

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>248028</b>	2004 <i>FJ</i> <sub>130</sub>		1 12.9 195°95	1°0/13.5	18		<b>210250</b>	2007 <i>RY</i> <sub>242</sub>		1 12.9 50°05	1°4/12.6	18	
12 13	7 56.20	+16 13.4	2.512	3.346	10.4	20.4	12 13	8 2.75	+23 0.9	1.289	2.154	16.2	19.9
12 23	7 50.74	+16 44.3	2.434	3.345	7.5	20.2	12 23	7 56.29	+23 34.6	1.245	2.172	11.5	19.7
1 2	7 43.68	+17 22.5	2.383	3.344	4.2	20.0	1 2	7 46.93	+24 11.8	1.224	2.191	6.2	19.4
1 12	7 35.67	+18 5.5	2.361	3.343	1.1	19.8	1 12	7 35.99	+24 46.3	1.228	2.210	1.4	19.2
1 22	7 27.49	+18 50.1	2.370	3.342	3.2	19.9	1 22	7 25.15	+25 13.0	1.259	2.230	5.4	19.5
2 1	7 19.95	+19 33.7	2.409	3.340	6.5	20.1	2 1	7 16.01	+25 29.4	1.316	2.250	10.4	19.8
2 11	7 13.81	+20 14.0	2.476	3.339	9.6	20.3	2 11	7 9.80	+25 35.7	1.396	2.270	14.7	20.1
2 21	7 9.58	+20 49.7	2.567	3.337	12.2	20.5	2 21	7 7.02	+25 33.4	1.495	2.291	18.2	20.4
<b>14570</b>	Burkam		1 12.9 49°68	1°3/13.3	18		<b>332665</b>	2008 <i>WM</i> <sub>81</sub>		1 12.9 63°89	3°7/11.1	18	
12 13	8 2.81	+18 19.4	1.198	2.060	17.4	18.3	12 13	8 0.28	+29 4.3	2.001	2.852	11.9	20.0
12 23	7 56.48	+18 21.4	1.147	2.072	12.5	18.0	12 23	7 54.04	+30 21.1	1.949	2.867	8.6	19.8
1 2	7 47.08	+18 32.7	1.118	2.084	6.9	17.8	1 2	7 45.60	+31 35.8	1.924	2.883	5.3	19.7
1 12	7 35.98	+18 49.5	1.114	2.097	1.5	17.4	1 12	7 35.88	+32 42.0	1.927	2.899	3.7	19.6
1 22	7 24.89	+19 8.0	1.136	2.110	5.3	17.7	1 22	7 26.05	+33 34.5	1.960	2.914	5.7	19.7
2 1	7 15.51	+19 24.9	1.184	2.123	10.7	18.1	2 1	7 17.27	+34 10.8	2.021	2.930	8.9	20.0
2 11	7 9.13	+19 38.6	1.254	2.137	15.5	18.4	2 11	7 10.56	+34 31.2	2.107	2.946	12.0	20.2
2 21	7 6.34	+19 48.2	1.343	2.151	19.3	18.7	2 21	7 6.49	+34 38.1	2.215	2.962	14.5	20.4
<b>372926</b>	2011 <i>BR</i> <sub>22</sub>		1 12.9 113°45	1°0/13.4	18		<b>62013</b>	2000 <i>RM</i> <sub>41</sub>		1 12.9 161°54	1°7/13.5	18	
12 13	7 59.00	+17 7.2	2.020	2.860	12.3	21.3	12 13	8 3.60	+17 3.1	1.893	2.728	13.2	19.6
12 23	7 52.95	+17 31.2	1.953	2.867	8.8	21.1	12 23	7 56.28	+16 55.4	1.824	2.734	9.5	19.4
1 2	7 44.93	+18 2.7	1.912	2.874	4.9	20.9	1 2	7 46.77	+16 54.0	1.779	2.740	5.4	19.2
1 12	7 35.79	+18 38.8	1.899	2.881	1.2	20.7	1 12	7 36.00	+16 57.3	1.764	2.745	1.8	18.9
1 22	7 26.52	+19 16.0	1.916	2.888	3.7	20.9	1 22	7 25.13	+17 3.1	1.778	2.749	4.2	19.1
2 1	7 18.18	+19 51.3	1.963	2.895	7.7	21.1	2 1	7 15.35	+17 10.0	1.822	2.752	8.3	19.4
2 11	7 11.65	+20 22.7	2.036	2.902	11.2	21.4	2 11	7 7.63	+17 16.6	1.892	2.755	12.0	19.6
2 21	7 7.50	+20 49.1	2.131	2.908	14.1	21.6	2 21	7 2.56	+17 22.3	1.984	2.757	15.2	19.8
<b>383676</b>	2007 <i>TT</i> <sub>214</sub>		1 12.9 89°55	2°2/11.9	18		<b>363148</b>	2001 <i>RO</i> <sub>149</sub>		1 12.9 118°94	4°6/14.9	18	
12 13	7 58.81	+26 26.9	2.329	3.175	10.6	20.7	12 13	7 59.16	+ 7 35.4	1.951	2.765	13.7	21.4
12 23	7 52.68	+27 14.9	2.270	3.188	7.5	20.5	12 23	7 53.04	+ 7 34.3	1.885	2.776	10.5	21.3
1 2	7 44.74	+28 2.6	2.238	3.201	4.3	20.4	1 2	7 44.99	+ 7 48.4	1.844	2.786	7.1	21.1
1 12	7 35.77	+28 45.7	2.236	3.215	2.2	20.2	1 12	7 35.85	+ 8 16.8	1.830	2.796	4.7	21.0
1 22	7 26.72	+29 20.6	2.264	3.228	4.3	20.4	1 22	7 26.60	+ 8 57.0	1.845	2.805	5.5	21.0
2 1	7 18.56	+29 45.5	2.322	3.240	7.5	20.6	2 1	7 18.28	+ 9 45.6	1.889	2.814	8.4	21.2
2 11	7 12.10	+30 0.0	2.406	3.253	10.4	20.8	2 11	7 11.78	+10 38.2	1.959	2.823	11.6	21.4
2 21	7 7.86	+30 5.6	2.513	3.266	12.8	21.0	2 21	7 7.62	+11 31.1	2.052	2.832	14.5	21.6
<b>161637</b>	2006 <i>AM</i> <sub>58</sub>		1 12.9 255°17	4°5/10.4	18		<b>181478</b>	2006 <i>TR</i> <sub>88</sub>		1 12.9 71°03	1°5/12.5	18	
12 13	8 0.69	+31 36.6	2.140	2.987	11.4	19.7	12 13	8 1.94	+24 19.6	1.674	2.528	13.7	20.7
12 23	7 54.48	+33 1.6	2.068	2.981	8.4	19.5	12 23	7 55.42	+24 42.1	1.611	2.533	9.7	20.5
1 2	7 45.94	+34 24.4	2.022	2.976	5.6	19.3	1 2	7 46.42	+25 5.9	1.573	2.539	5.3	20.2
1 12	7 35.90	+35 38.0	2.006	2.970	4.6	19.3	1 12	7 35.99	+25 26.5	1.563	2.545	1.5	20.0
1 22	7 25.47	+36 36.5	2.020	2.965	6.4	19.4	1 22	7 25.45	+25 40.3	1.581	2.550	4.8	20.2
2 1	7 15.90	+37 16.8	2.062	2.959	9.4	19.6	2 1	7 16.17	+25 45.5	1.627	2.556	9.2	20.5
2 11	7 8.30	+37 39.2	2.129	2.953	12.4	19.7	2 11	7 9.26	+25 42.5	1.697	2.562	13.1	20.8
2 21	7 3.38	+37 46.3	2.216	2.948	15.0	19.9	2 21	7 5.31	+25 32.7	1.789	2.568	16.3	21.0
<b>382121</b>	2011 <i>HG</i> <sub>77</sub>		1 12.9 106°34	5°1/ 9.7	18		<b>379960</b>	2012 <i>QC</i> <sub>6</sub>		1 12.9 135°92	0°5/12.8	18	
12 13	8 2.39	+34 46.2	2.422	3.259	10.6	20.5	12 13	7 58.35	+22 13.0	2.473	3.314	10.3	21.2
12 23	7 55.45	+36 26.6	2.369	3.273	8.0	20.3	12 23	7 52.26	+22 36.5	2.405	3.321	7.3	21.0
1 2	7 46.36	+38 1.2	2.344	3.286	5.8	20.2	1 2	7 44.50	+23 2.3	2.363	3.328	3.9	20.8
1 12	7 35.94	+39 23.1	2.349	3.300	5.2	20.2	1 12	7 35.81	+23 27.5	2.352	3.335	0.6	20.6
1 22	7 25.25	+40 27.3	2.384	3.313	6.7	20.3	1 22	7 27.02	+23 49.5	2.371	3.342	3.4	20.8
2 1	7 15.44	+41 11.3	2.449	3.325	9.0	20.5	2 1	7 19.02	+24 6.7	2.421	3.348	6.7	21.0
2 11	7 7.52	+41 36.4	2.538	3.338	11.4	20.6	2 11	7 12.56	+24 18.4	2.497	3.354	9.7	21.3
2 21	7 2.11	+41 45.5	2.649	3.350	13.4	20.8	2 21	7 8.14	+24 24.7	2.597	3.360	12.2	21.4
<b>466676</b>	2014 <i>WM</i> <sub>213</sub>		1 12.9 57°54	0°3/13.1	18		<b>163689</b>	2003 <i>BG</i> <sub>2</sub>		1 12.9 52°33	5°7/16.4	18	
12 13	7 59.98	+20 7.7	1.771	2.621	13.3	21.4	12 13	7 57.55	+ 2 29.9	1.898	2.697	14.6	19.8
12 23	7 53.84	+20 19.3	1.709	2.628	9.4	21.2	12 23	7 51.80	+ 2 54.5	1.851	2.726	11.5	19.6
1 2	7 45.48	+20 35.9	1.671	2.636	5.1	20.9	1 2	7 44.26	+ 3 39.5	1.826	2.755	8.3	19.5
1 12	7 35.86	+20 54.3	1.660	2.643	0.6	20.6	1 12	7 35.78	+ 4 42.9	1.829	2.784	6.0	19.4
1 22	7 26.15	+21 11.6	1.679	2.651	4.1	20.9	1 22	7 27.36	+ 6 0.6	1.860	2.813	6.2	19.5
2 1	7 17.56	+21 25.5	1.725	2.659	8.4	21.2	2 1	7 19.94	+ 7 26.9	1.920	2.843	8.5	19.7
2 11	7 11.09	+21 35.1	1.797	2.667	12.2	21.4	2 11	7 14.33	+ 8 55.6	2.007	2.872	11.3	19.9
2 21	7 7.31	+21 40.2	1.891	2.675	15.4	21.7	2 21	7 10.98	+10 21.7	2.117	2.902	13.9	20.1
<b>304788</b>	Cresques		1 12.9 112°90	4°2/14.9	17		<b>62493</b>	2000 <i>SK</i> <sub>225</sub>		1 13.0 168°35	1°1/13.4	18	
12 13	8 1.81	+ 8 6.0	1.822	2.637	14.5	21.1	12 13	7 59.30	+17 17.8	2.062	2.901	12.1	19.6
12 23	7 54.93	+ 8 24.0	1.765	2.657	10.9	20.9	12 23	7 53.19	+17 32.6	1.989	2.902	8.7	19.4
1 2	7 45.99	+ 8 58.2	1.732	2.677	7.2	20.8	1 2	7 45.12	+17 54.3	1.942	2.904	4.9	19.2
1 12	7 35.90	+ 9 46.5	1.726	2.696	4.4	20.6	1 12	7 35.89	+18 20.3	1.923	2.905	1.2	18.9
1 22	7 25.79	+10 45.0	1.750	2.714	5.3	20.7	1 22	7 26.49	+18 48.0	1.934	2.906	3.7	19.1
2 1	7 16.77	+11 48.9	1.804	2.731	8.6	21.0	2 1	7 17.98	+19 14.6	1.975	2.907	7.6	19.3
2 11	7 9.76	+12 53.6	1.884	2.748	12.0	21.2	2 11	7 11.25	+19 38.5	2.042	2.908	11.2	19.6
2 21	7 5.31	+13 55.3	1.986	2.765	14.9	21.4	2 21	7 6.87	+19 58.5	2.132	2.908	14.1	19.8
<b>286194</b>	2001 <i>UP</i> <sub>64</sub>		1 12.9 44°88	8°3/10.4	18		<b>108894</b>	2001 <i>PC</i> <sub>3</sub>		1 13.0 167°98	0°0/12.9	18	
12 13	8 6.72	+45 53.5	2.056	2.874	12.9	20.1							

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>199773</b>	2006 <i>KB</i> <sub>28</sub>		1 13.0 39°64	0°5/13.2	18		<b>58290</b>	1994 <i>CH</i> <sub>17</sub>		1 13.0 32°60	1°3/12.5	18	
12 13	7 58.26	+19 16.2	2.040	2.884	12.0	20.8	12 13	7 59.91	+22 50.7	1.655	2.511	13.7	18.4
12 23	7 52.47	+19 29.1	1.969	2.887	8.5	20.6	12 23	7 54.06	+23 33.3	1.592	2.515	9.7	18.1
1 2	7 44.72	+19 47.2	1.925	2.889	4.7	20.3	1 2	7 45.75	+24 20.0	1.553	2.519	5.3	17.9
1 12	7 35.85	+20 7.9	1.909	2.892	0.7	20.0	1 12	7 35.98	+25 5.4	1.542	2.524	1.4	17.6
1 22	7 26.84	+20 28.5	1.922	2.894	3.7	20.3	1 22	7 26.02	+25 44.7	1.559	2.529	4.8	17.9
2 1	7 18.74	+20 46.8	1.964	2.897	7.6	20.5	2 1	7 17.23	+26 14.4	1.604	2.534	9.2	18.2
2 11	7 12.43	+21 1.5	2.033	2.900	11.1	20.7	2 11	7 10.72	+26 33.9	1.673	2.539	13.1	18.4
2 21	7 8.48	+21 12.1	2.124	2.903	14.1	21.0	2 21	7 7.14	+26 43.8	1.763	2.545	16.4	18.6
<b>484572</b>	2008 <i>OK</i>		1 13.0 114°47	5°9/12.6	17		<b>484131</b>	2006 <i>SB</i> <sub>318</sub>		1 13.0 105°90	1°0/12.7	18	
12 13	8 19.78	+38 38.0	1.677	2.501	15.1	20.8	12 13	8 6.35	+21 44.3	1.369	2.224	16.1	21.7
12 23	8 7.84	+38 30.8	1.624	2.521	11.5	20.7	12 23	7 58.83	+22 23.3	1.318	2.240	11.4	21.5
1 2	7 52.87	+38 6.3	1.597	2.541	7.9	20.5	1 2	7 48.36	+23 7.4	1.290	2.256	6.1	21.2
1 12	7 36.57	+37 18.9	1.599	2.560	5.9	20.4	1 12	7 36.22	+23 50.1	1.289	2.272	1.0	20.9
1 22	7 20.89	+36 8.2	1.631	2.578	7.5	20.6	1 22	7 24.07	+24 25.9	1.316	2.287	5.3	21.2
2 1	7 7.58	+34 39.6	1.692	2.596	10.8	20.8	2 1	7 13.57	+24 51.6	1.370	2.302	10.3	21.6
2 11	6 57.75	+33 1.3	1.780	2.612	14.1	21.0	2 11	7 6.00	+25 7.0	1.448	2.316	14.7	21.9
2 21	6 51.77	+31 21.0	1.890	2.628	17.0	21.3	2 21	7 1.95	+25 13.3	1.545	2.330	18.3	22.1
<b>288585</b>	2004 <i>JX</i> <sub>4</sub>		1 13.0 210°35	1°1/13.4	17		<b>82227</b>	2001 <i>HS</i> <sub>62</sub>		1 13.0 138°52	1°2/13.5	18	
12 13	7 59.12	+18 44.3	2.691	3.521	9.8	20.7	12 13	8 4.75	+17 1.5	1.798	2.634	13.7	20.8
12 23	7 52.67	+18 21.7	2.608	3.518	7.1	20.5	12 23	7 57.15	+17 17.5	1.737	2.648	9.9	20.6
1 2	7 44.70	+18 1.8	2.553	3.514	4.0	20.3	1 2	7 47.28	+17 41.2	1.701	2.662	5.5	20.3
1 12	7 35.86	+17 43.7	2.529	3.510	1.2	20.1	1 12	7 36.12	+18 9.4	1.693	2.675	1.4	20.1
1 22	7 26.92	+17 26.9	2.536	3.506	3.1	20.3	1 22	7 24.91	+18 38.7	1.716	2.687	4.2	20.3
2 1	7 18.69	+17 11.0	2.573	3.502	6.3	20.5	2 1	7 14.89	+19 6.1	1.768	2.699	8.5	20.6
2 11	7 11.87	+16 55.7	2.639	3.497	9.2	20.6	2 11	7 7.08	+19 30.1	1.846	2.709	12.3	20.8
2 21	7 6.91	+16 41.0	2.730	3.492	11.7	20.8	2 21	7 2.05	+19 49.7	1.946	2.719	15.4	21.1
<b>316352</b>	2010 <i>RJ</i> <sub>164</sub>		1 13.0 97°43	2°3/12.3	18		<b>178170</b>	2006 <i>US</i> <sub>53</sub>		1 13.0 182°05	2°6/14.0	18	
12 13	8 3.47	+26 39.9	1.734	2.586	13.4	20.9	12 13	8 0.22	+13 19.7	2.084	2.911	12.4	20.6
12 23	7 56.42	+27 7.6	1.676	2.597	9.5	20.7	12 23	7 53.82	+13 18.4	2.007	2.912	9.2	20.3
1 2	7 46.92	+27 34.2	1.644	2.608	5.4	20.5	1 2	7 45.47	+13 26.7	1.957	2.912	5.6	20.1
1 12	7 36.06	+27 54.5	1.639	2.619	2.3	20.3	1 12	7 35.96	+13 43.0	1.935	2.912	2.8	19.9
1 22	7 25.17	+28 5.1	1.663	2.630	5.1	20.5	1 22	7 26.29	+14 5.4	1.943	2.911	4.3	20.0
2 1	7 15.60	+28 4.8	1.715	2.640	9.2	20.8	2 1	7 17.46	+14 31.3	1.980	2.910	7.8	20.3
2 11	7 8.42	+27 54.6	1.793	2.651	12.8	21.0	2 11	7 10.39	+14 58.5	2.045	2.908	11.2	20.5
2 21	7 4.20	+27 37.1	1.891	2.661	15.9	21.3	2 21	7 5.65	+15 25.0	2.132	2.906	14.2	20.7
<b>285017</b>	2011 <i>CZ</i> <sub>20</sub>		1 13.0 219°46	1°4/13.6	18		<b>296484</b>	2009 <i>HW</i> <sub>103</sub>		1 13.0 204°10	4°9/15.8	17	
12 13	7 58.41	+16 1.6	2.040	2.878	12.2	21.4	12 13	7 54.09	+ 2 1.9	3.038	3.816	10.2	21.5
12 23	7 52.62	+16 22.0	1.963	2.876	8.9	21.2	12 23	7 49.03	+ 1 48.1	2.955	3.813	8.2	21.3
1 2	7 44.85	+16 51.0	1.912	2.874	5.1	20.9	1 2	7 42.73	+ 1 46.9	2.896	3.809	6.3	21.2
1 12	7 35.88	+17 25.9	1.890	2.871	1.6	20.7	1 12	7 35.72	+ 1 58.5	2.866	3.806	5.0	21.1
1 22	7 26.70	+18 3.6	1.897	2.869	3.8	20.8	1 22	7 28.57	+ 2 22.4	2.866	3.802	5.2	21.1
2 1	7 18.36	+18 41.0	1.934	2.867	7.7	21.1	2 1	7 21.92	+ 2 56.6	2.894	3.798	6.8	21.2
2 11	7 11.77	+19 15.7	1.997	2.864	11.3	21.3	2 11	7 16.33	+ 3 38.6	2.950	3.794	8.8	21.3
2 21	7 7.53	+19 46.1	2.082	2.862	14.3	21.5	2 21	7 12.23	+ 4 25.2	3.031	3.790	10.7	21.5
<b>89544</b>	2001 <i>XW</i> <sub>91</sub>		1 13.0 129°47	3°3/11.8	18		<b>293503</b>	2007 <i>GR</i> <sub>10</sub>		1 13.0 108°55	0°1/12.9	18	
12 13	8 5.39	+27 31.0	1.652	2.503	14.0	20.5	12 13	7 59.82	+20 12.0	2.018	2.862	12.1	20.9
12 23	7 57.99	+28 27.6	1.595	2.514	10.0	20.3	12 23	7 53.59	+20 42.4	1.954	2.872	8.6	20.7
1 2	7 47.87	+29 23.1	1.562	2.525	5.8	20.0	1 2	7 45.35	+21 17.8	1.916	2.881	4.6	20.5
1 12	7 36.16	+30 10.4	1.558	2.535	3.3	19.9	1 12	7 35.96	+21 54.4	1.907	2.891	0.4	20.2
1 22	7 24.33	+30 44.2	1.582	2.544	5.9	20.1	1 22	7 26.48	+22 28.6	1.928	2.900	3.8	20.5
2 1	7 13.88	+31 2.3	1.635	2.553	10.0	20.3	2 1	7 17.95	+22 58.0	1.978	2.909	7.7	20.8
2 11	7 6.03	+31 5.7	1.711	2.562	13.7	20.6	2 11	7 11.31	+23 21.0	2.054	2.917	11.2	21.0
2 21	7 1.40	+30 57.6	1.809	2.570	16.8	20.8	2 21	7 7.09	+23 37.6	2.153	2.926	14.1	21.2
<b>151781</b>	2003 <i>EJ</i> <sub>49</sub>		1 13.0 48°24	6°3/15.5	18		<b>409445</b>	2005 <i>QU</i> <sub>59</sub>		1 13.0 73°38	2°0/13.8	18	
12 13	7 57.73	+ 4 26.5	1.754	2.565	15.1	20.1	12 13	7 59.99	+15 5.6	1.744	2.585	13.8	20.7
12 23	7 52.24	+ 4 11.8	1.687	2.570	11.9	19.9	12 23	7 53.81	+15 20.0	1.687	2.600	10.0	20.5
1 2	7 44.66	+ 4 16.2	1.643	2.575	8.7	19.7	1 2	7 45.49	+15 44.5	1.655	2.616	5.8	20.2
1 12	7 35.87	+ 4 40.3	1.625	2.581	6.5	19.6	1 12	7 35.98	+16 16.2	1.651	2.631	2.1	20.0
1 22	7 26.91	+ 5 21.8	1.634	2.586	6.9	19.6	1 22	7 26.43	+16 51.7	1.675	2.646	4.3	20.2
2 1	7 18.93	+ 6 16.9	1.670	2.592	9.6	19.8	2 1	7 18.02	+17 27.6	1.728	2.662	8.4	20.5
2 11	7 12.86	+ 7 20.0	1.731	2.598	12.8	20.0	2 11	7 11.69	+18 1.1	1.806	2.677	12.1	20.7
2 21	7 9.30	+ 8 25.8	1.814	2.603	15.7	20.2	2 21	7 7.97	+18 30.7	1.906	2.693	15.2	21.0
<b>74731</b>	1999 <i>RM</i> <sub>176</sub>		1 13.0 150°22	1°3/12.7	18		<b>102230</b>	1999 <i>TA</i> <sub>18</sub>		1 13.0 76°59	0°5/13.2	18	
12 13	8 6.63	+23 41.8	1.592	2.440	14.5	19.9	12 13	7 59.96	+19 17.6	1.925	2.770	12.6	19.6
12 23	7 58.84	+24 3.6	1.529	2.449	10.4	19.6	12 23	7 53.66	+19 29.9	1.867	2.784	9.0	19.4
1 2	7 48.32	+24 27.0	1.491	2.456	5.6	19.4	1 2	7 45.36	+19 47.3	1.834	2.798	4.9	19.2
1 12	7 36.21	+24 47.3	1.481	2.463	1.3	19.1	1 12	7 35.97	+20 7.0	1.830	2.813	0.7	18.9
1 22	7 24.00	+25 0.3	1.500	2.470	4.9	19.4	1 22	7 26.55	+20 26.2	1.855	2.827	3.8	19.2
2 1	7 13.22	+25 4.5	1.547	2.475	9.6	19.6	2 1	7 18.20	+20 42.9	1.909	2.841	7.8	19.4
2 11	7 5.07	+25 0.5	1.619	2.480	13.8	19.9	2 11	7 11.80	+20 55.8	1.989	2.856	11.4	19.7
2 21	7 0.18	+24 50.1	1.711	2.485	17.2	20.2	2 21	7 7.87	+21 4.7	2.091	2.870	14.3	19.9
<b>479302</b>	2013 <i>JT</i> <sub>14</sub>		1 13.0 130°54	19°0/17.2	18		<b>378938</b>	2008 <i>UT</i> <sub>138</sub>		1 13.0 357°25	11°7/15.7	18	
12 13	8 5.09	-12 25.6	1.141	1.895									

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1 13.0

1 13.0

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>36761</b>	2000 <i>RW</i> <sub>76</sub>		1 13.0 186°51	3°4/11.7	18		<b>86024</b>	1999 <i>LW</i> <sub>3</sub>		1 13.0 270°04	3°4/15.1	18	
12 13	8 4.11	+28 18.9	1.815	2.664	13.0	19.0	12 13	7 59.75	+7 17.0	2.001	2.812	13.5	19.1
12 23	7 57.07	+29 13.7	1.746	2.664	9.4	18.8	12 23	7 53.82	+8 20.5	1.903	2.795	10.3	18.9
1 2	7 47.42	+30 7.3	1.702	2.663	5.6	18.5	1 2	7 45.70	+9 44.6	1.830	2.777	6.7	18.6
1 12	7 36.18	+30 53.2	1.687	2.662	3.4	18.4	1 12	7 36.07	+11 26.5	1.786	2.759	3.7	18.4
1 22	7 24.67	+31 26.3	1.701	2.661	5.8	18.5	1 22	7 25.93	+13 20.5	1.773	2.741	4.7	18.4
2 1	7 14.31	+31 44.0	1.743	2.659	9.7	18.8	2 1	7 16.39	+15 19.4	1.792	2.722	8.4	18.6
2 11	7 6.30	+31 47.3	1.810	2.657	13.3	19.0	2 11	7 8.53	+17 16.1	1.838	2.704	12.2	18.8
2 21	7 1.33	+31 38.9	1.898	2.654	16.3	19.2	2 21	7 3.11	+19 5.0	1.909	2.685	15.6	19.0
<b>97904</b>	2000 <i>QV</i> <sub>79</sub>		1 13.0 73°53	0°4/12.9	17		<b>66189</b>	1998 <i>XA</i> <sub>97</sub>		1 13.0 209°71	0°1/12.9	18	R
12 13	8 4.60	+21 19.6	1.421	2.276	15.6	19.6	12 13	8 2.58	+19 23.8	1.730	2.576	13.7	19.9
12 23	7 57.38	+21 40.7	1.375	2.298	11.0	19.4	12 23	7 56.01	+20 5.7	1.654	2.572	9.8	19.7
1 2	7 47.49	+22 6.5	1.353	2.320	5.9	19.2	1 2	7 46.90	+20 55.5	1.602	2.567	5.3	19.4
1 12	7 36.18	+22 31.9	1.358	2.341	0.6	18.8	1 12	7 36.19	+21 48.5	1.579	2.562	0.5	19.0
1 22	7 25.00	+22 52.8	1.391	2.363	4.8	19.2	1 22	7 25.11	+22 39.4	1.584	2.556	4.4	19.3
2 1	7 15.44	+23 7.1	1.451	2.385	9.7	19.5	2 1	7 15.06	+23 24.1	1.619	2.550	9.1	19.6
2 11	7 8.62	+23 14.3	1.535	2.406	13.8	19.8	2 11	7 7.21	+24 0.2	1.679	2.543	13.2	19.8
2 21	7 5.04	+23 15.4	1.640	2.427	17.2	20.1	2 21	7 2.30	+24 27.6	1.760	2.536	16.7	20.0
<b>318062</b>	2004 <i>FX</i> <sub>91</sub>		1 13.0 213°24	3°8/11.4	18		<b>405178</b>	2002 <i>VN</i> <sub>133</sub>		1 13.0 81°28	0°7/12.8	16	
12 13	8 2.98	+30 45.7	2.082	2.927	11.8	21.1	12 13	8 4.61	+21 55.0	1.761	2.606	13.5	21.5
12 23	7 56.08	+31 35.5	2.008	2.922	8.6	20.9	12 23	7 56.96	+22 24.9	1.720	2.638	9.5	21.3
1 2	7 46.84	+32 22.0	1.959	2.916	5.4	20.7	1 2	7 47.12	+22 57.5	1.704	2.669	5.1	21.1
1 12	7 36.14	+32 59.6	1.939	2.910	3.8	20.6	1 12	7 36.18	+23 28.4	1.717	2.700	0.8	20.9
1 22	7 25.17	+33 23.9	1.949	2.904	5.8	20.7	1 22	7 25.42	+23 53.9	1.760	2.730	4.2	21.2
2 1	7 15.19	+33 33.0	1.988	2.897	9.1	20.9	2 1	7 16.04	+24 12.1	1.831	2.760	8.4	21.5
2 11	7 7.28	+33 28.2	2.052	2.890	12.3	21.1	2 11	7 8.98	+24 22.8	1.929	2.789	11.9	21.8
2 21	7 2.13	+33 12.1	2.138	2.882	15.1	21.3	2 21	7 4.70	+24 27.0	2.048	2.818	14.8	22.0
<b>321890</b>	2010 <i>SH</i> <sub>36</sub>		1 13.0 59°21	2°9/14.0	18		<b>57222</b>	2001 <i>QW</i> <sub>74</sub>		1 13.0 142°33	3°4/11.9	18	
12 13	8 0.47	+13 33.9	1.563	2.406	15.1	20.2	12 13	8 7.65	+29 39.7	1.871	2.713	13.0	19.8
12 23	7 54.27	+13 33.1	1.511	2.423	11.1	20.0	12 23	7 59.34	+30 15.9	1.812	2.726	9.4	19.6
1 2	7 45.78	+13 44.3	1.483	2.441	6.7	19.8	1 2	7 48.53	+30 47.8	1.780	2.739	5.6	19.4
1 12	7 36.03	+14 5.6	1.481	2.459	3.1	19.6	1 12	7 36.33	+31 9.8	1.776	2.751	3.4	19.3
1 22	7 26.30	+14 33.9	1.507	2.477	4.9	19.8	1 22	7 24.11	+31 18.3	1.802	2.761	5.6	19.4
2 1	7 17.86	+15 5.6	1.561	2.496	9.0	20.1	2 1	7 13.25	+31 12.5	1.857	2.771	9.3	19.7
2 11	7 11.69	+15 37.7	1.639	2.514	12.9	20.3	2 11	7 4.85	+30 54.7	1.937	2.780	12.7	19.9
2 21	7 8.33	+16 7.5	1.738	2.533	16.1	20.6	2 21	6 59.48	+30 28.3	2.039	2.789	15.5	20.1
<b>345520</b>	2006 <i>KG</i> <sub>69</sub>		1 13.0 307°42	4°7/15.2	18		<b>293828</b>	2007 <i>RB</i> <sub>204</sub>		1 13.0 64°12	3°5/11.9	18	
12 13	7 56.36	+6 43.6	2.028	2.842	13.2	20.7	12 13	8 2.00	+31 48.7	2.120	2.965	11.6	20.4
12 23	7 51.18	+6 45.1	1.948	2.836	10.3	20.5	12 23	7 55.13	+32 6.8	2.060	2.974	8.4	20.2
1 2	7 44.12	+7 2.4	1.891	2.831	7.2	20.3	1 2	7 46.18	+32 19.1	2.026	2.983	5.2	20.0
1 12	7 35.89	+7 35.1	1.862	2.825	4.9	20.1	1 12	7 36.10	+32 21.7	2.020	2.992	3.5	19.9
1 22	7 27.42	+8 20.9	1.861	2.819	5.5	20.1	1 22	7 26.04	+32 12.3	2.043	3.001	5.3	20.1
2 1	7 19.71	+9 16.2	1.888	2.814	8.4	20.3	2 1	7 17.12	+31 50.8	2.095	3.010	8.4	20.3
2 11	7 13.63	+10 16.8	1.941	2.809	11.6	20.5	2 11	7 10.25	+31 19.3	2.174	3.019	11.4	20.5
2 21	7 9.78	+11 18.2	2.018	2.804	14.5	20.7	2 21	7 5.96	+30 40.8	2.274	3.028	14.0	20.7
<b>213588</b>	2002 <i>OH</i> <sub>5</sub>		1 13.0 98°02	3°1/14.2	18		<b>463648</b>	2013 <i>TD</i> <sub>140</sub>		1 13.0 231°93	0°8/13.4	18	
12 13	8 1.48	+12 11.6	1.781	2.611	14.1	20.7	12 13	7 58.56	+18 6.7	2.079	2.920	11.9	21.4
12 23	7 54.78	+12 17.2	1.725	2.630	10.4	20.5	12 23	7 52.72	+18 21.2	2.003	2.918	8.6	21.2
1 2	7 45.99	+12 35.0	1.694	2.648	6.4	20.4	1 2	7 44.94	+18 41.9	1.954	2.917	4.8	21.0
1 12	7 36.06	+13 2.9	1.691	2.667	3.3	20.2	1 12	7 36.00	+19 6.4	1.933	2.915	1.0	20.7
1 22	7 26.12	+13 37.9	1.716	2.684	4.7	20.3	1 22	7 26.87	+19 31.8	1.941	2.913	3.7	20.9
2 1	7 17.33	+14 16.4	1.771	2.702	8.4	20.6	2 1	7 18.58	+19 55.8	1.979	2.912	7.6	21.1
2 11	7 10.60	+14 55.3	1.851	2.719	12.0	20.8	2 11	7 12.05	+20 16.6	2.043	2.910	11.1	21.4
2 21	7 6.46	+15 31.9	1.953	2.736	15.0	21.1	2 21	7 7.84	+20 33.5	2.130	2.908	14.1	21.6
<b>23888</b>	Daikinoshita		1 13.0 148°28	2°4/14.1	18		<b>265029</b>	2003 <i>NK</i>		1 13.0 257°74	3°6/12.0	17	
12 13	8 0.46	+13 5.6	2.030	2.858	12.7	19.0	12 13	8 8.03	+33 56.1	2.458	3.286	10.8	20.8
12 23	7 54.00	+13 22.3	1.961	2.866	9.3	18.8	12 23	7 59.46	+34 0.1	2.357	3.261	8.0	20.6
1 2	7 45.59	+13 49.6	1.918	2.873	5.6	18.6	1 2	7 48.61	+33 56.2	2.284	3.235	5.2	20.4
1 12	7 36.04	+14 25.4	1.903	2.880	2.6	18.4	1 12	7 36.35	+33 40.1	2.240	3.209	3.6	20.2
1 22	7 26.35	+15 6.4	1.918	2.887	4.1	18.5	1 22	7 23.82	+33 9.5	2.229	3.182	5.3	20.3
2 1	7 17.56	+15 49.4	1.962	2.893	7.8	18.7	2 1	7 12.22	+32 24.8	2.248	3.154	8.3	20.4
2 11	7 10.58	+16 31.3	2.034	2.898	11.2	18.9	2 11	7 2.61	+31 28.9	2.295	3.126	11.4	20.6
2 21	7 5.97	+17 10.2	2.128	2.903	14.2	19.2	2 21	6 55.63	+30 25.9	2.366	3.097	14.1	20.7
<b>514914</b>	2008 <i>TN</i> <sub>26</sub>		1 13.0 236°55	3°3/13.9	18	C	<b>185152</b>	2006 <i>SK</i> <sub>192</sub>		1 13.0 93°86	1°8/13.7	18	
12 13	8 11.46	+12 10.9	2.043	2.848	13.5	24.6	12 13	8 0.71	+15 30.1	1.726	2.567	14.0	20.8
12 23	8 2.24	+12 1.9	1.931	2.822	10.2	24.3	12 23	7 54.42	+15 47.7	1.665	2.579	10.1	20.6
1 2	7 50.33	+12 2.4	1.846	2.795	6.5	24.1	1 2	7 45.89	+16 15.3	1.629	2.590	5.8	20.4
1 12	7 36.52	+12 11.8	1.791	2.765	3.4	23.8	1 12	7 36.09	+16 49.9	1.620	2.601	1.9	20.2
1 22	7 21.99	+12 28.2	1.769	2.733	5.1	23.8	1 22	7 26.19	+17 27.7	1.640	2.612	4.3	20.3
2 1	7 8.14	+12 49.5	1.779	2.699	9.3	24.0	2 1	7 17.41	+18 5.3	1.689	2.623	8.5	20.6
2 11	6 56.23	+13 13.5	1.818	2.662	13.4	24.2	2 11	7 10.77	+18 39.9	1.763	2.633	12.4	20.9
2 21	6 47.16	+13 38.3	1.881	2.623	16.9	24.4	2 21	7 6.81	+19 10.0	1.858	2.644	15.6	21.1
<b>399484</b>	2002 <i>SA</i> <sub>62</sub>		1 13.0 119°66	0°8/12.8	18		<b>277053</b>	2005 <i>EO</i> <sub>37</sub>		1 13.0 248°63	5°0/15.2	18	
12 13	8 3.66	+22 50.3	2.018	2.859	12.2	22.6							

