

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240001	2001	SC <sub>273</sub>	17.1	X	252.59411	258.02454	67.30038	26.75553	0.0601941	0.40063765	1.8223629	20	4 16.1	19.6
240002	2001	SB <sub>300</sub>	16.4	X	239.43799	148.78235	210.63127	4.64624	0.1042285	0.19359848	2.9593846	20	5 5.6	20.8
240003	2001	SU <sub>313</sub>	15.5	X	164.79653	265.85509	124.99730	10.49385	0.1103965	0.18496287	3.0507949	20	4 3.1	20.4
240004	2001	SN <sub>351</sub>	15.6	X	168.22934	265.17095	108.78713	10.09789	0.1315948	0.18233052	3.0800881	20	3 18.5	20.6
240005	2001	TY <sub>22</sub>	15.3	X	204.93059	254.52207	22.31619	25.91269	0.2496642	0.17783531	3.1317762	20	—	—
240006	2001	TC <sub>23</sub>	18.0	X	352.84661	147.39420	178.44247	3.00616	0.2024503	0.31092276	2.1579152	20	10 8.8	19.1
240007	2001	TQ <sub>47</sub>	15.6	X	207.44252	181.82922	157.52269	10.79490	0.0557026	0.18292845	3.0733726	20	3 12.1	20.1
240008	2001	TL <sub>52</sub>	15.8	X	128.58228	15.42419	17.81935	4.85412	0.1842970	0.17976393	3.1093362	20	3 5.4	20.6
240009	2001	TF <sub>62</sub>	17.2	X	273.94800	158.96993	200.01153	6.42204	0.2520180	0.30172359	2.2015567	20	6 9.3	19.9
240010	2001	TK <sub>142</sub>	15.9	X	192.37659	254.06950	109.97557	4.66501	0.1858619	0.18633533	3.0357959	20	3 26.5	21.0
240011	2001	TW <sub>143</sub>	17.5	X	25.59970	8.39107	75.14871	4.43979	0.1894139	0.27528686	2.3403405	20	—	—
240012	2001	TA <sub>145</sub>	17.1	X	55.88392	269.26312	163.69398	5.47461	0.1633756	0.27857560	2.23218848	20	—	—
240013	2001	TM <sub>149</sub>	16.7	X	33.29667	14.45529	38.20017	18.88412	0.0314461	0.27334006	2.3514398	20	—	—
240014	2001	TF <sub>154</sub>	15.4	X	138.03097	353.14677	51.15928	11.00595	0.1762534	0.18315987	3.0707833	20	3 29.5	20.4
240015	2001	TN <sub>161</sub>	16.3	X	254.90384	138.52389	199.20781	12.24629	0.1532847	0.19281967	2.9673481	20	4 20.4	20.9
240016	2001	TU <sub>164</sub>	15.5	X	141.39482	348.27107	38.44483	6.28615	0.1737156	0.17924320	3.1153553	20	3 10.1	20.5
240017	2001	TQ <sub>199</sub>	15.4	X	185.96167	230.45129	155.52088	10.66287	0.1044385	0.18771921	3.0208575	20	4 16.4	20.2
240018	2001	TD <sub>233</sub>	17.2	X	167.11914	313.98799	102.19684	6.65834	0.1236616	0.29323237	2.2438549	20	5 1.5	20.5
240019	2001	TM <sub>241</sub>	15.5	X	242.57310	238.03725	44.24125	10.02038	0.0333956	0.17797823	3.1300993	20	2 17.1	20.2
240020	2001	TA <sub>250</sub>	15.7	X	285.36441	275.24048	33.92610	9.04039	0.1314732	0.19350632	2.9603242	20	4 21.9	19.6
240021	2001	TX <sub>257</sub>	15.4	X	121.74375	322.86470	44.84052	11.09556	0.0755774	0.17584157	3.1554043	20	1 16.7	20.1
240022	2001	Demitra	15.1	X	26.22423	13.16080	85.86460	10.07245	0.0752258	0.17433411	3.1735679	20	—	—
240023	2001	UJ <sub>20</sub>	17.9	X	217.14407	292.70141	72.48342	4.63328	0.1446580	0.29414500	2.2392113	20	4 14.2	21.1
240024	2001	UM <sub>39</sub>	15.9	X	291.30701	94.04435	189.83294	9.23206	0.1027507	0.18839238	3.0136570	20	4 1.9	19.9
240025	2001	UG <sub>52</sub>	15.9	X	279.40998	226.12583	190.17257	7.48992	0.2033521	0.20157373	2.8808021	20	8 20.5	19.6
240026	2001	UN <sub>62</sub>	16.1	X	218.46470	143.34555	214.81963	11.52842	0.2272385	0.18824678	3.0152108	20	4 4.8	21.3
240027	2001	UE <sub>63</sub>	17.4	X	234.44333	347.26403	22.25306	2.56859	0.2377828	0.29716800	2.2239995	20	4 28.5	21.0
240028	2001	UZ <sub>66</sub>	17.8	X	31.44003	55.44523	29.00232	6.79129	0.2196245	0.27514047	2.3411706	20	—	—
240029	2001	UY <sub>69</sub>	17.2	X	9.08424	312.27948	211.56613	4.03225	0.1019629	0.28525181	2.2855134	20	2 2.0	19.4
240030	2001	UY <sub>82</sub>	17.2	X	74.03916	344.46177	85.13188	2.88019	0.1294340	0.27926397	2.3180677	20	1 17.3	19.3
240031	2001	UA <sub>93</sub>	15.9	X	195.59196	81.47600	232.81102	4.82356	0.1509629	0.17974400	3.1095660	20	1 28.8	21.1
240032	2001	UP <sub>99</sub>	15.6	X	98.32868	326.58200	77.38351	5.81017	0.1645762	0.17457480	3.1706503	20	2 13.8	20.1
240033	2001	UL <sub>100</sub>	17.3	X	136.03727	7.01803	59.74657	6.53780	0.1299716	0.28865288	2.2675252	20	4 11.7	20.4
240034	2001	UZ <sub>108</sub>	16.8	X	157.61057	197.12086	217.28898	5.64528	0.1588396	0.28876785	2.2669233	20	4 18.1	20.2
240035	2001	UR <sub>110</sub>	15.1	X	329.60179	290.65576	206.11226	21.21093	0.0703116	0.16959996	3.2323538	20	—	—
240036	2001	UU <sub>115</sub>	16.7	X	250.60490	122.84072	215.27207	6.13818	0.1344646	0.29451144	2.2373535	20	4 11.9	19.6
240037	2001	UX <sub>115</sub>	17.3	X	48.08622	24.67703	57.08067	3.44688	0.1753885	0.27633877	2.3343976	20	—	—
240038	2001	US <sub>116</sub>	17.1	X	311.45016	252.74112	74.27618	5.06198	0.2036920	0.30283712	2.1961566	20	6 13.9	18.7
240039	2001	UC <sub>117</sub>	15.1	X	109.14172	196.12948	216.83163	16.33174	0.1391799	0.17580974	3.1557851	20	2 26.1	20.0
240040	2001	UG <sub>132</sub>	15.8	X	181.52495	321.55724	60.60070	11.55349	0.2627128	0.18310168	3.0714338	20	4 11.0	21.3
240041	2001	UQ <sub>177</sub>	16.9	X	149.35763	0.08637	39.27802	7.80469	0.1076746	0.28647991	2.2789769	20	3 19.9	20.0
240042	2001	UP <sub>194</sub>	17.8	X	19.56242	316.46079	147.75989	2.35253	0.1609683	0.27684755	2.3315367	20	—	—
240043	2001	UB <sub>195</sub>	16.6	X	285.15898	175.37586	25.61325	22.36827	0.1620873	0.27915254	2.3186845	20	—	—
240044	2001	UL <sub>214</sub>	17.1	X	4.32249	180.97113	57.71084	3.80816	0.0748816	0.29559457	2.2318847	20	5 21.2	18.8
240045	2001	UV <sub>224</sub>	15.2	X	269.99430	194.66696	31.47318	16.71182	0.0490938	0.17617524	3.1514189	20	1 8.5	20.1
240046	2001	VC <sub>18</sub>	14.8	X	227.94325	281.01946	44.15943	12.27789	0.0814623	0.18250272	3.0781503	20	3 20.2	19.6
240047	2001	VF <sub>106</sub>	17.1	X	140.95021	16.87575	33.91560	7.82877	0.0887579	0.28699259	2.2762620	20	3 22.6	20.0
240048	2001	WM <sub>3</sub>	15.2	X	165.14352	163.54759	219.47343	9.59041	0.0847144	0.18158612	3.0885001	20	3 16.9	20.0
240049	2001	WH <sub>13</sub>	15.3	X	150.86958	139.98497	226.58108	10.98072	0.0830512	0.17631323	3.1497744	20	2 10.6	20.3
240050	2001	WM <sub>23</sub>	15.9	X	141.04114	159.81047	214.48455	7.16547	0.1217179	0.17860814	3.1227357	20	2 14.5	20.7
240051	2001	WP <sub>29</sub>	16.8	X	115.27162	167.77672	187.67799	5.27088	0.2253531	0.27595532	2.3365596	20	—	—
240052	2001	WE <sub>31</sub>	14.9	X	153.06818	298.80562	68.22593	16.48188	0.1046531	0.17644928	3.1481551	20	2 26.9	20.0
240053	2001	WB <sub>34</sub>	15.2	X	241.96579	232.79474	89.39816	6.34234	0.1694758	0.18439687	3.0570346	20	3 21.6	20.2
240054	2001	WC <sub>36</sub>	16.9	X	39.89274	350.70567	117.84325	6.16832	0.1975953	0.27644874	2.3377785	20	1 10.9	18.5
240055	2001	WK <sub>37</sub>	15.1	X	156.02997	329.04246	57.76497	28.60914	0.1479735	0.18004877	3.1060559	20	4 4.5	20.5
240056	2001	WP <sub>38</sub>	16.3	X	354.09939	300.75964	87.88075	12.10177	0.1809359	0.26105612	2.4246374	20	12 26.5	18.8
240057	2001	WY <sub>72</sub>	15.4	X	95.87437	270.97268	87.09007	4.48149	0.1530785	0.16821350	3.2500907	20	—	—
240058	2001	WM <sub>81</sub>	15.8	X	227.95730	262.68907	72.68511	12.05402	0.1696046	0.18342130	3.0678648	20	3 27.7	21.0
240059	2001	XT <sub>13</sub>	15.8	X	181.58286	334.03088	37.50618	5.82079	0.2710097	0.18085229	3.0968490	20	3 27.5	21.3
240060	2001	XW <sub>49</sub>	16.9	X	174.67625	324.91467	74.77435	8.22467	0.1331827	0.28950457	2.2630758	20	4 18.6	20.3
240061	2001	XT <sub>69</sub>	15.2	X	120.59083	319.08263	73.85986	10.28641	0.0946606	0.17519001	3.1632230	20	2 18.8	19.9
240062	2001	XD <sub>95</sub>	17.1	X	70.84300	333.92987	68.46494	3.68030	0.1961192	0.27438615	2.3454594	20	—	—
240063	2001	XP <sub>96</sub>	15.5	X	215.77261	305.20481	67.67310	3.06436	0.2855350	0.18662124	3.0326945	20	4 20.0	21.0
240064	2001	XY <sub>139</sub>	15.5	X	115.67617	314.70765	83.53688	6.26532	0.1608144	0.17290942	3.1909766	20	2 26.6	20.3
240065	2001	XX <sub>161</sub>	17.5	X	329.75152	320.90808	161.91072	2.23512	0.1514661	0.26695929	2.3887609	20	—	—
240066	2001	XV <sub>180</sub>	15.1	X	133.98620	192.55200	274.27222	12.60785	0.0946329	0.18025928	3.1036373	20	5 28.3	19.9
240067	2001	XH <sub>225</sub>	15.0	X	187.72460	267.98861	64.21528	16.83267	0.1007297	0.17512047	3.1640605	20	2 19.3	20.2
240068	2001	XM <sub>263</sub>	15.4	X	241.20311	76.33458	232.06450	8.51063	0.1094518	0.18114360	3.0935281	20	3 2.8	20.2
240069	2001	YY <sub>6</sub>	17.0	X	294.88141	316.04334	358.82496	6.10228	0.2466965	0.29635118	2.2280842	20	4 16.8	19.7
240070	2001	YS <sub>22</sub>	17.2	X	340.62144	229.05608								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240081 2002 AB <sub>144</sub>	17.3	X	326.14985	55.82213	127.50152	4.26850	0.0712944	0.27217739	2.3581315	20	1 1.7	20.3
240082 2002 AW <sub>169</sub>	17.0	X	47.84675	129.59088	312.04545	3.91451	0.0407037	0.27100585	2.3649226	20	—	—
240083 2002 AL <sub>176</sub>	16.9	X	296.63877	53.24949	121.18981	6.51916	0.1714831	0.26375201	2.4080872	20	—	—
240084 2002 AT <sub>185</sub>	17.0	X	95.00634	348.08672	69.66486	6.38119	0.1463316	0.27496944	2.3421413	20	2 9.8	19.7
240085 2002 AB <sub>190</sub>	15.6	X	86.59521	204.64734	294.30531	7.72392	0.0175597	0.17826601	3.1267298	20	4 29.8	20.2
240086 2002 AK <sub>200</sub>	14.9	X	31.13240	78.08873	100.81588	25.16526	0.2139832	0.17372122	3.1810278	20	5 10.5	18.9
240087 2002 AE <sub>202</sub>	17.3	X	287.84354	13.73018	162.74557	2.66239	0.1254441	0.26321183	2.4113807	20	—	—
240088 2002 AD <sub>206</sub>	15.4	X	317.84835	35.86445	128.44317	11.55939	0.0948989	0.17033833	3.2230061	20	—	—
240089 2002 BH <sub>21</sub>	17.2	X	45.76218	76.34956	52.08229	22.26007	0.0833336	0.38138254	1.8831959	20	2 7.6	19.3
240090 2002 BR <sub>27</sub>	16.4	X	272.50158	154.93790	65.41784	7.02001	0.0829190	0.26852124	2.3794886	20	—	—
240091 2002 CN <sub>19</sub>	16.4	X	340.86379	138.44752	354.82827	6.30475	0.0722830	0.26621057	2.3932378	20	—	—
240092 2002 CV <sub>28</sub>	16.5	X	285.26359	215.43324	1.99814	7.22035	0.0643189	0.26975405	2.3722333	20	—	—
240093 2002 CA <sub>52</sub>	14.5	X	154.45717	94.20547	344.05831	25.33514	0.2112697	0.17526339	3.1623401	20	5 10.3	20.3
240094 2002 CG <sub>69</sub>	17.1	X	92.95152	327.88588	96.69638	3.37548	0.1539817	0.27510707	2.3413601	20	2 16.1	19.6
240095 2002 CL <sub>76</sub>	16.7	X	278.58741	175.72091	25.74208	1.55344	0.1122839	0.26420548	2.4053309	20	—	—
240096 2002 CE <sub>77</sub>	16.5	X	234.35067	78.02542	128.67873	5.46417	0.1377453	0.25786301	2.4446124	20	—	—
240097 2002 CF <sub>92</sub>	17.7	X	279.08418	28.44298	129.72039	3.27062	0.1689154	0.25953549	2.4340988	20	—	—
240098 2002 CP <sub>96</sub>	16.7	X	246.55079	101.57529	124.02723	3.47020	0.1284143	0.26102798	2.4248116	20	—	—
240099 2002 CB <sub>120</sub>	17.3	X	280.83336	347.95954	187.64578	1.50077	0.1687101	0.26197689	2.4189528	20	—	—
240100 2002 CE <sub>131</sub>	15.3	X	180.37993	102.67255	313.74795	8.36013	0.0851527	0.17754825	3.1351509	20	5 12.4	20.2
240101 2002 CL <sub>137</sub>	16.8	X	100.34571	237.01149	178.74465	7.97865	0.2086692	0.27601496	2.3362231	20	2 20.8	19.7
240102 2002 CH <sub>172</sub>	16.4	X	216.62121	119.39433	113.59459	6.16824	0.1412894	0.25819587	2.4425110	20	—	—
240103 2002 CW <sub>182</sub>	17.4	X	253.98254	109.95423	100.29401	3.73427	0.1671356	0.26168533	2.4207492	20	—	—
240104 2002 CA <sub>183</sub>	16.6	X	164.65031	233.53471	116.38673	7.48370	0.1478259	0.27347057	2.3506916	20	2 3.7	19.9
240105 2002 CL <sub>185</sub>	17.8	X	339.84698	61.79539	43.44490	2.07923	0.1581214	0.26270239	2.4144972	20	—	—
240106 2002 CT <sub>201</sub>	17.2	X	342.78152	348.16656	113.43359	2.07067	0.1490479	0.26178490	2.4201354	20	—	—
240107 2002 CZ <sub>215</sub>	16.5	X	153.18434	202.21825	106.81789	3.95596	0.0529039	0.26077994	2.4263490	20	—	—
240108 2002 CD <sub>225</sub>	17.8	X	280.14611	172.36630	344.31738	0.76007	0.1285420	0.25795329	2.4440420	20	—	—
240109 2002 CT <sub>243</sub>	15.9	X	38.97054	287.00376	341.67166	12.49245	0.1591914	0.23360628	2.6110371	20	9 10.9	19.0
240110 2002 CW <sub>252</sub>	17.1	X	290.84657	356.97285	170.21152	5.46341	0.1924632	0.26294560	2.4130081	20	—	—
240111 2002 CP <sub>260</sub>	17.0	X	322.07773	34.94211	43.57738	3.35817	0.1819085	0.25678106	2.4514746	20	—	—
240112 2002 CB <sub>310</sub>	16.7	X	92.41520	263.29479	154.12385	7.11165	0.1064136	0.27215627	2.3582535	20	1 27.0	19.4
240113 2002 CC <sub>311</sub>	17.2	X	192.88929	254.25990	6.73865	2.61836	0.1381135	0.25778227	2.4451229	20	—	—
240114 2002 EJ	17.1	X	324.38093	68.14913	95.84372	25.47781	0.0800751	0.37396103	1.9080298	20	—	—
240115 2002 EB <sub>25</sub>	17.7	X	201.14049	25.27765	228.07205	2.04896	0.1798689	0.25575995	2.4579951	20	—	—
240116 2002 EQ <sub>52</sub>	17.1	X	299.77070	29.24141	100.29663	2.27047	0.1420668	0.25697604	2.4502344	20	—	—
240117 2002 EU <sub>57</sub>	17.4	X	244.48662	36.41323	165.63405	2.71261	0.1369894	0.25804360	2.4434717	20	—	—
240118 2002 ET <sub>97</sub>	17.0	X	331.33056	85.91203	136.37117	5.88566	0.1890310	0.27147934	2.3621720	20	2 13.8	19.3
240119 2002 EO <sub>98</sub>	17.0	X	213.63280	1.57030	220.10660	2.26966	0.1320426	0.25328117	2.4740062	20	—	—
240120 2002 EE <sub>127</sub>	17.4	X	243.14516	189.62398	153.62281	20.75774	0.1103171	0.38889624	1.8588609	20	4 13.8	19.9
240121 2002 ED <sub>154</sub>	17.1	X	5.59665	169.78467	25.29701	4.30980	0.1174865	0.27407594	2.3472289	20	3 17.7	19.2
240122 2002 ED <sub>156</sub>	16.9	X	124.47555	196.48995	166.80438	4.28386	0.1442975	0.26490670	2.4010844	20	1 6.5	20.0
240123 2002 FD <sub>24</sub>	16.5	X	194.54277	280.33472	182.01961	7.79315	0.0392161	0.23386738	2.6090933	20	7 30.6	20.2
240124 2002 GK <sub>5</sub>	17.4	X	334.60393	316.63908	197.97012	23.48507	0.1072539	0.36947255	1.9234516	20	—	—
240125 2002 GK <sub>6</sub>	15.6	X	194.39705	59.37483	30.06071	22.40581	0.0405920	0.22912520	2.6449704	20	7 20.1	19.9
240126 2002 GU <sub>36</sub>	16.0	X	70.78250	192.92635	50.06950	5.72683	0.1015486	0.23534019	2.5981964	20	9 16.4	19.6
240127 2002 GX <sub>119</sub>	16.2	X	349.93316	164.64609	128.59837	9.08302	0.1349966	0.22742688	2.6581216	20	7 15.8	18.9
240128 2002 GM <sub>141</sub>	17.2	X	103.00376	245.46593	28.82870	3.50296	0.2040545	0.23961890	2.5671742	20	12 3.9	21.5
240129 2002 GY <sub>143</sub>	15.4	X	271.73612	274.38798	58.13733	17.09563	0.2509371	0.21891727	2.7265661	20	4 23.4	19.6
240130 2002 GZ <sub>152</sub>	17.3	X	200.78087	287.05174	43.83438	21.69953	0.0558908	0.37535851	1.9032910	20	2 8.6	20.1
240131 2002 GJ <sub>164</sub>	16.2	X	177.29456	153.15406	50.03583	4.08565	0.0379771	0.24404469	2.5360422	20	11 22.6	19.6
240132 2002 JD	16.8	X	285.29485	329.02720	237.98150	20.03332	0.0391222	0.36958281	1.9230690	20	—	—
240133 2002 JU <sub>9</sub>	17.2	X	161.19201	252.11180	82.48030	23.61279	0.0978548	0.36697412	1.9321719	20	—	—
240134 2002 JC <sub>34</sub>	13.7	X	105.11312	180.81164	58.62110	15.41529	0.1434741	0.12557961	3.9493288	20	10 12.7	19.8
240135 2002 JN <sub>36</sub>	16.0	X	217.42604	310.72978	221.42007	11.66073	0.1011787	0.24307932	2.5427522	20	11 24.0	19.5
240136 2002 JG <sub>51</sub>	16.0	X	153.42705	199.82685	45.01140	14.89296	0.1437397	0.24290392	2.5439762	20	12 10.6	20.1
240137 2002 JK <sub>63</sub>	16.6	X	47.05234	175.53847	106.02974	4.22180	0.2514795	0.23051533	2.6343260	20	10 26.2	20.2
240138 2002 JR <sub>63</sub>	16.5	X	164.08982	353.28253	229.67269	9.87215	0.1912339	0.24165158	2.5527579	20	11 24.1	20.7
240139 2002 JT <sub>74</sub>	16.7	X	183.88561	184.14171	41.73542	6.10489	0.1408057	0.24557707	2.5254814	20	12 19.3	20.5
240140 2002 JN <sub>102</sub>	16.1	X	161.54850	182.00474	68.46184	13.17868	0.1144832	0.24500676	2.5293990	20	12 28.7	19.9
240141 2002 JW <sub>103</sub>	16.0	X	231.15991	303.12236	223.29580	10.85506	0.0998189	0.24452947	2.5326893	20	12 4.1	19.4
240142 2002 JW <sub>105</sub>	15.9	X	117.64718	101.64782	222.50058	7.72336	0.2707176	0.24360488	2.5390937	20	—	—
240143 2002 JS <sub>110</sub>	16.2	X	208.51328	131.70726	54.94915	8.11748	0.0901701	0.24325864	2.5415024	20	12 2.2	19.7
240144 2002 JB <sub>114</sub>	16.1	X	121.78193	35.32013	272.77331	5.70481	0.2625481	0.24454923	2.5325528	20	—	—
240145 2002 JH <sub>115</sub>	17.0	X	244.02079	116.55730	176.67857	22.56753	0.0454468	0.37254602	1.9128582	20	1 28.2	19.6
240146 2002 JF <sub>116</sub>	16.8	X	27.74538	25.89828	91.25591	24.88491	0.0453210	0.37288022	1.9117150	20	—	—
240147 2002 JC <sub>135</sub>	16.8	X	104.90893	66.54846	226.89370	6.81115	0.1891101	0.24200293	2.5502865	20	12 27.7	21.0
240148 2002 JS <sub>143</sub>	17.1	X	257.56997	189.09406	61.09007	23.30989	0.0463311	0.37206697	1.9144997	20	—	—
240149 2002 JK <sub>146</sub>	16.6	X	137.92988	323.51351	293.38175	4.50302	0.2395806	0.24211385	2.5495075	20	12 11.9	21.0
240150 2002 LL <sub>9</sub>	16.0	X	79.50794	225.01188	86.54247	14.43144	0.1671531	0.23817489	2.5775399	20	12 25.1	20.0
240151 2002 LY <sub>43</sub>	15.6	X	77.66185	100.59575	226.43412	10.36230	0.2922938	0.23387884	2.6090081	20	—	—
240152 2002 NX <sub>16</sub>	16.0	X	146.77228	145.42251	102.51956	10.75121	0.1675690	0.23777803	2.5804071	20	12 9.8	20.2
240153 2002 NZ <sub>22</sub>	16.0	X	30.33789	229.16308	129.90844	15.29713	0.1837649	0.23197349	2.6232749	20	—	—
240154 2002 NJ <sub>37</sub>	16.3	X	113.45291	110.08188	168.32362	7.69216	0.1800917	0.23490923	2.6013732	20	12 16.6	20.7
240155 2002												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240161	2002	<i>PU</i> <sub>25</sub>	16.2	X	348.29320	309.70776	300.88715	6.63165	0.1789262	0.21199151	2.7856320	20	5 3.6	19.1
240162	2002	<i>PT</i> <sub>31</sub>	16.5	X	68.74512	166.06739	152.39366	13.67437	0.1754348	0.23165405	2.6256860	20	12 23.4	20.7
240163	2002	<i>PG</i> <sub>33</sub>	16.3	X	300.90344	131.36052	235.68009	3.97142	0.1250442	0.21947303	2.7219613	20	8 1.2	19.5
240164	2002	<i>PE</i> <sub>97</sub>	16.1	X	127.14915	4.34101	341.95106	15.18047	0.1524053	0.24285612	2.5443099	20	—	—
240165	2002	<i>PQ</i> <sub>105</sub>	15.9	X	64.05600	95.37162	178.90489	12.86021	0.1605949	0.22516589	2.6758862	20	10 23.7	19.7
240166	2002	<i>PA</i> <sub>111</sub>	16.1	X	309.22537	55.14721	241.19997	8.37587	0.1957351	0.21063742	2.7975576	20	4 25.9	19.6
240167	2002	<i>PP</i> <sub>112</sub>	15.5	X	42.66257	319.57730	5.90347	12.68481	0.3117908	0.22736006	2.6586425	20	12 19.4	19.7
240168	2002	<i>PU</i> <sub>120</sub>	17.1	X	27.99146	93.92467	224.34299	2.75782	0.2211783	0.22491026	2.6779135	20	11 10.4	20.3
240169	2002	<i>PM</i> <sub>128</sub>	16.7	X	93.61882	76.61290	226.63168	1.73014	0.2055595	0.23392500	2.6086649	20	12 29.6	20.9
240170	2002	<i>PY</i> <sub>174</sub>	15.8	X	120.03837	97.94986	123.64822	19.30589	0.0782876	0.22616381	2.6680091	20	10 16.9	20.1
240171	2002	<i>PM</i> <sub>179</sub>	16.9	X	15.47906	131.13145	190.48004	5.02597	0.0725350	0.22351240	2.6890671	20	10 4.6	20.2
240172	2002	<i>PC</i> <sub>180</sub>	16.5	X	186.53611	57.26813	306.80716	3.37999	0.0601151	0.20102149	2.8860757	20	3 15.5	20.8
240173	2002	<i>PH</i> <sub>181</sub>	16.4	X	145.72030	65.57970	108.61224	6.56155	0.0225914	0.22210923	2.7003806	20	9 6.9	20.2
240174	2002	<i>PK</i> <sub>188</sub>	16.8	X	101.71482	139.81702	124.14132	7.71577	0.0471920	0.23044677	2.6348484	20	11 11.4	20.6
240175	2002	<i>PK</i> <sub>191</sub>	16.6	X	17.15362	224.50849	33.51215	2.93694	0.0571866	0.21592900	2.7516640	20	7 8.9	20.1
240176	2002	<i>QJ</i> <sub>12</sub>	16.5	X	5.02213	152.50876	196.67131	4.84866	0.2285846	0.22454087	2.6808496	20	11 17.3	19.2
240177	2002	<i>QK</i> <sub>18</sub>	16.0	X	333.63894	195.80903	159.09193	6.28242	0.0343742	0.21997954	2.7177814	20	9 15.1	19.5
240178	2002	<i>QN</i> <sub>34</sub>	16.1	X	290.00890	223.81662	105.67326	4.59522	0.0974922	0.21015604	2.8018280	20	5 30.2	19.9
240179	2002	<i>QH</i> <sub>43</sub>	16.6	X	72.95928	233.84682	77.36384	5.90010	0.2446217	0.23216138	2.6218594	20	12 24.2	20.9
240180	2002	<i>QI</i> <sub>46</sub>	16.2	X	92.21593	31.75895	249.36552	6.85758	0.1993303	0.22973663	2.6402753	20	12 1.5	20.4
240181	2002	<i>QD</i> <sub>55</sub>	17.1	X	59.70362	230.39897	45.69534	2.22107	0.1769058	0.22479455	2.6788323	20	10 21.2	20.7
240182	2002	<i>QH</i> <sub>70</sub>	16.4	X	315.27971	197.67205	151.21763	7.14656	0.0415305	0.21749022	2.7384799	20	8 8.9	20.0
240183	2002	<i>QA</i> <sub>74</sub>	16.9	X	327.18902	292.40994	36.32266	5.56285	0.1181471	0.21628744	2.7486230	20	7 26.9	20.1
240184	2002	<i>QE</i> <sub>76</sub>	15.6	X	63.27300	141.64865	285.35665	13.39676	0.0963515	0.19153554	2.9805961	20	1 11.3	19.4
240185	2002	<i>QK</i> <sub>97</sub>	16.9	X	18.80422	219.68676	66.86494	1.95053	0.1292892	0.22031332	2.7150357	20	8 29.9	19.9
240186	2002	<i>QT</i> <sub>100</sub>	16.1	X	348.67593	270.15208	85.54062	7.37308	0.0662124	0.22441829	2.6818257	20	10 13.6	19.4
240187	2002	<i>QV</i> <sub>101</sub>	16.3	X	246.49467	303.13308	55.24855	2.88309	0.1097427	0.20659202	2.8339598	20	5 10.9	20.6
240188	2002	<i>QC</i> <sub>103</sub>	16.2	X	15.19599	219.38523	113.72165	5.67397	0.1074798	0.22382701	2.6865467	20	10 27.1	19.5
240189	2002	<i>QO</i> <sub>103</sub>	16.6	X	324.28531	267.27296	24.23155	4.71573	0.0419444	0.21149326	2.7900053	20	6 3.5	20.2
240190	2002	<i>QC</i> <sub>104</sub>	16.2	X	352.13900	136.97328	200.40738	5.68339	0.0647721	0.22165999	2.7040280	20	9 18.0	19.4
240191	2002	<i>QW</i> <sub>111</sub>	16.5	X	330.89196	297.02045	185.05572	7.06351	0.0774456	0.24005252	2.5640818	20	—	—
240192	2002	<i>QX</i> <sub>123</sub>	16.6	X	291.06126	197.93073	151.60800	3.97875	0.1016896	0.21423140	2.7661813	20	6 26.7	20.2
240193	2002	<i>QI</i> <sub>127</sub>	16.2	X	63.10562	144.90138	140.59364	15.44219	0.0781095	0.22620139	2.6677136	20	10 29.4	20.2
240194	2002	<i>RG</i> <sub>2</sub>	16.5	X	59.43220	128.00696	185.32249	2.48870	0.1913454	0.22760498	2.6567348	20	12 8.3	20.3
240195	2002	<i>RL</i> <sub>20</sub>	16.0	X	16.32511	248.31317	65.93493	3.60193	0.1809853	0.22106839	2.7088499	20	10 11.9	19.9
240196	2002	<i>RW</i> <sub>23</sub>	15.7	X	95.69279	199.13783	169.32939	10.92759	0.1061441	0.18478961	3.0527016	20	—	—
240197	2002	<i>RZ</i> <sub>35</sub>	15.8	X	352.91093	152.24591	194.54699	6.91341	0.1638448	0.22178346	2.7030243	20	10 11.4	18.4
240198	2002	<i>RC</i> <sub>54</sub>	16.3	X	312.54859	306.27053	45.83217	4.25721	0.1998553	0.21464151	2.7626566	20	7 22.9	19.2
240199	2002	<i>RN</i> <sub>75</sub>	15.5	X	52.73220	276.32220	331.66843	8.24104	0.1056120	0.21722678	2.7406935	20	8 24.1	19.0
240200	2002	<i>RX</i> <sub>96</sub>	16.4	X	36.99633	160.88469	169.12802	3.13877	0.2674461	0.22519047	2.6756915	20	12 13.8	20.2
240201	2002	<i>RH</i> <sub>124</sub>	16.1	X	83.30099	224.72924	90.36295	6.84018	0.2600193	0.23243951	2.6197675	20	—	—
240202	2002	<i>RH</i> <sub>133</sub>	15.7	X	353.26232	243.87846	103.01895	9.64361	0.2327773	0.22040176	2.7143093	20	10 23.7	18.4
240203	2002	<i>RB</i> <sub>142</sub>	16.3	X	63.32000	68.94320	196.40555	8.01282	0.2341008	0.22340125	2.6899590	20	10 19.0	20.1
240204	2002	<i>RV</i> <sub>144</sub>	16.3	X	306.83705	107.44782	201.54760	8.54557	0.1395554	0.20890631	2.8129910	20	5 21.0	19.8
240205	2002	<i>RO</i> <sub>186</sub>	15.8	X	308.97213	139.10357	115.06162	11.12007	0.1513634	0.21403038	2.7679130	20	7 21.4	19.2
240206	2002	<i>RB</i> <sub>218</sub>	15.8	X	355.31862	248.12326	89.23717	7.20763	0.0758633	0.22077755	2.7112285	20	9 29.1	19.2
240207	2002	<i>RT</i> <sub>226</sub>	16.1	X	324.56329	174.96625	181.76663	5.97988	0.0402234	0.21815543	2.7329102	20	9 2.1	19.5
240208	2002	<i>RC</i> <sub>236</sub>	15.9	X	82.35098	43.43297	157.03364	9.99838	0.1387463	0.21358232	2.7717827	20	8 3.1	19.8
240209	2002	<i>RP</i> <sub>256</sub>	15.7	X	283.18276	141.55566	200.08463	12.72352	0.1205815	0.21175717	2.7876867	20	6 2.6	19.6
240210	2002	<i>RB</i> <sub>258</sub>	17.2	X	354.95813	125.73079	184.47928	5.04963	0.0632669	0.21563172	2.7541924	20	8 14.6	20.6
240211	2002	<i>RG</i> <sub>265</sub>	15.8	X	26.95238	297.57302	165.06434	9.41749	0.0785503	0.18686047	3.0301055	20	1 2.3	19.7
240212	2002	<i>RF</i> <sub>278</sub>	16.7	X	31.88807	61.14614	196.89490	12.56856	0.1585304	0.21658150	2.7461346	20	8 10.3	20.1
240213	2002	<i>SU</i> <sub>15</sub>	16.1	X	146.80686	5.39548	299.36228	13.58580	0.1366926	0.23736220	2.5834200	20	—	—
240214	2002	<i>SM</i> <sub>25</sub>	15.3	X	46.31737	35.36388	26.65561	16.84887	0.2510694	0.17993511	3.1073638	20	—	—
240215	2002	<i>SY</i> <sub>42</sub>	16.3	X	170.77747	196.03239	201.34390	5.71486	0.2135980	0.19684539	2.9267518	20	4 15.1	21.2
240216	2002	<i>SD</i> <sub>43</sub>	15.6	X	210.50219	200.63330	195.96441	20.61128	0.2154293	0.20258657	2.8711923	20	5 17.1	20.7
240217	2002	<i>SX</i> <sub>44</sub>	15.5	X	45.83589	66.63895	32.01545	26.42334	0.2142869	0.18142947	3.0902776	20	2 23.7	19.5
240218	2002	<i>SD</i> <sub>47</sub>	15.3	X	153.14032	335.82701	352.37649	10.06937	0.0395989	0.18614118	3.0379065	20	—	—
240219	2002	<i>SE</i> <sub>55</sub>	16.1	X	81.88528	34.75865	327.57539	7.34726	0.0492165	0.23630566	2.5911147	20	—	—
240220	2002	<i>SC</i> <sub>60</sub>	15.9	X	331.79240	249.26560	117.88619	9.30039	0.0820398	0.22113123	2.7083367	20	10 2.9	19.2
240221	2002	<i>SU</i> <sub>67</sub>	16.2	X	80.93761	222.79711	181.63301	16.44312	0.0738172	0.18548535	3.0450632	20	1 5.4	20.6
240222	2002	<i>TY</i> <sub>3</sub>	14.7	X	60.76464	358.19130	27.53729	16.43110	0.0684292	0.17763319	3.1341514	20	—	—
240223	2002	<i>TC</i> <sub>21</sub>	16.6	X	312.22856	131.99873	188.28116	3.14602	0.1814503	0.21017481	2.8016612	20	6 7.4	19.9
240224	2002	<i>TM</i> <sub>35</sub>	15.5	X	31.40528	237.04827	186.31280	8.28247	0.1299198	0.17801508	3.1296674	20	—	—
240225	2002	<i>TD</i> <sub>50</sub>	15.5	X	25.38515	131.54439	212.39119	12.04338	0.2715137	0.22256857	2.6966639	20	12 16.7	19.2
240226	2002	<i>TO</i> <sub>66</sub>	15.0	X	112.02961	95.92818	273.98535	22.90191	0.1081896	0.18328691	3.0693641	20	1 7.3	19.4
240227	2002	<i>TQ</i> <sub>77</sub>	15.2	X	119.37637	187.27647	211.02215	12.70487	0.1736812	0.18822628	3.0154297	20	2 23.9	19.9
240228	2002	<i>TL</i> <sub>82</sub>	15.4	X	32.01953	108.37419	8.28995	16.15021	0.178					

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240241	2002	TY <sub>334</sub>	16.2	X	292.70844	244.70993	40.46744	6.47372	0.0198203	0.19985819	2.8972641	20	4 17.5	20.2
240242	2002	TR <sub>377</sub>	16.9	X	207.21937	255.70799	22.95300	2.38721	0.0407028	0.18690290	3.0296470	20	—	—
240243	2002	TA <sub>383</sub>	15.6	X	72.21896	224.66866	228.68106	9.43718	0.1065661	0.18659358	3.0329942	20	2 24.4	19.7
240244	2002	US <sub>8</sub>	14.9	X	19.08032	311.97248	88.37476	18.07065	0.1326035	0.17143069	3.2093001	20	—	—
240245	2002	UH <sub>14</sub>	15.8	X	321.41688	171.82749	168.66831	10.86827	0.2639521	0.21159541	2.7891073	20	7 11.5	18.5
240246	2002	UW <sub>16</sub>	15.6	X	194.79398	235.03590	164.14555	10.82094	0.1574419	0.19724961	2.9227519	20	5 9.8	20.5
240247	2002	UP <sub>24</sub>	15.1	X	186.76994	208.43637	38.02937	12.77210	0.0082523	0.17416880	3.1755757	20	—	—
240248	2002	UP <sub>31</sub>	15.1	X	3.93992	276.62943	250.34657	10.07647	0.0603070	0.18921776	3.0048869	20	2 14.5	19.2
240249	2002	UG <sub>48</sub>	15.9	X	130.32609	186.44952	123.08840	6.84113	0.2891614	0.23511621	2.5998463	20	—	—
240250	2002	UZ <sub>54</sub>	15.4	X	358.50949	265.40819	179.17085	13.27347	0.1058556	0.17536547	3.1611128	20	—	—
240251	2002	UH <sub>61</sub>	15.9	X	319.98270	144.12838	213.42019	13.45540	0.1989647	0.21830910	2.7316276	20	8 9.5	18.9
240252	2002	UJ <sub>75</sub>	15.7	X	269.21409	129.89458	42.58495	14.13278	0.0906429	0.17361925	3.1822732	20	—	—
240253	2002	VT <sub>10</sub>	15.8	X	224.43268	334.98541	43.27966	11.63808	0.2051195	0.20055810	2.8905196	20	5 5.4	20.5
240254	2002	VN <sub>18</sub>	17.2	X	138.76500	304.96913	27.09416	5.22870	0.2656367	0.23963920	2.5670292	20	1 3.4	21.2
240255	2002	VF <sub>41</sub>	15.5	X	22.19916	67.02871	30.96877	10.76814	0.0926557	0.17831599	3.1261455	20	—	—
240256	2002	VJ <sub>52</sub>	15.5	X	196.70444	339.83765	63.37446	12.66790	0.1167677	0.19993317	2.8965397	20	5 15.4	20.0
240257	2002	VB <sub>54</sub>	15.5	X	21.09612	83.12808	52.19666	11.98111	0.2077209	0.18199278	3.0838976	20	2 10.3	18.9
240258	2002	VW <sub>67</sub>	15.4	X	230.27187	302.48217	98.74420	19.77229	0.2692499	0.20255915	2.8714514	20	6 5.9	20.4
240259	2002	VL <sub>90</sub>	15.0	X	152.04830	252.11731	47.32331	17.97387	0.0982820	0.17750318	3.1356816	20	—	—
240260	2002	VD <sub>93</sub>	15.7	X	71.35140	26.78228	83.42141	5.71091	0.1563233	0.18628324	3.0363619	20	3 29.9	19.7
240261	2002	VH <sub>94</sub>	15.1	X	85.86504	86.55405	255.68873	11.44907	0.2260001	0.22910885	2.6450962	20	—	—
240262	2002	VW <sub>103</sub>	14.7	X	323.73117	268.73251	249.79970	21.90982	0.2081496	0.17501585	3.1653213	20	—	—
240263	2002	VM <sub>118</sub>	15.0	X	134.96888	342.85769	342.31057	24.11210	0.1705387	0.18057493	3.1000194	20	—	—
240264	2002	WL <sub>1</sub>	15.6	X	338.59175	278.58450	40.06014	12.65060	0.1529317	0.20959477	2.8068277	20	8 3.7	18.8
240265	2002	WY <sub>1</sub>	15.5	X	38.26447	84.74717	66.15745	11.76531	0.0775728	0.18738025	3.0244995	20	3 26.8	19.5
240266	2002	WR <sub>29</sub>	15.2	X	171.06870	66.23789	204.98346	9.00508	0.0487424	0.17482617	3.1676103	20	—	—
240267	2002	XU <sub>5</sub>	15.8	X	90.83804	19.96153	67.06974	9.49400	0.2307175	0.18594026	3.0400945	20	4 7.5	20.2
240268	2002	XR <sub>10</sub>	15.5	X	93.91705	353.72324	94.50745	10.87482	0.0435098	0.18637315	3.0353853	20	3 18.3	19.9
240269	2002	XH <sub>20</sub>	14.7	X	316.96288	267.45440	251.77826	23.87520	0.2505337	0.17270261	3.1935235	20	—	—
240270	2002	XE <sub>45</sub>	15.7	X	336.43205	208.47810	130.52784	10.79215	0.2172002	0.21022120	2.8012489	20	8 23.9	18.1
240271	2002	XL <sub>47</sub>	15.7	X	51.16434	25.73474	83.62212	18.08503	0.1824487	0.17999517	3.1066726	20	3 7.6	19.7
240272	2002	XU <sub>90</sub>	15.1	X	72.22755	332.62329	107.21501	19.10023	0.2035864	0.17736383	3.1373238	20	3 3.5	19.4
240273	2002	XJ <sub>99</sub>	17.5	X	59.14360	52.02288	81.94102	3.64698	0.1192694	0.29993690	2.2102910	20	3 24.6	19.4
240274	2002	XF <sub>99</sub>	15.9	X	110.59780	336.06504	100.35865	4.19783	0.1349848	0.18714229	3.0270627	20	4 1.9	20.3
240275	2002	XN <sub>120</sub>	15.2	X	325.75632	92.06867	87.49274	13.43983	0.0759225	0.17918794	3.1159958	20	1 14.2	19.4
240276	2002	YT <sub>4</sub>	16.5	X	11.52390	129.61987	348.87938	25.60322	0.1599789	0.28721915	2.2750649	20	—	—
240277	2002	YY <sub>10</sub>	15.3	X	136.72991	320.74670	97.46965	13.45865	0.1258865	0.18548898	3.0450234	20	4 11.6	20.2
240278	2003	AJ <sub>12</sub>	15.4	X	87.66373	311.75815	122.90032	18.50913	0.2525406	0.18143335	3.0920336	20	3 25.1	20.0
240279	2003	AR <sub>16</sub>	14.4	X	346.09854	291.68590	287.57929	24.97370	0.1779792	0.17830376	3.1262884	20	3 5.8	18.7
240280	2003	BC <sub>8</sub>	15.0	X	44.09057	326.72443	136.83673	16.81547	0.0576586	0.17382000	3.1798225	20	1 29.6	19.3
240281	2003	BO <sub>44</sub>	17.8	X	44.13867	97.52775	344.48940	1.53239	0.1835182	0.28562416	2.2835267	20	—	—
240282	2003	BK <sub>84</sub>	16.2	X	311.59326	319.24132	101.94490	8.89067	0.2126579	0.21215842	2.7841707	20	11 2.3	18.9
240283	2003	CV <sub>11</sub>	15.3	X	163.85406	241.97818	122.65190	17.23077	0.0284465	0.17604251	3.1530028	20	2 25.1	20.0
240284	2003	XB <sub>19</sub>	17.1	X	37.71538	44.91270	157.75980	5.65171	0.1007490	0.29771261	2.2212864	20	5 29.9	19.3
240285	2003	ET <sub>1</sub>	17.5	X	17.51912	286.78775	151.36062	6.25748	0.2219271	0.27855975	3.3219729	20	—	—
240286	2003	EN <sub>19</sub>	15.0	X	355.67206	278.53443	331.38343	12.50873	0.0479445	0.18405235	3.0608483	20	5 21.4	19.3
240287	2003	EQ <sub>25</sub>	17.4	X	57.92044	80.04491	45.69182	4.86401	0.2023437	0.29031752	2.2588491	20	3 23.2	19.1
240288	2003	EZ <sub>27</sub>	16.7	X	297.65901	229.19940	33.00224	7.50108	0.2062535	0.28625826	2.2801532	20	2 20.4	19.8
240289	2003	EM <sub>28</sub>	16.9	X	353.47804	102.13342	138.96310	7.04340	0.1250827	0.29286359	2.2457382	20	5 5.4	18.9
240290	2003	EY <sub>51</sub>	17.4	X	320.42096	150.15751	81.74805	3.84363	0.1874537	0.28655049	2.2786027	20	2 9.5	20.1
240291	2003	EO <sub>52</sub>	14.8	X	355.54159	204.10705	6.93301	27.60490	0.1049302	0.17665320	3.1457320	20	3 31.1	18.8
240292	2003	EB <sub>54</sub>	17.0	X	309.31041	304.63310	205.11147	22.76412	0.3010031	0.27639243	2.3340955	20	—	—
240293	2003	EN <sub>60</sub>	16.4	X	307.50694	205.58884	57.97130	10.10100	0.2188989	0.28759002	2.2731085	20	3 5.9	19.3
240294	2003	EX <sub>61</sub>	17.8	X	316.35468	263.42748	7.33176	3.85015	0.1827294	0.29277014	2.2462160	20	3 28.8	20.1
240295	2003	FK <sub>2</sub>	15.5	X	96.87507	127.21502	19.79038	16.63633	0.1047147	0.18454546	3.0553934	20	6 3.7	20.2
240296	2003	FJ <sub>4</sub>	16.8	X	17.60357	88.50048	52.56534	22.23456	0.2067156	0.28582311	2.2824669	20	1 4.7	19.0
240297	2003	FB <sub>15</sub>	17.3	X	291.28006	4.03562	188.04320	5.98082	0.1601036	0.27650720	2.3334495	20	—	—
240298	2003	FZ <sub>27</sub>	17.2	X	257.06163	120.74046	212.81189	4.73661	0.1469695	0.29270176	2.2465659	20	4 12.0	20.1
240299	2003	FG <sub>54</sub>	17.0	X	271.45886	355.59335	194.77457	7.03644	0.1178855	0.27191685	2.3596376	20	—	—
240300	2003	FE <sub>60</sub>	16.9	X	10.31702	111.61385	87.59598	4.99145	0.0594437	0.29079148	2.2563940	20	4 3.7	19.2
240301	2003	FK <sub>67</sub>	17.3	X	335.06895	73.79148	143.88080	4.72849	0.1652052	0.28617947	2.2805717	20	2 14.4	19.4
240302	2003	FK <sub>79</sub>	17.1	X	302.47388	40.32301	206.52874	6.94264	0.1604541	0.28434491	2.2903705	20	2 6.4	20.2
240303	2003	FZ <sub>83</sub>	17.3	X	286.38762	133.20378	56.65625	5.99515	0.2070961	0.27681926	2.3316956	20	—	—
240304	2003	FS <sub>84</sub>	16.9	X	346.42374	314.02368	221.33778	6.26073	0.1039589	0.28362537	2.2942426	20	1 11.7	19.6
240305	2003	FO <sub>91</sub>	17.2	X	313.34802	133.96608	88.22264	6.58338	0.1569407	0.28264847	2.2995258	20	1 22.4	19.9
240306	2003	FY <sub>93</sub>	15.6	X	39.67380	106.42244	74.32504	10.97955	0.1543129	0.17620981	3.1510067	20	5 11.4	19.4
240307	2003	FH <sub>99</sub>	17.2	X	340.71354	186.59512	43.36663	6.22129	0.1235282	0.28955625	2.2682065	20	3 23.1	19.3
240308	2003	FP <sub>100</sub>	17.1	X	328.14296	142.92815	62.61871	5.69033	0.0895445	0.28443663	2.2898781	20	1 31.8	19.8
240309	2003	FY <sub>103</sub>	17.2	X	351.52470	359.24885	208.56208	5.00572	0.0923394	0.28806315	2.2706189	20	3 7.9	19.5
240310	2003	FF <sub>116</sub>	14.8	X	287.44381	274.43464	10.77021	9.02011	0.0428252	0.17426898	3.1743586	20	4 7.5	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240321 2003 <i>JC</i> <sub>10</sub>	16.5	X	286.03323	222.32355	69.29904	7.52985	0.1087841	0.28675014	2.2775450	20	3 31.6	19.4
240322 2003 <i>KM</i> <sub>17</sub>	16.9	X	259.11224	44.51041	215.36888	4.68705	0.2143606	0.27491559	2.3424472	20	1 6.9	20.7
240323 2003 <i>KG</i> <sub>18</sub>	17.0	X	263.64785	162.20975	125.08156	2.79476	0.2215702	0.27943661	2.3171128	20	2 13.4	20.5
240324 2003 <i>KK</i> <sub>36</sub>	16.3	X	261.90072	173.78291	95.20584	8.85125	0.0992309	0.27784485	2.3259541	20	1 31.3	19.6
240325 2003 <i>LB</i>	16.9	X	327.06423	160.62577	68.55596	3.57452	0.1088715	0.28384829	2.2930412	20	2 29.8	19.4
240326 2003 <i>ML</i>	17.5	X	268.92278	128.19294	127.66221	6.59745	0.1980686	0.27622930	2.3350144	20	1 12.1	20.9
240327 2003 <i>MX</i> <sub>4</sub>	16.6	X	212.23365	47.60807	251.71235	3.82624	0.1982818	0.26862995	2.3788466	20	1 16.9	20.5
240328 2003 <i>MJ</i> <sub>10</sub>	16.6	X	218.52181	287.80910	44.05346	5.42521	0.2509182	0.27334223	2.3514273	20	3 3.2	20.7
240329 2003 <i>NV</i> <sub>4</sub>	17.1	X	233.99962	292.35091	4.38724	2.69183	0.1952341	0.27197432	2.3593051	20	2 2.0	20.8
240330 2003 <i>NL</i> <sub>13</sub>	16.7	X	170.16546	119.80538	115.47746	5.12350	0.0861275	0.25046388	2.4925238	20	12 22.6	20.3
240331 2003 <i>OX</i> <sub>3</sub>	17.1	X	157.35189	175.68565	147.30099	1.75041	0.1876482	0.26040345	2.4286870	20	—	—
240332 2003 <i>OH</i> <sub>4</sub>	16.8	X	233.63627	140.41419	133.70273	6.38904	0.2073775	0.26853084	2.3794318	20	1 4.6	20.7
240333 2003 <i>OE</i> <sub>21</sub>	17.4	X	198.20369	135.72812	184.98941	1.92217	0.2392878	0.26750569	2.3855070	20	2 1.2	21.3
240334 2003 <i>OH</i> <sub>28</sub>	16.8	X	49.70910	351.44203	356.19604	2.42032	0.1158401	0.24543012	2.5264894	20	—	—
240335 2003 <i>PC</i> <sub>2</sub>	16.5	X	176.12386	192.32424	126.57877	7.06872	0.1439844	0.26445531	2.4038158	20	1 7.5	20.1
240336 2003 <i>PD</i> <sub>11</sub>	16.1	X	212.90867	142.31925	176.03337	23.37442	0.2603136	0.26875269	2.3781222	20	2 7.3	20.6
240337 2003 <i>MX</i> <sub>19</sub>	17.0	X	115.52326	298.67187	52.61899	1.88756	0.2400793	0.25519935	2.4615935	20	—	—
240338 2003 <i>QJ</i> <sub>24</sub>	17.1	X	138.42190	127.07234	202.89926	2.07384	0.2125129	0.25744183	2.4472780	20	—	—
240339 2003 <i>QQ</i> <sub>24</sub>	16.9	X	218.00364	102.08454	191.67710	3.49366	0.2259431	0.26520965	2.3992555	20	1 15.3	21.0
240340 2003 <i>QH</i> <sub>49</sub>	17.2	X	51.02086	340.54157	2.72437	3.49126	0.1770073	0.24435023	2.5339277	20	—	—
240341 2003 <i>QE</i> <sub>52</sub>	16.0	X	296.86973	22.35454	46.13975	5.59556	0.2287557	0.23623038	2.5916651	20	10 14.4	18.3
240342 2003 <i>QE</i> <sub>65</sub>	17.3	X	133.61342	320.89124	355.95758	20.88594	0.0460335	0.37076971	1.9189628	20	—	—
240343 2003 <i>QY</i> <sub>66</sub>	17.1	X	219.25656	80.34518	205.99104	1.98402	0.1921679	0.26517334	2.3994745	20	1 7.9	21.1
240344 2003 <i>QP</i> <sub>67</sub>	16.8	X	151.39001	152.55447	199.30287	3.86066	0.2207611	0.26273701	2.4142851	20	1 30.1	20.6
240345 2003 <i>QK</i> <sub>72</sub>	16.8	X	233.38768	308.71935	75.25460	3.52419	0.1969390	0.27912401	2.3188425	20	5 18.1	20.4
240346 2003 <i>QT</i> <sub>87</sub>	17.1	X	208.93807	128.99884	174.25636	5.70711	0.2392376	0.26546306	2.3977284	20	1 19.4	21.3
240347 2003 <i>QO</i> <sub>93</sub>	17.0	X	146.92116	297.76692	30.62383	2.93959	0.2126321	0.25923253	2.4359950	20	—	—
240348 2003 <i>QA</i> <sub>94</sub>	17.1	X	145.68012	204.60083	152.43517	2.32669	0.1868019	0.26201379	2.4187257	20	1 28.6	20.7
240349 2003 <i>QG</i> <sub>99</sub>	15.9	X	309.97185	262.87625	51.83548	5.69970	0.1148165	0.22487477	2.6781952	20	6 5.1	19.1
240350 2003 <i>QW</i> <sub>110</sub>	16.4	X	235.45853	267.80590	128.60520	10.82752	0.2052151	0.28044096	2.3115773	20	6 9.0	20.1
240351 2003 <i>RV</i> <sub>2</sub>	17.2	X	143.18556	199.49657	137.23770	3.12182	0.2054855	0.25859859	2.4399745	20	1 3.5	20.6
240352 2003 <i>RP</i> <sub>3</sub>	16.8	X	134.31808	217.08753	65.91569	2.32987	0.1572281	0.25058930	2.4916921	20	—	—
240353 2003 <i>SR</i> <sub>4</sub>	17.6	X	165.03012	232.66794	86.06078	3.28465	0.2189475	0.25930591	2.4355354	20	1 3.6	21.3
240354 2003 <i>ST</i> <sub>5</sub>	16.1	X	331.97797	140.91694	187.16879	11.35932	0.1923536	0.22858588	2.6491291	20	7 26.4	18.8
240355 2003 <i>SO</i> <sub>13</sub>	16.2	X	90.90521	276.62055	157.91001	6.84571	0.3740025	0.19946120	2.9011071	20	4 7.8	20.5
240356 2003 <i>SR</i> <sub>22</sub>	16.0	X	219.51803	153.63846	214.49575	4.21701	0.1705337	0.21280574	2.7785219	20	4 20.4	20.6
240357 2003 <i>SY</i> <sub>39</sub>	15.9	X	176.08511	88.02187	308.49938	3.42613	0.1388573	0.20991112	2.8040070	20	4 14.5	20.4
240358 2003 <i>SA</i> <sub>46</sub>	17.1	X	149.77833	288.36079	41.34342	3.12738	0.2098081	0.25758549	2.4463680	20	1 2.4	20.7
240359 2003 <i>SF</i> <sub>46</sub>	16.8	X	334.00948	210.98414	151.84724	4.28948	0.1342398	0.23221484	2.6214570	20	9 29.8	19.3
240360 2003 <i>SO</i> <sub>60</sub>	16.6	X	309.89720	178.50212	202.44877	3.21133	0.1563837	0.23064556	2.6333342	20	9 4.7	19.4
240361 2003 <i>SU</i> <sub>110</sub>	16.0	X	302.92982	3.83561	13.46306	14.60477	0.1726914	0.22636819	2.6664030	20	8 22.6	19.1
240362 2003 <i>SN</i> <sub>116</sub>	16.0	X	40.26669	301.74741	59.37147	10.54358	0.0671870	0.24399360	2.5363962	20	—	—
240363 2003 <i>SV</i> <sub>128</sub>	16.0	X	149.66930	315.32400	246.11629	6.47516	0.1445173	0.23296213	2.6158480	20	10 14.0	20.3
240364 Kozmutza	17.6	X	204.13219	209.52931	52.04551	2.02831	0.1562715	0.25704572	2.4497915	20	—	—
240365 2003 <i>SR</i> <sub>146</sub>	16.5	X	241.57068	34.55095	311.33839	4.47922	0.1372482	0.27217981	2.3581175	20	4 11.5	19.9
240366 2003 <i>SO</i> <sub>147</sub>	15.3	X	77.72956	40.98880	5.57212	22.34223	0.1943935	0.19277826	2.9677730	20	1 29.4	19.4
240367 2003 <i>SF</i> <sub>169</sub>	17.0	X	98.51643	306.27323	45.27430	6.64275	0.1828091	0.25118280	2.4877656	20	—	—
240368 2003 <i>SO</i> <sub>169</sub>	17.4	X	141.29927	178.11006	154.25026	2.90489	0.2160884	0.25608303	2.4559273	20	—	—
240369 2003 <i>SY</i> <sub>201</sub>	16.6	X	33.07691	197.42414	192.88380	3.72881	0.0979385	0.24573619	2.5243911	20	—	—
240370 2003 <i>SS</i> <sub>219</sub>	16.0	X	220.33303	13.20676	35.11270	9.61385	0.1360948	0.21623032	2.7491070	20	6 11.7	20.3
240371 2003 <i>SZ</i> <sub>220</sub>	16.6	X	53.72330	91.42557	323.25241	12.83711	0.2802476	0.19164094	2.9795032	20	1 1.5	19.5
240372 2003 <i>SS</i> <sub>222</sub>	17.3	X	112.99736	181.97147	217.08564	20.97730	0.0866370	0.37638137	1.8998412	20	1 2.7	19.5
240373 2003 <i>SU</i> <sub>236</sub>	16.4	X	36.71188	95.04130	189.20319	3.06989	0.1144137	0.23134164	2.6280493	20	9 22.5	19.6
240374 2003 <i>ST</i> <sub>245</sub>	16.9	X	204.67641	105.16606	192.99890	4.77092	0.2296789	0.26276751	2.4140983	20	1 10.5	21.1
240375 2003 <i>SO</i> <sub>250</sub>	16.4	X	355.66144	172.32493	203.21553	7.57184	0.2322549	0.23448943	2.6044771	20	12 10.5	19.0
240376 2003 <i>SG</i> <sub>251</sub>	15.9	X	72.64889	272.49221	22.88180	9.97704	0.0165170	0.23400580	2.6080643	20	11 8.2	19.4
240377 2003 <i>SR</i> <sub>255</sub>	17.3	X	5.96148	350.06720	20.00556	21.50228	0.0503617	0.38343998	1.8764534	20	2 19.4	19.4
240378 2003 <i>SZ</i> <sub>256</sub>	17.1	X	168.68957	129.64011	185.60557	3.17711	0.1761908	0.25927984	2.4356986	20	—	—
240379 2003 <i>SG</i> <sub>290</sub>	17.0	X	160.74948	163.91499	129.00398	7.17771	0.1114038	0.25224209	2.4807958	20	—	—
240380 2003 <i>SE</i> <sub>293</sub>	16.8	X	91.06450	38.79904	289.40805	4.51964	0.1455534	0.24691958	2.5163190	20	—	—
240381 Emilchyne	16.8	X	300.39810	300.08159	144.15519	1.27717	0.0704655	0.23838078	2.5760555	20	11 27.4	19.6
240382 2003 <i>SC</i> <sub>320</sub>	17.3	X	147.07933	111.85466	201.56546	3.54978	0.1659846	0.25536363	2.4605377	20	—	—
240383 2003 <i>SX</i> <sub>321</sub>	16.3	X	6.28667	300.00960	21.47553	12.14349	0.0254668	0.23039862	2.6352155	20	9 21.0	19.7
240384 2003 <i>SJ</i> <sub>327</sub>	16.1	X	68.49184	115.69477	8.68147	15.24151	0.0926735	0.20684613	2.8316383	20	3 29.7	19.8
240385 2003 <i>TV</i> <sub>3</sub>	15.9	X	236.86216	204.85566	210.98011	13.49195	0.1918277	0.21872514	2.7281626	20	7 2.4	20.4
240386 2003 <i>TB</i> <sub>46</sub>	16.6	X	28.32872	293.76675	316.85538	4.59638	0.0953033	0.22122729	2.7075527	20	7 20.7	19.6
240387 2003 <i>TV</i> <sub>58</sub>	16.3	X	186.58332	50.23585	20.34636	13.42448	0.1871380	0.21089566	2.7952733	20	6 4.1	21.2
240388 2003 <i>UN</i> <sub>13</sub>	17.0	X	221.35103	53.35926	233.60571	20.51776	0.0577027	0.37412234	1.9074813	20	—	—
240389 2003 <i>UE</i> <sub>14</sub>	16.4	X	219.59203	244.69551	48.35915	14.36545	0.2830255	0.26429417	2.4047928	20	1 18.6	21.0
240390 2003 <i>UA</i> <sub>16</sub>	16.7	X	76.85815	138.75945	202.56332	9.92796	0.2628001	0.24402167	2.5362016	20	—	—
240391 2003 <i>UJ</i> <sub>34</sub>	16.4	X	133.10541	24.53904	220.83718	9.82235	0.0860094	0.23691852	2.5866443	20	11 23.7	20.3
240392 2003 <i>UE</i> <sub>41</sub>	16.4	X	198.77767	211.43833	193.44298	5.05109	0.1625846					

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240401 2003 UY <sub>168</sub>	16.3	X	295.53909	22.27627	16.08169	2.28842	0.2100356	0.22619365	2.6677745	20	8 27.3	19.2
240402 2003 UF <sub>175</sub>	16.0	X	180.61160	6.09628	66.44955	5.34575	0.1913327	0.21214870	2.7842558	20	6 3.8	20.6
240403 2003 UK <sub>182</sub>	17.3	X	35.27744	229.59384	102.19965	1.88757	0.1845312	0.23631163	2.5910710	20	12 4.8	20.7
240404 2003 UK <sub>184</sub>	16.5	X	353.81411	186.40416	156.72617	6.29450	0.2369717	0.23087819	2.6315650	20	10 21.3	18.8
240405 2003 UX <sub>193</sub>	16.1	X	223.48201	325.40938	72.69447	3.43376	0.2017145	0.21629756	2.7485373	20	5 29.2	20.6
240406 2003 UL <sub>200</sub>	16.6	X	0.67488	288.61791	61.82933	5.62410	0.1652894	0.23279860	2.6170728	20	11 4.3	19.3
240407 2003 UV <sub>203</sub>	15.7	X	146.36847	287.79201	223.42165	13.21783	0.1666263	0.21767348	2.7369426	20	8 5.7	20.5
240408 2003 UU <sub>229</sub>	15.6	X	268.42278	204.14531	227.22110	21.30272	0.0414952	0.22732293	2.6589119	20	9 18.4	19.5
240409 2003 UE <sub>237</sub>	16.0	X	229.86564	27.06402	73.08471	10.02832	0.0626769	0.22582533	2.6706744	20	9 14.3	19.9
240410 2003 UL <sub>248</sub>	16.2	X	190.42095	51.72719	345.85404	5.50572	0.0557840	0.21139915	2.7908333	20	4 29.4	20.4
240411 2003 UW <sub>256</sub>	16.3	X	83.20533	292.19488	16.24462	4.15759	0.1120499	0.23782012	2.5801027	20	12 20.4	20.1
240412 2003 UH <sub>258</sub>	15.3	X	123.69601	299.28010	217.80806	24.50672	0.1081877	0.21378747	2.7700092	20	7 15.8	20.0
240413 2003 UD <sub>265</sub>	16.4	X	7.78852	292.88057	86.31402	8.69394	0.1598187	0.23549353	2.5970685	20	12 24.3	19.4
240414 2003 UN <sub>304</sub>	16.5	X	56.07455	292.90662	53.08676	11.50650	0.1524599	0.24236920	2.5477165	20	—	—
240415 2003 UO <sub>316</sub>	16.1	X	175.47917	44.60102	43.57522	13.86485	0.1757178	0.21061457	2.7977599	20	6 17.5	20.9
240416 2003 UD <sub>351</sub>	17.1	X	135.15343	138.30848	112.82501	3.61436	0.0734243	0.23979870	2.5658908	20	12 3.4	20.9
240417 2003 UR <sub>365</sub>	15.8	X	140.62411	134.61326	55.36512	15.42496	0.0515403	0.22784654	2.6548567	20	9 28.8	19.9
240418 2003 VO <sub>5</sub>	16.8	X	71.45867	285.95884	52.18471	13.22529	0.1986145	0.24122246	2.5557845	20	—	—
240419 2003 WW	15.8	X	209.17638	330.54346	67.59104	5.34464	0.0740106	0.21100377	2.7943185	20	5 23.1	19.8
240420 2003 WT <sub>8</sub>	15.8	X	327.35109	316.30765	24.04921	11.83279	0.0973441	0.22254160	2.6968818	20	8 19.6	19.1
240421 2003 WJ <sub>12</sub>	14.7	X	327.47660	323.53150	258.24112	26.12630	0.1604997	0.19856530	2.9098268	20	2 9.3	19.1
240422 2003 WR <sub>31</sub>	16.5	X	42.70393	63.25839	262.63380	5.52461	0.1188756	0.23468882	2.6030017	20	11 26.1	20.0
240423 2003 WJ <sub>34</sub>	16.1	X	34.09161	291.54391	46.45899	9.11711	0.1214909	0.23282382	2.6168838	20	11 29.8	19.5
240424 2003 WV <sub>50</sub>	16.9	X	156.15585	54.20666	41.61254	3.60611	0.0446281	0.21242467	2.7818439	20	6 5.2	20.9
240425 2003 WC <sub>54</sub>	16.2	X	6.18285	302.55506	37.78722	11.86706	0.1914656	0.23058492	2.6337959	20	11 5.7	18.9
240426 2003 WK <sub>59</sub>	15.8	X	128.67778	111.47851	65.96093	10.81493	0.1063433	0.21828165	2.7318566	20	8 28.9	20.1
240427 2003 WG <sub>64</sub>	16.0	X	180.46231	19.93958	68.78494	5.75279	0.0173058	0.21273505	2.7791374	20	6 25.9	19.8
240428 2003 WW <sub>65</sub>	16.0	X	42.11760	278.90246	73.22620	7.11596	0.0921872	0.23566072	2.5958399	20	12 25.4	19.5
240429 2003 WQ <sub>65</sub>	15.8	X	338.84233	24.16854	83.84984	4.97793	0.1956224	0.18081997	3.0972180	20	—	—
240430 2003 WW <sub>69</sub>	16.2	X	278.50076	333.78200	71.33697	14.30929	0.0857654	0.22221185	2.6995492	20	9 4.2	20.0
240431 2003 WX <sub>90</sub>	15.6	X	331.48305	273.40066	41.42030	14.82216	0.0408101	0.21876076	2.7278664	20	7 21.1	19.4
240432 2003 WD <sub>96</sub>	16.3	X	87.61557	335.91001	64.23347	6.73078	0.1145805	0.19196756	2.9761226	20	1 15.6	20.2
240433 2003 WY <sub>118</sub>	15.5	X	357.14525	126.08869	266.75950	8.79037	0.2238144	0.17529394	3.1619727	20	12 13.6	19.0
240434 2003 WV <sub>129</sub>	15.9	X	208.94125	340.67036	60.24338	5.18000	0.0708264	0.21041715	2.7995096	20	5 26.3	20.0
240435 2003 WN <sub>134</sub>	15.8	X	111.34094	245.46910	63.48502	8.92205	0.1581675	0.24053965	2.5606188	20	—	—
240436 2003 WV <sub>151</sub>	15.8	X	100.83984	216.56128	71.35593	16.84004	0.1810337	0.23327176	2.6135327	20	12 15.6	20.1
240437 2003 WG <sub>159</sub>	15.5	X	141.43507	172.28483	182.11575	14.58662	0.2945675	0.19592077	2.9359527	20	2 4.9	20.7
240438 2003 WB <sub>165</sub>	16.5	X	46.31350	107.00321	235.99230	2.42485	0.1691724	0.23561509	2.5961751	20	12 29.3	20.0
240439 2003 XH <sub>11</sub>	15.1	X	340.05225	110.71011	348.07224	29.43174	0.1768351	0.23670262	2.5882170	20	—	—
240440 2003 XM <sub>14</sub>	16.5	X	255.15916	4.89760	27.27064	6.89934	0.0884373	0.21824206	2.7321870	20	7 8.6	20.4
240441 2003 XJ <sub>43</sub>	16.3	X	89.92799	301.55411	31.09307	2.19606	0.1973291	0.24172386	2.5522489	20	—	—
240442 2003 YB <sub>9</sub>	16.9	X	71.82148	321.10265	107.39160	23.80146	0.0633308	0.36720349	1.9313672	20	—	—
240443 2003 YU <sub>9</sub>	15.9	X	273.91480	281.51859	89.12434	5.79282	0.0730914	0.21354685	2.7720896	20	7 5.8	19.6
240444 2003 YB <sub>11</sub>	15.5	X	77.98396	289.61997	46.35427	13.86631	0.2068039	0.23706194	2.5856009	20	—	—
240445 2003 YG <sub>13</sub>	15.2	X	2.28678	357.93762	87.81746	11.80873	0.1527937	0.17771647	3.1331722	20	—	—
240446 2003 YT <sub>15</sub>	15.6	X	334.42954	321.27452	53.66742	11.97427	0.2171503	0.22559356	2.6725033	20	10 21.7	17.9
240447 2003 YV <sub>15</sub>	15.6	X	245.91834	344.50877	65.24811	10.10610	0.1599126	0.21236961	2.7823247	20	7 10.3	19.8
240448 2003 YK <sub>18</sub>	16.5	X	119.59699	14.18105	79.70984	2.74017	0.1699680	0.20195167	2.8772069	20	5 5.2	20.8
240449 2003 YM <sub>25</sub>	14.7	X	68.15386	284.24468	92.57940	27.15021	0.2169802	0.18190821	3.0848533	20	—	—
240450 2003 YY <sub>25</sub>	14.6	X	73.77352	284.75746	89.68702	15.37079	0.2516748	0.18268177	3.0761386	20	—	—
240451 2003 YN <sub>44</sub>	15.6	X	257.09728	285.29490	300.36652	11.03123	0.1909198	0.17717948	3.1394997	20	—	—
240452 2003 YG <sub>51</sub>	15.0	X	11.07248	22.32052	81.41070	12.89515	0.0887147	0.18277652	3.0750755	20	—	—
240453 2003 YM <sub>57</sub>	16.4	X	294.75834	42.43543	98.42002	12.42342	0.1195991	0.23666648	2.5884804	20	—	—
240454 2003 YG <sub>61</sub>	16.1	X	335.74494	176.68336	260.13633	4.16486	0.1915967	0.23348044	2.6119752	20	—	—
240455 2003 YU <sub>91</sub>	17.3	X	16.89017	35.23405	89.39413	23.12973	0.0771241	0.37131154	1.9170955	20	—	—
240456 2003 YJ <sub>93</sub>	16.4	X	291.73221	311.21438	80.26391	3.10351	0.0888775	0.22065978	2.7121931	20	8 29.3	19.6
240457 2003 YU <sub>103</sub>	17.0	X	199.85827	253.35435	117.98822	4.59117	0.1800881	0.26531172	2.3986401	20	4 6.6	20.9
240458 2003 YJ <sub>115</sub>	15.2	X	30.83691	342.49200	76.84332	16.53502	0.1042780	0.17908259	3.1172177	20	—	—
240459 2003 YQ <sub>119</sub>	15.2	X	256.28762	278.57336	310.03241	9.70776	0.0526131	0.18129915	3.0917583	20	—	—
240460 2003 YG <sub>135</sub>	16.0	X	174.97807	126.87864	34.51650	8.69287	0.2321341	0.21394408	2.7686573	20	9 19.0	20.8
240461 2003 YC <sub>136</sub>	16.4	X	6.58844	88.75671	48.61117	8.01772	0.3454480	0.18171568	3.0870319	20	—	—
240462 2003 YC <sub>144</sub>	15.2	X	264.07864	93.02144	88.54324	12.94118	0.1654822	0.17237839	3.1975267	20	—	—
240463 2003 YQ <sub>146</sub>	15.7	X	40.92544	348.71259	84.54173	14.05301	0.2197872	0.24027127	2.5625253	20	—	—
240464 2003 YP <sub>151</sub>	15.9	X	7.83444	90.58963	56.86276	15.70517	0.2708563	0.18434896	3.0575642	20	1 21.8	19.0
240465 2004 BL <sub>1</sub>	16.9	X	345.92584	350.23735	211.18771	1.90285	0.0970636	0.18941487	3.0028018	20	3 4.2	20.5
240466 2004 BZ <sub>3</sub>	15.5	X	354.00270	98.72924	101.61336	10.16905	0.0756270	0.19057350	2.9906187	20	3 22.5	19.5
240467 2004 BM <sub>29</sub>	15.6	X	301.34996	74.02419	128.39104	16.82146	0.1767680	0.17878264	3.1207033	20	—	—
240468 2004 BV <sub>30</sub>	15.7	X	31.91598	101.65249	357.73545	4.84706	0.1651898	0.18137153	3.0909357	20	1 9.9	19.2
240469 2004 BC <sub>32</sub>	15.7	X	224.00402	290.14640	105.27571	6.79618	0.0700020	0.20463989	2.8519540	20	6 6.4	19.9
240470 2004 BF <sub>34</sub>	15.6	X	309.89211	203.95426	121.87443	18.11151	0.1021108	0.20645540	2.8352099	20	6 23.9	19.3
240471 2004 BJ <sub>35</sub>	15.8	X	5.47448	81.35030	57.38703	2.30428	0.1060484	0.18314143	3.0709894	20	1 16.0	19.5
240472 2004 BT <sub>57</sub>	15.4	X	290.72737	223.75696	326.44957	9.89335	0.2236420	0.17378269	3.1802777	20	—	—
240473 2004 BF <sub>62</sub>	15.6	X	88.35985	342.05688	304.55946	15.49631	0.2185586	0.22360063	2.6883596	20	12 4.3	20.3
240474 2004 BT <sub>62</sub>	16.1	X	144.05123	11.80186	82.76222	3.16947	0.0342167</					

