X	224.27465	175.67756	48.80776	1.79662	0.1269629	0.17183004	3.2043257	20	—	—
16040 1999 GN ₁₈	13.2	X	333.76465	71.72721	178.46079	10.29746	0.0539490	0.18985475	2.9981618	20	4 25.3	17.2
16041 1999 GM ₁₉	12.1	X	199.64801	341.22279	31.96652	10.47370	0.1132286	0.18766291	3.0214616	20	4 12.3	16.7
16042 1999 GA ₂₀	13.4	X	148.10948	145.45434	163.47825	4.21466	0.0850256	0.21760845	2.7374879	20	—	—
16043 Yichenzhang	14.3	X	141.15082	260.60391	206.50938	6.60130	0.1003055	0.28882894	2.2666036	20	6 7.6	17.5
16044 Kurtbachmann	13.8	X	357.09972	94.03459	188.98351	1.47505	0.0668908	0.19704859	2.9247393	20	7 10.8	17.3
16045 1999 HU ₂	12.6	X	188.18992	165.94819	108.88982	17.42088	0.0888669	0.17025184	3.2240976	20	—	—
16046 Regnornan	13.1	X	15.23910	111.26412	229.70130	12.29598	0.1129057	0.18415516	3.0597089	20	3 20.9	17.1
16047 1999 JG ₁₀	13.2	X	359.18994	317.78805	153.51081	10.82760	0.0883179	0.19258569	2.9697511	20	6 28.4	17.0
16048 1999 JU ₂₃	13.7	X	331.28599	194.64315	39.01304	0.85360	0.1019153	0.18475179	3.0531182	20	3 24.7	17.4
16049 1999 JS ₃₂	13.5	X	37.57406	137.50328	145.17521	2.98313	0.0331552	0.19914021	2.9042238	20	9 5.7	17.4
16050 1999 JN ₃₅	13.2	X	38.06902	3.23638	118.77288	2.46014	0.1365571	0.18053968	3.1004230	20	2 17.5	16.8
16051 Bernero	14.0	X	64.24951	243.98935	144.37053	3.87872	0.0902455	0.21581151	2.7526626	20	—	—
16052 1999 JX ₃₆	13.6	X	132.09155	161.43652	226.10486	11.21967	0.2093748	0.22402539	2.6849604	20	2 23.8	17.9
16053 Brennan	14.0	X	259.88122	220.63092	247.01729	1.07320	0.0133389	0.20552755	2.8437365	20	10 30.5	17.8
16054 1999 JP ₅₅	12.9	X	164.14299	247.55323	107.86796	9.37753	0.1420264	0.17583902	3.1554348	20	2 21.3	18.0
16055 1999 JQ ₅₆	13.6	X	301.57548	226.06377	260.72231	8.06127	0.1009842	0.21373880	2.7704297	20	—	—
16056 1999 JN ₇₅	13.2	X	19.76351	274.87695	251.29771	13.69464	0.0885796	0.23198966	2.6231530	20	2 27.8	16.6
16057 1999 JO ₇₅	13.1	X	320.49519	287.87317	242.25756	10.42610	0.1383535	0.22503963	2.6768870	20	—	—
16058 1999 JP ₇₅	13.6	X	167.94446	174.93774	287.00582	7.07216	0.1515333	0.29040318	2.2584049	20	7 1.6	16.8
16059 Marybuda	13.8	X	267.93268	284.47318	103.52115	7.84362	0.0345480	0.24419941	2.5349709	20	7 30.4	16.9
16060 1999 JZ ₈₉	13.7	X	350.09683	169.38688	107.50648	11.58015	0.0745148	0.19241234	2.9715345	20	6 21.8	17.3
16061 1999 JQ ₁₁₇	13.1	X	127.82213	303.48540	117.08963	6.87159	0.1716190	0.18089354	3.0963782	20	4 6.4	18.0
16062 Buncher	14.5	X	19.81913	185.32166	93.96356	9.54332	0.0578523	0.28296109	2.2978318	20	8 23.3	17.1
16063 1999 NV ₃₆	15.7	X	35.92098	306.63805	63.14534	4.11363	0.2211934	0.29394277	2.2402382	20	—	—
16064 Davidharvey	16.7	X	75.81082	104.79561	335.56975	4.53924	0.5891099	0.20493255	2.8492382	20	4 23.5	21.1
16065 Borel	14.7	X	27.03808	166.76120	61.02476	3.43427	0.0420820	0.22701522	2.6613341	20	6 10.2	17.8
16066 Richardbressler	13.2	X	269.15794	318.96602	143.60271	10.88928	0.0893410	0.18682698	3.0304677	20	10 26.4	17.4
16067 1999 RA ₄₇	13.6	X	99.78888	43.86633	167.86195	9.17098	0.0534097	0.19021275	2.9943987	20	8 25.7	17.9
16068 Citron	14.7	X	1.68964	87.28880	137.95102	5.77165	0.1678365	0.27081174	2.3660526	20	4 26.2	16.6
16069 Marshafolger	15.1	X	51.18893	224.79151	133.62379	5.33245	0.1809181	0.24452610	2.5327125	20	—	—
16070 1999 RB ₁₀₁	9.7	X	308.13979	353.59035	300.87949	16.25238	0.1246818	0.08475337	5.1329227	20	5 3.5	16.4
16071 1999 RW ₁₂₅	13.4	X	34.99370	216.05605	293.97492	4.12415	0.1034122	0.21735925	2.7395799	20	3 10.0	16.7
16072 1999 RE ₁₂₈	15.9	X	25.61462	173.27420	154.42222	5.31909	0.2124293	0.24063603	2.5599351	20	11 23.2	19.1
16073 Gaskin	15.2	X	25.72424	51.92204	336.59174	4.92622	0.1439860	0.29404015	2.2397436	20	—	—
16074 Georgkaplan	14.8	X	255.45676	248.67508	129.33585	2.42541	0.0736982	0.22909185	2.6452271	20	6 21.4	18.2
16075 Meglles	14.9	X	134.61627	239.27399	159.49914	4.92772	0.1964183	0.26151071	2.4218267	20	3 11.6	18.5
16076 Barryhaase	13.7	X	206.74031	313.50066	194.94860	9.80340	0.0943769	0.24020666	2.5629848	20	10 12.1	17.2
16077 Aray												

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ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16081 1999 SR ₁₅	12.9	X	12.42555	16.56314	255.15293	7.49549	0.1346930	0.18115278	3.0934235	20	7 21.5	16.6
16082 1999 TR ₅	14.2	X	46.46179	322.92406	27.74921	8.18432	0.2068805	0.24155752	2.5534205	20	—	—
16083 Jorvik	15.0	X	183.40637	206.13622	142.38963	6.14424	0.2140059	0.30906884	2.1665360	20	2 19.6	18.5
16084 1999 TY ₁₈	14.9	X	180.92757	230.07219	215.48993	1.38052	0.1816100	0.26688855	2.3891830	20	6 21.4	18.6
16085 Laffan	14.7	X	258.45248	349.39390	355.00469	1.82299	0.0746207	0.21939251	2.7226273	20	5 10.4	18.6
16086 1999 TF ₉₀	13.3	X	69.85829	14.59632	145.58801	1.36981	0.1225398	0.17114244	3.2129027	20	5 23.8	17.5
16087 1999 TP ₁₀₂	13.7	X	34.70240	158.75427	132.60708	15.85028	0.1500626	0.23167281	2.6255442	20	10 11.8	17.3
16088 1999 TJ ₁₂₁	14.0	X	131.90899	313.52589	53.60624	3.99148	0.0359403	0.25521646	2.4614835	20	1 7.8	17.2
16089 Lamb	14.1	X	25.52293	119.82838	119.42043	3.12424	0.1430182	0.22544764	2.6736563	20	7 4.9	16.9
16090 Lukaszewski	15.5	X	135.76879	248.92191	141.52250	5.37571	0.1132735	0.25840315	2.4412046	20	2 21.9	18.6
16091 Malchiodi	14.4	X	39.28520	63.53525	176.83350	4.84623	0.1913704	0.27378805	2.3488740	20	8 12.4	16.8
16092 1999 TP ₁₇₁	15.1	X	335.11407	114.44562	122.90709	0.59857	0.1440578	0.26431699	2.4046543	20	3 21.6	17.7
16093 1999 TQ ₁₈₀	13.3	X	30.02617	35.91841	185.41086	5.33172	0.0867361	0.17132661	3.2105998	20	6 9.8	17.5
16094 Scottmccord	15.4	X	190.18011	192.94662	131.26053	5.71898	0.1151725	0.25773378	2.4454295	20	1 27.3	19.0
16095 1999 TA ₂₄₉	14.7	X	191.72316	328.87774	164.55439	6.94825	0.0571437	0.27471738	2.3435738	20	9 12.7	17.7
16096 1999 US ₆	15.5	X	345.15314	95.27355	211.98621	1.54824	0.2003532	0.22951410	2.6419817	20	7 27.0	17.7
16097 1999 UE ₅₀	15.1	X	333.56683	206.50089	79.62498	3.32096	0.1593316	0.27104759	2.3646798	20	5 31.4	16.8
16098 1999 VR ₉	14.2	X	26.76172	309.03649	100.68976	6.78029	0.2792856	0.24112041	2.5565055	20	—	—
16099 1999 VQ ₂₄	10.7	X	341.10391	277.56555	96.37046	13.45513	0.0827398	0.08346688	5.1855315	20	10 2.7	17.3
16100 1999 VO ₃₀	15.6	X	247.22367	72.41351	259.57413	1.46034	0.1143847	0.30558952	2.1829498	20	2 7.4	18.6
16101 Notskas	14.0	X	186.73598	259.47379	58.90810	2.82731	0.0519794	0.20308615	2.8664817	20	1 22.0	18.1
16102 Barshannon	15.3	X	357.87901	17.44298	218.48997	2.04113	0.1332261	0.26415511	2.4056367	20	5 4.1	17.3
16103 Lorsoolomon	14.5	X	338.73750	185.70020	39.00730	2.83930	0.1606900	0.26437388	2.4043094	20	3 7.9	16.9
16104 Stesullivan	14.4	X	172.68205	69.49714	145.75726	6.36472	0.1071444	0.28620568	2.2804325	20	12 6.8	17.7
16105 Marksauanders	13.2	X	345.59801	171.75323	196.054133	10.52893	0.1257665	0.18386158	3.0629651	20	10 15.4	16.8
16106 Carmagnola	14.0	X	206.06713	21.70585	105.66360	4.84020	0.0461196	0.27677743	2.3319305	20	9 26.9	17.0
16107 Chanmugam	14.5	X	279.94566	123.65932	198.36094	4.48595	0.0460786	0.21922407	2.7240216	20	5 14.2	18.1
16108 1999 WV ₃	14.3	X	60.12434	292.39801	28.49071	4.76098	0.1218216	0.28350798	2.2948758	20	12 22.2	17.4
16109 1999 WH ₆	14.4	X	106.88345	169.72484	94.63597	4.81000	0.1401448	0.28301292	2.2975512	20	11 30.6	17.8
16110 Paganetti	14.4	X	14.93024	206.17843	129.31583	4.72136	0.1548110	0.28058178	2.3108038	20	11 19.1	16.9
16111 1999 XT ₄	14.5	X	243.56210	198.58347	90.19975	3.88979	0.1680780	0.25751821	2.4467941	20	2 3.5	18.3
16112 Vitaris	15.1	X	276.05892	209.09628	140.01926	6.36088	0.1444519	0.26978302	2.3720635	20	5 30.9	18.2
16113 Ahmed	14.3	X	84.10897	210.78858	150.47816	2.67955	0.0922846	0.19792641	2.9160853	20	—	—
16114 Alyono	14.6	X	252.09669	342.55808	328.02990	1.75657	0.1999993	0.26429009	2.4048175	20	3 5.2	18.3
16115 1999 XH ₂₅	13.2	X	164.95851	337.48445	117.61499	2.67410	0.1421458	0.16925016	3.2368059	20	6 16.9	18.4
16116 Balakrishnan	14.8	X	246.38299	173.84260	161.22970	2.39013	0.2383083	0.26489698	2.4011431	20	3 28.4	18.7
16117 1999 XS ₂₉	13.8	X	256.70808	187.10022	198.04228	6.92447	0.1540384	0.17324089	3.1869050	20	6 19.7	18.7
16118 Therberens	14.6	X	290.95990	99.29621	175.36377	5.77814	0.1500459	0.29118575	2.2543567	20	—	—
16119 Bronner	14.7	X	13.55970	141.30880	132.55923	2.01010	0.1948520	0.27073348	2.3665085	20	8 17.1	16.6
16120 Burnim	14.8	X	352.64159	161.47806	197.97118	2.10839	0.1275263	0.18360111	3.0658614	20	10 15.9	18.4
16121 Burrell	15.1	X	33.50938	18.67949	188.72969	0.84036	0.1112127	0.26159273	2.4213204	20	5 29.8	17.6
16122 Wenyciai	15.7	X	102.65590	312.55339	190.08729	2.12324	0.1697261	0.26106059	2.4246097	20	6 18.4	19.1
16123 Jessiecheng	14.3	X	331.49967	198.23247	116.65533	3.33136	0.2235728	0.26860696	2.3789823	20	7 7.4	15.9
16124 Timdong	14.9	X	160.83991	309.04249	190.54773	1.61049	0.1557289	0.26629391	2.3927385	20	8 11.9	18.5
16125 1999 XK ₈₆	13.6	X	77.13388	84.85833	285.62585	9.20492	0.1314099	0.24098740	2.5574461	20	—	—
16126 1999 XQ ₈₆	12.9	X	11.32585	271.99209	102.81198	13.11204	0.2164035	0.23386983	2.6090751	20	—	—
16127 Farzan-Kashani	15.2	X	298.15865	54.51621	120.87772	2.64039	0.0913567	0.29050639	2.2578700	20	—	—
16128 Kirfrieda	15.6	X	160.87633	295.59076	157.35397	1.37560	0.1452814	0.26220091	2.4175748	20	6 11.7	19.2
16129 Kevingao	14.9	X	17.66089	72.82961	261.93255	4.19690	0.2077729	0.28063785	2.3104960	20	11 29.3	17.3
16130 Giovine	14.3	X	2.58413	301.34769	4.18563	0.64052	0.0797143	0.27207777	2.3587071	20	8 31.2	16.5
16131 Kaganovich	14.4	X	58.83777	73.39596	16.73226	2.02950	0.0181388	0.20177005	2.8789332	20	1 25.9	18.2
16132 Angelakim	14.3	X	342.30359	324.49121	286.23586	1.74363	0.1417541	0.25961216	2.4336196	20	4 24.1	16.5
16133 1999 XC ₁₀₀	12.6	X	91.77206	176.14229	90.28693	8.67848	0.0201648	0.18053604	3.1004646	20	10 22.8	17.1
16134 1999 XE ₁₀₀	12.9	X	207.74454	352.18823	81.36005	8.57213	0.1683661	0.16946116	3.2341186	20	6 28.9	18.2
16135 Ivarsson	13.9	X	189.48481	334.81637	4.00634	3.31014	0.1574157	0.21018221	2.8015954	20	2 20.4	18.5
16136 1999 XR ₁₀₉	14.9	X	198.35802	34.44417	166.30524	3.03646	0.0804728	0.28540581	2.2846912	20	12 20.1	17.7
16137 1999 XX ₁₁₆	15.4	X	287.86890	17.80232	337.86217	2.52114	0.2380789	0.27352863	2.3503589	20	6 9.0	18.2
16138 1999 XV ₁₁₉	13.6	X	355.11631	191.36096	38.45217	9.74263	0.0971612	0.21426155	2.7659218	20	4 24.7	16.7
16139 1999 XO ₁₂₀	12.9	X	114.27767	151.18967	37.58486	9.32376	0.1201320	0.17569506	3.1571582	20	8 24.3	17.8
16140 1999 XD ₁₂₅	13.5	X	98.89799	103.20269	30.51533	9.45758	0.1065890	0.21369990	2.7707659	20	5 22.1	17.4
16141 1999 XT ₁₂₇	14.3	X	109.76721	137.15906	208.11475	8.70576	0.1217184	0.24690664	2.5164069	20	—	—
16142 Leung	14.2	X	113.38852	197.76718	127.80882	8.83770	0.2997059	0.29346117	2.2426885	20	—	—
16143 1999 XK ₁₄₂	14.0	X	81.13088	21.79517	311.57478	9.32617	0.3384854	0.28975081	2.2617935	20	—	—
16144 Korsten	12.9	X	59.66651	43.17664	320.49845	10.09228	0.1070772	0.18945688	3.0023579	20	—	—
16145 1999 XP ₁₆₆	13.2	X	163.78503	90.08521	300.14156	7.47712	0.1525601	0.21131599	2.7915654	20	3 24.7	17.8
16146 1999 XW ₁₇₀	13.4	X	284.49868	0.56196	308.78745	7.34455	0.1470201	0.21315122	2.7755188	20	4 13.8	17.4
16147 Jeanli	14.0	X	140.85755	241.66433	61.37654	5.89970	0.2219086	0.28623020	2.2803023	20	—	—
16148 1999 XG ₁₈₈	13.5	X	86.74773	197.10282	304.48428	8.20644	0.1009415	0.21128487	2.7918396	20	5 15.6	17.4
16149 1999 XS ₂₁₅	13.3	X	67.77159	168.11109	178.36337	9.15060	0.0449890	0.18564200	3.0433499	20	12 29.7	17.8
16150 Clinch	14.4	X	337.81036	253.79831	70.39729	14.48382	0.2268541	0.23096187	2.6309294	20	8 11.5	16.9
16151 1999 XF ₂₃₀	13.6	X	73.78767	222.35090	16.62626	11.67100	0.1459470	0.22582927	2.6706434	20	9 18.8	17.4
16152 1999 YN ₁₂	11.9	X	312.12501	347.68505	64.15005	3.45562	0.0955701	0.08480643	5.1307816	20	10 1.4	18.3
16153 2000 AB	12.8	X	88.31612	115.20298	134.88963	5.75832	0.1129940	0.17360572	3.1824385	20	10 7.3	17.6
16154 Dabramo	12.4	X	350.18127	19.47681	304.56544	6.18366	0.0413398	0.17179473	3.2047647	20	8 20.4	16.6
16155 Buddy	13.8	X	185.04057	319.58761	119.01728	5.33559	0.1469702	0.21736676	2.7395168	20	6 16.2	18.2
16156 2000 AP ₃₉	12.5	X	83.27147	328.81978	287.85295	12.22916	0.1732683	0.17580351	3.1558597	20	10 8.6	17.5
16												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16161 2000 AC ₆₈	13.6 ^m	X	317.84873	187.30927	110.31350	11.52405	0.2415710	0.25536803	2.4605094	20	5 8.9	16.3
16162 2000 AD ₆₈	12.5	X	68.68137	272.90164	105.05904	11.12388	0.1026169	0.18745220	3.0237254	20	—	—
16163 Suhanli	14.9	X	237.83617	152.97509	208.41425	1.52172	0.2039294	0.26552834	2.3973354	20	4 25.0	18.6
16164 Yangli	14.5	X	179.48060	184.12721	151.41225	2.61749	0.0400862	0.20358416	2.8618052	20	2 2.1	18.5
16165 Licht	14.8	X	18.82288	250.43929	184.12407	2.71119	0.1284879	0.28916848	2.2648290	20	—	—
16166 Jonlii	14.8	X	11.21472	237.18476	129.87053	5.86340	0.1619973	0.23151024	2.6267732	20	12 13.1	17.9
16167 Oertli	15.1	X	23.31699	184.43195	164.68684	3.77685	0.1937342	0.27778420	2.3262927	20	12 23.7	18.0
16168 Palmen	16.0	X	219.94908	242.59478	197.04647	0.76024	0.1584131	0.26685055	2.3894098	20	7 23.2	19.4
16169 2000 AO ₉₅	14.6	X	265.63505	258.45922	96.46759	1.70344	0.0696372	0.30809106	2.1711174	20	6 4.6	16.9
16170 2000 AS ₉₅	13.0	X	11.56529	282.78817	125.04439	10.57774	0.0963791	0.18465897	3.0541412	20	—	—
16171 2000 AD ₉₇	13.6	X	148.81146	216.92789	344.10508	7.93191	0.2142522	0.26715300	2.3876061	20	10 15.6	17.7
16172 2000 AZ ₉₇	14.1	X	3.24578	343.64695	95.97157	5.66569	0.0902054	0.28255935	2.3000093	20	—	—
16173 2000 AC ₉₈	14.1	X	280.16516	194.12013	70.98706	5.25455	0.2121837	0.29180146	2.2511844	20	2 1.9	17.4
16174 Parihar	14.9	X	51.46575	245.05211	175.19205	5.47279	0.1346539	0.29124083	2.2540725	20	—	—
16175 Rypatterson	14.5	X	258.45685	44.54249	214.74352	6.02772	0.0794266	0.24613306	2.5216767	20	1 18.5	18.2
16176 2000 AZ ₁₂₆	13.3	X	265.08773	40.90787	296.75862	8.11871	0.1677251	0.21005770	2.8027023	20	4 24.7	17.6
16177 Pelzer	14.4	X	63.17680	88.00704	197.77684	1.97165	0.1521134	0.26998287	2.3708928	20	11 10.7	17.6
16178 2000 AT ₁₂₇	13.5	X	182.05860	297.96796	183.59204	1.04774	0.0913010	0.16865861	3.2443700	20	8 4.5	18.5
16179 2000 AL ₁₃₄	13.7	X	111.49861	290.97213	314.19250	0.28940	0.1211238	0.17781565	3.1320070	20	10 24.2	18.6
16180 Rapoport	14.3	X	290.33023	176.84667	117.24673	5.54049	0.1505711	0.29845274	2.2176125	20	4 1.2	17.0
16181 2000 AC ₁₃₇	13.2	X	167.80483	206.41536	16.62560	5.12762	0.1376062	0.17460526	3.1702816	20	11 17.8	18.2
16182 2000 AH ₁₃₇	13.6	X	223.69044	223.76284	130.57232	6.39475	0.2047956	0.29961390	2.2118793	20	4 4.3	17.1
16183 2000 AX ₁₃₈	13.3	X	310.26333	191.55853	108.69205	6.65189	0.1922347	0.17548822	3.1596385	20	5 8.7	17.4
16184 2000 AD ₁₄₂	13.0	X	46.70063	318.26549	282.57401	8.02564	0.1019805	0.21204966	2.7851226	20	8 2.6	16.5
16185 2000 AH ₁₆₄	13.8	X	210.32069	88.02486	179.71391	8.95579	0.0555750	0.18991940	2.9974814	20	—	—
16186 2000 AK ₁₆₄	13.5	X	260.63841	35.10630	188.51079	13.74401	0.1119441	0.23548127	2.5971586	20	—	—
16187 2000 AP ₁₆₄	13.3	X	228.88709	200.36174	316.44361	11.80974	0.0970568	0.22326437	2.6910583	20	11 10.0	17.3
16188 2000 AH ₁₇₅	13.4	X	219.95776	193.95992	177.07367	9.41610	0.1633111	0.21417431	2.7666728	20	4 26.8	17.9
16189 Riehl	13.9	X	159.40811	163.47776	146.41180	13.76624	0.0158446	0.19818677	2.9135308	20	—	—
16190 2000 AK ₁₉₁	13.5	X	157.27446	36.86695	232.65115	14.16269	0.0777598	0.23589568	2.5941160	20	—	—
16191 Rubyroe	15.4	X	268.24568	224.23628	122.94553	0.40520	0.2142914	0.26366117	2.4086402	20	5 6.7	18.8
16192 Laird	15.5	X	6.92838	225.91767	109.27244	2.45401	0.2316154	0.28111179	2.3078984	20	11 18.1	17.6
16193 Nickaiser	14.6	X	143.07553	38.86873	108.82532	3.48498	0.0234706	0.22183246	2.7026262	20	7 27.7	18.3
16194 Roderick	12.7	X	155.31007	37.10855	163.77451	13.02261	0.1108047	0.17547242	3.1598282	20	10 16.1	17.8
16195 2000 AQ ₂₃₆	13.2	X	277.66153	152.53118	302.81577	15.13755	0.0607287	0.17611066	3.1521892	20	10 18.8	17.8
16196 2000 AR ₂₃₆	12.8	X	79.49093	12.78090	311.34068	18.99343	0.0624668	0.17871879	3.1214466	20	12 19.0	17.6
16197 Bluepeter	13.7	X	287.59674	87.42384	267.29433	10.38083	0.2369433	0.26282181	2.4137657	20	6 7.6	16.6
16198 Buzios	13.3	X	162.31789	134.00878	189.41692	12.48200	0.1728725	0.23897726	2.5717672	20	1 4.4	17.5
16199 Rozenblyum	14.3	X	59.82260	343.91898	96.03715	3.03455	0.0716821	0.19517417	2.9434353	20	1 20.1	18.1
16200 2000 BT ₂₈	13.1	X	70.44781	157.58846	130.87239	5.96537	0.1119808	0.17371231	3.1811367	20	11 2.6	17.7
16201 2000 CK ₁	15.0	X	126.47417	176.89013	70.00418	1.36152	0.1701043	0.26972809	3.3723855	20	11 25.1	18.8
16202 Srivastava	14.6	X	25.32339	118.06045	171.67193	2.41128	0.1561391	0.26410499	2.4059410	20	9 25.7	17.2
16203 Jessicastahl	14.5	X	183.80210	144.22443	168.78768	3.72782	0.1554386	0.24045260	2.5612368	20	1 11.2	18.7
16204 2000 CT ₃₃	14.2	X	343.31664	254.38926	2.22015	1.27939	0.0253785	0.20681667	2.8319072	20	5 16.3	17.9
16205 2000 CC ₃₄	15.2	X	201.40484	230.03973	39.20187	0.26577	0.2080963	0.28230863	2.3013709	20	—	—
16206 2000 CL ₃₉	12.9	X	240.97860	59.69464	7.21496	12.30498	0.1267597	0.21593767	2.7515903	20	8 4.6	17.0
16207 Montgomery	13.5	X	165.84828	319.33722	7.18226	9.60630	0.0893953	0.19095297	2.9866553	20	1 15.2	18.1
16208 2000 CL ₅₂	13.3	X	147.90392	34.22491	250.64466	2.73342	0.1658707	0.18033268	3.1027951	20	—	—
16209 Sterner	15.3	X	253.43230	191.96720	190.04015	0.71901	0.1932491	0.26290904	2.4132318	20	6 8.5	18.8
16210 2000 CY ₆₁	13.1	X	188.50174	352.06915	296.02631	10.26164	0.2764375	0.18328432	3.0693930	20	—	—
16211 Samirsur	15.4	X	167.31488	146.61549	120.12840	3.86706	0.1160130	0.27958711	2.3162812	20	—	—
16212 Theberge	14.8	X	20.53381	321.24717	143.07005	6.40275	0.0903354	0.28910012	2.2651860	20	—	—
16213 2000 CG ₈₅	12.9	X	284.44140	56.71393	336.82924	15.86251	0.0791954	0.16904633	3.2394073	20	8 17.5	17.4
16214 Venkatachalam	14.1	X	120.23606	175.67834	119.20202	7.31191	0.1439241	0.27652643	2.3334134	20	—	—
16215 Venkatraman	15.7	X	16.36853	189.47293	9.25762	3.18478	0.0838467	0.29981162	2.2109067	20	4 9.1	17.7
16216 2000 DR ₄	13.2	X	144.94580	238.59398	5.79759	9.38535	0.0997018	0.22586764	2.6703409	20	11 29.9	17.4
16217 Peterbroughton	15.2	X	76.63950	228.27516	170.51082	4.14229	0.2069286	0.24059008	2.5602610	20	—	—
16218 Mintakeyes	13.6	X	194.41771	115.82315	79.70719	2.66623	0.0944536	0.17545446	3.1600439	20	11 15.1	18.5
16219 Venturelli	16.5	X	285.53944	331.65852	73.47556	0.42202	0.2055169	0.27030645	2.3690003	20	8 26.2	18.8
16220 Mikewagner	14.5	X	333.41584	149.54290	196.63130	2.37671	0.0661949	0.21677065	2.7445368	20	8 31.3	17.7
16221 Kevinyang	15.5	X	276.04993	150.34165	167.82147	6.51560	0.1603108	0.25326730	2.4740965	20	4 16.4	18.9
16222 Donnanderson	16.0	X	274.89346	195.04799	109.88130	1.71296	0.0227033	0.29984624	2.2107365	20	4 13.4	18.4
16223 2000 DR ₆₉	13.7	X	243.48133	343.92162	338.44521	1.59452	0.0492982	0.19962416	2.8995280	20	3 29.3	17.9
16224 2000 DU ₆₉	13.4	X	222.26480	164.99713	152.02956	1.89826	0.1055527	0.19562625	2.9388988	20	2 25.8	17.9
16225 Georgebaldo	15.2	X	118.28143	136.08004	228.82355	1.71630	0.0182027	0.23710461	2.5852907	20	—	—
16226 Beaton	13.8	X	142.55469	277.99298	356.37143	8.22011	0.0348497	0.17876771	3.1208771	20	12 26.3	18.5
16227 2000 DY ₇₃	13.8	X	277.38716	63.30879	249.73299	0.95266	0.0817302	0.20214699	2.8753532	20	4 23.3	17.7
16228 2000 EC ₃₉	13.7	X	98.47954	299.23294	34.49383	0.37617	0.1615146	0.17815234	3.1280597	20	—	—
16229 2000 EM ₄₆	14.0	X	322.60971	229.59654	180.79924	0.94519	0.1380878	0.17338633	3.1851225	20	10 28.9	17.5
16230 Benson	14.0	X	82.32924	80.66990	291.37360	8.00438	0.0776535	0.23186394	2.6241011	20	—	—
16231 Jessberger	14.0	X	127.45472	200.85354	113.78339	2.92221	0.1388286	0.18077841	3.0976927	20	—	—
16232 Chijagerbs	12.8	X	227.13941	254.41401	251.21402	7.93027	0.1121612	0.12571510	3.9464895	20	10 9.2	18.7
16233 2000 FA ₁₂	12.6	X	72.06184	84.25004	304.52391	13.96376	0.1204105	0.23297520	2.6157501	20	—	—
16234 Bosse	14.2	X	21.64268	238.86568	132.11611	7.41035	0.1325238	0.27298356	2.3534865	20	—	—
16235 2000 FF ₄₆	13.4	X	265.12724	324.76575	74.80781	9.19842	0.2236765	0.21205770	2.7850523	20	7 10.5	17.3
16236 Stebrehmer	14.7	X	196.04017	130.62239	163.80944	2.81460	0.2094996	0.23142810	2.6273947	20	1 3.1	19.1
16237 2000 GX ₇₆	13.7	X	307.39611	43.07499	213.81							

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16241 Dvorsky	14.3	X	343.34283	356.98876	187.81448	8.41446	0.1281909	0.23794062	2.5792315	20	1 25.3	17.4
16242 2000 <i>GT</i> ₁₂₆	14.0	X	153.93869	329.35355	203.42576	11.31379	0.1272366	0.25846372	2.4408232	20	9 14.7	17.9
16243 Rosenbauer	13.0	X	358.38657	85.06075	293.05197	17.58380	0.1944408	0.17578793	3.1560462	20	11 20.9	16.9
16244 Brož	14.6	X	71.19551	296.68606	84.75206	3.82114	0.2606103	0.27812646	2.3243838	20	—	—
16245 2000 <i>GM</i> ₁₆₀	14.3	X	283.29129	166.53535	283.20425	4.21216	0.1519446	0.17295968	3.1903583	20	10 12.1	18.5
16246 Cantor	14.3	X	144.93328	241.81871	109.02414	0.42234	0.1890983	0.18128562	3.0919121	20	1 30.4	19.3
16247 Esner	15.0	X	275.82012	97.17394	269.87039	0.98070	0.0863334	0.20452374	2.8530337	20	6 30.9	18.6
16248 Fox	14.1	X	117.55936	189.50056	230.20229	2.38689	0.1321559	0.28801946	2.2708485	20	3 7.2	16.9
16249 Cauchy	14.3	X	34.76175	204.79577	69.29284	2.95670	0.0285926	0.20602724	2.8391366	20	8 22.8	18.0
16250 Delbó	14.9	X	119.99560	231.33158	149.65395	6.74789	0.1485590	0.28054645	2.3109978	20	1 21.8	17.8
16251 Barbifrank	15.5	X	30.03130	141.93571	189.00623	1.68830	0.2180158	0.26084619	2.4259381	20	12 7.9	18.4
16252 Franfrost	13.9	X	294.44124	195.00279	184.84832	2.28188	0.1796801	0.25530623	2.4609065	20	8 5.1	16.5
16253 Griffis	14.1	X	51.47446	224.68037	223.95960	11.34272	0.1371661	0.18561125	3.0436860	20	1 22.7	17.9
16254 Harper	14.5	X	330.96248	169.40075	157.11939	2.43312	0.0708014	0.20409362	2.8570408	20	7 29.8	18.1
16255 Hampton	14.3	X	174.74223	105.45978	278.79691	0.85870	0.1220084	0.19469052	2.9483080	20	3 30.9	19.0
16256 2000 <i>JM</i> ₂	14.9	X	146.75118	36.74917	190.10939	21.75182	0.0881341	0.36278311	1.9470242	20	12 10.4	17.8
16257 2000 <i>JY</i> ₆	12.5	X	109.69338	130.60312	129.40143	19.95847	0.1140526	0.21333553	2.7739200	20	11 20.7	17.2
16258 Willhayes	14.5	X	309.24203	297.31649	57.20123	8.63089	0.1294764	0.25430060	2.4673899	20	8 5.9	17.2
16259 Housinger	14.1	X	23.99487	346.82018	56.91638	11.28941	0.1639539	0.22378688	2.6868678	20	—	—
16260 Sputnik	13.8	X	34.48023	82.23113	284.67524	4.68407	0.1898814	0.26476260	2.4019555	20	—	—
16261 Iidemachi	12.4	X	227.44381	130.80320	215.97147	10.08463	0.0496093	0.19205942	2.9751735	20	4 9.9	16.9
16262 Rikurtz	14.4	X	277.63900	200.13703	27.79065	2.72591	0.0298782	0.18447016	3.0562248	20	1 19.3	18.8
16263 2000 <i>JV</i> ₃₇	14.2	X	181.43281	239.56641	359.97388	0.12930	0.1535467	0.17148592	3.2086111	20	12 18.4	19.2
16264 Richlee	14.8	X	172.54849	255.87969	57.54910	3.16545	0.0856523	0.22874048	2.6479353	20	—	—
16265 Lemay	13.9	X	103.68465	196.63695	174.73744	1.06234	0.1816624	0.17940486	3.1134836	20	1 11.7	18.3
16266 Johconnell	13.9	X	83.58397	155.99432	57.83566	16.20669	0.0846799	0.20520338	2.8467307	20	8 22.9	18.3
16267 Mcdermott	14.0	X	307.40379	17.01825	222.06410	2.55119	0.0506202	0.18940706	3.0028843	20	3 3.8	18.0
16268 Mcneely	15.6	X	43.61925	76.07240	227.28033	1.59607	0.1682294	0.25823361	2.4422730	20	11 10.6	18.7
16269 Merkold	14.4	X	121.17356	215.79194	145.82424	0.75852	0.1777092	0.17980869	3.1088201	20	1 19.0	19.0
16270 2000 <i>JH</i> ₄₈	12.8	X	10.37065	76.45732	10.13142	9.47572	0.0662556	0.22809243	2.6529484	20	—	—
16271 Duanenichols	14.9	X	112.19841	37.82587	193.92973	4.52738	0.1417488	0.26098576	2.4250732	20	10 22.3	18.5
16272 2000 <i>JS</i> ₅₅	12.4	X	28.44126	3.79976	69.66874	17.22387	0.2007666	0.17955775	3.1117160	20	—	—
16273 O'Neill	14.2	X	291.52570	51.82427	163.84204	4.29627	0.0557072	0.28271205	2.2991811	20	—	—
16274 Pavlica	14.6	X	109.77753	254.90467	74.71663	7.28579	0.1525665	0.27066690	2.3668966	20	—	—
16275 2000 <i>JP</i> ₅₈	13.9	X	227.28826	96.61457	181.06739	4.30297	0.1779742	0.23055633	2.6340136	20	1 8.4	18.3
16276 2000 <i>JX</i> ₆₁	13.8	X	211.73758	83.87527	233.86291	9.67698	0.1849841	0.23264481	2.6182261	20	2 7.9	18.4
16277 Mallada	13.5	X	308.79864	330.54963	93.09577	8.47757	0.0756726	0.21566978	2.7538684	20	11 9.2	16.9
16278 2000 <i>JM</i> ₇₇	13.2	X	4.81397	22.36855	42.32638	0.97854	0.1896536	0.17397216	3.1779682	20	—	—
16279 2000 <i>KJ</i> ₂₃	13.0	X	260.34578	158.74728	77.10785	2.39355	0.1202086	0.18184930	3.0855195	20	—	—
16280 Groussin	14.4	X	325.13487	157.26525	170.45358	5.03685	0.1607407	0.29485405	2.2356200	20	7 22.9	16.0
16281 2071 <i>P-L</i>	15.4	X	302.14678	106.90848	217.61175	2.14385	0.1030375	0.22686769	2.6624877	20	6 8.9	18.7
16282 2512 <i>P-L</i>	14.6	X	90.40864	314.38491	348.50896	1.44153	0.0272099	0.23255058	2.6189332	20	12 12.7	18.2
16283 2545 <i>P-L</i>	14.1	X	350.76001	354.24454	11.11667	9.52074	0.1707695	0.21424125	2.7660965	20	10 29.6	17.0
16284 2861 <i>P-L</i>	14.8	X	295.00706	299.56700	172.26103	0.53525	0.1577449	0.18280597	3.0747452	20	12 1.5	18.3
16285 3047 <i>P-L</i>	13.2	X	202.96505	256.31712	332.74607	13.34970	0.1692916	0.18532331	3.0468379	20	12 28.7	18.1
16286 4057 <i>P-L</i>	14.0	X	63.78857	100.09516	339.89755	5.49098	0.0380533	0.20425848	2.8555032	20	1 21.7	17.9
16287 4096 <i>P-L</i>	14.0	X	48.61004	209.93080	201.07892	14.51812	0.1275597	0.18565619	3.0431948	20	—	—
16288 4169 <i>P-L</i>	14.5	X	312.50833	71.77680	242.98623	4.86375	0.1197675	0.22722899	2.6596647	20	6 9.2	17.7
16289 4201 <i>P-L</i>	14.8	X	151.18468	208.86369	272.90579	3.89389	0.0270597	0.21003305	2.8029217	20	7 2.6	18.6
16290 4204 <i>P-L</i>	14.4	X	208.80719	150.59521	206.34460	9.95864	0.0582576	0.19112605	2.9848519	20	4 1.2	18.7
16291 4315 <i>P-L</i>	14.7	X	200.62962	52.79919	110.83721	1.46048	0.0229047	0.20272205	2.8699129	20	—	—
16292 4557 <i>P-L</i>	15.9	X	292.94193	152.05796	174.60332	3.03896	0.2516216	0.29320768	2.2439809	20	5 3.5	18.4
16293 4613 <i>P-L</i>	15.6	X	248.43021	272.89971	27.09947	3.49497	0.2450618	0.24039347	2.5616567	20	2 18.8	20.0
16294 4758 <i>P-L</i>	14.9	X	303.39935	58.71895	8.62010	4.95673	0.1476957	0.18121389	3.0927280	20	10 18.4	18.4
16295 4820 <i>P-L</i>	14.0	X	318.24701	93.45755	21.77789	9.42586	0.0314080	0.18472580	3.0534045	20	—	—
16296 6308 <i>P-L</i>	14.9	X	311.04393	33.49922	219.42919	2.33709	0.0283325	0.24066612	2.5597217	20	3 24.7	18.1
16297 6346 <i>P-L</i>	13.8	X	140.11741	168.65640	354.68589	13.12727	0.0768041	0.21166701	2.7884783	20	8 19.6	18.0
16298 6529 <i>P-L</i>	14.3	X	346.62768	199.57065	126.36187	2.23810	0.1558407	0.18012371	3.1051944	20	8 21.0	17.6
16299 6566 <i>P-L</i>	14.8	X	237.82461	171.90953	159.18951	4.38409	0.2956261	0.24169382	2.5524604	20	3 14.7	19.2
16300 6569 <i>P-L</i>	13.4	X	173.99106	155.12807	133.21893	2.71402	0.1270334	0.16941162	3.2347490	20	—	—
16301 6576 <i>P-L</i>	14.2	X	291.93722	78.67394	26.94172	4.05553	0.0861376	0.28210034	2.3025035	20	12 26.7	16.6
16302 6634 <i>P-L</i>	14.0	X	240.59106	27.81893	80.22882	3.63977	0.1239132	0.18062442	3.0994531	20	9 19.6	18.5
16303 6639 <i>P-L</i>	14.3	X	262.64809	314.73963	138.54585	2.82232	0.1585579	0.18070888	3.0984873	20	9 21.9	18.5
16304 6704 <i>P-L</i>	15.5	X	132.73513	153.08882	132.12415	1.26472	0.2028985	0.26781398	2.3836760	20	—	—
16305 6707 <i>P-L</i>	14.6	X	349.75351	24.08709	143.75037	3.08296	0.0258515	0.18897149	3.0074969	20	2 3.2	18.6
16306 6797 <i>P-L</i>	15.0	X	159.35573	192.32961	49.95835	1.99464	0.1517114	0.26677507	2.3898605	20	12 19.1	18.5
16307 7569 <i>P-L</i>	14.9	X	224.43477	32.74660	38.80267	4.16918	0.1075737	0.27693553	2.3310429	20	7 24.9	18.0
16308 7627 <i>P-L</i>	15.6	X	316.11578	266.21906	88.75855	3.74137	0.1692553	0.22877933	2.6476355	20	8 9.4	18.1
16309 9054 <i>P-L</i>	14.1	X	292.44807	305.72047	334.54771	3.67583	0.1189065	0.24153874	2.5535529	20	3 21.8	17.6
16310 1043 <i>T-1</i>	14.9	X	163.35435	220.73648	222.55234	2.18652	0.1826570	0.26519359	2.3993524	20	6 2.5	18.6
16311 1102 <i>T-1</i>	14.9	X	254.89399	50.71276	214.08422	6.29435	0.0899694	0.27866138	2.3214082	20	1 15.9	18.2
16312 1122 <i>T-1</i>	14.4	X	62.46490	181.36099	200.64780	4.95141	0.0727547	0.21505914	2.7590789	20	—	—
16313 1199 <i>T-1</i>	14.3	X	337.50205	76.34371	234.82944	1.16092	0.0674577	0.20572359	2.8419296	20	7 19.3	17.9
16314 1248 <i>T-1</i>	13.4	X	357.65014	281.74455	235.15403	4.03200	0.1053620	0.17883389	3.1201070	20	1 26.1	17.3
16315 2055 <i>T-1</i>	13.9	X	193.36345	303.85473	2.54925	16.97273	0.2323502	0.23651981	2.5895504	20	1 20.2	18.7
16316 2089 <i>T-1</i>	13.7	X	119.56218	328.35059	327.89566	0.34016	0.1765329	0.17104507	3.2141219			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16321 4225 T-1	15.0	X	298.98291	312.73567	33.15303	8.24489	0.0294023	0.26585893	2.3953476	20	7 19.5	18.0
16322 4409 T-1	14.9	X	48.82819	350.04407	140.85913	4.80972	0.0495633	0.28048581	2.3113308	20	2 24.9	17.3
16323 1107 T-2	14.2	X	122.72735	35.41874	276.27686	2.20274	0.1817850	0.21606290	2.7505271	20	—	—
16324 1181 T-2	14.0	X	14.30187	65.96579	341.38062	1.02866	0.0958964	0.19309845	2.9644914	20	—	—
16325 1332 T-2	14.9	X	6.23125	108.22227	315.37192	2.28003	0.1489567	0.19312244	2.9642458	20	—	—
16326 2052 T-2	13.6	X	316.29778	1.65495	307.81045	1.19620	0.0499463	0.20548452	2.8441335	20	6 16.1	17.3
16327 3092 T-2	14.3	X	24.58192	78.39645	7.73298	12.93710	0.0414407	0.23834604	2.5763058	20	—	—
16328 3111 T-2	14.4	X	49.11797	330.21856	177.98760	13.46604	0.1076171	0.24352853	2.5396244	20	3 31.9	17.2
16329 3255 T-2	15.2	X	21.21716	135.36809	152.44082	3.85622	0.0764048	0.20843942	2.8171901	20	8 26.3	18.7
16330 3276 T-2	14.7	X	238.93127	0.35210	123.66302	5.41681	0.0077028	0.23234988	2.6204412	20	11 2.2	18.2
16331 4101 T-2	13.4	X	195.83484	174.73394	87.29023	1.84917	0.1302437	0.17457154	3.1706898	20	—	—
16332 4117 T-2	13.1	X	189.11670	173.14104	130.42360	2.17468	0.1353098	0.17664324	3.1485802	20	1 12.6	18.0
16333 4122 T-2	13.6	X	299.02974	38.80129	82.94237	2.88259	0.0499825	0.21416200	2.7667788	20	—	—
16334 4278 T-2	15.5	X	359.91726	283.70753	171.90528	12.68731	0.1702132	0.23618611	2.5919890	20	—	—
16335 5058 T-2	14.0	X	166.37752	297.83096	269.97531	7.18134	0.1214252	0.21223101	2.7835359	20	11 4.2	18.5
16336 5080 T-2	15.3	X	240.93818	30.07141	267.41428	5.74819	0.1403718	0.28554131	2.2839684	20	2 7.4	18.8
16337 5087 T-2	12.7	X	142.93659	169.72600	241.83218	10.27875	0.0908338	0.18001220	3.1064767	20	3 27.6	17.6
16338 1106 T-3	13.8	X	0.08694	71.66957	241.40347	11.79209	0.1705772	0.25104758	2.4886588	20	9 5.7	16.5
16339 2053 T-3	14.2	X	287.15549	58.65295	272.11725	4.05499	0.1621643	0.17865684	3.1221681	20	5 17.0	18.5
16340 2110 T-3	14.4	X	319.80894	251.21903	354.93823	9.34500	0.1463254	0.24416463	2.5352116	20	3 11.3	17.5
16341 2182 T-3	15.1	X	25.80299	4.74607	237.56626	2.60627	0.0986458	0.29390752	2.2404173	20	7 8.8	17.3
16342 2271 T-3	13.8	X	154.47199	131.97576	250.92178	1.13021	0.0803256	0.19525016	2.9426715	20	3 6.3	18.2
16343 2326 T-3	14.9	X	254.54594	82.74062	280.84823	2.28225	0.0446934	0.24650640	2.5191300	20	6 4.8	18.1
16344 2370 T-3	14.0	X	61.90668	92.19390	220.89316	8.21542	0.1504043	0.20875229	2.8143745	20	12 2.2	18.1
16345 2391 T-3	14.8	X	205.25977	17.51810	356.01349	1.45947	0.0876414	0.19802035	2.9151630	20	4 17.0	19.2
16346 2682 T-3	13.1	X	37.49117	93.15766	201.47576	21.88841	0.0951503	0.18285951	3.0741451	20	9 24.5	17.3
16347 3256 T-3	13.5	X	175.81353	211.50739	152.82504	2.36451	0.0756878	0.19557540	2.9394082	20	3 6.9	17.9
16348 3465 T-3	13.7	X	50.70457	292.13702	22.38838	11.00372	0.1409959	0.18508684	3.0494324	20	11 12.3	18.0
16349 4062 T-3	14.5	X	263.23183	201.81445	94.70039	4.65169	0.0742418	0.22033422	2.7148640	20	3 18.4	18.4
16350 1964 VZ ₂	14.0	X	199.54185	7.49521	71.35062	2.77096	0.2482314	0.18714519	3.0270315	20	6 25.5	19.3
16351 1971 US	15.0	X	115.47215	346.42851	50.60305	2.75168	0.2449478	0.27044974	2.3681635	20	2 23.9	18.1
16352 1974 FF	14.1	X	299.08957	245.00753	341.70554	4.98284	0.0986074	0.25463464	2.4652316	20	1 23.7	17.3
16353 1974 WB	14.5	X	147.65190	155.60189	261.01984	11.66906	0.2092839	0.22566573	2.6719335	20	4 13.8	19.1
16354 1975 SN ₁	13.9	X	316.87421	272.27664	61.47252	3.16582	0.0809837	0.19349340	2.9604560	20	7 16.8	17.6
16355 Buber	14.5	X	235.29437	204.64682	190.56465	14.39249	0.1682436	0.23590620	2.5940389	20	6 9.4	18.8
16356 Univbaltech	12.6	X	342.26384	39.71444	143.09954	2.78182	0.1220999	0.17612113	3.1520643	20	2 4.3	16.5
16357 Risanpei	15.3	X	180.50374	214.67739	183.71886	6.41922	0.1850831	0.28314686	2.2968266	20	4 21.9	18.9
16358 Plesetsk	12.8	X	349.94492	274.13454	99.99038	13.54794	0.1857623	0.22267192	2.6958295	20	11 20.5	15.7
16359 1978 VO ₄	14.6	X	159.94568	197.58831	89.35422	3.64104	0.1559431	0.26323718	2.4112259	20	—	—
16360 1978 VY ₅	14.7	X	74.33868	10.96644	75.26465	2.16070	0.1602482	0.29081883	2.2562525	20	2 14.3	16.6
16361 1979 MS ₁	14.1	X	306.22922	172.87109	168.38214	2.26623	0.1196415	0.19165561	2.9793512	20	7 4.7	17.8
16362 1979 MJ ₄	14.4	X	285.14102	196.15862	124.05984	12.88360	0.1902983	0.23738689	2.5832408	20	4 30.9	18.2
16363 1979 MT ₄	13.5	X	224.31561	155.25864	276.45767	12.37828	0.1616106	0.23968660	2.5666908	20	7 14.6	17.4
16364 1979 MA ₅	13.4	X	262.99109	131.95514	259.74615	8.54142	0.1040119	0.19136479	2.9823688	20	7 12.1	17.6
16365 1979 MK ₅	14.5	X	43.01320	320.44051	221.02461	2.63931	0.0875423	0.23691004	2.5867002	20	5 5.4	17.4
16366 1979 ME ₇	13.4	X	234.52160	140.67630	273.01639	12.38446	0.1579620	0.23914407	2.5705712	20	7 2.9	17.1
16367 1980 FS ₄	13.6	X	224.15328	228.85948	178.70308	12.95337	0.1101988	0.20313038	2.8660656	20	6 18.2	18.2
16368 Città di Alba	12.7	X	27.14224	147.36849	331.41672	12.87899	0.1051166	0.17551085	3.1593670	20	1 28.3	16.6
16369 1981 DJ	13.5	X	289.83602	330.44853	230.71215	8.86006	0.0539452	0.17188450	3.2036488	20	—	—
16370 1981 DA ₂	14.0	X	131.90929	97.53719	295.82866	6.74509	0.1223860	0.17562940	3.1579450	20	2 28.0	18.9
16371 1981 DQ ₃	13.7	X	296.31495	260.35148	321.16368	10.49811	0.1473333	0.22368308	2.6876989	20	1 12.6	17.5
16372 1981 EP ₁	13.1	X	14.50165	160.19617	358.18201	11.55434	0.1669948	0.17645740	3.1480585	20	2 27.0	16.6
16373 1981 ES ₅	14.5	X	186.34463	77.69834	299.30487	10.05154	0.1885628	0.22883834	2.6471803	20	3 27.2	19.1
16374 1981 EA ₁₀	13.5	X	83.57190	134.75009	346.31461	16.42709	0.0423446	0.17806567	3.1290746	20	4 3.9	18.0
16375 1981 EM ₁₀	13.2	X	157.88781	21.48403	334.86647	8.76395	0.0828433	0.17450848	3.1714535	20	2 11.3	17.9
16376 1981 EX ₁₀	14.8	X	191.71407	33.97026	204.40643	7.18533	0.2043713	0.21762324	2.7373639	20	12 30.2	19.2
16377 1981 EY ₁₁	14.8	X	184.18866	122.60920	328.13110	6.27467	0.1256590	0.28403467	2.2920380	20	7 3.9	18.2
16378 1981 ET ₁₇	14.6	X	137.86628	151.88235	278.13869	1.18283	0.2410693	0.23065931	2.6332296	20	4 27.3	19.0
16379 1981 EJ ₁₈	14.1	X	68.37659	107.00291	341.59494	4.59434	0.1328789	0.17593848	3.1542455	20	2 22.5	18.0
16380 1981 EJ ₂₀	14.8	X	64.31359	103.55257	359.03375	8.96169	0.0963850	0.22651656	2.6652385	20	2 24.4	17.9
16381 1981 EG ₂₅	14.8	X	150.33321	264.18661	346.37344	9.79125	0.3515907	0.21469759	2.7621755	20	12 7.1	20.2
16382 1981 ER ₂₇	14.9	X	151.30763	34.06611	1.51915	7.28577	0.1105055	0.27763200	2.3271428	20	3 15.3	18.0
16383 1981 EV ₃₀	14.5	X	141.95728	26.13650	327.52116	3.30141	0.1186298	0.22298190	2.6933305	20	1 19.1	18.4
16384 1981 ES ₃₁	13.9	X	106.96614	186.47039	170.62901	13.82947	0.0177913	0.17039066	3.2223462	20	—	—
16385 1981 EQ ₃₂	14.1	X	182.51732	104.21353	228.07743	7.41454	0.3015845	0.22301756	2.6930433	20	2 6.5	19.2
16386 1981 ET ₃₄	14.5	X	195.75535	130.72922	213.75387	11.66808	0.2953877	0.22601520	2.6691785	20	2 27.7	19.6
16387 1981 EB ₃₇	14.2	X	196.01383	304.75518	357.96330	8.22112	0.0286566	0.22358979	2.6884465	20	1 10.3	18.1
16388 1981 EA ₃₉	15.9	X	185.49744	290.44811	311.06585	1.54347	0.1648925	0.26770946	2.3842964	20	—	—
16389 1981 EC ₃₉	14.0	X	254.72394	81.91222	178.05992	26.07172	0.0994234	0.17352248	3.1834563	20	1 22.7	19.2
16390 1981 EG ₃₉	14.2	X	201.79946	359.24634	349.21947	5.00517	0.1734759	0.17779836	3.1322101	20	3 14.4	19.3
16391 1981 EM ₄₀	14.9	X	119.72028	242.13440	128.46349	3.09273	0.1047939	0.22316607	2.6918484	20	1 11.9	18.7
16392 1981 EP ₄₂	14.5	X	157.20931	205.95972	190.72324	3.31579	0.1031163	0.22778203	2.6553580	20	3 25.7	18.4
16393 1981 QS	14.2	X	46.02096	228.04554	160.93958	5.00373	0.1939373	0.26021772	2.4298426	20	—	—
16394 1981 QD ₄	13.1	X	200.23441	280.69800	328.53159	13.67230	0.0560588	0.23759777	2.5817121	20	—	—
16395 loannpravednyj	13.9	X	47.76039	283.57265	78.67511	2.63959	0.1410598	0.25688355	2.4508225	20	—	—
16396 1981 UN ₂₂	14.6	X	138.01199									

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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 SV ₅	13.2	X	278.68826	342.63777	0.95721	9.00527	0.0916580	0.18627120	3.0364927	20	5 31.7	17.5
16402 Olgapopova	13.4	X	16.30781	307.32714	48.35719	7.23450	0.1832441	0.27649098	2.3335408	20	12 20.8	16.1
16403 1984 WJ ₁	13.5	X	49.58957	351.93159	34.36636	10.74181	0.2039085	0.27884961	2.3203635	20	—	—
16404 1985 CM ₁	14.2	X	7.97065	70.44021	132.78402	4.87626	0.0948368	0.28313797	2.2968747	20	4 4.9	16.3
16405 1985 DA ₂	13.7	X	300.31594	298.73520	302.63161	6.59580	0.2361126	0.27969644	2.3156776	20	1 20.8	17.0
16406 Oszkiewicz	13.7	X	190.87925	68.22526	316.21965	12.50610	0.2803113	0.21627325	2.7487433	20	4 8.5	19.0
16407 Oiuinskij	14.2	X	139.35777	72.31479	281.63928	5.91538	0.1173761	0.26574986	2.3960030	20	1 9.0	17.4
16408 1986 AB	12.7	X	298.33055	55.22391	310.52705	13.71579	0.1993729	0.21747367	2.7386189	20	7 17.3	15.9
16409 1986 CZ ₁	14.5	X	143.33562	319.99468	289.48728	4.94354	0.1138450	0.30652923	2.1784861	20	12 22.4	17.5
16410 1986 QU ₂	13.4	X	289.40197	197.39451	21.21415	3.62203	0.0325528	0.21891959	2.7265469	20	1 16.3	17.1
16411 1986 QY ₂	13.5	X	282.50649	190.90555	147.62283	15.47135	0.2292577	0.22781464	2.6551045	20	5 15.7	17.5
16412 1986 WZ	14.0	X	242.33923	129.33279	255.90356	2.66743	0.1163205	0.22312555	2.6921744	20	6 9.0	18.0
16413 Abulghazi	12.3	X	168.60921	269.45800	258.19930	12.11620	0.0915139	0.19348794	2.9605117	20	9 12.6	17.1
16414 Le Procope	14.8	X	335.64519	64.18223	333.70184	3.99251	0.1392961	0.30353740	2.1927776	20	12 16.8	16.8
16415 1987 QE ₇	13.7	X	235.39868	180.40526	191.02444	11.85062	0.1881333	0.23210641	2.6222734	20	5 9.4	18.0
16416 1987 SM ₃	14.0	X	97.41482	309.48996	307.20861	5.94497	0.1042640	0.30304438	2.1951552	20	11 9.9	17.1
16417 1987 SF ₅	15.3	X	305.62736	75.05272	325.24777	3.23322	0.1476272	0.29891440	2.21953286	20	10 13.6	17.0
16418 Lortzing	14.0	X	54.86018	338.28270	164.09236	8.09770	0.0554101	0.28711154	2.2756333	20	3 22.4	16.3
16419 Kovalev	14.5	X	184.72055	341.12917	21.89598	4.75563	0.1418766	0.28703675	2.2760286	20	3 10.4	17.9
16420 1987 UN ₁	13.9	X	142.26857	170.57213	227.98566	12.79282	0.1634436	0.22404139	2.6848326	20	3 13.7	18.2
16421 Roadrunner	14.4	X	325.65825	234.07985	309.77502	22.82692	0.0635407	0.36735740	1.9308277	20	—	—
16422 1988 BT ₃	14.8	X	139.50219	282.09905	152.43871	5.55001	0.1198001	0.28218216	2.3020584	20	4 25.2	18.0
16423 1988 BZ ₃	13.9	X	317.85197	43.56947	258.04143	5.29057	0.1716624	0.28502033	2.2867507	20	5 21.1	15.7
16424 Davaine	15.1	X	127.35540	287.22276	142.91467	1.99567	0.1298732	0.28173246	2.3045075	20	4 4.9	18.1
16425 Chuckyeager	14.7	X	311.02825	316.49012	325.08228	3.45689	0.0916354	0.28331117	2.2959385	20	4 20.0	17.4
16426 1988 EC	14.0	X	130.75425	33.48886	340.15903	19.29243	0.0999081	0.36658842	1.9335269	20	1 7.6	16.3
16427 1988 EB ₂	14.1	X	138.11306	245.75347	182.25691	5.95105	0.1427333	0.27885627	2.3203265	20	4 16.2	17.3
16428 1988 RD ₁₂	11.6	X	255.96562	344.42224	340.00544	3.97603	0.0700686	0.08265245	5.2195399	20	4 18.0	18.7
16429 1988 SB ₂	14.1	X	104.24655	249.41633	111.44124	6.71047	0.1329692	0.28939984	2.2636217	20	—	—
16430 1988 VB ₁	13.9	X	317.71765	3.68152	1.62137	13.26251	0.1766498	0.24369817	2.5384457	20	9 2.9	16.2
16431 1988 VH ₁	14.1	X	248.58581	183.02842	238.91039	4.51143	0.2908385	0.24034842	2.5619768	20	7 13.2	18.1
16432 1988 VL ₂	13.3	X	94.64794	221.77092	236.06231	10.47470	0.0951773	0.26132957	2.4229457	20	3 22.6	16.4
16433 1988 VX ₂	12.5	X	308.75142	83.18546	222.84970	14.21907	0.0939357	0.17563847	3.1578363	20	5 26.3	16.7
16434 1988 VO ₃	14.6	X	270.37578	0.01890	14.98330	4.90187	0.2477027	0.23999904	2.5644627	20	6 10.5	18.2
16435 Fándly	13.7	X	306.44281	293.89394	138.13820	6.71334	0.2201272	0.24592841	2.5230755	20	11 17.3	15.7
16436 1988 XL	13.9	X	84.31164	119.68726	220.55127	3.06129	0.1317676	0.25124653	2.4873449	20	—	—
16437 1988 XX ₁	13.5	X	262.87583	349.74592	25.16804	14.41118	0.1869157	0.23733129	2.5836443	20	6 7.8	17.4
16438 Knöfel	14.1	X	29.89334	118.45668	310.75006	4.59575	0.0552857	0.21794979	2.7346290	20	—	—
16439 Yamehoshinokawa	12.8	X	36.40549	232.45218	330.06546	12.21862	0.0971027	0.22890032	2.6467024	20	5 22.4	16.2
16440 1989 EN ₅	14.5	X	324.64134	230.37188	289.97791	3.99308	0.0928969	0.28066484	2.3103478	20	—	—
16441 Kirchner	13.7	X	9.17505	147.57300	330.65376	8.92273	0.0361106	0.21952851	2.7215026	20	—	—
16442 1989 GM ₁	13.8	X	8.19523	130.00717	219.38835	11.77534	0.2056976	0.23367520	2.6105236	20	11 22.0	16.6
16443 1989 GV ₁	14.4	X	335.55935	308.29781	343.69493	4.93991	0.1563240	0.28884013	2.2665451	20	6 15.2	16.2
16444 Godefroy	14.1	X	289.13051	21.76981	6.70447	5.42980	0.1871094	0.29484864	2.2356474	20	8 15.8	16.1
16445 Klimt	12.9	X	205.14661	308.62816	185.92245	12.15562	0.1990884	0.17383238	3.1796715	20	9 4.7	18.2
16446 1989 MH	12.4	X	350.62259	160.92647	85.46150	11.51844	0.2231958	0.18992295	2.9974441	20	5 7.4	15.4
16447 Vauban	13.0	X	325.19583	132.17315	236.84813	7.18533	0.1971102	0.22319758	2.6915951	20	9 11.1	15.6
16448 1989 RV ₂	14.4	X	354.23928	305.67360	44.52741	5.59748	0.1833771	0.28812653	2.2702859	20	11 9.9	16.1
16449 Kigoyama	12.6	X	128.51595	150.44220	253.98170	4.88209	0.1718882	0.17387886	3.1791049	20	3 13.9	17.6
16450 Messerschmidt	12.9	X	222.46617	138.38174	127.13240	5.87915	0.0928600	0.17108211	3.2136580	20	—	—
16451 1989 SO ₃	14.9	X	72.99953	231.86877	171.71359	6.19202	0.1841963	0.26542147	2.3979789	20	—	—
16452 Goldfinger	13.5	X	307.96632	169.67880	333.43838	6.28312	0.0774971	0.26290470	2.4132583	20	—	—
16453 1989 SW ₈	13.7	X	356.22343	190.53039	182.87988	13.38347	0.1881455	0.22524668	2.6752264	20	11 30.2	16.8
16454 1989 TT ₂	13.3	X	223.19880	233.24460	125.30269	6.30521	0.1754730	0.17960161	3.1112094	20	4 16.1	18.4
16455 1989 TK ₁₆	14.8	X	158.02771	122.08819	174.94364	2.13045	0.1894453	0.26657919	2.3910311	20	—	—
16456 1989 UO	14.6	X	124.52274	334.98700	72.76602	3.27203	0.2056511	0.26979742	2.3719791	20	3 14.2	17.9
16457 1989 VF	12.8	X	244.37454	68.10082	35.45447	10.37313	0.0605186	0.18771068	3.0209490	20	9 29.6	17.1
16458 1989 WZ ₂	13.0	X	193.89280	351.27049	23.98777	13.66717	0.1275594	0.17707103	3.1407813	20	4 9.3	18.1
16459 Barth	14.6	X	82.08218	226.00861	151.18318	2.69292	0.2151203	0.26284143	2.4136456	20	—	—
16460 1989 YF ₁	14.3	X	192.69436	198.01390	284.76107	8.97240	0.0854801	0.24461914	2.5320703	20	8 20.8	18.0
16461 1990 BO	11.9	X	213.19071	84.56917	304.76915	15.69278	0.1026060	0.17344115	3.1844513	20	5 10.8	17.2
16462 1990 DZ ₁	13.8	X	307.30687	180.16636	315.61401	5.93804	0.0908208	0.25476089	2.4644171	20	—	—
16463 Navoro	13.6	X	226.20267	250.52421	183.59101	7.38778	0.2974974	0.24275327	2.5450286	20	7 8.2	18.1
16464 1990 EV ₁	14.3	X	152.95046	331.05878	188.79285	9.18408	0.1338356	0.27411928	2.3469815	20	8 29.8	17.8
16465 Basilrowe	15.7	X	109.06991	112.61142	29.69825	24.26719	0.2120292	0.39932691	1.8263485	20	7 6.3	18.7
16466 Piyashiriyama	12.8	X	1.63961	294.47486	210.68431	11.97623	0.1188028	0.22512021	2.6762482	20	1 5.3	16.1
16467 1990 FD ₃	12.3	X	69.39546	88.93913	158.10462	15.72254	0.0441914	0.17691048	3.1426813	20	8 30.9	16.6
16468 1990 HW ₁	13.7	X	231.23615	307.15127	135.49765	15.29503	0.0582216	0.24078912	2.5588499	20	8 21.1	17.0
16469 1990 KR	14.4	X	130.24297	84.67361	181.55734	11.66579	0.2335249	0.24348420	2.5399326	20	12 17.7	19.0
16470 1990 OM ₂	14.6	X	341.17785	337.11847	349.99507	6.60247	0.2071581	0.29636945	2.2279927	20	9 5.5	15.7
16471 1990 OR ₃	14.0	X	42.38566	336.57957	324.77109	5.63044	0.0956605	0.26712851	2.3877520	20	10 25.3	17.1
16472 1990 OE ₅	13.4	X	183.74270	23.32830	244.87239	7.16751	0.1783468	0.21273078	2.7791746	20	—	—
16473 1990 QF ₂	13.3	X	62.95648	180.92180	311.30087	3.10780	0.0476992	0.20185237	2.8781504	20	11 18.0	17.2
16474 1990 QG ₃	16.6	X	312.36871	325.98756	32.34203	1.64937	0.3021808	0.29456574	2.2370785	20	7 24.0	17.5
16475 1990 QS ₄	14.3	X	20.41723	211.72384	107.65918	5.52177	0.1169154	0.29861782	2.2167052	20	11 3.5	16.7
16476 1990 QU ₄	14.0	X	234.30033	251.71121	63.78630	6.58571	0.1932939	0.28521090</				

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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 Thames	13.3	X	255.68800	310.42588	147.62770	2.38547	0.1845241	0.19853049	2.9101670	20	9 17.5	17.5
16482 1990 QK ₈	13.6	X	321.73034	146.99098	122.71628	2.22635	0.0753900	0.18983458	2.9983741	20	4 30.0	17.6
16483 1990 QX ₈	13.6	X	359.67138	339.19851	17.38453	2.10603	0.0710439	0.20029281	2.8930713	20	10 22.5	17.2
16484 1990 QJ ₉	13.7	X	49.28711	238.93022	47.80316	2.88405	0.0208593	0.19880469	2.9074905	20	9 25.5	17.7
16485 1990 RG ₂	13.4	X	104.61492	169.69379	185.20335	10.71328	0.2290250	0.17612334	3.1520380	20	—	—
16486 1990 RM ₃	14.3	X	1.53733	269.60078	354.62999	6.40679	0.1478335	0.29181469	2.2511164	20	6 30.6	16.1
16487 1990 RV ₅	14.3	X	227.22392	292.59609	344.77365	4.71721	0.1504079	0.28191148	2.3035318	20	1 2.9	17.8
16488 1990 RX ₈	14.6	X	27.23982	111.10915	246.97124	4.97723	0.1933786	0.30196166	2.2003994	20	—	—
16489 1990 SG	13.1	X	64.11559	303.40089	170.01385	20.32182	0.1071752	0.17328736	3.1863352	20	—	—
16490 1990 ST ₂	14.7	X	257.50734	309.70020	39.94616	2.07259	0.2354406	0.28851450	2.2682502	20	4 25.1	18.0
16491 1990 SA ₃	14.5	X	7.74967	119.39889	143.50022	6.73622	0.1500671	0.29124208	2.2540660	20	7 11.6	16.2
16492 1990 SQ ₅	14.5	X	48.36929	349.08803	127.87003	4.54466	0.1374133	0.27923867	2.3182077	20	2 9.7	16.5
16493 1990 SB ₆	14.1	X	297.71451	263.99242	124.90949	3.27819	0.1050331	0.19511311	2.9440493	20	8 28.5	17.9
16494 Oka	13.0	X	42.94876	9.17859	150.25187	10.38515	0.0333861	0.18455125	3.0553295	20	4 6.7	17.2
16495 1990 SR ₈	15.4	X	273.82724	4.81119	79.44802	4.88840	0.0688285	0.29799674	2.2198742	20	11 2.4	17.6
16496 1990 SS ₈	13.4	X	313.53173	161.16084	163.39235	10.49748	0.0991446	0.19214922	2.9742466	20	6 26.3	17.4
16497 Toinevermeylen	14.2	X	64.15457	142.38759	154.00707	6.41400	0.2083045	0.30069498	2.2065745	20	12 8.3	17.5
16498 Passau	13.1	X	80.22627	282.83594	168.14198	17.27169	0.1063483	0.21387511	2.7692525	20	3 3.7	16.5
16499 1990 SU ₉	14.5	X	116.11850	60.05752	52.73108	4.51476	0.1074423	0.28577365	2.2827303	20	5 16.1	17.4
16500 1990 SX ₁₀	13.6	X	166.81767	34.77119	310.71041	5.81426	0.0800910	0.27966022	2.3158775	20	1 24.1	16.5
16501 1990 SX ₁₃	15.1	X	10.16927	150.22721	120.28942	1.81504	0.1343213	0.29359128	2.2420259	20	7 29.5	17.0
16502 1990 SB ₁₄	14.0	X	296.61957	49.58177	317.48088	1.17240	0.0990387	0.19388370	2.9564816	20	7 28.3	17.8
16503 Ayato	14.1	X	102.45200	272.68415	184.04736	22.22603	0.2464053	0.28031281	2.3122817	20	4 29.1	17.5
16504 1990 TR ₅	15.0	X	255.32628	98.90319	234.69989	5.84586	0.2546631	0.28829856	2.2693827	20	3 29.3	18.7
16505 Sulzer	13.1	X	310.05374	188.72551	132.60984	10.66029	0.0825033	0.19051842	2.9911951	20	6 19.5	17.2
16506 1990 UH ₁	14.1	X	52.67402	307.26434	91.06004	9.55925	0.2434049	0.27119046	2.3638492	20	—	—
16507 Fuuren	12.9	X	277.31264	277.23478	62.72173	11.18892	0.1222987	0.18811119	3.0166596	20	5 22.7	16.9
16508 1990 UB ₃	14.6	X	193.63108	99.80065	353.52646	2.39177	0.1647674	0.28765631	2.2727593	20	7 15.6	18.0
16509 1990 UE ₄	13.4	X	85.23689	300.78542	131.90314	6.19567	0.1547326	0.17671905	3.1449504	20	2 29.7	17.7
16510 1990 UL ₄	14.4	X	93.64828	62.25440	82.64349	7.14111	0.0458416	0.28465284	2.2887184	20	5 23.2	17.0
16511 1990 UR ₄	14.8	X	26.80266	76.52033	80.63599	6.32667	0.0721080	0.27935134	2.3175843	20	3 1.9	17.3
16512 1990 VQ ₄	14.6	X	38.47983	43.81656	104.38663	7.06383	0.0758533	0.27809246	2.3245732	20	3 9.0	17.1
16513 Vasks	12.8	X	122.13487	122.43430	203.06835	12.75414	0.0592250	0.23639212	2.5904828	20	—	—
16514 Stevelia	13.2	X	108.09692	70.21074	24.09827	8.47166	0.1961917	0.17858826	3.1229674	20	4 25.9	17.9
16515 Usman grad	13.1	X	70.96206	299.59149	127.51960	2.23826	0.1731619	0.17497518	3.1658117	20	2 4.9	17.0
16516 Efremlavitani	14.8	X	196.55620	354.17268	52.02058	3.40910	0.1543135	0.28490467	2.2873696	20	5 15.9	18.2
16517 1990 WD	14.2	X	258.69443	228.21810	92.22632	7.18144	0.2184092	0.28662940	2.2781845	20	3 24.9	17.7
16518 Akihikoito	13.8	X	285.38379	255.51253	130.75135	4.52949	0.1441876	0.29117440	2.2544153	20	8 10.2	15.7
16519 1990 WV	15.5	X	295.88025	280.25748	106.68258	5.68655	0.1575756	0.29241821	2.2480179	20	9 1.3	17.4
16520 1990 WO ₃	14.2	X	247.74898	208.89716	165.84121	4.91228	0.1613015	0.28731902	2.2745377	20	5 27.9	17.4
16521 1990 WR ₅	13.9	X	315.37735	238.24794	97.53321	10.10490	0.0962885	0.18952110	3.0016796	20	7 15.0	17.6
16522 Tell	12.9	X	211.55561	22.43845	288.52642	14.65449	0.0571973	0.17356209	3.1829719	20	2 7.8	17.8
16523 1991 BP	13.3	X	323.84321	167.92745	273.74072	12.56635	0.1206580	0.22836865	2.6508087	20	12 28.7	16.0
16524 Hausmann	14.8	X	264.39666	191.77217	295.99783	1.30504	0.1296988	0.25984290	2.4321787	20	11 29.0	17.3
16525 Shumarinaiko	13.6	X	296.14264	180.05032	7.63163	2.42705	0.1388592	0.26516602	2.3995187	20	—	—
16526 1991 DC	14.7	X	79.83955	54.38765	17.71888	3.57876	0.1728323	0.27172995	2.3607194	20	2 9.6	17.1
16527 1991 DH ₁	13.8	X	343.72455	38.81491	155.75992	12.85027	0.1585424	0.23702212	2.5858905	20	2 5.1	16.7
16528 Terakod	12.8	X	3.17905	234.42387	63.70917	9.13467	0.2100463	0.24442512	2.5334100	20	9 5.5	15.2
16529 Dangoldin	13.6	X	136.98016	251.23115	191.91534	22.69108	0.3153002	0.27543934	2.3394768	20	5 19.2	18.0
16530 1991 GR ₇	14.4	X	256.99797	283.82385	230.74578	5.01217	0.0696664	0.29069479	2.2568943	20	—	—
16531 1991 GO ₈	15.1	X	349.68512	270.77916	324.28572	2.70124	0.0878084	0.23808211	2.5782095	20	4 20.1	18.1
16532 1991 LY	13.2	X	250.32368	184.48981	117.44586	15.73644	0.1799061	0.23091791	2.6312633	20	3 1.3	17.5
16533 1991 LA ₁	13.9	X	13.32176	100.03343	132.85025	14.52324	0.1295312	0.23737286	2.5833426	20	6 4.4	16.9
16534 1991 NB ₁	14.3	X	149.80787	71.00883	237.89581	7.66942	0.2457630	0.25370526	2.4712484	20	—	—
16535 1991 NF ₃	13.1	X	201.52129	102.76767	272.30165	11.79164	0.2070443	0.22944655	2.6425002	20	4 6.4	17.9
16536 1991 PV ₁	14.6	X	261.84520	135.58984	163.13334	6.55710	0.1623032	0.22882314	2.6472975	20	3 6.7	18.6
16537 1991 PF ₁₁	13.4	X	160.25143	346.68036	288.11153	8.38407	0.1315167	0.21565587	2.7539869	20	—	—
16538 1991 PO ₁₂	13.9	X	76.20882	274.19144	145.61664	5.12290	0.1717353	0.28844787	2.2685994	20	1 9.2	15.8
16539 1991 PY ₁₂	13.5	X	109.86764	104.27040	327.98255	12.28934	0.1790420	0.22369794	2.6875799	20	3 22.9	17.4
16540 1991 PO ₁₆	13.6	X	263.27967	111.59618	162.20074	13.31208	0.1599948	0.22540606	2.6739851	20	2 5.8	17.8
16541 1991 PW ₁₈	12.9	X	230.54645	205.46119	202.77404	1.73279	0.0613701	0.19923815	2.9032719	20	6 30.8	16.9
16542 1991 PK ₃₁	13.5	X	330.93626	67.02733	339.01172	12.89586	0.1834216	0.17441278	3.1726136	20	10 31.3	17.2
16543 Rosetta	14.2	X	348.59378	84.00664	332.98946	7.38612	0.1263733	0.27892121	2.3199664	20	—	—
16544 Hochlehnert	14.0	X	4.70381	97.91288	238.68077	4.92440	0.0747243	0.20434264	2.8547191	20	10 3.2	17.6
16545 1991 RN ₄	14.7	X	268.47062	226.85140	159.06059	6.28436	0.2328561	0.26811026	2.3819196	20	6 26.5	17.9
16546 1991 RP ₅	12.6	X	89.22765	92.23991	176.76186	21.85377	0.1301292	0.17244303	3.1967276	20	11 2.3	17.7
16547 1991 RS ₇	13.9	X	154.96613	181.10688	108.17822	8.50812	0.1109455	0.21526779	2.7572957	20	—	—
16548 1991 RR ₉	15.0	X	6.58948	6.18280	348.99902	3.28920	0.2502732	0.27513750	2.3411875	20	12 13.9	17.5
16549 1991 RE ₁₀	13.1	X	18.40261	129.76629	307.18355	6.84012	0.2047515	0.21266699	2.7797303	20	—	—
16550 1991 RB ₁₃	14.1	X	62.07376	17.11216	343.65893	7.64144	0.2298800	0.21179451	2.7773590	20	—	—
16551 1991 RT ₁₄	13.1	X	18.78256	261.02245	169.72128	15.28212	0.1046154	0.21378613	2.7700208	20	—	—
16552 Sawamura	14.3	X	197.52496	180.14283	216.33164	2.49500	0.1338838	0.26169214	2.4207072	20	5 5.2	17.9
16553 1991 TL ₁₄	15.1	X	254.65286	248.65208	28.80058	6.40236	0.1504368	0.29246760	2.2477649	20	1 29.4	18.5
16554 1991 UE ₂	13.6	X	300.88038	52.93940	47.16028	3.66463	0.0887796	0.24090545	2.5580261	20	12 19.3	16.3
16555 Nagaomasami	13.1	X	15.74218	272.57671	64.95594	15.65540	0.1626939	0.23814934	2.5777243	20	11 13.9	16.1
16556 1991 VQ ₁	13.6	X	125.00752	297.97656	71.67064	7.34473	0.2067121</					