EPHEMERIDES

1 13.0

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>206873</b>	2004 <i>FR</i> <sub>120</sub>		1 13.0 307°44	5°1/15.6	18		<b>288765</b>	2004 <i>RK</i> <sub>93</sub>		1 13.0 177°85	2°0/13.7	18	
12 13	7 55.21	+ 4 44.8	2.206	3.010	12.7	20.0	12 13	8 3.45	+15 39.4	1.881	2.714	13.4	21.8
12 23	7 50.28	+ 4 49.4	2.120	3.000	10.0	19.8	12 23	7 56.31	+15 38.7	1.807	2.716	9.7	21.6
1 2	7 43.62	+ 5 10.3	2.058	2.990	7.2	19.6	1 2	7 46.93	+15 46.1	1.759	2.718	5.7	21.4
1 12	7 35.88	+ 5 47.4	2.023	2.981	5.2	19.4	1 12	7 36.22	+15 59.7	1.739	2.719	2.2	21.1
1 22	7 27.89	+ 6 38.6	2.017	2.971	5.6	19.4	1 22	7 25.33	+16 17.2	1.749	2.719	4.3	21.3
2 1	7 20.54	+ 7 40.5	2.039	2.962	8.1	19.6	2 1	7 15.46	+16 36.2	1.788	2.718	8.4	21.5
2 11	7 14.66	+ 8 48.5	2.089	2.953	11.0	19.7	2 11	7 7.63	+16 54.8	1.853	2.717	12.2	21.7
2 21	7 10.82	+ 9 58.2	2.161	2.944	13.8	19.9	2 21	7 2.46	+17 11.8	1.941	2.715	15.4	22.0
<b>79317</b>	1996 <i>HL</i> <sub>21</sub>		1 13.0 167°20	1°6/12.3	18		<b>248285</b>	2005 <i>JY</i> <sub>119</sub>		1 13.0 75°98	7°5/16.1	18	
12 13	8 1.94	+25 35.8	2.521	3.358	10.2	21.1	12 13	8 1.75	+ 1 26.2	1.755	2.546	15.9	20.0
12 23	7 54.87	+26 10.2	2.450	3.364	7.3	20.9	12 23	7 54.84	+ 0 49.2	1.711	2.577	12.8	19.9
1 2	7 46.01	+26 44.7	2.407	3.369	4.0	20.7	1 2	7 45.97	+ 0 33.4	1.691	2.607	9.7	19.8
1 12	7 36.10	+27 15.3	2.394	3.374	1.6	20.5	1 12	7 36.12	+ 0 39.8	1.696	2.637	7.7	19.7
1 22	7 26.07	+27 39.3	2.412	3.378	3.8	20.7	1 22	7 26.39	+ 1 6.6	1.729	2.667	8.0	19.8
2 1	7 16.85	+27 54.9	2.462	3.381	7.1	20.9	2 1	7 17.87	+ 1 50.0	1.789	2.696	10.0	20.0
2 11	7 9.27	+28 2.2	2.538	3.383	10.0	21.1	2 11	7 11.40	+ 2 44.2	1.874	2.725	12.7	20.2
2 21	7 3.86	+28 2.1	2.639	3.385	12.5	21.3	2 21	7 7.44	+ 3 43.6	1.980	2.753	15.2	20.4
<b>62824</b>	2000 <i>UG</i> <sub>49</sub>		1 13.0 162°38	3°2/11.4	18		<b>397810</b>	2008 <i>RQ</i> <sub>81</sub>		1 13.0 301°80	0°6/13.2	18	
12 13	8 1.88	+30 2.3	2.396	3.237	10.6	19.6	12 13	8 2.79	+20 18.5	1.298	2.160	16.4	21.1
12 23	7 54.99	+30 55.4	2.329	3.242	7.7	19.4	12 23	7 56.80	+20 13.5	1.222	2.147	11.9	20.8
1 2	7 46.14	+31 45.8	2.290	3.247	4.7	19.3	1 2	7 47.59	+20 14.2	1.168	2.135	6.6	20.5
1 12	7 36.12	+32 28.5	2.280	3.252	3.2	19.2	1 12	7 36.31	+20 17.6	1.140	2.123	0.9	20.1
1 22	7 25.92	+32 59.8	2.301	3.255	5.0	19.3	1 22	7 24.56	+20 20.4	1.137	2.111	5.3	20.3
2 1	7 16.61	+33 18.0	2.351	3.259	7.9	19.5	2 1	7 14.16	+20 20.6	1.161	2.099	11.0	20.6
2 11	7 9.09	+33 23.6	2.428	3.262	10.8	19.7	2 11	7 6.63	+20 17.5	1.207	2.088	16.1	20.9
2 21	7 3.92	+33 18.8	2.528	3.264	13.2	19.9	2 21	7 2.79	+20 11.4	1.272	2.077	20.3	21.1
<b>354050</b>	2001 <i>SM</i> <sub>255</sub>		1 13.0 54°72	3°2/14.1	17		<b>229223</b>	2004 <i>XB</i> <sub>5</sub>		1 13.0 333°00	3°6/13.9	18	R
12 13	8 2.03	+13 24.1	1.225	2.079	17.7	21.1	12 13	7 59.66	+12 53.9	1.936	2.767	13.1	19.6
12 23	7 55.82	+13 31.8	1.180	2.097	13.0	20.8	12 23	7 53.54	+12 15.4	1.860	2.764	9.8	19.4
1 2	7 46.77	+13 55.3	1.155	2.116	7.7	20.6	1 2	7 45.41	+11 45.4	1.810	2.762	6.3	19.2
1 12	7 36.18	+14 31.2	1.156	2.135	3.4	20.4	1 12	7 36.09	+11 24.5	1.787	2.760	3.7	19.0
1 22	7 25.63	+15 14.7	1.183	2.155	5.6	20.6	1 22	7 26.61	+11 12.4	1.793	2.758	5.0	19.1
2 1	7 16.72	+16 0.5	1.235	2.174	10.4	20.9	2 1	7 18.06	+11 8.0	1.828	2.756	8.5	19.3
2 11	7 10.64	+16 44.4	1.311	2.194	14.9	21.2	2 11	7 11.35	+11 9.7	1.888	2.754	11.9	19.5
2 21	7 7.93	+17 23.3	1.406	2.215	18.6	21.5	2 21	7 7.08	+11 15.5	1.971	2.752	14.9	19.7
<b>145160</b>	2005 <i>HY</i> <sub>4</sub>		1 13.0 179°06	1°2/12.4	18		<b>226702</b>	2004 <i>NY</i> <sub>6</sub>		1 13.0 105°29	0°3/13.2	18	
12 13	7 57.94	+24 21.6	2.731	3.571	9.4	20.6	12 13	8 1.81	+20 15.8	2.208	3.045	11.5	20.7
12 23	7 51.98	+24 57.6	2.656	3.572	6.7	20.4	12 23	7 54.74	+20 19.4	2.152	3.065	8.1	20.6
1 2	7 44.44	+25 34.8	2.608	3.572	3.7	20.2	1 2	7 45.90	+20 26.2	2.122	3.086	4.4	20.4
1 12	7 35.96	+26 10.0	2.591	3.573	1.2	20.0	1 12	7 36.13	+20 33.9	2.123	3.106	0.6	20.1
1 22	7 27.34	+26 40.3	2.606	3.573	3.4	20.2	1 22	7 26.41	+20 40.4	2.154	3.125	3.5	20.4
2 1	7 19.37	+27 4.0	2.650	3.572	6.5	20.4	2 1	7 17.71	+20 44.6	2.215	3.144	7.1	20.6
2 11	7 12.81	+27 20.3	2.723	3.572	9.2	20.6	2 11	7 10.81	+20 46.0	2.303	3.163	10.3	20.9
2 21	7 8.14	+27 29.7	2.818	3.571	11.6	20.7	2 21	7 6.17	+20 44.6	2.415	3.181	12.9	21.1
<b>452193</b>	2015 <i>RK</i> <sub>98</sub>		1 13.0 66°42	2°2/12.5	17		<b>209016</b>	2003 <i>CA</i> <sub>19</sub>		1 13.0 252°53	8°3/ 9.1	18	
12 13	8 6.37	+25 41.8	1.271	2.133	16.6	20.9	12 13	8 6.87	+48 57.3	2.517	3.315	11.5	20.1
12 23	7 58.96	+26 3.8	1.227	2.152	11.8	20.6	12 23	7 58.95	+49 53.3	2.455	3.310	9.8	20.0
1 2	7 48.47	+26 25.3	1.205	2.171	6.5	20.4	1 2	7 48.43	+50 33.7	2.417	3.305	8.6	19.9
1 12	7 36.34	+26 40.1	1.209	2.191	2.3	20.2	1 12	7 36.38	+50 52.2	2.406	3.300	8.3	19.9
1 22	7 24.38	+26 44.3	1.240	2.210	5.8	20.5	1 22	7 24.20	+50 45.6	2.421	3.295	9.2	19.9
2 1	7 14.33	+26 37.0	1.297	2.229	10.8	20.8	2 1	7 13.31	+50 14.2	2.462	3.290	10.8	20.0
2 11	7 7.42	+26 20.3	1.377	2.248	15.1	21.1	2 11	7 4.88	+49 22.2	2.527	3.285	12.6	20.1
2 21	7 4.16	+25 57.2	1.477	2.268	18.7	21.4	2 21	6 59.53	+48 15.3	2.611	3.279	14.3	20.3
<b>411702</b>	2011 <i>YO</i> <sub>60</sub>		1 13.0 309°19	1°4/13.4	18		<b>375922</b>	2009 <i>WY</i> <sub>41</sub>		1 13.0 179°90	1°2/12.6	18	
12 13	8 0.56	+17 55.9	1.627	2.477	14.2	21.1	12 13	7 59.85	+23 52.5	2.100	2.947	11.6	21.2
12 23	7 54.59	+17 53.8	1.553	2.471	10.3	20.9	12 23	7 53.69	+24 19.4	2.028	2.947	8.2	21.0
1 2	7 46.13	+17 59.1	1.502	2.466	5.8	20.6	1 2	7 45.50	+24 48.1	1.982	2.947	4.5	20.7
1 12	7 36.14	+18 9.3	1.479	2.461	1.5	20.3	1 12	7 36.11	+25 14.8	1.965	2.947	1.2	20.5
1 22	7 25.89	+18 21.9	1.483	2.456	4.5	20.5	1 22	7 26.55	+25 36.2	1.978	2.947	4.0	20.7
2 1	7 16.74	+18 34.5	1.515	2.451	9.2	20.8	2 1	7 17.90	+25 50.5	2.020	2.947	7.8	20.9
2 11	7 9.83	+18 45.6	1.572	2.446	13.4	21.0	2 11	7 11.10	+25 57.1	2.088	2.947	11.2	21.1
2 21	7 5.85	+18 54.2	1.649	2.442	17.0	21.2	2 21	7 6.73	+25 57.0	2.179	2.946	14.1	21.3
<b>153681</b>	2001 <i>TC</i> <sub>209</sub>		1 13.0 23°34	13°3/ 7.1	18		<b>409964</b>	2006 <i>VP</i> <sub>17</sub>		1 13.0 108°50	1°3/12.6	18	
12 13	8 11.83	+53 2.4	1.646	2.449	16.3	19.4	12 13	8 3.26	+24 5.0	1.905	2.751	12.6	21.6
12 23	8 4.04	+54 56.7	1.607	2.453	14.5	19.3	12 23	7 56.10	+24 31.3	1.849	2.767	8.9	21.4
1 2	7 51.77	+56 25.9	1.589	2.457	13.4	19.2	1 2	7 46.75	+24 58.7	1.819	2.784	4.8	21.2
1 12	7 36.69	+57 18.0	1.593	2.461	13.4	19.2	1 12	7 36.22	+25 22.8	1.818	2.800	1.3	21.0
1 22	7 21.28	+57 27.2	1.620	2.466	14.5	19.3	1 22	7 25.69	+25 40.4	1.846	2.815	4.3	21.3
2 1	7 8.24	+56 55.2	1.668	2.471	16.2	19.4	2 1	7 16.35	+25 49.9	1.903	2.830	8.3	21.5
2 11	6 59.46	+55 50.8	1.734	2.476	18.1	19.6	2 11	7 9.16	+25 51.5	1.987	2.845	11.8	21.8
2 21	6 55.62	+54 24.3	1.817	2.482	19.8	19.8	2 21	7 4.65	+25 46.6	2.092	2.859	14.7	22.0
<b>327268</b>	2005 <i>SD</i> <sub>187</sub>		1 13.0 26°82	1°3/12.7	18		<b>364336</b>	2006 <i>UD</i> <sub>141</sub>		1 13.0 90°15	2°0/12.3	18	
12 13	8 1.67	+24 3											

EPHEMERIDES

1 13.0

1 13.1

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>156492</b>	2002 <i>CN</i> <sub>108</sub>		1 13.0 261 <sup>o</sup> .17	2 <sup>o</sup> .2/14.0	18		<b>243620</b>	1999 <i>LC</i> <sub>5</sub>		1 13.1 231 <sup>o</sup> .71	1 <sup>o</sup> .6/11.9	17	
12 13	7 58.20	+13 34.2	2.152	2.982	12.0	19.9	12 13	7 58.50	+23 48.6	2.710	3.549	9.5	20.8
12 23	7 52.54	+13 52.6	2.061	2.967	8.9	19.6	12 23	7 52.55	+24 57.5	2.624	3.540	6.8	20.6
1 2	7 44.93	+14 21.5	1.995	2.952	5.3	19.4	1 2	7 44.89	+26 9.8	2.567	3.530	3.7	20.4
1 12	7 36.07	+14 59.0	1.958	2.936	2.3	19.2	1 12	7 36.11	+27 21.0	2.541	3.521	1.6	20.3
1 22	7 26.86	+15 42.0	1.951	2.921	4.0	19.2	1 22	7 27.01	+28 26.7	2.547	3.511	3.8	20.4
2 1	7 18.33	+16 27.5	1.973	2.905	7.7	19.4	2 1	7 18.46	+29 23.7	2.584	3.501	6.9	20.6
2 11	7 11.40	+17 12.2	2.022	2.889	11.2	19.6	2 11	7 11.26	+30 10.3	2.649	3.491	9.7	20.8
2 21	7 6.72	+17 54.0	2.095	2.873	14.3	19.8	2 21	7 6.01	+30 46.5	2.738	3.480	12.1	20.9
<b>166632</b>	2002 <i>SP</i> <sub>30</sub>		1 13.0 8 <sup>o</sup> .62	10 <sup>o</sup> .7/ 9.0	18		<b>404768</b>	2014 <i>JA</i> <sub>43</sub>		1 13.1 182 <sup>o</sup> .71	3 <sup>o</sup> .3/14.3	18	
12 13	8 1.87	+44 16.6	1.445	2.291	15.9	17.9	12 13	8 2.07	+11 21.5	1.876	2.699	13.8	22.1
12 23	7 56.44	+45 50.3	1.401	2.295	13.2	17.7	12 23	7 55.38	+11 27.7	1.800	2.700	10.3	21.9
1 2	7 47.44	+47 5.4	1.379	2.299	11.2	17.6	1 2	7 46.49	+11 46.6	1.749	2.701	6.5	21.7
1 12	7 36.30	+47 51.3	1.381	2.305	10.8	17.6	1 12	7 36.27	+12 16.7	1.726	2.700	3.5	21.5
1 22	7 25.01	+48 2.1	1.407	2.313	12.2	17.7	1 22	7 25.81	+12 55.1	1.732	2.699	4.8	21.6
2 1	7 15.62	+47 38.6	1.454	2.322	14.6	17.9	2 1	7 16.29	+13 38.4	1.768	2.698	8.6	21.8
2 11	7 9.65	+46 47.1	1.522	2.332	17.2	18.1	2 11	7 8.72	+14 23.0	1.830	2.695	12.3	22.0
2 21	7 7.71	+45 36.2	1.607	2.343	19.6	18.3	2 21	7 3.74	+15 5.9	1.914	2.692	15.4	22.2
<b>390398</b>	2013 <i>XV</i> <sub>20</sub>		1 13.0 58 <sup>o</sup> .79	1 <sup>o</sup> .8/11.9	18		<b>292628</b>	2006 <i>UL</i> <sub>20</sub>		1 13.1 216 <sup>o</sup> .32	0 <sup>o</sup> .5/12.8	18	
12 13	8 1.40	+21 49.9	2.014	2.858	12.1	19.9	12 13	7 57.66	+22 41.7	2.673	3.512	9.6	21.4
12 23	7 54.74	+23 31.5	1.970	2.888	8.5	19.8	12 23	7 51.82	+22 57.5	2.592	3.508	6.8	21.2
1 2	7 46.04	+25 17.0	1.953	2.917	4.6	19.6	1 2	7 44.41	+23 15.1	2.539	3.504	3.7	21.0
1 12	7 36.17	+26 59.2	1.966	2.947	1.8	19.4	1 12	7 36.06	+23 31.9	2.516	3.499	0.6	20.7
1 22	7 26.22	+28 31.2	2.011	2.976	4.5	19.7	1 22	7 27.57	+23 46.0	2.524	3.494	3.2	20.9
2 1	7 17.30	+29 48.8	2.086	3.006	8.1	20.0	2 1	7 19.73	+23 55.8	2.562	3.489	6.4	21.1
2 11	7 10.34	+30 50.4	2.189	3.035	11.3	20.2	2 11	7 13.30	+24 0.9	2.628	3.484	9.3	21.3
2 21	7 5.88	+31 36.9	2.313	3.064	13.9	20.4	2 21	7 8.76	+24 1.4	2.717	3.478	11.8	21.5
<b>130522</b>	2000 <i>QC</i> <sub>182</sub>		1 13.0 83 <sup>o</sup> .89	1 <sup>o</sup> .2/12.7	18		<b>242137</b>	2003 <i>AO</i> <sub>23</sub>		1 13.1 63 <sup>o</sup> .32	1 <sup>o</sup> .7/12.5	18	
12 13	8 5.83	+23 15.0	1.542	2.393	14.8	19.6	12 13	8 3.90	+23 55.0	1.522	2.377	14.7	20.1
12 23	7 58.15	+23 41.2	1.498	2.418	10.4	19.4	12 23	7 56.83	+24 36.1	1.482	2.405	10.4	19.9
1 2	7 47.91	+24 9.4	1.477	2.443	5.6	19.1	1 2	7 47.23	+25 18.8	1.466	2.432	5.6	19.7
1 12	7 36.35	+24 34.5	1.485	2.468	1.2	18.9	1 12	7 36.32	+25 57.2	1.477	2.459	1.7	19.5
1 22	7 24.95	+24 52.5	1.521	2.492	4.8	19.2	1 22	7 25.57	+26 26.7	1.517	2.486	5.0	19.8
2 1	7 15.12	+25 1.8	1.586	2.516	9.3	19.5	2 1	7 16.37	+26 45.1	1.584	2.514	9.4	20.1
2 11	7 7.94	+25 2.9	1.675	2.539	13.3	19.8	2 11	7 9.77	+26 53.0	1.676	2.541	13.2	20.4
2 21	7 3.89	+24 57.4	1.784	2.562	16.4	20.1	2 21	7 6.26	+26 52.1	1.789	2.568	16.3	20.7
<b>490240</b>	2008 <i>WH</i> <sub>46</sub>		1 13.0 18 <sup>o</sup> .29	3 <sup>o</sup> .0/13.7	18		<b>98171</b>	2000 <i>SD</i> <sub>88</sub>		1 13.1 327 <sup>o</sup> .41	6 <sup>o</sup> .2/10.5	18	
12 13	8 2.26	+15 33.0	1.385	2.236	16.2	21.2	12 13	8 0.86	+30 22.7	1.261	2.132	16.1	17.5
12 23	7 56.01	+15 7.7	1.320	2.237	11.9	21.0	12 23	7 55.93	+31 59.2	1.191	2.117	11.9	17.2
1 2	7 46.97	+14 52.4	1.277	2.238	7.1	20.7	1 2	7 47.40	+33 36.7	1.144	2.104	7.9	17.0
1 12	7 36.29	+14 46.0	1.261	2.240	3.1	20.5	1 12	7 36.39	+35 3.2	1.122	2.091	6.2	16.8
1 22	7 25.42	+14 47.0	1.271	2.242	5.5	20.6	1 22	7 24.68	+36 8.1	1.125	2.079	9.1	17.0
2 1	7 15.92	+14 53.3	1.307	2.244	10.3	20.9	2 1	7 14.35	+36 45.7	1.152	2.068	13.5	17.2
2 11	7 9.03	+15 2.6	1.367	2.246	14.7	21.2	2 11	7 7.23	+36 57.1	1.200	2.057	17.9	17.4
2 21	7 5.40	+15 13.1	1.447	2.249	18.5	21.4	2 21	7 4.28	+36 47.0	1.265	2.048	21.7	17.6
<b>326292</b>	1998 <i>HR</i> <sub>3</sub>		1 13.0 184 <sup>o</sup> .56	6 <sup>o</sup> .8/16.3	18		<b>468952</b>	2015 <i>AT</i> <sub>27</sub>		1 13.1 50 <sup>o</sup> .35	0 <sup>o</sup> .9/12.7	18	
12 13	7 57.44	- 1 11.8	2.431	3.197	12.7	21.3	12 13	8 0.21	+22 23.7	1.716	2.570	13.4	20.7
12 23	7 51.68	- 1 34.1	2.352	3.197	10.5	21.1	12 23	7 54.09	+22 56.0	1.667	2.589	9.5	20.5
1 2	7 44.33	- 1 39.1	2.297	3.197	8.4	21.0	1 2	7 45.74	+23 31.6	1.642	2.609	5.1	20.3
1 12	7 36.03	- 1 25.4	2.269	3.196	7.0	20.9	1 12	7 36.19	+24 5.8	1.646	2.629	1.0	20.0
1 22	7 27.56	- 0 53.7	2.269	3.195	7.1	20.9	1 22	7 26.67	+24 34.8	1.678	2.649	4.3	20.3
2 1	7 19.75	- 0 6.6	2.297	3.193	8.7	21.0	2 1	7 18.38	+24 56.1	1.738	2.669	8.5	20.6
2 11	7 13.33	+ 0 51.7	2.352	3.191	10.9	21.2	2 11	7 12.29	+25 9.2	1.823	2.690	12.2	20.9
2 21	7 8.81	+ 1 56.7	2.430	3.189	13.1	21.3	2 21	7 8.92	+25 14.9	1.929	2.711	15.2	21.1
<b>51809</b>	2001 <i>OQ</i> <sub>1</sub>		1 13.0 161 <sup>o</sup> .08	3 <sup>o</sup> .5/11.2	18		<b>407</b>	<i>Arachne</i>		1 13.1 86 <sup>o</sup> .61	0 <sup>o</sup> .2/13.0	18	
12 13	8 0.11	+31 12.0	2.420	3.263	10.4	19.5	12 13	8 2.88	+22 23.3	1.757	2.605	13.4	13.0
12 23	7 53.79	+32 5.3	2.353	3.266	7.6	19.3	12 23	7 55.99	+22 18.7	1.693	2.612	9.5	12.7
1 2	7 45.55	+32 55.3	2.312	3.268	4.8	19.1	1 2	7 46.79	+22 16.0	1.655	2.620	5.2	12.5
1 12	7 36.15	+33 37.2	2.301	3.270	3.5	19.0	1 12	7 36.30	+22 12.4	1.644	2.627	0.5	12.2
1 22	7 26.57	+34 7.2	2.320	3.272	5.2	19.1	1 22	7 25.77	+22 5.9	1.663	2.635	4.2	12.5
2 1	7 17.84	+34 23.8	2.368	3.274	8.0	19.3	2 1	7 16.46	+21 55.7	1.710	2.642	8.6	12.7
2 11	7 10.84	+34 27.4	2.442	3.275	10.7	19.5	2 11	7 9.41	+21 42.1	1.782	2.649	12.4	13.0
2 21	7 6.14	+34 20.3	2.539	3.276	13.1	19.7	2 21	7 5.16	+21 25.9	1.876	2.657	15.6	13.2
<b>110815</b>	2001 <i>UC</i> <sub>48</sub>		1 13.0 113 <sup>o</sup> .71	5 <sup>o</sup> .7/15.3	18		<b>260949</b>	2005 <i>SW</i> <sub>18</sub>		1 13.1 100 <sup>o</sup> .41	0 <sup>o</sup> .6/13.3	18	
12 13	7 59.79	+ 4 57.8	2.042	2.843	13.7	20.2	12 13	8 0.91	+19 4.1	1.886	2.730	12.8	20.9
12 23	7 53.45	+ 4 31.5	1.980	2.857	10.7	20.0	12 23	7 54.48	+19 15.4	1.823	2.740	9.2	20.7
1 2	7 45.29	+ 4 20.8	1.942	2.871	7.8	19.9	1 2	7 45.94	+19 32.3	1.786	2.750	5.0	20.5
1 12	7 36.12	+ 4 26.3	1.931	2.884	5.9	19.8	1 12	7 36.22	+19 51.9	1.777	2.760	0.8	20.2
1 22	7 26.90	+ 4 46.7	1.949	2.897	6.3	19.8	1 22	7 26.43	+20 11.2	1.797	2.770	3.9	20.4
2 1	7 18.61	+ 5 19.4	1.995	2.910	8.7	20.0	2 1	7 17.70	+20 28.1	1.846	2.779	8.0	20.7
2 11	7 12.05	+ 6 0.4	2.067	2.922	11.5	20.2	2 11	7 10.98	+20 41.5	1.922	2.789	11.7	21.0
2 21	7 7.73	+ 6 45.6	2.162	2.934	14.1	20.4	2 21	7 6.81	+20 50.8	2.019	2.798	14.7	21.2
<b>350653</b>	2001 <i>TQ</i> <sub>215</sub>		1 13.1 134<										

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>54926</b>	2001 OZ <sub>99</sub>		1 13.1 48°84	1°0/12.7 18			<b>39542</b>	1991 PO <sub>3</sub>		1 13.1 126°09	1°0/12.7 18		
12 13	8 1.68	+23 11.7	1.578	2.435	14.2	19.0	12 13	8 4.34	+23 26.1	1.908	2.751	12.7	20.1
12 23	7 55.39	+23 31.7	1.519	2.442	10.1	18.8	12 23	7 56.90	+23 49.0	1.849	2.766	9.0	19.9
1 2	7 46.56	+23 54.3	1.484	2.450	5.5	18.5	1 2	7 47.25	+24 13.4	1.816	2.780	4.9	19.6
1 12	7 36.29	+24 15.1	1.476	2.459	1.1	18.3	1 12	7 36.38	+24 35.2	1.812	2.794	1.1	19.4
1 22	7 25.93	+24 30.3	1.496	2.468	4.7	18.5	1 22	7 25.49	+24 51.2	1.838	2.808	4.2	19.6
2 1	7 16.89	+24 38.0	1.544	2.476	9.3	18.8	2 1	7 15.79	+24 59.8	1.893	2.820	8.3	19.9
2 11	7 10.28	+24 38.2	1.616	2.486	13.3	19.1	2 11	7 8.25	+25 1.1	1.975	2.832	11.8	20.2
2 21	7 6.71	+24 32.0	1.708	2.495	16.7	19.3	2 21	7 3.42	+24 56.5	2.078	2.844	14.8	20.4
<b>110678</b>	2001 TY <sub>196</sub>		1 13.1 175°18	3°4/10.9 18			<b>136289</b>	2004 AY <sub>2</sub>		1 13.1 358°20	8°8/13.8 18		
12 13	7 59.64	+32 14.6	2.879	3.716	9.1	20.5	12 13	8 3.57	+5 21.4	1.520	2.334	16.9	18.3
12 23	7 53.27	+33 11.6	2.810	3.718	6.7	20.3	12 23	7 56.73	+3 25.0	1.452	2.333	13.7	18.1
1 2	7 45.22	+34 5.2	2.768	3.720	4.4	20.2	1 2	7 47.33	+1 43.0	1.407	2.332	10.6	18.0
1 12	7 36.16	+34 50.9	2.756	3.721	3.4	20.1	1 12	7 36.41	+0 21.5	1.388	2.331	8.9	17.9
1 22	7 26.90	+35 25.6	2.776	3.722	4.8	20.2	1 22	7 25.29	-0 35.3	1.396	2.331	9.7	17.9
2 1	7 18.33	+35 47.6	2.825	3.722	7.2	20.3	2 1	7 15.36	-1 6.6	1.429	2.331	12.5	18.1
2 11	7 11.22	+35 57.4	2.901	3.722	9.6	20.5	2 11	7 7.80	-1 15.4	1.486	2.332	15.7	18.3
2 21	7 6.10	+35 56.7	3.000	3.722	11.6	20.6	2 21	7 3.26	-1 7.1	1.562	2.333	18.6	18.5
<b>197814</b>	2004 PQ <sub>74</sub>		1 13.1 75°67	0°6/12.9 17			<b>280124</b>	2002 JW <sub>125</sub>		1 13.1 183°04	0°2/13.1 18		
12 13	8 4.85	+20 49.6	1.392	2.247	15.9	20.2	12 13	8 2.34	+19 33.6	2.137	2.973	11.8	21.5
12 23	7 57.69	+21 28.3	1.348	2.270	11.2	20.0	12 23	7 55.45	+20 0.0	2.061	2.974	8.5	21.3
1 2	7 47.78	+22 12.6	1.327	2.294	6.0	19.8	1 2	7 46.51	+20 31.6	2.011	2.975	4.6	21.1
1 12	7 36.40	+22 56.7	1.334	2.317	0.7	19.5	1 12	7 36.34	+21 5.0	1.991	2.974	0.5	20.8
1 22	7 25.12	+23 35.1	1.368	2.340	4.9	19.8	1 22	7 25.96	+21 36.9	2.001	2.973	3.7	21.0
2 1	7 15.47	+24 4.6	1.429	2.362	9.8	20.2	2 1	7 16.45	+22 4.8	2.042	2.971	7.6	21.3
2 11	7 8.59	+24 24.5	1.514	2.385	14.0	20.5	2 11	7 8.76	+22 27.2	2.110	2.968	11.2	21.5
2 21	7 5.02	+24 35.7	1.620	2.407	17.4	20.8	2 21	7 3.49	+22 43.9	2.200	2.965	14.1	21.7
<b>29257</b>	1993 FK <sub>10</sub>		1 13.1 200°10	4°8/11.5 18			<b>331489</b>	1999 BA <sub>31</sub>		1 13.1 66°68	0°2/13.2 18		
12 13	8 6.60	+31 38.4	1.622	2.472	14.2	19.3	12 13	7 58.13	+18 23.7	2.065	2.908	11.9	20.5
12 23	7 59.22	+32 31.3	1.554	2.470	10.5	19.1	12 23	7 52.46	+19 7.6	2.001	2.917	8.5	20.3
1 2	7 48.81	+33 19.5	1.511	2.468	6.7	18.9	1 2	7 44.87	+19 58.5	1.963	2.927	4.6	20.1
1 12	7 36.53	+33 55.0	1.496	2.466	4.8	18.7	1 12	7 36.18	+20 52.3	1.954	2.937	0.5	19.8
1 22	7 23.96	+34 12.3	1.508	2.463	7.1	18.9	1 22	7 27.35	+21 45.1	1.975	2.947	3.6	20.1
2 1	7 12.79	+34 9.9	1.547	2.459	11.0	19.1	2 1	7 19.40	+22 33.2	2.025	2.957	7.5	20.3
2 11	7 4.41	+33 50.5	1.610	2.455	14.7	19.3	2 11	7 13.21	+23 14.4	2.102	2.967	10.9	20.6
2 21	6 59.53	+33 18.7	1.693	2.451	17.9	19.5	2 21	7 9.31	+23 47.9	2.202	2.977	13.8	20.8
<b>113313</b>	2002 RJ <sub>190</sub>		1 13.1 21°50	1°5/13.6 18			<b>27113</b>	1998 VY <sub>54</sub>		1 13.1 123°50	0°7/12.9 18		
12 13	8 0.04	+16 46.0	1.519	2.371	15.0	19.7	12 13	8 7.08	+22 58.6	1.704	2.548	14.0	18.9
12 23	7 54.32	+16 58.4	1.454	2.373	10.8	19.5	12 23	7 58.98	+23 9.5	1.648	2.565	9.9	18.7
1 2	7 46.05	+17 20.8	1.412	2.375	6.2	19.2	1 2	7 48.41	+23 21.9	1.617	2.582	5.3	18.4
1 12	7 36.26	+17 50.1	1.396	2.378	1.7	18.9	1 12	7 36.52	+23 32.0	1.615	2.598	0.8	18.2
1 22	7 26.27	+18 22.4	1.408	2.381	4.6	19.1	1 22	7 24.68	+23 36.7	1.642	2.613	4.5	18.5
2 1	7 17.48	+18 54.0	1.447	2.385	9.4	19.4	2 1	7 14.26	+23 35.1	1.699	2.628	8.9	18.7
2 11	7 11.04	+19 22.5	1.511	2.388	13.6	19.7	2 11	7 6.31	+23 27.6	1.780	2.641	12.8	19.0
2 21	7 7.60	+19 46.2	1.595	2.392	17.2	19.9	2 21	7 1.37	+23 15.7	1.884	2.654	15.9	19.3
<b>203859</b>	2002 VC <sub>141</sub>		1 13.1 14°46	0°7/13.4 18			<b>346360</b>	2008 RF <sub>139</sub>		1 13.1 320°93	4°2/12.2 18		
12 13	7 56.92	+17 39.5	1.884	2.732	12.7	19.8	12 13	8 4.75	+29 41.2	1.247	2.113	16.5	20.0
12 23	7 51.74	+18 8.7	1.816	2.734	9.1	19.6	12 23	7 58.51	+30 6.2	1.177	2.103	12.1	19.7
1 2	7 44.53	+18 45.9	1.774	2.738	5.0	19.4	1 2	7 48.68	+30 26.9	1.130	2.094	7.3	19.4
1 12	7 36.11	+19 27.8	1.759	2.741	1.0	19.1	1 12	7 36.58	+30 35.7	1.107	2.085	4.2	19.2
1 22	7 27.52	+20 10.6	1.773	2.745	3.8	19.3	1 22	7 24.09	+30 27.5	1.110	2.076	7.2	19.3
2 1	7 19.85	+20 50.7	1.815	2.750	8.0	19.6	2 1	7 13.28	+30 1.4	1.138	2.068	12.2	19.6
2 11	7 14.04	+21 25.9	1.883	2.755	11.6	19.8	2 11	7 5.77	+29 21.2	1.188	2.060	17.0	19.8
2 21	7 10.67	+21 54.9	1.973	2.761	14.7	20.0	2 21	7 2.34	+28 32.0	1.256	2.053	21.0	20.1
<b>182663</b>	2001 UP <sub>204</sub>		1 13.1 166°24	5°9/10.5 18			<b>232006</b>	2001 SZ <sub>127</sub>		1 13.1 183°41	2°9/11.8 18		
12 13	8 6.01	+38 18.0	2.254	3.084	11.5	20.7	12 13	8 0.44	+30 57.4	2.703	3.540	9.6	20.8
12 23	7 58.23	+39 16.1	2.192	3.089	8.9	20.6	12 23	7 53.84	+31 24.3	2.630	3.541	7.0	20.7
1 2	7 48.05	+40 4.7	2.156	3.093	6.7	20.4	1 2	7 45.54	+31 47.5	2.584	3.541	4.3	20.5
1 12	7 36.46	+40 37.4	2.149	3.096	5.9	20.4	1 12	7 36.25	+32 3.4	2.568	3.540	2.9	20.4
1 22	7 24.71	+40 50.6	2.171	3.099	7.2	20.5	1 22	7 26.85	+32 9.7	2.583	3.539	4.4	20.5
2 1	7 14.12	+40 43.6	2.221	3.101	9.7	20.6	2 1	7 18.23	+32 5.6	2.628	3.538	7.1	20.7
2 11	7 5.76	+40 19.3	2.296	3.103	12.2	20.8	2 11	7 11.19	+31 52.0	2.700	3.537	9.7	20.8
2 21	7 0.26	+39 42.2	2.392	3.105	14.4	21.0	2 21	7 6.23	+31 30.7	2.795	3.535	12.0	21.0
<b>97485</b>	2000 CO <sub>66</sub>		1 13.1 247°95	3°0/11.9 18 R			<b>465452</b>	2008 SY <sub>44</sub>		1 13.1 66°18	3°6/11.8 18		
12 13	8 3.31	+28 37.5	1.983	2.829	12.2	19.9	12 13	8 2.34	+30 31.6	1.942	2.790	12.3	20.9
12 23	7 56.51	+29 15.3	1.898	2.815	8.9	19.6	12 23	7 55.53	+31 10.0	1.893	2.809	8.9	20.7
1 2	7 47.24	+29 51.6	1.840	2.801	5.3	19.4	1 2	7 46.52	+31 43.9	1.869	2.828	5.4	20.6
1 12	7 36.39	+30 21.0	1.810	2.786	3.0	19.2	1 12	7 36.34	+32 8.1	1.875	2.847	3.6	20.5
1 22	7 25.17	+30 39.2	1.809	2.771	5.4	19.3	1 22	7 26.21	+32 19.4	1.909	2.866	5.5	20.6
2 1	7 14.89	+30 44.2	1.837	2.755	9.1	19.5	2 1	7 17.32	+32 17.0	1.971	2.886	8.8	20.9
2 11	7 6.73	+30 36.8	1.891	2.739	12.7	19.7	2 11	7 10.62	+32 2.8	2.058	2.905	11.9	21.1
2 21	7 1.40	+30 19.5	1.966	2.722	15.8	19.9	2 21	7 6.63	+31 39.6	2.167	2.924	14.5	21.3
<b>73595</b>	2129 T-2		1 13.1 144°81	3°3/11.9 18			<b>114079</b>	2002 VX <sub>33</sub>		1 13.1 77°44	3°1/11.5 18		
12 13	8 5.28	+28 59.2	1.811	2.659	13.1	19.9	12 13	7 59.50	+28 32.2	2.214	3.062	11.0	19.7

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>463888</b>	2014 <i>UA</i> <sub>89</sub>		1 13.1 202°15	1°8/12.4	18		<b>3259</b>	Brownlee		1 13.1 291°64	5°7/14.8	18	
12 13	8 2.77	+25 34.3	2.055	2.899	11.9	21.6	12 13	7 57.22	+5 11.0	2.304	3.103	12.3	15.1
12 23	7 55.90	+26 3.1	1.978	2.896	8.5	21.4	12 23	7 51.70	+4 24.9	2.216	3.091	9.8	14.9
1 2	7 46.82	+26 32.2	1.928	2.892	4.7	21.1	1 2	7 44.47	+3 51.1	2.153	3.079	7.4	14.7
1 12	7 36.39	+26 57.4	1.907	2.888	1.8	20.9	1 12	7 36.20	+3 31.4	2.118	3.067	5.8	14.6
1 22	7 25.74	+27 15.1	1.916	2.883	4.5	21.1	1 22	7 27.68	+3 26.0	2.112	3.056	6.3	14.6
2 1	7 16.04	+27 23.5	1.954	2.878	8.3	21.3	2 1	7 19.82	+3 33.9	2.134	3.044	8.5	14.7
2 11	7 8.33	+27 22.9	2.019	2.872	11.8	21.5	2 11	7 13.40	+3 52.7	2.181	3.032	11.2	14.9
2 21	7 3.24	+27 14.7	2.105	2.866	14.8	21.7	2 21	7 8.98	+4 19.0	2.252	3.021	13.7	15.1
<b>343899</b>	2011 <i>JW</i> <sub>11</sub>		1 13.1 195°23	4°0/11.1	18		<b>461674</b>	2005 <i>JO</i> <sub>45</sub>		1 13.1 170°35	4°6/16.7	17	
12 13	8 0.98	+32 51.2	2.401	3.242	10.5	20.5	12 13	7 54.74	-1 24.5	3.782	4.529	8.9	22.8
12 23	7 54.50	+33 41.5	2.330	3.240	7.8	20.3	12 23	7 49.36	-1 22.0	3.700	4.533	7.3	22.7
1 2	7 46.01	+34 27.2	2.287	3.239	5.2	20.2	1 2	7 42.98	-1 7.4	3.644	4.538	5.8	22.6
1 12	7 36.32	+35 3.5	2.272	3.237	4.0	20.1	1 12	7 36.04	-0 40.6	3.617	4.541	4.8	22.5
1 22	7 26.41	+35 26.5	2.288	3.235	5.6	20.2	1 22	7 29.02	-0 2.8	3.621	4.544	4.8	22.5
2 1	7 17.38	+35 35.0	2.332	3.233	8.3	20.4	2 1	7 22.40	+0 44.4	3.655	4.547	5.9	22.6
2 11	7 10.15	+35 30.0	2.402	3.231	11.0	20.5	2 11	7 16.66	+1 38.4	3.718	4.549	7.4	22.7
2 21	7 5.31	+35 14.0	2.494	3.229	13.4	20.7	2 21	7 12.13	+2 36.2	3.806	4.550	9.0	22.8
<b>21275</b>	Tosiyasu		1 13.1 123°21	0°7/12.8	18		<b>490077</b>	2008 <i>TR</i> <sub>145</sub>		1 13.1 122°66	2°1/13.8	18	
12 13	8 6.88	+21 53.7	1.547	2.394	14.9	19.6	12 13	8 2.82	+15 18.9	1.507	2.351	15.4	21.9
12 23	7 59.08	+22 22.6	1.491	2.410	10.6	19.3	12 23	7 56.30	+15 29.5	1.443	2.358	11.3	21.7
1 2	7 48.58	+22 55.3	1.461	2.426	5.7	19.1	1 2	7 47.15	+15 51.5	1.403	2.364	6.5	21.4
1 12	7 36.56	+23 26.8	1.458	2.441	0.9	18.8	1 12	7 36.46	+16 21.9	1.389	2.370	2.3	21.1
1 22	7 24.53	+23 52.4	1.484	2.455	4.8	19.1	1 22	7 25.60	+16 56.8	1.404	2.376	4.8	21.3
2 1	7 13.98	+24 9.9	1.538	2.468	9.5	19.4	2 1	7 16.00	+17 32.4	1.445	2.381	9.5	21.6
2 11	7 6.08	+24 19.0	1.617	2.481	13.7	19.7	2 11	7 8.85	+18 5.7	1.512	2.386	13.8	21.9
2 21	7 1.43	+24 21.0	1.717	2.493	17.0	20.0	2 21	7 4.79	+18 34.8	1.599	2.391	17.4	22.1
<b>223801</b>	2004 <i>TR</i> <sub>38</sub>		1 13.1 127°50	0°5/12.9	18		<b>488725</b>	2004 <i>PP</i> <sub>104</sub>		1 13.1 116°56	8°8/9.2	18	
12 13	8 0.21	+21 43.8	2.080	2.924	11.8	21.3	12 13	8 11.44	+48 45.9	2.336	3.132	12.3	21.7
12 23	7 53.94	+22 7.4	2.012	2.930	8.4	21.1	12 23	8 2.31	+50 2.0	2.297	3.151	10.4	21.6
1 2	7 45.68	+22 34.4	1.971	2.935	4.5	20.9	1 2	7 50.33	+51 0.4	2.283	3.169	9.1	21.5
1 12	7 36.28	+23 1.2	1.958	2.941	0.6	20.6	1 12	7 36.77	+51 33.9	2.296	3.187	8.8	21.5
1 22	7 26.75	+23 24.7	1.975	2.947	3.8	20.9	1 22	7 23.20	+51 39.3	2.335	3.204	9.7	21.6
2 1	7 18.16	+23 43.0	2.022	2.952	7.6	21.1	2 1	7 11.21	+51 17.8	2.400	3.221	11.3	21.7
2 11	7 11.42	+23 55.1	2.095	2.957	11.1	21.4	2 11	7 2.02	+50 34.4	2.488	3.237	13.0	21.9
2 21	7 7.07	+24 1.4	2.191	2.962	14.0	21.6	2 21	6 56.23	+49 35.7	2.596	3.252	14.6	22.1
<b>28569</b>	Kallenbach		1 13.1 79°92	2°2/12.5	18		<b>19513</b>	1998 <i>QN</i> <sub>7</sub>		1 13.1 146°58	3°4/11.7	18	
12 13	8 6.04	+25 10.2	1.362	2.220	15.9	19.0	12 13	8 1.34	+34 17.4	2.901	3.733	9.2	18.4
12 23	7 58.74	+25 40.9	1.313	2.237	11.3	18.7	12 23	7 54.35	+34 31.3	2.834	3.739	6.8	18.2
1 2	7 48.46	+26 12.1	1.287	2.253	6.2	18.5	1 2	7 45.76	+34 38.9	2.794	3.744	4.5	18.1
1 12	7 36.55	+26 37.6	1.288	2.269	2.2	18.3	1 12	7 36.32	+34 37.4	2.785	3.750	3.4	18.0
1 22	7 24.70	+26 52.7	1.316	2.285	5.6	18.5	1 22	7 26.87	+34 25.0	2.806	3.755	4.6	18.1
2 1	7 14.57	+26 56.0	1.371	2.301	10.5	18.9	2 1	7 18.26	+34 1.7	2.857	3.760	6.9	18.3
2 11	7 7.40	+26 48.8	1.449	2.317	14.7	19.2	2 11	7 11.23	+33 29.4	2.936	3.764	9.2	18.4
2 21	7 3.76	+26 33.6	1.547	2.333	18.2	19.4	2 21	7 6.23	+32 50.3	3.038	3.769	11.3	18.6
<b>110142</b>	2001 <i>SX</i> <sub>151</sub>		1 13.1 0°45	9°7/15.7	18		<b>444052</b>	2004 <i>RZ</i> <sub>47</sub>		1 13.1 74°10	1°2/13.5	16	
12 13	7 56.53	+1 26.5	1.378	2.195	18.2	18.1	12 13	8 4.34	+17 21.1	1.396	2.247	16.1	21.6
12 23	7 51.95	+0 17.8	1.314	2.192	15.0	17.9	12 23	7 57.29	+17 40.4	1.352	2.270	11.5	21.3
1 2	7 44.85	-0 27.0	1.270	2.191	11.9	17.7	1 2	7 47.59	+18 9.0	1.330	2.294	6.4	21.1
1 12	7 36.22	-0 43.7	1.250	2.190	9.9	17.6	1 12	7 36.50	+18 42.8	1.335	2.317	1.4	20.8
1 22	7 27.35	-0 31.5	1.253	2.191	10.2	17.6	1 22	7 25.51	+19 17.0	1.367	2.340	4.7	21.1
2 1	7 19.61	+0 6.5	1.280	2.193	12.6	17.8	2 1	7 16.10	+19 48.2	1.427	2.363	9.6	21.5
2 11	7 14.17	+1 3.6	1.328	2.196	15.8	18.0	2 11	7 9.37	+20 14.3	1.511	2.386	13.8	21.8
2 21	7 11.70	+2 11.7	1.396	2.200	18.9	18.2	2 21	7 5.84	+20 34.6	1.616	2.409	17.2	22.1
<b>15528</b>	2000 <i>AJ</i> <sub>10</sub>		1 13.1 157°98	0°3/13.2	18		<b>142641</b>	2002 <i>TU</i> <sub>187</sub>		1 13.1 125°12	1°4/12.6	18	
12 13	8 6.31	+20 22.1	1.738	2.579	13.9	19.2	12 13	8 4.21	+24 50.8	1.970	2.813	12.4	20.6
12 23	7 58.52	+20 29.7	1.671	2.587	10.0	18.9	12 23	7 56.79	+25 8.9	1.911	2.827	8.8	20.4
1 2	7 48.26	+20 41.5	1.630	2.594	5.4	18.7	1 2	7 47.22	+25 27.1	1.877	2.841	4.8	20.1
1 12	7 36.56	+20 54.2	1.617	2.600	0.6	18.3	1 12	7 36.47	+25 41.3	1.872	2.854	1.4	19.9
1 22	7 24.76	+21 4.8	1.634	2.606	4.3	18.6	1 22	7 25.70	+25 48.9	1.898	2.866	4.3	20.2
2 1	7 14.20	+21 11.6	1.680	2.610	8.9	18.9	2 1	7 16.10	+25 48.8	1.953	2.878	8.1	20.4
2 11	7 6.00	+21 14.1	1.752	2.614	12.8	19.2	2 11	7 8.62	+25 41.4	2.034	2.890	11.6	20.7
2 21	7 0.77	+21 12.9	1.845	2.618	16.1	19.4	2 21	7 3.80	+25 28.5	2.137	2.901	14.5	20.9
<b>321994</b>	2010 <i>UY</i> <sub>74</sub>		1 13.1 98°24	1°3/12.7	18	R	<b>171417</b>	2006 <i>SS</i> <sub>153</sub>		1 13.1 192°67	1°7/12.2	18	
12 13	8 4.67	+24 51.4	1.883	2.728	12.8	20.5	12 13	7 58.13	+24 57.0	2.441	3.285	10.3	19.9
12 23	7 57.09	+25 2.4	1.830	2.748	9.1	20.3	12 23	7 52.38	+25 44.0	2.367	3.285	7.3	19.7
1 2	7 47.34	+25 13.1	1.803	2.768	4.9	20.1	1 2	7 44.85	+26 32.5	2.320	3.284	4.0	19.5
1 12	7 36.46	+25 19.9	1.805	2.787	1.3	19.9	1 12	7 36.25	+27 18.4	2.304	3.284	1.7	19.3
1 22	7 25.67	+25 20.2	1.837	2.806	4.3	20.1	1 22	7 27.44	+27 58.2	2.317	3.283	3.9	19.5
2 1	7 16.16	+25 13.4	1.898	2.825	8.2	20.4	2 1	7 19.36	+28 29.4	2.361	3.282	7.2	19.7
2 11	7 8.88	+25 0.4	1.985	2.843	11.7	20.7	2 11	7 12.84	+28 51.2	2.431	3.281	10.2	19.9
2 21	7 4.32	+24 42.8	2.094	2.861	14.6	20.9	2 21	7 8.43	+29 4.3	2.524	3.280	12.7	20.0
<b>459394</b>	2012 <i>KJ</i> <sub>26</sub>		1 13.1 39°50	2°6/11.9	18		<b>459475</b>	2013 <i>CX</i> <sub>21</sub>		1 13.1 40°90	2°4/12.2	18	
12 13	8 0.68	+26 19.7	1.818	2.672	12.8	21.3	12 13	8 2.09	+23 36.6	1.3			

