ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308001 2004 RS_{102}	17.8	X	41.96827	99.53959	222.64226	2.31229	0.2467534	0.29704755	2.2246007	21	12 10.9	20.7
308002 2004 RY_{104}	17.3	X	32.30213	71.03429	269.03859	4.98807	0.2408399	0.29680132	2.2258309	21	12 22.2	19.7
308003 2004 RM_{108}	17.7	X	332.76787	150.90103	253.29902	4.93353	0.1551206	0.29562072	2.2317531	21	11 28.6	19.3
308004 2004 RT_{110}	16.0	X	311.81807	119.68789	314.78017	22.13914	0.3062658	0.28772123	2.2724174	21	11 4.9	17.9
308005 2004 RV_{117}	17.0	X	353.93427	58.15275	165.19506	3.73797	0.0496434	0.21444302	2.7643611	21	4 6.0	20.4
308006 2004 RL_{137}	15.5	X	30.52765	71.49239	203.86580	13.63662	0.1909234	0.17495273	3.1660826	21	8 20.4	19.5
308007 2004 RS_{138}	17.4	X	94.95765	49.18367	235.12657	8.66429	0.2130633	0.30191090	2.2006460	21	12 11.6	20.9
308008 2004 RN_{150}	17.3	X	86.90885	114.97525	167.05409	5.81322	0.2003691	0.29830166	2.2183612	21	12 1.2	20.7
308009 2004 RX_{153}	17.4	X	23.33556	125.18803	206.04253	7.04408	0.2075681	0.29480400	2.2358730	21	11 22.5	19.7
308010 2004 RE_{185}	16.5	X	350.98987	126.92134	280.11836	6.10072	0.1174078	0.23975227	2.5662221	21	12 17.6	19.3
308011 2004 RQ_{186}	17.2	X	203.38580	93.58534	9.17340	7.29685	0.1207515	0.28338210	2.2955554	21	8 2.1	20.6
308012 2004 RD_{195}	15.0	X	14.92270	0.28642	356.10741	8.20500	0.0808659	0.17612985	3.1519603	21	10 28.8	19.2
308013 2004 RG_{197}	15.7	X	103.77769	61.19951	331.83973	10.18909	0.1007909	0.19553982	2.9397647	21	1 16.9	19.7
308014 2004 RH_{197}	17.6	X	84.28844	91.99201	197.77873	5.88229	0.2495777	0.29967213	2.2115927	21	12 11.6	21.2
308015 2004 RY_{210}	14.9	X	344.13861	31.70394	308.76573	14.37661	0.0892802	0.17070356	3.2184072	21	8 21.7	19.1
308016 2004 RW_{213}	16.1	X	93.68827	36.43475	307.66796	14.46008	0.0932637	0.24627247	2.5207250	21	—	—
308017 2004 RJ_{218}	15.9	X	16.96033	80.86359	249.19272	11.19716	0.2009957	0.23293415	2.6160575	21	10 22.7	18.9
308018 2004 RA_{219}	15.8	X	343.72044	128.39193	273.33551	13.30036	0.1633919	0.23533803	2.5982123	21	11 29.4	18.5
308019 2004 RA_{221}	15.2	X	58.54909	103.19481	286.92176	13.72516	0.2060094	0.24356481	2.5393722	21	—	—
308020 2004 RM_{222}	15.2	X	151.18910	54.10246	16.01642	13.99941	0.4428794	0.20074771	2.8886991	21	5 9.9	20.9
308021 2004 RU_{226}	16.8	X	356.64849	357.65150	1.67068	6.25176	0.1392968	0.29121666	2.2541972	21	11 1.5	18.9
308022 2004 RU_{232}	17.0	X	348.86025	148.58715	182.33562	6.10393	0.2597688	0.28780224	2.2719910	21	9 4.1	17.7
308023 2004 RK_{254}	17.9	X	39.15521	290.26117	49.05420	4.98015	0.2030872	0.29835127	2.2181153	21	12 24.4	20.6
308024 2004 RU_{255}	17.1	X	348.75294	340.09515	39.33374	21.45811	0.0985410	0.35250979	1.9846713	21	11 25.4	18.8
308025 2004 RB_{271}	17.2	X	307.24346	122.85399	4.46111	3.09192	0.1021949	0.24697135	2.5159674	21	—	—
308026 2004 RF_{279}	17.2	X	331.94630	241.42476	189.13407	6.22616	0.0579614	0.30004544	2.2097579	21	12 30.5	19.6
308027 2004 RG_{322}	17.1	X	11.58289	1.75058	346.02652	6.95116	0.2014102	0.29273979	2.2463713	21	11 22.4	19.3
308028 2004 RF_{328}	17.2	X	236.24393	67.68629	300.50752	1.85272	0.1998912	0.27428553	2.3460330	21	4 22.7	21.0
308029 2004 RO_{346}	15.7	X	189.10513	191.07674	212.57052	13.26680	0.0496203	0.21146278	2.7902734	21	4 29.9	19.7
308030 2004 SD_{4}	17.6	X	97.38821	45.61225	225.56137	7.11056	0.1524850	0.29908560	2.2144832	21	11 23.3	20.6
308031 2004 SH_{5}	17.9	X	329.15851	94.21014	311.74648	2.46199	0.1629477	0.29429597	2.2384454	21	11 22.7	19.3
308032 2004 SN_{11}	16.4	X	10.28260	329.36132	87.13046	9.46984	0.2990675	0.24191811	2.5508826	21	—	—
308033 2004 SO_{29}	17.7	X	325.83843	188.36429	196.80656	4.00414	0.1620643	0.29041725	2.2583319	21	10 10.3	19.3
308034 2004 SP_{30}	15.4	X	121.33115	187.06098	186.82709	11.28145	0.0264607	0.19656718	2.9295127	21	1 1.7	19.7
308035 2004 SV_{31}	15.3	X	69.18507	102.21991	188.59861	15.68026	0.1533252	0.17789385	3.1310891	21	11 2.9	19.9
308036 2004 SZ_{32}	17.2	X	308.01166	359.49193	50.62269	6.13866	0.1424978	0.28950564	2.2630702	21	10 15.1	19.0
308037 2004 ST_{33}	15.5	X	182.80147	286.91522	41.56033	11.10414	0.1476622	0.19877295	2.9077999	21	1 30.2	20.3
308038 2004 SJ_{43}	17.2	X	317.79001	133.45368	309.41468	4.56940	0.1031550	0.29877347	2.2160252	21	12 27.6	19.1
308039 2004 SA_{44}	17.9	X	346.12351	103.75712	283.60939	5.71492	0.1547382	0.29440529	2.2378913	21	11 29.1	19.8
308040 2004 SA_{61}	16.3	X	299.29496	66.72267	348.38725	12.81789	0.1312162	0.22901904	2.6457877	21	9 22.8	19.5
308041 2004 TN	18.9	X	161.65568	159.95960	17.12692	14.04638	0.4357718	0.57744882	1.4282154	21	10 6.9	20.7
308042 2004 TV_{8}	17.5	X	120.37570	48.53030	26.41978	21.15923	0.1340674	0.38040137	1.8864328	21	3 17.1	19.5
308043 2004 TH_{10}	18.6	X	271.18345	266.55641	271.42074	14.29396	0.8288916	0.70500678	1.2502797	21	—	—
308044 2004 TZ_{15}	17.7	X	315.77244	14.21765	337.03474	1.67858	0.1581368	0.28322444	2.2964072	21	7 21.2	19.7
308045 2004 TN_{17}	15.7	X	43.50769	142.68433	332.31815	5.28778	0.0457853	0.19696298	2.9255868	21	1 29.6	19.4
308046 2004 TX_{17}	17.4	X	314.49556	129.92305	227.54472	6.70440	0.1431452	0.28257732	2.2999118	21	7 27.9	19.6
308047 2004 TA_{25}	17.9	X	24.77616	15.22025	291.37651	0.85036	0.2517278	0.29157422	2.2523539	21	10 25.4	19.8
308048 2004 TV_{35}	17.7	X	269.06362	139.32498	202.07986	4.64595	0.1366515	0.27459248	2.3442844	21	4 28.9	20.7
308049 2004 TO_{36}	17.5	X	182.83699	319.54957	204.85221	2.02663	0.0855050	0.28774671	2.2722833	21	10 1.5	20.7
308050 2004 TS_{37}	17.7	X	163.76103	159.61982	26.04435	1.10236	0.0770754	0.28851798	2.2682320	21	10 8.9	20.7
308051 2004 TP_{39}	17.6	X	198.37654	215.14681	0.39575	2.85017	0.1071628	0.30134565	2.2033970	21	12 27.8	20.4
308052 2004 TZ_{46}	17.1	X	352.06301	145.09180	206.82765	6.15445	0.1427911	0.28868180	2.2673737	21	10 12.9	19.0
308053 2004 TD_{51}	17.7	X	277.62759	49.75286	356.01148	2.56181	0.1481287	0.28230904	2.3013687	21	8 9.9	20.3
308054 2004 TQ_{63}	17.4	X	286.45887	49.91909	18.90355	6.92382	0.0881758	0.28872084	2.2671694	21	10 8.7	19.7
308055 2004 TV_{68}	17.6	X	141.36226	245.65136	123.77508	4.25262	0.1276656	0.31658758	2.1320962	21	1 9.9	19.9
308056 2004 TX_{91}	17.5	X	259.80861	229.61096	220.60852	4.27540	0.1068567	0.28697195	2.2763712	21	9 22.7	20.3
308057 2004 TK_{102}	17.2	X	119.82153	182.56384	55.62856	3.74176	0.1853646	0.29049621	2.2579227	21	11 3.5	20.5
308058 2004 TW_{116}	16.8	X	150.14372	178.46948	231.56112	8.24670	0.1761360	0.26373272	2.4082045	21	3 27.3	20.4
308059 2004 TZ_{119}	17.8	X	286.82703	196.40483	234.64297	6.17585	0.2242926	0.28821511	2.2698207	21	9 15.9	20.0
308060 2004 TX_{134}	17.7	X	51.87050	291.95482	22.13869	3.66115	0.1837136	0.29637524	2.2279637	21	12 2.3	20.5
308061 2004 TL_{147}	15.4	X	199.83583	202.56990	4.92901	11.72444	0.1613900	0.18147396	3.0897725	21	11 20.8	20.6
308062 2004 TS_{147}	16.8	X	141.64414	224.53681	352.45688	6.25143	0.0765012	0.29114925	2.2545451	21	10 23.5	19.8
308063 2004 TV_{153}	17.3	X	222.71195	130.05583	18.17686	7.56821	0.0607967	0.29218407	2.2492187	21	10 31.3	20.1
308064 2004 TJ_{155}	17.1	X	106.08732	209.58910	28.38223	6.56291	0.0991683	0.29005608	2.2602063	21	10 14.7	19.9
308065 2004 TD_{158}	17.1	X	82.58044	24.33774	260.18509	2.85456	0.1287398	0.29246826	2.2477615	21	11 21.3	20.2
308066 2004 TZ_{159}	17.6	X	25.98506	294.09913	19.56320	2.72863	0.1764910	0.28883051	2.2665954	21	10 24.1	19.6
308067 2004 TW_{172}	15.2	X	174.39274	63.47281	275.14769	9.95130	0.1014994	0.19706710	2.9245561	21	1 26.1	19.7
308068 2004 TB_{183}	16.9	X	130.79635	24.56290	214.20592	7.96249	0.0837295	0.29420765	2.2388934	21	11 12.5	19.8
308069 2004 TH_{199}	17.4	X	124.26231	7.94127	183.95331	3.57005	0.0732493	0.28211872	2.3024035	21	8 29.8	20.4
308070 2004 TE_{207}	15.5	X	75.56077	278.92701	52.08280	8.71234	0.2853387	0.18138840	3.0907441	21	—	—
308071 2004 TM_{208}	17.3	X	354.12346	135.60525	208.23912	6.44305	0.1373620	0.28726999	2.2747964	21	10 2.6	19.3
308072 2004 TJ_{211}	15.7	X	306.33858	282.43393	21.80932	15.23695	0.3089433	0.21812306	2.7331806	21	4 6.1	19.3
308073 2004 TV_{228}	18.2	X	260.33499	53.66773	4.99519	2.93000	0.1534016	0.28237620	2.3010037	21	8 3.1	21.2
308074 2004 TL_{238}	17.0	X	179.58389	208.63792	78.00565	5.15370	0.1694464	0.31312462	2.1477872	21	—	—
308075 2004 TF_{240}	16.9	X	329.47630	352.14627	43.95521	6.32524	0.0902268	0.29048422	2.2579848	21	11 4.9	18.8
308076 2004 TX_{240}	17.5	X	319.43656	62.55297	295.44085	5.05035	0.2141736	0.28513239	2.2861515	21	7 30.7	19.1
308077 2004 TF_{273}	15.1	X	208.49984	132.54700	233.91991	17.16596	0.0865549	0.14660592	3.5620639	21	4 6.5	20.7
308078 2004 TX_{280}	17.5	X	338.64996	308.38789	57.53741	2.67977	0.0775820	0.28637903	2.2795121	21	10 6.4	19.6
308079 2004 TW_{292}	17.6	X	256.12172	106.16856	324.41796	2.27670	0.1826083	0.28171330	2.3046120	21	8 9.3	20.5
308080 2004 TK_{301}	15.8	X	129.17461	46.60567	343.31717	10.62089	0.1079132	0.19760044	2.9192914	21	2 13.2	20.0

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308081 2004 TF_{302}	17.4	X	338.49792	99.86201	269.16727	6.09846	0.1680283	0.28997804	2.2606117	21	10 9.2	19.2
308082 2004 TG_{310}	15.4	X	194.82432	40.19913	274.10888	9.87438	0.0982660	0.19772880	2.9180278	21	1 18.1	19.9
308083 2004 UN	17.5	X	42.94885	78.28503	289.43680	17.08857	0.1284956	0.35924996	1.9597691	21	—	—
308084 2004 UF_{1}	17.2	X	259.20717	259.40445	216.00364	22.48360	0.3317056	0.28533601	2.2850638	21	9 17.6	20.7
308085 2004 UP_{6}	17.7	X	4.00190	79.57982	276.82507	4.07395	0.1258269	0.29198480	2.2502420	21	11 10.3	19.9
308086 2004 UM_{8}	17.6	X	303.98539	104.71456	280.20869	2.29409	0.2535019	0.28450857	2.2894921	21	8 2.9	19.6
308087 2004 VJ	17.4	X	56.17536	255.47606	110.13708	5.54730	0.1938029	0.30180555	2.2011581	21	—	—
308088 2004 VP_{4}	16.2	X	157.72066	29.81279	332.67875	7.62558	0.3033022	0.19865907	2.9089111	21	2 22.9	21.4
308089 2004 VT_{6}	16.7	X	50.85064	329.63652	92.63332	4.08935	0.1353098	0.24651640	2.5190619	21	—	—
308090 2004 VH_{9}	15.7	X	100.25210	341.77182	343.93857	15.13354	0.1420467	0.24307739	2.5427657	21	—	—
308091 2004 VQ_{9}	16.5	X	31.98529	287.85574	121.50514	5.58056	0.1850767	0.24166943	2.5526322	21	—	—
308092 2004 VQ_{12}	17.0	X	356.39133	14.02501	15.46948	9.75642	0.1455046	0.29228489	2.2487015	21	12 20.2	19.4
308093 2004 VT_{13}	16.3	X	207.60507	14.91842	76.01082	27.57674	0.2542946	0.27421292	2.3464471	21	7 10.2	20.6
308094 2004 VD_{14}	16.7	X	305.91730	347.08057	49.19565	7.16451	0.1132829	0.28442559	2.2899373	21	9 23.1	18.9
308095 2004 VD_{21}	15.1	X	288.16371	22.13638	51.78151	16.02092	0.0271294	0.16957282	3.2326986	21	10 14.9	19.7
308096 2004 VY_{22}	17.2	X	271.88707	171.04260	253.14800	5.25952	0.1421187	0.28245469	2.3005774	21	8 25.7	19.9
308097 2004 VL_{26}	16.7	X	52.18636	327.57083	8.54412	7.40262	0.0772904	0.29426462	2.2386044	21	12 17.1	19.6
308098 2004 VF_{28}	16.7	X	354.17150	48.27331	312.07744	3.93791	0.2704832	0.23163391	2.6258382	21	10 29.7	18.7
308099 2004 VC_{33}	17.5	X	15.01302	247.39227	79.21925	5.68878	0.2190100	0.28872616	2.2671415	21	11 3.1	19.4
308100 2004 VU_{39}	17.9	X	180.62718	75.76149	75.72830	3.22348	0.1298158	0.27999566	2.3140275	21	9 10.9	21.3
308101 2004 VE_{52}	17.7	X	307.84718	306.32846	39.87198	2.99675	0.2528915	0.28089582	2.3090812	21	6 8.9	20.0
308102 2004 VG_{60}	17.3	X	244.68255	184.61474	263.63993	5.86744	0.1417009	0.28057618	2.3108346	21	8 22.4	20.5
308103 2004 VM_{60}	17.4	X	306.91055	314.26280	52.79396	8.49996	0.2221417	0.28246342	2.3005300	21	7 18.9	19.6
308104 2004 VS_{70}	17.5	X	300.54352	140.73503	235.02350	4.85475	0.1799296	0.28166994	2.3048485	21	7 25.0	19.7
308105 2004 VC_{104}	18.0	X	188.11984	103.33969	42.35533	4.75559	0.1141897	0.28205659	2.3027416	21	9 12.7	21.4
308106 2004 WG	14.7	X	312.12840	79.58458	58.05408	24.23536	0.4168417	0.17761083	3.1344145	21	12 23.3	17.1
308107 2004 WT_{9}	17.1	X	108.61306	50.34252	359.03195	20.85228	0.1205039	0.37169807	1.9157662	21	1 3.7	19.2
308108 2004 XB	16.9	X	290.97591	61.53794	292.45657	11.77303	0.0985164	0.39433321	1.8417350	21	6 19.3	18.3
308109 2004 XW_{2}	17.3	X	222.31393	22.17118	65.02115	3.33570	0.1753249	0.27594192	2.3366353	21	7 26.1	20.7
308110 2004 XF_{4}	17.1	X	326.42451	276.37647	219.98983	21.30910	0.0781291	0.36012847	1.9565806	21	—	—
308111 2004 XW_{5}	17.0	X	189.77751	92.60522	70.76973	21.92779	0.2067709	0.27999638	2.3140235	21	10 12.5	21.2
308112 2004 XH_{15}	16.8	X	28.64420	269.91907	82.69751	7.46080	0.1582430	0.29106461	2.2549822	21	12 20.4	19.4
308113 2004 XV_{23}	15.8	X	115.59711	337.15605	19.95232	5.78062	0.1759841	0.24680485	2.5170988	21	—	—
308114 2004 XZ_{27}	16.9	X	248.45694	170.00888	279.27899	5.60027	0.0725461	0.28007686	2.3135802	21	9 8.2	19.9
308115 2004 XQ_{51}	16.8	X	260.11292	167.93918	244.56091	6.42130	0.0883224	0.27817121	2.3241345	21	7 31.6	19.8
308116 2004 XG_{52}	16.7	X	290.10302	165.68647	249.16886	5.63889	0.0889757	0.28184044	2.3039188	21	9 18.9	19.3
308117 2004 XD_{61}	15.7	X	108.50802	0.53117	348.86428	17.96734	0.3528193	0.24686142	2.5167142	21	—	—
308118 2004 XM_{75}	16.9	X	259.90920	308.17476	95.53769	8.28442	0.2427975	0.27526610	2.3404582	21	6 28.9	20.2
308119 2004 XG_{80}	16.6	X	188.67129	70.42762	85.68432	7.27085	0.1367740	0.27847070	2.3224679	21	9 27.4	20.1
308120 2004 XL_{85}	17.4	X	327.07052	150.67726	277.06596	1.22397	0.1690551	0.28867157	2.2674273	21	12 22.9	18.7
308121 2004 XB_{88}	14.9	X	96.43603	310.94113	58.56020	9.81403	0.2886129	0.24214693	2.5492753	21	—	—
308122 2004 XT_{88}	16.1	X	53.40769	321.52417	91.20490	14.54439	0.2366245	0.24198690	2.5503991	21	—	—
308123 2004 XP_{101}	15.5	X	90.78153	313.39752	67.95076	5.49848	0.1784510	0.24303718	2.5430461	21	—	—
308124 2004 XN_{103}	16.4	X	68.51938	1.71543	29.41915	2.76823	0.1755332	0.24357954	2.5392698	21	—	—
308125 2004 XX_{109}	16.0	X	80.13611	1.23057	44.16144	6.01970	0.1894249	0.24522026	2.5279306	21	—	—
308126 2004 XV_{110}	17.1	X	96.01233	65.16694	343.27542	4.02169	0.1126336	0.31006303	2.1619023	21	—	—
308127 2004 XM_{130}	17.6	X	235.51875	190.34328	309.14344	28.16745	0.4660107	0.27776943	2.3263752	21	9 2.9	22.4
308128 2004 XK_{133}	16.6	X	324.23117	315.26818	41.79758	8.76626	0.2743637	0.28446277	2.2897378	21	8 5.5	18.1
308129 2004 XS_{139}	16.6	X	7.79656	239.40809	53.42984	4.83198	0.2395005	0.27387328	2.3483867	21	8 22.3	18.0
308130 2004 XY_{139}	17.3	X	244.12583	303.86663	121.89457	5.19978	0.1019198	0.27393016	2.3480616	21	7 29.3	20.3
308131 2004 XE_{147}	16.0	X	291.70932	337.56105	115.53846	24.61464	0.2436413	0.28262670	2.2996439	21	11 13.9	18.6
308132 2004 XS_{173}	16.2	X	38.07398	170.60767	234.63170	2.81167	0.1174779	0.23845185	2.5755437	21	—	—
308133 2004 XE_{184}	17.5	X	112.67102	354.55437	49.17853	4.22437	0.1394092	0.31000746	2.1621606	21	1 21.5	19.6
308134 2004 XN_{191}	16.7	X	255.27484	31.90061	72.47590	10.41191	0.1734384	0.27966562	2.3158477	21	10 2.5	19.7
308135 2004 YZ_{1}	16.2	X	226.95696	98.11701	18.33651	22.70711	0.1785906	0.27463016	2.3440700	21	9 16.7	19.8
308136 2004 YY_{7}	16.6	X	66.89312	200.95755	207.94342	0.86430	0.0946746	0.24672682	2.5176295	21	—	—
308137 2004 YM_{8}	17.7	X	306.71171	181.04176	229.63031	2.47203	0.1454570	0.28640360	2.2793818	21	10 9.1	19.6
308138 2004 YM_{10}	15.2	X	350.41527	230.62688	245.79647	14.09847	0.0634750	0.18469011	3.0537979	21	—	—
308139 2004 YW_{23}	17.0	X	240.03698	42.12462	111.05671	6.14139	0.1466045	0.28280645	2.2986694	21	11 18.9	19.8
308140 2004 YT_{29}	16.3	X	48.91101	31.61146	32.75832	5.28659	0.3058428	0.24357271	2.5393173	21	—	—
308141 2004 YK_{35}	17.1	X	125.83986	22.99020	102.52190	3.50270	0.1550767	0.26047743	2.4282272	21	6 9.9	20.5
308142 2005 AR_{2}	17.0	X	300.79301	299.33673	102.85073	7.35787	0.0992746	0.27782429	2.3260689	21	9 24.1	19.5
308143 2005 AY_{2}	17.5	X	107.59300	279.56786	298.10572	14.95776	0.0782847	0.39040818	1.8540585	21	9 15.9	19.8
308144 2005 AR_{11}	15.9	X	300.32406	52.69869	331.11945	8.63866	0.1911871	0.21859459	2.7292487	21	8 4.3	19.0
308145 2005 AU_{12}	17.5	X	214.56877	358.64629	111.18634	3.97498	0.2058493	0.27403174	2.3474813	21	8 14.9	21.0
308146 2005 AA_{13}	17.7	X	205.68391	8.47402	62.96204	2.41218	0.1735000	0.26879558	2.3778692	21	6 17.8	21.3
308147 2005 AU_{20}	16.9	X	117.44147	286.51545	258.52211	3.50053	0.1314579	0.26742573	2.3859825	21	8 16.1	20.3
308148 2005 AY_{29}	17.3	X	102.20447	79.13036	120.30456	2.12065	0.1186944	0.26795677	2.3828291	21	8 18.5	20.4
308149 2005 AK_{30}	15.3	X	46.07726	22.09818	30.45535	13.55325	0.2593524	0.23805103	2.5784339	21	—	—
308150 2005 AA_{34}	16.8	X	174.43663	352.79196	130.63952	7.53737	0.0531282	0.26949135	2.3737747	21	7 26.6	19.8
308151 2005 AX_{36}	17.0	X	268.05213	196.79143	260.24607	4.74939	0.1191575	0.28148138	2.3058777	21	10 11.6	19.7
308152 2005 AS_{37}	16.6	X	77.49438	326.76052	110.09078	15.71087	0.0730598	0.24559430	2.5253633	21	1 19.0	19.4
308153 2005 AD_{39}	17.4	X	170.35644	127.36446	33.00021	2.64801	0.1503631	0.27232332	2.3572890	21	9 10.5	21.0
308154 2005 AK_{39}	17.1	X	300.56403	295.76910	140.93337	8.24011	0.1766980	0.28348008	2.2950264	21	11 7.6	19.1
308155 2005 AK_{44}	17.2	X	157.56081	339.09431	131.29907	8.49056	0.1600073	0.26412302	2.4058315	21	6 23.3	21.0
308156 2005 AP_{51}	16.9	X	198.80775	77.27182	340.65809	5.78953	0.0979690	0.26313399	2.4118562	21	5 24.6	20.6
308157 2005 AJ_{57}	17.1	X	220.18666	267.05873	169.24798	4.48876	0.1540661	0.26927536	2.3750439	21	7 9.4	20.7
308158 2005 AY_{60}	17.1	X	153.34333	18.19684	120.40522	7.37650	0.1624019	0.26661087	2.3908417	21	7 26.3	20.6
308159 2005 AS_{73}	17.2	X	260.54399	320.60403	44.09935	1.66523	0.2192696	0.26661792	2.3907995	21	5 11.1	20.8
308160 2005 AK_{79}	17.5	X	204.59644	55.65272	39.70501	1.87246	0.1470147	0.26925967	2.3751362	21	7 20.3	21.0

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308161 2005 BZ_4	16.8	X	177.35046	15.03663	75.90764	6.02013	0.0722392	0.26503600	2.4003034	21	6 15.2	19.9
308162 2005 BH_8	16.9	X	194.90419	24.15478	93.94674	8.13346	0.0518890	0.27134336	2.3629611	21	8 16.9	20.1
308163 2005 BA_{11}	17.5	X	202.57801	343.63274	104.70449	4.33159	0.1849516	0.26846977	2.3797927	21	7 6.7	21.1
308164 2005 BM_{17}	17.8	X	171.10257	280.84108	211.67587	0.86002	0.1295904	0.26895461	2.3769318	21	8 4.1	21.2
308165 2005 BB_{19}	17.1	X	348.08532	38.78406	38.68623	4.87710	0.1002118	0.29168077	2.2518054	21	—	—
308166 2005 BX_{19}	16.9	X	170.59855	126.22246	349.30019	7.59978	0.0615676	0.26673024	2.3901283	21	7 12.6	20.3
308167 2005 BW_{20}	17.7	X	186.41952	326.95222	111.15562	2.91798	0.0561565	0.26318011	2.4115744	21	6 8.7	20.9
308168 2005 BU_{21}	17.2	X	311.19411	202.83823	138.23109	5.70189	0.1378602	0.26928977	2.3749592	21	6 28.8	19.7
308169 2005 BF_{23}	16.8	X	170.33883	118.80186	0.75047	2.41523	0.1229611	0.26631392	2.3926186	21	7 17.7	20.3
308170 2005 BC_{30}	18.0	X	177.73484	225.89720	273.56790	1.09048	0.0830801	0.27142977	2.3624596	21	8 21.2	21.3
308171 2005 BQ_{41}	17.2	X	54.40845	130.91469	90.28159	1.87452	0.1298077	0.26219008	2.4176414	21	7 14.1	19.9
308172 2005 CH_6	17.0	X	144.10140	184.10678	327.93016	1.90079	0.1670683	0.26435447	2.4044271	21	8 4.3	20.5
308173 2005 CN_8	17.5	X	175.29405	183.00744	311.75338	1.74284	0.1480067	0.26932666	2.3747423	21	8 11.5	21.2
308174 2005 CX_{12}	17.0	X	140.95409	347.28325	117.14319	7.03610	0.0696574	0.25907154	2.4370040	21	5 22.5	20.4
308175 2005 CD_{19}	16.2	X	0.08775	166.13327	21.26354	1.96462	0.0472645	0.24641976	2.5197204	21	2 20.6	19.2
308176 2005 CY_{20}	17.1	X	157.53081	43.26095	90.55197	3.49656	0.1310571	0.26506128	2.4001508	21	7 23.4	20.7
308177 2005 CJ_{26}	17.4	X	208.71791	208.46428	256.54514	1.97633	0.1880274	0.27005694	2.3704592	21	8 2.7	21.2
308178 2005 CK_{26}	16.6	X	285.22184	55.75815	38.23152	6.34130	0.2619349	0.22362051	2.6882003	21	10 5.9	19.6
308179 2005 CS_{27}	16.7	X	258.03746	349.50073	108.64579	4.51483	0.0907379	0.27597464	2.3364506	21	10 7.0	19.4
308180 2005 CQ_{29}	17.6	X	238.69871	24.33804	42.99765	2.10433	0.1700535	0.27036773	2.3686423	21	7 16.7	20.9
308181 2005 CA_{31}	16.7	X	265.83576	190.54960	99.61741	3.68418	0.1353752	0.24693141	2.5162386	21	2 21.7	20.4
308182 2005 CN_{38}	17.1	X	196.84058	301.02027	152.06093	5.38540	0.2168186	0.26652323	2.3913658	21	7 6.3	21.0
308183 2005 CQ_{39}	16.7	X	288.78981	340.13491	88.17834	9.14037	0.0746322	0.28036960	2.3119695	21	10 17.3	19.3
308184 2005 CP_{41}	16.9	X	356.53947	176.08995	13.56401	4.52360	0.1272704	0.24619816	2.5212322	21	2 10.3	19.6
308185 2005 CU_{41}	17.0	X	253.16404	219.21220	114.42879	8.27460	0.1248144	0.25519682	2.4616098	21	4 7.4	20.7
308186 2005 CW_{43}	16.9	X	154.06563	3.99806	142.28493	3.14568	0.1452588	0.26650892	2.3914514	21	8 5.3	20.4
308187 2005 CU_{48}	16.5	X	13.64955	181.61010	318.86518	4.53283	0.1421376	0.24216036	2.5491810	21	—	—
308188 2005 CY_{57}	17.3	X	170.67003	322.21870	170.69335	2.28463	0.1464791	0.26802687	2.3824136	21	8 3.9	21.1
308189 2005 CB_{60}	17.3	X	200.50362	102.37288	344.28634	7.84767	0.1892556	0.26770754	2.3843077	21	7 3.5	21.3
308190 2005 CN_{60}	17.5	X	116.04058	179.38807	337.54150	1.42429	0.1217546	0.26207904	2.4183242	21	7 7.6	20.7
308191 2005 CF_{62}	16.9	X	283.95216	169.06731	92.04395	5.10851	0.0793286	0.24557375	2.5255041	21	2 11.8	20.4
308192 2005 CZ_{66}	16.8	X	182.85189	65.50883	113.72368	6.35571	0.1120499	0.27454908	2.3445314	21	10 21.7	20.3
308193 2005 CB_{79}	4.6	X	323.43037	93.14549	112.92218	28.68545	0.1391925	0.00348234	43.1077129	21	3 3.5	20.5
308194 2005 ET_{12}	16.3	X	311.21303	219.33079	359.66870	13.56827	0.1248010	0.24062660	2.5600020	21	1 19.3	20.0
308195 2005 EW_{12}	17.3	X	44.59542	73.27113	17.09890	3.44398	0.4533833	0.24458854	2.5322815	21	—	—
308196 2005 EZ_{15}	17.5	X	78.03105	36.99184	148.27368	2.89410	0.1263303	0.25723564	2.4485856	21	6 27.5	20.4
308197 Satrapi	17.7	X	157.37137	162.08681	330.86608	1.97307	0.1474526	0.26226416	2.4171861	21	7 22.5	21.4
308198 2005 EK_{29}	19.0	X	6.28417	336.84261	171.76766	15.04561	0.1800184	0.48093404	1.6134136	21	—	—
308199 2005 EY_{32}	15.9	X	243.05094	28.68512	349.55932	11.65650	0.0755672	0.19765213	2.9187823	21	5 25.4	20.5
308200 2005 EE_{36}	16.5	X	184.32436	264.50839	283.98372	5.90973	0.1468807	0.27526748	2.3404504	21	10 27.4	20.1
308201 2005 EO_{38}	17.1	X	125.06516	258.58990	169.61868	23.00665	0.1294664	0.36804337	1.9284278	21	3 2.3	18.8
308202 2005 EH_{45}	17.2	X	84.92545	273.34484	278.01851	1.43423	0.1177518	0.26015712	2.4302199	21	7 14.7	20.3
308203 2005 EC_{46}	17.2	X	196.63882	195.45607	275.83393	1.47697	0.1556758	0.26799684	2.3825916	21	8 1.2	20.9
308204 2005 EW_{60}	17.2	X	76.52444	205.89494	337.04328	4.37669	0.1512431	0.25534318	2.4606690	21	6 26.5	20.1
308205 2005 EO_{61}	17.5	X	101.37259	5.44060	171.26676	2.47332	0.1436607	0.26032317	2.4291864	21	7 19.2	20.8
308206 2005 EY_{68}	16.9	X	140.06648	6.87098	215.33561	2.70834	0.1516681	0.27092207	2.3654102	21	10 29.5	20.6
308207 2005 EO_{77}	17.2	X	250.89982	348.06815	91.92454	2.40084	0.1627221	0.27227881	2.3575459	21	8 19.1	20.3
308208 2005 EP_{80}	17.9	X	110.18305	217.38898	287.16823	1.62097	0.1382173	0.25943542	2.4347247	21	6 15.2	21.0
308209 2005 EV_{88}	17.2	X	326.94441	277.21405	328.32578	6.72887	0.1104974	0.24660005	2.5184922	21	3 11.5	20.2
308210 2005 EL_{92}	17.3	X	131.34447	60.56840	335.16979	5.35465	0.1519277	0.24402813	2.5361569	21	2 19.5	20.7
308211 2005 EG_{95}	15.5	X	64.52225	95.60854	11.95755	19.29747	0.1834097	0.18441985	3.0567807	21	3 13.4	19.2
308212 2005 ED_{96}	16.1	X	63.55126	175.59057	255.08305	5.67368	0.2047865	0.24263025	2.5458887	21	—	—
308213 2005 EL_{96}	17.2	X	172.91722	303.14556	225.24929	5.11694	0.1682296	0.27221711	2.3579021	21	9 19.9	21.0
308214 2005 EU_{129}	17.7	X	163.35291	347.23804	159.59118	5.27876	0.1767688	0.26852401	2.3794722	21	8 15.3	21.4
308215 2005 EZ_{136}	16.6	X	148.35145	265.43210	26.73283	3.70694	0.2451990	0.21836050	2.7311989	21	—	—
308216 2005 EV_{140}	15.8	X	67.12212	5.26269	326.51549	13.02318	0.1588705	0.22507743	2.6765873	21	12 27.8	19.9
308217 2005 EB_{144}	17.2	X	144.06209	9.43070	17.71354	2.47909	0.1145460	0.24191505	2.5509040	21	2 19.4	20.7
308218 2005 EQ_{149}	16.8	X	258.90043	249.83729	26.80265	10.96852	0.1077720	0.23750594	2.5823775	21	2 4.7	20.9
308219 2005 EW_{158}	17.5	X	173.58980	243.41458	179.64836	4.74337	0.1512839	0.25432482	2.4672333	21	5 9.0	21.3
308220 2005 EQ_{160}	16.8	X	8.61424	176.60540	14.57139	13.46928	0.1089008	0.24359522	2.5391608	21	3 10.6	19.6
308221 2005 EV_{162}	17.5	X	199.23222	39.13668	25.66615	2.48662	0.2056521	0.25994061	2.4315692	21	6 2.4	21.6
308222 2005 EM_{166}	17.1	X	217.24681	173.42721	263.26325	0.94861	0.2056479	0.26539723	2.3981249	21	7 4.0	21.0
308223 2005 EA_{206}	17.4	X	281.87824	96.27865	143.91181	2.65311	0.1312250	0.29659264	2.2268748	21	—	—
308224 2005 EL_{210}	17.3	X	182.05941	247.97553	188.10083	1.75899	0.1682271	0.25860718	2.4399204	21	6 2.3	21.2
308225 2005 EP_{232}	16.3	X	207.44406	172.42630	160.17404	12.68977	0.1172267	0.24284754	2.5443699	21	2 15.5	20.1
308226 2005 EU_{233}	16.2	X	3.62815	84.95133	127.18534	12.25355	0.1694249	0.24675354	2.5174477	21	3 26.9	18.8
308227 2005 EX_{239}	17.3	X	20.63057	172.29843	12.09684	4.87170	0.1464420	0.24625255	2.5208610	21	3 16.9	19.8
308228 2005 EE_{250}	16.4	X	192.37561	20.52161	74.24869	14.45214	0.0639682	0.26348598	2.4097078	21	7 9.0	19.8
308229 2005 ET_{252}	16.0	X	227.49237	153.37345	196.00462	14.70480	0.1001339	0.24486220	2.5303944	21	3 28.9	19.7
308230 2005 ES_{257}	17.0	X	138.31687	119.49496	210.44705	3.46949	0.0625815	0.22811462	2.6527763	21	—	—
308231 2005 EB_{258}	16.2	X	174.92439	37.86922	345.64291	3.59758	0.1878011	0.24501265	2.5293585	21	3 22.1	20.3
308232 2005 EH_{260}	17.5	X	114.10065	85.31369	56.12853	2.73758	0.1618381	0.25446741	2.4663116	21	6 18.8	20.9
308233 2005 EB_{261}	16.2	X	203.13797	346.59168	3.77868	15.01834	0.0474104	0.24483137	2.5306068	21	3 8.3	19.7
308234 2005 EZ_{290}	16.2	X	302.09504	156.64825	77.21270	10.62285	0.0884523	0.23873148	2.5735321	21	1 30.8	19.8
308235 2005 EA_{309}	17.6	X	203.27981	63.73772	327.48180	3.31346	0.2045285	0.25642321	2.4537548	21	4 23.5	21.8
308236 2005 EB_{311}	17.2	X	244.44678	299.29191	358.57038	3.17669	0.1241512	0.24434105	2.5339911	21	2 10.4	21.0
308237 2005 EU_{317}	17.3	X	53.79409	351.87920	200.54774	1.75762	0.1188859	0.25227014	2.4806118	21	5 29.2	19.8
308238 2005 EC_{328}	17.2	X	33.24501	0.25693	183.66747	5.11093	0.1069099	0.24742835	2.5128684	21	4 8.9	19.6
308239 2005 FX_{12}	16.2	X	194.59389	216.96917	41.52110	14.24936	0.2273523	0.22387488	2.6861637	21	—	—
308240 2005 GG_5	16.5	X	296.43530	22.38786	189.69068	15.09171	0.0441040	0.23263964	2.6182648	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308241 2005 GR_{12}	16.8	X	13.00704	77.73475	111.55676	3.96285	0.2090604	0.24387424	2.5372237	21	3 5.5	18.9
308242 2005 GO_{21}	16.5	X	154.99425	156.64252	272.68749	24.92754	0.3399339	1.50771768	0.7532215	21	—	—
308243 2005 GC_{23}	16.4	X	29.43561	344.09884	175.45327	16.05418	0.0932243	0.24253598	2.5465484	21	2 24.1	19.4
308244 2005 GB_{28}	16.5	X	318.03089	220.28917	18.52215	6.84237	0.1275508	0.24037928	2.5617576	21	2 20.9	19.8
308245 2005 GM_{41}	17.1	X	47.63509	37.63168	167.39496	5.65863	0.0974721	0.25810751	2.4430684	21	6 3.8	19.9
308246 2005 GQ_{48}	17.8	X	297.89874	45.78644	181.12086	3.88266	0.0886026	0.29637004	2.2279897	21	1 1.8	20.7
308247 2005 GC_{49}	16.8	X	191.90805	158.99668	183.78276	4.17764	0.0816355	0.23648744	2.5897867	21	2 12.0	20.7
308248 2005 GU_{49}	16.1	X	253.76285	250.21523	28.46105	16.26691	0.0717593	0.23614590	2.5922832	21	2 7.5	20.2
308249 2005 GR_{59}	17.0	X	36.19917	43.86433	130.98649	11.07277	0.1324827	0.24517855	2.5282173	21	4 7.4	19.8
308250 2005 GC_{60}	15.9	X	182.99435	269.24478	8.97490	22.80011	0.1993385	0.28779672	2.2720200	21	—	—
308251 2005 GT_{68}	16.1	X	302.12280	118.66114	100.00985	15.83924	0.0622423	0.23619807	2.5919015	21	1 13.5	19.6
308252 2005 GQ_{71}	16.1	X	100.00727	304.86994	15.02489	14.70700	0.0797219	0.22009785	2.7168074	21	—	—
308253 2005 GC_{74}	16.0	X	242.24676	161.88850	85.66818	14.60929	0.1157008	0.22798245	2.6538015	21	—	—
308254 2005 GN_{74}	16.9	X	281.38766	355.75562	245.90898	3.65435	0.2208092	0.23570557	2.5955107	21	1 1.5	21.1
308255 2005 GT_{76}	17.2	X	89.75346	336.73332	31.76442	6.44801	0.0341179	0.22498300	2.6773362	21	—	—
308256 2005 GT_{77}	16.0	X	172.47944	310.69808	54.51827	15.20252	0.1439306	0.23926473	2.5697069	21	3 4.4	20.3
308257 2005 GP_{80}	16.7	X	138.38424	240.71435	190.76551	13.43168	0.1778260	0.24516414	2.5283164	21	4 17.6	20.4
308258 2005 GQ_{86}	16.2	X	225.05205	5.95218	202.29766	9.61935	0.1605448	0.21990237	2.7184172	21	12 25.3	20.3
308259 2005 GG_{90}	17.2	X	335.07948	287.32493	261.41079	3.20420	0.0514865	0.23691835	2.5866455	21	1 18.4	20.4
308260 2005 GQ_{90}	17.0	X	218.83897	11.13469	258.91898	2.91152	0.0989922	0.22894087	2.6463899	21	—	—
308261 2005 GZ_{93}	16.1	X	280.15508	116.55691	115.73262	15.28847	0.1166183	0.23246911	2.6195451	21	—	—
308262 2005 GE_{99}	17.0	X	185.01091	319.42184	28.51571	3.04853	0.0363505	0.23491074	2.6013620	21	2 10.8	20.6
308263 2005 GB_{100}	17.8	X	154.23193	85.77587	47.95670	1.87358	0.1212728	0.26306470	2.4122797	21	7 19.4	21.3
308264 2005 GW_{105}	16.9	X	41.81612	340.74934	164.21252	3.53157	0.1016270	0.24114720	2.5563162	21	2 26.9	19.5
308265 2005 GX_{117}	15.8	X	175.78053	344.42166	44.33901	5.65110	0.2012552	0.24494045	2.5298554	21	4 1.3	19.9
308266 2005 GM_{119}	16.0	X	38.20004	233.68363	314.49849	12.52383	0.1530070	0.24734965	2.5134014	21	4 19.8	18.8
308267 2005 GP_{122}	17.6	X	164.91889	175.41909	277.21239	1.27045	0.1643521	0.25836457	2.4414476	21	6 7.1	21.3
308268 2005 GF_{123}	15.8	X	283.12493	334.99374	51.93576	10.25120	0.1178395	0.19749320	2.9203481	21	7 25.8	19.9
308269 2005 GL_{127}	16.2	X	249.98567	96.69810	124.61048	9.52032	0.2632209	0.22532510	2.6746256	21	—	—
308270 2005 GU_{150}	16.5	X	134.23916	136.73203	153.64542	4.48196	0.0767783	0.21555460	2.7548493	21	—	—
308271 2005 GT_{151}	16.0	X	334.36376	194.37875	30.28236	14.42261	0.0881212	0.24093137	2.5578426	21	3 7.7	19.3
308272 2005 GT_{152}	16.1	X	206.20884	32.92020	204.94726	13.72410	0.1601911	0.22262363	2.6962193	21	—	—
308273 2005 GL_{156}	16.1	X	12.70618	213.25877	113.26996	1.55382	0.4287277	0.25597643	2.4566091	21	11 28.9	18.4
308274 2005 GR_{159}	16.5	X	146.22504	275.69603	32.49805	12.98562	0.2158096	0.21920998	2.7241384	21	—	—
308275 2005 GT_{165}	17.2	X	30.58439	344.28962	201.79017	0.95464	0.1440407	0.24610688	2.5218556	21	4 7.9	19.4
308276 2005 GU_{169}	17.4	X	123.78435	149.59567	356.69590	1.03235	0.1288388	0.25535562	2.4605892	21	7 2.9	20.9
308277 2005 GC_{179}	16.2	X	338.56791	90.86766	112.67699	9.94319	0.1327972	0.23825521	2.5769606	21	2 1.0	19.3
308278 2005 GY_{200}	17.5	X	76.23895	151.81750	16.36137	1.92433	0.1112156	0.25363237	2.4717218	21	5 28.3	20.3
308279 2005 GL_{202}	16.5	X	274.81556	19.53686	204.58110	12.13975	0.1287746	0.22964415	2.6409841	21	—	—
308280 2005 GU_{208}	16.3	X	281.51190	145.16001	87.62633	15.94901	0.0680488	0.23648284	2.5898203	21	1 5.6	20.0
308281 2005 GK_{209}	16.5	X	235.07504	111.65438	127.03377	12.52328	0.1350478	0.22708645	2.6607776	21	—	—
308282 2005 GM_{209}	16.5	X	301.46595	174.22035	68.57957	15.80034	0.1540044	0.23863550	2.5742221	21	2 3.3	20.4
308283 2005 HG_{8}	15.8	X	136.96956	233.80315	70.23056	19.67686	0.3431420	0.21579491	2.7528037	21	—	—
308284 2005 JP_{2}	16.9	X	102.51681	63.35179	63.63608	3.01168	0.1075720	0.24641812	2.5197317	21	5 8.6	20.0
308285 2005 JW_{13}	16.4	X	244.20196	2.26909	224.16940	13.17675	0.1969260	0.22627880	2.6671052	21	—	—
308286 2005 JX_{15}	16.6	X	115.98090	112.78443	192.87825	1.31564	0.1428789	0.21349379	2.7725489	21	—	—
308287 2005 JA_{34}	16.4	X	333.67878	331.54922	236.67824	12.32540	0.1315250	0.23724468	2.5842730	21	1 26.1	19.8
308288 2005 JB_{38}	16.7	X	334.17586	91.83445	114.75487	11.66329	0.1646407	0.23675775	2.5878151	21	1 24.6	19.9
308289 2005 JU_{48}	17.1	X	12.51056	60.96276	119.99418	4.77646	0.0773706	0.23843569	2.5756601	21	3 2.9	20.0
308290 2005 JE_{51}	16.8	X	182.25458	87.74230	191.55039	4.70127	0.1310249	0.22114678	2.7082098	21	—	—
308291 2005 JD_{56}	16.8	X	159.47917	123.28229	146.85967	12.43147	0.0893986	0.21505654	2.7591011	21	—	—
308292 2005 JC_{82}	16.9	X	322.28106	8.81016	206.37860	13.45171	0.1803768	0.23567442	2.5957394	21	1 14.1	20.7
308293 2005 JE_{83}	17.0	X	163.69920	352.80092	113.38865	2.45038	0.0967050	0.25277733	2.4772925	21	6 21.2	20.6
308294 2005 JB_{89}	16.7	X	336.32701	80.54404	124.16472	5.72020	0.1414086	0.23883199	2.5728100	21	1 28.1	19.6
308295 2005 JN_{99}	17.1	X	137.57643	157.66133	171.01070	8.77612	0.1238658	0.21973042	2.7198352	21	—	—
308296 2005 JA_{103}	15.8	X	231.31019	162.45303	94.39977	15.08247	0.0893532	0.22475508	2.6791459	21	—	—
308297 2005 JG_{113}	16.8	X	212.00527	172.36714	112.31761	2.55810	0.0413248	0.22839899	2.6505740	21	—	—
308298 2005 JH_{130}	16.5	X	345.96630	344.34920	235.94167	4.09198	0.1376599	0.24134012	2.5549537	21	3 3.1	19.4
308299 2005 JM_{137}	16.1	X	233.18167	206.89502	67.32233	12.06391	0.1083457	0.22896791	2.6461815	21	1 4.1	20.3
308300 2005 JH_{146}	16.7	X	291.33949	72.12149	183.77337	13.59649	0.1385812	0.23341868	2.6124359	21	2 4.0	20.8
308301 2005 JJ_{147}	16.6	X	309.00232	156.59038	65.26070	14.77538	0.2085607	0.23388107	2.6089915	21	1 6.6	20.5
308302 2005 JD_{148}	16.0	X	158.08362	188.30644	107.87303	15.23232	0.1573403	0.21802673	2.7339856	21	—	—
308303 2005 JG_{163}	16.5	X	83.22280	305.63605	74.94284	5.85833	0.0659057	0.22083246	2.7107790	21	—	—
308304 2005 JH_{165}	15.7	X	49.27354	24.98863	68.17001	22.81189	0.0319339	0.22860790	2.6489590	21	—	—
308305 2005 KA_{1}	17.4	X	69.70057	0.02143	158.23728	6.17003	0.1615030	0.24615518	2.5215257	21	5 14.9	20.3
308306 Dainere	16.2	X	303.73416	250.19933	84.96424	23.08429	0.5549425	0.17707260	3.1407629	21	4 23.1	21.5
308307 2005 KT_{9}	16.4	X	291.32932	173.22008	61.81342	12.85602	0.1393742	0.23162371	2.6259153	21	1 13.5	20.4
308308 2005 KB_{14}	16.6	X	2.45462	311.55872	223.31246	4.13176	0.1452274	0.23601214	2.5932625	21	1 27.8	19.4
308309 2005 LV_{8}	16.5	X	268.85138	155.18120	89.95333	4.34927	0.1390142	0.22973420	2.6402939	21	1 1.9	20.5
308310 2005 LT_{9}	16.4	X	6.84215	27.69514	97.57025	14.85978	0.0550913	0.22566134	2.6719682	21	—	—
308311 2005 LJ_{13}	16.0	X	97.23563	275.26253	82.53351	13.23996	0.1574861	0.21712691	2.7415339	21	—	—
308312 2005 LU_{23}	15.6	X	352.59552	48.59610	284.13110	10.75555	0.1540651	0.18385015	3.0630921	21	8 24.9	19.2
308313 2005 LV_{36}	16.1	X	62.50553	285.87394	202.43272	13.87358	0.1344605	0.23717820	2.5847559	21	3 12.4	19.1
308314 2005 LZ_{45}	12.8	X	44.17884	239.61032	110.12202	22.92992	0.0796584	0.08386057	5.1692891	21	11 22.5	19.7
308315 2005 LZ_{52}	15.2	X	302.24152	223.56505	105.31172	29.54838	0.2664374	0.17529916	3.1619100	21	5 23.0	20.0
308316 2005 LD_{53}	15.6	X	332.81535	9.90546	301.92024	7.99419	0.2680090	0.18030706	3.1030889	21	6 8.5	18.8
308317 2005 MS_{11}	16.2	X	201.18909	150.59894	122.48587	10.55101	0.1555491	0.22065877	2.7122013	21	—	—
308318 2005 MC_{18}	15.8	X	288.34278	254.59269	124.06524	11.24790	0.4453078	0.17829770	3.1263593	21	6 4.2	20.8
308319 2005 MN_{22}	16.7	X	56.68163	206.59479	126.56638	2.98559	0.0882706	0.19871774	2.9083385	21	12 2.5	20.6
308320 2005 MK_{29}	15.8	X	162.70813	305.49512	268.54805	9.97084	0.0407624	0.19754960	2.9197922	21	10 30.9	20.3

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308321 2005 MG_{38}	16.8	X	140.51559	142.25859	136.74454	3.46160	0.1750298	0.20600733	2.8393195	21	12 28.6	21.6
308322 2005 MU_{38}	16.4	X	118.57690	128.77794	150.01353	2.37259	0.0509820	0.20074646	2.8887112	21	12 3.2	20.5
308323 2005 MW_{41}	15.5	X	36.03199	92.20051	204.89120	13.44887	0.2073205	0.19037023	2.9927471	21	10 5.1	19.1
308324 2005 NG_{4}	15.9	X	259.64708	283.23347	289.39113	8.00816	0.0994591	0.21553768	2.7549935	21	—	—
308325 2005 NS_{4}	16.0	X	354.80781	260.79106	123.50968	11.34202	0.1148569	0.19594258	2.9357349	21	11 16.5	19.7
308326 2005 NJ_{17}	17.1	X	155.56608	289.52280	294.75234	2.67219	0.1416934	0.26266101	2.4147507	21	11 13.9	20.8
308327 2005 NV_{17}	16.2	X	147.74319	155.43971	114.04885	16.27825	0.1229074	0.20646929	2.8350828	21	12 24.8	20.7
308328 2005 NZ_{30}	16.7	X	31.03051	210.72625	145.31709	2.61723	0.0988335	0.19870208	2.9084913	21	11 29.6	20.5
308329 2005 ND_{35}	16.1	X	239.84646	239.59452	312.81803	7.70936	0.0870176	0.20888248	2.8132050	21	—	—
308330 2005 NK_{52}	16.3	X	112.65722	223.56805	58.75432	3.10937	0.1684137	0.26325654	2.4111077	21	12 16.9	20.1
308331 2005 NZ_{61}	16.2	X	7.28103	262.05977	115.86623	3.32820	0.1589720	0.19521410	2.9430338	21	11 29.4	19.6
308332 2005 NT_{68}	16.4	X	356.87404	336.27674	134.45811	4.61015	0.0532852	0.21192426	2.7862212	21	—	—
308333 2005 NY_{75}	16.8	X	28.27452	358.78868	282.07599	2.70134	0.3490768	0.19018853	2.9946529	21	9 23.5	19.9
308334 2005 NN_{99}	16.3	X	338.51797	116.62754	221.22562	7.32042	0.2042282	0.18476411	3.0529824	21	8 3.7	19.7
308335 2005 OE_{18}	17.1	X	192.71864	193.15060	171.25067	6.49441	0.1232193	0.28572917	2.2829672	21	3 8.1	20.2
308336 2005 OW_{31}	15.5	X	38.70992	226.98718	108.10643	12.64621	0.1473402	0.19543565	2.9408092	21	11 22.9	19.5
308337 2005 OY_{31}	15.9	X	344.53355	172.59903	164.11562	8.99650	0.1066705	0.18263169	3.0767010	21	8 20.4	19.7
308338 2005 PN_{16}	15.3	X	6.43738	325.70612	70.97858	11.65399	0.1109150	0.19641078	2.9310676	21	12 15.8	18.9
308339 2005 PP_{20}	16.4	X	64.73501	303.96928	357.46797	5.87711	0.1444735	0.25722011	2.4486841	21	11 17.8	19.8
308340 2005 PB_{24}	16.1	X	330.16576	224.67949	67.65241	1.86683	0.1468802	0.17542369	3.1604133	21	5 24.8	20.0
308341 2005 QM_{5}	16.2	X	284.28257	61.06626	310.44568	8.80202	0.2409950	0.17843323	3.1247760	21	6 16.1	20.7
308342 2005 QK_{6}	16.0	X	315.97088	213.68255	178.04495	7.96118	0.1386432	0.18494331	3.0510100	21	9 13.8	19.5
308343 2005 QE_{8}	15.7	X	9.03391	343.59934	356.72599	12.79307	0.0728466	0.18699266	3.0286773	21	10 1.6	19.7
308344 2005 QP_{9}	16.6	X	21.28611	173.51681	157.27485	2.95991	0.1669222	0.18993968	2.9972681	21	10 22.1	20.2
308345 2005 QO_{26}	15.6	X	84.35751	301.39961	23.82573	6.63972	0.0758745	0.19627875	2.9323819	21	12 22.2	19.9
308346 2005 QC_{36}	15.4	X	348.52010	319.48023	351.38060	13.01972	0.1589188	0.17929841	3.1147158	21	7 26.5	19.1
308347 2005 QY_{47}	16.0	X	295.43960	241.30169	116.17324	6.03372	0.1537316	0.17674017	3.1446999	21	6 25.8	20.1
308348 2005 QD_{58}	16.2	X	296.05962	232.00193	167.76269	9.82998	0.0993429	0.18224946	3.0810013	21	8 28.7	20.2
308349 2005 QQ_{61}	16.0	X	278.23190	152.29987	266.43468	5.30785	0.1544497	0.18200614	3.0837466	21	8 18.7	20.3
308350 2005 QE_{70}	15.6	X	319.76679	202.76519	159.26887	12.96250	0.2465700	0.18216397	3.0819651	21	7 25.9	19.0
308351 2005 QG_{75}	15.9	X	350.93255	34.56364	323.78094	8.33113	0.0536023	0.18811171	3.0166539	21	9 26.1	19.9
308352 2005 QO_{75}	16.1	X	298.67734	51.68438	343.84745	12.09299	0.1240427	0.18433632	3.0577040	21	8 26.1	19.9
308353 2005 QX_{81}	17.3	X	253.43801	228.26386	141.10450	5.66158	0.2422570	0.23392846	2.6086391	21	5 11.8	21.6
308354 2005 QW_{85}	16.8	X	273.63145	215.19093	139.72420	5.52641	0.3309072	0.23371378	2.6102363	21	5 3.5	21.1
308355 2005 QK_{86}	16.0	X	216.46420	191.84614	290.79726	4.16816	0.0875462	0.17521577	3.1629130	21	9 4.2	20.7
308356 2005 QZ_{88}	16.2	X	281.39967	351.59164	348.17552	10.04135	0.2041233	0.23294842	2.6159506	21	4 30.9	20.1
308357 2005 QR_{115}	16.7	X	11.61167	86.37005	272.37058	0.61945	0.0895612	0.19151482	2.9808112	21	11 2.1	20.2
308358 2005 QP_{120}	16.5	X	214.50847	191.11471	357.91439	1.66364	0.0373660	0.19852548	2.9102159	21	12 1.5	20.7
308359 2005 QM_{138}	15.5	X	254.23405	106.78856	2.23122	17.04464	0.2038352	0.18403453	3.0610459	21	9 18.9	20.0
308360 2005 QY_{148}	16.6	X	322.72268	65.05021	299.64894	14.15517	0.1573268	0.24396672	2.5365825	21	8 18.4	19.2
308361 2005 QD_{149}	15.2	X	272.92430	229.25250	181.75204	16.77552	0.2294146	0.17625414	3.1504783	21	7 21.7	20.1
308362 2005 QM_{151}	16.1	X	306.56274	229.71398	168.99824	10.12292	0.0864618	0.18293735	3.0732729	21	9 14.4	19.9
308363 2005 QF_{164}	15.8	X	278.44135	153.78925	258.94638	17.32050	0.1592026	0.17819489	3.1275617	21	8 5.3	20.4
308364 2005 QO_{164}	16.6	X	345.51889	278.15058	80.63135	2.82371	0.1688730	0.18434954	3.0575578	21	9 23.7	19.8
308365 2005 QS_{164}	16.1	X	313.21822	227.64267	133.14950	3.25543	0.1709639	0.17904436	3.1176614	21	7 24.7	20.0
308366 2005 QR_{167}	16.0	X	294.88271	324.20964	43.47871	11.28268	0.2323601	0.17730416	3.1380276	21	6 25.7	20.3
308367 2005 QR_{176}	17.0	X	358.03751	292.01981	350.52934	17.85179	0.0923923	0.36088265	1.9538537	21	7 4.6	18.9
308368 2005 QG_{177}	15.7	X	78.77821	337.34135	346.22884	10.61805	0.0507082	0.19593369	2.9358237	21	12 9.8	20.1
308369 2005 QJ_{178}	15.5	X	58.54639	284.64330	21.37299	10.06319	0.1253305	0.19103883	2.9857603	21	11 3.1	19.6
308370 2005 QQ_{179}	16.4	X	319.87722	319.73323	31.60426	3.59076	0.2215353	0.18048291	3.1010730	21	7 17.2	19.8
308371 2005 QG_{189}	15.9	X	283.68600	242.40777	183.14930	13.08183	0.0846298	0.18386563	3.0629202	21	9 15.9	20.0
308372 2005 RW_{7}	15.9	X	295.40837	163.56959	196.62622	4.61039	0.3031823	0.17573406	3.1566911	21	6 6.6	20.2
308373 2005 RO_{15}	16.1	X	21.56858	314.63713	351.46292	2.27487	0.1468931	0.18545787	3.0453639	21	9 15.2	19.6
308374 2005 RQ_{19}	16.0	X	281.16645	333.32274	132.37644	3.25347	0.0574162	0.19138012	2.9822096	21	11 9.1	20.0
308375 2005 RS_{23}	15.9	X	202.64506	26.47627	294.29008	13.25937	0.1960602	0.21564860	2.7540488	21	1 31.7	20.6
308376 2005 RA_{26}	15.6	X	28.97434	85.92230	243.99166	8.88961	0.1076695	0.18833004	3.0143221	21	10 21.4	19.6
308377 2005 RM_{30}	16.5	X	330.86879	43.61965	315.81573	11.40329	0.1996201	0.24230054	2.5481977	21	8 25.9	18.6
308378 2005 RR_{31}	15.7	X	272.59852	79.77398	326.43156	25.24674	0.2866144	0.17507077	3.1646592	21	7 17.1	20.7
308379 2005 RS_{43}	5.0	X	56.02686	267.96312	46.44286	9.99865	0.2029354	0.00295580	48.0861152	21	10 27.3	21.4
308380 2005 RY_{45}	15.8	X	85.47375	173.57120	63.42961	10.59486	0.0483324	0.17823480	3.1270948	21	9 6.5	20.4
308381 2005 SJ_{1}	15.5	X	325.81316	159.37031	178.56703	27.80302	0.1511469	0.17806086	3.1291310	21	7 15.7	19.9
308382 2005 SM_{2}	16.0	X	306.65798	339.87647	16.55454	16.95510	0.2115668	0.17724465	3.1387300	21	7 3.6	20.3
308383 2005 SF_{6}	16.4	X	208.37295	238.56924	225.92082	7.63572	0.1820805	0.17019389	3.2248294	21	7 28.8	21.8
308384 2005 SV_{7}	15.5	X	5.46779	278.64385	125.47047	10.41155	0.0370804	0.19639389	2.9312356	21	12 17.5	19.5
308385 2005 SU_{14}	15.3	X	305.90146	303.98629	101.85551	10.59985	0.1152529	0.18280555	3.0747499	21	9 24.7	19.3
308386 2005 SH_{21}	15.5	X	277.88424	109.53487	283.97726	8.30818	0.1621267	0.17533732	3.1614512	21	7 17.1	19.8
308387 2005 SW_{21}	15.9	X	224.26418	239.43057	210.77747	15.45436	0.2097924	0.17213221	3.2005746	21	7 22.2	21.5
308388 2005 SN_{22}	15.9	X	301.63827	331.00714	46.48311	5.88866	0.1741533	0.17821521	3.1273239	21	7 30.1	19.9
308389 2005 SY_{22}	15.9	X	29.87326	301.36705	20.09509	9.45171	0.1041089	0.18647180	3.0343146	21	10 13.2	19.5
308390 2005 SO_{29}	15.7	X	116.58333	202.77077	344.91727	8.63011	0.0162978	0.17490400	3.1666706	21	8 5.6	20.2
308391 2005 SZ_{34}	16.3	X	232.96339	349.40722	71.80037	5.72227	0.1396296	0.17062612	3.2193809	21	7 4.9	21.4
308392 2005 SB_{35}	16.1	X	276.46481	224.93865	179.77895	10.17616	0.1203409	0.17595540	3.1540433	21	8 3.3	20.7
308393 2005 SP_{38}	16.1	X	171.05664	198.38491	13.12030	1.59623	0.0227057	0.18979589	2.9987817	21	11 8.1	20.4
308394 2005 SD_{44}	15.7	X	279.23113	29.32298	6.82607	10.58137	0.0187228	0.17549319	3.1595788	21	8 16.9	20.2
308395 2005 SO_{46}	15.9	X	277.39762	210.17027	205.97289	10.03176	0.0739639	0.17819871	3.1275170	21	8 24.9	20.3
308396 2005 SF_{48}	16.3	X	322.33183	12.59607	336.33715	3.54400	0.1380256	0.17704548	3.1410836	21	7 29.1	20.0
308397 2005 SJ_{48}	16.1	X	274.59297	227.19937	206.57545	10.40259	0.1541045	0.17919479	3.1159164	21	9 1.1	20.6
308398 2005 ST_{49}	15.7	X	267.22767	208.62391	199.78516	18.40610	0.1572100	0.17399108	3.1777378	21	7 20.2	20.7
308399 2005 SZ_{55}	15.2	X	312.13796	159.15363	198.02327	27.36106	0.1525038	0.17599258	3.1535991	21	7 15.6	19.8
308400 2005 SG_{60}	17.4	X	77.25642	313.16917	46.67593	1.85348	0.1919117	0.26158766	2.4213517	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308401 2005 SF_{62}	16.4	X	282.08144	191.17696	195.93439	0.54165	0.1875573	0.17485708	3.1672370	21	7 10.9	20.8
308402 2005 SL_{76}	16.4	X	333.65998	220.50840	117.58733	0.68263	0.2742451	0.18014182	3.1049862	21	7 18.9	19.2
308403 2005 SV_{78}	16.8	X	277.61414	267.49380	142.36404	2.13426	0.1336190	0.17780839	3.1320922	21	8 11.6	21.1
308404 2005 SC_{83}	16.4	X	262.68642	190.34148	234.69020	0.99520	0.2426095	0.17531596	3.1617079	21	7 28.4	21.1
308405 2005 SW_{83}	16.6	X	43.54224	110.61984	190.54481	1.25472	0.1739948	0.18606856	3.0386970	21	10 16.9	20.5
308406 2005 SR_{84}	16.9	X	253.05139	52.89881	11.37888	0.76493	0.1614036	0.17464912	3.1697508	21	7 27.6	21.5
308407 2005 SM_{85}	15.9	X	22.57784	108.21631	190.01687	9.31662	0.0942902	0.17979014	3.1090340	21	8 28.8	19.9
308408 2005 SY_{92}	17.4	X	253.46677	358.74317	206.55047	5.86677	0.0765159	0.26404019	2.4063346	21	—	—
308409 2005 SY_{93}	16.1	X	288.30053	177.45665	202.09682	1.60872	0.0886094	0.17342228	3.1846824	21	7 23.9	20.5
308410 2005 SP_{95}	15.6	X	325.11627	313.15325	19.07768	9.68780	0.0926466	0.17568173	3.1573180	21	7 17.8	19.8
308411 2005 SM_{98}	16.3	X	285.92084	29.80111	339.69227	7.56972	0.1658683	0.17352626	3.1834100	21	6 27.2	20.8
308412 2005 ST_{103}	16.8	X	8.52509	52.08540	284.38193	3.13832	0.1838240	0.24581629	2.5238426	21	10 17.3	19.2
308413 2005 SL_{105}	16.3	X	192.54634	227.81845	186.15465	12.98821	0.1816776	0.22422938	2.6833317	21	5 17.8	20.9
308414 2005 SY_{108}	15.7	X	310.66837	148.23463	201.41951	9.02588	0.2365044	0.17615646	3.1516428	21	6 24.7	19.8
308415 2005 SC_{112}	15.7	X	261.45098	174.90776	225.72176	10.17212	0.0991636	0.17455271	3.1709179	21	7 13.2	20.5
308416 2005 SZ_{113}	17.4	X	324.03705	74.12615	304.19362	0.76810	0.1182929	0.24503406	2.5292111	21	9 19.1	20.0
308417 2005 SH_{114}	17.0	X	205.92589	172.36169	195.03840	3.66585	0.0769138	0.22324180	2.6912396	21	4 1.2	21.0
308418 2005 SP_{117}	16.0	X	316.37068	266.20084	107.43466	6.63016	0.1735568	0.18066923	3.0989407	21	8 18.4	19.6
308419 2005 SZ_{120}	15.4	X	325.00022	341.28367	349.30369	8.95833	0.0857038	0.17532430	3.1616077	21	7 15.8	19.5
308420 2005 SO_{125}	15.8	X	32.07785	255.79851	11.15535	17.73938	0.0981110	0.17709432	3.1405061	21	8 12.9	20.1
308421 2005 SZ_{126}	16.8	X	249.28507	246.70099	159.20155	0.29288	0.1605774	0.17226082	3.1989814	21	6 30.5	21.7
308422 2005 SU_{127}	16.4	X	200.08124	71.29828	25.09365	0.71099	0.1148040	0.17107667	3.2137260	21	7 16.9	21.3
308423 2005 SV_{127}	16.0	X	346.33830	332.70158	15.66923	3.94071	0.1844272	0.18180217	3.0860527	21	9 9.8	19.2
308424 2005 SG_{129}	15.6	X	302.01449	143.36984	201.91464	10.50153	0.2214401	0.17394364	3.1783155	21	6 9.1	19.9
308425 2005 SO_{135}	16.2	X	215.32947	260.29987	178.93359	5.78114	0.1436965	0.17153701	3.2079739	21	7 8.4	21.3
308426 2005 SF_{139}	16.6	X	277.01675	344.65044	83.33646	2.25026	0.1591731	0.17935525	3.1140577	21	8 31.5	20.9
308427 2005 SJ_{139}	15.9	X	330.29556	194.34485	132.65918	2.54654	0.2278573	0.17776066	3.1326529	21	7 1.3	19.3
308428 2005 SP_{139}	16.7	X	332.83535	296.07033	74.88916	2.26898	0.1268839	0.18227686	3.0806925	21	9 17.2	20.2
308429 2005 SP_{141}	16.0	X	294.62314	23.02135	34.67525	5.88139	0.1457339	0.18120403	3.0928402	21	9 15.6	19.9
308430 2005 SH_{144}	15.7	X	312.65232	341.75175	32.64646	8.31723	0.1225250	0.17905542	3.1175330	21	8 21.9	19.7
308431 2005 SK_{155}	16.2	X	281.25471	96.20620	280.84851	12.96082	0.2110016	0.23833474	2.5763873	21	6 23.1	19.7
308432 2005 SS_{155}	15.8	X	262.74829	108.61246	317.45037	15.86232	0.2293169	0.17620164	3.1511041	21	8 1.9	20.6
308433 2005 SJ_{157}	15.8	X	144.62330	104.05480	40.56325	4.89011	0.0601983	0.17012314	3.2257234	21	7 18.7	20.6
308434 2005 ST_{157}	15.7	X	246.17892	66.99784	24.17204	11.02684	0.0580967	0.17864561	3.1222990	21	9 9.1	20.2
308435 2005 SL_{159}	16.7	X	344.80316	209.42699	222.61212	5.50930	0.1026656	0.25492098	2.4633852	21	—	—
308436 2005 SC_{163}	16.7	X	214.22609	61.45335	19.81484	8.20389	0.0261117	0.29843944	2.2176784	21	7 24.3	19.5
308437 2005 SH_{163}	16.0	X	72.83529	220.97625	83.29109	1.58141	0.1444076	0.19031556	2.9933203	21	11 21.9	20.5
308438 2005 SG_{176}	15.9	X	211.51695	281.97939	212.83700	10.74414	0.1001951	0.18020739	3.1042330	21	9 11.7	20.8
308439 2005 SW_{180}	16.3	X	309.07734	286.56909	85.54802	2.22119	0.1930010	0.17859454	3.1228941	21	7 30.6	20.0
308440 2005 SB_{183}	16.6	X	339.48928	348.13496	330.14247	2.24631	0.0858338	0.17439834	3.1727887	21	7 20.1	20.6
308441 2005 SL_{183}	15.7	X	11.94558	272.17686	12.94987	13.51213	0.1567000	0.17642731	3.1484165	21	8 6.3	19.5
308442 2005 SA_{190}	16.0	X	296.40559	8.27611	9.64830	16.19076	0.0837670	0.17630489	3.1498737	21	8 10.5	20.5
308443 2005 SD_{195}	17.2	X	254.76798	175.36463	163.47713	24.45822	0.0776064	0.35641073	1.9701632	21	4 10.3	19.8
308444 2005 SF_{198}	16.3	X	21.31434	322.44707	342.04366	4.74267	0.1299999	0.18438133	3.0572063	21	9 10.3	20.0
308445 2005 SK_{208}	15.9	X	1.08546	153.86851	227.85084	8.39514	0.1343231	0.18824141	3.0152682	21	11 19.5	19.5
308446 2005 SQ_{211}	16.5	X	36.98161	345.58196	296.51627	0.37082	0.1205942	0.17841403	3.1250002	21	9 3.7	20.3
308447 2005 SB_{214}	15.1	X	307.23251	110.75364	229.20344	21.30526	0.1230566	0.17476715	3.1683235	21	6 21.7	19.5
308448 2005 SG_{229}	16.4	X	340.71984	155.95781	187.61038	5.06898	0.1445911	0.18115860	3.0933573	21	8 21.2	20.0
308449 2005 SK_{229}	16.4	X	293.32753	36.18580	356.47375	4.77607	0.1343173	0.17880659	3.1204247	21	8 12.3	20.5
308450 2005 SN_{242}	16.3	X	193.52369	178.85845	317.96000	5.33818	0.0459216	0.17756587	3.1349435	21	8 31.1	21.0
308451 2005 SC_{243}	15.9	X	334.43228	161.58004	214.66455	4.87185	0.1675009	0.18107759	3.0942798	21	9 22.4	19.4
308452 2005 SC_{247}	16.3	X	310.41899	164.35081	206.36954	5.80449	0.1573828	0.17686727	3.1431932	21	8 2.5	20.3
308453 2005 SB_{253}	17.3	X	104.62694	275.36529	55.49568	5.95699	0.2464444	0.26368472	2.4084968	21	—	—
308454 2005 SF_{256}	16.3	X	323.47451	164.37973	198.26455	7.21871	0.1731709	0.18092253	3.0960475	21	8 12.0	20.0
308455 2005 SO_{270}	15.8	X	329.33320	195.62635	161.10769	9.46842	0.1208187	0.17962207	3.1109731	21	8 20.9	19.6
308456 2005 SK_{271}	16.3	X	273.65528	198.64507	199.70558	7.85876	0.1687266	0.17536107	3.1611657	21	7 15.9	20.9
308457 2005 SB_{273}	16.3	X	324.12093	82.83552	294.71060	3.49220	0.1566408	0.18171826	3.0870026	21	9 5.5	19.8
308458 2005 SJ_{273}	16.2	X	28.16735	40.91195	240.72999	2.90383	0.0958735	0.17799769	3.1298712	21	8 16.4	20.1
308459 2005 SL_{277}	16.1	X	155.29253	307.88704	212.88866	14.86592	0.0786735	0.17270511	3.1934926	21	8 14.4	21.2
308460 2005 SC_{278}	7.3	X	321.38728	46.11385	27.50926	1.51278	0.0666669	0.00476648	34.9680165	21	10 23.9	22.5
308461 2005 SZ_{284}	15.9	X	55.96834	180.21479	98.91232	11.40058	0.0522573	0.17896979	3.1185274	21	9 22.8	20.4
308462 2005 SU_{286}	15.6	X	167.22494	114.00776	100.74794	9.33645	0.0354805	0.18780900	3.0198945	21	11 10.4	20.1
308463 2005 SD_{287}	15.8	X	65.24477	157.93343	111.23427	9.53257	0.0649173	0.17968664	3.1102277	21	9 22.7	20.2
308464 2005 SB_{289}	15.4	X	165.67633	98.49843	61.74863	22.33962	0.1313737	0.17419872	3.1752121	21	9 11.8	20.9
308465 2005 SF_{289}	16.3	X	291.68406	233.79471	133.30995	1.86265	0.1456857	0.17434506	3.1734351	21	7 4.2	20.7
308466 2005 SN_{289}	15.6	X	305.50081	69.26479	297.63690	11.94233	0.1476142	0.17805343	3.1292180	21	7 23.7	19.6
308467 2005 TN_{2}	15.7	X	279.90455	24.94534	359.17050	9.18949	0.0505893	0.17574677	3.1565389	21	7 27.7	20.2
308468 2005 TB_{4}	15.4	X	282.65516	330.04789	46.64754	17.63301	0.1244446	0.17462085	3.1700929	21	7 8.7	20.1
308469 2005 TP_{7}	16.3	X	276.25921	255.92663	138.94032	1.49882	0.1810112	0.17416466	3.1756261	21	7 14.5	20.9
308470 2005 TG_{10}	15.2	X	297.48954	68.08806	277.15468	11.07911	0.1002394	0.17227932	3.1987524	21	6 20.9	19.5
308471 2005 TZ_{10}	16.0	X	94.07275	160.60160	220.41771	5.73839	0.0689096	0.20315352	2.8658480	21	—	—
308472 2005 TB_{16}	16.5	X	343.14843	317.88813	2.19095	9.27758	0.0780797	0.17683008	3.1436339	21	7 31.6	20.6
308473 2005 TB_{28}	15.8	X	6.08806	148.71714	201.04325	27.29519	0.1191929	0.18347436	3.0672732	21	10 14.5	19.3
308474 2005 TU_{29}	15.2	X	338.94673	143.68700	219.10101	14.85541	0.0751283	0.18201689	3.0836253	21	9 12.1	19.5
308475 2005 TJ_{36}	16.0	X	40.30858	148.06948	167.43403	8.26502	0.1172456	0.18875278	3.0098197	21	10 24.7	20.0
308476 2005 TA_{41}	15.5	X	295.17016	132.41752	251.76956	11.89897	0.1262660	0.17855025	3.1234106	21	7 30.4	19.8
308477 2005 TE_{44}	16.4	X	338.35415	154.82603	194.96611	1.26377	0.1801382	0.18176035	3.0865261	21	8 24.6	19.5
308478 2005 TJ_{61}	16.2	X	16.54586	69.59158	255.21886	2.39740	0.1225989	0.18344850	3.0675615	21	9 27.7	19.9
308479 2005 TN_{61}	15.9	X	336.01199	332.49649	10.83528	11.66222	0.0810681	0.17794057	3.1305410	21	8 22.0	20.0
308480 2005 TV_{61}	14.7	X	111.61217	68.36567	76.52674	10.73231	0.0604226	0.15169578	3.4819328	21	6 9.9	19.7