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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>
16561 Rawls	13.7	X	319.87779	110.59370	212.54446	14.19946	0.0519091	0.19598553	2.9353060	20	7 6.7	17.9
16562 1992 AV ₁	14.4	X	188.72055	329.18677	110.54618	24.76851	0.0731154	0.36283431	1.9468410	20	6 28.9	16.8
16563 Ob	12.6	X	57.86433	317.01254	143.70730	12.51442	0.0949110	0.17805988	3.1291425	20	2 17.4	16.6
16564 Coriolis	13.5	X	314.24649	182.76109	158.10193	10.33095	0.0839748	0.19139500	2.9820550	20	7 20.2	17.3
16565 1992 CZ ₁	12.6	X	26.78671	196.46194	321.88826	3.54919	0.1283797	0.17700216	3.1415960	20	3 14.9	16.3
16566 1992 CZ ₂	14.8	X	330.51821	13.59136	233.00726	4.61512	0.1410545	0.28597064	2.2816818	20	3 22.6	17.0
16567 1992 CQ ₃	14.9	X	26.53229	337.18403	261.98162	4.02933	0.1080400	0.29051559	2.2578223	20	7 6.2	17.0
16568 1992 DX ₅	13.5	X	145.53626	119.84339	99.77909	2.60282	0.1043412	0.16801109	3.2527005	20	—	—
16569 1992 DA ₁₀	13.6	X	142.56185	128.38572	232.67627	4.21059	0.1841686	0.17479742	3.1679577	20	2 7.6	18.7
16570 1992 DE ₁₁	15.8	X	193.52237	122.06118	146.67170	3.01269	0.1517903	0.27154377	2.3617984	20	—	—
16571 1992 EE	14.9	X	281.51160	216.96151	352.14386	6.47466	0.1640129	0.27431288	2.3458771	20	—	—
16572 1992 EU ₅	13.1	X	118.21624	1.54796	97.39627	4.33481	0.1591243	0.18146592	3.0898638	20	5 9.9	17.9
16573 1992 EC ₁₀	13.3	X	247.98884	220.97778	152.05081	12.61152	0.1409582	0.18564241	3.0433455	20	5 30.3	18.1
16574 1992 EU ₁₀	14.9	X	288.36303	161.36078	145.57254	5.21194	0.0758470	0.28574664	2.2828741	20	4 25.0	17.6
16575 1992 EH ₁₁	13.5	X	91.91495	305.63232	152.13314	2.16442	0.1397858	0.17874730	3.1211147	20	4 9.9	17.9
16576 1992 EY ₁₁	13.6	X	358.16407	66.33655	70.50807	2.53034	0.1246523	0.17227303	3.1988302	20	1 3.0	17.4
16577 1992 ET ₂₃	15.1	X	340.62017	126.84988	161.79147	2.87574	0.1229698	0.28887861	2.2663438	20	6 23.9	16.9
16578 Essjayess	13.9	X	113.83356	201.97761	345.07522	24.70402	0.1153818	0.28944249	2.2633994	20	8 30.8	17.0
16579 1992 GO	13.0	X	69.27993	129.42123	152.61314	13.42989	0.1641135	0.22501357	2.6770937	20	11 10.5	17.2
16580 1992 HA	14.4	X	325.40314	214.53300	41.72206	7.05786	0.0779520	0.28097111	2.3086687	20	4 11.5	16.8
16581 1992 JF ₃	14.4	X	256.87769	267.18519	351.47676	2.08544	0.1968045	0.27286991	2.3541400	20	1 5.8	18.1
16582 1992 JS ₃	14.1	X	231.38920	162.39573	40.56398	6.92766	0.1333886	0.26626541	2.3929092	20	—	—
16583 Oersted	12.2	X	316.25572	144.61401	135.40308	22.63689	0.0526247	0.16974563	3.2305043	20	5 16.1	17.1
16584 1992 PM	14.5	X	36.83150	191.56536	219.34651	2.33024	0.1696603	0.25903173	2.4372537	20	—	—
16585 1992 QR	14.6	X	111.05264	240.14745	150.35781	22.99596	0.1048258	0.36945086	1.9235269	20	—	—
16586 1992 RZ ₆	15.8	X	306.97901	301.95271	19.46144	3.82970	0.1683927	0.24160536	2.5530834	20	6 1.2	18.6
16587 Nagamori	14.3	X	237.79953	220.94198	184.37269	12.84511	0.17276210	0.23919449	2.5702100	20	6 14.6	18.8
16588 Johngee	15.3	X	260.39706	16.65320	30.52083	8.10492	0.3861838	0.24028722	2.5624119	20	6 25.5	19.5
16589 Hastrup	14.5	X	102.98753	19.86199	4.58057	20.01267	0.0783391	0.36646771	1.9339515	20	—	—
16590 Brunowalter	13.8	X	69.88494	219.34228	15.21914	12.68997	0.1098355	0.24439071	2.5336478	20	9 7.1	17.3
16591 1992 SY ₁₇	14.2	X	30.23618	71.93096	239.53503	8.41401	0.2803798	0.28451866	2.2894379	20	11 26.8	17.2
16592 1992 TM ₁	12.1	X	61.71038	243.77633	269.17485	12.20690	0.1011836	0.23298649	2.6156656	20	4 22.7	15.5
16593 1992 UB ₃	12.8	X	175.55878	313.59236	43.52526	13.18669	0.1225368	0.22804287	2.6533327	20	3 3.7	17.1
16594 Sorachi	12.8	X	305.18870	201.95911	87.00802	10.67694	0.0351736	0.23425533	2.6062119	20	5 8.2	16.3
16595 1992 UU ₆	13.4	X	227.00919	270.37725	157.77032	13.22967	0.1578113	0.23967687	2.5667602	20	7 13.4	17.4
16596 Stephenstraus	14.7	X	27.85250	346.01039	195.39350	2.14763	0.1539867	0.26716541	2.3875322	20	4 11.2	16.4
16597 1992 YU ₁	13.6	X	109.00752	86.62127	286.17213	5.11411	0.0841422	0.21926102	2.7237156	20	—	—
16598 Brugnansia	14.5	X	210.13733	105.26532	286.81924	1.62762	0.2199663	0.23254220	2.6189962	20	5 8.6	19.0
16599 Shorland	13.8	X	231.61641	125.67165	354.67400	4.65328	0.1959302	0.20306735	2.8666587	20	9 17.1	18.3
16600 1993 DQ	14.5	X	116.73181	173.97745	84.96703	2.61571	0.1250252	0.30993308	2.1625065	20	12 7.7	17.3
16601 1993 FQ ₁	14.0	X	54.16710	122.50369	138.46731	6.85462	0.0997601	0.26600672	2.3944603	20	9 21.1	16.9
16602 Anabuki	14.3	X	264.49724	67.66667	202.74377	3.45099	0.1235615	0.28712702	2.2755515	20	1 30.0	17.6
16603 1993 FG ₆	13.8	X	288.57192	319.34679	38.46624	2.06182	0.12121795	0.19155152	2.9804303	20	6 16.1	17.8
16604 1993 FQ ₁₀	13.6	X	215.05240	56.09396	21.05638	10.28708	0.0999928	0.19240415	2.9716187	20	7 18.8	18.3
16605 1993 FR ₁₀	14.3	X	93.66827	256.26305	31.50663	5.92234	0.1118834	0.27216864	2.3581820	20	12 12.2	17.7
16606 1993 FH ₁₁	13.9	X	295.66177	342.93505	20.89071	10.67204	0.1514263	0.26504505	2.4002488	20	7 24.2	16.7
16607 1993 FN ₁₂	13.7	X	172.95815	238.55424	51.51595	5.64699	0.1113024	0.17084436	3.2166387	20	—	—
16608 1993 FA ₂₃	13.6	X	225.79773	178.89155	210.68828	5.50431	0.0443332	0.18772828	3.0207602	20	6 3.2	17.9
16609 1993 FB ₂₃	13.9	X	170.38704	76.39963	205.82398	5.89450	0.0745726	0.16984354	3.2292626	20	—	—
16610 1993 FV ₂₃	14.9	X	197.14956	134.33220	356.94385	3.72725	0.1645500	0.23283491	2.6168007	20	9 3.1	19.0
16611 1993 FY ₂₃	13.8	X	65.17310	10.57678	342.97955	2.47992	0.1848097	0.20297016	2.8675737	20	—	—
16612 1993 FF ₂₅	15.3	X	319.50359	337.90758	204.11764	4.99117	0.0970507	0.28535106	2.2849834	20	—	—
16613 1993 FD ₂₈	14.0	X	117.13257	123.13446	345.96068	7.63427	0.10182563	0.18544523	3.0455023	20	4 30.3	18.5
16614 1993 FS ₃₅	13.5	X	37.80167	137.11592	43.42943	3.55110	0.0418376	0.18399476	3.0614820	20	4 24.4	17.5
16615 1993 FW ₄₀	14.2	X	152.25113	210.69549	89.23208	2.16048	0.1469303	0.16902908	3.2396277	20	—	—
16616 1993 FB ₄₄	13.8	X	345.10747	204.52386	212.69841	1.52052	0.0490708	0.20338337	2.8636884	20	12 17.5	17.3
16617 1993 FC ₄₈	15.7	X	187.31345	73.17145	154.83120	0.73990	0.1599451	0.31209130	2.1525253	20	—	—
16618 1993 FX ₅₂	15.8	X	140.81242	89.21454	137.01833	4.51974	0.0922744	0.30791275	2.1719556	20	11 21.6	18.7
16619 1993 FR ₅₈	13.8	X	358.12941	191.88081	236.16547	1.01857	0.0890466	0.20669813	2.8329898	20	—	—
16620 1993 FE ₇₈	14.1	X	153.35157	98.83859	205.39029	1.27972	0.1392451	0.16955388	3.2329394	20	—	—
16621 1993 FA ₈₄	14.0	X	199.73741	290.62718	46.83693	9.76892	0.1647606	0.21497844	2.7597693	20	3 2.3	18.7
16622 1993 GG ₁	13.0	X	300.12889	155.79569	68.86303	6.31488	0.0873356	0.17691409	3.1426386	20	2 5.7	17.4
16623 Muenzel	13.3	X	340.38712	280.23570	229.40741	4.24251	0.1438490	0.17541206	3.1605530	20	—	—
16624 Hoshizawa	14.1	X	27.01419	144.34995	133.62391	3.05504	0.0448100	0.26357189	2.4091841	20	8 25.1	16.9
16625 Kunitsugu	14.5	X	194.62366	73.91301	164.27918	3.13886	0.0833501	0.31288019	2.1489056	20	—	—
16626 Thumper	13.7	X	262.06247	3.40410	104.40976	3.20314	0.0299060	0.19980034	2.8978233	20	10 31.7	17.6
16627 1993 JK	13.9	X	48.53437	49.65784	200.81487	4.49398	0.1397454	0.29788996	2.2204047	20	9 5.4	16.4
16628 1993 KF	12.3	X	248.90543	325.88627	82.44501	11.02402	0.0659002	0.18813988	3.0163529	20	7 23.8	16.6
16629 1993 LK ₁	14.6	X	5.19906	57.15467	205.95705	5.41613	0.2106333	0.29302945	2.2448907	20	7 11.2	15.9
16630 1993 NZ ₁	13.0	X	250.19615	116.50684	292.45016	9.19526	0.1209361	0.18163914	3.0878990	20	7 16.9	17.5
16631 1993 OY ₃	15.3	X	128.00101	313.69346	135.08145	2.94181	0.0715002	0.28492816	2.2872438	20	4 24.3	18.1
16632 1993 OH ₄	15.9	X	301.23054	179.03321	168.89043	1.21845	0.0717005	0.28316109	2.2967497	20	2 23.1	18.5
16633 1993 OV ₅	15.5	X	40.22417	97.56447	123.02893	3.73257	0.0858058	0.29058350	2.2574705	20	6 28.5	17.8
16634 1993 OD ₈	15.2	X	332.91342	64.58797	282.44068	2.84945	0.2204608	0.29413461	2.2392640	20	9 16.1	16.3
16635 1993 QO	14.2	X	210.51257	77.99062	313.74656	21.93090	0.2855935	0.28299360	2.2976558	20	4 25.5	18.8
16636 1993 QP	18.7	X	225.43526	47.30391	296.81586	7.21153	0.4681					

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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	249.61936	25.42845	276.72776	20.65168	0.1438225	0.27959478	2.3162389	20	2 14.2	17.5
16642 1993 <i>RK</i> ₄	15.0	X	189.95430	234.45726	306.15079	1.80029	0.1204443	0.25937649	2.4350935	20	11 3.1	18.5
16643 1993 <i>RV</i> ₁₅	14.5	X	341.71926	263.07161	0.73341	7.71275	0.0892890	0.28493026	2.2872326	20	5 15.6	16.9
16644 Otemaedaigaku	14.1	X	245.58015	163.62752	174.74584	6.74677	0.1483189	0.28177284	2.3042873	20	4 7.9	17.4
16645 Aldalara	14.6	X	195.80648	212.27319	178.65251	3.72855	0.1938459	0.27998327	2.3140958	20	4 25.8	18.3
16646 Sparrman	14.0	X	61.31031	106.29938	347.92865	6.55201	0.0797764	0.27438612	2.3454596	20	1 28.3	16.5
16647 Robbydesmet	14.6	X	249.96085	213.24526	8.34294	4.54400	0.0535025	0.26967583	2.3726920	20	—	—
16648 1993 <i>SH</i> ₇	14.8	X	309.90903	83.91411	170.51764	4.29750	0.1064834	0.28014259	2.3132183	20	3 9.5	17.5
16649 1993 <i>TY</i> ₁	14.5	X	263.48057	336.92738	12.79649	6.91545	0.1532699	0.28307824	2.2971978	20	5 10.1	17.7
16650 Sakushingakuin	13.7	X	244.90013	335.88018	11.69708	8.21367	0.1191678	0.28150282	2.3057606	20	4 19.5	17.0
16651 1993 <i>TS</i> ₁₁	14.2	X	235.58629	31.87908	7.96694	6.18785	0.1117467	0.28440075	2.2900707	20	6 22.6	17.3
16652 1993 <i>TT</i> ₁₂	14.5	X	202.20430	240.24623	67.72874	4.19651	0.1769000	0.27435928	2.3456126	20	1 19.4	18.3
16653 1993 <i>TP</i> ₁₉	14.2	X	178.82307	91.51811	173.94384	6.04016	0.0938830	0.26671903	2.3901953	20	—	—
16654 1993 <i>TY</i> ₂₉	14.6	X	322.88103	260.99830	187.54772	9.04036	0.1432453	0.26067920	2.4269741	20	—	—
16655 1993 <i>TS</i> ₃₃	14.8	X	34.85876	313.35569	116.73546	4.32817	0.1187106	0.26648440	2.3915980	20	—	—
16656 1993 <i>TP</i> ₃₇	14.8	X	327.87743	18.02465	78.01546	6.33211	0.0820700	0.26223639	2.4173568	20	—	—
16657 1993 <i>UB</i>	16.7	X	257.67047	21.19866	61.24823	24.94438	0.4604415	0.28666625	2.2779893	20	6 19.9	21.1
16658 1993 <i>UD</i> ₁	15.5	X	227.01477	238.81880	70.31563	6.10136	0.1733225	0.27640410	2.3340298	20	2 12.9	19.2
16659 1993 <i>UH</i> ₁	14.0	X	239.92560	105.37658	195.15513	22.90357	0.2351479	0.27783071	2.3260331	20	2 4.0	18.4
16660 1993 <i>US</i> ₇	14.0	X	182.33037	167.86893	97.10696	6.74970	0.0816646	0.26562308	2.3967653	20	—	—
16661 1993 <i>VS</i> ₁	14.7	X	58.97542	132.11162	279.35938	2.44517	0.2060990	0.26625325	2.3929820	20	—	—
16662 1993 <i>VU</i> ₁	13.7	X	109.44698	116.57415	242.73007	10.30106	0.1582842	0.19299558	2.9655447	20	—	—
16663 1993 <i>VG</i> ₄	12.9	X	126.41214	51.25072	245.80609	9.19200	0.0851150	0.18769469	3.0211206	20	—	—
16664 1993 <i>VO</i> ₄	14.9	X	104.75654	310.41450	82.09586	5.89538	0.2238025	0.26907646	2.3762142	20	2 1.8	17.7
16665 1993 <i>XK</i>	14.6	X	97.85972	259.39133	110.62597	5.41675	0.1126487	0.26503014	2.4003387	20	—	—
16666 Liroma	12.8	X	112.59283	209.54715	240.41386	23.08557	0.2396425	0.27315363	2.3525096	20	4 25.9	16.4
16667 1993 <i>XM</i> ₁	10.8	X	249.09289	239.03406	96.61636	16.69096	0.1997213	0.08306015	5.2024458	20	4 19.5	18.4
16668 1993 <i>XN</i> ₁	13.4	X	313.39856	183.26776	94.84472	16.42563	0.1472671	0.23686088	2.5870639	20	4 23.8	16.8
16669 Rionuevo	14.5	X	352.49865	329.32047	67.53615	24.59830	0.0846507	0.36654463	1.9336809	20	—	—
16670 1994 <i>AS</i> ₂	14.8	X	51.94205	36.87786	354.42802	1.84381	0.2113077	0.26028891	2.4293995	20	—	—
16671 Tago	12.8	X	11.26385	157.52348	284.15244	11.53418	0.1931019	0.18539632	3.0460379	20	—	—
16672 Bedini	14.4	X	174.61716	76.49966	7.03083	6.64149	0.1358372	0.23811842	2.5779474	20	6 11.8	18.5
16673 1994 <i>BF</i> ₁	14.1	X	61.16657	52.37945	358.34082	3.67589	0.2012858	0.26142785	2.4223384	20	—	—
16674 Birkeland	14.1	X	237.35214	46.12573	277.05699	8.46185	0.0803511	0.23314906	2.6144496	20	3 13.5	18.0
16675 Torii	14.0	X	60.12829	300.22914	300.53291	7.97003	0.0868120	0.27729754	2.3290137	20	8 26.0	16.9
16676 Tinne	14.5	X	239.62935	29.38339	327.16365	3.87796	0.2145102	0.23582060	2.5946666	20	4 19.0	18.8
16677 1994 <i>CT</i> ₁₁	14.2	X	144.74260	279.79267	91.84143	3.09239	0.0889572	0.22572996	2.6714266	20	2 9.9	18.1
16678 1994 <i>CC</i> ₁₈	14.1	X	228.44972	56.67907	358.06977	12.91096	0.1723659	0.23987436	2.5653512	20	6 27.9	18.3
16679 1994 <i>EQ</i> ₂	13.2	X	259.30913	193.24370	327.96485	8.42924	0.0946271	0.21425861	2.7659470	20	12 28.5	16.8
16680 Minamitanemachi	13.2	X	29.07982	113.77012	21.39471	14.12234	0.1769788	0.22500057	2.6771968	20	2 18.8	16.0
16681 1994 <i>EV</i> ₇	14.3	X	125.46622	63.93456	342.48199	23.41624	0.0636405	0.37829180	1.8934395	20	2 12.9	16.2
16682 Donati	15.0	X	0.90138	260.26818	193.38214	2.28403	0.0512733	0.29327538	2.2436355	20	—	—
16683 Alepieri	13.3	X	311.44376	142.77886	93.93145	3.89252	0.1135631	0.18583470	3.0412457	20	2 29.5	17.4
16684 1994 <i>JQ</i> ₁	6.9	X	330.96030	250.27332	25.69316	3.74755	0.0560832	0.00333534	44.3651826	20	5 24.1	23.1
16685 1994 <i>JU</i> ₈	13.5	X	131.44115	58.21345	231.16576	15.80250	0.1254968	0.24621415	2.5211230	20	—	—
16686 1994 <i>PL</i> ₉	12.7	X	167.98596	45.19853	332.08754	10.18777	0.0934026	0.17507732	3.1645803	20	3 14.1	17.6
16687 1994 <i>PN</i> ₂₀	16.0	X	344.72523	81.87428	251.67648	0.41462	0.1911951	0.26578463	2.3957940	20	9 16.1	17.8
16688 1994 <i>PN</i> ₂₁	13.5	X	194.22590	286.12934	144.82428	2.29535	0.1596746	0.18049705	3.1009110	20	6 14.3	18.5
16689 Vistula	12.9	X	130.39913	293.71883	141.25363	11.60643	0.1552102	0.17584406	3.1553745	20	4 25.9	18.0
16690 Fabritius	14.8	X	150.66203	262.85695	285.24486	2.30784	0.1533493	0.30157823	2.2022640	20	10 7.5	18.2
16691 1994 <i>VS</i>	14.5	X	159.22280	261.90836	258.32896	4.87788	0.0586376	0.29719536	2.2238630	20	9 8.9	17.4
16692 1994 <i>VO</i> ₁	15.5	X	299.71336	170.63064	239.83061	1.34924	0.1500160	0.30158643	2.2022242	20	10 19.5	16.9
16693 Moseley	13.7	X	340.67294	120.91538	271.29770	11.27415	0.1810069	0.22754799	2.6571784	20	11 23.9	16.4
16694 1995 <i>AJ</i>	13.9	X	347.41349	39.47628	286.01874	6.41894	0.2072850	0.29442851	2.2377736	20	9 14.1	15.4
16695 Terryhandley	16.8	X	67.17770	257.81842	108.68257	4.78450	0.3586947	0.31091447	2.1579536	20	—	—
16696 Villamayor	14.6	X	163.21826	94.88697	113.47926	3.35028	0.1423941	0.25686280	2.4509545	20	11 10.8	18.3
16697 1995 <i>CQ</i>	15.0	X	69.84048	152.34879	331.13150	4.29473	0.1806781	0.27938497	2.3173983	20	4 4.8	17.3
16698 1995 <i>CX</i>	13.5	X	148.23016	208.77318	124.61178	13.03058	0.2172918	0.26956899	2.3733189	20	1 4.3	17.0
16699 1995 <i>DC</i>	15.0	X	353.91634	194.35364	11.78885	5.34284	0.2376549	0.23664156	2.5886621	20	3 4.6	17.1
16700 Seiwa	14.5	X	203.85298	42.44359	41.98175	3.82262	0.0669965	0.28744897	2.2738521	20	7 22.1	17.4
16701 Volpe	14.4	X	173.34827	320.18479	313.23132	6.26855	0.1387030	0.26538599	2.3981926	20	—	—
16702 Buxner	15.3	X	329.04361	101.26244	5.53656	2.61761	0.1274588	0.26480439	2.4017028	20	—	—
16703 1995 <i>ER</i> ₇	14.0	X	85.25564	155.88331	162.02024	8.93603	0.1731800	0.25844011	2.4409718	20	—	—
16704 1995 <i>ED</i> ₈	13.6	X	356.34883	221.77146	351.66698	22.86395	0.2144242	0.27559029	2.3386224	20	3 14.5	15.1
16705 Reinhardt	14.3	X	147.84435	175.44246	14.53397	7.02895	0.1002921	0.25248384	2.4792120	20	10 2.8	17.9
16706 Svojsik	14.7	X	335.30863	255.62084	153.53408	2.49987	0.0623540	0.20363919	2.8612895	20	11 24.8	18.3
16707 Norman	13.3	X	65.23219	324.02245	162.50268	13.39049	0.1149389	0.18074918	3.0980268	20	4 5.1	17.4
16708 1995 <i>SP</i> ₁	13.0	X	118.96513	116.30850	313.76853	25.83738	0.2066600	0.17826012	3.1267987	20	3 25.1	18.4
16709 Auratian	13.8	X	262.82473	91.66533	296.39221	0.67491	0.1032988	0.19035155	2.9929430	20	7 8.5	18.1
16710 1995 <i>SL</i> ₂₀	15.6	X	316.21846	46.97550	15.89384	7.09024	0.1739503	0.27864614	2.3214929	20	12 7.2	17.4
16711 Ka-Dar	13.5	X	110.04994	337.84208	54.80714	2.80325	0.1791688	0.17359658	3.1825503	20	2 14.8	18.1
16712 1995 <i>SW</i> ₂₉	12.7	X	125.42864	111.06126	317.73181	25.56248	0.2043378	0.17706710	3.1408278	20	3 29.9	18.2
16713 Airashi	13.0	X	118.80367	257.57583	141.55222	7.11767	0.1558922	0.17659832	3.1463836	20	2 28.2	17.7
16714 Arndt	13.4	X	68.46186	231.01419	102.06133	3.26092	0.0783021	0.20366472	2.8610504	20	12 23.3	17.5
16715 Trettenero	14.3	X	218.94600	43.60827	242.02813	9.28307	0.0800276	0.17460347	3.1703032	20	1 15.6	19.7
16716 1995 <i>UX</i> ₆ </												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16721 1995 WF ₃	14.4	X	195.97385	69.05759	57.32668	11.51529	0.2301651	0.22764487	2.6564244	20	8 27.8	19.1
16722 1995 WG ₇	13.2	X	180.93224	117.84167	245.85314	17.79210	0.2282971	0.17813354	3.1282798	20	3 8.6	19.0
16723 Fumiofuke	14.1	X	169.01804	280.05127	77.98235	2.21967	0.1963957	0.17550146	3.1594796	20	2 29.7	19.4
16724 Ulliloltzmann	14.0	X	134.23795	276.39375	118.90499	29.82500	0.4392206	0.21138634	2.7909460	20	4 8.9	19.8
16725 Toudono	12.9	X	284.74519	80.97622	358.11248	21.87366	0.0544217	0.22601205	2.6692033	20	10 17.5	16.7
16726 1996 DC	14.3	X	335.95415	96.51667	134.20237	6.60934	0.1004003	0.28832772	2.2692297	20	3 18.8	16.6
16727 1996 EK ₂	15.2	X	84.93840	120.31537	192.86003	2.91901	0.1898528	0.30822107	2.1705069	20	—	—
16728 1996 GB ₁₈	15.0	X	337.76784	0.38974	38.12073	5.29404	0.0535122	0.30485680	2.1864462	20	12 10.7	17.2
16729 1996 GA ₁₉	14.8	X	10.50209	178.72467	48.50521	4.37996	0.0561807	0.28880856	2.2667102	20	5 13.9	16.9
16730 Nijisseiki	16.1	X	164.87036	267.57799	42.02081	1.60905	0.2152650	0.27153564	2.3618455	20	—	—
16731 Mitsumata	15.6	X	296.90756	343.07156	40.03977	6.87007	0.0937864	0.29711143	2.2242818	20	9 8.4	17.8
16732 1996 HZ ₁₆	14.6	X	10.96143	291.81250	33.69914	1.14282	0.1986500	0.21505257	2.7591351	20	10 17.9	17.6
16733 1996 HM ₂₂	15.2	X	320.89927	229.57028	41.23097	2.74879	0.1662910	0.28687444	2.2768870	20	4 9.9	17.5
16734 1996 HZ ₂₂	14.4	X	256.44537	286.22999	204.29446	6.15850	0.0712396	0.30600981	2.1809505	20	12 12.9	16.7
16735 1996 JJ	14.3	X	33.83673	123.09212	108.35037	6.75485	0.2224994	0.29092175	2.2557203	20	7 29.1	16.2
16736 Tongariyama	14.2	X	80.11385	67.29373	164.02612	8.04849	0.0756252	0.25354748	2.4722735	20	9 7.2	17.5
16737 1996 KN ₁	14.4	X	328.99576	188.03053	82.10068	7.56688	0.0910179	0.28627128	2.2800841	20	5 7.3	16.7
16738 1996 KQ ₁	15.8	X	263.13962	75.75802	177.30211	9.55802	0.1962522	0.27659779	2.3329401	20	1 2.9	19.6
16739 1996 KX ₂	13.4	X	116.48578	179.72474	171.62133	12.01950	0.1298829	0.22826394	2.6516193	20	—	—
16740 Kipthorne	14.5	X	316.75093	35.85848	222.29397	5.70343	0.1459073	0.28460478	2.2889761	20	3 15.8	17.0
16741 1996 NZ ₃	14.8	X	14.55179	117.80050	276.55932	2.92338	0.0901867	0.25742852	2.4473624	20	—	—
16742 Zink	15.6	X	150.69954	71.71149	269.33963	3.81998	0.2494808	0.26739361	2.3861736	20	1 18.9	19.3
16743 1996 OQ	14.5	X	94.38670	0.51432	297.34976	1.69166	0.1785047	0.25880277	2.4386909	20	12 27.1	18.2
16744 Antonioleone	14.2	X	63.38123	79.44853	295.33012	9.98834	0.2536250	0.26009547	2.4306039	20	—	—
16745 Zappa	14.8	X	313.02398	273.28899	292.15905	10.56175	0.1421489	0.23174269	2.6250164	20	1 10.6	18.4
16746 1996 PW ₆	14.5	X	78.25952	19.48131	340.31362	1.71340	0.1969185	0.25975501	2.4327273	20	—	—
16747 1996 PS ₈	14.7	X	51.53138	211.34714	315.69359	3.25622	0.1071055	0.23855581	2.5747954	20	5 14.3	17.7
16748 1996 PD ₉	13.8	X	259.20710	231.09967	119.12523	3.08440	0.0840649	0.19836238	2.9118109	20	5 19.5	18.0
16749 Vospini	14.3	X	273.07148	168.71985	174.56541	14.44432	0.1507811	0.23852470	2.5750192	20	5 19.5	18.1
16750 Marisandoz	13.8	X	340.39539	230.81453	314.56656	4.82400	0.1694812	0.23090932	2.6313286	20	1 19.4	16.8
16751 1996 QG ₁	14.8	X	58.10558	170.73279	148.37557	1.03426	0.2144599	0.25462941	2.4652654	20	12 21.7	18.4
16752 1996 QP ₁	15.0	X	114.74428	176.19598	162.68343	2.69257	0.2390444	0.26230968	2.4169064	20	—	—
16753 1996 QS ₁	14.8	X	106.46937	99.21765	279.31226	5.31451	0.1413231	0.26510958	2.3998592	20	1 2.3	17.3
16754 1996 RW	14.2	X	169.15315	183.35421	260.60771	2.09976	0.2014040	0.23605157	2.5929738	20	6 8.6	18.6
16755 Cayley	14.8	X	192.79071	330.24374	76.55994	4.63921	0.2665615	0.23650888	2.5896302	20	5 13.1	19.3
16756 1996 RQ ₁₁	14.3	X	296.42246	236.25010	47.27052	1.68995	0.1354562	0.23641773	2.5902957	20	3 30.9	17.7
16757 Luoxiahong	13.8	X	91.42511	113.68592	185.10033	5.87414	0.0367786	0.21098118	2.7945180	20	12 5.6	17.9
16758 1996 TR ₁	13.6	X	339.57600	303.36627	164.31089	5.08403	0.0522343	0.21648542	2.7469470	20	—	—
16759 Furuyama	15.3	X	62.21190	209.06128	197.35502	4.48750	0.1622008	0.21700719	2.7425421	20	—	—
16760 Masanori	15.1	X	223.34793	357.64735	42.55494	6.90663	0.2642595	0.23531090	2.5984121	20	5 26.8	19.6
16761 Hertz	14.3	X	159.93673	193.84765	171.62598	12.26293	0.1825746	0.22677688	2.6631985	20	2 23.7	18.6
16762 1996 TK ₁₀	14.8	X	206.82999	27.91178	334.18663	5.62071	0.1496116	0.27254701	2.3559990	20	3 28.1	18.5
16763 1996 TG ₁₂	14.4	X	222.11785	96.46618	254.39431	10.24287	0.0754807	0.23342851	2.6123626	20	4 1.5	18.4
16764 1996 TV ₁₄	14.0	X	12.74035	335.04012	340.58766	1.48802	0.0681024	0.20290080	2.8682271	20	9 18.1	17.4
16765 Agnesi	14.0	X	236.02082	314.89487	17.74669	12.26681	0.1107820	0.23186004	2.6241306	20	3 28.1	17.9
16766 Righi	13.2	X	314.44013	316.47495	155.72428	9.52394	0.1191796	0.21358638	2.7717476	20	—	—
16767 1996 US	14.4	X	254.63801	322.09780	20.02203	5.22167	0.2648877	0.23525809	2.5988009	20	4 11.9	18.4
16768 1996 UA ₁	13.0	X	112.90177	233.40987	231.55509	16.50943	0.1316578	0.18513399	3.0489148	20	5 7.1	17.5
16769 1996 UN ₁	13.9	X	264.11730	67.15432	260.81282	13.36982	0.1349026	0.23454271	2.6040826	20	4 13.1	17.9
16770 Angkor Wat	13.9	X	185.97333	290.14880	347.89539	4.80747	0.0056653	0.21620044	2.7493604	20	—	—
16771 1996 UQ ₃	13.3	X	254.88716	249.24926	13.96983	11.41360	0.1694434	0.22522659	2.6754054	20	1 20.0	17.8
16772 1996 UC ₄	14.6	X	151.53494	335.97097	38.80966	3.70846	0.0822832	0.22526127	2.6751309	20	2 21.6	18.4
16773 1996 VO ₁	12.7	X	272.78250	329.49446	34.26226	14.10387	0.1784474	0.23607944	2.5927697	20	6 6.4	16.4
16774 1996 VP ₁	13.3	X	208.04866	83.63270	268.74885	13.34160	0.2925095	0.22911579	2.6450428	20	3 12.6	18.4
16775 1996 VB ₆	13.6	X	296.00645	295.89218	125.90877	3.08432	0.0546101	0.20090642	2.8871776	20	10 15.9	17.4
16776 1996 VA ₈	14.4	X	200.73325	238.02739	144.16177	4.87636	0.2470772	0.23143076	2.6273746	20	4 20.8	19.1
16777 1996 VD ₂₉	13.7	X	71.60909	9.81856	144.48222	1.59557	0.1813337	0.18480057	3.0525809	20	5 27.4	17.8
16778 1996 WU ₁	13.6	X	107.22488	3.67445	90.33215	10.41524	0.0524938	0.18210794	3.0825973	20	4 12.3	18.1
16779 Mittelman	13.3	X	203.70968	76.40614	246.65333	11.94863	0.1967921	0.22377593	2.6869555	20	2 7.4	18.1
16780 1996 XT ₁	13.8	X	31.45191	270.19935	79.60558	3.22733	0.0772204	0.20210021	2.8757969	20	11 28.7	17.5
16781 Renčín	13.3	X	65.03551	331.66978	123.65414	2.43528	0.1511463	0.17518717	3.1632573	20	2 28.9	17.3
16782 1996 XC ₁₉	13.4	X	240.26696	278.87642	107.80030	9.90602	0.0457524	0.18843070	3.0132485	20	6 16.1	17.7
16783 Bvchkov	14.2	X	199.94704	208.19977	144.60151	13.73250	0.1762134	0.23128406	2.6284855	20	3 17.4	18.6
16784 1996 YD ₂	12.7	X	146.77784	108.42578	3.92897	12.18268	0.0995391	0.18610377	3.0383137	20	6 18.3	17.6
16785 1997 AL ₁	11.6	X	139.52804	90.10533	300.79797	18.40776	0.0976956	0.17568123	3.1573240	20	2 25.5	16.6
16786 1997 AT ₁	12.2	X	51.90208	170.64333	296.68051	12.63547	0.1064224	0.17448294	3.1717630	20	2 14.8	16.3
16787 1997 AZ ₁	13.6	X	83.42964	56.03494	3.99727	5.91989	0.1167744	0.17299597	3.1899122	20	2 7.8	17.9
16788 Alyssarose	12.8	X	57.77180	1.31654	116.47408	2.36842	0.1361086	0.17433717	3.1735308	20	3 15.9	16.7
16789 1997 AU ₃	13.5	X	296.86292	23.31404	336.35096	10.29765	0.1497619	0.19614773	2.9336875	20	7 13.4	17.3
16790 Yuuzou	13.6	X	306.82390	285.22912	291.64330	3.00586	0.0656197	0.22056041	2.7130076	20	1 29.7	17.3
16791 1997 AR ₅	12.9	X	295.64859	298.30659	111.55241	14.33858	0.1964960	0.19633998	2.9317722	20	9 15.1	16.5
16792 1997 AK ₁₃	12.5	X	46.49505	49.63395	92.32497	13.44028	0.1573998	0.17513525	3.1638824	20	4 7.3	16.6
16793 1997 AA ₁₈	12.8	X	224.60662	300.14361	109.31789	11.12453	0.0829618	0.18570572	3.0426537	20	6 23.2	17.3
16794 Cucullia	13.6	X	80.82771	267.52241	142.55085	19.20239	0.1688446	0.17099700	3.2147243	20	1 28.4	17.9
16795 1997 CA ₃	13.8	X	133.22968	317.09617	100.27877	3.59610	0.1809824	0.17600079	3.1535010	20	4 7.4	18.8
16796 Shinji	13.3	X	116.25291	258.56586	173.77231	10.42180	0.1325					

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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	X	336.28795	196.00988	204.97530	3.17440	0.1052979	0.25975377	2.4327350	20	12 3.8	17.8
16802 Rainer	15.6	X	148.75754	309.95247	0.94107	7.31112	0.2195508	0.27490400	2.3425130	20	—	—
16803 1997 SU ₁₀	15.4	X	277.42944	160.40079	230.04028	3.36276	0.1579208	0.29339672	2.2430169	20	7 29.9	17.9
16804 Bonini	13.3	X	189.18755	180.87245	23.72361	10.40596	0.1780230	0.26057859	2.4275987	20	11 25.9	17.2
16805 1997 SE ₁₆	15.2	X	268.42550	217.65532	14.08118	4.11610	0.0831334	0.27644065	2.3338241	20	—	—
16806 1997 SB ₃₄	14.1	X	53.23961	340.31362	31.90777	5.51244	0.1645119	0.30839111	2.1697090	20	—	—
16807 Terasako	15.2	X	128.76587	338.95348	128.44461	4.31199	0.1048697	0.28643312	2.2792251	20	5 25.2	18.2
16808 1997 TV ₂₆	14.4	X	201.95387	79.57584	72.94880	1.93938	0.1508348	0.25601104	2.4563878	20	10 9.1	17.9
16809 Galápagos	14.3	X	208.02412	41.48036	211.92194	8.61867	0.0626400	0.22917069	2.6446203	20	—	—
16810 Pavelaleksandrov	15.2	X	159.35457	181.56541	222.49709	10.44714	0.2400795	0.28134244	2.3066368	20	4 10.1	19.1
16811 1997 UP ₃	14.1	X	331.42609	186.24555	281.05913	2.52268	0.0392697	0.26528567	2.3987971	20	—	—
16812 1997 UQ ₃	14.5	X	309.78497	61.86869	44.48531	1.54175	0.1401725	0.26165553	2.4209330	20	—	—
16813 1997 UT ₆	14.3	X	214.46100	341.31101	208.42176	3.07494	0.1339611	0.30562869	2.1827633	20	12 23.5	16.8
16814 1997 UY ₈	14.8	X	19.22380	274.17057	57.42961	5.12829	0.2039898	0.30109908	2.2045998	20	12 1.8	17.2
16815 1997 UA ₉	12.7	X	54.09865	128.27847	58.73839	11.05131	0.0221123	0.24076520	2.5590194	20	5 21.7	15.7
16816 1997 UF ₉	16.1	X	265.31751	157.93910	37.17940	25.90681	0.6038710	0.56890903	1.4424723	20	—	—
16817 Onderlička	14.9	X	265.28054	112.60454	21.80658	4.02065	0.1496095	0.26024796	2.4296544	20	12 6.7	17.6
16818 1997 UL ₂₄	13.5	X	161.62693	54.30658	268.70392	14.17273	0.1304863	0.23453786	2.6041185	20	—	—
16819 1997 VV	12.9	X	292.35087	289.63518	255.40367	10.90672	0.1121478	0.22484535	2.6784288	20	—	—
16820 1997 VA ₃	14.4	X	330.54574	17.46474	270.70301	2.86241	0.0889004	0.28851855	2.2682290	20	6 5.5	16.5
16821 1997 VZ ₄	14.2	X	297.98148	254.42507	54.81350	6.31449	0.1926146	0.28842705	2.2687087	20	4 25.9	16.7
16822 1997 VA ₅	15.1	X	179.83748	351.81320	56.63576	6.70494	0.1712393	0.28365308	2.2940932	20	5 3.6	18.6
16823 1997 VE ₆	15.4	X	146.44443	102.70059	253.96545	1.12567	0.1307198	0.27302217	2.3532647	20	1 21.2	18.7
16824 1997 VA ₈	14.2	X	193.84640	259.43722	40.11727	7.83221	0.1030946	0.27252737	2.3561122	20	—	—
16825 1997 VC ₈	14.3	X	5.08286	42.07068	298.80039	2.73511	0.0296570	0.25374971	2.4709598	20	10 14.1	17.4
16826 Daisuke	14.5	X	316.77352	138.33001	122.45994	3.58428	0.1232450	0.28513048	2.2861617	20	3 27.8	16.9
16827 1997 WD ₂	13.9	X	155.77214	260.06033	86.84374	6.24192	0.2741535	0.27540404	2.3396767	20	2 2.5	17.7
16828 1997 WR ₂	14.9	X	199.04028	196.57702	239.43426	1.43647	0.0478041	0.28697811	2.2763386	20	7 3.9	17.7
16829 1997 WG ₇	15.2	X	302.95791	147.95988	301.55143	5.68162	0.1684426	0.29913565	2.2142361	20	12 31.4	16.6
16830 1997 WQ ₇	15.0	X	48.24084	80.61136	259.08957	1.60042	0.1242658	0.30423000	2.1894483	20	—	—
16831 1997 WM ₂₁	14.0	X	200.68257	264.88090	232.41797	5.64551	0.1472807	0.29326406	2.2436933	20	9 19.5	17.2
16832 1997 WR ₂₁	15.0	X	258.49278	112.74027	276.08644	4.63005	0.1667432	0.28888050	2.2663339	20	6 28.6	17.9
16833 1997 WX ₂₁	13.1	X	247.16547	240.69642	353.90066	12.80986	0.1303942	0.22194437	2.7017176	20	—	—
16834 1997 WU ₂₂	15.6	X	80.86961	334.32984	260.79578	15.99023	0.4421618	0.55420878	1.4678684	20	11 13.2	18.1
16835 1997 WT ₃₄	14.1	X	153.92847	183.13835	191.96553	3.50574	0.2377843	0.27324158	2.3520047	20	—	—
16836 1997 WG ₃₆	14.8	X	249.48954	190.25181	339.29428	1.76119	0.1456769	0.25984083	2.4321916	20	12 31.3	17.4
16837 1997 WM ₃₉	15.4	X	349.43246	351.54194	116.05410	3.11994	0.1422732	0.26546060	2.3977432	20	—	—
16838 1997 WT ₃₉	13.4	X	59.48517	342.68495	98.05459	6.62409	0.1827714	0.18404440	3.0609364	20	2 5.1	16.9
16839 1997 WT ₄₁	13.3	X	226.01465	291.14760	166.33510	2.11742	0.0225751	0.20605960	2.8388393	20	9 2.9	17.2
16840 1997 WT ₄₄	13.9	X	194.05412	296.80717	211.84658	1.27401	0.1636713	0.20576546	2.8415441	20	9 18.2	18.3
16841 1997 WY ₄₉	14.5	X	326.72526	88.94027	315.76137	2.86584	0.1017962	0.25691694	2.4506101	20	11 19.9	17.0
16842 1997 XS ₃	13.7	X	265.71391	120.43053	102.56167	5.44099	0.1753288	0.17383530	3.1796360	20	—	—
16843 1997 XX ₃	12.1	X	202.82639	135.68387	158.57342	5.37091	0.1831068	0.12524256	3.9564112	20	1 18.9	18.5
16844 1997 XY ₃	13.7	X	352.10866	323.50475	136.36347	5.20740	0.302311	0.21075916	2.7964802	20	—	—
16845 1997 XA ₉	13.4	X	273.01386	309.82886	128.52696	2.99809	0.0636691	0.19956698	2.9000819	20	10 3.9	17.2
16846 1997 XA ₁₀	14.3	X	283.28449	139.00381	69.14940	3.10305	0.1396015	0.22413976	2.6840470	20	—	—
16847 Sanpoloamosciano	13.0	X	159.19452	152.35454	257.58570	14.92118	0.1817932	0.23616567	2.5921385	20	4 13.2	17.4
16848 1997 XN ₁₂	15.2	X	214.99868	109.34919	239.87832	4.24139	0.1963481	0.28306051	2.2972937	20	3 17.7	19.0
16849 1997 YV	14.8	X	98.78924	220.97623	162.57002	2.38602	0.1210155	0.26893605	2.3770411	20	1 8.1	17.3
16850 1997 YS ₁	14.6	X	61.53614	293.68011	99.31274	7.19980	0.1210745	0.26274964	2.4142077	20	—	—
16851 1997 YU ₁	15.3	X	217.62490	91.32485	292.68911	20.77760	0.3659523	0.28369156	2.2938857	20	4 20.1	20.2
16852 Nureduna	14.0	X	283.50913	168.57787	207.74714	4.13157	0.1869129	0.29019340	2.2594931	20	7 12.9	16.3
16853 Masafumi	13.2	X	7.32894	47.94991	105.33150	2.19189	0.1211821	0.18057742	3.0999909	20	2 6.0	16.9
16854 1997 YL ₃	14.1	X	349.77038	197.07937	90.90139	8.36406	0.1640989	0.24005645	2.5640538	20	7 8.8	16.4
16855 1997 YN ₇	13.8	X	213.22552	274.63233	110.53125	15.57944	0.1269411	0.23493999	2.6011462	20	5 13.2	18.1
16856 Banach	14.9	X	40.62149	191.37766	180.84666	7.29849	0.1615824	0.25939411	2.4349832	20	—	—
16857 Goodall	14.6	X	308.68405	359.00222	102.92355	5.65269	0.1548189	0.25983386	2.4322351	20	—	—
16858 1997 YG ₁₀	13.7	X	147.96625	79.61337	33.99137	3.63357	0.1373047	0.23802335	2.5786338	20	6 24.9	17.7
16859 1997 YJ ₁₀	13.5	X	161.79681	27.74946	85.80269	10.63546	0.1274086	0.23952771	2.5678257	20	7 8.7	17.5
16860 1997 YT ₁₀	13.3	X	197.44245	135.86075	105.60416	8.55544	0.0484884	0.21272752	2.7792030	20	—	—
16861 Lipovetsky	14.3	X	247.82531	171.76657	158.93394	9.16448	0.0837635	0.23260140	2.6185517	20	4 11.2	18.1
16862 1997 YM ₁₄	14.3	X	320.11162	354.54016	127.49465	8.22134	0.1024934	0.25959301	2.4337393	20	—	—
16863 1997 YJ ₁₆	14.0	X	150.03218	63.57559	17.70449	8.90868	0.1808478	0.28189672	2.3036122	20	5 15.7	17.6
16864 1998 AL	14.6	X	83.82400	305.31998	120.29565	5.62300	0.1832182	0.26904747	2.3763849	20	2 8.4	17.0
16865 1998 AQ	13.4	X	286.36993	77.48294	130.50228	22.77496	0.1326702	0.17409252	3.1765033	20	—	—
16866 1998 AR	13.7	X	32.03951	133.10627	341.20150	4.02130	0.0993028	0.26673800	2.3900819	20	1 8.2	16.1
16867 1998 AX	14.1	X	41.05655	100.97747	346.27539	5.99377	0.1083141	0.26549396	2.3975423	20	—	—
16868 1998 AK ₈	16.6	X	95.44156	11.74008	126.78583	48.23181	0.1819498	0.40882386	1.7979539	20	6 24.4	19.6
16869 Košinar	14.5	X	315.21032	208.76938	202.59991	4.24274	0.1146706	0.29736003	2.2230419	20	11 23.8	16.3
16870 1998 BB	14.6	X	212.89694	1.16446	34.45087	3.57549	0.1535060	0.28291596	2.2980762	20	5 17.9	18.1
16871 1998 BD	14.6	X	291.01487	319.27025	52.09258	5.30526	0.1773145	0.28929017	2.2641938	20	7 22.8	16.8
16872 1998 BZ	14.0	X	134.24706	308.51081	87.17612	7.89986	0.2196217	0.27372752	2.3492203	20	3 12.5	17.6
16873 1998 BO ₁	14.0	X	127.12002	84.11042	347.14146	5.29382	0.0979460	0.27499100	2.3420189	20	3 31.2	17.2
16874 Kurtwahl	14.8	X	245.60972	254.10374	140.42243	3.18268	0.0380006	0.28472513	2.2883310	20	7 8.8	17.6
16875 1998 BD ₄	14.3	X	180.30164	93.69431	316.21303	12.23844	0.1598887	0.23517581	2.5994070	20	5 1.0	18.7
16876 1998 BV ₆	13.5	X	217.23803	140.35481	126.73219	10.37672	0.0370149	0				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16881 1998 BH ₁₂	14.3	X	213.58307	288.95723	115.51573	15.57033	0.1045950	0.23852780	2.5749969	20	6 6.0	18.3
16882 1998 BO ₁₃	13.5	X	188.37669	225.85281	339.81551	0.53683	0.1906098	0.16364213	3.3103403	20	11 12.7	18.9
16883 1998 BA ₂₀	14.5	X	34.68611	152.42748	205.26777	0.24109	0.0694293	0.21083425	2.7958161	20	12 13.5	18.3
16884 1998 BL ₂₅	13.8	X	305.62099	324.20690	151.04600	4.25622	0.0497460	0.21121816	2.7924273	20	—	—
16885 1998 BX ₂₅	13.1	X	226.24362	158.73893	294.13711	11.62726	0.0748740	0.20040201	2.8920203	20	8 17.6	17.5
16886 1998 BC ₂₆	13.0	X	81.68929	320.05246	64.40643	8.70552	0.1800057	0.26275907	2.4141499	20	—	—
16887 Blouke	13.8	X	234.80214	241.06284	172.79368	10.54266	0.1060089	0.19121075	2.9839704	20	7 6.9	18.4
16888 Michaelbarber	14.2	X	300.33870	253.87133	65.75317	13.71950	0.1790080	0.23765172	2.5813213	20	5 18.6	17.3
16889 1998 BD ₂₇	14.4	X	176.08097	145.89437	128.40471	2.06159	0.1036739	0.16998128	3.2275179	20	—	—
16890 1998 BJ ₃₃	13.1	X	95.17517	238.35863	307.16907	13.99449	0.0301715	0.23926226	2.5697246	20	7 19.1	16.6
16891 1998 BQ ₄₅	13.5	X	336.35144	353.79472	157.04289	9.99011	0.1096855	0.21988944	2.7185238	20	—	—
16892 Vaissière	13.1	X	254.09622	202.01732	84.86788	2.28684	0.1474507	0.17966039	3.1105307	20	2 20.6	18.0
16893 1998 DS ₃	12.6	X	129.16141	306.48685	148.74443	10.70056	0.0782883	0.18824130	3.0152693	20	5 10.7	17.2
16894 1998 DP ₉	13.1	X	132.44455	73.46887	78.99726	11.43203	0.0487572	0.19104464	2.9856998	20	7 21.6	17.5
16895 1998 DQ ₉	12.6	X	159.34177	22.35568	72.97780	11.12416	0.0762442	0.18824377	3.0152429	20	6 9.5	17.2
16896 1998 DS ₉	13.3	X	317.46262	144.13887	158.60706	24.31563	0.1930222	0.27121490	2.3637073	20	5 25.5	16.4
16897 1998 DH ₁₀	13.3	X	206.25086	195.57272	178.19542	9.45481	0.1489401	0.18562260	3.0435620	20	4 18.9	18.3
16898 1998 DJ ₁₀	13.5	X	236.30006	107.83338	347.77832	2.01492	0.1921948	0.19959934	2.8997684	20	8 22.4	17.8
16899 1998 DK ₁₀	13.8	X	5.23138	298.18487	167.49450	9.20858	0.1223732	0.21570690	2.7535525	20	—	—
16900 Lozère	13.4	X	81.36263	57.47327	107.58630	2.48630	0.1032524	0.18546926	3.0452393	20	6 11.2	17.5
16901 Johnbrooks	14.3	X	151.65128	259.41452	138.27352	14.34464	0.1043305	0.22940373	2.6428290	20	3 25.4	18.4
16902 1998 DT ₁₄	13.6	X	195.62772	311.87911	163.32008	10.90734	0.0413430	0.24087002	2.5582769	20	8 19.7	17.0
16903 1998 DD ₁₅	14.3	X	149.25323	268.76591	179.63604	11.38547	0.2537134	0.23404055	2.6078062	20	5 31.9	19.0
16904 1998 DQ ₁₅	13.5	X	38.07319	283.10409	204.91684	9.31470	0.0859871	0.17733467	3.1376677	20	2 18.8	17.7
16905 1998 DT ₂₁	13.8	X	234.54100	297.21891	51.44804	2.02018	0.2208566	0.18668421	3.0320126	20	4 8.9	18.9
16906 Giovannisilva	14.7	X	55.48194	59.10759	144.47008	11.16673	0.0425476	0.19100358	2.9861277	20	6 18.7	18.9
16907 1998 DS ₂₉	12.7	X	251.08803	102.86152	168.88356	9.44224	0.2344426	0.17946998	3.1127304	20	2 9.2	17.3
16908 Groeselenberg	14.2	X	60.33801	272.12255	167.72691	6.58445	0.2451672	0.26804798	2.3822885	20	1 21.6	16.0
16909 Miladejager	13.1	X	133.03487	214.35466	41.43520	2.54537	0.0199486	0.20432694	2.8548653	20	11 28.1	17.0
16910 1998 EB ₃₄	13.3	X	86.05302	137.47007	1.91244	0.09538	0.1524601	0.18483379	3.0522151	20	5 21.9	17.4
16911 1998 EL ₆	13.7	X	214.32178	184.51934	175.51982	11.98336	0.1344040	0.18398708	3.0615721	20	4 10.6	18.7
16912 Rhiannon	17.8	X	324.27026	221.20840	169.18176	24.52007	0.2724424	0.42526378	1.7513130	20	—	—
16913 1998 EK ₉	13.2	X	65.11878	297.60587	125.33681	25.89125	0.1320015	0.26757363	2.3851032	20	—	—
16914 1998 ER ₁₃	13.5	X	231.62802	203.77421	159.46215	10.65962	0.0937029	0.18526308	3.0474982	20	5 5.8	18.2
16915 Bredthauer	12.0	X	257.41912	257.21327	349.33552	7.63528	0.1516638	0.12612655	3.9379032	20	1 15.5	18.0
16916 1998 FM ₁₅	13.4	X	100.68174	188.60453	188.00281	1.66646	0.0604740	0.21601065	2.7509706	20	—	—
16917 1998 FB ₂₉	13.4	X	62.36534	133.39835	182.63279	1.99189	0.0567680	0.20263220	2.8707613	20	11 22.9	17.4
16918 1998 FF ₃₂	13.0	X	14.76399	148.37125	224.39238	4.68248	0.0860902	0.15965807	3.3651839	20	11 25.7	17.5
16919 1998 FF ₃₅	13.3	X	4.02873	44.60258	201.08105	1.19151	0.0622422	0.18579266	3.0417045	20	5 31.9	17.0
16920 Larrywalker	13.8	X	183.58483	170.98324	145.47591	5.55823	0.0357819	0.21806514	2.7336646	20	1 11.9	17.8
16921 1998 FZ ₅₂	13.4	X	225.73354	149.84732	196.78229	3.77363	0.0753956	0.18117135	3.0932121	20	4 7.7	18.1
16922 1998 FR ₅₇	13.1	X	112.07080	46.88505	322.43387	3.89715	0.1324008	0.16992618	3.2282156	20	1 14.5	17.6
16923 1998 FB ₆₁	13.4	X	165.10530	15.99684	331.80782	0.57949	0.1717700	0.17294870	3.1904934	20	2 12.9	18.5
16924 1998 FL ₆₁	12.1	X	308.56895	327.34509	3.19729	10.71118	0.1179553	0.18765158	3.0215833	20	6 24.4	16.1
16925 1998 FB ₆₃	13.2	X	268.87428	225.54069	187.68292	17.08231	0.1276164	0.19569528	2.9382076	20	7 29.1	17.7
16926 1998 FH ₆₃	13.2	X	338.13737	284.42241	138.57532	2.66444	0.0616006	0.20461270	2.8522067	20	12 16.3	16.9
16927 1998 FX ₆₈	12.0	X	201.59232	93.43743	207.14844	12.91376	0.1404239	0.12399533	3.9828978	20	1 22.9	18.4
16928 1998 FF ₇₀	13.2	X	98.34388	341.88042	135.79708	4.92089	0.0022046	0.18060600	3.0996638	20	4 20.6	17.6
16929 Hurník	13.6	X	132.94116	338.56460	119.61441	3.84481	0.1327140	0.18436009	3.0574412	20	5 21.2	18.3
16930 Respighi	13.5	X	88.59265	301.41787	78.03222	3.10281	0.1620144	0.16931129	3.2360268	20	1 1.9	17.9
16931 1998 FO ₇₅	13.2	X	134.93503	214.57917	191.12176	13.60180	0.1401339	0.17656703	3.1467554	20	3 19.9	18.1
16932 1998 FG ₈₈	13.2	X	284.32230	219.63998	155.74356	14.23780	0.2146096	0.23910539	2.5708484	20	7 5.2	16.6
16933 1998 FV ₈₈	13.4	X	121.11525	51.57185	45.09588	10.63676	0.0282148	0.18410432	3.0602720	20	4 25.5	17.7
16934 1998 FA ₉₁	13.6	X	187.18146	3.52455	89.09836	6.54133	0.0776565	0.19122996	2.9837706	20	7 6.9	18.1
16935 1998 FX ₁₁₁	12.5	X	170.93970	234.05876	247.80736	9.32673	0.0524050	0.18957212	3.0011410	20	7 23.5	17.0
16936 1998 FJ ₁₁₂	12.2	X	226.08048	157.41438	249.39557	9.06875	0.0984160	0.18809917	3.0167881	20	6 19.6	16.8
16937 1998 FR ₁₁₇	12.6	X	197.38699	217.69573	236.98777	9.01489	0.0661236	0.18866482	3.0107551	20	7 18.8	17.3
16938 1998 FN ₁₂₁	13.6	X	33.47857	260.82746	172.73693	9.22152	0.1434522	0.21411912	2.7671482	20	—	—
16939 1998 FP ₁₂₁	13.7	X	319.31217	326.29626	181.55033	5.64122	0.0287806	0.21240948	2.7819765	20	—	—
16940 1998 GC ₃	13.0	X	158.00133	311.63649	104.96214	13.84431	0.1453565	0.22881996	2.6473220	20	4 29.5	17.4
16941 1998 GR ₇	12.6	X	76.23438	329.62562	91.54894	14.07485	0.1983874	0.21744710	2.7388419	20	2 3.9	15.9
16942 1998 HA ₃₄	12.5	X	122.57232	186.69304	202.77124	16.12791	0.1142658	0.17261907	3.1945538	20	2 11.2	17.4
16943 1998 HP ₄₂	12.7	X	240.20161	338.78158	69.61751	14.19840	0.1767038	0.23520692	2.5991778	20	6 29.9	16.8
16944 Wangler	14.7	X	209.65053	292.86966	8.43236	9.86982	0.1874038	0.25789723	2.4443962	20	1 21.8	18.9
16945 1998 HD ₄₆	13.1	X	45.99417	5.59974	85.73988	2.08771	0.1733037	0.17230984	3.1983746	20	1 27.1	16.7
16946 Farnham	14.1	X	233.25580	252.46629	103.21701	6.59030	0.1441386	0.26779597	2.3837829	20	4 20.8	17.8
16947 Wikrent	14.9	X	176.04954	252.83662	15.06050	2.03310	0.1485947	0.29447899	2.2375178	20	—	—
16948 1998 HA ₁₃₃	13.1	X	152.53123	194.34379	205.93009	16.23133	0.0988655	0.17857771	3.1230904	20	3 26.6	18.0
16949 1998 HS ₁₃₃	13.4	X	283.78661	215.67188	159.17819	10.58851	0.0974517	0.19075983	2.9886709	20	7 18.8	17.6
16950 1998 JQ	14.2	X	7.95408	306.29708	7.29993	7.44760	0.1417131	0.27870171	2.3211843	20	10 1.3	16.3
16951 Carolus Quartus	12.7	X	23.28728	189.74700	76.06560	11.09870	0.0575150	0.19022988	2.9942189	20	7 28.7	16.7
16952 Peteschultz	13.3	X	139.93286	321.81165	137.00952	4.06735	0.0811779	0.18037960	3.1022570	20	5 25.2	17.9
16953 Besicovitch	12.9	X	290.60679	181.93565	175.97776	14.75001	0.2102317	0.17656981	3.1467223	20	6 19.4	17.4
16954 1998 KT ₄₈	13.6	X	346.30291	243.19780	100.77061	13.74492	0.1960608	0.23029114	2.6360354	20	10 6.9	16.3
16955 1998 KU ₄₈	12.6	X	9.14968	41.17879	104.41772	12.82340	0.1017740	0.260				

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
16961 1998 QV ₇₃	13.5	X	263.76790	214.58085	260.30326	14.27010	0.1811953	0.22868209	2.6483860	20	10 21.1	17.0
16962 Elizawoolard	14.1	X	292.42437	269.34762	108.72947	6.95496	0.1207495	0.26280036	2.4138971	20	8 11.6	16.6
16963 1998 RE ₂	12.9	X	325.58264	288.61822	132.71437	10.66241	0.0883023	0.18415461	3.0597151	20	11 23.6	16.9
16964 1998 RD ₅₉	12.8	X	225.03634	263.68494	186.34189	17.66773	0.0888876	0.21981854	2.7191083	20	8 12.7	17.0
16965 1998 RX ₇₉	13.3	X	57.35954	78.16903	340.73291	8.26627	0.1913913	0.23875171	2.5733867	20	—	—
16966 1998 SM ₆₃	14.0	X	357.70013	118.12123	324.29372	5.68322	0.0629351	0.28181187	2.3040745	20	—	—
16967 Marcosbosso	15.3	X	3.70638	184.11379	287.37037	3.01044	0.0880614	0.28372246	2.2937191	20	—	—
16968 1998 TT ₅	12.8	X	211.09426	82.66795	62.00439	11.92766	0.2181933	0.17486724	3.1671143	20	9 28.2	18.2
16969 Helamuda	13.8	X	226.81821	341.74669	91.17177	2.60200	0.1552581	0.16810424	3.2514989	20	7 17.3	18.9
16970 1998 VV ₂	11.8	X	26.01508	42.10753	233.23677	8.75713	0.1142182	0.12410490	3.9805532	20	8 7.9	17.1
16971 1998 WJ ₃	12.8	X	249.58313	71.26018	92.46803	14.00707	0.1118530	0.22307649	2.6925690	20	12 17.8	16.1
16972 Neish	13.8	X	251.74029	182.85766	83.51661	9.76924	0.1827986	0.24350369	2.5397971	20	1 15.4	17.9
16973 Gaspari	14.5	X	101.45403	260.21714	280.14079	4.36579	0.0985495	0.29531805	2.2332777	20	7 31.6	17.2
16974 lphthime	9.9	X	327.17116	136.19788	241.54008	15.03487	0.0710244	0.08354277	5.1823906	20	9 6.4	16.7
16975 Delamere	13.8	X	197.76631	229.62788	8.19955	10.69529	0.2176414	0.26632597	2.3925464	20	—	—
16976 1999 AC ₂	14.0	X	197.76803	37.92261	204.31262	2.00693	0.1808787	0.27075007	2.3664118	20	—	—
16977 1999 AS ₃	13.8	X	252.96333	70.75052	100.04548	7.82914	0.0673659	0.26765770	2.3846037	20	—	—
16978 1999 AN ₄	14.1	X	270.05746	276.82400	316.00531	22.25923	0.2361511	0.27515990	2.3410604	20	—	—
16979 1999 AO ₄	13.6	X	238.22729	122.08173	116.83202	11.96975	0.2295686	0.22555850	2.6727802	20	—	—
16980 1999 AP ₅	14.5	X	66.52596	203.82580	26.31133	4.84873	0.1152657	0.29622685	2.2287076	20	8 31.9	17.1
16981 1999 AU ₇	14.7	X	108.67275	204.25132	43.64552	4.97811	0.0695180	0.30412807	2.1899374	20	11 11.3	17.4
16982 Tsinghua	15.2	X	103.09897	180.04712	92.20023	5.97476	0.1019626	0.30541292	2.1837912	20	12 9.5	18.1
16983 1999 AQ ₂₁	14.6	X	226.01516	347.51923	201.63878	0.84437	0.1280753	0.26624033	2.3930594	20	12 28.3	17.3
16984 Veillet	14.9	X	189.65221	7.18960	151.70861	5.74692	0.0727295	0.30153320	2.2024837	20	10 19.9	17.6
16985 1999 AE ₂₈	14.6	X	169.53685	139.53922	129.97761	7.11177	0.1356994	0.26878482	2.3779323	20	—	—
16986 Archivestef	14.4	X	359.27544	24.57778	169.00941	2.20832	0.1575467	0.28202165	2.3029318	20	2 24.9	16.2
16987 1999 BN ₁₃	14.9	X	289.41269	24.22558	166.03075	1.99822	0.1376266	0.27120991	2.3637362	20	—	—
16988 1999 BK ₁₄	13.6	X	228.11764	212.00170	63.38508	5.57511	0.1249693	0.17697349	3.1419353	20	1 15.9	18.6
16989 1999 CX	14.8	X	32.40116	198.95265	77.34220	3.52641	0.1617733	0.29684332	2.2256209	20	9 26.6	17.1
16990 1999 CS ₁	14.3	X	356.60986	148.82630	89.69497	6.23866	0.1321882	0.28682045	2.2771727	20	5 6.9	16.2
16991 1999 CW ₄	14.7	X	229.15781	329.48369	202.58007	0.67386	0.1574439	0.26173028	2.4204721	20	12 4.2	17.8
16992 1999 CU ₅	14.0	X	81.18000	16.84180	143.53705	15.66021	0.1386352	0.24188385	2.5511234	20	6 13.2	17.7
16993 1999 CC ₁₀	13.7	X	56.27571	34.48170	134.11201	9.61801	0.1488432	0.28470624	2.2884322	20	5 20.0	16.2
16994 1999 CJ ₁₄	13.3	X	80.19714	40.23069	179.66241	17.55378	0.1553607	0.19942867	2.9014226	20	8 25.5	17.7
16995 1999 CX ₁₄	14.0	X	251.80874	357.28461	348.62255	4.93782	0.1537894	0.28644678	2.2791527	20	4 20.9	17.4
16996 Dahir	14.8	X	350.23596	241.61908	16.83114	5.59714	0.1747725	0.28921274	2.2645979	20	5 19.4	16.5
16997 Garrone	14.6	X	355.87292	211.22752	52.74841	4.89986	0.1679715	0.29056337	2.2575748	20	6 15.0	16.0
16998 Estelleweber	14.7	X	91.40347	11.94307	144.81800	5.49731	0.0441519	0.29022365	2.2593362	20	6 6.1	17.4
16999 Ajstewart	14.2	X	165.68603	221.09579	18.19953	3.05186	0.1656262	0.26155716	2.4215399	20	12 19.5	17.9
17000 Medvedev	14.2	X	93.96013	249.11547	6.61000	5.35454	0.1364167	0.30135042	2.2033738	20	11 7.5	17.3
17001 1999 CT ₅₄	13.7	X	132.15160	207.27445	353.98626	6.08702	0.0699936	0.25358754	2.4720132	20	9 28.5	17.0
17002 Kouzel	15.2	X	199.82148	155.55436	64.67130	3.44884	0.1359246	0.26366802	2.4085985	20	—	—
17003 1999 CE ₅₅	13.6	X	278.73191	142.96164	133.25096	14.92193	0.0858509	0.23518909	2.5993092	20	3 8.9	17.3
17004 Sinkevich	14.7	X	208.72678	128.04581	221.78979	3.44263	0.1333708	0.28659927	2.2783442	20	3 14.2	18.0
17005 1999 CD ₆₃	13.2	X	13.38193	143.73690	177.19036	9.25342	0.1544592	0.21080573	2.7960683	20	10 9.7	16.3
17006 1999 CH ₆₃	13.3	X	269.34061	100.74373	182.05411	12.93936	0.1864797	0.23643192	2.5901921	20	2 18.1	17.4
17007 1999 CK ₆₅	14.1	X	353.07209	194.23538	170.95946	12.03675	0.2232697	0.26201484	2.4187192	20	11 30.8	16.6
17008 1999 CL ₆₅	13.6	X	183.64139	98.21192	263.55307	7.58137	0.1124274	0.19213861	2.9743560	20	3 9.0	18.5
17009 1999 CM ₇₀	13.7	X	335.16618	36.69546	222.82439	5.46708	0.1775525	0.24029910	2.5623274	20	4 20.6	16.4
17010 1999 CQ ₇₂	13.4	X	312.75031	31.52938	210.56546	12.65313	0.2286451	0.23403311	2.6078614	20	2 8.3	17.2
17011 1999 CC ₈₀	12.7	X	283.30652	328.07112	281.34895	8.45127	0.0253343	0.18706785	3.0278657	20	2 17.3	17.1
17012 1999 CY ₈₀	13.3	X	0.02953	35.78543	203.01306	13.46801	0.1304641	0.24020657	2.5629854	20	5 15.7	15.9
17013 1999 CA ₈₂	13.8	X	258.36086	310.06708	333.74837	8.36046	0.2221291	0.27757032	2.3274875	20	2 5.5	17.5
17014 1999 CJ ₉₆	13.9	X	64.52133	226.83265	121.74328	5.31441	0.1083279	0.21959291	2.7209706	20	—	—
17015 1999 CN ₁₁₇	14.3	X	84.89412	60.57964	187.47749	3.58192	0.1106705	0.29895395	2.2151332	20	10 17.6	17.3
17016 1999 CV ₁₂₃	13.2	X	221.41308	255.35009	38.78530	13.26362	0.1771606	0.23147016	2.6270764	20	1 27.1	17.8
17017 1999 CJ ₁₃₈	15.1	X	116.67870	158.87332	164.37850	1.45332	0.1702027	0.31247800	2.1507491	20	—	—
17018 1999 DB ₁	14.9	X	343.47937	53.06194	228.46010	2.10983	0.1349480	0.29208818	2.2497110	20	6 17.5	16.7
17019 Aldo	13.0	X	304.85766	212.21273	54.17744	15.00820	0.1464848	0.23748108	2.5825577	20	3 25.7	16.5
17020 Hopemeraengus	13.6	X	154.97126	165.84250	132.18309	10.35513	0.1234608	0.21537696	2.7563639	20	—	—
17021 1999 DS ₆	13.3	X	326.78101	48.49032	98.97825	13.39162	0.1055801	0.22004014	2.7172824	20	—	—
17022 Huisjen	14.1	X	50.21628	222.66102	88.41724	4.23777	0.1876799	0.25573769	2.4581378	20	11 30.9	17.4
17023 Abbott	14.9	X	290.35387	187.10621	287.50541	1.85771	0.1238701	0.26252463	2.4155870	20	12 27.8	16.9
17024 Costello	14.2	X	127.96081	314.66143	327.21514	5.34421	0.0663611	0.25982235	2.4323069	20	—	—
17025 Pilachowski	14.2	X	305.15621	296.87995	7.89937	7.39961	0.2034120	0.23989873	2.5651775	20	4 27.7	17.3
17026 1999 EC ₈	13.8	X	314.19887	108.79925	168.74977	12.06184	0.1444877	0.23353122	2.6115965	20	4 18.9	17.0
17027 1999 EF ₁₂	13.3	X	167.86795	212.50364	135.27057	8.27665	0.0885698	0.22866019	2.6485551	20	2 4.5	17.1
17028 1999 FJ ₅	15.0	X	341.83209	344.37792	354.25403	4.52368	0.2067790	0.29678312	2.2259219	20	9 27.9	16.3
17029 Cuillandre	13.5	X	58.10258	108.95831	202.08762	1.53399	0.0609481	0.20731258	2.8273893	20	11 12.9	17.4
17030 Sierks	13.2	X	239.40922	102.38714	104.17771	2.90423	0.0471882	0.17414222	3.1758989	20	—	—
17031 Piethut	13.9	X	45.78928	234.07531	156.72471	7.89952	0.1172929	0.26615307	2.3935825	20	—	—
17032 Edlu	14.1	X	201.47292	94.98263	90.24115	2.33020	0.2346464	0.21266809	2.7797207	20	11 4.5	18.7
17033 Rusty	14.3	X	243.50415	259.81926	40.55753	2.05647	0.0624542	0.27917407	2.3185653	20	2 22.7	17.2
17034 Vasylyshv	13.5	X	266.77226	329.46893	4.69402	8.34641	0.1551169	0.23977710	2.5660448	20	4 23.7	17.2
17035 Velichko	13.5	X	21.84093	174.76992	179.71062	6.24154	0.1460749	0.25807382	2.4432810	20	12 16.5	16.6
17036 Krugly	14.3	X	123.89455	325.96178	181.23155	2.46124	0.0898961	0.24488877	2.5302114	20	7 9.4	18.0