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>363118</b>	2001 <i>NH</i> <sub>14</sub>		1 13.1 187°48	0°2/12.9	18		<b>234390</b>	2001 <i>QJ</i> <sub>203</sub>		1 13.1 121°92	2°0/12.4	18	
12 13	8 1.43	+20 40.8	2.186	3.024	11.5	22.0	12 13	8 0.45	+27 27.5	2.347	3.190	10.7	20.3
12 23	7 54.82	+21 10.8	2.109	3.024	8.2	21.8	12 23	7 54.01	+27 44.4	2.279	3.195	7.6	20.2
1 2	7 46.21	+21 45.3	2.059	3.023	4.4	21.6	1 2	7 45.73	+27 59.4	2.238	3.200	4.3	20.0
1 12	7 36.40	+22 20.7	2.039	3.022	0.5	21.2	1 12	7 36.42	+28 9.3	2.226	3.205	2.0	19.8
1 22	7 26.36	+22 53.5	2.049	3.020	3.7	21.5	1 22	7 27.04	+28 11.9	2.244	3.210	4.1	20.0
2 1	7 17.17	+23 21.2	2.089	3.017	7.5	21.7	2 1	7 18.56	+28 6.2	2.292	3.214	7.3	20.2
2 11	7 9.73	+23 42.7	2.156	3.014	11.0	21.9	2 11	7 11.82	+27 52.9	2.367	3.219	10.4	20.4
2 21	7 4.65	+23 57.8	2.246	3.010	13.9	22.1	2 21	7 7.32	+27 33.7	2.465	3.223	12.9	20.6
<b>78786</b>	2002 <i>VJ</i> <sub>85</sub>		1 13.1 339°63	6°6/11.6	18		<b>348739</b>	2006 <i>GS</i> <sub>3</sub>		1 13.1 239°69	1°2/13.8	17	
12 13	8 8.00	+37 52.0	1.634	2.478	14.5	19.0	12 13	7 53.70	+15 37.9	3.364	4.190	8.2	21.4
12 23	8 0.24	+38 19.3	1.569	2.475	11.2	18.7	12 23	7 48.85	+15 50.6	3.277	4.183	5.9	21.3
1 2	7 49.36	+38 33.7	1.528	2.474	8.0	18.6	1 2	7 42.83	+16 8.6	3.218	4.176	3.5	21.1
1 12	7 36.71	+38 28.1	1.514	2.472	6.6	18.5	1 12	7 36.13	+16 30.4	3.188	4.168	1.3	20.9
1 22	7 23.99	+37 59.0	1.526	2.470	8.2	18.6	1 22	7 29.30	+16 54.6	3.190	4.161	2.6	21.0
2 1	7 12.97	+37 7.7	1.566	2.469	11.5	18.7	2 1	7 22.90	+17 19.6	3.223	4.153	5.1	21.2
2 11	7 4.95	+36 0.0	1.628	2.468	14.9	18.9	2 11	7 17.49	+17 43.9	3.284	4.145	7.5	21.3
2 21	7 0.56	+34 42.5	1.712	2.467	17.9	19.2	2 21	7 13.46	+18 6.6	3.371	4.137	9.6	21.5
<b>401338</b>	2013 <i>AU</i> <sub>83</sub>		1 13.1 326°97	1°2/12.7	18		<b>473804</b>	2016 <i>ED</i> <sub>106</sub>		1 13.1 39°32	2°4/14.2	18	
12 13	8 1.33	+21 52.5	1.343	2.206	15.8	20.4	12 13	7 58.63	+12 28.0	1.570	2.413	15.0	20.9
12 23	7 55.76	+22 33.5	1.273	2.200	11.3	20.1	12 23	7 53.26	+13 12.6	1.510	2.422	11.0	20.7
1 2	7 47.12	+23 21.6	1.226	2.194	6.2	19.8	1 2	7 45.53	+14 12.9	1.474	2.433	6.6	20.5
1 12	7 36.51	+24 10.6	1.205	2.188	1.2	19.5	1 12	7 36.41	+15 24.7	1.464	2.443	2.6	20.2
1 22	7 25.49	+24 54.1	1.211	2.183	5.4	19.8	1 22	7 27.12	+16 42.0	1.482	2.454	4.6	20.4
2 1	7 15.78	+25 27.6	1.243	2.178	10.8	20.0	2 1	7 18.94	+17 58.7	1.528	2.466	8.9	20.7
2 11	7 8.83	+25 49.7	1.297	2.174	15.5	20.3	2 11	7 12.95	+19 9.7	1.600	2.478	13.0	21.0
2 21	7 5.45	+26 1.0	1.371	2.170	19.4	20.5	2 21	7 9.76	+20 12.0	1.693	2.490	16.4	21.2
<b>2871</b>	Schober		1 13.1 91°32	4°2/11.9	18		<b>309938</b>	2009 <i>FC</i> <sub>71</sub>		1 13.1 241°76	2°4/12.1	18	
12 13	8 7.39	+29 22.7	1.405	2.262	15.6	16.1	12 13	8 2.36	+24 58.4	1.748	2.600	13.3	20.6
12 23	7 59.81	+30 14.8	1.357	2.277	11.3	15.8	12 23	7 56.08	+25 56.4	1.673	2.594	9.5	20.3
1 2	7 49.11	+31 3.0	1.332	2.293	6.8	15.6	1 2	7 47.19	+26 57.7	1.622	2.587	5.4	20.1
1 12	7 36.69	+31 39.2	1.334	2.309	4.2	15.5	1 12	7 36.62	+27 55.8	1.600	2.580	2.4	19.8
1 22	7 24.29	+31 58.0	1.363	2.324	6.8	15.7	1 22	7 25.65	+28 44.8	1.607	2.573	5.3	20.0
2 1	7 13.65	+31 58.3	1.418	2.339	11.1	16.0	2 1	7 15.71	+29 20.8	1.642	2.566	9.6	20.3
2 11	7 6.08	+31 43.2	1.497	2.353	15.0	16.3	2 11	7 8.02	+29 43.2	1.702	2.558	13.5	20.5
2 21	7 2.15	+31 17.1	1.596	2.368	18.3	16.5	2 21	7 3.35	+29 53.5	1.782	2.550	16.8	20.7
<b>238374</b>	2004 <i>CR</i> <sub>67</sub>		1 13.1 284°06	0°9/13.6	18		<b>21401</b>	Justinkovac		1 13.1 177°33	0°9/12.8	18	
12 13	7 57.08	+16 49.6	2.247	3.085	11.3	20.5	12 13	8 3.71	+23 9.5	2.018	2.860	12.2	19.6
12 23	7 51.73	+17 17.4	2.163	3.076	8.1	20.3	12 23	7 56.58	+23 33.1	1.946	2.862	8.7	19.4
1 2	7 44.56	+17 52.9	2.106	3.068	4.6	20.0	1 2	7 47.25	+23 58.7	1.899	2.864	4.7	19.2
1 12	7 36.25	+18 33.6	2.077	3.059	1.1	19.8	1 12	7 36.62	+24 22.4	1.882	2.865	1.0	18.9
1 22	7 27.69	+19 16.1	2.078	3.050	3.5	19.9	1 22	7 25.80	+24 41.0	1.895	2.865	4.1	19.1
2 1	7 19.81	+19 57.5	2.109	3.041	7.2	20.2	2 1	7 15.98	+24 52.6	1.938	2.865	8.1	19.4
2 11	7 13.47	+20 35.3	2.166	3.033	10.6	20.4	2 11	7 8.17	+24 57.0	2.007	2.864	11.7	19.6
2 21	7 9.27	+21 8.2	2.247	3.024	13.5	20.5	2 21	7 2.97	+24 55.1	2.098	2.862	14.7	19.8
<b>229195</b>	2004 <i>TV</i> <sub>285</sub>		1 13.1 154°79	0°8/13.4	18		<b>27995</b>	1997 <i>WL</i> <sub>2</sub>		1 13.1 159°86	1°3/12.6	18	
12 13	8 0.50	+18 38.3	2.490	3.321	10.5	21.3	12 13	8 7.54	+23 8.5	1.813	2.653	13.4	19.3
12 23	7 53.85	+18 39.2	2.419	3.329	7.5	21.1	12 23	7 59.47	+23 48.0	1.747	2.663	9.6	19.1
1 2	7 45.56	+18 44.1	2.375	3.336	4.2	20.9	1 2	7 48.87	+24 30.1	1.707	2.671	5.2	18.8
1 12	7 36.35	+18 51.2	2.361	3.343	1.0	20.6	1 12	7 36.78	+25 9.6	1.697	2.679	1.3	18.6
1 22	7 27.06	+18 58.7	2.378	3.349	3.2	20.8	1 22	7 24.53	+25 41.7	1.716	2.685	4.6	18.8
2 1	7 18.57	+19 5.5	2.425	3.355	6.6	21.1	2 1	7 13.49	+26 4.0	1.766	2.691	8.9	19.1
2 11	7 11.61	+19 10.6	2.501	3.360	9.6	21.3	2 11	7 4.81	+26 16.4	1.841	2.695	12.8	19.3
2 21	7 6.68	+19 13.8	2.600	3.364	12.2	21.4	2 21	6 59.12	+26 20.3	1.938	2.698	15.9	19.6
<b>408844</b>	2001 <i>SR</i> <sub>19</sub>		1 13.1 90°69	2°5/12.2	18		<b>68032</b>	2000 <i>YV</i> <sub>30</sub>		1 13.1 309°67	3°2/12.4	18	
12 13	8 4.15	+27 10.6	1.856	2.704	12.8	21.3	12 13	8 4.40	+30 51.7	1.883	2.729	12.7	18.9
12 23	7 56.86	+27 47.6	1.807	2.725	9.1	21.1	12 23	7 57.28	+30 51.1	1.806	2.722	9.3	18.7
1 2	7 47.30	+28 22.9	1.783	2.746	5.2	20.9	1 2	7 47.69	+30 44.3	1.754	2.714	5.6	18.4
1 12	7 36.53	+28 51.3	1.788	2.766	2.5	20.7	1 12	7 36.67	+30 27.2	1.731	2.707	3.2	18.3
1 22	7 25.82	+29 9.1	1.822	2.787	5.0	20.9	1 22	7 25.50	+29 57.8	1.737	2.700	5.3	18.4
2 1	7 16.39	+29 15.3	1.885	2.807	8.7	21.2	2 1	7 15.55	+29 16.7	1.771	2.693	9.1	18.6
2 11	7 9.24	+29 10.9	1.974	2.827	12.1	21.5	2 11	7 7.92	+28 26.8	1.831	2.687	12.7	18.8
2 21	7 4.88	+28 58.2	2.084	2.846	14.9	21.7	2 21	7 3.22	+27 31.6	1.913	2.680	15.8	19.0
<b>5554</b>	Keesey		1 13.1 63°48	2°3/12.7	18		<b>426262</b>	2012 <i>QO</i> <sub>38</sub>		1 13.1 208°34	4°5/15.6	18	
12 13	8 9.52	+27 2.6	1.194	2.056	17.5	16.8	12 13	7 56.54	+ 4 22.2	2.687	3.477	11.0	21.2
12 23	8 1.31	+27 1.0	1.154	2.079	12.4	16.5	12 23	7 51.06	+ 4 25.6	2.601	3.472	8.7	21.1
1 2	7 49.85	+26 56.1	1.136	2.101	6.9	16.3	1 2	7 44.13	+ 4 42.6	2.539	3.466	6.3	20.9
1 12	7 36.79	+26 42.7	1.143	2.124	2.4	16.1	1 12	7 36.31	+ 5 12.8	2.507	3.460	4.7	20.8
1 22	7 24.11	+26 18.7	1.177	2.147	5.9	16.4	1 22	7 28.30	+ 5 54.8	2.504	3.454	5.0	20.8
2 1	7 13.62	+25 45.4	1.237	2.171	11.0	16.7	2 1	7 20.84	+ 6 45.8	2.531	3.448	7.0	20.9
2 11	7 6.54	+25 6.2	1.320	2.194	15.5	17.1	2 11	7 14.61	+ 7 42.4	2.586	3.441	9.5	21.1
2 21	7 3.29	+24 24.5	1.423	2.217	19.1	17.4	2 21	7 10.09	+ 8 41.3	2.666	3.434	11.8	21.2
<b>133442</b>	2003 <i>SV</i> <sub>213</sub>		1 13.1 57°19	0°7/13.4	18		<b>127801</b>	2003 <i>FL</i> <sub>77</sub>		1 13.1 177°20	2°9/12.1	18	
12 13	8 0.06	+18 29.0	1.842	2.687	13.0	19.6	12 13	8 6.50					



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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>337737</b>	2001 <i>UR</i> <sub>77</sub>		1 13.1 122°93	6°3/ 9.8 18			<b>154524</b>	2003 <i>FV</i> <sub>98</sub>		1 13.1 254°64	3°5/14.6 18		
12 13	8 2.83	+40 39.6	2.474	3.300	10.7	21.1	12 13	7 58.61	+10 17.3	1.998	2.822	13.1	20.3
12 23	7 55.99	+41 47.9	2.417	3.306	8.5	21.0	12 23	7 53.01	+10 25.8	1.914	2.813	9.9	20.1
1 2	7 46.95	+42 46.4	2.386	3.311	6.8	20.9	1 2	7 45.39	+10 47.5	1.854	2.804	6.4	19.9
1 12	7 36.60	+43 29.0	2.383	3.317	6.3	20.9	1 12	7 36.50	+11 21.5	1.822	2.795	3.7	19.7
1 22	7 26.06	+43 52.0	2.409	3.322	7.4	21.0	1 22	7 27.30	+12 5.1	1.819	2.785	4.8	19.7
2 1	7 16.53	+43 54.7	2.462	3.327	9.5	21.1	2 1	7 18.85	+12 54.7	1.845	2.776	8.2	19.9
2 11	7 8.99	+43 39.5	2.539	3.332	11.6	21.2	2 11	7 12.11	+13 46.5	1.897	2.766	11.7	20.1
2 21	7 4.07	+43 10.2	2.638	3.337	13.5	21.4	2 21	7 7.72	+14 37.3	1.972	2.756	14.8	20.3
<b>400847</b>	2010 <i>MH</i> <sub>11</sub>		1 13.1 58°58	0°7/13.4 18			<b>379064</b>	2008 <i>WN</i> <sub>83</sub>		1 13.1 69°89	4°5/10.7 18		
12 13	8 4.85	+17 57.9	1.485	2.332	15.5	20.2	12 13	8 3.96	+31 22.2	2.063	2.906	11.9	20.8
12 23	7 57.40	+18 28.8	1.454	2.371	10.9	20.1	12 23	7 56.76	+32 56.5	2.026	2.937	8.7	20.7
1 2	7 47.59	+19 7.3	1.446	2.410	5.9	19.9	1 2	7 47.34	+34 25.8	2.016	2.968	5.7	20.5
1 12	7 36.65	+19 48.5	1.466	2.449	1.0	19.6	1 12	7 36.68	+35 42.5	2.035	2.999	4.5	20.5
1 22	7 26.00	+20 27.7	1.515	2.487	4.4	20.0	1 22	7 25.98	+36 41.6	2.085	3.029	6.3	20.7
2 1	7 16.96	+21 1.7	1.591	2.526	8.9	20.3	2 1	7 16.44	+37 21.1	2.163	3.059	9.1	20.9
2 11	7 10.47	+21 28.9	1.692	2.563	12.8	20.6	2 11	7 9.06	+37 42.4	2.266	3.089	11.8	21.1
2 21	7 6.96	+21 49.2	1.815	2.601	15.9	20.9	2 21	7 4.38	+37 48.7	2.391	3.119	14.1	21.4
<b>430690</b>	2003 <i>XR</i> <sub>32</sub>		1 13.1 24°89	0°2/13.2 18			<b>237430</b>	1999 <i>JL</i> <sub>4</sub>		1 13.1 201°24	9°2/ 8.3 18		
12 13	7 58.09	+19 35.6	1.496	2.356	14.7	21.0	12 13	8 12.10	+45 40.7	2.078	2.888	13.1	20.7
12 23	7 52.93	+19 58.5	1.445	2.370	10.4	20.7	12 23	8 3.46	+47 22.7	2.015	2.884	11.0	20.5
1 2	7 45.36	+20 28.3	1.418	2.384	5.7	20.5	1 2	7 51.43	+48 50.3	1.978	2.879	9.5	20.4
1 12	7 36.44	+21 1.1	1.416	2.400	0.6	20.2	1 12	7 37.14	+49 53.3	1.968	2.873	9.3	20.4
1 22	7 27.50	+21 32.5	1.442	2.416	4.4	20.5	1 22	7 22.28	+50 25.4	1.985	2.867	10.5	20.4
2 1	7 19.84	+21 59.3	1.495	2.433	9.0	20.8	2 1	7 8.77	+50 25.8	2.028	2.860	12.6	20.6
2 11	7 14.51	+22 19.9	1.572	2.451	13.1	21.1	2 11	6 58.21	+49 59.2	2.093	2.852	14.8	20.7
2 21	7 12.06	+22 33.8	1.669	2.470	16.4	21.4	2 21	6 51.47	+49 13.0	2.176	2.843	16.9	20.9
<b>196962</b>	2003 <i>UR</i> <sub>54</sub>		1 13.1 337°23	20°2/14.1 18			<b>335853</b>	Valléedaoste		1 13.1 62°94	1°9/13.9 18		
12 13	8 5.73	-10 50.8	1.089	1.855	25.2	18.8	12 13	7 58.43	+15 29.3	2.109	2.945	12.0	20.8
12 23	7 59.23	-14 10.8	1.038	1.853	22.9	18.6	12 23	7 52.59	+15 29.8	2.050	2.960	8.7	20.6
1 2	7 49.20	-16 54.8	1.005	1.851	21.1	18.5	1 2	7 45.00	+15 37.9	2.016	2.975	5.1	20.4
1 12	7 36.87	-18 47.6	0.989	1.850	20.3	18.4	1 12	7 36.45	+15 51.8	2.011	2.991	2.0	20.2
1 22	7 24.01	-19 40.3	0.992	1.849	20.6	18.4	1 22	7 27.88	+16 9.5	2.035	3.006	3.7	20.4
2 1	7 12.63	-19 33.3	1.012	1.848	22.0	18.5	2 1	7 20.21	+16 28.8	2.089	3.022	7.2	20.6
2 11	7 4.40	-18 36.6	1.048	1.847	24.0	18.7	2 11	7 14.25	+16 48.0	2.169	3.038	10.5	20.9
2 21	7 0.22	-17 4.9	1.097	1.846	26.2	18.8	2 21	7 10.47	+17 5.5	2.272	3.053	13.2	21.1
<b>502192</b>	2015 <i>BG</i> <sub>69</sub>		1 13.1 224°37	2°5/14.0 18			<b>129776</b>	1999 <i>JL</i> <sub>13</sub>		1 13.1 186°14	10°1/16.3 18		
12 13	7 58.39	+13 49.5	2.361	3.187	11.2	21.2	12 13	8 2.27	- 7 2.9	2.180	2.910	15.1	19.8
12 23	7 52.53	+13 35.4	2.280	3.183	8.3	21.0	12 23	7 55.40	- 8 17.5	2.104	2.910	13.1	19.7
1 2	7 44.97	+13 28.7	2.225	3.179	5.1	20.8	1 2	7 46.60	- 9 11.0	2.052	2.910	11.3	19.6
1 12	7 36.42	+13 28.8	2.199	3.175	2.6	20.6	1 12	7 36.63	- 9 39.3	2.024	2.908	10.2	19.5
1 22	7 27.70	+13 34.4	2.203	3.171	3.9	20.7	1 22	7 26.42	- 9 41.0	2.023	2.906	10.3	19.5
2 1	7 19.70	+13 44.1	2.237	3.166	7.0	20.9	2 1	7 16.97	- 9 17.5	2.048	2.903	11.5	19.6
2 11	7 13.19	+13 56.3	2.298	3.162	10.2	21.1	2 11	7 9.17	- 8 33.2	2.097	2.899	13.4	19.7
2 21	7 8.70	+14 9.4	2.382	3.157	12.9	21.2	2 21	7 3.62	- 7 34.3	2.168	2.895	15.4	19.8
<b>127796</b>	2003 <i>FO</i> <sub>74</sub>		1 13.1 210°96	5°6/10.8 18			<b>302005</b>	2000 <i>RF</i> <sub>8</sub>		1 13.1 132°02	10°3/19.0 18		
12 13	8 6.29	+32 44.2	1.701	2.549	13.8	20.1	12 13	8 1.54	-10 30.5	2.086	2.800	16.1	21.8
12 23	7 59.15	+34 2.4	1.632	2.545	10.3	19.9	12 23	7 54.80	-10 57.7	2.025	2.817	14.0	21.7
1 2	7 48.97	+35 16.4	1.588	2.540	7.0	19.6	1 2	7 46.21	-10 58.1	1.985	2.833	12.0	21.6
1 12	7 36.85	+36 17.1	1.572	2.535	5.6	19.6	1 12	7 36.58	-10 29.1	1.969	2.849	10.6	21.5
1 22	7 24.28	+36 57.7	1.583	2.530	7.7	19.7	1 22	7 26.88	- 9 31.9	1.979	2.864	10.4	21.5
2 1	7 12.97	+37 15.5	1.622	2.524	11.2	19.9	2 1	7 18.10	- 8 10.7	2.015	2.878	11.3	21.6
2 11	7 4.33	+37 12.6	1.685	2.518	14.7	20.1	2 11	7 11.07	- 6 32.4	2.076	2.891	13.0	21.8
2 21	6 59.15	+36 53.7	1.767	2.512	17.8	20.3	2 21	7 6.31	- 4 45.0	2.160	2.903	15.0	21.9
<b>89224</b>	2001 <i>UU</i> <sub>124</sub>		1 13.1 56°76	2°4/11.9 18			<b>253140</b>	2002 <i>VL</i> <sub>60</sub>		1 13.1 13°56	2°1/13.6 18		
12 13	8 1.88	+23 24.3	1.568	2.424	14.3	18.6	12 13	7 58.63	+17 55.1	1.141	2.012	17.5	19.5
12 23	7 55.70	+24 51.1	1.519	2.442	10.1	18.4	12 23	7 53.85	+17 34.2	1.089	2.017	12.7	19.3
1 2	7 46.92	+26 22.1	1.495	2.461	5.6	18.2	1 2	7 46.06	+17 22.6	1.058	2.024	7.2	19.0
1 12	7 36.62	+27 48.9	1.500	2.479	2.4	18.0	1 12	7 36.57	+17 18.7	1.051	2.033	2.3	18.7
1 22	7 26.21	+29 4.0	1.532	2.498	5.5	18.3	1 22	7 27.02	+17 19.9	1.069	2.043	5.4	18.9
2 1	7 17.09	+30 2.9	1.593	2.517	9.8	18.6	2 1	7 19.07	+17 23.9	1.110	2.054	10.7	19.3
2 11	7 10.44	+30 44.7	1.678	2.537	13.5	18.8	2 11	7 14.00	+17 28.7	1.174	2.067	15.5	19.6
2 21	7 6.87	+31 11.0	1.784	2.556	16.6	19.1	2 21	7 12.40	+17 32.6	1.257	2.081	19.4	19.9
<b>373299</b>	2012 <i>HJ</i> <sub>71</sub>		1 13.1 191°86	2°2/12.2 18			<b>323884</b>	2005 <i>SE</i> <sub>238</sub>		1 13.1 165°44	3°4/11.8 18		
12 13	8 1.41	+26 39.0	2.096	2.942	11.6	21.7	12 13	8 3.40	+30 19.5	2.129	2.972	11.6	21.1
12 23	7 54.99	+27 15.1	2.024	2.941	8.3	21.5	12 23	7 56.40	+30 58.5	2.062	2.976	8.4	20.9
1 2	7 46.43	+27 50.9	1.977	2.940	4.7	21.2	1 2	7 47.19	+31 34.0	2.021	2.979	5.2	20.7
1 12	7 36.59	+28 21.9	1.960	2.939	2.2	21.1	1 12	7 36.69	+32 0.9	2.009	2.981	3.4	20.6
1 22	7 26.54	+28 44.5	1.973	2.938	4.6	21.2	1 22	7 26.04	+32 15.6	2.026	2.984	5.3	20.7
2 1	7 17.44	+28 56.8	2.015	2.936	8.2	21.4	2 1	7 16.43	+32 16.9	2.073	2.986	8.5	20.9
2 11	7 10.25	+28 58.9	2.082	2.935	11.5	21.6	2 11	7 8.85	+32 6.1	2.145	2.987	11.7	21.1
2 21	7 5.59	+28 52.4	2.172	2.933	14.4	21.8	2 21	7 3.90	+31 45.9	2.240	2.988	14.3	21.3
<b>429906</b>	2012 <i>TV</i> <sub>126</sub>		1 13.1 202°74	2°0/14.2 18			<b>259004</b>	2002 <i>TU</i> <sub>102</sub>		1 13.1 126°61	1°2/13.6 18		
12 13	7 56.96	+13											

EPHEMERIDES

1 13.1

1 13.1

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>78042</b>	2002 <i>JO</i> <sub>113</sub>		1 13.1 223°07	0°9/12.9	18		<b>53858</b>	2000 <i>FT</i> <sub>22</sub>		1 13.1 327°37	5°6/11.5	18	
12 13	8 4.28	+23 34.5	1.713	2.561	13.7	19.8	12 13	8 4.76	+31 19.3	1.283	2.148	16.3	18.9
12 23	7 57.35	+23 41.7	1.638	2.557	9.8	19.5	12 23	7 58.62	+32 18.9	1.219	2.142	12.1	18.6
1 2	7 47.85	+23 50.3	1.587	2.553	5.4	19.3	1 2	7 48.91	+33 14.5	1.177	2.136	7.8	18.4
1 12	7 36.77	+23 56.6	1.565	2.548	1.0	19.0	1 12	7 36.92	+33 56.1	1.160	2.131	5.6	18.2
1 22	7 25.46	+23 57.5	1.571	2.543	4.6	19.2	1 22	7 24.52	+34 16.6	1.168	2.126	8.2	18.3
2 1	7 15.31	+23 51.8	1.606	2.537	9.1	19.5	2 1	7 13.76	+34 13.8	1.202	2.122	12.7	18.6
2 11	7 7.50	+23 40.0	1.666	2.532	13.3	19.7	2 11	7 6.28	+33 50.9	1.257	2.118	17.0	18.8
2 21	7 2.71	+23 23.5	1.747	2.526	16.7	19.9	2 21	7 2.87	+33 13.5	1.330	2.114	20.7	19.1
<b>261091</b>	2005 <i>SW</i> <sub>246</sub>		1 13.1 7°33	3°4/12.1	18		<b>502328</b>	2015 <i>BM</i> <sub>168</sub>		1 13.1 227°98	0°8/12.7	17	
12 13	8 1.51	+28 24.7	1.537	2.397	14.3	20.0	12 13	7 58.85	+23 6.1	2.540	3.380	10.1	21.7
12 23	7 55.63	+28 59.0	1.474	2.398	10.3	19.8	12 23	7 52.90	+23 31.6	2.456	3.372	7.2	21.5
1 2	7 46.97	+29 31.3	1.435	2.399	6.1	19.6	1 2	7 45.24	+23 59.1	2.400	3.364	3.9	21.3
1 12	7 36.68	+29 55.3	1.423	2.400	3.4	19.4	1 12	7 36.53	+24 25.7	2.373	3.356	0.9	21.0
1 22	7 26.21	+30 6.7	1.438	2.403	6.0	19.6	1 22	7 27.60	+24 48.6	2.377	3.347	3.4	21.2
2 1	7 17.09	+30 4.0	1.479	2.405	10.2	19.8	2 1	7 19.34	+25 6.1	2.412	3.338	6.8	21.4
2 11	7 10.56	+29 48.6	1.544	2.409	14.2	20.1	2 11	7 12.56	+25 17.4	2.474	3.329	9.8	21.6
2 21	7 7.26	+29 23.6	1.629	2.413	17.5	20.3	2 21	7 7.79	+25 22.7	2.559	3.320	12.4	21.8
<b>160780</b>	2000 <i>SL</i> <sub>267</sub>		1 13.1 168°68	1°2/12.7	18		<b>350087</b>	2011 <i>KW</i> <sub>23</sub>		1 13.1 192°68	3°2/14.3	18	
12 13	8 4.54	+23 19.7	2.011	2.851	12.3	21.0	12 13	8 3.41	+11 54.0	1.809	2.634	14.1	21.8
12 23	7 57.21	+23 52.2	1.941	2.857	8.8	20.8	12 23	7 56.57	+12 0.1	1.731	2.632	10.6	21.6
1 2	7 47.64	+24 26.9	1.897	2.861	4.8	20.6	1 2	7 47.39	+12 18.9	1.677	2.630	6.6	21.3
1 12	7 36.75	+24 59.4	1.882	2.865	1.2	20.3	1 12	7 36.76	+12 48.7	1.652	2.627	3.4	21.1
1 22	7 25.68	+25 26.0	1.898	2.867	4.2	20.6	1 22	7 25.83	+13 26.7	1.656	2.624	4.9	21.2
2 1	7 15.63	+25 44.4	1.944	2.869	8.2	20.8	2 1	7 15.86	+14 9.2	1.688	2.619	8.8	21.4
2 11	7 7.62	+25 54.3	2.016	2.871	11.8	21.0	2 11	7 7.94	+14 52.6	1.747	2.614	12.7	21.6
2 21	7 2.26	+25 56.9	2.110	2.871	14.7	21.2	2 21	7 2.72	+15 34.2	1.828	2.607	16.0	21.9
<b>427127</b>	2014 <i>UY</i> <sub>100</sub>		1 13.1 76°47	1°6/12.5	18		<b>270578</b>	2002 <i>JE</i> <sub>91</sub>		1 13.1 338°92	3°8/14.0	17	
12 13	8 1.26	+23 40.9	1.786	2.638	13.1	20.8	12 13	7 56.73	+14 1.4	1.375	2.231	16.0	19.7
12 23	7 55.06	+24 25.1	1.725	2.646	9.3	20.6	12 23	7 52.42	+13 32.2	1.295	2.213	12.0	19.4
1 2	7 46.52	+25 12.0	1.690	2.655	5.1	20.4	1 2	7 45.38	+13 14.5	1.237	2.196	7.5	19.1
1 12	7 36.64	+25 56.4	1.683	2.664	1.6	20.2	1 12	7 36.58	+13 8.4	1.203	2.180	3.9	18.9
1 22	7 26.60	+26 33.7	1.704	2.673	4.6	20.4	1 22	7 27.33	+13 12.8	1.196	2.166	5.8	18.9
2 1	7 17.69	+27 1.1	1.754	2.682	8.7	20.7	2 1	7 19.14	+13 25.7	1.213	2.153	10.5	19.2
2 11	7 10.95	+27 18.0	1.829	2.691	12.4	20.9	2 11	7 13.34	+13 43.8	1.253	2.141	15.1	19.4
2 21	7 6.98	+27 25.6	1.926	2.700	15.5	21.1	2 21	7 10.71	+14 4.1	1.312	2.131	19.1	19.6
<b>453838</b>	2011 <i>SQ</i> <sub>240</sub>		1 13.1 50°34	0°9/13.4	15		<b>369269</b>	2009 <i>PG</i> <sub>3</sub>		1 13.1 112°23	5°1/15.6	18	
12 13	8 2.72	+18 29.2	1.277	2.136	16.7	21.5	12 13	7 59.63	+ 4 53.2	2.128	2.926	13.3	21.5
12 23	7 56.46	+18 44.2	1.230	2.154	12.0	21.2	12 23	7 53.42	+ 4 50.2	2.066	2.943	10.4	21.4
1 2	7 47.36	+19 8.2	1.206	2.172	6.6	21.0	1 2	7 45.48	+ 5 3.1	2.029	2.960	7.4	21.2
1 12	7 36.72	+19 36.7	1.207	2.190	1.2	20.7	1 12	7 36.57	+ 5 31.5	2.019	2.976	5.3	21.1
1 22	7 26.11	+20 5.2	1.235	2.209	4.9	21.0	1 22	7 27.60	+ 6 13.1	2.039	2.991	5.7	21.2
2 1	7 17.14	+20 30.3	1.289	2.228	10.1	21.3	2 1	7 19.50	+ 7 4.4	2.087	3.007	8.1	21.4
2 11	7 10.97	+20 50.0	1.366	2.247	14.6	21.7	2 11	7 13.06	+ 8 1.2	2.162	3.021	10.9	21.6
2 21	7 8.16	+21 3.9	1.463	2.267	18.2	21.9	2 21	7 8.77	+ 8 59.4	2.261	3.036	13.5	21.8
<b>382258</b>	2012 <i>TH</i> <sub>67</sub>		1 13.1 258°65	1°5/13.8	18		<b>90434</b>	2004 <i>BF</i> <sub>69</sub>		1 13.1 48°52	7°4/10.9	18	
12 13	7 57.34	+16 22.3	2.475	3.307	10.5	20.7	12 13	8 6.38	+36 20.2	1.376	2.232	15.9	18.8
12 23	7 51.76	+16 19.3	2.393	3.302	7.7	20.5	12 23	7 59.41	+37 34.6	1.336	2.248	12.1	18.6
1 2	7 44.58	+16 22.1	2.339	3.298	4.5	20.3	1 2	7 49.11	+38 37.2	1.318	2.265	8.7	18.5
1 12	7 36.44	+16 29.3	2.313	3.293	1.6	20.1	1 12	7 36.95	+39 18.2	1.326	2.283	7.5	18.4
1 22	7 28.13	+16 39.5	2.318	3.288	3.3	20.2	1 22	7 24.83	+39 32.0	1.359	2.300	9.3	18.6
2 1	7 20.51	+16 51.1	2.352	3.284	6.6	20.4	2 1	7 14.65	+39 18.9	1.417	2.318	12.6	18.8
2 11	7 14.30	+17 2.7	2.414	3.279	9.7	20.6	2 11	7 7.76	+38 44.5	1.497	2.337	15.9	19.1
2 21	7 10.03	+17 13.4	2.499	3.274	12.3	20.8	2 21	7 4.71	+37 55.5	1.596	2.355	18.8	19.3
<b>149657</b>	2004 <i>FH</i> <sub>86</sub>		1 13.1 267°29	2°0/12.4	18		<b>400841</b>	2010 <i>LN</i> <sub>75</sub>		1 13.1 86°54	2°9/14.0	17	
12 13	8 3.79	+23 25.9	1.399	2.259	15.5	21.0	12 13	8 5.17	+13 59.9	1.868	2.693	13.7	21.1
12 23	7 57.64	+24 17.4	1.324	2.249	11.2	20.7	12 23	7 57.33	+13 34.8	1.821	2.725	10.0	20.9
1 2	7 48.30	+25 14.8	1.273	2.239	6.2	20.4	1 2	7 47.53	+13 18.6	1.801	2.755	6.1	20.8
1 12	7 36.85	+26 11.1	1.247	2.229	2.0	20.1	1 12	7 36.78	+13 10.4	1.809	2.785	3.1	20.6
1 22	7 24.85	+26 58.9	1.249	2.218	5.8	20.3	1 22	7 26.21	+13 9.0	1.847	2.815	4.6	20.8
2 1	7 14.09	+27 33.7	1.277	2.208	11.0	20.5	2 1	7 16.91	+13 12.6	1.915	2.843	8.1	21.0
2 11	7 6.11	+27 54.5	1.329	2.198	15.7	20.8	2 11	7 9.71	+13 19.6	2.009	2.872	11.5	21.3
2 21	7 1.79	+28 2.8	1.399	2.187	19.7	21.0	2 21	7 5.06	+13 28.3	2.126	2.899	14.3	21.6
<b>209416</b>	2004 <i>FM</i> <sub>31</sub>		1 13.1 206°29	0°1/13.0	18		<b>6441</b>	Milenajesenská		1 13.1 194°37	0°9/13.5	18	
12 13	7 58.18	+18 36.3	2.837	3.667	9.4	20.8	12 13	8 2.72	+17 45.2	2.058	2.892	12.3	18.3
12 23	7 52.31	+19 39.9	2.752	3.663	6.7	20.6	12 23	7 55.91	+18 4.0	1.979	2.890	8.9	18.1
1 2	7 44.88	+20 49.8	2.695	3.658	3.6	20.4	1 2	7 46.98	+18 29.7	1.925	2.887	5.0	17.8
1 12	7 36.48	+22 2.2	2.670	3.654	0.4	20.1	1 12	7 36.75	+18 59.2	1.901	2.883	1.1	17.6
1 22	7 27.80	+23 13.3	2.678	3.649	3.0	20.4	1 22	7 26.27	+19 29.4	1.907	2.879	3.8	17.8
2 1	7 19.64	+24 19.6	2.718	3.643	6.1	20.6	2 1	7 16.66	+19 57.7	1.943	2.874	7.8	18.0
2 11	7 12.73	+25 18.8	2.786	3.638	9.0	20.7	2 11	7 8.89	+20 22.2	2.006	2.868	11.5	18.2
2 21	7 7.58	+26 9.7	2.880	3.632	11.4	20.9	2 21	7 3.59	+20 42.2	2.092	2.862	14.6	18.4
<b>246458</b>	2007 <i>VT</i> <sub>245</sub>		1 13.1 270°63	1°8/13.7	18		<b>522565</b>	2016 <i>EZ</i> <sub>243</sub>		1 13.1 39°52	0°4/12.9	18	
12 13	7 59.06	+16 41.7	2.362	3.194									