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	m		°	°	°	°		°				
308481 2005 TG_{74}	15.3	X	277.03948	341.74745	56.86270	18.11557	0.1181785	0.17398281	3.1778385	21	8 3.9	20.1
308482 2005 TC_{75}	15.4	X	332.69825	330.26335	44.30473	17.73316	0.1876147	0.17912670	3.1167060	21	9 26.7	19.0
308483 2005 TR_{77}	16.8	X	192.38633	45.08912	24.17491	13.58386	0.2513834	0.22576748	2.6711306	21	5 31.3	21.7
308484 2005 TV_{78}	16.5	X	321.73208	205.50907	132.05999	12.12902	0.2480598	0.23736358	2.5834100	21	6 25.8	19.1
308485 2005 TR_{81}	16.6	X	267.76918	200.98617	226.19641	4.35276	0.1453723	0.17724060	3.1387778	21	8 17.5	21.1
308486 2005 TE_{87}	15.7	X	28.14774	80.59765	194.34235	7.33900	0.0563425	0.17596601	3.1539165	21	8 2.6	20.1
308487 2005 TV_{91}	16.7	X	104.03261	5.12222	325.79754	5.83477	0.1372959	0.26369656	2.4084247	21	—	—
308488 2005 TG_{95}	15.5	X	26.99867	93.52587	216.31161	15.34235	0.0924757	0.18202525	3.0835308	21	9 17.9	19.7
308489 2005 TY_{101}	16.2	X	246.06939	333.86615	225.20398	8.53296	0.0913048	0.19792595	2.9160898	21	—	—
308490 2005 TL_{102}	15.7	X	44.75228	104.59014	220.41176	12.05660	0.0527233	0.18584378	3.0411467	21	10 30.7	19.9
308491 2005 TR_{105}	15.5	X	178.66352	317.83123	180.38940	27.12152	0.1175219	0.17579228	3.1559941	21	8 13.1	20.9
308492 2005 TX_{106}	16.2	X	238.80542	339.53431	76.73187	2.46463	0.1344263	0.16999910	3.2272923	21	7 5.3	21.0
308493 2005 TA_{110}	16.1	X	316.52487	339.56531	359.58264	9.01000	0.0906495	0.17528549	3.1620743	21	7 13.7	20.4
308494 2005 TQ_{110}	16.1	X	215.63270	331.20325	235.21717	4.87004	0.0271627	0.19729183	2.9223349	21	12 25.0	20.2
308495 2005 TP_{111}	15.8	X	336.99187	101.99408	209.04747	9.10601	0.0910013	0.17437798	3.1730356	21	7 4.4	20.0
308496 2005 TB_{122}	16.0	X	238.53802	74.14271	21.27326	11.75983	0.1641599	0.17539290	3.1607832	21	8 24.4	21.0
308497 2005 TG_{124}	17.1	X	137.19849	261.50840	309.43674	1.51876	0.1433168	0.24485626	2.5304353	21	10 9.1	21.1
308498 2005 TY_{129}	16.5	X	203.36753	72.37055	37.60782	1.94286	0.1193973	0.17094213	3.2154120	21	8 6.1	21.4
308499 2005 TQ_{132}	16.2	X	234.35101	245.65770	202.39617	10.81479	0.0205086	0.17546095	3.1599659	21	8 18.5	20.9
308500 2005 TT_{143}	15.8	X	356.37168	309.60781	48.90561	8.66006	0.0179320	0.18287312	3.0739925	21	10 8.7	20.0
308501 2005 TN_{158}	15.8	X	222.12958	212.69795	215.26782	9.09739	0.0344738	0.17175199	3.2052965	21	7 9.2	20.6
308502 2005 TW_{171}	14.8	X	327.83075	101.91113	255.90626	12.13521	0.1336641	0.17764959	3.1339585	21	8 13.6	18.9
308503 2005 TN_{175}	15.9	X	294.85491	339.85215	69.27379	8.43977	0.1020716	0.18077859	3.0976908	21	9 13.2	20.1
308504 2005 TB_{181}	16.5	X	359.21561	149.02215	189.78602	2.48770	0.0293774	0.18030601	3.1031010	21	9 14.2	20.5
308505 2005 TN_{185}	16.3	X	91.63597	164.06124	90.61625	2.63288	0.1325592	0.18251646	3.0779959	21	10 12.3	20.9
308506 2005 TL_{193}	15.5	X	274.81752	319.70653	67.21064	14.67865	0.2086166	0.17507940	3.1645552	21	6 28.3	20.2
308507 2005 US_{7}	15.3	X	80.91217	29.70756	233.94920	10.48774	0.0103204	0.18072415	3.0983128	21	9 19.3	19.9
308508 2005 UH_{14}	16.1	X	255.18761	19.96621	46.13035	5.07735	0.1811734	0.17269666	3.1935969	21	7 31.1	20.9
308509 2005 UF_{19}	15.6	X	285.40822	350.56654	53.31762	12.17227	0.0852220	0.17681243	3.1438431	21	8 27.9	20.1
308510 2005 UH_{19}	15.9	X	289.23463	147.18679	219.42779	27.38098	0.2173358	0.17294408	3.1905502	21	6 16.2	20.7
308511 2005 UL_{19}	16.0	X	289.83526	359.73383	34.85269	5.58395	0.1429359	0.17633212	3.1495495	21	8 9.3	20.2
308512 2005 UO_{27}	15.9	X	352.96686	104.98058	217.79246	15.90534	0.1620544	0.17722576	3.1389530	21	8 10.1	19.8
308513 2005 UB_{33}	15.9	X	314.04774	307.80660	44.40724	12.31907	0.1106637	0.17323766	3.1869445	21	7 26.0	20.2
308514 2005 UM_{34}	15.6	X	259.01067	53.08121	49.90582	10.63332	0.0935288	0.17893934	3.1188811	21	10 4.5	20.0
308515 2005 UW_{35}	15.9	X	350.27917	280.73180	49.62161	9.59943	0.0902360	0.17455644	3.1708726	21	8 26.9	20.0
308516 2005 UN_{39}	16.5	X	278.62076	151.46080	221.54748	3.88304	0.0670237	0.16766136	3.2572223	21	7 5.8	21.0
308517 2005 UA_{43}	15.5	X	311.18114	4.92353	47.11628	9.42769	0.0998596	0.18169944	3.0872158	21	10 10.1	19.4
308518 2005 UC_{47}	15.5	X	69.21249	196.98728	56.43718	17.66305	0.0886561	0.17431959	3.1737442	21	9 16.9	20.3
308519 2005 UE_{50}	16.5	X	250.42894	30.51761	15.36536	5.39614	0.1887527	0.23317956	2.6142216	21	6 28.5	20.5
308520 2005 UW_{52}	15.7	X	275.91944	326.13443	76.30789	6.63756	0.2193756	0.17378124	3.1802954	21	7 19.1	20.2
308521 2005 UF_{53}	16.0	X	240.93196	31.28777	65.08972	7.49009	0.1268839	0.17466226	3.1695918	21	8 30.8	20.8
308522 2005 UC_{65}	15.0	X	43.02004	7.30208	275.26885	21.80551	0.1276908	0.18251186	3.0780475	21	9 1.7	19.6
308523 2005 UM_{75}	15.0	X	312.08758	68.16384	293.64419	15.13651	0.1113275	0.17585888	3.1551972	21	7 30.4	19.1
308524 2005 UJ_{77}	16.0	X	351.71650	248.86222	121.27883	12.03925	0.1168201	0.24534868	2.5270484	21	11 4.1	19.0
308525 2005 UM_{83}	16.2	X	162.80214	338.90164	211.81464	7.09115	0.0466132	0.18074433	3.0980821	21	10 1.9	20.9
308526 2005 UN_{83}	16.2	X	298.89976	272.81289	41.81436	2.81026	0.2301038	0.16848134	3.2466453	21	4 25.5	20.8
308527 2005 UK_{89}	15.5	X	279.12490	137.49268	267.31721	7.71827	0.0818441	0.17407237	3.1767484	21	8 11.7	20.0
308528 2005 UC_{102}	16.6	X	188.22348	314.98621	162.06113	4.76516	0.1218518	0.16789763	3.2541658	21	7 29.4	21.7
308529 2005 UO_{107}	15.8	X	333.98095	337.03635	54.30829	10.55872	0.1392919	0.18429350	3.0581776	21	10 18.7	19.3
308530 2005 UP_{110}	16.2	X	209.65644	96.67103	31.27174	4.85822	0.1182229	0.17189653	3.2034994	21	9 4.6	21.1
308531 2005 UZ_{121}	15.1	X	345.22497	113.21288	222.83710	14.86244	0.1030046	0.17604874	3.1529284	21	8 15.0	19.3
308532 2005 UO_{126}	16.1	X	338.28789	98.42370	227.30633	7.32271	0.0382061	0.17079569	3.2172498	21	7 27.8	20.5
308533 2005 UU_{128}	16.1	X	335.06225	87.38778	227.42288	9.91018	0.0926021	0.16988359	3.2287550	21	7 5.9	20.3
308534 2005 UO_{134}	16.0	X	331.37057	29.41541	281.24048	4.46198	0.2559060	0.17365355	3.1818542	21	6 6.1	19.3
308535 2005 UG_{141}	16.9	X	331.41574	270.17396	131.74041	3.69744	0.1962234	0.24611941	2.5217700	21	11 9.9	19.0
308536 2005 UM_{150}	17.2	X	189.30055	9.60773	201.74518	5.68484	0.0581176	0.25575099	2.4580526	21	12 8.4	20.6
308537 2005 UD_{160}	15.6	X	272.83649	310.03289	114.86536	6.47247	0.1203194	0.17721415	3.1390901	21	8 28.4	19.9
308538 2005 UV_{176}	17.3	X	356.10953	84.68634	293.65373	1.00251	0.1257847	0.24651203	2.5190917	21	11 18.6	19.9
308539 2005 UM_{182}	16.8	X	358.38048	107.73980	229.70841	4.49610	0.1107193	0.23978956	2.5659560	21	9 20.2	19.6
308540 2005 UR_{197}	16.2	X	28.87226	74.17952	198.58478	7.37733	0.1108088	0.17573508	3.1566789	21	8 6.1	20.2
308541 2005 US_{204}	16.7	X	359.97535	115.46387	199.88059	13.69743	0.1785435	0.17938015	3.1137695	21	8 16.2	20.3
308542 2005 UT_{204}	15.9	X	11.06822	262.49993	33.82613	5.23340	0.1634811	0.17809152	3.1287717	21	8 17.4	19.4
308543 2005 UO_{213}	15.6	X	303.22253	327.54173	67.63696	10.80157	0.0970376	0.17897180	3.1185040	21	9 9.1	19.8
308544 2005 UU_{224}	16.1	X	273.00772	67.23726	320.63340	3.54802	0.0843127	0.17157857	3.2074559	21	7 16.0	20.5
308545 2005 UE_{232}	16.9	X	45.68497	261.12634	61.86479	2.06179	0.1069881	0.24710037	2.5150915	21	11 16.8	20.0
308546 2005 UP_{235}	15.5	X	151.47413	126.61400	70.14666	11.87139	0.0433988	0.17744182	3.1364045	21	10 3.8	20.3
308547 2005 UY_{235}	15.8	X	44.88112	156.98745	88.24262	6.24035	0.0776118	0.16778682	3.2555983	21	7 23.9	20.2
308548 2005 UX_{251}	15.7	X	306.99268	60.36176	273.57084	14.75375	0.2361591	0.17375869	3.1805705	21	5 29.3	19.9
308549 2005 UF_{256}	16.1	X	171.39676	117.08935	42.69874	5.77754	0.0723815	0.17732833	3.1377425	21	9 7.1	20.9
308550 2005 UJ_{258}	16.0	X	176.91202	101.23682	52.13435	9.46162	0.1146501	0.17337508	3.1852603	21	9 6.4	21.1
308551 2005 UE_{266}	15.9	X	134.82432	118.94580	60.53821	14.03162	0.0847186	0.16951852	3.2333890	21	8 27.5	21.0
308552 2005 UH_{282}	16.2	X	3.45783	184.04211	119.12096	2.51793	0.1645276	0.17621706	3.1509202	21	8 9.9	19.6
308553 2005 UR_{288}	16.0	X	33.23529	207.36182	72.01249	5.47679	0.1044444	0.17572733	3.1567717	21	8 25.9	20.1
308554 2005 UZ_{307}	15.7	X	345.64833	100.31423	238.35728	7.91051	0.0987372	0.17476234	3.1683816	21	8 21.5	19.8
308555 2005 UW_{308}	15.5	X	280.64583	157.35084	200.05218	11.91494	0.0671399	0.16870768	3.2437408	21	6 18.7	20.2
308556 2005 UO_{314}	15.4	X	279.68101	8.37332	52.50032	18.48172	0.1901023	0.17649107	3.1476582	21	8 30.1	20.1
308557 2005 UT_{314}	15.6	X	316.56442	14.49441	61.92327	10.78527	0.0553796	0.18795722	3.0183068	21	11 19.5	19.6
308558 2005 UU_{314}	15.4	X	281.10631	301.19425	72.96658	11.72380	0.1012948	0.17196979	3.2025895	21	7 6.1	19.9
308559 2005 UH_{322}	16.9	X	69.97015	1.89445	41.99112	7.15785	0.1223490	0.26262501	2.4149714	21	—	—
308560 2005 UQ_{332}	16.7	X	196.54371	350.27358	140.22264	1.73239	0.0335309	0.17496032	3.1659909	21	8 28.5	21.2

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308561 2005 UV_{342}	16.3	X	9.02724	328.26148	359.45640	15.42850	0.1506779	0.24392292	2.5368862	21	9 30.3	18.9
308562 2005 UX_{346}	16.1	X	327.45864	297.44738	50.37631	7.13464	0.1403834	0.17401987	3.1773873	21	8 7.2	20.0
308563 2005 UL_{348}	15.2	X	237.20161	220.17129	225.08695	20.94576	0.0919042	0.17516260	3.1635531	21	8 5.4	20.3
308564 2005 UV_{350}	15.3	X	32.95950	28.00766	253.58450	9.73859	0.0933240	0.17709131	3.1405416	21	8 19.8	19.6
308565 2005 UP_{370}	15.9	X	338.67115	281.91078	66.36303	10.85905	0.1314487	0.17566511	3.1575171	21	8 31.4	19.8
308566 2005 UL_{371}	17.3	X	353.61467	68.25763	326.04987	0.36304	0.0482346	0.24744579	2.5127503	21	11 29.6	20.3
308567 2005 UQ_{388}	16.5	X	195.87641	162.26664	351.84276	1.27994	0.1386499	0.18178651	3.0862299	21	9 20.1	21.4
308568 2005 UU_{396}	15.2	X	299.70493	283.84390	63.08650	18.59673	0.1494094	0.17198690	3.2023771	21	6 16.9	19.5
308569 2005 UM_{398}	16.6	X	73.48266	317.53958	64.20459	7.79071	0.1093911	0.26381103	2.4077280	21	—	—
308570 2005 UM_{402}	16.3	X	280.49593	257.46332	131.35642	2.17602	0.1814710	0.17402970	3.1772676	21	7 11.9	20.8
308571 2005 UP_{405}	17.3	X	205.70083	237.55638	219.40802	5.73451	0.1133839	0.29264610	2.2468508	21	7 23.8	20.6
308572 2005 UL_{415}	16.2	X	115.57050	136.44778	68.90894	5.81334	0.0562790	0.17318222	3.1876246	21	8 31.8	20.9
308573 2005 UJ_{422}	15.4	X	108.59209	10.99439	230.14684	14.51996	0.1338197	0.17905031	3.1175924	21	10 9.2	20.4
308574 2005 UX_{423}	16.6	X	219.07810	30.09721	63.59911	2.22273	0.0893078	0.17085330	3.2165265	21	8 4.4	21.3
308575 2005 UY_{434}	16.4	X	356.95822	84.74973	216.10190	15.44909	0.1916936	0.17434380	3.1734504	21	7 19.5	20.1
308576 2005 UB_{438}	14.8	X	153.03624	87.35782	269.89517	16.42092	0.1300981	0.14651869	3.5634776	21	2 2.1	20.5
308577 2005 US_{440}	15.4	X	261.59346	147.80400	243.59481	15.89834	0.1098458	0.17043752	3.2217555	21	6 30.3	20.2
308578 2005 UK_{471}	16.3	X	16.37597	23.21902	266.59714	4.00650	0.0392973	0.17112089	3.2131724	21	8 4.7	20.6
308579 2005 UW_{477}	15.8	X	255.57228	321.09265	110.49742	6.26798	0.1496685	0.17414824	3.1758257	21	8 10.7	20.5
308580 2005 UL_{478}	16.1	X	76.44108	14.70719	224.26904	8.74648	0.0413153	0.17349060	3.1838462	21	8 17.9	20.7
308581 2005 UK_{482}	15.3	X	29.28753	73.09637	259.14204	7.85661	0.0250380	0.18591843	3.0403325	21	10 13.3	19.5
308582 2005 UL_{486}	16.1	X	15.51691	104.35179	273.47751	4.66828	0.1058632	0.18895040	3.0077207	21	12 3.3	19.8
308583 2005 UW_{486}	15.4	X	254.42022	206.14618	229.63909	10.78681	0.0563131	0.17604193	3.1530096	21	8 21.7	20.2
308584 2005 UN_{490}	15.6	X	3.99203	47.65659	282.34624	8.27383	0.0883650	0.17822556	3.1272029	21	9 7.9	19.7
308585 2005 UO_{514}	16.5	X	270.35251	281.76254	120.86736	3.31179	0.0891606	0.17548564	3.1596695	21	7 30.6	20.9
308586 2005 UA_{515}	15.9	X	60.20400	172.59428	97.75753	11.98772	0.1561189	0.17986597	3.1081601	21	10 3.1	20.4
308587 2005 UQ_{516}	16.4	X	73.54764	106.72328	170.59076	6.61838	0.0611154	0.18505976	3.0497300	21	10 10.2	20.7
308588 2005 UR_{521}	15.3	X	72.87025	216.95656	48.93796	10.37702	0.0507848	0.18205038	3.0832470	21	9 26.9	19.7
308589 2005 UC_{522}	15.7	X	200.72815	8.76795	155.73446	9.74318	0.0410717	0.18360364	3.0658332	21	10 17.3	20.2
308590 2005 UN_{522}	15.8	X	39.26168	86.40328	189.71679	18.71460	0.0529754	0.17903118	3.1178144	21	8 18.0	20.3
308591 2005 US_{525}	17.2	X	0.00478	306.16026	58.47473	2.77739	0.1009475	0.24365691	2.5387322	21	11 3.4	19.8
308592 2005 VL_{2}	15.4	X	317.28842	81.75806	288.79192	21.41634	0.3159042	0.17912017	3.1167817	21	7 20.6	18.8
308593 2005 VZ_{31}	16.4	X	215.73144	314.69450	159.66575	1.07014	0.1264954	0.16966918	3.2314746	21	8 22.4	21.5
308594 2005 VG_{37}	15.1	X	89.04994	191.04745	63.04066	17.41640	0.0440110	0.17949293	3.1124650	21	10 5.5	19.8
308595 2005 VQ_{47}	15.7	X	276.07718	333.57750	59.45628	7.82989	0.0592744	0.17156627	3.2076092	21	8 1.1	20.3
308596 2005 VY_{54}	15.9	X	44.30735	50.76746	240.73906	7.98917	0.1155922	0.18013324	3.1050848	21	9 22.7	20.2
308597 2005 VS_{61}	15.1	X	322.93806	59.55246	294.89149	21.65682	0.1677405	0.17992939	3.1074297	21	7 30.4	18.8
308598 2005 VY_{62}	15.4	X	180.83443	147.67493	25.19866	19.04559	0.0981193	0.18391033	3.0624238	21	10 4.1	20.2
308599 2005 VD_{80}	16.1	X	37.98401	16.70400	259.75014	3.15930	0.0906645	0.17564025	3.1578151	21	8 23.3	20.3
308600 2005 VB_{85}	15.4	X	230.20146	40.72103	72.44578	17.41274	0.1031303	0.17395848	3.1781349	21	9 17.3	20.5
308601 2005 VW_{97}	16.0	X	210.91921	143.48621	357.38704	4.39358	0.0905152	0.17660215	3.1463381	21	9 22.0	20.8
308602 2005 VO_{110}	16.1	X	90.45521	220.82046	59.08341	4.99852	0.0241540	0.18300931	3.0724673	21	10 28.4	20.4
308603 2005 VA_{111}	16.6	X	166.91034	281.78412	212.41378	4.57493	0.0870630	0.16765053	3.2573625	21	7 28.5	21.6
308604 2005 VX_{112}	19.8	X	47.84521	225.72034	228.98293	5.23237	0.3270105	0.32805911	2.0820987	21	—	—
308605 2005 VG_{119}	15.9	X	324.73850	320.65058	87.57499	10.50946	0.0788177	0.18324266	3.0698583	21	10 28.8	19.9
308606 2005 VU_{130}	16.6	X	160.53618	45.90805	143.67852	7.00323	0.0585264	0.18229937	3.0804389	21	10 1.8	21.3
308607 2005 WY_{3}	13.5	X	278.23943	309.08825	190.11752	29.39996	0.7337415	0.05645923	6.7294473	21	9 7.4	23.0
308608 2005 WD_{5}	15.2	X	278.64695	339.39539	68.14910	11.85505	0.0666966	0.17418301	3.1754031	21	8 25.2	19.8
308609 2005 WP_{31}	16.6	X	349.28985	312.65295	62.31945	7.22191	0.2262022	0.24410652	2.5356140	21	11 11.3	18.6
308610 2005 WK_{53}	17.0	X	342.40297	17.66102	70.87932	24.01251	0.0600954	0.37852466	1.8926629	21	—	—
308611 2005 WF_{60}	15.4	X	325.41095	302.48383	75.42396	18.88465	0.1368789	0.17749825	3.1357396	21	9 22.9	19.6
308612 2005 WP_{90}	16.7	X	319.94356	71.35392	330.98966	3.93813	0.1427708	0.24378825	2.5378203	21	10 13.7	19.1
308613 2005 WE_{105}	15.8	X	274.37427	327.62949	74.53029	28.75471	0.2157253	0.17243615	3.1968126	21	7 16.0	20.8
308614 2005 WO_{111}	15.8	X	299.62725	157.15650	203.61132	7.14216	0.0404120	0.17147160	3.2087896	21	7 20.4	20.3
308615 2005 WK_{121}	16.1	X	57.05389	342.49603	71.85791	15.81525	0.1031312	0.19804715	2.9149000	21	—	—
308616 2005 WW_{127}	15.7	X	155.09134	124.10882	60.84665	13.68582	0.0924524	0.17379659	3.1801081	21	9 25.3	20.8
308617 2005 WL_{144}	15.6	X	331.90531	298.31444	134.30051	10.18996	0.1297863	0.18635931	3.0355355	21	12 7.3	19.3
308618 2005 WC_{163}	16.4	X	183.95890	334.69276	9.17832	7.09340	0.1697620	0.21780734	2.7358212	21	2 15.5	20.9
308619 2005 WT_{171}	17.1	X	265.21643	292.57549	99.77641	3.39438	0.2201022	0.23122312	2.6289473	21	6 22.8	21.0
308620 2005 WM_{191}	15.2	X	323.06038	253.47829	76.27068	15.04837	0.2342832	0.17393479	3.1784234	21	6 19.5	18.8
308621 2005 WV_{193}	16.7	X	339.16962	276.08196	132.49576	4.72234	0.1170133	0.24604157	2.5223018	21	12 1.9	19.4
308622 2005 XR	15.0	X	213.79618	247.67758	244.04165	27.43310	0.2351117	0.17175780	3.2052241	21	8 21.9	21.0
308623 2005 XX_{2}	15.6	X	345.76158	69.53035	279.37783	7.89209	0.0913851	0.17416455	3.1756274	21	9 3.9	19.7
308624 2005 XN_{11}	15.4	X	125.86217	53.88116	97.27086	8.99845	0.0305453	0.16123013	3.3432736	21	7 1.1	20.2
308625 2005 XJ_{20}	17.5	X	317.57215	75.07308	328.99109	3.56869	0.2542855	0.24204428	2.5499960	21	9 30.2	19.4
308626 2005 XV_{27}	16.0	X	338.77630	84.25704	284.70450	12.18186	0.0685754	0.24217996	2.5490435	21	9 25.1	19.3
308627 2005 XG_{45}	15.6	X	337.13148	195.10172	57.29714	9.77232	0.0794824	0.15338148	3.4563743	21	4 25.2	20.2
308628 2005 XM_{49}	15.1	X	229.22977	102.69081	75.67957	17.29561	0.1929029	0.17913384	3.1166232	21	11 17.5	20.0
308629 2005 XD_{53}	15.8	X	334.23466	77.31413	240.02969	10.15684	0.2753510	0.17433738	3.1735282	21	6 18.8	19.0
308630 2005 XY_{67}	15.3	X	52.43441	13.98167	332.34398	13.93166	0.2104099	0.23579358	2.5948648	21	—	—
308631 2005 XX_{78}	16.8	X	333.93273	31.23613	347.48557	7.99269	0.2698855	0.24357430	2.5393062	21	10 2.9	18.4
308632 2005 XC_{80}	16.6	X	304.91748	108.78611	349.06070	11.23650	0.1726878	0.24461808	2.5320776	21	12 2.2	19.2
308633 2005 XE_{82}	17.7	X	185.72956	179.97791	74.67532	2.39584	0.1091585	0.31399251	2.1438276	21	—	—
308634 2005 XU_{100}	6.3	X	85.60339	98.45540	318.49447	7.89646	0.1038638	0.00347711	43.1509719	21	2 21.8	22.7
308635 2005 YU_{55}	21.9	X	318.91521	273.58360	35.92688	0.34022	0.4305815	0.79188478	1.1570747	21	2 8.7*	22.4
308636 2005 YB_{56}	17.1	X	344.11071	61.57726	323.81252	0.30362	0.0950840	0.24394464	2.5367356	21	11 4.9	19.7
308637 2005 YA_{67}	16.9	X	142.10031	71.03834	319.13356	5.20161	0.1530085	0.26764946	2.3846527	21	2 20.2	20.2
308638 2005 YP_{67}	17.6	X	210.98152	189.66140	45.70692	1.88743	0.0670075	0.31313987	2.1477174	21	—	—
308639 2005 YO_{86}	14.9	X	226.70874	48.14635	104.15002	28.64358	0.2006487	0.17394892	3.1782512	21	10 25.6	20.5
308640 2005 YN_{111}	18.2	X	20.28237	214.54453	187.66833	2.45132	0.0670637	0.31130563	2.1561455	21	—	—

* The additional opposition: 12 14.4, $V = 20.5$

ELEMENTS AND OPPOSITION DATES IN 2021

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308641 2005 YK_{176}	17.6	X	161.53756	337.63343	294.57530	2.64069	0.1523105	0.31035045	2.1605673	21	—	—
308642 2006 AB_{34}	16.4	X	271.96993	123.78686	38.93213	9.76629	0.1591884	0.24393402	2.5368092	21	—	—
308643 2006 AD_{53}	17.9	X	313.01599	253.47143	229.47654	1.98020	0.0836482	0.31098476	2.1576284	21	—	—
308644 2006 AH_{64}	18.5	X	343.95584	352.54679	106.23889	3.12160	0.0490877	0.31147733	2.1553530	21	—	—
308645 2006 AR_{72}	17.7	X	118.86206	97.56025	143.22155	3.79574	0.1705218	0.29340258	2.2429870	21	11 6.6	21.1
308646 2006 BD_{1}	15.4	X	314.29694	335.65388	119.78699	19.04414	0.2450770	0.18098318	3.0953558	21	11 30.4	18.9
308647 2006 BH_{6}	17.1	X	198.02670	186.92844	330.14947	17.19246	0.0768038	0.35769101	1.9654592	21	10 9.3	19.8
308648 2006 BE_{22}	17.0	X	57.21028	308.61783	315.36830	5.55946	0.1448672	0.28623091	2.2802985	21	9 21.6	19.8
308649 2006 BL_{25}	17.5	X	254.73412	339.16149	164.28115	1.77235	0.0942804	0.30134967	2.2033775	21	12 7.8	19.7
308650 2006 BP_{32}	17.0	X	112.51289	143.15983	140.00298	6.67819	0.1215715	0.29679420	2.2258665	21	12 21.8	20.4
308651 2006 BL_{45}	17.9	X	179.15673	61.85910	151.49954	5.09639	0.1053137	0.29719135	2.2238830	21	12 2.7	20.9
308652 2006 BH_{52}	16.9	X	350.98312	347.43953	320.73676	6.14030	0.2476762	0.28364149	2.2941556	21	7 27.1	17.7
308653 2006 BY_{60}	15.7	X	260.87470	183.10722	321.03902	12.56890	0.1327840	0.24566932	2.5248491	21	11 26.3	19.1
308654 2006 BY_{68}	17.5	X	120.02789	175.33199	61.48471	3.70132	0.1235028	0.29257029	2.2472388	21	10 30.7	20.7
308655 2006 BT_{91}	16.6	X	56.41675	39.36442	324.66338	11.99827	0.1868549	0.24237881	2.5476492	21	—	—
308656 2006 BJ_{101}	18.0	X	34.75212	7.83570	324.32901	2.85357	0.1477999	0.29890473	2.2153764	21	11 30.0	20.6
308657 2006 BY_{119}	17.7	X	162.54230	350.10282	236.04553	2.28689	0.1082995	0.29677359	2.2259696	21	11 30.1	20.9
308658 2006 BN_{121}	18.6	X	325.58740	334.58694	119.75624	3.70599	0.1009301	0.30749740	2.1739110	21	—	—
308659 2006 BL_{128}	17.5	X	54.57848	84.35725	174.24605	2.97208	0.2068732	0.28058931	2.3107624	21	9 22.5	20.3
308660 2006 BJ_{139}	13.4	X	307.41491	345.88960	341.51436	18.40568	0.0394717	0.08296599	5.2063815	21	6 22.6	20.4
308661 2006 BA_{153}	17.7	X	80.02132	227.31961	32.74825	3.19353	0.1537764	0.28784004	2.2717921	21	10 19.7	20.7
308662 2006 BQ_{164}	18.4	X	322.84064	107.10660	351.24014	1.73406	0.0913199	0.30529283	2.1843639	21	—	—
308663 2006 BZ_{180}	17.7	X	304.40692	263.51508	129.67929	6.10048	0.1764982	0.29394852	2.2402089	21	9 4.9	19.4
308664 2006 BH_{213}	16.4	X	296.61631	125.14233	356.88236	13.57952	0.1428217	0.24501532	2.5293401	21	12 27.5	19.3
308665 2006 BH_{241}	17.5	X	280.82584	122.50887	343.19982	5.31051	0.0526164	0.30025290	2.2087399	21	11 28.1	19.9
308666 2006 BC_{263}	17.1	X	79.07592	241.96055	18.06681	2.85565	0.1960008	0.28490917	2.2873455	21	10 22.7	20.4
308667 2006 BF_{269}	16.1	X	109.51273	25.94507	136.84737	25.34150	0.1866383	0.27322155	2.3521197	21	7 16.1	19.7
308668 2006 BF_{275}	18.1	X	341.13026	249.94187	177.45681	2.87169	0.0376176	0.30244550	2.1980520	21	—	—
308669 2006 BP_{276}	17.3	X	16.75488	296.51022	315.57680	0.98992	0.1535408	0.27284357	2.3542915	21	6 21.5	19.2
308670 2006 BV_{282}	16.9	X	45.29771	332.59395	319.77585	6.28249	0.1061899	0.28735169	2.2743652	21	10 7.9	19.6
308671 2006 CQ_{10}	17.5	X	271.13549	9.60008	139.93882	4.63113	0.0847755	0.30566799	2.1825762	21	—	—
308672 2006 CK_{54}	16.7	X	236.57043	16.18035	316.31316	13.19383	0.2488698	0.27094991	2.3652482	21	3 4.3	20.9
308673 2006 DL_{3}	15.4	X	242.12998	196.82796	332.37454	20.02848	0.0674024	0.17452704	3.1712288	21	11 28.3	20.4
308674 2006 DS_{3}	16.8	X	95.52739	262.76109	339.49464	6.54198	0.1400291	0.28632331	2.2798078	21	10 8.9	20.0
308675 2006 DQ_{12}	15.8	X	191.19852	271.52622	4.91394	12.82389	0.1253371	0.24491307	2.5300440	21	—	—
308676 2006 DQ_{29}	17.9	X	26.32266	299.12491	117.96591	5.16887	0.0906197	0.31050264	2.1598612	21	—	—
308677 2006 DD_{45}	17.6	X	183.71443	44.13718	152.96440	5.85233	0.1293006	0.29470840	2.2363565	21	11 14.9	20.8
308678 2006 DO_{54}	17.6	X	113.84424	201.01563	6.30231	2.79732	0.1249041	0.28236962	2.3010395	21	9 13.6	20.6
308679 2006 DM_{62}	17.0	X	150.59633	312.75286	251.06485	4.40567	0.1613349	0.28952949	2.2629459	21	10 16.5	20.5
308680 2006 DY_{62}	14.5	X	194.52078	167.05762	61.84219	24.02944	0.4266524	0.16723633	3.2627387	21	11 28.2	20.7
308681 2006 DH_{63}	17.2	X	281.09389	29.39292	95.71956	5.08972	0.0808877	0.30194143	2.2004977	21	12 26.2	19.2
308682 2006 DG_{86}	17.5	X	51.63829	114.75236	154.18156	4.67017	0.1645853	0.28022817	2.3127473	21	9 27.1	20.1
308683 2006 DH_{88}	17.1	X	296.19980	136.00343	172.23236	4.46773	0.1977339	0.26682468	2.3895643	21	4 9.8	20.1
308684 2006 DS_{96}	17.4	X	97.06774	236.34368	355.51472	2.25711	0.1100435	0.28177486	2.3042763	21	9 25.3	20.3
308685 2006 DF_{102}	17.6	X	59.69365	141.21501	121.76406	3.13903	0.1850792	0.28104124	2.3082845	21	10 3.8	20.4
308686 2006 DS_{103}	17.8	X	326.62094	27.02632	51.68275	1.03349	0.0658986	0.30089413	2.2056008	21	—	—
308687 2006 DX_{109}	17.2	X	34.89879	306.37943	307.24400	1.92006	0.1505722	0.27423686	2.3463106	21	8 1.9	19.4
308688 2006 DD_{113}	17.6	X	355.48372	219.96827	69.72613	2.44482	0.1815590	0.27347631	2.3506587	21	7 5.5	19.0
308689 2006 DQ_{117}	16.9	X	173.10684	178.86678	8.53045	6.91883	0.0248541	0.28918045	2.2647665	21	10 23.7	19.6
308690 2006 DN_{144}	17.4	X	42.60445	258.20741	8.50790	2.72669	0.1769879	0.27909085	2.3190262	21	9 11.1	19.8
308691 2006 DS_{155}	16.9	X	357.06431	320.79290	330.89189	6.42278	0.1103049	0.27484647	2.3428399	21	7 14.7	19.2
308692 2006 DX_{205}	17.6	X	335.79270	289.48573	118.38133	4.13405	0.1109824	0.29735876	2.2230483	21	12 8.2	19.5
308693 2006 EK_{1}	15.9	X	79.97796	8.16303	355.97337	12.97308	0.0585744	0.24278603	2.5447996	21	—	—
308694 2006 EX_{5}	17.6	X	342.39309	247.89583	105.04893	2.49022	0.1101975	0.28775018	2.2722650	21	9 24.4	19.4
308695 2006 EN_{12}	17.5	X	335.70959	287.92523	6.79277	1.12562	0.1830783	0.27131187	2.3631440	21	5 26.1	19.3
308696 2006 EV_{12}	17.0	X	79.42022	8.08690	17.79684	0.58114	0.1023555	0.24608939	2.5219751	21	—	—
308697 2006 EU_{19}	17.2	X	19.44252	254.70782	2.52846	1.92338	0.1864830	0.27043116	2.3682719	21	7 10.4	18.9
308698 2006 FZ_{9}	16.2	X	172.67942	275.40220	203.44610	29.09875	0.4008825	0.21974480	2.7197166	21	7 14.2	22.1
308699 2006 FH_{19}	17.5	X	46.95443	47.05622	202.08432	2.43753	0.2093532	0.27245451	2.3565322	21	8 26.4	19.9
308700 2006 FE_{27}	16.8	X	17.78993	263.27053	27.95514	5.82494	0.1392874	0.27453256	2.3446255	21	8 29.9	19.0
308701 2006 FR_{32}	16.5	X	341.62906	40.16620	35.92182	14.10896	0.2433756	0.23545876	2.5973241	21	—	—
308702 2006 FU_{36}	17.3	X	221.77924	49.27928	134.13333	5.68545	0.1367807	0.29769268	2.2213855	21	12 9.4	20.1
308703 2006 FT_{39}	17.7	X	35.71303	235.80200	37.51724	2.35819	0.1666753	0.27686098	2.3314613	21	9 7.8	19.9
308704 2006 FL_{40}	17.6	X	112.16649	211.77669	22.22814	4.83699	0.1021758	0.28549770	2.2842010	21	10 15.5	20.6
308705 2006 FW_{43}	17.1	X	138.34558	63.45673	35.75824	7.64773	0.1794151	0.27217592	2.3581400	21	5 19.7	20.6
308706 2006 FP_{49}	16.4	X	137.13904	151.02660	52.81949	24.74567	0.1760957	0.28389614	2.2927835	21	10 16.5	20.4
308707 2006 FC_{51}	16.3	X	281.20159	130.30407	49.86385	32.01029	0.0720663	0.24217979	2.5490447	21	—	—
308708 2006 GD_{9}	17.0	X	243.81469	125.21070	128.34096	3.74448	0.1194132	0.24643442	2.5196206	21	—	—
308709 2006 GZ_{11}	17.4	X	328.19689	305.28143	148.69672	3.80179	0.0431053	0.29952091	2.2123370	21	—	—
308710 2006 GO_{16}	18.1	X	224.73802	94.36066	59.04297	3.46161	0.0829109	0.29179925	2.2511958	21	11 8.6	20.8
308711 2006 GO_{27}	16.4	X	116.52112	193.76301	194.36801	7.24174	0.2424299	0.24563340	2.5250953	21	2 2.2	19.9
308712 2006 GR_{29}	17.8	X	264.09096	279.78620	47.70567	1.97286	0.2028281	0.25868737	2.4394162	21	3 30.6	21.4
308713 2006 GG_{34}	17.4	X	304.88417	286.81662	159.80481	4.24472	0.1475506	0.29498875	2.2349394	21	12 6.3	19.1
308714 2006 GY_{35}	16.3	X	225.69781	152.11730	27.90596	8.05237	0.1312655	0.23226417	2.6210858	21	11 26.2	20.0
308715 2006 GT_{36}	17.4	X	120.37091	37.50759	162.93239	2.16701	0.1477327	0.28061233	2.3106361	21	9 12.9	20.9
308716 2006 GJ_{41}	16.6	X	294.37088	146.17199	17.05275	4.09349	0.0866171	0.24100991	2.5572869	21	—	—
308717 2006 GQ_{42}	17.5	X	80.61665	330.03068	228.84254	0.98138	0.1338419	0.27367924	2.3494966	21	7 22.2	20.4
308718 2006 GV_{47}	17.7	X	214.17209	112.87519	30.45845	6.77067	0.0950165	0.28777686	2.2721245	21	10 10.7	20.7
308719 2006 GO_{52}	16.7	X	47.10084	211.92652	36.44723	8.41550	0.1765046	0.27565093	2.3382794	21	8 25.7	19.3
308720 2006 GX_{53}	17.6	X	254.05324	75.38690	64.27893	4.07727	0.0992705	0.29522659	2.2337389	21	11 28.7	20.0

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ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308721 2006 HG_{1}	17.8	X	143.42896	144.76464	72.13816	3.23117	0.1578322	0.28684043	2.2770670	21	10 28.7	21.3
308722 2006 HT_{18}	17.8	X	284.77659	291.46897	172.22707	4.86724	0.0982865	0.29601939	2.2297488	21	11 28.2	20.0
308723 2006 HZ_{20}	17.6	X	291.66004	163.59383	130.36078	3.30242	0.1895513	0.25809761	2.4431309	21	3 18.8	20.9
308724 2006 HE_{24}	17.0	X	312.04635	215.72016	74.59840	4.51130	0.1853856	0.25984118	2.4321894	21	4 10.5	19.9
308725 2006 HK_{25}	16.8	X	271.23364	305.35212	73.34288	7.72293	0.1307114	0.26916809	2.3756748	21	6 23.5	19.9
308726 2006 HB_{28}	16.8	X	208.69501	315.90493	132.27941	6.80983	0.0539059	0.27246235	2.3564870	21	7 20.5	19.9
308727 2006 HF_{29}	17.7	X	260.12771	0.41756	129.55187	2.54027	0.0930983	0.29322643	2.2438852	21	11 25.4	20.0
308728 2006 HP_{36}	17.2	X	97.22673	347.29051	218.31286	1.18873	0.1705270	0.27661625	2.3328362	21	8 26.9	20.4
308729 2006 HZ_{38}	16.9	X	129.17075	150.90303	71.88980	6.22357	0.1095408	0.28311870	2.2969789	21	10 21.9	20.3
308730 2006 HR_{44}	16.7	X	0.67762	234.40687	55.12599	6.93530	0.0960239	0.26913122	2.3758918	21	7 18.4	19.1
308731 2006 HO_{48}	17.3	X	333.89065	161.40332	113.91068	2.29069	0.1701304	0.26307721	2.4122033	21	4 26.0	19.5
308732 2006 HA_{49}	17.6	X	217.55954	169.31971	50.67277	3.60031	0.0946753	0.30137620	2.2032481	21	—	—
308733 2006 HC_{69}	17.6	X	200.47110	105.50669	56.20632	6.05947	0.1112219	0.28611306	2.2809246	21	10 18.2	20.7
308734 2006 HU_{73}	17.7	X	149.26058	47.83540	102.32731	4.36770	0.0757114	0.27426294	2.3461618	21	8 3.5	21.0
308735 2006 HO_{85}	17.0	X	28.60633	212.20627	31.09262	8.00942	0.0416126	0.27161829	2.3613664	21	6 21.6	19.8
308736 2006 HP_{89}	17.3	X	88.30521	9.88272	231.39170	5.89511	0.2112673	0.27858616	2.3218261	21	10 7.4	20.7
308737 2006 HP_{97}	17.8	X	119.86410	321.95576	249.04537	2.15730	0.1761479	0.27973222	2.3154801	21	9 26.9	21.3
308738 2006 HG_{99}	17.5	X	325.24475	80.36367	105.64790	1.22074	0.0462983	0.24636840	2.5200706	21	—	—
308739 2006 HZ_{110}	17.1	X	223.71788	274.22646	191.81954	7.05069	0.0574375	0.27969547	2.3156829	21	9 2.0	20.2
308740 2006 JC_{2}	17.6	X	14.87588	16.81587	237.14478	0.91579	0.1588433	0.26704305	2.3882614	21	6 20.8	19.5
308741 2006 JJ_{8}	17.3	X	352.93162	199.98520	65.84058	3.34751	0.1713222	0.26406208	2.4062017	21	5 19.6	19.1
308742 2006 JL_{14}	16.4	X	197.14063	2.22647	276.54408	11.37109	0.2593908	0.23688407	2.5868951	21	—	—
308743 2006 JY_{30}	17.5	X	100.38683	193.43694	21.49165	2.99351	0.1699618	0.27764040	2.3270959	21	9 13.6	20.7
308744 2006 JO_{37}	17.5	X	274.09517	196.47222	105.85074	4.47348	0.2219398	0.25444317	2.4664682	21	3 8.6	21.3
308745 2006 JR_{37}	16.7	X	269.62235	329.85278	63.69227	7.27364	0.1217491	0.27360025	2.3499487	21	7 15.4	19.6
308746 2006 JT_{37}	17.3	X	354.09123	66.70062	200.27010	7.45103	0.1340833	0.26611754	2.3937955	21	5 27.9	19.5
308747 2006 JA_{39}	17.0	X	156.60723	335.56533	225.10264	10.06989	0.0862965	0.28283316	2.2985247	21	10 18.6	20.3
308748 2006 JR_{44}	16.6	X	160.67630	225.43046	67.81021	8.42499	0.3373761	0.22965554	2.6408968	21	—	—
308749 2006 JN_{45}	17.3	X	198.18087	279.78128	177.29870	6.28317	0.0761844	0.27118157	2.3639009	21	7 17.5	20.6
308750 2006 JE_{49}	17.2	X	255.15798	228.23117	108.53348	5.11180	0.2403784	0.25790818	2.4443270	21	4 1.9	21.2
308751 2006 JA_{51}	17.5	X	347.18417	227.50377	54.76797	4.72360	0.1058634	0.26689710	2.3891320	21	6 8.2	19.7
308752 2006 JG_{53}	16.8	X	175.74399	359.52225	64.92925	7.83315	0.0946192	0.26161933	2.4211563	21	5 10.2	20.2
308753 2006 JD_{79}	17.8	X	292.71042	116.31603	192.12918	1.10755	0.1935213	0.26080428	2.4261980	21	4 6.0	20.7
308754 2006 KX_{10}	16.7	X	222.91604	325.76909	68.80714	7.12566	0.1003736	0.26306390	2.4122846	21	5 21.9	20.1
308755 2006 KD_{29}	17.4	X	33.95898	22.85847	229.43702	4.83925	0.1717816	0.26887779	2.3773845	21	7 30.1	19.7
308756 2006 KY_{33}	17.2	X	286.02472	68.61546	226.20411	5.79466	0.1173579	0.25558649	2.4591072	21	3 19.8	20.5
308757 2006 KL_{40}	16.2	X	130.72621	238.33717	82.09194	18.36916	0.3102121	0.22705862	2.6609949	21	—	—
308758 2006 KW_{42}	17.3	X	120.67615	149.13210	63.00528	2.99533	0.1190589	0.27806526	2.3247248	21	9 27.8	20.6
308759 2006 KV_{52}	17.0	X	183.89962	196.54175	137.14546	4.26396	0.1909290	0.24159754	2.5531385	21	1 29.8	21.1
308760 2006 KE_{62}	17.1	X	346.03012	132.69556	159.28972	5.19650	0.0315746	0.26691634	2.3890172	21	6 26.2	19.9
308761 2006 KD_{65}	16.5	X	152.63583	224.56092	103.27422	14.38185	0.2568914	0.22850201	2.6497772	21	1 3.1	20.7
308762 2006 KY_{101}	16.2	X	154.32094	241.56255	106.95068	13.13442	0.3131233	0.23568409	2.5956684	21	2 2.7	20.7
308763 2006 KU_{108}	17.7	X	301.73083	300.12421	336.78360	0.78128	0.1767582	0.25655037	2.4529439	21	3 8.9	20.8
308764 2006 LF_{4}	16.2	X	208.07488	191.08679	121.53435	7.96079	0.2726447	0.24002109	2.5643056	21	1 26.7	20.6
308765 2006 OD_{1}	16.7	X	212.57001	211.98153	86.36299	6.26637	0.2054531	0.23523656	2.5989595	21	1 13.6	21.1
308766 2006 OE_{4}	16.4	X	76.71132	202.05456	169.30506	4.55555	0.1304778	0.21550864	2.7552410	21	—	—
308767 2006 OO_{8}	16.6	X	290.95640	245.18312	122.92042	22.54053	0.2733665	0.25862269	2.4398229	21	6 16.8	20.0
308768 2006 ON_{9}	16.7	X	178.38320	182.38911	114.57526	6.23973	0.2264708	0.22790684	2.6543884	21	—	—
308769 2006 OB_{10}	15.3	X	175.73561	83.31007	310.91220	24.44833	0.2763220	0.17281934	3.1920853	21	3 30.4	21.4
308770 2006 OS_{10}	15.7	X	99.37002	76.55857	305.15289	16.69723	0.1817853	0.22383966	2.6864454	21	1 1.5	19.0
308771 2006 OK_{13}	17.8	X	204.41269	296.63850	19.35447	1.40746	0.2741349	0.30069910	2.2065544	21	1 21.5	21.5
308772 2006 PU_{3}	16.9	X	55.42304	48.47858	322.05119	1.53604	0.3349490	0.21267126	2.7796931	21	—	—
308773 2006 PU_{5}	16.4	X	96.09142	38.29614	330.50967	11.62698	0.1773859	0.22279798	2.6948125	21	—	—
308774 2006 PU_{17}	16.2	X	173.37378	175.40825	170.96552	13.03326	0.1802350	0.23115104	2.6294937	21	2 3.8	20.6
308775 2006 PE_{20}	16.0	X	156.70326	281.78922	88.06210	12.98710	0.1302204	0.23431096	2.6057994	21	2 17.8	20.1
308776 2006 PE_{22}	15.9	X	104.38192	168.43500	169.29117	9.04236	0.1389767	0.21832772	2.7314722	21	—	—
308777 2006 PG_{24}	15.9	X	111.76628	239.32945	127.67825	15.12429	0.1440500	0.22546555	2.6735148	21	—	—
308778 2006 PT_{24}	15.3	X	136.59292	19.64072	285.68996	15.48339	0.2455757	0.21737131	2.7394786	21	—	—
308779 2006 PD_{28}	16.4	X	139.05055	241.60095	85.81024	14.91645	0.2296715	0.22471050	2.6795002	21	—	—
308780 2006 PO_{31}	16.7	X	131.88992	261.62491	60.01465	10.56651	0.2419912	0.22303052	2.6929390	21	—	—
308781 2006 PX_{32}	15.9	X	140.25267	248.38070	88.12673	15.32285	0.1740900	0.22435119	2.6823604	21	—	—
308782 2006 PH_{37}	16.3	X	101.47510	245.89854	61.72245	6.11143	0.3158333	0.21631754	2.7483681	21	—	—
308783 2006 QP_{3}	16.7	X	158.90102	8.96287	320.51847	8.18237	0.2202202	0.29366590	2.2416460	21	—	—
308784 2006 QR_{3}	16.6	X	138.49727	203.53908	163.31925	9.02470	0.2094193	0.29426948	2.2385797	21	1 18.8	19.5
308785 2006 QQ_{20}	16.0	X	108.86094	62.85501	348.58598	12.11494	0.2661790	0.22517098	2.6758460	21	3 4.2	19.7
308786 2006 QV_{22}	17.1	X	71.52134	209.21818	159.65209	3.41395	0.3104799	0.21508427	2.7588639	21	—	—
308787 2006 QE_{24}	16.4	X	84.79333	87.84820	273.29798	2.37349	0.2339509	0.21597452	2.7512774	21	—	—
308788 2006 QW_{25}	16.8	X	145.94607	66.00904	249.35393	10.98282	0.2386584	0.22435618	2.6823207	21	—	—
308789 2006 QR_{26}	16.7	X	50.81429	205.93902	172.54637	3.26859	0.1987985	0.21317343	2.7753260	21	—	—
308790 2006 QV_{28}	16.5	X	110.66148	239.23083	142.84376	6.25768	0.1960830	0.22481886	2.6786392	21	1 17.1	19.9
308791 2006 QO_{35}	16.3	X	155.22803	134.75962	159.71066	13.06048	0.2083925	0.22116265	2.7080802	21	—	—
308792 2006 QA_{40}	15.8	X	181.25877	174.97560	126.03954	17.44900	0.1620781	0.22796919	2.6539044	21	—	—
308793 2006 QO_{47}	16.7	X	79.62334	320.74785	68.55592	3.02174	0.2180257	0.21967956	2.7202550	21	—	—
308794 2006 QE_{49}	15.9	X	86.33287	195.33180	134.48610	23.70778	0.2536270	0.21301887	2.7766683	21	—	—
308795 2006 QF_{50}	17.5	X	315.92496	10.06489	325.36117	1.92229	0.1959272	0.25687809	2.4508572	21	6 18.9	19.9
308796 2006 QM_{52}	16.2	X	130.06812	221.60421	111.88599	4.32036	0.0974296	0.22281124	2.6947056	21	—	—
308797 2006 QT_{56}	16.5	X	194.51324	314.25954	2.38648	10.66864	0.1008174	0.23426848	2.6061144	21	1 18.9	20.6
308798 Teo	16.4	X	193.00920	352.39171	295.72309	11.65444	0.1853605	0.22854281	2.6494619	21	—	—
308799 2006 QR_{59}	15.6	X	107.92757	26.61348	302.32219	15.06112	0.2281991	0.21794234	2.7346913	21	—	—
308800 2006 QU_{59}	16.2	X	70.84949	182.93821	189.91058	9.35023	0.2263165	0.21566652	2.7538961	21	—	—

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308801 2006 QJ_{61}	16.2	X	104.33752	69.46972	266.33293	11.96872	0.2257508	0.21905389	2.7254323	21	—	—
308802 2006 QR_{81}	16.0	X	92.07397	195.17695	168.05078	13.76726	0.1963508	0.21787645	2.7352426	21	—	—
308803 2006 QS_{82}	15.6	X	81.10683	68.24972	237.34104	12.63248	0.2360314	0.21169210	2.7882580	21	12 14.1	20.1
308804 2006 QD_{83}	16.2	X	162.68817	137.45676	172.23742	4.68530	0.0860485	0.22504591	2.6768373	21	—	—
308805 2006 QG_{87}	17.0	X	230.14980	96.27774	187.98976	3.14585	0.1670280	0.23391982	2.6087034	21	1 10.8	21.3
308806 2006 QU_{98}	16.3	X	48.48368	82.93499	326.23338	8.55138	0.2236011	0.21591376	2.7517935	21	—	—
308807 2006 QK_{101}	16.3	X	269.52545	44.96551	210.80118	14.53679	0.1624893	0.23853959	2.5749121	21	1 9.2	20.6
308808 2006 QO_{103}	16.9	X	57.63659	193.47746	193.09767	1.86147	0.1052448	0.21689948	2.7434500	21	—	—
308809 2006 QW_{112}	16.1	X	65.16996	147.65482	211.88548	5.00375	0.1049441	0.21415060	2.7668770	21	—	—
308810 2006 QZ_{114}	15.8	X	93.22586	48.87796	295.35317	12.58866	0.1900867	0.21651955	2.7466584	21	—	—
308811 2006 QG_{118}	15.7	X	59.59503	113.37002	319.51235	11.20417	0.1859317	0.22162535	2.7043097	21	1 2.1	18.5
308812 2006 QZ_{118}	16.8	X	104.07453	173.65558	194.02849	4.87246	0.1791100	0.22270676	2.6955483	21	—	—
308813 2006 QD_{124}	16.7	X	38.19586	37.11233	308.83831	6.83597	0.2728013	0.27220169	2.3579911	21	—	—
308814 2006 QJ_{126}	16.2	X	182.08794	230.14918	72.27223	12.31849	0.2021170	0.22823791	2.6518209	21	—	—
308815 2006 QQ_{147}	16.1	X	24.08045	260.57038	163.82192	12.99737	0.1356911	0.21417287	2.7666852	21	—	—
308816 2006 QR_{147}	16.8	X	99.42379	10.63550	18.39328	3.15285	0.0671600	0.22337392	2.6901783	21	—	—
308817 2006 QQ_{161}	16.7	X	53.53295	178.57445	7.36856	2.84039	0.0964319	0.24494231	2.5298426	21	5 15.4	19.7
308818 2006 QM_{163}	16.7	X	79.75215	119.92594	247.53972	2.69726	0.1181160	0.21754064	2.7380568	21	—	—
308819 2006 QC_{164}	15.1	X	265.81132	26.39897	330.12397	17.13029	0.1547052	0.18200248	3.0837880	21	5 12.2	20.1
308820 2006 QK_{164}	16.0	X	182.34058	141.44615	261.15620	10.73554	0.1013158	0.24052728	2.5607066	21	4 15.9	20.1
308821 2006 QM_{164}	16.3	X	208.82590	58.92035	244.42191	12.69196	0.1193652	0.23097329	2.6308427	21	1 12.4	20.6
308822 2006 QK_{170}	16.2	X	147.09914	223.63957	98.22815	17.97107	0.3192893	0.22346785	2.6894244	21	—	—
308823 2006 QR_{170}	16.4	X	82.26148	55.97882	306.07926	5.06907	0.0826077	0.21683562	2.7439886	21	—	—
308824 2006 QF_{184}	16.5	X	135.92179	262.67043	43.06328	9.22082	0.2107607	0.22015592	2.7163296	21	—	—
308825 Siksika	15.7	X	37.19924	317.46948	111.14329	12.41562	0.0915156	0.21460058	2.7630079	21	—	—
308826 2006 RJ_5	16.2	X	66.17918	160.75308	216.66475	12.38395	0.1438936	0.21571344	2.7534968	21	—	—
308827 2006 RV_6	16.2	X	61.27567	90.81028	3.59613	10.63196	0.1740207	0.22271465	2.6954846	21	2 5.9	19.1
308828 2006 RJ_{11}	16.5	X	119.52405	19.69441	301.55643	4.10911	0.1594690	0.21724907	2.7405060	21	—	—
308829 2006 RG_{16}	16.3	X	131.66851	48.22244	272.27035	7.88908	0.2087856	0.21925701	2.7237488	21	—	—
308830 2006 RY_{19}	16.0	X	122.61336	31.03008	215.90702	1.33477	0.0144644	0.20287111	2.8685070	21	10 27.1	19.9
308831 2006 RK_{21}	16.1	X	64.16170	13.64595	0.56136	6.88273	0.1844415	0.21261451	2.7801877	21	—	—
308832 2006 RY_{25}	16.9	X	294.61195	47.85083	215.01447	4.80693	0.2039131	0.24399352	2.5363968	21	2 7.6	20.6
308833 2006 RC_{31}	16.0	X	44.24990	83.27620	337.98256	6.96378	0.2200928	0.21526639	2.7573076	21	—	—
308834 2006 RJ_{36}	16.3	X	65.80805	84.41336	321.11093	7.84658	0.1385905	0.21694020	2.7431066	21	—	—
308835 2006 RU_{38}	16.6	X	37.34122	280.80829	123.36341	5.70782	0.1818139	0.21292751	2.7774625	21	—	—
308836 2006 RZ_{38}	16.3	X	165.08247	268.54290	36.14520	11.52890	0.1223856	0.22295361	2.6935583	21	—	—
308837 2006 RW_{48}	16.8	X	273.16436	72.91411	7.63988	10.29693	0.2490714	0.19057440	2.9906093	21	9 1.2	21.0
308838 2006 RV_{52}	16.6	X	25.33737	224.08252	192.11672	5.81974	0.0436596	0.21121070	2.7924931	21	—	—
308839 2006 RY_{55}	17.1	X	182.78274	127.07314	30.71901	5.66077	0.0567374	0.25925527	2.4358525	21	9 23.5	20.4
308840 2006 RC_{56}	16.7	X	51.09718	309.48091	98.31541	1.31510	0.0672651	0.21456042	2.7633526	21	—	—
308841 2006 RV_{56}	16.8	X	96.82310	9.29050	18.73160	5.40354	0.1669967	0.21974625	2.7197046	21	1 3.4	20.2
308842 2006 RW_{57}	16.8	X	103.71916	267.29576	118.81116	2.09587	0.1381557	0.22284940	2.6943979	21	1 5.0	20.2
308843 2006 RA_{61}	16.6	X	61.27905	99.86602	270.37342	6.74484	0.2105202	0.21175630	2.7876943	21	—	—
308844 2006 RP_{61}	16.7	X	171.51051	167.54424	168.88593	3.50414	0.0652644	0.22920516	2.6443552	21	1 13.5	20.5
308845 2006 RF_{62}	16.9	X	340.79834	149.70722	207.70209	5.90516	0.1131905	0.26289624	2.4133101	21	9 21.0	19.3
308846 2006 RL_{75}	16.6	X	65.86029	341.74467	14.31878	5.97342	0.0455183	0.21057616	2.7981001	21	—	—
308847 2006 RU_{76}	17.1	X	86.96794	41.31983	27.26576	4.50653	0.0623138	0.22675114	2.6634000	21	1 26.4	20.4
308848 2006 RP_{77}	16.4	X	105.62752	204.15196	169.92388	6.12898	0.0473068	0.22092701	2.7100055	21	—	—
308849 2006 RF_{80}	17.2	X	51.65433	233.38645	160.80565	3.52701	0.1071954	0.21397883	2.7683576	21	—	—
308850 2006 RS_{86}	16.8	X	278.28409	144.34806	10.05008	4.32584	0.0074897	0.21195416	2.7859592	21	—	—
308851 2006 RZ_{86}	16.6	X	47.06994	14.09070	8.39726	3.48066	0.1010644	0.21090940	2.7951519	21	—	—
308852 2006 RW_{88}	16.6	X	347.74813	216.53471	242.55872	2.45152	0.0530120	0.21288091	2.7778677	21	—	—
308853 2006 RZ_{95}	16.2	X	349.48418	107.16467	11.45645	5.17231	0.1187805	0.21398217	2.7683287	21	—	—
308854 2006 RG_{102}	15.9	X	88.51623	120.51601	235.57912	12.39294	0.2078275	0.21588628	2.7520270	21	—	—
308855 2006 RE_{104}	16.4	X	44.55541	273.88253	154.42475	6.09775	0.1273685	0.21736791	2.7395071	21	—	—
308856 Daniket	17.3	X	327.02080	324.95465	191.92816	8.71860	0.0536931	0.22010843	2.7167203	21	—	—
308857 2006 RX_{114}	17.0	X	68.66863	182.06675	194.05551	1.48386	0.0452521	0.21380411	2.7698656	21	—	—
308858 2006 RB_{121}	16.8	X	35.57123	22.69915	29.29448	4.55595	0.0643302	0.21287790	2.7778939	21	—	—
308859 2006 SG_1	16.1	X	18.29252	76.75697	348.17857	8.46514	0.1629876	0.21236387	2.7823748	21	—	—
308860 2006 SJ_1	16.2	X	200.68562	229.18840	222.41968	1.73846	0.1763961	0.18316497	3.0707262	21	7 8.9	21.2
308861 2006 SV_4	16.5	X	97.12420	150.61865	197.88041	8.54766	0.1573408	0.21561104	2.7543686	21	—	—
308862 2006 SP_5	16.5	X	162.67550	350.87014	20.84931	7.94623	0.1953213	0.23022624	2.6365307	21	3 2.5	20.8
308863 2006 SW_6	16.2	X	174.55584	132.36646	301.98215	6.91585	0.1409081	0.24071945	2.5593436	21	5 22.3	20.3
308864 2006 SD_{13}	15.9	X	14.93279	203.38081	200.08306	8.10932	0.2276018	0.20948345	2.8078220	21	—	—
308865 2006 SB_{15}	16.7	X	77.61521	51.62755	322.24316	3.97220	0.1665510	0.21543378	2.7558793	21	—	—
308866 2006 SU_{15}	15.3	X	263.38471	10.40323	323.61999	4.26593	0.1164221	0.17757011	3.1348937	21	4 20.8	20.0
308867 2006 SD_{23}	16.0	X	108.89813	227.73770	111.92062	10.33023	0.1689248	0.21705667	2.7421253	21	—	—
308868 2006 SY_{25}	15.1	X	327.22097	347.38969	324.19372	11.81697	0.1116544	0.18662626	3.0326402	21	6 19.2	19.0
308869 2006 SS_{31}	16.8	X	170.87067	107.36581	197.58730	4.23425	0.0938523	0.22181237	2.7027894	21	—	—
308870 2006 SX_{35}	16.7	X	64.03708	222.75321	129.21473	8.82769	0.2313908	0.21050469	2.7987334	21	—	—
308871 2006 SW_{38}	16.5	X	34.72769	202.75619	217.59394	3.09825	0.1586317	0.21384065	2.7695499	21	—	—
308872 2006 SB_{42}	16.1	X	91.61459	287.55881	72.68457	6.11030	0.1736832	0.21644974	2.7472489	21	—	—
308873 2006 SO_{60}	16.6	X	337.18304	327.28269	107.84205	7.30834	0.2634229	0.20332048	2.8642788	21	12 30.6	19.0
308874 2006 SM_{61}	16.1	X	59.23310	135.73750	251.10921	7.89888	0.1690437	0.21333541	2.7739209	21	—	—
308875 2006 SA_{71}	16.4	X	91.21363	191.27452	179.24719	4.44597	0.1188788	0.21555810	2.7548195	21	—	—
308876 2006 SU_{72}	16.9	X	207.97448	60.11766	191.30492	8.96788	0.0985469	0.21570288	2.7535866	21	—	—
308877 2006 SF_{73}	16.5	X	109.64191	144.76780	140.80669	2.80383	0.0349753	0.20301927	2.8671112	21	11 30.6	20.7
308878 2006 SC_{78}	16.8	X	71.32869	326.09509	55.01176	5.06061	0.1078981	0.21392499	2.7688220	21	—	—
308879 2006 SU_{78}	16.1	X	88.57507	26.03612	318.03185	10.96412	0.2091234	0.21372358	2.7705612	21	—	—
308880 2006 SJ_{90}	16.7	X	55.10835	20.47635	9.76868	5.86945	0.0604997	0.21181450	2.7871837	21	—	—

ELEMENTS AND OPPOSITION DATES IN 2021

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308881 2006 SW_{92}	17.1	X	124.48080	114.74122	200.40849	3.91054	0.0606422	0.21171588	2.7880492	21	—	—
308882 2006 SL_{96}	16.1	X	14.98529	41.18651	24.47437	12.96951	0.1242118	0.20920299	2.8103309	21	—	—
308883 2006 SR_{103}	16.9	X	335.42355	231.61510	2.37568	1.98119	0.1416483	0.23976434	2.5661359	21	3 7.2	19.6
308884 2006 ST_{109}	16.3	X	15.01600	227.32501	198.88663	9.34991	0.1301152	0.21311437	2.7758387	21	—	—
308885 2006 SS_{133}	16.7	X	66.82336	105.72668	253.96060	3.90702	0.1789645	0.21187438	2.7866586	21	—	—
308886 2006 SE_{139}	16.2	X	184.48624	66.50770	270.67260	12.92859	0.1236562	0.23195012	2.6234511	21	1 28.8	20.4
308887 2006 SY_{140}	16.4	X	98.68326	305.02042	111.43646	9.91753	0.2100764	0.22382525	2.6865608	21	2 19.4	19.8
308888 2006 SE_{144}	17.0	X	274.57736	210.49324	263.48122	0.93199	0.0196691	0.20262765	2.8708043	21	11 16.1	20.8
308889 2006 SV_{150}	16.8	X	358.86090	65.87095	329.33884	1.22094	0.0720386	0.20277342	2.8694283	21	11 30.7	20.5
308890 2006 SU_{151}	16.5	X	255.35854	276.11891	319.18553	1.28305	0.1441988	0.22311084	2.6922927	21	—	—
308891 2006 SY_{160}	16.6	X	318.80313	345.31385	164.66304	4.84578	0.0362888	0.21577645	2.7529607	21	—	—
308892 2006 SC_{162}	16.6	X	190.43461	95.35481	164.96814	2.34392	0.0279124	0.21576764	2.7530357	21	—	—
308893 2006 SL_{164}	15.9	X	54.44122	149.97367	292.66139	12.42884	0.1479185	0.22511947	2.6762541	21	1 1.0	18.6
308894 2006 SA_{168}	17.1	X	41.86485	60.35228	347.34928	6.18330	0.0431033	0.21534797	2.7566113	21	—	—
308895 2006 ST_{176}	16.9	X	63.47076	75.47246	122.34007	0.37747	0.0611165	0.24690346	2.5164285	21	6 13.2	20.0
308896 2006 SF_{181}	17.0	X	135.10798	130.31878	189.98799	4.10090	0.0924518	0.21793193	2.7347784	21	—	—
308897 2006 SL_{183}	17.4	X	52.62626	15.74978	31.17070	0.50781	0.0676716	0.21528503	2.7571485	21	—	—
308898 2006 SU_{184}	16.8	X	338.40950	240.00085	192.82555	1.53229	0.0542836	0.20529191	2.8459122	21	12 19.0	20.4
308899 2006 SL_{198}	18.1	X	24.86380	213.15918	173.22154	16.54894	0.3737414	0.40824946	1.7996400	21	—	—
308900 2006 SB_{199}	16.8	X	113.33807	107.62656	222.84471	2.01475	0.1010617	0.21527066	2.7572713	21	—	—
308901 2006 SB_{203}	17.0	X	101.62915	194.99862	182.05227	6.21050	0.0581466	0.22141505	2.7060218	21	—	—
308902 2006 SM_{206}	16.8	X	32.29042	321.80956	86.28217	0.52787	0.0646879	0.21078610	2.7962419	21	—	—
308903 2006 SV_{231}	17.0	X	330.80535	193.96604	289.74915	3.29592	0.0511764	0.21540115	2.7561576	21	—	—
308904 2006 SK_{232}	16.9	X	57.36011	143.02364	280.91326	2.48773	0.0741032	0.22002850	2.7173782	21	—	—
308905 2006 SK_{234}	16.6	X	142.17063	53.63744	251.16276	3.85975	0.1496737	0.21772959	2.7364724	21	—	—
308906 2006 SY_{234}	16.9	X	59.45485	105.52526	273.54256	2.60338	0.1081338	0.21301580	2.7766950	21	—	—
308907 2006 SH_{236}	17.0	X	129.43688	212.52281	157.05160	2.77823	0.0424746	0.22688821	2.6623272	21	1 2.6	20.6
308908 2006 SW_{254}	17.2	X	75.01927	279.79764	74.26809	0.60215	0.0797242	0.21085799	2.7956063	21	—	—
308909 2006 SQ_{261}	16.3	X	37.77015	23.97433	23.79663	9.84425	0.2142925	0.21003329	2.8029195	21	—	—
308910 2006 SN_{264}	17.5	X	109.11353	189.89566	337.57898	6.59337	0.0555708	0.24621414	2.5211231	21	7 5.4	20.9
308911 2006 SW_{265}	16.3	X	202.18120	83.02599	9.92494	10.58536	0.0380123	0.18191550	3.0847709	21	7 21.6	20.9
308912 2006 SZ_{268}	17.0	X	57.79933	66.84173	279.47631	4.55166	0.0856335	0.20512938	2.8474152	21	12 20.4	21.0
308913 2006 SZ_{273}	16.8	X	7.44692	327.32271	67.97167	2.81621	0.1170083	0.20022663	2.8937088	21	12 17.7	20.3
308914 2006 SM_{286}	16.1	X	137.24086	265.54958	111.48113	13.91296	0.2046385	0.22480262	2.6787682	21	2 13.9	20.2
308915 2006 SG_{291}	16.0	X	116.95652	263.29511	77.21261	14.65914	0.2273867	0.21972165	2.7199076	21	—	—
308916 2006 SD_{292}	15.0	X	198.45871	24.35345	59.93088	32.25099	0.3044139	0.17790850	3.1309172	21	6 20.2	21.0
308917 2006 SH_{296}	16.6	X	260.57465	26.03691	208.69068	3.07595	0.1136750	0.22607904	2.6686760	21	—	—
308918 2006 SD_{305}	16.3	X	112.81968	217.57449	95.19165	4.56556	0.0855052	0.21235111	2.7824862	21	—	—
308919 2006 SC_{316}	17.2	X	136.44567	187.44322	129.89687	2.68629	0.0679964	0.21558165	2.7546189	21	—	—
308920 2006 SO_{318}	16.5	X	121.48106	310.87849	45.47371	6.75616	0.0516158	0.21919951	2.7242252	21	—	—
308921 2006 SK_{319}	16.9	X	126.53890	140.90274	152.02906	4.86174	0.0313736	0.20859097	2.8158253	21	12 29.1	21.0
308922 2006 SA_{323}	16.9	X	178.82580	183.51776	111.51513	3.08369	0.0681109	0.21981086	2.7191717	21	—	—
308923 2006 SS_{325}	17.1	X	9.75585	334.30621	87.35096	1.75587	0.0575636	0.20885772	2.8134273	21	—	—
308924 2006 SR_{331}	17.0	X	56.98771	324.41375	65.93300	0.91743	0.0784280	0.21408694	2.7674254	21	—	—
308925 2006 SB_{333}	17.1	X	109.69520	147.96542	168.85407	4.49465	0.0674561	0.21142452	2.7906100	21	—	—
308926 2006 SF_{334}	16.8	X	353.17819	304.62900	154.99476	4.18307	0.0726562	0.21330618	2.7741744	21	—	—
308927 2006 SG_{336}	17.0	X	66.36252	318.30368	70.42040	4.89216	0.0803589	0.21466791	2.7624301	21	—	—
308928 2006 SE_{349}	16.2	X	39.25278	59.19016	356.22668	13.28830	0.0955089	0.21545799	2.7556728	21	—	—
308929 2006 SE_{352}	16.3	X	111.85360	102.96334	235.73517	6.99972	0.1640891	0.21619921	2.7493708	21	—	—
308930 2006 SW_{352}	16.2	X	88.28114	340.73365	0.00492	9.82843	0.1713166	0.21163700	2.7887419	21	—	—
308931 2006 SM_{365}	16.8	X	97.75241	266.31060	133.83659	6.14137	0.0677712	0.22156426	2.7048068	21	1 4.9	20.4
308932 2006 SO_{367}	15.6	X	95.32348	248.38331	110.66429	12.99037	0.2153204	0.21756488	2.7378534	21	—	—
308933 2006 SQ_{372}	7.8	X	0.14694	122.57147	197.36458	19.44360	0.9779644	0.00002711	1097.3743981	21	10 7.7	22.6
308934 2006 SV_{372}	16.3	X	13.89536	227.26730	224.83197	8.89714	0.1680616	0.21339949	2.7733657	21	—	—
308935 2006 SK_{383}	16.3	X	328.83165	342.25876	133.00859	6.09485	0.1172686	0.21051107	2.7986768	21	—	—
308936 2006 SL_{391}	16.7	X	150.92989	298.11985	21.18064	3.63148	0.1177246	0.22037355	2.7145410	21	—	—
308937 2006 SN_{393}	16.9	X	196.94223	156.61801	70.04111	7.12158	0.1086488	0.26936594	2.3745114	21	—	—
308938 2006 SF_{395}	17.0	X	354.88839	354.51123	193.49569	13.86632	0.1900098	0.23164884	2.6257253	21	1 25.8	20.3
308939 2006 SL_{397}	17.0	X	7.94425	168.00282	234.56636	4.98260	0.0689291	0.20455367	2.8527554	21	12 23.0	20.6
308940 2006 SS_{400}	16.7	X	213.56375	229.67311	35.24597	5.69046	0.0294022	0.21933514	2.7231020	21	—	—
308941 2006 SE_{406}	17.0	X	34.59590	254.11538	119.37789	3.18919	0.0797230	0.20525901	2.8462163	21	12 24.2	20.7
308942 2006 SV_{409}	16.3	X	146.41753	308.37892	12.70530	9.14763	0.0647776	0.22026785	2.7154093	21	—	—
308943 2006 SL_{412}	16.4	X	264.47737	33.82741	42.21463	5.99074	0.1162641	0.18554897	3.0443671	21	9 3.3	20.7
308944 2006 SO_{413}	15.9	X	321.97248	234.08834	116.59847	10.41596	0.1288188	0.18852398	3.0122544	21	8 1.3	19.5
308945 2006 TY_{1}	17.2	X	42.12657	122.27897	265.27481	1.61450	0.0950658	0.20886658	2.8133477	21	—	—
308946 2006 TZ_{11}	16.8	X	18.90738	133.88154	239.17807	4.89661	0.0887976	0.19988338	2.8970206	21	12 2.7	20.3
308947 2006 TV_{13}	16.3	X	40.66874	354.92451	52.21405	15.27586	0.1584015	0.21250414	2.7811502	21	—	—
308948 2006 TC_{14}	16.5	X	65.68015	285.05480	125.33528	4.23365	0.1924439	0.21665571	2.7455074	21	—	—
308949 2006 TG_{15}	16.7	X	207.44331	216.63999	344.65228	1.38455	0.0236292	0.20556667	2.8433757	21	12 11.2	20.8
308950 2006 TJ_{16}	16.4	X	40.17611	218.56354	196.92792	3.28455	0.0888946	0.21286628	2.7779950	21	—	—
308951 2006 TX_{16}	17.0	X	102.28479	139.11740	188.53275	2.36586	0.1801433	0.27883287	2.3204564	21	—	—
308952 2006 TF_{24}	16.4	X	77.90175	95.30086	273.33572	2.64211	0.1105629	0.21242198	2.7818673	21	—	—
308953 2006 TG_{32}	16.3	X	208.89493	278.70653	209.83966	9.22425	0.0299225	0.18969422	2.9998531	21	9 8.1	20.7
308954 2006 TU_{35}	16.5	X	36.12196	321.63189	19.67345	4.43053	0.1231075	0.19911835	2.9044363	21	11 20.0	20.4
308955 2006 TS_{36}	16.2	X	23.25885	357.57529	256.17314	2.34096	0.0794501	0.24606299	2.5221554	21	7 1.9	19.0
308956 2006 TA_{38}	17.0	X	255.10464	215.99841	208.76151	2.37841	0.0574005	0.25263242	2.4782398	21	8 16.2	20.1
308957 2006 TA_{42}	16.6	X	72.84333	82.51229	224.16693	7.99303	0.1278017	0.19959149	2.8998444	21	11 24.5	20.7
308958 2006 TK_{44}	16.1	X	350.31644	99.84665	44.48618	9.58019	0.0945327	0.21569153	2.7536832	21	—	—
308959 2006 TA_{46}	16.5	X	345.93683	62.45716	47.57958	6.23112	0.0172014	0.21043537	2.7993480	21	—	—
308960 2006 TL_{46}	16.5	X	353.05883	170.46593	210.14375	5.50655	0.0992508	0.19610430	2.9341206	21	11 4.2	19.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
308961 2006 TJ_{47}	16.3	X	328.63058	97.43580	204.84349	3.99816	0.1098573	0.24606682	2.5221293	21	6 6.1	19.0
308962 2006 TU_{50}	16.8	X	41.44880	119.58368	220.40791	1.40435	0.0617766	0.19759789	2.9193165	21	11 17.5	20.7
308963 2006 TE_{61}	17.0	X	355.75125	5.34030	54.40905	2.26636	0.2345227	0.20450991	2.8531623	21	—	—
308964 2006 TH_{65}	17.1	X	359.04286	11.65954	345.44573	12.09468	0.0907865	0.26547273	2.3976702	21	10 19.1	19.9
308965 2006 TG_{67}	16.0	X	36.10814	203.63435	247.00342	12.82501	0.1618556	0.21799708	2.7342335	21	—	—
308966 2006 TD_{69}	16.1	X	359.51238	38.16571	50.68397	14.78575	0.1525349	0.21146728	2.7902338	21	—	—
308967 2006 TH_{70}	16.8	X	134.80133	19.46730	299.62728	1.75453	0.1732020	0.21560404	2.7544282	21	—	—
308968 2006 TL_{74}	16.0	X	43.81930	28.26317	49.93390	14.30296	0.1458158	0.21598540	2.7511850	21	—	—
308969 2006 TK_{77}	15.9	X	85.13038	304.01973	85.27924	14.42718	0.1957414	0.21646812	2.7470933	21	—	—
308970 2006 TP_{87}	17.0	X	77.91216	74.51399	286.75874	2.20270	0.0765696	0.20918886	2.8104574	21	—	—
308971 2006 TJ_{96}	15.5	X	353.25344	17.85276	308.17534	5.32104	0.0954759	0.18867473	3.0106497	21	8 20.9	19.2
308972 2006 TA_{97}	16.4	X	19.66781	328.05240	59.70590	12.80935	0.0547826	0.20102274	2.8860638	21	12 17.1	20.3
308973 2006 TH_{99}	16.7	X	32.97172	305.75463	40.02576	11.44055	0.0730170	0.19993042	2.8965662	21	11 14.3	20.5
308974 2006 TQ_{99}	16.8	X	142.20825	268.72258	47.02158	4.49052	0.0894709	0.21544920	2.7557477	21	—	—
308975 2006 TY_{99}	16.2	X	333.25004	100.53371	17.18540	10.07157	0.0694854	0.21023855	2.8010948	21	—	—
308976 2006 TH_{102}	17.8	X	112.33264	97.38355	18.86572	4.04398	0.1028438	0.30235091	2.1985104	21	4 30.2	20.3
308977 2006 TU_{103}	16.1	X	354.39747	53.50619	44.50297	6.88240	0.0260683	0.21079266	2.7961839	21	—	—
308978 2006 TJ_{114}	16.1	X	228.49820	320.96613	122.99007	11.05437	0.1055245	0.18370153	3.0647439	21	7 31.9	20.7
308979 2006 TZ_{116}	16.5	X	203.50268	151.59740	101.71192	5.87930	0.0613110	0.21607255	2.7504452	21	—	—
308980 2006 TB_{118}	16.2	X	333.86589	255.25585	148.89707	12.59933	0.0576453	0.19711391	2.9240931	21	11 8.7	20.2
308981 2006 TM_{123}	15.7	X	288.14455	314.49142	91.03628	10.76326	0.0817256	0.17983035	3.1085705	21	9 1.7	20.0
308982 2006 TK_{124}	16.2	X	319.36899	324.78545	11.09955	9.07760	0.1114100	0.18439201	3.0570883	21	7 11.0	20.2
308983 2006 TY_{128}	16.6	X	0.09221	5.31205	43.85157	11.98702	0.0930116	0.20341290	2.8634112	21	12 21.8	20.4
308984 2006 TB_{130}	15.9	X	211.95562	68.32945	67.48057	13.13492	0.1986537	0.17955840	3.1117085	21	9 16.2	21.2
308985 2006 UA_{1}	16.4	X	10.93316	273.26324	129.79202	2.99021	0.0644479	0.20389913	2.8588572	21	12 27.2	20.1
308986 2006 UK_{10}	15.9	X	250.23368	266.23209	202.12462	9.91979	0.0690013	0.19301855	2.9653094	21	9 29.9	20.1
308987 2006 UX_{10}	16.6	X	115.37461	245.32862	41.22913	8.31743	0.0981806	0.20481530	2.8503255	21	12 11.4	21.1
308988 2006 UE_{13}	16.7	X	344.30819	268.02341	135.74039	3.00758	0.0625635	0.19879003	2.9076334	21	11 20.3	20.4
308989 2006 UK_{16}	16.2	X	62.06221	230.10655	66.24050	12.48472	0.0708294	0.19294592	2.9660535	21	10 25.2	20.4
308990 2006 UG_{17}	16.6	X	70.79068	161.66746	215.05037	3.78790	0.0806057	0.21170962	2.7881041	21	—	—
308991 2006 UP_{20}	16.5	X	157.73021	26.89930	238.15337	4.16459	0.1214894	0.21003351	2.8029175	21	12 28.4	20.9
308992 2006 UX_{24}	15.7	X	229.90225	203.31564	215.01674	16.97646	0.2459397	0.17973963	3.1096164	21	6 18.9	21.2
308993 2006 UD_{32}	16.7	X	334.66498	37.27410	43.46731	2.59041	0.0422458	0.20426217	2.8554689	21	12 23.1	20.3
308994 2006 UE_{35}	16.9	X	51.66438	145.83284	216.67941	2.73983	0.0876138	0.20592738	2.8400543	21	—	—
308995 2006 UY_{36}	17.1	X	14.01406	114.50504	280.85779	0.96328	0.0710032	0.20307882	2.8665507	21	12 22.4	20.6
308996 2006 UV_{37}	15.9	X	194.07019	127.31091	38.07523	4.53244	0.0655466	0.19194919	2.9763125	21	10 8.2	20.3
308997 2006 UD_{39}	16.4	X	250.10832	169.33043	359.44089	1.71401	0.1722095	0.20210299	2.8757705	21	12 1.3	20.5
308998 2006 UJ_{39}	16.3	X	347.87452	324.84510	28.59672	2.20509	0.1579395	0.19255048	2.9701131	21	9 21.1	19.5
308999 2006 UJ_{42}	16.8	X	339.74111	46.19712	73.98359	3.50532	0.0133599	0.21111602	2.7933280	21	—	—
309000 2006 UH_{44}	17.3	X	219.18881	216.00463	217.83055	1.86562	0.0446734	0.24682356	2.5169716	21	7 14.3	20.8
309001 2006 UG_{49}	16.7	X	97.84181	120.26343	270.51929	4.71767	0.0484197	0.22315806	2.6919128	21	—	—
309002 2006 UG_{50}	17.0	X	39.03276	329.83349	12.43826	15.44585	0.1507215	0.20179546	2.8786915	21	11 26.3	21.1
309003 2006 UL_{51}	16.8	X	293.03593	124.90179	68.11680	3.21055	0.0202606	0.21883948	2.7272122	21	—	—
309004 2006 UR_{57}	17.4	X	54.22602	284.50647	67.51744	3.07020	0.0773108	0.20403815	2.8575585	21	12 21.6	21.4
309005 2006 UW_{73}	17.1	X	31.08136	130.39831	333.39448	4.69207	0.0753345	0.21919694	2.7242465	21	—	—
309006 2006 UC_{77}	16.4	X	254.66983	67.23963	6.88835	8.17074	0.2314506	0.18527012	3.0474210	21	8 5.1	21.1
309007 2006 UL_{77}	16.8	X	47.49939	117.83141	277.25796	3.23580	0.0732268	0.21034397	2.8001588	21	—	—
309008 2006 UM_{78}	15.6	X	199.63520	87.33669	12.35192	9.92325	0.0525661	0.18229696	3.0804661	21	7 26.6	20.3
309009 2006 UZ_{80}	16.3	X	82.89830	221.87943	112.56386	3.44752	0.0646502	0.20567176	2.8424070	21	—	—
309010 2006 UB_{82}	15.8	X	336.03414	358.27284	17.46915	12.04415	0.1074363	0.19291157	2.9664056	21	10 1.6	19.4
309011 2006 UE_{83}	16.9	X	51.70711	264.14731	110.59354	3.16723	0.0848856	0.20571890	2.8419728	21	—	—
309012 2006 UG_{83}	16.4	X	181.72898	143.43009	98.67938	3.47864	0.0359777	0.20436297	2.8545298	21	12 29.5	20.5
309013 2006 UM_{90}	16.9	X	7.29173	33.98817	21.19598	2.12548	0.0582140	0.20352183	2.8623894	21	—	—
309014 2006 UQ_{90}	17.3	X	237.32992	16.48184	27.71275	3.88072	0.1507244	0.24499423	2.5294852	21	6 15.5	21.0
309015 2006 UZ_{97}	16.6	X	130.94071	182.87299	109.87491	3.14131	0.0329867	0.20655367	2.8343106	21	—	—
309016 2006 UH_{103}	16.4	X	214.81227	50.65903	67.69417	3.08314	0.0298156	0.18704435	3.0281194	21	9 6.6	20.7
309017 2006 UC_{111}	17.0	X	17.66840	149.17634	282.98051	3.15006	0.1925279	0.21311613	2.7758234	21	—	—
309018 2006 US_{112}	17.0	X	166.70834	271.81953	7.83698	3.60453	0.0701550	0.21372746	2.7705277	21	—	—
309019 2006 UO_{113}	16.6	X	207.54144	16.81984	211.60432	11.46872	0.0437012	0.21059666	2.7979186	21	—	—
309020 2006 UY_{116}	17.0	X	46.53949	294.73189	121.16052	0.59222	0.0643458	0.21415850	2.7668089	21	—	—
309021 2006 UU_{119}	16.8	X	61.39461	273.46361	59.18700	2.94764	0.0733551	0.20296352	2.8676362	21	12 5.7	20.7
309022 2006 UM_{124}	16.9	X	78.70616	25.43963	358.62058	5.27472	0.0305854	0.21766310	2.7370297	21	—	—
309023 2006 UH_{130}	16.8	X	88.11439	1.35363	284.55542	1.10203	0.1403469	0.20013742	2.8945686	21	11 16.6	21.1
309024 2006 UO_{130}	17.2	X	173.61597	236.10015	15.32983	2.00864	0.0245339	0.20689720	2.8311724	21	—	—
309025 2006 UQ_{133}	16.7	X	19.19928	149.22137	210.34342	7.61064	0.0444249	0.19783602	2.9169735	21	11 11.0	20.6
309026 2006 UA_{134}	16.9	X	311.43519	257.56821	203.12782	5.61547	0.0480736	0.20259897	2.8710751	21	12 15.9	20.6
309027 2006 UD_{140}	16.1	X	294.84369	323.74354	20.14119	9.33979	0.1065049	0.17899862	3.1181926	21	6 13.2	20.5
309028 2006 UR_{146}	16.5	X	67.44313	86.05384	328.67485	6.95573	0.1506064	0.22505407	2.6767725	21	—	—
309029 2006 UP_{154}	16.5	X	91.26314	82.42133	279.91247	5.04551	0.0240677	0.21588313	2.7520537	21	—	—
309030 2006 UZ_{155}	16.6	X	67.26309	273.50306	89.18968	5.46217	0.0828425	0.21070089	2.7969957	21	—	—
309031 2006 UH_{160}	16.2	X	358.57814	333.93086	84.21375	3.26149	0.0440870	0.20607938	2.8386577	21	12 27.8	19.9
309032 2006 UT_{172}	17.3	X	130.90391	93.66500	56.24475	2.34872	0.1580258	0.24499007	2.5295139	21	7 18.5	21.1
309033 2006 UF_{176}	15.9	X	300.83249	120.89954	46.91837	13.85870	0.0352766	0.21698137	2.7427597	21	—	—
309034 2006 UJ_{177}	16.3	X	51.07853	345.69223	60.49723	10.12782	0.1414172	0.21335890	2.7737174	21	—	—
309035 2006 UV_{187}	16.3	X	78.87883	81.42348	310.99469	9.29370	0.0956898	0.21728556	2.7401992	21	—	—
309036 2006 UH_{189}	16.3	X	156.80084	46.30668	261.05889	12.30916	0.1232372	0.21799100	2.7342843	21	—	—
309037 2006 UR_{197}	16.5	X	76.78757	299.40954	52.24143	3.14118	0.0227532	0.20591495	2.8401686	21	—	—
309038 2006 UL_{198}	17.1	X	208.42509	349.16719	214.99576	1.28477	0.0309014	0.20315514	2.8658327	21	12 14.7	21.0
309039 2006 UL_{216}	16.4	X	284.20432	152.46887	197.81925	11.16406	0.0885776	0.24624154	2.5209361	21	6 9.3	19.8
309040 2006 UK_{218}	17.0	X	146.99068	195.28723	302.15477	2.62588	0.1121138	0.24687373	2.5166306	21	7 15.5	20.5

