ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344001 2011 QD_{46}	13.5	X	302.68940	55.30943	235.61606	7.99232	0.0346260	0.08040549	5.3163341	20	5 8.5	20.4
344002 2011 QN_{47}	13.1	X	255.36561	95.33336	255.59063	10.54287	0.1325682	0.08406443	5.1609290	20	5 10.4	20.3
344003 2011 QW_{53}	13.5	X	276.85598	82.51111	253.49853	9.35992	0.0604402	0.08184490	5.2538174	20	5 26.5	20.4
344004 2011 QV_{73}	13.5	X	251.60874	30.33920	324.86519	6.59904	0.0485642	0.08176183	5.2573753	20	5 20.2	20.6
344005 2011 QZ_{75}	14.0	X	263.08632	358.86209	326.28081	7.26981	0.0632841	0.08213304	5.2415224	20	4 25.8	21.1
344006 2011 QD_{77}	14.4	X	298.38508	13.14260	289.28879	3.65247	0.1580584	0.08299223	5.2052841	20	4 29.7	21.2
344007 2011 RF_{2}	15.4	X	187.27893	87.36930	243.76316	7.19060	0.0120290	0.16957141	3.2327166	20	2 6.6	20.2
344008 2011 SL_{6}	16.0	X	64.99544	317.16851	202.35630	11.82733	0.0338091	0.18965004	3.0003189	20	5 3.9	20.0
344009 2011 SH_{99}	17.1	X	12.96933	129.31760	178.35238	4.81049	0.1385421	0.21629029	2.7485989	20	9 18.0	19.9
344010 2011 SN_{121}	15.6	X	145.92455	240.72862	191.73286	15.81385	0.1041970	0.17544190	3.1601946	20	5 1.8	20.5
344011 2011 UH_{57}	16.2	X	190.83827	192.23042	312.35776	7.55708	0.0792888	0.21592371	2.7517089	20	9 13.9	20.4
344012 2011 UE_{153}	16.7	X	148.38342	164.49290	98.97350	3.16778	0.0827406	0.22931064	2.6435442	20	12 29.6	20.5
344013 2011 UP_{343}	15.0	X	190.03402	296.48783	115.26467	16.72584	0.0697573	0.17866245	3.1221027	20	5 24.4	20.0
344014 2011 XX_{1}	13.5	X	264.66791	8.05645	69.45893	8.05329	0.0477242	0.08288684	5.2096955	20	9 11.3	20.4
344015 2012 BW_{94}	17.6	X	45.61072	344.96358	200.82432	1.78362	0.1284197	0.26575497	2.3959723	20	5 21.2	19.8
344016 2012 BO_{130}	15.7	X	310.08334	9.52065	358.61752	10.98879	0.1281077	0.18306794	3.0718112	20	8 18.7	19.6
344017 2012 BW_{150}	14.8	X	164.01647	273.43768	225.43167	21.53189	0.1928715	0.17156749	3.2075940	20	8 1.1	20.6
344018 2012 DN_{57}	16.7	X	124.13210	197.21900	176.64790	9.49746	0.1324286	0.23395508	2.6084413	20	1 21.9	20.5
344019 2012 DK_{63}	17.3	X	148.74533	336.42451	94.63421	3.77695	0.1615983	0.26272668	2.4143484	20	5 3.8	20.9
344020 2012 DL_{91}	16.8	X	148.04277	162.30149	142.38701	7.00602	0.0146057	0.21662237	2.7457892	20	—	—
344021 2012 FV_{36}	16.7	X	132.58218	291.05229	86.16889	5.15509	0.1235813	0.22860003	2.6490197	20	2 7.5	20.5
344022 2012 GR_{8}	17.7	X	96.25810	21.67010	235.19292	0.92513	0.0895046	0.29215065	2.2493903	20	11 7.9	20.5
344023 2012 GZ_{14}	16.1	X	221.88833	182.09050	280.94250	0.60798	0.1639842	0.16975118	3.2304338	20	8 17.1	21.2
344024 2012 GU_{33}	15.8	X	193.48030	236.25522	299.47715	8.06664	0.0728631	0.17930432	3.1146473	20	10 19.8	20.6
344025 2012 HK_{41}	17.5	X	132.61644	346.12847	212.15313	4.71316	0.0953540	0.28556467	2.2838438	20	9 30.1	20.6
344026 2012 JP_{10}	16.9	X	187.34336	337.48538	69.60580	5.50367	0.0958256	0.24442329	2.5334227	20	5 10.0	20.7
344027 2012 JJ_{11}	17.4	X	37.69273	137.44843	99.57134	24.30594	0.0114987	0.38278484	1.8785938	20	7 15.2	18.9
344028 2012 JV_{18}	16.5	X	162.49278	359.56088	220.73245	1.66658	0.0670461	0.17780037	3.1321865	20	11 13.1	21.2
344029 2012 JN_{35}	16.8	X	203.24186	141.11025	165.77311	6.67156	0.0192718	0.21487383	2.7606649	20	1 22.5	20.6
344030 2012 JA_{64}	15.8	X	254.67157	245.36831	222.59653	18.74615	0.0860704	0.17231103	3.1983599	20	10 5.4	20.5
344031 2012 LZ_{13}	16.0	X	27.23000	210.33873	147.05715	7.19639	0.0388015	0.16758987	3.2581485	20	11 21.4	20.6
344032 2012 LE_{20}	15.8	X	94.64481	182.19723	132.78870	10.15644	0.0625523	0.17457891	3.1706005	20	12 22.8	20.6
344033 2012 LS_{23}	16.9	X	333.11021	56.77439	185.96140	4.56547	0.1121151	0.23504323	2.6003844	20	4 2.6	19.7
344034 2012 MK_{2}	16.9	X	47.39821	26.93911	258.97601	8.95924	0.2101185	0.26422072	2.4052385	20	10 28.1	20.1
344035 2012 MQ_{5}	16.4	X	345.33350	90.34217	169.32801	12.99245	0.1232231	0.24306268	2.5428682	20	5 20.6	19.3
344036 2012 MG_{11}	17.1	X	10.96951	126.52037	180.03295	6.44956	0.2599371	0.25431031	2.4673271	20	10 11.6	19.2
344037 2012 PG_{2}	17.1	X	189.20527	113.41063	299.60804	3.31291	0.1445469	0.21295524	2.7772214	20	5 17.9	21.6
344038 2012 PH_{4}	17.2	X	263.77649	212.91710	219.46560	2.55053	0.1563731	0.24519909	2.5280761	20	9 3.1	20.4
344039 2012 PB_{5}	15.5	X	173.66345	350.52246	296.04370	7.86057	0.0473144	0.17445176	3.1721410	20	—	—
344040 2012 PO_{5}	16.8	X	61.08448	346.92482	306.98961	13.56216	0.1392534	0.26702327	2.3883793	20	11 12.9	20.4
344041 2012 PY_{5}	17.4	X	43.95794	123.62789	254.16802	2.75864	0.1679037	0.28132229	2.3067470	20	—	—
344042 2012 PY_{8}	16.4	X	232.32560	15.08916	285.90220	9.23425	0.2130326	0.20191437	2.8775612	20	2 8.4	21.4
344043 2012 PF_{11}	16.0	X	94.83951	143.97148	289.96885	5.33447	0.0246759	0.19604009	2.9347613	20	2 19.7	20.2
344044 2012 PB_{24}	16.1	X	276.03273	1.29973	333.02897	13.96277	0.0667527	0.22140808	2.7060786	20	5 16.7	20.1
344045 2012 QT_{14}	15.5	X	305.37967	25.53993	318.52678	6.27602	0.3578054	0.23348932	2.6119089	20	5 27.8	18.6
344046 2012 QJ_{19}	16.3	X	5.91386	33.04796	229.25967	5.60935	0.0579315	0.23384745	2.6092416	20	6 27.3	19.5
344047 4331 *P–L*	18.2	X	139.04644	27.76920	334.17259	1.81878	0.2022115	0.30360133	2.1924697	20	1 24.7	20.9
344048 6807 *P–L*	16.5	X	223.47586	225.88726	166.45024	8.04777	0.2339656	0.20953915	2.8073244	20	5 21.8	21.3
344049 6865 *P–L*	16.4	X	307.93820	28.65994	5.09847	15.49907	0.1387155	0.24648187	2.5192972	20	9 26.8	19.0
344050 1254 *T–2*	17.6	X	69.01115	160.51940	197.09735	4.78239	0.2579451	0.27830353	2.3233978	20	—	—
344051 4074 *T–2*	17.3	X	283.96477	317.02662	54.84182	2.25513	0.2909008	0.22791440	2.6543298	20	6 17.0	20.8
344052 4121 *T–2*	16.5	X	154.89912	330.25854	55.24861	3.83405	0.3085396	0.18029099	3.1032734	20	3 26.4	22.0
344053 5478 *T–2*	16.2	X	286.14728	136.93297	234.75352	9.75581	0.1756494	0.22791105	2.6543557	20	7 7.2	19.7
344054 4185 *T–3*	15.9	X	134.45434	296.41840	76.26850	6.40767	0.2009812	0.17144904	3.2090711	20	2 19.5	21.1
344055 4530 *T–3*	17.3	X	58.45813	355.31408	54.24606	6.97657	0.1569528	0.28261923	2.2996844	20	—	—
344056 1992 HT_{3}	15.4	X	53.35161	186.46009	47.30093	37.01361	0.0962492	0.21913061	2.7247962	20	8 27.7	20.0
344057 1993 QP_{8}	16.2	X	248.01045	26.66739	355.54987	7.90206	0.2332147	0.21209927	2.7846884	20	5 27.5	20.8
344058 1994 PS_{22}	17.7	X	121.39868	329.14694	349.66411	4.57298	0.2335252	0.27943777	2.3171064	20	—	—
344059 1994 SY_{8}	17.4	X	76.50100	358.94465	9.50494	5.56734	0.2510398	0.27695045	2.3309591	20	—	—
344060 1995 *OL*	16.1	X	58.82033	337.41115	304.24720	11.55784	0.1250658	0.24265563	2.5457112	20	10 16.6	19.9
344061 1995 OL_{11}	16.6	X	135.30052	210.89955	141.37655	1.98594	0.1796836	0.17648578	3.1477210	20	1 22.7	21.3
344062 1995 OO_{16}	18.0	X	118.51128	204.40696	161.74725	7.84191	0.1631182	0.29396183	2.2401413	20	—	—
344063 1995 SM_{13}	17.2	X	11.97304	324.35926	354.23332	6.54868	0.1649999	0.23806231	2.5783525	20	10 8.6	19.9
344064 1995 SB_{52}	17.9	X	38.34032	6.05532	13.38929	2.38110	0.1689947	0.28424299	2.2909180	20	—	—
344065 1995 UB_{4}	17.0	X	292.75819	18.77319	32.21290	9.08109	0.4070440	0.23311852	2.6146779	20	8 8.4	20.1
344066 1995 UL_{11}	18.4	X	68.63830	184.43570	215.49554	2.30664	0.2017561	0.28965532	2.2622905	20	—	—
344067 1995 WK_{38}	15.8	X	200.86788	285.94403	29.50021	9.61379	0.0663121	0.17440452	3.1727138	20	2 9.6	20.7
344068 1995 YN_{8}	16.1	X	188.55087	100.97118	237.31437	8.33180	0.2992731	0.17772925	3.1330220	20	2 19.3	22.0
344069 1996 BD_{6}	17.6	X	350.94873	32.69287	100.44825	5.36853	0.1552181	0.28310801	2.2970368	20	—	—
344070 1996 VN_{35}	16.3	X	174.06310	133.49273	254.50371	7.41104	0.3485088	0.18786233	3.0193230	20	4 7.0	22.1
344071 1996 XS_{16}	16.6	X	153.58543	322.91351	59.23463	3.35579	0.2625904	0.18362644	3.0655794	20	3 19.3	21.9
344072 1997 CY_{1}	18.0	X	61.55328	316.96770	332.52527	24.34043	0.2832015	0.40240789	1.8170145	20	12 22.1	21.4
344073 1997 CD_{16}	15.7	X	127.91387	298.44476	149.10081	17.91564	0.1598097	0.17855995	3.1232975	20	5 10.1	20.9
344074 1997 UH_{9}	18.7	X	122.56994	180.91378	42.40391	25.49026	0.4747262	1.30337492	0.8300224	20	—	—
344075 1997 WK_{9}	17.6	X	15.35828	331.77669	50.19245	6.61622	0.2314070	0.26239695	2.4163705	20	—	—
344076 1998 HJ_{3}	18.8	X	294.10220	94.11792	223.62747	6.56439	0.7464940	0.35221616	1.9857742	20	2 24.3	23.1
344077 1998 HG_{8}	17.6	X	171.11611	156.19993	154.66116	5.17586	0.2637959	0.29879573	2.2159151	20	—	—
344078 1998 QB_{29}	17.4	X	50.30196	126.43544	201.78142	7.54058	0.2179883	0.27748132	2.3279852	20	12 29.7	20.9
344079 1998 RO_{8}	17.3	X	150.38272	11.28769	330.24449	5.22749	0.2264463	0.29215097	2.2493886	20	1 15.2	20.5
344080 1998 RP_{36}	16.5	X	277.59114	200.33054	184.86382	14.38833	0.2675315	0.21884317	2.7271815	20	6 29.2	20.6

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344081 1998 SP_{16}	17.2	X	247.10320	184.76581	181.05336	6.08764	0.0715115	0.21316337	2.7754133	20	5 26.7	21.2
344082 1998 SF_{21}	17.3	X	282.00610	164.11714	183.00964	3.95135	0.1102823	0.21503311	2.7593015	20	6 9.6	21.1
344083 1998 TX_{11}	16.9	X	227.58670	184.61088	210.91488	3.83799	0.0825868	0.21156181	2.7894026	20	6 9.2	21.1
344084 1998 TZ_{27}	16.7	X	275.54490	176.72794	187.96890	3.27404	0.2071204	0.21679142	2.7443615	20	6 9.5	20.6
344085 1998 UA_{45}	17.6	X	168.42168	288.12201	8.47161	5.15163	0.1718924	0.28775736	2.2722272	20	—	—
344086 1999 AW_{11}	17.8	X	242.59720	239.08481	282.70096	2.38885	0.0754666	0.26642332	2.3919635	20	12 22.9	20.6
344087 1999 CA_{130}	17.7	X	357.55113	353.25686	110.86855	6.60994	0.0943333	0.27462202	2.3441162	20	—	—
344088 1999 CL_{152}	17.0	X	165.66345	297.68135	146.95358	2.18195	0.1396332	0.19987416	2.8971098	20	6 5.2	21.6
344089 1999 JN_{47}	16.4	X	145.08454	27.47821	235.75809	9.28714	0.1260996	0.25613436	2.4555992	20	12 29.3	20.2
344090 1999 JK_{133}	16.5	X	228.39695	106.12318	73.70993	23.02730	0.1865538	0.26065924	2.4270979	20	12 8.3	19.4
344091 1999 LG_{7}	16.7	X	331.70620	233.28388	103.30199	7.45085	0.3490561	0.23480771	2.6021230	20	7 28.9	17.8
344092 1999 NK_{2}	15.5	X	352.28916	159.78041	217.49426	13.24028	0.1624551	0.24214368	2.5492981	20	11 29.3	18.2
344093 1999 RB_{19}	17.5	X	209.39795	79.60547	237.79754	4.66078	0.3207504	0.31182336	2.1537582	20	2 1.5	21.4
344094 1999 RD_{126}	16.3	X	36.97180	107.66494	197.08704	4.69278	0.2470808	0.24022421	2.5628599	20	11 12.8	19.6
344095 1999 RG_{153}	17.7	X	176.52584	32.22874	306.86401	5.70468	0.2278650	0.30822736	2.1704774	20	2 2.1	20.9
344096 1999 RL_{237}	16.9	X	297.59831	256.30905	112.26698	6.96123	0.2954974	0.22998539	2.6383711	20	7 2.1	19.7
344097 1999 RJ_{252}	17.3	X	298.12622	271.43256	156.89703	2.06886	0.0664820	0.23752440	2.5822437	20	11 2.9	20.3
344098 1999 SG_{18}	16.2	X	292.13507	330.56890	25.63843	13.30320	0.3010387	0.22927833	2.6437925	20	6 2.2	19.8
344099 1999 TC_{25}	16.8	X	280.16989	68.45828	1.37391	5.83073	0.3397111	0.23253808	2.6190271	20	8 25.0	19.9
344100 1999 TK_{30}	16.7	X	310.52811	348.79672	358.24425	3.70640	0.3254910	0.23044751	2.6348428	20	6 18.1	19.4
344101 1999 TR_{59}	17.0	X	283.50993	88.40176	334.84610	4.02859	0.2281670	0.23398542	2.6082158	20	9 7.8	20.0
344102 1999 TT_{94}	16.2	X	273.38384	284.42077	137.07364	5.86037	0.2976264	0.23044736	2.6348439	20	8 8.9	19.8
344103 1999 TD_{127}	16.4	X	282.20682	229.28798	193.55372	12.94361	0.2332375	0.23208548	2.6224310	20	9 1.2	19.5
344104 1999 TH_{148}	17.2	X	280.89960	199.44599	188.83826	3.07206	0.2311540	0.22906214	2.6454558	20	7 14.7	20.5
344105 1999 TD_{150}	16.6	X	315.85799	185.40939	182.94485	13.16573	0.1774725	0.23174638	2.6249885	20	8 24.9	19.3
344106 1999 TH_{237}	16.7	X	302.19746	314.37963	46.89993	2.83956	0.1588084	0.22975172	2.6401598	20	7 24.5	19.6
344107 1999 TA_{242}	15.9	X	290.83136	314.69497	72.90058	14.83645	0.1155238	0.22889832	2.6467179	20	8 25.3	19.4
344108 1999 TB_{255}	16.9	X	316.13014	55.80238	333.06192	6.77567	0.1977480	0.23268749	2.6179059	20	9 24.9	19.3
344109 1999 TF_{264}	18.5	X	163.87662	150.37693	199.32208	1.84015	0.1697171	0.30487085	2.1863790	20	1 30.5	21.7
344110 1999 TR_{305}	16.3	X	347.14768	94.22586	252.67387	11.84836	0.2149414	0.23460639	2.6036114	20	10 1.0	18.8
344111 1999 UB_{28}	16.9	X	244.23168	147.48632	196.16138	10.14059	0.1979028	0.22180580	2.7028428	20	4 11.2	21.0
344112 1999 VD_{4}	16.7	X	285.96641	355.22108	54.05796	5.95881	0.3755651	0.23028386	2.6360909	20	7 29.5	20.1
344113 1999 VJ_{41}	16.7	X	164.79441	108.52709	64.95935	13.91510	0.1929768	0.22670326	2.6637750	20	10 1.4	21.4
344114 1999 VU_{54}	17.1	X	285.68348	348.69266	46.68866	3.38061	0.2076493	0.22917891	2.6445571	20	8 7.2	20.3
344115 1999 VV_{71}	17.2	X	265.00286	355.61537	57.03528	9.31916	0.2528712	0.22660758	2.6645248	20	7 26.2	21.1
344116 1999 VB_{83}	16.3	X	177.93473	104.60572	27.44555	22.07245	0.0629915	0.22746175	2.6578500	20	9 1.0	20.6
344117 1999 VF_{116}	17.3	X	187.39703	234.69459	218.81641	8.28456	0.0942223	0.22081526	2.7109198	20	7 7.4	21.6
344118 1999 VN_{122}	16.9	X	100.18710	236.58324	67.21292	8.20035	0.1290044	0.28825335	2.2696200	20	—	—
344119 1999 VF_{130}	16.5	X	181.44641	282.15969	228.76956	12.79536	0.1336844	0.22686628	2.6624988	20	9 8.1	20.9
344120 1999 VM_{142}	17.3	X	243.19855	288.08399	165.70550	2.29711	0.0456815	0.22894204	2.6463809	20	9 20.5	20.7
344121 1999 VD_{143}	17.5	X	180.42858	341.53903	358.10628	7.26177	0.1301441	0.30803918	2.1713612	20	2 2.9	20.5
344122 1999 VP_{185}	16.4	X	323.15800	273.84136	59.87859	12.87567	0.2020704	0.22726662	2.6593711	20	7 19.1	19.2
344123 1999 VC_{197}	16.2	X	311.50558	312.18986	51.69545	12.98928	0.2508958	0.23082178	2.6319938	20	8 6.1	18.9
344124 1999 VB_{212}	17.9	X	123.29935	358.32376	64.87793	2.51198	0.0569419	0.30541038	2.1838033	20	3 8.9	20.4
344125 1999 XD_{9}	15.7	X	288.45452	307.52850	90.93754	23.10211	0.0712078	0.22791775	2.6543037	20	9 17.1	19.6
344126 1999 XC_{17}	17.0	X	346.97457	144.79861	258.46468	19.97088	0.0588355	0.37883509	1.8916288	20	—	—
344127 1999 XO_{24}	16.6	X	274.49582	351.61523	63.93820	15.32874	0.2601684	0.22871232	2.6481526	20	8 14.5	20.3
344128 1999 XR_{49}	17.0	X	281.50800	149.02873	255.83394	5.85604	0.2170519	0.22796847	2.6539100	20	8 8.4	20.4
344129 1999 XW_{148}	17.4	X	351.67752	111.89942	73.97943	6.15476	0.0758483	0.30263751	2.1971222	20	2 8.5	19.7
344130 1999 XW_{235}	15.4	X	82.99610	318.81910	81.11472	9.55089	0.1747542	0.15207993	3.4760668	20	1 25.1	20.1
344131 1999 YE_{10}	17.1	X	251.49909	246.37979	197.25883	2.90228	0.1504854	0.22788242	2.6545781	20	8 31.7	20.6
344132 1999 YP_{13}	15.4	X	300.24346	286.16568	121.52310	29.12311	0.3826542	0.23198423	2.6231940	20	8 20.8	18.0
344133 2000 AD_{6}	18.4	X	80.95871	335.24542	112.79547	30.08160	0.4244433	0.29961092	2.2118939	20	4 30.5	22.0
344134 2000 AS_{169}	15.8	X	242.47945	207.06270	245.01153	28.76550	0.1412680	0.22709239	2.6607312	20	8 19.1	20.3
344135 2000 BO_{40}	16.4	X	257.69340	253.93605	135.07920	8.27769	0.2363098	0.21742030	2.7390670	20	6 17.1	20.6
344136 2000 CF_{24}	16.9	X	161.52511	217.14992	301.06606	5.98454	0.3014542	0.21722776	2.7406853	20	8 30.6	21.9
344137 2000 DG_{22}	16.7	X	211.04041	124.90165	331.94802	8.64048	0.1739537	0.21809445	2.7334196	20	8 3.0	21.0
344138 2000 ES_{153}	16.1	X	182.57946	307.32630	176.45161	9.63154	0.1452344	0.21416970	2.7667125	20	8 7.7	20.7
344139 2000 GX_{139}	17.1	X	218.09921	144.65605	69.02248	6.13011	0.1801263	0.27524964	2.3405515	20	—	—
344140 2000 HB_{46}	17.3	X	61.82946	218.20633	42.42144	21.47524	0.0495801	0.35714258	1.9674708	20	10 15.1	19.5
344141 2000 HS_{66}	16.5	X	84.73577	134.23917	43.08883	8.66377	0.1396124	0.20285346	2.8686734	20	7 8.1	20.7
344142 2000 HL_{102}	17.6	X	226.40751	185.86071	47.78915	3.29822	0.1740741	0.27831525	2.3233325	20	—	—
344143 2000 JQ_{3}	18.2	X	51.14230	218.35148	54.70707	7.76880	0.4856431	0.25483639	2.4639303	20	11 16.9	22.5
344144 2000 KA_{22}	17.4	X	194.03189	155.38418	72.32154	3.18325	0.1719314	0.27154005	2.3618200	20	—	—
344145 2000 KX_{37}	16.5	X	183.22541	40.08770	107.84346	4.98498	0.0404812	0.21028071	2.8007204	20	9 16.6	20.5
344146 2000 NP_{11}	15.0	X	188.90080	103.29563	116.14410	30.62818	0.4294354	0.21851143	2.7299411	20	12 2.1	20.7
344147 2000 PK_{8}	17.8	X	352.38758	51.88813	319.49102	15.77110	0.4565274	0.24946140	2.4991969	20	—	—
344148 2000 QD_{43}	17.5	X	1.35206	179.27901	190.10327	2.69938	0.2977277	0.25210636	2.4816861	20	12 28.9	20.0
344149 2000 QH_{148}	16.8	X	343.91918	198.06184	200.59315	4.29110	0.2924374	0.25110054	2.4883089	20	—	—
344150 2000 QV_{159}	17.9	X	303.84057	177.54005	182.55162	10.53229	0.3469044	0.24306498	2.5428522	20	6 21.4	20.7
344151 2000 SV_{4}	18.0	X	75.27202	273.67654	46.97177	10.23275	0.1606394	0.40741539	1.8020953	20	—	—
344152 2000 SS_{50}	17.4	X	16.77074	156.20907	200.08653	9.06129	0.1792229	0.25230654	2.4803733	20	12 15.3	20.5
344153 2000 SU_{56}	17.6	X	11.43110	14.39574	356.58354	1.83368	0.1848890	0.25282765	2.4769639	20	12 28.3	20.3
344154 2000 TN_{57}	17.0	X	38.73425	280.64439	57.87482	10.64518	0.2919815	0.25413669	2.4684508	20	—	—
344155 2000 UE_{66}	16.8	X	72.74599	80.71737	274.34548	3.51690	0.1966136	0.25801588	2.4436468	20	—	—
344156 2000 VJ_{43}	17.0	X	349.69115	168.05957	261.43403	2.97087	0.2500711	0.25248767	2.4791869	20	—	—
344157 2000 WS_{52}	16.8	X	270.23750	200.06204	243.85902	6.73386	0.1292270	0.24240462	2.5474683	20	10 1.0	19.9
344158 2000 WV_{66}	15.7	X	240.27182	172.51074	254.32641	21.31903	0.0488337	0.23480478	2.6021446	20	8 1.5	19.7
344159 2000 WY_{120}	15.7	X	347.95245	333.51785	62.49830	9.58146	0.2648086	0.24561270	2.5252372	20	—	—
344160 2000 WS_{155}	16.1	X	350.16762	52.25312	316.13884	6.26944	0.1618121	0.24589074	2.5233332	20	11 10.5	18.7

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344161 2000 YK_{18}	16.3	X	326.31608	225.06211	222.23185	6.63669	0.3445129	0.24749526	2.5124154	20	—	—
344162 2000 YL_{30}	16.5	X	280.43014	87.65438	311.16494	12.14977	0.3017639	0.23540392	2.5977275	20	7 19.4	19.9
344163 2000 YZ_{49}	15.8	X	340.67219	85.03138	288.33860	8.74111	0.2430990	0.24211290	2.5495142	20	11 4.7	18.0
344164 2000 YF_{61}	16.3	X	325.85403	157.80473	263.71232	3.82111	0.2668238	0.24521352	2.5279769	20	12 21.3	17.8
344165 2000 YN_{87}	16.2	X	324.06212	101.12121	324.59775	2.18024	0.2134131	0.24631540	2.5204321	20	12 19.1	18.0
344166 2000 YK_{90}	16.6	X	221.43083	140.81489	273.70860	3.76709	0.2626606	0.22967615	2.6407388	20	6 12.9	21.0
344167 2000 YT_{95}	15.6	X	327.88708	306.13647	97.85029	16.02595	0.1233841	0.24398589	2.5364496	20	11 23.5	18.4
344168 2000 YU_{139}	15.6	X	336.98800	75.01541	313.66622	6.60008	0.2914470	0.24163625	2.5528659	20	11 28.0	17.3
344169 2001 AD_{1}	16.6	X	304.91548	283.37369	107.56297	8.85755	0.1716283	0.23579561	2.5948499	20	9 14.9	19.3
344170 2001 AF_{36}	17.7	X	291.39670	196.78553	309.31400	16.77554	0.1508512	0.40053005	1.8226893	20	—	—
344171 2001 AA_{47}	16.5	X	218.90042	107.45996	351.83763	29.47688	0.3187283	0.23332232	2.6131551	20	8 14.7	21.4
344172 2001 AV_{49}	16.7	X	213.83232	112.00958	306.27833	10.61981	0.2900388	0.22907282	2.6453735	20	6 10.0	21.5
344173 2001 BS_{24}	15.8	X	336.50703	90.09020	313.81327	5.06216	0.2490277	0.24386019	2.5373212	20	12 17.9	17.7
344174 2001 BF_{30}	15.7	X	225.39673	119.51013	297.73783	13.86227	0.0679310	0.22678169	2.6631608	20	7 7.9	19.5
344175 2001 BO_{30}	17.1	X	277.10220	165.21764	299.75955	4.27127	0.2203080	0.24171901	2.5522831	20	10 28.1	19.7
344176 2001 BU_{52}	15.8	X	348.32637	174.13610	233.01930	5.46567	0.2758273	0.24613407	2.5216699	20	—	—
344177 2001 BV_{53}	17.7	X	173.30902	136.39390	115.97573	25.63370	0.0275396	0.39821822	1.8297368	20	—	—
344178 2001 CD_{13}	16.9	X	225.84156	36.74933	100.32922	5.23836	0.2416571	0.23590617	2.5940391	20	10 3.7	20.9
344179 2001 DX_{7}	16.4	X	256.67196	0.81834	140.92337	13.28484	0.2081764	0.23991994	2.5650263	20	11 22.5	19.8
344180 2001 DP_{9}	16.5	X	180.19501	103.09506	95.60329	6.83565	0.1960177	0.23521931	2.5990865	20	11 9.5	20.7
344181 2001 DR_{15}	16.5	X	272.82214	14.16079	108.58359	7.27521	0.2347335	0.24083612	2.5585170	20	11 16.7	19.3
344182 2001 DT_{27}	16.4	X	147.80485	27.64034	140.39263	14.28766	0.1890608	0.22690632	2.6621856	20	9 4.8	20.9
344183 2001 DC_{100}	16.2	X	260.35396	211.34013	255.63931	3.31011	0.1978150	0.23680403	2.5874780	20	10 7.3	19.6
344184 2001 DT_{105}	16.5	X	236.39668	255.76665	167.76511	6.35449	0.3815772	0.23208844	2.6224087	20	6 27.1	21.3
344185 2001 DE_{106}	13.1	X	240.31055	141.75326	324.35661	17.61235	0.1188913	0.08110468	5.2857358	20	9 1.5	20.4
344186 2001 FD_{96}	16.2	X	304.96757	38.74047	62.46122	6.89207	0.2685218	0.24123120	2.5557227	20	12 23.3	17.8
344187 2001 FK_{202}	17.0	X	213.82164	291.54294	184.27078	4.46157	0.1045311	0.22814590	2.6525339	20	9 4.1	20.9
344188 2001 HW_{24}	17.2	X	213.44077	199.08322	71.51185	7.69001	0.2162337	0.29460464	2.2368816	20	—	—
344189 2001 HJ_{61}	16.4	X	64.08977	176.92479	44.30001	8.91878	0.1656148	0.21511595	2.7585931	20	8 17.1	20.3
344190 2001 JO_{10}	17.2	X	207.14113	55.70624	228.12235	6.84619	0.2509227	0.29350013	2.2424900	20	—	—
344191 2001 KB_{18}	17.4	X	55.16696	36.49037	255.85144	5.01308	0.3202334	0.27048054	2.3679836	20	11 29.6	21.0
344192 2001 LX_{16}	17.2	X	122.82781	220.79891	116.72144	10.09975	0.2263747	0.28602547	2.2813902	20	—	—
344193 2001 NV_{5}	17.6	X	267.31717	249.73366	350.28722	3.87795	0.1322524	0.29303362	2.2448694	20	—	—
344194 2001 OZ_{22}	17.2	X	74.10408	51.12723	249.59473	20.19236	0.0648310	0.37229707	1.9137108	20	12 25.8	19.5
344195 2001 OS_{28}	17.6	X	170.56240	184.36152	76.21012	8.86502	0.2185747	0.28168503	2.3047662	20	—	—
344196 2001 OY_{34}	17.2	X	40.42472	220.20763	86.34744	8.91901	0.2535164	0.26724029	2.3870862	20	11 25.9	20.5
344197 2001 OS_{94}	16.3	X	158.69975	233.12399	127.09202	9.64181	0.1816764	0.23801229	2.5787137	20	2 17.5	20.4
344198 2001 PU_{34}	16.0	X	218.15718	97.24575	255.52043	9.15528	0.1238360	0.19075947	2.9886747	20	3 31.1	20.9
344199 2001 PF_{41}	17.1	X	113.89203	24.03170	292.00254	6.89252	0.2170781	0.27673582	2.3321642	20	—	—
344200 2001 QR_{5}	17.5	X	76.88068	176.31843	147.71368	2.72110	0.2318972	0.27352661	2.3503705	20	—	—
344201 2001 QB_{107}	17.2	X	7.06241	68.47762	259.66971	17.96657	0.0581377	0.36786008	1.9290683	20	10 25.6	19.4
344202 2001 QJ_{111}	17.0	X	86.80328	214.62452	114.76116	10.82003	0.2971628	0.27569096	2.3380531	20	—	—
344203 2001 QR_{123}	17.6	X	80.55702	287.73951	66.49886	3.03520	0.2442711	0.27623983	2.3349550	20	—	—
344204 2001 QO_{149}	15.3	X	116.50468	256.63322	109.25517	13.51281	0.1730322	0.17804340	3.1293355	20	1 19.0	19.9
344205 2001 QY_{149}	16.8	X	46.21197	239.13561	110.98971	5.80414	0.2530342	0.26849326	2.3796539	20	—	—
344206 2001 QZ_{154}	16.1	X	106.82179	156.16321	186.07065	10.35896	0.2115545	0.17434994	3.1733759	20	—	—
344207 2001 QD_{177}	16.7	X	301.07442	285.47251	1.25171	1.42525	0.0485544	0.19320274	2.9634245	20	4 25.5	20.7
344208 2001 QC_{252}	17.9	X	76.95792	324.64634	28.57711	2.77969	0.2195125	0.27589605	2.3368942	20	—	—
344209 2001 QZ_{265}	15.5	X	194.15514	93.22466	269.07135	13.08667	0.2503401	0.18849656	3.0125465	20	3 17.0	21.1
344210 2001 QV_{292}	15.7	X	225.69520	351.17899	310.53192	11.79592	0.1987102	0.18654610	3.0335089	20	2 7.5	20.8
344211 2001 QE_{333}	17.5	X	93.66677	71.30003	282.65089	5.38972	0.1303294	0.27773987	2.3265402	20	—	—
344212 2001 RL_{9}	17.1	X	350.81771	77.96781	267.25761	17.65171	0.0911748	0.36527834	1.9381472	20	10 29.6	19.0
344213 2001 RL_{31}	16.3	X	195.29993	335.61566	2.05135	3.96962	0.2138564	0.18656749	3.0332769	20	2 26.3	21.5
344214 2001 RH_{36}	17.3	X	59.68525	124.77215	180.40255	7.26571	0.2271312	0.26856099	2.3792538	20	12 10.6	21.0
344215 2001 RW_{42}	17.2	X	111.35644	56.62187	288.99118	6.41810	0.1588867	0.27954058	2.3165382	20	—	—
344216 2001 RB_{54}	17.0	X	20.99666	289.65362	21.84304	4.92208	0.1844035	0.26304378	2.4124076	20	10 23.9	19.6
344217 2001 RJ_{57}	17.4	X	325.16106	321.11490	69.07185	2.24038	0.1608366	0.26238615	2.4164368	20	10 31.5	19.3
344218 2001 RK_{65}	17.4	X	341.10467	78.94495	301.26788	4.78422	0.2224345	0.26231048	2.4169015	20	11 24.8	19.4
344219 2001 RT_{69}	17.4	X	68.25454	61.03640	300.57091	1.81707	0.2341303	0.27292492	2.3538237	20	—	—
344220 2001 RV_{83}	17.4	X	352.59803	168.83858	186.30923	4.32503	0.2115207	0.26261098	2.4150575	20	11 11.7	19.4
344221 2001 RY_{89}	17.5	X	94.32671	273.89176	52.09676	3.07052	0.2284933	0.27428761	2.3460212	20	—	—
344222 2001 RK_{106}	16.4	X	245.52386	161.51562	169.02259	7.65290	0.1916407	0.19332562	2.9621686	20	3 30.3	21.2
344223 2001 RY_{106}	17.5	X	107.22460	222.59315	122.70523	3.13300	0.1918112	0.27880693	2.3206003	20	—	—
344224 2001 RK_{120}	18.3	X	32.20162	266.21586	122.76602	2.09505	0.1924144	0.27176582	2.3605117	20	—	—
344225 2001 RU_{122}	16.3	X	192.60081	211.99726	157.68499	2.84182	0.1988999	0.18841962	3.0133666	20	3 31.7	21.5
344226 2001 RE_{138}	16.0	X	224.45136	319.93647	24.85607	4.04018	0.0958948	0.19079961	2.9882555	20	4 2.6	20.4
344227 2001 RA_{146}	15.8	X	106.51378	81.07211	284.76691	4.02334	0.2066587	0.17643433	3.1483329	20	1 12.3	20.1
344228 2001 RN_{154}	17.4	X	51.41409	167.44576	240.75354	4.89338	0.2280061	0.27658710	2.3330002	20	—	—
344229 2001 SC	16.8	X	6.60432	33.93199	302.36990	5.35674	0.1486748	0.26464835	2.4026468	20	10 27.9	19.5
344230 2001 SR_{10}	15.5	X	51.58806	258.76110	157.35793	26.31228	0.2676822	0.17258973	3.1949158	20	1 2.8	19.3
344231 2001 SX_{14}	17.4	X	335.02265	31.24290	349.77176	0.51100	0.1909225	0.26210492	2.4181650	20	11 9.1	19.1
344232 2001 SO_{25}	17.8	X	97.92954	184.84691	157.80518	1.15602	0.2048489	0.27601892	2.3362007	20	—	—
344233 2001 SQ_{41}	16.3	X	164.30015	227.21333	182.88229	13.85851	0.2032816	0.18696550	3.0289707	20	4 26.9	21.5
344234 2001 SJ_{120}	15.8	X	169.44211	230.81535	189.36685	12.18798	0.0967255	0.19102850	2.9858680	20	5 10.1	20.5
344235 2001 SA_{124}	17.7	X	51.64371	118.76357	285.90775	4.19276	0.2294737	0.27617688	2.3353098	20	—	—
344236 2001 SC_{127}	18.5	X	54.50639	138.42059	186.09987	5.70105	0.3164035	0.26940017	2.3743103	20	—	—
344237 2001 SG_{137}	17.1	X	334.87524	165.32583	190.19152	6.87499	0.1618683	0.25899364	2.4374927	20	9 25.6	19.2
344238 2001 SW_{138}	16.2	X	174.21721	42.68110	340.28049	4.15326	0.1556133	0.18576668	3.0419881	20	3 29.6	21.2
344239 2001 ST_{140}	18.0	X	42.94859	200.53555	194.39041	1.95670	0.2293367	0.27252805	2.3561083	20	—	—
344240 2001 SV_{143}	16.0	X	97.82012	70.56960	281.05705	2.68840	0.1340661	0.17210693	3.2008880	20	—	—

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	m		°	°	°	°		°				
344241 2001 SQ_{145}	15.8	X	158.20158	159.17871	193.61158	12.51799	0.1526607	0.18101239	3.0950228	20	2 7.8	20.9
344242 2001 SA_{147}	17.8	X	38.96460	225.29961	191.53625	3.57471	0.2502998	0.27404106	2.3474280	20	—	—
344243 2001 SO_{147}	17.6	X	113.48412	57.16592	270.68998	3.41230	0.2615464	0.27744569	2.3281845	20	—	—
344244 2001 SD_{148}	17.5	X	347.92589	57.72612	300.47516	3.17010	0.2639273	0.26160309	2.4212565	20	11 11.7	19.2
344245 2001 SQ_{155}	16.0	X	180.79965	11.23940	5.76944	5.33071	0.2961832	0.18519773	3.0482152	20	3 31.4	21.6
344246 2001 SN_{159}	17.2	X	14.03199	186.24608	213.99927	5.09011	0.1217315	0.26942628	2.3741569	20	—	—
344247 2001 SL_{179}	15.0	X	172.55632	324.18191	54.09295	29.18098	0.1769275	0.18118142	3.0930974	20	4 8.9	20.5
344248 2001 SN_{202}	18.0	X	79.10907	158.31098	190.74265	0.74205	0.2012645	0.27423166	2.3463402	20	—	—
344249 2001 SS_{241}	16.0	X	124.03926	9.32610	24.47385	11.92704	0.1235307	0.17873380	3.1212719	20	2 27.7	20.8
344250 2001 SL_{242}	17.4	X	131.72350	295.73609	21.89453	7.14189	0.1397919	0.27645168	2.3337620	20	—	—
344251 2001 SV_{244}	16.3	X	162.06835	308.50202	66.98064	2.89165	0.1786416	0.18267496	3.0762152	20	3 14.1	21.3
344252 2001 ST_{247}	17.8	X	64.20473	190.62945	166.79259	5.59283	0.2412050	0.27154796	2.3617741	20	—	—
344253 2001 SH_{249}	17.4	X	106.87050	285.55479	38.77808	3.17149	0.2079339	0.27400904	2.3476109	20	—	—
344254 2001 SU_{251}	17.0	X	116.36764	277.18886	28.68283	6.64066	0.1340579	0.27186940	2.3599121	20	—	—
344255 2001 SQ_{262}	18.3	X	280.93054	207.25554	192.00949	22.36210	0.0917045	0.36227529	1.9488432	20	9 9.9	20.0
344256 2001 SR_{274}	16.4	X	145.05898	269.86795	159.71890	0.31210	0.1550485	0.18597172	3.0397517	20	4 29.0	21.3
344257 2001 SL_{290}	17.1	X	335.07347	68.85701	309.34743	10.01769	0.2827974	0.26078897	2.4262930	20	11 9.5	18.7
344258 2001 SE_{295}	17.7	X	83.15217	130.67334	185.05466	4.40032	0.2433339	0.27296481	2.3535943	20	—	—
344259 2001 SF_{303}	16.2	X	172.17295	344.38688	358.80166	10.34521	0.0434707	0.18102322	3.0948993	20	2 9.8	20.8
344260 2001 SG_{305}	16.3	X	155.65207	50.46337	352.74136	9.38022	0.1185934	0.18491510	3.0513203	20	4 2.9	21.0
344261 2001 SK_{311}	15.7	X	240.84252	102.64034	250.51813	7.51379	0.1063801	0.19280294	2.9675197	20	4 27.3	20.2
344262 2001 SJ_{313}	15.6	X	89.30507	10.20554	33.15901	16.03409	0.2738789	0.17466803	3.1695219	20	2 23.4	20.3
344263 2001 SZ_{323}	15.9	X	187.61176	132.20523	256.99523	9.59997	0.1378496	0.18764950	3.0216056	20	4 15.9	20.9
344264 2001 SL_{329}	16.4	X	176.50339	230.47747	167.52990	10.15973	0.1159610	0.19019312	2.9946048	20	4 21.1	21.2
344265 2001 SA_{338}	17.5	X	18.76175	238.59928	195.84374	5.54947	0.1011817	0.27513570	2.3411977	20	—	—
344266 2001 SA_{343}	16.5	X	292.30805	120.76374	278.09807	13.77368	0.0697819	0.25808070	2.4432376	20	9 7.5	19.8
344267 2001 SE_{349}	16.1	X	118.24681	33.58098	22.04151	28.02292	0.1587931	0.18004752	3.1060704	20	3 26.1	20.9
344268 2001 SU_{349}	15.8	X	166.72308	44.83473	351.81124	26.29620	0.1880071	0.18529539	3.0471439	20	4 1.5	21.1
344269 2001 SJ_{354}	16.1	X	177.83861	15.13555	21.70520	14.21007	0.2000221	0.18869894	3.0103921	20	4 18.8	21.3
344270 2001 SZ_{354}	17.3	X	73.59770	332.23616	43.35390	7.82506	0.1463056	0.27548614	2.3392118	20	—	—
344271 2001 TE_{19}	16.0	X	131.73299	130.49796	272.73435	15.87811	0.2247357	0.18001115	3.1064887	20	3 13.9	21.3
344272 2001 TR_{45}	17.2	X	15.63344	174.64899	230.20380	5.81537	0.1118386	0.26770605	2.3843166	20	—	—
344273 2001 TD_{48}	16.3	X	120.98905	236.53661	204.46856	5.28415	0.1172399	0.18114637	3.0934965	20	4 15.2	20.8
344274 2001 TQ_{50}	16.0	X	190.64220	294.18250	43.94309	12.50904	0.3199407	0.18460611	3.0547242	20	2 29.4	21.8
344275 2001 TF_{62}	17.5	X	75.30085	196.69931	166.21592	2.18239	0.1969091	0.27319554	2.3522690	20	—	—
344276 2001 TD_{146}	17.4	X	69.73750	314.21044	56.75382	9.31517	0.1802692	0.27384752	2.3485339	20	—	—
344277 2001 TX_{151}	17.3	X	26.53010	319.76966	84.51449	5.49860	0.2314402	0.27006771	2.3703962	20	—	—
344278 2001 TM_{153}	15.7	X	183.94501	319.79701	50.75512	9.91586	0.1573818	0.18486931	3.0518241	20	3 28.9	20.8
344279 2001 TO_{167}	17.0	X	6.14183	347.36207	3.79376	10.50113	0.2988041	0.26174431	2.4203855	20	12 13.7	19.8
344280 2001 TV_{174}	15.8	X	228.63124	217.03530	127.62142	2.93914	0.1734810	0.18960410	3.0008036	20	4 2.6	20.6
344281 2001 TY_{175}	16.1	X	143.89091	94.56971	347.42158	5.34465	0.1909376	0.18674387	3.0313667	20	5 13.4	21.1
344282 2001 TV_{176}	17.9	X	86.15814	351.45031	329.78666	2.05684	0.2514227	0.27212715	2.3584217	20	—	—
344283 2001 TZ_{179}	15.9	X	130.93926	169.76959	247.59690	6.25077	0.1511880	0.18133175	3.0913878	20	3 28.9	20.8
344284 2001 TL_{192}	17.6	X	47.85546	105.63869	278.51462	2.23833	0.2391364	0.27049844	2.3678792	20	—	—
344285 2001 TM_{199}	17.1	X	26.25379	40.86298	48.70455	8.19235	0.2072939	0.27649621	2.3335114	20	—	—
344286 2001 TG_{215}	16.1	X	138.66130	115.36963	236.65818	15.11020	0.3161336	0.17728288	3.1382787	20	1 31.7	21.8
344287 2001 TD_{226}	15.7	X	168.32372	325.91177	44.67425	17.11365	0.2361914	0.18423931	3.0587772	20	3 22.3	21.2
344288 2001 TZ_{251}	15.5	X	83.96367	334.55768	34.71266	11.64874	0.0951427	0.17065822	3.2189773	20	—	—
344289 2001 TX_{254}	15.9	X	245.17002	278.01515	54.42839	11.23019	0.0791933	0.18899567	3.0072404	20	4 14.3	20.4
344290 2001 TV_{256}	17.1	X	75.52673	255.17352	120.91905	6.88049	0.1336826	0.27401487	2.3475776	20	—	—
344291 2001 UQ_{4}	17.8	X	54.30618	296.11763	85.83216	3.50801	0.2331037	0.27214476	2.3583200	20	—	—
344292 2001 UK_{12}	17.0	X	114.08751	12.84428	311.30339	1.64244	0.2243896	0.27473271	2.3434866	20	—	—
344293 2001 US_{23}	16.8	X	72.28611	105.41276	284.33313	6.53189	0.1277571	0.27610312	2.3357257	20	—	—
344294 2001 UQ_{37}	15.9	X	179.10782	34.15909	344.90094	11.64261	0.1657402	0.18586270	3.0409403	20	3 27.7	21.0
344295 2001 UE_{54}	17.3	X	38.39471	220.17824	205.22357	6.50712	0.0956542	0.27506930	2.3415745	20	—	—
344296 2001 UH_{58}	18.1	X	62.15827	82.91670	274.37573	1.07139	0.2345446	0.27119847	2.3638027	20	—	—
344297 2001 UV_{61}	15.5	X	213.43015	278.73328	22.60072	9.69848	0.0819295	0.17929870	3.1147124	20	2 4.8	20.4
344298 2001 UX_{65}	15.4	X	103.42207	207.24229	238.61673	15.86140	0.1843431	0.17701123	3.1414887	20	4 6.6	20.2
344299 2001 UB_{77}	16.1	X	156.58683	277.69409	117.14698	3.19948	0.1675388	0.18164678	3.0878124	20	3 31.4	21.2
344300 2001 US_{86}	18.3	X	329.84010	73.39969	12.13696	2.22707	0.1459530	0.26596711	2.3946981	20	—	—
344301 2001 UM_{87}	18.4	X	73.28605	16.05064	342.65540	4.12114	0.2007725	0.27328929	2.3517310	20	—	—
344302 2001 UA_{103}	18.0	X	54.28455	305.60507	80.38993	2.26907	0.1863473	0.27258510	2.3557795	20	—	—
344303 2001 UN_{111}	16.2	X	156.07690	193.42966	210.32117	15.05951	0.1093320	0.18339248	3.0681861	20	4 4.2	21.0
344304 2001 UR_{114}	16.0	X	153.75368	195.00688	212.36679	5.34107	0.1447434	0.18255873	3.0775206	20	4 9.4	21.0
344305 2001 UZ_{129}	16.0	X	237.86980	104.21394	199.66115	15.97649	0.1502752	0.18475839	3.0530454	20	2 19.8	21.2
344306 2001 UR_{130}	17.7	X	25.09776	215.49679	205.44303	2.81615	0.1683780	0.27144314	2.3623820	20	—	—
344307 2001 UU_{130}	16.5	X	141.49640	279.99465	115.00805	2.37819	0.2119535	0.17990080	3.1077589	20	3 21.1	21.6
344308 2001 UO_{135}	15.6	X	149.57286	356.44219	60.34095	11.35736	0.1156571	0.18236522	3.0796974	20	4 18.8	20.4
344309 2001 UX_{144}	17.6	X	61.68972	320.44860	64.12436	3.05312	0.1764214	0.27240213	2.3568343	20	—	—
344310 2001 UL_{146}	17.9	X	63.55798	164.87890	201.38938	0.75893	0.2049206	0.27069414	2.3667378	20	—	—
344311 2001 UZ_{159}	16.9	X	30.94796	271.14654	64.08291	12.33192	0.2721278	0.26275454	2.4141777	20	12 21.7	20.2
344312 2001 UR_{170}	17.7	X	47.82604	108.99100	249.60716	1.97709	0.2599766	0.26850455	2.3795872	20	—	—
344313 2001 UJ_{177}	15.6	X	147.81200	162.32807	221.58031	9.98597	0.1341816	0.17970148	3.1100565	20	3 3.4	20.6
344314 2001 UO_{194}	16.3	X	139.69291	135.05438	180.04985	2.72491	0.1609780	0.17172213	3.2056679	20	—	—
344315 2001 UL_{199}	15.9	X	271.23899	62.16544	219.82072	6.78648	0.0297303	0.18455420	3.0552970	20	3 14.1	20.2
344316 2001 UD_{201}	16.3	X	184.36934	16.98998	356.99488	6.31093	0.1596679	0.18498431	3.0505592	20	3 28.5	21.3
344317 2001 UK_{202}	15.9	X	199.46486	127.80615	215.80951	8.87097	0.1158249	0.18317635	3.0705991	20	3 4.2	20.8
344318 2001 US_{205}	15.7	X	151.88577	37.57135	28.05132	9.37118	0.1358050	0.18395877	3.0618863	20	4 28.5	20.6
344319 2001 UY_{206}	17.0	X	0.55754	291.51278	170.18432	10.98388	0.1918641	0.27269481	2.3551476	20	—	—
344320 2001 UC_{215}	16.3	X	122.03306	277.55497	148.45170	2.30945	0.1651461	0.17915391	3.1163903	20	4 4.2	21.0

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344321 2001 UF_{221}	17.4	X	23.52742	141.86043	217.01010	4.64541	0.1362445	0.26352641	2.4094613	20	12 24.1	20.4
344322 2001 US_{222}	15.9	X	240.13976	276.06682	41.67441	5.01960	0.1537712	0.18472448	3.0534191	20	3 14.7	20.7
344323 2001 UT_{224}	16.4	X	91.79885	22.67389	313.89783	9.60599	0.1322232	0.26946685	2.3739186	20	—	—
344324 2001 UE_{225}	15.4	X	143.71061	35.38798	30.28123	15.31641	0.2266004	0.17831578	3.1261479	20	4 26.7	20.7
344325 2001 VU_{8}	15.4	X	136.54213	181.49687	246.61035	15.66618	0.1110383	0.18027134	3.1034989	20	4 11.6	20.3
344326 2001 VX_{13}	17.1	X	51.21508	22.92010	8.05872	5.56792	0.2318919	0.27107462	2.3645227	20	—	—
344327 2001 VR_{38}	16.9	X	28.26840	359.29859	53.20892	7.35427	0.1045170	0.26931741	2.3747967	20	—	—
344328 2001 VZ_{39}	16.9	X	10.39528	219.43294	243.06734	9.88740	0.1746260	0.27149470	2.3620830	20	—	—
344329 2001 VZ_{41}	15.3	X	117.98837	172.01542	245.18520	22.70581	0.1682749	0.17601758	3.1533005	20	3 11.3	20.6
344330 2001 VW_{72}	16.7	X	138.67013	190.22635	222.49285	3.02062	0.2132906	0.18173868	3.0867714	20	4 6.8	21.8
344331 2001 VY_{72}	18.3	X	56.48893	120.86351	257.15418	0.48425	0.1886781	0.27204930	2.3588716	20	—	—
344332 2001 VL_{75}	15.8	X	15.39543	267.87749	252.47007	19.55693	0.3178313	0.28195381	2.3033012	20	1 10.8	17.4
344333 2001 VE_{89}	17.4	X	63.17579	77.01228	309.61956	6.34680	0.1331333	0.27304116	2.3531555	20	—	—
344334 2001 VW_{92}	15.4	X	168.13907	288.87547	96.29243	17.91437	0.2297299	0.18129778	3.0917739	20	4 8.9	21.0
344335 2001 VC_{96}	15.7	X	122.83603	254.35127	115.13267	14.41027	0.3086265	0.17413540	3.1759818	20	2 14.9	20.9
344336 2001 VP_{98}	15.1	X	125.06016	42.67581	119.04455	24.60010	0.3838548	0.18258995	3.0771698	20	8 15.4	20.9
344337 2001 VB_{104}	17.4	X	47.68519	8.41140	21.78897	2.77685	0.2146472	0.27048383	2.3679644	20	—	—
344338 2001 VG_{114}	15.4	X	160.85056	124.57289	256.85451	15.40159	0.2225378	0.17939685	3.1135763	20	3 13.7	21.0
344339 2001 VH_{127}	16.2	X	174.35178	285.96810	62.71229	11.53468	0.1300812	0.18065083	3.0991510	20	2 24.7	21.3
344340 2001 VG_{132}	13.7	X	12.48311	92.24841	136.37966	11.05481	0.0112110	0.08237358	5.2313136	20	5 24.2	20.7
344341 2001 WR_{8}	15.8	X	193.23969	281.08945	66.13586	25.60743	0.2920317	0.18227420	3.0807225	20	3 20.7	21.8
344342 2001 WZ_{15}	15.5	X	98.12772	81.19206	279.09836	21.83375	0.3014770	0.27489874	2.3425429	20	—	—
344343 2001 WY_{25}	17.9	X	54.06360	275.38126	122.34818	2.16290	0.1889592	0.27280523	2.3545121	20	—	—
344344 2001 WB_{26}	16.9	X	223.73694	117.86972	54.50844	8.64675	0.1823132	0.26122138	2.4236147	20	11 23.6	20.2
344345 2001 WL_{32}	17.1	X	80.96207	242.83127	104.08768	3.35195	0.2182005	0.27081829	2.3660144	20	—	—
344346 2001 WX_{33}	17.0	X	44.60430	319.77457	79.38000	7.09618	0.1138081	0.27033250	2.3688481	20	—	—
344347 2001 WZ_{34}	17.7	X	338.04538	315.91214	106.17322	3.42516	0.1577487	0.26303585	2.4124561	20	—	—
344348 2001 WS_{48}	15.1	X	95.98508	341.71125	83.98526	17.37490	0.1408801	0.17554357	3.1589744	20	3 11.1	19.9
344349 2001 WX_{54}	15.4	X	55.71402	256.07163	230.10628	25.69308	0.1697368	0.17623844	3.1506654	20	3 20.0	19.8
344350 2001 WQ_{56}	17.5	X	32.51166	114.17959	255.39097	2.04472	0.1917060	0.26638004	2.3922227	20	—	—
344351 2001 WV_{62}	15.9	X	72.57407	225.56532	249.70631	4.30380	0.1110793	0.17697918	3.1418680	20	3 27.2	20.1
344352 2001 WS_{68}	15.7	X	16.77226	81.89404	49.92838	12.14593	0.0473612	0.17352624	3.1834103	20	1 30.9	20.2
344353 2001 WN_{74}	16.4	X	195.60040	289.42529	60.62841	5.20369	0.1871741	0.18270395	3.0758897	20	3 13.5	21.6
344354 2001 WP_{75}	18.1	X	42.79143	207.80371	183.07880	0.98680	0.1800097	0.26986811	2.3715649	20	—	—
344355 2001 WK_{81}	17.3	X	59.59956	212.41122	164.99715	1.58516	0.1962392	0.27025585	2.3692960	20	—	—
344356 2001 WV_{84}	16.5	X	91.38099	5.56136	96.35422	2.51356	0.1685690	0.17714995	3.1398485	20	4 15.2	20.9
344357 2001 WP_{90}	15.9	X	138.30594	68.61294	6.23016	7.13285	0.1533053	0.18144979	3.0900469	20	4 26.9	20.8
344358 2001 XD_{20}	15.7	X	106.41333	162.95805	305.12144	9.65568	0.1785149	0.17706708	3.1408280	20	5 6.7	20.6
344359 2001 XH_{32}	16.0	X	187.52631	143.45425	244.65272	8.09213	0.1315755	0.18395186	3.0619629	20	4 15.6	21.0
344360 2001 XX_{32}	18.3	X	51.88439	295.33884	95.07135	2.17058	0.1851092	0.27099501	2.3649857	20	—	—
344361 2001 XC_{36}	15.5	X	168.18112	91.86715	278.92042	14.62613	0.2526054	0.18016745	3.1046917	20	3 7.8	21.2
344362 2001 XQ_{76}	17.3	X	43.00021	106.83373	279.33386	5.33823	0.2718044	0.26862517	2.3788748	20	—	—
344363 2001 XZ_{94}	15.1	X	128.23457	8.02562	67.53315	29.29456	0.1368573	0.17967972	3.1103076	20	4 30.0	20.2
344364 2001 XX_{96}	14.6	X	163.69280	116.09670	265.37000	15.45535	0.2502895	0.17991603	3.1075835	20	3 16.6	20.3
344365 2001 XL_{110}	17.0	X	27.68659	335.21372	93.04791	7.01133	0.1668833	0.27102015	2.3648395	20	—	—
344366 2001 XE_{120}	17.2	X	67.47003	304.65326	69.16687	7.68497	0.1313100	0.27259554	2.3557194	20	—	—
344367 2001 XZ_{123}	16.5	X	137.99282	301.66677	119.49763	1.93215	0.1736521	0.18000044	3.1066119	20	4 14.7	21.4
344368 2001 XF_{125}	16.1	X	139.35436	324.61347	94.60502	2.22317	0.1789951	0.18029319	3.1032482	20	4 14.1	21.0
344369 2001 XN_{129}	17.7	X	53.12501	138.13963	241.75859	4.13482	0.2028514	0.26938321	2.3744099	20	—	—
344370 2001 XT_{137}	17.5	X	60.10476	166.84611	191.92410	2.12695	0.2143214	0.26747740	2.3856752	20	—	—
344371 2001 XP_{143}	18.0	X	58.52203	220.08896	154.02258	2.50668	0.2147535	0.27001856	2.3706838	20	—	—
344372 2001 XZ_{143}	17.1	X	28.84006	340.50820	87.02906	7.96155	0.0920353	0.26978968	2.3720245	20	—	—
344373 2001 XU_{149}	15.4	X	285.73381	5.53000	259.29246	8.34010	0.0253588	0.17598083	3.1537394	20	3 10.1	20.1
344374 2001 XO_{154}	15.5	X	133.06552	326.92933	85.69602	10.54817	0.0861319	0.17564374	3.1577732	20	3 27.4	20.3
344375 2001 XQ_{169}	17.3	X	21.36003	287.79379	138.50473	2.88738	0.1712164	0.26777850	2.3838865	20	—	—
344376 2001 XJ_{201}	15.6	X	89.33249	235.69584	219.46038	15.39800	0.1045104	0.18060744	3.0996474	20	3 21.1	20.1
344377 2001 XD_{203}	16.9	X	45.18462	272.92388	118.93924	6.12100	0.1542724	0.26985180	2.3716604	20	—	—
344378 2001 XK_{203}	17.4	X	34.86390	300.80074	117.44107	5.53889	0.2151743	0.27115957	2.3640288	20	—	—
344379 2001 XD_{212}	17.1	X	47.83417	230.36293	152.77891	3.75233	0.2014030	0.26808580	2.3820645	20	—	—
344380 2001 XO_{214}	14.9	X	159.94570	150.30999	267.01769	26.99190	0.1614205	0.17931706	3.1144998	20	4 23.1	20.4
344381 2001 XQ_{216}	15.4	X	150.70970	308.02964	83.03307	22.40900	0.2666038	0.17805718	3.1291740	20	4 7.5	21.2
344382 2001 XX_{217}	15.8	X	158.64042	153.70479	235.79706	16.50860	0.2175169	0.18268891	3.0760585	20	3 23.0	21.2
344383 2001 XH_{224}	15.7	X	167.19980	105.06376	252.13403	11.85819	0.1294615	0.17667214	3.1455071	20	2 17.8	20.9
344384 2001 XT_{231}	15.7	X	85.15887	47.83771	66.49937	12.32363	0.0851230	0.17747355	3.1360306	20	4 14.9	20.2
344385 2001 XW_{232}	15.4	X	119.62954	21.21833	62.71072	12.39840	0.1481430	0.17836388	3.1255859	20	4 24.3	20.2
344386 2001 XM_{233}	15.1	X	198.00590	80.69334	258.42265	21.22411	0.1076848	0.17717544	3.1395473	20	2 19.7	20.5
344387 2001 XN_{248}	18.2	X	13.84758	128.25558	282.25315	0.71530	0.1675373	0.26358677	2.4090934	20	—	—
344388 2001 XF_{258}	15.7	X	140.27463	335.39618	82.22150	18.75729	0.1824525	0.17990712	3.1076861	20	4 21.2	21.0
344389 2001 XQ_{260}	16.4	X	110.00312	11.99437	86.36891	6.51361	0.2353487	0.17967540	3.1103574	20	5 9.6	21.3
344390 2001 XG_{267}	15.6	X	49.32875	86.15706	81.29631	17.79657	0.2132278	0.17254356	3.1954857	20	5 19.8	19.6
344391 2001 YQ_{37}	15.4	X	96.62982	34.84194	78.93983	17.94883	0.0938630	0.17852071	3.1237551	20	5 1.4	20.1
344392 2001 YG_{44}	15.0	X	141.90428	102.68552	268.69078	24.56476	0.1061921	0.17225568	3.1990450	20	2 3.6	20.2
344393 2001 YV_{77}	16.7	X	31.52471	300.29215	94.41480	7.45018	0.2437612	0.26554419	2.3972400	20	—	—
344394 2001 YM_{80}	15.3	X	100.47454	223.70520	282.47400	11.84443	0.2074562	0.17846380	3.1244191	20	6 23.5	20.0
344395 2001 YT_{87}	17.3	X	273.83522	106.40290	335.60077	2.76142	0.1649464	0.25261335	2.4783645	20	10 2.3	20.0
344396 2001 YS_{124}	15.3	X	170.67113	336.49532	28.17824	5.88647	0.3508887	0.17992210	3.1075137	20	3 14.7	21.0
344397 2001 YM_{129}	17.0	X	14.57496	29.97258	33.21738	6.22510	0.0992707	0.26733397	2.3865285	20	—	—
344398 2001 YU_{144}	15.2	X	96.62001	343.99886	96.38057	26.75974	0.1336176	0.17145066	3.2090509	20	4 3.7	20.4
344399 2002 AH_{4}	16.0	X	81.09778	95.75316	44.48279	24.51393	0.3907248	0.17392224	3.1785763	20	6 13.8	21.2
344400 2002 AA_{7}	16.0	X	82.35346	353.36545	261.35732	12.73684	0.1297311	0.24449573	2.5329222	20	10 11.4	19.9

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	m		°	°	°	°		°				
344401 2002 AJ_{22}	16.2	X	159.78284	148.16423	310.88285	12.03715	0.1292155	0.23339357	2.6126233	20	6 18.1	20.4
344402 2002 AS_{25}	16.5	X	3.63863	157.40950	265.02030	6.01376	0.1057991	0.26104070	2.4247329	20	—	—
344403 2002 AN_{33}	17.2	X	9.52067	314.40448	88.60348	4.97883	0.1551756	0.26031458	2.4292398	20	—	—
344404 2002 AG_{44}	15.9	X	121.68503	307.54074	120.86223	9.47175	0.1749556	0.17445008	3.1721613	20	4 11.5	20.9
344405 2002 AQ_{88}	14.8	X	13.45887	269.68633	276.53224	21.59464	0.1243368	0.17165477	3.2065065	20	3 17.7	19.3
344406 2002 AS_{107}	17.2	X	224.36464	88.67284	101.76917	2.31440	0.1307750	0.25625132	2.4548520	20	12 24.7	20.4
344407 2002 AN_{127}	17.1	X	38.31438	328.68606	115.68710	3.10640	0.1803987	0.27037692	2.3685886	20	—	—
344408 2002 AU_{137}	16.0	X	82.40182	203.90527	257.22894	3.38514	0.1427292	0.17241787	3.1970385	20	3 27.9	20.4
344409 2002 AB_{148}	15.4	X	87.66351	97.61732	351.55251	10.65477	0.1310463	0.17150120	3.2084205	20	3 18.9	19.9
344410 2002 AD_{148}	16.0	X	226.72719	112.00994	312.65111	21.83115	0.1379387	0.24283114	2.5444844	20	7 15.5	19.9
344411 2002 AP_{163}	17.0	X	333.70191	142.88976	307.84572	4.28982	0.1244930	0.25942572	2.4347854	20	—	—
344412 2002 AP_{171}	16.8	X	135.44770	108.97225	91.73779	3.45195	0.1241402	0.24478243	2.5309441	20	10 4.6	20.7
344413 2002 BC	15.6	X	128.94748	335.79955	86.97739	18.26296	0.2046974	0.17366592	3.1817030	20	4 19.3	21.0
344414 2002 BF_{14}	17.5	X	306.88552	345.86255	163.10667	3.65705	0.1810342	0.26171647	2.4205572	20	—	—
344415 2002 BO_{28}	15.2	X	133.77648	332.42171	76.45475	18.47492	0.2355415	0.17440119	3.1727542	20	4 10.2	20.7
344416 2002 BV_{30}	16.8	X	318.09114	55.51945	70.61392	24.21591	0.2020784	0.26034233	2.4290672	20	—	—
344417 2002 CK_{17}	17.4	X	262.81786	84.93668	81.91394	3.18335	0.1489314	0.25883435	2.4384926	20	—	—
344418 2002 CY_{35}	16.4	X	117.41820	308.79584	129.98095	8.01697	0.2983760	0.17445446	3.1721082	20	4 30.5	21.8
344419 2002 CU_{37}	15.4	X	9.73004	242.22989	328.91876	12.25834	0.1118110	0.17107505	3.2137464	20	4 19.6	19.6
344420 2002 CG_{68}	16.3	X	76.59461	103.70245	2.75242	14.04463	0.2704025	0.16970228	3.2310544	20	4 13.1	20.7
344421 2002 CL_{182}	17.4	X	199.88361	59.31742	141.20866	1.14808	0.1396058	0.25270980	2.4777339	20	12 6.7	21.0
344422 2002 CK_{201}	17.0	X	200.20737	84.97212	122.76120	3.01218	0.0288617	0.25425662	2.4676745	20	12 30.6	20.1
344423 2002 CK_{207}	17.0	X	24.94635	290.64814	127.08541	3.48277	0.1713145	0.26240391	2.4163278	20	—	—
344424 2002 CO_{233}	16.6	X	208.23345	119.19193	305.99322	14.45490	0.0410342	0.23692801	2.5865752	20	7 1.0	20.2
344425 2002 CC_{234}	16.2	X	115.99597	99.62143	331.78457	24.90627	0.3752452	0.17478131	3.1681523	20	4 10.7	22.1
344426 2002 CF_{258}	15.1	X	97.83394	308.39651	136.73482	22.69776	0.1947014	0.17208383	3.2011745	20	4 12.2	20.2
344427 2002 CS_{275}	18.1	X	344.09039	312.50039	137.56595	1.74001	0.1566200	0.26148161	2.4220064	20	—	—
344428 2002 DD	17.7	X	9.04680	46.89283	33.35773	1.65260	0.1595891	0.26314469	2.4117909	20	—	—
344429 2002 EP_{43}	16.9	X	129.69732	208.92229	344.42899	4.91562	0.2420348	0.23751880	2.5822843	20	9 20.7	21.3
344430 2002 ES_{100}	16.2	X	115.20236	163.87318	0.84520	15.06956	0.1042259	0.23370914	2.6102709	20	7 29.6	20.3
344431 2002 EA_{114}	16.5	X	40.48195	209.64898	130.18565	2.54204	0.1449678	0.24721866	2.5142891	20	12 18.3	19.7
344432 2002 EZ_{115}	17.0	X	295.19990	100.01091	39.22723	10.44216	0.2187367	0.25678414	2.4514550	20	—	—
344433 2002 EL_{157}	17.3	X	117.49502	239.12308	334.70687	8.36696	0.1611506	0.23912956	2.5706752	20	9 29.8	21.4
344434 2002 FJ_{37}	16.1	X	206.48214	89.36458	26.97206	15.37340	0.0583055	0.24337059	2.5407230	20	9 11.1	19.8
344435 2002 FD_{38}	12.9	X	78.81349	259.10781	11.61276	18.58277	0.0255111	0.08073368	5.3019163	20	9 26.8	19.9
344436 2002 GE_{12}	16.5	X	134.40400	179.59129	33.85661	13.81183	0.2665138	0.23846875	2.5754220	20	10 20.6	21.0
344437 2002 GF_{87}	16.2	X	97.11546	211.78786	56.95463	11.06537	0.0866320	0.24049784	2.5609156	20	11 14.9	19.9
344438 2002 GR_{114}	17.1	X	151.24454	136.89636	70.43498	5.32041	0.1460464	0.24153869	2.5535532	20	10 27.4	21.2
344439 2002 GY_{116}	16.8	X	135.03077	148.12769	85.41879	6.20800	0.1151393	0.24144963	2.5541811	20	11 13.0	20.7
344440 2002 GU_{126}	17.0	X	79.72597	231.10514	32.35117	4.73617	0.1160277	0.23589673	2.5941083	20	10 21.9	20.6
344441 2002 GN_{170}	16.7	X	73.82698	247.33246	2.91123	7.92935	0.1244713	0.23442366	2.6049642	20	9 28.5	20.1
344442 2002 GX_{181}	15.9	X	333.25083	195.73995	203.73215	13.50651	0.1139344	0.24292353	2.5438392	20	11 22.6	18.7
344443 2002 GL_{189}	16.5	X	334.69826	299.20991	72.48532	4.76548	0.0849527	0.23781709	2.5801246	20	10 15.2	19.4
344444 2002 HM_{3}	16.3	X	106.19012	157.69893	59.92792	14.72848	0.2049914	0.23459991	2.6036593	20	10 6.5	20.7
344445 2002 HQ_{7}	16.7	X	47.50376	37.38783	203.45218	14.28092	0.2231160	0.22725881	2.6594320	20	8 22.4	20.3
344446 2002 JO_{54}	16.1	X	310.08370	168.65557	44.12308	7.36591	0.2015274	0.20925135	2.8098978	20	1 12.4	20.0
344447 2002 JU_{78}	17.1	X	114.05739	359.25186	229.54771	3.20710	0.1750540	0.23716636	2.5848419	20	10 17.9	21.4
344448 2002 JO_{95}	16.4	X	107.31779	334.07523	244.17415	13.44679	0.2239007	0.23287794	2.6164784	20	9 27.1	21.0
344449 2002 JB_{106}	16.6	X	62.09085	187.43809	65.23252	6.10769	0.2288738	0.22893007	2.6464731	20	10 4.3	20.4
344450 2002 JJ_{120}	16.1	X	86.88744	111.81456	113.28784	13.83380	0.1039590	0.23234040	2.6205125	20	9 13.7	20.0
344451 2002 JM_{123}	16.2	X	53.68913	193.87069	77.49032	13.67084	0.1680933	0.23205390	2.6226689	20	10 14.7	20.0
344452 2002 KF_{13}	16.9	X	24.48866	42.22858	210.52563	4.19530	0.2194082	0.22348978	2.6892485	20	8 1.7	19.6
344453 2002 LE_{29}	15.3	X	277.55808	67.84272	268.12119	18.90976	0.2716270	0.21095346	2.7947627	20	4 21.4	19.8
344454 2002 LL_{42}	16.5	X	48.54796	31.78406	233.34593	13.35920	0.2179594	0.22750289	2.6575296	20	9 24.7	20.3
344455 2002 LE_{47}	16.1	X	111.01288	91.22243	137.45304	11.79551	0.1404318	0.23288003	2.6164627	20	10 17.4	20.3
344456 2002 LZ_{51}	16.7	X	89.76950	138.83951	111.17500	6.83639	0.2075490	0.23297705	2.6157363	20	10 27.1	20.9
344457 2002 MX_{3}	16.0	X	338.01923	72.66105	229.27489	8.14139	0.3084966	0.21793250	2.7347736	20	6 17.9	18.0
344458 2002 MT_{6}	16.8	X	339.86874	27.68822	243.60595	2.64804	0.1452506	0.21445986	2.7642164	20	5 22.9	19.6
344459 2002 MW_{6}	17.5	X	146.17301	348.79668	272.07486	4.70744	0.2224941	0.29449077	2.2374582	20	12 31.7	21.1
344460 2002 NH_{20}	17.9	X	258.49472	45.64423	234.09287	6.11960	0.1975976	0.31294858	2.1485925	20	1 26.2	21.2
344461 2002 NK_{56}	16.2	X	351.13148	341.95838	287.86620	7.81011	0.1108730	0.21508300	2.7588748	20	6 13.0	19.3
344462 2002 ND_{63}	17.0	X	359.34718	314.01864	331.67806	3.61536	0.0836828	0.21879587	2.7275746	20	7 21.3	20.0
344463 2002 NX_{65}	17.1	X	282.86409	65.29954	256.57918	5.88786	0.2494993	0.21130296	2.7916802	20	4 15.4	21.2
344464 2002 NK_{76}	16.7	X	328.60119	81.43455	230.80172	5.35970	0.0283933	0.21585565	2.7522873	20	7 9.4	20.4
344465 2002 NB_{79}	16.9	X	340.13872	209.78578	90.43235	10.50477	0.1025157	0.21801711	2.7340660	20	7 8.0	20.0
344466 2002 OF_{7}	17.0	X	292.89510	106.24586	224.65246	7.04393	0.2547808	0.21186356	2.7867534	20	5 10.7	20.8
344467 2002 OK_{7}	16.0	X	239.91589	139.28336	250.58697	8.32291	0.2272908	0.20925616	2.8098548	20	5 31.9	20.3
344468 2002 OT_{36}	16.3	X	351.03097	196.25480	78.30858	7.91003	0.0799978	0.21422470	2.7662389	20	6 20.1	19.4
344469 2002 OA_{37}	16.8	X	194.10478	350.12599	328.73513	0.63256	0.1192375	0.19645921	2.9305859	20	2 1.1	21.2
344470 2002 PQ_{4}	16.3	X	331.65381	60.48609	206.89318	7.58724	0.1478634	0.21141737	2.7906729	20	5 2.6	19.3
344471 2002 PN_{59}	16.2	X	47.73436	45.36238	338.90615	26.52331	0.2223166	0.28902356	2.2655860	20	—	—
344472 2002 PR_{93}	15.9	X	171.49898	331.62553	356.92244	14.29425	0.2052119	0.19280924	2.9674551	20	1 31.7	21.1
344473 2002 PM_{109}	16.2	X	248.81031	52.34514	285.96222	14.16443	0.1619258	0.20597125	2.8396510	20	4 5.5	20.9
344474 2002 PN_{113}	15.0	X	236.56107	128.88968	254.59418	13.94462	0.4297304	0.20384645	2.8593498	20	5 6.3	20.5
344475 2002 PG_{118}	17.8	X	136.30888	132.40220	239.91841	4.95363	0.1730963	0.30289716	2.1958664	20	1 29.5	20.7
344476 2002 PX_{143}	17.1	X	196.77586	168.12396	284.66837	2.01132	0.0573621	0.21729196	2.7401454	20	7 20.0	20.8
344477 2002 PB_{160}	16.1	X	342.20597	139.53012	124.70508	13.40315	0.0915944	0.21178965	2.7874017	20	5 25.4	19.7
344478 2002 PY_{165}	16.6	X	331.07794	171.21609	135.77289	4.01961	0.0798190	0.21416279	2.7667720	20	7 3.0	19.8
344479 2002 PR_{168}	16.6	X	245.09003	233.82854	136.94261	4.65164	0.1127317	0.20940049	2.8085636	20	5 25.8	20.7
344480 2002 PE_{170}	16.8	X	200.68296	38.01375	357.44164	1.46434	0.0797202	0.20661388	2.8337599	20	5 9.5	21.1