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240481	2004	BC <sub>96</sub>	14.9	X	312.88595	76.71299	94.92185	25.87361	0.1894566	0.17452034	3.1713099	20	—	—
240482	2004	BQ <sub>96</sub>	16.2	X	44.94054	1.74640	143.40395	6.63297	0.0831448	0.19013143	2.9952526	20	3 25.0	20.0
240483	2004	BH <sub>110</sub>	15.1	X	311.31787	104.00680	118.39017	23.71295	0.1250667	0.18180563	3.0860136	20	2 10.3	19.4
240484	2004	BP <sub>113</sub>	15.6	X	351.81794	113.67786	44.32924	7.72931	0.1424926	0.18100404	3.0951180	20	1 17.4	19.4
240485	2004	BF <sub>150</sub>	15.9	X	323.91163	120.65944	76.04400	1.35783	0.2211254	0.18251791	3.0779795	20	1 11.3	20.0
240486	2004	BU <sub>156</sub>	15.9	X	301.61864	155.27210	117.47992	6.78069	0.0694430	0.19407458	2.9545427	20	4 8.9	20.0
240487	2004	CM <sub>22</sub>	15.5	X	329.02921	118.39584	40.75000	6.74277	0.0930816	0.17684959	3.1434026	20	—	—
240488	2004	CW <sub>40</sub>	15.1	X	298.41876	94.66069	115.16231	18.15055	0.1200149	0.17797030	3.1301923	20	1 10.4	19.6
240489	2004	CO <sub>42</sub>	15.8	X	18.35951	21.98415	147.91331	12.97197	0.1057539	0.18641628	3.0349171	20	3 17.9	19.5
240490	2004	CE <sub>45</sub>	15.8	X	222.71045	267.29130	95.32557	10.66675	0.0679670	0.19670408	2.9281532	20	4 28.3	20.3
240491	2004	CE <sub>51</sub>	15.2	X	18.64135	243.07266	275.53993	9.01043	0.1052608	0.18716982	3.0267660	20	2 25.5	19.0
240492	2004	CE <sub>57</sub>	15.6	X	277.01774	267.84097	28.23359	10.97330	0.0245027	0.19355504	2.9598274	20	4 11.1	19.6
240493	2004	CT <sub>109</sub>	16.3	X	317.20858	308.59960	202.72992	13.63313	0.2452598	0.17463751	3.1698913	20	—	—
240494	2004	DB <sub>6</sub>	16.1	X	333.20165	156.82187	5.19362	2.54351	0.1455773	0.17752174	3.1354630	20	—	—
240495	2004	DW <sub>42</sub>	15.3	X	340.67227	325.42638	239.32142	11.00845	0.0772462	0.18570299	3.0426835	20	2 27.6	19.5
240496	2004	DX <sub>57</sub>	16.4	X	19.92548	40.90917	118.57593	2.38335	0.1314634	0.18622857	3.0369561	20	3 5.6	19.8
240497	2004	EL <sub>4</sub>	15.3	X	34.37182	351.55654	132.66769	19.24599	0.2463660	0.18187918	3.0851816	20	2 22.9	18.3
240498	2004	EY <sub>6</sub>	16.3	X	317.48790	7.65207	178.26394	10.48832	0.1649659	0.17597652	3.1537909	20	—	—
240499	2004	EN <sub>10</sub>	15.5	X	265.77610	61.06741	184.09161	6.79945	0.0911409	0.17553264	3.1591055	20	1 18.6	20.3
240500	2004	EX <sub>19</sub>	15.1	X	227.57041	190.34225	136.32485	10.33787	0.0713360	0.18317072	3.0706620	20	3 19.6	19.8
240501	2004	EK <sub>22</sub>	15.9	X	134.45592	264.20673	176.58654	12.65177	0.1250234	0.19276358	2.9679237	20	5 2.1	20.6
240502	2004	EQ <sub>31</sub>	15.3	X	329.28344	312.40749	218.72190	10.17724	0.2258775	0.17560535	3.1582334	20	—	—
240503	2004	EH <sub>52</sub>	15.4	X	17.60043	324.06985	134.82861	12.35595	0.1104827	0.17402054	3.1773792	20	—	—
240504	2004	ED <sub>54</sub>	15.6	X	270.99748	83.65582	171.70576	11.43601	0.0995565	0.18005088	3.1060317	20	2 3.1	20.3
240505	2004	EF <sub>61</sub>	14.7	X	238.87300	114.25900	348.20623	9.54214	0.0486303	0.15092275	3.4938124	20	9 14.4	19.7
240506	2004	EV <sub>63</sub>	15.3	X	227.62923	123.07859	178.82769	10.46574	0.0993621	0.17845594	3.1245109	20	2 13.4	20.2
240507	2004	EN <sub>66</sub>	15.2	X	301.12181	106.88379	91.58191	14.66086	0.2370758	0.17393989	3.1783612	20	—	—
240508	2004	EK <sub>80</sub>	15.6	X	346.67390	41.57629	113.70621	11.37638	0.1743862	0.17786271	3.1314546	20	1 1.2	19.5
240509	2004	EG <sub>81</sub>	15.4	X	359.80436	4.49593	144.88985	15.49839	0.1384812	0.17812026	3.1284352	20	1 18.1	19.3
240510	2004	EG <sub>87</sub>	16.3	X	76.81544	1.95137	61.34201	1.76854	0.1746730	0.18079176	3.0975403	20	2 8.1	20.3
240511	2004	ES <sub>94</sub>	14.8	X	301.63918	56.26574	135.49480	15.29758	0.1284019	0.17236824	3.1976522	20	—	—
240512	2004	EM <sub>101</sub>	16.4	X	77.25117	270.25306	186.41189	9.24569	0.1027567	0.18419514	3.0592662	20	3 9.1	20.5
240513	2004	EQ <sub>104</sub>	16.0	X	127.78963	212.84817	167.06957	11.30574	0.0216910	0.17792285	3.1307488	20	1 27.4	20.6
240514	2004	FL <sub>4</sub>	14.8	X	326.21343	97.60269	71.70091	14.48856	0.2677865	0.17436799	3.1731569	20	—	—
240515	2004	FZ <sub>29</sub>	15.4	X	316.68986	53.04914	153.62601	5.84647	0.0783141	0.17880354	3.1204601	20	2 3.0	19.6
240516	2004	FN <sub>31</sub>	15.3	X	345.25987	78.71500	67.56743	25.64004	0.2888633	0.17515316	3.1636668	20	—	—
240517	2004	FL <sub>54</sub>	15.4	X	200.16743	213.60350	103.44270	7.56039	0.1585406	0.17500311	3.1654740	20	2 8.1	20.6
240518	2004	FY <sub>55</sub>	15.6	X	308.79850	103.39207	72.61275	6.62749	0.1265705	0.17196999	3.2025870	20	—	—
240519	2004	FP <sub>59</sub>	15.6	X	251.22245	99.53371	181.65648	16.08425	0.0363431	0.18001121	3.1064880	20	2 18.1	20.3
240520	2004	FO <sub>67</sub>	15.4	X	313.35403	119.88578	71.10138	6.30908	0.1606368	0.17344219	3.1844386	20	1 1.1	19.9
240521	2004	FZ <sub>76</sub>	16.4	X	289.15682	12.78722	180.59580	1.22612	0.1227563	0.17242004	3.1970116	20	—	—
240522	2004	FA <sub>96</sub>	15.6	X	10.33983	83.21610	61.97323	8.33187	0.1476262	0.18150767	3.0893899	20	2 1.5	19.2
240523	2004	FG <sub>104</sub>	16.5	X	161.13778	340.58130	23.33872	1.33106	0.0626850	0.18083880	3.0970031	20	2 20.9	21.2
240524	2004	FC <sub>112</sub>	15.7	X	351.51389	328.64781	180.98299	10.69964	0.0375922	0.17556078	3.1587679	20	1 14.2	20.2
240525	2004	FE <sub>125</sub>	15.7	X	5.08207	338.91980	187.30318	27.27756	0.0753599	0.18050911	3.1007730	20	2 16.9	20.1
240526	2004	FE <sub>134</sub>	15.7	X	170.46451	279.81567	256.29618	6.47946	0.1249067	0.21050598	2.7987220	20	9 29.2	20.2
240527	2004	FH <sub>134</sub>	15.5	X	19.06861	30.22965	223.29830	13.90515	0.1695624	0.19463055	2.9489135	20	7 11.1	19.1
240528	2004	FY <sub>135</sub>	15.9	X	337.43031	115.18216	11.69701	2.51946	0.0691200	0.16953342	3.2331994	20	—	—
240529	2004	FM <sub>143</sub>	15.7	X	27.40955	129.60074	90.92589	12.87488	0.2070091	0.19008883	2.9957000	20	6 17.9	18.9
240530	2004	FM <sub>145</sub>	16.2	X	331.09221	115.64462	59.13447	1.51821	0.1149390	0.17774311	3.1328592	20	1 10.4	20.4
240531	2004	FN <sub>146</sub>	15.2	X	280.95043	58.98207	164.41158	27.02800	0.1852330	0.17117416	3.2125058	20	1 1.5	20.6
240532	2004	FP <sub>148</sub>	15.2	X	317.04469	108.08150	85.27391	18.26250	0.0866671	0.17522799	3.1627660	20	1 19.3	19.7
240533	2004	FM <sub>160</sub>	15.4	X	9.05855	298.63002	168.78610	9.47555	0.0633535	0.17521595	3.1629109	20	—	—
240534	2004	GH <sub>7</sub>	16.2	X	190.23691	229.24033	96.96246	4.38521	0.0711949	0.17895537	3.1186949	20	2 7.9	20.9
240535	2004	GC <sub>25</sub>	15.5	X	336.06163	25.58892	157.94286	10.21448	0.0308542	0.17620246	3.1510943	20	2 5.5	19.9
240536	2004	GK <sub>28</sub>	15.6	X	268.73709	116.68360	148.25285	25.37876	0.2394983	0.17512149	3.1640482	20	1 30.5	20.9
240537	2004	GU <sub>46</sub>	15.4	X	116.79411	188.23166	202.26760	9.86339	0.0577720	0.17392517	3.1785405	20	1 31.2	20.2
240538	2004	GX <sub>46</sub>	15.9	X	216.74314	141.93137	151.77731	1.09949	0.0584809	0.17319871	3.1874224	20	1 27.9	20.7
240539	2004	GY <sub>47</sub>	15.6	X	253.15873	76.86502	201.05014	17.64129	0.0344712	0.17701644	3.1414271	20	2 15.0	20.4
240540	2004	GN <sub>77</sub>	15.4	X	8.44070	24.90256	118.82743	17.79311	0.1457432	0.17747194	3.1360495	20	1 25.9	18.9
240541	2004	HC <sub>17</sub>	15.7	X	340.50277	309.36455	194.81775	13.53893	0.2198371	0.17380960	3.1799494	20	—	—
240542	2004	HW <sub>36</sub>	14.7	X	242.26977	223.43470	55.47819	27.13305	0.1257339	0.17408099	3.1766435	20	2 11.1	20.2
240543	2004	HQ <sub>55</sub>	15.2	X	339.66559	86.86171	105.48628	12.32185	0.0837559	0.17939153	3.1136378	20	2 19.1	19.4
240544	2004	NC <sub>27</sub>	17.0	X	1.07111	323.19913	295.26749	5.56261	0.1034079	0.30296459	2.1955406	20	6 17.4	18.8
240545	2004	PB <sub>45</sub>	17.1	X	129.55508	306.69457	79.98350	3.60441	0.1652995	0.27918879	2.3184838	20	2 15.0	20.1
240546	2004	PY <sub>73</sub>	17.4	X	15.76879	166.38981	117.81909	4.71753	0.1642973	0.30950336	2.1645077	20	9 12.3	19.1
240547	2004	PJ <sub>91</sub>	16.9	X	159.13246	209.14974	173.51271	10.25206	0.2562626	0.28061105	2.3106431	20	3 16.9	20.7
240548	2004	QQ <sub>24</sub>	16.6	X	243.37620	217.14125	120.63531	5.97018	0.0905965	0.28974614	2.2618178	20	4 11.6	19.6
240549	2004	RC <sub>7</sub>	16.3	X	229.89680	22.72021	41.88623	10.39861	0.1883102	0.23779107	2.5803128	20	7 10.9	20.4
240550	2004	RE <sub>7</sub>	17.0	X	327.72856	197.61842	78.06255	6.79097	0.1811					

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240561	2004	RC <sub>337</sub>	16.9	X	192.84883	165.53604	198.55605	6.14622	0.1252552	0.28377878	2.2934157	20	3 17.1	20.3
240562	2004	SK <sub>1</sub>	16.6	X	244.58654	134.73574	287.31629	7.78208	0.1467071	0.23955888	2.5676030	20	7 26.7	20.2
240563	2004	SS <sub>1</sub>	17.3	X	54.00363	21.22225	38.00167	2.86810	0.1968891	0.26890722	2.3772110	20	—	—
240564	2004	SS <sub>2</sub>	17.4	X	207.51364	170.21231	191.49470	2.28698	0.2043909	0.28736148	2.2743136	20	3 28.4	21.1
240565	2004	SD <sub>5</sub>	16.3	X	139.41619	308.26235	91.12723	24.43521	0.2984971	0.27876646	2.3208249	20	4 7.5	20.7
240566	2004	SY <sub>31</sub>	17.1	X	306.20190	287.81172	359.78222	2.08395	0.1173626	0.29319617	2.2440396	20	4 17.5	19.5
240567	2004	SG <sub>54</sub>	17.1	X	236.07061	304.42172	51.65482	6.04231	0.1901821	0.29005214	2.2602267	20	4 17.9	20.5
240568	2004	SH <sub>61</sub>	17.3	X	281.34031	219.63475	91.08974	3.67581	0.1944900	0.29254310	2.2473781	20	4 5.8	20.2
240569	2004	TO <sub>4</sub>	17.3	X	259.34759	66.60463	201.39827	2.80718	0.0280554	0.27685914	2.3314716	20	1 31.8	20.4
240570	2004	TZ <sub>9</sub>	17.4	X	350.16144	254.38657	51.15515	6.45862	0.2554362	0.30494722	2.1860140	20	9 3.3	18.3
240571	2004	TW <sub>28</sub>	17.1	X	288.02237	87.03946	173.37442	2.94735	0.0665410	0.28390269	2.2927483	20	2 22.0	19.7
240572	2004	TG <sub>31</sub>	16.7	X	319.20431	47.49417	221.12230	7.26729	0.1296497	0.29063308	2.2572137	20	4 7.5	19.1
240573	2004	TM <sub>44</sub>	16.9	X	298.19142	9.90889	225.58287	3.77535	0.0882209	0.27801109	2.3250268	20	1 29.4	19.9
240574	2004	TT <sub>51</sub>	17.1	X	170.50308	23.78047	348.37968	1.67501	0.2235076	0.27978683	2.3151788	20	3 11.4	21.0
240575	2004	TC <sub>52</sub>	17.3	X	173.61113	125.50371	248.11483	1.65665	0.1831374	0.28037780	2.3119244	20	3 13.1	20.8
240576	2004	TN <sub>61</sub>	16.9	X	210.90646	294.78426	115.52419	2.37115	0.2088044	0.23034225	2.6356454	20	6 2.2	21.2
240577	2004	TW <sub>71</sub>	17.5	X	257.86240	290.79384	23.57456	2.58571	0.1677033	0.28880278	2.2667405	20	3 17.3	20.7
240578	2004	TC <sub>102</sub>	17.0	X	268.77251	104.41968	207.13857	5.17424	0.2059298	0.28920156	2.2646563	20	3 19.3	20.4
240579	2004	TJ <sub>102</sub>	17.2	X	318.15039	264.64755	42.82975	5.20097	0.1905822	0.29690558	2.2253098	20	5 27.6	19.0
240580	2004	TU <sub>113</sub>	17.1	X	224.54839	287.71551	44.84047	7.09912	0.1407783	0.28265953	2.2994658	20	3 12.6	20.6
240581	2004	TH <sub>124</sub>	17.3	X	60.37085	342.35640	49.43864	3.22207	0.1622631	0.26547625	2.3976489	20	—	—
240582	2004	TX <sub>129</sub>	16.8	X	98.43299	9.44311	47.25338	7.15761	0.1090225	0.27606275	2.3359534	20	2 7.9	19.6
240583	2004	TK <sub>141</sub>	17.4	X	61.22907	246.67990	178.15778	6.14703	0.1528423	0.26984053	2.3717265	20	—	—
240584	2004	TB <sub>143</sub>	16.8	X	202.26678	137.85641	282.66652	2.99516	0.2511884	0.22783773	2.6549252	20	6 5.6	21.4
240585	2004	TD <sub>153</sub>	17.2	X	240.69897	258.12544	16.97191	7.11764	0.1227924	0.27843095	2.3226889	20	1 15.3	20.7
240586	2004	TH <sub>160</sub>	17.1	X	268.76894	58.00185	250.37848	2.34713	0.1635416	0.28740510	2.2740835	20	3 20.0	20.3
240587	2004	TN <sub>160</sub>	16.1	X	102.46241	220.14920	32.29740	16.15777	0.0709260	0.24609119	2.5219628	20	10 29.8	19.5
240588	2004	TZ <sub>168</sub>	17.1	X	114.30953	272.49743	92.32228	3.33139	0.2185156	0.27027109	2.3692069	20	1 6.1	19.9
240589	2004	TE <sub>176</sub>	17.1	X	195.96712	272.41730	64.76818	3.36863	0.2688293	0.28023703	2.3126986	20	2 20.6	21.2
240590	2004	TV <sub>215</sub>	17.4	X	257.96399	282.76805	3.83122	3.40311	0.1605240	0.28422513	2.2910139	20	2 12.3	20.6
240591	2004	TL <sub>250</sub>	17.0	X	40.91490	214.39278	217.27590	2.68612	0.1497775	0.26369570	2.4084299	20	—	—
240592	2004	TD <sub>266</sub>	17.1	X	159.30700	251.48389	25.82844	3.14083	0.1410549	0.26249366	2.4157770	20	—	—
240593	2004	TJ <sub>278</sub>	16.5	X	264.16261	210.44092	57.57601	7.10651	0.0927718	0.27694292	2.3310014	20	2 3.5	19.7
240594	2004	TQ <sub>309</sub>	17.6	X	303.36739	317.06729	201.03545	5.04034	0.1565496	0.26398856	2.4066484	20	—	—
240595	2004	TQ <sub>349</sub>	16.8	X	154.31414	322.44758	57.86891	4.58687	0.2195691	0.27786298	2.3258529	20	3 9.8	20.5
240596	2004	UE <sub>5</sub>	15.7	X	103.12218	118.43957	14.83777	33.70029	0.2262603	0.21889544	2.7267474	20	5 31.8	20.6
240597	2004	VZ <sub>3</sub>	17.0	X	290.23283	252.27934	56.13999	8.24846	0.1588836	0.29082984	2.2561955	20	4 20.1	19.8
240598	2004	VP <sub>9</sub>	16.5	X	172.36151	233.00901	196.44562	9.75830	0.2367925	0.22227738	2.6990185	20	5 25.8	21.3
240599	2004	VN <sub>14</sub>	16.2	X	279.76811	278.63990	53.68589	7.98175	0.2321642	0.29184359	2.2509678	20	4 27.7	19.1
240600	2004	VB <sub>22</sub>	15.9	X	254.50182	302.50801	78.33903	5.01792	0.0718582	0.22912375	2.6449815	20	6 24.4	19.4
240601	2004	VP <sub>22</sub>	17.4	X	183.00412	307.16560	37.69222	3.10836	0.2349436	0.27821105	2.3239126	20	2 19.2	21.3
240602	2004	VV <sub>31</sub>	16.9	X	248.29863	75.02399	204.44796	5.88564	0.0970839	0.27529760	2.3402797	20	1 27.1	20.3
240603	2004	VW <sub>46</sub>	16.9	X	191.36193	183.50417	190.19995	4.51917	0.1802521	0.28214750	2.3022470	20	3 29.8	20.6
240604	2004	VQ <sub>50</sub>	16.6	X	273.61967	327.75203	109.17296	3.89966	0.1598270	0.24142318	2.5543677	20	9 26.6	19.6
240605	2004	VX <sub>57</sub>	16.9	X	109.55867	320.15058	87.40487	3.50422	0.1851793	0.27100388	2.3649341	20	2 22.1	19.8
240606	2004	VZ <sub>76</sub>	17.1	X	113.42573	319.68444	41.68206	3.86388	0.1504614	0.26728224	2.3868363	20	—	—
240607	2004	VW <sub>91</sub>	16.3	X	302.09510	190.16367	193.66272	8.63325	0.1713067	0.23981863	2.5657486	20	8 22.8	19.0
240608	2004	VN <sub>12</sub>	15.9	X	146.93125	63.10390	84.01365	13.46594	0.1814559	0.22127175	2.7071900	20	8 9.8	20.5
240609	2004	XZ <sub>6</sub>	16.4	X	329.49986	6.84718	27.52216	4.31180	0.2357701	0.24466643	2.5317440	20	11 12.7	18.1
240610	2004	XF <sub>7</sub>	15.9	X	280.08629	206.68082	256.35720	11.49707	0.2121970	0.24377796	2.5378917	20	11 1.5	18.6
240611	2004	XU <sub>23</sub>	15.6	X	171.26115	355.85412	52.42034	10.25699	0.1389649	0.21771506	2.7365942	20	4 27.3	19.9
240612	2004	XN <sub>25</sub>	16.4	X	261.87222	351.74881	58.10033	2.82177	0.1796661	0.23117239	2.6293319	20	7 28.2	20.0
240613	2004	XW <sub>33</sub>	16.8	X	202.88707	357.53037	85.07126	4.06284	0.0839789	0.22730046	2.6591072	20	7 12.9	20.6
240614	2004	XW <sub>41</sub>	16.8	X	261.34566	250.34759	88.44149	8.43729	0.2245070	0.29072438	2.2567412	20	4 19.7	20.2
240615	2004	XU <sub>49</sub>	16.6	X	319.09868	312.25351	108.47710	7.08995	0.0798800	0.24021132	2.5629516	20	11 26.6	19.6
240616	2004	XH <sub>62</sub>	16.1	X	125.45603	176.30529	274.64520	7.22399	0.2035250	0.21179260	2.7873758	20	5 8.2	20.6
240617	2004	XV <sub>65</sub>	17.2	X	180.71540	5.28604	357.24753	1.95531	0.2285596	0.27892966	2.3199195	20	3 8.4	21.1
240618	2004	XR <sub>70</sub>	16.5	X	219.12154	27.29717	113.63268	8.48876	0.0779558	0.23703699	2.5857823	20	10 22.5	20.2
240619	2004	XY <sub>79</sub>	17.0	X	84.82280	294.20162	90.78840	2.89554	0.1456283	0.26350652	2.4095825	20	—	—
240620	2004	XS <sub>92</sub>	17.3	X	142.84226	17.85510	9.39230	3.73389	0.1876934	0.27442187	2.3452559	20	3 3.7	20.6
240621	2004	XH <sub>101</sub>	15.7	X	228.82738	95.40231	288.55305	6.50459	0.2858019	0.22403816	2.6848584	20	5 9.1	20.5
240622	2004	XU <sub>107</sub>	16.6	X	287.41701	24.29960	62.44234	5.83054	0.2176803	0.24220639	2.5488580	20	10 25.7	19.0
240623	2004	XY <sub>121</sub>	15.6	X	138.22903	21.65897	70.89722	9.94989	0.0848763	0.21695340	2.7429954	20	5 15.4	19.6
240624	2004	XF <sub>125</sub>	15.8	X	123.97102	28.27313	36.98557	14.49883	0.1985121	0.20957013	2.8070477	20	4 9.4	20.2
240625	2004	XJ <sub>130</sub>	16.6	X	201.50945	2.60097	79.69518	2.98876	0.2283816	0.22521879	2.6754672	20	7 2.9	21.1
240626	2004	XG <sub>133</sub>	16.3	X	15.05427	332.09446	36.67386	4.43118	0.0816815	0.24640265	2.5198371	20	12 12.2	19.4
240627	2004	XQ <sub>155</sub>	16.2	X	258.54504	270.42341	109.64798	5.73177	0.1371549	0.22569208	2.6717255	20	6 19.1	20.0
240628	2004	YN	15.7	X	243.79469	49.96521	38.75818	32.04244	0.2321090	0.23316007	2.6143673	20	9 11.0	20.3
240629	2004	YS	17.2	X	204.33443	200.48988	281.74262	1.22974	0.1559531	0.22987621	2.6392064	20	8 28.9	21.4
240630	2004	YU <sub>21</sub>	15.7	X	277.76630	165.56532	119.							



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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240641	2005	AR <sub>56</sub>	16.5	X	167.75515	285.07096	264.18776	3.33758	0.1510082	0.23244742	2.6197081	20	10 16.2	20.8
240642	2005	AZ <sub>57</sub>	15.7	X	48.09675	64.56346	44.47729	10.51233	0.2547617	0.19969593	2.8988333	20	3 4.3	18.7
240643	2005	BE <sub>8</sub>	16.6	X	192.25136	141.65719	28.86543	3.94617	0.0934728	0.23436369	2.6054086	20	10 22.8	20.3
240644	2005	BX <sub>16</sub>	17.0	X	259.60575	32.64198	37.86731	3.13429	0.1750944	0.23369443	2.6103804	20	8 23.9	20.4
240645	2005	BV <sub>22</sub>	16.0	X	61.98607	137.49142	123.35686	14.20645	0.1496737	0.22398989	2.6852441	20	10 6.4	20.0
240646	2005	BO <sub>26</sub>	16.7	X	218.88786	69.39260	28.07157	5.00266	0.1711256	0.22905020	2.6455477	20	8 13.2	20.8
240647	2005	BU <sub>26</sub>	15.7	X	108.13335	65.96855	145.52462	13.13607	0.1179547	0.22212592	2.7002453	20	9 17.8	19.8
240648	2005	BP <sub>49</sub>	16.3	X	198.75420	46.99759	35.57254	9.25593	0.1304610	0.21964208	2.7205644	20	7 5.9	20.7
240649	2005	CW	15.7	X	109.40184	316.67564	305.48381	12.74300	0.1587387	0.23521911	2.5990880	20	11 19.9	20.1
240650	2005	CZ	16.1	X	126.16277	33.84852	136.00631	17.85340	0.1076058	0.22193323	2.7018081	20	8 11.6	20.0
240651	2005	CZ <sub>13</sub>	16.1	X	259.54242	307.18776	118.83231	6.26754	0.0361782	0.22694946	2.6618481	20	9 8.5	19.6
240652	2005	CQ <sub>18</sub>	16.2	X	172.13942	16.71787	137.23336	4.08808	0.1063173	0.22640196	2.6661378	20	9 9.6	20.1
240653	2005	CJ <sub>23</sub>	16.2	X	282.58307	17.25184	72.11752	7.32666	0.1887895	0.23822919	2.5771482	20	10 24.9	18.9
240654	2005	CJ <sub>24</sub>	15.9	X	210.43135	355.73449	148.23981	21.81967	0.0365412	0.23223809	2.6212821	20	10 22.6	19.9
240655	2005	CB <sub>48</sub>	15.9	X	342.09451	17.68570	145.71104	11.18954	0.0545987	0.19272453	2.9683246	20	1 14.9	19.9
240656	2005	CG <sub>49</sub>	15.8	X	172.92821	34.69674	146.53851	26.60816	0.0660375	0.23021712	2.6366004	20	10 23.7	20.1
240657	2005	CT <sub>58</sub>	16.1	X	132.64529	30.60709	126.49232	5.03822	0.1306430	0.21872308	2.7281797	20	8 3.3	20.2
240658	2005	EX <sub>5</sub>	15.8	X	97.70682	47.13640	162.73661	14.27857	0.1089785	0.21676984	2.7445437	20	8 30.7	19.7
240659	2005	ET <sub>22</sub>	17.2	X	110.53884	330.51371	203.96412	2.29612	0.1874373	0.21491736	2.7602922	20	8 6.5	21.6
240660	2005	EX <sub>23</sub>	16.3	X	113.40984	334.34568	173.01022	4.35259	0.1428573	0.21150094	2.7899377	20	7 1.8	20.5
240661	2005	EA <sub>29</sub>	16.5	X	173.70829	45.27590	166.34488	13.01380	0.2250829	0.22939223	2.6429173	20	11 17.9	21.2
240662	2005	EZ <sub>30</sub>	16.7	X	57.83815	255.05650	245.87514	5.42757	0.1118472	0.26695106	2.3888100	20	3 30.6	19.4
240663	2005	EQ <sub>46</sub>	16.3	X	275.60862	265.34727	163.79775	11.74210	0.1824796	0.23177288	2.6247885	20	9 11.6	19.3
240664	2005	EJ <sub>49</sub>	15.7	X	78.13295	237.02458	337.44956	7.63605	0.2273954	0.21368958	2.7708551	20	8 29.4	19.6
240665	2005	EH <sub>51</sub>	15.4	X	127.35774	40.14642	142.57225	10.34665	0.1666572	0.21814873	2.7329662	20	9 2.5	19.7
240666	2005	EN <sub>68</sub>	16.4	X	78.39729	353.92146	200.52922	7.47763	0.1496046	0.21045344	2.7991878	20	7 21.8	20.4
240667	2005	EA <sub>75</sub>	16.7	X	328.45160	337.15682	19.61086	1.17807	0.0560046	0.22075912	2.7113793	20	9 9.3	19.8
240668	2005	EB <sub>75</sub>	16.5	X	52.96835	253.78758	3.64496	3.46139	0.1292595	0.21573825	2.7532857	20	9 10.2	20.0
240669	2005	EQ <sub>83</sub>	15.7	X	50.22475	285.70117	344.18734	8.62304	0.1710356	0.21686211	2.7437651	20	9 26.9	19.4
240670	2005	EK <sub>88</sub>	16.7	X	203.37295	345.49651	135.16818	4.69057	0.1603146	0.22543055	2.6737915	20	8 26.4	20.9
240671	2005	EO <sub>88</sub>	16.2	X	26.02875	171.64895	188.67743	9.99479	0.1730177	0.23377828	2.6097562	20	12 26.4	19.8
240672	2005	EJ <sub>93</sub>	16.0	X	147.33938	108.16776	40.50094	13.07707	0.1330722	0.21930566	2.7233460	20	8 13.1	20.5
240673	2005	EB <sub>95</sub>	16.3	X	286.42501	283.13435	144.35404	12.15644	0.0475382	0.22797795	2.6538365	20	10 18.9	19.9
240674	2005	ET <sub>96</sub>	16.1	X	124.00062	292.64028	242.43375	7.36223	0.2246331	0.21860841	2.7291336	20	8 19.8	20.8
240675	2005	EJ <sub>119</sub>	16.2	X	182.16531	285.40903	191.17481	12.53881	0.2224382	0.22289951	2.6939941	20	7 26.9	21.1
240676	2005	EJ <sub>120</sub>	15.8	X	278.83836	278.53110	171.69082	22.08842	0.0322244	0.23396011	2.6084038	20	11 9.9	19.6
240677	2005	ES <sub>124</sub>	16.0	X	26.04730	196.26389	55.85587	4.56162	0.0793000	0.21004995	2.8027713	20	7 16.8	19.5
240678	2005	EJ <sub>125</sub>	15.8	X	97.97525	326.21458	213.71685	13.54739	0.1142509	0.21181688	2.7871628	20	7 19.9	20.2
240679	2005	EJ <sub>126</sub>	15.7	X	82.34886	148.70785	92.98035	12.87627	0.0877387	0.21827926	2.7318765	20	9 27.9	19.8
240680	2005	EM <sub>132</sub>	16.4	X	269.97016	260.12431	180.62320	4.13523	0.0983900	0.23179078	2.6246533	20	10 2.4	19.6
240681	2005	EZ <sub>132</sub>	15.8	X	132.66654	53.32009	84.95561	10.29908	0.1048337	0.21468335	2.7622977	20	7 8.1	20.0
240682	2005	EK <sub>138</sub>	15.4	X	288.79676	122.88161	58.94538	10.75108	0.0685295	0.18198407	3.0839959	20	—	—
240683	2005	EX <sub>148</sub>	15.3	X	328.53763	298.10917	168.25644	9.41296	0.0666965	0.17491070	3.1665897	20	—	—
240684	2005	EZ <sub>149</sub>	16.4	X	359.26572	201.86098	82.23116	4.99078	0.0684024	0.20969313	2.8059499	20	7 17.5	19.9
240685	2005	EH <sub>170</sub>	16.1	X	40.68553	87.20542	169.78904	13.06480	0.1758232	0.21258208	2.7804704	20	8 28.0	19.6
240686	2005	EW <sub>188</sub>	15.9	X	256.97051	101.13187	195.73043	9.35226	0.0364863	0.19227376	2.9729621	20	3 14.6	20.1
240687	2005	EU <sub>195</sub>	16.9	X	176.01014	78.06994	329.25404	1.17859	0.0687959	0.20289631	2.8682695	20	4 27.6	21.2
240688	2005	EO <sub>208</sub>	16.2	X	326.06727	157.26747	178.37606	8.32429	0.0977785	0.21819475	2.7325819	20	8 1.7	19.5
240689	2005	EQ <sub>219</sub>	16.0	X	2.04838	261.83356	198.93486	4.27069	0.1098332	0.18001177	3.1064816	20	—	—
240690	2005	EV <sub>222</sub>	15.6	X	169.47377	51.18512	98.82738	15.73223	0.0474287	0.21992966	2.7181923	20	9 7.9	19.8
240691	2005	EL <sub>234</sub>	16.2	X	14.12170	304.34861	0.09261	6.03984	0.0388184	0.22034766	2.7147536	20	9 6.1	19.7
240692	2005	EQ <sub>243</sub>	16.3	X	209.77358	308.09295	59.23032	3.01520	0.0722886	0.20152704	2.8812471	20	4 15.8	20.6
240693	2005	EA <sub>292</sub>	16.0	X	314.72527	77.31153	80.34071	11.80225	0.1615081	0.18212153	3.0824440	20	—	—
240694	2005	EL <sub>318</sub>	15.4	X	160.62456	253.95194	51.67087	26.20701	0.1522762	0.24342314	2.5403573	20	—	—
240695	2005	EQ <sub>327</sub>	15.5	X	248.82540	107.32111	126.12962	13.95083	0.1681303	0.18138220	3.0908145	20	—	—
240696	2005	FA <sub>3</sub>	14.9	X	206.50048	68.81338	166.29720	16.98960	0.1577504	0.17119299	3.2122702	20	—	—
240697	2005	Gemenc	15.7	X	6.47199	280.24799	23.17965	7.10410	0.3023173	0.21132523	2.7914841	20	9 23.9	18.0
240698	2005	GQ <sub>7</sub>	15.5	X	91.59716	237.27758	64.63040	10.16770	0.2354386	0.22354635	2.6887948	20	12 26.2	20.1
240699	2005	GQ <sub>17</sub>	16.9	X	194.52600	86.93166	353.73137	2.76762	0.0795691	0.21435420	2.7651247	20	6 30.6	20.9
240700	2005	GK <sub>28</sub>	16.1	X	136.88949	58.98682	203.65042	17.09525	0.1757332	0.22870318	2.6482231	20	12 15.7	20.8
240701	2005	GT <sub>30</sub>	16.5	X	330.54697	143.80456	177.92774	3.50415	0.0750998	0.21004546	2.8028112	20	7 22.3	19.9
240702	2005	GJ <sub>31</sub>	15.3	X	291.72894	104.25478	70.74884	8.13567	0.1880717	0.18026068	3.1036212	20	—	—
240703	2005	GR <sub>48</sub>	16.2	X	239.18995	197.37386	155.72870	2.51630	0.0821225	0.19967332	2.8990521	20	4 29.9	20.5
240704	2005	GY <sub>54</sub>	16.8	X	111.12707	223.83913	218.44119	1.27306	0.0853972	0.19745944	2.9206810	20	3 31.1	21.0
240705	2005	GZ <sub>60</sub>	15.0	X	175.23459	237.06743	55.23633	21.67650	0.1140186	0.17551811	3.1592799	20	—	—
240706	2005	GH <sub>61</sub>	16.5	X	110.56921	353.24890	191.29682	3.95030	0.0388814	0.21274679	2.7790351	20	8 3.7	20.4
240707	2005	GO <sub>78</sub>	15.2	X	294.22135	180.44202	89.46434	16.42524	0.1824698	0.19138579	2.9821507	20	3 15.7	19.7
240708	2005	GP <sub>78</sub>	15.9	X	129.09540	149.59558	129.94931	15.26524	0.1088312	0.22926607	2.6438868	20	12 29.8	20.1
240709	2005	GS <sub>78</sub>	15.1	X	301.69763	104.24400	65.64159	21.14147	0.2813129	0.18092037	3.0960721	20	—	—
240710	2005	GZ <sub>89</sub>	16.4	X	123.65992	1								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240721 2005 <i>GW</i> <sub>149</sub>	16.5	X	280.08642	177.68185	121.00666	5.61219	0.0722513	0.19419199	2.9533517	20	4 13.1	20.6
240722 2005 <i>GS</i> <sub>160</sub>	15.5	X	252.55853	114.85565	81.91494	16.34541	0.0731118	0.17598725	3.1536627	20	—	—
240723 2005 <i>GA</i> <sub>172</sub>	15.1	X	207.17806	158.38347	67.75835	6.54581	0.1176735	0.17051808	3.2207407	20	12 29.9	19.9
240724 2005 <i>GG</i> <sub>172</sub>	16.2	X	111.35006	95.29201	70.85165	4.55862	0.0360615	0.20870540	2.8147960	20	7 12.3	20.0
240725 2005 <i>GX</i> <sub>190</sub>	16.4	X	254.25440	57.07887	182.58242	1.93713	0.1576423	0.18505240	3.0498109	20	—	—
240726 2005 <i>GX</i> <sub>201</sub>	15.8	X	194.35832	243.51277	34.21626	9.92209	0.2116634	0.17318398	3.1876031	20	—	—
240727 2005 <i>GD</i> <sub>213</sub>	16.1	X	335.43497	210.59776	43.89564	11.29102	0.0757765	0.19843284	2.9111217	20	4 29.4	19.8
240728 2005 <i>GQ</i> <sub>214</sub>	16.1	X	40.16151	318.46030	178.21593	8.38085	0.1297924	0.19068514	2.9894513	20	3 7.7	19.6
240729 2005 <i>GP</i> <sub>222</sub>	15.8	X	206.34401	18.88228	63.34543	7.00621	0.0588032	0.21072852	2.7967512	20	7 18.2	19.9
240730 2005 <i>JK</i>	15.2	X	222.91426	248.69799	14.83004	20.54783	0.2924326	0.17434704	3.1734110	20	—	—
240731 2005 <i>JU</i> <sub>25</sub>	17.8	X	43.49913	87.65959	55.57077	23.28254	0.0449781	0.38834222	1.8606284	20	3 5.4	20.1
240732 2005 <i>JK</i> <sub>28</sub>	15.9	X	24.07209	28.04215	106.24812	11.77193	0.0631013	0.18344567	3.0675930	20	2 9.5	20.0
240733 2005 <i>JS</i> <sub>35</sub>	15.3	X	180.98930	286.88320	85.89802	13.62841	0.1239843	0.18662588	3.0326443	20	3 31.3	20.3
240734 2005 <i>JQ</i> <sub>44</sub>	15.6	X	130.28580	67.92701	227.09743	15.36467	0.1876417	0.22803692	2.6533789	20	—	—
240735 2005 <i>JQ</i> <sub>58</sub>	16.1	X	48.70864	264.59465	174.52934	2.14419	0.0692730	0.17944084	3.1130674	20	1 5.9	20.1
240736 2005 <i>JK</i> <sub>59</sub>	16.0	X	238.93311	243.23704	50.08796	8.25697	0.1586034	0.18410733	3.0602389	20	2 15.4	21.0
240737 2005 <i>JK</i> <sub>75</sub>	16.1	X	320.19183	174.18610	50.87957	10.69028	0.0409203	0.18837193	3.0138751	20	3 11.0	20.4
240738 2005 <i>JQ</i> <sub>86</sub>	17.4	X	162.98141	322.20714	106.46667	21.21300	0.0868119	0.39185995	1.8494764	20	5 16.5	20.0
240739 2005 <i>JD</i> <sub>88</sub>	15.2	X	133.91232	274.39691	16.16813	18.53960	0.1300242	0.16889673	3.2413198	20	—	—
240740 2005 <i>JZ</i> <sub>89</sub>	15.6	X	319.25575	113.61775	101.44877	10.60444	0.0578207	0.18635809	3.0355487	20	2 22.0	19.8
240741 2005 <i>JK</i> <sub>90</sub>	15.7	X	163.91977	252.31876	136.56703	2.67990	0.1163208	0.18915177	3.0055857	20	3 27.5	20.4
240742 2005 <i>JL</i> <sub>90</sub>	15.9	X	330.17919	173.02596	93.47896	3.21830	0.0656852	0.19737265	2.9215371	20	5 8.9	19.7
240743 2005 <i>JG</i> <sub>96</sub>	16.7	X	306.40064	348.54721	15.24257	1.66132	0.0853110	0.21602704	2.7508314	20	8 12.6	19.9
240744 2005 <i>JL</i> <sub>103</sub>	15.6	X	57.39702	255.35565	197.03570	18.91541	0.0920685	0.17998362	3.1068055	20	2 1.1	20.0
240745 2005 <i>JQ</i> <sub>106</sub>	16.5	X	69.60590	121.34198	30.35935	0.81297	0.0490272	0.20076710	2.8885132	20	4 30.5	20.4
240746 2005 <i>JH</i> <sub>114</sub>	16.3	X	239.57713	115.49974	203.67502	6.20506	0.0804471	0.19016901	2.9948579	20	3 17.9	20.8
240747 2005 <i>JT</i> <sub>119</sub>	15.4	X	213.42846	113.27179	125.49707	6.02632	0.1120434	0.16965665	3.2316336	20	—	—
240748 2005 <i>JN</i> <sub>127</sub>	15.4	X	276.44865	103.60075	67.47215	19.24331	0.2009032	0.17315967	3.1879014	20	—	—
240749 2005 <i>JF</i> <sub>131</sub>	15.7	X	153.83851	347.05079	104.57562	9.74346	0.0338111	0.19889939	2.9065675	20	5 29.4	20.0
240750 2005 <i>JG</i> <sub>131</sub>	15.9	X	233.66480	274.80098	100.76613	10.45662	0.0395108	0.19868797	2.9086290	20	5 27.7	20.1
240751 2005 <i>JA</i> <sub>134</sub>	16.0	X	153.68542	321.57221	120.33395	6.18553	0.1045049	0.19754534	2.9198342	20	5 20.9	20.6
240752 2005 <i>JG</i> <sub>152</sub>	16.1	X	60.92890	217.55137	21.00929	7.37789	0.0787065	0.21366501	2.7710675	20	8 21.4	19.8
240753 2005 <i>JG</i> <sub>161</sub>	16.0	X	113.15885	224.76998	189.90415	9.55606	0.0423890	0.18469887	3.0537013	20	2 22.1	20.3
240754 2005 <i>JZ</i> <sub>163</sub>	14.8	X	167.82742	220.65857	97.29832	23.34789	0.1051115	0.17563993	3.1578189	20	1 7.9	19.7
240755 2005 <i>JD</i> <sub>178</sub>	15.6	X	272.34274	20.90283	214.02409	8.82053	0.0472867	0.18061649	3.0995439	20	1 17.2	20.2
240756 2005 <i>KU</i>	16.2	X	95.54381	48.49566	195.11136	8.14051	0.2541120	0.21556233	2.7547835	20	10 23.6	20.8
240757 Farkasberci	15.9	X	66.44677	278.34854	204.01264	11.46703	0.0415062	0.18988710	2.9978213	20	3 17.2	20.0
240758 2005 <i>LA</i> <sub>2</sub>	15.9	X	276.50723	220.70064	104.61187	10.69441	0.2312866	0.19180080	2.9778474	20	4 23.0	20.5
240759 2005 <i>LJ</i> <sub>12</sub>	15.3	X	245.86477	220.19642	107.40951	25.26248	0.2325710	0.18206265	3.0831085	20	4 3.9	20.9
240760 2005 <i>LF</i> <sub>19</sub>	15.8	X	64.17288	18.16371	125.56825	9.80802	0.0377839	0.19006756	2.9959235	20	4 16.5	20.0
240761 2005 <i>LR</i> <sub>20</sub>	16.0	X	328.73519	79.05771	190.62054	5.93718	0.0936811	0.19536832	2.9414849	20	5 8.4	19.7
240762 2005 <i>LU</i> <sub>36</sub>	15.5	X	192.78528	269.13873	102.68781	18.30769	0.1747759	0.18683555	3.0303750	20	4 11.8	20.9
240763 2005 <i>LL</i> <sub>38</sub>	15.2	X	107.34404	57.37934	225.69607	14.57497	0.0666331	0.15650275	3.4102646	20	11 25.9	20.4
240764 2005 <i>LL</i> <sub>46</sub>	15.5	X	261.39726	187.57169	111.26683	6.68278	0.1468790	0.18115510	3.0933971	20	3 14.6	20.2
240765 2005 <i>MX</i> <sub>12</sub>	15.0	X	284.27542	145.45541	121.29145	28.44927	0.1397391	0.17977373	3.1092232	20	3 3.6	19.8
240766 2005 <i>NK</i> <sub>87</sub>	15.4	X	228.16475	237.27632	64.15242	26.20858	0.2239606	0.17494573	3.1661670	20	2 19.9	21.2
240767 2005 <i>NO</i> <sub>87</sub>	15.9	X	168.75064	200.32801	142.05955	1.57558	0.1635677	0.16999359	3.2273620	20	2 9.8	21.2
240768 2005 <i>OJ</i> <sub>1</sub>	14.9	X	224.79211	275.79717	46.87598	13.76562	0.2986015	0.17496452	3.1659403	20	3 6.1	20.7
240769 2005 <i>OW</i> <sub>26</sub>	15.9	X	254.29799	232.03255	68.12938	16.89807	0.3018443	0.17909423	3.1170827	20	3 1.9	21.5
240770 2005 <i>OW</i> <sub>27</sub>	17.2	X	118.79062	181.72312	172.33574	22.68144	0.0783855	0.36003331	1.9569253	20	—	—
240771 2005 <i>PY</i> <sub>17</sub>	16.0	X	223.09461	118.42700	184.82851	5.17809	0.1358473	0.17195760	3.2027409	20	2 10.3	21.3
240772 2005 <i>QT</i> <sub>146</sub>	15.5	X	261.49404	7.14367	4.27851	9.12026	0.0291077	0.18924763	3.0045707	20	6 26.4	19.9
240773 2005 <i>QA</i> <sub>183</sub>	16.2	X	333.76023	191.01214	119.90566	3.78276	0.1478220	0.19016936	2.9948543	20	7 6.8	19.6
240774 2005 <i>RM</i> <sub>45</sub>	15.7	X	189.21538	10.25273	61.34036	11.60281	0.2082045	0.17679314	3.1440717	20	6 8.8	21.1
240775 2005 <i>SM</i> <sub>36</sub>	15.9	X	273.63579	328.50392	7.23827	0.93911	0.1715213	0.18125476	3.0922631	20	5 5.7	20.4
240776 2005 <i>SW</i> <sub>82</sub>	15.9	X	308.89865	291.79005	3.75735	5.37224	0.1489011	0.18115229	3.0934291	20	5 2.7	19.8
240777 2005 <i>SJ</i> <sub>95</sub>	15.8	X	275.66393	254.98470	51.29175	2.24507	0.1203982	0.17619566	3.1511754	20	4 9.5	20.4
240778 2005 <i>SJ</i> <sub>104</sub>	15.6	X	266.95966	131.95911	193.13152	9.93914	0.1130721	0.17568046	3.1573331	20	4 24.1	20.1
240779 2005 <i>SM</i> <sub>187</sub>	15.3	X	275.15562	131.78150	206.86075	16.33999	0.2267236	0.18149366	3.0895490	20	5 4.9	19.9
240780 2005 <i>SA</i> <sub>221</sub>	14.6	X	263.78212	100.69314	252.31538	14.88576	0.2553133	0.17979721	3.1089524	20	5 5.0	19.6
240781 2005 <i>SZ</i> <sub>264</sub>	15.3	X	316.83035	21.85955	262.94954	5.77159	0.0777058	0.18314374	3.0709636	20	5 10.8	19.5
240782 2005 <i>SQ</i> <sub>277</sub>	17.0	X	222.82263	288.04421	88.67407	8.38236	0.0989583	0.29910022	2.2144110	20	5 9.3	20.1
240783 2005 <i>TP</i> <sub>101</sub>	15.1	X	209.23602	346.57492	48.33136	15.84194	0.1253488	0.17480668	3.1678458	20	5 15.7	20.1
240784 2005 <i>TG</i> <sub>153</sub>	15.4	X	242.50875	148.93959	221.18430	9.56059	0.2492092	0.17815607	3.1280160	20	5 8.8	20.6
240785 2005 <i>TO</i> <sub>188</sub>	15.7	X	224.72295	258.27743	112.66145	4.17596	0.0798276	0.17850455	3.1239436	20	5 7.5	20.4
240786 2005 <i>UV</i> <sub>36</sub>	17.7	X	17.35694	136.27110	41.28280	5.36362	0.0667025	0.29758460	2.2219234	20	3 12.7	19.8
240787 2005 <i>UY</i> <sub>64</sub>	15.2	X	325.08637	34.92654	228.51106	14.41410	0.1004478	0.17485147	3.1673048	20	5 2.8	19.5
240788 2005 <i>UK</i> <sub>112</sub>	17.1	X	252.69329	335.00754	358.25441	2.22625	0.1004255	0.30523066	2.1846604	20	4 10.9	20.0
240789 2005 <i>UM</i> <sub>156</sub>	15.2	X	72.43845	125.92404	4.58923	16.54279	0.0340082	0.17154826	3.2078337	20	4 4.4	19.6
240790 2005 <i>UH</i> <sub>505</sub>	17.0	X	325.14967	310.37919	126.18904	3.51804	0.1506031	0.25480888	2.4641077	20	—	—
240791 2005 <i>VN</i> <sub>54</sub>	16.8	X	332.60839	66.18248	76.19955	7.02105	0.0761900	0.28150917	2.3057259	20	—	—
240792 2005												

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240801 2005 YN <sub>62</sub>	17.9	X	77.03342	65.12692	79.23764	2.11333	0.0816916	0.29482457	2.2357690	20	5 2.8	20.1
240802 2005 YT <sub>70</sub>	17.1	X	165.86700	128.10688	28.48142	1.90349	0.0194968	0.31804336	2.1255851	20	9 20.7	19.3
240803 2005 YJ <sub>90</sub>	16.4	X	136.12114	358.48178	269.71834	4.07506	0.0813781	0.25918369	2.4363009	20	12 29.2	19.8
240804 2005 YX <sub>105</sub>	17.5	X	249.09649	99.97472	112.10475	4.89775	0.1828222	0.26894073	2.3770136	20	—	—
240805 2005 YL <sub>143</sub>	17.0	X	359.93956	171.11238	110.56751	7.84422	0.1690047	0.30224440	2.1990269	20	7 31.3	18.2
240806 2005 YE <sub>198</sub>	16.8	X	201.42525	98.45052	107.97825	2.99340	0.1548078	0.25917371	2.4363635	20	12 15.3	20.3
240807 2005 YF <sub>204</sub>	17.5	X	351.93625	61.84344	122.02017	2.73677	0.1056025	0.28244916	2.3006075	20	2 3.7	19.6
240808 2005 YV <sub>204</sub>	17.3	X	331.52339	14.68128	142.82443	3.61883	0.1301107	0.27001391	2.3707110	20	—	—
240809 2005 AY <sub>207</sub>	17.5	X	38.29044	37.98279	72.62321	5.20185	0.0962159	0.28213890	2.3022938	20	1 9.8	19.7
240810 2005 YW <sub>230</sub>	16.3	X	290.69554	292.27872	302.46123	6.65480	0.1348052	0.27863893	2.3215330	20	1 14.5	19.3
240811 2005 YG <sub>269</sub>	16.7	X	88.35692	353.22808	132.82811	7.44288	0.0580508	0.28912851	2.2650377	20	4 22.3	19.4
240812 2005 YB <sub>271</sub>	17.2	X	162.54299	308.58440	106.93935	7.16058	0.0537234	0.29363921	2.2417818	20	4 22.1	20.2
240813 2006 AT <sub>11</sub>	17.0	X	352.30526	358.72746	131.77556	3.47363	0.1913728	0.27361548	2.3498616	20	—	—
240814 2006 AC <sub>13</sub>	16.9	X	79.55140	242.15600	301.51894	6.05342	0.0535083	0.30984851	2.1629000	20	6 30.8	19.1
240815 2006 AL <sub>15</sub>	17.6	X	320.90849	81.07902	129.81573	3.20600	0.1432088	0.28033080	2.3123077	20	1 18.9	20.4
240816 2006 AN <sub>16</sub>	16.2	X	284.12075	252.22980	312.93845	4.88257	0.1734799	0.26854683	2.3793374	20	—	—
240817 2006 AC <sub>19</sub>	17.3	X	69.90646	224.86669	252.19503	3.50749	0.0816507	0.28744733	2.2738608	20	3 9.4	19.8
240818 2006 AW <sub>19</sub>	17.8	X	115.60112	43.67370	36.03957	3.30471	0.1283545	0.29122849	2.2541361	20	4 2.5	20.4
240819 2006 AE <sub>61</sub>	17.7	X	279.08338	162.57780	191.04325	2.18537	0.2127522	0.30761884	2.1733388	20	5 29.3	20.3
240820 2006 AY <sub>67</sub>	17.2	X	5.88744	38.65641	130.78205	4.14291	0.2306539	0.28318921	2.2965976	20	2 13.1	19.6
240821 2006 AA <sub>69</sub>	17.6	X	96.62202	342.25883	120.04221	3.72378	0.1028721	0.29197671	2.2502835	20	4 5.6	20.1
240822 2006 AU <sub>76</sub>	17.4	X	17.21297	287.98217	206.34634	1.55341	0.1473470	0.27921106	2.3183605	20	1 2.5	19.2
240823 2006 AY <sub>77</sub>	16.8	X	345.13841	38.90273	139.52541	4.58062	0.0900032	0.27621190	2.3351124	20	1 18.7	19.4
240824 2006 AH <sub>100</sub>	17.0	X	242.16971	338.93461	268.17834	1.56072	0.1627045	0.26651154	2.3914357	20	—	—
240825 2006 BZ <sub>16</sub>	17.0	X	335.66472	93.88093	99.42393	3.33964	0.1722214	0.27891443	2.3200039	20	1 11.9	19.7
240826 2006 BW <sub>19</sub>	16.8	X	350.45221	28.11851	145.80205	7.27218	0.1228698	0.27934247	2.3176334	20	1 15.1	19.2
240827 2006 BT <sub>21</sub>	17.8	X	348.03974	212.22794	124.64374	2.87759	0.1541655	0.31394496	2.1440440	20	10 11.7	19.2
240828 2006 BT <sub>22</sub>	17.7	X	302.23700	93.87740	122.79705	3.80426	0.1797789	0.27611053	2.3356839	20	—	—
240829 2006 BG <sub>24</sub>	17.2	X	349.98029	243.15421	111.93111	1.01169	0.1843256	0.31948444	2.1191884	20	11 20.5	18.6
240830 2006 BT <sub>26</sub>	16.3	X	289.79755	323.19035	280.26108	3.79631	0.2093044	0.27753833	2.3276664	20	1 15.5	19.6
240831 2006 BL <sub>38</sub>	17.2	X	218.07638	154.82906	81.75812	2.44532	0.1065885	0.26167611	2.4208061	20	—	—
240832 2006 BP <sub>38</sub>	17.2	X	344.96282	41.65839	152.56090	6.89192	0.0447538	0.27985022	2.3148292	20	2 15.1	19.7
240833 2006 BH <sub>45</sub>	17.6	X	336.87604	176.28410	130.18014	1.01701	0.1226237	0.26738625	2.3862174	20	—	—
240834 2006 BT <sub>57</sub>	17.3	X	301.29871	153.63693	36.78778	4.32019	0.0096491	0.27396805	2.3478451	20	—	—
240835 2006 BG <sub>74</sub>	17.6	X	243.46700	175.12699	55.92101	2.99227	0.1525258	0.26746770	2.3857329	20	—	—
240836 2006 BF <sub>79</sub>	16.7	X	284.56302	185.22568	77.02843	3.87056	0.1861406	0.27779041	2.3262580	20	2 7.0	20.0
240837 2006 BH <sub>79</sub>	16.8	X	285.67446	190.52389	51.37233	4.13620	0.1584154	0.27474005	2.3434448	20	1 16.4	20.1
240838 2006 BQ <sub>79</sub>	16.4	X	306.10289	201.58514	8.88499	6.63174	0.0423021	0.27517365	2.3409824	20	1 16.8	19.4
240839 2006 BU <sub>80</sub>	17.0	X	257.06207	241.59220	27.04972	4.96655	0.1802652	0.27341502	2.3510100	20	1 20.1	20.7
240840 2006 BT <sub>85</sub>	17.6	X	353.22386	73.43307	43.48200	1.80323	0.1353628	0.27235012	2.3571344	20	—	—
240841 2006 BW <sub>92</sub>	17.4	X	308.65569	348.93314	205.20378	0.85971	0.1270461	0.27235880	2.3570843	20	—	—
240842 2006 BP <sub>95</sub>	17.4	X	262.69509	38.01909	202.32731	0.93913	0.1465431	0.27021966	2.3695075	20	—	—
240843 2006 BJ <sub>125</sub>	17.2	X	315.30913	44.10083	123.40713	2.11222	0.1190548	0.26918652	2.3755664	20	—	—
240844 2006 BR <sub>125</sub>	17.5	X	227.14687	137.72234	127.04077	3.74749	0.1680621	0.26775061	2.3840521	20	—	—
240845 2006 BA <sub>126</sub>	18.0	X	321.81610	318.88022	157.56849	1.84914	0.1376569	0.26316501	2.4116667	20	—	—
240846 2006 BE <sub>131</sub>	17.0	X	273.66065	173.88719	152.51968	5.19911	0.1632162	0.29053080	2.2577435	20	4 22.6	19.9
240847 2006 BV <sub>136</sub>	16.7	X	158.45477	279.17622	335.51726	5.73951	0.0851915	0.25740519	2.4475102	20	—	—
240848 2006 BU <sub>139</sub>	17.4	X	227.35078	55.14836	224.13715	0.75790	0.1760698	0.27154491	2.3617917	20	1 5.8	21.1
240849 2006 BT <sub>147</sub>	18.0	X	337.33139	298.34861	186.84145	1.83378	0.1547390	0.26848081	2.3797274	20	—	—
240850 2006 BW <sub>151</sub>	17.3	X	209.86683	282.95220	49.01670	2.36638	0.1126744	0.28390329	2.2927451	20	2 24.2	20.5
240851 2006 BR <sub>153</sub>	16.7	X	145.83725	186.29049	107.52420	3.48003	0.1779423	0.26126047	2.4233729	20	—	—
240852 2006 BL <sub>154</sub>	17.8	X	22.39752	104.81172	6.07217	2.07460	0.1564588	0.27467946	2.3437895	20	—	—
240853 2006 BQ <sub>156</sub>	17.1	X	254.95152	173.16117	136.02345	7.57212	0.1352814	0.28323242	2.2963640	20	3 12.6	20.3
240854 2006 BB <sub>159</sub>	17.1	X	285.61586	167.57538	150.58826	7.16658	0.1768694	0.29130663	2.2537331	20	4 25.3	19.9
240855 2006 BS <sub>184</sub>	17.5	X	340.84944	96.88611	110.00610	5.98196	0.1068639	0.28355927	2.2945991	20	2 19.9	19.9
240856 2006 BA <sub>189</sub>	16.8	X	285.80942	187.77851	70.74552	4.94124	0.0824421	0.27915873	2.3186502	20	2 17.8	19.8
240857 2006 BM <sub>195</sub>	16.7	X	69.03711	148.05528	178.94304	4.37681	0.1029101	0.25449037	2.4661632	20	12 30.9	20.2
240858 2006 BC <sub>200</sub>	17.2	X	201.97161	152.57678	174.40633	6.20098	0.1526455	0.27717408	2.3297052	20	2 8.8	20.9
240859 2006 BM <sub>211</sub>	18.0	X	308.07677	76.35438	52.53759	2.12823	0.1651921	0.26204988	2.4185036	20	—	—
240860 2006 BE <sub>217</sub>	16.9	X	91.11805	246.10651	158.65160	4.52871	0.0871491	0.27778790	2.3262720	20	1 3.8	19.4
240861 2006 BN <sub>227</sub>	17.1	X	286.76636	66.49315	149.41147	1.84213	0.1301286	0.27056130	2.3675124	20	—	—
240862 2006 BW <sub>268</sub>	16.5	X	346.43272	99.16393	52.75964	8.22614	0.0524053	0.27453602	2.3446057	20	—	—
240863 2006 CN <sub>1</sub>	16.7	X	328.73459	13.31408	176.14882	6.37534	0.1305831	0.27474083	2.3434404	20	1 3.3	19.5
240864 2006 CV <sub>4</sub>	17.1	X	234.49989	121.65432	112.63418	3.89549	0.2033457	0.26402550	2.4064239	20	—	—
240865 2006 CR <sub>17</sub>	17.5	X	258.09418	138.66344	53.72707	2.06262	0.1257597	0.26321137	2.4113835	20	—	—
240866 2006 CT <sub>21</sub>	16.6	X	48.19502	69.42311	18.63483	6.71877	0.0768827	0.27428395	2.3460420	20	—	—
240867 2006 CZ <sub>39</sub>	17.2	X	210.39880	177.45912	77.18508	1.93366	0.1676822	0.26192046	2.4193002	20	—	—
240868 2006 CK <sub>46</sub>	17.4	X	53.17802	121.53017	12.64443	1.68861	0.0747423	0.28523747	2.2855900	20	3 8.9	19.7
240869 2006 CD <sub>49</sub>	17.3	X	278.90859	312.52824	230.40218	1.16847	0.1690216	0.26533154	2.3985207	20	—	—
240870 2006 CY <sub>61</sub>	17.5	X	324.60409	96.57225	70.47471	2.21534	0.1166046	0.27192776	2.3595745	20	—	—
240871 MOSS	16.4	X	253.25302	234.93064	348.81089	21.65013	0.3300042	0.26232068	2.4168389	20	—	—
240872 2006 DR <sub>3</sub>	17.4	X	27.20094	308.85766	177.79144	2.86511	0.1045886	0.27717659	2.3296912	20	1 13.4	19.5
240873 2006 DU <sub>3</sub>	17.5	X	94.44380	278.03338	178.58049	4.83061	0.1265279	0.28486028	2.2876072	20	3 28.1	20.1
240874 2006 DG <sub>7</sub>	17.1	X	258.33605	89.77954	168.92854	2.52924	0.1294799	0.27194868	2.3594535	20	1 11.0	20.7
240875 2006 DW <sub></sub>												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
240881 2006 DG <sub>40</sub>	16.6 <sup>m</sup>	X	323.32971	54.78287	168.87192	6.20021	0.0718829	0.27944040	2.3170919	20	2 19.8	19.4
240882 2006 DR <sub>46</sub>	17.0	X	298.75832	7.24525	162.39437	8.58450	0.1256469	0.26506320	2.4001391	20	—	—
240883 2006 DK <sub>49</sub>	17.1	X	293.14892	101.75801	88.11569	2.31747	0.1216613	0.26733757	2.3865070	20	—	—
240884 2006 DM <sub>52</sub>	17.1	X	165.03135	252.60109	47.66875	2.92505	0.1915065	0.26192916	2.4192466	20	—	—
240885 2006 DT <sub>60</sub>	17.0	X	154.65365	140.20055	189.19754	7.51483	0.1251062	0.26360280	2.4089958	20	—	—
240886 2006 DJ <sub>61</sub>	17.1	X	70.74554	23.57722	229.90406	1.60558	0.1167693	0.23263087	2.6183306	20	9 27.3	20.8
240887 2006 DA <sub>63</sub>	15.8	X	79.57320	154.62004	21.61123	10.62031	0.1440230	0.22389242	2.6860233	20	7 1.5	19.6
240888 2006 DK <sub>63</sub>	17.4	X	313.09490	115.67807	90.04980	7.27477	0.0519416	0.27813495	2.3243365	20	1 16.6	20.2
240889 2006 DK <sub>64</sub>	16.4	X	281.98424	138.72596	78.48919	7.15204	0.0828219	0.27317858	2.3523663	20	—	—
240890 2006 DP <sub>69</sub>	17.9	X	316.47321	95.43770	56.14315	2.68977	0.1064914	0.26505149	2.4002099	20	—	—
240891 2006 DT <sub>69</sub>	17.8	X	281.72395	356.48448	168.27976	2.41640	0.1714271	0.26147210	2.4220651	20	—	—
240892 2006 DV <sub>69</sub>	16.5	X	37.31350	287.63415	343.77196	10.79787	0.2974351	0.22848710	2.6498925	20	10 1.9	19.9
240893 2006 DT <sub>71</sub>	17.4	X	242.93452	127.71609	119.58133	2.01834	0.2002925	0.26425819	2.4050111	20	—	—
240894 2006 DE <sub>74</sub>	16.3	X	283.23350	157.03614	80.86155	7.15539	0.0710527	0.27422175	2.3463968	20	1 19.0	19.4
240895 2006 DV <sub>76</sub>	16.7	X	144.35287	221.58954	95.45894	2.02652	0.2003486	0.26207315	2.4183604	20	—	—
240896 2006 DW <sub>87</sub>	16.9	X	257.41142	134.27468	166.27653	10.35105	0.2537311	0.27650111	2.3334839	20	2 20.9	20.9
240897 2006 DY <sub>90</sub>	17.3	X	170.31671	288.40802	36.07489	1.95311	0.1946455	0.26577132	2.3958740	20	1 12.9	20.9
240898 2006 DR <sub>97</sub>	17.5	X	259.98421	42.38746	187.47484	2.36068	0.1151077	0.26530769	2.3986644	20	—	—
240899 2006 DV <sub>97</sub>	15.9	X	85.63631	62.22514	185.29268	30.84913	0.2629832	0.23121058	2.6290423	20	10 23.6	20.4
240900 2006 DB <sub>98</sub>	16.0	X	136.50733	175.37641	90.27279	16.05071	0.1690112	0.24037919	2.5617582	20	12 21.5	20.1
240901 2006 DM <sub>101</sub>	16.8	X	273.05650	204.21650	28.34002	5.34518	0.1696317	0.26949776	2.3737371	20	—	—
240902 2006 DW <sub>105</sub>	16.9	X	232.05437	147.19487	150.97033	3.11881	0.2218882	0.27257952	2.3558117	20	1 31.1	20.9
240903 2006 DK <sub>115</sub>	17.0	X	155.80015	286.01301	36.68668	1.81581	0.1952887	0.26280346	2.4138781	20	—	—
240904 2006 DV <sub>131</sub>	17.3	X	251.99573	180.15930	127.75985	5.63350	0.1572412	0.28140699	2.3062841	20	3 5.6	20.6
240905 2006 DH <sub>147</sub>	17.5	X	197.56533	49.61054	237.74701	1.53667	0.1757607	0.26384580	2.4075164	20	—	—
240906 2006 DQ <sub>147</sub>	17.2	X	248.99467	13.64570	221.33412	1.09014	0.1571612	0.26461791	2.4028310	20	—	—
240907 2006 DT <sub>150</sub>	17.2	X	251.95017	57.44637	188.07226	5.12609	0.1960146	0.26630391	2.3926785	20	—	—
240908 2006 DU <sub>150</sub>	17.6	X	255.81039	323.27371	232.64398	2.25405	0.1339455	0.26019009	2.4300146	20	—	—
240909 2006 DO <sub>156</sub>	16.6	X	184.85011	109.67347	354.27227	7.69040	0.1633018	0.23363639	2.6108098	20	7 20.1	20.9
240910 2006 DR <sub>170</sub>	17.0	X	277.08557	125.80859	53.16618	3.75525	0.1115685	0.26160579	2.4212423	20	—	—
240911 2006 DO <sub>183</sub>	16.9	X	212.09128	217.35263	73.12305	3.26262	0.1752336	0.26643150	2.3919146	20	1 7.2	20.7
240912 2006 DU <sub>190</sub>	17.0	X	183.00610	245.00446	62.25777	2.99561	0.1880260	0.26310600	2.4120273	20	1 3.1	20.7
240913 2006 DC <sub>192</sub>	16.6	X	233.01077	210.59821	33.64322	5.64993	0.1911540	0.26117516	2.4239006	20	—	—
240914 2006 DQ <sub>196</sub>	12.7	X	333.27655	115.00552	145.19857	28.21859	0.0856543	0.08266010	5.2192179	20	5 14.3	19.6
240915 2006 DG <sub>211</sub>	17.5	X	284.21295	3.49019	170.50722	2.36174	0.1416665	0.26203431	2.4185994	20	—	—
240916 2006 DH <sub>215</sub>	16.5	X	195.29491	94.06079	191.29715	6.35852	0.1006419	0.26302967	2.4124939	20	—	—
240917 2006 EU	17.2	X	287.82575	95.62853	62.90182	11.45701	0.2328328	0.26052329	2.4279422	20	—	—
240918 2006 EO <sub>15</sub>	17.8	X	0.87694	323.41164	146.31879	1.52467	0.1477922	0.26712435	2.3877768	20	—	—
240919 2006 EV <sub>42</sub>	16.1	X	257.24501	58.76362	334.30420	7.80907	0.1961815	0.23157453	2.6262871	20	6 27.4	20.0
240920 2006 EV <sub>63</sub>	16.9	X	274.14745	357.29963	208.83724	5.60944	0.0876110	0.26446988	2.4037275	20	—	—
240921 2006 EF <sub>67</sub>	17.1	X	228.01238	44.43553	190.50522	6.21381	0.0676010	0.26212868	2.4180189	20	—	—
240922 2006 FS <sub>3</sub>	16.2	X	101.11882	303.58117	188.23299	7.90335	0.0442904	0.21671431	2.7450124	20	5 16.6	20.0
240923 2006 FN <sub>4</sub>	17.3	X	61.45116	54.25343	188.87805	12.04790	0.1054079	0.22829759	2.6513587	20	8 28.3	21.0
240924 2006 FY <sub>4</sub>	17.5	X	86.35651	18.52254	350.06552	2.29048	0.0229235	0.26338522	2.4103223	20	—	—
240925 2006 FP <sub>5</sub>	16.3	X	65.53376	32.08319	182.05797	12.05473	0.1375605	0.22523707	2.6753225	20	7 30.1	20.0
240926 2006 FW <sub>8</sub>	15.8	X	64.45738	144.90865	71.48685	12.86544	0.1497490	0.22401580	2.6850370	20	8 9.3	19.6
240927 2006 FB <sub>10</sub>	16.7	X	203.75894	323.51803	260.13050	9.57874	0.1916944	0.25246436	2.4793395	20	—	—
240928 2006 FM <sub>15</sub>	17.1	X	187.70762	155.50602	352.00488	0.75009	0.0541507	0.24011772	2.5636176	20	9 22.0	20.6
240929 2006 FU <sub>15</sub>	17.1	X	237.44218	60.75568	186.16952	4.98169	0.1236832	0.26422983	2.4051831	20	—	—
240930 2006 FN <sub>22</sub>	16.8	X	158.36026	147.05507	191.29988	4.47421	0.2462354	0.26485542	2.4013943	20	1 21.8	20.8
240931 2006 FQ <sub>29</sub>	16.5	X	220.27146	70.23676	33.39233	8.58554	0.1291889	0.23378407	2.6097132	20	8 29.5	20.4
240932 2006 FE <sub>31</sub>	17.2	X	194.91321	129.72172	180.94457	4.57413	0.1595947	0.26749206	2.3855881	20	1 14.9	20.9
240933 2006 FT <sub>31</sub>	17.3	X	125.57168	206.83999	65.38496	2.29015	0.1318957	0.24342477	2.5403460	20	12 20.1	21.2
240934 2006 FK <sub>42</sub>	16.4	X	262.32911	245.83363	188.03599	11.65799	0.1279561	0.23740623	2.5831006	20	9 5.7	19.9
240935 2006 FW <sub>49</sub>	16.8	X	245.69687	56.27506	192.06371	3.00444	0.1532937	0.26442939	2.4039729	20	—	—
240936 2006 FU <sub>50</sub>	15.8	X	49.38243	347.95657	289.32897	18.85688	0.2596940	0.22920478	2.6443581	20	10 12.9	20.0
240937 2006 GD <sub>1</sub>	16.7	X	135.30484	141.71227	29.44365	17.06748	0.1285518	0.23187596	2.6240105	20	9 2.8	21.1
240938 2006 GV <sub>7</sub>	16.6	X	196.04565	223.35269	58.93206	7.39192	0.0933993	0.26160579	2.4212399	20	—	—
240939 2006 GC <sub>15</sub>	16.9	X	296.68491	48.64748	61.63335	3.46841	0.1784438	0.25266663	2.4780161	20	12 27.0	18.8
240940 2006 GF <sub>21</sub>	16.8	X	185.10558	279.92603	196.99057	4.54326	0.2304290	0.23538181	2.5978901	20	7 31.5	21.2
240941 2006 GK <sub>27</sub>	16.5	X	351.29864	300.64136	69.98979	3.85331	0.0810800	0.23744741	2.5828019	20	11 7.9	19.3
240942 2006 GG <sub>29</sub>	16.6	X	257.91577	68.65586	35.48433	15.20636	0.1410038	0.24144678	2.5542012	20	10 14.6	19.8
240943 2006 GM <sub>34</sub>	16.7	X	195.65479	181.90691	99.27665	3.18805	0.1745815	0.25798358	2.4438507	20	—	—
240944 2006 GE <sub>36</sub>	16.6	X	221.99732	167.62320	82.32204	16.18163	0.2135381	0.25839066	2.4412833	20	—	—
240945 2006 GP <sub>36</sub>	17.2	X	168.39952	95.50165	38.80509	5.60774	0.1952023	0.23269744	2.6178313	20	8 12.5	21.6
240946 2006 GY <sub>41</sub>	15.9	X	126.08801	69.65201	65.02208	12.13524	0.2290872	0.22446893	2.6814224	20	7 6.5	20.4
240947 2006 GJ <sub>42</sub>	16.2	X	345.63856	175.02750	85.97697	14.96056	0.1580808	0.21332792	2.7739859	20	5 21.5	19.2
240948 2006 GK <sub>45</sub>	17.2	X	45.06778	146.81322	165.21000	3.12831	0.1274413	0.23499987	2.6007043	20	11 13.9	20.6
240949 2006 GE <sub>54</sub>	16.8	X	125.41156	244.89415	57.74480	7.94329	0.1889586	0.24590271	2.5232513	20	—	—
240950 2006 HX <sub>10</sub>	16.6	X	42.57102	55.41984	185.57178	12.13897	0.1051745	0.22207902	2.7006255	20	7 27.9	20.2
240951 2006 HF <sub>19</sub>	17.0	X	161.12783	234.44081	88.71666	4.86333	0.1636219	0.25853948	2.4403464	20	—	—
240952 2006 HJ <sub>26</sub>	16.2	X	21.35031	333.57999	58.71198	13.43693	0.1642877	0.24489833	2.5301455	20	—	—
240953 2006 HD <sub>35</sub>	16.7	X	211.55182	316.35453	219.56932	3.77873	0.0833173	0.24259594	2.5461288	20	11 23.8	20.2
240954 2006 HG <sub>44</sub>	16.9	X	152.01340	86.96984	141.91054	1.17483	0.1047028	0.23989486	2.5652050	20	11 22.9	20.8
240955 2006 HK <sub>44</sub>	16.3	X	17									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
240961	2006	HB <sub>82</sub>	17.0	X	39.86899	242.60304	107.25683	2.42538	0.0504688	0.24020180	2.5630193	20	12 14.9	20.4
240962	2006	HD <sub>82</sub>	16.8	X	307.52556	172.65900	186.03716	2.85898	0.0167023	0.22433011	2.6825284	20	8 13.8	20.3
240963	2006	HC <sub>85</sub>	16.2	X	96.91804	283.27370	1.15459	6.99124	0.1818025	0.23696911	2.5862761	20	12 8.6	20.4
240964	2006	HO <sub>88</sub>	15.8	X	111.58243	222.43520	50.19093	14.79221	0.1127231	0.23883674	2.5727759	20	12 3.9	19.8
240965	2006	HU <sub>113</sub>	16.8	X	291.37312	299.65490	167.83730	1.43064	0.1444900	0.24500908	2.5293830	20	12 11.4	19.2
240966	2006	HU <sub>152</sub>	17.0	X	110.95602	100.57074	195.76192	1.82374	0.1333110	0.24106391	2.5569050	20	—	—
240967	2006	JK <sub>2</sub>	16.0	X	249.29652	1.23586	85.61390	9.86753	0.0986356	0.23132214	2.6281970	20	9 16.9	19.7
240968	2006	JY <sub>3</sub>	17.7	X	138.28861	135.71996	130.36082	1.15532	0.0879334	0.24437822	2.5337342	20	12 25.5	21.5
240969	2006	JH <sub>10</sub>	15.6	X	264.67195	312.57262	46.80904	9.41067	0.2746661	0.21132683	2.7914700	20	5 12.1	19.8
240970	2006	JX <sub>12</sub>	16.5	X	153.79527	81.67790	117.21010	5.40990	0.1382699	0.23511210	2.5998766	20	10 19.6	20.6
240971	2006	JB <sub>16</sub>	17.2	X	220.48559	110.75143	35.74479	3.24109	0.0883415	0.24023107	2.5628111	20	10 26.4	20.8
240972	2006	JK <sub>26</sub>	16.1	X	206.50705	160.62968	11.40705	8.17280	0.1359527	0.24204305	2.5500046	20	11 4.2	19.9
240973	2006	JD <sub>30</sub>	17.0	X	97.19153	243.95855	82.07804	4.94257	0.1548015	0.24527807	2.5275334	20	—	—
240974	2006	JX <sub>30</sub>	17.0	X	111.27747	303.64354	359.61994	1.70612	0.1209300	0.24609698	2.5219232	20	—	—
240975	2006	JF <sub>37</sub>	16.8	X	176.35543	217.03977	74.47726	7.29853	0.1387050	0.25646228	2.4535056	20	—	—
240976	2006	JZ <sub>40</sub>	17.6	X	175.73557	110.83490	46.51398	5.04725	0.0952233	0.23408474	2.6074779	20	9 20.3	21.4
240977	2006	JK <sub>42</sub>	16.6	X	205.45047	316.32152	195.79008	5.86791	0.0989211	0.23744053	2.5828518	20	10 14.3	20.3
240978	2006	JC <sub>45</sub>	16.1	X	329.27276	6.19056	57.46208	15.15899	0.1490395	0.24139528	2.5545644	20	12 18.7	18.7
240979	2006	JX <sub>45</sub>	16.6	X	109.36299	29.76848	247.87927	3.66161	0.2665718	0.23707878	2.5854785	20	12 15.2	21.2
240980	2006	JF <sub>55</sub>	16.7	X	190.42636	358.55794	216.16313	1.72254	0.1327207	0.24458345	2.5323166	20	12 13.2	20.4
240981	2006	JJ <sub>56</sub>	16.0	X	207.93851	186.83691	336.04442	12.27582	0.0940795	0.24071231	2.5593942	20	10 26.0	19.9
240982	2006	JL <sub>57</sub>	15.8	X	199.98353	242.58552	239.70598	10.24882	0.1240640	0.23274258	2.6174928	20	8 21.6	20.1
240983	2006	KW <sub>1</sub>	15.7	X	140.62331	312.75293	240.65221	11.70306	0.1224561	0.23166868	2.6255754	20	9 22.3	20.0
240984	2006	KE <sub>5</sub>	17.0	X	118.03828	229.69681	73.55911	2.86306	0.1554461	0.24357448	2.5393049	20	—	—
240985	2006	KN <sub>7</sub>	15.3	X	45.30175	335.24515	59.35977	18.36037	0.1934359	0.17843094	3.1248027	20	—	—
240986	2006	KY <sub>10</sub>	16.1	X	20.82601	331.37706	61.81549	18.99956	0.1680516	0.24276270	2.5449626	20	—	—
240987	2006	KH <sub>41</sub>	16.1	X	213.25659	283.09177	222.27142	11.24175	0.1510677	0.23767541	2.5811499	20	10 6.3	20.1
240988	2006	KQ <sub>41</sub>	16.2	X	116.30374	152.77088	111.85137	5.65922	0.1679927	0.23609147	2.5926816	20	12 2.9	20.4
240989	2006	KL <sub>50</sub>	16.7	X	253.32427	278.39017	214.68683	4.49701	0.1530490	0.24383747	2.5374791	20	11 11.9	19.7
240990	2006	KN <sub>52</sub>	16.8	X	108.90993	233.29373	85.73211	8.53191	0.2814012	0.24152972	2.5536161	20	—	—
240991	2006	KF <sub>53</sub>	16.5	X	162.77983	83.65626	79.86633	13.55236	0.1183501	0.23007937	2.6376526	20	9 18.9	20.9
240992	2006	KW <sub>54</sub>	16.9	X	34.12163	268.35478	95.17320	5.24832	0.1918915	0.23781055	2.5801719	20	—	—
240993	2006	KQ <sub>57</sub>	16.0	X	51.98921	102.18744	138.40558	5.97367	0.0093408	0.22072586	2.7116517	20	7 29.4	19.7
240994	2006	KZ <sub>61</sub>	16.8	X	64.20295	222.39889	140.18756	5.67913	0.2244574	0.24183795	2.5514462	20	—	—
240995	2006	KM <sub>62</sub>	17.0	X	145.80255	42.16341	205.56357	7.95228	0.1276668	0.24028143	2.5624530	20	12 9.3	21.0
240996	2006	KR <sub>62</sub>	16.4	X	109.86772	48.12120	193.58577	6.51886	0.1106050	0.23239325	2.6201152	20	10 26.6	20.4
240997	2006	KT <sub>65</sub>	16.5	X	299.30976	354.89606	68.31825	5.62636	0.1756685	0.23635532	2.5907517	20	10 19.5	19.0
240998	2006	KC <sub>67</sub>	16.1	X	282.54112	166.34894	183.91018	5.74718	0.0550456	0.21579656	2.7527897	20	6 22.8	19.8
240999	2006	KG <sub>68</sub>	16.7	X	152.20666	115.24854	164.47458	8.38548	0.1990130	0.24544648	2.5263771	20	—	—
241000	2006	KO <sub>72</sub>	15.3	X	179.25522	263.60052	236.74972	21.11820	0.1502555	0.22861142	2.6489317	20	8 18.8	20.1
241001	2006	KF <sub>86</sub>	16.1	X	216.97624	34.47627	122.16318	15.64606	0.0906088	0.24014183	2.5634460	20	11 10.3	20.0
241002	2006	KE <sub>92</sub>	16.3	X	184.12286	303.29916	221.77069	10.68640	0.1123134	0.23506041	2.6002577	20	10 3.6	20.3
241003	2006	KA <sub>119</sub>	16.1	X	56.73903	123.25781	144.58489	9.40519	0.2010684	0.22053035	2.7132541	20	10 12.9	20.0
241004	2006	KR <sub>121</sub>	15.9	X	143.49589	3.56673	209.06414	11.32432	0.0679395	0.23339398	2.6126202	20	10 23.8	19.7
241005	2006	LE <sub>5</sub>	16.1	X	208.11440	46.73359	134.17066	5.85108	0.1427118	0.24114326	2.5563440	20	11 19.9	19.8
241006	2006	LV <sub>7</sub>	15.5	X	90.80053	262.16688	67.87759	12.26689	0.2915785	0.23790842	2.5794642	20	—	—
241007	2006	MP <sub>2</sub>	16.1	X	72.27808	179.32625	124.12902	14.83720	0.0878361	0.23440714	2.6050866	20	12 2.6	20.0
241008	2006	MQ <sub>5</sub>	16.2	X	87.65396	157.84943	100.67317	8.45999	0.1915446	0.22575310	2.6712440	20	11 2.4	20.5
241009	2006	MJ <sub>12</sub>	16.2	X	41.98489	98.67176	195.32906	12.51548	0.1605895	0.22558655	2.6725587	20	10 20.4	19.5
241010	2006	MK <sub>12</sub>	16.0	X	140.02721	89.43328	159.22826	9.81643	0.1608319	0.23799202	2.5788601	20	12 5.5	20.4
241011	2006	OP <sub>11</sub>	16.1	X	27.31410	185.11808	106.21278	7.32636	0.1548757	0.21730568	2.7400301	20	9 25.9	19.4
241012	2006	OQ <sub>14</sub>	16.2	X	60.55442	127.03569	163.15776	17.02256	0.1794094	0.22200222	2.7012483	20	11 12.4	20.4
241013	2006	PW <sub>13</sub>	15.9	X	38.04133	229.93832	30.14011	9.55617	0.2358231	0.21430275	2.7655672	20	9 12.9	19.3
241014	2006	PS <sub>34</sub>	16.7	X	75.60183	114.31127	171.95322	6.78366	0.2324647	0.22623577	2.6674434	20	11 26.4	21.1
241015	2006	PH <sub>36</sub>	16.3	X	346.09258	187.93278	134.32694	7.43437	0.1023516	0.21209335	2.7847402	20	8 19.4	19.3
241016	2006	PY <sub>43</sub>	16.3	X	304.71031	126.15170	185.64002	7.49660	0.1409301	0.20262103	2.8708667	20	5 21.7	19.9
241017	2006	QN <sub>9</sub>	16.5	X	34.27378	120.92971	174.68861	17.39159	0.3512626	0.21767765	2.7369077	20	11 11.2	20.5
241018	2006	QJ <sub>13</sub>	15.6	X	4.28798	228.57247	70.44057	5.12369	0.0847394	0.21039403	2.7997147	20	8 18.3	19.0
241019	2006	QS <sub>29</sub>	16.2	X	18.36160	232.39443	79.29579	4.42183	0.1800354	0.21586273	2.7522271	20	10 11.2	19.3
241020	2006	QC <sub>30</sub>	14.9	X	169.62075	212.18353	167.93600	27.87993	0.1403216	0.18013607	3.1050524	20	3 24.7	19.9
241021	2006	QP <sub>30</sub>	15.1	X	182.56367	298.49415	343.98823	23.06980	0.1910335	0.17223837	3.1992594	20	—	—
241022	2006	QL <sub>31</sub>	15.7	X	167.50994	166.97992	165.07888	11.00192	0.2079130	0.17667776	3.1454404	20	1 28.2	21.1
241023	2006	QA <sub>36</sub>	15.8	X	348.43277	27.02458	293.27683	6.66507	0.2203581	0.21048727	2.7988878	20	8 20.5	18.2
241024	2006	QW <sub>46</sub>	15.6	X	36.82984	148.60543	123.73024	10.43659	0.1317320	0.21324031	2.7747457	20	9 9.8	19.1
241025	2006	QF <sub>47</sub>	15.4	X	81.86572	301.77058	102.88939	10.90380	0.0832889	0.17199129	3.2023226	20	1 12.1	19.6
241026	2006	QR <sub>63</sub>	15.6	X	146.11314	265.16341	133.83531	11.62188	0.1077170	0.18279532	3.0748646	20	3 24.5	20.4
241027	2006	QJ <sub>69</sub>	15.8	X	358.90706	132.22283	346.24718	5.18611	0.0149224	0.17033100	3.2230986	20	—	—
241028	2006	QV <sub>79</sub>	15.8	X	152.44364	182.15573	182.29256	7.49589	0.1886648	0.17834054	3.1258586	20	2 20.3	21.0
241029	2006	QY <sub>88</sub>	15.7	X	186.18804	204.49263	132.81011	5.69605	0.1516623	0.17828882	3.1264631	20	2 18.2	20.8
241030	2006	QA <sub>91</sub>	16.7	X	71.09766	152.42577								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241041 2006 <i>RP</i> <sub>5</sub>	15.4	X	187.71844	226.60521	136.74457	10.98608	0.1157787	0.18315405	3.0708483	20	3 22.5	20.3
241042 2006 <i>RQ</i> <sub>16</sub>	16.1	X	249.84319	170.52925	137.57080	2.88043	0.2010546	0.18855007	3.0119765	20	3 6.9	20.9
241043 2006 <i>RQ</i> <sub>30</sub>	15.5	X	138.30783	213.99970	191.65120	17.27329	0.2345877	0.17794695	3.1304661	20	3 31.5	20.8
241044 2006 <i>RW</i> <sub>36</sub>	15.7	X	294.57122	252.23063	184.46794	16.43679	0.1920213	0.21494627	2.7600446	20	10 21.6	18.7
241045 2006 <i>RX</i> <sub>40</sub>	15.1	X	36.93020	253.98601	238.82782	10.08011	0.0298868	0.18157477	3.0886288	20	2 17.9	19.5
241046 2006 <i>RD</i> <sub>76</sub>	15.7	X	168.91336	256.29244	47.77541	0.95444	0.1297782	0.16788477	3.2543320	20	—	—
241047 2006 <i>RJ</i> <sub>81</sub>	16.9	X	311.83973	103.74110	165.69563	2.47474	0.1783390	0.19193445	2.9764648	20	3 31.0	20.8
241048 2006 <i>RL</i> <sub>86</sub>	16.7	X	222.06080	124.30320	186.39487	3.25391	0.1984049	0.18106234	3.0944535	20	2 15.2	21.9
241049 2006 <i>RW</i> <sub>90</sub>	15.6	X	281.47903	265.43392	15.19869	4.43401	0.1592264	0.18535211	3.0465223	20	3 10.6	20.1
241050 2006 <i>RU</i> <sub>104</sub>	15.6	X	223.41510	139.07153	151.28595	1.60763	0.1046166	0.17466329	3.1695793	20	1 28.9	20.6
241051 2006 <i>SE</i> <sub>5</sub>	15.6	X	200.16517	125.46687	224.35817	4.42656	0.1535597	0.18151271	3.0893328	20	3 13.2	20.6
241052 2006 <i>SN</i> <sub>22</sub>	15.2	X	139.44117	275.15373	125.74033	8.87355	0.1207984	0.17784440	3.1316695	20	3 20.9	20.1
241053 2006 <i>SV</i> <sub>54</sub>	15.8	X	175.00179	240.78960	111.66734	4.85309	0.1905090	0.17705227	3.1410033	20	2 28.3	21.1
241054 2006 <i>SH</i> <sub>75</sub>	16.1	X	16.91522	297.40440	49.653766	5.06455	0.0790632	0.21386625	2.7693290	20	11 8.2	19.4
241055 2006 <i>SC</i> <sub>82</sub>	16.1	X	251.91837	117.17164	157.65634	1.60334	0.1221753	0.17760858	3.1344409	20	2 5.8	20.9
241056 2006 <i>SJ</i> <sub>108</sub>	15.6	X	231.69873	276.48011	46.64944	12.89547	0.1353475	0.18464145	3.0543344	20	3 18.5	20.6
241057 2006 <i>SO</i> <sub>116</sub>	16.3	X	228.34638	116.93298	174.46913	0.59767	0.1420620	0.17448218	3.1717723	20	2 2.1	21.2
241058 2006 <i>SU</i> <sub>125</sub>	15.5	X	185.97911	177.03106	152.74081	10.58149	0.1141396	0.17458608	3.1705138	20	2 7.7	20.6
241059 2006 <i>SD</i> <sub>136</sub>	15.1	X	194.45572	196.23926	128.47384	12.95242	0.0471217	0.17855505	3.1233545	20	2 9.9	19.8
241060 2006 <i>SM</i> <sub>141</sub>	15.0	X	152.71561	178.18933	170.61530	21.21034	0.0367724	0.16927202	3.2365273	20	1 21.9	20.1
241061 2006 <i>SD</i> <sub>177</sub>	16.1	X	226.91606	131.62520	167.17818	2.58439	0.2189890	0.18000384	3.1065728	20	2 5.3	21.4
241062 2006 <i>SY</i> <sub>188</sub>	15.8	X	217.85053	178.30735	90.08332	3.05958	0.1654748	0.17132070	3.2106736	20	—	—
241063 2006 <i>SL</i> <sub>215</sub>	15.4	X	205.13036	261.76801	60.22651	5.39643	0.1473337	0.17728873	3.1382098	20	2 18.7	20.6
241064 2006 <i>SD</i> <sub>217</sub>	16.1	X	266.48271	207.63536	120.93549	3.30218	0.1706875	0.19141536	2.9818436	20	4 20.3	20.6
241065 2006 <i>SL</i> <sub>217</sub>	15.1	X	172.19922	169.43422	172.95714	11.50293	0.0770199	0.17340408	3.1849052	20	2 5.8	20.0
241066 2006 <i>SP</i> <sub>218</sub>	15.8	X	342.31734	9.88150	43.22495	9.74102	0.1422439	0.21964867	2.7205100	20	12 19.9	18.9
241067 2006 <i>SG</i> <sub>312</sub>	16.4	X	239.40130	213.26254	265.14239	3.25761	0.0147731	0.21084161	2.7957511	20	10 17.7	20.4
241068 2006 <i>SV</i> <sub>351</sub>	15.9	X	184.76807	186.65813	177.51669	14.58983	0.1032397	0.18000497	3.1065598	20	3 17.5	20.7
241069 2006 <i>SE</i> <sub>373</sub>	16.4	X	261.35523	208.86860	73.39338	2.80953	0.0457892	0.18093664	3.0958865	20	3 4.7	20.8
241070 2006 <i>SZ</i> <sub>390</sub>	16.1	X	294.61928	166.18487	262.09141	3.27289	0.1053285	0.21246942	2.7814532	20	10 16.4	19.6
241071 2006 <i>SF</i> <sub>392</sub>	16.0	X	248.38316	272.54231	22.12834	9.83031	0.1492627	0.18207419	3.0829783	20	2 26.8	20.9
241072 2006 <i>TV</i> <sub>12</sub>	15.2	X	202.20283	99.27145	219.75324	20.80655	0.1859754	0.17712301	3.1401669	20	2 3.9	20.9
241073 2006 <i>TB</i> <sub>39</sub>	16.1	X	234.28761	273.72912	47.42403	3.72496	0.2168266	0.18106776	3.0943917	20	3 9.4	21.3
241074 2006 <i>TG</i> <sub>45</sub>	16.1	X	257.32362	251.38921	71.34417	3.57937	0.2474927	0.18588239	3.0407255	20	3 27.8	21.0
241075 2006 <i>TT</i> <sub>55</sub>	15.0	X	191.96515	293.63557	65.38836	17.28215	0.2511595	0.17904468	3.1176577	20	3 27.8	20.7
241076 2006 <i>TE</i> <sub>62</sub>	14.6	X	143.72295	289.99055	51.76647	19.60338	0.1436236	0.16908916	3.2388603	20	1 19.0	19.9
241077 2006 <i>TJ</i> <sub>69</sub>	14.9	X	208.44635	198.41699	101.14388	13.11561	0.0470980	0.17205228	3.2015657	20	1 27.6	19.7
241078 2006 <i>TE</i> <sub>116</sub>	16.5	X	247.43921	176.09361	119.01112	5.55079	0.1123061	0.18020119	3.1043043	20	2 27.2	21.2
241079 2006 <i>UN</i> <sub>3</sub>	15.5	X	188.58606	119.83786	217.83016	16.77950	0.1763860	0.17247503	3.1963321	20	2 15.6	21.1
241080 2006 <i>UF</i> <sub>18</sub>	16.1	X	212.67377	300.22553	13.92867	3.12196	0.1594034	0.18025403	3.1036976	20	2 14.5	21.1
241081 2006 <i>UF</i> <sub>30</sub>	16.5	X	73.32631	276.24856	20.21455	4.54839	0.0425359	0.21437353	2.7649584	20	11 11.0	20.3
241082 2006 <i>US</i> <sub>39</sub>	15.7	X	181.81830	114.55106	217.04200	2.10210	0.1736936	0.17185441	3.2040227	20	2 7.9	21.0
241083 2006 <i>UJ</i> <sub>55</sub>	16.4	X	333.69181	28.14888	37.27099	16.77602	0.2464627	0.21484271	2.7609315	20	12 28.8	19.2
241084 2006 <i>UZ</i> <sub>182</sub>	16.2	X	20.09144	195.07194	195.92424	15.76507	0.1997806	0.21964676	2.7205258	20	—	—
241085 2006 <i>UR</i> <sub>195</sub>	16.1	X	215.54988	137.42501	189.13491	10.82012	0.1316540	0.18237303	3.0796094	20	2 28.9	21.2
241086 2006 <i>UV</i> <sub>222</sub>	15.2	X	248.60965	53.65635	227.97137	12.24704	0.0433035	0.17615336	3.1516799	20	2 13.1	20.0
241087 2006 <i>UL</i> <sub>239</sub>	15.4	X	270.71996	234.86392	31.54490	15.50628	0.2456581	0.17736312	3.1373321	20	2 8.9	20.7
241088 2006 <i>UO</i> <sub>254</sub>	15.7	X	232.23524	247.45024	47.39453	13.66493	0.2384128	0.17544535	3.1601533	20	2 10.1	21.3
241089 2006 <i>UE</i> <sub>265</sub>	14.8	X	226.06390	344.15407	245.10442	12.76202	0.0912911	0.15692753	3.4041077	20	—	—
241090 Nemet	15.4	X	224.16771	251.21765	101.79780	12.24257	0.1806800	0.18490283	3.0514553	20	4 13.1	20.6
241091 2006 <i>UO</i> <sub>296</sub>	16.6	X	253.50733	73.10094	171.01536	1.18644	0.1107886	0.17691059	3.1426800	20	1 4.0	21.3
241092 2006 <i>VR</i> <sub>2</sub>	15.9	X	359.67322	274.20494	111.89556	8.52694	0.2331440	0.21447531	2.7640837	20	12 25.0	18.9
241093 2006 <i>VV</i> <sub>57</sub>	15.6	X	91.70780	109.04674	118.53830	3.97481	0.1375595	0.12469597	3.9679644	20	9 10.2	20.3
241094 2006 <i>WO</i> <sub>51</sub>	14.7	X	331.46850	245.02957	63.37975	8.29402	0.1422336	0.19133860	2.9826410	20	6 29.4	19.2
241095 2007 <i>CT</i> <sub>29</sub>	15.5	X	246.17632	264.39511	134.31681	12.96381	0.2097010	0.18356211	3.0662956	20	6 20.3	20.4
241096 2007 <i>DD</i> <sub>104</sub>	16.7	X	111.73384	224.03229	94.47756	24.89728	0.0542253	0.35040365	1.9926161	20	—	—
241097 2007 <i>DU</i> <sub>112</sub>	11.1	X	19.11860	348.81234	187.10587	15.67709	0.7771507	0.00377892	40.8216625	20	7 9.4	24.8
241098 2007 <i>GW</i>	17.3	X	293.86028	327.50620	198.81593	22.16618	0.0715414	0.35541603	1.9738374	20	—	—
241099 2007 <i>GH</i> <sub>2</sub>	12.9	X	274.74869	281.34581	43.19507	15.87095	0.1156332	0.08157944	5.2652083	20	5 4.1	19.8
241100 2007 <i>GL</i> <sub>29</sub>	17.0	X	122.64042	184.65464	201.89468	20.81949	0.0973550	0.36527342	1.9381647	20	1 4.8	19.4
241101 2007 <i>GD</i> <sub>50</sub>	17.7	X	26.66908	4.60569	181.57378	4.67198	0.0983258	0.30309223	2.1949241	20	4 10.2	19.6
241102 2007 <i>HO</i>	16.3	X	31.39098	174.38607	239.62354	19.79497	0.0891047	0.35436500	1.9777383	20	—	—
241103 2007 <i>HM</i> <sub>36</sub>	18.0	X	328.54856	183.89097	32.29890	3.04316	0.1084329	0.29359121	2.2420262	20	2 11.4	20.3
241104 2007 <i>JG</i> <sub>12</sub>	16.2	X	11.74465	193.94272	129.28563	11.64627	0.1370316	0.24375484	2.5380522	20	10 19.5	19.3
241105 2007 <i>JR</i> <sub>15</sub>	16.7	X	337.66890	123.24309	211.93170	7.99251	0.1797521	0.23940873	2.5686764	20	8 22.2	19.1
241106 2007 <i>KL</i> <sub>8</sub>	16.0	X	67.90125	177.86219	113.09966	14.50487	0.2873646	0.24309034	2.5426754	20	12 4.2	20.3
241107 2007 <i>LQ</i> <sub>14</sub>	15.8	X	313.00093	298.96837	78.42522	16.02717	0.1453523	0.24266318	2.5456584	20	9 21.3	18.8
241108 2007 <i>LO</i> <sub>17</sub>	17.7	X	337.56703	135.43372	61.79594	3.70848	0.0865667	0.29074624	2.2566280	20	2 2.1	20.0
241109 2007 <i>MB</i> <sub>10</sub>	17.3	X	348.41688	168.26273	107.93606	4.14458	0.2560646	0.30091060	2.2055203	20	6 14.9	17.8
241110 2007 <i>NR</i> <sub>1</sub>	17.1	X	287.48643	106.43023	167.05903	7.86473	0.1262087	0.28547993	2.2842957	20	3 1.4	20.1
241111 2007 <i>NM</i> <sub>7</sub>	16.8	X	237.70201	261.84626	70.54644	7.13685	0.1455890	0.28533942	2			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241121 2007 PC <sub>20</sub>	17.0	X	250.00931	341.31636	339.95630	2.48122	0.1891048	0.28382712	2.2931552	20	3 15.9	20.4
241122 2007 PU <sub>22</sub>	16.2	X	185.33569	213.28050	126.48665	7.87486	0.2298075	0.26868221	2.3785381	20	2 15.0	20.1
241123 2007 PV <sub>28</sub>	16.7	X	191.75530	84.76944	214.10844	6.22301	0.1181345	0.26796580	2.3827756	20	—	—
241124 2007 PO <sub>29</sub>	16.6	X	336.92428	143.69248	155.22251	5.78435	0.0770130	0.22153538	2.7050418	20	7 1.6	19.8
241125 2007 PL <sub>30</sub>	17.1	X	232.03639	244.18875	80.50110	3.34920	0.1963845	0.27954825	2.3164959	20	3 5.8	20.7
241126 2007 PG <sub>31</sub>	16.9	X	237.68371	148.10032	193.46657	3.48300	0.1487313	0.28572023	2.2830148	20	4 2.3	20.0
241127 2007 PQ <sub>31</sub>	17.3	X	155.23532	315.90923	23.93008	1.71011	0.2072941	0.26742634	2.3859789	20	1 18.7	20.9
241128 2007 PK <sub>35</sub>	16.5	X	190.15761	134.61585	209.23392	1.58340	0.2531061	0.27070863	2.3666533	20	2 22.6	20.5
241129 2007 PL <sub>35</sub>	15.3	X	17.96064	345.10808	19.25362	11.29000	0.2240937	0.23267140	2.6180266	20	12 29.4	18.8
241130 2007 PG <sub>39</sub>	17.3	X	136.25853	242.71305	104.37855	3.07988	0.2259719	0.26146011	2.4221391	20	1 11.4	20.8
241131 2007 PG <sub>40</sub>	16.8	X	287.66752	34.74911	246.73001	4.73355	0.2164160	0.28568169	2.2832201	20	2 26.9	20.1
241132 2007 PN <sub>43</sub>	16.4	X	201.41754	197.35290	127.51613	6.52008	0.1287111	0.27162384	2.3613342	20	2 7.4	20.0
241133 2007 PF <sub>48</sub>	15.3	X	183.36860	314.58369	36.61697	13.62879	0.1333776	0.19732817	2.9219761	20	3 6.8	20.1
241134 2007 QE <sub>6</sub>	17.0	X	134.89706	121.33502	205.84057	2.50988	0.1842312	0.25974404	2.4327958	20	—	—
241135 2007 QO <sub>7</sub>	17.3	X	208.96789	113.36561	204.83570	2.00233	0.1864759	0.27335291	2.3513661	20	2 5.4	21.1
241136 Sandstede	16.0	X	40.03021	327.26352	20.96191	12.27984	0.2752306	0.23600808	2.5932923	20	—	—
241137 2007 QG <sub>13</sub>	18.1	X	239.33627	118.57933	192.57826	3.56974	0.1908267	0.27864574	2.3214951	20	2 22.0	21.7
241138 2007 QG <sub>14</sub>	16.6	X	159.50066	234.75179	98.54549	7.99162	0.1264934	0.26555342	2.3971845	20	1 6.9	19.9
241139 2007 QF <sub>15</sub>	15.4	X	339.17683	323.02135	158.06917	13.77476	0.1684471	0.17851722	3.1237958	20	—	—
241140 2007 QA <sub>17</sub>	17.5	X	258.04225	151.16922	173.13433	2.04206	0.1816647	0.28712470	2.2755638	20	3 29.0	20.8
241141 2007 RX <sub>5</sub>	16.8	X	209.99755	76.93720	201.97000	4.30330	0.1424118	0.26563342	2.3967031	20	—	—
241142 2007 RA <sub>7</sub>	16.3	X	187.90737	22.06250	292.74410	6.53179	0.1613142	0.26722361	2.3871855	20	1 14.5	19.9
241143 2007 RA <sub>15</sub>	16.6	X	284.11422	224.16995	184.33868	15.62612	0.1499171	0.22567607	2.6718519	20	8 28.3	20.1
241144 2007 RH <sub>19</sub>	17.8	X	269.80978	122.36239	177.14823	0.81522	0.2241467	0.28359690	2.2943961	20	3 4.4	21.1
241145 2007 RR <sub>21</sub>	17.2	X	95.97059	96.93415	278.38422	1.39837	0.1850054	0.25836905	2.4414194	20	—	—
241146 2007 RJ <sub>23</sub>	16.9	X	232.48421	2.52713	294.17027	4.94743	0.2055248	0.27494849	2.3422603	20	1 29.8	20.8
241147 2007 RM <sub>24</sub>	16.3	X	190.05355	200.62650	153.71731	6.57531	0.2361029	0.27172671	2.3607382	20	3 6.9	20.3
241148 2007 RP <sub>32</sub>	17.1	X	249.71329	190.10966	102.74963	3.87998	0.1310975	0.27592654	2.3367221	20	2 15.1	20.4
241149 2007 RR <sub>33</sub>	16.2	X	166.63911	286.02727	58.14399	5.93556	0.2667403	0.26658520	2.3909951	20	2 9.0	20.3
241150 2007 RS <sub>37</sub>	16.8	X	172.96382	286.88846	41.60399	2.76765	0.1710696	0.26524316	2.3990534	20	1 18.9	20.5
241151 2007 RT <sub>37</sub>	17.2	X	261.11243	145.41397	147.69877	2.89158	0.2434438	0.27969174	2.3157035	20	2 16.3	20.9
241152 2007 RJ <sub>38</sub>	15.4	X	162.61244	177.17885	160.45445	12.76837	0.0934606	0.18589016	3.0406408	20	1 22.4	20.1
241153 2007 RQ <sub>39</sub>	17.4	X	264.24897	146.98308	167.95922	6.66981	0.1777878	0.28439436	2.2901050	20	3 24.5	20.5
241154 2007 RQ <sub>48</sub>	15.4	X	29.89505	49.16127	12.25265	19.88718	0.1327743	0.17034181	3.2229621	20	—	—
241155 2007 RN <sub>56</sub>	15.9	X	132.50605	195.64037	195.45478	18.43916	0.2106844	0.18623655	3.0368693	20	3 4.3	20.9
241156 2007 RJ <sub>73</sub>	17.0	X	194.61372	1.85682	67.71728	0.77696	0.0509874	0.21364576	2.7712340	20	6 17.1	21.0
241157 2007 RW <sub>77</sub>	16.3	X	271.09190	282.61194	167.73699	12.47453	0.1202221	0.23344747	2.6122211	20	10 16.4	19.6
241158 2007 RR <sub>81</sub>	15.4	X	58.46774	240.84649	166.18969	10.52071	0.0480130	0.17960572	3.1111619	20	—	—
241159 2007 RW <sub>85</sub>	17.1	X	262.42899	179.67063	71.93350	6.34152	0.1336988	0.27020285	2.3696058	20	1 6.9	20.6
241160 2007 RE <sub>91</sub>	15.6	X	268.33527	112.63752	179.75233	12.88574	0.0820118	0.19965413	2.8992379	20	3 17.3	19.7
241161 2007 RN <sub>93</sub>	16.9	X	220.78123	191.85250	108.52955	3.59447	0.1812744	0.27029993	2.3690384	20	1 26.2	20.7
241162 2007 RC <sub>98</sub>	17.2	X	200.75807	140.54066	161.05887	8.44805	0.2119869	0.26598515	2.3945897	20	1 10.8	21.4
241163 2007 RD <sub>110</sub>	16.0	X	290.63291	165.27476	166.26382	6.10981	0.0412750	0.21252542	2.7809646	20	6 11.4	19.7
241164 2007 RR <sub>115</sub>	16.4	X	248.85050	143.10244	246.47642	2.73974	0.1071260	0.21294586	2.7773029	20	6 23.4	20.3
241165 2007 RR <sub>134</sub>	17.0	X	215.62539	105.04133	192.90556	4.53962	0.2353570	0.27122224	2.3636646	20	1 17.5	21.1
241166 2007 RW <sub>134</sub>	16.9	X	130.11812	177.80201	165.90400	2.39822	0.1425240	0.25894233	2.4378147	20	—	—
241167 2007 RZ <sub>145</sub>	15.7	X	1.81772	322.79156	15.12433	12.01213	0.2654294	0.22712843	2.6604497	20	10 28.8	18.1
241168 2007 RE <sub>146</sub>	16.8	X	112.55358	255.39636	120.31674	3.24335	0.2076291	0.25989216	2.4318714	20	1 18.3	19.8
241169 2007 RT <sub>148</sub>	15.7	X	154.31363	337.25449	83.98251	3.21292	0.0562975	0.20124004	2.8839858	20	4 21.9	19.8
241170 2007 RX <sub>150</sub>	16.7	X	189.41731	214.66882	110.26329	7.48298	0.1665768	0.27002632	2.3706384	20	1 28.7	20.4
241171 2007 RC <sub>166</sub>	17.5	X	212.18177	77.70037	211.51890	2.48537	0.2034823	0.26905000	2.3763700	20	1 5.2	21.4
241172 2007 RW <sub>204</sub>	16.2	X	314.29546	136.47025	218.01580	5.64374	0.0315164	0.21990197	2.7184205	20	8 14.4	19.8
241173 2007 RC <sub>207</sub>	16.3	X	93.20197	47.87420	35.72417	4.86251	0.0977870	0.18970989	2.9996879	20	3 15.4	20.4
241174 2007 RK <sub>212</sub>	16.9	X	235.86754	43.80158	213.39019	4.85047	0.1529526	0.26419510	2.4053939	20	—	—
241175 2007 RV <sub>216</sub>	16.8	X	189.21718	232.82050	106.29790	3.45117	0.2169128	0.27004557	2.3705258	20	2 16.9	20.7
241176 2007 RK <sub>222</sub>	16.7	X	300.49026	139.10683	201.89930	4.18136	0.0821500	0.21320585	2.7750446	20	7 1.6	20.2
241177 2007 RZ <sub>227</sub>	16.0	X	202.84794	306.82183	65.32496	1.97215	0.0550753	0.19230045	2.9726870	20	4 15.0	20.3
241178 2007 RK <sub>234</sub>	16.7	X	228.43547	163.08164	119.27184	5.82700	0.1497296	0.26769577	2.3843776	20	1 11.4	20.5
241179 2007 RK <sub>241</sub>	17.2	X	294.08900	169.93206	123.42112	7.90452	0.1796213	0.28684236	2.2770567	20	4 2.6	20.1
241180 2007 RZ <sub>242</sub>	15.9	X	268.02682	326.60143	28.01968	5.48447	0.1798546	0.21177180	2.7875583	20	5 20.7	20.1
241181 2007 RH <sub>243</sub>	16.7	X	220.77917	217.29498	65.67338	4.52231	0.2042881	0.26918434	2.3755792	20	1 5.2	20.6
241182 2007 RH <sub>245</sub>	17.3	X	75.96974	233.82135	113.38571	3.78510	0.0852873	0.24459141	2.5322617	20	—	—
241183 2007 RU <sub>246</sub>	16.0	X	347.68307	0.54835	318.56446	7.12303	0.1240368	0.22179057	2.7029665	20	8 18.3	19.0
241184 2007 RZ <sub>258</sub>	16.1	X	180.64681	255.43615	81.43225	7.74171	0.1458319	0.26897831	2.3767922	20	2 4.9	19.7
241185 2007 RR <sub>281</sub>	16.1	X	163.65004	202.57201	122.03064	10.44462	0.1542391	0.26288373	2.4133867	20	1 3.4	19.6
241186 2007 RN <sub>285</sub>	16.0	X	156.60047	20.35435	35.77995	12.37281	0.0266851	0.19631689	2.9320020	20	4 16.5	20.1
241187 2007 RF <sub>287</sub>	15.7	X	106.66959	9.55438	94.09465	3.28313	0.0234788	0.19965196	2.8992589	20	4 14.8	19.7
241188 2007 RA <sub>293</sub>	16.2	X	28.11948	3.20777	120.96799	2.03619	0.1348730	0.18100996	3.0950504	20	2 2.9	19.6
241189 2007 RP <sub>299</sub>	16.7	X	111.63977	119.43180	142.32579	1.43282	0.0921596	0.23622276	2.5917209	20	11 21.4	20.5
241190 2007 RF <sub>317</sub>	16.7	X	306.58467	235.24030	177.08553	2.92476	0.0665917	0.23096753	2.6308864	20	10 23.5	19.8
241191 2007 RM <sub>317</sub>	16.8	X	86.39540	323.43136	176.84615	1.94966	0.0080905	0.20268735	2.8702404	20	5 2.5	20.6
241192 Pulyny	16.8	X	141.71340	138.07188	201.07659	6.36288	0.1264926	0.26071461	2.4267543	20	—	—
241193 2007 SN <sub>9</sub>	16.9	X	156.17851	212.59552	85.12868	3.64132	0.2042695	0.25533873	2.4606977	20	—	—
241194 2007 SX <sub>10</sub>	16.7	X										