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17041 Castagna	15.3	X	151.86543	15.39479	82.61456	3.49905	0.0887628	0.28775210	2.2722549	20	6 6.4	18.4
17042 Madiraju	14.8	X	236.27338	111.35047	32.78218	3.79082	0.0934938	0.25795786	2.4440131	20	11 14.8	17.9
17043 1999 <i>FJ</i> ₃₀	14.4	X	301.49123	81.17706	38.07363	2.84662	0.0373950	0.30917338	2.1660475	20	—	—
17044 Mubdirahman	14.7	X	91.07459	135.80479	26.30293	7.87672	0.0634976	0.28732370	2.2745130	20	6 15.1	17.5
17045 Markert	14.2	X	62.17844	279.71165	72.98830	14.00555	0.2495144	0.26000875	2.4311443	20	—	—
17046 Kenway	14.1	X	243.10111	37.99177	217.37377	0.51074	0.1650279	0.17646050	3.1480217	20	1 3.8	19.1
17047 1999 <i>FP</i> ₃₃	13.7	X	233.15004	173.85949	180.62335	11.01631	0.0881086	0.19041074	2.9923227	20	4 25.8	18.2
17048 1999 <i>FD</i> ₃₄	14.8	X	67.99215	169.82672	172.12796	1.32283	0.1661134	0.30570148	2.1824167	20	—	—
17049 Miron	14.5	X	283.71092	233.75901	126.55133	5.33927	0.0580981	0.24408227	2.5357819	20	7 9.2	17.7
17050 Weiskopf	14.8	X	325.17673	322.97440	24.70133	1.52230	0.1302857	0.29688037	2.2254357	20	8 31.9	16.3
17051 Oflynn	14.0	X	257.46511	297.23338	21.60110	6.65768	0.1328277	0.28291126	2.2981016	20	3 27.4	17.1
17052 1999 <i>FS</i> ₅₁	13.8	X	214.42013	57.28083	272.30341	1.84767	0.1588170	0.23283021	2.6168360	20	2 27.7	18.1
17053 1999 <i>FX</i> ₅₆	13.6	X	308.66669	231.76412	72.79033	3.15666	0.0786122	0.19573659	2.9377942	20	5 25.8	17.4
17054 1999 <i>GL</i> ₂	13.2	X	145.00204	349.10255	213.19892	1.26093	0.0130391	0.20561674	2.8429141	20	10 6.9	17.2
17055 1999 <i>GP</i> ₃	14.4	X	332.95705	53.72465	178.22118	14.78848	0.0854234	0.23482810	2.6019724	20	3 21.8	17.6
17056 Boschetti	14.6	X	34.34045	217.14060	110.67271	3.30482	0.1124280	0.29919245	2.2139559	20	12 2.9	17.2
17057 1999 <i>GS</i> ₄	13.9	X	201.45188	112.39859	175.49119	5.20653	0.1421196	0.26702160	2.3883893	20	—	—
17058 Rocknroll	13.9	X	155.49589	68.04627	25.71432	14.94907	0.0708329	0.23845722	2.5755050	20	5 31.0	17.8
17059 Elvis	14.1	X	58.39298	109.85247	272.33783	3.51248	0.0823380	0.26205330	2.4184826	20	—	—
17060 Mikecombi	13.5	X	10.82822	280.66982	340.80164	12.23245	0.1505922	0.24231764	2.5480779	20	7 15.8	16.2
17061 Tegler	14.7	X	142.06514	1.39392	122.43867	4.21716	0.1580727	0.24263669	2.5458437	20	7 3.3	18.6
17062 Bardot	13.7	X	209.62488	174.01688	113.89069	4.26200	0.09292769	0.17653022	3.1471928	20	1 13.9	18.1
17063 Papaloizou	13.8	X	56.87534	149.89892	328.44546	5.23901	0.0374275	0.27540000	2.3396996	20	2 18.6	16.5
17064 1999 <i>GX</i> ₁₆	13.8	X	344.64398	51.11192	137.79642	6.98166	0.0717293	0.27774952	2.3264863	20	2 4.2	16.2
17065 1999 <i>GK</i> ₁₇	14.2	X	307.28870	24.81489	134.26696	6.91349	0.1639086	0.26971224	2.3724784	20	—	—
17066 Ginagallant	14.2	X	41.03072	3.68268	165.58892	5.72139	0.0735239	0.23622938	2.5916725	20	4 15.1	17.2
17067 1999 <i>GF</i> ₁₉	13.2	X	322.23701	168.48833	97.49184	12.14458	0.0608040	0.18965229	3.0002952	20	5 1.9	17.3
17068 1999 <i>GO</i> ₁₉	13.2	X	58.10630	332.14311	28.47702	6.08393	0.0563795	0.21387101	2.7692878	20	—	—
17069 1999 <i>GD</i> ₂₀	14.0	X	147.97402	176.72158	162.81237	6.70544	0.0972447	0.26869446	2.3784658	20	—	—
17070 1999 <i>GG</i> ₂₀	14.3	X	23.10205	118.10554	96.75754	10.09661	0.1810334	0.23714371	2.5850065	20	5 30.3	16.8
17071 1999 <i>GK</i> ₂₁	14.1	X	207.08244	21.01625	179.12593	4.31674	0.1649997	0.25910918	2.4367680	20	12 12.6	17.5
17072 Athviraham	15.3	X	242.58479	355.44017	41.30390	7.76113	0.0895996	0.28976550	2.2617170	20	6 30.7	18.2
17073 Alexblank	13.9	X	65.87132	27.14043	213.77332	1.76063	0.1017275	0.20054240	2.8906704	20	8 29.1	17.7
17074 1999 <i>GQ</i> ₃₆	13.9	X	59.79360	309.91265	214.21705	15.09675	0.1276695	0.23835228	2.5762609	20	5 14.4	16.9
17075 Pankonin	14.3	X	241.95868	1.84737	11.94412	6.31984	0.1862437	0.28570413	2.2831005	20	5 14.7	17.7
17076 Betti	14.8	X	256.10264	108.09343	48.59909	7.04757	0.0853759	0.26106809	2.4245633	20	—	—
17077 Pampaloni	14.6	X	62.93777	229.43270	202.12169	11.95451	0.0606621	0.27030840	2.3689889	20	—	—
17078 Sellers	13.4	X	275.74693	311.81401	45.51430	13.62410	0.1199574	0.19020560	2.9944738	20	6 10.7	17.6
17079 Lavrovsky	14.4	X	112.13042	291.16577	8.69970	6.18902	0.1407446	0.25812582	2.4429529	20	—	—
17080 1999 <i>HE</i> ₉	13.4	X	231.85201	149.18121	215.21453	9.89274	0.1140764	0.19044604	2.9919529	20	5 2.8	17.8
17081 Jaytee	14.0	X	212.96519	207.78437	153.77735	6.41288	0.2143739	0.27989124	2.3146030	20	4 3.9	17.8
17082 1999 <i>JC</i> ₃	13.3	X	111.91945	136.80544	112.78689	3.18660	0.0202931	0.20361014	2.8615617	20	10 27.8	17.4
17083 1999 <i>JB</i> ₄	14.9	X	25.35233	46.10864	26.25800	21.35097	0.1004079	0.35971246	1.9580889	20	—	—
17084 1999 <i>JJ</i> ₁₄	13.6	X	250.79831	174.97180	198.09312	10.43523	0.0896798	0.19097621	2.9864130	20	6 6.8	18.1
17085 1999 <i>JM</i> ₁₆	14.7	X	160.11715	156.40566	230.83464	5.75248	0.1381430	0.27381522	2.3487186	20	3 13.6	18.2
17086 Ruiima	14.7	X	301.99606	271.23247	235.04513	1.74100	0.1470171	0.26608321	2.3940014	20	—	—
17087 1999 <i>JC</i> ₁₉	13.4	X	180.80360	323.82375	10.53453	5.18793	0.1443045	0.17797473	3.1301404	20	2 11.2	18.4
17088 Giupalazzolo	14.5	X	92.60793	138.46517	19.29630	4.00206	0.1018582	0.23946340	2.5682854	20	6 16.5	18.0
17089 Mercado	14.3	X	50.13610	18.48559	263.36799	5.89298	0.1420078	0.24689871	2.5164608	20	10 12.7	17.7
17090 Mundaca	14.6	X	24.17576	201.33629	254.93925	1.40678	0.1739385	0.27035461	2.3687189	20	—	—
17091 Senthair	14.0	X	40.55786	31.60515	346.48908	1.89190	0.1260571	0.21244364	2.7816783	20	—	—
17092 Sharanya	14.6	X	3.19984	82.66295	27.45702	7.03359	0.0713930	0.26778513	2.3838472	20	—	—
17093 1999 <i>JH</i> ₂₂	13.7	X	83.32187	254.91132	288.80976	4.15895	0.0846720	0.24036657	2.5618479	20	7 7.7	17.1
17094 1999 <i>JE</i> ₂₅	13.5	X	320.46887	90.82677	223.44760	4.11859	0.0779963	0.19290057	2.9665184	20	6 25.3	17.3
17095 Mahadik	14.3	X	251.10752	328.77603	201.46208	4.42509	0.0864771	0.26079385	2.4262627	20	—	—
17096 1999 <i>JX</i> ₂₆	13.6	X	13.96345	283.93502	66.34916	2.91537	0.0839780	0.20471123	2.8512914	20	11 7.2	17.0
17097 Ronneuman	14.2	X	273.85691	72.60466	186.18789	1.70774	0.1229773	0.17929768	3.1147243	20	2 8.9	18.9
17098 Ikedamai	13.9	X	340.82997	310.30261	336.01429	4.84695	0.1174560	0.23761283	2.5816030	20	6 18.7	16.7
17099 1999 <i>JE</i> ₃₇	13.8	X	297.34760	0.32679	33.08208	4.34121	0.1868600	0.24644169	2.5195709	20	9 1.1	16.2
17100 Kamiokanatsu	13.7	X	276.94324	115.24444	19.62216	5.59011	0.0538212	0.21189025	2.7865194	20	12 22.9	17.4
17101 Sakenova	14.5	X	229.94799	133.32041	285.84675	5.21589	0.1105855	0.28844460	2.2686166	20	7 13.2	17.3
17102 Begzhigitova	14.8	X	329.48159	238.31288	152.81774	4.22598	0.1446611	0.29726001	2.2235406	20	11 23.5	16.6
17103 Kadyrsizova	14.1	X	356.02713	216.90982	166.69254	2.00188	0.0779480	0.20614440	2.8380608	20	11 23.8	17.6
17104 McCloskey	14.0	X	259.37543	79.25667	135.90668	2.15367	0.1469325	0.17203659	3.2017604	20	—	—
17105 1999 <i>JC</i> ₄₇	13.3	X	325.39671	76.98892	228.15052	14.48361	0.1313884	0.23723985	2.5843081	20	6 15.7	16.2
17106 1999 <i>JT</i> ₄₈	13.8	X	20.66700	4.94800	39.44640	3.80590	0.0917916	0.21181452	2.7871835	20	—	—
17107 1999 <i>JJ</i> ₅₁	13.3	X	11.40102	221.72491	93.63458	3.27437	0.0394682	0.19892403	2.9063275	20	9 14.5	17.1
17108 Patricorbett	14.4	X	83.04105	87.09277	166.54009	2.25442	0.0333906	0.20066013	2.8895397	20	9 27.5	18.5
17109 1999 <i>JF</i> ₅₂	12.7	X	116.52737	82.52191	260.64907	7.57464	0.1703579	0.21365926	2.7711173	20	—	—
17110 1999 <i>JG</i> ₅₂	13.0	X	269.98520	70.20226	172.32848	8.48786	0.1011752	0.18810386	3.0167378	20	5 18.8	17.4
17111 1999 <i>JH</i> ₅₂	12.4	X	265.18037	80.97509	265.36571	8.61859	0.1271564	0.18768286	3.0212476	20	5 14.1	16.8
17112 1999 <i>JM</i> ₅₂	13.0	X	98.44666	103.65231	248.65699	7.93403	0.1642608	0.21270294	2.7794171	20	—	—
17113 1999 <i>JE</i> ₅₄	13.7	X	207.16625	191.95136	87.86435	2.00631	0.1385816	0.17131370	3.2107610	20	1 2.2	18.7
17114 1999 <i>JJ</i> ₅₄	13.3	X	0.18729	271.37162	234.73844	5.54660	0.1055533	0.17689274	3.1428915	20	1 16.8	17.3
17115 Justiniano	14.2	X	2.24925	346.09836	339.35751	1.59573	0.0639688	0.19928484	2.9028185	20	9 27.8	18.0
17116 1999 <i>JO</i> ₅₇	13.3	X	124.52441	144.49283	111.19073	3.21413	0.0286745	0.20574942				

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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	242.52247	256.71924	106.10905	6.23261	0.1011629	0.23344730	2.6122224	20	5 14.3	17.8
17122 1999 JH ₆₃	13.3	X	66.04727	255.87896	54.89416	2.83229	0.0505175	0.20368638	2.8608476	20	11 19.7	17.2
17123 1999 JQ ₆₃	13.3	X	326.83355	229.14645	84.73379	11.83861	0.0986092	0.19063707	2.9899538	20	7 2.9	16.9
17124 1999 JC ₆₅	14.1	X	285.49595	94.86055	192.79913	0.89236	0.0413112	0.23351458	2.6117206	20	4 4.9	17.5
17125 1999 JB ₆₈	14.1	X	33.57965	287.35220	126.23776	6.11814	0.0033488	0.21723314	2.7406400	20	—	—
17126 1999 JH ₆₈	13.7	X	187.24843	127.85312	121.26891	5.94064	0.0750092	0.21505021	2.7591553	20	—	—
17127 1999 JE ₆₉	13.7	X	238.24658	134.47552	195.58784	12.13129	0.1768181	0.23009908	2.6375019	20	3 19.6	18.0
17128 1999 JS ₇₅	13.7	X	358.16047	306.46516	2.64164	11.89227	0.1424598	0.24408288	2.5357776	20	9 2.1	16.2
17129 1999 JM ₇₈	12.7	X	317.21951	114.03539	134.65398	15.20128	0.0393601	0.23271022	2.6177354	20	4 2.2	16.3
17130 1999 JV ₇₉	14.2	X	243.09475	334.97608	92.71619	5.75886	0.1416185	0.29035628	2.2586481	20	8 9.0	17.0
17131 1999 JL ₈₀	14.0	X	290.89155	203.72469	139.38535	10.60077	0.1014789	0.19105887	2.9855516	20	6 18.1	18.2
17132 1999 JV ₈₀	13.3	X	137.35100	208.79035	128.92905	10.11636	0.1304677	0.21565236	2.7540167	20	—	—
17133 1999 JC ₈₁	12.9	X	9.54366	80.41264	182.82773	13.72098	0.1450835	0.23688847	2.5868630	20	7 9.3	15.9
17134 1999 JX ₈₁	13.8	X	228.19860	198.40588	95.21682	7.54178	0.2450827	0.17721790	3.1390459	20	2 1.4	19.2
17135 1999 JD ₈₂	12.9	X	304.39543	178.38619	109.33131	11.63529	0.0416243	0.18885055	3.0087808	20	5 7.4	17.2
17136 1999 JE ₈₂	13.2	X	83.76780	322.64350	120.12853	9.33610	0.1441201	0.22908390	2.6452883	20	3 5.2	16.5
17137 1999 JG ₈₄	12.8	X	34.32666	305.76157	143.65066	16.82468	0.1092018	0.17322249	3.1871307	20	1 1.3	17.0
17138 1999 JM ₈₄	13.9	X	56.83081	327.14932	152.87013	14.54308	0.1056132	0.22748673	2.6576554	20	3 7.1	16.9
17139 Malyshev	14.5	X	183.88863	158.95892	169.30306	6.59183	0.1273682	0.27057086	2.3674567	20	1 23.9	18.0
17140 1999 JY ₈₆	15.0	X	34.21069	308.54930	89.99101	7.80134	0.0864163	0.30892480	2.1672094	20	—	—
17141 1999 JV ₉₄	13.5	X	229.28138	335.31005	97.53589	16.11023	0.0854759	0.24385909	2.5373288	20	8 2.7	17.1
17142 1999 JQ ₉₅	13.5	X	212.11824	254.15967	112.39039	10.16927	0.2401226	0.22954748	2.6417256	20	4 13.9	18.2
17143 1999 JN ₉₇	13.8	X	278.88488	145.58318	162.44590	9.62771	0.0688969	0.18525912	3.0475417	20	4 24.8	18.1
17144 1999 JY ₉₈	13.5	X	56.03864	293.95714	185.95912	13.23921	0.1073363	0.18013305	3.1050870	20	3 8.8	17.5
17145 1999 JG ₉₉	13.6	X	97.31665	229.92675	189.14768	16.07035	0.1804303	0.22295776	2.6935249	20	2 22.1	17.3
17146 1999 JB ₁₀₂	13.0	X	44.85476	70.39500	147.21650	14.82341	0.0215335	0.18958639	3.0009904	20	6 20.3	17.3
17147 1999 JF ₁₀₂	13.7	X	335.78945	223.69019	127.28765	2.99899	0.0880098	0.19985714	2.8972742	20	9 9.6	17.1
17148 1999 JJ ₁₀₅	13.7	X	172.97975	171.92840	187.58007	9.66930	0.1945638	0.17731206	3.1379345	20	3 2.8	18.9
17149 1999 JM ₁₀₅	13.9	X	143.47927	281.30617	11.45413	3.40239	0.0706846	0.21477893	2.7614781	20	—	—
17150 1999 JP ₁₀₉	13.4	X	150.24513	230.77269	120.48353	2.60400	0.1734808	0.17450628	3.1714802	20	2 4.2	18.4
17151 1999 JB ₁₁₄	13.9	X	345.04818	207.96243	148.93254	2.65046	0.1016399	0.19988823	2.8969738	20	10 2.9	17.3
17152 1999 JA ₁₁₈	12.9	X	96.34401	24.95196	249.56283	8.77528	0.0506200	0.25147528	2.4858362	20	11 19.8	16.2
17153 1999 JK ₁₁₉	13.5	X	142.76240	34.29781	289.84240	2.77964	0.0847521	0.16847050	3.2467846	20	—	—
17154 1999 JS ₂₁	12.3	X	340.53266	39.36887	261.71381	9.04624	0.0886879	0.19133759	2.9826515	20	7 7.6	16.0
17155 1999 KZ ₁	14.5	X	258.85650	237.95490	100.58876	1.50276	0.0820649	0.18755086	3.0226649	20	5 4.3	18.8
17156 Kennethseitz	12.6	X	25.86880	217.84237	229.84548	25.50339	0.0415648	0.17192117	3.2031932	20	—	—
17157 1999 KP ₆	12.9	X	313.56784	138.08253	157.50959	15.01155	0.1211418	0.23589989	2.5940851	20	5 18.4	16.3
17158 1999 KA ₈	13.1	X	251.23801	54.91353	250.00672	9.73128	0.1063450	0.18318024	3.0705556	20	3 7.9	18.0
17159 1999 KG ₁₅	13.2	X	123.68776	49.15501	100.13727	9.84949	0.0275191	0.19055514	2.9908108	20	7 3.5	17.3
17160 1999 LT ₁₀	13.7	X	193.06987	192.27356	169.35637	9.97286	0.0319448	0.18013865	3.1050228	20	3 23.6	18.1
17161 1999 LQ ₁₃	13.1	X	97.89206	146.03949	185.39761	6.71860	0.1619086	0.16077709	3.3495511	20	—	—
17162 1999 LX ₁₃	13.6	X	306.19148	334.46282	163.19724	6.39720	0.0786059	0.25913282	2.4366198	20	—	—
17163 Vasifedoseev	14.0	X	2.48282	3.06593	342.92346	1.32038	0.0770862	0.19918369	2.9038012	20	10 12.9	17.6
17164 1999 LP ₂₄	12.2	X	144.73659	143.28177	251.40910	12.74241	0.1020565	0.17681831	3.1437734	20	3 8.2	17.3
17165 1999 LS ₂₇	13.4	X	318.99626	348.10947	202.66031	6.09878	0.0822469	0.17430748	3.1738912	20	1 17.2	17.8
17166 Secombe	13.8	X	240.72397	318.05548	39.28359	4.65884	0.0748027	0.18183633	3.0856662	20	5 7.1	18.3
17167 1999 NB ₃	13.8	X	231.65412	179.94834	10.73826	2.70755	0.1171202	0.25584515	2.4574494	20	—	—
17168 1999 NP ₃	13.0	X	63.79840	260.81035	250.67144	10.05117	0.1584755	0.22671451	2.6636869	20	5 6.0	16.2
17169 Tatarinov	13.7	X	340.91307	97.90167	256.69547	0.69353	0.1623558	0.19179775	2.9778790	20	9 20.6	16.8
17170 Vsevustinov	13.9	X	129.00757	152.41534	87.82799	7.02015	0.1380250	0.29458513	2.2369804	20	11 24.1	17.3
17171 1999 NB ₃₈	10.5	X	280.52153	356.71333	318.00688	25.29399	0.0826909	0.08467939	5.1359121	20	4 21.8	17.7
17172 1999 NZ ₄₁	10.8	X	253.81537	215.36683	135.22161	29.16136	0.0570978	0.08270778	5.2172119	20	5 26.3	18.2
17173 Evgenyamosov	14.5	X	108.17835	110.15473	341.46082	0.83350	0.1528978	0.26593078	2.3949161	20	4 13.6	17.5
17174 1999 RX ₅₃	13.9	X	137.04665	349.37547	146.89117	10.72142	0.0460578	0.22999148	2.6383246	20	7 6.1	17.7
17175 1999 SS ₃	12.0	X	227.10728	82.89499	355.17441	21.65891	0.0829778	0.17423810	3.1747337	20	8 9.1	17.0
17176 Viktorov	14.5	X	305.32693	84.95140	74.88425	5.15257	0.0558384	0.30174655	2.2014450	20	—	—
17177 1999 TA ₄₁	13.1	X	251.73522	154.29634	203.42418	21.89168	0.0905031	0.17108629	3.2136056	20	5 19.8	18.0
17178 1999 TK ₂₁₈	13.8	X	53.15964	220.78883	21.47371	5.08202	0.1996227	0.17890374	3.1192949	20	8 29.1	18.0
17179 Codina	13.3	X	309.93708	79.50157	310.54313	9.02770	0.0677184	0.18408865	3.0604459	20	9 15.0	17.4
17180 1999 TS ₂₉₁	13.6	X	263.28819	264.72978	201.51646	12.84223	0.1340865	0.23047284	2.6346497	20	10 21.5	16.7
17181 1999 UM ₃	16.4	X	203.56601	36.77476	113.57317	10.65484	0.6735171	0.26999519	2.3708206	20	9 9.9	21.8
17182 1999 VU ₃	17.0	X	140.44422	203.13843	333.52314	9.27244	0.5532991	0.60335192	1.3870398	20	9 28.7	19.3
17183 1999 VO ₂	13.6	X	295.30808	277.42093	115.55026	27.59522	0.3222992	0.22497630	2.6773894	20	7 28.6	16.6
17184 Carlogers	12.7	X	47.32511	17.69903	261.33984	8.56802	0.0689482	0.18409446	3.0603815	20	9 11.9	17.0
17185 McDavid	13.5	X	319.42067	274.11604	186.58679	11.01575	0.1389933	0.24013691	2.5634810	20	—	—
17186 Sergivanov	15.3	X	176.64997	203.06096	248.52879	1.58361	0.1554379	0.26693335	2.3889157	20	6 25.5	19.0
17187 1999 VM ₇₂	13.9	X	263.02064	241.06078	109.59181	7.22006	0.1768139	0.25840549	2.4411899	20	5 12.7	17.4
17188 1999 WC ₂	16.5	X	54.12148	287.28084	269.80707	29.44917	0.6366089	0.29866456	2.2165639	20	8 21.2	21.0
17189 1999 WU 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>
17201 Matjazhumar	14.4	X	290.72959	167.86240	355.95498	1.52671	0.1433900	0.18818026	3.0159213	20	—	—
17202 2000 AJ ₆₄	13.4	X	14.18680	130.22072	115.35104	10.30401	0.1120851	0.20874421	2.8144471	20	6 20.2	16.6
17203 2000 AM ₆₄	13.4	X	87.60409	212.71935	33.94253	3.87236	0.0362870	0.17203419	3.2017903	20	9 21.6	17.9
17204 2000 AR ₇₅	14.7	X	71.86283	202.08372	141.23288	5.01130	0.3278830	0.24133990	2.5549553	20	—	—
17205 2000 AM ₁₀₅	14.0	X	302.51720	279.76451	112.35229	15.77368	0.1128691	0.22739694	2.6583550	20	9 20.3	17.4
17206 2000 AJ ₁₂₅	12.9	X	277.17368	278.07946	154.07893	9.05404	0.0581456	0.17609632	3.1523604	20	9 29.3	17.2
17207 2000 AW ₁₂₆	13.1	X	47.08468	10.73718	300.03080	12.92436	0.1934293	0.22417565	2.6837605	20	11 18.2	17.0
17208 Pokrovska	14.4	X	321.99718	76.77833	276.06130	5.63221	0.0389093	0.21803412	2.7339238	20	8 22.5	17.9
17209 2000 AH ₁₄₈	13.1	X	264.81831	159.53625	291.70724	12.63184	0.1354450	0.22380464	2.6867257	20	9 23.9	16.9
17210 2000 AY ₁₇₂	13.5	X	336.89052	93.78143	235.10465	13.45304	0.0461387	0.17426106	3.1744548	20	8 3.9	18.0
17211 Brianfisher	14.8	X	127.79950	319.53634	168.47380	6.22341	0.0885211	0.26220226	2.4175665	20	6 18.9	18.3
17212 2000 AV ₁₈₃	12.5	X	296.11529	185.32372	162.24991	9.04637	0.2640568	0.12444420	3.9733145	20	6 5.7	17.9
17213 2000 AF ₁₈₆	13.2	X	18.84085	333.43220	116.44264	10.63190	0.1869649	0.19874581	2.9080647	20	—	—
17214 2000 AR ₁₈₉	14.2	X	334.64669	149.80006	177.02621	11.63441	0.1271941	0.27138527	2.3627179	20	8 9.4	16.4
17215 Slivan	15.1	X	239.09228	331.75873	171.93510	6.45072	0.1182994	0.28235165	2.3011371	20	11 22.2	17.8
17216 Scottstuart	13.5	X	223.22381	285.51757	198.96391	10.69752	0.1343918	0.17425746	3.1744985	20	9 14.9	18.5
17217 2000 AW ₂₄₃	14.4	X	38.67386	304.57178	114.63458	11.67480	0.1602359	0.23725979	2.5841633	20	—	—
17218 2000 BV ₁₆	14.0	X	216.06562	93.66027	105.61459	3.20702	0.1282146	0.23230852	2.6207522	20	12 20.1	17.5
17219 Gianninoto	13.0	X	231.30945	338.43202	147.52604	14.12536	0.1208185	0.22300323	2.6931587	20	10 9.9	17.0
17220 Johnpena	14.9	X	54.53128	168.27180	228.69914	2.69153	0.1441245	0.28670326	2.2779732	20	—	—
17221 2000 CZ ₂₈	13.3	X	304.02111	256.39256	149.24271	9.08880	0.2104318	0.17630014	3.1499303	20	9 14.0	16.9
17222 Perlmutter	15.1	X	305.86875	351.70430	212.67073	3.95771	0.1957758	0.24121814	2.5558149	20	—	—
17223 2000 CX ₅₆	13.2	X	24.18422	225.73812	150.74585	15.36733	0.1179812	0.23970189	2.5665816	20	—	—
17224 Randsorch	14.3	X	326.13604	329.29518	105.98060	10.02797	0.1306259	0.27500292	2.3419512	20	—	—
17225 Alanschorn	14.0	X	115.54387	40.86664	248.62767	5.87193	0.1193074	0.27540003	2.3396994	20	—	—
17226 2000 CC ₇₆	13.7	X	89.76519	236.08865	333.97086	6.38795	0.0871948	0.25910740	2.4367792	20	8 23.8	16.9
17227 2000 CW ₈₀	14.5	X	287.71017	310.56162	16.52193	4.41119	0.0711761	0.21097927	2.7945348	20	5 26.1	18.2
17228 2000 CJ ₉₄	13.7	X	168.56705	189.30391	20.39528	1.63151	0.1250513	0.17250222	3.1959963	20	11 4.1	18.8
17229 2000 CR ₉₇	15.6	X	168.10209	125.53653	94.24090	0.72352	0.1215672	0.27139331	2.3626712	20	12 2.6	19.0
17230 2000 CX ₁₁₆	12.5	X	49.54690	248.10448	83.00407	10.91631	0.2255006	0.17569708	3.1571340	20	12 12.6	17.0
17231 2000 CB ₁₂₂	13.8	X	63.74698	178.40581	132.02902	1.80218	0.1597350	0.17813888	3.1282172	20	11 26.1	18.5
17232 2000 DE ₃	14.8	X	203.53192	155.19625	45.21091	8.42617	0.1618830	0.27380693	2.3487661	20	12 11.4	18.1
17233 Stanshapiro	14.7	X	20.75214	115.06455	168.11266	9.24655	0.2270715	0.25899987	2.4374536	20	9 19.6	16.9
17234 2000 EL ₁₁	14.5	X	74.04378	350.50810	41.93705	7.59834	0.2872515	0.24223494	2.5486578	20	—	—
17235 2000 EC ₂₉	13.8	X	311.99648	30.76274	40.01799	17.30461	0.1179179	0.17712672	3.1401230	20	11 7.4	17.5
17236 2000 EK ₄₅	13.8	X	356.67938	267.64708	186.76919	5.54430	0.1688523	0.28287009	2.2983246	20	—	—
17237 2000 EC ₅₀	15.0	X	13.45908	341.51771	189.14085	1.76680	0.1048321	0.24362573	2.5389488	20	2 28.5	17.7
17238 2000 EP ₅₆	13.9	X	285.81415	337.17713	135.59273	2.39805	0.1631856	0.17845413	3.1245320	20	11 20.1	17.7
17239 2000 EH ₉₅	12.7	X	189.21791	322.61840	327.46252	8.96590	0.0355269	0.18528475	3.0472606	20	—	—
17240 Gletorrance	14.3	X	309.70175	310.10632	233.09680	2.29906	0.0845108	0.28521906	2.2856884	20	—	—
17241 Wooden	13.7	X	132.04590	183.90584	157.40948	14.40802	0.1871021	0.23479352	2.6022278	20	—	—
17242 Leslieyoung	15.1	X	326.43026	94.27043	131.55538	2.86300	0.0954684	0.24533092	2.5271704	20	3 1.3	18.2
17243 2000 FX ₃₅	13.8	X	244.65109	118.72738	72.76364	12.22926	0.2541275	0.22925599	2.6439643	20	12 26.2	17.3
17244 2000 FF ₅₀	13.5	X	16.76202	59.71257	76.33029	11.40598	0.0343180	0.18975576	2.9992045	20	2 1.5	17.6
17245 2000 GS ₄₂	14.0	X	10.74271	314.63326	8.40358	5.64851	0.1273676	0.26075459	2.4265062	20	10 13.4	16.5
17246 Christophedumas	13.9	X	28.84408	227.48028	34.37092	2.44135	0.0235433	0.20566469	2.8424722	20	7 27.9	17.7
17247 Vanverst	15.1	X	207.29693	164.22089	151.57591	4.51050	0.1780362	0.28517382	2.2859301	20	1 31.0	18.8
17248 2000 GC ₁₀₇	14.9	X	221.95599	307.69813	152.63705	3.32627	0.0729911	0.30965761	2.1637889	20	9 8.4	17.2
17249 Eliotyoung	13.9	X	122.19297	24.58557	327.63609	2.90011	0.1349082	0.18341564	3.0679278	20	1 3.6	18.2
17250 Genelucas	13.7	X	122.02656	332.08597	221.61931	1.97015	0.1624866	0.20971829	2.8057255	20	9 8.1	18.1
17251 Vondracek	13.9	X	274.35034	142.28034	131.48671	7.09256	0.1691588	0.28502903	2.2867042	20	2 11.1	16.9
17252 2000 GJ ₁₂₇	11.9	X	153.50540	229.24734	117.95110	15.88238	0.2236788	0.17827789	3.1265909	20	2 6.3	17.1
17253 Vonsecker	14.0	X	128.26845	174.15752	155.73971	8.50525	0.1427039	0.27391340	2.3481574	20	—	—
17254 2000 GG ₁₃₇	12.2	X	84.59453	288.67030	75.27840	22.21036	0.1419412	0.17551297	3.1593415	20	—	—
17255 2000 GS ₁₆₃	14.1	X	144.94573	182.25772	186.32679	12.70503	0.1596311	0.23322077	2.6139136	20	2 9.3	18.3
17256 2000 HZ ₂₂	13.7	X	297.72073	228.95256	173.08105	7.43133	0.2823724	0.21485332	2.7608406	20	8 20.1	16.5
17257 Strazzulla	13.7	X	311.98969	274.48793	198.08988	12.19096	0.1216758	0.22399990	2.6851641	20	—	—
17258 Whalen	15.5	X	178.29517	326.67037	70.54890	4.65330	0.1840744	0.29187671	2.2507975	20	4 18.5	19.0
17259 2000 JE ₁	15.0	X	36.53153	244.75292	44.02954	22.25661	0.0723183	0.36055783	1.9550270	20	10 22.9	17.0
17260 Kušnirák	14.3	X	141.81854	290.48357	199.83702	5.28350	0.1830462	0.30092196	2.2054648	20	7 14.1	17.7
17261 2000 JB ₆₂	13.0	X	86.03634	187.02481	255.52021	7.25123	0.0721305	0.18623493	3.0368870	20	2 25.2	17.3
17262 Winokur	14.5	X	48.85639	120.59588	299.47364	5.81443	0.1103176	0.28155653	2.3054673	20	—	—
17263 2000 JL ₆₅	14.0	X	330.54259	255.78326	219.03802	20.90512	0.0197906	0.22346831	2.6894207	20	—	—
17264 2000 JM ₆₆	12.4	X	75.91426	233.25699	130.27671	12.95145	0.2117105	0.17157483	3.2075025	20	—	—
17265 Debenett	14.7	X	141.85584	277.44530	97.72108	3.93321	0.1310717	0.28344248	2.2952293	20	2 8.8	17.8
17266 2000 KT ₆	13.4	X	301.63101	284.34878	127.85441	8.52340	0.2232660	0.21089009	2.7953226	20	9 26.4	16.3
17267 2000 KY ₄₈	13.8	X	0.52983	288.07027	147.12639	5.33212	0.0696287	0.17486871	3.1670967	20	—	—
17268 2000 KZ ₅₀	13.6	X	44.19119	49.58586	273.16118	2.81379	0.0953907	0.21102711	2.7941125	20	11 15.1	17.4
17269 Dicksmith	14.0	X	8.41503	92.69933	310.68928	4.19347	0.1174220	0.21859546	2.7292414	20	—	—
17270 2000 LB ₂	13.3	X	227.96134	351.75270	269.49729	7.11355	0.0231759	0.18048523	3.1010464	20	1 2.3	17.6
17271 2000 LL ₂	12.6	X	328.94031	250.63614	233.91833	20.77746	0.1167508	0.22493042	2.6777534	20	—	—
17272 2000 LU ₄	13.3	X	346.52385	201.75799	144.54073	9.53069	0.0726028	0.20627296	2.8368814	20	9 22.9	16.8
17273 Karnik	14.2	X	101.00975	295.57888	167.47036	5.42287	0.0229696	0.28852895	2.2681744	20	3 30.1	16.9
17274 2000 LC ₁₆	16.7	X	140.49552	21.30689	305.75447	5.56997	0.5534605	0.21791672	2.7349056	20	1 22.9	21.9
17275 2000 LX ₁₉	13.4	X	108.61146	259.82027	251.47014	11.94996	0.1053725	0.24336437	2.5407663	20	6 27.7	17.0
17276 2000 LU ₂₂	12.9	X	120.76317	161.35717	235.63208	11.97276	0.3048837	0				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17281 Mattblythe	14.0	X	163.99988	121.16865	163.28293	5.23188	0.1335486	0.21794713	2.7346512	20	—	—
17282 2000 LS ₃₄	12.6	X	9.70535	35.76555	245.75448	11.15726	0.1419254	0.19756830	2.9196080	20	7 30.1	16.1
17283 Ustinov	12.6	X	236.49953	117.46141	100.64017	22.30693	0.0725393	0.17238535	3.1974406	20	—	—
17284 2000 MJ ₅	13.0	X	248.91926	51.98152	314.53821	10.55100	0.2027642	0.23674945	2.5878756	20	5 9.5	17.3
17285 Bezout	13.7	X	188.83714	200.69563	141.45658	2.81524	0.1699385	0.22905633	2.6455005	20	2 21.8	17.8
17286 Bisei	14.6	X	181.68413	77.77049	257.98986	5.98661	0.1410016	0.27568243	2.3381013	20	1 30.6	18.2
17287 2000 NP ₁₀	13.2	X	103.72385	11.55481	307.53214	11.64359	0.0857348	0.21385719	2.7694071	20	—	—
17288 2000 NZ ₁₀	14.2	X	234.69312	30.33778	319.38680	4.09002	0.1805434	0.28513089	2.2861595	20	4 5.8	17.7
17289 2037 P-L	13.3	X	217.18581	252.24918	2.01238	18.37573	0.1333648	0.16969132	3.2311935	20	—	—
17290 2060 P-L	15.2	X	42.49671	259.07576	313.94658	2.98262	0.0981271	0.29221534	2.2490583	20	6 22.7	17.3
17291 2547 P-L	14.1	X	168.11258	271.70447	74.04939	2.48860	0.2091829	0.17380107	3.1800535	20	2 15.7	19.4
17292 2656 P-L	14.5	X	339.31462	247.98644	30.58420	4.01621	0.0638893	0.20999584	2.8032528	20	6 6.9	18.0
17293 2743 P-L	14.8	X	245.86206	58.51927	126.72031	0.78637	0.1589283	0.26696956	2.3886997	20	—	—
17294 2787 P-L	13.8	X	313.51313	75.56312	171.07979	3.97664	0.1107555	0.25713825	2.4492038	20	3 5.9	16.7
17295 2827 P-L	15.1	X	247.06318	199.51901	27.72743	4.95780	0.0994081	0.26929966	2.3749010	20	—	—
17296 3541 P-L	12.8	X	326.82508	33.32249	307.21750	8.42312	0.2985398	0.17997250	3.1069335	20	7 18.1	15.7
17297 3560 P-L	11.9	X	184.90880	18.18696	353.43366	15.26347	0.1027839	0.17439595	3.1728177	20	3 24.6	16.8
17298 4031 P-L	14.9	X	86.39802	87.78370	341.42277	5.08214	0.1849109	0.27042401	2.3683137	20	2 17.8	17.4
17299 4168 P-L	14.6	X	269.14597	270.28430	268.96287	2.00633	0.0282235	0.21856010	2.7295358	20	—	—
17300 4321 P-L	16.3	X	161.03110	88.28383	200.21541	7.89976	0.2739467	0.26944871	2.3740251	20	—	—
17301 4609 P-L	14.5	X	116.36722	315.24887	25.20450	4.51187	0.1175317	0.21911972	2.7248865	20	—	—
17302 4610 P-L	14.2	X	165.06770	312.08503	184.36725	4.74151	0.1045440	0.24439048	2.5336494	20	8 9.8	17.9
17303 4629 P-L	15.6	X	345.01911	186.83153	171.84830	5.85170	0.0562128	0.29636426	2.2280187	20	10 24.9	17.9
17304 4637 P-L	15.7	X	282.76662	216.05636	162.62109	5.36001	0.1565560	0.29409755	2.3294521	20	7 21.3	17.9
17305 Caniff	11.9	X	69.84334	119.30704	349.09722	6.68392	0.1363056	0.12296430	4.0051307	20	3 24.3	17.2
17306 4865 P-L	15.9	X	153.25403	280.46876	37.42156	2.01645	0.0094064	0.31863507	2.1229528	20	—	—
17307 4895 P-L	13.8	X	69.89873	224.99485	158.67640	6.89350	0.1075952	0.21853425	2.7297510	20	—	—
17308 6079 P-L	12.9	X	107.37182	91.73262	0.05004	21.17289	0.1825662	0.17322923	3.1870480	20	4 14.4	17.9
17309 6528 P-L	13.9	X	50.05240	137.03364	140.38695	2.78654	0.0707439	0.19716901	2.9235483	20	9 21.2	17.7
17310 6574 P-L	14.6	X	145.68109	0.48065	170.57222	6.94153	0.1147748	0.27136749	2.3628211	20	2 9.4	17.9
17311 6584 P-L	13.6	X	351.07398	165.42556	29.60188	3.39473	0.0297285	0.22337856	2.6901411	20	3 6.9	17.0
17312 7622 P-L	13.9	X	337.69207	323.28210	42.82802	6.83629	0.1802237	0.29634395	2.2281205	20	11 2.8	15.3
17313 9542 P-L	14.0	X	280.95560	297.93473	62.41698	3.00648	0.0362075	0.19440498	2.9511942	20	7 6.5	18.0
17314 Aisakos	10.9	X	148.60005	85.57381	353.78838	10.72128	0.0735672	0.08391728	5.1669602	20	5 7.6	18.2
17315 1089 T-1	13.5	X	106.76486	119.01085	346.20909	9.23436	0.0551823	0.18239342	3.0793800	20	4 17.1	18.0
17316 1198 T-1	13.8	X	45.73725	194.82522	313.97267	4.06004	0.1076816	0.18114927	3.0934634	20	3 30.2	17.8
17317 1208 T-1	14.9	X	158.07972	169.62923	218.98704	4.37401	0.0582118	0.28089805	2.3090689	20	3 6.2	17.9
17318 2091 T-1	13.8	X	127.15690	164.85337	179.95611	13.35677	0.1589901	0.21604888	2.7506460	20	—	—
17319 3078 T-1	15.0	X	169.98638	229.40533	203.98034	4.04866	0.2434047	0.28530879	2.2852091	20	5 28.1	18.9
17320 3182 T-1	14.0	X	220.49494	103.56044	260.46730	2.43516	0.0500769	0.18260957	3.0769494	20	4 24.2	18.5
17321 3188 T-1	14.2	X	249.19646	57.20381	187.71016	27.04119	0.2074252	0.17558132	3.1585216	20	—	—
17322 3274 T-1	13.5	X	150.27097	190.10108	181.95847	13.24916	0.1791876	0.21921547	2.7240929	20	2 22.4	17.9
17323 3284 T-1	13.8	X	174.66838	42.97839	8.85610	9.70700	0.0987055	0.18322266	3.0700816	20	4 30.9	18.7
17324 3292 T-1	15.0	X	90.20823	267.92803	321.34815	2.43346	0.0267975	0.22759269	2.6568305	20	9 6.8	18.7
17325 3300 T-1	14.9	X	82.94876	345.13314	327.72544	2.33060	0.1938582	0.31100384	2.1575401	20	—	—
17326 4023 T-1	15.0	X	197.35911	262.56876	175.14496	6.71455	0.1869969	0.28656124	2.2785458	20	6 26.5	18.7
17327 4155 T-1	14.2	X	66.22889	20.00578	72.32659	3.04196	0.0408364	0.21926989	2.7236422	20	2 7.3	17.7
17328 1176 T-2	14.9	X	346.92932	323.81960	305.10774	2.24304	0.1411191	0.29024719	2.2592140	20	6 2.6	16.5
17329 1277 T-2	14.4	X	166.57418	204.86872	162.06932	1.58914	0.2077567	0.17988622	3.1079268	20	3 8.1	19.6
17330 1358 T-2	15.3	X	235.37901	186.46627	176.36045	1.96753	0.1398371	0.26722711	2.3871646	20	4 30.1	18.9
17331 2056 T-2	15.3	X	245.96821	6.53495	350.88328	4.65398	0.0758987	0.28855915	2.2680162	20	5 9.2	18.3
17332 2120 T-2	15.7	X	289.52724	322.78845	12.60267	5.25226	0.1659276	0.29024759	2.2592119	20	5 23.9	18.2
17333 2174 T-2	14.2	X	279.38934	163.08652	344.54177	5.26327	0.0208233	0.21454543	2.7634813	20	—	—
17334 2275 T-2	13.3	X	33.20414	326.68586	172.96737	2.95966	0.2270438	0.17716893	3.1396243	20	3 9.9	16.5
17335 2281 T-2	14.1	X	109.40621	310.76853	346.76010	2.08277	0.0318725	0.21364683	2.7712247	20	12 24.5	18.1
17336 3193 T-2	13.6	X	201.41513	239.70735	150.02104	9.08187	0.0525544	0.18249631	3.0782224	20	5 8.1	18.3
17337 3198 T-2	13.8	X	110.80484	66.40791	34.60713	5.62053	0.1510058	0.18033080	3.1028166	20	5 2.2	18.3
17338 3212 T-2	15.5	X	337.25481	223.00019	167.25424	6.57409	0.1460480	0.25329066	2.4739444	20	11 22.9	17.9
17339 4060 T-2	15.3	X	357.78442	304.26959	151.61277	2.50677	0.0401090	0.21608749	2.7503183	20	—	—
17340 4096 T-2	14.1	X	261.21917	187.64863	170.36341	10.16973	0.1296368	0.18432565	3.0578220	20	5 26.9	18.7
17341 4120 T-2	16.3	X	251.80357	258.11615	134.67596	3.93700	0.1514016	0.29038306	2.2585092	20	6 27.8	19.3
17342 5185 T-2	13.9	X	231.02146	265.84663	322.86657	8.18019	0.0572639	0.21677155	2.7445293	20	—	—
17343 1111 T-3	13.3	X	83.27671	60.18211	334.72304	11.01609	0.0172752	0.16818242	3.2504912	20	—	—
17344 1120 T-3	14.1	X	41.06812	108.58854	297.41366	7.43939	0.1562746	0.21189713	2.7864591	20	—	—
17345 2216 T-3	14.7	X	82.37143	298.21721	324.06775	2.98791	0.1140792	0.29918156	2.2140096	20	11 1.5	17.7
17346 2395 T-3	14.0	X	76.27897	123.34406	283.18658	2.71934	0.0281555	0.16834405	3.2484102	20	1 1.3	18.6
17347 3449 T-3	13.2	X	204.89967	311.46089	35.84632	6.82947	0.1284817	0.17483928	3.1674520	20	3 18.3	18.5
17348 4166 T-3	14.5	X	293.21376	351.32262	84.48664	5.69714	0.0389549	0.25357818	2.4720740	20	11 12.2	17.4
17349 4353 T-3	13.0	X	11.19446	160.33583	62.75580	6.85117	0.0660556	0.17548295	3.1597018	20	5 13.3	17.0
17350 1968 OJ	14.2	X	137.52249	156.78680	152.91637	13.22424	0.1357982	0.21630750	2.7484531	20	—	—
17351 Pheidippos	11.3	X	302.12572	46.17519	2.86296	15.28767	0.0976280	0.08404002	5.1619283	20	9 15.5	17.9
17352 1975 SG ₁	14.6	X	187.69271	48.72845	25.29703	10.05845	0.0950147	0.23518018	2.5993748	20	6 12.8	18.6
17353 1975 TE	14.3	X	114.22230	326.03521	24.20389	4.33727	0.2168685	0.29308506	2.2446067	20	—	—
17354 Matrosov	14.0	X	78.91395	14.59493	154.95948	2.02161	0.1036782	0.23215999	2.6218699	20	6 14.8	17.4
17355 1978 NK	15.1	X	184.62209	103.18835	255.89373	3.11151	0.2350966	0.22658712	2.6646852	20	3 9.1	19.8
17356 Vityazev	14.6	X	183.61688	37.49015	302.78112	6.11351	0.2216231	0.29541232	2.2328025	20	2 9.8	18.3
17357 Lucataliano	13.9	X	226.43684	223.09268	121.92865	15.13798	0.2322980	0.22789821	2.6544554	20	3 3	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17361 1978 <i>UF</i> ₇	14.0	X	250.89799	93.96796	216.27628	13.72378	0.2418864	0.18002891	3.1062844	20	3 2.9	19.3
17362 1978 <i>UT</i> ₇	13.9	X	261.19227	105.28457	210.12805	7.62965	0.2911836	0.18169226	3.0872972	20	3 15.5	19.1
17363 1978 <i>VF</i> ₃	15.7	X	70.24224	6.20390	50.52911	1.46293	0.2306067	0.26560459	2.3968766	20	1 8.2	17.5
17364 1978 <i>VR</i> ₁₀	14.1	X	254.83153	110.71027	68.52508	10.34995	0.1383807	0.21312233	2.7757696	20	—	—
17365 1978 <i>VF</i> ₁₁	10.4	X	224.27682	117.40229	252.12419	11.64150	0.0772133	0.08141737	5.2721936	20	5 5.4	17.7
17366 1979 <i>OV</i> ₄	13.5	X	238.90354	167.33774	316.62865	0.83074	0.0462098	0.19743822	2.9208902	20	10 18.2	17.4
17367 1979 <i>OU</i> ₁₁	14.6	X	180.15170	259.30147	138.19020	14.20774	0.1993619	0.23433459	2.6056242	20	4 26.5	19.2
17368 1979 <i>QV</i> ₁	14.7	X	88.58390	244.67766	314.71163	6.40880	0.1231141	0.28801320	2.2708814	20	8 14.5	17.6
17369 Eremeeva	13.9	X	344.25394	91.14085	332.82946	1.05146	0.0888809	0.19815592	2.9138332	20	12 26.2	17.6
17370 1980 <i>CJ</i>	12.9	X	47.97963	233.40157	316.20814	13.57229	0.0199041	0.17689986	3.1428071	20	5 13.4	17.5
17371 1981 <i>DT</i>	13.3	X	88.14738	189.55308	328.72040	14.82214	0.0522314	0.18026306	3.1035939	20	6 1.4	17.9
17372 1981 <i>DV</i>	14.2	X	127.67670	267.37855	209.41634	14.08160	0.0489701	0.23100960	2.6305670	20	5 30.4	18.0
17373 1981 <i>EQ</i> ₃	13.7	X	229.94020	12.74495	311.31235	12.96668	0.2142141	0.17705603	3.1409587	20	3 3.7	19.1
17374 1981 <i>EF</i> ₄	14.8	X	283.86318	349.74486	245.82000	6.74942	0.1737142	0.27406950	2.3472657	20	1 3.4	18.2
17375 1981 <i>EU</i> ₄	13.8	X	213.40246	155.53352	215.12963	10.04455	0.0431207	0.17944093	3.1130663	20	4 25.6	18.3
17376 1981 <i>EQ</i> ₄	14.2	X	82.82666	273.46007	228.33575	8.50109	0.1376331	0.17921250	3.1157111	20	5 19.4	18.6
17377 1981 <i>EF</i> ₅	14.7	X	199.54188	225.11786	224.36521	10.45845	0.2134060	0.23525718	2.5988076	20	7 9.2	19.3
17378 1981 <i>EM</i> ₅	14.0	X	159.56057	182.83891	271.92167	8.17741	0.0480533	0.18119633	3.0929278	20	6 8.0	18.6
17379 1981 <i>ED</i> ₈	15.1	X	109.61287	176.83413	306.68290	4.23779	0.0653195	0.28094721	2.3087996	20	5 15.6	18.0
17380 1981 <i>EB</i> ₁₀	15.2	X	337.79158	339.96391	203.98356	4.51080	0.0981900	0.27533868	2.3400469	20	1 13.5	17.8
17381 1981 <i>EC</i> ₁₁	14.8	X	257.83943	2.82550	286.12449	4.40256	0.1151475	0.22585537	2.6704376	20	2 22.6	18.7
17382 1981 <i>EH</i> ₁₁	13.4	X	251.02390	359.72787	344.11677	13.78218	0.1872225	0.22991510	2.6389088	20	4 12.4	17.7
17383 1981 <i>EE</i> ₁₂	15.0	X	185.63393	146.95918	281.56558	5.30009	0.0990495	0.28243204	2.3007004	20	6 4.5	18.2
17384 1981 <i>EM</i> ₁₂	14.6	X	225.37182	293.90145	339.63703	15.67014	0.0749683	0.17201636	3.2020115	20	1 16.9	19.6
17385 1981 <i>EU</i> ₁₃	15.3	X	106.24093	273.91337	198.99495	8.49225	0.1770936	0.28058004	2.3108134	20	5 16.2	18.4
17386 1981 <i>EA</i> ₂₃	14.9	X	311.90804	240.02433	352.34749	8.56035	0.0464285	0.22644819	2.6657749	20	2 28.7	18.4
17387 1981 <i>EV</i> ₂₃	14.5	X	210.25353	105.75450	358.23935	7.09370	0.1560160	0.23687563	2.5869565	20	8 14.8	18.5
17388 1981 <i>EZ</i> ₂₄	14.4	X	326.05661	59.54470	180.76752	12.84757	0.1172955	0.22737657	2.6585137	20	3 18.5	17.6
17389 1981 <i>EN</i> ₃₀	13.3	X	262.81138	278.60218	58.82503	1.93589	0.1830347	0.18068534	3.0987564	20	4 25.1	17.9
17390 1981 <i>EZ</i> ₃₇	14.2	X	168.45097	212.10990	190.06669	7.33892	0.0564713	0.17873189	3.1212940	20	4 14.8	18.8
17391 1981 <i>EK</i> ₃₉	15.2	X	136.99676	214.99634	178.50033	3.35607	0.1586817	0.27721214	2.3294920	20	2 29.8	18.5
17392 1981 <i>EY</i> ₄₀	15.0	X	224.00549	84.95028	217.70676	1.36822	0.0688739	0.22492007	2.6778356	20	2 8.1	19.0
17393 1981 <i>EA</i> ₄₁	14.2	X	60.20849	316.80681	182.87513	6.29438	0.0452169	0.17748014	3.1359530	20	4 3.9	18.3
17394 1981 <i>ER</i> ₄₂	14.0	X	227.93225	25.32064	12.27143	1.55497	0.0999758	0.18220452	3.0815079	20	6 9.8	18.7
17395 1981 <i>EA</i> ₄₄	14.4	X	220.12412	162.69668	180.93374	13.02273	0.1845923	0.22764486	2.6564245	20	3 20.9	18.9
17396 1981 <i>EK</i> ₄₅	15.5	X	157.00746	6.42437	332.49126	6.46362	0.1189444	0.27310520	2.3527877	20	1 10.3	18.8
17397 1981 <i>EF</i> ₄₈	13.1	X	156.35433	179.33276	221.51036	1.72269	0.0239372	0.12662444	3.9275739	20	3 31.0	18.8
17398 1982 <i>UR</i> ₂	13.6	X	17.82433	284.57355	189.65877	18.68109	0.1375584	0.21519023	2.7579582	20	—	—
17399 Andysanto	14.8	X	272.41198	29.08135	339.79507	19.06462	0.1178180	0.37061680	1.9194906	20	7 6.7	17.0
17400 1985 <i>PL</i> ₁	14.3	X	30.37059	141.67994	192.05460	11.90084	0.0581467	0.20138233	2.8826271	20	11 5.8	18.2
17401 1985 <i>RP</i> ₃	14.6	X	218.42123	283.29335	3.35449	2.11097	0.2044175	0.26948615	2.3738052	20	1 7.7	18.5
17402 Valeryshuvalov	14.3	X	90.62231	305.38949	25.38974	8.91688	0.1663384	0.26046115	2.4283284	20	—	—
17403 Masciarelli	13.1	X	263.38775	71.01895	2.02541	5.21302	0.0779326	0.24365811	2.5387239	20	9 17.5	16.4
17404 1986 <i>TZ</i> ₃	14.5	X	309.08581	228.37384	60.36541	3.75976	0.1556681	0.28370909	2.9397912	20	4 9.4	17.0
17405 1986 <i>VQ</i> ₂	14.5	X	308.60219	75.71970	278.56654	5.36163	0.2009188	0.28705049	2.2759560	20	7 23.8	16.2
17406 1987 <i>DO</i>	14.8	X	51.07573	357.65419	143.85266	2.72623	0.1706408	0.27034092	2.3687989	20	3 30.6	16.9
17407 Teige	13.9	X	179.72273	357.43060	32.54513	9.15173	0.2724275	0.22725357	2.6594729	20	4 13.9	18.6
17408 McAdams	14.3	X	186.39848	214.06780	224.16476	25.68666	0.1069647	0.38134882	1.8833069	20	6 17.4	17.0
17409 1988 <i>BA</i> ₄	14.6	X	85.27664	215.71830	274.01844	5.96773	0.0455959	0.28158880	2.3052912	20	4 14.8	17.4
17410 1988 <i>CQ</i> ₄	13.9	X	264.64101	70.43016	254.95091	5.65106	0.1447163	0.28134494	2.3066231	20	4 8.7	17.2
17411 1988 <i>DF</i> ₃	14.4	X	334.41089	120.86608	265.89675	6.58543	0.1272466	0.29339029	2.2430497	20	11 21.3	16.3
17412 Kroll	15.0	X	195.33966	167.19555	84.14689	5.56757	0.1516370	0.26414977	2.4056691	20	—	—
17413 1988 <i>RT</i> ₄	13.7	X	200.81100	234.49155	151.25005	1.74126	0.2044491	0.17521134	3.1629664	20	4 25.6	19.2
17414 1988 <i>RN</i> ₁₀	12.1	X	4.02685	79.55138	153.65946	16.58711	0.0343568	0.08480022	5.1310320	20	5 20.8	19.0
17415 1988 <i>RO</i> ₁₀	12.0	X	303.63315	122.45700	160.34871	23.75584	0.0487209	0.08440709	5.1469518	20	5 3.8	19.0
17416 1988 <i>RR</i> ₁₀	12.3	X	313.12738	122.88727	164.45888	17.29814	0.0613916	0.08502504	5.1219834	20	5 17.6	19.1
17417 1988 <i>RY</i> ₁₀	11.5	X	242.69144	236.15030	112.01363	2.22200	0.0829959	0.08391583	5.1670198	20	5 1.5	18.5
17418 1988 <i>RT</i> ₁₂	12.2	X	249.62812	135.73709	197.60966	6.50534	0.1606153	0.08347807	5.1850677	20	4 13.7	19.4
17419 1988 <i>RH</i> ₁₃	11.3	X	233.62448	331.30570	45.55820	15.93462	0.0633989	0.08272399	5.2165305	20	5 23.6	18.4
17420 1988 <i>RL</i> ₁₃	11.9	X	263.81546	258.43888	59.30870	15.86004	0.0835351	0.08310786	5.2004545	20	4 22.9	18.9
17421 1988 <i>SW</i> ₁	11.8	X	340.68694	217.50279	32.15359	16.92913	0.0999005	0.08459888	5.1391697	20	5 1.8	18.1
17422 1988 <i>SE</i> ₂	14.2	X	118.84312	256.86339	45.00770	8.76625	0.1144595	0.25557681	2.4591692	20	—	—
17423 1988 <i>SK</i> ₂	12.2	X	340.59799	83.66891	158.73024	1.62128	0.0944659	0.08276844	5.2146626	20	4 26.0	18.6
17424 1988 <i>SP</i> ₂	12.2	X	264.04450	161.18577	170.10147	12.69353	0.1577450	0.08309661	5.2009238	20	4 27.9	19.4
17425 1989 <i>AM</i> ₃	13.9	X	125.22193	180.09880	299.05075	10.83462	0.1337740	0.23055177	2.6340483	20	6 7.6	18.0
17426 1989 <i>CS</i> ₁	13.4	X	64.21745	170.52391	341.34071	12.88904	0.1117643	0.22551813	2.6730992	20	4 24.8	16.9
17427 Poe	12.9	X	304.29224	230.05513	189.03164	10.82383	0.1061355	0.14744781	3.5484920	20	10 7.9	17.6
17428 Charleroi	11.4	X	301.17969	327.12463	255.97997	8.42328	0.1153579	0.12613107	3.9378091	20	2 3.5	16.9
17429 1989 <i>GD</i> ₁	15.7	X	356.42406	255.23795	342.28535	3.39871	0.1060737	0.28705043	2.2759563	20	5 1.9	17.6
17430 1989 <i>KF</i>	12.4	X	154.98165	153.83189	82.98265	16.26419	0.0959633	0.20448597	2.8533849	20	11 30.5	16.8
17431 Sainte-Colombe	14.0	X	233.76021	340.39303	323.05413	6.73882	0.1261593	0.27424198	2.3462813	20	2 11.8	17.2
17432 1989 <i>SR</i>	12.9	X	339.42437	127.45060	239.80098	8.88360	0.0940086	0.19072621	2.9890221	20	10 1.3	16.7
17433 1989 <i>SV</i> ₂	13.2	X	60.31074	165.63050	43							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17441 1989 <i>UE</i>	14.5	X	161.25775	325.09463	68.15113	3.23262	0.2271915	0.27225535	2.3576813	20	3 31.9	18.4
17442 1989 <i>UO</i> ₅	11.8	X	221.18131	322.99138	31.35230	15.76258	0.0462992	0.08206388	5.2444670	20	4 19.2	18.9
17443 1989 <i>UU</i> ₅	13.2	X	98.41625	243.82051	199.35929	15.03524	0.0721551	0.17401276	3.1774738	20	3 15.1	17.7
17444 1989 <i>VQ</i> ₁	14.4	X	252.62821	22.42883	144.95836	7.36204	0.1014133	0.25844688	2.4409292	20	—	—
17445 Avatcha	12.6	X	208.87790	46.96894	311.76834	15.18549	0.2647739	0.17546992	3.1598583	20	3 22.8	18.4
17446 Mopaku	13.5	X	338.24807	313.77324	203.67025	5.98042	0.0667880	0.26028896	2.4293992	20	—	—
17447 Heindl	14.5	X	336.71719	255.88492	35.48815	24.79824	0.1152890	0.36449817	1.9409119	20	6 18.5	16.5
17448 1990 <i>HU</i> ₁	14.0	X	12.03055	123.36411	141.56162	14.36337	0.0293723	0.23655814	2.5892707	20	7 9.4	17.5
17449 1990 <i>OD</i> ₅	13.6	X	182.58117	14.22970	236.26000	7.37645	0.1720170	0.21154003	2.7895940	20	—	—
17450 1990 <i>QO</i> ₄	13.4	X	294.53315	309.08529	353.68872	9.63130	0.0801367	0.18996763	2.9969740	20	4 29.7	17.7
17451 1990 <i>QF</i> ₈	15.4	X	251.87764	290.33770	106.13085	2.31556	0.1577644	0.29216642	2.2493093	20	7 2.4	18.1
17452 Amurreka	14.0	X	286.97521	12.75299	354.40387	5.62169	0.0722336	0.19359252	2.9594454	20	7 19.6	18.1
17453 1990 <i>RQ</i> ₉	14.3	X	204.90203	135.08399	208.68168	5.82965	0.1953827	0.28455519	2.2892240	20	3 2.1	18.0
17454 1990 <i>SA</i> ₇	15.2	X	89.71374	195.87265	40.97645	7.32632	0.0738902	0.29601883	2.2297516	20	10 5.5	18.0
17455 1990 <i>SH</i> ₇	14.2	X	0.18549	251.27104	92.35262	3.07632	0.0775173	0.19813013	2.9140860	20	10 8.3	17.8
17456 1990 <i>SS</i> ₇	13.7	X	262.88777	350.67234	87.53475	3.30663	0.0932466	0.19656098	2.9295743	20	9 15.8	17.7
17457 1990 <i>SC</i> ₁₁	14.9	X	32.07290	63.43006	214.22782	7.25638	0.1529404	0.29581041	2.2307988	20	9 22.9	17.3
17458 Dick	13.8	X	220.26028	60.68299	9.45462	1.42102	0.0980825	0.18849212	3.0125939	20	7 13.2	18.2
17459 Andreahofer	14.7	X	21.81091	224.28958	44.50058	6.11612	0.1811069	0.29139357	2.2532847	20	8 31.0	16.8
17460 Mang	15.7	X	226.67172	110.28234	302.63856	2.29072	0.1239418	0.28921836	2.2645686	20	6 28.9	18.8
17461 Shigosenger	14.3	X	271.21942	41.30399	519.53854	2.78960	0.2130666	0.18942640	3.0026800	20	5 28.5	18.8
17462 Takahisa	14.4	X	223.11624	354.56058	35.85264	8.85988	0.1780797	0.28766164	2.2727312	20	6 15.4	17.8
17463 1990 <i>UO</i> ₅	13.5	X	16.29936	29.07511	66.86981	12.47138	0.1491269	0.23861599	2.5743624	20	—	—
17464 1990 <i>VX</i> ₁	14.6	X	20.60173	124.94936	249.18661	1.58101	0.2149989	0.29955425	2.2121729	20	—	—
17465 Inawashiroko	14.1	X	237.99442	304.84760	144.24915	1.31616	0.1318215	0.19131719	2.9828636	20	8 22.2	18.4
17466 Vargaslosa	14.5	X	120.81934	49.86297	113.24579	7.51186	0.1001952	0.28667971	2.2779180	20	8 1.2	17.4
17467 1990 <i>VE</i> ₆	13.5	X	248.58344	197.38787	201.81125	10.48778	0.0874842	0.18747725	3.0234561	20	7 5.8	18.1
17468 1990 <i>WT</i> ₆	15.3	X	202.82949	241.56665	173.63086	4.73178	0.1530612	0.28516616	2.2859710	20	6 4.1	18.7
17469 1991 <i>BT</i>	13.4	X	325.54240	335.12699	210.99864	6.16652	0.0828234	0.26988443	2.3714692	20	1 2.6	16.3
17470 Mitsuhashi	13.2	X	105.32309	216.28600	246.07764	4.12155	0.1418185	0.17578611	3.1560680	20	4 26.4	17.8
17471 1991 <i>EO</i> ₂	14.4	X	269.41472	219.39661	316.38358	1.71981	0.1569722	0.26204825	2.4185136	20	—	—
17472 Dinah	14.0	X	114.53609	341.14482	137.69958	8.35927	0.0556694	0.27606810	2.3359232	20	5 18.5	17.1
17473 Freddiemercury	14.3	X	19.31270	100.45672	0.77424	0.91051	0.1565055	0.26681354	2.3896308	20	—	—
17474 1991 <i>GK</i> ₅	14.8	X	57.29374	57.09851	22.58168	2.64362	0.1696771	0.26631044	2.3926395	20	1 7.9	16.8
17475 1991 <i>GA</i> ₇	14.8	X	335.11188	306.61566	194.12711	3.80885	0.1404700	0.26360124	2.4090053	20	—	—
17476 1991 <i>GG</i> ₇	14.9	X	14.98189	93.72356	18.68027	4.20527	0.1593902	0.26512922	2.3997407	20	—	—
17477 1991 <i>GN</i> ₉	15.4	X	160.15406	24.94051	88.30407	1.82554	0.1513567	0.27877981	2.3207508	20	7 8.5	19.0
17478 1991 <i>LQ</i>	13.6	X	325.63630	206.27536	94.11602	15.20913	0.1512610	0.23794602	2.5791924	20	6 8.8	16.4
17479 1991 <i>PV</i> ₉	13.3	X	339.07833	109.08777	169.28022	14.15095	0.1770690	0.23574592	2.5952145	20	5 31.6	16.1
17480 1991 <i>PE</i> ₁₀	13.8	X	36.16838	38.92057	337.98657	8.65586	0.1740017	0.21147962	2.7901253	20	—	—
17481 1991 <i>PE</i> ₁₁	14.0	X	125.51800	10.63908	340.52985	4.76903	0.1713659	0.21850417	2.7300016	20	1 5.3	17.9
17482 1991 <i>PY</i> ₁₄	13.5	X	231.54493	76.10250	304.02054	10.07789	0.1799513	0.23094956	2.6310228	20	5 12.7	17.8
17483 1991 <i>RA</i>	14.9	X	184.76525	310.77908	356.75842	21.11921	0.0407619	0.39062124	1.8533843	20	—	—
17484 Ganghofer	14.6	X	168.90830	148.05437	214.91167	2.21133	0.1716690	0.22201485	2.7011458	20	2 28.8	19.0
17485 1991 <i>RP</i> ₉	12.9	X	315.31346	21.32089	50.41112	16.17235	0.1096146	0.24537785	2.5268481	20	12 3.4	15.7
17486 Hodler	14.7	X	189.56090	133.90401	173.90026	9.05345	0.3265713	0.22129558	2.7069956	20	1 16.6	19.9
17487 1991 <i>SY</i>	13.3	X	286.11904	207.23236	28.76294	13.64887	0.1248912	0.22405005	2.6847634	20	1 24.3	17.4
17488 Mantl	14.2	X	326.12697	241.90267	284.78294	3.93529	0.1003387	0.21804640	2.7338212	20	—	—
17489 Trenker	14.2	X	62.30437	272.99072	205.84172	11.22109	0.1263312	0.22149407	2.7053782	20	3 13.6	17.5
17490 1991 <i>UC</i> ₃	14.4	X	131.60249	182.80903	190.11202	3.11677	0.1936400	0.21792776	2.7348133	20	2 8.2	18.6
17491 1991 <i>UM</i> ₃	13.8	X	104.39660	291.15134	59.00967	9.43242	0.2020584	0.21285215	2.7781180	20	—	—
17492 Hippasos	10.1	X	311.79297	216.55604	89.00562	29.19739	0.0693372	0.08408636	5.1600313	20	6 5.1	16.8
17493 Wildcat	14.5	X	96.30962	175.01078	274.17789	44.37733	0.4421341	0.21774235	2.7363655	20	5 3.2	19.8
17494 Antaviana	13.7	X	47.83332	138.73380	293.78577	14.79615	0.2066667	0.21013091	2.8020513	20	—	—
17495 1992 <i>DY</i>	13.9	X	162.22451	110.68262	112.42124	5.90302	0.1055283	0.29987824	2.2105792	20	12 8.1	16.8
17496 Augustinus	14.9	X	310.11936	204.82124	32.00893	7.12634	0.1727545	0.28003220	2.3138262	20	2 7.2	17.9
17497 1992 <i>DO</i> ₆	13.8	X	260.72247	213.60254	122.81433	3.09418	0.0858602	0.18183629	3.0856666	20	5 4.3	18.2
17498 1992 <i>EP</i> ₄	15.0	X	237.41988	169.03220	101.52075	2.60759	0.0224382	0.31294665	2.1486014	20	1 1.7	17.6
17499 1992 <i>EJ</i> ₅	15.1	X	8.00640	134.53502	105.24754	2.77711	0.0874623	0.28698092	2.2763238	20	5 30.8	17.3
17500 1992 <i>EQ</i> ₁₀	14.4	X	246.21059	122.36423	156.87955	5.22822	0.0107220	0.17484725	3.1673558	20	2 15.3	18.9
17501 Tetsuro	14.1	X	38.18072	245.37528	15.14173	6.15617	0.1533309	0.28923948	2.2644584	20	9 9.1	16.4
17502 Manabeseiji	14.9	X	59.00658	176.02926	25.77813	4.20602	0.1190660	0.28657264	2.2784853	20	7 7.2	17.4
17503 Celestechild	14.2	X	74.31212	238.39501	273.95046	22.15399	0.2476263	0.28580828	2.2825459	20	6 8.9	17.1
17504 1992 <i>GB</i> ₂	15.0	X	98.36240	312.45553	209.53346	3.69279	0.0835067	0.28610174	2.2809848	20	6 28.8	17.9
17505 1992 <i>GO</i> ₂	14.8	X	199.78223	88.28949	212.30865	3.22459	0.1368547	0.27230051	2.3574206	20	1 6.0	18.4
17506 Walschap	14.8	X	348.11462	172.17788	38.75711	7.22648	0.1013310	0.27914656	2.3187176	20	3 12.6	17.2
17507 1992 <i>HH</i> ₅	14.6	X	296.61991	280.15627	344.81275	3.26818	0.2127932	0.27843981	2.3226396	20	2 19.7	17.8
17508 Takumadan	14.8	X	226.89090	129.43902	154.84923	3.29987	0.2230666	0.27171496	2.3608062	20	1 10.6	18.9
17509 Ikumadan	14.2	X	351.49507	95.84569	115.78398	8.12517	0.2531899	0.27903278	2.3193479	20	2 25.9	15.9
17510 1992 <i>PD</i> ₆	14.3	X	180.36901	239.28977	80.42469	3.49822	0.1483084	0.26669333	2.3903488	20	1 7.5	17.6
17511 1992 <i>QN</i>	17.3	X	235.80408	202.35941	355.92432	9.58266	0.3588381	0.75926816	1.1899789	20	—	—
17512 1992 <i>RN</i>	13.5	X	315.28392	299.70754	337.83603	8.14798	0.2334152	0.27520982	2.3407773	20	3 26.9	16.1
17513 1992 <i>UM</i>	14.0	X	275.25088	355.56928	15.53722	6.95636	0.1615886	0.24022614	2.5628462	20	6 25.4	17.4
17514 1992 <i>UA</i> ₁	13.8	X	169.44380	64.76700	10.10612	14.79376	0.1778894	0.23426224	2.6061607	20	5 23.8	18.3
17515 1992 <i>UT</i> ₁	13.7	X	44.32994	212.95207	82.98417	4.58966	0.1483229	0.24649168	2.5192303	20</		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17521 Kiek	13.9 ^m	X	114.29566	328.74455	338.27876	0.95996	0.0581231	0.20879778	2.8139657	20	—	—
17522 1993 <i>BL</i> ₇	13.8	X	35.43115	182.03630	261.06613	2.85702	0.0690957	0.21544775	2.7557601	20	—	—
17523 1993 <i>FX</i> ₂	14.2	X	23.18032	239.67769	115.30847	3.20278	0.0985708	0.20023576	2.8936208	20	11 27.1	17.9
17524 1993 <i>FS</i> ₄	14.3	X	287.53793	130.97022	116.20913	2.40653	0.1248767	0.17869176	3.1217613	20	2 10.8	18.9
17525 1993 <i>FH</i> ₅	14.1	X	318.14717	24.74648	45.35306	2.84384	0.0315823	0.20230387	2.8738665	20	11 25.9	18.0
17526 1993 <i>FV</i> ₅	14.5	X	233.77165	175.77268	128.02366	2.61961	0.1598367	0.17921506	3.1156815	20	2 20.2	19.6
17527 1993 <i>FC</i> ₁₄	13.5	X	252.84670	275.58188	21.92361	16.00050	0.2343945	0.17978587	3.1090832	20	3 1.5	18.8
17528 1993 <i>FX</i> ₁₄	14.2	X	292.70569	186.87729	155.64244	11.11670	0.0993506	0.18964389	3.0003838	20	6 19.9	18.4
17529 1993 <i>FJ</i> ₂₃	13.8	X	16.78895	178.28790	200.76691	12.91761	0.0849214	0.20177776	2.8788598	20	12 16.4	17.8
17530 1993 <i>FZ</i> ₂₃	12.9	X	233.66969	302.55168	10.42572	16.57746	0.2282375	0.17885058	3.1199129	20	3 2.9	18.3
17531 1993 <i>FU</i> ₂₅	14.0	X	51.01157	146.87100	261.13265	2.30861	0.0899079	0.20926917	2.8097384	20	—	—
17532 1993 <i>FD</i> ₃₄	14.6	X	325.97913	158.32966	171.02464	9.76061	0.0832142	0.19084369	2.9877954	20	7 22.5	18.5
17533 1993 <i>FR</i> ₃₆	14.0	X	255.69308	197.12047	106.17737	2.29525	0.1446683	0.18118026	3.0931107	20	3 12.6	18.6
17534 1993 <i>FB</i> ₄₀	14.1	X	313.81475	266.31301	83.53549	1.69255	0.1683388	0.19220251	2.9736967	20	7 23.3	17.4
17535 1993 <i>FF</i> ₄₀	13.7	X	306.15574	158.53692	176.37771	10.73191	0.0532484	0.19021970	2.9943258	20	7 3.9	17.9
17536 1993 <i>FM</i> ₄₀	14.8	X	283.90598	150.61163	136.39821	2.29962	0.1736309	0.18222841	3.0812386	20	3 19.2	19.3
17537 1993 <i>FN</i> ₄₀	13.2	X	27.66344	268.73393	47.98201	2.74641	0.0871489	0.19639493	2.9312253	20	10 13.3	17.0
17538 1993 <i>FZ</i> ₄₄	14.3	X	230.31712	337.16828	155.50449	2.09150	0.1056159	0.20039962	2.8920433	20	10 12.2	18.4
17539 1993 <i>FR</i> ₄₆	13.9	X	310.45710	149.91347	166.11928	2.16517	0.0645670	0.18914498	3.0056576	20	6 14.5	17.8
17540 1993 <i>RZ</i> ₈₁	12.9	X	166.41537	72.42558	83.01412	6.62152	0.1217287	0.19532973	2.9418723	20	9 4.6	17.6
17541 1993 <i>OL</i> ₅	16.4	X	34.49278	154.60469	93.12539	0.48597	0.1454842	0.29307896	2.2446379	20	8 11.1	18.3
17542 1993 <i>OW</i> ₆	15.5	X	255.69012	258.65629	128.86573	3.78842	0.1686829	0.28983196	2.2613713	20	6 22.8	18.3
17543 Sosva	12.7	X	320.13725	260.47053	306.64711	18.02533	0.1030325	0.16937704	3.2351892	20	2 4.9	17.1
17544 Kojiroishikawa	14.2	X	340.16671	326.14783	353.63870	4.80530	0.1834012	0.29030390	2.2589197	20	8 18.1	15.6
17545 1993 <i>RZ</i> ₃	14.7	X	337.55770	260.12676	343.21804	3.69941	0.1340183	0.28258864	2.2998504	20	3 31.6	17.0
17546 Osadakentaro	14.3	X	77.20047	348.60573	327.97024	4.57424	0.1284552	0.30006998	2.2096374	20	—	—
17547 Nестеbovelli	16.4	X	132.81741	145.86923	264.31010	1.94924	0.1579176	0.27618681	2.3352538	20	3 17.4	19.7
17548 1993 <i>SX</i> ₆	14.9	X	121.83309	117.56488	8.25195	4.97146	0.0513799	0.28274025	2.2990281	20	6 3.0	17.8
17549 1993 <i>TW</i> ₁₂	14.4	X	165.88363	17.57158	48.03071	6.80566	0.1163386	0.27989404	2.3145875	20	5 10.0	17.8
17550 1993 <i>TO</i> ₁₈	15.1	X	187.60186	208.00551	27.16580	2.98782	0.1446848	0.26447863	2.4036745	20	—	—
17551 1993 <i>TZ</i> ₃₁	14.8	X	326.68842	203.04043	48.79249	9.17890	0.1192223	0.28025108	2.3126213	20	4 3.2	17.2
17552 1993 <i>TZ</i> ₃₆	15.4	X	267.13809	193.52009	167.04633	5.43316	0.1493765	0.28466430	2.2886570	20	6 2.8	18.3
17553 1993 <i>UQ</i> ₅	14.9	X	208.42236	335.76760	69.40327	6.77496	0.1177257	0.28186846	2.3037662	20	5 28.6	18.2
17554 1993 <i>VY</i> ₁	14.1	X	245.35227	30.31988	26.11097	25.08096	0.1929957	0.28687988	2.2768582	20	7 26.9	17.9
17555 Kenkenedy	14.8	X	85.70034	251.95806	161.87095	21.59247	0.3263353	0.27003410	2.3705929	20	2 17.6	17.4
17556 Pierofrancesca	14.7	X	130.89621	122.91691	337.56046	1.73584	0.1827749	0.27684339	2.3315601	20	5 24.2	18.1
17557 1994 <i>AX</i> ₁	15.0	X	42.45482	182.46441	199.86110	2.17252	0.1897520	0.25853794	2.4403560	20	—	—
17558 1994 <i>AA</i> ₁	14.2	X	49.16127	319.73792	148.03410	4.41486	0.1026864	0.26637485	2.3922537	20	1 28.1	16.6
17559 1994 <i>AR</i> ₁	14.0	X	84.86725	211.89248	269.39649	10.51067	0.1289187	0.27058565	2.3673703	20	4 14.9	17.0
17560 1994 <i>AD</i> ₃	15.5	X	121.44270	313.14087	111.77011	3.82336	0.2222233	0.27236957	2.3570221	20	4 4.2	18.8
17561 1994 <i>AE</i> ₁₁	14.9	X	315.42090	348.57303	77.66224	4.73260	0.1492654	0.25231899	2.4802917	20	11 30.9	17.0
17562 1994 <i>BG</i> ₄	14.0	X	334.81423	308.35543	271.19939	6.02491	0.0704577	0.26852467	2.3794683	20	3 1.5	17.0
17563 Tsuneyoshi	13.4	X	356.11803	236.20087	278.97209	10.32666	0.2211616	0.22537427	2.6742366	20	—	—
17564 1994 <i>CQ</i> ₁	14.8	X	68.00238	238.67727	187.28512	3.70489	0.1958525	0.26480735	2.4016849	20	1 11.7	17.0
17565 1994 <i>CG</i> ₂	13.4	X	342.11486	271.17350	0.07908	14.83516	0.1191565	0.23304955	2.6151937	20	5 23.9	16.6
17566 1994 <i>CE</i> ₁₁	14.8	X	207.61229	48.46371	38.87188	2.61973	0.1506193	0.24092623	2.5578790	20	7 20.6	18.6
17567 Hoshinoyakata	12.8	X	226.47934	160.24007	44.33372	8.73227	0.1567235	0.21248641	2.7813050	20	12 30.3	16.8
17568 1994 <i>GT</i> ₈	13.3	X	356.62045	345.63909	191.37916	27.93354	0.0808698	0.22392742	2.6857435	20	2 10.1	17.2
17569 1994 <i>LB</i> ₈	13.1	X	130.24460	14.18058	253.83519	16.62283	0.1005168	0.24259214	2.5461553	20	12 18.6	16.9
17570 1994 <i>NQ</i> ₁	14.1	X	22.89306	238.36937	104.02477	24.05168	0.2783901	0.27202724	2.3589992	20	12 26.3	17.3
17571 1994 <i>PV</i> ₁	13.3	X	243.79282	183.24225	147.90769	6.24073	0.1652474	0.17871863	3.1214484	20	4 2.3	18.2
17572 1994 <i>PX</i> ₁₁	13.8	X	58.22988	47.79995	301.53154	1.07577	0.0671227	0.19864901	2.9090093	20	12 28.6	17.8
17573 1994 <i>PJ</i> ₁₃	13.5	X	140.90823	226.79609	159.23012	1.29294	0.1624534	0.17231982	3.1982511	20	3 5.9	18.5
17574 1994 <i>PT</i> ₁₃	13.6	X	304.21404	213.22766	162.76185	10.31727	0.0786502	0.18857346	3.0111725	20	8 21.8	17.4
17575 1994 <i>PQ</i> ₁₄	13.8	X	322.48765	60.45483	193.54712	3.99768	0.1030079	0.17981062	3.1087979	20	4 7.1	17.8
17576 1994 <i>PL</i> ₂₅	13.8	X	5.83089	110.20168	140.57174	11.00828	0.0636295	0.18406637	3.0606928	20	6 11.7	17.9
17577 1994 <i>PD</i> ₃₈	13.6	X	339.41728	77.18874	151.83471	7.58784	0.1497941	0.17989196	3.1078607	20	3 28.4	17.3
17578 1994 <i>QQ</i> ₁	13.5	X	183.18121	266.87436	341.50843	9.93006	0.0976223	0.20215725	2.8752559	20	—	—
17579 Lewkoplew	15.3	X	80.77874	302.27289	32.99458	7.06479	0.1405262	0.27378374	2.3488987	20	—	—
17580 1994 <i>VV</i> ₁	13.3	X	319.96224	194.15583	245.02225	21.14359	0.0626303	0.22899890	2.6459428	20	12 16.4	16.7
17581 1994 <i>VE</i> ₁	13.8	X	131.03244	193.47454	170.37928	2.45373	0.1608762	0.24165991	2.5526992	20	1 21.1	17.5
17582 1994 <i>WL</i> ₁	13.7	X	99.06916	268.70680	57.09947	7.48571	0.1368893	0.27185892	2.3599728	20	—	—
17583 1994 <i>WV</i> ₂	14.4	X	265.73289	28.68233	271.12643	5.12197	0.2026686	0.28637824	2.2795163	20	2 29.2	18.0
17584 1994 <i>XF</i> ₁	13.8	X	123.53156	111.12604	82.73901	8.43958	0.1587364	0.25419116	2.4680981	20	9 19.5	17.8
17585 1994 <i>YC</i> ₄	15.0	X	196.68416	318.69368	296.13232	1.58321	0.1738406	0.26797649	2.3827122	20	—	—
17586 1995 <i>AT</i> ₂	15.5	X	270.02268	91.04094	34.33202	2.78415	0.0366531	0.30263398	2.1971393	20	12 29.5	17.7
17587 1995 <i>BD</i> ₁	12.7	X	202.49488	192.68565	91.01025	10.11791	0.1295510	0.15733729	3.3981948	20	1 4.3	18.1
17588 1995 <i>BH</i> ₂	15.4	X	27.84008	77.05641	109.20930	2.09849	0.1856294	0.27860906	2.3216989	20	4 21.8	16.9
17589 1995 <i>BR</i> ₁₀	14.5	X	292.35775	149.71899	119.09271	7.24592	0.1010907	0.27866153	2.3214074	20	3 8.9	17.4
17590 1995 <i>CG</i> ₁	14.7	X	289.65582	163.43425	137.64002	24.48886	0.0752641	0.35899501	1.9606968	20	4 26.9	17.4
17591 1995 <i>DG</i> ₁	12.5	X	252.96280	296.64698	147.74125	17.14878	0.2071285	0.17770850	3.1332659	20	8 22.3	17.0
17592 1995 <i>DR</i> ₁	14.9	X	161.72144	86.16002	155.74965	6.95610	0.1396725	0.25863815	2.4397256	20	12 20.3	18.7
17593 1995 <i>DV</i> ₁	14.9	X	152.51282	246.24783								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17601 Sheldonschafer	15.3	X	107.56422	46.81745	225.17770	24.19972	0.0644853	0.40159149	1.8194762	20	12 31.6	17.8
17602 Dr. G.	13.4	X	121.80451	128.09232	285.85289	21.26990	0.1596930	0.17695923	3.1421041	20	3 7.3	18.6
17603 Qoyllurwasi	13.5	X	116.42570	326.97253	20.40524	16.60757	0.2343739	0.21123876	2.7922458	20	—	—
17604 1995 SO ₂₆	13.6	X	180.71003	277.62724	196.62603	9.90033	0.0504843	0.18949491	3.0019562	20	7 25.2	18.2
17605 1995 SR ₂₆	14.0	X	45.92529	143.65932	200.81979	1.71307	0.0711338	0.20182730	2.8783887	20	12 9.4	17.8
17606 Wumengchao	14.1	X	2.49853	262.26387	40.50661	13.57147	0.3002755	0.23311746	2.6146858	20	9 24.5	16.3
17607 Táborsko	14.1	X	65.73989	338.69129	312.60625	0.88865	0.0197129	0.19911055	2.9045122	20	10 20.6	18.0
17608 Terezin	13.8	X	212.75218	33.91152	1.40309	10.37310	0.0370209	0.18460247	3.0547643	20	5 23.2	18.4
17609 1995 UR	14.0	X	337.58973	155.85752	297.70129	25.34670	0.2063446	0.28246520	2.3005204	20	—	—
17610 1995 UJ ₁	12.8	X	291.67494	171.37140	195.89987	10.09810	0.0976281	0.19105964	2.9855436	20	7 18.8	17.0
17611 Jožkakubik	13.3	X	185.16173	106.02429	24.64126	10.57245	0.0552498	0.19023459	2.9941696	20	8 27.3	17.8
17612 Whiteknight	14.0	X	177.30498	18.63917	29.46547	8.41031	0.0164734	0.18248670	3.0783304	20	4 29.4	18.5
17613 1995 UP ₇	13.6	X	344.10553	251.26765	175.60054	5.48168	0.1156533	0.24064427	2.5598766	20	—	—
17614 1995 UT ₇	13.9	X	223.09550	117.65069	250.83846	8.79938	0.0523775	0.18421130	3.0590873	20	5 1.9	18.4
17615 Takeomasaru	12.9	X	144.60343	78.55276	12.01030	9.02822	0.1847840	0.18040781	3.1019335	20	5 23.6	18.1
17616 1995 UE ₁₅	14.1	X	10.30872	309.69098	240.11772	4.10494	0.0783243	0.17743931	3.1364340	20	3 27.7	18.1
17617 Takimotoikuo	12.5	X	287.11416	329.58137	48.26021	12.38847	0.1546153	0.18938279	3.0031409	20	7 22.7	16.6
17618 1995 VO	12.9	X	168.53081	104.76614	45.46385	10.84823	0.0541388	0.18930701	3.0039423	20	9 2.9	17.5
17619 1995 VT	12.4	X	105.76821	292.51490	231.33293	8.77144	0.0347841	0.18400018	3.0614268	20	6 29.6	16.9
17620 1995 WY	12.9	X	169.63996	39.91947	70.34837	10.38466	0.0460647	0.18410893	3.0602212	20	7 9.9	17.5
17621 1995 WD ₁	14.2	X	39.14320	217.25011	195.70749	2.47775	0.1386674	0.20482959	2.8501929	20	—	—
17622 1995 WW ₂	13.4	X	242.85928	164.46362	219.05771	8.15554	0.1714071	0.18420092	3.0592023	20	6 1.6	18.1
17623 1995 WO ₄₂	13.1	X	187.50434	339.90876	44.83077	18.46705	0.1331321	0.18044012	3.1015633	20	4 17.8	18.1
17624 1996 AT	14.6	X	290.03366	157.01224	125.68294	3.57545	0.1056349	0.29387438	2.2405857	20	3 21.7	17.4
17625 Joseflada	14.2	X	145.32080	272.61158	121.61255	17.29348	0.1829686	0.17167345	3.2062739	20	3 26.6	19.6
17626 1996 AG ₂	12.3	X	179.09770	98.37374	311.33029	12.89714	0.0900247	0.17536565	3.1611106	20	4 30.3	17.5
17627 Humptydumpty	13.0	X	111.98395	308.04951	150.29135	0.94904	0.1747466	0.17218087	3.1999716	20	4 30.8	17.9
17628 1996 FB ₅	14.8	X	323.47665	57.12444	180.32702	22.59775	0.2714708	0.28487632	2.2875213	20	2 3.2	17.9
17629 Koichisuzuki	14.8	X	310.62263	98.93978	189.35751	6.17027	0.1306194	0.28682138	2.2771678	20	4 25.7	17.1
17630 1996 HM ₂₁	15.5	X	161.75988	149.52797	53.45036	4.89856	0.0805837	0.30301322	2.1953057	20	11 12.8	18.3
17631 1996 HV ₂₁	15.3	X	143.61296	188.25681	37.81262	4.47571	0.0989540	0.30410425	2.1900518	20	11 21.6	18.3
17632 1996 HW ₂₁	14.8	X	57.40483	289.75338	221.56227	2.38082	0.0987544	0.28712515	2.2755614	20	4 12.9	16.9
17633 1996 JU	13.7	X	315.52909	352.41136	159.51943	24.79474	0.1828280	0.27654844	2.3332176	20	—	—
17634 1996 NM ₃	15.0	X	149.52217	76.56462	167.71261	2.68696	0.1482537	0.25868416	2.4394363	20	12 11.3	18.8
17635 1996 OC ₁	14.5	X	34.00545	320.12146	114.70377	6.47630	0.1156927	0.26471490	2.4022440	20	—	—
17636 1996 PQ	14.3	X	163.38039	273.02102	147.63623	7.15431	0.1079466	0.27725429	2.3292559	20	5 3.2	17.7
17637 Blaschke	14.3	X	152.72350	213.85420	133.40210	7.41393	0.1345814	0.26885931	2.3774935	20	1 17.1	17.6
17638 Sualan	15.2	X	181.22106	337.18220	343.13217	2.06960	0.2153332	0.26878099	2.3783800	20	1 18.3	19.1
17639 1996 PA ₄	14.9	X	305.32385	126.16569	102.61020	3.13032	0.1661611	0.27450896	2.3447599	20	1 20.4	18.0
17640 Mount Stromlo	13.6	X	233.73814	303.83293	85.67109	25.44477	0.3527012	0.27829399	2.3234509	20	5 22.7	17.9
17641 1996 SW ₇	14.9	X	149.88932	128.40978	184.82394	6.20443	0.1119565	0.26173964	2.4204143	20	—	—
17642 1996 TY ₄	13.9	X	107.16538	121.34327	16.43385	13.93044	0.1322848	0.23331946	2.6131765	20	6 9.5	17.9
17643 1996 TJ ₅	14.6	X	296.98999	190.63576	114.87761	5.37435	0.2367580	0.23697216	2.5862539	20	4 16.6	18.0
17644 1996 TW ₈	12.9	X	85.81891	156.27891	286.76372	21.29417	0.0684643	0.22563336	2.6721890	20	2 14.0	16.7
17645 Inarimori	12.9	X	134.42151	267.29022	28.60250	7.11757	0.2130135	0.17425636	3.1745118	20	—	—
17646 1996 TM ₃₆	14.4	X	127.54146	294.59294	345.57873	12.50703	0.2149773	0.25793500	2.4441575	20	—	—
17647 1996 TR ₄₁	14.2	X	172.58593	345.59530	123.87985	3.73597	0.1124447	0.23873054	2.5735389	20	7 14.1	18.0
17648 1996 UU	14.2	X	266.01843	200.57520	209.70355	12.73241	0.1510050	0.24060973	2.5601216	20	8 3.4	17.8
17649 Brunorossi	14.3	X	292.77915	68.94675	215.27910	15.50600	0.1785686	0.23359302	2.6111359	20	3 16.4	18.1
17650 1996 UH ₅	14.1	X	296.54592	200.47626	214.48313	13.94843	0.1693118	0.24543710	2.5264415	20	9 29.4	16.7
17651 Tajimi	13.5	X	356.31873	61.87771	54.38520	7.05948	0.1004783	0.25740627	2.4475034	20	—	—
17652 Nepoti	13.8	X	307.49016	293.69961	312.65397	11.43002	0.0643789	0.22715037	2.6602784	20	3 3.8	17.4
17653 Bochner	14.2	X	192.97717	275.76428	68.62177	12.27496	0.2187342	0.22631736	2.6668022	20	3 5.8	19.0
17654 1996 VK ₃	14.3	X	53.83881	205.98185	226.10730	2.55684	0.0773478	0.21693896	2.7431171	20	—	—
17655 1996 VL ₃	14.1	X	194.89326	135.02778	246.07808	2.60960	0.1021831	0.22856265	2.6493085	20	4 13.5	18.1
17656 Hayabusa	14.6	X	95.23548	262.00668	53.56278	3.47360	0.0755322	0.20965614	2.8062799	20	—	—
17657 Himawari	15.0	X	352.11994	289.16077	52.47114	23.07298	0.0869656	0.36837583	1.9272674	20	11 4.9	16.5
17658 1996 VS ₄	13.3	X	288.21821	197.84924	58.97489	4.10646	0.0482494	0.22314361	2.6920291	20	3 1.4	17.0
17659 1996 VX ₅	14.9	X	196.36315	180.67659	233.47371	5.16925	0.1890590	0.23187199	2.6240404	20	5 25.9	19.2
17660 1996 VP ₆	14.0	X	326.58128	66.09998	325.79130	4.97474	0.1910851	0.24675550	2.5174344	20	10 29.3	16.1
17661 1996 VW ₇	14.3	X	192.05407	261.10831	188.37231	6.98813	0.2568480	0.23479355	2.6022275	20	7 2.8	18.9
17662 1996 VG ₃₀	13.3	X	68.93747	228.74183	246.33381	7.77456	0.2064073	0.22225870	2.6991698	20	3 30.7	16.7
17663 1996 VK ₃₀	14.2	X	163.22528	304.92288	125.05307	5.07851	0.2559040	0.22918929	2.6444772	20	5 20.1	18.9
17664 1996 VP ₃₀	13.6	X	251.17518	154.55282	233.22456	11.87327	0.2456425	0.23644821	2.5900731	20	6 7.3	17.7
17665 1996 WD	13.4	X	178.55501	308.64525	61.36620	11.17210	0.2006620	0.22536219	2.6743321	20	3 23.8	18.1
17666 1996 XR	14.4	X	265.94372	272.48375	51.67968	1.66097	0.1119449	0.23042413	2.6350210	20	4 18.5	18.1
17667 1996 XT ₅	13.4	X	193.47620	180.29388	289.60091	8.77568	0.0577707	0.19154985	2.9804477	20	8 4.1	17.8
17668 1996 XW ₅	13.0	X	355.76252	298.34312	299.22334	9.25923	0.0452993	0.18340477	3.0680491	20	5 5.7	17.2
17669 1996 XF ₆	13.3	X	32.39094	89.36350	41.61319	2.17673	0.1647278	0.17454282	3.1710376	20	2 22.6	16.7
17670 Liddell	14.4	X	47.36731	140.71561	254.49369	2.40695	0.0845676	0.21179589	2.7873470	20	—	—
17671 1996 XS ₁₉	13.8	X	206.81716	242.56260	281.67140	10.05194	0.0836508	0.20135639	2.8828747	20	10 22.7	18.2
17672 1996 XS ₂₅	13.2	X	296.30105	161.40258	101.07884	20.36541	0.1817355	0.17920814	3.1157616	20	3 9.9	17.9
17673 Houkidaisen	14.1	X	273.37766	167.52264	117.64603	6.26039	0.1486483	0.17964398	3.1107201	20	3 10.2	18.8
17674 1996 YG	13.9	X	139.47901	180.00808	330.88225	4.51066	0.0958185	0.18837170	3.0138776	20	7 30.1	18.4
17675 1996 YU	14.2	X	57.89125	282.25824	129.75155	4.53505	0.0924147	0.21137011	2.7910889	20	—	—
17676 1997 AG ₁	13.4	X	327.67860	339.31877	311.75355	8.02202	0.0251571	0.18453274				