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	m		°	°	°	°		°				
344481 2002 PH_{177}	16.4	X	265.57428	332.11572	22.92734	4.62679	0.0859092	0.21250395	2.7811519	20	5 31.8	20.2
344482 2002 PN_{184}	16.5	X	236.79629	217.02394	150.44367	7.06640	0.0684323	0.20878003	2.8141252	20	5 17.9	20.7
344483 2002 PM_{197}	18.5	X	175.28526	86.84580	247.61910	2.01344	0.1910925	0.30594835	2.1812426	20	1 23.8	21.6
344484 2002 PP_{197}	16.6	X	241.28649	227.84249	190.23374	4.04108	0.0959345	0.21777089	2.7361265	20	7 22.6	20.5
344485 2002 PW_{197}	16.6	X	265.37073	77.36217	277.54144	5.75446	0.0564943	0.21308174	2.7761220	20	6 5.3	20.4
344486 2002 QU_{16}	16.6	X	315.08427	85.73156	213.90346	7.02199	0.1944774	0.21132976	2.7914441	20	5 12.2	19.7
344487 2002 QR_{48}	18.2	X	137.73998	240.62250	110.74629	3.10070	0.2137232	0.30133108	2.2034681	20	1 10.8	21.1
344488 2002 QO_{68}	16.9	X	41.08645	257.91632	352.69762	4.43733	0.0107975	0.21535331	2.7565657	20	7 29.4	20.7
344489 2002 QP_{71}	18.2	X	65.56507	92.01897	344.17881	1.48589	0.0957559	0.30213215	2.1995715	20	1 2.1	19.9
344490 2002 QZ_{76}	18.0	X	124.25481	231.65471	161.62304	5.50848	0.1461777	0.30392277	2.1909235	20	2 9.0	20.7
344491 2002 QU_{79}	16.6	X	55.68686	244.68967	5.80699	4.90753	0.1165161	0.22010184	2.7167745	20	9 3.9	20.1
344492 2002 QU_{84}	16.6	X	274.40542	266.49767	76.79610	5.76379	0.0843503	0.20960752	2.8067139	20	5 28.9	20.5
344493 2002 QJ_{85}	17.0	X	303.86916	38.68016	266.49455	2.50609	0.1613231	0.21089212	2.7953046	20	5 5.9	20.5
344494 2002 QQ_{94}	18.3	X	92.87155	140.93341	195.96189	5.48558	0.2088133	0.29210703	2.2496142	20	—	—
344495 2002 QF_{102}	15.8	X	312.72912	8.57300	342.65612	10.72707	0.2065663	0.21699570	2.7426389	20	7 23.1	18.7
344496 2002 QW_{105}	16.4	X	248.68642	330.17642	56.00932	3.80760	0.1580377	0.21031443	2.8004210	20	6 12.1	20.5
344497 2002 QL_{113}	16.8	X	271.80077	90.86454	258.85818	7.50225	0.1870441	0.21017516	2.8016580	20	5 18.3	20.9
344498 2002 QX_{114}	17.1	X	261.44492	152.80649	212.39524	3.81797	0.0878108	0.21091058	2.7951416	20	6 9.7	21.1
344499 2002 QF_{115}	16.6	X	194.59801	130.33161	333.02521	12.13699	0.1196844	0.21609600	2.7502462	20	7 30.4	20.9
344500 2002 QH_{121}	18.7	X	160.32960	171.36520	190.88966	3.41015	0.2012582	0.30513406	2.1851215	20	2 14.4	21.9
344501 2002 QN_{132}	17.3	X	283.67288	322.98066	24.58110	3.55606	0.1053013	0.21325183	2.7746458	20	6 12.5	20.9
344502 2002 QW_{139}	15.9	X	268.06022	350.78550	343.89446	8.60008	0.0855899	0.20922634	2.8101218	20	5 5.6	20.0
344503 2002 QS_{141}	16.1	X	140.79209	60.57925	307.90313	18.46731	0.1985623	0.19156763	2.9802632	20	2 12.5	20.9
344504 2002 QG_{144}	17.5	X	288.68654	241.42200	95.97544	2.71753	0.0922939	0.21127065	2.7919648	20	6 8.3	21.2
344505 2002 QJ_{149}	16.3	X	115.18595	352.27864	271.22186	3.57256	0.0804804	0.23145011	2.6272282	20	11 25.1	20.2
344506 2002 QN_{152}	17.8	X	147.11386	358.33849	33.75183	4.41519	0.1631489	0.30723274	2.1751592	20	3 10.0	20.8
344507 2002 RZ_{10}	17.5	X	157.46790	45.24507	333.83169	6.05887	0.1915209	0.30640886	2.1790565	20	3 3.7	20.5
344508 2002 RQ_{78}	18.2	X	186.76994	113.34370	228.28924	1.37176	0.1986540	0.30623307	2.1798904	20	2 12.5	21.5
344509 2002 RL_{80}	16.8	X	148.27089	191.78652	168.64684	21.08371	0.2107620	0.30185564	2.2009146	20	1 31.3	20.3
344510 2002 RT_{82}	17.8	X	171.25706	178.35368	169.08506	6.23674	0.2035500	0.30383519	2.1913445	20	2 5.9	21.2
344511 2002 RG_{85}	17.7	X	184.47857	331.72775	339.96052	2.94166	0.2078296	0.30177329	2.2013150	20	1 6.1	21.0
344512 2002 RM_{128}	16.6	X	316.75747	80.08795	225.54932	12.16256	0.2117804	0.21241287	2.7819468	20	5 20.7	19.8
344513 2002 RE_{140}	16.0	X	270.34109	273.49037	56.10859	12.45565	0.1920218	0.20615415	2.8379712	20	4 23.9	20.2
344514 2002 RQ_{224}	16.4	X	207.81454	312.80653	89.77206	8.15536	0.2982428	0.20357277	2.8619119	20	5 19.2	21.7
344515 2002 RA_{242}	16.1	X	258.16248	96.95442	294.61935	4.97530	0.0536134	0.21331857	2.7740669	20	7 15.7	19.8
344516 2002 RW_{248}	16.9	X	286.82806	159.14959	165.64617	4.55213	0.1075009	0.20890193	2.8130304	20	5 18.5	20.7
344517 2002 RX_{269}	16.6	X	203.13694	298.10486	133.28923	4.34063	0.1057676	0.21048404	2.7989164	20	6 26.3	20.9
344518 2002 RU_{277}	18.2	X	142.96203	114.58962	273.32063	5.72144	0.1806771	0.30470557	2.1871695	20	2 26.3	21.3
344519 2002 RH_{293}	16.5	X	222.68312	244.13615	187.58732	14.70231	0.1080953	0.21405138	2.7677319	20	7 15.6	20.9
344520 2002 SF_{2}	18.4	X	139.80132	155.79520	168.08954	5.51694	0.2674775	0.29669353	2.2263699	20	—	—
344521 2002 SY_{10}	16.4	X	201.59934	228.92786	191.90929	9.78795	0.1319311	0.20412892	2.8567114	20	6 10.4	21.0
344522 2002 SB_{20}	16.3	X	217.00282	186.09056	181.07193	13.99477	0.1860238	0.20157258	2.8808131	20	4 18.8	21.1
344523 2002 SB_{41}	16.6	X	68.37277	266.76777	59.83384	7.09051	0.1431309	0.28331186	2.2959348	20	—	—
344524 2002 TK_{6}	16.6	X	212.06858	327.03888	74.09763	3.21380	0.2514496	0.20286443	2.8685699	20	5 20.9	21.7
344525 2002 TJ_{92}	18.1	X	75.94158	236.68006	189.71190	1.36436	0.1552607	0.29732452	2.2232189	20	1 14.1	19.8
344526 2002 TD_{110}	15.8	X	247.13921	278.87111	78.93806	10.91270	0.2674487	0.20497110	2.8488809	20	4 29.2	20.7
344527 2002 TZ_{135}	15.6	X	65.79514	101.34965	321.56465	8.42543	0.2112201	0.18170618	3.0871395	20	1 27.7	19.2
344528 2002 TK_{149}	17.0	X	249.85538	351.43572	11.21080	1.94066	0.0816108	0.20558537	2.8432033	20	5 23.2	21.0
344529 2002 TG_{159}	15.6	X	117.57409	277.41342	91.05915	11.18391	0.1636800	0.18464490	3.0542964	20	1 21.8	20.1
344530 2002 TZ_{163}	15.5	X	271.15463	264.08233	90.62405	15.81878	0.1746958	0.20572643	2.8419034	20	5 28.8	19.7
344531 2002 TE_{231}	15.4	X	272.99580	288.28572	68.81867	10.34023	0.2054333	0.20983597	2.8046764	20	5 27.5	19.4
344532 2002 TH_{237}	17.9	X	44.54880	121.42797	272.82005	6.39885	0.3108485	0.28704925	2.2759625	20	—	—
344533 2002 TJ_{245}	16.3	X	255.60093	289.42787	54.34872	8.82219	0.2206760	0.20374645	2.8602853	20	4 22.3	20.8
344534 2002 TJ_{313}	16.1	X	137.33864	200.42535	155.55048	10.98560	0.1756134	0.18592565	3.0402539	20	1 26.5	20.9
344535 2002 TD_{329}	17.0	X	314.33793	214.28575	61.68402	2.78817	0.0317634	0.20256427	2.8714031	20	5 2.1	20.6
344536 2002 TV_{332}	17.1	X	82.02005	36.93713	131.53480	2.92733	0.0100538	0.20445722	2.8536525	20	6 2.9	20.9
344537 2002 TZ_{374}	16.0	X	191.04906	294.86760	106.86549	11.64119	0.1320483	0.19932143	2.9024632	20	5 11.0	20.8
344538 2002 TV_{377}	17.8	X	80.19115	31.82846	20.40052	4.10514	0.1681763	0.29676282	2.2260234	20	1 3.4	19.6
344539 2002 TN_{385}	18.2	X	66.22519	52.32084	22.66006	5.44342	0.1168952	0.29534688	2.2331323	20	1 5.8	20.2
344540 2002 TS_{385}	16.9	X	157.70250	229.66599	21.62069	9.57756	0.1408869	0.28351230	2.2948525	20	—	—
344541 2002 UW_{51}	16.6	X	272.53611	164.57474	216.96041	13.55042	0.1585494	0.21364672	2.7712257	20	7 2.9	20.6
344542 2002 VU_{10}	17.6	X	134.15455	134.99050	238.71791	2.54496	0.2474207	0.29840957	2.2178264	20	2 8.6	20.7
344543 2002 VA_{18}	16.2	X	215.34974	174.32820	221.18027	5.95162	0.1563587	0.20116026	2.8847482	20	5 21.7	20.7
344544 2002 VP_{54}	17.1	X	174.13095	37.67542	293.29314	7.37883	0.2156265	0.30004842	2.2097433	20	1 20.9	20.6
344545 2002 VJ_{74}	16.2	X	210.90235	243.88192	151.85280	4.37125	0.1623885	0.20068112	2.8893381	20	5 18.4	20.9
344546 2002 VK_{78}	15.5	X	240.67219	277.91073	62.74122	24.81546	0.1794709	0.19745086	2.9207656	20	4 18.0	20.5
344547 2002 VM_{86}	18.0	X	124.65448	18.34933	1.62688	2.61844	0.2238887	0.29762198	2.2217374	20	2 5.3	20.7
344548 2002 VK_{95}	17.7	X	125.77945	292.11614	86.74655	6.26675	0.1752134	0.29783845	2.2206607	20	1 29.6	20.4
344549 2002 VJ_{98}	17.5	X	172.01960	294.19673	36.47517	4.88354	0.2202264	0.29852043	2.2172773	20	1 20.8	21.0
344550 2002 VP_{104}	17.4	X	205.29097	89.72000	264.04252	3.61826	0.1669054	0.30582930	2.1818087	20	3 13.5	20.7
344551 2002 VJ_{122}	17.3	X	16.16193	238.49158	247.76626	20.61022	0.3644029	0.28936767	2.2637895	20	—	—
344552 2002 VM_{139}	16.4	X	207.32528	78.26199	329.58146	4.17946	0.1105749	0.20035392	2.8924830	20	5 30.6	21.0
344553 2002 VS_{147}	17.5	X	134.32673	263.99448	95.34458	5.92513	0.1828145	0.29653920	2.2271424	20	1 14.2	20.2
344554 2002 WG_{19}	17.4	X	123.74486	174.55336	224.62089	6.44384	0.0699711	0.29765497	2.2215732	20	2 3.7	20.1
344555 2002 WN_{22}	17.6	X	302.90250	80.75023	104.87823	3.50149	0.0987640	0.29023163	2.2592947	20	—	—
344556 2002 WF_{25}	14.0	X	336.46119	218.01654	53.02496	4.92587	0.0489540	0.08483427	5.1296589	20	5 25.4	20.6
344557 2002 WU_{31}	17.3	X	90.93815	130.45452	236.31200	6.32906	0.1700556	0.28865378	2.2675205	20	—	—
344558 2002 XQ_{13}	16.0	X	127.65794	258.99942	118.18102	10.71506	0.2221760	0.18414290	3.0598448	20	2 18.6	20.8
344559 2002 XF_{16}	17.3	X	51.17721	136.92262	324.03572	8.17865	0.1321562	0.29454422	2.2371875	20	1 18.4	19.1
344560 2002 XK_{31}	17.1	X	77.32289	160.07351	284.78149	4.66648	0.1218527	0.29561937	2.2317598	20	2 8.3	19.3

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344561 2002 XA_{32}	17.7	X	29.10502	163.66757	273.45869	10.14003	0.2080573	0.28694422	2.2765178	20	—	—
344562 2002 XZ_{33}	17.4	X	151.45404	334.62414	10.72494	6.56555	0.2047000	0.29697076	2.2249842	20	1 19.1	20.6
344563 2002 XS_{35}	16.9	X	79.11889	185.27125	255.54029	6.87240	0.0998418	0.29551113	2.2323048	20	1 31.9	19.3
344564 2002 XX_{40}	15.2	X	38.04889	131.72269	300.39141	13.56259	0.2040441	0.17549061	3.1596098	20	—	—
344565 2002 XT_{41}	17.5	X	100.65771	312.67905	47.30086	7.73447	0.2457252	0.29004909	2.2602425	20	—	—
344566 2002 XY_{42}	17.5	X	117.69829	335.29594	68.23456	6.83951	0.1570929	0.29744708	2.2226082	20	2 21.4	20.3
344567 2002 XB_{46}	15.3	X	113.84331	128.71303	269.74344	3.73302	0.3454518	0.18373486	3.0643733	20	3 10.6	20.4
344568 2002 XX_{50}	17.4	X	76.74622	331.67214	85.50120	6.73076	0.1501915	0.29177007	2.2513459	20	1 2.7	19.1
344569 2002 XL_{116}	15.8	X	19.39495	102.48565	36.26838	5.56685	0.1161113	0.17070354	3.2184075	20	2 11.0	19.7
344570 2002 XD_{119}	17.7	X	137.37126	96.21080	263.42241	4.49906	0.1765920	0.29585201	2.2305897	20	1 16.5	20.5
344571 2002 XP_{119}	15.5	X	142.80631	274.17754	66.23760	10.66584	0.0728022	0.18023165	3.1039545	20	1 5.3	20.1
344572 2003 AM_{15}	17.2	X	36.11108	330.53718	79.41089	6.72967	0.1592324	0.28310836	2.2970348	20	—	—
344573 2003 AV_{16}	15.5	X	179.93596	95.00463	296.25026	9.50029	0.1229762	0.18962203	3.0006144	20	4 9.2	20.5
344574 2003 AG_{42}	17.2	X	53.01064	183.29856	267.33654	4.63164	0.1494100	0.28814824	2.2701719	20	1 6.8	18.9
344575 2003 AE_{51}	15.6	X	143.40992	86.33159	329.04691	5.06382	0.0949842	0.18498072	3.0505987	20	4 3.4	20.2
344576 2003 AA_{66}	16.9	X	82.31704	150.64482	314.94399	19.15689	0.2316963	0.29576346	2.2310349	20	3 26.5	19.8
344577 2003 AA_{71}	18.3	X	62.83948	245.13575	159.17040	3.40819	0.2102056	0.28478375	2.2880170	20	—	—
344578 2003 AT_{72}	15.1	X	138.31369	63.25831	65.50557	21.62601	0.1864805	0.19034368	2.9930255	20	7 5.2	20.2
344579 2003 AE_{78}	15.6	X	112.22991	31.32322	82.35871	12.99196	0.1561758	0.18698085	3.0288048	20	5 22.2	20.2
344580 2003 AR_{84}	16.2	X	131.52369	6.70338	66.72365	8.64215	0.2369916	0.18748094	3.0234164	20	4 29.4	21.2
344581 Albisetti	16.1	X	63.66021	16.35634	121.44100	7.67181	0.2048936	0.18145250	3.0900161	20	5 1.3	20.1
344582 2003 BE_{7}	17.0	X	274.21959	133.86688	311.56674	5.85804	0.1199192	0.26576102	2.3959359	20	10 15.6	19.8
344583 2003 BS_{66}	17.2	X	273.58426	30.87887	161.50734	3.67978	0.1981977	0.27625616	2.3348630	20	—	—
344584 2003 BZ_{68}	15.6	X	114.47472	106.72195	355.15273	15.39259	0.1339445	0.18526366	3.0474919	20	4 29.3	20.4
344585 2003 BG_{70}	15.5	X	155.47031	340.48414	94.83972	13.22018	0.1702837	0.18871080	3.0102661	20	5 19.4	20.6
344586 2003 BB_{71}	16.4	X	63.50014	34.86560	116.48444	1.82277	0.2246503	0.18100781	3.0950750	20	5 19.1	20.4
344587 2003 BF_{76}	16.5	X	61.32877	86.18749	39.63220	10.40531	0.1989270	0.17915544	3.1163727	20	4 10.3	20.4
344588 2003 BN_{81}	16.0	X	101.14660	311.94859	149.48229	10.81325	0.1941726	0.18255363	3.0775779	20	5 1.5	20.7
344589 2003 BR_{81}	15.1	X	89.95891	288.50671	144.90125	27.41314	0.1392294	0.17645123	3.1481319	20	3 6.2	19.5
344590 2003 BR_{87}	15.5	X	51.71804	355.87779	119.87626	16.78358	0.0393043	0.17663522	3.1459454	20	2 25.2	19.9
344591 2003 BC_{93}	15.8	X	108.65246	247.81729	251.86842	10.51170	0.0962641	0.18908314	3.0063129	20	6 10.9	20.0
344592 2003 BU_{93}	15.6	X	67.39556	333.75646	143.99739	8.04560	0.0469195	0.17853574	3.1235797	20	3 18.6	19.9
344593 2003 CF_{5}	15.8	X	107.79146	110.26846	336.51339	9.87618	0.1055940	0.18294426	3.0731955	20	4 2.0	20.3
344594 2003 CJ_{7}	17.0	X	186.44806	107.71629	92.74529	6.19756	0.2023654	0.26478725	2.4018064	20	11 20.2	20.7
344595 2003 CN_{11}	17.6	X	275.26950	117.27007	77.96085	4.21614	0.1693192	0.27664122	2.3326959	20	—	—
344596 2003 CP_{24}	17.5	X	212.17749	226.64505	324.93434	4.18892	0.1748570	0.26706838	2.3881104	20	12 7.1	20.7
344597 2003 DW_{3}	16.9	X	208.34738	224.82832	342.91125	7.45410	0.1007456	0.26793154	2.3829787	20	—	—
344598 2003 DB_{10}	15.0	X	63.78912	66.86012	70.49491	27.25381	0.1724598	0.17928444	3.1148776	20	5 3.3	19.4
344599 2003 DM_{23}	15.4	X	138.02100	295.67382	141.08179	14.84948	0.0931064	0.18297299	3.0728738	20	5 1.1	20.3
344600 2003 DW_{23}	15.9	X	44.48250	115.19629	11.07770	25.88478	0.2196017	0.17494939	3.1661228	20	3 20.2	19.5
344601 2003 EJ_{14}	17.2	X	191.08198	91.30268	110.70717	4.91831	0.1789465	0.26377745	2.4079323	20	11 28.1	20.7
344602 2003 EK_{14}	17.5	X	350.82232	79.25464	76.09616	4.74927	0.1537317	0.28389743	2.2927766	20	—	—
344603 2003 ER_{16}	15.8	X	81.09417	100.60151	21.97701	26.28756	0.1918764	0.17932389	3.1144207	20	4 24.9	20.2
344604 2003 EA_{19}	17.7	X	209.85274	55.39719	153.63028	1.70852	0.1307780	0.26764292	2.3846915	20	—	—
344605 2003 EU_{20}	16.8	X	275.51478	48.94292	155.47804	3.59805	0.1404700	0.27635090	2.3343293	20	—	—
344606 2003 EM_{30}	15.9	X	125.25130	294.64719	163.59472	18.46284	0.2667258	0.18517330	3.0484832	20	5 27.4	21.3
344607 2003 EE_{32}	15.3	X	50.32030	84.87657	3.71462	31.56323	0.2110450	0.17272884	3.1932002	20	2 21.2	19.5
344608 2003 EB_{34}	15.1	X	119.67403	78.21778	347.07928	15.50056	0.0830153	0.17636796	3.1491228	20	3 19.3	19.8
344609 2003 EM_{50}	17.7	X	139.76657	280.61653	335.52873	18.28170	0.0159396	0.38105273	1.8842824	20	—	—
344610 2003 EH_{53}	15.5	X	52.62112	96.68704	14.10927	23.05859	0.2364113	0.17403549	3.1771971	20	3 17.9	19.2
344611 2003 EC_{57}	15.7	X	124.69833	354.29984	129.74332	19.11143	0.2676855	0.18473880	3.0532613	20	6 25.2	21.1
344612 2003 EK_{60}	17.0	X	354.15645	106.31440	40.89137	5.24673	0.1789488	0.28243444	2.3006874	20	—	—
344613 2003 FB_{1}	14.7	X	57.17010	1.14983	112.80327	29.26809	0.1565737	0.17347331	3.1840578	20	3 22.4	19.3
344614 2003 FK_{4}	15.1	X	50.68570	78.77791	97.54679	26.31215	0.2329278	0.17914956	3.1164408	20	6 6.9	19.1
344615 2003 FY_{7}	17.4	X	254.64611	303.63547	172.42976	23.93106	0.0477542	0.37417654	1.9072971	20	12 14.8	19.9
344616 2003 FA_{8}	17.5	X	246.88790	321.56589	177.04475	21.91242	0.0767750	0.37752537	1.8960013	20	—	—
344617 2003 FE_{10}	18.1	X	297.16284	132.07942	30.19037	2.49247	0.1459008	0.27481230	2.3430341	20	—	—
344618 2003 FA_{27}	17.6	X	278.80163	187.96579	349.89105	4.08300	0.1188133	0.27306808	2.3530009	20	—	—
344619 2003 FP_{30}	17.4	X	21.65474	81.37176	76.18700	4.28054	0.1859994	0.28693478	2.2765678	20	2 15.9	18.9
344620 2003 FS_{39}	17.0	X	289.56362	336.98987	197.96801	2.55697	0.1477099	0.27401019	2.3476043	20	—	—
344621 2003 FA_{45}	17.7	X	274.93768	344.29980	189.49184	1.05809	0.1191638	0.27276925	2.3547191	20	—	—
344622 2003 FG_{58}	16.9	X	138.00593	57.04999	227.19686	3.72388	0.1605092	0.26489240	2.4011708	20	—	—
344623 2003 GW_{19}	17.6	X	224.21071	156.58623	24.82872	0.28252	0.1497018	0.26524678	2.3990316	20	12 12.1	20.6
344624 2003 HC_{6}	17.7	X	157.64446	25.66312	206.40753	0.73251	0.1292758	0.25906185	2.4370648	20	12 4.7	21.4
344625 2003 HV_{34}	17.5	X	42.94231	116.41426	168.65984	3.46343	0.2627245	0.24631838	2.5204118	20	10 29.4	20.8
344626 2003 HX_{35}	16.1	X	44.39255	119.90919	53.71502	24.18730	0.3573414	0.17615020	3.1517176	20	6 5.2	19.8
344627 2003 JL_{2}	17.3	X	75.99574	105.70722	186.40626	4.37984	0.1693675	0.25110527	2.4882776	20	12 1.6	21.0
344628 2003 JM_{5}	16.6	X	14.05382	242.92026	59.07105	11.47202	0.3421198	0.23994599	2.5648406	20	10 25.1	19.2
344629 2003 JL_{18}	13.7	X	285.87564	35.75233	51.95768	8.11444	0.0794648	0.08232126	5.2335300	20	10 11.5	20.5
344630 2003 KD_{10}	17.5	X	21.70506	208.89486	70.24738	6.75649	0.3243463	0.23774369	2.5806556	20	10 2.2	20.2
344631 2003 LY_{2}	16.1	X	341.33176	37.62872	257.92669	34.96567	0.4511336	0.23039999	2.6352050	20	5 21.6	17.3
344632 2003 OW_{6}	16.3	X	23.11065	96.98750	220.85614	7.73236	0.1737617	0.23937335	2.5689295	20	10 29.1	19.1
344633 2003 OL_{14}	16.3	X	308.97092	92.39633	252.34976	15.11490	0.2481173	0.22885558	2.6470474	20	6 25.0	19.1
344634 2003 OW_{31}	16.2	X	14.51087	182.95921	159.50714	7.25550	0.1641383	0.24145952	2.5541113	20	11 19.8	19.2
344635 2003 OU_{32}	16.2	X	346.25360	35.27274	287.41094	13.25659	0.0643799	0.23071066	2.6328388	20	8 16.3	19.6
344636 2003 PG_{7}	16.8	X	8.96252	112.21989	217.51039	3.46292	0.2165646	0.23835100	2.5762701	20	10 29.1	19.2
344637 2003 QE_{4}	16.9	X	314.58700	169.74380	181.92569	4.93871	0.1985157	0.22998372	2.6383839	20	7 25.7	19.6
344638 2003 QK_{9}	17.2	X	336.57823	129.44215	170.73390	6.55949	0.2496790	0.22824047	2.6518011	20	6 19.4	19.5
344639 2003 QK_{11}	16.2	X	324.28566	330.63260	339.78386	17.05510	0.2655716	0.22803054	2.6534284	20	5 28.8	19.3
344640 2003 QO_{25}	17.0	X	14.75096	20.32120	258.85144	4.10551	0.2738575	0.23232983	2.6205919	20	8 31.8	19.3

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	m		°	°	°	°		°				
344641 Szeleczky	17.1	X	11.95045	85.35061	236.85157	4.04116	0.1315106	0.23442865	2.6049272	20	10 8.3	19.9
344642 2003 QP_{31}	16.6	X	337.89030	3.81074	340.36906	6.22876	0.2580077	0.23287540	2.6164974	20	9 8.7	18.0
344643 2003 QP_{34}	17.0	X	269.08221	358.10840	349.99985	2.66312	0.2956325	0.22225071	2.6992345	20	4 29.1	21.3
344644 2003 QC_{54}	16.3	X	318.31659	356.95830	350.46823	13.07003	0.2954547	0.22925107	2.6440022	20	7 17.3	18.8
344645 2003 QA_{65}	16.4	X	331.52217	334.23538	69.16741	9.07691	0.1952060	0.23742930	2.5829332	20	11 27.1	18.4
344646 2003 QN_{67}	16.3	X	259.91836	255.25854	47.17283	9.95163	0.2882315	0.21533684	2.7567063	20	3 4.1	21.1
344647 2003 QT_{69}	16.8	X	336.66074	146.31197	178.74837	4.06169	0.3174166	0.23042102	2.6350447	20	7 26.3	18.2
344648 2003 QJ_{76}	17.1	X	335.58454	6.14702	299.34113	2.81895	0.2608923	0.22850329	2.6497673	20	6 24.3	19.0
344649 2003 QW_{101}	16.4	X	350.54384	294.58430	29.92351	11.92641	0.2141478	0.23100887	2.6305725	20	9 15.1	18.8
344650 2003 RM_{6}	15.9	X	345.51904	194.23496	144.44317	15.50050	0.1279299	0.23166314	2.6256173	20	9 18.1	18.8
344651 2003 RB_{18}	16.6	X	344.77565	69.37581	237.54468	7.92043	0.2777946	0.22959298	2.6413765	20	7 21.6	18.4
344652 2003 RA_{22}	16.2	X	42.15874	75.00781	234.28684	7.76258	0.1904060	0.24001316	2.5643621	20	11 15.9	19.7
344653 2003 RN_{26}	15.9	X	300.04596	211.01114	118.73852	20.11702	0.2048971	0.22296816	2.6934411	20	6 1.9	19.5
344654 2003 SK_{7}	16.8	X	327.20437	1.21817	320.18972	5.75796	0.1318527	0.22756817	2.6570213	20	7 14.9	19.6
344655 2003 SE_{25}	16.3	X	184.68198	128.53624	257.54682	6.64971	0.2349090	0.21160325	2.7890384	20	4 9.8	21.3
344656 2003 SP_{37}	16.5	X	316.30419	200.79980	186.02597	13.14811	0.1798786	0.23247201	2.6195233	20	9 25.9	19.0
344657 2003 SE_{47}	16.4	X	313.09834	44.36569	347.26231	12.42777	0.1570605	0.23215425	2.6219131	20	9 25.6	19.1
344658 2003 SH_{54}	16.6	X	289.12455	112.05989	266.69051	5.54397	0.1805931	0.22689572	2.6622685	20	7 21.8	19.7
344659 2003 SP_{65}	16.6	X	278.67240	202.47241	193.90373	14.98014	0.2767231	0.22713644	2.6603872	20	7 13.0	20.4
344660 2003 SV_{66}	15.9	X	293.56921	348.54461	32.32032	13.82486	0.1668035	0.22537393	2.6742393	20	8 11.4	19.3
344661 2003 SB_{72}	17.2	X	329.49364	131.18831	197.74365	9.83453	0.1310779	0.22768625	2.6561026	20	7 26.8	20.3
344662 2003 SF_{73}	17.0	X	295.82424	197.75147	189.98969	2.25676	0.2149359	0.22833906	2.6510378	20	8 9.9	19.7
344663 2003 SY_{87}	16.7	X	26.42192	2.62774	303.80674	3.63522	0.1316004	0.23528098	2.5986323	20	10 9.1	19.8
344664 2003 SJ_{104}	16.6	X	293.39467	28.25219	354.92132	3.40107	0.2129107	0.22669007	2.6638783	20	7 31.9	19.5
344665 2003 SH_{106}	16.7	X	269.90674	130.60145	233.10161	10.34195	0.2353259	0.22148144	2.7054810	20	5 28.4	20.7
344666 2003 SK_{113}	16.7	X	15.07323	111.65713	217.49963	11.47843	0.0527035	0.23706995	2.5855427	20	10 13.0	19.9
344667 2003 SA_{142}	17.0	X	13.71467	223.48834	65.71792	6.22656	0.2593312	0.23170376	2.6253104	20	9 18.1	19.5
344668 2003 SX_{148}	16.3	X	238.14876	204.29843	192.02764	9.24018	0.1559634	0.21870989	2.7282894	20	6 14.6	20.6
344669 2003 SN_{149}	16.6	X	246.41753	3.57913	36.27337	5.45608	0.1785527	0.22043436	2.7140418	20	6 25.4	20.7
344670 2003 SA_{152}	16.0	X	192.45684	21.03410	9.35236	10.00969	0.2581893	0.21430901	2.7655134	20	4 20.9	21.1
344671 2003 SQ_{152}	15.9	X	250.78769	296.88329	40.71873	11.81571	0.1044468	0.21542416	2.7559613	20	4 20.8	20.0
344672 2003 ST_{160}	16.3	X	226.56012	348.58636	9.50945	9.44608	0.1846903	0.21452809	2.7636303	20	4 12.4	20.7
344673 2003 SG_{168}	16.5	X	305.79549	308.48196	94.14278	7.13523	0.3048173	0.22976487	2.6400590	20	9 12.9	18.7
344674 2003 SB_{176}	16.2	X	300.94613	94.05854	353.15718	14.83305	0.0449645	0.24098233	2.5574820	20	11 30.1	19.7
344675 2003 SH_{186}	17.2	X	275.89560	254.66783	119.00067	1.78755	0.1831210	0.22429388	2.6828173	20	6 25.6	20.7
344676 2003 SF_{189}	16.2	X	329.52156	118.18406	228.90477	11.60720	0.1686454	0.22847750	2.6499667	20	8 18.4	19.2
344677 2003 SY_{196}	16.8	X	320.37354	69.12354	243.95128	11.40147	0.2682082	0.22501805	2.6770582	20	5 28.4	19.4
344678 2003 SC_{205}	16.4	X	328.99542	128.25962	193.67835	12.91385	0.2742101	0.22569594	2.6716951	20	6 30.1	18.9
344679 2003 SV_{205}	17.1	X	269.44666	132.62317	227.54143	0.56070	0.1503810	0.22179758	2.7029095	20	6 3.9	20.7
344680 2003 SO_{235}	16.2	X	299.54164	310.97497	66.46134	13.12553	0.2056714	0.22675204	2.6633930	20	8 8.6	19.4
344681 2003 SM_{236}	16.5	X	247.42474	55.46081	8.09593	11.21381	0.1727593	0.22536141	2.6743383	20	8 1.8	20.5
344682 2003 SX_{241}	16.6	X	244.23135	167.26160	205.55957	6.16655	0.0310370	0.21852549	2.7298240	20	6 6.1	20.4
344683 2003 SP_{263}	16.6	X	261.72604	223.29497	167.87440	5.31069	0.0771235	0.22279510	2.6948357	20	7 16.1	20.3
344684 2003 SY_{270}	17.3	X	338.38829	275.22275	66.73652	5.03706	0.2043417	0.22997002	2.6384887	20	9 9.2	19.5
344685 2003 SH_{272}	16.8	X	325.43195	86.86275	268.47283	3.24259	0.1495898	0.22905211	2.6455330	20	8 27.9	19.6
344686 2003 SW_{278}	16.2	X	266.83748	106.26880	354.28803	13.32761	0.1535611	0.23165736	2.6256610	20	10 11.5	19.5
344687 2003 SS_{289}	16.7	X	292.90082	257.15903	114.65236	3.65945	0.1226611	0.22542864	2.6738066	20	7 28.6	20.0
344688 2003 SA_{298}	16.2	X	304.18903	52.65210	256.62672	13.03654	0.1743597	0.22105428	2.7089652	20	5 8.7	19.7
344689 2003 SU_{311}	16.9	X	233.97877	251.14057	205.94481	3.24220	0.1767434	0.22738482	2.6584494	20	8 24.6	20.9
344690 2003 SK_{312}	16.6	X	331.16042	279.27060	57.98533	4.79439	0.1925119	0.22776382	2.6554995	20	8 13.7	19.0
344691 2003 SL_{312}	16.5	X	309.64490	167.77981	175.36067	14.33521	0.2648686	0.22487277	2.6782111	20	6 22.1	19.6
344692 2003 SL_{335}	16.9	X	220.91742	302.93758	101.12043	5.81380	0.0456640	0.21771863	2.7365643	20	6 16.1	20.7
344693 2003 SS_{337}	16.5	X	202.88077	193.87572	315.12200	4.20109	0.0421893	0.23511596	2.5998481	20	10 10.8	20.1
344694 2003 SX_{337}	17.2	X	287.79143	37.34435	345.19224	1.79674	0.1445066	0.22494896	2.6776063	20	8 1.4	20.3
344695 2003 SY_{382}	16.7	X	191.96858	27.49308	155.61028	4.73522	0.1797456	0.23746451	2.5826779	20	11 2.1	20.8
344696 2003 SK_{392}	16.8	X	201.35119	351.05212	88.61132	6.11503	0.0896891	0.21936204	2.7228793	20	7 6.4	20.9
344697 2003 SA_{395}	16.6	X	252.72215	13.36150	73.99463	8.05395	0.1839412	0.22745524	2.6579007	20	9 7.6	20.4
344698 2003 SM_{402}	17.0	X	249.06159	265.72428	112.41083	13.41764	0.2266898	0.21675037	2.7447080	20	5 28.9	21.5
344699 2003 SH_{406}	16.0	X	108.51312	128.43925	79.52501	12.58944	0.0324849	0.22544638	2.6736663	20	9 9.9	20.0
344700 2003 SV_{423}	17.5	X	49.44394	286.71584	346.61920	1.78554	0.1256897	0.23259589	2.6185931	20	9 27.7	21.0
344701 2003 SW_{427}	16.6	X	224.07917	200.01077	207.65975	8.47535	0.0941759	0.21747928	2.7385717	20	6 19.5	20.8
344702 2003 SG_{432}	17.4	X	287.87622	130.24775	218.76390	2.13054	0.1020496	0.22196965	2.7015125	20	6 21.6	20.7
344703 2003 TP_{13}	15.9	X	333.89155	331.62833	21.09042	14.38082	0.1722309	0.22789097	2.6545116	20	9 17.8	18.5
344704 2003 TU_{14}	16.7	X	282.92124	200.07161	176.03355	10.06986	0.2848463	0.22320859	2.6915066	20	6 22.3	20.5
344705 2003 TU_{20}	16.2	X	294.61561	34.62042	34.12396	13.84578	0.2032237	0.23236511	2.6203266	20	10 13.8	18.8
344706 2003 TS_{33}	16.5	X	357.54845	231.55639	44.40197	4.73441	0.1147653	0.22161224	2.7044163	20	7 4.7	19.4
344707 2003 TJ_{44}	16.2	X	313.92582	227.54329	159.62180	13.92254	0.1409083	0.23066696	2.6331713	20	9 27.0	19.0
344708 2003 TC_{48}	17.1	X	0.77109	349.85491	270.09450	4.42461	0.1172955	0.22208604	2.7005685	20	6 16.6	20.0
344709 2003 TG_{54}	17.2	X	280.40777	228.27625	147.90926	5.39269	0.1659620	0.22325880	2.6911030	20	7 7.8	20.7
344710 2003 TT_{54}	17.2	X	270.34251	271.04030	133.66161	5.09529	0.2054351	0.22450526	2.6811331	20	7 26.8	20.8
344711 2003 TA_{57}	16.5	X	275.68726	266.94758	116.81092	7.28790	0.0369383	0.22337673	2.6901557	20	8 1.9	19.9
344712 2003 UZ_{6}	15.6	X	353.50272	66.16552	274.96394	29.13006	0.2967142	0.23219105	2.6216360	20	10 8.3	18.6
344713 2003 UW_{14}	17.2	X	174.69452	189.46153	288.04808	1.85262	0.0341077	0.22039752	2.7143442	20	7 27.0	21.0
344714 2003 UZ_{18}	16.4	X	306.33606	195.21282	159.35235	6.70827	0.0588830	0.22350704	2.6891101	20	8 1.7	19.7
344715 2003 UX_{21}	16.1	X	290.93123	128.20771	270.35108	12.52744	0.2745378	0.22734749	2.6587404	20	8 2.6	19.3
344716 2003 UE_{48}	16.3	X	273.34595	183.96093	213.97186	12.25651	0.0901060	0.22273927	2.6952860	20	8 4.7	20.1
344717 2003 UT_{65}	16.3	X	264.28702	295.04344	144.75565	9.92630	0.2386969	0.22711646	2.6605432	20	8 31.5	19.7
344718 2003 UL_{69}	17.1	X	300.95780	303.96569	49.76402	2.52221	0.0956806	0.22466388	2.6798710	20	7 20.1	20.2
344719 2003 UN_{73}	17.1	X	276.80614	318.09959	67.99761	0.73643	0.1411961	0.22167441	2.7039107	20	7 20.8	20.4
344720 2003 UJ_{76}	16.3	X	4.49839	32.44222	252.38657	12.28144	0.1915044	0.22562386	2.6722641	20	7 31.7	19.1

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	m		°	°	°	°		°				
344721 2003 UO_{76}	15.8	X	348.13860	7.72842	311.44323	11.37381	0.1826236	0.22813471	2.6526206	20	8 20.3	18.1
344722 2003 UY_{80}	16.2	X	266.84087	307.27735	82.89996	10.26644	0.1576757	0.22077788	2.7112257	20	7 10.2	19.8
344723 2003 UD_{101}	16.8	X	326.40199	251.59962	92.83973	2.98441	0.2037551	0.22695983	2.6617671	20	8 11.4	19.0
344724 2003 UV_{104}	16.3	X	129.73285	43.61235	12.96856	6.66923	0.1037791	0.20358462	2.8618008	20	3 23.5	20.3
344725 2003 UN_{105}	16.5	X	286.46856	347.86045	31.91073	6.73879	0.0713246	0.22404099	2.6848358	20	8 9.4	20.0
344726 2003 UH_{117}	16.5	X	228.38669	295.80141	69.95269	6.01321	0.1747098	0.21280368	2.7785398	20	4 27.1	21.0
344727 2003 UB_{119}	16.0	X	256.76251	234.00909	202.10528	21.54193	0.0433196	0.22872723	2.6480375	20	9 11.3	19.8
344728 2003 UQ_{124}	16.9	X	252.12974	346.02125	78.90493	3.15787	0.1950500	0.22370846	2.6874957	20	8 2.6	20.7
344729 2003 UQ_{125}	16.5	X	280.77061	265.00523	130.44671	7.96361	0.1338089	0.22449397	2.6812230	20	8 10.3	19.6
344730 2003 UU_{131}	16.3	X	318.45381	82.97077	257.15366	10.90447	0.2363738	0.22384614	2.6863936	20	7 9.1	19.0
344731 2003 UM_{137}	17.5	X	304.03723	153.18781	214.90487	2.51780	0.2291590	0.22589425	2.6701312	20	7 24.3	20.2
344732 2003 UO_{138}	16.1	X	252.84045	283.17361	82.76653	5.80181	0.1417414	0.21587080	2.7521586	20	5 24.4	20.1
344733 2003 UX_{139}	16.5	X	349.38708	184.62437	121.73666	6.19333	0.2675859	0.22790080	2.6544354	20	8 8.5	18.2
344734 2003 UQ_{141}	16.3	X	290.41857	220.80699	167.02779	11.89563	0.1591955	0.22637228	2.6663709	20	8 8.7	19.7
344735 2003 UF_{150}	16.2	X	301.06408	186.83145	183.25754	13.37123	0.1564977	0.22389744	2.6859833	20	7 31.2	19.5
344736 2003 UQ_{153}	16.2	X	303.40955	121.51306	268.09996	11.96067	0.1906617	0.23023486	2.6364649	20	8 25.2	19.3
344737 2003 UC_{160}	17.0	X	250.03409	163.72879	222.21541	5.48944	0.0156265	0.21758931	2.7376484	20	7 2.5	20.7
344738 2003 UB_{164}	16.3	X	153.70574	338.43869	67.03723	8.54733	0.1958749	0.20510929	2.8476011	20	4 12.8	21.0
344739 2003 UF_{198}	16.7	X	335.18142	171.49118	171.52405	3.44212	0.1634299	0.22755948	2.6570889	20	8 30.2	19.0
344740 2003 UE_{205}	16.3	X	234.05761	345.59221	27.39664	4.76238	0.1790955	0.21473252	2.7618759	20	5 8.7	20.8
344741 2003 UT_{215}	16.5	X	211.15755	34.78308	44.13636	13.93399	0.1630457	0.21825585	2.7320719	20	7 12.3	21.1
344742 2003 UW_{225}	16.6	X	232.98026	79.27411	21.93798	11.43133	0.1513001	0.22474530	2.6792236	20	9 6.8	20.6
344743 2003 UA_{233}	16.7	X	330.60087	308.01243	16.54607	6.89602	0.2147160	0.22490689	2.6779402	20	7 20.3	19.1
344744 2003 UX_{241}	16.5	X	304.84368	185.51452	205.14048	11.49103	0.1198330	0.22743768	2.6580375	20	9 11.0	19.6
344745 2003 UO_{244}	16.7	X	240.48046	222.58975	176.16693	3.61612	0.1996319	0.21760762	2.7374949	20	6 15.5	21.0
344746 2003 UG_{245}	16.3	X	335.63209	232.30456	89.81373	6.19433	0.1671446	0.22376646	2.6870313	20	7 30.7	18.8
344747 2003 UA_{277}	16.0	X	275.76695	160.30049	242.44520	8.01571	0.0969939	0.22340685	2.6899140	20	8 14.5	19.6
344748 2003 UT_{284}	17.1	X	284.14051	354.52606	39.06330	5.06683	0.1286047	0.22530896	2.6747534	20	8 15.9	20.4
344749 2003 UX_{289}	17.0	X	319.71275	83.55356	238.85745	7.04719	0.3091331	0.22328491	2.6908932	20	6 2.8	19.3
344750 2003 UO_{317}	16.9	X	149.86745	142.21406	1.74235	13.04210	0.1020691	0.22368367	2.6876943	20	8 8.2	21.2
344751 2003 UT_{319}	16.5	X	222.23984	322.37647	75.45191	8.24778	0.0743114	0.21640589	2.7476199	20	6 6.5	20.5
344752 2003 US_{324}	17.3	X	276.74345	140.56863	231.64009	12.57752	0.2751454	0.22613609	2.6682271	20	6 10.7	21.0
344753 2003 UT_{326}	17.0	X	277.86001	224.43675	221.20510	8.12968	0.1021005	0.23712018	2.5851775	20	10 20.4	20.0
344754 2003 UQ_{371}	16.8	X	336.54462	48.09269	264.81943	9.68952	0.2483752	0.23001886	2.6381152	20	7 10.0	18.7
344755 2003 VL_2	16.1	X	291.69567	31.64912	7.44164	18.54162	0.2167502	0.22555847	2.6727805	20	8 28.0	19.3
344756 2003 VO_2	20.8	X	268.77286	229.03183	268.63397	7.12208	0.1006726	0.65347557	1.3151738	20	—	—
344757 2003 WK_{20}	16.2	X	212.68327	17.44639	37.75071	13.82363	0.1873875	0.21350913	2.7724161	20	6 8.5	20.9
344758 2003 WG_{29}	16.9	X	285.51019	73.47752	266.87355	8.50860	0.2823609	0.21891814	2.7265589	20	5 7.7	20.9
344759 2003 WW_{29}	16.7	X	168.07744	81.41541	357.17565	4.94956	0.1304951	0.20947960	2.8078564	20	5 29.5	21.3
344760 2003 WM_{43}	16.6	X	237.07141	164.31655	280.25812	5.05819	0.1479603	0.22279662	2.6948235	20	8 14.5	20.6
344761 2003 WO_{44}	16.0	X	244.60205	41.17103	17.05630	14.43652	0.0736775	0.21974979	2.7196754	20	8 6.6	20.0
344762 2003 WU_{61}	16.1	X	286.11795	322.48056	66.80609	7.17761	0.0450065	0.22172151	2.7035278	20	8 26.2	19.7
344763 2003 WD_{62}	16.6	X	316.47720	277.37975	64.06753	13.37987	0.2825944	0.22341239	2.6898695	20	6 30.0	19.2
344764 2003 WQ_{69}	16.0	X	68.71667	200.06761	232.80093	9.76383	0.1144742	0.19161783	2.9797427	20	1 25.8	19.9
344765 2003 WW_{71}	15.8	X	330.64416	61.17353	281.02152	12.69132	0.1719594	0.22489925	2.6780009	20	8 12.9	18.6
344766 2003 WE_{87}	16.4	X	258.25165	58.23275	1.02412	13.26084	0.2733992	0.21937957	2.7227343	20	7 26.1	20.7
344767 2003 WW_{92}	16.9	X	270.90339	37.47140	356.19770	3.42263	0.1778205	0.22070957	2.7117851	20	7 17.7	20.6
344768 2003 WT_{94}	17.0	X	187.86337	314.60078	57.20926	2.97472	0.2629945	0.20631469	2.8364989	20	3 30.4	22.1
344769 2003 WH_{97}	16.3	X	354.30946	207.40433	109.00815	6.13642	0.0445883	0.22164063	2.7041854	20	8 25.7	19.7
344770 2003 WQ_{102}	16.1	X	277.37793	53.19783	330.42451	12.63477	0.2140464	0.22141628	2.7060117	20	7 8.8	19.9
344771 2003 WP_{106}	16.1	X	222.72092	211.78118	254.32716	9.77412	0.1616761	0.22063817	2.7123701	20	8 21.6	20.4
344772 2003 WQ_{123}	16.7	X	285.82254	116.58814	275.02032	7.61958	0.3781846	0.22327079	2.6910067	20	7 2.2	20.1
344773 2003 WK_{149}	16.5	X	184.46307	49.26971	46.82988	4.98026	0.1705271	0.21209220	2.7847503	20	7 7.4	21.1
344774 2003 WS_{149}	16.2	X	205.83336	38.60490	94.93207	7.30373	0.1802619	0.22218381	2.6997763	20	9 15.2	20.6
344775 2003 WP_{154}	16.3	X	217.77815	349.37908	95.24989	9.81699	0.1175636	0.21791014	2.7349607	20	7 29.8	20.5
344776 2003 WX_{166}	15.7	X	234.69640	157.06135	274.00632	15.07214	0.1906013	0.21460791	2.7629450	20	7 19.1	20.1
344777 2003 WU_{170}	16.7	X	251.11332	262.37936	153.94698	9.86954	0.2041757	0.22005464	2.7171630	20	7 17.9	20.9
344778 2003 WT_{190}	16.7	X	248.87727	292.01289	103.36835	4.54739	0.2014552	0.21698520	2.7427274	20	6 19.5	21.0
344779 2003 WA_{193}	16.4	X	204.72366	354.85765	117.01823	9.32580	0.2640699	0.21743356	2.7389556	20	8 9.8	21.1
344780 2003 WA_{194}	16.7	X	192.69828	42.01939	81.18060	5.84816	0.0620791	0.21980372	2.7192305	20	8 26.8	20.7
344781 2003 XT_1	16.6	X	250.19340	213.33395	180.83003	3.52000	0.2014602	0.21761595	2.7374251	20	6 19.3	20.9
344782 2003 XM_5	16.2	X	266.36972	108.56761	294.31876	7.38718	0.3092343	0.22176695	2.7031584	20	7 4.9	20.2
344783 2003 XL_8	15.5	X	269.93119	132.89081	270.62677	31.62544	0.1613443	0.22137097	2.7063810	20	7 20.7	19.5
344784 2003 XQ_{18}	16.2	X	265.93744	101.25938	301.19861	7.85359	0.2099863	0.22000640	2.7175602	20	7 17.6	20.0
344785 2003 XA_{23}	15.8	X	122.61989	320.79906	254.64623	13.82515	0.0988059	0.22521491	2.6754980	20	9 28.5	20.1
344786 2003 XJ_{31}	16.4	X	276.95841	303.75860	67.06303	8.60794	0.1494092	0.21785603	2.7354136	20	6 28.2	20.1
344787 2003 XM_{33}	17.2	X	279.90689	298.01228	72.08530	6.20431	0.0852924	0.21692620	2.7432247	20	7 12.2	20.7
344788 2003 XG_{34}	17.1	X	232.44890	317.35907	72.02397	4.42011	0.1010966	0.21220761	2.7837404	20	6 4.6	21.2
344789 2003 XU_{38}	15.9	X	339.39035	293.40030	68.04682	15.16087	0.2645942	0.22676946	2.6632566	20	10 20.6	18.1
344790 2003 YE_{67}	16.8	X	225.27527	317.07150	76.05752	6.46645	0.0928363	0.21224702	2.7833959	20	6 2.3	20.8
344791 2003 YQ_{79}	16.6	X	235.83427	12.48840	93.31306	10.18347	0.1496916	0.21967245	2.7203137	20	9 16.0	20.7
344792 2003 YA_{87}	16.1	X	238.40253	299.68537	119.88709	7.28598	0.2521073	0.21569884	2.7536211	20	7 4.4	20.5
344793 2003 YT_{103}	15.8	X	181.68615	72.06886	77.91668	25.60573	0.1643210	0.21985340	2.7188209	20	9 25.2	20.8
344794 2003 YQ_{120}	16.3	X	177.19259	130.96102	345.25816	7.85629	0.2294792	0.20954799	2.8072454	20	7 26.4	21.2
344795 2003 YK_{134}	16.0	X	211.96197	64.73001	78.63649	14.81094	0.2358372	0.21893830	2.7263915	20	10 2.6	20.7
344796 2003 YS_{148}	16.7	X	204.72460	114.38937	13.44905	8.90115	0.2902921	0.21666387	2.7454385	20	8 29.9	21.5
344797 2003 YB_{149}	15.9	X	183.84096	127.40014	340.53058	14.75340	0.1884114	0.21046843	2.7990549	20	7 24.6	20.7
344798 2003 YY_{150}	16.2	X	244.47410	12.77629	34.15182	10.24198	0.2296894	0.21302502	2.7766149	20	6 26.4	20.7
344799 2003 YJ_{165}	16.9	X	281.33669	110.37133	239.88903	6.18806	0.3074519	0.21797917	2.7343832	20	5 13.7	20.8
344800 2003 YE_{179}	13.4	X	266.92003	43.95790	291.38776	10.45467	0.0367574	0.08013348	5.3283576	20	5 15.9	20.5

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344801 2003 YE_{181}	16.3	X	247.95115	142.69485	273.90169	11.49551	0.3838752	0.21477015	2.7615533	20	6 26.7	21.1
344802 2004 BC_{6}	16.2	X	215.12436	314.64368	129.74675	8.98902	0.2038303	0.21186737	2.7867200	20	7 17.9	20.8
344803 2004 BM_{24}	16.8	X	246.77548	179.59522	276.19768	3.27769	0.2274516	0.22001837	2.7174616	20	8 29.7	20.7
344804 2004 BE_{32}	16.3	X	27.55997	80.22622	110.98262	11.00462	0.0297716	0.19600618	2.9350998	20	4 27.5	20.4
344805 2004 BR_{36}	16.2	X	150.29008	130.11848	313.06141	11.86409	0.0822680	0.19968782	2.8989118	20	5 12.1	20.8
344806 2004 BK_{41}	17.1	X	169.14488	80.38671	275.12025	26.18733	0.0517866	0.42760666	1.7449102	20	1 7.5	18.4
344807 2004 BM_{51}	15.6	X	333.24319	334.11195	139.21234	10.95623	0.0686533	0.17352260	3.1834548	20	—	—
344808 2004 BO_{60}	16.7	X	195.34176	354.82337	112.59094	6.07118	0.1207411	0.21152801	2.7896997	20	8 2.9	20.9
344809 2004 BX_{120}	16.3	X	243.48531	27.60150	68.56507	15.53714	0.2540824	0.21780376	2.7358512	20	9 1.6	20.8
344810 2004 BZ_{130}	16.8	X	225.65545	197.82700	129.20020	5.85448	0.0231626	0.19266112	2.9689758	20	3 19.5	21.1
344811 2004 BA_{137}	17.0	X	164.95594	0.97609	95.92796	3.20914	0.0146820	0.20366615	2.8610370	20	6 16.6	21.0
344812 2004 BH_{159}	18.5	X	116.45684	225.46659	150.96126	1.79543	0.1716556	0.29913711	2.2142289	20	1 11.4	21.0
344813 2004 CO	15.5	X	246.20673	40.72364	46.35908	25.01481	0.2461762	0.21599167	2.7511317	20	8 31.6	20.2
344814 2004 CW_{15}	16.2	X	65.59139	273.65723	140.33407	6.01931	0.1343652	0.17952732	3.1120676	20	1 5.3	20.0
344815 2004 CQ_{75}	16.0	X	327.77531	291.23030	304.90830	3.64206	0.2700398	0.18599578	3.0394896	20	2 25.9	19.6
344816 2004 CL_{83}	17.1	X	206.20215	117.71243	142.41555	5.88708	0.1670770	0.29223955	2.2489341	20	—	—
344817 2004 DN_{30}	17.4	X	72.09589	108.66488	21.50265	3.33999	0.0450838	0.31096688	2.1577111	20	3 27.2	19.5
344818 2004 DJ_{59}	17.4	X	31.63084	12.65486	142.51877	5.50500	0.0591607	0.30703178	2.1761083	20	2 28.9	19.5
344819 2004 EN	17.2	X	274.70569	281.94334	297.27853	3.95882	0.1645653	0.29590256	2.2303357	20	—	—
344820 2004 ES_{5}	15.6	X	356.08238	143.99636	20.27064	9.80636	0.1531215	0.18014399	3.1049613	20	2 2.8	19.4
344821 2004 ER_{6}	17.2	X	197.24394	183.09593	351.61323	6.51085	0.0631173	0.27667135	2.3325265	20	11 11.8	20.3
344822 2004 EX_{7}	15.6	X	44.91459	80.02768	344.14403	9.49034	0.0581634	0.17184724	3.2041120	20	—	—
344823 2004 EN_{11}	15.9	X	81.84526	72.72025	44.03580	8.73701	0.1131663	0.18905663	3.0065939	20	4 13.7	19.9
344824 2004 ER_{60}	15.1	X	280.21733	133.52786	92.52252	16.90363	0.0476277	0.17567425	3.1574076	20	1 19.1	19.7
344825 2004 EH_{64}	15.5	X	160.22733	85.63132	334.72054	10.73335	0.1165487	0.19320242	2.9634278	20	4 25.1	20.3
344826 2004 EC_{74}	17.4	X	280.96380	208.09627	31.51378	6.50103	0.0876142	0.29853962	2.2171823	20	1 12.9	20.3
344827 2004 EU_{76}	17.5	X	253.10409	245.54706	4.25137	4.83892	0.2069092	0.29470054	2.2363963	20	—	—
344828 2004 EZ_{78}	15.8	X	303.03094	205.62894	5.33329	17.09593	0.1505173	0.17713163	3.1400650	20	1 17.9	20.5
344829 2004 FR_{7}	16.5	X	80.63885	72.27356	71.66224	1.84714	0.1424785	0.19168683	2.9790277	20	5 19.7	20.6
344830 2004 FE_{18}	18.0	X	345.08841	4.26611	194.51832	2.33038	0.0872172	0.30322591	2.1942790	20	2 11.7	20.0
344831 2004 FD_{33}	15.9	X	70.16095	165.01391	336.33346	8.92255	0.0833737	0.18861422	3.0112936	20	4 19.2	20.1
344832 2004 FY_{71}	16.6	X	184.94726	261.73477	143.66186	1.53046	0.0156260	0.19174126	2.9784638	20	5 6.4	20.8
344833 2004 FT_{80}	15.9	X	306.47006	206.17368	34.71909	15.32415	0.2481679	0.17836868	3.1255299	20	2 15.3	20.5
344834 2004 FH_{83}	17.6	X	335.15185	50.49005	178.68972	2.13128	0.0942535	0.30983672	2.1629549	20	3 10.4	19.7
344835 2004 FZ_{92}	17.3	X	37.47610	118.44010	20.02658	3.86372	0.0277823	0.30348592	2.1930255	20	2 14.7	19.6
344836 2004 FK_{95}	17.8	X	312.27771	186.70739	40.23924	5.98967	0.0803162	0.30395250	2.1907807	20	2 6.9	20.3
344837 2004 FT_{107}	15.3	X	354.84422	134.75333	29.78800	28.00888	0.1277995	0.17623902	3.1506586	20	2 15.9	19.8
344838 2004 FC_{130}	16.9	X	179.88363	167.39649	96.63269	10.67941	0.1069705	0.28405847	2.2919100	20	—	—
344839 2004 FC_{143}	15.5	X	274.55615	201.94382	38.15007	29.93311	0.1973931	0.17216953	3.2001120	20	1 16.2	21.0
344840 2004 FS_{147}	15.8	X	319.12484	166.57742	43.74070	16.92652	0.2181333	0.17879178	3.1205970	20	1 27.2	20.3
344841 2004 FK_{148}	15.3	X	313.69955	174.38761	65.88503	19.02733	0.0760196	0.17975496	3.1094396	20	3 23.4	19.9
344842 2004 FV_{165}	17.8	X	135.03662	21.44471	11.75973	4.70429	0.0743276	0.30657727	2.1782585	20	2 14.6	20.3
344843 2004 GQ_{12}	17.2	X	238.88255	188.66808	67.30990	7.49189	0.1278541	0.29076318	2.2565404	20	—	—
344844 2004 GX_{17}	17.3	X	310.19551	137.81808	59.27360	4.05224	0.0629989	0.29553794	2.2321698	20	—	—
344845 2004 GJ_{18}	17.6	X	55.73188	78.32125	181.03067	22.64432	0.0495416	0.38308315	1.8776185	20	10 1.4	19.0
344846 2004 GB_{26}	17.0	X	284.48815	49.57752	186.27744	6.51895	0.0527544	0.29724412	2.2236198	20	1 14.2	19.8
344847 2004 GC_{33}	17.6	X	217.40442	261.66165	1.81156	5.13180	0.2104138	0.28820396	2.2698793	20	—	—
344848 2004 GR_{41}	16.8	X	301.23484	134.35582	82.42664	7.90143	0.1154670	0.29668320	2.2264217	20	1 2.6	19.5
344849 2004 GX_{42}	15.3	X	328.35375	70.72817	122.12079	14.68010	0.2294818	0.17473604	3.1686996	20	1 12.7	19.2
344850 2004 GV_{45}	17.7	X	155.66558	264.25793	38.78742	4.58070	0.2013454	0.28374214	2.2936131	20	—	—
344851 2004 GK_{50}	17.7	X	27.37686	253.67092	255.82911	2.62306	0.0669014	0.30177389	2.2013120	20	2 11.8	19.7
344852 2004 GP_{74}	15.5	X	2.75755	110.61924	102.79187	6.87472	0.1078711	0.18482506	3.0523113	20	4 19.9	19.3
344853 2004 GM_{80}	15.9	X	221.09745	269.42712	6.06059	15.75118	0.1540075	0.17273291	3.1931500	20	1 12.0	21.4
344854 2004 GS_{84}	15.6	X	58.89896	78.77855	64.08106	11.01410	0.0850131	0.18423435	3.0588322	20	4 14.5	19.7
344855 2004 HS_{6}	15.6	X	307.75853	2.41859	200.31141	28.42895	0.1342789	0.17498464	3.1656976	20	1 7.1	20.6
344856 2004 HV_{6}	17.2	X	305.11383	162.04578	61.69159	8.55034	0.1234821	0.29800939	2.2198114	20	1 16.7	20.0
344857 2004 HO_{12}	16.2	X	342.72116	187.48592	37.47835	15.54864	0.1767942	0.18209161	3.0827816	20	3 29.5	19.9
344858 2004 HT_{12}	15.7	X	112.72629	57.06249	39.52353	10.61951	0.1035613	0.18510542	3.0492285	20	4 23.9	20.0
344859 2004 HD_{13}	16.1	X	65.47665	334.63806	161.66872	13.28996	0.1289420	0.18747765	3.0234518	20	4 20.5	20.2
344860 2004 HT_{29}	18.0	X	246.12515	307.40991	285.98595	2.41057	0.1296543	0.28938354	2.2637068	20	—	—
344861 2004 HP_{38}	17.3	X	93.04316	135.58349	126.59779	6.58617	0.3411978	0.26388460	2.4072804	20	11 24.2	21.7
344862 2004 HX_{38}	17.7	X	107.31344	240.47816	58.07152	23.30959	0.0761197	0.39768458	1.8313733	20	—	—
344863 2004 HP_{50}	16.8	X	278.31441	102.46935	120.63856	8.63965	0.0952324	0.29287026	2.2457041	20	—	—
344864 2004 HK_{60}	15.3	X	352.82003	321.12534	219.13166	16.51292	0.0922991	0.17607215	3.1526489	20	2 13.7	19.7
344865 2004 JK	16.9	X	172.39809	311.83463	235.82881	5.79164	0.0638442	0.27110295	2.3643579	20	10 30.3	20.0
344866 2004 JP_{5}	15.2	X	316.93997	152.77367	82.50931	28.81644	0.1070903	0.17829285	3.1264160	20	3 22.7	20.0
344867 2004 JP_{8}	16.6	X	30.59195	91.41564	178.47982	13.55345	0.1757348	0.25528749	2.4610269	20	9 5.3	19.4
344868 2004 JB_{13}	18.0	X	131.44493	27.97529	233.47738	19.57662	0.1123718	0.39548894	1.8381452	20	—	—
344869 2004 JD_{13}	16.9	X	290.78601	351.58729	194.14752	24.34274	0.1410768	0.28857570	2.2679295	20	—	—
344870 2004 JY_{18}	17.5	X	350.98785	294.18575	250.83640	5.03132	0.1254772	0.29933803	2.2132380	20	1 26.4	19.6
344871 2004 JN_{19}	17.6	X	200.60691	216.55191	53.84161	7.83436	0.1371212	0.28466541	2.2886511	20	—	—
344872 2004 JA_{39}	15.2	X	136.81664	346.86762	84.87302	20.45850	0.1658394	0.18225435	3.0809462	20	5 2.9	20.4
344873 2004 JL_{49}	17.6	X	99.94923	266.53798	49.20796	7.53909	0.1009059	0.27498983	2.3420255	20	—	—
344874 2004 NZ_{4}	16.3	X	143.81149	4.16060	302.83153	25.69800	0.0976011	0.27204767	2.3588810	20	—	—
344875 2004 NQ_{33}	16.7	X	36.23639	12.19784	314.80154	16.31994	0.2108580	0.25731654	2.4480723	20	12 7.7	20.3
344876 2004 OZ_{5}	16.7	X	93.61483	357.25603	319.76638	9.35314	0.2371206	0.26725669	2.3869885	20	—	—
344877 2004 OL_{7}	17.7	X	91.46486	241.04468	72.45801	2.26625	0.2141021	0.26598585	2.3945856	20	—	—
344878 2004 PM_{13}	17.4	X	80.27171	181.36905	143.81458	1.45514	0.2020073	0.26354263	2.4093624	20	—	—
344879 2004 PW_{16}	17.2	X	154.92708	47.68541	259.00640	4.52360	0.0911373	0.27483596	2.3428996	20	—	—
344880 2004 PW_{21}	16.9	X	46.44836	245.81291	123.60527	6.32262	0.1683245	0.26407272	2.4061370	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344881 2004 PQ_{49}	17.2	X	16.45487	262.10877	97.62334	3.55103	0.2115699	0.25649733	2.4532821	20	12 25.6	20.2
344882 2004 PS_{63}	17.0	X	45.11893	16.85600	321.77876	5.86620	0.1437383	0.25869276	2.4393823	20	12 25.1	20.4
344883 2004 PA_{68}	17.4	X	33.02352	139.53100	218.06423	4.27183	0.2621567	0.25842249	2.4410828	20	—	—
344884 2004 PW_{71}	17.1	X	82.29749	335.64998	344.26520	1.74499	0.1989448	0.26383103	2.4076063	20	—	—
344885 2004 PJ_{73}	16.5	X	157.72408	304.74372	328.51856	13.22257	0.0797518	0.26930757	2.3748545	20	—	—
344886 2004 PV_{82}	17.3	X	48.37778	241.28148	109.62603	2.95737	0.1956092	0.26014263	2.4303101	20	—	—
344887 2004 PD_{88}	16.6	X	155.77104	279.94771	326.77286	14.28863	0.1263422	0.26467161	2.4025060	20	12 23.3	20.5
344888 2004 PY_{99}	16.4	X	62.14488	315.10803	34.93129	7.26650	0.1169280	0.25949936	2.4343248	20	—	—
344889 2004 PJ_{111}	16.8	X	34.47867	297.32016	62.54159	2.88063	0.2182107	0.25842475	2.4410686	20	—	—
344890 2004 RP_{14}	16.8	X	96.68955	329.05088	314.31752	4.21850	0.1996623	0.26066841	2.4270410	20	12 12.8	20.8
344891 2004 RL_{30}	17.2	X	150.11947	136.04996	143.11809	2.91799	0.1801382	0.26915893	2.3757287	20	—	—
344892 2004 RR_{35}	17.1	X	28.42749	289.46729	65.61767	3.66133	0.2141587	0.25645008	2.4535834	20	—	—
344893 2004 RC_{42}	17.7	X	289.27327	158.92970	193.60644	4.90891	0.2640134	0.23681954	2.5873650	20	6 2.8	20.9
344894 2004 RZ_{54}	17.4	X	86.83657	298.24269	13.08287	4.65599	0.1976472	0.26102569	2.4248258	20	—	—
344895 2004 RZ_{70}	16.9	X	348.41932	184.67519	255.93254	4.11036	0.0811022	0.26354437	2.4093518	20	—	—
344896 2004 RY_{72}	17.5	X	32.54150	193.97093	164.06532	2.38843	0.2340823	0.25660985	2.4525648	20	—	—
344897 2004 RJ_{83}	17.4	X	23.72709	197.80137	170.25097	6.62087	0.1621285	0.25693722	2.4504812	20	—	—
344898 2004 RG_{98}	16.8	X	55.01811	186.42207	185.03588	14.33110	0.0932404	0.26409342	2.4060113	20	—	—
344899 2004 RT_{106}	16.8	X	32.50505	163.04869	251.35387	5.00759	0.1081154	0.26746515	2.3857481	20	—	—
344900 2004 RM_{109}	17.7	X	295.41714	210.50796	139.78675	1.79823	0.1902656	0.23975015	2.5662372	20	6 21.1	20.5
344901 2004 RC_{136}	17.7	X	297.18304	40.49262	318.10001	16.47373	0.2688239	0.24057832	2.5603444	20	6 24.4	20.9
344902 2004 RZ_{142}	16.9	X	38.86841	212.73671	171.82893	8.11109	0.0851680	0.26187416	2.4195854	20	—	—
344903 2004 RY_{144}	17.2	X	137.64981	138.50037	144.55249	2.01797	0.1737990	0.26685784	2.3893663	20	—	—
344904 2004 RJ_{162}	17.0	X	308.02007	348.89256	313.49368	6.82201	0.1907802	0.23606407	2.5928822	20	4 30.1	20.3
344905 2004 RW_{182}	16.8	X	7.51089	123.90901	300.09259	5.04478	0.3105237	0.25907858	2.4369599	20	—	—
344906 2004 RG_{185}	16.9	X	14.60198	79.89463	331.56323	12.31128	0.2017419	0.25998487	2.4312932	20	—	—
344907 2004 RJ_{186}	17.3	X	121.80996	8.04633	283.91611	5.62079	0.1320914	0.26340661	2.4101918	20	—	—
344908 2004 RV_{195}	16.8	X	351.88682	91.36029	303.21264	7.68070	0.1023261	0.25393169	2.4697791	20	12 18.2	19.5
344909 2004 RG_{202}	17.9	X	36.56695	120.70320	203.78089	12.38089	0.2835513	0.25469424	2.4648470	20	12 14.6	21.6
344910 2004 RK_{213}	16.4	X	293.17880	39.19320	274.95222	13.09407	0.2129858	0.23366392	2.6106076	20	4 19.1	20.2
344911 2004 RF_{218}	17.4	X	43.33346	111.59816	210.27473	21.08392	0.0871136	0.37736462	1.8965397	20	12 20.3	20.0
344912 2004 RJ_{237}	17.9	X	22.08937	50.02136	313.10703	2.22702	0.1939250	0.25589336	2.4571408	20	—	—
344913 2004 RV_{239}	15.7	X	45.81101	320.81636	332.92707	1.92616	0.1859607	0.12530138	3.9551729	20	10 9.2	20.9
344914 2004 RR_{261}	17.8	X	255.12975	9.78085	180.41852	2.50072	0.1022295	0.26774969	2.3840575	20	—	—
344915 2004 RB_{289}	18.5	X	322.47702	55.40401	0.70614	21.37303	0.0441375	0.38046241	1.8862310	20	—	—
344916 2004 RT_{294}	16.2	X	145.13300	237.11766	349.35097	10.58289	0.0991822	0.25495982	2.4631350	20	11 11.4	20.1
344917 2004 RC_{314}	16.4	X	19.59793	108.25787	359.63056	18.75029	0.0646650	0.27200223	2.3591437	20	—	—
344918 2004 RY_{347}	17.9	X	340.80055	294.21585	177.13746	2.05282	0.1615891	0.26511035	2.3998546	20	—	—
344919 2004 SA_{36}	17.0	X	330.41364	204.79077	247.50454	5.02440	0.0740936	0.26243054	2.4161643	20	—	—
344920 2004 TA_{5}	17.1	X	271.66123	6.21791	19.20983	4.79919	0.1789706	0.23535120	2.5981154	20	7 8.0	20.6
344921 2004 TU_{8}	17.2	X	178.70641	63.00465	33.24902	20.79612	0.1039206	0.35757984	1.9658666	20	7 11.3	20.2
344922 2004 TO_{9}	17.6	X	359.91263	15.01460	22.33127	20.18923	0.0898353	0.38120956	1.8837656	20	—	—
344923 2004 TB_{12}	17.5	X	22.82338	252.58068	102.73169	1.64182	0.2374140	0.25401628	2.4692308	20	12 31.4	20.6
344924 2004 TB_{17}	17.1	X	318.34297	99.64082	234.04923	19.88740	0.0634584	0.36176724	1.9506674	20	7 26.9	19.4
344925 2004 TF_{32}	17.6	X	8.38515	54.58357	284.67357	2.45388	0.1301761	0.24762795	2.5115179	20	10 29.7	20.3
344926 2004 TE_{53}	16.6	X	254.32193	319.60514	33.56427	8.51302	0.1419253	0.22783439	2.6549511	20	5 7.7	20.5
344927 2004 TU_{62}	15.6	X	325.03680	172.91270	250.86491	1.73128	0.1915319	0.12481326	3.9654782	20	11 2.6	20.2
344928 2004 TH_{80}	16.8	X	202.42933	203.94408	220.35874	5.81930	0.2035731	0.23009754	2.6375138	20	6 12.4	21.2
344929 2004 TK_{90}	17.8	X	281.25927	84.90296	307.36663	1.95766	0.1945811	0.23894947	2.5719667	20	7 28.5	21.0
344930 2004 TU_{117}	16.9	X	56.49042	284.86741	93.01007	3.48348	0.2274193	0.26108234	2.4244750	20	—	—
344931 2004 TQ_{169}	16.6	X	254.04969	324.89755	57.60924	4.99521	0.1987785	0.23327550	2.6135048	20	6 8.5	20.5
344932 2004 TO_{174}	17.8	X	33.70948	175.56897	166.89883	2.77977	0.2116765	0.25479175	2.4642181	20	12 24.6	21.1
344933 2004 TY_{175}	17.0	X	287.04782	331.88335	41.66872	13.32544	0.1755936	0.23680539	2.5874681	20	7 16.2	20.4
344934 2004 TY_{180}	16.9	X	319.29602	80.21711	178.03228	5.32578	0.2031240	0.22953283	2.6418380	20	3 19.1	20.0
344935 2004 TL_{203}	16.5	X	122.22726	339.88882	230.05450	14.21181	0.0670276	0.23871326	2.5736630	20	9 22.3	20.4
344936 2004 TK_{266}	17.2	X	323.39914	145.13362	214.21506	11.57097	0.0648416	0.24061588	2.5600780	20	9 2.9	20.4
344937 2004 TT_{272}	16.6	X	82.93578	271.79596	19.52129	5.29781	0.2316354	0.25200090	2.4823784	20	12 10.9	20.7
344938 2004 TG_{285}	16.0	X	316.48496	31.67402	36.56610	2.59054	0.1884711	0.12441039	3.9740343	20	10 24.7	20.7
344939 2004 TT_{319}	16.4	X	200.01179	113.78115	30.06784	15.77541	0.0444398	0.24373517	2.5381887	20	10 7.4	19.9
344940 2004 TT_{344}	16.3	X	341.54202	5.54074	51.81685	9.09001	0.1523397	0.25299620	2.4758636	20	—	—
344941 2004 TF_{347}	16.5	X	32.98449	296.67850	98.84163	5.54824	0.1933922	0.25907554	2.4369789	20	—	—
344942 2004 TA_{369}	16.9	X	355.74784	209.29886	181.71963	3.92947	0.1734081	0.25078775	2.4903774	20	12 28.3	19.5
344943 2004 VL_{2}	16.8	X	11.83401	150.11666	250.98804	5.16968	0.1456048	0.25706665	2.4496586	20	—	—
344944 2004 VD_{3}	17.6	X	20.58713	343.43356	63.81902	3.29608	0.1604409	0.25724837	2.4485048	20	—	—
344945 2004 VQ_{21}	14.8	X	338.24062	6.56514	58.77510	12.12579	0.2678979	0.12394075	3.9840669	20	11 28.2	18.7
344946 2004 VM_{38}	16.2	X	5.47918	302.40362	96.54984	0.04483	0.2303782	0.12639217	3.9323841	20	12 19.5	20.6
344947 2004 VB_{44}	15.6	X	352.46628	324.35915	105.12360	3.42516	0.2713748	0.12635680	3.9331180	20	—	—
344948 2004 VA_{49}	16.8	X	348.00504	273.64074	99.95099	6.12996	0.1333742	0.24566510	2.5248781	20	11 15.2	19.5
344949 2004 VF_{52}	15.5	X	6.98862	291.85263	99.45118	4.11608	0.3061211	0.12696026	3.9206449	20	12 23.1	19.8
344950 2004 VO_{52}	16.4	X	331.49795	272.17959	132.88126	3.89084	0.1041253	0.24692638	2.5162728	20	11 27.7	19.0
344951 2004 VU_{63}	16.4	X	244.78421	342.66148	64.98914	12.68941	0.1732979	0.23154127	2.6265386	20	7 4.9	20.4
344952 2004 VK_{64}	15.6	X	3.55343	310.56088	102.77080	12.82246	0.1015519	0.19171208	2.9787661	20	—	—
344953 2004 VQ_{72}	15.3	X	0.05258	320.83166	70.00593	3.45396	0.2797807	0.12497334	3.9620911	20	12 4.6	19.5
344954 2004 VL_{75}	17.6	X	60.79598	79.39961	242.18538	19.18183	0.0576527	0.37717129	1.8971877	20	—	—
344955 2004 VB_{81}	15.3	X	358.53689	356.69728	61.08603	3.10520	0.0980116	0.12736926	3.9122472	20	12 18.9	20.3
344956 2004 VF_{92}	16.5	X	88.89172	28.05886	221.35590	14.81812	0.1829321	0.24045174	2.5612429	20	10 20.3	20.4
344957 2004 VX_{99}	17.7	X	359.30867	247.07881	50.28428	2.44331	0.1221824	0.23716778	2.5848316	20	8 11.9	20.3
344958 2004 WL_{2}	17.3	X	241.15082	215.11877	186.61281	0.80785	0.2949687	0.23120467	2.6290872	20	6 11.0	21.5
344959 2004 XH	14.8	X	351.24384	333.20264	72.88646	6.48928	0.2365754	0.12368840	3.9894841	20	12 1.4	19.1
344960 2004 XE_{7}	16.1	X	320.69775	129.88472	289.91632	8.01073	0.1657842	0.24565997	2.5249132	20	11 28.8	18.4