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241201 2007 <i>TM</i> <sub>20</sub>	15.6 <sup>m</sup>	X	79.83457	195.49222	39.99246	9.28072	0.0370423	0.21940349	2.7225364	20	9 7.4	19.4
241202 2007 <i>TP</i> <sub>25</sub>	15.9	X	182.52572	8.78291	358.70355	0.89136	0.0783123	0.19266484	2.9689376	20	3 17.8	20.4
241203 2007 <i>TE</i> <sub>27</sub>	16.6	X	52.71540	219.86027	85.76391	0.43466	0.1084358	0.23145082	2.6272227	20	11 10.9	20.1
241204 2007 <i>TV</i> <sub>28</sub>	16.5	X	18.56933	111.22316	211.82099	6.36153	0.0400512	0.22399383	2.6852126	20	10 6.2	20.0
241205 2007 <i>TF</i> <sub>31</sub>	15.5	X	50.61223	41.61808	42.01198	10.03082	0.0519891	0.17577989	3.1561424	20	1 15.5	19.8
241206 2007 <i>TE</i> <sub>35</sub>	16.0	X	287.38677	145.91343	233.37749	10.71223	0.0914862	0.21407206	2.7675537	20	7 29.9	19.9
241207 2007 <i>TA</i> <sub>39</sub>	15.5	X	328.53520	133.08702	50.25265	5.31793	0.0896772	0.17883284	3.1201193	20	1 21.5	19.8
241208 2007 <i>TB</i> <sub>41</sub>	15.4	X	353.91382	87.37871	46.35537	10.95025	0.1017993	0.17193046	3.2030779	20	—	—
241209 2007 <i>TZ</i> <sub>41</sub>	16.4	X	147.91712	285.26823	180.96699	4.97201	0.0355528	0.21057592	2.7981022	20	6 9.1	20.5
241210 2007 <i>TF</i> <sub>43</sub>	15.9	X	46.70459	39.18311	66.01063	2.89003	0.0466612	0.17876433	3.1209165	20	2 3.8	20.0
241211 2007 <i>TW</i> <sub>45</sub>	15.9	X	286.93854	307.24605	64.49576	7.31261	0.0627211	0.21298641	2.7769503	20	7 29.2	19.6
241212 2007 <i>TT</i> <sub>50</sub>	16.2	X	355.47580	286.72164	17.09453	8.73185	0.1358150	0.21831170	2.7316059	20	8 15.4	19.2
241213 2007 <i>TG</i> <sub>61</sub>	16.1	X	64.27863	359.85114	34.10875	0.49298	0.0531856	0.17071816	3.2182237	20	—	—
241214 2007 <i>TA</i> <sub>61</sub>	16.7	X	319.41352	112.23385	214.83834	4.04430	0.0694432	0.21262135	2.7801280	20	7 12.6	20.1
241215 2007 <i>TA</i> <sub>63</sub>	16.4	X	33.58984	142.00833	335.58772	1.14377	0.0953184	0.17979329	3.1089976	20	2 2.3	20.1
241216 2007 <i>TM</i> <sub>63</sub>	15.8	X	87.49278	335.47096	112.85012	1.56892	0.1134271	0.18371086	3.0646402	20	3 15.7	19.9
241217 2007 <i>TF</i> <sub>65</sub>	15.3	X	86.26258	212.96439	213.91500	15.86212	0.0822216	0.17941366	3.1133818	20	2 6.9	19.9
241218 2007 <i>TK</i> <sub>68</sub>	16.3	X	103.62525	7.72856	171.45166	4.47840	0.0079091	0.21103189	2.7940703	20	7 14.8	20.1
241219 2007 <i>TV</i> <sub>70</sub>	15.5	X	52.22059	322.35914	7.20226	11.67913	0.1386195	0.23469691	2.6029418	20	12 14.1	19.4
241220 2007 <i>TF</i> <sub>80</sub>	17.2	X	168.55719	204.52926	124.00473	2.30032	0.1989784	0.26257042	2.4153061	20	1 16.5	20.9
241221 2007 <i>TO</i> <sub>80</sub>	15.9	X	201.89740	254.94311	101.03617	3.39984	0.1200202	0.19536210	2.9415474	20	3 24.8	20.5
241222 2007 <i>TL</i> <sub>93</sub>	15.9	X	106.72596	202.71135	57.76042	6.83559	0.1662476	0.23094298	2.6310728	20	11 17.9	19.9
241223 2007 <i>TJ</i> <sub>95</sub>	15.3	X	94.41877	230.36248	193.24490	16.73060	0.2223703	0.18024171	3.1038390	20	3 6.5	19.8
241224 2007 <i>TB</i> <sub>103</sub>	16.2	X	69.17763	314.44026	170.50532	2.56206	0.0350067	0.18808870	3.0168999	20	3 25.9	20.2
241225 2007 <i>TE</i> <sub>111</sub>	15.9	X	104.99721	268.03257	337.40390	12.46863	0.1240306	0.23135774	2.6279274	20	10 20.5	20.1
241226 2007 <i>TX</i> <sub>120</sub>	16.1	X	207.26699	298.72243	37.74018	10.18723	0.0782378	0.18923733	3.0046797	20	3 10.9	20.8
241227 2007 <i>TE</i> <sub>123</sub>	16.6	X	29.57588	170.29315	167.60028	2.71422	0.2865110	0.23409844	2.6073762	20	12 19.5	20.1
241228 2007 <i>TH</i> <sub>146</sub>	16.2	X	173.22597	186.71887	217.89628	3.68885	0.1262862	0.19605127	2.9346498	20	4 23.4	20.7
241229 2007 <i>TK</i> <sub>149</sub>	16.8	X	119.36377	93.82370	184.08385	7.68852	0.1202454	0.24116190	2.5562123	20	12 20.5	20.8
241230 2007 <i>TL</i> <sub>161</sub>	16.0	X	176.24767	4.81267	44.84360	2.56091	0.0649253	0.20195454	2.8771796	20	5 1.3	20.0
241231 2007 <i>TL</i> <sub>169</sub>	16.3	X	106.68913	259.99690	16.30511	1.19903	0.1197261	0.23534960	2.5981272	20	12 4.9	20.3
241232 2007 <i>TA</i> <sub>178</sub>	16.8	X	41.99810	283.60084	36.67927	4.41581	0.1875528	0.23047623	2.6346239	20	11 26.8	20.5
241233 2007 <i>TV</i> <sub>179</sub>	16.2	X	55.88194	252.77794	203.63014	5.90905	0.0013764	0.18113022	3.0936804	20	1 29.5	20.7
241234 2007 <i>TW</i> <sub>185</sub>	16.3	X	338.43837	322.52456	31.07346	14.26339	0.1832750	0.22542347	2.6738475	20	9 28.6	18.9
241235 2007 <i>TK</i> <sub>188</sub>	16.3	X	14.27309	73.57891	200.22824	3.98900	0.0213437	0.21317240	2.7753349	20	7 22.1	19.9
241236 2007 <i>TB</i> <sub>190</sub>	16.7	X	100.17609	252.52942	340.28662	0.91909	0.0329639	0.22976994	2.6400201	20	9 25.7	20.3
241237 2007 <i>TJ</i> <sub>192</sub>	16.6	X	53.87204	41.67905	240.78735	3.87196	0.0750233	0.22620947	2.6676501	20	10 5.8	20.2
241238 2007 <i>TG</i> <sub>194</sub>	16.1	X	133.25701	10.40935	43.20290	11.14849	0.0724419	0.19039391	2.9924990	20	3 25.2	20.5
241239 2007 <i>TJ</i> <sub>194</sub>	15.9	X	327.40692	260.58624	52.73544	9.14925	0.0398533	0.21174459	2.7877971	20	7 9.9	19.6
241240 2007 <i>TZ</i> <sub>199</sub>	16.6	X	292.46767	147.45836	213.88179	5.25778	0.0326514	0.21392641	2.7688097	20	7 23.6	20.3
241241 2007 <i>TR</i> <sub>204</sub>	15.7	X	132.85610	339.04291	60.70469	10.24396	0.0187241	0.18466671	3.0540558	20	3 2.8	20.2
241242 2007 <i>TC</i> <sub>208</sub>	16.5	X	318.90703	214.77234	144.02083	6.90899	0.0509211	0.22058564	2.7128007	20	8 28.9	19.9
241243 2007 <i>TE</i> <sub>208</sub>	16.4	X	20.98008	64.47495	125.89593	2.98197	0.0388648	0.19589026	2.9362576	20	4 13.9	20.2
241244 2007 <i>TA</i> <sub>217</sub>	14.9	X	10.72475	297.69208	232.51557	15.34415	0.0626653	0.18434993	3.0575535	20	2 26.9	19.2
241245 2007 <i>TE</i> <sub>218</sub>	16.8	X	307.13861	60.82638	236.97822	6.01122	0.1967331	0.28257496	2.2999246	20	4 20.4	19.4
241246 2007 <i>TF</i> <sub>228</sub>	16.4	X	260.92973	168.35729	225.51578	4.67507	0.0176876	0.21220637	2.7837513	20	7 26.4	20.3
241247 2007 <i>TG</i> <sub>229</sub>	16.4	X	253.84128	270.04017	43.58367	2.35299	0.0555844	0.19452582	2.9499719	20	3 31.3	20.7
241248 2007 <i>TN</i> <sub>230</sub>	16.7	X	109.69655	186.57936	82.04368	4.60571	0.1650056	0.23307300	2.6150183	20	11 30.7	20.8
241249 2007 <i>TS</i> <sub>233</sub>	16.0	X	72.28759	350.51312	107.37125	2.86826	0.1372156	0.18046216	3.1013107	20	3 11.6	20.1
241250 2007 <i>TT</i> <sub>233</sub>	16.0	X	116.10969	64.95731	218.27050	14.77780	0.1961960	0.23714359	2.5850074	20	12 23.6	20.6
241251 2007 <i>TQ</i> <sub>234</sub>	15.8	X	277.53443	334.38720	51.25711	9.53660	0.2184445	0.21409259	2.7673768	20	7 9.0	19.7
241252 2007 <i>TT</i> <sub>246</sub>	16.9	X	165.47568	268.14121	41.84803	9.41490	0.2131431	0.25797930	2.4438777	20	—	—
241253 2007 <i>TE</i> <sub>268</sub>	15.8	X	59.66219	221.37531	204.42757	9.64524	0.0920295	0.17568439	3.1572860	20	1 6.3	20.0
241254 2007 <i>TS</i> <sub>279</sub>	15.7	X	5.95513	67.34729	100.56033	6.83274	0.1224081	0.18266007	3.0763823	20	2 24.2	19.4
241255 2007 <i>TU</i> <sub>279</sub>	16.0	X	95.01033	90.23361	195.71161	14.27293	0.0960913	0.23262082	2.6184060	20	12 3.9	20.1
241256 2007 <i>TS</i> <sub>288</sub>	16.1	X	318.15287	293.34167	85.35502	11.56797	0.0735623	0.22611038	2.6684294	20	9 30.4	19.5
241257 2007 <i>TN</i> <sub>299</sub>	16.3	X	90.61316	41.70120	218.34590	3.65554	0.0691617	0.22744885	2.6579505	20	10 22.9	20.0
241258 2007 <i>TL</i> <sub>310</sub>	16.2	X	122.99981	355.80421	114.07753	3.12985	0.0311536	0.19953799	2.9003628	20	5 13.9	20.2
241259 2007 <i>TV</i> <sub>314</sub>	17.0	X	143.01046	145.11529	200.89180	3.59534	0.2016798	0.26641620	2.3920062	20	1 12.7	20.4
241260 2007 <i>TK</i> <sub>316</sub>	15.3	X	59.51340	344.58276	58.40849	7.95117	0.1245690	0.16944994	3.2342613	20	—	—
241261 2007 <i>TK</i> <sub>334</sub>	16.7	X	357.50402	308.31669	229.04552	14.14406	0.0719890	0.26133384	2.4229193	20	2 4.9	19.9
241262 2007 <i>TK</i> <sub>339</sub>	16.9	X	353.74668	208.48852	170.15116	4.30712	0.0204851	0.23536205	2.5980356	20	11 16.8	20.3
241263 2007 <i>TB</i> <sub>350</sub>	16.8	X	202.04582	208.41663	79.63415	2.45808	0.1797006	0.26798305	2.3826733	20	—	—
241264 2007 <i>TZ</i> <sub>378</sub>	16.1	X	350.71497	268.29748	38.24249	5.87021	0.0572087	0.21853007	2.7297858	20	8 6.9	19.5
241265 2007 <i>TH</i> <sub>381</sub>	16.7	X	44.66783	271.79466	62.89090	5.54152	0.1192837	0.23422659	2.6064251	20	12 9.8	20.1
241266 2007 <i>TO</i> <sub>389</sub>	16.4	X	215.69653	266.66072	156.88027	4.83872	0.0516151	0.21059770	2.7979093	20	7 4.1	20.4
241267 2007 <i>TM</i> <sub>393</sub>	15.9	X	249.93784	2.20275	63.16197	6.27049	0.0229781	0.21948041	2.7219002	20	8 27.7	19.7
241268 2007 <i>TY</i> <sub>397</sub>	15.3	X	300.19685	289.93451	259.06166	5.96001	0.1155369	0.17422563	3.1748852	20	—	—
241269 2007 <i>TM</i> <sub>404</sub>	16.0	X	29.60041	130.78549	226.15103	14.85298	0.0765194	0.23263390	2.6183079	20	12 12.2	19.5
241270 2007 <i>TT</i> <sub>410</sub>	15.4	X	210.36171	294.55607	123.82348	9.93677	0.1206535	0.20939754	2.8085899	20	6 17.1	19.8
241271 2007 <i>TG</i> <sub>413</sub>	15.7	X	58.63942	250.96827	217.40064	5.84706	0.091851					



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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241281 2007 UF <sub>2</sub>	16.7	X	233.98706	260.09585	67.99821	12.40154	0.3124406	0.27917342	2.3185689	20	3 11.7	21.1
241282 2007 UD <sub>4</sub>	16.3	X	59.85645	204.17999	104.31703	3.42576	0.0802481	0.23163144	2.6258568	20	11 20.1	19.8
241283 2007 UC <sub>10</sub>	16.0	X	254.43395	298.70284	89.86177	7.54115	0.0853810	0.21294409	2.7773183	20	7 2.1	19.7
241284 2007 UL <sub>11</sub>	15.5	X	31.03014	220.94879	146.00565	12.98927	0.1733644	0.23498799	2.6007919	20	—	—
241285 2007 UH <sub>13</sub>	16.9	X	265.73794	219.44507	119.89993	0.78990	0.0090724	0.19996039	2.8962768	20	5 23.7	20.8
241286 2007 UB <sub>29</sub>	16.5	X	166.45870	262.52064	76.64480	6.13150	0.2535442	0.26661157	2.3908374	20	2 1.4	20.5
241287 2007 UG <sub>29</sub>	16.5	X	245.82552	163.53981	186.10813	1.59842	0.0885016	0.20308114	2.8665289	20	5 1.7	20.5
241288 2007 UN <sub>30</sub>	15.7	X	243.84260	255.80147	138.29950	6.08490	0.0429083	0.20958691	2.8068978	20	7 1.6	19.6
241289 2007 UY <sub>31</sub>	17.3	X	177.49892	236.75524	68.82497	3.60559	0.1856690	0.25989849	2.4318319	20	—	—
241290 2007 UZ <sub>43</sub>	16.3	X	24.20010	68.57439	34.91239	2.17841	0.0522303	0.17715795	3.1397539	20	1 2.3	20.3
241291 2007 UY <sub>44</sub>	16.4	X	73.74960	72.88884	22.06390	2.56485	0.0927384	0.18491498	3.0513216	20	3 2.8	20.3
241292 2007 UR <sub>49</sub>	16.5	X	81.69055	140.01758	191.05435	3.99793	0.2146540	0.23978271	2.5660048	20	—	—
241293 2007 UF <sub>51</sub>	15.0	X	72.15396	312.48306	95.87872	12.83816	0.0809665	0.17036113	3.2227186	20	1 3.7	19.2
241294 2007 UH <sub>51</sub>	15.6	X	99.28154	226.13411	209.42546	15.56676	0.0679729	0.18129109	3.0918500	20	3 3.7	20.1
241295 2007 UB <sub>52</sub>	15.3	X	21.28564	298.36230	220.21401	9.21945	0.0155839	0.18294031	3.0732397	20	2 29.9	19.8
241296 2007 UO <sub>52</sub>	16.0	X	175.10085	274.73901	114.92772	3.25308	0.1149285	0.18948577	3.0020527	20	4 8.8	20.7
241297 2007 UR <sub>59</sub>	16.1	X	256.04681	223.10276	37.87784	2.60481	0.0561246	0.18192046	3.0847148	20	1 31.6	20.7
241298 2007 UH <sub>68</sub>	16.1	X	38.77236	345.23010	130.20376	2.28047	0.1507100	0.17582827	3.1555634	20	2 11.7	19.5
241299 2007 UU <sub>78</sub>	16.4	X	94.93932	72.46068	26.31093	1.58192	0.0276425	0.18842578	3.0133009	20	3 24.9	20.5
241300 2007 UH <sub>81</sub>	17.2	X	206.46200	184.56966	81.96590	3.18930	0.1997493	0.25852732	2.4404229	20	—	—
241301 2007 US <sub>99</sub>	16.1	X	326.72680	283.91022	32.51025	5.30800	0.1563233	0.21319971	2.7750979	20	7 2.6	19.1
241302 2007 UK <sub>90</sub>	16.0	X	287.80445	128.62361	227.50033	4.58999	0.0681150	0.21017568	2.8016534	20	7 5.5	19.7
241303 2007 UR <sub>98</sub>	16.1	X	258.15386	228.53367	54.14649	3.70991	0.0725318	0.18702331	3.0283464	20	2 27.3	20.5
241304 2007 UE <sub>113</sub>	15.4	X	123.61660	293.35077	82.44545	9.29996	0.0844194	0.17502787	3.1651764	20	1 29.3	20.1
241305 2007 UT <sub>113</sub>	15.3	X	284.81579	199.05935	40.39303	18.96339	0.0905473	0.18190804	3.0848553	20	2 10.4	20.1
241306 2007 UM <sub>135</sub>	15.9	X	201.06419	250.43914	39.06506	5.52560	0.1201880	0.18047298	3.1011868	20	1 7.1	20.9
241307 2007 UE <sub>136</sub>	15.5	X	74.22327	358.44809	111.36458	10.07281	0.1042295	0.18515100	3.0487279	20	3 27.7	19.7
241308 2007 VQ	15.8	X	349.82805	208.32157	73.01293	11.07950	0.0708487	0.20777123	2.8232269	20	6 27.5	19.3
241309 2007 VL <sub>2</sub>	16.4	X	166.93070	123.84423	302.35477	0.91649	0.0539716	0.19807812	2.9145961	20	5 11.2	20.5
241310 2007 VM <sub>2</sub>	16.4	X	184.58062	100.21681	298.09105	0.91079	0.0809635	0.19664380	2.9287516	20	4 26.1	20.8
241311 2007 VM <sub>7</sub>	14.9	X	56.35769	349.65202	129.91840	10.25411	0.1476288	0.18041383	3.1018645	20	3 19.2	18.8
241312 2007 VA <sub>13</sub>	16.7	X	15.53234	215.40006	349.04150	1.36594	0.0260547	0.19737735	2.9214907	20	4 22.4	20.4
241313 2007 VV <sub>20</sub>	16.6	X	313.83871	314.34999	35.31696	6.73697	0.0928756	0.21900729	2.7258189	20	8 6.5	19.9
241314 2007 VG <sub>33</sub>	16.2	X	51.70202	23.99340	259.17417	5.40004	0.2041769	0.22496563	2.6774740	20	10 22.4	19.9
241315 2007 VJ <sub>35</sub>	17.0	X	36.56596	77.79300	190.47382	1.63721	0.1393241	0.21788517	2.7351696	20	9 1.9	20.3
241316 2007 VV <sub>57</sub>	16.4	X	289.35138	213.79077	156.35683	4.78305	0.0867820	0.21118167	2.7927490	20	7 24.1	20.0
241317 2007 VL <sub>59</sub>	15.6	X	83.99311	33.93960	12.44154	3.43792	0.0644008	0.17238997	3.1973834	20	1 15.0	19.9
241318 2007 VM <sub>70</sub>	16.2	X	142.78174	256.87388	119.26270	2.53768	0.0779920	0.18271970	3.0757130	20	2 16.8	20.7
241319 2007 VF <sub>73</sub>	16.4	X	84.10904	76.90550	196.44133	3.61662	0.1353620	0.22781866	2.6550733	20	11 9.3	20.2
241320 2007 VZ <sub>87</sub>	16.1	X	91.11710	357.79566	322.98499	6.53235	0.2267762	0.24059926	2.5601973	20	—	—
241321 2007 VQ <sub>94</sub>	15.5	X	336.13320	170.14339	49.23098	10.50839	0.0330777	0.18736423	3.0246719	20	3 24.9	19.7
241322 2007 VH <sub>98</sub>	16.7	X	244.29353	40.71968	222.21429	10.29406	0.2365350	0.26632380	2.3925594	20	—	—
241323 2007 VS <sub>102</sub>	16.4	X	307.67938	106.53702	180.78072	1.92700	0.0285476	0.20286900	2.8685269	20	5 8.4	20.3
241324 2007 VL <sub>109</sub>	16.3	X	133.92015	319.16352	29.02956	2.40730	0.0947537	0.17311449	3.1884561	20	1 8.5	21.0
241325 2007 VO <sub>113</sub>	15.6	X	40.92862	22.57071	100.75456	3.27045	0.0837417	0.17733819	3.1376262	20	2 21.1	19.5
241326 2007 VZ <sub>126</sub>	16.2	X	73.01339	292.62871	17.94386	7.82674	0.1846861	0.23301540	2.6154493	20	12 18.0	20.3
241327 2007 VV <sub>134</sub>	16.4	X	270.98478	305.72522	59.88156	5.07377	0.1180246	0.21008949	2.8024196	20	6 17.7	20.3
241328 2007 VR <sub>155</sub>	15.6	X	153.39763	87.61289	249.85917	9.49373	0.0797689	0.17615437	3.1516679	20	1 12.6	20.3
241329 2007 VV <sub>158</sub>	15.9	X	281.46476	164.04896	76.02019	10.87771	0.1078959	0.17945887	3.1128589	20	1 30.6	20.6
241330 2007 VB <sub>166</sub>	15.9	X	314.03912	291.90201	65.93142	10.44133	0.1612166	0.21459107	2.7630895	20	8 11.8	19.1
241331 2007 VJ <sub>169</sub>	15.3	X	201.63773	271.95804	76.17765	16.78187	0.0887781	0.18414322	3.0598412	20	3 24.1	20.3
241332 2007 VH <sub>200</sub>	16.5	X	155.42824	350.91806	45.93420	0.84176	0.0446144	0.18938589	3.0031081	20	3 22.9	20.7
241333 2007 VR <sub>202</sub>	16.1	X	328.69187	193.82591	165.09897	4.59939	0.0857120	0.21986584	2.7187183	20	9 11.4	19.1
241334 2007 VV <sub>206</sub>	15.9	X	245.55993	314.69364	172.87564	11.26200	0.1050664	0.20595425	2.8398074	20	6 16.5	20.0
241335 2007 VB <sub>210</sub>	16.4	X	49.70038	266.24713	317.58764	2.69071	0.0329961	0.21040163	2.7996473	20	7 6.6	20.1
241336 2007 VU <sub>219</sub>	15.5	X	254.49195	285.12075	67.72030	12.88637	0.0805975	0.19721534	2.9230904	20	5 17.9	19.7
241337 2007 VJ <sub>241</sub>	16.2	X	83.10872	157.18889	120.60753	8.98738	0.1435649	0.22855247	2.6493872	20	11 16.9	20.3
241338 2007 VB <sub>243</sub>	16.8	X	114.33976	94.23565	177.02925	4.64732	0.1801529	0.23565941	2.5958496	20	12 9.1	21.0
241339 2007 VL <sub>269</sub>	16.9	X	65.22671	163.60472	168.55025	4.89939	0.2390922	0.23662171	2.5888069	20	—	—
241340 2007 VB <sub>273</sub>	15.8	X	217.03583	273.23382	61.71242	16.76514	0.0384117	0.18851246	3.0123771	20	3 25.9	20.5
241341 2007 VS <sub>299</sub>	15.7	X	11.30188	233.74288	134.18995	14.95207	0.2319820	0.23099528	2.6306757	20	12 25.6	19.0
241342 2007 VY <sub>314</sub>	15.6	X	278.74011	236.25719	91.82837	10.88613	0.0833220	0.19954914	2.9002548	20	5 17.4	19.7
241343 2007 VO <sub>320</sub>	14.7	X	211.39525	218.69535	102.66774	24.96550	0.2453758	0.17728277	3.1382800	20	2 24.3	20.5
241344 2007 WT <sub>6</sub>	15.7	X	140.33356	342.68740	32.90161	10.14011	0.0795287	0.18041725	3.1018253	20	2 17.9	20.4
241345 2007 WF <sub>17</sub>	16.2	X	6.06163	231.53415	76.87061	10.35065	0.1528314	0.21558974	2.7545500	20	9 14.8	19.4
241346 2007 WM <sub>19</sub>	15.8	X	205.38183	229.99304	87.61847	10.49204	0.0645262	0.17962354	3.1109561	20	2 15.5	20.6
241347 2007 WP <sub>23</sub>	16.5	X	129.29656	206.90768	68.60508	8.95266	0.2128035	0.23859339	2.5745250	20	12 26.5	21.0
241348 2007 WX <sub>24</sub>	16.2	X	14.66121	311.38380	186.71507	4.71000	0.0877996	0.17651743	3.1473447	20	1 29.5	20.3
241349 2007 WB <sub>25</sub>	16.0	X	46.83948	59.02124	213.79917	9.38532	0.1037922	0.21687591	2.7436487	20	9 14.9	19.7
241350 2007 WB <sub>26</sub>	16.9	X	213.76630	117.55876	151.89670	2.59149	0.1144844	0.25269109	2.4778562	20	—	—
241351 2007 WO <sub>39</sub>	16.6	X	74.40149	77.13359	206.60642	11.39119	0.1524878	0.22738724	2.6584305	20	11 14.1	20.6
241352 2007 WL <sub>47</sub>	16.6	X	281.43445	175.83022	34.32156	11.83913	0.0940600	0.25099345	2.4890166	20	—	—
241353 2007 WL <sub>49</sub>	15.6	X	250.00385	190.64189	115.93756	3.37817	0.0605586	0.18809386	3.0168448	20	3 18.9	20.0

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241361 2007 XO <sub>15</sub>	15.3	X	35.69549	206.06162	101.89692	14.24623	0.2802036	0.22357517	2.6885637	20	11 20.1	19.1
241362 2007 YH <sub>2</sub>	15.5	X	162.99179	291.39327	97.83896	9.98339	0.0648672	0.18294075	3.0732348	20	3 28.7	20.2
241363 Erdibálint	14.2	X	260.58516	308.56573	282.40462	23.28161	0.1290451	0.17370096	3.1812751	20	—	—
241364 2008 AR <sub>2</sub>	15.3	X	154.11785	270.49130	96.01942	10.31629	0.1790815	0.17731570	3.1378915	20	2 28.7	20.5
241365 2008 AO <sub>3</sub>	15.2	X	164.45521	248.57664	115.12875	14.35803	0.1055332	0.17511028	3.1641832	20	3 1.5	20.2
241366 2008 AY <sub>5</sub>	16.2	X	59.16898	214.97009	75.27577	8.94285	0.1448510	0.22576204	2.6711735	20	11 5.4	20.0
241367 2008 AH <sub>60</sub>	15.6	X	191.56342	218.55061	128.94402	16.19943	0.2049164	0.17545813	3.1599998	20	3 8.8	21.1
241368 2008 DL	16.5	X	279.62431	260.79009	186.97913	9.16830	0.0726039	0.21286394	2.7780154	20	10 26.8	20.8
241369 2008 KB <sub>43</sub>	17.7	X	32.12240	57.94803	139.77250	22.21257	0.0591353	0.39700635	1.8334585	20	5 11.7	19.1
241370 2008 LW <sub>8</sub>	17.3	X	167.05232	118.59370	223.12417	17.26810	0.3935388	0.45441214	1.6755965	20	1 21.1	20.0
241371 2008 QK <sub>5</sub>	16.3	X	154.18904	250.46199	177.23554	7.46001	0.2116670	0.21473897	2.7618207	20	5 8.9	21.0
241372 2008 QP <sub>31</sub>	16.3	X	213.36231	157.82189	213.18941	9.08333	0.2617420	0.22045217	2.7138956	20	4 14.5	21.0
241373 2008 RM	15.7	X	5.76108	270.21794	169.71043	17.51662	0.2747951	0.18180589	3.0860106	20	—	—
241374 2008 RA <sub>65</sub>	17.3	X	206.99247	359.06551	96.58374	2.00090	0.1657547	0.23531194	2.5984044	20	7 29.0	21.4
241375 2008 RC <sub>98</sub>	17.0	X	103.90802	8.12553	32.94016	6.14165	0.1324929	0.27724418	2.3293125	20	1 27.9	19.7
241376 2008 RK <sub>108</sub>	15.3	X	148.14649	222.73426	205.45958	8.42164	0.3126804	0.12506136	3.9602318	20	5 10.1	22.1
241377 2008 AH <sub>120</sub>	17.9	X	359.67081	307.59621	227.20275	3.17950	0.0463430	0.28245883	2.3005549	20	2 8.2	20.5
241378 2008 SY <sub>75</sub>	17.0	X	284.34804	307.06041	202.82867	6.03905	0.2335740	0.26555363	2.3971832	20	—	—
241379 2008 SW <sub>77</sub>	17.8	X	339.97948	210.00932	336.27227	2.29832	0.0905541	0.29095905	2.2555275	20	1 19.6	20.3
241380 2008 SQ <sub>108</sub>	16.8	X	216.60282	264.92024	188.32915	8.30253	0.1309131	0.23941834	2.5686077	20	8 5.6	20.8
241381 2008 SO <sub>141</sub>	15.5	X	18.95740	232.79581	187.22215	19.43319	0.1743471	0.18084686	3.0969111	20	—	—
241382 2008 SJ <sub>143</sub>	15.1	X	346.25067	0.53845	50.82275	6.69500	0.1312264	0.16931497	3.2595798	20	12 6.9	19.1
241383 2008 SX <sub>146</sub>	15.5	X	184.11892	316.73684	75.09789	7.65239	0.0468453	0.21389371	2.7369019	20	4 19.8	19.6
241384 2008 SG <sub>166</sub>	16.4	X	301.09803	318.36130	49.49767	4.55348	0.0551208	0.23811859	2.5779462	20	8 17.8	19.6
241385 2008 SQ <sub>182</sub>	17.9	X	57.49799	305.99940	192.70072	6.20541	0.0865277	0.29021639	2.2593738	20	3 22.7	19.9
241386 2008 SN <sub>200</sub>	16.2	X	178.43082	272.11644	217.85797	10.76177	0.2452232	0.22801164	2.6535751	20	8 8.1	21.1
241387 2008 SP <sub>243</sub>	17.5	X	319.36245	61.51759	66.03890	5.71228	0.1043965	0.26341735	2.4101263	20	—	—
241388 2008 SP <sub>262</sub>	16.2	X	193.69531	108.08452	344.59859	12.38303	0.2327955	0.22540220	2.6740157	20	7 11.9	21.0
241389 2008 SY <sub>265</sub>	17.6	X	355.43905	296.66161	207.58084	6.79144	0.1144539	0.27600184	2.3362971	20	—	—
241390 2008 SF <sub>273</sub>	15.9	X	256.34553	139.79205	334.01467	7.92801	0.1460742	0.24271945	2.5452650	20	10 18.1	19.1
241391 2008 SY <sub>273</sub>	17.1	X	12.91902	347.07801	72.26049	3.72927	0.1656229	0.26303596	2.4124554	20	—	—
241392 2008 SA <sub>285</sub>	17.4	X	21.13819	355.75706	187.49972	5.07468	0.1058762	0.28913103	2.2650245	20	3 26.4	19.3
241393 2008 SK <sub>290</sub>	15.7	X	184.88740	285.96079	111.55892	5.66744	0.0465857	0.21521143	2.7577771	20	4 27.4	19.7
241394 2008 SN <sub>309</sub>	15.9	X	85.26103	204.41907	67.48263	16.85322	0.1444305	0.24232736	2.5480098	20	11 13.9	19.8
241395 2008 TP <sub>52</sub>	17.3	X	31.36775	291.13011	187.52920	7.63691	0.1438736	0.28127622	2.3069988	20	1 5.9	19.4
241396 2008 TR <sub>75</sub>	17.5	X	75.24776	76.01050	36.32792	3.27747	0.1134658	0.28716804	2.2753348	20	3 19.6	19.8
241397 2008 TN <sub>106</sub>	16.9	X	96.11056	176.12697	203.12859	20.96369	0.0839505	0.36040382	1.9555839	20	—	—
241398 2008 TP <sub>126</sub>	17.0	X	149.27642	22.76932	291.98272	3.33773	0.1305755	0.27733811	2.3287865	20	—	—
241399 2008 TL <sub>136</sub>	17.3	X	253.39242	208.36564	359.03292	2.60094	0.1545708	0.26981997	2.3718469	20	—	—
241400 2008 TC <sub>160</sub>	16.1	X	81.06194	317.17205	194.84662	8.39907	0.2163705	0.212227865	2.7831194	20	6 11.1	20.1
241401 2008 TF <sub>170</sub>	17.6	X	148.68468	325.31456	126.55693	7.06448	0.1383877	0.30083756	2.2058772	20	5 29.8	20.9
241402 2008 TF <sub>190</sub>	15.4	X	72.46171	329.21676	115.47116	10.59085	0.0864678	0.18003260	3.1062419	20	2 18.3	19.6
241403 2008 UM <sub>28</sub>	17.1	X	78.78131	222.38717	196.62578	2.94402	0.2032372	0.27660066	2.3329239	20	1 20.7	19.2
241404 2008 UP <sub>75</sub>	17.0	X	173.47152	146.68021	355.92243	3.28906	0.1680792	0.22661132	2.6641035	20	8 25.7	21.3
241405 2008 UV <sub>75</sub>	16.7	X	303.95546	0.07027	302.37095	3.38218	0.0424756	0.21534563	2.7566312	20	5 19.9	20.4
241406 2008 UE <sub>76</sub>	17.1	X	60.74544	299.08582	208.59617	5.97452	0.0290521	0.29280657	2.2460298	20	4 2.7	19.4
241407 2008 UF <sub>78</sub>	17.5	X	202.11388	15.37236	39.94574	5.63543	0.1533789	0.30244879	2.1980361	20	6 2.1	20.7
241408 2008 UB <sub>91</sub>	15.7	X	284.69500	286.73996	56.80791	11.75579	0.2132456	0.22759356	2.6568237	20	5 22.3	19.0
241409 2008 US <sub>99</sub>	16.5	X	315.64232	21.00158	273.16104	6.62223	0.0709614	0.21986640	2.7187137	20	5 21.9	19.8
241410 2008 UM <sub>111</sub>	15.4	X	14.16090	204.67058	239.27549	10.57604	0.1574700	0.18088246	3.0965047	20	—	—
241411 2008 UK <sub>113</sub>	16.1	X	222.67618	68.46444	279.20647	3.26387	0.0866991	0.21217151	2.7840562	20	4 1.3	20.2
241412 2008 UW <sub>127</sub>	15.2	X	125.38467	225.44749	69.22342	12.36726	0.0296114	0.17006984	3.2263973	20	12 28.4	19.9
241413 2008 UK <sub>139</sub>	15.9	X	241.00796	244.42702	49.72148	3.89433	0.0078518	0.20072434	2.8889234	20	2 26.6	19.9
241414 2008 UD <sub>160</sub>	16.2	X	230.71481	136.75334	0.86224	2.39858	0.0958878	0.23998877	2.5645358	20	10 25.7	19.7
241415 2008 US <sub>186</sub>	17.4	X	165.63754	241.04082	208.81877	4.67994	0.1167942	0.30046506	2.2077000	20	6 12.3	20.5
241416 2008 UN <sub>198</sub>	16.1	X	215.17628	261.98499	211.46348	12.25559	0.1575863	0.23468806	2.6030073	20	8 25.4	20.3
241417 2008 UY <sub>200</sub>	15.8	X	234.31692	234.21538	225.70981	12.18502	0.2320448	0.23399578	2.6081388	20	8 18.9	20.2
241418 Darmstadt	16.2	X	69.36756	154.73359	225.50341	12.90090	0.1727597	0.18327896	3.0694529	20	—	—
241419 2008 US <sub>207</sub>	16.6	X	117.71834	100.98560	17.03959	5.51177	0.0660723	0.21459453	2.7630598	20	5 19.8	20.6
241420 2008 UH <sub>230</sub>	16.6	X	105.38367	283.79661	112.97193	7.16182	0.1670939	0.26724418	2.3870630	20	1 29.8	19.4
241421 2008 UA <sub>244</sub>	16.4	X	48.88823	238.13974	356.65001	7.35994	0.0867012	0.22335196	2.6903547	20	7 31.4	19.8
241422 2008 UH <sub>245</sub>	15.5	X	130.83358	157.53066	37.42386	13.58471	0.2016875	0.22916658	2.6446519	20	9 27.4	20.0
241423 2008 UE <sub>247</sub>	17.4	X	281.26283	348.09532	233.61892	2.95504	0.1372093	0.27353375	2.3503296	20	—	—
241424 2008 UR <sub>326</sub>	16.1	X	345.42771	298.63402	74.34725	3.99855	0.2729078	0.23889904	2.5723286	20	11 22.9	18.0
241425 2008 US <sub>326</sub>	16.5	X	302.58487	270.81893	89.33866	6.74231	0.0397255	0.21844932	2.7304585	20	8 8.4	20.1
241426 2008 UQ <sub>331</sub>	16.6	X	77.43988	304.48120	228.76196	3.19848	0.1396307	0.21330104	2.7742189	20	6 22.8	20.3
241427 2008 UY <sub>341</sub>	16.2	X	343.31413	207.20108	57.52377	10.39589	0.1141168	0.21538158	2.7563245	20	5 21.9	19.1
241428 2008 VA <sub>67</sub>	17.5	X	26.06233	248.79079	46.04959	1.92503	0.1016454	0.31818505	2.1249540	20	10 6.6	19.6
241429 2008 VY <sub>70</sub>	17.6	X	315.89123	273.58198	314.68459	2.54494	0.1334742	0.28353422	2.2947342	20	2 5.8	20.2
241430 2008 VV <sub>75</sub>	17.0	X	54.39585	111.95689	99.98160	2.04462	0.0565386	0.30679559	2.1772250	20	7 4.9	19.2
241431 2008 WF <sub>85</sub>	16.5	X	63.39946	5.20132	123.49085	2.24806	0.0395369	0.19551660	2.9399975	20	3 23.6	20.3
241432 2008 WG <sub>93</sub>	16.1	X	36.06461	265.59987	201.94154	6.29196	0.2607717	0.18652086	3.0337825	20	1 29.9	19.0
241433 2008 WZ <sub>95</sub>	16.0	X	292.14280	208.07596	187.50466	3.73608	0.2208900	0.23483339	2.6019332	20	8 14.2	18.8
241434 2008 WU <sub>107</sub>	17.3	X										