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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	161.24880	7.44697	68.18300	24.38145	0.0298587	0.39969144	1.8252379	20	5 15.9	16.0
17682 1997 AR ₁₂	13.3	X	233.17570	83.55662	317.18590	9.12768	0.0884748	0.18706456	3.0279012	20	6 21.5	17.8
17683 Kanagawa	12.7	X	163.72880	194.25992	358.65902	18.29168	0.1590809	0.19135347	2.9824865	20	10 8.9	17.6
17684 1997 AS ₁₆	13.4	X	126.13662	83.67429	47.71237	2.43851	0.0244013	0.18511986	3.0490699	20	6 12.7	17.6
17685 1997 AJ ₁₉	14.1	X	64.37113	157.74217	243.83085	1.93220	0.0450206	0.21021958	2.8012633	20	—	—
17686 1997 BC ₂	12.4	X	281.52173	260.18834	119.33727	11.64047	0.1170506	0.18962903	3.0005406	20	7 19.9	16.5
17687 1997 BN ₂	13.7	X	345.92769	297.69558	345.77294	9.60806	0.0817956	0.18359540	3.0659250	20	6 23.7	17.7
17688 1997 BM ₃	13.8	X	48.72134	109.02436	342.91260	7.13880	0.1940087	0.21290485	2.7776595	20	1 26.8	16.6
17689 1997 CS	12.7	X	104.20277	239.61923	348.23202	10.04877	0.0958098	0.18969363	2.9998592	20	9 23.9	17.2
17690 1997 CY ₂	14.0	X	109.84607	2.25330	120.34812	3.76665	0.1896213	0.17912231	3.1167569	20	6 2.1	18.7
17691 1997 CF ₁₇	13.8	X	67.87829	172.78975	284.58116	3.95087	0.1414755	0.17340857	3.1848501	20	3 2.9	17.9
17692 1997 CX ₂₇	13.4	X	158.68155	270.15226	136.45946	5.77300	0.1674530	0.17931084	3.1145719	20	4 17.1	18.5
17693 Wangdaheng	13.7	X	242.38648	113.17206	320.22520	10.11484	0.0932406	0.19056800	2.9906763	20	8 12.3	17.9
17694 Jiránek	13.6	X	15.91225	305.38244	84.63397	3.19093	0.0844586	0.20552923	2.8437210	20	12 30.1	17.2
17695 1997 EE ₇	13.9	X	260.22416	184.72487	181.39238	15.19274	0.1059304	0.18327748	3.0694694	20	6 7.5	18.6
17696 Bombelli	13.2	X	240.82355	79.46689	352.60319	9.70442	0.0829211	0.18716412	3.0268273	20	8 12.6	17.6
17697 Evanchen	13.5	X	129.23672	25.59054	170.64496	10.33945	0.0291094	0.18965665	3.0002492	20	9 8.4	17.6
17698 Racheldavis	13.2	X	261.18083	172.73346	160.52405	11.20253	0.0554091	0.17931683	3.1145025	20	5 7.0	17.8
17699 1997 GX ₇	13.7	X	170.00644	327.00060	100.73561	2.41091	0.1844755	0.17395436	3.1781850	20	5 20.7	19.1
17700 1997 GM ₄₀	14.1	X	261.61812	55.54386	66.09854	8.48831	0.1933495	0.27885684	2.3203234	20	11 12.3	16.3
17701 1997 GU ₄₁	12.6	X	162.32632	28.27971	53.85745	10.13258	0.0589334	0.17488932	3.1668478	20	5 26.1	17.3
17702 Kryštofharant	13.5	X	175.17983	243.55966	226.61465	8.70201	0.0638309	0.18233303	3.0800598	20	7 13.6	18.3
17703 Bombieri	16.1	X	134.52417	26.12836	189.01056	1.36878	0.0252962	0.30135133	2.2033694	20	10 28.5	18.5
17704 1997 UM ₅	15.1	X	77.78606	220.62913	29.71456	4.53350	0.1742757	0.29919240	2.2139561	20	10 19.1	18.0
17705 1997 UM ₂₄	13.8	X	45.17982	121.55650	40.12343	6.58486	0.0577798	0.27944075	2.3170899	20	4 5.9	16.2
17706 1997 VA ₆	14.5	X	141.43647	213.67514	246.15905	7.86700	0.0989868	0.28263529	2.2995973	20	5 28.2	17.7
17707 1997 VM ₇	14.9	X	267.09889	233.36552	51.07185	4.98798	0.1266064	0.27993462	2.3143639	20	2 24.3	18.1
17708 1997 WB	15.3	X	267.81797	133.75217	166.66501	6.61291	0.1295307	0.28528168	2.2853539	20	3 14.2	18.2
17709 1997 WV ₁	14.9	X	99.41895	238.82330	289.47103	3.44805	0.0774227	0.28558807	2.2837190	20	7 8.9	17.8
17710 1997 WT ₂	15.4	X	183.02703	5.52202	73.23493	5.18100	0.0715856	0.28538239	2.2848162	20	6 16.2	18.5
17711 1997 WA ₇	12.4	X	325.11268	192.27752	95.97778	15.19528	0.1953362	0.23648899	2.5897754	20	5 17.6	15.3
17712 Fatherwilliam	13.9	X	127.50541	108.98605	42.93904	4.37681	0.0889770	0.28814493	2.2701893	20	7 24.4	16.9
17713 1997 WJ ₂₀	15.1	X	332.19374	250.75014	218.72005	4.49511	0.0816856	0.26485474	2.4013984	20	—	—
17714 1997 WR ₃₈	15.0	X	315.18706	22.56125	295.28483	3.87651	0.1802625	0.29035990	2.2586293	20	6 10.3	16.7
17715 1997 WZ ₃₉	14.5	X	35.96291	226.50594	213.03227	4.18043	0.1483448	0.26838174	2.3803130	20	—	—
17716 1997 WW ₄₃	15.1	X	320.70004	59.38997	307.69183	3.11150	0.0775283	0.29456200	2.2370975	20	9 22.2	17.2
17717 1997 XL	14.4	X	139.36838	73.93869	44.17706	5.83197	0.1089898	0.28380435	2.2932779	20	6 20.8	17.6
17718 1997 XZ	14.9	X	279.38651	209.86879	337.94802	2.23338	0.1063912	0.26300546	2.4126419	20	—	—
17719 1997 XV ₁	14.7	X	100.23793	356.29668	118.80957	7.06860	0.0664646	0.27964353	2.3159697	20	4 25.6	17.6
17720 Manuboccuni	15.1	X	147.67646	56.29242	61.20510	6.05909	0.1244273	0.28506497	2.2865120	20	6 30.6	18.3
17721 1997 XT ₁₀	13.2	X	61.61625	216.37932	304.30101	13.30008	0.2624840	0.18339648	3.0681415	20	6 2.4	17.3
17722 1997 YT ₁	13.7	X	11.71225	105.09368	250.90426	12.01457	0.2283692	0.25464673	2.4651536	20	12 15.8	16.5
17723 1997 YA ₄	14.8	X	50.18360	39.23244	313.81023	5.38532	0.1875721	0.30115020	2.2043503	20	—	—
17724 1997 YZ ₅	14.4	X	272.77940	64.68899	79.33291	5.66300	0.1509015	0.25640887	2.4538463	20	—	—
17725 1997 YQ ₇	13.2	X	76.90488	86.73647	336.36437	11.48099	0.1659449	0.22340251	2.6899488	20	2 1.5	16.3
17726 1997 YS ₁₀	13.9	X	94.92921	166.61287	209.07965	2.88467	0.1261121	0.26377859	2.4079254	20	—	—
17727 1997 YU ₁₁	14.0	X	193.30149	353.35791	20.29400	7.03862	0.1138227	0.27318506	2.3523291	20	4 1.3	17.3
17728 1997 YM ₁₂	15.1	X	103.90946	209.84018	108.83381	3.77864	0.1845214	0.25948015	2.3444449	20	—	—
17729 1997 YW ₁₄	14.9	X	312.65493	234.92428	295.06199	3.43677	0.0120760	0.26542043	2.3979851	20	—	—
17730 1998 AS ₄	13.0	X	282.57002	235.97387	303.78826	11.09919	0.1391657	0.26061326	2.4273834	20	—	—
17731 1998 AD ₁₀	15.1	X	64.92543	53.13319	241.48980	5.87352	0.1598015	0.30142330	2.2030186	20	12 1.4	18.0
17732 1998 AQ ₁₀	14.7	X	43.61961	55.48395	112.17947	5.25138	0.0581684	0.23172230	2.6251703	20	4 16.8	17.9
17733 1998 BS ₁	13.9	X	295.89357	127.57542	352.76696	4.41098	0.1238984	0.25657696	2.4527745	20	—	—
17734 Boole	15.8	X	22.67025	218.86131	222.30327	2.10637	0.1017863	0.26363305	2.4088115	20	—	—
17735 1998 BG ₇	15.0	X	244.53748	88.93791	283.63661	4.31890	0.1940548	0.28292177	2.2980447	20	5 15.8	18.4
17736 1998 BA ₁₂	13.7	X	337.02455	316.89573	291.34049	5.35969	0.0939849	0.23357298	2.6112852	20	4 15.9	16.8
17737 Sigmundjähñ	15.0	X	325.56254	343.90239	135.56705	6.48878	0.1451902	0.25978423	2.4325449	20	—	—
17738 1998 BS ₁₅	13.2	X	236.72798	99.66207	337.49663	6.48854	0.1819817	0.28896990	2.2658665	20	8 8.2	16.3
17739 1998 BY ₁₅	13.9	X	61.80269	81.71796	275.99691	6.71754	0.1607544	0.25770534	2.4456095	20	—	—
17740 1998 BC ₁₉	14.1	X	314.72534	196.27469	67.40633	8.38259	0.1304958	0.23042140	2.6350418	20	4 4.4	17.4
17741 1998 BS ₂₃	14.1	X	334.49117	87.59000	300.72927	0.88647	0.1140974	0.20650511	2.8347549	20	10 28.2	17.1
17742 1998 BP ₂₅	13.5	X	318.73951	59.93462	131.74901	2.97348	0.1399895	0.17570533	3.1570352	20	1 11.0	17.9
17743 1998 BA ₃₁	15.1	X	133.64563	259.90473	174.69264	5.07840	0.1643391	0.27722764	2.3294052	20	4 22.6	18.4
17744 Jodiefoster	15.1	X	125.23451	102.09761	240.70998	3.07512	0.3112644	0.26619201	2.3933491	20	1 4.0	18.3
17745 1998 BG ₃₄	14.9	X	225.00300	237.30297	62.15519	1.09288	0.1815801	0.17752303	3.1354478	20	2 6.9	20.1
17746 Haigha	14.0	X	77.10915	152.53329	304.41037	7.86045	0.1597294	0.27039250	2.3684977	20	3 4.8	16.5
17747 1998 BJ ₄₂	15.5	X	92.14451	317.92238	155.82857	2.27453	0.1709140	0.27934651	2.3176110	20	4 26.6	18.2
17748 Uedashoji	15.4	X	125.46630	277.87246	126.01204	3.77998	0.2085883	0.27230816	2.3573765	20	3 9.9	18.7
17749 1998 DW ₁	14.4	X	136.30445	260.44410	94.88678	7.28903	0.2723732	0.26604442	2.3942341	20	1 27.1	18.0
17750 1998 DZ ₁	14.4	X	64.66820	250.92551	332.23042	12.38597	0.1594637	0.23887884	2.5724736	20	8 18.6	17.8
17751 1998 DN ₃	13.1	X	333.91476	149.85936	349.32635	8.50144	0.1156312	0.21845279	2.7304296	20	—	—
17752 1998 DM ₄	14.1	X	164.46301	154.35988	266.16751	2.96928	0.1177988	0.23260984	2.6184885	20	5 2.4	18.0
17753 1998 DZ ₅	14.1	X	166.09348	348.27604	164.80821	4.54160	0.1759120	0.24171215	2.5523314	20	9 1.4	18.2
17754 1998 DN ₈	13.1	X	254.80729	21.62187	314.84306	8.36409	0.1430976	0.18606215	3.0387667	20	4 15.4	17.9
17755 1998 DU ₁₁	13.3	X	308.36645	176.15517	88.21514	2.25017	0.1619143	0.18123331	3.0925070	20	3 23.8	17.3
17756 1998 DM<												

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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	262.61912	73.34520	154.84243	3.63095	0.0374287	0.21625397	2.7489067	20	—	—
17762 1998 DY ₃₄	13.7	X	248.61070	86.88032	20.28829	1.99475	0.0589725	0.20099889	2.8862920	20	10 8.4	17.4
17763 1998 EG	14.8	X	341.96866	104.86539	137.80163	6.81599	0.0435417	0.23156882	2.6263302	20	4 26.7	18.1
17764 Schatzman	14.0	X	228.88200	221.00370	189.66505	5.09185	0.2309644	0.23433238	2.6056406	20	6 16.9	18.3
17765 1998 EZ ₂	13.7	X	87.81270	243.09192	43.69307	6.33077	0.1677500	0.24682910	2.5169339	20	12 4.2	17.7
17766 1998 ES ₃	13.4	X	63.66768	195.82721	20.67506	13.58741	0.0996368	0.23328312	2.6134479	20	8 2.8	17.1
17767 1998 EJ ₆	14.3	X	138.57565	265.28095	184.63434	4.46774	0.1265674	0.27531666	2.3401717	20	5 14.8	17.6
17768 Tigerlily	13.5	X	184.91700	245.55765	179.31252	8.85409	0.0835747	0.19007881	2.9958052	20	5 31.4	18.2
17769 1998 EM ₉	14.2	X	52.17506	75.92552	27.91873	7.65051	0.0626816	0.26655491	2.3911763	20	1 28.5	17.0
17770 Baumé	13.3	X	314.51373	232.38912	133.18157	8.27816	0.2726215	0.24132334	2.5550721	20	8 8.6	15.3
17771 Elsheimer	13.8	X	162.11826	224.79759	87.99496	2.26655	0.1370966	0.16845834	3.2469409	20	—	—
17772 1998 EP ₁₃	13.6	X	81.49661	235.54202	80.44425	3.12290	0.0605983	0.20444793	2.8537389	20	12 15.5	17.8
17773 1998 EX ₁₃	13.2	X	250.59912	203.36743	127.69268	4.52626	0.0805563	0.18307261	3.0717589	20	4 17.4	17.7
17774 1998 ER ₁₄	14.5	X	247.47056	217.46529	93.42817	4.69906	0.1816017	0.31157352	2.1549094	20	3 1.0	17.8
17775 1998 FH	14.5	X	107.34910	179.11281	199.31473	12.43889	0.1035090	0.21791984	2.7348795	20	1 5.3	18.4
17776 Troska	14.4	X	228.51750	235.56656	320.55184	7.46174	0.0818282	0.25185131	2.4833613	20	—	—
17777 Ornicar	14.7	X	6.39441	12.17686	331.62826	4.75553	0.1572888	0.29295194	2.2452867	20	11 17.9	16.9
17778 1998 FT ₁₁	13.3	X	239.22135	47.68099	339.08886	17.16074	0.1029266	0.23377158	2.6098061	20	6 7.3	17.5
17779 Migomuller	13.5	X	56.33602	99.77829	218.16077	1.08218	0.0587279	0.19809146	2.9144653	20	11 16.9	17.6
17780 1998 FY ₁₃	12.9	X	78.11406	16.22880	181.42824	10.53973	0.0428861	0.18948075	3.0021058	20	7 9.1	17.3
17781 Kepping	14.1	X	136.31924	223.84094	113.97198	3.08689	0.0611327	0.25953842	2.4340806	20	—	—
17782 1998 FD ₂₆	13.5	X	105.74492	101.35091	350.09506	6.29033	0.1960891	0.22813207	2.6526411	20	4 16.5	17.4
17783 1998 FO ₂₉	13.6	X	235.77685	100.85479	347.12385	11.95554	0.1575095	0.24269412	2.5454420	20	8 22.3	17.2
17784 Banerjee	14.9	X	15.77654	276.50465	195.63918	7.21991	0.0946933	0.26166787	2.4208569	20	—	—
17785 Wesleyfuller	14.6	X	32.35360	230.37660	156.01193	4.82106	0.1555624	0.29732097	2.2232366	20	—	—
17786 1998 FL ₃₆	13.3	X	211.40889	120.67881	164.74780	6.76294	0.1135065	0.21521318	2.7577621	20	1 6.1	17.7
17787 1998 FR ₃₉	14.3	X	263.85500	238.11867	346.04433	5.22022	0.0982739	0.17032407	3.2231860	20	—	—
17788 1998 FT ₄₁	12.8	X	41.44282	32.23617	189.15304	10.11787	0.0493220	0.18748668	3.0233547	20	6 22.3	17.0
17789 1998 FJ ₄₉	13.7	X	91.67596	27.71063	184.78536	12.58767	0.0961192	0.23629305	2.5912068	20	8 25.5	17.5
17790 1998 FN ₄₉	13.3	X	268.63195	202.32737	187.94256	12.00658	0.0643023	0.19197650	2.9760302	20	7 22.3	17.6
17791 1998 FN ₅₄	13.9	X	25.45006	249.08152	192.13456	6.29186	0.2104448	0.25993637	2.4315956	20	—	—
17792 1998 FR ₅₆	14.0	X	254.62002	216.91919	179.86186	18.49205	0.1669121	0.23619905	2.5918943	20	7 1.6	18.1
17793 1998 FO ₅₈	13.9	X	140.62137	242.60798	182.35564	11.95322	0.1641193	0.22658168	2.6647278	20	4 20.0	18.1
17794 Kowalinski	14.2	X	37.32988	248.47263	135.67381	2.76426	0.0837929	0.20678377	2.8322076	20	—	—
17795 Elysiasegal	14.6	X	75.12612	107.16162	345.29821	1.73162	0.1723079	0.26646339	2.3917238	20	3 1.3	17.1
17796 1998 FM ₆₂	13.0	X	114.33886	167.35687	199.21203	17.43098	0.1462417	0.21318834	2.7751966	20	1 5.6	17.2
17797 1998 FO ₆₂	13.6	X	69.63552	170.50889	210.83559	5.05397	0.1200473	0.20999975	2.8032179	20	—	—
17798 1998 FC ₆₃	13.4	X	284.74638	36.44002	171.67502	1.30464	0.0860985	0.16990911	3.2284317	20	—	—
17799 Petewilliams	14.1	X	88.80458	21.69910	36.69353	5.47139	0.1066049	0.21806190	2.7336916	20	2 4.7	17.6
17800 1998 FG ₆₆	12.5	X	280.14858	148.38748	195.25843	11.08021	0.1332768	0.18552846	3.0445914	20	5 30.5	16.9
17801 Zelikowitz	13.8	X	5.09717	149.34524	47.34813	8.07050	0.1019532	0.17836565	3.1255653	20	3 30.1	17.7
17802 1998 FA ₇₁	12.7	X	129.33825	27.09076	18.44041	15.56367	0.0460139	0.17535206	3.1612739	20	3 10.2	17.4
17803 Barish	14.7	X	312.95599	122.23971	349.21452	1.94010	0.1800209	0.25298592	2.4759307	20	—	—
17804 1998 FH ₇₁	13.1	X	9.48601	84.45965	207.94446	9.86760	0.0873063	0.18952600	3.0016279	20	8 9.3	17.0
17805 Svestka	14.2	X	202.90929	263.76508	165.17054	10.49219	0.0651713	0.18912629	3.0058556	20	6 24.7	18.8
17806 Adolfborn	14.8	X	170.55472	186.37381	255.21703	3.34740	0.1098816	0.28043169	2.3116282	20	6 5.8	18.1
17807 Ericpearce	12.7	X	321.56076	352.55672	182.46081	18.44677	0.1294387	0.21935867	2.7229072	20	—	—
17808 1998 FV ₇₄	13.4	X	227.52012	175.75165	199.07007	9.42806	0.1039762	0.18340726	3.0680213	20	5 13.0	18.1
17809 1998 FR ₇₈	12.7	X	112.82725	209.16673	178.07597	15.65207	0.1195213	0.17086800	3.2163420	20	1 31.6	17.6
17810 1998 FM ₁₀₀	14.2	X	68.42947	280.47984	222.62151	12.29784	0.1415591	0.22700595	2.6614066	20	4 29.8	17.5
17811 1998 FH ₁₀₅	13.4	X	324.76859	246.26863	249.19179	6.05529	0.1517842	0.21304185	2.7764686	20	—	—
17812 1998 FH ₁₀₉	13.0	X	248.92546	119.61162	209.16296	14.63811	0.1124719	0.18055515	3.1002458	20	4 6.9	17.7
17813 1998 FL ₁₀₉	13.5	X	58.91152	15.22232	219.43865	10.09875	0.0455010	0.18996494	2.9970023	20	7 30.4	17.8
17814 1998 FH ₁₁₃	12.0	X	313.94609	88.32953	252.12247	8.74451	0.1194422	0.18868016	3.0105919	20	7 14.3	15.8
17815 Kulawik	14.7	X	101.07508	174.89172	283.68743	5.94890	0.0909875	0.26890396	2.3772302	20	3 31.9	17.9
17816 1998 FY ₁₁₃	13.2	X	230.43193	115.05439	251.00109	6.41770	0.1054765	0.18313811	3.0710265	20	5 2.9	17.8
17817 1998 FU ₁₁₆	12.6	X	213.04572	162.28680	238.97783	9.28132	0.1116841	0.18513662	3.0488859	20	5 29.1	17.4
17818 1998 FE ₁₁₈	12.9	X	306.93481	326.24403	223.24411	9.14065	0.0549870	0.21423394	2.7661594	20	—	—
17819 1998 FK ₁₁₈	13.6	X	350.35703	306.18221	216.64884	12.88765	0.0282425	0.17219373	3.1998123	20	1 27.5	18.3
17820 1998 FZ ₁₂₅	13.8	X	168.08879	47.36212	277.66736	6.68880	0.0482166	0.16977743	3.2301008	20	1 13.3	18.5
17821 Bölsche	15.2	X	24.82708	220.24845	58.29993	7.29022	0.0935420	0.27994665	2.3142976	20	9 5.1	17.8
17822 1998 FM ₁₃₅	13.6	X	177.44401	122.13160	221.40061	4.21834	0.1345216	0.17412386	3.1761221	20	2 15.4	18.7
17823 Bartels	14.6	X	352.30916	101.00125	29.00688	4.06150	0.1337609	0.26063497	2.4272486	20	—	—
17824 1998 GF	15.1	X	101.91053	122.66769	35.15630	22.40389	0.0315044	0.36461827	1.9404856	20	6 18.3	17.6
17825 1998 GQ ₈	13.5	X	282.17373	194.69867	107.73262	15.26638	0.1206330	0.18008586	3.1056295	20	4 19.2	18.2
17826 Normanwisdom	13.7	X	94.93838	281.98167	227.71951	9.93172	0.1233699	0.18262850	3.0767368	20	6 11.0	18.1
17827 1998 HW	13.2	X	15.57673	294.24722	188.29314	14.15378	0.1616282	0.21657877	2.7461576	20	—	—
17828 1998 HK ₈	14.0	X	330.57118	1.88174	3.12630	0.60870	0.0869512	0.19277410	2.9678157	20	9 17.9	17.7
17829 1998 HX ₃₂	13.1	X	168.77824	167.63893	199.71728	5.30204	0.1159617	0.17546883	3.1598713	20	3 5.4	18.1
17830 1998 HR ₃₅	13.7	X	109.68988	164.16024	128.10354	3.12922	0.0298773	0.20287066	2.8685113	20	12 15.9	17.9
17831 Ussery	14.2	X	134.71303	305.60257	129.98318	2.39021	0.0630513	0.22489967	2.6779975	20	4 16.7	17.9
17832 Pitman	13.9	X	233.79492	81.08165	50.20118	3.00630	0.0330196	0.19895955	2.9059816	20	10 24.1	17.9
17833 1998 HO ₄₂	13.4	X	351.55827	6.93135	99.04642	10.00854	0.1110691	0.21190026	2.7864316	20	—	—
17834 1998 HL ₄₃	12.9	X	210.00019	251.18942	201.23095	9.66328	0.0799892	0.18934426	3.0035483	20	7 28.7	17.6
17835 Anoesuri	14.5	X	144.98592	344.02996	70.27020	3.25177	0.1941956	0.26838219	2.3803103	20	4 11.3	18.1
17836 Canup	14.1	X	61.96699	110.90256	18.48989	13.18814	0.1303337	0.222714				

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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>
17841 1998 HZ ₉₆	13.7	X	355.53086	238.87966	43.58201	14.93709	0.0494865	0.22968831	2.6406457	20	7 11.3	17.2
17842 1998 Jorgegarcia	14.2	X	141.29029	97.57689	33.12255	5.48149	0.1453725	0.23117578	2.6293062	20	7 11.4	18.3
17843 1998 HD ₉₉	13.5	X	350.73639	104.83961	96.05515	2.88181	0.1026298	0.17523371	3.1626972	20	3 14.5	17.4
17844 1998 Judson	13.8	X	304.09939	346.86438	112.47518	3.19913	0.0240728	0.20149802	2.8815237	20	12 14.4	17.7
17845 1998 HY ₁₁₂	13.0	X	23.11178	313.04146	76.86391	13.67487	0.1320717	0.20341345	2.8634061	20	—	—
17846 1998 HB ₁₁₅	13.1	X	146.01730	345.75484	140.54267	14.74196	0.0902674	0.23135706	2.6279325	20	7 6.7	17.2
17847 1998 HQ ₁₁₅	14.1	X	165.75242	308.62270	129.53321	10.51797	0.2122615	0.22919158	2.6444597	20	5 31.8	18.7
17848 1998 HR ₁₃₃	13.8	X	295.96360	199.30097	100.45075	6.02258	0.1493622	0.18208360	3.0828720	20	4 24.2	18.0
17849 1998 HL ₁₃₄	12.8	X	65.59862	332.68786	148.33038	9.46322	0.0316654	0.17771032	3.1332444	20	3 18.5	17.1
17850 1998 HR ₁₅₀	13.5	X	120.04078	252.03129	206.21087	12.47648	0.1429395	0.22401259	2.6850627	20	5 8.1	17.5
17851 Kaler	13.7	X	336.33043	133.95799	68.24716	3.23262	0.1433969	0.26529398	2.3987471	20	2 2.9	16.2
17852 1998 JN ₁	14.3	X	358.64023	100.93022	40.47051	14.58610	0.1045901	0.25892439	2.4379273	20	—	—
17853 Ronaldsayer	13.1	X	276.04549	212.66319	122.89627	6.36056	0.1677138	0.17935637	3.1140447	20	5 11.3	17.6
17854 1998 JC ₄	12.6	X	204.69138	211.69576	213.73483	8.94173	0.0786746	0.18318766	3.0704727	20	6 20.9	17.3
17855 Geffert	12.9	X	117.05494	225.58670	245.10833	5.19318	0.1426877	0.18060653	3.0996578	20	5 20.2	17.7
17856 Gomes	14.1	X	357.07235	211.52796	32.58468	2.48521	0.2402789	0.22473383	2.6793148	20	5 18.4	17.5
17857 Hsieh	13.1	X	283.19655	271.34441	50.94222	13.22909	0.05051742	0.22297495	2.6933864	20	4 26.2	16.8
17858 Beaugé	14.6	X	39.50257	128.66183	207.35564	5.06979	0.2249731	0.28282478	2.2985701	20	12 30.6	17.8
17859 Galinariyabova	12.4	X	350.53042	222.64047	64.75340	10.42916	0.0642144	0.18353582	3.0665884	20	7 6.4	16.4
17860 Roig	14.3	X	144.78553	123.16859	165.94523	4.16911	0.1690084	0.29081811	2.2562562	20	—	—
17861 1998 KN ₂₄	12.5	X	206.90280	289.04108	45.23911	16.22302	0.0884691	0.17176706	3.2051089	20	3 13.1	17.7
17862 1998 KT ₂₈	13.1	X	226.98249	205.07734	207.20514	9.43678	0.0930862	0.18411151	3.0601926	20	6 27.3	17.8
17863 1998 KN ₃₀	12.9	X	246.62768	24.95438	42.32615	11.15028	0.0841861	0.18795558	3.0183243	20	8 15.7	17.4
17864 1998 KK ₃₈	12.6	X	319.07034	143.36740	239.38624	8.73954	0.0945221	0.19008156	2.9957764	20	9 18.4	16.4
17865 1998 KS ₃₉	13.8	X	20.18599	281.62191	162.49794	2.34357	0.0327783	0.20649512	2.8348463	20	—	—
17866 1998 KV ₄₅	13.2	X	159.09054	184.86286	68.89807	21.21282	0.0923117	0.19932533	2.9024253	20	12 20.5	17.7
17867 1998 KD ₄₆	12.3	X	306.71771	114.75661	105.08948	8.19543	0.0664740	0.12422626	3.9779603	20	2 17.8	17.8
17868 1998 KW ₄₆	12.7	X	317.69548	70.80618	244.77705	11.56177	0.0945328	0.18081039	3.0973275	20	6 20.3	16.6
17869 Descamps	15.1	X	61.25898	33.85371	150.36548	6.95784	0.0882917	0.26536158	2.3983397	20	9 8.6	18.0
17870 1998 QU ₉₂	13.9	X	312.47155	306.05988	70.21079	6.76787	0.1616126	0.26573145	2.3961136	20	9 15.6	16.1
17871 1998 RD ₅₈	11.9	X	170.65316	278.36279	2.44729	14.96070	0.0765636	0.14878093	3.5272632	20	—	—
17872 1998 SP ₂₂	12.9	X	57.91821	232.90547	1.84862	6.76079	0.0677141	0.21805468	2.7337520	20	8 9.9	16.5
17873 1998 XO ₉₆	14.2	X	315.19009	276.88098	342.28370	1.43134	0.1142259	0.28730195	2.2746278	20	3 21.9	16.8
17874 1998 YM ₃	11.7	X	306.54855	47.65725	46.01246	2.54607	0.0449495	0.08243901	5.2285451	20	11 12.6	18.4
17875 1999 AQ ₂	14.3	X	54.69095	163.73059	18.48917	5.75134	0.0873658	0.28857306	2.2679433	20	5 23.1	16.6
17876 1999 AX ₂₁	14.5	X	284.31110	325.59665	278.52657	4.48022	0.0690783	0.28007920	2.3135673	20	1 26.3	17.4
17877 1999 AZ ₂₂	14.0	X	38.33988	85.20053	47.81757	7.27580	0.0404697	0.28090147	2.3090502	20	2 14.2	16.7
17878 1999 AR ₂₅	15.0	X	244.16813	289.27872	335.07566	1.57048	0.2154596	0.27443923	2.3451570	20	—	—
17879 Robutel	14.9	X	56.31432	134.34569	52.27060	4.72858	0.1106522	0.28545366	2.2844359	20	6 6.6	17.3
17880 1999 BA ₂₄	13.5	X	70.34362	139.37905	264.12525	8.71815	0.0981468	0.18596951	3.0397758	20	—	—
17881 Radmall	14.9	X	0.37483	121.21334	131.78970	3.06686	0.1516468	0.28836295	2.2690448	20	6 7.3	16.6
17882 Thielemann	14.6	X	332.30514	234.27891	4.59148	5.27623	0.0771471	0.28657073	2.2784954	20	3 25.8	16.9
17883 Scobuchanan	14.6	X	12.74280	351.44750	240.20873	3.40724	0.1125922	0.28984714	2.2612923	20	5 27.7	16.5
17884 1998 Jeffthompson	15.0	X	319.55369	78.24700	171.79044	1.39986	0.1002634	0.28380300	2.2932851	20	3 18.6	17.5
17885 Brianbeyt	14.5	X	18.04126	332.75158	232.55306	6.88565	0.1418024	0.23801114	2.5787220	20	4 28.9	17.1
17886 1999 CH ₁₁₈	14.9	X	203.45971	350.19094	214.23452	2.67827	0.0488456	0.30933830	2.1652776	20	—	—
17887 1999 DE ₁	15.1	X	149.61839	28.76572	183.47439	3.46001	0.0763019	0.30397523	2.1906715	20	11 12.2	17.9
17888 1999 DB ₃	13.6	X	344.72888	130.89733	147.71127	14.14769	0.1609599	0.24018882	2.5631116	20	6 14.3	16.4
17889 Liechty	14.0	X	247.52730	57.67128	161.03946	4.64587	0.1054420	0.26389618	2.4072100	20	—	—
17890 1999 DU ₆	12.4	X	267.02319	273.55422	108.69195	14.91187	0.1196214	0.23961743	2.5671847	20	7 6.1	15.8
17891 Buraliforti	14.7	X	350.06056	287.68477	352.21170	11.88992	0.2560615	0.24187922	2.5511559	20	6 25.1	16.7
17892 Morecombewise	15.7	X	91.95911	244.37075	324.56439	3.83661	0.0793071	0.29291563	2.2454722	20	8 27.2	18.6
17893 Arlot	14.6	X	336.63867	303.76313	1.77332	4.96509	0.1643472	0.28790890	2.2714298	20	7 13.2	16.2
17894 1999 FP	13.7	X	66.81855	358.89517	1.97450	5.12613	0.0720389	0.21546564	2.7556075	20	—	—
17895 1999 FZ ₂	15.3	X	17.62793	0.87042	192.75211	6.70048	0.0704167	0.28142291	2.3061971	20	4 5.8	17.5
17896 1999 FW ₄	14.8	X	98.48668	198.30042	16.39218	3.31471	0.0892417	0.29409316	2.2394744	20	9 15.3	17.7
17897 Gallardo	15.0	X	234.40812	177.81161	24.92420	1.51942	0.1289991	0.26594021	2.3948595	20	—	—
17898 Scottsheppard	14.6	X	168.48069	40.33623	256.70348	2.84703	0.0538556	0.31451862	2.1414362	20	—	—
17899 Mariacristina	14.6	X	158.61174	82.33168	349.08347	4.43358	0.1080568	0.28645016	2.2791347	20	5 7.8	17.9
17900 Leiferman	15.4	X	47.29054	349.67948	216.25147	4.43406	0.1293787	0.28683346	2.2771039	20	6 24.7	17.7
17901 1999 FT ₂₅	13.9	X	185.93728	98.86002	191.65474	2.86704	0.0710403	0.22182319	2.7027015	20	—	—
17902 Britbaker	15.0	X	324.60719	33.78162	196.68782	7.64165	0.1041299	0.27879309	2.3206771	20	2 24.9	17.7
17903 1999 FS ₂₇	13.8	X	98.74154	159.28555	173.12574	4.53125	0.0921957	0.21591702	2.7517658	20	—	—
17904 Annkoupal	14.7	X	140.26523	281.69180	169.60998	4.53568	0.0988550	0.28542807	2.2845724	20	5 16.2	17.8
17905 Kabtamu	15.5	X	172.80994	75.60305	157.00459	2.70415	0.1426492	0.25858126	2.4400835	20	12 19.3	19.1
17906 1999 FG ₃₂	13.7	X	11.16172	305.48219	46.78312	10.69752	0.1703993	0.25357193	2.4721146	20	11 28.9	16.4
17907 Danielgude	14.6	X	12.51199	248.79424	34.39721	5.13844	0.1416930	0.24396818	2.5365724	20	8 20.4	17.2
17908 Chriskuyu	15.5	X	328.21520	46.40966	155.88408	6.54748	0.1662345	0.27598535	2.3363901	20	1 13.9	18.2
17909 Nikhilshukla	14.4	X	126.39416	130.27503	173.42051	8.58527	0.1367323	0.21465996	2.7624983	20	—	—
17910 Munyan	14.0	X	111.99147	196.26601	206.18161	8.62804	0.1284986	0.23288288	2.6164413	20	2 10.7	17.8
17911 1999 FF ₄₁	16.0	X	249.77030	228.33359	319.93657	1.04428	0.0619212	0.31333316	2.1468341	20	—	—
17912 1999 FV ₄₄	14.3	X	160.20701	181.67851	203.73457	6.31081	0.2103833	0.28311033	2.2970242	20	3 16.8	17.9
17913 1999 FT ₅₂	14.9	X	56.25999	244.18882	130.58550	3.40418	0.1263437	0.31317955	2.1475360	20	—	—
17914 Joannelee	14.8	X	185.52872	330.18059	275.66602	3.65427	0.1393602	0.26373523	2.4081893	20	—	—
17915 1999 GU	15.6	X	139.31761	173.89698	107.31103	0.88867	0.0437131	0.29585155	2.2305920	20	9 20.3	18.2
17916 1999 GZ ₃	15.6	X	174.78984	231.99523	246.30818	4.87963	0.0869038	0.29044164	2.2582055	20	7 30.5	18.7

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
17921 Aldeobaldia	14.5	X	343.77183	96.06958	114.91508	7.59711	0.0616376	0.27790571	2.3256145	20	3 9.9	17.1
17922 1999 GS ₁₃	14.8	X	308.18861	79.05852	151.28107	13.13989	0.0881625	0.27377275	2.3489615	20	2 5.9	17.7
17923 1999 GY ₁₆	13.9	X	240.11094	21.42014	135.39636	6.98652	0.0733869	0.26068253	2.4269534	20	12 12.2	16.9
17924 1999 GA ₁₇	14.3	X	173.46394	225.19369	53.08061	2.31913	0.2086491	0.26391512	2.4070949	20	—	—
17925 Dougweinstein	14.8	X	224.31852	144.58042	83.19943	3.48529	0.1348201	0.26543831	2.3978774	20	—	—
17926 Jameswu	14.7	X	120.57235	230.30810	16.78048	4.32142	0.1001428	0.30207732	2.1998377	20	11 23.5	17.8
17927 Ghoshal	14.9	X	150.80340	82.75246	81.18964	4.64217	0.0554312	0.29445642	2.2376322	20	9 8.8	17.8
17928 Neuwirth	13.6	X	59.14851	319.70692	34.69634	6.97842	0.1579249	0.25811488	2.4430219	20	—	—
17929 1999 GQ ₂₁	13.5	X	338.83309	262.46289	55.15818	15.43417	0.1709247	0.24219506	2.5489375	20	8 7.7	16.2
17930 Kennethott	14.6	X	36.40517	87.73842	208.73255	2.79495	0.1500406	0.29609535	2.2293675	20	10 27.8	17.2
17931 1999 GA ₂₇	13.6	X	236.07810	100.70555	115.00364	2.23720	0.1473986	0.17163235	3.2067858	20	—	—
17932 Viswanathan	15.0	X	168.56178	339.82238	354.61771	2.34886	0.0838583	0.27253363	2.3560761	20	1 13.4	18.1
17933 Haraguchi	14.9	X	65.68454	18.25586	243.51064	5.40339	0.1495868	0.29574549	2.2311253	20	10 15.5	17.9
17934 Deleon	14.8	X	257.08919	175.20038	51.73885	6.69289	0.0665475	0.27048063	2.3679831	20	—	—
17935 Vinhoward	14.9	X	338.55032	143.33179	190.43939	5.75475	0.1893148	0.24430646	2.5342303	20	8 24.9	17.0
17936 Nilus	14.7	X	184.97490	204.64764	272.96344	3.16805	0.0662143	0.29024761	2.2592118	20	8 12.5	17.6
17937 1999 HO ₄	14.5	X	241.06755	136.87196	201.95674	3.91679	0.2276790	0.23095088	2.6310128	20	3 30.1	18.9
17938 Tamsendrew	14.5	X	316.72043	339.15149	209.38142	3.78792	0.1878174	0.27233215	2.3572381	20	—	—
17939 1999 HH ₈	13.5	X	32.21133	329.51725	320.91179	9.55879	0.1305234	0.29500830	2.2348407	20	10 3.8	16.1
17940 Kandyjarvis	15.4	X	357.26220	57.74409	92.12131	5.28707	0.0764541	0.27356987	2.3501227	20	—	—
17941 Horbatt	14.0	X	4.31608	358.69991	65.81046	20.27870	0.1551150	0.30733526	2.1746755	20	—	—
17942 Whiterabbit	14.6	X	244.32190	81.92355	159.72740	4.53569	0.1165637	0.26688369	2.3892121	20	—	—
17943 1999 JZ ₆	15.0	X	97.19116	324.24661	101.01488	7.75152	0.0829423	0.27320853	2.3521944	20	2 13.2	17.7
17944 1999 JF ₇	14.1	X	60.70330	72.16678	119.83394	6.32028	0.1325236	0.23847890	2.5753489	20	6 25.2	17.2
17945 Hawass	14.2	X	46.39055	320.49595	268.73231	2.23833	0.0996746	0.23856856	2.5747036	20	7 20.3	17.1
17946 1999 JC ₉	15.3	X	244.34731	128.48403	151.90336	6.84598	0.1172560	0.27146361	2.3622633	20	1 24.4	18.7
17947 1999 JV ₁₀	14.7	X	41.18484	18.78094	185.74187	4.76296	0.1323916	0.23847863	2.5753508	20	6 11.3	17.5
17948 1999 JQ ₁₅	13.9	X	185.87126	154.67150	157.34620	5.03656	0.2078540	0.26472220	2.4021999	20	1 11.4	17.9
17949 1999 JA ₁₈	13.5	X	221.88746	294.23650	10.45619	12.22435	0.1833587	0.22474747	2.6792064	20	2 10.2	18.1
17950 Grover	14.7	X	237.09174	328.32351	357.36205	6.71130	0.1680211	0.27651178	2.3334238	20	3 12.0	18.1
17951 Fenska	14.5	X	301.94577	35.80948	294.67337	3.28292	0.1037006	0.28620153	2.2804545	20	6 18.7	16.9
17952 Folsom	15.4	X	328.45226	327.79725	268.60524	5.87721	0.0967960	0.27854744	2.3220413	20	3 10.3	18.2
17953 1999 JB ₂₀	13.4	X	357.02552	15.00273	233.45986	10.61839	0.3256982	0.18999306	2.9670666	20	5 18.1	15.4
17954 Hopkins	14.9	X	82.29419	145.86555	38.83184	3.07120	0.1013952	0.28769728	2.2725435	20	7 13.6	17.6
17955 Sedransk	14.9	X	322.14615	341.37559	224.45396	2.16613	0.0508280	0.22749073	2.6576242	20	2 5.2	18.3
17956 Andrewlenoir	15.4	X	172.27017	303.86846	207.82021	1.95310	0.0741667	0.29480663	2.2358597	20	9 14.4	18.4
17957 1999 JF ₂₉	14.6	X	357.38983	40.35313	138.75480	4.47711	0.2133588	0.29504796	2.2346403	20	12 6.7	16.7
17958 Schoof	15.0	X	323.77241	343.39591	314.93628	1.70317	0.0389558	0.26443787	2.4039215	20	—	—
17959 Camierickson	14.3	X	137.51969	37.03341	297.42585	3.82835	0.1181231	0.21720708	2.7408592	20	—	—
17960 Liberatore	14.2	X	158.04558	160.20543	132.42239	3.38193	0.1802717	0.26079875	2.4262323	20	—	—
17961 Mariagorodnitsky	14.3	X	193.13841	318.23099	50.30670	7.12606	0.1475925	0.27591338	2.3367964	20	3 28.0	17.9
17962 Andrewheron	14.8	X	133.44581	281.63909	228.96150	5.47000	0.1027249	0.28934611	2.2639020	20	7 27.4	18.1
17963 Vonderheydt	14.9	X	42.04510	74.44309	69.67843	4.34791	0.1169889	0.27705933	2.3303484	20	3 11.3	17.1
17964 1999 JY ₄₁	14.0	X	213.05650	208.09564	201.46780	5.25500	0.1598275	0.28509050	2.2863755	20	6 6.3	17.5
17965 Brodersen	14.8	X	295.92008	355.48958	310.97107	3.20554	0.1253631	0.23388093	2.6089926	20	4 30.1	18.3
17966 1999 JS ₄₃	13.7	X	167.40585	200.08548	292.76775	4.92790	0.1116047	0.29127079	2.2539179	20	8 11.4	16.8
17967 Bacampbell	14.7	X	128.96411	2.04741	108.92584	3.06201	0.1390658	0.28385808	2.2929885	20	6 2.2	17.8
17968 1999 JX ₄₆	13.8	X	209.15321	150.10796	132.91203	1.36094	0.1718634	0.17202313	3.2019274	20	1 7.1	19.1
17969 Truong	14.4	X	186.72606	310.42530	123.48258	1.44447	0.0512812	0.23793020	2.5793068	20	6 13.9	17.9
17970 Palepu	14.4	X	38.71078	232.15892	21.20208	5.11489	0.1516788	0.28785174	2.2717305	20	8 29.9	16.7
17971 Samuelhowell	14.5	X	11.73776	167.59263	128.41591	2.93847	0.1685508	0.28841994	2.2687459	20	9 18.9	16.3
17972 Ascione	14.4	X	233.27100	46.00448	201.36953	5.13945	0.0138136	0.21919484	2.7242638	20	—	—
17973 1999 JP ₅₁	12.5	X	168.34593	37.74969	228.18419	10.55353	0.2142483	0.21182086	2.7871279	20	—	—
17974 1999 JL ₅₂	14.1	X	29.00246	27.70565	267.02191	3.66965	0.1660612	0.29039542	2.2584451	20	10 13.9	16.6
17975 1999 JB ₅₃	14.2	X	244.72070	165.08827	202.02430	7.21452	0.1926554	0.23409144	2.6074282	20	5 11.7	18.2
17976 Schulman	14.4	X	12.31618	151.67041	9.07953	6.45187	0.0691672	0.27361120	2.3498860	20	2 12.1	16.9
17977 1999 JR ₅₄	14.0	X	225.84853	308.56317	34.04912	12.94113	0.2444251	0.22690879	2.6621662	20	3 26.3	18.7
17978 1999 JS ₅₄	14.7	X	108.02570	226.95781	293.72839	4.17404	0.1596981	0.28697736	2.2763426	20	7 19.1	17.9
17979 1999 JS ₅₅	13.4	X	139.85103	215.45863	86.70495	10.21731	0.1357475	0.21199541	2.7855978	20	—	—
17980 Vanschaik	14.0	X	16.80474	292.53413	80.79254	3.22681	0.0805721	0.20673018	2.8326970	20	12 10.1	17.6
17981 1999 JZ ₅₆	13.2	X	50.81660	47.18934	42.64077	1.50017	0.0741760	0.17547910	3.1597480	20	1 23.7	17.2
17982 Simcmillan	15.0	X	325.28802	180.15267	97.54653	4.67554	0.1360383	0.28059436	2.3107347	20	5 5.6	17.2
17983 Buhrmester	14.8	X	109.61340	179.96915	152.87943	3.73028	0.1946213	0.25754849	2.4466023	20	—	—
17984 Ahantonio	14.2	X	273.31822	60.97218	178.07758	3.14597	0.1420730	0.22262716	2.6961908	20	1 8.1	18.3
17985 1999 JC ₆₂	14.1	X	130.27719	233.38893	53.10872	6.55606	0.1556604	0.30212090	2.1996261	20	—	—
17986 1999 JF ₆₂	13.6	X	30.27560	241.08003	68.82155	14.82020	0.0463933	0.24626446	2.5207796	20	10 18.3	17.0
17987 1999 JQ ₆₂	14.0	X	274.48415	197.67381	102.46942	10.32797	0.0643941	0.18327188	3.0695320	20	4 12.4	18.5
17988 Joannehsieh	14.6	X	277.03344	46.69395	180.93745	6.01456	0.0727316	0.26856678	2.3792196	20	—	—
17989 1999 JE ₆₄	12.9	X	153.50065	212.48454	76.04707	9.13304	0.1964076	0.21094726	2.7948175	20	—	—
17990 1999 JK ₆₄	13.6	X	236.18223	178.22607	99.76618	8.38703	0.1533386	0.21806369	2.7336767	20	—	—
17991 Joshuaegan	15.0	X	98.85351	352.58118	134.60340	2.55068	0.0859270	0.28369426	2.2938711	20	5 11.4	17.7
17992 Japellegri	15.2	X	313.25215	345.20703	198.43444	5.40878	0.0609713	0.27112398	2.3642357	20	—	—
17993 Kluesing	15.3	X	73.07305	321.24415	173.84540	3.15678	0.0860370	0.28040693	2.3117643	20	4 14.5	17.7
17994 1999 JF ₇₀	12.3	X	34.24687	198.00100	60.27492	13.57500	0.0642267	0.19597256	2.9354354	20	8 7.6	16.4
17995 Jolinefan	14.6	X	140.30537	293.39203	183.02109	6.39782	0.0602142	0.28541747	2.2846290	20	6 16.2	17.7
17996 1999 JQ ₇₅	14.0	X	321.75598	68.20828	232.07771	3.91119	0.0858151	0.28602375	2.2813994	20	6 9.2	16.3
17997 1999 JN ₇₈	14.5	X	348.85915	56.14340	128.60799	11.58392	0.1534901	0.27621540	2.3350927			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18001 1999 JY ₈₃	13.5	X	135.00307	115.72123	178.12239	9.87063	0.0713192	0.21145027	2.7903834	20	—	—
18002 1999 JJ ₈₄	14.0	X	81.71451	3.18352	124.10824	16.16638	0.0686870	0.23154077	2.6265423	20	4 23.8	17.8
18003 1999 JU ₈₄	13.9	X	311.76934	251.97920	53.77474	13.76285	0.1613586	0.23893849	2.5720454	20	5 18.7	16.8
18004 Krystosek	15.0	X	245.02994	297.16299	113.03466	6.71435	0.1652626	0.29200084	2.2501596	20	7 12.3	17.8
18005 1999 JD ₉₁	14.2	X	84.28639	230.48791	164.26016	11.35446	0.2585869	0.26583398	2.3954975	20	1 7.5	16.6
18006 1999 JE ₉₄	13.5	X	292.38332	147.95195	156.45076	10.98944	0.0810881	0.18737663	3.0245384	20	5 6.1	17.8
18007 1999 JK ₉₇	13.6	X	283.32795	258.09752	113.37272	12.31378	0.2054076	0.23921825	2.5700398	20	6 30.2	16.7
18008 1999 JV ₉₉	13.2	X	340.27995	284.53351	119.06257	15.52690	0.1133826	0.20527447	2.8460733	20	12 1.4	16.8
18009 Patrickgeer	13.9	X	240.87241	3.10365	155.35117	9.71047	0.0872099	0.20863840	2.8153986	20	12 1.4	17.9
18010 1999 JQ ₁₀₀	13.8	X	67.83050	332.97869	193.32074	11.64101	0.0920386	0.18683102	3.0304240	20	5 25.3	18.0
18011 1999 JQ ₁₁₃	13.9	X	141.21518	192.59589	143.38543	1.80406	0.1758502	0.17029666	3.2235318	20	1 10.1	19.0
18012 Marsland	14.0	X	355.02017	346.13742	236.57366	5.15776	0.1138639	0.27916676	2.3186058	20	4 5.2	16.2
18013 Shedletsky	13.9	X	79.78958	342.32207	21.97571	4.09204	0.1167721	0.21289473	2.7777475	20	—	—
18014 1999 JC ₁₂₁	13.9	X	256.68440	263.11994	99.83842	8.41439	0.0984743	0.18827941	3.0148624	20	5 31.3	18.2
18015 Semenkovich	14.7	X	12.84679	334.38639	190.53846	6.29260	0.0452795	0.27328175	2.3517743	20	2 15.6	17.4
18016 Grondahl	14.1	X	241.86482	27.63943	232.17002	6.74198	0.0692122	0.26711028	2.3878606	20	—	—
18017 1999 JK ₁₂₄	13.4	X	250.28937	13.03358	233.38909	9.63173	0.2392770	0.21967796	2.7202682	20	—	—
18018 1999 JR ₁₂₅	14.5	X	266.31929	96.81731	12.87952	6.19010	0.0523731	0.29890242	2.2153878	20	11 26.7	17.0
18019 Dascoli	15.5	X	153.69212	294.07346	104.02562	3.21136	0.0843727	0.27661142	2.3328634	20	3 20.2	18.7
18020 Amend	14.3	X	5.80356	88.74138	247.76610	1.48433	0.0675815	0.20004026	2.8955059	20	10 4.5	18.0
18021 Waldman	14.4	X	130.15616	232.36280	117.56657	4.10522	0.1047438	0.21650178	2.7468087	20	—	—
18022 Pepper	14.2	X	100.37845	331.66934	356.23206	2.45727	0.1222417	0.20920697	2.8102953	20	—	—
18023 1999 JQ ₁₂₉	14.0	X	191.66439	184.76341	177.95988	13.55825	0.1793954	0.22639836	2.6661660	20	3 19.9	18.5
18024 Dobson	13.9	X	264.07121	42.96623	182.54973	9.55133	0.0668559	0.17339849	3.1849737	20	—	—
18025 1999 KF ₅	14.1	X	307.83049	327.35122	65.62197	3.97980	0.1728537	0.24687832	2.5165993	20	9 24.2	16.4
18026 Juliabaldwin	15.3	X	49.58697	347.95188	148.21204	4.74689	0.1952636	0.27630783	2.3345719	20	3 21.9	17.1
18027 Gokcay	14.3	X	304.73830	243.30919	147.65035	5.05841	0.1347492	0.29111517	2.2547211	20	9 28.7	16.0
18028 Ramchandani	14.8	X	256.21704	209.06702	163.81819	3.58214	0.1506516	0.288180927	2.3040887	20	6 5.6	17.8
18029 1999 KA ₁₆	13.9	X	348.39711	29.98978	227.10197	12.97973	0.1942554	0.27755221	2.3275888	20	5 13.0	15.3
18030 1999 LX ₄	14.5	X	240.89523	209.35935	122.80512	13.83924	0.1647512	0.22968681	2.6406571	20	4 1.6	18.9
18031 1999 LO ₁₄	13.4	X	112.83148	316.72302	123.13199	13.43354	0.1390676	0.22540053	2.6740289	20	4 10.9	17.4
18032 Geiss	13.4	X	158.45520	357.73208	268.44499	11.65882	0.1392895	0.20648223	2.8349643	20	—	—
18033 1999 NR ₄	13.3	X	346.63498	48.63870	286.51477	9.07946	0.1152884	0.19051838	2.9911955	20	8 30.1	16.9
18034 1999 NF ₆	13.4	X	330.67947	197.50891	189.31777	1.81113	0.0599289	0.19509325	2.9442491	20	10 17.9	17.2
18035 1999 NJ ₇	14.0	X	275.74622	286.58852	129.49926	5.44678	0.0649123	0.23834632	2.5763038	20	9 14.7	17.2
18036 1999 ND ₂₆	13.0	X	268.96950	164.27813	82.93219	3.91052	0.1453529	0.12433818	3.9755727	20	1 27.0	18.9
18037 1999 NA ₃₈	11.5	X	213.97117	254.44585	114.48823	15.36659	0.0826151	0.08214128	5.2411718	20	5 1.6	18.9
18038 1999 NR ₄₈	13.2	X	220.70565	99.48650	235.98272	8.67694	0.0424330	0.17528960	3.1620249	20	3 18.8	18.0
18039 1999 ND ₄₉	13.2	X	212.59804	137.85198	277.11161	8.09344	0.0696718	0.18252015	3.0779543	20	6 17.5	17.8
18040 1999 NC ₆₀	13.8	X	160.37427	185.96380	217.98877	12.25186	0.1513979	0.22134270	2.7066115	20	4 9.1	18.2
18041 1999 RX ₁₃	12.6	X	32.60930	80.46982	77.67920	3.11180	0.1137145	0.16998817	3.2274306	20	3 27.0	16.5
18042 1999 RF ₂₇	13.4	X	114.65053	71.20862	140.43686	8.03809	0.2506087	0.23361651	2.6109608	20	10 4.5	17.9
18043 Laszkowska	14.0	X	45.52640	238.87990	116.17414	3.10589	0.0807240	0.19880892	2.9074493	20	12 22.4	18.0
18044 1999 RS ₈₉	14.5	X	34.72442	221.69411	153.96536	5.79358	0.2850181	0.24371860	2.5383038	20	—	—
18045 1999 RR ₁₀₀	12.4	X	40.36457	242.56238	282.76687	15.09987	0.1430865	0.17352810	3.1833875	20	4 11.4	16.6
18046 1999 RN ₁₁₆	10.4	X	266.92463	152.22835	164.65395	33.29797	0.0583515	0.08298237	5.2056962	20	4 28.6	17.7
18047 1999 RP ₁₄₅	12.6	X	242.87938	346.50039	321.42368	13.71100	0.1368572	0.17214337	3.2004362	20	3 2.6	17.6
18048 1999 RG ₁₇₀	13.6	X	174.19114	174.17318	236.69103	1.11949	0.0685317	0.17269801	3.1935802	20	5 1.4	18.2
18049 1999 RX ₁₉₅	12.9	X	259.55154	269.20397	227.21886	13.92312	0.0909708	0.24362809	2.5389324	20	12 4.7	16.1
18050 1999 RS ₁₉₆	12.9	X	122.76265	12.45608	214.90339	8.97620	0.0398503	0.19083798	2.9878549	20	10 9.8	17.2
18051 1999 RU ₁₉₆	13.4	X	246.50911	224.49041	225.10508	9.56341	0.0243807	0.18886485	3.0086289	20	9 12.9	17.8
18052 1999 RV ₁₉₉	12.0	X	154.93988	178.94796	232.02912	14.04569	0.0498047	0.17028964	3.2236204	20	4 8.4	16.9
18053 1999 RU ₂₀₈	12.9	X	264.42886	314.16859	228.13620	12.26166	0.2519709	0.19991056	2.8967581	20	—	—
18054 1999 SW ₇	10.8	X	357.14013	124.29089	124.81485	19.67413	0.0174285	0.08235321	5.2321763	20	5 31.5	17.8
18055 Fernhildebrandt	13.7	X	69.04201	247.77992	293.12444	11.13119	0.1219869	0.22303396	2.6929114	20	6 19.7	17.3
18056 1999 TV ₁₅	14.0	X	166.36477	66.46245	170.69351	4.30298	0.0844435	0.28832812	2.2692276	20	12 29.5	17.0
18057 1999 VK ₁₀	13.9	X	81.28091	113.60170	219.10092	11.04186	0.2756407	0.24229401	2.5482435	20	—	—
18058 1999 XY ₁₂₉	12.0	X	271.24900	50.50788	26.07920	9.07089	0.0797241	0.08506256	5.1204768	20	9 13.0	18.8
18059 Cavalieri	12.4	X	102.69687	289.14626	298.05557	8.84954	0.0603603	0.22266866	2.9958557	20	9 18.9	16.3
18060 1999 XJ ₁₅₆	11.1	X	331.59863	153.19132	224.88865	6.63783	0.0578320	0.08497284	5.1240808	20	9 17.4	17.8
18061 1999 XH ₁₇₉	14.0	X	29.87623	16.48802	63.70255	11.95584	0.0955507	0.19300735	2.9654241	20	—	—
18062 1999 XY ₁₈₇	10.9	X	276.58171	33.34523	38.35015	17.38264	0.0493253	0.08437635	5.1482016	20	9 22.0	17.8
18063 1999 XW ₂₁₁	11.1	X	334.81532	64.49884	327.01716	17.98603	0.0572281	0.08427746	5.1522281	20	9 30.6	17.9
18064 1999 XY ₂₄₂	13.3	X	354.65128	264.07713	210.68582	13.21953	0.1263419	0.23999814	2.5644691	20	—	—
18065 2000 AM ₄₁	13.7	X	209.82206	236.64057	323.99493	12.44884	0.1118549	0.18169574	3.0872577	20	12 4.7	18.6
18066 2000 AR ₇₉	14.3	X	237.12371	10.73291	163.81181	3.94882	0.1410419	0.23261748	2.6184311	20	12 13.3	17.8
18067 2000 AB ₉₈	12.5	X	256.23677	21.69890	118.48640	13.74651	0.1143993	0.22688100	2.6623836	20	11 30.3	16.1
18068 2000 AF ₁₈₄	13.6	X	239.88256	277.57210	228.05750	9.08270	0.2276462	0.18100075	3.0951554	20	10 18.4	18.2
18069 2000 AS ₁₉₉	13.3	X	63.68377	232.89964	117.57477	17.31230	0.2592981	0.24445714	2.5331888	20	—	—
18070 2000 AC ₂₀₅	13.4	X	119.51645	299.58415	35.45851	23.59223	0.2733168	0.27698835	2.3307465	20	—	—
18071 2000 BA ₂₇	11.6	X	321.86415	78.97987	341.46949	3.64863	0.0561540	0.08107955	5.2868278	20	10 23.2	18.3
18072 2000 CL ₇₁	14.2	X	314.23185	35.84711	180.53078	14.48968	0.1490889	0.24212802	2.5494080	20	1 20.7	17.9
18073 2000 CB ₈₂	15.7	X	231.46501	350.19416	60.62648	1.75441	0.2182093	0.26439256	2.4041961	20	6 21.1	19.2
18074 2000 DW	14.1	X	88.28983	24.38354	19.76550	9.36960	0.1334385	0.28972333	2.2619365	20	1 3.6	16.5
18075 Donasharma	14.8	X	324.77752	239.58781	28.61483	5.47071	0.0954330	0.25312176	2.47			