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
344961 2004 XG_{10}	17.4	X	241.40541	221.45636	246.13066	5.49066	0.2955766	0.23754809	2.5820720	20	8 31.2	21.4
344962 2004 XR_{11}	16.6	X	348.93830	87.55989	300.67814	1.35628	0.1025741	0.24609351	2.5219469	20	12 1.9	19.3
344963 2004 XT_{13}	15.9	X	299.44282	336.55637	97.94403	15.31570	0.1547441	0.24088792	2.5581502	20	11 12.9	18.7
344964 2004 XN_{18}	15.7	X	27.22887	275.18561	78.55913	13.80561	0.1052799	0.24767104	2.5112265	20	12 13.3	18.8
344965 2004 XH_{20}	16.3	X	347.81997	280.00364	80.94324	14.25929	0.0913982	0.24040165	2.5615987	20	10 27.6	19.4
344966 2004 XA_{23}	15.8	X	345.73658	303.03429	79.82011	15.23371	0.1282710	0.24414826	2.5353249	20	11 23.8	18.5
344967 2004 XC_{24}	17.8	X	283.56908	345.91500	87.61113	6.86991	0.2434564	0.24204933	2.5499606	20	9 26.7	20.6
344968 2004 XT_{31}	15.8	X	302.36349	117.88786	279.00975	21.42499	0.0577724	0.23503419	2.6004511	20	9 12.4	19.6
344969 2004 XQ_{49}	17.2	X	311.49129	339.58186	72.82543	5.27153	0.0565112	0.24303263	2.5430779	20	11 4.1	20.2
344970 2004 XX_{50}	17.1	X	291.92389	56.08679	10.58128	4.00601	0.2513306	0.23956086	2.5675888	20	9 26.8	19.6
344971 2004 XN_{58}	16.8	X	254.81396	158.09674	297.65565	13.05330	0.2064636	0.23638993	2.5904989	20	9 7.9	20.7
344972 2004 XN_{69}	15.9	X	322.06180	95.25600	271.72780	9.15357	0.1445281	0.23781084	2.5801698	20	9 5.7	18.8
344973 2004 XW_{74}	16.8	X	220.35040	22.08715	81.17736	5.57284	0.1498232	0.23497840	2.6008626	20	8 25.3	20.7
344974 2004 XX_{92}	16.0	X	213.35495	323.14667	51.99737	9.82981	0.0916586	0.21985209	2.7188317	20	4 28.3	20.1
344975 2004 XE_{100}	16.5	X	288.45284	315.35094	103.73720	6.92124	0.1429241	0.23712603	2.5851350	20	9 29.5	19.4
344976 2004 XP_{108}	16.7	X	298.65848	52.59843	18.01319	5.66463	0.1519475	0.24176526	2.5519576	20	10 29.8	19.1
344977 2004 XY_{108}	16.5	X	289.67100	79.44601	292.45381	7.50552	0.1873374	0.23312842	2.6146039	20	7 13.3	19.5
344978 2004 XX_{118}	17.4	X	260.23625	186.92232	281.88909	5.26084	0.1983518	0.23894637	2.5719889	20	10 8.5	20.6
344979 2004 XC_{122}	16.4	X	314.66166	305.06985	45.67588	5.36773	0.2212830	0.23477486	2.6023657	20	7 24.7	18.8
344980 2004 XQ_{124}	15.9	X	324.32684	20.61052	348.21034	18.03415	0.2133629	0.23717776	2.5847591	20	9 14.3	18.0
344981 2004 XQ_{128}	16.1	X	359.10755	278.43139	78.83513	9.94489	0.0988837	0.24169827	2.5524291	20	11 7.2	19.1
344982 2004 XC_{146}	16.6	X	203.90487	70.42786	73.65480	18.14667	0.1229007	0.23849021	2.5752675	20	10 10.2	20.8
344983 2004 XS_{150}	15.9	X	2.89326	252.51481	66.05207	14.79064	0.1055789	0.23578794	2.5949062	20	9 25.9	19.2
344984 2004 XU_{191}	16.0	X	296.44574	42.94162	39.05106	16.25179	0.1744869	0.23935435	2.5690655	20	11 7.8	18.3
344985 2004 YV_{10}	16.9	X	309.34527	338.09764	91.58959	1.86959	0.0879046	0.24630255	2.5205198	20	11 23.4	19.6
344986 2004 YT_{16}	16.5	X	348.58558	274.19590	94.35909	3.21164	0.0931099	0.23707648	2.5854952	20	11 2.2	19.4
344987 2004 YB_{36}	15.9	X	245.74476	153.47834	302.56517	13.80409	0.0768048	0.23320239	2.6140510	20	9 14.9	19.7
344988 2005 AQ_{2}	16.6	X	296.78267	326.19071	92.12222	4.57751	0.1701683	0.23691060	2.5867019	20	10 8.5	19.2
344989 2005 AV_{7}	16.5	X	297.45677	80.13829	348.45335	5.09261	0.2237229	0.23900798	2.5715469	20	10 13.8	18.8
344990 2005 AY_{17}	16.0	X	179.01946	17.93969	110.39743	13.84082	0.0771909	0.22668443	2.6639225	20	8 17.4	20.0
344991 2005 AN_{18}	16.7	X	258.11866	344.67969	118.33819	6.92237	0.2497704	0.23622847	2.5916791	20	9 25.4	20.2
344992 2005 AQ_{20}	15.8	X	129.06650	100.68596	112.44433	15.45961	0.0859947	0.23049254	2.6344996	20	10 16.3	20.0
344993 2005 AP_{28}	17.3	X	274.80534	286.11944	120.14069	24.66964	0.1028987	0.35717729	1.9673433	20	9 21.3	19.6
344994 2005 AN_{29}	16.1	X	234.52317	290.65654	117.15698	13.89734	0.2635346	0.22435773	2.6823083	20	6 16.7	20.7
344995 2005 AP_{41}	17.1	X	218.32256	5.82718	118.41454	6.04826	0.2482052	0.23234077	2.6205097	20	9 8.8	21.3
344996 2005 AG_{52}	16.5	X	258.36238	288.65538	140.50667	17.06425	0.2298837	0.23275301	2.6174145	20	8 10.5	20.0
344997 2005 AG_{57}	16.4	X	319.86450	261.43351	167.23099	12.19272	0.2996444	0.24429187	2.5343312	20	12 18.5	18.1
344998 2005 AM_{70}	16.3	X	226.86863	50.30659	51.66128	13.72332	0.2355008	0.22972940	2.6403307	20	8 25.6	20.7
344999 2005 AZ_{73}	16.9	X	275.94305	37.24545	320.50573	5.33282	0.0509936	0.21959212	2.7209771	20	6 24.9	20.5
345000 2005 AK_{76}	16.9	X	119.80280	92.41004	70.70123	3.40486	0.1028882	0.21838475	2.7309967	20	7 26.8	20.9
345001 2005 BE_{7}	16.3	X	277.20085	303.38506	97.47915	13.27002	0.1775533	0.23109807	2.6298956	20	8 8.0	19.7
345002 2005 BR_{10}	16.4	X	214.28437	320.50482	131.91077	13.28254	0.1221475	0.22603186	2.6690474	20	8 4.0	20.4
345003 2005 BF_{49}	16.6	X	297.07149	78.22295	52.11813	7.68176	0.1315948	0.24511070	2.5286838	20	—	—
345004 2005 CK_{1}	16.5	X	327.30483	78.08743	311.79396	3.91635	0.2540764	0.23871329	2.5736629	20	10 26.5	18.3
345005 2005 CK_{5}	16.3	X	241.09555	359.57677	144.96727	14.05525	0.2142073	0.23562514	2.5961013	20	11 4.4	20.1
345006 2005 CF_{6}	17.0	X	237.19962	159.27493	324.91106	3.72484	0.2217666	0.23283112	2.6168291	20	9 26.9	20.9
345007 2005 CH_{14}	16.9	X	267.02423	316.62389	115.84589	5.14194	0.2499536	0.23326616	2.6135745	20	8 24.6	20.3
345008 2005 CP_{14}	17.5	X	207.24794	172.88418	337.32908	2.88560	0.1286388	0.23198329	2.6232011	20	10 8.7	21.3
345009 2005 CL_{16}	15.8	X	329.56119	5.46979	316.78702	12.34124	0.0768575	0.22093921	2.7099057	20	7 24.7	19.0
345010 2005 CX_{27}	16.3	X	332.93117	324.35417	65.64252	6.29857	0.2298996	0.24094111	2.5577737	20	11 14.2	18.2
345011 2005 CM_{29}	17.1	X	190.64093	51.18289	105.11343	3.22551	0.1393189	0.22898935	2.6460164	20	9 30.6	21.1
345012 2005 CL_{62}	16.8	X	271.64730	67.68266	21.63092	4.39379	0.2505877	0.23665308	2.5885781	20	9 23.6	19.8
345013 2005 CZ_{65}	16.6	X	252.16787	313.47691	150.89767	13.68961	0.2165083	0.23210033	2.6223191	20	9 23.5	20.2
345014 2005 DT_{1}	16.7	X	264.18607	61.12860	45.98385	13.77046	0.2269391	0.23578625	2.5949186	20	10 14.2	19.9
345015 2005 EC_{2}	17.5	X	257.67821	75.48360	342.60804	19.06335	0.0720774	0.35336066	1.9814841	20	9 4.4	19.2
345016 2005 EP_{4}	17.1	X	258.61945	126.26963	329.96665	2.73879	0.1778740	0.23368036	2.6104852	20	9 23.7	20.5
345017 2005 EP_{8}	17.2	X	279.97387	303.41590	128.77458	2.20485	0.1495399	0.23476758	2.6024195	20	9 29.4	20.0
345018 2005 EK_{43}	16.6	X	267.97933	99.41155	355.82329	3.61827	0.2745026	0.23484515	2.6018464	20	9 20.8	19.7
345019 2005 EZ_{45}	15.8	X	51.61365	77.40790	157.13493	12.58778	0.1423669	0.21395238	2.7685857	20	8 8.4	19.5
345020 2005 EU_{59}	17.0	X	280.87411	16.61010	330.65109	7.59328	0.0416824	0.21483095	2.7610323	20	6 18.6	20.8
345021 2005 EF_{72}	16.1	X	166.38599	13.30480	114.77891	10.60225	0.0941041	0.21902572	2.7256660	20	7 31.4	20.1
345022 2005 EY_{77}	16.2	X	307.22720	133.50687	307.14837	3.97801	0.2749439	0.24027580	2.5624930	20	11 23.1	17.8
345023 2005 EF_{83}	16.4	X	158.26209	157.47347	353.26099	10.45368	0.1077399	0.21891278	2.7266034	20	8 23.0	20.6
345024 2005 EV_{83}	15.8	X	129.42614	190.34280	311.38503	10.35427	0.0556579	0.21330057	2.7742231	20	7 5.7	19.8
345025 2005 EF_{92}	16.3	X	117.26872	155.06412	4.92172	10.80965	0.1470685	0.21255019	2.7807485	20	7 26.4	20.7
345026 2005 EQ_{97}	16.4	X	292.92529	209.93591	231.59071	4.28167	0.3045378	0.23898391	2.5717196	20	10 10.4	18.4
345027 2005 EE_{110}	16.8	X	279.26215	235.60681	153.15545	15.04847	0.1527003	0.22369949	2.6875675	20	7 24.9	20.4
345028 2005 EV_{112}	17.1	X	240.51014	267.74147	157.14983	5.58399	0.1473046	0.22215564	2.7000045	20	7 24.6	21.0
345029 2005 EV_{119}	17.1	X	221.24553	119.26964	10.99817	3.25614	0.1911956	0.23005909	2.6378076	20	9 22.8	21.1
345030 2005 EU_{145}	16.2	X	220.27329	266.23073	17.82125	6.66556	0.1431902	0.18462365	3.0545307	20	1 18.2	21.2
345031 2005 EN_{148}	15.8	X	201.68117	258.91101	31.55371	9.26185	0.0665343	0.18275429	3.0753248	20	1 8.6	20.6
345032 2005 EP_{162}	16.5	X	170.08227	40.87107	11.97614	6.07739	0.0601621	0.20336996	2.8638143	20	4 26.9	20.8
345033 2005 EX_{163}	17.1	X	137.74010	320.68438	170.32112	3.15420	0.1650895	0.21199500	2.7856014	20	7 7.4	21.6
345034 2005 EA_{165}	17.2	X	166.83865	309.20118	163.15039	4.78731	0.0554098	0.21267054	2.7796994	20	7 9.8	21.4
345035 2005 EA_{168}	16.8	X	230.12727	200.91136	188.37556	4.27092	0.0793492	0.20976831	2.8052795	20	6 4.6	20.9
345036 2005 EP_{176}	16.6	X	219.70917	115.04585	3.36653	27.46826	0.2890527	0.22689873	2.6622449	20	9 6.5	21.3
345037 2005 ED_{189}	15.9	X	195.67012	252.93016	269.04318	11.36705	0.2293113	0.22862304	2.6488420	20	9 28.9	20.5
345038 2005 EJ_{190}	17.4	X	315.38070	268.81499	172.79969	5.14623	0.2051820	0.24282889	2.5445001	20	12 20.9	19.5
345039 2005 EB_{225}	15.7	X	159.54552	57.36811	88.21493	25.97705	0.2407302	0.21688818	2.7435453	20	8 22.5	20.9
345040 2005 ER_{229}	17.0	X	285.26624	15.64833	358.38659	4.07274	0.1113595	0.22090270	2.7102043	20	7 22.2	20.4

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345041 2005 ES_{233}	16.7	X	179.77014	11.86567	117.82101	10.70200	0.1713427	0.22069115	2.7119360	20	8 15.5	21.2
345042 2005 EC_{270}	16.5	X	141.08349	117.80821	37.32792	7.09245	0.1136159	0.21640620	2.7476174	20	8 11.3	20.8
345043 2005 EH_{284}	17.1	X	269.34698	199.89415	194.60299	3.68038	0.0969468	0.21773325	2.7364418	20	7 27.3	20.8
345044 2005 EP_{286}	16.7	X	146.62474	70.55575	82.88330	15.51659	0.2206140	0.21756455	2.7378562	20	8 19.9	21.6
345045 2005 EC_{320}	16.3	X	152.25650	237.26066	159.50295	15.50732	0.1526103	0.20384977	2.8593187	20	3 28.6	20.9
345046 2005 FJ_{4}	16.2	X	90.74504	153.26195	34.81427	10.45399	0.2295774	0.21102630	2.7941196	20	8 13.5	20.7
345047 2005 GC_{2}	16.2	X	261.54039	32.85615	102.68588	13.91593	0.0691676	0.23627488	2.5913397	20	12 8.9	19.5
345048 2005 GO_{40}	16.6	X	142.64913	297.09479	198.35096	8.91530	0.1682869	0.21083168	2.7958389	20	7 16.2	21.3
345049 2005 GP_{48}	17.1	X	230.62083	314.75184	157.96775	2.04733	0.1831747	0.22445625	2.6815233	20	9 10.4	20.9
345050 2005 GJ_{54}	17.0	X	61.15410	28.01566	198.45754	2.89253	0.0329128	0.21256012	2.7806620	20	7 25.1	20.7
345051 2005 GD_{72}	16.5	X	281.53381	122.15063	174.09660	7.42571	0.1403822	0.19812999	2.9140873	20	3 31.1	20.7
345052 2005 GQ_{73}	16.9	X	152.43934	103.69874	32.01395	6.59130	0.0357897	0.21067822	2.7971964	20	7 25.1	20.9
345053 2005 GD_{103}	17.4	X	155.80816	285.26103	27.49937	7.11957	0.3010718	0.30038575	2.2080886	20	—	—
345054 2005 GK_{104}	16.9	X	89.95765	173.20020	5.62558	4.92072	0.0930484	0.21172134	2.7880012	20	7 10.5	20.8
345055 2005 GO_{109}	17.0	X	331.39006	131.74869	153.09430	2.53420	0.0252704	0.20307438	2.8665924	20	6 7.2	20.8
345056 2005 GJ_{119}	15.9	X	216.04353	358.01931	144.93725	15.32115	0.1900979	0.22637901	2.6663180	20	10 7.2	20.2
345057 2005 GX_{129}	16.6	X	132.43539	24.98434	129.74625	4.28357	0.1197943	0.21088595	2.7953592	20	7 29.6	21.0
345058 2005 GY_{129}	16.0	X	178.12917	153.35539	180.93920	10.30613	0.2489599	0.18065682	3.0990825	20	2 8.3	21.6
345059 2005 GO_{133}	16.7	X	195.17019	302.80023	153.83061	4.13118	0.0589483	0.21154685	2.7895341	20	7 22.3	20.7
345060 2005 GC_{147}	16.2	X	238.62978	274.96919	2.02830	4.98373	0.1149698	0.18382400	3.0633827	20	1 27.9	21.0
345061 2005 GF_{164}	16.3	X	297.71093	277.37220	25.30757	4.70736	0.1208232	0.19847152	2.9107434	20	4 30.6	20.3
345062 2005 GP_{166}	16.7	X	255.09886	271.02720	40.05438	9.86420	0.1035578	0.19301577	2.9653379	20	3 27.2	21.1
345063 2005 GU_{166}	16.6	X	319.25076	190.05728	30.47719	12.86021	0.0282885	0.18963622	3.0004647	20	3 5.9	20.9
345064 2005 GT_{172}	16.0	X	202.82261	218.86235	84.81998	3.41799	0.1453262	0.18141240	3.0904714	20	1 24.8	20.9
345065 2005 GU_{204}	16.2	X	207.01835	74.79606	213.13591	24.35980	0.3387395	0.17456039	3.1708248	20	1 5.8	22.5
345066 2005 JR_{1}	16.5	X	142.89346	119.18660	45.30646	10.74951	0.2500173	0.21514074	2.7583811	20	8 31.5	21.5
345067 2005 JY_{15}	15.6	X	325.71006	140.51715	49.87844	10.63859	0.0748215	0.18420279	3.0591815	20	1 29.3	19.9
345068 2005 JF_{27}	16.0	X	288.28646	207.65642	48.74983	9.87118	0.2516472	0.18742691	3.0239974	20	2 9.3	20.8
345069 2005 JW_{32}	16.5	X	216.15825	64.03617	225.56636	20.63954	0.2039366	0.17767683	3.1336382	20	1 13.9	22.2
345070 2005 JV_{42}	15.4	X	200.84515	60.06057	211.81154	15.65141	0.1750113	0.17223895	3.1992521	20	—	—
345071 2005 JE_{47}	16.3	X	270.99418	223.99263	50.87591	14.31233	0.0487421	0.18867083	3.0106911	20	3 12.3	20.8
345072 2005 JC_{52}	16.8	X	312.32589	161.47822	105.74576	3.27300	0.0664773	0.19477141	2.9474916	20	4 15.0	20.7
345073 2005 JO_{65}	17.3	X	180.24942	223.38526	89.29450	5.79894	0.1952811	0.30606885	2.1806701	20	1 1.8	20.6
345074 2005 JE_{69}	15.7	X	172.25246	186.54942	137.70085	18.77041	0.1895502	0.17398831	3.1777715	20	1 23.6	21.0
345075 2005 JP_{78}	16.8	X	308.96644	214.22630	38.64471	5.06896	0.1471732	0.19040656	2.9923665	20	3 12.4	20.7
345076 2005 JB_{87}	16.9	X	255.38428	259.09098	188.25774	11.30630	0.1587622	0.22564122	2.6721270	20	9 8.3	20.5
345077 2005 JN_{111}	16.0	X	203.65505	268.09871	98.99156	11.23310	0.1238400	0.19052330	2.9911440	20	4 12.9	20.9
345078 2005 JX_{134}	17.0	X	117.19048	304.24578	199.06525	6.01398	0.1962290	0.20446163	2.8536114	20	7 4.9	21.6
345079 2005 JW_{146}	15.6	X	180.68547	233.41845	115.70715	17.54611	0.1155544	0.18215929	3.0820180	20	2 28.9	20.6
345080 2005 JO_{162}	16.6	X	223.63710	59.31314	205.69184	9.65465	0.1756766	0.17438726	3.1729230	20	—	—
345081 2005 JH_{182}	16.0	X	197.72936	251.82433	73.09662	17.40769	0.1327678	0.18196112	3.0842553	20	2 19.3	21.2
345082 2005 KS_{1}	16.5	X	282.00508	128.95590	124.88592	4.18952	0.1999754	0.18436080	3.0574333	20	2 2.7	21.0
345083 2005 KK_{3}	15.7	X	87.60869	272.53711	67.90888	6.81202	0.0260444	0.16755817	3.2585594	20	—	—
345084 2005 LA_{11}	15.8	X	1.06867	87.34459	115.74178	11.21760	0.0474137	0.18998927	2.9967465	20	4 6.9	19.9
345085 2005 LJ_{21}	16.4	X	140.42031	287.57593	240.20717	13.60722	0.2404837	0.21403469	2.7678758	20	8 21.8	21.5
345086 2005 LY_{25}	16.4	X	273.82179	28.40710	204.53818	12.94912	0.1142778	0.17939919	3.1135492	20	1 8.9	21.3
345087 2005 LA_{39}	16.1	X	249.61592	99.60196	216.38387	14.84599	0.1350479	0.18631211	3.0360482	20	3 17.7	21.0
345088 2005 MF	15.9	X	215.68550	37.06437	255.39179	13.91744	0.2268247	0.17549685	3.1595349	20	1 18.5	21.5
345089 2005 MX_{6}	16.0	X	182.36068	106.75782	204.27682	14.63041	0.2456984	0.17212237	3.2006965	20	1 16.2	21.8
345090 2005 MM_{15}	17.5	X	137.40403	74.05970	262.77804	2.81464	0.2162718	0.29388399	2.2405369	20	—	—
345091 2005 MG_{19}	16.7	X	328.55953	5.60292	216.29000	6.94784	0.1007046	0.18716162	3.0268543	20	3 2.8	20.6
345092 2005 MD_{21}	18.0	X	231.29263	47.73356	217.33637	2.59513	0.1998280	0.30279994	2.1963364	20	—	—
345093 2005 MO_{29}	15.5	X	328.99385	288.11935	278.18377	11.28467	0.0925721	0.17573098	3.1567280	20	2 13.7	19.8
345094 2005 MV_{35}	18.1	X	213.43232	283.80612	9.15012	1.17988	0.1211052	0.30302800	2.1952343	20	1 5.6	21.1
345095 2005 MB_{40}	17.7	X	224.87852	43.84737	258.16315	6.77588	0.1702935	0.30696834	2.1764081	20	1 25.8	21.1
345096 2005 MG_{40}	18.6	X	161.01141	126.62927	214.88441	3.05847	0.2223661	0.29951494	2.2123664	20	1 22.3	21.8
345097 2005 NH_{1}	17.7	X	132.58813	241.20589	91.42757	2.76639	0.3583007	0.29067833	2.2569795	20	1 1.0	21.0
345098 2005 NK_{10}	16.2	X	101.63179	221.30856	283.47938	4.80580	0.1731080	0.19126600	2.9833958	20	6 18.9	20.7
345099 2005 NA_{15}	17.5	X	128.71474	26.98562	314.03843	3.18713	0.1945286	0.29311329	2.2444626	20	—	—
345100 2005 NS_{24}	15.9	X	131.81811	172.88492	259.11054	8.27231	0.0110012	0.17948094	3.1126037	20	3 31.6	20.5
345101 2005 NK_{35}	15.9	X	141.77660	280.04950	114.55746	10.21889	0.0897906	0.17334847	3.1855863	20	3 14.0	20.8
345102 2005 NO_{42}	15.8	X	183.67867	62.34307	282.54323	7.81065	0.0913430	0.17361860	3.1822811	20	2 20.2	20.9
345103 2005 NA_{47}	17.9	X	168.19642	3.52350	309.42752	6.37668	0.1299685	0.29702787	2.2246990	20	—	—
345104 2005 NU_{70}	17.9	X	163.32895	226.21690	85.30298	4.42356	0.2542766	0.29504076	2.2346767	20	—	—
345105 2005 NY_{71}	18.2	X	215.43186	120.27108	155.15908	5.49649	0.1795441	0.30151543	2.2025698	20	—	—
345106 2005 OS_{4}	17.3	X	143.33140	239.68400	97.55147	6.40940	0.2671379	0.29417746	2.2390465	20	1 6.2	20.4
345107 2005 OV_{15}	17.7	X	71.01423	52.66474	284.36745	4.45459	0.1911996	0.28117191	2.3075693	20	—	—
345108 2005 PF_{4}	17.8	X	48.60028	173.84944	146.16050	10.26760	0.2574864	0.27458030	2.3443537	20	12 22.6	21.4
345109 2005 PS_{10}	17.9	X	143.57377	245.58979	106.10768	6.93677	0.1835448	0.29624130	2.2286352	20	1 14.9	20.7
345110 2005 QL_{2}	16.8	X	32.76763	97.62247	240.99322	5.67886	0.1331166	0.27477204	2.3432630	20	12 12.1	19.7
345111 2005 QX_{8}	17.6	X	53.11221	206.63472	162.05587	5.05009	0.1709249	0.28047633	2.3113829	20	—	—
345112 2005 QD_{33}	17.8	X	156.74010	184.40547	177.73795	0.41459	0.0963378	0.30047450	2.2076538	20	2 1.5	20.4
345113 2005 QY_{36}	17.6	X	178.77526	123.04617	184.49443	5.78157	0.2148431	0.29543082	2.2327093	20	—	—
345114 2005 QA_{38}	16.9	X	105.37430	176.75317	184.54351	9.23703	0.1455450	0.28797743	2.2710694	20	—	—
345115 2005 QY_{39}	17.0	X	109.02561	120.33535	240.71247	5.49177	0.2189513	0.29034096	2.2587275	20	—	—
345116 2005 QS_{41}	18.0	X	153.53712	133.68296	207.14402	3.26798	0.1850934	0.29560730	2.2318206	20	1 11.1	21.2
345117 2005 QM_{52}	17.5	X	38.30008	303.19541	87.95545	4.46937	0.2344574	0.28068878	2.3102165	20	—	—
345118 2005 QW_{59}	17.6	X	119.01162	96.05659	271.45531	1.90465	0.1863460	0.29130167	2.2537586	20	1 6.7	20.1
345119 2005 QJ_{70}	17.5	X	205.27484	150.89051	146.05852	5.76322	0.1903130	0.29953335	2.2122757	20	1 4.8	21.0
345120 2005 QR_{73}	16.9	X	10.21029	55.28953	292.67067	3.58627	0.2066379	0.26860783	2.3789771	20	12 2.7	19.4

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345121 2005 QQ_{95}	15.5	X	251.66606	157.51238	130.28297	5.67365	0.1457644	0.17399875	3.1776444	20	2 19.8	20.5
345122 2005 QU_{103}	17.9	X	105.36826	80.92466	304.14688	4.99413	0.1210748	0.29295827	2.2452543	20	—	—
345123 2005 QD_{131}	17.5	X	166.91333	247.14851	62.94062	3.01649	0.2200573	0.29415918	2.2391393	20	—	—
345124 2005 QR_{148}	17.9	X	155.04493	239.29893	79.30094	5.80802	0.2604850	0.29420549	2.2389043	20	—	—
345125 2005 QF_{157}	17.4	X	183.27054	6.71945	302.09310	3.94862	0.1643555	0.29431186	2.2383649	20	—	—
345126 2005 QQ_{159}	17.5	X	77.87466	268.00172	70.26546	4.56473	0.1338199	0.28168215	2.3047819	20	—	—
345127 2005 QK_{165}	16.9	X	32.32080	259.91851	58.77102	6.47846	0.1341911	0.26805383	2.3822539	20	11 13.5	19.7
345128 2005 QH_{169}	17.2	X	185.39818	323.26869	37.42227	6.10490	0.1967480	0.30366796	2.1921490	20	3 9.8	20.7
345129 2005 QN_{172}	17.9	X	154.24003	45.86222	291.18252	3.52401	0.1222487	0.29313558	2.2443488	20	—	—
345130 2005 RS_{29}	18.2	X	109.67126	176.95778	192.95066	22.75788	0.1203721	0.42478514	1.7526284	20	—	—
345131 2005 SC_{1}	18.2	X	166.17929	226.61911	69.27906	2.46470	0.3260302	0.29132302	2.2536485	20	—	—
345132 2005 SB_{3}	17.4	X	113.63446	352.93462	5.68419	3.07969	0.1742220	0.28837670	2.2689727	20	—	—
345133 2005 SL_{4}	17.1	X	114.35422	21.37960	359.65187	7.70156	0.1593185	0.29122789	2.2541393	20	1 16.8	19.7
345134 2005 SK_{5}	17.3	X	38.39947	107.55881	195.39372	12.19937	0.2231836	0.26798199	2.3826796	20	11 15.3	20.5
345135 2005 SO_{22}	17.5	X	342.10588	283.91799	110.79414	2.72689	0.1863771	0.26897251	2.3768263	20	12 18.0	19.4
345136 2005 SS_{39}	17.7	X	333.22071	116.22809	11.34572	4.61669	0.0548419	0.28412999	2.2915253	20	—	—
345137 2005 SV_{43}	18.0	X	359.87902	64.66722	0.34773	6.37921	0.0857544	0.27644112	2.3338214	20	—	—
345138 2005 SS_{44}	17.3	X	5.48023	170.77045	227.19652	3.56497	0.1335718	0.27275945	2.3547755	20	—	—
345139 2005 SP_{47}	17.4	X	12.65764	127.88387	356.21914	6.75316	0.0532908	0.29036820	2.2585862	20	—	—
345140 2005 SH_{53}	17.3	X	175.41066	359.03844	326.75832	3.52721	0.1557333	0.29597782	2.2299576	20	1 12.6	20.4
345141 2005 SH_{56}	16.7	X	54.57722	269.85270	28.01126	13.22265	0.2718433	0.26930211	2.3748866	20	11 28.1	20.4
345142 2005 SJ_{56}	18.0	X	109.02960	125.01225	174.89193	5.78804	0.2421406	0.27933211	2.3176907	20	—	—
345143 2005 SO_{71}	17.0	X	65.96193	227.79616	217.74604	4.96475	0.0644466	0.29321794	2.2439286	20	1 14.8	19.3
345144 2005 SV_{79}	17.4	X	77.52805	289.11352	16.14623	6.14490	0.1373226	0.27427105	2.3461156	20	12 20.3	20.9
345145 2005 SD_{83}	17.5	X	141.64051	117.80140	192.63102	6.65973	0.1450429	0.28654852	2.2786132	20	—	—
345146 2005 SL_{102}	17.6	X	168.43461	81.84564	235.41381	4.76877	0.2058544	0.29288960	2.2456052	20	—	—
345147 2005 SW_{107}	17.6	X	171.80957	117.82610	200.60868	5.74801	0.1851093	0.29351966	2.2423905	20	1 1.4	21.1
345148 2005 SE_{108}	17.1	X	60.20957	78.76687	200.66918	4.89140	0.0857479	0.26399608	2.4066027	20	10 20.1	20.0
345149 2005 SY_{115}	17.1	X	80.56509	62.91498	9.51026	4.61141	0.0895195	0.29326918	2.2436672	20	1 25.4	19.3
345150 2005 SB_{122}	17.3	X	238.28473	268.59128	322.18408	5.24064	0.0595548	0.28762612	2.2729183	20	—	—
345151 2005 SU_{123}	18.0	X	141.49132	194.62154	158.20211	1.52881	0.1704875	0.29290319	2.2455358	20	1 12.5	20.7
345152 2005 SJ_{128}	17.6	X	137.57426	19.65730	344.60912	5.89803	0.1367684	0.29294685	2.2453127	20	1 20.1	20.5
345153 2005 SP_{129}	16.8	X	13.97334	113.57033	25.96192	6.69769	0.0525426	0.29257491	2.2472152	20	1 11.5	19.4
345154 2005 SP_{131}	17.8	X	262.90387	290.67679	233.63545	1.04695	0.1018689	0.27633177	2.3344371	20	—	—
345155 2005 SB_{166}	17.3	X	104.30670	229.98951	136.95785	8.65674	0.2224311	0.28800261	2.2709371	20	—	—
345156 2005 SQ_{167}	17.0	X	111.25238	274.32175	90.60214	7.00360	0.2019408	0.28820556	2.2698708	20	—	—
345157 2005 SE_{171}	17.2	X	224.14871	259.07579	356.34144	7.02170	0.0797219	0.29073238	2.2566997	20	—	—
345158 2005 SO_{193}	17.4	X	1.53565	157.84146	216.92883	2.47534	0.2380364	0.26807976	2.3821002	20	12 31.8	19.9
345159 2005 SO_{205}	17.6	X	106.76532	63.80502	305.74190	5.73466	0.1489567	0.28957810	2.2626927	20	—	—
345160 2005 SN_{206}	17.6	X	15.86080	295.81199	67.12454	5.32325	0.2840635	0.27098614	2.3650373	20	—	—
345161 2005 SM_{223}	16.9	X	60.83905	333.99099	10.80550	11.93301	0.1905656	0.27819431	2.3240059	20	—	—
345162 2005 SK_{224}	15.8	X	113.01998	317.54258	14.15313	5.95581	0.1076100	0.14953946	3.5153252	20	—	—
345163 2005 SJ_{238}	17.8	X	123.53636	31.51179	337.50042	1.69539	0.0123698	0.28854437	2.2680936	20	—	—
345164 2005 SH_{249}	17.6	X	248.94165	162.18553	13.66182	2.45728	0.1436766	0.27429569	2.3459751	20	—	—
345165 2005 SJ_{260}	17.2	X	196.58887	232.25301	82.23181	3.83584	0.1672872	0.29776841	2.2210089	20	1 19.1	20.6
345166 2005 SP_{263}	17.9	X	110.97747	208.98276	118.69070	2.86485	0.2601877	0.28427431	2.2907497	20	—	—
345167 2005 ST_{265}	17.8	X	125.95687	241.17293	120.43446	3.54226	0.1367328	0.28953509	2.2629167	20	—	—
345168 2005 SD_{271}	17.5	X	111.26628	268.26469	90.80399	5.90297	0.1100861	0.28766265	2.2727259	20	—	—
345169 2005 SQ_{278}	17.9	X	148.22675	139.27652	191.48562	5.30826	0.1536017	0.29012350	2.2598561	20	—	—
345170 2005 SW_{285}	15.4	X	315.52337	129.62571	48.26210	11.70620	0.1206672	0.15458000	3.4384854	20	—	—
345171 2005 TO_{18}	17.6	X	59.88884	349.29960	43.84074	6.03498	0.1643427	0.28290980	2.2981095	20	—	—
345172 2005 TJ_{29}	17.9	X	43.10560	98.29974	200.65263	4.75248	0.1949441	0.26729489	2.3867610	20	11 10.6	20.9
345173 2005 TN_{36}	17.3	X	326.48008	347.32201	184.00098	7.16983	0.1570146	0.29174735	2.2514628	20	—	—
345174 2005 TM_{41}	17.8	X	189.51916	273.14140	15.17279	5.58765	0.2257421	0.29134876	2.2535158	20	—	—
345175 2005 TY_{65}	17.7	X	84.56255	55.12596	352.81855	6.94779	0.2014665	0.28846348	2.2685176	20	1 14.5	19.7
345176 2005 TF_{72}	17.8	X	31.28318	307.82413	113.28289	4.53525	0.2751573	0.28208496	2.3025873	20	—	—
345177 2005 TR_{73}	17.0	X	186.83406	273.81659	28.85220	7.00013	0.1822063	0.29643508	2.2276638	20	—	—
345178 2005 TS_{74}	17.0	X	81.27348	129.88504	310.04699	5.14914	0.1166994	0.29405583	2.2396639	20	2 8.3	19.2
345179 2005 TG_{78}	15.3	X	183.56258	69.04911	253.67644	7.28178	0.1390420	0.16174546	3.3361686	20	1 29.1	20.8
345180 2005 TA_{82}	18.0	X	60.84138	78.08861	354.48364	5.48163	0.1413220	0.28872400	2.2671528	20	—	—
345181 2005 TL_{94}	17.5	X	255.56430	328.56884	233.74582	5.57591	0.0666336	0.28387537	2.2928954	20	—	—
345182 2005 TF_{97}	17.1	X	269.50391	325.31236	225.65711	5.61376	0.0380469	0.28238214	2.3009715	20	—	—
345183 2005 TB_{99}	17.3	X	175.71203	137.60670	275.23560	4.57608	0.0452110	0.31044219	2.1601416	20	4 28.7	20.0
345184 2005 TL_{103}	17.2	X	149.78965	285.27764	18.88650	9.30049	0.2064639	0.28571066	2.2830658	20	—	—
345185 2005 TO_{128}	18.0	X	90.81172	14.60323	23.51568	4.51623	0.1203844	0.28825105	2.2696320	20	—	—
345186 2005 TC_{169}	17.5	X	290.37176	265.75657	256.18041	1.96566	0.1419425	0.27908426	2.3190627	20	—	—
345187 2005 TM_{171}	16.8	X	142.46424	142.25161	250.31805	7.42092	0.1217854	0.29782102	2.2207473	20	2 24.8	19.9
345188 2005 TY_{178}	17.7	X	17.21821	284.69707	212.71173	6.20008	0.0745993	0.29518110	2.2339684	20	1 8.6	20.1
345189 2005 TS_{182}	17.1	X	114.90704	297.71007	80.06847	8.29611	0.1758133	0.29188099	2.2507755	20	1 14.1	19.6
345190 2005 UX_{18}	17.8	X	59.25183	257.56038	132.33733	2.28085	0.2201215	0.27957454	2.3163507	20	—	—
345191 2005 UR_{21}	17.4	X	148.78405	309.60431	23.86069	7.86151	0.1495621	0.28904352	2.2654817	20	—	—
345192 2005 UD_{23}	18.1	X	358.10675	238.75177	230.64610	5.03853	0.0698276	0.28205614	2.3027441	20	—	—
345193 2005 UL_{28}	17.8	X	47.65463	110.88796	226.78938	0.80463	0.1970819	0.27103051	2.3647792	20	—	—
345194 2005 UM_{30}	17.5	X	75.44987	14.58592	340.50640	2.33970	0.2360087	0.27789119	2.3256956	20	—	—
345195 2005 UD_{31}	17.1	X	309.10529	283.56363	214.86928	6.41994	0.0532148	0.27808993	2.3245874	20	—	—
345196 2005 UG_{33}	17.8	X	71.70980	129.81988	212.51023	5.53641	0.1297274	0.27506549	2.3415961	20	—	—
345197 2005 UP_{50}	17.4	X	111.76622	109.59730	260.55435	1.93099	0.1819410	0.28742808	2.2739623	20	—	—
345198 2005 UB_{55}	17.1	X	56.66334	168.59698	256.48476	6.07309	0.0953051	0.28412206	2.2915680	20	—	—
345199 2005 UD_{56}	17.7	X	93.55129	144.84627	230.75395	5.94058	0.1925272	0.28378667	2.2933731	20	—	—
345200 2005 UV_{61}	17.1	X	63.81783	339.39237	50.44784	10.70728	0.1423872	0.27983180	2.3149308	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345201 2005 UB_{65}	17.3	X	157.26685	263.70300	66.28961	7.47440	0.1879083	0.29240970	2.2480615	20	1 2.7	20.4
345202 2005 UO_{71}	17.7	X	107.91011	43.04565	289.30944	6.09719	0.2045032	0.28266678	2.2994265	20	—	—
345203 2005 UE_{77}	16.8	X	337.24307	309.37060	114.08737	10.42640	0.0866791	0.26935883	2.3745532	20	—	—
345204 2005 UT_{85}	17.6	X	143.30009	251.29179	62.95618	3.64927	0.1789954	0.28529446	2.2852857	20	—	—
345205 2005 UW_{89}	17.5	X	11.00116	113.60692	348.70603	5.35317	0.0983825	0.28210446	2.3024811	20	—	—
345206 2005 UE_{91}	17.1	X	222.85117	336.04768	287.01820	4.48067	0.1085273	0.28752897	2.2734303	20	—	—
345207 2005 UA_{92}	17.4	X	31.46599	84.11196	343.19254	4.44329	0.0593803	0.28021816	2.3128024	20	—	—
345208 2005 UR_{93}	17.7	X	356.32755	133.29970	345.92721	3.78601	0.1338152	0.28142586	2.3061809	20	—	—
345209 2005 UD_{103}	17.1	X	35.36182	270.25518	54.36865	10.64154	0.2158753	0.26583987	2.3954621	20	12 5.8	20.3
345210 2005 UB_{108}	17.3	X	245.08428	104.98535	92.02583	2.98005	0.1435645	0.27503975	2.3417422	20	—	—
345211 2005 UZ_{109}	16.9	X	77.08904	122.57274	265.08377	4.82132	0.1492021	0.28143961	2.3061058	20	—	—
345212 2005 UA_{111}	18.3	X	40.34478	63.77541	8.44263	2.60973	0.1839597	0.28074374	2.3099150	20	—	—
345213 2005 UB_{112}	17.7	X	59.26703	52.21047	2.08293	2.45285	0.1195138	0.28201884	2.3029471	20	—	—
345214 2005 UO_{114}	16.8	X	111.06237	280.75552	94.17088	6.15412	0.1704313	0.28787612	2.2716022	20	1 3.9	19.1
345215 2005 UE_{115}	17.6	X	133.78009	28.71942	293.90479	5.73735	0.2022845	0.28718943	2.2752219	20	—	—
345216 2005 UN_{116}	17.0	X	49.81184	7.14323	74.27143	7.11520	0.1026491	0.28642553	2.2792654	20	—	—
345217 2005 UW_{139}	18.5	X	341.61892	309.60739	181.32360	1.14173	0.0696738	0.28280967	2.2986519	20	—	—
345218 2005 UJ_{152}	18.0	X	311.99813	194.35528	232.54996	1.65321	0.1563469	0.26418204	2.4054732	20	11 29.2	19.8
345219 2005 UB_{157}	17.5	X	66.45729	356.98799	352.61202	2.38744	0.1636651	0.27585152	2.3371458	20	—	—
345220 2005 UV_{158}	17.7	X	359.95521	327.77872	65.44480	2.53208	0.1957233	0.26889507	2.3772827	20	—	—
345221 2005 UH_{163}	17.7	X	92.57972	41.23531	4.65455	1.92444	0.0742805	0.28883503	2.2665718	20	1 4.0	20.0
345222 2005 UU_{168}	17.7	X	264.06356	339.76720	219.08074	5.54282	0.1158091	0.28180390	2.3041180	20	—	—
345223 2005 UR_{171}	17.9	X	63.59493	95.33924	264.89562	0.93553	0.2309931	0.27683505	2.3316069	20	—	—
345224 2005 UL_{173}	17.9	X	26.59625	99.59666	305.32207	0.83203	0.1791606	0.27564406	2.3383183	20	—	—
345225 2005 UC_{176}	17.5	X	192.33696	194.43795	44.32763	11.43311	0.1377668	0.27411630	2.3469985	20	—	—
345226 2005 UY_{189}	15.4	X	234.66994	267.88288	230.62487	1.96369	0.1321733	0.12580463	3.9446182	20	10 8.8	21.1
345227 2005 UY_{193}	17.5	X	158.13596	240.68681	49.48313	3.37734	0.1611658	0.28338612	2.2955337	20	—	—
345228 2005 UF_{198}	17.6	X	153.52899	11.93760	296.19683	3.11966	0.0366696	0.28295466	2.2978666	20	—	—
345229 2005 UY_{205}	17.3	X	253.59577	346.18327	223.75267	9.42221	0.0654811	0.27994940	2.3142824	20	—	—
345230 2005 UM_{214}	17.2	X	76.23403	18.46572	359.91285	4.82157	0.2242643	0.28138029	2.3064299	20	—	—
345231 2005 UR_{214}	17.5	X	70.63947	205.99898	167.04940	6.78278	0.1252957	0.28100799	2.3084666	20	—	—
345232 2005 UD_{215}	17.2	X	115.04118	216.96286	126.51262	5.92325	0.1618291	0.28471839	2.2883671	20	—	—
345233 2005 UL_{216}	16.9	X	108.24450	317.47663	60.18826	7.43575	0.1278104	0.28692780	2.2766047	20	—	—
345234 2005 UN_{216}	16.9	X	82.69182	307.09307	74.07325	7.94637	0.1180022	0.28123909	2.3072019	20	—	—
345235 2005 UX_{222}	18.1	X	53.99673	195.40776	240.25600	4.99629	0.1357861	0.28579371	2.2826234	20	—	—
345236 2005 UT_{234}	17.6	X	90.53998	269.64938	93.54295	3.67969	0.1762877	0.28158928	2.3052886	20	—	—
345237 2005 UT_{239}	17.4	X	114.57406	192.40435	160.33371	5.04756	0.1025705	0.28317797	2.2966584	20	—	—
345238 2005 UN_{247}	17.2	X	2.56846	274.83838	244.14372	5.74637	0.0962303	0.29158887	2.2522785	20	1 14.0	19.4
345239 2005 UY_{252}	17.1	X	76.16297	158.82282	247.45811	7.22602	0.2110941	0.28452525	2.2894026	20	—	—
345240 2005 UU_{266}	15.8	X	243.07368	332.00052	159.51474	3.23312	0.1608091	0.12435095	3.9753005	20	10 7.3	21.7
345241 2005 UV_{277}	17.9	X	65.95745	35.72599	33.07752	2.61233	0.1812307	0.28639096	2.2794488	20	1 4.3	19.5
345242 2005 UF_{283}	17.4	X	270.51015	220.35231	68.92537	4.95095	0.0049231	0.30108729	2.2046574	20	3 20.2	20.0
345243 2005 UL_{293}	18.0	X	104.69323	329.71725	337.89104	1.90597	0.2129542	0.27609907	2.3357485	20	—	—
345244 2005 UT_{304}	17.7	X	44.35296	297.43780	128.87445	6.39893	0.1422531	0.28083581	2.3094101	20	—	—
345245 2005 UE_{306}	17.5	X	187.86806	49.87059	223.28749	10.49461	0.1950435	0.28515000	2.2860574	20	—	—
345246 2005 UQ_{314}	17.0	X	110.10624	272.66435	88.48862	6.73754	0.1868398	0.28647893	2.2789821	20	—	—
345247 2005 UM_{410}	17.9	X	135.40002	230.25378	71.55381	6.88802	0.2158379	0.27908978	2.3190321	20	—	—
345248 2005 UZ_{410}	17.4	X	6.50466	4.12823	89.68524	2.82915	0.1902205	0.27705542	2.3303704	20	—	—
345249 2005 UJ_{433}	17.9	X	321.33715	91.56220	74.85564	1.56872	0.1718537	0.28046006	2.3114723	20	—	—
345250 2005 UX_{440}	17.1	X	150.53892	53.17954	298.90877	6.39419	0.1460495	0.29164969	2.2519654	20	1 19.2	20.1
345251 2005 UE_{455}	17.1	X	79.52503	148.67194	245.74732	5.97198	0.1349161	0.28252122	2.3002163	20	—	—
345252 2005 UV_{456}	16.2	X	305.25045	97.11184	56.49670	23.22157	0.1592814	0.27476976	2.3432759	20	—	—
345253 2005 UJ_{472}	17.6	X	71.38080	322.53380	48.53189	7.32728	0.1331190	0.27818360	2.3240655	20	—	—
345254 2005 UT_{477}	17.4	X	50.58544	350.32420	82.28777	7.16398	0.0799834	0.28366460	2.2940310	20	—	—
345255 2005 UR_{502}	16.9	X	304.10729	313.51363	93.71237	6.10141	0.1432484	0.26255385	2.4154077	20	10 16.9	19.2
345256 2005 VE_{6}	17.8	X	65.11360	188.35371	211.24791	6.67557	0.1088094	0.28280670	2.2986680	20	—	—
345257 2005 VT_{6}	17.7	X	62.39396	31.58879	356.11641	4.20346	0.1860591	0.27869165	2.3212402	20	—	—
345258 2005 VM_{8}	18.0	X	137.27431	124.25705	171.98406	2.42650	0.0533045	0.27792148	2.3255266	20	—	—
345259 2005 VT_{17}	17.0	X	144.59057	319.83152	75.38364	7.27379	0.1042357	0.29655067	2.2270849	20	3 8.1	20.0
345260 2005 VQ_{25}	17.4	X	96.22620	115.31180	261.21122	5.74559	0.1170758	0.28377171	2.2934537	20	—	—
345261 2005 VN_{28}	17.3	X	166.72550	61.97115	242.83634	3.99190	0.1804501	0.28784697	2.2717556	20	—	—
345262 2005 VT_{30}	17.7	X	332.27488	22.30995	90.80933	3.15530	0.1650966	0.27304960	2.3531070	20	—	—
345263 2005 VT_{42}	17.4	X	216.63013	219.40940	123.28559	5.74976	0.1731727	0.30293506	2.1956832	20	3 14.2	20.7
345264 2005 VV_{51}	18.0	X	53.55039	74.71456	276.57066	1.27267	0.1984113	0.27400919	2.3476101	20	—	—
345265 2005 VS_{59}	17.8	X	114.47298	110.13127	187.99933	4.55371	0.0598750	0.27350892	2.3504718	20	—	—
345266 2005 VC_{60}	17.7	X	102.59856	283.80195	47.58004	11.41407	0.2730759	0.28256200	2.2999949	20	—	—
345267 2005 VQ_{60}	17.8	X	118.21367	165.02615	158.13920	3.65425	0.1257600	0.27818018	2.3240846	20	—	—
345268 2005 VX_{61}	17.7	X	50.49534	48.52961	222.91792	5.44947	0.2404656	0.26560038	2.3969019	20	10 18.9	20.8
345269 2005 VA_{70}	17.7	X	106.89183	215.25217	104.84875	3.67515	0.1732684	0.27631271	2.3345444	20	—	—
345270 2005 VZ_{70}	17.2	X	337.74018	12.50894	74.20846	6.10450	0.1370913	0.27093221	2.3653511	20	—	—
345271 2005 VO_{95}	18.0	X	15.60114	249.59536	178.56300	2.19308	0.1739168	0.27492456	2.3423962	20	—	—
345272 2005 VG_{99}	16.6	X	45.31454	322.85120	65.07896	25.09239	0.2886304	0.27327429	2.3518170	20	—	—
345273 2005 VS_{102}	17.1	X	85.29133	127.29042	269.81422	7.10236	0.2621563	0.28614658	2.2807465	20	1 8.3	18.8
345274 2005 VY_{102}	17.4	X	352.86464	318.63783	55.09945	7.03890	0.1467025	0.26804875	2.3822839	20	11 30.3	19.7
345275 2005 VE_{104}	17.4	X	230.06629	237.48268	353.23173	5.50424	0.1249896	0.28277272	2.2988521	20	—	—
345276 2005 WP_{16}	17.6	X	92.21687	106.68330	245.57986	6.63669	0.1257213	0.27716649	2.3297477	20	—	—
345277 2005 WD_{26}	18.1	X	358.11387	129.66603	325.81883	1.77092	0.1853566	0.27495676	2.3422133	20	—	—
345278 2005 WV_{36}	17.2	X	188.21901	193.50798	87.44671	5.55054	0.1342003	0.27999671	2.3140217	20	—	—
345279 2005 WF_{37}	18.3	X	327.29201	337.64230	133.66740	0.90158	0.1716157	0.27117473	2.3639407	20	—	—
345280 2005 WL_{39}	15.7	X	310.21770	350.19746	78.44637	3.70066	0.1585223	0.12653832	3.9293557	20	10 19.8	20.5

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345281 2005 WQ_{41}	17.6	X	196.38695	324.40627	246.35755	3.37931	0.0175133	0.26881473	2.3777563	20	—	—
345282 2005 WP_{50}	17.8	X	58.15951	333.29807	61.53906	3.49945	0.1984541	0.27912355	2.3188450	20	—	—
345283 2005 WW_{50}	17.2	X	181.21428	12.50785	248.72472	4.09262	0.1144875	0.27591768	2.3367721	20	—	—
345284 2005 WZ_{52}	18.0	X	270.67569	252.94040	271.59732	0.56049	0.1351476	0.27107054	2.3645464	20	—	—
345285 2005 WQ_{55}	16.4	X	16.92529	266.89922	246.79613	22.34127	0.2673992	0.28645553	2.2791062	20	1 8.8	18.3
345286 2005 WM_{63}	17.8	X	319.17057	206.25870	267.94536	0.73089	0.1409955	0.27148234	2.3621547	20	—	—
345287 2005 WT_{73}	16.8	X	148.11019	76.64656	249.26967	4.59491	0.2186947	0.28575747	2.2828164	20	—	—
345288 2005 WS_{79}	17.6	X	303.13533	62.60409	71.07700	6.65322	0.1703776	0.26933458	2.3746957	20	—	—
345289 2005 WS_{81}	17.5	X	33.87614	167.55833	272.76714	4.97304	0.1269728	0.28145373	2.3060287	20	—	—
345290 2005 WU_{85}	17.2	X	35.92967	120.01387	176.86868	0.98467	0.1642842	0.25784140	2.4447490	20	10 22.2	20.0
345291 2005 WA_{90}	17.6	X	117.46648	208.14200	152.96727	3.71913	0.1798301	0.28648663	2.2789413	20	—	—
345292 2005 WB_{102}	17.3	X	108.47252	141.52260	216.97049	2.34739	0.2630044	0.28352304	2.2947946	20	—	—
345293 2005 WD_{103}	17.3	X	46.12614	348.08126	124.67861	4.61844	0.1951301	0.28714418	2.2754609	20	1 30.5	18.8
345294 2005 WG_{122}	17.7	X	27.04667	16.03227	10.09483	5.57845	0.1678904	0.27870846	2.3211468	20	—	—
345295 2005 WH_{133}	17.0	X	145.28429	228.77620	71.02985	10.93883	0.2807349	0.27923153	2.3182472	20	—	—
345296 2005 WR_{141}	17.5	X	6.26083	354.82563	104.87860	7.00135	0.0803451	0.27300623	2.3533563	20	—	—
345297 2005 WV_{151}	17.1	X	28.37218	107.04697	316.75768	4.08394	0.2160457	0.27671610	2.3322751	20	—	—
345298 2005 WN_{153}	17.9	X	90.06149	350.23350	28.96968	2.18898	0.1190468	0.28080441	2.3095822	20	—	—
345299 2005 WP_{157}	17.3	X	56.74166	88.65768	275.89352	4.82305	0.1524837	0.26849791	2.3796264	20	—	—
345300 2005 WC_{161}	16.5	X	115.82926	129.45344	274.12334	6.57459	0.1163975	0.28938854	2.2636807	20	2 7.9	19.3
345301 2005 WJ_{166}	16.2	X	318.89649	71.13099	350.68536	0.92574	0.1880963	0.12401134	3.9825551	20	10 20.6	20.8
345302 2005 WA_{173}	17.6	X	174.05452	232.44564	77.13454	9.12354	0.1603213	0.28540446	2.2846984	20	—	—
345303 2005 WL_{178}	18.1	X	349.84770	132.51912	328.50311	0.96152	0.1467587	0.27202965	2.3589852	20	—	—
345304 2005 WS_{197}	15.4	X	247.94220	201.44770	300.78672	2.66104	0.0982759	0.12364174	3.9904878	20	10 30.3	21.0
345305 2005 WF_{202}	17.1	X	248.32170	62.90579	106.03672	3.02809	0.1221049	0.26569587	2.3963275	20	—	—
345306 2005 WO_{204}	16.2	X	126.03677	10.91600	116.65827	15.08375	0.1171471	0.22953811	2.6417974	20	6 19.4	20.3
345307 2005 XW_{11}	16.5	X	3.11846	221.61662	108.41893	7.12500	0.1380343	0.25549340	2.4597045	20	10 15.6	19.1
345308 2005 XA_{23}	15.6	X	272.32259	28.89845	80.93049	4.80149	0.1690971	0.12412362	3.9801530	20	10 14.8	21.1
345309 2005 XM_{26}	17.0	X	195.73464	94.56259	102.89723	3.37305	0.1224104	0.25785549	2.4446599	20	12 1.5	20.4
345310 2005 XQ_{31}	18.1	X	338.36115	259.75865	235.24180	1.64584	0.1232992	0.27968992	2.3157136	20	—	—
345311 2005 XU_{37}	17.5	X	155.41025	157.88581	72.26773	2.54532	0.1400348	0.25683221	2.4511491	20	11 29.3	21.1
345312 2005 XD_{38}	17.5	X	94.62250	345.87682	333.46098	1.68522	0.1678268	0.26775409	2.3840314	20	—	—
345313 2005 XZ_{44}	17.1	X	149.84547	225.12397	56.77299	7.65956	0.1074555	0.27209215	2.3586240	20	—	—
345314 2005 XY_{52}	17.2	X	335.77352	176.71984	297.62703	5.40116	0.1651829	0.27136138	2.3628566	20	—	—
345315 2005 XQ_{86}	18.4	X	303.79282	68.23163	73.47776	1.86432	0.1272882	0.26919739	2.3755025	20	—	—
345316 2005 XW_{114}	18.2	X	321.65403	142.52997	325.68429	2.86112	0.0869580	0.26245105	2.4160384	20	—	—
345317 2005 YL_{6}	17.0	X	295.43640	188.12233	290.51496	12.91438	0.2050635	0.26551851	2.3973945	20	—	—
345318 2005 YG_{22}	17.8	X	270.63003	188.69801	307.46592	1.61803	0.1835756	0.26042361	2.4285617	20	12 14.4	20.1
345319 2005 YU_{25}	18.0	X	299.36995	355.48902	117.03182	1.73908	0.1398433	0.26223480	2.4173665	20	—	—
345320 2005 YY_{25}	17.1	X	235.06416	72.24387	114.59101	3.12276	0.1476441	0.26076223	2.4264588	20	—	—
345321 2005 YX_{26}	17.2	X	83.41273	239.50639	93.99488	7.19689	0.2170932	0.26696773	2.3887106	20	—	—
345322 2005 YU_{32}	18.5	X	325.71087	206.39240	258.94504	1.50236	0.1704137	0.26599294	2.3945430	20	—	—
345323 2005 YS_{40}	16.6	X	59.59350	209.35069	130.71335	6.08622	0.2322010	0.26480559	2.4016955	20	—	—
345324 2005 YG_{42}	17.6	X	253.44915	216.56161	316.93986	1.61400	0.1310063	0.26285931	2.4135361	20	—	—
345325 2005 YS_{45}	18.1	X	287.75246	345.46132	179.52314	1.31851	0.1289657	0.26828944	2.3808589	20	—	—
345326 2005 YX_{46}	17.4	X	40.61726	304.36354	100.34200	5.52651	0.1759268	0.27159290	2.3615136	20	—	—
345327 2005 YZ_{48}	17.4	X	284.08629	0.62486	117.57206	4.87943	0.0872706	0.25961492	2.4336024	20	12 23.4	20.0
345328 2005 YS_{91}	17.4	X	249.67868	204.76402	198.59935	1.82772	0.1125231	0.24112315	2.5564862	20	7 13.0	20.8
345329 2005 YP_{96}	17.6	X	338.78557	54.71463	87.67639	3.16432	0.1610619	0.27372722	2.3492220	20	—	—
345330 2005 YU_{100}	17.2	X	96.37128	36.19152	287.03926	5.45552	0.1287834	0.26741611	2.3860397	20	—	—
345331 2005 YS_{103}	18.1	X	349.31197	193.55900	268.33043	1.30096	0.1745534	0.27166418	2.3611004	20	—	—
345332 2005 YU_{106}	17.0	X	70.00530	298.88388	91.32238	3.97819	0.2131325	0.27887506	2.3202223	20	—	—
345333 2005 YM_{107}	17.1	X	53.39690	109.98020	278.85832	5.98358	0.1124905	0.27196277	2.3593719	20	—	—
345334 2005 YD_{111}	17.7	X	210.50931	17.13342	183.66082	2.32149	0.1567183	0.25955999	2.4339457	20	12 18.2	20.9
345335 2005 YE_{111}	18.0	X	338.77027	207.11437	230.94946	2.62224	0.1007768	0.26525465	2.3989841	20	—	—
345336 2005 YP_{115}	17.2	X	228.11811	146.77401	53.56265	2.85245	0.0985080	0.26247179	2.4159112	20	—	—
345337 2005 YP_{126}	17.1	X	209.95515	95.99859	68.50852	4.84812	0.1747262	0.25305067	2.4755083	20	10 30.3	20.6
345338 2005 YK_{127}	16.5	X	12.49669	237.99549	261.22893	24.12387	0.1738270	0.28443438	2.2898902	20	—	—
345339 2005 YR_{145}	17.4	X	18.21287	15.71099	73.97607	7.23579	0.0964980	0.27468986	2.3437303	20	—	—
345340 2005 YK_{160}	17.8	X	294.59963	336.57961	155.21533	3.52604	0.0956167	0.26572366	2.3961605	20	—	—
345341 2005 YL_{167}	17.7	X	27.16358	298.24549	154.05982	2.68245	0.1848861	0.27644697	2.3337885	20	—	—
345342 2005 YE_{175}	17.4	X	307.95879	228.25134	273.07690	9.53056	0.2287602	0.26661443	2.3908204	20	—	—
345343 2005 YF_{178}	18.1	X	357.54484	180.49774	262.63034	3.86592	0.1187367	0.26900194	2.3766530	20	—	—
345344 2005 YG_{179}	18.3	X	18.73419	335.93566	81.77147	2.29276	0.1704440	0.26927183	2.3750646	20	—	—
345345 2005 YL_{179}	15.1	X	309.39292	356.08687	93.67379	5.41023	0.1120837	0.12297878	4.0048163	20	11 15.9	20.3
345346 2005 YR_{179}	17.2	X	201.60387	25.57044	197.14914	3.02321	0.0793125	0.26282929	2.4137199	20	—	—
345347 2005 YP_{188}	18.3	X	304.20396	33.60781	83.22014	2.11161	0.1491987	0.26284918	2.4135981	20	—	—
345348 2005 YF_{191}	17.4	X	214.55521	108.45870	88.42408	2.50219	0.1362441	0.25787186	2.4445565	20	12 20.3	20.5
345349 2005 YU_{196}	16.9	X	31.96062	314.66609	90.33195	7.43293	0.0838897	0.26987474	2.3715260	20	—	—
345350 2005 YE_{205}	18.4	X	40.94191	106.79788	294.26436	0.48805	0.1824050	0.27156339	2.3616846	20	—	—
345351 2005 YY_{222}	17.6	X	88.53599	296.91318	53.28396	5.96624	0.1745854	0.27747090	2.3280435	20	—	—
345352 2005 YC_{268}	18.1	X	9.02025	322.24853	118.52212	2.01779	0.1584807	0.27000719	2.3707504	20	—	—
345353 2005 YP_{272}	18.2	X	282.37855	159.38986	347.62015	1.06771	0.1454844	0.26393606	2.4069675	20	—	—
345354 2005 YW_{291}	16.4	X	80.54544	267.33846	355.61301	3.53102	0.2029878	0.24486076	2.5304043	20	10 31.5	20.3
345355 2006 AC_{6}	16.6	X	304.24483	248.70054	276.15779	12.29475	0.1322386	0.26964390	2.3728793	20	—	—
345356 2006 AP_{9}	17.3	X	238.48609	89.36618	99.40386	3.17631	0.1523036	0.26255554	2.4153974	20	—	—
345357 2006 AY_{10}	17.0	X	271.20395	174.50056	329.35153	13.39710	0.2130790	0.25957722	2.4338380	20	12 23.6	19.5
345358 2006 AP_{14}	18.1	X	2.76942	325.92438	122.41795	1.94908	0.1559389	0.26978827	2.3720327	20	—	—
345359 2006 AX_{27}	16.6	X	116.63445	195.96152	26.53594	5.21433	0.1649788	0.24336125	2.5407880	20	10 13.7	20.6
345360 2006 AX_{31}	17.3	X	321.97969	121.20911	22.42744	6.00424	0.1479788	0.27066474	2.3669092	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345361 2006 AJ_{32}	17.0	X	270.88298	100.21126	70.79503	11.30326	0.1718919	0.26349991	2.4096228	20	—	—
345362 2006 AY_{32}	17.4	X	229.09376	182.35970	333.80170	2.00362	0.1296776	0.25812264	2.4429729	20	11 15.7	20.7
345363 2006 AE_{36}	18.1	X	322.95494	120.44712	339.72314	1.77832	0.1659634	0.26449816	2.4035562	20	—	—
345364 2006 AA_{49}	18.2	X	20.67282	156.55816	303.76596	1.70576	0.1671568	0.27786852	2.3258220	20	—	—
345365 2006 AK_{70}	17.1	X	53.12015	181.65368	290.95344	6.13647	0.0706109	0.28275547	2.2989457	20	2 4.6	19.4
345366 2006 AS_{70}	17.5	X	356.61032	157.38849	287.70305	5.03367	0.0866470	0.26742049	2.3860137	20	—	—
345367 2006 AU_{70}	15.8	X	331.08219	291.98692	144.83457	3.54657	0.2304521	0.12528221	3.9555765	20	11 29.6	20.0
345368 2006 AY_{70}	17.1	X	62.34659	137.22419	127.28171	3.78285	0.1904076	0.24060484	2.5601563	20	10 15.3	20.7
345369 2006 AN_{71}	17.0	X	123.73098	39.35616	236.75452	1.28937	0.1607988	0.25574907	2.4580648	20	12 25.6	21.0
345370 2006 AS_{88}	17.3	X	157.66871	339.11514	284.08451	5.66112	0.0907283	0.26229671	2.4169861	20	—	—
345371 2006 AE_{96}	16.2	X	4.34203	137.22531	10.87124	23.57487	0.2099261	0.27400516	2.3476331	20	—	—
345372 2006 BR_{9}	17.0	X	62.36709	330.28717	102.06573	6.89226	0.0609483	0.27618434	2.3352678	20	—	—
345373 2006 BO_{11}	17.5	X	231.98176	308.25941	241.66549	1.45831	0.1092326	0.26029811	2.4293423	20	—	—
345374 2006 BV_{29}	17.3	X	280.59570	82.78375	65.24858	2.03707	0.1386421	0.26212436	2.4180455	20	—	—
345375 2006 BD_{31}	18.0	X	293.08796	4.93193	93.18401	2.36949	0.1505978	0.25715238	2.4491141	20	12 4.9	20.3
345376 2006 BU_{31}	17.3	X	22.49315	86.23378	331.85274	5.94924	0.1207927	0.26619299	2.3933432	20	—	—
345377 2006 BE_{36}	17.7	X	293.52641	111.68226	0.44664	2.31588	0.0515351	0.25925059	2.4358818	20	12 31.9	20.5
345378 2006 BQ_{38}	17.4	X	358.51630	311.72605	135.93015	2.79195	0.1513100	0.26638342	2.3922024	20	—	—
345379 2006 BP_{40}	17.7	X	12.38988	131.27556	332.44914	5.02359	0.1286031	0.27018386	2.3697168	20	—	—
345380 2006 BS_{41}	16.5	X	20.23383	184.95254	150.68262	3.96121	0.1160410	0.24423413	2.5347306	20	11 11.8	19.5
345381 2006 BO_{51}	17.4	X	353.32102	289.35447	116.71932	3.11170	0.1802046	0.26069445	2.4268794	20	—	—
345382 2006 BB_{57}	17.7	X	32.64738	186.40262	186.72635	0.93568	0.2014390	0.26280549	2.4138656	20	—	—
345383 2006 BM_{67}	17.6	X	242.70381	151.14257	17.75933	1.54959	0.1288268	0.25810071	2.4431113	20	12 22.1	20.4
345384 2006 BR_{69}	17.6	X	243.06827	128.27134	48.51509	3.84964	0.1415394	0.25873131	2.4391400	20	12 31.7	20.4
345385 2006 BR_{79}	16.3	X	9.75397	314.36010	359.79804	11.94257	0.2264820	0.23652385	2.5895209	20	10 6.6	18.9
345386 2006 BW_{82}	17.7	X	293.20675	9.15820	119.37001	3.96423	0.1157781	0.26209354	2.4182350	20	—	—
345387 2006 BG_{114}	17.8	X	29.20838	277.13453	123.16962	3.69084	0.1866513	0.26660896	2.3908531	20	—	—
345388 2006 BD_{118}	16.8	X	245.22928	48.58936	261.24706	2.51720	0.0862970	0.21432690	2.7653595	20	3 10.0	21.0
345389 2006 BJ_{120}	17.6	X	345.87298	284.44296	184.50631	3.41087	0.1742501	0.26786363	2.3833814	20	—	—
345390 2006 BT_{148}	17.4	X	210.55122	46.49646	138.91368	3.02610	0.1565791	0.25437340	2.4669192	20	11 28.2	20.8
345391 2006 BK_{163}	18.0	X	341.37829	283.27519	139.75569	1.61896	0.1629400	0.26086042	2.4258499	20	—	—
345392 2006 BP_{166}	17.4	X	77.18421	252.86315	141.84439	2.92427	0.2116608	0.27322779	2.3520839	20	—	—
345393 2006 BC_{169}	16.6	X	41.46117	162.62121	150.82811	3.57130	0.1601426	0.24336724	2.5407463	20	11 17.9	19.9
345394 2006 BX_{188}	17.4	X	272.61038	149.15958	358.15430	10.51493	0.1179615	0.25767525	2.4457999	20	—	—
345395 2006 BC_{189}	18.3	X	333.94995	86.13889	3.63217	8.54136	0.2169435	0.26227171	2.4171397	20	—	—
345396 2006 BZ_{191}	17.2	X	2.87311	233.99190	197.20230	4.68276	0.0904157	0.26585059	2.3953977	20	—	—
345397 2006 BE_{196}	18.0	X	296.11009	312.33163	180.92823	2.47247	0.1236175	0.26136977	2.4226972	20	—	—
345398 2006 BZ_{206}	16.9	X	89.45016	105.36333	167.66752	2.78564	0.2036478	0.24731324	2.5136481	20	11 23.1	20.9
345399 2006 BP_{208}	16.6	X	110.87746	260.37403	294.65744	7.47292	0.1945213	0.23358458	2.6111988	20	9 1.5	20.8
345400 2006 BJ_{221}	17.0	X	124.41773	127.11534	98.99254	2.63264	0.1306646	0.24431128	2.5341970	20	10 24.9	20.9
345401 2006 BX_{233}	18.0	X	283.03252	67.38240	70.38581	1.83672	0.1668065	0.26103226	2.4247851	20	—	—
345402 2006 BX_{246}	17.9	X	297.85557	166.80645	337.31037	2.11877	0.1232927	0.26346028	2.4098645	20	—	—
345403 2006 BL_{247}	16.3	X	45.06803	321.15783	339.00320	2.41026	0.1858876	0.24251121	2.5467218	20	11 6.7	19.8
345404 2006 BE_{251}	17.7	X	6.36554	256.27051	158.44947	1.68119	0.1790495	0.26318658	2.4115349	20	—	—
345405 2006 BD_{254}	17.6	X	358.53742	265.72842	147.03503	1.69709	0.1747627	0.26127557	2.4232796	20	—	—
345406 2006 BX_{255}	18.4	X	324.00005	71.28719	19.75025	2.26406	0.1812710	0.26102784	2.4248125	20	—	—
345407 2006 BR_{260}	13.4	X	299.48368	317.77863	341.21539	28.31070	0.0772907	0.08321659	5.1959240	20	4 24.5	20.5
345408 2006 BY_{262}	16.9	X	202.65015	299.03087	115.78971	2.50775	0.1132108	0.22850639	2.6497434	20	6 4.6	20.9
345409 2006 CO_{20}	16.9	X	224.27882	143.27117	329.65042	14.23513	0.0607490	0.24398617	2.5364477	20	9 16.4	20.5
345410 2006 CV_{20}	17.8	X	299.30132	329.44735	187.50103	1.86498	0.1477898	0.26687205	2.3892815	20	—	—
345411 2006 CW_{35}	17.3	X	252.43629	112.76756	58.49001	3.00167	0.1555840	0.26011803	2.4304633	20	—	—
345412 2006 CE_{42}	16.9	X	67.23659	86.60439	194.61658	4.64446	0.1077910	0.24062884	2.5599860	20	10 30.5	20.3
345413 2006 CP_{50}	16.1	X	63.45564	164.38981	340.36106	9.27424	0.1569108	0.21657228	2.7462125	20	4 23.2	19.6
345414 2006 CZ_{66}	15.3	X	348.05857	261.99065	147.76000	9.97461	0.2410638	0.12536340	3.9538683	20	12 2.3	19.7
345415 2006 DQ_{8}	17.6	X	98.28745	167.52090	62.36010	1.84578	0.0581008	0.23935174	2.5690841	20	9 24.9	21.1
345416 2006 DV_{17}	17.6	X	7.76470	1.78812	67.56650	3.28064	0.1848139	0.26570515	2.3962718	20	—	—
345417 2006 DW_{23}	17.9	X	1.67099	325.50864	103.05372	2.24276	0.1638280	0.26241016	2.4162894	20	—	—
345418 2006 DL_{30}	16.6	X	4.24726	182.81153	169.31307	4.34536	0.1530163	0.24323057	2.5416980	20	11 14.4	19.4
345419 2006 DO_{30}	17.3	X	3.88122	303.76559	345.42852	1.58483	0.0492898	0.22977119	2.6400106	20	8 1.7	20.4
345420 2006 DY_{34}	18.0	X	314.97618	323.17126	157.65037	2.57376	0.1668432	0.26020062	2.4299490	20	—	—
345421 2006 DE_{35}	17.3	X	282.59234	81.71849	12.21228	3.23356	0.0542396	0.24688746	2.5165372	20	11 16.0	20.4
345422 2006 DA_{38}	17.4	X	293.35931	46.95327	115.51902	3.79741	0.1260530	0.26622073	2.3931769	20	—	—
345423 2006 DD_{43}	16.7	X	40.84483	164.48584	143.11231	4.09246	0.0672978	0.24319135	2.5419713	20	10 26.9	20.0
345424 2006 DU_{43}	16.9	X	39.27106	194.37604	127.38736	1.91413	0.1241122	0.24517283	2.5282567	20	11 20.4	20.1
345425 2006 DM_{49}	18.2	X	331.13222	292.62940	159.82093	1.39604	0.1529678	0.26068146	2.4269600	20	—	—
345426 2006 DZ_{49}	17.2	X	303.33505	37.69803	108.31100	5.07030	0.1931844	0.26419357	2.4054032	20	—	—
345427 2006 DG_{73}	16.1	X	335.82128	348.27120	14.54550	13.73078	0.1086236	0.23530007	2.5984918	20	10 3.1	18.8
345428 2006 DN_{77}	17.0	X	197.02687	50.28165	22.20065	3.63479	0.1543376	0.23081195	2.6320685	20	6 19.6	21.3
345429 2006 DY_{86}	17.2	X	162.98662	2.61056	152.35823	5.52808	0.0809016	0.23597835	2.5935101	20	9 1.9	20.9
345430 2006 DY_{88}	18.5	X	322.79453	259.19752	178.57086	1.91494	0.1785587	0.25590012	2.4570975	20	—	—
345431 2006 DK_{90}	16.2	X	3.54307	180.64840	173.14018	12.28238	0.1312953	0.24205136	2.5499463	20	11 13.8	19.2
345432 2006 DQ_{93}	17.2	X	103.53861	39.25440	175.94386	5.21585	0.1169745	0.23287490	2.6165011	20	9 16.0	21.1
345433 2006 DL_{98}	17.6	X	341.02081	79.84624	328.57545	5.71371	0.1142472	0.25474106	2.4645449	20	12 21.4	20.3
345434 2006 DP_{105}	14.1	X	206.29516	26.54571	4.78007	4.20363	0.0525326	0.08198337	5.2478998	20	5 13.5	21.2
345435 2006 DR_{123}	17.3	X	106.60507	237.94295	338.81376	10.81248	0.1363919	0.23586879	2.5943132	20	9 20.9	21.2
345436 2006 DB_{132}	17.4	X	342.06618	314.21645	90.73377	3.54711	0.2071399	0.25475922	2.4644279	20	12 30.4	19.5
345437 2006 DK_{140}	16.6	X	11.58036	272.34601	73.08594	4.67268	0.1129610	0.24359175	2.5391850	20	11 10.8	19.4
345438 2006 DF_{155}	17.2	X	257.62948	182.19339	257.59835	2.74738	0.0496752	0.23953159	2.5677980	20	9 20.4	20.4
345439 2006 DY_{160}	17.4	X	5.78015	77.36916	341.19448	1.83724	0.2055176	0.26176889	2.4202340	20	—	—
345440 2006 DD_{167}	17.5	X	315.17470	46.84139	61.20562	3.22676	0.1790343	0.25952200	2.4341832	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345441 2006 DN_{176}	16.8	X	348.97983	261.23979	94.30482	2.25953	0.0970440	0.24202605	2.5501240	20	10 17.1	19.6
345442 2006 DE_{182}	17.9	X	331.48636	132.86006	292.69243	1.74007	0.1186796	0.25359158	2.4719869	20	12 29.1	20.2
345443 2006 DO_{211}	17.3	X	193.56073	197.59862	326.79288	1.09854	0.0931164	0.24323942	2.5416364	20	10 17.4	21.1
345444 2006 DV_{216}	16.2	X	164.70595	217.84709	194.89154	4.70203	0.1148391	0.21467343	2.7623828	20	4 24.7	20.4
345445 2006 EO_{3}	16.7	X	233.81196	310.04265	13.23127	3.62010	0.0904668	0.21372986	2.7705070	20	3 15.9	20.8
345446 2006 EW_{14}	18.0	X	330.49708	293.64100	157.34061	1.38631	0.1598149	0.25857185	2.4401427	20	—	—
345447 2006 EM_{20}	17.1	X	41.52562	232.06864	128.90115	7.80855	0.1407692	0.25860433	2.4399384	20	—	—
345448 2006 EN_{20}	16.8	X	87.76555	234.47823	1.24617	4.42223	0.1826202	0.23735573	2.5834669	20	10 2.3	20.7
345449 2006 EB_{23}	16.4	X	357.43952	301.73232	349.06184	12.36093	0.2579857	0.22724995	2.6595012	20	8 9.4	18.5
345450 2006 ET_{38}	16.2	X	216.31547	188.35341	306.36331	10.84461	0.0507565	0.24277492	2.5448772	20	10 5.0	19.9
345451 2006 EA_{39}	16.4	X	213.89820	177.88880	320.13389	14.39731	0.1382400	0.24362045	2.5389855	20	9 24.9	20.4
345452 2006 EQ_{40}	17.1	X	34.64468	311.60381	315.60038	4.04642	0.1435978	0.22906410	2.6454407	20	8 30.2	20.1
345453 2006 EX_{40}	15.7	X	15.01718	343.47350	9.77756	8.16301	0.2715029	0.24309757	2.5426249	20	12 20.5	18.9
345454 2006 EA_{45}	16.4	X	62.42338	194.01438	24.85066	13.90081	0.1883136	0.22548866	2.6733321	20	8 18.9	20.2
345455 2006 FY	16.2	X	228.61436	147.71620	90.14530	14.05922	0.2010425	0.26026274	2.4295624	20	—	—
345456 2006 FJ_{1}	17.3	X	22.45410	89.88185	174.83753	5.16387	0.1484536	0.22542150	2.6738631	20	8 5.6	20.3
345457 2006 FG_{2}	16.5	X	327.56866	169.49715	191.21028	12.71862	0.1901512	0.23553746	2.5967455	20	9 8.5	18.8
345458 2006 FG_{6}	16.9	X	1.99594	60.94655	128.88183	7.65827	0.1639826	0.27856525	2.3219423	20	2 26.8	18.8
345459 2006 FX_{10}	17.2	X	215.85254	314.75026	164.89081	8.52752	0.1109187	0.23974689	2.5662604	20	9 13.3	20.8
345460 2006 FS_{35}	16.1	X	139.73727	53.13592	69.23730	9.70478	0.0449238	0.22073797	2.7115525	20	6 20.3	19.8
345461 2006 FC_{37}	16.3	X	129.18699	272.76964	293.77094	11.62910	0.1960766	0.23739944	2.5831498	20	9 29.1	20.8
345462 2006 FY_{39}	17.1	X	15.10482	232.33768	20.66876	13.59904	0.0831077	0.22250755	2.6971569	20	7 1.4	20.6
345463 2006 FU_{51}	16.2	X	83.12428	93.46492	145.10356	13.06457	0.1390913	0.22955863	2.6416400	20	9 29.1	20.2
345464 2006 GD_{13}	15.6	X	329.52013	227.49188	31.80106	16.39971	0.1909790	0.21098766	2.7944607	20	4 12.8	18.6
345465 2006 GU_{26}	17.1	X	28.09547	97.50385	188.56846	5.61959	0.0890495	0.22725672	2.6594483	20	9 6.6	20.4
345466 2006 GZ_{28}	17.1	X	189.41386	117.80094	32.55033	12.87406	0.1180930	0.23631002	2.5910828	20	9 27.1	21.1
345467 2006 GB_{36}	16.4	X	171.72997	93.36304	189.10212	8.76695	0.2601523	0.18390631	3.0624685	20	—	—
345468 2006 GG_{42}	15.8	X	115.28478	140.42775	76.25849	12.67376	0.1911222	0.23247477	2.6195026	20	10 11.5	20.3
345469 2006 HU_{10}	17.0	X	214.36758	2.58498	149.96187	6.57746	0.1226126	0.24198757	2.5503944	20	10 25.3	20.7
345470 2006 HU_{15}	16.5	X	304.58738	267.06349	97.39572	3.17251	0.0976443	0.22691585	2.6621110	20	8 10.6	19.5
345471 2006 HJ_{21}	16.1	X	337.89401	222.54948	52.09362	10.35104	0.1861386	0.21408978	2.7674010	20	5 19.3	18.9
345472 2006 HQ_{21}	17.2	X	151.38745	128.18438	85.34658	4.61451	0.1324102	0.23918399	2.5702852	20	11 3.8	21.2
345473 2006 HP_{26}	16.5	X	227.99075	50.10462	82.18544	14.44437	0.1378509	0.23878478	2.5731491	20	10 17.7	20.4
345474 2006 HE_{35}	17.0	X	152.55354	155.94924	50.19862	4.65872	0.1908744	0.23703285	2.5858124	20	10 25.2	21.3
345475 2006 HV_{36}	17.8	X	88.19721	197.98750	69.29737	27.28537	0.0463168	0.37375984	1.9087144	20	11 28.1	19.5
345476 2006 HM_{48}	18.7	X	10.11644	256.49559	85.32083	2.62220	0.0507642	0.37543685	1.9030263	20	11 27.8	20.0
345477 2006 HH_{63}	17.1	X	200.78036	320.94068	201.99958	5.89241	0.1796097	0.24066481	2.5597309	20	10 15.5	21.1
345478 2006 HU_{67}	17.1	X	4.18571	218.89193	30.20296	2.21461	0.0181541	0.21518754	2.7579812	20	6 4.8	20.7
345479 2006 HN_{76}	16.1	X	297.47766	200.50280	118.46959	13.85383	0.1479774	0.21134039	2.7913505	20	5 22.4	19.9
345480 2006 HY_{80}	16.7	X	159.53400	259.48017	229.83079	11.45798	0.0547467	0.22325964	2.6910963	20	7 21.1	20.8
345481 2006 HN_{83}	16.2	X	296.33656	265.00771	72.13739	10.15206	0.0624219	0.21691028	2.7433589	20	6 23.2	19.7
345482 2006 HT_{88}	15.9	X	66.37742	180.71040	72.47861	15.04511	0.2078620	0.22582568	2.6706716	20	10 11.6	20.1
345483 2006 HG_{91}	16.8	X	219.00165	55.10570	73.69463	11.07139	0.0670356	0.23507890	2.6001213	20	10 9.4	20.6
345484 2006 HU_{98}	17.1	X	57.51925	181.42819	54.97563	9.95246	0.0149133	0.22267192	2.6958295	20	8 5.2	20.8
345485 2006 HL_{100}	17.1	X	256.87766	103.34705	239.27683	3.48274	0.0842906	0.21084672	2.7957059	20	5 5.4	21.0
345486 2006 HN_{101}	16.9	X	286.64163	214.71425	127.45229	4.73004	0.1138196	0.21468672	2.7622687	20	6 8.9	20.6
345487 2006 HP_{103}	16.5	X	265.74310	209.40423	159.97412	14.87336	0.1970206	0.21436024	2.7650728	20	6 7.2	20.8
345488 2006 HY_{110}	16.8	X	309.80148	285.71691	103.37291	4.65425	0.0555383	0.23195623	2.6234051	20	9 29.4	20.0
345489 2006 HO_{119}	16.6	X	297.67560	209.15268	203.68266	14.67381	0.1203747	0.23571504	2.5954412	20	10 3.8	19.5
345490 2006 JV	17.3	X	45.11666	352.09637	256.50556	1.70608	0.1231619	0.22285304	2.6943686	20	8 16.5	20.7
345491 2006 JF_{1}	17.0	X	311.15290	311.18743	122.89184	2.41747	0.1161686	0.24688036	2.5165855	20	12 2.5	19.5
345492 2006 JY_{1}	16.2	X	167.14707	342.88984	219.48061	14.09151	0.0528851	0.23924826	2.5698249	20	11 8.1	19.6
345493 2006 JY_{2}	16.7	X	298.23540	193.57943	220.34522	8.66582	0.0513562	0.23639270	2.5904786	20	10 13.2	19.9
345494 2006 JK_{11}	17.0	X	303.15097	111.43894	249.16375	4.72060	0.0378446	0.22379858	2.6867741	20	8 6.9	20.6
345495 2006 JS_{11}	16.6	X	172.78003	123.63694	75.96820	13.46276	0.0344828	0.23827853	2.5767924	20	11 14.6	20.2
345496 2006 JO_{16}	16.7	X	136.29015	109.13877	71.19109	6.13590	0.2362651	0.23104418	2.6303045	20	9 13.2	21.3
345497 2006 JU_{28}	16.9	X	155.68357	357.99524	205.79856	11.06318	0.1199321	0.23769579	2.5810023	20	10 25.9	20.9
345498 2006 JX_{29}	16.8	X	34.57652	171.50666	119.22505	4.60439	0.1126522	0.22748865	2.6576404	20	9 29.9	20.1
345499 2006 JF_{32}	16.9	X	201.17273	279.85382	183.33545	6.04490	0.1237398	0.22719030	2.6599666	20	8 2.4	21.0
345500 2006 JB_{35}	16.7	X	301.65214	163.03488	167.63362	5.00807	0.1282207	0.21539083	2.7562456	20	6 13.1	20.1
345501 2006 JH_{37}	16.2	X	309.33716	227.73681	74.78035	8.03634	0.2429598	0.21267785	2.7796357	20	4 30.5	19.7
345502 2006 JW_{40}	16.4	X	316.09463	232.22613	77.45287	4.78602	0.0686238	0.21692088	2.7432695	20	6 14.2	19.7
345503 2006 JJ_{44}	16.4	X	251.40752	295.51813	72.51819	7.63167	0.0188813	0.21603750	2.7507426	20	6 10.1	19.9
345504 2006 JU_{48}	16.0	X	40.81591	20.27052	232.39673	12.83912	0.0564249	0.22079888	2.7110539	20	7 31.9	19.8
345505 2006 JO_{53}	16.4	X	203.55055	94.84444	67.67216	12.66875	0.1167992	0.23772317	2.5808041	20	10 27.7	20.3
345506 2006 JG_{54}	16.2	X	303.31552	118.24477	215.19076	11.50388	0.1733923	0.21789077	2.7351228	20	6 12.0	19.6
345507 2006 JT_{55}	16.3	X	27.28767	108.78813	139.11501	12.17184	0.0876130	0.21909174	2.7251184	20	7 13.1	19.6
345508 2006 JX_{67}	16.7	X	248.88902	6.51291	37.56691	5.02723	0.0282852	0.22150513	2.7052881	20	7 26.2	20.4
345509 2006 JV_{80}	16.7	X	65.60118	156.92680	74.30146	2.89978	0.0219896	0.22294713	2.6936105	20	8 7.8	20.3
345510 2006 KG	18.1	X	250.41532	286.88158	224.45562	19.84124	0.1199724	0.38798803	1.8617606	20	—	—
345511 2006 KR_{2}	15.4	X	248.99460	29.71552	171.86886	17.52076	0.1310155	0.18532267	3.0468449	20	—	—
345512 2006 KW_{14}	16.2	X	113.38026	130.33237	101.23372	14.00703	0.1421432	0.23339053	2.6126459	20	10 25.7	20.5
345513 2006 KE_{25}	16.5	X	316.01539	284.38186	69.41681	4.47226	0.1194729	0.22196013	2.7015898	20	8 12.8	19.5
345514 2006 KU_{32}	16.7	X	307.52522	230.77049	77.70272	4.64603	0.0733699	0.21313913	2.7756237	20	5 30.1	20.3
345515 2006 KS_{40}	18.4	X	323.69225	57.47350	33.63023	21.76484	0.0533910	0.39169811	1.8499858	20	—	—
345516 2006 KT_{46}	17.2	X	77.54536	121.29806	116.99240	2.74010	0.0725105	0.22593165	2.6698365	20	9 10.4	20.7
345517 2006 KS_{51}	16.6	X	93.19547	316.21443	221.64528	11.82970	0.0516937	0.21785613	2.7354127	20	7 4.6	20.6
345518 2006 KT_{56}	16.9	X	258.79355	259.53903	207.92890	8.10498	0.1224519	0.23905440	2.5712140	20	10 19.7	19.9
345519 2006 KA_{58}	16.8	X	217.80900	61.75604	79.07942	14.24196	0.1189622	0.23698608	2.5861527	20	10 18.6	20.7
345520 2006 KG_{69}	16.1	X	334.87383	5.70481	165.81019	11.36828	0.0648466	0.19630599	2.9321106	20	1 13.0	20.1