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241441 2008 XV <sub>55</sub>	15.1	X	240.81360	137.87149	94.57976	13.47705	0.0304673	0.16984599	3.2292315	20	—	—
241442 2008 Shandongkexie	15.5	X	240.62729	168.09265	109.76615	11.88037	0.0186913	0.18078307	3.0976396	20	2 7.4	20.0
241443 2008 YN <sub>15</sub>	16.2	X	268.11968	139.55598	163.78832	2.14781	0.0402328	0.19684230	2.9267823	20	4 6.3	20.3
241444 2008 YJ <sub>21</sub>	16.6	X	165.62632	188.71231	230.56966	1.00997	0.0228759	0.19870367	2.9084758	20	4 29.7	20.8
241445 2008 YE <sub>23</sub>	15.6	X	15.44641	123.04507	219.88722	5.02653	0.2535638	0.24450637	2.5328488	20	12 5.4	18.5
241446 2008 YB <sub>62</sub>	16.0	X	325.85627	63.53209	147.59459	6.12648	0.1420431	0.18371490	3.0645952	20	2 11.7	19.7
241447 2008 YN <sub>78</sub>	16.4	X	340.78781	218.35044	198.74809	2.85609	0.1690634	0.24337446	2.5406961	20	—	—
241448 2008 YV <sub>88</sub>	17.6	X	133.42847	171.41867	94.53407	0.99683	0.1594931	0.24181684	2.5515947	20	12 19.4	21.6
241449 2008 YJ <sub>07</sub>	15.1	X	19.20808	25.06618	117.06547	23.37426	0.0571033	0.18147192	3.0897957	20	2 12.7	19.3
241450 2008 YX <sub>98</sub>	16.8	X	27.17378	111.37291	128.77668	0.90641	0.0178488	0.20909310	2.8113154	20	6 25.0	20.5
241451 2008 YC <sub>102</sub>	16.6	X	126.34328	22.88858	259.17805	3.39491	0.1124071	0.24280751	2.5446495	20	—	—
241452 2008 YL <sub>111</sub>	17.3	X	124.02161	274.14791	262.70423	1.71111	0.1231209	0.22211692	2.7003183	20	8 18.5	21.5
241453 2008 YO <sub>111</sub>	16.2	X	94.01623	114.40078	79.73370	5.85449	0.1069523	0.21962794	2.7206812	20	8 8.0	20.1
241454 2008 YA <sub>112</sub>	17.0	X	283.07613	227.00794	225.97584	1.98358	0.1130841	0.24276308	2.5449600	20	11 8.7	19.6
241455 2008 YD <sub>115</sub>	16.5	X	118.32218	143.88614	105.10716	12.88722	0.1516331	0.23175870	2.6248955	20	11 17.9	20.9
241456 2008 YD <sub>119</sub>	16.3	X	21.13548	173.92332	114.13504	7.11049	0.0859773	0.21621160	2.7492657	20	8 31.0	19.7
241457 2008 YV <sub>137</sub>	16.4	X	252.28464	237.42267	183.16258	2.58792	0.0883060	0.22140144	2.7061327	20	8 10.6	20.0
241458 2008 YQ <sub>142</sub>	15.6	X	23.24155	170.00796	109.36567	13.38924	0.1310566	0.21725353	2.7404685	20	8 30.1	19.0
241459 2008 YX <sub>150</sub>	16.0	X	324.09880	52.45825	119.86505	6.09050	0.1472000	0.17480644	3.1678487	20	—	—
241460 2008 YH <sub>151</sub>	17.0	X	62.93903	245.17724	80.803491	3.11215	0.0966177	0.24041489	2.5615046	20	12 18.1	20.4
241461 2008 YQ <sub>151</sub>	16.0	X	299.72390	258.74787	125.06655	9.57068	0.0970595	0.22430392	2.6827373	20	8 31.3	19.2
241462 2008 YH <sub>157</sub>	16.2	X	68.12145	86.74561	137.21481	5.18843	0.0088665	0.21367316	2.7709971	20	7 28.2	20.0
241463 2008 YQ <sub>158</sub>	17.1	X	60.17513	125.61182	161.42251	3.74573	0.0401020	0.22695907	2.6617730	20	10 17.6	20.7
241464 2008 YS <sub>163</sub>	16.0	X	23.75497	175.67000	146.89013	6.71278	0.1321299	0.22700041	2.6614499	20	10 30.1	19.3
241465 2008 YQ <sub>169</sub>	16.6	X	329.97006	139.09641	77.70359	2.95123	0.0878123	0.18356654	3.0662463	20	3 4.5	20.5
241466 2009 AX <sub>2</sub>	17.0	X	157.87661	241.80421	66.85912	1.68340	0.0747254	0.25984480	2.4321668	20	—	—
241467 2009 AE <sub>12</sub>	16.1	X	322.09076	182.58924	330.12547	1.46291	0.0876659	0.17105275	3.2140256	20	—	—
241468 2009 AC <sub>22</sub>	17.1	X	299.94851	189.08710	119.40240	7.91230	0.1734195	0.29411231	2.2393772	20	5 3.5	19.6
241469 2009 AL <sub>24</sub>	17.2	X	326.61644	219.60583	176.82901	2.38667	0.0567898	0.23295278	2.6159179	20	11 2.4	20.3
241470 2009 AV <sub>28</sub>	16.7	X	86.78846	248.70919	123.39417	6.94441	0.1396081	0.25809823	2.4431270	20	—	—
241471 2009 AG <sub>35</sub>	16.7	X	268.88338	215.27261	74.07727	5.55266	0.1412118	0.28203938	3.2028353	20	3 2.3	19.9
241472 2009 AC <sub>49</sub>	15.3	X	1.72161	113.57455	50.03637	10.85320	0.0573576	0.18417018	3.0595426	20	2 17.9	19.5
241473 2009 BK <sub>11</sub>	15.5	X	105.30053	303.14603	288.11718	8.32353	0.2205635	0.21482164	2.7611120	20	10 9.7	20.2
241474 2009 BQ <sub>12</sub>	15.7	X	182.84329	25.87643	128.72829	15.51791	0.0336428	0.22671589	2.6636761	20	9 30.9	19.7
241475 2009 Martinagedeck	15.8	X	68.14377	30.44817	71.28908	9.04714	0.0761133	0.18080334	3.0974080	20	3 5.9	20.0
241476 2009 BD <sub>18</sub>	17.2	X	19.92892	343.16208	8.96607	1.42662	0.0285265	0.23452951	2.6041803	20	11 16.6	20.7
241477 2009 BH <sub>36</sub>	16.0	X	13.23146	27.99868	98.70661	6.90020	0.1325227	0.17521129	3.1629670	20	1 13.4	19.6
241478 2009 BJ <sub>66</sub>	15.8	X	76.78248	288.81529	159.11453	10.23632	0.0524663	0.18028830	3.1033042	20	2 21.1	19.9
241479 2009 BB <sub>68</sub>	16.1	X	231.61978	218.18228	113.92368	2.51322	0.0715087	0.18706454	3.0279015	20	3 28.5	20.6
241480 2009 BG <sub>75</sub>	15.7	X	288.60410	237.49604	31.08314	10.64835	0.0576904	0.18912634	3.0058551	20	3 20.5	20.0
241481 2009 BM <sub>83</sub>	15.1	X	44.79905	3.98678	129.32067	11.22630	0.0314179	0.18175028	3.0866401	20	3 7.1	19.3
241482 2009 BV <sub>91</sub>	15.8	X	281.46653	251.71833	24.62416	0.78153	0.2033433	0.18457246	3.0550955	20	2 28.3	20.4
241483 2009 BA <sub>92</sub>	16.6	X	266.11173	223.32669	145.17626	5.04026	0.0860089	0.20862479	2.8155210	20	6 20.3	20.4
241484 2009 BC <sub>92</sub>	15.9	X	275.11418	158.78437	143.00636	10.35799	0.1695965	0.19143290	2.9816615	20	3 29.6	20.4
241485 2009 BE <sub>95</sub>	15.7	X	179.17558	31.56729	130.20022	12.02786	0.0188085	0.22441240	2.6818726	20	10 5.4	19.6
241486 2009 BP <sub>98</sub>	17.0	X	175.91019	74.98889	74.42119	2.72366	0.0193950	0.22274040	2.6952769	20	9 11.4	20.6
241487 2009 BP <sub>99</sub>	15.8	X	82.60644	45.70501	54.95978	9.15666	0.0741884	0.18674729	3.0313297	20	3 22.6	20.0
241488 2009 BB <sub>119</sub>	16.8	X	344.51835	206.21284	142.17799	1.78401	0.0970509	0.22545194	2.6736223	20	9 25.1	19.8
241489 2009 BY <sub>125</sub>	16.1	X	278.49236	86.13205	151.88123	1.39929	0.0483030	0.17652096	3.1473029	20	1 30.3	20.7
241490 2009 BQ <sub>133</sub>	16.2	X	2.24490	348.30005	305.61558	3.94558	0.1346619	0.21257001	2.7805757	20	8 8.4	19.3
241491 2009 BT <sub>141</sub>	16.4	X	259.39208	230.91595	102.32596	3.34496	0.0799157	0.19749761	2.9203046	20	4 29.0	20.6
241492 2009 BV <sub>169</sub>	15.7	X	350.60569	119.27166	106.97993	9.83449	0.0333946	0.19171639	2.9787214	20	4 21.9	19.8
241493 2009 BQ <sub>172</sub>	16.1	X	291.16531	147.60680	175.11221	2.03832	0.0674673	0.19864257	2.9090722	20	5 27.1	20.7
241494 2009 BO <sub>174</sub>	16.0	X	204.48743	148.82159	151.38102	6.31329	0.0951438	0.16930211	3.2361437	20	1 22.7	21.0
241495 2009 BD <sub>184</sub>	15.4	X	289.71629	232.62381	60.06885	12.14510	0.0450939	0.19203111	2.9754660	20	4 22.7	19.5
241496 2009 CZ <sub>3</sub>	16.3	X	16.88633	224.08327	118.02626	9.39344	0.1244319	0.22990930	2.6389532	20	11 15.2	19.6
241497 2009 CC <sub>4</sub>	15.8	X	125.00687	320.35314	111.00649	13.44136	0.1421136	0.19152100	2.9807470	20	4 16.3	20.6
241498 2009 CV <sub>22</sub>	16.4	X	310.46921	181.42575	156.53471	7.37952	0.0822523	0.21152194	2.7897531	20	7 12.4	19.9
241499 2009 CD <sub>24</sub>	15.6	X	21.44832	4.72167	159.41198	10.54829	0.0115058	0.18375211	3.0641816	20	3 12.2	19.7
241500 2009 CK <sub>28</sub>	17.3	X	79.72468	291.29153	105.61157	2.66516	0.1785038	0.25865433	2.4396239	20	—	—
241501 2009 CL <sub>33</sub>	15.8	X	215.33218	196.60437	148.65630	15.08683	0.1150760	0.18448534	3.0560572	20	3 27.4	20.7
241502 2009 CY <sub>41</sub>	16.3	X	9.32342	116.52726	127.97706	3.00390	0.0084714	0.20280560	2.8691247	20	6 6.1	20.2
241503 2009 CN <sub>42</sub>	15.0	X	297.27493	155.96712	101.36933	11.71520	0.0777595	0.18265167	3.0764767	20	3 16.9	19.4
241504 2009 CD <sub>44</sub>	15.0	X	342.42082	270.98179	175.05487	10.38239	0.0373631	0.15016037	3.5056279	20	—	—
241505 2009 CJ <sub>49</sub>	16.2	X	306.78854	51.68845	136.93714	6.53986	0.1156547	0.17311326	3.1884712	20	—	—
241506 2009 CU <sub>53</sub>	14.9	X	281.22123	28.75237	240.95506	26.82379	0.0923797	0.18092588	3.0960093	20	2 22.7	20.0
241507 2009 CM <sub>60</sub>	15.6	X	306.99095	98.59332	161.04276	14.08654	0.0791468	0.18649413	3.0340723	20	3 28.7</	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241521 2009 HL <sub>2</sub>	15.6 <sup>m</sup>	X	95.24927	37.43486	96.83644	11.56083	0.0681681	0.17936613	3.1139317	20	5 18.1	20.1
241522 2009 HN <sub>3</sub>	16.5	X	58.64119	27.89860	60.44739	7.45696	0.1407057	0.25759247	2.4463238	20	1 24.7	18.9
241523 2009 HE <sub>11</sub>	16.1	X	136.36174	198.15363	41.32735	5.70157	0.0211333	0.21947554	2.7219406	20	11 14.8	19.9
241524 2009 HR <sub>24</sub>	15.6	X	330.96759	153.16383	118.63931	7.98955	0.0207802	0.18288081	3.0739063	20	5 22.6	19.9
241525 2009 RN <sub>7</sub>	17.7	X	29.31639	76.79523	263.20098	4.20705	0.2075754	0.28361715	2.2942869	20	12 22.7	20.6
241526 2009 XA <sub>15</sub>	16.0	X	278.66931	40.95046	97.31473	5.84513	0.1264723	0.17414637	3.1758484	20	12 10.9	20.0
241527 Edwardwright	16.3	X	44.42457	132.56555	156.05450	7.22737	0.2017012	0.21936310	2.7228705	20	10 23.3	19.9
241528 Tubman	14.9	X	78.28132	199.56020	56.88692	3.58992	0.1321151	0.12504180	3.9606450	20	9 28.9	20.5
241529 Roccutri	15.6	X	282.85955	78.16599	156.73336	19.28729	0.2076276	0.17529303	3.1619836	20	1 12.2	20.7
241530 2010 CC <sub>77</sub>	16.7	X	191.51763	56.55219	343.49778	2.24769	0.0814048	0.21419975	2.7664537	20	5 4.7	20.8
241531 2010 CL <sub>177</sub>	16.2	X	313.43852	171.64442	155.33826	7.52646	0.0429111	0.22484090	2.6784642	20	7 7.1	19.7
241532 2010 DV <sub>7</sub>	17.4	X	277.37613	67.80148	183.84765	3.60106	0.1393120	0.28517418	2.2859282	20	1 18.8	20.7
241533 2010 DA <sub>34</sub>	16.0	X	357.67407	142.38540	136.70472	6.18433	0.0203562	0.22352864	2.6889368	20	7 6.9	19.5
241534 2010 EE <sub>36</sub>	15.2	X	308.14488	165.95501	10.01694	26.21033	0.2082411	0.17710234	3.1404112	20	—	—
241535 2010 EG <sub>38</sub>	17.4	X	354.03956	90.68753	175.92708	3.48910	0.1318680	0.30379620	2.1915321	20	6 16.4	19.0
241536 2010 EX <sub>39</sub>	15.3	X	229.24681	270.31215	5.92914	24.97169	0.2824738	0.17318503	3.1875902	20	1 19.5	21.4
241537 2010 EE <sub>42</sub>	17.1	X	124.29216	222.52041	54.05647	2.73283	0.1022516	0.24469350	2.5315573	20	12 24.1	20.9
241538 Chudniv	15.7	X	78.75209	162.09383	24.33583	10.99988	0.1228160	0.21439709	2.7647559	20	7 11.8	19.7
241539 2010 EB <sub>71</sub>	16.8	X	131.61044	54.23768	188.81690	8.48069	0.1224279	0.23945878	2.5683185	20	11 21.0	20.8
241540 2010 EC <sub>88</sub>	16.5	X	308.45412	126.31459	40.25199	23.64942	0.2478205	0.27118271	2.3638943	20	—	—
241541 2010 ET <sub>101</sub>	15.9	X	288.87595	43.76082	148.11307	1.58821	0.1092072	0.17353530	3.1832995	20	—	—
241542 2010 EJ <sub>102</sub>	16.1	X	266.77069	99.60951	171.90952	1.75972	0.1314264	0.18517358	3.0484801	20	2 14.9	20.6
241543 2010 EH <sub>127</sub>	17.0	X	107.62215	144.67398	52.27115	2.53919	0.1357401	0.22324895	2.6911822	20	8 30.1	21.0
241544 2010 EE <sub>128</sub>	16.2	X	140.50098	209.54384	164.38512	1.80214	0.0089562	0.18430142	3.0580900	20	2 2.9	20.4
241545 2010 EE <sub>129</sub>	16.3	X	31.48364	20.91170	206.13079	5.82423	0.0102239	0.20900127	2.8121389	20	6 12.8	20.1
241546 2010 EV <sub>129</sub>	16.1	X	303.55335	338.83305	217.37872	4.89605	0.1005186	0.17808334	3.1288676	20	1 2.4	20.5
241547 2010 FF <sub>13</sub>	16.1	X	303.29184	232.47256	29.32216	3.42604	0.1349611	0.19040695	2.9923624	20	3 16.8	20.1
241548 2010 FF <sub>15</sub>	16.1	X	56.48551	74.23393	64.41118	3.74359	0.0356697	0.19224807	2.9732269	20	3 27.6	20.1
241549 2010 FS <sub>29</sub>	17.4	X	325.67418	229.77037	34.09293	4.74222	0.1068532	0.29545364	2.2325944	20	4 16.7	19.5
241550 2010 FD <sub>57</sub>	17.5	X	169.93915	274.81002	145.12384	3.01365	0.0557910	0.30250583	2.1977598	20	5 5.1	20.2
241551 2010 FJ <sub>83</sub>	16.4	X	183.24971	222.35679	72.73719	6.36798	0.1179338	0.26531781	2.3986034	20	—	—
241552 2010 FK <sub>83</sub>	16.4	X	246.35038	204.13610	36.00356	12.82137	0.1799681	0.26836112	2.3804349	20	—	—
241553 2010 FT <sub>88</sub>	17.3	X	68.41364	13.83475	74.32476	4.39326	0.0955790	0.28230545	2.3013882	20	1 30.8	19.7
241554 2010 FA <sub>93</sub>	16.0	X	193.77233	163.06323	126.93709	2.41402	0.1058704	0.17245128	3.1966256	20	1 1.2	21.1
241555 2010 GT <sub>5</sub>	15.9	X	93.24487	75.37419	44.29699	6.43266	0.0099809	0.19814507	2.9139396	20	4 15.8	19.9
241556 2010 GT <sub>29</sub>	15.9	X	28.83841	183.88887	88.47680	7.27548	0.1604373	0.21627529	2.7487260	20	9 2.3	19.2
241557 2010 GL <sub>31</sub>	17.8	X	16.73083	86.26984	89.30826	5.75502	0.0911986	0.28825149	2.2696297	20	3 10.0	20.0
241558 2010 GN <sub>33</sub>	15.7	X	277.15483	117.36011	163.93287	10.98212	0.0811970	0.19126573	2.9833985	20	3 15.9	19.9
241559 2010 GY <sub>64</sub>	16.9	X	298.94979	253.09710	260.04253	6.66446	0.1577894	0.26609836	2.3939105	20	—	—
241560 5002 T-2	15.4	X	255.76665	104.15443	215.24638	16.69878	0.2527192	0.18307019	3.0717861	20	3 17.1	20.7
241561 2397 T-3	15.9	X	320.66462	184.96301	214.05168	13.81643	0.0675916	0.22976100	2.6400886	20	10 26.1	19.1
241562 4192 T-3	16.2	X	26.60271	288.00412	44.54508	10.69813	0.2118508	0.23099516	2.6306766	20	11 25.7	19.6
241563 1981 EZ <sub>5</sub>	14.7	X	17.15113	270.07333	248.16366	8.05443	0.1619065	0.12595138	3.9415535	20	3 3.9	19.5
241564 1981 ET <sub>11</sub>	15.9	X	281.43093	117.09381	334.86083	11.60773	0.2554326	0.24224609	2.5485796	20	10 7.6	18.8
241565 1981 EU <sub>45</sub>	15.8	X	262.67250	280.97227	190.98893	16.37019	0.1801291	0.24110324	2.5566269	20	10 24.5	18.9
241566 1993 FO <sub>9</sub>	16.6	X	127.65945	161.18860	60.23516	4.84699	0.1339688	0.23340353	2.6125490	20	10 21.1	20.6
241567 1993 OJ <sub>9</sub>	16.1	X	38.21003	204.88761	131.45335	5.34175	0.1741922	0.22695608	2.6617964	20	12 10.9	19.7
241568 1993 RN <sub>14</sub>	15.7	X	248.26531	22.79762	340.62244	5.21752	0.1979342	0.17298728	3.1900189	20	5 8.6	20.8
241569 1995 CZ <sub>3</sub>	15.7	X	87.42547	191.55750	149.47227	7.36886	0.2521855	0.22748097	2.6577003	20	—	—
241570 1995 FK <sub>9</sub>	15.4	X	87.06242	216.46579	28.63169	14.29127	0.0902633	0.17119049	3.2123014	20	9 28.7	20.1
241571 1995 MJ <sub>2</sub>	15.3	X	293.93559	314.34620	249.92342	8.04090	0.1107277	0.18069103	3.0986913	20	—	—
241572 1995 OM <sub>13</sub>	15.5	X	356.42225	49.69904	145.62685	10.13636	0.0439888	0.18396952	3.0617670	20	3 19.1	19.6
241573 1995 QE <sub>9</sub>	12.8	X	238.98206	212.33030	257.70450	7.80127	0.0520702	0.08228300	5.2351520	20	9 11.4	19.9
241574 1995 SH <sub>17</sub>	16.5	X	326.35180	68.17057	174.15624	7.91685	0.1531572	0.22507329	2.6766201	20	3 17.1	19.6
241575 1995 SH <sub>21</sub>	15.7	X	291.03953	57.88016	345.15529	10.59020	0.0987071	0.19734942	2.9217663	20	9 6.8	19.5
241576 1995 SE <sub>31</sub>	13.6	X	278.77983	105.66342	350.91535	10.28979	0.0465776	0.08194581	5.2495034	20	10 11.8	20.5
241577 1995 SK <sub>31</sub>	15.4	X	210.45741	86.04591	195.66771	15.97725	0.0988155	0.17815716	3.1280033	20	1 4.7	20.6
241578 1995 SH <sub>50</sub>	15.2	X	275.51121	44.34668	200.31323	17.76259	0.1501402	0.17691608	3.1426150	20	1 19.2	20.3
241579 1995 UX <sub>40</sub>	16.9	X	64.27105	57.08106	318.50916	2.68204	0.0795929	0.24764976	2.5113704	20	—	—
241580 1995 YN <sub>12</sub>	16.9	X	188.91800	120.66880	242.40267	18.93380	0.0904273	0.37833350	1.8933004	20	2 21.1	19.7
241581 1996 RF <sub>14</sub>	13.5	X	167.08596	192.36707	0.74543	8.97675	0.0226369	0.08312212	5.1998601	20	10 2.9	20.5
241582 1996 RY <sub>30</sub>	12.8	X	1.27405	5.88466	344.68104	15.76135	0.0585520	0.08369724	5.1760120	20	9 22.9	19.4
241583 1996 UV <sub>3</sub>	17.4	X	108.39661	57.40683	328.61971	0.75369	0.1612110	0.26284046	2.4136515	20	1 18.9	20.3
241584 1997 CD <sub>18</sub>	15.8	X	295.89551	114.92313	303.17557	8.36484	0.1544174	0.23900591	2.5715617	20	9 30.9	18.7
241585 1997 JS <sub>2</sub>	15.6	X	220.67217	249.60399	157.63284	18.65413	0.1117853	0.18030306	3.1031348	20	6 15.2	20.7
241586 1997 LT <sub>1</sub>	16.5	X	33.93584	152.27885	192.71338	10.94022	0.0253417	0.23002076	2.6381006	20	11 26.1	20.1
241587 1997 NE <sub>2</sub>	16.2	X	149.82913	59.45998	220.91381	8.28415	0.1818836	0.23119498	2.6291606	20	—	—
241588 1997 RK <sub>1</sub>	17.5	X	331.38778	119.79480	177.07942	7.61568	0.2021336	0.29566155	2.2315476	20	6 9.3	19.2
241589 1997 SG <sub>14</sub>	13.0	X	5.66052	344.65827	359.23895	10.41489	0.0787474	0.08397950	5.1644078	20	9 24.6	19.5
241590 1998 BM <sub>4</sub>	15.5	X	38.66823	141.83433	310.29121	14.23360	0.1620648	0.17906345	3.1174399	20	1 13.9	19.0
241591 1998 FY <sub>24</sub>	15.5	X	2.18317	235.11054	338.87296	12.35285	0.1924732	0.22586662	2.6703489	20	4 3.4	18.1
241592 1998 KV	15.9	X	289.80314	316.15493	251.05546	7.81018	0.1340246	0.21171935	2.7880187	20	—	—
241593 1998 KW <sub>42</sub>	15.6	X	350.61557	30.98509	124.82824	11.12304	0.0601658	0.16904051	3.2394817	20	1 21.3	20.0
241594 1998 TY	15.5	X	55.88648	269.40972	35.38281	8.77787	0.0937222	0.1				

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241601 1999 NZ <sub>34</sub>	16.7	X	170.93851	79.30263	296.50182	21.94729	0.0702851	0.36187187	1.9502914	20	2 17.1	19.3
241602 1999 RZ <sub>61</sub>	17.2	X	207.46929	115.85555	176.21484	10.96675	0.3064267	0.26186841	2.4196208	20	1 6.4	21.8
241603 1999 RC <sub>110</sub>	16.0	X	286.46836	59.54651	320.90966	10.56456	0.1954176	0.22905003	2.6455490	20	7 20.5	19.1
241604 1999 RD <sub>133</sub>	15.3	X	267.60244	73.18003	307.87460	13.04276	0.2703563	0.18045586	3.1013830	20	6 12.2	20.1
241605 1999 RF <sub>140</sub>	16.1	X	252.89463	96.75750	234.29428	5.47112	0.1542045	0.27031661	2.3689409	20	4 3.2	19.5
241606 1999 RX <sub>199</sub>	15.4	X	273.31765	64.40549	284.09905	10.76226	0.3351988	0.17849999	3.1239969	20	4 27.8	20.6
241607 1999 RJ <sub>201</sub>	16.0	X	224.42488	80.99201	310.39702	10.29352	0.2042455	0.22289158	2.6940580	20	5 19.0	20.7
241608 1999 RA <sub>224</sub>	15.6	X	252.67174	125.21444	247.18489	5.69497	0.2613044	0.17718704	3.1394104	20	5 18.9	20.7
241609 1999 RZ <sub>237</sub>	15.4	X	264.75098	276.29035	21.41751	25.00259	0.3907037	0.17464069	3.1698528	20	3 4.5	21.3
241610 1999 SZ <sub>13</sub>	17.0	X	221.30227	49.48856	318.75410	4.10681	0.2669299	0.26819670	2.3814077	20	4 13.8	21.1
241611 1999 TO <sub>10</sub>	16.5	X	60.88096	176.02460	204.81604	3.86062	0.1931945	0.24639501	2.5198892	20	—	—
241612 1999 TN <sub>35</sub>	16.2	X	143.31963	57.04915	16.98335	9.73113	0.2932107	0.26225013	2.4172723	20	5 7.4	20.5
241613 1999 TT <sub>135</sub>	16.4	X	29.41257	280.84271	15.97134	10.79379	0.0976088	0.23310751	2.6147603	20	9 28.4	19.5
241614 1999 TT <sub>146</sub>	17.1	X	127.52620	276.82335	69.53089	2.37254	0.2817106	0.25338653	2.4733203	20	1 9.6	20.7
241615 1999 TB <sub>227</sub>	16.9	X	65.86913	128.51355	213.86930	8.82885	0.0785523	0.24272443	2.5452301	20	—	—
241616 1999 TC <sub>239</sub>	15.4	X	262.70899	134.33490	229.97688	7.85978	0.1866111	0.17744220	3.1364000	20	5 27.7	20.1
241617 1999 TV <sub>266</sub>	15.6	X	218.89624	171.28371	233.20884	12.23384	0.1458279	0.22358146	2.6885133	20	6 5.8	19.8
241618 1999 TY <sub>271</sub>	15.5	X	252.20493	72.65495	305.95361	8.48807	0.2450743	0.17609906	3.1523277	20	5 26.5	20.6
241619 1999 UU <sub>9</sub>	16.4	X	210.16968	28.81477	354.59103	22.37161	0.2961007	0.26636860	2.3922911	20	4 15.9	21.0
241620 1999 UQ <sub>26</sub>	15.5	X	229.74164	179.31206	218.99345	24.04682	0.2644194	0.17426664	3.1743871	20	5 30.1	21.1
241621 1999 UR <sub>52</sub>	15.7	X	118.88986	260.75657	123.44011	8.40234	0.1357900	0.25313619	2.4749507	20	1 28.0	18.9
241622 1999 VL <sub>5</sub>	16.0	X	149.38595	161.49192	232.93291	11.76916	0.2286320	0.25918309	2.4363047	20	3 18.3	20.2
241623 1999 VT <sub>19</sub>	15.6	X	247.10891	97.23943	291.32716	11.59831	0.3273067	0.17527306	3.1568229	20	5 26.8	21.1
241624 1999 VU <sub>52</sub>	15.7	X	242.85042	187.03988	240.37296	9.71778	0.3489260	0.22335863	2.6903011	20	7 7.8	20.4
241625 1999 VE <sub>63</sub>	16.6	X	218.39379	314.46846	46.93392	5.21794	0.2522799	0.26549687	2.3975248	20	4 7.2	20.7
241626 1999 VC <sub>128</sub>	16.6	X	178.29782	100.73768	41.50207	8.48208	0.1707890	0.22587973	2.6702456	20	9 2.0	21.0
241627 1999 VV <sub>162</sub>	16.1	X	188.12506	107.19367	247.02413	4.53522	0.1574000	0.25994028	2.4315712	20	3 1.4	20.1
241628 1999 VM <sub>164</sub>	16.0	X	283.88283	193.79337	237.36729	10.93684	0.1850482	0.23185731	2.6241512	20	9 22.4	19.2
241629 1999 VU <sub>173</sub>	16.3	X	121.27569	19.01807	55.50730	12.12374	0.2176715	0.25842894	2.4410422	20	4 18.4	20.0
241630 1999 VY <sub>174</sub>	16.6	X	279.44218	229.19114	105.72303	2.29653	0.1785628	0.17652186	3.1472921	20	5 11.6	21.0
241631 1999 VJ <sub>182</sub>	16.6	X	216.05837	93.30965	220.04996	1.57769	0.2146018	0.25820085	2.4424795	20	2 6.8	20.7
241632 1999 VV <sub>188</sub>	15.9	X	24.83447	306.38195	78.38447	9.32029	0.1135487	0.23986496	2.5654182	20	—	—
241633 1999 VL <sub>202</sub>	16.3	X	28.43323	263.14084	45.32396	5.14064	0.1860035	0.23453799	2.6041176	20	10 26.1	19.4
241634 1999 WA <sub>17</sub>	15.3	X	230.11556	8.50450	32.97199	6.64365	0.1938048	0.17509591	3.1643564	20	6 8.0	20.5
241635 1999 XQ	15.1	X	193.83720	81.51803	105.97492	16.84775	0.1734676	0.17882383	3.1202241	20	11 6.3	20.4
241636 1999 XR <sub>46</sub>	16.1	X	83.62803	272.21784	88.99812	2.83682	0.1768997	0.24563859	2.5250597	20	—	—
241637 1999 XO <sub>114</sub>	15.0	X	51.21569	67.49692	323.49625	10.56089	0.1965395	0.19713816	2.9238533	20	—	—
241638 1999 XO <sub>153</sub>	14.9	X	322.72898	259.74749	268.27648	12.83404	0.1739124	0.24212244	2.5494472	20	—	—
241639 1999 XX <sub>217</sub>	17.0	X	269.69714	49.29448	98.61663	10.50651	0.1672240	0.28175362	2.3043921	20	—	—
241640 1999 XS <sub>249</sub>	15.7	X	253.42533	274.03930	94.85419	13.88172	0.2114165	0.22077656	2.7112357	20	5 23.2	19.9
241641 1999 XX <sub>250</sub>	15.3	X	162.09906	95.92745	100.04091	9.07239	0.1686125	0.17618530	3.1512989	20	10 17.7	20.6
241642 2000 AH <sub>145</sub>	15.2	X	264.81709	234.60622	307.83391	37.32170	0.0414383	0.23583663	2.5945490	20	—	—
241643 2000 AJ <sub>206</sub>	12.9	X	291.27237	316.47193	105.23107	23.34082	0.0590318	0.08191911	5.2506441	20	9 28.4	20.0
241644 2000 AN <sub>208</sub>	15.7	X	144.66383	98.27788	89.11874	14.57193	0.0739793	0.22467885	2.6797519	20	9 29.9	20.0
241645 2000 DP <sub>14</sub>	15.9	X	226.97760	207.55978	359.75615	12.02480	0.1387899	0.23067700	2.6330949	20	—	—
241646 2000 DA <sub>72</sub>	16.6	X	284.04370	1.32017	141.26921	1.55699	0.2427051	0.18263722	3.0766389	20	12 11.4	20.0
241647 2000 EL	17.4	X	285.82247	142.65858	324.16690	2.88437	0.1195853	0.27588608	2.3369505	20	12 12.9	19.6
241648 2000 EN <sub>11</sub>	14.4	X	172.28986	52.31075	134.72406	27.67754	0.1680155	0.17302671	3.1895344	20	10 19.9	20.1
241649 2000 EC <sub>140</sub>	16.6	X	25.23027	182.97747	95.53193	8.13471	0.2389729	0.30661840	2.1780637	20	10 7.2	18.9
241650 2000 GO <sub>3</sub>	17.4	X	32.22988	295.66007	204.19110	24.87614	0.0848206	0.38820112	1.8610792	20	1 9.9	19.7
241651 2000 GT <sub>152</sub>	17.3	X	0.46191	221.07105	319.04746	3.51047	0.1368745	0.29172607	2.2515722	20	2 7.2	19.2
241652 2000 GJ <sub>175</sub>	16.4	X	118.70126	334.34808	185.49521	9.26963	0.0929852	0.20892148	2.8128549	20	7 17.2	20.7
241653 2000 HT <sub>6</sub>	16.3	X	50.64686	273.56588	43.81680	10.19141	0.2939378	0.21124523	2.7921887	20	12 11.8	20.6
241654 2000 HN <sub>22</sub>	16.7	X	57.23058	290.71828	21.25026	4.74239	0.2078911	0.31210146	2.1524786	20	12 22.7	19.8
241655 2000 HL <sub>99</sub>	16.4	X	117.13908	3.43794	247.83001	3.88384	0.2293446	0.21602357	2.7508609	20	11 16.2	21.2
241656 2000 JM <sub>3</sub>	16.1	X	68.33112	106.68546	74.24477	38.85364	0.0659228	0.29829633	2.2183877	20	6 8.3	18.6
241657 2000 JC <sub>7</sub>	16.0	X	285.32549	13.19511	119.99472	12.82754	0.1410019	0.18481109	3.0524650	20	1 7.9	20.8
241658 2000 JR <sub>10</sub>	17.1	X	251.50137	56.70414	229.97902	12.08809	0.2328988	0.28537252	2.2848689	20	1 27.5	21.1
241659 2000 JS <sub>40</sub>	16.2	X	85.26304	163.98112	54.83103	10.82569	0.2082292	0.25670161	2.4519804	20	9 19.4	20.1
241660 2000 JC <sub>46</sub>	16.1	X	356.35118	28.25741	225.95871	10.95628	0.2263915	0.19791451	2.9162021	20	5 29.2	18.8
241661 2000 JA <sub>72</sub>	17.5	X	337.52309	224.33625	66.01710	7.23969	0.2949794	0.29700223	2.2248270	20	5 28.9	18.3
241662 2000 KO <sub>44</sub>	17.6	X	334.05439	235.27038	114.34442	28.62596	0.3886086	0.39812810	1.8300129	20	12 25.8	18.9
241663 2000 LJ <sub>4</sub>	15.4	X	204.75679	64.08541	236.38370	18.76714	0.3170014	0.17821745	3.1272977	20	1 17.2	21.5
241664 2000 ON <sub>8</sub>	15.6	X	194.52013	35.13832	300.16862	16.68440	0.2288397	0.22840823	2.6505025	20	2 14.6	20.3
241665 2000 OQ <sub>26</sub>	16.6	X	193.43934	197.53644	110.73577	6.73004	0.2400564	0.27530676	2.3402278	20	1 13.6	20.4
241666 2000 OE <sub>38</sub>	16.5	X	238.57503	129.81947	218.60411	8.98242	0.1462057	0.28519468	2.2858186	20	4 11.5	19.7
241667 2000 OG <sub>39</sub>	17.0	X	187.18669	125.83923	193.78169	8.53739	0.2671598	0.27442511	2.3452374	20	1 21.5	21.3
241668 2000 OQ <sub>58</sub>	16.5	X	150.80012	219.75411	134.77250	6.76862	0.1578058	0.27309896	2.3528235	20	1 26.3	19.8
241669 2000 OS <sub>68</sub>	17.2	X	228.99460	56.80400	289.32533	4.04948	0.2350592	0.28267264	2.2993947	20	3 24.0	21.0
241670 2000 PH <sub>12</sub>	16.0	X	234.77435	35.59301	307.38185	13.51354	0.1943887	0.23352544	2.6116396	20	3 24.9	20.5
241671 2000 QZ <sub>21</sub>	16.6	X	193.13722	174.98106	150.33895	2.87941	0.2080750	0.22595179	2.6696778	20	2 6.1	21.1
241672 2000 QT <sub>62</sub>	17.5	X	215.92023	280.74092	84.78102	3.45247	0.2578422	0.28127566	2.3070019	20	4 9.7	21.5
241673 2000 QG <sub>70</sub>	15.7	X	260.08992	284.78994	145.86363	26.94246	0.3886151	0.24022949	2.5628223	20	7 24.	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241681 2000 <i>RX</i> <sub>8</sub>	14.8	X	209.08814	153.78966	213.67879	8.23060	0.2313171	0.18043228	3.1016531	20	4 9.2	20.2
241682 2000 <i>RD</i> <sub>21</sub>	17.4	X	207.40876	148.15905	204.09764	4.83052	0.2785650	0.27871663	2.3211015	20	3 15.3	21.5
241683 2000 <i>RP</i> <sub>79</sub>	15.5	X	213.00287	173.12926	193.50739	17.90822	0.2098456	0.18271308	3.0757872	20	4 13.4	20.6
241684 2000 <i>RV</i> <sub>86</sub>	15.2	X	200.69791	158.14846	195.99746	14.61316	0.1726630	0.17784805	3.1316266	20	3 18.8	20.5
241685 2000 <i>RW</i> <sub>87</sub>	16.3	X	227.13089	352.10825	308.68637	6.04392	0.1683966	0.22598009	2.6694550	20	2 5.4	20.6
241686 2000 <i>RV</i> <sub>98</sub>	16.2	X	290.76636	167.08419	227.68695	12.08296	0.2675874	0.24307684	2.5427695	20	7 30.3	19.2
241687 2000 <i>SZ</i> <sub>16</sub>	15.4	X	280.83390	91.91592	240.82545	8.37141	0.1029860	0.18601869	3.0392400	20	5 20.7	19.7
241688 2000 <i>SF</i> <sub>26</sub>	15.3	X	206.07548	134.21544	231.36691	10.20627	0.3179337	0.18045433	3.1014004	20	4 1.3	21.0
241689 2000 <i>SO</i> <sub>50</sub>	15.4	X	335.88678	118.24522	222.81555	8.93109	0.0823169	0.19452041	2.9500266	20	8 21.5	19.2
241690 2000 <i>SK</i> <sub>53</sub>	17.8	X	229.99933	74.12428	269.04239	0.89359	0.2119706	0.28107372	2.3081067	20	3 24.0	21.4
241691 2000 <i>SP</i> <sub>70</sub>	16.3	X	124.76118	5.31801	24.28547	6.24286	0.2153427	0.21967507	2.7202921	20	2 27.1	20.4
241692 2000 <i>SP</i> <sub>97</sub>	16.3	X	167.47076	136.71247	220.32587	5.00499	0.1062228	0.22301298	2.6930802	20	2 15.2	20.4
241693 2000 <i>SK</i> <sub>99</sub>	16.8	X	130.32104	158.36131	212.86851	6.18365	0.1252083	0.26896593	2.3768651	20	1 19.5	20.0
241694 2000 <i>SO</i> <sub>105</sub>	15.4	X	277.16751	142.11309	195.03608	12.31505	0.1250759	0.18549793	3.0449255	20	5 19.9	19.8
241695 2000 <i>SL</i> <sub>136</sub>	15.6	X	192.62257	149.06740	214.12625	9.84657	0.1608027	0.17679546	3.1440442	20	3 22.0	20.8
241696 2000 <i>SD</i> <sub>139</sub>	16.7	X	196.01425	133.32798	214.09367	6.58815	0.1299803	0.27518241	2.3409327	20	2 27.3	20.4
241697 2000 <i>SP</i> <sub>139</sub>	16.6	X	267.23162	125.43228	223.38856	6.12983	0.1649742	0.28544437	2.2844855	20	5 14.1	19.4
241698 2000 <i>SK</i> <sub>166</sub>	15.1	X	334.34681	99.22423	242.09553	8.67487	0.0981142	0.19286610	2.9668719	20	8 18.3	19.0
241699 2000 <i>SO</i> <sub>168</sub>	16.4	X	225.22303	60.02498	255.83973	5.37249	0.1372567	0.27506357	2.3416069	20	2 15.9	20.0
241700 2000 <i>SV</i> <sub>175</sub>	15.8	X	250.71081	107.12769	250.56583	6.44122	0.1531487	0.28305684	2.2973136	20	5 6.9	19.0
241701 2000 <i>SK</i> <sub>191</sub>	16.9	X	180.97556	247.41546	121.21753	4.89472	0.1214809	0.27628902	2.3346778	20	3 14.4	20.3
241702 2000 <i>SO</i> <sub>231</sub>	15.7	X	113.41513	91.15225	14.09338	25.97608	0.1181588	0.22881592	2.6473532	20	4 26.4	19.7
241703 2000 <i>ST</i> <sub>267</sub>	16.3	X	186.37939	174.57609	179.72528	10.28680	0.1215241	0.27370431	2.3493531	20	2 27.3	19.9
241704 2000 <i>SD</i> <sub>270</sub>	15.9	X	271.37060	355.99394	49.05401	13.53928	0.2537462	0.23911575	2.5707742	20	7 25.9	19.6
241705 2000 <i>SA</i> <sub>305</sub>	16.9	X	322.32856	60.96403	298.08574	4.63812	0.2001708	0.29384657	2.2407271	20	9 6.7	18.3
241706 2000 <i>SK</i> <sub>340</sub>	15.4	X	218.43647	306.37685	349.81059	16.06074	0.1993563	0.17642803	3.1484079	20	2 2.1	20.9
241707 2000 <i>SS</i> <sub>348</sub>	15.3	X	336.20385	244.75903	87.50964	10.61241	0.0804958	0.19318488	2.9636071	20	8 17.4	19.1
241708 2000 <i>SD</i> <sub>352</sub>	15.0	X	163.43074	312.35729	47.15246	19.18338	0.2518707	0.17365332	3.1818570	20	3 9.6	20.8
241709 2000 <i>SO</i> <sub>360</sub>	15.7	X	224.15632	235.84797	57.60939	13.87708	0.2553777	0.22520413	2.6755834	20	1 26.7	20.6
241710 2000 <i>SF</i> <sub>367</sub>	14.9	X	76.91636	100.09234	233.45535	6.85364	0.1917666	0.15699678	3.4031066	20	—	—
241711 2000 <i>TD</i>	17.3	X	347.87919	358.58254	297.87189	2.85023	0.1740891	0.29018997	2.2595109	20	7 24.4	18.6
241712 2000 <i>TP</i> <sub>2</sub>	15.5	X	176.76632	340.75097	345.49672	11.25297	0.2139762	0.17416875	3.1755764	20	2 2.4	20.9
241713 2000 <i>TJ</i> <sub>22</sub>	16.4	X	128.96243	79.80951	348.67984	10.92650	0.1706631	0.22331424	2.6906576	20	4 8.0	20.6
241714 2000 <i>TX</i> <sub>27</sub>	15.3	X	1.53694	80.06433	213.02396	10.81582	0.0563659	0.18928834	3.0041398	20	7 27.2	19.4
241715 2000 <i>TP</i> <sub>63</sub>	16.5	X	118.24717	111.42557	278.52899	9.38261	0.1965402	0.21812117	2.7331964	20	2 12.8	20.6
241716 2000 <i>UO</i> <sub>10</sub>	17.1	X	202.27954	133.27003	212.52496	4.21088	0.2446730	0.27414774	2.3468191	20	3 3.8	21.1
241717 2000 <i>UM</i> <sub>26</sub>	15.9	X	96.73205	243.15216	81.96271	10.06838	0.2456776	0.25735967	2.4477988	20	—	—
241718 2000 <i>UC</i> <sub>35</sub>	16.8	X	194.50131	107.00512	231.39457	4.78587	0.1691895	0.27278714	2.3546161	20	2 15.9	20.6
241719 2000 <i>UN</i> <sub>41</sub>	14.9	X	163.66312	199.77508	227.12620	13.05848	0.1366440	0.17575906	3.1563918	20	5 12.6	19.8
241720 2000 <i>UZ</i> <sub>43</sub>	15.1	X	209.17793	200.51297	237.07799	11.25063	0.1245678	0.18242746	3.0789968	20	7 6.4	20.1
241721 2000 <i>UF</i> <sub>53</sub>	15.5	X	316.65918	271.95095	61.75133	13.72347	0.1923568	0.18778146	3.0201899	20	7 1.5	19.1
241722 2000 <i>UA</i> <sub>75</sub>	15.3	X	294.72850	80.01538	252.72792	17.42599	0.2340287	0.18564851	3.0432787	20	5 18.8	19.5
241723 2000 <i>UL</i> <sub>92</sub>	16.6	X	209.12065	51.68439	252.73504	5.31600	0.1089051	0.27119959	2.3637962	20	1 18.8	20.2
241724 2000 <i>UU</i> <sub>114</sub>	14.8	X	261.15114	275.23273	34.26790	19.32095	0.1609686	0.17743844	3.1364442	20	3 29.7	19.7
241725 2000 <i>VM</i>	16.1	X	235.84385	90.37415	235.95953	14.17453	0.2611718	0.17912277	3.1167516	20	3 7.2	21.7
241726 2000 <i>VE</i> <sub>7</sub>	16.5	X	226.24794	259.33124	46.41959	7.10494	0.1317292	0.27233575	2.3521722	20	2 10.2	20.2
241727 2000 <i>VS</i> <sub>24</sub>	17.2	X	203.28364	108.33314	218.73934	5.69875	0.1418145	0.27213916	2.3583524	20	2 9.5	21.0
241728 2000 <i>VL</i> <sub>35</sub>	17.1	X	171.42607	228.88384	132.36077	1.20992	0.2357456	0.27127167	2.3633774	20	2 29.3	21.1
241729 2000 <i>VG</i> <sub>42</sub>	15.8	X	153.23959	91.02158	247.79127	4.48247	0.1211847	0.21564698	2.7540625	20	1 13.2	19.9
241730 2000 <i>VE</i> <sub>50</sub>	14.5	X	177.51532	197.52003	250.05277	16.01609	0.1995323	0.17693602	3.1423788	20	6 18.6	19.9
241731 2000 <i>VL</i> <sub>58</sub>	14.8	X	225.05530	196.53979	238.46573	16.29660	0.1703450	0.18283142	3.0744599	20	7 13.3	19.9
241732 2000 <i>WG</i> <sub>2</sub>	16.1	X	268.00088	316.88962	85.67446	32.93538	0.3299438	0.23857631	2.5746478	20	7 1.4	20.0
241733 2000 <i>WN</i> <sub>93</sub>	15.0	X	246.84575	142.56997	258.03073	15.32448	0.1043600	0.18178422	3.0862559	20	7 2.9	19.6
241734 2000 <i>WV</i> <sub>93</sub>	16.1	X	261.71136	352.61016	70.49767	6.33467	0.2712189	0.18651071	3.0338926	20	7 30.1	20.6
241735 2000 <i>WS</i> <sub>131</sub>	15.6	X	278.38878	213.69487	174.98333	11.08232	0.2749229	0.18708888	3.0276388	20	7 2.7	20.0
241736 2000 <i>WC</i> <sub>136</sub>	17.3	X	272.62089	46.17383	338.61505	2.81465	0.1730084	0.28744631	2.2738661	20	7 12.2	19.7
241737 2000 <i>WD</i> <sub>141</sub>	15.0	X	193.11941	38.61665	67.82651	30.78412	0.3746289	0.17889302	3.1194196	20	7 20.6	21.3
241738 2000 <i>WM</i> <sub>188</sub>	15.0	X	164.25883	237.92230	247.97091	9.58523	0.0236458	0.18509947	3.0492938	20	7 20.4	19.5
241739 2000 <i>XR</i> <sub>8</sub>	14.7	X	207.40866	341.24173	66.72208	18.23934	0.1410621	0.17512325	3.1640270	20	5 29.8	19.8
241740 2000 <i>XF</i> <sub>22</sub>	15.9	X	213.06878	161.09131	281.36155	12.19485	0.2225920	0.23270890	2.6177453	20	7 12.9	20.1
241741 2000 <i>XK</i> <sub>36</sub>	16.0	X	277.91200	114.31131	308.77561	11.64540	0.1937478	0.24115249	2.5562788	20	9 1.3	19.1
241742 2000 <i>YD</i> <sub>11</sub>	16.0	X	228.94879	217.28155	311.77784	5.68814	0.1130491	0.24259943	2.5461043	20	12 1.1	19.4
241743 2000 <i>YB</i> <sub>46</sub>	14.9	X	236.31051	277.86423	115.70166	18.02593	0.2165673	0.17772824	3.1330338	20	6 6.3	20.2
241744 2000 <i>YR</i> <sub>64</sub>	16.2	X	269.06691	78.94597	273.95291	6.35039	0.1477981	0.27798441	2.3251756	20	5 23.9	19.1
241745 2000 <i>YX</i> <sub>71</sub>	15.4	X	218.91532	311.42641	97.29005	8.85199	0.1591098	0.17870616	3.1215936	20	6 10.3	20.3
241746 2000 <i>YY</i> <sub>84</sub>	16.6	X	150.75482	302.31797	129.25737	6.74176	0.2070422	0.27278761	2.3546135	20	5 10.2	20.5
241747 2001 <i>AB</i> <sub>27</sub>	15.1	X	196.03610	17.79023	62.47582	8.79316	0.2770564	0.17680427	3.1439398	20	6 23.3	20.7
241748 2001 <i>AB</i> <sub>30</sub>	14.8	X	251.94004	311.92096	81.05980	18.37273	0.2157702	0.18109194	3.0941163	20	6 16.9	19.6
241749 2001 <i>AA</i> <sub>41</sub>	16.0	X	283.81478	254.91172	164.19849	5.27797	0.2203547	0.23846588	2.5754426	20	9 4.9	18.8
241750 2001 <i>BV</i> <sub>8</sub>	16.0	X	250.22122	281.42067	116.84550	12.79470	0.2276766	0.23079797	2.6321748	20	6 17.9	20.3
241751 2001 <i>BD</i> <sub>11</sub>	15.4	X	230.39987	250.16128	260.943							

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
241761	2001	DP <sub>79</sub>	15.6 <sup>m</sup>	X	182.30751	283.37551	254.08977	14.00962	0.1091373	0.23369427	2.6103816	20	10 15.3	19.8
241762	2001	DJ <sub>102</sub>	16.5	X	94.71228	91.92000	95.49398	6.46835	0.2214611	0.22093850	2.7099115	20	8 13.6	20.7
241763	2001	FG <sub>58</sub>	16.1	X	128.94256	269.76356	3.00822	16.88872	0.3365003	0.23230200	2.6208013	20	12 22.8	21.4
241764	2001	FR <sub>67</sub>	16.7	X	42.85666	47.38034	167.63506	10.63502	0.1791733	0.21405582	2.7676937	20	7 4.7	20.1
241765	2001	FG <sub>97</sub>	16.1	X	177.35778	151.13442	110.13629	6.35879	0.2329077	0.23773720	2.5807025	20	—	—
241766	2001	FQ <sub>101</sub>	16.0	X	138.26820	35.73143	196.15165	12.91755	0.1343476	0.23211271	2.6222259	20	11 12.9	20.2
241767	2001	FL <sub>123</sub>	15.3	X	121.98155	44.62837	191.48078	16.05867	0.0654266	0.17754779	3.1351564	20	10 21.7	20.0
241768	2001	FP <sub>171</sub>	15.7	X	180.46838	9.97942	157.13237	13.75871	0.0986110	0.22815814	2.6524390	20	10 7.7	19.8
241769	2001	FW <sub>171</sub>	15.9	X	170.61855	55.63647	114.04865	13.83005	0.1636849	0.22760703	2.6567189	20	10 1.5	20.4
241770	2001	FA <sub>180</sub>	16.0	X	185.00381	99.35798	76.85736	8.60786	0.1344148	0.23154690	2.6264960	20	10 22.3	20.1
241771	2001	HD <sub>3</sub>	17.3	X	136.41533	212.39799	39.22792	5.40076	0.2005394	0.28099570	2.3085339	20	12 10.4	21.0
241772	2001	HD <sub>40</sub>	16.2	X	114.62062	74.70659	194.74991	8.07041	0.0895978	0.23237706	2.6202368	20	12 3.6	20.2
241773	2001	JA <sub>2</sub>	16.1	X	348.44171	203.26570	144.35049	7.64217	0.0693635	0.21968491	2.7202108	20	9 30.0	19.4
241774	2001	KD	15.3	X	112.02217	129.65014	157.89935	35.31035	0.2942806	0.22526538	2.6750983	20	12 30.5	20.8
241775	2001	KE <sub>51</sub>	16.1	X	226.61191	349.64926	233.25958	13.12266	0.2056355	0.24075830	2.5590683	20	—	—
241776	2001	MM <sub>6</sub>	15.9	X	67.51715	92.67773	256.90433	6.22491	0.2759505	0.22058943	2.7127697	20	—	—
241777	2001	NC <sub>9</sub>	16.4	X	277.95123	50.60084	253.73644	5.81935	0.2179419	0.19818380	2.9135599	20	3 23.4	20.8
241778	2001	NV <sub>14</sub>	15.4	X	209.02785	342.09969	341.29259	10.10131	0.1146460	0.19011924	2.9953805	20	2 21.8	20.0
241779	2001	NG <sub>15</sub>	15.1	X	84.53319	71.22996	313.13686	14.70636	0.1372630	0.17921351	3.1156994	20	—	—
241780	2001	OK	16.1	X	132.53163	319.67718	287.84286	10.95787	0.2444167	0.22309069	2.6924547	20	11 23.5	21.0
241781	2001	OJ <sub>21</sub>	16.2	X	70.66305	148.30275	159.17005	15.50002	0.3377470	0.21781028	2.7357966	20	12 23.7	21.2
241782	2001	OG <sub>31</sub>	15.6	X	347.75489	248.60680	103.82367	12.51063	0.2999879	0.21067134	2.7972573	20	10 26.4	18.0
241783	2001	OK <sub>87</sub>	15.1	X	97.22273	283.91668	66.64902	15.42833	0.1778247	0.17223306	3.1993250	20	—	—
241784	2001	OU <sub>90</sub>	15.8	X	312.17294	200.56785	111.65127	8.84926	0.2749214	0.20303608	2.8669530	20	5 14.1	19.2
241785	2001	OJ <sub>103</sub>	15.6	X	158.65859	335.43425	276.37649	12.22580	0.2562228	0.22357308	2.6885805	20	12 23.1	19.8
241786	2001	PR <sub>5</sub>	16.0	X	56.39959	80.62558	232.63847	12.19397	0.2191484	0.21556088	2.7547958	20	12 5.9	20.2
241787	2001	PE <sub>13</sub>	15.2	X	80.07629	106.22485	312.58943	23.58150	0.2792602	0.17652022	3.1473116	20	2 17.6	19.5
241788	2001	PS <sub>34</sub>	15.6	X	68.40362	75.84196	235.71264	9.23102	0.1405675	0.21664930	2.7455616	20	12 7.4	19.6
241789	2001	PP <sub>35</sub>	15.2	X	90.16293	190.50176	169.30565	31.57536	0.2129920	0.17415705	3.1757186	20	—	—
241790	2001	PN <sub>40</sub>	15.1	X	112.13221	143.49192	230.40464	9.36023	0.2301463	0.17752753	3.1353949	20	2 1.0	19.9
241791	2001	PB <sub>51</sub>	16.7	X	98.37318	202.46972	200.87737	9.38044	0.1874499	0.28368920	2.2938984	20	1 25.5	19.3
241792	2001	PN <sub>58</sub>	15.6	X	53.47645	349.65959	1.26994	14.02322	0.1983701	0.21906431	2.7253459	20	—	—
241793	2001	QG <sub>6</sub>	15.7	X	79.24581	348.43878	331.27645	14.80233	0.2449687	0.22073924	2.7115421	20	—	—
241794	2001	QK <sub>61</sub>	15.1	X	139.11032	30.55585	319.68047	20.92472	0.1623857	0.18125634	3.0922452	20	1 24.9	19.9
241795	2001	QQ <sub>110</sub>	16.2	X	307.37628	163.03173	142.53372	2.42654	0.1035321	0.19783537	2.9169799	20	5 22.3	19.8
241796	2001	QT <sub>190</sub>	15.2	X	129.05193	104.91997	224.15452	16.12336	0.1101856	0.17447761	3.1718276	20	—	—
241797	2001	QV <sub>190</sub>	14.7	X	81.40628	125.77913	237.78976	16.26004	0.1289736	0.17152818	3.2080840	20	—	—
241798	2001	QO <sub>192</sub>	15.0	X	90.78465	107.72739	271.04291	15.02479	0.1350607	0.17391812	3.1786265	20	—	—
241799	2001	QR <sub>196</sub>	15.5	X	329.80818	40.50395	278.10427	12.61466	0.2835989	0.20304448	2.8668739	20	6 25.4	17.9
241800	2001	QM <sub>199</sub>	15.0	X	52.36148	40.01429	274.16955	15.52820	0.2363954	0.21255507	2.7807060	20	12 4.2	19.2
241801	2001	QA <sub>227</sub>	16.3	X	274.73086	151.00656	199.25234	10.28143	0.1518985	0.19828106	2.9126070	20	5 29.3	20.5
241802	2001	QA <sub>259</sub>	16.0	X	7.16376	183.85875	214.11007	8.77969	0.2129111	0.21566103	2.7539429	20	—	—
241803	2001	QG <sub>274</sub>	15.7	X	172.41397	234.67687	92.86872	7.03215	0.1335659	0.18351822	3.0667845	20	1 25.0	20.5
241804	2001	QW <sub>282</sub>	16.2	X	15.64785	329.10201	18.55244	13.92271	0.2076868	0.21284103	2.7782148	20	11 21.5	19.7
241805	2001	QA <sub>328</sub>	16.4	X	43.25647	25.77848	323.48865	4.74714	0.0694335	0.21831181	2.7316050	20	12 15.5	20.2
241806	2001	QW <sub>333</sub>	16.9	X	139.03050	12.66603	10.71209	11.05656	0.2251282	0.28763589	2.2728669	20	2 29.5	20.3
241807	2001	RQ <sub>2</sub>	15.5	X	92.24155	46.11937	262.42742	10.15358	0.2652519	0.22185387	2.7024524	20	—	—
241808	2001	RH <sub>9</sub>	14.8	X	25.23583	118.15146	212.84942	31.05762	0.3372074	0.21248643	2.7813048	20	12 5.7	18.9
241809	2001	RA <sub>16</sub>	14.8	X	133.78860	66.98758	265.37293	20.69877	0.1972717	0.17565081	3.1576884	20	—	—
241810	2001	RJ <sub>40</sub>	15.6	X	177.45736	153.13516	242.15689	9.34766	0.1170270	0.18986077	2.9980984	20	4 14.1	20.4
241811	2001	RW <sub>40</sub>	15.2	X	96.80926	162.54340	208.53796	21.42926	0.1082088	0.17399311	3.1777131	20	—	—
241812	2001	RH <sub>102</sub>	16.1	X	270.37838	12.15586	13.61147	10.11398	0.1649181	0.25413643	2.4684525	20	7 11.4	19.4
241813	2001	RR <sub>108</sub>	15.5	X	37.70468	57.12942	350.76606	15.77879	0.1445979	0.17117242	3.2125275	20	—	—
241814	2001	RB <sub>152</sub>	15.4	X	190.02295	280.06836	115.74450	10.55631	0.1268463	0.19017125	2.9948344	20	5 3.3	20.3
241815	2001	RV <sub>154</sub>	15.1	X	226.95888	348.84390	264.57981	9.78810	0.0486559	0.17720948	3.1391453	20	—	—
241816	2001	SA <sub>33</sub>	15.6	X	115.19554	323.87623	11.06364	18.27144	0.1375563	0.17140204	3.2096577	20	—	—
241817	2001	SH <sub>39</sub>	15.0	X	165.63256	300.58670	22.10502	17.95561	0.2456037	0.17829586	3.1263809	20	1 24.8	20.7
241818	2001	SR <sub>67</sub>	16.1	X	245.88371	259.35744	130.84242	3.08558	0.1722216	0.24710873	2.5150348	20	6 13.6	19.7
241819	2001	SW <sub>75</sub>	15.9	X	58.45098	89.63726	224.38765	12.01274	0.2087213	0.21438368	2.7648712	20	12 7.5	20.1
241820	2001	SY <sub>87</sub>	15.8	X	141.30181	21.55109	334.94582	14.71854	0.1273499	0.18079205	3.0975370	20	1 31.0	20.6
241821	2001	SZ <sub>92</sub>	15.9	X	207.38517	142.65390	244.82576	1.00198	0.0774070	0.19293734	2.9661414	20	5 7.5	20.4
241822	2001	SX <sub>107</sub>	15.4	X	6.06800	66.61917	309.12788	6.47795	0.2452243	0.20952579	2.8074437	20	12 22.3	18.6
241823	2001	SS <sub>135</sub>	15.3	X	204.30376	130.44429	186.03971	15.02203	0.0455834	0.18179825	3.0860971	20	2 6.9	20.1
241824	2001	SV <sub>142</sub>	15.5	X	110.62916	16.41316	337.55100	10.02776	0.2167752	0.17468506	3.1693160	20	1 6.2	20.2
241825	2001	SH <sub>170</sub>	15.3	X	137.95354	199.88747	184.14184	22.50321	0.1118987	0.18341534	3.0679312	20	2 21.1	20.1
241826	2001	SL <sub>209</sub>	16.3	X	85.38915	90.16331	176.16093	15.35844	0.2630276	0.21427197	2.7658320	20	11 13.5	21.1
241827	2001	SR <sub>209</sub>	15.8	X	102.98252	347.27339	69.61491	1.73776	0.1878954	0.17924663	3.1153157	20	3 6.9	20.3
241828	2001	SF <sub>214</sub>	16.0	X	23.98329	233.33817	156.82284	9.34291	0.2036281	0.21693076	2.7431862	20	—	—
241829	2001	SP <sub>220</sub>	16.4	X	0.55848	210.60104	163.01693	5.69690	0.0919186	0.21213664	2.7843613	20	11 21.5	19.8
241830	2001	SK <sub>233</sub>	15.5	X	155.57251	306.16315	102.58766	3.29						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
241841	2001	SW <sub>341</sub>	14.9	X	131.82908	306.90111	21.40119	27.32829	0.2252034	0.17156653	3.2076059	20	—	—
241842	2001	SY <sub>346</sub>	15.4	X	136.90928	132.02421	214.01442	14.87202	0.0887394	0.17672541	3.1448750	20	1 5.2	20.3
241843	2001	TY <sub>10</sub>	16.0	X	306.14242	167.39586	214.67205	10.19381	0.1316957	0.20277855	2.8693798	20	8 25.6	19.7
241844	2001	TY <sub>12</sub>	14.6	X	114.81788	263.19397	84.14464	26.24053	0.3095784	0.17228740	3.1986523	20	1 11.7	19.7
241845	2001	TH <sub>14</sub>	14.9	X	177.60809	78.11117	232.70437	15.52752	0.0976365	0.17760592	3.1344722	20	1 6.0	20.0
241846	2001	TK <sub>34</sub>	15.9	X	7.40532	73.49400	255.39223	13.45968	0.3379189	0.20638914	2.8358167	20	11 3.2	18.8
241847	2001	TY <sub>54</sub>	15.3	X	167.76606	206.00631	203.25635	12.67570	0.1204255	0.18798698	3.0179882	20	4 24.8	20.0
241848	2001	TK <sub>67</sub>	17.2	X	298.19847	126.01854	218.87014	3.15415	0.1921644	0.30339423	2.1934673	20	6 19.5	19.3
241849	2001	TB <sub>86</sub>	15.9	X	155.91658	157.46025	247.51282	4.03719	0.1698079	0.18480108	3.0525753	20	4 8.9	21.0
241850	2001	TH <sub>86</sub>	16.2	X	32.97670	93.15055	249.69216	3.51645	0.1248269	0.21254880	2.7807607	20	12 1.1	19.8
241851	2001	TE <sub>92</sub>	15.3	X	345.09203	0.05745	210.61766	10.49187	0.0376721	0.18430904	3.0580057	20	3 18.6	19.5
241852	2001	TL <sub>94</sub>	17.0	X	68.94081	121.02514	234.19587	2.40126	0.1269613	0.28198037	2.3031566	20	1 30.2	19.2
241853	2001	TQ <sub>98</sub>	16.6	X	351.70560	200.15622	195.29377	3.81672	0.0764586	0.21185448	2.7868330	20	12 4.1	20.1
241854	2001	TL <sub>104</sub>	15.2	X	145.22989	196.35965	214.60523	10.51608	0.1311988	0.18061527	3.0995578	20	4 3.8	20.0
241855	2001	TM <sub>109</sub>	16.0	X	44.50814	75.73179	250.29474	6.42518	0.2216416	0.21186933	2.7867028	20	12 8.1	19.8
241856	2001	TT <sub>119</sub>	15.3	X	205.22236	345.32367	334.26478	16.78444	0.1059176	0.18085411	3.0968283	20	2 15.5	20.1
241857	2001	TQ <sub>134</sub>	15.4	X	227.27816	105.96645	236.86769	11.07132	0.0429597	0.18862102	3.0112212	20	4 3.6	19.9
241858	2001	TF <sub>171</sub>	14.9	X	116.72144	159.07175	196.15565	29.21922	0.2449158	0.17302303	3.1895796	20	1 11.7	20.3
241859	2001	TX <sub>171</sub>	14.9	X	108.68398	97.16776	235.10709	18.36037	0.1529620	0.16946865	3.2340233	20	—	—
241860	2001	TH <sub>178</sub>	15.4	X	202.57494	51.63738	213.64114	21.75443	0.0410848	0.17169119	3.2060531	20	—	—
241861	2001	TX <sub>178</sub>	15.6	X	208.08622	125.16537	233.82429	9.47227	0.0975810	0.18645439	3.0345035	20	3 31.1	20.5
241862	2001	TE <sub>184</sub>	16.1	X	25.16715	3.16519	351.57207	4.07879	0.0735037	0.21236533	2.7823620	20	11 27.4	19.7
241863	2001	TG <sub>184</sub>	15.7	X	231.76603	152.27141	206.74076	13.99457	0.0729859	0.19032708	2.9931995	20	4 30.1	20.2
241864	2001	TL <sub>202</sub>	15.3	X	116.29670	221.86816	121.76476	11.28077	0.1887814	0.17263347	3.1943761	20	—	—
241865	2001	TX <sub>202</sub>	15.9	X	12.32256	198.42845	124.77172	10.32947	0.1289278	0.20651286	2.8346840	20	10 10.4	19.4
241866	2001	TA <sub>210</sub>	15.5	X	188.64674	163.15551	235.63869	10.66989	0.1263477	0.19105627	2.9855787	20	4 30.5	20.4
241867	2001	TW <sub>214</sub>	14.8	X	46.75179	175.48841	243.71817	12.73673	0.0849784	0.16938107	3.2351379	20	—	—
241868	2001	TY <sub>222</sub>	15.3	X	155.18374	161.07038	225.14212	12.76610	0.0362060	0.18215185	3.0821018	20	3 4.6	20.0
241869	2001	TW <sub>224</sub>	15.2	X	277.05724	67.76014	240.13371	9.76773	0.1023914	0.18783358	3.0196311	20	4 11.9	19.5
241870	2001	TW <sub>232</sub>	16.4	X	273.48114	225.10139	210.26758	4.89205	0.1466000	0.20465950	2.8517719	20	9 21.7	20.1
241871	2001	UL <sub>8</sub>	17.1	X	230.86478	339.76442	33.19238	18.04336	0.1915768	0.24426860	2.5344922	20	5 2.7	21.1
241872	2001	UR <sub>27</sub>	14.6	X	120.09482	286.56233	74.17223	24.32184	0.3010575	0.17617277	3.1514484	20	2 4.4	20.0
241873	2001	UP <sub>56</sub>	15.3	X	122.53457	179.16264	233.46145	12.32843	0.1164324	0.18069069	3.0986952	20	3 8.5	20.1
241874	2001	UW <sub>89</sub>	16.7	X	92.30323	56.87147	228.06422	3.25065	0.2306859	0.21618007	2.7495331	20	12 6.1	21.3
241875	2001	UB <sub>92</sub>	14.9	X	138.75429	138.50380	196.33515	16.57072	0.1521011	0.17221403	3.1995607	20	1 2.2	20.1
241876	2001	UL <sub>121</sub>	15.3	X	148.48914	320.03556	59.29651	11.25408	0.0921440	0.17817220	3.1278272	20	3 4.7	20.2
241877	2001	UJ <sub>137</sub>	15.7	X	180.70187	304.08166	28.16614	21.34873	0.1184707	0.18002409	3.1063399	20	2 16.2	21.0
241878	2001	UR <sub>164</sub>	17.3	X	27.71368	320.23927	102.56379	5.56358	0.2167898	0.27152526	2.3619057	20	—	—
241879	2001	UC <sub>185</sub>	15.4	X	175.33668	306.89366	4.80241	16.50745	0.1379382	0.17908931	3.1171398	20	1 13.2	20.6
241880	2001	UZ <sub>201</sub>	15.3	X	275.37161	86.52736	216.64392	10.70010	0.0753409	0.18821740	3.0155245	20	4 8.9	19.7
241881	2001	UD <sub>211</sub>	15.0	X	204.65670	48.73918	215.52221	25.56762	0.1537426	0.17217134	3.2000897	20	—	—
241882	2001	VJ <sub>8</sub>	17.3	X	149.39176	163.00562	255.80467	4.19434	0.1203482	0.28844486	2.2686153	20	4 10.9	20.6
241883	2001	VC <sub>31</sub>	16.5	X	120.84525	134.86713	240.71285	10.17459	0.2061501	0.27892790	2.3199293	20	1 22.1	19.6
241884	2001	VB <sub>34</sub>	15.7	X	323.35113	160.00108	246.15012	8.30162	0.1279459	0.20479470	2.8505166	20	10 31.6	18.9
241885	2001	VK <sub>45</sub>	15.6	X	259.72292	185.69055	260.88634	9.60142	0.2854560	0.19911955	2.9044246	20	8 19.6	20.0
241886	2001	VX <sub>46</sub>	14.8	X	181.27324	300.30345	87.26785	27.87640	0.2134502	0.17981321	3.1087680	20	4 26.5	20.6
241887	2001	VK <sub>56</sub>	16.4	X	166.90967	145.79742	335.69167	4.07393	0.1892725	0.24508614	2.5288528	20	7 25.1	20.5
241888	2001	VM <sub>91</sub>	14.9	X	166.97599	306.82752	102.21687	15.24541	0.2091288	0.18374480	3.0642628	20	5 2.3	20.3
241889	2001	VA <sub>96</sub>	15.4	X	81.18685	305.43698	140.90198	12.93902	0.1147246	0.17450725	3.1714685	20	3 7.6	19.7
241890	2001	VR <sub>108</sub>	16.9	X	352.47821	224.02400	254.81631	8.47478	0.1574529	0.27144570	2.3623672	20	—	—
241891	2001	WD <sub>6</sub>	14.9	X	263.98830	74.42803	224.57374	16.08181	0.1668228	0.18621769	3.0370744	20	3 6.8	19.9
241892	2001	WR <sub>10</sub>	16.1	X	278.77859	81.24949	231.51816	28.30155	0.0419273	0.23949637	2.5680497	20	4 28.5	19.7
241893	2001	WF <sub>12</sub>	15.6	X	180.72037	255.24978	98.40858	6.19646	0.1397409	0.17885570	3.1198535	20	3 4.9	20.6
241894	2001	WM <sub>27</sub>	16.7	X	19.10400	353.61854	94.80984	6.77245	0.2016712	0.27188655	2.3598129	20	—	—
241895	2001	WF <sub>43</sub>	15.7	X	327.42172	344.90839	73.09509	9.16071	0.2126925	0.20998136	2.8033816	20	11 29.3	18.1
241896	2001	WQ <sub>72</sub>	17.3	X	47.36286	50.81171	90.36446	3.30059	0.1148759	0.28399861	2.2922320	20	3 14.9	19.3
241897	2001	XQ <sub>10</sub>	15.4	X	118.78645	359.40232	103.34780	34.71721	0.1818188	0.23037191	2.6354192	20	5 28.4	20.0
241898	2001	XL <sub>72</sub>	16.4	X	309.77762	291.32181	113.80631	2.71138	0.1586687	0.20371649	2.8605657	20	10 6.2	19.6
241899	2001	XE <sub>132</sub>	16.0	X	191.06303	285.87140	74.33002	9.24792	0.1270848	0.17991019	3.1076507	20	3 23.8	21.1
241900	2001	XF <sub>141</sub>	15.8	X	204.73138	131.53804	229.99078	4.98901	0.1602225	0.18298310	3.0727606	20	3 30.8	21.0
241901	2001	XF <sub>149</sub>	16.9	X	185.02380	219.07739	231.30076	3.62518	0.1581628	0.24149997	2.5538262	20	7 1.0	20.9
241902	2001	XR <sub>187</sub>	15.0	X	73.41945	261.72393	281.48938	19.70078	0.0975453	0.18098299	3.0953579	20	6 24.1	19.2
241903	2001	XF <sub>212</sub>	16.7	X	171.41384	239.28970	189.94035	3.37879	0.1929508	0.23780839	2.5801875	20	5 23.5	20.9
241904	2001	XP <sub>213</sub>	16.2	X	175.49067	260.83631	186.79740	4.37560	0.1957313	0.23894445	2.5720027	20	6 18.7	20.6
241905	2001	XW <sub>259</sub>	17.1	X	108.76522	305.33135	146.72787	5.13760	0.1363442	0.28649143	2.2789159	20	4 13.8	19.9
241906	2001	YR <sub>86</sub>	14.9	X	5.17221	111.31027	110.15558	25.69119	0.2088779	0.17426901	3.1743583	20	5 14.3	18.8
241907	2001	YN <sub>104</sub>	15.3	X	286.66556	245.52680	117.84497	11.10998	0.0742106	0.18899406	3.0072575	20	7 12.1	19.2
241908	2001	YH <sub>142</sub>	15.8	X	181.56077	15.88491	336.47949	0.93749	0.1284587	0.17756625	3.1349390	20	3 1.4	20.9
241909	2001	YS <sub>148</sub>	16.4	X	338.02791	135.71455	70.15715	5.54327	0.0670699	0.27921456	2.3183411	20	2 21.4	19.0



ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
241921 2002 AG <sub>186</sub>	16.6	X	239.24454	71.78525	84.26956	10.63472	0.1209409	0.25494581	2.4632253	20	12 1.2	19.6
241922 2002 BU	16.8	X	317.15356	124.58734	91.37325	25.08537	0.0949151	0.37605209	1.9009501	20	1 9.4	18.7
241923 2002 BM <sub>23</sub>	16.6	X	101.95614	73.94191	59.88795	11.18151	0.2845178	0.23152792	2.6266395	20	6 17.8	20.8
241924 2002 CH <sub>12</sub>	16.6	X	330.45493	232.19339	139.64158	5.27204	0.1729410	0.30265188	2.1970527	20	10 30.5	18.0
241925 2002 CP <sub>22</sub>	15.5	X	286.81548	47.28788	159.71553	8.34349	0.1573183	0.21087322	2.7954717	20	—	—
241926 2002 CK <sub>23</sub>	16.8	X	209.10712	299.82256	294.37229	11.37507	0.2704425	0.25538787	2.4603820	20	—	—
241927 2002 CT <sub>32</sub>	16.4	X	267.08072	112.14287	110.44989	10.97189	0.0490049	0.26698655	2.3885984	20	—	—
241928 2002 CF <sub>33</sub>	16.0	X	212.72153	129.26670	109.01777	12.82806	0.2413221	0.25758154	2.4463930	20	—	—
241929 2002 CP <sub>36</sub>	16.4	X	232.46334	284.54439	323.77522	9.07719	0.2112020	0.26337539	2.4103822	20	—	—
241930 2002 CC <sub>38</sub>	15.8	X	154.76080	117.67588	319.04667	21.60663	0.0739818	0.23135686	2.6279341	20	5 1.7	20.2
241931 2002 CF <sub>39</sub>	17.0	X	351.10566	301.05707	137.78083	8.95663	0.1884606	0.26168476	2.4207527	20	—	—
241932 2002 CF <sub>46</sub>	16.4	X	265.52098	219.68562	279.61028	13.01202	0.2149271	0.25416543	2.4682647	20	12 1.9	19.0
241933 2002 CO <sub>48</sub>	16.8	X	304.07083	228.62781	259.29265	7.11540	0.1557088	0.25982505	2.4322901	20	—	—
241934 2002 CA <sub>60</sub>	15.6	X	116.57987	16.79035	106.88177	31.42574	0.1644238	0.23446726	2.6046412	20	6 13.4	19.8
241935 2002 CN <sub>70</sub>	15.8	X	207.69259	140.16932	136.96701	6.32046	0.0425219	0.21303031	2.7765688	20	—	—
241936 2002 CX <sub>82</sub>	17.5	X	327.12136	62.91650	88.10417	2.43349	0.1247981	0.26452001	2.4034238	20	—	—
241937 2002 CF <sub>86</sub>	17.3	X	158.00704	284.53571	119.45454	6.01918	0.1647387	0.28171512	2.3046021	20	4 8.9	20.8
241938 2002 CE <sub>96</sub>	17.2	X	270.26242	62.77470	141.30213	2.87373	0.0990024	0.26211128	2.4181259	20	—	—
241939 2002 CB <sub>122</sub>	16.3	X	147.48945	266.11493	144.23534	16.77970	0.1961625	0.22785904	2.6547597	20	4 14.3	20.9
241940 2002 CS <sub>122</sub>	17.2	X	296.46817	344.80736	190.29109	0.84547	0.1259680	0.26423512	2.4051510	20	—	—
241941 2002 CY <sub>135</sub>	17.3	X	272.93721	320.80613	234.09418	3.37763	0.1486858	0.26276373	2.4141214	20	—	—
241942 2002 CQ <sub>136</sub>	16.1	X	114.30683	318.17299	148.25319	13.95485	0.2166054	0.23040688	2.6351525	20	5 23.1	20.4
241943 2002 CR <sub>138</sub>	16.3	X	87.76882	291.59979	163.10747	12.15466	0.0633201	0.22295674	2.6935331	20	3 12.8	19.7
241944 2002 CU <sub>147</sub>	12.7	X	282.21439	58.44961	314.42835	32.86100	0.3141953	0.08357844	5.1809159	20	6 14.8	20.0
241945 2002 CJ <sub>198</sub>	15.9	X	208.13027	147.81831	411.39328	8.22034	0.1584781	0.21237010	2.7823203	20	1 8.3	20.5
241946 2002 CR <sub>219</sub>	16.6	X	0.71493	74.47001	142.24657	5.36798	0.1399419	0.27595677	2.3365514	20	4 10.5	18.7
241947 2002 CY <sub>238</sub>	17.0	X	247.20632	339.68274	241.23741	1.62626	0.1416145	0.25957478	2.4338532	20	—	—
241948 2002 CV <sub>259</sub>	16.9	X	96.74861	45.97741	62.47906	4.03044	0.1661456	0.22818482	2.6522322	20	4 26.9	20.5
241949 2002 CV <sub>286</sub>	16.1	X	39.08219	37.22760	73.73841	5.96856	0.0770521	0.21599968	2.7510637	20	1 26.9	19.4
241950 2002 DA <sub>3</sub>	15.4	X	219.20943	55.12390	356.58910	16.10006	0.1280792	0.17944554	3.1130130	20	6 14.9	20.6
241951 2002 DD <sub>3</sub>	16.0	X	78.00546	63.10434	66.92526	17.84912	0.1857187	0.22517352	2.6758258	20	5 7.5	19.5
241952 2002 DD <sub>8</sub>	15.8	X	146.46382	45.79412	67.07186	13.70667	0.1870919	0.23467435	2.6031087	20	6 24.0	20.1
241953 2002 DH <sub>11</sub>	16.4	X	216.57555	296.27158	323.29911	14.03435	0.1853016	0.26149072	2.4219501	20	—	—
241954 2002 ER <sub>7</sub>	17.0	X	24.90058	60.65836	164.13499	21.89268	0.1136696	0.28197765	2.3031714	20	6 13.1	19.9
241955 2002 ET <sub>7</sub>	16.3	X	260.45933	87.48760	171.28569	10.82991	0.2322425	0.26561673	2.3968035	20	1 6.6	20.4
241956 2002 ET <sub>8</sub>	13.3	X	245.16319	303.06092	181.32789	13.87344	0.0641443	0.08364091	5.1783358	20	10 7.4	20.3
241957 2002 EO <sub>46</sub>	16.8	X	247.57501	18.63627	201.79293	5.96050	0.1291078	0.25880263	2.4386918	20	—	—
241958 2002 ED <sub>72</sub>	12.8	X	272.13782	95.93048	2.63352	18.92296	0.1058676	0.08361468	5.1794189	20	9 30.7	19.6
241959 2002 EE <sub>102</sub>	16.4	X	235.01728	131.42001	114.22822	12.67729	0.2147389	0.25967037	2.4332559	20	—	—
241960 2002 EK <sub>122</sub>	16.9	X	295.38490	4.23555	176.17176	3.68259	0.0414225	0.26184717	2.4197517	20	—	—
241961 2002 EN <sub>148</sub>	16.5	X	299.61418	18.96799	49.29557	2.47486	0.0230746	0.24572255	2.5244845	20	11 9.0	19.5
241962 2002 FA <sub>10</sub>	16.2	X	182.74405	179.92883	343.17075	12.86846	0.1490446	0.24215195	2.5492401	20	9 27.2	20.4
241963 2002 FQ <sub>28</sub>	16.3	X	15.46625	0.10254	107.09679	6.75985	0.1140089	0.26484173	2.4014770	20	—	—
241964 2002 FC <sub>35</sub>	16.7	X	337.21087	66.22369	191.87275	6.64251	0.0878181	0.27656854	2.3331046	20	5 3.1	19.0
241965 2002 FP <sub>36</sub>	17.1	X	205.43565	302.88794	188.78737	14.62468	0.2117381	0.24174549	2.5520967	20	9 6.1	21.4
241966 2002 GC <sub>4</sub>	16.2	X	268.00602	229.02213	27.55257	15.34908	0.179514	0.26318169	2.4115648	20	1 17.6	20.3
241967 2002 GO <sub>10</sub>	16.5	X	177.32643	350.94975	180.10999	12.10404	0.1788213	0.23973707	2.5663305	20	10 4.6	20.6
241968 2002 GM <sub>11</sub>	16.4	X	329.49644	22.10962	178.79365	8.08765	0.1508373	0.21236248	2.7823869	20	1 27.4	20.0
241969 2002 GT <sub>63</sub>	15.5	X	351.92245	241.81286	196.95032	11.69530	0.1012810	0.19655534	2.9296303	20	—	—
241970 2002 GY <sub>104</sub>	16.2	X	236.87339	173.45456	123.28078	8.15737	0.2123280	0.26197390	2.4189712	20	2 4.4	20.1
241971 2002 GL <sub>106</sub>	15.0	X	156.69340	287.47518	176.83639	25.74777	0.2185000	0.17491432	3.1665461	20	6 23.0	20.9
241972 2002 GB <sub>119</sub>	15.6	X	148.43660	11.28039	102.17319	6.04079	0.1086917	0.17526562	3.1623133	20	6 22.2	20.4
241973 2002 GV <sub>163</sub>	16.8	X	309.24042	178.31036	98.67984	3.29583	0.1478931	0.27327954	2.3517869	20	4 5.6	19.4
241974 2002 HT <sub>2</sub>	16.5	X	223.42156	87.79991	41.29816	12.18601	0.1857842	0.24373539	2.5381872	20	9 30.4	20.3
241975 2002 JZ <sub>23</sub>	16.1	X	138.16834	182.44605	60.50927	11.67884	0.0796623	0.24174832	2.5520768	20	11 26.1	19.9
241976 2002 JK <sub>41</sub>	16.5	X	300.15557	30.19493	217.26470	2.75336	0.1900893	0.26713434	2.3877173	20	2 4.0	19.7
241977 2002 JO <sub>46</sub>	15.9	X	240.05006	79.63191	253.90985	5.47982	0.1548692	0.26919857	2.3754955	20	3 23.2	19.5
241978 2002 JC <sub>78</sub>	16.4	X	304.30034	25.78161	222.26495	12.50631	0.1748608	0.26820169	2.3813782	20	2 7.9	19.9
241979 2002 JR <sub>109</sub>	16.7	X	125.71731	146.58005	50.45513	5.94002	0.2233544	0.23358734	2.6111782	20	9 24.2	21.1
241980 2002 JM <sub>113</sub>	16.0	X	261.81317	320.86106	269.73560	6.92278	0.2658315	0.20463697	2.8519812	20	—	—
241981 2002 JZ <sub>139</sub>	16.2	X	158.42779	140.45963	34.54507	14.67261	0.0764422	0.23542158	2.5975976	20	9 28.1	20.1
241982 2002 JX <sub>145</sub>	16.2	X	117.91252	28.87231	261.48787	12.18575	0.2460501	0.24357114	2.5393282	20	—	—
241983 2002 KF	16.1	X	149.97159	97.00838	118.03708	12.01269	0.2095500	0.24003064	2.5642376	20	11 6.8	20.7
241984 2002 LG	16.2	X	14.58445	217.33162	97.96412	13.19146	0.2025886	0.22880842	2.6474111	20	10 21.4	19.4
241985 2002 LC <sub>11</sub>	16.0	X	81.29217	102.34948	233.09557	13.45902	0.2483128	0.23947498	2.5682026	20	—	—
241986 2002 LA <sub>47</sub>	16.4	X	132.51460	104.49614	176.51794	16.06330	0.1835935	0.24163329	2.5528867	20	—	—
241987 2002 LB <sub>47</sub>	16.0	X	117.62589	36.87309	288.80200	2.86954	0.2844115	0.24271274	2.5453118	20	—	—
241988 2002 LZ <sub>52</sub>	14.9	X	2.33960	252.71062	71.37976	18.60352	0.1657376	0.17412095	3.1761575	20	9 28.4	19.0
241989 2002 LT <sub>59</sub>	16.0	X	190.07990	327.63251	252.45466	12.53884	0.1191009	0.24472919	2.5313112	20	12 20.4	19.6
241990 2002 NN <sub>5</sub>	16.3	X	275.13836	53.11412	270.92258	3.28872	0.0693404	0.21117115	2.7928418	20	5 5.5	20.1
241991 2002 NK <sub>9</sub>	16.2	X	95.10919	351.00565	247.42524	11.68610	0.2291373	0.23200669	2.6230247	20	10 13.0	20.6
241992 2002 NE <sub>21</sub>	16.4	X	161.96209	17.39778	217.62873	4.57015	0.2102861	0.23866664	2.5739982	20	12 5.4	20.8
241993 2002 NM <sub>39</sub>	16.3	X	92.54731	0.89592	265.06881	11.14220	0.1710671	0.23205876	2.6226323	20	11 10.2	20.5
241994 2002 NK <sub>42</sub>	14.5	X	72.62625	16.94371	350.71105	5.49767	0.2910585	0.12600871	3.940			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
242001	2002	OA <sub>15</sub>	15.7	X	184.16715	8.21967	284.39261	13.11780	0.1552560	0.24557880	2.5254695	20	—	—
242002	2002	PX <sub>1</sub>	15.7	X	300.69037	234.02298	123.03597	10.15492	0.2135133	0.21602653	2.7508358	20	7 4.6	18.9
242003	2002	PZ <sub>19</sub>	16.5	X	57.52521	207.19955	135.58533	10.15992	0.1067512	0.23393222	2.6086112	20	—	—
242004	2002	PW <sub>37</sub>	14.9	X	224.51378	321.28253	158.67572	17.13550	0.0871318	0.17000183	3.2272578	20	9 18.9	19.7
242005	2002	PS <sub>70</sub>	15.6	X	8.21356	132.96199	210.81388	11.87888	0.0837796	0.22386427	2.6862485	20	10 25.0	18.9
242006	2002	PM <sub>72</sub>	16.0	X	102.41798	11.01256	261.30213	11.55152	0.1042180	0.23156082	2.6263907	20	11 23.8	20.0
242007	2002	PP <sub>73</sub>	16.5	X	86.92609	114.70055	180.88167	11.23500	0.1931653	0.23242350	2.6198878	20	12 14.5	20.9
242008	2002	PY <sub>81</sub>	14.2	X	81.78856	31.89172	323.58539	6.44491	0.3021012	0.12530892	3.9550143	20	—	—
242009	2002	PO <sub>87</sub>	17.2	X	201.27200	144.40422	132.04158	24.67002	0.0738903	0.35700844	1.9679636	20	—	—
242010	2002	PN <sub>91</sub>	15.9	X	17.65353	328.94687	358.09554	5.80444	0.2720186	0.22481187	2.6786947	20	11 12.9	19.0
242011	2002	PP <sub>93</sub>	15.5	X	71.36307	60.87011	244.06552	12.69708	0.2206972	0.22895965	2.6462452	20	12 12.7	19.7
242012	2002	PV <sub>110</sub>	15.6	X	103.85011	15.43062	255.21287	7.97806	0.1401734	0.17613936	3.1518468	20	11 16.3	20.6
242013	2002	PJ <sub>116</sub>	15.9	X	356.90534	124.11682	232.75690	11.81539	0.2851033	0.22398510	2.6852824	20	11 20.8	18.2
242014	2002	PI <sub>139</sub>	15.6	X	69.04632	204.70427	117.00653	15.15799	0.1654008	0.23145267	2.6272088	20	12 26.5	19.7
242015	2002	PJ <sub>160</sub>	17.3	X	97.74570	220.69523	61.11360	2.67560	0.1682236	0.23265329	2.6181624	20	12 5.5	21.5
242016	2002	PI <sub>160</sub>	14.7	X	74.86250	229.04759	131.05439	7.97099	0.3059125	0.12544698	3.9521120	20	—	—
242017	2002	PF <sub>185</sub>	15.4	X	171.11764	256.41750	304.44278	7.71082	0.14019224	0.17573665	3.1566600	20	10 27.4	20.3
242018	2002	QK	15.4	X	103.54122	80.18013	313.97468	27.09595	0.2662611	0.24097511	2.5575330	20	2 9.0	18.9
242019	2002	QD <sub>1</sub>	16.2	X	263.04579	203.25724	159.11649	9.40337	0.0874427	0.21214180	2.7843162	20	6 9.1	20.3
242020	2002	QW <sub>9</sub>	15.9	X	335.51439	206.97656	94.52648	10.25679	0.2932145	0.21583512	2.7524618	20	6 12.5	17.9
242021	2002	QD <sub>14</sub>	15.8	X	151.35618	106.14477	293.29869	12.03176	0.1424022	0.19784180	2.9169166	20	3 21.6	20.7
242022	2002	QH <sub>16</sub>	15.7	X	283.73608	9.18206	298.08411	7.41723	0.20278924	0.20659588	2.8339245	20	4 28.9	19.8
242023	2002	QH <sub>33</sub>	16.7	X	108.55368	180.43022	83.88557	3.88168	0.1923660	0.23094413	2.6310641	20	11 25.7	21.1
242024	2002	QB <sub>50</sub>	16.6	X	8.62642	244.25996	94.90969	2.93938	0.0814956	0.22312561	2.6921738	20	10 24.4	19.8
242025	2002	QF <sub>53</sub>	15.5	X	44.07791	80.01953	339.40181	25.36571	0.2519824	0.18251506	3.0780115	20	—	—
242026	2002	QG <sub>60</sub>	16.5	X	247.69504	212.94421	199.81237	7.43700	0.0801634	0.21559243	2.7545270	20	7 24.6	20.5
242027	2002	QX <sub>64</sub>	16.3	X	317.69158	312.74642	66.23950	3.07608	0.0979403	0.22178031	2.7030499	20	9 22.5	19.3
242028	2002	QY <sub>68</sub>	16.3	X	352.08456	326.76119	326.14312	4.89406	0.0740526	0.21512943	2.7584778	20	7 19.0	19.7
242029	2002	QM <sub>75</sub>	16.3	X	51.74974	253.62168	56.57668	6.86931	0.1518059	0.22733611	2.6588291	20	11 20.6	19.9
242030	2002	QG <sub>81</sub>	16.3	X	261.46689	339.57315	131.63073	12.60398	0.0991349	0.22868713	2.6483471	20	11 4.3	19.9
242031	2002	QB <sub>94</sub>	15.8	X	88.42457	299.31032	131.05736	11.86248	0.1341809	0.19279935	2.9675566	20	2 26.7	19.8
242032	2002	QH <sub>120</sub>	16.0	X	66.39474	102.23840	349.19200	13.85127	0.0797752	0.19286212	2.9669126	20	2 17.1	19.9
242033	2002	QF <sub>123</sub>	15.9	X	9.26857	353.26058	289.73966	11.61018	0.1908811	0.21763176	2.7372924	20	8 9.1	18.6
242034	2002	QK <sub>124</sub>	17.1	X	67.72682	108.32290	203.74814	3.00491	0.1627696	0.23136187	2.6278961	20	12 12.8	21.0
242035	2002	QV <sub>135</sub>	16.4	X	11.97407	266.95763	351.16792	11.53946	0.1460932	0.21495035	2.7600097	20	7 9.5	19.6
242036	2002	RZ <sub>32</sub>	17.8	X	36.87489	60.00928	311.46599	2.41596	0.2140226	0.28557309	2.2837989	20	—	—
242037	2002	RJ <sub>33</sub>	16.1	X	77.26383	122.60512	185.61826	7.47319	0.1549559	0.22969692	2.6405796	20	12 16.7	20.3
242038	2002	RZ <sub>38</sub>	16.8	X	121.27090	345.49270	297.40544	4.49581	0.2865227	0.23616508	2.5921429	20	12 29.7	21.4
242039	2002	RC <sub>61</sub>	16.0	X	35.16957	115.41821	201.53905	10.08424	0.0802783	0.22396948	2.6854072	20	10 28.6	19.3
242040	2002	RF <sub>71</sub>	16.0	X	103.39255	81.15515	198.17472	11.38312	0.1745362	0.23084804	2.6317942	20	12 8.3	20.4
242041	2002	RH <sub>99</sub>	16.1	X	22.13643	152.14529	192.45756	10.26998	0.1536710	0.22304630	2.6928120	20	11 26.8	19.6
242042	2002	RK <sub>114</sub>	15.3	X	166.68757	231.22218	148.69307	10.02638	0.1277234	0.19562352	2.9389262	20	3 20.7	20.0
242043	2002	RA <sub>122</sub>	15.8	X	196.91394	274.80018	66.81731	9.70045	0.1386181	0.19620704	2.9330963	20	3 6.3	20.7
242044	2002	RH <sub>132</sub>	15.5	X	148.51492	142.24502	247.57501	10.93601	0.0662747	0.19438811	2.9513649	20	3 2.6	20.0
242045	2002	RJ <sub>135</sub>	16.2	X	151.09967	132.07638	147.35501	13.19628	0.1458117	0.23726014	2.5841608	20	—	—
242046	2002	RX <sub>139</sub>	16.2	X	179.38829	195.85532	89.27004	11.73259	0.2669255	0.24344487	2.5402062	20	—	—
242047	2002	RD <sub>140</sub>	16.1	X	69.50950	243.63513	58.59040	13.64836	0.1827415	0.22747929	2.6577134	20	12 2.9	20.1
242048	2002	RF <sub>143</sub>	16.4	X	23.73189	140.02043	181.62209	6.31469	0.0286607	0.22184023	2.7025632	20	10 11.4	19.8
242049	2002	RD <sub>144</sub>	15.8	X	191.18509	171.74869	210.66206	7.23214	0.0249952	0.20046616	2.8914032	20	4 13.5	19.8
242050	2002	RZ <sub>203</sub>	16.2	X	312.17429	315.57936	338.89665	3.70870	0.1802934	0.21067561	2.7972195	20	4 30.3	19.7
242051	2002	RF <sub>222</sub>	15.5	X	55.07878	296.39034	136.43906	11.03210	0.1186182	0.18618126	3.0374706	20	1 9.7	19.3
242052	2002	RE <sub>229</sub>	15.9	X	305.80793	187.42628	120.47481	9.63507	0.2167618	0.21057875	2.7980772	20	5 8.3	19.5
242053	2002	RV <sub>244</sub>	16.1	X	336.78702	101.72545	184.53380	7.75319	0.2165847	0.21222423	2.7835951	20	6 1.9	18.8
242054	2002	RJ <sub>248</sub>	16.5	X	12.52880	292.14481	346.53262	4.07729	0.0842190	0.21563854	2.7541344	20	8 2.5	19.7
242055	2002	RO <sub>255</sub>	15.3	X	167.95436	2.99426	235.06706	13.26284	0.2565360	0.18200504	3.0837591	20	12 3.7	20.8
242056	2002	RX <sub>260</sub>	15.8	X	99.60492	127.78913	94.54281	12.39799	0.1303041	0.22117499	2.7079795	20	9 27.6	20.1
242057	2002	SB <sub>3</sub>	15.9	X	140.42643	66.10923	273.73032	15.54309	0.1954998	0.24197410	2.5504890	20	1 5.2	19.6
242058	2002	SS <sub>19</sub>	16.7	X	156.62048	174.78557	151.23414	17.42411	0.2057797	0.24322728	2.5417209	20	1 5.7	20.9
242059	2002	ST <sub>30</sub>	16.0	X	65.25432	8.01361	44.15946	9.75252	0.1541119	0.23849666	2.5752211	20	—	—
242060	2002	SR <sub>31</sub>	15.7	X	214.85080	208.34454	127.51476	8.63971	0.1748827	0.19757797	2.9195127	20	3 12.1	20.6
242061	2002	SO <sub>73</sub>	16.9	X	60.18927	121.74125	186.28561	2.88195	0.1066980	0.22768587	2.6561055	20	11 22.4	20.6
242062	2002	TE <sub>3</sub>	15.4	X	256.84382	289.81289	20.91140	8.03714	0.2035134	0.20039320	2.8921051	20	3 16.6	20.0
242063	2002	TN <sub>17</sub>	17.0	X	118.34760	157.36812	221.58127	1.77894	0.2096080	0.24275895	2.5449889	20	1 31.7	20.6
242064	2002	TF <sub>44</sub>	17.3	X	359.31256	335.36760	48.15171	2.97745	0.1921916	0.27883480	2.3204456	20	—	—
242065	2002	TQ <sub>50</sub>	14.7	X	65.60993	322.80842	52.54353	28.52286	0.1899708	0.17522947	3.1627482	20	—	—
242066	2002	TS <sub>55</sub>	16.7	X	130.03913	205.00767	138.61798	4.95438	0.2373629	0.23963492	2.5670598	20	1 5.0	20.4
242067	2002	TF <sub>70</sub>	15.8	X	304.99722	126.14373	235.21333	8.78718	0.1553108	0.21292590	2.7774764	20	7 24.5	19.2
242068	2002	TY <sub>78</sub>	16.1	X	332.24999	258.67706	59.46701	10.08668	0.3461529	0.21408074	2.7674789	20	6 20.9	18.0
242069	2002	TE <sub>91</sub>	15.4	X	56.02565	25.91128	2.94114	10.18308	0.2189357	0.17742877	3.1365582	20	—	—
242070	2002	TP <sub>130</sub>	16.5	X										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242081 2002 TG <sub>212</sub>	16.2	X	150.59895	261.39832	87.00910	12.92395	0.0786310	0.24462925	2.5320005	20	1 14.4	19.7
242082 2002 TV <sub>216</sub>	15.6	X	29.79582	307.73836	95.13308	15.12088	0.2769003	0.17456855	3.1707260	20	—	—
242083 2002 TT <sub>221</sub>	16.0	X	118.11753	313.80527	332.62404	31.17494	0.3011982	0.23501373	2.6006020	20	—	—
242084 2002 TQ <sub>226</sub>	15.9	X	305.30141	182.32788	184.84288	8.07570	0.2310056	0.21188075	2.7866026	20	7 22.5	19.0
242085 2002 TT <sub>236</sub>	15.0	X	126.81087	131.33241	258.16975	12.88525	0.2089986	0.18820296	3.0156788	20	2 22.6	19.9
242086 2002 TY <sub>277</sub>	14.8	X	133.57821	184.04647	221.21150	22.06925	0.1099893	0.19159278	2.9800024	20	3 8.8	19.7
242087 2002 TQ <sub>279</sub>	15.4	X	103.17375	145.24404	249.44412	10.75983	0.2474617	0.18491032	3.0513729	20	2 11.4	20.0
242088 2002 TG <sub>290</sub>	16.6	X	158.34268	136.72900	236.75441	19.09989	0.0982548	0.35577434	1.9725119	20	2 2.7	19.5
242089 2002 TC <sub>293</sub>	15.4	X	53.27923	133.82042	254.10070	13.80994	0.2345523	0.22898480	2.6460514	20	—	—
242090 2002 TH <sub>295</sub>	16.4	X	76.55471	75.73426	285.23868	10.72248	0.2501016	0.23206839	2.6225597	20	—	—
242091 2002 TW <sub>298</sub>	16.1	X	154.26130	91.96651	223.34493	10.85733	0.2646911	0.23939446	2.5687785	20	—	—
242092 2002 TK <sub>300</sub>	15.8	X	305.37644	235.37283	126.50219	8.23086	0.1451287	0.21300379	2.7767993	20	7 30.5	18.7
242093 2002 TP <sub>356</sub>	16.0	X	61.52971	244.99117	193.00757	10.77271	0.1201904	0.18712893	3.0272068	20	1 23.8	19.9
242094 2002 TV <sub>359</sub>	16.2	X	80.95199	61.28674	180.12149	5.29349	0.1156771	0.21800359	2.7341791	20	9 22.3	20.0
242095 2002 TN <sub>376</sub>	15.8	X	192.03153	265.47447	81.35370	14.30335	0.1164208	0.19227015	2.9729993	20	3 10.2	20.7
242096 2002 UB <sub>9</sub>	15.9	X	308.37148	217.92733	154.91964	13.18268	0.1568701	0.21211276	2.7845703	20	8 18.1	19.1
242097 2002 US <sub>16</sub>	16.1	X	125.11843	261.55678	93.82938	12.87564	0.2127922	0.23819971	2.5773609	20	1 11.8	19.8
242098 2002 UE <sub>23</sub>	15.0	X	72.38152	157.33797	223.52548	9.78695	0.2147284	0.17653750	3.1471062	20	—	—
242099 2002 UZ <sub>26</sub>	15.3	X	28.61020	178.55459	224.73755	28.06686	0.1882462	0.17376453	3.1804993	20	—	—
242100 2002 UR <sub>34</sub>	15.2	X	28.07438	32.14564	34.45565	12.10124	0.1259069	0.17574700	3.1565362	20	—	—
242101 2002 US <sub>35</sub>	15.5	X	13.54996	287.48730	33.01434	8.68252	0.1655913	0.21650709	2.7467637	20	10 12.3	18.5
242102 2002 UZ <sub>40</sub>	17.2	X	82.92709	352.85379	58.82941	1.66525	0.2743307	0.23792854	2.5793188	20	2 8.6	20.0
242103 2002 UL <sub>57</sub>	16.3	X	9.82176	233.77726	74.78831	10.73028	0.1285478	0.21531360	2.7569046	20	9 19.3	19.7
242104 2002 VR <sub>12</sub>	17.1	X	10.93886	15.96361	332.79261	2.77803	0.1899911	0.27632312	2.3344858	20	12 4.3	19.6
242105 2002 VN <sub>13</sub>	15.5	X	79.43532	221.15531	237.07458	13.61384	0.1259553	0.18567482	3.0429913	20	3 7.8	19.8
242106 2002 VJ <sub>29</sub>	14.8	X	87.96295	197.08417	213.80339	24.21852	0.1691007	0.18150405	3.0894310	20	1 30.7	19.5
242107 2002 VJ <sub>39</sub>	16.4	X	136.56601	324.87439	10.55083	4.98416	0.1866192	0.23766287	2.5812406	20	—	—
242108 2002 VO <sub>40</sub>	16.3	X	47.81733	104.32600	269.91760	10.35843	0.2138486	0.22846400	2.6500711	20	—	—
242109 2002 VL <sub>69</sub>	16.4	X	113.80210	67.08069	291.91874	3.84926	0.3052066	0.23764572	2.5813648	20	1 15.8	19.9
242110 2002 VV <sub>70</sub>	17.0	X	336.38988	357.66136	95.75256	5.60217	0.0597404	0.28412185	2.2915691	20	—	—
242111 2002 VU <sub>75</sub>	15.3	X	16.33316	45.72704	65.60890	12.57975	0.1034392	0.17856693	3.1232160	20	—	—
242112 2002 VO <sub>89</sub>	16.2	X	237.91747	126.26399	20.65015	23.26214	0.2263195	0.26861115	2.3789575	20	10 28.7	19.4
242113 2002 VN <sub>95</sub>	15.8	X	49.96563	13.60538	79.79496	6.90151	0.2687926	0.18081375	3.0972891	20	2 18.3	19.0
242114 2002 VO <sub>105</sub>	15.2	X	93.12241	337.77851	33.46907	11.95253	0.2216736	0.17888468	3.1195165	20	1 5.5	19.6
242115 2002 VV <sub>112</sub>	16.2	X	56.38285	112.88064	233.46430	10.34837	0.1232669	0.22485678	2.6783380	20	—	—
242116 2002 VH <sub>129</sub>	17.1	X	94.77635	168.48328	215.97622	4.70460	0.2349352	0.23619752	2.5919055	20	1 13.2	20.2
242117 2002 VV <sub>135</sub>	17.0	X	122.28471	67.00196	269.41718	4.26953	0.3279659	0.23644382	2.5901052	20	—	—
242118 2002 VG <sub>140</sub>	15.6	X	133.91198	36.31748	255.97216	13.23485	0.1003209	0.22953304	2.6418364	20	—	—
242119 2002 VH <sub>143</sub>	15.7	X	18.32271	330.00580	95.84626	6.32067	0.1425065	0.17348947	3.1838601	20	—	—
242120 2002 VR <sub>144</sub>	16.1	X	10.07115	312.40607	129.13955	1.68322	0.1162050	0.17445117	3.1721481	20	—	—
242121 2002 WZ <sub>3</sub>	16.3	X	24.63393	255.82600	87.39131	6.44238	0.2932374	0.22097628	2.7096027	20	12 17.9	19.6
242122 2002 WR <sub>12</sub>	15.7	X	40.58517	298.53461	121.34194	12.41879	0.1899126	0.23110814	2.6298191	20	—	—
242123 2002 WL <sub>17</sub>	16.8	X	89.43267	211.64912	183.36159	13.38441	0.2842346	0.23727986	2.5840176	20	1 25.5	20.1
242124 2002 WD <sub>18</sub>	16.0	X	99.25404	291.99696	108.73858	18.26808	0.2291035	0.23898315	2.5717250	20	2 11.8	19.5
242125 2002 WL <sub>18</sub>	16.5	X	74.35002	259.13810	132.13743	14.61521	0.2466933	0.23415356	2.6069671	20	—	—
242126 2002 XX <sub>10</sub>	15.8	X	105.71300	51.78935	64.59945	11.94534	0.0235747	0.19217242	2.9740071	20	5 1.4	20.0
242127 2002 XK <sub>19</sub>	15.1	X	178.98538	82.79755	260.25078	11.78685	0.1546145	0.18849721	3.0125396	20	2 12.4	20.2
242128 2002 XA <sub>42</sub>	14.4	X	125.60663	85.96316	266.62420	20.63447	0.2733919	0.18110996	3.0939111	20	1 18.5	19.5
242129 2002 XN <sub>45</sub>	16.0	X	75.53629	90.93961	253.73703	22.75344	0.2055360	0.30275551	2.1965513	20	6 6.2	18.4
242130 2002 XM <sub>49</sub>	15.0	X	161.52862	260.36933	72.15353	22.81184	0.1611695	0.18116623	3.0932703	20	1 24.2	20.3
242131 2002 XM <sub>66</sub>	16.0	X	72.01205	89.03635	261.61180	5.46574	0.1637263	0.22686823	2.6624835	20	—	—
242132 2002 XO <sub>71</sub>	15.3	X	335.82134	253.30869	231.39588	16.20168	0.1390746	0.17203953	3.2017239	20	—	—
242133 2002 YG <sub>8</sub>	14.6	X	54.69703	313.27384	82.36208	28.48256	0.2098179	0.17487246	3.1670513	20	—	—
242134 2002 YA <sub>23</sub>	15.1	X	74.40114	300.89885	99.07373	25.07087	0.0928102	0.17342939	3.1845953	20	—	—
242135 2003 AQ <sub>4</sub>	15.6	X	126.12210	37.34023	295.71972	14.64386	0.2292836	0.23654301	2.5893811	20	—	—
242136 2003 AX <sub>20</sub>	15.8	X	37.12577	41.68964	75.78217	6.14898	0.1412666	0.17697980	3.1418606	20	2 12.8	19.5
242137 2003 AO <sub>23</sub>	16.5	X	96.19598	313.77806	65.98197	3.62652	0.2483889	0.23478595	2.6022837	20	1 13.1	19.5
242138 2003 AU <sub>31</sub>	16.2	X	60.93926	80.58889	293.54272	11.05735	0.2740876	0.22757949	2.6569332	20	—	—
242139 2003 AW <sub>56</sub>	15.3	X	53.79065	358.14377	113.70364	16.73660	0.0697792	0.17682335	3.1437136	20	2 26.7	19.6
242140 2003 AP <sub>66</sub>	15.1	X	109.04441	12.30634	63.21186	13.86221	0.0716381	0.18244875	3.0787573	20	3 27.4	19.7
242141 2003 AY <sub>93</sub>	15.4	X	120.77493	183.48830	242.67640	13.71528	0.2188598	0.18289865	3.0737064	20	4 3.8	20.4
242142 2003 AG <sub>94</sub>	15.7	X	55.72456	26.73014	15.53441	11.13920	0.2730239	0.22703975	2.6611424	20	—	—
242143 2003 BX <sub>1</sub>	16.1	X	244.96909	355.51106	98.13513	25.49855	0.2226242	0.26139882	2.4225178	20	9 10.7	20.0
242144 2003 BS <sub>26</sub>	16.6	X	327.63909	154.32854	311.97206	6.10447	0.2509409	0.21865720	2.7287277	20	—	—
242145 2003 BX <sub>59</sub>	15.5	X	94.86375	319.59219	119.51948	10.89264	0.1533760	0.18012826	3.1051421	20	3 23.3	20.0
242146 2003 BM <sub>83</sub>	15.4	X	0.72423	223.33052	347.58376	16.33077	0.2319651	0.17747698	3.1359902	20	3 30.8	18.7
242147 2003 BH <sub>84</sub>	17.0	X	222.53587	35.51661	283.24863	23.35285	0.7197338	0.35949234	1.9588881	20	2 2.2	22.0
242148 2003 CR <sub>4</sub>	15.2	X	73.60184	277.86888	207.42436	8.57323	0.2261150	0.12462516	3.9694672	20	5 2.0	20.5
242149 2003 CP <sub>5</sub>	14.8	X	77.10911	145.36140	336.66110	8.44195	0.2317093	0.12538655	3.9533818	20	4 29.2	20.4
242150 2003 CW <sub>9</sub>	16.1	X	118.51444	18.21777	173.77892	8.57333	0.1360520	0.19697284	2.9254891	20	8 30.5	20.6
242151 2003 CF <sub>15</sub>	14.8	X	330.79545	336.91695	118.22652	9.46628	0.0771028	0.15997230	3.3607756	20	—	—
242152 2003 DR <sub>1</sub>	16.5	X	163.71126	358.90213	93.90041	6.34363	0.0419560	0.24500306	2.5294245	20	6 11.3	19.8
242153 2003 DH <sub>10</sub>	16.4	X	328.39022	169.10125	354.13693	23.69658	0.1153043	0.28082520	2.3094683	20	—	—
242154 2003 EA <sub>27</sub>	17.0	X	47.47013	231.39688	313.62309	1.67774	0.1424248	0.29582849	2.2307079	20	5 24.4</	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242161 2003 FO <sub>42</sub>	14.9	X	330.46143	75.23884	171.91671	16.11237	0.2152557	0.17587920	3.1549542	20	3 28.4	18.6
242162 2003 FD <sub>88</sub>	17.2	X	342.75829	91.63622	144.62536	6.59688	0.2098400	0.28880517	2.2667280	20	3 23.1	18.9
242163 2003 FB <sub>94</sub>	16.1	X	309.41068	155.24329	90.60817	8.51862	0.0657601	0.22792591	2.6542404	20	3 14.3	19.7
242164 2003 FF <sub>98</sub>	15.0	X	340.02375	19.89297	252.18596	8.25890	0.0535902	0.18138845	3.0907435	20	5 31.1	18.8
242165 2003 FJ <sub>102</sub>	17.0	X	314.04651	183.26335	87.85788	6.33754	0.1857135	0.28846671	2.2685007	20	3 29.6	19.5
242166 2003 FJ <sub>103</sub>	16.6	X	95.12730	314.68397	192.57230	8.37297	0.1063041	0.23926890	2.5696771	20	6 6.9	20.2
242167 2003 FA <sub>107</sub>	17.5	X	329.31698	164.20718	70.45139	5.74258	0.1851588	0.28636218	2.2796015	20	2 29.7	19.9
242168 2003 GY <sub>10</sub>	16.9	X	343.83264	223.80103	12.90942	5.32618	0.1235913	0.28992992	2.2608619	20	4 5.2	18.8
242169 2003 GD <sub>17</sub>	16.9	X	311.10575	325.95141	249.11669	6.24959	0.2373645	0.28050483	2.3112264	20	—	—
242170 2003 GD <sub>49</sub>	16.4	X	227.58259	161.98378	95.95318	7.62066	0.1565866	0.27077534	2.3662646	20	—	—
242171 2003 GG <sub>51</sub>	15.4	X	330.73372	212.69016	42.49065	28.73119	0.1348058	0.17517919	3.1633534	20	4 22.8	19.4
242172 2003 GH <sub>53</sub>	16.9	X	30.21835	40.94821	146.06535	5.98178	0.1188289	0.28970542	2.2620297	20	4 23.4	18.9
242173 2003 GT <sub>55</sub>	17.7	X	28.47365	320.84432	218.81309	4.50750	0.1589980	0.28933300	2.2639704	20	4 6.2	19.3
242174 2003 HK <sub>2</sub>	14.7	X	11.15626	51.37280	149.71782	28.56808	0.1858429	0.17268363	3.1937575	20	4 23.9	18.8
242175 2003 HY <sub>14</sub>	17.6	X	357.35504	136.26930	58.16759	6.46009	0.1861352	0.28582723	2.2824450	20	2 21.9	19.5
242176 2003 HX <sub>19</sub>	16.0	X	344.64381	204.97654	16.68275	7.93673	0.1177942	0.22918079	2.6445272	20	3 24.3	18.8
242177 2003 HN <sub>24</sub>	13.4	X	300.98902	213.87281	204.71708	9.09381	0.0994142	0.08288022	5.2099726	20	9 20.9	20.0
242178 2003 HV <sub>31</sub>	14.1	X	13.69008	96.82121	198.05605	8.55034	0.2139390	0.12560342	3.9488297	20	8 23.3	18.7
242179 2003 HB <sub>46</sub>	16.6	X	277.12067	228.30795	72.64077	7.17690	0.1269523	0.28575819	2.2828126	20	3 30.1	19.6
242180 2003 HO <sub>46</sub>	16.6	X	328.88949	183.57302	62.82677	8.20015	0.1560327	0.28643531	2.2792135	20	3 24.2	18.9
242181 2003 HS <sub>47</sub>	16.5	X	350.14918	137.26543	189.19879	4.55616	0.1998884	0.30014104	2.2092886	20	9 28.6	17.5
242182 2003 HQ <sub>52</sub>	17.0	X	296.48076	98.67553	204.78686	7.15568	0.1456425	0.28932402	2.2640172	20	4 22.3	19.3
242183 2003 HJ <sub>54</sub>	15.2	X	75.72695	281.21879	217.55876	9.77981	0.1355404	0.17614971	3.1517233	20	5 6.1	19.4
242184 2003 HY <sub>54</sub>	16.2	X	260.17969	91.14753	165.39558	6.28543	0.0926760	0.21867697	2.7285632	20	1 20.3	20.4
242185 2003 JY <sub>1</sub>	16.4	X	347.61225	22.76703	211.42549	11.48107	0.0665780	0.23023312	2.6364782	20	4 18.7	19.6
242186 2003 KO <sub>9</sub>	16.7	X	279.86441	345.15017	268.46342	7.59980	0.1685781	0.27774490	2.3265121	20	1 21.3	20.2
242187 2003 KR <sub>18</sub>	17.9	X	244.83135	86.72204	244.08973	5.58476	0.4806512	0.27448131	2.3449173	20	3 5.9	22.7
242188 2003 MO <sub>2</sub>	17.0	X	237.05503	159.10260	147.67468	6.94408	0.2945742	0.27204668	2.3588868	20	2 11.9	21.0
242189 2003 MM <sub>5</sub>	16.0	X	321.44378	112.95858	121.68536	10.36757	0.2368755	0.27914818	2.3187087	20	2 7.3	18.7
242190 2003 MB <sub>13</sub>	16.5	X	226.74069	24.84643	281.67216	4.26884	0.2306315	0.27016649	2.3698183	20	2 5.3	20.5
242191 2003 NZ <sub>6</sub>	19.0	X	222.58949	311.61517	124.60432	18.24411	0.4923497	1.39460471	0.7934178	20	—	—
242192 2003 NU <sub>12</sub>	16.7	X	286.44833	67.21724	190.49338	3.79758	0.2470586	0.27627313	2.3347674	20	1 25.4	20.2
242193 2003 OU <sub>1</sub>	15.5	X	27.21713	30.16882	309.87417	9.70512	0.1776476	0.18235684	3.0797917	20	12 4.5	19.6
242194 2003 OS <sub>19</sub>	16.0	X	357.60388	144.70457	222.03381	8.07787	0.1736876	0.23936057	2.5690210	20	11 24.5	18.7
242195 2003 PC <sub>6</sub>	15.4	X	36.72278	57.06943	266.91265	4.37480	0.1581826	0.18083599	3.0970352	20	11 9.3	19.5
242196 2003 PT <sub>9</sub>	15.9	X	244.39030	239.90305	149.54299	23.66094	0.3239828	0.27734769	2.3287329	20	6 1.1	20.3
242197 2003 PJ <sub>11</sub>	15.7	X	40.36556	186.01552	151.19818	16.63221	0.0528332	0.18509727	3.0493179	20	11 21.4	20.2
242198 2003 QJ <sub>12</sub>	16.8	X	289.74706	235.29601	60.31383	3.38400	0.2469533	0.27916343	2.3186242	20	3 19.8	20.0
242199 2003 QF <sub>16</sub>	16.4	X	211.12449	351.98843	306.60039	9.38616	0.2340509	0.26531897	2.3985964	20	1 17.0	20.5
242200 2003 QA <sub>19</sub>	16.8	X	148.17452	50.49051	276.88889	1.32920	0.1787439	0.25820379	2.4424610	20	—	—
242201 2003 QC <sub>19</sub>	15.1	X	7.23280	64.40624	337.35894	10.79962	0.1574937	0.18575217	3.0421465	20	—	—
242202 2003 QE <sub>20</sub>	17.0	X	237.38274	216.05138	127.01954	5.67324	0.2511788	0.27412454	2.3469514	20	3 31.4	21.0
242203 2003 QA <sub>25</sub>	16.6	X	211.71547	80.62779	230.70809	5.56585	0.1610325	0.26736903	2.3863198	20	1 29.8	20.5
242204 2003 QC <sub>27</sub>	16.7	X	192.95421	97.35268	199.94731	6.55472	0.0873841	0.26067966	2.4269712	20	—	—
242205 2003 QX <sub>31</sub>	17.2	X	143.04337	157.74571	194.66062	2.30889	0.2109827	0.26063945	2.4272208	20	1 22.6	20.7
242206 2003 QS <sub>36</sub>	16.9	X	296.84076	333.87093	344.37241	5.43616	0.1831391	0.28092126	2.3089417	20	5 5.9	19.6
242207 2003 QS <sub>39</sub>	17.0	X	165.98188	100.69557	235.73140	0.76371	0.2564693	0.26200643	2.4187710	20	1 27.6	21.0
242208 2003 QY <sub>65</sub>	16.4	X	235.80216	46.84158	292.52698	7.11682	0.2426555	0.27164253	2.3612259	20	3 19.9	20.6
242209 2003 QH <sub>71</sub>	16.4	X	179.03276	210.60886	102.86496	11.52015	0.1357511	0.26064583	2.4271812	20	1 3.8	19.9
242210 2003 QT <sub>78</sub>	16.1	X	258.16684	55.17590	289.93088	3.49050	0.2091301	0.27502313	2.3418365	20	4 21.4	19.5
242211 2003 QB <sub>90</sub>	18.1	X	277.23758	208.82611	129.33027	4.83642	0.4751185	0.27929598	2.3178906	20	4 6.7	22.1
242212 2003 QJ <sub>105</sub>	14.6	X	334.20243	350.48649	2.06877	18.89393	0.0885578	0.17103475	3.2142512	20	9 8.4	18.7
242213 2003 QJ <sub>114</sub>	15.4	X	358.29193	194.63409	136.55596	15.38985	0.1989964	0.17396262	3.1780845	20	9 25.9	19.0
242214 2003 RS <sub>4</sub>	16.4	X	189.50861	81.45491	233.26715	12.93543	0.1368721	0.26226621	2.4171734	20	1 12.4	20.3
242215 2003 RA <sub>10</sub>	16.1	X	256.10390	0.88118	337.26799	9.86806	0.2397464	0.27338723	2.3511693	20	4 4.9	19.9
242216 2003 RN <sub>10</sub>	15.6	X	15.66918	4.61197	267.20507	39.64776	0.5413224	0.29590620	2.2303174	20	10 21.2	19.2
242217 2003 RJ <sub>13</sub>	15.9	X	318.41248	83.38250	335.19677	10.13381	0.0331841	0.18085277	3.0968436	20	11 3.1	20.3
242218 2003 RS <sub>16</sub>	16.0	X	269.05979	31.35581	346.20037	7.92538	0.1529980	0.22435971	2.6822925	20	6 27.2	19.8
242219 2003 RZ <sub>22</sub>	17.4	X	147.34586	279.43703	68.34178	2.31311	0.2067095	0.26001256	2.4311206	20	1 21.9	21.1
242220 2003 RM <sub>24</sub>	15.1	X	17.65931	323.89269	350.56348	26.81525	0.1926949	0.17511127	3.1641713	20	9 26.9	19.0
242221 2003 SL <sub>3</sub>	17.0	X	228.25314	64.96305	334.46612	3.25621	0.1878998	0.27743719	2.3282321	20	6 5.1	20.5
242222 2003 SQ <sub>14</sub>	15.2	X	8.39581	14.31355	355.23930	18.40951	0.1641133	0.17985093	3.1083334	20	11 20.2	19.4
242223 2003 SR <sub>24</sub>	16.4	X	74.01171	165.99613	151.54869	11.67083	0.1409727	0.24305281	2.5429371	20	12 26.2	20.4
242224 2003 SV <sub>45</sub>	17.2	X	153.09175	271.36749	54.72244	3.21352	0.2153162	0.25780508	2.4449787	20	1 1.6	21.0
242225 2003 SE <sub>51</sub>	15.3	X	342.01390	325.56946	37.14392	9.98445	0.0783773	0.17402878	3.1772788	20	10 2.6	19.4
242226 2003 SY <sub>75</sub>	16.7	X	281.81157	125.94268	168.86229	5.39220	0.1892004	0.27456541	2.3444384	20	3 16.2	19.8
242227 2003 SC <sub>77</sub>	16.7	X	159.48353	30.63813	300.68771	6.32591	0.2264184	0.25932351	2.4354252	20	1 14.7	20.4
242228 2003 SN <sub>80</sub>	14.7	X	11.38067	42.78843	307.07006	15.24278	0.1750337	0.17789938	3.1310242	20	10 31.7	18.8
242229 2003 SW <sub>87</sub>	16.7	X	219.72392	78.85315	316.18497	6.42977	0.1181934	0.27661853	2.3328234	20	5 25.9	20.1
242230 2003 SZ <sub>96</sub>	15.1	X	270.89140	234.75527	223.86462	16.22786	0.1426797	0.17651071	3.1474247	20	10 7.3	19.6
242231 2003 SA <sub>103</sub>	15.8	X	190.81197	106.62548	324.49474	18.84901	0.0881237	0.21858995	2.7292873	20	6 14.2	20.3
242232 2003 SJ <sub>118</sub>	15.7	X	191.57648	148.20361	241.31553	5.95231	0.2178289	0.21142683	2.7905897	20	4 20.4	20.6
242233 2003 SV <sub>119</sub>	17.5	X	128.43878	169.08781	180.63115	2.68799	0.1780132	0.25638740	2.4539833	20	—	—

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242241 2003 SG <sub>179</sub>	15.2	X	280.34298	316.17036	162.44918	11.81584	0.0362715	0.18230111	3.0804193	20	12 3.5	19.6
242242 2003 SK <sub>180</sub>	16.2	X	333.19881	196.38936	251.83109	5.26355	0.0326541	0.24487975	2.5302735	20	—	—
242243 2003 SB <sub>207</sub>	15.5	X	328.99856	221.09687	177.95368	21.64439	0.0812017	0.17821758	3.1272962	20	10 30.2	19.7
242244 2003 SW <sub>217</sub>	15.6	X	330.75823	96.78883	299.07015	3.56222	0.0811488	0.17981327	3.1087674	20	10 24.3	19.6
242245 2003 SJ <sub>220</sub>	15.3	X	49.60717	276.19492	23.66170	22.72612	0.2219382	0.17552808	3.1591602	20	10 31.5	19.8
242246 2003 SN <sub>222</sub>	17.2	X	188.31317	252.81464	170.19643	2.38588	0.1479075	0.27227396	2.3575739	20	5 30.8	20.9
242247 2003 SC <sub>226</sub>	17.0	X	268.78319	158.23558	192.47794	5.02161	0.2534141	0.27792030	2.3255331	20	5 7.5	20.3
242248 2003 ST <sub>233</sub>	16.7	X	225.20381	255.73923	29.87754	9.32777	0.2960655	0.26487801	2.4012577	20	1 12.8	21.2
242249 2003 SV <sub>244</sub>	17.4	X	230.38452	109.78591	190.17593	5.99498	0.2692885	0.26794749	2.3828841	20	1 30.0	21.8
242250 2003 SP <sub>248</sub>	16.0	X	164.16292	248.52482	208.06077	13.35740	0.1540952	0.21686262	2.7437608	20	6 18.4	20.7
242251 2003 SU <sub>252</sub>	15.8	X	252.73982	3.09799	52.24767	15.68748	0.1736813	0.21928491	2.7235178	20	7 27.3	20.0
242252 2003 SQ <sub>258</sub>	17.2	X	258.91179	193.52190	124.86969	1.39977	0.2221940	0.27300971	2.3533363	20	3 19.7	20.9
242253 2003 SD <sub>261</sub>	16.9	X	170.10029	87.79341	230.27673	4.28654	0.1203388	0.25875976	2.4389612	20	—	—
242254 2003 SE <sub>269</sub>	15.0	X	140.42559	193.12362	18.03279	13.02235	0.0735142	0.17353100	3.1833520	20	10 10.0	19.7
242255 2003 SF <sub>270</sub>	16.7	X	272.44234	248.57722	87.08562	6.73693	0.2494658	0.27743335	2.3282535	20	4 23.7	20.0
242256 2003 SC <sub>282</sub>	16.3	X	335.81768	2.06404	68.88521	7.87931	0.1312214	0.24145075	2.5541732	20	—	—
242257 2003 SU <sub>283</sub>	16.8	X	277.78166	17.03723	289.87129	5.67182	0.2715494	0.27682501	2.3316633	20	3 14.3	20.3
242258 2003 SY <sub>296</sub>	16.3	X	12.57456	27.03954	303.79122	14.60425	0.2151820	0.23523243	2.5989899	20	10 28.9	19.5
242259 2003 SS <sub>298</sub>	15.6	X	151.73135	256.25563	329.67733	12.06806	0.1126469	0.23768965	2.5810467	20	11 13.9	19.9
242260 2003 SE <sub>301</sub>	16.0	X	127.00030	281.35548	333.41556	10.29840	0.0808457	0.24107805	2.5568049	20	11 26.7	20.0
242261 2003 SM <sub>312</sub>	16.5	X	286.18390	321.51589	32.75383	8.74852	0.2165357	0.28316902	2.2967068	20	6 7.2	19.3
242262 2003 SY <sub>321</sub>	15.7	X	2.66134	159.40598	227.21158	12.91139	0.0717895	0.23375873	2.6099017	20	12 13.4	19.0
242263 2003 SN <sub>322</sub>	16.0	X	243.61499	91.06386	296.08444	6.00335	0.1240552	0.21773739	2.7364071	20	6 11.9	19.9
242264 2003 SY <sub>327</sub>	16.7	X	210.97429	177.66835	13.41350	1.01303	0.0863864	0.24255735	2.5463988	20	12 11.6	20.1
242265 2003 SO <sub>332</sub>	15.6	X	61.53430	232.88471	152.55806	5.60771	0.2595871	0.24326393	2.5414656	20	—	—
242266 2003 SD <sub>389</sub>	16.6	X	142.18952	166.00805	160.15928	6.92726	0.1224318	0.25393288	2.4697714	20	—	—
242267 2003 TF <sub>3</sub>	15.6	X	0.36599	40.77674	240.70722	11.50485	0.0962100	0.21965662	2.7204444	20	7 13.9	18.9
242268 2003 TJ <sub>38</sub>	16.3	X	119.46522	230.99653	247.99035	7.53449	0.1507955	0.21075495	2.7965174	20	6 3.1	20.4
242269 2003 TN <sub>51</sub>	14.9	X	22.44042	21.32411	280.78253	15.72229	0.1160139	0.17164671	3.2066070	20	9 6.3	19.4
242270 2003 TJ <sub>55</sub>	15.4	X	109.19081	190.32642	48.55640	13.99564	0.1050779	0.17403167	3.1772437	20	10 16.8	20.3
242271 2003 UT <sub>13</sub>	17.3	X	232.89412	274.42250	53.84505	22.37675	0.0578979	0.38317483	1.8773190	20	3 23.3	20.0
242272 2003 UE <sub>38</sub>	16.3	X	262.24972	2.44255	84.05953	3.93372	0.0654288	0.22700796	2.6613909	20	10 5.1	19.8
242273 2003 US <sub>42</sub>	15.3	X	84.32457	74.38758	190.53992	9.46593	0.0762254	0.17489859	3.1667359	20	10 14.9	19.9
242274 2003 UA <sub>53</sub>	16.0	X	2.99410	54.82581	286.75973	10.64657	0.2104620	0.23215679	2.6218940	20	10 27.5	19.0
242275 2003 UH <sub>53</sub>	15.7	X	262.78430	49.31575	323.81026	9.60184	0.0871432	0.21806699	2.7336490	20	6 22.7	19.5
242276 2003 UW <sub>63</sub>	15.5	X	232.69988	254.75436	188.51960	27.68228	0.1509937	0.22266772	2.6958633	20	8 4.9	20.1
242277 2003 UZ <sub>67</sub>	15.7	X	54.28413	159.79185	163.96090	11.87340	0.0725825	0.17772040	3.1331260	20	11 21.7	20.3
242278 2003 UN <sub>82</sub>	16.2	X	131.64306	304.14871	137.49902	12.80391	0.2439326	0.26295235	2.4112968	20	5 10.8	20.3
242279 2003 UK <sub>90</sub>	16.1	X	209.42856	105.73734	56.41956	1.98686	0.1175836	0.17638524	3.1489170	20	10 20.2	20.8
242280 2003 UC <sub>100</sub>	16.0	X	232.23682	30.65755	68.19829	12.78945	0.1596724	0.22352148	2.6889943	20	9 3.7	20.2
242281 2003 UD <sub>100</sub>	15.6	X	206.91398	292.87721	87.69391	8.66254	0.2440470	0.21067050	2.7972647	20	4 25.7	20.6
242282 2003 UT <sub>126</sub>	15.8	X	147.02182	344.07000	259.61037	8.35966	0.1159287	0.23770668	2.5809234	20	12 4.9	19.8
242283 2003 UO <sub>127</sub>	16.0	X	260.01595	307.67751	198.38093	16.53434	0.1358648	0.18397888	3.0616631	20	11 27.1	20.3
242284 2003 US <sub>133</sub>	15.7	X	303.16054	143.04165	229.31092	10.86605	0.2443935	0.22475557	2.6791421	20	7 23.2	18.8
242285 2003 UJ <sub>141</sub>	16.6	X	17.44239	211.21166	126.76352	8.95840	0.1772953	0.23626573	2.5914066	20	11 19.8	19.8
242286 2003 US <sub>148</sub>	16.2	X	57.26350	314.97913	34.13935	8.88049	0.1732220	0.24080053	2.5587691	20	—	—
242287 2003 UW <sub>155</sub>	15.7	X	212.97205	11.98542	114.14724	6.22408	0.1143736	0.16957165	3.2327135	20	9 12.1	20.6
242288 2003 UY <sub>157</sub>	15.3	X	31.51685	83.74559	250.53157	8.01223	0.0792017	0.17503645	3.1650729	20	11 2.3	19.6
242289 2003 UA <sub>174</sub>	14.9	X	82.08934	243.91601	31.13409	25.95850	0.2256865	0.17548577	3.1596679	20	11 5.2	20.0
242290 2003 UK <sub>189</sub>	14.3	X	35.88368	27.19849	16.05919	8.44287	0.1825975	0.12468215	3.9682576	20	—	—
242291 2003 UA <sub>198</sub>	16.9	X	91.95984	215.21702	133.42864	1.75841	0.1193452	0.24717598	2.5145786	20	—	—
242292 2003 UO <sub>218</sub>	16.2	X	73.87185	280.28504	74.22190	9.20121	0.1047187	0.24304625	2.5429829	20	—	—
242293 2003 UY <sub>280</sub>	16.4	X	342.57839	147.71910	224.08108	6.44480	0.0977373	0.23010766	2.6374364	20	10 24.4	19.4
242294 2003 UW <sub>289</sub>	16.1	X	86.16843	301.84133	198.19772	6.32204	0.0395613	0.20938888	2.8086673	20	5 6.7	19.9
242295 2003 UP <sub>294</sub>	15.3	X	243.02853	121.46963	325.83093	8.28025	0.1036088	0.16848020	3.2466600	20	8 26.4	20.1
242296 2003 UH <sub>299</sub>	16.6	X	181.91006	47.50284	26.31000	4.24389	0.0432143	0.21464920	2.7625906	20	6 7.1	20.6
242297 2003 US <sub>345</sub>	16.6	X	356.49164	335.39197	350.96375	3.41242	0.1604766	0.17207113	3.2013319	20	9 8.1	20.0
242298 2003 UT <sub>348</sub>	16.6	X	88.42120	121.32341	51.76845	4.16005	0.1273030	0.21723296	2.7406415	20	7 5.4	20.4
242299 2003 UU <sub>371</sub>	15.8	X	193.29821	171.91979	271.13974	12.29995	0.1546357	0.22279540	2.6948333	20	6 29.1	20.2
242300 2003 WG <sub>22</sub>	16.5	X	13.29736	47.06860	49.97763	11.78048	0.2854867	0.18429020	3.0582142	20	—	—
242301 2003 WD <sub>27</sub>	15.9	X	198.33849	103.05905	296.60814	5.47818	0.1264601	0.21006945	2.8025978	20	5 9.7	20.5
242302 2003 WV <sub>29</sub>	16.1	X	261.68647	2.75034	357.64530	5.21657	0.1387168	0.21507347	2.7589563	20	5 26.0	20.1
242303 2003 WM <sub>58</sub>	16.0	X	140.72050	179.76430	234.58965	6.76715	0.1224157	0.20228824	2.8740145	20	3 31.7	20.5
242304 2003 WL <sub>70</sub>	14.9	X	95.30049	237.43665	50.74088	27.64876	0.1376705	0.17765445	3.1339014	20	11 25.5	19.9
242305 2003 WR <sub>72</sub>	15.0	X	52.23352	34.62166	344.05004	3.26148	0.2800453	0.12321652	3.9996633	20	—	—
242306 2003 WR <sub>78</sub>	16.6	X	168.97220	44.42899	283.20760	3.63507	0.0784276	0.25361114	2.4718598	20	1 7.2	20.0
242307 2003 WC <sub>80</sub>	16.1	X	30.84454	165.62908	314.81617	5.14989	0.1574575	0.19122668	2.9838046	20	2 1.3	19.1
242308 2003 WA <sub>89</sub>	16.2	X	89.06612	84.51328	220.99310	11.65018	0.1404806	0.23717379	2.5847880	20	12 24.0	20.3
242309 2003 WG <sub>90</sub>	15.6	X	47.15100	212.36499	177.25804	3.44228	0.2575637	0.12455264	3.9710079	20	—	—
242310 2003 WN <sub>97</sub>	16.1	X	199.20108	21.94502	100.11903	7.30562	0.0966830	0.22141118	2.7060533	20	8 30.5	20.2
242311 2003 WX <sub>103</sub>	15.1	X	49.86052	115.29894	269.80316	3.93816	0.2679459	0.12286552	4.0072771	20	—	—
242312 2003 WU <sub>104</sub>	15.0	X	288.24696	105.78172	245.72097	17.12492	0.1994813	0.21748119	2.7385558	20	6 9.4	18.6
242313 2003 WF <sub>116</sub>	15.3	X	63.97220	270.15193	261.73417	13.76089	0.0949843	0.20490562	2.8494878	20	5 25.7	1

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242321 2003 WB <sub>170</sub>	14.7	X	56.52496	234.19798	139.93088	11.47803	0.2729457	0.12364861	3.9903399	20	—	—
242322 2003 WO <sub>172</sub>	16.3	X	112.32062	54.79331	247.00601	7.68250	0.1586626	0.23918621	2.5702693	20	—	—
242323 2003 YE <sub>12</sub>	16.2	X	314.68599	342.75483	54.13525	15.17382	0.1859877	0.22703147	2.6612071	20	10 13.5	18.9
242324 2003 YY <sub>12</sub>	16.9	X	160.86872	93.80180	337.63360	4.34227	0.2091595	0.26343339	2.4100285	20	5 15.3	20.9
242325 2003 YF <sub>23</sub>	15.5	X	107.57695	32.44354	75.83548	16.01326	0.1052263	0.20307079	2.8666262	20	5 6.3	19.7
242326 2003 YQ <sub>27</sub>	15.4	X	144.67143	315.24121	78.15736	13.00686	0.0549623	0.19761125	2.9191849	20	3 13.3	19.9
242327 2003 YD <sub>32</sub>	15.8	X	9.55725	40.58691	76.78057	9.76068	0.3194269	0.18322067	3.0701039	20	—	—
242328 2003 YH <sub>32</sub>	15.6	X	84.89062	107.53697	308.96881	6.17848	0.0561532	0.18808856	3.0169015	20	1 24.2	19.5
242329 2003 YL <sub>33</sub>	15.3	X	319.59145	283.27158	118.89501	26.14000	0.1144522	0.22443781	2.6816702	20	11 8.4	19.0
242330 2003 YP <sub>33</sub>	15.7	X	266.71655	200.00066	231.06217	15.01222	0.1359892	0.22390619	2.6859132	20	8 31.2	19.5
242331 2003 YS <sub>56</sub>	15.5	X	0.26791	31.07624	86.82389	21.37065	0.1765201	0.18354988	3.0664318	20	—	—
242332 2003 YJ <sub>62</sub>	16.2	X	110.38642	38.25463	103.62835	9.45141	0.1141795	0.20288393	2.8683861	20	6 18.6	20.5
242333 2003 YA <sub>70</sub>	14.6	X	280.02305	300.51760	280.61322	14.39026	0.1965133	0.18033255	3.1027966	20	—	—
242334 2003 YP <sub>73</sub>	15.5	X	60.70050	146.40415	286.37508	8.71673	0.1416519	0.18754149	3.0227656	20	1 20.1	19.2
242335 2003 YB <sub>74</sub>	16.1	X	326.32747	323.06881	74.28558	11.85898	0.1144120	0.22830123	2.6513306	20	11 5.4	19.1
242336 2003 YN <sub>103</sub>	15.3	X	35.99997	282.32327	131.49418	21.46776	0.3530839	0.18008603	3.1056275	20	—	—
242337 2003 YB <sub>106</sub>	16.0	X	276.74420	303.59467	87.76795	11.53180	0.1522448	0.21714467	2.7413843	20	7 27.1	19.6
242338 2003 YS <sub>114</sub>	15.3	X	146.34230	269.37288	104.77498	12.89371	0.0891191	0.19040521	2.9923806	20	2 21.3	19.9
242339 2003 YX <sub>115</sub>	15.6	X	219.92877	229.48939	297.18178	8.35580	0.1298784	0.22480745	2.6787299	20	11 9.5	19.6
242340 2003 YV <sub>128</sub>	15.5	X	347.38249	104.41967	15.16712	7.70579	0.1168666	0.17822808	3.1271734	20	—	—
242341 2003 YN <sub>139</sub>	15.8	X	165.44664	94.71568	315.52404	10.20399	0.1889796	0.20565964	2.8425187	20	4 20.1	20.8
242342 2003 YL <sub>159</sub>	15.7	X	82.13544	254.85816	49.31927	9.18884	0.1459558	0.23215923	2.6218756	20	12 15.3	19.8
242343 2003 YU <sub>164</sub>	16.3	X	199.60414	199.11245	252.63425	4.95097	0.0788129	0.21453321	2.7635863	20	7 19.5	20.5
242344 2004 AW <sub>8</sub>	15.3	X	293.23894	298.54880	250.81359	10.03745	0.0493543	0.17801724	3.1296421	20	—	—
242345 2004 AB <sub>10</sub>	15.6	X	7.32401	354.75122	111.05502	8.78114	0.1212425	0.18020593	3.1042499	20	—	—
242346 2004 BH <sub>2</sub>	15.5	X	47.73152	177.13468	301.16963	7.15422	0.1422274	0.18795509	3.0183296	20	2 25.0	19.1
242347 2004 BO <sub>2</sub>	15.7	X	353.33060	47.34670	120.84807	6.20880	0.0995148	0.18562559	3.0435292	20	2 3.7	19.4
242348 2004 BU <sub>21</sub>	15.6	X	76.34090	339.38202	103.48249	6.46818	0.1788480	0.18986918	2.9980100	20	3 4.7	19.4
242349 2004 BB <sub>33</sub>	15.5	X	306.36192	285.86461	309.05104	12.61705	0.2360563	0.18517004	3.0485190	20	2 1.4	19.6
242350 2004 BM <sub>38</sub>	15.6	X	72.75923	249.21930	92.32704	8.41353	0.2072840	0.23470248	2.6029007	20	—	—
242351 2004 BB <sub>66</sub>	16.1	X	47.19417	265.41994	98.92634	5.91971	0.2507474	0.23468236	2.6030494	20	—	—
242352 2004 BJ <sub>72</sub>	15.3	X	9.90088	170.72005	277.05005	9.60872	0.1988220	0.17752112	3.1354704	20	—	—
242353 2004 BL <sub>83</sub>	15.1	X	8.70267	286.85122	159.45959	26.44101	0.2369951	0.18067617	3.0988613	20	—	—
242354 2004 BP <sub>86</sub>	15.9	X	47.74621	112.03080	33.23396	4.88178	0.1225700	0.19009270	2.9956594	20	4 1.6	19.4
242355 2004 BQ <sub>86</sub>	15.2	X	29.94042	144.25137	335.36395	11.94878	0.1430872	0.18386712	3.0629037	20	2 2.1	18.7
242356 2004 BK <sub>88</sub>	15.9	X	36.21650	164.70094	214.17288	5.23118	0.3445101	0.23541016	2.5976816	20	—	—
242357 2004 BA <sub>99</sub>	15.5	X	346.63495	89.27879	123.29515	6.10877	0.0586606	0.18615042	3.0378059	20	3 26.6	19.5
242358 2004 BR <sub>103</sub>	15.5	X	23.67606	276.27857	171.09666	24.23238	0.3253664	0.18025634	3.1036711	20	—	—
242359 2004 BV <sub>144</sub>	15.4	X	334.00772	316.09178	75.60910	14.46896	0.2562554	0.22493795	2.6776936	20	11 17.2	17.5
242360 2004 BV <sub>145</sub>	15.6	X	32.19904	124.97731	304.49022	11.68794	0.1031918	0.17872845	3.1213341	20	—	—
242361 2004 BZ <sub>149</sub>	15.5	X	285.70912	14.71823	151.18507	12.03886	0.1519264	0.17309291	3.1887210	20	—	—
242362 2004 BR <sub>150</sub>	15.5	X	342.25760	296.22348	259.93650	9.00999	0.0564788	0.18909235	3.0062153	20	2 21.4	19.6
242363 2004 CP <sub>14</sub>	16.0	X	28.26432	85.36850	71.03016	2.03069	0.0942780	0.18730589	3.0252999	20	3 14.3	19.6
242364 2004 CX <sub>26</sub>	16.2	X	215.55809	222.47669	346.24681	8.01870	0.0969713	0.22608010	2.6686677	20	—	—
242365 2004 CM <sub>27</sub>	16.0	X	81.86732	3.65267	118.74408	2.56226	0.1782074	0.19179796	2.9778768	20	4 29.8	20.1
242366 2004 CP <sub>29</sub>	16.4	X	13.93238	113.33420	130.96927	3.00106	0.0092760	0.20259165	2.8711443	20	6 11.9	20.2
242367 2004 CK <sub>32</sub>	16.5	X	41.41353	31.13115	139.88213	15.86224	0.1747526	0.19292084	2.9663106	20	5 7.0	20.3
242368 2004 CN <sub>36</sub>	15.4	X	32.41262	105.46948	152.05760	9.55672	0.3021732	0.20162083	2.8803535	20	9 6.2	18.7
242369 2004 CC <sub>60</sub>	16.8	X	147.22176	29.66229	17.95877	4.89718	0.1475297	0.25585649	2.4573768	20	3 31.3	20.5
242370 2004 CM <sub>74</sub>	14.0	X	356.09577	238.03344	288.75029	13.06876	0.1294065	0.12433934	3.9755481	20	2 10.1	19.2
242371 2004 CO <sub>82</sub>	15.1	X	23.05809	100.15661	322.85529	14.61729	0.0207910	0.17148534	3.2086182	20	—	—
242372 2004 CV <sub>93</sub>	14.8	X	304.37441	183.17435	315.34763	15.50294	0.0565372	0.17060422	3.2196565	20	—	—
242373 2004 CC <sub>103</sub>	14.9	X	345.72226	342.09811	164.93637	27.88174	0.1058807	0.17826956	3.1266883	20	—	—
242374 2004 CV <sub>107</sub>	16.4	X	7.40084	311.77079	154.40548	10.87675	0.2021240	0.17749869	3.1537344	20	—	—
242375 2004 CF <sub>120</sub>	16.0	X	1.09430	28.08581	75.96546	1.71378	0.1562917	0.17658585	3.1465317	20	—	—
242376 2004 DT <sub>30</sub>	15.5	X	315.11693	171.66730	42.67324	5.97548	0.1356148	0.18113592	3.0936154	20	2 4.8	19.7
242377 2004 DY <sub>35</sub>	16.7	X	90.16130	63.83634	190.90034	8.63357	0.1826948	0.27037943	2.3685740	20	11 3.9	20.3
242378 2004 DL <sub>40</sub>	15.6	X	235.06992	122.29517	169.29567	9.96390	0.0381693	0.18382648	3.0633551	20	2 12.8	20.1
242379 2004 DP <sub>49</sub>	15.8	X	17.12463	292.10336	161.08484	10.29354	0.2185414	0.17695233	3.1421858	20	—	—
242380 2004 DL <sub>58</sub>	15.7	X	348.87105	114.44088	346.59896	6.26438	0.0954896	0.17198180	3.2024403	20	—	—
242381 2004 DP <sub>58</sub>	15.6	X	201.17704	286.09805	335.97711	11.55398	0.1663256	0.17039247	3.2223234	20	—	—
242382 2004 DG <sub>60</sub>	15.0	X	186.16909	309.73714	331.66166	25.89483	0.1998526	0.16993634	3.2280869	20	—	—
242383 2004 EX <sub>1</sub>	15.9	X	39.94340	118.86234	11.84607	3.81067	0.0833123	0.18347659	3.0672483	20	2 28.0	19.8
242384 2004 EN <sub>16</sub>	15.4	X	272.96790	111.89029	133.31188	6.43536	0.0750333	0.17687226	3.1431340	20	1 29.2	20.0
242385 2004 EM <sub>25</sub>	16.4	X	90.93515	218.16120	207.86932	11.66023	0.1625874	0.24455354	2.5325231	20	2 15.8	19.7
242386 2004 EK <sub>34</sub>	16.3	X	319.55597	302.66739	185.60496	4.26942	0.0630717	0.22923225	2.6441469	20	—	—
242387 2004 EY <sub>56</sub>	15.5	X	230.68593	128.11956	158.66623	10.12622	0.1767479	0.17648457	3.1477355	20	1 27.2	20.8
242388 2004 ER <sub>65</sub>	15.0	X	334.20627	55.68402	89.93701	15.20151	0.0462469	0.17386748	3.1792437	20	—	—
242389 2004 EA <sub>94</sub>	15.5	X	308.50582	181.17167	50.07146	7.52989	0.1398378	0.17956767	3.1115997	20	2 17.7	19.8
242390 2004 EZ <sub>102</sub>	17.4	X	22.76926	199.42117	157.66595	6.10867	0.1318526	0.27799781	2.3251017	20	12 24.3	20.3
242391 2004 EY <sub>107</sub>	17.1	X	68.48837	257.62848	171.69596	8.68401	0.1445846	0.23950016	2.5680226	20	1 16.7	20.0
242392 2004 FA <sub>9</sub>	15.4	X	280.41821	126.83519	162.88680	11.51491	0.0936580	0.18416452	3.0596053	20	3 30.3	19.8
242393 2004 FO <sub>18</sub>	15.6	X	199.39832	282.40298	25.47757	5.50886	0.1275045	0.17110530	3.2133675	20	1 28.8	20.8
242394 2004 FA <sub>40</sub>	17.0	X	77.83349	247.04317	25.62556	2.92864	0.1479718	0.27094132	2.3652981	20		

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242401 2004 <i>FV</i> <sub>104</sub>	15.8	X	304.74324	201.51415	46.52010	9.99619	0.0831527	0.18296628	3.0729490	20	3 13.7	20.1
242402 2004 <i>FC</i> <sub>108</sub>	16.4	X	309.53941	245.35515	339.31828	5.11773	0.1459584	0.17932119	3.1144520	20	2 7.6	20.7
242403 2004 <i>FU</i> <sub>112</sub>	15.6	X	84.33209	8.31131	108.52098	12.03534	0.0928307	0.18810436	3.0167325	20	4 18.3	19.9
242404 2004 <i>FP</i> <sub>122</sub>	15.3	X	305.37949	350.48404	245.90956	15.78259	0.1232835	0.17915032	3.1164320	20	2 11.9	19.9
242405 2004 <i>FY</i> <sub>136</sub>	15.1	X	255.09710	193.78157	83.59916	18.54137	0.1570311	0.17567109	3.1574454	20	2 14.0	20.3
242406 2004 <i>FT</i> <sub>147</sub>	15.1	X	8.20038	287.50135	219.94994	26.41153	0.2194792	0.17964315	3.1107297	20	1 16.7	19.0
242407 2004 <i>FJ</i> <sub>148</sub>	15.8	X	253.00811	80.40252	194.91899	25.08159	0.2004294	0.17178891	3.2048372	20	1 28.6	21.5
242408 2004 <i>FY</i> <sub>156</sub>	15.7	X	62.55340	293.15399	10.95619	11.55790	0.1579262	0.21105410	2.7938742	20	11 19.7	19.9
242409 2004 <i>GX</i> <sub>5</sub>	16.1	X	196.11235	263.04043	288.33067	6.49473	0.1173153	0.21657590	2.7461819	20	11 15.2	20.4
242410 2004 <i>GB</i> <sub>12</sub>	15.1	X	341.63200	7.10700	148.80891	28.88830	0.1415324	0.17311972	3.1883918	20	1 1.9	19.7
242411 2004 <i>GA</i> <sub>13</sub>	14.9	X	324.10506	165.38239	75.84089	20.44889	0.1994039	0.17989684	3.1078045	20	3 23.1	19.2
242412 2004 <i>GM</i> <sub>13</sub>	15.8	X	270.29782	55.03495	220.88582	10.47518	0.1061693	0.17863019	3.1224786	20	2 23.9	20.6
242413 2004 <i>GH</i> <sub>15</sub>	15.1	X	5.39675	78.60400	71.93624	26.66422	0.1892429	0.17899620	3.1182206	20	1 30.0	19.0
242414 2004 <i>GJ</i> <sub>28</sub>	15.8	X	352.66143	122.04897	62.56055	28.48076	0.1553788	0.18183650	3.0856642	20	3 7.3	20.1
242415 2004 <i>GX</i> <sub>28</sub>	15.6	X	307.96527	139.15790	74.19277	11.43424	0.1600788	0.17497803	3.1657773	20	1 22.5	20.1
242416 2004 <i>GW</i> <sub>33</sub>	16.5	X	200.76832	149.44359	48.19261	5.93111	0.1779892	0.27624943	2.3349009	20	12 3.6	19.8
242417 2004 <i>GY</i> <sub>41</sub>	16.2	X	269.08356	284.61841	10.65025	11.41066	0.2679920	0.23806140	2.5783590	20	3 1.9	20.5
242418 2004 <i>GV</i> <sub>73</sub>	15.5	X	271.91705	127.48576	165.73428	11.12508	0.0559359	0.18242485	3.0790262	20	3 29.4	19.9
242419 2004 <i>HJ</i> <sub>19</sub>	16.3	X	295.71441	262.76203	6.97589	4.64365	0.2736428	0.23794092	2.5792293	20	2 22.2	19.9
242420 2004 <i>HJ</i> <sub>25</sub>	15.4	X	252.56804	113.56978	203.22684	16.32035	0.2633061	0.17855284	3.1238804	20	3 11.6	20.9
242421 2004 <i>HB</i> <sub>38</sub>	15.9	X	79.21866	28.88167	76.38145	5.98901	0.1370305	0.18385796	3.0630054	20	3 31.8	20.1
242422 2004 <i>HW</i> <sub>60</sub>	16.3	X	127.54757	129.37966	86.67326	5.82575	0.0964600	0.20554762	2.8435514	20	10 10.6	20.6
242423 2004 <i>HH</i> <sub>66</sub>	15.6	X	310.98316	191.48306	126.67435	12.93008	0.3063993	0.18483100	3.0522458	20	5 16.8	19.5
242424 2004 <i>JO</i> <sub>42</sub>	15.9	X	356.73894	90.22211	106.85739	4.64933	0.1946986	0.19152306	2.9807256	20	8 3.4	18.8
242425 2004 <i>LC</i> <sub>16</sub>	14.4	X	252.41472	44.19025	266.93665	16.62403	0.0823239	0.17069613	3.2185007	20	3 17.0	19.6
242426 2004 <i>LY</i> <sub>25</sub>	15.8	X	309.15709	43.11791	240.72399	3.99073	0.2608948	0.17713684	3.1400034	20	4 1.1	19.8
242427 2004 <i>NW</i> <sub>11</sub>	15.3	X	271.97581	214.46055	121.29047	19.38735	0.1901273	0.17630004	3.1499315	20	5 9.6	20.3
242428 2004 <i>NP</i> <sub>19</sub>	15.3	X	224.71389	269.48475	136.92178	15.92974	0.2732077	0.17574206	3.1565953	20	6 7.5	21.0
242429 2004 <i>NV</i> <sub>20</sub>	14.8	X	207.97376	110.97243	282.46857	18.15636	0.1937689	0.17274461	3.1930058	20	5 7.5	20.4
242430 2004 <i>NW</i> <sub>20</sub>	15.2	X	267.20601	68.21557	274.58030	12.07976	0.0838270	0.17713525	3.1400222	20	5 17.9	19.8
242431 2004 <i>NT</i> <sub>26</sub>	15.2	X	259.69709	215.67635	170.79811	25.82459	0.1103441	0.17476353	3.1683672	20	5 20.4	20.4
242432 2004 <i>NE</i> <sub>28</sub>	16.5	X	134.32454	179.32267	136.98603	10.12566	0.2709264	0.20986932	2.8043793	20	—	—
242433 2004 <i>NF</i> <sub>28</sub>	17.9	X	326.82706	2.07697	276.31695	2.99291	0.1761143	0.30142307	2.2030197	20	4 28.6	19.8
242434 2004 <i>NK</i> <sub>29</sub>	16.7	X	55.06073	144.85501	229.44654	4.10484	0.2501947	0.26485342	2.4014064	20	—	—
242435 2004 <i>ND</i> <sub>30</sub>	14.8	X	226.98201	291.54436	6.38991	25.86289	0.2567907	0.17022754	3.2244044	20	2 15.8	20.7
242436 2004 <i>OA</i> <sub>2</sub>	16.3	X	12.93625	330.83453	267.95309	9.72087	0.0743594	0.24194541	2.5506906	20	6 5.9	19.2
242437 2004 <i>OX</i> <sub>4</sub>	17.1	X	149.85969	41.72676	299.20736	3.66744	0.2441300	0.27768492	2.3268472	20	1 16.9	20.6
242438 2004 <i>PQ</i> <sub>9</sub>	15.2	X	189.70350	115.17322	303.31754	7.28496	0.0593616	0.17323106	3.1870255	20	5 26.7	20.1
242439 2004 <i>PO</i> <sub>40</sub>	17.0	X	150.95196	177.23569	158.36565	5.34060	0.2467522	0.27490562	2.3425038	20	1 11.3	20.7
242440 2004 <i>PB</i> <sub>47</sub>	15.2	X	278.70269	305.76811	350.63658	6.39161	0.1711768	0.17150210	3.2084092	20	3 24.2	19.8
242441 2004 <i>PW</i> <sub>47</sub>	15.7	X	259.12996	353.15305	305.69951	13.64002	0.0245685	0.22966882	2.6407950	20	3 12.2	19.5
242442 2004 <i>PL</i> <sub>58</sub>	17.2	X	127.09201	59.54127	306.71289	5.08595	0.2627763	0.27582590	2.3372904	20	1 28.3	20.4
242443 2004 <i>PR</i> <sub>60</sub>	16.2	X	118.19810	131.99448	223.45079	3.61958	0.0818821	0.21045556	2.7991689	20	—	—
242444 2004 <i>PR</i> <sub>67</sub>	15.0	X	306.00814	3.58144	262.23395	5.77566	0.0795811	0.17049093	3.2210827	20	3 31.2	19.6
242445 2004 <i>PK</i> <sub>95</sub>	16.3	X	9.86998	179.62636	82.07251	8.18749	0.1462533	0.24358584	2.5392260	20	7 10.7	18.7
242446 2004 <i>PK</i> <sub>96</sub>	15.8	X	217.03030	29.36786	267.63977	7.69104	0.1550982	0.22049095	2.7135773	20	1 22.9	20.2
242447 2004 <i>PG</i> <sub>106</sub>	16.6	X	233.20434	8.93680	274.47476	6.83666	0.1003916	0.22087547	2.7104270	20	1 23.8	20.7
242448 2004 <i>PR</i> <sub>114</sub>	17.1	X	243.52893	62.38966	212.02878	5.83262	0.1578194	0.28258850	2.2998511	20	1 12.3	20.6
242449 2004 <i>QA</i> <sub>1</sub>	16.7	X	131.39035	124.41354	215.02797	7.99602	0.2400443	0.27112075	2.3642545	20	—	—
242450 2004 <i>QY</i> <sub>2</sub>	14.7	X	277.29980	104.97525	295.29351	37.03054	0.4771242	0.87324436	1.0840405	20	—	—
242451 2004 <i>QS</i> <sub>14</sub>	14.5	X	38.96148	340.46964	292.38817	10.45302	0.2656582	0.12498301	3.9618867	20	9 11.8	19.7
242452 2004 <i>QB</i> <sub>27</sub>	16.4	X	120.78414	178.29628	249.53500	4.29673	0.0456934	0.22204702	2.7008849	20	3 15.3	20.1
242453 2004 <i>RH</i> <sub>1</sub>	16.2	X	165.82882	216.52999	97.32742	9.30465	0.2147118	0.21431709	2.7654439	20	1 3.9	20.6
242454 2004 <i>RM</i> <sub>32</sub>	16.1	X	203.05670	293.01667	24.55214	3.85252	0.0668983	0.21961899	2.7207551	20	2 6.5	20.1
242455 2004 <i>RV</i> <sub>35</sub>	17.1	X	70.54520	230.96153	133.03121	5.54990	0.1232058	0.26508266	2.4000217	20	—	—
242456 2004 <i>RX</i> <sub>62</sub>	16.6	X	119.22119	146.85259	224.02226	0.99811	0.2401562	0.21099267	2.7944165	20	1 31.0	20.8
242457 2004 <i>RC</i> <sub>141</sub>	16.3	X	156.00850	296.21083	39.17441	7.96397	0.2290140	0.21253746	2.7808596	20	1 23.9	21.0
242458 2004 <i>RM</i> <sub>158</sub>	16.5	X	198.43247	151.54282	197.95487	4.78632	0.0171343	0.22254678	2.6968399	20	3 8.9	20.3
242459 2004 <i>RU</i> <sub>184</sub>	14.5	X	257.80785	293.78956	309.69053	13.07497	0.1871935	0.15456059	3.4387733	20	1 5.7	20.0
242460 2004 <i>RD</i> <sub>196</sub>	16.8	X	142.23382	114.67244	230.16738	6.95158	0.1990437	0.21075418	2.7965242	20	1 16.8	21.2
242461 2004 <i>RD</i> <sub>201</sub>	16.6	X	192.35993	131.53281	239.19926	9.36000	0.2284993	0.28320294	2.2965234	20	3 23.8	20.6
242462 2004 <i>RY</i> <sub>232</sub>	16.8	X	51.32750	289.94390	189.72321	4.24258	0.0536510	0.27727824	2.3291217	20	2 11.6	19.3
242463 2004 <i>RN</i> <sub>235</sub>	16.6	X	229.18393	246.25293	186.85380	11.97473	0.2348925	0.23628147	2.5912915	20	7 13.5	21.0
242464 2004 <i>RB</i> <sub>236</sub>	17.6	X	21.66879	332.02404	315.79708	2.09372	0.2439103	0.30872365	2.1681506	20	10 10.4	19.5
242465 2004 <i>RC</i> <sub>238</sub>	17.2	X	17.39318	211.59025	311.16136	2.30607	0.0881471	0.28287511	2.2982974	20	2 17.9	19.5
242466 2004 <i>RS</i> <sub>321</sub>	16.6	X	118.83638	214.77745	214.71585	5.71523	0.0987746	0.28150647	2.3057407	20	3 17.4	19.5
242467 2004 <i>RP</i> <sub>345</sub>	16.1	X	203.74905	212.01646	74.31768	5.52070	0.0341129	0.21261517	2.7801819	20	—	—
242468 2004 <i>SA</i> <sub>3</sub>	16.3	X	54.63317	89.51983	19.93385	9.32333	0.1484417	0.21236286	2.7823836	20	2 28.2	19.5
242469 2004 <i>SN</i> <sub>45</sub>	15.9	X	206.47851	350.89970	321.83759	4.06928	0.1014012	0.21634525	2.7481334	20	2 3.5	20.0
242470 2004 <i>SZ</i> <sub>45</sub>	16.4	X	138.54981	24.06858	332.68303	2.84627	0.1421674	0.21096788	2.7946354	20	1 23.5	20.4
242471 2004 <i>SB</i> <sub>53</sub>	17.4	X	333.71951	81.15771	238.42274	2.79818	0.1459491	0.30411794	2.1899			