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309041 2006 UR_{221}	16.4	X	42.45032	188.59867	224.58177	7.69609	0.1058162	0.21209953	2.7846861	21	—	—
309042 2006 UR_{234}	15.9	X	213.79306	32.51984	80.47598	10.72106	0.1455266	0.17600907	3.1534021	21	8 21.8	21.0
309043 2006 UW_{241}	17.0	X	115.05432	147.29078	17.06756	6.78869	0.0852964	0.24700618	2.5157308	21	7 13.3	20.6
309044 2006 UB_{246}	17.0	X	243.73044	130.91133	56.98003	0.71686	0.0097171	0.20831395	2.8183212	21	—	—
309045 2006 UH_{247}	16.9	X	355.19409	166.58774	313.78043	0.81446	0.0276336	0.21591585	2.7517757	21	—	—
309046 2006 UY_{253}	17.1	X	22.19173	173.70839	214.31474	1.29355	0.0598637	0.20322270	2.8651976	21	12 22.8	20.7
309047 2006 UB_{254}	16.9	X	65.85405	112.41702	209.17067	0.74602	0.0514372	0.19963307	2.8994417	21	11 24.1	20.8
309048 2006 UG_{256}	15.3	X	180.25439	17.45885	122.83347	16.09634	0.1973392	0.16949425	3.2336976	21	8 20.4	20.8
309049 2006 UV_{256}	17.0	X	347.14619	241.70393	169.00300	2.18112	0.0604688	0.20333980	2.8640974	21	12 3.5	20.5
309050 2006 UB_{257}	16.9	X	1.86650	201.62992	245.90616	4.23011	0.1288141	0.21015338	2.8018516	21	—	—
309051 2006 UW_{259}	17.0	X	181.92388	185.50347	48.78542	2.75012	0.0175075	0.20536372	2.8452487	21	12 21.8	21.1
309052 2006 UU_{267}	17.0	X	228.97252	43.96169	352.00349	5.52166	0.2380889	0.24331214	2.5411299	21	5 20.2	21.3
309053 2006 UM_{272}	15.8	X	178.68266	107.44760	57.90508	9.93438	0.0747637	0.18550101	3.0448918	21	9 24.6	20.5
309054 2006 UY_{273}	16.4	X	311.38598	349.28196	28.74508	4.30035	0.1954869	0.18750997	3.0231043	21	8 13.2	20.0
309055 2006 UX_{274}	16.9	X	105.06878	49.07487	283.98050	2.72818	0.0959242	0.21195930	2.7859141	21	—	—
309056 2006 US_{282}	16.4	X	332.02106	101.32336	350.19216	1.94509	0.0854450	0.20464299	2.8519253	21	—	—
309057 2006 UC_{284}	16.5	X	330.24867	49.27668	229.83805	7.75607	0.1634876	0.24312056	2.5424647	21	4 26.7	19.1
309058 2006 UM_{284}	17.3	X	221.52188	34.46701	30.16887	0.57758	0.1328113	0.24599914	2.5225919	21	6 27.5	21.0
309059 2006 UO_{284}	16.6	X	96.27559	322.10982	1.67859	1.67259	0.0629285	0.20378286	2.8599445	21	—	—
309060 2006 UM_{286}	16.8	X	355.67241	118.27167	215.74481	4.81685	0.2544236	0.19244075	2.9712420	21	9 10.4	19.5
309061 2006 UH_{320}	16.2	X	94.75633	213.55198	78.15136	3.98688	0.0886599	0.19675137	2.9276841	21	11 25.3	20.4
309062 2006 UR_{324}	16.7	X	53.16022	196.31959	115.97266	2.33843	0.0602371	0.19366491	2.9587079	21	10 29.1	20.7
309063 2006 UU_{331}	16.8	X	252.65019	9.54576	187.27809	8.53496	0.1282412	0.21627761	2.7487063	21	—	—
309064 2006 US_{335}	15.8	X	338.22582	53.57823	356.28908	11.61867	0.0561033	0.19873256	2.9081939	21	11 14.1	19.7
309065 2006 UZ_{338}	15.2	X	275.85333	313.94828	91.38397	11.70176	0.0812537	0.17612073	3.1520692	21	8 14.2	19.7
309066 2006 UZ_{358}	16.9	X	319.37267	94.72981	359.17179	1.02877	0.0286996	0.20418954	2.8561459	21	12 18.9	20.7
309067 2006 UB_{359}	16.8	X	29.58766	354.98934	6.56686	1.82563	0.0834377	0.20087849	2.8874453	21	12 1.9	20.7
309068 2006 US_{360}	15.6	X	330.92862	242.53662	252.84941	13.78420	0.0496377	0.21158621	2.7891881	21	—	—
309069 2006 VX_{5}	16.9	X	356.39837	334.47297	59.77983	2.84039	0.1277581	0.19827916	2.9126257	21	11 29.5	20.3
309070 2006 VW_{6}	16.6	X	68.86899	276.66159	63.14023	3.06393	0.1071589	0.20233511	2.8735706	21	12 27.5	20.7
309071 2006 VM_{7}	16.0	X	49.14023	246.63321	62.21696	2.06101	0.1338368	0.19358083	2.9595645	21	10 29.6	20.0
309072 2006 VT_{10}	16.3	X	357.02475	231.25733	232.89961	3.25546	0.0657459	0.21013620	2.8020043	21	—	—
309073 2006 VP_{22}	15.8	X	121.95859	163.33567	58.02224	16.25313	0.0209127	0.18820818	3.0156230	21	10 1.8	20.3
309074 2006 VH_{23}	16.5	X	325.75257	133.01604	227.68564	2.34571	0.0913911	0.18620834	3.0371760	21	8 22.9	20.4
309075 2006 VC_{24}	16.6	X	154.88350	170.99070	79.89712	3.16125	0.0299230	0.20064391	2.8896953	21	12 9.1	20.8
309076 2006 VA_{34}	16.4	X	9.37402	332.32840	32.82317	2.43213	0.1122594	0.19658977	2.9292882	21	11 10.3	20.0
309077 2006 VB_{42}	16.4	X	33.55284	8.26196	80.36782	7.30051	0.1373874	0.21281751	2.7784194	21	—	—
309078 2006 VC_{46}	16.3	X	335.58806	164.31520	242.89775	10.84155	0.0399759	0.19667676	2.9284244	21	11 9.9	20.2
309079 2006 VB_{52}	16.9	X	353.06812	224.73972	147.94792	2.86015	0.1156682	0.19690835	2.9261279	21	10 26.6	20.2
309080 2006 VD_{56}	16.3	X	16.41340	90.13987	230.17474	10.69618	0.1675582	0.19008225	2.9957691	21	9 24.8	19.9
309081 2006 VE_{57}	16.6	X	310.56128	138.07135	194.32298	1.74615	0.1384176	0.24672380	2.5176500	21	6 15.1	19.3
309082 2006 VL_{65}	16.4	X	55.78017	290.73287	69.84080	3.03474	0.0811182	0.20258568	2.8712007	21	—	—
309083 2006 VR_{65}	16.2	X	150.25433	180.48154	65.94418	3.24811	0.0784611	0.19759729	2.9193224	21	11 27.9	20.6
309084 2006 VD_{72}	17.2	X	287.54118	212.81604	233.34611	1.18748	0.1935295	0.19143945	2.9815935	21	10 3.3	20.7
309085 2006 VU_{72}	15.6	X	79.19313	181.91136	63.22236	11.73025	0.1236806	0.18331336	3.0690689	21	9 20.8	20.2
309086 2006 VF_{74}	16.0	X	17.08191	210.75770	145.08878	2.13878	0.2291858	0.19561468	2.9390147	21	11 26.7	19.3
309087 2006 VR_{75}	15.9	X	305.19817	116.98957	256.18761	10.81200	0.1968621	0.18327063	3.0695460	21	7 21.8	19.9
309088 2006 VB_{84}	16.5	X	353.45699	38.85169	215.12488	2.57722	0.1130405	0.24305453	2.5429251	21	5 9.4	19.0
309089 2006 VQ_{92}	17.1	X	336.30377	227.56110	185.87851	5.41082	0.1013043	0.26359141	2.4090652	21	12 7.3	19.6
309090 2006 VW_{95}	17.6	X	186.10152	70.28906	324.51453	18.75517	0.0969864	0.37075806	1.9190030	21	3 20.6	20.2
309091 2006 VC_{106}	16.6	X	70.18172	319.12442	15.01855	2.02504	0.0721265	0.20305146	2.8668082	21	12 17.8	20.7
309092 2006 VY_{122}	15.9	X	160.33317	185.00733	222.01326	11.54786	0.1827911	0.22972365	2.6403748	21	4 6.6	20.1
309093 2006 VA_{124}	15.8	X	197.19508	139.27693	52.26020	6.47557	0.1298417	0.19332657	2.9621589	21	11 7.0	20.4
309094 2006 VW_{138}	16.2	X	20.36563	238.01300	69.34695	11.09917	0.1869763	0.18805251	3.0172870	21	9 26.9	19.8
309095 2006 VL_{139}	16.8	X	270.04473	138.90344	262.19049	0.84477	0.1111771	0.18086680	3.0966835	21	7 24.9	21.3
309096 2006 VT_{169}	15.8	X	45.80106	56.60747	258.97266	12.38809	0.1112439	0.19079066	2.9883490	21	10 26.4	20.0
309097 2006 VE_{170}	16.8	X	20.58542	112.34076	236.17267	2.60967	0.1099665	0.19351029	2.9602837	21	11 4.9	20.4
309098 2006 VB_{172}	15.6	X	206.91873	218.19093	270.64976	9.22951	0.0673802	0.17745268	3.1362765	21	8 31.3	20.5
309099 2006 WC	16.2	X	345.38648	9.22837	79.57533	7.90764	0.1939619	0.20300263	2.8672679	21	—	—
309100 2006 WS_{11}	15.3	X	92.39730	345.69053	281.50429	8.85263	0.0691367	0.19053582	2.9910130	21	10 16.6	19.8
309101 2006 WW_{42}	15.9	X	246.01035	254.11779	224.64014	15.12392	0.0981125	0.18920120	3.0050622	21	10 1.1	20.5
309102 2006 WP_{56}	15.5	X	132.03696	132.54500	65.85489	9.73226	0.0264919	0.18076581	3.0978367	21	9 11.6	20.1
309103 2006 WR_{63}	15.9	X	326.23753	348.63798	37.78347	10.43207	0.0785187	0.18988508	2.9978426	21	10 2.9	19.8
309104 2006 WF_{71}	16.7	X	35.20040	39.13239	341.90955	1.31447	0.0771114	0.20308864	2.8664583	21	—	—
309105 2006 WK_{73}	16.3	X	173.36249	103.57451	56.11295	8.86543	0.2028417	0.18167257	3.0875202	21	9 10.0	21.6
309106 2006 WZ_{83}	16.5	X	226.13424	327.78623	78.91846	8.70119	0.1099387	0.24402672	2.5361667	21	6 10.5	20.2
309107 2006 WR_{85}	15.5	X	83.96763	155.08618	79.19146	29.42408	0.1314545	0.17947137	3.1127143	21	9 24.2	20.7
309108 2006 WZ_{88}	15.6	X	204.37039	195.83726	279.77385	8.37552	0.0384870	0.17817134	3.1278373	21	8 15.7	20.2
309109 2006 WM_{93}	16.2	X	60.72531	266.38396	71.87539	12.91316	0.0638511	0.19927669	2.9028976	21	12 9.6	20.3
309110 2006 WW_{104}	16.0	X	9.55831	269.13319	79.85133	10.66300	0.0391284	0.18977280	2.9990250	21	10 18.4	20.1
309111 2006 WR_{113}	16.4	X	351.78214	325.55526	89.43144	10.36586	0.1130606	0.19993066	2.8965639	21	12 18.4	19.8
309112 2006 WW_{118}	16.3	X	220.93484	65.20330	345.83208	12.04598	0.1699441	0.24371764	2.5383105	21	6 4.7	20.6
309113 2006 WP_{120}	16.8	X	255.58257	181.51335	206.35130	3.86925	0.0606898	0.24579617	2.5239804	21	6 26.3	20.1
309114 2006 WZ_{122}	15.9	X	57.91217	36.63170	277.04656	8.36764	0.1019279	0.19202613	2.9755174	21	11 8.4	20.2
309115 2006 WX_{127}	15.9	X	125.74123	323.99584	291.89879	3.66082	0.1027587	0.19324915	2.9629500	21	11 13.9	20.4
309116 2006 WT_{128}	16.8	X	201.58023	66.56059	58.97706	1.62125	0.1208354	0.18052342	3.1006091	21	8 23.7	21.7
309117 2006 WT_{138}	15.8	X	354.48041	292.00477	100.40106	8.92676	0.0475954	0.19839273	2.9115140	21	11 20.8	19.7
309118 2006 WQ_{149}	16.5	X	294.28376	162.90818	300.63002	3.05300	0.0773093	0.19480715	2.9471311	21	11 20.7	20.4
309119 2006 WN_{153}	16.7	X	268.90292	45.55191	69.19901	2.92582	0.1284785	0.18719251	3.0265213	21	10 24.2	20.6
309120 2006 WL_{174}	15.8	X	224.23373	50.01502	84.76872	9.71609	0.0336981	0.18802096	3.0176246	21	10 11.7	20.2

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309121 2006 WW_{177}	15.9	X	283.66884	167.61411	196.86617	10.35764	0.0103792	0.17697614	3.1419039	21	7 8.6	20.5
309122 2006 WQ_{178}	16.1	X	330.04292	316.16926	55.10842	10.15926	0.0479716	0.19004524	2.9961580	21	9 22.2	20.2
309123 2006 WH_{187}	15.7	X	27.25111	279.72842	95.57690	12.50491	0.0634686	0.19936250	2.9020646	21	12 13.9	19.5
309124 2006 WM_{203}	15.8	X	358.34613	255.03821	65.89542	10.07472	0.0987570	0.18226160	3.0808645	21	8 28.3	19.7
309125 2006 WY_{203}	16.8	X	141.90479	108.65170	95.62486	4.33459	0.0923944	0.24609203	2.5219571	21	10 6.9	20.5
309126 2006 XF_{7}	16.6	X	299.70603	19.55586	60.44915	4.44567	0.1747007	0.19115243	2.9845773	21	10 19.4	20.1
309127 2006 XR_{9}	16.4	X	202.61734	101.67668	8.66058	1.85214	0.0800814	0.17525931	3.1623892	21	8 7.9	21.1
309128 2006 XY_{18}	16.0	X	188.04736	243.60150	320.08229	5.12902	0.1231046	0.18966923	3.0001165	21	11 10.4	20.8
309129 2006 XM_{24}	15.7	X	359.66107	190.28052	175.90128	3.52898	0.2302515	0.19252427	2.9703826	21	11 7.5	18.6
309130 2006 XU_{25}	16.5	X	266.50375	227.74364	145.08670	1.66841	0.1645064	0.24523289	2.5278438	21	6 5.5	19.9
309131 2006 XG_{28}	15.9	X	254.20118	5.02784	65.64523	6.26191	0.1654438	0.18122845	3.0925623	21	8 7.4	20.5
309132 2006 XP_{31}	16.2	X	0.25573	290.62367	93.51286	4.78754	0.1029667	0.19410490	2.9542351	21	11 20.5	19.9
309133 2006 XU_{34}	15.3	X	99.38873	150.85169	79.07493	13.26047	0.0118887	0.17952882	3.1120503	21	9 11.2	19.9
309134 2006 XB_{35}	15.2	X	167.38530	68.60972	64.25414	23.78820	0.1465181	0.17015940	3.2252651	21	8 3.9	20.8
309135 2006 XT_{37}	15.7	X	7.59689	66.55469	275.37826	9.42960	0.0674298	0.18334402	3.0687267	21	9 27.4	19.9
309136 2006 XQ_{38}	16.4	X	191.12650	336.18305	96.50776	15.18863	0.1592750	0.23492250	2.6012752	21	6 8.3	20.6
309137 2006 XJ_{42}	15.1	X	194.34432	85.11369	67.76989	17.99933	0.1258145	0.17959726	3.1112595	21	9 27.9	20.3
309138 2006 XY_{42}	17.0	X	200.36924	22.35045	108.00124	3.33538	0.1203106	0.24433645	2.5340230	21	9 1.6	20.8
309139 2006 XQ_{51}	9.8	X	106.17013	134.13826	233.88538	31.61400	0.3786705	0.01568818	15.8035374	21	2 5.6	22.7
309140 2006 XY_{54}	15.8	X	294.12628	316.20766	38.57145	5.31002	0.2286567	0.24473530	2.5312690	21	6 5.6	18.9
309141 2006 XE_{59}	15.6	X	251.27786	14.28747	91.87336	9.89999	0.0258393	0.18412506	3.0600424	21	10 9.9	20.0
309142 2006 XF_{60}	16.2	X	191.67825	44.69424	87.92945	7.30202	0.0918773	0.17505145	3.1648922	21	8 25.5	21.1
309143 2006 XP_{66}	15.1	X	139.57966	242.02369	297.35579	11.17330	0.0974666	0.17144924	3.2090687	21	8 22.9	20.2
309144 2006 YH_{4}	15.8	X	233.00937	180.31328	274.65105	8.71066	0.0524380	0.17532579	3.1615898	21	8 21.3	20.6
309145 2006 YR_{6}	15.8	X	235.88858	29.11459	76.72191	9.25870	0.0827590	0.18276027	3.0752577	21	9 12.8	20.4
309146 2006 YQ_{7}	15.2	X	20.17219	112.10638	236.35619	22.68836	0.1756687	0.19285713	2.9669638	21	11 12.9	18.6
309147 2006 YD_{13}	15.3	X	7.10884	19.29946	276.08440	8.33281	0.0749081	0.17725903	3.1385603	21	7 30.8	19.4
309148 2006 YY_{16}	16.2	X	193.71966	48.48988	104.95179	3.43648	0.0588506	0.17878646	3.1206589	21	9 22.9	20.9
309149 2006 YR_{27}	15.4	X	319.40726	255.14415	97.37700	17.34249	0.1370503	0.17767645	3.1336426	21	7 29.9	19.3
309150 2006 YM_{37}	15.7	X	171.75395	44.91983	99.44979	13.48787	0.1989229	0.17036186	3.2227093	21	8 19.8	21.2
309151 2006 YB_{38}	15.7	X	149.73481	56.85733	101.45042	12.32985	0.0382288	0.17000122	3.2272654	21	8 10.2	20.5
309152 2006 YW_{51}	17.0	X	296.45104	358.05535	41.47838	1.91432	0.2790219	0.18212015	3.0824596	21	8 2.6	21.0
309153 2006 YW_{55}	15.5	X	193.91401	48.52895	78.76078	17.44464	0.1788549	0.17382312	3.1797844	21	8 20.9	21.0
309154 2007 AF_{4}	16.1	X	274.06691	301.97293	95.85861	0.01516	0.1898498	0.18019124	3.1044185	21	7 14.5	20.6
309155 2007 AR_{4}	16.4	X	272.60424	303.70361	107.91982	2.35614	0.1663678	0.17911668	3.1168222	21	8 2.9	20.9
309156 2007 AS_{4}	15.9	X	296.41403	254.52400	106.65125	11.78912	0.1101328	0.17430573	3.1739125	21	7 8.6	20.1
309157 2007 AW_{7}	17.1	X	51.84923	332.98958	309.33708	18.75218	0.0260762	0.38065639	1.8855901	21	9 21.7	19.4
309158 2007 AV_{9}	15.5	X	236.21048	127.13191	311.28383	8.11193	0.0632623	0.17369281	3.1813747	21	8 6.5	20.0
309159 2007 AD_{17}	15.4	X	252.59392	0.33731	80.58522	10.84027	0.0311671	0.17712607	3.1401307	21	9 8.8	20.0
309160 2007 AQ_{18}	16.7	X	252.29167	329.15995	100.21923	7.58891	0.1495526	0.24407541	2.5358294	21	8 7.2	20.2
309161 2007 AW_{20}	15.4	X	187.26821	0.63359	137.48721	6.45568	0.1048941	0.17160278	3.2071542	21	8 24.9	20.3
309162 2007 AZ_{27}	16.6	X	199.01099	226.96965	137.57129	7.03517	0.0360409	0.22050077	2.7134967	21	3 23.6	20.5
309163 2007 AQ_{29}	15.5	X	219.28154	344.72567	119.75276	11.37110	0.1583800	0.17192246	3.2031773	21	8 12.7	20.6
309164 2007 BX_{4}	15.4	X	280.26120	84.91073	310.81351	24.65445	0.2362986	0.18030687	3.1030912	21	7 16.7	19.9
309165 2007 BO_{7}	17.5	X	5.61006	277.09986	323.64826	17.60134	0.0420871	0.36355306	1.9442742	21	4 19.4	19.8
309166 2007 BA_{8}	16.3	X	195.92300	57.65478	35.71419	27.54542	0.4200010	0.23665172	2.5885881	21	7 1.1	21.9
309167 2007 BD_{18}	15.5	X	219.73504	178.40302	307.82499	4.73733	0.0840703	0.17775279	3.1327454	21	9 12.6	20.3
309168 2007 BC_{21}	17.6	X	281.39365	227.54062	146.42294	21.58137	0.0391449	0.37321618	1.9105676	21	7 18.5	19.6
309169 2007 BL_{21}	15.7	X	213.01259	18.70272	110.23183	12.18379	0.0534598	0.17661692	3.1461628	21	9 18.0	20.5
309170 2007 BT_{22}	16.4	X	129.91438	62.36524	117.01756	6.18431	0.0713386	0.17027472	3.2238088	21	8 15.2	21.1
309171 2007 BZ_{31}	17.3	X	353.62738	284.28590	283.28139	5.79540	0.0934671	0.28613488	2.2808086	21	2 21.7	19.8
309172 2007 BN_{49}	15.6	X	236.27043	196.75255	267.66838	10.97888	0.0931389	0.17606367	3.1527501	21	8 30.2	20.5
309173 2007 BQ_{60}	15.6	X	59.55043	40.00958	348.04289	9.83219	0.0728810	0.19655804	2.9296035	21	—	—
309174 2007 BS_{64}	16.2	X	247.24774	266.06470	153.94716	5.17679	0.1739993	0.17202815	3.2018651	21	7 13.9	21.2
309175 2007 BK_{68}	17.2	X	159.25092	350.44266	158.67884	5.07397	0.0201635	0.23591568	2.5939694	21	8 9.4	20.7
309176 2007 BF_{75}	16.3	X	73.67211	188.97779	107.80142	3.15686	0.0948981	0.24681064	2.5170594	21	11 16.9	19.7
309177 2007 CM_{3}	17.0	X	27.38481	162.53053	162.61779	3.99663	0.0226912	0.24567994	2.5247764	21	10 13.7	20.1
309178 2007 CV_{5}	17.0	X	312.55988	146.67101	21.08214	15.48518	0.0940935	0.33859428	2.0386827	21	—	—
309179 2007 CZ_{6}	16.4	X	232.66147	237.53856	186.15280	3.21162	0.1959067	0.17286890	3.1914752	21	7 2.4	21.6
309180 2007 CU_{9}	16.6	X	187.54299	34.18067	103.23290	6.90600	0.0779734	0.24145096	2.5541717	21	8 31.3	20.3
309181 2007 CF_{20}	15.1	X	40.75405	272.33766	282.12092	9.87243	0.1330602	0.15435754	3.4417883	21	5 16.9	19.5
309182 2007 CL_{20}	15.4	X	267.43234	134.83749	288.68465	8.85566	0.0571175	0.17473840	3.1686710	21	8 23.6	20.0
309183 2007 CE_{47}	16.2	X	16.27523	156.31500	171.66135	11.12858	0.0625288	0.24217009	2.5491128	21	10 6.2	19.2
309184 2007 CG_{52}	15.2	X	209.43148	90.80565	89.19675	11.02373	0.1384541	0.18281289	3.0746676	21	11 6.6	20.1
309185 2007 CH_{60}	15.5	X	187.63881	205.54545	272.88305	9.28647	0.1235204	0.16917519	3.2377621	21	7 29.1	20.7
309186 2007 CK_{62}	15.7	X	196.42273	215.96071	330.97907	4.80292	0.0688506	0.18205179	3.0832311	21	11 1.5	20.5
309187 2007 DJ_{13}	17.8	X	180.79083	250.15174	155.32850	23.59224	0.1137158	0.35932171	1.9595082	21	4 18.0	20.8
309188 2007 DV_{60}	17.6	X	159.71399	255.90172	216.86295	19.83659	0.0750948	0.36597081	1.9357017	21	6 20.4	20.2
309189 2007 DR_{64}	15.7	X	213.48094	314.87859	144.33769	5.99812	0.1155747	0.16773046	3.2563276	21	8 2.1	20.8
309190 2007 DZ_{79}	15.5	X	180.26669	335.21686	172.03221	27.16434	0.1652827	0.17071570	3.2182546	21	8 25.9	20.9
309191 2007 EZ_{30}	16.2	X	261.32222	3.28148	163.29965	10.60585	0.0322060	0.18994968	2.9971629	21	12 29.9	20.5
309192 2007 EN_{47}	17.5	X	57.44435	284.37073	3.88515	8.06227	0.1654342	0.30347466	2.1930797	21	10 31.7	20.3
309193 2007 ET_{66}	15.7	X	279.01739	105.54011	10.12164	10.73281	0.0102137	0.17957995	3.1114595	21	11 18.1	20.2
309194 2007 EF_{74}	17.1	X	156.42928	306.12363	186.80471	11.71384	0.2001457	0.22988750	2.6391201	21	7 20.2	21.7
309195 2007 ED_{94}	16.3	X	306.04852	187.18805	169.30146	14.20058	0.1868503	0.23169964	2.6253415	21	7 4.2	19.7
309196 2007 EY_{129}	16.3	X	339.60854	19.55255	352.31655	7.11890	0.1755750	0.24211967	2.5494667	21	10 7.5	18.5
309197 2007 ED_{151}	17.5	X	239.28401	208.37704	149.34798	7.31171	0.1265924	0.28777923	2.2721121	21	4 19.5	20.8
309198 2007 ES_{196}	16.0	X	156.06532	36.94497	22.58276	15.18221	0.1483393	0.21265105	2.7798692	21	4 17.9	20.3
309199 2007 EZ_{199}	15.9	X	64.48097	344.11611	339.46429	12.29833	0.1493890	0.24599709	2.5226059	21	12 15.8	19.7
309200 2007 EY_{211}	15.4	X	170.02530	243.29065	306.47855	9.27237	0.1896174	0.17363862	3.1820366	21	10 3.0	20.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309201 2007 EU_{215}	15.3	X	317.10266	314.08526	132.30517	11.03477	0.0457099	0.18234163	3.0799630	21	12 3.8	19.5
309202 2007 FB_{2}	15.4	X	172.48261	113.61708	108.01476	10.90222	0.1800683	0.17799832	3.1298638	21	11 18.6	20.7
309203 2007 GG	17.6	X	118.64692	299.61258	137.09258	5.29592	0.5599501	0.22829195	2.6514025	21	5 11.5	22.7
309204 2007 GF_{25}	15.1	X	243.72776	203.11818	57.46487	13.07654	0.0836016	0.19724338	2.9228134	21	1 5.3	19.7
309205 2007 GV_{27}	15.6	X	207.61142	83.42377	132.21859	13.19970	0.2446489	0.17987899	3.1080102	21	12 5.9	20.9
309206 2007 GE_{32}	17.5	X	101.58775	67.17752	23.72318	19.50840	0.1390782	0.35098850	1.9904019	21	3 15.7	19.5
309207 2007 GP_{71}	17.0	X	199.84967	21.40333	29.81595	21.30273	0.0869120	0.35713689	1.9674917	21	5 7.5	19.5
309208 2007 HZ_{14}	17.0	X	100.06643	100.67497	81.85461	23.44575	0.0622581	0.35989787	1.9574163	21	7 15.7	19.3
309209 2007 HN_{15}	15.2	X	246.36452	3.37918	106.19956	10.71779	0.0497266	0.17374756	3.1807063	21	10 3.8	19.9
309210 2007 HS_{28}	16.1	X	322.29552	163.37398	195.24616	5.72104	0.0277530	0.23316001	2.6143678	21	8 22.6	19.5
309211 2007 HJ_{81}	17.4	X	15.42870	311.39899	37.59625	3.74983	0.1598287	0.30449588	2.1881736	21	11 28.3	19.5
309212 2007 JS_{9}	16.8	X	228.37752	200.91587	90.46394	3.92060	0.2171968	0.26178524	2.4201332	21	1 14.1	20.9
309213 2007 JQ_{22}	17.2	X	47.51354	210.21005	78.94299	7.14245	0.2221160	0.29444103	2.2377101	21	11 1.5	20.0
309214 2007 LL	20.4	X	318.19055	211.50082	247.06657	10.05274	0.1741637	1.01471550	0.9807836	21	—	—
309215 2007 LN_{18}	15.9	X	310.86679	38.65404	272.78876	23.89782	0.3133718	0.27328656	2.3517467	21	4 1.6	19.7
309216 2007 MG_{24}	15.0	X	65.66055	187.34478	101.40746	32.69218	0.1490007	0.17585911	3.1551945	21	11 9.8	20.2
309217 2007 NF_{6}	16.9	X	347.21222	227.77849	57.24068	11.19948	0.2796213	0.27842042	2.3227475	21	5 21.3	18.0
309218 2007 OE_{7}	17.0	X	359.08652	335.67279	318.40958	7.00621	0.1909820	0.28114134	2.3077367	21	7 24.5	18.5
309219 2007 PV_{10}	16.0	X	238.06180	102.61078	263.55241	21.10336	0.1927880	0.26271754	2.4144043	21	4 18.2	20.3
309220 2007 PV_{12}	17.4	X	298.26143	355.78525	332.03739	8.04071	0.2567315	0.27322213	2.3521164	21	4 24.8	20.7
309221 2007 PO_{20}	17.4	X	301.71030	169.30712	153.76901	2.99949	0.2306175	0.27144237	2.3623865	21	5 2.3	20.3
309222 2007 PU_{21}	16.5	X	239.02550	237.51205	157.34027	22.54363	0.2550762	0.26758523	2.3850343	21	5 31.4	20.9
309223 2007 PX_{21}	17.2	X	278.29733	238.35055	123.60217	6.00943	0.2094246	0.27172930	2.3607232	21	5 29.6	20.4
309224 2007 PD_{33}	17.5	X	308.58494	104.88132	200.62566	2.30830	0.2396218	0.27046716	2.3680617	21	4 14.5	20.4
309225 2007 PC_{40}	17.8	X	270.39912	220.78988	156.10524	2.46249	0.2363252	0.27116471	2.3639989	21	6 5.2	21.0
309226 2007 PF_{44}	17.2	X	287.92889	267.45503	90.58611	5.72501	0.2512538	0.27442980	2.3452107	21	5 29.2	20.1
309227 Tsukiko	17.9	X	350.12931	142.01739	158.53388	2.95608	0.2257234	0.27781583	2.3261161	21	7 7.8	19.1
309228 2007 QM_{1}	17.5	X	251.49293	206.73676	170.79329	2.36975	0.2233767	0.26767838	2.3844809	21	5 19.2	21.1
309229 2007 QO_{2}	18.0	X	326.19621	149.16215	187.64143	0.79536	0.0611296	0.27938224	2.3174134	21	7 29.4	20.4
309230 2007 QY_{6}	17.4	X	290.55926	213.59546	125.74183	2.12555	0.1956384	0.27127909	2.3633344	21	5 15.2	20.5
309231 2007 QT_{9}	17.0	X	225.17407	168.09957	200.68069	0.85134	0.1867017	0.26134785	2.4228327	21	4 15.9	21.0
309232 2007 QV_{9}	17.2	X	247.55789	48.04950	345.56262	1.98524	0.2323953	0.26873538	2.3782244	21	6 3.7	21.0
309233 2007 QE_{11}	17.7	X	163.76126	215.19116	355.71756	5.80312	0.0723304	0.29158431	2.2523020	21	11 10.3	20.9
309234 2007 QB_{16}	17.6	X	258.83573	223.01577	130.71971	1.90587	0.1908837	0.26711815	2.3878138	21	4 28.8	21.0
309235 2007 QB_{18}	16.9	X	268.20138	229.60477	357.95802	8.59676	0.1601205	0.24589812	2.5232827	21	—	—
309236 2007 RW	16.9	X	34.34409	321.19907	309.78768	5.69552	0.0904203	0.27910479	2.3189490	21	8 18.2	19.3
309237 2007 RB_{2}	17.1	X	243.12553	355.31981	358.08849	2.41733	0.2169970	0.26073565	2.4266237	21	4 10.4	21.0
309238 2007 RV_{10}	17.5	X	262.49336	234.61893	159.25083	3.99211	0.1874444	0.27266051	2.3553451	21	6 25.4	20.6
309239 2007 RW_{10}	6.6	X	77.48650	96.77692	186.96478	36.03635	0.3022031	0.00589250	30.3577401	21	10 31.0	21.6
309240 2007 RR_{11}	16.9	X	250.32893	237.97098	194.65027	6.77164	0.0714687	0.27826129	2.3236329	21	8 18.9	19.9
309241 2007 RC_{17}	16.3	X	356.91880	354.83415	340.57895	23.95765	0.0760686	0.27991386	2.3144783	21	9 14.2	18.7
309242 2007 RN_{24}	17.0	X	213.00648	156.22200	223.09395	5.65271	0.1444106	0.25988975	2.4318864	21	4 18.8	20.7
309243 2007 RM_{28}	17.6	X	300.80798	285.26795	53.43912	3.11453	0.2247307	0.27296941	2.3535679	21	5 22.9	20.4
309244 2007 RU_{28}	17.4	X	267.16413	64.50111	167.39769	4.44009	0.1616429	0.24556022	2.5255969	21	—	—
309245 2007 RJ_{29}	16.6	X	294.07121	160.55365	262.11881	5.65264	0.0656102	0.28529609	2.2852769	21	10 11.3	19.2
309246 2007 RG_{32}	17.0	X	231.14453	265.97042	88.64145	5.30297	0.2274192	0.26069757	2.4268600	21	4 4.5	21.1
309247 2007 RQ_{32}	16.7	X	296.46783	241.90568	84.78503	3.19502	0.2116810	0.26956276	2.3733555	21	5 3.2	19.7
309248 2007 RL_{33}	17.0	X	269.66096	305.10674	57.15741	6.56365	0.2394145	0.26815539	2.3816523	21	5 15.2	20.6
309249 2007 RP_{38}	17.4	X	303.48528	203.71248	147.98345	3.90393	0.2355991	0.27398741	2.3477345	21	6 14.2	20.0
309250 2007 RZ_{38}	16.2	X	90.48203	319.76864	355.64799	11.19964	0.2496402	0.22715226	2.6602636	21	—	—
309251 2007 RW_{39}	17.1	X	52.60197	219.34522	43.88362	7.82959	0.0850041	0.27970323	2.3156401	21	9 9.9	19.8
309252 2007 RT_{41}	17.4	X	283.11185	46.93394	5.95111	7.12909	0.1662320	0.27964311	2.3159720	21	8 27.9	19.8
309253 2007 RC_{42}	17.3	X	117.48758	295.08898	258.79817	4.38380	0.0587276	0.27660988	2.3328721	21	8 20.7	20.4
309254 2007 RL_{44}	17.5	X	233.48732	92.37523	322.08581	5.65421	0.1197776	0.26918623	2.3755681	21	6 28.5	20.8
309255 2007 RD_{52}	16.5	X	328.59132	326.24201	324.03251	6.94348	0.1187919	0.26751841	2.3854314	21	5 12.8	19.2
309256 2007 RH_{53}	16.8	X	131.86420	154.00554	196.42856	14.49685	0.1337303	0.23824634	2.5770246	21	—	—
309257 2007 RC_{58}	17.2	X	239.26231	227.94409	145.66447	3.24830	0.2027822	0.26261176	2.4150527	21	5 5.1	21.1
309258 2007 RX_{68}	16.7	X	274.58493	330.37895	7.90143	6.87074	0.1307072	0.26642946	2.3919268	21	4 30.4	19.9
309259 2007 RA_{69}	17.2	X	234.41268	275.33844	87.91200	2.22314	0.2225180	0.26200864	2.4187573	21	4 16.3	21.1
309260 2007 RE_{83}	17.6	X	231.54426	49.28524	6.73039	3.00689	0.1652806	0.26996494	2.3709977	21	6 23.7	21.2
309261 2007 RK_{93}	17.3	X	276.82888	214.14029	103.41208	3.41162	0.2174115	0.26334352	2.4105767	21	3 29.8	20.8
309262 2007 RZ_{93}	17.2	X	210.03938	261.36700	143.15559	2.72305	0.2057305	0.26112762	2.4241948	21	5 17.9	21.1
309263 2007 RZ_{94}	17.9	X	356.68938	230.11001	55.13312	2.92731	0.1812512	0.27245055	2.3565550	21	6 30.6	19.5
309264 2007 RA_{95}	17.0	X	296.50081	298.17871	40.19409	3.56012	0.1915996	0.26930079	2.3748944	21	5 21.7	19.8
309265 2007 RD_{98}	17.2	X	326.05096	227.46075	88.56257	3.19403	0.2337422	0.27249567	2.3562949	21	5 31.9	19.2
309266 2007 RT_{102}	17.5	X	264.80125	184.79679	191.03223	1.06206	0.1945602	0.26928655	2.3749781	21	6 2.6	20.9
309267 2007 RV_{102}	18.1	X	228.34073	302.80634	129.81270	1.00230	0.1922543	0.27219796	2.3580127	21	7 10.3	21.7
309268 2007 RX_{102}	17.6	X	247.14557	226.07801	146.37332	1.67113	0.1988627	0.26517714	2.3994516	21	5 10.6	21.2
309269 2007 RM_{109}	17.5	X	258.29719	27.32838	340.82608	2.15768	0.1947351	0.26660083	2.3909017	21	5 15.3	21.2
309270 2007 RW_{113}	16.8	X	30.69597	300.97742	334.17436	6.45142	0.1047300	0.27681236	2.3317343	21	8 21.6	19.2
309271 2007 RN_{116}	17.6	X	292.25561	36.66035	261.17678	2.49150	0.1274287	0.26172354	2.4205136	21	3 30.3	20.7
309272 2007 RW_{119}	17.6	X	347.55310	181.90346	122.04636	2.33742	0.1932589	0.27582337	2.3373048	21	7 9.2	19.0
309273 2007 RD_{128}	18.0	X	161.21448	278.55128	166.88386	3.45949	0.3801828	0.25425163	2.4677068	21	6 3.4	22.8
309274 2007 RB_{133}	17.2	X	314.40268	124.51435	201.35127	5.73294	0.2371012	0.27152004	2.3619360	21	5 24.8	19.7
309275 2007 RF_{134}	16.5	X	307.66367	244.11756	53.37326	6.26334	0.2314410	0.26734294	2.3864751	21	4 6.2	19.4
309276 2007 RE_{136}	17.2	X	265.24947	242.68864	162.21617	6.52824	0.0681990	0.27603929	2.3360857	21	8 1.5	20.1
309277 2007 RX_{138}	17.6	X	209.85932	84.65655	312.88600	1.21856	0.2172105	0.26142622	2.4223485	21	5 7.4	21.5
309278 2007 RZ_{139}	17.6	X	273.60629	83.35874	252.83313	0.35112	0.1994048	0.26635906	2.3923483	21	4 19.5	20.9
309279 2007 RQ_{141}	17.0	X	95.12684	161.41174	187.53400	4.90564	0.1890896	0.23181516	2.6244693	21	—	—
309280 2007 RC_{144}	17.3	X	334.15627	133.19141	189.13521	6.12522	0.1430620	0.27581639	2.3373442	21	7 12.2	19.5

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309281 2007 RL_{149}	16.5	X	25.66232	15.50618	277.45713	6.16773	0.1193952	0.27762964	2.3271560	21	9 7.1	19.0
309282 2007 RM_{157}	17.3	X	1.72998	280.88084	108.29756	4.31174	0.1674503	0.29092666	2.2556949	21	—	—
309283 2007 RE_{158}	17.2	X	250.61265	234.18155	127.22742	3.05322	0.2301409	0.26507935	2.4000417	21	4 27.8	20.9
309284 2007 RG_{158}	17.0	X	275.45059	296.35775	47.41144	7.47205	0.1410138	0.26768481	2.3844428	21	5 9.4	20.1
309285 2007 RO_{195}	17.7	X	240.07147	177.26110	191.92469	5.68747	0.1238598	0.26295867	2.4129281	21	5 5.9	21.3
309286 2007 RV_{202}	17.7	X	150.88434	152.55240	196.63123	5.51828	0.1323706	0.24128219	2.5553626	21	1 10.8	21.4
309287 2007 RF_{206}	17.3	X	114.54308	54.46189	121.85514	2.02723	0.1253807	0.27083871	2.3658955	21	8 2.0	20.6
309288 2007 RX_{208}	17.7	X	195.30337	13.45374	47.20939	3.56272	0.1655513	0.26191827	2.4193137	21	5 25.0	21.6
309289 2007 RP_{209}	17.3	X	194.20782	79.01474	53.43136	4.54079	0.0713201	0.27676540	2.3319980	21	9 4.1	20.4
309290 2007 RB_{219}	16.9	X	156.56340	311.57996	7.85782	11.78412	0.1803998	0.23928536	2.5695592	21	—	—
309291 2007 RP_{221}	17.7	X	184.66582	207.47309	203.63736	3.84099	0.1400986	0.25675638	2.4516316	21	5 3.2	21.5
309292 2007 RM_{222}	17.4	X	305.11227	313.24378	1.98351	2.48017	0.2059004	0.26708565	2.3880075	21	4 28.4	20.1
309293 2007 RF_{226}	17.0	X	301.60952	137.50863	159.16320	6.09009	0.1446293	0.26680760	2.3896663	21	4 10.1	19.9
309294 2007 RB_{227}	17.0	X	350.66758	125.85913	152.48366	4.87799	0.1959178	0.27186804	2.3599200	21	6 2.4	18.8
309295 Hourenzhi	17.0	X	243.90959	285.69173	98.68655	2.27400	0.1920251	0.26810383	2.3819577	21	5 23.3	20.7
309296 2007 RP_{232}	17.1	X	329.29086	135.78346	155.35921	2.44300	0.2032426	0.27035747	2.3687022	21	5 5.0	19.4
309297 2007 RU_{235}	17.4	X	280.28204	244.59340	84.69733	5.21523	0.2190849	0.26588892	2.3951675	21	4 17.8	20.8
309298 2007 RJ_{239}	17.0	X	246.00205	301.55077	96.60836	5.65322	0.2289837	0.26823615	2.3811742	21	6 9.1	20.6
309299 2007 RJ_{240}	17.4	X	260.45345	32.94476	318.86128	0.46342	0.1937027	0.26364846	2.4087176	21	4 26.8	20.8
309300 2007 RF_{242}	16.4	X	22.23880	320.60442	15.33021	7.25376	0.2306539	0.28854960	2.2680662	21	11 27.5	18.9
309301 2007 RO_{242}	17.6	X	329.79486	281.39800	46.12023	3.12436	0.2123780	0.27641402	2.3339739	21	7 3.1	19.4
309302 2007 RL_{243}	16.8	X	103.60187	211.35766	105.19229	4.07051	0.2248144	0.30004008	2.2097842	21	—	—
309303 2007 RV_{246}	16.0	X	85.28921	3.15453	345.93416	17.25525	0.2079923	0.22918091	2.6445417	21	—	—
309304 2007 RU_{254}	17.1	X	260.45494	154.97373	278.90820	3.46099	0.1255909	0.27986965	2.3147221	21	8 26.9	19.9
309305 2007 RN_{261}	18.8	X	149.57725	334.45733	27.82815	9.04566	0.2887632	0.24346515	2.5400651	21	2 14.8	23.1
309306 2007 RE_{269}	17.7	X	251.15545	305.28975	113.22603	2.07755	0.1678515	0.26821922	2.3812745	21	7 18.8	20.9
309307 2007 RG_{269}	17.6	X	50.08051	81.68805	204.46144	5.03545	0.1253801	0.28325774	2.2962272	21	10 11.8	20.3
309308 2007 RH_{284}	17.1	X	206.06826	185.50648	146.19823	0.38543	0.0872430	0.24466097	2.5317817	21	2 13.2	20.9
309309 2007 RQ_{284}	17.3	X	221.16626	313.90510	83.60170	6.28426	0.1477382	0.26392126	2.4070575	21	5 21.6	21.0
309310 2007 RJ_{286}	17.4	X	297.93165	344.01217	344.70305	6.49124	0.1300207	0.27167443	2.3610411	21	5 18.3	20.3
309311 2007 RZ_{286}	17.2	X	249.14571	340.54780	66.58790	3.74523	0.1675028	0.27062533	2.3671390	21	6 30.8	20.5
309312 2007 RA_{287}	17.2	X	239.12337	282.69420	72.13475	5.08585	0.1623275	0.26106414	2.4245877	21	4 14.6	21.0
309313 2007 RG_{290}	17.2	X	156.93599	292.86010	202.89211	10.99306	0.1884276	0.26654341	2.3912451	21	7 23.9	21.3
309314 2007 RB_{294}	16.8	X	187.48206	304.52792	201.24821	5.95497	0.0632977	0.27777781	2.3263284	21	9 10.6	20.0
309315 2007 RK_{310}	16.8	X	344.54875	252.27785	34.45296	6.56395	0.1978323	0.27385746	2.3484771	21	5 29.6	18.6
309316 2007 RD_{311}	17.2	X	240.15149	306.63627	95.32112	7.40067	0.1900175	0.26972242	2.3724188	21	6 11.9	20.8
309317 2007 RF_{311}	16.8	X	316.97366	264.73220	67.48338	13.61430	0.2216489	0.27531150	2.3402009	21	6 9.6	18.9
309318 2007 RR_{315}	16.9	X	320.10865	231.90024	114.33903	4.84549	0.1453058	0.27514525	2.3411435	21	7 23.3	19.1
309319 2007 SO	15.5	X	353.77265	128.48025	305.00974	7.78261	0.4448792	0.21865038	2.7287844	21	—	—
309320 2007 SZ	16.8	X	224.76029	112.91395	275.74105	6.17301	0.2459186	0.26194247	2.4191647	21	5 6.4	20.9
309321 2007 SC_{3}	16.9	X	228.97375	235.74875	183.42344	11.54868	0.1693322	0.26864746	2.3787432	21	6 24.6	20.8
309322 2007 SQ_{4}	17.6	X	336.20021	199.52122	108.85080	3.54327	0.2176499	0.27399840	2.3476717	21	6 14.4	19.4
309323 2007 SZ_{4}	16.9	X	238.16666	255.55508	135.65721	3.07677	0.1876812	0.26534565	2.3984356	21	5 27.4	20.5
309324 2007 SA_{5}	17.4	X	253.74387	228.41100	149.41898	4.44991	0.2092710	0.26642697	2.3919417	21	5 23.8	21.1
309325 2007 SF_{6}	16.6	X	133.38152	288.88266	129.66654	3.84470	0.0556822	0.24763646	2.5114603	21	3 10.9	19.8
309326 2007 SV_{6}	17.3	X	294.36317	284.99231	43.49406	5.17619	0.2029745	0.27011321	2.3701300	21	5 3.2	20.3
309327 2007 SL_{8}	17.3	X	226.28853	285.03776	70.15112	2.31401	0.2008923	0.25748245	2.4470206	21	3 31.7	21.3
309328 2007 SB_{9}	17.6	X	162.49681	4.48223	84.11902	2.66505	0.1421531	0.25877609	2.4388586	21	5 29.6	21.2
309329 2007 SS_{10}	16.2	X	161.53827	20.32581	349.11843	8.62060	0.2778471	0.24348376	2.5399357	21	2 28.9	20.4
309330 2007 ST_{11}	17.3	X	295.37279	111.75062	240.24412	11.28852	0.2400866	0.27213401	2.3583821	21	6 1.1	20.1
309331 2007 SZ_{16}	18.0	X	247.12557	273.11194	177.10934	1.45085	0.1058322	0.27984322	2.3148678	21	9 5.5	20.7
309332 2007 SQ_{18}	17.2	X	118.61581	209.10285	201.57568	14.83485	0.1532907	0.24534712	2.5270591	21	2 18.9	20.8
309333 2007 SH_{23}	16.7	X	45.28010	356.31629	271.43887	5.95851	0.0927352	0.27251842	2.3561638	21	8 28.9	19.5
309334 2007 TJ_{2}	17.5	X	152.89505	64.46302	56.15709	3.26350	0.1421386	0.26039105	2.4287641	21	7 1.1	21.2
309335 2007 TJ_{5}	17.8	X	175.63794	52.14722	359.28477	1.53489	0.1626723	0.25588545	2.4571914	21	4 24.8	21.7
309336 2007 TO_{5}	17.4	X	289.90796	151.88373	190.79205	2.31210	0.1825474	0.26904684	2.3763885	21	5 21.0	20.3
309337 2007 TR_{5}	17.6	X	270.26782	122.04925	224.59386	1.49198	0.2262131	0.26582290	2.3955641	21	4 26.6	20.9
309338 2007 TT_{5}	17.6	X	284.13710	324.47941	3.58351	3.65335	0.2584868	0.26595294	2.3947831	21	4 12.4	21.1
309339 2007 TA_{6}	17.4	X	276.51690	70.77491	297.29132	0.71862	0.1925597	0.26915086	2.3757762	21	6 6.1	20.3
309340 2007 TR_{10}	17.8	X	281.14688	151.25863	200.74279	0.99709	0.1993272	0.26768948	2.3844150	21	5 19.8	20.9
309341 2007 TS_{10}	17.1	X	110.16352	204.27236	198.94346	18.03613	0.2011115	0.24017145	2.5632353	21	2 5.9	20.8
309342 2007 TM_{21}	17.4	X	244.24365	107.03826	329.49199	1.46454	0.1760894	0.27088252	2.3656404	21	8 3.6	20.8
309343 2007 TO_{25}	17.5	X	218.25811	175.88305	202.17186	7.99261	0.1579504	0.25832691	2.4416849	21	4 23.0	21.3
309344 2007 TZ_{26}	17.1	X	241.04532	326.12954	19.55866	6.16454	0.1274549	0.25785920	2.4446365	21	4 5.6	20.8
309345 2007 TP_{31}	16.8	X	96.65407	300.38624	228.87216	7.63701	0.0393880	0.26026873	2.4295251	21	6 16.8	19.8
309346 2007 TR_{44}	17.7	X	205.12572	74.32245	37.41312	2.16319	0.1355279	0.27080001	2.3661209	21	8 13.0	21.3
309347 2007 TU_{44}	17.4	X	265.14758	164.85974	180.57779	5.95106	0.1244081	0.26262501	2.4149714	21	5 3.2	20.8
309348 2007 TH_{49}	17.9	X	189.48662	89.68362	325.57992	1.86158	0.1734244	0.25734231	2.4479089	21	5 12.5	21.9
309349 2007 TP_{51}	18.2	X	255.03980	317.65562	356.97644	2.25364	0.1992309	0.25572072	2.4582466	21	3 6.3	22.2
309350 2007 TA_{52}	16.5	X	108.23812	166.79212	21.40731	6.64972	0.0906717	0.26736900	2.3863200	21	8 9.3	19.7
309351 2007 TH_{53}	17.9	X	133.90445	347.05621	69.53294	0.80844	0.1932643	0.24603438	2.5223510	21	3 25.7	21.7
309352 2007 TN_{53}	17.0	X	98.73367	140.99834	38.09950	4.33444	0.0244200	0.26448837	2.4036155	21	7 1.9	20.0
309353 2007 TH_{56}	17.4	X	221.18078	150.49889	218.72400	5.97375	0.1161120	0.25591284	2.4570161	21	4 15.2	21.2
309354 2007 TD_{60}	17.2	X	116.36815	17.60298	10.76308	3.91205	0.2483751	0.23818196	2.5774889	21	2 7.9	20.6
309355 2007 TZ_{66}	17.3	X	205.48553	236.15543	200.06022	4.45728	0.1071085	0.26556182	2.3971339	21	6 26.7	20.8
309356 2007 TO_{67}	16.5	X	221.05287	31.86856	40.64437	9.64282	0.2498240	0.26503446	2.4003127	21	6 29.5	20.6
309357 2007 TJ_{69}	18.1	X	243.71273	136.33365	202.14260	0.50336	0.1928276	0.25597816	2.4565980	21	3 25.6	22.1
309358 2007 TZ_{69}	16.9	X	345.78099	237.05971	72.01612	4.74630	0.1572568	0.27279062	2.3545961	21	7 17.0	18.7
309359 2007 TG_{72}	16.3	X	102.29032	15.07225	52.01398	15.55464	0.1899080	0.24410156	2.5356483	21	3 10.5	19.9
309360 2007 TL_{74}	16.4	X	72.68496	321.03826	45.48310	6.70931	0.0998918	0.22739558	2.6583656	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309361 2007 TR_{75}	17.8	X	190.77627	36.12327	350.61640	0.77787	0.1990179	0.25535211	2.4606117	21	4 8.6	21.8
309362 2007 TL_{89}	17.5	X	173.87077	235.31418	111.91676	3.99127	0.0896183	0.24192773	2.5508149	21	1 30.3	21.1
309363 2007 TQ_{89}	17.5	X	143.40760	10.78012	96.04412	4.11543	0.1420395	0.25536988	2.4604975	21	6 3.1	21.2
309364 2007 TC_{95}	16.2	X	121.53657	293.86037	43.82317	12.63592	0.1836193	0.23233616	2.6205444	21	—	—
309365 2007 TO_{97}	17.2	X	228.10281	347.46804	51.71510	3.58322	0.1750435	0.26356255	2.4092410	21	5 27.9	20.8
309366 2007 TF_{98}	17.3	X	80.29076	69.67597	110.01773	2.70205	0.1448124	0.26198451	2.4189059	21	6 25.9	20.0
309367 2007 TX_{102}	17.2	X	357.07145	79.06493	164.49733	2.74474	0.1497664	0.25669887	2.4519978	21	4 26.5	19.3
309368 2007 TG_{104}	17.5	X	138.72232	234.00960	184.00854	2.34309	0.0859121	0.24630497	2.5205033	21	3 19.6	20.8
309369 2007 TK_{104}	17.5	X	83.15864	95.60436	55.76126	5.54040	0.0342493	0.25349041	2.4726446	21	5 3.3	20.6
309370 2007 TN_{108}	17.0	X	212.14760	128.41180	257.02473	4.63249	0.1412208	0.25958802	2.4337704	21	4 25.2	20.9
309371 2007 TZ_{112}	16.7	X	152.06447	162.09304	289.13796	9.33667	0.1938831	0.25572663	2.4582087	21	5 24.6	20.8
309372 2007 TK_{113}	16.6	X	205.00770	285.30598	140.04729	6.27491	0.1630740	0.26279440	2.4139335	21	6 10.5	20.5
309373 2007 TW_{113}	16.8	X	318.64530	208.90493	117.34263	6.21348	0.2080295	0.27202082	2.3590363	21	6 7.8	19.0
309374 2007 TL_{114}	16.9	X	89.95441	95.33747	9.31807	8.16557	0.2253714	0.24389493	2.5370803	21	4 8.3	19.9
309375 2007 TO_{114}	17.5	X	265.33000	239.09248	3.18423	4.84610	0.0368296	0.31143793	2.1555348	21	—	—
309376 2007 TK_{126}	17.5	X	304.09556	245.48172	53.59390	2.95028	0.2224823	0.26228278	2.4170717	21	4 4.3	20.7
309377 2007 TT_{126}	17.4	X	107.56797	29.17766	47.34057	5.94731	0.0415731	0.24438267	2.5337035	21	3 1.0	20.7
309378 2007 TG_{131}	16.8	X	120.06655	169.28534	210.70306	10.98016	0.1196410	0.23726400	2.5841327	21	1 10.7	20.4
309379 2007 TK_{131}	17.0	X	31.60685	10.33148	201.97967	1.70682	0.1391585	0.25699233	2.4501308	21	5 19.7	19.1
309380 2007 TG_{132}	17.1	X	225.49120	20.40558	46.34734	3.52239	0.1664959	0.26526182	2.3989409	21	7 1.9	20.8
309381 2007 TJ_{134}	16.9	X	52.89506	339.53139	208.63300	5.09897	0.0525949	0.25530760	2.4608976	21	5 12.7	19.8
309382 2007 TE_{138}	17.0	X	182.70892	122.75876	191.56359	2.10276	0.1478179	0.23798779	2.5788907	21	1 3.5	21.0
309383 2007 TD_{147}	16.7	X	299.98147	294.67752	26.26779	7.15400	0.1360900	0.26813796	2.3817555	21	5 10.1	19.5
309384 2007 TF_{148}	16.9	X	299.56885	320.15515	53.79964	6.01949	0.2468324	0.27379002	2.3488628	21	7 10.1	19.4
309385 2007 TU_{148}	17.5	X	259.45875	339.49748	25.56010	2.41733	0.2444284	0.26546440	2.3977203	21	5 7.7	21.1
309386 2007 TC_{150}	17.4	X	266.47362	182.06045	258.23362	3.77341	0.1949685	0.27844738	2.3225975	21	9 1.7	20.4
309387 2007 TH_{150}	17.2	X	271.53067	14.74668	321.43309	5.73259	0.1497202	0.26464146	2.4026885	21	4 20.6	20.7
309388 2007 TK_{152}	17.7	X	259.73830	162.59927	189.92724	2.49642	0.0993467	0.26292615	2.4131271	21	5 8.5	20.8
309389 2007 TE_{170}	17.3	X	138.11716	27.22716	0.79459	4.24021	0.1300537	0.31330333	2.1469703	21	2 3.3	19.8
309390 2007 TL_{170}	18.6	X	154.18176	143.61468	226.60277	5.89920	0.3097296	0.24377368	2.5379214	21	2 23.1	23.1
309391 2007 TO_{185}	17.6	X	319.24397	189.70391	113.34185	2.94832	0.2187189	0.26889159	2.3773032	21	5 2.6	20.1
309392 2007 TB_{186}	17.5	X	246.45293	256.35580	144.79021	4.15165	0.1421856	0.26755736	2.3851999	21	6 22.5	20.9
309393 2007 TG_{186}	17.0	X	209.17429	259.19842	151.77844	5.79548	0.1976310	0.26129625	2.4231516	21	5 26.3	21.0
309394 2007 TB_{194}	17.0	X	353.84373	321.72749	337.89171	4.54455	0.1502337	0.27364336	2.3497019	21	7 20.5	18.8
309395 2007 TK_{201}	18.0	X	289.11767	59.51156	240.16829	0.59219	0.1691933	0.25863379	2.4397531	21	3 24.4	21.4
309396 2007 TR_{202}	17.0	X	354.90799	234.63458	51.25136	9.33959	0.1561988	0.26724416	2.3870631	21	6 27.9	19.1
309397 2007 TA_{218}	16.3	X	309.90595	215.95063	29.86786	7.76417	0.0738715	0.24599238	2.5226380	21	2 27.3	19.6
309398 2007 TK_{218}	16.3	X	70.56917	54.77998	38.33417	17.90134	0.1543618	0.23699694	2.5860736	21	2 21.2	19.6
309399 2007 TZ_{221}	17.7	X	293.46228	153.25289	154.47416	1.46891	0.1923364	0.26292065	2.4131607	21	4 6.4	20.7
309400 2007 TR_{230}	16.0	X	69.60805	70.07874	207.89381	13.39104	0.2284703	0.20959892	2.8067906	21	10 31.1	20.2
309401 2007 TW_{237}	17.5	X	315.99817	133.17394	232.31663	2.81950	0.0593314	0.27873529	2.3209979	21	8 23.9	20.1
309402 2007 TG_{240}	17.0	X	227.91220	359.16885	52.42065	5.46884	0.1686460	0.26401242	2.4065034	21	6 13.5	20.8
309403 2007 TF_{253}	17.1	X	54.16149	230.40041	41.33120	2.76827	0.2057515	0.28075007	2.3098802	21	10 10.8	19.9
309404 2007 TG_{258}	17.5	X	191.00930	89.27285	1.48790	6.45935	0.1037091	0.26560003	2.3969040	21	7 1.4	21.1
309405 2007 TG_{262}	17.1	X	33.92052	231.50739	220.25383	1.41561	0.0699562	0.23135742	2.6279298	21	—	—
309406 2007 TG_{275}	17.4	X	163.90663	273.54294	157.10052	4.54544	0.1629953	0.25611450	2.4557262	21	5 10.1	21.2
309407 2007 TC_{280}	17.6	X	252.10198	16.61178	3.09429	2.23049	0.2153602	0.26949777	2.3737370	21	5 22.2	21.2
309408 2007 TN_{280}	16.0	X	86.33978	285.89331	351.01099	14.11730	0.1577536	0.21704182	2.7422504	21	11 2.6	20.3
309409 2007 TG_{289}	16.8	X	243.04256	276.86277	68.49577	9.78900	0.2361231	0.26009178	2.4306269	21	4 4.5	21.0
309410 2007 TH_{292}	15.9	X	107.19174	244.46537	209.77741	14.69774	0.0907437	0.24499192	2.5295011	21	3 26.1	19.4
309411 2007 TB_{303}	17.6	X	166.02426	229.57492	240.94822	0.69541	0.1274332	0.26100094	2.4249791	21	6 30.5	21.2
309412 2007 TV_{317}	16.6	X	144.88526	183.64649	214.23594	5.10732	0.0282275	0.24333155	2.5409948	21	2 19.9	20.0
309413 2007 TN_{322}	16.3	X	292.98200	77.03358	163.85723	5.54094	0.2043179	0.24721030	2.5143458	21	1 10.5	20.1
309414 2007 TQ_{332}	17.3	X	182.54374	156.04686	275.04544	2.07376	0.0616753	0.25774626	2.4453506	21	5 25.1	20.8
309415 2007 TE_{338}	16.8	X	324.32821	234.48362	91.17239	7.07166	0.1372507	0.26923993	2.3752523	21	6 29.3	19.0
309416 2007 TX_{356}	17.5	X	248.58014	187.90052	270.22909	1.84572	0.1612280	0.27557859	2.3386886	21	9 8.9	20.6
309417 2007 TD_{359}	16.7	X	40.66844	217.64618	28.48599	6.83148	0.0785480	0.26952417	2.3735820	21	7 22.9	19.4
309418 2007 TC_{364}	16.6	X	15.15139	218.57403	258.29966	3.99289	0.1562600	0.22113918	2.7082718	21	—	—
309419 2007 TM_{365}	16.9	X	70.63480	232.55180	24.21355	6.92722	0.0997451	0.28073378	2.3099696	21	9 26.5	19.6
309420 2007 TD_{366}	15.7	X	87.40357	135.01404	260.75568	21.23803	0.0911355	0.23525056	2.5988563	21	—	—
309421 2007 TJ_{367}	17.0	X	207.46288	330.49629	92.68544	6.26341	0.1405394	0.26204230	2.4185502	21	6 10.4	20.7
309422 2007 TQ_{382}	17.2	X	162.59565	88.87547	13.27329	1.84759	0.1537957	0.25790009	2.4443781	21	6 16.8	20.9
309423 2007 TS_{382}	16.7	X	297.62904	14.12028	222.96030	14.62980	0.0750761	0.24305524	2.5429201	21	1 23.3	20.6
309424 2007 TW_{385}	16.8	X	355.98856	210.40043	106.95326	7.83327	0.1315150	0.27577610	2.3375718	21	8 26.1	18.9
309425 2007 TH_{394}	17.4	X	71.35640	4.74462	189.48211	2.17844	0.1448827	0.26465900	2.4025823	21	7 3.4	20.2
309426 2007 TX_{412}	17.3	X	232.76416	359.41733	66.75903	8.50973	0.1690974	0.26968809	2.3726201	21	7 8.8	20.8
309427 2007 TL_{419}	16.8	X	183.21960	287.25985	62.28583	12.62305	0.0211163	0.24308891	2.5426853	21	2 12.1	20.5
309428 2007 TQ_{422}	16.9	X	153.95690	302.70658	55.06050	5.08126	0.2189866	0.23915998	2.5704572	21	2 5.6	20.9
309429 2007 TJ_{426}	16.5	X	194.85128	165.25518	255.78680	14.04209	0.0971626	0.25891433	2.4379904	21	5 25.9	20.2
309430 2007 TA_{446}	17.9	X	305.92449	165.71780	156.33066	0.75675	0.1324960	0.26721806	2.3872185	21	5 23.2	20.6
309431 2007 TP_{446}	17.1	X	175.05515	80.99002	260.21791	6.54086	0.1925059	0.24187860	2.5511604	21	1 29.4	21.2
309432 2007 TR_{448}	16.9	X	78.99048	72.88569	202.69608	5.22895	0.0788910	0.28672489	2.2776787	21	10 30.0	19.8
309433 2007 UU_{5}	17.5	X	331.30290	174.98791	120.20087	2.20958	0.1860866	0.26798549	2.3826588	21	5 18.4	19.5
309434 2007 UP_{14}	17.5	X	270.08398	187.13291	154.60310	1.59840	0.1994202	0.26494095	2.4008774	21	4 23.8	21.0
309435 2007 UC_{20}	17.6	X	172.13184	105.72900	23.83773	2.55961	0.1634851	0.26751036	2.3854793	21	8 2.5	21.4
309436 2007 UV_{20}	17.6	X	299.10521	143.75362	154.34079	2.66030	0.2127898	0.26258531	2.4152148	21	3 28.8	20.6
309437 2007 UR_{24}	17.3	X	134.90112	228.00958	177.65110	4.45569	0.2118518	0.24358167	2.5392550	21	3 14.7	21.1
309438 2007 UK_{25}	16.8	X	181.60513	82.12519	47.34257	7.20498	0.0664156	0.26732312	2.3865930	21	8 16.3	20.2
309439 2007 UA_{31}	16.9	X	189.87072	337.09062	76.02216	6.59678	0.0754992	0.25800197	2.4437346	21	5 11.2	20.3
309440 2007 UR_{38}	16.7	X	154.38327	172.92759	259.37537	5.77581	0.1461395	0.25538548	2.4603973	21	4 28.7	20.4

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309441 2007 US_{48}	17.2	X	121.92913	212.83540	187.90359	2.94069	0.1462891	0.23821401	2.5772577	21	2 13.7	20.8
309442 2007 UT_{52}	16.2	X	150.30326	260.04373	125.25211	4.20711	0.1297884	0.24085485	2.5583843	21	2 25.9	19.8
309443 2007 UT_{54}	17.3	X	117.89948	263.75856	227.46829	4.87937	0.1396105	0.25368665	2.4713693	21	6 6.9	20.7
309444 2007 UK_{57}	17.8	X	139.07739	249.58720	217.12241	0.56718	0.1321280	0.25427389	2.4675628	21	5 28.1	21.2
309445 2007 UF_{60}	17.0	X	239.04447	288.98380	43.35909	7.57639	0.1300806	0.25166951	2.4845571	21	3 21.0	20.8
309446 2007 UK_{71}	17.4	X	79.81022	327.32510	222.96878	1.52348	0.1212110	0.25958217	2.4338071	21	7 6.4	20.2
309447 2007 UU_{75}	17.6	X	140.94659	149.94099	335.19252	1.11047	0.1407008	0.25760002	2.4462760	21	6 24.4	21.3
309448 2007 UA_{90}	17.1	X	354.54352	41.62974	244.26124	1.77874	0.1177460	0.26659204	2.3909542	21	6 28.4	19.2
309449 2007 UC_{97}	17.0	X	165.28699	333.44544	33.84680	2.19703	0.1771980	0.24323311	2.5416803	21	2 22.6	21.0
309450 2007 UC_{99}	17.1	X	73.42559	48.31223	57.68679	4.17784	0.2117857	0.23810386	2.5780525	21	3 16.7	19.8
309451 2007 UX_{99}	17.1	X	48.98920	180.76968	253.99495	1.10306	0.1211210	0.22916703	2.6446485	21	—	—
309452 2007 UM_{104}	17.2	X	227.56985	295.92449	129.47707	1.89186	0.1685896	0.26284080	2.4136495	21	7 1.8	20.9
309453 2007 UX_{104}	16.5	X	220.17662	201.53574	141.18170	2.81486	0.1291405	0.24731549	2.5136328	21	3 13.4	20.4
309454 2007 UM_{115}	17.1	X	221.99031	7.18380	301.36337	2.02266	0.1809990	0.24414038	2.5353795	21	1 31.4	21.3
309455 2007 UE_{132}	16.7	X	181.31825	117.79359	101.76452	7.09927	0.0200176	0.28856891	2.2679651	21	12 19.7	19.5
309456 2007 UC_{133}	17.2	X	279.93174	32.68382	287.24431	3.63857	0.1170659	0.25679729	2.4513713	21	4 14.9	20.7
309457 2007 UD_{137}	17.1	X	140.12849	193.18816	258.99968	4.81053	0.0765866	0.25271288	2.4777138	21	5 2.9	20.6
309458 2007 UF_{137}	17.4	X	223.49087	268.39333	115.25710	6.88780	0.1574666	0.25983914	2.4322021	21	5 7.4	21.2
309459 2007 UG_{142}	16.5	X	274.98499	357.51220	257.33798	8.71019	0.0564167	0.23941661	2.5686200	21	1 24.1	20.2
309460 2007 VC	17.6	X	209.97311	213.07661	171.65175	1.64499	0.1564491	0.25726442	2.4484030	21	4 23.8	21.5
309461 2007 VA_{7}	16.8	X	118.13927	19.90925	29.91091	12.93003	0.1685601	0.24030752	2.5622676	21	3 2.9	20.5
309462 2007 VZ_{7}	15.8	X	166.41186	273.32551	93.13588	27.87397	0.2508612	0.23751433	2.5823167	21	3 10.0	20.8
309463 2007 VK_{10}	16.8	X	194.92815	55.01343	278.41108	3.07472	0.1144813	0.24275803	2.5449953	21	2 4.3	20.8
309464 2007 VY_{18}	17.5	X	354.02001	181.62433	77.12491	2.64675	0.1552560	0.26155776	2.4215363	21	5 12.5	19.6
309465 2007 VC_{28}	17.0	X	149.03816	12.19555	88.55193	3.40399	0.2115275	0.25345267	2.4728900	21	6 5.6	20.8
309466 2007 VO_{42}	16.2	X	287.13885	150.35385	82.87069	16.28133	0.1235099	0.22641861	2.6660071	21	1 8.3	20.1
309467 2007 VA_{53}	17.1	X	212.29356	186.68425	155.59936	2.97283	0.0722039	0.24629064	2.5206010	21	3 5.1	20.8
309468 2007 VB_{65}	15.9	X	46.56831	291.84806	250.51229	10.38553	0.2235695	0.24372411	2.5382655	21	5 15.4	18.3
309469 2007 VJ_{65}	16.7	X	185.52188	71.26130	262.91642	2.77178	0.1973378	0.23922268	2.5700080	21	1 31.8	20.9
309470 2007 VY_{73}	17.3	X	321.16762	248.38293	37.00514	6.84741	0.0723894	0.26180251	2.4200268	21	5 3.2	20.1
309471 2007 VL_{76}	16.9	X	296.01308	73.56763	184.05783	2.19125	0.0689043	0.24636531	2.5200917	21	2 21.2	20.3
309472 2007 VE_{91}	17.4	X	234.86012	206.43742	163.41815	7.33221	0.1226128	0.25848892	2.4406646	21	5 2.9	21.1
309473 2007 VD_{96}	17.7	X	216.72677	175.90931	199.78380	7.39747	0.1078509	0.25521397	2.4614995	21	4 20.4	21.3
309474 2007 VO_{102}	15.9	X	197.52515	50.91916	35.13037	12.08293	0.1426837	0.18931726	3.0038339	21	6 30.9	20.9
309475 2007 VQ_{105}	17.6	X	124.99409	154.89497	263.68235	1.05547	0.0923643	0.24214793	2.5492683	21	3 4.5	21.0
309476 2007 VU_{109}	17.2	X	178.41511	351.22332	35.84511	2.53530	0.0467015	0.24686187	2.5167111	21	3 23.6	20.7
309477 2007 VU_{112}	16.9	X	219.80251	72.91118	235.59952	2.22965	0.1831745	0.24258537	2.5462027	21	1 29.1	21.1
309478 2007 VD_{113}	17.6	X	99.86798	17.93135	85.37141	1.80093	0.1282661	0.24368970	2.5385045	21	4 6.7	20.7
309479 2007 VR_{116}	16.3	X	251.74620	259.39257	32.33555	7.73146	0.2039509	0.24301837	2.5431774	21	2 7.9	20.6
309480 2007 VP_{118}	17.1	X	128.47533	298.28685	124.86722	2.97539	0.0473714	0.24564293	2.5250300	21	3 9.6	20.3
309481 2007 VC_{144}	16.8	X	101.17708	333.54576	86.51323	5.10225	0.1806327	0.23732438	2.5836944	21	2 20.2	20.0
309482 2007 VE_{148}	16.2	X	15.57559	324.28435	222.33761	9.86059	0.2391885	0.23809602	2.5781091	21	2 27.8	18.4
309483 2007 VK_{152}	16.9	X	240.16642	15.50572	268.60666	6.92483	0.2756592	0.24303536	2.5430588	21	1 14.6	21.6
309484 2007 VF_{164}	16.9	X	328.99914	333.96513	247.74048	8.45368	0.1359521	0.24100681	2.5573088	21	2 5.7	20.2
309485 2007 VG_{198}	16.5	X	32.11209	213.72736	268.98242	3.79994	0.1425665	0.22653971	2.6650569	21	1 13.2	19.3
309486 2007 VP_{202}	17.5	X	243.33431	125.33818	214.84944	5.09133	0.1055982	0.26065091	2.4271496	21	3 31.9	21.0
309487 2007 VP_{207}	17.7	X	148.87914	130.90566	18.39037	0.57427	0.1531758	0.26393747	2.4069590	21	8 4.7	21.2
309488 2007 VP_{208}	16.1	X	123.26368	283.25814	102.90400	15.71197	0.1110813	0.23853722	2.5749291	21	1 24.3	19.6
309489 2007 VL_{237}	17.6	X	30.57473	124.83557	57.77290	2.91038	0.0449991	0.24805863	2.5086100	21	4 1.0	20.5
309490 2007 VE_{239}	17.2	X	161.49470	187.14999	224.95519	1.11396	0.0617356	0.24697329	2.5159542	21	4 5.2	20.8
309491 2007 VR_{250}	16.6	X	106.89137	217.44277	204.99361	14.79403	0.1145945	0.23794025	2.5792342	21	2 14.0	20.3
309492 2007 VS_{266}	17.4	X	188.08073	122.07037	267.53060	5.16664	0.1323533	0.25163556	2.4847806	21	4 6.3	21.2
309493 2007 VT_{269}	16.3	X	357.32326	302.81912	236.35212	14.03649	0.0697467	0.23954097	2.5677309	21	1 29.2	19.8
309494 2007 VR_{274}	16.4	X	304.54528	240.22046	89.45304	23.70326	0.2358827	0.26814907	2.3816897	21	5 21.5	19.5
309495 2007 VR_{290}	17.3	X	3.14140	306.17542	215.31241	1.04573	0.0488500	0.23472875	2.6027064	21	1 22.8	20.6
309496 2007 VU_{294}	16.3	X	70.17368	151.55391	319.76034	13.14359	0.2027122	0.22877265	2.6476870	21	3 10.9	19.3
309497 2007 VV_{299}	16.2	X	47.94621	98.68818	344.57957	12.37013	0.2409013	0.22500829	2.6771356	21	—	—
309498 2007 VC_{306}	16.5	X	65.20312	159.73349	276.10600	4.97881	0.1886675	0.22525894	2.6751493	21	1 14.4	19.2
309499 2007 VG_{307}	17.1	X	313.63819	334.34065	221.49958	1.67308	0.0406016	0.23139068	2.6276780	21	1 2.8	20.6
309500 2007 VP_{308}	15.9	X	9.19929	218.89550	273.14956	12.26684	0.1997258	0.22492068	2.6778308	21	—	—
309501 2007 VN_{310}	16.4	X	242.86768	149.66779	83.75679	12.68124	0.1332991	0.22563548	2.6721723	21	—	—
309502 2007 VG_{312}	16.4	X	354.00229	320.29760	93.54040	7.48864	0.0878908	0.20557419	2.8433064	21	12 19.7	19.9
309503 2007 VP_{319}	17.0	X	319.47873	79.61780	191.76913	1.09707	0.0499710	0.25252242	2.4789594	21	4 15.5	20.1
309504 2007 VD_{323}	16.6	X	173.53381	93.55650	326.85633	6.22636	0.0898535	0.25356712	2.4721459	21	4 28.9	20.3
309505 2007 VU_{328}	16.7	X	229.50587	244.98192	78.93841	7.20345	0.0721786	0.24265386	2.5457236	21	3 4.8	20.5
309506 2007 VK_{330}	16.0	X	33.40704	312.62521	65.43154	7.06476	0.0770172	0.20945849	2.8080451	21	12 28.9	19.8
309507 2007 VG_{331}	16.8	X	93.09641	350.07089	99.37318	3.02697	0.1490868	0.23848841	2.5752805	21	3 14.2	19.9
309508 2007 VR_{334}	16.8	X	167.31417	101.36316	241.32196	3.26419	0.1643857	0.23709299	2.5853752	21	1 23.8	20.9
309509 2007 WM_{7}	16.4	X	74.04056	195.71240	260.24720	8.73042	0.0392010	0.23800291	2.5787815	21	2 3.1	19.8
309510 2007 WU_{18}	16.9	X	247.03905	95.71406	117.43939	3.99346	0.0200491	0.22354732	2.6887871	21	—	—
309511 2007 WK_{20}	15.8	X	77.37059	341.48095	70.47205	14.42152	0.2396780	0.22651703	2.6652348	21	1 12.5	18.6
309512 2007 WR_{20}	16.3	X	322.11666	190.43512	300.11171	7.10088	0.1652077	0.21209255	2.7847472	21	—	—
309513 2007 WU_{27}	16.4	X	201.64408	12.22691	340.66611	3.60930	0.1654090	0.24539856	2.5267060	21	3 7.8	20.3
309514 2007 WD_{59}	16.7	X	239.76803	203.33763	55.64699	3.10780	0.0378660	0.23011502	2.6373802	21	—	—
309515 2007 XR_{1}	16.4	X	146.53711	171.36147	232.44789	1.74245	0.1620100	0.24314500	2.5422943	21	3 18.4	20.1
309516 2007 XZ_{2}	16.8	X	79.91633	288.53094	246.69704	2.11450	0.1074622	0.24686672	2.5166782	21	6 13.0	19.9
309517 2007 XA_{3}	16.1	X	20.37256	218.02001	281.68621	11.75313	0.1909947	0.22635733	2.6664882	21	1 11.1	18.6
309518 2007 XK_{4}	16.1	X	154.29136	252.69690	85.25573	15.37437	0.0839649	0.23127096	2.6285847	21	—	—
309519 2007 XZ_{5}	16.1	X	202.55428	194.83397	145.78485	6.88709	0.1294046	0.24320071	2.5419060	21	2 21.9	20.1
309520 2007 XN_{8}	16.3	X	174.52311	249.34483	65.05481	4.03306	0.1051572	0.22653389	2.6651025	21	—	—