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	m		°	°	°	°		°				
345521 2006 KK_{72}	16.5	X	294.24326	250.26615	112.13657	7.34883	0.0452793	0.22060163	2.7126696	20	7 28.5	20.0
345522 2006 KN_{73}	16.0	X	112.53619	214.40395	159.96471	10.08608	0.0915021	0.18630765	3.0360967	20	1 11.6	20.5
345523 2006 KP_{88}	16.6	X	241.00209	279.76428	120.49108	17.58452	0.1037231	0.21620366	2.7493331	20	6 29.4	20.8
345524 2006 KM_{102}	16.3	X	257.68034	261.41159	117.53377	10.79541	0.2506720	0.21296939	2.7770984	20	6 3.7	20.7
345525 2006 KQ_{108}	17.0	X	195.04851	122.29522	45.02036	5.55719	0.1228069	0.23958272	2.5674326	20	10 20.9	20.7
345526 2006 LT_{3}	16.2	X	337.97507	186.37456	150.80836	6.93829	0.0407735	0.22327994	2.6909332	20	8 28.2	19.6
345527 2006 LB_{5}	15.7	X	171.59738	246.68308	112.79068	11.39847	0.1199795	0.19449047	2.9503294	20	3 2.1	20.4
345528 2006 MG_{6}	17.1	X	101.05419	160.08980	107.21749	22.98861	0.0554025	0.36983414	1.9221977	20	12 16.6	19.5
345529 2006 NS	14.9	X	132.23628	58.44302	301.04614	19.14681	0.3214217	0.17643245	3.1483553	20	2 6.7	20.3
345530 2006 OC_{6}	16.1	X	221.92626	138.06381	134.73247	17.28726	0.3116754	0.18124654	3.0923566	20	1 2.6	21.9
345531 2006 OV_{12}	17.2	X	285.52717	219.77239	290.63317	19.58672	0.0705068	0.38387798	1.8750258	20	—	—
345532 2006 PF_{4}	16.0	X	189.07446	234.27491	112.74440	9.21302	0.2692587	0.18368372	3.0649421	20	3 6.0	21.5
345533 2006 QL_{9}	15.7	X	168.13837	169.85721	163.25289	17.85063	0.2247747	0.17610057	3.1523097	20	1 30.6	21.3
345534 2006 QQ_{27}	15.7	X	200.98095	22.31882	329.48458	9.24696	0.0857946	0.18427326	3.0584015	20	3 15.9	20.4
345535 2006 QX_{69}	16.3	X	106.22511	32.74938	356.04476	3.81298	0.0517452	0.17327733	3.1864581	20	1 19.7	20.8
345536 2006 QE_{77}	15.9	X	199.87093	181.07130	177.45061	18.04117	0.1783060	0.18405480	3.0608211	20	3 24.9	20.9
345537 2006 QK_{79}	16.0	X	160.07585	269.88471	154.90717	11.84825	0.1540510	0.18891835	3.0080609	20	5 10.3	21.1
345538 2006 QG_{83}	16.1	X	200.66407	352.27891	330.39920	11.18256	0.1327129	0.18166303	3.0876284	20	2 13.7	21.0
345539 2006 QU_{85}	16.8	X	214.89564	188.39950	136.23641	0.62348	0.1593828	0.18512232	3.0490429	20	2 27.0	21.8
345540 2006 QY_{99}	15.6	X	208.70918	339.89145	323.22591	16.07126	0.2530942	0.18054119	3.1004056	20	1 29.7	21.1
345541 2006 QN_{104}	15.9	X	221.75967	143.71716	160.76982	17.94269	0.1767217	0.18458970	3.0549053	20	2 7.9	21.1
345542 2006 QB_{105}	16.3	X	186.11207	222.04068	158.46059	5.47017	0.2320395	0.18663381	3.0325584	20	4 9.2	21.6
345543 2006 QT_{112}	15.8	X	161.54699	70.49015	316.09462	15.12124	0.2921053	0.18136862	3.0909688	20	3 22.8	21.5
345544 2006 QW_{134}	15.5	X	195.75987	60.40304	295.24820	10.17091	0.1418536	0.18500344	3.0503489	20	3 12.6	20.6
345545 2006 QC_{147}	16.0	X	342.46541	176.46230	347.45435	10.12353	0.0721231	0.17549239	3.1595886	20	1 20.6	20.3
345546 2006 QE_{148}	16.3	X	189.68305	214.62024	119.27830	2.36647	0.1845903	0.17892402	3.1190592	20	2 17.6	21.5
345547 2006 QB_{184}	16.6	X	197.58067	354.79173	333.50547	2.03326	0.0901093	0.17867053	3.1220086	20	2 17.0	21.4
345548 2006 QS_{187}	15.6	X	164.32208	255.31544	136.21292	11.45916	0.1020214	0.18417085	3.0595352	20	4 2.7	20.5
345549 2006 RR_{4}	15.5	X	79.02086	351.10604	4.64314	12.80411	0.2207205	0.15949387	3.3674931	20	—	—
345550 2006 RP_{13}	15.8	X	54.10317	240.15412	230.16752	10.04701	0.0804450	0.18056012	3.1001889	20	2 17.6	20.1
345551 2006 RV_{15}	15.9	X	167.32924	184.72799	196.09700	18.58827	0.1807051	0.18165952	3.0876681	20	3 22.1	21.0
345552 2006 RW_{16}	15.8	X	173.73780	216.73500	122.85723	5.89717	0.2825671	0.17830259	3.1263021	20	2 14.9	21.3
345553 2006 RW_{21}	15.5	X	208.69881	118.53591	237.39350	20.76850	0.0633165	0.18605170	3.0388805	20	3 26.2	20.4
345554 2006 RT_{31}	16.6	X	123.70834	24.74236	18.33867	1.67421	0.0921504	0.17486723	3.1671145	20	3 1.5	21.3
345555 2006 RT_{32}	15.9	X	170.80883	133.20039	200.56347	28.38025	0.3612114	0.17718849	3.1393932	20	2 3.3	22.2
345556 2006 RR_{36}	15.4	X	204.04855	12.33429	314.67167	11.10888	0.0640290	0.18110907	3.0939212	20	2 19.9	20.2
345557 2006 RZ_{40}	16.1	X	174.25642	45.05833	266.91289	9.10176	0.2019077	0.17497896	3.1657661	20	1 11.4	21.5
345558 2006 RP_{42}	16.0	X	137.76390	40.43644	26.73637	1.05456	0.1707434	0.17976807	3.1092884	20	4 20.5	21.0
345559 2006 RK_{61}	14.9	X	162.02731	74.98142	282.31555	20.72472	0.2534501	0.17700788	3.1415284	20	2 15.9	20.6
345560 2006 RK_{64}	16.6	X	202.80783	136.51011	177.47073	10.96810	0.2337216	0.18044014	3.1015630	20	2 2.9	22.1
345561 2006 RG_{69}	15.6	X	242.83069	245.01485	357.03326	10.10442	0.0910319	0.17016996	3.2251317	20	—	—
345562 2006 RO_{71}	16.2	X	110.21212	80.58592	2.01392	14.56191	0.1945622	0.17748829	3.1358570	20	4 11.2	21.0
345563 2006 RY_{74}	16.9	X	128.01140	2.89908	75.68099	0.55245	0.1583941	0.18071935	3.0983676	20	4 23.9	21.6
345564 2006 RG_{77}	16.0	X	101.74699	247.10759	171.68248	6.91055	0.0695188	0.17372605	3.1809688	20	2 19.6	20.6
345565 2006 RC_{80}	16.4	X	151.33113	252.00743	157.95908	3.83199	0.1746070	0.18083326	3.0970663	20	4 13.8	21.4
345566 2006 RL_{81}	16.0	X	142.96046	254.25913	179.53135	15.34187	0.2250629	0.18198959	3.0839336	20	5 9.2	21.3
345567 2006 RV_{81}	16.8	X	170.17427	220.30206	164.94764	1.75666	0.1797180	0.18120965	3.0927762	20	3 31.3	22.0
345568 2006 RH_{85}	15.9	X	75.38915	94.05662	8.59481	3.67798	0.0920809	0.17593337	3.1543066	20	3 15.1	20.0
345569 2006 RN_{92}	16.6	X	151.61064	192.30293	202.62775	5.54924	0.1707754	0.17799878	3.1298584	20	3 25.3	21.6
345570 2006 RE_{100}	15.7	X	131.28838	114.20602	293.22134	8.19397	0.1034343	0.17943302	3.1131578	20	3 11.2	20.5
345571 2006 RR_{103}	16.2	X	179.39266	297.63171	80.12287	11.27769	0.0534737	0.17917951	3.1160935	20	4 2.2	21.0
345572 2006 RW_{104}	16.0	X	287.96973	230.79569	20.81516	9.68195	0.0349177	0.17662288	3.1460919	20	3 3.4	20.5
345573 2006 RS_{112}	15.8	X	304.36242	197.79721	17.04151	7.55670	0.0772454	0.17395048	3.1782322	20	2 1.5	20.3
345574 2006 RN_{117}	16.1	X	4.14646	348.56081	179.11405	4.87277	0.0590973	0.17523527	3.1626785	20	2 21.4	20.1
345575 2006 SP	16.0	X	182.99752	174.64634	205.09489	15.57207	0.2217805	0.18318541	3.0704978	20	4 3.6	21.3
345576 2006 SU_{7}	15.8	X	173.74547	20.57656	337.91324	8.48223	0.0958014	0.17913372	3.1166246	20	2 28.8	20.7
345577 2006 SD_{8}	15.3	X	162.40999	174.49525	214.38783	12.60823	0.0669891	0.17925190	3.1152545	20	3 20.2	20.2
345578 2006 SZ_{15}	15.6	X	150.86588	68.16215	345.53883	7.12919	0.1712631	0.18082428	3.0971689	20	4 13.9	20.7
345579 2006 SU_{17}	15.9	X	134.11837	29.71285	343.70928	7.86396	0.0592088	0.17169554	3.2059989	20	2 4.7	20.5
345580 2006 SG_{20}	15.8	X	181.84668	42.29118	329.76495	16.46017	0.1817604	0.18232305	3.0801723	20	3 19.3	21.2
345581 2006 SG_{27}	15.2	X	228.52230	355.46122	331.20518	8.81875	0.0620391	0.18248940	3.0783001	20	3 15.9	19.8
345582 2006 SL_{29}	16.1	X	52.59394	288.81127	199.29730	10.95496	0.0508071	0.18413141	3.0599721	20	3 7.3	20.3
345583 2006 SS_{38}	16.3	X	114.70367	144.60272	273.71996	3.78509	0.1124714	0.17500244	3.1654830	20	3 9.7	21.0
345584 2006 SX_{46}	15.6	X	127.56786	169.19152	208.17306	6.71823	0.1651978	0.17265574	3.1941014	20	2 10.1	20.6
345585 2006 SQ_{49}	15.6	X	225.34100	159.79111	287.17103	14.21440	0.1040594	0.20492617	2.8492973	20	8 5.9	20.0
345586 2006 SC_{51}	15.7	X	184.68357	117.49387	214.66792	11.15735	0.0437343	0.17554705	3.1589326	20	2 4.2	20.6
345587 2006 SJ_{56}	15.7	X	156.48739	317.09372	57.44041	17.07684	0.2107454	0.17542839	3.1603569	20	3 18.2	21.2
345588 2006 SA_{58}	15.5	X	146.11168	213.57718	247.70681	9.64428	0.0973737	0.19551861	2.9399773	20	6 4.2	19.9
345589 2006 SJ_{63}	15.6	X	139.37957	348.58309	49.16784	10.60265	0.2390400	0.17505051	3.1649034	20	3 28.1	20.9
345590 2006 SN_{66}	15.8	X	116.29071	238.59924	185.67193	11.36599	0.0927211	0.17758549	3.1347127	20	3 17.2	20.3
345591 2006 SF_{70}	16.4	X	115.89194	310.85687	133.51569	1.76128	0.1346961	0.17732118	3.1378269	20	4 16.7	21.0
345592 2006 SC_{72}	16.6	X	132.49513	280.47433	140.49337	2.04282	0.1718144	0.17610922	3.1522065	20	4 9.3	21.6
345593 2006 SG_{75}	15.8	X	167.34993	211.04728	133.04466	2.31120	0.1648432	0.17257589	3.1950866	20	2 10.4	21.1
345594 2006 SV_{82}	16.0	X	136.84670	61.32654	22.21712	10.65214	0.1111169	0.18301121	3.0724459	20	5 2.5	20.7
345595 2006 SQ_{89}	16.1	X	181.34518	140.41189	205.11358	9.15250	0.0896176	0.17448834	3.1716976	20	2 18.7	21.2
345596 2006 SP_{95}	16.6	X	138.20614	246.98202	140.81549	1.66337	0.1920610	0.17260400	3.1947397	20	3 8.2	21.7
345597 2006 SK_{99}	15.6	X	239.46743	69.34321	201.97458	16.33704	0.0885197	0.17154017	3.2079345	20	1 20.4	20.8
345598 2006 SN_{102}	16.0	X	96.75418	87.95365	6.36882	11.37126	0.0398714	0.17957260	3.1115444	20	3 24.2	20.2
345599 2006 SE_{118}	16.0	X	112.59353	79.63328	20.61680	9.87804	0.2129074	0.17763453	3.1341356	20	5 8.3	21.0
345600 2006 SJ_{121}	16.2	X	138.91492	72.76850	0.67750	20.99053	0.3142298	0.17837667	3.1254365	20	4 30.1	22.0

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	m		°	°	°	°		°				
345601 2006 SR_{125}	15.9	X	176.24620	257.83746	113.59751	11.16433	0.2027065	0.18006115	3.1059136	20	3 25.3	21.3
345602 2006 SC_{132}	15.5	X	130.40140	96.97676	309.78608	9.47506	0.1829181	0.17530385	3.1618535	20	3 17.6	20.6
345603 2006 SC_{139}	16.0	X	149.20017	95.30422	292.18482	8.39181	0.1224653	0.17840188	3.1251421	20	3 7.8	21.0
345604 2006 SH_{155}	15.9	X	127.13054	282.75029	145.81621	23.13633	0.2188317	0.17745754	3.1362192	20	4 23.3	21.3
345605 2006 SM_{165}	16.1	X	308.08837	16.05289	210.63010	9.03597	0.1236050	0.18049979	3.1008797	20	2 7.3	20.6
345606 2006 SU_{165}	16.5	X	203.00666	129.73871	202.76867	9.60951	0.0704486	0.17957371	3.1115315	20	2 24.6	21.3
345607 2006 SP_{171}	16.3	X	178.92819	153.89591	300.88096	1.04061	0.0649777	0.19583907	2.9367693	20	6 30.8	20.5
345608 2006 SD_{178}	16.5	X	72.41749	320.97745	146.52557	1.37420	0.1522666	0.17607657	3.1525961	20	3 25.6	20.5
345609 2006 SN_{182}	15.7	X	148.45977	214.90602	187.68262	11.89546	0.1290675	0.17874634	3.1211259	20	3 29.4	20.6
345610 2006 SV_{191}	16.0	X	11.44991	328.63736	182.20661	12.69930	0.1346518	0.17309221	3.1887297	20	2 7.6	20.0
345611 2006 SF_{205}	16.2	X	211.57025	161.72127	189.38036	11.06487	0.0799337	0.18353471	3.0666008	20	3 28.6	20.9
345612 2006 SS_{205}	16.7	X	279.45725	312.54368	323.08604	0.61495	0.0211877	0.18159202	3.0884332	20	3 19.8	21.1
345613 2006 SC_{207}	16.0	X	178.93002	50.82672	271.17080	4.16237	0.1767621	0.17151066	3.2083025	20	1 25.9	21.3
345614 2006 SZ_{209}	16.2	X	17.26742	96.79855	35.80498	2.80373	0.0517598	0.17113499	3.2129959	20	1 30.1	20.5
345615 2006 SV_{213}	15.9	X	172.87892	206.54769	203.67123	16.70135	0.2025613	0.18537693	3.0462503	20	5 3.0	21.1
345616 2006 SF_{215}	15.4	X	243.62629	264.54405	34.99981	10.58052	0.0468934	0.17867006	3.1220141	20	3 8.8	20.1
345617 2006 SP_{226}	16.1	X	156.45045	138.47984	219.72839	8.25888	0.0848815	0.17425793	3.1744928	20	2 8.2	21.1
345618 2006 SC_{228}	16.8	X	120.38633	64.85195	341.38302	8.26906	0.1035874	0.17458338	3.1705464	20	3 2.4	21.2
345619 2006 SA_{242}	16.7	X	83.20921	343.37799	117.81157	2.14700	0.1782316	0.17534145	3.1614015	20	4 5.6	21.0
345620 2006 SX_{244}	16.0	X	187.34114	313.75109	33.10653	5.94993	0.1480896	0.17870533	3.1216034	20	3 2.9	21.1
345621 2006 SV_{247}	16.6	X	136.99685	48.49590	27.71361	2.95187	0.0907740	0.18427147	3.0584213	20	4 23.6	21.1
345622 2006 SX_{253}	16.4	X	24.09441	349.96538	174.67147	1.73324	0.1149674	0.17827691	3.1266024	20	3 19.2	20.2
345623 2006 SV_{258}	16.1	X	166.77832	124.33223	202.39131	17.28987	0.0562692	0.16818862	3.2504112	20	1 11.9	21.3
345624 2006 SY_{265}	15.8	X	208.04442	90.95773	245.26139	5.12300	0.1502226	0.17845912	3.1244738	20	3 3.8	20.9
345625 2006 SM_{283}	16.0	X	173.95177	199.80923	169.36650	11.36196	0.2366106	0.17790011	3.1310157	20	3 17.8	21.4
345626 2006 SO_{283}	15.3	X	178.56831	3.07774	43.61117	18.83878	0.2201286	0.18265503	3.0764389	20	5 2.8	20.5
345627 2006 SE_{287}	15.8	X	177.42623	109.47330	245.95227	14.54049	0.2176189	0.17869526	3.1217206	20	2 26.3	21.4
345628 2006 SO_{300}	16.3	X	130.01194	299.11545	92.92706	4.78259	0.2197357	0.17344513	3.1844026	20	3 9.9	21.4
345629 2006 SV_{300}	15.6	X	139.49818	59.03127	345.48791	3.88404	0.1445070	0.17635374	3.1492920	20	3 23.6	20.4
345630 2006 SJ_{310}	15.8	X	19.78520	350.82118	208.26364	10.28045	0.0386269	0.18485784	3.0519504	20	4 23.1	19.7
345631 2006 SU_{311}	15.8	X	269.90133	36.60078	205.91041	16.40411	0.1706049	0.17451718	3.1713481	20	1 10.1	21.1
345632 2006 SM_{313}	15.7	X	222.94880	130.24409	182.13689	10.38423	0.1043147	0.17826177	3.1267794	20	2 20.9	20.7
345633 2006 SS_{314}	16.2	X	278.10086	211.44401	43.00307	4.69451	0.1030031	0.17718534	3.1394304	20	2 13.4	20.8
345634 2006 SD_{322}	16.0	X	181.83326	307.56611	33.54753	9.67336	0.0817348	0.17488613	3.1668863	20	2 20.9	21.0
345635 2006 SV_{338}	15.9	X	138.61138	358.66370	31.91351	9.89687	0.0951779	0.17504278	3.1649965	20	3 6.7	20.7
345636 2006 SJ_{349}	15.9	X	140.52519	15.54402	37.23982	10.89741	0.2254623	0.17742620	3.1365885	20	4 11.8	21.0
345637 2006 SE_{350}	16.3	X	56.06270	257.76892	209.63448	10.21420	0.0064529	0.17556710	3.1586921	20	2 11.4	20.9
345638 2006 SN_{354}	15.8	X	142.15244	335.58398	68.75065	16.07235	0.2744436	0.17539083	3.1608081	20	4 12.0	21.4
345639 2006 SX_{364}	15.5	X	92.72260	120.32033	344.15523	9.25349	0.0784213	0.17929094	3.1148023	20	4 2.9	19.9
345640 2006 SJ_{365}	15.5	X	98.53267	91.52935	38.76285	16.58585	0.2048337	0.18103650	3.0947480	20	5 29.0	20.3
345641 2006 SV_{373}	16.3	X	186.96601	221.46091	108.98172	4.14575	0.0692162	0.17467757	3.1694066	20	2 9.8	21.2
345642 2006 SE_{374}	16.2	X	81.50928	353.26721	112.79805	6.42610	0.1788374	0.17426417	3.1744171	20	4 11.8	20.6
345643 2006 ST_{383}	15.8	X	109.13391	330.43751	141.13355	7.25323	0.2199343	0.17936117	3.1139892	20	5 23.4	20.7
345644 2006 SB_{385}	16.0	X	147.13247	326.15959	90.93001	11.62128	0.0595056	0.17913881	3.1165655	20	4 14.7	20.8
345645 2006 SC_{385}	15.5	X	144.24092	309.40912	97.96307	11.82249	0.0526397	0.17684098	3.1435047	20	3 30.5	20.3
345646 2006 TN	19.9	X	246.31115	131.63368	24.33526	17.27463	0.3452867	0.50510326	1.5615262	20	—	—
345647 2006 TV_4	16.0	X	104.05806	289.30687	172.32413	13.59275	0.2685387	0.17587095	3.1550529	20	5 12.7	21.1
345648 2006 TZ_6	15.9	X	341.90076	352.85289	205.50967	8.91886	0.0214912	0.17509093	3.1644164	20	3 1.2	20.5
345649 2006 TD_7	16.0	X	259.56963	62.30664	245.15420	10.93080	0.1763315	0.18678960	3.0308719	20	3 11.9	21.0
345650 2006 TZ_{14}	15.7	X	201.47393	281.02732	13.94258	13.72947	0.1911946	0.17192026	3.2032045	20	1 17.8	21.3
345651 2006 TV_{20}	15.8	X	185.19017	326.70800	41.92276	9.79151	0.1227161	0.17765563	3.1338874	20	3 27.2	20.8
345652 2006 TJ_{22}	15.7	X	157.52481	339.27837	50.88136	9.58319	0.0799409	0.17495383	3.1660693	20	3 24.7	20.6
345653 2006 TH_{31}	15.8	X	232.84728	101.01950	211.68686	14.89263	0.1139825	0.17788315	3.1312147	20	2 27.8	20.9
345654 2006 TS_{41}	16.0	X	134.51549	324.81786	65.08936	6.35112	0.1954614	0.17289583	3.1911438	20	3 10.4	21.1
345655 2006 TE_{60}	15.3	X	305.16016	15.12419	236.23894	14.69248	0.1138550	0.17613171	3.1519381	20	3 3.4	19.9
345656 2006 TF_{68}	15.5	X	125.62389	38.53166	1.58250	17.13458	0.0380220	0.17310626	3.1885571	20	2 27.3	20.2
345657 2006 TD_{73}	18.0	X	93.58617	59.42097	329.86269	5.79491	0.1236402	0.30791486	2.1719456	20	—	—
345658 2006 TZ_{77}	16.8	X	156.52131	152.91632	225.49506	9.85261	0.2431836	0.17590936	3.1545935	20	3 11.9	22.4
345659 2006 TM_{82}	16.0	X	129.19906	177.23950	240.73576	7.94073	0.0919653	0.17431815	3.1737616	20	3 21.6	20.9
345660 2006 TK_{92}	15.9	X	100.45345	41.11480	57.09202	5.96190	0.1256934	0.17511995	3.1640667	20	4 16.1	20.4
345661 2006 TH_{103}	15.6	X	116.04596	230.71953	221.02647	9.73097	0.0853781	0.17789920	3.1310263	20	4 18.4	20.2
345662 2006 TF_{117}	16.2	X	122.46330	254.32867	152.88500	11.18491	0.1034817	0.17218993	3.1998593	20	3 7.1	20.9
345663 2006 TP_{118}	16.1	X	46.56600	82.53786	65.01796	12.34063	0.0861079	0.17675296	3.1445481	20	4 5.2	20.3
345664 2006 TK_{128}	16.1	X	202.20876	274.91689	97.78001	8.79714	0.2711550	0.18544080	3.0455508	20	4 14.1	21.6
345665 2006 UX_2	16.0	X	101.64276	42.09556	51.54207	12.30239	0.2093217	0.17291430	3.1909166	20	4 23.4	20.7
345666 2006 UJ_9	15.5	X	242.81132	58.93531	220.47209	21.03732	0.0970860	0.16980827	3.2297097	20	1 29.7	20.9
345667 2006 US_{18}	18.9	X	287.62060	102.88750	229.54818	5.62566	0.0753206	0.33775210	2.0420702	20	6 3.4	20.7
345668 2006 UH_{20}	15.8	X	293.80932	9.42494	237.68327	4.32309	0.0838903	0.17639724	3.1487742	20	2 21.6	20.2
345669 2006 UM_{25}	15.7	X	209.82152	272.28455	23.40323	8.01741	0.1763179	0.17184674	3.2041181	20	1 24.1	21.1
345670 2006 UX_{26}	15.7	X	92.76580	73.97386	18.55979	4.94095	0.1441583	0.17250286	3.1959883	20	4 1.4	20.0
345671 2006 UL_{29}	16.0	X	217.20999	295.51796	25.68560	9.74863	0.0859240	0.17640042	3.1487365	20	3 3.2	20.9
345672 2006 UN_{56}	15.9	X	130.82894	209.94861	235.53246	9.64118	0.0789577	0.18616951	3.0375983	20	4 26.1	20.4
345673 2006 UT_{56}	15.8	X	248.57750	342.45399	296.39559	8.98668	0.0303208	0.17880724	3.1204171	20	2 13.3	20.3
345674 2006 UU_{67}	15.6	X	256.66087	256.44058	52.68970	10.67641	0.0684059	0.18142017	3.0903832	20	4 1.3	20.2
345675 2006 UQ_{68}	15.9	X	181.00092	280.14499	72.42193	6.78989	0.0975524	0.17422450	3.1748989	20	3 3.9	20.9
345676 2006 UK_{70}	15.6	X	202.10764	276.85651	44.75953	14.29363	0.1105144	0.17093270	3.2155304	20	2 20.9	20.9
345677 2006 UY_{73}	15.8	X	57.82929	268.22941	235.13941	8.35418	0.0803521	0.17759938	3.1345491	20	4 6.8	20.0
345678 2006 UQ_{97}	15.6	X	56.30329	81.59761	45.41713	19.86351	0.1083569	0.17141726	3.2094677	20	3 30.7	20.0
345679 2006 UL_{100}	16.5	X	126.03399	296.91051	113.44709	4.94385	0.1512059	0.17176441	3.2051419	20	3 21.1	21.4
345680 2006 UK_{109}	16.3	X	208.53080	104.88504	260.23538	8.45694	0.0767266	0.18679934	3.0307665	20	4 8.1	21.1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345681 2006 UZ_{112}	16.4	X	84.54232	92.53195	10.37227	4.71342	0.1570148	0.17363659	3.1820614	20	4 5.2	20.7
345682 2006 UZ_{118}	16.6	X	208.90036	114.95157	204.78995	8.96542	0.0643037	0.17394144	3.1783424	20	2 16.3	21.5
345683 2006 UL_{119}	15.5	X	338.60547	12.23731	202.97311	9.89965	0.0242044	0.17747456	3.1360187	20	3 18.1	19.9
345684 2006 UX_{141}	18.2	X	314.84335	219.44211	2.78924	4.49037	0.0274323	0.31656538	2.1321959	20	2 9.3	20.6
345685 2006 UX_{146}	15.7	X	94.72205	155.71767	300.63059	9.62259	0.1556707	0.17882117	3.1202550	20	4 4.1	20.3
345686 2006 UT_{147}	16.2	X	203.72816	91.68512	226.23273	10.38386	0.1311192	0.17857963	3.1230680	20	2 6.9	21.4
345687 2006 UV_{149}	15.4	X	165.31163	267.41802	80.95223	18.06219	0.2908722	0.17384887	3.1794705	20	2 25.5	21.3
345688 2006 UG_{154}	16.3	X	142.25603	355.08778	36.74551	5.04357	0.1828955	0.17529994	3.1619005	20	3 16.9	21.3
345689 2006 UP_{162}	16.0	X	264.66614	243.75996	38.30706	15.40324	0.0351258	0.17784519	3.1316602	20	3 15.9	20.7
345690 2006 UG_{166}	16.2	X	194.33036	278.47523	64.24566	8.01337	0.0244536	0.17458949	3.1704724	20	3 5.9	20.9
345691 2006 UK_{169}	16.0	X	90.32312	42.77379	42.68907	18.03587	0.1065098	0.17180409	3.2046483	20	3 23.9	20.7
345692 2006 UT_{176}	15.7	X	226.20794	236.31717	88.79055	6.79742	0.1059286	0.18070138	3.0985730	20	3 14.8	20.5
345693 2006 UW_{186}	16.0	X	123.92189	95.48666	333.53013	15.24455	0.2527129	0.17576567	3.1563127	20	4 10.3	21.4
345694 2006 UU_{187}	15.8	X	114.65490	94.74022	355.81941	20.84694	0.2446456	0.17652357	3.1472718	20	4 25.1	21.1
345695 2006 UT_{188}	15.1	X	107.45269	207.32758	227.19809	27.45887	0.1955794	0.17358063	3.1827452	20	3 29.2	20.2
345696 2006 UN_{190}	14.9	X	120.88205	184.93295	249.50394	16.24716	0.1006931	0.17641871	3.1485188	20	3 30.7	19.9
345697 2006 UU_{222}	15.5	X	143.70665	53.16940	334.25824	8.41924	0.0991353	0.17506209	3.1647639	20	3 3.6	20.2
345698 2006 UN_{243}	16.3	X	120.42929	223.60954	199.54972	4.14507	0.1943783	0.17447520	3.1718568	20	4 1.5	21.1
345699 2006 UZ_{250}	16.5	X	33.74636	237.55592	241.12139	0.73781	0.2309716	0.16287265	3.3207583	20	2 14.6	19.8
345700 2006 UX_{263}	15.7	X	84.21798	193.31141	223.47383	7.00084	0.0384361	0.16789404	3.2542121	20	1 22.5	20.3
345701 2006 UZ_{331}	16.6	X	120.53730	245.48134	184.17703	12.62836	0.0897705	0.17782962	3.1318430	20	3 29.1	21.2
345702 2006 UL_{357}	16.3	X	60.16626	110.00440	6.70640	0.71791	0.0993293	0.16943472	3.2344549	20	3 12.9	20.3
345703 2006 UF_{359}	16.1	X	131.01899	99.25394	289.65704	4.07371	0.0822457	0.17122147	3.2119139	20	2 19.2	20.9
345704 2006 VE_{3}	17.6	X	153.45598	271.83348	27.60001	5.88913	0.1746176	0.30552960	2.1832352	20	—	—
345705 2006 VB_{14}	18.5	X	247.69401	346.44177	258.72733	31.02458	0.4212228	1.46746381	0.7669336	20	—	—
345706 2006 VX_{16}	15.5	X	248.43027	241.09004	44.19440	12.78933	0.0300556	0.17060369	3.2196632	20	3 1.4	20.3
345707 2006 VW_{51}	16.4	X	151.76026	296.12821	46.20617	1.78946	0.1507314	0.16943514	3.2344496	20	1 25.6	21.4
345708 2006 VH_{115}	15.7	X	169.35500	211.44755	197.45602	12.20938	0.0785024	0.18838753	3.0137088	20	4 24.8	20.2
345709 2006 VZ_{130}	15.4	X	178.19309	305.29518	83.73871	18.38469	0.2809204	0.17830452	3.1262796	20	4 21.1	21.3
345710 2006 VP_{140}	16.2	X	138.94840	345.37489	92.74291	2.68143	0.1609738	0.17536682	3.1610965	20	5 4.9	21.2
345711 2006 VC_{150}	15.4	X	102.52363	26.98024	69.58305	10.56802	0.0587441	0.17552033	3.1592532	20	4 10.5	20.0
345712 2006 VV_{170}	16.3	X	165.25941	145.26498	227.21284	4.88221	0.0738682	0.17215921	3.2002400	20	3 5.4	21.2
345713 2006 WC_{27}	15.7	X	129.47730	44.85446	67.83623	17.75355	0.1902534	0.17806166	3.1291215	20	6 7.5	20.8
345714 2006 WA_{73}	16.4	X	196.74058	282.68707	44.15937	4.90701	0.1604779	0.17132061	3.2106747	20	2 17.4	21.7
345715 2006 WF_{115}	15.4	X	106.14978	261.67768	72.23166	14.87061	0.2448048	0.15650774	3.4101920	20	—	—
345716 2006 WP_{178}	16.3	X	149.52130	344.08013	42.87571	5.06054	0.1255672	0.17419694	3.1752337	20	3 14.1	21.2
345717 2006 WD_{180}	16.0	X	150.28907	160.37208	263.73517	9.20365	0.1843125	0.17503353	3.1651081	20	4 26.9	21.3
345718 2006 XB_{6}	15.6	X	190.52685	264.73411	93.22232	21.84166	0.3234586	0.17777948	3.1324318	20	3 27.4	21.7
345719 2006 XT_{10}	14.8	X	55.25472	250.80208	283.26998	24.70665	0.1806417	0.16903546	3.2395462	20	5 29.7	19.3
345720 2006 XC_{44}	17.3	X	44.79461	125.07243	283.24624	7.04238	0.1036601	0.29767792	2.2214590	20	—	—
345721 2006 YZ_{51}	17.1	X	70.62236	315.22976	303.96986	7.68115	0.0676693	0.26078402	2.4263236	20	9 28.4	20.4
345722 2007 BG_{29}	18.2	X	66.29752	245.11453	60.97665	18.50673	0.3347446	1.29749565	0.8325279	20	—	—
345723 2007 BB_{40}	18.1	X	289.37181	99.59502	128.28551	1.90469	0.1316593	0.29880301	2.2158791	20	—	—
345724 2007 BW_{44}	17.8	X	295.95968	20.93786	153.32049	5.38512	0.1178015	0.28968204	2.2621514	20	—	—
345725 2007 BC_{61}	18.3	X	356.37145	202.18687	304.34465	5.36895	0.1015123	0.29956355	2.2121271	20	—	—
345726 2007 BH_{79}	17.9	X	129.81447	91.89838	159.50819	2.18771	0.1890269	0.26694057	2.3888727	20	12 3.4	21.8
345727 2007 CV_{17}	17.4	X	44.48267	119.05476	350.83442	4.87454	0.0904585	0.29969902	2.2114604	20	1 16.3	19.4
345728 2007 CF_{35}	17.0	X	11.10403	8.41438	127.67519	7.46378	0.0354127	0.29644126	2.2276328	20	1 1.4	19.6
345729 2007 CS_{43}	18.0	X	263.34070	40.78910	152.51326	5.95911	0.1035281	0.28489738	2.2874086	20	—	—
345730 2007 CZ_{43}	17.8	X	282.47682	6.35629	177.19990	3.19773	0.1587110	0.28635155	2.2796580	20	—	—
345731 2007 CV_{56}	17.3	X	333.38429	45.60372	139.30618	4.26185	0.0674003	0.29618685	2.2289083	20	1 9.6	19.8
345732 2007 CR_{65}	17.7	X	278.63643	29.04719	162.81562	6.66699	0.0487274	0.28902673	2.2655694	20	—	—
345733 2007 DB_{6}	17.4	X	225.40982	86.50280	146.56633	2.89436	0.1615186	0.28074017	2.3099346	20	—	—
345734 2007 DD_{11}	17.7	X	53.56880	216.09016	189.51234	5.40217	0.0827260	0.28682953	2.2771247	20	—	—
345735 2007 DV_{23}	18.0	X	244.86622	67.74950	155.66009	5.96642	0.1609553	0.28347545	2.2950514	20	—	—
345736 2007 DY_{45}	17.5	X	258.61595	252.85673	311.66928	3.86371	0.1055317	0.28389785	2.2927743	20	—	—
345737 2007 DZ_{52}	16.7	X	9.85321	239.31470	337.01367	12.20136	0.2053630	0.23153517	2.6265846	20	4 23.8	19.2
345738 2007 DB_{64}	17.1	X	110.92615	298.25647	351.01440	5.06139	0.2215909	0.26841975	2.3800883	20	—	—
345739 2007 DS_{67}	17.8	X	132.70846	150.13372	113.80230	2.24307	0.1595357	0.26743674	2.3859170	20	12 21.0	21.5
345740 2007 DN_{72}	17.8	X	100.67549	147.25022	133.33150	2.61328	0.2018594	0.26218238	2.4176887	20	12 13.6	21.8
345741 2007 DC_{93}	17.4	X	296.39135	49.33925	150.41602	6.65588	0.0554808	0.29235205	2.2483571	20	—	—
345742 2007 DJ_{105}	17.9	X	12.28747	135.51918	25.42124	4.42589	0.0978532	0.29839683	2.2178895	20	2 4.7	19.9
345743 2007 DC_{106}	18.2	X	139.25942	89.02371	177.09876	3.96545	0.2070765	0.26710820	2.3878731	20	12 28.1	22.1
345744 2007 DU_{111}	17.0	X	351.38990	345.88198	12.32325	6.32895	0.1026861	0.25793736	2.4441426	20	10 26.8	19.7
345745 2007 DT_{113}	17.4	X	235.45762	65.69664	174.53309	6.36691	0.0674150	0.28648278	2.2789617	20	—	—
345746 2007 EA_{3}	17.5	X	208.00662	182.24774	61.57153	2.83383	0.1519148	0.27832699	2.3232672	20	—	—
345747 2007 EE_{5}	18.4	X	354.66783	331.72618	174.94327	2.38272	0.1214776	0.29508408	2.2344580	20	—	—
345748 2007 EV_{10}	17.8	X	95.42235	121.27817	319.26049	3.56505	0.1116014	0.30402540	2.1904305	20	2 29.3	20.1
345749 2007 EN_{15}	17.7	X	5.14962	309.15449	163.09475	6.25012	0.1099529	0.28670113	2.2778045	20	—	—
345750 2007 EF_{28}	16.9	X	279.35949	244.32979	174.57746	14.40379	0.0400545	0.25974045	2.4328182	20	9 30.4	19.7
345751 2007 EL_{39}	17.6	X	34.50636	139.04556	18.89881	4.19932	0.1078749	0.30384785	2.1912837	20	3 11.9	19.5
345752 2007 EW_{42}	17.5	X	188.65172	70.20416	157.74017	2.53256	0.1525588	0.26983540	2.3717565	20	12 31.0	20.8
345753 2007 EZ_{55}	13.7	X	307.42565	271.63552	17.97987	12.82647	0.1512002	0.08351369	5.1835935	20	4 26.4	20.3
345754 2007 EC_{62}	17.7	X	44.87564	38.01172	113.19595	2.60627	0.0835101	0.30393602	2.1908599	20	3 19.6	19.7
345755 2007 EU_{64}	18.0	X	59.29979	34.35604	43.90114	2.90233	0.2502529	0.29630806	2.2283004	20	1 7.7	18.9
345756 2007 ER_{69}	17.6	X	204.78966	109.75410	102.96810	2.34451	0.0909983	0.27157591	2.3616120	20	—	—
345757 2007 EV_{69}	17.6	X	106.38143	265.29722	150.83656	5.40179	0.1328431	0.29702375	2.2247195	20	2 15.8	20.0
345758 2007 EY_{75}	17.7	X	232.48993	196.35454	6.64477	1.49724	0.1367264	0.27464372	2.3439928	20	—	—
345759 2007 EK_{81}	16.8	X	192.35551	146.96944	129.37070	6.93325	0.1344061	0.28095251	2.3087705	20	—	—
345760 2007 EB_{82}	16.6	X	181.26391	203.40685	41.38185	7.65952	0.0701799	0.27510161	2.3413911	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345761 2007 EH_{87}	16.3	X	204.64173	210.52409	24.23943	23.56452	0.2178819	0.27138967	2.3626923	20	—	—
345762 2007 EA_{88}	17.9	X	212.11708	69.68531	156.91446	1.77361	0.1344454	0.27574112	2.3377695	20	—	—
345763 2007 EQ_{88}	17.6	X	336.88694	123.71026	33.52375	3.51379	0.1345028	0.29211090	2.2495943	20	—	—
345764 2007 EO_{96}	17.7	X	218.04936	43.16131	191.86603	4.84042	0.1474009	0.27558297	2.3386638	20	—	—
345765 2007 ES_{96}	18.2	X	349.62797	171.10838	304.95974	0.91433	0.0924873	0.28240737	2.3008344	20	—	—
345766 2007 EH_{105}	18.0	X	77.00607	316.34563	162.65536	3.28840	0.1372485	0.30517518	2.1849252	20	4 3.3	19.9
345767 2007 EG_{108}	16.8	X	209.84943	187.01757	20.57131	11.66342	0.1455761	0.27066623	2.3669005	20	12 31.2	20.1
345768 2007 EW_{114}	18.4	X	309.19800	67.55740	102.44637	3.04616	0.1072247	0.28383223	2.2931277	20	—	—
345769 2007 EF_{118}	17.0	X	83.91530	276.01116	35.25958	8.46842	0.0421903	0.26383934	2.4075557	20	12 24.5	20.3
345770 2007 EG_{119}	17.6	X	212.15441	119.89256	91.38884	2.30709	0.1271384	0.27027527	2.3691824	20	—	—
345771 2007 ED_{127}	17.2	X	263.46058	67.80465	107.55454	5.21226	0.0956100	0.27998804	2.3140695	20	—	—
345772 2007 EP_{130}	17.9	X	150.47261	99.98670	170.60386	1.49869	0.1710585	0.27028364	2.3691335	20	—	—
345773 2007 EE_{132}	17.6	X	127.64430	348.54474	1.70884	7.44501	0.1364363	0.28456773	2.2891748	20	—	—
345774 2007 EO_{132}	17.9	X	239.69422	11.30440	169.33939	3.81294	0.1123299	0.27374664	2.3491109	20	—	—
345775 2007 EN_{133}	13.6	X	180.26429	35.55291	7.67877	8.61717	0.0817477	0.08490386	5.1268555	20	4 29.4	20.9
345776 2007 EN_{138}	18.1	X	286.86869	133.75663	49.58028	2.35511	0.1737267	0.28707126	2.2758462	20	—	—
345777 2007 EB_{140}	17.6	X	184.08878	310.23848	319.69203	6.04882	0.1228810	0.28140587	2.3062902	20	—	—
345778 2007 EZ_{156}	17.6	X	320.43866	58.61614	82.11605	4.06569	0.1507579	0.28199094	2.3030990	20	—	—
345779 2007 EJ_{166}	17.4	X	181.88110	205.91398	5.84635	5.89510	0.1754450	0.26463900	2.4027033	20	11 29.6	21.1
345780 2007 EW_{169}	17.3	X	243.91332	93.27914	142.02217	5.80195	0.1162531	0.28375926	2.2935208	20	—	—
345781 2007 EZ_{184}	17.1	X	260.36684	115.59732	128.76174	5.54795	0.0938735	0.28754171	2.2733631	20	—	—
345782 2007 ES_{192}	16.8	X	304.87885	278.27232	8.07546	13.75571	0.1589877	0.23017195	2.6369453	20	4 9.5	20.2
345783 2007 EW_{195}	16.8	X	9.35677	289.20564	36.23502	14.85063	0.2657630	0.24502404	2.5292800	20	11 2.3	19.2
345784 2007 EH_{197}	17.4	X	214.55843	7.30189	208.36424	3.24625	0.1390744	0.27180588	2.3602798	20	—	—
345785 2007 EN_{200}	17.6	X	21.42877	338.04478	151.56472	2.93743	0.1695804	0.29534448	2.2331444	20	—	—
345786 2007 EP_{223}	18.1	X	15.66287	32.55769	129.18466	1.23897	0.1449470	0.29917905	2.2140220	20	2 6.4	19.7
345787 2007 FD_{16}	16.9	X	262.58007	315.76835	257.58824	4.11411	0.0883015	0.28400896	2.2921763	20	—	—
345788 2007 FR_{19}	17.4	X	104.07500	140.87124	182.64261	2.86910	0.2588847	0.27130432	2.3631878	20	—	—
345789 2007 FX_{31}	17.7	X	287.15116	255.26354	291.08888	0.76181	0.1371619	0.28239407	2.3009067	20	—	—
345790 2007 GD	17.3	X	174.74225	111.47452	171.46926	7.04492	0.1199057	0.27738660	2.3285151	20	—	—
345791 2007 GC_{6}	17.5	X	193.56424	71.26874	157.98277	1.72041	0.1242002	0.26710483	2.3878931	20	—	—
345792 2007 GC_{7}	17.8	X	139.72490	286.65010	11.32149	3.92073	0.0926454	0.27378402	2.3488971	20	—	—
345793 2007 GD_{11}	17.2	X	95.22469	214.09184	57.20697	3.65223	0.1743726	0.25823240	2.4422806	20	11 25.2	21.1
345794 2007 GM_{17}	17.6	X	180.53200	270.51337	291.14805	1.56480	0.1447802	0.26102356	2.4248390	20	11 18.4	21.1
345795 2007 GA_{19}	17.7	X	36.14336	239.76577	31.89053	3.30503	0.1758021	0.24104237	2.5570573	20	9 17.3	20.7
345796 2007 GA_{24}	18.1	X	279.41467	327.78034	224.19861	1.36820	0.1454880	0.27919598	2.3184440	20	—	—
345797 2007 GK_{27}	17.5	X	355.77134	252.33876	64.15577	4.42263	0.2780272	0.23762490	2.5815156	20	9 21.6	19.3
345798 2007 GG_{28}	17.0	X	250.05425	355.02060	181.33069	9.35345	0.0408288	0.27141032	2.3625725	20	—	—
345799 2007 GO_{31}	18.2	X	339.12905	190.39899	308.39511	3.04975	0.0689083	0.28543126	2.2845554	20	—	—
345800 2007 GU_{31}	16.8	X	157.33443	238.72208	36.87189	7.66725	0.0916805	0.27237784	2.3569744	20	—	—
345801 2007 GJ_{36}	16.8	X	55.77926	269.91333	58.15525	7.62815	0.0850319	0.25974111	2.4328141	20	12 15.9	20.1
345802 2007 GU_{40}	17.1	X	169.46572	217.51322	42.08568	6.24452	0.1562942	0.26738747	2.3862101	20	—	—
345803 2007 GL_{41}	17.3	X	302.96974	248.38630	213.50686	11.55726	0.0765587	0.26630644	2.3926634	20	—	—
345804 2007 GH_{44}	18.5	X	26.03802	320.97949	176.99110	1.15181	0.1545842	0.29473675	2.2362131	20	1 21.6	20.3
345805 2007 GE_{48}	17.2	X	15.84138	251.22044	61.44479	7.25043	0.2888858	0.24084790	2.5584335	20	10 31.9	19.8
345806 2007 GB_{50}	17.4	X	303.19768	105.27076	92.04495	3.01734	0.1145966	0.28771124	2.2724700	20	—	—
345807 2007 GO_{52}	17.8	X	323.05480	92.51697	25.61020	5.50282	0.0817482	0.27467689	2.3438040	20	—	—
345808 2007 GY_{59}	17.2	X	309.64981	141.15540	24.70793	6.67464	0.0509468	0.28047289	2.3114018	20	—	—
345809 2007 GO_{60}	17.1	X	357.97453	60.49200	260.84421	2.29741	0.2369366	0.24133694	2.5549761	20	9 25.8	19.2
345810 2007 GW_{61}	17.6	X	106.96376	106.49677	143.33542	3.06238	0.1576222	0.25515419	2.4618840	20	11 9.4	21.4
345811 2007 GG_{75}	17.5	X	45.68728	76.63412	214.41738	12.32508	0.2655388	0.24494733	2.5298081	20	11 8.9	20.9
345812 2007 HF_{1}	16.9	X	188.27529	195.12256	40.78965	12.10633	0.1944367	0.26936083	2.3745414	20	—	—
345813 2007 HX_{4}	17.7	X	337.98618	14.53760	41.67440	56.55363	0.3317301	0.65176743	1.3174706	20	—	—
345814 2007 HA_{14}	17.7	X	69.35795	221.20552	187.98535	5.53710	0.0528354	0.28287237	2.2983122	20	—	—
345815 2007 HA_{17}	17.6	X	283.67672	31.33670	168.24885	5.62767	0.1067007	0.28508788	2.2863895	20	—	—
345816 2007 HA_{18}	17.4	X	221.50731	147.89578	97.21330	2.58585	0.2090275	0.27598168	2.3364109	20	—	—
345817 2007 HR_{19}	17.4	X	212.72231	136.47533	66.91017	2.36946	0.1250369	0.26777241	2.3839227	20	12 30.8	20.4
345818 2007 HU_{19}	17.1	X	165.66309	194.58777	49.89444	7.22732	0.0616514	0.26514506	2.3996452	20	—	—
345819 2007 HQ_{22}	18.1	X	272.28713	84.33628	100.14782	3.02140	0.1150208	0.27641325	2.3339783	20	—	—
345820 2007 HL_{26}	17.4	X	106.86381	208.50921	48.30200	4.93468	0.1518808	0.25455147	2.4657685	20	11 16.3	21.3
345821 2007 HC_{27}	17.0	X	115.11877	33.08666	219.27563	14.82452	0.2181716	0.25350703	2.4725365	20	11 21.3	21.2
345822 2007 HP_{55}	17.0	X	165.96738	189.53750	79.42355	7.52236	0.0968378	0.26953288	2.3735308	20	—	—
345823 2007 HV_{70}	16.1	X	261.15599	79.96463	214.05403	8.50931	0.2561463	0.21751768	2.7382494	20	2 18.8	20.8
345824 2007 HO_{76}	17.4	X	142.88021	159.79136	86.97822	5.43505	0.1930513	0.25989683	2.4318422	20	12 7.4	21.2
345825 2007 HN_{85}	16.9	X	181.16534	157.71359	97.99358	6.13235	0.0503126	0.26949506	2.3737529	20	—	—
345826 2007 HZ_{87}	16.2	X	327.01403	230.18905	122.25321	18.21107	0.2501853	0.23582404	2.5946414	20	8 26.7	18.2
345827 2007 HR_{92}	18.2	X	64.83302	206.75994	202.69181	2.16206	0.1505943	0.28101670	2.3084190	20	—	—
345828 2007 JK_{3}	17.0	X	161.11981	194.04534	74.17406	3.17030	0.1780316	0.26746898	2.3857253	20	—	—
345829 2007 JM_{10}	17.3	X	139.77738	19.93084	237.93846	4.59371	0.1192070	0.26067016	2.4270301	20	12 19.5	20.9
345830 2007 JX_{13}	17.3	X	159.25494	186.46874	54.19006	5.74391	0.1806788	0.26119953	2.4237498	20	12 14.1	21.2
345831 2007 JD_{19}	16.5	X	34.74263	136.40919	158.98727	15.33039	0.1401230	0.24307889	2.5427552	20	10 15.5	19.8
345832 2007 JE_{34}	16.8	X	143.12472	161.80067	103.84064	7.51108	0.1161331	0.26277848	2.4140310	20	—	—
345833 2007 KE_{3}	18.0	X	282.34458	62.64070	116.61874	2.82240	0.1568075	0.28155709	2.3054643	20	—	—
345834 2007 KK_{3}	17.6	X	56.41427	344.41842	277.64092	2.32867	0.1712178	0.24216646	2.5491382	20	9 29.3	20.9
345835 2007 KB_{7}	16.1	X	26.14880	186.09793	68.82677	8.79106	0.1580141	0.23360457	2.6110498	20	8 4.5	19.0
345836 2007 LO_{1}	17.4	X	232.50615	19.37189	184.91324	6.29671	0.1054546	0.26927346	2.3750550	20	—	—
345837 2007 LZ_{5}	16.9	X	44.18516	156.57794	129.56982	16.00501	0.1335479	0.24377017	2.5379458	20	10 18.4	20.5
345838 2007 LL_{18}	16.3	X	65.93682	244.16331	103.05259	11.54565	0.1837153	0.25175470	2.4839966	20	—	—
345839 2007 LW_{18}	16.8	X	14.03974	90.44597	175.58746	12.61371	0.2453130	0.23196036	2.6233739	20	8 3.8	19.3
345840 2007 LZ_{21}	16.7	X	335.44704	207.60904	159.26681	12.60401	0.2558101	0.24069415	2.5595230	20	10 19.2	18.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345841 2007 LD_{25}	16.6	X	57.15194	290.00450	75.55239	8.08499	0.1054854	0.26256392	2.4153460	20	—	—
345842 Alexparker	17.3	X	315.97040	260.17550	72.02531	5.98291	0.0721257	0.22311696	2.6922434	20	7 16.5	20.6
345843 2007 ML	17.1	X	350.17682	344.84316	116.98818	7.09598	0.0798404	0.27166118	2.3611179	20	—	—
345844 2007 MD_{3}	15.8	X	278.23508	101.06522	289.07833	23.82266	0.2193249	0.22611813	2.6683684	20	7 14.9	19.2
345845 2007 MJ_{27}	16.3	X	48.33928	208.60871	109.90401	8.66288	0.1562148	0.24357755	2.5392837	20	12 2.6	19.8
345846 2007 NU_{1}	16.7	X	7.13058	67.15889	248.94168	10.21147	0.1974104	0.23253227	2.6190708	20	9 25.8	19.6
345847 2007 OW_{1}	16.3	X	344.49470	233.22812	108.51585	13.42554	0.1493834	0.23182069	2.6244275	20	9 25.7	19.2
345848 2007 OX_{2}	16.3	X	19.12821	39.00829	264.06633	12.86363	0.2566042	0.23319360	2.6141166	20	10 8.5	19.4
345849 2007 OW_{3}	17.5	X	283.29745	67.65026	275.85477	1.95427	0.2138584	0.22065625	2.7122220	20	5 20.5	21.3
345850 2007 OS_{7}	16.9	X	305.98722	100.00337	213.25454	12.41995	0.2201791	0.21789170	2.7351150	20	5 11.9	20.1
345851 2007 PY_{3}	15.9	X	15.66598	277.45255	33.25036	13.95791	0.1918439	0.23512894	2.5997524	20	10 11.9	18.7
345852 2007 PT_{6}	16.6	X	294.31813	342.59491	19.65513	4.68868	0.1996742	0.22026292	2.7154499	20	7 4.6	19.9
345853 2007 PU_{11}	16.2	X	234.74412	195.04499	207.92263	13.78729	0.5511514	0.20752282	2.8254794	20	5 24.0	22.0
345854 2007 PK_{14}	16.3	X	321.71675	232.95480	116.72699	10.45657	0.1766121	0.22709002	2.6607497	20	8 12.2	18.8
345855 2007 PP_{14}	16.8	X	293.79682	205.03722	122.82074	9.81002	0.3112154	0.21780995	2.7357993	20	5 3.1	20.7
345856 2007 PA_{21}	16.1	X	313.96564	359.81364	325.97060	11.45255	0.2057657	0.21970338	2.7200584	20	6 14.5	19.3
345857 2007 PJ_{26}	17.0	X	303.13531	324.88583	343.37413	8.48558	0.2937525	0.21735826	2.7395882	20	4 14.4	20.6
345858 2007 PE_{28}	16.1	X	13.78666	333.45422	286.59973	11.97143	0.1996287	0.22371210	2.6874665	20	7 18.8	18.7
345859 2007 PB_{32}	17.1	X	238.21836	40.18728	336.97026	8.50582	0.3374527	0.21103371	2.7940542	20	5 3.4	22.2
345860 2007 PQ_{40}	16.3	X	53.13378	157.23890	142.51890	15.68707	0.1304474	0.23964954	2.5669554	20	11 13.8	20.1
345861 2007 PS_{46}	17.4	X	344.40622	124.25201	179.35889	1.30501	0.1226436	0.22110733	2.7085319	20	7 20.1	20.1
345862 2007 PU_{46}	17.3	X	228.47529	88.74875	339.87759	1.50817	0.1370236	0.21767888	2.7368974	20	7 17.9	21.4
345863 2007 PG_{47}	16.0	X	135.99259	337.47521	344.90987	9.21452	0.0742592	0.17925330	3.1152383	20	—	—
345864 2007 PF_{49}	15.5	X	88.02765	223.70764	156.16572	16.63872	0.0622724	0.18134510	3.0912360	20	—	—
345865 2007 QF	15.8	X	349.73987	8.49635	304.33545	12.61117	0.1804921	0.22631415	2.6668274	20	8 13.3	18.3
345866 2007 QP	16.0	X	290.18734	176.25501	133.02392	23.15490	0.2242676	0.21338985	2.7734492	20	4 22.5	20.3
345867 2007 QB_{1}	16.5	X	328.32287	64.65494	270.08849	11.76552	0.2822267	0.22524206	2.6752829	20	7 18.1	18.6
345868 2007 QE_{2}	16.6	X	254.31031	172.92104	240.98919	10.48415	0.1630839	0.21924250	2.7238690	20	7 21.8	20.6
345869 2007 QM_{6}	16.7	X	298.55596	22.36561	319.50056	4.22060	0.2363294	0.21955555	2.7212792	20	6 5.1	20.0
345870 2007 QO_{6}	16.3	X	144.07200	202.37242	157.22115	6.57775	0.1703588	0.18955817	3.0012882	20	2 5.5	21.0
345871 2007 QR_{6}	16.9	X	333.31599	166.35650	138.34292	5.14901	0.2073294	0.22219514	2.6996845	20	6 23.1	19.3
345872 2007 QS_{9}	16.0	X	348.82943	305.78316	338.48337	11.24440	0.2051911	0.22045057	2.7139087	20	6 29.8	18.7
345873 2007 QM_{11}	17.4	X	278.77038	160.85497	174.97810	1.88489	0.3213227	0.21418511	2.7665798	20	4 21.9	21.5
345874 2007 QD_{13}	16.9	X	227.32760	343.30600	77.13129	2.49635	0.1368015	0.21550125	2.7553040	20	7 5.8	21.1
345875 2007 QQ_{16}	15.8	X	329.20168	153.18015	151.40778	26.14022	0.0606404	0.22030457	2.7151076	20	6 30.6	19.7
345876 2007 RQ_{6}	17.0	X	341.16362	70.22400	242.96418	3.85694	0.1702590	0.22476883	2.6790367	20	7 26.3	19.6
345877 2007 RB_{8}	16.6	X	275.03733	1.85254	351.79601	3.29383	0.1100224	0.21206098	2.7850236	20	6 8.1	20.5
345878 2007 RN_{10}	16.2	X	294.79579	65.66887	311.04394	7.94867	0.1310770	0.22337094	2.6902023	20	8 5.8	19.4
345879 2007 RW_{12}	17.4	X	249.47589	86.05223	320.31342	1.81549	0.1905176	0.21683524	2.7439918	20	7 5.8	21.5
345880 2007 RQ_{27}	16.2	X	200.58341	344.39813	331.71597	9.86445	0.0926096	0.19316262	2.9638348	20	2 5.4	20.7
345881 2007 RT_{30}	16.1	X	243.43241	110.30915	313.38738	10.47186	0.2387410	0.21817264	2.7327665	20	7 17.2	20.4
345882 2007 RQ_{43}	17.0	X	273.18745	165.48088	234.78567	4.15404	0.1185536	0.22058849	2.7127773	20	8 5.8	20.6
345883 2007 RB_{46}	17.3	X	237.73805	99.21559	280.40829	3.47391	0.1380411	0.20972978	2.8056230	20	5 24.8	21.5
345884 2007 RD_{46}	16.7	X	210.34822	138.08869	196.11161	8.81736	0.1787320	0.19723624	2.9228839	20	3 1.9	21.8
345885 2007 RO_{50}	16.8	X	281.13479	92.76606	217.36532	9.95296	0.1006434	0.20659754	2.8339093	20	4 21.2	20.5
345886 2007 RN_{60}	16.7	X	288.96726	80.70976	280.99795	3.73031	0.1388973	0.21869846	2.7283845	20	7 4.9	20.1
345887 2007 RD_{65}	17.0	X	264.77260	41.51317	336.10550	2.87979	0.2149411	0.21651838	2.7466682	20	6 11.9	20.9
345888 2007 RK_{71}	16.3	X	249.16184	256.85538	156.47162	10.03727	0.2815819	0.21572306	2.7534150	20	7 3.3	20.8
345889 2007 RQ_{71}	17.1	X	278.74955	344.09959	24.86993	4.91402	0.1321973	0.21768830	2.7368184	20	7 1.4	20.7
345890 2007 RE_{73}	16.9	X	259.10564	184.39082	162.78162	6.56338	0.0505065	0.21124073	2.7922284	20	5 20.7	20.9
345891 2007 RO_{78}	16.9	X	317.11628	32.15758	339.44120	5.02109	0.0965581	0.22801491	2.6535497	20	9 9.9	19.7
345892 2007 RR_{78}	17.3	X	300.62691	151.90325	183.08528	4.22329	0.1160754	0.21807246	2.7336034	20	6 19.1	20.8
345893 2007 RA_{84}	16.4	X	332.66904	311.46818	10.94936	13.19011	0.1249363	0.22012672	2.7165698	20	7 31.5	19.6
345894 2007 RU_{90}	17.1	X	206.39712	69.96084	3.34633	4.63852	0.0947159	0.21208844	2.7847832	20	7 3.6	21.3
345895 2007 RC_{93}	16.9	X	229.72810	61.40011	17.34403	3.62158	0.0241228	0.21967232	2.7203148	20	8 16.9	20.6
345896 2007 RE_{96}	16.7	X	137.88903	35.04312	28.31160	9.61753	0.0698126	0.19455762	2.9496504	20	4 7.4	21.0
345897 2007 RM_{96}	17.0	X	238.66435	326.88870	87.78592	3.58306	0.1081459	0.21358017	2.7718013	20	7 14.4	20.9
345898 2007 RB_{98}	16.2	X	343.84839	247.63152	38.65561	7.55721	0.2816616	0.21809616	2.7334053	20	6 11.4	18.1
345899 2007 RS_{99}	16.7	X	348.65528	111.89573	189.55076	12.51866	0.2775249	0.22580748	2.6708152	20	7 23.3	18.8
345900 2007 RM_{100}	15.8	X	140.43137	183.91405	153.88471	11.77813	0.1124094	0.18604626	3.0389397	20	1 2.7	20.4
345901 2007 RB_{108}	16.6	X	297.75920	344.19378	347.89011	6.51788	0.1760207	0.21506905	2.7589941	20	5 30.4	20.3
345902 2007 RO_{114}	17.0	X	208.11303	211.77152	245.05664	3.99047	0.0124356	0.21954809	2.7213408	20	8 10.9	20.7
345903 2007 RD_{119}	16.0	X	93.46935	238.47884	157.49270	5.84770	0.2334933	0.18095881	3.0956337	20	2 4.3	20.2
345904 2007 RK_{126}	16.5	X	274.44718	15.88610	2.22865	4.68152	0.0633370	0.21621500	2.7492369	20	7 19.6	20.2
345905 2007 RU_{129}	16.6	X	320.82893	215.87406	145.75423	2.76149	0.1032503	0.22310829	2.6923132	20	9 1.7	19.5
345906 2007 RS_{140}	16.5	X	294.52445	344.36317	350.95305	9.06900	0.1417344	0.21525185	2.7574318	20	6 4.4	20.2
345907 2007 RY_{148}	15.8	X	222.66453	50.33244	15.95586	22.42105	0.1310209	0.21375260	2.7703105	20	7 13.8	20.5
345908 2007 RZ_{148}	16.4	X	233.88192	196.86410	202.40286	9.34771	0.1745564	0.21250390	2.7811523	20	6 11.9	20.8
345909 2007 RS_{151}	17.2	X	283.95534	202.07210	210.86984	6.41524	0.1539124	0.22926018	2.6439321	20	9 3.4	20.4
345910 2007 RY_{153}	17.2	X	256.21415	148.42305	205.32874	3.02952	0.1104292	0.21127831	2.7918973	20	5 16.3	21.2
345911 2007 RF_{154}	17.1	X	309.72092	174.05283	187.73834	5.53992	0.0410086	0.22420553	2.6835220	20	8 18.2	20.6
345912 2007 RE_{163}	16.9	X	279.99335	40.04740	335.46274	4.35624	0.1247051	0.21957270	2.7211375	20	7 13.9	20.4
345913 2007 RQ_{167}	16.8	X	115.67939	23.87069	158.43500	11.32093	0.1074688	0.22134197	2.7066174	20	8 15.0	20.9
345914 2007 RT_{167}	17.2	X	214.03942	314.96265	80.03539	1.65196	0.0783020	0.20915791	2.8107347	20	5 24.3	21.3
345915 2007 RR_{170}	17.0	X	310.03088	188.63950	144.13801	5.64657	0.1238404	0.21875041	2.7279525	20	6 29.9	20.4
345916 2007 RS_{172}	16.5	X	115.44345	307.10449	75.60571	2.92851	0.2788490	0.18256784	3.0774182	20	2 19.2	21.3
345917 2007 RB_{173}	16.5	X	234.25239	23.54636	28.20196	8.71575	0.1416643	0.21272446	2.7792296	20	7 1.9	20.8
345918 2007 RU_{174}	16.9	X	253.27615	43.09545	81.95040	4.43687	0.1639060	0.23095482	2.6309829	20	10 28.9	20.2
345919 2007 RX_{180}	17.9	X	285.88843	341.11262	5.56447	2.18733	0.1450863	0.21576044	2.7530970	20	6 8.2	21.6
345920 2007 RH_{184}	16.8	X	197.65187	203.23212	243.26335	4.08817	0.1050837	0.21287133	2.7779511	20	7 9.4	21.1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
345921 2007 RF_{194}	16.9	X	199.70586	236.20309	160.11808	2.30420	0.0725582	0.20406965	2.8572644	20	5 10.9	21.3
345922 2007 RM_{205}	16.0	X	220.26866	216.39749	202.62023	8.72027	0.1749933	0.20991291	2.8039910	20	6 22.8	20.6
345923 2007 RJ_{210}	17.2	X	269.25966	263.92799	101.89408	3.84972	0.0753853	0.21310330	2.7759348	20	6 22.5	20.8
345924 2007 RZ_{214}	16.7	X	260.41195	72.85135	298.63044	2.79808	0.1137244	0.21217720	2.7840065	20	6 12.7	20.5
345925 2007 RA_{215}	16.6	X	247.87172	175.18963	214.14939	4.37885	0.1623444	0.21209666	2.7847112	20	6 15.1	20.8
345926 2007 RO_{223}	15.4	X	102.29686	3.00833	23.62594	23.17649	0.0669985	0.17730045	3.1380715	20	1 18.8	20.3
345927 2007 RC_{233}	16.5	X	243.30323	316.36475	75.26902	5.29769	0.2100097	0.21186536	2.7867376	20	6 7.9	20.9
345928 2007 RK_{233}	16.4	X	250.30301	250.53141	161.85957	12.16441	0.2423945	0.21587635	2.7521114	20	7 7.3	20.9
345929 2007 RW_{233}	15.9	X	38.08546	278.57170	351.29430	13.93256	0.0497803	0.22391276	2.6858607	20	8 28.3	19.4
345930 2007 RN_{240}	16.0	X	351.90033	175.72143	170.43970	14.68832	0.1321082	0.22863524	2.6487478	20	10 9.8	18.9
345931 2007 RH_{246}	17.1	X	282.91361	359.07939	352.12902	6.74856	0.0991478	0.21737878	2.7394158	20	6 17.6	20.8
345932 2007 RR_{246}	16.7	X	250.63484	117.35718	257.70620	6.30293	0.2392696	0.21070909	2.7969232	20	5 21.9	21.0
345933 2007 RP_{251}	17.1	X	332.56170	347.29576	307.54704	4.53533	0.0698514	0.21327869	2.7744127	20	6 19.2	20.6
345934 2007 RO_{252}	16.2	X	95.29179	25.02418	342.46427	1.12100	0.1683682	0.17575839	3.1563997	20	—	—
345935 2007 RP_{255}	16.8	X	37.66600	68.78795	195.90860	6.95795	0.0426134	0.22331120	2.6906820	20	8 14.2	20.4
345936 2007 RB_{268}	16.8	X	290.36438	301.21364	38.26376	4.45954	0.1096978	0.21378612	2.7700209	20	6 10.3	20.3
345937 2007 RU_{273}	16.8	X	45.08462	332.89520	213.28698	5.50321	0.0201487	0.20265719	2.8705253	20	5 9.2	20.7
345938 2007 RX_{276}	16.2	X	264.35273	100.63867	298.09988	20.32946	0.2607419	0.21989218	2.7185012	20	7 5.3	20.2
345939 2007 RJ_{277}	16.0	X	233.76176	331.50816	67.53675	9.68041	0.2709173	0.21030019	2.8005474	20	6 3.0	20.6
345940 2007 RB_{278}	16.3	X	299.06239	213.28401	116.84140	13.75814	0.1832354	0.21491609	2.7603030	20	6 2.0	19.9
345941 2007 RC_{284}	16.7	X	314.70820	104.12691	211.87063	11.13936	0.1456833	0.21555213	2.7548704	20	6 10.9	20.0
345942 2007 RU_{287}	15.4	X	123.38949	313.69040	11.91441	11.66077	0.0213180	0.17393874	3.1783753	20	—	—
345943 2007 RY_{287}	16.5	X	49.57425	231.07936	23.61868	9.44682	0.0463526	0.21921166	2.7241245	20	8 24.4	20.2
345944 2007 RZ_{293}	17.1	X	193.35523	77.24655	39.06984	4.41092	0.2000516	0.21516494	2.7581743	20	8 9.8	21.7
345945 2007 RD_{303}	16.7	X	228.08487	0.79543	6.31139	1.62065	0.1184454	0.19706397	2.9245871	20	4 30.9	21.3
345946 2007 RT_{314}	15.6	X	88.80211	218.68101	146.96681	10.92308	0.1000868	0.17714182	3.1399446	20	—	—
345947 2007 RL_{315}	16.7	X	262.53281	323.03540	56.06522	4.96638	0.1133298	0.21386338	2.7693537	20	6 25.7	20.5
345948 2007 RA_{319}	16.9	X	304.02283	243.94619	112.45310	4.71951	0.1944132	0.22055638	2.7130407	20	7 13.1	19.8
345949 2007 RL_{320}	15.5	X	57.20785	206.53559	178.12235	14.85198	0.0223484	0.17062714	3.2193681	20	—	—
345950 2007 RA_{321}	15.8	X	122.85227	342.63381	356.50291	7.72349	0.1111116	0.17966641	3.1104612	20	—	—
345951 2007 RT_{325}	16.3	X	158.05837	178.35388	217.76926	7.38077	0.0741892	0.18727292	3.0256549	20	3 25.1	20.9
345952 2007 SP_{2}	17.3	X	253.36777	347.89360	336.97094	3.67486	0.2042026	0.20584658	2.8407975	20	3 26.8	21.8
345953 2007 SL_{4}	15.9	X	279.41836	247.43035	78.49506	20.65726	0.3495317	0.21320444	2.7750569	20	4 17.3	20.6
345954 2007 SX_{7}	17.2	X	324.35769	285.49862	38.63964	4.78707	0.1091738	0.21658277	2.7461238	20	7 15.1	20.4
345955 2007 SQ_{15}	16.4	X	296.35335	241.91731	101.81314	9.94756	0.2931603	0.21823020	2.7322859	20	5 28.2	20.0
345956 2007 SS_{16}	16.6	X	262.10154	205.26172	179.01086	3.49738	0.2027709	0.21667976	2.7453043	20	6 19.5	20.7
345957 2007 SL_{18}	16.6	X	256.40420	142.80532	246.53262	5.12206	0.1227307	0.21066888	2.7972791	20	6 29.8	20.7
345958 2007 SS_{19}	16.6	X	194.30586	71.57077	13.65281	4.35066	0.0792776	0.20879414	2.8139984	20	7 6.4	20.8
345959 2007 SA_{23}	16.6	X	271.15143	250.34740	86.78226	8.89669	0.2510051	0.20981394	2.8048727	20	4 27.4	20.9
345960 2007 TO_{3}	16.4	X	29.94724	309.26220	334.89596	13.18715	0.0692347	0.22769317	2.6560488	20	9 3.9	19.7
345961 2007 TX_{4}	16.9	X	46.08982	196.51085	13.65110	3.96091	0.0373290	0.20926171	2.8098052	20	6 12.8	20.6
345962 2007 TM_{24}	16.4	X	203.43638	122.09567	339.20860	4.08066	0.0870312	0.21694004	2.7431080	20	8 6.7	20.5
345963 2007 TR_{32}	16.9	X	6.44687	310.40316	349.65751	1.50763	0.1890946	0.22614669	2.6681438	20	9 3.1	19.4
345964 2007 TX_{42}	16.3	X	316.61766	307.54810	352.01149	1.71068	0.0495549	0.21084889	2.7956868	20	6 2.9	19.8
345965 2007 TS_{49}	17.1	X	297.08368	346.85182	358.75170	3.54761	0.1101149	0.21268569	2.7795673	20	6 29.4	20.7
345966 2007 TW_{53}	15.9	X	81.37202	25.35368	35.18856	5.20389	0.1548670	0.17826005	3.1267995	20	2 10.5	20.1
345967 2007 TA_{90}	16.0	X	206.41508	336.37399	71.62022	7.12157	0.0569354	0.20275680	2.8695851	20	6 2.5	20.1
345968 2007 TO_{93}	16.5	X	182.96969	159.59377	203.86226	12.56946	0.1608848	0.19080700	2.9881784	20	3 12.9	21.5
345969 2007 TC_{102}	16.5	X	241.84946	133.01092	185.85841	8.73526	0.1656466	0.19844475	2.9110052	20	3 12.9	21.0
345970 2007 TU_{103}	16.3	X	192.24768	135.28715	194.09922	4.84476	0.1964456	0.18683819	3.0303464	20	2 12.2	21.4
345971 Marktorrence	16.8	X	336.94489	23.74011	286.91175	3.69196	0.0691354	0.21347850	2.7726813	20	7 18.3	20.2
345972 2007 TM_{105}	17.2	X	306.72964	175.68227	167.96191	0.61829	0.0828252	0.21418748	2.7665594	20	7 15.2	20.6
345973 2007 TN_{105}	16.5	X	216.55850	105.11484	248.95714	7.63251	0.1252650	0.20062328	2.8898935	20	3 31.4	21.3
345974 2007 TL_{110}	16.9	X	312.52059	45.03443	262.96780	7.15432	0.3368966	0.21816247	2.7328514	20	4 21.5	20.1
345975 2007 TF_{115}	16.7	X	292.97429	242.43080	153.55629	7.94572	0.2615294	0.21980978	2.7191805	20	8 7.5	19.9
345976 2007 TZ_{117}	16.0	X	136.56963	218.08063	184.49554	9.73297	0.0981333	0.18676079	3.0311836	20	3 13.1	20.4
345977 2007 TW_{119}	16.4	X	167.69156	143.46177	233.02476	9.25624	0.1123200	0.18730209	3.0253408	20	3 11.7	21.4
345978 2007 TS_{121}	17.3	X	166.09817	42.20176	55.21313	1.94757	0.2007903	0.20183509	2.8783147	20	6 22.2	22.1
345979 2007 TQ_{135}	16.5	X	270.49713	9.88576	48.78839	4.28185	0.0646575	0.22642101	2.6659882	20	9 9.3	19.9
345980 2007 TE_{137}	16.5	X	295.94306	134.29968	213.70006	5.10008	0.0750732	0.21108091	2.7936376	20	7 5.1	20.1
345981 2007 TZ_{138}	16.9	X	230.35872	121.59073	291.54300	3.10816	0.0974323	0.20963649	2.8064553	20	7 3.6	20.9
345982 2007 TL_{141}	15.7	X	18.84657	98.50938	54.10147	8.68589	0.1432962	0.18140441	3.0905622	20	2 28.4	19.4
345983 2007 TX_{145}	16.3	X	322.16357	289.07115	28.01946	6.51885	0.0931728	0.21433329	2.7653045	20	7 2.1	19.7
345984 2007 TJ_{149}	16.8	X	227.95803	37.95517	10.81565	4.56390	0.1266488	0.21024485	2.8010389	20	6 22.2	21.0
345985 2007 TM_{152}	15.9	X	157.93663	150.96892	205.69747	9.23938	0.1162507	0.18724790	3.0259244	20	2 8.9	20.8
345986 2007 TK_{154}	16.2	X	260.08703	121.23816	218.13399	15.90659	0.1436812	0.20585416	2.8407277	20	4 27.9	20.4
345987 2007 TT_{166}	16.4	X	262.36821	162.92087	224.41587	8.49416	0.1393823	0.21432245	2.7653978	20	7 1.6	20.3
345988 2007 TW_{166}	16.7	X	218.51534	206.81987	233.14480	3.65606	0.1739945	0.21168428	2.7883266	20	7 17.3	21.2
345989 2007 TP_{169}	15.6	X	154.66704	296.46624	43.27723	16.98791	0.1321135	0.18134574	3.0912287	20	1 26.3	20.7
345990 2007 TS_{172}	18.6	X	329.51755	57.34915	21.87369	21.93366	0.1054819	0.39282056	1.8464600	20	—	—
345991 2007 TF_{173}	15.9	X	234.68251	215.26884	198.72821	9.18359	0.0564559	0.21334870	2.7738058	20	7 13.1	20.0
345992 2007 TG_{174}	16.7	X	132.85578	139.02127	14.95387	5.21673	0.0917951	0.20953366	2.8073735	20	7 28.9	21.0
345993 2007 TO_{176}	15.5	X	113.18214	315.57919	67.46737	10.33060	0.1207112	0.17932643	3.1143913	20	1 31.0	20.1
345994 2007 TL_{182}	15.9	X	110.75886	11.37631	56.03174	18.49146	0.2274345	0.18498030	3.0506033	20	4 8.5	20.8
345995 2007 TN_{182}	16.2	X	315.55560	294.80319	87.08577	10.88913	0.1252657	0.22241547	2.6979013	20	9 26.2	19.4
345996 2007 TV_{184}	16.8	X	209.29839	239.79589	148.90151	2.66858	0.0796023	0.20314193	2.8659570	20	5 11.7	21.0
345997 2007 TO_{194}	17.1	X	310.54620	239.72937	35.12444	2.39233	0.0122554	0.19870551	2.9084579	20	4 27.7	21.1
345998 2007 TN_{196}	16.1	X	76.38546	215.81611	201.46194	4.52927	0.1709783	0.17541122	3.1605631	20	1 29.8	20.2
345999 2007 TX_{199}	16.5	X	247.66459	98.64134	212.66630	7.96279	0.0072997	0.19352894	2.9600936	20	3 24.3	20.6
346000 2007 TD_{202}	16.4	X	17.73598	293.59050	207.20395	9.90667	0.0778444	0.17956624	3.1116179	20	2 4.0	20.5