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242481 2004 TW <sub>220</sub>	14.1 <sup>m</sup>	X	191.16865	338.63060	321.54509	17.04453	0.0449295	0.14702391	3.5553094	20	1 15.6	19.5
242482 2004 TE <sub>288</sub>	17.3	X	320.61267	121.30618	208.51899	0.62782	0.2414363	0.30085404	2.2057967	20	7 4.9	18.4
242483 2004 TF <sub>308</sub>	17.0	X	194.55721	103.01838	324.82610	6.38476	0.2811060	0.22718947	2.6599731	20	6 7.5	21.9
242484 2004 TU <sub>323</sub>	16.0	X	196.52714	344.98217	217.39952	7.72086	0.0387563	0.18744639	3.0237879	20	12 2.7	20.4
242485 2004 TB <sub>342</sub>	16.7	X	242.06335	305.22614	45.97716	7.20998	0.1638094	0.28983106	2.2613759	20	4 19.4	20.0
242486 2004 UY <sub>7</sub>	16.6	X	252.18962	81.65749	238.67586	6.19682	0.1418042	0.28553513	2.2840013	20	3 18.5	20.0
242487 2004 VV <sub>8</sub>	16.5	X	109.35669	334.11187	81.51591	7.32496	0.1330852	0.27285600	2.3542200	20	2 26.6	19.5
242488 2004 VJ <sub>24</sub>	16.2	X	284.13748	213.16551	238.31496	4.94966	0.0721783	0.24547817	2.5261597	20	11 13.4	19.2
242489 2004 XK <sub>25</sub>	17.1	X	114.33034	344.37783	52.81584	2.82193	0.1314452	0.27147420	2.3622019	20	2 5.8	20.0
242490 2004 VU <sub>57</sub>	16.6	X	137.06808	334.52460	69.66200	6.94202	0.2459247	0.27605604	2.3359913	20	3 27.8	20.3
242491 2004 VS <sub>65</sub>	16.6	X	77.70892	320.34333	96.53776	4.07903	0.1688860	0.26863442	2.3788202	20	1 13.2	18.6
242492 2004 Fantomas	17.1	X	204.85056	12.09520	119.74409	3.52480	0.1421380	0.23821451	2.5772541	20	9 14.7	21.0
242493 2004 WO <sub>12</sub>	15.0	X	281.75071	266.64540	218.55836	16.34804	0.2164912	0.18378461	3.0638203	20	11 19.8	18.6
242494 2004 XH <sub>4</sub>	15.9	X	67.29392	271.21985	276.53696	21.46655	0.2089155	0.28195905	2.3032727	20	7 11.1	18.7
242495 2004 XN <sub>10</sub>	16.7	X	176.91004	143.31898	231.37413	4.75570	0.1588780	0.27826381	2.3236189	20	3 15.5	20.3
242496 2004 XP <sub>13</sub>	16.3	X	329.23670	117.17893	283.27195	9.93630	0.1346800	0.24190436	2.5509792	20	11 13.6	19.1
242497 2004 XL <sub>20</sub>	15.4	X	284.79892	63.47335	80.25102	10.84469	0.0855182	0.18735598	3.0247606	20	—	—
242498 2004 XG <sub>25</sub>	15.7	X	189.67153	183.44583	288.92192	11.49480	0.1349530	0.22567514	2.6718592	20	8 1.2	19.9
242499 2004 XS <sub>26</sub>	16.3	X	241.60217	174.39969	264.48059	7.19587	0.0993116	0.23550692	2.5969700	20	8 18.6	20.1
242500 2004 XK <sub>32</sub>	14.8	X	91.09134	170.84784	79.26471	22.85961	0.0409786	0.17470654	3.1690562	20	10 12.9	19.8
242501 2004 XS <sub>38</sub>	16.4	X	286.83719	289.58391	172.46600	11.60656	0.2068347	0.24469740	2.5315304	20	11 19.9	19.0
242502 2004 XA <sub>50</sub>	16.6	X	355.35627	69.72854	239.83719	5.16373	0.2073919	0.29878850	2.2159509	20	9 8.6	18.0
242503 2004 XJ <sub>69</sub>	15.9	X	349.04942	337.89271	49.63807	6.63842	0.1619652	0.18006425	3.1058779	20	11 16.8	19.5
242504 2004 XO <sub>80</sub>	16.7	X	266.95623	17.87434	84.78629	5.13023	0.1779727	0.24076428	2.5590259	20	10 19.4	19.7
242505 2004 XS <sub>84</sub>	16.7	X	254.19649	201.10726	83.38513	6.26939	0.158332	0.23903317	2.5713662	20	9 28.3	20.1
242506 2004 XV <sub>85</sub>	15.0	X	252.86817	26.84130	93.70345	18.24914	0.1806303	0.17645012	3.1481451	20	10 18.6	19.8
242507 2004 XY <sub>98</sub>	16.8	X	54.10238	12.45386	46.99914	2.04763	0.1779819	0.25983204	2.4322465	20	—	—
242508 2004 XJ <sub>99</sub>	15.2	X	87.42784	184.46235	107.94407	17.84580	0.0568548	0.17867505	3.1219559	20	11 23.3	20.0
242509 2004 XE <sub>125</sub>	15.2	X	237.02133	116.17660	8.62522	12.57516	0.1078465	0.17369548	3.1813421	20	10 4.8	19.9
242510 2004 XQ <sub>164</sub>	15.9	X	206.69539	155.88227	283.99766	14.86280	0.2256047	0.22725034	2.6594981	20	7 4.5	20.3
242511 2004 XO <sub>191</sub>	16.4	X	210.77602	175.40853	318.06838	6.25070	0.0623839	0.23368601	2.6104431	20	9 26.9	20.2
242512 2004 YP <sub>14</sub>	16.4	X	241.24896	63.51019	97.70899	4.84892	0.0731208	0.24220753	2.5488501	20	12 14.0	19.7
242513 2004 YJ <sub>19</sub>	16.6	X	241.42752	315.18166	112.97909	3.36669	0.1921638	0.22892077	2.6465448	20	7 25.8	20.5
242514 2004 YY <sub>28</sub>	15.7	X	329.48256	150.97806	320.70624	2.74022	0.1538145	0.19029201	2.9935672	20	—	—
242515 2004 YS <sub>32</sub>	16.4	X	233.46439	341.37615	90.37363	2.70841	0.1814023	0.22839030	2.6506412	20	7 23.3	20.3
242516 Lindseystirling	16.3	X	41.86077	314.97274	273.68036	3.67335	0.0520708	0.21954260	2.7213862	20	7 4.6	19.7
242517 2005 AD <sub>1</sub>	16.0	X	110.91415	3.21940	117.66251	9.39276	0.1639622	0.21215917	2.7841642	20	5 30.6	20.3
242518 2005 AK <sub>2</sub>	14.8	X	277.91990	110.48864	306.19976	25.10759	0.1761844	0.16935565	3.2354617	20	8 15.2	19.4
242519 2005 AH <sub>7</sub>	16.4	X	130.95932	31.39772	99.17203	9.94021	0.2519900	0.21584944	2.7523401	20	7 6.5	21.1
242520 2005 AS <sub>7</sub>	16.0	X	81.08295	204.36610	323.93803	8.70578	0.1433060	0.21231545	2.7827978	20	6 22.0	19.9
242521 2005 AG <sub>9</sub>	16.6	X	228.93011	50.54594	72.04195	13.07963	0.1976920	0.23469032	2.6029906	20	9 28.1	20.7
242522 2005 AH <sub>9</sub>	15.7	X	275.12584	30.80779	80.60569	18.45830	0.2397543	0.17800762	3.1297548	20	10 26.5	20.0
242523 Kreszgeza	16.7	X	195.07395	40.40707	71.21592	8.48546	0.1262349	0.22659064	2.6646576	20	8 11.2	20.9
242524 2005 AN <sub>10</sub>	15.8	X	85.89047	25.58421	318.20225	9.10223	0.2515386	0.25478838	2.4642398	20	—	—
242525 2005 AQ <sub>22</sub>	17.1	X	218.77700	82.00589	2.48246	3.74710	0.2305353	0.22852505	2.6495992	20	7 21.4	21.4
242526 2005 AT <sub>30</sub>	16.1	X	139.19640	39.98666	109.02922	9.97218	0.2564629	0.21684344	2.7439226	20	8 5.9	20.9
242527 2005 AL <sub>34</sub>	16.4	X	185.29350	80.99845	121.89601	10.43005	0.1632175	0.23722022	2.5844506	20	11 22.5	20.6
242528 2005 AD <sub>48</sub>	17.0	X	135.94343	117.42585	118.02025	6.86822	0.2810901	0.23183578	2.6243137	20	11 16.6	21.9
242529 Hilaomar	15.6	X	274.72995	271.70247	106.49289	16.74748	0.2467290	0.23106635	2.6301363	20	6 21.6	20.9
242530 2005 AG <sub>56</sub>	16.7	X	243.41052	34.17133	130.31315	4.36946	0.1284594	0.24356346	2.5393815	20	12 13.5	19.9
242531 2005 AW <sub>58</sub>	16.3	X	165.94104	320.36386	138.07208	4.49871	0.1757070	0.21874088	2.7280317	20	6 23.4	20.8
242532 2005 AJ <sub>69</sub>	16.4	X	86.10094	331.74010	122.05113	7.79563	0.0611379	0.26722429	2.3871814	20	3 5.5	19.2
242533 2005 AV <sub>79</sub>	16.4	X	312.79315	307.52587	355.50193	4.09364	0.0573007	0.21436820	2.7650042	20	5 31.6	19.9
242534 2005 AJ <sub>82</sub>	16.8	X	70.27867	150.56736	100.86044	4.79357	0.10716100	0.22549408	2.6732892	20	9 19.7	20.4
242535 2005 BR	16.4	X	224.71768	42.32434	80.47184	3.53781	0.1553522	0.23286550	2.6165716	20	9 22.9	20.2
242536 2005 BC <sub>8</sub>	16.2	X	91.32364	155.58535	349.39267	4.61968	0.0631697	0.21241658	2.7819144	20	5 21.4	20.0
242537 2005 BQ <sub>23</sub>	16.0	X	115.28434	152.35433	105.86048	13.82073	0.1233120	0.23662173	2.5888068	20	11 25.3	20.2
242538 2005 BW <sub>48</sub>	15.9	X	37.76251	1.70632	200.66683	11.01788	0.0665604	0.19989090	2.8969480	20	5 25.9	19.7
242539 2005 CS <sub>5</sub>	15.4	X	251.61740	262.88460	134.99892	25.83832	0.2016564	0.22323766	2.6912729	20	6 28.5	19.8
242540 2005 CG <sub>12</sub>	15.6	X	149.46960	192.13174	99.22494	6.16804	0.2099806	0.24452652	2.5327096	20	—	—
242541 2005 CX <sub>63</sub>	16.3	X	236.80195	357.09121	135.03469	8.79886	0.1369820	0.23409320	2.6074151	20	10 23.7	20.0
242542 2005 CR <sub>64</sub>	16.1	X	43.78293	282.78476	243.57821	5.04667	0.0733409	0.20438004	2.8543708	20	4 14.4	19.7
242543 2005 CM <sub>68</sub>	16.1	X	318.85592	270.91563	307.19841	9.70810	0.1120416	0.26129103	2.4231839	20	2 2.7	18.9
242544 2005 CR <sub>68</sub>	15.9	X	126.91237	71.41333	12.04133	7.45722	0.2074749	0.21081358	2.7959989	20	4 30.5	20.5
242545 2005 DA <sub>1</sub>	16.2	X	145.82885	77.06623	63.38720	25.03887	0.2420100	0.21827781	2.7318886	20	8 4.9	21.4
242546 2005 EX <sub>12</sub>	16.6	X	103.12579	130.78337	88.26651	3.79343	0.1192580	0.22085621	2.7105846	20	9 21.5	20.6
242547 2005 EF <sub>18</sub>	17.3	X	152.13872	343.01315	159.76213	3.08542	0.2240320	0.21933721	2.7230848	20	8 6.1	22.0
242548 2005 EP <sub>35</sub>	16.4	X	97.47308	353.92876	203.95808	4.67967	0.1413357	0.21445824	2.7642303	20	8 17.2	20.6
242549 2005 EB <sub>36</sub>	16.0	X	129.84420	317.18063	208.00898	8.51552	0.2016555	0.21689295	2.7435051	20	8 11.7	20.7
242550 2005 EU <sub>47</sub>	16.1	X	87.80101	8.42938	157.71075	10.00276	0.1551830	0.21002471	2.8029958	20	6 27.3	20.2
242551 2005 EG <sub>79</sub>	17.0	X	116.53387	21.98896	115.00675	6.05373	0.1662065	0.27500915	2.3419159	20	6 26.3	20.4
242552 2005 EW <sub>91</sub>	16.4	X	58.75594	174.69877	168.60437	9.43248	0.0900187	0.23693104	2.5865532	20	—	—
242553 2005 EE <sub>93</sub>	15.9	X	85.07690	113.39160	122.70556	15.35884	0.1516729	0.21690359	2.7434153	20	9 30.5	20.2
242554 2005												



ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242561 2005 EG <sub>166</sub>	16.0	X	64.61373	108.92168	179.68432	9.11174	0.2081764	0.22237433	2.6982340	20	11 16.1	20.1
242562 2005 EZ <sub>176</sub>	15.5	X	137.68884	337.10414	15.87680	22.72146	0.0576589	0.18214483	3.0821811	20	1 18.5	20.4
242563 2005 EV <sub>181</sub>	16.5	X	166.64391	18.40226	117.03141	4.12795	0.1047140	0.21931643	2.7232568	20	8 10.1	20.5
242564 2005 EZ <sub>184</sub>	16.5	X	23.18846	31.55305	253.67205	2.56591	0.0583676	0.21407861	2.7674973	20	8 23.1	20.0
242565 2005 EM <sub>207</sub>	16.2	X	49.95231	325.64945	173.77977	16.67247	0.1469841	0.19846524	2.9108048	20	3 31.1	19.7
242566 2005 ES <sub>210</sub>	16.5	X	29.07572	129.20954	207.48275	3.91449	0.0551762	0.22796560	2.6539323	20	11 11.9	19.9
242567 2005 EO <sub>212</sub>	15.8	X	89.62731	99.89171	143.09435	25.07387	0.1328702	0.21968160	2.7202381	20	10 13.1	20.3
242568 2005 EC <sub>248</sub>	16.1	X	253.00966	93.93913	177.30506	4.91496	0.0692601	0.19013896	2.9951734	20	2 5.1	20.5
242569 2005 EG <sub>252</sub>	16.7	X	357.74157	171.98899	348.57867	1.36675	0.2582761	0.19075931	2.9886763	20	1 14.2	19.5
242570 2005 EL <sub>267</sub>	16.2	X	193.61814	271.79535	347.53079	4.28651	0.1480812	0.23886079	2.5726032	20	—	—
242571 2005 EQ <sub>330</sub>	15.3	X	133.36515	348.07061	54.46148	12.81781	0.0600448	0.19604677	2.9346946	20	3 12.2	19.8
242572 2005 GY <sub>7</sub>	16.2	X	28.28196	65.65329	212.08246	12.67789	0.1428338	0.21178961	2.7874020	20	8 28.2	19.8
242573 2005 GW <sub>13</sub>	16.0	X	147.83560	222.88984	61.58219	14.99378	0.1798060	0.23231695	2.6206888	20	—	—
242574 2005 GJ <sub>22</sub>	16.0	X	26.12638	157.12549	129.73171	10.10138	0.1766511	0.21214405	2.7842965	20	9 19.9	19.3
242575 2005 GG <sub>25</sub>	16.6	X	29.49665	88.88007	192.44241	4.66995	0.1331448	0.21252076	2.7810053	20	9 6.4	20.0
242576 2005 GF <sub>28</sub>	15.2	X	294.35150	338.29201	226.70668	7.07069	0.0863566	0.18328257	3.0694126	20	1 2.7	19.6
242577 2005 GP <sub>34</sub>	16.1	X	180.63019	98.16311	122.22903	12.12365	0.2156487	0.23212922	2.6221016	20	12 23.5	20.7
242578 2005 GJ <sub>50</sub>	16.2	X	116.62993	151.05031	110.15856	10.55367	0.1750438	0.22469101	2.6796552	20	11 28.9	20.7
242579 2005 GX <sub>61</sub>	16.6	X	0.85972	325.52046	190.03479	2.84305	0.0889660	0.18891440	3.0081028	20	1 28.9	20.4
242580 2005 GF <sub>75</sub>	16.2	X	128.66519	107.94249	240.85115	28.59482	0.3105806	0.23153500	2.6265859	20	—	—
242581 2005 GZ <sub>118</sub>	16.6	X	30.94292	153.37195	120.97239	2.34938	0.0323837	0.21386281	2.7693587	20	8 18.1	20.3
242582 2005 GB <sub>129</sub>	16.1	X	210.16028	296.57704	301.17516	7.88488	0.1248011	0.23911268	2.5707961	20	—	—
242583 2005 GA <sub>133</sub>	16.3	X	21.83821	219.46882	58.30053	5.69800	0.0287986	0.21177041	2.7875705	20	8 11.2	20.0
242584 2005 GW <sub>138</sub>	16.1	X	307.28774	42.78157	241.11158	6.94131	0.2404785	0.19573843	2.9377758	20	3 30.1	20.1
242585 2005 GM <sub>149</sub>	15.7	X	305.64249	340.44298	190.29791	9.68925	0.1790772	0.17917056	3.1161973	20	—	—
242586 2005 GV <sub>149</sub>	16.8	X	104.24585	142.82371	192.32044	11.42247	0.2028170	0.23096049	2.6309398	20	—	—
242587 2005 GP <sub>154</sub>	15.5	X	239.31995	112.51077	144.97585	5.86984	0.1163951	0.18103340	3.0947833	20	1 4.7	20.3
242588 2005 GJ <sub>172</sub>	16.3	X	16.74886	228.44215	61.18462	3.79384	0.1231733	0.21137856	2.7910145	20	8 29.6	19.5
242589 2005 GR <sub>214</sub>	15.2	X	273.90481	49.86736	175.54963	22.36428	0.0457686	0.18256959	3.0773986	20	1 8.4	20.1
242590 2005 GO <sub>227</sub>	16.5	X	40.50380	308.13580	272.83923	5.73867	0.2157759	0.20427397	2.8553588	20	7 14.7	19.7
242591 2005 HO <sub>1</sub>	16.2	X	44.05483	197.46250	205.74608	5.57627	0.1029524	0.23861792	2.5743485	20	—	—
242592 2005 HM <sub>10</sub>	15.5	X	216.28815	205.97563	38.29712	22.92939	0.0365917	0.17434371	3.1734514	20	—	—
242593 2005 JE <sub>12</sub>	16.3	X	80.66931	9.27830	198.81043	3.22118	0.0315758	0.20963819	2.8064402	20	7 26.2	20.2
242594 2005 JJ <sub>17</sub>	15.5	X	278.76045	149.24541	72.95857	11.33930	0.0955492	0.18278989	3.0749256	20	1 5.5	20.0
242595 2005 JT <sub>24</sub>	14.9	X	191.50757	215.67439	47.46157	20.63493	0.0859807	0.17117092	3.2125462	20	—	—
242596 2005 JS <sub>27</sub>	15.7	X	204.89501	117.20148	185.71601	26.62496	0.2239062	0.17762949	3.1341949	20	1 22.2	21.5
242597 2005 JY <sub>28</sub>	13.4	X	357.18627	225.03188	135.42163	10.62306	0.0884611	0.08510658	5.1187113	20	10 6.5	19.9
242598 2005 JJ <sub>36</sub>	16.0	X	252.19240	228.82924	89.44901	10.91043	0.0672511	0.19033694	2.9930961	20	4 8.2	20.5
242599 2005 JG <sub>45</sub>	14.8	X	92.12303	232.87648	129.70336	27.65683	0.2025939	0.17268810	3.1937024	20	—	—
242600 2005 JD <sub>49</sub>	15.3	X	177.40832	296.46160	52.41240	22.87250	0.0614977	0.18491142	3.0513608	20	3 3.1	20.4
242601 2005 JH <sub>52</sub>	15.7	X	217.50700	211.33302	93.25431	10.06285	0.0854647	0.18249174	3.0782738	20	2 10.9	20.5
242602 2005 JA <sub>58</sub>	16.9	X	132.20966	304.51616	16.49221	2.07516	0.1936081	0.23328718	2.6134175	20	—	—
242603 2005 JG <sub>69</sub>	15.4	X	148.19704	171.77172	146.80818	16.81584	0.0691969	0.17045110	3.2215844	20	—	—
242604 2005 JU <sub>71</sub>	15.7	X	128.29483	353.44279	273.79863	13.47397	0.2720220	0.22641211	2.6660581	20	12 15.2	20.6
242605 2005 JO <sub>72</sub>	16.3	X	290.52883	186.45264	156.49035	2.48758	0.0788793	0.20319239	2.8654824	20	6 20.2	20.0
242606 2005 JV <sub>77</sub>	16.2	X	251.02561	299.34815	257.39284	2.97522	0.0296196	0.23629785	2.5911718	20	—	—
242607 2005 JR <sub>87</sub>	15.9	X	262.42699	51.24169	139.27330	16.12919	0.0869690	0.23803883	2.5785220	20	—	—
242608 2005 JR <sub>89</sub>	15.2	X	265.16737	3.63891	252.73870	13.33641	0.2733619	0.18056479	3.1001355	20	1 12.7	20.5
242609 2005 JE <sub>98</sub>	16.3	X	345.99018	87.20221	117.60401	3.58129	0.0945709	0.19004512	2.9961593	20	3 11.0	20.1
242610 2005 JX <sub>99</sub>	15.4	X	200.68274	153.73635	168.87345	9.51141	0.1447658	0.18028398	3.1033538	20	2 11.8	20.4
242611 2005 JG <sub>102</sub>	15.3	X	280.59628	62.97365	124.13858	9.19794	0.0244055	0.17253752	3.1955603	20	—	—
242612 2005 JT <sub>102</sub>	15.8	X	242.89153	155.69747	90.59005	13.57688	0.2084435	0.17581305	3.1557455	20	—	—
242613 2005 JH <sub>108</sub>	15.2	X	306.15665	92.56631	104.37891	13.66759	0.0441906	0.17926850	3.1150622	20	1 14.6	19.5
242614 2005 JY <sub>112</sub>	16.2	X	16.64874	56.09382	240.90980	2.80210	0.0586738	0.21584813	2.7523513	20	8 29.5	19.6
242615 2005 JO <sub>129</sub>	16.1	X	319.32439	81.41874	94.72468	3.76901	0.2102059	0.18237120	3.0796301	20	—	—
242616 2005 JA <sub>139</sub>	16.1	X	263.01176	121.08251	230.84063	9.43350	0.1166690	0.19776266	2.9176947	20	5 21.3	20.1
242617 2005 JE <sub>141</sub>	15.5	X	336.36345	282.89208	229.79530	25.01824	0.2263464	0.18119982	3.0928881	20	—	—
242618 2005 JT <sub>143</sub>	15.8	X	150.80555	249.14784	220.35946	10.94329	0.0313922	0.20064937	2.8896429	20	6 15.7	20.0
242619 2005 JL <sub>174</sub>	16.0	X	328.88551	141.11870	45.48422	9.98765	0.0809345	0.18635299	3.0356042	20	1 27.5	20.2
242620 2005 JV <sub>175</sub>	16.1	X	124.34536	207.24124	109.56417	13.69702	0.1643275	0.23325925	2.6136261	20	—	—
242621 2005 JY <sub>178</sub>	16.8	X	238.35814	193.31459	53.57539	2.81874	0.0583288	0.24373767	2.5381714	20	—	—
242622 2005 KF <sub>2</sub>	15.9	X	203.81858	144.90597	102.69442	6.13766	0.0919451	0.16931984	3.2359178	20	—	—
242623 2005 KJ <sub>8</sub>	15.3	X	203.28826	231.98297	72.52060	14.38079	0.1704593	0.17625162	3.1505083	20	1 28.6	20.7
242624 2005 KH <sub>13</sub>	12.6	X	322.00591	279.21649	100.04967	12.50066	0.0532016	0.08217929	5.2395557	20	9 13.9	19.4
242625 2005 LW <sub>9</sub>	15.6	X	308.53377	100.47931	107.12571	13.69544	0.0514449	0.18178283	3.0862716	20	1 29.7	19.9
242626 2005 LW <sub>10</sub>	16.4	X	105.87164	171.69681	164.66185	8.88487	0.0897539	0.23058131	2.6338234	20	—	—
242627 2005 LS <sub>11</sub>	16.1	X	40.28944	239.85581	100.16003	14.84299	0.1554844	0.21258900	2.7804101	20	12 12.6	19.9
242628 2005 LS <sub>15</sub>	15.3	X	240.15083	188.38352	126.79080	9.41454	0.1458168	0.18068696	3.0987378	20	3 13.3	20.2
242629 2005 LS <sub>17</sub>	15.9	X	295.45529	56.32772	242.24219	14.69905	0.2013086	0.19287974	2.9667319	20	4 6.9	20.2
242630 2005 MW <sub>4</sub>	15.0	X	162.60171	251.30195	81.05962	22.73274	0.2322593	0.17133018	3.2105552	20	1 30.5	20.7
242631 2005 MY <sub>4</sub>	15.2	X	201.49001	220.33420	122.19056	27.95460	0.1549641	0.17542828	3.1603582	20	3 14.1	20.7
242632 2005 MR <sub>20</sub>	15.1	X	205.26803	185.06781	122.20974	12.77550	0.0261487	0.17099596	3.2147372	20	2 2.0	19.7
242633 2005 MS <sub>26</sub>	15.4	X	182.33547	252.50758	115.57080	10.42945	0.1151259	0.17706135	3.1408959	20	3 24.6	20.5
242634 2005 ME <sub>28</sub>	15.3	X	305.76007									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
242641	2005	NW <sub>2</sub>	16.2	X	321.70049	301.56185	137.59232	5.63343	0.0885358	0.21567643	2.7538118	20	12 17.0	19.4
242642	2005	NE <sub>6</sub>	16.4	X	26.72934	73.70900	246.91749	6.96060	0.2153246	0.20590296	2.8402789	20	11 5.4	20.0
242643	2005	NZ <sub>6</sub>	17.4	X	322.25055	48.93692	38.82829	8.41771	0.8651188	0.39699331	1.8334986	20	—	—
242644	2005	NN <sub>7</sub>	17.0	X	334.03007	181.04092	305.38499	6.67273	0.0981809	0.29304930	2.2447893	20	—	—
242645	2005	NK <sub>21</sub>	17.4	X	309.41929	100.63750	123.62223	23.02523	0.0623655	0.37539585	1.9031648	20	1 17.2	19.2
242646	2005	NF <sub>23</sub>	16.1	X	6.52855	103.47630	248.95640	8.74391	0.0177787	0.20859603	2.8157798	20	10 21.6	20.0
242647	2005	NM <sub>37</sub>	16.4	X	260.51773	157.49066	156.10929	4.16394	0.3004161	0.18176336	3.0864920	20	3 14.4	21.5
242648	2005	Fribourg	16.2	X	322.48544	42.24136	208.53539	9.32349	0.2285052	0.18646967	3.0343377	20	3 12.7	19.9
242649	2005	NT <sub>99</sub>	15.0	X	236.13954	38.16594	262.31685	13.99735	0.1531386	0.17476641	3.1683323	20	2 12.9	20.3
242650	2005	NF <sub>102</sub>	17.2	X	181.81152	184.18193	126.68501	25.42812	0.0579668	0.36568391	1.9367140	20	—	—
242651	2005	OW <sub>2</sub>	15.2	X	195.61051	135.71615	221.00079	20.95509	0.2933898	0.17349755	3.1837612	20	3 14.0	21.2
242652	2005	OF <sub>10</sub>	16.2	X	356.97767	347.12346	338.20350	9.23190	0.2238528	0.26609233	2.3939467	20	10 2.6	18.1
242653	2005	OL <sub>16</sub>	17.1	X	310.09313	120.11043	271.57570	3.34049	0.2374271	0.26502447	2.4003730	20	9 19.9	18.6
242654	2005	PY <sub>8</sub>	17.2	X	329.06868	333.35634	50.90729	3.21439	0.1381661	0.26932669	2.3745056	20	10 31.7	19.1
242655	2005	QF <sub>39</sub>	15.4	X	5.04702	355.16920	330.89268	7.79001	0.1583557	0.20115361	2.8848119	20	9 26.1	18.7
242656	2005	QC <sub>41</sub>	14.4	X	319.25255	130.34075	210.80420	6.49137	0.2177533	0.12403319	3.9820873	20	7 7.8	19.3
242657	2005	QG <sub>43</sub>	15.2	X	246.74121	133.74061	167.30992	26.30256	0.2144298	0.17538548	3.1608724	20	2 23.5	20.5
242658	2005	QB <sub>58</sub>	16.0	X	193.59247	121.99850	264.88109	2.79021	0.0919805	0.17671575	3.1449896	20	4 21.6	20.8
242659	2005	QB <sub>63</sub>	15.8	X	279.94609	60.54992	352.01871	11.68507	0.0512997	0.19726770	2.9225732	20	9 10.5	19.6
242660	2005	QR <sub>88</sub>	15.3	X	214.14085	63.27308	315.87220	15.78509	0.1904970	0.17696692	3.1420131	20	4 21.8	20.8
242661	2005	QT <sub>101</sub>	15.5	X	84.27580	145.21261	216.04658	6.29518	0.0453041	0.15212190	3.4754274	20	—	—
242662	2005	QC <sub>156</sub>	15.2	X	295.11856	37.40535	320.82400	16.14480	0.0683325	0.18784354	3.0195244	20	7 20.9	19.3
242663	2005	RV <sub>7</sub>	15.7	X	323.55598	139.77354	184.96319	10.02969	0.1119659	0.18831252	3.0145090	20	7 9.7	19.6
242664	2005	ST <sub>25</sub>	17.0	X	254.79186	38.39526	33.01786	5.56326	0.0939860	0.25968718	2.4331509	20	9 4.9	20.0
242665	2005	SK <sub>56</sub>	15.2	X	242.08166	222.15226	105.06381	2.74358	0.1925684	0.17265055	3.1941654	20	3 24.7	20.3
242666	2005	SB <sub>57</sub>	16.2	X	310.27159	78.14561	233.32307	2.57267	0.1477369	0.18430031	3.0581022	20	5 27.8	20.0
242667	2005	SB <sub>68</sub>	15.0	X	169.95098	67.17822	8.27778	25.42613	0.1630114	0.17441589	3.1725759	20	5 19.8	20.6
242668	2005	SB <sub>74</sub>	14.9	X	260.49997	234.22361	112.90751	22.89580	0.2264239	0.18163823	3.0879094	20	5 9.0	20.1
242669	2005	SE <sub>104</sub>	16.4	X	217.94582	56.63264	16.56636	2.56341	0.0579292	0.18317432	3.0706217	20	7 18.3	20.9
242670	2005	SK <sub>105</sub>	15.9	X	195.26978	154.27225	219.76654	10.79244	0.2496007	0.23596408	2.5936147	20	4 3.1	20.5
242671	2005	SH <sub>110</sub>	15.5	X	192.13397	54.55474	25.09795	9.99134	0.0242446	0.18075449	3.0979661	20	6 27.7	20.1
242672	2005	SO <sub>124</sub>	14.9	X	58.92870	30.58583	247.55356	13.46705	0.1136437	0.19525793	2.9425935	20	10 3.9	19.2
242673	2005	SL <sub>126</sub>	15.6	X	231.85310	201.51592	171.90572	11.04986	0.2303243	0.17769074	3.1334746	20	5 7.5	20.9
242674	2005	SO <sub>146</sub>	15.1	X	293.91089	304.71034	24.10966	9.68616	0.0508577	0.18030694	3.1030904	20	6 8.3	19.5
242675	2005	SC <sub>164</sub>	15.4	X	236.18786	192.64604	175.69980	9.43204	0.0948465	0.17575623	3.1564256	20	5 16.1	20.2
242676	2005	SS <sub>175</sub>	16.7	X	208.97630	332.90286	210.58042	11.80273	0.1151367	0.27183041	2.3601378	20	12 2.9	19.9
242677	2005	ST <sub>183</sub>	16.2	X	325.25308	83.86958	229.95764	2.15191	0.0394686	0.18312899	3.0711285	20	7 4.9	20.3
242678	2005	SB <sub>187</sub>	15.5	X	274.37512	284.31625	63.63055	11.22745	0.0805344	0.18065238	3.0991333	20	6 3.7	19.8
242679	2005	SM <sub>193</sub>	15.3	X	231.50711	159.49886	233.00322	4.21596	0.1302047	0.17760358	3.1344998	20	6 4.8	20.1
242680	2005	ST <sub>211</sub>	15.4	X	265.28066	348.12903	20.88766	9.39370	0.0602371	0.18088959	3.0964233	20	6 22.6	19.9
242681	2005	SR <sub>222</sub>	15.6	X	255.62009	191.34904	185.42410	21.50502	0.0399655	0.18391620	3.0623588	20	6 22.9	20.4
242682	2005	SW <sub>230</sub>	15.1	X	9.60105	104.05638	196.10484	2.47935	0.1765748	0.12556657	3.9496022	20	8 20.9	19.7
242683	2005	SS <sub>246</sub>	15.2	X	119.54361	91.25543	12.18471	7.00524	0.1019213	0.16917993	3.2377016	20	5 7.9	20.1
242684	2005	SL <sub>250</sub>	16.1	X	291.11105	50.33533	341.04648	6.69790	0.0942774	0.19257689	2.9698415	20	8 22.9	19.9
242685	2005	SY <sub>254</sub>	16.0	X	22.27894	288.03129	8.90856	15.52131	0.2217291	0.19865736	2.9089278	20	9 28.8	19.1
242686	2005	SK <sub>259</sub>	15.1	X	352.26109	232.96314	56.72783	14.20548	0.1039223	0.18761391	3.0219877	20	7 13.4	18.9
242687	2005	SO <sub>262</sub>	15.4	X	343.77865	312.37245	325.21008	8.92347	0.0138213	0.18173624	3.0867991	20	6 14.4	19.8
242688	2005	SE <sub>269</sub>	16.9	X	30.84204	165.78248	243.08118	17.83539	0.0590880	0.34878268	1.9987851	20	—	—
242689	2005	TJ <sub>3</sub>	15.4	X	258.40310	305.67001	54.38837	8.13880	0.2030922	0.17840915	3.1250572	20	5 15.6	20.2
242690	2005	TN <sub>6</sub>	15.3	X	312.09712	55.18405	271.06870	8.62920	0.0849982	0.18378916	3.0637698	20	6 27.7	19.3
242691	2005	TV <sub>6</sub>	15.1	X	209.25128	178.13045	239.00134	10.71495	0.0673144	0.17896421	3.1185922	20	6 16.2	19.8
242692	2005	TW <sub>9</sub>	15.6	X	232.23500	261.82145	142.72467	3.16593	0.1834493	0.17848539	3.1241672	20	6 15.6	20.6
242693	2005	TT <sub>15</sub>	15.6	X	255.98448	61.60354	311.95817	14.92281	0.1525504	0.18103348	3.0947824	20	6 3.9	20.4
242694	2005	TG <sub>23</sub>	15.1	X	199.40464	40.63727	44.07761	14.57955	0.3105094	0.17441739	3.1725577	20	6 29.9	21.0
242695	2005	TJ <sub>23</sub>	15.6	X	264.87782	174.25253	186.15511	17.82111	0.1319506	0.18132915	3.0914173	20	6 2.5	20.4
242696	2005	TR <sub>25</sub>	15.6	X	251.73273	231.77298	156.00737	9.24296	0.1730697	0.18030972	3.1030584	20	6 15.5	20.3
242697	2005	TC <sub>48</sub>	15.5	X	14.56110	216.51978	6.16058	12.53788	0.0647492	0.17511839	3.1640855	20	5 13.0	19.8
242698	2005	TS <sub>52</sub>	15.7	X	295.25025	309.00598	28.82441	5.68413	0.1622863	0.18190740	3.0848624	20	6 6.1	19.8
242699	2005	TY <sub>54</sub>	15.2	X	275.25674	299.31729	85.30365	12.86221	0.1516959	0.18458633	3.0549424	20	7 12.8	19.4
242700	2005	TA <sub>63</sub>	15.7	X	289.15816	298.59351	41.45000	5.05284	0.1334865	0.18151624	3.0892927	20	6 5.1	19.9
242701	2005	TM <sub>72</sub>	15.2	X	252.70796	293.91937	67.75163	12.06725	0.0962113	0.17800950	3.1297328	20	5 24.5	19.7
242702	2005	TL <sub>75</sub>	15.3	X	298.51050	108.85949	212.66242	8.68211	0.1214992	0.18191740	3.0847494	20	5 28.0	19.4
242703	2005	TA <sub>99</sub>	15.5	X	335.53751	26.05654	307.77851	7.94707	0.0989193	0.19260603	2.9695419	20	8 13.2	19.0
242704	2005	TM <sub>119</sub>	15.5	X	178.22285	261.16942	199.48972	16.73763	0.1230107	0.17979617	3.1089645	20	7 4.1	20.7
242705	2005	TL <sub>131</sub>	16.2	X	284.56351	212.50661	161.58734	1.36037	0.1658921	0.18540303	3.0459645	20	7 9.0	20.3
242706	2005	TN <sub>162</sub>	15.6	X	295.55641	299.22072	18.15556	11.78015	0.1245686	0.17929489	3.1147566	20	5 14.2	19.9
242707	2005	TF <sub>190</sub>	15.4	X	341.40393	16.94105	271.74886	8.30256	0.0875056	0.18253263	3.0778140	20	6 22.7	19.1
242708	2005	UK <sub>1</sub>	18.1	X	199.40014	345.92869	180.34128	0.79032	0.6952416	0.24930053	2.5002719	20	9 21.4	23.7
242709	2005	UH <sub>24</sub>	15.2	X	283.73629	114.84958	226.00467	9.44617	0.1146890	0.17934220	3.1142087	20	6 2.6	19.5
242710	200													

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
242721	2005	UD <sub>142</sub>	15.7	X	234.58452	354.40111	64.72456	19.77805	0.2056519	0.17999423	3.1066834	20	7 2.8	20.8
242722	2005	UX <sub>154</sub>	17.2	X	177.70258	357.69342	43.06863	2.47361	0.2251328	0.23520447	2.5991958	20	4 23.7	21.5
242723	2005	UE <sub>156</sub>	17.2	X	232.68846	271.13401	86.40958	12.19052	0.3188069	0.24286166	2.5442713	20	4 15.5	21.9
242724	2005	UE <sub>156</sub>	14.8	X	241.71960	261.24969	107.91181	14.49130	0.0759765	0.17535735	3.1612103	20	5 26.7	19.6
242725	2005	UR <sub>161</sub>	17.6	X	49.57394	308.12488	136.47930	2.71730	0.1491603	0.28589328	2.2820934	20	—	—
242726	2005	US <sub>161</sub>	15.5	X	275.69103	326.92325	54.50878	4.63416	0.2194825	0.18336757	3.0684639	20	6 28.8	19.9
242727	2005	UQ <sub>178</sub>	15.5	X	188.56579	231.62615	200.61872	4.27274	0.1184284	0.17289672	3.1911328	20	6 11.6	20.5
242728	2005	UQ <sub>204</sub>	16.5	X	273.83305	188.54144	159.43232	1.03283	0.1866357	0.17849419	3.1240646	20	5 19.8	21.1
242729	2005	UL <sub>211</sub>	15.3	X	307.00385	359.75058	219.50364	10.49624	0.0652721	0.15633995	3.4126315	20	2 7.8	20.3
242730	2005	UT <sub>216</sub>	15.5	X	189.22853	154.31768	227.77604	12.26583	0.2336407	0.23439402	2.6051837	20	4 7.9	20.2
242731	2005	UQ <sub>286</sub>	16.1	X	309.53554	236.92335	78.78284	5.99178	0.1351863	0.18064859	3.0991767	20	6 3.2	19.9
242732	2005	UL <sub>310</sub>	15.8	X	350.47792	190.65919	76.22004	2.69702	0.1864879	0.18336743	3.0684655	20	6 4.5	18.9
242733	2005	UL <sub>313</sub>	15.1	X	224.74717	251.12703	145.30650	14.55820	0.1841398	0.17637940	3.1489865	20	6 1.5	20.4
242734	2005	UO <sub>331</sub>	17.9	X	109.33907	41.76662	40.93436	3.86861	0.0991809	0.30024461	2.2087805	20	3 24.7	20.3
242735	2005	UD <sub>361</sub>	16.5	X	320.73553	133.03345	162.80910	0.46832	0.1681215	0.17995868	3.1070925	20	5 20.9	20.3
242736	2005	UX <sub>402</sub>	15.6	X	194.14370	258.10076	78.30032	12.57754	0.0895636	0.22493930	2.6776830	20	2 23.6	19.9
242737	2005	UE <sub>438</sub>	15.3	X	197.62760	172.82256	243.89521	8.59127	0.2006728	0.17213676	3.2005182	20	5 29.9	20.8
242738	2005	UD <sub>439</sub>	16.5	X	339.64309	64.49877	52.46110	11.45097	0.1517860	0.27491271	2.3424635	20	—	—
242739	2005	UT <sub>440</sub>	14.9	X	146.57352	213.79612	253.34075	14.89111	0.1435181	0.17210433	3.2009202	20	6 14.1	20.0
242740	2005	UP <sub>476</sub>	15.5	X	239.42117	262.17716	124.69451	11.04622	0.0893400	0.17769730	3.1333976	20	6 11.7	20.2
242741	2005	UX <sub>479</sub>	17.1	X	254.16766	168.55721	157.14417	6.80142	0.2525496	0.24143856	2.5542592	20	3 24.7	21.2
242742	2005	UG <sub>480</sub>	15.1	X	224.68358	281.16319	119.84416	18.50658	0.1284602	0.17593182	3.1543251	20	6 11.2	20.2
242743	2005	UV <sub>493</sub>	14.9	X	239.97686	331.31540	98.94735	16.81433	0.0705620	0.16941337	3.2347267	20	4 11.8	19.7
242744	2005	UG <sub>530</sub>	16.8	X	165.29068	258.78174	194.57827	16.33354	0.1879869	0.23912505	2.5707075	20	6 16.7	21.4
242745	2005	VS <sub>25</sub>	15.0	X	280.56704	88.72142	237.33110	13.04113	0.2198165	0.17877043	3.1208455	20	4 23.9	19.6
242746	2005	VS <sub>41</sub>	14.8	X	242.53919	246.34723	93.01780	12.51289	0.1221387	0.17101782	3.2144633	20	4 19.0	19.9
242747	2005	VV <sub>41</sub>	15.2	X	215.99501	213.87474	215.62254	15.84443	0.2598972	0.17558411	3.1584881	20	6 24.6	20.8
242748	2005	VT <sub>68</sub>	16.6	X	36.37153	181.99135	98.94735	3.75343	0.1431027	0.25527538	2.4611047	20	9 28.7	19.5
242749	2005	VQ <sub>78</sub>	15.5	X	271.14773	187.65327	158.43442	10.71040	0.1116027	0.17798440	3.1300270	20	5 26.7	20.1
242750	2005	VQ <sub>82</sub>	15.6	X	216.85801	254.61017	146.57137	5.11398	0.1565195	0.17321282	3.1872493	20	5 30.8	20.8
242751	2005	VQ <sub>88</sub>	15.8	X	261.74767	232.80309	134.05263	4.73157	0.1690473	0.17802655	3.1295329	20	6 1.6	20.4
242752	2005	VL <sub>98</sub>	16.7	X	227.40669	63.09183	263.18543	19.06707	0.0597654	0.36890798	1.9254135	20	2 15.7	19.5
242753	2005	VW <sub>112</sub>	17.0	X	177.29935	55.97035	309.39326	1.10619	0.2212249	0.22979076	2.6398607	20	3 11.5	21.6
242754	2005	WD <sub>8</sub>	15.2	X	237.30471	59.97239	332.85933	20.99681	0.2400996	0.17489256	3.1668087	20	5 28.2	20.8
242755	2005	WE <sub>10</sub>	17.2	X	304.91512	274.44770	259.08492	3.80474	0.1714363	0.27607035	2.3359105	20	—	—
242756	2005	WN <sub>70</sub>	17.7	X	15.66743	300.31723	251.62771	1.91970	0.0655913	0.29724420	2.2236194	20	3 27.8	19.9
242757	2005	WX <sub>70</sub>	14.4	X	224.53849	144.86080	257.32883	18.99568	0.1884288	0.17549817	3.1595191	20	6 5.1	19.5
242758	2005	WX <sub>79</sub>	17.5	X	301.73082	138.53842	70.06841	3.19208	0.1029073	0.28264619	2.2995382	20	—	—
242759	2005	WH <sub>91</sub>	17.5	X	74.14068	30.08569	48.65749	3.35541	0.1378820	0.28758693	2.2731248	20	1 31.3	19.6
242760	2005	WH <sub>100</sub>	17.5	X	209.32278	51.06747	206.12464	20.62559	0.0648685	0.35519324	1.9746627	20	—	—
242761	2005	WX <sub>114</sub>	16.7	X	44.97917	82.50509	91.29568	8.18576	0.1412523	0.22485757	2.6783317	20	5 7.9	19.8
242762	2005	WY <sub>126</sub>	16.0	X	213.30667	191.49464	210.85655	9.24081	0.1290242	0.24032800	2.5621220	20	5 30.1	20.0
242763	2005	WF <sub>134</sub>	16.9	X	313.36353	227.72674	274.50984	3.32418	0.0843792	0.27110639	2.3643379	20	—	—
242764	2005	WO <sub>154</sub>	16.0	X	274.03582	178.22157	111.50853	12.27023	0.0396079	0.23135933	2.6279153	20	3 30.3	19.8
242765	2005	WN <sub>156</sub>	16.2	X	179.72218	298.53444	172.43188	6.33832	0.2869019	0.24142195	2.5543763	20	7 19.4	21.0
242766	2005	WU <sub>162</sub>	16.8	X	16.26197	314.99944	100.22726	9.93398	0.1971323	0.27002117	2.3706685	20	—	—
242767	2005	WG <sub>171</sub>	17.0	X	324.90807	82.36759	93.55091	6.07276	0.1026676	0.28097747	2.3086338	20	—	—
242768	2005	WY <sub>173</sub>	16.1	X	102.31447	328.83791	89.36731	6.39657	0.1010118	0.22064935	2.7122785	20	2 7.7	19.8
242769	2005	WD <sub>181</sub>	15.2	X	296.99287	66.34247	270.05062	8.90838	0.0830217	0.18228912	3.0805545	20	6 19.4	19.4
242770	2005	XW <sub>62</sub>	17.6	X	302.36920	157.12412	48.79445	3.10929	0.1237800	0.28316580	2.2967242	20	—	—
242771	2005	XF <sub>65</sub>	15.8	X	150.76203	251.84314	225.12289	7.40348	0.1332488	0.23783514	2.5799940	20	7 1.0	19.8
242772	2005	XS <sub>79</sub>	16.5	X	334.43916	146.69115	287.56081	20.54831	0.1977458	0.26424849	2.4050699	20	—	—
242773	2005	XY <sub>109</sub>	17.2	X	212.25502	323.15762	316.21092	2.56152	0.1679696	0.26728286	2.3868327	20	—	—
242774	2005	XH <sub>110</sub>	16.9	X	259.76562	312.29346	346.74364	2.35441	0.2106790	0.27749734	2.3278956	20	2 25.4	20.4
242775	2005	XO <sub>111</sub>	15.8	X	272.09688	355.02799	130.88752	3.42729	0.1173588	0.18348468	3.0671582	20	11 20.8	19.8
242776	2005	YL <sub>20</sub>	17.5	X	52.46664	82.97408	97.02023	3.37731	0.0991250	0.29562209	2.2317462	20	5 19.8	19.7
242777	2005	YU <sub>38</sub>	16.9	X	109.80431	278.86631	177.19736	7.14720	0.1831770	0.22793955	2.6541345	20	4 29.3	20.8
242778	2005	YK <sub>41</sub>	17.3	X	353.49068	20.68905	109.41434	4.41771	0.1225276	0.27915803	2.3186541	20	—	—
242779	2005	YD <sub>48</sub>	15.6	X	74.17218	257.13629	125.60218	13.07456	0.0928614	0.20403838	2.8575563	20	—	—
242780	2005	YB <sub>110</sub>	16.2	X	96.24727	271.37813	126.71093	7.78514	0.1711949	0.21319068	2.7751763	20	1 28.2	19.8
242781	2005	YN <sub>113</sub>	15.7	X	134.53548	314.23108	310.18462	11.34184	0.0534359	0.19119274	2.9841578	20	12 7.8	20.3
242782	2005	YZ <sub>119</sub>	17.8	X	53.85552	203.16509	260.22994	2.40726	0.1130945	0.28319753	2.2965527	20	1 26.8	19.9
242783	2005	YO <sub>131</sub>	17.2	X	254.47881	69.61378	114.12995	3.56436	0.1286722	0.26318948	2.4115172	20	—	—
242784	2005	YB <sub>134</sub>	16.9	X	274.12897	131.70802	32.63050	4.49040	0.1580197	0.26564977	2.3966048	20	—	—
242785	2005	YA <sub>163</sub>	16.4	X	75.58766	287.79369	123.93388	5.37390	0.0630827	0.21075074	2.7965547	20	1 2.2	19.9
242786	2005	YT <sub>166</sub>	16.8	X	262.63224	134.77149	136.63680	7.29946	0.2509088	0.28370906	2.2937913	20	1 20.9	20.7
242787	2005	YZ <sub>188</sub>	16.8	X	333.87238	51.72315	137.15615	8.90110	0.1738629	0.27587055	2.3370383	20	1 3.1	19.5
242788	2005	YA <sub>241</sub>	17.2	X	239.98999	185.17572	77.06734	3.31074	0.0958460	0.27710476	2.3300937	20	—	—
242789	2005	YH <sub>290</sub>	17.5	X	240.52675	343.48189	257.51242	1.96452	0.1355304	0.27351881	2.3504152	20	—	—
242790	2006	AH <sub>37</sub>	17.4	X	291.									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242801 2006 <i>BB</i> <sub>52</sub>	16.0	X	106.42014	289.58950	328.43896	4.51052	0.1061140	0.17917396	3.1161579	20	10 31.7	20.8
242802 2006 <i>BY</i> <sub>55</sub>	16.8	X	279.57991	23.66417	215.59991	5.26314	0.2050925	0.27399451	2.3476939	20	—	—
242803 2006 <i>BO</i> <sub>79</sub>	15.7	X	135.09777	229.13845	8.79727	8.88831	0.1314367	0.17631109	3.1497999	20	11 4.9	20.9
242804 2006 <i>BU</i> <sub>81</sub>	15.7	X	261.60270	311.79781	141.53746	11.52582	0.0199036	0.17629082	3.1500413	20	10 13.0	20.2
242805 2006 <i>BP</i> <sub>88</sub>	17.2	X	315.18657	251.25818	348.52099	1.55495	0.1859660	0.28225124	2.3016828	20	2 12.8	19.7
242806 2006 <i>BD</i> <sub>93</sub>	16.6	X	318.37271	78.62403	138.54935	6.08986	0.1224040	0.27779909	2.3262096	20	1 27.5	19.3
242807 2006 <i>BQ</i> <sub>93</sub>	17.2	X	286.14453	99.49342	166.44734	2.91465	0.2104735	0.27863841	2.3215359	20	2 8.7	20.6
242808 2006 <i>BU</i> <sub>119</sub>	16.8	X	309.50831	270.55686	290.91249	3.72993	0.1664923	0.27335078	2.3513783	20	—	—
242809 2006 <i>BE</i> <sub>121</sub>	17.3	X	324.96988	81.57502	162.41364	6.49681	0.0673969	0.28594505	2.2818180	20	3 24.4	19.6
242810 2006 <i>BG</i> <sub>129</sub>	17.9	X	310.12552	118.86125	142.23440	3.91121	0.1573294	0.28516249	2.2859906	20	3 11.4	20.6
242811 2006 <i>BU</i> <sub>144</sub>	16.6	X	255.44056	29.67849	167.22785	11.62158	0.2238182	0.26237970	2.4164764	20	—	—
242812 2006 <i>BN</i> <sub>149</sub>	15.6	X	279.10238	8.21684	127.85090	7.13241	0.0958716	0.18922864	3.0047717	20	12 17.0	19.4
242813 2006 <i>BJ</i> <sub>150</sub>	16.8	X	294.25657	154.69800	63.84575	5.76904	0.1894752	0.27531576	2.3401768	20	—	—
242814 2006 <i>BL</i> <sub>152</sub>	17.1	X	270.83183	202.89608	65.55956	2.64051	0.1615739	0.27942301	2.3171880	20	2 2.6	20.3
242815 2006 <i>BZ</i> <sub>156</sub>	16.3	X	253.97101	192.41643	356.33920	7.21890	0.0234300	0.19185509	2.9772856	20	—	—
242816 2006 <i>BV</i> <sub>165</sub>	17.1	X	283.04162	236.09929	345.26131	1.64301	0.1564605	0.27163102	2.3612926	20	—	—
242817 2006 <i>BZ</i> <sub>166</sub>	15.5	X	9.94490	261.85763	143.65919	10.57436	0.1325209	0.19188622	2.9769636	20	—	—
242818 2006 <i>BE</i> <sub>170</sub>	17.1	X	190.01907	338.80185	166.07831	11.76139	0.1211762	0.23872005	2.5736143	20	9 16.9	21.0
242819 2006 <i>BZ</i> <sub>220</sub>	17.4	X	28.35868	334.15765	185.02921	3.05013	0.0959062	0.28495563	2.2870968	20	3 2.7	19.3
242820 2006 <i>BU</i> <sub>254</sub>	17.0	X	266.23805	324.25134	308.25332	4.39973	0.2293566	0.27746197	2.3280934	20	1 27.8	20.7
242821 2006 <i>BW</i> <sub>254</sub>	17.1	X	333.23658	134.25410	149.94051	4.02866	0.1909494	0.29391316	2.2403887	20	5 23.9	18.6
242822 2006 <i>BW</i> <sub>259</sub>	16.9	X	244.88263	43.27644	224.65225	2.47113	0.0855905	0.27523969	2.3406079	20	1 10.7	20.3
242823 2006 <i>BW</i> <sub>275</sub>	16.8	X	210.07173	318.80703	343.82932	5.46184	0.3202161	0.27740906	2.3283894	20	1 21.1	21.2
242824 2006 <i>CB</i> <sub>43</sub>	17.1	X	259.30469	3.47727	175.21130	9.32384	0.1455520	0.25945935	2.4345750	20	—	—
242825 2006 <i>CA</i> <sub>57</sub>	16.2	X	204.14978	55.56350	165.39857	5.92226	0.0538773	0.18854253	3.0120569	20	12 31.4	20.6
242826 2006 <i>CN</i> <sub>57</sub>	17.6	X	268.88243	128.04871	130.46936	1.43716	0.1719992	0.27457170	2.3444027	20	1 17.9	21.1
242827 2006 <i>CS</i> <sub>57</sub>	17.8	X	278.37790	100.23285	85.20441	3.27247	0.1376073	0.26395940	2.4068256	20	—	—
242828 2006 <i>DC</i> <sub>1</sub>	15.6	X	173.65324	261.91140	267.85158	0.39830	0.0953036	0.17220758	3.1996406	20	9 23.7	20.5
242829 2006 <i>DS</i> <sub>7</sub>	17.5	X	260.66009	46.33484	158.48071	1.96786	0.1550050	0.26207680	2.4183380	20	—	—
242830 Richardwessling	15.5	X	280.98207	301.55817	167.44875	11.11836	0.0321119	0.18354054	3.0665358	20	11 23.7	19.9
242831 2006 <i>DW</i> <sub>9</sub>	17.0	X	218.76729	146.51684	138.20313	6.54412	0.2309078	0.27054230	2.3676233	20	1 5.1	21.0
242832 2006 <i>DJ</i> <sub>36</sub>	15.4	X	202.18830	4.71623	172.74952	10.82265	0.1610402	0.17731810	3.1378632	20	10 29.6	20.4
242833 2006 <i>DW</i> <sub>42</sub>	17.6	X	297.01229	254.93992	26.78371	0.53242	0.2094994	0.28428866	2.906726	20	3 13.1	20.2
242834 2006 <i>DC</i> <sub>51</sub>	15.6	X	355.29473	227.35539	162.59123	10.50101	0.0504390	0.18022254	3.1040590	20	11 23.9	19.9
242835 2006 <i>DJ</i> <sub>66</sub>	16.6	X	264.81087	124.85362	99.38392	6.38271	0.1619536	0.26892371	2.3771139	20	—	—
242836 2006 <i>DT</i> <sub>67</sub>	15.1	X	205.79371	227.91687	288.45438	17.04008	0.0502198	0.17917039	3.1161993	20	10 6.9	20.1
242837 2006 <i>DN</i> <sub>71</sub>	15.6	X	230.42499	94.90597	57.30063	4.17936	0.1114175	0.18023418	3.1039254	20	11 1.1	20.1
242838 2006 <i>DG</i> <sub>82</sub>	17.2	X	202.08571	18.68828	129.33695	1.38233	0.0768152	0.24293414	2.5437651	20	10 8.8	20.6
242839 2006 <i>DD</i> <sub>95</sub>	16.2	X	262.17841	240.55143	159.64344	3.76761	0.0909019	0.23121952	2.6289745	20	7 27.7	19.7
242840 2006 <i>DY</i> <sub>106</sub>	16.9	X	242.11324	97.49257	184.06980	4.95868	0.1609866	0.27143707	2.3624173	20	1 21.2	20.7
242841 2006 <i>DO</i> <sub>109</sub>	16.5	X	65.09880	324.01398	340.57800	10.34147	0.1275794	0.24314618	2.5422860	20	11 26.4	20.4
242842 2006 <i>DM</i> <sub>120</sub>	16.7	X	270.20422	155.88634	77.71707	3.37955	0.1426791	0.26998823	2.3708614	20	—	—
242843 2006 <i>DO</i> <sub>205</sub>	12.8	X	286.37873	328.04166	341.83685	13.33765	0.1164272	0.08278443	5.2139908	20	4 25.3	19.8
242844 2006 <i>EM</i>	17.1	X	296.74028	181.29641	359.70268	4.65337	0.1670734	0.26566033	2.3965412	20	—	—
242845 2006 <i>EQ</i> <sub>10</sub>	15.6	X	335.08626	298.71430	163.81154	10.66699	0.0682154	0.19032518	2.9932194	20	—	—
242846 2006 <i>EE</i> <sub>39</sub>	16.3	X	135.65316	278.92282	310.31955	9.88624	0.2567477	0.24023747	2.5627656	20	11 4.4	21.1
242847 2006 <i>EA</i> <sub>40</sub>	17.3	X	192.75614	180.74313	326.48745	4.33871	0.1652354	0.24148182	2.5539541	20	9 18.0	21.2
242848 2006 <i>EC</i> <sub>43</sub>	14.8	X	193.26618	110.49995	38.08428	23.01355	0.1095946	0.16968806	3.2312348	20	9 28.0	20.9
242849 2006 <i>EX</i> <sub>59</sub>	16.9	X	278.68968	79.67222	195.01439	6.33379	0.1424166	0.27729464	2.3290299	20	2 18.7	20.2
242850 2006 <i>FO</i> <sub>5</sub>	17.7	X	20.73620	145.80545	175.95171	3.09795	0.2128651	0.30499454	2.1857878	20	11 23.5	20.1
242851 2006 <i>FJ</i> <sub>12</sub>	15.2	X	212.04867	127.50426	161.65374	3.27752	0.1688534	0.12448668	3.9724105	20	1 21.0	21.6
242852 2006 <i>FP</i> <sub>18</sub>	17.2	X	202.60117	219.90805	48.07425	3.32863	0.1419223	0.25797105	2.4439299	20	—	—
242853 2006 <i>FK</i> <sub>45</sub>	16.6	X	215.98456	105.39334	20.34662	28.38698	0.1753206	0.24274260	2.5451031	20	9 24.9	20.7
242854 2006 <i>FU</i> <sub>49</sub>	15.2	X	167.51926	87.71298	125.89580	6.31361	0.1139903	0.17523037	3.1627374	20	11 10.7	20.2
242855 2006 <i>FW</i> <sub>52</sub>	16.4	X	275.63939	121.37669	186.18898	23.87389	0.2572788	0.28035524	2.3120485	20	3 16.2	19.9
242856 2006 <i>FE</i> <sub>53</sub>	16.9	X	182.55743	169.50192	184.21474	4.11727	0.1623320	0.27010541	2.3701756	20	2 25.4	20.6
242857 2006 <i>FK</i> <sub>53</sub>	16.6	X	103.04210	6.08401	220.89148	3.17883	0.0724370	0.23186762	2.6240734	20	9 25.3	20.4
242858 2006 <i>GJ</i> <sub>9</sub>	17.3	X	222.03484	141.29111	142.11844	3.85908	0.1180784	0.26663583	2.3906924	20	1 7.0	20.9
242859 2006 <i>GW</i> <sub>16</sub>	16.8	X	196.64001	32.75053	96.41015	2.61625	0.1278273	0.23566903	2.5957789	20	9 3.4	20.7
242860 2006 <i>GW</i> <sub>29</sub>	17.4	X	139.94414	207.37276	31.65233	3.95127	0.1034151	0.24091674	2.5579461	20	11 22.5	21.3
242861 2006 <i>GE</i> <sub>30</sub>	16.4	X	45.46115	234.69460	36.70406	12.06244	0.1646285	0.22759575	2.6568067	20	9 29.9	19.9
242862 2006 <i>GA</i> <sub>31</sub>	16.5	X	151.38483	342.48830	192.66358	12.05703	0.1947467	0.23389721	2.6088715	20	9 13.8	20.9
242863 2006 <i>GZ</i> <sub>39</sub>	16.8	X	3.00362	35.04919	222.90582	4.47064	0.2440767	0.28774494	2.2722926	20	6 27.7	17.8
242864 2006 <i>GJ</i> <sub>50</sub>	16.4	X	87.44857	28.39368	215.63435	9.63964	0.1573574	0.23088291	2.6315292	20	10 8.0	20.3
242865 2006 <i>HD</i> <sub>4</sub>	16.8	X	251.10385	179.91212	40.39355	4.55603	0.0952569	0.26151390	2.4218070	20	—	—
242866 2006 <i>HN</i> <sub>13</sub>	16.1	X	355.31090	91.45539	187.19300	11.55916	0.1032300	0.21921603	2.7240883	20	7 2.5	19.4
242867 2006 <i>HO</i> <sub>15</sub>	15.4	X	146.48038	248.89858	340.89471	3.55936	0.0654150	0.17460214	3.1703193	20	11 5.9	20.3
242868 2006 <i>HF</i> <sub>23</sub>	17.6	X	301.46322	63.91939	191.38759	5.34110	0.1364505	0.27467083	2.3438385	20	2 22.4	20.5
242869 2006 <i>HM</i> <sub>45</sub>	17.0	X	243.37859	87.31992	193.04438	4.62668	0.1993043	0.26816495	2.3815957	20	1 19.6	21.0
242870 2006 <i>HP</i> <sub>47</sub>	16.2	X	110.40662	93.86822	66.37281	6.02934	0.0719592	0.22185675	2.7024289	20	7 8.4	20.1
242871 2006 <i>HE</i> <sub>49</sub>	17.9	X	245.42305	65.17359	159.16025	0.14302	0.1443958	0.26058896	2.4275343	20	—	—
242872 2006 <i>HD</i> <sub>50</sub>	17.3	X	338.86985									