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>314813</b>	2006 <i>UY</i> <sub>26</sub>		1 13.1 245°20	1°2/12.8	18		<b>13547</b>	1992 <i>DJ</i> <sub>8</sub>		1 13.2 296°58	2°8/13.9	18	
12 13	8 2.32	+23 31.2	1.821	2.670	13.0	21.3	12 13	8 0.12	+14 25.2	1.621	2.464	14.6	19.2
12 23	7 55.93	+23 54.7	1.744	2.663	9.3	21.1	12 23	7 54.60	+14 18.6	1.533	2.446	10.9	19.0
1 2	7 47.11	+24 20.6	1.691	2.656	5.1	20.8	1 2	7 46.53	+14 23.0	1.470	2.428	6.6	18.7
1 12	7 36.78	+24 44.9	1.667	2.649	1.2	20.5	1 12	7 36.77	+14 37.1	1.432	2.411	3.0	18.4
1 22	7 26.15	+25 3.6	1.671	2.642	4.5	20.7	1 22	7 26.54	+14 58.7	1.423	2.394	5.0	18.5
2 1	7 16.54	+25 14.6	1.704	2.634	8.8	21.0	2 1	7 17.21	+15 24.7	1.440	2.376	9.5	18.7
2 11	7 9.07	+25 17.6	1.763	2.626	12.7	21.2	2 11	7 10.02	+15 52.3	1.482	2.359	13.9	18.9
2 21	7 4.42	+25 13.7	1.843	2.618	16.0	21.4	2 21	7 5.77	+16 19.0	1.545	2.343	17.7	19.1
<b>64340</b>	2001 <i>UW</i> <sub>72</sub>		1 13.1 239°28	1°4/12.6	18		<b>522104</b>	2015 <i>YL</i> <sub>27</sub>		1 13.2 249°78	1°4/12.5	18	
12 13	8 1.34	+23 32.4	1.863	2.712	12.7	19.9	12 13	8 1.23	+21 5.7	1.801	2.649	13.1	20.9
12 23	7 55.18	+24 8.9	1.789	2.709	9.1	19.6	12 23	7 55.27	+22 21.6	1.725	2.644	9.4	20.6
1 2	7 46.68	+24 48.5	1.740	2.705	5.0	19.4	1 2	7 46.84	+23 45.6	1.674	2.639	5.1	20.4
1 12	7 36.74	+25 26.5	1.719	2.701	1.4	19.1	1 12	7 36.80	+25 11.1	1.652	2.634	1.4	20.1
1 22	7 26.51	+25 58.4	1.727	2.697	4.5	19.3	1 22	7 26.33	+26 31.2	1.660	2.629	4.7	20.3
2 1	7 17.26	+26 21.7	1.764	2.693	8.7	19.6	2 1	7 16.75	+27 40.3	1.697	2.623	9.1	20.6
2 11	7 10.09	+26 35.5	1.827	2.689	12.5	19.8	2 11	7 9.24	+28 35.9	1.759	2.618	13.0	20.8
2 21	7 5.66	+26 40.8	1.911	2.684	15.6	20.0	2 21	7 4.57	+29 17.7	1.843	2.612	16.3	21.0
<b>300968</b>	2008 <i>EN</i> <sub>3</sub>		1 13.1 195°15	3°4/11.3	17		<b>317106</b>	2001 <i>TW</i> <sub>166</sub>		1 13.2 93°33	2°8/12.3	18	
12 13	7 59.23	+33 57.1	3.038	3.872	8.8	21.0	12 13	8 6.40	+28 59.4	2.006	2.846	12.3	21.1
12 23	7 53.03	+34 33.0	2.965	3.870	6.5	20.9	12 23	7 58.33	+29 25.2	1.960	2.874	8.8	21.0
1 2	7 45.27	+35 4.1	2.919	3.868	4.4	20.8	1 2	7 48.16	+29 47.0	1.942	2.902	5.1	20.8
1 12	7 36.58	+35 26.9	2.903	3.866	3.5	20.7	1 12	7 36.92	+30 0.3	1.952	2.929	2.8	20.7
1 22	7 27.76	+35 39.1	2.918	3.863	4.7	20.8	1 22	7 25.83	+30 2.6	1.993	2.955	4.9	20.9
2 1	7 19.61	+35 39.7	2.962	3.860	6.9	20.9	2 1	7 16.08	+29 53.7	2.063	2.981	8.3	21.1
2 11	7 12.87	+35 29.6	3.034	3.857	9.1	21.1	2 11	7 8.56	+29 35.3	2.159	3.006	11.4	21.4
2 21	7 8.02	+35 10.7	3.128	3.854	11.1	21.2	2 21	7 3.73	+29 10.3	2.277	3.030	14.0	21.6
<b>50097</b>	2000 <i>AF</i> <sub>98</sub>		1 13.1 27°76	5°3/11.6	18		<b>500204</b>	2012 <i>HQ</i> <sub>19</sub>		1 13.2 237°21	4°0/15.0	17	
12 13	8 5.55	+33 58.3	1.650	2.500	14.0	17.8	12 13	7 58.44	+ 7 55.0	2.251	3.060	12.3	22.1
12 23	7 58.51	+34 38.5	1.587	2.501	10.5	17.6	12 23	7 52.77	+ 8 4.5	2.161	3.050	9.4	21.9
1 2	7 48.57	+35 10.7	1.549	2.502	7.0	17.4	1 2	7 45.28	+ 8 27.8	2.097	3.039	6.4	21.7
1 12	7 36.94	+35 28.0	1.537	2.503	5.4	17.3	1 12	7 36.64	+ 9 4.2	2.061	3.027	4.1	21.5
1 22	7 25.15	+35 26.2	1.553	2.505	7.3	17.4	1 22	7 27.70	+ 9 51.4	2.054	3.016	4.8	21.6
2 1	7 14.83	+35 4.8	1.595	2.506	10.8	17.6	2 1	7 19.40	+10 46.1	2.077	3.004	7.7	21.7
2 11	7 7.25	+34 27.5	1.662	2.508	14.3	17.8	2 11	7 12.59	+11 44.4	2.128	2.991	10.9	21.9
2 21	7 3.05	+33 39.4	1.748	2.509	17.3	18.0	2 21	7 7.87	+12 42.7	2.201	2.978	13.7	22.1
<b>94599</b>	2001 <i>VY</i> <sub>79</sub>		1 13.1 251°56	1°8/13.8	18		<b>459759</b>	2013 <i>QA</i> <sub>54</sub>		1 13.2 183°77	3°7/11.8	18	
12 13	8 1.61	+14 57.1	1.547	2.391	15.1	19.3	12 13	8 4.28	+32 22.2	2.319	3.156	11.0	22.0
12 23	7 55.71	+15 27.9	1.470	2.384	11.1	19.0	12 23	7 56.95	+32 52.0	2.247	3.157	8.1	21.8
1 2	7 47.12	+16 12.1	1.416	2.378	6.4	18.7	1 2	7 47.52	+33 16.4	2.202	3.156	5.2	21.6
1 12	7 36.80	+17 6.3	1.390	2.371	2.0	18.4	1 12	7 36.87	+33 31.0	2.187	3.156	3.7	21.5
1 22	7 26.06	+18 5.0	1.391	2.364	4.7	18.6	1 22	7 26.08	+33 32.7	2.201	3.155	5.3	21.6
2 1	7 16.36	+19 3.1	1.420	2.357	9.6	18.9	2 1	7 16.29	+33 21.1	2.245	3.153	8.2	21.8
2 11	7 8.98	+19 56.5	1.474	2.350	14.0	19.1	2 11	7 8.44	+32 57.7	2.316	3.151	11.1	22.0
2 21	7 4.68	+20 42.7	1.549	2.342	17.8	19.3	2 21	7 3.10	+32 25.8	2.408	3.149	13.7	22.2
<b>4446</b>	<i>Carolyn</i>		1 13.1 157°92	1°7/14.4	18		<b>314200</b>	2005 <i>LK</i> <sub>14</sub>		1 13.2 72°12	4°6/14.2	18	
12 13	7 52.77	+12 18.7	4.233	5.044	6.9	18.4	12 13	8 2.96	+11 38.3	1.694	2.522	14.8	20.2
12 23	7 48.01	+12 23.1	4.156	5.050	5.1	18.2	12 23	7 56.16	+10 44.4	1.631	2.532	11.2	20.0
1 2	7 42.39	+12 32.6	4.107	5.056	3.2	18.1	1 2	7 47.11	+10 1.3	1.593	2.542	7.4	19.8
1 12	7 36.29	+12 46.6	4.089	5.062	1.8	18.0	1 12	7 36.83	+ 9 30.2	1.582	2.551	4.7	19.6
1 22	7 30.13	+13 4.1	4.102	5.068	2.4	18.1	1 22	7 26.50	+ 9 11.2	1.599	2.561	5.9	19.7
2 1	7 24.34	+13 23.8	4.147	5.073	4.2	18.2	2 1	7 17.34	+ 9 3.4	1.645	2.571	9.4	20.0
2 11	7 19.32	+13 44.8	4.221	5.078	6.1	18.3	2 11	7 10.35	+ 9 4.5	1.715	2.581	12.9	20.2
2 21	7 15.38	+14 5.7	4.321	5.082	7.7	18.5	2 21	7 6.08	+ 9 11.8	1.807	2.590	16.0	20.4
<b>336978</b>	2011 <i>KS</i> <sub>10</sub>		1 13.2 100°77	6°2/16.6	18		<b>389171</b>	2009 <i>BB</i> <sub>102</sub>		1 13.2 12°10	4°0/15.4	18	
12 13	7 56.39	+ 0 17.7	2.386	3.163	12.6	21.0	12 13	7 55.97	+ 7 2.5	2.181	2.994	12.5	21.0
12 23	7 51.07	+ 0 9.8	2.316	3.172	10.3	20.9	12 23	7 50.98	+ 7 23.9	2.106	2.995	9.6	20.8
1 2	7 44.22	+ 0 19.3	2.270	3.180	8.0	20.8	1 2	7 44.27	+ 8 0.5	2.055	2.996	6.6	20.6
1 12	7 36.50	+ 0 46.4	2.251	3.188	6.4	20.7	1 12	7 36.53	+ 8 51.1	2.031	2.998	4.2	20.5
1 22	7 28.65	+ 1 29.8	2.260	3.196	6.5	20.7	1 22	7 28.60	+ 9 52.6	2.037	2.999	4.8	20.5
2 1	7 21.50	+ 2 26.2	2.298	3.205	8.1	20.8	2 1	7 21.38	+11 0.9	2.072	3.001	7.5	20.7
2 11	7 15.74	+ 3 31.3	2.362	3.213	10.4	21.0	2 11	7 15.66	+12 11.6	2.135	3.004	10.6	20.9
2 21	7 11.85	+ 4 40.4	2.450	3.220	12.7	21.1	2 21	7 11.99	+13 20.6	2.220	3.006	13.3	21.1
<b>60570</b>	2000 <i>ET</i> <sub>113</sub>		1 13.2 64°52	1°5/12.6	18		<b>409457</b>	2005 <i>QE</i> <sub>165</sub>		1 13.2 75°29	5°2/15.8	18	
12 13	8 1.01	+24 58.7	1.979	2.828	12.1	19.4	12 13	7 59.97	+ 5 6.0	1.799	2.607	14.9	20.8
12 23	7 54.63	+25 18.5	1.923	2.843	8.6	19.2	12 23	7 53.89	+ 5 21.3	1.745	2.629	11.5	20.6
1 2	7 46.22	+25 38.4	1.893	2.858	4.7	19.0	1 2	7 45.83	+ 5 55.6	1.715	2.652	8.1	20.5
1 12	7 36.70	+25 54.8	1.891	2.873	1.5	18.8	1 12	7 36.69	+ 6 47.4	1.712	2.674	5.5	20.3
1 22	7 27.17	+26 5.0	1.919	2.888	4.2	19.0	1 22	7 27.53	+ 7 52.6	1.737	2.695	5.9	20.4
2 1	7 18.74	+26 7.6	1.975	2.903	7.9	19.3	2 1	7 19.42	+ 9 6.2	1.791	2.717	8.7	20.6
2 11	7 12.30	+26 3.0	2.057	2.918	11.3	19.5	2 11	7 13.24	+10 22.3	1.871	2.739	11.9	20.9
2 21	7 8.36	+25 52.5	2.161	2.933	14.1	19.7	2 21	7 9.50	+11 36.2	1.973	2.760	14.7	21.1
<b>324679</b>	2007 <i>DN</i> <sub>93</sub>		1 13.2 230°25	0°4/12.9	18		<b>4001</b>	<i>Ptolemaeus</i>		1 13.2 122°45	1°1/13.6	18	
12 13	8 0.33	+21 8.4	2.140	2.982	11.6	21.2	1						

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>271728</b>	2004 <i>RC</i> <sub>251</sub>		1 13.2 164°17'	0°2/13.2 18			<b>81967</b>	2000 <i>QL</i> <sub>41</sub>		1 13.2 164°27'	3°3/11.9 18		
12 13	8 1.26	+20 54.5	2.050	2.892	12.0	20.7	12 13	8 2.35	+32 50.0	2.589	3.424	10.0	19.9
12 23	7 54.84	+20 56.9	1.978	2.894	8.6	20.5	12 23	7 55.37	+33 3.9	2.518	3.427	7.4	19.7
1 2	7 46.39	+21 2.3	1.931	2.895	4.7	20.2	1 2	7 46.59	+33 12.1	2.475	3.429	4.7	19.5
1 12	7 36.77	+21 8.6	1.913	2.897	0.5	19.9	1 12	7 36.82	+33 11.3	2.461	3.430	3.3	19.5
1 22	7 27.01	+21 13.4	1.925	2.898	3.7	20.2	1 22	7 26.99	+32 59.4	2.478	3.432	4.7	19.6
2 1	7 18.19	+21 15.3	1.967	2.899	7.7	20.4	2 1	7 18.08	+32 36.4	2.524	3.433	7.4	19.7
2 11	7 11.23	+21 14.0	2.035	2.899	11.2	20.6	2 11	7 10.88	+32 4.1	2.598	3.435	10.0	19.9
2 21	7 6.71	+21 9.6	2.125	2.900	14.2	20.9	2 21	7 5.90	+31 25.0	2.694	3.436	12.3	20.1
<b>202688</b>	2007 <i>DN</i> <sub>102</sub>		1 13.2 226°99'	0°2/13.1 18			<b>246711</b>	2009 <i>BJ</i> <sub>8</sub>		1 13.2 45°56'	0°8/13.3 18		
12 13	8 5.67	+21 44.0	1.682	2.527	14.1	21.1	12 13	8 2.07	+20 52.4	2.074	2.914	12.0	20.2
12 23	7 58.50	+21 49.5	1.601	2.518	10.1	20.9	12 23	7 55.28	+20 20.1	2.006	2.921	8.6	20.0
1 2	7 48.62	+21 58.2	1.544	2.509	5.6	20.6	1 2	7 46.57	+19 49.4	1.965	2.928	4.7	19.8
1 12	7 37.02	+22 6.7	1.515	2.499	0.6	20.2	1 12	7 36.81	+19 19.4	1.952	2.935	1.0	19.5
1 22	7 25.06	+22 11.9	1.516	2.488	4.5	20.5	1 22	7 27.05	+18 49.8	1.970	2.942	3.7	19.8
2 1	7 14.22	+22 12.0	1.545	2.477	9.4	20.7	2 1	7 18.32	+18 20.7	2.018	2.950	7.5	20.0
2 11	7 5.76	+22 6.9	1.599	2.465	13.7	21.0	2 11	7 11.47	+17 52.7	2.093	2.958	10.9	20.2
2 21	7 0.41	+21 57.6	1.675	2.453	17.3	21.2	2 21	7 7.01	+17 26.0	2.190	2.966	13.8	20.5
<b>29629</b>	1998 <i>UP</i> <sub>16</sub>		1 13.2 286°60'	3°5/14.1 18			<b>455902</b>	2005 <i>UX</i> <sub>190</sub>		1 13.2 202°36'	4°4/11.3 18		
12 13	8 2.14	+13 44.4	1.410	2.256	16.2	18.3	12 13	8 3.42	+32 21.1	2.087	2.930	11.8	21.9
12 23	7 56.23	+13 29.8	1.335	2.248	12.1	18.0	12 23	7 56.66	+33 17.0	2.016	2.927	8.7	21.7
1 2	7 47.48	+13 27.6	1.281	2.240	7.5	17.7	1 2	7 47.53	+34 8.6	1.972	2.925	5.8	21.6
1 12	7 36.91	+13 37.2	1.254	2.231	3.7	17.5	1 12	7 36.94	+34 49.7	1.956	2.922	4.4	21.5
1 22	7 25.93	+13 56.2	1.253	2.223	5.6	17.6	1 22	7 26.09	+35 15.8	1.969	2.919	6.2	21.6
2 1	7 16.13	+14 21.3	1.279	2.215	10.4	17.8	2 1	7 16.24	+35 25.2	2.011	2.915	9.2	21.8
2 11	7 8.83	+14 49.1	1.328	2.207	15.0	18.1	2 11	7 8.50	+35 19.3	2.078	2.912	12.3	21.9
2 21	7 4.81	+15 16.9	1.397	2.200	18.9	18.3	2 21	7 3.50	+35 1.1	2.166	2.908	15.0	22.1
<b>149749</b>	2004 <i>OQ</i> <sub>4</sub>		1 13.2 150°16'	0°6/13.5 18			<b>460385</b>	2014 <i>SJ</i> <sub>59</sub>		1 13.2 93°13'	5°0/15.7 18		
12 13	8 0.18	+17 18.6	2.168	3.003	11.7	20.3	12 13	7 59.97	+ 5 39.6	1.784	2.595	14.9	21.3
12 23	7 54.01	+17 56.1	2.097	3.009	8.4	20.1	12 23	7 54.04	+ 6 2.5	1.720	2.607	11.5	21.1
1 2	7 45.93	+18 41.0	2.053	3.015	4.7	19.9	1 2	7 46.02	+ 6 44.8	1.681	2.620	7.9	20.9
1 12	7 36.73	+19 30.0	2.038	3.020	0.9	19.6	1 12	7 36.78	+ 7 44.8	1.668	2.632	5.2	20.7
1 22	7 27.35	+20 19.2	2.053	3.025	3.5	19.8	1 22	7 27.41	+ 8 58.2	1.683	2.644	5.7	20.8
2 1	7 18.78	+21 5.2	2.099	3.030	7.3	20.0	2 1	7 19.02	+10 19.4	1.727	2.656	8.8	21.0
2 11	7 11.91	+21 45.8	2.171	3.034	10.7	20.3	2 11	7 12.56	+11 42.4	1.798	2.668	12.2	21.2
2 21	7 7.30	+22 20.0	2.267	3.038	13.5	20.5	2 21	7 8.62	+13 2.2	1.891	2.680	15.2	21.5
<b>116971</b>	2004 <i>HH</i> <sub>16</sub>		1 13.2 289°78'	2°6/13.9 18			<b>413680</b>	2005 <i>WK</i> <sub>114</sub>		1 13.2 24°83'	6°2/11.2 18		
12 13	8 0.02	+14 27.8	1.731	2.571	14.0	19.6	12 13	8 1.39	+32 19.3	1.253	2.123	16.2	19.9
12 23	7 54.39	+14 22.6	1.646	2.557	10.4	19.4	12 23	7 55.99	+33 34.2	1.213	2.138	12.0	19.7
1 2	7 46.36	+14 27.7	1.584	2.542	6.3	19.1	1 2	7 47.36	+34 41.8	1.196	2.154	8.0	19.5
1 12	7 36.79	+14 41.8	1.549	2.528	2.8	18.9	1 12	7 36.93	+35 32.6	1.204	2.172	6.2	19.5
1 22	7 26.83	+15 2.6	1.543	2.513	4.7	18.9	1 22	7 26.50	+36 0.2	1.237	2.190	8.5	19.6
2 1	7 17.74	+15 27.4	1.564	2.499	9.0	19.2	2 1	7 17.89	+36 3.6	1.294	2.210	12.3	19.9
2 11	7 10.68	+15 53.5	1.610	2.485	13.1	19.4	2 11	7 12.40	+35 46.3	1.373	2.231	16.0	20.2
2 21	7 6.36	+16 18.7	1.678	2.471	16.7	19.6	2 21	7 10.60	+35 14.0	1.470	2.253	19.1	20.5
<b>45266</b>	2000 <i>AK</i> <sub>6</sub>		1 13.2 151°00'	0°4/12.9 18			<b>448190</b>	2008 <i>UW</i> <sub>46</sub>		1 13.2 61°39'	2°9/13.9 18		
12 13	7 59.96	+22 2.0	2.263	3.105	11.1	19.3	12 13	8 3.85	+15 26.4	1.324	2.175	16.8	20.9
12 23	7 53.80	+22 20.0	2.192	3.108	7.9	19.1	12 23	7 57.26	+15 8.4	1.272	2.189	12.3	20.7
1 2	7 45.79	+22 40.7	2.147	3.111	4.3	18.9	1 2	7 47.89	+15 1.5	1.243	2.203	7.3	20.4
1 12	7 36.72	+23 1.0	2.132	3.115	0.6	18.6	1 12	7 36.99	+15 4.0	1.239	2.218	3.1	20.2
1 22	7 27.51	+23 18.4	2.146	3.117	3.5	18.9	1 22	7 26.10	+15 13.5	1.261	2.233	5.3	20.4
2 1	7 19.14	+23 31.0	2.191	3.120	7.2	19.1	2 1	7 16.76	+15 27.1	1.310	2.248	10.1	20.7
2 11	7 12.46	+23 38.4	2.262	3.123	10.4	19.3	2 11	7 10.14	+15 42.5	1.383	2.263	14.5	21.0
2 21	7 7.99	+23 40.8	2.356	3.125	13.2	19.5	2 21	7 6.80	+15 57.4	1.476	2.278	18.1	21.3
<b>256037</b>	2006 <i>UF</i> <sub>68</sub>		1 13.2 139°43'	1°3/13.7 18			<b>176845</b>	2002 <i>TL</i> <sub>227</sub>		1 13.2 105°60'	2°4/14.1 18		
12 13	8 1.80	+16 29.4	2.049	2.882	12.4	21.4	12 13	8 1.86	+13 44.2	1.871	2.702	13.5	20.7
12 23	7 55.16	+16 47.3	1.982	2.892	9.0	21.2	12 23	7 55.27	+13 54.9	1.813	2.719	9.9	20.5
1 2	7 46.55	+17 12.8	1.942	2.902	5.1	21.0	1 2	7 46.63	+14 16.0	1.779	2.735	5.9	20.3
1 12	7 36.80	+17 43.1	1.930	2.912	1.5	20.7	1 12	7 36.86	+14 45.2	1.773	2.751	2.6	20.1
1 22	7 26.94	+18 15.2	1.949	2.921	3.7	20.9	1 22	7 27.03	+15 19.4	1.797	2.767	4.2	20.3
2 1	7 18.02	+18 46.2	1.997	2.929	7.6	21.2	2 1	7 18.26	+15 55.5	1.850	2.782	8.0	20.5
2 11	7 10.94	+19 14.4	2.072	2.937	11.1	21.4	2 11	7 11.47	+16 30.5	1.929	2.797	11.6	20.8
2 21	7 6.24	+19 38.4	2.171	2.944	14.0	21.6	2 21	7 7.18	+17 2.6	2.031	2.812	14.6	21.0
<b>258543</b>	2002 <i>CP</i> <sub>20</sub>		1 13.2 297°77'	1°3/13.5 18			<b>357999</b>	2006 <i>DL</i> <sub>59</sub>		1 13.2 286°13'	0°7/13.4 18		
12 13	8 0.88	+18 24.4	1.848	2.691	13.1	19.8	12 13	8 2.28	+19 4.6	1.493	2.345	15.1	21.4
12 23	7 54.80	+18 10.7	1.769	2.684	9.5	19.6	12 23	7 56.39	+19 15.0	1.410	2.331	11.0	21.1
1 2	7 46.49	+18 2.3	1.714	2.677	5.4	19.3	1 2	7 47.64	+19 33.2	1.352	2.316	6.1	20.8
1 12	7 36.82	+17 57.5	1.688	2.669	1.5	19.1	1 12	7 36.99	+19 55.9	1.319	2.302	1.0	20.4
1 22	7 26.90	+17 54.8	1.690	2.662	4.1	19.2	1 22	7 25.85	+20 19.0	1.314	2.287	4.8	20.6
2 1	7 17.94	+17 52.8	1.721	2.655	8.4	19.5	2 1	7 15.78	+20 39.6	1.336	2.273	10.0	20.9
2 11	7 10.98	+17 50.6	1.777	2.648	12.3	19.7	2 11	7 8.17	+20 55.6	1.382	2.259	14.7	21.1
2 21	7 6.63	+17 47.8	1.855	2.641	15.6	19.9	2 21	7 3.85	+21 6.6	1.448	2.244	18.7	21.3
<b>95349</b>	2002 <i>CT</i> <sub>137</sub>		1 13.2 249°19'	1°2/13.5 18			<b>367327</b>	2008 <i>AQ</i> <sub>102</sub>		1 13.2 295°33'	3°4/12.4 17		
12 13	8 1.13	+18 31.4	2.041</										

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>56389</b>	2000 <i>EB</i> <sub>87</sub>		1 13.2 191°40	2°5/13.9	18		<b>355927</b>	2008 <i>YN</i> <sub>46</sub>		1 13.2 25°10	1°8/12.6	18	
12 13	8 3.68	+14 26.5	1.754	2.587	14.2	20.0	12 13	8 1.19	+23 1.5	1.131	2.005	17.3	20.0
12 23	7 56.87	+14 26.4	1.678	2.586	10.4	19.8	12 23	7 55.95	+23 45.3	1.082	2.013	12.4	19.7
1 2	7 47.67	+14 36.4	1.627	2.584	6.3	19.5	1 2	7 47.43	+24 34.4	1.054	2.022	6.7	19.4
1 12	7 36.99	+14 54.8	1.603	2.582	2.7	19.3	1 12	7 37.00	+25 21.5	1.051	2.033	1.9	19.2
1 22	7 26.05	+15 18.9	1.609	2.579	4.6	19.4	1 22	7 26.44	+25 59.7	1.072	2.044	5.9	19.5
2 1	7 16.13	+15 45.8	1.643	2.576	8.9	19.6	2 1	7 17.60	+26 25.1	1.118	2.057	11.4	19.8
2 11	7 8.34	+16 12.8	1.704	2.572	12.9	19.9	2 11	7 11.90	+26 37.4	1.186	2.070	16.1	20.1
2 21	7 3.34	+16 38.2	1.786	2.568	16.2	20.1	2 21	7 9.94	+26 38.3	1.272	2.084	20.0	20.4
<b>459239</b>	2012 <i>FD</i> <sub>15</sub>		1 13.2 261°37	6°6/10.9	17		<b>421415</b>	2013 <i>WH</i> <sub>35</sub>		1 13.2 276°21	4°3/10.9	18	
12 13	8 7.10	+38 43.3	1.933	2.768	12.9	21.2	12 13	8 0.74	+32 24.1	2.236	3.081	11.1	20.4
12 23	7 59.64	+39 30.2	1.857	2.756	10.1	21.0	12 23	7 54.72	+33 29.2	2.162	3.073	8.2	20.2
1 2	7 49.30	+40 6.6	1.805	2.744	7.6	20.8	1 2	7 46.50	+34 31.0	2.113	3.066	5.5	20.0
1 12	7 37.17	+40 25.1	1.781	2.731	6.6	20.7	1 12	7 36.90	+35 23.5	2.094	3.058	4.4	19.9
1 22	7 24.72	+40 21.0	1.785	2.718	8.1	20.8	1 22	7 26.97	+36 2.0	2.104	3.051	6.1	20.0
2 1	7 13.54	+39 54.0	1.816	2.705	11.0	20.9	2 1	7 17.86	+36 24.2	2.142	3.043	8.9	20.2
2 11	7 4.94	+39 7.9	1.870	2.692	14.0	21.1	2 11	7 10.63	+36 30.7	2.206	3.036	11.8	20.3
2 21	6 59.65	+38 8.5	1.946	2.679	16.7	21.3	2 21	7 5.94	+36 24.0	2.290	3.028	14.4	20.5
<b>99528</b>	2002 <i>ES</i> <sub>78</sub>		1 13.2 122°95	0°2/13.1	18		<b>411213</b>	2010 <i>NU</i> <sub>25</sub>		1 13.2 57°37	8°4/12.9	18	
12 13	8 0.09	+18 36.3	2.170	3.008	11.6	19.6	12 13	8 20.31	+45 0.3	1.618	2.433	16.0	20.1
12 23	7 54.01	+19 39.0	2.102	3.016	8.3	19.4	12 23	8 8.87	+44 53.5	1.563	2.444	12.8	20.0
1 2	7 45.99	+20 48.9	2.061	3.025	4.5	19.2	1 2	7 54.02	+44 23.0	1.531	2.456	9.9	19.8
1 12	7 36.81	+22 1.4	2.049	3.033	0.5	18.9	1 12	7 37.66	+43 22.0	1.527	2.468	8.4	19.8
1 22	7 27.42	+23 11.4	2.069	3.040	3.6	19.1	1 22	7 21.98	+41 50.3	1.551	2.480	9.5	19.8
2 1	7 18.83	+24 14.9	2.119	3.048	7.4	19.4	2 1	7 8.94	+39 54.2	1.602	2.492	12.1	20.0
2 11	7 11.95	+25 9.4	2.196	3.055	10.7	19.6	2 11	6 59.71	+37 44.6	1.679	2.504	15.2	20.3
2 21	7 7.34	+25 54.0	2.297	3.062	13.5	19.8	2 21	6 54.59	+35 31.6	1.778	2.517	17.9	20.5
<b>194754</b>	2001 <i>YD</i> <sub>44</sub>		1 13.2 6°18	0°6/13.0	18		<b>458286</b>	2010 <i>UA</i> <sub>71</sub>		1 13.2 66°29	5°7/11.7	17	
12 13	8 1.35	+22 10.1	1.145	2.017	17.3	19.4	12 13	8 7.42	+35 2.8	1.619	2.467	14.4	20.9
12 23	7 56.10	+22 20.9	1.087	2.017	12.4	19.1	12 23	7 59.70	+35 42.1	1.574	2.485	10.8	20.7
1 2	7 47.54	+22 37.0	1.050	2.018	6.8	18.8	1 2	7 49.17	+36 11.3	1.554	2.504	7.3	20.6
1 12	7 36.98	+22 53.4	1.036	2.019	0.9	18.4	1 12	7 37.17	+36 23.6	1.560	2.523	5.7	20.5
1 22	7 26.21	+23 5.4	1.048	2.022	5.5	18.8	1 22	7 25.31	+36 15.6	1.593	2.542	7.4	20.7
2 1	7 17.07	+23 10.6	1.084	2.026	11.3	19.1	2 1	7 15.17	+35 48.3	1.654	2.561	10.7	20.9
2 11	7 11.02	+23 8.5	1.143	2.030	16.2	19.4	2 11	7 7.88	+35 6.0	1.738	2.580	13.9	21.2
2 21	7 8.76	+23 0.2	1.219	2.036	20.4	19.7	2 21	7 3.95	+34 14.2	1.843	2.599	16.7	21.4
<b>105053</b>	2000 <i>KF</i> <sub>54</sub>		1 13.2 194°95	6°3/16.2	18		<b>160747</b>	2000 <i>SR</i> <sub>9</sub>		1 13.2 170°39	4°6/11.8	18	
12 13	7 58.97	+1 5.5	2.264	3.043	13.2	20.9	12 13	8 9.41	+34 8.4	2.016	2.850	12.5	20.8
12 23	7 53.09	+0 54.2	2.183	3.041	10.7	20.7	12 23	8 0.88	+34 41.2	1.949	2.855	9.3	20.6
1 2	7 45.45	+1 0.4	2.125	3.038	8.2	20.5	1 2	7 49.80	+35 6.1	1.908	2.859	6.2	20.5
1 12	7 36.76	+1 25.0	2.095	3.035	6.5	20.4	1 12	7 37.25	+35 17.2	1.896	2.862	4.6	20.4
1 22	7 27.83	+2 6.7	2.093	3.032	6.7	20.4	1 22	7 24.61	+35 11.2	1.914	2.864	6.3	20.5
2 1	7 19.59	+3 2.3	2.119	3.028	8.6	20.5	2 1	7 13.29	+34 48.1	1.961	2.866	9.5	20.7
2 11	7 12.85	+4 7.5	2.173	3.023	11.2	20.7	2 11	7 4.40	+34 11.2	2.034	2.866	12.6	20.9
2 21	7 8.16	+5 17.1	2.250	3.018	13.7	20.8	2 21	6 58.56	+33 24.9	2.129	2.867	15.3	21.1
<b>464922</b>	2005 <i>UF</i> <sub>45</sub>		1 13.2 334°26	6°7/10.2	16		<b>417978</b>	Haslehner		1 13.2 18°76	4°8/11.2	18	
12 13	8 1.60	+34 0.4	1.547	2.406	14.3	20.9	12 13	8 1.49	+34 28.4	2.091	2.936	11.7	20.8
12 23	7 56.20	+35 32.3	1.479	2.396	10.9	20.6	12 23	7 55.25	+35 15.6	2.028	2.938	8.8	20.6
1 2	7 47.65	+36 59.9	1.435	2.386	7.8	20.4	1 2	7 46.75	+35 56.3	1.990	2.940	6.0	20.4
1 12	7 37.02	+38 13.0	1.418	2.377	6.7	20.3	1 12	7 36.93	+36 24.7	1.980	2.942	4.9	20.3
1 22	7 25.86	+39 3.5	1.427	2.369	8.8	20.4	1 22	7 26.95	+36 37.3	1.999	2.945	6.4	20.4
2 1	7 15.94	+39 27.9	1.461	2.361	12.3	20.6	2 1	7 18.04	+36 33.1	2.045	2.948	9.2	20.6
2 11	7 8.78	+39 28.2	1.517	2.354	15.9	20.8	2 11	7 11.22	+36 13.9	2.117	2.951	12.1	20.8
2 21	7 5.24	+39 9.1	1.591	2.348	19.0	21.0	2 21	7 7.08	+35 43.4	2.209	2.954	14.6	21.0
<b>493799</b>	2015 <i>VR</i> <sub>24</sub>		1 13.2 49°53	2°9/12.1	18		<b>253104</b>	2002 <i>UP</i>		1 13.2 74°05	0°3/13.3	16	
12 13	8 3.21	+24 36.6	1.313	2.178	16.0	20.4	12 13	8 5.14	+20 0.9	1.626	2.471	14.5	21.2
12 23	7 57.18	+25 47.4	1.261	2.187	11.4	20.1	12 23	7 57.70	+20 12.9	1.583	2.501	10.2	21.0
1 2	7 48.04	+27 2.1	1.232	2.198	6.4	19.9	1 2	7 47.95	+20 29.7	1.566	2.530	5.6	20.8
1 12	7 37.05	+28 11.6	1.228	2.208	2.9	19.7	1 12	7 37.04	+20 47.7	1.576	2.559	0.7	20.6
1 22	7 25.87	+29 8.2	1.252	2.219	6.2	19.9	1 22	7 26.30	+21 3.8	1.615	2.587	4.2	20.9
2 1	7 16.23	+29 47.6	1.302	2.230	11.1	20.2	2 1	7 17.02	+21 16.0	1.682	2.615	8.6	21.2
2 11	7 9.52	+30 9.8	1.374	2.242	15.4	20.5	2 11	7 10.14	+21 23.6	1.775	2.643	12.4	21.5
2 21	7 6.39	+30 17.3	1.465	2.254	18.9	20.8	2 21	7 6.15	+21 26.9	1.889	2.671	15.5	21.8
<b>321492</b>	2009 <i>SD</i> <sub>62</sub>		1 13.2 162°54	0°6/13.4	18		<b>361155</b>	2006 <i>JN</i> <sub>13</sub>		1 13.2 185°53	5°1/10.8	18	
12 13	8 0.92	+18 59.6	1.940	2.782	12.6	21.4	12 13	8 6.09	+32 41.4	1.955	2.797	12.5	21.3
12 23	7 54.73	+19 10.9	1.868	2.784	9.1	21.2	12 23	7 58.80	+34 2.5	1.888	2.797	9.3	21.1
1 2	7 46.43	+19 27.9	1.821	2.785	5.0	20.9	1 2	7 48.83	+35 19.6	1.846	2.797	6.3	21.0
1 12	7 36.88	+19 47.9	1.803	2.786	0.9	20.6	1 12	7 37.17	+36 24.6	1.834	2.796	5.1	20.9
1 22	7 27.14	+20 7.9	1.814	2.787	3.8	20.9	1 22	7 25.13	+37 11.4	1.850	2.795	7.0	21.0
2 1	7 18.36	+20 25.7	1.854	2.788	8.0	21.1	2 1	7 14.15	+37 37.6	1.895	2.792	10.2	21.2
2 11	7 11.49	+20 40.0	1.921	2.789	11.6	21.4	2 11	7 5.50	+37 44.4	1.965	2.790	13.3	21.4
2 21	7 7.13	+20 50.3	2.009	2.789	14.7	21.6	2 21	6 59.92	+37 35.9	2.055	2.786	16.0	21.6
<b>46765</b>	1998 <i>FN</i> <sub>109</sub>		1 13.2 232°68	0°6/13.3	18		<b>206205</b>	2002 <i>UF</i> <sub>40</sub>		1 13.2 32°22	1°1/12.6	18	
12 13	8 5.45	+20 14.0	1.383	2.236	16.0	17.8	12						

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>382298</b>	2012 VS <sub>47</sub>		1 13.2 193°28	5°4/ 9.9	18		<b>341697</b>	2007 VD <sub>152</sub>		1 13.2 214°49	3°5/14.7	18	
12 13	8 2.73	+40 19.1	2.920	3.741	9.4	21.1	12 13	7 57.10	+ 9 48.5	2.439	3.253	11.3	20.8
12 23	7 55.81	+41 17.6	2.852	3.739	7.5	21.0	12 23	7 51.68	+ 9 39.0	2.359	3.252	8.6	20.6
1 2	7 46.97	+42 7.7	2.811	3.736	5.9	20.9	1 2	7 44.68	+ 9 39.9	2.306	3.250	5.7	20.4
1 12	7 36.96	+42 44.6	2.799	3.733	5.4	20.8	1 12	7 36.75	+ 9 50.7	2.280	3.248	3.6	20.3
1 22	7 26.73	+43 5.0	2.816	3.730	6.4	20.9	1 22	7 28.65	+10 10.1	2.285	3.247	4.4	20.3
2 1	7 17.28	+43 8.1	2.862	3.727	8.3	21.0	2 1	7 21.20	+10 36.2	2.318	3.245	7.0	20.5
2 11	7 9.50	+42 55.5	2.933	3.723	10.3	21.1	2 11	7 15.14	+11 6.3	2.379	3.243	9.9	20.7
2 21	7 3.97	+42 30.4	3.026	3.718	12.1	21.3	2 21	7 10.97	+11 38.0	2.464	3.240	12.4	20.9
<b>159188</b>	2005 UO <sub>120</sub>		1 13.2 235°84	0°4/13.1	18		<b>20040</b>	1992 WT <sub>3</sub>		1 13.2 26°17	2°2/12.4	18	
12 13	8 1.26	+21 40.4	1.879	2.726	12.7	20.5	12 13	7 59.77	+22 1.7	1.064	1.942	17.9	17.7
12 23	7 55.10	+21 57.0	1.806	2.724	9.1	20.3	12 23	7 55.05	+23 18.8	1.022	1.955	12.6	17.5
1 2	7 46.69	+22 17.4	1.758	2.723	5.0	20.0	1 2	7 46.99	+24 43.9	1.001	1.970	6.9	17.2
1 12	7 36.94	+22 38.0	1.738	2.721	0.6	19.7	1 12	7 37.00	+26 6.9	1.004	1.986	2.3	17.0
1 22	7 26.98	+22 55.6	1.748	2.720	4.0	20.0	1 22	7 26.92	+27 18.1	1.032	2.003	6.3	17.3
2 1	7 18.00	+23 8.2	1.786	2.718	8.3	20.2	2 1	7 18.61	+28 11.6	1.084	2.021	11.7	17.6
2 11	7 11.05	+23 15.0	1.850	2.717	12.1	20.4	2 11	7 13.50	+28 46.3	1.157	2.041	16.4	17.9
2 21	7 6.73	+23 16.3	1.935	2.715	15.3	20.6	2 21	7 12.17	+29 4.1	1.249	2.062	20.2	18.3
<b>459758</b>	2013 QC <sub>53</sub>		1 13.2 146°80	2°1/12.4	18		<b>98259</b>	2000 SH <sub>182</sub>		1 13.2 73°43	3°3/11.9	18	
12 13	8 2.42	+26 54.2	2.063	2.908	11.8	21.4	12 13	8 5.28	+26 2.3	1.415	2.273	15.4	19.3
12 23	7 55.77	+27 18.5	1.994	2.911	8.5	21.2	12 23	7 58.43	+27 14.4	1.369	2.292	11.0	19.1
1 2	7 46.99	+27 41.7	1.952	2.915	4.8	21.0	1 2	7 48.65	+28 27.3	1.347	2.311	6.3	18.9
1 12	7 36.97	+27 59.6	1.939	2.918	2.1	20.8	1 12	7 37.18	+29 32.4	1.351	2.329	3.3	18.7
1 22	7 26.82	+28 9.2	1.955	2.921	4.5	21.0	1 22	7 25.66	+30 22.6	1.384	2.348	6.2	18.9
2 1	7 17.69	+28 9.2	2.001	2.924	8.1	21.2	2 1	7 15.73	+30 54.9	1.443	2.366	10.6	19.2
2 11	7 10.53	+28 0.3	2.072	2.927	11.5	21.4	2 11	7 8.64	+31 10.3	1.525	2.385	14.6	19.5
2 21	7 5.93	+27 44.3	2.166	2.929	14.3	21.6	2 21	7 5.01	+31 11.7	1.627	2.403	17.8	19.8
<b>241729</b>	2000 VG <sub>42</sub>		1 13.2 123°06	1°6/13.8	18		<b>499975</b>	2011 K7 <sub>30</sub>		1 13.2 201°08	2°3/11.9	18	
12 13	8 0.94	+16 30.1	2.100	2.933	12.1	20.5	12 13	7 59.80	+27 11.8	2.612	3.452	9.8	21.5
12 23	7 54.53	+16 29.8	2.033	2.943	8.8	20.3	12 23	7 53.71	+28 6.1	2.534	3.449	7.0	21.3
1 2	7 46.24	+16 36.2	1.993	2.953	5.1	20.1	1 2	7 45.85	+29 0.6	2.485	3.445	4.1	21.1
1 12	7 36.89	+16 47.5	1.981	2.962	1.7	19.9	1 12	7 36.89	+29 50.8	2.466	3.442	2.3	21.0
1 22	7 27.46	+17 1.5	1.999	2.971	3.7	20.0	1 22	7 27.68	+30 33.1	2.477	3.438	4.2	21.1
2 1	7 18.94	+17 16.4	2.047	2.979	7.4	20.3	2 1	7 19.13	+31 5.2	2.519	3.433	7.1	21.3
2 11	7 12.20	+17 30.7	2.122	2.988	10.8	20.5	2 11	7 12.08	+31 26.4	2.588	3.429	9.9	21.5
2 21	7 7.75	+17 43.2	2.219	2.996	13.6	20.7	2 21	7 7.09	+31 37.8	2.680	3.424	12.4	21.7
<b>237627</b>	2001 RG <sub>108</sub>		1 13.2 92°31	1°2/13.8	18		<b>120926</b>	1998 SH <sub>107</sub>		1 13.2 121°50	1°5/13.7	17	
12 13	7 58.07	+16 29.2	2.293	3.128	11.2	20.7	12 13	8 5.79	+16 39.2	1.684	2.521	14.5	20.5
12 23	7 52.42	+16 45.8	2.225	3.136	8.1	20.5	12 23	7 58.27	+16 50.4	1.627	2.539	10.5	20.2
1 2	7 45.08	+17 9.2	2.183	3.143	4.6	20.3	1 2	7 48.38	+17 10.0	1.595	2.556	5.9	20.0
1 12	7 36.77	+17 37.2	2.170	3.151	1.4	20.1	1 12	7 37.17	+17 34.9	1.591	2.573	1.7	19.8
1 22	7 28.34	+18 7.3	2.187	3.159	3.3	20.2	1 22	7 25.93	+18 1.7	1.616	2.588	4.3	20.0
2 1	7 20.69	+18 36.9	2.233	3.166	6.8	20.5	2 1	7 15.97	+18 27.4	1.670	2.603	8.7	20.3
2 11	7 14.59	+19 4.3	2.307	3.174	10.0	20.7	2 11	7 8.34	+18 50.1	1.750	2.618	12.6	20.6
2 21	7 10.55	+19 28.2	2.404	3.181	12.7	20.9	2 21	7 3.59	+19 9.0	1.852	2.631	15.8	20.8
<b>286241</b>	2001 UQ <sub>200</sub>		1 13.2 124°49	1°7/12.7	17		<b>473924</b>	2016 EJ <sub>155</sub>		1 13.2 238°99	0°8/12.9	18	
12 13	8 6.42	+24 31.2	1.616	2.465	14.4	21.8	12 13	8 0.41	+22 58.9	2.056	2.901	11.8	21.1
12 23	7 58.95	+24 58.1	1.558	2.477	10.2	21.6	12 23	7 54.37	+23 19.4	1.982	2.900	8.4	20.9
1 2	7 48.82	+25 26.1	1.524	2.488	5.6	21.3	1 2	7 46.27	+23 42.3	1.935	2.899	4.6	20.6
1 12	7 37.18	+25 50.0	1.518	2.499	1.7	21.1	1 12	7 36.95	+24 4.1	1.916	2.898	0.9	20.4
1 22	7 25.47	+26 5.6	1.540	2.510	4.9	21.4	1 22	7 27.44	+24 21.8	1.926	2.897	3.9	20.6
2 1	7 15.16	+26 11.3	1.591	2.520	9.4	21.6	2 1	7 18.83	+24 33.5	1.966	2.896	7.8	20.8
2 11	7 7.41	+26 7.9	1.667	2.529	13.4	21.9	2 11	7 12.07	+24 38.6	2.032	2.895	11.3	21.0
2 21	7 2.82	+25 57.2	1.764	2.539	16.7	22.1	2 21	7 7.75	+24 37.8	2.120	2.893	14.3	21.2
<b>111103</b>	2001 VX <sub>74</sub>		1 13.2 242°34	1°6/12.6	18		<b>111763</b>	2002 CR <sub>132</sub>		1 13.2 298°05	0°1/13.2	18	
12 13	8 2.29	+24 58.5	1.966	2.813	12.3	20.0	12 13	8 2.44	+21 3.5	1.449	2.306	15.2	19.5
12 23	7 55.87	+25 24.8	1.887	2.805	8.8	19.8	12 23	7 56.65	+21 13.8	1.367	2.290	11.0	19.2
1 2	7 47.16	+25 52.1	1.832	2.797	4.9	19.6	1 2	7 47.88	+21 29.8	1.309	2.275	6.1	18.8
1 12	7 37.01	+26 16.3	1.807	2.788	1.7	19.3	1 12	7 37.15	+21 47.6	1.276	2.259	0.7	18.4
1 22	7 26.57	+26 33.7	1.811	2.779	4.4	19.5	1 22	7 25.91	+22 3.2	1.271	2.244	4.9	18.7
2 1	7 17.07	+26 42.4	1.843	2.770	8.5	19.7	2 1	7 15.80	+22 13.8	1.292	2.229	10.3	19.0
2 11	7 9.57	+26 42.3	1.902	2.761	12.2	19.9	2 11	7 8.26	+22 18.5	1.337	2.215	15.1	19.2
2 21	7 4.75	+26 34.7	1.983	2.752	15.3	20.1	2 21	7 4.11	+22 17.5	1.402	2.200	19.1	19.4
<b>76663</b>	2000 HJ <sub>41</sub>		1 13.2 241°75	0°4/12.9	18		<b>455793</b>	2005 RP <sub>40</sub>		1 13.2 146°07	0°1/13.2	18	
12 13	7 58.50	+20 24.5	2.404	3.243	10.6	19.6	12 13	8 3.63	+21 18.2	2.396	3.227	10.9	21.6
12 23	7 52.85	+21 11.6	2.320	3.236	7.5	19.4	12 23	7 56.26	+21 17.2	2.328	3.239	7.7	21.4
1 2	7 45.41	+22 4.1	2.264	3.228	4.1	19.2	1 2	7 47.13	+21 18.2	2.288	3.251	4.2	21.2
1 12	7 36.83	+22 58.2	2.237	3.220	0.6	18.9	1 12	7 37.04	+21 18.9	2.278	3.261	0.5	21.0
1 22	7 27.96	+23 50.3	2.241	3.212	3.4	19.1	1 22	7 26.92	+21 17.7	2.300	3.271	3.3	21.2
2 1	7 19.73	+24 36.9	2.276	3.204	7.0	19.3	2 1	7 17.71	+21 13.8	2.352	3.281	6.8	21.4
2 11	7 13.00	+25 16.3	2.337	3.196	10.2	19.5	2 11	7 10.19	+21 7.0	2.433	3.289	9.9	21.7
2 21	7 8.34	+25 47.7	2.422	3.187	13.0	19.7	2 21	7 4.86	+20 57.9	2.537	3.297	12.5	21.9
<b>79788</b>	1998 UK <sub>49</sub>		1 13.2 41°41	5°8/11.4	18		<b>61089</b>	2000 LO <sub>22</sub>		1 13.2 20°03	4°3/15.1	18	
12 13	8 4.40	+32 19.5	1.356	2.218	15.7	18.7	12 13	7 56.97	+ 8 2.0	2.051	2.868	1	