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346001 2007 TG_{202}	17.1	X	252.34004	247.50098	151.65980	2.16458	0.0841120	0.21042199	2.7994666	20	7 13.3	20.9
346002 2007 TL_{204}	16.7	X	222.25384	289.88421	107.24874	3.19367	0.0778512	0.20359329	2.8617195	20	6 5.5	20.9
346003 2007 TA_{207}	17.1	X	257.47518	181.33426	187.50329	3.60430	0.1122701	0.21227383	2.7831615	20	6 6.3	21.1
346004 2007 TD_{207}	17.2	X	52.58678	42.96459	187.55323	4.82548	0.0510157	0.21697258	2.7428337	20	7 21.4	20.8
346005 2007 TQ_{216}	16.8	X	204.94958	10.08625	31.79845	11.37895	0.2152078	0.20067956	2.8893531	20	5 15.5	21.8
346006 2007 TG_{217}	16.3	X	38.20450	171.06702	26.90649	9.08966	0.0328868	0.19712878	2.9239461	20	5 14.3	20.2
346007 2007 TU_{221}	16.9	X	212.39902	243.55470	153.11869	4.52071	0.1076129	0.20957440	2.8070096	20	5 23.8	21.2
346008 2007 TB_{223}	15.9	X	148.26927	197.62980	194.65203	15.68929	0.0415417	0.18890653	3.0081863	20	3 6.0	20.4
346009 2007 TT_{239}	15.5	X	153.27475	308.34217	44.67052	15.64343	0.0583422	0.17856175	3.1232764	20	2 4.6	20.4
346010 2007 TS_{243}	16.5	X	221.47538	71.72988	350.21721	8.53925	0.2241777	0.20879458	2.8139944	20	6 24.9	21.3
346011 2007 TU_{248}	16.3	X	300.88902	273.85516	68.68120	9.65666	0.2397894	0.21822605	2.7323206	20	6 9.3	19.6
346012 2007 TY_{255}	16.2	X	150.35255	187.67565	240.70081	4.64498	0.0582285	0.19621050	2.9330619	20	4 24.8	20.5
346013 2007 TD_{266}	16.7	X	156.68948	83.91130	319.03111	4.00376	0.0249885	0.19436205	2.9516287	20	3 27.9	21.0
346014 2007 TG_{266}	17.3	X	221.11170	192.53993	213.56647	0.97758	0.2340857	0.20992610	2.8038736	20	6 4.0	22.0
346015 2007 TQ_{266}	16.4	X	305.05757	295.59582	22.64225	7.21489	0.0753862	0.20913161	2.8109703	20	6 7.2	20.1
346016 2007 TF_{283}	16.3	X	259.86270	10.28859	38.12774	5.71788	0.0347311	0.21781872	2.7357259	20	8 15.7	20.0
346017 2007 TW_{286}	15.6	X	79.79361	332.77900	78.14567	6.74858	0.1839039	0.17619520	3.1511809	20	1 31.5	19.7
346018 2007 TN_{289}	16.8	X	299.18440	182.25981	220.99935	2.81168	0.1310179	0.23385127	2.6092132	20	9 21.2	19.6
346019 2007 TX_{292}	16.8	X	132.74582	49.45296	85.49739	1.69424	0.0116896	0.20900243	2.8121285	20	6 25.2	20.6
346020 2007 TD_{298}	16.4	X	107.66411	73.23493	13.41426	9.19702	0.1805011	0.18958248	3.0010317	20	4 13.6	20.8
346021 2007 TZ_{316}	16.8	X	263.30939	204.91255	134.06328	2.97107	0.0756525	0.20157124	2.8808259	20	5 11.3	20.8
346022 2007 TJ_{327}	16.4	X	162.57703	276.62319	245.45297	8.35271	0.0314165	0.21839633	2.7309002	20	9 4.6	20.5
346023 2007 TD_{335}	16.0	X	120.84951	336.03545	44.69513	9.76521	0.1029428	0.17792629	3.1307085	20	2 4.8	20.7
346024 2007 TA_{339}	16.8	X	242.84735	30.76094	339.87694	1.33178	0.0839373	0.20312177	2.8661466	20	5 24.9	20.9
346025 2007 TG_{339}	17.5	X	296.24058	234.98019	101.27682	1.19063	0.0805254	0.21460392	2.7629792	20	6 19.4	21.1
346026 2007 TM_{355}	15.7	X	78.52163	259.13739	148.07471	14.10935	0.3083603	0.17546179	3.1599559	20	2 10.9	19.8
346027 2007 TT_{360}	16.6	X	110.10880	259.18970	171.69156	8.10867	0.0136165	0.18420599	3.0591461	20	3 7.1	20.9
346028 2007 TS_{363}	15.5	X	184.69987	274.67834	61.60026	12.58103	0.0841137	0.18050635	3.1008046	20	2 18.6	20.5
346029 2007 TA_{365}	16.3	X	254.02145	261.67763	151.13574	26.67450	0.2172624	0.22324515	2.6912128	20	7 16.3	20.7
346030 2007 TV_{371}	16.4	X	198.12220	251.96354	219.66606	8.04607	0.0605711	0.21871269	2.7282661	20	8 12.1	20.5
346031 2007 TG_{383}	16.8	X	204.15083	201.79608	215.23276	1.28360	0.0575122	0.20286387	2.8685753	20	6 11.6	20.8
346032 2007 TW_{383}	16.8	X	264.03080	140.23985	211.09790	5.48056	0.0950781	0.20432163	2.8549148	20	5 25.0	20.8
346033 2007 TS_{392}	16.7	X	206.56621	206.45932	212.40231	1.10546	0.2375173	0.20417529	2.8562788	20	6 7.5	21.7
346034 2007 TT_{403}	16.4	X	88.52281	88.77450	23.61421	8.09887	0.1699505	0.18729348	3.0254335	20	4 22.6	20.5
346035 2007 TE_{405}	16.1	X	5.74640	156.81572	37.36818	9.43074	0.0498891	0.18847996	3.0127235	20	3 30.6	20.1
346036 2007 TW_{412}	16.3	X	305.15732	295.93820	106.18241	6.59339	0.1608748	0.22645180	2.6657466	20	9 30.6	19.1
346037 2007 TS_{419}	16.0	X	288.26679	273.41811	54.74916	14.13981	0.3368739	0.21512946	2.7584776	20	4 22.9	20.0
346038 2007 TX_{419}	15.6	X	24.41954	123.27141	307.86518	15.53242	0.1340564	0.17162410	3.2068886	20	—	—
346039 2007 TS_{422}	16.2	X	111.19098	48.04109	64.49997	8.09491	0.1243538	0.19121870	2.9838877	20	5 14.5	20.5
346040 2007 TD_{423}	17.1	X	229.82323	122.62060	224.69135	1.56572	0.0684056	0.19908898	2.9047219	20	4 12.2	21.2
346041 2007 TN_{425}	15.6	X	86.70579	331.57957	90.96102	11.18796	0.1318842	0.17947266	3.1126994	20	2 17.9	19.9
346042 2007 TU_{429}	16.9	X	296.05018	250.29038	41.96423	2.56066	0.0547281	0.20111914	2.8851414	20	4 25.2	20.7
346043 2007 TO_{440}	15.7	X	303.90300	22.44202	238.16355	9.75623	0.0584343	0.18975464	2.9992163	20	3 22.3	19.9
346044 2007 TE_{451}	16.0	X	245.01668	264.95098	91.06312	8.44595	0.0910131	0.19989312	2.8969265	20	5 10.8	20.4
346045 2007 UW_{5}	16.3	X	227.76373	159.56454	207.90117	17.15135	0.1557848	0.20300268	2.8672674	20	4 29.3	20.9
346046 2007 UX_{17}	16.3	X	171.70502	172.20496	238.55721	10.49582	0.0532955	0.19444859	2.9507529	20	4 26.2	20.7
346047 2007 UJ_{20}	17.1	X	251.80448	178.05281	160.64021	2.38185	0.0779230	0.20263296	2.8707541	20	4 26.5	21.2
346048 2007 UQ_{22}	16.4	X	40.33232	166.64310	50.01107	18.46529	0.0719776	0.20236835	2.8732560	20	6 15.1	20.3
346049 2007 UX_{22}	16.9	X	163.78249	302.57804	134.75268	2.85268	0.0687763	0.19897954	2.9057870	20	5 23.3	21.1
346050 2007 UE_{24}	17.0	X	230.17240	199.64308	193.22626	5.74399	0.0941692	0.20447004	2.8535332	20	6 7.7	21.3
346051 2007 UK_{26}	16.4	X	167.92964	43.61928	303.11280	1.47019	0.1282458	0.18382145	3.0634109	20	2 10.7	21.3
346052 2007 UZ_{29}	16.7	X	185.97894	358.55021	96.51178	5.77218	0.2992528	0.20376326	2.8601280	20	7 4.2	21.9
346053 2007 UP_{34}	16.9	X	200.28161	59.23502	325.36694	6.10053	0.2450880	0.19845280	2.9109265	20	4 19.9	22.2
346054 2007 UL_{36}	16.3	X	340.30786	260.94200	61.92413	5.87424	0.1137828	0.21985409	2.7188152	20	8 12.9	19.3
346055 2007 UU_{40}	16.3	X	126.17237	79.54570	34.09888	12.84820	0.0678198	0.19801729	2.9151930	20	5 23.4	20.6
346056 2007 UO_{43}	16.9	X	167.04255	228.75837	167.76711	2.68173	0.0823564	0.19368546	2.9584986	20	4 6.6	21.3
346057 2007 UO_{48}	15.9	X	105.91528	38.69017	72.48246	9.76394	0.0828344	0.18928777	3.0041459	20	5 3.2	20.2
346058 2007 UD_{50}	16.1	X	170.75326	248.12813	208.29020	10.81311	0.0471360	0.20125826	2.8838118	20	6 22.9	20.5
346059 2007 UL_{55}	16.2	X	177.55749	182.16272	225.66973	11.26307	0.0132812	0.19592953	2.9358652	20	4 29.2	20.4
346060 2007 UU_{55}	16.5	X	133.56674	26.80777	53.06487	3.26203	0.1457403	0.19131425	2.9828941	20	4 29.7	21.2
346061 2007 UM_{61}	16.9	X	180.77670	253.47012	224.57441	6.99483	0.1436211	0.21169798	2.7882063	20	7 29.2	21.6
346062 2007 UH_{63}	17.0	X	131.78910	34.99067	34.21680	4.77024	0.1614876	0.19124767	2.9835864	20	4 16.4	21.6
346063 2007 UG_{68}	16.2	X	249.02712	325.69243	63.78319	6.68172	0.0914493	0.20873190	2.8145578	20	6 25.4	20.2
346064 2007 UH_{82}	16.7	X	253.09744	71.61904	283.21882	1.01564	0.0850283	0.20251839	2.8718367	20	5 16.8	20.8
346065 2007 UR_{83}	16.3	X	251.00813	240.36498	49.72254	11.22528	0.0694461	0.18686989	3.0300037	20	3 3.6	20.9
346066 2007 UO_{85}	16.3	X	74.61863	56.02406	74.98028	3.52966	0.0435941	0.18975859	2.9991746	20	4 11.9	20.3
346067 2007 UG_{86}	16.3	X	205.73436	237.83855	150.45410	1.52504	0.1620983	0.19819940	2.9134070	20	5 3.9	21.0
346068 2007 UM_{87}	16.4	X	199.43316	93.03999	335.10822	1.31235	0.0459034	0.20270804	2.8700451	20	6 21.0	20.4
346069 2007 UV_{87}	16.4	X	206.14229	336.68681	30.06942	1.77919	0.0840148	0.19280612	2.9674871	20	4 10.5	21.0
346070 2007 UN_{89}	16.2	X	176.38950	176.76823	226.86803	10.58866	0.0673604	0.19378917	2.9574430	20	4 23.4	20.6
346071 2007 UZ_{94}	16.6	X	244.91183	252.67508	29.82117	6.02120	0.1029816	0.18586948	3.0408663	20	2 11.0	21.3
346072 2007 UQ_{96}	16.7	X	213.78100	67.37795	251.27515	0.64834	0.2279743	0.18897787	3.0074292	20	2 17.1	21.9
346073 2007 UN_{100}	16.2	X	253.66197	267.58852	55.03196	10.84606	0.3271937	0.19988439	2.8970109	20	3 21.2	21.4
346074 2007 UQ_{102}	15.4	X	290.99201	346.94618	226.06505	16.30325	0.1484744	0.17696919	3.1419862	20	—	—
346075 2007 UL_{104}	16.6	X	43.83552	34.24041	91.00787	5.34991	0.0921403	0.17765959	3.1338409	20	2 29.6	20.6
346076 2007 UA_{105}	16.2	X	121.97034	310.50403	88.75102	6.17039	0.1234377	0.17907287	3.1173305	20	2 29.5	20.9
346077 2007 UF_{114}	16.0	X	228.03478	260.57107	38.18282	11.54602	0.0903705	0.18431896	3.0578960	20	2 17.0	20.9
346078 2007 UL_{120}	16.6	X	233.25875	147.46406	180.28145	1.96687	0.0542548	0.19524487	2.9427246	20	3 24.5	20.8
346079 2007 UQ_{128}	17.0	X	71.18793	289.78844	185.90186	1.13818	0.1593817	0.18321435	3.0701745	20	4 3.3	20.8
346080 2007 UJ_{130}	16.8	X	307.26949	128.13953	211.89101	3.91574	0.0575963	0.21035132	2.8000936	20	7 13.2	20.4

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346081 2007 UL_{130}	16.2	X	47.25703	145.03940	4.91485	6.65552	0.1411487	0.18513838	3.0488665	20	4 7.5	19.9
346082 2007 UR_{131}	16.5	X	213.91544	99.86486	232.42447	7.24385	0.0398590	0.18651055	3.0338943	20	3 6.8	21.1
346083 2007 UB_{133}	16.7	X	95.73957	272.38940	244.69103	1.59005	0.1299433	0.19925960	2.9030636	20	6 22.7	20.8
346084 2007 UN_{138}	15.3	X	109.10794	174.95275	267.89654	13.92525	0.1469866	0.17919096	3.1159608	20	4 1.8	20.1
346085 2007 UL_{139}	16.5	X	275.36471	224.89415	134.41798	3.63622	0.0743104	0.20712848	2.8290644	20	6 22.0	20.2
346086 2007 UD_{140}	16.7	X	224.18260	287.23827	36.26795	3.15693	0.1360014	0.18897711	3.0074373	20	3 6.7	21.4
346087 2007 UP_{141}	15.6	X	71.79596	58.82254	98.58765	10.23048	0.0649159	0.19244879	2.9711593	20	5 16.5	19.7
346088 2007 UW_{141}	15.8	X	73.48567	76.13110	18.35168	8.18917	0.0279301	0.18086878	3.0966609	20	2 25.4	20.1
346089 2007 VQ_{7}	16.9	X	267.29230	290.26894	27.76188	2.15191	0.2423066	0.20552665	2.8437448	20	3 29.2	21.4
346090 2007 VM_{23}	17.4	X	307.25829	67.59455	235.09579	1.03621	0.0511716	0.20386508	2.8591756	20	5 24.8	21.1
346091 2007 VH_{30}	16.4	X	146.21712	164.62518	230.18699	2.54671	0.0866278	0.19016013	2.9949511	20	3 12.4	20.8
346092 2007 VK_{30}	17.0	X	172.36159	126.73511	312.70491	4.80222	0.0409324	0.20190140	2.8776844	20	6 2.9	21.1
346093 2007 VF_{31}	16.4	X	87.89317	246.52954	243.32207	12.96676	0.2226561	0.18943139	3.0026273	20	5 22.0	20.6
346094 2007 VG_{32}	16.2	X	202.19705	94.11761	244.64663	10.87619	0.0831320	0.18865350	3.0108755	20	2 27.9	21.1
346095 2007 VU_{35}	16.9	X	302.60122	124.85888	162.83331	2.38943	0.0225402	0.19794542	2.9158986	20	5 3.4	20.8
346096 2007 VW_{44}	15.1	X	218.36937	17.90030	249.13651	16.61913	0.1639101	0.17601718	3.1533052	20	—	—
346097 2007 VY_{45}	16.4	X	231.55607	20.72788	358.60554	5.65773	0.0822495	0.20227062	2.8741814	20	5 22.1	20.6
346098 2007 VL_{48}	16.0	X	148.95633	13.09431	15.38957	7.06341	0.1405171	0.18573207	3.0423659	20	3 14.9	20.7
346099 2007 VN_{55}	16.0	X	133.84364	295.36076	67.32247	16.60513	0.1236022	0.17760257	3.1345117	20	1 31.1	20.9
346100 2007 VN_{59}	16.9	X	113.59330	195.21725	278.13349	3.51667	0.1062102	0.19096606	2.9865188	20	5 14.7	21.2
346101 2007 VN_{62}	15.5	X	132.03256	344.05841	56.30095	23.79698	0.1207684	0.18216537	3.0819494	20	3 23.3	20.6
346102 2007 VY_{62}	16.2	X	169.32213	128.37253	239.30292	6.82546	0.1909618	0.18572949	3.0423942	20	3 7.0	21.4
346103 2007 VW_{63}	16.1	X	295.90626	318.54418	67.02151	14.15768	0.1552837	0.21499011	2.7596694	20	8 22.7	19.7
346104 2007 VE_{65}	16.5	X	103.99149	72.09058	58.86240	5.68208	0.1168033	0.19019817	2.9945518	20	5 27.8	20.9
346105 2007 VN_{66}	16.0	X	336.39518	268.05149	101.12658	15.02686	0.1457162	0.22495718	2.6775411	20	10 19.9	19.2
346106 2007 VV_{79}	16.6	X	36.54521	195.57851	315.31968	0.28319	0.1436535	0.18046045	3.1013304	20	3 23.5	20.1
346107 2007 VX_{79}	16.6	X	226.84571	90.75309	265.34805	1.43878	0.0593974	0.19341396	2.9612666	20	4 20.6	21.0
346108 2007 VG_{85}	16.5	X	189.58581	171.09542	286.81124	6.47423	0.1757236	0.20813604	2.8199270	20	7 13.3	21.1
346109 2007 VC_{88}	16.0	X	177.50184	100.97704	300.54426	5.37321	0.1163123	0.19271331	2.9684398	20	4 21.4	20.7
346110 2007 VA_{92}	15.1	X	222.61864	47.11439	239.42789	28.60616	0.1647241	0.18052294	3.1006146	20	1 12.8	20.7
346111 2007 VQ_{92}	16.1	X	116.09291	36.41574	317.53577	8.98090	0.2401380	0.17712141	3.1401858	20	1 13.8	20.8
346112 2007 VF_{94}	15.2	X	70.81284	152.02936	254.82591	8.62572	0.1054476	0.17131675	3.2107229	20	1 2.0	19.3
346113 2007 VX_{97}	16.3	X	280.56363	41.35051	270.42138	4.41702	0.0560449	0.19724320	2.9228152	20	4 28.5	20.4
346114 2007 VG_{102}	15.9	X	44.18334	72.89674	70.75220	11.32450	0.2488157	0.17668715	3.1453290	20	4 15.3	19.5
346115 2007 VG_{103}	16.9	X	276.38646	245.13284	102.41692	3.23815	0.0845035	0.20963690	2.8064517	20	6 6.3	20.7
346116 2007 VD_{115}	16.4	X	145.44500	149.26006	216.85218	4.46399	0.1671910	0.17924273	3.1153608	20	2 14.1	21.3
346117 2007 VT_{129}	16.6	X	263.28839	232.68994	69.08270	3.13981	0.0896010	0.19573944	2.9377657	20	3 24.3	20.8
346118 2007 VD_{132}	17.1	X	102.24012	98.83442	24.09961	4.23129	0.1907598	0.19267784	2.9688041	20	5 24.4	21.5
346119 2007 VZ_{134}	16.4	X	36.64362	40.31387	218.88701	13.48059	0.1254917	0.21623930	2.7490309	20	8 12.9	20.1
346120 2007 VM_{142}	16.6	X	265.56297	186.86204	155.50329	2.41282	0.0775299	0.20052927	2.8907966	20	5 17.9	20.7
346121 2007 VS_{150}	15.9	X	10.00986	63.42560	81.86830	7.27644	0.1809744	0.17271130	3.1934164	20	1 31.5	19.5
346122 2007 VH_{156}	16.8	X	159.88086	334.22833	33.35417	10.35602	0.0804387	0.18321187	3.0702021	20	2 29.2	21.6
346123 2007 VP_{156}	17.1	X	188.15347	47.82611	62.71198	2.38573	0.2134842	0.21020662	2.8013785	20	7 27.4	21.9
346124 2007 VV_{165}	16.2	X	51.34338	138.22349	73.92090	4.65600	0.0209707	0.20002460	2.8956569	20	6 20.8	19.9
346125 2007 VA_{167}	15.8	X	264.55523	81.61235	242.85327	16.03114	0.1522910	0.19713570	2.9238777	20	4 9.7	20.5
346126 2007 VE_{169}	15.5	X	176.37201	268.60504	77.82742	12.67596	0.0550957	0.17736554	3.1373036	20	2 20.8	20.4
346127 2007 VM_{169}	15.6	X	201.10932	116.53437	253.41888	14.48414	0.0623871	0.18791374	3.0187723	20	4 4.8	20.4
346128 2007 VR_{171}	16.7	X	138.22029	54.84721	344.33391	3.10290	0.1244905	0.18495981	3.0508286	20	3 13.9	21.2
346129 2007 VW_{173}	15.8	X	195.27727	276.18065	123.56599	9.69863	0.2107569	0.19698739	2.9253450	20	5 10.6	21.0
346130 2007 VG_{174}	16.5	X	195.26743	316.52162	51.01451	10.80227	0.2557095	0.19597682	2.9353929	20	4 3.0	21.8
346131 2007 VB_{192}	15.7	X	115.74807	141.08395	283.31132	10.78382	0.0471441	0.17487608	3.1670076	20	3 6.2	20.4
346132 2007 VN_{194}	15.5	X	154.56892	299.95425	89.31674	12.45390	0.1050408	0.17900762	3.1180880	20	3 24.3	20.5
346133 2007 VM_{196}	16.0	X	191.25540	222.11052	223.66566	14.38126	0.1174581	0.20568641	2.8422721	20	6 29.6	20.7
346134 2007 VV_{197}	16.7	X	150.38319	157.41302	269.79314	5.07116	0.2647509	0.18581087	3.0415058	20	5 5.5	22.0
346135 2007 VF_{202}	15.8	X	119.27007	32.58422	33.21291	12.37769	0.1398283	0.18441085	3.0568801	20	3 31.5	20.4
346136 2007 VY_{207}	16.9	X	219.15120	180.85925	213.82740	1.39739	0.0755358	0.20305486	2.8667762	20	5 29.9	21.2
346137 2007 VV_{220}	16.3	X	124.41127	258.55595	209.31076	8.11113	0.1041852	0.19324059	2.9630374	20	5 21.3	20.7
346138 2007 VF_{222}	17.0	X	237.23889	181.35233	143.62187	2.21888	0.1150707	0.19689787	2.9262317	20	3 21.1	21.6
346139 2007 VX_{224}	16.4	X	333.01228	234.38546	65.83241	5.27581	0.0550719	0.20974209	2.8055132	20	6 28.3	20.0
346140 2007 VB_{225}	17.2	X	250.19159	273.02124	87.30330	3.47798	0.0620498	0.20444566	2.8537601	20	5 23.9	21.1
346141 2007 VA_{226}	16.4	X	261.55503	280.26126	45.41077	12.59666	0.0509113	0.19830686	2.9123544	20	4 25.8	20.5
346142 2007 VZ_{230}	16.7	X	171.06846	27.97387	57.62877	2.92147	0.0347100	0.19993830	2.8964902	20	6 9.6	20.9
346143 2007 VK_{234}	16.1	X	327.23698	313.30189	234.20548	3.38201	0.1478158	0.17223522	3.1992983	20	1 16.3	20.3
346144 2007 VT_{236}	16.3	X	133.67086	223.09427	234.20565	4.97390	0.0556727	0.19512110	2.9439690	20	5 12.6	20.4
346145 2007 VQ_{237}	15.6	X	248.86220	212.02725	55.41111	17.22326	0.0657913	0.18022294	3.1040545	20	2 4.1	20.5
346146 2007 VK_{238}	16.3	X	63.65213	81.70023	61.36310	4.27753	0.0928252	0.18587531	3.0408027	20	4 19.1	20.3
346147 2007 VC_{239}	15.7	X	273.56428	42.62625	66.27764	22.74391	0.0332917	0.22587702	2.6702670	20	11 22.5	19.2
346148 2007 VH_{241}	15.3	X	150.36622	358.41821	105.87100	14.99782	0.1058186	0.19609159	2.9342474	20	6 14.2	19.9
346149 2007 VH_{251}	17.9	X	204.13081	279.15364	217.51118	20.12370	0.1225573	0.37269082	1.9123626	20	10 7.7	20.3
346150 2007 VE_{253}	15.9	X	160.82331	291.84145	98.19134	11.35226	0.1126522	0.18796634	3.0182091	20	3 30.6	20.8
346151 2007 VF_{253}	15.5	X	194.56298	244.45437	83.48250	17.53941	0.0905276	0.18287499	3.0739716	20	2 18.6	20.5
346152 2007 VD_{254}	15.6	X	214.49566	215.97736	89.94934	24.64545	0.2570559	0.18819220	3.0157937	20	2 6.2	21.2
346153 2007 VC_{260}	16.9	X	287.89966	325.44943	72.27147	15.83283	0.2285040	0.21795267	2.7346049	20	8 13.6	20.5
346154 2007 VH_{265}	16.3	X	165.23835	337.49573	54.41058	4.80323	0.2544119	0.18864444	3.0109720	20	4 7.5	21.6
346155 2007 VJ_{279}	16.2	X	39.89055	312.88036	243.79566	12.01310	0.0740280	0.19469012	2.9483120	20	5 21.0	19.8
346156 2007 VH_{281}	15.8	X	45.43517	232.24749	251.03750	5.96476	0.1324524	0.17780007	3.1321900	20	2 27.6	19.7
346157 2007 VW_{281}	16.6	X	85.66009	73.48324	46.58688	2.28980	0.0761708	0.18669295	3.0319179	20	4 16.2	20.7
346158 2007 VH_{282}	16.0	X	338.32529	357.67662	236.83842	9.78170	0.0323966	0.19046679	2.9917356	20	4 8.5	20.2
346159 2007 VH_{283}	16.4	X	175.76487	247.00810	67.98259	2.34432	0.1552792	0.17514204	3.1638007	20	1 15.2	21.5
346160 2007 VQ_{285}	16.8	X	175.29314	293.88993	155.16319	1.06443	0.1477278	0.19877055	2.9078234	20	6 19.6	21.6

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346161 2007 VT_{297}	15.6	X	107.91438	240.70291	144.33221	16.73425	0.1416549	0.17828488	3.1265091	20	1 27.1	20.1
346162 2007 VG_{303}	16.2	X	273.14251	216.75791	141.35650	14.42686	0.1956732	0.21088508	2.7953669	20	6 2.4	20.4
346163 2007 VZ_{307}	16.5	X	37.63372	13.87665	142.28155	0.71323	0.1116630	0.18186320	3.0853622	20	3 29.6	20.3
346164 2007 VY_{308}	16.1	X	222.20492	216.91857	71.82405	7.74463	0.1143156	0.17771264	3.1332172	20	1 26.9	21.1
346165 2007 VB_{309}	17.0	X	308.70673	31.16450	284.85951	8.17793	0.1239340	0.20629698	2.8366612	20	6 3.5	20.5
346166 2007 VV_{312}	15.6	X	330.66667	169.06390	78.57313	12.88915	0.0641113	0.18261499	3.0768886	20	4 20.7	19.8
346167 2007 VC_{314}	16.2	X	136.80805	149.99414	250.47440	11.81002	0.2623710	0.18363017	3.0655379	20	3 21.1	21.6
346168 2007 VE_{318}	16.6	X	74.81698	8.76994	117.24458	2.32114	0.1430598	0.17892426	3.1190564	20	4 20.4	20.8
346169 2007 VD_{320}	16.0	X	145.24058	197.14794	205.45490	9.74304	0.0977588	0.18821199	3.0155824	20	3 21.3	20.7
346170 2007 VA_{322}	15.7	X	123.63120	157.71431	239.47911	17.12037	0.1932540	0.17922038	3.1156198	20	2 26.5	20.9
346171 2007 VG_{325}	15.7	X	358.04532	156.31842	62.06626	10.53998	0.1051504	0.18667027	3.0321635	20	4 18.9	19.4
346172 2007 VL_{326}	16.2	X	238.80725	171.96255	86.38472	14.88604	0.1654705	0.25416434	2.4682717	20	—	—
346173 2007 VU_{331}	16.7	X	235.23489	276.46542	85.07863	10.03822	0.0647029	0.19588254	2.9363347	20	5 9.8	21.1
346174 2007 VJ_{334}	16.3	X	76.16093	340.32916	264.53243	3.13656	0.0394299	0.21231850	2.7827711	20	9 7.8	20.2
346175 2007 VV_{334}	15.6	X	36.17705	44.75838	76.08212	10.35071	0.0608536	0.17455286	3.1709160	20	2 12.8	19.9
346176 2007 WA_{2}	16.3	X	177.05465	328.15398	63.04532	12.08734	0.0836292	0.19109718	2.9851525	20	4 14.8	20.9
346177 2007 WO_{8}	16.2	X	154.80617	80.56341	354.64180	2.67680	0.1628680	0.19206098	2.9751575	20	5 14.3	21.0
346178 2007 WZ_{17}	16.3	X	250.13945	249.64765	88.22335	6.71642	0.1969902	0.19794951	2.9158584	20	4 13.7	21.0
346179 2007 WL_{22}	16.4	X	255.71421	47.73124	294.07467	5.11403	0.0838866	0.20031052	2.8929008	20	5 1.7	20.6
346180 2007 WU_{24}	16.2	X	40.09932	19.06111	90.82774	6.37155	0.0069907	0.17812210	3.1284137	20	1 30.2	20.6
346181 2007 WP_{33}	15.8	X	180.77802	69.06209	257.56557	17.01725	0.1558666	0.17916801	3.1162269	20	1 26.6	21.1
346182 2007 WF_{40}	16.1	X	200.05595	207.06265	188.00160	7.83507	0.2235982	0.19631053	2.9320654	20	5 6.5	21.2
346183 2007 WE_{42}	15.9	X	230.08352	305.72420	73.81759	9.85612	0.1117857	0.19993859	2.8964873	20	5 20.5	20.4
346184 2007 WX_{55}	16.4	X	32.76124	121.39078	38.94315	1.25618	0.1179862	0.18151148	3.0893467	20	3 27.9	20.1
346185 2007 WB_{56}	15.7	X	117.60877	352.36840	74.43747	18.54240	0.1368207	0.18345112	3.0675323	20	4 6.5	20.6
346186 2007 WH_{63}	16.3	X	160.83919	120.58008	275.49373	10.35387	0.0980593	0.18679043	3.0308630	20	3 25.9	21.2
346187 2007 WQ_{63}	16.0	X	179.40386	299.56898	92.09207	10.46931	0.0503446	0.18891014	3.0081480	20	4 17.6	20.6
346188 2007 XQ	15.6	X	107.45326	323.67892	113.99016	10.71289	0.0742696	0.18383098	3.0633050	20	3 25.7	20.1
346189 2007 XX_{1}	16.0	X	244.94181	284.03212	72.17037	10.24342	0.1529777	0.19911517	2.9044673	20	5 4.5	20.5
346190 2007 XN_{11}	15.5	X	269.57361	197.75579	57.96906	17.37069	0.0573943	0.17926144	3.1151440	20	2 16.0	20.3
346191 2007 XX_{11}	15.4	X	316.24490	340.78049	237.96718	14.17327	0.2107905	0.18166952	3.0875548	20	1 24.8	19.8
346192 2007 XY_{18}	16.1	X	95.13460	66.12554	34.59295	9.54714	0.1458045	0.18495872	3.0508406	20	4 14.5	20.3
346193 2007 XZ_{19}	16.4	X	164.93788	185.14277	264.66880	2.22996	0.1643397	0.19564764	2.9386846	20	6 11.2	21.1
346194 2007 XW_{20}	17.4	X	224.09037	265.31057	272.95717	19.57637	0.0266351	0.38594567	1.8683229	20	—	—
346195 2007 XC_{24}	16.2	X	193.08593	317.80906	83.32801	11.40050	0.0340564	0.19532999	2.9418697	20	5 12.8	20.5
346196 2007 XQ_{24}	17.9	X	196.72504	257.26438	277.41930	16.99925	0.0742979	0.37812857	1.8939844	20	12 6.9	19.9
346197 2007 XH_{25}	16.2	X	159.46549	319.60363	110.74300	2.12289	0.1529346	0.19057852	2.9905661	20	5 13.6	20.9
346198 2007 XR_{25}	15.4	X	98.26565	173.52060	260.06094	13.75323	0.0751034	0.17683307	3.1435983	20	2 27.5	20.1
346199 2007 XD_{27}	15.0	X	137.19381	85.47482	266.60671	19.44104	0.0640322	0.16959557	3.2324095	20	1 10.4	19.9
346200 2007 XD_{29}	16.6	X	71.14251	74.06111	54.28893	6.85726	0.0965537	0.18754508	3.0227270	20	4 12.0	20.6
346201 2007 XF_{31}	16.0	X	172.77590	88.82705	292.66489	7.86005	0.0998167	0.17832005	3.1260981	20	3 22.3	20.9
346202 2007 XZ_{33}	15.7	X	119.87047	338.51856	76.50113	17.07090	0.1494068	0.17943763	3.1131046	20	3 26.8	20.7
346203 2007 XR_{35}	15.6	X	178.17859	140.40025	261.52373	26.73885	0.0456568	0.19096825	2.9864960	20	4 17.9	20.5
346204 2007 XN_{44}	15.8	X	276.36997	147.02692	88.01576	17.09968	0.0282352	0.17294852	3.1904956	20	1 29.6	20.5
346205 2007 XF_{47}	15.8	X	124.55360	162.37518	283.09706	10.92480	0.1430345	0.18372734	3.0644569	20	4 23.0	20.7
346206 2007 XB_{53}	15.8	X	131.31300	329.75865	111.02357	6.26649	0.0613965	0.18287792	3.0739387	20	4 22.9	20.3
346207 2007 XB_{58}	16.0	X	247.75293	248.59897	77.27107	14.26465	0.1103525	0.18549012	3.0450110	20	4 9.8	20.8
346208 2007 XL_{58}	15.8	X	298.94176	299.54868	324.36131	8.46036	0.0490765	0.17853970	3.1235336	20	3 22.8	20.2
346209 2007 XZ_{58}	16.4	X	133.74732	306.36003	90.11127	6.06595	0.2343389	0.17592256	3.1544358	20	3 20.2	21.6
346210 2007 YY_{8}	15.6	X	44.88740	76.67600	77.62481	14.36888	0.0195596	0.17886842	3.1197055	20	4 6.7	20.1
346211 2007 YF_{10}	16.4	X	115.77036	328.57642	126.72264	3.62409	0.2499756	0.18305995	3.0719005	20	5 12.2	21.3
346212 2007 YS_{14}	17.8	X	248.79456	57.81500	64.07220	23.01412	0.1182882	0.37909644	1.8907593	20	12 1.9	18.8
346213 2007 YY_{22}	15.8	X	94.75676	54.42427	82.70392	15.01887	0.1405932	0.18346345	3.0673948	20	5 29.6	20.3
346214 2007 YP_{26}	16.5	X	179.60373	298.14275	79.08594	10.13303	0.1658610	0.18187708	3.0852053	20	4 3.2	21.7
346215 2007 YK_{31}	15.3	X	110.46346	141.44452	295.28561	15.74764	0.1458353	0.17762074	3.1342979	20	3 24.2	20.2
346216 2007 YW_{44}	17.4	X	165.98710	256.55081	301.57141	17.69912	0.0860317	0.36876362	1.9259160	20	11 21.1	20.0
346217 2007 YS_{47}	17.2	X	331.87296	271.89283	104.10964	23.55865	0.0825642	0.37314314	1.9108169	20	11 29.8	19.1
346218 2007 YJ_{50}	16.6	X	69.81050	53.83392	70.20417	2.23398	0.1398262	0.17577514	3.1561992	20	4 10.5	20.8
346219 2007 YC_{56}	15.5	X	97.74869	9.29696	101.46152	12.52698	0.1661667	0.18112564	3.0937325	20	5 6.8	20.2
346220 2007 YK_{57}	15.7	X	169.70426	144.48598	270.42048	12.08316	0.0501148	0.19011606	2.9954139	20	4 27.2	20.3
346221 2007 YA_{59}	15.8	X	165.97616	333.63764	86.39203	13.82352	0.2825254	0.18785880	3.0193608	20	5 13.4	21.3
346222 2007 YN_{59}	17.3	X	274.38187	341.82795	108.79209	25.50163	0.0552262	0.37239999	1.9133582	20	12 11.5	19.2
346223 2007 YJ_{60}	15.9	X	123.49358	65.37698	11.69343	10.32418	0.1581783	0.18186588	3.0853319	20	4 15.8	20.6
346224 2007 YA_{62}	16.5	X	147.26866	315.41840	127.42308	3.63104	0.0777370	0.18765770	3.0215175	20	5 13.2	21.0
346225 2007 YB_{66}	16.7	X	64.85257	215.09494	279.65159	0.58805	0.0797102	0.17508439	3.1644951	20	4 7.6	20.9
346226 2007 YH_{69}	16.1	X	36.81896	40.10506	102.90729	6.25650	0.0966761	0.17313780	3.1881699	20	3 14.1	20.1
346227 2008 AK_{3}	15.6	X	77.82063	22.13941	105.05625	11.11520	0.0758870	0.18160692	3.0882642	20	4 20.3	20.0
346228 2008 AL_{6}	15.9	X	34.11092	109.33761	86.20757	10.69580	0.0141543	0.19290186	2.9665051	20	5 9.2	20.1
346229 2008 AK_{12}	16.5	X	126.65116	324.95090	145.71407	4.39627	0.2207343	0.18584120	3.0411748	20	6 6.4	21.5
346230 2008 AE_{17}	16.3	X	141.25280	286.19472	135.30152	8.30764	0.2218538	0.18077104	3.0977770	20	4 23.8	21.5
346231 2008 AX_{36}	15.3	X	98.70604	169.43467	277.92497	18.10265	0.1444133	0.17568806	3.1572421	20	3 22.8	20.2
346232 2008 AF_{37}	16.4	X	103.66232	129.00938	310.11291	4.34856	0.1701593	0.17463400	3.1699338	20	3 29.6	21.1
346233 2008 AY_{37}	16.8	X	109.45886	154.91642	265.05355	3.92197	0.2161486	0.17436719	3.1731666	20	3 18.6	21.7
346234 2008 AZ_{59}	15.6	X	97.53309	31.88174	52.63235	10.21787	0.0717734	0.17516711	3.1634988	20	3 22.6	20.2
346235 2008 AC_{118}	16.3	X	82.49324	93.23538	49.08560	12.02484	0.2708432	0.17861206	3.1226900	20	6 5.8	20.9
346236 2008 BD_{5}	15.5	X	286.22819	225.32825	319.65448	8.05122	0.0803523	0.15434617	3.4419573	20	—	—
346237 2008 BW_{25}	15.1	X	358.44340	231.55838	318.29768	23.96650	0.1154521	0.17056723	3.2201220	20	3 1.7	19.4
346238 2008 BT_{39}	16.2	X	114.50613	312.66900	154.24473	11.22700	0.2398456	0.18246642	3.0785585	20	5 25.5	21.3
346239 2008 BP_{40}	16.2	X	239.47771	137.07340	354.20699	7.80535	0.1715156	0.21250987	2.7811002	20	10 11.6	20.2
346240 2008 BF_{43}	15.3	X	50.27498	268.57184	240.44614	22.53562	0.3450328	0.17198631	3.2023844	20	5 14.8	18.9

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	m		°	°	°	°		°				
346241 2008 BK_{43}	15.6	X	110.27303	26.21770	87.18088	18.11821	0.2363580	0.18188644	3.0850995	20	5 29.1	20.6
346242 2008 BY_{49}	16.0	X	106.41419	62.73162	63.53065	12.70666	0.2334925	0.18260307	3.0770224	20	6 6.6	20.9
346243 2008 CO_{19}	16.0	X	79.71408	44.97030	75.25249	9.44470	0.1519200	0.17539418	3.1607678	20	4 23.5	20.4
346244 2008 CX_{77}	15.7	X	96.93065	307.62081	156.41215	17.10288	0.2582231	0.17629748	3.1499620	20	5 9.2	20.8
346245 2008 CY_{115}	13.8	X	279.62565	111.87667	180.79044	30.06408	0.1128477	0.08447542	5.1441760	20	4 5.4	20.7
346246 2008 CX_{176}	15.2	X	15.93633	277.77079	270.51254	12.34469	0.1662551	0.17495248	3.1660856	20	3 31.7	19.1
346247 2008 CC_{180}	14.9	X	13.63131	87.16513	106.21972	22.24336	0.0486060	0.17671846	3.1449574	20	4 19.4	19.6
346248 2008 CW_{186}	17.4	X	302.04877	276.49669	111.62447	24.09932	0.1052116	0.36481186	1.9397991	20	10 25.9	19.6
346249 2008 DY_{4}	17.5	X	343.39765	349.81307	348.25530	20.25153	0.0703522	0.35736688	1.9666475	20	9 26.6	19.2
346250 2008 DP_{15}	16.3	X	235.50851	357.82303	78.63887	4.96037	0.1390425	0.21183396	2.7870130	20	8 5.4	20.4
346251 2008 DF_{57}	15.4	X	70.35407	334.48143	170.17219	17.94810	0.1587444	0.17739762	3.1369254	20	5 13.2	19.9
346252 2008 DC_{65}	15.6	X	81.11257	22.23601	115.70303	18.15386	0.1616598	0.17699012	3.1417385	20	5 21.5	20.3
346253 2008 DG_{84}	16.2	X	162.21299	16.00088	59.95593	16.60789	0.4132183	0.18618574	3.0374218	20	5 28.0	22.2
346254 2008 EY_{24}	15.8	X	96.31740	46.39532	87.92442	8.84561	0.0673678	0.17523732	3.1626538	20	5 18.2	20.3
346255 2008 EN_{29}	13.4	X	245.33553	305.03997	29.18663	25.97808	0.1476645	0.08146911	5.2699610	20	4 13.9	20.7
346256 2008 EP_{32}	14.9	X	50.06845	231.89548	272.38177	20.42920	0.1749310	0.17048435	3.2211654	20	4 1.4	19.3
346257 2008 ES_{65}	17.1	X	233.59827	275.79279	181.14978	22.54698	0.0664041	0.35940538	1.9592040	20	9 30.5	18.7
346258 2008 EB_{71}	17.6	X	123.90267	155.97644	354.13562	16.65059	0.0864781	0.34697115	2.0057362	20	7 26.2	20.3
346259 2008 ET_{81}	16.4	X	110.40183	288.80893	196.20776	13.16205	0.3250849	0.18020959	3.1042078	20	6 17.7	21.9
346260 2008 ER_{130}	15.3	X	222.00365	14.48716	134.48272	6.06058	0.1212730	0.12475298	3.9667555	20	10 11.9	21.2
346261 Alexandrescu	18.1	X	95.72926	125.85289	201.38543	6.58576	0.1724249	0.29302377	2.2449197	20	—	—
346262 2008 FK_{10}	15.5	X	33.26624	3.00002	161.91196	14.80807	0.0777739	0.16907335	3.2390621	20	4 4.5	19.8
346263 2008 FR_{83}	15.1	X	247.13621	56.75929	72.81089	3.98469	0.1689884	0.12450570	3.9720060	20	10 9.2	20.9
346264 2008 FK_{100}	13.7	X	280.30712	195.88415	112.54062	7.13440	0.1211496	0.08199838	5.2472593	20	4 24.4	20.7
346265 2008 FA_{107}	15.4	X	7.16858	341.32718	49.36210	7.24313	0.0244977	0.12595225	3.9415353	20	11 23.2	20.9
346266 2008 FX_{125}	17.6	X	126.44554	225.25854	1.28101	3.31553	0.1852382	0.27460126	2.3442344	20	10 30.9	21.3
346267 2008 FA_{131}	13.0	X	230.05849	307.87001	55.34304	12.18132	0.0634891	0.08410122	5.1594237	20	5 7.3	20.0
346268 2008 FB_{134}	13.6	X	336.46509	53.20412	210.24052	20.40672	0.0976451	0.08415545	5.1572068	20	5 14.6	20.1
346269 2008 GS_{38}	17.6	X	141.81990	139.51953	188.57033	6.29031	0.1526666	0.29537642	2.2329834	20	—	—
346270 2008 GR_{40}	17.5	X	142.37221	118.86594	163.79481	6.73042	0.1248587	0.28956448	2.2627637	20	—	—
346271 2008 GZ_{71}	18.4	X	239.38676	104.04927	160.15402	3.03128	0.1331977	0.30887204	2.1674561	20	—	—
346272 2008 GT_{74}	18.2	X	155.16096	153.36531	166.38502	7.46432	0.2149958	0.29855709	2.2170958	20	—	—
346273 2008 GB_{82}	18.2	X	242.91021	181.32193	87.45214	4.90237	0.1609034	0.30944821	2.1647649	20	1 2.2	21.2
346274 2008 GS_{99}	14.3	X	310.39639	90.19222	197.71382	13.76268	0.1437269	0.08257041	5.2229969	20	5 2.9	20.8
346275 2008 GT_{137}	17.7	X	199.61910	228.50447	72.30828	4.61002	0.1961253	0.30231164	2.1987008	20	1 5.0	21.1
346276 2008 GA_{140}	17.8	X	227.39922	287.85710	38.54225	0.74097	0.1838930	0.31637860	2.1330350	20	2 28.9	21.1
346277 2008 GE_{140}	18.1	X	75.58226	99.92415	194.91714	1.73103	0.2075320	0.27710494	2.3300927	20	12 11.9	21.7
346278 2008 GR_{141}	13.4	X	303.12812	248.94308	60.90912	14.54723	0.0851503	0.08265742	5.2193307	20	5 24.5	20.0
346279 2008 HQ_{10}	18.6	X	195.96726	226.74867	59.62267	1.85625	0.2445582	0.29837033	2.2180208	20	—	—
346280 2008 HU_{35}	17.6	X	236.97242	195.86279	58.50371	8.69703	0.1375048	0.30418303	2.1896736	20	—	—
346281 2008 JV_{4}	17.7	X	172.75434	270.95336	31.93383	10.04343	0.3350049	0.29521047	2.2338202	20	—	—
346282 2008 JL_{26}	15.5	X	35.86235	181.22320	323.36975	27.71772	0.1054266	0.17475649	3.1684523	20	3 2.3	19.7
346283 2008 JR_{32}	18.4	X	186.14076	252.03205	57.25741	5.23751	0.1211650	0.30223439	2.1990755	20	—	—
346284 2008 JK_{36}	18.2	X	156.05970	131.80967	177.81409	5.76777	0.1531609	0.29294754	2.2453091	20	—	—
346285 2008 KN_{19}	18.3	X	298.67025	100.38325	142.45369	3.34329	0.0693902	0.31510017	2.1388006	20	2 7.5	20.7
346286 2008 KF_{27}	17.4	X	221.16526	232.83634	215.61797	20.86293	0.0476511	0.34630916	2.0082914	20	8 20.2	20.2
346287 2008 LP_{11}	18.1	X	278.16584	38.76551	186.57336	5.50652	0.1064013	0.30616372	2.1802196	20	—	—
346288 2008 NP_{2}	17.3	X	157.75080	335.78461	292.39921	8.87255	0.1918149	0.28074661	2.3098992	20	—	—
346289 2008 NY_{3}	17.6	X	75.33800	98.33148	230.59476	11.12386	0.2252117	0.26591097	2.3950351	20	—	—
346290 2008 OF_{10}	17.3	X	33.10531	46.01551	322.69277	9.00573	0.2821053	0.26506311	2.4001397	20	—	—
346291 2008 OM_{20}	17.6	X	93.18633	2.56910	293.28136	2.01422	0.1830103	0.26734602	2.3864568	20	12 25.4	21.4
346292 2008 OG_{21}	17.5	X	47.44838	96.99569	336.41873	5.93153	0.2039602	0.27988789	2.3146215	20	—	—
346293 2008 PG_{3}	17.0	X	102.03710	350.83992	310.69484	6.30436	0.2338070	0.27072899	2.3665347	20	—	—
346294 2008 PH_{6}	18.2	X	116.38850	112.14778	171.55056	1.19975	0.1737109	0.27194865	2.3594536	20	12 31.3	21.9
346295 2008 PW_{7}	17.4	X	63.29512	185.90279	163.00976	7.39111	0.2515875	0.26943606	2.3740994	20	—	—
346296 2008 PA_{9}	18.1	X	114.46816	79.38887	232.39070	3.98614	0.2419724	0.27661373	2.3328504	20	—	—
346297 2008 PK_{12}	15.9	X	48.72990	257.28583	320.89070	21.61605	0.0420076	0.23865958	2.5740490	20	7 4.6	19.5
346298 2008 PH_{15}	18.4	X	113.91553	117.32961	182.96249	0.97135	0.1957998	0.27364701	2.3496810	20	—	—
346299 2008 PS_{21}	17.0	X	307.50092	308.76153	39.35744	2.50700	0.2168544	0.23165067	2.6257115	20	7 4.6	19.7
346300 2008 QK	17.1	X	128.38818	274.89000	11.01984	6.77292	0.1044374	0.27453020	2.3446389	20	—	—
346301 2008 QD_{2}	17.4	X	34.17918	49.94117	318.89350	3.63781	0.2538625	0.26279027	2.4139589	20	—	—
346302 2008 QS_{3}	17.5	X	85.65767	249.86943	87.43327	2.32976	0.1989430	0.26760839	2.3848966	20	—	—
346303 2008 QZ_{6}	17.8	X	71.35413	55.14094	303.35472	0.36442	0.2020647	0.27113686	2.3641608	20	—	—
346304 2008 QV_{9}	17.8	X	72.63412	326.04064	357.79122	0.98590	0.2018164	0.26568551	2.3963898	20	—	—
346305 2008 QW_{9}	17.5	X	100.76880	138.88684	181.50708	1.19341	0.1998058	0.27076365	2.3663327	20	—	—
346306 2008 QF_{10}	17.7	X	97.63128	350.73755	336.74881	2.11950	0.2307940	0.27202331	2.3590219	20	—	—
346307 2008 QK_{10}	16.7	X	253.25731	147.75319	174.97857	5.43217	0.0564406	0.22212925	2.7002183	20	4 9.5	20.5
346308 2008 QA_{11}	17.5	X	92.79076	158.15399	171.49670	2.55500	0.2215288	0.27048117	2.3679800	20	—	—
346309 2008 QK_{12}	16.8	X	67.98815	6.46852	339.07795	5.05111	0.2242107	0.26770090	2.3843472	20	—	—
346310 2008 QS_{12}	18.1	X	76.05995	312.58818	359.90156	1.37725	0.1823189	0.26580510	2.3956710	20	12 29.9	21.7
346311 2008 QJ_{13}	17.5	X	48.10157	5.13385	352.60711	0.92898	0.2092732	0.26409566	2.4059977	20	—	—
346312 2008 QB_{14}	17.8	X	43.08667	34.61237	324.57268	2.80120	0.0959049	0.26534568	2.3984354	20	—	—
346313 2008 QK_{17}	17.7	X	53.57212	347.48541	337.54185	1.76575	0.1876086	0.26048558	2.4281765	20	12 22.8	21.2
346314 2008 QV_{19}	17.6	X	89.32192	183.49166	185.90178	6.69151	0.1262407	0.27802618	2.3249427	20	—	—
346315 2008 QE_{24}	17.8	X	172.60370	64.41695	214.17594	3.04145	0.1445075	0.27937991	2.3174263	20	—	—
346316 2008 QM_{26}	18.1	X	80.99208	273.27282	84.63201	2.44705	0.2045622	0.27373204	2.3491944	20	—	—
346317 2008 QC_{31}	17.0	X	111.63661	58.52322	264.46688	5.43801	0.1505280	0.27342834	2.3509336	20	—	—
346318 2008 QX_{32}	17.4	X	79.83663	358.69323	315.46255	4.67182	0.1143630	0.26471236	2.4022594	20	12 30.5	20.8
346319 2008 QX_{35}	17.7	X	102.02963	171.15415	167.28408	6.85736	0.1861250	0.27477780	2.3432302	20	—	—
346320 2008 QO_{39}	16.2	X	282.19750	87.07766	186.41432	13.56013	0.0435233	0.21465128	2.7625728	20	3 13.3	19.9

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	m		°	°	°	°		°				
346321 2008 QY_{39}	17.6	X	25.45020	20.43235	333.99435	4.48507	0.2128339	0.25868916	2.4394049	20	12 31.7	20.7
346322 2008 QW_{41}	16.3	X	117.66749	123.95622	345.67636	10.90284	0.0387505	0.22354811	2.6887807	20	5 1.4	20.1
346323 2008 QM_{48}	17.1	X	275.24875	237.70656	329.43440	5.22339	0.1051517	0.28209297	2.3025436	20	—	—
346324 2008 RF	17.3	X	44.64011	327.78212	29.79151	5.60008	0.2416366	0.26348711	2.4097009	20	—	—
346325 2008 RN_{1}	16.9	X	40.59201	334.52760	45.80476	6.81500	0.2247079	0.26693800	2.3888880	20	—	—
346326 2008 RX_{4}	17.7	X	39.33361	58.08302	325.48489	1.72429	0.2014829	0.26585321	2.3953820	20	—	—
346327 2008 RM_{5}	17.4	X	161.67842	143.59628	129.89791	2.47827	0.0663496	0.27136035	2.3628625	20	—	—
346328 2008 RD_{15}	17.1	X	76.78819	324.90842	319.06034	6.44763	0.1184599	0.25612050	2.4556878	20	11 15.3	20.8
346329 2008 RZ_{18}	17.8	X	88.01774	308.84848	331.02978	5.36839	0.1177955	0.25800605	2.4437088	20	11 23.2	21.5
346330 2008 RZ_{21}	17.7	X	88.99034	231.06742	108.61451	2.92704	0.2290423	0.27241399	2.3567659	20	—	—
346331 2008 RG_{27}	15.9	X	137.74600	124.23825	330.46240	12.13050	0.2630982	0.21571845	2.7534542	20	5 27.1	20.9
346332 2008 RW_{29}	17.1	X	79.92092	307.62913	352.99781	7.56330	0.1332305	0.26101803	2.4248733	20	12 13.5	20.8
346333 2008 RK_{31}	17.9	X	62.81959	129.23502	185.14274	2.24725	0.2002929	0.26113123	2.4241724	20	12 20.3	21.5
346334 2008 RT_{39}	17.4	X	152.71436	59.46598	184.32873	5.77143	0.0735808	0.26268475	2.4146053	20	12 17.8	20.8
346335 2008 RS_{41}	17.5	X	315.81946	342.12576	172.65746	4.18785	0.1154238	0.27611700	2.3356474	20	—	—
346336 2008 RO_{44}	18.1	X	133.78043	131.46712	157.08954	1.61453	0.1737037	0.27132115	2.3630901	20	—	—
346337 2008 RK_{48}	17.1	X	54.55814	342.49930	21.18995	7.00771	0.1308455	0.26792669	2.3830074	20	—	—
346338 2008 RM_{50}	17.4	X	163.66511	26.46189	263.54668	4.74129	0.1042718	0.27973576	2.3154606	20	—	—
346339 2008 RE_{58}	17.3	X	158.19754	223.94908	2.34477	5.13601	0.1101375	0.26101313	2.4249036	20	11 28.1	20.9
346340 2008 RP_{68}	16.8	X	27.59624	323.06108	11.47006	11.14811	0.1675721	0.25472911	2.4646220	20	11 27.1	20.0
346341 2008 RE_{69}	17.5	X	151.15858	340.17480	287.97083	3.04050	0.1609002	0.26924251	2.3752371	20	—	—
346342 2008 RA_{72}	17.3	X	78.38830	146.05269	161.61894	6.63333	0.1422524	0.26509101	2.3999713	20	12 22.9	20.9
346343 2008 RJ_{77}	17.2	X	315.94788	313.99312	359.88191	13.56079	0.2851922	0.23538631	2.5978570	20	5 11.5	20.1
346344 2008 RA_{81}	15.4	X	194.86817	288.69552	246.26385	24.73490	0.2379264	0.23472672	2.6027215	20	10 14.9	20.2
346345 2008 RB_{86}	17.0	X	40.70679	135.49362	243.37001	6.04448	0.1449255	0.26478900	2.4017959	20	—	—
346346 2008 RD_{98}	17.3	X	320.53118	147.44606	231.44001	1.96834	0.0983026	0.23871693	2.5736366	20	9 28.0	19.9
346347 2008 RA_{110}	18.3	X	338.99145	192.45979	228.94062	2.37733	0.1752514	0.25946910	2.4345140	20	—	—
346348 2008 RY_{111}	17.0	X	305.65396	185.08811	341.53154	4.91708	0.1373817	0.27494874	2.3422589	20	—	—
346349 2008 RN_{114}	17.7	X	105.61922	249.20617	29.52084	0.73574	0.1850795	0.25945245	2.4346182	20	12 14.2	21.7
346350 2008 RX_{114}	17.6	X	84.10112	135.32822	195.31945	4.12607	0.2157748	0.26448469	2.4036378	20	—	—
346351 2008 RB_{118}	17.3	X	267.08055	326.18612	328.77086	2.64681	0.1746782	0.21686954	2.7437024	20	3 6.5	21.4
346352 2008 RM_{118}	17.1	X	174.85295	252.69857	351.99307	2.19957	0.1430950	0.26540392	2.3980846	20	—	—
346353 2008 RU_{120}	17.3	X	281.68151	297.78504	113.23850	0.99512	0.1495645	0.23771849	2.5808379	20	9 1.9	20.2
346354 2008 RO_{129}	17.5	X	282.21841	205.42632	200.81112	1.80481	0.0542781	0.23512207	2.5998030	20	9 9.1	20.6
346355 2008 RH_{130}	16.8	X	203.32399	133.57073	232.82720	1.79133	0.1311695	0.21463065	2.7627498	20	4 4.2	21.1
346356 2008 RM_{133}	16.8	X	23.02974	305.97339	72.13493	5.47022	0.1544950	0.26123586	2.4235251	20	—	—
346357 2008 RR_{137}	17.2	X	86.02160	36.96193	308.69872	5.11285	0.0735723	0.26912773	2.3759124	20	—	—
346358 2008 RV_{138}	17.1	X	146.69364	165.24375	153.93641	10.07164	0.1279958	0.27778536	2.3262862	20	—	—
346359 2008 RW_{138}	16.3	X	254.51391	285.30058	41.84589	9.61658	0.1564385	0.22087226	2.7104533	20	4 7.0	20.4
346360 2008 RF_{139}	17.0	X	1.61501	179.37585	338.84024	6.33069	0.1048885	0.29065010	2.2571256	20	1 13.1	19.2
346361 2008 RP_{140}	16.8	X	207.63433	151.77209	227.08428	3.83734	0.1172413	0.22198783	2.7013650	20	4 24.1	20.9
346362 2008 RS_{141}	17.8	X	346.54765	83.46169	319.69581	1.45795	0.1696791	0.25866779	2.4395393	20	—	—
346363 2008 ST_{2}	17.1	X	67.10811	324.35917	16.02393	3.05429	0.1972595	0.26423001	2.4051821	20	—	—
346364 2008 SZ_{3}	17.7	X	16.93476	250.00054	131.99127	3.14801	0.2137826	0.25974287	2.4328031	20	—	—
346365 2008 SR_{6}	17.5	X	19.47450	295.89438	85.20803	3.04286	0.1891206	0.25988079	2.4319423	20	—	—
346366 2008 SW_{6}	16.6	X	276.77797	257.27643	56.46253	7.77993	0.2225385	0.22526117	2.6751317	20	4 6.2	20.6
346367 2008 SF_{18}	17.1	X	0.39846	187.98871	208.84903	6.64582	0.1311769	0.25864557	2.4396790	20	—	—
346368 2008 SG_{18}	17.0	X	248.90086	228.64180	323.29783	3.69995	0.0319959	0.27026317	2.3692532	20	—	—
346369 2008 SQ_{18}	17.7	X	353.28396	267.22807	130.67662	2.10448	0.1973992	0.26019943	2.4299564	20	—	—
346370 2008 SE_{27}	17.9	X	41.19047	198.94346	190.77806	2.19809	0.1990013	0.26663749	2.3906825	20	—	—
346371 2008 SO_{29}	17.4	X	68.99909	95.43851	252.84649	1.72320	0.2225710	0.26617627	2.3934434	20	—	—
346372 2008 SW_{33}	17.5	X	16.80122	10.10438	355.01990	3.91788	0.1973613	0.25905104	2.4371326	20	—	—
346373 2008 SA_{39}	17.5	X	135.38333	119.52463	154.69116	2.48319	0.1894358	0.26663257	2.3907119	20	—	—
346374 2008 SZ_{39}	16.9	X	284.01218	342.88506	179.90266	6.53234	0.1127401	0.26792224	2.3830338	20	—	—
346375 2008 SH_{46}	17.3	X	344.26081	276.05613	187.14350	6.56037	0.0659312	0.26747712	2.3856769	20	—	—
346376 2008 SL_{46}	17.5	X	58.44007	184.83214	174.37064	2.66327	0.1895273	0.26407105	2.4061472	20	—	—
346377 2008 SM_{46}	17.5	X	38.52510	226.83430	155.96086	2.36626	0.0970734	0.26314907	2.4117641	20	—	—
346378 2008 SB_{47}	16.9	X	311.06012	260.04548	45.17387	3.64530	0.2766702	0.23130221	2.6283479	20	4 27.9	19.9
346379 2008 SQ_{48}	17.9	X	336.88674	251.48968	204.63930	3.31728	0.1707262	0.26500725	2.4004770	20	—	—
346380 2008 SC_{53}	17.3	X	257.99893	199.98850	16.47543	3.93442	0.1011101	0.27840917	2.3228100	20	—	—
346381 2008 SD_{54}	16.9	X	195.86945	49.39451	342.79593	0.68820	0.1130408	0.21850401	2.7300029	20	4 29.3	21.2
346382 2008 SN_{56}	18.2	X	0.96904	204.75886	178.27042	2.50023	0.2042689	0.25490141	2.4635113	20	—	—
346383 2008 SO_{56}	17.0	X	269.45657	299.82859	13.58758	8.98551	0.2647087	0.22357042	2.6886018	20	3 23.0	21.1
346384 2008 SW_{60}	17.8	X	46.76323	138.35961	192.56157	8.80374	0.2415179	0.25945987	2.4345718	20	12 28.4	21.5
346385 2008 SW_{62}	17.2	X	94.03288	44.23701	277.43657	1.65683	0.2079126	0.26844271	2.3799526	20	—	—
346386 2008 SM_{64}	17.0	X	62.10399	43.10944	319.18646	7.37918	0.1286112	0.26905205	2.3763579	20	—	—
346387 2008 SO_{64}	16.4	X	226.48700	89.73234	292.17388	6.38442	0.1403146	0.22697703	2.6616326	20	5 14.4	20.6
346388 2008 SS_{71}	17.3	X	138.49493	188.21404	127.85335	3.91244	0.2370825	0.27663005	2.3327587	20	—	—
346389 2008 SF_{76}	17.9	X	63.81048	78.14417	220.55203	2.75357	0.2005642	0.25752868	2.4467277	20	12 1.5	21.5
346390 2008 SZ_{77}	17.9	X	84.59291	123.61396	200.47655	3.68154	0.2394444	0.26714657	2.3876444	20	—	—
346391 2008 SV_{84}	16.7	X	246.32434	31.19118	4.64387	12.41137	0.1667524	0.22868607	2.6483552	20	6 21.5	20.8
346392 2008 SK_{87}	17.4	X	37.82125	239.18996	139.84559	3.83668	0.2025551	0.26590423	2.3950756	20	—	—
346393 2008 SQ_{87}	17.1	X	37.69164	229.72230	157.21942	7.05136	0.2558331	0.26622168	2.3931712	20	—	—
346394 2008 SL_{100}	17.2	X	130.33118	218.50729	52.32173	7.86673	0.2113246	0.26367395	2.4085624	20	12 25.9	21.4
346395 2008 SE_{101}	17.6	X	356.81072	168.74178	141.02452	4.80278	0.1727786	0.23992781	2.5649702	20	8 29.9	19.7
346396 2008 SY_{106}	17.6	X	331.02650	278.34490	176.64248	2.58371	0.1501897	0.25914263	2.4365583	20	—	—
346397 2008 SC_{116}	16.5	X	22.96959	191.76132	165.21243	8.94008	0.0277055	0.25422224	2.4678969	20	12 3.6	19.8
346398 2008 SB_{120}	18.0	X	314.93084	302.00612	186.56032	2.13489	0.1560530	0.26309121	2.4121176	20	—	—
346399 2008 SO_{120}	16.5	X	202.44309	128.91462	186.55477	1.86691	0.0541412	0.20118307	2.8845302	20	2 3.7	20.7
346400 2008 SA_{129}	17.4	X	8.62820	115.76250	259.22789	3.09981	0.1175955	0.25338150	2.4733531	20	12 19.0	20.1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346401 2008 SC_{137}	17.0	X	173.94200	252.19172	148.69139	5.06235	0.0790261	0.21504540	2.7591964	20	4 19.5	21.2
346402 2008 SF_{148}	17.1	X	217.77161	42.91118	233.65854	7.00275	0.1302788	0.28651580	2.2787866	20	—	—
346403 2008 SL_{149}	16.3	X	54.87895	238.12774	259.55617	8.00799	0.1073473	0.21005628	2.8027150	20	3 24.6	19.9
346404 2008 SB_{152}	16.7	X	24.27935	345.49827	37.93120	4.76104	0.2871484	0.26082596	2.4260636	20	—	—
346405 2008 SU_{152}	16.8	X	270.64130	352.25592	0.41996	11.96622	0.1913312	0.23166297	2.6256186	20	5 16.4	20.8
346406 2008 SO_{154}	17.6	X	104.54238	244.33730	78.39822	1.70955	0.2321806	0.27159324	2.3615116	20	—	—
346407 2008 SE_{156}	17.7	X	26.60305	253.32520	88.05389	2.64468	0.2065969	0.25540809	2.4602521	20	12 13.9	20.8
346408 2008 SF_{156}	17.4	X	80.74288	256.62143	76.09908	3.76193	0.1987400	0.26607248	2.3940658	20	—	—
346409 2008 SG_{156}	17.3	X	57.59926	299.26739	45.55588	5.72528	0.2475890	0.26304943	2.4123730	20	—	—
346410 2008 SM_{159}	16.7	X	283.45952	310.54653	1.98186	14.26778	0.2678376	0.22759459	2.6568157	20	4 1.1	20.5
346411 2008 SP_{164}	17.1	X	0.87795	258.63476	174.02213	8.36673	0.1319899	0.26459644	2.4029610	20	—	—
346412 2008 SW_{164}	16.0	X	249.30493	353.04166	25.49419	15.03111	0.1379540	0.22772749	2.6557819	20	6 2.3	20.1
346413 2008 SK_{166}	16.5	X	258.01671	320.68739	30.01453	9.82898	0.1259463	0.22498912	2.6772877	20	5 10.1	20.5
346414 2008 SP_{178}	17.6	X	79.61206	302.17674	41.25657	3.15061	0.1930345	0.26974267	2.3723000	20	—	—
346415 2008 SZ_{180}	17.3	X	157.25433	102.97355	197.27463	5.32604	0.0968782	0.27372775	2.3492189	20	—	—
346416 2008 SH_{182}	17.8	X	335.30501	13.79367	64.27361	2.22191	0.1630802	0.25732677	2.4480074	20	—	—
346417 2008 SJ_{182}	17.8	X	357.52721	276.59494	146.62310	1.81822	0.1608275	0.25987085	2.4320043	20	—	—
346418 2008 SW_{183}	17.2	X	351.25379	151.21685	160.86660	3.60085	0.2156023	0.23995985	2.5647419	20	8 22.7	19.0
346419 2008 SC_{192}	16.8	X	227.30277	251.31872	146.21765	4.29621	0.1135493	0.22494190	2.6776623	20	6 8.9	20.9
346420 2008 SK_{193}	17.2	X	256.99621	124.94530	60.96611	7.11890	0.0500271	0.26719051	2.3873826	20	—	—
346421 2008 SO_{193}	16.8	X	1.92747	329.44951	64.31083	5.79563	0.1012463	0.25633693	2.4543054	20	—	—
346422 2008 SP_{196}	17.3	X	28.77715	269.24107	42.10168	5.74333	0.1059116	0.24392684	2.5368589	20	10 20.2	20.2
346423 2008 ST_{197}	17.3	X	232.59504	66.07910	63.22875	4.91778	0.0920009	0.24404238	2.5360582	20	10 20.8	20.6
346424 2008 SB_{205}	16.9	X	10.14474	243.59391	60.59148	8.96125	0.1611267	0.23908886	2.5709669	20	9 21.2	19.7
346425 2008 SF_{206}	17.0	X	232.64843	118.01174	72.87355	7.37289	0.1260981	0.25911753	2.4367157	20	—	—
346426 2008 SF_{219}	17.3	X	36.68951	79.54760	324.03364	4.32488	0.0695857	0.26954186	2.3734782	20	—	—
346427 2008 SL_{224}	16.8	X	182.74140	126.49913	265.68057	1.05941	0.1048611	0.21415388	2.7668488	20	4 16.0	21.0
346428 2008 ST_{235}	17.5	X	260.58780	22.66182	14.51146	2.30579	0.0862617	0.22702557	2.6612533	20	7 23.1	21.0
346429 2008 SM_{238}	17.4	X	75.00055	240.03699	89.24472	3.27994	0.1940260	0.26259551	2.4151523	20	—	—
346430 2008 SE_{242}	17.9	X	22.55318	315.37910	42.90922	1.89385	0.1842140	0.25666092	2.4522395	20	12 27.8	20.8
346431 2008 SJ_{242}	17.5	X	349.80896	353.63014	13.22136	0.83909	0.1318135	0.24779222	2.5104078	20	11 7.1	19.8
346432 2008 SA_{248}	18.1	X	350.49776	333.80138	76.50849	1.96285	0.2108852	0.25672326	2.4518425	20	—	—
346433 2008 SY_{248}	17.6	X	60.27314	106.05006	158.34834	6.20217	0.1610010	0.24398868	2.5364303	20	10 9.2	21.0
346434 2008 SK_{253}	16.8	X	216.44571	119.50865	63.11407	8.30302	0.1248525	0.25539645	2.4603269	20	12 4.9	20.2
346435 2008 SZ_{254}	17.1	X	62.36258	283.04664	67.83888	5.73299	0.1265698	0.26355678	2.4092762	20	—	—
346436 2008 SU_{258}	17.1	X	67.29335	111.54371	259.18808	5.37766	0.1492511	0.26882897	2.3776724	20	—	—
346437 2008 SZ_{265}	16.5	X	78.08306	167.10021	37.83043	14.11444	0.1329336	0.22661861	2.6644383	20	8 11.7	20.5
346438 2008 SX_{267}	16.9	X	180.09798	44.37429	189.44770	6.93919	0.1330227	0.26074869	2.4265428	20	12 28.9	20.5
346439 2008 SC_{282}	17.3	X	349.38990	128.27177	227.43317	7.55822	0.2801249	0.24396156	2.5366183	20	11 8.2	18.9
346440 2008 SJ_{302}	15.7	X	22.18013	294.49776	354.16491	12.80309	0.1754528	0.23925374	2.5697856	20	9 16.9	18.5
346441 2008 SH_{308}	16.8	X	55.97691	57.12266	253.23668	5.91030	0.2448314	0.25275008	2.4774707	20	12 11.8	20.5
346442 2008 TO_{2}	16.1	X	298.41048	153.11764	176.33715	30.07065	0.2334674	0.23209267	2.6223769	20	5 22.8	20.0
346443 2008 TP_{7}	17.4	X	120.78830	285.43181	23.72849	6.56858	0.1304183	0.27027855	2.3691633	20	—	—
346444 2008 TD_{8}	17.2	X	151.58100	182.29238	117.92994	3.55684	0.1717058	0.27543787	2.3394851	20	—	—
346445 2008 TW_{15}	17.1	X	111.76348	342.21692	331.00719	3.66847	0.1204606	0.26912896	2.3759051	20	—	—
346446 2008 TL_{19}	17.6	X	110.86977	262.36699	30.25167	1.58961	0.2196956	0.26172384	2.4205117	20	—	—
346447 2008 TM_{20}	17.5	X	286.44221	179.95208	209.57238	3.43091	0.1859660	0.23570474	2.5955168	20	8 1.6	20.5
346448 2008 TL_{21}	17.1	X	35.03721	267.79238	29.48695	3.58044	0.0645193	0.24085548	2.5583799	20	10 2.9	20.2
346449 2008 TF_{22}	17.9	X	304.34231	264.62226	197.65329	0.81520	0.1479814	0.25330331	2.4738620	20	—	—
346450 2008 TQ_{23}	17.0	X	295.48206	112.92690	178.24192	13.92652	0.1100268	0.22507030	2.6766439	20	4 15.3	20.5
346451 2008 TY_{26}	16.5	X	18.71605	59.36145	205.30268	13.14134	0.2420864	0.22726077	2.6594167	20	8 8.8	19.4
346452 2008 TW_{39}	17.0	X	163.13482	86.05381	0.42318	1.28365	0.0485060	0.21916491	2.7245119	20	6 1.6	20.8
346453 2008 TJ_{47}	16.5	X	256.34555	308.36416	46.68001	15.27223	0.1658395	0.22354015	2.6888445	20	5 10.1	20.6
346454 2008 TE_{50}	17.7	X	261.66109	6.79389	174.14308	0.97677	0.1296098	0.26795098	2.3828634	20	—	—
346455 2008 TE_{60}	17.8	X	27.29659	301.01299	36.73298	5.04690	0.1982006	0.25325724	2.4741620	20	12 7.6	20.8
346456 2008 TF_{66}	17.6	X	285.40194	40.45123	82.21358	2.62333	0.1351518	0.25513760	2.4619907	20	12 26.5	20.1
346457 2008 TR_{72}	16.9	X	158.93924	285.61355	224.07443	11.61177	0.2007622	0.22860862	2.6489534	20	8 16.4	21.6
346458 2008 TB_{78}	18.0	X	355.93323	17.89005	35.65784	2.03151	0.1744823	0.25954774	2.4340223	20	—	—
346459 2008 TR_{84}	18.2	X	74.15033	126.88080	191.17938	1.93989	0.2363520	0.26229698	2.4169844	20	—	—
346460 2008 TZ_{84}	17.5	X	133.02447	119.76972	194.09930	6.11069	0.1115211	0.27425843	2.3461875	20	—	—
346461 2008 TK_{86}	17.0	X	271.09885	273.70936	200.93796	5.65695	0.1013017	0.25399077	2.4693961	20	11 24.8	19.8
346462 2008 TZ_{90}	18.0	X	357.87920	269.33843	55.05739	5.76818	0.2475651	0.24312945	2.5424027	20	10 7.1	20.1
346463 2008 TB_{94}	18.0	X	81.99724	285.62794	41.15223	3.15606	0.1978335	0.26520373	2.3992912	20	—	—
346464 2008 TC_{116}	17.5	X	124.60959	121.05457	264.84394	5.58512	0.1124443	0.28363138	2.2942102	20	1 27.7	20.4
346465 2008 TN_{120}	16.8	X	250.04186	258.81033	148.52688	5.14903	0.2501993	0.23205831	2.6226357	20	6 30.7	20.8
346466 2008 TZ_{120}	17.4	X	243.67099	40.72083	64.11328	4.78588	0.1631213	0.24151910	2.5536913	20	9 22.5	20.8
346467 2008 TG_{131}	16.7	X	7.02176	177.78003	225.94029	9.49624	0.0126797	0.25969746	2.4330867	20	—	—
346468 2008 TF_{134}	17.4	X	43.57187	137.11694	244.89845	4.48378	0.1420272	0.26348363	2.4097221	20	—	—
346469 2008 TR_{151}	16.9	X	141.60645	272.35552	28.85220	9.60090	0.1221310	0.27324834	2.3519659	20	—	—
346470 2008 TW_{158}	17.3	X	301.50422	80.55930	258.58047	1.96638	0.1730486	0.23505838	2.6002727	20	6 17.8	20.3
346471 2008 TA_{160}	16.4	X	256.29704	279.11432	80.38389	10.50940	0.1120105	0.22613775	2.6682141	20	5 24.3	20.1
346472 2008 TH_{165}	17.6	X	255.10090	194.50880	235.36628	2.48894	0.1019337	0.23620603	2.5918432	20	8 25.9	21.1
346473 2008 TH_{168}	16.3	X	309.72262	267.31470	101.22891	15.67537	0.1310420	0.23770651	2.5809247	20	8 27.5	19.3
346474 2008 TK_{180}	16.9	X	345.96093	242.31929	147.02505	11.97606	0.2024348	0.25330214	2.4738696	20	12 15.3	19.5
346475 2008 TM_{182}	17.1	X	343.95693	334.01617	96.60616	4.95784	0.1168478	0.25725653	2.4484531	20	—	—
346476 2008 TJ_{183}	16.7	X	280.36448	277.86711	252.01752	6.06484	0.0543078	0.27042264	2.3683216	20	—	—
346477 2008 TO_{185}	17.1	X	327.80270	268.25628	164.12075	4.00446	0.1099402	0.25268953	2.4778664	20	12 30.9	19.7
346478 2008 TN_{186}	16.7	X	302.18411	27.62010	80.54987	8.56217	0.1673819	0.25251041	2.4790381	20	—	—
346479 2008 UG	16.9	X	72.39181	346.92465	359.46931	13.88227	0.3747829	0.27065668	2.3669561	20	—	—
346480 2008 UK_{1}	17.0	X	254.88293	307.56375	79.38760	7.03771	0.2064187	0.22887098	2.6469286	20	6 14.5	20.9