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18081 2000 GB ₁₂₆	12.6	X	74.85046	234.31849	58.36867	24.37031	0.1863637	0.26179025	2.4201024	20	12 1.6	16.3
18082 2000 GB ₁₃₆	14.4	X	227.22105	262.95187	72.48277	7.33246	0.2016731	0.28914327	2.2649606	20	3 16.4	18.1
18083 2000 HD ₂₂	12.4	X	211.86610	57.29917	113.78233	22.44440	0.1213747	0.17265368	3.1941268	20	11 10.0	17.7
18084 Adamwohl	14.7	X	31.52463	91.85303	207.66451	5.86033	0.1428005	0.25812343	2.4429679	20	10 15.5	17.6
18085 2000 JZ ₁₄	14.2	X	108.87892	272.58662	73.15718	6.23325	0.2311074	0.27197463	2.3593033	20	—	—
18086 Emilykraft	14.7	X	299.62756	288.68927	269.04290	3.07043	0.1272315	0.18551453	3.0447438	20	—	—
18087 Yamanaka	15.7	X	131.25428	182.75838	350.81143	2.27225	0.1506660	0.25823820	2.4422440	20	8 27.5	19.5
18088 Roberteunice	14.7	X	261.24259	239.46839	307.08497	3.31963	0.1052323	0.27645767	2.3337283	20	—	—
18089 2000 JB ₄₁	14.9	X	110.09826	254.23816	102.20580	5.29207	0.2488480	0.27365722	2.3496226	20	—	—
18090 Kevinkuo	14.1	X	227.59521	137.22443	216.70759	8.68452	0.1019585	0.24216193	2.5491700	20	4 12.7	17.8
18091 Iranmanesh	14.0	X	224.42080	305.34440	168.16142	6.47559	0.0827822	0.25953602	2.4340956	20	9 21.9	17.1
18092 Reinhold	13.8	X	298.32046	118.55078	268.23421	0.99927	0.0874492	0.20594535	2.8398892	20	8 29.0	17.1
18093 2000 KS ₃₁	13.1	X	333.12535	239.58002	249.44174	15.31561	0.1970066	0.17885867	3.1198189	20	—	—
18094 2000 KN ₅₆	13.2	X	199.70306	137.38353	232.27179	9.92023	0.1101552	0.18986885	2.9980134	20	4 4.5	18.0
18095 Frankblock	14.5	X	182.09752	94.73755	166.93110	6.97045	0.1037293	0.27086806	2.3657246	20	—	—
18096 2000 LM ₁₆	13.8	X	119.52588	146.87358	162.29891	13.49420	0.2464106	0.26450769	2.4034985	20	—	—
18097 2000 LU ₁₉	14.7	X	154.71111	63.38814	232.86699	9.61624	0.2061390	0.26916391	2.3756994	20	—	—
18098 2000 LR ₂₀	13.3	X	185.59004	9.24196	215.33229	8.62036	0.0883371	0.21483924	2.7609613	20	12 17.9	17.4
18099 Flamini	13.7	X	260.40064	268.31627	102.27036	11.27380	0.1323865	0.19046563	2.9917477	20	6 9.8	18.2
18100 Lebreton	15.2	X	323.52428	97.72898	187.50141	3.46790	0.1730953	0.28960868	2.2625334	20	5 6.7	17.1
18101 Coustenis	15.6	X	250.50970	164.20353	170.64102	5.09942	0.1915041	0.28560455	2.2836312	20	4 3.9	18.9
18102 Angrilli	14.7	X	170.33723	6.91797	210.21556	5.10502	0.1349876	0.26051987	2.4279635	20	11 29.0	18.3
18103 2000 MC ₅	13.9	X	111.10253	95.67673	290.22190	5.53892	0.1416035	0.27155430	2.3617373	20	1 17.5	16.7
18104 Mahalingam	14.3	X	294.92037	132.25295	132.63666	5.36453	0.1372673	0.28531879	2.2851557	20	2 28.1	17.2
18105 2000 NT ₃	13.1	X	206.88049	4.10163	22.14300	1.28416	0.3082376	0.18383772	3.0632302	20	4 27.8	18.7
18106 Blume	17.7	X	60.06192	234.90789	109.19977	4.22009	0.5117181	0.25783027	2.4448194	20	—	—
18107 2000 NC ₅	14.7	X	136.32881	355.61655	9.24885	2.49923	0.2286627	0.26945109	2.3740112	20	2 2.7	18.0
18108 2000 NT ₅	12.5	X	285.57061	46.61085	294.12167	8.71306	0.1877585	0.23765615	2.5812893	20	5 22.5	15.9
18109 2000 NG ₁₁	17.0	X	226.21142	319.26879	59.52754	0.80796	0.3678565	0.38213939	1.8807086	20	4 25.4	20.2
18110 HASI	15.3	X	194.80328	77.64145	236.73906	4.23898	0.1430528	0.27496924	2.3421424	20	1 17.7	18.9
18111 Pinet	14.2	X	14.74034	145.91241	256.16221	2.93989	0.1025744	0.21048030	2.7989496	20	—	—
18112 Jeanlucjosset	14.6	X	347.96733	296.02244	329.97272	12.06232	0.2509977	0.24262047	2.5460831	20	5 18.1	16.9
18113 Bibring	14.4	X	287.77959	232.12629	45.75802	1.32284	0.1344814	0.28436120	2.2902830	20	3 7.7	17.3
18114 Rosenbush	13.1	X	57.94808	221.13843	309.62028	13.87761	0.1151392	0.23733378	2.5836262	20	5 13.7	16.5
18115 Rathbun	14.0	X	271.01839	208.47202	147.56254	10.33465	0.0889777	0.19091937	2.9870057	20	6 10.7	18.3
18116 Prato	15.2	X	181.80386	229.15624	206.86444	5.06437	0.1758949	0.28719644	2.2751848	20	6 10.3	18.7
18117 Jonhodge	14.5	X	225.54513	347.48945	274.75065	1.14116	0.0870537	0.27319487	2.3522728	20	—	—
18118 2000 NB ₂₄	15.2	X	313.15018	246.74614	177.90549	0.75603	0.1032651	0.30661239	2.1780922	20	12 12.8	17.0
18119 Braude	15.3	X	207.05201	325.07941	73.16004	0.75057	0.1172565	0.28791150	2.2714161	20	5 17.6	18.5
18120 Lytvynenko	15.6	X	214.04767	186.05726	153.75802	0.62003	0.2290398	0.28082105	2.3094910	20	3 6.8	19.4
18121 Konovaleiko	14.1	X	115.11401	310.90356	44.71539	0.98199	0.2352761	0.17048856	3.2211124	20	1 14.2	18.8
18122 Forestamartin	13.1	X	267.82693	9.30597	31.98875	2.31435	0.1112258	0.19623951	2.9327728	20	8 1.3	17.0
18123 Pavan	13.6	X	327.73527	100.51546	201.10114	1.29173	0.0819864	0.19326129	2.9628259	20	6 19.3	17.4
18124 Leaperry	14.9	X	181.64984	151.24068	155.54661	5.88596	0.1118171	0.27442289	2.3452501	20	—	—
18125 Brianwilson	13.8	X	167.88907	302.42344	53.76330	2.50062	0.1312582	0.17800351	3.1298030	20	2 23.6	18.7
18126 2000 OU ₃	13.8	X	134.05329	45.73592	213.57499	4.75319	0.1824485	0.21147807	2.7901389	20	12 7.6	18.5
18127 Denversmith	14.6	X	183.13456	217.24123	193.37365	5.53705	0.1709916	0.28383881	2.2930923	20	5 9.8	18.2
18128 Wysner	15.0	X	352.80285	17.74871	232.09097	5.51645	0.1216975	0.28884840	2.2665018	20	5 15.6	16.8
18129 2000 OH ₅	13.3	X	315.64981	285.24090	302.14315	9.83117	0.0504545	0.27942883	2.3171558	20	2 15.6	16.1
18130 2000 OK ₅	14.0	X	50.00746	183.96404	236.95095	6.94073	0.2073433	0.26528857	2.3987797	20	—	—
18131 2000 OM ₅	13.3	X	168.53210	216.16973	250.64184	7.18638	0.0308829	0.19034929	2.9929667	20	7 3.2	17.6
18132 Spector	15.4	X	304.13169	161.76436	83.07904	2.80091	0.1818900	0.28399825	2.2922340	20	2 6.1	18.3
18133 2000 OL ₁₂	14.3	X	120.68677	174.64236	313.04991	1.74467	0.2038679	0.22444171	2.6816391	20	2 15.6	18.2
18134 2000 OS ₁₄	12.5	X	261.88991	281.26704	201.47754	16.14809	0.0895863	0.17494097	3.1662245	20	—	—
18135 2000 OQ ₂₀	13.2	X	190.84960	166.27310	185.26585	10.53787	0.1901067	0.17522315	3.1628242	20	3 8.3	18.6
18136 2000 OD ₂₁	14.1	X	4.96501	310.70821	351.95336	6.35719	0.2614515	0.24430819	2.5342183	20	9 18.4	15.8
18137 2000 OU ₃₀	11.0	X	144.45720	206.14869	218.93406	7.66629	0.0153370	0.08538848	5.1074389	20	4 16.1	17.9
18138 2000 OP ₃₅	15.0	X	36.42734	349.80158	24.08406	4.33299	0.1499137	0.30709975	2.1757871	20	—	—
18139 2000 OF ₃₇	13.4	X	195.60869	163.25743	258.70278	9.30928	0.0894139	0.18857596	3.0117009	20	6 6.7	18.0
18140 2000 OD ₃₉	14.0	X	217.78028	125.15158	223.18977	7.86776	0.2504954	0.23154525	2.6265084	20	3 19.9	18.8
18141 2000 OK ₄₂	13.9	X	229.12323	159.19737	253.16331	8.88780	0.0601625	0.19083927	2.9878415	20	7 3.5	18.2
18142 Adamsdman	15.4	X	327.65310	191.04194	173.38942	3.91443	0.1538855	0.29608757	2.2294065	20	10 5.4	16.9
18143 2000 OK ₄₈	13.8	X	68.54017	208.13536	167.61205	15.06991	0.1911193	0.20995240	2.8036394	20	—	—
18144 2000 OO ₄₈	14.1	X	318.71408	201.66255	149.41165	15.85746	0.1448831	0.24350106	2.5398154	20	8 11.5	16.6
18145 2000 OX ₄₈	15.3	X	213.35488	245.80517	96.14315	5.47152	0.2349306	0.27816042	2.3241946	20	3 11.5	19.3
18146 2000 OY ₄₉	13.9	X	182.40361	284.53753	153.77733	14.03531	0.1437802	0.23305756	2.6151338	20	6 14.8	18.3
18147 2000 OY ₅₀	14.0	X	278.05123	168.23171	169.50539	14.25796	0.1781955	0.23620721	2.5918346	20	5 14.8	17.8
18148 Bellier	12.8	X	39.76932	66.97056	54.47490	1.19344	0.1350551	0.17684385	3.1434707	20	2 20.1	16.6
18149 Colombatti	14.6	X	77.40312	208.19954	76.46450	3.06180	0.0346035	0.20562749	2.8428150	20	10 31.2	18.5
18150 Lopez-Moreno	12.4	X	219.90315	349.03484	153.15238	12.76521	0.1013800	0.15478708	3.4354180	20	10 8.7	17.6
18151 Licchelli	14.0	X	153.20397	344.74555	83.38649	2.42631	0.3160560	0.17971955	3.1098480	20	5 12.3	19.5
18152 Heidimanning	13.4	X	291.94380	297.52963	343.24965	9.26605	0.0628541	0.18494574	3.0509832	20	4 1.8	17.6
18153 2000 OC ₆₁	12.5	X	230.84671	352.65970	329.59230	15.06454	0.2074006	0.17892501	3.1190477	20	3 4.3	17.7
18154 2000 PA	14.4	X	327.60582	257.77432	93.85469	3.17405	0.0966567	0.19725914	2.9226577	20	8 27.6	18.0
18155 Jasonschuler	14.7	X	248.84142	64.83637	347.51030	4.51376	0.1844069	0.24201467	2.5502040	20	7 15.7	18.4
18156 Kamisaibara	12.6	X	154.91598	166.55479	328.33048	9.15648	0.0225032	0.18862154	3.0112157	20	7 24.8	16.9
18157 Craigwright	14.5	X	353.48510	349.27429	29.39							

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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	X	312.52071	5.51178	0.55786	9.56016	0.0982030	0.18971763	2.9996063	20	8 23.3	15.9
18162 Denlea	15.9	X	274.19014	59.95347	232.94469	1.32215	0.0762001	0.28449471	2.2895664	20	3 17.8	18.8
18163 Jennalewis	14.8	X	21.15185	313.75224	134.47723	5.24956	0.1441064	0.26884356	2.3775863	20	—	—
18164 2000 PA ₂₀	13.3	X	264.48077	323.45677	7.00868	9.39662	0.0893208	0.18641118	3.0349724	20	4 26.8	17.8
18165 2000 PN ₂₀	15.8	X	130.92581	305.76875	93.58253	3.22902	0.2044924	0.27403007	2.3474908	20	3 9.5	19.2
18166 2000 PG ₂₇	14.5	X	340.63973	193.53477	110.01622	4.66395	0.1188600	0.29261802	2.2469945	20	7 20.2	16.0
18167 Buttani	13.8	X	300.28395	359.36588	149.26739	9.63216	0.0759801	0.21368701	2.7708774	20	—	—
18168 2000 PN ₂₈	14.0	X	198.69106	253.02552	227.51696	15.39916	0.1433979	0.24037841	2.5617638	20	8 16.9	18.4
18169 Amaldi	12.6	X	107.88582	197.84914	246.38641	10.09892	0.1590719	0.17608238	3.1525268	20	4 6.9	17.4
18170 Ramjeawan	14.4	X	145.50576	43.81549	351.29955	4.54538	0.1933658	0.22564384	2.6721063	20	3 19.1	18.7
18171 Romaneskue	15.8	X	199.53364	70.71574	184.91300	2.16382	0.1761043	0.26745975	2.3857802	20	—	—
18172 2000 QL ₇	15.6	X	44.51536	100.78023	338.46065	17.83316	0.5110951	0.26104258	2.4247213	20	1 6.7	15.6
18173 2000 QD ₈	15.3	X	229.41065	88.59606	181.31915	5.45597	0.2029860	0.27336781	2.3512806	20	—	—
18174 Khachatryan	14.8	X	162.01232	52.70220	340.88754	5.76140	0.1073381	0.27952869	2.3166039	20	3 22.3	17.9
18175 Jenniferchoy	14.3	X	1.23169	316.62099	14.20287	1.96811	0.0513574	0.20013472	2.8945946	20	9 20.0	17.9
18176 Julianhong	14.7	X	268.28427	243.35414	122.29905	2.56115	0.1283115	0.23645100	2.5900528	20	6 13.5	18.1
18177 Harunaga	14.1	X	62.06472	242.94992	156.30581	7.83754	0.0809519	0.21462560	2.7627932	20	—	—
18178 2000 QP ₂₈	15.0	X	59.08822	182.60074	144.99376	3.05306	0.1576445	0.30581020	2.1818995	20	—	—
18179 2000 QV ₂₉	14.0	X	19.90841	86.68972	11.96128	6.88966	0.0941589	0.26641131	2.3920354	20	—	—
18180 Irenesun	14.7	X	63.76017	218.58561	53.39869	4.51327	0.1589900	0.29984455	2.2107448	20	10 31.3	17.5
18181 2000 QD ₃₄	13.2	X	257.58317	251.93838	330.40587	21.18680	0.2958025	0.27538176	2.3398029	20	—	—
18182 Wiener	14.5	X	264.56490	224.42548	258.25416	1.05533	0.0037428	0.20688127	2.8313177	20	11 25.9	18.4
18183 2000 QG ₃₇	14.9	X	112.85128	194.42652	181.96850	2.06249	0.2169965	0.26936452	2.3745198	20	1 18.9	17.8
18184 Dianepark	14.7	X	249.41051	155.06960	205.56276	2.10943	0.0707046	0.23812523	2.5778983	20	5 21.8	18.0
18185 2000 QW ₄₉	13.4	X	38.64991	184.12756	19.26626	1.30503	0.0907366	0.18720794	3.0263550	20	5 29.9	17.3
18186 2000 QW ₅₀	14.1	X	76.49846	103.61994	103.26919	2.38113	0.0909317	0.19264916	2.9690987	20	7 28.1	18.2
18187 2000 QQ ₅₃	13.3	X	42.73569	211.38101	83.03859	2.57987	0.2732317	0.20272028	2.8699297	20	11 3.2	17.2
18188 2000 QD ₅₅	14.2	X	206.71596	300.95060	51.87780	3.36648	0.2335568	0.18041044	3.1019034	20	3 23.7	19.5
18189 Medeobaldia	14.3	X	359.70856	138.68938	7.26684	1.84243	0.0386427	0.22180166	2.7028764	20	1 14.0	17.6
18190 Michaelpizer	14.3	X	239.31581	149.65236	270.14665	5.51971	0.1811203	0.24039605	2.5616384	20	7 13.7	18.0
18191 Rayhe	13.8	X	352.36165	231.87679	215.87968	3.67587	0.0377495	0.21223895	2.7834665	20	—	—
18192 Craigwallace	14.4	X	203.16351	354.85571	238.40962	3.88797	0.0449218	0.21295356	2.7772360	20	—	—
18193 Hollilydrury	15.1	X	217.22901	273.45197	237.64322	4.04484	0.1566553	0.25424790	2.4677309	20	10 20.8	18.5
18194 2000 QE ₁₀₀	13.8	X	81.27161	314.99102	150.23718	10.17992	0.0116722	0.17577090	3.1562501	20	3 16.3	18.2
18195 2000 QG ₁₁₆	15.9	X	272.91529	259.44759	133.08716	2.01536	0.2613021	0.29109889	2.2548052	20	7 8.5	18.6
18196 Rowberry	14.7	X	302.22959	217.34289	35.22139	3.44149	0.1682252	0.28381342	2.2932291	20	2 16.9	17.6
18197 2055 P-L	14.9	X	268.13431	247.17747	344.39959	8.79689	0.1363513	0.27062747	2.3671265	20	—	—
18198 2056 P-L	13.8	X	139.80347	350.00998	205.31550	12.34392	0.1208953	0.19700086	2.9252117	20	9 22.5	18.5
18199 2583 P-L	14.3	X	37.17607	244.80134	56.52958	2.93511	0.0801026	0.19734214	2.9218382	20	10 6.3	18.2
18200 2714 P-L	15.4	X	35.34712	106.86615	9.12076	2.05862	0.2710383	0.26952049	2.3736036	20	1 14.0	16.3
18201 2733 P-L	15.1	X	290.83345	308.85615	109.03180	2.88279	0.1221212	0.24654302	2.5188805	20	10 4.4	17.8
18202 2757 P-L	14.2	X	190.72880	308.38139	37.79351	1.40909	0.2315801	0.17513133	3.1639297	20	3 4.1	19.6
18203 2837 P-L	15.0	X	128.08981	326.25461	197.21508	3.04556	0.0921308	0.24384093	2.5374548	20	8 4.7	18.7
18204 3065 P-L	14.7	X	203.35527	46.53017	261.48723	5.58925	0.1278829	0.22182587	2.7026797	20	1 23.9	18.9
18205 3090 P-L	13.0	X	171.23837	196.65638	231.34181	14.19599	0.2266955	0.17453617	3.1711182	20	5 22.5	18.4
18206 3093 P-L	13.1	X	170.08682	306.07677	300.28806	12.35113	0.0863001	0.20096022	2.8866624	20	12 25.9	17.6
18207 4041 P-L	15.8	X	127.79191	97.60688	291.84623	1.87044	0.1709982	0.27097518	2.3651011	20	2 16.3	19.0
18208 4095 P-L	15.4	X	68.28007	208.50906	231.12103	4.35946	0.1416203	0.22059550	2.7127199	20	2 2.6	18.5
18209 4158 P-L	15.2	X	34.39354	164.01623	333.86785	4.25056	0.0563234	0.27176970	2.3604892	20	2 13.5	17.6
18210 4529 P-L	14.2	X	201.83128	335.43368	356.84935	4.74468	0.1464513	0.17428170	3.1742041	20	2 26.5	19.3
18211 4597 P-L	15.4	X	355.26346	253.80245	167.44065	3.73449	0.1993004	0.28242653	2.3007303	20	—	—
18212 4603 P-L	13.4	X	107.69310	351.55196	81.89487	3.03890	0.2004085	0.17284209	3.1918052	20	4 3.5	18.1
18213 4607 P-L	13.9	X	310.75377	184.08939	18.62657	5.41675	0.1171585	0.22184296	2.7025409	20	1 10.5	17.6
18214 4615 P-L	14.2	X	132.47764	276.90300	105.26754	2.53592	0.1798922	0.17331310	3.1860197	20	2 24.8	19.1
18215 4792 P-L	14.4	X	47.40552	255.38619	14.39116	2.39970	0.0472827	0.19630369	2.9321335	20	9 4.0	18.3
18216 4917 P-L	14.8	X	137.27760	190.31720	18.76603	2.20003	0.0681030	0.24715324	2.5147328	20	10 14.3	18.4
18217 5021 P-L	14.5	X	225.91288	90.77631	210.83512	9.77628	0.1725488	0.27242848	2.3566823	20	1 28.8	18.5
18218 6245 P-L	14.3	X	221.40890	15.77079	193.36592	13.02942	0.0878798	0.23470223	2.6029026	20	—	—
18219 6260 P-L	12.1	X	28.07374	173.31312	353.46003	16.21936	0.0467860	0.17363637	3.1820640	20	3 23.2	16.3
18220 6286 P-L	13.9	X	297.37099	230.33907	322.38655	2.80983	0.0921934	0.17060358	3.2196645	20	—	—
18221 6526 P-L	14.5	X	188.66610	183.46714	179.21131	18.11226	0.1415456	0.17489142	3.1668225	20	3 20.2	19.7
18222 6669 P-L	15.6	X	327.82576	322.19570	358.49013	6.39952	0.1780955	0.29446736	2.2375767	20	7 18.7	17.2
18223 6700 P-L	15.1	X	77.87351	45.70119	13.62950	3.21434	0.0946792	0.22063391	2.7124050	20	1 17.9	18.4
18224 6726 P-L	14.9	X	342.30337	208.87352	118.07378	3.02444	0.0568265	0.19594703	2.9356905	20	8 17.5	18.7
18225 7069 P-L	14.5	X	299.78088	216.86659	207.26325	11.49507	0.1302831	0.24729192	2.5137926	20	10 27.6	17.1
18226 1182 T-I	13.0	X	237.72290	208.48078	188.29539	12.95541	0.1619338	0.22602656	2.6690891	20	6 14.3	17.3
18227 1222 T-I	14.4	X	185.32326	355.23459	346.97555	11.25309	0.2312790	0.25867660	2.4394839	20	2 19.9	18.6
18228 Hyperenor	11.9	X	230.55234	347.72285	12.28512	3.20106	0.1268628	0.08121151	5.2810993	20	4 27.7	19.3
18229 3222 T-I	15.1	X	199.12686	82.86841	230.87551	1.60177	0.2095517	0.31750992	2.1279652	20	1 18.8	18.5
18230 3285 T-I	15.0	X	330.40660	296.90936	189.19150	4.85238	0.2114351	0.25655373	2.4529225	20	—	—
18231 3286 T-I	14.6	X	359.38584	129.52746	6.57320	13.21936	0.1258756	0.21821692	2.7323968	20	—	—
18232 3322 T-I	13.8	X	132.77271	350.22486	8.37837	15.35919	0.2241254	0.23691169	2.5866940	20	1 30.9	18.0
18233 4068 T-I	13.9	X	153.57823	236.44539	163.50601	11.55606	0.0868887	0.18157217	3.0886583	20	3 29.9	18.6
18234 4262 T-I	13.8	X	318.13976	89.82153	74.55520	3.27657	0.0845442	0.21714889	2.7413489	20	—	—
18235 Lynden-Bell	13.9	X	111.88840	261.78506	217.9354	0.71389	0.1540245	0.18117042	3.0932227	20	5 27.4	18.6
18236 Bernardburke	14.3	X	267.55816	54.14379	209.28169	3.86765	0.0443763	0.26361581	2.4089165	20	2 4.7	17.5
18237 Kenfreeman	15.5	X	148.95633	67.92599	169.21175	2.49058	0.1536856	0.25547150				

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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	14.0	X	119.99663	358.39546	177.2500	5.19110	0.0674912	0.21882389	2.7273417	20	1 16.0	17.7
18242 Peebles	15.4	X	176.98304	143.12830	22.93019	2.54143	0.1474386	0.27294801	2.3536909	20	10 2.9	18.9
18243 Gunn	13.4	X	168.53605	162.76288	5.06000	6.87475	0.0939555	0.29355600	2.2422054	20	10 1.3	16.3
18244 Anneila	14.9	X	161.91261	145.46509	176.43660	9.09185	0.1072161	0.21871718	2.7282287	20	—	—
18245 3061 <i>T</i> -2	14.3	X	224.02930	186.46660	171.19605	16.75509	0.0141009	0.18203215	3.0834529	20	4 27.4	18.9
18246 3088 <i>T</i> -2	15.5	X	129.43267	296.58850	64.86085	3.22676	0.1157583	0.21878058	2.7277017	20	1 14.9	19.3
18247 3151 <i>T</i> -2	15.1	X	246.44581	55.95192	32.80598	3.74610	0.0829373	0.29347217	2.2426325	20	9 23.4	17.6
18248 3152 <i>T</i> -2	15.8	X	136.75103	148.44436	23.27868	6.35324	0.0650917	0.29231841	2.2485296	20	9 2.2	18.7
18249 3175 <i>T</i> -2	16.2	X	347.63089	268.11981	30.22469	5.53538	0.1552213	0.29196988	2.2503186	20	7 29.8	17.9
18250 3178 <i>T</i> -2	14.0	X	179.92459	348.63819	29.56302	3.16625	0.0703411	0.20162093	2.8803525	20	3 27.9	18.3
18251 3207 <i>T</i> -2	15.1	X	157.94167	115.64339	38.24495	7.07073	0.0935132	0.29228613	2.2468951	20	9 3.9	18.3
18252 3282 <i>T</i> -2	14.9	X	91.69845	262.80172	34.10896	5.52925	0.0722978	0.25534878	2.6066331	20	12 15.5	18.5
18253 3295 <i>T</i> -2	14.7	X	95.20349	179.81951	159.90080	6.80643	0.1407918	0.25793613	2.4441504	20	—	—
18254 4062 <i>T</i> -2	14.1	X	18.24391	329.18287	180.67850	13.08263	0.1150050	0.22033711	2.7148403	20	2 9.4	17.4
18255 4188 <i>T</i> -2	14.8	X	27.88731	333.65829	124.87791	3.15543	0.0322852	0.21801234	2.7341059	20	—	—
18256 4195 <i>T</i> -2	14.5	X	164.33973	193.89493	130.86923	3.43612	0.0781630	0.21866300	2.7286794	20	1 4.1	18.4
18257 4209 <i>T</i> -2	14.1	X	348.24031	185.33004	42.76940	5.80656	0.1045376	0.18136911	3.0909632	20	4 13.6	17.8
18258 4250 <i>T</i> -2	14.1	X	17.12849	5.91490	176.91351	14.07048	0.1203994	0.24380936	2.5376738	20	3 24.7	16.5
18259 4311 <i>T</i> -2	15.4	X	357.13383	116.56654	138.95151	3.50158	0.0987128	0.28952855	2.2629509	20	6 4.5	17.4
18260 5056 <i>T</i> -2	15.1	X	344.75712	129.85554	334.37065	13.35028	0.2066604	0.25709005	2.4495098	20	—	—
18261 5065 <i>T</i> -2	15.0	X	235.68889	244.51068	243.33407	9.79289	0.0758021	0.25300776	2.4757882	20	10 23.3	18.3
18262 5125 <i>T</i> -2	13.6	X	318.10370	343.07701	295.46403	9.46653	0.2176242	0.184233203	3.0588578	20	4 10.3	17.7
18263 Anchialos	11.4	X	288.35562	144.96796	311.39690	10.60867	0.0389216	0.08333701	5.1909171	20	10 21.8	18.3
18264 5184 <i>T</i> -2	14.4	X	190.16988	180.93737	227.63466	9.20390	0.1099197	0.18232993	3.0800947	20	5 15.3	19.2
18265 1136 <i>T</i> -3	15.0	X	24.79074	317.85564	269.12175	4.87685	0.1101737	0.29270501	2.2465493	20	6 13.4	16.8
18266 1189 <i>T</i> -3	15.5	X	112.40788	13.22302	291.68656	4.02735	0.2049239	0.25823143	2.4422867	20	—	—
18267 2122 <i>T</i> -3	16.1	X	95.57839	320.43887	239.86249	2.79922	0.0788971	0.29520498	2.2338479	20	8 18.7	19.0
18268 Dardanos	11.9	X	262.98651	112.46111	218.38691	16.59784	0.0963479	0.08406289	5.1609917	20	5 1.0	18.7
18269 2206 <i>T</i> -3	14.9	X	19.44023	142.56492	258.18949	2.65910	0.0996816	0.21047968	2.7989551	20	—	—
18270 2312 <i>T</i> -3	15.4	X	55.74334	330.04903	357.36328	2.66501	0.0519879	0.30110959	2.2045485	20	12 21.6	18.0
18271 2332 <i>T</i> -3	14.0	X	188.05225	349.59755	215.81816	5.52857	0.0789218	0.25520865	2.4615337	20	12 7.0	17.3
18272 2495 <i>T</i> -3	15.2	X	352.27256	97.05238	285.56421	2.85239	0.0954061	0.25404664	2.4690340	20	12 1.0	17.9
18273 3140 <i>T</i> -3	15.6	X	76.47969	46.57448	267.48750	0.25169	0.0405836	0.30146349	2.2028228	20	12 28.8	18.1
18274 3150 <i>T</i> -3	14.8	X	75.91379	256.13991	126.75999	1.32945	0.0826302	0.21302211	2.7766401	20	—	—
18275 3173 <i>T</i> -3	14.5	X	47.74353	206.10818	205.17304	8.39665	0.0228212	0.21296373	2.7771475	20	—	—
18276 3355 <i>T</i> -3	14.8	X	146.87854	67.93152	202.24990	8.64993	0.0760163	0.21104214	2.7939798	20	12 31.4	19.1
18277 3446 <i>T</i> -3	14.1	X	226.38395	55.33708	174.60353	4.08518	0.0314875	0.21318171	2.7752541	20	—	—
18278 Drymas	11.4	X	343.18701	207.86897	31.52506	17.92876	0.0690130	0.08361645	5.1793458	20	4 25.9	17.9
18279 4221 <i>T</i> -3	13.9	X	354.76953	349.08703	176.66467	9.32074	0.1435236	0.21648789	2.7469261	20	1 21.1	17.3
18280 4245 <i>T</i> -3	14.2	X	68.98163	9.22014	62.09961	7.53603	0.1305236	0.26147184	2.4220667	20	1 16.1	16.7
18281 Tros	12.4	X	263.99698	169.45480	171.17798	9.54206	0.1025957	0.08304311	5.2031576	20	5 14.3	19.4
18282 Ilos	12.4	X	222.49968	212.68387	164.40431	8.70304	0.0753576	0.08236440	5.2317022	20	5 15.5	19.6
18283 5165 <i>T</i> -3	15.0	X	93.82599	253.27198	88.00304	7.13347	0.1642120	0.25848678	2.4406781	20	—	—
18284 Tsereteli	14.7	X	65.85406	344.60716	330.89804	4.28319	0.2516951	0.30017061	2.2091436	20	—	—
18285 Vladplatonov	12.8	X	30.19656	141.80818	35.87812	12.36499	0.1242190	0.22578217	2.6710148	20	4 13.9	15.6
18286 Kneipp	15.1	X	59.07197	74.91850	48.00862	3.27144	0.1550953	0.26181305	2.4199619	20	3 17.1	17.4
18287 Verkin	13.5	X	347.60759	11.86555	44.71293	8.80760	0.0500439	0.28822311	2.2697787	20	—	—
18288 Nozdrachev	13.4	X	8.08992	350.66139	58.58145	8.28246	0.1673820	0.20071360	2.8890265	20	—	—
18289 Yokoyamaoichi	13.7	X	123.33494	299.52223	37.35592	12.19759	0.1785800	0.20872454	2.8146239	20	—	—
18290 Sumiyoshi	13.8	X	1.95627	253.47616	344.44730	6.72144	0.0850447	0.27840336	2.3228423	20	5 13.1	16.2
18291 Wani	14.3	X	136.18455	215.02801	355.60533	4.43121	0.2301292	0.23848583	2.5752991	20	10 15.9	18.8
18292 Zoltowski	14.1	X	232.60224	309.61237	150.15262	2.69273	0.0712295	0.19419824	2.9532884	20	9 6.7	18.4
18293 Pilyugin	14.2	X	194.00720	308.54613	354.33146	4.48760	0.2229828	0.27386062	2.3484591	20	4 24.3	18.1
18294 Rudenko	15.1	X	69.79987	38.12828	32.10979	6.48759	0.1805522	0.28689577	2.2767541	20	—	—
18295 Borispetrov	13.0	X	232.69713	257.63048	84.85286	10.40103	0.2652117	0.22694806	2.6618591	20	3 31.6	17.8
18296 1978 <i>VW</i> ₂	14.4	X	82.49677	353.90277	134.50380	1.73852	0.1453475	0.17401095	3.1774959	20	5 3.6	18.7
18297 1978 <i>VG</i> ₄	14.8	X	326.46724	133.89312	57.66474	3.39346	0.0092856	0.21960261	2.7208904	20	2 1.4	18.4
18298 1979 <i>MZ</i> ₄	14.8	X	326.30184	198.46508	123.29149	8.64516	0.2021876	0.24010592	2.5637015	20	7 5.9	17.1
18299 1979 <i>MT</i> ₈	13.8	X	318.10888	248.83662	224.36281	4.80877	0.1085684	0.20168676	2.8797257	20	—	—
18300 1979 <i>PA</i>	14.3	X	5.55858	67.44493	227.32854	12.04756	0.2659868	0.24095755	2.5576573	20	8 31.5	16.6
18301 Konyukhov	13.4	X	26.36576	30.46456	310.18770	3.24514	0.1784394	0.29144262	2.2530319	20	12 17.6	16.0
18302 Körner	13.6	X	279.57109	8.22182	181.78868	9.04342	0.1103390	0.21603618	2.7507538	20	—	—
18303 1980 <i>PU</i>	14.4	X	122.43134	56.95133	222.79940	4.26235	0.2054615	0.30383621	2.1913397	20	—	—
18304 1981 <i>DH</i> ₁	13.7	X	266.17181	104.96356	279.95898	7.22981	0.1916167	0.18370735	3.0646793	20	6 25.8	18.1
18305 1981 <i>DL</i> ₁	14.1	X	210.62027	34.34017	322.55822	13.95415	0.1503086	0.17811072	3.1285469	20	3 26.1	19.4
18306 1981 <i>EF</i> ₉	14.8	X	58.14202	262.22598	283.74191	3.98454	0.1045347	0.28105225	2.3082243	20	6 7.9	17.3
18307 1981 <i>ER</i> ₁₀	14.7	X	321.20514	98.10397	255.51392	2.23510	0.1512563	0.28591682	2.2819682	20	8 27.4	16.5
18308 1981 <i>EZ</i> ₁₁	15.3	X	57.64564	236.40571	328.44037	3.74174	0.0562741	0.28213347	2.3023233	20	6 28.2	18.0
18309 1981 <i>EV</i> ₁₃	13.4	X	243.66783	79.38646	205.29218	9.88957	0.1694073	0.17344906	3.1843545	20	2 3.7	18.7
18310 1981 <i>EJ</i> ₁₆	15.6	X	300.33557	286.62516	343.48658	6.50120	0.1028918	0.27778260	2.3263016	20	3 17.6	18.4
18311 1981 <i>EV</i> ₁₆	15.7	X	226.64827	346.20942	311.80369	5.94766	0.1626806	0.27417958	2.3466374	20	1 28.2	19.4
18312 1981 <i>EC</i> ₁₉	15.2	X	278.33666	32.08801	350.90219	5.57976	0.1180880	0.28569334	2.2831580	20	7 29.5	17.8
18313 1981 <i>EB</i> ₂₃	14.2	X	293.03771	326.99897	24.63494	2.70473	0.2129525	0.25865377	2.4396274	20	6 15.5	16.9
18314 1981 <i>EX</i> ₂₇	15.6	X	254.57553	57.60606	156.68724	0.30292	0.1579744	0.27074010	2.3664699	20	—	—
18315 1981 <i>ED</i> ₃₇	14.7	X	274.67878	291.59585	28.76042	4.07448	0.1025738	0.27954124	2.3165346	20	4 7.5	17.9
18316 1981 <i>EJ</i> ₃₈	13.8	X	18.86650									

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18321 Bobrov	14.3	X	137.61507	61.60915	24.30221	3.32584	0.2798451	0.22202587	2.7010565	20	5 19.1	19.0
18322 Korokan	14.2	X	197.99987	154.82272	205.83953	5.33963	0.1633876	0.22177801	2.7030686	20	3 22.1	18.5
18323 1983 RZ ₂	13.5	X	327.10754	215.39469	112.80862	8.90801	0.2035532	0.23894292	2.5720137	20	7 18.4	15.7
18324 1984 HA ₂	13.6	X	321.09708	332.50235	255.14249	7.78662	0.2996616	0.18680791	3.0306739	20	1 30.2	17.7
18325 1984 SB ₂	13.6	X	280.62362	162.42027	206.62421	26.34654	0.1596494	0.24190343	2.5509858	20	6 26.2	17.5
18326 1985 CV ₁	13.6	X	39.85380	107.90158	43.87942	1.90722	0.1164146	0.17013838	3.2255307	20	3 29.4	17.6
18327 1985 CX ₁	14.9	X	171.45678	331.04381	219.97155	2.57158	0.0792765	0.29603657	2.2296625	20	11 6.8	17.9
18328 1985 UU	14.1	X	24.90056	17.28055	48.66879	10.43231	0.1866309	0.26058459	2.4275614	20	—	—
18329 1986 RY ₄	14.6	X	329.53582	338.72376	358.17326	4.36356	0.1866189	0.28986515	2.2611986	20	8 20.5	15.8
18330 1987 BW ₁	15.0	X	201.58314	211.89205	243.25692	3.99495	0.1532542	0.28012443	2.3133183	20	7 24.9	18.5
18331 1987 DQ ₆	11.9	X	174.10784	16.42901	352.41705	16.07459	0.0845010	0.18029926	3.1031784	20	3 12.1	16.4
18332 1987 ON	14.1	X	304.59446	154.79923	158.20815	13.95146	0.1906064	0.23536533	2.5980114	20	5 15.8	17.5
18333 1987 OV	14.1	X	333.46106	149.51587	190.68409	8.47261	0.1762286	0.23906658	2.5711267	20	8 21.5	16.5
18334 Drozdov	14.2	X	5.35467	167.83825	139.55902	4.38122	0.2466885	0.23954243	2.5677205	20	9 25.4	16.4
18335 San Cassiano	14.2	X	281.21651	262.92505	139.14842	5.36501	0.2506630	0.23621888	2.5917492	20	8 1.2	17.2
18336 1988 LG	13.5	X	99.80281	252.97858	72.06486	15.20518	0.1483185	0.25965606	2.4333453	20	—	—
18337 1988 RB ₁₁	14.1	X	167.66028	243.93892	152.80815	0.94693	0.2028888	0.17370999	3.1811649	20	4 24.4	19.4
18338 1989 EP ₂	13.6	X	249.15649	263.64048	281.67629	7.89693	0.0983043	0.21283663	2.7782531	20	—	—
18339 1989 GM ₂	14.0	X	43.30964	297.10199	216.67979	6.07686	0.1672534	0.22221084	2.6995574	20	4 5.5	16.8
18340 1989 OM	13.7	X	38.41682	288.97579	25.59950	17.07234	0.2899639	0.19622199	2.9329473	20	11 18.9	17.9
18341 1989 SJ ₅	13.7	X	343.69102	184.90892	47.82358	7.13725	0.0716635	0.27516826	2.3410130	20	4 8.9	16.2
18342 1989 ST ₉	15.9	X	198.64390	315.72357	19.29659	2.27174	0.2355319	0.27355668	2.3501982	20	2 19.3	20.0
18343 Asja	14.2	X	100.53452	222.65685	98.74820	3.52548	0.1931808	0.26276868	2.4140911	20	—	—
18344 1989 TN ₁₁	14.2	X	211.57066	347.77594	10.23393	6.56822	0.1757061	0.27546125	2.3393527	20	3 28.7	17.9
18345 1989 UP ₄	13.4	X	160.94184	30.39507	352.45233	1.14644	0.1981001	0.17546620	3.1599029	20	3 21.5	18.7
18346 1989 WG	14.6	X	170.49168	296.02127	85.81644	5.68998	0.1992756	0.27139985	2.3626333	20	3 25.9	18.4
18347 1989 WU	14.2	X	42.33380	174.94610	270.18031	4.95982	0.1554601	0.29559430	2.2318860	20	—	—
18348 1990 BM ₁	13.4	X	159.75013	316.84796	120.28486	25.29873	0.2419918	0.27250672	2.3562312	20	5 31.6	17.9
18349 Dafydd	13.6	X	358.96482	69.78184	281.82349	16.37059	0.2285316	0.20061791	2.8899450	20	10 24.9	17.0
18350 1990 QJ ₂	15.6	X	22.40494	1.33768	34.98262	1.54440	0.1593083	0.30373286	2.1918367	20	—	—
18351 1990 QN ₅	13.3	X	100.22373	41.05743	345.11695	8.62924	0.1752500	0.21141546	2.7906897	20	1 21.5	17.1
18352 1990 QB ₈	14.2	X	37.28015	331.20019	150.68483	6.55721	0.0549937	0.21519321	2.7579327	20	2 4.8	17.6
18353 1990 QF ₉	13.4	X	319.24933	13.35193	149.51969	15.37819	0.1146488	0.21202245	2.7853610	20	—	—
18354 1990 RK ₅	14.2	X	63.79480	119.78433	207.67536	4.69435	0.2675265	0.20340303	2.8635038	20	12 31.7	18.8
18355 1990 RN ₉	13.8	X	299.32867	73.20493	304.49094	10.91223	0.2465826	0.22832790	2.6511241	20	7 27.7	16.6
18356 1990 SF ₁	14.1	X	36.31131	146.97450	264.83213	3.60772	0.1767010	0.20542488	2.8446839	20	—	—
18357 1990 SR ₂	14.7	X	99.56933	280.11036	32.41357	4.73496	0.1962222	0.30451942	2.1880608	20	—	—
18358 1990 SB ₁₁	14.9	X	40.55652	82.48354	284.67387	4.46052	0.1742339	0.30298879	2.1954237	20	—	—
18359 Jakobstaude	14.3	X	284.98620	235.83543	213.31469	1.18790	0.0932488	0.19705133	2.9247122	20	10 28.9	17.8
18360 Sachs	14.6	X	237.35775	96.52954	224.78309	8.29245	0.1871309	0.21772408	2.7365186	20	3 6.6	19.2
18361 1990 VN ₆	14.6	X	169.87335	349.14824	142.36223	6.67207	0.0437006	0.28854378	2.2680967	20	8 14.9	17.4
18362 1990 VX ₆	13.8	X	314.03736	247.38114	101.58233	11.24391	0.1174790	0.19122566	2.9838153	20	7 29.4	17.5
18363 1990 VW ₈	13.8	X	351.90234	238.42572	222.72068	12.98501	0.1642458	0.23656982	2.5891854	20	—	—
18364 1990 WF ₄	13.5	X	46.44355	46.60618	95.42459	11.98484	0.1433425	0.17654352	3.1470347	20	4 4.6	17.6
18365 Shimomoto	11.9	X	40.75218	175.61892	57.57587	11.16302	0.0430988	0.18811879	3.0165783	20	7 7.0	16.1
18366 1991 DG ₁	13.5	X	189.01694	271.05213	173.90160	4.95735	0.1510980	0.17990937	3.1076603	20	6 26.6	18.6
18367 1991 FS ₁	14.4	X	222.54076	179.81785	51.60975	0.40748	0.1496509	0.26133768	2.4228955	20	—	—
18368 Flandrau	14.7	X	357.32698	105.99176	48.25201	23.79246	0.0544499	0.36827018	1.9276359	20	—	—
18369 1991 LM	12.9	X	341.41225	193.36077	103.38012	16.54943	0.0878966	0.23919781	2.5701862	20	7 7.0	15.7
18370 1991 NS ₂	13.8	X	51.52072	99.25001	184.96365	7.66308	0.1739403	0.24193131	2.5507898	20	10 25.4	17.2
18371 1991 PH ₁₀	14.0	X	245.02367	275.52014	116.10845	1.67608	0.1491805	0.23247279	2.6195175	20	6 16.8	17.8
18372 1991 RF ₁₆	14.2	X	261.92995	290.58730	62.83576	4.06599	0.1374536	0.23090432	2.6313665	20	5 18.5	17.9
18373 1991 RQ ₁₆	14.7	X	211.74508	260.44999	71.87722	4.09150	0.1560143	0.22452310	2.6809911	20	3 3.2	19.0
18374 1991 RA ₁₈	14.4	X	170.27640	154.73321	215.37693	3.05437	0.1352835	0.22371686	2.6874284	20	3 7.4	18.6
18375 1991 RC ₂₇	13.6	X	252.60362	343.43655	27.94536	13.61051	0.1775157	0.23029189	2.6360296	20	5 23.1	17.6
18376 Quirk	14.6	X	125.70515	323.94715	38.63198	10.50079	0.2333937	0.21905977	2.7253835	20	1 29.6	18.9
18377 1991 SH ₁	13.4	X	20.64567	199.85306	74.11051	14.01385	0.1976343	0.23853879	2.5749178	20	9 4.1	16.4
18378 1991 UX ₂	13.7	X	112.10508	227.35523	44.39010	16.07797	0.0710481	0.24061294	2.5600988	20	12 1.2	17.5
18379 Josévándam	14.3	X	74.13794	182.47284	193.92554	10.41757	0.1384843	0.21124270	2.7922111	20	—	—
18380 1991 VZ ₈	14.5	X	194.58579	315.88171	59.61829	6.83284	0.1539621	0.22395556	2.6855185	20	4 9.5	18.9
18381 Massenet	13.2	X	22.84075	324.76206	138.07306	6.63710	0.1435233	0.21042245	2.7994626	20	—	—
18382 1992 EG ₂₂	14.5	X	147.77454	225.75783	96.70359	5.15950	0.1754206	0.30834297	2.1699348	20	—	—
18383 1992 ER ₂₈	14.2	X	256.23175	221.17171	108.72371	2.51666	0.1634176	0.18102920	3.0948312	20	4 12.2	18.8
18384 1992 ES ₂₈	14.0	X	98.31513	290.16351	20.96719	2.61273	0.0175119	0.19842456	2.9112027	20	12 23.4	18.1
18385 1992 EG ₃₁	13.8	X	300.44561	182.28329	162.57965	10.44156	0.0978315	0.18619887	3.0372790	20	7 3.2	17.9
18386 1992 EL ₃₅	15.0	X	345.28492	114.95791	175.67114	5.48481	0.1606612	0.28857631	2.2679263	20	7 5.9	16.7
18387 1992 GN ₃	15.3	X	211.71304	288.87684	6.20881	2.22354	0.2383425	0.27159417	2.3615062	20	1 12.6	19.2
18388 1992 GX ₄	14.6	X	62.70011	174.63830	38.72791	4.14805	0.0972647	0.28643918	2.2791930	20	7 27.6	17.2
18389 1992 JU ₂	14.8	X	165.67277	125.91138	211.48486	5.19874	0.2296332	0.30497707	2.1858713	20	1 20.8	18.3
18390 1992 JD ₃	14.1	X	93.17425	159.78178	48.01160	6.62975	0.1125010	0.28851407	2.2682524	20	9 3.9	17.2
18391 1992 PO ₁	15.3	X	177.55098	20.52332	299.15452	3.12576	0.2483316	0.26561811	2.3967952	20	1 16.3	19.3
18392 1992 PT ₄	14.1	X	176.13821	153.65438	134.84753	9.61524	0.1747930	0.26298574	2.4127626	20	—	—
18393 1992 QB	14.3	X	225.17665	243.57152	55.59958	24.11341	0.2261966	0.27012515	2.3700602	20	2 3.2	18.8
18394 1992 RR ₅	14.1	X	317.14417	38.52071	88.54053	4.05767	0.1798162	0.25636595	2.4541202	20	—	—
18395 Schmiemayer	13.9	X	163.15260	301.26873	32.54418	4.77985	0.1126067	0.26310988	2.4120036	20	1 11.2	17.4
18396 Nellysachs	14.7	X	131.78189	298.14915	126.49695	2.973						

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18401 1992 WE ₄	14.1	X	335.75957	304.85933	68.11661	16.48608	0.1863147	0.24499223	2.5294990	20	10 29.9	16.5
18402 1992 YU ₂	14.5	X	247.84702	200.74775	227.65661	4.00679	0.2622249	0.23800903	2.5787373	20	7 23.7	18.4
18403 Atsuhitotaisei	14.8	X	142.40396	311.46443	174.36691	3.64839	0.3098535	0.23038315	2.6353334	20	7 11.9	19.5
18404 Kenichi	13.0	X	343.05729	141.48616	25.30212	9.89327	0.1733129	0.21468688	2.7622674	20	1 2.3	16.4
18405 1993 FY ₁₂	13.0	X	197.68362	67.73196	164.26783	9.46739	0.0754539	0.20503438	2.8482947	20	—	—
18406 1993 FT ₁₄	14.5	X	226.26489	344.43731	131.35650	5.56098	0.2493282	0.23599592	2.5933814	20	9 5.0	18.6
18407 1993 FQ ₂₄	14.1	X	119.00465	152.47004	201.48331	7.91153	0.1226875	0.20932558	2.8092336	20	—	—
18408 1993 FP ₃₀	13.7	X	286.06448	74.29206	224.40117	7.30948	0.0761058	0.18447759	3.0561427	20	4 17.1	18.0
18409 1993 FF ₃₆	16.3	X	170.19179	88.95679	171.51747	6.15992	0.0712891	0.31342247	2.1464262	20	—	—
18410 1993 FC ₅₁	14.5	X	41.48977	47.76224	320.09934	1.21280	0.0695550	0.20376987	2.8600661	20	—	—
18411 1993 FB ₈₂	13.9	X	315.00553	136.50816	172.28612	8.04757	0.1096625	0.18848420	3.0126782	20	6 6.8	17.8
18412 Kruszelnicki	13.7	X	70.29237	245.60102	300.68986	11.71837	0.0847288	0.18583395	3.0412538	20	6 22.1	17.9
18413 Adamspencer	13.9	X	309.22500	338.54163	335.40226	11.19515	0.1225308	0.18491597	3.0513107	20	5 30.8	18.1
18414 1993 OY ₆	14.0	X	275.07567	149.36515	121.18931	6.16624	0.2209582	0.28316329	2.2967378	20	2 2.8	17.3
18415 1993 PW ₅	14.9	X	318.69478	217.88294	226.59818	2.91702	0.1123992	0.30050539	2.2075025	20	—	—
18416 1993 QW	15.2	X	320.41211	161.07580	157.06361	25.58558	0.2281051	0.28901410	2.2656355	20	6 18.5	17.9
18417 1993 QY ₉	16.0	X	21.22875	156.57906	139.52298	5.08837	0.1445936	0.29317986	2.2441229	20	10 4.4	18.2
18418 Ujibe	14.0	X	341.96915	317.52769	42.14401	9.13423	0.2017102	0.29244202	2.2478959	20	11 3.3	15.4
18419 1993 TS ₂₀	14.8	X	358.72799	119.06274	146.92533	2.23680	0.1123417	0.28541494	2.2846425	20	6 24.5	16.7
18420 1993 TR ₂₅	15.4	X	34.53274	356.75000	87.39512	3.59981	0.1327377	0.26788289	2.3832672	20	—	—
18421 1993 TV ₃₄	14.8	X	10.19047	358.23601	86.11027	0.97414	0.0703545	0.30303570	2.1951971	20	—	—
18422 1993 UE ₆	14.8	X	307.92685	178.49551	146.57416	6.06794	0.1903910	0.28605612	2.2812272	20	6 6.9	17.0
18423 1993 UF ₇	14.6	X	342.94564	267.51154	145.52961	4.53343	0.1098587	0.29636171	2.2280315	20	—	—
18424 1993 YG	15.1	X	217.27319	138.60847	286.07875	2.80166	0.1402544	0.28039853	2.3118105	20	7 2.5	18.3
18425 1993 YL	14.4	X	314.37200	123.82968	79.62420	3.24109	0.1560750	0.26670705	2.3902668	20	1 1.1	17.6
18426 Maffei	15.2	X	65.13719	202.79404	254.12576	2.83932	0.1746583	0.26852767	2.3794506	20	2 17.1	17.4
18427 1994 AY	15.1	X	140.32076	180.68386	237.99805	1.55248	0.1939957	0.27222024	2.3578840	20	4 9.8	18.7
18428 1994 AC ₁	15.3	X	126.02696	104.96211	301.01106	8.02324	0.1927839	0.27038598	2.3685357	20	3 6.5	18.7
18429 1994 AO ₁	13.0	X	319.98720	190.11920	286.94824	11.41236	0.1078921	0.25720802	2.4487609	20	—	—
18430 Balzac	14.2	X	52.21704	263.87134	213.51393	6.61817	0.1004901	0.26656634	2.3911079	20	2 13.7	16.8
18431 Stazzema	14.2	X	79.64756	112.35409	116.35701	6.02415	0.1158139	0.26445041	2.4038455	20	1 27.1	16.7
18432 1994 CJ ₂	14.2	X	86.74653	84.97549	130.70558	7.69105	0.1336447	0.23960920	2.5672434	20	9 2.1	17.8
18433 1994 EC	14.0	X	63.60501	232.48740	22.33607	12.84972	0.1472273	0.23855693	2.5747873	20	9 28.9	17.5
18434 Mikesandras	13.6	X	321.66995	29.25948	133.94479	24.88850	0.2306937	0.25783133	2.4448127	20	—	—
18435 1994 GW ₁₀	14.3	X	344.01692	97.68733	61.87035	7.71489	0.1829038	0.25861867	2.4398481	20	—	—
18436 1994 GY ₁₀	13.9	X	45.83184	172.31160	49.92072	8.69758	0.1468703	0.23182596	2.6243877	20	7 18.5	17.1
18437 1994 JR	13.4	X	65.47330	170.23317	82.68842	15.09176	0.1196828	0.23691009	2.5867056	20	9 30.7	17.3
18438 1994 JM ₆	14.5	X	79.29810	21.19512	58.66639	6.00275	0.0212102	0.21985983	2.7187678	20	2 7.7	18.2
18439 1994 LJ ₁	13.5	X	11.60406	93.29906	84.15846	12.29980	0.2055384	0.22372689	2.6873481	20	3 14.1	16.2
18440 1994 NV ₁	14.7	X	319.07421	162.25165	128.20631	6.53534	0.2838538	0.18673989	3.0314098	20	4 25.2	18.3
18441 Cittadivinci	14.1	X	278.79292	17.57633	297.45509	10.08139	0.0963071	0.18159106	3.0884441	20	4 22.1	18.6
18442 1994 PK ₃	13.7	X	319.41216	126.08309	320.58243	1.37067	0.0710639	0.19841233	2.9113222	20	12 17.5	17.2
18443 1994 PW ₈	14.0	X	259.81687	113.68483	331.96538	8.65004	0.0433892	0.19201282	2.9756549	20	9 23.4	18.2
18444 1994 PL ₁₀	14.0	X	228.97469	8.41508	322.81252	2.82507	0.1920662	0.17804630	3.1293015	20	3 15.7	19.1
18445 1994 PC ₁₂	14.2	X	313.08556	292.75528	320.05420	12.92120	0.1145652	0.17889481	3.1193987	20	3 16.2	18.5
18446 1994 PN ₁₃	14.2	X	161.95127	76.62587	323.97266	1.02473	0.2147708	0.17505362	3.1648660	20	4 12.2	19.4
18447 1994 PU ₁₃	14.3	X	239.36969	207.36224	150.26292	2.13503	0.0379673	0.18065245	3.0991325	20	5 10.9	18.8
18448 1994 PV ₁₇	14.0	X	287.02663	176.30152	136.78463	0.80734	0.1966046	0.18259747	3.0770854	20	4 20.3	18.4
18449 Rikwouters	13.6	X	269.33789	124.50630	182.02251	1.85365	0.1821147	0.18013355	3.1050813	20	3 25.3	18.2
18450 1994 PG ₂₇	14.1	X	111.85194	30.31290	131.62974	1.40234	0.1356077	0.18421231	3.0590761	20	7 17.0	18.8
18451 1994 PZ ₂₇	14.0	X	171.84937	355.98200	126.23525	2.99538	0.1286372	0.18520225	3.0481655	20	7 26.9	18.9
18452 1994 PL ₃₃	14.0	X	133.11884	270.76264	166.52703	5.60986	0.1685800	0.17665435	3.1457183	20	4 29.8	19.0
18453 Nishiyamakuro	14.5	X	104.77576	34.00900	358.17901	5.92915	0.2365587	0.24287920	2.5444980	20	2 7.7	17.8
18454 1995 BF ₁	14.2	X	192.50197	274.68432	296.36474	4.01393	0.0770152	0.30173349	2.2015085	20	12 31.5	16.8
18455 1995 DF	15.4	X	191.28676	56.15929	116.91600	4.51071	0.1472309	0.29502463	2.2347582	20	10 31.9	18.5
18456 Mišik	14.8	X	202.21855	106.93899	0.46443	7.13342	0.0960004	0.28969204	2.2620994	20	8 20.5	17.8
18457 1995 EX ₇	14.3	X	79.48978	133.91249	69.46401	0.57034	0.1489256	0.28521205	2.2857258	20	8 12.6	17.1
18458 Caesar	15.0	X	51.59859	220.68559	353.72095	5.87183	0.1383696	0.28255086	2.3000554	20	7 18.7	17.6
18459 1995 FD ₁	14.4	X	272.83348	243.78817	347.32163	1.82226	0.1642882	0.26806241	2.3822030	20	—	—
18460 Pecková	14.8	X	286.37842	124.63191	332.10074	14.55525	0.1402672	0.24225015	2.5485511	20	11 9.6	17.9
18461 Seiichikanno	13.8	X	309.46790	333.47270	134.15732	13.75194	0.1114606	0.22852788	2.6495772	20	4 20.6	17.6
18462 Riccò	14.3	X	333.18549	202.47218	162.49182	2.31015	0.0860611	0.19933766	2.9023056	20	9 23.6	17.8
18463 1995 SV ₁₆	14.7	X	248.98668	340.83309	171.04349	0.28086	0.0889620	0.20440985	2.8540933	20	11 30.4	18.4
18464 1995 SK ₂₃	14.3	X	39.02081	41.71507	24.15394	9.05994	0.1440470	0.20902225	2.8119507	20	—	—
18465 1995 SB ₃₄	14.6	X	235.94341	54.86913	168.17198	4.56020	0.0112753	0.21121123	2.7924884	20	—	—
18466 1995 SU ₃₇	14.3	X	311.54109	176.90661	353.30747	13.55653	0.1298426	0.21357801	2.7718200	20	—	—
18467 Nagatatsu	13.7	X	113.86915	92.54325	237.05772	3.34922	0.1773444	0.20885312	2.8134686	20	—	—
18468 1995 UE ₈	13.9	X	282.15607	171.07302	35.56080	8.31130	0.0609974	0.20953758	2.8073384	20	—	—
18469 Hakodate	14.4	X	225.29055	88.56334	40.48855	2.39837	0.0549653	0.19633264	2.9318452	20	10 7.6	18.6
18470 1995 UX ₄₄	14.0	X	271.88369	48.35214	22.58056	1.89975	0.0803661	0.19412236	2.9540580	20	9 18.7	17.8
18471 1995 UZ ₄₅	14.0	X	12.38641	315.66503	203.99929	9.32931	0.1601305	0.21578079	2.7529238	20	2 10.9	17.2
18472 Hatada	14.4	X	17.70213	116.14044	310.77197	1.50131	0.2304762	0.20456097	2.8526875	20	—	—
18473 Kikuchijun	14.1	X	137.30030	102.47941	335.18336	1.79827	0.0733399	0.21891251	2.7266057	20	4 21.9	17.9
18474 1995 WV ₃	12.7	X	191.87428	236.03402	286.22056	18.12530	0.2211773	0.19059594	2.9903839	20	9 18.3	18.1
18475 1995 WM ₇	13.7	X	319.08736	303.66526	77.61094	10.04969	0.1127535	0.19162951	2.9796217	20	9 25.6	17.4
18476 1995 WR ₇	13.5	X	178.26859	114.42675	262.92302	8.14600	0.					