EPHEMERIDES

1 13.2

1 13.2

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>433106</b>	2012 <i>TV</i> <sub>114</sub>		1 13.2 268°15	7°0/ 9.9 18			<b>416958</b>	2005 <i>SD</i> <sub>212</sub>		1 13.2 96°40	0°7/13.5 18		
12 13	8 5.70	+43 45.7	2.453	3.269	11.2	21.1	12 13	8 1.20	+18 40.8	1.861	2.704	13.0	21.7
12 23	7 58.35	+44 36.6	2.376	3.254	9.1	21.0	12 23	7 55.00	+18 51.4	1.795	2.710	9.3	21.5
1 2	7 48.54	+45 15.4	2.325	3.240	7.5	20.8	1 2	7 46.64	+19 8.1	1.754	2.717	5.2	21.2
1 12	7 37.21	+45 36.0	2.301	3.225	7.1	20.8	1 12	7 37.04	+19 28.1	1.741	2.724	1.0	20.9
1 22	7 25.60	+45 34.7	2.305	3.210	8.1	20.8	1 22	7 27.31	+19 48.5	1.757	2.730	3.9	21.2
2 1	7 15.04	+45 11.1	2.336	3.195	10.1	20.9	2 1	7 18.60	+20 6.9	1.802	2.737	8.1	21.4
2 11	7 6.67	+44 28.3	2.391	3.180	12.3	21.0	2 11	7 11.89	+20 21.9	1.873	2.743	11.8	21.7
2 21	7 1.16	+43 31.4	2.467	3.165	14.4	21.2	2 21	7 7.75	+20 33.0	1.966	2.749	14.9	21.9
<b>237047</b>	2008 <i>SA</i> <sub>126</sub>		1 13.2 28°78	0°1/13.2 18			<b>296719</b>	2009 <i>SH</i> <sub>349</sub>		1 13.2 251°03	1°7/12.6 18		
12 13	7 59.53	+20 30.9	1.896	2.744	12.6	20.7	12 13	8 1.42	+24 52.7	1.914	2.763	12.4	21.4
12 23	7 53.79	+20 43.2	1.829	2.748	9.0	20.5	12 23	7 55.26	+25 22.9	1.843	2.762	8.9	21.1
1 2	7 45.97	+20 59.9	1.788	2.752	4.9	20.3	1 2	7 46.84	+25 54.4	1.797	2.762	4.9	20.9
1 12	7 36.93	+21 18.1	1.774	2.757	0.6	20.0	1 12	7 37.06	+26 22.8	1.780	2.762	1.7	20.7
1 22	7 27.75	+21 35.0	1.789	2.762	3.8	20.2	1 22	7 27.08	+26 44.2	1.792	2.761	4.5	20.9
2 1	7 19.56	+21 48.4	1.833	2.767	8.0	20.5	2 1	7 18.09	+26 56.7	1.833	2.761	8.5	21.1
2 11	7 13.30	+21 57.5	1.902	2.772	11.6	20.7	2 11	7 11.15	+27 0.1	1.899	2.760	12.1	21.3
2 21	7 9.55	+22 2.0	1.994	2.778	14.7	20.9	2 21	7 6.86	+26 55.6	1.987	2.760	15.1	21.5
<b>302876</b>	2003 <i>HP</i> <sub>49</sub>		1 13.2 161°14	3°8/14.6 18			<b>275748</b>	2001 <i>MF</i> <sub>19</sub>		1 13.2 144°81	0°9/12.6 18		
12 13	8 2.78	+10 51.8	1.805	2.628	14.2	21.5	12 13	7 59.10	+23 9.5	2.960	3.794	9.0	21.6
12 23	7 56.13	+10 46.9	1.734	2.633	10.7	21.3	12 23	7 52.93	+23 50.9	2.893	3.806	6.3	21.4
1 2	7 47.27	+10 55.0	1.688	2.638	6.9	21.1	1 2	7 45.33	+24 33.9	2.853	3.816	3.4	21.2
1 12	7 37.09	+11 15.1	1.669	2.642	4.0	20.9	1 12	7 36.89	+25 15.5	2.845	3.827	1.0	21.0
1 22	7 26.71	+11 44.9	1.679	2.645	5.1	21.0	1 22	7 28.34	+25 52.9	2.868	3.837	3.0	21.2
2 1	7 17.34	+12 21.0	1.718	2.648	8.7	21.2	2 1	7 20.42	+26 24.2	2.923	3.846	5.9	21.4
2 11	7 9.98	+12 59.9	1.783	2.651	12.4	21.4	2 11	7 13.78	+26 48.6	3.006	3.855	8.5	21.6
2 21	7 5.25	+13 38.6	1.870	2.653	15.6	21.6	2 21	7 8.89	+27 6.2	3.114	3.863	10.7	21.8
<b>63262</b>	2001 <i>CM</i> <sub>3</sub>		1 13.2 173°24	1°3/13.8 18			<b>403807</b>	2011 <i>UE</i> <sub>76</sub>		1 13.2 172°71	1°6/12.7 18		
12 13	8 1.85	+15 55.2	1.936	2.770	13.0	19.5	12 13	8 4.87	+24 40.0	1.686	2.535	13.8	21.2
12 23	7 55.46	+16 25.4	1.862	2.773	9.4	19.3	12 23	7 57.91	+25 0.6	1.617	2.537	9.9	21.0
1 2	7 46.91	+17 5.0	1.814	2.775	5.4	19.0	1 2	7 48.35	+25 22.2	1.573	2.538	5.5	20.8
1 12	7 37.05	+17 50.9	1.795	2.776	1.5	18.8	1 12	7 37.23	+25 40.2	1.557	2.539	1.6	20.5
1 22	7 26.94	+18 38.9	1.805	2.777	3.9	19.0	1 22	7 25.91	+25 50.7	1.570	2.540	4.8	20.7
2 1	7 17.74	+19 25.3	1.845	2.778	8.0	19.2	2 1	7 15.82	+25 52.2	1.610	2.540	9.3	21.0
2 11	7 10.44	+20 7.4	1.911	2.778	11.8	19.4	2 11	7 8.13	+25 45.2	1.676	2.540	13.3	21.2
2 21	7 5.67	+20 43.7	2.000	2.777	14.9	19.7	2 21	7 3.50	+25 31.5	1.763	2.540	16.6	21.4
<b>313052</b>	2000 <i>RL</i> <sub>52</sub>		1 13.2 249°52	6°3/11.3 17			<b>322435</b>	2011 <i>SH</i> <sub>228</sub>		1 13.2 232°60	1°4/12.9 18		
12 13	8 14.12	+42 11.3	2.428	3.235	11.5	21.1	12 13	8 5.14	+24 27.2	1.628	2.479	14.2	20.6
12 23	8 4.30	+42 33.1	2.333	3.212	9.2	20.9	12 23	7 58.24	+24 38.9	1.554	2.474	10.2	20.4
1 2	7 51.77	+42 41.4	2.265	3.189	7.2	20.7	1 2	7 48.60	+24 51.6	1.504	2.468	5.6	20.1
1 12	7 37.59	+42 29.7	2.226	3.165	6.3	20.6	1 12	7 37.27	+25 0.9	1.481	2.463	1.4	19.8
1 22	7 23.17	+41 55.0	2.217	3.140	7.5	20.7	1 22	7 25.66	+25 3.3	1.486	2.457	4.8	20.0
2 1	7 9.97	+40 57.8	2.238	3.114	9.8	20.8	2 1	7 15.26	+24 57.4	1.520	2.451	9.6	20.3
2 11	6 59.23	+39 43.0	2.286	3.087	12.5	20.9	2 11	7 7.35	+24 44.0	1.579	2.445	13.8	20.5
2 21	6 51.62	+38 16.8	2.357	3.059	14.9	21.0	2 21	7 2.61	+24 24.8	1.658	2.439	17.3	20.7
<b>416840</b>	2005 <i>JA</i> <sub>164</sub>		1 13.2 35°06	0°3/13.0 18			<b>168288</b>	2007 <i>RO</i> <sub>210</sub>		1 13.2 177°62	0°9/13.6 17		
12 13	7 58.14	+19 55.0	2.062	2.908	11.8	20.4	12 13	7 58.89	+17 34.7	2.683	3.512	9.9	21.9
12 23	7 52.75	+20 42.5	1.995	2.913	8.4	20.2	12 23	7 52.87	+17 44.8	2.605	3.514	7.2	21.7
1 2	7 45.40	+21 36.1	1.953	2.918	4.6	20.0	1 2	7 45.34	+17 59.8	2.555	3.515	4.0	21.5
1 12	7 36.89	+22 31.6	1.940	2.923	0.5	19.7	1 12	7 36.91	+18 17.8	2.534	3.516	1.1	21.3
1 22	7 28.19	+23 24.6	1.957	2.929	3.7	19.9	1 22	7 28.34	+18 37.0	2.544	3.516	3.0	21.5
2 1	7 20.33	+24 11.6	2.004	2.935	7.6	20.2	2 1	7 20.42	+18 55.6	2.586	3.516	6.2	21.7
2 11	7 14.21	+24 50.6	2.076	2.941	11.0	20.4	2 11	7 13.86	+19 12.4	2.655	3.515	9.1	21.9
2 21	7 10.40	+25 21.0	2.171	2.948	13.9	20.6	2 21	7 9.12	+19 26.5	2.748	3.514	11.5	22.0
<b>88639</b>	2001 <i>RG</i> <sub>49</sub>		1 13.2 172°24	3°8/11.1 18			<b>255917</b>	2006 <i>SE</i> <sub>359</sub>		1 13.2 169°17	1°3/12.7 18		
12 13	8 7.61	+26 28.6	1.851	2.693	13.1	19.4	12 13	8 3.20	+23 39.7	2.160	3.000	11.6	22.0
12 23	8 0.03	+28 25.4	1.782	2.697	9.5	19.1	12 23	7 56.30	+24 15.4	2.089	3.004	8.3	21.8
1 2	7 49.64	+30 25.5	1.741	2.700	5.7	18.9	1 2	7 47.33	+24 53.0	2.044	3.008	4.5	21.5
1 12	7 37.38	+32 19.1	1.730	2.703	3.8	18.8	1 12	7 37.14	+25 28.5	2.029	3.011	1.3	21.3
1 22	7 24.58	+33 57.1	1.750	2.704	6.4	19.0	1 22	7 26.75	+25 58.1	2.045	3.013	4.0	21.5
2 1	7 12.74	+35 13.8	1.800	2.705	10.1	19.2	2 1	7 17.28	+26 19.6	2.090	3.015	7.7	21.7
2 11	7 3.22	+36 8.6	1.876	2.705	13.6	19.4	2 11	7 9.65	+26 32.6	2.162	3.016	11.1	22.0
2 21	6 56.84	+36 44.1	1.973	2.705	16.6	19.6	2 21	7 4.48	+26 38.0	2.257	3.017	13.9	22.2
<b>306101</b>	2010 <i>HZ</i> <sub>81</sub>		1 13.2 204°40	1°0/13.6 18			<b>154333</b>	2002 <i>VW</i> <sub>97</sub>		1 13.2 122°23	0°2/13.2 18		
12 13	8 2.63	+16 41.7	1.732	2.573	14.0	20.8	12 13	8 7.68	+20 58.1	1.694	2.535	14.2	21.3
12 23	7 56.29	+17 15.8	1.656	2.570	10.1	20.6	12 23	7 59.65	+21 17.1	1.639	2.554	10.1	21.1
1 2	7 47.49	+18 0.1	1.605	2.567	5.7	20.3	1 2	7 49.16	+21 40.2	1.610	2.574	5.5	20.8
1 12	7 37.14	+18 50.8	1.581	2.563	1.3	20.0	1 12	7 37.33	+22 3.0	1.609	2.592	0.6	20.5
1 22	7 26.44	+19 43.0	1.586	2.559	4.2	20.2	1 22	7 25.52	+22 22.1	1.637	2.609	4.3	20.8
2 1	7 16.72	+20 32.5	1.621	2.555	8.8	20.5	2 1	7 15.09	+22 35.4	1.695	2.626	8.8	21.1
2 11	7 9.13	+21 16.2	1.680	2.550	12.9	20.7	2 11	7 7.10	+22 42.5	1.779	2.641	12.7	21.4
2 21	7 4.38	+21 52.6	1.762	2.545	16.4	20.9	2 21	7 2.10	+22 44.4	1.884	2.656	15.9	21.7
<b>520820</b>	2014 <i>TW</i> <sub>94</sub>		1 13.2 214°42	4°8/14.3 17			<b>183452</b>	2003 <i>BF</i> <sub>20</sub>		1 13.2 227°83	1°2/12.6 18		
12 13	8 2.67	+ 9 53.2	1.										

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>399981</b>	2006 <i>BC</i> <sub>233</sub>		1 13.2 173°29	0°8/12.9	18		<b>334134</b>	2001 <i>RX</i> <sub>39</sub>		1 13.2 82°20	7°3/17.0	18	
12 13	8 4.37	+21 44.4	1.741	2.587	13.6	21.6	12 13	7 57.57	- 2 34.9	2.376	3.136	13.2	20.9
12 23	7 57.51	+22 19.5	1.671	2.589	9.8	21.3	12 23	7 51.95	- 3 6.3	2.318	3.155	11.0	20.8
1 2	7 48.14	+22 59.3	1.626	2.591	5.3	21.1	1 2	7 44.83	- 3 19.1	2.284	3.174	8.9	20.7
1 12	7 37.24	+23 39.0	1.610	2.592	0.9	20.7	1 12	7 36.90	- 3 12.1	2.275	3.193	7.5	20.6
1 22	7 26.08	+24 13.8	1.622	2.593	4.4	21.0	1 22	7 28.93	- 2 46.3	2.294	3.212	7.5	20.7
2 1	7 16.03	+24 40.9	1.664	2.594	9.0	21.3	2 1	7 21.71	- 2 4.2	2.341	3.231	8.8	20.8
2 11	7 8.24	+24 59.1	1.730	2.594	12.9	21.5	2 11	7 15.93	- 1 10.2	2.413	3.250	10.7	20.9
2 21	7 3.39	+25 9.2	1.819	2.593	16.3	21.7	2 21	7 12.02	- 0 9.2	2.509	3.268	12.7	21.1
<b>184711</b>	2005 <i>SV</i> <sub>140</sub>		1 13.2 106°47	1°3/12.7	18		<b>76785</b>	2000 <i>KL</i> <sub>72</sub>		1 13.2 163°40	0°6/13.6	18	
12 13	8 2.38	+23 45.5	1.906	2.753	12.6	21.0	12 13	7 58.26	+16 45.5	2.607	3.436	10.2	19.5
12 23	7 55.85	+24 17.1	1.845	2.763	8.9	20.8	12 23	7 52.53	+17 31.6	2.531	3.440	7.3	19.3
1 2	7 47.11	+24 50.5	1.808	2.773	4.9	20.6	1 2	7 45.23	+18 24.7	2.482	3.443	4.1	19.1
1 12	7 37.12	+25 21.6	1.801	2.783	1.4	20.4	1 12	7 36.97	+19 21.8	2.463	3.445	0.8	18.9
1 22	7 27.02	+25 46.4	1.823	2.792	4.3	20.6	1 22	7 28.51	+20 19.4	2.476	3.448	3.0	19.1
2 1	7 17.99	+26 2.9	1.873	2.802	8.3	20.9	2 1	7 20.67	+21 14.3	2.519	3.450	6.3	19.3
2 11	7 11.03	+26 11.0	1.950	2.811	11.8	21.1	2 11	7 14.18	+22 4.0	2.592	3.452	9.3	19.5
2 21	7 6.70	+26 11.5	2.048	2.820	14.8	21.3	2 21	7 9.55	+22 47.4	2.688	3.453	11.8	19.7
<b>464955</b>	2005 <i>WK</i> <sub>11</sub>		1 13.2 1°16	1°6/13.7	16		<b>235682</b>	2004 <i>RM</i> <sub>333</sub>		1 13.2 180°63	0°9/12.9	18	
12 13	7 59.05	+17 30.7	1.471	2.327	15.1	21.3	12 13	8 4.42	+21 45.2	1.743	2.588	13.6	21.1
12 23	7 53.94	+17 28.7	1.405	2.326	11.0	21.1	12 23	7 57.60	+22 25.5	1.671	2.589	9.8	20.8
1 2	7 46.26	+17 35.5	1.361	2.325	6.3	20.8	1 2	7 48.24	+23 10.8	1.625	2.590	5.3	20.6
1 12	7 37.04	+17 48.7	1.343	2.325	1.8	20.5	1 12	7 37.32	+23 56.1	1.607	2.590	1.0	20.3
1 22	7 27.59	+18 5.3	1.352	2.326	4.6	20.7	1 22	7 26.10	+24 36.3	1.619	2.590	4.5	20.5
2 1	7 19.32	+18 22.5	1.388	2.327	9.4	21.0	2 1	7 15.97	+25 8.1	1.659	2.589	9.0	20.8
2 11	7 13.40	+18 38.1	1.447	2.330	13.8	21.2	2 11	7 8.09	+25 30.3	1.725	2.587	13.0	21.0
2 21	7 10.49	+18 50.9	1.527	2.333	17.4	21.5	2 21	7 3.17	+25 43.6	1.812	2.585	16.3	21.2
<b>21158</b>	1993 <i>RP</i> <sub>18</sub>		1 13.2 7°24	2°0/13.7	18		<b>494983</b>	2010 <i>AW</i> <sub>33</sub>		1 13.2 329°38	1°5/12.9	17	
12 13	8 3.49	+16 45.0	1.223	2.081	17.4	18.7	12 13	7 59.28	+23 4.8	1.034	1.915	18.0	21.3
12 23	7 57.52	+16 45.3	1.160	2.081	12.7	18.5	12 23	7 55.36	+23 28.0	0.959	1.893	13.1	21.0
1 2	7 48.38	+16 57.1	1.118	2.081	7.3	18.2	1 2	7 47.65	+23 58.0	0.903	1.872	7.3	20.6
1 12	7 37.28	+17 17.5	1.100	2.082	2.3	17.9	1 12	7 37.29	+24 28.5	0.870	1.852	1.6	20.1
1 22	7 25.88	+17 42.3	1.109	2.083	5.4	18.1	1 22	7 26.11	+24 52.8	0.860	1.834	6.4	20.4
2 1	7 15.95	+18 7.7	1.143	2.083	10.9	18.4	2 1	7 16.35	+25 6.4	0.873	1.817	12.8	20.7
2 11	7 8.95	+18 30.9	1.200	2.085	15.9	18.7	2 11	7 9.92	+25 8.2	0.906	1.802	18.6	20.9
2 21	7 5.59	+18 50.3	1.275	2.086	20.0	18.9	2 21	7 7.88	+24 59.5	0.955	1.788	23.5	21.2
<b>295751</b>	2008 <i>UW</i> <sub>117</sub>		1 13.2 68°09	1°8/13.7	18		<b>241879</b>	2001 <i>UC</i> <sub>185</sub>		1 13.2 150°30	6°1/10.4	18	
12 13	8 4.19	+17 39.8	1.396	2.247	16.1	20.6	12 13	8 5.25	+42 16.4	2.669	3.486	10.4	20.9
12 23	7 57.61	+17 27.8	1.336	2.254	11.7	20.3	12 23	7 57.71	+43 2.3	2.610	3.492	8.3	20.8
1 2	7 48.24	+17 23.9	1.299	2.262	6.7	20.0	1 2	7 48.09	+43 37.1	2.577	3.497	6.6	20.7
1 12	7 37.26	+17 25.8	1.288	2.269	2.0	19.8	1 12	7 37.29	+43 55.8	2.572	3.503	6.1	20.6
1 22	7 26.18	+17 31.2	1.304	2.277	4.9	20.0	1 22	7 26.41	+43 55.8	2.597	3.508	7.1	20.7
2 1	7 16.52	+17 37.7	1.347	2.284	9.9	20.3	2 1	7 16.58	+43 37.0	2.649	3.513	8.9	20.8
2 11	7 9.51	+17 44.0	1.413	2.292	14.3	20.6	2 11	7 8.73	+43 2.2	2.726	3.517	10.9	21.0
2 21	7 5.77	+17 49.0	1.500	2.300	18.0	20.8	2 21	7 3.39	+42 15.7	2.825	3.522	12.8	21.1
<b>295385</b>	2008 <i>JB</i> <sub>3</sub>		1 13.2 146°71	5°1/15.9	18		<b>183649</b>	2003 <i>WX</i> <sub>67</sub>		1 13.2 118°60	0°7/13.5	18	
12 13	7 59.18	+ 3 26.8	2.409	3.196	12.3	21.2	12 13	8 4.39	+18 50.6	1.920	2.756	13.0	21.1
12 23	7 53.14	+ 3 30.2	2.338	3.205	9.7	21.0	12 23	7 57.12	+19 1.5	1.861	2.774	9.3	20.9
1 2	7 45.51	+ 3 49.0	2.291	3.215	7.1	20.9	1 2	7 47.77	+19 17.8	1.829	2.791	5.1	20.7
1 12	7 36.97	+ 4 22.9	2.272	3.224	5.3	20.8	1 12	7 37.26	+19 36.4	1.825	2.808	0.9	20.4
1 22	7 28.29	+ 5 9.9	2.283	3.232	5.5	20.8	1 22	7 26.73	+19 54.6	1.852	2.824	3.8	20.6
2 1	7 20.33	+ 6 6.7	2.324	3.240	7.6	20.9	2 1	7 17.33	+20 10.4	1.908	2.839	7.9	20.9
2 11	7 13.80	+ 7 9.2	2.392	3.247	10.1	21.1	2 11	7 9.98	+20 22.6	1.990	2.854	11.5	21.2
2 21	7 9.19	+ 8 13.4	2.485	3.254	12.6	21.3	2 21	7 5.20	+20 31.1	2.095	2.869	14.4	21.4
<b>77688</b>	2001 <i>NF</i> <sub>8</sub>		1 13.2 24°95	0°9/13.7	18		<b>277117</b>	2005 <i>GW</i> <sub>46</sub>		1 13.2 56°99	8°7/17.8	18	
12 13	7 57.95	+16 17.9	2.000	2.841	12.3	19.2	12 13	7 57.50	- 4 25.7	2.015	2.776	15.2	20.3
12 23	7 52.67	+17 1.2	1.930	2.844	8.9	19.0	12 23	7 52.13	- 4 56.7	1.960	2.794	12.8	20.1
1 2	7 45.41	+17 54.1	1.885	2.847	5.0	18.8	1 2	7 45.02	- 5 4.7	1.926	2.812	10.5	20.0
1 12	7 36.97	+18 52.7	1.868	2.851	1.1	18.5	1 12	7 36.95	- 4 48.0	1.916	2.830	9.0	20.0
1 22	7 28.30	+19 52.8	1.881	2.854	3.6	18.7	1 22	7 28.83	- 4 7.7	1.933	2.848	8.8	20.0
2 1	7 20.46	+20 50.0	1.924	2.858	7.6	18.9	2 1	7 21.58	- 3 7.7	1.976	2.867	10.2	20.1
2 11	7 14.36	+21 41.5	1.992	2.863	11.2	19.2	2 11	7 15.99	- 1 53.8	2.044	2.885	12.2	20.3
2 21	7 10.59	+22 25.4	2.084	2.867	14.2	19.4	2 21	7 12.54	- 0 32.6	2.134	2.904	14.3	20.5
<b>401929</b>	2002 <i>CC</i> <sub>88</sub>		1 13.2 24°10	0°2/13.3	18		<b>139759</b>	2001 <i>QN</i> <sub>284</sub>		1 13.2 47°07	8°1/18.9	18	
12 13	7 58.21	+18 13.8	1.150	2.021	17.3	19.9	12 13	7 57.71	- 5 53.9	2.004	2.757	15.5	18.4
12 23	7 53.63	+19 0.1	1.110	2.039	12.3	19.7	12 23	7 52.28	- 5 28.0	1.947	2.778	13.0	18.2
1 2	7 46.14	+19 57.7	1.091	2.058	6.7	19.5	1 2	7 45.10	- 4 35.6	1.911	2.799	10.4	18.1
1 12	7 37.05	+21 0.0	1.096	2.079	0.8	19.1	1 12	7 36.96	- 3 17.4	1.900	2.821	8.5	18.0
1 22	7 27.96	+21 59.7	1.127	2.101	5.0	19.5	1 22	7 28.77	- 1 37.0	1.917	2.844	8.1	18.1
2 1	7 20.48	+22 51.2	1.182	2.125	10.4	19.9	2 1	7 21.48	+ 0 19.2	1.962	2.866	9.5	18.2
2 11	7 15.82	+23 31.5	1.261	2.150	14.9	20.2	2 11	7 15.86	+ 2 23.1	2.035	2.889	11.7	18.4
2 21	7 14.51	+24 0.2	1.358	2.176	18.6	20.5	2 21	7 12.39	+ 4 27.2	2.132	2.912	14.0	18.6
<b>35109</b>	1991 <i>XM</i>		1 13.2 137°79	5°1/15.0	18		<b>204679</b>	2006 <i>DU</i> <sub>84</sub>		1 13.2 161°54	1°4/12.8	18	
12 13	8 0.63	+ 6 20.0	2.258										



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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>499626</b>	2010 <i>UN</i> <sub>83</sub>		1 13.2 97°69	0°3/13.1	17		<b>423186</b>	2004 <i>LK</i> <sub>1</sub>		1 13.2 271°44	5°0/16.2	16	
12 13	7 55.84	+22 1.2	3.400	4.234	7.9	21.6	12 13	7 56.96	+1 49.4	2.785	3.560	11.1	21.8
12 23	7 50.45	+22 14.9	3.338	4.251	5.6	21.4	12 23	7 51.65	+1 58.5	2.675	3.534	9.0	21.6
1 2	7 43.94	+22 30.1	3.305	4.268	3.0	21.3	1 2	7 44.82	+2 22.9	2.591	3.507	6.8	21.4
1 12	7 36.83	+22 44.9	3.302	4.285	0.4	21.0	1 12	7 36.98	+3 2.8	2.534	3.479	5.2	21.3
1 22	7 29.70	+22 58.0	3.331	4.302	2.4	21.2	1 22	7 28.80	+3 56.9	2.507	3.451	5.4	21.2
2 1	7 23.12	+23 8.1	3.391	4.319	5.0	21.4	2 1	7 21.02	+5 2.5	2.511	3.423	7.3	21.3
2 11	7 17.61	+23 14.9	3.480	4.336	7.2	21.6	2 11	7 14.34	+6 15.8	2.543	3.394	9.7	21.4
2 21	7 13.55	+23 18.3	3.593	4.352	9.2	21.8	2 21	7 9.33	+7 32.6	2.599	3.365	12.1	21.5
<b>242116</b>	2002 <i>VH</i> <sub>129</sub>		1 13.2 61°70	3°1/14.3	17		<b>145768</b>	<i>Petiška</i>		1 13.2 142°78	2°3/12.3	18	
12 13	8 3.03	+13 28.3	1.515	2.354	15.6	20.7	12 13	8 4.16	+27 8.5	2.122	2.963	11.7	20.8
12 23	7 56.39	+13 22.9	1.470	2.380	11.5	20.5	12 23	7 57.02	+27 44.8	2.058	2.973	8.4	20.6
1 2	7 47.41	+13 29.9	1.449	2.405	7.0	20.3	1 2	7 47.77	+28 19.9	2.021	2.983	4.8	20.4
1 12	7 37.23	+13 47.1	1.454	2.431	3.3	20.2	1 12	7 37.30	+28 49.1	2.013	2.992	2.4	20.3
1 22	7 27.14	+14 11.6	1.487	2.457	5.0	20.3	1 22	7 26.72	+29 9.1	2.036	3.000	4.6	20.4
2 1	7 18.45	+14 39.8	1.547	2.483	9.0	20.6	2 1	7 17.17	+29 18.2	2.088	3.008	8.1	20.7
2 11	7 12.13	+15 8.8	1.633	2.509	12.9	20.9	2 11	7 9.60	+29 17.1	2.167	3.016	11.3	20.9
2 21	7 8.68	+15 36.1	1.739	2.534	16.1	21.2	2 21	7 4.58	+29 7.7	2.267	3.023	14.0	21.1
<b>25872</b>	2000 <i>MV</i> <sub>1</sub>		1 13.2 115°99	2°8/14.3	18		<b>229794</b>	2008 <i>RR</i> <sub>99</sub>		1 13.2 77°40	1°0/12.8	18	
12 13	8 8.60	+12 49.5	1.706	2.528	15.0	21.9	12 13	8 1.02	+23 17.7	2.016	2.862	12.0	21.1
12 23	8 0.16	+13 3.1	1.655	2.557	11.0	21.7	12 23	7 54.78	+23 43.1	1.957	2.875	8.5	20.9
1 2	7 49.41	+13 28.6	1.630	2.584	6.6	21.5	1 2	7 46.53	+24 10.4	1.924	2.888	4.6	20.7
1 12	7 37.45	+14 3.0	1.633	2.610	3.0	21.4	1 12	7 37.16	+24 35.9	1.919	2.901	1.1	20.5
1 22	7 25.57	+14 42.5	1.666	2.636	4.7	21.5	1 22	7 27.72	+24 56.4	1.944	2.914	3.9	20.7
2 1	7 15.04	+15 23.4	1.729	2.659	8.7	21.8	2 1	7 19.30	+25 10.2	1.998	2.927	7.7	21.0
2 11	7 6.88	+16 2.6	1.819	2.682	12.4	22.1	2 11	7 12.80	+25 16.8	2.078	2.940	11.1	21.2
2 21	7 1.60	+16 38.2	1.930	2.703	15.5	22.3	2 21	7 8.73	+25 17.0	2.180	2.953	14.0	21.4
<b>212937</b>	2008 <i>UD</i> <sub>291</sub>		1 13.2 285°01	1°1/12.8	18		<b>295997</b>	2008 <i>YR</i> <sub>94</sub>		1 13.2 230°24	0°3/13.4	18	
12 13	7 59.60	+24 36.9	2.327	3.170	10.7	20.3	12 13	7 59.76	+20 41.1	2.375	3.213	10.7	20.8
12 23	7 53.68	+24 49.3	2.249	3.166	7.7	20.1	12 23	7 53.71	+20 38.1	2.296	3.210	7.7	20.6
1 2	7 45.93	+25 2.0	2.197	3.161	4.2	19.9	1 2	7 45.92	+20 37.8	2.244	3.207	4.2	20.4
1 12	7 37.08	+25 12.4	2.174	3.156	1.2	19.7	1 12	7 37.11	+20 38.4	2.221	3.204	0.6	20.1
1 22	7 28.05	+25 18.1	2.181	3.151	3.7	19.8	1 22	7 28.15	+20 38.2	2.229	3.201	3.3	20.3
2 1	7 19.82	+25 17.9	2.218	3.146	7.2	20.0	2 1	7 19.95	+20 36.1	2.266	3.198	6.8	20.5
2 11	7 13.23	+25 11.7	2.282	3.142	10.4	20.2	2 11	7 13.33	+20 31.8	2.331	3.195	10.0	20.7
2 21	7 8.83	+25 0.5	2.369	3.137	13.1	20.4	2 21	7 8.79	+20 25.2	2.420	3.192	12.8	20.9
<b>334793</b>	2003 <i>SF</i> <sub>175</sub>		1 13.2 178°73	4°1/15.0	18		<b>395810</b>	2012 <i>XV</i> <sub>24</sub>		1 13.2 208°83	3°7/14.2	18	
12 13	8 1.84	+8 3.1	2.146	2.952	12.9	22.0	12 13	8 4.67	+12 54.2	1.611	2.443	15.2	21.2
12 23	7 55.28	+8 4.3	2.068	2.955	9.9	21.8	12 23	7 57.85	+12 33.1	1.534	2.439	11.4	21.0
1 2	7 46.81	+8 19.2	2.015	2.956	6.7	21.6	1 2	7 48.44	+12 23.3	1.481	2.435	7.2	20.7
1 12	7 37.18	+8 47.0	1.991	2.957	4.3	21.4	1 12	7 37.41	+12 24.4	1.455	2.430	3.8	20.5
1 22	7 27.34	+9 25.5	1.996	2.957	5.0	21.5	1 22	7 26.05	+12 34.7	1.457	2.424	5.4	20.6
2 1	7 18.29	+10 11.5	2.031	2.956	8.0	21.7	2 1	7 15.77	+12 51.9	1.487	2.418	9.7	20.8
2 11	7 10.90	+11 1.3	2.094	2.954	11.1	21.8	2 11	7 7.79	+13 13.2	1.541	2.412	13.8	21.0
2 21	7 5.75	+11 51.6	2.180	2.952	14.0	22.0	2 21	7 2.81	+13 36.0	1.617	2.405	17.4	21.3
<b>431802</b>	2008 <i>QW</i> <sub>38</sub>		1 13.2 270°14	17°5/20.8	18		<b>55166</b>	2001 <i>QV</i> <sub>243</sub>		1 13.2 36°78	1°5/13.8	18	
12 13	8 1.40	-14 16.0	1.168	1.914	24.8	21.5	12 13	8 0.56	+16 48.5	1.666	2.512	14.1	18.6
12 23	7 56.26	-15 20.0	1.102	1.908	22.4	21.3	12 23	7 54.78	+16 55.9	1.601	2.517	10.3	18.4
1 2	7 47.88	-15 38.8	1.051	1.903	20.0	21.1	1 2	7 46.68	+17 12.1	1.559	2.521	5.9	18.1
1 12	7 37.33	-15 2.7	1.016	1.897	18.1	21.0	1 12	7 37.20	+17 34.4	1.545	2.526	1.8	17.9
1 22	7 26.19	-13 29.0	1.001	1.891	17.5	20.9	1 22	7 27.55	+17 59.8	1.558	2.531	4.3	18.1
2 1	7 16.27	-11 3.6	1.006	1.886	18.5	20.9	2 1	7 18.99	+18 25.1	1.600	2.537	8.7	18.3
2 11	7 9.17	-8 1.6	1.031	1.880	20.8	21.1	2 11	7 12.58	+18 48.1	1.666	2.542	12.7	18.6
2 21	7 5.79	-4 41.5	1.074	1.874	23.6	21.2	2 21	7 8.92	+19 7.6	1.754	2.548	16.0	18.8
<b>53905</b>	2000 <i>FY</i> <sub>59</sub>		1 13.2 45°17	0°7/13.5	18		<b>90158</b>	2002 <i>YL</i> <sub>30</sub>		1 13.2 157°79	0°1/13.3	18	
12 13	8 2.06	+16 21.7	1.183	2.044	17.7	19.0	12 13	8 4.95	+18 57.7	1.731	2.572	13.9	19.9
12 23	7 56.50	+17 19.1	1.132	2.056	12.7	18.8	12 23	7 57.93	+19 37.0	1.664	2.579	10.0	19.7
1 2	7 47.83	+18 31.6	1.102	2.068	7.0	18.5	1 2	7 48.42	+20 24.0	1.621	2.585	5.5	19.5
1 12	7 37.30	+19 52.1	1.097	2.080	1.2	18.2	1 12	7 37.40	+21 13.8	1.607	2.590	0.6	19.1
1 22	7 26.58	+21 11.8	1.119	2.093	5.2	18.5	1 22	7 26.15	+22 1.4	1.623	2.595	4.2	19.4
2 1	7 17.43	+22 23.5	1.166	2.107	10.7	18.8	2 1	7 16.02	+22 43.0	1.668	2.599	8.8	19.7
2 11	7 11.20	+23 22.9	1.236	2.120	15.5	19.1	2 11	7 8.13	+23 16.7	1.738	2.603	12.8	19.9
2 21	7 8.57	+24 8.8	1.325	2.134	19.4	19.4	2 21	7 3.15	+23 42.1	1.830	2.606	16.1	20.2
<b>259025</b>	2002 <i>TD</i> <sub>200</sub>		1 13.2 90°87	7°7/10.2	18		<b>343204</b>	2009 <i>VW</i> <sub>93</sub>		1 13.2 52°52	1°7/13.8	18	
12 13	8 8.04	+39 43.8	1.754	2.591	14.0	20.1	12 13	8 3.56	+16 34.9	1.254	2.110	17.2	20.8
12 23	8 0.48	+41 4.5	1.706	2.603	11.0	19.9	12 23	7 57.51	+16 47.0	1.194	2.115	12.5	20.6
1 2	7 49.89	+42 12.4	1.684	2.616	8.5	19.8	1 2	7 48.39	+17 11.1	1.155	2.119	7.2	20.3
1 12	7 37.52	+42 58.8	1.687	2.628	7.8	19.8	1 12	7 37.41	+17 43.6	1.142	2.124	2.0	20.0
1 22	7 25.03	+43 18.4	1.718	2.641	9.2	19.9	1 22	7 26.18	+18 19.6	1.155	2.128	5.2	20.2
2 1	7 14.12	+43 11.2	1.775	2.653	11.8	20.1	2 1	7 16.42	+18 54.6	1.193	2.133	10.6	20.5
2 11	7 6.10	+42 41.7	1.854	2.665	14.6	20.3	2 11	7 9.52	+19 25.5	1.255	2.139	15.4	20.8
2 21	7 1.61	+41 56.5	1.953	2.676	17.0	20.5	2 21	7 6.17	+19 50.9	1.336	2.144	19.4	21.1
<b>27362</b>	2000 <i>EO</i>		1 13.2 235°82	0°7/13.6	18		<b>503772</b>	2016 <i>QQ</i> <sub>36</sub>		1 13.2 173°34	0°2/13.4	17	
12 13	7 58.85	+18 22.4	2.251	3.089	11.3	19.5							