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309521 2007 XE_{17}	16.8	X	162.45302	162.23053	169.29035	5.84234	0.2503536	0.23541473	2.5976479	21	1 13.4	21.1
309522 2007 XX_{17}	16.4	X	88.90474	230.20946	268.15717	5.02446	0.1526645	0.24471067	2.5314389	21	5 11.5	19.6
309523 2007 XB_{21}	15.7	X	68.43170	318.45485	67.02513	12.52731	0.1919971	0.22281086	2.6947086	21	—	—
309524 2007 XG_{24}	16.0	X	131.65071	280.16559	103.87297	12.64237	0.3192979	0.23371145	2.6102537	21	3 1.9	20.3
309525 2007 XA_{26}	15.6	X	138.21526	311.06126	87.32188	29.66851	0.2320172	0.23790103	2.5795176	21	3 28.7	20.4
309526 2007 XJ_{28}	16.8	X	124.06180	312.22362	26.62606	1.91938	0.0936671	0.22450940	2.6811001	21	—	—
309527 2007 XJ_{32}	16.7	X	147.16045	8.15248	42.68419	6.62356	0.2298034	0.24124228	2.5556445	21	4 5.6	20.9
309528 2007 XA_{40}	16.6	X	92.37780	19.17161	63.51621	5.18302	0.1655152	0.23374342	2.6100157	21	3 8.8	19.8
309529 2007 XR_{40}	15.5	X	86.13558	328.68885	99.21157	22.72753	0.0446448	0.22676036	2.6633278	21	1 21.0	19.0
309530 2007 XN_{41}	16.7	X	87.18944	72.65883	43.45180	2.68232	0.1118539	0.24073841	2.5592092	21	4 3.8	19.8
309531 2007 XO_{41}	17.0	X	22.24508	67.52633	69.89498	14.13732	0.1179098	0.23200175	2.6230619	21	1 17.3	20.1
309532 2007 XO_{46}	16.4	X	182.20428	197.70337	167.61821	5.32017	0.1467865	0.24442879	2.5333847	21	3 4.9	20.4
309533 2007 YC_{8}	16.7	X	331.81746	229.85374	228.53280	2.44971	0.0551665	0.21361525	2.7714978	21	—	—
309534 2007 YK_{8}	16.6	X	94.05910	63.05053	57.80815	15.69748	0.0569387	0.24562110	2.5251796	21	4 16.5	20.0
309535 2007 YW_{12}	16.7	X	120.78745	304.75577	58.96044	7.25053	0.0542608	0.22311883	2.6922284	21	—	—
309536 2007 YJ_{16}	16.3	X	140.56612	278.00685	80.51467	15.78856	0.1350530	0.23282733	2.6168575	21	1 14.5	20.1
309537 2007 YT_{20}	16.4	X	242.37195	87.98799	103.02976	2.98122	0.0134380	0.21266458	2.7797513	21	—	—
309538 2007 YU_{20}	16.1	X	170.43588	150.15090	112.21046	5.51833	0.0203172	0.21264787	2.7798969	21	—	—
309539 2007 YJ_{23}	17.2	X	117.68069	10.39077	54.99627	2.43775	0.1442459	0.23958305	2.5674303	21	3 13.9	20.6
309540 2007 YK_{23}	16.4	X	44.83258	176.63048	293.90890	6.72991	0.0678296	0.22959180	2.6413856	21	1 17.7	19.4
309541 2007 YA_{28}	16.6	X	309.39908	54.69195	76.61948	9.69477	0.1013914	0.21220804	2.7837367	21	—	—
309542 2007 YL_{31}	16.8	X	108.67817	110.42298	298.49418	8.83476	0.2899206	0.23391750	2.6087206	21	2 26.6	20.4
309543 2007 YG_{34}	16.8	X	178.01586	310.65563	58.81779	7.20488	0.1875232	0.24338521	2.5406212	21	3 12.1	21.0
309544 2007 YE_{36}	17.3	X	111.93422	329.69158	75.77564	2.90699	0.2078748	0.23316087	2.6143613	21	2 19.4	20.7
309545 2007 YV_{36}	17.1	X	327.01715	74.68628	51.26688	2.89966	0.0303225	0.21596151	2.7513878	21	—	—
309546 2007 YR_{37}	16.9	X	104.95649	81.13456	324.92747	3.53634	0.0846519	0.22985265	2.6393868	21	1 23.4	20.3
309547 2007 YL_{41}	17.3	X	102.02549	255.64915	111.62180	3.05553	0.1120058	0.22010435	2.7167539	21	—	—
309548 2007 YZ_{42}	16.2	X	31.05752	346.02470	110.60871	12.67022	0.1324354	0.22197294	2.7014858	21	—	—
309549 2007 YS_{46}	16.5	X	74.56999	320.24291	118.07844	14.36464	0.2186590	0.22861129	2.6489328	21	2 10.1	19.2
309550 2007 YB_{47}	16.2	X	321.34955	132.81982	308.61975	10.72539	0.0752712	0.20386534	2.8591731	21	12 4.0	19.9
309551 2007 YR_{48}	17.3	X	120.90810	136.04272	276.93536	1.82910	0.1340121	0.23539554	2.5977891	21	2 26.9	20.7
309552 2007 YA_{55}	16.3	X	32.56136	329.11578	83.82974	5.43112	0.1156718	0.21517189	2.7581149	21	—	—
309553 2007 YH_{55}	16.1	X	11.85399	53.36160	111.58023	15.95612	0.0995016	0.22900634	2.6458855	21	2 8.9	19.2
309554 2007 YP_{55}	17.0	X	102.79569	58.08583	349.84694	3.55560	0.0966364	0.22681152	2.6629273	21	1 25.7	20.5
309555 2007 YM_{58}	16.4	X	72.79340	319.98426	114.14348	4.68763	0.0803293	0.22669470	2.6638421	21	1 13.7	19.6
309556 2007 YZ_{59}	16.1	X	89.17863	12.96774	68.51040	14.86770	0.2110384	0.23173140	2.6251017	21	3 16.3	19.6
309557 2007 YB_{61}	16.5	X	55.65216	22.11587	81.84244	19.38705	0.2086542	0.22968118	2.6407003	21	2 11.7	19.4
309558 2007 YN_{71}	16.8	X	199.08863	234.81394	351.47764	3.21273	0.0368963	0.20970865	2.8058115	21	12 31.6	20.9
309559 2007 YM_{74}	15.9	X	201.67242	262.68892	307.27923	11.21083	0.0468747	0.20679228	2.8321299	21	12 12.7	20.0
309560 2008 AQ	17.0	X	100.25122	345.63040	93.82261	9.08265	0.1934684	0.23480204	2.6021648	21	3 21.8	20.5
309561 2008 AW_{1}	15.6	X	107.93817	278.20649	111.89753	15.36059	0.1512792	0.22747122	2.6577762	21	1 17.0	18.8
309562 2008 AM_{4}	16.8	X	51.54793	335.71776	123.50298	4.23386	0.1225708	0.22583206	2.6706213	21	1 16.4	19.4
309563 2008 AX_{11}	17.4	X	25.08484	271.42389	148.30260	4.34834	0.0874047	0.21413439	2.7670166	21	—	—
309564 2008 AL_{16}	16.5	X	67.27645	310.55556	237.16661	3.34992	0.0731139	0.24539982	2.5266974	21	6 6.5	19.4
309565 2008 AZ_{25}	16.0	X	24.63112	27.64261	332.17831	8.30956	0.1115957	0.19897333	2.9058474	21	11 24.6	19.8
309566 2008 AV_{32}	17.4	X	29.66696	103.50634	346.57900	3.89567	0.2068752	0.22088043	2.7103865	21	—	—
309567 2008 AH_{36}	16.7	X	45.80060	117.77326	302.03999	2.87514	0.0588587	0.21700290	2.7425782	21	—	—
309568 2008 AX_{39}	17.0	X	112.11876	98.93295	328.72789	6.71380	0.1744511	0.23293058	2.6160842	21	3 12.3	20.6
309569 2008 AG_{41}	17.1	X	75.82407	102.33982	355.27577	3.58904	0.1603289	0.23012541	2.6373008	21	2 28.8	19.9
309570 2008 AE_{44}	16.2	X	259.19268	212.10384	315.82623	15.18758	0.1731084	0.20364930	2.8611949	21	12 12.3	20.2
309571 2008 AU_{53}	17.0	X	49.73737	326.06415	115.85722	4.56492	0.0507306	0.22272674	2.6953871	21	—	—
309572 2008 AC_{57}	16.8	X	222.62970	83.00467	132.43300	5.66674	0.0932210	0.20901080	2.8120534	21	—	—
309573 2008 AM_{58}	16.4	X	117.75257	223.40266	146.78253	3.20700	0.0993285	0.22289131	2.6940602	21	—	—
309574 2008 AO_{61}	16.8	X	122.36219	98.32386	277.79229	5.05465	0.0442809	0.22348539	2.6892837	21	1 3.1	20.4
309575 2008 AY_{68}	16.6	X	329.01364	183.07394	300.24896	5.60488	0.0744629	0.21416953	2.7667139	21	—	—
309576 2008 AC_{78}	16.4	X	105.70817	320.63157	63.10719	2.78430	0.0922159	0.22305972	2.6927040	21	—	—
309577 2008 AV_{81}	16.4	X	344.12916	295.55099	166.36940	4.72266	0.0768942	0.21346454	2.7728022	21	—	—
309578 2008 AQ_{83}	16.4	X	293.21186	149.31394	57.86581	3.35588	0.0214741	0.22471148	2.6794925	21	—	—
309579 2008 AC_{88}	16.9	X	79.37437	280.51032	123.61621	3.05891	0.0910069	0.22326069	2.6910878	21	—	—
309580 2008 AS_{93}	16.7	X	158.46928	215.44303	88.25874	6.39251	0.0285979	0.21610350	2.7501825	21	—	—
309581 2008 AG_{95}	16.5	X	35.58801	275.72193	116.45789	3.46914	0.1874818	0.21267634	2.7796488	21	—	—
309582 2008 AZ_{98}	15.7	X	351.04096	191.92064	110.72572	13.32647	0.1631884	0.17947570	3.1126642	21	7 15.2	18.9
309583 2008 AM_{101}	16.6	X	13.50407	175.04358	335.92164	7.81893	0.2137724	0.22611990	2.6683545	21	1 13.1	19.2
309584 2008 AR_{103}	16.3	X	80.62940	268.85136	95.03167	7.53938	0.0648635	0.21541081	2.7560751	21	—	—
309585 2008 AQ_{105}	16.4	X	135.91084	265.69230	88.97973	6.09136	0.0560623	0.22363518	2.6880827	21	—	—
309586 2008 AW_{110}	16.2	X	119.03229	83.48133	104.22558	2.72034	0.0899625	0.17958746	3.1113728	21	8 15.4	20.7
309587 2008 AJ_{112}	17.2	X	97.82810	254.36872	153.25932	2.61149	0.1327292	0.22866301	2.6485333	21	1 22.0	20.4
309588 2008 AR_{114}	16.9	X	120.89265	162.67856	138.85275	2.88642	0.0495424	0.20587734	2.8405145	21	—	—
309589 2008 AH_{118}	16.8	X	31.11216	345.17754	70.14334	5.07142	0.0938897	0.21369227	2.7708318	21	—	—
309590 2008 AT_{129}	16.3	X	90.12593	288.45513	301.85249	2.54757	0.1359795	0.18039366	3.1020958	21	9 8.8	20.9
309591 2008 AO_{135}	16.6	X	45.12237	95.89108	83.01984	8.99959	0.0785516	0.23837913	2.5760674	21	4 24.8	19.7
309592 2008 AX_{135}	16.0	X	53.00591	348.92570	73.57758	11.67730	0.1798610	0.21873918	2.7280458	21	—	—
309593 2008 AF_{136}	16.4	X	129.89734	170.07143	259.61522	10.90213	0.1545326	0.23730114	2.5838631	21	3 28.9	20.3
309594 2008 AE_{137}	16.4	X	64.93276	162.54715	258.47368	6.96006	0.1768883	0.22431157	2.6826763	21	—	—
309595 2008 BY_{4}	16.6	X	108.06933	307.39290	98.04559	4.40339	0.0710287	0.22767369	2.6562003	21	1 25.3	20.1
309596 2008 BD_{6}	16.9	X	130.03031	216.03261	246.83706	1.87362	0.1147000	0.24275310	2.5450297	21	5 11.2	20.5
309597 2008 BK_{11}	16.9	X	321.53353	79.32559	29.49750	3.88588	0.0524229	0.21061521	2.7977543	21	—	—
309598 2008 BM_{17}	17.0	X	131.30450	271.95651	116.13470	6.36541	0.3200102	0.23419396	2.6066672	21	3 4.4	21.2
309599 2008 BH_{19}	16.9	X	97.64531	344.78661	88.38812	6.71166	0.1891880	0.23407299	2.6075652	21	3 7.9	20.2
309600 2008 BD_{20}	17.2	X	26.17941	89.94331	23.38245	1.83702	0.1314592	0.22342174	2.6897945	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309601 2008 BN_{24}	16.9	X	286.67218	115.99129	39.52455	8.95131	0.1976776	0.28222737	2.3018126	21	—	—
309602 2008 BR_{25}	17.4	X	169.48772	182.13731	29.36075	2.86181	0.1816410	0.26757204	2.3851127	21	11 10.6	21.3
309603 2008 BK_{26}	16.3	X	90.71916	90.67644	293.28243	4.96445	0.0467480	0.21757448	2.7377728	21	—	—
309604 2008 BQ_{28}	16.6	X	95.07615	286.53870	325.05793	3.23562	0.1126077	0.18922409	3.0048198	21	10 8.1	21.1
309605 2008 BY_{29}	16.7	X	292.10542	35.60597	157.70420	4.18614	0.1403880	0.21664539	2.7455946	21	—	—
309606 2008 BJ_{32}	17.1	X	291.25612	352.10377	149.64430	3.65365	0.0973653	0.20414611	2.8565510	21	—	—
309607 2008 BV_{34}	15.8	X	0.54832	36.99205	330.57204	8.41252	0.1152170	0.19217173	2.9740143	21	10 26.1	19.5
309608 2008 BG_{37}	17.1	X	136.02624	60.87293	206.83270	1.45719	0.0222317	0.20289374	2.8682937	21	12 8.3	21.2
309609 2008 BZ_{39}	16.1	X	323.32493	57.22760	80.40794	10.42683	0.0994722	0.21407425	2.7675348	21	—	—
309610 2008 BH_{42}	16.1	X	36.20294	348.91331	115.40215	14.87133	0.2061805	0.22293641	2.6936968	21	—	—
309611 2008 BK_{44}	15.6	X	140.54613	77.68761	111.47250	7.89592	0.0278404	0.18577625	3.0418835	21	9 8.3	20.0
309612 2008 BV_{45}	15.7	X	52.11232	356.22698	103.17905	22.78373	0.0377771	0.22434104	2.6824413	21	1 14.2	19.2
309613 2008 BT_{46}	16.7	X	132.94815	75.60795	157.81781	5.29494	0.0841298	0.18947222	3.0021959	21	10 26.6	21.2
309614 2008 CV_{6}	16.8	X	110.30515	317.29464	104.78133	5.79931	0.1767118	0.23368433	2.6104557	21	3 7.3	20.3
309615 2008 CV_{9}	17.0	X	274.58555	46.23999	89.00157	1.12965	0.0965560	0.20224891	2.8743871	21	12 3.0	20.5
309616 2008 CE_{23}	16.1	X	243.46929	183.52559	315.54334	7.10336	0.0378931	0.19564915	2.9386694	21	11 1.7	20.4
309617 2008 CH_{23}	16.0	X	308.28805	8.38606	149.26999	10.41384	0.1528049	0.21159977	2.7890690	21	—	—
309618 2008 CK_{25}	16.2	X	357.21403	305.84505	59.66921	2.10051	0.1520754	0.19042667	2.9921558	21	10 24.6	19.4
309619 2008 CM_{25}	15.6	X	307.17742	70.95180	82.19152	16.43364	0.1790932	0.21019223	2.8015063	21	—	—
309620 2008 CQ_{50}	16.2	X	170.10821	243.31815	97.41248	7.19785	0.0420318	0.22026891	2.7154006	21	1 17.7	19.9
309621 2008 CJ_{56}	17.1	X	171.62952	16.95855	187.87517	2.58100	0.1196035	0.26717954	2.3874480	21	11 7.9	20.6
309622 2008 CJ_{68}	16.5	X	47.61234	301.85718	159.00443	13.51529	0.2211924	0.22591111	2.6699984	21	1 14.4	19.1
309623 2008 CM_{71}	15.6	X	261.07918	126.30869	96.12455	12.06392	0.0391579	0.21705628	2.7421286	21	—	—
309624 2008 CN_{79}	15.6	X	7.71423	203.45695	103.79082	6.20603	0.1486050	0.18009039	3.1055773	21	8 24.9	19.1
309625 2008 CA_{85}	16.8	X	324.70647	123.31847	17.94374	1.19866	0.1056829	0.21115513	2.7929830	21	—	—
309626 2008 CV_{88}	15.8	X	304.87849	357.33021	15.20925	9.24514	0.0692808	0.18044981	3.1014522	21	8 14.3	20.0
309627 2008 CD_{98}	16.7	X	3.19794	302.30820	115.57294	3.18221	0.0534750	0.20391884	2.8586730	21	—	—
309628 2008 CB_{99}	15.4	X	40.69943	335.29168	331.57961	9.79446	0.1018737	0.18704442	3.0281186	21	10 5.4	19.5
309629 2008 CN_{100}	15.8	X	340.90630	41.72984	342.89076	8.28475	0.1099561	0.19318258	2.9636306	21	10 16.7	19.4
309630 2008 CP_{121}	16.9	X	4.83731	155.51405	356.62980	2.57552	0.1055277	0.22325061	2.6911688	21	1 11.0	20.0
309631 2008 CO_{128}	16.8	X	341.98046	289.22620	147.16190	2.68538	0.0410252	0.20305503	2.8667746	21	12 27.3	20.5
309632 2008 CO_{134}	16.5	X	10.87893	291.66393	151.88719	13.51289	0.1245760	0.21344011	2.7730138	21	—	—
309633 2008 CH_{152}	16.2	X	160.47201	304.94041	257.56597	3.21145	0.0910825	0.18822595	3.0154333	21	10 14.6	20.8
309634 2008 CY_{156}	16.5	X	41.59266	177.01626	95.24726	2.66772	0.1043545	0.17611514	3.1521358	21	8 27.6	20.5
309635 2008 CD_{165}	16.7	X	22.08020	235.52555	206.98095	4.23313	0.1380215	0.21534815	2.7566097	21	—	—
309636 2008 CO_{165}	16.5	X	184.32263	305.93010	252.43784	2.49915	0.0863686	0.19135816	2.9824378	21	11 3.9	20.9
309637 2008 CD_{177}	16.5	X	300.00902	232.67791	312.42486	4.21236	0.0617273	0.21775771	2.7362369	21	—	—
309638 2008 CL_{178}	16.4	X	337.29516	102.40707	353.26826	7.48789	0.1287639	0.20964010	2.8064231	21	—	—
309639 2008 CE_{180}	16.1	X	353.89184	250.13713	231.12425	12.23601	0.1461601	0.21656015	2.7463150	21	—	—
309640 2008 CL_{182}	15.9	X	76.35711	185.29842	50.16495	6.32954	0.0582069	0.17761935	3.1343142	21	8 22.7	20.4
309641 2008 CC_{192}	16.0	X	301.11534	152.33678	216.33121	5.00666	0.0393437	0.17851464	3.1238259	21	8 2.0	20.4
309642 2008 CR_{195}	16.4	X	9.92582	239.47457	174.03821	9.25364	0.1296578	0.20520361	2.8467285	21	—	—
309643 2008 CS_{195}	16.6	X	246.23115	248.85248	189.24981	4.96355	0.1313358	0.18328259	3.0694124	21	8 8.6	21.2
309644 2008 CN_{199}	16.0	X	302.49111	240.26586	159.44566	3.37948	0.1057774	0.18311215	3.0713168	21	9 7.3	19.9
309645 2008 CA_{202}	16.1	X	61.37718	215.61156	137.70047	7.12148	0.0221765	0.20017496	2.8942067	21	12 23.7	20.1
309646 2008 CA_{212}	15.9	X	314.91175	54.75508	16.81805	10.63965	0.0779216	0.19714187	2.9238166	21	11 8.4	19.7
309647 2008 CZ_{213}	16.2	X	273.91117	80.07541	351.31283	4.50623	0.1182878	0.18388535	3.0627012	21	9 6.5	20.3
309648 2008 DR_{7}	16.3	X	347.59304	274.45602	131.53383	7.05538	0.0632547	0.20208285	2.8759615	21	11 29.3	20.0
309649 2008 DJ_{9}	15.9	X	11.01395	5.38901	310.78562	8.00628	0.0889140	0.18443376	3.0566270	21	9 3.2	19.7
309650 2008 DF_{20}	16.9	X	278.34728	99.52359	61.77836	2.36331	0.1414640	0.20558388	2.8432171	21	—	—
309651 2008 DC_{21}	16.6	X	297.20667	298.48957	121.99010	2.74914	0.1432052	0.18741686	3.0241055	21	9 23.1	20.2
309652 2008 DP_{23}	16.6	X	215.99495	19.40548	170.36764	11.56153	0.0702544	0.19758080	2.9194848	21	12 2.1	21.0
309653 2008 DS_{29}	16.0	X	126.29633	231.32509	342.49848	5.88330	0.0777408	0.18376064	3.0640868	21	9 22.1	20.7
309654 2008 DP_{55}	15.8	X	90.66461	250.44029	341.72966	4.46298	0.0432129	0.17830167	3.1263129	21	8 31.5	20.2
309655 2008 DT_{58}	16.4	X	159.47024	201.79808	120.95322	4.75151	0.1067558	0.21906614	2.7253308	21	—	—
309656 2008 DH_{61}	16.7	X	172.43464	107.11293	109.55743	2.97163	0.0573460	0.19331404	2.9622869	21	11 16.2	21.0
309657 2008 DO_{66}	16.5	X	265.30443	41.06988	121.29173	7.25015	0.0338221	0.20556829	2.8433608	21	—	—
309658 2008 DM_{67}	16.0	X	241.41468	248.51791	225.72068	7.70232	0.0512341	0.18512406	3.0490238	21	9 26.8	20.4
309659 2008 DV_{80}	16.7	X	174.75219	246.61510	312.89858	2.47872	0.0737543	0.19049173	2.9914745	21	10 26.3	21.2
309660 2008 DL_{85}	16.1	X	229.13454	73.51524	77.44686	2.52921	0.0560460	0.19047685	2.9916303	21	10 30.7	20.4
309661 2008 DR_{85}	16.4	X	290.11789	343.87393	97.22344	3.02181	0.1260394	0.18925982	3.0044417	21	10 12.3	20.3
309662 2008 EE	19.8	X	97.72524	332.50743	343.55921	16.15628	0.2118407	1.01396202	0.9812694	21	—	—
309663 2008 EO_{14}	16.3	X	93.46784	248.74702	356.86929	8.84195	0.0383374	0.17986787	3.1081382	21	9 20.1	20.7
309664 2008 EE_{23}	15.7	X	308.25437	48.03491	34.31887	9.94208	0.0471377	0.19551445	2.9400191	21	11 15.6	19.5
309665 2008 EP_{23}	15.4	X	165.51342	94.85240	8.25201	18.71796	0.1490305	0.17149199	3.2085354	21	6 21.5	20.9
309666 2008 EK_{38}	15.5	X	324.25566	213.02571	142.77831	11.54896	0.0389022	0.17788899	3.1311461	21	8 19.1	19.7
309667 2008 EA_{39}	15.6	X	45.82242	142.49437	123.62896	6.44334	0.1332189	0.17358474	3.1826949	21	8 30.1	19.7
309668 2008 ET_{40}	15.9	X	25.53377	312.51518	337.77569	8.93869	0.0377287	0.17388018	3.1790888	21	8 20.2	20.2
309669 2008 EE_{41}	16.3	X	248.91155	221.22892	261.05122	4.56644	0.0797207	0.18817648	3.0159617	21	10 12.8	20.7
309670 2008 EP_{41}	16.7	X	10.48842	65.73453	57.03057	5.70741	0.1156249	0.21739893	2.7392465	21	—	—
309671 2008 EN_{49}	15.7	X	184.04987	151.87135	359.16783	9.12995	0.0231690	0.17966812	3.1104415	21	9 10.2	20.2
309672 2008 EA_{53}	15.5	X	268.82568	293.44791	148.75016	13.79178	0.0455419	0.18356406	3.0662739	21	9 26.9	19.8
309673 2008 EE_{86}	15.8	X	193.80488	18.41246	118.28700	6.75737	0.0173586	0.17915359	3.1163941	21	9 5.1	20.2
309674 2008 EN_{88}	16.3	X	145.99761	213.18420	353.36185	3.78143	0.1746434	0.18416189	3.0596344	21	10 7.4	21.3
309675 2008 EV_{90}	15.3	X	130.17840	114.22694	98.85653	16.99444	0.1928514	0.18018842	3.1044509	21	10 11.4	20.7
309676 2008 ET_{95}	15.8	X	101.38944	279.22177	307.99482	7.48564	0.0737809	0.17892999	3.1189898	21	9 8.2	20.4
309677 2008 EO_{99}	15.5	X	96.88899	336.85564	250.54461	9.27472	0.1701503	0.17601146	3.1533736	21	9 12.6	20.6
309678 2008 ER_{103}	16.0	X	40.85960	133.22673	152.59889	1.65487	0.1467222	0.17816463	3.1279159	21	9 18.5	20.0
309679 2008 EG_{108}	16.2	X	0.24682	168.78928	156.26728	10.59711	0.0595963	0.18193390	3.0845629	21	8 30.4	20.2
309680 2008 EU_{108}	16.5	X	347.23553	299.38502	154.30283	10.01206	0.0989602	0.20948212	2.8078339	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309681 2008 ES_{111}	15.6	X	209.38865	292.02853	156.09202	15.32538	0.0439744	0.17423400	3.1747835	21	7 19.4	20.4
309682 2008 ES_{137}	17.4	X	152.24790	141.14834	131.92370	2.92669	0.1999158	0.26658365	2.3910044	21	—	—
309683 2008 ET_{147}	17.1	X	106.81842	168.86471	25.90670	1.32436	0.0433150	0.24640491	2.5198217	21	8 7.1	20.3
309684 2008 ET_{148}	16.0	X	108.87656	213.96927	349.55166	4.17856	0.1248755	0.17303551	3.1894262	21	8 27.1	20.7
309685 2008 EK_{153}	15.3	X	130.64414	84.48178	100.69376	8.41017	0.0394668	0.17416593	3.1756106	21	8 22.2	20.0
309686 2008 EF_{167}	16.3	X	86.60454	73.58213	186.40033	2.20445	0.0478365	0.18259565	3.0771059	21	10 1.3	20.7
309687 2008 EZ_{168}	16.0	X	209.74438	99.41214	56.73308	13.03405	0.1433243	0.18581825	3.0414252	21	10 11.2	20.9
309688 2008 FD_{3}	16.3	X	358.52835	257.04371	104.44301	3.64780	0.0255965	0.18780705	3.0199155	21	10 15.0	20.3
309689 2008 FB_{4}	16.5	X	228.02013	147.56827	11.75852	4.95812	0.1334548	0.19373901	2.9579535	21	10 29.0	20.9
309690 2008 FT_{13}	15.9	X	97.30605	33.03293	190.76347	9.45301	0.0973883	0.17586378	3.1551386	21	9 2.8	20.7
309691 2008 FO_{15}	15.4	X	231.64519	32.19242	69.00599	12.29534	0.0725235	0.17557466	3.1586014	21	9 4.2	20.2
309692 2008 FE_{19}	16.0	X	276.67434	10.81642	359.69824	11.31274	0.1009415	0.17112303	3.2131456	21	6 26.3	20.7
309693 2008 FU_{35}	15.2	X	341.29028	265.73288	359.80422	16.18529	0.1424948	0.16034324	3.3555904	21	5 2.9	19.6
309694 2008 FJ_{45}	16.2	X	257.43666	288.52270	169.63295	11.83166	0.0150035	0.18617060	3.0375865	21	10 5.9	20.4
309695 2008 FZ_{51}	16.2	X	85.16709	149.33736	90.57698	2.46393	0.1139085	0.17437129	3.1731168	21	9 13.9	20.7
309696 2008 FA_{65}	15.5	X	95.07770	28.63156	168.68225	5.93528	0.0646621	0.16614319	3.2770345	21	7 25.1	20.2
309697 2008 FM_{79}	16.6	X	295.06355	63.38290	5.02711	1.73526	0.0789764	0.18573622	3.0423206	21	10 7.0	20.5
309698 2008 FS_{87}	16.7	X	295.30781	32.63597	59.22260	0.31810	0.1439351	0.19216559	2.9740776	21	10 30.7	20.4
309699 2008 FG_{91}	16.5	X	89.00622	92.10496	146.94129	2.46479	0.1159983	0.18140965	3.0905027	21	9 17.5	20.9
309700 2008 FP_{98}	15.5	X	186.06347	292.78314	227.19534	15.73538	0.0689775	0.18326134	3.0696496	21	9 15.7	20.4
309701 2008 FX_{99}	15.9	X	191.31875	71.51950	76.90411	10.82851	0.0823108	0.17744834	3.1363277	21	9 17.0	20.8
309702 2008 FN_{115}	16.3	X	196.96660	96.63051	42.00463	5.12683	0.0736338	0.17946286	3.1128127	21	9 8.2	21.0
309703 2008 FM_{118}	16.6	X	117.28720	77.55854	87.04405	3.69790	0.1343588	0.16843478	3.2472435	21	7 19.7	21.5
309704 Baruffetti	15.4	X	277.58848	19.75272	51.74688	10.59747	0.0407127	0.18369281	3.0648410	21	9 27.5	19.7
309705 2008 FR_{137}	15.7	X	335.41944	25.09010	37.22035	10.80327	0.0997006	0.19344162	2.9609842	21	11 27.7	19.4
309706 Avila	15.1	X	114.91273	137.46620	81.76576	20.22486	0.1590971	0.17456604	3.1707564	21	10 5.1	20.5
309707 2008 GC_{1}	12.1	X	316.80880	166.36303	255.35831	34.78669	0.0690373	0.08554894	5.1010505	21	10 8.2	19.1
309708 2008 GP_{2}	16.3	X	143.89788	84.01645	102.35696	2.39506	0.0899048	0.17673941	3.1447089	21	9 9.5	21.1
309709 2008 GE_{3}	15.5	X	322.82714	272.30774	75.89470	12.06303	0.0634572	0.17272427	3.1932565	21	8 8.0	19.9
309710 2008 GQ_{12}	16.2	X	14.24645	149.33706	156.15733	10.08534	0.0942754	0.18017933	3.1045553	21	8 27.5	20.0
309711 2008 GV_{29}	16.0	X	176.67065	335.94461	189.76877	9.88391	0.0314415	0.18047008	3.1012200	21	9 17.3	20.5
309712 2008 GL_{61}	16.0	X	249.39976	61.17222	42.05770	27.44292	0.1730962	0.18378043	3.0638668	21	9 25.1	21.0
309713 2008 GY_{64}	16.2	X	199.22431	297.92334	174.73109	9.46576	0.0350818	0.17364892	3.1819107	21	8 7.2	20.9
309714 2008 GF_{111}	15.1	X	151.27805	129.95674	73.29590	18.50002	0.0883000	0.17985622	3.1082725	21	10 15.9	20.2
309715 2008 GL_{114}	16.1	X	128.71977	141.77903	78.97788	6.55384	0.0860301	0.17989624	3.1078114	21	10 7.6	20.8
309716 2008 GO_{114}	15.7	X	246.13640	283.98089	129.13654	7.71346	0.0819642	0.16873026	3.2434515	21	7 14.9	20.6
309717 2008 GS_{115}	15.8	X	293.93218	263.03402	221.35247	10.08946	0.1298669	0.19759295	2.9193652	21	12 12.5	19.3
309718 2008 GM_{122}	16.2	X	178.33710	123.91646	49.08172	6.20458	0.1488157	0.18158743	3.0884853	21	9 28.7	21.2
309719 2008 GQ_{129}	16.2	X	181.60081	10.67636	67.84162	13.21582	0.1879327	0.23318113	2.6142099	21	6 5.1	20.4
309720 2008 GP_{136}	15.8	X	212.79910	10.59600	96.61105	6.94395	0.0941658	0.17162119	3.2069248	21	8 15.1	20.7
309721 2008 GU_{140}	16.0	X	246.01256	261.64560	230.34129	5.14583	0.1171769	0.18840395	3.0135337	21	10 17.2	20.3
309722 2008 GT_{145}	15.5	X	165.77876	127.04267	64.12311	17.90810	0.1653769	0.18095949	3.0956259	21	10 14.7	20.8
309723 2008 HJ_{6}	16.5	X	216.73258	92.93857	42.96141	4.18136	0.1218086	0.18291872	3.0734815	21	9 21.6	21.3
309724 2008 HC_{18}	15.9	X	209.03430	64.90168	91.37372	12.77756	0.1625550	0.18358650	3.0660241	21	10 10.3	21.0
309725 2008 HL_{67}	16.1	X	182.89557	312.85751	170.73076	7.76608	0.0439415	0.16747466	3.2596425	21	8 1.7	21.0
309726 2008 HZ_{68}	15.7	X	254.80068	32.96493	104.88211	13.37316	0.0503419	0.18262405	3.0767868	21	11 17.5	20.2
309727 2008 HW_{69}	16.0	X	209.57274	86.58644	44.22701	10.11178	0.1557437	0.17664148	3.1458710	21	9 8.7	21.1
309728 2008 JF	18.0	X	302.39313	235.83511	90.65345	19.80182	0.3930088	0.37419905	1.9072206	21	4 15.7	21.1
309729 2008 JU_{23}	16.5	X	209.66176	13.26381	75.69299	9.07242	0.1495749	0.23981425	2.5657799	21	7 16.8	20.5
309730 2008 KJ_{39}	15.5	X	71.06229	236.10180	127.94940	13.01707	0.2911363	0.18285218	3.0742272	21	—	—
309731 2008 LX_{15}	15.5	X	162.33209	80.02306	69.42955	16.50289	0.0977391	0.17028058	3.2237348	21	8 19.4	20.8
309732 2008 QD_{35}	15.6	X	42.52183	272.81458	113.02479	3.86789	0.1801881	0.16920915	3.2373288	21	—	—
309733 2008 RK_{4}	13.8	X	302.40253	255.57696	194.21327	7.70192	0.0344556	0.08239713	5.2303170	21	11 2.5	20.6
309734 2008 RW_{27}	15.8	X	61.78605	271.04036	46.62333	14.26572	0.1505628	0.24264418	2.5457913	21	12 3.2	19.4
309735 2008 RK_{50}	13.6	X	275.11440	196.42125	271.29452	7.14102	0.0766439	0.08332048	5.1916036	21	10 13.3	20.5
309736 2008 SV_{200}	16.8	X	17.12301	160.33996	287.50192	1.78172	0.0549307	0.24692543	2.5162793	21	—	—
309737 2008 SJ_{236}	12.3	X	116.71973	182.70127	234.50949	6.04850	0.4368437	0.02737383	10.9038289	21	4 15.7	23.8
309738 2008 TW_{22}	17.7	X	351.48729	297.46836	105.89258	6.93541	0.2260597	0.30762904	2.1732908	21	—	—
309739 2008 TB_{158}	16.5	X	49.11301	35.48206	353.61265	11.59782	0.2099756	0.24210974	2.5495363	21	—	—
309740 2008 UK_{2}	17.4	X	312.56265	55.56284	220.82497	19.73043	0.0403254	0.35396913	1.9792126	21	3 26.6	19.8
309741 2008 UZ_{6}	10.7	X	25.98552	199.42935	240.64221	35.84015	0.6096977	0.00702337	27.0046900	21	2 28.1	23.2
309742 2008 UC_{121}	15.8	X	272.79255	357.64520	258.15902	12.91297	0.2313786	0.26166229	2.4208913	21	1 4.9	19.9
309743 2008 UA_{172}	18.0	X	13.63758	104.76113	239.71744	3.88456	0.1791688	0.30408782	2.1901307	21	11 22.3	19.7
309744 2008 UL_{199}	17.3	X	111.60328	251.57401	239.69816	17.32945	0.1104676	0.35238451	1.9851417	21	5 20.1	19.2
309745 2008 UE_{268}	17.6	X	344.93197	349.89601	173.84124	2.16109	0.1262826	0.25327977	2.4740153	21	—	—
309746 2008 UC_{294}	17.2	X	110.39140	171.23876	16.47374	6.08102	0.1102064	0.28576197	2.2827924	21	8 14.3	20.3
309747 2008 UL_{309}	17.5	X	221.70662	88.67968	234.84269	19.94212	0.0696608	0.34361429	2.0187780	21	1 26.0	20.5
309748 2008 UM_{316}	17.8	X	303.19875	277.20356	190.30603	1.87255	0.0755574	0.30801832	2.1714592	21	—	—
309749 2008 UF_{356}	17.3	X	305.04808	38.48681	275.27872	4.91706	0.2493721	0.28548828	2.2842512	21	4 15.5	20.3
309750 2008 VR_{2}	16.0	X	346.35499	50.34665	46.75873	15.31303	0.0428358	0.23758486	2.5818056	21	—	—
309751 2008 VK_{4}	16.9	X	56.31258	315.27502	262.93519	18.43700	0.0328160	0.36277647	1.9470479	21	6 24.9	18.6
309752 2008 VG_{6}	16.0	X	42.58133	2.60654	30.74971	14.13176	0.1573397	0.24025924	2.5626108	21	—	—
309753 2008 VT_{38}	18.2	X	113.29857	22.48352	289.31976	2.21968	0.1479104	0.31635492	2.1331415	21	—	—
309754 2008 WS_{72}	17.6	X	184.77867	313.65894	274.12128	5.43428	0.0787945	0.30786169	2.1721957	21	—	—
309755 2008 WN_{87}	16.3	X	195.80072	211.84672	157.74916	2.34232	0.0728041	0.19041889	2.9922373	21	3 28.2	20.7
309756 2008 WO_{121}	16.1	X	88.61690	71.71669	286.08952	11.78306	0.1264905	0.24376600	2.5379748	21	—	—
309757 2008 WN_{129}	17.9	X	356.34778	295.16023	105.56476	2.43267	0.1535763	0.30101413	2.2050145	21	—	—
309758 2008 XW_{47}	17.9	X	23.42900	118.90252	275.18038	3.97340	0.0372540	0.30559418	2.1829276	21	—	—
309759 2008 XR_{49}	16.4	X	261.31458	178.40810	97.90839	5.63452	0.0858879	0.24702191	2.5156240	21	2 3.7	20.1
309760 2008 XF_{56}	15.5	X	171.04164	316.92293	112.88326	11.11394	0.0313158	0.19371859	2.9581613	21	5 16.1	19.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309761 2008 YQ_4	17.3	X	268.22000	76.03855	304.60789	5.58716	0.1264121	0.27560483	2.3385402	21	6 23.2	20.4
309762 2008 YN_5	17.5	X	200.45543	352.45080	178.71342	4.35630	0.0706752	0.29155305	2.2524630	21	11 4.2	20.3
309763 2008 YJ_{15}	17.1	X	285.97148	216.80645	262.94833	6.81886	0.0767376	0.30148036	2.2027407	21	12 26.6	19.1
309764 2008 YM_{35}	17.8	X	315.25441	354.26627	21.02087	1.12078	0.1508295	0.28695675	2.2764516	21	8 30.8	19.6
309765 2008 YN_{54}	17.3	X	143.96133	102.39987	91.74618	7.45567	0.0548297	0.28248137	2.3004326	21	9 30.5	20.4
309766 2008 YR_{54}	17.2	X	278.55285	33.77435	39.15835	3.09183	0.1345535	0.28926259	2.2643378	21	9 25.1	19.3
309767 2008 YU_{64}	18.1	X	351.83701	255.13599	132.04013	7.67797	0.2322899	0.29925705	2.2136373	21	12 25.6	19.8
309768 2008 YQ_{65}	17.8	X	215.83745	323.01915	158.69060	2.37074	0.1775531	0.27797687	2.3252176	21	9 2.7	21.4
309769 2008 YL_{68}	16.8	X	297.45131	253.37369	134.78582	6.65554	0.0909104	0.28024869	2.3126344	21	8 25.7	19.1
309770 2008 YG_{80}	17.5	X	150.88702	54.92432	148.23901	3.29426	0.1081864	0.28441850	2.2899754	21	10 18.3	20.7
309771 2008 YU_{80}	16.8	X	23.52383	1.96982	320.87618	5.48923	0.1019901	0.28870086	2.2672740	21	10 18.3	19.3
309772 2008 YD_{98}	17.6	X	284.32675	259.42775	97.48551	6.31966	0.2535730	0.27706340	2.3303256	21	5 23.3	20.8
309773 2008 YC_{99}	16.8	X	236.54484	11.12494	290.94660	9.81897	0.1450065	0.25134012	2.4867274	21	2 3.4	20.8
309774 2008 YH_{119}	16.9	X	70.01404	255.83849	311.30505	6.16211	0.0692707	0.26862124	2.3788980	21	7 8.5	19.6
309775 2008 YD_{125}	17.4	X	80.08054	213.03988	1.83732	2.02003	0.1058253	0.27327614	2.3518064	21	8 10.0	20.2
309776 2008 YH_{125}	16.7	X	53.16160	332.40564	301.21021	6.35780	0.1117573	0.28243380	2.3006909	21	9 22.5	19.6
309777 2008 YN_{133}	16.6	X	269.54901	282.66208	278.42333	5.08384	0.1283788	0.23376020	2.6098908	21	—	—
309778 2008 YG_{139}	17.4	X	331.27592	43.15393	277.26969	2.63963	0.1393274	0.27787009	2.3258133	21	7 4.6	19.5
309779 2008 YN_{140}	17.2	X	25.30761	92.04212	250.31751	3.76789	0.0214613	0.29177922	2.2512988	21	11 9.0	19.8
309780 2008 YU_{140}	17.8	X	214.68992	303.53706	223.21555	2.55174	0.1106364	0.29258570	2.2471599	21	11 9.9	20.7
309781 2008 YC_{154}	18.3	X	321.34589	355.37857	76.32376	1.18000	0.1078366	0.29875435	2.2161197	21	12 17.0	20.1
309782 2008 YY_{154}	18.0	X	340.05898	179.41170	256.82015	2.65712	0.1222018	0.30392461	2.1909147	21	—	—
309783 2008 YN_{159}	17.1	X	40.26922	91.02527	118.66893	3.31873	0.1459849	0.25736115	2.4477894	21	6 3.2	19.5
309784 2008 YD_{161}	17.9	X	146.67427	124.05396	60.58103	3.17207	0.1002837	0.28211036	2.3024490	21	9 19.2	21.1
309785 2008 YJ_{163}	17.4	X	101.34775	346.32008	235.27718	2.25934	0.1045864	0.28039679	2.3118200	21	9 14.6	20.4
309786 2008 YM_{165}	16.8	X	334.20023	218.68706	346.28691	7.47269	0.1449638	0.23766614	2.5812170	21	1 26.9	19.9
309787 2008 YB_{166}	18.0	X	321.11224	240.47004	144.22224	2.36202	0.1440812	0.28967544	2.2621858	21	9 30.3	19.7
309788 2009 AE_{15}	17.6	X	92.68722	246.79712	310.49985	1.49804	0.1395816	0.27023842	2.3693978	21	8 6.2	20.6
309789 2009 AL_{22}	17.4	X	1.52782	323.99900	254.22591	0.64672	0.1241182	0.25725817	2.4484426	21	3 28.1	19.6
309790 2009 AS_{28}	17.3	X	21.12367	224.42879	122.39295	4.33599	0.0259289	0.29183822	2.2509954	21	11 12.2	19.8
309791 2009 AZ_{33}	18.0	X	175.71546	85.85454	32.91069	2.63835	0.1403915	0.27509506	2.3414282	21	7 22.7	21.6
309792 2009 AF_{40}	18.1	X	235.42615	1.57263	140.13001	3.36554	0.1310131	0.29269120	2.2466199	21	10 31.6	20.9
309793 2009 AG_{47}	17.6	X	342.61701	250.88899	157.18074	5.49996	0.1190165	0.29890391	2.2153804	21	12 22.1	19.6
309794 2009 AN_{50}	17.2	X	3.19568	275.72622	103.24092	8.01864	0.1158813	0.29933646	2.2132457	21	12 14.7	19.3
309795 2009 BE_{32}	17.4	X	45.73298	174.18937	35.03660	1.92653	0.1221693	0.26224365	2.4173121	21	6 8.7	19.8
309796 2009 BN_{36}	17.7	X	158.35730	137.62844	73.29312	3.95971	0.1043276	0.28723653	2.2749731	21	11 5.4	20.8
309797 2009 BN_{38}	17.1	X	44.79429	167.89666	83.45505	2.26395	0.1540422	0.26929558	2.3749250	21	8 17.9	19.5
309798 2009 BL_{40}	17.0	X	24.26493	155.26144	59.60557	2.26942	0.1280442	0.25711809	2.4493318	21	5 7.8	19.1
309799 2009 BT_{41}	17.5	X	221.18231	14.68727	45.66293	2.37639	0.1774316	0.27352460	2.3503820	21	6 17.9	21.0
309800 2009 BP_{44}	17.4	X	75.20733	7.74964	194.25365	0.91546	0.1287712	0.26476828	2.4019212	21	7 17.9	20.2
309801 2009 BO_{48}	16.9	X	123.86303	186.45214	321.98838	6.55177	0.0640294	0.26582397	2.3955576	21	6 28.8	20.1
309802 2009 BH_{65}	17.0	X	321.48691	228.01552	144.85303	6.76186	0.1183332	0.28247910	2.3004449	21	9 12.9	19.1
309803 2009 BL_{70}	17.4	X	113.68589	121.56583	55.98360	4.17076	0.1378550	0.27094539	2.3652745	21	8 5.6	20.7
309804 2009 BN_{77}	17.0	X	228.38952	76.36880	62.79882	5.33455	0.0724879	0.28949751	2.2631126	21	10 27.1	19.7
309805 2009 BO_{78}	17.8	X	149.50059	174.29646	345.61363	1.77229	0.1604802	0.27331686	2.3515728	21	8 20.0	21.4
309806 2009 BQ_{81}	17.3	X	264.67618	323.45826	145.78560	4.60717	0.1266068	0.29189334	2.2507120	21	10 29.1	19.7
309807 2009 BP_{85}	17.5	X	324.90923	216.97629	149.87584	3.16566	0.1753455	0.28592124	2.2819446	21	9 4.7	18.8
309808 2009 BY_{85}	17.7	X	168.87652	218.38442	299.72519	3.31542	0.0648986	0.28002120	2.3138868	21	9 5.3	20.7
309809 2009 BP_{87}	17.6	X	228.34610	312.07008	118.88654	3.87110	0.0459563	0.27497510	2.3421092	21	7 23.2	20.6
309810 2009 BV_{89}	17.4	X	270.07277	287.20700	137.64557	7.14609	0.0765893	0.28379799	2.2933121	21	9 9.1	20.0
309811 2009 BY_{91}	17.6	X	263.78198	284.95648	129.22119	6.02170	0.1477467	0.28143408	2.3061361	21	8 1.2	20.5
309812 2009 BT_{94}	17.7	X	298.03779	102.26051	314.31138	4.00275	0.1284652	0.28819499	2.2699263	21	10 2.1	20.0
309813 2009 BL_{96}	17.2	X	233.36789	27.66686	31.98302	3.90248	0.1726050	0.27529408	2.3402997	21	6 30.1	20.7
309814 2009 BE_{98}	17.6	X	124.24209	103.75073	91.35670	6.08891	0.0389516	0.27990166	2.3145455	21	9 3.9	20.6
309815 2009 BF_{98}	17.8	X	222.47631	92.42354	26.97945	2.77509	0.0756845	0.28588777	2.2821227	21	9 20.1	20.7
309816 2009 BE_{105}	17.5	X	160.15355	233.36105	276.02839	2.77783	0.0964232	0.27439733	2.3453957	21	8 14.2	20.7
309817 2009 BU_{105}	17.7	X	167.27808	264.02470	209.62429	1.30826	0.1244883	0.26966273	2.3727689	21	7 5.8	21.1
309818 2009 BY_{107}	17.1	X	250.95445	175.85964	106.22928	2.99189	0.0658182	0.24084857	2.5584288	21	2 1.4	20.7
309819 2009 BS_{119}	17.5	X	53.72852	83.00823	84.31765	3.01207	0.1603677	0.25447816	2.4662421	21	4 27.7	19.8
309820 2009 BD_{130}	17.1	X	316.61219	215.54337	14.49845	5.06558	0.1465295	0.24208478	2.5497116	21	2 3.5	20.5
309821 2009 BB_{134}	17.0	X	58.09009	119.60362	134.72093	7.87510	0.0779251	0.27595819	2.3365434	21	8 31.6	19.7
309822 2009 BX_{138}	16.7	X	247.86064	136.95235	139.61091	11.28628	0.1090032	0.24286242	2.5442660	21	1 18.4	20.5
309823 2009 BK_{143}	17.5	X	54.71125	154.49304	73.91028	3.24673	0.1594180	0.26550551	2.3974728	21	7 31.6	20.1
309824 2009 BQ_{147}	18.3	X	215.48140	324.52986	182.39576	2.51417	0.1773569	0.28547928	2.2842992	21	10 6.6	21.4
309825 2009 BM_{157}	17.4	X	59.40072	76.38503	134.32701	3.49953	0.1162909	0.26162860	2.4210991	21	7 4.0	20.2
309826 2009 BO_{157}	17.5	X	145.44574	15.80241	133.39459	1.83824	0.1215126	0.26951338	2.3736453	21	7 30.4	20.9
309827 2009 BG_{158}	16.7	X	277.10122	186.76128	350.18036	2.55278	0.0457886	0.22407972	2.6845264	21	—	—
309828 2009 BU_{158}	17.6	X	105.16581	234.05746	319.24721	1.61344	0.1600014	0.26783978	2.3835229	21	8 18.0	20.9
309829 2009 BF_{165}	17.6	X	168.71135	88.82306	80.36004	3.29216	0.1137073	0.28018342	2.3129936	21	9 22.5	21.0
309830 2009 BY_{172}	17.2	X	56.40892	140.12854	78.01703	4.00062	0.1404714	0.26345467	2.4098987	21	7 15.1	19.7
309831 2009 BW_{174}	17.2	X	6.18574	22.96149	166.67983	2.46977	0.1021114	0.24591567	2.5231626	21	2 27.4	19.8
309832 2009 BM_{177}	16.7	X	338.18840	83.09159	178.90608	7.31336	0.0819464	0.25483740	2.4639238	21	4 28.1	19.4
309833 2009 BM_{182}	18.0	X	269.02909	341.00738	87.97031	1.68569	0.2170905	0.28557881	2.2837684	21	8 19.7	20.7
309834 2009 BT_{184}	17.7	X	300.57640	240.57786	178.44493	4.96633	0.1622833	0.29258637	2.2471565	21	10 10.7	19.5
309835 2009 BT_{188}	16.3	X	337.62227	84.00418	25.06191	6.51687	0.0172635	0.21703693	2.7422915	21	—	—
309836 2009 CK_2	18.0	X	215.55760	120.84191	32.66652	2.68935	0.1323818	0.28894232	2.2660107	21	10 20.8	21.1
309837 2009 CC_{17}	17.4	X	156.73337	280.84764	269.48437	4.01362	0.1008463	0.28221804	2.3018633	21	10 3.9	20.7
309838 2009 CG_{20}	18.1	X	274.09249	341.46789	164.26904	2.92913	0.1062621	0.30074150	2.2063470	21	—	—
309839 2009 CT_{21}	17.5	X	13.75664	73.69172	172.76736	1.55689	0.1474209	0.26178529	2.4201329	21	6 5.6	19.4
309840 2009 CV_{25}	17.0	X	166.38158	141.39122	346.44351	7.02379	0.0545331	0.27123673	2.3635804	21	7 24.8	20.3

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309841 2009 CL_{28}	18.0	X	174.72919	91.18713	12.03520	1.59228	0.1462752	0.26958755	2.3732100	21	6 30.2	21.6
309842 2009 CS_{39}	16.9	X	278.99944	56.09657	336.95088	6.33032	0.0330255	0.27542368	2.3395654	21	8 12.6	19.7
309843 2009 CV_{39}	17.1	X	169.11838	256.67427	288.52417	8.23897	0.0547156	0.28541906	2.2846205	21	10 10.4	20.4
309844 2009 CR_{43}	17.3	X	42.37304	84.58931	136.90568	2.62840	0.1395679	0.25872785	2.4391617	21	6 24.4	19.8
309845 2009 CH_{47}	16.7	X	254.10838	134.27494	21.56528	5.15023	0.0481075	0.21514928	2.7583081	21	12 10.4	20.5
309846 2009 CD_{50}	17.2	X	61.00713	154.48803	49.43081	3.13454	0.1631759	0.26218894	2.4176484	21	7 5.1	19.7
309847 2009 CZ_{59}	16.4	X	68.99796	307.56445	196.31120	11.98147	0.1219500	0.24497914	2.5295891	21	4 15.3	19.3
309848 2009 DT_{3}	16.5	X	161.96885	7.17145	138.76074	10.17847	0.0832180	0.27199617	2.3591788	21	8 12.3	19.8
309849 2009 DR_{5}	16.4	X	284.47050	325.81808	330.34515	5.48183	0.1213968	0.25335859	2.4735021	21	3 19.8	19.7
309850 2009 DU_{6}	17.4	X	92.28528	236.17283	358.77319	6.24237	0.0748216	0.27866263	2.3214013	21	9 19.2	20.3
309851 2009 DB_{17}	16.9	X	96.40158	71.17647	125.57203	1.85458	0.1218273	0.26525520	2.3989808	21	8 7.6	20.0
309852 2009 DS_{31}	17.3	X	247.80726	268.68952	184.65928	5.40148	0.1831492	0.28078129	2.3097090	21	8 29.3	20.4
309853 2009 DX_{32}	17.9	X	143.47945	19.96100	96.20061	2.35821	0.1178570	0.26030296	2.4293121	21	6 13.3	21.4
309854 2009 DF_{35}	17.1	X	209.06022	285.19474	172.77258	2.54263	0.1366059	0.27095728	2.3652052	21	7 28.1	20.5
309855 2009 DF_{39}	18.1	X	238.33313	176.51306	220.98627	1.73786	0.1754445	0.27190441	2.3597095	21	6 5.1	21.4
309856 2009 DX_{40}	17.7	X	98.48343	104.20665	67.99196	2.15826	0.1188103	0.26494303	2.4008649	21	7 6.3	20.6
309857 2009 DT_{41}	17.6	X	205.48829	155.36942	329.20718	5.31084	0.1051202	0.27875065	2.3209126	21	9 1.1	20.9
309858 2009 DT_{46}	17.2	X	234.69112	331.68202	170.16539	5.96351	0.1011265	0.28960741	2.2625400	21	11 4.3	19.9
309859 2009 DM_{54}	17.1	X	167.02288	157.66378	350.13213	6.63495	0.0309576	0.27466585	2.3438669	21	8 22.3	20.1
309860 2009 DJ_{55}	17.2	X	214.93858	211.96600	131.29620	4.00459	0.1338819	0.24688512	2.5165532	21	3 9.4	21.0
309861 2009 DL_{56}	17.8	X	107.59358	25.41544	99.49196	3.05416	0.1308975	0.25651323	2.4531807	21	5 15.7	21.1
309862 2009 DE_{64}	16.7	X	169.06272	171.70241	74.94175	4.60315	0.0511565	0.21252322	2.7809838	21	12 21.3	20.8
309863 2009 DC_{66}	16.4	X	181.31485	24.91499	310.77199	3.67261	0.1813871	0.23918355	2.5702884	21	1 29.9	20.5
309864 2009 DP_{72}	17.0	X	321.64216	262.00262	335.20070	3.58216	0.0967261	0.24637145	2.5200498	21	2 24.6	20.2
309865 2009 DY_{72}	17.1	X	303.25002	337.45344	267.54312	0.75493	0.0657308	0.24483370	2.5305908	21	2 15.0	20.2
309866 2009 DK_{74}	17.7	X	85.99784	84.05939	119.79371	2.00829	0.1160469	0.26648807	2.3915761	21	8 3.2	20.8
309867 2009 DE_{80}	17.0	X	280.74245	277.40273	146.84429	5.73992	0.1731195	0.28253283	2.3001532	21	9 7.6	19.3
309868 2009 DU_{80}	18.0	X	202.78285	357.46120	96.00375	2.47458	0.1506631	0.27114966	2.3640864	21	7 15.4	21.4
309869 2009 DB_{89}	17.3	X	41.30832	48.17371	192.77042	3.34349	0.0548312	0.26569524	2.3963313	21	7 9.9	20.0
309870 2009 DR_{92}	17.4	X	36.16330	81.60902	138.31957	2.01248	0.1379159	0.25637550	2.4540592	21	6 9.9	19.7
309871 2009 DY_{94}	17.1	X	310.76104	53.12882	144.81407	6.63766	0.0841953	0.23233168	2.6205780	21	—	—
309872 2009 DB_{95}	16.1	X	114.15906	216.77738	100.38317	4.54751	0.0846798	0.21374979	2.7703348	21	—	—
309873 2009 DY_{95}	17.5	X	144.30696	144.96797	61.45255	3.75768	0.1633299	0.28020585	2.3128702	21	10 15.9	21.0
309874 2009 DH_{104}	17.2	X	66.96951	321.98449	169.23876	2.47334	0.0859169	0.24568895	2.5247147	21	3 19.6	19.9
309875 2009 DJ_{105}	18.1	X	177.78752	324.35439	186.62295	1.59887	0.1462921	0.27491198	2.3424677	21	9 4.4	21.5
309876 2009 DL_{116}	17.0	X	182.29420	91.12029	346.46684	6.51043	0.1129654	0.26366653	2.4086076	21	6 2.2	20.7
309877 2009 DH_{118}	16.0	X	198.95080	156.79802	180.92597	2.36378	0.2133505	0.24102982	2.5571461	21	2 16.4	20.2
309878 2009 DP_{121}	17.0	X	292.82312	54.51061	2.72693	5.24625	0.1962687	0.28333015	2.2958360	21	9 14.3	18.8
309879 2009 DR_{121}	16.5	X	164.99618	301.33940	2.25998	8.80792	0.0649088	0.22364616	2.6879947	21	—	—
309880 2009 DD_{123}	17.6	X	295.24709	61.64884	190.38501	1.74043	0.1178918	0.24060448	2.5601588	21	2 7.3	21.0
309881 2009 DC_{124}	16.7	X	126.00665	237.32699	186.24071	6.57975	0.0097651	0.24424896	2.5346280	21	2 27.1	20.0
309882 2009 DV_{127}	17.8	X	225.01654	57.31738	22.53539	2.25000	0.1751691	0.27142579	2.3624827	21	7 18.7	21.3
309883 2009 DJ_{128}	17.7	X	138.58872	135.85449	15.93000	3.71945	0.1145936	0.26717063	2.3875011	21	7 27.1	21.1
309884 2009 DE_{129}	15.8	X	40.11415	278.54246	358.96144	13.42826	0.1767406	0.18600996	3.0393351	21	9 13.1	19.5
309885 2009 DB_{131}	16.8	X	95.40774	83.32668	101.19632	11.67784	0.1470599	0.26165630	2.4209283	21	7 24.3	20.1
309886 2009 DA_{132}	17.0	X	116.50739	152.83413	194.18970	5.21422	0.0914632	0.22291997	2.6938293	21	—	—
309887 2009 DT_{133}	17.2	X	66.09638	235.95407	249.22360	1.50235	0.0779412	0.24583753	2.5236973	21	3 7.8	20.0
309888 2009 DU_{133}	17.5	X	86.99492	308.66717	226.60673	0.52931	0.1376379	0.26341920	2.4101150	21	6 27.9	20.4
309889 2009 DH_{138}	17.4	X	169.56304	99.03873	323.27284	2.75608	0.0776898	0.25451823	2.4659832	21	4 27.7	20.8
309890 2009 DA_{139}	16.0	X	359.28531	295.22028	13.90007	10.70766	0.2097734	0.18369951	3.0647665	21	8 16.7	19.2
309891 2009 DR_{139}	17.0	X	241.75948	202.96755	236.86015	4.68983	0.0594694	0.27680785	2.3317597	21	8 18.9	20.0
309892 2009 DF_{140}	15.8	X	232.72155	129.31029	180.13868	12.96540	0.1706325	0.24275615	2.5450084	21	2 8.8	20.1
309893 2009 DH_{140}	17.5	X	136.13852	77.72688	66.17811	4.13688	0.1691268	0.26629910	2.3927074	21	7 17.2	21.1
309894 2009 DP_{140}	16.9	X	132.47843	343.05552	118.30631	7.03101	0.0934973	0.25553280	2.4594516	21	5 11.5	20.3
309895 2009 DG_{141}	17.3	X	171.86944	232.61193	262.04837	1.97115	0.1776011	0.27153969	2.3618221	21	8 7.4	21.0
309896 2009 DR_{141}	16.9	X	144.68880	272.59042	18.16787	4.12278	0.0786932	0.21291222	2.7775954	21	—	—
309897 2009 EM_{2}	16.9	X	64.92282	115.91487	72.14001	6.71166	0.0750899	0.26211179	2.4181228	21	6 2.7	19.7
309898 2009 EO_{3}	17.4	X	241.68424	335.12282	202.17695	3.60915	0.0579877	0.29799799	2.2198681	21	—	—
309899 2009 EK_{4}	17.3	X	134.72612	110.28436	71.47121	2.68233	0.1544716	0.27095342	2.3652277	21	9 3.9	20.8
309900 2009 EQ_{14}	17.5	X	259.35911	31.73559	19.20653	4.50091	0.1009156	0.27461476	2.3441576	21	7 30.3	20.4
309901 2009 EV_{19}	17.2	X	261.37115	241.15100	182.19893	3.23727	0.1525975	0.27948782	2.3168298	21	8 9.3	20.1
309902 2009 EF_{21}	16.3	X	274.77987	78.34168	140.87575	10.10289	0.0439781	0.22995930	2.6385706	21	—	—
309903 2009 EZ_{21}	15.9	X	114.46197	5.90488	14.08933	15.10352	0.1356743	0.23194686	2.6234757	21	1 12.8	19.6
309904 2009 ER_{24}	16.3	X	126.91863	335.78956	52.21798	5.16673	0.0897484	0.23181813	2.6244469	21	1 30.4	19.8
309905 2009 ET_{25}	17.2	X	171.92188	337.97461	115.99941	3.59655	0.1206959	0.26014282	2.4303090	21	6 14.7	20.9
309906 2009 EL_{27}	17.0	X	177.33756	39.58448	338.83556	1.88852	0.0509604	0.24439370	2.5336272	21	3 10.7	20.4
309907 2009 ET_{28}	15.9	X	252.45822	217.63820	25.19505	14.71392	0.0649776	0.22649934	2.6653736	21	—	—
309908 2009 EA_{29}	17.8	X	235.01990	133.33038	357.17673	2.76655	0.1636763	0.28300720	2.2975822	21	10 7.5	20.8
309909 2009 EN_{29}	17.8	X	201.41568	299.55772	163.30163	0.90415	0.1679246	0.27238609	2.3569268	21	7 25.4	21.2
309910 2009 EE_{30}	15.8	X	187.16538	181.86882	81.57410	6.84297	0.1194205	0.21629382	2.7485690	21	—	—
309911 2009 FG_{2}	17.4	X	208.32733	280.66285	155.25342	5.34881	0.2169849	0.26902951	2.3764906	21	6 24.4	21.4
309912 2009 FX_{6}	17.4	X	155.87431	331.04024	138.30041	3.94191	0.0786685	0.26123985	2.4235004	21	6 15.6	20.7
309913 2009 FX_{11}	17.1	X	262.09784	331.93577	302.59088	2.94901	0.1135122	0.23895616	2.5719187	21	1 31.1	20.9
309914 2009 FM_{14}	16.2	X	251.45374	132.48352	114.25397	14.38959	0.2307260	0.22565737	2.6719995	21	—	—
309915 2009 FP_{14}	17.4	X	45.58252	157.86910	43.88055	7.33564	0.1209965	0.25424884	2.4677248	21	5 27.4	19.9
309916 2009 FQ_{14}	16.9	X	310.46594	329.00046	116.21152	7.04854	0.0549661	0.28805724	2.2706500	21	12 14.8	19.2
309917 2009 FS_{14}	16.0	X	241.38411	203.46246	73.07487	15.03140	0.0964115	0.22942054	2.6426999	21	1 16.4	20.1
309918 2009 FF_{16}	17.7	X	66.79425	110.61714	5.60348	1.56093	0.0711597	0.24289765	2.5440199	21	2 25.7	20.5
309919 2009 FP_{19}	17.3	X	148.47301	225.04675	300.99185	1.77328	0.0616577	0.27145020	2.3623411	21	8 22.6	20.6
309920 2009 FS_{24}	17.6	X	171.49485	340.27208	157.83224	1.39045	0.1278080	0.27143951	2.3624031	21	8 12.2	21.2

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
309921 2009 FX_{24}	16.6	X	17.85317	190.23889	84.15129	7.24494	0.1125803	0.26515507	2.3995848	21	7 28.7	18.9
309922 2009 FE_{33}	17.6	X	259.95428	0.92352	80.05319	3.71593	0.1016117	0.28133774	2.3066625	21	9 13.6	20.3
309923 2009 FT_{34}	16.6	X	134.83416	307.28826	50.89308	5.78642	0.0730107	0.22763110	2.6565316	21	—	—
309924 2009 FU_{34}	17.2	X	176.33297	21.91552	42.95212	6.63264	0.0369143	0.25321320	2.4744489	21	5 8.3	20.4
309925 2009 FN_{35}	17.7	X	171.74103	80.22355	38.11902	5.47325	0.1025638	0.26833044	2.3806164	21	7 18.1	21.2
309926 2009 FJ_{37}	17.2	X	53.85236	53.06865	67.54330	4.50572	0.1149049	0.24048252	2.5610243	21	2 16.9	19.9
309927 2009 FS_{38}	16.2	X	162.53355	300.76142	13.12072	11.48223	0.0823277	0.22465531	2.6799391	21	—	—
309928 2009 FL_{42}	16.0	X	4.56848	96.95423	34.32962	13.89417	0.0451754	0.22952960	2.6418627	21	—	—
309929 2009 FG_{52}	16.8	X	114.92850	234.73103	114.35674	6.93774	0.0128763	0.22171711	2.7035636	21	—	—
309930 2009 FY_{52}	17.8	X	194.21400	83.34228	53.56759	3.47723	0.1491002	0.27552541	2.3389895	21	9 4.5	21.2
309931 2009 FP_{61}	16.3	X	109.22222	7.13149	40.28448	15.59930	0.0730990	0.23128479	2.6284799	21	2 3.7	20.1
309932 2009 FK_{62}	17.5	X	114.80807	333.83632	195.17483	2.22297	0.1362203	0.26282247	2.4137617	21	7 23.6	21.0
309933 2009 FQ_{62}	16.6	X	199.67084	57.33810	172.58311	5.23197	0.1026499	0.20993179	2.8038229	21	12 29.2	20.9
309934 2009 FS_{62}	15.3	X	6.64317	279.62109	42.22644	26.79943	0.1866632	0.18209602	3.0827319	21	9 29.9	19.2
309935 2009 FF_{65}	17.9	X	183.04881	62.95303	74.79841	2.89489	0.1376195	0.27131939	2.3631003	21	8 25.0	21.4
309936 2009 FA_{66}	16.8	X	18.32225	358.82595	147.48667	3.97768	0.0635115	0.23448129	2.6045373	21	1 23.7	20.0
309937 2009 FB_{67}	17.1	X	198.40511	204.15748	99.71806	1.91022	0.1059625	0.22947853	2.6422547	21	1 5.5	21.2
309938 2009 FC_{71}	16.6	X	18.11131	153.92162	83.60682	8.33290	0.0786844	0.25304681	2.4755335	21	5 30.1	19.2
309939 2009 FM_{72}	16.1	X	257.84299	131.53172	57.32783	12.45455	0.0426735	0.21897930	2.7260512	21	—	—
309940 2009 FN_{72}	16.2	X	34.40621	253.86694	48.80928	9.58733	0.1138253	0.18788662	3.0190628	21	10 1.3	20.1
309941 2009 FG_{73}	17.6	X	222.03647	56.43818	27.06655	6.81541	0.1595237	0.27275276	2.3548140	21	7 23.3	21.2
309942 2009 FM_{73}	16.8	X	245.92269	189.16290	59.18694	4.22235	0.0537876	0.22404087	2.6848367	21	—	—
309943 2009 FO_{73}	17.0	X	9.94777	47.49539	97.51107	4.50116	0.1236948	0.23117337	2.6293244	21	1 5.0	20.0
309944 2009 FX_{74}	16.6	X	229.84329	172.97384	61.51030	7.74211	0.1185416	0.21632020	2.7483455	21	—	—
309945 2009 FJ_{75}	16.3	X	102.34629	290.82256	139.51944	11.87937	0.0332695	0.23837254	2.5761149	21	2 10.8	19.6
309946 2009 FL_{76}	15.4	X	76.64903	26.59520	222.29424	21.41813	0.2241911	0.18485948	3.0519323	21	9 24.8	20.2
309947 2009 GD_{1}	15.6	X	79.58956	190.82501	57.12137	6.69598	0.0947894	0.18222618	3.0812637	21	9 17.6	20.0
309948 2009 GL_{2}	15.4	X	355.07647	191.89954	108.37659	10.39484	0.1522255	0.17749728	3.1357511	21	7 20.2	18.9
309949 2009 GD_{3}	16.9	X	232.07203	175.34786	83.06460	6.41263	0.1159002	0.22412843	2.6841375	21	—	—
309950 2009 GQ_{5}	15.7	X	268.14222	118.07194	112.75107	13.95530	0.1329705	0.22420851	2.6834983	21	—	—
309951 2009 HV_{1}	16.1	X	311.29102	64.48516	59.28094	5.25228	0.0372026	0.21408236	2.7674650	21	—	—
309952 2009 HZ_{2}	16.7	X	27.03410	120.58028	28.36058	5.12647	0.0773777	0.23752411	2.5822458	21	2 11.1	19.7
309953 2009 HB_{5}	16.3	X	135.00500	133.07955	170.76626	8.86710	0.1111107	0.21258644	2.7804325	21	—	—
309954 2009 HP_{5}	16.5	X	253.49227	113.76464	144.69828	3.02085	0.1001563	0.22941098	2.6427733	21	1 5.2	20.6
309955 2009 HV_{5}	17.7	X	27.92251	86.17189	57.35993	3.64149	0.0909331	0.23769964	2.5809744	21	2 3.9	20.6
309956 2009 HK_{9}	15.5	X	336.27627	225.88532	103.79468	13.00532	0.1564661	0.17728364	3.1382698	21	7 25.7	19.0
309957 2009 HF_{14}	17.0	X	290.10592	146.50339	72.90564	5.67218	0.2193948	0.22766856	2.6562402	21	—	—
309958 2009 HH_{14}	15.7	X	58.35033	206.49270	58.24430	9.11298	0.1738993	0.18326365	3.0696238	21	9 24.9	20.0
309959 2009 HJ_{22}	16.1	X	62.69362	221.50597	147.57219	6.95638	0.0562132	0.21374990	2.7703339	21	—	—
309960 2009 HK_{23}	16.8	X	19.90218	110.02339	10.19625	4.05485	0.0276724	0.22855564	2.6493627	21	—	—
309961 2009 HB_{25}	16.6	X	63.67363	68.17323	41.30935	6.52855	0.0267025	0.23132722	2.6281585	21	2 13.1	20.1
309962 2009 HO_{30}	16.4	X	151.28109	292.22565	109.90957	4.17040	0.1534685	0.24289715	2.5440234	21	3 23.3	20.2
309963 2009 HV_{30}	16.3	X	89.87431	325.69288	40.47364	6.79928	0.0435620	0.21904974	2.7254667	21	—	—
309964 2009 HH_{32}	16.9	X	52.59909	353.53234	98.15045	5.62361	0.0720813	0.22866452	2.6485216	21	1 5.2	20.1
309965 2009 HK_{35}	16.1	X	148.12326	253.75464	93.07275	15.17085	0.1079845	0.21965335	2.7204714	21	1 7.2	19.9
309966 2009 HN_{38}	16.8	X	341.86951	332.70657	171.68930	12.17906	0.1259791	0.22402113	2.6849944	21	—	—
309967 2009 HZ_{39}	16.4	X	293.96245	149.25304	56.76299	13.69638	0.1234279	0.22462728	2.6801620	21	—	—
309968 2009 HW_{42}	15.7	X	322.94476	140.16014	198.70674	11.77800	0.0725447	0.17978719	3.1090680	21	7 20.1	20.0
309969 2009 HF_{44}	16.4	X	127.49308	19.27877	59.07261	9.98080	0.0636536	0.24138991	2.5546024	21	4 3.9	19.9
309970 2009 HR_{44}	17.0	X	51.63086	123.05075	46.82054	6.53869	0.1272760	0.24677555	2.5172980	21	4 23.9	19.6
309971 2009 HW_{48}	16.7	X	40.58833	66.85365	82.16424	7.72630	0.1070631	0.23692070	2.5866284	21	3 8.4	19.6
309972 2009 HH_{49}	16.4	X	338.35515	289.09147	116.70242	12.93504	0.0512853	0.19717629	2.9234764	21	11 17.4	20.4
309973 2009 HO_{54}	16.4	X	92.04413	328.98735	149.18204	7.38948	0.1520951	0.24214708	2.5492743	21	4 22.1	19.7
309974 2009 HY_{57}	16.8	X	260.39383	275.97459	296.95825	4.41665	0.0848901	0.21981021	2.7191770	21	—	—
309975 2009 HZ_{59}	16.8	X	304.28747	87.25195	46.59222	4.83016	0.0381983	0.21276389	2.7788863	21	—	—
309976 2009 HM_{60}	16.0	X	267.11956	177.79932	76.69548	7.19459	0.0903175	0.22821119	2.6520279	21	1 16.6	19.8
309977 2009 HO_{61}	16.5	X	71.43522	217.93587	195.90438	3.88308	0.1022304	0.22347555	2.6893626	21	—	—
309978 2009 HG_{64}	17.0	X	18.03530	137.97816	52.34611	4.11138	0.0293256	0.24121167	2.5558606	21	3 25.7	20.2
309979 2009 HU_{71}	16.4	X	33.36732	35.77992	90.36188	12.23303	0.1311913	0.23015383	2.6370837	21	1 21.0	19.2
309980 2009 HX_{71}	15.7	X	332.10875	225.37805	103.72925	10.76624	0.0551501	0.17550872	3.1593925	21	7 25.6	19.8
309981 2009 HJ_{72}	15.9	X	332.00308	35.85535	168.14072	16.00179	0.1007586	0.23308060	2.6149615	21	1 26.3	19.4
309982 2009 HX_{73}	15.1	X	331.46227	233.18216	81.34096	27.52887	0.1846290	0.17223570	3.1992924	21	6 20.4	18.8
309983 2009 HB_{74}	16.7	X	305.16843	116.81147	99.29224	15.16455	0.1205352	0.23082781	2.6319479	21	1 6.9	20.2
309984 2009 HZ_{82}	16.2	X	318.84520	108.05874	103.53594	14.81654	0.1395864	0.23131703	2.6282357	21	1 15.3	19.8
309985 2009 HF_{83}	17.4	X	184.17719	288.35657	192.30083	7.20199	0.2040560	0.27083359	2.3659253	21	7 29.7	21.4
309986 2009 HP_{85}	16.1	X	349.68178	118.63688	189.51438	15.26629	0.2393214	0.17511867	3.1640822	21	7 14.2	19.6
309987 2009 HQ_{85}	16.6	X	187.39034	202.08996	64.30019	10.00909	0.0428788	0.21521288	2.7577647	21	—	—
309988 2009 HC_{87}	16.8	X	89.95401	247.01106	84.71507	4.76155	0.0998992	0.20866949	2.8151190	21	—	—
309989 2009 HB_{92}	16.9	X	3.38472	290.07267	232.67927	1.49332	0.0701353	0.23084136	2.6318449	21	1 23.5	20.1
309990 2009 HC_{94}	15.3	X	17.04392	241.56826	58.41257	10.85844	0.0962663	0.17735956	3.1373741	21	8 30.6	19.4
309991 2009 HW_{94}	17.0	X	282.49465	74.17346	63.19059	3.02364	0.0120385	0.20321849	2.8652371	21	12 26.2	20.8
309992 2009 HQ_{95}	16.6	X	232.88411	92.91347	140.23430	9.81214	0.0981877	0.21562641	2.7542377	21	—	—
309993 2009 HY_{95}	16.0	X	187.75531	61.34732	178.49670	15.17103	0.1091982	0.20686581	2.8314588	21	12 27.5	20.6
309994 2009 HV_{97}	16.7	X	94.81083	267.20255	208.64871	8.97370	0.1399592	0.24308767	2.5426940	21	4 17.7	19.7
309995 2009 HD_{100}	16.5	X	27.51420	218.63747	123.21041	5.34249	0.0594245	0.19207563	2.9750062	21	11 2.3	20.5
309996 2009 HF_{100}	16.9	X	347.32718	88.94004	58.37954	4.81939	0.0432425	0.22187662	2.7022676	21	—	—
309997 2009 HK_{101}	16.8	X	3.96496	287.04098	213.39587	5.93763	0.0807794	0.22622674	2.6675143	21	—	—
309998 2009 HO_{101}	16.0	X	39.12175	27.70840	233.37838	11.38357	0.2968661	0.17595698	3.1540244	21	8 31.9	20.0
309999 2009 HO_{103}	15.8	X	15.41336	227.11373	115.46316	11.01074	0.1000062	0.19045368	2.9918729	21	10 24.5	19.8
310000 2009 HD_{106}	17.6	X	57.67768	311.53586	213.99270	5.31888	0.1585998	0.24544762	2.5263693	21	5 2.4	20.2