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
242881	2006	HO <sub>120</sub>	17.0	X	186.58327	274.37844	229.08863	10.48937	0.2419264	0.23481193	2.6020918	20	8 31.0	21.7
242882	2006	HT <sub>153</sub>	16.1	X	207.86924	316.16038	82.00126	5.91311	0.0412354	0.21114195	2.7930992	20	5 24.0	20.0
242883	2006	JH <sub>6</sub>	16.3	X	99.80370	334.57276	194.92029	5.69327	0.0747232	0.21901854	2.7257256	20	7 6.5	20.2
242884	2006	JS <sub>7</sub>	16.9	X	77.52199	118.00470	88.38795	2.20761	0.1575528	0.22201867	2.7011149	20	8 10.2	20.5
242885	2006	JX <sub>11</sub>	16.1	X	145.43027	286.61680	123.74458	6.69698	0.0753390	0.20302505	2.8670568	20	4 1.6	20.4
242886	2006	JM <sub>13</sub>	16.4	X	46.31911	144.03985	107.08689	5.46284	0.0630006	0.22250915	2.6971440	20	8 14.4	19.8
242887	2006	JF <sub>35</sub>	16.6	X	175.54095	318.96004	106.67502	5.64258	0.0366269	0.21213787	2.7843505	20	5 21.5	20.5
242888	2006	JD <sub>41</sub>	16.7	X	29.20720	52.32255	198.75720	3.42101	0.0550741	0.21780302	2.7358574	20	7 16.4	20.2
242889	2006	KA <sub>47</sub>	16.5	X	119.24777	256.45000	43.03886	12.93049	0.2723763	0.24179192	2.5517700	20	—	—
242890	2006	JR <sub>47</sub>	16.0	X	91.87796	149.45430	113.52118	14.58926	0.2360708	0.23331132	2.6132372	20	11 17.5	20.6
242891	2006	JD <sub>57</sub>	16.0	X	108.86468	165.13407	95.93627	15.08208	0.0740313	0.23902896	2.5713964	20	11 20.7	19.9
242892	2006	KX <sub>2</sub>	16.4	X	67.27043	352.71922	227.58358	9.73812	0.1436142	0.22076994	2.7112908	20	8 8.8	20.3
242893	2006	KY <sub>16</sub>	16.3	X	172.32061	215.50516	95.10145	12.63564	0.1953759	0.25558942	2.4590883	20	—	—
242894	2006	KH <sub>38</sub>	16.6	X	186.36591	204.74459	94.65298	7.98152	0.1118132	0.25838689	2.4413070	20	—	—
242895	2006	KM <sub>40</sub>	16.2	X	182.22733	22.92271	199.39842	7.44637	0.1630536	0.24282245	2.5445451	20	12 11.5	20.2
242896	2006	KB <sub>42</sub>	17.1	X	195.69430	146.32025	98.45539	1.32829	0.0982885	0.25045034	2.4926136	20	—	—
242897	2006	KH <sub>73</sub>	16.0	X	160.45250	6.49117	140.29474	8.94986	0.0610719	0.22461691	2.6802445	20	8 18.2	19.9
242898	2006	KS <sub>86</sub>	16.9	X	326.27082	159.41983	95.29948	3.57115	0.1461962	0.27608182	2.3358458	20	4 1.1	19.2
242899	2006	KY <sub>107</sub>	16.3	X	172.56258	61.31518	36.29726	10.53854	0.0789654	0.22153858	2.7050158	20	6 28.1	20.5
242900	2006	KM <sub>111</sub>	16.1	X	225.63722	334.33832	48.48601	12.92553	0.1914013	0.21043009	2.7993948	20	5 12.5	20.5
242901	2006	KC <sub>113</sub>	16.2	X	301.49560	136.68853	135.86202	22.79424	0.1856094	0.27427606	2.3460870	20	3 15.8	19.4
242902	2006	KQ <sub>114</sub>	14.6	X	164.20305	30.95349	289.22324	28.24300	0.2599464	0.17554434	3.1589651	20	1 15.2	20.0
242903	2006	KW <sub>114</sub>	16.0	X	133.70044	72.89211	165.35296	17.79307	0.2284064	0.23524242	2.5989163	20	11 19.8	20.8
242904	2006	KX <sub>118</sub>	14.8	X	312.51359	237.56209	280.25535	20.52598	0.0590111	0.17552884	3.1591511	20	—	—
242905	2006	KS <sub>122</sub>	15.4	X	77.99678	244.45721	49.10771	29.27808	0.1775805	0.22735691	2.6586670	20	11 26.3	19.7
242906	2006	KD <sub>144</sub>	16.5	X	101.21521	238.98409	98.76331	13.19796	0.3027675	0.24195516	2.5506222	20	—	—
242907	2006	LU	16.4	X	61.27541	73.57431	239.72751	10.71626	0.2698652	0.22592947	2.6698537	20	12 17.5	20.6
242908	2006	LB <sub>4</sub>	16.4	X	88.02982	234.08964	100.38361	5.13715	0.2372405	0.23924022	2.5698824	20	—	—
242909	2006	LR <sub>4</sub>	15.1	X	271.12325	251.52443	54.48380	16.40654	0.2223043	0.19707183	2.9245094	20	3 29.0	19.8
242910	2006	MT <sub>2</sub>	16.4	X	62.77699	173.90733	115.61946	13.83495	0.2311337	0.22877061	2.6477027	20	11 21.5	20.6
242911	2006	MO <sub>8</sub>	16.3	X	57.13245	193.64923	117.42672	15.51440	0.2467920	0.22537012	2.6742694	20	12 11.1	20.5
242912	2006	MM <sub>11</sub>	16.7	X	197.11692	261.84226	98.44097	9.55111	0.2043766	0.26025753	2.4295948	20	3 24.4	20.9
242913	2006	MS <sub>13</sub>	16.1	X	103.60835	285.56040	83.18092	14.75365	0.2418077	0.24158319	2.5532396	20	1 6.0	19.3
242914	2006	MU <sub>14</sub>	15.3	X	197.63042	69.23576	248.60283	8.64838	0.2039779	0.18351920	3.0667736	20	2 2.1	20.6
242915	2006	NC <sub>1</sub>	16.2	X	205.79099	249.29875	100.96527	8.86389	0.1972918	0.26027674	2.4294752	20	3 18.8	20.3
242916	2006	OS <sub>2</sub>	16.8	X	211.17293	44.57600	316.95981	1.97406	0.2284267	0.26273368	2.4143055	20	3 30.7	21.0
242917	2006	OZ <sub>2</sub>	13.5	X	1.44036	54.60879	310.11031	14.80844	0.0656486	0.08150586	5.2683770	20	10 4.6	20.4
242918	2006	OM <sub>3</sub>	16.0	X	71.40096	146.90762	101.24060	15.07442	0.1467690	0.22047569	2.7137025	20	10 2.2	20.2
242919	2006	OA <sub>7</sub>	16.2	X	139.13967	8.28923	249.89543	12.85955	0.2229374	0.23096547	2.6309021	20	12 12.8	20.7
242920	2006	OB <sub>17</sub>	16.1	X	21.40212	151.67317	158.35250	10.27168	0.2066314	0.21402882	2.7679264	20	10 18.6	19.4
242921	2006	OR <sub>19</sub>	15.3	X	203.83881	253.37898	37.95419	12.75459	0.1242973	0.18129977	3.0917512	20	1 12.8	20.4
242922	2006	PZ <sub>1</sub>	16.5	X	28.60292	69.43328	252.04155	4.19044	0.1154419	0.22186363	2.7023731	20	10 28.3	19.8
242923	2006	PP <sub>2</sub>	16.5	X	28.29580	197.70438	139.24024	8.05318	0.1854143	0.22307028	2.6926190	20	11 30.8	20.0
242924	2006	PK <sub>22</sub>	15.6	X	194.83801	331.47075	309.12951	8.38450	0.0693136	0.17376898	3.1804449	20	—	—
242925	2006	QM <sub>15</sub>	15.7	X	188.87342	137.42876	156.85342	10.87433	0.1947056	0.17668504	3.1453540	20	1 3.2	21.1
242926	2006	QA <sub>21</sub>	16.3	X	27.91653	180.50658	143.88353	13.75054	0.1506771	0.22239215	2.6980899	20	11 11.2	20.0
242927	2006	QK <sub>28</sub>	15.3	X	159.54020	287.04880	60.90551	18.91380	0.0906759	0.18014512	3.1049483	20	2 8.1	20.3
242928	2006	QT <sub>42</sub>	16.1	X	351.24370	258.58572	78.81548	13.94011	0.2208422	0.21265174	2.7798632	20	10 5.9	19.0
242929	2006	QP <sub>44</sub>	15.9	X	20.01800	132.48419	154.74232	4.69334	0.0795901	0.21164578	2.7886647	20	8 24.3	19.3
242930	2006	QF <sub>46</sub>	15.1	X	139.04288	6.89238	323.58887	11.57786	0.0419147	0.17326233	3.1866420	20	—	—
242931	2006	QM <sub>46</sub>	16.2	X	342.82119	149.53885	200.09970	3.69257	0.2190252	0.21386055	2.7693782	20	9 24.3	18.6
242932	2006	QH <sub>53</sub>	16.0	X	138.62973	16.40554	295.37550	14.79650	0.3305537	0.23940594	2.5686963	20	—	—
242933	2006	QJ <sub>53</sub>	15.3	X	66.74267	4.94154	342.35637	14.08237	0.2646621	0.22632643	2.6667310	20	—	—
242934	2006	QK <sub>59</sub>	15.1	X	177.81977	161.05690	153.95510	22.81527	0.1469137	0.17730556	3.1380111	20	1 15.7	20.4
242935	2006	QE <sub>61</sub>	16.1	X	43.89810	122.58140	149.38906	12.17256	0.1380567	0.21436172	2.7650600	20	9 19.9	19.7
242936	2006	QJ <sub>66</sub>	16.7	X	74.14773	125.24911	150.29973	6.35708	0.2129478	0.22282826	2.6945683	20	11 10.5	20.9
242937	2006	QT <sub>70</sub>	16.5	X	234.49360	232.21901	128.39006	2.33988	0.0634888	0.19351095	2.9602770	20	5 6.1	20.8
242938	2006	QR <sub>108</sub>	16.3	X	28.03452	98.03740	181.99926	7.52091	0.2021115	0.21143283	2.7905369	20	9 13.1	19.5
242939	2006	QN <sub>120</sub>	15.9	X	61.15732	44.58179	220.04951	8.24348	0.1273233	0.21636112	2.7479990	20	9 27.4	19.8
242940	2006	QT <sub>165</sub>	15.9	X	246.29274	18.71352	262.49061	5.90697	0.1941380	0.18298809	3.0727048	20	1 31.6	21.1
242941	2006	QE <sub>168</sub>	16.1	X	312.47035	286.12023	358.63842	15.31895	0.2167996	0.19811759	2.9142090	20	4 9.5	19.9
242942	2006	QY <sub>183</sub>	15.0	X	0.33782	182.48261	173.86617	18.39433	0.0782166	0.14778508	3.5430911	20	10 15.8	19.7
242943	2006	RX <sub>14</sub>	15.7	X	76.36997	263.62298	208.65370	13.17231	0.0846828	0.18434701	3.0575858	20	3 23.9	19.9
242944	2006	RP <sub>32</sub>	17.1	X	110.79558	176.30465	193.23709	8.70737	0.1739386	0.23832859	2.5764316	20	1 5.7	20.6
242945	2006	RB <sub>36</sub>	15.3	X	250.61259	199.40972	128.47330	11.67843	0.0940407	0.18886658	3.0086105	20	4 14.6	19.9
242946	2006	RY <sub>38</sub>	15.4	X	210.48066	146.70811	135.84214	10.75418	0.1926522	0.17514851	3.1637228	20	1 7.0	20.8
242947	2006	RE <sub>44</sub>	15.4	X	26.89716	241.34066	182.38921	9.79787	0.0894665	0.15798266	3.3889339	20	—	—
242948	2006	RJ <sub>46</sub>	16.0	X	201.21738	323.86501	19.97966	7.99799	0.0579255	0.17986305	3.1081937	20	3 12.1	20.7
242949	2006	RE <sub>59</sub>	16.5	X	90.95085	336.92862	357.44503	4.59521	0.1067465	0.22790968	2.6543664	20	—	—
242950	2006	RB <sub>69</sub>	16.3	X	332.68745	261.70781								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
242961 2006 SA <sub>43</sub>	15.4	X	38.97301	195.32530	170.98358	11.13557	0.3110294	0.22021249	2.7158644	20	—	—
242962 2006 SP <sub>49</sub>	15.7	X	158.38638	163.32894	203.75359	10.03800	0.0766356	0.17315804	3.1879214	20	2 20.1	20.7
242963 2006 SS <sub>50</sub>	16.2	X	70.89594	355.00505	39.81990	5.00026	0.3171850	0.23049928	2.6344482	20	1 2.9	18.4
242964 2006 SZ <sub>66</sub>	15.6	X	221.43314	86.34211	182.71091	12.87322	0.1002212	0.17132219	3.2106550	20	1 2.5	20.8
242965 2006 SW <sub>67</sub>	16.7	X	129.63789	152.85343	150.62026	2.89008	0.0712083	0.23104366	2.6303085	20	—	—
242966 2006 SW <sub>79</sub>	14.5	X	123.85476	86.14347	236.90805	15.52948	0.0942325	0.16042090	3.3545073	20	—	—
242967 2006 ST <sub>83</sub>	15.4	X	221.08465	168.93430	179.25615	8.97206	0.0967123	0.18478680	3.0527325	20	4 3.9	20.0
242968 2006 SA <sub>105</sub>	15.3	X	78.89712	127.27000	226.08659	28.08279	0.1282994	0.22733918	2.6588052	20	—	—
242969 2006 SW <sub>111</sub>	15.9	X	91.55993	238.61118	130.76765	15.53699	0.2328863	0.23413784	2.6070837	20	—	—
242970 2006 SR <sub>112</sub>	16.2	X	228.27796	348.44009	345.22766	2.61205	0.0679677	0.18615839	3.0377193	20	3 25.3	20.7
242971 2006 SC <sub>116</sub>	15.2	X	177.13784	261.69295	68.71721	16.07690	0.2153081	0.17456814	3.1707310	20	2 9.3	20.8
242972 2006 SN <sub>120</sub>	15.3	X	134.36885	321.64150	73.36152	10.21526	0.0942481	0.17467413	3.1694482	20	3 8.4	20.2
242973 2006 SU <sub>120</sub>	15.2	X	263.77941	166.68114	165.05467	16.26015	0.1185693	0.18979832	2.9987560	20	4 30.2	19.8
242974 2006 ST <sub>123</sub>	16.2	X	124.04933	229.24219	71.77622	9.49355	0.0450021	0.22915735	2.6447230	20	—	—
242975 2006 SG <sub>126</sub>	15.3	X	231.57677	184.86022	117.18564	10.57072	0.0700099	0.17989406	3.1078366	20	2 23.2	20.0
242976 2006 SJ <sub>137</sub>	16.0	X	146.79241	182.76573	131.30969	15.10977	0.1730523	0.23996515	2.5647041	20	—	—
242977 2006 SJ <sub>169</sub>	15.6	X	230.69592	8.65016	247.78442	4.03612	0.0882373	0.17113549	3.2129897	20	—	—
242978 2006 SF <sub>178</sub>	15.8	X	184.21409	182.40517	182.45474	8.32938	0.1035484	0.18161325	3.0881925	20	3 17.4	20.6
242979 2006 SV <sub>188</sub>	15.4	X	219.38013	133.71071	154.71978	16.85932	0.1963180	0.17867572	3.1219482	20	1 19.3	20.9
242980 2006 ST <sub>212</sub>	15.6	X	203.41284	193.77683	159.02064	14.69623	0.2284760	0.18144656	3.0900836	20	3 21.7	21.0
242981 2006 SZ <sub>231</sub>	15.5	X	105.32531	198.57904	207.44118	8.21804	0.1286645	0.17141766	3.2094627	20	2 15.1	20.2
242982 2006 SZ <sub>240</sub>	16.7	X	13.08387	218.47364	130.03978	1.92764	0.1084964	0.21549221	2.7553810	20	11 9.5	19.9
242983 2006 SW <sub>267</sub>	16.6	X	0.09588	109.78556	240.23436	6.18500	0.1428086	0.21123457	2.7922827	20	10 22.7	19.8
242984 2006 SZ <sub>274</sub>	16.6	X	110.75548	169.64170	143.88838	2.87602	0.1499921	0.22813143	2.6526460	20	—	—
242985 2006 SK <sub>278</sub>	15.2	X	34.42869	116.56512	351.05114	10.01386	0.0361697	0.17202649	3.2018858	20	1 24.1	19.6
242986 2006 SW <sub>322</sub>	16.0	X	193.14876	201.88005	175.74377	9.39733	0.1627331	0.18332972	3.0688863	20	4 11.6	21.0
242987 2006 SL <sub>328</sub>	16.1	X	148.65989	110.05988	186.23202	12.90253	0.2698614	0.23494313	2.6011230	20	—	—
242988 2006 SM <sub>360</sub>	15.8	X	269.22244	112.22901	188.63799	4.44408	0.1307519	0.18230339	3.0803937	20	3 24.1	20.2
242989 2006 SW <sub>366</sub>	15.4	X	313.33911	269.06306	319.45116	9.50288	0.1199107	0.18189267	3.0850290	20	2 18.8	19.6
242990 2006 SB <sub>367</sub>	15.8	X	89.69327	261.78436	106.80594	12.53923	0.2085607	0.23313848	2.6145287	20	—	—
242991 2006 SJ <sub>391</sub>	15.2	X	5.19632	27.98065	169.73711	16.19336	0.0068073	0.18433134	3.0577590	20	4 3.6	19.5
242992 2006 SK <sub>392</sub>	14.9	X	165.07423	291.17166	67.63806	27.06423	0.1943114	0.17421366	3.1750306	20	3 11.9	20.7
242993 2006 ST <sub>399</sub>	15.5	X	205.01133	203.42540	152.77423	10.41631	0.0621163	0.18322637	3.0700403	20	3 31.2	20.2
242994 2006 SX <sub>412</sub>	15.5	X	131.17237	28.16284	285.04853	13.67629	0.1172356	0.23392529	2.6086627	20	—	—
242995 2006 TS <sub>8</sub>	15.8	X	47.65557	5.26511	121.63478	6.49340	0.0766871	0.17825802	3.1268232	20	3 6.5	19.8
242996 2006 TE <sub>9</sub>	14.8	X	317.62150	293.62068	38.67882	11.35093	0.1489284	0.12514392	3.9584900	20	7 4.3	19.9
242997 2006 TL <sub>29</sub>	16.2	X	136.34988	185.58172	57.92082	3.41636	0.0221022	0.21457829	2.7631992	20	11 19.3	19.9
242998 2006 TB <sub>34</sub>	16.1	X	244.30564	212.63024	142.21479	6.19066	0.1264034	0.18992567	2.9974154	20	5 4.9	20.7
242999 2006 TN <sub>96</sub>	16.3	X	306.28984	38.28951	63.79759	2.29566	0.0126410	0.22052287	2.7133155	20	12 25.9	20.0
243000 2006 Katysiriles	15.3	X	161.74319	228.32124	141.21849	10.42694	0.0546917	0.17341977	3.1847131	20	2 29.1	20.0
243001 2006 TF <sub>114</sub>	16.4	X	96.09602	193.64455	139.45824	10.64486	0.0513552	0.22562536	2.6722522	20	—	—
243002 2006 Lemmy	16.2	X	281.07767	132.68129	110.77666	7.27688	0.2108126	0.17585397	3.1552559	20	1 20.6	21.1
243003 2006 TY <sub>120</sub>	15.8	X	70.17287	359.93751	152.86621	13.83380	0.0937437	0.17929210	3.1147888	20	5 14.0	20.3
243004 2006 UF <sub>6</sub>	15.7	X	219.65054	272.69260	59.67107	5.99351	0.1429417	0.17911566	3.1168340	20	3 14.9	20.7
243005 2006 UC <sub>9</sub>	15.6	X	327.36769	98.93046	202.40696	8.32782	0.0762420	0.19084816	2.9877487	20	6 18.6	19.6
243006 2006 UP <sub>26</sub>	15.3	X	185.96604	122.34656	217.51816	15.34110	0.0788580	0.17294464	3.1905433	20	2 14.2	20.5
243007 2006 UL <sub>62</sub>	16.6	X	80.18059	205.24945	83.60840	1.76677	0.0440201	0.21404996	2.7677442	20	11 11.2	20.4
243008 2006 UO <sub>67</sub>	15.5	X	292.27688	120.03098	195.98284	19.38209	0.0918060	0.19055360	2.9908269	20	5 17.5	19.8
243009 2006 UV <sub>71</sub>	15.9	X	267.45636	85.02776	225.79557	9.34036	0.0970358	0.18969786	2.9998147	20	4 5.3	20.3
243010 2006 UU <sub>80</sub>	15.4	X	225.92984	103.48306	202.74840	10.87121	0.1112012	0.17481400	3.1677573	20	2 15.3	20.5
243011 2006 UW <sub>106</sub>	16.4	X	106.44826	185.09584	87.77049	3.87083	0.1729101	0.21590572	2.7518618	20	11 30.6	20.8
243012 2006 UT <sub>139</sub>	15.8	X	7.11430	335.18962	57.66338	15.10649	0.1157138	0.21595502	2.7514430	20	12 28.1	19.4
243013 2006 UY <sub>156</sub>	16.4	X	94.24463	258.81445	53.27163	3.57279	0.0402442	0.22290777	2.6939275	20	12 27.7	20.1
243014 2006 UN <sub>161</sub>	14.7	X	6.78352	281.53587	103.01181	11.02660	0.1159029	0.14868430	3.5287913	20	11 30.6	19.3
243015 2006 UK <sub>166</sub>	16.0	X	142.38434	149.92943	115.17408	3.79024	0.0870202	0.22219127	2.6997158	20	12 23.8	20.1
243016 2006 UE <sub>172</sub>	16.0	X	149.67585	7.44309	105.95505	6.71648	0.0939031	0.17739379	3.1369706	20	6 22.8	20.7
243017 2006 UN <sub>177</sub>	16.2	X	356.38485	232.53793	165.22417	9.25968	0.0697825	0.21818449	2.7326675	20	12 15.2	19.8
243018 2006 UM <sub>178</sub>	15.2	X	286.59720	226.27301	67.11693	12.39406	0.1791445	0.18746615	3.0235754	20	4 3.4	19.7
243019 2006 UL <sub>181</sub>	15.0	X	159.88686	268.04304	105.18511	12.06818	0.1074793	0.17300400	3.1898135	20	3 9.4	20.1
243020 2006 UU <sub>192</sub>	15.6	X	233.49413	103.63223	243.03375	11.34315	0.2444990	0.18566265	3.0431242	20	3 31.1	21.0
243021 2006 UL <sub>200</sub>	16.0	X	102.04591	353.50542	341.95318	4.10090	0.1905492	0.22860099	2.6490123	20	—	—
243022 2006 UO <sub>204</sub>	15.9	X	85.99438	33.30640	276.56070	12.12853	0.2849773	0.22330389	2.6907407	20	—	—
243023 2006 UG <sub>206</sub>	15.3	X	170.90647	83.44289	208.63617	9.87424	0.1324497	0.16237361	3.3275590	20	—	—
243024 2006 UJ <sub>207</sub>	15.8	X	115.90487	333.77598	315.07213	15.07203	0.1343036	0.22482754	2.6785703	20	12 29.3	20.2
243025 2006 UM <sub>216</sub>	15.9	X	52.81839	146.63584	251.08792	15.87187	0.5230863	0.22512496	2.6762106	20	—	—
243026 2006 UX <sub>224</sub>	16.1	X	73.40796	355.32150	338.49145	5.94507	0.0934179	0.22290370	2.6939604	20	—	—
243027 2006 UG <sub>226</sub>	16.3	X	61.48790	65.35806	269.83021	3.93133	0.0544984	0.22072013	2.7116986	20	12 18.9	19.9
243028 2006 UA <sub>233</sub>	16.6	X	29.64049	183.17504	177.75614	1.76793	0.2135564	0.21914423	2.7246833	20	—	—
243029 2006 UF <sub>261</sub>	15.7	X	79.35140	262.38938	85.91577	15.47514	0.1260567	0.22379103	2.6868346	20	—	—
243030 2006 UN <sub>264</sub>	15.9	X	238.84029	83.96764	216.42526	8.62826	0.0806595	0.17752362	3.1354409	20	2 22.9	20.7
243031 2006 UV <sub>295</sub>	17.3	X	32.86110	218.92273	9.15928	0.48464	0.1633175	0.20243112	2.8726621	20	7 3.6	20.5
243032 2006 VD <sub>23</sub>	16.6	X	328.94187	1.00624	59.42669	3.47749	0.0564406	0.21296465	2.7771395	20	12 1.6	20.0
243033 2006 VA <sub>37</sub>	15.6	X	80.02569	122.82942	243.87539	13.52530	0.1588474	0.22830463	2.6513043	20	—	—
243034 2006 VH <sub>85</sub>	16.7	X	157.93219									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
243041	2006	WR <sub>123</sub>	16.0	X	318.84060	351.01296	292.60786	9.82076	0.0976818	0.24216879	2.5491219	20	5 5.1	19.2
243042	2006	WB <sub>139</sub>	16.1	X	33.16135	195.82846	155.77092	6.83638	0.1227388	0.21529210	2.7570881	20	12 13.4	19.9
243043	2006	WW <sub>195</sub>	16.0	X	273.28165	195.02714	261.95690	3.28834	0.0298821	0.21103251	2.7940648	20	11 1.6	19.7
243044	2006	XY <sub>21</sub>	15.7	X	255.47443	330.46066	81.70336	8.15953	0.0459336	0.19265191	2.9690704	20	8 10.5	19.9
243045	2006	XS <sub>31</sub>	14.9	X	328.97388	254.35963	283.49993	8.15275	0.0837470	0.15300941	3.4619752	20	1 18.8	19.6
243046	2006	XV <sub>42</sub>	15.0	X	261.33604	248.39453	108.74069	13.51870	0.0898859	0.17881795	3.1202925	20	6 1.0	19.6
243047	2006	XJ <sub>55</sub>	16.0	X	275.51208	215.91797	140.20091	4.41860	0.1589267	0.18103938	3.0947151	20	6 5.4	20.4
243048	2006	YO <sub>50</sub>	15.1	X	328.62479	19.68825	236.63113	9.63963	0.1677517	0.17679140	3.1440923	20	4 8.8	19.1
243049	2007	BQ <sub>2</sub>	14.8	X	214.32001	85.69296	272.09637	17.95132	0.1794616	0.18799241	3.0179300	20	3 26.7	20.2
243050	2007	BX <sub>3</sub>	15.1	X	257.45757	156.88700	124.65871	8.89167	0.0925207	0.16067663	3.3509471	20	2 25.7	20.1
243051	2007	BB <sub>65</sub>	17.5	X	308.12130	130.23777	316.25313	4.49271	0.2058861	0.27745107	2.3281544	20	12 29.1	18.9
243052	2007	BP <sub>73</sub>	17.2	X	196.79465	186.83351	144.23127	23.88911	0.0503597	0.37520521	1.9038095	20	1 22.8	19.3
243053	2007	CD <sub>53</sub>	17.2	X	329.37258	44.01565	157.59367	23.92967	0.0521141	0.37336997	1.9100429	20	1 14.3	19.5
243054	2007	CF <sub>64</sub>	15.8	X	323.52053	54.15489	159.39618	12.01805	0.1568372	0.22210641	2.7004034	20	2 1.9	19.2
243055	2007	DL <sub>20</sub>	16.7	X	10.85423	118.68859	147.57461	4.16180	0.1031089	0.24455308	2.5325262	20	7 15.1	19.4
243056	2007	DV <sub>22</sub>	16.6	X	157.92658	345.97224	348.45737	4.54787	0.1159199	0.21661297	2.7458686	20	1 13.7	20.7
243057	2007	DC <sub>37</sub>	16.4	X	219.83836	69.59545	174.60677	8.30640	0.1677463	0.20498218	2.8487782	20	—	—
243058	2007	EB <sub>24</sub>	15.8	X	55.93577	211.98911	91.19677	4.68231	0.1276300	0.18166356	3.0876223	20	11 6.1	20.2
243059	2007	EN <sub>105</sub>	16.6	X	189.15903	188.95675	116.30372	1.51983	0.0508269	0.21402599	2.7679508	20	1 6.5	20.6
243060	2007	EB <sub>125</sub>	17.4	X	279.37183	39.35353	181.43502	22.52660	0.0375223	0.36449704	1.9409159	20	—	—
243061	2007	ET <sub>172</sub>	16.6	X	259.86043	224.01745	13.54945	4.38945	0.0190325	0.21284418	2.7781873	20	1 6.5	20.5
243062	2007	ER <sub>192</sub>	17.2	X	136.06270	272.50481	91.07978	1.18047	0.0867484	0.21476312	2.7616136	20	1 21.8	21.2
243063	2007	ET <sub>206</sub>	16.8	X	6.49559	276.90644	338.10364	8.12162	0.1305120	0.23817995	2.5775034	20	6 21.7	19.5
243064	2007	FT <sub>44</sub>	15.2	X	2.51238	329.23739	33.38799	9.62493	0.0789987	0.18218523	3.0817254	20	10 30.9	19.1
243065	2007	GC <sub>1</sub>	15.8	X	28.69899	40.32860	135.20191	13.23662	0.2161111	0.22623673	2.6674358	20	4 20.1	18.5
243066	2007	GX <sub>17</sub>	15.2	X	78.77598	227.15137	26.07914	21.62726	0.1749486	0.17223063	3.1993551	20	10 9.1	20.0
243067	2007	GE <sub>34</sub>	14.9	X	82.97337	33.19665	220.79559	28.15597	0.1794191	0.17449688	3.1715941	20	10 9.4	19.9
243068	2007	GN <sub>36</sub>	16.2	X	353.00986	166.03930	49.06279	12.65177	0.1403730	0.22459453	2.6804226	20	4 1.9	19.2
243069	2007	GD <sub>37</sub>	17.7	X	106.53432	23.03949	71.40773	4.22417	0.1141473	0.30097621	2.2051998	20	4 9.6	20.3
243070	2007	GG <sub>61</sub>	15.9	X	74.05648	49.23787	242.98526	5.89845	0.1846189	0.17802600	3.1295395	20	11 13.5	20.6
243071	2007	GA <sub>64</sub>	15.7	X	148.92373	48.06991	218.11148	7.91847	0.1933030	0.18772642	3.0207802	20	12 22.8	20.9
243072	2007	HH <sub>3</sub>	16.4	X	24.13926	301.24792	200.13061	4.89734	0.0661379	0.21695009	2.7430233	20	2 9.6	19.9
243073	Freisetter		14.9	X	67.82364	210.57855	55.46801	30.54634	0.1967856	0.17422457	3.1748981	20	10 24.6	19.9
243074	2007	HE <sub>9</sub>	17.8	X	220.14483	301.98384	219.93192	4.28522	0.1714430	0.26526416	2.3989268	20	11 8.6	20.9
243075	2007	HZ <sub>38</sub>	16.5	X	310.27450	15.36835	184.14817	7.87336	0.1490770	0.21388910	2.7691318	20	1 1.1	20.5
243076	2007	HC <sub>49</sub>	17.5	X	297.85545	209.59570	70.34637	6.42998	0.1487477	0.29761560	2.2217691	20	3 23.6	20.1
243077	2007	HM <sub>59</sub>	15.7	X	158.83842	188.99161	41.59692	9.99334	0.0923191	0.18617125	3.0375795	20	11 21.2	20.4
243078	2007	HC <sub>87</sub>	16.5	X	129.72823	260.59973	78.20532	9.08852	0.2501235	0.26933630	2.3746856	20	—	—
243079	2007	JN <sub>35</sub>	15.3	X	145.31719	156.60537	39.66215	10.26427	0.0537341	0.17469775	3.1691625	20	9 30.3	20.0
243080	2007	KP <sub>3</sub>	15.6	X	247.18098	148.93630	80.86434	18.23353	0.1248500	0.20207169	2.8760675	20	—	—
243081	2007	LY <sub>20</sub>	15.9	X	40.64348	122.33253	198.63288	9.38202	0.0159483	0.17684713	3.1434317	20	10 22.6	20.2
243082	2007	LE <sub>33</sub>	16.9	X	85.62243	243.89391	214.17880	5.19379	0.0896487	0.28149002	2.3058305	20	3 8.8	19.6
243083	2007	NU <sub>6</sub>	15.8	X	35.37107	235.27982	76.69451	9.85210	0.1467266	0.23985431	2.5654942	20	11 6.8	19.1
243084	2007	NL <sub>7</sub>	12.4	X	307.89106	338.43008	57.12308	17.20967	0.0502782	0.08229864	5.2344889	20	9 19.3	19.4
243085	2007	OM <sub>4</sub>	15.0	X	293.48930	297.54929	28.63847	32.95311	0.3355587	0.21424811	2.7660374	20	4 21.1	18.8
243086	2007	PH <sub>2</sub>	16.1	X	308.71903	114.98680	304.76177	7.23358	0.0223029	0.24219360	2.5489478	20	11 6.7	19.6
243087	2007	PD <sub>37</sub>	18.1	X	273.60365	89.41207	190.01892	2.62575	0.2359239	0.28362160	2.2942629	20	2 9.9	21.7
243088	2007	PL <sub>45</sub>	12.5	X	2.35009	271.15399	69.76068	17.83023	0.0731784	0.08140081	5.2729084	20	9 26.1	19.3
243089	2007	QN <sub>2</sub>	16.1	X	276.02497	283.32050	50.27303	9.64900	0.1217308	0.21269968	2.7794454	20	5 12.2	19.7
243090	2007	QA <sub>3</sub>	17.4	X	289.48544	213.51289	93.32036	8.27045	0.1913780	0.28918307	2.2647528	20	4 13.9	20.3
243091	2007	QH <sub>8</sub>	16.9	X	170.90731	252.39971	92.54968	2.41587	0.1994653	0.26834812	2.3805119	20	2 7.7	20.7
243092	2007	QY <sub>12</sub>	16.8	X	146.84412	201.64080	174.41724	8.82239	0.0117026	0.27030260	2.3690259	20	1 30.7	20.0
243093	2007	RK	16.0	X	295.92479	67.54103	255.85655	4.08179	0.0727130	0.21501498	2.7594566	20	6 1.7	19.4
243094	Dirlewanger		17.3	X	268.32769	352.78916	284.64397	1.74351	0.1891909	0.27692193	2.3311192	20	2 7.8	20.8
243095	2007	RG <sub>10</sub>	16.6	X	236.39918	88.50336	213.95810	5.97627	0.1189797	0.27507420	2.3415466	20	2 11.1	20.1
243096	Klauswerner		15.8	X	132.66624	168.87919	218.95852	10.13180	0.0740584	0.19222704	2.9734438	20	2 13.9	20.3
243097	Batavia		16.5	X	0.58036	67.23052	235.16224	6.68996	0.0340759	0.22416996	2.6838059	20	8 10.4	20.0
243098	2007	RX <sub>21</sub>	15.8	X	355.33567	279.57986	3.98099	12.30417	0.0927047	0.21899952	2.7258834	20	7 14.2	19.2
243099	2007	RR <sub>27</sub>	16.9	X	237.88964	122.87529	232.05720	3.46349	0.1805972	0.28662188	2.2782243	20	4 16.9	20.3
243100	2007	RQ <sub>31</sub>	17.9	X	351.72837	87.85223	214.57722	6.54459	0.2639472	0.30244702	2.1980447	20	8 23.6	18.8
243101	2007	RK <sub>45</sub>	17.3	X	323.65815	95.79197	200.26366	6.31577	0.2361707	0.29411373	2.2393700	20	5 13.5	18.9
243102	2007	RA <sub>48</sub>	16.0	X	280.55549	61.84161	180.90695	3.54478	0.0300440	0.18883849	3.0089088	20	2 7.4	20.3
243103	2007	RL <sub>50</sub>	15.9	X	181.49573	187.74222	288.92721	6.47953	0.0551132	0.21719277	2.7409796	20	8 1.5	19.8
243104	2007	RV <sub>52</sub>	15.6	X	70.08005	58.97152	329.91490	8.13835	0.0893005	0.17448855	3.1716951	20	—	—
243105	2007	RE <sub>103</sub>	17.2	X	220.99949	62.81532	269.69783	1.46164	0.2427150	0.27657424	2.3330725	20	3 2.6	21.0
243106	2007	RG <sub>108</sub>	16.8	X	16.11666	87.11394	221.22635	1.52899	0.2014079	0.22861444	2.6489084	20	10 6.1	19.6
243107	2007	RV <sub>109</sub>	17.4	X	257.41037	112.81598	194.93204	2.52181	0.1987948	0.28021937	2.3127958	20	3 5.1	20.8
243108	2007	RN <sub>111</sub>	17.6	X	296.73221	125.23769	150.15775	1.76715	0.2179758	0.28329739	2.2960129	20	3 3.1	20.3
243109	Hansludwig		16.8	X	237.32927	80.47537	244.10162	1.54961	0.1786606	0.27716742	2.3297426	20	3 8.9	20.5
243110	2007	RL <sub>135</sub>	17.0	X	153.36027	168.95127	192.37261	4.04158						

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243121 2007 RC <sub>203</sub>	15.3	X	66.38177	181.02845	192.02273	14.27450	0.0235268	0.17056812	3.2201107	20	—	—
243122 2007 RK <sub>203</sub>	15.8	X	39.34289	91.05525	7.84713	4.63198	0.1250939	0.17994832	3.1072118	20	1 21.2	19.6
243123 2007 RD <sub>220</sub>	17.0	X	220.67049	315.76833	315.21805	1.51968	0.1493210	0.26281984	2.4137778	20	—	—
243124 2007 RT <sub>239</sub>	16.3	X	232.28101	182.00882	94.99137	7.88945	0.1087529	0.26822901	2.3812165	20	1 9.6	19.8
243125 2007 RT <sub>244</sub>	17.6	X	216.32708	224.61292	75.25609	2.42046	0.1781764	0.26838435	2.3802976	20	1 22.1	21.3
243126 2007 RU <sub>245</sub>	15.4	X	84.25723	236.66071	158.88568	17.12400	0.1099823	0.18059212	3.0998227	20	1 5.7	19.8
243127 2007 RY <sub>258</sub>	16.5	X	7.65541	208.05708	98.31655	6.66345	0.2458438	0.30567643	2.1825360	20	10 19.1	18.4
243128 2007 RA <sub>259</sub>	15.9	X	302.84334	84.35953	197.10144	12.54263	0.1056124	0.20394467	2.8584316	20	4 12.9	19.5
243129 2007 RS <sub>267</sub>	15.8	X	70.77209	248.17673	168.60645	10.27398	0.2299175	0.17826851	3.1267005	20	1 28.7	19.7
243130 2007 RQ <sub>279</sub>	15.1	X	103.49181	248.46653	130.74963	22.03165	0.1926129	0.18176678	3.0864533	20	1 21.9	19.6
243131 2007 RA <sub>282</sub>	14.8	X	81.17108	243.72019	140.84044	24.71935	0.1379090	0.17695236	3.1421855	20	—	—
243132 2007 RH <sub>289</sub>	15.7	X	101.20172	355.10293	25.32338	8.15912	0.1011764	0.18166659	3.0875879	20	1 9.3	20.1
243133 2007 RM <sub>298</sub>	15.7	X	10.53917	292.69932	152.32349	5.36054	0.1566171	0.17104445	3.2141296	20	—	—
243134 2007 RT <sub>298</sub>	16.0	X	65.89494	203.26558	86.52034	10.28401	0.1582305	0.22142087	2.7059744	20	9 13.3	19.8
243135 2007 RO <sub>301</sub>	16.9	X	227.95748	186.95909	32.39606	3.26595	0.1878674	0.26335975	2.4104777	20	—	—
243136 2007 RJ <sub>303</sub>	16.5	X	266.69288	263.82134	23.15600	8.53191	0.1238340	0.28106101	2.3081763	20	2 28.5	19.8
243137 2007 RL <sub>310</sub>	16.2	X	189.70824	246.85033	103.26834	7.22678	0.2457694	0.27319407	2.3522774	20	3 1.4	19.9
243138 2007 RN <sub>311</sub>	16.0	X	328.79904	229.75759	113.65612	8.61971	0.1200030	0.22361033	2.6882819	20	8 21.4	18.9
243139 2007 RC <sub>322</sub>	16.8	X	260.97134	291.40727	20.87948	1.73392	0.0238571	0.20083341	2.8878773	20	4 10.2	20.9
243140 2007 RO <sub>325</sub>	16.3	X	311.83198	97.66793	219.06634	5.63368	0.0107025	0.21137138	2.7910777	20	6 23.9	20.1
243141 2007 TG <sub>6</sub>	15.3	X	89.29336	60.50295	331.34338	10.55492	0.1065166	0.17819126	3.1276042	20	1 10.0	19.6
243142 2007 TE <sub>6</sub>	15.3	X	54.92999	112.99224	298.76210	7.61433	0.0917896	0.17442407	3.1724767	20	—	—
243143 2007 TE <sub>8</sub>	17.1	X	221.36213	270.72311	66.52632	5.42590	0.2646163	0.27680240	2.3317902	20	3 12.0	21.1
243144 2007 TL <sub>13</sub>	15.4	X	68.69160	98.31259	210.89016	14.13921	0.1103475	0.23305786	2.6151316	20	12 5.1	19.3
243145 2007 TB <sub>15</sub>	16.8	X	233.40343	266.60989	40.32363	3.08411	0.2113021	0.27215830	2.3582417	20	2 13.8	20.6
243146 2007 TJ <sub>18</sub>	16.6	X	219.39309	192.44843	118.38562	3.44036	0.1996305	0.27021896	2.3695116	20	2 6.5	20.5
243147 2007 TX <sub>18</sub>	17.2	X	67.28734	15.99110	284.13586	7.35485	0.4151169	0.31530328	2.1378820	20	12 30.5	21.1
243148 2007 TN <sub>19</sub>	15.2	X	132.09555	116.89472	283.67330	9.90498	0.1262647	0.18957550	3.0011053	20	3 4.5	19.9
243149 2007 TT <sub>22</sub>	15.1	X	88.92683	311.27516	54.04022	27.33537	0.1758629	0.17093601	3.2154888	20	—	—
243150 2007 TV <sub>29</sub>	15.6	X	245.43098	208.09700	33.35856	12.05576	0.1121207	0.17819770	3.1275288	20	—	—
243151 2007 TA <sub>33</sub>	17.1	X	75.17732	325.97686	342.07577	0.37381	0.0566709	0.23340406	2.6125450	20	12 4.4	20.7
243152 2007 TZ <sub>34</sub>	16.4	X	41.24069	110.47329	208.74467	10.50927	0.2005595	0.23115271	2.6294811	20	11 27.9	20.0
243153 2007 TO <sub>46</sub>	15.1	X	225.32504	194.32328	50.97200	14.08647	0.0806755	0.17127868	3.2111986	20	—	—
243154 2007 TV <sub>49</sub>	16.0	X	339.70943	284.64718	257.68796	2.49678	0.0633583	0.18379459	3.0637094	20	2 4.5	20.0
243155 2007 TR <sub>63</sub>	16.6	X	358.34030	202.58014	98.23588	1.77715	0.0528505	0.21355607	2.7720099	20	8 8.1	20.1
243156 2007 TP <sub>66</sub>	17.7	X	191.28694	111.67122	207.53322	1.83770	0.1966217	0.26623812	2.3930727	20	1 23.9	21.5
243157 2007 TE <sub>68</sub>	17.2	X	197.62084	231.62382	96.78238	3.86624	0.1883945	0.26828844	2.3808648	20	2 10.4	21.1
243158 2007 TG <sub>68</sub>	17.3	X	297.58065	74.63044	230.89691	2.26479	0.1895823	0.28399152	2.2922702	20	4 18.9	20.0
243159 2007 TD <sub>74</sub>	12.6	X	327.11124	245.53479	139.49684	35.88464	0.1051117	0.08237554	5.2312307	20	9 22.8	19.3
243160 2007 TB <sub>75</sub>	15.6	X	147.65757	354.14930	4.55899	9.98249	0.0698976	0.18404291	3.0609529	20	2 3.4	20.2
243161 2007 TG <sub>79</sub>	16.4	X	302.66765	144.08561	257.90635	2.04083	0.0583487	0.22359349	2.6884169	20	9 30.7	19.7
243162 2007 TP <sub>86</sub>	17.1	X	50.62807	215.80775	97.24526	3.18657	0.1018966	0.22977087	2.6400130	20	11 17.2	20.5
243163 2007 TK <sub>94</sub>	17.1	X	171.87550	57.26346	260.06123	4.13779	0.2453714	0.26373553	2.4081874	20	1 8.6	21.1
243164 2007 TW <sub>94</sub>	15.6	X	128.96095	235.64102	131.08533	4.82521	0.1343871	0.18070867	3.0984897	20	1 27.9	20.2
243165 2007 TL <sub>98</sub>	16.6	X	130.90981	184.32192	45.57722	3.28086	0.0756764	0.23030063	2.6359630	20	10 31.2	20.4
243166 2007 TL <sub>108</sub>	15.5	X	103.78877	147.69519	245.58967	7.34706	0.1086821	0.18235871	3.0797707	20	1 25.5	19.9
243167 2007 TB <sub>109</sub>	15.9	X	222.18117	225.85277	212.50460	12.33796	0.1726666	0.21322924	2.7748417	20	7 16.9	20.5
243168 2007 TD <sub>110</sub>	15.8	X	126.13108	76.18619	202.98227	14.98645	0.1237792	0.23819455	2.5773981	20	12 26.6	20.2
243169 2007 TQ <sub>123</sub>	17.1	X	219.65729	214.57891	99.12832	2.61954	0.2003879	0.26963720	2.3729186	20	2 10.6	21.1
243170 2007 TD <sub>125</sub>	17.0	X	219.63029	257.01891	68.14477	3.41505	0.2350154	0.27278729	2.3546153	20	2 24.4	21.0
243171 2007 TA <sub>128</sub>	16.5	X	133.69364	46.08150	79.16924	3.15850	0.0502576	0.20366078	2.8610873	20	6 12.8	20.3
243172 2007 TD <sub>133</sub>	16.1	X	21.52000	239.41135	54.48280	3.36384	0.0543295	0.21751512	2.7382710	20	9 4.6	19.6
243173 2007 TG <sub>136</sub>	15.2	X	84.71094	87.76125	322.54254	9.54685	0.1078912	0.17996890	3.1069748	20	1 25.6	19.3
243174 2007 TY <sub>137</sub>	15.8	X	51.70678	211.38230	193.36365	7.47386	0.0141422	0.16861809	3.2448897	20	—	—
243175 2007 TH <sub>138</sub>	16.3	X	67.21878	244.07479	60.19959	3.29111	0.0732330	0.22950299	2.6420669	20	11 21.5	19.9
243176 2007 TV <sub>139</sub>	15.0	X	55.71137	202.79691	238.57069	21.12928	0.2216465	0.17484498	3.1673831	20	1 27.6	19.1
243177 2007 TG <sub>145</sub>	17.1	X	251.23502	173.44512	124.40763	1.58332	0.2155871	0.27518552	2.3409151	20	2 16.2	20.8
243178 2007 TW <sub>147</sub>	15.5	X	196.29256	282.82900	46.17669	9.53063	0.1082533	0.18944662	3.0024663	20	2 19.9	20.4
243179 2007 TZ <sub>154</sub>	16.4	X	311.45962	154.95729	226.54889	3.13051	0.1306184	0.22321596	2.6914473	20	9 9.4	19.3
243180 2007 TQ <sub>164</sub>	16.2	X	300.42599	281.89580	45.97095	4.94817	0.0757038	0.21053832	2.7984354	20	6 14.3	19.8
243181 2007 TC <sub>169</sub>	15.8	X	33.84504	153.28399	357.06703	10.05301	0.0503400	0.19080069	2.9882442	20	3 9.9	20.0
243182 2007 TK <sub>178</sub>	15.7	X	344.62908	28.91296	304.75659	3.76444	0.0631496	0.21845354	2.7304234	20	8 31.5	18.9
243183 2007 TC <sub>212</sub>	15.6	X	63.02583	229.76518	241.17106	7.99234	0.1076727	0.18385625	3.0630244	20	3 5.2	19.7
243184 2007 TW <sub>216</sub>	16.2	X	332.61829	47.83679	264.04646	3.29056	0.0626140	0.20976362	2.8053213	20	7 13.0	19.6
243185 2007 TU <sub>228</sub>	16.1	X	49.00159	28.47739	217.96392	4.31326	0.0964065	0.21331487	2.7740990	20	8 12.9	19.7
243186 2007 TH <sub>230</sub>	15.5	X	42.70573	29.10453	50.13009	13.09753	0.1694967	0.17172819	3.2055926	20	1 5.8	19.3
243187 2007 TB <sub>265</sub>	16.4	X	140.46192	303.91733	261.16888	5.30795	0.0687389	0.22643372	2.6658885	20	10 7.3	20.5
243188 2007 TK <sub>272</sub>	17.3	X	284.30552	190.91030	101.38983	3.55784	0.1692683	0.27826468	2.3236141	20	3 19.9	20.4
243189 2007 TY <sub>288</sub>	15.2	X	140.86331	242.85993	104.76589	11.44908	0.0793489	0.18164072	3.0878811	20	1 12.0	19.6
243190 2007 TV <sub>296</sub>	15.6	X	164.37444	297.55865	56.93907	11.60201	0.0607470	0.18192138	3.0847045	20	2 17.5	20.4
243191 2007 TP <sub>329</sub>	15.6	X	227.51932	42.70887	237.89641	9.05648	0.0135066	0.18054629	3.1003472	20	1 22.8	20.1
243192 2007 TS <sub>367</sub>	16.3	X	11.73905	42.84281	65.76480	1.16671	0.0982233	0.16907865	3.2389944	20	—	—
243193 2007 TJ <sub>371</sub>	15.0	X	299.86561	220.02908	117.90074	22.69709	0.2635287	0.21264109	2.7799560	20	6 3.7	18.8



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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243201 2007 TV <sub>447</sub>	15.1 <sup>m</sup>	X	177.46701	214.52810	85.01446	10.65439	0.0614607	0.17394890	3.1782515	20	—	—
243202 2007 TW <sub>448</sub>	15.5	X	195.03965	214.14858	88.27245	6.00399	0.1523043	0.18170332	3.0871719	20	1 16.7	20.5
243203 2007 TB <sub>453</sub>	17.0	X	67.81544	281.93477	54.56764	15.65430	0.1483855	0.23949243	2.5680779	20	—	—
243204 Kubanchoria	15.2	X	79.98245	92.36298	301.21379	9.26455	0.0823481	0.17430597	3.1739096	20	—	—
243205 2007 UD <sub>11</sub>	16.7	X	240.09367	182.78913	134.00168	11.26231	0.2406652	0.27566716	2.3381876	20	3 1.2	20.7
243206 2007 UK <sub>11</sub>	16.3	X	27.94301	289.98952	86.41511	14.44217	0.1868019	0.23633506	2.5908997	20	—	—
243207 2007 US <sub>26</sub>	16.7	X	264.85663	151.72473	130.01951	4.06116	0.1175985	0.27656047	2.3331499	20	2 17.6	19.9
243208 2007 UN <sub>27</sub>	16.6	X	325.72509	230.90629	167.05462	4.16748	0.0640751	0.23242653	2.6198650	20	11 3.7	19.7
243209 2007 UK <sub>31</sub>	15.7	X	176.61437	262.70717	120.60948	8.43785	0.0594468	0.19302476	2.9652458	20	4 3.1	20.2
243210 2007 UP <sub>40</sub>	17.2	X	41.07632	64.72237	239.45001	2.50327	0.0807300	0.22521590	2.6754901	20	10 18.7	20.5
243211 2007 UM <sub>44</sub>	16.6	X	221.20213	201.77576	221.05285	3.61974	0.0533428	0.21134505	2.7913095	20	7 9.5	20.7
243212 2007 UQ <sub>48</sub>	15.2	X	123.97540	13.32704	71.55873	11.35489	0.0694649	0.18841747	3.0133895	20	4 21.7	19.7
243213 2007 UX <sub>50</sub>	16.9	X	350.43377	247.47558	87.70967	9.79592	0.1366959	0.29742199	2.2227332	20	10 11.9	19.0
243214 2007 UE <sub>67</sub>	15.3	X	283.74952	330.38089	249.95810	4.21433	0.0665957	0.18223751	3.0811359	20	1 11.8	19.8
243215 2007 UU <sub>84</sub>	16.1	X	140.26630	77.35658	207.56881	2.69968	0.1950157	0.24243855	2.5472306	20	—	—
243216 2007 UT <sub>125</sub>	16.1	X	256.52032	297.67249	72.58442	6.36518	0.0645530	0.20413160	2.8566864	20	6 12.9	20.0
243217 2007 US <sub>126</sub>	15.3	X	120.26408	227.82849	128.07114	15.48145	0.1073043	0.17755240	3.1531021	20	1 3.3	19.9
243218 2007 UB <sub>136</sub>	15.2	X	205.76894	234.03974	101.49412	16.58096	0.0720833	0.18647398	3.0342909	20	3 10.6	20.1
243219 2007 VA <sub>1</sub>	14.6	X	135.78625	359.82056	276.20708	28.72794	0.0604952	0.22680724	2.6629608	20	12 30.8	18.4
243220 2007 VK <sub>11</sub>	14.9	X	114.86171	272.00435	72.54397	18.58458	0.1909488	0.17075502	3.2177606	20	—	—
243221 2007 VY <sub>29</sub>	16.9	X	296.61946	192.50658	224.77379	1.92853	0.0207196	0.22763793	2.6564784	20	10 17.3	20.4
243222 2007 VV <sub>34</sub>	15.2	X	149.18115	270.81536	70.49080	11.81012	0.0646156	0.17323413	3.1869879	20	1 14.1	20.0
243223 2007 VV <sub>63</sub>	17.3	X	204.75933	211.18313	209.59068	2.91304	0.1428964	0.27980959	2.3150532	20	6 13.5	20.7
243224 2007 VN <sub>65</sub>	15.2	X	255.72181	293.00207	290.76799	4.98704	0.0595818	0.17247345	3.1963516	20	—	—
243225 2007 VJ <sub>69</sub>	15.6	X	47.89758	316.72657	127.65839	14.37561	0.0471396	0.17640127	3.1487263	20	1 10.5	19.9
243226 2007 VH <sub>72</sub>	15.3	X	162.23816	269.08068	62.47096	26.51536	0.2289138	0.17794248	3.1305186	20	1 30.7	21.0
243227 2007 VY <sub>87</sub>	15.0	X	9.59329	260.84173	265.92031	8.90741	0.0513221	0.18236330	3.0797190	20	2 23.6	19.2
243228 2007 VQ <sub>88</sub>	15.1	X	61.15643	198.55556	246.14702	9.93849	0.0195936	0.18545349	3.0454119	20	1 21.7	19.5
243229 2007 VO <sub>90</sub>	15.8	X	58.16886	43.68812	67.87661	5.84711	0.1115309	0.18064563	3.0992105	20	3 6.9	19.8
243230 2007 VX <sub>90</sub>	15.7	X	248.99829	195.90912	226.09952	5.73230	0.0292894	0.21476731	2.7615776	20	8 14.6	19.6
243231 2007 VX <sub>92</sub>	15.2	X	235.10690	337.59470	279.72036	10.97089	0.0578735	0.17789988	3.1310184	20	1 4.2	19.7
243232 2007 VJ <sub>93</sub>	15.4	X	160.28296	54.86707	288.04187	11.26610	0.1468536	0.18103776	3.0947336	20	1 30.1	20.4
243233 2007 VZ <sub>93</sub>	15.3	X	18.81001	171.84698	286.47891	8.83402	0.0564071	0.17227069	3.1988591	20	—	—
243234 2007 VE <sub>122</sub>	16.8	X	25.93072	314.29382	317.11114	3.05189	0.0661792	0.21094502	2.7948373	20	8 10.1	20.1
243235 2007 VD <sub>140</sub>	16.1	X	42.72587	190.83809	162.08446	2.88914	0.2119117	0.23465723	2.6032353	20	—	—
243236 2007 VZ <sub>146</sub>	15.4	X	89.00187	11.25871	76.45654	17.99769	0.0768492	0.18010006	3.1054662	20	3 21.6	20.1
243237 2007 VS <sub>164</sub>	16.8	X	31.11922	260.15367	59.74962	2.59361	0.1867264	0.22451504	2.6810552	20	11 11.6	20.1
243238 2007 VB <sub>167</sub>	14.9	X	45.92168	131.25637	244.25469	9.18637	0.0535665	0.15745712	3.3964705	20	—	—
243239 2007 VP <sub>168</sub>	15.7	X	49.66194	252.86892	68.23386	13.95927	0.1914482	0.22729220	2.6591716	20	12 6.6	19.6
243240 2007 VM <sub>169</sub>	16.9	X	176.90820	345.78160	76.37870	6.61366	0.1090114	0.27320548	2.3522119	20	5 18.2	20.3
243241 2007 VX <sub>189</sub>	14.9	X	146.20106	71.23220	238.97267	18.06758	0.1261888	0.16976319	3.2302815	20	—	—
243242 2007 VG <sub>207</sub>	15.8	X	93.15338	199.42250	124.55309	4.85371	0.1818375	0.23901700	2.5714822	20	—	—
243243 2007 VH <sub>219</sub>	16.3	X	254.92785	120.44195	258.60065	1.05001	0.0815113	0.20284663	2.8687378	20	6 20.3	20.1
243244 2007 VZ <sub>226</sub>	16.0	X	49.43051	84.60661	308.67903	12.06249	0.1132860	0.22734768	2.6587389	20	—	—
243245 2007 VH <sub>231</sub>	16.2	X	308.31579	161.60153	62.23588	1.12653	0.1225016	0.17085545	3.2164995	20	—	—
243246 2007 VM <sub>233</sub>	15.6	X	26.55623	81.43800	66.37390	11.31115	0.0434269	0.18041163	3.1018898	20	2 28.6	19.9
243247 2007 VW <sub>265</sub>	15.4	X	66.96334	46.18081	67.89856	8.77459	0.0372996	0.18056914	3.1000857	20	3 14.9	19.8
243248 2007 VY <sub>273</sub>	14.3	X	103.55278	65.56229	278.38001	20.18215	0.0709453	0.16795186	3.2534652	20	—	—
243249 2007 VB <sub>301</sub>	16.1	X	340.13453	213.20149	143.82694	6.63528	0.0260432	0.22037488	2.7145301	20	9 29.5	19.4
243250 2007 VY <sub>311</sub>	16.3	X	164.94881	292.92793	308.62351	4.98848	0.0572515	0.22090756	2.7101646	20	12 20.1	20.2
243251 2007 VY <sub>315</sub>	15.4	X	38.61511	202.58558	109.03285	14.64370	0.1667504	0.22466529	2.6798597	20	11 13.3	19.2
243252 2007 WS <sub>7</sub>	15.1	X	80.76770	202.78182	268.22101	9.10819	0.0597608	0.18360065	3.0658665	20	3 22.0	19.4
243253 2007 WS <sub>19</sub>	16.3	X	339.99333	219.01642	115.69188	4.28365	0.0973896	0.21365552	2.7711496	20	8 27.4	19.5
243254 2007 WP <sub>22</sub>	16.7	X	104.78342	53.70272	247.40394	12.46611	0.1666779	0.23906521	2.5711365	20	—	—
243255 2007 WL <sub>60</sub>	15.7	X	209.94227	93.53943	251.50786	7.03616	0.0682962	0.18696835	3.0289398	20	3 16.5	20.4
243256 2007 XC <sub>5</sub>	16.1	X	354.07990	243.71051	62.53853	7.06327	0.1062375	0.21356139	2.7719638	20	8 13.5	19.3
243257 2007 XS <sub>11</sub>	15.7	X	356.62800	81.17191	58.53288	18.00692	0.0916997	0.17314093	3.1881314	20	1 6.9	20.0
243258 2007 XD <sub>17</sub>	14.5	X	274.56832	349.48816	259.07245	16.26123	0.0819321	0.17630695	3.1498492	20	1 28.8	19.4
243259 2007 XM <sub>29</sub>	16.8	X	9.73322	230.33314	60.37697	5.42692	0.1024811	0.21321548	2.7749611	20	8 17.8	20.1
243260 2007 XD <sub>35</sub>	15.9	X	115.18187	63.02311	55.55312	12.69452	0.0089163	0.19348186	2.9605737	20	5 11.9	19.8
243261 2007 YM <sub>28</sub>	15.2	X	347.76708	77.10166	173.44140	12.92601	0.0757343	0.17801388	3.1296815	20	5 16.0	19.4
243262 Korkosz	16.0	X	7.07749	331.15276	109.01475	11.45606	0.0174718	0.23086419	2.6316714	20	—	—
243263 2007 YB <sub>49</sub>	14.6	X	135.37167	263.83818	107.42591	26.73257	0.0604644	0.16852696	3.2460594	20	2 3.5	19.5
243264 2007 YB <sub>60</sub>	16.1	X	92.97371	212.04323	125.18261	10.13931	0.1872607	0.24168863	2.5524970	20	—	—
243265 2007 YR <sub>61</sub>	16.2	X	91.97402	161.01969	146.94474	5.31980	0.0338082	0.21923292	2.7239483	20	12 18.7	20.0
243266 2008 AW	15.2	X	69.62003	38.04011	64.12876	15.56632	0.0218383	0.17850320	3.1239594	20	3 5.7	19.8
243267 2008 AM <sub>10</sub>	14.7	X	151.81315	57.40303	133.16589	9.29640	0.1238413	0.12553066	3.9503553	20	9 25.5	20.9
243268 2008 AV <sub>34</sub>	15.9	X	82.90849	198.8								

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243281 2008 CE <sub>86</sub>	15.6 <sup>m</sup>	X	336.03397	190.19730	92.87458	4.20160	0.0769488	0.18133341	3.0913689	20	6 7.5	19.6
243282 2008 CJ <sub>86</sub>	15.2	X	222.92343	236.09864	145.04753	18.00761	0.1085353	0.18118070	3.0931056	20	5 19.6	20.3
243283 2008 CB <sub>148</sub>	16.2	X	0.67239	117.35034	218.07181	3.35478	0.1541325	0.20061136	2.8900080	20	10 2.7	19.4
243284 2008 CB <sub>161</sub>	15.5	X	287.41053	114.97724	182.19918	10.74902	0.0439950	0.17241194	3.1971119	20	4 24.9	20.0
243285 Fauvaud	15.3	X	202.93071	161.23609	112.02394	9.09367	0.0404158	0.15145930	3.4855561	20	—	—
243286 2008 CO <sub>183</sub>	15.7	X	298.00275	22.82091	17.36183	11.57892	0.0670483	0.20190399	2.8776598	20	9 20.8	19.4
243287 2008 CA <sub>190</sub>	15.0	X	52.75471	76.22957	105.76310	27.57580	0.1871456	0.17869697	3.1217007	20	6 11.1	19.2
243288 2008 CA <sub>193</sub>	15.6	X	315.94225	156.49009	148.84057	12.11736	0.1365605	0.18313449	3.0710669	20	6 1.6	19.6
243289 2008 DX <sub>15</sub>	16.4	X	2.34907	297.28675	88.00113	6.52967	0.0878680	0.21401405	2.7680538	20	12 8.2	19.7
243290 2008 DD <sub>31</sub>	16.1	X	51.83693	25.33266	294.34274	3.70397	0.1100660	0.21316084	2.7754353	20	11 23.2	20.0
243291 2008 DK <sub>47</sub>	15.6	X	210.70606	296.06303	157.78948	5.79822	0.1147215	0.19013194	2.9952471	20	7 30.5	20.1
243292 2008 DS <sub>70</sub>	16.7	X	152.10607	151.58638	105.82269	5.88186	0.1748083	0.28961829	2.2624834	20	—	—
243293 2008 DH <sub>73</sub>	15.6	X	44.70343	49.44851	90.06255	11.76584	0.0508000	0.18176717	3.0864489	20	3 19.8	19.9
243294 2008 DN <sub>83</sub>	15.4	X	202.34424	211.23939	179.17612	8.87997	0.0406251	0.16894800	3.2406641	20	5 9.8	20.3
243295 2008 EP <sub>9</sub>	15.8	X	327.11385	98.71971	142.59389	12.72743	0.1896894	0.17260810	3.1946892	20	3 20.9	19.8
243296 2008 EY <sub>9</sub>	15.4	X	287.09471	190.63333	152.20676	16.38580	0.1078420	0.18249852	3.0781976	20	6 12.6	19.9
243297 2008 EJ <sub>60</sub>	15.7	X	199.24315	279.70597	187.16114	13.46214	0.0543162	0.19174874	2.9783863	20	8 5.7	20.3
243298 2008 EN <sub>82</sub>	15.5	X	97.18672	194.88053	206.94347	12.02268	0.5564472	0.24959778	2.4982864	20	3 18.8	19.7
243299 2008 EN <sub>109</sub>	16.0	X	313.49835	327.21799	327.27579	4.63650	0.1795966	0.17815041	3.1280822	20	5 3.5	19.9
243300 2008 EN <sub>123</sub>	15.2	X	321.46108	183.48237	101.85561	12.24662	0.0424999	0.17453649	3.1711143	20	5 25.8	19.6
243301 2008 EA <sub>137</sub>	17.3	X	66.39147	272.15367	32.98182	4.14762	0.1752909	0.27962419	2.3160764	20	12 13.2	20.7
243302 2008 FA <sub>37</sub>	15.9	X	307.30886	10.72696	5.90282	12.24975	0.1533985	0.19542801	2.9408859	20	8 25.2	19.4
243303 2008 FX <sub>40</sub>	16.9	X	252.52828	162.87913	154.39233	5.20776	0.2436244	0.23903124	2.5713801	20	3 13.3	21.0
243304 2008 GL <sub>145</sub>	16.7	X	303.42709	208.10797	85.51972	5.83155	0.1595541	0.24401590	2.5362416	20	4 21.3	19.8
243305 2008 GJ <sub>146</sub>	17.3	X	33.87800	171.15697	115.66803	3.27871	0.2008966	0.26185958	2.4196752	20	10 13.7	20.1
243306 2008 JV <sub>15</sub>	17.3	X	348.17849	299.25703	38.12627	3.52866	0.1982165	0.26741838	2.3860262	20	10 3.9	19.0
243307 2008 KX <sub>12</sub>	16.9	X	249.52169	124.39538	165.60370	2.24152	0.1837449	0.22964790	2.6409554	20	2 11.0	20.9
243308 2008 KJ <sub>30</sub>	16.5	X	209.21926	179.34307	173.45179	15.02284	0.2235049	0.23084837	2.6317917	20	3 22.5	20.9
243309 2008 OB <sub>15</sub>	15.7	X	316.47203	241.85511	305.08983	10.39494	0.0961388	0.21366403	2.7710760	20	1 2.5	19.4
243310 2008 OU <sub>24</sub>	15.4	X	59.69706	139.08859	153.26911	15.62095	0.2311705	0.17408740	3.1765656	20	11 12.5	20.4
243311 2008 PN <sub>13</sub>	14.9	X	180.65608	161.83649	143.70143	9.97022	0.1820397	0.12289367	4.0066651	20	1 14.6	21.3
243312 2008 QE <sub>48</sub>	15.5	X	160.61128	33.67471	192.39111	14.98797	0.0251955	0.17847103	3.1243348	20	11 20.7	20.2
243313 2008 RH <sub>3</sub>	13.1	X	324.59665	155.58849	248.06340	2.31569	0.0663129	0.08458613	5.1396862	20	10 8.2	19.5
243314 2008 RA <sub>15</sub>	13.3	X	312.18407	165.08841	243.16036	5.41017	0.0453559	0.08278274	5.2140620	20	9 28.2	20.0
243315 2008 RP <sub>18</sub>	13.1	X	290.50213	90.99402	336.31027	9.71843	0.0459417	0.08208975	5.2433650	20	9 23.2	20.0
243316 2008 RL <sub>32</sub>	13.0	X	332.65240	25.93535	358.21148	31.28512	0.0404922	0.08324486	5.1947473	20	9 25.5	19.8
243317 2008 RE <sub>96</sub>	17.4	X	74.20060	71.66624	329.22708	6.63611	0.1696247	0.27979089	2.3151564	20	—	—
243318 2008 RS <sub>101</sub>	13.1	X	134.62020	220.84472	2.72949	19.61253	0.0221511	0.08268500	5.2181700	20	10 1.4	20.1
243319 2008 RR <sub>109</sub>	15.3	X	135.94908	42.98582	189.40405	27.77912	0.1935318	0.17270521	3.1934914	20	11 4.6	20.9
243320 Jackuipers	15.2	X	26.43540	52.93284	233.26193	7.61640	0.0791318	0.15942191	3.3685065	20	8 22.4	19.8
243321 2008 SG <sub>20</sub>	15.6	X	284.18404	181.23725	178.84802	9.66353	0.0475607	0.15378173	3.4503743	20	7 5.6	20.6
243322 2008 SG <sub>31</sub>	13.1	X	26.61473	45.45792	295.13405	6.88640	0.0932638	0.08363007	5.1787833	20	10 16.5	19.8
243323 2008 SO <sub>36</sub>	13.4	X	297.64959	252.32590	161.11040	4.59329	0.0789078	0.08315776	5.1983742	20	9 15.3	20.1
243324 2008 SN <sub>65</sub>	16.0	X	137.90145	142.65090	25.17111	14.60389	0.2378570	0.22834248	2.6510112	20	9 2.6	20.8
243325 2008 SR <sub>154</sub>	12.8	X	43.74732	293.09238	14.95757	18.70999	0.0623474	0.08271933	5.2167261	20	10 2.5	19.5
243326 2008 SA <sub>178</sub>	16.6	X	166.34220	76.50236	350.09753	7.46025	0.2930582	0.21235990	2.7824095	20	5 15.7	21.8
243327 2008 SQ <sub>195</sub>	17.1	X	266.40435	38.94865	39.33482	5.66281	0.2065290	0.23980127	2.5658724	20	9 10.1	20.2
243328 2008 SX <sub>243</sub>	17.7	X	104.24908	113.91512	355.80632	3.06601	0.0953664	0.29839299	2.2179086	20	4 22.5	20.2
243329 2008 SZ <sub>290</sub>	16.6	X	158.15040	24.32384	69.27171	5.72405	0.0929933	0.21859633	2.7292342	20	6 7.1	20.7
243330 2008 TT <sub>18</sub>	16.9	X	262.60281	52.06990	23.19508	3.89601	0.2237718	0.23702087	2.5858996	20	8 27.4	20.3
243331 2008 TE <sub>21</sub>	17.3	X	299.98639	283.94130	216.64640	7.50280	0.1954863	0.25943529	2.4347256	20	—	—
243332 2008 TF <sub>45</sub>	16.5	X	199.13998	246.02465	216.70605	6.63352	0.0824691	0.22992565	2.6388281	20	8 1.8	20.4
243333 2008 TR <sub>69</sub>	16.9	X	252.84858	341.25212	68.02290	4.79259	0.1459514	0.23214306	2.6219973	20	7 21.0	20.5
243334 2008 TH <sub>109</sub>	13.4	X	10.10711	229.99781	131.16240	8.57841	0.0180715	0.08161263	5.2637809	20	10 19.9	20.3
243335 2008 TH <sub>131</sub>	17.2	X	178.28240	168.10959	312.82832	3.18833	0.1337084	0.22946147	2.6423857	20	8 3.2	21.3
243336 2008 TS <sub>165</sub>	15.5	X	22.38297	31.64445	38.07006	12.32886	0.1006977	0.17708390	3.1406292	20	—	—
243337 2008 TW <sub>187</sub>	15.9	X	38.62899	272.87474	167.44179	12.28282	0.1923779	0.18565742	3.0431814	20	—	—
243338 2008 TH <sub>188</sub>	16.5	X	136.83280	228.93377	243.98991	8.12212	0.1739912	0.21754208	2.7380447	20	6 14.7	20.9
243339 2008 UB <sub>4</sub>	17.1	X	203.04637	290.72839	70.57288	23.72796	0.0985130	0.37952329	1.8893413	20	4 3.4	20.1
243340 2008 UF <sub>8</sub>	16.8	X	159.79175	69.31413	11.37273	15.96775	0.2385786	0.21781546	2.7357532	20	5 24.2	21.8
243341 2008 UZ <sub>77</sub>	15.5	X	18.23500	205.63693	243.41364	15.09074	0.1243579	0.17995552	3.1071288	20	—	—
243342 2008 UF <sub>107</sub>	16.7	X	217.97550	67.92177	4.12884	4.63281	0.1315578	0.22608079	2.6686622	20	7 12.6	20.7
243343 2008 UY <sub>117</sub>	17.0	X	57.95505	149.38114	354.34140	4.84804	0.1370402	0.20340123	2.8635207	20	4 13.9	20.4
243344 2008 UA <sub>134</sub>	16.9	X	341.62894	273.11435	228.02151	6.31507	0.1851309	0.26856895	2.3792068	20	—	—
243345 2008 UZ <sub>148</sub>	16.5	X	203.79899	146.04384	242.36429	3.77462	0.0803655	0.21321506	2.7749647	20	5 3.7	20.6
243346 2008 UF <sub>157</sub>	16.6	X	120.85217	267.01295	225.50953	4.08897	0.0711701	0.21529335	2.7570774	20	6 13.7	20.5
243347 2008 UU <sub>160</sub>	15.3	X	354.88809	256.67405	249.02809	8.71202	0.1080508	0.18489547	3.0515363	20	1 6.5	19.2
243348 2008 UC <sub>199</sub>	15.4	X	9.31306	208.22744	228.94715	17.41875	0.1364216	0.17595242	3.1540789	20	—	—
243349 2008 UF <sub>199</sub>	14.8	X	358.40619	225.40804	236.63161	26.56839	0.2257180	0.17620031	3.1511200	20	—	—
243350 2008 UW <sub>199</sub>	14.8	X	341.91478	15.31163	75.41268	29.13291	0.1853436	0.17231390	3.1983244	20	—	—
243351 2008 UP <sub>215</sub>	16.5	X	315.56435	177.64311	291.78753	6.07159	0.1132433	0.25795398	2.4440377	20	—	—
243352 2008 UP <sub>229</sub>	16.6	X	124.95591	121.74554	342.46110	3.77143	0.0178212	0.20934204	2.8090863	20	5 4.6	20.5
243353 2008 UE <sub>275</sub>	16.7	X	203.08254	26.66634	42.65890	2.84752	0.0442182	0.22202877	2.7010329	20	6 27.8	20.6
243354 2008 UK <sub>3</sub>												

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243361 2008 WU <sub>43</sub>	16.2	X	29.78210	154.02184	302.64074	1.71466	0.0619275	0.18416393	3.0596118	20	—	—
243362 2008 WP <sub>45</sub>	15.5	X	74.27784	11.70314	57.66085	4.43464	0.0703468	0.18916732	3.0054209	20	1 28.7	19.5
243363 2008 WV <sub>58</sub>	15.1	X	77.03626	158.06971	241.81863	12.34618	0.0910686	0.18312110	3.0712167	20	—	—
243364 2008 WY <sub>59</sub>	15.3	X	78.86959	227.01781	222.73263	9.96034	0.0706295	0.19339049	2.9615061	20	2 23.2	19.4
243365 2008 WA <sub>71</sub>	17.5	X	97.91523	202.09295	244.10159	2.02549	0.1272073	0.28143440	2.3061343	20	3 17.3	20.2
243366 2008 WH <sub>74</sub>	15.8	X	335.17924	115.12266	89.20644	19.23215	0.2886483	0.18273480	3.0755435	20	1 28.8	19.6
243367 2008 WV <sub>77</sub>	15.6	X	29.79236	337.90740	80.50034	11.88253	0.2290150	0.17739493	3.1369571	20	—	—
243368 2008 WS <sub>89</sub>	16.7	X	240.55744	235.54812	237.57908	3.55721	0.1897906	0.23565512	2.5958811	20	9 20.8	20.3
243369 2008 WX <sub>102</sub>	16.6	X	69.25548	186.38824	288.14105	18.44979	0.0813705	0.36227811	1.9488331	20	2 13.8	18.5
243370 2008 WA <sub>112</sub>	16.7	X	267.36035	170.47113	58.63862	5.82890	0.0973177	0.27141065	2.3625706	20	—	—
243371 2008 WY <sub>119</sub>	16.1	X	298.80823	89.53224	66.59568	0.43515	0.1347460	0.17262667	3.1944600	20	—	—
243372 2008 WN <sub>128</sub>	17.3	X	323.05209	213.62243	279.35136	1.73352	0.1463796	0.25886795	2.4382816	20	—	—
243373 2008 WM <sub>134</sub>	16.7	X	317.60416	313.12529	238.58958	5.98071	0.1198012	0.27218235	2.3581029	20	—	—
243374 2008 XW <sub>4</sub>	14.7	X	344.27326	228.31412	292.00445	15.40369	0.1549950	0.17870674	3.1215869	20	1 6.6	18.5
243375 2008 XY <sub>17</sub>	16.9	X	232.84847	335.11915	174.30527	3.03950	0.1450577	0.24084500	2.5584541	20	11 7.4	20.2
243376 2008 XA <sub>40</sub>	15.4	X	60.46975	339.98718	62.82335	4.30977	0.1123866	0.17916496	3.1162623	20	—	—
243377 2008 XK <sub>40</sub>	16.4	X	51.24449	47.39462	12.48864	2.30482	0.0736056	0.17890534	3.1192763	20	—	—
243378 2008 XT <sub>43</sub>	15.2	X	102.73469	279.18822	137.69128	16.04826	0.0957959	0.17899845	3.1181946	20	2 23.7	19.5
243379 2008 XK <sub>49</sub>	15.1	X	331.10305	6.51844	288.83340	16.05867	0.2657278	0.21053137	2.7984969	20	5 23.8	18.0
243380 2008 XN <sub>55</sub>	15.2	X	122.06753	227.98498	121.68875	9.52905	0.0850836	0.16846850	3.2468102	20	—	—
243381 Alessio	15.9	X	281.61701	332.30963	274.45072	24.09041	0.2212748	0.27543784	2.3394853	20	1 8.5	19.6
243382 2008 YZ <sub>17</sub>	16.2	X	179.78688	3.34175	115.27002	9.22149	0.1749661	0.21619183	2.7494334	20	7 31.4	20.6
243383 2008 YO <sub>38</sub>	16.9	X	358.86550	176.34061	285.83877	0.79577	0.1365857	0.25790755	2.4443310	20	—	—
243384 2008 YA <sub>40</sub>	17.0	X	256.42155	70.47107	27.05262	1.16966	0.0804613	0.23241495	2.6199520	20	10 8.4	20.1
243385 2008 YD <sub>49</sub>	15.6	X	253.41039	164.91606	95.99890	5.87480	0.1068545	0.17777574	3.1324758	20	1 24.3	20.3
243386 2008 YP <sub>51</sub>	15.3	X	148.11334	163.83021	108.36023	11.55424	0.0938690	0.15644399	3.4111184	20	12 24.6	20.6
243387 2008 YZ <sub>52</sub>	16.2	X	18.29206	179.77812	86.74842	5.19179	0.0584310	0.21049535	2.7988162	20	7 22.5	19.6
243388 2008 YK <sub>54</sub>	16.2	X	333.09252	315.28924	90.55673	7.00717	0.1156431	0.23738914	2.5832245	20	11 29.2	18.9
243389 2008 YU <sub>90</sub>	16.0	X	276.73423	119.50700	108.74848	4.55929	0.0822966	0.17982903	3.1085857	20	1 12.3	20.3
243390 2008 YX <sub>97</sub>	16.0	X	89.48737	312.15844	102.84150	6.50217	0.1478390	0.18136873	3.0909675	20	2 11.8	20.1
243391 2008 YG <sub>109</sub>	17.0	X	213.33631	194.67373	102.95513	4.85975	0.2145729	0.26475187	2.4020204	20	1 17.2	21.0
243392 2008 YW <sub>109</sub>	17.1	X	84.24175	109.06526	97.70697	4.32791	0.0351935	0.30829366	2.1701661	20	8 9.9	19.4
243393 2008 YO <sub>125</sub>	17.2	X	206.72807	313.90367	310.51802	1.94864	0.1299865	0.25669778	2.4520047	20	—	—
243394 2008 YB <sub>156</sub>	17.0	X	96.56673	232.90383	53.41139	4.51503	0.1020066	0.23618959	2.5919635	20	12 5.9	20.9
243395 2008 YS <sub>168</sub>	16.8	X	158.52112	112.62812	94.44400	4.08633	0.1031289	0.23173368	2.6250845	20	11 2.4	20.8
243396 2008 YZ <sub>171</sub>	15.4	X	348.48654	84.94215	63.57438	12.62239	0.0895547	0.17495150	3.1660974	20	1 6.1	19.6
243397 2008 YO <sub>172</sub>	15.6	X	322.53010	122.61367	86.15053	17.57056	0.1645894	0.18117596	3.0931596	20	2 4.7	19.8
243398 2008 YP <sub>172</sub>	17.0	X	186.98649	114.35110	106.97514	1.93967	0.0525083	0.24289427	2.5440435	20	12 25.7	20.6
243399 2008 YV <sub>172</sub>	17.2	X	122.09793	30.42952	239.43751	1.30463	0.0937542	0.23841883	2.5757815	20	12 12.3	21.0
243400 2009 AP <sub>1</sub>	16.0	X	224.15650	359.25522	295.11793	23.11482	0.1500857	0.27335426	2.3513583	20	1 20.5	19.7
243401 2009 AY <sub>15</sub>	15.7	X	95.45097	104.54755	86.55354	10.33056	0.0943043	0.21366331	2.7710823	20	8 3.9	19.7
243402 2009 AX <sub>24</sub>	15.0	X	63.81188	229.69066	132.85857	12.90060	0.0950145	0.16068551	3.3508237	20	—	—
243403 2009 AP <sub>48</sub>	15.8	X	65.72029	194.89690	247.34023	7.78536	0.0523540	0.18145900	3.0899424	20	1 28.6	20.1
243404 2009 BU <sub>4</sub>	15.2	X	277.74857	325.79438	167.97470	9.27973	0.0849139	0.15551006	3.4247619	20	12 5.6	20.0
243405 2009 BN <sub>24</sub>	16.7	X	287.87312	294.52694	295.10147	4.64948	0.0730433	0.26420724	2.4053202	20	1 14.5	19.7
243406 2009 BK <sub>36</sub>	16.3	X	247.13299	299.99090	100.79692	6.88879	0.0121847	0.21066617	2.7973031	20	7 19.9	20.2
243407 2009 BF <sub>52</sub>	16.2	X	70.07147	112.20258	124.63140	14.12412	0.0792341	0.21427502	2.7658058	20	8 31.0	20.0
243408 2009 BN <sub>53</sub>	17.0	X	125.25110	212.40924	115.66504	6.53468	0.0350266	0.25097312	2.4891510	20	—	—
243409 2009 BF <sub>82</sub>	15.3	X	306.04101	208.91812	92.15976	14.93707	0.1392059	0.20231628	2.8737490	20	5 13.1	19.1
243410 2009 BN <sub>88</sub>	16.3	X	277.42371	241.03679	137.36163	7.04516	0.0518593	0.21432138	2.7654069	20	7 24.1	19.9
243411 2009 BA <sub>90</sub>	16.3	X	301.64038	349.59617	214.96493	0.67957	0.0987024	0.17375207	3.1806513	20	1 11.4	20.9
243412 2009 BP <sub>98</sub>	16.3	X	33.05684	22.60593	83.54442	2.17857	0.1540411	0.17611945	3.1520844	20	1 21.1	20.0
243413 2009 BH <sub>111</sub>	15.2	X	352.15261	110.66284	103.52125	7.61326	0.0679390	0.18577289	3.0419202	20	4 6.4	19.2
243414 2009 BT <sub>124</sub>	16.0	X	6.94461	142.59749	142.60362	9.17434	0.1421719	0.20492585	2.8493003	20	8 4.1	19.1
243415 2009 BW <sub>137</sub>	16.7	X	120.76888	300.47123	2.56473	1.36200	0.1650904	0.24231359	2.5481063	20	—	—
243416 2009 BO <sub>140</sub>	16.7	X	12.23467	170.03932	135.45953	7.41524	0.1189062	0.21684584	2.7439024	20	9 13.7	19.9
243417 2009 BV <sub>144</sub>	16.5	X	23.26046	156.05511	126.03139	4.22245	0.0391084	0.21330502	2.7741845	20	8 18.6	20.2
243418 2009 BH <sub>147</sub>	16.4	X	122.38029	160.99317	166.70453	12.64877	0.2563543	0.24431514	2.5341703	20	—	—
243419 2009 BT <sub>169</sub>	15.2	X	140.28847	256.42277	118.98575	22.69731	0.2177557	0.18559936	3.0438160	20	2 29.4	20.4
243420 2009 BA <sub>178</sub>	16.1	X	204.81864	137.69907	166.53896	7.58067	0.1571102	0.25466599	2.4650293	20	1 17.3	20.1
243421 2009 BC <sub>187</sub>	14.8	X	270.52087	330.38447	302.82697	21.41365	0.1449177	0.18137339	3.0909146	20	2 14.2	19.6
243422 2009 BA <sub>188</sub>	15.8	X	283.88644	259.79072	166.22131	11.92227	0.0563262	0.22497073	2.6774336	20	10 9.5	19.2
243423 2009 CP <sub>7</sub>	16.9	X	229.04228	34.65448	238.13573	2.98507	0.1004978	0.26457871	2.4030683	20	1 1.4	20.5
243424 2009 CT <sub>27</sub>	16.1	X	123.49908	297.72355	107.63611	5.54471	0.0780500	0.18053656	3.1004586	20	3 3.2	20.6
243425 2009 CA <sub>50</sub>	15.1	X	282.07302	117.31161	121.35551	11.02299	0.0307319	0.17822804	3.1271739	20	2 7.3	19.5
243426 2009 CL <sub>53</sub>	16.8	X	64.21853	255.11264	142.17456	6.66345	0.0397374	0.25575145	2.4580496	20	—	—
243427 2009 CS <sub>56</sub>	15.3	X	243.03055	147.38564	157.27276	24.72399	0.0616231	0.17906943	3.1173704	20	3 9.2	19.9
243428 2009 CL <sub>58</sub>	15.5	X	271.62243	133.49230	168.58389	18.36412	0.1342025	0.18484698	3.0520699	20	3 29.8	20.0
243429 2009 CA <sub>63</sub>	15.7	X	260.19879	278.93110	352.86580	14.73305	0.2356568	0.17061410	3.2195321	20	2 5.8	21.1
243430 2009 DQ <sub>1</sub>	16.9	X	286.44484	218.89145	234.56902	4.37735	0.0649067	0.23469158	2.6029813	20	11 17.8	19.8
243431 2009 DK <sub>32</sub>	16.4	X	213.72757	140.39117	162.99643	5.95383	0.0663151	0.25620105	2.4551731	20	1 24.4	19.9
243432 2009 DO <sub>41</sub>	16.1	X	320.07903	244.63353	133.14364	10.62617	0.0417761	0.22154218	2.7049865	20	9 29.7	19.6
243433 2009 DY <sub>44</sub>	15.7	X	200.45621	34.85623	90.14319	12.5237	0.0605191	0.21947629	2.7219344	20	9 11.0	19.8
243434 2009 DB <sub>46</sub>	15.6	X	55.0									