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>101861</b>	1999 $LA_4$		1 13.2 242°51	15°3/14.0	18		<b>290816</b>	2005 $VL_{111}$		1 13.3 293°84	1°3/13.5	18	
12 13	8 7.81	- 3 32.0	1.193	1.982	22.1	19.0	12 13	8 3.82	+18 55.6	1.381	2.235	16.0	20.6
12 23	8 0.71	- 6 16.7	1.131	1.978	19.2	18.8	12 23	7 57.71	+18 43.9	1.304	2.224	11.7	20.3
1 2	7 50.26	- 8 35.6	1.089	1.975	16.7	18.7	1 2	7 48.57	+18 38.8	1.249	2.214	6.6	20.0
1 12	7 37.64	-10 16.6	1.068	1.972	15.4	18.6	1 12	7 37.47	+18 38.0	1.221	2.203	1.6	19.7
1 22	7 24.53	-11 12.0	1.070	1.968	16.0	18.6	1 22	7 25.94	+18 38.9	1.219	2.193	5.0	19.9
2 1	7 12.80	-11 21.0	1.094	1.965	18.1	18.7	2 1	7 15.65	+18 39.7	1.244	2.182	10.4	20.1
2 11	7 4.03	-10 51.1	1.136	1.961	20.9	18.9	2 11	7 8.04	+18 39.4	1.292	2.172	15.3	20.4
2 21	6 59.08	- 9 53.7	1.194	1.957	23.7	19.1	2 21	7 3.89	+18 37.4	1.359	2.162	19.4	20.6
<b>161863</b>	2007 $BP_{50}$		1 13.2 310°05	10°1/ 9.4	18		<b>413972</b>	2007 $DB_{28}$		1 13.3 32°53	3°3/14.7	18	
12 13	8 8.36	+44 59.3	1.668	2.497	14.9	19.2	12 13	7 58.83	+10 54.9	1.631	2.467	14.9	20.9
12 23	8 1.44	+46 13.0	1.595	2.478	12.5	19.0	12 23	7 53.58	+11 17.4	1.567	2.473	11.1	20.6
1 2	7 50.81	+47 10.9	1.544	2.460	10.6	18.9	1 2	7 46.05	+11 55.8	1.526	2.480	7.0	20.4
1 12	7 37.71	+47 42.0	1.519	2.441	10.1	18.8	1 12	7 37.17	+12 47.7	1.511	2.487	3.6	20.2
1 22	7 24.07	+47 39.7	1.518	2.423	11.5	18.8	1 22	7 28.09	+13 48.6	1.524	2.494	4.9	20.3
2 1	7 12.02	+47 3.5	1.541	2.405	14.1	18.9	2 1	7 20.03	+14 53.2	1.565	2.502	8.8	20.6
2 11	7 3.31	+45 59.2	1.585	2.388	16.9	19.1	2 11	7 14.05	+15 56.7	1.631	2.510	12.7	20.8
2 21	6 58.77	+44 35.4	1.647	2.371	19.6	19.2	2 21	7 10.75	+16 55.3	1.719	2.518	16.1	21.1
<b>242491</b>	2004 $VS_{65}$		1 13.2 40°07	1°0/12.9	18		<b>275038</b>	2009 $UO_{54}$		1 13.3 55°45	0°3/13.1	18	
12 13	8 2.45	+21 3.6	1.195	2.062	17.1	19.5	12 13	8 1.75	+21 54.6	1.828	2.675	13.0	21.1
12 23	7 56.75	+21 48.8	1.148	2.076	12.2	19.2	12 23	7 55.54	+22 4.7	1.759	2.678	9.3	20.9
1 2	7 47.94	+22 41.5	1.123	2.091	6.6	19.0	1 2	7 47.07	+22 18.1	1.716	2.681	5.1	20.6
1 12	7 37.36	+23 34.7	1.123	2.106	1.1	18.6	1 12	7 37.28	+22 31.3	1.700	2.683	0.6	20.3
1 22	7 26.71	+24 21.5	1.149	2.122	5.4	19.0	1 22	7 27.34	+22 41.6	1.714	2.686	4.0	20.6
2 1	7 17.73	+24 57.5	1.200	2.138	10.7	19.3	2 1	7 18.45	+22 47.2	1.756	2.689	8.3	20.8
2 11	7 11.73	+25 21.5	1.274	2.155	15.4	19.6	2 11	7 11.64	+22 47.7	1.823	2.692	12.1	21.1
2 21	7 9.31	+25 34.4	1.366	2.173	19.1	19.9	2 21	7 7.51	+22 43.5	1.913	2.695	15.3	21.3
<b>473917</b>	2016 $ED_{152}$		1 13.3 41°44	2°0/14.1	18		<b>279868</b>	2001 $MV_{29}$		1 13.3 146°75	3°4/14.6	18	
12 13	7 58.73	+14 24.5	1.957	2.793	12.8	20.6	12 13	7 59.49	+10 14.1	2.724	3.531	10.4	20.0
12 23	7 53.25	+14 42.8	1.886	2.796	9.4	20.4	12 23	7 53.23	+ 9 44.7	2.651	3.539	7.9	19.8
1 2	7 45.78	+15 11.4	1.841	2.799	5.5	20.2	1 2	7 45.57	+ 9 23.5	2.605	3.546	5.3	19.7
1 12	7 37.12	+15 47.8	1.823	2.802	2.2	20.0	1 12	7 37.11	+ 9 10.5	2.588	3.554	3.5	19.6
1 22	7 28.28	+16 28.7	1.834	2.806	3.9	20.1	1 22	7 28.58	+ 9 5.5	2.602	3.561	4.2	19.6
2 1	7 20.30	+17 10.7	1.874	2.809	7.7	20.4	2 1	7 20.71	+ 9 7.2	2.646	3.567	6.5	19.8
2 11	7 14.09	+17 51.0	1.940	2.813	11.3	20.6	2 11	7 14.15	+ 9 14.3	2.719	3.573	9.1	19.9
2 21	7 10.24	+18 27.3	2.029	2.817	14.4	20.8	2 21	7 9.35	+ 9 24.8	2.816	3.579	11.4	20.1
<b>499974</b>	2011 $KN_{26}$		1 13.3 191°32	2°0/14.1	17		<b>168144</b>	2006 $HP_8$		1 13.3 125°27	0°6/13.5	18	
12 13	7 58.61	+14 34.0	2.477	3.303	10.8	21.8	12 13	8 4.65	+18 49.4	1.801	2.640	13.6	21.0
12 23	7 52.83	+14 33.7	2.398	3.302	7.9	21.7	12 23	7 57.50	+19 3.3	1.740	2.654	9.7	20.8
1 2	7 45.43	+14 40.5	2.345	3.301	4.8	21.5	1 2	7 48.09	+19 23.1	1.705	2.667	5.4	20.5
1 12	7 37.08	+14 53.3	2.321	3.299	2.1	21.3	1 12	7 37.40	+19 45.6	1.698	2.680	1.0	20.2
1 22	7 28.57	+15 10.3	2.328	3.298	3.5	21.4	1 22	7 26.64	+20 7.7	1.720	2.693	4.0	20.5
2 1	7 20.73	+15 29.6	2.365	3.296	6.6	21.6	2 1	7 17.04	+20 26.8	1.772	2.705	8.3	20.8
2 11	7 14.31	+15 49.5	2.429	3.294	9.6	21.7	2 11	7 9.61	+20 41.8	1.850	2.716	12.1	21.0
2 21	7 9.82	+16 8.7	2.517	3.291	12.3	21.9	2 21	7 4.91	+20 52.5	1.949	2.727	15.2	21.3
<b>365635</b>	2010 $UT_{83}$		1 13.3 116°16	7°0/15.9	18		<b>127880</b>	2003 $GS_4$		1 13.3 265°90	0°6/13.4	18	
12 13	8 0.99	+ 1 41.8	2.017	2.802	14.4	21.0	12 13	8 3.17	+18 58.0	1.505	2.356	15.1	20.5
12 23	7 54.64	+ 1 2.8	1.955	2.816	11.6	20.8	12 23	7 57.07	+19 14.3	1.428	2.348	11.0	20.2
1 2	7 46.44	+ 0 41.8	1.916	2.830	9.0	20.7	1 2	7 48.15	+19 38.6	1.376	2.340	6.1	19.9
1 12	7 37.19	+ 0 40.2	1.903	2.843	7.2	20.6	1 12	7 37.43	+20 7.3	1.349	2.332	1.0	19.5
1 22	7 27.86	+ 0 57.3	1.919	2.855	7.4	20.6	1 22	7 26.29	+20 36.1	1.351	2.324	4.7	19.8
2 1	7 19.44	+ 1 30.6	1.962	2.868	9.4	20.8	2 1	7 16.28	+21 1.6	1.379	2.316	9.8	20.1
2 11	7 12.76	+ 2 15.6	2.031	2.879	12.0	21.0	2 11	7 8.74	+21 21.7	1.432	2.308	14.4	20.3
2 21	7 8.34	+ 3 7.2	2.122	2.891	14.4	21.2	2 21	7 4.42	+21 36.1	1.505	2.299	18.2	20.5
<b>247569</b>	2002 $SZ_{63}$		1 13.3 352°98	9°6/13.9	17		<b>430270</b>	2013 $WQ_{47}$		1 13.3 94°70	5°1/10.9	18	
12 13	8 27.04	+43 42.5	1.026	1.865	21.4	19.8	12 13	8 3.45	+35 16.8	2.220	3.058	11.4	21.1
12 23	8 15.42	+43 13.5	0.964	1.863	17.1	19.5	12 23	7 56.62	+36 18.9	2.167	3.072	8.6	20.9
1 2	7 58.37	+42 11.1	0.921	1.862	12.5	19.2	1 2	7 47.61	+37 13.9	2.141	3.086	6.1	20.8
1 12	7 38.51	+40 23.2	0.902	1.861	9.7	19.1	1 12	7 37.35	+37 55.8	2.143	3.100	5.1	20.7
1 22	7 19.36	+37 50.2	0.909	1.860	11.1	19.1	1 22	7 26.98	+38 20.8	2.174	3.113	6.5	20.8
2 1	7 4.02	+34 46.5	0.941	1.860	15.5	19.4	2 1	7 17.68	+38 27.8	2.234	3.126	9.0	21.0
2 11	6 54.18	+31 33.1	0.996	1.860	20.2	19.6	2 11	7 10.43	+38 18.9	2.318	3.139	11.6	21.2
2 21	6 50.01	+28 27.1	1.070	1.861	24.3	19.9	2 21	7 5.80	+37 57.5	2.424	3.152	13.9	21.4
<b>252494</b>	2001 $UT_{103}$		1 13.3 346°31	6°2/10.9	18		<b>149511</b>	2003 $FC_{68}$		1 13.3 145°94	1°5/13.9	18	
12 13	7 57.72	+30 47.2	1.186	2.064	16.4	18.6	12 13	8 0.29	+15 41.1	2.020	2.855	12.5	20.6
12 23	7 54.03	+32 6.9	1.119	2.049	12.2	18.3	12 23	7 54.33	+16 2.3	1.949	2.859	9.1	20.4
1 2	7 46.83	+33 25.7	1.074	2.035	8.0	18.1	1 2	7 46.37	+16 32.4	1.903	2.863	5.2	20.2
1 12	7 37.28	+34 32.8	1.052	2.023	6.2	17.9	1 12	7 37.22	+17 8.6	1.885	2.866	1.7	20.0
1 22	7 27.14	+35 18.8	1.055	2.013	8.9	18.0	1 22	7 27.88	+17 47.6	1.897	2.869	3.7	20.1
2 1	7 18.43	+35 38.9	1.081	2.004	13.4	18.3	2 1	7 19.40	+18 26.3	1.939	2.873	7.6	20.4
2 11	7 12.90	+35 34.6	1.127	1.997	17.8	18.5	2 11	7 12.70	+19 2.1	2.007	2.875	11.2	20.6
2 21	7 11.42	+35 10.5	1.190	1.993	21.6	18.7	2 21	7 8.37	+19 33.6	2.098	2.878	14.2	20.8
<b>472660</b>	2015 $DM_{221}$		1 13.3 9°13	6°3/16.6	18		<b>188212</b>	2002 $TL_{10}$		1 13.3 128°55	2°7/14.1	18	

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>256951</b>	2008 <i>EF</i> <sub>68</sub>		1 13.3 155 <sup>o</sup> .14	2 <sup>o</sup> .4/14.3	18		<b>138470</b>	2000 <i>JF</i> <sub>60</sub>		1 13.3 281 <sup>o</sup> .66	0 <sup>o</sup> .2/13.3	18	
12 13	8 0.72	+12 55.0	2.087	2.912	12.5	21.1	12 13	8 2.12	+20 28.1	1.775	2.621	13.4	19.9
12 23	7 54.55	+13 12.6	2.015	2.918	9.2	20.9	12 23	7 56.11	+20 36.2	1.685	2.603	9.7	19.6
1 2	7 46.46	+13 40.9	1.968	2.923	5.6	20.7	1 2	7 47.58	+20 49.4	1.620	2.584	5.4	19.3
1 12	7 37.24	+14 17.8	1.950	2.928	2.6	20.5	1 12	7 37.41	+21 4.4	1.583	2.566	0.7	19.0
1 22	7 27.83	+15 0.2	1.962	2.932	4.0	20.6	1 22	7 26.78	+21 18.4	1.574	2.547	4.2	19.2
2 1	7 19.25	+15 44.6	2.003	2.936	7.5	20.8	2 1	7 17.03	+21 28.8	1.593	2.528	8.9	19.4
2 11	7 12.38	+16 28.2	2.072	2.939	10.9	21.0	2 11	7 9.36	+21 34.8	1.638	2.509	13.2	19.6
2 21	7 7.80	+17 8.7	2.164	2.942	13.9	21.2	2 21	7 4.54	+21 36.3	1.704	2.490	16.8	19.8
<b>207568</b>	2006 <i>PW</i> <sub>6</sub>		1 13.3 107 <sup>o</sup> .72	0 <sup>o</sup> .7/12.9	18		<b>404950</b>	1996 <i>TG</i> <sub>4</sub>		1 13.3 60 <sup>o</sup> .28	6 <sup>o</sup> .5/15.9	17	
12 13	7 59.12	+22 3.5	2.528	3.366	10.1	20.9	12 13	8 2.78	+ 4 12.0	1.636	2.442	16.3	20.6
12 23	7 53.17	+22 38.2	2.465	3.380	7.2	20.7	12 23	7 55.99	+ 3 49.5	1.599	2.478	12.7	20.4
1 2	7 45.61	+23 15.6	2.430	3.394	3.9	20.5	1 2	7 47.16	+ 3 47.4	1.585	2.514	9.2	20.3
1 12	7 37.13	+23 52.3	2.424	3.407	0.7	20.3	1 12	7 37.32	+ 4 5.3	1.596	2.550	6.8	20.3
1 22	7 28.57	+24 25.6	2.450	3.420	3.2	20.5	1 22	7 27.67	+ 4 40.5	1.635	2.586	7.1	20.4
2 1	7 20.76	+24 53.2	2.505	3.433	6.5	20.8	2 1	7 19.31	+ 5 28.6	1.701	2.621	9.6	20.6
2 11	7 14.44	+25 14.2	2.588	3.445	9.4	21.0	2 11	7 13.12	+ 6 24.0	1.792	2.656	12.5	20.8
2 21	7 10.08	+25 28.8	2.695	3.458	11.8	21.2	2 21	7 9.52	+ 7 21.5	1.906	2.691	15.2	21.1
<b>56426</b>	2000 <i>GW</i> <sub>24</sub>		1 13.3 171 <sup>o</sup> .01	2 <sup>o</sup> .9/12.2	18		<b>86349</b>	1999 <i>XO</i> <sub>102</sub>		1 13.3 355 <sup>o</sup> .49	0 <sup>o</sup> .1/13.3	18	
12 13	8 7.55	+28 26.0	2.013	2.851	12.4	20.5	12 13	8 2.60	+21 12.6	1.111	1.982	17.8	18.9
12 23	7 59.64	+29 3.4	1.943	2.856	8.9	20.3	12 23	7 57.25	+21 11.8	1.049	1.978	12.9	18.6
1 2	7 49.32	+29 38.5	1.901	2.860	5.3	20.1	1 2	7 48.45	+21 17.0	1.008	1.976	7.1	18.3
1 12	7 37.58	+30 5.8	1.887	2.864	2.9	20.0	1 12	7 37.51	+21 24.2	0.991	1.974	0.8	17.9
1 22	7 25.66	+30 21.5	1.904	2.866	5.1	20.1	1 22	7 26.26	+21 29.4	0.998	1.973	5.5	18.2
2 1	7 14.85	+30 24.3	1.951	2.868	8.7	20.3	2 1	7 16.64	+21 30.1	1.030	1.973	11.5	18.5
2 11	7 6.25	+30 15.3	2.023	2.868	12.1	20.5	2 11	7 10.22	+21 26.0	1.083	1.974	16.7	18.8
2 21	7 0.49	+29 57.4	2.118	2.868	15.0	20.8	2 21	7 7.71	+21 17.6	1.155	1.975	21.0	19.1
<b>493035</b>	2014 <i>SA</i> <sub>234</sub>		1 13.3 92 <sup>o</sup> .77	4 <sup>o</sup> .6/11.6	18		<b>180497</b>	2004 <i>CT</i> <sub>86</sub>		1 13.3 259 <sup>o</sup> .00	4 <sup>o</sup> .8/15.1	18	
12 13	8 5.95	+32 27.4	1.852	2.696	13.0	21.1	12 13	7 59.99	+ 7 42.0	1.894	2.709	14.0	20.6
12 23	7 58.58	+33 21.4	1.802	2.714	9.6	20.9	12 23	7 54.34	+ 7 35.3	1.806	2.696	10.9	20.4
1 2	7 48.73	+34 9.1	1.779	2.732	6.2	20.7	1 2	7 46.52	+ 7 44.1	1.742	2.683	7.5	20.2
1 12	7 37.50	+34 44.2	1.783	2.750	4.6	20.7	1 12	7 37.30	+ 8 8.5	1.704	2.670	5.0	20.0
1 22	7 26.26	+35 2.4	1.816	2.767	6.4	20.8	1 22	7 27.69	+ 8 46.5	1.696	2.656	5.7	20.0
2 1	7 16.37	+35 3.0	1.877	2.784	9.6	21.0	2 1	7 18.83	+ 9 34.9	1.715	2.643	8.9	20.2
2 11	7 8.90	+34 48.4	1.963	2.801	12.7	21.3	2 11	7 11.74	+10 29.2	1.760	2.629	12.5	20.4
2 21	7 4.41	+34 22.5	2.069	2.818	15.4	21.5	2 21	7 7.13	+11 25.2	1.828	2.615	15.7	20.6
<b>250228</b>	2002 <i>WM</i> <sub>18</sub>		1 13.3 50 <sup>o</sup> .62	6 <sup>o</sup> .8/14.8	18		<b>152668</b>	1998 <i>FS</i> <sub>59</sub>		1 13.3 222 <sup>o</sup> .54	0 <sup>o</sup> .2/13.2	18	
12 13	8 2.83	+ 7 31.0	1.488	2.312	16.7	19.7	12 13	8 0.81	+20 40.3	2.361	3.197	10.9	20.7
12 23	7 56.37	+ 6 24.2	1.435	2.327	13.0	19.5	12 23	7 54.61	+21 5.3	2.275	3.188	7.8	20.5
1 2	7 47.52	+ 5 34.0	1.405	2.343	9.3	19.3	1 2	7 46.54	+21 34.4	2.216	3.179	4.3	20.2
1 12	7 37.37	+ 5 3.1	1.401	2.359	6.9	19.2	1 12	7 37.30	+22 4.7	2.186	3.170	0.5	19.9
1 22	7 27.22	+ 4 51.6	1.423	2.376	7.7	19.3	1 22	7 27.78	+22 33.2	2.188	3.159	3.4	20.1
2 1	7 18.39	+ 4 57.5	1.471	2.393	10.7	19.5	2 1	7 18.95	+22 57.5	2.219	3.149	7.1	20.3
2 11	7 11.91	+ 5 16.6	1.543	2.410	14.1	19.8	2 11	7 11.69	+23 16.5	2.278	3.138	10.4	20.5
2 21	7 8.31	+ 5 44.0	1.636	2.427	17.1	20.0	2 21	7 6.59	+23 29.9	2.360	3.126	13.2	20.7
<b>17820</b>	1998 <i>FZ</i> <sub>125</sub>		1 13.3 144 <sup>o</sup> .37	0 <sup>o</sup> .7/13.6	18		<b>350444</b>	1994 <i>XZ</i> <sub>1</sub>		1 13.3 44 <sup>o</sup> .87	0 <sup>o</sup> .5/13.1	18	
12 13	7 58.88	+19 3.2	2.517	3.351	10.3	19.1	12 13	8 2.51	+19 17.3	1.288	2.149	16.5	20.7
12 23	7 53.00	+19 1.5	2.442	3.354	7.4	18.9	12 23	7 56.80	+20 13.3	1.232	2.156	11.8	20.4
1 2	7 45.53	+19 3.6	2.395	3.357	4.1	18.7	1 2	7 48.06	+21 19.8	1.198	2.164	6.4	20.2
1 12	7 37.15	+19 7.7	2.377	3.359	0.9	18.5	1 12	7 37.48	+22 29.9	1.189	2.172	0.8	19.8
1 22	7 28.66	+19 12.5	2.389	3.362	3.1	18.6	1 22	7 26.64	+23 35.8	1.208	2.181	5.1	20.1
2 1	7 20.89	+19 16.5	2.432	3.364	6.4	18.9	2 1	7 17.25	+24 31.7	1.252	2.190	10.5	20.5
2 11	7 14.57	+19 19.2	2.502	3.366	9.4	19.1	2 11	7 10.66	+25 14.9	1.320	2.199	15.1	20.8
2 21	7 10.19	+19 19.9	2.596	3.368	12.0	19.2	2 21	7 7.57	+25 45.4	1.407	2.208	18.9	21.0
<b>516975</b>	2012 <i>GG</i> <sub>41</sub>		1 13.3 146 <sup>o</sup> .41	2 <sup>o</sup> .6/11.8	18		<b>465483</b>	2008 <i>TL</i> <sub>62</sub>		1 13.3 151 <sup>o</sup> .13	0 <sup>o</sup> .2/13.2	18	
12 13	8 1.91	+27 42.1	2.494	3.333	10.3	21.3	12 13	8 0.43	+21 13.0	2.312	3.150	11.0	21.9
12 23	7 55.31	+28 42.7	2.429	3.342	7.4	21.1	12 23	7 54.25	+21 29.1	2.240	3.155	7.8	21.7
1 2	7 46.86	+29 42.5	2.392	3.351	4.4	20.9	1 2	7 46.28	+21 48.2	2.195	3.159	4.3	21.5
1 12	7 37.31	+30 36.8	2.384	3.359	2.6	20.8	1 12	7 37.26	+22 7.8	2.180	3.163	0.5	21.2
1 22	7 27.57	+31 21.6	2.408	3.367	4.5	20.9	1 22	7 28.11	+22 25.2	2.195	3.167	3.4	21.4
2 1	7 18.60	+31 54.6	2.462	3.375	7.4	21.1	2 1	7 19.77	+22 38.7	2.240	3.170	7.0	21.7
2 11	7 11.28	+32 15.7	2.544	3.382	10.2	21.3	2 11	7 13.06	+22 47.6	2.312	3.173	10.2	21.9
2 21	7 6.14	+32 26.1	2.648	3.388	12.6	21.5	2 21	7 8.52	+22 52.0	2.407	3.176	12.9	22.1
<b>81718</b>	2000 <i>JC</i> <sub>31</sub>		1 13.3 108 <sup>o</sup> .48	6 <sup>o</sup> .5/10.6	18		<b>44114</b>	1998 <i>HN</i> <sub>21</sub>		1 13.3 146 <sup>o</sup> .52	3 <sup>o</sup> .6/14.4	18	
12 13	8 7.78	+38 18.4	2.011	2.844	12.6	18.8	12 13	8 4.18	+12 34.3	1.432	2.270	16.4	19.6
12 23	7 59.94	+39 29.1	1.964	2.861	9.8	18.7	12 23	7 57.69	+12 27.9	1.366	2.274	12.3	19.4
1 2	7 49.51	+40 29.0	1.942	2.878	7.3	18.6	1 2	7 48.45	+12 35.8	1.322	2.278	7.7	19.1
1 12	7 37.61	+41 11.0	1.949	2.895	6.5	18.6	1 12	7 37.53	+12 56.4	1.305	2.281	3.9	18.9
1 22	7 25.63	+41 30.6	1.983	2.911	7.9	18.7	1 22	7 26.37	+13 26.7	1.314	2.284	5.6	19.0
2 1	7 15.02	+41 27.8	2.045	2.926	10.3	18.8	2 1	7 16.47	+14 2.8	1.351	2.287	10.1	19.3
2 11	7 6.90	+41 6.0	2.132	2.942	12.9	19.0	2 11	7 9.09	+14 40.6	1.412	2.289	14.4	19.6
2 21	7 1.88	+40 30.3	2.239	2.957	15.2	19.2	2 21	7 4.92	+15 17.0	1.493	2.291	18.1	19.8
<b>124791</b>	2001 <i>SP</i> <sub>261</sub>												

EPHEMERIDES

1 13.3

1 13.3

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>59834</b>	1999 <i>RE</i> <sub>37</sub>		1 13.3	60°49'	1°0'	12.9 18	<b>248033</b>	2004 <i>GA</i> <sub>9</sub>		1 13.3	353°82'	14°2'	6.1 18
12 13	8 6.52	+21 42.5	1.129	1.994	18.0	18.7	12 13	8 13.15	+58 29.9	1.816	2.590	16.2	19.7
12 23	7 59.67	+22 19.9	1.089	2.016	12.8	18.5	12 23	8 5.68	+60 12.4	1.773	2.585	14.9	19.6
1 2	7 49.54	+23 3.1	1.071	2.038	6.9	18.2	1 2	7 53.45	+61 28.4	1.750	2.580	14.2	19.6
1 12	7 37.64	+23 44.9	1.078	2.061	1.2	17.9	1 12	7 38.15	+62 6.8	1.748	2.577	14.3	19.6
1 22	7 25.87	+24 19.1	1.110	2.083	5.6	18.3	1 22	7 22.47	+62 2.1	1.766	2.574	15.1	19.6
2 1	7 16.06	+24 42.3	1.168	2.106	11.0	18.6	2 1	7 9.25	+61 16.2	1.805	2.573	16.5	19.7
2 11	7 9.52	+24 54.6	1.248	2.129	15.7	19.0	2 11	7 0.53	+59 57.2	1.861	2.572	18.0	19.8
2 21	7 6.77	+24 57.5	1.347	2.151	19.5	19.3	2 21	6 56.98	+58 15.3	1.932	2.572	19.5	20.0
<b>88487</b>	2001 <i>QN</i> <sub>130</sub>		1 13.3	147°16'	0°5'	13.4 18	<b>386751</b>	2010 <i>CR</i> <sub>10</sub>		1 13.3	318°90'	0°9'	12.8 18
12 13	8 6.44	+20 2.5	1.684	2.526	14.2	19.8	12 13	7 58.37	+21 50.6	2.228	3.072	11.1	20.6
12 23	7 58.98	+20 3.9	1.619	2.534	10.2	19.5	12 23	7 52.99	+22 35.9	2.151	3.068	7.9	20.4
1 2	7 49.01	+20 9.9	1.579	2.542	5.6	19.3	1 2	7 45.71	+23 25.7	2.100	3.065	4.3	20.1
1 12	7 37.60	+20 17.5	1.566	2.549	0.9	18.9	1 12	7 37.26	+24 15.9	2.079	3.061	0.9	19.9
1 22	7 26.07	+20 23.9	1.583	2.556	4.3	19.2	1 22	7 28.54	+25 2.5	2.087	3.058	3.7	20.1
2 1	7 15.79	+20 27.5	1.629	2.562	8.9	19.5	2 1	7 20.56	+25 42.5	2.125	3.054	7.4	20.3
2 11	7 7.89	+20 27.7	1.700	2.567	12.9	19.8	2 11	7 14.20	+26 14.2	2.190	3.051	10.7	20.5
2 21	7 2.96	+20 25.0	1.793	2.572	16.3	20.0	2 21	7 10.05	+26 37.5	2.277	3.048	13.5	20.7
<b>8586</b>	Epps		1 13.3	207°49'	0°4'	13.5 18	<b>127146</b>	2002 <i>GT</i> <sub>120</sub>		1 13.3	160°92'	1°2'	13.9 18
12 13	7 57.94	+19 8.6	2.770	3.603	9.5	18.4	12 13	7 59.55	+15 44.3	2.324	3.154	11.2	20.6
12 23	7 52.30	+19 24.0	2.688	3.599	6.8	18.2	12 23	7 53.65	+16 15.2	2.250	3.158	8.1	20.4
1 2	7 45.18	+19 43.5	2.633	3.595	3.8	18.0	1 2	7 45.99	+16 54.2	2.202	3.161	4.7	20.2
1 12	7 37.16	+20 5.0	2.607	3.590	0.6	17.8	1 12	7 37.29	+17 38.5	2.183	3.165	1.4	20.0
1 22	7 28.97	+20 26.4	2.613	3.586	2.9	18.0	1 22	7 28.39	+18 24.8	2.196	3.168	3.3	20.1
2 1	7 21.37	+20 46.1	2.650	3.581	6.0	18.2	2 1	7 20.22	+19 10.1	2.238	3.170	6.8	20.4
2 11	7 15.05	+21 2.8	2.715	3.576	8.9	18.3	2 11	7 13.58	+19 51.8	2.308	3.173	10.1	20.6
2 21	7 10.50	+21 16.0	2.803	3.570	11.3	18.5	2 21	7 9.02	+20 28.6	2.401	3.175	12.8	20.8
<b>457319</b>	2008 <i>SV</i> <sub>95</sub>		1 13.3	176°31'	0°7'	13.6 18	<b>354975</b>	2006 <i>HU</i> <sub>115</sub>		1 13.3	290°96'	1°1'	12.7 17
12 13	8 0.07	+18 29.8	2.470	3.302	10.6	21.8	12 13	7 56.18	+24 50.6	3.000	3.840	8.7	21.4
12 23	7 53.91	+18 38.1	2.393	3.303	7.6	21.6	12 23	7 51.06	+25 13.9	2.914	3.830	6.2	21.2
1 2	7 46.08	+18 51.0	2.343	3.305	4.3	21.4	1 2	7 44.52	+25 37.9	2.856	3.819	3.4	21.0
1 12	7 37.26	+19 6.5	2.323	3.306	0.9	21.2	1 12	7 37.12	+26 0.1	2.827	3.808	1.1	20.8
1 22	7 28.30	+19 22.4	2.334	3.306	3.1	21.4	1 22	7 29.54	+26 18.5	2.830	3.798	3.1	21.0
2 1	7 20.05	+19 37.3	2.375	3.306	6.6	21.6	2 1	7 22.49	+26 31.5	2.862	3.788	5.9	21.1
2 11	7 13.30	+19 49.8	2.444	3.306	9.7	21.8	2 11	7 16.64	+26 38.6	2.923	3.777	8.5	21.3
2 21	7 8.55	+19 59.4	2.536	3.305	12.3	22.0	2 21	7 12.45	+26 40.1	3.007	3.767	10.8	21.4
<b>280880</b>	2005 <i>WG</i> <sub>6</sub>		1 13.3	78°18'	1°0'	13.5 17	<b>413668</b>	2005 <i>VG</i> <sub>128</sub>		1 13.3	77°04'	0°9'	12.9 18
12 13	8 6.62	+18 38.1	1.353	2.204	16.5	21.3	12 13	8 2.10	+22 22.8	1.776	2.625	13.3	21.1
12 23	7 59.30	+18 44.2	1.307	2.226	11.8	21.0	12 23	7 55.85	+22 55.2	1.716	2.635	9.4	20.9
1 2	7 49.20	+18 58.0	1.284	2.248	6.5	20.8	1 2	7 47.31	+23 31.1	1.681	2.646	5.1	20.7
1 12	7 37.61	+19 15.7	1.287	2.269	1.3	20.5	1 12	7 37.45	+24 6.1	1.674	2.656	1.0	20.4
1 22	7 26.13	+19 33.5	1.318	2.291	4.8	20.8	1 22	7 27.46	+24 36.0	1.695	2.667	4.3	20.7
2 1	7 16.30	+19 48.7	1.375	2.312	9.8	21.2	2 1	7 18.59	+24 58.3	1.746	2.677	8.5	20.9
2 11	7 9.28	+20 0.3	1.457	2.334	14.1	21.5	2 11	7 11.88	+25 12.3	1.821	2.688	12.2	21.2
2 21	7 5.58	+20 7.8	1.559	2.354	17.6	21.7	2 21	7 7.91	+25 18.7	1.918	2.698	15.4	21.4
<b>46306</b>	2001 <i>OW</i> <sub>102</sub>		1 13.3	124°86'	0°8'	13.5 18	<b>372955</b>	2011 <i>BO</i> <sub>89</sub>		1 13.3	86°46'	0°5'	13.1 18
12 13	8 5.24	+20 23.8	2.017	2.852	12.5	18.9	12 13	8 2.10	+22 37.2	1.926	2.771	12.5	21.1
12 23	7 57.72	+20 2.0	1.952	2.864	9.0	18.7	12 23	7 55.74	+22 43.0	1.856	2.774	9.0	20.9
1 2	7 48.17	+19 42.5	1.913	2.875	5.0	18.5	1 2	7 47.22	+22 50.9	1.812	2.777	4.9	20.6
1 12	7 37.50	+19 24.0	1.903	2.886	1.0	18.3	1 12	7 37.44	+22 57.8	1.796	2.779	0.7	20.3
1 22	7 26.83	+19 5.5	1.924	2.896	3.7	18.5	1 22	7 27.51	+23 1.4	1.810	2.782	3.9	20.6
2 1	7 17.27	+18 46.7	1.975	2.906	7.7	18.7	2 1	7 18.61	+23 0.3	1.852	2.784	8.0	20.8
2 11	7 9.70	+18 27.8	2.053	2.916	11.2	19.0	2 11	7 11.71	+22 54.3	1.920	2.787	11.7	21.1
2 21	7 4.66	+18 9.2	2.153	2.925	14.1	19.2	2 21	7 7.39	+22 44.3	2.010	2.789	14.8	21.3
<b>490254</b>	2008 <i>WC</i> <sub>114</sub>		1 13.3	35°12'	0°5'	13.1 18	<b>84773</b>	2002 <i>XN</i> <sub>42</sub>		1 13.3	141°94'	3°0'	11.5 18
12 13	7 59.77	+21 23.1	1.678	2.532	13.6	21.3	12 13	8 0.28	+28 53.8	2.505	3.346	10.1	19.1
12 23	7 54.19	+21 49.8	1.626	2.548	9.7	21.1	12 23	7 54.24	+29 59.6	2.437	3.351	7.3	18.9
1 2	7 46.37	+22 20.9	1.599	2.565	5.2	20.9	1 2	7 46.36	+31 4.3	2.397	3.355	4.5	18.7
1 12	7 37.30	+22 52.3	1.599	2.582	0.7	20.6	1 12	7 37.34	+32 3.0	2.387	3.359	3.0	18.6
1 22	7 28.20	+23 20.1	1.627	2.600	4.2	20.9	1 22	7 28.10	+32 51.5	2.407	3.363	4.7	18.7
2 1	7 20.29	+23 41.8	1.683	2.618	8.5	21.2	2 1	7 19.58	+33 27.3	2.457	3.366	7.6	18.9
2 11	7 14.54	+23 56.3	1.764	2.637	12.2	21.5	2 11	7 12.66	+33 50.2	2.534	3.370	10.3	19.1
2 21	7 11.48	+24 3.9	1.866	2.656	15.3	21.7	2 21	7 7.89	+34 1.6	2.634	3.373	12.6	19.3
<b>276306</b>	2002 <i>TG</i> <sub>145</sub>		1 13.3	101°23'	0°4'	13.5 18	<b>495376</b>	2014 <i>OZ</i> <sub>333</sub>		1 13.3	76°63'	4°3'	15.4 18
12 13	7 59.90	+19 1.8	2.340	3.176	11.0	21.6	12 13	8 0.30	+ 7 39.5	1.723	2.543	15.0	20.7
12 23	7 53.78	+19 19.8	2.279	3.191	7.8	21.5	12 23	7 54.51	+ 8 2.8	1.662	2.556	11.4	20.5
1 2	7 45.98	+19 42.3	2.244	3.207	4.3	21.3	1 2	7 46.56	+ 8 44.2	1.624	2.569	7.6	20.3
1 12	7 37.26	+20 6.9	2.239	3.222	0.7	21.0	1 12	7 37.36	+ 9 41.6	1.613	2.583	4.6	20.2
1 22	7 28.48	+20 31.7	2.264	3.236	3.2	21.2	1 22	7 28.03	+10 50.5	1.631	2.596	5.3	20.3
2 1	7 20.53	+20 52.7	2.319	3.251	6.7	21.5	2 1	7 19.72	+12 5.4	1.677	2.609	8.7	20.5
2 11	7 14.17	+21 10.6	2.402	3.265	9.8	21.7	2 11	7 13.40	+13 20.7	1.749	2.623	12.3	20.7
2 21	7 9.87	+21 24.3	2.508	3.279	12.4	21.9	2 21	7 9.65	+14 32.0	1.843	2.636	15.4	21.0
<b>232772</b>	2004 <i>PG</i> <sub>61</sub>		1 13.3	125°28'	5°8'	11.4 18	<b>297136</b>	2010 <i>TH</i> <sub>38</sub>		1 13.3	35°67'	9°	

## EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>117714</b>	Kiskartal		1 13.3 241 <sup>o</sup> .74	4 <sup>o</sup> .2/15.2	18		<b>334445</b>	2002 KQ <sub>16</sub>		1 13.3 109 <sup>o</sup> .82	1 <sup>o</sup> .6/14.3	18	
12 13	7 57.52	+ 7 30.2	2.373	3.180	11.8	20.5	12 13	7 59.65	+13 6.0	2.440	3.260	11.1	20.7
12 23	7 52.17	+ 7 20.0	2.290	3.175	9.1	20.3	12 23	7 53.59	+13 51.6	2.376	3.278	8.1	20.5
1 2	7 45.19	+ 7 22.0	2.233	3.170	6.4	20.1	1 2	7 45.92	+14 46.9	2.339	3.295	4.8	20.3
1 12	7 37.22	+ 7 36.3	2.203	3.166	4.4	20.0	1 12	7 37.33	+15 48.6	2.332	3.311	1.8	20.2
1 22	7 29.03	+ 8 1.6	2.203	3.161	4.9	20.0	1 22	7 28.62	+16 53.2	2.357	3.328	3.2	20.3
2 1	7 21.49	+ 8 35.5	2.232	3.155	7.4	20.2	2 1	7 20.65	+17 56.8	2.412	3.344	6.5	20.5
2 11	7 15.34	+ 9 14.9	2.288	3.150	10.2	20.3	2 11	7 14.14	+18 56.5	2.496	3.359	9.5	20.7
2 21	7 11.12	+ 9 56.8	2.367	3.145	12.8	20.5	2 21	7 9.59	+19 50.3	2.604	3.374	12.0	20.9
<b>463006</b>	2011 FZ <sub>150</sub>		1 13.3 304 <sup>o</sup> .37	0 <sup>o</sup> .8/12.9	18		<b>218905</b>	2007 EV <sub>51</sub>		1 13.3 1 <sup>o</sup> .90	2 <sup>o</sup> .7/14.2	18	
12 13	7 59.66	+19 53.7	1.907	2.753	12.6	20.3	12 13	7 59.92	+14 30.7	1.648	2.491	14.4	20.2
12 23	7 54.25	+21 1.9	1.826	2.744	9.0	20.1	12 23	7 54.45	+14 23.0	1.578	2.490	10.7	19.9
1 2	7 46.56	+22 18.9	1.771	2.736	4.9	19.8	1 2	7 46.64	+14 25.8	1.531	2.490	6.5	19.7
1 12	7 37.39	+23 39.2	1.744	2.727	0.9	19.5	1 12	7 37.43	+14 37.9	1.511	2.490	2.9	19.5
1 22	7 27.79	+24 56.5	1.748	2.719	4.2	19.8	1 22	7 27.99	+14 56.6	1.519	2.490	4.7	19.6
2 1	7 18.96	+26 5.7	1.781	2.711	8.5	20.0	2 1	7 19.59	+15 19.4	1.554	2.491	8.9	19.8
2 11	7 12.01	+27 3.6	1.839	2.703	12.3	20.2	2 11	7 13.29	+15 43.5	1.614	2.493	12.9	20.1
2 21	7 7.65	+27 49.4	1.920	2.695	15.5	20.4	2 21	7 9.73	+16 6.5	1.696	2.494	16.3	20.3
<b>168523</b>	1999 TN <sub>242</sub>		1 13.3 66 <sup>o</sup> .23	1 <sup>o</sup> .6/13.9	18		<b>331838</b>	2003 UJ <sub>95</sub>		1 13.3 65 <sup>o</sup> .77	2 <sup>o</sup> .9/12.1	18	
12 13	8 2.11	+15 32.3	1.502	2.348	15.4	19.6	12 13	8 2.75	+27 42.0	1.920	2.768	12.4	20.1
12 23	7 56.07	+16 2.2	1.446	2.362	11.2	19.4	12 23	7 56.17	+28 32.0	1.873	2.791	8.9	19.9
1 2	7 47.51	+16 44.0	1.414	2.376	6.4	19.1	1 2	7 47.43	+29 20.1	1.853	2.814	5.2	19.7
1 12	7 37.49	+17 33.5	1.408	2.390	1.9	18.9	1 12	7 37.50	+30 1.1	1.861	2.837	2.9	19.6
1 22	7 27.36	+18 25.5	1.431	2.404	4.5	19.1	1 22	7 27.58	+30 30.7	1.898	2.860	5.0	19.8
2 1	7 18.50	+19 15.4	1.481	2.418	9.1	19.4	2 1	7 18.84	+30 47.5	1.964	2.883	8.5	20.0
2 11	7 12.01	+19 59.8	1.555	2.433	13.3	19.7	2 11	7 12.23	+30 52.0	2.055	2.906	11.7	20.3
2 21	7 8.51	+20 37.0	1.651	2.447	16.8	19.9	2 21	7 8.25	+30 46.6	2.167	2.929	14.4	20.5
<b>228750</b>	2002 VH <sub>9</sub>		1 13.3 85 <sup>o</sup> .10	1 <sup>o</sup> .1/13.7	18		<b>184117</b>	2004 HQ <sub>56</sub>		1 13.3 163 <sup>o</sup> .90	2 <sup>o</sup> .5/14.6	18	
12 13	8 4.19	+16 21.7	1.351	2.202	16.5	19.9	12 13	8 0.47	+11 14.7	2.270	3.087	11.9	20.8
12 23	7 57.81	+17 1.7	1.296	2.214	11.9	19.6	12 23	7 54.34	+11 46.2	2.194	3.091	8.9	20.7
1 2	7 48.56	+17 54.3	1.263	2.227	6.7	19.4	1 2	7 46.41	+12 29.6	2.144	3.096	5.5	20.5
1 12	7 37.62	+18 54.1	1.257	2.239	1.5	19.0	1 12	7 37.40	+13 22.3	2.124	3.100	2.7	20.3
1 22	7 26.51	+19 54.6	1.278	2.252	4.8	19.3	1 22	7 28.19	+14 21.1	2.134	3.103	3.8	20.4
2 1	7 16.84	+20 50.2	1.326	2.264	10.0	19.6	2 1	7 19.70	+15 22.1	2.175	3.106	7.1	20.6
2 11	7 9.86	+21 37.6	1.398	2.276	14.5	19.9	2 11	7 12.76	+16 21.6	2.244	3.109	10.3	20.8
2 21	7 6.23	+22 15.4	1.490	2.288	18.2	20.2	2 21	7 7.93	+17 17.1	2.336	3.110	13.1	21.0
<b>418267</b>	2008 ES <sub>38</sub>		1 13.3 215 <sup>o</sup> .74	1 <sup>o</sup> .0/12.8	18		<b>312222</b>	2007 WZ <sub>39</sub>		1 13.3 77 <sup>o</sup> .91	4 <sup>o</sup> .6/11.4	17	
12 13	8 2.17	+22 45.9	2.217	3.056	11.3	22.3	12 13	8 7.18	+29 7.9	1.546	2.398	14.7	20.9
12 23	7 55.75	+23 24.4	2.134	3.049	8.1	22.0	12 23	7 59.81	+30 36.5	1.506	2.424	10.6	20.7
1 2	7 47.26	+24 6.1	2.077	3.041	4.5	21.8	1 2	7 49.59	+32 1.8	1.490	2.449	6.6	20.5
1 12	7 37.47	+24 47.2	2.051	3.033	1.1	21.5	1 12	7 37.77	+33 14.7	1.502	2.474	4.6	20.4
1 22	7 27.37	+25 23.7	2.054	3.024	3.9	21.7	1 22	7 25.92	+34 8.3	1.543	2.499	6.9	20.6
2 1	7 18.02	+25 53.0	2.088	3.015	7.7	21.9	2 1	7 15.63	+34 40.3	1.611	2.523	10.6	20.9
2 11	7 10.41	+26 13.9	2.149	3.005	11.1	22.1	2 11	7 8.12	+34 52.8	1.703	2.547	14.1	21.2
2 21	7 5.15	+26 26.8	2.232	2.995	14.0	22.3	2 21	7 3.98	+34 49.8	1.814	2.571	17.0	21.4
<b>245342</b>	2005 EC <sub>178</sub>		1 13.3 279 <sup>o</sup> .46	3 <sup>o</sup> .7/14.6	18		<b>183352</b>	2002 VG <sub>114</sub>		1 13.3 26 <sup>o</sup> .66	0 <sup>o</sup> .1/13.3	18	
12 13	8 0.83	+11 29.2	1.615	2.450	15.1	20.4	12 13	8 1.47	+20 45.6	1.404	2.264	15.5	20.0
12 23	7 55.27	+11 31.8	1.534	2.440	11.4	20.2	12 23	7 55.84	+21 0.6	1.347	2.271	11.1	19.7
1 2	7 47.19	+11 49.2	1.476	2.430	7.3	19.9	1 2	7 47.48	+21 21.5	1.312	2.278	6.1	19.5
1 12	7 37.49	+12 20.2	1.444	2.419	3.9	19.7	1 12	7 37.53	+21 44.1	1.303	2.286	0.7	19.1
1 22	7 27.36	+13 1.8	1.440	2.409	5.3	19.7	1 22	7 27.45	+22 4.4	1.321	2.295	4.7	19.4
2 1	7 18.16	+13 49.8	1.463	2.399	9.5	20.0	2 1	7 18.74	+22 19.7	1.366	2.305	9.7	19.7
2 11	7 11.08	+14 39.8	1.511	2.389	13.7	20.2	2 11	7 12.59	+22 28.9	1.434	2.315	14.0	20.0
2 21	7 6.88	+15 28.1	1.581	2.379	17.3	20.4	2 21	7 9.63	+22 32.0	1.522	2.325	17.7	20.3
<b>132454</b>	2002 HL <sub>4</sub>		1 13.3 177 <sup>o</sup> .21	1 <sup>o</sup> .5/12.6	18		<b>414764</b>	2010 LE <sub>1</sub>		1 13.3 129 <sup>o</sup> .81	2 <sup>o</sup> .2/14.4	18	
12 13	8 3.98	+23 20.0	1.912	2.755	12.7	20.3	12 13	8 3.12	+12 27.1	2.131	2.949	12.5	21.6
12 23	7 57.25	+24 10.0	1.840	2.757	9.1	20.0	12 23	7 56.20	+12 59.7	2.068	2.967	9.2	21.5
1 2	7 48.15	+25 3.5	1.795	2.758	5.0	19.8	1 2	7 47.40	+13 43.3	2.031	2.985	5.6	21.3
1 12	7 37.59	+25 55.1	1.778	2.759	1.6	19.6	1 12	7 37.52	+14 35.0	2.024	3.001	2.4	21.1
1 22	7 26.74	+26 39.9	1.791	2.760	4.5	19.8	1 22	7 27.55	+15 30.8	2.047	3.017	3.8	21.2
2 1	7 16.88	+27 14.6	1.833	2.759	8.6	20.0	2 1	7 18.48	+16 27.1	2.101	3.032	7.3	21.5
2 11	7 9.08	+27 38.3	1.902	2.759	12.3	20.2	2 11	7 11.16	+17 20.5	2.183	3.047	10.6	21.7
2 21	7 4.02	+27 52.1	1.992	2.757	15.4	20.4	2 21	7 6.13	+18 9.0	2.289	3.060	13.4	21.9
<b>327917</b>	2007 DJ <sub>25</sub>		1 13.3 237 <sup>o</sup> .69	2 <sup>o</sup> .7/14.4	18		<b>78718</b>	2002 TU <sub>214</sub>		1 13.3 359 <sup>o</sup> .00	2 <sup>o</sup> .8/14.7	18	
12 13	7 59.71	+12 37.2	1.982	2.810	12.9	21.2	12 13	7 57.64	+11 22.3	2.099	2.925	12.4	19.4
12 23	7 54.03	+12 45.6	1.903	2.807	9.6	21.0	12 23	7 52.46	+11 41.8	2.023	2.924	9.3	19.2
1 2	7 46.33	+13 5.3	1.848	2.803	6.0	20.7	1 2	7 45.44	+12 13.6	1.972	2.924	5.8	19.0
1 12	7 37.38	+13 34.8	1.822	2.799	2.9	20.5	1 12	7 37.30	+12 55.8	1.949	2.924	3.0	18.8
1 22	7 28.17	+14 11.2	1.825	2.794	4.3	20.6	1 22	7 28.94	+13 45.3	1.955	2.924	4.1	18.9
2 1	7 19.75	+14 51.5	1.857	2.790	7.9	20.8	2 1	7 21.33	+14 38.5	1.990	2.924	7.5	19.1
2 11	7 13.08	+15 32.3	1.915	2.786	11.5	21.0	2 11	7 15.31	+15 31.8	2.052	2.924	10.8	19.3
2 21	7 8.78	+16 11.1	1.995	2.781	14.6	21.2	2 21	7 11.46	+16 22.2	2.138	2.925	13.7	19.5
<b>239012</b>	2006 DZ <sub>47</sub>		1 13.3 178 <sup>o</sup> .20	0 <sup>o</sup> .7/13.0	18		<b>68402</b>	2001 QM <sub>98</sub>		1 1			

## EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>423334</b>	2005 <i>GH</i> <sub>46</sub>		1 13.3 167°37	3°9/15.2	18		<b>427046</b>	2014 <i>TG</i> <sub>56</sub>		1 13.3 105°74	1°9/14.1	18	
12 13	7 57.79	+ 7 48.4	2.492	3.297	11.3	21.7	12 13	8 0.99	+14 58.2	1.959	2.792	12.9	21.3
12 23	7 52.29	+ 7 40.9	2.415	3.299	8.8	21.5	12 23	7 54.86	+15 10.3	1.894	2.803	9.4	21.1
1 2	7 45.24	+ 7 44.9	2.363	3.301	6.1	21.3	1 2	7 46.75	+15 31.4	1.855	2.813	5.5	20.9
1 12	7 37.29	+ 8 0.2	2.340	3.303	4.1	21.2	1 12	7 37.49	+15 59.5	1.844	2.824	2.1	20.7
1 22	7 29.18	+ 8 25.3	2.346	3.304	4.6	21.2	1 22	7 28.11	+16 31.3	1.862	2.834	3.9	20.9
2 1	7 21.72	+ 8 58.2	2.382	3.305	7.0	21.4	2 1	7 19.67	+17 4.1	1.909	2.844	7.7	21.1
2 11	7 15.60	+ 9 35.8	2.445	3.306	9.7	21.6	2 11	7 13.08	+17 35.3	1.983	2.853	11.2	21.4
2 21	7 11.32	+10 15.4	2.532	3.307	12.2	21.7	2 21	7 8.88	+18 3.4	2.080	2.863	14.2	21.6
<b>433854</b>	2015 <i>BO</i> <sub>276</sub>		1 13.3 186°39	5°8/10.9	18		<b>420994</b>	2013 <i>PR</i> <sub>39</sub>		1 13.3 129°70	5°7/16.0	18	
12 13	8 5.56	+41 32.1	2.625	3.443	10.5	20.9	12 13	7 58.98	+ 3 19.3	2.168	2.960	13.3	21.1
12 23	7 58.03	+42 3.3	2.558	3.443	8.3	20.8	12 23	7 53.28	+ 3 9.8	2.098	2.967	10.6	20.9
1 2	7 48.42	+42 23.6	2.517	3.442	6.5	20.7	1 2	7 45.84	+ 3 17.0	2.051	2.975	7.8	20.8
1 12	7 37.66	+42 28.1	2.504	3.442	5.8	20.6	1 12	7 37.38	+ 3 41.2	2.031	2.982	5.9	20.7
1 22	7 26.82	+42 14.5	2.521	3.441	6.8	20.7	1 22	7 28.78	+ 4 20.5	2.040	2.988	6.2	20.7
2 1	7 17.04	+41 43.2	2.566	3.440	8.8	20.8	2 1	7 20.93	+ 5 11.7	2.078	2.995	8.3	20.8
2 11	7 9.24	+40 57.0	2.636	3.439	10.9	21.0	2 11	7 14.65	+ 6 10.5	2.142	3.001	11.0	21.0
2 21	7 3.96	+40 0.2	2.729	3.438	12.9	21.1	2 21	7 10.46	+ 7 12.4	2.230	3.007	13.6	21.2
<b>221977</b>	1995 <i>WG</i> <sub>1</sub>		1 13.3 66°61	1°8/13.9	18		<b>304905</b>	2007 <i>RK</i> <sub>264</sub>		1 13.3 273°81	1°2/12.9	18	
12 13	8 1.35	+16 23.5	1.829	2.668	13.4	19.8	12 13	8 4.44	+23 38.1	1.564	2.417	14.5	21.3
12 23	7 55.16	+16 18.6	1.770	2.682	9.7	19.6	12 23	7 58.11	+23 55.9	1.483	2.404	10.5	21.0
1 2	7 46.89	+16 21.3	1.736	2.696	5.6	19.4	1 2	7 48.88	+24 16.5	1.425	2.391	5.8	20.7
1 12	7 37.48	+16 29.8	1.730	2.710	2.0	19.2	1 12	7 37.78	+24 35.2	1.395	2.377	1.3	20.4
1 22	7 28.02	+16 42.0	1.752	2.724	4.0	19.4	1 22	7 26.20	+24 47.7	1.392	2.364	4.9	20.6
2 1	7 19.64	+16 55.6	1.804	2.739	8.0	19.6	2 1	7 15.74	+24 51.7	1.417	2.350	9.9	20.9
2 11	7 13.25	+17 9.1	1.881	2.753	11.6	19.9	2 11	7 7.77	+24 47.3	1.466	2.336	14.4	21.1
2 21	7 9.38	+17 21.0	1.980	2.767	14.7	20.1	2 21	7 3.09	+24 36.0	1.535	2.323	18.2	21.3
<b>420023</b>	2011 <i>CA</i> <sub>90</sub>		1 13.3 180°99	0°6/13.1	16		<b>394474</b>	2007 <i>TT</i> <sub>23</sub>		1 13.3 161°29	2°8/14.5	18	
12 13	8 2.32	+23 4.0	2.093	2.935	11.8	21.6	12 13	8 3.46	+11 46.6	2.369	3.179	11.7	22.2
12 23	7 55.81	+23 7.6	2.019	2.935	8.4	21.3	12 23	7 56.34	+11 46.7	2.295	3.189	8.7	22.0
1 2	7 47.27	+23 12.5	1.972	2.936	4.6	21.1	1 2	7 47.48	+11 56.3	2.248	3.197	5.5	21.8
1 12	7 37.53	+23 16.0	1.953	2.936	0.7	20.8	1 12	7 37.60	+12 13.9	2.231	3.205	3.0	21.7
1 22	7 27.65	+23 16.0	1.964	2.935	3.7	21.1	1 22	7 27.59	+12 37.8	2.245	3.211	4.0	21.8
2 1	7 18.69	+23 11.2	2.004	2.935	7.6	21.3	2 1	7 18.37	+13 5.6	2.290	3.217	7.1	22.0
2 11	7 11.60	+23 1.9	2.071	2.935	11.1	21.5	2 11	7 10.74	+13 35.1	2.363	3.221	10.1	22.2
2 21	7 6.94	+22 48.9	2.161	2.934	14.1	21.7	2 21	7 5.21	+14 4.2	2.460	3.225	12.8	22.4
<b>492753</b>	2014 <i>QD</i> <sub>166</sub>		1 13.3 153°25	4°9/15.8	18		<b>85327</b>	1995 <i>OR</i> <sub>15</sub>		1 13.3 189°16	0°1/13.3	18	
12 13	8 1.59	+ 4 44.7	2.250	3.041	12.9	21.7	12 13	8 1.53	+22 1.1	2.436	3.272	10.6	19.6
12 23	7 55.06	+ 4 48.2	2.178	3.051	10.1	21.6	12 23	7 55.01	+21 47.5	2.359	3.271	7.6	19.4
1 2	7 46.79	+ 5 7.2	2.131	3.060	7.2	21.4	1 2	7 46.75	+21 34.9	2.308	3.271	4.2	19.2
1 12	7 37.48	+ 5 41.3	2.113	3.069	5.1	21.3	1 12	7 37.52	+21 21.8	2.287	3.270	0.5	18.9
1 22	7 28.03	+ 6 28.1	2.124	3.077	5.5	21.3	1 22	7 28.18	+21 7.1	2.297	3.270	3.2	19.1
2 1	7 19.36	+ 7 24.2	2.165	3.084	7.9	21.5	2 1	7 19.64	+20 50.3	2.338	3.269	6.7	19.3
2 11	7 12.26	+ 8 25.3	2.234	3.091	10.7	21.7	2 11	7 12.69	+20 31.7	2.406	3.268	9.8	19.5
2 21	7 7.27	+ 9 27.5	2.326	3.096	13.3	21.9	2 21	7 7.83	+20 11.8	2.498	3.266	12.5	19.7
<b>227598</b>	2006 <i>AU</i> <sub>42</sub>		1 13.3 331°99	1°5/13.9	18		<b>413697</b>	2005 <i>YA</i> <sub>14</sub>		1 13.3 31°19	0°0/13.2	18	
12 13	7 59.49	+16 6.4	1.878	2.718	13.0	20.7	12 13	8 1.24	+20 59.6	1.435	2.294	15.2	20.6
12 23	7 54.00	+16 22.5	1.803	2.716	9.5	20.5	12 23	7 55.54	+21 7.1	1.385	2.309	10.9	20.4
1 2	7 46.37	+16 47.7	1.753	2.713	5.5	20.2	1 2	7 47.27	+21 19.6	1.357	2.323	5.9	20.2
1 12	7 37.44	+17 19.5	1.730	2.711	1.7	20.0	1 12	7 37.59	+21 33.4	1.356	2.339	0.7	19.8
1 22	7 28.26	+17 54.5	1.736	2.709	3.9	20.1	1 22	7 27.90	+21 45.2	1.382	2.356	4.5	20.2
2 1	7 19.95	+18 29.5	1.771	2.707	8.0	20.4	2 1	7 19.61	+21 52.9	1.434	2.373	9.3	20.5
2 11	7 13.51	+19 2.0	1.832	2.705	11.8	20.6	2 11	7 13.82	+21 55.8	1.511	2.391	13.5	20.8
2 21	7 9.56	+19 30.4	1.914	2.704	15.0	20.8	2 21	7 11.06	+21 54.0	1.607	2.409	16.9	21.0
<b>362453</b>	2010 <i>RP</i> <sub>115</sub>		1 13.3 107°64	1°4/13.8	18		<b>36765</b>	2000 <i>RE</i> <sub>86</sub>		1 13.3 44°51	0°8/13.7	18	
12 13	8 3.31	+17 1.2	1.848	2.685	13.4	21.7	12 13	8 0.18	+17 16.8	1.778	2.623	13.5	18.8
12 23	7 56.55	+17 7.2	1.788	2.700	9.7	21.5	12 23	7 54.57	+17 49.9	1.711	2.627	9.7	18.6
1 2	7 47.66	+17 20.4	1.754	2.715	5.5	21.2	1 2	7 46.73	+18 32.1	1.668	2.631	5.4	18.4
1 12	7 37.58	+17 38.5	1.748	2.729	1.6	21.0	1 12	7 37.54	+19 19.5	1.653	2.635	1.1	18.1
1 22	7 27.45	+17 58.5	1.771	2.743	3.9	21.2	1 22	7 28.12	+20 7.9	1.666	2.640	3.9	18.3
2 1	7 18.41	+18 18.2	1.823	2.757	8.0	21.5	2 1	7 19.69	+20 53.1	1.709	2.645	8.3	18.6
2 11	7 11.42	+18 35.8	1.902	2.770	11.7	21.7	2 11	7 13.25	+21 32.6	1.776	2.649	12.2	18.8
2 21	7 7.02	+18 50.5	2.002	2.783	14.7	22.0	2 21	7 9.44	+22 5.0	1.866	2.654	15.4	19.0
<b>467302</b>	2016 <i>EP</i> <sub>199</sub>		1 13.3 247°66	2°3/12.3	17		<b>411447</b>	2010 <i>WF</i> <sub>60</sub>		1 13.3 100°72	4°7/11.2	18	
12 13	8 1.85	+26 30.2	2.037	2.883	11.9	21.9	12 13	8 5.57	+31 37.2	1.909	2.754	12.7	20.8
12 23	7 55.70	+27 9.1	1.960	2.877	8.6	21.6	12 23	7 58.44	+32 54.3	1.859	2.771	9.3	20.6
1 2	7 47.32	+27 48.4	1.909	2.871	4.9	21.4	1 2	7 48.83	+34 6.9	1.835	2.788	6.1	20.4
1 12	7 37.56	+28 23.2	1.886	2.865	2.3	21.2	1 12	7 37.78	+35 7.5	1.839	2.805	4.7	20.4
1 22	7 27.50	+28 49.6	1.894	2.859	4.7	21.4	1 22	7 26.60	+35 50.7	1.873	2.821	6.5	20.5
2 1	7 18.34	+29 5.2	1.930	2.853	8.4	21.6	2 1	7 16.62	+36 14.8	1.934	2.838	9.6	20.7
2 11	7 11.12	+29 10.1	1.991	2.846	11.9	21.8	2 11	7 8.96	+36 21.3	2.021	2.853	12.7	21.0
2 21	7 6.48	+29 5.7	2.075	2.840	14.8	22.0	2 21	7 4.22	+36 13.7	2.128	2.869	15.2	21.2
<b>230540</b>	2002 <i>YX</i> <sub>24</sub>		1 13.3 17°91	0°9/13.0	18		<b>469038</b>	2015 <i>AM</i> <sub>251</sub>		1 13.3 116°23	2°4/12.1	18	
12 13	8 0.25	+20 49.9	0.975	1.855	18.9								

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>219796</b>	2002 <i>AZ</i> <sub>132</sub>		1 13.3	27°37'	0°6'/13.2	18	<b>404852</b>	2014 <i>KK</i> <sub>16</sub>		1 13.3	211°55'	1°6'/13.9	18
12 13	8 2.83	+23 25.5	1.462	2.320	15.0	20.0	12 13	8 4.17	+16 12.4	1.707	2.544	14.3	21.8
12 23	7 56.71	+23 19.2	1.405	2.329	10.7	19.8	12 23	7 57.59	+16 24.1	1.628	2.539	10.4	21.5
1 2	7 47.94	+23 14.3	1.372	2.338	5.9	19.5	1 2	7 48.49	+16 45.3	1.574	2.534	6.1	21.3
1 12	7 37.68	+23 7.7	1.366	2.349	0.9	19.2	1 12	7 37.80	+17 13.3	1.547	2.528	1.9	21.0
1 22	7 27.40	+22 57.1	1.386	2.359	4.6	19.5	1 22	7 26.74	+17 44.7	1.549	2.522	4.4	21.1
2 1	7 18.55	+22 41.8	1.434	2.371	9.4	19.8	2 1	7 16.67	+18 16.1	1.580	2.515	9.0	21.4
2 11	7 12.26	+22 22.6	1.505	2.383	13.7	20.1	2 11	7 8.78	+18 44.9	1.636	2.507	13.1	21.6
2 21	7 9.10	+22 0.5	1.597	2.396	17.1	20.3	2 21	7 3.79	+19 9.8	1.714	2.499	16.7	21.9
<b>167762</b>	2004 <i>XX</i> <sub>139</sub>		1 13.3	1°90'	0°9'/13.6	18	<b>25285</b>	1998 <i>WB</i> <sub>7</sub>		1 13.3	138°75'	0°2'/13.2	18 R
12 13	8 1.61	+17 46.7	1.404	2.259	15.8	20.1	12 13	8 0.61	+21 21.2	2.344	3.182	10.9	18.9
12 23	7 56.09	+18 11.8	1.338	2.259	11.4	19.8	12 23	7 54.44	+21 38.1	2.275	3.189	7.7	18.8
1 2	7 47.76	+18 47.4	1.294	2.258	6.4	19.5	1 2	7 46.50	+21 58.0	2.232	3.195	4.2	18.5
1 12	7 37.69	+19 29.3	1.276	2.258	1.2	19.2	1 12	7 37.55	+22 18.1	2.218	3.201	0.5	18.3
1 22	7 27.29	+20 12.3	1.285	2.259	4.7	19.4	1 22	7 28.47	+22 35.9	2.235	3.207	3.3	18.5
2 1	7 18.13	+20 52.0	1.320	2.260	9.9	19.7	2 1	7 20.21	+22 49.7	2.282	3.213	6.8	18.7
2 11	7 11.49	+21 25.5	1.380	2.261	14.4	20.0	2 11	7 13.55	+22 58.8	2.356	3.218	10.0	18.9
2 21	7 8.10	+21 51.6	1.459	2.262	18.3	20.2	2 21	7 9.02	+23 3.2	2.454	3.223	12.7	19.1
<b>179872</b>	2002 <i>TR</i> <sub>298</sub>		1 13.3	56°33'	0°5'/13.2	18	<b>293596</b>	2007 <i>JG</i> <sub>36</sub>		1 13.3	258°78'	2°2'/14.3	18
12 13	8 3.79	+22 14.8	1.529	2.383	14.8	20.0	12 13	7 59.49	+13 50.8	2.121	2.950	12.2	21.3
12 23	7 57.30	+22 23.2	1.474	2.396	10.5	19.8	12 23	7 53.90	+14 3.6	2.033	2.939	9.0	21.1
1 2	7 48.23	+22 34.8	1.443	2.409	5.7	19.6	1 2	7 46.35	+14 26.3	1.971	2.927	5.5	20.8
1 12	7 37.72	+22 45.8	1.439	2.422	0.8	19.2	1 12	7 37.54	+14 57.3	1.937	2.915	2.4	20.6
1 22	7 27.19	+22 53.0	1.462	2.435	4.5	19.6	1 22	7 28.42	+15 33.7	1.933	2.903	3.9	20.7
2 1	7 18.04	+22 54.7	1.513	2.449	9.2	19.9	2 1	7 19.98	+16 12.7	1.958	2.891	7.6	20.9
2 11	7 11.38	+22 50.9	1.589	2.463	13.3	20.1	2 11	7 13.16	+16 51.3	2.010	2.879	11.1	21.1
2 21	7 7.77	+22 42.6	1.685	2.477	16.7	20.4	2 21	7 8.59	+17 27.3	2.084	2.867	14.2	21.3
<b>15871</b>	1996 <i>QX</i> <sub>1</sub>		1 13.3	54°72'	2°8'/12.8	18	<b>378493</b>	2007 <i>TL</i> <sub>259</sub>		1 13.3	38°56'	1°1'/12.9	18
12 13	8 7.57	+29 31.4	1.582	2.432	14.5	17.0	12 13	8 0.26	+23 36.7	1.901	2.751	12.5	20.3
12 23	7 59.87	+29 26.0	1.532	2.450	10.5	16.8	12 23	7 54.47	+23 55.5	1.843	2.763	8.9	20.1
1 2	7 49.54	+29 14.8	1.506	2.467	6.1	16.6	1 2	7 46.59	+24 16.1	1.810	2.775	4.8	19.9
1 12	7 37.87	+28 54.1	1.507	2.485	2.9	16.5	1 12	7 37.56	+24 34.8	1.806	2.788	1.1	19.7
1 22	7 26.39	+28 22.2	1.536	2.503	5.3	16.7	1 22	7 28.47	+24 48.6	1.830	2.801	4.0	19.9
2 1	7 16.54	+27 40.5	1.594	2.522	9.5	16.9	2 1	7 20.43	+24 55.9	1.883	2.815	7.9	20.2
2 11	7 9.40	+26 52.3	1.676	2.540	13.3	17.2	2 11	7 14.37	+24 56.6	1.961	2.828	11.5	20.4
2 21	7 5.43	+26 1.2	1.780	2.559	16.4	17.5	2 21	7 10.81	+24 51.3	2.061	2.842	14.4	20.7
<b>520004</b>	2013 <i>TP</i> <sub>170</sub>		1 13.3	59°95'	0°5'/13.1	18	<b>381988</b>	2010 <i>HL</i> <sub>78</sub>		1 13.3	352°45'	9°1'/7.9	18
12 13	8 0.72	+21 48.1	1.987	2.832	12.2	21.2	12 13	8 4.98	+45 0.0	2.030	2.853	12.9	20.3
12 23	7 54.65	+22 10.5	1.933	2.850	8.7	21.0	12 23	7 58.65	+46 47.1	1.974	2.850	10.8	20.1
1 2	7 46.63	+22 36.0	1.904	2.869	4.7	20.8	1 2	7 49.28	+48 20.6	1.944	2.848	9.4	20.0
1 12	7 37.54	+23 1.1	1.904	2.887	0.7	20.5	1 12	7 37.92	+49 31.4	1.939	2.846	9.3	20.0
1 22	7 28.43	+23 22.9	1.934	2.906	3.7	20.8	1 22	7 26.05	+50 13.4	1.961	2.845	10.5	20.1
2 1	7 20.34	+23 39.2	1.992	2.924	7.6	21.1	2 1	7 15.36	+50 25.4	2.007	2.844	12.5	20.2
2 11	7 14.15	+23 49.5	2.077	2.943	11.0	21.3	2 11	7 7.31	+50 10.9	2.074	2.843	14.6	20.4
2 21	7 10.36	+23 54.0	2.184	2.962	13.8	21.5	2 21	7 2.71	+49 36.1	2.160	2.843	16.6	20.5
<b>157123</b>	2004 <i>NW</i> <sub>5</sub>		1 13.3	132°88'	1°6'/12.8	18	<b>78687</b>	2002 <i>TP</i> <sub>139</sub>		1 13.3	42°40'	2°2'/12.6	18
12 13	8 7.88	+24 50.6	1.851	2.691	13.2	20.9	12 13	8 2.22	+27 52.9	2.016	2.863	12.0	18.8
12 23	7 59.90	+25 15.3	1.792	2.707	9.4	20.7	12 23	7 55.83	+28 4.0	1.952	2.869	8.6	18.6
1 2	7 49.56	+25 40.2	1.759	2.722	5.2	20.4	1 2	7 47.34	+28 12.7	1.914	2.876	4.9	18.4
1 12	7 37.89	+26 0.6	1.756	2.737	1.6	20.2	1 12	7 37.66	+28 15.3	1.904	2.883	2.3	18.3
1 22	7 26.19	+26 13.2	1.782	2.751	4.5	20.4	1 22	7 27.93	+28 9.4	1.924	2.891	4.5	18.4
2 1	7 15.75	+26 16.6	1.838	2.764	8.5	20.7	2 1	7 19.27	+27 54.6	1.972	2.898	8.1	18.7
2 11	7 7.63	+26 11.5	1.919	2.776	12.2	21.0	2 11	7 12.61	+27 32.1	2.047	2.906	11.4	18.9
2 21	7 2.38	+26 0.0	2.023	2.787	15.2	21.2	2 21	7 8.50	+27 3.9	2.143	2.914	14.2	19.1
<b>182453</b>	2001 <i>SB</i> <sub>53</sub>		1 13.3	88°45'	6°8'/10.9	18	<b>496476</b>	2014 <i>ST</i> <sub>214</sub>		1 13.3	93°19'	8°5'/17.5	18
12 13	8 8.77	+38 32.3	1.853	2.688	13.4	20.4	12 13	8 0.89	- 4 9.4	2.100	2.853	14.9	21.5
12 23	8 0.82	+39 36.0	1.810	2.708	10.4	20.2	12 23	7 54.57	- 4 47.0	2.048	2.877	12.5	21.4
1 2	7 50.13	+40 27.8	1.791	2.728	7.8	20.1	1 2	7 46.53	- 5 2.6	2.017	2.901	10.2	21.3
1 12	7 37.95	+41 0.0	1.801	2.748	6.8	20.1	1 12	7 37.57	- 4 54.6	2.013	2.924	8.7	21.2
1 22	7 25.80	+41 8.9	1.838	2.768	8.2	20.2	1 22	7 28.59	- 4 24.0	2.035	2.947	8.6	21.3
2 1	7 15.21	+40 54.9	1.901	2.787	10.7	20.4	2 1	7 20.52	- 3 34.2	2.084	2.970	9.9	21.4
2 11	7 7.32	+40 22.0	1.989	2.806	13.4	20.6	2 11	7 14.13	- 2 30.6	2.158	2.992	11.9	21.6
2 21	7 2.69	+39 36.2	2.097	2.825	15.8	20.8	2 21	7 9.89	- 1 19.2	2.255	3.013	14.0	21.8
<b>226835</b>	2004 <i>RJ</i> <sub>337</sub>		1 13.3	154°85'	2°4'/14.3	18	<b>424912</b>	2008 <i>WO</i> <sub>86</sub>		1 13.3	326°65'	3°3'/14.3	18
12 13	8 0.20	+13 55.3	2.098	2.926	12.3	21.1	12 13	7 59.19	+13 22.6	1.869	2.703	13.3	20.5
12 23	7 54.28	+13 54.8	2.024	2.929	9.1	20.9	12 23	7 53.82	+12 58.3	1.788	2.694	10.0	20.3
1 2	7 46.47	+14 3.4	1.976	2.931	5.5	20.7	1 2	7 46.35	+12 43.2	1.731	2.685	6.3	20.0
1 12	7 37.53	+14 19.6	1.956	2.934	2.6	20.5	1 12	7 37.56	+12 37.3	1.701	2.676	3.4	19.8
1 22	7 28.43	+14 41.3	1.966	2.936	4.0	20.6	1 22	7 28.50	+12 39.5	1.699	2.668	4.8	19.9
2 1	7 20.14	+15 6.0	2.005	2.937	7.5	20.8	2 1	7 20.28	+12 48.1	1.726	2.660	8.4	20.1
2 11	7 13.54	+15 31.6	2.070	2.939	10.9	21.0	2 11	7 13.89	+13 1.1	1.778	2.652	12.1	20.3
2 21	7 9.19	+15 56.1	2.159	2.941	13.8	21.2	2 21	7 9.96	+13 16.2	1.852	2.645	15.3	20.5
<b>471321</b>	2011 <i>KG</i> <sub>6</sub>		1 13.3	276°55'	6°2'/15.3	17	<b>420941</b>	2013 <i>OC</i> <sub>11</sub>		1 13.3	151°82'	6°6'/15.8	18
12 13	7 59.04	+ 4 0.7	2.188</										

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>85929</b>	1999 <i>CJ</i> <sub>122</sub>		1 13.3 330°08	5°7/10.3 18			<b>323938</b>	2005 <i>TE</i> <sub>194</sub>		1 13.3 184°59	0°2/13.3 18		
12 13	8 1.61	+29 22.3	1.457	2.321	14.8	18.1	12 13	8 2.24	+21 17.3	1.897	2.741	12.7	21.7
12 23	7 56.60	+31 22.3	1.386	2.308	10.9	17.8	12 23	7 56.01	+21 31.2	1.824	2.741	9.1	21.5
1 2	7 48.36	+33 25.7	1.339	2.297	7.2	17.6	1 2	7 47.55	+21 49.0	1.777	2.741	5.0	21.3
1 12	7 37.84	+35 20.7	1.318	2.286	5.8	17.5	1 12	7 37.76	+22 7.4	1.758	2.741	0.6	20.9
1 22	7 26.56	+36 56.2	1.325	2.275	8.5	17.6	1 22	7 27.76	+22 23.4	1.768	2.741	3.9	21.2
2 1	7 16.35	+38 5.4	1.358	2.266	12.5	17.8	2 1	7 18.74	+22 34.8	1.807	2.740	8.1	21.4
2 11	7 8.86	+38 47.4	1.413	2.257	16.5	18.0	2 11	7 11.71	+22 41.0	1.872	2.740	11.9	21.7
2 21	7 5.09	+39 6.0	1.486	2.249	19.8	18.2	2 21	7 7.29	+22 42.3	1.959	2.739	15.1	21.9
<b>201272</b>	2002 <i>RK</i> <sub>201</sub>		1 13.3 102°81	0°3/13.5 18			<b>147596</b>	2004 <i>GB</i> <sub>25</sub>		1 13.3 172°14	1°5/13.0 18		
12 13	7 59.61	+18 45.7	2.268	3.105	11.2	20.2	12 13	8 6.26	+26 30.7	1.840	2.684	13.1	19.9
12 23	7 53.77	+19 19.3	2.202	3.115	8.0	20.0	12 23	7 58.90	+26 21.5	1.768	2.685	9.4	19.7
1 2	7 46.16	+19 58.5	2.163	3.126	4.4	19.8	1 2	7 49.12	+26 9.7	1.722	2.685	5.3	19.5
1 12	7 37.54	+20 40.3	2.153	3.136	0.6	19.6	1 12	7 37.95	+25 52.2	1.704	2.686	1.6	19.2
1 22	7 28.77	+21 21.1	2.174	3.147	3.3	19.8	1 22	7 26.67	+25 27.3	1.716	2.686	4.4	19.4
2 1	7 20.81	+21 58.2	2.225	3.157	6.9	20.0	2 1	7 16.61	+24 55.3	1.757	2.686	8.6	19.7
2 11	7 14.45	+22 29.9	2.302	3.167	10.1	20.3	2 11	7 8.82	+24 18.1	1.823	2.686	12.4	19.9
2 21	7 10.22	+22 55.5	2.404	3.177	12.8	20.5	2 21	7 3.91	+23 38.0	1.912	2.686	15.6	20.1
<b>473208</b>	2015 <i>KE</i> <sub>115</sub>		1 13.3 157°11	0°1/13.3 17			<b>224542</b>	2005 <i>WA</i> <sub>131</sub>		1 13.3 184°25	1°9/12.5 18		
12 13	7 54.89	+20 33.9	3.675	4.506	7.4	22.2	12 13	8 2.48	+25 36.5	2.217	3.058	11.3	21.2
12 23	7 49.94	+21 0.5	3.599	4.510	5.3	22.1	12 23	7 56.02	+26 16.8	2.143	3.059	8.1	20.9
1 2	7 43.92	+21 29.6	3.552	4.514	2.9	21.9	1 2	7 47.52	+26 57.9	2.096	3.058	4.6	20.7
1 12	7 37.27	+21 59.4	3.535	4.518	0.3	21.7	1 12	7 37.77	+27 35.4	2.078	3.058	1.9	20.5
1 22	7 30.51	+22 28.2	3.550	4.522	2.2	21.9	1 22	7 27.78	+28 5.5	2.091	3.057	4.2	20.7
2 1	7 24.18	+22 54.3	3.596	4.525	4.7	22.1	2 1	7 18.64	+28 26.0	2.133	3.056	7.7	20.9
2 11	7 18.79	+23 16.9	3.672	4.528	6.9	22.2	2 11	7 11.28	+28 36.6	2.201	3.054	11.0	21.1
2 21	7 14.70	+23 35.5	3.772	4.531	8.8	22.4	2 21	7 6.31	+28 38.6	2.293	3.052	13.8	21.3
<b>51011</b>	2000 <i>GQ</i> <sub>103</sub>		1 13.3 88°16	8°9/ 9.9 18			<b>315548</b>	2008 <i>BK</i> <sub>49</sub>		1 13.3 10°54	8°8/10.6 16		
12 13	8 10.51	+43 12.9	1.788	2.615	14.2	18.8	12 13	8 5.21	+38 29.2	1.311	2.169	16.5	19.8
12 23	8 2.46	+44 39.0	1.747	2.631	11.5	18.6	12 23	7 59.36	+39 48.0	1.260	2.171	12.9	19.5
1 2	7 51.22	+45 49.0	1.730	2.648	9.5	18.5	1 2	7 49.83	+40 53.8	1.231	2.174	9.9	19.4
1 12	7 38.14	+46 33.6	1.740	2.665	8.9	18.5	1 12	7 38.05	+41 35.5	1.226	2.177	8.8	19.3
1 22	7 24.99	+46 48.2	1.776	2.681	10.1	18.6	1 22	7 26.05	+41 46.5	1.246	2.182	10.6	19.4
2 1	7 13.56	+46 33.4	1.837	2.697	12.4	18.8	2 1	7 15.91	+41 26.3	1.289	2.187	13.8	19.6
2 11	7 5.21	+45 54.8	1.920	2.713	14.8	19.0	2 11	7 9.21	+40 41.0	1.353	2.193	17.2	19.9
2 21	7 0.54	+44 59.8	2.022	2.729	16.9	19.2	2 21	7 6.63	+39 38.5	1.434	2.201	20.3	20.1
<b>92417</b>	2000 <i>JQ</i> <sub>44</sub>		1 13.3 110°88	2°4/12.5 18			<b>460104</b>	2014 <i>PJ</i> <sub>9</sub>		1 13.3 51°73	3°1/14.9 18		
12 13	8 6.80	+25 23.5	1.582	2.432	14.5	19.5	12 13	8 0.91	+10 19.3	1.469	2.306	16.2	21.1
12 23	7 59.53	+26 9.6	1.527	2.447	10.4	19.3	12 23	7 55.33	+11 9.8	1.414	2.321	12.1	20.9
1 2	7 49.53	+26 56.5	1.497	2.461	5.8	19.1	1 2	7 47.26	+12 19.4	1.381	2.337	7.4	20.7
1 12	7 37.95	+27 37.9	1.494	2.474	2.4	18.9	1 12	7 37.74	+13 43.3	1.375	2.353	3.4	20.5
1 22	7 26.28	+28 8.5	1.520	2.488	5.3	19.1	1 22	7 28.06	+15 14.7	1.397	2.369	4.9	20.6
2 1	7 16.02	+28 26.0	1.574	2.501	9.7	19.4	2 1	7 19.58	+16 46.1	1.446	2.385	9.2	20.9
2 11	7 8.36	+28 31.0	1.653	2.513	13.6	19.7	2 11	7 13.42	+18 11.2	1.521	2.402	13.3	21.2
2 21	7 3.92	+28 26.1	1.752	2.525	16.8	19.9	2 21	7 10.19	+19 26.3	1.618	2.419	16.8	21.5
<b>133192</b>	2003 <i>QG</i> <sub>55</sub>		1 13.3 218°79	2°8/12.3 18			<b>170738</b>	2004 <i>BM</i> <sub>08</sub>		1 13.3 85°78	3°9/15.3 18		
12 13	8 5.84	+27 26.4	1.911	2.754	12.7	20.6	12 13	7 57.62	+ 7 52.8	2.328	3.137	11.9	20.4
12 23	7 58.78	+28 6.1	1.831	2.747	9.2	20.3	12 23	7 52.29	+ 7 57.5	2.259	3.146	9.1	20.3
1 2	7 49.17	+28 45.4	1.777	2.738	5.4	20.1	1 2	7 45.36	+ 8 15.0	2.214	3.154	6.2	20.1
1 12	7 37.94	+29 18.5	1.752	2.729	2.8	19.9	1 12	7 37.51	+ 8 44.5	2.197	3.163	4.1	20.0
1 22	7 26.34	+29 41.0	1.756	2.720	5.2	20.0	1 22	7 29.53	+ 9 23.8	2.210	3.171	4.6	20.0
2 1	7 15.73	+29 50.6	1.789	2.710	9.1	20.2	2 1	7 22.26	+10 10.0	2.253	3.180	7.1	20.2
2 11	7 7.31	+29 48.0	1.847	2.699	12.8	20.4	2 11	7 16.42	+10 59.5	2.322	3.188	10.0	20.4
2 21	7 1.80	+29 35.5	1.928	2.688	16.0	20.6	2 21	7 12.52	+11 49.2	2.415	3.197	12.5	20.6
<b>192323</b>	1994 <i>SD</i> <sub>12</sub>		1 13.3 174°98	5°1/11.6 18			<b>156442</b>	2002 <i>AG</i> <sub>157</sub>		1 13.3 267°21	1°8/14.1 18		
12 13	8 9.33	+33 19.2	1.781	2.622	13.6	21.7	12 13	8 0.11	+15 22.8	1.960	2.796	12.8	20.1
12 23	8 1.42	+34 11.6	1.715	2.624	10.2	21.5	12 23	7 54.48	+15 35.6	1.878	2.788	9.4	19.9
1 2	7 50.64	+34 57.5	1.675	2.627	6.8	21.3	1 2	7 46.75	+15 57.6	1.821	2.780	5.5	19.7
1 12	7 38.11	+35 29.4	1.662	2.628	5.1	21.2	1 12	7 37.70	+16 26.8	1.792	2.773	2.0	19.4
1 22	7 25.34	+35 42.4	1.679	2.629	7.0	21.3	1 22	7 28.34	+17 0.1	1.793	2.765	3.9	19.5
2 1	7 13.92	+35 35.3	1.723	2.629	10.4	21.5	2 1	7 19.77	+17 34.5	1.822	2.757	7.9	19.8
2 11	7 5.15	+35 11.3	1.792	2.628	13.8	21.8	2 11	7 12.99	+18 7.4	1.877	2.749	11.7	20.0
2 21	6 59.70	+34 35.3	1.881	2.627	16.8	22.0	2 21	7 8.63	+18 37.0	1.955	2.741	14.9	20.2
<b>421402</b>	2013 <i>VY</i> <sub>14</sub>		1 13.3 35°59	0°3/13.2 18			<b>10177</b>	<i>Ellison</i>		1 13.3 134°56	2°5/14.4 18		
12 13	7 59.53	+20 42.1	1.820	2.670	12.9	20.3	12 13	8 4.20	+13 11.1	1.721	2.551	14.5	17.7
12 23	7 54.05	+21 9.8	1.761	2.681	9.2	20.1	12 23	7 57.44	+13 30.2	1.657	2.562	10.7	17.5
1 2	7 46.44	+21 42.6	1.728	2.693	5.0	19.9	1 2	7 48.35	+14 1.7	1.617	2.573	6.5	17.3
1 12	7 37.62	+22 16.5	1.722	2.705	0.6	19.6	1 12	7 37.89	+14 42.9	1.605	2.583	2.8	17.1
1 22	7 28.70	+22 47.8	1.745	2.718	3.9	19.8	1 22	7 27.26	+15 29.7	1.622	2.593	4.5	17.2
2 1	7 20.81	+23 13.9	1.796	2.731	8.0	20.1	2 1	7 17.72	+16 17.9	1.668	2.602	8.6	17.5
2 11	7 14.91	+23 33.2	1.872	2.744	11.7	20.4	2 11	7 10.33	+17 4.0	1.740	2.611	12.5	17.7
2 21	7 11.54	+23 45.9	1.971	2.758	14.7	20.6	2 21	7 5.70	+17 45.7	1.834	2.619	15.8	18.0
<b>497119</b>	2004 <i>FL</i> <sub>119</sub>		1 13.3 262°34	1°1/12.9 17			<b>153356</b>	2001 <i>PE</i> <sub>25</sub>		1 13.4 159°52	3°7/14.7 18		
12 13	7 59.61	+23 58.1	2.372	3.214	10.								