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18481 1995 YH	12.6	X	354.62422	91.67050	252.28303	8.83256	0.1271287	0.19108377	2.9852923	20	9 25.8	16.3
18482 1995 YO	13.1	X	172.46345	290.08567	108.95507	10.39350	0.0871974	0.17465729	3.1696519	20	4 20.7	18.1
18483 1995 YY ₂	13.2	X	216.35463	267.87260	100.13802	10.81137	0.2441520	0.17773933	3.1329035	20	4 20.6	18.8
18484 1995 YB ₃	13.5	X	197.53718	343.06905	96.69425	2.63982	0.1736084	0.18043971	3.1015680	20	6 27.4	18.6
18485 1996 AB	13.3	X	138.46960	132.95703	298.55263	2.54172	0.1349696	0.17272284	3.1932742	20	4 22.7	18.2
18486 1996 AS ₂	13.5	X	159.13262	47.52071	38.76889	1.99587	0.1794865	0.17561005	3.1581770	20	6 1.9	18.6
18487 1996 AU ₃	12.8	X	34.00577	195.36886	133.62134	15.11577	0.1793631	0.22964133	2.6410058	20	11 30.8	16.6
18488 1996 AY ₃	12.1	X	178.72865	257.16174	138.13404	17.68408	0.2701775	0.17435589	3.1733037	20	4 26.3	18.0
18489 1996 BV ₂	12.7	X	354.16908	333.61149	116.50125	16.09579	0.1137038	0.23830914	2.5765718	20	—	—
18490 1996 BG ₁₇	13.6	X	61.84940	69.51532	343.92178	7.10655	0.2248733	0.21100526	2.7943053	20	1 2.6	16.4
18491 1996 DP ₂	14.7	X	296.72254	51.26216	130.14682	7.25566	0.1260695	0.27862976	2.3215839	20	—	—
18492 1996 GS ₂	14.5	X	343.49831	95.22063	159.72136	7.38329	0.1473990	0.29307819	2.2446418	20	5 4.5	16.4
18493 Demoleon	10.7	X	274.84911	89.57441	215.53913	17.20324	0.0931234	0.08094012	5.2928977	20	4 14.6	17.7
18494 1996 HH ₁₀	15.9	X	128.33813	101.57471	198.58872	3.27302	0.1131670	0.30882745	2.1676648	20	—	—
18495 1996 HH ₂₄	14.8	X	99.85257	257.68685	70.97207	4.27561	0.2084325	0.30689896	2.1767361	20	—	—
18496 1996 JN ₁	14.7	X	103.44523	71.20540	233.15396	1.65905	0.1913937	0.26339162	2.4102832	20	—	—
18497 Nevézice	14.7	X	301.47604	244.96734	75.61678	8.14571	0.1438547	0.28651718	2.2787793	20	5 26.9	17.0
18498 Cesaro	15.3	X	337.20752	49.45100	263.43633	5.93817	0.1468510	0.28814800	2.2701731	20	7 25.3	17.1
18499 Showalter	15.8	X	158.85898	193.35504	134.60890	4.28526	0.3496293	0.26641136	2.3920351	20	1 18.0	20.0
18500 1996 NX ₃	14.7	X	75.04923	208.21974	311.19598	4.72209	0.0459248	0.28012598	2.3133098	20	5 14.3	17.4
18501 1996 OB	14.9	X	320.30389	63.68590	240.30575	3.05975	0.0389484	0.28510044	2.2863223	20	6 17.8	17.4
18502 1996 PK ₁	16.1	X	56.58132	222.37339	143.72903	3.16398	0.1927600	0.25775700	2.4452827	20	—	—
18503 1996 PY ₄	14.1	X	281.35151	69.52099	151.32958	23.87856	0.2628995	0.27159214	2.3615180	20	—	—
18504 1996 PB ₅	14.9	X	317.39308	85.80021	305.35506	3.32702	0.1706645	0.29057501	2.2575145	20	10 22.0	16.4
18505 Caravelli	14.9	X	91.92398	62.95472	190.29672	4.17987	0.1264907	0.29458243	2.2369940	20	11 2.6	18.0
18506 1996 PY ₆	14.3	X	288.70967	283.70402	30.02276	23.21470	0.2329068	0.28082251	2.3094830	20	4 14.4	17.2
18507 1996 QM ₁	14.8	X	176.09269	231.19768	195.05913	6.80470	0.0984466	0.28090030	2.3090566	20	5 22.9	18.1
18508 1996 RJ ₂	14.9	X	206.11640	264.04456	182.41627	6.21135	0.0737763	0.28247705	2.3004560	20	7 24.4	18.0
18509 Bellini	13.3	X	186.25252	137.50609	288.41642	12.25185	0.1357863	0.23363243	2.6108422	20	5 31.7	17.5
18510 Chasles	15.5	X	299.79469	169.32544	44.53374	2.78684	0.1389514	0.22703517	2.6611782	20	1 6.5	19.2
18511 1996 SH ₄	14.8	X	138.36735	72.08450	39.16428	28.80236	0.0437928	0.23099077	2.6307099	20	5 26.9	18.8
18512 1996 SO ₇	14.5	X	158.07102	69.49691	285.93993	1.29228	0.2213190	0.26762718	2.3847850	20	2 9.8	18.3
18513 1996 TS ₅	13.8	X	204.97060	217.02540	297.41697	23.60773	0.1899061	0.28738845	2.2741713	20	9 29.1	17.8
18514 1996 TE ₁₁	15.9	X	249.62956	263.18022	175.44553	24.89180	0.4720506	0.23908290	2.5710096	20	7 16.1	20.9
18515 1996 TL ₁₄	13.8	X	120.00805	12.55317	2.55581	11.76804	0.1230710	0.22163619	2.7042215	20	1 24.6	17.7
18516 1996 TL ₂₉	14.7	X	127.23543	196.55553	214.19221	4.19117	0.1960100	0.26662346	2.3907664	20	3 17.0	18.1
18517 1996 VG ₂	14.5	X	118.25051	210.14542	192.35515	1.90716	0.2067802	0.26399697	2.4065973	20	2 27.8	17.8
18518 1996 VT ₃	14.0	X	82.37254	25.97497	45.26218	8.15559	0.0616302	0.22202550	2.7010595	20	2 6.6	17.6
18519 1996 VH ₄	13.5	X	42.04653	92.91353	77.37749	13.69314	0.1227415	0.22341546	2.6898449	20	4 28.3	16.7
18520 Wolfratshausen	15.1	X	55.09655	276.93843	237.28389	3.56737	0.1863770	0.22481369	2.6786803	20	4 30.9	18.2
18521 1996 VV ₅	14.0	X	4.92312	147.28640	207.28479	5.68656	0.0998403	0.24475728	2.5311175	20	11 11.3	16.8
18522 1996 VA ₆	14.0	X	278.84545	328.57919	84.63422	14.39216	0.1385956	0.24030214	2.5623058	20	9 10.4	17.4
18523 1996 VA ₇	14.3	X	121.44830	324.53583	209.46922	3.89080	0.0897191	0.23764649	2.5813592	20	8 9.9	18.0
18524 Tagatoshihiro	13.8	X	4.88038	153.62175	255.06092	5.50702	0.0701169	0.25167520	2.4845197	20	—	—
18525 1996 VO ₈	14.5	X	147.07259	352.44085	72.57513	3.28317	0.1878479	0.26997579	2.3709342	20	4 25.6	18.1
18526 1996 VB ₃₀	15.0	X	117.79962	195.53504	150.23152	2.61469	0.2342640	0.25997988	2.4313243	20	—	—
18527 1996 VJ ₃₀	13.9	X	175.12683	104.76655	243.43603	5.45429	0.1438325	0.26529270	2.3987547	20	2 9.6	17.7
18528 1996 VX ₃₀	15.0	X	230.14388	80.29509	46.51897	9.81900	0.1957917	0.24358536	2.5392293	20	10 2.7	18.7
18529 1996 WK ₃	14.8	X	134.61017	251.53176	230.64634	4.06893	0.1534831	0.27378872	2.3488702	20	6 24.1	18.3
18530 1996 XS ₁	14.2	X	193.08609	62.99722	289.31850	4.35448	0.1340619	0.22214975	2.7000522	20	3 6.5	18.5
18531 Strakonice	14.4	X	140.82295	249.20101	82.56577	5.00795	0.2400853	0.29951408	2.2123706	20	—	—
18532 1996 XW ₂	14.2	X	105.87879	52.23882	74.17170	13.14267	0.1274440	0.22634406	2.6665925	20	5 26.4	17.9
18533 1996 XJ ₆	14.8	X	54.35004	349.94089	83.58294	7.40405	0.2287395	0.25822556	2.4423237	20	—	—
18534 1996 XE ₁	14.3	X	26.45899	301.46649	42.07792	2.57354	0.1056129	0.19949707	2.9007506	20	11 17.2	17.9
18535 1996 XQ ₁₃	13.7	X	271.76639	91.61502	240.87176	11.51996	0.1194009	0.23108444	2.6299990	20	5 4.3	17.3
18536 1996 XN ₁₅	14.6	X	100.41532	280.74729	91.17436	3.02466	0.0791733	0.21234820	2.7825116	20	—	—
18537 1996 XH ₁₈	13.7	X	61.36772	300.47987	122.71798	10.28583	0.1584807	0.21310378	2.7759306	20	1 5.3	16.7
18538 1996 XY ₁₈	14.5	X	44.51113	210.06453	231.19666	2.90477	0.1687573	0.25772600	2.4454788	20	—	—
18539 1996 XX ₃₀	14.3	X	237.82203	184.77757	241.10653	3.64831	0.2107432	0.23473691	2.6026462	20	7 16.2	18.3
18540 1996 XK ₃₁	14.7	X	157.48934	248.08906	162.39265	3.08810	0.2519154	0.22488984	2.6780756	20	4 21.6	19.2
18541 1996 YA ₁	14.4	X	294.51642	325.80701	101.38307	3.45326	0.0171831	0.19804552	2.9149160	20	10 23.9	18.3
18542 Broglio	14.0	X	42.73576	181.12665	63.65507	14.97501	0.0632190	0.23722609	2.5844081	20	8 5.3	17.5
18543 1997 AE	13.3	X	236.49941	358.12134	311.41303	7.46764	0.1248313	0.21986597	2.7187172	20	2 25.6	17.5
18544 1997 AA ₂	13.5	X	81.59230	132.91888	28.50377	2.81602	0.1410383	0.22412770	2.6841433	20	6 12.6	17.0
18545 1997 AO ₂	13.4	X	206.55860	14.95543	92.19737	11.80174	0.0661804	0.19140731	2.9819272	20	8 20.1	17.9
18546 1997 AP ₄	14.0	X	47.43765	309.50809	198.34999	1.51264	0.1503114	0.26067351	2.4270093	20	3 30.2	16.3
18547 1997 AU ₅	13.1	X	171.75497	167.95672	349.06273	9.60272	0.0460470	0.19202663	2.9755123	20	9 10.1	17.3
18548 Christoffel	14.1	X	145.53305	324.99534	205.43775	7.36971	0.0398744	0.23823518	2.5771050	20	8 29.9	17.7
18549 1997 AD ₁₃	13.4	X	145.69984	126.11324	93.36407	12.16970	0.2476170	0.23575677	2.5951349	20	11 7.5	18.1
18550 Maoyisheng	13.8	X	216.51801	194.51532	255.74127	6.77826	0.0340426	0.18934542	3.0035360	20	8 7.1	18.2
18551 1997 AQ ₁₇	13.4	X	112.52831	47.83675	293.65891	5.45076	0.1956269	0.20996886	2.8034928	20	—	—
18552 1997 AM ₂₁	13.7	X	46.37784	345.96049	114.07578	10.19521	0.1108144	0.21410829	2.7672415	20	1 25.1	16.8
18553 Kinkakuji	13.4	X	325.68920	251.31100	17.35072	1.01271	0.1386562	0.17969743	3.1101033	20	4 26.2	17.2
18554 1997 BO ₁	13.4	X	315.28687	309.65910	59.36967	2.39110	0.0812748	0.19238737	2.9717916	20	8 31.7	17.0
18555 Courant	14.4	X	22.50465	107.78338	332.61634	1.24425	0.0382005	0.20675121	2.8325049	20	—	—
18556 Battiato	13.7											

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18561 Fengningding	14.4	X	353.21189	285.46315	109.97327	3.14591	0.0848267	0.19963574	2.8994159	20	12 3.6	18.0
18562 Ellenkey	13.4	X	284.50692	248.78713	35.55527	1.59776	0.0946742	0.17204358	3.2016737	20	3 27.8	17.9
18563 Danigoldman	13.6	X	41.96749	156.59485	217.60382	0.87127	0.1288861	0.19638669	2.9313073	20	—	—
18564 Casey	13.6	X	95.01060	126.50607	65.04593	0.09554	0.1162372	0.17976085	3.1093717	20	8 2.3	18.1
18565 Selg	14.0	X	158.97628	288.16612	202.10151	4.98800	0.1188627	0.17979431	3.1089860	20	7 22.7	18.9
18566 1997 RS ₃	13.6	X	35.79726	72.64598	22.35279	5.09210	0.1077408	0.18523827	3.0477703	20	1 8.2	17.3
18567 Segenthau	14.5	X	8.25687	76.27582	241.83115	3.36250	0.0689956	0.21288279	2.7778515	20	9 14.9	18.0
18568 Thuillot	12.8	X	38.83575	163.58875	202.28427	21.82533	0.0643084	0.17760073	3.1345333	20	12 18.3	17.5
18569 1997 UC ₁₁	13.7	X	146.63129	264.86149	7.23604	23.19205	0.2084163	0.27150956	2.3619968	20	—	—
18570 1997 VB ₆	15.4	X	14.84168	140.91309	249.74438	1.83438	0.1127483	0.30432053	2.1890141	20	—	—
18571 1997 WQ ₂₁	13.5	X	80.39361	12.53128	275.23664	12.13528	0.1830746	0.25336151	2.4734832	20	12 1.1	17.4
18572 Rocher	15.2	X	299.22632	67.52452	310.08996	1.82440	0.1769096	0.28964394	2.2623498	20	8 17.0	17.1
18573 1997 WM ₂₃	14.2	X	0.68465	253.37400	112.78878	3.27099	0.0922668	0.20631302	2.8365142	20	11 10.2	17.6
18574 Jeansimon	14.6	X	300.89918	51.89363	111.71419	7.65073	0.1299858	0.21604421	2.7506857	20	—	—
18575 1997 WS ₃₁	15.7	X	202.45837	219.33835	233.24693	7.61849	0.0919947	0.29061787	2.2572925	20	7 26.3	18.9
18576 1997 WA ₄₂	15.0	X	99.89091	211.54597	103.79372	6.60469	0.1224132	0.30681586	2.1771291	20	—	—
18577 1997 XH	14.4	X	179.25765	273.47149	319.12366	5.61951	0.1425855	0.29641185	2.2277802	20	—	—
18578 1997 XP	14.7	X	3.92511	257.32519	69.79536	8.35727	0.1901052	0.29425542	2.2386510	20	10 29.9	16.7
18579 Duongtuyenvu	14.3	X	206.02856	187.45106	133.34705	0.80980	0.1472256	0.23481670	2.6020566	20	2 10.5	18.6
18580 1997 XN ₈	14.4	X	308.01054	117.60119	311.36060	3.60399	0.0852179	0.29610458	2.2293211	20	12 4.9	16.6
18581 Batllo	13.8	X	23.82821	225.81461	309.30925	6.68986	0.0459119	0.27265502	2.3553768	20	3 16.8	16.5
18582 1997 XK ₉	13.5	X	40.15808	39.88692	238.23947	21.32697	0.0676546	0.38894966	1.8586907	20	10 3.7	15.7
18583 Francescopedani	15.6	X	326.00573	29.51762	67.01515	3.08191	0.1776519	0.26103879	2.4247447	20	—	—
18584 1997 YB ₂	15.0	X	98.99815	350.45966	281.03184	1.85004	0.1077671	0.29578138	2.2309448	20	12 1.9	18.1
18585 1997 YE ₂	14.3	X	328.74464	15.78203	75.32786	5.60697	0.1062232	0.30291516	2.1957794	20	—	—
18586 1997 YD ₃	13.9	X	232.49133	33.01430	131.14084	6.49176	0.1754855	0.25345807	2.4728549	20	11 25.1	17.2
18587 1997 YR ₅	14.7	X	13.67825	219.91958	109.89096	3.69170	0.0638791	0.29281296	2.2459971	20	10 28.6	17.1
18588 1997 YO ₉	14.4	X	235.04651	28.20739	177.66649	6.43345	0.0885193	0.25876241	2.4389446	20	—	—
18589 1997 YL ₁₀	14.8	X	308.69019	357.21259	27.74317	3.19066	0.1291599	0.29267085	2.2462741	20	9 27.1	16.7
18590 1997 YO ₁₀	13.7	X	21.42326	208.25863	60.04474	6.20840	0.1317074	0.28435079	2.2903389	20	8 19.5	16.0
18591 1997 YT ₁₁	13.5	X	112.40857	7.14237	121.11330	14.57232	0.0823214	0.23215367	2.6219174	20	6 2.4	17.4
18592 1997 YZ ₁₈	14.7	X	156.84498	258.00680	341.98100	6.96572	0.1449495	0.25148461	2.4857748	20	12 10.8	18.7
18593 Wangzhongcheng	14.9	X	168.51936	184.41606	76.71384	2.87553	0.0795268	0.25858474	2.4400616	20	—	—
18594 1998 BJ	14.8	X	303.12622	120.18484	284.04181	6.35837	0.1886337	0.29521734	2.2337855	20	10 6.9	16.6
18595 1998 BR ₁	13.8	X	148.11663	312.31779	43.82169	5.83085	0.2555495	0.27046528	2.3680727	20	2 7.1	17.6
18596 Superbus	15.9	X	27.98837	13.25438	124.94382	3.34851	0.1150862	0.26940143	2.3743029	20	2 3.3	17.9
18597 1998 BE ₈	14.6	X	6.28242	65.55299	342.79877	4.05543	0.1532633	0.30091958	2.2054764	20	—	—
18598 1998 BH ₈	13.3	X	258.93574	165.60966	122.37401	11.04219	0.1261435	0.22539347	2.6740847	20	2 25.5	17.3
18599 1998 BK ₈	15.0	X	134.97518	98.99495	84.39042	3.56069	0.0978684	0.28612574	2.2808572	20	9 15.9	18.2
18600 1998 BK ₁₀	14.1	X	287.79574	283.72705	56.61284	6.89308	0.2337300	0.24156271	2.5533839	20	5 19.0	17.5
18601 Zafar	14.8	X	274.26219	111.59264	98.25975	3.24022	0.1473830	0.26357552	2.4091620	20	—	—
18602 Lagillespie	14.9	X	259.29236	104.92836	102.39819	3.68978	0.1254308	0.26101152	2.4249136	20	—	—
18603 1998 BM ₂₅	14.8	X	127.36296	157.94486	341.98955	5.95068	0.1338081	0.28013068	2.3132839	20	7 10.5	18.1
18604 1998 BK ₂₆	15.5	X	165.58389	121.00518	159.69604	5.82984	0.1540553	0.29634510	2.2281147	20	—	—
18605 Jacqueslaskar	14.9	X	278.49316	89.47467	142.87372	3.03066	0.0325865	0.21723802	2.7405990	20	1 19.2	18.7
18606 1998 BS ₃₃	14.3	X	257.38828	62.58217	116.47572	6.42928	0.1336443	0.25456490	2.4656819	20	—	—
18607 1998 BT ₃₃	14.2	X	191.68385	309.89658	81.60514	6.07471	0.1562145	0.27632526	2.3344737	20	4 24.5	17.8
18608 1998 BU ₄₅	15.0	X	14.17877	191.70177	320.39375	1.64943	0.1513021	0.26840958	2.3801484	20	1 26.5	17.0
18609 Shinobuyama	13.9	X	268.24439	238.77555	133.13343	5.71005	0.1403711	0.28455799	2.2892270	20	6 21.6	16.6
18610 Arthurdent	14.3	X	203.32864	140.18094	319.31263	5.59806	0.2133862	0.24203280	2.5500767	20	7 28.0	18.5
18611 Baudelaire	14.8	X	67.56810	43.12652	326.94551	2.43503	0.1927691	0.25771308	2.4455605	20	—	—
18612 1998 CK ₃	14.2	X	205.67711	241.82269	0.78785	2.34347	0.1406291	0.25537022	2.4604954	20	—	—
18613 1998 DR	14.7	X	154.04204	219.79338	101.23427	6.27708	0.1674226	0.21608208	2.7503642	20	—	—
18614 1998 DN ₂	13.9	X	272.19153	313.47543	8.81564	28.51339	0.1167966	0.22930262	2.6436058	20	4 14.0	17.8
18615 1998 DJ ₅	13.2	X	0.14592	187.87983	114.04634	12.99318	0.1663658	0.23910716	2.5708357	20	8 27.1	15.8
18616 1998 DR ₅	13.0	X	348.29664	320.82847	309.99896	14.76818	0.1748748	0.23169535	2.6253739	20	6 6.2	15.8
18617 Puntel	14.7	X	28.14392	210.97964	303.36129	3.08555	0.0645453	0.31479844	2.1401670	20	2 18.6	16.7
18618 1998 DD ₁₀	14.0	X	309.13475	184.68998	265.27637	5.63909	0.0456017	0.29556727	2.2320221	20	—	—
18619 1998 DG ₁₀	14.3	X	290.55740	199.26226	187.73744	4.63063	0.1262658	0.28606369	2.2811870	20	8 21.5	16.5
18620 1998 DS ₁₀	16.2	X	202.45821	347.58402	103.92455	3.01104	0.3292057	0.28533138	2.2850885	20	7 12.6	20.2
18621 1998 DD ₁₂	15.3	X	41.85702	291.70805	152.03190	7.09555	0.0992238	0.26140548	2.4224766	20	—	—
18622 1998 DN ₁₃	13.6	X	4.21315	357.99194	68.78905	3.56936	0.1291171	0.20958322	2.8069309	20	—	—
18623 Pises	14.1	X	154.06525	203.28383	58.70111	2.70956	0.0276454	0.20601958	2.8392069	20	12 30.8	18.1
18624 Prevert	14.0	X	317.47484	68.31383	177.18533	19.01609	0.0510884	0.17928325	3.1148914	20	3 27.9	18.2
18625 1998 DZ ₁₃	15.4	X	74.01090	183.74075	103.13917	1.59185	0.1853135	0.28551693	2.2840984	20	11 30.3	18.7
18626 Michaelcarr	15.3	X	265.26526	53.30479	10.23077	19.83777	0.0858112	0.37245780	1.9131602	20	9 30.1	16.4
18627 Rogerbonnet	13.8	X	181.25901	300.45813	52.60234	9.33159	0.0738150	0.27043650	2.3682407	20	2 24.8	17.2
18628 1998 DJ ₃₃	14.6	X	165.29445	55.61727	109.84072	5.76353	0.1093249	0.28727450	2.2747727	20	9 26.3	17.9
18629 1998 DZ ₃₃	14.3	X	126.69155	13.91797	165.31376	12.18812	0.1447736	0.23809607	2.5781088	20	8 26.9	18.4
18630 1998 DT ₃₄	15.1	X	120.56905	302.60056	15.98910	5.36342	0.1835019	0.29764362	2.2216296	20	—	—
18631 Maurogherardini	12.8	X	307.94842	290.27864	327.34638	11.69917	0.1406671	0.22625303	2.6673077	20	3 8.8	16.4
18632 Danielsson	14.4	X	356.33846	216.46130	127.58065	3.81593	0.1245713	0.19631901	2.9319810	20	10 6.1	17.8
18633 1998 EU	14.2	X	264.54653	70.42230	180.35426	9.13021	0.0088860	0.17564959	3.1577031	20	2 1.6	18.7
18634 Champigneulles	14.3	X	85.34402	306.60495	188.42475	14.37118	0.0923126	0.22645289	2.6657381	20	5 7.8	17.9
18635 Frouard	14.5	X	343.90975	325.97509	56.22875	0.67288	0.1778911	0.24335543	2.5408285	20	11 22.1	16.8
18636 Villedepompey	14.0	X	54.72897	148.02150	166.62795	2.57271	0.0455583	0.19830597	2.9123631	20	11 9.7	17.9
18637 Liverdun	14.9	X	267.12685	136.87073								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18641 1998 EG ₁₀	13.9 ^m	X	150.22321	103.59978	308.25639	7.15543	0.1042099	0.27248884	2.3563343	20	3 30.9	17.4
18642 1998 EF ₁₂	14.7	X	149.87860	123.08224	36.71717	4.93114	0.1549481	0.28365576	2.2940787	20	9 1.1	18.2
18643 van Rysselberghe	13.3	X	187.45712	316.56570	27.04204	10.39321	0.0960757	0.22180116	2.7028805	20	2 25.5	17.5
18644 Arashiyama	14.2	X	217.59013	48.88020	186.73587	5.70669	0.0698310	0.25778692	2.4450935	20	—	—
18645 1998 EM ₁₉	13.7	X	294.18268	0.36512	256.72140	0.34377	0.1458310	0.17936134	3.1139872	20	2 26.9	18.1
18646 1998 ED ₂₁	14.7	X	101.16096	295.93187	157.30155	8.88671	0.1065580	0.27153787	2.3618326	20	4 1.8	17.6
18647 Václavhübner	15.3	X	171.04583	39.91646	141.14170	3.71976	0.0439494	0.24373225	2.5382090	20	10 18.8	18.7
18648 1998 FW ₉	15.9	X	43.19878	62.67200	194.66145	12.69441	0.1824418	0.27868711	2.3212654	20	9 11.0	18.6
18649 Fabrega	14.0	X	187.63764	298.64790	356.86229	8.64535	0.1375303	0.21222618	2.7835781	20	—	—
18650 1998 FX ₁₀	14.0	X	91.45360	59.61722	351.91765	5.24801	0.0178086	0.21684264	2.7439293	20	1 17.6	17.7
18651 1998 FP ₁₁	13.9	X	341.39735	27.52803	168.00678	5.96282	0.1122239	0.26493063	2.4009398	20	2 4.1	16.5
18652 1998 FD ₁₅	14.0	X	79.81668	24.76045	215.23293	2.31210	0.1675556	0.28156405	2.3054263	20	10 3.6	17.2
18653 Christagünt	14.7	X	354.99807	142.92900	59.46588	10.47044	0.1653993	0.26746190	2.3857674	20	3 10.0	17.1
18654 1998 FR ₂₂	13.4	X	190.38638	261.94617	169.40199	14.33626	0.1786838	0.23595775	2.5936610	20	6 12.6	17.9
18655 1998 FS ₂₆	13.7	X	217.61810	137.21624	160.26651	13.41490	0.0762068	0.21916717	2.7244931	20	1 25.7	17.9
18656 Mergler	14.2	X	136.00922	97.29269	327.66600	6.49779	0.0872892	0.27096846	2.3651402	20	3 31.1	17.5
18657 1998 FE ₃₀	13.7	X	187.24535	341.88436	290.00997	2.78957	0.0611122	0.21178384	2.7874527	20	—	—
18658 Rajdev	15.2	X	71.45866	224.55816	226.25786	1.54086	0.1869660	0.26736543	2.3863412	20	2 22.8	17.3
18659 Megangross	14.6	X	188.22029	159.51133	135.57032	2.19076	0.0488484	0.21489738	2.7604633	20	—	—
18660 1998 FL ₃₄	13.8	X	311.00916	341.06628	211.79056	3.94252	0.0142137	0.21781663	2.7357434	20	1 12.2	17.4
18661 Zoccoli	15.1	X	191.66068	34.21723	197.92665	6.00082	0.0957852	0.25124961	2.4873245	20	—	—
18662 Erinwhite	14.1	X	119.57996	53.13509	242.05817	1.26999	0.0234057	0.20633894	2.8362766	20	12 31.1	18.1
18663 Lynnta	14.6	X	49.53569	266.55773	192.72122	5.83666	0.1086713	0.26407565	2.4061193	20	1 16.4	17.1
18664 Rafaelta	14.9	X	49.92820	28.30349	232.36775	1.12105	0.1225023	0.19245737	2.9710709	20	9 4.9	18.9
18665 Sheenahayes	14.1	X	83.64441	351.48489	197.84194	2.23084	0.1209421	0.23272684	2.6176108	20	7 20.3	17.5
18666 1998 FT ₅₃	13.0	X	267.51162	357.23579	348.58303	12.14985	0.1783958	0.22986612	2.6392837	20	5 4.5	17.0
18667 1998 FE ₆₂	13.9	X	283.73525	268.78431	357.09642	10.85589	0.0673721	0.22119197	2.7078409	20	3 4.4	17.5
18668 Gottesman	14.4	X	93.96008	80.83635	309.02990	1.47508	0.0709554	0.21420820	2.7663810	20	—	—
18669 Lalitpatel	14.2	X	326.46291	138.01210	123.18789	2.95201	0.1394508	0.18129042	3.0918576	20	4 19.0	18.1
18670 Shantanagaur	14.1	X	316.38092	107.98559	155.95747	1.21890	0.1422950	0.18025986	3.1036306	20	4 5.8	18.0
18671 Zacharyrice	14.0	X	62.61771	21.84923	10.53208	5.36166	0.1105922	0.25528206	2.4610618	20	—	—
18672 Ashleyamini	14.3	X	191.95501	201.54267	280.54855	1.49461	0.0776842	0.23806729	2.5783165	20	8 21.9	17.9
18673 1998 FH ₆₆	13.7	X	197.87311	39.56365	250.53172	0.21714	0.0931683	0.16812665	3.2512100	20	1 5.2	18.7
18674 1998 FG ₆₉	12.7	X	345.00627	131.10719	196.02458	10.21311	0.1142859	0.19069807	2.9893161	20	8 17.6	16.5
18675 Amiamini	13.6	X	202.23015	292.01523	116.65203	2.65990	0.0983316	0.22998382	2.6383831	20	5 28.0	17.6
18676 Zdeňkaplavcová	14.7	X	168.36156	2.04434	77.84695	4.90165	0.0797727	0.233471147	2.6120421	20	5 31.4	18.3
18677 1998 FZ ₈₃	12.8	X	214.18376	266.57126	17.50064	9.51620	0.1527667	0.21626542	2.7488096	20	1 8.8	17.4
18678 1998 FS ₈₅	13.6	X	260.29582	123.37873	104.07021	4.94785	0.0607879	0.21611624	2.7500744	20	—	—
18679 Heatherenaie	14.1	X	166.78936	307.41496	254.24850	5.11926	0.0915105	0.28899913	2.2657137	20	11 12.6	17.2
18680 Weirather	14.7	X	131.79173	208.82166	232.80375	6.30359	0.0763621	0.27110572	2.3643418	20	4 17.9	17.9
18681 Caseylipp	14.8	X	199.64271	172.80996	224.34274	6.77005	0.1028448	0.27365836	2.3496160	20	5 8.8	18.2
18682 1998 FH ₁₀₇	13.4	X	340.10560	82.67517	241.62416	8.44227	0.0942100	0.19105628	2.9855786	20	8 5.2	17.2
18683 1998 FB ₁₁₁	12.9	X	326.91600	335.42922	292.38548	7.25164	0.1951342	0.18046089	3.1013253	20	4 15.9	16.7
18684 1998 FW ₁₁₆	13.4	X	342.57442	96.62978	236.26688	10.04240	0.1175611	0.19063073	2.9900201	20	8 19.4	17.1
18685 1998 FL ₁₁₇	14.1	X	168.39409	333.43115	217.60333	13.22241	0.0895442	0.24245382	2.5471237	20	10 23.9	17.9
18686 1998 FZ ₁₁₉	13.3	X	155.49147	349.60210	290.79300	3.61466	0.0779715	0.20874535	2.8144369	20	—	—
18687 1998 FA ₁₂₀	14.0	X	320.62495	115.46472	193.31725	9.90848	0.1017456	0.18846456	3.0128876	20	6 15.8	17.9
18688 1998 FA ₁₂₃	14.0	X	252.97670	142.72783	119.47133	3.35635	0.1340381	0.17091900	3.2157022	20	1 23.3	18.8
18689 Rodrick	14.0	X	96.31381	192.73402	149.47619	2.55535	0.0805423	0.20659025	2.8339760	20	—	—
18690 1998 GB ₁₀	13.1	X	25.45072	191.87989	43.37780	24.18476	0.0624846	0.18591513	3.0403685	20	6 14.5	17.4
18691 1998 HE ₁	13.3	X	243.45408	278.48685	10.51213	7.64044	0.1283198	0.17261461	3.1946088	20	2 16.8	18.3
18692 1998 HJ ₁₄	13.4	X	340.07138	155.58320	122.25621	11.84747	0.1011602	0.18395989	3.0618738	20	6 7.1	17.3
18693 1998 HS ₁₉	14.1	X	44.94330	327.80222	118.56575	6.30829	0.1236113	0.25815123	2.4427925	20	—	—
18694 1998 HQ ₂₄	13.9	X	280.32478	321.10967	236.47422	3.88591	0.1385739	0.21147512	2.7901473	20	—	—
18695 1998 HH ₂₇	14.3	X	81.45288	296.74370	123.85392	4.58788	0.0857998	0.21292684	2.7774683	20	1 24.1	17.7
18696 1998 HB ₃₄	13.7	X	261.76625	191.98965	201.40383	10.71316	0.1096702	0.18981597	2.9985702	20	7 11.1	18.1
18697 Kathanson	14.0	X	271.58867	309.16985	9.89112	1.18180	0.1356311	0.18053777	3.1004448	20	4 17.5	18.5
18698 Racharles	15.3	X	21.44279	70.18484	52.65242	2.98531	0.0994804	0.26142660	2.4223461	20	1 2.7	17.7
18699 Quigley	14.4	X	354.81561	174.08744	328.68148	3.91103	0.0294126	0.21476581	2.7615906	20	1 5.6	18.0
18700 1998 HK ₅₄	13.7	X	40.31188	64.58319	219.56286	9.85144	0.0724359	0.19229819	2.9727103	20	9 11.8	17.8
18701 1998 HB ₅₇	13.5	X	320.69649	126.12729	202.88379	6.95590	0.0621162	0.18771620	3.0208898	20	7 15.5	17.5
18702 Sadowski	14.4	X	231.71868	132.64270	306.63867	4.21645	0.1849230	0.24183733	2.5514505	20	9 8.3	17.9
18703 1998 HN ₆₈	13.8	X	234.38765	17.90438	271.73525	3.27957	0.1154639	0.17137356	3.2100134	20	2 6.5	18.8
18704 Brychristian	14.0	X	256.41648	128.02660	237.19736	6.03181	0.0330226	0.18394030	3.0620912	20	6 10.7	18.2
18705 1998 HX ₈₈	13.7	X	202.55443	263.19797	34.09997	1.62012	0.1296915	0.16760023	3.2580143	20	1 18.7	18.9
18706 1998 HV ₉₃	13.9	X	353.69752	286.00362	335.08391	3.27690	0.0562875	0.18262947	3.0767259	20	6 5.2	17.9
18707 Annchi	14.4	X	216.59106	62.78766	64.50336	6.84389	0.1886882	0.24144732	2.5541974	20	9 19.2	18.3
18708 Danielappel	14.0	X	103.15482	149.94988	19.05367	7.28805	0.0551702	0.18517845	3.0484266	20	7 7.7	18.5
18709 Laurawong	14.0	X	201.00923	237.83390	198.52091	8.22927	0.0270822	0.23026572	2.6362293	20	7 4.9	17.8
18710 1998 HF ₁₀₀	13.8	X	55.15912	55.67740	123.08234	4.68198	0.1526537	0.22596545	2.6695702	20	6 1.0	16.9
18711 1998 HL ₁₀₀	14.2	X	89.25760	297.95896	204.57669	12.77623	0.1155681	0.22606714	2.6687697	20	5 25.6	17.9
18712 1998 HN ₁₀₈	13.3	X	243.13108	175.31009	87.16384	9.30484	0.1747211	0.21333142	2.7739556	20	1 6.9	17.8
18713 1998 HM ₁₁₄	13.2	X	309.76445	225.97094	92.95084	10.88443	0.0858252	0.18443522	3.0566108	20	6 14.8	17.1
18714 1998 HQ ₁₁₄	13.8	X	17.24265	156.65677	89.12238	12.44546	0.1021970	0.18436342	3.0574043	20	6 23.5	17.4
18715 1998 HE ₁₂₁	12.7	X	263.56503	316.48169	89.88219	11.72827	0.0781045	0.18875009	3.0098483	20	8 1.4	17.0
18716 1998 HV ₁₂₁	12.9	X	302.28205	239.30322	116.16280	10.941						

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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>
18721 1998 <i>HC</i> ₁₄₆	13.6	X	268.87009	153.12674	106.01622	7.22133	0.0548145	0.17170264	3.2059105	20	2 14.9	18.2
18722 1998 <i>HF</i> ₁₄₈	13.9	X	213.54647	153.35806	185.03722	2.22693	0.0801743	0.17286556	3.1915163	20	3 16.2	18.7
18723 1998 <i>JO</i> ₁	13.0	X	220.17466	239.61770	58.75540	2.05474	0.1478049	0.16947785	3.2339062	20	2 3.9	18.2
18724 1998 <i>JV</i> ₁	12.9	X	290.35108	140.79437	121.52245	7.45471	0.0882059	0.17438262	3.1729793	20	3 10.9	17.4
18725 Atacama	13.3	X	80.46610	245.39424	196.77737	8.81641	0.1338346	0.21517734	2.7580684	20	2 23.5	16.8
18726 1998 <i>KC</i> ₂	15.1	X	72.93681	290.59828	219.52515	20.91994	0.3114114	0.27121182	2.3637251	20	6 11.8	18.4
18727 Peacock	13.4	X	327.78461	74.82059	179.53901	5.35954	0.1110501	0.17770547	3.1333015	20	4 15.5	17.3
18728 Grammier	13.8	X	86.65382	8.56280	112.46785	5.43066	0.1975466	0.22321799	2.6914310	20	5 6.9	17.5
18729 Potentillo	14.0	X	63.75136	216.88827	102.70219	3.44790	0.0831315	0.19620788	2.9330790	20	12 1.0	18.1
18730 Wingip	13.9	X	73.90870	133.40796	149.37023	2.92807	0.0532718	0.19336425	2.9617741	20	10 25.2	18.1
18731 Vil'bakirov	12.8	X	130.17884	301.82251	220.19236	8.98041	0.0398851	0.18590197	3.0405120	20	7 25.9	17.4
18732 1998 <i>KP</i> ₁₉	12.7	X	216.00053	78.59921	216.81548	22.86941	0.1024274	0.16810020	3.2515510	20	1 22.5	18.2
18733 1998 <i>KV</i> ₃₁	13.6	X	143.02177	220.52431	68.23830	13.51154	0.0331905	0.20265637	2.8705330	20	—	—
18734 Darboux	14.4	X	147.66181	261.52973	231.41896	11.32395	0.1152426	0.22865231	2.6486159	20	7 15.5	18.7
18735 Chubko	13.8	X	108.74191	243.45514	358.55870	0.31540	0.1550991	0.18908296	3.0063148	20	10 21.9	18.5
18736 1998 <i>NU</i>	15.8	X	122.03934	222.85967	297.49995	2.80726	0.4887038	0.27297655	2.3535268	20	8 17.9	20.7
18737 Aliciaworley	14.1	X	50.97463	197.10035	196.90275	8.36675	0.1000158	0.28585030	2.2823222	20	—	—
18738 1998 <i>SN</i> ₂₂	13.6	X	210.70766	309.48780	191.19922	13.03873	0.0997139	0.22393342	2.6856955	20	10 3.3	17.5
18739 Larryhu	14.4	X	112.49911	255.37611	76.44700	4.72702	0.1512345	0.28451269	2.2894700	20	—	—
18740 1998 <i>VH</i> ₃₁	14.7	X	31.77864	324.67687	62.07768	1.90729	0.2084877	0.27518060	2.3409430	20	—	—
18741 1998 <i>WB</i> ₆	14.0	X	34.20962	250.82402	243.71119	5.94160	0.0888190	0.28813650	2.2702335	20	2 2.5	16.2
18742 1998 <i>XX</i> ₃₀	13.5	X	308.62893	136.70441	30.55492	5.71034	0.2045083	0.23224981	2.6211938	20	—	—
18743 1998 <i>YD</i> ₅	12.9	X	282.79546	331.42650	122.62977	19.19311	0.1373529	0.17164978	3.2065687	20	10 29.3	17.5
18744 1999 <i>AU</i>	13.7	X	229.14109	281.21171	130.44187	12.80989	0.1462791	0.27256015	2.3559233	20	—	—
18745 San Pedro	13.3	X	164.65346	327.56528	166.05522	15.01606	0.1049189	0.23514216	2.5996549	20	4 14.4	17.3
18746 1999 <i>FT</i> ₂₀	15.6	X	112.56447	297.31644	6.51131	4.31778	0.2874273	0.25914366	2.4365518	20	—	—
18747 Lexcen	14.6	X	194.22651	296.95622	306.36446	3.31610	0.1204846	0.30852929	2.1690611	20	—	—
18748 1999 <i>GV</i>	14.7	X	201.83680	115.45383	62.30778	7.45838	0.10167959	0.30143898	2.2029422	20	12 6.5	17.3
18749 Ayyubguliev	15.8	X	147.50586	291.40515	250.02892	3.91846	0.0954441	0.29833132	2.2182142	20	9 24.7	18.9
18750 Leonidakimov	14.9	X	311.20654	197.20533	100.33370	5.62743	0.2369327	0.23447162	2.6046089	20	4 26.5	17.9
18751 Yualexandrov	14.8	X	56.68995	328.76573	343.66167	4.64343	0.2513126	0.29641610	2.2277589	20	12 23.9	18.2
18752 1999 <i>GZ</i> ₁₆	15.2	X	120.38986	164.50265	111.54834	3.66491	0.1358008	0.30450090	2.1881495	20	—	—
18753 1999 <i>GE</i> ₁₇	13.6	X	160.17244	277.13308	19.60537	8.40123	0.2724372	0.21664079	2.7456335	20	—	—
18754 1999 <i>GL</i> ₂₁	13.6	X	182.33962	252.91573	39.20264	7.26257	0.1152718	0.26590788	2.3950536	20	—	—
18755 Meduna	14.6	X	59.26428	144.43689	101.70246	7.08560	0.0807197	0.29184467	2.2509622	20	9 9.1	17.3
18756 1999 <i>GY</i> ₃₄	15.2	X	119.94661	109.16800	193.40101	5.70174	0.1689951	0.30712628	2.1756618	20	—	—
18757 1999 <i>HT</i>	14.5	X	109.33112	108.13379	209.82185	1.77052	0.2052059	0.25736054	2.4477933	20	—	—
18758 1999 <i>HD</i> ₂	14.8	X	26.13301	247.65655	128.88329	5.74031	0.1842877	0.30444031	2.1884398	20	—	—
18759 1999 <i>HO</i> ₂	14.7	X	247.82310	306.52277	14.24833	4.75064	0.2430757	0.27579685	2.3374546	20	3 11.5	18.6
18760 1999 <i>HY</i> ₇	14.6	X	145.92484	260.22371	72.36138	2.29220	0.1907013	0.26438301	2.4042541	20	—	—
18761 1999 <i>HA</i> ₈	14.8	X	165.81919	213.57857	37.47734	0.40385	0.1872154	0.26020664	2.4299116	20	—	—
18762 1999 <i>HC</i> ₉	14.9	X	164.28637	45.45557	303.78622	1.97933	0.1878861	0.31829844	2.1244493	20	1 30.8	17.9
18763 1999 <i>JV</i> ₂	14.4	X	68.39836	69.58617	168.82679	12.93560	0.1378235	0.24286804	2.5442267	20	9 9.2	17.6
18764 1999 <i>JA</i> ₁₂	14.0	X	302.98303	155.25879	105.72990	24.82263	0.1804345	0.27681191	2.3317368	20	3 5.8	17.5
18765 1999 <i>JN</i> ₁₇	14.0	X	91.06165	79.57733	215.78684	4.27311	0.2086893	0.29480489	2.2356885	20	12 28.8	17.5
18766 Broderick	14.9	X	17.49895	2.98313	289.80550	1.09038	0.1088114	0.24430022	2.5342735	20	9 5.2	17.7
18767 1999 <i>JD</i> ₂₂	14.7	X	25.80674	39.98919	0.80633	5.50272	0.1122133	0.30799818	2.1715539	20	—	—
18768 Sarahbates	15.4	X	339.56491	245.29104	336.09917	4.59812	0.1278280	0.27807812	2.3246532	20	3 5.4	17.6
18769 1999 <i>JS</i> ₂₄	12.3	X	0.14656	241.11016	27.69811	13.70446	0.1363357	0.19216584	2.9740750	20	6 27.5	16.0
18770 Yingqiujilei	14.5	X	97.82647	298.52489	1.96417	2.16278	0.1786498	0.30098040	2.2051793	20	—	—
18771 Sisiliang	15.2	X	152.22502	119.93818	208.84588	2.14420	0.1892503	0.26493923	2.4008878	20	—	—
18772 1999 <i>JR</i> ₃₄	14.7	X	87.81982	7.17386	1.22211	2.83573	0.1342075	0.30909143	2.1664304	20	—	—
18773 Bredehoff	14.8	X	38.47617	219.30580	53.26399	0.97912	0.0695968	0.29087750	2.2559491	20	9 11.9	17.2
18774 Lavanture	14.5	X	238.28111	204.17000	16.57073	2.79164	0.1167772	0.26419196	2.4054130	20	—	—
18775 Donaldeng	14.7	X	242.86482	24.75963	287.74395	3.06115	0.0961502	0.27509817	2.3414106	20	3 4.2	17.9
18776 Coulter	14.6	X	324.87514	40.15367	333.48969	1.04977	0.1687965	0.29342297	2.2428831	20	10 12.8	16.0
18777 Hobson	14.9	X	6.09094	180.76660	105.44903	4.32294	0.1845204	0.24017224	2.5632296	20	8 14.9	17.2
18778 1999 <i>JW</i> ₄₃	12.4	X	295.26015	54.49752	269.62354	9.48829	0.1094495	0.18945107	3.0024193	20	5 27.5	16.5
18779 Hattyhong	14.3	X	65.71736	103.73143	37.53487	7.30954	0.0614643	0.27859432	2.3217808	20	4 9.1	16.9
18780 Kuncham	14.9	X	358.09858	314.02561	48.20884	4.29256	0.1267232	0.29614809	2.2291028	20	11 28.4	16.9
18781 Indarm	14.6	X	187.88750	87.20023	202.92384	1.78547	0.1772704	0.26419063	2.4054211	20	—	—
18782 Joanrho	15.3	X	184.85121	139.30283	160.80666	3.84530	0.1333668	0.26525779	2.3989652	20	—	—
18783 Sychamberlin	15.0	X	309.14504	54.80526	260.86203	0.96191	0.1701147	0.23597058	2.5935670	20	5 27.9	17.9
18784 1999 <i>JS</i> ₄₇	15.2	X	206.97797	34.51224	299.08140	1.33745	0.2153574	0.27087236	2.3656995	20	2 23.0	19.0
18785 Betsywelsh	14.2	X	275.28248	142.06851	239.93372	4.06546	0.1489077	0.28780135	2.2719957	20	7 14.9	16.7
18786 Tyjorgenson	14.1	X	215.46122	270.60515	193.98457	4.74601	0.1319146	0.24652502	2.5190031	20	8 20.5	17.7
18787 Kathermann	14.7	X	217.49445	156.94000	63.25756	9.65661	0.1957838	0.26103736	2.4247535	20	—	—
18788 Carriemiller	14.7	X	86.98283	315.09621	82.52127	5.58917	0.1215410	0.26581556	2.3956081	20	—	—
18789 Metzger	15.1	X	344.40150	177.00357	124.63883	3.78073	0.1915000	0.28502700	2.2867151	20	7 24.0	16.3
18790 Ericaburden	14.4	X	295.22634	169.16942	141.81414	4.15114	0.10718867	0.23423659	2.6063509	20	5 16.7	17.7
18791 1999 <i>JF</i> ₅₈	14.1	X	154.36785	328.42750	37.42998	5.68517	0.1499815	0.26854114	2.3793710	20	2 15.9	17.6
18792 1999 <i>JL</i> ₆₀	13.7	X	299.73541	314.25462	265.30648	11.47432	0.1284232	0.22403846	2.6848560	20	1 13.4	17.4
18793 1999 <i>JW</i> ₆₀	13.1	X	240.77392	266.58747	83.29870	12.22583	0.3109330	0.18194546	3.0844322	20	4 14.7	18.6
18794 Kianafrank	15.1	X	259.88503	115.98765	125.54432	2.07930	0.0407304	0.26778961	2.3838206	20	—	—
18795 1999 <i>JT</i> ₆₃	14.3	X	189.26111	110.40484	136.39732	4.68283	0.0997719	0.30604359	2.1807900	20	—	—
18796 Acosta	15.1	X	46.15342	161.83839	63.62681	5.75141	0.1582898	0.28519735	2.2858044			

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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>
18801 Noelleos	14.2 ^m	X	230.18837	163.74632	125.65553	6.86374	0.1425587	0.26914486	2.3758115	20	1 21.7	18.0
18802 1999 JR ₇₆	14.0	X	247.77536	74.91193	212.25159	11.71275	0.1559416	0.22361528	2.6882423	20	2 5.1	18.5
18803 Hillaryoas	14.4	X	34.04769	126.21341	110.08990	6.04749	0.1324467	0.28576095	2.2827979	20	7 19.9	16.6
18804 1999 JS ₇₇	13.5	X	205.70307	220.37218	113.95734	7.49810	0.1156075	0.27193807	2.3595148	20	2 25.1	17.0
18805 Kellyday	14.5	X	80.82858	108.60956	162.94942	7.45964	0.0423640	0.29552799	2.2322199	20	11 7.5	17.3
18806 Zachpenn	14.3	X	223.30052	83.13788	160.69996	4.98103	0.1071928	0.21634996	2.7480935	20	—	—
18807 1999 JL ₈₅	14.3	X	141.38424	218.07601	171.19735	26.48824	0.1898764	0.27047455	2.3680186	20	3 3.7	17.8
18808 1999 JP ₈₅	14.1	X	101.28855	39.44990	173.16870	10.33985	0.0602470	0.24307696	2.5427687	20	9 4.6	17.6
18809 Meileawertz	15.2	X	255.93265	83.05474	111.80611	2.23351	0.1242537	0.26465647	2.4025976	20	—	—
18810 1999 JF ₉₆	13.8	X	35.65005	339.07648	135.09084	13.81156	0.1256896	0.22510770	2.6763474	20	1 23.4	16.6
18811 1999 KJ ₁	13.6	X	139.16150	227.45021	76.79159	9.71302	0.2521377	0.21010349	2.8022951	20	—	—
18812 Aliadler	13.7	X	220.95262	77.53212	238.23085	6.21495	0.1253310	0.27045399	2.3681386	20	2 12.2	17.3
18813 1999 KH ₁₅	13.0	X	38.95972	33.81946	212.60992	12.96428	0.1347934	0.23589059	2.5941533	20	8 3.0	16.4
18814 Ivanovsky	14.5	X	72.25003	48.35969	202.18034	4.72885	0.1106275	0.28713209	2.2755247	20	10 2.7	17.4
18815 1999 LT ₈	13.0	X	270.65144	47.52617	191.67818	9.53111	0.0747565	0.17527233	3.1622325	20	1 18.1	17.8
18816 1999 LW ₂₅	13.7	X	320.53910	79.72176	270.32062	9.66823	0.1883463	0.23839902	2.5759241	20	8 5.2	16.3
18817 1999 LF ₃₂	14.9	X	141.29362	332.01133	112.68701	2.84393	0.1708068	0.27279761	2.3545559	20	5 14.2	18.4
18818 Yasuhiko	13.7	X	81.80513	87.78449	129.85149	6.08616	0.1372841	0.28535388	2.2849684	20	9 4.4	16.7
18819 1999 NK ₈	13.8	X	133.33444	159.81259	280.67447	3.29022	0.0906419	0.22242279	2.6978421	20	4 22.0	17.6
18820 1999 NS ₉	13.1	X	231.97482	93.77248	144.81395	9.64940	0.0998627	0.21081934	2.7959480	20	—	—
18821 Markhavel	13.8	X	345.00324	230.95344	160.37198	2.36086	0.1014586	0.19542528	2.9409133	20	11 16.3	17.4
18822 1999 NL ₁₉	14.0	X	98.10880	95.51960	121.20628	11.75361	0.0546772	0.19263627	2.9692311	20	9 3.3	18.3
18823 Zachozer	14.2	X	325.59256	125.47826	29.35858	2.63050	0.1437721	0.26203183	2.4186146	20	—	—
18824 Graves	14.8	X	303.93147	351.71747	221.62401	1.89840	0.1615214	0.26747059	2.3857157	20	—	—
18825 Alicechai	14.9	X	156.22235	28.23245	275.69414	2.65683	0.0682333	0.21013566	2.8020091	20	—	—
18826 Leifer	14.6	X	67.88670	3.14985	76.67424	2.88831	0.1756215	0.26215237	2.4178732	20	1 31.9	16.9
18827 1999 NA ₂₆	12.1	X	291.35596	235.97803	107.04455	15.21337	0.1160481	0.18461597	3.0546154	20	6 16.6	16.3
18828 1999 NT ₂₇	13.6	X	197.77153	218.86836	77.20743	1.91950	0.1148535	0.16769650	3.2567672	20	1 12.8	18.6
18829 1999 NE ₃₀	13.4	X	31.43466	338.85173	119.17121	10.31727	0.1219219	0.21284383	2.7781904	20	—	—
18830 Pothier	14.5	X	205.62807	225.57810	290.97745	2.76570	0.1172672	0.29226728	2.2487918	20	10 25.9	17.5
18831 1999 NP ₃₇	12.9	X	117.24745	245.32852	302.86951	9.71307	0.0565217	0.18956773	3.0011873	20	8 15.8	17.3
18832 1999 NV ₄₂	14.1	X	68.64356	271.35801	340.34648	10.17733	0.1246110	0.19130581	2.9829818	20	9 16.6	18.4
18833 1999 NT ₅₃	13.6	X	330.24193	35.57481	209.84434	11.18971	0.1399198	0.22565027	2.6720556	20	3 27.5	16.8
18834 1999 NN ₅₅	14.2	X	49.52342	41.41472	243.83311	13.19426	0.0611085	0.23889135	2.5723838	20	9 30.0	17.8
18835 1999 NK ₅₆	12.5	X	351.45224	4.79909	264.46459	12.06543	0.1341577	0.22960027	2.6413206	20	6 12.6	15.0
18836 Raymundto	15.0	X	201.05022	297.29126	361.63990	3.79175	0.0821082	0.29766012	2.2215476	20	12 24.1	17.7
18837 1999 NY ₆₂	13.9	X	41.82149	192.54230	258.10049	12.55876	0.1938789	0.25807923	2.4432468	20	—	—
18838 Shannon	14.3	X	48.38545	170.29793	216.45241	1.29102	0.0803927	0.20311299	2.8662292	20	—	—
18839 Whiteley	13.4	X	0.34417	245.34056	72.98171	10.59458	0.0809166	0.19139934	2.9820099	20	9 8.2	17.3
18840 Yoshioba	13.6	X	91.62670	216.23198	263.50763	2.63528	0.0093266	0.26702116	2.3883919	20	4 6.5	16.6
18841 Hruška	13.1	X	312.77953	69.69620	361.10922	15.39134	0.0794940	0.23682558	2.5873210	20	—	—
18842 1999 RB ₂₂	13.0	X	354.96280	167.26887	13.10821	8.73940	0.0611203	0.21394930	2.7686122	20	2 23.2	16.5
18843 Ningzhou	14.2	X	255.78883	67.41180	45.71912	1.48792	0.1727819	0.18970150	2.9997763	20	10 6.9	18.5
18844 1999 RU ₂₇	13.4	X	139.17373	77.05191	356.40490	15.22630	0.1037551	0.16981967	3.2295652	20	4 18.9	18.5
18845 Cichocki	13.0	X	48.02248	229.32437	352.87552	12.57420	0.1207416	0.22969657	2.6405823	20	7 19.7	16.5
18846 1999 RB ₂₈	13.5	X	292.49359	144.26614	164.70980	15.62591	0.0409919	0.22751410	2.6574423	20	5 17.4	17.3
18847 1999 RJ ₃₂	12.7	X	252.68044	353.59745	356.68743	8.11331	0.0871603	0.17527996	3.1621409	20	5 8.3	17.5
18848 1999 RH ₄₁	12.8	X	193.43629	162.14523	155.40647	23.94880	0.1256340	0.21158614	2.7891888	20	1 27.4	17.5
18849 1999 RK ₅₅	13.4	X	198.89285	205.13869	115.29134	2.85460	0.1083996	0.16843296	3.2472669	20	2 10.6	18.6
18850 1999 RO ₈₁	13.1	X	99.59830	238.13001	290.82318	1.34348	0.0827635	0.17868784	3.1218070	20	7 5.6	17.6
18851 Winmessor	14.3	X	51.90877	266.43067	272.18362	3.58631	0.1689306	0.26888928	2.3773168	20	5 27.6	16.7
18852 1999 RP ₉₁	13.0	X	285.25894	236.40182	56.12168	1.44133	0.1610387	0.17436066	3.1732458	20	3 30.2	17.6
18853 1999 RO ₉₂	13.6	X	256.93522	273.77066	154.23835	3.95060	0.0966620	0.18385524	3.0630355	20	8 21.9	17.8
18854 1999 RJ ₁₀₂	13.7	X	138.12359	4.54741	206.78606	12.82747	0.0850693	0.19329476	2.9624838	20	10 9.9	18.1
18855 Sarahgutman	14.6	X	195.91979	61.86200	218.18025	4.51688	0.1744624	0.25930320	2.4355523	20	—	—
18856 1999 RT ₁₁₆	13.5	X	138.29943	314.14256	258.20457	4.45245	0.1929617	0.24401976	2.5362149	20	10 19.3	17.7
18857 Lalchandani	14.5	X	184.21625	159.07317	284.19491	5.89259	0.0735077	0.27605149	2.3360169	20	6 24.1	17.6
18858 Teclleveland	14.0	X	149.93017	288.49895	262.76517	9.98794	0.1291162	0.24099999	2.5573570	20	9 29.8	18.2
18859 1999 RM ₁₃₀	13.5	X	242.87579	222.45785	324.35523	5.76921	0.1264962	0.20404825	2.8574642	20	12 30.9	17.3
18860 1999 RL ₁₃₃	12.8	X	8.70875	332.65638	197.93791	12.67848	0.0863604	0.16937083	3.2352683	20	2 29.6	17.1
18861 Eugenishmidt	14.2	X	102.63800	120.76874	110.59733	6.65466	0.1218531	0.23813382	2.5778362	20	10 10.4	18.1
18862 Warot	14.5	X	334.87080	71.53662	88.57026	1.85119	0.1470062	0.25577180	2.4579192	20	—	—
18863 1999 RC ₁₉₁	12.7	X	260.48742	0.00994	330.81604	12.55283	0.1759639	0.22628755	2.6670364	20	4 6.9	17.0
18864 1999 RQ ₁₉₅	13.1	X	174.52593	235.01126	203.20279	15.50572	0.1102487	0.17694640	3.1422560	20	6 5.4	18.2
18865 1999 RQ ₂₀₄	12.8	X	255.94929	148.55798	276.72153	9.58868	0.0457184	0.18378876	3.0637742	20	8 20.6	17.2
18866 1999 RA ₂₀₈	13.8	X	274.17304	11.10825	237.24467	11.68358	0.1579328	0.26076001	2.4264726	20	1 11.2	17.7
18867 1999 RX ₂₂₃	13.3	X	54.84655	309.57907	225.25707	12.20407	0.1286567	0.22167839	2.7038783	20	5 22.5	16.5
18868 1999 TD ₁₀₁	12.6	X	183.05457	295.86249	116.09312	12.74161	0.0363380	0.17123974	3.2116855	20	5 16.6	17.5
18869 1999 TU ₂₂₂	13.2	X	291.34661	141.81325	52.35871	16.36402	0.2341903	0.20389238	2.8589203	20	—	—
18870 1999 US ₁₃	13.9	X	216.91324	256.23963	286.65692	3.71773	0.1483443	0.24183835	2.5514434	20	11 29.6	17.4
18871 Grauer	12.7	X	147.56485	321.32030	217.96363	11.89569	0.1074762	0.22611941	2.6683584	20	9 11.5	17.0
18872 Tammann	13.3	X	146.11449	16.01477	222.93164	14.24580	0.0714446	0.23572326	2.5953808	20	11 29.2	17.1
18873 Larryrobinson	15.1	X	257.42135	189.29319	117.98084	9.20528	0.2110181	0.26402595	2.4064212	20	3 8.5	18.9
18874 Raoulbehrend	15.0	X	28.18512	274.21581	103.54224	4.47050	0.1060158	0.28757855	2.2731690	20	—	—
18875 1999 VT ₃₉	13.6	X	103.44066	158.70816	31.81363	2.94950	0.1230175	0.18034591	3.1026434	20	8 12.4	18.2
18876 Sooner	14.5	X	172.32509	356.73015	75.52050	8.84565	0.2421005	0.262				