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310001 2009 JD_{11}	16.7	X	209.64027	357.13324	235.96380	8.91361	0.1535958	0.20978388	2.8051406	21	—	—
310002 2009 JJ_{13}	17.0	X	7.84753	132.31734	56.80966	3.80702	0.1400105	0.23624056	2.5915907	21	3 2.9	19.7
310003 2009 JD_{16}	15.3	X	343.65597	251.19635	78.84787	15.37297	0.0835909	0.17782849	3.1318562	21	8 16.4	19.5
310004 2009 JP_{16}	17.0	X	276.11662	35.80703	125.85662	5.20129	0.0555330	0.20966225	2.8062254	21	—	—
310005 2009 KE	12.0	X	347.46487	113.80139	267.87092	34.68531	0.0406101	0.08332057	5.1916002	21	9 26.0	19.2
310006 2009 KU_{1}	15.4	X	339.44073	241.00348	55.59861	19.54982	0.1324728	0.17019983	3.2247543	21	6 14.5	19.5
310007 2009 KK_{3}	15.9	X	304.79774	158.73950	59.78257	9.18638	0.1342711	0.22740255	2.6583113	21	1 9.1	19.7
310008 2009 KO_{3}	16.2	X	326.98659	49.73690	96.94627	15.19012	0.0511472	0.21814046	2.7330353	21	—	—
310009 2009 KA_{4}	16.2	X	343.03320	75.87291	92.50738	4.36569	0.0429598	0.22630847	2.6668720	21	1 7.2	19.5
310010 2009 KR_{5}	15.9	X	51.66780	184.11533	79.34033	11.72578	0.0999217	0.17916331	3.1162814	21	9 3.8	20.3
310011 2009 KV_{8}	16.1	X	287.34259	217.59451	122.50036	12.07954	0.0684406	0.16903256	3.2395832	21	6 7.4	20.7
310012 2009 KL_{17}	16.1	X	155.13146	359.41714	207.38286	10.09485	0.0574180	0.19211618	2.9745875	21	10 15.3	20.4
310013 2009 KQ_{17}	15.8	X	50.16164	257.84763	107.44124	11.92569	0.1338878	0.20162374	2.8803257	21	—	—
310014 2009 KZ_{17}	16.2	X	281.95655	92.91592	83.74997	13.16381	0.0416666	0.21422927	2.7661996	21	—	—
310015 2009 KO_{23}	15.8	X	322.81232	207.02088	190.72033	10.58146	0.1027054	0.19006720	2.9959273	21	10 7.7	19.4
310016 2009 KD_{26}	13.7	X	327.68695	30.17780	258.52538	2.14766	0.1398907	0.08365266	5.1778510	21	5 22.9	20.0
310017 2009 LS_{4}	16.8	X	252.66498	323.78646	237.23154	6.97991	0.1585497	0.21356611	2.7719229	21	—	—
310018 2009 LD_{5}	16.5	X	352.32388	79.31526	99.45653	12.33302	0.1284715	0.23120990	2.6290475	21	1 22.2	19.6
310019 2009 MJ_{3}	15.8	X	13.91817	270.17902	227.18592	26.62584	0.1368165	0.22665781	2.6641311	21	—	—
310020 2009 QH_{14}	17.4	X	45.19139	188.86923	190.01303	5.34802	0.1014696	0.26579629	2.3957240	21	—	—
310021 2009 RU_{3}	17.6	X	3.71316	276.80687	135.95779	2.01548	0.1903014	0.26023585	2.4297297	21	—	—
310022 2009 RJ_{63}	14.0	X	355.88771	83.57989	303.71337	4.05118	0.0487684	0.08565158	5.0969746	21	10 25.4	20.6
310023 2009 ST_{177}	17.5	X	234.73914	96.00122	282.14346	1.01640	0.0962266	0.22394657	2.6855903	21	5 15.3	21.6
310024 2009 TA	15.7	X	187.90727	37.06734	354.23750	19.48391	0.4154092	0.21331403	2.7741063	21	4 10.9	21.4
310025 2009 TO_{26}	13.0	X	336.45484	355.38412	50.67380	12.93629	0.1550726	0.08306734	5.2021455	21	10 22.2	19.2
310026 2009 UQ_{131}	16.1	X	344.20948	240.22232	146.55911	12.41488	0.0665207	0.24416300	2.5352229	21	11 10.3	19.3
310027 2010 AH_{95}	12.8	X	256.86946	209.30164	282.96859	12.95304	0.0721522	0.08300920	5.2045743	21	10 18.7	19.9
310028 2010 BJ_{51}	17.0	X	16.36388	251.10963	52.83079	23.30275	0.2048973	0.28606630	2.2811731	21	10 10.6	19.5
310029 2010 DQ_{36}	18.2	X	39.71218	283.24760	338.15247	4.48509	0.1291838	0.29182869	2.2510444	21	8 21.5	20.4
310030 2010 ES_{37}	17.6	X	123.19867	121.14152	162.16353	4.01897	0.1160847	0.30971629	2.1635155	21	—	—
310031 2010 FR_{28}	17.7	X	136.84654	32.59476	201.86507	3.78569	0.1684191	0.30219373	2.1992727	21	11 15.3	21.0
310032 2010 FP_{94}	17.6	X	15.45140	47.32102	228.08689	1.85239	0.1793636	0.27974045	2.3154347	21	7 30.7	19.3
310033 2010 FG_{95}	16.3	X	346.04763	323.12621	359.44407	1.50008	0.2086731	0.19874222	2.9080997	21	8 2.3	19.1
310034 2010 GC_{7}	17.2	X	227.80784	245.56004	68.03297	22.65326	0.0748977	0.34769622	2.0029468	21	2 1.9	20.2
310035 2010 GW_{87}	15.5	X	96.47681	176.05476	128.26199	16.32648	0.1326980	0.20607894	2.8386618	21	12 18.9	20.1
310036 2010 GK_{104}	17.4	X	207.21542	277.89223	15.86328	3.52326	0.2569937	0.24094945	2.5577147	21	1 4.4	22.0
310037 2010 GF_{106}	17.0	X	71.79822	202.54233	74.69047	7.12141	0.1084235	0.29327950	2.2436145	21	10 30.1	19.9
310038 2010 GB_{108}	17.3	X	278.09160	277.18487	34.08037	3.04435	0.2083997	0.26126120	2.4233684	21	3 23.3	20.9
310039 2010 GB_{118}	16.8	X	313.99153	207.31004	87.22523	6.97232	0.1755285	0.26604393	2.3942370	21	4 21.5	19.6
310040 2010 GN_{121}	17.6	X	310.37575	164.43910	148.20018	5.45042	0.2361015	0.26799154	2.3826230	21	4 30.4	20.4
310041 2010 GZ_{126}	17.5	X	358.46291	206.69669	99.78504	7.99205	0.2148023	0.27893128	2.3199105	21	8 18.2	18.9
310042 2010 GK_{127}	16.9	X	104.70059	142.47243	195.48748	14.88129	0.2825817	0.22127719	2.7071457	21	—	—
310043 2010 GJ_{136}	15.6	X	268.10296	191.82041	107.58830	6.79732	0.1408557	0.17301713	3.1896520	21	3 17.8	20.5
310044 2010 GW_{159}	17.5	X	351.27028	293.82796	34.20436	5.95115	0.1939835	0.28461630	2.2889143	21	9 7.2	18.9
310045 2010 GR_{160}	17.1	X	358.07292	233.31054	10.74669	6.84285	0.0702398	0.27080280	2.3661046	21	4 30.5	19.6
310046 2010 HP_{32}	16.1	X	294.06390	232.56014	129.89044	1.74098	0.1394079	0.17591694	3.1545029	21	7 2.4	20.4
310047 2010 HA_{43}	12.9	X	18.16892	338.92416	273.84569	20.21733	0.0513584	0.08332868	5.1912630	21	6 23.5	19.6
310048 2010 HU_{66}	15.1	X	355.59310	66.75229	256.75065	24.91466	0.2116473	0.18099891	3.0951764	21	8 9.7	18.9
310049 2010 HU_{78}	16.8	X	335.75956	154.37649	131.94140	10.87649	0.1354779	0.26862468	2.3788777	21	5 24.0	19.4
310050 2010 HO_{79}	17.4	X	350.58737	63.34587	200.79374	5.97513	0.2016608	0.27025355	2.3693094	21	5 7.7	19.1
310051 2010 HN_{82}	15.5	X	336.86736	158.30086	174.64822	17.35847	0.2104157	0.17845529	3.1245185	21	7 23.5	19.2
310052 2010 JY_{1}	17.3	X	2.17446	21.49231	246.79019	1.67453	0.1713242	0.27276702	2.3547319	21	6 14.6	19.1
310053 2010 JD_{30}	17.2	X	335.03886	238.59973	80.60735	7.79096	0.1212394	0.27669701	2.3323823	21	7 13.1	19.4
310054 2010 JW_{32}	15.8	X	265.09416	101.62634	238.20414	11.08935	0.1366501	0.17886658	3.1197269	21	4 28.1	20.4
310055 2010 JW_{40}	17.3	X	22.91233	259.19137	55.68409	6.17762	0.1837281	0.28696427	2.2764118	21	10 23.6	19.4
310056 2010 JC_{46}	17.9	X	330.78764	177.68824	109.45219	3.46697	0.1594123	0.26783393	2.3835576	21	5 9.8	20.2
310057 2010 JE_{59}	15.3	X	347.76825	281.44449	80.31548	16.13907	0.1507709	0.18568682	3.0428602	21	10 10.4	19.1
310058 2010 JF_{84}	16.8	X	26.46772	232.93352	70.48659	6.25562	0.1391159	0.28774813	2.2722758	21	10 6.8	19.1
310059 2010 JR_{112}	15.9	X	225.29688	269.09529	33.34842	4.86352	0.2769224	0.24161554	2.5530117	21	1 27.9	20.5
310060 2010 JP_{116}	16.7	X	118.49802	228.07507	53.74644	9.47101	0.0417797	0.30455286	2.1879006	21	12 25.5	19.5
310061 2010 JW_{131}	15.7	X	5.86492	102.21364	190.78985	9.51130	0.2167208	0.17766847	3.1337365	21	7 30.9	19.0
310062 2010 JD_{148}	15.9	X	73.82694	211.72994	129.98036	9.83143	0.1675483	0.21777992	2.7360508	21	—	—
310063 2010 JQ_{149}	16.3	X	233.73844	169.02676	107.00577	15.18351	0.2491015	0.23929212	2.5695109	21	1 2.7	20.9
310064 2010 JV_{158}	17.6	X	183.26283	220.51262	127.67893	6.79629	0.1738896	0.24465743	2.5318061	21	2 15.3	21.5
310065 2010 JO_{166}	18.0	X	22.36411	239.00905	132.41324	4.00473	0.1222362	0.30274917	2.1965819	21	—	—
310066 2010 KG_{8}	17.5	X	324.21409	313.44455	324.41055	0.94355	0.1636112	0.26431124	2.4046892	21	4 11.9	20.1
310067 2010 KB_{9}	16.8	X	250.74783	40.00408	198.75542	15.64627	0.1201109	0.23948530	2.5681288	21	—	—
310068 2010 KG_{9}	16.4	X	151.55297	199.40179	99.90908	15.42066	0.2440284	0.22288908	2.6940782	21	—	—
310069 2010 KW_{36}	16.0	X	185.52291	85.36656	252.28181	3.66425	0.2589867	0.23919950	2.5701741	21	2 6.9	20.5
310070 2010 KL_{55}	15.7	X	160.05775	140.04275	141.27403	9.57150	0.1317157	0.21165998	2.7885400	21	—	—
310071 2010 KR_{59}	7.6	X	24.97766	108.51160	46.81982	19.67233	0.5645681	0.00603100	29.8911729	21	5 16.7	20.3
310072 2010 KD_{62}	17.7	X	65.91795	25.95052	225.56645	2.50324	0.1842897	0.28341229	2.2953923	21	9 23.3	20.4
310073 2010 KX_{81}	15.6	X	199.01146	214.37007	159.07796	9.96894	0.0185161	0.15114333	3.4904122	21	4 11.6	20.7
310074 2010 KQ_{101}	15.5	X	84.20377	347.56675	303.18959	9.57329	0.0878913	0.19303217	2.9651700	21	11 8.4	20.0
310075 2010 KY_{102}	15.6	X	346.63968	151.06634	175.69511	5.82195	0.1285799	0.17588579	3.1548754	21	8 9.0	19.4
310076 2010 KY_{104}	16.0	X	55.79200	117.61468	156.66362	13.06192	0.2107996	0.18493865	3.0510613	21	10 7.7	20.2
310077 2010 KC_{107}	16.3	X	336.99468	204.14951	130.19963	0.54024	0.0699409	0.17476800	3.1683132	21	8 7.1	20.3
310078 2010 KF_{116}	16.5	X	198.13577	16.12048	226.38669	8.75459	0.2335900	0.21452642	2.7636446	21	12 31.2	21.2
310079 2010 KS_{117}	17.6	X	83.85491	259.10950	358.73859	2.24720	0.2098795	0.28909756	2.2651994	21	10 26.4	20.8
310080 2010 LC_{1}	16.9	X	4.34776	149.18553	131.89561	4.96840	0.1358355	0.27398864	2.3477274	21	7 11.3	18.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310081 2010 LK_{1}	17.3	X	41.43375	185.71918	77.79034	3.38345	0.1798393	0.27909245	2.3190173	21	9 6.2	19.6
310082 2010 LP_{72}	15.2	X	47.92825	335.80563	254.01379	9.43441	0.1085595	0.16808165	3.2517902	21	7 10.1	19.5
310083 2010 LB_{83}	15.4	X	294.85114	204.88372	299.55756	21.57105	0.0590586	0.23821261	2.5772678	21	—	—
310084 2010 LB_{108}	16.7	X	165.72843	194.71692	136.45980	5.14189	0.2133166	0.23322507	2.6138815	21	1 13.7	20.9
310085 2010 ML_{92}	16.0	X	112.04560	26.94685	221.37102	7.59117	0.2054308	0.18822363	3.0154580	21	10 29.9	21.0
310086 2010 MY_{101}	15.9	X	276.71576	106.15512	193.54731	9.52418	0.0828042	0.14732765	3.5504212	21	4 3.3	21.0
310087 2010 MD_{102}	15.9	X	53.23043	206.93732	116.18170	5.45055	0.1403631	0.18783513	3.0196145	21	11 22.3	20.1
310088 2010 MD_{104}	16.2	X	52.96930	11.44463	272.10524	5.24834	0.1478128	0.17956509	3.1116311	21	9 29.8	20.5
310089 2010 NF_{4}	16.0	X	331.53881	19.91378	116.15344	14.28206	0.0324892	0.21942364	2.7223697	21	—	—
310090 2010 NK_{117}	16.3	X	272.55766	115.62739	121.44496	12.46261	0.0235860	0.23376403	2.6098623	21	1 5.9	20.0
310091 2010 OY_{27}	15.3	X	229.34234	49.10215	295.05703	14.66924	0.1661926	0.23448745	2.6044917	21	3 15.1	19.9
310092 2010 PR_{1}	16.6	X	327.58017	108.03801	160.89927	2.72922	0.1650002	0.25506227	2.4624754	21	4 7.0	19.1
310093 2010 PC_{51}	16.3	X	239.16834	216.85575	225.15999	8.31387	0.1222488	0.16074435	3.3500059	21	8 4.4	21.4
310094 2010 PH_{61}	16.6	X	17.94666	175.95948	169.15546	4.85529	0.0300233	0.18685254	3.0301913	21	10 19.7	20.7
310095 2010 PE_{63}	16.8	X	73.77649	252.66169	300.47647	15.76016	0.0955263	0.35040494	1.9926112	21	6 28.2	18.7
310096 2010 PL_{64}	15.8	X	343.82998	144.43322	161.23783	11.61872	0.0791994	0.17262078	3.1945326	21	7 9.2	20.1
310097 2010 PL_{72}	15.2	X	22.96964	39.07394	280.44285	18.04899	0.1396366	0.17309080	3.1887469	21	9 21.9	19.6
310098 2010 PE_{76}	17.2	X	315.39701	133.65176	183.81837	0.90787	0.1908278	0.25824913	2.4421751	21	5 22.6	19.8
310099 2010 RF_{22}	15.5	X	348.24240	164.85599	218.24455	8.09863	0.0519555	0.19019713	2.9945626	21	10 27.6	19.3
310100 2010 RU_{42}	16.1	X	180.57548	277.40180	231.93516	3.76119	0.0759735	0.17349321	3.1838143	21	8 30.3	21.0
310101 2010 RO_{69}	16.2	X	318.07305	329.14190	279.97787	5.33210	0.0963040	0.24070710	2.5594312	21	3 5.7	19.6
310102 2010 TO_{14}	16.2	X	8.80715	146.58023	215.73990	8.06121	0.0119200	0.18275008	3.0753720	21	10 25.8	20.3
310103 2010 TL_{171}	13.4	X	240.55443	93.11773	37.72695	4.29976	0.0180838	0.08385885	5.1693601	21	10 11.8	20.3
310104 2010 UX_{28}	13.2	X	306.58706	200.18731	225.14482	15.70521	0.0302558	0.08120876	5.2812184	21	10 8.3	20.2
310105 2010 UW_{35}	14.0	X	256.49791	339.34537	128.39163	4.09512	0.0233440	0.08461488	5.1385219	21	10 4.1	20.8
310106 2010 UV_{51}	13.3	X	302.16428	310.84386	119.36498	7.95801	0.1254828	0.08376755	5.1731153	21	10 4.1	19.9
310107 2010 UB_{96}	12.8	X	286.04418	36.32787	71.13529	18.39382	0.1188414	0.08358365	5.1807008	21	10 29.5	19.6
310108 2010 VJ_{21}	17.5	X	284.53157	218.58094	309.52661	2.51878	0.0877080	0.28625819	2.2801536	21	—	—
310109 2010 VQ_{30}	16.2	X	48.54316	357.45090	61.27714	11.23845	0.0979781	0.20272354	2.8698989	21	—	—
310110 2010 VJ_{34}	12.8	X	280.87397	219.83395	249.40651	9.17797	0.0292688	0.08295972	5.2066439	21	10 28.6	19.7
310111 2010 VL_{72}	15.4	X	208.05742	269.60446	278.17989	10.55223	0.0551019	0.18490998	3.0513766	21	11 17.1	20.0
310112 2010 VW_{176}	13.1	X	355.27268	84.60603	295.46872	11.24469	0.0689918	0.08370947	5.1755081	21	10 13.0	19.8
310113 2010 VR_{191}	16.7	X	287.26028	107.13877	190.71761	1.92274	0.0590570	0.23033377	2.6357101	21	4 8.2	20.1
310114 2010 VH_{194}	16.8	X	230.90462	242.68655	148.78306	3.23722	0.0616095	0.23929556	2.5694862	21	5 31.7	20.4
310115 2010 WF_{13}	13.3	X	245.70595	70.18162	73.94535	7.24434	0.0761288	0.08313527	5.1993116	21	10 26.6	20.3
310116 2011 AT_{72}	16.1	X	18.93003	174.37532	117.71010	16.65888	0.1335587	0.23957054	2.5675196	21	8 30.2	19.0
310117 2011 BG_{119}	16.9	X	58.78480	93.78428	95.65036	5.97150	0.0972454	0.21602338	2.7508625	21	6 1.4	20.3
310118 2011 CX_{100}	16.1	X	120.92582	194.49333	192.35105	8.50145	0.0941410	0.19101838	2.9859735	21	1 26.3	20.4
310119 2011 DU_{19}	15.7	X	325.96894	255.92946	329.09395	16.51484	0.0747861	0.20066774	2.8894666	21	2 24.5	19.7
310120 2011 DR_{25}	16.5	X	319.83415	141.33956	13.64254	0.62772	0.1130195	0.18109527	3.0940784	21	—	—
310121 2011 EU_{4}	15.0	X	193.88276	109.60582	159.47069	32.69724	0.0771087	0.17134699	3.2103451	21	—	—
310122 2011 EN_{13}	16.5	X	304.61881	158.88447	171.05750	5.48331	0.1286750	0.21805197	2.7337746	21	6 5.6	19.9
310123 2011 EP_{36}	17.3	X	240.70442	217.38801	38.36167	4.41905	0.0757872	0.27294630	2.3537008	21	—	—
310124 2011 ED_{55}	16.5	X	19.02901	60.04656	82.86336	3.86124	0.0233907	0.18583873	3.0412018	21	2 3.0	20.7
310125 2011 EZ_{83}	16.0	X	178.14031	184.35328	202.92243	5.46044	0.0779979	0.20208067	2.8759822	21	3 28.9	20.2
310126 2011 FV_{71}	15.1	X	205.89209	311.35436	332.90319	10.36452	0.0134025	0.17136261	3.2101501	21	—	—
310127 2011 FQ_{150}	15.9	X	250.16994	3.86515	82.25158	14.01111	0.2202302	0.24054401	2.5605879	21	8 21.4	19.9
310128 2011 GY_{27}	15.7	X	4.62826	76.31402	74.77887	16.46692	0.1946837	0.18480176	3.0525678	21	1 10.9	19.2
310129 2011 GA_{57}	16.8	X	73.08320	132.63235	181.48721	9.26518	0.1856579	0.23673626	2.5879717	21	12 16.3	20.8
310130 2011 GH_{59}	16.9	X	78.54270	172.95907	63.93974	6.10327	0.1076315	0.21814113	2.7330297	21	9 6.8	20.7
310131 2011 GO_{62}	16.2	X	182.13802	93.54364	31.34138	9.78129	0.0331931	0.22315067	2.6919723	21	8 10.5	20.1
310132 2011 GH_{63}	15.9	X	25.31981	343.08716	152.23005	14.95054	0.0892463	0.18397708	3.0616831	21	1 30.5	19.8
310133 2011 GF_{75}	15.8	X	50.57484	316.99158	167.71062	10.16230	0.0695285	0.18743209	3.0239418	21	2 22.1	19.8
310134 2011 HD_{32}	15.7	X	202.28360	212.16360	124.77562	10.74949	0.1914061	0.17424749	3.1746197	21	2 27.5	21.1
310135 2011 HV_{32}	15.8	X	65.63951	157.67020	86.54847	9.48002	0.0271784	0.21482160	2.7611123	21	8 17.7	19.6
310136 2011 HO_{54}	16.1	X	289.31038	68.14202	194.99544	11.90373	0.2047811	0.18014952	3.1048978	21	2 10.6	21.0
310137 2011 HH_{67}	15.6	X	264.77998	216.02283	129.31217	12.93637	0.0653024	0.19741252	2.9211437	21	5 17.9	20.0
310138 2011 HT_{79}	17.0	X	4.74285	11.07332	98.00112	7.49261	0.0725866	0.26188992	2.4194883	21	—	—
310139 2011 HP_{80}	16.0	X	317.86277	169.35861	160.51023	11.45881	0.0602870	0.20642525	2.8354859	21	7 4.4	19.9
310140 2011 HG_{81}	16.1	X	155.08906	307.02423	189.12796	13.99951	0.0857565	0.21833487	2.7314126	21	7 18.2	20.5
310141 2011 HA_{84}	15.7	X	94.06337	353.24258	117.90635	12.59737	0.0883889	0.19079802	2.9882721	21	4 14.6	20.0
310142 2011 HP_{87}	17.5	X	227.88030	218.85244	135.16231	8.20756	0.1698708	0.28838102	2.2689501	21	4 1.2	21.1
310143 2011 KD_{10}	16.0	X	35.87112	131.47759	147.72398	5.78787	0.0506052	0.21350161	2.7724812	21	8 23.3	19.6
310144 2011 KQ_{11}	16.3	X	106.77500	9.53875	225.93465	13.81090	0.2136104	0.22272782	2.6953784	21	10 12.0	20.9
310145 2011 KL_{16}	15.4	X	121.36958	246.57229	241.59521	9.81216	0.0603179	0.17593739	3.1542585	21	5 31.0	19.9
310146 2011 KW_{39}	15.5	X	50.58019	224.72120	272.62192	8.42040	0.0464511	0.18032551	3.1028773	21	3 5.8	19.9
310147 2011 LS_{10}	17.6	X	77.96661	263.14469	223.26310	19.73549	0.0610010	0.37881275	1.8917032	21	2 19.2	19.8
310148 2011 LY_{18}	16.8	X	275.43868	47.82260	259.35605	3.47580	0.1569810	0.26847463	2.3797640	21	3 17.3	20.1
310149 2011 MW_{6}	17.5	X	2.12388	175.24905	110.56291	5.62400	0.1603420	0.29473718	2.2362109	21	7 15.9	18.7
310150 2011 OV_{57}	15.2	X	253.20522	243.68171	100.49168	14.97868	0.2252483	0.17306428	3.1890728	21	4 21.3	20.6
310151 2011 OM_{58}	15.2	X	10.15996	272.09304	95.38056	32.47025	0.2153222	0.21048050	2.7989479	21	12 7.9	18.6
310152 2011 QB_{3}	15.9	X	27.75764	205.25618	132.96782	4.53884	0.1620953	0.20929177	2.8095360	21	11 14.4	19.3
310153 2011 QV_{8}	18.1	X	333.18719	84.34000	243.00592	0.79303	0.1516009	0.28954721	2.2628536	21	7 19.2	19.7
310154 2011 QN_{23}	17.0	X	101.21123	50.70823	265.82362	4.79244	0.2459221	0.22390018	2.6859613	21	—	—
310155 2011 QR_{32}	17.0	X	284.64985	183.65347	141.12287	4.65152	0.1745803	0.27481657	2.3430098	21	4 21.6	20.1
310156 2011 QO_{35}	15.3	X	324.60403	218.27126	111.65032	11.24182	0.2327069	0.18624166	3.0368138	21	6 23.7	18.7
310157 2011 QU_{56}	17.5	X	247.40728	170.80805	177.93858	7.11577	0.1608010	0.27128991	2.3632715	21	4 13.4	21.1
310158 2011 QF_{61}	15.8	X	287.09273	165.34692	191.74332	11.39846	0.1264949	0.18160242	3.0883152	21	6 17.9	20.2
310159 2011 QO_{64}	17.2	X	225.34099	143.96515	204.95674	4.36034	0.1484845	0.26185115	2.4197271	21	3 22.5	21.0
310160 2011 QQ_{72}	16.6	X	197.90908	330.91038	289.92897	5.16030	0.1742987	0.23743280	2.5829078	21	—	—

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310161 2011 QW_{91}	17.1	X	157.07879	191.20445	207.70000	5.58424	0.1343209	0.25551539	2.4595633	21	3 18.6	20.6
310162 2011 QQ_{95}	16.4	X	276.22501	238.05024	43.62608	6.57991	0.1109948	0.26253947	2.4154959	21	2 24.4	19.9
310163 2011 RC_{1}	15.1	X	143.93477	80.45977	294.44953	16.47894	0.1109339	0.14858454	3.5303707	21	2 12.1	20.6
310164 2011 RV_{16}	17.0	X	257.54177	17.74337	310.40633	4.65533	0.1263632	0.26710787	2.3878750	21	3 28.0	20.4
310165 2011 RW_{16}	17.2	X	249.15069	282.47058	143.50976	5.98511	0.1412537	0.28312939	2.2969211	21	7 30.2	20.2
310166 2011 SB	17.1	X	146.19959	66.42443	259.19677	0.90598	0.2110974	0.23647553	2.5898736	21	—	—
310167 2011 SD	17.7	X	270.27753	134.04808	189.33188	2.10222	0.2214165	0.27116307	2.3640084	21	3 27.7	21.0
310168 2011 SG	16.5	X	34.03450	98.46806	212.04106	1.48851	0.0380350	0.19937128	2.9019794	21	9 27.9	20.3
310169 2011 SD_{7}	16.2	X	249.55916	325.25911	291.98025	8.70968	0.1480119	0.24699509	2.5158061	21	—	—
310170 2011 SN_{7}	16.1	X	327.06530	350.68069	6.40417	10.53024	0.0771055	0.18521006	3.0480799	21	8 26.2	20.0
310171 2011 SU_{19}	15.8	X	198.20705	5.99524	282.59681	14.32458	0.1381005	0.23907246	2.5710845	21	—	—
310172 2011 ST_{26}	16.5	X	70.74691	321.18333	0.19263	2.59106	0.2125052	0.21549841	2.7553282	21	12 21.7	20.8
310173 2011 SQ_{30}	16.3	X	78.66789	139.23135	248.16251	5.18766	0.2206962	0.22497978	2.6773618	21	—	—
310174 2011 SV_{32}	17.5	X	177.35293	7.56446	4.41650	3.75217	0.2213299	0.25347093	2.4727713	21	3 11.9	21.6
310175 2011 SZ_{32}	17.2	X	160.27993	52.75138	6.40457	1.25641	0.1808167	0.25839515	2.4412550	21	4 21.1	21.0
310176 2011 SZ_{35}	16.4	X	142.71303	246.22278	21.20111	14.06332	0.2298537	0.21859591	2.7292377	21	12 17.7	21.4
310177 2011 SG_{37}	17.1	X	137.49999	177.79015	196.08780	14.76091	0.1358525	0.23839302	2.5759674	21	1 25.1	21.1
310178 2011 SK_{38}	16.4	X	69.89151	298.82670	40.28271	3.21059	0.2494429	0.21549874	2.7553253	21	—	—
310179 2011 ST_{39}	17.5	X	225.74078	67.19019	330.08606	0.57552	0.1742876	0.26954689	2.3734486	21	5 23.1	21.2
310180 2011 SB_{52}	15.7	X	321.38226	196.81606	214.70711	12.66367	0.0198443	0.19289143	2.9666121	21	10 27.9	19.7
310181 2011 SM_{57}	17.7	X	314.15120	155.14989	185.89856	1.67191	0.1451644	0.27749216	2.3279246	21	7 2.8	20.0
310182 2011 SL_{65}	17.9	X	310.87034	75.79458	238.48159	1.43771	0.2274012	0.28016942	2.3130706	21	5 1.3	20.4
310183 2011 ST_{65}	15.3	X	354.23829	309.88245	339.75044	11.99156	0.1038851	0.18079397	3.0975150	21	7 6.7	19.2
310184 2011 SY_{67}	16.2	X	48.99155	143.46315	202.33751	10.75426	0.2106962	0.21098374	2.7944954	21	12 26.7	20.3
310185 2011 SV_{80}	18.4	X	192.34951	130.60807	304.58112	1.61252	0.2283188	0.26974590	2.3722811	21	6 9.6	22.4
310186 2011 SE_{81}	15.6	X	322.63662	325.22899	351.71904	9.52056	0.0639229	0.18024335	3.1038202	21	6 24.8	19.9
310187 2011 SS_{88}	16.7	X	337.47967	85.00613	334.33162	3.61731	0.0699774	0.20497605	2.8488350	21	11 30.1	20.3
310188 2011 SG_{92}	17.4	X	244.65175	116.89890	223.07559	4.03347	0.2371683	0.26283945	2.4136577	21	3 23.9	21.5
310189 2011 SE_{105}	16.6	X	296.59483	34.57624	262.58386	5.54391	0.1143779	0.26369365	2.4084424	21	4 4.3	19.9
310190 2011 SV_{106}	15.4	X	285.79755	84.68980	282.47296	7.22224	0.0958251	0.17718706	3.1394100	21	7 3.9	19.8
310191 2011 SR_{114}	15.2	X	355.63300	302.17509	357.81613	10.27796	0.1145352	0.18017082	3.1046531	21	7 24.2	19.1
310192 2011 SM_{115}	16.4	X	120.01977	134.93214	189.45751	5.58841	0.0498277	0.22412102	2.6841966	21	—	—
310193 2011 SF_{116}	17.2	X	205.16644	313.56613	27.48453	1.82721	0.1891724	0.25704538	2.4497937	21	2 24.5	21.3
310194 2011 SO_{116}	17.4	X	240.83869	327.08704	26.08026	7.03485	0.1440854	0.26782720	2.3835976	21	4 12.9	21.0
310195 2011 SS_{119}	15.6	X	340.15037	284.86026	49.58947	7.84811	0.1523257	0.18266950	3.0762764	21	8 12.2	19.2
310196 2011 SB_{120}	16.3	X	355.34664	192.73003	182.02490	1.93276	0.0801361	0.20317194	2.8656748	21	10 31.4	19.9
310197 2011 SN_{120}	17.2	X	209.42574	269.94464	92.07923	4.03646	0.2172233	0.26103247	2.4247838	21	3 26.6	21.4
310198 2011 SU_{120}	16.6	X	146.32556	10.02765	9.27634	12.23501	0.2276272	0.24049582	2.5609299	21	2 27.5	20.7
310199 2011 SM_{121}	16.4	X	21.62443	147.12827	208.99661	1.37841	0.0783404	0.20405072	2.8574412	21	11 14.6	19.9
310200 2011 SS_{125}	16.1	X	180.79086	242.43708	40.26174	4.30743	0.0747102	0.22415350	2.6839373	21	—	—
310201 2011 SR_{128}	16.1	X	6.50727	116.60265	193.43170	5.44139	0.0904799	0.18342818	3.0677880	21	8 19.7	20.0
310202 2011 SD_{130}	16.6	X	20.52360	229.47895	63.46620	6.08106	0.1431341	0.18699136	3.0286914	21	8 29.6	20.2
310203 2011 SK_{130}	17.2	X	106.97214	78.51452	57.17610	5.63970	0.0443294	0.26296757	2.4128737	21	5 15.4	20.3
310204 2011 SG_{132}	15.8	X	303.92885	235.99037	105.93009	2.51652	0.1858307	0.17627021	3.1502869	21	6 12.6	19.9
310205 2011 SK_{132}	16.5	X	86.27862	325.93521	40.84564	10.68217	0.0977460	0.22050330	2.7134760	21	—	—
310206 2011 SK_{135}	16.4	X	101.64198	302.77491	19.20903	5.29933	0.1007190	0.22007923	2.7169607	21	—	—
310207 2011 SW_{164}	15.3	X	243.01301	130.41447	190.33896	9.07237	0.1040932	0.15433602	3.4421082	21	3 19.3	20.5
310208 2011 SB_{165}	17.3	X	300.93253	251.27544	63.79186	2.23975	0.1989160	0.27363453	2.3497525	21	4 24.1	20.2
310209 2011 ST_{165}	16.8	X	261.58177	24.45774	218.12132	4.31269	0.0480317	0.23981036	2.5658076	21	—	—
310210 2011 SJ_{172}	16.7	X	88.65987	108.01807	303.83006	1.63951	0.1682718	0.23138334	2.6277336	21	1 18.8	19.5
310211 2011 SB_{173}	17.0	X	11.82724	63.12997	8.52661	2.93181	0.0729675	0.21546107	2.7556465	21	—	—
310212 2011 SF_{176}	16.9	X	61.47635	5.29004	298.62531	1.00089	0.0619424	0.20175486	2.8790777	21	10 29.1	20.9
310213 2011 SM_{176}	14.3	X	320.96801	23.74411	272.54031	25.42269	0.0900397	0.17079607	3.2172450	21	5 22.8	18.8
310214 2011 SA_{180}	16.5	X	225.63446	230.92789	217.34667	4.82651	0.1214077	0.17860515	3.1227705	21	7 30.8	21.4
310215 2011 ST_{180}	15.6	X	180.62234	288.95748	209.67018	11.05471	0.0365243	0.18177058	3.0864103	21	8 16.3	20.3
310216 2011 SF_{184}	16.1	X	264.89804	298.10592	98.23737	2.85061	0.1963355	0.17628278	3.1501371	21	7 1.1	20.8
310217 2011 SW_{184}	17.8	X	280.14837	245.38308	126.02407	3.06057	0.1957271	0.27828864	2.3234807	21	6 15.1	20.5
310218 2011 SV_{190}	15.5	X	349.11497	315.41431	34.21995	22.67712	0.1153320	0.18651453	3.0338512	21	9 27.3	19.4
310219 2011 SS_{194}	15.4	X	264.08350	173.28577	229.30500	9.66907	0.0739896	0.17694079	3.1423225	21	7 21.9	20.1
310220 2011 SS_{206}	16.6	X	322.76836	140.62235	181.76988	2.36416	0.1982099	0.18725576	3.0258398	21	6 14.6	20.2
310221 2011 SZ_{211}	18.4	X	257.19403	180.92606	213.10677	1.29240	0.2108576	0.27730254	2.3289857	21	6 16.6	21.6
310222 2011 SR_{214}	16.0	X	266.76371	192.78494	207.70501	8.89582	0.0399385	0.17772014	3.1331290	21	7 27.8	20.5
310223 2011 SC_{217}	16.9	X	45.15685	351.46695	298.60906	1.39789	0.2117854	0.20155434	2.8809869	21	10 12.1	20.7
310224 2011 SZ_{218}	17.1	X	12.61575	254.27263	98.84838	7.57979	0.1903612	0.30212445	2.1996089	21	12 5.9	19.1
310225 2011 ST_{219}	15.6	X	320.12027	94.99872	209.60725	3.90562	0.1482043	0.17322389	3.1871135	21	5 25.3	19.7
310226 2011 SU_{230}	17.5	X	191.02450	61.96916	328.88422	0.42037	0.1783050	0.25816459	2.4427082	21	4 13.4	21.5
310227 2011 SE_{232}	16.4	X	214.72317	248.09559	335.44130	6.75288	0.1767490	0.22914576	2.6448122	21	—	—
310228 2011 SF_{233}	16.2	X	25.95517	246.21881	220.17012	27.77107	0.2506735	0.22522114	2.6754486	21	—	—
310229 2011 SP_{234}	16.6	X	16.91998	125.59370	233.63198	1.61216	0.1174440	0.20559742	2.8430921	21	11 16.8	20.0
310230 2011 SP_{239}	17.0	X	239.10251	307.15649	4.16979	1.12626	0.1779875	0.25795107	2.4440561	21	2 17.1	20.8
310231 2011 SC_{246}	16.6	X	307.50215	163.88833	225.83002	5.33852	0.1644315	0.18849907	3.0125198	21	8 22.7	20.4
310232 2011 TO_{2}	15.9	X	128.18093	119.46137	271.78630	14.31203	0.0187718	0.23993818	2.5648963	21	1 19.5	19.4
310233 2011 TF_{4}	15.4	X	332.31289	245.64832	98.31313	17.32639	0.1907978	0.18295748	3.0730475	21	8 5.9	18.9
310234 2011 TS_{5}	15.4	X	259.26129	5.67604	51.10658	9.33770	0.1051421	0.17718258	3.1394630	21	8 4.7	20.0
310235 2011 TA_{9}	16.4	X	77.11407	161.15052	184.41859	5.61495	0.0626702	0.21601230	2.7509565	21	—	—
310236 2011 TT_{15}	16.3	X	30.38576	228.90363	138.49699	6.62713	0.0666659	0.21016227	2.8017726	21	12 11.1	20.1
310237 2011 UP	16.2	X	320.47305	208.88396	149.97422	12.52860	0.1672285	0.18523663	3.0477884	21	8 3.7	19.9
310238 2011 UU_{1}	14.9	X	250.57030	171.02899	226.34498	11.43351	0.0750605	0.17368299	3.1814946	21	6 30.0	19.7
310239 2011 UJ_{2}	16.5	X	344.35891	162.86536	285.23724	3.09226	0.0320837	0.21294925	2.7772734	21	—	—
310240 2011 UR_{2}	17.3	X	203.98956	327.16733	63.31163	22.74203	0.0901321	0.36181166	1.9505077	21	4 26.3	20.0

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310241 2011 UA_3	15.1	X	207.57504	248.82133	219.45047	25.99825	0.2541426	0.17287682	3.1913777	21	7 23.9	21.1
310242 2011 UD_6	17.0	X	86.36821	191.92731	220.26144	1.61051	0.2081094	0.22951053	2.6420091	21	1 21.7	19.9
310243 2011 UE_6	16.9	X	99.52080	9.09703	42.12801	12.48035	0.1828842	0.23304215	2.6152491	21	2 11.1	20.4
310244 2011 UN_7	16.8	X	344.83881	60.60302	218.21746	5.09070	0.1162235	0.26884068	2.3776033	21	5 28.9	19.0
310245 2011 UY_7	17.6	X	16.29200	337.19879	32.98122	5.31223	0.1430144	0.30307032	2.1950299	21	12 27.9	20.0
310246 2011 UV_8	18.1	X	68.94150	116.62330	219.73314	0.93678	0.1744089	0.31042670	2.1602135	21	—	—
310247 2011 UW_{12}	16.1	X	273.78767	10.61939	37.03953	5.24768	0.1379875	0.18059312	3.0998112	21	8 5.3	20.4
310248 2011 UY_{12}	17.0	X	91.53159	290.54593	61.72134	0.70102	0.1026418	0.21879942	2.7275450	21	—	—
310249 2011 UN_{17}	16.7	X	101.39166	57.65399	20.60362	5.03375	0.1575070	0.23896568	2.5718503	21	3 12.1	19.9
310250 2011 UB_{18}	16.3	X	126.55014	61.86276	219.37166	3.52856	0.0738912	0.21020438	2.8013984	21	12 17.1	20.5
310251 2011 UQ_{18}	16.0	X	68.10132	284.80309	102.88534	10.70363	0.2437506	0.22417434	2.6837709	21	—	—
310252 2011 UV_{20}	16.3	X	145.64924	79.55137	194.98462	13.35928	0.1165220	0.22012322	2.7165986	21	12 29.1	20.8
310253 2011 US_{25}	16.9	X	173.35637	188.07908	130.79440	0.59410	0.1658692	0.23464346	2.6033371	21	1 2.3	20.9
310254 2011 UH_{26}	15.6	X	324.88950	293.10581	49.45621	10.38732	0.0833409	0.17844719	3.1246131	21	8 2.3	19.8
310255 2011 UL_{26}	17.1	X	82.79431	342.38501	72.63606	2.24520	0.1222173	0.22985680	2.6393550	21	1 7.9	20.0
310256 2011 UF_{29}	16.2	X	2.84111	57.43563	280.71961	4.71181	0.1091297	0.18783008	3.0196686	21	9 20.9	20.0
310257 2011 UM_{30}	17.3	X	326.70584	270.61287	56.60903	5.99320	0.2046419	0.27929718	2.3178839	21	6 26.1	19.1
310258 2011 UZ_{30}	16.0	X	199.54007	239.11750	53.82986	14.08488	0.1725218	0.23194971	2.6234542	21	—	—
310259 2011 UF_{31}	15.8	X	36.07361	84.68971	224.95562	9.13566	0.1050441	0.18850936	3.0124101	21	10 5.1	19.7
310260 2011 UV_{31}	15.3	X	264.37231	90.75860	287.29580	9.40914	0.0148838	0.17392339	3.1785623	21	7 2.4	19.8
310261 2011 UP_{32}	15.6	X	299.45315	92.93848	271.19032	9.47356	0.0667845	0.18007716	3.1057295	21	7 21.4	19.8
310262 2011 UA_{33}	16.4	X	102.37578	73.48207	235.20746	11.47780	0.2006722	0.21680738	2.7442269	21	—	—
310263 2011 UQ_{35}	17.7	X	330.36283	115.82940	197.52583	4.75941	0.2504999	0.27776607	2.3263939	21	6 2.9	19.6
310264 2011 UU_{36}	16.7	X	89.20921	239.95441	167.03736	1.92486	0.1038462	0.22811466	2.6527760	21	1 4.7	20.0
310265 2011 UA_{38}	16.8	X	89.29979	87.45229	260.27231	5.09354	0.0578000	0.21367811	2.7709543	21	—	—
310266 2011 UV_{41}	16.6	X	320.70849	78.85842	19.93039	2.03341	0.0429041	0.21153441	2.7896434	21	12 28.6	20.2
310267 2011 UX_{41}	16.0	X	282.44846	153.24871	221.41378	5.78603	0.1643270	0.17876812	3.1208723	21	6 28.5	20.4
310268 2011 UV_{47}	17.5	X	309.64985	37.26943	283.89138	1.45375	0.2009156	0.27485286	2.3428035	21	5 14.6	20.2
310269 2011 UV_{48}	17.6	X	207.42821	199.30158	218.67684	2.81293	0.1201925	0.26641679	2.3920026	21	6 4.1	21.2
310270 2011 UM_{49}	16.6	X	108.51716	283.16974	37.99400	5.19358	0.0682299	0.21339172	2.7734330	21	—	—
310271 2011 UA_{50}	17.5	X	242.00600	2.79122	47.91029	2.12974	0.1851593	0.27376831	2.3489869	21	6 25.7	20.8
310272 2011 UJ_{52}	15.8	X	302.81651	256.55597	75.20752	6.65412	0.1931832	0.17244449	3.1967094	21	5 27.9	19.9
310273 Paulsmeyers	17.2	X	327.27622	251.02422	89.58774	3.75278	0.1838750	0.28315202	2.2967987	21	7 25.0	18.7
310274 2011 UW_{54}	16.6	X	26.91619	350.32968	46.30793	12.54817	0.1383782	0.20854722	2.8162191	21	—	—
310275 2011 UF_{55}	17.3	X	256.97873	197.38661	229.27420	1.79521	0.1085332	0.27970797	2.3156139	21	8 15.1	20.0
310276 2011 US_{56}	15.2	X	73.79042	11.05085	239.56070	8.44698	0.0219821	0.17934943	3.1141250	21	8 26.4	19.7
310277 2011 UY_{57}	16.8	X	111.29341	166.30848	103.05818	3.25953	0.0416918	0.20049089	2.8911655	21	11 13.3	20.9
310278 2011 UQ_{59}	17.0	X	34.92149	149.87339	299.52221	0.98420	0.0895698	0.22337256	2.6901893	21	—	—
310279 2011 UT_{61}	16.3	X	2.84559	353.24066	131.97823	2.77607	0.0188239	0.22249280	2.6972761	21	—	—
310280 2011 UN_{62}	18.0	X	27.30900	128.56495	211.55269	3.31809	0.2222554	0.30381435	2.1914448	21	12 14.6	20.4
310281 2011 UL_{64}	15.4	X	296.47452	310.52207	67.28859	11.76522	0.1870610	0.18148306	3.0896693	21	7 20.4	19.5
310282 2011 UV_{64}	17.3	X	184.01470	186.71016	154.24730	3.53532	0.1956465	0.24444836	2.5332495	21	2 7.2	21.3
310283 2011 UV_{66}	16.8	X	349.13997	130.90452	168.87255	5.63123	0.1754927	0.28153763	2.3055705	21	7 6.4	18.5
310284 2011 UJ_{72}	16.3	X	286.90458	98.75459	311.17611	1.47599	0.1167137	0.18363197	3.0655179	21	8 26.9	20.3
310285 2011 UZ_{72}	17.8	X	10.87032	92.82385	208.65163	2.58976	0.1845351	0.28547656	2.2843137	21	9 4.1	19.3
310286 2011 UF_{76}	16.3	X	323.28778	66.58082	314.68740	4.11590	0.2097852	0.18914520	3.0056553	21	9 4.9	19.3
310287 2011 UZ_{77}	17.0	X	166.44782	48.73724	274.91935	3.47230	0.2852883	0.23677014	2.5877248	21	1 10.4	21.3
310288 2011 UB_{78}	16.7	X	73.71885	27.01563	329.32126	2.74979	0.1056579	0.21347716	2.7726929	21	—	—
310289 2011 US_{78}	16.5	X	341.09852	166.84241	256.14236	4.19210	0.0978075	0.20355567	2.8620721	21	12 11.7	20.0
310290 2011 UG_{80}	17.7	X	343.82406	318.15912	346.17049	2.12164	0.2190429	0.28030569	2.3123209	21	6 27.2	18.9
310291 2011 UJ_{80}	15.0	X	236.47527	223.53458	227.16060	17.01973	0.0929333	0.17920154	3.1158381	21	8 12.5	20.0
310292 2011 UM_{81}	16.9	X	49.28893	58.75590	55.12650	4.63146	0.0834155	0.23463149	2.6034257	21	1 30.1	19.9
310293 2011 UR_{82}	16.2	X	280.07967	104.49901	312.28051	3.96507	0.1461555	0.18102750	3.0948505	21	8 21.5	20.4
310294 2011 UV_{82}	16.0	X	93.99329	295.52114	298.22039	4.12037	0.0971103	0.18039013	3.1021362	21	9 11.8	20.6
310295 2011 UF_{83}	17.6	X	9.65764	7.49774	359.15199	3.60109	0.0638123	0.29806100	2.2195552	21	11 27.5	20.0
310296 2011 UJ_{83}	16.0	X	75.88863	56.75892	22.40595	6.41855	0.0753451	0.23250785	2.6192541	21	1 25.1	19.3
310297 2011 UC_{84}	17.5	X	79.39360	65.92545	353.43816	2.16907	0.1317987	0.22787637	2.6546251	21	1 10.2	20.4
310298 2011 UA_{86}	15.3	X	298.34402	176.27331	111.56283	6.23529	0.1503144	0.16091534	3.3476323	21	4 7.0	20.0
310299 2011 UU_{90}	17.0	X	296.75348	278.61008	28.01442	7.80572	0.1314431	0.27094784	2.3652602	21	4 17.1	19.7
310300 2011 UL_{94}	17.6	X	246.70047	206.96859	226.22694	4.15291	0.1772218	0.27865111	2.3214653	21	7 31.3	20.9
310301 2011 UK_{95}	18.1	X	209.32349	245.45882	158.83584	0.90002	0.2096894	0.26532641	2.3985516	21	5 16.3	21.9
310302 2011 UX_{95}	16.5	X	43.44179	303.00051	59.32668	1.08380	0.0847482	0.20931898	2.8092926	21	12 23.2	20.1
310303 2011 UN_{103}	16.5	X	125.67522	15.89848	9.49076	4.64921	0.2707153	0.23482561	2.6019907	21	2 17.9	20.3
310304 2011 UM_{105}	16.0	X	153.62832	353.44181	2.28947	14.03484	0.0635247	0.23564270	2.5959723	21	1 20.3	19.8
310305 2011 UY_{105}	16.5	X	212.51518	283.83312	194.91551	8.40592	0.0255991	0.18544276	3.0455294	21	8 31.9	21.0
310306 2011 UE_{107}	15.9	X	270.95811	345.64500	36.42613	13.85172	0.1676693	0.17697673	3.1418969	21	6 22.9	20.7
310307 2011 UD_{108}	16.6	X	73.81441	277.74787	79.58992	5.82227	0.1905272	0.21863971	2.7288731	21	—	—
310308 2011 UH_{112}	17.7	X	51.37488	242.67303	42.16825	3.74391	0.1493719	0.29514926	2.2341290	21	10 18.4	20.2
310309 2011 UT_{112}	15.5	X	344.04390	87.54718	226.85217	15.19922	0.1282585	0.17558772	3.1584448	21	7 15.5	19.6
310310 2011 UO_{113}	17.0	X	233.52079	284.84877	68.17098	7.68448	0.1298350	0.25699949	2.4500853	21	4 10.3	20.7
310311 2011 UD_{114}	17.9	X	281.47619	229.40245	85.50697	2.46292	0.1911947	0.26326665	2.4110459	21	4 2.9	21.3
310312 2011 UZ_{121}	16.1	X	340.51737	272.08461	60.79764	5.86979	0.1597487	0.18141261	3.0904691	21	8 8.9	19.6
310313 2011 UD_{125}	18.1	X	7.05461	122.86299	187.45504	2.39626	0.2116399	0.29079433	2.2563792	21	9 16.1	19.4
310314 2011 UG_{127}	15.5	X	328.57884	183.25287	208.34174	9.43516	0.0390290	0.19008790	2.9957097	21	10 10.5	19.5
310315 2011 UN_{127}	15.3	X	280.64409	315.95441	63.14390	18.14384	0.0382971	0.17214343	3.2004355	21	7 23.6	20.0
310316 2011 UQ_{131}	17.8	X	153.41118	232.75102	218.31466	2.92790	0.1970067	0.26391679	2.4070847	21	5 26.9	21.5
310317 2011 UN_{134}	17.2	X	316.31872	167.83077	24.40080	2.50817	0.1360664	0.22971340	2.6404534	21	—	—
310318 2011 UP_{134}	16.7	X	123.23179	265.95050	37.55564	8.71531	0.2576759	0.21649988	2.7468247	21	—	—
310319 2011 UC_{141}	16.2	X	26.06836	252.99611	65.44047	8.31509	0.2528751	0.19651480	2.9300332	21	10 29.1	19.6
310320 2011 UO_{149}	17.3	X	296.56959	176.45262	199.97689	6.46603	0.1335819	0.28154503	2.3055302	21	7 26.8	19.8

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310321 2011 UW_{157}	17.6	X	186.10089	70.74631	24.21775	1.71379	0.1469054	0.26491484	2.4010352	21	6 30.7	21.3
310322 2011 UP_{160}	15.5	X	340.61409	297.88858	61.28359	11.63212	0.0705811	0.18185222	3.0854864	21	9 21.5	19.6
310323 2011 UW_{160}	16.9	X	43.02110	100.81993	51.96632	7.70882	0.0717526	0.24032813	2.5621211	21	3 15.2	20.0
310324 2011 UD_{161}	17.0	X	29.18808	259.64100	38.97344	7.09478	0.1436220	0.28605328	2.2812424	21	10 3.6	19.2
310325 2011 UT_{161}	16.8	X	192.05574	328.23218	340.03339	2.26189	0.1607293	0.23341447	2.6124673	21	1 6.9	20.8
310326 2011 UO_{164}	17.2	X	272.13405	242.24158	160.21892	6.08731	0.1694651	0.28083376	2.3094213	21	7 22.2	20.1
310327 2011 UX_{177}	17.5	X	323.93990	253.37642	89.86410	3.41277	0.2016876	0.28296758	2.2977967	21	7 18.5	19.1
310328 2011 UA_{178}	17.2	X	209.68387	322.94792	102.18108	2.24532	0.1566982	0.26688827	2.3891847	21	6 14.2	21.0
310329 2011 UW_{178}	16.6	X	67.93621	270.60421	91.14830	6.45194	0.0967940	0.21159420	2.7891179	21	—	—
310330 2011 UJ_{180}	15.3	X	57.11988	283.33144	13.00069	8.73542	0.0795775	0.19164167	2.9794956	21	10 14.8	19.3
310331 2011 UQ_{180}	16.6	X	332.58437	243.93319	297.43264	2.68018	0.1387284	0.23115989	2.6294267	21	—	—
310332 2011 UP_{181}	16.7	X	174.43866	279.80069	32.49809	8.48094	0.1979009	0.23254486	2.6189762	21	—	—
310333 2011 UO_{182}	16.9	X	101.21046	347.71157	279.30435	5.78833	0.0957476	0.29464726	2.2366659	21	11 15.4	19.9
310334 2011 UL_{183}	15.7	X	346.58760	308.00340	58.44997	12.87441	0.1232461	0.18703710	3.0281976	21	10 10.7	19.4
310335 2011 UT_{191}	16.8	X	311.65264	153.47900	174.06636	10.63981	0.2002087	0.27777988	2.3263168	21	5 30.2	19.4
310336 2011 UZ_{195}	15.7	X	69.05226	316.22293	286.28226	4.35078	0.1253428	0.17768881	3.1334973	21	8 27.4	20.0
310337 2011 UC_{197}	15.5	X	8.47430	288.06503	33.84231	16.22025	0.1045416	0.18429551	3.0581554	21	9 18.6	19.5
310338 2011 UW_{200}	16.6	X	84.56904	168.05361	183.03429	0.32800	0.1341471	0.21707747	2.7419501	21	—	—
310339 2011 UZ_{200}	17.6	X	226.94578	26.60915	340.02680	0.61823	0.1856601	0.26181923	2.4199238	21	4 14.5	21.6
310340 2011 UJ_{202}	15.8	X	38.96584	64.01201	228.38761	21.42188	0.2126660	0.18568166	3.0429165	21	9 29.9	19.9
310341 2011 UJ_{206}	16.6	X	76.64859	227.75679	96.02672	5.76170	0.1204272	0.21089380	2.7952898	21	12 19.9	20.7
310342 2011 UW_{206}	17.0	X	337.85564	204.37442	107.43850	4.32665	0.1979321	0.28174794	2.3044231	21	6 27.3	18.4
310343 2011 UU_{216}	16.5	X	222.49587	30.40405	239.31500	12.40436	0.1880170	0.23174277	2.6250158	21	—	—
310344 2011 UP_{239}	17.9	X	238.21643	88.11999	323.17244	0.73497	0.1821018	0.27159647	2.3614928	21	6 22.8	21.5
310345 2011 UV_{241}	15.9	X	334.32698	285.02485	47.72818	11.98520	0.1887763	0.17905648	3.1175207	21	7 26.0	19.5
310346 2011 UL_{244}	16.8	X	90.60011	266.19769	123.04359	5.03970	0.1483810	0.22723263	2.6596363	21	—	—
310347 2011 UL_{245}	15.4	X	202.86996	275.15899	198.48949	12.87392	0.2529475	0.17259287	3.1948770	21	7 31.3	21.2
310348 2011 UQ_{247}	17.2	X	183.16599	278.09497	226.11032	3.76497	0.0940651	0.27799100	2.3251388	21	9 1.6	20.6
310349 2011 UQ_{249}	17.2	X	133.71474	296.22035	74.77356	0.75748	0.2032416	0.23338571	2.6126819	21	1 30.4	20.9
310350 2011 UY_{250}	16.3	X	348.12485	345.17845	70.15265	13.49946	0.0880969	0.20002633	2.8956403	21	12 10.8	19.9
310351 2011 UL_{254}	16.5	X	281.06666	9.13752	37.00345	1.46031	0.1815107	0.17995750	3.1071061	21	8 4.8	20.6
310352 2011 UW_{254}	15.8	X	64.14556	168.65228	103.00692	11.57104	0.0788623	0.18793847	3.0185075	21	9 28.9	20.2
310353 2011 UQ_{257}	16.4	X	209.08515	11.25583	212.62202	4.08843	0.0296401	0.21156242	2.7893972	21	—	—
310354 2011 UD_{259}	16.9	X	113.70721	343.65248	21.62353	6.40302	0.0963940	0.22535135	2.6744180	21	—	—
310355 2011 UY_{263}	16.2	X	98.98546	256.34367	87.23170	11.82524	0.0994148	0.21745276	2.7387944	21	—	—
310356 2011 UM_{264}	17.0	X	242.87537	225.71510	132.17577	6.90068	0.1455358	0.26450724	2.4035012	21	4 24.3	20.7
310357 2011 UE_{266}	15.7	X	311.18211	311.78911	62.27913	9.32013	0.0879057	0.17846162	3.1244446	21	8 23.8	19.9
310358 2011 UH_{270}	16.5	X	111.96366	190.59830	126.26509	6.02343	0.1519222	0.21901641	2.7257433	21	—	—
310359 2011 UQ_{274}	15.5	X	285.85264	123.37223	246.56473	7.94860	0.1046701	0.17455499	3.1708901	21	7 5.3	19.8
310360 2011 UL_{280}	15.7	X	337.70437	250.73637	116.60034	8.29414	0.0773936	0.18736457	3.0246682	21	9 25.4	19.6
310361 2011 UE_{281}	16.8	X	249.28931	295.55129	117.41446	4.95175	0.1758425	0.27570028	2.3380004	21	7 7.8	19.9
310362 2011 UE_{288}	16.1	X	47.00503	213.56053	234.04778	11.97736	0.1534759	0.22671518	2.6636816	21	—	—
310363 2011 UX_{334}	16.9	X	125.44100	222.97185	111.53146	11.73186	0.1789864	0.22986903	2.6392614	21	—	—
310364 2011 UH_{335}	15.8	X	204.66881	332.40217	332.72731	14.42766	0.1178463	0.23977596	2.5660530	21	1 14.9	19.9
310365 2011 UN_{335}	16.2	X	79.14606	287.66386	102.94440	14.01741	0.1513245	0.22929092	2.6436957	21	—	—
310366 2011 UQ_{335}	17.5	X	317.08004	86.28555	205.55224	2.60004	0.1924980	0.27631194	2.3345488	21	4 14.8	20.2
310367 2011 UT_{335}	17.7	X	296.46280	321.46638	140.07609	3.70514	0.0084537	0.30767777	2.1730613	21	12 22.2	20.0
310368 2011 UQ_{336}	16.1	X	324.74209	58.48955	76.31573	6.85560	0.0591050	0.21956268	2.7212203	21	—	—
310369 2011 UE_{337}	15.9	X	333.73366	203.15153	173.62602	12.93632	0.1853817	0.19139167	2.9820896	21	9 24.8	18.8
310370 2011 UF_{337}	16.0	X	269.40357	262.84498	146.08903	9.15423	0.1911707	0.18008837	3.1056006	21	7 22.1	20.6
310371 2011 UM_{337}	16.2	X	307.15337	193.44392	205.99487	11.36673	0.0486549	0.19484665	2.9467327	21	9 18.9	20.2
310372 2011 UM_{338}	15.9	X	128.61876	227.60574	94.65528	14.60270	0.2040705	0.22788101	2.6545890	21	—	—
310373 2718 P–L	17.5	X	339.64801	10.28167	357.19974	2.20482	0.2634497	0.24241803	2.5473743	21	10 3.3	18.7
310374 1046 T–2	16.8	X	264.46051	94.50009	289.80662	1.97640	0.2657512	0.24313239	2.5423822	21	6 5.5	20.5
310375 2639 T–3	17.0	X	135.42348	161.70242	208.06012	4.73804	0.2692857	0.23335739	2.6128933	21	2 5.3	21.0
310376 3318 T–3	17.4	X	265.41380	303.10431	50.74994	3.30532	0.2108235	0.26364578	2.4087340	21	5 3.2	21.0
310377 1993 UK_5	16.9	X	49.76372	240.41505	73.80523	5.77326	0.2678433	0.28478965	2.2879854	21	12 9.5	20.1
310378 1994 EM_8	16.7	X	10.09580	268.81455	167.50029	3.00395	0.0802337	0.20933763	2.8091257	21	—	—
310379 1994 NZ	16.6	X	21.35778	293.21513	289.02578	10.37630	0.4943745	0.21868011	2.7285371	21	7 10.3	17.2
310380 1994 RS_8	18.0	X	10.27820	83.11767	284.91990	0.94892	0.1425599	0.29610971	2.2292954	21	12 13.3	20.0
310381 1994 SV_5	16.6	X	303.80689	238.20086	151.91958	1.96786	0.1632336	0.17918470	3.1160333	21	8 19.1	20.4
310382 1995 QD_6	13.1	X	34.00589	54.97559	303.27197	16.98564	0.0078482	0.08308615	5.2013606	21	10 30.6	20.2
310383 1995 SM	17.2	X	227.22472	66.54343	325.28286	1.18705	0.2233362	0.25578440	2.4578385	21	5 15.0	21.4
310384 1995 SQ_{21}	16.7	X	215.99094	42.43089	9.76576	2.56460	0.1845007	0.25744749	2.4472421	21	6 1.8	20.7
310385 1995 SH_{43}	17.3	X	154.87950	17.91167	85.25575	2.38712	0.1481744	0.25415371	2.4683406	21	6 10.4	21.0
310386 1996 XC_4	18.6	X	212.58745	31.89893	40.27020	1.22687	0.2046379	0.26484282	2.4014705	21	6 23.9	22.6
310387 1997 WT_{11}	16.7	X	80.86785	147.17609	229.47029	5.24060	0.1115592	0.21537396	2.7563895	21	—	—
310388 1997 YY_{15}	18.0	X	290.59141	103.66652	326.96339	1.09453	0.1906922	0.28225978	2.3016364	21	9 30.8	20.1
310389 1998 DO_{19}	17.4	X	270.09154	296.82024	140.77841	6.96170	0.2289210	0.27816215	2.3241850	21	8 31.4	20.2
310390 1998 HC_2	16.6	X	13.04757	285.73061	207.04666	9.45274	0.3058371	0.21063243	2.7976017	21	—	—
310391 1998 HK_{156}	15.9	X	348.19830	157.39041	58.50873	14.60538	0.1383479	0.21182592	2.7870835	21	3 17.8	19.5
310392 1998 MU_{16}	16.9	X	184.71850	240.88321	106.75677	4.25060	0.1745244	0.24029316	2.5623696	21	2 16.8	20.9
310393 1998 RU_3	16.7	X	104.29829	40.11701	350.28993	18.02934	0.3300659	0.23079875	2.6321688	21	2 13.4	20.3
310394 1998 RO_{47}	17.5	X	165.58455	71.03440	273.69614	2.93028	0.3100579	0.23504917	2.6003406	21	2 4.4	22.2
310395 1998 TM_{15}	17.8	X	190.99403	299.16780	287.66539	2.19393	0.1064991	0.39512415	1.8392764	21	—	—
310396 1998 VS_{40}	16.5	X	121.84251	319.71784	77.74612	4.35019	0.1141918	0.23088448	2.6315173	21	2 8.6	20.0
310397 1998 WF_{37}	12.9	X	243.12050	275.72240	227.88093	7.78134	0.1051040	0.08295806	5.2067130	21	10 16.8	20.0
310398 1999 AA_3	16.8	X	56.23969	20.89100	104.51413	4.88489	0.0642184	0.22684081	2.6626980	21	2 26.1	20.0
310399 1999 CC_7	17.2	X	150.84057	219.76787	327.48569	18.34968	0.1196110	0.37484371	1.9050333	21	9 24.9	19.9
310400 1999 CW_{29}	15.9	X	13.44474	27.48264	142.08926	16.91222	0.0915945	0.22437979	2.6821325	21	2 17.9	18.9

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310401 1999 CW_{79}	15.5	X	47.52017	258.31990	303.88928	10.45056	0.1958748	0.23029121	2.6360348	21	6 14.5	18.4
310402 1999 EE_{5}	18.4	X	113.76868	193.02321	355.47412	30.99326	0.2814166	0.45696769	1.6693435	21	9 13.8	20.5
310403 1999 LF	17.0	X	66.16890	130.96525	94.74417	24.96596	0.0572434	0.36290490	1.9465885	21	8 2.3	19.1
310404 1999 RL_{1}	17.5	X	237.17679	24.96428	342.23634	5.49349	0.3372931	0.25579738	2.4577554	21	4 15.2	22.2
310405 1999 RR_{37}	17.4	X	205.82521	50.97733	354.61978	1.81249	0.1305953	0.25741367	2.4474565	21	5 16.2	21.0
310406 1999 RL_{198}	16.7	X	346.45034	39.09674	291.23357	9.56248	0.2333013	0.26841091	2.3801406	21	8 18.1	18.2
310407 1999 ST_{22}	17.2	X	218.39727	219.49904	192.70993	1.73326	0.2018959	0.25800531	2.4437135	21	6 3.9	21.2
310408 1999 TG_{43}	17.5	X	188.40316	124.16284	318.42853	0.93340	0.1827228	0.25800000	2.4437470	21	6 16.3	21.3
310409 1999 TG_{78}	16.8	X	344.78912	162.67102	206.29893	5.39794	0.1845911	0.17967681	3.1103412	21	10 3.2	19.9
310410 1999 TO_{80}	16.8	X	303.13332	289.79145	120.52453	1.94500	0.1654619	0.17630418	3.1498822	21	9 14.2	20.5
310411 1999 TO_{125}	16.9	X	277.99406	84.79152	268.57227	1.57199	0.1853544	0.26008193	2.4306883	21	5 19.8	20.1
310412 1999 TE_{129}	17.4	X	210.92649	46.26355	350.60638	3.01419	0.2467793	0.25587069	2.4572859	21	5 6.5	21.6
310413 1999 TN_{150}	16.6	X	194.43533	14.67776	3.63480	10.90479	0.2395686	0.25124406	2.4873611	21	4 1.4	20.9
310414 1999 TS_{150}	17.1	X	232.34223	48.33786	315.45438	3.19201	0.2255309	0.25474945	2.4644909	21	4 13.1	21.3
310415 1999 TW_{175}	17.0	X	234.59696	356.69687	13.22071	6.87915	0.1722780	0.25466427	2.4650404	21	4 25.8	21.0
310416 1999 TT_{202}	16.7	X	172.80714	103.65050	355.86932	4.65875	0.1534089	0.25651048	2.4531982	21	6 23.7	20.6
310417 1999 TK_{293}	16.6	X	216.78113	130.86612	255.80585	3.56157	0.1947621	0.25387946	2.4701178	21	4 30.3	20.6
310418 1999 UX_{28}	17.6	X	214.13491	11.77745	46.50338	3.28736	0.1890039	0.25754728	2.4466100	21	6 7.9	21.5
310419 1999 UO_{33}	17.5	X	204.06239	30.66803	36.11659	3.03348	0.1852119	0.25602712	2.4562849	21	6 9.9	21.5
310420 1999 VV_{3}	15.6	X	220.89090	54.57323	66.94758	6.55930	0.1386042	0.17084757	3.2165985	21	9 7.7	20.6
310421 1999 VD_{80}	17.1	X	221.38726	32.57941	18.51516	1.26004	0.1723753	0.25655652	2.4529047	21	6 6.5	20.8
310422 1999 VK_{98}	15.9	X	328.58690	167.80459	224.62102	9.20674	0.0794032	0.17653386	3.1471495	21	10 6.7	20.0
310423 1999 VA_{104}	17.3	X	251.49215	157.98658	200.27720	0.97856	0.2388877	0.25525772	2.4612182	21	4 23.3	21.3
310424 1999 VX_{120}	15.7	X	304.89828	141.04935	224.76164	13.19623	0.1348274	0.17206214	3.2014434	21	7 19.5	20.1
310425 1999 VV_{135}	16.8	X	241.51703	351.51448	36.96378	3.43080	0.1828484	0.25729631	2.4482006	21	5 26.7	20.4
310426 1999 VU_{154}	17.1	X	70.92168	118.84199	52.67631	8.36698	0.0381764	0.25187702	2.4831923	21	5 13.9	20.2
310427 1999 VA_{186}	17.0	X	201.20160	294.00220	93.59234	2.68657	0.2520392	0.25183831	2.4834468	21	4 19.9	21.3
310428 1999 WV_{18}	17.3	X	231.27344	319.87054	62.33841	3.18819	0.1729692	0.25483475	2.4639409	21	5 10.1	21.1
310429 1999 XP_{19}	15.7	X	203.89709	48.91743	35.63289	5.66939	0.4281221	0.25587218	2.4572764	21	6 25.9	20.6
310430 1999 XK_{139}	16.8	X	289.41507	278.38946	58.51272	3.61542	0.2087086	0.25982686	2.4322788	21	5 8.7	19.8
310431 1999 XT_{218}	16.7	X	154.85242	143.60319	271.80983	2.62965	0.2406523	0.24479764	2.5308392	21	4 15.5	21.0
310432 1999 XN_{226}	12.7	X	284.53610	167.59976	297.11289	22.06228	0.0524215	0.08051130	5.3116751	21	10 16.5	19.9
310433 2000 AH_{1}	12.7	X	270.49121	183.71724	301.18517	28.89571	0.0323549	0.08081239	5.2984733	21	10 23.8	20.1
310434 2000 AP_{146}	15.2	X	41.59971	307.61970	281.59110	23.50875	0.4173534	0.24236534	2.5477435	21	8 12.9	18.3
310435 2000 AV_{156}	16.5	X	262.60948	279.91635	92.78316	7.49156	0.3289927	0.25736083	2.4477915	21	5 15.0	20.7
310436 2000 AB_{169}	15.5	X	209.10056	243.15966	142.49793	9.28980	0.2631797	0.25186772	2.4832534	21	4 25.7	20.0
310437 2000 AZ_{206}	15.1	X	175.16323	324.87164	285.19509	8.70095	0.0761831	0.17789897	3.1310290	21	12 24.5	19.8
310438 2000 AS_{234}	16.1	X	189.83135	255.33659	104.61992	4.77102	0.1964383	0.24323854	2.5416424	21	3 9.4	20.3
310439 2000 AT_{253}	13.3	X	357.66675	290.62684	118.20086	9.04821	0.0226659	0.08204713	5.2451805	21	11 22.9	20.2
310440 2000 BL_{2}	16.4	X	138.48368	54.79811	357.66428	28.99410	0.3234742	0.24369374	2.5384765	21	3 30.1	20.8
310441 2000 BH_{34}	16.3	X	89.68606	31.07048	106.13693	4.83459	0.1395855	0.24164619	2.5527958	21	5 11.8	19.5
310442 2000 CH_{59}	19.8	X	50.35752	109.55940	213.61815	3.25935	0.4232916	1.23001627	0.8627047	21	—	—
310443 2000 CF_{111}	17.3	X	133.15144	95.18197	307.81012	2.09347	0.2663727	0.23839425	2.5759585	21	3 15.3	21.4
310444 2000 DV_{32}	17.3	X	107.94894	155.36405	333.78234	4.82498	0.2136050	0.24251492	2.5466958	21	6 1.3	21.1
310445 2000 DH_{100}	16.5	X	115.93712	97.63432	21.05536	6.62918	0.2059927	0.24241765	2.5473770	21	5 25.8	20.4
310446 2000 GR_{163}	16.1	X	70.67627	80.93955	144.15696	12.92887	0.2301474	0.24233412	2.5479624	21	8 29.4	19.5
310447 2000 HL_{59}	16.6	X	278.92180	198.08022	29.02429	3.55533	0.1640647	0.22301108	2.6930955	21	—	—
310448 2000 JS_{9}	16.0	X	16.16624	119.58795	89.05147	30.95798	0.2890248	0.23307227	2.6150238	21	5 5.7	18.6
310449 2000 LC_{3}	16.3	X	278.59292	313.13818	253.26213	25.61049	0.1780467	0.31200222	2.1529351	21	—	—
310450 2000 LV_{29}	16.1	X	314.60439	94.39186	95.54445	12.27920	0.1326589	0.22254794	2.6968305	21	—	—
310451 2000 PT_{27}	15.7	X	6.62489	80.09850	276.02025	21.05515	0.2888290	0.28439307	2.2901119	21	12 13.1	17.8
310452 2000 QT_{6}	17.3	X	338.42016	357.72006	355.90132	3.17105	0.2330888	0.28210757	2.3024642	21	9 14.1	18.1
310453 2000 QX_{20}	17.7	X	309.75839	88.60289	268.50357	1.01420	0.2353368	0.27815532	2.3242231	21	7 3.8	19.9
310454 2000 QQ_{41}	17.1	X	337.92588	193.66478	175.71206	2.33062	0.1783268	0.28406687	2.2918648	21	10 11.9	18.7
310455 2000 QR_{43}	17.2	X	2.00506	221.95997	156.06103	7.31565	0.1640519	0.28820839	2.2698560	21	12 16.0	19.5
310456 2000 QM_{147}	17.3	X	197.30134	187.17916	330.45683	19.02704	0.1041003	0.38083479	1.8850012	21	10 7.5	19.9
310457 2000 QU_{147}	17.3	X	332.68500	164.53240	167.37558	23.15130	0.0301096	0.37357803	1.9093337	21	8 7.0	19.2
310458 2000 QA_{180}	15.9	X	334.71982	95.84933	354.63994	23.31139	0.3040353	0.28986029	2.2612239	21	—	—
310459 2000 QS_{216}	17.4	X	329.72176	246.97938	125.16417	3.26463	0.2366726	0.28175700	2.3043737	21	9 23.9	18.4
310460 2000 QA_{228}	16.6	X	71.13984	351.55912	292.56148	5.55038	0.1278278	0.28820536	2.2698719	21	11 4.9	19.6
310461 2000 QD_{228}	16.8	X	288.68702	250.58689	135.40874	3.89326	0.2706719	0.27674729	2.3320998	21	7 5.5	19.4
310462 2000 QW_{254}	17.5	X	341.73367	141.82576	303.47013	5.01868	0.0913289	0.29468688	2.2364654	21	—	—
310463 2000 RE_{40}	15.3	X	329.50786	46.86762	322.57690	13.29408	0.2319341	0.18561513	3.0436437	21	8 28.2	18.3
310464 2000 SF	15.1	X	291.96977	57.63959	340.00888	22.39099	0.3149588	0.27608312	2.3358385	21	7 28.9	18.0
310465 2000 ST_{9}	15.4	X	333.33149	354.69038	351.78859	25.56741	0.2495745	0.18457193	3.0551013	21	8 15.6	18.7
310466 2000 ST_{12}	17.2	X	296.17759	308.64453	49.07020	6.73888	0.2737574	0.27686623	2.3314319	21	6 3.8	20.1
310467 2000 SB_{24}	16.4	X	272.65487	12.77680	19.86207	28.41838	0.1866566	0.27485691	2.3427806	21	7 12.8	20.2
310468 2000 SK_{51}	17.3	X	344.18148	116.45095	281.72821	5.17381	0.1792373	0.28648191	2.2789663	21	12 13.4	18.9
310469 2000 SV_{53}	17.7	X	302.76308	153.45786	214.96737	1.79462	0.2203293	0.27782250	2.3260789	21	7 11.1	20.0
310470 2000 SX_{86}	16.7	X	18.14232	286.63753	51.14641	6.82898	0.2467078	0.28392618	2.2926218	21	11 26.6	18.9
310471 2000 SS_{102}	17.2	X	350.20973	151.91194	213.94576	3.04600	0.1816843	0.28321863	2.2964386	21	11 4.2	18.7
310472 2000 SA_{129}	17.0	X	324.36383	119.04398	230.97731	6.16063	0.1427024	0.27855808	2.3219822	21	8 4.8	19.1
310473 2000 SA_{133}	16.5	X	18.15232	64.01616	282.96151	6.87494	0.2544418	0.28617999	2.2805689	21	12 12.1	18.8
310474 2000 SL_{133}	17.0	X	270.43614	125.51491	284.11736	6.29866	0.2795639	0.27657610	2.3330620	21	7 13.9	20.3
310475 2000 SV_{167}	16.6	X	330.32504	62.21436	282.00249	6.25320	0.1367244	0.27717922	2.3296764	21	8 9.4	18.7
310476 2000 SU_{168}	17.3	X	325.86163	14.49036	351.33469	5.81315	0.1859282	0.27917862	2.3185401	21	9 3.7	18.7
310477 2000 SG_{211}	16.9	X	21.40226	255.63998	82.62467	5.93540	0.1500483	0.28404124	2.2920027	21	11 17.7	19.3
310478 2000 SY_{242}	16.8	X	5.89958	353.44673	354.18524	12.80587	0.1284921	0.28491379	2.2873207	21	10 25.6	19.2
310479 2000 SK_{245}	17.5	X	308.69627	41.78690	345.82897	2.24796	0.1823232	0.28053866	2.3110406	21	8 31.5	19.4
310480 2000 SB_{246}	17.2	X	318.50200	278.26542	115.07671	4.06099	0.1766769	0.28206595	2.3026907	21	10 6.5	18.8