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	m		°	°	°	°		°				
346481 2008 UN_{5}	16.0	X	273.30535	19.38942	52.13337	34.15163	0.2032081	0.23190728	2.6237743	20	10 3.5	20.0
346482 2008 UZ_{10}	17.1	X	90.60520	355.62455	266.53991	2.09630	0.1561507	0.25320073	2.4745301	20	11 6.9	20.9
346483 2008 UX_{29}	16.8	X	80.65313	117.63409	198.08707	4.50253	0.1120327	0.25639102	2.4539602	20	12 30.5	20.4
346484 2008 UH_{32}	17.2	X	340.39066	264.76780	63.39851	5.58388	0.0712982	0.23465800	2.6032296	20	8 23.5	20.2
346485 2008 UY_{38}	17.4	X	6.13850	100.42198	232.96576	9.93045	0.1530611	0.24275429	2.5450214	20	10 18.7	20.1
346486 2008 UE_{40}	17.0	X	279.15344	5.08787	354.21657	0.96015	0.0908850	0.22648932	2.6654522	20	6 25.3	20.4
346487 2008 UJ_{47}	16.3	X	19.83254	274.40646	38.70565	10.19058	0.1206051	0.23956954	2.5675268	20	10 11.9	19.2
346488 2008 UB_{48}	17.4	X	231.90902	89.35484	24.48195	13.13204	0.1129258	0.24173090	2.5521994	20	9 27.9	21.0
346489 2008 UN_{52}	16.3	X	1.68783	233.31683	51.41733	7.29099	0.1099287	0.22614540	2.6681539	20	7 27.6	19.3
346490 2008 UD_{60}	17.3	X	25.62538	62.02733	246.26150	7.53501	0.1611865	0.24351242	2.5397364	20	10 16.5	20.4
346491 2008 UA_{62}	15.6	X	219.91465	233.59020	28.87794	9.86101	0.0287521	0.18821297	3.0155719	20	—	—
346492 2008 UJ_{67}	16.8	X	355.86774	10.16952	308.19244	2.87474	0.1635123	0.23729283	2.5839234	20	9 7.1	19.3
346493 2008 UK_{71}	16.3	X	350.26400	294.42884	35.86998	11.72479	0.1494992	0.23641223	2.5903360	20	9 19.8	19.0
346494 2008 UH_{74}	16.5	X	359.79549	52.78597	247.06697	18.15220	0.0337224	0.22863352	2.6487611	20	8 1.1	20.3
346495 2008 UL_{75}	17.4	X	319.30008	348.23845	62.08007	5.09944	0.0283404	0.24653059	2.5189652	20	11 13.1	20.5
346496 2008 UW_{75}	17.0	X	359.96889	1.59553	13.88513	2.96594	0.0286243	0.24580309	2.5239330	20	11 22.5	20.2
346497 2008 UO_{76}	16.9	X	350.30311	317.76372	31.58090	6.06915	0.0816601	0.23837842	2.5760726	20	10 8.5	19.7
346498 2008 US_{78}	16.8	X	231.44192	332.99891	27.93391	3.68510	0.0898462	0.22183298	2.7026220	20	4 28.4	20.8
346499 2008 UF_{86}	16.8	X	331.07567	101.65246	226.29833	7.85954	0.0778646	0.23095697	2.6309666	20	7 31.6	20.0
346500 2008 UV_{86}	17.4	X	3.30875	278.03745	56.19003	1.55231	0.0795514	0.24346169	2.5400892	20	10 8.6	20.1
346501 2008 UL_{94}	16.3	X	291.46251	312.81052	80.50181	14.75601	0.2716516	0.23568291	2.5956771	20	8 5.4	19.4
346502 2008 UH_{95}	16.8	X	149.78609	159.90867	39.88754	6.66503	0.1469686	0.24114088	2.5563609	20	10 16.3	20.9
346503 2008 UO_{102}	17.3	X	239.66176	72.77870	21.36646	7.62832	0.1495695	0.23801520	2.5786927	20	9 5.3	20.9
346504 2008 UT_{105}	18.2	X	338.59596	149.63755	294.06336	2.22141	0.1550680	0.26140227	2.4224964	20	—	—
346505 2008 UC_{125}	17.3	X	166.36993	2.41722	341.72387	6.21789	0.1608094	0.28219445	2.3019916	20	1 29.9	20.7
346506 2008 UR_{126}	15.6	X	27.23020	178.33267	267.52034	9.23808	0.0558108	0.18165202	3.0877531	20	—	—
346507 2008 UZ_{127}	15.9	X	230.67136	288.44711	224.14385	5.09129	0.2597427	0.23963812	2.5670369	20	10 23.1	19.7
346508 2008 UA_{131}	16.9	X	228.79642	312.43215	234.63758	5.56455	0.0848696	0.25692213	2.4505771	20	—	—
346509 2008 UZ_{131}	16.8	X	354.84245	105.97662	226.30544	4.63756	0.1193895	0.24024244	2.5627302	20	9 21.9	19.5
346510 2008 UJ_{132}	17.5	X	57.11684	16.16168	7.25112	1.18487	0.1930144	0.26573781	2.3960754	20	—	—
346511 2008 UK_{136}	17.5	X	334.87998	319.65913	39.57288	12.93022	0.2725559	0.24337909	2.5406639	20	10 6.9	19.1
346512 2008 UM_{142}	17.2	X	50.40745	70.48838	209.42900	2.22765	0.1704303	0.24031098	2.5622429	20	10 16.1	20.6
346513 2008 UL_{143}	17.6	X	197.76350	55.63980	51.28603	4.64083	0.1145028	0.22841934	2.6504166	20	8 7.7	21.7
346514 2008 UD_{149}	16.8	X	295.76930	326.11774	40.61716	3.34083	0.2986490	0.23424382	2.6062973	20	6 26.1	19.8
346515 2008 UM_{157}	16.8	X	6.47533	116.45762	263.91268	11.64795	0.1810878	0.25144318	2.4860478	20	12 31.6	19.6
346516 2008 UR_{158}	16.3	X	305.74049	46.89957	338.28656	5.98221	0.1038335	0.23657997	2.5891114	20	9 10.5	19.1
346517 2008 UQ_{160}	17.2	X	326.98688	318.08985	43.58367	1.91697	0.1567937	0.23678621	2.5876078	20	9 14.0	19.6
346518 2008 US_{162}	16.2	X	300.45589	280.23059	9.54526	7.75742	0.0617576	0.21745686	2.7387600	20	4 24.0	19.8
346519 2008 UT_{166}	17.2	X	82.89546	107.46935	184.76368	2.87321	0.1279912	0.25188849	2.4831169	20	12 4.8	20.9
346520 2008 UC_{169}	17.2	X	186.50865	133.28707	70.73812	4.82200	0.0952247	0.25117869	2.4877927	20	11 30.7	20.6
346521 2008 UP_{181}	17.0	X	186.40728	93.23797	43.58534	12.36628	0.0605534	0.23599652	2.5933770	20	9 12.2	20.9
346522 2008 UA_{185}	15.9	X	33.41697	22.57175	57.87539	9.92972	0.0781501	0.18260925	3.0769530	20	—	—
346523 2008 UM_{185}	16.7	X	4.35952	84.64900	228.77279	8.26583	0.1457112	0.23595641	2.5936708	20	9 11.6	19.5
346524 2008 UB_{186}	17.9	X	302.97180	163.89665	311.82709	1.64782	0.1532693	0.25660540	2.4525932	20	—	—
346525 2008 UR_{186}	16.4	X	88.20541	238.97038	80.50280	6.70418	0.0124282	0.25267099	2.4779876	20	—	—
346526 2008 UA_{187}	17.0	X	290.29838	255.18333	124.19227	2.98204	0.0878167	0.23020766	2.6366726	20	8 10.1	20.0
346527 2008 UV_{196}	17.4	X	262.79655	265.55341	221.51248	5.47267	0.1018075	0.25531533	2.4608480	20	11 28.9	20.1
346528 2008 UM_{201}	16.2	X	39.49948	175.35751	231.68041	20.51077	0.0530147	0.26390072	2.4071824	20	—	—
346529 2008 UX_{204}	16.2	X	343.93863	334.91828	83.63745	7.26297	0.1152880	0.25445782	2.4663735	20	—	—
346530 2008 UT_{223}	16.8	X	311.94493	318.32914	60.36526	13.76350	0.2190427	0.24004703	2.5641208	20	9 10.9	19.4
346531 2008 UM_{225}	16.9	X	335.39843	342.75525	344.01059	3.92827	0.1918668	0.23374038	2.6100383	20	8 6.5	19.1
346532 2008 UH_{228}	17.3	X	356.99009	282.71722	28.99118	3.24890	0.0305350	0.23048042	2.6345919	20	8 23.2	20.5
346533 2008 UY_{239}	16.7	X	276.23973	40.71983	25.44940	13.82106	0.2590254	0.23769269	2.5810248	20	9 3.1	20.0
346534 2008 UE_{245}	16.3	X	7.32888	25.82692	264.27393	11.65405	0.1426733	0.22946001	2.6423968	20	8 10.4	19.3
346535 2008 UW_{247}	16.8	X	355.10581	132.39411	237.77003	4.97352	0.2087782	0.24640954	2.5197901	20	12 2.0	19.2
346536 2008 UO_{260}	17.7	X	0.30050	173.26878	142.22601	3.26842	0.1173210	0.23731459	2.5837654	20	9 9.2	20.3
346537 2008 UD_{271}	16.5	X	268.54964	338.63655	329.96519	16.74019	0.2517709	0.22090375	2.7101958	20	3 11.8	21.1
346538 2008 UJ_{273}	16.4	X	98.24576	313.18940	238.72637	16.28319	0.0545448	0.23011532	2.6373779	20	7 27.3	20.4
346539 2008 UR_{277}	17.1	X	150.57271	226.59614	35.32879	6.17324	0.0991099	0.26060699	2.4274223	20	—	—
346540 2008 UK_{282}	16.9	X	268.32602	277.62299	60.27455	9.25470	0.1732498	0.21983363	2.7189839	20	5 2.7	20.7
346541 2008 UW_{284}	17.4	X	273.26310	352.06832	95.95011	1.36987	0.1103126	0.24413463	2.5354193	20	10 18.4	20.2
346542 2008 UP_{288}	17.7	X	217.57270	6.39740	100.30081	2.67889	0.1385595	0.23418072	2.6067654	20	8 26.3	21.6
346543 2008 UX_{289}	17.0	X	222.98108	71.13999	75.97418	10.64521	0.0815896	0.24175564	2.5520253	20	11 3.8	20.5
346544 2008 UE_{300}	16.9	X	218.15337	115.74978	17.29886	5.38181	0.2054430	0.23626794	2.5913905	20	9 23.1	20.8
346545 2008 UL_{302}	16.5	X	187.59725	281.33498	250.67329	11.78033	0.1973976	0.23654197	2.5893887	20	10 8.6	20.9
346546 2008 UM_{303}	17.0	X	338.21594	260.81942	44.73015	4.75059	0.1135647	0.22642739	2.6659382	20	7 13.2	19.9
346547 2008 UB_{304}	17.1	X	346.46275	108.11698	248.23885	9.74050	0.2224151	0.24651863	2.5190467	20	10 22.7	19.3
346548 2008 UQ_{304}	16.9	X	318.31230	78.82644	347.47958	3.26569	0.1392172	0.24648955	2.5192448	20	12 3.6	19.4
346549 2008 UV_{314}	16.4	X	107.12395	222.75707	25.72761	11.21690	0.0906941	0.24363456	2.5388875	20	10 30.5	20.0
346550 2008 UQ_{324}	17.1	X	183.60950	196.44389	278.90931	4.03894	0.1373817	0.22339365	2.6900199	20	7 31.0	21.2
346551 2008 UJ_{325}	16.6	X	34.16836	53.18441	280.01772	1.44130	0.1114531	0.24618861	2.5212974	20	11 26.2	19.9
346552 2008 UA_{327}	16.0	X	105.69638	311.00103	111.18234	13.53517	0.2759490	0.18980467	2.9986891	20	3 31.6	20.8
346553 2008 UL_{328}	17.5	X	11.81416	85.99555	234.52026	12.43309	0.2387958	0.24659776	2.5185078	20	10 25.3	20.2
346554 2008 UK_{338}	16.4	X	144.62189	250.98773	270.34445	7.68469	0.0741701	0.22742859	2.6581083	20	8 16.1	20.5
346555 2008 UV_{340}	16.8	X	119.62070	242.82108	25.92832	4.68972	0.1172400	0.25116649	2.4878733	20	12 10.9	20.6
346556 2008 UW_{340}	16.2	X	330.35560	242.46903	100.79299	13.82096	0.2032734	0.23773113	2.5807465	20	8 25.5	18.6
346557 2008 UM_{346}	17.3	X	268.87007	227.17320	207.06284	1.22076	0.2526068	0.23130008	2.6283641	20	8 27.0	20.7
346558 2008 UZ_{353}	17.0	X	316.15739	79.44508	242.74210	11.11288	0.2401484	0.22759240	2.6568328	20	6 7.7	19.7
346559 2008 UM_{354}	16.3	X	125.32230	325.25447	106.62304	3.23054	0.0434419	0.20399349	2.8579755	20	3 31.2	20.4
346560 2008 UP_{355}	17.3	X	203.41149	73.49810	67.71638	15.36437	0.1324447	0.23441589	2.6050218	20	10 2.9	21.5

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	m		°	°	°	°		°				
346561 2008 UH_{357}	17.9	X	273.92809	102.75678	331.69150	1.99993	0.1765536	0.23912811	2.5706855	20	9 17.7	21.0
346562 2008 UX_{365}	17.0	X	225.76724	175.04268	258.66248	7.62064	0.3329668	0.22683870	2.6627146	20	7 4.7	21.7
346563 2008 UO_{368}	16.2	X	278.73580	168.73270	258.06690	10.82185	0.1674130	0.23291513	2.6161998	20	9 9.1	19.6
346564 2008 UY_{368}	16.4	X	313.85357	219.10682	78.13934	15.52274	0.2240381	0.22152057	2.7051624	20	5 6.1	19.7
346565 2008 VF_{1}	17.4	X	308.30007	359.53019	40.61385	5.86814	0.3105364	0.24049705	2.5609212	20	9 16.6	19.2
346566 2008 VF_{9}	16.5	X	329.93239	75.96868	201.17798	12.28519	0.0886047	0.21882470	2.7273350	20	5 20.7	19.9
346567 2008 VH_{15}	17.0	X	255.62098	279.99025	84.59164	0.74571	0.1762300	0.22487009	2.6782324	20	5 20.9	21.1
346568 2008 VZ_{17}	17.4	X	201.16521	72.40047	83.69847	3.56055	0.0789231	0.24287285	2.5441931	20	10 18.9	20.9
346569 2008 VF_{19}	17.6	X	33.02121	118.01761	190.60860	5.00824	0.1907375	0.24572858	2.5244432	20	11 5.5	20.7
346570 2008 VB_{23}	16.8	X	234.82668	18.89716	59.75400	3.77253	0.2782141	0.22258438	2.6965363	20	7 23.9	21.2
346571 2008 VX_{25}	17.6	X	243.76567	336.97939	122.66389	3.43987	0.0674294	0.24079532	2.5588060	20	9 29.1	20.8
346572 2008 VT_{34}	16.7	X	203.10627	335.69060	71.51401	10.49596	0.2183113	0.21788921	2.7351358	20	5 22.8	21.2
346573 2008 VG_{47}	17.2	X	252.22107	323.28926	127.56767	1.53776	0.1515424	0.23589144	2.5941471	20	9 13.7	20.6
346574 2008 VR_{47}	16.1	X	344.78036	162.87516	207.95246	14.75020	0.1396255	0.24377493	2.5379128	20	11 4.3	18.6
346575 2008 VD_{48}	16.5	X	278.40546	168.76153	208.81923	14.03306	0.2221994	0.22983311	2.6395364	20	6 26.9	20.3
346576 2008 VJ_{51}	17.0	X	312.27528	325.03463	47.22679	3.25256	0.2340348	0.23699750	2.5860696	20	8 21.4	19.1
346577 2008 VJ_{57}	16.8	X	299.61471	180.15099	197.15314	2.65586	0.2034031	0.23561107	2.5962046	20	8 4.1	19.5
346578 2008 VK_{59}	17.3	X	9.62795	191.25529	207.25023	0.76691	0.1744590	0.25659265	2.4526745	20	—	—
346579 2008 VJ_{60}	15.6	X	159.75557	56.20218	81.54777	22.94441	0.0206383	0.22443787	2.6816697	20	8 9.5	19.7
346580 2008 VA_{65}	16.4	X	320.29417	112.74664	198.37119	5.30540	0.0336331	0.21993990	2.7181079	20	6 26.1	20.0
346581 2008 VQ_{65}	17.3	X	310.80563	314.03899	81.93740	3.52678	0.1500122	0.23953379	2.5677822	20	10 5.0	19.8
346582 2008 VO_{68}	16.2	X	276.16486	287.89752	103.14898	11.68982	0.1751289	0.22561318	2.6723484	20	7 21.8	19.5
346583 2008 VP_{68}	17.0	X	215.94951	132.85794	271.23144	3.10145	0.2053628	0.21204607	2.7851541	20	5 29.5	21.7
346584 2008 VB_{74}	16.6	X	140.88890	152.35768	69.48462	8.24661	0.1049593	0.24270104	2.5453937	20	11 4.9	20.5
346585 2008 VH_{76}	16.5	X	133.03654	178.11175	79.78793	7.52136	0.0824805	0.25020467	2.4942450	20	12 11.2	20.1
346586 2008 VU_{76}	16.6	X	336.08228	272.05059	77.37073	14.07611	0.1843139	0.23733766	2.5835981	20	9 24.1	19.3
346587 2008 VG_{78}	16.6	X	341.80113	165.30979	191.69206	4.94794	0.2195462	0.24045443	2.5612238	20	10 13.1	18.5
346588 2008 VM_{78}	17.4	X	222.69911	309.16948	158.14942	5.17250	0.1771001	0.23079029	2.6322332	20	8 27.1	21.5
346589 2008 VC_{79}	16.7	X	216.92830	28.51180	82.46372	10.61055	0.1340197	0.22623519	2.6674479	20	9 4.0	20.8
346590 2008 VM_{79}	16.5	X	211.09383	74.71601	100.50196	5.00193	0.1748810	0.24198850	2.5503878	20	11 12.3	20.3
346591 2008 VW_{79}	16.0	X	311.22534	339.66358	29.15162	12.34595	0.1995850	0.23467392	2.6031119	20	8 23.7	18.7
346592 2008 VE_{80}	15.7	X	45.62853	316.20297	104.17409	9.15340	0.1171119	0.17465788	3.1696448	20	—	—
346593 2008 WJ_{1}	17.5	X	213.18295	100.66234	32.30681	3.68769	0.1558916	0.23477763	2.6023452	20	9 22.9	21.3
346594 2008 WD_{8}	17.1	X	283.87865	337.64572	54.38825	7.14658	0.0664472	0.23506533	2.6002214	20	8 25.5	20.4
346595 2008 WH_{8}	17.4	X	96.01651	170.67562	109.83942	2.12348	0.1572923	0.25328026	2.4740121	20	12 5.6	21.3
346596 2008 WC_{9}	17.4	X	4.64848	236.61411	98.98060	3.81413	0.0883005	0.24302174	2.5431539	20	10 15.1	20.3
346597 2008 WU_{15}	17.0	X	273.79594	255.57128	263.14413	5.80454	0.1342620	0.25965005	2.4333828	20	—	—
346598 2008 WZ_{21}	16.9	X	321.26273	354.78641	52.32012	16.12411	0.1580928	0.24544955	2.5263560	20	11 12.2	19.1
346599 2008 WW_{24}	16.4	X	234.78817	298.75452	83.56707	6.20601	0.1284698	0.21989086	2.7185121	20	5 26.9	20.5
346600 2008 WX_{24}	17.0	X	301.83592	183.63245	190.53794	2.87505	0.2432059	0.23611208	2.5925307	20	7 27.8	19.7
346601 2008 WE_{32}	16.9	X	197.36499	41.67755	93.61832	4.73114	0.1386219	0.22535297	2.6744051	20	9 11.3	21.0
346602 2008 WO_{32}	16.7	X	339.43267	151.44659	193.53924	5.01470	0.1818319	0.23850938	2.5751295	20	9 13.7	18.9
346603 2008 WH_{35}	17.5	X	299.18077	339.00528	16.91306	0.55798	0.1083125	0.22939301	2.6429113	20	7 18.5	20.7
346604 2008 WY_{42}	16.6	X	357.99401	246.52579	50.01855	6.59958	0.1323434	0.22806834	2.6531352	20	8 9.5	19.5
346605 2008 WR_{46}	16.4	X	98.64971	178.98695	65.00991	15.89410	0.0569705	0.23575841	2.5951228	20	10 19.3	20.3
346606 2008 WR_{58}	16.2	X	304.14162	274.43447	116.35642	6.27323	0.2403520	0.23829530	2.5766715	20	8 31.9	18.4
346607 2008 WG_{60}	16.8	X	37.05372	314.41995	101.09772	4.78073	0.1003909	0.26270550	2.4144781	20	—	—
346608 2008 WC_{63}	16.7	X	272.17320	178.32058	252.58490	12.56601	0.1499969	0.23791298	2.5794313	20	9 7.5	20.3
346609 2008 WD_{64}	16.9	X	239.51621	77.97427	267.98007	2.25051	0.1338216	0.21416282	2.7667717	20	4 13.9	21.1
346610 2008 WN_{68}	16.8	X	307.80360	209.00010	193.61557	1.26980	0.1240474	0.23917144	2.5703751	20	10 8.9	19.2
346611 2008 WD_{73}	16.9	X	343.97374	82.31203	262.05375	8.82011	0.1534130	0.23624547	2.5915548	20	9 16.5	19.7
346612 2008 WF_{75}	17.8	X	223.42390	294.63085	199.18359	4.37741	0.1759020	0.24057325	2.5603804	20	10 1.9	21.5
346613 2008 WB_{81}	16.6	X	317.27375	256.29049	133.23307	3.78671	0.1417946	0.23962023	2.5671647	20	10 8.7	19.0
346614 2008 WG_{84}	16.7	X	43.64284	309.17521	20.89284	2.45197	0.1427324	0.24692049	2.5163128	20	12 8.9	20.0
346615 2008 WQ_{84}	17.1	X	296.20489	330.51387	57.22741	5.01747	0.1221765	0.23293164	2.6160762	20	8 29.6	20.1
346616 2008 WG_{90}	16.6	X	253.22795	358.05076	83.08717	14.35189	0.1425557	0.22957431	2.6415197	20	9 9.6	20.5
346617 2008 WK_{90}	16.3	X	236.42804	187.07187	284.45709	11.74626	0.1415331	0.22820482	2.6520773	20	9 14.3	20.4
346618 2008 WH_{92}	17.0	X	261.54554	30.71099	51.51410	5.40181	0.1315192	0.23718093	2.5847361	20	9 20.4	20.2
346619 2008 WA_{93}	16.6	X	313.69859	281.64913	129.28510	7.63762	0.2867787	0.24381610	2.5376271	20	10 29.2	18.2
346620 2008 WE_{95}	16.6	X	275.29433	283.10925	162.05526	13.32843	0.1726357	0.23858087	2.5746150	20	10 9.2	19.6
346621 2008 WM_{95}	16.5	X	259.15382	221.09563	230.77052	11.77555	0.1087643	0.23809097	2.5781456	20	9 27.1	20.1
346622 2008 WS_{99}	17.0	X	47.48389	283.01878	71.71424	6.95744	0.1311106	0.25683758	2.4511149	20	—	—
346623 2008 WU_{100}	17.0	X	283.91016	42.43982	96.31156	3.32214	0.1521438	0.25479128	2.4642211	20	—	—
346624 2008 WS_{109}	17.5	X	280.71947	344.71536	18.17401	1.24309	0.1185215	0.22509717	2.6764309	20	6 28.0	21.0
346625 2008 WK_{112}	17.2	X	326.07838	346.20674	28.77000	1.58525	0.2093354	0.23975746	2.5661850	20	10 1.5	19.0
346626 2008 WJ_{113}	16.8	X	256.09773	53.22623	75.54874	5.09647	0.1803031	0.24234437	2.5478905	20	11 6.4	20.0
346627 2008 WC_{124}	16.5	X	300.41231	99.06172	269.06037	6.11267	0.1017925	0.22962033	2.6411668	20	8 5.7	19.7
346628 2008 WD_{125}	17.3	X	232.86632	112.56339	305.08500	3.87890	0.1055219	0.22027992	2.7153101	20	7 12.1	21.1
346629 2008 WO_{128}	17.1	X	300.06856	302.89621	115.73153	4.26401	0.0649997	0.24024840	2.5626879	20	10 25.7	20.2
346630 2008 WC_{132}	16.1	X	307.57170	270.66624	93.67132	10.79661	0.0811560	0.23244521	2.6197246	20	8 20.9	19.3
346631 2008 WK_{133}	16.3	X	341.47602	270.50139	78.95197	13.76972	0.1968836	0.23783025	2.5800294	20	10 7.0	18.9
346632 2008 WX_{135}	16.6	X	269.90123	300.65787	98.48553	5.79761	0.2247586	0.22913047	2.6449298	20	7 16.5	20.2
346633 2008 WD_{136}	17.1	X	354.19166	329.34454	125.84910	2.90296	0.1502775	0.25815824	2.4427483	20	—	—
346634 2008 WW_{137}	16.5	X	349.84093	170.13571	205.48050	2.54026	0.2646312	0.24450727	2.5328426	20	12 8.0	18.5
346635 2008 WS_{138}	16.6	X	261.06209	346.24991	78.71058	9.33228	0.0894153	0.23162714	2.6258893	20	9 4.1	20.2
346636 2008 WW_{139}	16.6	X	257.67980	27.47816	77.95861	3.17906	0.0773142	0.23544436	2.5974300	20	10 22.9	19.8
346637 2008 WZ_{140}	16.8	X	228.28302	3.89816	59.55995	5.95030	0.0473049	0.22273669	2.6953068	20	7 22.5	20.5
346638 2008 XH_{3}	16.5	X	300.76627	228.69277	203.38522	4.76569	0.2457726	0.24296783	2.5435300	20	10 27.8	18.5
346639 2008 XN_{4}	16.5	X	265.57188	114.42452	276.68550	10.37511	0.3068645	0.22891668	2.6465763	20	6 19.1	20.6
346640 2008 XR_{8}	16.2	X	6.69530	229.79067	131.01267	5.75694	0.0682637	0.24432266	2.5341183	20	11 19.4	19.3

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346641 2008 XD_{12}	17.1	X	157.59215	358.96717	148.90718	5.24091	0.0745137	0.22566980	2.6719013	20	8 16.1	21.1
346642 2008 XQ_{14}	17.0	X	332.38322	320.06746	29.44272	2.82631	0.1338368	0.23646909	2.5899207	20	9 7.4	19.6
346643 2008 XV_{14}	16.8	X	345.18998	262.43271	60.21556	6.92753	0.1916378	0.23422340	2.6064488	20	8 27.3	19.2
346644 2008 XC_{22}	16.7	X	208.26316	58.24472	72.61960	11.63073	0.1953224	0.22619798	2.6677404	20	9 16.1	21.2
346645 2008 XS_{29}	16.4	X	163.87242	260.85890	254.91104	10.65392	0.2520073	0.22592459	2.6698921	20	8 26.9	21.4
346646 2008 XN_{35}	16.6	X	220.30053	109.06376	61.09643	11.28790	0.1773145	0.24283234	2.5444760	20	11 15.0	20.3
346647 2008 XD_{40}	16.7	X	255.20525	358.82290	60.10742	4.48915	0.0825276	0.22858866	2.6491076	20	8 16.7	20.3
346648 2008 XQ_{45}	17.5	X	38.73769	198.73458	146.97304	3.54669	0.1889831	0.25327845	2.4740239	20	12 30.9	20.8
346649 2008 XU_{49}	16.6	X	172.61828	185.09186	265.36974	2.35106	0.0622902	0.20959986	2.8067822	20	6 18.4	20.8
346650 2008 XR_{51}	16.9	X	325.45713	256.18101	109.23768	4.07794	0.1651127	0.23701212	2.5859632	20	9 17.6	19.3
346651 2008 XO_{54}	15.9	X	350.70647	96.32061	270.87259	11.24726	0.2430115	0.24190596	2.5509679	20	11 21.1	18.2
346652 2008 XA_{55}	16.3	X	281.13172	95.47137	288.96263	8.35908	0.1933741	0.22904510	2.6455870	20	7 16.3	19.6
346653 2008 XC_{55}	16.1	X	309.54991	61.28146	284.91970	5.34695	0.0379862	0.22309801	2.6923959	20	7 28.4	19.6
346654 2008 YT	16.8	X	269.12853	147.55786	281.32192	6.66030	0.1789274	0.23150329	2.6268258	20	8 29.3	20.1
346655 2008 YD_{1}	16.7	X	259.77887	5.43145	85.50454	4.27216	0.1488696	0.23528430	2.5986079	20	9 26.4	20.1
346656 2008 YH_{1}	17.1	X	169.65680	23.27947	84.08533	3.27560	0.2028164	0.21446743	2.7641513	20	7 7.9	21.8
346657 2008 YW_{2}	16.5	X	169.20287	34.94977	67.51944	4.60434	0.0565995	0.21352434	2.7722845	20	6 30.3	20.4
346658 2008 YA_{7}	16.7	X	206.54682	146.98902	313.01008	8.66869	0.1289998	0.21760566	2.7375114	20	8 4.5	20.9
346659 2008 YZ_{7}	16.2	X	330.52911	41.83196	314.73458	8.77220	0.2600902	0.23980873	2.5658192	20	9 6.5	18.0
346660 2008 YT_{11}	16.8	X	301.11688	286.47920	101.43283	4.87568	0.2095295	0.23559981	2.5962873	20	8 25.3	19.4
346661 2008 YW_{13}	17.1	X	237.84932	268.90325	231.50694	2.83408	0.1351544	0.24149602	2.5538540	20	11 2.4	20.4
346662 2008 YG_{14}	16.6	X	215.04867	163.80362	262.95994	5.91184	0.1514083	0.21633629	2.7482092	20	6 29.6	21.0
346663 2008 YH_{17}	17.1	X	191.62523	149.89024	294.74971	7.14502	0.1838089	0.21308994	2.7760509	20	6 28.9	21.8
346664 2008 YN_{18}	16.2	X	257.63999	69.36539	305.44113	5.33021	0.0232061	0.21036893	2.7999373	20	6 27.2	20.1
346665 2008 YH_{21}	16.6	X	176.91014	186.18355	283.29100	3.68879	0.0706234	0.21305798	2.7763285	20	7 17.9	20.8
346666 2008 YK_{22}	17.1	X	230.83285	319.01484	120.12359	5.64033	0.2169774	0.22117307	2.7079952	20	7 25.8	21.4
346667 2008 YS_{25}	16.5	X	321.88229	97.36115	257.37726	3.60413	0.1346856	0.23122489	2.6289339	20	8 21.2	19.2
346668 2008 YP_{26}	16.2	X	309.06521	90.27912	255.01455	6.50173	0.0136692	0.21639671	2.7476977	20	7 27.2	20.0
346669 2008 YE_{27}	15.8	X	330.01523	282.64649	118.11826	6.42694	0.1670615	0.24495943	2.5297248	20	11 22.7	18.2
346670 2008 YF_{27}	16.2	X	325.81898	293.68499	106.26078	13.83746	0.1764581	0.24228865	2.5482811	20	11 15.6	18.8
346671 2008 YH_{28}	17.2	X	296.89063	331.10233	78.17633	0.58300	0.3036952	0.23589166	2.5941454	20	8 30.8	19.3
346672 2008 YL_{29}	16.8	X	234.76113	6.51372	115.52642	5.30321	0.1264674	0.23111103	2.6297973	20	10 7.9	20.5
346673 2008 YO_{32}	15.9	X	192.99045	332.92798	101.52913	7.65439	0.0418960	0.21160927	2.7889855	20	6 22.0	19.8
346674 2008 YN_{33}	17.0	X	255.60774	259.13068	174.43794	4.07231	0.1162913	0.22686243	2.6625289	20	8 28.9	20.7
346675 2008 YM_{34}	17.2	X	194.95687	323.74881	130.07679	5.08201	0.0837838	0.21541978	2.7559987	20	7 17.5	21.3
346676 2008 YT_{34}	16.5	X	168.36313	229.30031	268.60774	3.99584	0.0583004	0.21827354	2.7319242	20	8 13.5	20.5
346677 2008 YK_{36}	17.0	X	292.86818	96.62114	296.86783	4.12201	0.0616421	0.22741384	2.6582233	20	9 3.9	20.4
346678 2008 YS_{38}	15.8	X	130.52223	330.45480	145.12055	15.81747	0.0921426	0.20314259	2.8659508	20	6 7.7	20.4
346679 2008 YN_{39}	16.5	X	293.04661	272.39949	100.50283	13.91462	0.2117745	0.22411624	2.6842348	20	7 15.6	19.6
346680 2008 YV_{40}	16.7	X	294.18642	80.65503	306.46701	7.72452	0.2718152	0.23095492	2.6309822	20	7 28.0	19.6
346681 2008 YG_{50}	17.1	X	210.32548	6.95203	53.64602	2.85654	0.1447716	0.21132574	2.7914796	20	6 17.5	21.5
346682 2008 YR_{63}	17.5	X	184.29011	297.15566	166.80326	3.87575	0.0540926	0.21397250	2.7684121	20	7 19.3	21.6
346683 2008 YL_{78}	17.1	X	221.00232	186.80810	247.27887	3.51193	0.1829697	0.21736342	2.7395448	20	7 12.1	21.4
346684 2008 YU_{78}	15.8	X	215.32827	188.61137	141.51006	10.70252	0.0878367	0.18842927	3.0132637	20	3 8.6	20.4
346685 2008 YF_{82}	17.1	X	179.71819	114.88470	315.52145	4.15504	0.1080313	0.20876163	2.8142906	20	5 30.9	21.6
346686 2008 YJ_{83}	17.3	X	278.20658	295.11585	80.46146	4.14160	0.2130801	0.22326234	2.6910746	20	6 26.6	20.9
346687 2008 YY_{84}	17.1	X	222.61618	317.81726	168.10015	1.73220	0.0338310	0.22934832	2.6432547	20	10 8.2	20.5
346688 2008 YJ_{109}	16.6	X	20.01498	79.35946	89.30611	3.33072	0.1087106	0.18614609	3.0378531	20	3 18.4	20.2
346689 2008 YT_{110}	16.9	X	282.29187	54.38024	303.03588	1.88468	0.1227504	0.22370150	2.6875515	20	6 21.9	20.2
346690 2008 YE_{113}	16.1	X	135.38724	197.85657	317.46608	15.74048	0.2304621	0.21270361	2.7794112	20	8 8.5	20.9
346691 2008 YA_{114}	16.9	X	215.74088	281.39938	110.20299	1.68860	0.0822766	0.20855376	2.8161603	20	5 21.8	20.9
346692 2008 YU_{120}	16.6	X	3.26261	185.23110	72.23102	3.41794	0.0880837	0.20863256	2.8154511	20	6 16.4	19.9
346693 2008 YH_{121}	16.9	X	350.38605	188.88180	90.01776	5.51920	0.0328591	0.21135827	2.7911931	20	6 25.9	20.5
346694 2008 YZ_{121}	16.3	X	327.73168	138.24513	243.87494	4.05714	0.3081546	0.23859814	2.5744908	20	10 15.3	17.6
346695 2008 YC_{123}	16.5	X	337.53444	38.64875	157.87726	3.02986	0.0726543	0.18600441	3.0393956	20	2 18.4	20.5
346696 2008 YG_{123}	16.7	X	319.40642	37.58312	162.07446	3.17637	0.0734315	0.18223366	3.0811794	20	1 29.2	20.9
346697 2008 YG_{124}	17.3	X	204.01316	220.52340	171.99535	1.97198	0.0807790	0.20499901	2.8486224	20	5 10.4	21.7
346698 2008 YN_{134}	15.9	X	302.43701	182.94949	84.41816	10.74337	0.0353369	0.20459806	2.8523427	20	4 9.6	19.9
346699 2008 YO_{138}	16.8	X	274.75829	115.11757	271.70185	2.36235	0.0905094	0.22069135	2.7119344	20	7 26.3	20.3
346700 2008 YT_{138}	16.6	X	270.34576	136.94862	271.42396	5.24530	0.0569498	0.22220367	2.6996154	20	8 21.9	20.2
346701 2008 YM_{144}	16.7	X	239.06786	66.75710	296.48188	7.93325	0.0949366	0.20417150	2.8563141	20	5 7.8	21.1
346702 2008 YB_{151}	16.8	X	137.82885	311.12979	122.42797	2.47428	0.1028794	0.19843550	2.9110956	20	4 22.9	21.1
346703 2008 YE_{155}	16.3	X	299.02574	292.86581	301.65316	11.29705	0.1287930	0.18199900	3.0838273	20	2 6.2	20.7
346704 2008 YD_{156}	16.9	X	172.01197	160.57914	325.22069	4.14145	0.0565549	0.21484003	2.7609545	20	8 3.6	20.8
346705 2008 YA_{159}	16.6	X	36.34593	145.92822	5.22229	0.53834	0.1979967	0.18010636	3.1053939	20	3 28.8	20.0
346706 2008 YO_{159}	16.2	X	36.06958	97.91471	71.60946	2.60564	0.1235342	0.18091610	3.0961209	20	4 15.6	19.9
346707 2008 YU_{159}	16.6	X	231.72203	88.42787	34.35425	13.52312	0.2503466	0.22805334	2.6532515	20	9 22.5	20.8
346708 2008 YT_{162}	17.0	X	265.73328	183.89107	199.50428	2.62225	0.0919609	0.21811641	2.7332361	20	7 8.7	20.8
346709 2008 YL_{165}	17.0	X	169.36779	214.08006	219.52227	1.26147	0.0908615	0.20394226	2.8584542	20	5 24.7	21.3
346710 2008 YZ_{166}	15.8	X	281.13805	103.35676	299.38633	21.20304	0.0773415	0.22674072	2.6634816	20	8 20.9	19.5
346711 2008 YB_{167}	16.3	X	247.47880	352.81517	93.41884	12.20955	0.1568503	0.22838308	2.6506971	20	9 4.6	20.2
346712 2008 YC_{169}	16.6	X	164.01195	16.90049	83.74449	5.55437	0.0272440	0.21063819	2.7975507	20	6 20.8	20.3
346713 2008 YK_{169}	16.4	X	247.52912	299.34898	93.58060	5.53498	0.0777580	0.21203914	2.7852148	20	6 30.2	20.1
346714 2008 YU_{169}	15.8	X	346.38552	53.51466	132.82797	10.88081	0.0140045	0.18076826	3.0978087	20	2 25.2	20.1
346715 2008 YN_{172}	16.8	X	254.21525	293.48081	158.44944	12.33186	0.2588824	0.23521869	2.5990911	20	9 1.1	20.3
346716 2009 AW	17.0	X	223.42859	181.41116	292.39748	13.24211	0.2283218	0.22709980	2.6606733	20	8 25.3	21.5
346717 2009 AB_{1}	16.9	X	302.71061	251.88439	181.82178	5.22425	0.1391280	0.24398403	2.5364625	20	11 15.3	19.5
346718 2009 AL_{6}	17.1	X	6.15749	163.53051	52.80990	2.82484	0.0116067	0.19986528	2.8971955	20	4 25.8	21.0
346719 2009 AO_{12}	16.7	X	352.75446	79.77902	103.33121	2.39124	0.1440091	0.18385350	3.0630549	20	2 18.5	20.3
346720 2009 AX_{14}	16.8	X	251.27489	265.37694	116.39580	3.22300	0.2617774	0.21597751	2.7512519	20	5 29.5	21.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346721 2009 AP_{15}	16.3	X	291.08475	309.96254	104.57384	10.97275	0.1237944	0.23644478	2.5900982	20	10 2.4	19.4
346722 2009 AH_{17}	17.1	X	248.50535	60.22467	0.59798	2.51958	0.1843417	0.22313545	2.6920947	20	7 25.2	21.0
346723 2009 AJ_{17}	17.0	X	307.36226	240.32058	132.27603	14.19450	0.2786584	0.22869676	2.6482727	20	7 30.2	19.2
346724 2009 AT_{18}	15.7	X	131.18828	288.47853	107.20496	12.16732	0.1643471	0.19144580	2.9815275	20	3 11.1	20.4
346725 2009 AU_{21}	16.2	X	267.11677	77.83885	283.04060	10.40389	0.1315680	0.21446443	2.7641771	20	6 4.4	20.1
346726 2009 AN_{22}	16.9	X	256.61183	185.66682	181.31298	2.26468	0.1007852	0.21271139	2.7793435	20	6 4.3	20.8
346727 2009 AU_{23}	16.4	X	109.07736	35.06237	112.16062	16.15367	0.0862236	0.20559448	2.8431193	20	6 21.4	20.5
346728 2009 AZ_{25}	17.2	X	144.76093	192.16367	261.36775	0.96278	0.0275299	0.20251231	2.8718942	20	5 18.3	21.3
346729 2009 AK_{26}	16.8	X	12.61480	84.04371	108.38898	3.50794	0.0529480	0.19241772	2.9714791	20	4 5.7	20.6
346730 2009 AA_{27}	16.9	X	142.45276	165.80479	281.17925	1.25583	0.0619981	0.20026917	2.8932990	20	5 9.9	21.2
346731 2009 AY_{30}	16.8	X	112.10940	8.97515	121.72750	3.05869	0.0071128	0.20322692	2.8651579	20	5 23.6	20.7
346732 2009 AX_{33}	16.6	X	308.19271	243.06542	92.04736	6.58914	0.0756067	0.21272872	2.7791925	20	7 6.7	20.1
346733 2009 AH_{46}	16.4	X	228.47894	300.13280	117.88706	7.10427	0.0368526	0.21417783	2.7666425	20	7 14.8	20.2
346734 2009 AM_{49}	16.3	X	144.49068	315.68212	222.52950	5.19158	0.0648957	0.21991089	2.7183470	20	9 6.8	20.4
346735 2009 AV_{50}	16.3	X	43.67153	65.82192	131.64283	3.26491	0.0994927	0.19585994	2.9365606	20	5 31.6	19.9
346736 2009 BQ_{3}	16.0	X	121.59509	202.04048	230.90080	8.34494	0.0776035	0.19334340	2.9619870	20	3 28.9	20.4
346737 2009 BX_{3}	16.0	X	43.17749	353.97813	158.96478	9.75982	0.1179154	0.19027471	2.9937487	20	4 5.3	19.7
346738 2009 BA_{4}	16.3	X	256.55207	177.35541	263.77307	11.02803	0.1300428	0.22809903	2.6528972	20	9 1.8	20.1
346739 2009 BE_{5}	16.6	X	307.19205	296.06889	113.95719	18.14052	0.1831457	0.23700715	2.5859994	20	10 23.6	19.6
346740 2009 BX_{5}	17.2	X	265.77176	74.36030	0.20083	1.90569	0.1963526	0.23048538	2.6345541	20	9 2.0	20.5
346741 2009 BP_{7}	16.4	X	306.47205	186.79977	234.07376	3.33169	0.3062435	0.23819869	2.5773682	20	10 12.5	18.0
346742 2009 BL_{8}	16.9	X	307.93652	248.48088	157.26132	3.32544	0.2607756	0.23690081	2.5867732	20	9 29.6	18.6
346743 2009 BJ_{12}	16.8	X	243.07527	285.35911	126.05033	5.40907	0.0772013	0.21805037	2.7337879	20	7 19.4	20.7
346744 2009 BS_{14}	16.4	X	179.78762	89.96011	63.02267	15.40368	0.1047973	0.23686056	2.5870663	20	9 25.6	20.6
346745 2009 BD_{15}	17.5	X	224.22487	244.03784	183.18749	0.83863	0.0762160	0.21616275	2.7496799	20	7 17.2	21.5
346746 2009 BG_{16}	17.1	X	303.01846	149.67836	151.07542	2.49424	0.0415921	0.20376481	2.8601134	20	5 18.3	20.9
346747 2009 BX_{16}	15.6	X	356.36899	36.99257	136.61384	11.39338	0.1551030	0.17689835	3.1428250	20	2 12.2	19.1
346748 2009 BF_{17}	17.3	X	198.74060	203.24067	201.71081	1.52343	0.0747044	0.20605470	2.8388843	20	5 20.3	21.6
346749 2009 BX_{18}	16.8	X	202.88027	255.54166	135.33881	2.84185	0.0738548	0.20467677	2.8516115	20	5 7.8	21.1
346750 2009 BM_{23}	16.3	X	244.48765	343.60954	79.32467	6.04057	0.0466241	0.21564053	2.7541174	20	8 12.1	20.1
346751 2009 BR_{27}	16.5	X	18.56020	261.89896	1.74314	3.31143	0.0409964	0.21017892	2.8016247	20	7 17.6	20.1
346752 2009 BS_{28}	17.5	X	230.76039	344.93290	64.28751	1.39385	0.0721730	0.21280364	2.7785401	20	7 1.9	21.3
346753 2009 BX_{31}	17.0	X	201.45821	329.52026	77.26115	2.63654	0.1017984	0.20480956	2.8503787	20	5 24.5	21.3
346754 2009 BW_{34}	16.5	X	94.88200	21.96722	79.47101	4.00157	0.0819535	0.19016003	2.9949522	20	4 6.5	20.6
346755 2009 BF_{35}	16.2	X	263.66958	196.76748	72.42964	3.73106	0.1212978	0.18042682	3.1017157	20	2 12.3	20.8
346756 2009 BX_{37}	17.0	X	191.56246	336.98529	90.43160	3.21636	0.0408593	0.20435230	2.8546292	20	6 10.9	20.9
346757 2009 BD_{41}	17.2	X	252.12788	336.63954	84.05505	3.57750	0.1849887	0.22017362	2.7161841	20	7 29.0	21.2
346758 2009 BY_{43}	16.6	X	326.41299	97.20156	153.60476	3.10876	0.0715345	0.18956194	3.0012485	20	4 12.8	20.4
346759 2009 BV_{46}	15.8	X	84.10311	168.65230	311.09374	9.00334	0.0620437	0.18857979	3.0116601	20	4 6.4	20.1
346760 2009 BB_{55}	16.4	X	167.52797	286.14754	90.86218	2.88411	0.0833723	0.18808200	3.0169717	20	3 15.8	20.9
346761 2009 BH_{57}	16.7	X	302.21256	171.47247	77.66136	1.94985	0.1272114	0.18444740	3.0564762	20	3 1.3	21.0
346762 2009 BG_{62}	15.9	X	242.86107	108.64136	334.76979	21.33578	0.1658333	0.21855791	2.7295541	20	8 20.9	19.8
346763 2009 BZ_{73}	17.0	X	283.90290	39.87131	23.58584	7.71969	0.3785123	0.23586441	2.5943453	20	8 17.2	20.2
346764 2009 BE_{74}	16.1	X	45.62632	220.57691	341.24847	8.11049	0.0505643	0.20048913	2.8911824	20	6 1.2	20.0
346765 2009 BF_{74}	17.0	X	197.63100	138.72358	332.41108	8.79852	0.2292231	0.21847642	2.7302327	20	8 5.5	21.7
346766 2009 BN_{74}	15.9	X	226.87303	299.90373	140.26046	25.88189	0.1449141	0.22057686	2.7128727	20	7 29.9	20.2
346767 2009 BS_{74}	16.8	X	276.04246	23.66763	3.84868	6.08376	0.0412147	0.21901587	2.7257477	20	8 8.2	20.5
346768 2009 BQ_{79}	16.2	X	188.81291	22.89859	89.16122	7.37391	0.0539116	0.21635201	2.7480762	20	8 6.9	20.2
346769 2009 BY_{84}	16.3	X	231.62231	150.91036	139.10118	11.20416	0.1245808	0.18011974	3.1052400	20	2 3.6	21.1
346770 2009 BE_{85}	16.7	X	189.83621	155.51294	290.93322	5.32013	0.0324840	0.20928922	2.8095589	20	7 4.3	20.6
346771 2009 BH_{85}	16.7	X	308.96154	281.58018	136.47927	12.69214	0.2895654	0.23819836	2.5773706	20	10 26.0	18.7
346772 2009 BR_{86}	16.6	X	193.05104	303.90385	130.07520	5.73593	0.1405701	0.20883924	2.8135932	20	6 18.1	21.2
346773 2009 BP_{93}	16.8	X	264.46651	238.91703	153.79827	4.40858	0.1057911	0.21458157	2.7631710	20	7 17.2	20.6
346774 2009 BS_{95}	16.8	X	161.32663	332.09041	97.54445	3.23709	0.0685076	0.20159244	2.8806239	20	5 10.9	21.2
346775 2009 BT_{95}	17.0	X	96.34438	90.20345	74.08654	2.14880	0.0474459	0.20615041	2.8380056	20	6 21.6	20.8
346776 2009 BX_{99}	16.3	X	105.61974	93.28542	348.38807	5.46189	0.2639301	0.19094902	2.9866965	20	4 14.5	20.9
346777 2009 BL_{111}	16.8	X	191.15768	164.11744	297.14912	2.44954	0.1559010	0.21614286	2.7498486	20	7 20.1	21.0
346778 2009 BP_{113}	15.3	X	289.89868	115.09702	127.39866	22.67506	0.1525862	0.17942992	3.1131936	20	2 4.2	19.7
346779 2009 BU_{114}	16.8	X	225.21894	69.41755	350.74863	5.83349	0.0747058	0.21163710	2.7887410	20	7 10.3	20.8
346780 2009 BY_{120}	15.5	X	208.11670	14.00094	308.47724	10.16935	0.0766043	0.18077980	3.0976768	20	2 18.5	20.3
346781 2009 BW_{122}	16.8	X	130.81291	303.48885	149.89229	6.19654	0.0332586	0.19354284	2.9599518	20	5 4.0	21.0
346782 2009 BC_{123}	16.1	X	351.02087	252.79341	283.11576	3.23556	0.0753368	0.17829815	3.1263540	20	2 11.8	20.0
346783 2009 BU_{128}	16.3	X	103.01048	91.90357	67.67847	5.96557	0.0591511	0.20100013	2.8862802	20	6 25.3	20.3
346784 2009 BQ_{130}	16.3	X	96.68147	86.61535	6.67359	9.14867	0.0428257	0.18350526	3.0669289	20	3 23.0	20.4
346785 2009 BX_{132}	16.1	X	203.02288	45.22941	69.30570	14.07047	0.0954974	0.21862290	2.7290130	20	8 28.9	20.4
346786 2009 BQ_{138}	16.6	X	214.73625	353.49324	135.80282	15.57881	0.1134230	0.22530302	2.6748004	20	9 26.8	20.7
346787 2009 BV_{141}	16.4	X	270.43202	221.46382	104.16023	3.27316	0.0556710	0.19788508	2.9164913	20	5 6.0	20.4
346788 2009 BZ_{144}	15.5	X	287.50106	104.49748	130.74494	10.21005	0.0138643	0.17892063	3.1190986	20	2 11.6	19.8
346789 2009 BC_{145}	17.0	X	176.16760	116.52238	338.34431	3.32630	0.0384552	0.20607595	2.8386892	20	6 28.5	21.1
346790 2009 BJ_{146}	16.2	X	151.28162	104.99746	322.61623	8.96192	0.0604050	0.19022091	2.9943131	20	4 21.9	20.7
346791 2009 BV_{149}	17.0	X	252.72442	270.67502	154.67976	9.61100	0.2283391	0.21995798	2.7179590	20	7 28.2	21.1
346792 2009 BG_{153}	17.0	X	252.26688	344.23326	55.70167	0.79791	0.0728561	0.21466597	2.7624467	20	7 16.5	20.8
346793 2009 BF_{155}	17.7	X	224.87511	355.73588	65.94746	2.90040	0.2159172	0.21544145	2.7558138	20	6 27.9	22.2
346794 2009 BC_{157}	17.0	X	222.14810	285.74221	150.73659	3.61176	0.1651260	0.21289259	2.7777662	20	7 17.7	21.4
346795 2009 BV_{157}	16.5	X	290.87490	131.16838	138.57340	3.42347	0.0387081	0.18365837	3.0652241	20	3 25.5	20.7
346796 2009 BX_{158}	16.3	X	358.95040	2.22138	160.72498	9.22135	0.0284989	0.17504270	3.1649975	20	2 10.1	20.8
346797 2009 BJ_{173}	16.9	X	246.69082	282.04191	108.38023	1.85805	0.0790092	0.20918688	2.8104752	20	6 25.5	20.8
346798 2009 BM_{174}	15.8	X	208.45656	274.80519	330.18652	9.27235	0.0282981	0.15776503	3.3920498	20	—	—
346799 2009 BQ_{174}	16.7	X	38.20550	135.02735	14.84698	0.93365	0.0730295	0.18205485	3.0831966	20	3 19.2	20.7
346800 2009 BE_{175}	15.7	X	18.61690	88.04981	110.37554	11.54629	0.0322914	0.18956531	3.0012129	20	4 25.4	19.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346801 2009 BP_{176}	16.5	X	288.35064	92.68920	160.52297	8.49962	0.0118920	0.17962238	3.1109695	20	3 5.2	20.8
346802 2009 BZ_{177}	16.5	X	110.64481	282.17623	177.02649	4.62043	0.1379912	0.18863069	3.0111183	20	4 29.5	21.0
346803 2009 BK_{181}	16.3	X	192.65081	331.86977	135.84218	13.61066	0.0641358	0.21678204	2.7444407	20	8 3.2	20.2
346804 2009 BF_{183}	15.9	X	308.67260	349.57085	110.64366	16.95651	0.1839930	0.23793892	2.5792438	20	12 31.5	18.2
346805 2009 CH_{2}	16.7	X	128.21528	56.84176	334.32934	9.09561	0.3023072	0.18871445	3.0102272	20	3 9.9	21.8
346806 2009 CL_{15}	16.0	X	359.85839	47.51644	122.68542	6.35091	0.1066614	0.18008621	3.1056254	20	2 17.2	19.8
346807 2009 CZ_{19}	16.0	X	148.83068	278.26161	99.00801	11.75905	0.2355828	0.17984077	3.1084504	20	3 12.2	21.4
346808 2009 CK_{30}	17.0	X	290.17639	326.48935	93.16575	3.24013	0.0658293	0.22425348	2.6831395	20	10 8.3	20.2
346809 2009 CD_{35}	16.3	X	219.40772	337.35388	344.32130	8.89404	0.0918060	0.18652118	3.0337791	20	3 1.2	21.0
346810 2009 CD_{40}	16.2	X	177.60916	16.85295	87.63219	10.42549	0.1132533	0.20906077	2.8116053	20	7 12.0	20.5
346811 2009 CF_{40}	16.4	X	204.46299	3.18357	105.06680	9.60847	0.1445756	0.21806664	2.7336520	20	8 13.6	20.7
346812 2009 CK_{40}	16.1	X	162.27798	86.06216	335.82953	9.52904	0.0273525	0.19762580	2.9190416	20	4 25.0	20.4
346813 2009 CN_{40}	16.9	X	200.73519	98.66009	337.37082	3.66661	0.0391244	0.20994102	2.8037407	20	7 4.0	20.8
346814 2009 CG_{49}	16.5	X	132.84378	359.34311	141.47980	4.75056	0.0454737	0.20886844	2.8133310	20	7 6.1	20.5
346815 2009 CE_{50}	17.1	X	315.98448	72.60298	349.03655	3.95543	0.3031595	0.23898811	2.5716895	20	11 15.5	18.5
346816 2009 CV_{51}	16.6	X	87.25583	339.97157	135.25511	3.02653	0.1400595	0.19111212	2.9849969	20	4 22.2	20.6
346817 2009 CG_{53}	15.7	X	335.48830	114.33314	63.86345	9.22392	0.1073666	0.17312027	3.1883850	20	1 24.1	19.9
346818 2009 CO_{57}	17.1	X	177.69570	166.68738	286.80598	0.89541	0.0217160	0.20599334	2.8394481	20	6 28.4	21.1
346819 2009 CQ_{57}	16.6	X	284.70069	211.50842	115.52849	2.56430	0.0175360	0.19963526	2.8994206	20	5 31.5	20.4
346820 2009 CA_{59}	16.4	X	293.16756	291.17808	303.94331	5.15029	0.0871297	0.17906913	3.1173739	20	2 7.1	20.8
346821 2009 CD_{60}	15.8	X	94.94532	174.22836	302.27488	10.24336	0.0775483	0.19110082	2.9851147	20	4 18.0	20.2
346822 2009 CO_{62}	16.7	X	356.86569	146.04897	39.76732	1.23046	0.1131124	0.17942145	3.1132916	20	3 2.6	20.3
346823 2009 CD_{64}	16.1	X	336.66319	162.15346	1.29109	9.76994	0.0795836	0.17022590	3.2244251	20	1 11.8	20.6
346824 2009 CZ_{64}	16.1	X	95.66479	318.63780	157.17971	11.23496	0.0507015	0.19261843	2.9694145	20	4 22.6	20.4
346825 2009 CM_{65}	16.2	X	203.80032	346.15357	347.84358	8.26261	0.1264912	0.18169295	3.0872893	20	2 29.6	21.2
346826 2009 DT_{1}	15.9	X	290.54095	311.17917	293.99678	9.81330	0.1014408	0.18118182	3.0930929	20	2 11.9	20.3
346827 2009 DL_{3}	16.4	X	288.27630	144.78101	322.24637	11.48212	0.2223524	0.23785669	2.5798382	20	11 18.9	19.1
346828 2009 DW_{3}	16.1	X	199.35773	329.08659	125.31520	9.66153	0.1652599	0.21232170	2.7827432	20	7 18.4	20.7
346829 2009 DT_{4}	15.4	X	34.90460	175.41457	344.11010	12.63486	0.1721584	0.18286440	3.0740902	20	3 30.2	19.0
346830 2009 DY_{9}	15.8	X	64.44463	134.00435	37.57200	10.00013	0.2732182	0.18803779	3.0174445	20	6 22.8	19.9
346831 2009 DE_{12}	16.3	X	189.09374	178.66048	137.44838	3.42875	0.0227563	0.17380358	3.1800228	20	1 24.2	20.8
346832 2009 DS_{12}	15.8	X	34.42156	179.16806	338.09259	15.72989	0.2066545	0.18141364	3.0904574	20	3 27.6	19.3
346833 2009 DT_{15}	17.0	X	334.60061	295.81850	119.58871	2.67552	0.2234064	0.23991451	2.5650650	20	12 25.8	19.2
346834 2009 DM_{16}	16.4	X	176.69875	81.97715	11.74347	1.82465	0.0304286	0.20432744	2.8548607	20	6 27.5	20.5
346835 2009 DH_{27}	15.8	X	140.45287	217.56120	151.98703	9.85809	0.0883760	0.17521765	3.1628904	20	2 7.4	20.5
346836 2009 DQ_{35}	15.9	X	64.95060	98.90409	4.97526	10.04604	0.2328371	0.17777113	3.1325299	20	3 22.0	19.5
346837 2009 DD_{44}	15.9	X	47.83732	148.47599	328.59414	8.17070	0.0135231	0.17785182	3.1315824	20	2 16.7	20.2
346838 2009 DB_{50}	16.0	X	4.85176	12.10276	140.17209	2.83282	0.0979195	0.17023848	3.2242663	20	2 3.3	19.9
346839 2009 DW_{51}	16.2	X	136.36527	243.19090	137.16664	10.05736	0.2143213	0.18563794	3.0433943	20	2 28.8	21.1
346840 2009 DM_{57}	16.1	X	148.45415	54.79894	356.25981	10.12140	0.1089671	0.18619010	3.0373743	20	4 4.4	20.8
346841 2009 DD_{77}	16.5	X	356.78382	89.21365	102.94247	2.83941	0.0697203	0.18288657	3.0738417	20	3 13.5	20.4
346842 2009 DW_{88}	17.3	X	225.08742	282.56122	185.25788	4.85221	0.2401182	0.22287761	2.6941706	20	8 22.2	21.6
346843 2009 DZ_{92}	15.5	X	352.97474	169.59032	17.09242	15.26702	0.0444884	0.17537944	3.1609449	20	3 7.9	19.9
346844 2009 DP_{95}	15.8	X	341.10708	251.79128	351.51602	10.11904	0.0285293	0.19273526	2.9682144	20	4 22.4	19.9
346845 2009 DA_{96}	15.6	X	311.28027	231.69024	355.48852	11.28909	0.0270916	0.18074708	3.0980507	20	3 1.2	20.0
346846 2009 DB_{110}	15.9	X	62.84147	234.24600	283.22847	10.22158	0.0752179	0.19022487	2.9942716	20	4 29.4	20.1
346847 2009 DC_{115}	16.8	X	63.37386	340.75666	162.07654	2.78265	0.1307587	0.18812900	3.0164691	20	4 23.4	20.6
346848 2009 DS_{116}	15.9	X	285.69736	249.85406	354.81275	4.66699	0.1288555	0.17265003	3.1941719	20	2 6.9	20.5
346849 2009 DU_{116}	16.9	X	128.33449	353.42711	97.23339	1.06478	0.1510309	0.19190293	2.9767908	20	5 8.1	21.5
346850 2009 DY_{119}	16.1	X	101.70858	71.60720	346.90800	9.93101	0.1495669	0.17670890	3.1450708	20	3 2.3	20.4
346851 2009 DO_{122}	16.4	X	127.73800	61.61124	2.49447	10.16444	0.1401202	0.18290951	3.0735848	20	4 2.8	21.0
346852 2009 DD_{124}	16.8	X	118.80290	200.02034	299.26059	1.02100	0.0514008	0.19686446	2.9265627	20	6 17.3	21.0
346853 2009 DU_{128}	15.6	X	13.77328	111.10242	53.30635	11.70022	0.0784736	0.17725738	3.1385797	20	3 8.8	19.8
346854 2009 DW_{132}	16.6	X	218.83033	203.90572	167.23056	2.10330	0.1250842	0.19436270	2.9516222	20	4 27.3	21.2
346855 2009 EJ	16.2	X	37.85252	28.89561	106.11824	2.47720	0.1580548	0.18016895	3.1046746	20	3 7.4	19.7
346856 2009 EZ_{14}	16.3	X	106.58438	84.86122	353.12941	8.23983	0.0739458	0.18250830	3.0780875	20	3 19.7	20.7
346857 2009 EF_{16}	15.9	X	139.10722	356.25891	4.32602	7.90354	0.0425354	0.16933198	3.2357631	20	1 25.2	20.6
346858 2009 EN_{19}	16.3	X	338.18601	279.64763	275.19148	0.20732	0.0767949	0.17907697	3.1172829	20	2 17.9	20.4
346859 2009 ET_{21}	16.4	X	40.89149	71.11626	84.34258	4.81491	0.0782235	0.18379649	3.0636883	20	4 1.9	20.3
346860 2009 EF_{23}	15.9	X	65.30653	304.05377	189.54567	17.65950	0.1622843	0.18099039	3.0952736	20	4 20.1	19.9
346861 2009 EQ_{23}	15.0	X	231.52377	179.80709	120.30976	16.61692	0.0555925	0.17381003	3.1799441	20	2 22.9	19.8
346862 2009 EY_{26}	16.1	X	1.50500	217.69326	296.01029	3.65786	0.0792140	0.17036577	3.2226600	20	1 31.9	20.4
346863 2009 EA_{30}	15.8	X	220.32283	352.95144	53.76712	8.25264	0.0622882	0.20023200	2.8936571	20	6 16.2	20.1
346864 2009 EP_{30}	15.9	X	129.23943	60.08365	28.75775	10.46462	0.0854125	0.18442821	3.0566883	20	4 29.2	20.5
346865 2009 FJ_{3}	16.2	X	301.17196	225.00465	60.52798	9.73033	0.0565935	0.19215632	2.9741733	20	4 25.8	20.2
346866 2009 FX_{14}	15.8	X	348.68555	341.49695	167.69275	15.00091	0.1020482	0.17036886	3.2226211	20	1 5.8	20.2
346867 2009 FZ_{15}	16.1	X	97.68304	34.49183	60.20060	7.22396	0.0690413	0.17828664	3.1264886	20	4 1.9	20.5
346868 2009 FC_{19}	16.9	X	34.09201	29.56008	133.69831	2.42989	0.0419282	0.18132034	3.0915174	20	3 29.3	21.0
346869 2009 FT_{24}	15.8	X	355.26414	38.73243	143.68800	6.87334	0.1100830	0.17399258	3.1777195	20	2 25.8	19.7
346870 2009 FW_{24}	15.9	X	101.30576	223.27630	21.08346	13.36032	0.1028838	0.21728689	2.7401880	20	10 16.8	20.0
346871 2009 FB_{26}	16.2	X	337.10166	219.77679	331.85297	15.38759	0.1622596	0.17789235	3.1311067	20	2 5.0	20.1
346872 2009 FW_{46}	16.3	X	42.60241	71.02114	42.29236	1.92386	0.1654575	0.17277782	3.1925966	20	2 18.0	20.0
346873 2009 FN_{47}	16.0	X	344.64675	141.27214	70.67968	8.80789	0.0801031	0.17782706	3.1318730	20	3 24.2	20.1
346874 2009 FR_{49}	16.0	X	47.27866	346.57614	130.89583	5.91842	0.1134522	0.17512392	3.1640189	20	2 25.9	19.9
346875 2009 FD_{50}	15.6	X	16.45678	117.14564	39.79677	16.63608	0.0424902	0.17294192	3.1905768	20	3 6.4	20.2
346876 2009 FY_{60}	17.6	X	216.65444	315.02686	154.56666	1.53500	0.2751761	0.21743017	2.7389841	20	8 14.8	22.2
346877 2009 FG_{64}	16.2	X	123.42779	49.52825	34.24406	5.38192	0.1914570	0.18370515	3.0647037	20	4 28.4	21.0
346878 2009 FD_{65}	16.4	X	27.10969	176.97187	330.53230	0.47110	0.1201494	0.17694860	3.1422299	20	3 2.2	19.9
346879 2009 HM_{26}	16.5	X	21.12811	103.50909	50.27889	4.28770	0.0810354	0.17054840	3.2203589	20	3 2.9	20.6
346880 2009 HM_{29}	16.3	X	241.31947	72.45194	51.06060	13.35765	0.2172568	0.22456530	2.6806551	20	10 7.3	20.3

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346881 2009 HP_{29}	16.5	X	123.50422	47.98538	66.43587	9.86295	0.1812457	0.19230147	2.9726765	20	6 3.9	21.1
346882 2009 HV_{29}	15.7	X	95.57047	55.40752	60.40532	10.00847	0.0499144	0.18272391	3.0756657	20	4 22.2	20.0
346883 2009 JH_{4}	13.4	X	279.01947	74.65303	243.50288	16.35537	0.0532195	0.08536566	5.1083492	20	5 9.1	20.3
346884 2009 JX_{12}	15.3	X	274.69948	175.16434	43.99684	17.45668	0.1321653	0.15597224	3.4179931	20	—	—
346885 2009 JN_{17}	12.9	X	293.40912	170.08039	137.98586	22.53252	0.1442458	0.08320360	5.1964645	20	5 10.3	19.9
346886 Middelburg	18.1	X	350.11743	106.24309	238.65906	19.45885	0.1024063	0.37477823	1.9052551	20	11 5.8	19.6
346887 2009 OU_{23}	15.5	X	261.98293	193.57735	226.69775	11.00158	0.1272596	0.17598231	3.1537217	20	8 8.9	20.3
346888 2009 PB_{10}	17.5	X	337.20460	63.90340	323.24448	20.11934	0.0815752	0.37330548	1.9102629	20	12 22.7	19.6
346889 Rhiphonos	11.8	X	104.68770	13.07690	11.46626	19.92392	0.4434577	0.02792811	10.7590771	20	3 12.8	23.0
346890 2009 RP_{30}	17.4	X	108.39023	63.52607	206.62005	6.08836	0.1281396	0.28239977	2.3008757	20	12 8.7	20.8
346891 2009 RO_{39}	17.6	X	129.80857	33.55294	284.74526	4.47007	0.2245861	0.30181118	2.2011307	20	—	—
346892 2009 RY_{42}	18.2	X	59.38233	205.45212	213.33999	5.56527	0.2729059	0.29961214	2.2118879	20	—	—
346893 2009 RT_{43}	18.0	X	68.27756	154.80357	220.81258	4.96531	0.1422144	0.29527590	2.2334902	20	—	—
346894 2009 RG_{54}	18.1	X	110.54335	240.65521	50.08198	4.02419	0.1812156	0.28705470	2.2759337	20	—	—
346895 2009 SN_{38}	17.4	X	115.20660	304.66812	330.97102	1.56718	0.1048779	0.28314734	2.2968241	20	12 21.8	20.7
346896 2009 SL_{98}	17.6	X	29.41378	207.21365	196.84767	6.56811	0.0976389	0.29270857	2.2465310	20	—	—
346897 2009 SJ_{104}	17.5	X	330.36422	194.71113	218.94465	21.54249	0.0645971	0.37317525	1.9107073	20	—	—
346898 2009 SC_{126}	17.6	X	110.95425	309.47002	322.29422	3.29273	0.1222913	0.28210005	2.3025052	20	12 12.5	21.0
346899 2009 ST_{360}	16.9	X	54.85193	31.09902	29.52976	15.21432	0.0888406	0.20868922	2.8149415	20	—	—
346900 2009 TD_{38}	17.0	X	310.89788	138.60712	276.27035	5.46711	0.1012440	0.26974477	2.3722877	20	11 9.6	19.3
346901 2009 TH_{44}	18.1	X	222.80824	233.07886	41.67726	6.98598	0.1041685	0.30406728	2.1902293	20	—	—
346902 2009 UJ_{1}	17.3	X	10.06604	56.50940	236.38950	19.29544	0.0535576	0.35301911	1.9827619	20	8 22.8	19.8
346903 2009 UG_{13}	17.7	X	258.78480	26.79724	68.56614	23.46607	0.0680205	0.35745151	1.9663370	20	11 14.3	19.5
346904 2009 UR_{88}	16.9	X	332.18695	137.67704	259.43709	6.67280	0.1014991	0.27110388	2.3643525	20	11 23.5	19.3
346905 2009 UY_{144}	17.3	X	271.55194	208.70104	212.90176	20.32868	0.0871623	0.35754736	1.9659856	20	9 30.0	19.0
346906 2009 VD_{21}	17.2	X	19.89938	340.89255	74.22616	7.28066	0.0856791	0.28510423	2.2863020	20	—	—
346907 2009 VH_{48}	17.8	X	142.52640	82.15313	209.88921	7.02530	0.1400801	0.28813547	2.2702389	20	—	—
346908 2009 VW_{79}	17.6	X	77.14006	331.96063	33.17120	10.62592	0.2435772	0.29208184	2.2497435	20	—	—
346909 2009 WR_{41}	18.1	X	113.99136	125.92083	262.83899	5.49873	0.0798557	0.30088272	2.2056565	20	1 9.4	20.5
346910 2009 WW_{50}	18.0	X	65.04123	180.18968	294.19935	1.28418	0.0462780	0.31089632	2.1580375	20	2 20.4	20.3
346911 2009 WF_{76}	17.8	X	224.03005	177.18033	91.41951	6.33477	0.0689570	0.29901509	2.2148312	20	—	—
346912 2009 WR_{83}	17.7	X	356.58658	120.82505	283.95430	5.09202	0.1637881	0.27749912	2.3278857	20	—	—
346913 2009 WQ_{87}	17.2	X	274.91446	182.23680	38.23202	6.98614	0.1073158	0.29763428	2.2216762	20	—	—
346914 2009 WR_{94}	17.4	X	85.10116	253.83411	84.58567	6.90319	0.2149910	0.29071452	2.2567922	20	—	—
346915 2009 WY_{125}	17.8	X	170.03250	125.68949	230.87974	4.26628	0.1095517	0.31005951	2.1619187	20	2 7.8	20.8
346916 2009 WD_{204}	17.5	X	82.86718	270.35926	79.86631	7.57171	0.1403895	0.28470686	2.2884289	20	—	—
346917 2009 WO_{262}	17.7	X	27.23880	242.22259	137.25092	2.65448	0.2299516	0.27968147	2.3157602	20	—	—
346918 2009 XF_{18}	17.4	X	2.00493	183.74370	301.24088	6.14615	0.0397849	0.28783674	2.2718094	20	—	—
346919 2009 XO_{20}	16.9	X	335.08020	234.44183	273.49475	5.79822	0.0380465	0.28776368	2.2721939	20	—	—
346920 2009 XL_{21}	17.7	X	105.93854	107.30958	275.46530	6.03722	0.1556265	0.29506474	2.2345556	20	1 2.9	19.7
346921 2009 XM_{21}	16.4	X	97.90911	358.91855	101.67889	5.49181	0.0250687	0.21410146	2.7673003	20	3 31.2	20.2
346922 2009 YV_{4}	17.4	X	327.31658	95.33584	80.89336	5.46203	0.0739855	0.29003958	2.2602919	20	—	—
346923 2009 YT_{20}	17.0	X	166.86899	180.27302	80.52907	6.96567	0.0743036	0.27220715	2.3579596	20	—	—
346924 2009 YR_{22}	18.4	X	353.53578	154.80372	346.05138	2.77151	0.1394399	0.28936575	2.2637995	20	—	—
346925 2009 YH_{25}	17.4	X	236.04943	51.67524	134.45871	5.47879	0.1619688	0.26612261	2.3937651	20	—	—
346926 2010 AS_{2}	17.9	X	85.07373	106.33596	326.48347	4.01919	0.1241331	0.29819384	2.2188960	20	2 5.4	19.9
346927 2010 AG_{28}	17.3	X	336.12461	64.41060	87.91556	6.44822	0.0512762	0.28929031	2.2641931	20	—	—
346928 2010 AX_{30}	17.6	X	246.00094	128.11361	48.11563	1.30385	0.2223249	0.26327136	2.4110172	20	12 23.5	20.3
346929 2010 AN_{31}	17.2	X	291.45522	210.37393	313.50996	7.78940	0.0222316	0.27445388	2.3450735	20	—	—
346930 2010 AA_{35}	18.0	X	79.77176	269.52521	153.63173	3.23845	0.2046026	0.29491341	2.2353200	20	1 25.0	19.7
346931 2010 AR_{35}	16.7	X	105.67117	202.81204	145.68171	7.07585	0.2814011	0.28184639	2.3038864	20	—	—
346932 2010 AH_{36}	16.4	X	43.95894	352.37275	279.57398	7.12936	0.1007738	0.23765883	2.5812699	20	9 11.1	19.8
346933 2010 AS_{37}	17.1	X	46.38565	358.63184	108.15800	4.70504	0.0519272	0.29202936	2.2500131	20	1 14.9	19.3
346934 2010 AQ_{44}	17.2	X	221.70078	209.96055	100.69719	6.82828	0.1236248	0.30349129	2.1929996	20	2 6.9	20.3
346935 2010 AF_{47}	17.9	X	45.26217	160.87358	274.50460	4.35394	0.0974057	0.28749578	2.2736053	20	—	—
346936 2010 AJ_{47}	17.3	X	46.00789	250.26686	241.47032	3.26264	0.0655401	0.30025845	2.2087127	20	2 16.9	19.5
346937 2010 AE_{50}	16.9	X	139.40127	311.84163	233.75835	4.56753	0.0991184	0.23948498	2.5681311	20	9 14.1	20.8
346938 2010 AA_{51}	17.1	X	252.24265	313.92899	183.55849	6.49605	0.0782933	0.25896934	2.4376451	20	12 2.4	20.1
346939 2010 AT_{51}	17.3	X	239.26025	17.48665	149.71209	7.12914	0.0775243	0.26490382	2.4011018	20	12 24.8	20.3
346940 2010 AQ_{55}	18.1	X	322.76971	97.76816	25.49811	1.09248	0.1454185	0.27340447	2.3510704	20	—	—
346941 2010 AG_{59}	17.1	X	344.50580	127.79915	352.40389	6.37534	0.1196044	0.28124971	2.3071438	20	—	—
346942 2010 AU_{61}	17.8	X	238.76556	154.48435	355.96927	1.47420	0.1684004	0.25738977	2.4476080	20	11 14.9	21.0
346943 2010 AN_{67}	16.8	X	321.90481	301.99621	328.59545	3.47642	0.0501267	0.22601758	2.6691598	20	4 30.4	20.3
346944 2010 AH_{72}	17.4	X	5.93629	184.80059	321.34874	7.82796	0.1500108	0.29168764	2.2517700	20	—	—
346945 2010 AT_{74}	16.3	X	211.31949	256.68194	294.80144	13.79029	0.0863215	0.26103839	2.4247471	20	12 17.8	19.5
346946 2010 AF_{76}	17.2	X	55.68233	328.54888	122.32209	8.96214	0.0749376	0.29450368	2.2373928	20	1 7.0	19.4
346947 2010 AX_{76}	17.2	X	349.66029	197.34361	315.03663	6.48024	0.0443817	0.29191533	2.2505990	20	—	—
346948 2010 AJ_{81}	15.5	X	269.47650	195.48482	337.90554	13.73604	0.0982853	0.17653882	3.1470905	20	—	—
346949 2010 AJ_{87}	17.2	X	5.47624	246.13878	221.29258	9.15156	0.1654367	0.27463922	2.3440184	20	—	—
346950 2010 AG_{89}	16.6	X	20.75396	217.77897	14.14177	7.58598	0.0156972	0.21023303	2.8011439	20	6 3.4	20.4
346951 2010 AU_{90}	16.2	X	119.37366	303.32674	268.57966	12.03228	0.1070078	0.23036790	2.6354497	20	9 21.3	20.4
346952 2010 AQ_{94}	17.3	X	187.51654	194.85363	313.15410	11.07033	0.1021411	0.23447271	2.6046009	20	9 13.6	21.4
346953 2010 AB_{100}	15.7	X	226.89672	271.36086	51.16284	15.92488	0.2026960	0.18839281	3.0136525	20	3 11.9	21.0
346954 2010 AX_{105}	16.6	X	272.19797	215.90047	187.28122	10.59579	0.1102511	0.22809501	2.6529284	20	8 9.4	20.1
346955 2010 AO_{107}	16.7	X	174.27730	101.38559	72.28069	17.85905	0.1206578	0.23629780	2.5911722	20	10 15.6	21.0
346956 2010 AB_{113}	15.6	X	161.38642	155.97004	162.02236	19.57096	0.1463481	0.16924579	3.2368616	20	1 5.6	21.0
346957 2010 BJ_{4}	16.2	X	326.17748	266.94579	268.97859	20.00135	0.2661251	0.28446165	2.2897439	20	—	—
346958 2010 BX_{51}	15.6	X	208.72292	30.43690	269.72658	9.65232	0.1527815	0.17486902	3.1670928	20	1 24.0	20.8
346959 2010 BM_{54}	16.4	X	242.88511	210.26804	59.50580	4.96266	0.0866041	0.17772114	3.1331173	20	1 26.2	21.1
346960 2010 BJ_{78}	15.8	X	160.56643	244.89480	281.76029	21.33683	0.1021731	0.22835599	2.6509067	20	8 31.6	20.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
346961 2010 CU_1	17.7	X	128.09281	270.18419	138.34495	4.37907	0.3163243	0.30742147	2.1742689	20	3 28.0	21.0
346962 2010 CB_4	18.3	X	56.54305	281.68359	145.84703	2.55958	0.1581364	0.28546244	2.2843891	20	—	—
346963 2010 CN_4	17.4	X	341.47682	45.61229	118.60348	5.07327	0.1081038	0.28696361	2.2764153	20	—	—
346964 2010 CR_4	17.3	X	1.56261	155.39689	346.95246	4.00878	0.1540526	0.28735544	2.2743455	20	—	—
346965 2010 CS_4	17.4	X	266.91625	41.22814	120.65159	2.73347	0.1501817	0.26495893	2.4007688	20	—	—
346966 2010 CD_7	16.3	X	88.32751	121.61066	76.50871	8.72567	0.1563929	0.21389876	2.7690483	20	8 13.7	20.4
346967 2010 CP_8	16.2	X	156.14390	123.27207	83.28251	12.00909	0.1186352	0.23391220	2.6087601	20	11 2.3	20.4
346968 2010 CZ_{31}	17.3	X	169.32465	355.12877	150.78250	4.86405	0.1255225	0.23265615	2.6181409	20	8 26.7	21.4
346969 2010 CO_{32}	17.5	X	197.75832	175.83866	348.31609	6.94504	0.1815914	0.24347184	2.5400185	20	10 12.1	21.5
346970 2010 CU_{32}	17.8	X	297.55718	192.01408	352.37289	5.17087	0.1623278	0.27878197	2.3207388	20	—	—
346971 2010 CK_{33}	17.4	X	316.61934	109.94075	41.05764	3.24980	0.1272512	0.27709870	2.3301277	20	—	—
346972 2010 CA_{34}	16.6	X	312.80051	131.70904	161.91405	6.02621	0.0862498	0.21556828	2.7547328	20	5 17.4	20.1
346973 2010 CP_{34}	16.8	X	326.14158	235.99014	48.02209	5.10887	0.0757369	0.21414019	2.7669667	20	5 23.8	20.1
346974 2010 CC_{35}	17.3	X	59.23140	355.97765	65.66844	5.22257	0.1036147	0.28037098	2.3119619	20	—	—
346975 2010 CJ_{39}	16.8	X	11.66794	246.57601	151.67989	6.19786	0.1211781	0.26281303	2.4138195	20	—	—
346976 2010 CN_{62}	17.3	X	317.08222	82.71429	108.15928	5.88018	0.1180075	0.28520533	2.2857617	20	—	—
346977 2010 CV_{65}	17.1	X	147.85208	46.14215	142.43818	7.87299	0.0352842	0.24284487	2.5443885	20	10 1.7	20.6
346978 2010 CN_{66}	17.6	X	292.78384	42.62099	122.75604	1.93622	0.1228577	0.26970331	2.3725309	20	—	—
346979 2010 CB_{69}	17.3	X	173.60986	196.63917	333.88765	5.04580	0.2321607	0.23951708	2.5679017	20	9 26.4	21.8
346980 2010 CA_{82}	16.3	X	269.20160	73.21582	355.24157	11.75539	0.0386548	0.23707096	2.5855353	20	9 23.1	19.6
346981 2010 CO_{82}	16.9	X	115.30334	11.51734	169.17027	10.04265	0.1797150	0.22421068	2.6834809	20	8 18.4	21.3
346982 2010 CR_{84}	18.0	X	324.01023	9.00048	126.57007	1.98095	0.1290031	0.27371147	2.3493121	20	—	—
346983 2010 CD_{93}	16.8	X	287.07988	252.48529	116.40385	2.89633	0.0966543	0.22757936	2.6569342	20	7 19.4	20.2
346984 2010 CR_{100}	16.7	X	0.20391	260.25816	330.28736	8.39411	0.1246488	0.21049233	2.7988430	20	4 29.5	20.1
346985 2010 CR_{103}	18.0	X	345.65726	342.19362	124.81044	1.96269	0.1447961	0.27177878	2.3604367	20	—	—
346986 2010 CS_{109}	17.9	X	317.43607	186.16673	334.44442	1.84354	0.1405306	0.27881314	2.3205658	20	—	—
346987 2010 CN_{123}	17.4	X	42.96665	174.35296	92.89328	1.05640	0.0510299	0.22945837	2.6424095	20	8 30.1	20.6
346988 2010 CJ_{125}	17.2	X	133.54718	144.91807	8.36267	4.78662	0.0977863	0.22376221	2.6870653	20	7 29.9	21.3
346989 2010 CU_{129}	16.4	X	143.29920	78.35240	69.93932	12.65994	0.0543503	0.21478489	2.7614270	20	8 1.8	20.6
346990 2010 CP_{138}	17.6	X	325.79591	340.47352	152.57744	3.86893	0.1939207	0.27236886	2.3570262	20	—	—
346991 2010 CU_{140}	17.6	X	264.92143	116.21084	61.72966	2.24185	0.1209197	0.26793146	2.3829791	20	—	—
346992 2010 CB_{144}	17.7	X	321.42824	159.59067	352.19821	3.48390	0.1510737	0.27524383	2.3405845	20	—	—
346993 2010 CT_{148}	17.7	X	311.82807	41.80110	121.73651	2.69204	0.1640020	0.27974109	2.3154311	20	—	—
346994 2010 CO_{157}	17.3	X	23.80157	167.85324	118.40925	4.01437	0.1015460	0.22719675	2.6599163	20	9 4.5	20.4
346995 2010 CW_{166}	17.4	X	134.03402	11.53255	162.15065	4.22427	0.1536976	0.22784256	2.6548877	20	8 27.3	21.7
346996 2010 CU_{168}	16.2	X	59.24320	269.68907	328.46768	11.98341	0.1418930	0.22255179	2.6967995	20	8 25.5	19.7
346997 2010 CS_{170}	16.8	X	353.90916	59.81569	250.15875	1.69513	0.0825078	0.22589178	2.6701507	20	8 15.2	19.9
346998 2010 CR_{182}	16.8	X	202.97145	142.80317	75.30418	6.55944	0.1466188	0.25922890	2.4360177	20	—	—
346999 2010 CQ_{183}	16.6	X	357.72206	180.10805	81.97297	4.59774	0.0471284	0.21493451	2.7601453	20	6 13.6	20.0
347000 2010 CW_{216}	16.1	X	259.53676	307.71512	61.60019	17.61659	0.0677404	0.20698930	2.8303325	20	6 13.6	20.1
347001 2010 CN_{220}	16.3	X	205.20415	96.91792	235.25528	14.69269	0.0823218	0.18082224	3.0971922	20	2 22.7	21.3
347002 2010 CC_{227}	16.3	X	275.61178	153.63716	82.06538	16.59780	0.0186054	0.17564255	3.1577875	20	1 30.9	21.0
347003 2010 CH_{229}	15.5	X	194.11364	316.52384	32.48135	23.61568	0.1129937	0.18109432	3.0940892	20	3 19.8	20.7
347004 2010 DF_2	16.4	X	194.67655	91.44308	292.64675	4.98904	0.0435486	0.21899336	2.7259345	20	4 16.5	20.4
347005 2010 DJ_{12}	16.6	X	314.06932	335.28564	346.26230	5.87775	0.0566336	0.21923264	2.7239507	20	6 29.8	20.2
347006 2010 DX_{21}	17.1	X	86.12601	127.85389	303.84273	5.44499	0.1279122	0.29578697	2.2309167	20	2 5.6	19.2
347007 2010 DM_{23}	16.0	X	192.64081	156.91190	201.83643	14.63538	0.0722374	0.18224991	3.0809962	20	3 16.3	20.8
347008 2010 DP_{32}	16.2	X	121.22525	321.60487	248.59987	10.68711	0.1362265	0.22359892	2.6883733	20	9 23.8	20.6
347009 2010 DF_{33}	15.1	X	143.41710	83.20116	309.87106	21.11100	0.0662798	0.17965301	3.1106158	20	2 28.2	20.0
347010 2010 DC_{37}	17.0	X	282.06442	330.01077	352.64658	3.99936	0.0689063	0.21464873	2.7625947	20	5 12.4	20.7
347011 2010 DF_{39}	16.9	X	328.33162	296.76131	50.41622	3.51212	0.1187969	0.22982302	2.6396136	20	8 27.0	19.7
347012 2010 DL_{42}	17.8	X	341.89455	301.03178	195.57220	2.72551	0.1355813	0.27744845	2.3281690	20	—	—
347013 2010 DA_{43}	18.0	X	331.00308	315.67024	184.26680	2.06693	0.1581834	0.27524169	2.3405966	20	—	—
347014 2010 DT_{55}	15.8	X	273.97187	57.55187	197.86700	15.53871	0.0698836	0.17626398	3.1503611	20	2 8.4	20.7
347015 2010 DL_{74}	17.0	X	24.34932	15.23752	333.03006	2.91161	0.0734267	0.24582699	2.5237694	20	11 26.3	20.3
347016 2010 DR_{77}	17.3	X	241.42873	60.67995	41.27005	14.64368	0.1015868	0.24120684	2.5558948	20	9 28.9	20.9
347017 2010 DB_{78}	17.0	X	228.51400	153.36435	332.64691	5.04303	0.1209579	0.24242745	2.5473084	20	10 3.4	20.6
347018 2010 DZ_{78}	16.7	X	350.44428	297.94316	151.89818	10.02838	0.0843049	0.26759824	2.3849570	20	—	—
347019 2010 EL_{12}	16.9	X	100.87990	183.66370	352.55413	8.32545	0.1771422	0.21953420	2.7214556	20	8 1.5	21.1
347020 2010 EV_{20}	16.8	X	109.40707	327.74402	302.92085	4.19130	0.0514330	0.24776675	2.5105798	20	11 29.1	20.3
347021 2010 EB_{34}	17.1	X	113.58002	358.41425	194.26541	4.78869	0.0977058	0.22542768	2.6738142	20	8 25.1	21.1
347022 2010 EV_{35}	17.4	X	264.91317	356.99850	203.00201	4.34939	0.1896080	0.26864783	2.3787410	20	—	—
347023 2010 EZ_{38}	16.5	X	101.99050	263.55122	315.45192	7.47830	0.1474074	0.23063135	2.6334424	20	9 18.8	20.5
347024 2010 EQ_{39}	17.2	X	294.91785	306.43402	206.59269	5.98351	0.2295621	0.26899433	2.3766978	20	—	—
347025 2010 EP_{40}	18.0	X	290.14534	261.53293	243.45501	4.14140	0.1763418	0.26493860	2.4008917	20	—	—
347026 2010 EN_{43}	16.8	X	107.14614	190.28447	72.28472	4.23678	0.2032681	0.24466675	2.5317418	20	11 24.8	21.0
347027 2010 EJ_{44}	15.7	X	73.99794	164.16415	54.71942	14.26135	0.1399668	0.22049165	2.7135716	20	8 26.7	19.8
347028 Važec	18.3	X	324.17534	210.05914	237.90645	1.77371	0.1617378	0.26629798	2.3927141	20	—	—
347029 2010 EV_{69}	17.3	X	118.23153	83.05401	93.90184	5.76382	0.0924727	0.22091485	2.7101049	20	8 12.0	21.2
347030 2010 EX_{70}	16.2	X	336.50351	38.35353	8.21801	9.22001	0.1609473	0.24728259	2.5138558	20	12 11.5	18.8
347031 2010 EZ_{76}	16.8	X	10.32884	70.85595	180.71025	4.30592	0.0099406	0.21144989	2.7903867	20	6 16.9	20.6
347032 2010 EM_{82}	16.5	X	334.76307	288.94987	268.21302	1.48990	0.1419603	0.18615888	3.0377140	20	2 6.6	20.3
347033 2010 EK_{85}	16.6	X	245.62610	17.56269	9.17964	13.40027	0.0162723	0.21679884	2.7442989	20	6 29.2	20.6
347034 2010 EJ_{88}	16.4	X	61.77225	313.73046	347.23905	13.69617	0.0756810	0.24679687	2.5171530	20	11 8.9	20.1
347035 2010 EE_{94}	16.8	X	22.94602	288.36736	59.55917	2.82299	0.1243804	0.24619986	2.5212206	20	12 2.4	19.8
347036 2010 EH_{94}	17.9	X	314.54068	55.08177	99.97284	2.27691	0.1204769	0.27361541	2.3498619	20	—	—
347037 2010 EU_{101}	17.6	X	254.03492	354.43733	179.10397	2.58899	0.1216025	0.25761398	2.4461876	20	—	—
347038 2010 EF_{104}	16.1	X	107.84593	125.57488	69.53914	18.83497	0.2102544	0.22510055	2.6764040	20	9 12.9	20.8
347039 2010 EV_{106}	16.0	X	192.61720	40.95684	354.95096	16.61526	0.1196870	0.21208329	2.7848283	20	4 24.3	20.6
347040 2010 EW_{106}	17.8	X	344.16253	355.76036	114.29873	2.11174	0.1414840	0.27264725	2.3554215	20	—	—