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
18881 1999 <i>XL</i> ₁₉₅	12.5	X	205.97133	291.65315	311.19244	14.23345	0.0966177	0.23989146	2.5652293	20	—	—
18882 1999 <i>YN</i> ₄	16.0	X	49.00218	242.65728	291.69931	36.81679	0.2317139	0.45053871	1.6851865	20	5 30.5	17.8
18883 Domegge	13.8	X	12.03018	45.50656	315.63982	8.56899	0.0968242	0.18357027	3.0662048	20	11 11.4	17.9
18884 1999 <i>YE</i> ₉	13.1	X	132.18112	27.28212	284.38772	12.28315	0.2000602	0.23740466	2.5831119	20	—	—
18885 2000 <i>AH</i> ₈₀	14.7	X	180.11477	190.08612	177.55241	3.52149	0.1613487	0.30361339	2.1924117	20	3 9.5	18.0
18886 2000 <i>AN</i> ₁₆₄	13.5	X	327.67658	178.75657	317.51340	13.99607	0.0874929	0.23412186	2.6072024	20	—	—
18887 Yiliuchen	14.2	X	54.87714	163.41773	179.81384	6.71775	0.1682319	0.28187476	2.3037318	20	—	—
18888 2000 <i>AV</i> ₂₄₆	13.5	X	338.33348	177.85710	171.58950	0.25637	0.2616141	0.16939567	3.2349521	20	7 3.3	16.4
18889 2000 <i>CC</i> ₂₈	13.2	X	288.79458	112.36278	23.81043	11.90080	0.1368852	0.22812835	2.6526699	20	—	—
18890 2000 <i>EV</i> ₂₆	14.7	X	308.27086	266.01005	184.38268	22.97599	0.0742155	0.37137653	1.9168718	20	—	—
18891 Kamler	15.2	X	302.63533	16.34359	349.38211	3.83908	0.1194123	0.26081052	2.4261593	20	8 10.6	17.6
18892 2000 <i>ET</i> ₁₃₇	13.6	X	180.58801	200.31243	80.04876	13.28345	0.1709435	0.22597279	2.6695124	20	—	—
18893 2000 <i>GH</i> ₁	13.2	X	249.41237	119.01192	20.44823	16.36436	0.0752247	0.17447235	3.1718914	20	11 7.1	17.7
18894 2000 <i>GF</i> ₄₂	13.9	X	319.40004	101.99400	4.54576	4.93434	0.1444616	0.17962604	3.1109273	20	—	—
18895 2000 <i>GJ</i> ₁₀₈	12.1	X	274.59738	267.54084	189.49676	18.30443	0.1752490	0.17162605	3.2068642	20	10 7.9	16.4
18896 2000 <i>GN</i> ₁₁₃	13.2	X	337.28008	43.19515	49.43320	10.87199	0.0725291	0.27326771	2.3518548	20	—	—
18897 2000 <i>HG</i> ₃₀	12.6	X	200.41119	191.90456	101.07595	15.01335	0.1369925	0.23208398	2.6224423	20	1 3.4	16.6
18898 2000 <i>JX</i>	12.9	X	333.47151	288.45539	111.15058	26.50393	0.3064521	0.17381056	3.1799377	20	11 16.5	16.2
18899 2000 <i>IQ</i> ₂	14.8	X	215.45896	110.17154	221.82399	22.65940	0.3746585	0.28267867	2.2993620	20	2 18.3	19.8
18900 2000 <i>LD</i> ₁₂	12.9	X	257.02648	9.65392	259.71973	16.41760	0.1533036	0.18045682	3.1013719	20	1 27.4	18.0
18901 2000 <i>MR</i> ₅	12.2	X	195.60507	158.37786	239.34010	21.78300	0.1138707	0.18144109	3.0901456	20	5 6.5	17.1
18902 2000 <i>NN</i> ₅	13.5	X	117.48840	343.72650	341.03571	8.77360	0.1527876	0.21328146	2.7743888	20	—	—
18903 Matsuura	13.3	X	296.68445	149.21647	164.60428	9.32120	0.1988777	0.24090752	2.5580114	20	5 3.5	16.6
18904 2000 <i>OY</i> ₈	14.4	X	122.73952	65.45357	175.32546	1.43911	0.2191894	0.26774334	2.3840952	20	2 6.6	17.6
18905 Weigan	15.2	X	213.05242	191.34179	313.85802	1.55321	0.1080077	0.28586124	2.2822639	20	4 9.7	18.5
18906 2000 <i>OJ</i> ₁₉	14.5	X	63.18731	80.00193	248.96391	3.71004	0.2960233	0.25919791	2.4362118	20	—	—
18907 Kevinclaytor	14.3	X	101.11918	32.49066	345.05176	6.23678	0.1366032	0.26456005	2.4031813	20	—	—
18908 2000 <i>OC</i> ₂₁	14.9	X	85.39418	272.37189	49.72433	2.82762	0.2227587	0.25720416	2.4487854	20	—	—
18909 2000 <i>OE</i> ₂₁	13.6	X	166.76147	234.72808	182.31961	6.10127	0.1865959	0.17726040	3.1385441	20	5 6.1	18.8
18910 Nolanreis	14.4	X	359.68705	221.79375	131.61248	3.84890	0.1733257	0.29744463	2.2262604	20	11 27.6	16.4
18911 2000 <i>OY</i> ₃₁	13.2	X	244.36475	145.55478	154.46760	18.55837	0.0975717	0.18280060	3.0748054	20	2 29.9	17.9
18912 Kayfurman	14.0	X	348.32145	239.34938	180.57480	8.97775	0.1499583	0.20870606	2.8147901	20	—	—
18913 2000 <i>OU</i> ₃₂	13.4	X	11.92791	271.11348	175.60559	8.76092	0.1987642	0.21474496	2.7617693	20	—	—
18914 2000 <i>OT</i> ₃₅	14.4	X	291.55860	202.04436	154.89950	13.33148	0.2038958	0.23901020	2.5715310	20	6 22.8	17.7
18915 2000 <i>OR</i> ₃₈	13.3	X	137.33750	230.74935	230.76199	14.41946	0.1520934	0.18569290	3.0427938	20	5 30.5	18.2
18916 2000 <i>OG</i> ₄₄	14.5	X	205.35433	98.89334	301.37531	7.39585	0.5832632	0.13021354	3.8550671	20	5 5.8	22.2
18917 2000 <i>OG</i> ₄₈	13.9	X	98.39805	274.57749	176.81259	11.44716	0.1620781	0.27276504	2.3547433	20	4 3.2	16.7
18918 Nishashah	14.6	X	320.53814	247.53534	57.80696	6.32373	0.1857849	0.28845589	2.2685574	20	5 30.4	16.6
18919 2000 <i>OJ</i> ₅₂	15.1	X	298.99546	333.63388	345.24284	7.28422	0.4375970	0.23930069	2.5694495	20	4 2.3	18.8
18920 2000 <i>OO</i> ₅₂	14.5	X	68.78547	326.97750	47.60085	4.82819	0.2091380	0.25853807	2.4403552	20	—	—
18921 2000 <i>PT</i> ₇	13.0	X	256.94816	280.91501	123.39347	11.66646	0.0919668	0.18940554	3.0029004	20	7 23.6	17.2
18922 2000 <i>PU</i> ₁₂	12.7	X	189.82103	176.73591	278.77423	12.34644	0.1338707	0.23603467	2.5930975	20	7 12.4	16.7
18923 Jennifersass	15.0	X	306.07177	215.97579	19.15264	6.75861	0.1684948	0.28191815	2.3034954	20	1 30.5	18.1
18924 Vinjamoori	15.0	X	185.49125	134.04143	151.64418	6.75474	0.1297959	0.26869852	2.3784418	20	—	—
18925 2000 <i>PY</i> ₂₅	13.4	X	49.17772	117.22120	271.00576	11.46431	0.0410854	0.20877548	2.8141660	20	—	—
18926 2000 <i>PO</i> ₂₆	15.4	X	43.44506	160.67210	169.00682	4.11023	0.1073353	0.30119915	2.2041115	20	12 16.8	18.2
18927 2000 <i>PQ</i> ₂₆	13.7	X	121.60066	145.55132	237.18427	10.65489	0.0637002	0.21778015	2.7360489	20	1 21.5	17.7
18928 Pontremoli	13.5	X	241.79721	54.31708	318.11628	9.77861	0.1169750	0.18814669	3.0162801	20	5 20.4	18.3
18929 2000 <i>QU</i> ₂₅	15.7	X	53.22790	85.63386	8.43569	21.67119	0.0913094	0.37041800	1.9201773	20	—	—
18930 Athreya	14.2	X	211.75113	162.03514	18.72887	2.00457	0.0072033	0.20602448	2.8391619	20	12 1.5	18.1
18931 2000 <i>QX</i> ₃₁	14.3	X	300.94446	283.52573	118.40869	8.31460	0.2673802	0.19624451	2.9327230	20	8 29.6	17.4
18932 Robinhood	14.7	X	192.87502	275.55126	37.20800	2.57676	0.2366695	0.27366590	2.3495729	20	1 19.2	18.7
18933 2000 <i>QY</i> ₃₆	15.3	X	112.62930	167.32911	233.65996	1.14320	0.2044029	0.27239257	2.3568894	20	2 17.8	18.3
18934 2000 <i>QW</i> ₃₆	14.2	X	91.60051	153.32090	244.89563	2.72231	0.1188714	0.17097381	3.2150149	20	1 21.1	18.7
18935 Alfandmedina	15.3	X	309.90950	220.33155	166.68446	2.88794	0.1516387	0.29848571	2.2174493	20	10 3.0	16.8
18936 2000 <i>QA</i> ₄₂	13.0	X	12.80608	275.35149	333.34443	9.84116	0.0732320	0.19110303	2.9850916	20	6 19.0	17.0
18937 2000 <i>QF</i> ₄₂	13.8	X	57.23571	253.83745	326.43173	9.57874	0.0466143	0.19245516	2.9710937	20	7 14.7	17.9
18938 Zarabeth	14.9	X	120.71882	27.36028	351.44868	3.91534	0.1539256	0.22104699	2.7090248	20	1 31.5	18.8
18939 Sariancel	13.6	X	344.21851	331.92650	221.77475	0.14893	0.1002742	0.17834430	3.1258147	20	2 22.8	17.4
18940 2000 <i>QV</i> ₄₉	11.6	X	214.14194	220.47593	133.69460	3.70581	0.0746672	0.08200098	5.2471484	20	4 11.3	18.8
18941 2000 <i>QX</i> ₅₀	13.5	X	74.64654	334.75852	140.21849	6.02698	0.1156133	0.17741739	3.1366924	20	4 3.5	17.7
18942 2000 <i>QE</i> ₅₄	13.3	X	247.12335	300.31364	350.27849	14.85670	0.0608277	0.22806862	2.6531331	20	2 22.6	17.1
18943 Elaisponton	14.9	X	61.48165	39.52378	4.51522	6.41510	0.1202530	0.26576469	2.3959138	20	—	—
18944 Sawilliams	14.0	X	241.86799	230.72573	114.12608	3.46090	0.1008267	0.18351845	3.0667819	20	4 22.0	18.5
18945 2000 <i>QH</i> ₇₁	14.8	X	174.24547	4.08606	216.60905	2.56193	0.2031091	0.26108634	2.4244503	20	12 2.4	18.7
18946 Massar	14.2	X	225.89341	45.31442	340.52872	0.51983	0.1777789	0.18533896	3.0466664	20	5 17.9	19.1
18947 Cindyfulton	14.8	X	352.15975	156.67208	327.95492	1.99465	0.1409713	0.26652170	2.3913749	20	—	—
18948 Hinkle	15.0	X	201.38424	28.74297	346.42098	1.80690	0.1171060	0.23058552	2.6337913	20	4 12.6	18.9
18949 Tumaneng	15.2	X	343.69139	48.52215	176.29989	6.85492	0.0674146	0.28280068	2.2987006	20	3 25.9	17.5
18950 Marakessler	14.7	X	100.24214	21.92680	3.74349	5.04214	0.0618465	0.21730919	2.7400006	20	1 1.6	18.4
18951 2000 <i>QQ</i> ₉₈	15.1	X	344.50428	320.25628	104.98158	3.16800	0.2165962	0.25465966	2.4650701	20	—	—
18952 2000 <i>QF</i> ₁₀₅	12.2	X	356.06425	190.58711	76.78484	9.64540	0.0541647	0.18633073	3.0358459	20	6 17.5	16.2
18953 Laurensmith	15.3	X	118.91171	350.87312	37.76324	2.38797	0.0912482	0.22075850	2.7113844	20	2 1.9	18.9
18954 Sarahbouds	14.8	X	57.21097	330.73375	274.58688	5.09673	0.1504811	0.29481845	2.2358000	20	9 10.2	17.5
18955 2000 <i>QY</i> ₁₂₂	13.2	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>
18961 Hampfreeman	15.3	X	65.81181	49.99188	18.02510	2.45971	0.1905615	0.26587163	2.3952713	20	1 10.6	17.3
18962 2000 QV ₁₄₀	15.3	X	204.95295	242.08796	20.19176	1.64372	0.0974450	0.31611309	2.1342292	20	—	—
18963 2000 QB ₁₄₁	13.4	X	245.28747	30.80791	167.64235	8.34309	0.1569752	0.21174556	2.7877886	20	—	—
18964 Fairhurst	14.4	X	343.94750	276.45721	157.20638	2.85116	0.1630235	0.25527685	2.4610953	20	—	—
18965 Lazenby	15.6	X	340.92443	193.56257	91.06382	2.54920	0.0552843	0.28715333	2.2754125	20	6 21.4	17.7
18966 2000 QO ₁₄₅	15.8	X	37.02068	217.23371	38.01109	4.73515	0.2023052	0.29403585	2.2397654	20	9 9.2	18.1
18967 2000 QP ₁₅₁	13.4	X	162.50346	43.58885	271.35475	8.02720	0.1547892	0.21369614	2.7707985	20	—	—
18968 2000 QX ₁₅₂	14.1	X	265.91778	21.02617	173.50567	8.21902	0.0249698	0.16815067	3.2509003	20	—	—
18969 Valfriedmann	15.3	X	14.91390	321.27934	242.67464	2.79099	0.0859943	0.28497227	2.2870078	20	4 15.4	17.4
18970 Jenniharper	15.3	X	234.77287	276.89639	282.66518	3.51438	0.1024212	0.26290306	2.4132684	20	—	—
18971 2000 QY ₁₇₇	11.7	X	351.68222	43.87744	189.98099	14.03434	0.1194463	0.08309285	5.2010809	20	5 1.9	18.0
18972 2000 QD ₁₉₀	13.4	X	156.22741	333.53216	40.24331	6.15202	0.2267983	0.17493962	3.1662407	20	3 11.4	18.8
18973 Crouch	14.5	X	8.96948	346.22048	114.07915	5.71881	0.0444054	0.21734234	2.7397220	20	—	—
18974 Brungardt	15.8	X	78.70256	236.94011	111.66282	3.79760	0.1663426	0.26059394	2.4275034	20	—	—
18975 2000 QZ ₂₀₀	14.5	X	70.32476	319.72693	148.41082	15.76766	0.0758847	0.22605660	2.6688526	20	3 8.7	17.8
18976 Kunilravai	15.5	X	343.89782	251.24723	351.92532	4.24605	0.1044280	0.28356878	2.2945478	20	4 16.9	17.7
18977 2000 QK ₂₁₇	12.8	X	315.99515	278.67258	42.89384	14.15063	0.1958521	0.23339644	2.61126018	20	6 11.8	15.7
18978 2000 QH ₂₃₂	14.1	X	111.02323	227.28360	299.47919	10.81900	0.1277501	0.24040968	2.5615416	20	7 24.5	17.8
18979 Henryfong	14.0	X	55.17594	18.64752	180.96760	3.78789	0.0258331	0.23469059	2.6029886	20	6 10.9	17.3
18980 Johannatang	14.7	X	344.19583	84.27379	193.73140	3.35601	0.1664291	0.28823447	2.2697191	20	6 11.1	16.2
18981 2000 RT ₃	13.6	X	253.35299	256.97175	21.63019	10.56694	0.1605252	0.22498302	2.6773360	20	2 7.7	18.0
18982 2000 RH ₅	14.7	X	177.92793	85.11709	220.19419	1.58077	0.2126524	0.26873514	2.3782258	20	—	—
18983 Allentrain	14.7	X	116.08433	336.78628	11.13867	2.72905	0.1796491	0.26309249	2.4121099	20	—	—
18984 Olathe	12.9	X	282.17840	249.25656	321.60493	14.05772	0.0297835	0.16810128	3.2515370	20	1 8.6	17.7
18985 2000 RR ₂₁	15.1	X	235.78700	300.87490	337.73309	4.92986	0.2736722	0.27380637	2.3487692	20	—	—
18986 2000 RF ₂₂	14.2	X	3.97854	303.38790	232.48402	3.73789	0.2073675	0.22473069	2.6793398	20	2 13.1	16.6
18987 Irani	16.0	X	323.36587	100.58446	284.26457	1.36566	0.1702006	0.29727554	2.2234631	20	10 29.8	17.3
18988 2000 RB ₂₄	13.9	X	337.95724	354.40921	193.69495	12.28837	0.1127621	0.22257463	2.6966150	20	1 25.5	17.5
18989 2000 RV ₂₆	13.4	X	258.07021	187.08646	227.13137	10.80702	0.1634364	0.19081488	2.9880960	20	7 24.5	17.9
18990 2000 RW ₃₁	13.2	X	116.19620	194.56381	330.45483	9.50380	0.0497999	0.18735760	3.0247432	20	7 18.7	17.6
18991 Tonivanov	15.2	X	95.98652	204.94993	337.26793	5.00026	0.0711885	0.28664452	2.2781044	20	7 24.7	18.0
18992 Katharvard	13.6	X	252.21093	126.91251	283.89874	8.68809	0.0117329	0.19086832	2.9875384	20	8 4.9	17.8
18993 2000 RB ₄₃	12.9	X	280.07750	121.40450	267.88932	7.61014	0.0828113	0.19028199	2.9936723	20	8 2.8	17.0
18994 Nhannguyen	14.6	X	165.79786	327.60022	35.57422	7.41543	0.1524885	0.27028622	2.3691185	20	2 25.1	18.2
18995 2000 RF ₅₃	15.1	X	106.90410	225.72841	113.12996	2.31015	0.2036618	0.26057966	2.4275921	20	—	—
18996 Torasan	11.7	X	78.63029	209.70432	241.16376	20.48893	0.0336570	0.17192224	3.2031800	20	2 16.9	16.6
18997 Mizrahi	14.5	X	16.72264	169.08553	144.00925	2.82137	0.0878077	0.24000168	2.5644438	20	9 30.9	17.4
18998 2000 RH ₅₅	13.6	X	232.02347	31.56651	285.28409	7.38349	0.1349813	0.27354942	2.3502398	20	2 23.4	17.2
18999 2000 RC ₆₀	14.3	X	58.36828	336.65187	68.71047	5.40953	0.2045779	0.20986361	2.8044301	20	—	—
19000 2000 RM ₆₀	13.5	X	104.56794	98.35925	270.64721	7.78632	0.1761771	0.21411129	2.7672157	20	1 2.8	17.0
19001 2000 RV ₆₀	12.9	X	40.12806	171.42065	340.43639	11.96923	0.0304557	0.22331893	2.6906199	20	3 14.9	16.3
19002 Tongkexue	14.4	X	160.70721	279.78558	72.39323	7.39495	0.1263341	0.26606378	2.3941180	20	2 2.9	17.9
19003 Erinfrey	14.2	X	56.51009	241.23490	196.26261	3.59600	0.0813398	0.21063296	2.7975971	20	1 9.1	17.7
19004 Chirayath	15.4	X	332.82794	128.78027	190.55513	1.56671	0.1760481	0.29604957	2.2295973	20	7 26.9	16.8
19005 Teckman	14.3	X	87.77787	68.29650	224.37761	1.18410	0.0455697	0.20343749	2.8631805	20	11 22.6	18.4
19006 2000 RY ₆₅	14.0	X	137.20899	307.30634	165.64091	11.85785	0.1443295	0.22986332	2.6393051	20	6 14.3	18.3
19007 Nirajathan	14.9	X	298.26375	302.41696	359.09692	5.08459	0.1607463	0.28895284	2.2659556	20	4 17.6	17.5
19008 Kristibutler	14.2	X	301.98084	0.40464	62.86907	2.84748	0.0481518	0.19896018	2.9059754	20	10 25.2	18.0
19009 Galenmatly	14.1	X	174.87004	3.15060	12.29229	7.20225	0.1648416	0.22357596	2.6885574	20	3 21.3	18.5
19010 2000 RT ₇₂	13.1	X	139.41397	203.15499	211.62006	21.02922	0.0431541	0.17192502	3.2031454	20	3 24.5	17.9
19011 2000 RU ₇₅	15.1	X	207.66246	91.29792	240.19119	24.62325	0.0394491	0.36718985	1.9314150	20	—	—
19012 2000 RZ ₇₅	13.8	X	150.04612	166.19726	335.54363	12.52169	0.0904762	0.23350529	2.6117899	20	8 3.6	17.7
19013 2000 RW ₇₆	13.6	X	353.67183	278.11013	9.26754	6.81644	0.1870178	0.24013164	2.5635185	20	7 19.6	15.9
19014 2000 RN ₇₇	14.4	X	47.38530	342.88861	80.66432	5.21825	0.0910478	0.21052043	2.7985939	20	—	—
19015 2000 RX ₇₇	13.5	X	107.75572	173.74282	179.00920	9.35436	0.1625343	0.21112210	2.7932743	20	—	—
19016 2000 RY ₇₈	13.8	X	131.49784	149.75907	212.25770	10.78555	0.0749556	0.21662220	2.7457906	20	1 10.5	17.9
19017 Susanlederer	14.9	X	227.43375	253.17804	236.78629	1.01482	0.0296293	0.20008824	2.8950429	20	10 14.4	18.9
19018 2000 RL ₁₀₀	11.2	X	254.73187	122.40205	231.16527	27.68079	0.0993918	0.08278479	5.2139757	20	5 17.4	18.3
19019 Sunflower	14.4	X	295.98137	161.47998	219.96030	4.86055	0.1766715	0.24232092	2.5480548	20	8 7.7	17.3
19020 2000 SC ₆	10.5	X	272.36716	224.36531	93.22440	17.09964	0.1133232	0.08284323	5.2115236	20	4 30.8	17.6
19021 2000 SC ₈	13.4	X	137.31787	286.60501	182.20158	46.62990	0.3048865	0.22481659	2.6786573	20	6 16.9	19.1
19022 Penzel	15.2	X	271.68654	61.89660	10.98493	2.17560	0.0833781	0.24411368	2.5355644	20	9 28.4	18.0
19023 Varela	14.5	X	95.89324	333.76586	155.83158	2.57545	0.1513344	0.22733400	2.6588456	20	5 21.6	18.1
19024 2000 SS ₁₁₂	13.8	X	253.07262	333.24188	21.60729	2.90584	0.1392467	0.18311963	3.0712331	20	5 10.3	18.5
19025 Arthurpetron	14.8	X	222.24016	41.58358	173.22211	6.40993	0.0841640	0.25846465	2.4408173	20	—	—
19026 2000 SR ₁₄₅	13.7	X	131.56704	252.44937	234.59319	1.75050	0.0366208	0.18268614	3.0760896	20	6 15.3	18.1
19027 2000 SZ ₁₄₉	13.5	X	219.15846	87.40232	22.97474	10.57600	0.0680587	0.19166864	2.9702161	20	9 8.3	17.9
19028 2000 SC ₁₆₅	12.2	X	236.67403	40.48604	283.78768	11.98562	0.0144301	0.17792679	3.1307026	20	3 22.5	16.9
19029 Briede	15.0	X	341.89456	137.02461	22.20666	2.74518	0.1555062	0.26552235	2.3973714	20	—	—
19030 2000 SJ ₂₇₆	13.1	X	141.64288	139.10689	288.69758	15.89237	0.1846881	0.17102787	3.2143374	20	2 10.6	18.6
19031 2000 SU ₂₉₅	13.2	X	268.58629	322.67353	31.57276	15.95989	0.1214663	0.23110370	2.6298528	20	5 26.4	17.0
19032 2053 P-L	14.0	X	347.43500	0.31363	223.44649	3.13975	0.1504993	0.22426412	2.6830547	20	3 26.9	16.8
19033 2157 P-L	13.6	X	136.31077	231.62279	193.61523	20.54436	0.1495456	0.17358869	3.1826467	20	4 16.4	18.6
19034 Santorini	12.9	X	171.37335	358.34932	50.39801	3.52767	0.2460442	0.12513629	3.9585608	20	5 1.4	19.4
19035 4634 P-L	14.9	X	307.15281	306.64239	15.75645	4.78876	0.1977840	0.29360397	2.2419613	20	5 28.3	17.1
19036 4642 P-L	16.0	X	200.77177	268.72882	42.87231	1.12658	0.2472949	0.27201879	2.3590480	20	1 23.9	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19041 6055 <i>P-L</i>	15.8	X	158.04833	77.64265	326.73837	1.86569	0.2151818	0.27299387	2.3534273	20	4 9.2	19.7
19042 6104 <i>P-L</i>	14.2	X	161.67344	199.78327	199.23137	3.64861	0.0877685	0.17457566	3.1706399	20	4 4.7	19.0
19043 6214 <i>P-L</i>	15.2	X	99.67691	225.91493	221.95800	4.33666	0.1159098	0.27226075	2.3576502	20	3 20.7	18.2
19044 6516 <i>P-L</i>	16.0	X	349.52615	2.41714	13.02543	6.44670	0.2430695	0.29721640	2.2237581	20	12 23.9	18.0
19045 6593 <i>P-L</i>	15.3	X	73.03793	115.46717	155.60535	3.16671	0.1854168	0.29761605	2.2217669	20	11 12.1	18.4
19046 7607 <i>P-L</i>	15.6	X	107.39219	340.48578	99.24926	3.41023	0.2081492	0.27181043	2.3602534	20	4 6.2	18.7
19047 9516 <i>P-L</i>	15.7	X	64.83159	125.67655	171.06640	2.35769	0.0727931	0.29782405	2.2207323	20	11 23.9	18.5
19048 9567 <i>P-L</i>	13.5	X	253.34705	268.87414	29.65398	9.41284	0.0555438	0.17442296	3.1724901	20	3 16.6	18.1
19049 1105 <i>T-1</i>	14.0	X	65.00709	286.64729	186.54896	6.67123	0.0874248	0.22085910	2.7105610	20	3 6.8	17.3
19050 1162 <i>T-1</i>	14.0	X	13.28183	248.42244	344.76997	10.63367	0.0973070	0.18314707	3.0709264	20	5 27.9	18.0
19051 3210 <i>T-1</i>	15.4	X	311.25321	125.01889	341.27110	1.69745	0.1407060	0.25435657	2.4670280	20	—	—
19052 1017 <i>T-2</i>	14.0	X	194.82850	225.60808	182.27593	9.46671	0.0126283	0.18307570	3.0717244	20	5 23.2	18.4
19053 1054 <i>T-2</i>	14.0	X	243.96095	163.36062	186.49411	3.60547	0.2062517	0.18367793	3.0650065	20	4 19.6	19.0
19054 1058 <i>T-2</i>	14.3	X	112.05283	324.35916	204.54036	5.34736	0.0659655	0.18451309	3.0557508	20	7 17.3	18.8
19055 1066 <i>T-2</i>	14.1	X	326.11097	138.93789	199.07715	3.87837	0.1206269	0.18688125	3.0298810	20	7 31.7	17.7
19056 1162 <i>T-2</i>	14.9	X	184.46350	3.23808	24.27965	2.84897	0.1203063	0.22335197	2.6903546	20	4 12.2	18.9
19057 1166 <i>T-2</i>	15.0	X	134.79245	284.97450	355.73059	7.11616	0.1904803	0.25771232	2.4455653	20	—	—
19058 1331 <i>T-2</i>	14.6	X	183.71904	73.17411	266.49230	1.62932	0.0838929	0.22070328	2.7118366	20	2 11.3	18.5
19059 1352 <i>T-2</i>	14.5	X	269.85072	317.49654	216.44469	0.54410	0.1222972	0.25767287	2.4458149	20	—	—
19060 2176 <i>T-2</i>	14.7	X	224.35525	339.19702	2.47107	13.85577	0.1172510	0.22330120	2.6907624	20	3 25.4	18.8
19061 2261 <i>T-2</i>	14.9	X	79.45004	71.14587	349.41970	2.09872	0.1697905	0.26048603	2.4281737	20	1 24.1	17.2
19062 2289 <i>T-2</i>	13.6	X	252.53895	174.41700	199.22541	9.42144	0.1081829	0.18408642	3.0604707	20	6 7.1	18.2
19063 3147 <i>T-2</i>	14.0	X	139.85030	31.82163	104.21344	3.38643	0.0912916	0.18360171	3.0658547	20	7 10.6	18.5
19064 3176 <i>T-2</i>	14.9	X	6.37232	102.77462	25.78974	4.15280	0.0572953	0.26078553	2.4263143	20	—	—
19065 3351 <i>T-2</i>	14.4	X	52.66009	46.94784	68.35243	2.73843	0.1573028	0.26225829	2.4172221	20	2 22.4	16.5
19066 Ellarie	15.2	X	97.81885	19.71860	51.69796	3.62727	0.0659862	0.22054828	2.7131071	20	2 26.8	18.8
19067 4087 <i>T-2</i>	15.0	X	344.66500	180.72397	114.85474	1.89852	0.2191386	0.18682109	3.0305314	20	7 2.5	17.9
19068 4232 <i>T-2</i>	15.2	X	45.25395	329.22992	69.75779	3.97668	0.1731243	0.25749397	2.4469476	20	—	—
19069 5149 <i>T-2</i>	13.5	X	237.07094	156.98465	238.88088	9.51117	0.0815773	0.18405688	3.0607980	20	6 19.6	18.1
19070 5491 <i>T-2</i>	14.2	X	359.52614	280.61605	328.86271	12.13484	0.0306258	0.18302962	3.0722399	20	5 27.5	18.6
19071 1047 <i>T-3</i>	14.2	X	170.92523	41.13121	272.15623	6.34175	0.1242921	0.21555934	2.7548089	20	1 1.3	18.5
19072 1222 <i>T-3</i>	13.8	X	177.97403	69.38806	328.92875	5.94858	0.1567847	0.17432221	3.1737124	20	4 19.2	19.1
19073 3157 <i>T-3</i>	15.2	X	209.46447	139.83923	59.69862	3.77915	0.1115507	0.30242112	2.1981701	20	—	—
19074 4236 <i>T-3</i>	13.5	X	27.33700	161.44788	66.66532	6.41240	0.1061178	0.17730570	3.1380095	20	6 15.9	17.4
19075 4288 <i>T-3</i>	14.1	X	239.64093	148.79908	128.29065	5.71306	0.0784799	0.21734930	2.7396635	20	1 25.6	18.1
19076 5002 <i>T-3</i>	14.4	X	288.71669	122.58388	93.08358	7.06823	0.0411351	0.21623714	2.7490492	20	1 10.5	18.3
19077 5123 <i>T-3</i>	14.8	X	60.26807	321.67296	107.43423	7.16776	0.0866050	0.26089601	3.1256293	20	—	—
19078 5187 <i>T-3</i>	12.8	X	106.10552	87.86055	64.62310	17.71145	0.1192498	0.17550145	3.1594798	20	6 25.6	17.6
19079 Hernandez	13.2	X	117.58445	216.81614	38.90223	8.04165	0.1782030	0.19271836	2.9683880	20	11 15.8	18.2
19080 Martinierrro	13.9	X	87.11674	281.93388	288.78617	20.65704	0.2825730	0.27963324	2.3160265	20	9 2.5	18.0
19081 Mravinskij	13.0	X	111.84740	187.71943	201.47062	14.70916	0.1158425	0.23961870	2.5671756	20	1 20.9	16.8
19082 Vikchernov	14.7	X	0.61349	4.08057	331.56357	6.04750	0.2548697	0.29293325	2.2453822	20	11 11.7	16.7
19083 Mizuki	13.4	X	27.25187	344.54703	68.67354	3.23910	0.0551881	0.20090014	2.8872378	20	—	—
19084 Eilestam	13.9	X	66.35791	233.76867	349.78354	6.73699	0.0599386	0.28038770	2.3118700	20	8 10.7	16.6
19085 1978 <i>UR</i> ₄	15.6	X	124.19837	135.93609	511.76652	2.45913	0.1949677	0.27194140	2.3594955	20	4 30.9	19.2
19086 1978 <i>VB</i> ₃	12.6	X	301.58808	288.54279	57.87175	13.18647	0.0858020	0.18107962	3.0942566	20	7 9.6	16.9
19087 1978 <i>VT</i> ₄	13.9	X	159.87686	67.63440	35.31964	1.52123	0.1224289	0.17739995	3.1368979	20	6 21.2	18.7
19088 1978 <i>VW</i> ₄	16.0	X	101.47935	23.06165	39.00803	1.69875	0.1766350	0.26781732	2.3836562	20	2 29.3	18.9
19089 1978 <i>VZ</i> ₆	14.4	X	272.27711	93.19932	241.87246	1.81960	0.0717096	0.17872054	3.1214262	20	5 17.4	18.8
19090 1978 <i>VM</i> ₉	15.0	X	72.82660	15.69204	79.45585	5.31289	0.1123377	0.26745582	2.3858036	20	2 23.6	17.6
19091 1978 <i>XX</i>	12.9	X	78.08296	111.76567	62.85791	13.66069	0.1142736	0.22560996	2.6723738	20	6 21.1	16.5
19092 1979 <i>MF</i> ₂	15.8	X	328.28293	135.42692	176.00278	1.07486	0.2079751	0.28788339	2.2715640	20	6 25.8	17.2
19093 1979 <i>MM</i> ₃	13.7	X	85.86079	255.10570	119.68371	17.68831	0.1137164	0.20295302	2.8677351	20	—	—
19094 1979 <i>MR</i> ₆	15.5	X	106.80765	72.57159	164.82662	4.07237	0.1313170	0.29337496	2.2431278	20	10 29.2	18.6
19095 1979 <i>MA</i> ₈	14.6	X	232.53470	260.94200	151.39226	3.96869	0.1567602	0.19037802	2.9926655	20	6 27.9	19.3
19096 Leonfridman	13.9	X	221.85874	31.24083	33.04658	8.49683	0.1493191	0.28358626	2.2944535	20	7 7.3	17.3
19097 1981 <i>EY</i> ₂	13.8	X	301.30781	115.40839	222.88043	9.25233	0.1035699	0.18290657	3.0736177	20	6 24.5	17.9
19098 1981 <i>EM</i> ₃	15.4	X	292.43951	171.39758	251.93291	5.83440	0.0711688	0.28958744	2.2626440	20	10 27.6	17.9
19099 1981 <i>EC</i> ₄	14.9	X	260.15485	206.66584	230.64822	10.22967	0.1119345	0.23826452	2.5768935	20	9 7.4	18.5
19100 1981 <i>EH</i> ₅	14.3	X	288.69249	116.43657	238.78070	8.98641	0.0642483	0.18292493	3.0734121	20	7 4.1	18.5
19101 1981 <i>EV</i> ₆	13.9	X	271.87428	81.37954	281.69504	7.60580	0.1062341	0.18229018	3.0805424	20	6 16.9	18.2
19102 1981 <i>EH</i> ₈	15.4	X	143.30194	209.62973	322.70551	7.28751	0.1370612	0.28637108	2.2795543	20	9 7.0	18.9
19103 1981 <i>ER</i> ₁₁	15.5	X	137.70229	213.23840	289.84159	2.40619	0.0644287	0.23350644	2.6117813	20	7 17.9	19.2
19104 1981 <i>EY</i> ₁₃	14.2	X	302.85082	144.14867	209.60013	8.36262	0.0984710	0.18363892	3.0654405	20	7 16.9	18.4
19105 1981 <i>EB</i> ₁₅	15.0	X	233.08456	215.97177	257.41579	2.59532	0.1404007	0.23894055	2.5720306	20	9 19.7	18.5
19106 1981 <i>EV</i> ₁₅	15.0	X	64.95634	219.01928	346.58691	10.45953	0.0460461	0.23208795	2.6224124	20	7 8.0	18.6
19107 1981 <i>EU</i> ₁₉	14.6	X	325.84232	289.16561	345.76138	5.39532	0.1396765	0.28005081	2.3137237	20	4 27.3	17.0
19108 1981 <i>EV</i> ₂₁	14.5	X	270.43143	82.12225	354.85071	10.58075	0.1102403	0.18875851	3.0097588	20	9 18.6	18.3
19109 1981 <i>EZ</i> ₂₃	15.8	X	26.62109	18.39736	210.39719	2.91525	0.0608472	0.23128008	2.6285156	20	6 13.0	18.9
19110 1981 <i>EF</i> ₂₉	14.2	X	312.81399	325.61817	327.28014	4.27883	0.1395244	0.18042303	3.1017591	20	5 6.4	18.2
19111 1981 <i>EM</i> ₂₉	15.3	X	2.73254	311.67564	293.37774	5.76408	0.0997049	0.28054809	2.3109888	20	5 27.9	17.5
19112 1981 <i>EN</i> ₃₁	15.4	X	281.56593	171.62233	160.02707	4.21216	0.1123368	0.28121950	2.3073090	20	5 18.5	18.2
19113 1981 <i>EB</i> ₃₃	14.4	X	301.43060	341.67381	328.45237	12.17712	0.1883749	0.23044377	2.6348713	20	4 28.5	18.0
19114 1981 <i>EP</i> ₃₇	15.1	X	259.95936	131.39006	262.91265	2.63007	0.1328968	0.2				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19121 1985 <i>CY</i> ₁	13.9 ^m	X	114.86476	339.48232	159.16423	12.28419	0.2610689	0.17362598	3.1821910	20	7 2.2	19.3
19122 Amandabosh	14.6	X	174.57390	151.93055	271.61500	1.22273	0.2158441	0.27212258	2.3584482	20	5 18.3	18.5
19123 Stephenlevine	14.7	X	169.89998	211.25177	127.00666	2.97182	0.2687440	0.27611531	2.3356570	20	2 1.6	18.4
19124 1986 <i>TH</i> ₃	13.5	X	132.50954	219.68831	192.66235	15.52197	0.3161222	0.21751120	2.7383039	20	4 8.5	18.2
19125 1987 <i>CH</i>	14.4	X	79.90342	351.32851	147.16260	5.43312	0.0750232	0.30140854	2.2030906	20	4 28.8	16.8
19126 Ottoghahn	14.2	X	68.31607	81.84518	202.62593	12.38605	0.1936432	0.24396030	2.5366270	20	11 16.3	18.1
19127 Olegefremov	15.3	X	91.05974	4.73715	336.80769	5.22644	0.3166811	0.30863519	2.1685649	20	—	—
19128 1987 <i>YR</i> ₁	14.4	X	71.62468	245.33008	226.50084	13.89835	0.1888544	0.22018485	2.7160917	20	3 27.4	17.9
19129 Loos	13.6	X	191.71729	16.63005	91.33276	5.87110	0.1320227	0.22840197	2.6505509	20	7 31.9	17.7
19130 Tytgat	13.2	X	8.83780	61.79255	125.18450	15.23501	0.1463252	0.21837560	2.7310730	20	3 23.5	16.4
19131 1988 <i>CY</i> ₃	14.1	X	110.26336	168.94663	224.07828	6.88021	0.1607957	0.21455107	2.7634329	20	2 3.5	18.1
19132 Le Clézio	14.2	X	21.11900	241.41402	236.90489	7.56299	0.1556760	0.21356721	2.7719135	20	1 4.3	17.1
19133 1988 <i>PC</i> ₂	13.0	X	116.49939	148.58208	175.20025	12.11442	0.1908452	0.22695960	2.6617689	20	—	—
19134 1988 <i>TQ</i> ₁	14.0	X	38.89693	83.31345	345.84024	5.84841	0.1451299	0.25591980	2.4569716	20	—	—
19135 Takashionaka	14.2	X	295.07708	166.23556	256.92614	9.69019	0.2697077	0.24439443	2.5336221	20	9 19.6	16.7
19136 Strassmann	14.7	X	180.40111	352.13414	137.21550	4.78033	0.1037341	0.23533547	2.5982312	20	8 17.8	18.7
19137 Copiapó	13.9	X	158.46884	338.27332	273.23249	8.83160	0.1648584	0.24286128	2.5442739	20	12 24.3	18.0
19138 1989 <i>EJ</i> ₁	14.5	X	216.14649	77.14066	166.77404	4.16478	0.1164019	0.30844634	2.1694499	20	—	—
19139 Apian	13.5	X	341.18585	337.74064	48.18580	8.01677	0.0755155	0.23736989	2.5833641	20	11 11.6	16.4
19140 Jansmit	14.1	X	227.03468	131.80694	249.91144	21.64166	0.2549286	0.27842592	2.3227169	20	5 6.2	18.2
19141 Poelkapelle	14.6	X	151.74152	343.90188	121.34489	4.08022	0.1722469	0.27660919	2.3328760	20	6 20.1	18.1
19142 Langemarck	15.5	X	238.73552	223.47867	129.41988	3.59746	0.1806432	0.27710047	2.3301178	20	4 17.9	19.0
19143 1989 <i>SA</i> ₁₀	14.8	X	219.32608	75.59645	4.44683	7.64929	0.0795091	0.28293822	2.2979556	20	8 5.0	17.9
19144 1989 <i>UP</i> ₁	13.5	X	232.74751	305.36474	81.64442	6.71675	0.2009473	0.27791199	2.3255795	20	5 24.2	17.0
19145 1989 <i>YC</i>	14.1	X	114.44696	280.59581	100.61143	10.40803	0.2712824	0.26495952	2.4007652	20	2 7.1	17.4
19146 1989 <i>YY</i>	15.0	X	10.85201	88.62220	110.41566	3.00647	0.1590657	0.26619375	2.3933386	20	4 3.7	16.9
19147 1989 <i>YV</i> ₄	15.2	X	76.73153	73.58997	33.81309	1.56811	0.1260116	0.26545806	2.3977585	20	3 18.7	17.8
19148 Alaska	12.6	X	111.74761	239.80460	299.92422	19.61328	0.1459840	0.17840810	3.1250694	20	8 5.7	17.5
19149 Boccaccio	12.8	X	8.52933	280.18365	187.75824	6.73180	0.0740519	0.15849153	3.3816761	20	—	—
19150 1990 <i>HY</i>	13.1	X	49.95357	159.33980	88.03255	16.32751	0.0769735	0.23640847	2.5903634	20	8 22.8	16.7
19151 1990 <i>KD</i> ₁	14.0	X	193.52992	346.29665	185.90381	12.37835	0.0926796	0.24245392	2.5471230	20	10 29.7	17.7
19152 1990 <i>OB</i> ₅	13.4	X	260.80441	67.58247	259.35259	11.74308	0.1920755	0.22396765	2.6854219	20	4 1.7	17.7
19153 1990 <i>QB</i> ₃	15.3	X	19.93536	240.62704	159.54349	3.83802	0.1651636	0.30391798	2.1909466	20	—	—
19154 1990 <i>QX</i> ₄	14.9	X	83.33548	289.21560	46.88581	5.19655	0.1822623	0.30556235	2.1830792	20	—	—
19155 Lifeson	13.4	X	49.24393	61.50921	307.74435	12.29344	0.2151107	0.23685449	2.5871104	20	—	—
19156 Heco	13.5	X	126.16481	277.81139	213.30494	1.24373	0.0059636	0.22198181	2.7014139	20	6 11.1	16.9
19157 1990 <i>SS</i> ₆	14.7	X	104.42621	227.56048	144.44024	3.37524	0.1494995	0.30899486	2.1668817	20	—	—
19158 1990 <i>SN</i> ₇	14.5	X	83.56489	277.01489	48.64736	4.23283	0.2055966	0.30450849	2.1881132	20	—	—
19159 Taenakano	13.4	X	146.05143	24.51667	12.07597	8.49534	0.0588066	0.21418764	2.7665580	20	3 12.6	17.3
19160 Chikayoshitomi	14.9	X	313.55237	166.34089	207.78174	4.09965	0.1970808	0.29425115	2.2386727	20	9 11.7	16.2
19161 Sakawa	15.2	X	268.55895	243.33037	123.44110	5.96531	0.1786674	0.29011007	2.2599258	20	6 8.9	18.1
19162 Wambsganss	13.7	X	219.98836	95.67217	278.88474	2.28382	0.0885714	0.21975062	2.7196686	20	5 2.9	17.6
19163 1990 <i>WE</i> ₅	15.3	X	297.70537	269.54511	113.99159	5.75139	0.0565412	0.29106834	2.2549629	20	9 12.5	17.6
19164 1991 <i>AU</i> ₁	14.1	X	249.66711	138.86836	334.69493	22.32199	0.0545442	0.38992009	1.8556055	20	11 27.8	16.4
19165 Nariyuki	13.8	X	195.00142	114.06271	349.03318	7.79157	0.0736872	0.28401234	2.2921581	20	8 6.9	16.9
19166 1991 <i>EY</i> ₁	14.7	X	75.68801	246.10968	318.12378	5.05209	0.1388459	0.28041967	2.3116943	20	8 6.8	17.6
19167 1991 <i>ED</i> ₂	14.1	X	211.37991	344.05698	162.00963	4.70640	0.0960379	0.28905178	2.2654386	20	10 23.9	16.9
19168 1991 <i>EO</i> ₅	13.1	X	294.37404	219.74199	167.17334	10.46615	0.1041266	0.18419269	3.0592934	20	8 17.4	17.2
19169 1991 <i>FD</i>	14.2	X	55.95410	359.00596	167.65005	24.86902	0.1791572	0.27389012	2.3482904	20	5 23.5	17.4
19170 1991 <i>FH</i>	13.1	X	54.06420	338.98409	206.67905	19.45518	0.1306994	0.17395213	3.1782122	20	6 4.4	17.5
19171 1991 <i>FS</i>	14.9	X	134.16293	109.88178	35.52640	4.78630	0.1750611	0.28022219	2.3127802	20	7 28.3	18.5
19172 1991 <i>FC</i> ₄	15.0	X	77.97372	268.64946	252.08120	2.31907	0.1392952	0.27495146	2.3422281	20	6 7.3	17.8
19173 Virginiatérése	13.6	X	207.02303	182.82032	100.94293	14.22641	0.1973797	0.26079562	2.4262517	20	—	—
19174 1991 <i>NS</i> ₆	14.6	X	192.56390	244.30806	128.14973	8.28448	0.0757838	0.22956838	2.6415652	20	4 4.6	18.6
19175 Peterpiot	14.4	X	291.23398	114.43094	335.96539	3.17088	0.0310080	0.24602246	2.5224324	20	11 25.5	17.6
19176 1991 <i>PK</i> ₃	13.8	X	16.58685	287.98625	57.78768	2.37923	0.1081339	0.24365476	2.5387472	20	11 17.3	16.5
19177 1991 <i>PJ</i> ₁₁	14.1	X	338.38680	86.97296	241.50967	2.88459	0.2049549	0.23666946	2.5884587	20	8 14.2	16.2
19178 Walterbothe	14.3	X	27.57287	11.79531	276.23166	3.89075	0.2598309	0.23872720	2.5735629	20	10 7.1	17.3
19179 1991 <i>RK</i> ₈	13.4	X	243.96999	248.01671	40.97698	10.33028	0.0805360	0.22261736	2.6962699	20	2 17.8	17.5
19180 1991 <i>RK</i> ₁₆	14.0	X	323.85095	282.78083	61.52601	2.84399	0.1393321	0.23585943	2.5943818	20	8 12.9	16.5
19181 1991 <i>SD</i> ₁	13.9	X	126.59037	91.97365	132.19941	13.80380	0.1306018	0.24178831	2.5517954	20	10 28.8	18.1
19182 Pitz	14.6	X	174.09719	191.10428	256.86850	2.40103	0.0899889	0.22914206	2.6448407	20	6 17.4	18.6
19183 Amati	14.3	X	257.59172	315.01661	10.42929	12.82664	0.1816546	0.22686275	2.6625264	20	4 2.1	18.2
19184 1991 <i>TB</i> ₆	13.2	X	347.81855	302.48770	37.51715	15.98615	0.1574062	0.23699125	2.5861151	20	10 1.5	15.9
19185 Guarneri	14.5	X	310.36370	336.60550	12.82537	9.54525	0.1402193	0.23474268	2.6026035	20	7 27.8	17.5
19186 1991 <i>VY</i> ₁	14.0	X	323.59836	91.67808	273.91187	22.05108	0.2809488	0.27035614	2.3687100	20	8 24.6	16.1
19187 1991 <i>VU</i> ₂	14.0	X	208.86582	296.77662	79.03967	12.49347	0.2026113	0.22540396	2.6740017	20	4 23.9	18.6
19188 Dittebesard	13.4	X	186.07924	140.53870	265.95131	11.70155	0.1770946	0.22226837	2.6990915	20	5 5.4	18.0
19189 Stradivari	13.3	X	223.26524	294.41285	97.63904	14.27678	0.1912704	0.22522112	2.6754488	20	5 25.1	17.7
19190 Morihiroshi	13.2	X	207.77981	268.84644	111.34689	6.46433	0.0867114	0.21832278	2.7315135	20	4 30.4	17.4
19191 1992 <i>DT</i> ₂	14.6	X	168.97442	66.68621	140.76947	2.95873	0.0354593	0.19550822	2.9400815	20	11 10.0	18.8
19192 1992 <i>DY</i> ₅	13.8	X	325.74422	295.21157	99.77148	3.40534	0.0951050	0.19459675	2.9492550	20	10 21.9	17.3
19193 1992 <i>DK</i> ₆	13.9	X	346.61803	329.16192	55.71378	2.89164	0.1149896	0.19556146	2.9395478	20	11 10.7	17.3
19194 1992 <i>DG</i> ₇	14.0	X	318.77866	212.40720	143.71044	8.15547	0.1086164	0.18917875	3.0052999	20	8 15.7	17.7
19195 1992 <i>DM</i> ₇	13.8	X	238.31056	8.85289	131.04568	2.98877	0.0428965					

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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 GZ ₄	13.4	X	223.87225	289.91391	73.47558	2.41481	0.0397694	0.17656129	3.1468236	20	4 29.6	18.0
19202 1992 HN	14.6	X	232.72530	112.15777	66.67035	5.05799	0.1254457	0.30047127	2.2076696	20	—	—
19203 1992 HJ ₂	15.4	X	130.84398	70.47129	66.31242	7.34196	0.0387593	0.28574194	2.2828991	20	6 30.9	18.2
19204 Joshuatree	14.0	X	2.60473	134.69235	120.31141	24.23869	0.2527550	0.28274100	2.2990241	20	6 24.8	15.5
19205 1992 PT	15.2	X	130.32144	124.98081	211.65728	0.81068	0.2028570	0.26207914	2.4183236	20	—	—
19206 1992 PH ₄	14.5	X	265.88543	331.81418	323.80419	2.11286	0.2269861	0.27271701	2.3550198	20	2 25.4	18.1
19207 1992 QS ₁	13.4	X	193.31669	310.60632	80.26574	8.89820	0.1240335	0.27082372	2.3659828	20	4 26.7	17.0
19208 Starrfield	14.6	X	110.78787	8.39758	30.00125	2.89333	0.2047159	0.26273013	2.24143272	20	2 15.3	17.6
19209 1992 UW ₂	14.4	X	37.87496	285.15295	53.81135	5.93189	0.2148470	0.28614897	2.2807338	20	—	—
19210 Higayoshihiro	14.5	X	276.51173	240.36458	150.25200	4.08860	0.2331156	0.23756304	2.5819637	20	7 12.1	17.7
19211 1993 DM	14.2	X	198.74892	274.95691	277.28774	4.21678	0.0739068	0.24010472	2.5637101	20	11 29.4	17.7
19212 1993 FL ₁₈	14.1	X	134.57291	315.46604	89.62680	5.05989	0.0830966	0.21719823	2.7409337	20	3 13.1	18.0
19213 1993 FF ₂₁	14.5	X	28.40855	96.87278	355.12734	3.07078	0.0606764	0.21106286	2.7937969	20	—	—
19214 1993 FT ₂₂	13.8	X	67.23618	220.84334	266.89907	2.59410	0.0574330	0.18205630	3.0831801	20	3 28.5	18.0
19215 1993 FS ₂₉	14.5	X	147.72811	351.70508	289.12631	3.73227	0.0608530	0.20500033	2.8486101	20	—	—
19216 1993 FA ₃₇	13.9	X	210.50329	284.29204	142.44121	3.66030	0.1552880	0.22769926	2.6560015	20	6 25.3	18.1
19217 1993 FE ₄₃	15.1	X	83.46237	237.22406	152.76298	3.15778	0.0921673	0.21064854	2.7974591	20	—	—
19218 1993 FH ₄₉	14.3	X	307.04965	227.98441	190.10377	1.65241	0.0735921	0.20013909	2.8945525	20	10 24.1	17.9
19219 1993 OH ₅	13.8	X	340.77577	120.76453	142.85804	0.88020	0.1214714	0.17939776	3.1135657	20	5 16.8	17.5
19220 1993 OX ₁₁	13.0	X	184.85640	110.47681	297.50016	2.88934	0.1481303	0.17595939	3.1539957	20	5 8.3	18.2
19221 1993 PD ₃	14.8	X	0.98482	229.28855	265.93982	3.10963	0.0185332	0.31224795	2.1518053	20	—	—
19222 1993 QK ₁	14.5	X	177.41888	353.47480	273.44890	2.33025	0.1675923	0.27027366	2.3691919	20	—	—
19223 1993 QH ₈	13.6	X	294.34359	198.55795	81.79064	2.74729	0.1473858	0.17327867	3.1864417	20	3 28.4	18.0
19224 Orosei	15.2	X	318.63048	127.96724	242.54359	6.48233	0.1586490	0.29166932	2.2518643	20	9 17.9	17.1
19225 1993 RX ₅	16.0	X	28.37879	108.05071	191.56620	2.16246	0.1664601	0.29354902	2.2422410	20	10 23.0	18.3
19226 Peiresc	12.8	X	148.12805	154.31135	191.00026	8.04624	0.0446538	0.16090939	3.3477148	20	1 15.2	17.8
19227 1993 RH ₁₆	14.9	X	84.48334	180.89025	204.71811	2.64040	0.1658732	0.26907714	2.3762102	20	—	—
19228 Uemuraiuku	15.0	X	3.33202	190.25485	160.74302	5.77019	0.1907989	0.29489910	2.2353923	20	12 2.7	17.2
19229 1993 SD ₅	14.2	X	43.92158	0.46544	353.57424	6.31796	0.1137181	0.30007663	2.2096048	20	—	—
19230 Sugazi	13.9	X	134.56360	328.15807	334.73915	4.37100	0.1279843	0.30297448	2.1954928	20	—	—
19231 1993 TL ₅	15.8	X	131.43415	245.23979	320.82407	3.28250	0.1115000	0.29141022	2.2531989	20	10 9.8	18.9
19232 1993 TJ ₁₅	15.8	X	37.35679	256.58978	22.16100	6.63509	0.1923370	0.29198521	2.2502399	20	10 10.3	18.1
19233 1993 UD ₇	15.2	X	48.63587	312.20990	110.76065	3.87618	0.1068776	0.30391349	2.1909681	20	—	—
19234 Victoriahiggs	14.6	X	312.08890	138.39605	235.00949	24.77656	0.2099038	0.28940846	2.2635768	20	8 20.8	17.2
19235 van Schurman	13.5	X	348.31851	293.96224	74.41936	11.02124	0.1473134	0.25455716	2.4657318	20	11 13.0	15.9
19236 1993 XV	14.4	X	300.68849	138.32030	288.67457	6.40401	0.2100811	0.25317348	2.4747077	20	10 23.5	16.6
19237 1994 AP	14.1	X	166.01822	42.67886	84.43298	7.10759	0.0812964	0.28016980	2.3130686	20	8 4.3	17.3
19238 1994 AV ₁	14.5	X	6.09411	207.38549	301.69727	6.00770	0.1727968	0.26411969	2.4058517	20	1 4.2	16.5
19239 1994 AM ₂	13.3	X	40.42879	265.03570	299.32339	18.18551	0.1262961	0.27256754	2.3558807	20	6 9.6	16.1
19240 1994 AZ ₁₀	15.7	X	355.03301	228.46866	53.17457	3.74537	0.1636690	0.23844395	2.5756063	20	7 10.9	17.9
19241 1994 BH ₄	15.1	X	19.61946	292.70526	179.66987	2.45014	0.1193489	0.26303949	2.4124339	20	—	—
19242 1994 CB ₁	14.0	X	167.71992	198.47756	247.64361	3.16201	0.2948490	0.23907381	2.5710748	20	6 11.5	18.5
19243 Bunting	13.3	X	183.70231	59.57166	6.04814	23.73069	0.2345744	0.27704117	2.3304503	20	5 19.8	17.8
19244 1994 CX ₁₂	14.0	X	36.87739	147.61279	39.91321	4.01854	0.0641377	0.26937619	2.3744512	20	4 29.9	16.6
19245 1994 EL ₂	14.3	X	144.44240	193.93402	1.86562	12.57941	0.1890284	0.24197152	2.5505072	20	10 4.2	18.6
19246 1994 EL ₇	14.4	X	76.62048	138.14021	30.84114	3.01992	0.1738422	0.27003978	2.3705596	20	6 22.9	17.2
19247 1994 LO ₁	14.8	X	325.27677	247.38111	96.67157	27.42163	0.0639257	0.38542345	1.8700101	20	10 5.2	17.3
19248 1994 PT	13.9	X	258.25626	214.11211	133.59293	2.71776	0.2084911	0.18123988	3.0924324	20	4 30.8	18.8
19249 1994 PO ₂₅	14.3	X	116.65177	222.78688	50.99910	2.70710	0.0550849	0.19820587	2.9133436	20	12 1.6	18.5
19250 Poullain	14.0	X	44.54904	43.31345	101.70863	3.48602	0.1275191	0.17571477	3.1569221	20	3 29.9	17.9
19251 Totziens	13.6	X	6.19715	180.75351	169.49662	16.38151	0.2857196	0.23109215	2.6299405	20	12 4.2	16.8
19252 1994 RG ₇	14.3	X	352.34350	330.44102	314.12186	1.47368	0.0412622	0.18298321	3.0727594	20	7 5.2	18.3
19253 1994 RN ₂₈	14.7	X	29.94950	294.84323	2.80412	1.54790	0.0964914	0.19159724	2.9799563	20	9 21.6	18.4
19254 1994 VD ₇	12.6	X	295.18380	71.27631	234.66644	20.82660	0.1196335	0.17599344	3.1535888	20	5 2.2	16.9
19255 1994 VK ₈	7.0	X	260.29664	124.99723	72.35869	1.48645	0.0331554	0.00355073	42.5524258	20	12 26.3	23.3
19256 1994 WA ₄	13.5	X	235.47216	252.96363	208.85389	11.69953	0.0847339	0.22171540	2.7035774	20	9 10.9	17.4
19257 1995 DS ₅	14.1	X	297.71530	354.07937	312.54672	6.74639	0.1071979	0.28346429	2.2951116	20	5 2.2	16.8
19258 Gongyi	14.8	X	345.10196	159.84826	132.16055	7.46090	0.1396008	0.28357763	2.2945000	20	7 8.5	16.7
19259 1995 GB	14.5	X	281.50144	121.67017	120.72135	2.92943	0.1715520	0.26894338	2.3769980	20	1 11.1	18.1
19260 1995 GT	13.8	X	318.48144	209.46360	13.17006	24.03707	0.2401431	0.27164405	2.3612171	20	1 28.6	17.4
19261 1995 MB	12.7	X	230.55104	11.01584	279.84667	26.31782	0.2228256	0.26326344	2.4110655	20	1 17.9	17.0
19262 1995 OB ₁	15.1	X	272.75381	32.46614	284.91565	6.36166	0.2009324	0.22846119	2.6500928	20	4 2.5	19.1
19263 Lavater	14.5	X	232.71701	43.56394	291.12274	2.87217	0.2260040	0.22617517	2.6679198	20	3 17.6	19.0
19264 1995 SE ₁₀	14.8	X	198.55096	345.14233	162.00765	4.20186	0.2212200	0.23711608	2.5852073	20	9 20.8	18.9
19265 1995 SD ₂₄	14.2	X	177.18023	162.85549	163.55023	5.12360	0.1060719	0.21571221	2.7535073	20	1 21.2	18.5
19266 1995 TF ₁	14.2	X	296.61438	77.72025	238.78387	13.11376	0.2220335	0.23058229	2.6338159	20	4 29.5	17.7
19267 1995 TB ₈	14.1	X	164.73692	305.42254	257.40810	1.56899	0.0603703	0.23695617	2.5863703	20	11 4.4	17.8
19268 Morstadt	15.3	X	175.34655	318.02422	39.51025	3.56143	0.0862369	0.21752816	2.7381615	20	2 26.9	19.4
19269 1995 UQ ₁₁	13.9	X	87.65903	259.57767	9.85874	14.70895	0.0832823	0.23944380	2.5684256	20	10 30.9	17.7
19270 1995 VS ₈	14.4	X	122.01899	216.03037	58.08882	2.99031	0.0258685	0.19899207	2.9056649	20	12 6.7	18.6
19271 1995 VG ₁₃	14.9	X	126.27714	208.19054	113.40863	3.51768	0.0329557	0.20662263	2.8336799	20	—	—
19272 1995 WO ₁₅	14.8	X	8.92413	125.89168	26.91093	2.38166	0.0163997	0.21493686	2.7601252	20	2 7.1	18.5
19273 1995 XJ	14.2	X	88.12568	346.00949	81.44320	10.40075	0.1377946	0.21002298	2.8030112	20	2 23.5	18.0
19274 1995 XA ₁	13.1	X	248.41455	13.78660	78.44683	12.08143	0.0687136	0.19000191	2.9966135	20	9 22.9	17.5
19275 1995 XF ₁	13.9	X	257.25396	344.61889	65.26295	8.97178	0.0914918	0.18619511	3.0733198	20	8 2.7	18.3
19276 1995 XS ₄	14.4	X	292.15276	116.3								

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19281 1996 AP ₃	13.6	X	115.31204	66.28600	273.33515	6.82512	0.1931523	0.28479803	2.2879405	20	—	—
19282 Zhangcunhao	13.8	X	226.60607	244.65440	177.02884	0.24564	0.1628105	0.18067017	3.0989298	20	7 2.9	18.6
19283 1996 BJ ₂	13.1	X	225.61068	150.98852	300.93573	9.08788	0.0463224	0.18449268	3.0559761	20	8 18.8	17.6
19284 1996 BU ₃	13.1	X	91.62156	6.49421	129.00255	21.46910	0.0850758	0.17122940	3.2118148	20	5 21.8	18.1
19285 1996 CM ₉	12.4	X	210.27938	291.28910	326.97653	14.35322	0.0571626	0.15716271	3.4007109	20	—	—
19286 1996 DU	14.0	X	294.21869	37.08608	154.23163	13.16555	0.2212737	0.23859420	2.5745191	20	—	—
19287 Paronelli	13.1	X	221.08310	249.32457	146.82537	13.01589	0.1134993	0.17590516	3.1546438	20	6 2.3	18.2
19288 Egami	12.4	X	98.36912	17.07109	12.76049	15.51920	0.1254254	0.23862160	2.5743221	20	1 12.5	16.0
19289 1996 HY ₁₂	15.4	X	224.08454	101.57597	197.09534	1.63413	0.1260249	0.31932182	2.1199079	20	1 20.9	18.5
19290 Schroeder	14.1	X	282.09953	251.97475	67.50790	23.29177	0.2283322	0.28532906	2.2851009	20	4 23.5	17.5
19291 Karelzeman	12.9	X	122.02608	101.11998	76.94843	16.31020	0.1471485	0.17470276	3.1691019	20	8 22.8	18.2
19292 1996 NG ₅	15.5	X	46.32290	292.80205	343.32114	1.71784	0.1660383	0.29122762	2.2541406	20	10 13.6	18.2
19293 Dedekind	16.0	X	279.22165	287.44120	105.86009	6.91820	0.1102535	0.28818686	2.2699690	20	8 17.8	18.4
19294 Weymouth	14.4	X	343.77795	212.60709	271.85674	5.92081	0.1044482	0.26444530	2.4038765	20	—	—
19295 1996 RC ₁	15.1	X	82.84890	173.76501	138.00098	2.46434	0.1269194	0.29699087	2.2248837	20	—	—
19296 1996 RO ₄	15.6	X	149.41694	343.19308	114.33336	1.63452	0.2079638	0.27563548	2.3383668	20	6 9.3	19.4
19297 1996 RS ₂₄	15.0	X	301.38787	120.72363	168.74402	6.22236	0.1251702	0.27813613	2.3243299	20	4 14.9	17.6
19298 Zhongkeda	14.7	X	29.62522	122.07463	20.12613	6.71089	0.0756822	0.26634920	2.3924073	20	2 15.8	17.3
19299 1996 SZ ₄	7.9	X	13.84638	29.54066	15.90140	4.73500	0.2558785	0.00398062	39.4307704	20	12 1.9	22.6
19300 1996 SH ₆	14.0	X	118.22428	357.05183	194.95640	7.95270	0.0641674	0.28317646	2.2966666	20	9 1.4	17.1
19301 1996 SF ₈	15.4	X	293.53569	170.36149	194.70386	0.98301	0.2729276	0.24123129	2.5557221	20	6 24.9	18.3
19302 1996 TD	15.0	X	271.76082	112.87968	288.63894	4.01764	0.1700765	0.28430224	2.2905996	20	8 4.1	17.5
19303 Chinacyo	15.1	X	87.67953	19.97782	17.27273	3.81000	0.2099372	0.26194735	2.191347	20	1 11.6	17.6
19304 1996 TQ ₁	15.1	X	163.30166	194.33532	186.52985	2.11539	0.2139399	0.26953663	2.3735088	20	3 16.1	18.9
19305 1996 TH ₁₀	14.0	X	293.31512	5.45847	4.09060	14.78073	0.1935325	0.24134464	2.5549218	20	7 20.6	17.2
19306 Voves	15.0	X	128.08446	230.36476	240.79731	1.46024	0.1653584	0.27250638	2.3562332	20	6 3.6	18.4
19307 Hanayama	15.5	X	339.16464	121.70134	341.78334	2.14521	0.1573650	0.25508930	2.4623015	20	—	—
19308 1996 TO ₆₆	4.8	X	139.37354	241.98471	355.15810	27.38078	0.1200282	0.00345399	43.3432875	20	10 9.6	21.6
19309 1996 UK ₁	14.6	X	193.69061	301.72384	50.17416	3.23504	0.1820633	0.26986281	2.3715959	20	3 7.1	18.4
19310 Osawa	15.3	X	85.48423	40.61647	31.13115	3.78093	0.1567206	0.26409938	2.4059751	20	2 17.4	17.9
19311 1996 VF ₃	13.8	X	112.84683	32.98144	44.83648	8.91108	0.2224829	0.26672698	2.3901478	20	4 12.5	17.1
19312 1996 VR ₇	14.9	X	76.63832	346.06131	71.07782	5.09722	0.1095138	0.25968440	2.4331683	20	1 5.9	17.4
19313 1996 VF ₈	13.6	X	207.89720	34.04905	33.12054	13.71475	0.1594580	0.23454803	2.6040432	20	6 22.4	17.9
19314 1996 VT ₈	13.6	X	166.14969	282.65517	62.41208	13.46551	0.1900303	0.22351613	2.6890372	20	2 11.8	18.2
19315 1996 VY ₈	14.5	X	223.67222	334.83742	65.93245	5.37442	0.1447971	0.27635992	2.3342785	20	6 6.1	17.9
19316 1996 WB	13.6	X	160.69291	337.12201	59.01230	13.95177	0.1754992	0.22539853	2.6740447	20	4 8.3	18.1
19317 1996 WS ₁	14.6	X	244.42469	194.61370	263.53153	4.22431	0.0474699	0.24101536	2.5572483	20	9 26.9	18.1
19318 Somanah	13.9	X	205.25982	158.27897	263.96871	24.37051	0.2380161	0.27348684	2.3505983	20	6 11.4	17.7
19319 1996 XX ₂	14.4	X	323.85663	29.02619	22.66157	2.32980	0.1413067	0.24517166	2.5282647	20	11 22.8	16.8
19320 1996 XB ₆	14.2	X	255.29872	58.94562	84.81394	13.50004	0.0764523	0.24470843	2.5314543	20	12 10.9	17.2
19321 1996 XY ₇	13.9	X	14.70996	78.05809	87.15303	8.09871	0.0596086	0.22274183	2.6952653	20	3 2.8	17.3
19322 1996 XQ ₁₁	14.9	X	66.94464	0.82174	73.70184	3.53707	0.1821537	0.21545097	2.7557326	20	2 2.9	17.9
19323 1996 XM ₁₃	14.4	X	315.01261	197.17543	79.15345	3.46391	0.0608861	0.22821335	2.6520112	20	4 29.3	17.8
19324 1996 XA ₁₈	14.9	X	118.89099	112.30106	56.09559	5.92421	0.1233445	0.23418874	2.6067060	20	8 5.9	18.8
19325 1996 XC ₁₈	14.8	X	227.18520	163.46593	56.75842	8.13050	0.0984401	0.25407590	2.4688445	20	—	—
19326 1996 XD ₁₉	14.3	X	345.47021	297.58438	222.39212	4.24547	0.1242779	0.25660114	2.4526203	20	—	—
19327 1996 XH ₁₉	13.3	X	80.72504	112.09552	97.96618	15.84741	0.1479916	0.23082466	2.6319719	20	8 22.2	17.2
19328 1996 XY ₂₈	14.6	X	317.23657	91.75983	66.24774	1.77031	0.1108877	0.25610273	2.4558014	20	—	—
19329 1996 XZ ₃₀	14.0	X	107.20705	123.12017	269.55384	5.48862	0.1441461	0.25844249	2.4409569	20	1 23.1	16.9
19330 1996 XJ ₃₁	13.3	X	23.94697	20.73741	107.53433	10.30105	0.0650338	0.21550239	2.7552943	20	1 25.9	16.6
19331 Stefanovitale	14.8	X	228.91828	84.15367	73.39105	9.09732	0.1813730	0.24365834	2.5387223	20	11 9.6	18.3
19332 1996 YQ ₁	14.3	X	326.16782	307.63161	122.21523	8.24492	0.2508046	0.24492009	2.5299956	20	—	—
19333 1996 YT ₁	13.2	X	252.87836	82.48694	295.98105	14.18915	0.1311431	0.23030698	2.6359145	20	6 11.0	17.1
19334 1996 YV ₁	14.9	X	209.84772	118.02045	329.81156	1.57330	0.1824818	0.23054337	2.6341124	20	7 20.3	18.9
19335 1996 YL ₂	14.3	X	354.76473	97.26370	96.80613	7.15037	0.0630255	0.26470647	2.4022950	20	3 5.1	17.1
19336 1997 AF	13.9	X	318.03117	281.20312	98.95654	7.52919	0.3056357	0.24092353	2.5578981	20	9 13.9	15.5
19337 1997 AT	13.6	X	123.90078	250.78821	109.64931	8.56524	0.2333387	0.25628006	2.4546684	20	1 16.6	16.9
19338 1997 AB ₂	14.2	X	142.90813	120.04985	104.35758	15.50170	0.1015015	0.23988522	2.5652737	20	11 14.0	17.9
19339 1997 AF ₄	13.8	X	10.12539	12.27961	130.87282	8.88301	0.1605644	0.21351089	2.7724009	20	1 18.3	16.7
19340 1997 AV ₄	13.3	X	279.88122	84.30516	132.49506	7.56569	0.0564848	0.21127228	2.7919505	20	—	—
19341 1997 AQ ₅	13.3	X	291.33168	99.42833	62.74583	6.61642	0.0255943	0.20660611	2.8338310	20	—	—
19342 1997 AA ₇	14.8	X	331.48613	284.19907	135.80516	2.78682	0.2310393	0.24438608	2.5336799	20	12 28.7	16.7
19343 1997 AR ₇	15.1	X	104.87232	117.36958	343.17360	2.10411	0.1537141	0.26717730	2.3874613	20	4 21.2	18.1
19344 1997 AD ₁₄	14.1	X	129.76158	83.01905	290.19876	6.31189	0.1110765	0.21513211	2.7584549	20	1 28.5	18.1
19345 1997 BV ₂	14.2	X	23.38762	333.46456	67.74809	3.21818	0.0495223	0.20299056	2.8673816	20	—	—
19346 1997 CG ₁	13.8	X	301.74751	312.70167	95.61505	6.18304	0.1411414	0.23680624	2.5874618	20	10 7.7	16.6
19347 1997 CH ₉	14.3	X	107.17462	49.06058	339.03245	5.34260	0.1729255	0.21193883	2.7860935	20	1 31.0	18.2
19348 Cueva	14.6	X	58.95551	9.81157	349.74829	1.79473	0.0362408	0.20103015	2.8859929	20	—	—
19349 Denjoy	13.8	X	181.65159	174.17200	158.57746	5.70838	0.0304952	0.21138955	2.7909178	20	1 30.1	17.9
19350 1997 CU ₂₈	14.4	X	181.52754	121.59057	306.48883	2.80211	0.1966868	0.22679378	2.6630662	20	5 29.8	19.0
19351 1997 EK	13.3	X	241.31843	161.32293	9.39805	12.71349	0.0820630	0.19869197	2.9085900	20	12 11.9	17.5
19352 1997 EL	12.0	X	333.63694	212.45738	148.01915	10.97090	0.1180647	0.18929614	3.0040573	20	9 17.7	15.6
19353 Pierrethierry	13.9	X	53.42741	112.71854	102.78669	11.54592	0.1430752	0.22348235	2.6893082	20	7 18.2	17.2
19354 Fredkoehler	14.0	X	232.75619	213.13114	193.28920	11.36311	0.2087135	0.18161334	3.0881915	20	6 16.2	19.2
19355 Merpalehmann	13.2	X	355.14056	336.18208	358.35459	10.75931	0.0957377	0.18532135	3.0468594	20	9 16.2	17.0
19356 1997 GH ₃	16.8	X	317.15901	333.85116	186.70095							

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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>
19361 1997 KH ₄	14.1	X	334.82978	72.39983	103.35422	6.32532	0.0791527	0.28992963	2.2608634	20	—	—
19362 1997 MX ₃	13.8	X	65.46735	273.72926	96.59239	11.20683	0.1097735	0.18900987	3.0070898	20	—	—
19363 1997 OL ₂	13.8	X	65.80800	76.24849	290.81046	2.80231	0.1428541	0.18481296	3.0524444	20	—	—
19364 Semafor	12.7	X	201.17375	6.68265	199.03112	13.40435	0.1075073	0.22450458	2.6811385	20	12 12.3	16.8
19365 1997 VL ₅	14.6	X	278.63663	231.07080	48.86706	8.27962	0.1627680	0.27976962	2.3152737	20	2 29.1	17.9
19366 Sudingqiang	12.9	X	67.61188	340.87706	47.16958	13.84475	0.1668866	0.22399200	2.6852272	20	—	—
19367 Pink Floyd	14.6	X	11.62853	305.87050	91.55356	3.68782	0.1634753	0.25776146	2.4452545	20	—	—
19368 1997 XZ ₄	15.3	X	36.58996	303.37395	119.86037	0.66326	0.0401199	0.30363001	2.1923317	20	—	—
19369 1997 YO	12.1	X	352.04701	26.93548	107.00501	17.62435	0.1713156	0.17733512	3.1376624	20	—	—
19370 Yukyung	12.5	X	80.78808	332.06382	89.76976	15.43904	0.1661964	0.22841187	2.6504743	20	2 5.5	15.8
19371 1997 YP ₁₁	14.4	X	300.26680	247.70702	197.09124	3.12022	0.0276275	0.29702816	2.2246975	20	12 16.1	16.9
19372 1997 YP ₁₃	14.2	X	29.91104	299.24599	263.33502	6.49548	0.1949997	0.27561234	2.3384977	20	5 24.8	15.9
19373 1997 YC ₁₄	13.9	X	53.63547	329.89544	311.98876	6.23181	0.1721584	0.28894419	2.2660009	20	10 28.9	16.9
19374 1997 YG ₁₇	15.0	X	244.01442	166.59906	107.52267	8.47616	0.0986145	0.26925638	2.3751555	20	1 18.5	18.4
19375 1998 AB ₅	14.7	X	344.00938	155.89180	120.72603	7.69036	0.1297769	0.28260373	2.2997685	20	6 11.3	16.7
19376 1998 BE ₁	15.1	X	195.10590	12.56101	91.29935	6.16936	0.0492377	0.28630560	2.2799019	20	8 9.8	18.0
19377 1998 BE ₄	15.1	X	56.42346	232.36450	325.74798	4.39141	0.0811677	0.27839464	2.3228908	20	6 19.8	17.8
19378 1998 BB ₇	14.7	X	299.95456	231.85094	345.12137	6.14506	0.0749156	0.26555311	2.3971863	20	1 13.8	17.8
19379 Labrecque	13.5	X	177.96166	71.00749	333.67851	23.08690	0.2810013	0.27870751	2.3211521	20	4 15.5	18.1
19380 1998 BB ₁₁	14.7	X	247.33984	147.44524	101.83751	7.19685	0.0732163	0.26563024	2.3967223	20	—	—
19381 1998 BB ₁₅	15.5	X	253.79540	323.20065	179.09994	3.73831	0.1314852	0.29772444	2.2212276	20	12 14.6	17.7
19382 1998 BH ₂₅	14.5	X	242.45823	142.42736	69.39566	2.88092	0.0724209	0.25793650	2.4441481	20	—	—
19383 Rolling Stones	14.6	X	291.45799	337.22974	354.76468	6.79191	0.1527889	0.28082238	2.3094837	20	5 23.6	17.3
19384 Winton	15.1	X	80.51029	170.91452	173.40117	2.98493	0.1748325	0.30124271	2.2038990	20	—	—
19385 1998 CE ₄	15.0	X	234.24363	305.53760	57.30404	4.64220	0.1802675	0.27827748	2.3235428	20	4 19.4	18.6
19386 Axelcronstedt	13.8	X	286.10091	199.71509	149.28288	7.57570	0.1720801	0.28146879	2.3059465	20	6 9.6	16.6
19387 1998 DA ₂	14.4	X	42.56774	248.28649	22.72349	6.07313	0.1825308	0.28716323	2.2753602	20	10 4.6	17.0
19388 1998 DQ ₃	14.5	X	178.82315	287.97654	157.80737	20.50312	0.3411587	0.28374293	2.2936088	20	6 20.7	19.2
19389 1998 DD ₁₄	13.3	X	238.10771	136.06574	196.27853	11.53736	0.2272893	0.17640160	3.1487223	20	3 22.3	18.5
19390 1998 DK ₁₄	15.0	X	313.35273	237.75792	356.64120	3.78317	0.1698254	0.26844850	2.3799183	20	2 8.4	17.9
19391 1998 DR ₁₅	14.5	X	247.82306	55.34633	357.96172	6.14286	0.0704260	0.28279499	2.2987315	20	8 5.8	17.3
19392 Oyamada	14.9	X	156.93648	196.82216	316.61512	6.63825	0.0589031	0.28397514	2.2923583	20	8 27.4	18.0
19393 Davidthompson	15.5	X	34.03084	340.67754	157.24317	5.80177	0.0574085	0.26683090	2.3895272	20	2 12.9	18.0
19394 1998 DA ₃₄	14.3	X	192.46112	209.77587	4.46979	5.16078	0.0296576	0.25070581	2.4909200	20	12 28.6	17.6
19395 Barrera	14.8	X	238.43093	282.69878	190.75683	2.79458	0.0822694	0.28960163	2.2625701	20	10 15.8	17.5
19396 1998 EV ₁	14.6	X	200.05194	321.25445	23.47569	2.25028	0.1291753	0.21976080	2.7195845	20	3 6.7	18.8
19397 Lagarini	15.2	X	333.76455	148.47243	24.97441	2.29071	0.1414405	0.26166414	2.4208799	20	—	—
19398 Crecedence	14.9	X	247.80207	260.77158	107.33060	3.87892	0.2629359	0.27978478	2.3151901	20	5 8.8	18.6
19399 1998 EP ₁₀	14.8	X	212.34272	298.03230	121.90559	7.45289	0.0469917	0.23504034	2.6004057	20	6 26.9	18.5
19400 Emileclaus	15.3	X	71.52356	20.75425	102.46928	2.89892	0.1958663	0.27097154	2.3651223	20	4 14.5	17.7
19401 1998 ES ₁₁	15.1	X	216.19909	107.95474	46.07692	4.19385	0.0799116	0.24680518	2.5170965	20	11 2.5	18.5
19402 1998 EG ₁₄	14.9	X	286.89930	318.03153	121.46253	3.31426	0.2690125	0.29369704	2.2414876	20	10 21.4	16.1
19403 1998 FA ₁	14.4	X	279.90081	269.33149	73.82450	3.63331	0.0478649	0.23112626	2.6296818	20	6 10.8	17.6
19404 1998 FO ₅	14.2	X	73.34836	70.60115	133.79030	4.79911	0.0549936	0.23264628	2.6182150	20	7 17.2	17.6
19405 1998 FT ₈	14.0	X	337.43269	213.22314	21.29422	11.09977	0.1397733	0.22389955	2.6859664	20	3 28.7	17.0
19406 1998 FM ₁₀	14.4	X	97.64304	167.29881	193.54802	16.51049	0.2668637	0.21086786	2.7955190	20	—	—
19407 Standing Bear	13.0	X	16.80863	274.24652	34.09424	15.03732	0.1180596	0.23639522	2.5904602	20	10 2.3	16.1
19408 1998 FM ₁₁	13.8	X	359.50075	248.36341	79.49744	11.67064	0.1131566	0.19333124	2.9621112	20	9 23.1	17.6
19409 1998 FA ₁₂	15.2	X	97.81018	150.00199	29.15440	8.52954	0.0477613	0.27812892	2.3243701	20	7 20.1	18.3
19410 Guisard	15.1	X	311.03702	89.23483	204.99754	6.25797	0.1082850	0.27242602	2.3566965	20	5 9.5	17.7
19411 Collinarnold	14.7	X	205.06319	335.17502	202.03407	3.14226	0.1206264	0.29253806	2.2474039	20	11 23.5	17.6
19412 1998 FC ₂₄	14.1	X	207.95752	221.80181	167.76075	2.89172	0.1070795	0.27586229	2.3370849	20	5 8.4	17.5
19413 Grantlewis	14.6	X	124.22070	199.23513	206.31338	6.13883	0.1261901	0.26736822	2.3863246	20	2 25.9	17.8
19414 1998 FP ₃₂	14.1	X	236.00280	28.75331	332.05778	2.82720	0.2296527	0.27436501	2.3455799	20	4 19.1	18.0
19415 Parvamenon	15.1	X	31.36003	320.25591	191.86838	4.68256	0.1680304	0.26800870	2.3825213	20	3 1.9	17.2
19416 Benglass	14.8	X	347.53881	329.25916	198.76635	5.88002	0.0683918	0.26382818	2.4076236	20	1 12.6	17.6
19417 Madelynhoh	15.4	X	324.12612	165.84137	358.85544	1.13026	0.1125929	0.26075124	2.4265270	20	—	—
19418 1998 FL ₄₉	14.4	X	197.03738	313.10145	344.77584	2.01138	0.1470316	0.30295958	2.1955648	20	—	—
19419 Pinkham	14.1	X	278.98806	24.85728	357.88697	7.82697	0.1039075	0.28143736	2.3061181	20	8 2.4	16.7
19420 Vivekbuch	13.9	X	59.99707	237.79351	308.14152	2.21349	0.0297318	0.22946058	2.6423925	20	5 29.5	17.4
19421 Zachulett	14.4	X	297.79134	250.74730	49.63274	4.40100	0.0650388	0.22790670	2.6543895	20	5 5.8	17.7
19422 1998 FV ₅₆	14.0	X	9.33267	332.15426	19.91510	5.37260	0.2301449	0.24284422	2.5443931	20	12 2.7	16.8
19423 Hefter	15.0	X	25.45838	173.01947	301.57218	1.00709	0.1108395	0.26217385	2.4177412	20	—	—
19424 Andrewsog	14.9	X	150.25563	37.24711	196.05569	4.52431	0.1009507	0.24533839	2.5271191	20	11 27.9	18.6
19425 Nicholasrapp	14.2	X	26.97586	214.14561	116.39950	5.27361	0.1747740	0.25759966	2.4462783	20	—	—
19426 Leal	14.3	X	257.32146	65.91490	211.96185	7.64416	0.1616181	0.21778789	2.7359841	20	2 4.5	18.7
19427 1998 FJ ₆₆	13.8	X	145.42981	220.86458	11.99443	9.63186	0.0620110	0.24476962	2.5310324	20	11 19.8	17.5
19428 Gracehsu	14.4	X	186.39776	187.20691	173.39764	6.06597	0.0843347	0.22144026	2.7058164	20	3 11.1	18.5
19429 Grubaugh	15.0	X	99.35655	108.03184	344.65797	2.07078	0.1802419	0.26888991	2.3773131	20	4 7.3	18.0
19430 Kristinaufer	14.5	X	9.96510	336.41667	162.54058	3.51922	0.1452830	0.26279266	2.4139442	20	—	—
19431 1998 FS ₇₀	13.2	X	261.24459	268.00829	19.71630	13.51860	0.1902949	0.17512627	3.1639906	20	2 29.3	18.3
19432 1998 FL ₇₁	14.5	X	71.47562	136.74090	0.36174	5.74876	0.0815655	0.26915918	2.3757273	20	4 12.7	17.1
19433 Naftz	14.3	X	110.86460	132.57752	344.52015	2.50324	0.0329106	0.22726281	2.6594008	20	5 5.5	17.9
19434 Bahuffman	15.1	X	151.39416	148.48748	24.42984	0.74226	0.1157515	0.23853421	2.5749508	20	9 12.8	19.0
19435 1998 FN ₇₅	13.5	X	227.22797	38.74116	22.65403	15.53275	0.1119336	0.23425070	2.6062463	20	7 13.3	17.6
19436 Marycole	14.6	X	279.37990	28.43050	129.35620	4.94017	0.0787712	0.25301851	2.4757181	20	—	—
19437 Jennyblank	14.3	X	146.2871									