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310481 2000 SA_{248}	16.8	X	124.84459	327.44742	88.17699	4.41479	0.2147319	0.25898233	2.4375636	21	3 17.9	20.2
310482 2000 SX_{280}	17.1	X	341.79697	352.30843	330.23107	23.25922	0.1053415	0.37203163	1.9146209	21	8 13.6	18.2
310483 2000 SZ_{289}	17.1	X	279.98386	191.66963	218.47236	4.47981	0.1577054	0.27821638	2.3238830	21	8 15.2	19.7
310484 2000 SZ_{302}	17.1	X	258.20690	158.39861	301.93956	3.04311	0.1120202	0.28111617	2.3078744	21	10 3.1	19.7
310485 2000 SD_{344}	17.1	X	278.37563	196.36576	221.31765	4.52998	0.1654198	0.27751690	2.3277862	21	8 22.4	19.9
310486 2000 SB_{361}	16.7	X	288.47915	69.24918	354.30322	22.02849	0.2577282	0.28092928	2.3088978	21	9 7.6	18.9
310487 2000 SB_{362}	17.4	X	286.32246	293.46790	78.37821	3.28933	0.1930752	0.27591178	2.3368054	21	6 24.7	20.3
310488 2000 TV_{30}	17.3	X	263.80757	331.63820	76.16644	3.47323	0.2092542	0.27474330	2.3434263	21	7 13.9	20.5
310489 2000 TD_{62}	15.8	X	357.03608	269.69024	118.66257	9.72077	0.0934991	0.19083794	2.9878553	21	11 21.5	19.7
310490 2000 UR_{1}	17.5	X	248.69584	48.39523	73.58425	3.67973	0.0986770	0.28408840	2.2917490	21	10 25.9	20.1
310491 2000 UT_{12}	17.1	X	304.32213	71.03290	320.21891	4.97033	0.2224632	0.27796677	2.3252740	21	8 19.9	19.0
310492 2000 UK_{26}	16.6	X	275.23334	188.43770	205.94431	12.76658	0.1726705	0.27350722	2.3504816	21	7 12.2	19.9
310493 2000 UZ_{30}	17.0	X	277.37875	352.69842	46.04724	6.48265	0.1130485	0.27536882	2.3398762	21	8 6.8	19.8
310494 2000 UC_{34}	17.2	X	326.01350	153.93545	224.81074	3.34867	0.1663482	0.27998689	2.3140758	21	9 25.7	18.8
310495 2000 UD_{36}	17.6	X	266.97945	167.27638	214.08300	4.80230	0.2469937	0.27235914	2.3570823	21	6 6.1	20.9
310496 2000 UY_{72}	17.5	X	298.28989	35.72894	0.12721	2.31756	0.2112363	0.27715583	2.3298075	21	8 18.3	19.5
310497 2000 UJ_{83}	16.8	X	352.22717	232.99522	96.53490	4.86137	0.1628351	0.27850053	2.3223020	21	9 8.9	18.6
310498 2000 UJ_{93}	16.7	X	346.93222	87.67592	270.73990	5.74198	0.1278532	0.28008965	2.3135098	21	10 6.5	18.8
310499 2000 UV_{114}	17.0	X	283.53217	101.48006	293.47666	4.80183	0.2382675	0.27463603	2.3440365	21	7 16.9	19.6
310500 2000 VM_{21}	16.7	X	316.85087	310.87290	59.29748	4.05517	0.1699920	0.27687779	2.3313670	21	8 24.1	18.6
310501 2000 VG_{56}	15.2	X	291.77137	2.63684	48.33560	18.44689	0.1910521	0.18029802	3.1031927	21	9 4.0	19.6
310502 2000 WN_{7}	16.2	X	299.55751	205.53454	238.00923	10.42553	0.2810747	0.18483209	3.0522338	21	10 1.3	19.9
310503 2000 WZ_{15}	17.3	X	277.00771	352.56713	44.16442	3.89482	0.1982776	0.27381780	2.3487039	21	7 17.8	20.1
310504 2000 WN_{16}	17.1	X	293.55568	177.50342	255.34402	5.24432	0.1498369	0.27875853	2.3208689	21	10 14.1	19.2
310505 2000 WA_{17}	15.2	X	325.93738	163.83629	243.16817	19.20863	0.1434314	0.18414747	3.0597942	21	10 17.7	19.0
310506 2000 WL_{27}	17.8	X	260.90201	23.67234	55.44378	2.08885	0.1609589	0.27573033	2.3378305	21	8 31.9	20.7
310507 2000 WU_{56}	16.4	X	270.10082	341.52871	74.25642	7.83653	0.1191174	0.27417405	2.3466689	21	8 20.7	19.3
310508 2000 WP_{75}	16.8	X	312.48212	120.93468	281.39618	6.20494	0.0973465	0.27872769	2.3210401	21	10 7.3	19.2
310509 2000 WF_{102}	15.7	X	310.05814	281.30282	112.23783	11.94936	0.2747368	0.18196304	3.0842336	21	8 19.9	19.2
310510 2000 WV_{112}	16.1	X	277.43798	174.98044	281.58880	5.30817	0.2451463	0.18240756	3.0792208	21	9 20.7	20.4
310511 2000 WG_{147}	17.0	X	288.42810	247.63669	143.69955	7.21861	0.2449964	0.27602879	2.3361450	21	7 17.1	19.6
310512 2000 WL_{148}	15.7	X	259.27190	338.62168	101.09140	18.47285	0.1816991	0.17512903	3.1639573	21	8 24.5	20.6
310513 2000 WF_{174}	16.8	X	260.97844	202.22583	191.12513	8.69911	0.2115112	0.27172773	2.3607323	21	6 19.8	20.3
310514 2000 XK_{15}	15.2	X	54.08286	182.73058	82.22405	18.98577	0.1749645	0.17624149	3.1506291	21	9 25.2	19.9
310515 2000 XS_{18}	17.4	X	245.39666	108.09231	335.65469	8.54020	0.2710854	0.27275664	2.3547917	21	8 5.0	20.9
310516 2000 XW_{22}	15.4	X	302.73001	338.10109	47.61997	16.98732	0.2226699	0.17905936	3.1174873	21	8 9.4	19.6
310517 2000 XS_{48}	14.7	X	358.54255	301.99646	54.52101	23.64884	0.1930369	0.18284069	3.0743559	21	10 24.7	18.2
310518 2000 YF_{13}	17.4	X	266.71688	52.90113	336.23207	1.77966	0.2393393	0.27100713	2.3649152	21	6 16.9	20.6
310519 2000 YW_{32}	17.0	X	255.93938	101.76368	277.34945	16.44516	0.0926969	0.36112471	1.9529805	21	6 6.5	19.1
310520 2000 YH_{38}	15.3	X	322.77554	269.91274	117.35787	17.38814	0.2045973	0.17939573	3.1135892	21	9 19.7	19.0
310521 2000 YC_{57}	16.8	X	252.43571	172.14913	234.76981	3.59397	0.1823165	0.26829747	2.3808114	21	7 2.1	20.2
310522 2000 YS_{66}	16.4	X	253.56078	281.86464	111.60790	8.05740	0.3498297	0.26809980	2.3819815	21	5 31.3	20.5
310523 2000 YA_{115}	14.8	X	229.44701	170.96063	289.44267	27.04497	0.1424312	0.17124736	3.2115903	21	8 8.6	20.1
310524 2000 YZ_{127}	15.4	X	296.75859	153.39324	291.09208	16.57934	0.0865487	0.18137588	3.0908863	21	10 21.0	19.9
310525 2000 YY_{128}	15.0	X	186.18507	252.69990	316.42799	14.84805	0.2005981	0.17823824	3.1270546	21	11 6.4	20.5
310526 2000 YW_{133}	17.4	X	208.22179	101.96818	354.41255	2.08452	0.2072043	0.26661334	2.3908269	21	7 21.9	21.3
310527 2001 AP_{1}	16.5	X	269.23071	263.15334	112.50198	11.62915	0.2444890	0.26831567	2.3807037	21	6 3.1	20.1
310528 2001 AB_{6}	17.2	X	255.87552	145.87830	282.68595	0.84548	0.1658721	0.27099454	2.3649885	21	8 7.8	20.2
310529 2001 BO_{7}	16.0	X	251.44820	337.56805	104.13460	12.27786	0.1860527	0.17295691	3.1903925	21	8 15.5	20.9
310530 2001 BD_{8}	15.0	X	273.11534	9.58558	108.86006	18.96492	0.1575322	0.18142637	3.0903129	21	11 5.9	19.5
310531 2001 BC_{11}	16.9	X	205.95879	237.96276	235.31203	7.78867	0.1353496	0.26709976	2.3879234	21	8 11.4	20.7
310532 2001 BB_{18}	14.6	X	193.09910	69.93335	137.16736	17.32634	0.1863753	0.18023271	3.1039423	21	11 20.9	20.0
310533 2001 BN_{33}	16.1	X	228.28038	268.81394	141.63643	22.05929	0.2811884	0.26379330	2.4078359	21	6 9.7	20.7
310534 2001 BC_{35}	15.4	X	227.81939	49.43516	135.81535	29.88917	0.3918673	0.17846154	3.1244455	21	11 12.9	21.4
310535 2001 BJ_{43}	17.5	X	182.95584	155.09371	284.18368	9.75112	0.2328372	0.35770595	1.9654045	21	6 4.7	20.7
310536 2001 BT_{50}	15.5	X	300.53448	290.30244	125.11185	12.79180	0.1422744	0.17686205	3.1432550	21	9 24.0	19.6
310537 2001 BN_{52}	15.7	X	268.91280	7.52360	115.18651	14.30363	0.0754873	0.18199680	3.0838522	21	11 14.2	20.2
310538 2001 BG_{83}	17.5	X	198.22114	65.10752	90.44484	8.05980	0.2894355	0.26906940	2.3762557	21	9 26.1	21.7
310539 2001 CH_{22}	14.7	X	194.74737	243.88438	315.67627	25.30955	0.1939231	0.17835777	3.1256574	21	10 27.7	20.4
310540 2001 CC_{28}	14.7	X	189.24529	73.75845	123.68979	26.97821	0.1730912	0.17690487	3.1427477	21	11 12.3	20.4
310541 2001 DT_{3}	15.5	X	228.16225	50.15848	122.24098	28.83534	0.2863361	0.17922728	3.1155398	21	11 9.1	21.2
310542 2001 DW_{25}	16.9	X	220.46245	353.52255	115.77547	3.05359	0.1274874	0.26679759	2.3897260	21	8 27.1	20.2
310543 2001 DX_{25}	17.1	X	179.67087	15.41337	112.11828	4.49441	0.1973129	0.26358439	2.4091079	21	8 6.0	20.9
310544 2001 DF_{66}	15.7	X	277.37512	168.69754	334.55649	11.07767	0.1503956	0.18227264	3.0807401	21	12 3.5	19.9
310545 2001 DF_{97}	17.0	X	134.04187	10.16189	129.97385	3.63899	0.1219412	0.25852298	2.4404502	21	7 5.3	20.4
310546 2001 DE_{109}	15.2	X	273.77265	141.50348	352.58625	27.13768	0.1227903	0.17849102	3.1241015	21	11 9.3	20.0
310547 2001 EX_{5}	15.4	X	195.16025	30.97402	147.75842	11.65119	0.1627505	0.17337781	3.1852269	21	10 20.4	20.7
310548 2001 EW_{8}	17.1	X	247.63033	349.04850	351.38786	19.13152	0.0104934	0.34748664	2.0037520	21	3 30.4	19.3
310549 2001 EF_{17}	15.5	X	226.47554	87.64477	47.92630	24.53788	0.2921210	0.17420105	3.1751838	21	9 27.4	21.2
310550 2001 FY_{151}	15.5	X	218.66177	119.84738	150.61039	23.71420	0.2950330	0.18086142	3.0967449	21	—	—
310551 2001 FC_{179}	15.1	X	237.25277	53.26003	131.92418	17.59356	0.1812540	0.17824998	3.1269173	21	12 5.3	20.0
310552 2001 OT_{42}	16.1	X	117.91112	78.84446	290.54369	10.78601	0.1895835	0.21575950	2.7531049	21	1 11.7	19.8
310553 2001 OY_{42}	15.5	X	110.49853	73.10071	278.13606	6.97694	0.3038788	0.21323861	2.7747604	21	—	—
310554 2001 PA_{19}	16.8	X	87.86397	28.20494	336.60693	13.23947	0.3076044	0.21360162	2.7716157	21	—	—
310555 2001 PU_{33}	16.2	X	45.18913	314.67693	76.78121	10.71307	0.2253203	0.21007280	2.8025680	21	—	—
310556 2001 PW_{36}	16.2	X	79.57690	250.20245	109.07237	13.28958	0.2134007	0.21172435	2.7879748	21	—	—
310557 2001 PJ_{40}	15.9	X	96.18972	101.40024	273.59802	11.78377	0.2103154	0.21412206	2.7671229	21	—	—
310558 2001 PL_{65}	17.1	X	92.73812	271.73494	95.86005	9.10249	0.3020029	0.21241879	2.7818952	21	—	—
310559 2001 QN_{132}	16.6	X	79.62877	78.42906	299.61460	6.48988	0.2393956	0.21264241	2.7799445	21	—	—
310560 2001 QL_{142}	17.7	X	247.30127	72.12213	165.57690	26.60655	0.4989803	0.91684801	1.0493922	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310561 2001 QQ_{230}	16.8	*X*	65.87551	111.46459	298.01497	7.15840	0.1810714	0.21452873	2.7636247	21	—	—
310562 2001 RC_{15}	16.5	*X*	111.18893	91.04580	244.91183	7.50081	0.1638358	0.21307386	2.7761906	21	—	—
310563 2001 RO_{56}	16.5	*X*	88.31541	14.23168	358.14359	12.60730	0.1688998	0.21309681	2.7759912	21	—	—
310564 2001 RJ_{121}	17.6	*X*	25.32410	52.84001	13.09967	4.71448	0.1392295	0.31015074	2.1614947	21	—	—
310565 2001 RU_{137}	17.7	*X*	25.43663	282.92261	111.23345	2.22737	0.1668752	0.30664306	2.1779469	21	—	—
310566 2001 SO_{11}	16.5	*X*	150.75630	47.91411	320.69081	5.88708	0.0513473	0.22131599	2.7068292	21	1 30.4	20.2
310567 2001 SD_{67}	16.2	*X*	46.63197	332.53703	45.18490	11.64957	0.2787167	0.20478921	2.8505676	21	—	—
310568 2001 SO_{78}	16.5	*X*	140.30180	297.88191	2.20379	8.89007	0.0839358	0.21174218	2.7878183	21	—	—
310569 2001 SD_{97}	16.9	*X*	92.28445	56.00947	336.55058	7.09886	0.1581288	0.21537161	2.7564095	21	1 2.8	20.3
310570 2001 SR_{141}	16.2	*X*	192.70959	312.97905	345.78818	9.87975	0.2534001	0.22074107	2.7115271	21	1 3.2	21.1
310571 2001 SB_{147}	16.4	*X*	65.81200	37.87580	5.49953	13.76652	0.1325326	0.21203488	2.7852521	21	—	—
310572 2001 SS_{209}	16.8	*X*	93.59647	344.00012	18.71945	5.18839	0.1656401	0.21221361	2.7836880	21	—	—
310573 2001 ST_{228}	17.6	*X*	62.46841	344.01996	33.25830	3.25754	0.2060082	0.30830330	2.1701209	21	—	—
310574 2001 SH_{262}	17.0	*X*	12.19913	298.54832	147.63198	3.62751	0.5137003	0.20796726	2.8214525	21	—	—
310575 2001 SZ_{332}	16.5	*X*	28.68934	234.17970	184.88527	3.64375	0.0868326	0.20889766	2.8130687	21	—	—
310576 2001 SY_{341}	16.4	*X*	117.73522	78.71793	246.24141	7.86529	0.1722241	0.21217005	2.7840690	21	—	—
310577 2001 TX_{32}	17.7	*X*	292.05714	224.84497	230.41682	23.84261	0.0726433	0.39719222	1.8328865	21	12 25.1	19.4
310578 2001 TT_{36}	15.6	*X*	21.08356	12.36073	28.90061	15.54934	0.3050400	0.20146241	2.8818632	21	—	—
310579 2001 TL_{89}	17.6	*X*	10.61074	153.26426	239.54451	3.94361	0.1723675	0.30252472	2.1976683	21	—	—
310580 2001 TX_{134}	16.0	*X*	26.35333	154.12784	289.87893	6.70394	0.2283113	0.21042833	2.7994104	21	—	—
310581 2001 TY_{202}	16.1	*X*	51.78616	295.25487	127.99505	10.24809	0.1434058	0.21121052	2.7924947	21	—	—
310582 2001 TP_{235}	17.6	*X*	80.24914	256.93457	84.23084	7.50797	0.2582077	0.30706325	2.1759596	21	—	—
310583 2001 TO_{257}	16.3	*X*	187.08060	153.16683	171.79891	11.47446	0.0807421	0.21905894	2.7253905	21	1 18.4	20.5
310584 2001 TM_{261}	16.4	*X*	112.53929	227.86089	146.16086	4.97523	0.0876247	0.21412228	2.7671209	21	—	—
310585 2001 UU_{20}	17.0	*X*	76.10450	264.51858	61.29872	6.85839	0.2280905	0.30361082	2.1924240	21	—	—
310586 2001 UH_{100}	17.8	*X*	11.37771	291.30645	100.57263	2.20352	0.1448065	0.30156608	2.2023232	21	—	—
310587 2001 US_{103}	17.1	*X*	303.11885	86.39159	59.89426	5.23422	0.0523602	0.30783643	2.1723145	21	—	—
310588 2001 UZ_{117}	17.3	*X*	42.84455	324.32631	50.66756	5.07140	0.1214697	0.30321872	2.1943137	21	—	—
310589 2001 UM_{187}	16.8	*X*	22.86811	59.30281	21.62591	5.29629	0.1569340	0.21009858	2.8023388	21	—	—
310590 2001 UE_{212}	17.7	*X*	47.30956	326.26351	17.35544	4.26720	0.1914383	0.30162481	2.2020373	21	—	—
310591 2001 UE_{229}	16.2	*X*	180.73769	193.59568	79.33138	6.03765	0.1201122	0.21249673	2.7812149	21	—	—
310592 2001 VM_{10}	16.4	*X*	343.10068	133.12734	255.66945	15.24930	0.2791007	0.19650532	2.9301275	21	11 1.4	19.1
310593 2001 VS_{67}	16.0	*X*	60.03289	337.60822	42.99320	16.06378	0.1419532	0.20502357	2.8483949	21	—	—
310594 2001 VT_{82}	16.1	*X*	337.08409	340.65380	55.77182	21.09511	0.1582392	0.19613470	2.9338175	21	11 3.4	19.3
310595 2001 VQ_{101}	16.6	*X*	47.12483	60.01572	326.32492	2.70602	0.2847242	0.20493776	2.8491898	21	—	—
310596 2001 WE_{3}	17.5	*X*	166.52135	244.91041	43.84424	5.73543	0.1182376	0.31023738	2.1610922	21	—	—
310597 2001 WE_{4}	16.3	*X*	357.96861	341.13167	104.44126	9.74760	0.2839524	0.20286212	2.8685917	21	—	—
310598 2001 WV_{32}	16.7	*X*	17.25073	287.69085	111.37786	4.45557	0.2894322	0.20152339	2.8812819	21	—	—
310599 2001 WT_{45}	16.5	*X*	25.90963	200.27288	254.93535	6.13097	0.1042722	0.20898721	2.8122650	21	—	—
310600 2001 WK_{77}	16.9	*X*	79.99107	173.61188	222.64778	3.25897	0.1030130	0.20966067	2.8062395	21	—	—
310601 2001 XS_{3}	17.3	*X*	292.77082	68.12098	274.03455	15.53321	0.0556664	0.38130306	1.8834576	21	6 10.4	18.8
310602 2001 XG_{14}	17.1	*X*	19.32323	23.50435	346.71218	4.83263	0.1824151	0.29639595	2.2278599	21	—	—
310603 2001 XZ_{21}	15.6	*X*	291.90957	189.14322	305.85151	12.25383	0.2120581	0.19572369	2.9379233	21	12 12.3	19.0
310604 2001 XJ_{128}	17.1	*X*	318.84530	23.85855	86.45544	4.91712	0.0694737	0.30131220	2.2035601	21	—	—
310605 2001 XF_{135}	17.3	*X*	43.93424	131.22691	244.77891	5.22565	0.1853630	0.30240804	2.1982335	21	—	—
310606 2001 XH_{168}	17.6	*X*	316.08572	323.32115	121.59872	4.43486	0.1418284	0.29611602	2.2292637	21	12 27.6	19.3
310607 2001 XW_{169}	17.3	*X*	354.79653	112.59621	267.45157	5.61520	0.1866034	0.29453086	2.2372551	21	12 10.5	19.2
310608 2001 XB_{201}	16.9	*X*	39.64337	91.41377	292.20841	7.50104	0.1522518	0.29987725	2.2105841	21	—	—
310609 2001 XZ_{224}	15.9	*X*	90.51473	52.27876	297.81396	4.73922	0.0845271	0.20417012	2.8563270	21	—	—
310610 2001 XK_{240}	16.1	*X*	314.56898	146.22467	308.84683	4.30236	0.2306808	0.19545028	2.9406625	21	11 30.1	19.0
310611 2001 YU_{20}	16.9	*X*	161.49383	282.04258	272.06535	4.96816	0.0454146	0.29194447	2.2504492	21	10 16.5	19.8
310612 2001 YD_{58}	17.4	*X*	24.50269	298.69920	77.40731	6.57894	0.1774885	0.29875081	2.2161373	21	—	—
310613 2001 YC_{141}	17.5	*X*	339.48710	3.50714	81.78601	4.11786	0.0695474	0.30174672	2.2014442	21	—	—
310614 2001 YG_{156}	15.4	*X*	267.73975	85.92674	33.61441	12.32870	0.0982275	0.19207229	2.9750406	21	11 1.2	19.5
310615 2001 YA_{158}	18.0	*X*	245.85776	115.33951	65.78315	4.56649	0.0883246	0.29668209	2.2264272	21	—	—
310616 2002 AX	17.6	*X*	352.58983	317.69222	74.88375	8.38764	0.3869705	0.29653965	2.2271401	21	—	—
310617 2002 AY_{25}	15.6	*X*	46.36843	194.94545	119.01383	10.89837	0.0484488	0.18645177	3.0345319	21	10 23.8	19.9
310618 2002 AN_{52}	16.1	*X*	32.28475	205.81989	300.12498	8.39591	0.1171659	0.20967918	2.8060743	21	2 17.2	19.3
310619 2002 AB_{55}	17.2	*X*	27.72473	111.77903	275.03817	3.74950	0.1351834	0.29734965	2.2230937	21	—	—
310620 2002 AT_{93}	16.5	*X*	246.46655	76.78142	86.20314	2.21581	0.1797535	0.19233740	2.9723062	21	11 17.9	20.8
310621 2002 AN_{96}	16.2	*X*	294.73350	343.87038	108.26230	18.71384	0.2148429	0.19147568	2.9812174	21	10 29.6	20.1
310622 2002 AL_{109}	16.3	*X*	309.07659	111.55836	312.76842	6.62469	0.2404560	0.18935011	3.0034864	21	9 30.5	19.7
310623 2002 AP_{129}	17.6	*X*	287.87111	88.29365	306.62396	17.62116	0.1590211	0.38471061	1.8723194	21	8 10.8	18.8
310624 2002 AN_{137}	16.3	*X*	280.82403	73.24599	89.54459	5.94846	0.2207910	0.19548780	2.9402862	21	12 28.4	19.7
310625 2002 AU_{142}	15.9	*X*	306.13238	308.53073	120.59242	11.22972	0.0798412	0.18977456	2.9990063	21	10 29.7	19.9
310626 2002 AG_{172}	17.5	*X*	310.04626	169.72069	303.95474	3.88623	0.1209960	0.29611405	2.2292736	21	—	—
310627 2002 AS_{173}	15.8	*X*	295.59930	325.51859	119.68226	12.19785	0.1369985	0.18938065	3.0031635	21	10 28.6	19.7
310628 2002 AL_{203}	15.7	*X*	290.97978	267.32425	126.33795	22.55259	0.1834503	0.18265412	3.0764491	21	8 1.6	19.8
310629 2002 AV_{209}	17.8	*X*	228.77604	281.82754	284.15734	2.96635	0.0983352	0.29694790	2.2250984	21	—	—
310630 2002 BH_{19}	15.3	*X*	235.01977	110.31942	115.53155	19.79320	0.3316593	0.19197136	2.9760833	21	—	—
310631 2002 CP_{21}	17.3	*X*	321.01553	123.85029	320.97259	5.36446	0.1428800	0.29387317	2.2405919	21	—	—
310632 2002 CR_{64}	15.7	*X*	300.15615	76.11539	342.03234	10.64053	0.1006482	0.18616407	3.0376575	21	9 25.9	19.6
310633 2002 CP_{128}	17.3	*X*	122.28381	271.94502	307.52986	3.67906	0.0923992	0.28111102	2.3079026	21	10 4.4	20.5
310634 2002 CF_{156}	16.9	*X*	226.54796	85.56266	93.73267	6.54114	0.1028412	0.29188293	2.2507655	21	12 13.5	19.4
310635 2002 CE_{160}	16.9	*X*	265.99913	25.34228	84.19100	7.44106	0.0811192	0.28966088	2.2622616	21	11 7.9	19.4
310636 2002 CA_{164}	17.5	*X*	271.33278	315.89946	126.88956	4.48936	0.1857039	0.28569696	2.2831387	21	9 19.2	20.0
310637 2002 CN_{165}	17.0	*X*	256.66590	31.73841	102.33766	5.46196	0.1059032	0.28926012	2.2643506	21	11 23.6	19.4
310638 2002 CS_{172}	15.2	*X*	232.78270	4.00073	129.12813	17.23102	0.0633956	0.18360191	3.0658525	21	10 17.5	19.9
310639 2002 CE_{173}	17.6	*X*	219.61796	112.67669	80.20123	3.89277	0.1658591	0.28964667	2.2623355	21	12 12.8	20.2
310640 2002 CP_{195}	17.9	*X*	253.76559	165.32776	332.83006	2.91225	0.0877648	0.28949208	2.2631409	21	11 25.9	20.4

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310641 2002 CZ_{206}	13.1	X	258.62141	349.21651	137.28323	13.35827	0.0060699	0.08395959	5.1652241	21	11 1.1	20.1
310642 2002 CC_{221}	16.8	X	201.42043	173.56810	9.70019	6.55836	0.1086914	0.28503483	2.2866732	21	11 13.3	19.9
310643 2002 CY_{221}	15.8	X	329.86383	263.21781	136.25005	10.85372	0.0984515	0.18714552	3.0270279	21	10 25.4	19.7
310644 2002 CN_{229}	17.7	X	268.42405	295.71491	154.40821	5.76559	0.1478868	0.28473623	2.2882716	21	10 1.8	20.2
310645 2002 CV_{229}	13.7	X	323.94278	95.94233	344.74187	8.26897	0.0524758	0.08540298	5.1068609	21	11 13.3	20.3
310646 2002 CW_{235}	16.8	X	154.94613	96.16244	113.18351	8.30186	0.1195898	0.28360677	2.2943429	21	11 1.8	20.3
310647 2002 CM_{273}	17.4	X	181.17646	242.11719	340.09025	1.27611	0.1411276	0.28785717	2.2717020	21	12 10.6	20.7
310648 2002 CA_{276}	17.2	X	51.12344	166.72836	128.75716	3.16535	0.0633542	0.28177424	2.3042797	21	10 18.1	19.9
310649 2002 CJ_{296}	17.0	X	251.55896	80.57781	64.26017	1.61479	0.1884051	0.18792602	3.0186408	21	10 30.9	21.4
310650 2002 CR_{310}	17.0	X	206.07069	77.59187	112.68427	7.00584	0.0511956	0.28876391	2.2669439	21	12 9.1	19.9
310651 2002 CF_{311}	16.4	X	276.39902	303.08841	153.25095	9.31084	0.2345450	0.18546922	3.0452397	21	9 25.9	20.4
310652 2002 CX_{316}	16.0	X	317.46566	202.37173	221.85351	8.41414	0.0542309	0.18878898	3.0094349	21	11 5.3	19.8
310653 2002 DM_{1}	17.4	X	213.79978	320.49242	226.92569	2.34271	0.1100861	0.28972395	2.2619333	21	12 6.3	20.2
310654 2002 DU_{13}	15.5	X	109.65089	325.60665	312.03023	14.12994	0.0473836	0.18696907	3.0289321	21	11 15.1	20.2
310655 2002 DK_{20}	13.9	X	253.71138	168.70795	318.82647	2.35868	0.1222342	0.08352850	5.1829808	21	10 8.3	20.9
310656 2002 EO_{1}	15.4	X	210.92275	313.12558	179.16693	28.22358	0.1763710	0.17909810	3.1170377	21	9 3.9	20.5
310657 2002 EA_{4}	16.6	X	232.21457	154.92701	344.47010	2.70933	0.1602435	0.18372586	3.0644734	21	10 5.5	21.2
310658 2002 EK_{43}	17.4	X	194.18528	253.75198	310.62499	2.22430	0.1878200	0.28589703	2.2820734	21	11 26.4	20.8
310659 2002 EU_{56}	17.3	X	179.10840	332.39959	222.58929	1.77024	0.1055080	0.28456410	2.2891943	21	11 5.7	20.4
310660 2002 ET_{63}	16.2	X	241.73656	220.46781	332.30344	8.07544	0.1899876	0.18998659	2.9967746	21	12 16.1	20.6
310661 2002 EJ_{98}	17.2	X	165.61076	145.43110	34.54132	4.36116	0.1491709	0.27943852	2.3171022	21	10 2.0	20.8
310662 2002 EM_{105}	17.2	X	185.79370	73.71987	82.31788	3.54749	0.0681766	0.27936535	2.3175068	21	9 26.3	20.2
310663 2002 EH_{106}	17.0	X	174.93707	73.70624	108.07627	5.88077	0.0998887	0.28100261	2.3084961	21	10 17.7	20.3
310664 2002 EZ_{106}	17.4	X	176.45715	101.03254	90.93619	6.51987	0.1553876	0.28230123	2.3014111	21	10 29.5	20.9
310665 2002 EC_{119}	17.5	X	229.43078	190.16748	323.03395	2.90563	0.1066032	0.28540824	2.2846782	21	11 8.3	20.4
310666 2002 EW_{124}	13.0	X	338.69799	64.74343	352.39800	15.73733	0.0878788	0.08528326	5.1116390	21	11 1.0	19.6
310667 2002 EV_{135}	17.5	X	226.21817	297.17909	188.60310	4.85922	0.1617239	0.28145301	2.3060326	21	9 20.8	20.8
310668 2002 EQ_{140}	13.3	X	291.38133	101.67119	358.65853	8.36896	0.0722353	0.08440981	5.1468410	21	10 25.2	20.0
310669 2002 ES_{160}	17.5	X	205.83292	120.60617	55.12079	3.39086	0.0839177	0.28480436	2.2879066	21	11 13.3	20.2
310670 2002 EY_{162}	13.0	X	299.01137	105.93146	4.29762	18.89652	0.0681261	0.08544956	5.1050050	21	11 10.6	19.8
310671 2002 FJ_{6}	17.7	X	223.16234	80.38786	47.30749	19.57092	0.0855013	0.38215308	1.8806637	21	10 20.2	19.6
310672 2002 FL_{6}	17.1	X	250.31751	79.25760	61.43713	22.71642	0.2248086	0.28622688	2.2803199	21	11 7.3	19.9
310673 2002 FN_{13}	17.6	X	173.01900	10.20669	166.24569	5.43981	0.1620608	0.27903781	2.3193201	21	10 4.1	21.1
310674 2002 FM_{28}	17.4	X	111.52334	209.28992	356.46312	1.13883	0.1341461	0.27407193	2.3472518	21	9 8.8	20.7
310675 2002 FH_{31}	17.7	X	171.48996	127.79080	63.18384	1.70376	0.1517163	0.28079226	2.3096489	21	10 21.2	21.3
310676 2002 FO_{34}	14.9	X	174.81906	185.31527	27.76723	16.17703	0.1151933	0.18004147	3.1061400	21	11 7.1	19.9
310677 2002 FE_{41}	17.3	X	204.65768	111.29699	88.57661	6.68488	0.1208367	0.28619470	2.2804908	21	12 9.8	20.4
310678 2002 GV_{4}	15.7	X	182.44317	96.24090	84.35909	17.88715	0.1867836	0.17935931	3.1140107	21	10 16.6	21.2
310679 2002 GF_{5}	17.3	X	57.50524	269.69355	9.67643	18.80571	0.0309341	0.37842420	1.8929978	21	10 8.7	18.9
310680 2002 GA_{7}	15.3	X	163.51944	120.66807	126.26618	17.85836	0.1786101	0.18170443	3.0871593	21	12 10.5	20.7
310681 2002 GY_{26}	15.8	X	141.78526	161.42003	21.68650	17.55827	0.1424817	0.17245369	3.1965957	21	9 11.8	21.1
310682 2002 GC_{37}	17.3	X	169.65923	176.02358	34.26033	7.70791	0.1898837	0.28259939	2.2997920	21	11 10.2	21.0
310683 2002 GA_{53}	17.6	X	211.93462	346.99057	178.53253	4.43456	0.2285598	0.28289210	2.2982054	21	10 22.5	21.2
310684 2002 GW_{86}	15.6	X	215.51813	80.99404	98.32978	8.97859	0.2032654	0.18249664	3.0782186	21	11 5.5	20.6
310685 2002 GX_{86}	15.6	X	193.43511	155.53699	60.23098	18.64463	0.1591310	0.18223818	3.0811285	21	11 27.3	20.5
310686 2002 GQ_{105}	15.6	X	184.83713	139.15934	99.20696	8.52929	0.2685346	0.18383264	3.0632866	21	12 11.7	21.1
310687 2002 GA_{110}	15.6	X	236.88930	74.08675	110.08793	12.02302	0.0927623	0.18691573	3.0295083	21	12 13.8	19.9
310688 2002 GN_{110}	17.5	X	226.81742	61.88393	99.08853	3.02543	0.1488927	0.28457149	2.2891546	21	11 11.4	20.5
310689 2002 GF_{114}	17.4	X	138.86010	186.89697	40.62169	9.30903	0.2069696	0.27931706	2.3177739	21	11 5.4	21.1
310690 2002 GP_{127}	15.6	X	216.52952	163.85664	0.99840	10.53686	0.0629059	0.18168108	3.0874238	21	10 27.2	20.2
310691 2002 GS_{142}	17.4	X	94.64341	167.23962	62.12621	4.68742	0.1186514	0.27286892	2.3541457	21	9 21.9	20.6
310692 2002 GM_{147}	16.9	X	272.79746	22.18831	61.38953	7.82492	0.0681923	0.28038868	2.3118646	21	10 13.5	19.5
310693 2002 GX_{150}	16.3	X	309.33709	291.25837	179.16035	8.89285	0.4353409	0.19231075	2.9725808	21	11 10.1	18.5
310694 2002 GD_{171}	17.2	X	227.16539	279.87134	227.78702	3.60929	0.1126019	0.28356387	2.2945743	21	10 28.5	20.1
310695 2002 GP_{174}	16.6	X	125.80953	76.17178	130.99504	5.25348	0.0945476	0.27550977	2.3390781	21	9 25.6	19.8
310696 2002 GZ_{183}	17.6	X	193.81551	307.75395	210.00112	1.64680	0.1540447	0.27847786	2.3224280	21	9 29.2	21.1
310697 2002 HZ_{13}	14.5	X	121.97974	145.97678	118.96656	28.89783	0.2206568	0.17505735	3.1648210	21	12 3.4	20.3
310698 2002 JH_{4}	15.0	X	110.03546	142.61803	123.84437	27.96524	0.1472891	0.17470715	3.1690488	21	11 22.4	20.5
310699 2002 JU_{4}	16.4	X	253.87099	359.83977	140.24373	23.73841	0.2380170	0.28556021	2.2838676	21	11 12.8	19.7
310700 2002 JN_{10}	15.2	X	180.31268	70.61574	87.47260	25.74529	0.2463096	0.17444293	3.1722480	21	9 20.4	21.2
310701 2002 JB_{37}	15.2	X	205.77181	48.48873	111.03828	18.11067	0.2096059	0.17884180	3.1200151	21	10 9.3	20.7
310702 2002 JN_{73}	15.7	X	189.22170	94.52614	121.82864	8.46868	0.2224468	0.18035260	3.1025666	21	11 23.6	21.0
310703 2002 JL_{116}	15.3	X	205.60896	47.98153	104.59506	20.49876	0.2095309	0.17923550	3.1154445	21	10 2.3	20.8
310704 2002 JV_{117}	15.0	X	156.19245	111.24146	78.24506	27.58840	0.2112168	0.17330523	3.1861161	21	10 12.2	20.9
310705 2002 JK_{119}	15.1	X	122.12116	135.36225	140.05849	16.59823	0.0294948	0.17859764	3.1228580	21	12 1.4	19.9
310706 2002 JP_{122}	15.1	X	152.65748	87.94982	147.76268	17.73070	0.1283519	0.17790823	3.1309204	21	11 20.0	20.4
310707 2002 LN_{31}	14.9	X	210.12054	306.40584	230.87711	25.59071	0.2988715	0.17918853	3.1159889	21	10 17.3	20.5
310708 2002 LO_{63}	16.7	X	206.32971	333.65535	32.75813	2.63698	0.1771674	0.24551367	2.5259162	21	3 29.3	20.7
310709 2002 LT_{64}	17.4	X	152.75389	77.51736	187.57943	6.07088	0.0917659	0.28195525	2.3032934	21	—	—
310710 2002 LV_{64}	16.7	X	282.04579	65.70552	187.38391	3.61906	0.1517549	0.24437209	2.5337766	21	1 20.2	20.5
310711 2002 MM_{7}	16.1	X	221.86510	33.07836	318.17203	8.08181	0.1950547	0.24549517	2.5260431	21	3 19.9	20.4
310712 2002 NY_{27}	16.3	X	222.45504	63.23190	254.22468	11.54275	0.3018271	0.23979075	2.5659475	21	2 6.3	21.2
310713 2002 NG_{39}	16.2	X	158.66444	132.33908	242.18971	12.52401	0.2892214	0.23557702	2.5964548	21	2 27.8	20.9
310714 2002 NV_{50}	16.9	X	175.09633	208.92297	135.74180	3.46756	0.2334024	0.23677038	2.5877231	21	2 7.6	21.1
310715 2002 NQ_{59}	16.9	X	330.61058	192.84140	122.07597	7.41902	0.1339902	0.25741501	2.4474480	21	6 25.4	19.3
310716 2002 NS_{61}	16.7	X	197.88456	209.00605	156.59984	7.97329	0.2258144	0.24208789	2.5496897	21	3 22.7	21.1
310717 2002 NR_{71}	15.7	X	97.86735	280.89662	304.67364	16.00591	0.1163235	0.16077637	3.3495611	21	9 2.3	20.9
310718 2002 NF_{72}	17.1	X	187.91549	177.97799	182.25401	4.72442	0.3111363	0.23997802	2.5646124	21	3 9.1	21.7
310719 2002 NY_{72}	16.7	X	150.87815	173.46439	209.33568	4.32212	0.1746381	0.23904828	2.5712579	21	2 25.6	20.6
310720 2002 NS_{73}	16.6	X	192.45863	135.42327	262.52793	6.83413	0.2861972	0.24477585	2.5309895	21	4 23.5	21.3

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	m		°	°	°	°		°				
310721 2002 NL_{74}	16.9	X	158.30187	23.61386	349.93566	4.85943	0.2962053	0.23699392	2.5860957	21	3 4.5	21.4
310722 2002 OA_{10}	17.2	X	169.23456	73.39975	252.13955	4.06667	0.3258093	0.23304481	2.6152292	21	1 17.1	21.8
310723 2002 OA_{26}	17.2	X	172.18485	62.84037	312.08083	3.03963	0.2387564	0.23940330	2.5687152	21	3 11.9	21.6
310724 2002 OC_{28}	17.4	X	155.22112	118.32998	243.58243	3.08519	0.2834816	0.23470005	2.6029187	21	2 14.3	21.9
310725 2002 PS_{24}	16.2	X	154.06779	92.31224	309.46981	9.18386	0.2561285	0.23935011	2.5690958	21	3 27.2	20.6
310726 2002 PE_{36}	16.8	X	139.51931	143.95835	226.32267	2.32115	0.2230349	0.23309729	2.6148367	21	2 5.6	20.7
310727 2002 PG_{36}	17.1	X	155.85667	227.79785	164.98796	4.06452	0.2827510	0.23747727	2.5825854	21	3 24.9	21.6
310728 2002 PD_{48}	15.9	X	121.21028	257.46044	169.47145	28.25765	0.3971402	0.23319882	2.6140776	21	4 20.8	20.7
310729 2002 PB_{93}	16.0	X	158.94529	113.59836	259.64959	12.50661	0.2045399	0.23533594	2.5982277	21	2 20.1	20.4
310730 2002 PL_{98}	16.4	X	211.94914	255.36432	79.74196	8.23024	0.2416662	0.23953747	2.5677560	21	2 27.8	21.0
310731 2002 PR_{105}	16.3	X	166.21208	133.22300	220.67057	7.36845	0.1971880	0.23505601	2.6002901	21	2 6.2	20.6
310732 2002 PQ_{131}	16.1	X	256.51929	37.15992	256.39990	11.82396	0.2610489	0.24169909	2.5524233	21	2 3.5	20.8
310733 2002 PA_{166}	16.7	X	133.14414	268.12747	122.42369	2.31914	0.1941216	0.23443314	2.6048939	21	2 21.9	20.5
310734 2002 PH_{166}	16.6	X	109.33687	69.07932	322.22511	5.26417	0.2709884	0.22996641	2.6385163	21	2 6.8	19.9
310735 2002 PS_{189}	16.9	X	63.91097	77.04779	318.85428	11.54862	0.3096103	0.22446620	2.6814441	21	—	—
310736 2002 PU_{192}	17.3	X	124.21179	159.87849	252.45877	2.08439	0.1923530	0.23630514	2.5911185	21	3 9.4	20.9
310737 2002 QG_{24}	17.8	X	204.66040	109.03378	132.95691	5.68514	0.4895493	0.28518396	2.2858759	21	12 25.8	22.0
310738 2002 QR_{39}	15.6	X	114.01249	209.40011	163.98815	3.20433	0.2175674	0.12359289	3.9915392	21	1 31.4	21.5
310739 2002 QY_{46}	16.9	X	160.69799	87.97679	287.68244	9.69301	0.3056552	0.23413838	2.6070797	21	3 4.8	21.7
310740 2002 QN_{53}	17.2	X	151.01035	246.46110	138.62892	6.03071	0.1369129	0.23675305	2.5878493	21	2 27.6	20.9
310741 2002 QQ_{53}	16.5	X	114.69964	289.77519	144.75751	12.00897	0.1683349	0.23749715	2.5824412	21	3 28.0	20.2
310742 2002 QM_{77}	17.3	X	153.40090	71.39077	314.02685	4.81202	0.1119616	0.23797695	2.5789690	21	2 25.9	20.9
310743 2002 QG_{91}	16.7	X	172.27905	249.46570	87.18286	5.89682	0.1783185	0.23365982	2.6106382	21	1 24.5	20.9
310744 2002 QH_{110}	17.4	X	50.43405	310.80128	304.76317	3.82752	0.0853138	0.25968558	2.4331609	21	8 19.3	20.2
310745 2002 QY_{127}	16.6	X	278.38041	160.07101	142.75732	6.37936	0.0454804	0.24558793	2.5254070	21	4 5.9	20.0
310746 2002 QF_{128}	16.9	X	109.11551	51.95259	114.16841	3.60502	0.1307731	0.25336118	2.4734853	21	7 12.7	20.4
310747 2002 QF_{141}	16.2	X	122.88961	236.40129	193.96619	11.65969	0.1575225	0.23783359	2.5800052	21	3 26.7	19.9
310748 2002 QC_{146}	16.6	X	230.23964	203.20515	125.70161	5.65936	0.0454689	0.24264645	2.5457754	21	3 11.4	20.1
310749 2002 QL_{147}	16.8	X	127.01092	109.01144	38.44611	2.82652	0.1374912	0.25365466	2.4715770	21	7 9.3	20.4
310750 2002 RF_{5}	16.6	X	20.57002	316.94212	313.88005	14.50173	0.1789159	0.25484864	2.4638514	21	8 3.6	18.8
310751 2002 RB_{27}	17.2	X	347.52360	292.83324	345.27568	18.54164	0.0471958	0.35555714	1.9733151	21	5 26.6	19.5
310752 2002 RM_{27}	17.4	X	152.35388	243.94911	144.22465	5.63400	0.2648263	0.23474437	2.6025910	21	3 16.3	21.8
310753 2002 RQ_{48}	16.4	X	93.03144	13.33680	35.77526	3.67387	0.2699389	0.22822240	2.6519411	21	2 9.6	19.5
310754 2002 RM_{50}	16.9	X	120.42085	285.31369	74.06285	3.58375	0.2828705	0.22715323	2.6602561	21	1 13.2	20.6
310755 2002 RK_{55}	17.1	X	115.23417	101.53508	295.43755	5.12420	0.3360187	0.22949968	2.6420923	21	2 26.8	21.0
310756 2002 RC_{68}	14.6	X	142.50597	89.21442	256.88947	8.31063	0.2684868	0.12555840	3.9497736	21	1 28.1	21.0
310757 2002 RS_{89}	15.4	X	146.76430	185.01634	160.81563	3.25542	0.2316765	0.12564198	3.9480217	21	1 30.3	21.7
310758 2002 RU_{122}	16.4	X	192.93004	219.62195	96.22004	9.33300	0.1957045	0.23368311	2.6104647	21	1 18.3	20.7
310759 2002 RV_{123}	16.9	X	198.12623	270.55374	102.12033	10.66972	0.1602558	0.24180019	2.5517118	21	4 3.9	21.2
310760 2002 RS_{157}	16.9	X	120.15186	93.68314	319.31074	3.76943	0.1713116	0.23349783	2.6118455	21	3 3.4	20.5
310761 2002 RF_{158}	16.4	X	171.27450	231.96509	211.60001	3.51005	0.0780454	0.24619636	2.5212445	21	5 30.3	20.0
310762 2002 RU_{186}	16.9	X	132.34471	82.96469	315.34544	9.58342	0.1871986	0.23283690	2.6167858	21	2 27.2	20.7
310763 2002 RM_{210}	17.4	X	134.72370	236.32833	189.21352	3.04212	0.2031871	0.23605427	2.5929540	21	4 8.7	21.2
310764 2002 RC_{215}	16.8	X	153.62729	217.23702	142.65297	8.38272	0.1963264	0.23296827	2.6158020	21	2 4.5	20.9
310765 2002 RJ_{223}	17.1	X	140.99838	247.01519	140.92963	5.19954	0.2263092	0.23306054	2.6151115	21	3 2.5	21.1
310766 2002 RM_{224}	16.5	X	131.52146	284.49586	102.63431	7.34995	0.3391178	0.23124498	2.6287816	21	3 6.5	20.9
310767 2002 RX_{234}	17.1	X	163.31991	70.71695	332.70660	3.11321	0.1793070	0.23985807	2.5654674	21	4 4.6	21.3
310768 2002 RC_{235}	17.0	X	93.98862	258.34900	229.67531	3.30386	0.0533863	0.24254255	2.5465024	21	4 19.1	20.1
310769 2002 RJ_{245}	16.7	X	136.99619	271.36341	106.01339	3.87196	0.2201080	0.23332255	2.6131534	21	2 13.2	20.7
310770 2002 RO_{251}	15.5	X	148.20564	276.47222	79.21235	5.15689	0.2212658	0.12738240	3.9119782	21	2 12.3	21.8
310771 2002 RF_{253}	16.9	X	41.02901	190.69434	313.89872	3.91385	0.0399343	0.23732928	2.5836588	21	2 23.3	20.2
310772 2002 RU_{276}	16.8	X	53.86746	187.33881	325.26851	3.04046	0.0827456	0.24070997	2.5594108	21	3 27.5	19.6
310773 2002 RS_{290}	16.9	X	355.95366	198.88753	90.12219	6.77167	0.1583271	0.25581015	2.4576736	21	7 5.9	18.8
310774 2002 SO_{7}	16.3	X	79.44672	245.18019	193.23402	21.84074	0.0532196	0.23055443	2.6340281	21	1 20.9	20.2
310775 2002 SN_{13}	16.3	X	196.46771	103.07459	255.41525	14.57253	0.1908851	0.23819755	2.5773764	21	3 4.2	21.0
310776 2002 SH_{18}	16.8	X	203.76769	206.20444	109.29093	0.99466	0.1410315	0.23349090	2.6118972	21	1 25.1	21.0
310777 2002 ST_{19}	16.4	X	126.75711	277.67637	165.09151	27.60998	0.4322331	0.23349910	2.6118360	21	5 17.4	21.7
310778 2002 SV_{29}	16.4	X	118.78822	7.35377	65.84327	4.73463	0.2070664	0.23521253	2.5991364	21	4 4.2	20.2
310779 2002 SP_{32}	16.4	X	165.02455	9.61832	7.22458	15.25141	0.1859411	0.23471776	2.6027877	21	3 10.2	20.6
310780 2002 SX_{33}	16.7	X	166.93009	312.32121	54.21890	5.10944	0.1811171	0.23503276	2.6004616	21	2 26.0	20.8
310781 2002 SH_{35}	16.9	X	147.49340	300.88408	91.07477	3.80134	0.2412061	0.23331056	2.6132430	21	3 15.7	21.2
310782 2002 SH_{36}	17.1	X	142.40627	238.35610	144.09805	4.72337	0.2612309	0.23158979	2.6261717	21	2 28.4	21.2
310783 2002 SF_{41}	16.2	X	97.81365	212.17142	183.35761	12.78213	0.1844148	0.22581676	2.6707420	21	1 13.1	19.7
310784 2002 SG_{41}	15.8	X	127.21732	22.94168	33.01947	15.87128	0.1167206	0.23276882	2.6172960	21	3 16.6	19.7
310785 2002 SU_{44}	17.0	X	100.18334	179.08299	226.37368	1.79685	0.1903815	0.22761217	2.6566789	21	1 31.3	20.3
310786 2002 SD_{55}	16.4	X	197.86832	103.72707	204.10133	6.80550	0.1965033	0.23387548	2.6090331	21	1 11.2	20.9
310787 2002 TH_{38}	16.5	X	84.15017	204.93308	207.15675	10.83446	0.1775241	0.22462368	2.6801907	21	1 12.5	19.8
310788 2002 TY_{123}	16.3	X	91.06717	201.46613	228.82212	13.72518	0.0871691	0.23164478	2.6257560	21	1 29.8	19.9
310789 2002 TY_{125}	16.4	X	175.47604	109.54487	230.54616	10.25112	0.2091197	0.23311945	2.6146710	21	1 29.1	20.9
310790 2002 TP_{144}	16.5	X	143.51770	235.21814	143.70029	17.37246	0.2448236	0.23044545	2.6348584	21	2 24.2	20.7
310791 2002 TP_{149}	17.2	X	121.65406	222.98941	174.74179	4.25186	0.1344488	0.23127696	2.6285392	21	2 9.1	20.7
310792 2002 TA_{152}	17.3	X	147.00890	75.18952	340.25717	3.30094	0.1463133	0.23653104	2.5894684	21	4 1.5	21.2
310793 2002 TP_{160}	16.8	X	101.54188	350.16975	65.10852	15.24742	0.2388770	0.22821364	2.6520089	21	3 3.3	20.6
310794 2002 TO_{164}	15.9	X	137.24788	234.60926	109.28345	15.72748	0.1319867	0.22444452	2.6816168	21	—	—
310795 2002 TC_{169}	16.4	X	117.07204	77.94409	327.90906	13.28262	0.1845318	0.23102638	2.6304396	21	2 21.1	20.0
310796 2002 TR_{172}	16.7	X	133.43846	108.01677	294.17403	11.75678	0.2736730	0.23365162	2.6106993	21	3 10.7	21.0
310797 2002 TE_{177}	16.7	X	147.62253	248.01874	106.92379	12.61708	0.3170618	0.22911922	2.6450164	21	2 6.4	21.2
310798 2002 TL_{187}	17.4	X	180.82690	42.82712	321.85402	4.76538	0.2581923	0.23606563	2.5928708	21	3 7.5	21.8
310799 2002 TL_{191}	16.5	X	108.79330	133.56726	271.91138	11.54492	0.1803775	0.23005293	2.6378547	21	2 6.3	20.1
310800 2002 TB_{198}	17.0	X	150.02406	126.06188	226.09168	4.78668	0.3484049	0.22958021	2.6414745	21	2 4.1	21.7

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	m		°	°	°	°		°				
310801 2002 TF_{199}	16.2	X	179.49703	104.47732	274.95214	12.03320	0.1306780	0.23669347	2.5882837	21	3 13.3	20.5
310802 2002 TK_{199}	16.5	X	95.99108	137.37422	278.73190	12.55020	0.2561737	0.22681269	2.6629182	21	2 14.0	20.1
310803 2002 TG_{209}	16.1	X	208.28917	197.15720	106.30591	7.45226	0.2546020	0.23429532	2.6059153	21	1 16.9	20.6
310804 2002 TE_{238}	17.4	X	163.11341	157.95392	218.74067	1.99626	0.2137615	0.23366725	2.6105829	21	3 5.9	21.8
310805 2002 TE_{271}	16.6	X	184.63664	356.48339	334.01549	4.88703	0.2245415	0.23264263	2.6182424	21	1 30.3	21.0
310806 2002 TW_{369}	16.6	X	177.46359	299.37454	98.71520	9.72780	0.0805984	0.23746550	2.5826707	21	4 13.1	20.5
310807 2002 TX_{381}	16.3	X	117.72145	127.23681	276.48600	10.52135	0.1905042	0.23239668	2.6200893	21	2 15.9	20.0
310808 2002 TZ_{382}	16.9	X	83.67962	58.26237	24.90164	4.94589	0.1406983	0.22836877	2.6508078	21	2 20.8	20.0
310809 2002 UA_{11}	17.0	X	99.93541	162.46161	228.64907	4.54609	0.1710722	0.22523180	2.6753642	21	1 9.7	20.2
310810 2002 UH_{21}	17.0	X	162.72234	347.41184	39.12040	1.58998	0.1493614	0.23362491	2.6108983	21	3 14.5	21.0
310811 2002 UL_{21}	17.1	X	87.99523	10.11896	43.92760	2.95444	0.2055765	0.22586303	2.6703772	21	1 28.9	20.1
310812 2002 UP_{68}	17.8	X	96.02309	347.35010	107.38319	4.42773	0.2103771	0.23213373	2.6220676	21	4 5.7	21.2
310813 2002 UA_{69}	17.0	X	77.21277	350.29062	102.88802	5.80513	0.1167737	0.23045570	2.6347803	21	2 20.2	20.1
310814 2002 UQ_{71}	16.9	X	83.14523	114.13650	288.68912	4.31174	0.1546275	0.22331118	2.6906822	21	—	—
310815 2002 US_{78}	17.1	X	98.29254	61.52886	321.85651	1.85244	0.1063377	0.22398960	2.6852464	21	—	—
310816 2002 VM_{16}	16.5	X	93.85121	182.09703	235.04912	9.39861	0.1454389	0.22684629	2.6626552	21	1 27.9	19.9
310817 2002 VB_{26}	16.3	X	116.63662	2.26364	47.64332	13.23003	0.1716691	0.22828869	2.6514277	21	3 4.3	20.2
310818 2002 VB_{61}	16.6	X	142.47807	135.69691	253.21535	6.53289	0.1935937	0.23122858	2.6289059	21	2 26.0	20.7
310819 2002 VN_{69}	16.2	X	147.70978	266.40809	103.03575	14.11894	0.2958768	0.22894683	2.6463440	21	2 24.0	20.8
310820 2002 VY_{69}	16.1	X	133.05124	315.93873	46.81709	14.43019	0.3155095	0.22808473	2.6530081	21	2 7.5	20.6
310821 2002 VM_{73}	16.9	X	139.02000	234.19197	161.05874	4.20286	0.1893145	0.23035760	2.6355283	21	3 5.4	20.9
310822 2002 VH_{84}	15.9	X	92.13970	326.52705	102.37844	12.51565	0.2823338	0.22455436	2.6807422	21	3 13.2	19.5
310823 2002 VM_{104}	16.3	X	84.33922	207.52179	259.04217	11.94652	0.1964181	0.22885700	2.6470364	21	3 25.8	19.8
310824 2002 VS_{139}	17.3	X	59.29415	99.03530	10.74601	8.12330	0.2612834	0.22515969	2.6759354	21	3 5.4	19.7
310825 2002 VR_{142}	17.0	X	124.55749	280.35829	119.14455	3.60809	0.1059923	0.22856174	2.6493156	21	2 12.8	20.6
310826 2002 WR_{8}	16.8	X	97.49693	311.76011	107.73993	4.19244	0.2425947	0.22581995	2.6707168	21	2 25.5	20.1
310827 2002 WT_{22}	16.7	X	108.32192	314.89595	75.22021	7.61090	0.0370055	0.22340922	2.6898949	21	1 1.8	20.3
310828 2002 XC	16.3	X	123.77276	335.57967	69.37475	18.86510	0.1705829	0.22898663	2.6460373	21	3 9.5	20.5
310829 2002 XN_{12}	16.8	X	57.15171	87.87124	17.76527	8.58409	0.2883811	0.22351903	2.6890139	21	2 28.2	19.0
310830 2002 XQ_{17}	16.3	X	151.76428	61.79775	295.33047	11.65751	0.2802140	0.22764636	2.6564129	21	2 5.6	20.7
310831 2002 XQ_{27}	17.2	X	115.00172	339.41429	77.34266	3.29289	0.2042869	0.22797295	2.6538752	21	3 10.1	20.8
310832 2002 XN_{34}	16.3	X	63.69151	48.55750	69.36896	2.73267	0.0482230	0.22802861	2.6534434	21	2 24.9	19.7
310833 2002 XT_{38}	16.1	X	36.85016	26.47192	39.88654	17.25471	0.2579837	0.21602660	2.7508351	21	—	—
310834 2002 XZ_{45}	15.1	X	193.59024	54.87536	295.62784	30.54627	0.2391291	0.23086482	2.6316666	21	2 15.5	20.1
310835 2002 XS_{59}	16.9	X	88.54958	159.15411	248.61563	4.47606	0.0678307	0.22216175	2.6999550	21	1 1.6	20.3
310836 2002 XQ_{65}	16.7	X	74.89649	82.38705	335.09605	0.94186	0.2711846	0.22102244	2.7092254	21	1 21.6	19.2
310837 2002 XE_{67}	16.0	X	56.86184	330.12044	116.63838	13.80715	0.0915251	0.22265231	2.6959878	21	1 7.8	19.0
310838 2002 XS_{95}	17.0	X	83.73640	21.18306	74.55839	5.14692	0.2083232	0.22744200	2.6580039	21	3 21.5	20.1
310839 2002 XQ_{105}	16.3	X	99.43273	342.34009	81.61163	6.16668	0.1332887	0.22462386	2.6801892	21	2 18.4	19.7
310840 2002 YE_{32}	16.6	X	92.87633	244.88993	181.89015	13.15117	0.2750665	0.22523483	2.6753402	21	3 2.7	20.0
310841 2003 AK_{3}	16.0	X	22.99158	346.99446	128.86539	17.73500	0.2329955	0.21484933	2.7608748	21	—	—
310842 2003 AK_{18}	19.7	X	304.37537	23.86036	301.61367	7.40368	0.3841486	1.20026453	0.8769027	21	—	—
310843 2003 AP_{20}	16.1	X	36.32690	231.38133	288.17185	12.03088	0.2017513	0.22280860	2.6947268	21	3 10.9	18.9
310844 2003 AA_{33}	16.9	X	349.76332	83.55914	94.55033	4.82758	0.2479684	0.21838389	2.7310039	21	1 1.9	20.0
310845 2003 AC_{56}	16.3	X	42.43280	215.75056	225.24720	6.44255	0.2576038	0.21706744	2.7420346	21	—	—
310846 2003 AT_{65}	16.9	X	36.02156	79.84099	38.58764	9.16744	0.2510728	0.21906439	2.7253453	21	1 19.7	19.2
310847 2003 AM_{66}	16.0	X	30.78512	91.13925	11.60473	8.95528	0.1535942	0.21741838	2.7390831	21	—	—
310848 2003 AY_{78}	16.6	X	53.47502	112.12319	281.27958	5.39324	0.1696711	0.21050483	2.7987322	21	—	—
310849 2003 AS_{90}	16.0	X	115.61842	144.24993	348.89867	12.48761	0.1180345	0.23163023	2.6258660	21	6 2.1	20.0
310850 2003 BT	16.1	X	83.24481	97.05836	5.47776	11.45933	0.2453739	0.22368220	2.6877060	21	4 1.6	19.3
310851 2003 BP_{1}	15.8	X	352.79194	54.41377	109.23064	34.08609	0.2695711	0.22006558	2.7170730	21	—	—
310852 2003 BL_{2}	16.0	X	139.90083	281.02745	123.48070	15.87927	0.1541155	0.22510772	2.6763472	21	3 19.8	20.2
310853 2003 BH_{24}	16.5	X	8.29489	274.39782	224.08664	8.01739	0.2006349	0.21548288	2.7554606	21	—	—
310854 2003 BK_{45}	16.1	X	165.00824	116.93259	279.92341	10.45840	0.3060290	0.22939202	2.6429189	21	4 1.4	21.1
310855 2003 BN_{49}	16.3	X	56.55559	30.56703	106.99486	6.73673	0.1103225	0.22370777	2.6875012	21	3 21.7	19.5
310856 2003 BO_{54}	16.0	X	43.71659	66.27995	118.55821	11.96707	0.1231945	0.22758729	2.6568725	21	5 7.9	19.2
310857 2003 BS_{55}	16.2	X	54.03728	156.73103	314.10782	9.85095	0.2530154	0.21908659	2.7251611	21	2 18.8	18.5
310858 2003 BK_{62}	16.5	X	338.63454	138.83250	351.21555	8.55489	0.2345734	0.21051338	2.7986564	21	—	—
310859 2003 BK_{78}	15.4	X	313.97818	230.02365	314.26816	15.18394	0.2051367	0.21407581	2.7675214	21	—	—
310860 2003 CM_{9}	16.3	X	343.91558	228.10343	264.40058	6.41242	0.2722798	0.21093227	2.7949499	21	—	—
310861 2003 CG_{26}	16.3	X	324.29625	85.98374	105.97533	10.17313	0.1112386	0.21559886	2.7544723	21	1 4.9	20.1
310862 2003 EW_{40}	15.8	X	102.57535	39.42033	115.95411	15.02215	0.0801314	0.22979446	2.6398324	21	6 14.7	19.6
310863 2003 FM_{9}	16.1	X	342.86067	28.14943	127.93830	13.42046	0.0997543	0.21140559	2.7907766	21	—	—
310864 2003 FU_{9}	16.3	X	311.30059	50.60981	82.85782	15.98826	0.0971060	0.20327722	2.8646852	21	—	—
310865 2003 FO_{39}	16.0	X	71.50171	328.30073	336.39112	1.52636	0.0817508	0.18891211	3.0081271	21	11 11.9	20.4
310866 2003 FE_{45}	16.4	X	45.61697	109.71725	352.90185	8.40617	0.3345250	0.21638227	2.7478200	21	1 28.9	18.0
310867 2003 GF_{28}	13.9	X	219.99601	337.87974	188.39572	3.49469	0.0738958	0.08326273	5.1940041	21	10 23.4	20.9
310868 2003 GK_{42}	16.3	X	47.08102	37.06859	141.17731	14.13972	0.2066430	0.22199017	2.7013460	21	5 16.0	19.4
310869 2003 GK_{47}	15.8	X	92.90216	112.19941	159.44652	7.57583	0.1091754	0.18565247	3.0432355	21	11 1.9	20.4
310870 2003 GD_{48}	13.4	X	144.13349	183.85245	63.88341	9.10880	0.0654657	0.08221860	5.2378854	21	11 8.9	20.6
310871 2003 GG_{57}	12.9	X	145.17526	175.73431	82.16103	14.48793	0.0214982	0.08122045	5.2807116	21	11 19.9	20.0
310872 2003 HF_{14}	12.6	X	349.02913	18.41236	22.36743	29.29644	0.0196786	0.08282028	5.2124864	21	10 27.8	19.5
310873 2003 HB_{26}	15.7	X	29.16221	93.19841	216.47216	9.75591	0.1400537	0.17998847	3.1067497	21	9 28.5	19.7
310874 2003 HV_{58}	16.4	X	98.02905	232.42531	23.76751	0.91082	0.1263287	0.18253504	3.0777870	21	10 18.9	21.0
310875 2003 JE_{8}	16.9	X	73.64078	76.97059	245.55404	4.21038	0.1928275	0.29412895	2.2392927	21	—	—
310876 2003 KV_{33}	16.1	X	213.56727	343.37422	178.08735	10.14392	0.0725091	0.18492782	3.0511803	21	10 24.3	20.6
310877 2003 MW_{3}	16.0	X	12.11282	77.44292	143.54374	9.75796	0.3778735	0.21809575	2.7334088	21	4 27.5	17.2
310878 2003 MB_{8}	14.7	X	70.67453	20.86366	270.29519	25.02145	0.1110624	0.17466173	3.1695982	21	10 21.1	19.7
310879 2003 ON_{12}	16.3	X	255.19498	87.35994	287.65009	20.20130	0.3079474	0.26469317	2.4023755	21	5 6.9	20.7
310880 2003 OS_{17}	16.8	X	4.82341	256.84185	75.40015	5.46677	0.1990932	0.27840477	2.3228345	21	10 17.1	18.6

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
310881 2003 PU_5	16.9	X	259.58611	174.69075	165.44991	8.77085	0.2251088	0.26144422	2.4222373	21	4 10.5	20.7
310882 2003 PH_6	16.5	X	293.43989	54.67781	294.57752	6.03879	0.2212174	0.26708363	2.3880195	21	5 27.8	19.4
310883 2003 PK_6	16.4	X	208.33197	99.43318	296.57969	6.29007	0.2300520	0.25893632	2.4378523	21	5 2.3	20.7
310884 2003 QU_3	17.0	X	314.55925	36.16071	315.38616	1.69248	0.2059555	0.27124325	2.3635425	21	7 10.3	19.1
310885 2003 QX_{15}	16.8	X	308.37524	111.93105	252.40425	6.21157	0.1433681	0.27076096	2.3663484	21	7 27.1	19.2
310886 2003 QK_{24}	17.0	X	326.16719	81.13201	283.61425	6.06677	0.1441307	0.27427030	2.3461199	21	9 1.0	19.2
310887 2003 QJ_{33}	17.1	X	263.46363	173.14292	189.40182	2.13151	0.1894596	0.26410317	2.4059521	21	5 15.3	20.7
310888 2003 QD_{45}	17.2	X	285.04688	199.99170	135.77403	7.08946	0.2544810	0.26457622	2.4030834	21	4 27.9	20.7
310889 2003 QT_{50}	16.8	X	252.46909	358.55070	24.97983	4.69144	0.1624431	0.26363343	2.4088091	21	6 2.3	20.3
310890 2003 QO_{57}	17.5	X	307.01982	326.07224	25.96482	1.67182	0.2025939	0.26954308	2.3734710	21	6 26.9	19.7
310891 2003 QG_{89}	16.9	X	42.31239	44.68300	237.53163	6.41093	0.0999612	0.27607572	2.3358803	21	9 16.1	19.6
310892 2003 QM_{111}	16.5	X	228.78487	295.79363	119.60994	12.09866	0.2660674	0.26289730	2.4133037	21	6 14.3	20.8
310893 2003 QB_{114}	17.6	X	280.46303	139.63391	235.46776	4.07287	0.2066842	0.26814252	2.3817285	21	6 19.1	20.6
310894 2003 RF_5	17.3	X	276.80008	208.08341	188.65785	1.03739	0.1902471	0.26953860	2.3734973	21	7 17.6	20.1
310895 2003 RB_6	17.1	X	291.89976	82.38832	271.86836	11.41970	0.2622537	0.26661732	2.3908031	21	5 26.4	20.1
310896 2003 RY_9	16.7	X	1.34218	11.08351	282.06546	8.16981	0.2533102	0.27154373	2.3617986	21	7 28.7	17.8
310897 2003 RJ_{20}	17.6	X	283.01447	335.09051	21.02993	2.94510	0.2376905	0.26523709	2.3990900	21	5 21.6	20.9
310898 2003 SD_{11}	17.0	X	297.73915	115.07586	254.94171	18.97680	0.0852599	0.37938967	1.8897849	21	7 24.7	19.0
310899 2003 SX_{13}	17.2	X	270.12703	204.31311	153.97359	5.43790	0.1240900	0.26374125	2.4081526	21	5 26.9	20.4
310900 2003 SE_{14}	17.1	X	212.50258	258.45639	151.02625	1.40110	0.1759420	0.26036427	2.4289307	21	5 27.1	20.8
310901 2003 SO_{18}	17.4	X	285.15247	171.58938	199.47498	1.42250	0.2226791	0.26735023	2.3864317	21	6 17.2	20.2
310902 2003 SK_{26}	17.2	X	290.00737	37.83835	339.51893	4.29040	0.1481199	0.26828871	2.3808633	21	7 17.4	19.8
310903 2003 SP_{28}	16.9	X	266.67203	182.68365	222.97250	5.92782	0.0988644	0.26786026	2.3834014	21	7 29.1	20.0
310904 2003 SC_{32}	17.1	X	262.14149	110.87450	341.67394	20.61186	0.1058439	0.38361516	1.8758821	21	10 4.7	18.9
310905 2003 SO_{42}	16.8	X	347.88797	59.15270	300.88832	10.56083	0.2475509	0.27687783	2.3313667	21	10 17.6	18.5
310906 2003 SD_{45}	17.1	X	287.19711	233.91130	145.27857	1.75616	0.1907602	0.26782293	2.3836229	21	7 7.1	19.7
310907 2003 SK_{45}	16.9	X	252.24868	14.49570	20.69683	5.38497	0.2327920	0.26392866	2.4070125	21	6 10.1	20.6
310908 2003 SE_{50}	17.2	X	244.97687	112.03137	270.57369	4.78084	0.0989586	0.26338714	2.4103106	21	5 30.9	20.5
310909 2003 SL_{58}	15.0	X	141.45953	323.46131	301.96614	16.35852	0.1166793	0.17750543	3.1356551	21	12 9.2	20.2
310910 2003 SJ_{66}	17.5	X	270.14280	138.45685	217.87998	6.22005	0.1585842	0.26380013	2.4077943	21	5 18.6	20.7
310911 2003 SY_{69}	16.4	X	297.53822	346.50753	0.46528	11.71493	0.1887940	0.26572370	2.3961602	21	6 3.3	19.6
310912 2003 SQ_{80}	17.4	X	272.95698	197.93276	167.00922	1.60858	0.2034997	0.26300625	2.4126371	21	5 27.5	20.6
310913 2003 SF_{82}	17.2	X	306.52436	154.10774	172.79202	7.60874	0.1408845	0.26469262	2.4023788	21	5 31.4	20.0
310914 2003 SN_{85}	16.8	X	125.00185	148.32749	217.60847	13.39518	0.1849813	0.24160967	2.5530531	21	1 7.2	20.5
310915 2003 SO_{93}	17.2	X	238.92874	323.70739	78.28609	4.14913	0.2204102	0.26232300	2.4168246	21	6 7.9	20.9
310916 2003 SR_{97}	18.3	X	236.54689	39.99807	28.17505	1.73091	0.1748650	0.26722035	2.3872049	21	7 14.9	21.9
310917 2003 SL_{101}	16.4	X	221.81628	146.29378	250.00713	9.21890	0.1797809	0.25998372	2.4313004	21	5 17.9	20.2
310918 2003 SY_{106}	16.3	X	63.46143	175.13235	240.08478	10.60324	0.0370083	0.23856567	2.5747244	21	—	—
310919 2003 SN_{109}	14.9	X	173.59091	289.68653	350.75565	15.69179	0.2138811	0.18192611	3.0846509	21	—	—
310920 2003 SC_{123}	17.0	X	257.70160	220.92949	178.21784	2.14628	0.1509627	0.26565393	2.3965797	21	7 1.9	20.3
310921 2003 SS_{135}	17.1	X	222.84641	6.34746	48.97670	2.33156	0.1573074	0.26233253	2.4167661	21	6 14.4	20.9
310922 2003 SM_{145}	16.2	X	269.30458	63.49688	299.47936	6.41875	0.1275525	0.26234393	2.4166960	21	5 29.8	19.5
310923 2003 SR_{150}	16.4	X	312.56690	237.39568	94.00991	5.68382	0.2135061	0.26679584	2.3897365	21	6 3.4	18.9
310924 2003 SZ_{166}	16.5	X	296.20989	337.04470	24.47389	5.46763	0.2197586	0.26722480	2.3871784	21	6 19.7	19.3
310925 2003 ST_{175}	17.0	X	237.32459	115.68220	302.53292	4.50546	0.1865422	0.26548986	2.3975670	21	7 1.0	20.6
310926 2003 SD_{178}	16.8	X	245.19576	149.18561	230.22936	4.39936	0.1212280	0.26100723	2.4249402	21	5 25.0	20.3
310927 2003 SC_{235}	17.3	X	314.64853	274.19097	72.82852	2.26176	0.1999780	0.26779745	2.3837741	21	7 4.1	19.6
310928 2003 SV_{236}	15.1	X	245.57438	344.69247	3.07079	9.81153	0.0985275	0.14660677	3.5620502	21	4 21.9	20.5
310929 2003 SN_{241}	18.5	X	205.44010	3.88020	33.95866	1.87103	0.1867971	0.25714360	2.4491699	21	5 5.1	22.6
310930 2003 SP_{242}	17.2	X	306.21933	277.51512	15.72511	5.10608	0.1212705	0.25765761	2.4459115	21	4 14.2	20.3
310931 2003 SC_{268}	17.3	X	217.97899	222.41769	204.62631	0.67636	0.1643451	0.26247320	2.4159025	21	6 24.6	21.1
310932 2003 SL_{275}	17.1	X	269.09958	292.42899	26.64585	4.10438	0.1986968	0.25767493	2.4458018	21	3 25.6	20.9
310933 2003 SN_{286}	17.0	X	248.99205	80.27689	260.68789	7.39245	0.2403898	0.25719204	2.4488623	21	3 26.7	21.3
310934 2003 SJ_{295}	16.8	X	214.29798	188.38960	240.50570	7.34108	0.1066896	0.26321414	2.4113666	21	6 26.4	20.2
310935 2003 SX_{313}	17.8	X	248.19670	264.50245	74.99178	2.49730	0.1986873	0.25597191	2.4566380	21	3 31.9	21.7
310936 2003 SE_{319}	15.2	X	59.74093	73.99023	340.62718	9.59720	0.2973571	0.12388527	3.9852565	21	1 25.4	19.9
310937 2003 SM_{331}	17.6	X	213.12014	272.75481	88.78385	7.91578	0.2599450	0.25323523	2.4743054	21	3 31.2	22.1
310938 2003 SK_{332}	17.6	X	236.84089	280.51637	128.71594	3.54612	0.1878178	0.26239624	2.4163749	21	6 18.4	21.2
310939 2003 SY_{358}	18.1	X	158.49875	271.84170	216.12330	3.78886	0.0478411	0.26588856	2.3951697	21	7 11.9	21.4
310940 2003 SX_{363}	17.5	X	247.01770	205.70272	276.17634	3.79216	0.0724156	0.27857345	2.3218967	21	10 23.7	20.2
310941 2003 SF_{388}	17.2	X	186.19564	32.56768	92.85058	3.46349	0.1307784	0.26571297	2.3962248	21	8 11.5	20.8
310942 2003 SN_{396}	17.1	X	226.80835	0.52112	98.33170	7.44310	0.0659351	0.26768475	2.3844431	21	8 29.9	20.3
310943 2003 TD_{10}	16.9	X	308.69284	104.38136	266.22527	19.84602	0.0645953	0.37961549	1.8890354	21	8 15.7	19.0
310944 2003 TC_{12}	17.0	X	252.27566	292.83273	88.25385	3.16627	0.2119507	0.26142760	2.4223400	21	5 25.7	20.8
310945 2003 TX_{15}	16.8	X	209.20775	349.15865	80.12908	6.56182	0.2111829	0.25973679	2.4328411	21	6 16.9	20.7
310946 2003 TX_{28}	17.1	X	347.12168	313.62585	331.91942	1.79522	0.1808924	0.26469737	2.4023501	21	6 6.7	18.9
310947 2003 UH_2	17.7	X	215.96393	34.12243	352.14213	4.23378	0.1207819	0.25648757	2.4533443	21	4 30.8	21.4
310948 2003 UM_{14}	17.0	X	255.47972	261.66772	84.76483	11.66876	0.1956908	0.25771463	2.4455507	21	4 20.8	20.9
310949 2003 UH_{15}	17.2	X	214.39711	145.42560	285.71703	1.46570	0.1935787	0.26035986	2.4289581	21	6 24.9	21.2
310950 2003 UP_{26}	16.9	X	278.42742	240.28163	104.78175	5.25491	0.2580311	0.26179293	2.4200859	21	5 1.9	20.5
310951 2003 UT_{38}	17.1	X	248.89773	312.49365	70.17289	5.68217	0.1971847	0.26097748	2.4251244	21	5 25.7	20.9
310952 2003 UY_{51}	17.4	X	208.61037	77.24271	324.98260	7.58562	0.2321678	0.25643378	2.4536874	21	5 9.9	21.7
310953 2003 UH_{54}	16.4	X	10.05644	53.79517	285.04520	5.90328	0.1370121	0.27245666	2.3565198	21	10 21.1	18.9
310954 2003 UY_{54}	17.0	X	185.27081	138.82597	257.61444	6.05570	0.2146841	0.25130205	2.4869785	21	4 14.7	21.3
310955 2003 UB_{56}	17.0	X	209.17121	307.23204	104.36148	3.89350	0.1752215	0.25808735	2.4431956	21	5 27.2	20.8
310956 2003 UL_{75}	17.0	X	293.10710	88.99819	245.71384	4.16347	0.1214300	0.26247758	2.4158756	21	5 24.1	20.0
310957 2003 UX_{94}	17.8	X	250.67569	176.61756	207.97505	0.26833	0.1759838	0.26147008	2.4220776	21	6 1.1	21.4
310958 2003 UH_{97}	17.3	X	209.90710	42.49543	39.30052	2.86523	0.1473751	0.26099066	2.4250428	21	7 7.4	20.9
310959 2003 UO_{98}	17.3	X	218.79052	297.11826	103.15166	5.22144	0.2016524	0.25685031	2.4510339	21	5 20.9	21.3
310960 2003 UB_{108}	16.3	X	343.09068	10.82330	301.39684	9.43001	0.1032826	0.26509659	2.3999376	21	7 18.9	18.5

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	m		°	°	°	°		°				
310961 2003 UZ_{110}	17.5	X	243.40114	261.70403	149.80618	1.74338	0.1361880	0.26189691	2.4194452	21	7 3.7	21.0
310962 2003 UW_{116}	17.3	X	201.75659	257.49772	148.78418	3.17968	0.1753291	0.25564984	2.4587009	21	5 13.9	21.3
310963 2003 UQ_{119}	17.3	X	228.04424	148.88525	276.97855	2.05786	0.1580578	0.26241054	2.4162871	21	7 3.9	21.0
310964 2003 UE_{120}	17.2	X	172.10758	85.25210	24.17426	13.17494	0.1538294	0.25927446	2.4357323	21	7 7.5	21.3
310965 2003 US_{126}	16.7	X	189.89384	135.53375	294.87969	5.81722	0.1112274	0.25663010	2.4524358	21	6 1.7	20.4
310966 2003 US_{132}	16.4	X	110.71030	9.30391	20.41516	9.29999	0.1694840	0.23804262	2.5784946	21	1 23.6	19.8
310967 2003 UK_{139}	17.1	X	273.85177	261.71751	79.52894	6.96730	0.1755475	0.26080017	2.4262235	21	5 2.2	20.5
310968 2003 US_{144}	17.0	X	259.72079	93.79321	331.78249	5.08954	0.1980243	0.26507602	2.4000618	21	8 4.5	20.0
310969 2003 UF_{174}	17.4	X	280.58358	83.26882	290.45800	1.43675	0.2265487	0.26433805	2.4045266	21	6 14.3	20.7
310970 2003 UA_{182}	17.1	X	204.16130	290.13840	140.90561	4.12483	0.1899895	0.25824136	2.4422241	21	6 15.8	21.0
310971 2003 UG_{204}	17.2	X	207.50115	298.45191	181.61399	1.88369	0.1359740	0.26510219	2.3999038	21	8 24.9	20.6
310972 2003 UE_{217}	16.7	X	235.91806	334.16601	76.77904	3.79858	0.1815694	0.26153483	2.4216778	21	6 20.1	20.3
310973 2003 UN_{228}	17.4	X	187.59415	305.48135	119.38105	3.40611	0.1801034	0.25646595	2.4534822	21	5 24.6	21.4
310974 2003 UE_{231}	17.6	X	236.50211	40.03343	8.11978	3.37992	0.1449414	0.26176205	2.4202762	21	6 20.4	21.1
310975 2003 UA_{240}	17.6	X	219.20405	258.68164	151.59468	2.04921	0.1734269	0.25945888	2.4345780	21	6 3.7	21.5
310976 2003 UB_{270}	17.6	X	248.37885	355.61333	34.62529	1.12804	0.1883805	0.26354738	2.4093335	21	6 4.7	21.3
310977 2003 UE_{272}	16.8	X	196.58577	211.28825	215.88223	5.69067	0.1044398	0.25822131	2.4423505	21	6 5.5	20.3
310978 2003 UE_{278}	16.6	X	204.09772	61.58920	359.50668	6.34393	0.1110665	0.25821997	2.4423590	21	6 3.9	20.4
310979 2003 UR_{297}	17.5	X	250.36469	134.92649	263.61742	2.44260	0.1268391	0.26249109	2.4157928	21	6 25.4	20.6
310980 2003 UV_{307}	17.5	X	155.05589	272.37695	204.44381	10.00439	0.1883289	0.25599901	2.4564647	21	6 29.4	21.6
310981 2003 UP_{328}	17.2	X	212.80771	190.72912	253.96214	5.30779	0.0298152	0.26794924	2.3828738	21	7 21.9	20.3
310982 2003 UZ_{331}	17.2	X	153.44273	292.96832	207.09734	7.38029	0.0977266	0.26614773	2.3936145	21	7 23.5	20.8
310983 2003 UM_{341}	14.8	X	172.81092	261.89140	198.96838	18.52278	0.0881609	0.15567099	3.4224013	21	6 23.8	20.4
310984 2003 UH_{349}	17.7	X	193.65133	44.60453	101.28047	3.09091	0.1518785	0.27003288	2.3706000	21	9 14.9	21.2
310985 2003 UO_{369}	17.0	X	218.48890	358.76999	266.32526	5.77775	0.0840314	0.29364782	2.2417380	21	—	—
310986 2003 UG_{383}	17.7	X	220.28591	253.87835	138.18161	3.09858	0.1408791	0.25824678	2.4421899	21	5 14.4	21.5
310987 2003 WP_{10}	17.1	X	245.28743	92.67347	269.07066	7.84154	0.2350693	0.25662854	2.4524457	21	4 19.5	21.2
310988 2003 WM_{39}	16.8	X	286.30330	91.63851	272.70088	5.52288	0.1371139	0.26254422	2.4154668	21	6 23.4	19.8
310989 2003 WO_{54}	17.2	X	88.62180	32.16442	16.05168	7.89488	0.1639331	0.23723906	2.5843139	21	1 13.5	20.2
310990 2003 WV_{81}	16.9	X	71.41386	313.37121	82.59682	6.25172	0.2978304	0.23267952	2.6179656	21	—	—
310991 2003 WH_{84}	16.9	X	204.11511	143.35729	268.41896	7.23990	0.3372303	0.25588220	2.4572122	21	5 18.4	21.5
310992 2003 WH_{90}	16.9	X	162.86099	352.79835	126.84607	2.62830	0.1251351	0.25745361	2.4472033	21	7 9.2	20.5
310993 2003 WR_{90}	16.8	X	164.14780	135.86990	319.04921	3.63235	0.1812823	0.25445973	2.4663611	21	6 9.9	20.8
310994 2003 WG_{100}	15.6	X	111.06706	12.30304	6.79779	2.74153	0.2768718	0.12422074	3.9780781	21	2 11.5	21.6
310995 2003 WQ_{122}	17.0	X	87.52894	80.10070	331.60852	3.52757	0.2667027	0.23639277	2.5904781	21	1 31.8	19.7
310996 2003 WZ_{129}	17.0	X	167.44892	210.54764	276.11461	4.88762	0.1577789	0.25791079	2.4443105	21	7 23.3	20.9
310997 2003 WT_{141}	17.2	X	299.49489	320.76300	78.13060	25.85877	0.1226031	0.37700076	1.8977597	21	10 17.6	19.3
310998 2003 WT_{144}	16.9	X	159.29082	220.80178	252.03192	5.15746	0.0711226	0.25620904	2.4551220	21	6 23.7	20.4
310999 2003 WF_{150}	14.9	X	138.33232	246.68823	78.01593	17.42100	0.2277434	0.17777842	3.1324443	21	—	—
311000 2003 WT_{157}	17.2	X	168.51433	56.72307	91.52276	22.74290	0.0942999	0.37193736	1.9149445	21	9 9.8	20.1
311001 2003 WX_{192}	17.6	X	172.38479	18.54206	58.55779	1.23656	0.1572754	0.25213586	2.4814925	21	5 25.1	21.6
311002 2003 WC_{193}	15.9	X	196.31627	55.83290	313.74370	3.88769	0.2127127	0.24589315	2.5233167	21	3 22.7	20.2
311003 2003 XL_{41}	16.6	X	232.09298	230.07430	122.44355	2.73778	0.2430085	0.25168895	2.4844291	21	4 1.3	20.8
311004 2003 YB_{2}	15.7	X	156.14906	256.94685	285.38563	21.15572	0.2339711	0.26109947	2.4243690	21	9 11.1	20.4
311005 2003 YF_{2}	17.2	X	160.90178	257.04316	295.30549	19.64114	0.0793616	0.37603927	1.9009933	21	10 13.8	20.0
311006 2003 YV_{12}	15.8	X	156.22619	310.52675	47.06100	13.82807	0.2004841	0.23663599	2.5887028	21	2 10.1	20.1
311007 2003 YF_{16}	16.9	X	171.21980	22.39011	96.23435	24.16509	0.1045538	0.36545169	1.9375343	21	7 17.8	19.3
311008 2003 YK_{17}	16.2	X	192.49136	45.83080	335.56139	2.79339	0.2349233	0.24562288	2.5251674	21	4 4.0	20.6
311009 2003 YO_{20}	16.2	X	315.13687	263.64627	303.10734	10.85715	0.0289214	0.23249861	2.6193235	21	1 20.4	19.6
311010 2003 YP_{64}	14.0	X	50.29266	37.89089	116.45628	11.11417	0.1603053	0.12558816	3.9491495	21	4 24.1	19.1
311011 2003 YJ_{65}	16.4	X	94.74788	34.08793	109.61771	13.17358	0.1158809	0.24396086	2.5366231	21	5 25.8	19.9
311012 2003 YD_{76}	16.3	X	68.04484	93.97466	66.78418	4.14646	0.0938229	0.24447754	2.5330479	21	5 3.9	19.3
311013 2003 YM_{82}	16.6	X	194.35809	61.63433	325.93591	4.79717	0.1651154	0.24585316	2.5235903	21	4 11.1	20.7
311014 2003 YX_{124}	17.4	X	248.34960	288.96808	97.54334	23.71587	0.1211841	0.36509287	1.9388036	21	6 7.5	19.8
311015 2003 YZ_{127}	16.3	X	78.66485	79.21979	81.97607	14.48289	0.0918844	0.24416463	2.5352116	21	5 22.3	19.5
311016 2003 YZ_{134}	16.4	X	35.04009	128.97490	330.73977	12.59873	0.2195534	0.22946316	2.6423727	21	—	—
311017 2003 YV_{147}	16.4	X	210.20724	262.32772	90.67348	5.41965	0.1279096	0.24549719	2.5260292	21	3 18.9	20.3
311018 2003 YB_{156}	15.6	X	33.23533	53.29066	93.03479	22.89655	0.0527204	0.23225370	2.6211646	21	2 23.5	19.3
311019 2003 YW_{162}	16.6	X	87.49952	72.10430	44.54145	6.35583	0.0794817	0.24153587	2.5535731	21	4 1.4	19.7
311020 2003 YU_{172}	17.0	X	146.47701	87.05609	334.88021	3.68991	0.2185059	0.24384805	2.5374054	21	4 14.4	21.1
311021 2004 AT_{4}	16.2	X	61.21347	61.85993	111.64193	14.65078	0.1022955	0.24219703	2.5489237	21	5 17.5	19.5
311022 2004 AG_{7}	17.6	X	189.35821	122.26054	294.45312	16.88944	0.1021658	0.35858261	1.9621998	21	5 1.4	20.6
311023 2004 BU_{10}	16.6	X	132.91040	201.46212	259.92689	6.72613	0.1415988	0.24436312	2.5338386	21	5 14.8	20.4
311024 2004 BA_{20}	16.7	X	159.55906	19.65873	50.16727	4.90746	0.1366249	0.24362239	2.5389720	21	5 2.7	20.6
311025 2004 BG_{20}	17.3	X	80.23574	236.09761	272.13147	3.23854	0.2177872	0.24101649	2.5572403	21	5 24.5	20.5
311026 2004 BV_{20}	16.1	X	303.77143	99.29762	103.88940	6.49913	0.1677331	0.22704676	2.6610876	21	—	—
311027 2004 BE_{25}	16.9	X	134.62409	309.97145	118.26129	7.76690	0.1414847	0.24072300	2.5593184	21	4 8.5	20.7
311028 2004 BW_{28}	16.9	X	76.05389	36.08099	85.47634	3.75636	0.1267943	0.23662693	2.5887688	21	3 29.7	19.9
311029 2004 BN_{29}	16.5	X	87.28466	350.50926	120.35490	8.82124	0.1397766	0.23690095	2.5867722	21	4 5.4	19.8
311030 2004 BG_{34}	17.1	X	56.34310	42.66231	114.10697	5.89493	0.2134319	0.23799688	2.5788250	21	4 29.0	19.7
311031 2004 BM_{35}	16.7	X	180.76288	55.92870	344.11345	2.42186	0.2405454	0.24516526	2.5283087	21	4 17.8	21.0
311032 2004 BH_{38}	16.9	X	103.83520	356.69318	114.06110	6.16905	0.2096373	0.23926365	2.5697146	21	5 6.2	20.5
311033 2004 BL_{44}	16.3	X	57.20152	190.02176	335.71996	12.55518	0.2300249	0.23695340	2.5863905	21	5 8.3	19.2
311034 2004 BY_{47}	16.9	X	58.21887	237.50827	285.56314	3.29166	0.2412126	0.23947125	2.5682293	21	5 12.9	19.5
311035 2004 BN_{49}	16.6	X	52.25901	270.35675	285.46815	3.81784	0.0783837	0.24444964	2.5332406	21	5 25.6	19.7
311036 2004 BJ_{50}	16.3	X	119.60154	81.97251	303.29128	13.62393	0.1321734	0.23141259	2.6275121	21	1 22.4	19.8
311037 2004 BR_{55}	16.9	X	123.92964	353.42907	131.21363	7.00676	0.1709661	0.24380882	2.5376776	21	6 9.6	20.7
311038 2004 BO_{56}	17.0	X	222.46460	298.64952	140.03670	23.80036	0.0967583	0.36603370	1.9354799	21	7 22.7	19.4
311039 2004 BL_{59}	17.3	X	123.44301	168.16164	286.78474	5.69290	0.2404777	0.24234646	2.5478759	21	5 6.2	21.2
311040 2004 BW_{67}	17.5	X	240.22346	80.38343	324.20536	17.91715	0.0879602	0.36400232	1.9426741	21	6 28.1	20.0