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	m		°	°	°	°		°				
347041 2010 EH_{109}	16.6	X	59.42788	13.94007	195.59737	7.64992	0.1497417	0.21245626	2.7815681	20	7 17.0	20.4
347042 2010 EN_{113}	17.2	X	140.23847	175.56887	348.92443	4.68590	0.1260912	0.22988351	2.6391506	20	8 21.8	21.2
347043 2010 EU_{120}	17.0	X	88.81528	273.11594	274.21200	1.82756	0.1252328	0.21544873	2.7557518	20	7 23.8	20.8
347044 2010 EA_{122}	16.4	X	249.35499	136.02112	242.55130	5.00342	0.0222875	0.21563779	2.7541408	20	6 21.2	20.0
347045 2010 EU_{122}	16.8	X	240.99379	145.81075	328.81829	3.07151	0.0262676	0.23621761	2.5917586	20	10 17.8	20.3
347046 2010 EU_{123}	16.5	X	211.89601	333.51254	155.07946	9.25196	0.1083285	0.23794715	2.5791843	20	9 21.8	20.1
347047 2010 EM_{124}	16.6	X	69.14098	173.27017	19.29392	10.05399	0.1380679	0.21584384	2.7523877	20	7 9.3	20.5
347048 2010 ET_{124}	16.7	X	101.26643	7.41021	221.99196	5.16669	0.1149769	0.23191277	2.6237328	20	9 30.1	20.5
347049 2010 EZ_{126}	16.8	X	206.84383	80.38660	91.91779	7.02381	0.1048041	0.24572118	2.5244939	20	11 13.2	20.4
347050 2010 EK_{127}	17.1	X	284.24171	136.46250	89.99480	8.98311	0.1668077	0.27678782	2.3318721	20	—	—
347051 2010 EQ_{130}	16.3	X	257.96382	192.18469	195.75949	14.25417	0.1370430	0.21736007	2.7395729	20	6 27.2	20.5
347052 2010 EV_{130}	17.1	X	65.47522	30.69333	200.59153	8.81442	0.0819040	0.21722300	2.7407253	20	8 12.4	20.9
347053 2010 ET_{137}	17.0	X	200.01963	115.65901	11.39208	12.28457	0.1541052	0.23265646	2.6181386	20	9 4.9	21.1
347054 2010 EZ_{137}	15.2	X	278.58700	195.83268	33.03416	17.96874	0.1446304	0.18115051	3.0934493	20	1 9.5	20.2
347055 2010 ER_{138}	16.2	X	59.80573	132.32708	121.28186	2.96747	0.2175242	0.22050637	2.7134508	20	9 28.6	19.9
347056 2010 EZ_{138}	16.2	X	171.99525	65.54775	123.37073	12.54296	0.1021769	0.23764832	2.5813460	20	10 29.7	20.3
347057 2010 EY_{139}	16.9	X	324.94246	162.17334	118.40541	0.64917	0.0669394	0.20503685	2.8482718	20	5 18.9	20.6
347058 2010 EE_{140}	15.6	X	234.63559	186.41015	102.20130	11.15323	0.2325648	0.17815518	3.1280265	20	1 31.9	21.1
347059 2010 FU_{1}	16.2	X	331.34071	231.21953	109.85426	4.76769	0.0982171	0.22977190	2.6400052	20	8 23.9	19.1
347060 2010 FQ_{3}	16.1	X	84.42855	211.98905	15.83298	13.42474	0.1310387	0.22666115	2.6641049	20	9 15.9	20.0
347061 2010 FR_{4}	17.1	X	72.55052	238.59784	36.72365	3.65425	0.0242440	0.23684900	2.5871504	20	10 17.0	20.6
347062 2010 FY_{10}	16.9	X	18.88735	176.59741	116.74895	3.42713	0.0921523	0.22661492	2.6644673	20	9 5.1	20.0
347063 2010 FY_{24}	16.5	X	64.20937	142.39250	58.61187	5.80524	0.0950838	0.21235771	2.7824286	20	7 5.6	20.2
347064 2010 FF_{27}	17.3	X	244.06897	82.63209	37.36394	10.48476	0.0948406	0.24612824	2.5217097	20	10 22.8	20.5
347065 2010 FT_{28}	14.8	X	268.86373	141.16726	95.98999	17.94286	0.1562091	0.17631256	3.1497823	20	1 6.9	19.7
347066 2010 FY_{30}	16.4	X	283.29081	178.74012	63.89537	6.57983	0.1057158	0.18294327	3.0732066	20	2 4.3	20.9
347067 2010 FD_{31}	16.9	X	328.35383	292.23745	8.96942	5.87415	0.0077986	0.21333879	2.7738917	20	6 26.4	20.7
347068 2010 FL_{47}	16.9	X	45.23281	75.09592	147.26139	2.97096	0.0813950	0.21287048	2.7779585	20	7 4.4	20.4
347069 2010 FR_{54}	16.0	X	318.62714	27.16170	188.80142	13.56418	0.0346558	0.18571647	3.0425363	20	2 19.4	20.4
347070 2010 FP_{57}	16.7	X	134.93403	59.81867	126.02280	8.50482	0.1598527	0.23051060	2.6343620	20	9 15.9	21.0
347071 2010 FW_{83}	16.6	X	209.97053	51.65530	87.31434	5.76787	0.1571605	0.23996365	2.5647148	20	9 29.7	20.5
347072 2010 FF_{87}	15.8	X	57.55309	197.01481	52.50625	8.84534	0.1073775	0.22068590	2.7119790	20	9 7.6	19.5
347073 2010 FW_{88}	16.8	X	84.20855	121.60063	125.81338	4.45625	0.0570736	0.22700221	2.6614358	20	9 29.7	20.4
347074 2010 FO_{100}	17.4	X	162.03972	323.08648	173.24644	3.16752	0.0398494	0.22324863	2.6911847	20	8 5.0	21.2
347075 2010 GS_{23}	15.7	X	196.36491	39.50276	97.15916	14.75267	0.0079867	0.22949517	2.6421269	20	9 29.5	19.6
347076 2010 GD_{26}	16.8	X	104.02108	27.13760	189.65259	7.88593	0.0891758	0.22630337	2.6669121	20	9 14.1	20.7
347077 2010 GS_{27}	16.3	X	123.56700	158.07900	49.03326	12.53869	0.1231676	0.22856828	2.6492650	20	10 2.4	20.5
347078 2010 GR_{30}	17.1	X	118.70369	162.33696	43.19699	2.86084	0.0544620	0.22777862	2.6553845	20	9 16.1	20.9
347079 2010 GX_{31}	15.4	X	240.07747	153.95708	98.12261	16.01498	0.1460958	0.17130080	3.2109222	20	—	—
347080 2010 GM_{32}	15.8	X	94.38998	181.61351	61.93637	14.07527	0.0430294	0.22857637	2.6492025	20	10 10.7	19.7
347081 2010 GW_{35}	16.6	X	306.78951	278.73044	71.18607	5.74952	0.1287183	0.21993940	2.7181121	20	7 19.6	19.9
347082 2010 GV_{39}	17.4	X	49.20343	230.50711	260.55032	5.87039	0.0849844	0.30220033	2.1992407	20	2 20.7	19.7
347083 2010 GK_{75}	15.9	X	102.43158	147.72908	67.99400	15.29747	0.1283557	0.22432453	2.6825730	20	9 24.7	20.2
347084 2010 GY_{96}	17.1	X	323.67778	223.29099	78.66521	1.60976	0.0495566	0.21020809	2.8013654	20	6 16.9	20.7
347085 2010 GD_{102}	16.2	X	330.19172	174.69749	75.50466	11.44451	0.0624581	0.19245710	2.9710737	20	4 21.9	20.2
347086 2010 GM_{105}	16.2	X	307.62559	248.09014	89.15477	7.16808	0.0284983	0.21161365	2.7889470	20	7 14.6	19.8
347087 2010 GV_{108}	16.1	X	208.62186	217.36795	69.66517	6.08048	0.1343715	0.17109131	3.2135427	20	1 12.2	21.2
347088 2010 GL_{111}	16.7	X	68.14498	160.66432	57.23760	4.26062	0.1320775	0.21656618	2.7462641	20	8 10.5	20.4
347089 2010 GD_{114}	17.1	X	161.98207	327.43268	220.55905	1.74001	0.1382695	0.23352145	2.6116694	20	10 10.8	21.1
347090 2010 GG_{119}	17.1	X	192.81495	320.45684	150.19725	4.70076	0.0512688	0.22747860	2.6577187	20	8 8.8	21.0
347091 2010 GF_{123}	17.1	X	105.56210	31.49340	171.01471	3.05667	0.0432206	0.22087347	2.7104434	20	8 23.2	20.8
347092 2010 GJ_{132}	16.0	X	186.65011	297.17287	31.51419	12.30574	0.1289783	0.17628598	3.1500989	20	2 13.1	21.2
347093 2010 GN_{135}	16.0	X	158.27593	306.67459	34.84971	9.25894	0.0875124	0.17598885	3.1536436	20	1 27.5	20.9
347094 2010 GA_{136}	16.6	X	300.11843	102.12601	195.54957	11.97561	0.0487403	0.20009730	2.8949555	20	5 10.2	20.6
347095 2010 GU_{140}	17.0	X	226.64665	75.88341	18.45638	4.34343	0.0586247	0.22688678	2.6623384	20	8 30.1	20.6
347096 2010 GN_{144}	16.7	X	292.10824	269.81812	54.94220	2.86396	0.0930356	0.20489857	2.8495532	20	5 26.6	20.4
347097 2010 GJ_{160}	16.1	X	187.87773	38.99738	103.43561	13.92100	0.0504684	0.22755788	2.6571014	20	9 20.9	20.1
347098 2010 HO_{17}	13.1	X	311.86594	274.19030	2.64254	15.18186	0.1339288	0.08282704	5.2122025	20	4 18.0	19.8
347099 2010 HO_{21}	13.2	X	335.84446	19.17555	241.79290	23.73514	0.0415039	0.08277825	5.2142505	20	5 13.6	19.9
347100 2010 HS_{23}	16.8	X	206.82598	19.42720	118.52012	11.07121	0.2095861	0.23556994	2.5965068	20	9 21.3	21.1
347101 2010 HZ_{53}	16.0	X	74.22722	300.70405	248.77282	14.78895	0.1689321	0.19442028	2.9510394	20	7 10.8	20.3
347102 2010 HS_{79}	17.6	X	285.66034	57.17917	92.72790	3.28425	0.1614177	0.25834957	2.4415421	20	—	—
347103 2010 HX_{79}	15.4	X	254.73353	189.30822	54.38825	8.83821	0.1606905	0.17057024	3.2200841	20	1 2.1	20.5
347104 2010 HJ_{103}	16.1	X	350.00739	309.73991	211.92489	3.74073	0.0416711	0.17702005	3.1413843	20	1 26.7	20.4
347105 2010 HO_{103}	16.5	X	211.09090	294.19095	214.80232	16.79955	0.1525578	0.23635816	2.5907309	20	10 8.7	20.4
347106 2010 HG_{104}	16.1	X	116.62768	339.20109	246.08650	12.08701	0.2032695	0.22728558	2.6592232	20	10 13.4	20.7
347107 2010 HD_{105}	16.9	X	330.54215	180.93815	101.83286	3.29770	0.0262114	0.20281743	2.8690131	20	6 3.1	20.6
347108 2010 HJ_{107}	15.5	X	181.55280	195.44908	169.00465	12.01950	0.0834787	0.17993317	3.1073861	20	3 14.7	20.1
347109 2010 JX_{29}	16.5	X	302.39585	59.06195	187.28800	5.82515	0.0473365	0.18368236	3.0649572	20	3 7.7	20.8
347110 2010 JD_{37}	15.7	X	175.17252	330.94999	47.04475	15.85936	0.1233691	0.18592835	3.0402244	20	3 31.5	20.7
347111 2010 JR_{43}	16.3	X	37.18723	147.51940	75.97953	15.72116	0.0781615	0.20368556	2.8608553	20	6 22.4	19.9
347112 2010 JE_{48}	16.0	X	131.99174	193.55858	197.15383	9.02165	0.0974211	0.17471454	3.1689594	20	2 22.6	20.8
347113 2010 JA_{74}	16.9	X	54.57308	134.74673	50.18100	20.48983	0.0890329	0.20082131	2.8879933	20	5 26.3	20.7
347114 2010 JS_{76}	16.5	X	143.04838	256.68046	232.07654	9.52498	0.0814961	0.21006952	2.8025972	20	7 3.9	20.8
347115 2010 JK_{78}	15.5	X	256.34559	229.45809	57.95427	24.27492	0.1050740	0.18102365	3.0948944	20	3 11.6	20.6
347116 2010 JY_{79}	15.9	X	254.22354	123.23725	120.02415	13.07339	0.0311624	0.17039584	3.2222808	20	1 11.9	20.7
347117 2010 JK_{80}	15.7	X	175.25320	131.62567	56.73768	15.73460	0.0581161	0.23461940	2.6035151	20	11 1.3	19.4
347118 2010 JS_{82}	16.4	X	119.44703	132.98767	73.93411	14.36207	0.2046932	0.22449725	2.6811969	20	10 4.4	21.1
347119 2010 JT_{116}	15.7	X	235.23682	60.43278	60.35936	9.53856	0.0792842	0.23495562	2.6010307	20	10 15.4	19.3
347120 2010 JF_{122}	16.3	X	210.11800	89.11799	78.49424	4.97847	0.1140238	0.23894612	2.5719907	20	11 7.9	19.8

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347121 2010 JU_{149}	16.2	X	146.69991	329.62491	233.39005	13.48842	0.1107560	0.23204281	2.6227525	20	10 12.2	20.4
347122 2010 JU_{151}	16.2	X	109.73334	356.54925	213.86063	14.53076	0.2234793	0.22640175	2.6661395	20	9 20.7	20.7
347123 2010 JF_{155}	15.7	X	211.08365	238.34622	48.67632	9.54928	0.0683102	0.17253444	3.1955983	20	1 15.9	20.6
347124 2010 JQ_{162}	16.7	X	42.95228	184.30890	52.87460	4.66644	0.0559136	0.20981691	2.8048463	20	7 18.9	20.4
347125 2010 JN_{164}	16.2	X	90.87157	55.64657	59.39179	11.09414	0.0755346	0.19285640	2.9669713	20	4 19.1	20.4
347126 2010 JF_{168}	15.8	X	178.86620	281.79614	93.30333	17.24820	0.1235495	0.18373689	3.0643507	20	4 3.0	21.0
347127 2010 JO_{174}	16.0	X	206.77740	271.85812	87.96979	3.87094	0.1093579	0.18682671	3.0304706	20	4 4.1	20.7
347128 2010 JQ_{175}	15.9	X	243.75600	194.76147	108.83186	11.79646	0.1609727	0.18052572	3.1005828	20	3 2.9	20.9
347129 2010 JZ_{175}	16.1	X	251.51633	66.89871	208.59415	13.87013	0.1800191	0.18013661	3.1050461	20	1 28.7	21.4
347130 2010 KT_{9}	16.2	X	154.28286	240.40512	136.34469	17.36158	0.2263786	0.17464081	3.1698513	20	3 14.2	21.7
347131 2010 KB_{62}	15.9	X	15.18031	298.53035	90.30231	22.49722	0.0138376	0.23909666	2.5709110	20	12 26.9	19.4
347132 2010 LE_{33}	16.8	X	122.24374	335.71594	201.16749	13.46614	0.2071884	0.22689357	2.6622853	20	8 19.7	21.4
347133 2010 LT_{77}	17.1	X	281.02368	290.18639	242.24872	8.08777	0.1993397	0.26856328	2.3792402	20	—	—
347134 2010 MC_{113}	13.6	X	246.51403	207.04833	164.35747	24.63636	0.0682438	0.08417872	5.1562563	20	6 4.6	20.9
347135 2010 NZ_{93}	15.9	X	91.45601	285.71840	257.59937	12.55698	0.0592487	0.21525226	2.7574283	20	7 10.6	19.8
347136 2010 OO_{33}	16.5	X	236.83701	44.87449	37.69631	8.36271	0.0816266	0.22524394	2.6752681	20	8 26.6	20.3
347137 2010 OO_{46}	15.8	X	206.14660	107.89229	200.68401	13.57296	0.1880530	0.17287107	3.1914484	20	1 29.9	21.4
347138 2010 OB_{50}	15.6	X	174.23760	232.73591	84.51154	6.33837	0.1474425	0.16789522	3.2541970	20	1 17.2	20.8
347139 2010 OF_{66}	15.7	X	115.08865	143.09454	230.82703	10.12505	0.1005876	0.16921523	3.2372513	20	1 16.3	20.5
347140 2010 OU_{70}	15.4	X	105.99679	284.64512	111.00436	15.18053	0.0726248	0.17395994	3.1781170	20	1 30.2	19.9
347141 2010 OO_{71}	16.6	X	283.90392	124.37496	261.73420	9.59367	0.0591062	0.21915601	2.7245856	20	8 8.6	20.4
347142 2010 OB_{77}	17.0	X	21.81246	78.57907	173.96470	4.47211	0.0147324	0.20985185	2.8045349	20	7 3.7	20.7
347143 2010 OX_{88}	16.0	X	215.64571	212.69673	253.52599	16.38324	0.0851514	0.22528660	2.6749303	20	8 18.9	20.3
347144 2010 OR_{98}	16.4	X	206.04265	60.21599	238.84486	8.93685	0.1668203	0.17015658	3.2253008	20	1 20.6	21.9
347145 2010 OF_{121}	16.8	X	119.29638	295.54148	225.85195	7.45529	0.1214954	0.21384300	2.7695297	20	7 22.5	21.1
347146 2010 OC_{122}	15.7	X	174.98037	258.53703	95.79277	11.52737	0.0676334	0.17876549	3.1209030	20	2 28.4	20.5
347147 2010 SJ_{33}	17.0	X	190.42234	231.88620	52.36424	5.13487	0.2413029	0.24193984	2.5507298	20	—	—
347148 2010 WY	13.0	X	338.44803	285.48987	77.10145	8.46463	0.0508155	0.08158814	5.2648340	20	9 14.7	19.8
347149 2011 CB_{76}	16.8	X	250.49927	251.01089	0.18102	23.30816	0.2556997	0.30533392	2.1841679	20	—	—
347150 2011 CH_{76}	17.7	X	211.85598	318.64351	161.85254	23.04801	0.0553424	0.37392926	1.9081379	20	10 12.9	19.8
347151 2011 CP_{87}	17.4	X	129.18200	348.22136	213.45581	5.60894	0.0477251	0.26433303	2.4045571	20	9 25.5	20.7
347152 2011 CV_{88}	16.1	X	287.59697	17.43838	255.04529	5.36804	0.1614694	0.22057260	2.7129076	20	2 28.9	20.1
347153 2011 EZ_{13}	17.6	X	187.70713	249.96081	26.72846	6.79539	0.1774143	0.29089449	2.2558613	20	—	—
347154 2011 EE_{14}	16.9	X	340.44525	36.64376	213.05136	6.40480	0.2194090	0.21513336	2.7584442	20	4 13.1	19.4
347155 2011 ET_{19}	16.5	X	35.81832	220.85440	6.55346	8.87608	0.1388837	0.23503337	2.6004571	20	7 7.9	19.6
347156 2011 EZ_{42}	16.7	X	334.02159	327.87486	338.25511	7.66317	0.0909854	0.24415364	2.5352877	20	7 9.6	19.6
347157 2011 EG_{63}	16.6	X	326.26243	139.90339	151.62980	13.18146	0.2794127	0.22313883	2.6920675	20	5 10.8	19.5
347158 2011 EA_{72}	16.4	X	105.88163	323.19352	175.45525	14.77997	0.1120682	0.23191035	2.6237511	20	6 10.1	20.4
347159 2011 FL_{7}	16.9	X	145.44389	186.50369	56.27954	3.18993	0.1798774	0.26994671	2.3711045	20	12 6.3	20.8
347160 2011 FB_{8}	16.6	X	131.51544	311.17217	189.70555	7.48211	0.0400883	0.23873028	2.5735407	20	7 4.6	20.2
347161 2011 FW_{8}	17.5	X	166.70155	140.31442	114.92702	3.49641	0.1425722	0.27579027	2.3374917	20	—	—
347162 2011 FN_{12}	18.0	X	312.85542	188.79990	17.50016	3.52947	0.1692371	0.30916806	2.1660724	20	—	—
347163 2011 FD_{13}	17.5	X	213.58425	182.48763	40.23172	7.47557	0.0971485	0.28246897	2.3004999	20	—	—
347164 2011 FZ_{17}	17.1	X	13.03656	280.04461	345.23060	8.32281	0.2884140	0.23302839	2.6153521	20	8 12.9	19.1
347165 2011 FU_{19}	17.2	X	64.10902	170.00678	117.61516	4.44174	0.1637049	0.25596520	2.4566810	20	11 14.7	20.7
347166 2011 FN_{24}	17.6	X	223.58956	163.35038	80.93024	3.73655	0.1787763	0.29171792	2.2516142	20	—	—
347167 2011 FE_{29}	17.8	X	236.90893	146.59600	100.12342	6.52552	0.2209151	0.29950676	2.2124067	20	—	—
347168 2011 FU_{32}	17.1	X	13.27436	99.94348	191.30408	13.60182	0.1915452	0.23678416	2.5876227	20	9 3.1	19.8
347169 2011 FJ_{33}	16.2	X	129.42974	245.59547	54.55774	6.74998	0.1823342	0.16915685	3.2379961	20	—	—
347170 2011 FD_{41}	16.0	X	218.92691	280.34191	326.44252	8.70569	0.0636178	0.18503605	3.0499905	20	—	—
347171 2011 FO_{46}	17.8	X	128.58230	67.70966	197.26910	4.61983	0.1956194	0.26563071	2.3967194	20	12 18.2	21.7
347172 2011 FB_{60}	18.1	X	94.99537	274.97128	29.53354	1.71112	0.1837071	0.27022371	2.3694838	20	—	—
347173 2011 FG_{94}	18.0	X	120.94105	277.16973	348.71483	1.83589	0.1793181	0.26905355	2.3763490	20	12 13.2	21.8
347174 2011 FO_{134}	17.3	X	27.39367	6.48318	351.54055	6.98023	0.1255512	0.27587159	2.3370324	20	12 30.9	20.3
347175 2011 FB_{143}	17.7	X	135.93899	196.80110	67.43427	2.38206	0.1652319	0.27120217	2.3637812	20	12 24.8	21.5
347176 2011 FT_{147}	17.0	X	131.19711	223.27550	44.37489	7.46431	0.1057738	0.27607271	2.3358972	20	12 26.6	20.6
347177 2011 FE_{149}	17.2	X	190.97315	223.24904	81.73689	9.37894	0.2140709	0.29399407	2.2399776	20	1 4.5	20.7
347178 2011 FA_{150}	16.2	X	357.27072	163.56777	72.96490	10.17680	0.0992239	0.22343252	2.6897080	20	5 9.3	19.3
347179 2011 FJ_{150}	17.7	X	245.15314	176.06953	86.66952	6.29180	0.1438988	0.30239482	2.1982976	20	—	—
347180 2011 FW_{154}	17.6	X	96.81235	161.44567	79.06203	23.12183	0.0385064	0.36938626	1.9237511	20	11 7.6	20.1
347181 2011 GD_{11}	17.1	X	289.20279	212.43296	221.00240	6.31120	0.0952958	0.26811096	2.3819154	20	10 30.7	19.4
347182 2011 GM_{15}	18.0	X	294.40891	258.00775	201.52840	21.17115	0.0742832	0.38451271	1.8729618	20	—	—
347183 2011 GH_{31}	18.3	X	261.06735	250.49147	201.82994	21.49383	0.0963289	0.37070522	1.9191853	20	11 9.2	19.8
347184 2011 GG_{42}	17.2	X	218.19391	344.00764	271.62008	5.08075	0.1415478	0.29406400	2.2396224	20	—	—
347185 2011 GA_{45}	17.7	X	120.11060	232.18441	41.56708	3.10800	0.1605424	0.27088085	2.3656501	20	12 22.3	21.4
347186 2011 GW_{48}	16.3	X	217.00749	27.80719	204.86983	8.72239	0.0949213	0.17982263	3.1086595	20	—	—
347187 2011 GK_{49}	18.0	X	177.96830	322.99297	324.52573	0.76761	0.2065212	0.28763744	2.2728587	20	—	—
347188 2011 GL_{55}	17.5	X	189.07120	255.91499	93.02958	4.04854	0.1650244	0.30932806	2.1653254	20	2 24.6	20.7
347189 2011 GM_{57}	15.6	X	352.25708	128.84235	59.58201	9.50704	0.0657932	0.20906770	2.8115431	20	3 2.9	19.3
347190 2011 GX_{59}	16.8	X	135.14959	193.32642	87.02970	7.12533	0.1080224	0.27266149	2.3553395	20	—	—
347191 2011 GP_{70}	17.9	X	245.61670	107.34816	109.87534	3.53520	0.1167688	0.28996903	2.2606586	20	—	—
347192 2011 GU_{73}	18.0	X	207.61531	200.61363	39.32767	2.62470	0.0950374	0.28553627	2.2839952	20	—	—
347193 2011 GZ_{81}	15.5	X	120.59673	80.96217	265.28080	8.48752	0.0958096	0.18114415	3.0935218	20	—	—
347194 2011 HK_{6}	17.2	X	196.54692	206.31456	74.14791	7.68315	0.1623636	0.29114585	2.2545627	20	—	—
347195 2011 HW_{6}	17.5	X	174.71388	91.14477	74.51517	23.23716	0.0546666	0.36187164	1.9502922	20	11 1.7	20.1
347196 2011 HV_{7}	17.6	X	199.55810	57.87876	76.14339	23.34469	0.0654993	0.36087489	1.9538817	20	10 21.8	20.3
347197 2011 HV_{10}	16.7	X	4.64655	302.52993	40.05905	8.92588	0.1692440	0.25695077	2.4503950	20	11 6.2	19.2
347198 2011 HZ_{16}	17.5	X	151.12330	277.95938	41.73577	12.52498	0.1199772	0.29009257	2.2600167	20	—	—
347199 2011 HG_{18}	17.6	X	96.00937	90.87524	200.75639	3.73362	0.1454718	0.26690115	2.3891078	20	12 20.8	21.2
347200 2011 HX_{18}	16.4	X	342.64381	225.09603	90.34306	12.94861	0.1787015	0.23261456	2.6184530	20	8 7.9	18.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347201 2011 HN_{19}	17.2	X	173.26077	186.05267	77.84388	4.93443	0.1910122	0.27644386	2.3338060	20	—	—
347202 2011 HD_{21}	15.7	X	182.54977	241.65407	32.45928	26.05381	0.2512715	0.17304993	3.1892490	20	—	—
347203 2011 HT_{26}	16.4	X	0.94692	167.37599	157.82788	18.54001	0.1578974	0.23919069	2.5702372	20	10 2.6	19.2
347204 2011 HB_{28}	17.9	X	198.92831	180.14105	54.80578	3.38722	0.1613207	0.28096334	2.3087112	20	—	—
347205 2011 HC_{28}	17.6	X	273.01933	172.44883	55.51185	5.12391	0.2002922	0.29939161	2.2129739	20	—	—
347206 2011 HD_{29}	18.0	X	230.16248	165.64318	80.81833	5.02806	0.1293340	0.29285682	2.2457728	20	—	—
347207 2011 HM_{30}	17.7	X	238.40963	64.54531	177.08727	2.12889	0.1343716	0.29328141	2.2436048	20	—	—
347208 2011 HG_{32}	16.4	X	9.22620	151.91620	149.18361	8.79198	0.2365198	0.23414363	2.6070408	20	9 21.6	18.7
347209 2011 HN_{34}	16.5	X	185.04346	17.33713	24.05748	6.05569	0.0268212	0.22274198	2.6952641	20	4 28.9	20.3
347210 2011 HT_{35}	15.9	X	248.33581	6.14597	207.36926	9.15161	0.0271511	0.18221374	3.0814040	20	—	—
347211 2011 HF_{36}	17.6	X	162.27780	94.74537	219.62153	6.51094	0.1691916	0.29315028	2.2442738	20	—	—
347212 2011 HK_{37}	16.1	X	173.32329	268.77039	90.62670	8.54653	0.0858465	0.20116126	2.8847387	20	3 1.8	20.6
347213 2011 HD_{50}	16.5	X	248.91072	134.63468	205.80504	7.79909	0.2076171	0.21260073	2.7803079	20	4 10.6	21.1
347214 2011 HX_{54}	17.3	X	178.18559	135.85641	122.57870	7.60529	0.0907086	0.27935645	2.3175561	20	—	—
347215 2011 HD_{60}	18.2	X	204.22193	251.40342	33.83818	3.38979	0.1737888	0.29516164	2.2340665	20	—	—
347216 2011 HD_{64}	17.7	X	179.80309	137.18110	113.71275	2.22560	0.1468018	0.27662442	2.3327903	20	—	—
347217 2011 HO_{65}	15.8	X	151.68703	244.59080	76.50513	10.68443	0.0962644	0.18394269	3.0620646	20	—	—
347218 2011 HR_{69}	17.9	X	222.52738	71.11849	160.11895	2.27483	0.1354313	0.28790026	2.2714752	20	—	—
347219 2011 HS_{71}	18.0	X	153.11823	136.92014	103.04535	3.47392	0.1357760	0.26588279	2.3952043	20	12 11.1	21.6
347220 2011 HQ_{72}	16.1	X	351.97654	218.33534	102.84577	14.98377	0.2438636	0.23244465	2.6197288	20	9 19.0	18.6
347221 2011 HV_{73}	16.4	X	280.00203	218.66371	83.65642	10.61679	0.1958294	0.20940018	2.8085663	20	4 2.6	20.6
347222 2011 HN_{76}	17.7	X	270.67251	159.05213	71.82998	6.45477	0.1332789	0.30133224	2.2034624	20	—	—
347223 2011 HW_{77}	16.8	X	354.43261	223.04979	79.60449	12.90919	0.1914155	0.23388142	2.6089889	20	8 18.4	19.4
347224 2011 HO_{78}	17.6	X	224.96241	165.75482	89.06405	4.97942	0.1829287	0.29084685	2.2561076	20	—	—
347225 2011 HP_{81}	16.5	X	52.37119	335.93979	273.60512	5.44229	0.1948061	0.23905973	2.5711758	20	9 8.6	19.8
347226 2011 HM_{82}	17.2	X	190.36067	131.66072	115.19856	5.33626	0.1891001	0.27875334	2.3208977	20	—	—
347227 2011 HS_{82}	17.4	X	179.35402	183.25096	47.09085	5.20103	0.1632770	0.27293875	2.3537442	20	12 24.1	20.9
347228 2011 HT_{86}	17.5	X	22.06042	356.40964	71.39302	7.48777	0.0806323	0.28471035	2.2884102	20	—	—
347229 2011 HW_{91}	18.4	X	159.30687	119.16584	156.86950	1.65840	0.1704586	0.27842151	2.3227414	20	—	—
347230 2011 HJ_{95}	16.1	X	183.59043	91.37083	181.57451	15.61585	0.0787793	0.17182585	3.2043779	20	—	—
347231 2011 JU_{7}	17.2	X	186.53534	160.19578	118.44595	7.10538	0.1078732	0.28512454	2.2861935	20	—	—
347232 2011 JN_{8}	17.4	X	269.53682	266.65354	233.35982	20.60514	0.0557768	0.38113986	1.8839952	20	—	—
347233 2011 JZ_{9}	16.7	X	121.97405	218.26918	74.76360	10.45731	0.2283532	0.26600031	2.3944988	20	—	—
347234 2011 JL_{10}	15.9	X	186.85559	71.84941	219.18426	25.50373	0.2402636	0.17443427	3.1723530	20	—	—
347235 2011 JT_{10}	16.5	X	328.11337	159.95642	140.45715	17.31725	0.2156437	0.22588598	2.6701964	20	6 7.5	19.5
347236 2011 JJ_{11}	16.8	X	109.75275	230.75068	72.30715	8.85076	0.2113148	0.26577988	2.3958225	20	—	—
347237 2011 JY_{11}	17.4	X	167.68069	200.11659	68.55910	6.90857	0.2059052	0.27572695	2.3378496	20	—	—
347238 2011 JO_{15}	17.0	X	245.11836	260.04067	235.59597	19.41019	0.0976352	0.37486356	1.9049660	20	12 19.2	18.6
347239 2011 JG_{17}	17.4	X	108.10467	209.14630	76.85312	3.67450	0.2106949	0.26167399	2.4208191	20	12 26.1	21.5
347240 2011 JS_{17}	16.5	X	8.68948	187.78245	131.16803	6.92461	0.2404498	0.23814407	2.5777623	20	10 20.5	19.1
347241 2011 JC_{18}	16.2	X	62.87385	267.17201	356.02752	8.40216	0.2399352	0.24200969	2.5502390	20	10 16.5	20.0
347242 2011 JD_{25}	17.6	X	226.88270	177.60895	160.78062	2.67650	0.0596130	0.31593881	2.1350140	20	3 20.9	20.3
347243 2011 JJ_{26}	16.0	X	102.10820	120.61016	213.82968	9.31121	0.0202726	0.17022941	3.2243807	20	—	—
347244 2011 JK_{27}	15.7	X	28.53715	80.45664	240.40630	2.60376	0.2921569	0.24208062	2.5497408	20	11 29.4	18.8
347245 2011 JM_{28}	17.6	X	221.65164	29.25814	222.20980	4.67603	0.1095070	0.28756476	2.2732417	20	—	—
347246 2011 JY_{28}	17.2	X	210.67321	124.38647	100.43284	4.90018	0.0966123	0.27785225	2.3259128	20	—	—
347247 2011 JJ_{29}	17.9	X	125.15630	86.05386	180.84594	2.28017	0.1515014	0.26267408	2.4146707	20	12 17.0	21.6
347248 2011 KX_{1}	16.0	X	219.06718	144.76995	136.06151	13.09205	0.2541109	0.18214513	3.0821777	20	1 9.8	21.6
347249 2011 KO_{2}	17.4	X	186.46230	189.17247	78.73545	4.00620	0.1390680	0.28117400	2.3075579	20	—	—
347250 2011 KX_{4}	17.5	X	145.96771	113.20257	208.83684	4.89119	0.1689631	0.28236940	2.3010407	20	—	—
347251 2011 KK_{7}	17.7	X	226.57079	149.21512	126.83568	3.39509	0.0957603	0.29652273	2.2272248	20	—	—
347252 2011 KD_{8}	16.5	X	269.99032	94.26288	231.09049	4.39923	0.1829305	0.21062036	2.7977086	20	4 15.3	20.6
347253 2011 KU_{8}	17.6	X	57.28101	48.92617	228.50379	6.94711	0.2446119	0.24431449	2.5341748	20	10 31.4	21.2
347254 2011 KZ_{8}	17.2	X	357.81360	266.58528	244.54173	5.82473	0.0509159	0.30005932	2.2096898	20	—	—
347255 2011 KW_{9}	16.7	X	316.76105	88.08269	208.08726	4.79160	0.1502594	0.21992548	2.7182268	20	5 16.8	19.8
347256 2011 KE_{10}	17.5	X	97.67328	69.94858	219.47808	4.34925	0.2283603	0.25955240	2.4339931	20	12 22.0	21.6
347257 2011 KG_{11}	17.7	X	203.63106	77.19220	195.68526	2.59588	0.2123858	0.28768764	2.2725943	20	—	—
347258 2011 KJ_{17}	16.4	X	204.73923	84.41206	183.32065	14.52026	0.2432272	0.17325786	3.1866969	20	—	—
347259 2011 KS_{17}	16.5	X	15.97642	208.28263	81.22820	7.53517	0.0209331	0.23675431	2.5878402	20	8 21.8	19.9
347260 2011 KU_{18}	16.9	X	320.49968	86.55018	213.23460	11.90563	0.1766140	0.21919905	2.7242289	20	5 24.9	19.9
347261 2011 KB_{20}	16.4	X	219.94033	253.99292	162.78211	22.32833	0.0515383	0.22841537	2.6504473	20	7 1.8	20.6
347262 2011 KB_{24}	17.5	X	126.95178	117.63829	131.37912	3.22992	0.1374833	0.26128687	2.4232096	20	11 27.1	21.2
347263 2011 KH_{27}	15.8	X	20.02205	213.37584	84.02709	13.61502	0.1647148	0.23701460	2.5859452	20	10 2.4	19.0
347264 2011 KU_{27}	16.5	X	348.93131	175.50782	130.23199	5.92392	0.2108815	0.22736385	2.6586129	20	8 3.6	18.6
347265 2011 KB_{28}	16.8	X	35.55277	49.05006	242.52003	12.12215	0.2357404	0.23848397	2.5753124	20	10 19.0	20.1
347266 2011 KR_{28}	17.1	X	197.79793	35.58000	219.30209	9.49161	0.1586961	0.27940589	2.3172827	20	—	—
347267 2011 KS_{28}	16.9	X	29.94708	241.51172	31.82895	3.96794	0.2089271	0.23440433	2.6051074	20	9 14.5	19.8
347268 2011 KZ_{29}	17.1	X	191.11150	215.60713	33.60620	5.91362	0.1288543	0.27856531	2.3219420	20	—	—
347269 2011 KH_{30}	15.8	X	340.15435	242.51335	85.22167	12.96470	0.1962190	0.23043709	2.6349222	20	8 24.2	18.4
347270 2011 KR_{30}	17.3	X	131.34876	275.92886	37.20285	7.39603	0.1354860	0.27521500	2.3407479	20	—	—
347271 2011 KQ_{31}	17.2	X	47.08057	90.73880	158.81070	4.68608	0.2604543	0.23289534	2.6163481	20	9 14.6	20.5
347272 2011 KG_{34}	17.0	X	45.83321	335.77403	258.93563	4.10074	0.1991425	0.23052517	2.6342509	20	8 10.5	20.1
347273 2011 KH_{37}	17.2	X	2.45482	197.17727	122.07884	1.52203	0.1814864	0.23682518	2.5873239	20	9 26.1	19.7
347274 2011 KK_{43}	18.1	X	127.88328	285.76029	91.76761	2.57064	0.0761244	0.29968683	2.2115204	20	1 13.9	20.4
347275 2011 LJ	17.6	X	289.51373	137.54942	96.41248	7.22892	0.1370771	0.30370594	2.1919662	20	1 7.6	20.5
347276 2011 LF_{3}	16.1	X	10.92882	192.29900	154.72306	13.09999	0.2265399	0.24298021	2.5434436	20	12 1.6	19.2
347277 2011 LN_{3}	17.5	X	174.36373	42.01263	227.93169	3.14764	0.1604767	0.27664537	2.3326726	20	—	—
347278 2011 LS_{5}	16.7	X	317.29784	135.43615	219.53036	11.69155	0.1694445	0.23237329	2.6202652	20	8 5.9	19.7
347279 2011 LC_{6}	17.5	X	239.42189	319.48984	216.05039	5.50272	0.0688060	0.27175325	2.3605845	20	—	—
347280 2011 LR_{6}	17.5	X	24.14259	109.24268	147.66869	4.99296	0.1791438	0.22810092	2.6528826	20	8 2.7	20.2

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347281 2011 LU_6	17.8	X	257.79076	19.62060	181.17992	5.03690	0.0926667	0.28637071	2.2795563	20	—	—
347282 2011 LX_{11}	17.1	X	131.82298	224.19370	68.83484	7.29498	0.1092543	0.27077242	2.3662816	20	—	—
347283 2011 LH_{12}	17.7	X	145.89794	54.59603	235.97470	4.30311	0.1230997	0.27417945	2.3466381	20	—	—
347284 2011 LD_{18}	15.9	X	27.24946	359.13133	268.32994	12.95299	0.1094969	0.23374725	2.6099872	20	8 9.1	19.1
347285 2011 LP_{21}	15.3	X	340.93450	330.70801	123.56160	12.88579	0.0859850	0.16966284	3.2315550	20	—	—
347286 2011 LR_{27}	17.7	X	186.35020	73.73929	160.31982	2.82248	0.1244973	0.27355432	2.3502118	20	—	—
347287 2011 MG	17.5	X	195.29170	121.74822	176.30701	8.41926	0.1327497	0.28827611	2.2695005	20	—	—
347288 2011 MU_4	16.1	X	312.30576	77.67927	273.94966	15.63457	0.2090370	0.21329771	2.7742478	20	7 16.3	19.1
347289 2011 MV_6	15.8	X	213.66398	249.50170	118.22643	11.12391	0.0522001	0.19643138	2.9308627	20	4 26.0	20.3
347290 2011 MT_7	16.0	X	11.75267	346.27490	271.56555	8.09132	0.1110949	0.21409424	2.7673626	20	7 2.9	19.0
347291 2011 MQ_{10}	15.7	X	152.81774	263.70939	135.88539	12.92440	0.1563029	0.18119065	3.0929925	20	4 5.0	20.8
347292 2011 NB_3	16.8	X	313.07123	100.87100	258.28134	4.90048	0.0630280	0.22572076	2.6714992	20	8 17.1	20.2
347293 2011 OT_2	16.9	X	210.44284	253.39624	270.22971	8.93925	0.1357924	0.23986548	2.5654145	20	10 27.8	20.9
347294 2011 OF_3	15.4	X	249.69606	300.21854	311.54034	14.78220	0.1804240	0.17591465	3.1545304	20	1 6.3	20.6
347295 2011 OM_3	15.4	X	188.25524	33.28848	298.26791	15.76409	0.1010913	0.17548364	3.1596935	20	2 8.9	20.5
347296 2011 OT_5	13.3	X	109.42700	340.33516	134.24206	17.58158	0.0042220	0.08190633	5.2511900	20	5 8.2	20.4
347297 2011 OW_{19}	15.6	X	233.13895	354.21469	301.84830	8.64985	0.1078853	0.17921082	3.1157306	20	2 11.7	20.4
347298 2011 OZ_{20}	16.2	X	64.16302	36.50572	321.87066	6.23326	0.1607680	0.25293690	2.4762505	20	—	—
347299 2011 OA_{28}	13.4	X	264.95063	11.48491	306.67084	13.03139	0.0652309	0.08268432	5.2181989	20	4 16.8	20.6
347300 2011 OQ_{34}	16.8	X	302.42938	353.14264	83.34820	5.04995	0.0839466	0.24407710	2.5358177	20	11 21.4	19.6
347301 2011 OR_{35}	16.6	X	292.25429	266.51300	79.01246	6.49458	0.0825813	0.21439697	2.7647569	20	6 25.9	20.1
347302 2011 OH_{51}	16.3	X	218.12790	239.24716	72.21381	2.31874	0.1521633	0.17775689	3.1326973	20	2 16.4	21.4
347303 2011 PS_3	15.6	X	131.46230	152.02029	292.81077	11.94620	0.0414582	0.18720154	3.0264239	20	4 17.4	20.2
347304 2011 PK_7	15.4	X	314.71383	252.41229	333.79567	9.99285	0.0332369	0.17496686	3.1659121	20	3 1.4	19.9
347305 2011 QT_3	16.0	X	173.91483	245.08545	260.68705	13.68134	0.1036895	0.22361121	2.6882749	20	8 23.8	20.4
347306 2011 QN_4	16.7	X	80.15728	67.91032	194.38754	6.84020	0.2114758	0.23853337	2.5749569	20	11 1.2	20.6
347307 2011 QW_5	15.8	X	279.02080	27.19002	240.38434	10.33995	0.0443037	0.18288410	3.0738694	20	3 1.6	20.5
347308 2011 QN_6	15.5	X	107.70727	183.51690	253.41108	9.84403	0.0796584	0.18069116	3.0986899	20	3 16.5	20.1
347309 2011 QQ_{10}	15.7	X	141.03554	130.34052	323.47179	8.01255	0.0424075	0.18921047	3.0049640	20	5 13.1	20.2
347310 2011 QF_{17}	16.1	X	200.12881	160.42985	174.29874	5.39173	0.1435930	0.17354083	3.1832318	20	2 26.4	21.3
347311 2011 QF_{28}	16.0	X	243.12349	342.47391	330.23758	5.50854	0.1261757	0.18331776	3.0690198	20	3 10.7	20.9
347312 2011 QL_{33}	16.0	X	228.45062	184.64501	166.37795	12.06366	0.1720931	0.18780265	3.0199627	20	4 11.3	20.9
347313 2011 QB_{46}	13.9	X	288.78929	70.20828	244.73850	3.15605	0.0914058	0.08394257	5.1659225	20	5 12.2	20.5
347314 2011 QE_{46}	14.2	X	275.33019	105.14091	221.50006	8.27208	0.0944611	0.08213752	5.2413320	20	5 10.2	21.2
347315 2011 QK_{46}	13.7	X	262.81118	190.12265	155.63764	11.03184	0.0598932	0.08503054	5.1217626	20	5 24.4	20.7
347316 2011 QJ_{63}	16.3	X	115.04919	268.10912	194.07004	11.87570	0.0935227	0.18515314	3.0487045	20	5 3.2	20.8
347317 2011 QX_{75}	16.3	X	238.88603	207.43194	152.99239	2.41377	0.1145829	0.19558116	2.9393505	20	5 5.6	20.7
347318 2011 QV_{76}	14.1	X	292.74762	351.69131	334.88247	9.14671	0.0440306	0.08292691	5.2080172	20	6 4.4	21.0
347319 2011 QB_{96}	15.9	X	63.84191	338.89113	26.16260	22.77741	0.1085675	0.25520508	2.4615567	20	—	—
347320 2011 RS_{15}	16.0	X	60.63161	298.70138	229.14039	8.45660	0.0592634	0.19122728	2.9837985	20	5 11.1	19.7
347321 2011 SH_6	16.1	X	143.71331	152.65908	256.38937	7.88765	0.0749067	0.17719361	3.1393328	20	3 24.2	20.9
347322 2011 SB_{27}	15.5	X	239.97193	58.22555	353.90990	27.13910	0.1306063	0.20383833	2.8594257	20	7 19.1	20.3
347323 2011 SM_{39}	15.6	X	142.81296	124.97877	216.94979	9.68042	0.0982497	0.15835656	3.3835974	20	1 10.9	20.9
347324 2011 SE_{72}	16.0	X	15.10417	278.31013	278.49731	2.04625	0.0496484	0.18107116	3.0943530	20	4 12.8	20.0
347325 2011 SM_{117}	15.5	X	276.17286	311.63936	353.68190	10.79924	0.0603886	0.17986443	3.1081778	20	4 12.9	19.9
347326 2011 SZ_{178}	15.1	X	308.94410	45.27398	207.84110	16.30374	0.0890188	0.17395901	3.1781283	20	3 17.6	19.6
347327 2011 SV_{196}	16.1	X	273.82725	269.47806	337.79945	4.38393	0.0674622	0.16765971	3.2572436	20	2 4.6	20.7
347328 2011 SC_{218}	16.4	X	241.64259	280.96240	114.60388	11.74856	0.1207312	0.19119084	2.9841776	20	6 21.1	20.8
347329 2011 SZ_{263}	15.9	X	338.63292	212.15097	351.37368	2.21093	0.0330552	0.17270766	3.1934613	20	3 5.4	20.2
347330 2011 SV_{266}	13.7	X	301.64105	73.93660	228.42439	2.52432	0.0726227	0.08200715	5.2468855	20	5 16.0	20.4
347331 2011 UE_{121}	15.7	X	135.41190	101.49975	20.77848	9.64259	0.1033593	0.17967868	3.1103196	20	6 18.8	20.6
347332 2011 UK_{295}	15.4	X	315.81511	14.87357	226.28739	9.06157	0.0542127	0.17657800	3.1466250	20	3 15.9	19.8
347333 2012 BV_{19}	15.4	X	204.61032	287.78632	161.08858	26.30883	0.2013552	0.17688558	3.1429763	20	7 13.1	21.0
347334 2012 MV_5	15.5	X	198.35460	314.47302	286.37381	12.52795	0.1304346	0.17893154	3.1189719	20	—	—
347335 2012 NF_1	16.5	X	108.76156	183.19401	157.29120	7.12709	0.1808266	0.17374415	3.1807479	20	—	—
347336 2012 NN_1	15.5	X	114.15374	56.66897	289.80820	8.38426	0.0876259	0.18010068	3.1054591	20	—	—
347337 2012 OR_5	17.4	X	306.52277	164.87915	174.60162	22.58093	0.0742633	0.36850960	1.9268009	20	7 20.0	19.5
347338 2012 OC_6	15.8	X	265.25932	212.47410	123.27181	14.03413	0.2945183	0.22311452	2.6922631	20	4 17.5	20.4
347339 2012 PN_{12}	16.4	X	278.37918	172.98822	179.60783	10.22708	0.1540208	0.22751332	2.6574483	20	6 6.0	20.1
347340 2012 PM_{16}	17.1	X	109.46749	318.48075	294.31443	5.75776	0.1069016	0.26751590	2.3854463	20	11 12.2	20.7
347341 2012 PF_{18}	16.7	X	323.19663	328.45381	63.39863	2.15833	0.2518940	0.25211498	2.4816296	20	10 26.7	18.2
347342 2012 PC_{31}	17.1	X	310.25595	217.09957	176.03971	5.11184	0.2177989	0.25107320	2.4884895	20	9 23.8	19.0
347343 2012 PK_{31}	16.6	X	13.30362	226.81144	97.98015	5.77548	0.1891897	0.25503033	2.4626810	20	11 1.2	19.2
347344 2012 PW_{36}	16.3	X	241.50970	126.73395	175.59622	7.60288	0.1378476	0.20384846	2.8593310	20	2 23.2	20.7
347345 2012 QQ_9	17.6	X	3.75732	61.10126	290.85259	0.63114	0.1994010	0.25714375	2.4491689	20	11 23.2	20.0
347346 2012 QD_{13}	15.8	X	133.97365	0.76837	359.12819	9.96749	0.0998760	0.17536837	3.1610780	20	1 24.9	20.6
347347 2012 QV_{16}	17.2	X	43.74948	121.49485	181.66541	6.70539	0.1210865	0.25869174	2.4393887	20	11 5.1	20.3
347348 2012 QM_{20}	15.9	X	202.89540	167.78308	192.51712	15.11175	0.1486466	0.20338116	2.8637091	20	3 27.8	20.6
347349 2012 QP_{20}	17.9	X	138.40564	39.40594	308.45491	1.32418	0.2075856	0.30556342	2.1830741	20	1 5.5	20.5
347350 2012 QK_{21}	16.6	X	346.34114	204.78414	170.20948	6.31544	0.2365246	0.25727549	2.4483328	20	12 1.1	18.7
347351 2012 QW_{22}	16.3	X	275.89186	99.12576	190.79228	6.94449	0.1834659	0.21040621	2.7996067	20	3 8.4	20.5
347352 2012 QX_{22}	15.9	X	147.66593	153.61570	183.79512	8.02544	0.0744617	0.17621641	3.1509281	20	1 6.7	20.7
347353 2012 QX_{24}	16.9	X	58.27793	114.59474	185.90456	5.96663	0.1070906	0.26085215	2.4259011	20	11 18.1	20.1
347354 2012 QU_{29}	17.7	X	344.92515	177.20997	192.10160	0.66277	0.1939973	0.25527264	2.4611223	20	11 11.1	19.7
347355 2012 QV_{33}	17.1	X	346.72135	181.04271	202.97248	5.86360	0.1753562	0.25787818	2.4445166	20	12 5.8	19.5
347356 2012 QK_{35}	17.3	X	225.82885	83.32475	319.37893	7.36687	0.3180481	0.21655257	2.7463791	20	5 28.2	22.3
347357 2012 QQ_{36}	17.3	X	27.74515	169.67080	143.86577	2.02903	0.1861851	0.25710437	2.4494189	20	11 6.3	20.2
347358 2012 QR_{40}	15.0	X	109.35371	24.79978	341.11812	24.26199	0.2612416	0.17272368	3.1932638	20	1 30.7	20.0
347359 2012 QF_{41}	17.2	X	343.86088	224.76123	150.05874	1.91490	0.1975754	0.25809165	2.4431685	20	11 19.3	19.1
347360 2012 QU_{41}	16.2	X	237.14654	224.72315	147.95238	11.70409	0.1576341	0.22043488	2.7140375	20	5 17.3	20.6

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347361 2012 QV_{41}	17.8	X	348.63208	246.24208	103.55398	0.13350	0.2770154	0.25262537	2.4782859	20	10 30.6	19.3
347362 2012 QB_{42}	15.9	X	217.52928	132.26139	177.87171	18.03338	0.1987690	0.19868822	2.9086266	20	2 7.9	21.1
347363 2012 QR_{51}	16.8	X	292.39379	330.21332	17.92412	14.33771	0.2720828	0.23067549	2.6331064	20	5 26.1	20.4
347364 2012 RQ_{1}	17.5	X	83.86817	202.23805	180.37720	3.87870	0.1827766	0.29458471	2.2369825	20	—	—
347365 2012 RK_{3}	17.0	X	121.91356	139.73698	135.34933	6.46033	0.1854579	0.27725861	2.3292317	20	12 26.8	20.9
347366 2012 RL_{4}	17.9	X	35.45474	149.10925	233.56381	1.83829	0.2454918	0.27258348	2.3557889	20	—	—
347367 2012 RS_{4}	18.4	X	17.17870	22.38131	40.12199	2.75492	0.1998107	0.27858938	2.3218082	20	—	—
347368 2012 RD_{6}	15.9	X	141.08597	337.66657	13.95528	10.82084	0.2225322	0.17486888	3.1670945	20	2 4.2	21.2
347369 2012 RK_{6}	17.6	X	34.82737	356.74563	2.53815	2.29226	0.2020223	0.27009756	2.3702216	20	—	—
347370 2012 RU_{6}	17.4	X	357.87855	182.82715	191.50993	2.30723	0.2182051	0.25798756	2.4438256	20	12 18.6	19.7
347371 2012 RL_{7}	17.8	X	59.75023	336.52434	353.19177	2.50817	0.1849994	0.27135413	2.3628987	20	—	—
347372 2012 RQ_{8}	15.6	X	151.77194	359.87679	335.30621	9.73300	0.1389148	0.17765874	3.1338509	20	1 16.8	20.5
347373 2012 RZ_{8}	15.7	X	291.11645	336.58849	46.36906	13.89203	0.1753921	0.23045205	2.6348082	20	8 8.7	19.1
347374 2012 RM_{10}	16.5	X	154.36139	77.57329	325.66448	1.14569	0.0487527	0.20075438	2.8886352	20	3 28.3	20.7
347375 2012 RL_{12}	17.6	X	162.22692	308.96019	10.63167	7.21277	0.2834075	0.30748321	2.1739778	20	1 1.9	21.1
347376 2012 RU_{12}	16.8	X	336.99941	131.50763	261.64788	6.72003	0.1310764	0.25545992	2.4599193	20	11 23.7	19.2
347377 2012 RH_{14}	17.5	X	106.22160	49.65507	336.64957	5.69944	0.1412022	0.29797876	2.2199636	20	1 6.4	19.8
347378 2012 RM_{14}	15.7	X	157.39458	349.75837	333.08782	8.05685	0.1995229	0.17392067	3.1785954	20	1 12.2	20.9
347379 2012 RV_{17}	17.3	X	178.33953	83.30786	198.17356	5.01416	0.0921514	0.29348255	2.2425796	20	—	—
347380 2012 RX_{17}	16.6	X	245.19040	166.57840	195.30579	7.98965	0.1813972	0.21437154	2.7649756	20	5 7.4	20.9
347381 2012 RG_{19}	17.0	X	43.73219	10.13117	308.66658	1.45907	0.2054840	0.26004041	2.4309470	20	12 6.2	20.4
347382 2012 RS_{19}	17.8	X	106.37991	310.59076	24.29950	5.77057	0.1835956	0.28922476	2.2645352	20	—	—
347383 2012 RB_{21}	16.7	X	239.24380	191.54988	197.53988	4.89784	0.1697112	0.22057875	2.7128572	20	6 5.2	20.9
347384 2012 RB_{24}	16.4	X	270.22358	263.55677	87.55295	4.85143	0.1112046	0.21569992	2.7536119	20	5 30.0	20.3
347385 2012 RO_{24}	15.2	X	52.12432	73.62340	24.32787	10.02742	0.0264390	0.17427874	3.1742401	20	2 4.2	19.7
347386 2012 RO_{25}	17.0	X	189.97360	80.62416	313.25812	4.91079	0.0931456	0.20164337	2.8801388	20	4 24.2	21.5
347387 2012 RL_{29}	17.2	X	38.24868	182.01783	128.20242	1.28546	0.2175360	0.26056603	2.4276767	20	11 20.9	20.3
347388 2012 RF_{34}	17.3	X	34.10918	229.04828	204.71257	2.31350	0.1399475	0.28958840	2.2626390	20	—	—
347389 2012 RH_{34}	16.6	X	265.52401	144.97863	218.90030	5.40822	0.0609083	0.22016136	2.7162849	20	6 17.2	20.3
347390 2012 RV_{34}	16.8	X	286.40845	328.75882	353.49156	4.39025	0.0745745	0.21377066	2.7701545	20	5 16.9	20.6
347391 2012 RL_{35}	17.4	X	10.01034	125.81963	242.42432	1.60617	0.0604329	0.25920657	2.4361576	20	12 5.2	20.4
347392 2012 RP_{35}	16.3	X	146.31286	48.79944	307.31718	1.60380	0.1033922	0.17559376	3.1583724	20	1 30.8	21.1
347393 2012 RR_{41}	16.7	X	151.48966	20.55084	339.24199	3.57660	0.1697865	0.18041086	3.1018986	20	2 14.4	21.6
347394 2012 SK_{1}	17.4	X	350.43579	229.40093	137.30879	2.18075	0.2062593	0.25656139	2.4528737	20	11 21.5	19.5
347395 2012 SQ_{4}	17.2	X	61.74802	167.27439	146.42326	4.48776	0.2503925	0.26604917	2.3942056	20	12 24.1	21.0
347396 2012 SZ_{5}	17.2	X	15.32038	259.09710	184.99549	6.99899	0.0589784	0.28603597	2.2813344	20	—	—
347397 2012 SD_{6}	16.3	X	144.39866	165.40558	197.47935	1.03268	0.1915358	0.17823359	3.1271089	20	2 12.8	21.2
347398 2012 SW_{8}	16.9	X	246.93586	231.34457	187.61381	9.46123	0.1669438	0.23117060	2.6293454	20	7 20.9	20.8
347399 2012 SR_{11}	16.6	X	260.36755	23.75103	353.43447	5.53590	0.0526471	0.21953297	2.7214658	20	6 30.2	20.3
347400 2012 SW_{11}	17.8	X	52.47291	357.64591	1.02162	2.23000	0.2050179	0.27350345	2.3505032	20	—	—
347401 2012 SB_{13}	15.7	X	121.75007	350.00777	30.46454	4.27280	0.0464933	0.17532537	3.1615948	20	1 27.5	20.2
347402 2012 SG_{15}	15.6	X	202.10405	86.36919	233.03166	9.68736	0.0245838	0.17960618	3.1111566	20	2 7.5	20.3
347403 2012 SN_{17}	17.2	X	241.12182	109.21703	267.66380	1.14458	0.0916732	0.21681428	2.7441686	20	5 30.4	21.2
347404 2012 SU_{20}	16.3	X	270.51740	283.73126	37.20948	15.35096	0.3091983	0.21438984	2.7648182	20	4 1.8	20.8
347405 2012 SM_{22}	16.7	X	281.02028	145.56263	202.13879	12.18314	0.1331252	0.22542311	2.6738503	20	6 5.7	20.4
347406 2012 SX_{27}	17.6	X	80.04559	91.75516	189.99395	6.50506	0.1961231	0.26185704	2.4196909	20	11 27.3	21.4
347407 2012 SF_{30}	13.7	X	312.78630	285.52241	349.78690	6.79672	0.0737787	0.08374786	5.1739262	20	4 26.4	20.4
347408 2012 SJ_{31}	17.6	X	44.38097	64.90228	261.11146	0.23404	0.2037624	0.26330281	2.4108252	20	12 16.7	21.0
347409 2012 SL_{31}	16.3	X	156.46825	214.58844	161.86942	4.76335	0.1623083	0.18354613	3.0664736	20	3 8.1	21.2
347410 2012 SO_{31}	17.2	X	273.92674	270.99502	148.29376	3.89845	0.1192313	0.23668513	2.5883444	20	9 6.4	20.4
347411 2012 SV_{32}	18.0	X	45.63993	308.38254	161.76323	3.09562	0.1157731	0.30559204	2.1829378	20	1 15.9	19.7
347412 2012 SJ_{34}	16.4	X	178.19610	164.16596	186.86631	9.98299	0.1133135	0.18907969	3.0063494	20	2 22.4	21.1
347413 2012 SA_{37}	15.1	X	133.26787	214.40515	355.43004	2.35100	0.1004196	0.12419777	3.9785687	20	9 26.0	21.1
347414 2012 SS_{38}	15.2	X	59.25998	243.95458	186.29520	13.67356	0.0949014	0.17007121	3.2263800	20	1 12.1	19.6
347415 2012 SU_{40}	16.4	X	343.33322	5.65476	205.04990	5.22363	0.0260270	0.19717964	2.9234433	20	3 17.2	20.4
347416 2012 SV_{40}	16.1	X	136.67835	75.21168	268.30393	2.07039	0.0345427	0.17078501	3.2173839	20	—	—
347417 2012 SR_{44}	16.1	X	187.27333	216.35090	201.25513	11.84639	0.1759857	0.20919669	2.8103873	20	5 23.6	20.8
347418 2012 ST_{44}	16.0	X	137.37120	158.92327	200.83881	11.96181	0.1430244	0.17678556	3.1441616	20	1 26.9	21.0
347419 2012 SL_{48}	15.9	X	15.63877	148.89139	14.12614	10.13582	0.1128967	0.18838542	3.0137313	20	3 5.2	19.5
347420 2012 SD_{49}	16.4	X	222.58832	201.14098	152.62103	2.60823	0.0831433	0.20433037	2.8548334	20	4 12.1	20.5
347421 2012 ST_{57}	17.5	X	96.82303	350.51406	22.93203	6.26802	0.1948440	0.28998718	2.2605642	20	—	—
347422 2012 SW_{58}	15.6	X	143.96103	73.66020	312.61920	10.61746	0.1908776	0.18064404	3.0992287	20	3 6.8	20.7
347423 2012 SV_{60}	15.8	X	207.01885	111.31021	189.22411	12.16286	0.0428665	0.18206509	3.0830810	20	1 22.5	20.5
347424 2012 TX	16.6	X	206.08724	67.40282	338.12573	3.64487	0.0657688	0.21267836	2.7796312	20	5 28.6	20.8
347425 2012 TX_{2}	16.5	X	230.74515	195.38109	202.90876	4.03450	0.0835223	0.21553441	2.7550214	20	6 16.3	20.5
347426 2012 TZ_{2}	17.5	X	157.56149	163.24116	191.28762	5.91097	0.2044124	0.30829730	2.1701491	20	2 1.1	20.6
347427 2012 TE_{11}	16.9	X	73.52535	290.67940	22.21218	5.00278	0.2439006	0.26641223	2.3920300	20	—	—
347428 2012 TV_{13}	16.8	X	348.62187	54.12218	354.99839	6.35135	0.1219594	0.26153113	2.4217006	20	—	—
347429 2012 TS_{19}	17.2	X	13.82983	197.70828	211.75896	6.51270	0.1125011	0.27150610	2.3620168	20	—	—
347430 2012 TN_{21}	17.2	X	357.74524	327.07353	351.05138	3.02785	0.0789191	0.23727635	2.5840431	20	9 4.9	20.1
347431 2012 TZ_{21}	16.0	X	165.73904	344.67431	21.30015	11.04599	0.0204118	0.18287986	3.0739169	20	2 29.3	20.5
347432 2012 TP_{22}	15.6	X	32.47662	302.62099	202.27358	11.98781	0.1269146	0.17943405	3.1131459	20	3 4.7	19.4
347433 2012 TL_{33}	16.9	X	262.79588	197.09507	195.66767	4.22335	0.1187032	0.22574019	2.6713459	20	7 13.4	20.5
347434 2012 TC_{37}	16.8	X	295.23742	101.49518	200.55500	3.71717	0.0532542	0.21566282	2.7539277	20	5 7.1	20.4
347435 2012 TS_{88}	16.2	X	123.98938	202.23321	201.06050	5.84628	0.0596963	0.17951615	3.1121966	20	2 24.3	20.7
347436 2012 TR_{109}	15.5	X	64.36819	211.03574	255.14306	9.14518	0.0439613	0.18066662	3.0989705	20	2 22.3	19.9
347437 2012 TP_{113}	16.5	X	134.46042	105.80230	285.57618	6.68296	0.0663613	0.18056393	3.1001453	20	2 21.8	21.0
347438 2012 TA_{156}	17.3	X	359.91528	115.98515	155.43823	0.92629	0.1719913	0.22735217	2.6587039	20	7 4.2	19.7
347439 2012 TK_{165}	16.4	X	53.82345	213.77954	15.18949	12.97910	0.1172094	0.22693136	2.6619897	20	8 8.3	20.0
347440 2012 TG_{173}	17.2	X	29.86271	116.37581	285.43157	2.15753	0.0040437	0.27698391	2.3307715	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347441 2012 TK_{174}	16.7	X	276.06418	98.73562	253.64203	3.69213	0.1282798	0.22110528	2.7085486	20	6 5.4	20.3
347442 2012 TZ_{188}	16.9	X	274.04059	271.70927	70.28060	1.52339	0.0840470	0.21345374	2.7728957	20	5 26.6	20.6
347443 2012 TE_{189}	16.4	X	168.56338	163.84113	193.16710	4.78262	0.1453659	0.18190024	3.0849434	20	2 23.2	21.3
347444 2012 TJ_{189}	17.3	X	313.28603	296.86789	39.38416	3.86420	0.1048450	0.22653352	2.6651055	20	7 14.5	20.4
347445 2012 TU_{216}	16.8	X	216.12612	270.48740	177.59029	9.10760	0.2792305	0.21990175	2.7184223	20	7 17.5	21.7
347446 2012 TF_{231}	12.6	X	265.18645	15.66154	303.50632	18.67504	0.0426735	0.08143967	5.2712312	20	4 18.8	19.9
347447 2012 TC_{232}	16.9	X	347.46651	97.29453	293.30304	5.78511	0.1511616	0.26074449	2.4265688	20	12 13.8	19.3
347448 2012 TF_{232}	17.3	X	47.60986	224.40274	122.79734	3.66438	0.1954045	0.26635832	2.3923527	20	—	—
347449 2012 TW_{236}	12.3	X	96.47197	326.17711	179.74062	11.93149	0.5697203	0.05356428	6.9697822	20	7 16.7	21.9
347450 2012 TH_{241}	16.8	X	187.92247	72.33544	36.71949	3.00425	0.1364686	0.21643001	2.7474158	20	7 28.6	21.2
347451 2012 TW_{241}	16.5	X	276.43594	225.24950	80.44724	3.19574	0.0441838	0.20314813	2.8658987	20	4 19.5	20.5
347452 2012 TL_{242}	14.1	X	306.93888	229.27614	65.78846	4.02440	0.1510917	0.08342043	5.1874562	20	5 4.9	20.6
347453 2012 TS_{242}	15.9	X	46.66548	299.47138	192.44222	11.91867	0.0745069	0.18049569	3.1009266	20	3 6.8	20.0
347454 2012 TT_{242}	16.2	X	233.03098	242.26910	73.52266	3.84430	0.1328892	0.19269976	2.9685789	20	3 6.4	20.8
347455 2012 TE_{258}	13.2	X	319.24477	274.72387	1.42816	17.82781	0.0688803	0.08297543	5.2059865	20	5 1.8	20.0
347456 2012 TE_{259}	16.2	X	278.85607	197.96024	109.63920	3.20668	0.0539231	0.20432463	2.8548869	20	4 23.8	20.1
347457 2012 TU_{262}	16.9	X	165.51579	207.38224	146.11112	1.26562	0.1780306	0.18167257	3.0875202	20	2 19.4	22.0
347458 2012 TV_{262}	15.8	X	52.23192	304.48848	194.67447	16.51227	0.1203763	0.18493218	3.0511324	20	3 30.2	19.7
347459 2012 TP_{298}	18.0	X	119.75917	224.52527	66.26369	2.11510	0.1737049	0.27395308	2.3479306	20	—	—
347460 2012 TA_{301}	17.8	X	139.77875	254.42774	113.60937	4.20711	0.1296554	0.30600032	2.1809956	20	1 23.5	20.3
347461 2012 TW_{302}	16.7	X	259.73966	225.62514	171.09803	6.07339	0.0888265	0.22640899	2.6660826	20	7 19.1	20.4
347462 2012 TY_{308}	17.6	X	6.25910	274.98442	30.45789	13.24454	0.1677556	0.24167015	2.5526271	20	9 17.9	20.3
347463 2012 TR_{309}	17.4	X	62.52877	5.09354	304.15154	1.46589	0.2383257	0.26328307	2.4109457	20	12 17.8	20.9
347464 2012 TF_{312}	15.6	X	296.57637	304.66998	55.05282	12.78503	0.3123151	0.22918832	2.6444847	20	6 13.4	18.8
347465 2012 TV_{312}	16.6	X	359.24641	162.72654	135.15456	3.74184	0.1899885	0.23319159	2.6141317	20	8 16.3	18.9
347466 2012 TZ_{313}	17.8	X	94.24000	312.43541	65.81574	3.52917	0.1619407	0.28770757	2.2724894	20	—	—
347467 2012 TD_{314}	16.8	X	293.60189	210.97979	134.46191	3.56825	0.1190606	0.22606679	2.6687724	20	6 22.7	20.0
347468 2012 TU_{314}	16.1	X	318.50618	6.97438	2.87058	3.98477	0.2058607	0.23521111	2.5991469	20	9 3.9	18.3
347469 2012 TG_{315}	15.3	X	81.23617	284.23461	167.25294	24.27483	0.1395105	0.17582745	3.1555732	20	3 16.1	19.5
347470 2012 TS_{316}	16.7	X	9.64499	272.40478	86.06706	8.31708	0.1300251	0.25572469	2.4582211	20	12 1.4	19.4
347471 2012 UW_{1}	16.7	X	291.54780	211.00733	137.99256	5.11453	0.1177411	0.22447765	2.6813529	20	6 24.7	20.0
347472 2012 UD_{3}	17.5	X	21.55723	278.27609	124.92011	3.45546	0.1848818	0.27136203	2.3628528	20	—	—
347473 2012 UZ_{3}	16.2	X	316.49180	156.24074	94.77695	2.97366	0.0650468	0.19782390	2.9170926	20	3 30.8	20.1
347474 2012 UG_{10}	16.8	X	285.25753	164.31626	172.07100	2.54675	0.0730194	0.21695607	2.7429729	20	6 5.4	20.4
347475 2012 UQ_{14}	15.9	X	272.34863	48.90294	185.27791	5.46495	0.0776663	0.17466118	3.1696048	20	1 14.8	20.6
347476 2012 UV_{29}	16.8	X	303.20544	199.79555	164.18558	2.89794	0.2622624	0.23263032	2.6183347	20	7 11.5	19.4
347477 2012 UZ_{131}	17.9	X	54.38927	7.00640	44.27845	3.95264	0.1583094	0.28914650	2.2649438	20	—	—
347478 2012 UX_{133}	16.7	X	318.91997	233.01562	268.37604	10.07402	0.0408915	0.28161176	2.3051659	20	—	—
347479 2012 UR_{134}	16.2	X	54.87499	353.05667	270.96724	11.19149	0.1517353	0.23615887	2.5921883	20	9 20.9	19.9
347480 3291 $T{-}2$	17.4	X	104.86541	187.03601	167.47715	8.90051	0.2524793	0.28029881	2.3123587	20	—	—
347481 1174 $T{-}3$	16.0	X	189.26217	116.39202	271.27640	6.62457	0.2308982	0.19778475	2.9174775	20	4 15.5	21.2
347482 1993 FQ_{19}	15.7	X	76.18534	22.70315	157.01488	11.08283	0.1492977	0.18746945	3.0235399	20	6 30.2	20.0
347483 1993 TZ_{10}	18.0	X	45.80647	75.71658	313.07140	1.49447	0.2210163	0.26403069	2.4063924	20	—	—
347484 1994 SW_{5}	15.8	X	135.62928	33.20015	18.37271	6.48906	0.1595852	0.17150013	3.2084338	20	3 31.0	20.9
347485 1994 UT_{5}	17.1	X	266.01689	29.82286	18.33209	7.25761	0.1078663	0.22210132	2.7004447	20	8 13.2	20.7
347486 1995 HD_{3}	17.3	X	198.01487	139.52834	79.26586	3.64767	0.1338812	0.25742142	2.4474073	20	12 29.2	20.6
347487 1995 MC_{7}	16.7	X	104.91054	9.58028	277.49701	13.21650	0.0166017	0.24729382	2.5137797	20	12 13.4	20.1
347488 1995 OO_{8}	17.4	X	296.00585	57.94825	357.14544	4.14241	0.3196789	0.23522074	2.5990760	20	9 4.1	19.7
347489 1995 TS_{3}	16.8	X	20.84816	75.30495	256.26509	0.64984	0.1917458	0.23875509	2.5733624	20	11 16.2	19.9
347490 1995 TG_{9}	16.7	X	342.51487	181.17414	166.15516	8.39766	0.1681082	0.23744100	2.5828483	20	9 26.1	19.1
347491 1995 WV_{9}	17.1	X	339.68550	357.82415	37.99426	5.06212	0.1986380	0.23814458	2.5777586	20	12 3.2	19.4
347492 1996 AT_{13}	17.9	X	62.26288	13.08671	82.81745	4.48611	0.0941193	0.28636105	2.2796075	20	1 30.4	20.2
347493 1996 VP_{9}	16.7	X	16.75946	284.39830	96.86888	8.04860	0.1963969	0.25061516	2.4915207	20	—	—
347494 1996 VW_{27}	16.8	X	93.92222	32.70544	113.98535	1.41357	0.1140342	0.18752088	3.0229871	20	6 4.9	21.1
347495 1998 QP_{2}	16.8	X	336.15099	20.62495	320.32440	5.09713	0.0956749	0.22563852	2.6721483	20	8 29.2	19.6
347496 1998 QG_{58}	16.5	X	299.91364	35.51288	351.95856	10.96326	0.0814540	0.22279510	2.6948357	20	9 6.3	19.8
347497 1998 QR_{109}	16.1	X	333.72656	357.02453	323.26615	6.45102	0.3183512	0.22289595	2.6940228	20	7 7.4	17.9
347498 1998 RE_{68}	16.4	X	298.97189	23.54051	355.96489	6.62067	0.2545482	0.22026640	2.7154213	20	7 29.7	19.5
347499 1998 SV_{2}	16.9	X	117.85215	45.30386	310.52900	24.76865	0.3112166	0.28709422	2.2757248	20	1 13.7	19.9
347500 1998 SQ_{40}	17.4	X	57.70754	241.44438	22.00083	1.98020	0.0271557	0.22254962	2.6968170	20	9 9.9	20.8
347501 1998 SH_{50}	16.2	X	296.11935	347.77323	24.29648	10.83284	0.2609017	0.21912960	2.7248045	20	7 12.6	19.6
347502 1998 UG_{9}	18.1	X	121.84154	357.29929	12.46582	4.89704	0.1708808	0.28874530	2.2670413	20	1 12.9	20.8
347503 1998 XT_{16}	16.5	X	270.55425	303.78406	80.49590	9.70701	0.3047898	0.21533301	2.7567390	20	6 15.3	20.6
347504 1999 AF_{32}	17.1	X	41.63480	304.03934	113.75920	6.90324	0.0929522	0.27518423	2.3409224	20	—	—
347505 1999 CM_{4}	16.4	X	346.84712	90.96444	126.58706	22.77492	0.3143286	0.28037502	2.3119397	20	2 11.3	18.2
347506 1999 GU_{62}	17.3	X	303.20006	127.80811	10.65538	10.00261	0.0519816	0.26634011	2.3924617	20	—	—
347507 1999 KN_{2}	17.8	X	255.54895	327.56899	223.65319	7.31938	0.2242513	0.26379472	2.4078272	20	—	—
347508 1999 RJ_{25}	16.0	X	356.52329	2.89745	346.88676	7.29793	0.1996838	0.23665602	2.5885567	20	10 27.9	18.7
347509 1999 RA_{104}	18.4	X	213.96483	102.07209	203.38164	7.07947	0.3673444	0.31126453	2.1563353	20	1 21.5	22.7
347510 1999 RV_{154}	18.0	X	199.18090	357.08047	319.32902	3.60556	0.2150196	0.30926051	2.1656407	20	1 23.9	21.3
347511 1999 RV_{189}	16.4	X	324.28520	269.74013	124.49719	5.87238	0.3104936	0.23629290	2.5912080	20	10 29.9	17.7
347512 1999 RJ_{203}	16.0	X	314.72331	75.45840	298.60466	13.50739	0.1451887	0.23368206	2.6104726	20	8 30.9	18.9
347513 1999 RA_{226}	16.3	X	347.11099	50.13423	304.30628	13.16290	0.2014926	0.23723127	2.5843704	20	10 9.6	19.0
347514 1999 SP_{14}	17.2	X	0.43006	69.79834	239.39788	12.82918	0.4044241	0.23647137	2.5899041	20	10 9.6	19.1
347515 1999 TS_{7}	15.7	X	334.85284	323.40960	28.44788	16.15127	0.2528665	0.23375807	2.6099067	20	9 22.4	17.7
347516 1999 TT_{30}	16.7	X	325.35630	354.58108	2.88360	5.36244	0.2260640	0.23251937	2.6191676	20	8 29.9	18.6
347517 1999 TR_{51}	17.1	X	261.44613	250.98408	212.49080	12.32424	0.1436063	0.23452607	2.6042058	20	10 12.9	20.4
347518 1999 TJ_{62}	17.3	X	318.83380	351.88369	55.68664	1.44446	0.1655472	0.23473212	2.6026815	20	11 3.8	19.7
347519 1999 TP_{65}	17.9	X	257.88642	167.94426	181.45263	0.61885	0.2290967	0.27185297	2.3600072	20	4 26.5	21.4
347520 1999 TQ_{69}	18.3	X	129.10208	359.09289	2.30616	1.84009	0.2095414	0.30184889	2.2009474	20	1 13.7	20.8