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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>
19441 Trucpham	14.1	X	261.14758	45.02144	224.65073	8.79902	0.1742764	0.21761002	2.7374748	20	1 28.0	18.6
19442 Brianrice	14.3	X	152.24874	86.39231	273.21826	4.40744	0.0866598	0.21727218	2.7403117	20	2 2.3	18.2
19443 Yanzhong	14.9	X	215.35783	173.05246	234.06081	5.14690	0.1425183	0.27676621	2.3319935	20	6 6.3	18.3
19444 Addicott	14.3	X	277.32549	147.87456	286.77738	5.65996	0.1500085	0.28857741	2.2679205	20	10 5.3	16.7
19445 1998 FE ₁₁₂	12.7	X	287.02056	177.00862	230.28649	13.82576	0.0502077	0.23994621	2.5648391	20	9 13.8	16.2
19446 Muroski	15.0	X	60.18807	177.53595	297.34230	4.41691	0.1856139	0.26696383	2.3887339	20	3 6.8	17.2
19447 Jessicapearl	14.4	X	270.85238	140.57157	275.47421	5.94851	0.1051825	0.28387045	2.2929219	20	9 2.3	17.0
19448 Jenniferlee	15.3	X	212.15150	194.45461	241.23372	2.29346	0.1060811	0.27944638	2.3170588	20	7 14.5	18.5
19449 1998 FE ₁₂₅	14.1	X	32.91564	77.03563	168.91237	11.59847	0.1456305	0.23084304	2.6318322	20	7 27.2	17.3
19450 Sussman	14.2	X	36.62268	66.53713	85.52059	5.67566	0.0540781	0.26636844	2.3922921	20	3 11.9	17.0
19451 1998 FP ₁₂₅	14.0	X	338.83307	51.23949	211.63291	12.40960	0.1069230	0.22848067	2.6499423	20	5 12.9	16.9
19452 Keeney	14.6	X	206.68458	245.31244	278.37769	5.85868	0.0515253	0.28916601	2.2648419	20	11 14.4	17.5
19453 Murdochorne	15.0	X	213.43555	1.53983	189.78252	4.39056	0.1584682	0.29549693	2.2323763	20	12 17.9	17.7
19454 Henrymarr	14.4	X	174.24689	256.14134	139.07454	7.12838	0.1316250	0.27296663	2.3535839	20	4 12.5	18.0
19455 1998 FJ ₁₄₅	13.6	X	187.14214	207.00238	109.86668	6.72830	0.1417752	0.26089768	2.4256189	20	1 16.3	17.2
19456 Pimdouglas	14.8	X	106.49816	300.38678	65.34748	6.21044	0.1932129	0.29893594	2.2152222	20	—	—
19457 Robcastillo	13.5	X	91.46443	224.78751	180.02714	7.84609	0.1142114	0.17045672	3.2215136	20	1 27.3	18.0
19458 Legault	14.0	X	256.20367	38.38993	210.84970	6.81568	0.0755080	0.25840260	2.4412081	20	1 2.5	17.5
19459 1998 HM ₁₁	14.3	X	155.68343	89.71721	107.02360	7.87219	0.1703259	0.28510737	2.2862853	20	10 25.8	18.0
19460 1998 HW ₁₃	13.8	X	312.20486	312.65740	347.18072	13.29853	0.2386530	0.22775126	2.6555972	20	4 22.4	17.1
19461 Feingold	14.4	X	200.79436	203.72580	304.13197	5.07517	0.0932891	0.24308428	2.5427176	20	10 2.0	18.1
19462 Ulissedini	13.1	X	35.93805	194.58740	176.47021	2.22078	0.1024452	0.19884208	2.9071259	20	—	—
19463 Emilystoll	14.5	X	220.90466	233.24193	56.13173	2.12223	0.0416288	0.21622921	2.7491165	20	1 22.6	18.3
19464 Ciarabarr	15.1	X	116.04203	316.38805	166.23066	3.29679	0.0105774	0.22798261	2.6538003	20	5 18.3	18.7
19465 Amandarusso	14.4	X	140.75539	102.11785	265.53764	3.96868	0.0789562	0.21615879	2.7497135	20	1 29.8	18.4
19466 Darcydiegel	15.1	X	147.26564	197.61102	167.13907	6.37699	0.0299769	0.21683189	2.7440201	20	1 27.9	19.0
19467 Amandanagy	14.5	X	243.47413	107.67934	178.65958	2.12519	0.1014288	0.21851124	2.7299427	20	2 14.9	18.2
19468 1998 HO ₄₅	13.9	X	81.11062	324.20655	329.69933	4.34767	0.1304702	0.24216982	2.5491147	20	12 2.3	17.7
19469 1998 HV ₄₅	13.0	X	316.60827	163.65209	212.02027	15.62558	0.1629118	0.23777459	2.5804320	20	9 6.9	15.9
19470 Wenpingchen	14.0	X	89.24570	76.52041	236.63226	1.07287	0.0592773	0.20106983	2.8856131	20	12 19.9	18.1
19471 1998 HK ₅₂	13.5	X	2.02505	134.48798	64.42129	10.67771	0.1545795	0.17555567	3.1588292	20	4 1.0	17.2
19472 1998 HL ₅₂	13.3	X	88.71181	202.75640	62.35963	14.42354	0.0202721	0.23866137	2.5740361	20	10 28.2	16.8
19473 Marygardner	14.7	X	76.31022	201.40989	246.97105	6.89966	0.0877238	0.26332604	2.4106834	20	2 10.8	17.7
19474 1998 HJ ₈₀	14.2	X	235.28188	251.70721	22.14434	5.50670	0.0784166	0.16938266	3.2351177	20	1 25.2	19.1
19475 Mispagel	14.2	X	116.04015	297.02384	133.79118	5.22525	0.2008765	0.26602881	2.3943278	20	4 4.2	17.5
19476 Denduluri	14.5	X	18.54188	264.80364	240.14415	1.96291	0.0297420	0.21666882	2.7453967	20	2 7.5	18.1
19477 Teresajentz	13.8	X	76.14683	216.41003	79.49616	3.23752	0.0806641	0.19659771	2.9292094	20	11 16.3	18.1
19478 Jaimeflores	15.0	X	344.42449	343.66138	168.69842	2.26016	0.1290673	0.25911601	2.4367252	20	—	—
19479 1998 HG ₉₇	13.6	X	279.16473	261.91443	52.02039	5.91995	0.1847145	0.17842518	3.1248700	20	4 15.1	18.1
19480 1998 HJ ₁₀₀	13.5	X	357.05328	297.62390	191.29536	8.92258	0.1097226	0.21288598	2.7778237	20	—	—
19481 1998 HX ₁₀₁	13.7	X	325.59033	212.33355	50.30074	12.83491	0.0604553	0.17844358	3.1246552	20	4 29.2	17.9
19482 Harperlee	13.7	X	292.41531	215.70189	52.50352	11.15441	0.1783398	0.17469990	3.1691365	20	3 11.3	18.4
19483 1998 HA ₁₁₆	13.9	X	351.37369	310.61771	170.26169	11.34298	0.1320243	0.25679127	2.4514096	20	—	—
19484 Vanessaspini	14.2	X	93.00479	92.79064	122.24473	6.45830	0.0709397	0.27877397	2.3207832	20	9 6.0	17.2
19485 1998 HC ₁₂₂	12.9	X	44.68773	159.19479	127.73312	11.28234	0.0748875	0.19181070	2.9777450	20	9 29.7	17.1
19486 1998 HW ₁₂₂	13.3	X	21.67949	35.74859	89.71076	9.60371	0.0455258	0.21450122	2.7638611	20	1 19.6	16.9
19487 Rosscoleman	14.1	X	58.73262	320.80642	155.60941	6.08641	0.1185425	0.26322455	2.4113030	20	2 29.3	16.6
19488 Abramcoley	14.9	X	147.77213	17.57227	108.09126	7.85442	0.1595551	0.27546584	2.3393267	20	7 12.8	18.4
19489 1998 HL ₁₄₉	13.9	X	166.49406	179.47669	31.33938	5.76854	0.1193605	0.24179443	2.5517524	20	11 13.8	17.8
19490 1998 HC ₁₅₀	13.1	X	231.57311	1.05659	40.23105	15.07887	0.1775590	0.23197616	2.6232548	20	6 9.6	17.4
19491 1998 HG ₁₅₃	13.4	X	183.96189	243.49313	153.64518	16.96887	0.1835464	0.22709697	2.6606954	20	4 28.9	18.1
19492 1998 JT	14.5	X	91.40700	86.48640	251.02543	6.11662	0.2199923	0.29109245	2.2548384	20	—	—
19493 1998 JY ₁	13.4	X	277.07759	74.32447	802.96006	6.10209	0.1241322	0.22969116	2.6406238	20	7 12.5	16.6
19494 Gerbs	13.2	X	134.48616	101.46427	35.27275	12.01800	0.0522847	0.19048648	2.9915294	20	9 10.6	17.8
19495 Terentyeva	13.0	X	325.43741	322.67997	96.29983	15.95187	0.0702853	0.24211293	2.5495139	20	12 5.3	16.1
19496 Josephbarone	14.5	X	72.79798	9.18758	78.31927	3.53277	0.1571161	0.25989463	2.4318559	20	2 19.5	17.0
19497 Pineda	14.6	X	112.50149	56.02173	63.91454	3.21655	0.1655242	0.26984763	2.3716849	20	5 29.2	18.0
19498 1998 KG ₃₈	13.6	X	158.62844	183.31022	173.36375	2.88835	0.0999262	0.21149733	2.7899695	20	2 7.9	17.8
19499 Eugenybiryukov	14.1	X	16.46601	349.96770	189.83443	12.94464	0.0978355	0.21908094	2.7252080	20	3 20.6	17.3
19500 Hillaryfultz	14.3	X	10.25188	81.11184	116.55257	7.20352	0.0773359	0.22075044	2.7114504	20	4 8.6	17.6
19501 1998 KC ₅₀	12.3	X	308.76055	195.80275	91.50449	16.89919	0.1216175	0.17810996	3.1285559	20	5 4.6	16.7
19502 1998 KB ₅₁	13.3	X	186.06640	62.36103	178.67982	8.49289	0.1086712	0.24685070	2.5167871	20	—	—
19503 1998 KE ₆₅	12.9	X	109.21545	82.15858	82.93569	15.21440	0.1568321	0.18404433	3.0609372	20	7 21.5	17.7
19504 Vladalekseev	13.1	X	161.33883	44.37950	140.36206	11.01774	0.0477856	0.19074282	2.9888487	20	10 6.1	17.6
19505 1998 MC	14.1	X	148.53375	158.27987	49.11286	6.10771	0.0926501	0.23692617	2.5865886	20	10 24.1	17.9
19506 1998 MN ₄	14.0	X	271.45572	51.51757	137.97735	20.74523	0.1606807	0.20546394	2.8443234	20	—	—
19507 1998 MZ ₁₃	13.5	X	9.04826	62.25352	266.41318	10.17155	0.1217740	0.18414113	3.0598644	20	9 26.5	17.5
19508 1998 MC ₁₇	14.0	X	144.29304	61.23567	47.58195	1.22188	0.2136110	0.17120209	3.2121564	20	6 17.9	19.4
19509 Niigata	14.3	X	97.07400	333.12982	246.09909	12.65349	0.2144479	0.23450864	2.6043348	20	9 18.0	18.7
19510 1998 MV ₄₂	14.3	X	333.54096	178.38554	275.99881	4.05138	0.1254819	0.28688729	2.2768190	20	—	—
19511 1998 MC ₄₅	13.5	X	319.47083	187.66008	208.25201	13.27613	0.1610590	0.23383980	2.6092985	20	10 18.0	15.7
19512 1998 QU ₂	13.6	X	78.28620	203.99564	162.46083	15.57381	0.20827718	0.23954995	2.5676668	20	—	—
19513 1998 QN ₇	12.6	X	168.68455	352.54816	323.16151	17.17895	0.1237976	0.15816130	3.3863816	20	1 13.1	18.0
19514 1998 QB ₇₅	13.8	X	89.39642	104.68457	294.53109	11.59637	0.1804723	0.24263652	2.5458449	20	1 15.8	16.6
19515 1998 QM ₇₆	12.8	X	197.84349	291.81811	244.85189	9.94102	0.1325643	0.22966676	2.6408108	20	10 30.7	16.8
19516 1998 QF ₈₀	13.4	X	17.14478	41.82025	293.62297	11.67017	0.2658336	0.27452801	2.3446513	20		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19521 Chaos	4.8	X	342.79408	57.59908	50.00611	12.04638	0.0984233	0.00321396	45.4753017	20	12 18.4	21.0
19522 1998 XQ ₈₃	13.2	X	281.72676	298.53845	193.15043	11.99949	0.1275408	0.22487548	2.6781896	20	12 21.9	16.5
19523 Paolofrisi	14.0	X	272.16798	277.57478	121.12563	9.05751	0.1318578	0.21414762	2.7669027	20	8 1.5	17.5
19524 Acaciacoeman	13.3	X	2.23057	99.45382	295.46285	12.77393	0.2066542	0.22853342	2.6495344	20	—	—
19525 1999 CO	13.8	X	106.98946	122.44586	118.83235	5.74410	0.0656004	0.25669481	2.4520236	20	10 25.6	17.3
19526 1999 FS ₇	15.4	X	174.86770	167.81031	114.14253	1.45977	0.1876499	0.31238785	2.1511629	20	—	—
19527 1999 FN ₃₀	13.8	X	81.28388	312.90863	14.68444	7.59525	0.1205395	0.25886846	2.4382784	20	—	—
19528 Delloro	14.1	X	218.35071	120.50068	127.30024	1.95831	0.1346586	0.17335426	3.1855154	20	—	—
19529 1999 GQ ₁₅	14.6	X	169.32894	114.58020	206.80725	1.55443	0.2282924	0.26572201	2.3961704	20	1 10.1	18.5
19530 1999 GQ ₂₃	14.5	X	298.31715	3.28105	294.80671	2.44559	0.2370728	0.28255449	2.3000357	20	3 31.7	17.5
19531 Charton	15.3	X	33.43712	87.02578	198.32444	5.67954	0.1724956	0.29211567	2.2495698	20	10 10.3	17.6
19532 1999 GB ₃₄	14.0	X	175.98525	77.56938	203.88147	3.52787	0.0847863	0.26714849	2.3876329	20	—	—
19533 Garrison	15.0	X	90.19707	58.81901	230.12520	2.96232	0.1678256	0.30065589	2.2067658	20	12 19.6	18.2
19534 Miyagi	15.1	X	345.55139	198.37058	87.71075	6.06918	0.1235696	0.28940919	2.2635730	20	6 30.4	16.7
19535 Rowanatkinson	13.9	X	294.10487	13.04912	306.82481	2.35960	0.1883051	0.23383697	2.6093195	20	5 6.3	17.2
19536 1999 JM ₄	14.9	X	258.23052	136.06692	227.17735	24.03202	0.1884408	0.28333277	2.2958218	20	5 19.9	18.2
19537 1999 JN ₈	14.4	X	100.26866	297.25982	82.16495	27.14011	0.0593903	0.35893134	1.9609287	20	—	—
19538 1999 JD ₁₂	14.2	X	219.62737	105.41470	176.82439	22.92893	0.2699226	0.26524313	2.3990536	20	1 2.7	18.9
19539 Anaverdu	15.2	X	305.90426	128.61409	139.07929	6.84913	0.1824055	0.27774391	2.3265177	20	3 12.2	17.9
19540 1999 JF ₂₃	15.6	X	193.55158	190.57895	102.52260	1.23890	0.1656162	0.31308779	2.1479556	20	—	—
19541 1999 JA ₂₇	15.0	X	218.88432	160.63042	169.80483	2.35481	0.2436028	0.27277830	2.3546670	20	2 28.2	19.1
19542 Lindperkins	15.0	X	288.19571	169.63691	144.96236	2.64780	0.0570740	0.28253696	2.3001308	20	5 12.3	17.6
19543 Burgoyne	14.8	X	351.09996	354.73178	10.13553	6.10052	0.1886293	0.29570677	2.2313201	20	11 28.7	16.7
19544 Avramkottke	14.4	X	191.07998	267.75335	31.43000	2.70565	0.1945311	0.26571386	2.3962194	20	—	—
19545 1999 JY ₃₃	13.8	X	39.05646	49.44774	261.59188	5.43030	0.1437941	0.29474508	2.2361710	20	11 18.7	16.4
19546 1999 JN ₃₄	14.6	X	154.01818	305.47557	26.97105	8.76030	0.2654806	0.26356178	2.4092457	20	1 15.7	18.6
19547 Collier	15.6	X	96.27627	157.91086	134.07239	1.72921	0.0876988	0.29962127	2.2118430	20	12 25.7	18.7
19548 1999 JJ ₅₈	12.9	X	163.66161	38.95051	53.97169	14.61285	0.0384871	0.23644861	2.5900702	20	6 9.2	16.6
19549 1999 JS ₅₈	14.3	X	352.41439	257.24128	71.87812	6.10154	0.2168122	0.28851476	2.2682488	20	10 11.9	15.9
19550 Samabates	14.7	X	12.53639	59.90888	210.70700	3.42889	0.1784993	0.28529536	2.2852808	20	8 7.1	16.6
19551 Peterborden	14.3	X	331.50949	148.03307	214.12922	7.05103	0.1941326	0.28999827	2.2605066	20	10 8.7	15.5
19552 1999 JJ ₆₈	14.7	X	142.75910	202.23256	136.34456	3.49257	0.2025239	0.26515438	2.3995889	20	1 3.9	18.0
19553 1999 JF ₇₁	14.4	X	339.31909	231.88618	112.29732	8.25117	0.2128526	0.24451547	2.5327860	20	9 20.8	16.5
19554 1999 JU ₇₄	14.4	X	294.80701	137.20699	131.55125	13.05176	0.1374157	0.22932563	2.6434290	20	3 12.8	18.1
19555 1999 JO ₇₇	13.7	X	281.47819	226.39810	144.90583	8.20161	0.2011783	0.23909545	2.5709197	20	6 27.8	17.1
19556 1999 JV ₇₇	13.9	X	174.83237	218.00886	95.12695	12.30652	0.1823993	0.26416319	2.4055876	20	1 2.1	17.5
19557 1999 JC ₇₉	12.7	X	290.43212	204.82270	135.84429	16.34607	0.1616270	0.23860715	2.5744260	20	6 7.7	16.3
19558 1999 JK ₈₀	13.9	X	320.92607	22.46617	105.40433	12.19604	0.1187421	0.26390663	2.4071465	20	—	—
19559 1999 JY ₈₀	13.7	X	187.27253	214.78603	135.62288	13.64773	0.1844671	0.22340165	2.6899557	20	3 3.9	18.2
19560 1999 JH ₈₁	13.4	X	357.69834	49.33768	238.40761	12.89369	0.1412497	0.23514339	2.5996459	20	7 20.0	16.3
19561 1999 JK ₈₁	13.5	X	164.53632	133.32605	159.83667	8.89814	0.2420702	0.20968728	2.8060021	20	—	—
19562 1999 JM ₈₁	13.3	X	330.33728	69.24996	282.77607	12.25386	0.1912978	0.23589554	2.5941170	20	8 27.3	15.9
19563 Brzezinska	14.9	X	47.75511	72.12200	195.12469	5.25525	0.1347101	0.28930696	2.2641062	20	9 27.7	17.6
19564 Ajburnetti	15.2	X	237.17784	176.26803	187.97089	7.32251	0.1393331	0.27971589	2.3155702	20	5 4.5	18.5
19565 1999 KF ₄	12.6	X	308.53317	55.00511	247.21085	23.40967	0.3009169	0.18275537	3.0753127	20	4 13.9	16.9
19566 1999 KO ₆	14.4	X	120.92251	270.72644	56.62496	2.90484	0.2066366	0.25994377	2.4315494	20	—	—
19567 1999 KS ₇	12.7	X	85.12708	23.41348	242.30509	11.29658	0.0511917	0.24161604	2.5530082	20	10 22.0	16.3
19568 Rachelmarie	14.0	X	21.41534	316.74637	300.87096	3.76695	0.1624707	0.28467464	2.2886016	20	8 3.2	15.9
19569 1999 KM ₁₅	13.1	X	29.75254	7.63674	248.52167	11.01233	0.1168039	0.23394251	2.6085347	20	7 30.3	16.3
19570 Jessedouglas	13.2	X	254.95499	344.53665	269.46727	5.06551	0.0734201	0.26496244	2.4007476	20	1 6.7	16.5
19571 1999 LA ₇	14.4	X	304.03653	308.50949	222.94305	1.24646	0.1608939	0.26159211	2.4213243	20	—	—
19572 Leahmarie	15.2	X	36.20165	41.22599	148.67570	7.14062	0.1257152	0.27978029	2.3152150	20	5 11.5	17.5
19573 Cummings	14.3	X	355.46239	188.14463	145.37648	6.64426	0.1497276	0.28832619	2.2692377	20	10 15.3	16.3
19574 Davidedwards	14.8	X	16.32240	247.40641	91.35107	3.30586	0.1892461	0.29213026	2.2494949	20	12 3.4	17.2
19575 Feeny	15.3	X	60.50935	119.06211	129.23018	4.94724	0.1159935	0.28907184	2.2653338	20	9 17.7	18.1
19576 1999 LP ₂₂	14.6	X	201.83580	359.12725	272.49296	2.83184	0.1898789	0.30938686	2.1650510	20	—	—
19577 Bobbyfisher	14.5	X	305.75697	220.30309	200.84884	5.30043	0.0841820	0.29501215	2.2348212	20	11 20.2	16.5
19578 Kirkdouglas	14.7	X	239.27145	243.67218	18.20071	2.30215	0.1794248	0.26476578	2.4019363	20	—	—
19579 1999 MB ₁	15.3	X	167.36090	228.31896	198.25037	5.15766	0.1134910	0.22667633	2.6639860	20	5 14.7	19.3
19580 1999 ND	13.2	X	118.70382	198.46085	106.85548	18.12618	0.0808623	0.20605757	2.8388580	20	—	—
19581 1999 NC ₃	14.0	X	264.77390	145.51741	168.21887	5.47011	0.1488534	0.22608990	2.6685906	20	3 30.9	18.0
19582 Blow	14.8	X	32.54686	226.08531	38.37300	2.07702	0.0455731	0.23593222	2.5938482	20	8 11.4	17.9
19583 1999 NT ₄	14.2	X	155.21823	96.50755	338.14982	2.19653	0.0787870	0.26904220	2.3764159	20	5 7.7	17.5
19584 Sarahgerin	14.6	X	232.43963	178.02040	202.01666	1.46378	0.0518893	0.22835994	2.6508761	20	5 28.8	18.3
19585 Zachopkins	14.1	X	314.68998	56.87821	225.46247	2.66594	0.1855854	0.18150828	3.0893831	20	4 19.9	18.1
19586 1999 NA ₁₀	13.6	X	0.34232	139.61655	300.28868	0.98448	0.0568538	0.20461400	2.8521946	20	—	—
19587 Keremane	13.6	X	54.18609	272.54657	59.21010	2.92698	0.0602723	0.19778296	2.9174950	20	12 1.2	17.6
19588 1999 NL ₁₁	13.8	X	199.75908	268.61466	148.49648	1.31742	0.1696757	0.17772477	3.1330747	20	6 2.2	18.8
19589 Kirkland	14.1	X	190.46445	19.26942	305.82773	6.00205	0.1174163	0.26456357	2.4031600	20	1 27.9	17.7
19590 1999 NG ₁₈	12.2	X	142.75454	260.54296	98.05392	22.81008	0.0291970	0.16887043	3.2416564	20	1 23.8	17.0
19591 Michaelklein	14.4	X	160.68286	254.94535	92.18274	6.29651	0.0961163	0.21568178	2.7537663	20	1 30.4	18.6
19592 1999 NZ ₂₂	14.7	X	298.52419	250.71915	136.00076	5.18363	0.2252650	0.23632982	2.5909381	20	8 13.9	17.2
19593 Justinkoh	15.0	X	260.63924	127.69059	166.11727	1.29380	0.1984892	0.17662284	3.1460924	20	2 29.4	20.0
19594 1999 NL ₃₁	14.3	X	3.34189	309.56612	134.29799	6.14063	0.2127720	0.28076516	2.3097975	20	7 8.5	15.7
19595 Lafer-Sousa	14.8	X	38.49732	155.30193	318.91307	1.79251	0.0522517	0.24053133	2.5606779	20	10 1.8	17.9
19596 Spegorlarson	14.2	X	128.74592	84.84565	148.17298	1.87665	0.0708133	0.24521770	2.5279482	20	11 4.9	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>
19601 1999 ND ₄₂	14.2	X	215.95194	156.60391	157.99057	1.61011	0.1866969	0.17224769	3.1991440	20	2 16.6	19.5
19602 Austinminor	14.7	X	198.68240	267.90454	333.20663	2.44881	0.1005941	0.25530685	2.4609025	20	—	—
19603 Monier	14.4	X	152.21974	175.48397	210.80456	7.15807	0.0863988	0.21960894	2.7208381	20	3 4.5	18.4
19604 1999 NY ₄₈	14.2	X	138.95241	179.34086	196.60096	8.91532	0.1619051	0.21432771	2.7653525	20	2 14.7	18.5
19605 1999 NU ₅₂	13.4	X	280.76703	189.61688	179.03584	14.95338	0.1084725	0.23258973	2.6186394	20	7 6.6	17.1
19606 1999 NV ₅₄	14.3	X	322.34441	127.41450	197.13782	10.49439	0.1306412	0.18474595	3.0531825	20	7 5.2	18.2
19607 1999 NF ₅₅	13.8	X	12.90954	128.89824	258.79349	14.10192	0.1310777	0.24532092	2.5272391	20	—	—
19608 1999 NC ₅₇	12.2	X	306.81953	113.09831	262.53266	10.36286	0.1000235	0.18634956	3.0356414	20	8 18.4	16.3
19609 1999 ND ₅₇	13.7	X	247.59129	114.80513	244.38759	10.73725	0.0346455	0.22477863	2.6789588	20	5 22.1	17.2
19610 1999 NR ₆₀	13.2	X	282.31643	237.35194	154.36669	14.25631	0.1023827	0.23724864	2.5842442	20	8 12.5	16.3
19611 1999 NP ₆₄	14.0	X	28.75859	169.24628	125.19363	11.50181	0.0688867	0.19162325	2.9796865	20	9 15.8	18.0
19612 Noordung	14.0	X	240.26792	19.31888	275.94986	5.88784	0.1199098	0.26750404	2.3855168	20	2 6.7	17.6
19613 1999 OX	13.8	X	26.52056	202.65697	281.44985	8.29058	0.1045023	0.21458772	2.7631183	20	1 22.5	16.9
19614 Montelongo	14.6	X	306.66415	73.68749	313.73528	5.55367	0.1057727	0.28148135	2.3058778	20	9 18.1	16.5
19615 1999 OB ₃	12.2	X	32.70461	90.52747	256.12664	12.28033	0.0923549	0.19091834	2.9870165	20	11 25.4	16.3
19616 1999 OS ₃	14.4	X	26.62248	282.23929	6.00291	5.59690	0.1922864	0.28536955	2.2848847	20	10 5.5	16.8
19617 Duhamel	13.7	X	138.12475	291.48760	138.54714	1.88059	0.1448957	0.17111108	3.2132952	20	4 23.3	18.6
19618 Maša	14.2	X	289.14068	36.76875	264.31681	9.11316	0.2054670	0.27367996	2.3494924	20	3 25.9	17.5
19619 Bethbell	15.0	X	253.99654	129.98353	168.59928	7.18194	0.1075355	0.26555736	2.3971608	20	2 28.5	18.5
19620 Auckland	13.7	X	141.39979	30.18366	65.70600	14.06535	0.1446999	0.22291242	2.6938901	20	5 26.6	17.9
19621 1999 RE ₁	13.7	X	95.64420	287.93406	304.57230	14.20714	0.0782121	0.23449539	2.6044329	20	9 17.9	17.7
19622 1999 RY ₂	13.3	X	276.16876	83.69261	176.67513	12.33310	0.1713737	0.16939266	3.2349904	20	2 7.2	18.4
19623 1999 RS ₃	14.7	X	52.05187	264.13694	211.91555	5.97986	0.0650432	0.26379077	2.4078512	20	2 9.6	17.6
19624 1999 RJ ₁₀	13.5	X	230.09645	301.76803	18.93515	0.68729	0.2690327	0.17374399	3.1807499	20	3 2.2	18.9
19625 Ovaitt	13.8	X	76.77135	117.75792	307.93780	3.09870	0.0888128	0.25836677	2.4414338	20	1 15.7	16.4
19626 1999 RJ ₁₆	13.5	X	161.98737	51.49017	157.80415	2.06841	0.0256537	0.19405794	2.9547117	20	11 3.9	17.7
19627 1999 RU ₁₆	13.4	X	132.06010	58.47775	271.27296	1.10555	0.0422974	0.20544622	2.8444870	20	—	—
19628 1999 RD ₂₂	13.3	X	62.75636	156.38019	102.21841	2.29578	0.0568768	0.18640868	3.0349995	20	9 10.3	17.4
19629 Serra	13.8	X	241.48573	253.61228	12.43728	2.42652	0.0244061	0.21166955	2.7884560	20	1 19.4	17.7
19630 Janebell	14.0	X	188.83157	341.31234	136.84334	15.67301	0.0347516	0.23321209	2.6139785	20	8 16.4	17.6
19631 Greensleeves	13.9	X	136.16679	279.14268	121.43619	9.74991	0.1692317	0.21380551	2.7698534	20	3 19.7	18.3
19632 1999 RP ₃₉	13.6	X	238.71566	327.33769	31.93760	8.10312	0.2035931	0.17454313	3.1710338	20	4 25.8	18.7
19633 Rusjan	14.0	X	167.73056	147.98724	179.59981	12.96685	0.2595256	0.25777085	2.4451951	20	1 17.5	18.3
19634 1999 RG ₄₅	12.7	X	261.10745	334.76006	327.36429	6.53120	0.1847757	0.17467419	3.1694474	20	3 10.6	17.8
19635 1999 RC ₄₇	14.4	X	292.70022	311.29030	337.71870	11.15907	0.1863961	0.22592409	2.6698961	20	3 22.5	18.1
19636 1999 RD ₄₈	13.4	X	208.06753	267.90545	142.16071	1.78396	0.1805258	0.17867149	3.1219975	20	5 31.7	18.4
19637 Presbrey	15.0	X	173.39957	318.72529	274.94126	4.44263	0.1211587	0.29805441	2.2195879	20	12 31.8	17.9
19638 Johngenerid	14.6	X	232.72086	152.31545	136.38055	5.76392	0.0346380	0.21536484	2.7564673	20	2 4.1	18.4
19639 1999 RO ₆₃	13.8	X	278.85102	213.35010	201.78445	2.84830	0.0867478	0.23565283	2.5958979	20	9 11.5	16.9
19640 Ethanroth	14.2	X	92.62969	322.97905	147.18588	3.44292	0.1422824	0.21549292	2.7553750	20	4 21.6	17.9
19641 1999 RV ₉₁	13.6	X	243.13327	325.25202	357.53767	9.12029	0.1127008	0.21866415	2.7286698	20	3 21.9	17.8
19642 1999 RK ₉₄	14.0	X	341.52530	26.89266	12.90471	15.54135	0.1246794	0.19187340	2.9770962	20	11 16.1	17.8
19643 Jacobrucker	14.1	X	191.30735	324.19720	149.37299	1.02797	0.1266386	0.18013146	3.1051053	20	8 3.7	19.0
19644 1999 RD ₁₀₂	12.7	X	26.03659	30.18956	247.10844	10.86007	0.1348614	0.18712509	3.0272482	20	8 18.5	16.7
19645 1999 RE ₁₀₂	12.7	X	275.18114	160.61096	199.39347	16.40392	0.1380104	0.18069203	3.0986799	20	6 12.3	17.3
19646 1999 RF ₁₀₂	12.4	X	236.46436	162.75906	292.81153	14.26699	0.0979329	0.18745456	3.0237001	20	8 26.3	17.1
19647 1999 RZ ₁₀₃	13.2	X	345.61624	71.13593	269.86781	8.82478	0.1124771	0.18746050	3.0236361	20	9 4.3	17.0
19648 1999 RK ₁₀₄	12.7	X	283.92209	32.31227	281.03599	12.11223	0.1746486	0.22502637	2.6769922	20	4 11.6	16.7
19649 1999 RQ ₁₀₄	13.5	X	276.88526	140.19388	205.33766	10.26744	0.0626057	0.17918837	3.1159909	20	6 7.5	18.0
19650 1999 RY ₁₀₅	13.0	X	54.06874	263.68452	287.68430	14.34428	0.0313127	0.17524962	3.1625057	20	5 28.5	17.5
19651 1999 RC ₁₁₂	13.1	X	183.92213	338.14286	176.84975	14.64258	0.1557746	0.24092985	2.5578534	20	9 21.2	17.0
19652 Saris	14.0	X	201.24126	83.98892	215.50795	4.11748	0.0584731	0.21343380	2.7730746	20	1 12.2	18.0
19653 1999 RD ₁₁₉	13.5	X	358.11801	101.13974	294.31604	14.22690	0.1131180	0.24430694	2.5342270	20	12 28.4	16.4
19654 1999 RW ₁₁₉	13.6	X	297.35603	322.38401	326.84925	12.19758	0.1829966	0.22592903	2.6698572	20	3 27.0	17.4
19655 1999 RC ₁₂₁	13.4	X	205.32334	288.67633	202.79052	9.31074	0.0544951	0.19084219	2.9878110	20	9 13.7	17.8
19656 Simpkins	14.9	X	328.09028	272.80579	218.39131	5.98861	0.0894029	0.26943361	2.3741138	20	3 6.3	17.6
19657 1999 RE ₁₂₃	13.6	X	356.78500	323.73057	387.04696	6.25523	0.0782220	0.27315283	2.3525142	20	5 25.8	16.0
19658 Sloop	15.0	X	267.00445	201.97130	238.58654	2.16756	0.0688336	0.23768558	2.5810762	20	10 2.1	18.2
19659 1999 RB ₁₂₈	14.3	X	37.81868	159.12368	152.19107	11.31479	0.0876180	0.19304923	2.9649953	20	10 22.8	18.4
19660 Danielsteck	14.8	X	176.79360	324.51023	143.71417	7.32278	0.1077300	0.27762532	2.3271801	20	7 18.6	18.3
19661 1999 RR ₁₃₀	13.2	X	279.81928	249.05429	317.62728	6.56644	0.1607135	0.21236049	2.7824043	20	—	—
19662 Stunzi	14.3	X	32.24056	356.96306	289.51911	6.34066	0.1139919	0.28400432	2.2922013	20	9 24.4	17.0
19663 Rykerwatts	14.3	X	108.77530	244.91482	209.11434	8.42107	0.0599126	0.21906390	2.7253493	20	4 6.7	18.0
19664 Yancey	14.0	X	8.96436	266.93918	355.02035	9.44134	0.1774448	0.18458212	3.0549888	20	7 8.5	17.5
19665 1999 RT ₁₃₇	12.9	X	307.17140	66.14389	333.17470	9.01587	0.0797577	0.19027482	2.9937475	20	9 24.1	16.8
19666 1999 RO ₁₄₄	13.6	X	92.70468	333.52386	194.22628	13.66064	0.1254168	0.22702615	2.6612487	20	7 1.9	17.6
19667 1999 RS ₁₄₄	13.3	X	70.30691	355.06387	271.31895	8.84811	0.0518940	0.19054216	2.9909466	20	9 23.7	17.7
19668 1999 RB ₁₄₅	12.8	X	213.46612	107.19595	323.10665	20.94616	0.2040934	0.17847004	3.1243463	20	7 2.1	18.2
19669 1999 RB ₁₅₀	14.1	X	19.73405	297.52597	311.37957	2.20311	0.0268422	0.22853919	2.6494899	20	6 28.0	17.5
19670 1999 RH ₁₅₁	13.1	X	353.86653	282.22293	356.13091	10.15415	0.0786598	0.18249680	3.0782168	20	6 29.9	17.2
19671 1999 RX ₁₅₁	13.0	X	187.18750	21.06612	127.67862	4.49169	0.0626052	0.18964645	3.0003568	20	9 17.6	17.5
19672 1999 RP ₁₅₅	14.8	X	74.08912	309.92772	306.17211	6.28444	0.1409163	0.28539240	2.2847628	20	10 13.2	18.0
19673 1999 RR ₁₅₈	13.6	X	270.85492	310.92522	346.53310	14.60075	0.2666434	0.17588921	3.1548345	20	3 7.3	18.6
19674 1999 RN ₁₆₀	13.4	X	92.77609	41.61267	12.93954	9.32436	0.1552708	0.20981391	2.8048729	20	2 15.3	17.2
19675 1999 RE ₁₆₂	14.7	X	84.93463	5.56413	129.95634	2.98544	0.0787					

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19681 1999 RE ₁₉₄	12.9	X	300.67471	187.21300	301.12319	5.35764	0.0994145	0.19891454	2.9064199	20	—	—
19682 1999 RW ₁₉₄	14.0	X	147.35795	226.08147	237.64802	12.28009	0.1583277	0.22442375	2.6817822	20	6 12.1	18.3
19683 1999 RK ₁₉₆	13.5	X	294.56715	294.17353	305.15408	7.28232	0.2234229	0.21723167	2.7406524	20	1 22.4	17.3
19684 1999 RL ₁₉₆	12.9	X	228.57360	171.87445	312.19061	8.21594	0.0767398	0.18933291	3.0036684	20	9 26.8	17.4
19685 1999 RB ₁₉₇	12.8	X	191.94943	215.71111	322.20122	12.32424	0.0811017	0.19273383	2.9682291	20	10 20.0	17.5
19686 1999 RL ₁₉₇	12.6	X	227.01372	198.05233	253.87194	8.56700	0.0614023	0.18389054	3.0626436	20	8 16.9	17.3
19687 1999 RP ₁₉₉	13.2	X	288.61115	342.59043	293.09216	7.10844	0.1337829	0.21886906	2.7269665	20	3 8.5	17.1
19688 1999 RR ₂₀₄	12.8	X	62.00103	11.92630	263.56437	9.34470	0.0709398	0.18797333	3.0181343	20	9 27.2	17.3
19689 1999 RX ₂₀₅	13.1	X	26.86785	107.61538	293.30191	8.49174	0.0973527	0.15044786	3.5011607	20	—	—
19690 1999 RD ₂₁₂	12.8	X	314.31585	316.99919	325.02849	9.75190	0.1751830	0.17441244	3.1726177	20	4 16.4	17.0
19691 Iwate	13.3	X	163.83965	247.22372	162.56018	5.51822	0.0599337	0.21704326	2.7422382	20	4 18.3	17.3
19692 1999 RR ₂₂₀	14.8	X	8.75781	295.30396	240.14164	7.31097	0.0636090	0.26413313	2.4057701	20	2 22.5	17.6
19693 1999 RU ₂₃₀	12.7	X	6.47588	278.85098	69.19972	11.32480	0.1086152	0.18980440	2.9986921	20	10 27.1	16.5
19694 Dunkelmann	12.7	X	74.12824	195.51262	121.10300	12.28452	0.0823341	0.14745063	3.5484468	20	12 1.1	18.0
19695 Binnye	14.1	X	152.55450	123.26678	88.76717	6.76210	0.1051343	0.28786961	2.2716365	20	11 12.1	17.3
19696 1999 SW ₁	12.8	X	181.55185	152.60457	255.61359	16.64049	0.1248824	0.17288346	3.1912960	20	5 4.7	18.0
19697 1999 SY ₃	13.7	X	267.32669	301.34823	346.75463	0.49430	0.1272779	0.17016915	3.251419	20	3 8.4	18.5
19698 1999 SR ₄	12.9	X	307.37215	17.78502	198.19004	8.90613	0.0859181	0.21023335	2.8011410	20	1 25.9	16.9
19699 1999 SC ₇	13.8	X	263.80341	260.37151	25.63513	9.59411	0.2527030	0.22116475	2.7080631	20	2 18.6	18.4
19700 Teitelbaum	13.9	X	340.75710	42.38433	275.07279	12.67752	0.1730038	0.23199709	2.6230970	20	7 30.3	16.4
19701 Aomori	14.1	X	257.67703	147.54321	247.94371	20.96442	0.0433267	0.22888914	2.6467886	20	7 16.3	18.1
19702 1999 SK ₂₃	13.2	X	281.80350	336.63626	56.80778	7.09034	0.1565604	0.18254034	3.0777273	20	8 3.4	17.4
19703 1999 TJ ₄	13.5	X	117.89501	41.04806	219.66370	6.31286	0.0794192	0.19158498	2.9800834	20	11 17.9	17.9
19704 Medlock	13.4	X	121.27966	28.59881	88.62675	2.75829	0.0959564	0.16951132	3.2334805	20	5 28.2	18.2
19705 1999 TR ₁₀	12.9	X	320.62188	349.88275	19.98210	10.46259	0.0471434	0.18361489	3.0657080	20	9 13.3	17.0
19706 1999 TU ₁₁	12.7	X	299.93301	105.11901	208.98225	13.62792	0.2328081	0.17510597	3.1642352	20	5 3.6	16.8
19707 Tokunai	13.7	X	66.12380	274.63015	81.29047	4.69267	0.1893171	0.29160012	2.2522206	20	—	—
19708 1999 TM ₃₂	15.1	X	250.27831	206.53886	206.87621	3.75086	0.2335759	0.27414385	2.3468412	20	7 12.2	18.4
19709 1999 TT ₁₀₅	13.2	X	191.14029	336.52452	204.47883	9.29366	0.0503847	0.18798841	3.0179729	20	10 31.2	17.6
19710 1999 TC ₁₈₅	13.6	X	68.07977	331.02200	278.77385	13.14139	0.1385065	0.23229232	2.6213480	20	9 14.9	17.5
19711 Johnaligawesa	13.7	X	25.40939	283.63490	286.50056	21.09895	0.2356013	0.27412908	2.3469255	20	6 2.9	15.7
19712 1999 TL ₂₂₀	12.8	X	355.65879	323.02623	295.50641	5.22116	0.0917746	0.17580684	3.1558199	20	6 4.4	16.7
19713 Ibaraki	13.2	X	32.27822	63.82375	157.49720	5.46189	0.1012048	0.17751354	3.1355596	20	6 14.8	17.2
19714 1999 UD	14.7	X	84.11650	104.89715	198.01379	7.18665	0.1988050	0.29104867	2.2550645	20	12 30.6	18.3
19715 1999 UA ₄	13.0	X	327.84137	175.67515	192.43834	9.71361	0.0568432	0.18349366	3.0670581	20	9 15.9	17.1
19716 1999 UH ₂₃	13.5	X	345.65856	234.00449	300.96933	7.55506	0.1379576	0.21100331	2.7943226	20	1 22.1	16.5
19717 1999 UZ ₄₀	14.0	X	212.34528	83.42692	123.60039	2.06071	0.1329769	0.24241115	2.5474225	20	12 27.2	17.3
19718 Albertjarvis	13.3	X	61.90346	152.25032	100.16460	14.65382	0.1322518	0.23447493	2.6045844	20	9 25.7	17.1
19719 Glasser	13.2	X	25.93410	261.07317	150.41410	13.26147	0.3286393	0.19675829	2.9276154	20	—	—
19720 1999 VP ₁₀	13.1	X	252.74776	184.26662	113.26446	9.30831	0.2012628	0.21050741	2.7987093	20	2 26.1	17.7
19721 Wray	12.6	X	352.05043	329.83188	46.02574	13.93435	0.1035828	0.19191366	2.9766799	20	11 6.1	16.3
19722 1999 VU ₄₇	13.8	X	158.47419	326.14820	259.62575	13.79514	0.0597557	0.24075284	2.5591070	20	11 27.1	17.4
19723 1999 VG ₈₇	14.0	X	35.07246	101.41308	293.37460	10.27355	0.2761313	0.23688338	2.5869001	20	—	—
19724 1999 VR ₁₁₄	13.2	X	299.52488	174.00588	280.33192	8.19278	0.0358645	0.19177998	2.9780629	20	11 28.3	17.2
19725 1999 WT ₄	10.8	X	260.27660	34.49053	43.24022	9.95430	0.0730590	0.08419934	5.1554144	20	9 4.2	17.7
19726 1999 XL	12.6	X	65.51432	265.83496	17.96846	16.91114	0.0731449	0.19156987	2.9802401	20	10 16.4	16.9
19727 Allen	13.1	X	323.61310	324.93753	253.14161	13.35963	0.1869955	0.25951171	2.4342475	20	1 24.8	16.3
19728 1999 XQ ₁₄	13.8	X	240.94573	1.21013	265.11669	23.89441	0.1211251	0.26246397	2.4159591	20	1 2.7	17.5
19729 1999 XZ ₁₅	14.8	X	178.38025	181.28348	260.55985	2.45656	0.2039638	0.26132426	2.4229785	20	6 14.1	18.7
19730 Machiavelli	13.9	X	214.81986	97.99216	36.19342	22.94049	0.4233565	0.17869216	3.1217567	20	9 12.5	20.0
19731 Tochigi	12.3	X	178.12430	20.15462	54.55783	15.42778	0.1018947	0.17271702	3.1933459	20	6 2.6	17.3
19732 1999 XF ₁₆₅	13.2	X	302.21858	246.81132	89.37742	12.49285	0.2100617	0.26252325	2.4155954	20	6 9.4	15.8
19733 1999 XA ₁₆₆	13.4	X	347.40214	9.12152	280.55260	12.51005	0.1526124	0.22441401	2.6818598	20	7 4.8	16.0
19734 1999 XE ₁₇₅	14.0	X	21.47278	56.74632	8.22721	5.28245	0.2757674	0.24105416	2.5569739	20	—	—
19735 1999 XN ₂₁₂	13.2	X	50.94298	219.78593	75.26923	14.52890	0.1766306	0.23375526	2.6099276	20	11 9.1	16.9
19736 2000 AM ₅₁	12.9	X	214.94875	235.51060	255.43587	8.80168	0.0501598	0.18481053	3.0524712	20	9 21.6	17.5
19737 2000 AQ ₅₁	13.0	X	270.83407	113.47612	311.72709	6.51578	0.0627734	0.18313203	3.0710945	20	9 8.1	17.2
19738 Calinger	14.1	X	91.09935	280.49342	90.70604	7.74049	0.1843597	0.28583631	2.2823966	20	—	—
19739 2000 AL ₁₀₄	13.9	X	82.92076	121.74337	166.96114	5.59463	0.1769991	0.28147246	2.3059264	20	12 10.1	17.4
19740 2000 AG ₁₃₈	13.3	X	24.32198	121.51883	65.51971	10.28267	0.0842979	0.21527277	2.7572532	20	4 17.7	16.7
19741 Callahan	14.4	X	95.93341	227.60972	167.33601	8.04860	0.1306053	0.29251788	2.2475073	20	—	—
19742 2000 AS ₁₆₂	14.9	X	186.91471	82.21645	358.20208	4.15897	0.2835663	0.26129528	2.4231577	20	6 18.2	19.3
19743 2000 AF ₁₆₄	13.0	X	249.42767	84.28156	139.66008	14.34454	0.1576892	0.23707693	2.5854919	20	—	—
19744 2000 AC ₁₇₆	13.2	X	43.31109	69.09150	190.16094	7.52971	0.1343584	0.21958523	2.7210340	20	8 28.7	16.8
19745 2000 AP ₁₉₉	13.9	X	110.65235	167.46386	101.03397	14.91094	0.1437806	0.23901568	2.5714917	20	12 3.6	18.1
19746 2000 AE ₂₀₀	13.5	X	284.97020	251.16059	173.35056	14.60862	0.0465317	0.18418745	3.0593514	20	10 2.1	17.6
19747 2000 AK ₂₄₅	13.5	X	347.60541	246.71805	186.55007	15.08707	0.1714560	0.23890164	2.5723100	20	—	—
19748 2000 BD ₅	11.9	X	358.20579	308.60159	314.59063	27.14210	0.1914738	0.17186065	3.2039452	20	6 19.9	15.9
19749 2000 CG ₁₉	13.7	X	279.81829	50.25048	144.36029	11.91279	0.0675577	0.19051290	2.9912528	20	—	—
19750 2000 CM ₆₂	13.3	X	116.30241	167.52766	179.91054	15.08089	0.1151435	0.23509593	2.5999958	20	—	—
19751 2000 CG ₆₃	14.0	X	112.99957	30.83632	299.58487	3.50221	0.2411142	0.23049821	2.6344563	20	—	—
19752 2000 CH ₆₇	11.6	X	263.61550	315.97796	155.32581	23.92263	0.1528775	0.12365886	3.9901194	20	10 10.6	17.4
19753 2000 CL ₉₄	14.6	X	274.78937	131.74790	152.49392	3.91462	0.2065014	0.29246621	2.2477720	20	2 19.8	18.0
19754 Paclements	14.7	X	300.20827	185.14476	95.96287	6.43269	0.1732620	0.29348840	2.2425498	20	3 24.9	17.4
19755 2000 EH ₃₄	13.0	X	296.72577	31.99837	166.67334	15.48259	0.1880546	0.22				

ELEMENTS AND OPPOSITION DATES IN 2020

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19761 2000 JP ₁₀	13.9 ^m	X	327.54359	257.65977	241.33756	22.12573	0.2629369	0.28073412	2.3099677	20	—	—
19762 Lacrowder	14.3	X	57.43235	232.72642	188.26996	5.89980	0.1247927	0.27798759	2.3251579	20	—	—
19763 Klimesh	12.9	X	122.72048	56.82596	287.12541	23.30932	0.1976249	0.26659761	2.3909209	20	—	—
19764 2000 NF ₅	15.9	X	354.34914	9.54911	281.51682	1.32655	0.4433097	0.29537158	2.2330078	20	9 23.3	15.9
19765 2000 NM ₁₁	14.9	X	189.91491	109.25718	119.60346	3.16917	0.1602586	0.26664415	2.3906427	20	—	—
19766 Katiedavis	14.8	X	216.60304	33.48251	248.97884	6.60156	0.1054475	0.27417712	2.3466514	20	—	—
19767 2000 ON ₅	13.5	X	75.94978	73.30486	305.88510	10.27810	0.0612494	0.21561681	2.7543194	20	—	—
19768 Ellendoane	14.2	X	69.68998	107.27325	299.54828	5.89062	0.1425287	0.26967260	2.3727110	20	—	—
19769 Dolyniuk	14.3	X	60.57202	354.88974	341.35956	2.05847	0.1978321	0.25862317	2.4398198	20	—	—
19770 2000 OP ₂₂	14.5	X	317.09691	238.03892	128.65348	7.88691	0.2423093	0.24337386	2.5407002	20	8 24.0	16.3
19771 2000 OF ₄₄	13.4	X	52.15729	169.67221	315.10864	12.37725	0.1045471	0.22533543	2.6745439	20	2 29.9	16.7
19772 2000 OU ₄₆	14.9	X	189.22694	178.74628	168.64057	13.48667	0.1660187	0.22549996	2.6732428	20	2 27.5	19.3
19773 2000 OJ ₅₀	13.4	X	160.57577	257.83132	152.12411	13.25940	0.1743229	0.22610499	2.6684718	20	4 23.2	17.9
19774 2000 OS ₅₁	12.6	X	311.03563	299.74067	280.05528	11.05977	0.2365913	0.22756772	2.6570248	20	1 12.5	16.1
19775 Medmondson	15.8	X	169.04822	201.17093	169.29053	3.57075	0.0975155	0.27898835	2.3195942	20	2 29.1	19.1
19776 Balears	15.2	X	328.59007	307.63600	321.41851	6.85902	0.1629585	0.28868219	2.2673717	20	4 17.2	17.5
19777 2000 PU ₇	13.6	X	153.90472	332.60438	54.73852	14.75578	0.1732353	0.22361976	2.6882063	20	3 24.0	18.1
19778 Louisgarcia	14.4	X	43.73014	213.86147	120.81557	2.99800	0.0836968	0.20389535	2.8588925	20	11 27.3	18.2
19779 2000 QU ₅₃	14.0	X	323.62188	313.39484	0.03822	4.43604	0.2008624	0.24256031	2.5463781	20	6 16.5	16.4
19780 2000 OU ₆₅	13.8	X	209.92538	3.45000	47.31111	10.09628	0.0846721	0.18536458	3.0463856	20	6 7.1	18.5
19781 2000 QK ₆₈	14.5	X	272.43719	134.48199	157.78872	4.07978	0.1992979	0.23168458	2.6254553	20	3 5.4	18.4
19782 2000 QT ₆₈	13.5	X	238.70215	111.92359	303.12000	0.70713	0.1239891	0.18864344	3.0109826	20	7 11.6	17.8
19783 Antoniromanya	13.3	X	168.33713	13.76442	83.71459	2.41728	0.1471032	0.18362225	3.0656261	20	6 23.2	18.2
19784 2000 QJ ₈₁	14.1	X	278.53219	49.33940	165.50313	8.63457	0.0609953	0.17148726	3.2085943	20	1 1.9	18.9
19785 2000 QU ₁₀₃	14.2	X	354.55775	31.51489	150.10223	12.31116	0.1260291	0.22650439	2.6653340	20	2 23.6	17.0
19786 2000 QR ₁₀₄	13.6	X	61.75697	79.83470	137.01351	10.18352	0.0183703	0.18752083	3.0229877	20	7 9.9	17.9
19787 Betsyglass	14.2	X	129.75946	10.98166	352.41395	5.97489	0.0736582	0.21900816	2.7258117	20	1 12.9	18.0
19788 Hunker	14.2	X	175.30688	314.47694	130.88814	9.70705	0.1844218	0.23280386	2.6170334	20	6 16.4	18.6
19789 Susanjohnson	14.4	X	302.21800	153.45167	210.10782	5.48482	0.1560913	0.29011891	2.2598799	20	8 1.1	16.4
19790 2000 RU ₁₀	13.7	X	84.97084	357.79727	76.56321	9.41035	0.2078406	0.21361480	2.7715018	20	3 9.9	17.4
19791 2000 RV ₁₅	13.2	X	263.34983	71.07007	276.78645	8.49841	0.1004987	0.18650858	3.0339157	20	5 17.3	17.7
19792 2000 RO ₃₃	13.9	X	104.69966	37.72866	313.34981	5.96650	0.1304953	0.21243699	2.7817363	20	—	—
19793 2000 RX ₄₂	12.4	X	317.84254	346.60199	236.35071	12.48049	0.11199137	0.22457840	2.6805509	20	2 7.4	16.2
19794 2000 RV ₄₉	13.7	X	7.53082	81.58758	24.15143	12.08793	0.0802016	0.26030885	2.4292755	20	—	—
19795 2000 RJ ₅₀	13.9	X	264.72628	150.92503	213.98153	23.06240	0.2207880	0.18414221	3.0598524	20	5 26.2	18.7
19796 2000 RO ₅₀	15.0	X	172.26498	260.01338	72.02441	3.07011	0.2182006	0.26845209	2.3798972	20	1 25.4	18.8
19797 2000 RO ₅₁	13.4	X	187.13131	193.12475	209.77048	17.03678	0.1813854	0.17650355	3.1475098	20	5 5.8	18.6
19798 2000 RP ₅₁	13.9	X	209.67807	44.74959	37.79500	1.75383	0.1513924	0.18234711	3.0799012	20	7 13.5	18.7
19799 2000 RT ₅₁	14.4	X	101.70379	139.98302	224.16161	7.56770	0.1794722	0.20935993	2.8089263	20	—	—
19800 2000 RX ₅₁	14.0	X	130.20011	84.99175	6.47576	6.06495	0.1560246	0.17092120	3.2156746	20	5 11.4	18.9
19801 Karenlemmon	14.5	X	52.04306	113.17839	211.57021	1.41948	0.0746996	0.20288039	2.8684195	20	11 23.4	18.5
19802 2000 RD ₇₂	15.3	X	107.59254	219.26687	195.40672	2.66734	0.2238812	0.26814064	2.3817397	20	3 3.9	18.3
19803 2000 RX ₉₀	14.0	X	51.86334	280.46427	254.00112	10.20346	0.2233893	0.22860168	2.6490070	20	5 31.2	16.7
19804 2000 RY ₁₀₃	13.2	X	188.68541	74.68101	351.31943	9.80669	0.0619868	0.18113201	3.0936600	20	6 3.2	18.0
19805 2000 SR ₁₁	15.3	X	100.18180	16.12788	30.60658	1.51653	0.1841336	0.26763578	2.3847340	20	2 7.7	18.0
19806 Domatthews	14.7	X	42.49731	321.08129	312.46876	2.50506	0.1543934	0.30119096	2.2041514	20	10 3.8	17.2
19807 2000 SE ₁₆	13.8	X	10.80657	15.94059	202.50009	14.54260	0.1265615	0.18344201	3.0676338	20	5 8.6	17.4
19808 Elaineccall	14.1	X	201.78891	212.75849	96.78240	3.67513	0.0542752	0.21935457	2.7229411	20	1 25.3	18.0
19809 Nancyowen	15.2	X	46.82147	33.88643	140.93040	6.36270	0.0336670	0.27826154	2.3236315	20	4 26.6	17.9
19810 Partridge	13.8	X	152.73139	81.01856	20.51912	5.99194	0.0120824	0.18258995	3.0771699	20	6 5.7	18.2
19811 Kimperkins	14.7	X	245.67114	55.75180	25.94533	2.80745	0.1628496	0.24124307	2.5556388	20	8 23.6	18.2
19812 2000 SG ₁₁₉	13.7	X	283.67993	53.77008	195.72479	12.61855	0.0639956	0.17141370	3.2095122	20	2 14.5	18.5
19813 Ericsands	15.0	X	60.43362	322.48540	160.18519	6.49223	0.0520384	0.27182313	2.3601799	20	3 3.2	17.4
19814 2000 ST ₁₂₄	15.8	X	65.94187	208.90627	175.66490	11.23124	0.1253207	0.25944415	2.4346701	20	—	—
19815 Marshasega	14.7	X	136.59719	218.46887	92.33595	3.02827	0.0842319	0.21077932	2.7963018	20	—	—
19816 Wayneseyfert	15.2	X	165.84669	70.05056	130.70793	5.12069	0.1104731	0.29753489	2.2221708	20	11 13.1	18.3
19817 Larashelton	14.2	X	223.61952	37.66327	342.74896	2.11620	0.1410826	0.23207649	2.6224987	20	5 10.3	18.4
19818 Shotwell	13.5	X	334.90849	352.63920	206.00580	8.78925	0.1677737	0.27112465	2.3642318	20	1 18.0	16.4
19819 2000 SQ ₁₅₂	13.9	X	183.27809	307.46997	24.12316	3.62797	0.1171655	0.16996447	3.2277307	20	2 9.9	19.1
19820 Stowers	14.8	X	27.73738	280.67784	193.01604	8.72778	0.1208665	0.21462949	2.7627597	20	1 10.2	18.1
19821 Caroltolin	13.9	X	3.04440	215.89963	159.77654	2.60617	0.0760064	0.19915915	2.9040396	20	11 22.0	17.6
19822 Vonzielonka	15.1	X	212.13160	141.33301	241.95417	4.78394	0.1166471	0.28053062	2.3110847	20	5 2.4	18.3
19823 2000 SD ₁₇₀	14.0	X	228.76492	304.19426	326.17828	2.26871	0.1742398	0.21802525	2.7339980	20	1 3.5	18.4
19824 2000 SL ₁₇₆	13.9	X	0.93313	312.53359	347.56808	7.67970	0.0309345	0.18827789	3.0148877	20	8 9.1	17.9
19825 2000 SN ₁₇₉	14.0	X	274.94235	15.42681	236.60740	12.05079	0.0637301	0.21907801	2.7252323	20	1 30.9	18.2
19826 Patwalker	14.1	X	112.31733	276.15961	227.95433	2.83186	0.0587954	0.18199820	3.0838364	20	6 16.3	18.5
19827 2000 SN ₂₁₂	13.6	X	250.17853	183.35871	89.47060	9.95582	0.1438579	0.17246557	3.1964490	20	2 2.6	18.6
19828 2000 SB ₂₁₄	13.9	X	41.03399	48.66322	78.44083	12.26765	0.1462912	0.26828124	2.3809074	20	2 18.8	16.3
19829 2000 SH ₂₁₇	13.3	X	247.84787	65.87257	149.44441	9.49569	0.1002555	0.21160078	2.7890601	20	—	—
19830 2000 SC ₂₁₈	14.0	X	311.28212	227.86947	92.71687	6.86946	0.1259162	0.28813514	2.2702406	20	6 1.1	15.8
19831 2000 SV ₂₂₅	13.9	X	26.02708	178.81132	70.73101	14.93084	0.1792754	0.23503010	2.6004813	20	7 31.2	16.9
19832 2000 SS ₂₂₆	14.1	X	214.62692	295.09241	170.66843	11.05155	0.1298178	0.23767390	2.5811607	20	8 20.6	17.9
19833 Wickwar	14.9	X	222.68730	23.03960	145.61821	2.47033	0.0307868	0.20082709	2.8879379	20	11 26.5	19.0
19834 2000 SO ₂₃₈	13.6	X	261.53586	144.54693	67.72262	10.00104	0.1010274	0.21386581	2.7693328	20	—	—
19835 Zreda	15.2	X	309.29083	107.02324	146.43131	3.58789	0.1796485	0.27919595	2.3184442	20	2 24.9	17.9
19836 2000 SC ₂₇₀	13.8	X	207.77792	258.51763	78.37655	7.16889						

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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>
19841 2000 SO ₂₈₀	15.2	X	136.38344	96.97608	333.02357	3.60999	0.0866641	0.22496006	2.6775182	20	4 11.4	19.0
19842 2000 SU ₂₉₈	13.9	X	280.05061	251.85713	287.39448	6.59918	0.1599473	0.21193809	2.7861001	20	—	—
19843 2000 SM ₃₀₉	15.4	X	253.04371	185.03014	193.59356	2.36016	0.2433600	0.28341980	2.2953518	20	5 28.9	18.8
19844 2000 ST ₃₁₇	10.9	X	290.00015	102.90795	207.54148	40.42291	0.0500824	0.08325303	5.1944077	20	5 12.8	17.9
19845 2000 SY ₃₁₉	12.9	X	179.05491	31.77775	22.45197	9.74114	0.0904844	0.17467535	3.1694335	20	5 9.0	17.9
19846 2000 SN ₃₂₇	13.9	X	344.59846	120.52700	287.19951	3.87042	0.0616214	0.25132479	2.4868285	20	12 19.3	16.7
19847 2000 ST ₃₃₉	14.5	X	20.63861	272.04579	241.56899	4.73320	0.1828066	0.26864957	2.3787307	20	2 7.1	16.4
19848 Yeungchuchiu	12.3	X	280.42989	352.60279	54.66062	11.03485	0.0738926	0.18880933	3.0092187	20	9 5.5	16.5
19849 2000 TL ₁₈	14.6	X	115.71011	258.18658	338.47905	1.22216	0.0460416	0.19586455	2.9365146	20	10 15.1	18.9
19850 2000 TQ ₂₅	14.2	X	190.80601	161.89604	224.40898	12.54101	0.1760056	0.22506453	2.6766896	20	4 15.4	18.7
19851 2000 TD ₄₂	13.5	X	274.31817	249.10506	134.85583	10.85965	0.0923401	0.19055846	2.9907761	20	7 19.3	17.7
19852 Jamesalbers	11.6	X	253.14502	216.21233	55.55429	19.20413	0.1582565	0.17329724	3.1862141	20	2 7.4	17.0
19853 Ichinomiya	13.4	X	254.91394	149.78072	115.28662	14.87125	0.1304848	0.17166085	3.2064308	20	1 29.2	18.4
19854 2000 UV ₅	14.9	X	24.84088	204.68446	142.75991	2.75122	0.1021150	0.19766938	2.9186126	20	11 19.9	18.6
19855 Borisalexeev	14.4	X	347.59910	120.91055	205.92816	9.07207	0.0869486	0.19100306	2.9861332	20	8 21.3	18.2
19856 2000 UP ₈	13.8	X	249.62451	74.54899	227.59046	9.27883	0.1416420	0.22368474	2.6876857	20	2 25.9	18.1
19857 Amandajane	14.4	X	242.49165	116.76452	267.90846	5.52982	0.0853852	0.28247074	2.3004903	20	6 13.2	17.2
19858 2000 UT ₁₈	13.3	X	145.01952	95.24873	5.53188	8.23695	0.2205134	0.17464377	3.1698155	20	6 8.2	18.8
19859 2000 UK ₂₂	14.0	X	209.82150	202.58052	109.80442	3.91528	0.1366365	0.17039006	3.2223538	20	2 11.1	19.1
19860 Anahtar	14.2	X	103.92351	141.70620	168.15274	3.17732	0.1339076	0.20382682	2.8595333	20	—	—
19861 Auster	13.7	X	141.27935	84.53973	255.07582	7.90256	0.1353549	0.21181602	2.7871703	20	1 3.8	17.8
19862 2556 P-L	13.5	X	214.54708	20.18912	13.21205	10.72309	0.2268605	0.17601047	3.1533854	20	5 24.3	18.9
19863 2725 P-L	15.6	X	127.22833	263.53345	184.94105	1.37259	0.1735464	0.22352413	2.6889730	20	5 5.7	19.7
19864 2775 P-L	15.4	X	188.05514	218.87754	61.95211	3.05710	0.1982419	0.26979365	2.3720012	20	—	—
19865 2825 P-L	14.3	X	57.86293	315.20617	203.81386	0.94995	0.0924706	0.17352150	3.1834683	20	4 30.9	18.6
19866 4014 P-L	14.7	X	11.55978	68.81655	344.14716	5.94622	0.1415324	0.29953939	2.2122460	20	—	—
19867 4061 P-L	13.9	X	297.02467	57.49502	237.99076	4.80834	0.1624023	0.17728552	3.1382476	20	4 14.6	18.2
19868 4072 P-L	14.7	X	307.61446	19.73500	235.56313	2.60531	0.2270411	0.27451945	2.3447001	20	2 16.9	17.7
19869 4202 P-L	13.9	X	189.93016	78.19314	338.14296	8.71453	0.0636885	0.22552887	2.6730143	20	5 22.5	17.9
19870 4780 P-L	13.6	X	106.92695	306.52835	185.04730	5.29764	0.1148130	0.17422040	3.1749487	20	6 1.7	18.3
19871 6058 P-L	15.0	X	5.05675	320.85197	343.37978	6.76773	0.1924360	0.24620117	2.5212117	20	9 10.7	17.1
19872 Chendonghua	15.4	X	171.48984	38.49977	275.67406	1.27031	0.2099433	0.27063419	2.3670873	20	1 1.5	19.2
19873 Chentao	14.1	X	302.88868	348.58522	117.21702	3.10238	0.0304783	0.20034260	2.8925920	20	12 20.1	17.9
19874 Liudongyan	16.3	X	134.72360	331.72327	102.67536	1.52362	0.2019506	0.27296318	2.3536037	20	4 26.5	19.8
19875 Guedes	14.5	X	45.33486	198.57197	17.44514	13.00348	0.1469506	0.22692442	2.6620440	20	7 8.9	17.9
19876 7637 P-L	14.1	X	330.75689	172.63570	54.61752	6.18729	0.1747784	0.27387055	2.3484023	20	2 25.2	16.6
19877 9086 P-L	16.7	X	322.73036	158.74717	214.37295	4.86258	0.3104683	0.29579876	2.2308574	20	10 8.0	16.6
19878 1030 T-1	14.3	X	80.95955	265.33776	324.11799	4.57260	0.1520330	0.28707474	2.2758278	20	9 18.6	17.3
19879 1274 T-1	13.5	X	187.49460	328.50680	5.10368	5.04243	0.1069738	0.21873867	2.7280501	20	2 11.0	17.7
19880 2247 T-1	14.4	X	159.40201	119.21315	44.64800	2.63268	0.1033026	0.18852786	3.0122131	20	9 5.4	19.1
19881 2288 T-1	14.4	X	76.99389	60.96370	30.84041	5.09477	0.0707249	0.22018495	2.7160909	20	2 26.2	17.9
19882 3024 T-1	14.9	X	35.33539	266.14413	163.96867	0.56063	0.1050254	0.25676189	2.4515966	20	—	—
19883 4058 T-1	15.1	X	337.03307	142.00616	170.29980	6.72711	0.0943135	0.28576864	2.2827569	20	7 25.5	17.3
19884 4125 T-1	15.5	X	186.77933	271.65355	55.36648	2.02051	0.2679222	0.31832509	2.1243308	20	1 20.6	18.4
19885 4283 T-1	14.3	X	288.44056	47.34812	28.05595	7.79761	0.1070519	0.29117268	2.2544242	20	11 5.4	16.5
19886 1167 T-2	15.4	X	140.48460	198.38888	239.75073	1.35728	0.0427297	0.22364822	2.6879783	20	4 23.5	19.0
19887 1279 T-2	15.6	X	327.02698	214.08629	173.39927	1.33101	0.1663506	0.29469547	2.2364219	20	11 12.1	17.0
19888 2048 T-2	13.8	X	256.79412	198.09164	196.51242	9.79977	0.0730032	0.18499528	3.0504386	20	7 11.7	18.3
19889 2304 T-2	14.4	X	259.27488	26.73005	43.15194	2.67849	0.0778463	0.18714995	3.0269801	20	8 31.9	18.5
19890 3042 T-2	15.5	X	271.73427	322.93940	145.56788	4.19329	0.0456728	0.29654715	2.2271025	20	12 5.8	18.0
19891 3326 T-2	15.2	X	166.58837	272.31870	57.62942	3.59221	0.1844410	0.21967408	2.7203003	20	1 21.4	19.7
19892 4128 T-2	16.3	X	92.21144	221.26981	127.47031	3.72458	0.1923738	0.25816640	2.4426968	20	—	—
19893 4524 T-2	14.3	X	145.95786	29.08163	100.70094	2.20525	0.1301281	0.18274124	3.0754713	20	7 11.2	19.0
19894 5124 T-2	13.9	X	31.54570	323.68658	236.54588	11.89673	0.1157284	0.22442340	2.6817850	20	5 16.3	16.8
19895 5161 T-2	13.7	X	188.40469	88.23763	337.96309	12.27987	0.1697158	0.22475336	2.6791596	20	6 1.1	18.3
19896 5366 T-2	14.2	X	73.48265	343.03523	257.55373	7.60098	0.0575805	0.18737640	3.0245409	20	8 27.3	18.6
19897 1097 T-3	14.0	X	108.39271	158.62094	244.17816	8.22697	0.1386370	0.21627599	2.7487201	20	2 9.8	18.0
19898 1177 T-3	12.9	X	129.50358	250.66285	283.09542	7.53126	0.1715696	0.17946194	3.1128233	20	8 17.9	18.1
19899 1188 T-3	15.5	X	61.08800	21.57784	309.19348	6.18306	0.1129376	0.25570052	2.4583760	20	12 28.9	18.9
19900 2172 T-3	13.9	X	70.11421	186.72364	216.38253	12.17435	0.0108944	0.16790363	3.2540882	20	—	—
19901 2191 T-3	15.3	X	52.11704	115.94798	342.53758	3.94303	0.1090939	0.21587336	2.7521368	20	2 1.4	18.4
19902 3420 T-3	15.0	X	342.12249	318.33080	145.04398	2.34311	0.1354938	0.25777473	2.4451706	20	—	—
19903 3464 T-3	16.2	X	81.66039	352.21227	7.04106	2.55890	0.2117820	0.25865002	2.4396510	20	—	—
19904 3487 T-3	14.4	X	125.30721	66.88679	12.97786	3.62401	0.0879469	0.21966749	2.7203546	20	4 12.8	18.1
19905 4086 T-3	16.2	X	67.08893	206.09996	111.81271	3.73910	0.1877202	0.30209890	2.1997329	20	—	—
19906 4138 T-3	13.5	X	216.00939	8.60867	34.94284	19.14772	0.1721973	0.17650059	3.1475450	20	5 26.9	18.8
19907 4220 T-3	13.5	X	184.26273	45.52618	30.71697	22.18161	0.1204390	0.17591534	3.1545220	20	6 7.3	18.8
19908 4324 T-3	14.3	X	112.24661	281.85921	96.29226	6.06294	0.0600859	0.21512194	2.7585418	20	1 7.4	18.0
19909 4326 T-3	14.9	X	127.45195	310.50965	70.44401	5.71956	0.1570345	0.26257977	2.4152488	20	2 6.7	18.2
19910 5078 T-3	12.4	X	16.23905	214.55346	67.21158	10.76993	0.0582290	0.18007398	3.1057660	20	8 9.3	16.6
19911 Rigaux	12.4	X	143.60197	144.71057	44.04492	14.79394	0.2933673	0.18550620	3.0448350	20	9 29.1	18.1
19912 Aurapenta	13.8	X	239.24090	22.94929	319.44401	7.22663	0.2533189	0.26876982	2.3780212	20	3 26.5	17.9
19913 Aigyptios	11.2	X	225.45981	338.21012	141.47590	7.12714	0.0576785	0.08513651	5.1175112	20	9 12.7	18.1
19914 Klagenfurt	14.5	X	88.35845	43.86835	46.80557	3.01450	0.1572888	0.26195502	2.4190874	20	3 19.2	17.3
19915 Bochkarev	14.6	X	217.99958	139.44846	235.31551	2.12477	0.2370677	0.27280404	2.3545189	20	4 21.7	18.4
19916 Donbass	14.5	X	70.59606	132.72435	174.89283	6.78905	0.1829030	0.29560427	2.2318359	20	12 24.5	17.9
19917 Dzaifu												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	μ	<i>a</i>	TE	Oppos.	<i>V</i>
19921 1978 VV ₃	13.0	X	236.93642	83.70368	62.69033	12.24592	0.1017598	0.18658672	3.0330686	20	11 5.5	17.4
19922 1978 VV ₄	14.9	X	245.60847	357.57239	12.87961	2.79639	0.1005782	0.22677406	2.6632205	20	5 25.6	18.7
19923 1978 VA ₈	13.9	X	33.83807	146.33641	45.66056	1.67953	0.1041797	0.17488133	3.1669443	20	5 9.1	17.9
19924 1979 MQ ₆	15.2	X	138.99403	306.52124	272.56994	4.50745	0.1068168	0.29428086	2.2385220	20	11 4.7	18.5
19925 1979 QD ₃	15.7	X	341.18914	243.12275	150.78954	4.45446	0.1310744	0.29236209	2.2483056	20	12 16.2	17.9
19926 1979 YQ	13.2	X	292.18679	318.94540	84.00027	9.05790	0.2404468	0.23708664	2.5854213	20	8 28.0	16.1
19927 1980 FM ₄	13.6	X	280.16839	19.04103	350.09033	8.84309	0.0923548	0.17906066	3.1174722	20	7 9.3	18.0
19928 1981 DB ₃	14.3	X	286.36540	131.18923	231.46824	8.11425	0.2045273	0.23361670	2.6109595	20	6 21.6	17.5
19929 1981 DL ₃	15.2	X	316.17112	88.32739	283.43988	5.71553	0.1226607	0.28672960	2.2776537	20	9 15.2	17.4
19930 1981 EV ₂	13.8	X	74.44540	67.90753	249.70311	9.30032	0.0280499	0.19089176	2.9872938	20	12 2.5	18.0
19931 1981 EF ₃	15.8	X	148.11650	280.77499	244.04425	6.52238	0.0393787	0.28603352	2.2813474	20	8 30.0	18.8
19932 1981 EU ₄	12.5	X	118.06057	26.28364	261.08507	9.02025	0.0724212	0.19119380	2.9841468	20	12 18.7	16.9
19933 1981 EW ₅	13.9	X	329.00448	190.55038	223.69744	12.61274	0.1502589	0.24177643	2.5518790	20	12 6.5	16.5
19934 1981 EG ₁₁	15.6	X	240.12709	270.50603	211.50941	5.79692	0.2394509	0.24074865	2.5591366	20	9 26.2	19.4
19935 1981 EG ₁₂	14.7	X	137.80111	9.57679	220.31714	7.29498	0.1435652	0.23865970	2.5740481	20	11 9.8	18.7
19936 1981 EF ₁₂	14.9	X	324.68390	134.00352	278.01902	4.52500	0.1207145	0.29109702	2.2548148	20	12 10.7	16.8
19937 1981 EZ ₁₅	14.5	X	355.94246	322.09076	325.69556	9.00691	0.0700824	0.18241122	3.0791796	20	7 16.4	18.5
19938 1981 EN ₁₅	15.9	X	244.55844	175.65711	284.09637	2.37555	0.1053021	0.28879502	2.2667811	20	9 29.2	18.4
19939 1981 EG ₁₆	14.6	X	225.98416	241.47134	342.95368	12.68259	0.1571012	0.24431459	2.5341741	20	—	—
19940 1981 EK ₂₀	14.7	X	6.43392	269.29166	358.19066	11.28952	0.1661422	0.23165417	2.6256851	20	7 14.4	17.5
19941 1981 ES ₂₄	15.8	X	201.80886	167.35479	337.40199	6.60743	0.0387291	0.28851127	2.2682671	20	10 12.8	18.7
19942 1981 EV ₂₄	15.3	X	244.79385	102.90321	357.73035	3.17564	0.1303232	0.23907121	2.5710935	20	9 20.2	18.6
19943 1981 EB ₃₁	14.3	X	161.13840	7.79804	165.09717	6.43180	0.1019793	0.18724169	3.0259914	20	9 17.3	19.1
19944 1981 EF ₃₁	15.4	X	292.05627	261.54865	161.09742	4.24307	0.0530677	0.28925818	2.2643607	20	10 30.6	17.7
19945 1981 ET ₃₁	14.0	X	277.77112	269.66103	178.11500	9.55728	0.2309366	0.19068885	2.9894125	20	9 25.2	17.8
19946 1981 EB ₃₅	15.1	X	249.00143	268.59243	183.49655	5.61936	0.0495226	0.28852900	2.2681742	20	10 5.8	17.7
19947 1981 EE ₃₉	14.5	X	307.61190	204.34600	166.76751	6.91616	0.0691304	0.18611371	3.0382055	20	8 21.1	18.4
19948 1981 EF ₄₀	15.1	X	348.67926	130.30027	192.63094	7.10126	0.2162584	0.28460855	2.2889559	20	9 14.3	16.5
19949 1981 EM ₄₆	15.9	X	308.91712	145.58620	249.22445	1.36699	0.0820932	0.28877960	2.2668618	20	10 13.4	18.0
19950 1981 EP ₄₇	14.2	X	274.74522	196.28746	185.36053	11.61134	0.1284294	0.18393123	3.0621919	20	7 9.8	18.7
19951 1982 UW ₂	13.6	X	231.82687	255.08927	127.38173	12.64398	0.1192666	0.17257100	3.1951470	20	5 27.7	18.7
19952 Ashkinazi	14.0	X	72.47297	189.94860	222.68350	7.42882	0.2875791	0.21557247	2.7546971	20	1 26.8	17.0
19953 Takeo	12.9	X	61.08674	210.23649	54.81286	14.28262	0.1435913	0.23080590	2.6321145	20	10 10.9	16.7
19954 Shigeyoshi	14.1	X	77.11758	198.03662	67.22548	6.53092	0.1364108	0.28437946	2.2901850	20	11 2.1	17.2
19955 Holly	13.2	X	297.05590	221.25962	127.70121	12.12581	0.1449675	0.18318879	3.0704601	20	6 27.4	17.3
19956 1985 QW ₁	15.0	X	210.47348	176.51802	225.07168	7.23887	0.1074218	0.27667101	2.3325284	20	5 26.9	18.3
19957 1985 QG ₄	14.4	X	302.94174	297.54103	337.04571	9.82774	0.2263991	0.27645614	2.3373369	20	3 7.7	17.4
19958 1985 RN ₄	16.1	X	171.07047	288.80689	53.21901	2.39447	0.3105818	0.26834723	2.3805171	20	2 10.6	20.4
19959 1985 UJ ₃	14.5	X	327.05499	222.31542	107.88113	1.26971	0.2410482	0.27924620	2.3181660	20	7 22.8	15.5
19960 1986 CN ₁	14.0	X	353.58718	255.62072	318.94335	10.39580	0.1902952	0.26190144	2.4194174	20	3 11.9	16.4
19961 1986 PQ ₃	14.9	X	5.48708	329.94400	40.83937	3.13950	0.2101846	0.29413298	2.2392723	20	—	—
19962 Martynenko	15.2	X	268.37065	130.84239	243.02810	4.53702	0.1794776	0.28557747	2.2837756	20	6 18.0	18.1
19963 1986 TR	13.9	X	274.36550	89.62641	251.21354	9.75753	0.3091976	0.22622519	2.6675265	20	4 22.1	18.1
19964 1987 BX ₁	13.7	X	45.46155	261.37211	241.41147	6.61775	0.1705706	0.21131285	2.7915930	20	3 24.5	16.8
19965 1987 RO ₁	12.8	X	267.07587	165.53382	132.01352	3.94758	0.1537509	0.17160937	3.2070721	20	3 17.5	17.6
19966 1987 SL ₃	12.3	X	240.25090	84.92480	317.45163	9.95049	0.0795033	0.17397651	3.1779153	20	7 3.1	17.0
19967 1987 SN ₁₂	14.0	X	358.44122	183.53347	144.80988	1.54956	0.2157223	0.23991937	2.5650304	20	10 6.9	16.3
19968 Palazzolascaris	13.9	X	319.67865	317.78659	248.21788	1.49575	0.1003497	0.21167970	2.7883668	20	1 29.0	17.6
19969 Davidfreedman	14.6	X	325.99152	111.10181	170.53455	6.83506	0.0419077	0.27243579	2.3566402	20	5 25.3	17.4
19970 Johannpeter	14.6	X	243.86399	292.89679	356.85788	2.32187	0.1582582	0.26531472	2.3986221	20	2 4.4	18.2
19971 1988 RZ ₅	14.4	X	263.51708	166.18391	170.67951	3.37436	0.1139159	0.27128695	2.3632887	20	5 1.2	17.4
19972 1988 QD ₆	14.9	X	124.32274	313.35704	49.38728	2.07919	0.1948750	0.26082594	2.4260637	20	1 14.4	18.0
19973 1988 RZ ₁₀	14.2	X	313.35244	154.77958	153.51546	4.58417	0.0705720	0.18006153	3.1050992	20	6 8.1	18.4
19974 1989 GR ₁	14.7	X	260.81760	227.59829	216.81397	13.57251	0.0640017	0.23458927	2.6037380	20	9 26.6	18.3
19975 1989 GX ₂	14.4	X	67.19383	208.58112	219.01134	3.51229	0.0302105	0.31053205	2.1597248	20	—	—
19976 1989 TD	15.3	X	246.73165	51.39183	306.34198	3.01051	0.2560501	0.27868852	2.3212576	20	4 22.4	18.9
19977 1989 TQ	14.0	X	135.38282	61.52765	242.09295	5.55674	0.2141576	0.29749297	2.2223796	20	—	—
19978 1989 TN ₆	15.1	X	33.14336	113.73520	153.40615	6.06796	0.1266060	0.28380960	2.2932496	20	9 3.6	17.4
19979 1989 VJ	13.0	X	308.02463	180.03020	257.53740	5.17173	0.1033171	0.25574935	2.4580631	20	12 4.6	15.5
19980 Barrysimon	14.3	X	136.66809	261.54282	221.58275	21.62145	0.2537329	0.27321620	2.3521504	20	6 29.6	18.7
19981 Bialystock	13.1	X	66.79924	65.31600	119.70521	14.64220	0.2064849	0.17290913	3.1909801	20	7 3.2	17.5
19982 Barbaradoore	13.6	X	223.50116	106.75113	290.02345	22.32698	0.2863017	0.27622536	2.3350366	20	5 19.9	18.1
19983 1990 DW	13.3	X	154.06368	97.79241	331.46901	6.37956	0.0582792	0.26688705	2.3891920	20	4 25.3	16.6
19984 1990 EP ₂	14.6	X	7.11042	298.17615	241.41813	5.48218	0.1034773	0.26216371	2.4178035	20	2 24.5	17.2
19985 1990 GD	14.5	X	256.55742	254.43958	350.86058	7.46915	0.1067357	0.25731047	2.4481108	20	—	—
19986 1990 KD	14.3	X	127.42599	165.30508	101.26136	13.85522	0.2573176	0.24354599	2.5395030	20	12 16.6	18.9
19987 1990 QJ ₃	13.4	X	303.63776	72.78733	348.75161	12.60165	0.1515521	0.19909820	2.9046323	20	10 11.1	16.8
19988 1990 QW ₃	15.5	X	207.91843	341.97312	317.62978	1.78372	0.1537560	0.31443199	2.1418295	20	1 7.9	18.6
19989 1990 RN ₈	14.3	X	202.83665	220.58823	168.04335	3.09905	0.0899882	0.22107051	2.7088327	20	5 3.8	18.3
19990 1990 SE ₈	14.7	X	114.67300	255.48630	142.68290	4.43470	0.1012729	0.21276235	2.7788996	20	2 10.3	18.6
19991 1990 SW ₈	13.8	X	128.36141	206.55883	160.36519	12.07101	0.1361547	0.21152133	2.7897584	20	1 22.3	17.9
19992 Schönbein	13.9	X	82.04943	181.43021	344.64036	7.17644	0.1424744	0.21915605	2.7245852	20	6 19.9	17.8
19993 Günterseeber	14.9	X	98.29668	119.84417	231.45587	3.72474	0.2511079	0.24010676	2.5636956	20	—	—
19994 Tresini	13.4	X	152.18302	70.24583	307.27153	8.07863	0.1777037	0.21324858	2.7746739	20	3 1.4	18.0
19995 1990 VU ₈	13.5	X	194.27355	188.86148	130.85001	9.85766	0					