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	m		°	°	°	°		°				
311041 2004 BV_{70}	16.6	X	181.83141	63.20476	329.04880	2.11660	0.2537647	0.24359842	2.5391386	21	4 9.6	21.0
311042 2004 BX_{74}	16.7	X	112.71117	211.08031	229.45171	2.06246	0.1469469	0.23881107	2.5729602	21	3 25.9	20.2
311043 2004 BA_{100}	16.4	X	31.80082	73.87173	98.32062	12.81452	0.2263973	0.23494301	2.6011239	21	4 4.0	18.8
311044 2004 BB_{103}	17.1	X	243.14720	71.47215	271.10297	55.86322	0.6222423	0.37418576	1.9072658	21	1 30.9	22.6
311045 2004 BN_{108}	16.5	X	105.52790	47.62252	56.24663	5.16846	0.1614126	0.23902599	2.5714177	21	4 20.9	19.9
311046 2004 BF_{114}	17.4	X	234.72448	277.89992	154.21486	24.19365	0.0992368	0.36629385	1.9345634	21	7 28.2	19.8
311047 2004 BL_{129}	18.2	X	126.98243	132.42064	301.29459	4.17192	0.2109059	0.24083905	2.5584962	21	4 9.2	22.0
311048 2004 BW_{138}	17.9	X	158.74596	81.15950	318.15792	2.58284	0.1961711	0.24103641	2.5570995	21	3 27.4	21.9
311049 2004 BU_{141}	17.5	X	192.82176	248.84604	145.36296	4.20256	0.1025518	0.24381687	2.5376217	21	4 21.3	21.3
311050 2004 BO_{143}	17.0	X	219.35813	268.28114	87.33620	4.61333	0.1650127	0.24208321	2.5497226	21	3 29.9	21.1
311051 2004 BU_{146}	17.0	X	142.23627	318.27637	106.22100	3.23835	0.1950946	0.24066833	2.5597060	21	4 14.9	21.0
311052 2004 BW_{148}	17.2	X	159.85458	93.22431	337.51641	3.10718	0.1085150	0.24444164	2.5332959	21	4 30.7	20.9
311053 2004 BD_{154}	17.1	X	182.38959	273.42738	122.03733	15.49533	0.1453440	0.24346256	2.5400831	21	4 18.8	21.4
311054 2004 CX_3	16.9	X	63.29025	220.47235	334.24573	5.29589	0.1443745	0.24388966	2.5371168	21	6 21.9	19.9
311055 2004 CG_9	16.9	X	102.01950	204.50669	295.51680	10.22477	0.1413473	0.24237713	2.5476609	21	5 29.8	20.5
311056 2004 CX_{20}	17.3	X	28.86417	195.99645	28.61152	3.01253	0.0913729	0.24394406	2.5367396	21	5 29.7	20.0
311057 2004 CY_{42}	17.1	X	95.28783	358.66637	137.07966	4.42605	0.2194172	0.24000430	2.5644252	21	5 29.1	20.6
311058 2004 CK_{57}	16.5	X	148.18289	80.06511	347.85983	14.41355	0.1666345	0.24279332	2.5447486	21	4 14.9	20.7
311059 2004 CJ_{59}	16.9	X	109.87153	63.63959	38.70328	5.68139	0.1625337	0.23975520	2.5662011	21	4 23.4	20.4
311060 2004 CN_{60}	16.6	X	92.80037	2.34807	90.71268	6.27014	0.1481900	0.23556094	2.5965730	21	3 20.9	19.9
311061 2004 CO_{65}	16.6	X	311.44697	137.22288	66.35305	8.12797	0.1816459	0.22529471	2.6748661	21	—	—
311062 2004 CJ_{66}	17.4	X	50.66861	68.84325	77.99916	4.49075	0.1339149	0.23547437	2.5972093	21	3 23.9	20.1
311063 2004 CK_{67}	16.8	X	113.73468	294.09859	132.53506	4.38297	0.1687771	0.23573875	2.5952672	21	3 14.9	20.3
311064 2004 CQ_{69}	16.5	X	144.50133	35.05644	37.64517	5.88831	0.1809582	0.24061802	2.5600628	21	4 24.8	20.5
311065 2004 CF_{84}	17.0	X	36.01909	358.51398	169.51782	4.68122	0.2084475	0.23415289	2.6069720	21	3 30.0	19.0
311066 2004 DC	18.2	X	89.86519	156.26215	74.93436	19.44999	0.3995261	0.47200544	1.6336965	21	11 3.9	21.1
311067 2004 DV	16.7	X	130.61295	90.54247	7.50828	4.78232	0.2373649	0.24227210	2.5483971	21	5 17.3	20.7
311068 2004 DD_3	15.6	X	175.15052	1.22999	337.00928	18.77071	0.2528894	0.22632279	2.6667595	21	2 6.3	20.3
311069 2004 DW_7	17.4	X	129.25995	267.65410	153.19189	4.09988	0.2024088	0.23637136	2.5906345	21	3 29.0	21.1
311070 2004 DU_{19}	17.1	X	62.62167	51.02916	127.33165	3.92108	0.0821063	0.24081054	2.5586982	21	5 19.6	20.1
311071 2004 DV_{20}	16.6	X	53.16530	83.94452	66.06471	4.94482	0.1695672	0.23432187	2.6057185	21	4 6.2	19.2
311072 2004 DN_{61}	15.0	X	80.77637	184.03415	330.68419	1.53819	0.1703286	0.12678411	3.9242756	21	6 1.1	20.5
311073 2004 DM_{76}	16.5	X	17.37102	277.78892	266.06652	5.60195	0.2040551	0.23407842	2.6075249	21	3 4.9	18.9
311074 2004 EW_3	15.3	X	8.41526	332.38983	137.72010	26.54876	0.1484723	0.22056253	2.7129902	21	—	—
311075 2004 EB_5	16.8	X	86.18354	307.39447	159.92621	4.72865	0.1674586	0.23363715	2.6108071	21	3 31.6	19.9
311076 2004 EY_{10}	17.0	X	0.93637	164.30386	30.16887	4.43582	0.2523912	0.22982012	2.6396358	21	2 12.8	19.4
311077 2004 EH_{18}	15.9	X	354.78271	121.38237	97.40659	14.12846	0.2123538	0.23037010	2.6354330	21	3 19.6	18.8
311078 2004 EN_{28}	16.9	X	66.94763	107.64009	7.93131	1.68267	0.1035734	0.23081114	2.6320746	21	3 3.0	19.9
311079 2004 EZ_{32}	16.1	X	308.71382	183.62474	24.70340	10.28890	0.1384298	0.22398599	2.6852753	21	1 1.2	20.0
311080 2004 EW_{48}	16.5	X	157.72811	134.40232	333.57385	3.61618	0.0850914	0.24290617	2.5439604	21	6 16.3	20.1
311081 2004 EX_{52}	17.2	X	52.01788	332.63848	158.73764	6.46880	0.2332259	0.23149848	2.6268621	21	3 14.0	19.4
311082 2004 EL_{72}	16.7	X	56.81814	286.11818	200.26351	3.90480	0.1302852	0.23081838	2.6320196	21	3 2.3	19.6
311083 2004 EM_{74}	16.6	X	13.27953	83.61061	70.52807	3.03769	0.1389156	0.22607451	2.6687117	21	1 23.9	19.5
311084 2004 EM_{88}	16.5	X	135.52582	308.52065	85.82679	6.84522	0.0499099	0.22579225	2.6709353	21	2 14.2	20.2
311085 2004 EL_{93}	16.5	X	57.02456	154.90221	6.49932	14.21661	0.1642747	0.23638072	2.5905661	21	4 21.9	19.4
311086 2004 ET_{94}	16.5	X	31.68191	120.39448	48.13294	13.53573	0.1863390	0.23131112	2.6282805	21	3 27.0	19.1
311087 2004 EA_{95}	16.2	X	11.68705	80.31071	117.37452	9.69351	0.1070258	0.23100059	2.6306354	21	3 28.1	19.3
311088 2004 EX_{112}	16.6	X	318.70347	139.49846	86.51308	5.39695	0.0570584	0.22863722	2.6487325	21	2 17.2	20.0
311089 2004 FJ_{13}	16.3	X	7.17965	251.56453	321.00139	10.60832	0.1386837	0.23305740	2.6151350	21	3 28.3	19.2
311090 2004 FC_{15}	16.3	X	14.61287	316.29130	191.79685	13.30333	0.2079567	0.22559635	2.6724813	21	1 8.1	19.2
311091 2004 FL_{26}	16.1	X	182.37281	253.09699	5.69385	8.84592	0.1219862	0.21034364	2.8001618	21	—	—
311092 2004 FD_{82}	16.8	X	115.25843	69.84641	31.95174	9.81684	0.1677059	0.23805099	2.5784342	21	4 29.0	20.3
311093 2004 FX_{99}	16.0	X	3.81528	107.48481	58.41009	5.00192	0.0366694	0.22476411	2.6790742	21	2 3.9	19.5
311094 2004 FY_{126}	16.7	X	120.69912	256.55650	185.44069	5.70804	0.2702262	0.23660477	2.5889305	21	4 23.5	20.7
311095 2004 FC_{136}	16.2	X	240.20046	95.91731	143.48322	9.02477	0.2427310	0.21219164	2.7838802	21	—	—
311096 2004 FR_{138}	16.2	X	346.77645	329.58694	210.72198	13.13739	0.1980424	0.22507134	2.6766356	21	1 3.8	19.7
311097 2004 FW_{143}	16.6	X	316.99311	183.51258	42.98375	10.19375	0.2559521	0.22340760	2.6899080	21	1 18.9	20.5
311098 2004 FL_{145}	17.0	X	99.48906	309.18030	165.92044	12.37899	0.1278404	0.23632625	2.5909642	21	4 25.4	20.5
311099 2004 GT_5	16.1	X	254.36793	115.57482	104.46455	8.98236	0.2296128	0.21317196	2.7753387	21	—	—
311100 2004 GO_{71}	16.4	X	20.59582	143.52087	33.30631	15.51524	0.2212001	0.22821427	2.6520040	21	3 15.5	18.9
311101 2004 GU_{74}	15.6	X	266.49221	81.09412	113.00950	13.44247	0.0548256	0.21153528	2.7896358	21	—	—
311102 2004 HR_2	16.3	X	92.24876	265.37715	245.03017	13.05650	0.1590487	0.24075199	2.5591130	21	6 4.1	19.7
311103 2004 HL_{14}	16.5	X	60.60127	13.72730	90.93921	3.74096	0.0203712	0.22531910	2.6746731	21	2 1.3	20.0
311104 2004 HR_{23}	16.0	X	21.19392	85.83093	25.82100	14.35412	0.1583597	0.21965504	2.7204574	21	—	—
311105 2004 HV_{36}	16.0	X	279.50562	348.34894	203.70847	16.56602	0.1246042	0.21357885	2.7718127	21	—	—
311106 2004 HG_{43}	16.0	X	11.92610	46.52429	114.94441	13.75011	0.1234906	0.22274417	2.6952465	21	2 3.2	19.0
311107 2004 HM_{52}	16.1	X	327.87250	41.68948	170.64530	13.08484	0.0984835	0.22232216	2.6986561	21	2 2.9	19.8
311108 2004 JT	15.6	X	52.81168	47.13576	112.97596	32.68766	0.2295981	0.23314760	2.6144605	21	5 15.4	19.2
311109 2004 JV_3	16.8	X	19.79598	321.93726	103.30612	2.29748	0.1269349	0.20915331	2.8107759	21	—	—
311110 2004 JS_{19}	15.5	X	333.71697	58.47630	243.07397	26.30329	0.2433176	0.17498528	3.1656900	21	5 30.7	18.9
311111 2004 KK_{12}	15.7	X	267.53200	100.76440	110.50173	10.22883	0.0944315	0.21304446	2.7764459	21	—	—
311112 2004 LQ_8	15.8	X	169.26516	120.89453	177.40106	14.85752	0.1511912	0.20583711	2.8408846	21	—	—
311113 2004 LB_{15}	15.6	X	83.17404	35.41325	271.19008	8.68312	0.2285901	0.18923490	3.0047054	21	12 13.5	20.3
311114 2004 LR_{25}	15.4	X	57.46710	52.95873	282.47418	19.07729	0.1378769	0.18761099	3.0220191	21	12 11.2	19.9
311115 2004 NN_7	15.7	X	18.88864	64.86637	273.46537	10.31954	0.1789725	0.18123666	3.0924690	21	10 22.9	19.6
311116 2004 NZ_{23}	17.6	X	72.46292	78.43760	234.48793	3.81376	0.2439657	0.30223011	2.1990962	21	12 29.4	21.0
311117 2004 NV_{25}	15.9	X	14.91045	56.94125	285.20063	15.67609	0.2352406	0.18105285	3.0945616	21	10 26.6	19.7
311118 2004 OQ	15.8	X	110.46009	336.21330	308.61482	10.52558	0.1832653	0.19037690	2.9926773	21	12 8.2	20.8
311119 2004 PA_{20}	16.3	X	25.71975	180.91262	159.13447	5.69018	0.1792905	0.18095048	3.0957287	21	11 10.9	20.2
311120 2004 PW_{36}	15.6	X	67.57802	51.52083	278.56371	5.73833	0.0759450	0.18671722	3.0316552	21	12 7.2	19.9

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311121 2004 PC_{47}	17.7	X	141.08966	234.23473	69.94258	2.74258	0.1104568	0.31294530	2.1486075	21	—	—
311122 2004 PN_{92}	15.3	X	64.18359	41.44715	262.35809	9.94122	0.1371435	0.18064593	3.0992071	21	11 7.4	19.8
311123 2004 PQ_{96}	16.0	X	22.12043	50.74861	144.50496	13.36353	0.1216522	0.21842155	2.7306900	21	4 14.6	19.2
311124 2004 PH_{97}	16.9	X	351.00990	40.00752	336.30717	26.02482	0.2184021	0.29574148	2.2311455	21	11 22.1	19.5
311125 2004 PN_{105}	15.2	X	8.76372	69.09613	274.76076	14.11903	0.1196625	0.17803366	3.1294496	21	10 2.8	19.4
311126 2004 QJ_{24}	16.5	X	325.33581	112.33482	238.52730	23.24411	0.2669271	0.28557162	2.2838067	21	7 13.8	18.8
311127 2004 QK_{25}	16.0	X	192.50839	223.37851	225.40927	22.87748	0.2136965	0.27740207	2.3284286	21	6 23.9	20.3
311128 2004 QZ_{26}	15.6	X	265.77415	163.95983	301.96686	7.83583	0.0571593	0.17843920	3.1247063	21	10 13.3	20.0
311129 2004 RX_{6}	15.6	X	43.73600	194.77632	118.81372	11.71467	0.0892986	0.17830967	3.1262194	21	10 24.7	20.0
311130 2004 RV_{13}	15.6	X	29.61730	344.33117	334.71463	9.35771	0.0983384	0.17782109	3.1319432	21	10 4.1	19.7
311131 2004 RX_{56}	17.6	X	33.09639	101.49325	302.61919	3.83457	0.0944007	0.30635312	2.1793209	21	—	—
311132 2004 RA_{67}	17.4	X	357.07678	8.41564	10.19971	6.14422	0.1319296	0.29545071	2.2326091	21	12 3.1	19.5
311133 2004 RY_{86}	15.4	X	339.11680	99.25544	266.33056	7.17131	0.0857507	0.17285240	3.1916783	21	9 15.4	19.6
311134 2004 RZ_{86}	15.8	X	51.37724	72.55624	255.60167	8.05866	0.0972800	0.18006149	3.1059097	21	11 16.8	20.1
311135 2004 RJ_{108}	17.5	X	7.53139	154.36179	232.23004	4.98628	0.2280394	0.29827738	2.2184816	21	—	—
311136 2004 RY_{136}	18.0	X	345.99484	202.33989	187.12313	4.05616	0.1517124	0.29498639	2.2349513	21	12 3.3	19.8
311137 2004 RK_{138}	15.6	X	21.02198	59.73644	291.42692	14.63743	0.0940722	0.18007349	3.1057717	21	10 30.5	20.0
311138 2004 RU_{144}	15.3	X	358.00443	52.64914	280.63962	13.52275	0.2433950	0.17503664	3.1650706	21	9 5.1	18.7
311139 2004 RQ_{155}	15.5	X	83.85892	318.62472	312.92863	9.62992	0.0557758	0.17746847	3.1360904	21	10 7.8	20.2
311140 2004 RY_{174}	15.3	X	348.96255	49.62401	291.14346	10.18349	0.1327558	0.17324758	3.1868229	21	8 28.7	19.2
311141 2004 RS_{200}	17.1	X	95.94800	46.64390	293.62857	6.98922	0.2043816	0.30502008	2.1856658	21	—	—
311142 2004 RZ_{205}	15.7	X	33.71633	39.26433	275.71871	9.47225	0.0529233	0.17525404	3.1624526	21	9 27.3	20.2
311143 2004 RL_{226}	17.1	X	286.75728	264.61254	180.35619	23.71337	0.3397950	0.28828259	2.2694665	21	9 17.6	19.1
311144 2004 RJ_{233}	17.7	X	357.52535	17.75218	19.07857	3.32035	0.1436833	0.29602883	2.2297014	21	—	—
311145 2004 RX_{235}	17.9	X	1.19863	57.24511	288.51331	4.74922	0.2033498	0.29217156	2.2492829	21	10 29.8	19.7
311146 2004 RZ_{247}	15.1	X	325.37012	96.73346	302.83407	24.31186	0.1321814	0.17546046	3.1599718	21	9 23.7	19.5
311147 2004 RP_{248}	15.1	X	107.63152	354.71122	293.01740	21.22298	0.1262171	0.18256786	3.0774180	21	12 4.7	20.1
311148 2004 RZ_{308}	15.2	X	250.67715	83.64245	8.37853	11.93078	0.0381643	0.17311804	3.1884124	21	9 15.8	19.7
311149 2004 RK_{316}	15.3	X	358.34053	106.68302	219.64707	11.44185	0.1075682	0.17308311	3.1888414	21	8 25.0	19.4
311150 2004 RB_{339}	15.5	X	351.89300	259.22659	136.18532	13.08488	0.1504120	0.18141198	3.0904763	21	11 24.9	19.3
311151 2004 SK_{26}	16.2	X	22.60964	279.76876	65.43548	23.39727	0.2810680	0.29442895	2.2377713	21	12 19.7	18.9
311152 2004 SY_{33}	16.7	X	325.11242	0.02891	44.78926	11.08628	0.1888293	0.29043558	2.2582369	21	11 10.8	18.1
311153 2004 SM_{37}	15.7	X	228.85273	161.62866	329.07014	12.16262	0.0868529	0.17665893	3.1456639	21	9 24.9	20.4
311154 2004 TF_{3}	17.5	X	140.90319	7.47449	310.43158	8.43598	0.3141209	0.31155099	2.1550133	21	—	—
311155 2004 TE_{17}	14.4	X	72.22231	355.21672	284.27924	26.67240	0.1771036	0.17514499	3.1637652	21	10 12.9	19.6
311156 2004 TZ_{41}	17.1	X	342.61177	340.68792	10.16976	8.54414	0.1943620	0.28747872	2.2736952	21	9 23.4	18.3
311157 2004 TQ_{44}	17.9	X	273.17476	40.00441	351.10657	2.43148	0.2371234	0.28081084	2.3095470	21	6 27.7	20.8
311158 2004 TT_{55}	17.9	X	356.84577	313.26536	138.75253	1.67218	0.0957062	0.30197661	2.2003268	21	—	—
311159 2004 TZ_{62}	17.2	X	37.87198	141.17121	216.88214	4.77795	0.1860360	0.29798510	2.2199321	21	—	—
311160 2004 TG_{78}	14.9	X	247.83394	217.87055	254.44017	20.60059	0.0365209	0.17403859	3.1771595	21	9 27.1	19.8
311161 2004 TZ_{87}	15.5	X	228.24843	309.47052	188.37970	17.10249	0.1620670	0.17327777	3.1864527	21	9 29.0	20.4
311162 2004 TR_{113}	17.6	X	334.06963	18.16590	46.48943	6.61964	0.1522902	0.29380971	2.2409145	21	—	—
311163 2004 TL_{138}	15.3	X	20.19459	34.62376	304.01960	8.57412	0.0973577	0.17456242	3.1708002	21	10 13.8	19.5
311164 2004 TG_{143}	17.3	X	91.54538	115.26092	233.10684	3.60026	0.1963680	0.30509598	2.1853033	21	—	—
311165 2004 TO_{151}	18.3	X	352.45794	146.39678	218.68497	1.63210	0.1379812	0.29147684	2.2528555	21	11 4.6	20.0
311166 2004 TX_{181}	18.0	X	36.71410	286.06867	35.82719	4.24865	0.2049367	0.29522263	2.2337589	21	11 26.8	20.6
311167 2004 TV_{219}	17.7	X	212.44959	202.75495	177.01560	2.61653	0.1229661	0.27019094	2.3696754	21	4 19.7	21.1
311168 2004 TQ_{221}	17.1	X	42.16243	242.71320	105.69510	6.35587	0.2326927	0.29834514	2.2181457	21	—	—
311169 2004 TD_{238}	17.8	X	39.54287	184.47237	176.59561	2.55328	0.1775431	0.29870817	2.2163481	21	—	—
311170 2004 TX_{245}	17.1	X	321.63316	43.93847	30.66495	7.80589	0.0710573	0.29671208	2.2262772	21	12 19.2	19.4
311171 2004 TW_{248}	18.2	X	308.16170	108.60011	317.68772	0.73424	0.1716318	0.29077381	2.2564854	21	11 6.1	19.7
311172 2004 TC_{260}	16.7	X	278.35957	229.90454	208.40988	7.31295	0.0721891	0.28796120	2.2711548	21	10 10.7	19.2
311173 2004 TE_{295}	15.5	X	221.27770	18.62032	41.01222	16.74785	0.0733148	0.15580254	3.4204746	21	6 25.2	20.8
311174 2004 TT_{306}	15.2	X	69.77351	359.08375	315.43956	9.26420	0.0943655	0.17903159	3.1178097	21	11 20.2	19.9
311175 2004 TT_{340}	16.8	X	335.17998	226.69502	134.57245	9.40373	0.2488099	0.28816120	2.2701038	21	9 24.7	17.9
311176 2004 TX_{346}	17.5	X	25.98062	113.65869	237.08259	5.94013	0.1891459	0.29469713	2.2364135	21	12 19.9	20.1
311177 2004 TL_{347}	17.4	X	276.40387	139.32943	269.63593	5.13373	0.1530172	0.28333335	2.2958187	21	8 9.2	20.1
311178 2004 VU_{7}	16.8	X	350.76493	288.50817	66.02769	6.99006	0.1539321	0.28768329	2.2726172	21	10 19.1	18.6
311179 2004 VR_{33}	17.4	X	25.86963	278.42014	79.94094	5.33829	0.1868979	0.29431562	2.2383458	21	12 29.9	20.0
311180 2004 VP_{43}	17.5	X	243.88396	47.18803	68.64820	8.20284	0.1047239	0.28551578	2.2841045	21	10 12.5	20.4
311181 2004 VY_{58}	15.5	X	285.32845	262.81101	239.47266	4.24234	0.1241977	0.17832580	3.1260309	21	12 18.0	19.5
311182 2004 VA_{63}	17.3	X	337.22063	201.88159	216.40273	5.58497	0.1235475	0.29276241	2.2462556	21	12 25.7	19.3
311183 2004 VQ_{70}	17.2	X	36.07475	140.18266	239.55768	3.12189	0.1508965	0.29774697	2.2211155	21	—	—
311184 2004 WT	17.5	X	325.71003	342.54114	90.76827	5.81359	0.1269401	0.29316722	2.2441873	21	12 27.3	19.3
311185 2004 XV_{2}	17.2	X	313.18668	133.02651	254.11443	6.25954	0.1468324	0.28374821	2.2935804	21	9 10.3	19.4
311186 2004 XV_{9}	17.1	X	286.83216	345.71270	73.67469	4.17798	0.1324462	0.28310263	2.2970659	21	9 19.6	19.4
311187 2004 XZ_{12}	17.1	X	309.79919	344.73871	52.55244	3.95853	0.1657721	0.28423260	2.2909738	21	9 24.2	18.8
311188 2004 XX_{16}	17.1	X	311.39238	313.80890	72.82761	4.50552	0.1581428	0.28233389	2.3012336	21	9 11.5	19.1
311189 2004 XC_{17}	17.2	X	315.01732	318.11213	65.11312	4.60657	0.2456609	0.28298594	2.2976973	21	9 1.0	18.7
311190 2004 XO_{22}	17.1	X	345.33482	311.23788	87.06138	6.25891	0.1720105	0.29115706	2.2545048	21	12 16.7	18.8
311191 2004 XF_{29}	17.1	X	292.20348	52.69019	29.31919	7.17931	0.1358563	0.28669814	2.2778203	21	10 31.1	19.2
311192 2004 XG_{35}	16.9	X	342.02473	88.96869	283.64139	6.08915	0.1327340	0.28573302	2.2829466	21	10 20.7	19.0
311193 2004 XD_{45}	17.3	X	304.85125	35.36715	336.72638	2.07541	0.2480495	0.28113198	2.3077878	21	7 16.4	19.2
311194 2004 XS_{62}	16.8	X	193.43620	80.35332	103.92199	6.88283	0.0319208	0.28252450	2.3001985	21	11 17.1	19.7
311195 2004 XZ_{62}	17.4	X	159.38923	174.53957	76.26101	4.32957	0.0872593	0.29263537	2.2469057	21	12 29.2	20.5
311196 2004 XO_{76}	17.0	X	276.33009	174.84953	244.62106	5.24083	0.1997963	0.28087913	2.3091726	21	8 15.6	19.7
311197 2004 XS_{77}	16.5	X	82.10427	79.55178	235.90443	5.37745	0.2265349	0.29534234	2.2331552	21	—	—
311198 2004 XY_{78}	17.0	X	234.19853	200.50215	275.17743	4.74403	0.1056065	0.28108067	2.3080687	21	9 21.7	20.2
311199 2004 XV_{93}	17.2	X	204.92768	226.19654	286.39620	5.02356	0.1509655	0.27993554	2.3143588	21	10 1.8	20.8
311200 2004 XG_{94}	16.9	X	84.08224	216.99141	85.31341	8.93733	0.1606322	0.28878914	2.2668119	21	12 18.4	20.2

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311201 2004 XL_{105}	16.7	X	219.35444	226.31518	255.34368	22.31697	0.1177686	0.28136838	2.3064950	21	8 30.9	20.6
311202 2004 XF_{109}	17.5	X	281.23451	31.34004	51.66765	3.44511	0.1956580	0.28428485	2.2906931	21	10 3.9	19.5
311203 2004 XD_{110}	17.0	X	3.30844	12.11790	2.46415	5.37402	0.1219177	0.28937897	2.2637306	21	12 5.1	19.3
311204 2004 XO_{116}	17.3	X	44.57363	49.80333	297.42110	5.08942	0.1783785	0.29252911	2.2474497	21	—	—
311205 2004 XN_{134}	16.9	X	357.62165	83.21503	308.55739	6.07332	0.1196496	0.29091613	2.2557494	21	12 22.1	19.1
311206 2004 XR_{144}	17.8	X	243.27568	328.71491	109.96766	2.96095	0.1617710	0.27529827	2.3402759	21	8 7.8	20.9
311207 2004 XY_{161}	16.6	X	293.47083	3.97709	51.67356	10.82127	0.1738719	0.28301917	2.2975174	21	9 23.2	18.9
311208 2004 XH_{163}	17.8	X	236.11347	84.53656	66.27173	5.19997	0.0803413	0.28482454	2.2877986	21	11 19.6	20.6
311209 2004 XM_{163}	17.6	X	297.99047	37.11346	43.10707	3.33198	0.1442413	0.28506382	2.2865181	21	11 7.9	19.5
311210 2004 XO_{165}	16.8	X	64.58440	47.83929	288.60004	6.88746	0.1588848	0.29527763	2.2334815	21	—	—
311211 2004 YG_{20}	17.6	X	270.71450	182.36323	275.39999	2.19264	0.1470587	0.28183875	2.3039281	21	10 13.4	19.9
311212 2004 YT_{23}	17.2	X	338.73830	253.73088	118.30339	7.12888	0.1204982	0.27873902	2.3209772	21	10 18.8	19.4
311213 2004 YW_{31}	17.5	X	236.92395	190.83730	335.21653	5.66086	0.1355451	0.28622011	2.2803558	21	12 1.7	20.4
311214 2005 AS_{6}	17.2	X	178.05519	67.14101	86.18944	9.32167	0.2066237	0.27200614	2.3591212	21	9 11.1	21.2
311215 2005 AQ_{18}	17.2	X	271.76486	349.13116	96.32868	3.29790	0.1279057	0.27981491	2.3150239	21	10 3.2	19.6
311216 2005 AZ_{20}	17.2	X	280.32721	182.42724	242.85484	2.42169	0.2206402	0.27929316	2.3179062	21	8 28.1	19.7
311217 2005 AG_{21}	17.7	X	215.57846	85.74065	71.05257	4.37642	0.1294965	0.27985898	2.3147808	21	10 25.8	20.7
311218 2005 AD_{23}	16.8	X	232.98962	133.81141	354.87024	3.11361	0.1561019	0.27981115	2.3150447	21	10 3.2	19.6
311219 2005 AQ_{23}	16.8	X	154.29663	81.62954	87.19760	6.29576	0.1145170	0.27128633	2.3632923	21	9 7.4	20.3
311220 2005 AE_{26}	17.9	X	289.99884	222.34920	192.18454	0.96098	0.2454995	0.28059192	2.3107481	21	8 24.8	19.9
311221 2005 AS_{28}	16.9	X	77.12138	144.18737	82.10961	5.97164	0.3693371	0.26332443	2.4106932	21	9 27.8	20.8
311222 2005 AX_{32}	17.7	X	262.72342	332.86919	133.20057	2.63049	0.1718107	0.28120183	2.3074057	21	10 11.2	20.3
311223 2005 AC_{41}	17.4	X	236.60324	296.97641	150.59030	2.54206	0.1223039	0.27498619	2.3420462	21	8 16.5	20.4
311224 2005 AA_{44}	17.9	X	210.49712	122.18898	11.23188	1.73514	0.1292800	0.27545536	2.3393861	21	9 17.2	21.1
311225 2005 AQ_{76}	17.0	X	203.00953	35.51499	99.55415	6.47144	0.0562776	0.27404752	2.3473912	21	9 20.8	20.2
311226 2005 AZ_{77}	17.3	X	304.16506	22.08934	345.62602	6.00085	0.1522828	0.27181453	2.3602297	21	7 27.1	19.6
311227 2005 AJ_{80}	17.7	X	203.20825	21.26722	83.42638	2.68066	0.1318435	0.27010156	2.3701982	21	8 1.4	21.2
311228 2005 BG_{1}	16.5	X	153.74212	130.39189	82.98188	23.82774	0.2440208	0.27288678	2.3540430	21	11 8.7	20.9
311229 2005 BN_{7}	17.8	X	178.91320	71.91461	87.54329	5.80590	0.1646370	0.27385083	2.3485150	21	9 19.5	21.5
311230 2005 BR_{16}	17.4	X	244.11229	56.05247	64.43960	3.46112	0.1243378	0.28058801	2.3107696	21	10 12.9	20.3
311231 Anuradhapura	17.3	X	254.05627	1.30574	91.46122	3.50658	0.0954411	0.27640952	2.3339993	21	9 22.4	20.2
311232 2005 BS_{25}	17.4	X	208.29498	233.15620	247.18469	1.87895	0.1850534	0.27239567	2.3568716	21	8 22.4	21.1
311233 2005 CT_{9}	16.8	X	279.41158	358.80740	71.27482	3.19192	0.1289060	0.27651412	2.3334107	21	9 22.2	19.4
311234 2005 CO_{16}	16.3	X	240.22695	100.37251	299.09722	6.24102	0.1139476	0.26645799	2.3917560	21	6 15.9	19.6
311235 2005 CO_{17}	17.7	X	229.83340	207.57980	290.14969	2.20978	0.1421413	0.27878734	2.3207090	21	10 12.7	20.9
311236 2005 CN_{20}	17.5	X	221.14202	26.24159	108.77511	3.65208	0.1628156	0.27631806	2.3345143	21	9 29.4	20.8
311237 2005 CG_{23}	17.0	X	185.07623	23.44037	107.30857	6.77069	0.1722969	0.26913987	2.3758409	21	8 16.8	20.7
311238 2005 CH_{26}	17.0	X	264.73956	280.97713	114.39168	3.08403	0.1925588	0.27140279	2.3626162	21	6 29.6	20.1
311239 2005 CB_{28}	17.0	X	148.42886	19.96974	130.25126	7.75181	0.0786230	0.26611498	2.3938109	21	8 1.7	20.4
311240 2005 CT_{30}	17.0	X	305.32795	281.07881	91.85620	3.40451	0.2383097	0.27284210	2.3542999	21	7 20.4	19.1
311241 2005 CD_{57}	17.5	X	229.71000	285.33355	168.17933	0.38675	0.1972483	0.27365462	2.3496375	21	8 8.2	20.9
311242 2005 CM_{62}	17.5	X	160.98974	40.59306	103.45571	6.55800	0.1561574	0.26743724	2.3859140	21	8 11.1	21.2
311243 2005 CT_{68}	18.1	X	187.69102	50.83139	79.81138	3.22505	0.1607373	0.27067668	2.3668396	21	8 19.4	21.7
311244 2005 EP_{2}	17.3	X	228.93323	232.83390	248.68009	3.73397	0.1755474	0.27426748	2.3461359	21	9 14.3	20.6
311245 2005 EQ_{10}	17.8	X	163.19068	298.13524	240.50909	1.42549	0.1386967	0.27000303	2.3707747	21	9 25.4	21.3
311246 2005 EX_{13}	17.5	X	187.66045	51.24682	116.66498	3.23508	0.1217951	0.27296106	2.3536159	21	10 9.7	20.9
311247 2005 EU_{15}	17.9	X	253.06766	278.49461	131.24706	0.95535	0.2325259	0.26899491	2.3766944	21	6 30.9	21.4
311248 2005 EV_{18}	17.5	X	96.38609	53.47461	166.66667	2.63213	0.1397530	0.26335679	2.4104957	21	9 10.7	20.9
311249 2005 EO_{20}	17.1	X	212.79386	326.74150	137.18257	3.85707	0.1179496	0.26883379	2.3776439	21	8 11.2	20.5
311250 2005 EV_{20}	16.9	X	201.57866	310.85124	141.74310	6.98551	0.1690089	0.26614227	2.3936472	21	7 11.6	20.7
311251 2005 EU_{21}	16.9	X	248.50462	97.54785	350.12437	2.25743	0.1484839	0.27288499	2.3540532	21	8 28.3	19.9
311252 2005 EO_{27}	16.9	X	251.43719	76.53582	345.34060	6.39751	0.1078076	0.26748262	2.3856442	21	8 2.9	20.1
311253 2005 EY_{28}	17.1	X	149.27149	34.41586	165.41861	13.06075	0.1736612	0.26950114	2.3737172	21	10 12.6	21.0
311254 2005 EW_{38}	17.0	X	224.90748	330.13528	124.88533	7.06583	0.1545039	0.26949579	2.3737486	21	8 9.8	20.4
311255 2005 EC_{43}	17.2	X	212.54025	324.24076	139.22934	4.26363	0.1376665	0.26817794	2.3815188	21	8 8.6	20.6
311256 2005 EO_{50}	17.3	X	149.41065	321.01736	171.80696	8.59271	0.1491264	0.26162935	2.4210945	21	7 12.9	21.2
311257 2005 EU_{65}	17.3	X	206.64931	329.43173	156.38870	2.59676	0.1481848	0.27063680	2.3670721	21	8 31.6	20.8
311258 2005 EW_{68}	16.9	X	100.68550	251.85330	317.84264	3.68857	0.1242139	0.26247331	2.4159019	21	8 29.9	20.2
311259 2005 EX_{73}	17.9	X	182.42163	136.11731	27.55044	3.15704	0.1182368	0.27139146	2.3626820	21	9 27.7	21.3
311260 2005 EB_{74}	15.6	X	197.59666	343.67377	359.57388	7.79174	0.2212414	0.24307429	2.5427873	21	2 24.2	20.0
311261 2005 EA_{95}	14.4	X	341.82021	92.68470	144.49528	14.61914	0.1611045	0.12597223	3.9411187	21	4 11.5	19.4
311262 2005 EE_{95}	17.4	X	223.21873	285.33910	198.98538	6.10558	0.1579577	0.27259307	2.3557336	21	9 14.2	20.7
311263 2005 EK_{100}	18.0	X	140.30388	158.89472	10.28940	2.22843	0.1504902	0.26531152	2.3986413	21	8 22.8	21.7
311264 2005 EJ_{112}	17.0	X	148.99595	12.21133	140.74684	3.82384	0.0794224	0.26322619	2.4112930	21	8 5.9	20.2
311265 2005 EL_{131}	17.6	X	242.55258	161.40051	290.41905	1.89009	0.1503453	0.27384800	2.3485312	21	8 25.4	20.6
311266 2005 EX_{131}	16.4	X	236.21459	23.90589	62.11371	7.24995	0.0906894	0.27081654	2.3660246	21	8 21.6	19.6
311267 2005 ED_{143}	17.2	X	126.18953	143.16586	43.85385	2.75435	0.1780354	0.26317802	2.4115872	21	9 3.3	20.8
311268 2005 EB_{164}	17.3	X	215.23480	321.45476	159.73695	2.87289	0.1754106	0.27030044	2.3690354	21	9 1.0	20.9
311269 2005 ET_{168}	18.0	X	193.82562	260.34216	213.85561	1.43118	0.1652500	0.26481067	2.4016648	21	8 1.6	21.8
311270 2005 EU_{189}	17.4	X	90.14925	278.91266	290.71929	4.39002	0.0616730	0.26673337	2.3901096	21	8 7.6	20.3
311271 2005 EZ_{193}	17.7	X	164.35583	281.82460	192.16694	2.70208	0.1377129	0.26125935	2.4233798	21	7 3.5	21.5
311272 2005 EP_{204}	17.2	X	193.31191	129.07733	331.21044	1.98327	0.1734704	0.26297502	2.4128281	21	7 14.3	21.1
311273 2005 EN_{225}	17.5	X	161.92419	57.17882	161.77476	4.59851	0.1115465	0.27899511	2.3195567	21	11 18.6	20.9
311274 2005 EK_{235}	17.7	X	247.47383	294.20652	144.46587	2.34345	0.1892369	0.27045076	2.3681575	21	8 8.3	20.9
311275 2005 EX_{247}	17.4	X	212.02868	303.89723	180.36651	2.73227	0.1171159	0.26981246	2.3718909	21	9 6.6	20.7
311276 2005 ED_{253}	16.6	X	159.97291	343.35037	126.73757	12.35404	0.1806635	0.25771302	2.4455609	21	6 26.3	20.6
311277 2005 EK_{253}	18.1	X	219.94792	269.60400	202.73081	1.70733	0.1569360	0.27493107	2.3423592	21	8 26.6	21.4
311278 2005 EW_{255}	17.2	X	255.26652	177.91988	229.31936	1.95902	0.1873203	0.26740759	2.3860904	21	7 5.3	20.4
311279 2005 ED_{259}	17.5	X	218.37229	264.79390	181.38937	1.97075	0.1478621	0.26443048	2.4039663	21	7 21.3	21.1
311280 2005 EC_{261}	17.3	X	111.21824	68.91948	133.21564	5.18572	0.1086836	0.26381973	2.4076750	21	9 1.2	20.7

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311281 2005 EK_{306}	17.8	X	196.37135	305.51766	162.20809	1.33480	0.1432377	0.26462551	2.4027850	21	7 27.7	21.3
311282 2005 EO_{315}	17.4	X	239.21007	261.83248	153.45966	5.45722	0.1912521	0.26355216	2.4093044	21	6 28.2	21.0
311283 2005 EF_{324}	17.2	X	156.61286	199.32037	23.32627	6.09937	0.1760630	0.27320383	2.3522214	21	11 13.0	20.9
311284 2005 EY_{327}	17.3	X	184.12334	338.76465	149.76219	4.56368	0.1422003	0.26522172	2.3991827	21	8 11.8	21.0
311285 2005 FE_{1}	17.0	X	179.02982	82.94798	121.71458	11.33176	0.1605056	0.27614461	2.3354917	21	11 17.2	20.8
311286 2005 GX_{10}	17.3	X	144.98430	17.22757	109.45781	2.15438	0.1378074	0.25789810	2.4443907	21	6 30.5	20.9
311287 2005 GQ_{13}	16.8	X	144.85494	102.87727	88.39640	6.89434	0.1328759	0.26553053	2.3973222	21	9 27.7	20.5
311288 2005 GG_{39}	17.4	X	162.28905	328.83857	187.74755	1.81502	0.1538696	0.26529365	2.3987490	21	8 26.8	21.0
311289 2005 GO_{42}	17.8	X	234.18742	278.25804	182.41055	4.06142	0.1629901	0.27380837	2.3487578	21	8 25.7	21.0
311290 2005 GW_{50}	16.7	X	141.32129	134.62162	40.70507	8.06385	0.0856492	0.26228660	2.4170482	21	9 1.2	20.2
311291 2005 GF_{132}	17.0	X	303.10807	129.73386	136.51534	3.25462	0.0445262	0.24305793	2.5429014	21	3 19.8	20.2
311292 2005 GB_{137}	16.3	X	140.66556	284.69606	61.37171	14.13535	0.0994468	0.22630900	2.6668679	21	—	—
311293 2005 GQ_{138}	17.3	X	214.37195	315.61424	139.29040	2.91742	0.1576680	0.26354470	2.4093498	21	7 28.2	20.8
311294 2005 GQ_{159}	17.5	X	179.11591	93.72886	46.90287	1.09313	0.1468655	0.26383991	2.4075522	21	8 23.4	21.3
311295 2005 GQ_{173}	17.1	X	322.69257	110.48424	129.40196	3.50265	0.0543224	0.24129325	2.5552846	21	3 10.1	20.2
311296 2005 GW_{208}	17.2	X	101.76211	113.82743	64.66916	14.78992	0.1509124	0.25944787	2.4346468	21	7 26.4	20.9
311297 2005 HD_{7}	16.8	X	8.21147	99.05404	116.24890	6.64861	0.1785204	0.24389359	2.5370895	21	4 8.9	19.1
311298 2005 HH_{9}	16.2	X	179.59923	223.36568	73.75462	14.84687	0.1588269	0.22198203	2.7014121	21	—	—
311299 2005 JV_{16}	16.0	X	237.27508	24.97257	261.26178	11.23101	0.1738134	0.23200160	2.6230631	21	1 17.6	20.4
311300 2005 JF_{34}	16.9	X	142.03329	146.30867	190.36466	9.06820	0.1117023	0.22148607	2.7054433	21	—	—
311301 2005 JA_{35}	17.3	X	185.04288	7.30458	140.93023	5.81075	0.2524866	0.26454838	2.4032520	21	9 4.9	21.3
311302 2005 JD_{44}	16.1	X	221.47847	203.08940	54.77641	14.68780	0.2183198	0.22284675	2.6944193	21	—	—
311303 2005 JV_{46}	17.8	X	144.05972	335.87125	194.91961	2.08452	0.1603091	0.26137749	2.4226495	21	8 27.4	21.5
311304 2005 JU_{50}	17.2	X	142.20064	36.46543	118.52530	2.27171	0.1146499	0.25810047	2.4431128	21	8 3.1	20.8
311305 2005 JP_{101}	16.7	X	11.20487	133.84899	66.05030	3.88460	0.0523579	0.24108985	2.5567216	21	3 28.1	19.7
311306 2005 JB_{110}	17.0	X	88.54298	39.66890	161.32302	4.50061	0.1409256	0.25548738	2.4597431	21	8 4.9	20.2
311307 2005 JH_{118}	16.8	X	130.09436	253.22117	96.80649	9.63779	0.2299800	0.21955635	2.7212726	21	1 6.6	20.6
311308 2005 JX_{135}	17.2	X	160.42786	22.20916	143.94178	3.02474	0.1128923	0.26506647	2.4001194	21	9 7.2	20.7
311309 2005 KY_{3}	16.7	X	212.38079	86.10477	210.50166	9.43990	0.1342461	0.22835698	2.6508990	21	1 9.4	21.1
311310 2005 KJ_{12}	16.0	X	170.80876	286.67430	275.62355	21.99166	0.2498642	0.27149065	2.3621064	21	10 23.1	20.5
311311 2005 LP	16.6	X	66.03656	273.53113	86.75668	21.09564	0.2213324	0.20977545	2.8052158	21	—	—
311312 2005 LK_{5}	16.2	X	6.51674	78.19607	132.30965	10.31253	0.1122519	0.24130164	2.5552253	21	4 3.9	19.1
311313 2005 LG_{34}	16.5	X	114.04094	281.69019	73.12981	9.67211	0.1362642	0.21952849	2.7215028	21	—	—
311314 2005 MV_{4}	16.0	X	262.99850	138.46104	136.71348	16.18347	0.0418257	0.22256179	2.6967187	21	2 11.8	19.8
311315 2005 MC_{8}	16.4	X	265.24832	358.97772	291.96491	11.31284	0.1474778	0.22971793	2.6404186	21	2 17.9	20.5
311316 2005 MZ_{17}	16.1	X	31.17385	263.21320	121.35079	12.97806	0.2324590	0.19950868	2.9006468	21	—	—
311317 2005 MH_{27}	16.6	X	283.66567	151.17682	125.65698	9.26555	0.1200907	0.23063793	2.6333923	21	3 1.2	20.3
311318 2005 MW_{33}	16.1	X	78.66318	318.95288	151.06167	14.96678	0.0975803	0.22681851	2.6628726	21	3 15.4	19.4
311319 2005 ME_{37}	16.4	X	108.90372	277.96883	135.14305	6.49673	0.0418622	0.22119236	2.7078377	21	2 1.7	20.0
311320 2005 MH_{47}	16.2	X	80.49035	300.33363	94.50768	15.23734	0.1149622	0.22059429	2.7127298	21	—	—
311321 2005 NP_{1}	18.5	X	197.91979	307.51541	274.99857	34.69921	0.2966499	0.39916858	1.8268315	21	12 30.4	20.6
311322 2005 NX_{6}	16.6	X	19.20939	293.01795	284.49152	11.93826	0.1345894	0.23697597	2.5862262	21	4 29.3	19.5
311323 2005 NA_{11}	16.3	X	96.94681	209.71250	289.77124	12.18988	0.1865750	0.23777156	2.5804539	21	5 29.6	20.0
311324 2005 NU_{22}	15.3	X	189.26538	3.74339	294.48933	19.03800	0.2263173	0.21477658	2.7614982	21	—	—
311325 2005 NO_{23}	16.3	X	12.00556	222.05888	249.91050	8.41577	0.0811906	0.21504698	2.7591829	21	—	—
311326 2005 NE_{29}	17.1	X	254.56150	73.36501	296.17563	17.96835	0.0949508	0.36155053	1.9514468	21	5 15.8	19.9
311327 2005 NK_{30}	16.3	X	105.55217	50.38057	308.69628	3.93962	0.1711710	0.21017228	2.8016837	21	—	—
311328 2005 NE_{51}	16.6	X	320.96630	326.31053	304.79681	8.72263	0.1773763	0.23669824	2.5882489	21	3 25.3	20.0
311329 2005 NG_{69}	16.4	X	175.09388	62.83524	301.22589	7.60816	0.1226463	0.22382374	2.6865728	21	2 23.5	20.7
311330 2005 NM_{69}	17.1	X	51.52843	146.28688	220.26757	1.81124	0.1090971	0.20382227	2.8595759	21	—	—
311331 2005 NZ_{94}	17.3	X	246.58483	79.79134	287.33057	17.02071	0.1023305	0.35898790	1.9607227	21	4 28.1	20.1
311332 2005 OY	15.9	X	62.49991	313.63572	1.92607	10.21356	0.2043540	0.19813060	2.9140815	21	11 30.6	20.4
311333 2005 OV_{9}	15.9	X	159.37990	209.78003	127.11433	15.17169	0.1044556	0.21500526	2.7595398	21	1 7.9	20.0
311334 2005 OH_{20}	16.2	X	43.09784	84.56694	330.69665	14.19060	0.1470498	0.20593568	2.8399781	21	—	—
311335 2005 OP_{28}	15.9	X	300.20441	98.71880	291.81512	14.76946	0.2842839	0.18145771	3.0899570	21	7 24.4	19.9
311336 2005 QX_{24}	16.2	X	37.32198	293.99961	28.41326	5.38807	0.1417223	0.18865427	3.0108674	21	10 30.2	20.1
311337 2005 QY_{43}	16.4	X	176.28543	351.48587	339.62291	4.84594	0.0290679	0.21541497	2.7560396	21	1 13.3	20.3
311338 2005 QA_{47}	16.7	X	46.75387	239.72834	101.04398	4.22643	0.1117863	0.19403598	2.9549346	21	12 2.1	20.6
311339 2005 QK_{56}	15.5	X	294.62482	46.00885	7.81288	17.10716	0.2044846	0.18108642	3.0941791	21	9 5.2	19.5
311340 2005 QX_{58}	16.6	X	32.61575	281.75562	46.96913	2.89562	0.2125924	0.18979162	2.9988266	21	11 11.6	20.4
311341 2005 QY_{61}	16.5	X	337.10957	239.42742	151.33374	2.88914	0.1992411	0.18781698	3.0198091	21	10 21.2	19.5
311342 2005 QW_{78}	16.0	X	282.32013	82.70685	345.93711	4.49030	0.1697348	0.18155973	3.0887993	21	9 6.1	20.0
311343 2005 QP_{92}	16.6	X	345.54758	347.75359	47.33417	0.61564	0.1118182	0.19151906	2.9807671	21	11 10.3	20.2
311344 2005 QB_{122}	16.2	X	42.09973	251.53954	166.23344	10.67388	0.1266462	0.20439762	2.8542072	21	—	—
311345 2005 QU_{128}	16.7	X	182.09899	168.35518	130.88760	4.28781	0.0241492	0.21006167	2.8026671	21	—	—
311346 2005 QJ_{151}	16.5	X	56.87292	213.50896	154.07104	2.87009	0.0644155	0.19783265	2.9170065	21	—	—
311347 2005 QJ_{156}	16.1	X	336.68002	113.79222	299.91424	8.82621	0.1475530	0.18964067	3.0004177	21	11 17.8	19.6
311348 2005 QS_{179}	16.1	X	14.57079	213.04493	115.34448	5.48367	0.2406683	0.18678207	3.0309534	21	10 18.4	19.3
311349 2005 QO_{182}	16.7	X	3.53877	26.40901	47.68605	2.60307	0.1516413	0.19907242	2.9048831	21	—	—
311350 2005 QR_{190}	15.9	X	297.54363	294.56645	118.24261	7.99407	0.2557555	0.18071349	3.0984346	21	8 27.0	19.7
311351 2005 QS_{190}	15.8	X	299.78473	255.58194	75.55750	5.73702	0.2079535	0.17300717	3.1897745	21	5 20.9	20.1
311352 2005 RQ_{21}	17.5	X	306.10150	355.20712	337.14898	18.36917	0.0765382	0.36212023	1.9493995	21	6 13.4	19.8
311353 2005 RZ_{26}	15.4	X	0.78585	67.95579	282.71165	9.76991	0.1357300	0.18449363	3.0559656	21	10 2.5	19.3
311354 2005 RL_{27}	15.0	X	352.78960	133.32119	218.10598	22.17935	0.1491434	0.18216981	3.0818994	21	9 20.0	18.9
311355 2005 RO_{32}	16.2	X	295.00713	275.61065	143.06635	8.28591	0.1872996	0.18240191	3.0792844	21	9 10.5	20.1
311356 2005 RY_{42}	16.5	X	314.88069	344.09437	19.75097	5.85111	0.1548464	0.17911360	3.1168579	21	8 5.4	20.3
311357 2005 RV_{44}	15.3	X	305.60195	96.97540	294.87059	13.92033	0.1052682	0.17974585	3.1095447	21	8 26.3	19.5
311358 2005 SU	17.3	X	155.27068	96.26420	358.55561	17.63481	0.0911689	0.35318465	1.9821423	21	5 13.8	20.1
311359 2005 SD_{7}	16.4	X	6.61359	344.91352	354.77017	3.36471	0.1901411	0.18495272	3.0509066	21	10 7.9	19.7
311360 2005 SD_{30}	15.6	X	12.40612	332.06229	20.26182	12.46984	0.2356167	0.18700118	3.0285854	21	11 8.9	19.0

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311361 2005 SW_{39}	15.7	X	354.04771	319.81970	15.86796	9.27686	0.1156395	0.18088103	3.0965210	21	9 8.3	19.4
311362 2005 SX_{46}	15.7	X	223.74831	103.77870	9.89031	10.08118	0.0957770	0.17762250	3.1342772	21	9 5.2	20.4
311363 2005 SA_{74}	16.2	X	14.53809	274.15360	70.25258	20.61724	0.3363472	0.18904557	3.0067112	21	11 24.1	19.3
311364 2005 SU_{85}	15.9	X	310.05363	63.51907	18.79735	10.84709	0.0656743	0.18963101	3.0005197	21	11 14.4	19.8
311365 2005 SM_{99}	16.4	X	277.59430	214.59270	326.83280	5.65550	0.0436535	0.20096018	2.8866627	21	—	—
311366 2005 SV_{101}	15.3	X	264.95016	59.27897	355.69014	11.15834	0.0227932	0.17611417	3.1521474	21	8 21.3	19.8
311367 2005 SZ_{109}	15.7	X	332.02262	296.97046	18.55260	12.53028	0.0033887	0.17139604	3.2097326	21	7 13.2	20.4
311368 2005 SQ_{141}	16.2	X	271.84555	330.97655	110.44488	2.39040	0.1218507	0.18115341	3.0934163	21	9 16.5	20.4
311369 2005 SF_{147}	16.6	X	280.29289	47.73022	35.40848	4.68182	0.0824995	0.18291260	3.0735502	21	10 5.8	20.6
311370 2005 SL_{148}	16.4	X	247.97018	288.94927	179.76425	4.95164	0.1096782	0.18039043	3.1021328	21	9 21.8	21.0
311371 2005 SX_{158}	15.7	X	245.60203	238.06254	216.44107	15.73850	0.1696961	0.17615675	3.1516394	21	8 19.4	20.8
311372 2005 SZ_{172}	15.8	X	107.90673	57.09953	228.16377	5.90748	0.0457190	0.19290976	2.9664242	21	11 27.3	20.1
311373 2005 SC_{175}	16.1	X	275.51600	162.69522	280.88281	4.19528	0.1215754	0.18232660	3.0801322	21	9 20.8	20.4
311374 2005 SP_{200}	16.4	X	281.25268	279.94832	176.36551	7.51316	0.0867330	0.18655964	3.0333621	21	10 24.2	20.4
311375 2005 SH_{203}	16.1	X	254.98739	48.93251	26.31487	11.70873	0.2637414	0.17458692	3.1705035	21	8 4.5	21.2
311376 2005 SO_{218}	15.6	X	287.37347	4.17954	60.13839	6.78310	0.1975411	0.17772025	3.1331278	21	9 6.6	19.7
311377 2005 SF_{221}	15.6	X	233.40709	244.53840	210.63140	15.52726	0.1753484	0.17325626	3.1867164	21	8 7.7	20.9
311378 2005 SF_{223}	16.1	X	54.27821	202.93169	115.91702	5.82619	0.1780712	0.19147261	2.9812492	21	11 24.3	20.3
311379 2005 SR_{232}	16.4	X	338.56341	314.28179	20.72695	1.73725	0.0839760	0.17462820	3.1700039	21	8 10.4	20.4
311380 2005 SP_{245}	16.1	X	33.94356	11.83196	313.34332	3.07818	0.1732108	0.18751446	3.0230562	21	11 1.4	20.0
311381 2005 SD_{252}	15.7	X	318.76027	225.49232	9.39448	13.15950	0.1382892	0.22398952	2.6852471	21	2 20.7	19.3
311382 2005 SU_{266}	16.4	X	14.57435	69.93186	279.51431	1.88309	0.1479907	0.18786824	3.0192598	21	10 30.9	20.1
311383 2005 SO_{279}	16.0	X	269.56790	89.17315	28.32621	10.46932	0.0536681	0.18841564	3.0134090	21	11 5.9	20.1
311384 2005 SK_{285}	15.9	X	266.67251	332.88872	116.96744	11.68627	0.1885160	0.17778376	3.1323816	21	9 13.6	20.5
311385 2005 SM_{289}	16.5	X	331.07190	326.92574	118.33818	3.05830	0.0785395	0.19205551	2.9752139	21	12 21.5	20.3
311386 2005 SR_{291}	16.6	X	248.15075	281.32130	157.04264	2.69595	0.0775551	0.17591098	3.1545743	21	8 18.9	21.1
311387 2005 TK_{11}	16.5	X	351.77433	18.93912	331.54829	1.51308	0.1354640	0.18350036	3.0669835	21	9 21.4	20.1
311388 2005 TW_{14}	15.2	X	326.30299	307.22948	54.17596	17.62036	0.3327852	0.18067719	3.0988496	21	8 1.4	18.5
311389 2005 TB_{26}	16.4	X	300.73319	345.92396	61.08083	1.72273	0.1876487	0.17802434	3.1295588	21	9 2.9	20.3
311390 2005 TA_{30}	16.0	X	121.24957	230.38455	106.44191	11.77965	0.1427568	0.20484521	2.8500480	21	—	—
311391 2005 TZ_{31}	16.5	X	308.70131	269.64687	120.04641	2.21106	0.1781406	0.17984094	3.1084485	21	8 25.1	20.0
311392 2005 TW_{41}	15.0	X	332.68421	138.29938	232.70024	14.74627	0.1684975	0.17942753	3.1132213	21	9 6.2	18.8
311393 2005 TA_{47}	15.7	X	337.57822	223.95519	154.57585	9.94696	0.0772775	0.18392920	3.0622144	21	10 8.3	19.6
311394 2005 TA_{59}	16.4	X	209.52604	289.60993	197.02603	5.66221	0.0982491	0.17566040	3.1575736	21	9 1.1	21.3
311395 2005 TC_{88}	15.8	X	273.64583	208.78793	213.86254	16.70138	0.2499876	0.17723058	3.1388961	21	7 31.7	20.7
311396 2005 TL_{107}	15.5	X	119.78040	166.26930	36.20762	10.29220	0.0158210	0.17590774	3.1546129	21	8 31.3	20.1
311397 2005 TH_{129}	16.5	X	329.11016	31.71921	17.82978	1.60111	0.1581689	0.18492897	3.0511677	21	10 30.0	19.9
311398 2005 TQ_{161}	16.1	X	323.13845	126.59260	230.30936	7.96994	0.0896616	0.17652138	3.1472979	21	8 10.9	20.3
311399 2005 TG_{163}	15.8	X	347.64471	169.59447	226.55706	6.64978	0.1301673	0.18702126	3.0283685	21	11 15.1	19.2
311400 2005 TF_{171}	15.7	X	266.47941	78.07294	333.64538	12.81121	0.2524582	0.17378075	3.1803013	21	7 17.7	20.6
311401 2005 TE_{189}	16.4	X	19.44569	80.21359	227.01245	3.89736	0.1608954	0.18054260	3.1003895	21	9 12.4	20.1
311402 2005 UU_{7}	15.7	X	229.90018	59.36094	36.43328	5.56663	0.1135481	0.17282193	3.1920535	21	8 18.2	20.5
311403 2005 UC_{9}	15.8	X	5.69808	338.29197	38.64970	12.42772	0.0814006	0.18775895	3.0204313	21	11 13.9	19.6
311404 2005 US_{9}	16.1	X	252.45150	299.19382	135.99753	1.91038	0.2180621	0.17330618	3.1861045	21	8 2.5	21.1
311405 2005 UD_{12}	16.0	X	227.69252	323.80376	150.95108	2.44679	0.1156475	0.17427050	3.1743402	21	9 5.8	20.7
311406 2005 UL_{13}	15.8	X	308.58493	184.11511	211.60733	10.79412	0.1155590	0.17964984	3.1106524	21	9 6.1	19.9
311407 2005 UE_{23}	16.1	X	303.46939	154.19073	228.00205	8.79100	0.0788135	0.17564490	3.1577593	21	8 15.7	20.4
311408 2005 UF_{24}	16.0	X	185.16918	288.27353	223.89179	9.97589	0.0679953	0.17617464	3.1514261	21	9 5.9	20.9
311409 2005 UW_{24}	16.1	X	220.63114	248.04447	224.02454	9.14936	0.0462351	0.17535783	3.1612046	21	8 28.7	20.9
311410 2005 UM_{25}	16.5	X	300.10612	197.68935	219.76768	2.99376	0.1944552	0.17920137	3.1158401	21	9 12.8	20.4
311411 2005 UE_{55}	15.3	X	317.90312	121.27176	239.87589	8.10575	0.1050358	0.17460455	3.1702902	21	8 6.9	19.5
311412 2005 UW_{60}	15.8	X	325.52164	327.70337	55.55413	6.01000	0.1094132	0.17836229	3.1256045	21	9 23.7	19.6
311413 2005 UX_{63}	16.2	X	231.08908	73.99607	69.31259	3.88664	0.1874690	0.17933532	3.1142884	21	10 8.2	21.0
311414 2005 UA_{70}	15.7	X	345.59585	138.11541	264.07284	10.09154	0.1046897	0.18774942	3.0205335	21	11 17.5	19.4
311415 2005 UD_{71}	16.0	X	312.01183	100.94291	285.60444	7.28491	0.1538839	0.17895172	3.1187373	21	8 25.9	19.8
311416 2005 UQ_{76}	15.6	X	307.04317	117.76883	281.24708	9.85568	0.1283539	0.17788173	3.1312313	21	9 4.5	19.7
311417 2005 UQ_{77}	15.3	X	242.98364	341.99886	96.47152	11.74335	0.1297304	0.17057122	3.2200717	21	8 8.7	20.2
311418 2005 UV_{80}	16.2	X	341.84748	189.99566	186.29729	3.48441	0.1956261	0.18115679	3.0933779	21	10 8.6	19.3
311419 2005 UK_{91}	16.0	X	352.82112	344.36846	20.29020	12.08033	0.0804426	0.18120700	3.0928064	21	10 10.8	19.9
311420 2005 UP_{93}	16.0	X	246.23446	130.41182	349.80199	4.99274	0.1283840	0.18007240	3.1057842	21	9 30.6	20.6
311421 2005 UA_{101}	15.8	X	57.07519	260.59044	66.19387	10.66430	0.0425958	0.18587065	3.0408536	21	11 17.1	20.0
311422 2005 US_{107}	15.4	X	48.29716	266.64425	78.09155	9.22919	0.1339920	0.19107633	2.9853697	21	12 10.9	19.6
311423 2005 UG_{119}	16.2	X	31.52951	302.93550	33.27759	12.31604	0.1140875	0.18526592	3.0474670	21	11 3.4	20.0
311424 2005 UW_{127}	15.8	X	62.35784	23.97163	229.38286	7.55699	0.1229014	0.17367079	3.1816436	21	8 30.2	20.3
311425 2005 UM_{128}	16.8	X	266.52105	119.99372	13.94636	1.02845	0.1468069	0.18535827	3.0464548	21	11 9.9	21.0
311426 2005 UQ_{129}	16.3	X	157.33511	135.76039	32.75204	3.30886	0.0193778	0.17363763	3.1820486	21	8 30.8	20.9
311427 2005 UN_{131}	15.2	X	289.42004	276.50837	124.53486	11.73646	0.0204760	0.17461217	3.1701980	21	9 3.8	19.7
311428 2005 UU_{134}	16.5	X	296.38821	344.51141	33.00656	4.18739	0.2139549	0.17525471	3.1624445	21	7 14.8	20.7
311429 2005 UT_{166}	16.5	X	147.71439	342.18953	216.33210	7.00533	0.1230051	0.17909753	3.1170444	21	9 26.7	21.5
311430 2005 UJ_{167}	16.1	X	314.88233	41.58423	32.95191	10.40270	0.0667313	0.18638828	3.0352210	21	11 12.0	19.9
311431 2005 UR_{175}	15.8	X	11.13871	65.01413	249.40771	8.44552	0.0790554	0.17420955	3.1750805	21	8 28.6	20.1
311432 2005 US_{175}	15.8	X	222.80615	112.25736	39.52781	9.35704	0.1406434	0.17967735	3.1103350	21	10 14.9	20.5
311433 2005 UV_{175}	15.8	X	314.41605	169.00986	244.88114	8.68696	0.1103055	0.18045002	3.1014499	21	10 10.2	19.8
311434 2005 UX_{198}	16.0	X	185.92034	165.78458	45.93343	11.94745	0.0700082	0.18807815	3.0170128	21	11 21.4	20.6
311435 2005 UJ_{218}	16.0	X	124.06774	81.07676	265.03962	5.02602	0.1006013	0.20250253	2.8719866	21	—	—
311436 2005 UC_{219}	16.3	X	212.01867	285.62085	236.47096	10.56057	0.1317744	0.18252218	3.0779315	21	10 13.4	21.1
311437 2005 UL_{219}	16.1	X	230.84577	209.70179	278.22275	4.05476	0.1071836	0.17950650	3.1123082	21	9 24.2	20.7
311438 2005 UN_{228}	16.2	X	245.50898	268.25200	162.75634	2.70734	0.1443700	0.17074621	3.2178713	21	7 28.9	21.0
311439 2005 UA_{229}	16.1	X	230.29583	53.43815	60.77413	10.92347	0.0548577	0.17630223	3.1499054	21	9 20.6	20.8
311440 2005 UE_{230}	16.0	X	193.90279	265.53144	218.17073	14.98731	0.0337928	0.17166087	3.2064305	21	8 11.1	21.0

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311441 2005 UV_{232}	15.2	X	115.19249	9.94157	225.46061	21.93522	0.0988698	0.18136958	3.0909578	21	10 5.7	20.1
311442 2005 UZ_{233}	15.6	X	220.34439	265.95467	208.32220	10.33370	0.0334599	0.17443168	3.1723844	21	9 1.9	20.4
311443 2005 UK_{237}	16.3	X	258.31695	8.11138	142.60513	4.32240	0.2294568	0.18482134	3.0523522	21	11 10.1	20.7
311444 2005 UR_{245}	15.9	X	320.92076	322.68983	69.71288	17.26596	0.0672278	0.17841627	3.1249740	21	10 8.2	20.3
311445 2005 UZ_{255}	15.7	X	89.35491	213.46201	66.96541	11.67811	0.1027564	0.18223903	3.0811189	21	11 7.4	20.3
311446 2005 UV_{261}	16.4	X	248.62062	1.17313	98.08936	2.43807	0.1461394	0.17838871	3.1252958	21	9 7.1	20.9
311447 2005 UY_{274}	15.4	X	292.74683	174.58764	247.37641	9.34407	0.1189283	0.17678352	3.1441858	21	9 14.6	19.7
311448 2005 UG_{287}	16.0	X	245.18131	46.34942	59.47490	8.23513	0.0626251	0.17918850	3.1159894	21	9 25.3	20.5
311449 2005 UW_{288}	16.0	X	119.62574	252.68982	28.75591	12.10748	0.0418967	0.18822896	3.0154011	21	12 2.2	20.5
311450 2005 UB_{293}	16.1	X	309.51917	122.64620	248.51369	7.95109	0.1035782	0.17400200	3.1776048	21	8 7.5	20.3
311451 2005 UZ_{317}	15.8	X	132.76312	210.43061	39.15732	12.26029	0.0433176	0.18523186	3.0478407	21	11 9.6	20.3
311452 2005 UG_{325}	16.3	X	249.37598	42.14454	76.32385	2.18714	0.2195082	0.18269229	3.0760206	21	9 22.8	21.0
311453 2005 UJ_{341}	15.7	X	15.20029	247.76622	76.78117	12.76015	0.1724983	0.18081367	3.0972900	21	10 8.8	19.5
311454 2005 UF_{351}	15.9	X	269.45154	113.01080	354.60628	9.92722	0.2017992	0.18233636	3.0800223	21	10 1.9	20.3
311455 2005 UJ_{351}	15.4	X	10.27754	86.78808	254.61975	9.67116	0.0634486	0.18198855	3.0839454	21	10 1.0	19.7
311456 2005 UN_{375}	15.6	X	196.20467	175.15020	11.74764	8.75451	0.0601840	0.18461407	3.0546363	21	11 2.0	20.1
311457 2005 UL_{385}	15.7	X	339.55865	155.07179	219.11774	9.84838	0.1432894	0.18422876	3.0588940	21	9 29.6	19.3
311458 2005 UB_{386}	15.6	X	317.06351	347.04845	58.92923	13.45444	0.0825820	0.18026789	3.1035385	21	10 14.9	19.7
311459 2005 UE_{397}	15.8	X	21.34099	8.61852	355.56819	10.18220	0.1169138	0.18787271	3.0192118	21	11 23.0	19.8
311460 2005 UA_{416}	15.6	X	52.78002	86.88818	203.90324	10.99438	0.0647777	0.17925428	3.1152270	21	9 27.9	19.9
311461 2005 UY_{429}	15.9	X	292.83012	11.23419	42.31109	10.69968	0.0767862	0.17677120	3.1443319	21	9 19.5	20.2
311462 2005 UP_{432}	15.7	X	110.78459	8.85536	219.06079	5.20999	0.1402946	0.17494086	3.1662258	21	9 27.3	20.6
311463 2005 UO_{440}	15.8	X	349.99671	95.01831	259.00475	9.16186	0.0949901	0.18068830	3.0987226	21	9 17.3	19.8
311464 2005 UJ_{452}	16.2	X	330.52110	115.49946	249.22705	3.42552	0.1805408	0.17853628	3.1235735	21	8 28.1	19.6
311465 2005 UQ_{455}	15.5	X	306.10477	97.59320	284.20226	8.11569	0.1087553	0.17744124	3.1364113	21	8 16.3	19.6
311466 2005 UN_{458}	15.6	X	4.99062	286.62874	67.67041	10.47897	0.1065536	0.18230263	3.0804023	21	10 21.6	19.5
311467 2005 UH_{459}	15.6	X	266.37965	244.01197	196.81020	9.40707	0.0489056	0.17774896	3.1327904	21	9 16.4	20.0
311468 2005 UP_{475}	14.9	X	323.36255	230.09521	98.69539	28.56671	0.1968206	0.17461517	3.1701616	21	6 25.7	18.5
311469 2005 UQ_{485}	15.3	X	7.53461	299.96144	60.38751	18.28748	0.1284967	0.18413213	3.0599641	21	11 4.6	19.1
311470 2005 UV_{487}	15.6	X	13.41355	26.41209	277.82700	11.06572	0.0578171	0.17679711	3.1440247	21	8 17.3	19.9
311471 2005 UX_{489}	15.2	X	283.57876	125.91224	273.70762	11.32499	0.0643555	0.17526000	3.1623809	21	8 12.2	19.8
311472 2005 UL_{495}	15.5	X	284.98303	333.24691	52.28180	16.14359	0.2775685	0.17564272	3.1577854	21	6 28.7	20.2
311473 2005 UV_{496}	15.2	X	309.63022	334.37705	40.00747	16.43164	0.0442380	0.17744737	3.1363391	21	8 31.4	19.7
311474 2005 UD_{499}	15.3	X	304.51877	353.54142	96.85956	16.20287	0.0977514	0.18549379	3.0449708	21	11 20.5	19.4
311475 2005 UW_{500}	15.9	X	30.28844	261.29202	111.14424	10.20094	0.1435121	0.18982176	2.9985093	21	12 23.1	19.8
311476 2005 UA_{502}	16.2	X	252.18248	258.67470	180.48420	15.27275	0.2362088	0.17285872	3.1916005	21	8 2.4	21.5
311477 2005 UQ_{511}	15.2	X	195.00248	303.06602	238.89806	20.39796	0.3603051	0.17634294	3.1494206	21	10 7.7	21.3
311478 2005 UG_{516}	16.1	X	214.77338	283.77245	199.52945	4.98232	0.2132107	0.17026637	3.2239141	21	8 24.8	21.4
311479 2005 UJ_{516}	16.1	X	336.45054	271.20020	115.71914	2.90832	0.1028485	0.17867249	3.1219858	21	10 14.9	19.8
311480 2005 VQ_{15}	15.6	X	315.80370	255.91816	144.78494	16.12144	0.2594037	0.17849174	3.1240931	21	9 12.7	19.0
311481 2005 VS_{30}	16.3	X	347.82042	153.76400	201.84984	3.49839	0.1618937	0.17735533	3.1374241	21	9 20.2	19.8
311482 2005 VJ_{33}	15.9	X	244.28906	155.88680	272.16988	4.05750	0.1677346	0.17158570	3.2073670	21	7 21.4	20.9
311483 2005 VR_{47}	16.5	X	258.78945	256.41442	188.23058	3.18184	0.1888372	0.17415110	3.1757909	21	8 23.7	21.3
311484 2005 VM_{49}	15.9	X	263.51359	129.56233	345.41527	11.00818	0.1841194	0.18206391	3.0830942	21	10 4.7	20.3
311485 2005 VB_{53}	15.0	X	267.73524	193.27502	264.71924	15.96984	0.1373910	0.17876227	3.1209404	21	9 20.1	19.8
311486 2005 VZ_{55}	15.7	X	139.97993	4.17363	236.83158	10.55370	0.1240300	0.18684916	3.0302278	21	11 10.6	20.6
311487 2005 VU_{97}	16.4	X	248.04340	77.36555	5.37874	4.47558	0.1316666	0.17200903	3.2021024	21	8 18.7	21.1
311488 2005 VE_{107}	15.4	X	29.03706	44.87057	254.05803	8.04008	0.0226633	0.17414220	3.1758992	21	8 29.5	19.9
311489 2005 VY_{110}	16.6	X	282.66485	21.10444	53.54661	11.01932	0.1021870	0.17884742	3.1199497	21	9 29.3	20.9
311490 2005 VZ_{117}	15.3	X	229.70637	107.81679	11.49452	18.69563	0.2961713	0.16978496	3.2300053	21	9 3.9	20.9
311491 2005 VT_{120}	17.2	X	223.01478	105.75862	279.18677	17.30674	0.0904484	0.35172178	1.9876346	21	4 26.9	20.1
311492 2005 WD_{4}	15.2	X	323.38206	272.64134	90.51355	23.58972	0.1060023	0.17780666	3.1321126	21	8 29.9	19.6
311493 2005 WP_{10}	16.5	X	270.61961	12.17519	57.00521	1.91965	0.1589993	0.17387116	3.1791988	21	8 24.2	20.8
311494 2005 WR_{26}	15.5	X	202.29817	104.06311	67.96910	26.69489	0.2048303	0.17605341	3.1528726	21	10 25.1	21.1
311495 2005 WQ_{27}	16.5	X	253.89163	223.27656	261.93526	3.56678	0.0691365	0.18008223	3.1056712	21	10 23.6	20.8
311496 2005 WQ_{42}	15.9	X	318.66653	99.78514	247.82237	17.75257	0.1830385	0.17210633	3.2008954	21	7 10.3	20.0
311497 2005 WB_{47}	15.8	X	276.84893	167.29736	254.97225	9.33311	0.1061692	0.17273231	3.1931575	21	8 25.6	20.4
311498 2005 WO_{56}	15.7	X	271.86115	84.26669	335.17556	23.35099	0.3389687	0.17504203	3.1650056	21	7 26.4	20.8
311499 2005 WM_{57}	15.4	X	296.34948	276.30352	117.28825	21.98976	0.2163163	0.17399171	3.1777301	21	8 4.4	19.5
311500 2005 WE_{64}	15.5	X	309.06378	299.77694	79.45151	27.43019	0.2014047	0.17260473	3.1947306	21	8 13.6	19.9
311501 2005 WT_{66}	15.7	X	279.61080	155.88962	236.29448	7.49337	0.0698369	0.16976797	3.2302208	21	7 29.2	20.3
311502 2005 WV_{68}	15.7	X	109.51004	190.74597	67.18240	16.72742	0.0753401	0.17966587	3.1104674	21	11 1.7	20.5
311503 2005 WU_{74}	15.9	X	349.97227	281.38570	167.78097	13.51706	0.1637996	0.18997061	2.9969427	21	—	—
311504 2005 WB_{112}	16.1	X	8.45797	138.02553	236.63478	11.37186	0.0490800	0.18291713	3.0734994	21	11 12.4	20.0
311505 2005 WM_{114}	15.3	X	241.70860	54.39475	56.44493	16.97117	0.0997539	0.17431932	3.1737475	21	9 27.3	20.2
311506 2005 WL_{117}	15.7	X	326.55557	118.24180	289.11776	8.11388	0.1093954	0.18174686	3.0866787	21	10 20.5	19.7
311507 2005 WM_{121}	16.4	X	300.71912	263.70094	141.27136	1.95895	0.1753879	0.17550082	3.1594873	21	9 1.2	20.4
311508 2005 WB_{139}	16.1	X	269.21671	34.57381	67.76391	6.31946	0.0883239	0.17843727	3.1247288	21	10 15.4	20.4
311509 2005 WS_{140}	15.9	X	245.13392	173.51967	285.70653	8.38982	0.0310865	0.16921044	3.2373124	21	9 11.9	20.7
311510 2005 WO_{144}	15.7	X	289.01452	252.72046	207.21729	15.71528	0.1893447	0.18056214	3.1001658	21	10 23.0	19.3
311511 2005 WL_{150}	15.7	X	284.56397	136.13368	279.29240	5.98178	0.1333564	0.17363585	3.1820704	21	8 25.3	20.0
311512 2005 WH_{151}	15.4	X	281.02516	196.02292	263.16608	16.42401	0.1992495	0.17925023	3.1152739	21	9 30.9	19.9
311513 2005 WX_{155}	15.2	X	331.90432	284.06987	89.53625	19.61828	0.1479508	0.17727274	3.1383984	21	9 27.7	19.3
311514 2005 WB_{156}	15.2	X	208.10295	48.97349	100.26956	17.78652	0.1559725	0.17527994	3.1621411	21	10 3.0	20.6
311515 2005 WK_{172}	16.4	X	166.44397	67.11350	91.48193	3.75597	0.0126096	0.17113044	3.2130529	21	8 29.3	21.0
311516 2005 WN_{174}	16.2	X	324.35233	224.83157	147.69942	1.78944	0.1872943	0.17519256	3.1631925	21	8 27.9	19.6
311517 2005 WY_{178}	15.5	X	243.55807	31.21581	92.68371	28.39431	0.1185455	0.17899762	3.1182042	21	10 20.3	20.6
311518 2005 WG_{179}	15.1	X	42.31226	52.47205	251.81902	15.94581	0.0973414	0.18094346	3.0958087	21	9 30.8	19.6
311519 2005 WJ_{190}	15.4	X	337.30437	250.60345	134.62053	27.22342	0.2098981	0.17972144	3.1098262	21	10 21.1	19.2
311520 2005 XH_{3}	15.9	X	30.75218	283.04284	60.41504	10.80471	0.0969464	0.18624326	3.0367964	21	11 11.4	19.9