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243441 2009 FO <sub>3</sub>	17.1	X	39.48921	249.83169	290.12303	2.21904	0.1059935	0.27420336	2.3465017	20	4 25.9	19.4
243442 2009 FS <sub>6</sub>	16.8	X	249.39301	243.39706	61.06709	3.71244	0.1627219	0.26334837	2.4105472	20	2 29.1	20.5
243443 2009 FD <sub>18</sub>	15.7	X	55.30527	313.66993	163.81004	15.72295	0.0683905	0.17562421	3.1580072	20	3 2.8	19.7
243444 2009 FQ <sub>41</sub>	16.6	X	263.38017	174.62268	131.07782	7.75186	0.1297493	0.26900666	2.3766252	20	3 19.9	20.0
243445 2009 FD <sub>45</sub>	16.1	X	267.82182	168.63969	30.09643	12.60558	0.1166614	0.24043415	2.5613678	20	—	—
243446 2009 FX <sub>56</sub>	14.3	X	308.29339	333.04666	272.82389	27.01521	0.1842810	0.17558834	3.1584374	20	2 12.0	19.1
243447 2009 GE	15.8	X	144.63132	354.61060	231.89666	8.72227	0.2374887	0.22056324	2.7129844	20	11 8.8	20.4
243448 2009 HD <sub>16</sub>	15.9	X	79.20819	141.36013	146.43867	8.55325	0.2021318	0.21383125	2.7696311	20	11 27.3	20.4
243449 2009 HP <sub>19</sub>	16.2	X	37.75519	232.60347	98.44605	10.41195	0.2247617	0.20989265	2.8041714	20	12 7.4	20.0
243450 2009 HY <sub>21</sub>	15.3	X	349.17600	73.68082	184.11395	10.96539	0.0594866	0.18552578	3.0446208	20	5 27.1	19.4
243451 2009 HL <sub>60</sub>	16.0	X	112.56088	163.53907	94.03839	5.81639	0.0680715	0.21418465	2.7665837	20	11 13.0	20.1
243452 2009 HD <sub>73</sub>	15.8	X	269.60536	171.77962	164.70943	8.11140	0.0546540	0.18470136	3.0536739	20	5 20.3	20.2
243453 2009 HX <sub>85</sub>	12.9	X	279.51063	93.78444	193.77081	18.48863	0.1179682	0.08453982	5.1415630	20	3 28.2	19.8
243454 2009 HH <sub>92</sub>	16.2	X	104.56527	210.47344	52.91712	5.22479	0.0283470	0.21178051	2.7874819	20	11 6.4	20.2
243455 2009 JJ <sub>2</sub>	15.8	X	14.98352	252.99021	24.39563	9.85106	0.1318373	0.19277443	2.9678123	20	8 10.3	19.5
243456 2009 JR <sub>3</sub>	15.4	X	335.18573	184.20739	133.39917	11.30221	0.1762231	0.18869028	3.0104843	20	7 16.6	18.7
243457 2009 JA <sub>18</sub>	16.3	X	75.83080	89.81445	209.08441	4.84290	0.0373358	0.21293567	2.7773915	20	11 17.6	20.0
243458 Bubulina	16.7	X	331.96156	172.50983	182.74961	12.48137	0.2760250	0.26811708	2.3818792	20	9 23.1	17.6
243459 2009 RZ <sub>16</sub>	17.1	X	94.11527	349.49378	15.96331	4.91032	0.2119194	0.30020355	2.2089820	20	—	—
243460 2009 RA <sub>54</sub>	12.9	X	265.31399	252.31016	202.52916	12.69982	0.0104092	0.08378639	5.1723401	20	10 1.4	19.7
243461 2009 SF <sub>21</sub>	17.9	X	0.76749	100.25732	313.49347	6.37178	0.2481969	0.28470645	2.2884311	20	—	—
243462 2009 ST <sub>42</sub>	16.2	X	350.47756	98.98934	295.73236	4.03193	0.1685001	0.18474701	3.0531708	20	11 30.5	19.6
243463 2009 SF <sub>44</sub>	15.6	X	101.62691	285.02426	336.71238	4.69796	0.1283791	0.18180564	3.0860134	20	11 2.6	20.4
243464 2009 SC <sub>49</sub>	16.1	X	243.30127	352.39035	297.16174	10.25999	0.1318414	0.23465606	2.6032439	20	3 12.8	20.1
243465 2009 SN <sub>100</sub>	16.6	X	39.72100	17.06092	223.18928	10.45056	0.2740312	0.27831471	2.3233356	20	12 2.9	20.0
243466 2009 SE <sub>104</sub>	15.2	X	357.56649	181.53679	171.60152	10.53188	0.0270963	0.17796095	3.1303020	20	10 9.9	19.4
243467 2009 SE <sub>124</sub>	15.7	X	3.89122	95.22970	223.26698	8.92459	0.2518859	0.17631459	3.1497582	20	9 17.8	19.1
243468 2009 SZ <sub>146</sub>	17.1	X	188.30519	231.48534	185.29995	8.61144	0.1534326	0.23936529	2.5689872	20	5 23.8	21.3
243469 2009 SY <sub>158</sub>	15.8	X	300.92009	180.15935	228.45611	7.44168	0.1653086	0.17430664	3.1739013	20	9 13.8	19.8
243470 2009 SR <sub>175</sub>	14.9	X	286.83011	164.36028	257.80104	26.75752	0.1451933	0.17532246	3.1616298	20	8 31.8	19.7
243471 2009 SO <sub>213</sub>	16.2	X	325.91477	335.94069	22.08277	3.71987	0.1619117	0.17183438	3.2042717	20	8 25.5	19.9
243472 2009 SD <sub>214</sub>	15.2	X	283.34400	264.18530	194.02183	12.20213	0.1018352	0.18271636	3.0757504	20	11 4.4	19.2
243473 2009 SO <sub>241</sub>	16.0	X	295.85885	41.04120	351.19916	26.42821	0.1815739	0.16994210	3.2280138	20	8 24.3	20.3
243474 2009 SH <sub>264</sub>	16.4	X	128.07061	188.43160	166.09000	8.82771	0.2624116	0.21522049	2.7576997	20	1 21.3	20.8
243475 2009 SB <sub>265</sub>	15.4	X	134.77844	326.31950	240.25406	4.87710	0.1297000	0.17227762	3.1987734	20	9 28.9	20.5
243476 2009 SZ <sub>289</sub>	16.3	X	119.43277	210.86088	162.22853	4.90642	0.0811294	0.21314208	2.7755981	20	1 12.6	20.1
243477 2009 SP <sub>293</sub>	17.6	X	37.16440	109.25890	272.24655	1.61140	0.1760246	0.28733750	2.2744401	20	—	—
243478 2009 SY <sub>329</sub>	15.2	X	20.13562	201.45236	151.02828	7.01954	0.1202805	0.18486796	3.0518390	20	11 20.3	19.2
243479 2009 TY <sub>5</sub>	13.0	X	287.79319	24.70880	42.62440	11.03432	0.0604492	0.08231600	5.2337528	20	9 25.2	19.9
243480 2009 TQ <sub>9</sub>	16.5	X	62.15298	88.52461	16.57620	4.91796	0.0735496	0.22063217	2.7124193	20	2 22.2	19.8
243481 2009 TW <sub>14</sub>	16.4	X	29.56874	193.51003	171.84745	0.97730	0.1833834	0.18861051	3.0113331	20	12 26.9	20.5
243482 2009 TY <sub>14</sub>	15.8	X	302.69060	280.03424	132.87739	2.68785	0.1242058	0.17513625	3.1638704	20	10 1.8	19.6
243483 2009 TW <sub>17</sub>	15.4	X	51.24953	144.45159	162.58957	16.60175	0.2316137	0.18295475	3.0730780	20	11 21.7	20.1
243484 2009 TA <sub>23</sub>	12.9	X	320.65774	228.45529	163.97163	13.26395	0.0527223	0.08140465	5.2727425	20	9 23.2	19.6
243485 2009 TH <sub>26</sub>	15.2	X	54.55513	265.41387	40.72669	20.46508	0.1179689	0.18049640	3.1009185	20	11 4.6	19.6
243486 2009 TQ <sub>34</sub>	14.9	X	287.98081	40.47364	55.17456	17.17114	0.2309889	0.17798353	3.1300373	20	10 23.9	18.8
243487 2009 TB <sub>38</sub>	15.6	X	37.90110	262.80735	240.03457	12.18377	0.1737759	0.21833125	2.7314428	20	3 6.1	18.7
243488 2009 TB <sub>41</sub>	15.0	X	18.08153	163.33113	192.08791	12.07266	0.0705230	0.18183395	3.0856931	20	11 13.8	19.2
243489 2009 UX <sub>11</sub>	15.4	X	196.38442	130.57142	49.04348	22.60439	0.0124427	0.18173163	3.0868512	20	11 7.3	19.6
243490 2009 UF <sub>19</sub>	12.5	X	14.14956	277.22028	65.19753	13.87174	0.0445242	0.08396334	5.1650705	20	10 8.5	19.3
243491 Muhlviertel	16.9	X	146.98866	219.42957	112.03487	6.59174	0.1402569	0.30536135	2.1840371	20	—	—
243492 2009 UB <sub>26</sub>	16.0	X	160.11736	272.99247	60.17790	6.02757	0.0344119	0.21154296	2.7895683	20	1 7.1	19.9
243493 2009 UY <sub>39</sub>	17.4	X	147.85362	88.30047	281.22217	0.87420	0.2299636	0.21739697	2.7392629	20	2 23.0	21.8
243494 2009 UF <sub>74</sub>	13.5	X	306.35225	29.07774	12.56975	7.44644	0.1243145	0.08124904	5.2794727	20	9 9.1	20.0
243495 2009 UB <sub>102</sub>	16.5	X	23.66499	71.43664	73.59529	5.68698	0.0740055	0.21780705	2.7358236	20	2 17.8	19.8
243496 2009 UV <sub>105</sub>	13.4	X	319.14164	164.41229	222.99502	19.96954	0.0314863	0.08087124	5.2959025	20	9 10.5	20.5
243497 2009 UR <sub>122</sub>	15.0	X	72.31777	51.21581	253.21585	9.89279	0.0256276	0.18215680	3.0820461	20	11 10.9	19.4
243498 2009 US <sub>130</sub>	15.2	X	168.77745	336.54230	267.50717	13.31322	0.0988112	0.19303744	2.9651159	20	12 18.8	19.6
243499 2009 UA <sub>131</sub>	12.8	X	337.43310	112.48068	278.96457	16.64825	0.0316204	0.08570389	5.0949002	20	10 5.4	19.7
243500 2009 UK <sub>139</sub>	15.4	X	273.08170	95.82716	0.99386	9.23019	0.0614303	0.17462156	3.1700842	20	10 19.4	19.7
243501 2009 UR <sub>139</sub>	12.6	X	294.75942	322.77700	115.17648	12.31152	0.0280865	0.08195387	5.2491590	20	10 19.7	19.6
243502 2009 UE <sub>140</sub>	15.8	X	288.43838	265.62754	205.14507	4.61571	0.1346968	0.17947870	3.1126296	20	11 21.9	19.6
243503 2009 VS <sub>26</sub>	15.9	X	47.86495	272.13088	33.05385	15.88260	0.0302007	0.17744574	3.1363583	20	10 15.8	20.3
243504 2009 VD <sub>77</sub>	12.5	X	1.83755	271.89958	96.79428	20.23474	0.0758705	0.08275417	5.2152617	20	10 26.8	19.3
243505 2009 VG <sub>106</sub>	17.1	X	194.62329	179.21448	170.29611	8.81381	0.2404318	0.22664944	2.6641967	20	3 6.7	21.7
243506 2009 WS	16.2	X	3.65423	218.71739	154.12348	1.74873	0.1285088	0.18304265	3.0720941	20	11 20.6	19.9
243507 2009 WT <sub>26</sub>	16.6	X	83.24483	107.10299	289.38974	1.73540	0.0781547	0.20415326	2.8564843	20	—	—
243508 2009 WM <sub>71</sub>	17.4	X	197.24827	249.24747	76.64459	4.80843	0.1176608	0.31078212	2.1585662	20	1 31.5	20.5
243509 2009 WB <sub>80</sub>	13.1	X	316.65382	9.05617	51.50173	30.01257	0.0655534	0.08271193	5.2170375	20	10 26.4	19.9
243510 2009 WE <sub>84</sub>	16.2	X	277.00264	125.67267	344.68417	4.94697	0.1489375	0.17591666	3.1545064	20	10 30.3	20.3
243511 2009 WF <sub>129</sub>	16.2	X	348.54458	209.83750	52.20747	11.53074	0.0897598	0.23858709	2.5745703	20	5 27.7	19.1
243512 2009 YF <sub>10</sub>	15.5	X	309.31314	353.33849	187.48728	9.28564	0.0793705	0.18115351	3.0934152	20	—	—
243513 2009 YL <sub>15</sub>	16.1	X	82.08684	196.15427	349.90483	16.71278	0.1004884	0.21719233	2.7409834	20	7 15.2	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243521 2010 <i>CF</i> <sub>63</sub>	16.0	X	95.05289	294.25622	108.91679	2.71140	0.0809501	0.18774735	3.0205556	20	1 24.2	20.0
243522 2010 <i>CA</i> <sub>124</sub>	15.4	X	33.67541	209.46726	52.62552	14.60775	0.1663019	0.21972691	2.7198642	20	9 2.5	19.0
243523 2010 <i>CO</i> <sub>138</sub>	16.0	X	15.38047	256.25045	341.50538	6.67260	0.1702770	0.20921384	2.8102337	20	6 14.5	19.0
243524 2010 <i>DG</i> <sub>8</sub>	15.6	X	288.70824	16.20223	169.96862	15.17805	0.0869829	0.17708596	3.1406048	20	—	—
243525 2010 <i>DY</i> <sub>8</sub>	15.4	X	45.89651	186.84336	171.14890	10.85418	0.1546674	0.15846601	3.3820392	20	12 26.3	20.4
243526 Russwalker	15.4	X	354.90831	285.87866	235.43388	14.92165	0.1841611	0.17945609	3.1128910	20	1 16.8	19.3
243527 2010 <i>DZ</i> <sub>42</sub>	16.4	X	116.89036	221.58591	338.57078	5.43187	0.1627402	0.22964852	2.6409506	20	9 13.4	20.5
243528 2010 <i>DV</i> <sub>46</sub>	16.4	X	55.04831	40.08573	177.45075	7.15576	0.1488959	0.21621563	2.7492316	20	7 22.0	19.9
243529 Petereisenhardt	15.0	X	195.47603	197.81804	113.47078	22.65935	0.0497307	0.17068795	3.2186034	20	1 27.1	19.8
243530 2010 <i>DR</i> <sub>78</sub>	15.9	X	72.40417	261.83887	277.82801	10.79268	0.1698323	0.21296826	2.7771082	20	6 29.4	19.7
243531 2010 <i>EV</i> <sub>29</sub>	14.8	X	188.31254	263.26309	15.10116	21.94827	0.1260061	0.17173358	3.2055255	20	—	—
243532 2010 <i>EE</i> <sub>30</sub>	16.5	X	219.98717	198.06135	50.86819	6.35709	0.2049776	0.26648837	2.3915743	20	—	—
243533 2010 <i>EH</i> <sub>34</sub>	16.2	X	312.12749	40.53373	181.41903	4.92872	0.1175000	0.18640818	3.0350050	20	2 8.6	20.4
243534 2010 <i>EO</i> <sub>40</sub>	16.0	X	102.22656	276.91294	320.69434	7.89874	0.1498606	0.23322172	2.6139065	20	10 12.2	20.1
243535 2010 <i>ET</i> <sub>87</sub>	15.5	X	160.23786	163.11504	26.10820	14.49674	0.1079068	0.23236652	2.6203161	20	10 12.8	19.4
243536 Mannheim	15.5	X	226.31358	134.83851	135.73852	7.68939	0.1064033	0.17984054	3.1084530	20	1 8.1	20.4
243537 2010 <i>EL</i> <sub>125</sub>	15.9	X	34.98329	59.07975	210.12060	6.87399	0.0302833	0.22238555	2.6981433	20	8 14.4	19.5
243538 2010 <i>FG</i> <sub>21</sub>	15.9	X	176.10313	260.37602	35.36471	6.98175	0.0850090	0.17204660	3.2016362	20	—	—
243539 2010 <i>FA</i> <sub>56</sub>	17.1	X	218.03381	276.68400	355.01903	2.65125	0.1572360	0.26804219	2.3823228	20	—	—
243540 2010 <i>GH</i> <sub>75</sub>	15.4	X	293.29866	105.11557	112.38771	12.57763	0.1077893	0.17952032	3.1121485	20	1 15.0	19.8
243541 2010 <i>GL</i> <sub>75</sub>	16.9	X	285.43088	145.30331	96.60375	7.41479	0.2144401	0.27696845	2.3308581	20	1 9.2	20.4
243542 2010 <i>JT</i> <sub>1</sub>	16.8	X	244.81164	65.61024	174.00465	11.78215	0.1397368	0.26535160	2.3983998	20	—	—
243543 2010 <i>JB</i> <sub>29</sub>	15.7	X	264.31165	105.36275	170.02043	13.10282	0.0464552	0.18061623	3.0995468	20	2 26.5	20.2
243544 2010 <i>JD</i> <sub>29</sub>	16.9	X	200.08077	20.35380	175.06788	10.59873	0.1286797	0.24262021	2.5459590	20	12 1.1	20.8
243545 2010 <i>JO</i> <sub>29</sub>	16.9	X	190.39364	165.65363	130.89501	10.83764	0.2177752	0.25949279	2.4343659	20	—	—
243546 Fengchuanliu	15.6	X	189.71524	282.19470	161.78711	16.23571	0.1163660	0.18671367	3.0316936	20	6 27.5	20.7
243547 2010 <i>JU</i> <sub>71</sub>	16.7	X	87.46592	228.43039	46.42051	1.72132	0.0464495	0.23196652	2.6233275	20	11 5.7	20.4
243548 2010 <i>JN</i> <sub>73</sub>	16.8	X	67.96406	34.84888	222.27909	1.83850	0.1545382	0.22077623	2.7112392	20	10 2.2	20.6
243549 2010 <i>JF</i> <sub>158</sub>	16.5	X	140.06650	20.64135	92.65988	7.55764	0.0531706	0.20375729	2.8601838	20	6 9.9	20.7
243550 1240 <i>T-2</i>	15.3	X	135.47349	10.09192	4.09065	21.61372	0.1742543	0.17812858	3.1283378	20	2 24.6	20.4
243551 3266 <i>T-3</i>	16.9	X	0.74616	357.55702	14.59753	2.96453	0.2383857	0.18393941	3.0621010	20	11 27.5	20.1
243552 4514 <i>T-3</i>	15.2	X	288.72104	273.04447	36.37761	22.93469	0.1348141	0.17738543	3.1370691	20	4 26.6	19.5
243553 5066 <i>T-3</i>	15.4	X	52.47472	271.15958	64.45711	11.71308	0.0838630	0.18591989	3.0403166	20	12 4.1	19.7
243554 1981 <i>EL</i> <sub>30</sub>	15.2	X	337.86680	277.11691	305.54914	10.29967	0.1408880	0.17599126	3.1536149	20	3 11.9	19.4
243555 1991 <i>VB</i> <sub>8</sub>	15.8	X	234.86579	149.36854	212.52262	9.83660	0.1276761	0.19229101	2.9727843	20	5 1.7	20.2
243556 1993 <i>HT</i> <sub>3</sub>	15.3	X	143.00936	282.19635	49.61823	6.98950	0.0331185	0.17302193	3.1895931	20	—	—
243557 1993 <i>HF</i> <sub>4</sub>	16.9	X	205.40547	237.86800	49.44870	7.25792	0.1128882	0.28269110	2.2992947	20	—	—
243558 1993 <i>TJ</i> <sub>28</sub>	15.8	X	107.72532	312.61005	35.43489	12.84082	0.1897098	0.23066861	2.6331588	20	—	—
243559 1993 <i>TR</i> <sub>37</sub>	17.1	X	303.78417	172.82661	154.53500	4.46443	0.2599110	0.28670203	2.2777997	20	5 20.7	19.5
243560 1994 <i>PO</i> <sub>5</sub>	16.0	X	63.35416	145.67522	148.45274	13.61541	0.1790352	0.23358624	2.6111864	20	11 22.0	20.1
243561 1994 <i>YD</i> <sub>4</sub>	17.0	X	53.92332	79.88458	292.74059	4.60564	0.1670834	0.23004961	2.6378801	20	—	—
243562 1995 <i>BA</i> <sub>8</sub>	16.0	X	241.47168	106.71274	118.53525	6.95824	0.0645524	0.19080134	2.9882374	20	—	—
243563 1995 <i>FU</i> <sub>14</sub>	17.6	X	269.24198	164.41701	119.65536	3.23884	0.2199825	0.27174560	2.3606288	20	2 15.7	21.2
243564 1995 <i>ML</i> <sub>8</sub>	17.6	X	207.46607	111.60108	203.71645	4.85947	0.1099100	0.26141451	2.4224208	20	1 31.5	21.4
243565 1995 <i>OU</i> <sub>7</sub>	15.5	X	130.56882	115.06147	271.51872	9.11911	0.1253937	0.18030671	3.1030930	20	2 17.2	20.3
243566 1995 <i>SA</i>	17.3	X	208.26391	52.82642	170.34136	19.93882	0.6411117	0.25566813	2.4585836	20	12 1.0	22.7
243567 1995 <i>SP</i> <sub>23</sub>	15.8	X	44.17069	310.68757	120.16074	3.70081	0.1169245	0.17055432	3.2202845	20	—	—
243568 1995 <i>SX</i> <sub>85</sub>	15.9	X	190.56287	188.58411	180.67095	10.45977	0.1202416	0.18157073	3.0886746	20	3 29.7	20.8
243569 1995 <i>XN</i> <sub>4</sub>	15.8	X	92.98056	235.40130	222.41725	8.59604	0.1351252	0.21456719	2.7632945	20	4 1.7	19.5
243570 1995 <i>XR</i> <sub>4</sub>	16.4	X	301.29045	330.32486	105.01439	6.58404	0.0944312	0.23593810	2.5938051	20	11 16.4	19.4
243571 1996 <i>AS</i> <sub>6</sub>	16.6	X	17.02570	201.48479	86.15412	4.88917	0.0720473	0.22224823	2.6992545	20	8 23.0	19.9
243572 1996 <i>GA</i> <sub>9</sub>	17.3	X	261.11455	216.23024	72.96343	3.63253	0.1687731	0.28300187	2.2976111	20	2 18.7	20.7
243573 1996 <i>LF</i> <sub>2</sub>	17.1	X	244.45313	156.27969	133.03785	6.85678	0.1138229	0.27889531	2.3201100	20	2 4.9	20.3
243574 1996 <i>RO</i> <sub>7</sub>	16.7	X	327.69289	95.15894	356.86045	3.52682	0.0382940	0.21473483	2.7618562	20	—	—
243575 1996 <i>VW</i> <sub>17</sub>	16.2	X	208.31939	306.23631	67.64454	3.66607	0.0907878	0.18845278	3.0130131	20	4 22.3	20.7
243576 1996 <i>VB</i> <sub>39</sub>	15.7	X	134.45659	319.22002	33.70215	10.59203	0.1917700	0.18056483	3.1001350	20	1 26.7	20.7
243577 1996 <i>WE</i>	15.8	X	16.25235	159.02772	230.53676	8.04435	0.2400852	0.25189352	2.4830838	20	—	—
243578 1996 <i>XO</i> <sub>12</sub>	15.4	X	161.89251	0.02456	23.70527	11.24124	0.0833986	0.18378582	3.0638068	20	3 20.0	20.1
243579 1997 <i>NC</i> <sub>6</sub>	17.7	X	29.14484	12.65189	264.56809	3.16394	0.1665711	0.30271678	2.1967386	20	9 20.2	19.8
243580 1997 <i>PG</i> <sub>1</sub>	15.8	X	94.75091	68.47931	318.83595	29.00441	0.3088167	0.23173640	2.6250639	20	2 2.3	19.1
243581 1997 <i>RH</i> <sub>6</sub>	17.6	X	336.85040	37.88024	268.42453	3.92349	0.2243050	0.29843407	2.2177050	20	7 10.2	18.3
243582 1997 <i>SZ</i> <sub>7</sub>	17.5	X	225.27453	273.58346	349.66198	6.94488	0.0948413	0.27563190	2.3383870	20	—	—
243583 1997 <i>TU</i> <sub>19</sub>	17.4	X	247.06678	124.88853	213.43922	6.27363	0.1346834	0.28669831	2.2778194	20	4 8.5	20.7
243584 1997 <i>TU</i> <sub>20</sub>	16.7	X	110.73846	54.72620	297.17866	1.12629	0.2209193	0.22974799	2.6401883	20	—	—
243585 1997 <i>WY</i> <sub>28</sub>	17.0	X	307.86782	4.71344	83.55647	3.92679	0.0806623	0.25973185	2.4328719	20	12 20.9	19.5
243586 1997 <i>YN</i> <sub>12</sub>	16.3	X	142.80288	182.36341	107.44738	7.47591	0.1146052	0.25923205	2.4359980	20	—	—
243587 1998 <i>DU</i> <sub>9</sub>	18.2	X										

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243601 1998 SV <sub>168</sub>	17.3	X	244.93635	357.91817	24.08665	5.92166	0.1854843	0.30575081	2.1821820	20	5 29.8	20.5
243602 1998 UF <sub>10</sub>	17.6	X	267.38418	21.90147	338.93887	1.66256	0.0579992	0.30378488	2.1915865	20	6 18.1	20.1
243603 1998 VG <sub>43</sub>	18.1	X	22.34645	6.99838	56.70622	3.27047	0.1927689	0.27894993	2.3198071	20	—	—
243604 1998 WV <sub>25</sub>	17.0	X	116.74803	119.30808	222.09545	9.03523	0.0964504	0.23673059	2.5880131	20	—	—
243605 1998 WO <sub>29</sub>	16.8	X	4.58460	124.20330	215.45450	1.10039	0.0882842	0.22223844	2.6993338	20	10 13.8	20.0
243606 1998 WY <sub>36</sub>	16.6	X	314.57178	297.21954	47.97246	9.26499	0.1652748	0.21724895	2.7405070	20	7 23.0	19.7
243607 1998 WJ <sub>42</sub>	16.5	X	306.79767	160.12977	230.07807	5.67442	0.1029424	0.21962113	2.7207374	20	9 14.6	19.8
243608 1998 XE <sub>23</sub>	17.3	X	59.57952	297.78456	251.61969	5.24676	0.1036690	0.29768559	2.2214208	20	6 15.9	19.5
243609 1998 YY <sub>11</sub>	15.6	X	88.47639	136.49597	284.83932	30.21284	0.2479821	0.23801719	2.5786783	20	2 9.3	19.3
243610 1998 YR <sub>13</sub>	16.0	X	67.83383	174.16442	249.12421	15.77873	0.0987925	0.23792408	2.5793510	20	1 1.6	19.2
243611 1999 AS <sub>1</sub>	16.0	X	83.03785	78.84751	299.49141	10.86526	0.1402096	0.23030578	2.6359237	20	—	—
243612 1999 BQ <sub>8</sub>	18.1	X	170.81779	317.72925	99.02358	2.74792	0.1221803	0.29234826	2.2483765	20	5 4.4	21.2
243613 1999 CP <sub>115</sub>	17.0	X	7.16492	223.52528	260.50538	5.95463	0.2063688	0.27639945	2.3340560	20	—	—
243614 1999 CN <sub>132</sub>	17.1	X	357.23161	197.30860	136.42453	5.93989	0.2081619	0.30309777	2.1948974	20	11 2.2	18.8
243615 1999 FP <sub>2</sub>	15.4	X	294.76356	256.92409	355.06490	20.23264	0.1895237	0.18470214	3.0536653	20	2 21.3	19.9
243616 1999 FQ <sub>76</sub>	16.3	X	359.33711	118.09991	54.43477	3.05031	0.0391786	0.18412567	3.0600357	20	2 22.9	20.3
243617 1999 GJ <sub>54</sub>	16.3	X	1.58472	327.63032	189.87540	1.08458	0.1787585	0.18376108	3.0640818	20	1 27.4	19.7
243618 1999 JU <sub>61</sub>	16.0	X	167.16090	53.39716	238.07976	7.77672	0.3610764	0.25924999	2.4358856	20	—	—
243619 1999 KK <sub>9</sub>	16.2	X	269.34019	245.02467	37.14112	9.53708	0.2134502	0.27471420	2.3435919	20	2 17.6	19.9
243620 1999 LC <sub>5</sub>	15.3	X	256.07008	150.60793	102.26043	24.67862	0.1562237	0.17444985	3.1721642	20	1 13.1	20.3
243621 1999 RN <sub>15</sub>	15.2	X	216.64759	53.72433	345.52963	26.70708	0.2335290	0.17559633	3.1583415	20	5 12.3	21.1
243622 1999 RF <sub>16</sub>	15.2	X	327.56734	348.01335	336.76709	10.49220	0.1210650	0.18339528	3.0681549	20	7 19.4	19.0
243623 1999 RJ <sub>22</sub>	16.9	X	232.42288	154.78626	165.35671	2.80984	0.2022903	0.26539634	2.3981302	20	2 28.5	20.9
243624 1999 RF <sub>37</sub>	15.1	X	237.47878	20.66123	160.83405	7.30854	0.1672728	0.24430129	2.5342661	20	12 21.7	18.4
243625 1999 RA <sub>88</sub>	15.8	X	285.17420	41.74539	1.44747	13.57812	0.1023862	0.23303525	2.6153008	20	9 6.1	19.0
243626 1999 RP <sub>114</sub>	15.4	X	275.44721	62.81902	342.35080	14.99627	0.2477215	0.18302975	3.0722385	20	7 29.2	19.9
243627 1999 RH <sub>124</sub>	14.8	X	257.21843	12.67335	312.39546	16.55966	0.2214939	0.17426814	3.1743689	20	3 23.3	20.1
243628 1999 RG <sub>131</sub>	15.2	X	277.92352	189.70969	181.51256	18.13507	0.2609766	0.18156946	3.0886890	20	6 13.1	20.0
243629 1999 RX <sub>201</sub>	15.7	X	337.54871	32.04634	289.61886	11.35966	0.1749622	0.23122627	2.6289234	20	7 31.4	18.1
243630 1999 RR <sub>202</sub>	15.2	X	319.87546	45.15430	218.24876	13.84642	0.1686509	0.18200269	3.0837857	20	6 26.3	18.8
243631 1999 RP <sub>203</sub>	15.4	X	258.50389	132.52350	279.30112	18.29666	0.2373051	0.17650700	3.1474688	20	5 2.2	20.2
243632 1999 RZ <sub>206</sub>	15.6	X	197.26385	94.61262	343.28162	26.40755	0.2539696	0.22224066	2.6993159	20	6 26.9	20.8
243633 1999 RL <sub>239</sub>	14.8	X	211.01102	96.09981	336.88378	24.34529	0.2833344	0.17405960	3.1769038	20	6 29.6	20.8
243634 1999 SH <sub>12</sub>	14.7	X	226.54131	106.10101	283.81591	25.11482	0.2835414	0.17488303	3.1669237	20	5 14.7	20.5
243635 1999 SD <sub>16</sub>	15.0	X	264.93475	54.88879	285.27916	15.31985	0.2353930	0.17740925	3.1367883	20	4 18.3	20.2
243636 1999 SD <sub>17</sub>	16.1	X	188.42901	130.62918	261.66362	7.53281	0.2656516	0.26660477	2.3908781	20	4 18.4	20.5
243637 Frosinone	16.6	X	227.17120	103.20014	268.31121	6.80652	0.1126071	0.26877271	2.3780041	20	5 2.5	20.0
243638 1999 TE <sub>28</sub>	16.1	X	222.11169	26.03904	27.21478	18.03270	0.2733060	0.22202514	2.7010624	20	6 7.7	21.1
243639 1999 TO <sub>51</sub>	16.1	X	319.65659	358.29367	281.83730	3.06320	0.1317027	0.17429730	3.1740148	20	5 2.1	20.0
243640 1999 TG <sub>53</sub>	16.5	X	114.48014	339.56998	357.64668	3.06925	0.0215422	0.24565788	2.5249275	20	—	—
243641 1999 TN <sub>61</sub>	16.1	X	108.76767	274.66725	357.86976	13.78714	0.0578756	0.24208663	2.5496986	20	11 26.8	20.1
243642 1999 TL <sub>101</sub>	16.2	X	228.21995	285.40871	81.73804	8.51247	0.2645779	0.26815102	2.3816782	20	4 23.3	20.3
243643 1999 TT <sub>110</sub>	16.1	X	305.32946	101.77109	266.27628	10.04722	0.2125631	0.23187461	2.6240207	20	7 28.0	19.0
243644 1999 TY <sub>135</sub>	15.2	X	189.47087	250.68790	201.85781	25.73112	0.2055234	0.17423993	3.1747114	20	7 1.3	21.0
243645 1999 TE <sub>137</sub>	16.1	X	254.49269	161.05435	212.19376	5.63334	0.0251640	0.22419059	2.6836413	20	6 20.6	19.7
243646 1999 TT <sub>147</sub>	16.6	X	201.69850	57.71788	272.65430	3.63977	0.1653763	0.26089547	2.4256326	20	2 14.4	20.5
243647 1999 TZ <sub>153</sub>	16.4	X	35.77990	277.15516	67.83776	4.76481	0.2655277	0.24068573	2.5595827	20	—	—
243648 1999 TX <sub>176</sub>	16.7	X	235.01762	340.43316	17.77963	5.57990	0.2316355	0.26744357	2.3858764	20	4 15.8	20.6
243649 1999 TS <sub>190</sub>	14.7	X	292.28031	100.85950	240.76193	14.96496	0.1494745	0.17722006	3.1390204	20	6 9.3	19.0
243650 1999 TL <sub>240</sub>	15.2	X	241.99962	2.90734	46.73525	17.99611	0.1926790	0.17648784	3.1476965	20	6 29.6	20.4
243651 1999 TV <sub>253</sub>	16.9	X	332.29416	203.77057	201.83943	4.37410	0.2270075	0.23895640	2.5719169	20	12 5.9	19.0
243652 1999 TG <sub>254</sub>	16.3	X	268.74003	231.58830	182.61342	11.14185	0.1460357	0.23164094	2.6257850	20	8 14.5	19.8
243653 1999 TD <sub>265</sub>	14.7	X	263.84219	124.14667	239.56885	17.53875	0.2184026	0.17884455	3.1199831	20	5 24.0	19.3
243654 1999 TO <sub>289</sub>	15.9	X	289.98288	171.90645	209.47727	12.40184	0.1503342	0.22824734	2.6517479	20	7 28.9	19.5
243655 1999 US <sub>25</sub>	16.5	X	53.20765	338.67612	28.93243	4.79745	0.2767175	0.24354968	2.5394773	20	—	—
243656 1999 UP <sub>43</sub>	15.6	X	165.74110	63.05264	304.19749	10.89423	0.1511755	0.25913696	2.4365938	20	2 24.0	19.4
243657 1999 UX <sub>45</sub>	16.1	X	217.71433	315.66280	1.48826	10.88848	0.3083025	0.26206966	2.4183819	20	2 15.2	20.6
243658 1999 UC <sub>52</sub>	15.5	X	255.95253	185.48219	182.12890	15.52125	0.2287524	0.17442213	3.1725002	20	5 21.8	20.7
243659 1999 UT <sub>57</sub>	16.0	X	353.26499	330.43705	79.67021	16.46666	0.1311094	0.23900118	2.5715957	20	—	—
243660 1999 VU <sub>13</sub>	16.5	X	162.96801	109.81768	242.19950	20.25251	0.3167683	0.25854787	2.4402936	20	2 8.3	21.3
243661 1999 VX <sub>13</sub>	15.7	X	300.58765	207.15214	240.71272	23.28431	0.1657448	0.23687613	2.5869529	20	11 26.1	18.2
243662 1999 VW <sub>71</sub>	16.0	X	321.63184	124.70699	254.85269	10.62792	0.2137403	0.23031877	2.6358245	20	9 17.3	18.7
243663 1999 VU <sub>76</sub>	16.4	X	84.16858	341.72794	227.40245	14.76588	0.1408789	0.22197808	2.7014441	20	8 12.7	20.6
243664 1999 VQ <sub>80</sub>	16.2	X	323.30314	341.84911	53.62937	31.87625	0.1855760	0.23365984	2.6106381	20	11 3.3	18.8
243665 1999 VZ <sub>80</sub>	17.1	X	189.29100	217.68194	193.31777	4.90762	0.2325930	0.26517928	2.3994387	20	5 15.7	21.2
243666 1999 VO <sub>83</sub>	15.4	X	268.69405	144.43643	229.52742	6.64164	0.1514058	0.17708501	3.1406161	20	6 19.9	20.0
243667 1999 VR <sub>84</sub>	16.0	X	168.86779	315.08972	226.32206	11.20124	0.1107362	0.23116583	2.6293817	20	10 7.9	20.2
243668 1999 VF <sub>85</sub>	15.8	X	232.36322	182.40848	224.60288	8.89611	0.0771718	0.17402261	3.1773539	20	6 28.0	20.6
243669 1999 VG <sub>106</sub>	15.2	X	262.84261	118.45542	243.59647	3.84099	0.1672804	0.17343955	3.1844710	20	5 26.1	19.9
243670 1999 VV <sub>130</sub>	16.4	X	101.87755	304.41252	37.89757	4.31300	0.0976566	0.24614196	2.5216160	20	—	—
243671 1999 VU <sub>148</sub>	16.9	X	119.47038	112.51011	290.48060	1.48410	0.1759933	0.25669625	2.4520145	20	2 26.5	20.2
243672 1999 VR <sub>166</sub>	16.5	X	91.37153	28.81416	332.30172	2.34364	0.1906897	0.24702723	2.5155879	20	—	—
243673 1999 VR <sub>192</sub>	15.0	X	215.46933	195.22798	229.73535	14.46021	0.2485501	0.17415820	3.1757046	20	6	

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243681 1999 <i>XK</i> <sub>80</sub>	15.7	X	186.92467	295.61662	82.75569	7.32158	0.0711487	0.21064425	2.7974971	20	4 7.2	19.9
243682 1999 <i>XL</i> <sub>92</sub>	15.4	X	71.89282	135.62605	238.40025	4.27956	0.2059464	0.24280617	2.5446589	20	—	—
243683 1999 <i>XE</i> <sub>99</sub>	15.7	X	74.89688	319.64311	63.93810	6.31935	0.2909133	0.24612996	2.5216979	20	—	—
243684 1999 <i>XZ</i> <sub>134</sub>	15.4	X	205.44496	329.50261	90.84470	26.64036	0.1166013	0.21827046	2.7319500	20	6 15.3	19.6
243685 1999 <i>XB</i> <sub>135</sub>	15.5	X	256.03746	280.44463	92.30071	21.94633	0.3899971	0.17442289	3.1724910	20	5 17.4	21.2
243686 1999 <i>XD</i> <sub>138</sub>	15.5	X	263.52882	123.36320	241.07994	7.42004	0.2371426	0.17445134	3.1721460	20	5 22.4	20.2
243687 1999 <i>XU</i> <sub>146</sub>	16.3	X	314.85773	332.07591	69.61203	12.73610	0.0247245	0.23181178	2.6244948	20	10 27.5	19.8
243688 1999 <i>XX</i> <sub>171</sub>	14.9	X	98.80670	271.17028	78.10241	15.31462	0.2191303	0.24265007	2.5457501	20	—	—
243689 1999 <i>XO</i> <sub>172</sub>	16.0	X	72.96871	301.65412	74.78222	13.60699	0.2950045	0.24382987	2.5375315	20	—	—
243690 1999 <i>XA</i> <sub>219</sub>	16.5	X	126.97810	191.76935	286.45819	6.61197	0.2229651	0.21082892	2.7958632	20	6 15.8	21.1
243691 1999 <i>YK</i> <sub>10</sub>	16.8	X	58.43453	238.36697	105.43249	4.80433	0.2017718	0.24031105	2.5622425	20	—	—
243692 1999 <i>YJ</i> <sub>26</sub>	16.6	X	56.30976	263.28449	104.48824	3.35753	0.1373664	0.24213253	2.5493763	20	—	—
243693 2000 <i>AC</i> <sub>43</sub>	15.3	X	9.65557	290.59946	110.40206	28.86082	0.1904224	0.23723908	2.5843137	20	—	—
243694 2000 <i>AO</i> <sub>44</sub>	15.9	X	71.77191	70.96804	307.05311	5.14418	0.2949649	0.24300692	2.5432572	20	—	—
243695 2000 <i>AJ</i> <sub>72</sub>	16.1	X	335.74189	171.76947	245.28443	5.41151	0.0925328	0.23482568	2.6019902	20	12 15.8	19.1
243696 2000 <i>AA</i> <sub>73</sub>	16.0	X	82.04323	214.12883	163.71150	4.13577	0.2029479	0.24631067	3.0246444	20	—	—
243697 2000 <i>BY</i> <sub>1</sub>	15.3	X	26.41611	265.17926	133.26987	11.07916	0.0526022	0.18572161	2.5424802	20	—	—
243698 2000 <i>BH</i> <sub>5</sub>	15.5	X	67.02593	324.98897	48.43565	13.26986	0.2803375	0.24203613	2.5500532	20	—	—
243699 2000 <i>BM</i> <sub>31</sub>	16.4	X	195.16048	315.75291	113.94858	4.68716	0.2338910	0.21548962	2.7554031	20	6 12.1	21.1
243700 2000 <i>BU</i> <sub>41</sub>	16.9	X	225.69163	87.88317	321.72200	7.41727	0.1548699	0.21465009	2.7625830	20	6 18.5	21.3
243701 2000 <i>CD</i> <sub>9</sub>	16.3	X	327.57473	329.56446	141.02402	6.44515	0.1434973	0.23690284	2.5867584	20	—	—
243702 2000 <i>CL</i> <sub>47</sub>	16.6	X	44.82088	151.24495	267.27474	4.89427	0.1930498	0.24088195	2.5581925	20	—	—
243703 2000 <i>CO</i> <sub>57</sub>	16.1	X	270.01778	83.51389	135.55734	14.73769	0.2136501	0.23909221	2.5709429	20	—	—
243704 2000 <i>CT</i> <sub>64</sub>	16.2	X	160.66916	142.81862	341.22960	5.76136	0.1295660	0.21412940	2.7670596	20	7 21.1	20.5
243705 2000 <i>CE</i> <sub>81</sub>	14.9	X	212.30291	31.65744	139.40436	18.05186	0.1675199	0.17748118	3.1359407	20	11 3.8	20.1
243706 2000 <i>CM</i> <sub>98</sub>	16.7	X	2.95099	141.52468	148.52585	4.88894	0.0356931	0.21417826	2.7666388	20	7 29.4	20.3
243707 2000 <i>CV</i> <sub>99</sub>	16.8	X	4.62862	316.61866	327.20692	3.84655	0.0301470	0.21334814	2.7738106	20	7 24.2	20.3
243708 2000 <i>DQ</i> <sub>45</sub>	17.5	X	181.53661	287.29075	191.80858	2.25849	0.0227132	0.31131486	2.1561029	20	8 15.5	20.0
243709 2000 <i>ET</i> <sub>1</sub>	17.1	X	26.19098	306.32105	313.61751	5.42468	0.1337726	0.30733352	2.1746837	20	8 14.6	19.0
243710 2000 <i>ED</i> <sub>96</sub>	15.1	X	219.40026	49.28078	168.97838	14.51308	0.1341803	0.18063048	3.0993838	20	—	—
243711 2000 <i>EP</i> <sub>141</sub>	16.6	X	310.39750	129.13906	27.61535	2.92908	0.3220560	0.18709589	3.0275632	20	—	—
243712 2000 <i>FR</i> <sub>6</sub>	17.3	X	340.42411	26.55030	199.88336	5.52796	0.1068549	0.29426183	2.2386185	20	3 14.4	19.4
243713 2000 <i>FF</i> <sub>7</sub>	17.8	X	106.02412	111.74112	9.97659	5.01150	0.0548743	0.29900250	2.2148935	20	5 5.6	20.4
243714 2000 <i>FA</i> <sub>65</sub>	16.6	X	56.24717	77.00852	174.89932	3.35272	0.1348701	0.21126828	2.7919857	20	9 6.7	20.4
243715 2000 <i>GN</i> <sub>37</sub>	15.6	X	301.27181	119.89589	11.26984	0.17706	0.1288776	0.18036619	3.1024107	20	—	—
243716 2000 <i>GE</i> <sub>117</sub>	16.4	X	358.70634	319.69262	190.23579	5.92623	0.1147167	0.24083310	2.5585384	20	1 4.9	19.3
243717 2000 <i>GN</i> <sub>146</sub>	18.2	X	357.53148	148.46222	144.70728	1.24200	0.1808470	0.30351034	2.1929079	20	8 16.1	19.5
243718 2000 <i>GA</i> <sub>161</sub>	15.5	X	265.56418	127.50098	56.63634	9.75358	0.2369364	0.18111230	3.0938845	20	—	—
243719 2000 <i>GU</i> <sub>180</sub>	16.4	X	300.12274	308.31515	32.94263	5.19768	0.0215100	0.20626983	2.8369101	20	7 10.5	20.2
243720 2000 <i>HZ</i> <sub>5</sub>	16.0	X	34.91299	140.62961	30.71288	8.53364	0.1671723	0.19629231	2.9322468	20	4 18.4	19.2
243721 2000 <i>HL</i> <sub>68</sub>	18.2	X	313.40314	356.25867	216.26504	0.48815	0.2043035	0.28715882	2.2753835	20	—	—
243722 2000 <i>HX</i> <sub>84</sub>	15.9	X	347.85339	295.51536	229.82038	12.15692	0.1907752	0.24047537	2.5610751	20	—	—
243723 2000 <i>HG</i> <sub>101</sub>	17.2	X	285.30415	214.62556	20.05290	6.02119	0.0974489	0.28884591	2.2665148	20	1 11.9	20.3
243724 2000 <i>JG</i> <sub>10</sub>	17.4	X	191.76215	127.22469	194.92252	19.77859	0.0517830	0.38351650	1.8762038	20	—	—
243725 2000 <i>JK</i> <sub>16</sub>	16.9	X	231.80388	105.04594	181.40690	5.94837	0.1918454	0.28357366	2.2945215	20	1 15.7	20.7
243726 2000 <i>JK</i> <sub>18</sub>	16.5	X	293.38045	327.15840	322.98400	5.31468	0.2346473	0.29224010	2.2489313	20	3 13.7	19.4
243727 2000 <i>JV</i> <sub>18</sub>	15.5	X	72.71447	127.68545	174.82374	20.34921	0.2911102	0.21247255	2.7814259	20	12 15.5	20.5
243728 2000 <i>JP</i> <sub>63</sub>	15.1	X	271.86239	0.62919	241.94010	20.63480	0.2222432	0.18498350	3.0505681	20	1 4.8	20.3
243729 2000 <i>KN</i> <sub>9</sub>	17.4	X	312.98202	23.26212	264.60232	2.11007	0.1712865	0.29442053	2.2378140	20	4 19.2	19.7
243730 2000 <i>KB</i> <sub>10</sub>	17.2	X	349.71587	224.29365	57.31704	5.31767	0.1777971	0.29832445	2.2182483	20	7 2.8	18.5
243731 2000 <i>KH</i> <sub>10</sub>	15.6	X	50.60676	106.58498	228.73231	7.87694	0.2982284	0.21286448	2.7780108	20	—	—
243732 2000 <i>KV</i> <sub>13</sub>	17.5	X	92.89589	41.99213	230.87279	3.91039	0.2461846	0.31095330	2.1577739	20	12 7.3	20.9
243733 2000 <i>LZ</i> <sub>1</sub>	15.8	X	107.23327	208.03634	53.78205	10.01507	0.2422131	0.21302584	2.7766077	20	11 18.7	20.4
243734 2000 <i>NG</i> <sub>19</sub>	16.4	X	77.63208	11.06188	308.28206	12.50747	0.2413487	0.25959326	2.4337378	20	—	—
243735 2000 <i>OT</i> <sub>1</sub>	16.6	X	359.87083	12.74766	295.63112	9.02603	0.1685627	0.29795220	2.2200955	20	9 9.2	18.5
243736 2000 <i>OM</i> <sub>7</sub>	15.9	X	252.85649	339.62533	320.87176	25.04926	0.2391314	0.28081456	2.3095266	20	2 16.2	19.7
243737 2000 <i>OU</i> <sub>7</sub>	14.9	X	161.68268	71.67997	263.57496	5.38477	0.2406027	0.17419980	3.1751990	20	1 29.3	20.4
243738 2000 <i>PP</i> <sub>6</sub>	17.5	X	238.47485	194.27744	157.38104	22.25273	0.1005300	0.38239312	1.8769327	20	4 22.2	20.1
243739 2000 <i>PO</i> <sub>18</sub>	17.1	X	232.33518	322.67105	16.25925	3.33352	0.1906410	0.28272486	2.2991116	20	3 22.7	20.5
243740 2000 <i>QM</i> <sub>21</sub>	15.7	X	197.06546	141.35439	158.44313	17.56038	0.2010942	0.17424390	3.1746632	20	1 15.4	21.3
243741 2000 <i>QS</i> <sub>21</sub>	15.1	X	195.79956	207.80229	157.28767	17.22198	0.1290761	0.17979966	3.1089243	20	4 1.2	20.2
243742 2000 <i>QK</i> <sub>34</sub>	16.9	X	18.51123	227.44842	142.35732	24.39697	0.1366104	0.35559891	1.9731606	20	—	—
243743 2000 <i>QL</i> <sub>62</sub>	15.0	X	323.19524	52.45161	12.16976	12.22068	0.3759684	0.20068618	2.8892896	20	11 18.1	16.6
243744 2000 <i>QT</i> <sub>64</sub>	16.6	X	331.98401	277.33189	101.87514	5.47791	0.1361220	0.29885856	2.2156046	20	11 10.2	18.3
243745 2000 <i>QU</i> <sub>86</sub>	17.1	X	349.41242	40.08917	278.97274	4.91996	0.1793728	0.29611901	2.2292487	20	9 6.3	18.7
243746 2000 <i>QU</i> <sub>88</sub>	17.2	X	359.88744	48.02857	267.79260	2.72234	0.2136430	0.29735867	2.2230487	20	10	

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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
243761	2000	QP <sub>220</sub>	17.2	X	140.25679	205.19674	161.53167	4.47915	0.1460771	0.27233716	2.3572091	20	1 28.6	20.5
243762	2000	QU <sub>226</sub>	16.6	X	312.82474	43.33433	257.03961	7.44330	0.1912332	0.28995680	2.2607221	20	5 4.5	18.8
243763	2000	RF <sub>18</sub>	15.3	X	178.83158	7.23606	331.66641	15.25844	0.2675324	0.17488933	3.1668477	20	2 17.3	20.9
243764	2000	RZ <sub>19</sub>	17.0	X	272.27187	163.36460	198.48576	6.73213	0.1332428	0.28872261	2.2671601	20	6 13.9	19.7
243765	2000	RJ <sub>21</sub>	16.5	X	324.29691	98.83114	232.49092	4.71237	0.1717302	0.29261096	2.2470306	20	7 25.3	18.2
243766	2000	RS <sub>26</sub>	17.3	X	173.83564	46.78098	301.67657	2.33027	0.2565921	0.27332267	2.3515395	20	2 15.9	21.2
243767	2000	RF <sub>42</sub>	16.6	X	317.73093	342.27071	330.27025	8.52185	0.2213768	0.28932907	2.2639909	20	5 28.0	18.7
243768	2000	RS <sub>63</sub>	17.5	X	208.97399	110.64037	227.32977	4.04466	0.2161371	0.27780214	2.3261926	20	2 28.0	21.5
243769	2000	RP <sub>78</sub>	17.4	X	228.74937	134.54714	184.02808	6.01329	0.1355851	0.27821065	2.3239149	20	2 23.8	20.9
243770	2000	RU <sub>79</sub>	15.7	X	216.28668	328.18127	9.15303	3.20733	0.1840351	0.18006709	3.1058453	20	3 13.8	20.7
243771	2000	RP <sub>81</sub>	17.0	X	225.91099	128.26593	263.13714	6.14764	0.1038482	0.28575591	2.2828247	20	5 30.5	20.2
243772	2000	RS <sub>89</sub>	17.1	X	206.09806	125.40184	212.74596	5.42553	0.1239390	0.27760975	2.3272671	20	2 25.6	20.6
243773	2000	RJ <sub>91</sub>	17.1	X	308.73672	38.09025	293.35042	6.42228	0.1920130	0.28986512	2.2611988	20	6 17.8	19.1
243774	2000	RY <sub>97</sub>	15.1	X	1.24983	91.29944	256.84639	15.59123	0.1857022	0.19892115	2.9063555	20	10 20.8	18.5
243775	2000	RA <sub>101</sub>	16.8	X	314.52088	77.63679	208.98604	21.67512	0.2738519	0.28725589	2.2748709	20	3 31.4	19.5
243776	2000	SH	17.0	X	226.20920	30.85933	288.50209	10.87874	0.2794963	0.27961126	2.3161479	20	2 15.7	21.2
243777	2000	SJ	15.3	X	122.09963	183.20516	214.43242	10.36286	0.1018023	0.17320324	3.1873668	20	2 19.5	20.2
243778	2000	SA <sub>5</sub>	17.0	X	207.48891	203.55508	147.98498	23.80857	0.0961621	0.37767854	1.8954886	20	3 11.5	19.3
243779	2000	SQ <sub>5</sub>	15.1	X	189.02436	125.30024	246.11312	11.58536	0.1898672	0.17909738	3.1170462	20	3 26.3	20.5
243780	2000	SC <sub>20</sub>	16.6	X	184.27954	47.56157	269.12940	6.96719	0.2203306	0.27063838	2.3670629	20	1 15.2	20.5
243781	2000	SC <sub>22</sub>	16.8	X	242.68270	68.95329	359.13547	28.82240	0.2407759	0.23971472	2.5664900	20	8 5.2	21.3
243782	2000	SR <sub>22</sub>	17.2	X	161.55950	340.41634	30.17489	6.82102	0.2292964	0.27316835	2.3524251	20	3 5.6	21.0
243783	2000	SO <sub>54</sub>	17.8	X	223.62478	150.89451	185.63197	6.49445	0.2244037	0.27944775	2.3170513	20	3 9.8	21.7
243784	2000	SM <sub>55</sub>	16.5	X	236.86446	283.94828	344.11496	6.25174	0.1222179	0.27230405	2.3574002	20	1 2.7	20.0
243785	2000	SF <sub>56</sub>	16.5	X	59.33798	67.55189	351.65994	5.88469	0.1041298	0.26537193	2.3982773	20	—	—
243786	2000	SK <sub>58</sub>	16.6	X	272.78757	230.96740	183.22747	13.90537	0.1649600	0.24331283	2.5411251	20	8 18.3	20.0
243787	2000	SF <sub>59</sub>	16.5	X	143.97041	149.87544	204.77644	4.56220	0.2456963	0.26968545	2.3726356	20	1 27.9	20.2
243788	2000	ST <sub>60</sub>	17.8	X	9.84877	303.27070	9.65201	1.57622	0.1895377	0.29692463	2.2252146	20	10 16.3	19.8
243789	2000	SD <sub>67</sub>	16.9	X	235.39902	305.12047	5.43898	4.37296	0.2383212	0.27821778	2.3238751	20	2 18.3	20.8
243790	2000	SC <sub>70</sub>	16.9	X	6.00928	298.36372	121.23767	2.06348	0.1772744	0.25641695	2.4537947	20	—	—
243791	2000	SD <sub>80</sub>	16.9	X	197.97027	304.04597	47.64363	2.18017	0.1622526	0.27662111	2.3328089	20	3 9.3	20.6
243792	2000	SM <sub>81</sub>	16.7	X	181.21974	271.62299	98.10772	4.32359	0.1329109	0.27547634	2.3392673	20	3 16.8	20.2
243793	2000	SP <sub>81</sub>	16.4	X	339.92591	319.20330	122.23462	4.18948	0.1531951	0.25508833	2.4623077	20	—	—
243794	2000	SO <sub>95</sub>	17.2	X	190.02191	354.46207	315.16287	6.60136	0.2171992	0.27194751	2.3594602	20	1 12.7	21.0
243795	2000	SP <sub>101</sub>	16.5	X	101.30935	11.51280	41.60986	7.35387	0.1889239	0.26988117	2.3714883	20	2 21.6	19.4
243796	2000	SW <sub>109</sub>	16.5	X	226.84015	147.84502	196.72208	6.14905	0.2035584	0.27959509	2.3162371	20	3 23.3	20.1
243797	2000	SW <sub>112</sub>	17.2	X	176.82285	169.70874	162.43814	1.51736	0.1988009	0.27105067	2.3646619	20	1 27.0	20.9
243798	2000	SM <sub>132</sub>	15.7	X	263.38336	76.12985	287.80692	12.36918	0.1349560	0.18636788	3.0354425	20	6 3.1	20.2
243799	2000	SR <sub>132</sub>	15.4	X	148.36542	105.15476	223.71069	24.70149	0.2556017	0.16958917	3.2324909	20	1 9.1	21.2
243800	2000	SV <sub>134</sub>	15.4	X	201.03285	106.68728	257.34501	8.63988	0.1590737	0.17896482	3.1185851	20	3 28.5	20.7
243801	2000	SS <sub>135</sub>	15.1	X	183.24212	139.49764	214.27592	11.49047	0.1536272	0.17474785	3.1685568	20	3 1.8	20.5
243802	2000	SU <sub>137</sub>	16.5	X	127.21328	113.17822	223.33530	5.31255	0.1587297	0.26469803	2.4023461	20	—	—
243803	2000	SC <sub>157</sub>	17.3	X	210.19694	258.85039	83.50617	3.26823	0.2223569	0.27674230	2.3321278	20	3 8.8	21.2
243804	2000	SR <sub>158</sub>	15.5	X	321.01846	42.91603	208.76049	12.62584	0.1521774	0.18589638	3.0405729	20	3 23.4	19.4
243805	2000	SS <sub>159</sub>	17.2	X	344.23078	97.62016	200.04548	6.96621	0.1561451	0.29366500	2.2416506	20	7 15.5	19.0
243806	2000	SH <sub>162</sub>	15.5	X	281.49320	252.57386	121.64165	12.55617	0.3002157	0.18913201	3.0057950	20	6 16.2	19.9
243807	2000	SR <sub>176</sub>	16.5	X	145.11431	26.37975	325.14822	6.18498	0.1612597	0.26730458	2.3867034	20	1 18.8	19.9
243808	2000	SB <sub>196</sub>	17.2	X	259.16074	215.71754	101.96423	4.70863	0.1704525	0.28217870	2.3020773	20	3 25.3	20.5
243809	2000	SF <sub>223</sub>	16.5	X	170.72450	54.45728	10.61192	6.45778	0.1926645	0.22941580	2.6427363	20	5 15.5	21.0
243810	2000	SS <sub>233</sub>	17.0	X	137.43116	312.81118	81.14628	5.98896	0.1955808	0.27263439	2.3554956	20	3 10.1	20.5
243811	2000	SR <sub>237</sub>	15.1	X	212.42266	262.32562	32.46605	23.92533	0.3152197	0.17363353	3.1820987	20	1 28.1	21.3
243812	2000	SY <sub>241</sub>	14.9	X	151.68034	4.71487	357.54714	27.78363	0.1675490	0.17320030	3.1874028	20	2 26.7	20.2
243813	2000	SP <sub>277</sub>	16.3	X	105.16680	70.56323	272.00995	5.59973	0.1614412	0.26102914	2.4248044	20	—	—
243814	2000	SL <sub>292</sub>	16.4	X	290.51191	167.53931	243.87262	12.24290	0.2601398	0.24307986	2.5427485	20	8 23.3	19.4
243815	2000	SB <sub>297</sub>	15.9	X	229.41967	68.80991	235.77870	7.01352	0.2864195	0.17852745	3.1236764	20	2 9.1	21.6
243816	2000	SY <sub>297</sub>	16.4	X	117.08534	231.59912	268.70744	5.60095	0.0657188	0.28396004	2.2924396	20	6 20.4	19.0
243817	2000	SU <sub>306</sub>	16.3	X	72.42958	166.91674	217.00437	8.11004	0.1495670	0.26118925	2.4238134	20	—	—
243818	2000	SU <sub>315</sub>	17.2	X	312.11795	38.16062	288.45918	8.65458	0.2003210	0.28941696	2.2635325	20	6 15.3	19.1
243819	2000	SO <sub>335</sub>	16.9	X	241.69340	79.29213	222.44866	8.88355	0.2407082	0.27724041	2.3293336	20	2 7.9	21.0
243820	2000	SJ <sub>343</sub>	16.4	X	135.11696	50.34008	296.17800	5.25280	0.1402444	0.26955100	2.3734245	20	—	—
243821	2000	SB <sub>344</sub>	15.2	X	248.18546	295.60153	3.86934	17.67551	0.1348204	0.17716756	3.1396404	20	3 5.4	20.1
243822	2000	ST <sub>357</sub>	16.4	X	287.60177	268.71550	101.59786	11.94769	0.2735784	0.24011195	2.5636587	20	6 23.5	19.5
243823	2000	SC <sub>372</sub>	17.3	X	311.18364	211.32413	116.42802	4.96255	0.2626049	0.29004071	2.2602860	20	6 3.5	19.1
243824	2000	TS <sub>10</sub>	15.7	X	231.50925	77.06874	17.10259	24.05595	0.1126397	0.19123949	2.9836714	20	9 4.7	20.4
243825	2000	TX <sub>10</sub>	17.5	X	265.13761	307.01277	14.40442	4.71685	0.2420061	0.28289221	2.2982048	20	3 26.7	20.9
243826	2000	TX <sub>20</sub>	16.6	X	23.82499	160.56053	135.68689	8.69922	0.2385405	0.29754537	2.2221187	20	10 28.4	19.2
243827	2000	TD <sub>25</sub>	16.6	X	75.82740	248.78778	178.55031	5.01993	0.2262647	0.26589307	2.3951426	20	2 2.5	18.7
243828	2000	TH <sub>25</sub>	15.3	X	235.38010	165.50374	218.31523	9.22745	0.1119745	0.18324323	3.0698519	20	5 31.1	19.9
243829	2000	TO <sub>32</sub>	17.7	X	248.37263	219.20708	76.32617	2.29074	0.1894073	0.27560711	2.3385273	20	2 13.1	21.2
243830	2000	TV <sub>36</sub> </												



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Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>
243841 2000 VV <sub>23</sub>	16.3	X	99.97118	113.48175	226.02571	5.53260	0.1715778	0.25861878	2.4398475	20	—	—
243842 2000 VZ <sub>30</sub>	15.0	X	241.20479	128.24210	238.43780	14.46373	0.1456076	0.17955398	3.1117596	20	5 12.0	19.7
243843 2000 VT <sub>35</sub>	16.1	X	264.11505	108.33228	243.14266	22.05087	0.2546184	0.28144824	2.3060587	20	4 30.7	19.8
243844 2000 VK <sub>40</sub>	16.4	X	107.40679	193.37174	238.28097	3.85766	0.0945082	0.22107513	2.7087949	20	3 10.8	20.2
243845 2000 VG <sub>50</sub>	15.7	X	289.59937	185.52210	245.28533	9.21862	0.1628009	0.24283452	2.5444608	20	10 9.3	18.5
243846 2000 VT <sub>61</sub>	15.9	X	257.20506	76.04988	296.06383	22.49991	0.2549221	0.28429495	2.2906388	20	5 19.9	19.9
243847 2000 VA <sub>62</sub>	15.7	X	292.08259	24.56744	358.33885	27.97515	0.1764288	0.28843570	2.2686633	20	8 26.5	18.3
243848 2000 WO	16.1	X	273.53162	97.95895	341.66287	25.49193	0.2917489	0.24203151	2.5500857	20	9 5.1	19.2
243849 2000 WK <sub>8</sub>	14.9	X	287.62844	110.94162	284.49610	8.97008	0.2684700	0.18739871	3.0243008	20	7 24.5	18.8
243850 2000 WR <sub>15</sub>	16.8	X	139.31994	116.09017	249.01292	4.12060	0.2176433	0.26706657	2.3881212	20	2 2.8	20.3
243851 2000 WO <sub>22</sub>	16.8	X	226.84150	268.59902	95.78419	7.77346	0.1998459	0.28016034	2.3131206	20	4 21.9	20.5
243852 2000 WM <sub>24</sub>	16.0	X	67.06093	244.85913	113.19698	7.02612	0.1553141	0.25520903	2.4615313	20	—	—
243853 2000 WQ <sub>64</sub>	16.7	X	249.57467	0.96288	242.26409	3.67508	0.0804819	0.26389629	2.4072094	20	—	—
243854 2000 WVV <sub>69</sub>	16.1	X	341.69989	42.38144	316.98595	6.24753	0.2356624	0.19461439	2.9409768	20	9 28.7	18.8
243855 2000 WA <sub>73</sub>	15.1	X	245.92161	81.43060	254.80683	12.15819	0.2868027	0.18006908	3.1058224	20	3 24.7	20.6
243856 2000 WC <sub>86</sub>	14.6	X	276.86342	87.28513	273.37832	6.96347	0.3109881	0.18432109	3.0578724	20	5 21.5	19.1
243857 2000 WR <sub>102</sub>	15.7	X	230.34828	25.89980	56.15348	5.37663	0.1857126	0.18408548	3.0604811	20	7 31.4	20.5
243858 2000 WR <sub>104</sub>	15.8	X	253.31207	149.24565	275.44708	13.35239	0.0737456	0.23366031	2.6106346	20	8 15.7	19.6
243859 2000 WS <sub>129</sub>	16.3	X	268.25565	204.21219	237.48955	30.60083	0.1692734	0.24223944	2.5486262	20	9 9.3	20.3
243860 2000 WA <sub>131</sub>	16.8	X	105.36398	292.11167	65.71803	4.54227	0.1802754	0.26066950	2.4270342	20	—	—
243861 2000 WJ <sub>131</sub>	16.7	X	263.75299	14.54970	70.59111	6.92767	0.2569004	0.24128894	2.5553150	20	9 9.1	20.0
243862 2000 WZ <sub>143</sub>	17.1	X	117.39076	321.51027	71.71541	23.27962	0.0719094	0.36606112	1.9353832	20	1 4.6	19.1
243863 2000 WJ <sub>154</sub>	14.6	X	220.88010	112.21518	268.85607	14.61833	0.1069905	0.17889535	3.1193924	20	5 10.5	19.6
243864 2000 WJ <sub>163</sub>	17.4	X	142.74165	73.85135	293.57253	0.56086	0.1969597	0.26741691	2.3860350	20	2 8.2	20.9
243865 2000 WX <sub>172</sub>	15.7	X	260.00543	102.38891	293.44529	16.06636	0.3012868	0.23282720	2.6168585	20	6 21.2	19.7
243866 2000 WB <sub>184</sub>	15.1	X	245.57619	85.15815	283.20346	8.50318	0.1114316	0.18030562	3.1031054	20	5 21.5	19.8
243867 2000 WF <sub>189</sub>	15.5	X	290.22444	158.46950	238.47882	7.88937	0.0724051	0.19035300	2.9929278	20	8 27.1	19.7
243868 2000 WP <sub>189</sub>	16.6	X	262.98576	119.65511	271.95415	3.43155	0.1408423	0.23590230	2.5940675	20	7 9.9	20.2
243869 2000 XJ <sub>1</sub>	16.3	X	293.21193	168.90852	267.47066	6.81822	0.1756147	0.24258649	2.5461949	20	10 23.4	18.9
243870 2000 XQ <sub>1</sub>	15.5	X	324.69195	110.17458	272.48715	12.99451	0.1960287	0.24104159	2.5570628	20	10 2.4	18.1
243871 2000 XZ <sub>2</sub>	14.8	X	216.80248	115.59246	285.25341	15.17332	0.1878482	0.18026246	3.1036008	20	5 26.7	20.1
243872 2000 XW <sub>17</sub>	16.4	X	233.61797	99.99868	299.75757	10.45030	0.3075213	0.23324827	2.6137082	20	5 31.5	21.0
243873 2000 XM <sub>29</sub>	15.7	X	268.18380	79.98045	34.91602	12.41432	0.1476938	0.24272151	2.5452505	20	11 8.5	18.5
243874 2000 XY <sub>30</sub>	16.5	X	14.63887	37.72690	20.32635	9.13310	0.2069477	0.25343026	2.4730358	20	—	—
243875 2000 XB <sub>40</sub>	14.8	X	320.94934	17.30511	328.35438	18.09558	0.2348037	0.18836479	3.0139513	20	7 26.3	18.1
243876 2000 XU <sub>40</sub>	15.2	X	300.79878	94.45186	324.17282	13.20426	0.1652618	0.24353855	2.5395547	20	10 8.3	18.0
243877 2000 YR <sub>1</sub>	15.6	X	347.22442	32.14620	302.12010	15.10230	0.1819554	0.24153610	2.5535715	20	9 7.4	18.3
243878 2000 YJ <sub>6</sub>	16.0	X	242.33804	133.58819	0.60912	3.40827	0.2316067	0.24040066	2.5616057	20	10 16.2	19.6
243879 2000 YU <sub>7</sub>	17.0	X	162.77070	303.32551	127.05315	4.75226	0.2189413	0.27510371	2.3413792	20	5 18.6	20.9
243880 2000 YH <sub>23</sub>	16.2	X	202.23838	108.01503	105.42799	13.75730	0.2509550	0.24276495	2.5449469	20	12 14.4	20.3
243881 2000 YP <sub>33</sub>	16.7	X	173.70698	153.25464	271.14435	27.06302	0.1970559	0.37434563	1.9067227	20	5 16.3	19.9
243882 2000 YT <sub>38</sub>	16.5	X	117.76547	43.53726	113.88488	6.70495	0.1687680	0.27602653	2.3361577	20	7 25.8	19.9
243883 2000 YO <sub>46</sub>	16.0	X	223.10914	270.85420	273.38417	3.47678	0.1174303	0.24340111	2.5405106	20	12 13.7	19.4
243884 2000 YB <sub>56</sub>	16.2	X	265.22130	191.93935	275.71164	11.38597	0.1491091	0.24130375	2.5552104	20	10 20.9	19.5
243885 2000 YQ <sub>94</sub>	17.2	X	211.95781	326.08006	131.32492	3.60354	0.1155101	0.28256359	2.2999863	20	8 13.5	20.3
243886 2000 YK <sub>99</sub>	14.7	X	94.43975	238.86362	297.30850	12.43750	0.2234713	0.17175215	3.2052944	20	7 25.1	19.6
243887 2000 YA <sub>101</sub>	15.7	X	185.70008	339.66066	166.66930	33.45858	0.1636905	0.23009235	2.6375534	20	9 10.5	19.8
243888 2000 YP <sub>119</sub>	16.8	X	66.24821	355.71303	49.31305	3.08196	0.1972714	0.25882655	2.4385416	20	—	—
243889 2001 AO <sub>6</sub>	15.6	X	210.92491	250.53535	266.82279	15.76489	0.0996845	0.23928707	2.5695470	20	10 22.4	19.6
243890 2001 AD <sub>36</sub>	16.1	X	224.96136	96.36312	328.81312	10.43940	0.2177586	0.23022737	2.6365221	20	7 4.2	20.5
243891 2001 AV <sub>45</sub>	16.0	X	111.94612	66.51293	71.84201	13.52987	0.1080760	0.22103607	2.7091140	20	6 14.5	19.9
243892 2001 AM <sub>50</sub>	16.0	X	217.14415	238.53369	336.52390	3.62974	0.1115013	0.24647960	2.5193126	20	—	—
243893 2001 BN <sub>5</sub>	15.9	X	253.12501	79.23997	308.43005	28.14651	0.3298203	0.23153719	2.6256904	20	5 30.7	20.9
243894 2001 BW <sub>23</sub>	17.3	X	204.51771	152.66668	164.46164	0.81047	0.2354183	0.23162558	2.6259012	20	8 7.8	21.8
243895 2001 BA <sub>27</sub>	15.7	X	294.56071	42.76239	138.16743	7.06175	0.2003436	0.19940256	2.9016759	20	—	—
243896 2001 BN <sub>48</sub>	15.7	X	305.71957	239.37348	181.29956	11.49862	0.2431243	0.24082887	2.5585683	20	10 23.5	17.7
243897 2001 BH <sub>52</sub>	15.6	X	171.55475	356.21041	122.06019	17.37223	0.0580916	0.17583333	3.1555029	20	7 21.3	20.2
243898 2001 BD <sub>56</sub>	17.0	X	124.50692	45.55053	112.18878	5.74035	0.1655588	0.27477830	2.3432274	20	8 2.1	20.4
243899 2001 DA <sub>12</sub>	15.1	X	141.45239	359.15874	127.84774	6.70184	0.0995688	0.16958469	3.2325478	20	6 30.9	20.0
243900 2001 DC <sub>61</sub>	16.0	X	214.82485	37.56458	148.78092	12.91874	0.0877059	0.23983265	2.5656487	20	12 11.4	19.7
243901 2001 EJ <sub>2</sub>	15.6	X	223.46620	12.99381	127.87797	15.26126	0.2189168	0.23434786	2.6055259	20	10 11.9	19.8
243902 2001 EP <sub>5</sub>	15.0	X	141.89520	339.37410	151.52780	16.16600	0.1376051	0.16949422	3.2336980	20	7 8.2	20.3
243903 2001 EW <sub>17</sub>	16.6	X	187.49890	165.24117	148.88612	24.14321	0.0570106	0.35236572	1.9852123	20	—	—
243904 2001 FR <sub>40</sub>	16.6	X	173.07623	313.41233	175.86996	14.03988	0.2882814	0.22583329	2.6706116	20	8 4.1	21.6
243905 2001 FB <sub>82</sub>	15.7	X	134.44015	324.45943	219.29076	11.06925	0.1241910	0.22482212	2.6786133	20	9 3.9	20.1
243906 2001 FG <sub>88</sub>	15.7	X	21.29359	306.49871	16.95404	14.98000	0.1050117	0.22622036	2.6675645	20	10 18.9	18.9
243907 2001 FG <sub>93</sub>	16.1	X	116.71267	56.01518	147.06179	17.74338	0.1577339	0.22515683	2.6759581	20	9 19.7	20.4
243908 2001 FE <sub>95</sub>	16.1	X	174.04362	105.29237	26.67734	13.19804	0.2264103	0.22541154	2.6739418	20	8 16.9	20.9
243909 2001 FY <sub>103</sub>	16.9	X	177.88187	357.34914	173.00779	13.95019	0.1789876	0.23015315	2.6370889	20	10 3.8	21.2
243910 2001 FJ <sub>122</sub>	15.6	X	47.77792	275.40714	181.47381	10.53755	0.1628701	0.20276395	2.8695176	20	1 27.1	18.9
243911 2001 FJ <sub>189</sub>	15.6	X	232.07630	48.95996	83.81179	13.22146	0.0875286	0.23206585	2.6225789	20	10 27.5	19.4
243912 2001 HZ <sub>1</sub>	16.2	X	155.29654	83.94276	204.54241	8.09907	0.3023366	0.23462090	2.6035040	20	—	—
243913 2001 HR <sub>13</sub>	15.9	X	242.33376	115.84357	112.75103	11.81439	0.2505740	0.24387592	2.537212			

ELEMENTS AND OPPOSITION DATES IN 2020

ECLIPTIC AND EQUINOX 2000.0, EPOCH 2020 MAY 31.0 TT

Planet	<i>H</i>	<i>G</i>	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	$\mu$	<i>a</i>	TE	Oppos.	<i>V</i>		
243921	2001	<i>MU</i> <sub>24</sub>	16.1	X	22.22127	44.10854	268.56076	7.81266	0.2655005	0.21306040	2.7763074	20	10 27.1	19.5
243922	2001	<i>MS</i> <sub>25</sub>	15.8	X	351.00954	50.97588	258.99480	7.16876	0.1920657	0.20933644	2.8091364	20	8 8.6	18.7
243923	2001	<i>NQ</i> <sub>1</sub>	14.7	X	63.00887	115.90949	275.86286	27.03256	0.3470968	0.22502705	2.6769868	20	—	—
243924	2001	<i>NO</i> <sub>22</sub>	16.2	X	65.90288	112.27414	212.77004	14.07539	0.2418757	0.21886963	2.7269618	20	12 30.0	20.8
243925	2001	<i>OZ</i> <sub>5</sub>	15.3	X	1.46707	107.63226	267.23523	9.61189	0.3326574	0.21312929	2.7757091	20	12 28.7	18.1
243926	2001	<i>OX</i> <sub>22</sub>	14.4	X	95.41029	117.61129	272.85011	25.20383	0.2476886	0.17508491	3.1644889	20	1 26.4	19.1
243927	2001	<i>OR</i> <sub>33</sub>	17.3	X	347.75543	212.64438	95.07316	7.20885	0.2477128	0.31188772	2.1534619	20	8 30.9	18.1
243928	2001	<i>OT</i> <sub>53</sub>	16.0	X	97.41618	232.15823	84.39022	10.18490	0.2510913	0.22225253	2.6992197	20	—	—
243929	2001	<i>OU</i> <sub>61</sub>	15.4	X	33.49467	1.38776	334.32884	7.09793	0.2014391	0.21623230	2.7490903	20	12 3.9	19.2
243930	2001	<i>OO</i> <sub>66</sub>	14.6	X	59.69783	161.32116	235.34715	27.31840	0.1577292	0.17371279	3.1811307	20	—	—
243931	2001	<i>OC</i> <sub>86</sub>	16.4	X	112.95160	28.53629	278.44601	2.28537	0.2981719	0.22610399	2.6684797	20	—	—
243932	2001	<i>OL</i> <sub>88</sub>	15.4	X	100.49963	307.18337	309.76392	13.53299	0.0213654	0.21581121	2.7526651	20	10 16.7	19.6
243933	2001	<i>OX</i> <sub>91</sub>	16.7	X	311.36110	150.80637	208.97896	15.42078	0.3211030	0.20480623	2.8504096	20	7 5.6	20.0
243934	2001	<i>OP</i> <sub>106</sub>	15.3	X	39.68260	90.87355	305.10556	8.42322	0.2688339	0.21997412	2.7178260	20	—	—
243935	2001	<i>PC</i> <sub>7</sub>	16.4	X	21.14140	168.89010	234.39945	4.92697	0.2122315	0.27197716	2.3592887	20	—	—
243936	2001	<i>PA</i> <sub>15</sub>	15.9	X	3.17832	176.00774	194.78876	8.00315	0.2279318	0.21385561	2.7694208	20	12 9.8	19.0
243937	2001	<i>PZ</i> <sub>21</sub>	16.2	X	77.50992	13.96063	286.78615	4.95496	0.1991530	0.21870114	2.7283621	20	12 9.5	20.4
243938	2001	<i>PJ</i> <sub>27</sub>	17.0	X	106.43583	29.01754	322.12604	6.07336	0.2258500	0.27915238	2.3186854	20	—	—
243939	2001	<i>PX</i> <sub>32</sub>	16.7	X	37.63306	260.26034	98.18744	15.36742	0.1296169	0.27141367	2.3625531	20	—	—
243940	2001	<i>PT</i> <sub>33</sub>	16.0	X	70.75978	227.13727	43.51430	8.51074	0.1908589	0.21455828	2.7637101	20	10 27.2	20.2
243941	2001	<i>PT</i> <sub>35</sub>	16.1	X	21.90391	139.65717	182.86289	20.97805	0.2618771	0.21253472	2.7808835	20	11 13.5	19.7
243942	2001	<i>PM</i> <sub>49</sub>	15.6	X	1.88823	76.27271	283.60439	18.65066	0.2850052	0.21045038	2.7992149	20	11 29.6	18.7
243943	2001	<i>PO</i> <sub>49</sub>	15.8	X	51.78229	154.03206	171.54963	27.84122	0.1964716	0.21750641	2.7383441	20	12 12.2	20.4
243944	2001	<i>QM</i> <sub>4</sub>	17.3	X	130.34590	336.46065	322.24630	4.92364	0.2460511	0.27919581	2.3184449	20	—	—
243945	2001	<i>QJ</i> <sub>39</sub>	16.3	X	357.74765	185.44471	137.46565	10.79924	0.2195754	0.21051374	2.7986532	20	9 22.5	19.0
243946	2001	<i>QM</i> <sub>79</sub>	15.2	X	48.26391	320.76040	13.88217	21.17130	0.1788088	0.21237016	2.7823199	20	12 14.2	19.6
243947	2001	<i>QX</i> <sub>89</sub>	15.0	X	187.06165	345.71359	307.23561	17.90334	0.2140057	0.17717878	3.1395079	20	1 3.2	20.4
243948	2001	<i>QD</i> <sub>117</sub>	15.3	X	58.62368	345.58995	328.73588	11.89022	0.1607941	0.21409440	2.7673612	20	11 29.9	19.5
243949	2001	<i>QG</i> <sub>126</sub>	15.2	X	94.74347	95.01985	266.61298	10.31280	0.2168794	0.22819067	2.6521869	20	—	—
243950	2001	<i>QJ</i> <sub>132</sub>	16.4	X	238.92745	191.91089	145.67806	9.11475	0.2073903	0.29855411	2.2171105	20	5 3.6	19.9
243951	2001	<i>QX</i> <sub>163</sub>	15.7	X	171.62559	177.75908	210.06148	16.82219	0.2648126	0.18386049	3.0629773	20	4 5.1	21.2
243952	2001	<i>QP</i> <sub>166</sub>	16.0	X	41.76950	70.35054	347.08442	11.10004	0.1969344	0.22572528	2.6714636	20	—	—
243953	2001	<i>QE</i> <sub>173</sub>	16.0	X	68.15677	45.68531	299.39587	9.01896	0.1330675	0.22080444	2.7110083	20	—	—
243954	2001	<i>QJ</i> <sub>173</sub>	15.6	X	165.40197	196.29899	200.55911	10.34984	0.1072174	0.18915304	3.0055722	20	4 5.8	20.2
243955	2001	<i>QW</i> <sub>179</sub>	16.1	X	126.21872	246.67061	54.25581	7.90595	0.2342467	0.22453285	2.6809134	20	—	—
243956	2001	<i>QR</i> <sub>194</sub>	15.9	X	20.41708	67.26039	287.95602	10.65725	0.1884531	0.21250104	2.7811773	20	12 9.2	19.4
243957	2001	<i>QZ</i> <sub>206</sub>	15.9	X	65.25619	136.20617	155.03086	17.46385	0.1028878	0.21442673	2.7645011	20	11 8.7	20.2
243958	2001	<i>QX</i> <sub>208</sub>	17.7	X	215.68417	320.93761	345.33492	3.15947	0.1774502	0.29172051	2.2516009	20	1 27.1	21.2
243959	2001	<i>QM</i> <sub>212</sub>	16.1	X	351.64529	219.63328	164.57936	2.94277	0.2768918	0.21174743	2.7877722	20	12 12.9	18.7
243960	2001	<i>QD</i> <sub>227</sub>	15.4	X	224.11616	172.50700	217.38203	9.87150	0.0625963	0.19622130	2.9329542	20	5 30.9	19.8
243961	2001	<i>QL</i> <sub>229</sub>	16.6	X	27.25387	22.40670	298.01250	6.78092	0.2186806	0.21214371	2.7842995	20	11 6.3	20.2
243962	2001	<i>QD</i> <sub>246</sub>	16.3	X	37.77517	171.66881	177.82107	11.75972	0.2530693	0.21459238	2.7630782	20	—	—
243963	2001	<i>QM</i> <sub>246</sub>	16.3	X	122.24372	167.12704	182.25695	7.97323	0.1644399	0.27929586	2.3178912	20	—	—
243964	2001	<i>QD</i> <sub>254</sub>	15.6	X	15.06125	246.70174	106.16319	9.43957	0.1533469	0.21438880	2.7648272	20	11 25.7	19.1
243965	2001	<i>QT</i> <sub>264</sub>	14.6	X	119.21032	108.71308	245.48944	12.65994	0.1439159	0.17643089	3.1483738	20	1 3.1	19.3
243966	2001	<i>QX</i> <sub>280</sub>	17.0	X	80.55885	284.05760	83.72028	6.95313	0.1645292	0.27761061	2.3272623	20	—	—
243967	2001	<i>QD</i> <sub>286</sub>	15.5	X	262.25600	94.54272	190.59798	11.67567	0.1943845	0.19247221	2.9709182	20	2 17.3	20.4
243968	2001	<i>QM</i> <sub>294</sub>	15.8	X	278.41125	164.55398	158.60161	12.72112	0.1665633	0.19829388	2.9124815	20	4 29.6	20.1
243969	2001	<i>QX</i> <sub>294</sub>	16.9	X	260.84211	26.86949	306.97462	4.27389	0.2097144	0.29886834	2.2155562	20	4 7.4	20.2
243970	2001	<i>QJ</i> <sub>329</sub>	16.9	X	91.59937	203.18741	179.63379	7.01552	0.1191312	0.28187344	2.3037390	20	—	—
243971	2001	<i>QL</i> <sub>330</sub>	15.5	X	158.34412	79.46199	299.47500	8.68150	0.1253668	0.18446831	3.0562453	20	3 6.5	20.4
243972	2001	<i>QS</i> <sub>333</sub>	15.7	X	203.93669	348.24900	336.98522	15.32777	0.0842700	0.18307234	3.0717619	20	2 20.3	20.5
243973	2001	<i>RP</i>	14.6	X	107.99357	88.13528	283.76622	23.73258	0.2748737	0.17471966	3.1688975	20	1 24.9	19.5
243974	2001	<i>RM</i> <sub>10</sub>	15.5	X	305.71615	164.45784	320.40796	35.07439	0.0796730	0.21961459	2.7207915	20	—	—
243975	2001	<i>RN</i> <sub>20</sub>	17.6	X	233.79426	196.95660	189.50378	2.37653	0.1595913	0.30218863	2.1992974	20	5 27.9	20.7
243976	2001	<i>RD</i> <sub>26</sub>	15.5	X	279.15578	300.09687	354.37810	10.05980	0.0990534	0.19306426	2.9648414	20	3 29.5	19.8
243977	2001	<i>RB</i> <sub>32</sub>	17.3	X	294.82393	17.27105	284.21976	3.96745	0.1208360	0.30261089	2.1972511	20	4 17.8	19.9
243978	2001	<i>RH</i> <sub>40</sub>	15.9	X	238.41118	105.38916	225.53211	10.04619	0.1154146	0.19141492	2.9818481	20	3 26.5	20.6
243979	2001	<i>RC</i> <sub>43</sub>	16.6	X	56.65442	92.05889	297.29519	10.25188	0.1989019	0.22278223	2.6949395	20	—	—
243980	2001	<i>RF</i> <sub>49</sub>	14.8	X	98.68614	296.81353	79.22020	27.52322	0.2275398	0.17335471	3.1855099	20	1 19.0	19.6
243981	2001	<i>RC</i> <sub>50</sub>	16.8	X	281.39751	110.22936	232.06211	6.25800	0.0778903	0.30358380	2.1925541	20	6 8.0	19.2
243982	2001	<i>RP</i> <sub>52</sub>	16.2	X	100.67264	256.25492	57.55273	2.87850	0.1499553	0.22209970	2.7004578	20	—	—
243983	2001	<i>RJ</i> <sub>53</sub>	16.3	X	323.35743	271.90337	123.37909	8.47802	0.2359343	0.20934542	2.8090560	20	10 20.3	18.9
243984	2001	<i>RS</i> <sub>57</sub>	15.0	X	213.63223	338.73321	6.26370	13.29159	0.1026616	0.18896901	3.0075232	20	3 22.9	19.5
243985	2001	<i>RA</i> <sub>61</sub>	15.6	X	185.77322	256.37483	145.28655	9.35839	0.1009102	0.19033851	2.9930797	20	5 5.4	20.4
243986	2001	<i>RW</i> <sub>62</sub>	17.1	X	27.55816	314.87153	67.08604	3.46733	0.2241742	0.26900052	2.3766614	20	—	—
243987	2001	<i>RE</i> <sub>64</sub>	15.7	X	20.47689	120.45872	231.50195	8.60602	0.1682111	0.21286629	2.7779950	20	12 2.5	19.1
243988	2001	<i>RF</i> <sub>76</sub>	16.6	X	186.23563	330.57030	52.56260	6.55486	0.2410630	0.29068538	2.2569430	20	4 8.9	20.4
243989	2001													