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347521 1999 TZ_{108}	16.1	X	31.68940	119.63103	198.89662	15.40054	0.2313334	0.24021047	2.5629576	20	11 22.3	19.5
347522 1999 TN_{139}	17.1	X	355.40033	154.70743	209.82046	3.59016	0.2031055	0.23631045	2.5910797	20	11 20.5	19.5
347523 1999 TU_{141}	16.7	X	290.28170	33.25892	25.63640	6.09274	0.2812859	0.23265790	2.6181278	20	9 7.2	19.5
347524 1999 TK_{210}	15.4	X	272.79854	111.81704	257.27641	24.03597	0.3276867	0.17646123	3.1480130	20	5 26.7	20.3
347525 1999 TG_{217}	15.6	X	281.73090	294.22190	37.31276	21.58767	0.4123366	0.17781664	3.1319954	20	4 14.2	20.7
347526 1999 TT_{289}	16.9	X	345.56486	321.71016	52.40033	5.42760	0.2382692	0.23574113	2.5952496	20	11 18.1	18.8
347527 1999 UQ_{18}	17.2	X	267.79273	33.77526	58.43850	4.52672	0.1398849	0.23468568	2.6030249	20	10 10.4	20.3
347528 1999 UR_{50}	16.7	X	292.42381	357.65170	71.73655	6.05874	0.2603038	0.23309977	2.6148181	20	10 2.2	19.2
347529 1999 VJ_{36}	15.9	X	280.89807	178.83916	241.75174	12.21720	0.2683606	0.22898551	2.6460459	20	8 17.1	19.5
347530 1999 VF_{52}	16.3	X	271.88992	26.78814	45.18075	14.50847	0.2338652	0.22960350	2.6412959	20	9 9.3	19.9
347531 1999 VN_{116}	18.1	X	275.16023	228.32503	195.37036	3.13177	0.1836752	0.22936653	2.6431148	20	9 1.3	21.3
347532 1999 WO_{5}	16.6	X	9.05755	291.19055	64.37671	13.94829	0.1172988	0.23447812	2.6045608	20	11 19.0	19.5
347533 1999 XA_{17}	16.2	X	298.01954	144.86266	253.80084	13.30100	0.2546656	0.22935077	2.6432358	20	8 16.9	19.4
347534 1999 XN_{142}	16.9	X	34.82253	111.25788	285.63056	21.61803	0.0801552	0.38406174	1.8744277	20	—	—
347535 1999 XH_{189}	15.9	X	282.51114	159.62353	289.15343	12.34176	0.2200745	0.23144443	2.6272711	20	10 6.6	19.2
347536 1999 XB_{258}	16.4	X	81.35231	171.65201	108.23312	11.14404	0.0263983	0.22684882	2.6626354	20	11 5.8	20.2
347537 1999 YY_{13}	16.2	X	298.25443	132.91983	278.69539	27.10404	0.1078926	0.22830594	2.6512941	20	9 15.8	20.2
347538 2000 AP_{1}	17.0	X	66.01643	59.20509	89.94463	20.67610	0.2862350	0.30065045	2.2067924	20	6 1.2	19.4
347539 2000 AQ_{24}	16.6	X	263.07973	24.23248	101.28342	9.27902	0.2734457	0.23034794	2.6356020	20	10 28.6	19.9
347540 2000 AS_{42}	17.6	X	283.64824	190.21257	291.72239	21.50787	0.1018950	0.37741228	1.8963800	20	—	—
347541 2000 AF_{44}	16.8	X	292.08125	9.22633	78.11201	15.82221	0.0710827	0.23406652	2.6076133	20	11 20.2	20.0
347542 2000 AV_{152}	17.1	X	37.11284	98.35905	280.38806	22.83017	0.1580552	0.38085398	1.8849379	20	—	—
347543 2000 BN_{6}	17.3	X	354.06937	116.93895	314.93084	23.02040	0.1327184	0.38159289	1.8825038	20	—	—
347544 2000 EJ_{7}	18.1	X	145.15716	91.99706	330.74845	2.93036	0.1812471	0.30102346	2.2049690	20	4 16.7	21.3
347545 2000 EB_{36}	16.8	X	206.52427	132.31790	344.63369	7.03809	0.2249711	0.21843984	2.7305375	20	8 20.2	21.2
347546 2000 EE_{132}	16.5	X	177.97589	155.26385	13.94599	5.06959	0.0958880	0.21773973	2.7363875	20	10 3.5	20.6
347547 2000 OL_{1}	17.5	X	307.67989	13.18124	183.54406	6.85763	0.2578295	0.27903994	2.3193082	20	—	—
347548 2000 QA_{50}	17.8	X	84.65117	167.49364	148.30785	6.52598	0.3245138	0.25994734	2.4315272	20	—	—
347549 2000 SW_{5}	15.7	X	153.58430	154.19096	219.63031	16.62730	0.2128354	0.17302851	3.1895122	20	3 1.2	21.3
347550 2000 SA_{126}	17.0	X	54.13969	315.01713	32.29034	1.47952	0.2035901	0.25570118	2.4583718	20	—	—
347551 2000 SG_{220}	16.4	X	42.84872	267.21016	114.54325	7.48553	0.2226423	0.25623714	2.4549425	20	—	—
347552 2000 SB_{302}	17.3	X	115.23822	148.77520	239.96103	3.15726	0.2275335	0.26777351	2.3839162	20	2 8.0	20.5
347553 2000 SS_{312}	16.0	X	39.41695	128.12921	249.84063	13.68883	0.1100230	0.25633560	2.4543139	20	—	—
347554 2000 ST_{325}	16.7	X	73.11867	333.60986	20.62175	6.97001	0.1840104	0.25954361	2.4340481	20	—	—
347555 2000 SL_{367}	16.6	X	20.12286	156.75853	250.47528	6.99361	0.1387095	0.25698166	2.4501987	20	—	—
347556 2000 TP_{20}	16.2	X	204.86777	196.81388	159.97918	14.83234	0.2636877	0.22802562	2.6534665	20	3 24.8	20.9
347557 2000 TW_{54}	16.1	X	119.50869	226.57618	112.52968	8.75085	0.1790006	0.26276508	2.4141131	20	—	—
347558 2000 UP_{18}	16.4	X	327.46388	56.13058	282.10528	7.25284	0.2900621	0.29150043	2.2527340	20	8 3.4	17.0
347559 2000 UT_{24}	16.5	X	17.06306	265.30625	120.44136	2.66985	0.2204253	0.25296765	2.4760499	20	—	—
347560 2000 UW_{24}	16.4	X	17.82457	324.40659	71.89522	7.27381	0.1259233	0.25400654	2.4692939	20	—	—
347561 2000 UN_{64}	16.8	X	86.03421	42.53489	315.40050	4.39001	0.1230626	0.25998629	2.4312843	20	—	—
347562 2000 UO_{95}	16.1	X	45.53053	114.61004	246.29056	5.97515	0.1539954	0.25361640	2.4718256	20	—	—
347563 2000 UX_{101}	16.5	X	73.57319	74.64977	275.54058	5.30236	0.1648425	0.25643847	2.4536575	20	—	—
347564 2000 UF_{111}	16.9	X	45.72088	270.81971	96.21942	3.71940	0.1815457	0.25395253	2.4696440	20	—	—
347565 2000 VX	15.8	X	276.47738	244.85087	53.45001	10.08295	0.0653727	0.17558788	3.1584428	20	4 11.0	20.3
347566 2000 VS_{1}	16.4	X	300.28114	129.95095	226.99315	13.59269	0.1496454	0.23856857	2.5747036	20	7 12.3	19.6
347567 2000 WQ_{28}	16.9	X	100.47878	36.08579	61.30319	24.63602	0.3421674	0.27023058	2.3694437	20	5 11.0	20.5
347568 2000 WA_{119}	16.7	X	39.23049	13.39481	1.65010	5.31339	0.1157870	0.25156941	2.4852161	20	—	—
347569 2000 WK_{130}	15.4	X	43.03016	74.65222	257.80242	11.91128	0.1887663	0.24672099	2.5176691	20	12 17.5	18.7
347570 2000 XN_{55}	15.7	X	250.19746	134.50316	10.77561	14.34406	0.1435074	0.24317273	2.5421010	20	11 20.2	19.1
347571 2000 YZ_{53}	16.2	X	256.17649	39.03794	105.76001	8.29013	0.1910581	0.24274924	2.5450567	20	11 27.0	19.2
347572 2000 YZ_{55}	15.6	X	343.26612	237.39032	109.78916	28.91504	0.0693562	0.23637269	2.5906248	20	10 6.4	19.4
347573 2000 YB_{59}	16.4	X	343.21190	287.19341	98.84127	8.80220	0.2318889	0.24371449	2.5383324	20	12 4.7	18.6
347574 2000 YL_{113}	15.9	X	240.19959	182.70607	301.43511	13.25152	0.1253915	0.23857947	2.5746252	20	10 8.5	19.7
347575 2001 AC_{6}	16.3	X	355.36794	100.51287	281.59337	5.66605	0.2672580	0.24583755	2.5236971	20	12 29.1	18.6
347576 2001 AP_{28}	15.8	X	317.25722	58.57112	354.14577	12.08698	0.1272309	0.24239550	2.5475322	20	11 5.7	18.7
347577 2001 AE_{47}	15.9	X	240.32485	106.15173	70.80986	29.71121	0.3121843	0.24091780	2.5579387	20	11 28.5	19.3
347578 2001 AY_{49}	13.5	X	268.20289	145.47765	289.97954	22.92850	0.0519446	0.08390708	5.1673791	20	8 28.5	20.7
347579 2001 BZ_{10}	16.7	X	271.52897	15.17046	116.12410	5.53532	0.1721064	0.24319857	2.5419210	20	12 5.6	19.5
347580 2001 CM_{9}	16.3	X	285.47007	7.49997	120.93196	8.71916	0.2035070	0.24240992	2.5474311	20	12 23.4	18.6
347581 2001 CK_{13}	16.1	X	250.37787	27.68016	116.82088	9.90149	0.1843792	0.23980897	2.5658175	20	11 19.9	19.4
347582 2001 CT_{49}	16.6	X	286.21408	28.84380	76.04726	6.10805	0.1956697	0.24110851	2.5565897	20	11 21.0	18.9
347583 2001 DZ_{61}	16.1	X	242.35530	22.58706	147.73219	7.12028	0.1289881	0.24307103	2.5428100	20	12 19.5	19.3
347584 2001 EH_{18}	15.6	X	262.78191	100.94154	88.30910	34.03388	0.3631651	0.24159731	2.5531401	20	—	—
347585 2001 FE_{89}	17.5	X	218.74058	221.63426	344.87638	0.72042	0.1979215	0.23961218	2.5672222	20	12 24.7	21.2
347586 2001 FK_{92}	16.1	X	283.77400	17.18192	105.68620	6.40131	0.1949699	0.24087345	2.5582526	20	12 12.2	18.5
347587 2001 FW_{94}	16.9	X	72.08513	51.31768	155.36041	13.47806	0.2056849	0.26929877	2.3749063	20	8 13.4	20.1
347588 2001 FN_{145}	16.7	X	168.14522	30.30045	173.34621	13.43644	0.1858802	0.23208717	2.6224183	20	11 5.9	21.2
347589 2001 GP_{5}	16.1	X	194.09784	309.70824	233.96665	14.77273	0.2115350	0.23316319	2.6143439	20	10 30.0	20.3
347590 2001 NS_{5}	17.8	X	158.53710	351.31447	325.16494	3.98147	0.1660093	0.28589153	2.2821027	20	—	—
347591 2001 OJ	17.4	X	172.39071	349.96463	335.66078	6.28317	0.2649001	0.28720822	2.2751226	20	1 19.1	21.2
347592 2001 PU_{19}	17.3	X	111.81902	353.05066	0.11209	5.47311	0.1683089	0.28198916	2.3031087	20	—	—
347593 2001 PX_{21}	16.6	X	37.14405	260.68006	149.94650	22.31448	0.3149848	0.27498108	2.3420752	20	—	—
347594 2001 PP_{57}	17.0	X	59.66782	25.86534	342.10182	6.98226	0.1290476	0.27470589	2.3436391	20	—	—
347595 2001 QL_{35}	16.6	X	167.76089	194.63791	150.82452	5.59270	0.2903460	0.23682380	2.5873339	20	2 12.5	21.0
347596 2001 QB_{59}	17.5	X	120.44119	158.99639	175.80649	6.97430	0.1931250	0.27962621	2.3160653	20	—	—
347597 2001 QF_{188}	16.8	X	73.14248	149.66889	250.88754	6.46445	0.2412169	0.27760168	2.3273122	20	—	—
347598 2001 QM_{211}	17.2	X	174.10905	359.41134	329.75176	5.37713	0.1241386	0.28607191	2.2811433	20	1 14.7	20.3
347599 2001 QM_{222}	16.2	X	93.49345	25.87692	305.04502	10.98950	0.1963242	0.22362046	2.6882007	20	—	—
347600 2001 QQ_{241}	17.3	X	97.97357	354.31137	0.46355	3.33945	0.2137072	0.27745293	2.3281440	20	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347601 2001 QY_{278}	17.7	X	87.56161	262.89713	99.32006	6.01560	0.2315672	0.27770002	2.3267628	20	—	—
347602 2001 RN_{28}	16.9	X	49.85024	57.70348	343.16246	12.54284	0.2660639	0.22308619	2.6924910	20	—	—
347603 2001 RY_{41}	17.8	X	67.21338	43.59375	354.44280	5.29517	0.1454868	0.27848625	2.3223814	20	—	—
347604 2001 RX_{49}	15.9	X	94.82590	56.38065	327.09269	13.64140	0.1980813	0.17563335	3.1578977	20	1 21.1	20.3
347605 2001 RK_{61}	17.3	X	157.05395	300.79819	34.44845	7.31513	0.1865150	0.28416668	2.2913281	20	1 11.3	20.7
347606 2001 RR_{65}	16.2	X	138.96214	140.20773	197.16327	12.88590	0.2711049	0.22889361	2.6467542	20	1 9.4	20.7
347607 2001 RL_{101}	15.7	X	201.90433	11.83954	358.72838	14.90913	0.1466154	0.19081556	2.9880889	20	4 5.9	20.6
347608 2001 RD_{105}	17.8	X	26.76502	24.86770	9.70057	1.48957	0.1930134	0.27217188	2.3581633	20	—	—
347609 2001 RO_{105}	18.1	X	90.36415	273.65405	109.91843	2.21510	0.2555479	0.27975847	2.3153353	20	—	—
347610 2001 RF_{119}	16.3	X	196.12711	248.95811	92.27052	3.17288	0.2399372	0.18683191	3.0304143	20	3 2.4	21.5
347611 2001 RZ_{121}	17.7	X	89.54102	212.99559	151.06248	5.12768	0.2488613	0.27734429	2.3287519	20	—	—
347612 2001 RP_{135}	16.1	X	95.99289	27.50247	19.58031	11.77578	0.1494685	0.23017990	2.6368845	20	2 7.4	19.6
347613 2001 RJ_{150}	17.5	X	263.29927	183.37930	148.17159	4.90010	0.1732932	0.30056475	2.2072119	20	4 15.4	20.4
347614 2001 SH_{13}	17.9	X	87.68728	35.47198	354.47523	5.96131	0.2202941	0.27956659	2.3163946	20	—	—
347615 2001 ST_{13}	16.6	X	43.24116	14.27339	359.06498	8.49798	0.3192806	0.21812094	2.7331983	20	—	—
347616 2001 SB_{15}	17.8	X	77.33199	34.07672	4.48238	4.78571	0.2018134	0.27889985	2.3200848	20	—	—
347617 2001 SZ_{37}	16.1	X	162.62778	307.33222	34.12536	8.76978	0.3266188	0.18122818	3.0925654	20	2 14.0	21.8
347618 2001 SJ_{51}	17.6	X	97.03076	8.25292	15.13794	8.75625	0.1639835	0.27982293	2.3149797	20	—	—
347619 2001 SA_{78}	17.5	X	62.07036	78.09842	338.63431	1.69457	0.2173122	0.27866438	2.3213916	20	—	—
347620 2001 SS_{95}	17.2	X	106.80203	134.07523	217.35686	5.33273	0.2279824	0.27845417	2.3225598	20	—	—
347621 2001 SB_{114}	15.7	X	192.75091	44.93404	1.99602	13.06972	0.1778067	0.19030220	2.9934604	20	5 9.9	20.9
347622 2001 SU_{122}	17.5	X	337.70213	176.56027	227.65353	5.41262	0.3196376	0.26453099	2.4033573	20	—	—
347623 2001 SN_{124}	17.1	X	111.17580	145.98571	222.43831	2.72173	0.1762465	0.28146193	2.3059839	20	—	—
347624 2001 SJ_{128}	17.4	X	66.60536	156.87615	230.36740	4.82165	0.1877240	0.27720393	2.3295379	20	—	—
347625 2001 SM_{130}	17.4	X	17.78647	64.96373	352.34700	6.33825	0.1922492	0.27216206	2.3582201	20	—	—
347626 2001 SM_{131}	17.6	X	72.58118	56.55611	351.96579	7.30811	0.1089559	0.27994642	2.3142989	20	—	—
347627 2001 SG_{134}	15.8	X	132.40869	209.05611	195.20592	10.53157	0.1629496	0.18217596	3.0818299	20	3 17.1	20.6
347628 2001 SG_{154}	17.8	X	4.75363	13.80083	13.85295	2.47557	0.2162987	0.26597419	2.3946556	20	—	—
347629 2001 SY_{174}	16.4	X	83.50563	324.64806	43.50177	6.05553	0.2089596	0.22338815	2.6900641	20	—	—
347630 2001 SZ_{191}	18.4	X	61.20746	91.07144	292.74263	0.49461	0.1900737	0.27550805	2.3390878	20	—	—
347631 2001 SO_{199}	17.6	X	82.14894	58.62948	10.10542	5.75453	0.1388251	0.28407039	2.2918459	20	2 1.5	19.9
347632 2001 SG_{211}	17.9	X	77.64112	33.28860	17.55741	1.06277	0.2016137	0.27997018	2.3141679	20	1 5.9	19.6
347633 2001 SW_{264}	17.0	X	108.38947	31.92250	22.85527	13.16249	0.2361339	0.23074973	2.6325416	20	3 15.6	20.8
347634 2001 SW_{269}	19.5	X	5.21535	29.46316	191.24011	24.46278	0.5541462	0.82891179	1.1223557	20	10 10.2	19.6
347635 2001 SQ_{277}	17.6	X	61.19435	54.68071	315.33623	6.45096	0.2965568	0.27171271	2.3608193	20	—	—
347636 2001 SC_{303}	17.1	X	94.07016	47.08400	309.08314	6.17975	0.0899491	0.27635978	2.3342793	20	—	—
347637 2001 SA_{304}	17.1	X	27.61402	128.34885	343.94192	5.96148	0.0885986	0.28171535	2.3046008	20	—	—
347638 2001 SZ_{327}	17.5	X	113.49644	317.92197	40.43799	7.19574	0.1628820	0.27998859	2.3140665	20	—	—
347639 2001 SU_{339}	16.1	X	120.38115	95.43957	232.97037	12.15684	0.2858353	0.17297349	3.1901885	20	—	—
347640 2001 TG_{1}	18.7	X	29.30622	251.53635	158.52509	1.41312	0.1713061	0.27070607	2.3666683	20	—	—
347641 2001 TJ_{4}	16.3	X	30.77300	345.45617	12.69114	4.60740	0.1626498	0.21320997	2.7750088	20	12 23.2	20.0
347642 2001 TR_{9}	17.0	X	104.40350	192.02462	202.99083	6.05034	0.1045438	0.28182372	2.3040099	20	1 11.3	19.8
347643 2001 TP_{29}	16.2	X	100.45392	190.34060	220.66823	10.86491	0.1212891	0.17707370	3.1407498	20	2 12.3	20.8
347644 2001 TO_{45}	16.4	X	103.72968	350.23370	25.37721	12.47240	0.1990989	0.22492706	2.6777801	20	1 14.3	20.1
347645 2001 TT_{52}	17.8	X	113.58180	267.62695	101.74914	3.32594	0.2202307	0.28012528	2.3133136	20	1 9.6	20.5
347646 2001 TR_{54}	16.3	X	12.95683	68.76786	341.64714	8.63362	0.1618325	0.21789793	2.7350628	20	—	—
347647 2001 TS_{60}	16.9	X	170.09721	287.66235	6.83630	4.75004	0.1240051	0.27807269	2.3246835	20	—	—
347648 2001 TF_{75}	17.3	X	71.12224	193.97036	209.71699	5.35461	0.2308395	0.27596664	2.3364958	20	—	—
347649 2001 TP_{76}	16.7	X	22.15571	318.88872	34.71230	7.42982	0.2397246	0.26403597	2.4063603	20	12 31.8	19.8
347650 2001 TW_{89}	15.7	X	159.77243	192.57452	228.18544	10.80259	0.2035114	0.18607990	3.0385734	20	5 3.6	20.7
347651 2001 TY_{93}	17.4	X	335.85703	61.73281	358.03772	5.03818	0.2068394	0.26467215	2.4025027	20	—	—
347652 2001 TC_{100}	15.7	X	131.28911	191.31820	248.35420	5.94067	0.1326599	0.18383239	3.0632894	20	4 24.6	20.4
347653 2001 TD_{127}	16.5	X	194.21122	337.89628	60.71021	6.30100	0.1638448	0.18701801	3.0284037	20	5 6.6	21.5
347654 2001 TN_{130}	17.3	X	59.27811	257.05236	124.55534	5.81846	0.2322851	0.27402951	2.3474940	20	—	—
347655 2001 TU_{153}	16.1	X	179.72855	109.29993	271.97556	7.16867	0.2845065	0.18569707	3.0427482	20	4 1.3	21.7
347656 2001 TG_{155}	16.6	X	200.18894	142.20790	219.38928	3.44540	0.0757408	0.18357580	3.0661431	20	3 28.8	21.3
347657 2001 TV_{177}	17.1	X	190.78870	358.53484	287.11513	2.07430	0.1647851	0.28116029	2.3076329	20	—	—
347658 2001 TV_{182}	16.3	X	164.53858	124.77830	287.72294	5.91665	0.2619543	0.18448329	3.0560798	20	4 27.6	21.8
347659 2001 TC_{186}	18.0	X	54.17452	33.68814	338.84328	1.89969	0.1999442	0.27102153	2.3648314	20	—	—
347660 2001 TU_{186}	17.5	X	104.66657	330.34241	357.46134	4.68218	0.1487958	0.27344555	2.3508349	20	—	—
347661 2001 TJ_{198}	17.2	X	175.42220	10.04989	41.24479	7.67217	0.1758348	0.29482020	2.2357911	20	5 2.1	20.4
347662 2001 TJ_{201}	16.4	X	167.31725	245.47584	163.84166	15.93531	0.3299443	0.18564686	3.0432968	20	5 3.2	22.2
347663 2001 TK_{205}	16.4	X	162.26751	277.39386	148.50590	11.13056	0.2980324	0.18600609	3.0393772	20	5 17.7	22.1
347664 2001 TT_{214}	17.1	X	87.65289	21.39293	338.96397	9.40934	0.2464321	0.27496082	2.3421903	20	—	—
347665 2001 TG_{226}	17.4	X	56.73980	272.95990	117.69379	8.25359	0.2635181	0.27427351	2.3461016	20	—	—
347666 2001 TO_{259}	16.3	X	137.59164	69.94626	27.97555	5.25521	0.1739468	0.18667220	3.0321426	20	5 26.8	21.2
347667 2001 TN_{261}	17.4	X	9.54698	7.96554	65.11874	7.44169	0.0492912	0.27256164	2.3559147	20	—	—
347668 2001 UR_{8}	15.6	X	112.45248	15.41225	51.59834	10.20265	0.1600393	0.17922959	3.1155131	20	3 29.4	20.3
347669 2001 UF_{12}	17.3	X	50.24882	154.00030	256.13530	4.09868	0.2140478	0.27406720	2.3472788	20	—	—
347670 2001 UR_{24}	17.3	X	77.42647	69.66279	289.74044	5.04004	0.2555431	0.27341405	2.3510155	20	—	—
347671 2001 UV_{44}	17.6	X	139.61289	233.33631	106.84035	2.59527	0.1976538	0.27991237	2.3144865	20	—	—
347672 2001 UY_{54}	15.4	X	146.82401	75.43245	6.26315	16.44253	0.1202385	0.18860844	3.0113551	20	5 7.2	20.3
347673 2001 UE_{58}	17.2	X	116.80906	136.93933	223.51307	4.61334	0.1666987	0.27928899	2.3179292	20	—	—
347674 2001 UB_{70}	16.5	X	172.06392	26.40035	357.36357	0.50028	0.1018823	0.18421093	3.0590914	20	3 28.0	21.2
347675 2001 UL_{71}	16.5	X	141.53550	146.01557	217.58081	15.37126	0.2299161	0.17679354	3.1440670	20	2 9.7	22.0
347676 2001 UR_{94}	16.8	X	90.49074	291.81037	99.44639	8.31245	0.2704247	0.27764019	2.3270970	20	1 14.1	18.8
347677 2001 UH_{99}	18.1	X	17.43442	211.45180	198.18825	3.99212	0.1837352	0.26908593	2.3761584	20	—	—
347678 2001 UG_{120}	16.1	X	127.42505	59.55661	38.34031	17.84586	0.2183093	0.18350714	3.0669079	20	5 18.8	21.2
347679 2001 UT_{132}	16.7	X	191.77691	182.43937	182.07764	5.59505	0.2538909	0.18578495	3.0417886	20	3 24.6	22.0
347680 2001 UJ_{146}	18.1	X	166.88245	28.96961	42.72688	8.36515	0.1339262	0.29276290	2.2462531	20	5 18.9	21.4

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	m		°	°	°	°		°				
347681 2001 UJ_{164}	16.5	X	142.69555	140.57274	189.62325	6.75588	0.1285579	0.27750558	2.3278495	20	—	—
347682 2001 UA_{165}	15.9	X	65.66138	322.65573	42.87201	16.04149	0.3019113	0.22010587	2.7167414	20	—	—
347683 2001 UE_{172}	18.3	X	57.55574	325.39341	66.15627	1.81062	0.1988657	0.27338160	2.3512015	20	—	—
347684 2001 UJ_{186}	16.6	X	150.17473	54.39140	266.93197	6.31097	0.1287969	0.27966745	2.3158376	20	—	—
347685 2001 UG_{208}	18.6	X	76.71734	66.62691	293.14649	1.41975	0.2339195	0.27426789	2.3461336	20	—	—
347686 2001 VQ_{6}	17.5	X	90.02113	355.94140	354.10338	0.91534	0.1976985	0.27306311	2.3530294	20	—	—
347687 2001 VZ_{6}	17.4	X	29.85603	61.65378	42.62843	2.93034	0.1777727	0.27622711	2.3350267	20	—	—
347688 2001 VA_{11}	15.5	X	128.47688	181.79870	248.57568	22.94872	0.1532292	0.18124338	3.0923925	20	4 8.5	20.7
347689 2001 VS_{20}	17.4	X	295.92894	9.00426	48.06870	2.78029	0.1940717	0.25683194	2.4511508	20	10 4.9	19.5
347690 2001 VN_{38}	18.1	X	147.88414	85.27496	291.03527	1.04650	0.2618834	0.28432085	2.2904997	20	2 28.3	21.7
347691 2001 VD_{78}	17.8	X	340.21241	84.30708	36.56247	2.06149	0.1249595	0.27114924	2.3640888	20	—	—
347692 2001 VM_{78}	17.0	X	298.32199	189.58491	276.76336	19.92038	0.0244170	0.37233121	1.9135938	20	—	—
347693 2001 VP_{79}	17.4	X	57.26878	309.16427	115.88726	3.37911	0.1940678	0.27525817	2.3405032	20	—	—
347694 2001 VO_{90}	15.7	X	175.45585	272.82995	97.02815	14.44544	0.2415063	0.18205594	3.0831843	20	3 25.9	21.3
347695 2001 VO_{119}	17.1	X	146.97611	67.94042	274.10515	3.06250	0.2555754	0.27951408	2.3166847	20	1 16.1	20.5
347696 2001 VN_{131}	16.4	X	72.55882	71.93786	94.46644	18.99075	0.2054380	0.18317691	3.0705928	20	6 17.4	20.7
347697 2001 VD_{134}	17.2	X	320.40756	23.81772	111.58032	7.45321	0.0855111	0.27284713	2.3542710	20	—	—
347698 2001 WG_{1}	17.6	X	304.76736	314.12483	73.90194	23.55184	0.0920036	0.35982411	1.9576838	20	10 28.8	19.6
347699 2001 WR_{6}	16.8	X	86.33221	41.86421	293.98570	10.58814	0.2626639	0.27199067	2.3592106	20	—	—
347700 2001 WD_{13}	17.5	X	39.40415	328.55424	107.06751	4.31693	0.2251490	0.27303256	2.3532050	20	—	—
347701 2001 WF_{35}	17.1	X	185.88388	276.96207	79.89737	6.82962	0.2014038	0.28687716	2.2768726	20	3 7.6	20.8
347702 2001 WE_{36}	16.2	X	168.99857	323.80625	78.02714	18.63897	0.3011369	0.18295926	3.0730276	20	4 28.5	22.0
347703 2001 WX_{43}	15.9	X	153.77420	52.31858	59.21383	10.43303	0.0832965	0.18931649	3.0038420	20	6 24.1	20.5
347704 2001 WO_{50}	16.7	X	87.28410	296.15306	44.80215	13.53052	0.2841669	0.27179370	2.3603503	20	—	—
347705 2001 WG_{67}	15.8	X	155.45093	0.16617	53.05221	13.91403	0.1250128	0.18338773	3.0682391	20	4 20.7	20.7
347706 2001 WO_{72}	18.3	X	34.40258	302.29181	98.93602	2.23103	0.1766313	0.26982426	2.3718218	20	—	—
347707 2001 XR_{3}	16.8	X	47.65488	352.27052	279.06228	17.94796	0.0557903	0.35667025	1.9692074	20	9 19.8	19.4
347708 2001 XO_{15}	17.6	X	34.56300	128.08542	294.49581	5.36460	0.2317281	0.27038154	2.3685617	20	—	—
347709 2001 XR_{15}	15.5	X	192.45894	299.22674	80.94531	11.62846	0.3327702	0.18486864	3.0518315	20	4 16.7	21.3
347710 2001 XK_{46}	14.8	X	156.56587	324.23903	80.92599	23.25169	0.1699517	0.17661490	3.1461867	20	4 22.8	20.3
347711 2001 XQ_{56}	15.9	X	155.89849	178.25984	256.48411	14.13372	0.2798008	0.18271886	3.0757223	20	5 19.6	21.5
347712 2001 XY_{60}	15.6	X	156.73430	296.83682	77.45916	20.47324	0.1742173	0.17669343	3.1452544	20	3 17.7	21.1
347713 2001 XU_{70}	16.9	X	21.52431	196.31070	168.77435	5.29584	0.2557162	0.26457682	2.4030798	20	—	—
347714 2001 XX_{71}	17.1	X	46.00795	230.41764	175.27360	6.14354	0.2446830	0.27091711	2.3654390	20	—	—
347715 2001 XD_{73}	15.9	X	151.45071	183.73892	232.98159	9.51422	0.2003970	0.18143150	3.0902545	20	4 20.9	21.2
347716 2001 XQ_{84}	16.1	X	119.84050	16.80010	85.31136	18.94571	0.1990266	0.18012049	3.1052314	20	5 22.0	21.1
347717 2001 XB_{94}	17.6	X	23.92773	31.20539	53.47889	3.54923	0.1367207	0.27240025	2.3568451	20	—	—
347718 2001 XO_{102}	17.3	X	224.98868	29.56455	91.06105	23.86095	0.0836368	0.35854738	1.9623284	20	11 3.7	19.9
347719 2001 XO_{114}	16.1	X	89.99760	125.58223	17.55630	5.42557	0.2357584	0.17749918	3.1357287	20	6 11.3	20.8
347720 2001 XM_{130}	17.5	X	19.32428	325.41816	95.12885	3.82780	0.2226778	0.26868705	2.3785095	20	—	—
347721 2001 XX_{131}	15.8	X	160.29754	319.51461	82.43994	6.33201	0.1402380	0.18049358	3.1009508	20	4 12.2	20.8
347722 2001 XB_{169}	15.3	X	152.38235	138.90950	271.81256	18.15219	0.1151183	0.17810151	3.1286549	20	4 2.9	20.5
347723 2001 XC_{200}	15.3	X	68.25382	239.09159	285.96176	25.45752	0.1010674	0.17687203	3.1431368	20	5 23.5	19.9
347724 2001 XQ_{211}	17.1	X	52.46359	113.68584	288.53786	5.33252	0.1366799	0.26996627	2.3709899	20	—	—
347725 2001 XY_{211}	15.8	X	122.06229	26.50552	90.78350	17.25073	0.1951528	0.18173546	3.0868078	20	6 8.7	20.8
347726 2001 XG_{226}	15.7	X	119.34168	20.80765	70.40513	17.97910	0.1657674	0.17961519	3.1110525	20	5 5.8	20.6
347727 2001 XG_{249}	16.8	X	307.25605	111.67113	103.99069	6.74047	0.1389339	0.27325878	2.3519060	20	1 9.5	19.9
347728 2001 XN_{260}	17.4	X	142.08658	263.16859	78.84149	6.02856	0.1909791	0.27943060	2.3171461	20	1 4.3	20.5
347729 2001 XH_{267}	15.7	X	70.59936	71.58194	79.57233	17.05032	0.2148788	0.17382354	3.1797793	20	5 28.4	20.0
347730 2001 YX_{2}	17.2	X	283.12825	286.46157	104.38616	24.85843	0.1063883	0.35397826	1.9791786	20	9 10.8	19.5
347731 2001 YG_{6}	16.0	X	114.19369	72.33409	37.04826	16.76703	0.1973744	0.17710223	3.1404125	20	5 18.6	21.0
347732 2001 YA_{28}	15.8	X	63.03703	85.33845	59.69474	16.78700	0.1891811	0.17770340	3.1333259	20	5 6.7	19.8
347733 2001 YU_{90}	15.5	X	157.74641	122.02739	275.95145	15.26401	0.2456746	0.17818209	3.1277114	20	3 31.4	21.2
347734 2001 YC_{139}	15.9	X	124.13524	343.01259	120.49482	13.50976	0.0782691	0.17774702	3.1328131	20	5 16.7	20.7
347735 2001 YF_{143}	15.7	X	144.04399	347.24591	74.05164	18.87185	0.1914055	0.17884749	3.1199489	20	4 27.8	21.0
347736 2001 YS_{150}	16.9	X	196.34479	286.48054	70.32352	9.77380	0.1838027	0.23402849	2.6078958	20	3 21.5	21.4
347737 2002 AM_{12}	17.6	X	1.25877	21.00039	87.27109	2.67098	0.1452856	0.26745324	2.3858189	20	—	—
347738 2002 AT_{44}	15.3	X	204.95531	56.77165	285.03344	15.02303	0.0768470	0.17309082	3.1887468	20	3 4.0	20.4
347739 2002 AL_{51}	15.6	X	105.45100	357.61403	125.64106	18.61915	0.1048242	0.17650966	3.1474371	20	5 24.3	20.5
347740 2002 AO_{52}	16.8	X	356.92859	210.17036	297.85661	5.96948	0.0666355	0.27095509	2.3652180	20	—	—
347741 2002 AP_{53}	15.4	X	139.16421	290.87582	112.91898	20.41433	0.1155551	0.17384626	3.1795024	20	3 29.2	20.6
347742 2002 AO_{56}	15.2	X	83.10676	343.61621	113.97449	20.65840	0.0827962	0.17176252	3.2051654	20	3 25.9	20.0
347743 2002 AN_{59}	14.8	X	143.38720	159.28971	306.43297	27.05657	0.1219685	0.17896515	3.1185813	20	6 10.5	20.0
347744 2002 AU_{78}	15.5	X	86.00205	201.50310	299.09205	8.88677	0.0496844	0.17840634	3.1250900	20	5 5.7	20.0
347745 2002 AA_{80}	15.8	X	113.24572	200.23236	298.16761	12.08966	0.0798427	0.18099820	3.0951846	20	6 12.9	20.4
347746 2002 AB_{103}	16.7	X	217.14665	49.64046	4.89830	3.37882	0.1582242	0.23891074	2.5722446	20	6 16.1	20.7
347747 2002 AB_{115}	15.9	X	93.68012	26.17429	111.83239	11.50804	0.1662697	0.17589395	3.1547778	20	6 2.5	20.6
347748 2002 AR_{122}	15.8	X	88.33563	24.36910	119.24724	8.91753	0.1711198	0.17467879	3.1693918	20	6 3.5	20.4
347749 2002 AT_{129}	16.1	X	103.52332	64.86973	64.63026	27.02301	0.3164181	0.17697182	3.1419551	20	6 13.7	21.4
347750 2002 AF_{142}	17.1	X	25.17725	287.52326	115.05017	7.33816	0.0987906	0.26319846	2.4114624	20	—	—
347751 2002 AN_{142}	16.3	X	192.74878	104.61068	285.58170	7.87021	0.1425454	0.17986808	3.1081358	20	4 21.9	21.4
347752 2002 AM_{150}	17.6	X	315.85960	45.63160	100.64075	5.19530	0.1378108	0.26484952	2.4014300	20	—	—
347753 2002 AS_{164}	15.6	X	79.03017	178.79516	310.36860	18.19129	0.0947747	0.17133606	3.2104818	20	4 12.2	20.4
347754 2002 AG_{182}	15.5	X	42.69058	91.64215	95.10310	10.87860	0.1587558	0.17486980	3.1670835	20	5 25.0	19.4
347755 2002 AX_{183}	16.4	X	108.46831	168.09664	304.67818	8.45938	0.1849614	0.17761541	3.1343605	20	5 16.5	21.3
347756 2002 AK_{198}	17.4	X	84.80903	41.17294	305.86887	18.86774	0.1112582	0.37113605	1.9176998	20	—	—
347757 2002 AO_{198}	17.0	X	29.62773	139.75287	277.86524	4.25960	0.2183108	0.26671388	2.3902260	20	—	—
347758 2002 BF_{13}	16.5	X	278.69427	169.60871	349.13978	12.79200	0.1296092	0.25952092	2.4341899	20	—	—
347759 2002 BT_{22}	15.6	X	163.88159	120.95641	317.81212	20.94503	0.4202722	0.18356568	3.0662559	20	5 31.3	21.9
347760 2002 BW_{27}	15.6	X	138.50115	321.16131	105.18462	18.39487	0.2184264	0.17577848	3.1561592	20	5 1.8	21.1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
347761 2002 CL_8	15.6	X	80.46276	33.54055	126.57853	15.30118	0.1928629	0.17684544	3.1434518	20	6 18.1	20.3
347762 2002 CF_{12}	16.5	X	16.21159	27.18465	136.16981	25.83973	0.2319495	0.27432775	2.3457923	20	2 9.8	18.0
347763 2002 CH_{28}	17.0	X	18.66295	23.54155	42.30833	5.34678	0.1480800	0.26448182	2.4036552	20	—	—
347764 2002 CJ_{53}	16.1	X	19.29383	336.09894	150.66484	29.02820	0.1581310	0.21619308	2.7494227	20	1 13.7	19.4
347765 2002 CF_{66}	17.3	X	320.73712	70.88931	118.30081	3.54199	0.1747199	0.26998423	2.3708848	20	—	—
347766 2002 CH_{70}	15.4	X	15.19211	227.44356	326.98368	12.05344	0.1137172	0.17102002	3.2144357	20	4 6.8	19.6
347767 2002 CN_{88}	17.5	X	358.79835	352.12863	112.29561	3.89698	0.1444738	0.26481005	2.4016686	20	—	—
347768 2002 CS_{116}	17.7	X	290.85716	30.60665	124.15665	5.77849	0.1800835	0.26107434	2.4245246	20	—	—
347769 2002 CC_{150}	17.3	X	280.48549	154.89305	351.14189	4.28752	0.0763107	0.25761579	2.4461761	20	—	—
347770 2002 CP_{157}	15.7	X	71.86371	351.09688	140.78938	18.91643	0.1203568	0.17088637	3.2161115	20	4 26.6	20.4
347771 2002 CM_{172}	17.5	X	156.35377	21.76603	116.47020	4.95839	0.1643136	0.29154429	2.2525081	20	8 8.6	21.0
347772 2002 CS_{179}	15.9	X	160.13661	100.10625	317.48429	9.08777	0.1086740	0.17595678	3.1540268	20	4 22.4	20.9
347773 2002 CK_{181}	15.9	X	131.57592	121.90172	331.85464	8.45836	0.0457179	0.17568704	3.1572544	20	5 1.6	20.6
347774 2002 CC_{185}	15.7	X	79.35008	167.73677	329.11519	13.79655	0.0516845	0.17323064	3.1870307	20	4 19.1	20.4
347775 2002 CL_{192}	17.5	X	33.28827	86.39003	322.75921	4.09369	0.1756356	0.26396819	2.4067722	20	—	—
347776 2002 CC_{205}	17.3	X	210.72972	54.83813	137.20071	4.96179	0.0509414	0.25301316	2.4757530	20	12 20.4	20.5
347777 2002 CG_{230}	17.4	X	187.93715	243.07600	308.32558	6.60323	0.1029854	0.30499221	2.1857990	20	11 24.9	20.4
347778 2002 CC_{232}	17.1	X	115.03646	294.92940	312.63790	19.19356	0.0406990	0.35815814	1.9637498	20	11 27.3	19.8
347779 2002 CK_{241}	17.7	X	10.15549	230.55555	253.58628	4.88063	0.2715143	0.26870855	2.3783826	20	—	—
347780 2002 CJ_{276}	16.9	X	353.31281	317.50161	147.04128	7.04859	0.0581251	0.26231961	2.4168455	20	—	—
347781 2002 CO_{283}	17.1	X	20.50315	149.82965	305.81027	6.76998	0.0720463	0.26804252	2.3823208	20	—	—
347782 2002 CS_{283}	16.6	X	353.19466	318.00177	140.73228	13.62748	0.1179481	0.21008367	2.8024714	20	—	—
347783 2002 CV_{293}	14.8	X	28.97428	255.63482	299.71077	24.45486	0.2114551	0.16956589	3.2327868	20	5 10.4	19.0
347784 2002 DF_3	15.3	X	75.26729	171.54159	41.95587	18.53052	0.4175287	0.17851982	3.1237655	20	9 21.2	20.8
347785 2002 DG_7	15.5	X	48.43677	144.69985	15.62538	15.15452	0.1570281	0.17154258	3.2079045	20	4 23.7	19.5
347786 2002 EY_6	16.8	X	37.11762	317.59245	358.51326	5.88888	0.1415554	0.24060364	2.5601648	20	11 9.2	20.1
347787 2002 EB_{102}	16.6	X	310.18545	70.78081	88.49746	7.10189	0.2342170	0.26197938	2.4189375	20	—	—
347788 2002 EU_{147}	17.3	X	341.65543	288.70105	165.03906	2.87228	0.2697688	0.26008691	2.4306573	20	—	—
347789 2002 EW_{149}	17.3	X	353.89881	9.28706	131.53041	1.68396	0.1312371	0.26529041	2.3987686	20	—	—
347790 2002 FO_{24}	15.3	X	33.34893	138.80120	76.79716	18.06329	0.1729232	0.17484474	3.1673861	20	6 16.2	19.0
347791 2002 GV_2	16.7	X	94.54271	189.89299	62.43676	16.63701	0.2299088	0.23534550	2.5981574	20	11 5.5	21.1
347792 2002 GG_{119}	16.0	X	94.23415	96.63721	35.41163	25.68437	0.2689536	0.17136845	3.2100772	20	5 30.9	21.2
347793 2002 GB_{181}	16.1	X	138.40297	25.34195	141.85534	18.29842	0.1491532	0.18140424	3.0905641	20	8 20.1	20.9
347794 2002 GQ_{183}	16.7	X	8.62843	168.58081	199.07867	10.21630	0.0287656	0.24269025	2.5454691	20	11 25.2	20.0
347795 2002 GV_{183}	16.6	X	35.17248	118.58473	200.38247	10.24097	0.0845306	0.23808275	2.5782049	20	11 4.2	19.9
347796 2002 GA_{185}	16.9	X	161.99067	217.90280	30.93901	6.03033	0.0308292	0.24757303	2.5118893	20	—	—
347797 2002 GU_{188}	16.6	X	14.56988	339.82764	39.40423	6.71448	0.1522871	0.24464985	2.5318584	20	—	—
347798 2002 GL_{190}	16.7	X	119.05658	21.02137	230.02201	13.70799	0.1058368	0.24034834	2.5619774	20	11 16.9	20.7
347799 2002 GO_{190}	17.2	X	294.20412	137.28951	3.11432	3.29606	0.1499419	0.25343556	2.4730013	20	—	—
347800 2002 JS_{17}	17.3	X	289.63119	228.82535	22.18272	2.08565	0.1792543	0.26530200	2.3986987	20	1 31.0	20.8
347801 2002 JE_{20}	17.6	X	338.42524	283.74525	202.51191	20.87541	0.0705334	0.36523076	1.9383156	20	—	—
347802 2002 JN_{31}	16.5	X	169.09314	159.27670	64.78788	15.69705	0.0841388	0.24311853	2.5424788	20	12 5.2	20.3
347803 2002 JY_{55}	16.8	X	305.57593	78.85988	229.24300	14.27573	0.4350097	0.21623203	2.7490925	20	3 26.7	20.9
347804 2002 JS_{104}	16.4	X	352.36515	215.86121	76.52661	8.89649	0.1814923	0.22343198	2.6897123	20	7 21.6	18.9
347805 2002 JP_{110}	17.2	X	299.38550	310.25724	356.48631	2.99098	0.1491623	0.32712629	2.0860550	20	4 27.6	19.3
347806 2002 JL_{132}	16.7	X	84.56447	214.42529	32.45226	12.61420	0.1401219	0.23445283	2.6047481	20	10 10.9	20.5
347807 2002 JX_{146}	16.1	X	45.18349	218.37584	65.90621	15.79545	0.1030182	0.23329007	2.6133959	20	10 11.9	19.8
347808 2002 LJ_2	17.5	X	73.97474	278.43416	92.38747	24.27406	0.1153231	0.35689536	1.9683793	20	—	—
347809 2002 LJ_{39}	16.1	X	71.95045	177.26626	91.81375	19.45306	0.1728816	0.23283927	2.6167680	20	11 4.1	20.3
347810 2002 LM_{42}	16.3	X	338.66012	198.40087	129.07523	11.00052	0.1914396	0.22348969	2.6892492	20	8 13.6	18.6
347811 2002 LX_{62}	16.3	X	186.49676	157.99563	83.75402	14.71064	0.1427534	0.24295315	2.5436324	20	—	—
347812 2002 MW_3	16.3	X	333.38300	174.37278	127.45301	11.37429	0.4398619	0.21637605	2.7478726	20	5 12.0	18.5
347813 2002 NP_1	17.7	X	144.47223	145.16359	315.04474	19.12534	0.1652816	0.70678339	1.2481837	20	6 10.9	18.5
347814 2002 NQ_{24}	15.7	X	302.85314	72.16761	276.53523	6.50863	0.3317641	0.21478859	2.7613953	20	6 5.1	18.9
347815 2002 NG_{60}	16.4	X	227.20024	37.73647	113.92220	10.38317	0.0636078	0.23250083	2.6193068	20	11 15.9	20.1
347816 2002 NN_{66}	18.1	X	189.89656	260.68614	74.17855	0.91770	0.1983758	0.30868569	2.1683283	20	2 7.4	21.5
347817 2002 NQ_{80}	16.1	X	158.41173	289.21782	280.63181	12.37673	0.2329249	0.23191057	2.6237494	20	10 28.2	20.8
347818 2002 OZ_5	18.2	X	58.58960	117.75946	162.04626	8.35921	0.2665496	0.28270866	2.2991994	20	11 16.1	21.8
347819 2002 OX_6	17.0	X	276.57032	158.87793	193.89270	8.50484	0.2397563	0.21146279	2.7902733	20	5 22.4	21.0
347820 2002 OQ_{11}	16.7	X	264.70420	159.54368	199.02810	12.04220	0.2581452	0.21155488	2.7894635	20	5 14.7	21.0
347821 2002 OM_{25}	16.7	X	9.30490	348.06234	331.71720	10.62179	0.1410945	0.22206543	2.7007356	20	9 26.0	19.9
347822 2002 OZ_{31}	17.4	X	329.26533	197.60949	114.82494	4.61741	0.1917713	0.21696701	2.7428806	20	6 27.5	20.1
347823 2002 OE_{34}	16.4	X	315.98252	35.56589	342.88077	13.02687	0.1115376	0.22253930	2.6969004	20	9 14.4	19.5
347824 2002 OM_{36}	16.2	X	48.22815	202.97702	92.12359	12.24008	0.1236985	0.22624901	2.6673393	20	10 29.4	20.0
347825 2002 PD_3	16.0	X	6.16651	131.71158	246.27149	10.66696	0.2051915	0.22774189	2.6556700	20	12 24.2	19.1
347826 2002 PZ_3	16.6	X	0.80541	36.38059	266.06484	11.26236	0.1580391	0.22113932	2.7082707	20	8 15.8	19.7
347827 2002 PM_{24}	16.7	X	263.09399	100.64602	304.92250	10.71406	0.2542767	0.21519003	2.7579599	20	7 12.4	20.6
347828 2002 PL_{25}	16.4	X	337.04355	227.25155	150.97225	9.52173	0.2910920	0.22313962	2.6920611	20	11 6.9	18.4
347829 2002 PP_{33}	15.7	X	8.26319	69.75241	331.95606	14.75191	0.1243312	0.17647106	3.1478961	20	—	—
347830 2002 PU_{38}	18.0	X	281.73997	138.02301	147.83492	2.59139	0.1374727	0.31649612	2.1325069	20	3 7.0	20.6
347831 2002 PH_{65}	16.5	X	65.17438	238.52580	116.60681	12.39078	0.2039517	0.23546140	2.5973047	20	—	—
347832 2002 PH_{68}	16.6	X	83.46694	111.59995	159.23033	10.04531	0.1508458	0.22852260	2.6496181	20	11 9.5	20.7
347833 2002 PY_{71}	16.3	X	58.10442	111.58558	262.89210	12.51481	0.1838247	0.23712377	2.5851514	20	—	—
347834 2002 PL_{72}	16.3	X	192.38770	111.41601	272.62979	14.11015	0.2708545	0.20230116	2.8738922	20	4 10.3	21.8
347835 2002 PV_{99}	18.1	X	199.07916	331.21094	2.13587	4.83729	0.2092930	0.30798208	2.1716296	20	2 14.9	21.5
347836 2002 PA_{101}	15.8	X	78.11507	355.62524	344.04682	9.05242	0.0983151	0.18064762	3.0991877	20	—	—
347837 2002 PO_{107}	16.4	X	266.51352	186.92053	201.79242	7.94137	0.1715498	0.21488246	2.7605910	20	7 3.9	20.4
347838 2002 PY_{138}	16.8	X	274.08740	38.44503	331.22738	7.17877	0.3461784	0.21128461	2.7918418	20	5 24.4	21.2
347839 2002 PK_{140}	16.6	X	326.88127	58.02672	342.40117	23.57778	0.2314115	0.27890298	2.3200674	20	11 22.3	19.0
347840 2002 PM_{176}	16.5	X	279.99052	190.31554	162.52184	5.90150	0.0429993	0.21330257	2.7742057	20	6 24.6	20.3

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	m		°	°	°	°		°				
347841 2002 PR_{190}	16.7	X	54.24601	189.37665	83.47050	7.27520	0.0643527	0.22399796	2.6851796	20	9 27.3	20.4
347842 2002 QL_{15}	16.4	X	322.23665	163.58145	154.38358	16.55068	0.2410201	0.21503865	2.7592541	20	6 15.7	19.6
347843 2002 QB_{19}	16.7	X	180.46030	145.41633	120.53303	5.12340	0.1432260	0.24119649	2.5559679	20	—	—
347844 2002 QX_{24}	15.8	X	274.10635	128.65088	252.24435	23.46826	0.2721030	0.21110160	2.7934552	20	6 17.9	19.9
347845 2002 QA_{68}	17.1	X	336.30575	64.56171	269.68950	2.64619	0.0879311	0.21831325	2.7315930	20	8 18.7	20.4
347846 2002 QX_{70}	16.9	X	307.58325	197.93997	147.10608	5.01665	0.1136167	0.21549182	2.7553843	20	7 14.2	20.2
347847 2002 QH_{83}	16.5	X	318.86064	354.00783	162.84758	12.43012	0.0915550	0.24461431	2.5321036	20	—	—
347848 2002 QO_{84}	16.4	X	250.71431	107.48785	311.93669	10.19572	0.1124777	0.21638342	2.7478102	20	8 3.8	20.2
347849 2002 QS_{88}	16.5	X	304.32988	244.92611	87.26612	4.27895	0.1317279	0.21273044	2.7791775	20	6 18.4	19.9
347850 2002 QO_{93}	16.6	X	23.17321	106.30139	141.57036	4.69595	0.0503988	0.21256946	2.7805805	20	7 2.6	20.1
347851 2002 QK_{118}	17.1	X	39.17176	180.46804	70.55633	4.14718	0.0798424	0.21698151	2.7427585	20	8 5.8	20.6
347852 2002 QQ_{134}	16.7	X	330.88720	194.39773	122.67860	6.05697	0.1523862	0.21505874	2.7590823	20	7 11.6	19.4
347853 2002 QK_{144}	17.1	X	355.92014	312.08217	1.68904	5.22554	0.0587180	0.21829734	2.7317257	20	8 24.3	20.4
347854 2002 QQ_{149}	17.2	X	236.35397	105.61945	291.35329	6.14484	0.2300313	0.21046874	2.7990521	20	6 5.9	21.8
347855 2002 RW_{30}	16.0	X	279.42674	42.12482	322.07827	7.81864	0.2916603	0.21141178	2.7907221	20	5 30.8	20.2
347856 2002 RW_{43}	16.3	X	292.90328	351.84226	359.39131	8.11312	0.2330211	0.21267417	2.7796678	20	6 9.5	20.1
347857 2002 RW_{74}	15.9	X	343.24429	18.26532	338.05099	8.88110	0.0475467	0.22143796	2.7058352	20	9 27.9	19.5
347858 2002 RW_{122}	15.9	X	283.85852	242.07607	95.84944	8.64699	0.1696484	0.20906398	2.8115765	20	5 22.8	19.7
347859 2002 RT_{132}	18.0	X	314.63528	128.05817	203.10902	20.92285	0.1111839	0.37956132	1.8892151	20	7 14.8	20.0
347860 2002 RG_{175}	18.3	X	208.01563	57.49283	245.44755	4.60627	0.2258076	0.30558298	2.1829809	20	1 14.1	21.8
347861 2002 RT_{190}	17.6	X	22.14926	305.62942	14.80212	7.16843	0.3062168	0.27997382	2.3141478	20	11 30.0	20.5
347862 2002 RB_{201}	16.1	X	300.89117	354.78459	358.88439	11.17395	0.1517074	0.21430024	2.7655888	20	7 13.0	19.6
347863 2002 RE_{201}	17.9	X	149.00069	284.53047	58.25387	5.56335	0.2041012	0.30047512	2.2076508	20	1 11.6	21.0
347864 2002 RW_{213}	17.5	X	203.48645	211.02509	105.65406	4.08950	0.2065426	0.30641812	2.1790126	20	1 28.0	21.0
347865 2002 RE_{235}	17.1	X	244.83692	181.78246	221.94866	3.71773	0.0748080	0.21100855	2.7942763	20	7 10.8	21.0
347866 2002 RN_{237}	16.7	X	255.31989	247.12568	135.47937	5.30253	0.0843677	0.21098260	2.7945054	20	6 25.3	20.6
347867 2002 RB_{241}	16.7	X	253.71780	139.19979	262.12419	3.48262	0.1077150	0.21309491	2.7760077	20	7 14.5	20.5
347868 2002 RD_{243}	17.0	X	36.94308	48.92814	310.51764	5.92016	0.1438522	0.28624920	2.2802013	20	—	—
347869 2002 RB_{246}	16.9	X	283.34382	195.84508	147.44314	4.69729	0.1134818	0.21141788	2.7906684	20	6 6.0	20.6
347870 2002 RE_{246}	17.4	X	251.18320	21.63547	358.38457	3.81161	0.0903192	0.21112743	2.7932272	20	6 15.7	21.4
347871 2002 RL_{269}	16.5	X	266.81895	332.19235	81.93232	10.52616	0.1502938	0.21476371	2.7616085	20	8 15.4	20.3
347872 2002 RZ_{270}	16.8	X	267.13220	65.02296	325.33369	5.11668	0.0817254	0.21465328	2.7625556	20	7 22.7	20.4
347873 2002 SN_{52}	16.0	X	283.33229	293.06687	55.76201	9.95297	0.1726763	0.20964979	2.8063366	20	6 2.6	19.7
347874 2002 TU_{3}	16.9	X	304.76913	312.73719	39.30961	3.94722	0.2263715	0.26802782	2.3824080	20	7 6.4	19.1
347875 2002 TA_{24}	16.4	X	266.96290	356.75562	21.87490	7.98083	0.2255283	0.20896946	2.8124242	20	6 13.7	20.6
347876 2002 TF_{26}	15.7	X	13.66570	349.46770	42.80269	5.24328	0.1469340	0.17159508	3.2072501	20	12 28.3	19.8
347877 2002 TW_{52}	16.1	X	341.43929	328.83096	43.99063	6.21079	0.3218334	0.21798235	2.7343566	20	11 8.2	17.5
347878 2002 TH_{56}	15.7	X	73.50448	194.04149	206.21605	9.62209	0.0951655	0.18124486	3.0923756	20	—	—
347879 2002 TM_{59}	17.6	X	284.01234	101.64662	207.68962	24.24968	0.1422692	0.37096178	1.9183004	20	4 5.9	19.6
347880 2002 TP_{84}	16.0	X	348.64419	288.85218	45.31370	14.04236	0.2710982	0.21798065	2.7343709	20	9 29.1	18.3
347881 2002 TG_{85}	17.7	X	186.99543	207.69764	190.31316	22.09537	0.0949480	0.36599544	1.9356148	20	4 24.1	20.1
347882 2002 TJ_{109}	16.1	X	278.28574	318.63040	30.36438	11.54163	0.1951952	0.20973877	2.8055428	20	5 22.3	20.1
347883 2002 TU_{129}	16.7	X	201.85037	91.14762	311.65644	6.01571	0.3190918	0.20149220	2.8815792	20	5 11.6	22.1
347884 2002 TE_{156}	15.7	X	24.09690	92.63572	284.75119	8.18161	0.0804196	0.17424430	3.1746583	20	12 16.4	20.1
347885 2002 TB_{169}	16.0	X	338.14344	357.85467	338.78849	15.63207	0.3138754	0.21727191	2.7403139	20	8 24.1	17.5
347886 2002 TG_{170}	16.1	X	267.17904	58.76108	321.06261	11.97188	0.1717709	0.20948848	2.8077771	20	6 25.0	20.2
347887 2002 TG_{186}	18.1	X	88.97715	130.07967	207.08500	6.67680	0.2755305	0.29006497	2.2601600	20	—	—
347888 2002 TE_{190}	16.2	X	242.96867	41.88119	330.80712	14.67193	0.1616780	0.20576815	2.8415193	20	5 14.7	20.9
347889 2002 TX_{202}	16.2	X	243.67165	333.65971	44.83725	9.24150	0.2876564	0.20608436	2.8386120	20	5 15.4	21.0
347890 2002 TQ_{207}	17.6	X	169.81581	12.01968	0.27940	4.40031	0.2045466	0.30429287	2.1891467	20	3 8.8	21.0
347891 2002 TS_{218}	15.8	X	271.75209	79.04703	310.92250	7.21757	0.2184155	0.21127087	2.7919629	20	7 6.9	19.7
347892 2002 TR_{219}	17.3	X	186.58559	60.36220	272.22718	3.91459	0.2202269	0.30365465	2.1922130	20	2 1.9	20.7
347893 2002 TO_{287}	16.0	X	313.01979	149.92173	232.47343	10.81084	0.2478954	0.21448777	2.7639766	20	8 24.7	18.9
347894 2002 TO_{364}	16.7	X	223.11428	245.80906	167.36125	9.37544	0.1308622	0.20635665	2.8361143	20	6 22.3	21.2
347895 2002 TP_{368}	16.0	X	113.35081	359.22557	83.65370	11.01628	0.0712345	0.19299134	2.9655881	20	4 8.1	20.4
347896 2002 TQ_{369}	16.2	X	159.97575	95.00372	77.32680	13.66862	0.1099467	0.21312591	2.7757385	20	9 25.5	20.8
347897 2002 TY_{379}	17.0	X	294.19432	311.28057	24.23266	1.74354	0.0993149	0.20876111	2.8142952	20	6 12.2	20.5
347898 2002 UH_{74}	17.7	X	76.89144	78.76377	68.45406	5.52690	0.0620613	0.30772100	2.1728577	20	5 3.6	19.9
347899 2002 UR_{74}	18.0	X	153.93892	319.19120	88.84610	3.59301	0.1565206	0.30523851	2.1846230	20	4 7.2	21.1
347900 2002 VR_{3}	18.0	X	163.48749	101.42260	270.63079	3.51088	0.2612521	0.30302579	2.1952450	20	3 4.2	21.5
347901 2002 VD_{5}	16.1	X	25.63974	81.33478	214.08509	3.61295	0.0388985	0.21191646	2.7862896	20	9 6.7	19.8
347902 2002 VO_{71}	16.3	X	266.07417	305.37342	108.53107	4.67588	0.1592504	0.21047751	2.7989743	20	8 9.6	19.9
347903 2002 VC_{76}	17.5	X	92.21354	348.00395	83.47637	7.40911	0.0740384	0.29859247	2.2169206	20	2 9.3	19.9
347904 2002 VO_{138}	18.0	X	133.83983	359.00357	9.25099	7.40526	0.1661162	0.29638228	2.2279284	20	1 25.4	20.9
347905 2002 WV_{12}	17.2	X	7.86260	54.66727	240.91752	20.19599	0.1035591	0.37613940	1.9006559	20	9 3.6	19.4
347906 2002 WT_{24}	18.3	X	109.71950	337.41510	55.59140	3.44931	0.1455299	0.29518963	2.2339253	20	1 22.6	20.7
347907 2002 WQ_{30}	16.1	X	159.10826	26.61707	67.03797	3.03677	0.0731139	0.19746201	2.9206556	20	6 7.3	20.5
347908 2002 XW_{1}	17.1	X	187.40440	263.64834	113.24611	5.76480	0.0851199	0.30458777	2.1877334	20	3 29.9	20.1
347909 2002 XL_{18}	17.7	X	133.09150	156.36067	282.18408	3.15433	0.1011985	0.30297019	2.1955135	20	4 16.2	20.5
347910 2002 XP_{52}	17.0	X	114.91055	96.31331	293.28854	23.09422	0.2686244	0.29516258	2.2340618	20	2 5.4	20.0
347911 2002 XA_{121}	16.7	X	265.54309	258.31207	125.52884	3.44299	0.1604433	0.20464986	2.8518614	20	6 28.6	20.8
347912 2002 YK_{15}	16.2	X	107.66811	199.82860	278.00133	8.84047	0.2675232	0.18840848	3.0134853	20	6 1.4	21.0
347913 2002 YL_{26}	17.4	X	109.69923	175.09898	293.46299	4.81455	0.1001297	0.30093156	2.2054179	20	4 27.9	20.2
347914 2003 AN_{3}	17.0	X	291.55684	215.53715	264.67652	22.08533	0.0630040	0.38838655	1.8604868	20	—	—
347915 2003 AQ_{51}	15.6	X	125.46537	38.81698	94.37988	10.11224	0.1391108	0.19140800	2.9819201	20	6 25.9	20.2
347916 2003 BO_{37}	17.7	X	48.12970	116.93731	344.19502	5.66036	0.2433158	0.28670843	2.2777659	20	1 20.7	18.8
347917 2003 BS_{39}	16.0	X	180.62462	111.90049	290.87917	8.65806	0.0964335	0.18736996	3.0246102	20	4 24.9	20.8
347918 2003 BD_{42}	16.8	X	332.57447	249.88011	304.95694	6.01559	0.1835112	0.28710309	2.2756780	20	1 6.1	19.3
347919 2003 BS_{42}	17.1	X	18.89082	293.32428	214.21615	4.25520	0.1590186	0.23223759	2.6212858	20	2 4.6	19.7
347920 2003 BX_{46}	17.0	X	121.58553	7.65778	11.23641	7.11189	0.1768233	0.29084888	2.2560971	20	1 26.8	19.8

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	m		°	°	°	°		°				
347921 2003 BU_{70}	16.8	X	231.68072	229.77418	327.62091	4.11168	0.1289271	0.27114613	2.3641069	20	—	—
347922 2003 BA_{77}	15.7	X	47.10812	121.08908	31.90921	12.95400	0.2363251	0.17909342	3.1170920	20	4 25.5	19.2
347923 2003 BA_{91}	15.3	X	67.43346	45.07832	142.68190	23.05350	0.2030465	0.18395221	3.0619590	20	7 8.2	19.8
347924 2003 BP_{93}	15.5	X	132.78504	96.03857	317.53968	14.52998	0.0553475	0.17848931	3.1241214	20	3 13.1	20.2
347925 2003 CF_{12}	16.4	X	32.27282	345.36268	113.59433	13.17594	0.1478886	0.22830670	2.6512883	20	—	—
347926 2003 CH_{17}	16.2	X	156.29687	61.81666	45.21352	4.32963	0.2807187	0.19062510	2.9900789	20	6 27.8	21.6
347927 2003 DZ_{12}	17.7	X	348.72966	176.61716	5.67984	4.56864	0.1029226	0.28578126	2.2826897	20	1 28.1	20.1
347928 2003 EM	16.8	X	4.67073	127.84834	349.54271	24.56563	0.2006239	0.28235382	2.3011253	20	—	—
347929 2003 EG_{24}	17.5	X	22.47118	38.55394	103.53971	4.01441	0.2330688	0.28692384	2.2766257	20	1 16.4	18.6
347930 2003 EN_{27}	17.4	X	309.23790	191.05414	357.85478	3.18270	0.1009994	0.28090159	2.3090496	20	—	—
347931 2003 EE_{41}	15.7	X	102.71339	58.71444	84.85494	11.09374	0.1821849	0.18453766	3.0554795	20	6 19.4	20.4
347932 2003 FW_{4}	15.8	X	350.05981	74.01781	132.47883	10.49486	0.0958943	0.17468417	3.1693267	20	3 23.3	19.9
347933 2003 FF_{58}	16.1	X	116.93641	139.94873	346.26597	11.90414	0.1679810	0.18389716	3.0625701	20	6 9.9	21.1
347934 2003 FS_{59}	15.7	X	100.58535	184.02893	347.58114	11.36945	0.1349782	0.18601268	3.0393054	20	7 20.0	20.4
347935 2003 FV_{61}	16.4	X	69.12202	123.17145	71.63214	5.60636	0.1091202	0.18453874	3.0554676	20	7 4.8	20.5
347936 2003 FK_{66}	15.7	X	69.98999	133.08235	47.28070	7.68015	0.0626467	0.18208303	3.0828785	20	6 9.0	20.0
347937 2003 FR_{86}	16.8	X	296.63866	189.81686	352.32953	7.32631	0.1551933	0.27439528	2.3454074	20	—	—
347938 2003 FF_{94}	17.1	X	280.15652	59.91501	137.85190	5.37413	0.1678032	0.27382402	2.3486683	20	—	—
347939 2003 FA_{99}	17.1	X	348.96100	86.94048	58.92176	3.06804	0.1582469	0.28064805	2.3104400	20	—	—
347940 Jorgezuluaga	16.1	X	73.69820	107.25455	94.15298	18.90768	0.2859400	0.18345022	3.0675423	20	8 16.9	20.9
347941 2003 FQ_{130}	17.4	X	285.55342	188.70582	53.90283	7.15931	0.1198978	0.28256407	2.2999837	20	1 21.3	20.6
347942 2003 GV_{14}	17.2	X	320.46702	42.45202	141.51622	9.95280	0.1319964	0.28081980	2.3094978	20	—	—
347943 2003 GF_{57}	12.9	X	181.77168	140.26441	25.21705	12.91689	0.0614495	0.08297148	5.2061517	20	9 21.6	20.1
347944 2003 HO_{17}	17.2	X	278.51719	133.14414	52.10567	7.16164	0.0657427	0.27204969	2.3588694	20	—	—
347945 2003 HM_{23}	17.9	X	215.70916	49.67872	182.91577	1.63472	0.1348323	0.26904234	2.3764150	20	—	—
347946 2003 HE_{26}	16.1	X	86.34416	190.69969	333.64757	2.66397	0.0930851	0.18070689	3.0985100	20	6 14.8	20.4
347947 2003 LA	17.1	X	112.76329	134.97845	85.88216	25.52490	0.0523070	0.36292420	1.9465195	20	11 3.5	19.9
347948 2003 MW_{5}	16.0	X	359.42785	212.63797	118.12431	14.96673	0.2640181	0.23674198	2.5879301	20	10 27.2	18.7
347949 2003 OO_{15}	16.9	X	295.02554	163.59485	170.23745	14.08078	0.2682202	0.22523961	2.6753024	20	5 18.1	20.6
347950 2003 OM_{26}	16.8	X	291.37510	79.89992	294.46477	6.10166	0.1314501	0.23067469	2.6331125	20	7 28.2	20.0
347951 2003 OM_{29}	16.2	X	305.89146	221.32253	143.46382	12.72567	0.2083015	0.22951070	2.6420077	20	7 26.9	19.0
347952 2003 PK_{4}	16.3	X	19.52659	223.58858	91.08679	7.03699	0.1677036	0.23783654	2.5799839	20	10 21.6	19.3
347953 2003 QG	16.8	X	343.94829	197.78344	161.90295	4.01732	0.1911162	0.23590631	2.5940381	20	10 19.7	19.0
347954 2003 QV_{23}	16.5	X	19.75855	34.56305	311.45587	12.87456	0.1944083	0.24029353	2.5623670	20	12 3.7	19.9
347955 2003 QV_{27}	17.3	X	222.41263	81.95635	322.76700	5.33266	0.1670933	0.28013961	2.3132347	20	6 7.9	20.9
347956 2003 QP_{61}	17.6	X	62.03112	192.01008	145.34372	7.33983	0.2366690	0.30278183	2.1964240	20	—	—
347957 2003 QD_{77}	15.5	X	302.24141	206.15052	184.76103	18.29914	0.1935191	0.17066367	3.2189087	20	8 18.7	19.8
347958 2003 QL_{89}	16.8	X	285.12746	89.00533	264.29113	3.07023	0.1812096	0.22546551	2.6735151	20	6 10.8	20.0
347959 2003 QE_{100}	17.4	X	39.86375	20.09648	328.24348	2.92146	0.1930234	0.24283622	2.5444490	20	—	—
347960 2003 QX_{105}	17.3	X	194.01197	15.11085	347.87062	4.82008	0.2318740	0.26842334	2.3800671	20	3 19.4	21.4
347961 2003 RK_{1}	16.7	X	244.26119	341.68735	54.57455	11.52659	0.4015614	0.21884929	2.7271307	20	5 28.4	21.7
347962 2003 RC_{5}	17.5	X	226.35600	93.43287	325.51299	15.57965	0.0815989	0.34152893	2.0269874	20	7 19.2	20.0
347963 2003 RB_{8}	16.1	X	315.56277	88.19562	284.04941	12.79139	0.3041929	0.22817625	2.6522987	20	8 9.3	18.3
347964 2003 RE_{8}	16.0	X	325.51283	121.38604	216.91303	12.09697	0.2842828	0.22788812	2.6545338	20	7 14.8	18.4
347965 2003 RZ_{9}	16.5	X	316.87727	220.48254	134.47337	10.51796	0.2663273	0.22793866	2.6541414	20	7 26.2	18.8
347966 2003 RG_{24}	16.9	X	286.36884	100.60127	318.09723	5.12888	0.2786479	0.23018147	2.6368726	20	8 27.1	19.9
347967 2003 SU_{25}	17.4	X	309.50869	18.38941	24.34050	2.49467	0.2146719	0.23213518	2.6220567	20	10 2.6	19.6
347968 2003 SD_{31}	17.6	X	264.62631	208.34101	196.29440	5.85958	0.2172782	0.28252802	2.3001793	20	7 19.9	20.7
347969 2003 SK_{33}	15.5	X	18.95745	273.73790	120.22120	4.58701	0.3304139	0.12397553	3.9833218	20	—	—
347970 2003 SL_{42}	15.6	X	342.36775	77.91738	261.50494	10.07651	0.2433959	0.17372961	3.1809254	20	8 23.5	18.9
347971 2003 SN_{44}	16.5	X	285.25885	171.69648	209.16680	7.64891	0.2539418	0.22549310	2.6732970	20	7 6.0	20.0
347972 2003 SW_{44}	16.5	X	318.68803	192.40395	191.85203	11.76310	0.1869503	0.23166799	2.6255807	20	9 25.9	19.0
347973 2003 SM_{60}	15.7	X	31.19840	46.98288	343.09328	8.85204	0.1818790	0.18620336	3.0372301	20	—	—
347974 2003 SR_{61}	16.8	X	343.81816	343.78782	8.17352	14.64473	0.2647222	0.23334640	2.6129754	20	10 9.2	18.5
347975 2003 SU_{63}	16.4	X	298.45532	223.19428	143.14423	14.29038	0.2731539	0.22552849	2.6730173	20	7 4.2	19.6
347976 2003 SM_{70}	16.7	X	351.50278	166.64629	166.45952	5.60076	0.2302354	0.23166187	2.6256269	20	9 27.7	18.8
347977 2003 SE_{80}	16.4	X	318.44293	135.10031	250.98402	9.57093	0.1888364	0.23298944	2.6156435	20	9 23.8	19.1
347978 2003 SY_{86}	16.9	X	7.60744	317.09214	53.50832	5.80002	0.1943716	0.23903685	2.5713398	20	12 18.8	19.7
347979 2003 SZ_{90}	16.2	X	275.33555	59.48346	5.15179	14.53274	0.0480080	0.23251556	2.6191962	20	9 25.9	19.6
347980 2003 SQ_{91}	17.1	X	253.34399	265.31789	194.92131	11.07010	0.2674326	0.22918280	2.6445272	20	9 6.8	21.1
347981 2003 SM_{95}	17.0	X	342.39082	333.55082	348.09927	9.69899	0.1689303	0.28678272	2.2773724	20	8 26.7	18.6
347982 2003 SG_{98}	17.3	X	248.44628	191.56240	236.79614	8.02455	0.3223456	0.22289864	2.6940011	20	7 16.1	21.8
347983 2003 SB_{99}	15.8	X	187.12500	89.83903	292.68119	13.69475	0.1471521	0.21108090	2.7936378	20	4 2.1	20.6
347984 2003 SZ_{106}	16.7	X	279.44094	129.32151	230.93490	5.31279	0.1527885	0.28076881	2.3097775	20	6 18.3	19.5
347985 2003 SQ_{108}	16.4	X	194.90414	47.84586	350.03317	6.33968	0.2864636	0.21167739	2.7883871	20	5 1.2	21.5
347986 2003 SP_{115}	16.5	X	344.47181	259.49774	80.46861	8.41921	0.2097415	0.23225033	2.6211899	20	9 24.5	18.9
347987 2003 SY_{116}	16.9	X	292.59014	75.06277	310.16978	11.63805	0.2947680	0.22714059	2.6603548	20	7 19.1	20.1
347988 2003 SJ_{123}	16.7	X	290.44247	71.40696	351.32268	13.28873	0.1958797	0.23125387	2.6287142	20	9 23.1	19.5
347989 2003 SH_{134}	17.5	X	321.64277	110.70642	235.40220	4.87732	0.2775256	0.22942218	2.6426873	20	7 20.9	19.5
347990 2003 SO_{136}	17.3	X	84.92837	300.85058	128.14476	3.35283	0.1833114	0.25824157	2.4422228	20	2 16.7	19.9
347991 2003 SR_{144}	16.6	X	330.99359	115.74011	244.48167	10.77535	0.2116140	0.23056811	2.6339239	20	9 10.0	19.1
347992 2003 SB_{148}	17.5	X	342.03172	282.68174	37.39799	6.48468	0.2097380	0.28940433	2.2635983	20	8 27.7	18.8
347993 2003 SD_{165}	16.4	X	330.25421	324.80049	28.00630	16.16447	0.2260857	0.22895961	2.6462455	20	9 11.7	18.8
347994 2003 SL_{165}	15.9	X	230.68090	156.36789	201.19572	25.98995	0.2612246	0.21265399	2.7798436	20	4 12.4	20.5
347995 2003 SZ_{177}	17.1	X	351.93464	83.23759	306.47781	5.75189	0.1361407	0.23775118	2.5806014	20	12 10.3	19.9
347996 2003 SS_{194}	17.2	X	306.51444	80.67714	320.03992	5.37701	0.2069281	0.23034611	2.6356160	20	9 20.2	19.6
347997 2003 SH_{207}	16.7	X	335.67626	342.49795	26.47908	4.55373	0.2266355	0.23136718	2.6278559	20	10 13.9	18.7
347998 2003 SA_{209}	16.4	X	330.04005	35.07379	316.83429	12.92286	0.2730333	0.23291817	2.6161771	20	8 25.2	18.2
347999 2003 SP_{209}	16.9	X	337.20363	120.92901	199.87544	8.75755	0.2296667	0.22836373	2.6508468	20	7 25.1	19.2
348000 2003 SK_{210}	17.6	X	315.31361	7.22376	27.94247	3.53168	0.2175074	0.29095174	2.2555653	20	10 25.5	18.7