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311521 2005 XF_{12}	16.0	X	255.38183	85.19983	3.72580	0.87559	0.1392108	0.17326433	3.1866175	21	9 1.6	20.7
311522 2005 XK_{33}	15.6	X	310.42354	319.33600	86.34411	9.59133	0.0682680	0.17556097	3.1587656	21	10 5.2	19.9
311523 2005 XZ_{77}	16.0	X	247.35084	235.38423	260.92793	5.62945	0.1814162	0.17871279	3.1215164	21	10 13.2	20.6
311524 2005 XD_{84}	15.5	X	305.91575	163.82365	243.88546	23.62376	0.1849398	0.17571753	3.1568891	21	8 31.0	20.0
311525 2005 XE_{91}	16.2	X	270.48322	83.61958	351.65328	2.76566	0.1072259	0.17121732	3.2119659	21	9 7.4	20.6
311526 2005 YN_{25}	16.4	X	264.82799	145.02827	245.29775	0.63866	0.2419895	0.16358229	3.3111475	21	6 18.2	21.4
311527 2005 YL_{34}	15.4	X	291.37204	1.41034	111.76899	10.40954	0.1291968	0.17937874	3.1137859	21	11 23.1	19.4
311528 2005 YL_{41}	16.1	X	316.95637	101.31228	287.80408	3.58504	0.1765583	0.17498877	3.1656478	21	9 5.2	19.7
311529 2005 YL_{46}	15.0	X	99.34111	125.50853	116.78178	18.09061	0.0291407	0.16761875	3.2577742	21	9 27.9	20.0
311530 2005 YY_{49}	15.5	X	352.04736	26.05431	275.87324	4.09462	0.0806610	0.16542246	3.2865461	21	7 17.3	19.6
311531 2005 YJ_{52}	15.4	X	146.59895	234.90550	277.72670	6.86762	0.1007821	0.15829813	3.3844300	21	7 30.5	20.6
311532 2005 YM_{62}	16.1	X	239.16531	8.89748	90.22851	6.50505	0.1369539	0.16777848	3.2557063	21	8 29.6	21.0
311533 2005 YG_{103}	15.8	X	242.60070	332.56844	123.78966	2.82990	0.0474886	0.16914225	3.2381824	21	9 8.4	20.4
311534 2005 YF_{109}	15.8	X	240.71016	307.78800	277.43198	8.92569	0.0287897	0.18941858	3.0027626	21	—	—
311535 2005 YB_{112}	15.8	X	208.84827	46.16096	106.14641	7.58122	0.0893628	0.17188592	3.2036312	21	10 7.1	20.7
311536 2005 YO_{116}	17.7	X	48.65612	328.71391	34.74657	2.45371	0.1768592	0.30992664	2.1625365	21	—	—
311537 2005 YQ_{121}	15.3	X	303.30794	159.31940	322.50644	8.56379	0.0382748	0.18176132	3.0865150	21	12 27.6	19.5
311538 2005 YX_{155}	15.8	X	203.18034	289.11773	214.72938	3.01157	0.1189466	0.16850599	3.2463286	21	9 14.1	20.8
311539 2005 YL_{173}	15.3	X	283.23985	359.26335	72.90262	18.56051	0.0899329	0.17222631	3.1994087	21	10 3.5	20.0
311540 2005 YW_{199}	15.2	X	183.66385	265.22289	299.32331	12.13563	0.1800509	0.17461494	3.1701644	21	10 31.6	20.7
311541 2005 YG_{213}	14.8	X	185.17082	205.55609	305.71527	22.43673	0.0915537	0.16763336	3.2575849	21	8 29.2	20.1
311542 2005 YF_{214}	15.9	X	219.87393	81.83926	46.55491	11.81126	0.2143091	0.16951194	3.2334726	21	9 11.5	21.3
311543 2005 YS_{220}	15.5	X	298.21819	98.09689	307.46699	14.83916	0.2393625	0.17612996	3.1519590	21	8 15.9	19.4
311544 2005 YE_{231}	16.1	X	302.63023	325.76810	71.75464	6.22637	0.1441176	0.17296112	3.1903407	21	9 1.7	20.2
311545 2005 YP_{234}	16.4	X	260.84879	44.10858	23.79549	1.67800	0.0648112	0.16703831	3.2653168	21	8 23.3	21.1
311546 2005 YD_{250}	15.5	X	195.81522	320.83288	98.99970	9.96904	0.0849857	0.15428962	3.4427983	21	5 31.4	20.8
311547 2005 YV_{274}	15.6	X	274.73197	167.54139	309.90016	18.41311	0.2046396	0.17480574	3.1678571	21	10 10.9	20.4
311548 2006 AG_{7}	14.8	X	37.89713	146.69992	96.07399	11.35022	0.0874615	0.15378468	3.4503303	21	7 10.9	19.3
311549 2006 AQ_{13}	15.9	X	173.65297	251.13469	300.53437	6.35063	0.0553727	0.16888818	3.2414292	21	10 11.7	20.9
311550 2006 AR_{53}	18.3	X	341.53445	197.19019	271.11707	2.50151	0.0384419	0.31343201	2.1463826	21	—	—
311551 2006 AC_{91}	15.5	X	273.96301	340.38442	144.33912	7.01189	0.0965548	0.17586541	3.1551192	21	11 16.2	19.8
311552 2006 BN_{54}	17.9	X	276.10966	200.96138	333.51943	2.55887	0.0820237	0.30843671	2.1694951	21	—	—
311553 2006 BN_{100}	15.5	X	231.67853	70.56852	142.04963	7.22939	0.1276998	0.17896847	3.1185427	21	—	—
311554 2006 BQ_{147}	18.7	X	71.42532	153.20833	146.78017	24.38104	0.4222962	1.32749475	0.8199377	21	—	—
311555 2006 BA_{148}	18.4	X	241.19883	26.07608	327.59376	15.76417	0.6142258	0.47333668	1.6306319	21	3 12.3	22.1
311556 2006 BF_{165}	17.4	X	50.49548	311.83544	116.33759	5.14504	0.1701801	0.31840762	2.1239637	21	—	—
311557 2006 BY_{199}	17.6	X	68.12521	355.72671	294.45654	2.76530	0.1684430	0.28936982	2.2637783	21	11 16.1	20.6
311558 2006 BE_{216}	15.7	X	302.04816	141.37631	354.17860	10.09339	0.1648811	0.18309833	3.0714713	21	—	—
311559 2006 BK_{226}	17.8	X	331.55777	93.28300	349.90015	3.82683	0.0150905	0.30292172	2.1957477	21	—	—
311560 2006 BS_{227}	17.0	X	93.45844	275.40733	345.13662	2.30838	0.1831449	0.28738020	2.2742148	21	11 5.5	20.3
311561 2006 BF_{252}	18.3	X	29.53389	256.95209	138.74700	1.28475	0.1038925	0.30746117	2.1740817	21	—	—
311562 2006 CF_{8}	17.4	X	159.26708	80.33796	164.94790	6.56953	0.0908717	0.29923151	2.2137632	21	12 22.9	20.4
311563 2006 CY_{37}	18.3	X	331.81930	144.87813	289.24570	4.61458	0.1422134	0.30468866	2.1872505	21	—	—
311564 2006 DA_{39}	17.6	X	107.84464	293.43741	331.30778	2.64968	0.1099593	0.29150552	2.2527078	21	11 20.8	20.9
311565 2006 DN_{46}	17.4	X	204.76888	216.93309	1.87481	3.14561	0.1179258	0.30105503	2.2048148	21	—	—
311566 2006 DK_{150}	17.3	X	56.72174	340.84749	312.32547	3.71970	0.1494315	0.28600982	2.2814734	21	11 2.4	20.1
311567 2006 DA_{176}	17.6	X	5.89476	53.52467	57.65554	2.29599	0.1470990	0.31482478	2.1400476	21	—	—
311568 2006 DP_{214}	17.6	X	3.26689	153.54501	158.14946	3.27866	0.1555159	0.28044075	2.3115784	21	9 1.0	19.4
311569 2006 EN_{33}	17.0	X	208.88462	141.36967	52.97811	6.72304	0.1228161	0.29751845	2.2222527	21	12 8.6	19.9
311570 2006 FB_{17}	17.3	X	137.11815	223.65661	17.19398	2.93017	0.1040418	0.28983005	2.2613812	21	11 20.6	20.6
311571 2006 FG_{18}	17.2	X	1.46108	271.53575	41.85943	4.16086	0.1435762	0.27544094	2.3394677	21	8 31.7	19.2
311572 2006 FH_{42}	17.5	X	300.12930	279.57849	180.29757	5.62249	0.0915917	0.29636310	2.2280245	21	12 19.7	19.7
311573 2006 GA_{7}	17.0	X	357.76496	218.08090	106.86705	5.43560	0.1900218	0.27821876	2.3238697	21	9 17.2	18.7
311574 2006 GT_{12}	17.7	X	300.29465	106.43309	75.01769	3.29475	0.0805157	0.30965553	2.1637985	21	—	—
311575 2006 GX_{26}	17.5	X	303.35493	245.96783	53.07137	5.13220	0.1861939	0.26084313	2.4259571	21	4 9.7	20.5
311576 2006 GQ_{27}	16.3	X	316.50273	94.88637	123.54532	2.08568	0.1035941	0.18682965	3.0304388	21	2 4.1	20.5
311577 2006 GZ_{30}	16.9	X	222.04445	169.81786	61.52143	5.04284	0.0937876	0.30212415	2.1996104	21	—	—
311578 2006 GO_{40}	17.2	X	175.25588	93.00475	122.71158	4.93763	0.1031230	0.29166000	2.2519123	21	11 30.7	20.4
311579 2006 HM_{5}	16.9	X	32.08292	200.18329	61.49805	6.98083	0.0938057	0.27254855	2.3559901	21	8 3.5	19.5
311580 2006 HF_{30}	16.8	X	47.66261	188.01229	86.15373	7.93180	0.1351495	0.27787089	2.3258088	21	9 27.2	19.6
311581 2006 HO_{35}	17.1	X	207.84057	92.24453	137.92726	5.80807	0.1384213	0.29837163	2.2180144	21	—	—
311582 2006 HN_{45}	17.2	X	349.22390	159.52349	178.11248	6.61935	0.1574441	0.27976512	2.3152986	21	9 11.9	19.0
311583 2006 HL_{49}	17.1	X	351.25216	359.97804	59.71222	5.45509	0.0354973	0.29776378	2.2210319	21	—	—
311584 2006 HY_{65}	17.2	X	324.39713	240.37288	65.72643	4.12646	0.1304891	0.26543994	2.3978676	21	5 30.7	19.6
311585 2006 HN_{71}	17.3	X	258.21993	345.92766	101.47840	6.07886	0.1308771	0.28295366	2.2978721	21	9 16.8	20.1
311586 2006 HV_{96}	17.4	X	334.08172	152.02009	230.98378	4.60262	0.1746183	0.28171223	2.3046178	21	10 23.5	18.8
311587 2006 HS_{102}	17.0	X	30.00485	181.31922	74.03379	7.49016	0.0993098	0.26887196	2.3774189	21	7 20.0	19.5
311588 2006 HT_{120}	16.9	X	311.35426	262.32590	88.41052	7.55414	0.1439476	0.26983182	2.3717775	21	7 13.7	19.4
311589 2006 HZ_{151}	17.2	X	94.94490	347.89923	239.49858	5.35758	0.0349587	0.27830607	2.3233837	21	9 3.3	20.1
311590 2006 HB_{152}	17.1	X	274.31416	307.34847	38.34016	6.02640	0.1311232	0.26316197	2.4116853	21	5 11.8	20.3
311591 2006 JY_{35}	17.2	X	339.11586	268.90463	88.30967	6.48974	0.1219951	0.27618978	2.3352371	21	9 25.7	19.4
311592 2006 JC_{42}	13.0	X	281.00166	216.14837	263.21728	17.75377	0.0449889	0.08082025	5.2981295	21	11 5.9	20.0
311593 2006 JO_{45}	17.5	X	114.27489	86.58382	141.09893	5.38082	0.0453679	0.27900764	2.3194872	21	10 6.1	20.4
311594 2006 KN_{23}	17.2	X	188.30680	333.36534	267.85525	7.97426	0.1928877	0.29611654	2.2292611	21	—	—
311595 2006 KL_{29}	17.1	X	311.44084	289.45442	64.06239	4.35869	0.1301365	0.27065215	2.3669826	21	7 21.1	19.5
311596 2006 KY_{40}	17.8	X	207.11775	47.49188	63.27997	7.76199	0.0714638	0.27626515	2.3348124	21	8 22.2	21.1
311597 2006 KT_{48}	17.4	X	264.92286	277.93667	110.47469	3.54343	0.1146729	0.26941863	2.3742018	21	7 1.5	20.4
311598 2006 KL_{59}	17.6	X	285.99638	216.81942	107.39606	8.03622	0.1626404	0.25926934	2.4357644	21	4 27.4	20.9
311599 2006 KN_{59}	17.0	X	56.73223	160.44716	105.20181	7.37117	0.0895150	0.27469944	2.3436758	21	9 19.4	19.9
311600 2006 KH_{67}	17.0	X	184.73472	119.83779	96.02895	7.16757	0.1082390	0.29033722	2.2587469	21	12 10.2	20.1

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311601 2006 KD_{72}	17.2	X	113.11461	50.60790	172.61776	5.05159	0.1131431	0.27823681	2.3237692	21	10 3.0	20.3
311602 2006 KA_{91}	17.6	X	109.03328	91.93206	121.91315	4.35057	0.0339920	0.27600166	2.3362981	21	9 7.6	20.5
311603 2006 KD_{121}	15.5	X	304.42648	303.69989	354.67999	13.16520	0.2724835	0.25327278	2.4740608	21	3 25.4	19.0
311604 2006 KD_{137}	17.6	X	220.90757	120.01960	270.80615	1.17528	0.2082983	0.25948548	2.4344116	21	5 8.9	21.5
311605 2006 MK_{7}	16.8	X	330.01957	213.49980	125.71795	7.03358	0.1133040	0.26388329	2.4072884	21	8 4.3	18.9
311606 2006 MW_{7}	16.8	X	226.31530	175.79534	279.15411	8.65844	0.0674055	0.26697273	2.3886808	21	8 16.9	20.1
311607 2006 MV_{8}	17.1	X	180.27192	91.30686	270.90602	8.12127	0.2263514	0.23764435	2.5813747	21	2 27.9	21.6
311608 2006 OT_{2}	15.9	X	178.92638	2.91218	337.52837	13.87940	0.2603321	0.23161994	2.6259438	21	2 9.8	20.5
311609 2006 OC_{16}	16.6	X	184.49419	225.28973	85.65131	7.46589	0.2991332	0.23190598	2.6237841	21	1 10.7	21.3
311610 2006 OE_{17}	15.6	X	114.20651	180.22038	163.86663	16.70258	0.1668260	0.21894662	2.7263225	21	—	—
311611 2006 OD_{20}	16.2	X	179.03405	330.69388	55.35503	13.61505	0.2089356	0.24073208	2.5592541	21	4 5.4	20.6
311612 2006 PV_{11}	16.8	X	134.88578	310.84091	83.60248	3.10944	0.2012924	0.23194353	2.6235008	21	3 2.7	20.7
311613 2006 PD_{25}	16.4	X	82.68959	254.52095	145.31661	14.79996	0.1999590	0.22364468	2.6880066	21	—	—
311614 2006 PA_{29}	15.9	X	176.49006	71.16411	249.50569	14.38203	0.1682430	0.22837217	2.6507815	21	1 6.3	20.2
311615 2006 PP_{31}	12.8	X	49.80511	56.96426	304.02111	11.98487	0.0377491	0.08253229	5.2246050	21	11 27.8	19.8
311616 2006 PT_{40}	17.1	X	145.30081	258.94184	104.82911	4.67600	0.1621773	0.23100655	2.6305901	21	1 29.6	20.9
311617 2006 PS_{43}	16.1	X	196.29301	60.05605	273.90748	12.85954	0.1783783	0.23098702	2.6307384	21	2 6.2	20.6
311618 2006 QO_{3}	16.3	X	100.66100	187.49802	167.42187	9.69495	0.2286245	0.21930054	2.7233884	21	—	—
311619 2006 QV_{5}	16.1	X	130.85242	1.40074	2.58950	14.46527	0.2591397	0.22591625	2.6699579	21	1 31.8	20.3
311620 2006 QM_{7}	16.5	X	110.85702	38.77821	345.05694	12.75438	0.2762692	0.22364350	2.6880161	21	2 4.4	20.3
311621 2006 QZ_{12}	17.3	X	73.94092	200.95088	115.81794	9.55610	0.1437930	0.27699758	2.3306947	21	12 23.1	20.6
311622 2006 QW_{20}	16.1	X	109.28481	55.95939	340.13557	7.97586	0.2697438	0.22404737	2.6847848	21	2 14.5	19.8
311623 2006 QZ_{22}	16.0	X	120.81347	16.99524	357.04285	13.57949	0.2628400	0.22285277	2.6943708	21	2 2.9	20.0
311624 2006 QA_{23}	15.8	X	103.95122	352.32052	2.23191	5.61597	0.3217252	0.21760891	2.7374841	21	—	—
311625 2006 QK_{23}	16.5	X	149.91574	147.79519	183.05542	7.98143	0.2446438	0.22654151	2.6650428	21	1 2.7	20.8
311626 2006 QF_{28}	16.7	X	139.53551	220.91974	116.27653	4.74852	0.2024405	0.22284687	2.6944183	21	—	—
311627 2006 QW_{38}	16.2	X	145.19568	224.81203	141.02402	13.19960	0.0958013	0.23003970	2.6379558	21	1 23.2	20.0
311628 2006 QL_{51}	17.3	X	166.72265	80.26944	289.15472	11.65627	0.2228073	0.23449707	2.6044205	21	2 24.6	21.9
311629 2006 QC_{57}	17.3	X	132.79165	77.99856	338.64899	2.49797	0.1944883	0.23443547	2.6048767	21	3 24.9	21.2
311630 2006 QG_{66}	16.7	X	127.24088	219.04402	164.08091	4.32469	0.1798878	0.22680539	2.6629753	21	2 4.5	20.6
311631 2006 QS_{115}	16.2	X	65.12682	231.39861	179.04528	9.52794	0.2626891	0.21931728	2.7232498	21	—	—
311632 2006 QS_{126}	16.7	X	31.04823	175.76061	100.37886	6.82158	0.1805341	0.26229997	2.4169661	21	9 6.6	19.1
311633 2006 QC_{130}	16.9	X	110.37982	88.44289	259.34791	3.74866	0.1246667	0.22070337	2.7118359	21	—	—
311634 2006 QB_{131}	16.3	X	124.62466	264.08790	88.60029	8.33383	0.3056801	0.22264557	2.6960422	21	1 13.3	20.3
311635 2006 QK_{131}	16.0	X	348.37210	163.04076	208.78507	10.74182	0.1584995	0.20229023	2.8739957	21	10 18.7	19.0
311636 2006 QZ_{144}	16.3	X	140.77472	64.72382	313.62161	11.08368	0.2129677	0.22776599	2.6554826	21	2 15.6	20.3
311637 2006 QN_{167}	17.1	X	133.83935	263.42647	72.85985	2.06210	0.2146021	0.22281331	2.6946889	21	—	—
311638 2006 QV_{168}	17.2	X	136.94882	286.13068	107.68641	5.93480	0.2416182	0.23076544	2.6324222	21	3 9.3	21.3
311639 2006 QZ_{168}	16.9	X	201.48287	321.05308	53.76529	6.43657	0.1386718	0.24028690	2.5624141	21	4 6.6	20.9
311640 2006 QB_{186}	17.2	X	135.44447	63.99840	331.90063	1.99980	0.1792461	0.23079931	2.6321646	21	3 1.0	21.0
311641 2006 RZ_{1}	17.0	X	134.03907	99.75198	283.51743	10.09064	0.2020681	0.23018268	2.6368633	21	2 11.5	21.0
311642 2006 RH_{5}	17.1	X	188.82056	86.64966	265.97012	7.19296	0.1721958	0.23470601	2.6028746	21	2 22.5	21.5
311643 2006 RY_{6}	15.8	X	78.43459	70.66431	14.58660	22.25137	0.0418825	0.22624716	2.6673538	21	2 12.8	19.7
311644 2006 RH_{14}	16.8	X	139.70169	126.98395	289.18022	10.76799	0.1642143	0.23663129	2.5887370	21	3 22.5	20.9
311645 2006 RW_{22}	15.8	X	71.88922	5.72483	35.46701	12.97444	0.1987782	0.21518726	2.7579836	21	—	—
311646 2006 RG_{32}	16.6	X	92.60122	166.66169	200.76709	6.88975	0.1884771	0.21672338	2.7449359	21	—	—
311647 2006 RO_{32}	17.1	X	0.80851	267.95395	235.07926	1.68309	0.0605452	0.22371294	2.6874598	21	—	—
311648 2006 RN_{34}	16.2	X	92.15954	259.00268	108.14284	4.44317	0.2053514	0.21700172	2.7425882	21	—	—
311649 2006 RJ_{35}	16.6	X	119.51782	319.08401	20.58381	5.11596	0.1160542	0.21974510	2.7197140	21	—	—
311650 2006 RN_{62}	16.4	X	154.19688	145.92958	172.01217	12.21542	0.2216970	0.22259689	2.6964352	21	—	—
311651 2006 RA_{69}	17.1	X	102.91706	104.52562	336.19445	1.20198	0.1904261	0.22995374	2.6386132	21	3 21.8	20.5
311652 2006 RR_{70}	17.1	X	26.32634	134.77998	344.82005	3.10030	0.1550031	0.22327103	2.6910048	21	—	—
311653 2006 RA_{76}	16.7	X	23.42405	206.22085	17.20499	3.85869	0.1309209	0.24648559	2.5192718	21	5 19.5	19.1
311654 2006 RQ_{84}	16.7	X	107.63428	24.65744	354.85406	0.83925	0.1492544	0.22140911	2.7060702	21	1 4.2	20.2
311655 2006 RL_{88}	16.9	X	39.38089	223.17994	248.17797	2.04660	0.0606786	0.22464947	2.6799856	21	1 11.7	20.2
311656 2006 RE_{89}	16.6	X	48.46294	320.93461	249.73495	2.14198	0.0946779	0.24649382	2.5192157	21	6 12.8	19.5
311657 2006 RS_{94}	15.8	X	43.59799	3.07029	204.27342	13.92340	0.2301977	0.24390356	2.5370204	21	6 18.9	18.5
311658 2006 RW_{120}	16.8	X	78.61419	214.49033	198.12918	2.87853	0.0440504	0.22075747	2.7113928	21	—	—
311659 2006 SS_{8}	16.4	X	167.37197	88.76612	229.20450	10.15562	0.1879154	0.22311083	2.6922927	21	—	—
311660 2006 SV_{13}	17.0	X	64.11199	257.21392	188.80548	5.45032	0.0413197	0.22598026	2.6694536	21	1 12.5	20.5
311661 2006 SQ_{15}	17.0	X	117.60372	71.56904	339.47030	5.81491	0.1627230	0.22789795	2.6544575	21	2 26.6	20.5
311662 2006 SX_{15}	16.6	X	43.13759	211.82506	204.71350	9.27786	0.2180828	0.21408266	2.7674624	21	—	—
311663 2006 SK_{27}	16.3	X	53.29178	43.97223	333.22575	8.13088	0.1673802	0.21081195	2.7960133	21	—	—
311664 2006 SS_{28}	17.1	X	108.89176	212.34493	217.60014	4.12570	0.2380816	0.23240640	2.6200163	21	3 20.8	20.7
311665 2006 SM_{33}	16.8	X	137.91568	56.25733	323.48638	10.75044	0.1260017	0.22819920	2.6521208	21	2 6.5	20.4
311666 2006 SG_{35}	16.8	X	78.78579	75.59631	348.95487	4.82182	0.1793078	0.22198451	2.7013920	21	1 25.2	19.8
311667 2006 SU_{35}	16.0	X	189.07263	262.03701	29.00136	18.10748	0.1352751	0.22434403	2.6824174	21	—	—
311668 2006 SM_{39}	16.4	X	79.58031	133.67895	292.53388	3.55140	0.1401148	0.22220183	2.6996303	21	1 21.7	19.5
311669 2006 ST_{39}	17.1	X	88.49406	42.96623	48.93666	3.01747	0.1764508	0.23003174	2.6380167	21	3 16.3	20.3
311670 2006 SM_{46}	16.5	X	160.40758	32.29156	348.85069	14.24676	0.0983777	0.23313030	2.6145898	21	3 2.0	20.3
311671 2006 SC_{48}	16.8	X	87.20066	29.43314	148.00364	1.89776	0.0621051	0.24763973	2.5114383	21	6 19.2	19.9
311672 2006 SJ_{51}	16.7	X	160.82313	280.50701	102.50949	5.69232	0.1385493	0.23319430	2.6141114	21	3 9.4	20.7
311673 2006 SX_{53}	16.3	X	191.37587	39.83633	272.21111	12.91921	0.2526224	0.23030253	2.6359484	21	1 13.3	21.0
311674 2006 SU_{56}	16.1	X	87.41418	263.93133	122.10169	12.19519	0.2058396	0.21964421	2.7205468	21	—	—
311675 2006 SZ_{60}	15.7	X	115.31543	8.36411	39.52756	15.33959	0.0948442	0.22645013	2.6657597	21	2 17.9	19.6
311676 2006 SU_{62}	16.1	X	77.62020	62.91273	32.08220	22.59687	0.0621911	0.22864660	2.6486601	21	2 28.4	20.0
311677 2006 SN_{64}	16.6	X	84.52246	350.84191	347.93567	7.79142	0.2230903	0.21189715	2.7864589	21	—	—
311678 2006 SJ_{66}	17.1	X	194.97255	317.02782	344.38721	1.97900	0.1337100	0.22704689	2.6610866	21	1 1.1	21.2
311679 2006 SD_{70}	17.1	X	79.21141	247.97513	133.20071	1.28315	0.0804659	0.21502296	2.7593883	21	—	—
311680 2006 SL_{74}	16.9	X	34.17786	357.41632	84.21484	2.88613	0.0556114	0.21646520	2.7471181	21	—	—

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311681 2006 SV_{77}	16.6	X	129.73599	302.43134	51.61043	5.61396	0.0396210	0.22013926	2.7164667	21	—	—
311682 2006 SB_{79}	16.2	X	234.00773	65.63782	289.45296	13.95857	0.1555271	0.24243912	2.5472266	21	4 2.2	20.6
311683 2006 SY_{82}	16.5	X	82.70153	272.40396	119.24976	1.46000	0.0995730	0.21813981	2.7330407	21	—	—
311684 2006 SN_{91}	17.1	X	65.50840	241.96911	204.47882	6.80137	0.1512052	0.22158821	2.7046119	21	1 25.0	20.2
311685 2006 SD_{94}	17.0	X	98.92138	267.73153	64.15577	1.40952	0.0753053	0.21005016	2.8027695	21	—	—
311686 2006 SJ_{95}	17.1	X	106.54608	243.93509	194.01757	4.00556	0.0534652	0.22926138	2.6439229	21	3 1.7	20.6
311687 2006 SR_{102}	17.8	X	34.83105	62.52583	6.66989	3.90138	0.1937126	0.21452644	2.7636444	21	—	—
311688 2006 SF_{113}	16.7	X	98.27620	277.10573	183.34954	3.01342	0.2444879	0.23285124	2.6166783	21	4 19.4	20.1
311689 2006 SC_{117}	16.8	X	89.81222	238.67114	197.97906	4.84455	0.1510675	0.22484317	2.6784462	21	2 19.8	20.1
311690 2006 SO_{119}	16.2	X	98.31416	286.44118	76.81626	4.41582	0.2078400	0.21749605	2.7384310	21	—	—
311691 2006 SV_{119}	15.8	X	103.29692	341.38685	32.14362	16.74036	0.1455166	0.21974823	2.7196883	21	—	—
311692 2006 SD_{120}	16.6	X	100.57517	217.24025	146.88890	8.15220	0.2061913	0.21774090	2.7363776	21	—	—
311693 2006 SO_{120}	16.7	X	101.38593	264.02389	135.13715	9.82334	0.2575549	0.22193494	2.7017942	21	2 6.2	19.9
311694 2006 SN_{122}	16.2	X	271.57958	15.33648	300.29788	12.54013	0.1838142	0.24100151	2.5573463	21	3 19.2	20.3
311695 2006 SL_{130}	16.2	X	35.14727	308.21950	107.56973	2.80314	0.2245461	0.21096070	2.7946988	21	—	—
311696 2006 SK_{141}	16.3	X	95.00765	34.97985	78.75896	6.07585	0.0871139	0.23452375	2.6042230	21	4 10.9	19.7
311697 2006 SD_{142}	17.3	X	159.06890	149.10769	267.08944	3.22763	0.1891291	0.24042016	2.5614672	21	4 17.0	21.3
311698 2006 SW_{142}	17.0	X	33.79037	61.55981	355.01550	7.11015	0.2219022	0.21193894	2.7860926	21	—	—
311699 2006 SY_{142}	16.5	X	297.18572	346.54467	240.92756	2.93480	0.0192187	0.22867609	2.6484323	21	1 25.1	20.2
311700 2006 SY_{148}	16.6	X	10.45549	148.45511	359.58317	7.31591	0.2404228	0.22160773	2.7044530	21	—	—
311701 2006 SP_{158}	17.0	X	165.52495	39.94249	36.33307	2.68750	0.0257930	0.24362326	2.5389660	21	5 10.1	20.3
311702 2006 SS_{189}	16.8	X	152.10066	354.16396	29.13064	8.73623	0.0515696	0.23082565	2.6319644	21	2 21.4	20.5
311703 2006 SB_{193}	16.3	X	18.74283	206.63011	20.29470	13.56991	0.0922063	0.24415475	2.5352800	21	5 11.5	19.2
311704 2006 SX_{196}	16.1	X	193.01078	265.04944	129.72572	14.23670	0.0912658	0.23734579	2.5835390	21	4 27.1	20.3
311705 2006 SB_{198}	16.5	X	152.43067	84.66398	306.80917	15.59796	0.2227833	0.22957713	2.6414981	21	3 9.1	21.0
311706 2006 SJ_{221}	16.6	X	28.34899	333.77257	180.09248	5.01856	0.0550420	0.23355581	2.6114132	21	2 17.6	19.7
311707 2006 SG_{256}	17.2	X	10.23139	157.54461	322.21278	2.99018	0.0686156	0.21957222	2.7211415	21	—	—
311708 2006 SS_{272}	16.7	X	113.42140	305.08327	91.13702	4.54732	0.1202016	0.22516069	2.6759274	21	1 28.6	20.1
311709 2006 SX_{286}	16.4	X	126.06594	153.09495	259.04505	12.86961	0.2437005	0.22953798	2.6417984	21	3 12.6	20.7
311710 2006 SH_{292}	16.7	X	101.85852	87.18400	306.47211	4.54656	0.0347112	0.22444328	2.6816266	21	—	—
311711 2006 SN_{325}	17.0	X	320.15434	354.33115	147.38453	1.11858	0.0141538	0.21490611	2.7603885	21	—	—
311712 2006 SF_{332}	16.5	X	144.53225	83.79649	231.14873	5.57753	0.0588427	0.21389896	2.7690466	21	—	—
311713 2006 SL_{340}	17.1	X	192.87833	274.74673	76.08205	3.04938	0.0640809	0.23268527	2.6179225	21	2 25.5	20.8
311714 2006 ST_{350}	16.7	X	106.52170	2.50558	34.64803	5.42491	0.0864710	0.22587317	2.6702973	21	1 15.9	20.3
311715 2006 SS_{352}	16.4	X	81.60250	110.62130	272.43687	3.97272	0.0850712	0.21628458	2.7486473	21	—	—
311716 2006 ST_{352}	16.6	X	137.37201	6.97732	325.27015	4.35762	0.1641687	0.21951931	2.7215787	21	—	—
311717 2006 SJ_{356}	16.7	X	116.84755	313.48613	57.93405	4.24666	0.1892323	0.22018605	2.7160819	21	1 12.6	20.4
311718 2006 SG_{359}	16.2	X	110.32664	264.55178	66.59061	11.28061	0.3112941	0.21475634	2.7616718	21	—	—
311719 2006 SL_{359}	16.2	X	139.61688	310.39400	61.53043	7.41740	0.1697901	0.22368880	2.6876531	21	2 6.8	20.2
311720 2006 SA_{364}	17.1	X	92.82107	293.39818	124.93962	3.63890	0.1863777	0.22305205	2.6927657	21	2 7.9	20.2
311721 2006 ST_{367}	16.1	X	145.60569	257.09359	79.02997	12.72559	0.2016032	0.22390428	2.6859285	21	1 1.4	20.2
311722 2006 SL_{368}	16.9	X	90.29000	140.16842	222.01278	6.37367	0.1641166	0.21427375	2.7658168	21	—	—
311723 2006 SB_{374}	16.8	X	134.88736	310.23456	51.17998	6.91959	0.0335644	0.22332264	2.6905901	21	—	—
311724 2006 SO_{377}	16.2	X	117.70544	298.21305	78.61384	10.54995	0.1151199	0.22130912	2.7068852	21	1 9.3	19.8
311725 2006 SW_{378}	16.7	X	59.25025	58.61738	103.02416	12.61588	0.2438200	0.23130942	2.6282934	21	5 19.2	19.6
311726 2006 SZ_{378}	16.3	X	31.30656	29.58467	128.26394	12.54552	0.1562464	0.22635746	2.6664872	21	3 6.5	19.1
311727 2006 SY_{380}	16.2	X	314.77459	62.20024	121.56165	14.25564	0.1400365	0.21692318	2.7432501	21	—	—
311728 2006 SK_{382}	16.2	X	213.68963	234.20974	75.30974	14.41724	0.0986873	0.22733332	2.6588509	21	1 30.5	20.4
311729 2006 SW_{390}	16.8	X	57.13461	147.52167	258.98087	1.82619	0.1016562	0.21625980	2.7488572	21	—	—
311730 2006 SV_{392}	16.3	X	105.27022	7.85499	29.80268	6.83302	0.0340067	0.22049626	2.7135337	21	1 8.6	20.0
311731 2006 SX_{393}	16.9	X	44.31802	240.85713	257.05507	3.16762	0.1692744	0.22409523	2.6844025	21	2 27.7	19.5
311732 2006 SN_{396}	17.3	X	58.05881	132.03105	48.20101	3.95127	0.0587167	0.24105133	2.5569939	21	5 10.6	20.3
311733 2006 SV_{402}	16.8	X	22.87968	318.17903	194.69652	3.89084	0.0136459	0.22632195	2.6667661	21	2 10.7	20.3
311734 2006 SJ_{403}	16.7	X	126.10893	300.85709	27.06580	3.74273	0.0668191	0.21189525	2.7864756	21	—	—
311735 2006 ST_{404}	16.8	X	343.58103	42.79171	160.54879	3.54140	0.0779577	0.22735157	2.6587086	21	2 16.9	19.9
311736 2006 SP_{411}	16.5	X	214.80112	81.91397	255.50650	13.81857	0.1625924	0.23490231	2.6014243	21	2 23.3	21.1
311737 2006 SQ_{412}	15.8	X	95.89767	299.41764	81.06526	18.17346	0.1299431	0.21866995	2.7286216	21	—	—
311738 2006 SV_{412}	16.2	X	72.12483	300.02011	100.76603	14.98887	0.2238434	0.21421159	2.7663518	21	—	—
311739 2006 TW_{7}	17.0	X	153.73265	284.69948	139.91687	4.78949	0.0946085	0.23817828	2.5775154	21	4 18.7	20.7
311740 2006 TQ_{8}	17.2	X	144.51185	213.30706	157.59185	1.14306	0.1648594	0.22452349	2.6809879	21	2 7.1	21.1
311741 2006 TK_{16}	16.6	X	122.91585	327.11686	31.83401	6.08322	0.0309812	0.21882475	2.7273346	21	—	—
311742 2006 TY_{17}	16.1	X	239.59728	278.56287	39.29056	14.67545	0.0376052	0.23278306	2.6171893	21	3 15.8	20.0
311743 2006 TZ_{22}	16.1	X	161.81258	290.11660	42.95075	12.92918	0.0885594	0.22067672	2.7120542	21	1 3.7	20.2
311744 2006 TF_{23}	16.1	X	182.78878	276.89419	45.24211	14.64633	0.0881255	0.22267761	2.6957835	21	1 13.9	20.4
311745 2006 TO_{24}	16.9	X	58.66436	154.56247	234.07132	2.96019	0.1032621	0.21178085	2.7874789	21	—	—
311746 2006 TT_{25}	16.5	X	56.20975	86.86782	29.69638	11.72445	0.1469552	0.22381201	2.6866667	21	2 26.4	19.6
311747 2006 TZ_{29}	16.4	X	341.30644	349.99943	158.92070	1.98407	0.1570438	0.21549536	2.7553542	21	—	—
311748 2006 TD_{34}	16.6	X	142.62685	243.43917	76.82586	10.43595	0.2032572	0.21936672	2.7228407	21	—	—
311749 2006 TN_{48}	16.8	X	6.00078	353.22268	200.88187	3.25613	0.1088257	0.22943019	2.6426258	21	3 7.4	19.6
311750 2006 TE_{59}	17.1	X	73.64537	127.73084	258.96977	5.20309	0.0490570	0.21261858	2.7801522	21	—	—
311751 2006 TP_{68}	17.0	X	84.45593	246.36415	176.33540	9.17378	0.2255870	0.22186063	2.7023975	21	2 5.1	20.1
311752 2006 TF_{70}	16.1	X	84.96709	278.92805	96.01813	12.50705	0.1302610	0.21576609	2.7530489	21	—	—
311753 2006 TS_{71}	16.7	X	83.03104	285.55774	143.86372	5.94357	0.1900045	0.22221034	2.6995613	21	2 7.8	19.6
311754 2006 TA_{77}	16.2	X	39.88861	141.23425	289.55442	7.63445	0.2658398	0.21255622	2.7806960	21	—	—
311755 2006 TP_{81}	16.6	X	249.22197	326.42821	323.93870	3.01249	0.0696597	0.22904930	2.6455546	21	2 11.1	20.4
311756 2006 TE_{83}	16.1	X	127.01030	86.80022	261.57448	4.35228	0.0419542	0.21663035	2.7457217	21	—	—
311757 2006 TK_{86}	16.1	X	95.83490	142.66973	240.14639	8.11792	0.1730277	0.21662259	2.7457873	21	—	—
311758 2006 TJ_{93}	16.7	X	28.11230	186.75330	251.82717	4.71364	0.0255608	0.21430064	2.7655854	21	—	—
311759 2006 TQ_{94}	16.7	X	31.30491	35.78220	74.33834	4.60009	0.1733800	0.21632200	2.7483302	21	—	—
311760 2006 TO_{96}	15.8	X	158.17448	68.65818	268.08975	10.20305	0.2067847	0.22306637	2.6926504	21	1 13.5	20.1

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Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311761 2006 TO_{99}	16.5	X	264.12561	195.71596	40.59270	5.69558	0.1040021	0.22265235	2.6959874	21	—	—
311762 2006 TC_{102}	16.7	X	32.81792	74.26207	29.99354	5.27509	0.0733671	0.21834438	2.7313333	21	—	—
311763 2006 TV_{103}	16.8	X	7.38565	252.56382	199.32959	3.00531	0.0619799	0.21150829	2.7898731	21	—	—
311764 2006 TW_{109}	16.8	X	344.57517	53.54223	47.73088	5.40067	0.0792110	0.20891136	2.8129457	21	—	—
311765 2006 TT_{113}	16.6	X	74.97841	295.43016	100.50591	8.97164	0.0707160	0.21600106	2.7510520	21	—	—
311766 2006 TX_{122}	17.1	X	80.98257	55.52669	344.89663	11.11059	0.1834390	0.21672709	2.7449045	21	—	—
311767 2006 TZ_{122}	17.2	X	23.81413	61.33329	54.99898	4.12500	0.1584075	0.21527328	2.7572489	21	—	—
311768 2006 TB_{123}	17.0	X	155.75641	198.76045	183.85559	2.32724	0.0852123	0.22660153	2.6645722	21	2 24.5	20.9
311769 2006 TJ_{128}	16.6	X	108.17005	281.97989	138.89153	5.46449	0.1132246	0.22657274	2.6647979	21	2 20.7	20.0
311770 2006 UB_{3}	16.1	X	53.29315	356.61755	75.45174	6.07325	0.0988803	0.21583229	2.7524859	21	—	—
311771 2006 UO_{3}	16.1	X	110.88022	265.72485	130.85144	9.87058	0.1071301	0.22181262	2.7027873	21	1 23.5	19.7
311772 2006 UM_{4}	17.1	X	38.68966	267.07567	163.39715	3.11889	0.0540935	0.21602509	2.7508479	21	—	—
311773 2006 UP_{5}	16.8	X	86.27876	206.42773	176.37127	4.89449	0.1211480	0.21550775	2.7552486	21	—	—
311774 2006 UO_{6}	16.6	X	36.26266	307.67315	180.92924	5.33944	0.1149815	0.22269483	2.6956446	21	1 29.3	19.6
311775 2006 UJ_{18}	17.4	X	122.36033	261.73035	174.40946	10.78983	0.1700615	0.23541439	2.5976505	21	4 6.7	21.1
311776 2006 UU_{21}	17.0	X	14.28078	205.51500	226.56275	4.18780	0.1432951	0.20994833	2.8036756	21	—	—
311777 2006 UH_{29}	17.1	X	81.26150	138.26191	215.17243	3.68868	0.0855031	0.21029794	2.8005674	21	—	—
311778 2006 UO_{42}	16.5	X	5.35378	35.57286	64.10158	4.63850	0.0591694	0.21132276	2.7915058	21	—	—
311779 2006 UP_{42}	16.9	X	55.88529	342.06935	50.83259	6.73901	0.1255165	0.20982045	2.8048147	21	—	—
311780 2006 UL_{44}	16.5	X	149.22076	133.77259	220.63613	1.55822	0.0031706	0.21924843	2.7238199	21	1 4.5	20.3
311781 2006 UH_{52}	16.4	X	342.14975	174.94869	71.40927	4.34334	0.1301232	0.23957266	2.5675045	21	4 8.3	19.1
311782 2006 UT_{52}	17.0	X	72.59198	179.23533	227.80731	2.67321	0.1943825	0.21788129	2.7352021	21	—	—
311783 2006 UL_{59}	15.5	X	274.28476	128.71133	230.45854	14.49996	0.1366143	0.18089222	3.0963934	21	6 2.9	20.0
311784 2006 UT_{61}	16.5	X	106.88272	74.16944	319.60405	7.88046	0.2089050	0.22167110	2.7039376	21	1 30.7	20.0
311785 Erwanmazarico	16.4	X	65.61000	44.45253	313.97362	8.58589	0.2904081	0.21043838	2.7993213	21	—	—
311786 2006 UW_{62}	16.7	X	71.06805	79.06431	289.94311	6.40576	0.2438651	0.21210644	2.7846256	21	—	—
311787 2006 UD_{65}	16.6	X	5.55236	299.22802	194.15961	10.90973	0.1286528	0.21998394	2.7177452	21	—	—
311788 2006 UZ_{66}	17.8	X	16.22682	267.18532	191.73762	5.67821	0.2756845	0.21382921	2.7696488	21	—	—
311789 2006 UK_{73}	16.4	X	144.69752	93.47789	277.16833	4.48931	0.0717120	0.22478879	2.6788781	21	1 26.4	20.0
311790 2006 UL_{73}	17.3	X	208.65592	348.42354	323.24206	4.47726	0.0372012	0.22595649	2.6696408	21	1 24.9	21.1
311791 2006 UE_{74}	16.6	X	207.31900	309.24393	3.35858	7.61233	0.1876563	0.22898000	2.6460884	21	1 28.5	21.1
311792 2006 UK_{74}	16.2	X	30.39581	111.50349	15.73631	13.97962	0.0390112	0.22396175	2.6854690	21	1 25.0	19.9
311793 2006 UH_{78}	16.5	X	123.22282	5.17219	17.68910	6.58865	0.0471232	0.22225001	2.6992401	21	1 14.9	20.3
311794 2006 UJ_{85}	16.9	X	49.41593	9.56212	41.28849	4.06855	0.0899965	0.21001828	2.8030531	21	—	—
311795 2006 UJ_{86}	16.6	X	11.98303	56.57752	30.85368	3.89386	0.0661254	0.20994633	2.8036935	21	—	—
311796 2006 UO_{93}	16.9	X	44.47023	351.45843	52.65151	7.17290	0.0351431	0.21088208	2.7953934	21	—	—
311797 2006 UV_{104}	17.0	X	130.13406	225.87041	136.18584	2.61560	0.2278623	0.22026164	2.7154604	21	1 20.5	20.9
311798 2006 UD_{118}	16.9	X	136.73352	269.13496	52.96683	0.54019	0.0537548	0.21479825	2.7613125	21	—	—
311799 2006 UK_{124}	16.5	X	153.93254	88.02942	306.27322	11.80039	0.2110978	0.23080686	2.6321072	21	3 14.5	21.0
311800 2006 US_{125}	17.0	X	357.05889	132.87721	326.13519	3.56086	0.0250903	0.21215668	2.7841860	21	—	—
311801 2006 UM_{137}	16.0	X	99.64159	175.47104	239.36187	14.06431	0.1741368	0.22110581	2.7085443	21	2 5.2	19.8
311802 2006 UZ_{137}	16.4	X	237.49170	352.14124	311.25167	4.78317	0.0360384	0.22723105	2.6596486	21	2 15.7	20.0
311803 2006 UC_{140}	16.2	X	123.99415	65.79412	248.23139	11.47977	0.1473840	0.20996259	2.8035487	21	—	—
311804 2006 UC_{144}	16.4	X	9.33073	103.95237	359.12568	3.14101	0.0530263	0.21148357	2.7900905	21	—	—
311805 2006 UF_{149}	17.2	X	47.99331	19.33502	54.09111	3.10539	0.0656065	0.21653825	2.7465002	21	—	—
311806 2006 UT_{167}	17.2	X	129.95797	294.48525	105.22349	3.31320	0.0593052	0.22691281	2.6621348	21	2 13.7	20.9
311807 2006 UL_{179}	16.8	X	57.40391	244.77618	189.84763	12.54605	0.2017895	0.21660518	2.7459344	21	—	—
311808 2006 UO_{180}	16.4	X	176.67314	232.06166	103.73506	7.75642	0.1262438	0.22532985	2.6745880	21	1 24.9	20.6
311809 2006 UO_{188}	16.4	X	214.74048	73.46184	289.71121	10.81048	0.0639746	0.23758913	2.5817747	21	3 29.3	20.4
311810 2006 UV_{194}	16.8	X	70.55922	186.93010	209.57954	7.52642	0.1182566	0.21486491	2.7607413	21	—	—
311811 2006 UM_{196}	16.3	X	113.87321	324.80939	39.44589	13.94500	0.1200685	0.21696588	2.7428902	21	—	—
311812 2006 UT_{203}	15.4	X	286.25314	114.25762	228.98600	21.14799	0.1250610	0.18039886	3.1020362	21	5 29.9	19.8
311813 2006 UC_{207}	16.3	X	52.77331	60.57930	37.97391	10.39847	0.0996645	0.22151947	2.7051714	21	1 20.5	19.6
311814 2006 UT_{208}	16.0	X	71.40772	41.11686	44.74874	13.00152	0.0677941	0.22217941	2.6998119	21	1 31.5	19.6
311815 2006 UV_{209}	16.0	X	63.30737	192.78943	246.92744	11.90479	0.0872851	0.21854470	2.7296640	21	1 7.3	19.4
311816 2006 UH_{212}	16.7	X	153.04199	111.74359	265.20081	5.76646	0.0417247	0.22393679	2.6856686	21	2 8.3	20.5
311817 2006 UT_{213}	16.7	X	169.19274	31.81721	310.07935	2.54802	0.0896182	0.22160088	2.7045087	21	1 21.9	20.7
311818 2006 UZ_{218}	16.3	X	42.25180	9.99182	61.98349	6.82475	0.0824077	0.21770692	2.7366624	21	—	—
311819 2006 UY_{247}	16.6	X	91.69039	312.76669	31.22908	13.75883	0.0692995	0.20999151	2.8032912	21	—	—
311820 2006 UM_{253}	16.7	X	110.39661	295.21437	44.67467	4.68775	0.1085655	0.21246753	2.7814697	21	—	—
311821 2006 UB_{264}	16.8	X	26.77964	239.92686	239.55746	3.29352	0.1044407	0.22139979	2.7061461	21	1 2.6	19.9
311822 2006 UR_{265}	15.9	X	336.83761	256.94731	246.88258	11.74938	0.1530794	0.21320994	2.7750091	21	—	—
311823 2006 UR_{266}	16.4	X	238.06306	184.34046	58.93269	5.39068	0.0630478	0.21708862	2.7418563	21	—	—
311824 2006 UY_{276}	17.0	X	228.86726	292.02077	6.47811	4.54935	0.0646958	0.22724189	2.6595640	21	1 31.8	20.9
311825 2006 UA_{286}	16.2	X	119.30865	278.76447	55.59571	7.33288	0.0401307	0.21125275	2.7921225	21	—	—
311826 2006 UX_{331}	17.0	X	83.21268	343.56056	86.35720	2.83523	0.1428246	0.22431125	2.6826788	21	2 2.2	20.1
311827 2006 UL_{337}	15.4	X	337.20804	259.01095	94.07395	16.45892	0.2220151	0.18160860	3.0882453	21	8 31.6	18.8
311828 2006 UR_{346}	16.5	X	70.55796	115.90422	287.82026	11.89589	0.2056152	0.21500304	2.7595588	21	—	—
311829 2006 VG_{3}	16.6	X	111.50157	132.52342	225.01497	5.67265	0.0737079	0.21593069	2.7516496	21	—	—
311830 2006 VX_{10}	16.5	X	342.84261	50.54761	65.09515	4.83724	0.0536433	0.20933535	2.8091461	21	—	—
311831 2006 VS_{13}	16.9	X	59.96736	137.26541	247.56513	2.97958	0.1099287	0.20987614	2.8043185	21	—	—
311832 2006 VK_{18}	16.5	X	218.28599	352.89515	247.59958	7.41784	0.0682939	0.21157258	2.7893079	21	—	—
311833 2006 VM_{20}	17.0	X	38.59683	117.48749	279.80336	0.93478	0.0822267	0.20634726	2.8362004	21	—	—
311834 2006 VK_{23}	16.9	X	333.39477	241.22883	186.15692	1.68088	0.0412655	0.19909172	2.9046953	21	12 3.8	20.6
311835 2006 VW_{25}	16.3	X	200.09417	328.93970	246.11615	8.46175	0.0336397	0.20145545	2.8819296	21	12 17.4	20.4
311836 2006 VC_{26}	17.1	X	115.54955	349.36665	36.86814	3.21186	0.1008786	0.21869833	2.7283855	21	1 17.2	20.7
311837 2006 VG_{44}	16.1	X	95.87280	307.99922	75.08967	10.35476	0.2071035	0.21587184	2.7521497	21	1 2.2	19.4
311838 2006 VW_{47}	17.6	X	38.62461	60.00761	350.49769	2.64452	0.1563782	0.21157094	2.7893223	21	—	—
311839 2006 VW_{52}	16.2	X	306.35832	248.90850	302.68207	5.83994	0.0539190	0.21633254	2.7482410	21	—	—
311840 2006 VO_{56}	16.5	X	64.11483	322.68743	74.88954	4.49853	0.0919522	0.21059037	2.7979742	21	—	—

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311841 2006 VB_{64}	16.5	X	348.18815	61.06363	76.82271	5.82865	0.0592982	0.21241225	2.7819523	21	—	—
311842 2006 VC_{69}	16.7	X	98.84284	111.22669	258.05082	6.56428	0.3034630	0.21540754	2.7561030	21	1 3.6	20.1
311843 2006 VQ_{69}	16.0	X	25.46732	5.53632	83.34788	5.72817	0.0488718	0.21047878	2.7989631	21	—	—
311844 2006 VE_{70}	16.1	X	159.76162	262.12452	70.33503	13.88598	0.2120479	0.21866077	2.7286980	21	1 13.2	20.6
311845 2006 VY_{79}	16.5	X	333.41995	109.44274	86.83400	6.41102	0.0070300	0.22267173	2.6958310	21	2 6.1	20.1
311846 2006 VA_{85}	16.9	X	89.49954	73.20519	317.60241	3.57308	0.0766881	0.21366706	2.7710498	21	—	—
311847 2006 VU_{94}	17.5	X	304.42163	303.96012	90.55821	24.55254	0.1031848	0.38474694	1.8722015	21	10 22.4	19.6
311848 2006 VN_{95}	16.8	X	28.99853	240.17364	201.13755	3.90970	0.0439580	0.21233896	2.7825924	21	—	—
311849 2006 VU_{101}	16.7	X	63.75216	199.50024	244.01763	3.88887	0.1296530	0.21875577	2.7279079	21	1 17.8	19.7
311850 2006 VU_{108}	17.2	X	30.96406	82.10178	31.29590	4.96888	0.1235332	0.21589814	2.7519262	21	1 3.3	20.3
311851 2006 VG_{138}	16.6	X	75.69053	327.85866	77.81801	4.45493	0.0919911	0.21350350	2.7724649	21	—	—
311852 2006 VU_{151}	15.8	X	308.46757	97.10965	266.28034	12.19326	0.0793798	0.18379941	3.0636559	21	7 29.7	20.0
311853 2006 VD_{153}	16.3	X	103.04518	285.06488	100.56159	12.85126	0.1240745	0.21921503	2.7240965	21	1 2.4	19.7
311854 2006 VS_{153}	16.6	X	94.71740	267.54649	122.86356	5.67540	0.1280665	0.21761946	2.7373956	21	—	—
311855 2006 WE_{7}	16.4	X	10.48527	317.60588	94.20315	6.77088	0.0547395	0.20296362	2.8676353	21	—	—
311856 2006 WL_{8}	16.7	X	117.55970	304.41272	77.40075	7.25684	0.0364804	0.21643479	2.7473754	21	1 4.9	20.5
311857 2006 WQ_{10}	16.2	X	79.41173	285.15321	132.73496	15.14927	0.1764781	0.21731558	2.7399468	21	1 16.5	19.2
311858 2006 WD_{19}	16.7	X	348.60246	46.62133	64.17711	5.11150	0.0611710	0.20919714	2.8103833	21	—	—
311859 2006 WB_{21}	16.8	X	79.64023	318.26213	111.52538	4.66113	0.1831822	0.21768356	2.7368582	21	2 3.7	19.9
311860 2006 WJ_{26}	16.1	X	153.48612	106.94065	250.41582	12.78113	0.0857018	0.22044982	2.7139149	21	1 19.8	20.2
311861 2006 WP_{30}	17.4	X	67.50414	212.50332	232.98544	0.92933	0.0479734	0.21964791	2.7205163	21	1 19.3	20.8
311862 2006 WR_{38}	16.4	X	76.39980	211.33356	122.77257	2.75105	0.0600780	0.20090576	2.8871839	21	12 23.1	20.4
311863 2006 WR_{39}	16.8	X	3.06818	308.00441	108.12212	3.35040	0.0924337	0.20132442	2.8831799	21	—	—
311864 2006 WY_{44}	17.0	X	203.65857	142.40324	126.02688	0.51948	0.0315076	0.21337605	2.7735688	21	—	—
311865 2006 WZ_{69}	16.6	X	23.07015	195.87079	237.91597	3.91729	0.1415689	0.21188767	2.7865420	21	—	—
311866 2006 WN_{71}	17.0	X	218.01019	303.01468	16.55913	2.97338	0.0669358	0.22612942	2.6682796	21	2 14.7	21.0
311867 2006 WO_{71}	16.9	X	127.80668	130.08064	254.41625	4.36704	0.0725147	0.22079738	2.7110661	21	1 23.9	20.7
311868 2006 WA_{79}	16.3	X	93.95696	42.48778	262.24256	9.10854	0.1675468	0.20081784	2.8880266	21	12 17.4	20.8
311869 2006 WP_{90}	16.6	X	75.38899	82.32467	38.71945	12.08288	0.1546265	0.22956367	2.6416014	21	4 4.0	19.8
311870 2006 WN_{95}	16.1	X	295.18807	113.89745	74.43490	9.15104	0.2190053	0.21063722	2.7975594	21	—	—
311871 2006 WV_{95}	16.4	X	144.43787	263.26782	77.90499	6.63589	0.0767125	0.21621793	2.7492121	21	—	—
311872 2006 WN_{98}	16.6	X	0.87583	277.65165	218.01560	2.88525	0.0314011	0.21494164	2.7600843	21	—	—
311873 2006 WW_{98}	16.1	X	191.24808	173.88080	70.53619	7.56416	0.0540981	0.20452664	2.8530067	21	—	—
311874 2006 WS_{109}	17.0	X	345.31951	215.87227	194.02347	1.50261	0.0797324	0.19587712	2.9363889	21	11 28.9	20.7
311875 2006 WW_{131}	16.5	X	346.18072	95.30024	80.82537	15.88457	0.2525035	0.21518763	2.7579804	21	—	—
311876 2006 WF_{135}	16.0	X	347.12215	267.40941	252.14186	9.96773	0.2941128	0.21072818	2.7967542	21	—	—
311877 2006 WA_{137}	16.3	X	17.19768	39.59336	77.66621	10.97959	0.1828529	0.21582577	2.7525413	21	—	—
311878 2006 WH_{143}	16.7	X	265.86118	163.63675	102.05423	3.01073	0.0205540	0.22236895	2.6982775	21	2 5.9	20.2
311879 2006 WS_{150}	15.9	X	146.96428	231.05407	85.74244	9.85122	0.0701969	0.20858948	2.8158388	21	—	—
311880 2006 WH_{153}	16.3	X	63.79629	210.35609	291.75059	8.62994	0.2052159	0.21963014	2.7206630	21	4 14.9	19.6
311881 2006 WK_{185}	17.3	X	218.97656	231.91959	245.72827	19.15275	0.0808675	0.38558447	1.8694895	21	9 10.5	19.9
311882 2006 WK_{192}	16.6	X	2.86208	215.89118	205.01543	1.34241	0.0497692	0.20194040	2.8773139	21	—	—
311883 2006 WH_{204}	15.5	X	316.06003	225.42886	140.72838	9.57478	0.0178474	0.17312045	3.1883829	21	8 23.1	20.0
311884 2006 WB_{206}	15.8	X	91.60768	340.95032	302.16321	16.95975	0.0805580	0.18323576	3.0699353	21	11 2.2	20.6
311885 2006 XH_{18}	15.8	X	312.61168	314.27191	90.13381	10.78237	0.1030872	0.18464466	3.0542990	21	10 5.4	19.8
311886 2006 XF_{24}	15.7	X	215.38392	172.75479	254.44140	14.32513	0.1481878	0.17330566	3.1861109	21	6 23.5	20.9
311887 2006 XD_{33}	16.2	X	93.06236	226.41042	276.60341	8.93907	0.0608886	0.23111242	2.6297867	21	5 9.0	19.7
311888 2006 XO_{35}	15.8	X	178.55342	206.64672	103.93081	8.89234	0.0404365	0.20941578	2.8084269	21	—	—
311889 2006 XP_{35}	15.8	X	323.13676	142.29847	268.67444	7.67466	0.1182497	0.18907312	3.0064191	21	10 21.4	19.6
311890 2006 XS_{42}	15.7	X	205.08506	254.47348	286.86931	8.94053	0.0412347	0.18754016	3.0227799	21	11 6.8	20.2
311891 2006 XW_{50}	15.5	X	159.12323	76.88093	113.80011	12.15196	0.1149011	0.17863506	3.1224218	21	10 5.1	20.6
311892 2006 XB_{55}	16.4	X	347.64082	32.76863	52.85728	5.70558	0.2016981	0.19975782	2.8982345	21	—	—
311893 2006 XB_{58}	15.6	X	304.56569	313.93533	92.92377	18.80783	0.1614647	0.18478207	3.0527846	21	9 22.9	19.7
311894 2006 XL_{70}	16.2	X	0.79615	66.99827	287.76105	8.55405	0.0791583	0.18468304	3.0538758	21	10 5.3	20.2
311895 2006 YG_{5}	17.0	X	16.45913	1.30126	92.41052	5.51063	0.1789893	0.20962799	2.8065312	21	—	—
311896 2006 YC_{9}	16.3	X	351.85911	112.62721	309.87035	10.09508	0.0602206	0.19264156	2.9691768	21	12 22.8	20.2
311897 2006 YM_{19}	15.3	X	250.38465	95.95556	276.70022	12.04293	0.0786138	0.17130807	3.2108313	21	5 30.3	20.1
311898 2006 YN_{23}	16.8	X	44.05410	353.59358	45.31048	2.80235	0.0667610	0.20158338	2.8807102	21	—	—
311899 2006 YP_{43}	16.4	X	275.82635	33.80854	105.92567	9.91172	0.1465927	0.19184692	2.9773701	21	12 2.8	20.2
311900 2006 YR_{46}	15.5	X	248.93385	248.25220	283.07627	11.21029	0.1777860	0.18998916	2.9967477	21	11 29.7	19.9
311901 2006 YM_{48}	16.1	X	190.48986	267.43508	302.94714	11.00547	0.1148740	0.18770034	3.0210599	21	11 20.4	21.0
311902 2006 YY_{52}	16.1	X	328.56874	329.29498	119.00397	12.26637	0.0093501	0.19378422	2.9574934	21	12 22.4	20.2
311903 2006 YP_{53}	16.6	X	248.94120	8.09224	172.18980	1.22007	0.1673830	0.19252779	2.9703464	21	12 13.2	20.6
311904 2007 AD_{4}	16.4	X	47.81742	134.38684	327.96340	7.17241	0.1906765	0.21163037	2.7888001	21	1 23.3	19.1
311905 2007 AQ_{7}	15.5	X	142.80902	76.37713	121.68077	16.52298	0.2072729	0.17561800	3.1580818	21	10 2.2	21.1
311906 2007 AJ_{8}	17.2	X	353.00799	188.50884	238.10407	1.54078	0.1778717	0.19615351	2.9336300	21	—	—
311907 2007 AH_{9}	15.8	X	154.37107	163.75191	33.00909	6.41481	0.1244410	0.17859140	3.1229308	21	10 3.9	20.7
311908 2007 AZ_{10}	15.1	X	228.64869	354.79959	126.34011	28.95306	0.1135128	0.17906204	3.1174562	21	9 21.8	20.2
311909 2007 AN_{12}	17.2	X	199.78004	102.50474	304.59146	17.99967	0.0890748	0.36557507	1.9370983	21	4 26.7	20.1
311910 2007 AB_{18}	15.7	X	326.09228	287.95646	101.30207	11.24173	0.1919495	0.18545126	3.0454363	21	10 1.1	19.2
311911 2007 AU_{18}	16.1	X	264.22840	72.43996	86.03189	10.75885	0.1920119	0.19171299	2.9787566	21	12 2.8	19.9
311912 2007 BF_{3}	15.9	X	333.29652	148.39323	287.19952	8.06769	0.0507942	0.19262277	2.9693699	21	12 12.3	19.7
311913 2007 BY_{10}	16.0	X	280.04413	263.64904	116.77972	16.90051	0.2637341	0.17386161	3.1793151	21	6 20.6	20.8
311914 2007 BW_{11}	15.5	X	76.89047	125.35863	105.68690	9.63731	0.0524387	0.16829807	3.2490019	21	8 15.3	20.1
311915 2007 BJ_{17}	17.0	X	310.16846	207.59052	242.88041	0.90458	0.2537933	0.19236440	2.9720282	21	11 10.9	19.9
311916 2007 BE_{19}	16.3	X	276.82145	49.67701	91.15528	6.46971	0.2021639	0.19174938	2.9783797	21	11 26.8	20.0
311917 2007 BX_{29}	15.2	X	178.79207	225.64289	335.03051	15.35175	0.1461267	0.17943297	3.1131584	21	10 21.9	20.6
311918 2007 BJ_{30}	15.9	X	257.02985	200.54120	317.65746	9.53572	0.0551523	0.18987831	2.9979138	21	12 11.1	20.2
311919 2007 BC_{32}	15.7	X	48.11923	52.98293	286.77175	8.30808	0.1252651	0.18920121	3.0050620	21	12 2.5	19.8
311920 2007 BM_{32}	16.2	X	340.43627	108.86697	296.76948	9.37953	0.1112955	0.18917947	3.0052922	21	11 12.5	19.9

ELEMENTS AND OPPOSITION DATES IN 2021

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2021 JULY 5.0 TT

Planet	H	G	M	ω	Ω	i	e	μ	a	TE	Oppos.	V
	m		°	°	°	°		°				
311921 2007 BU_{36}	15.5	X	156.16966	85.52681	117.54538	17.30525	0.0570392	0.18052845	3.1005515	21	10 18.8	20.5
311922 2007 BU_{45}	15.6	X	106.35446	152.12995	124.65475	12.68552	0.0341605	0.18124787	3.0923415	21	11 16.4	20.3
311923 2007 BW_{46}	16.7	X	276.50533	119.77298	31.71456	2.42940	0.2588045	0.19130671	2.9829725	21	11 29.8	20.4
311924 2007 BW_{58}	15.3	X	203.65292	209.52393	320.52877	11.37699	0.1357954	0.17947907	3.1126253	21	10 10.9	20.4
311925 2007 BF_{72}	19.6	X	277.27862	303.77196	49.39030	4.10410	0.2156700	0.57470628	1.4327555	21	4 21.0	20.2
311926 2007 BY_{72}	15.7	X	243.81584	101.20609	73.93589	11.80887	0.0560883	0.19109491	2.9851761	21	12 15.6	19.8
311927 2007 BC_{73}	15.8	X	239.44870	59.62154	79.45878	27.42187	0.3602878	0.18088508	3.0964748	21	10 8.5	21.5
311928 2007 BZ_{75}	16.2	X	284.51374	112.63703	323.37745	6.05392	0.1406155	0.17932290	3.1144321	21	9 20.5	20.4
311929 2007 CH_{7}	16.1	X	277.85287	346.21067	104.18588	8.10384	0.0692510	0.18461576	3.0546177	21	10 16.8	20.3
311930 2007 CL_{8}	15.7	X	136.44122	292.80195	315.46633	10.36308	0.0277310	0.18638682	3.0352368	21	11 8.8	20.3
311931 2007 CT_{12}	15.7	X	357.85341	33.75426	320.03438	10.52489	0.0812520	0.17921103	3.1157282	21	9 28.6	19.8
311932 2007 CD_{19}	16.0	X	259.93838	100.95258	313.48788	12.14146	0.2475134	0.17414350	3.1758833	21	7 13.7	21.0
311933 2007 CN_{27}	16.2	X	238.42961	214.04411	311.14445	7.39463	0.0760033	0.18784761	3.0194808	21	11 22.5	20.5
311934 2007 CE_{29}	15.8	X	117.93207	94.79334	127.77511	10.91860	0.0706390	0.17590056	3.1546988	21	9 27.4	20.6
311935 2007 CU_{29}	15.9	X	277.34180	273.74678	137.32203	4.84025	0.1335038	0.17588580	3.1548753	21	8 12.8	20.3
311936 2007 CN_{33}	15.6	X	326.35004	195.20393	140.04740	9.48962	0.0200757	0.16792909	3.2537594	21	7 26.7	20.0
311937 2007 CF_{36}	15.0	X	109.04995	286.77494	338.70551	20.88572	0.1050905	0.17798808	3.1299839	21	10 28.7	20.2
311938 2007 CH_{38}	16.0	X	119.50362	150.83269	143.27577	6.70707	0.0438267	0.18945969	3.0023282	21	12 20.0	20.5
311939 2007 CE_{44}	16.4	X	251.76493	306.51546	170.72750	6.66893	0.1340769	0.18318740	3.0704756	21	10 4.9	20.7
311940 2007 CW_{45}	16.1	X	335.68232	137.78741	305.71177	9.31146	0.0592061	0.19103410	2.9858097	21	12 25.9	20.0
311941 2007 CK_{46}	15.9	X	171.10744	269.19921	322.99351	5.73650	0.1649374	0.18391124	3.0624138	21	11 26.4	21.0
311942 2007 CG_{47}	15.4	X	190.63355	208.59125	277.56119	4.47940	0.1005917	0.16856402	3.2455835	21	8 11.8	20.5
311943 2007 CU_{48}	15.6	X	324.21934	72.72788	298.08043	8.00778	0.0690000	0.17431985	3.1737411	21	9 1.5	19.9
311944 2007 CF_{58}	15.6	X	215.81544	4.58946	115.13860	18.65924	0.1549840	0.17405229	3.1769927	21	8 31.1	20.8
311945 2007 CF_{59}	15.1	X	120.42664	291.05810	300.33290	14.25360	0.0540407	0.17538805	3.1608415	21	9 27.5	20.0
311946 2007 CR_{61}	17.3	X	325.46661	8.20993	347.86887	20.66425	0.0917218	0.37741128	1.8963834	21	9 7.3	18.1
311947 2007 CE_{62}	16.7	X	306.48871	252.11274	205.94195	3.50644	0.2251972	0.18940456	3.0029108	21	11 17.2	19.8
311948 2007 CP_{79}	16.5	X	221.87126	263.28042	247.08723	1.31754	0.1360432	0.17890507	3.1192795	21	10 10.4	21.3
311949 2007 DE	16.2	X	250.92220	252.96880	233.87992	5.57341	0.2936633	0.18382384	3.0633843	21	9 22.7	21.2
311950 2007 DN	16.2	X	280.08917	299.74883	127.07334	12.99476	0.0215114	0.17798404	3.1300313	21	9 26.5	20.7
311951 2007 DY_{6}	17.1	X	37.15141	171.02889	128.41430	24.56496	0.0776612	0.37725445	1.8969089	21	10 31.9	19.7
311952 2007 DX_{12}	15.5	X	134.93125	300.90677	304.02288	7.91496	0.1000217	0.17935631	3.1140455	21	11 6.3	20.5
311953 2007 DQ_{13}	16.3	X	331.51860	248.13902	135.07017	3.03831	0.2392495	0.18599353	3.0395140	21	9 25.4	19.0
311954 2007 DO_{18}	16.1	X	279.33260	69.53443	341.07688	10.48732	0.0581894	0.17088106	3.2161781	21	8 26.5	20.4
311955 2007 DT_{28}	15.6	X	72.75281	148.11425	153.64808	9.44075	0.0557840	0.17652546	3.1472493	21	11 8.0	20.2
311956 2007 DN_{34}	15.8	X	248.80860	97.26834	353.04303	12.51642	0.0873558	0.17135400	3.2102576	21	9 4.0	20.4
311957 Barryalbright	16.6	X	87.11092	18.75980	102.06277	10.14171	0.1583741	0.22635888	2.6664760	21	4 23.6	20.2
311958 2007 DD_{47}	15.8	X	256.50173	138.67205	331.36800	10.85776	0.0333590	0.17884472	3.1199811	21	10 9.4	20.4
311959 2007 DE_{54}	16.8	X	230.20212	5.91591	142.26820	3.92442	0.1924247	0.18416302	3.0596220	21	10 12.9	21.7
311960 2007 DC_{59}	15.8	X	321.91033	106.16823	327.78868	10.02879	0.0253176	0.18472755	3.0533852	21	11 21.1	20.2
311961 2007 DK_{61}	17.2	X	226.36055	34.00329	21.78223	21.04459	0.0952819	0.36895384	1.9252540	21	6 19.7	20.0
311962 2007 DT_{70}	16.7	X	247.90841	3.34850	132.42537	3.01399	0.1235865	0.18096920	3.0955152	21	10 24.5	21.1
311963 2007 DC_{77}	16.7	X	235.26768	116.02084	53.48884	1.84687	0.2329439	0.18427011	3.0584364	21	11 6.4	21.4
311964 2007 DJ_{89}	15.9	X	286.01048	63.57595	348.60632	15.61065	0.2134078	0.17506692	3.1647056	21	8 17.9	20.2
311965 2007 DP_{89}	15.9	X	211.28091	176.23707	335.26399	5.76967	0.0904517	0.17809368	3.1287465	21	10 3.5	20.6
311966 2007 DG_{97}	15.8	X	221.30090	135.49857	354.83372	16.84063	0.1736851	0.17377599	3.1803595	21	9 13.6	20.7
311967 2007 EB	15.5	X	246.97192	257.04109	267.62920	10.15475	0.3148635	0.18472140	3.0534530	21	10 31.1	20.5
311968 2007 EQ_{6}	16.1	X	131.41817	56.15757	166.98892	11.48829	0.0221248	0.17397300	3.1779580	21	10 7.2	20.7
311969 2007 ED_{19}	18.2	X	197.27915	71.66472	351.00966	19.95453	0.0887768	0.36364069	1.9439618	21	5 17.6	21.1
311970 2007 EL_{35}	15.3	X	184.87326	73.35040	121.57555	6.39810	0.1267409	0.17599808	3.1535334	21	10 30.8	20.4
311971 2007 EF_{39}	15.1	X	204.78946	247.39129	307.00334	11.48030	0.1124662	0.18113633	3.0936108	21	11 14.1	20.0
311972 2007 EU_{44}	17.0	X	318.23225	69.01810	356.55772	1.97152	0.2999757	0.18738146	3.0244865	21	10 17.0	19.5
311973 2007 EF_{52}	15.7	X	209.75941	168.71730	339.67198	10.03672	0.1634620	0.17570017	3.1570970	21	9 22.1	20.9
311974 2007 EY_{56}	14.9	X	155.74616	141.50561	37.38740	11.70411	0.1009726	0.16890782	3.2411780	21	9 16.5	20.0
311975 2007 EL_{58}	16.4	X	296.44357	77.21836	322.62330	12.23354	0.3113461	0.18003312	3.1062360	21	7 29.6	20.4
311976 2007 ED_{60}	15.4	X	214.10430	130.20473	13.83895	5.36520	0.0966243	0.17347654	3.1840183	21	9 28.9	20.2
311977 2007 EV_{82}	15.8	X	269.59970	126.44885	308.11204	5.11114	0.0113539	0.17546291	3.1599424	21	9 17.1	20.3
311978 2007 ET_{85}	15.3	X	242.38704	39.81529	152.77497	10.20770	0.0498111	0.18402713	3.0611279	21	—	—
311979 2007 EC_{92}	16.1	X	220.69992	355.15920	179.35678	5.60426	0.1256201	0.18326402	3.0696197	21	11 10.2	20.8
311980 2007 EV_{192}	14.9	X	197.85905	287.59560	303.64101	24.26941	0.2538055	0.18334224	3.0687466	21	12 15.4	20.4
311981 2007 EO_{199}	15.6	X	269.22587	74.80039	42.41660	9.78198	0.0746565	0.18070470	3.0985351	21	11 2.7	19.6
311982 2007 ES_{200}	15.2	X	244.99970	15.21404	123.87305	10.74289	0.0385931	0.17872315	3.1213959	21	11 8.1	19.8
311983 2007 EK_{201}	14.8	X	204.21127	258.47636	292.56044	25.09164	0.1444696	0.17896688	3.1185612	21	11 3.2	20.2
311984 2007 EL_{211}	15.7	X	170.86352	103.21263	104.77034	6.78275	0.1312276	0.17737205	3.1372269	21	11 2.2	20.8
311985 2007 EQ_{222}	15.3	X	218.74025	94.55634	46.81688	17.01001	0.1379989	0.17408920	3.1765436	21	10 3.8	20.4
311986 2007 FV_{16}	16.2	X	275.32295	302.85519	159.57013	9.44081	0.0079829	0.18107263	3.0943363	21	11 3.8	20.6
311987 2007 FJ_{38}	17.4	X	196.44989	116.16199	17.80941	20.36361	0.1307734	0.37410675	1.9075343	21	9 17.8	19.9
311988 2007 GP_{4}	15.8	X	215.03123	104.42165	47.37749	26.35082	0.2421019	0.17510718	3.1642206	21	10 9.5	21.4
311989 2007 GL_{12}	15.7	X	176.62192	42.96748	154.27417	17.89057	0.1678041	0.17959834	3.1112471	21	10 27.2	21.1
311990 2007 GD_{32}	15.2	X	220.60852	86.26758	62.35134	23.02144	0.1966078	0.17443403	3.1723559	21	10 13.4	20.6
311991 2007 HH_{5}	17.3	X	99.18803	96.98422	97.14330	23.38764	0.0704403	0.36206476	1.9495986	21	8 6.9	19.7
311992 2007 HH_{89}	15.7	X	236.25092	265.33722	220.63829	13.42616	0.2333072	0.17306435	3.1890719	21	9 11.6	21.1
311993 2007 KK_{2}	17.7	X	69.28390	56.98240	109.35067	14.49401	0.0538193	0.35065575	1.9916609	21	5 4.2	19.9
311994 2007 KN_{9}	14.8	X	194.01698	320.77761	276.58607	21.60900	0.2035537	0.17948297	3.1125802	21	12 20.5	20.0
311995 2007 LT_{1}	15.6	X	213.25420	15.87933	191.74877	7.85256	0.1482919	0.17582387	3.1556161	21	12 7.5	20.6
311996 2007 LS_{12}	16.9	X	41.67508	118.64758	95.84376	24.83096	0.0702493	0.35371072	1.9801765	21	6 3.7	18.8
311997 2007 MW_{2}	13.4	X	294.06341	168.30754	268.04701	5.95453	0.0761753	0.08357913	5.1808874	21	9 30.7	20.2
311998 2007 MQ_{3}	16.9	X	68.39597	273.04657	280.95508	17.25378	0.0701159	0.34819098	2.0010489	21	6 14.0	18.8
311999 2007 NS_{2}	18.1	X	357.36726	177.09030	282.47043	18.62111	0.0540450	0.52401072	1.5237344	21	—	—
312000 2007 OB_{4}	17.5	X	337.28991	61.94143	273.49624	2.48794	0.2518696	0.28099204	2.3085540	21	8 2.1	18.6