EPHEMERIDES

1 13.4

1 13.4

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>492684</b>	2014 <i>PR</i> <sub>43</sub>		1 13.4 118°54	2°2/12.3	18		<b>15383</b>	1997 <i>SE</i> <sub>3</sub>		1 13.4 32°83	8°9/17.4	18	R
12 13	8 4.04	+23 52.6	1.867	2.712	12.9	21.1	12 13	7 58.57	- 0 32.1	1.423	2.226	18.4	17.8
12 23	7 57.40	+25 9.1	1.806	2.724	9.2	20.9	12 23	7 53.68	- 0 49.8	1.368	2.238	15.1	17.6
1 2	7 48.38	+26 29.2	1.772	2.735	5.1	20.7	1 2	7 46.40	- 0 39.3	1.333	2.250	11.7	17.4
1 12	7 37.91	+27 45.9	1.767	2.746	2.2	20.5	1 12	7 37.72	+ 0 1.0	1.320	2.263	9.3	17.3
1 22	7 27.20	+28 53.0	1.791	2.757	4.9	20.7	1 22	7 28.89	+ 1 7.9	1.333	2.277	9.2	17.3
2 1	7 17.53	+29 46.4	1.845	2.767	8.8	20.9	2 1	7 21.23	+ 2 35.0	1.371	2.291	11.4	17.5
2 11	7 9.98	+30 25.2	1.925	2.777	12.3	21.2	2 11	7 15.79	+ 4 13.3	1.432	2.306	14.5	17.7
2 21	7 5.21	+30 50.5	2.027	2.787	15.3	21.4	2 21	7 13.19	+ 5 54.2	1.514	2.321	17.5	17.9
<b>53398</b>	1999 <i>JM</i> <sub>111</sub>		1 13.4 296°19	1°3/13.9	18		<b>440401</b>	2005 <i>NS</i> <sub>28</sub>		1 13.4 140°54	2°4/14.3	15	
12 13	7 58.05	+16 14.4	2.227	3.062	11.5	19.2	12 13	8 5.60	+13 16.4	1.721	2.549	14.6	22.2
12 23	7 52.85	+16 33.6	2.141	3.052	8.4	19.0	12 23	7 58.46	+13 38.7	1.658	2.562	10.8	22.0
1 2	7 45.80	+17 0.7	2.082	3.042	4.8	18.7	1 2	7 48.94	+14 13.4	1.618	2.574	6.5	21.8
1 12	7 37.60	+17 33.5	2.050	3.032	1.5	18.5	1 12	7 38.03	+14 57.5	1.607	2.586	2.7	21.6
1 22	7 29.12	+18 9.1	2.049	3.022	3.4	18.6	1 22	7 26.95	+15 46.7	1.625	2.596	4.4	21.7
2 1	7 21.31	+18 44.8	2.077	3.012	7.1	18.8	2 1	7 17.00	+16 36.7	1.673	2.606	8.6	22.0
2 11	7 15.02	+19 18.2	2.132	3.002	10.6	19.0	2 11	7 9.23	+17 24.0	1.746	2.615	12.6	22.2
2 21	7 10.86	+19 47.7	2.210	2.993	13.5	19.2	2 21	7 4.28	+18 6.4	1.842	2.623	15.8	22.5
<b>466621</b>	2014 <i>VH</i> <sub>24</sub>		1 13.4 81°39	0°3/13.5	18		<b>131933</b>	2002 <i>CC</i> <sub>13</sub>		1 13.4 357°45	0°4/13.2	18	
12 13	8 1.31	+19 1.9	1.874	2.717	12.9	21.0	12 13	7 58.36	+17 38.4	1.094	1.967	17.9	18.2
12 23	7 55.29	+19 30.5	1.812	2.727	9.3	20.8	12 23	7 54.48	+18 54.6	1.032	1.962	12.9	17.9
1 2	7 47.14	+20 5.6	1.775	2.738	5.1	20.6	1 2	7 47.27	+20 28.6	0.991	1.959	7.1	17.6
1 12	7 37.77	+20 43.4	1.766	2.749	0.7	20.3	1 12	7 37.85	+22 11.8	0.974	1.957	0.9	17.1
1 22	7 28.25	+21 20.0	1.786	2.759	3.8	20.5	1 22	7 27.91	+23 53.1	0.982	1.957	5.6	17.5
2 1	7 19.74	+21 52.6	1.836	2.770	7.9	20.8	2 1	7 19.35	+25 22.8	1.015	1.957	11.6	17.8
2 11	7 13.20	+22 19.2	1.911	2.781	11.6	21.0	2 11	7 13.79	+26 35.1	1.069	1.960	16.9	18.1
2 21	7 9.18	+22 39.4	2.009	2.791	14.7	21.3	2 21	7 12.09	+27 28.6	1.141	1.963	21.2	18.4
<b>10469</b>	Krohn		1 13.4 172°95	3°8/14.6	18		<b>427516</b>	2002 <i>GZ</i> <sub>1</sub>		1 13.4 204°63	17°6/ 7.6	16	
12 13	8 3.43	+11 14.4	1.777	2.601	14.4	19.4	12 13	8 29.23	+56 17.2	1.249	2.044	21.0	21.1
12 23	7 56.90	+11 4.1	1.704	2.604	10.9	19.2	12 23	8 19.23	+58 29.4	1.206	2.041	19.0	20.9
1 2	7 48.08	+11 6.5	1.656	2.606	7.0	19.0	1 2	8 1.94	+60 8.8	1.181	2.039	17.8	20.8
1 12	7 37.89	+11 20.7	1.634	2.607	4.0	18.8	1 12	7 39.67	+60 54.8	1.176	2.036	17.8	20.8
1 22	7 27.46	+11 44.6	1.642	2.608	5.1	18.9	1 22	7 16.85	+60 37.0	1.190	2.032	18.9	20.9
2 1	7 18.01	+12 15.4	1.678	2.609	8.8	19.1	2 1	6 58.22	+59 20.2	1.224	2.028	20.8	21.0
2 11	7 10.60	+12 49.5	1.739	2.609	12.6	19.3	2 11	6 46.61	+57 20.9	1.273	2.023	23.1	21.1
2 21	7 5.85	+13 24.1	1.823	2.608	15.8	19.5	2 21	6 42.34	+54 57.3	1.337	2.018	25.2	21.3
<b>376461</b>	2012 <i>HU</i> <sub>78</sub>		1 13.4 200°19	1°8/12.6	16		<b>81736</b>	2000 <i>JT</i> <sub>42</sub>		1 13.4 192°96	1°8/14.1	18	
12 13	8 2.37	+26 4.9	2.423	3.261	10.5	22.6	12 13	8 1.64	+15 10.6	2.129	2.957	12.2	20.5
12 23	7 55.84	+26 33.7	2.344	3.258	7.6	22.4	12 23	7 55.40	+15 18.1	2.050	2.956	8.9	20.3
1 2	7 47.41	+27 2.4	2.292	3.254	4.3	22.1	1 2	7 47.21	+15 33.8	1.997	2.954	5.3	20.1
1 12	7 37.83	+27 27.3	2.270	3.250	1.8	22.0	1 12	7 37.83	+15 55.9	1.972	2.952	2.0	19.9
1 22	7 28.03	+27 45.4	2.279	3.245	3.9	22.1	1 22	7 28.21	+16 21.8	1.978	2.949	3.8	20.0
2 1	7 18.99	+27 55.2	2.317	3.240	7.2	22.3	2 1	7 19.38	+16 49.1	2.013	2.946	7.5	20.2
2 11	7 11.60	+27 56.6	2.383	3.234	10.3	22.5	2 11	7 12.24	+17 15.6	2.075	2.942	10.9	20.4
2 21	7 6.42	+27 50.8	2.472	3.228	13.0	22.7	2 21	7 7.39	+17 39.8	2.161	2.938	13.9	20.6
<b>85509</b>	1997 <i>UY</i> <sub>7</sub>		1 13.4 66°28	0°0/13.4	17		<b>221724</b>	2007 <i>ES</i> <sub>46</sub>		1 13.4 82°59	7°1/11.7	18	
12 13	8 6.75	+20 24.6	1.321	2.175	16.6	19.3	12 13	8 14.75	+37 8.0	1.435	2.277	16.2	19.9
12 23	7 59.57	+20 40.1	1.279	2.200	11.8	19.1	12 23	8 5.43	+38 4.7	1.401	2.306	12.3	19.8
1 2	7 49.56	+21 1.6	1.260	2.225	6.4	18.8	1 2	7 52.79	+38 47.2	1.391	2.335	8.7	19.7
1 12	7 38.08	+21 24.2	1.267	2.250	0.8	18.5	1 12	7 38.47	+39 6.5	1.407	2.363	7.1	19.6
1 22	7 26.74	+21 43.8	1.301	2.275	4.8	18.9	1 22	7 24.51	+38 58.9	1.450	2.391	8.8	19.8
2 1	7 17.11	+21 57.9	1.362	2.299	9.8	19.2	2 1	7 12.78	+38 26.5	1.519	2.419	12.0	20.0
2 11	7 10.34	+22 5.9	1.447	2.324	14.2	19.5	2 11	7 4.54	+37 36.2	1.611	2.445	15.2	20.3
2 21	7 6.93	+22 8.3	1.552	2.348	17.7	19.8	2 21	7 0.22	+36 35.2	1.722	2.472	18.0	20.6
<b>135455</b>	2001 <i>VA</i> <sub>50</sub>		1 13.4 353°47	2°1/12.7	18		<b>159477</b>	2000 <i>SE</i>		1 13.4 87°48	3°8/14.8	18	
12 13	8 1.34	+27 39.0	2.025	2.874	11.9	19.1	12 13	8 7.28	+10 37.2	1.716	2.533	15.1	20.5
12 23	7 55.33	+27 46.6	1.953	2.871	8.6	18.9	12 23	7 59.29	+10 33.8	1.674	2.570	11.3	20.4
1 2	7 47.19	+27 51.9	1.906	2.869	4.9	18.7	1 2	7 49.19	+10 43.8	1.658	2.606	7.2	20.2
1 12	7 37.80	+27 51.5	1.888	2.867	2.1	18.5	1 12	7 38.05	+11 5.5	1.669	2.641	4.0	20.1
1 22	7 28.27	+27 43.1	1.899	2.866	4.4	18.7	1 22	7 27.09	+11 35.9	1.709	2.675	5.1	20.2
2 1	7 19.74	+27 26.1	1.938	2.865	8.1	18.9	2 1	7 17.48	+12 11.4	1.779	2.708	8.5	20.5
2 11	7 13.15	+27 1.7	2.003	2.865	11.5	19.1	2 11	7 10.13	+12 48.6	1.875	2.741	12.0	20.8
2 21	7 9.09	+26 31.7	2.090	2.865	14.4	19.3	2 21	7 5.49	+13 24.7	1.994	2.772	14.9	21.0
<b>234385</b>	2001 <i>QX</i> <sub>107</sub>		1 13.4 97°99	1°6/13.9	17		<b>465948</b>	2011 <i>BG</i> <sub>26</sub>		1 13.4 338°12	3°0/14.7	16	
12 13	8 5.03	+15 34.6	1.501	2.343	15.7	20.8	12 13	7 57.14	+11 36.2	1.447	2.294	15.8	21.2
12 23	7 58.24	+16 3.8	1.447	2.360	11.3	20.6	12 23	7 53.00	+12 10.8	1.368	2.281	11.9	20.9
1 2	7 48.87	+16 44.6	1.416	2.377	6.5	20.3	1 2	7 46.24	+13 4.6	1.310	2.268	7.4	20.6
1 12	7 38.01	+17 32.7	1.412	2.393	1.9	20.1	1 12	7 37.74	+14 14.8	1.278	2.256	3.4	20.3
1 22	7 27.06	+18 22.9	1.436	2.409	4.5	20.3	1 22	7 28.73	+15 35.9	1.272	2.245	5.0	20.4
2 1	7 17.45	+19 10.7	1.489	2.425	9.2	20.6	2 1	7 20.63	+17 0.7	1.293	2.235	9.7	20.6
2 11	7 10.30	+19 52.9	1.566	2.441	13.4	20.9	2 11	7 14.76	+18 22.5	1.339	2.227	14.3	20.9
2 21	7 6.23	+20 28.2	1.664	2.456	16.9	21.2	2 21	7 11.92	+19 36.5	1.404	2.219	18.3	21.1
<b>203811</b>	2002 <i>TB</i> <sub>191</sub>		1 13.4 55°81	1°7/13.8	18	R	<b>239298</b>	2007 <i>PC</i> <sub>34</sub>		1 13.4 184°75	1°1/13.8	18	
12 13	8 3.65	+17 45.5	1.899	2.735									

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>104381</b>	2000 <i>FW</i> <sub>34</sub>		1 13.4 162°59	1.2°/13.9	18		<b>96396</b>	1998 <i>DQ</i> <sub>12</sub>		1 13.4 341°66	0.8°/13.6	18	
12 13	8 1.98	+16 18.5	2.208	3.037	11.8	20.2	12 13	8 0.76	+18 46.1	1.246	2.110	16.7	18.9
12 23	7 55.56	+16 38.8	2.135	3.043	8.5	20.1	12 23	7 55.92	+18 59.7	1.176	2.102	12.2	18.6
1 2	7 47.26	+17 6.6	2.088	3.048	4.9	19.8	1 2	7 47.95	+19 23.3	1.128	2.094	6.8	18.3
1 12	7 37.84	+17 39.2	2.071	3.052	1.4	19.6	1 12	7 37.98	+19 53.1	1.105	2.088	1.2	17.9
1 22	7 28.24	+18 13.7	2.084	3.056	3.5	19.8	1 22	7 27.57	+20 24.0	1.107	2.082	5.1	18.1
2 1	7 19.44	+18 47.4	2.127	3.059	7.2	20.0	2 1	7 18.45	+20 51.9	1.134	2.077	10.7	18.4
2 11	7 12.32	+19 18.1	2.197	3.062	10.5	20.2	2 11	7 12.10	+21 14.3	1.184	2.073	15.7	18.7
2 21	7 7.41	+19 44.8	2.291	3.064	13.4	20.4	2 21	7 9.32	+21 30.2	1.253	2.070	19.9	19.0
<b>197964</b>	2004 <i>RF</i> <sub>103</sub>		1 13.4 210°15	0.4°/13.5	18		<b>63522</b>	2001 <i>PP</i>		1 13.4 118°81	1.4°/14.2	18	R
12 13	8 6.50	+20 8.7	2.097	2.928	12.2	21.3	12 13	7 59.15	+14 39.2	2.754	3.574	10.0	19.8
12 23	7 58.99	+20 12.4	2.010	2.920	8.9	21.0	12 23	7 53.20	+15 7.9	2.690	3.592	7.2	19.7
1 2	7 49.25	+20 19.7	1.949	2.911	4.9	20.8	1 2	7 45.84	+15 43.6	2.653	3.610	4.2	19.5
1 12	7 38.09	+20 28.1	1.918	2.901	0.7	20.5	1 12	7 37.70	+16 24.1	2.647	3.627	1.5	19.3
1 22	7 26.62	+20 35.0	1.917	2.890	3.7	20.7	1 22	7 29.46	+17 6.7	2.672	3.643	2.9	19.4
2 1	7 16.01	+20 39.0	1.948	2.877	7.9	20.9	2 1	7 21.89	+17 49.0	2.728	3.659	5.8	19.7
2 11	7 7.30	+20 39.5	2.005	2.864	11.6	21.1	2 11	7 15.61	+18 28.8	2.813	3.675	8.6	19.9
2 21	7 1.14	+20 36.9	2.086	2.850	14.8	21.3	2 21	7 11.07	+19 4.8	2.923	3.690	10.9	20.0
<b>144930</b>	2005 <i>CZ</i> <sub>67</sub>		1 13.4 68°48	0.1°/13.3	18		<b>214503</b>	2005 <i>XA</i> <sub>61</sub>		1 13.4 119°27	1.3°/13.8	18	
12 13	8 5.03	+20 3.0	1.431	2.284	15.7	19.8	12 13	8 7.01	+17 20.6	1.700	2.535	14.4	21.7
12 23	7 58.30	+20 32.3	1.385	2.305	11.2	19.6	12 23	7 59.40	+17 26.6	1.644	2.554	10.4	21.5
1 2	7 48.89	+21 8.1	1.362	2.327	6.1	19.4	1 2	7 49.42	+17 40.0	1.612	2.572	5.9	21.3
1 12	7 38.03	+21 45.2	1.365	2.348	0.7	19.1	1 12	7 38.13	+17 57.9	1.608	2.590	1.6	21.0
1 22	7 27.20	+22 19.0	1.397	2.370	4.6	19.4	1 22	7 26.83	+18 17.2	1.634	2.607	4.2	21.2
2 1	7 17.87	+22 46.0	1.455	2.392	9.4	19.7	2 1	7 16.80	+18 35.4	1.689	2.623	8.6	21.5
2 11	7 11.16	+23 5.2	1.538	2.413	13.6	20.0	2 11	7 9.09	+18 51.0	1.770	2.638	12.5	21.8
2 21	7 7.63	+23 17.0	1.642	2.434	17.0	20.3	2 21	7 4.25	+19 3.5	1.872	2.652	15.7	22.0
<b>376172</b>	2011 <i>CL</i> <sub>14</sub>		1 13.4 254°19	0.2°/13.4	18		<b>363346</b>	2002 <i>QG</i> <sub>61</sub>		1 13.4 64°69	6.2°/16.1	18	
12 13	8 1.00	+19 52.3	1.951	2.794	12.5	21.3	12 13	8 0.67	+4 35.0	1.583	2.396	16.4	21.1
12 23	7 55.14	+20 11.4	1.876	2.792	9.0	21.1	12 23	7 55.04	+4 32.8	1.523	2.408	12.9	20.9
1 2	7 47.13	+20 36.0	1.827	2.791	5.0	20.9	1 2	7 47.12	+4 52.0	1.485	2.420	9.2	20.7
1 12	7 37.84	+21 2.9	1.806	2.789	0.7	20.5	1 12	7 37.86	+5 32.4	1.473	2.432	6.5	20.6
1 22	7 28.30	+21 28.7	1.815	2.788	3.7	20.8	1 22	7 28.46	+6 30.5	1.487	2.445	6.9	20.6
2 1	7 19.66	+21 50.9	1.852	2.786	7.9	21.0	2 1	7 20.14	+7 41.0	1.529	2.457	9.8	20.8
2 11	7 12.90	+22 8.1	1.916	2.785	11.6	21.2	2 11	7 13.95	+8 57.2	1.596	2.470	13.2	21.0
2 21	7 8.63	+22 20.1	2.001	2.783	14.7	21.5	2 21	7 10.47	+10 13.2	1.684	2.482	16.4	21.3
<b>43800</b>	1991 <i>PP</i> <sub>13</sub>		1 13.4 82°63	3.1°/12.4	18		<b>465189</b>	2007 <i>GE</i> <sub>67</sub>		1 13.4 329°67	5.5°/11.3	18	
12 13	8 3.94	+30 54.2	2.173	3.014	11.5	17.8	12 13	8 2.21	+32 25.0	1.574	2.432	14.2	20.9
12 23	7 56.99	+31 10.2	2.113	3.026	8.3	17.6	12 23	7 56.81	+33 26.3	1.501	2.419	10.6	20.7
1 2	7 48.02	+31 21.3	2.079	3.037	5.1	17.4	1 2	7 48.41	+34 23.8	1.451	2.406	7.1	20.4
1 12	7 37.93	+31 23.6	2.075	3.048	3.1	17.3	1 12	7 38.04	+35 9.1	1.427	2.395	5.5	20.3
1 22	7 27.84	+31 15.0	2.099	3.060	4.9	17.5	1 22	7 27.20	+35 36.0	1.430	2.383	7.6	20.4
2 1	7 18.84	+30 55.2	2.153	3.071	8.0	17.7	2 1	7 17.54	+35 41.6	1.459	2.373	11.4	20.6
2 11	7 11.82	+30 26.2	2.233	3.082	11.0	17.9	2 11	7 10.50	+35 27.9	1.511	2.363	15.1	20.8
2 21	7 7.30	+29 50.6	2.336	3.093	13.6	18.1	2 21	7 6.89	+34 58.9	1.582	2.354	18.4	21.0
<b>428369</b>	2007 <i>RQ</i> <sub>182</sub>		1 13.4 72°41	10.7°/10.5	18		<b>90827</b>	1995 <i>TU</i> <sub>3</sub>		1 13.4 133°39	1.7°/14.1	18	
12 13	8 18.61	+55 18.0	2.205	2.973	13.8	20.7	12 13	8 1.15	+15 46.1	2.128	2.959	12.1	20.6
12 23	8 8.12	+56 4.5	2.162	2.984	12.2	20.6	12 23	7 54.99	+15 51.4	2.059	2.966	8.8	20.4
1 2	7 54.25	+56 27.6	2.141	2.996	11.0	20.5	1 2	7 46.96	+16 4.2	2.015	2.973	5.2	20.2
1 12	7 38.67	+56 19.6	2.145	3.007	10.7	20.5	1 12	7 37.85	+16 22.7	2.000	2.980	1.9	20.0
1 22	7 23.46	+55 38.4	2.174	3.019	11.3	20.6	1 22	7 28.59	+16 44.4	2.015	2.987	3.6	20.1
2 1	7 10.55	+54 27.0	2.227	3.030	12.6	20.7	2 1	7 20.19	+17 7.0	2.059	2.993	7.3	20.4
2 11	7 1.20	+52 52.9	2.303	3.042	14.2	20.8	2 11	7 13.50	+17 28.8	2.131	2.999	10.7	20.6
2 21	6 55.84	+51 4.7	2.398	3.053	15.7	21.0	2 21	7 9.04	+17 48.3	2.225	3.005	13.5	20.8
<b>241477</b>	2009 <i>BH</i> <sub>36</sub>		1 13.4 348°68	0.9°/12.9	18		<b>240872</b>	2006 <i>DR</i> <sub>3</sub>		1 13.4 348°38	2.3°/14.0	18	
12 13	7 58.44	+21 46.2	1.916	2.767	12.3	20.4	12 13	8 1.16	+15 44.1	1.246	2.104	17.1	20.4
12 23	7 53.41	+22 27.3	1.842	2.762	8.8	20.1	12 23	7 56.12	+15 48.2	1.179	2.100	12.6	20.1
1 2	7 46.24	+23 13.6	1.793	2.758	4.8	19.9	1 2	7 48.03	+16 5.4	1.133	2.096	7.4	19.8
1 12	7 37.74	+24 0.7	1.772	2.755	1.0	19.6	1 12	7 38.00	+16 33.1	1.111	2.092	2.6	19.5
1 22	7 28.95	+24 44.1	1.780	2.752	4.0	19.8	1 22	7 27.58	+17 7.0	1.116	2.090	5.3	19.7
2 1	7 21.01	+25 20.5	1.816	2.749	8.1	20.1	2 1	7 18.47	+17 42.7	1.145	2.088	10.6	20.0
2 11	7 14.93	+25 48.3	1.878	2.747	11.8	20.3	2 11	7 12.08	+18 16.3	1.197	2.087	15.5	20.2
2 21	7 11.34	+26 7.2	1.962	2.745	14.9	20.5	2 21	7 9.19	+18 45.5	1.268	2.086	19.7	20.5
<b>495919</b>	2005 <i>UD</i> <sub>529</sub>		1 13.4 135°16	2.2°/14.1	18		<b>420216</b>	2011 <i>HS</i> <sub>3</sub>		1 13.4 355°84	5.9°/10.8	18	
12 13	8 1.59	+15 15.6	1.934	2.768	13.0	22.0	12 13	8 3.66	+35 39.8	1.916	2.760	12.6	21.1
12 23	7 55.46	+15 9.9	1.863	2.771	9.5	21.8	12 23	7 57.40	+36 46.6	1.852	2.759	9.7	20.9
1 2	7 47.27	+15 12.5	1.817	2.774	5.7	21.6	1 2	7 48.54	+37 46.4	1.813	2.759	6.9	20.7
1 12	7 37.87	+15 22.0	1.798	2.777	2.4	21.4	1 12	7 38.06	+38 31.7	1.802	2.758	5.9	20.6
1 22	7 28.29	+15 36.1	1.809	2.780	4.1	21.5	1 22	7 27.29	+38 57.5	1.818	2.758	7.5	20.7
2 1	7 19.63	+15 52.9	1.849	2.783	7.9	21.7	2 1	7 17.66	+39 2.3	1.862	2.758	10.4	20.9
2 11	7 12.84	+16 10.2	1.915	2.786	11.5	21.9	2 11	7 10.35	+38 48.2	1.929	2.758	13.3	21.1
2 21	7 8.49	+16 26.6	2.003	2.788	14.6	22.2	2 21	7 6.05	+38 19.5	2.017	2.758	15.9	21.3
<b>149680</b>	2004 <i>GK</i> <sub>21</sub>		1 13.4 233°70	7.0°/17.2	18		<b>381224</b>	2007 <i>RZ</i> <sub>278</sub>		1 13.4 100°74	2.2°/12.1	18	
12 13	7 56.46	-3 40.0</											

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>18792</b>	1999 <i>JL</i> <sub>60</sub>		1 13.4 268°42	3°1/14.1	18		<b>317060</b>	2001 <i>SP</i> <sub>104</sub>		1 13.4 138°50	5°8/15.9	18	
12 13	8 2.47	+14 17.0	1.948	2.777	13.1	18.1	12 13	8 1.24	+3 22.3	2.223	3.010	13.1	21.1
12 23	7 56.22	+13 44.7	1.860	2.764	9.8	17.9	12 23	7 54.94	+2 58.3	2.155	3.021	10.5	20.9
1 2	7 47.78	+13 19.8	1.797	2.751	6.1	17.6	1 2	7 46.91	+2 49.9	2.112	3.032	7.8	20.8
1 12	7 37.98	+13 2.1	1.763	2.738	3.2	17.4	1 12	7 37.90	+2 57.8	2.096	3.043	6.0	20.7
1 22	7 27.85	+12 51.3	1.757	2.725	4.7	17.5	1 22	7 28.76	+3 20.9	2.109	3.053	6.3	20.7
2 1	7 18.55	+12 46.4	1.781	2.712	8.4	17.7	2 1	7 20.42	+3 56.6	2.150	3.062	8.3	20.9
2 11	7 11.08	+12 46.1	1.830	2.699	12.1	17.9	2 11	7 13.66	+4 41.1	2.219	3.071	10.9	21.1
2 21	7 6.10	+12 48.8	1.902	2.685	15.4	18.1	2 21	7 8.98	+5 30.4	2.310	3.079	13.4	21.2
<b>71758</b>	2000 <i>RR</i> <sub>54</sub>		1 13.4 356°47	2°2/13.1	18		<b>372608</b>	2009 <i>VW</i> <sub>10</sub>		1 13.4 52°00	2°0/12.6	18	
12 13	8 5.27	+27 37.6	1.163	2.032	17.3	17.4	12 13	8 1.96	+24 55.3	1.777	2.628	13.1	20.2
12 23	7 59.29	+27 16.8	1.099	2.027	12.6	17.1	12 23	7 55.99	+25 37.8	1.717	2.637	9.4	20.0
1 2	7 49.81	+26 51.1	1.058	2.024	7.1	16.8	1 2	7 47.68	+26 21.8	1.682	2.646	5.2	19.8
1 12	7 38.23	+26 16.2	1.040	2.022	2.3	16.5	1 12	7 38.00	+27 2.2	1.675	2.655	2.0	19.6
1 22	7 26.47	+25 30.6	1.048	2.021	5.9	16.7	1 22	7 28.16	+27 34.4	1.696	2.665	4.7	19.8
2 1	7 16.51	+24 36.2	1.081	2.021	11.5	17.0	2 1	7 19.42	+27 55.8	1.746	2.674	8.7	20.0
2 11	7 9.83	+23 37.0	1.136	2.023	16.5	17.3	2 11	7 12.85	+28 6.4	1.821	2.684	12.4	20.3
2 21	7 7.09	+22 37.0	1.210	2.025	20.6	17.6	2 21	7 9.05	+28 7.4	1.917	2.694	15.5	20.5
<b>387848</b>	2004 <i>OR</i> <sub>10</sub>		1 13.4 159°45	9°9/ 9.9	18		<b>45655</b>	2000 <i>EW</i> <sub>71</sub>		1 13.4 73°63	5°8/16.3	18	
12 13	8 22.60	+52 10.7	2.279	3.051	13.3	21.4	12 13	8 1.81	+4 9.0	1.630	2.437	16.2	19.1
12 23	8 11.05	+53 17.8	2.229	3.061	11.5	21.3	12 23	7 55.74	+4 26.1	1.577	2.459	12.7	18.9
1 2	7 56.01	+54 3.8	2.203	3.071	10.2	21.2	1 2	7 47.47	+5 5.1	1.546	2.481	9.0	18.7
1 12	7 38.98	+54 19.9	2.204	3.079	9.9	21.2	1 12	7 37.97	+6 4.3	1.542	2.502	6.2	18.6
1 22	7 21.99	+54 2.6	2.232	3.086	10.7	21.3	1 22	7 28.41	+7 19.2	1.565	2.524	6.4	18.7
2 1	7 7.06	+53 13.8	2.285	3.092	12.2	21.4	2 1	7 19.99	+8 43.5	1.617	2.545	9.3	18.9
2 11	6 55.63	+52 1.0	2.362	3.097	14.0	21.5	2 11	7 13.68	+10 10.3	1.694	2.567	12.7	19.1
2 21	6 48.28	+50 32.7	2.458	3.101	15.6	21.7	2 21	7 10.02	+11 34.0	1.793	2.588	15.7	19.4
<b>257002</b>	2008 <i>EX</i> <sub>150</sub>		1 13.4 16°62	0°5/13.6	18		<b>140900</b>	2001 <i>VW</i> <sub>38</sub>		1 13.4 124°36	5°1/15.4	18	
12 13	7 59.77	+17 57.7	1.385	2.244	15.7	19.7	12 13	7 58.67	+4 55.5	2.575	3.365	11.5	19.9
12 23	7 54.84	+18 32.9	1.325	2.248	11.3	19.5	12 23	7 52.96	+4 18.4	2.502	3.371	9.1	19.7
1 2	7 47.19	+19 18.9	1.288	2.253	6.3	19.2	1 2	7 45.78	+3 53.3	2.455	3.378	6.8	19.6
1 12	7 37.91	+20 10.8	1.276	2.259	1.0	18.9	1 12	7 37.76	+3 41.2	2.436	3.384	5.2	19.5
1 22	7 28.39	+21 2.8	1.291	2.266	4.6	19.1	1 22	7 29.63	+3 41.6	2.446	3.390	5.5	19.5
2 1	7 20.11	+21 50.0	1.333	2.274	9.7	19.4	2 1	7 22.15	+3 53.4	2.486	3.396	7.4	19.7
2 11	7 14.31	+22 29.1	1.398	2.282	14.1	19.7	2 11	7 15.99	+4 14.0	2.552	3.402	9.8	19.8
2 21	7 11.65	+22 59.1	1.484	2.291	17.8	20.0	2 21	7 11.61	+4 40.5	2.642	3.408	12.0	20.0
<b>72981</b>	2002 <i>CV</i> <sub>246</sub>		1 13.4 152°95	0°6/13.6	18		<b>503199</b>	2015 <i>HJ</i> <sub>14</sub>		1 13.4 337°21	6°4/16.4	17	
12 13	8 4.44	+18 17.7	2.043	2.876	12.5	20.6	12 13	7 56.14	+2 52.7	1.857	2.661	14.7	20.6
12 23	7 57.43	+18 40.9	1.975	2.885	9.0	20.4	12 23	7 51.78	+2 49.9	1.773	2.650	11.8	20.4
1 2	7 48.36	+19 10.3	1.932	2.894	5.0	20.2	1 2	7 45.40	+3 7.5	1.712	2.639	8.9	20.2
1 12	7 38.06	+19 42.7	1.919	2.902	0.9	19.9	1 12	7 37.73	+3 46.2	1.677	2.629	6.7	20.0
1 22	7 27.60	+20 14.7	1.937	2.909	3.6	20.1	1 22	7 29.73	+4 44.1	1.668	2.620	6.9	20.0
2 1	7 18.08	+20 43.6	1.984	2.916	7.6	20.4	2 1	7 22.44	+5 56.9	1.686	2.611	9.3	20.1
2 11	7 10.46	+21 7.8	2.058	2.922	11.2	20.6	2 11	7 16.84	+7 18.5	1.730	2.603	12.5	20.3
2 21	7 5.30	+21 26.9	2.156	2.927	14.2	20.8	2 21	7 13.57	+8 42.9	1.796	2.596	15.5	20.5
<b>64604</b>	2001 <i>XM</i> <sub>22</sub>		1 13.4 84°90	4°0/11.6	18		<b>89377</b>	2001 <i>VS</i> <sub>93</sub>		1 13.4 116°95	6°5/16.5	18	
12 13	8 3.40	+29 51.0	1.855	2.704	12.8	19.3	12 13	8 0.11	+1 33.6	2.038	2.823	14.2	19.4
12 23	7 57.13	+30 56.7	1.792	2.708	9.3	19.1	12 23	7 54.29	+1 22.2	1.971	2.834	11.5	19.2
1 2	7 48.37	+32 0.2	1.755	2.712	5.8	18.9	1 2	7 46.62	+1 29.9	1.927	2.844	8.7	19.1
1 12	7 38.07	+32 54.8	1.745	2.716	4.0	18.7	1 12	7 37.88	+1 57.0	1.910	2.854	6.7	19.0
1 22	7 27.50	+33 35.0	1.764	2.720	6.1	18.9	1 22	7 28.99	+2 41.8	1.921	2.864	6.9	19.0
2 1	7 18.02	+33 58.3	1.811	2.724	9.5	19.1	2 1	7 20.94	+3 40.5	1.960	2.874	8.9	19.2
2 11	7 10.77	+34 5.4	1.883	2.728	12.9	19.3	2 11	7 14.55	+4 47.9	2.025	2.883	11.6	19.3
2 21	7 6.41	+33 59.2	1.975	2.732	15.7	19.5	2 21	7 10.37	+5 58.9	2.113	2.892	14.2	19.5
<b>230514</b>	2002 <i>VQ</i> <sub>60</sub>		1 13.4 107°30	2°0/14.1	18		<b>206931</b>	2004 <i>RO</i> <sub>42</sub>		1 13.4 86°89	0°2/13.5	18	
12 13	8 6.35	+14 57.3	1.525	2.362	15.7	21.1	12 13	8 6.83	+19 51.2	1.508	2.354	15.3	20.7
12 23	7 59.16	+15 17.9	1.471	2.381	11.4	20.9	12 23	7 59.48	+20 8.8	1.460	2.377	10.9	20.5
1 2	7 49.39	+15 50.1	1.441	2.400	6.6	20.7	1 2	7 49.55	+20 32.2	1.436	2.400	6.0	20.3
1 12	7 38.19	+16 30.2	1.438	2.419	2.3	20.5	1 12	7 38.23	+20 57.3	1.439	2.422	0.8	19.9
1 22	7 26.93	+17 13.7	1.464	2.436	4.6	20.7	1 22	7 26.96	+21 20.1	1.470	2.444	4.4	20.3
2 1	7 17.03	+17 56.3	1.518	2.453	9.2	21.0	2 1	7 17.18	+21 37.9	1.530	2.465	9.1	20.6
2 11	7 9.60	+18 34.9	1.597	2.470	13.3	21.3	2 11	7 9.97	+21 50.0	1.614	2.486	13.2	20.9
2 21	7 5.23	+19 8.0	1.697	2.486	16.7	21.5	2 21	7 5.88	+21 56.7	1.719	2.507	16.6	21.2
<b>85063</b>	3148 <i>T</i> <sub>-1</sub>		1 13.4 211°57	6°7/ 9.0	17		<b>340929</b>	2007 <i>ET</i> <sub>9</sub>		1 13.4 29°22	2°1/12.9	17	
12 13	8 8.44	+49 51.3	3.444	4.222	9.1	20.8	12 13	8 4.08	+24 33.4	0.981	1.859	18.9	20.6
12 23	8 0.17	+50 41.7	3.374	4.213	7.8	20.7	12 23	7 58.61	+24 56.4	0.938	1.871	13.6	20.3
1 2	7 49.83	+51 19.6	3.329	4.204	6.9	20.6	1 2	7 49.46	+25 21.8	0.915	1.883	7.5	20.0
1 12	7 38.25	+51 40.2	3.313	4.194	6.7	20.6	1 12	7 38.24	+25 42.4	0.915	1.897	2.2	19.8
1 22	7 26.45	+51 41.1	3.324	4.184	7.4	20.7	1 22	7 27.03	+25 52.9	0.939	1.912	6.3	20.1
2 1	7 15.53	+51 22.1	3.363	4.172	8.6	20.7	2 1	7 17.89	+25 51.3	0.987	1.928	12.0	20.4
2 11	7 6.43	+50 45.7	3.426	4.161	10.0	20.8	2 11	7 12.28	+25 39.0	1.055	1.945	17.0	20.8
2 21	6 59.74	+49 56.0	3.511	4.149	11.4	20.9	2 21	7 10.75	+25 18.7	1.140	1.963	21.1	21.1
<b>307418</b>	2002 <i>TR</i> <sub>235</sub>		1 13.4 57°18	0°8/13.5	18		<b>168342</b>	1995 <i>MG</i> <sub>4</sub>		1 13.4 232°54	3°7/14.7	18	
12 13	8 7.11	+21 10.0	1.477	2.326	15.5	20.1							

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>44842</b>	1999 <i>TG</i> <sub>285</sub>		1 13.4 199°91	1.3°/12.8	18		<b>421233</b>	2013 <i>SA</i> <sub>42</sub>		1 13.4 40°63	1.0°/12.9	18	
12 13	8 3.83	+22 30.5	1.914	2.757	12.7	19.4	12 13	8 1.01	+22 52.7	1.918	2.766	12.5	20.8
12 23	7 57.35	+23 19.0	1.838	2.754	9.1	19.1	12 23	7 55.22	+23 23.0	1.851	2.770	8.9	20.6
1 2	7 48.50	+24 12.1	1.788	2.751	5.0	18.9	1 2	7 47.26	+23 56.4	1.809	2.773	4.9	20.3
1 12	7 38.14	+25 4.6	1.766	2.748	1.3	18.6	1 12	7 38.02	+24 28.8	1.795	2.777	1.1	20.1
1 22	7 27.44	+25 51.6	1.774	2.744	4.3	18.8	1 22	7 28.58	+24 56.5	1.810	2.781	4.0	20.3
2 1	7 17.65	+26 29.4	1.812	2.740	8.5	19.1	2 1	7 20.11	+25 16.9	1.854	2.786	8.1	20.5
2 11	7 9.87	+26 56.8	1.875	2.735	12.3	19.3	2 11	7 13.58	+25 29.5	1.924	2.790	11.7	20.8
2 21	7 4.80	+27 14.4	1.961	2.730	15.4	19.5	2 21	7 9.60	+25 34.6	2.015	2.795	14.7	21.0
<b>308740</b>	2006 <i>JC</i> <sub>2</sub>		1 13.4 230°81	0.4°/13.6	18		<b>135504</b>	2001 <i>XA</i> <sub>110</sub>		1 13.4 112°91	6°1°/16.4	18	
12 13	8 4.25	+19 21.2	1.851	2.691	13.2	21.9	12 13	7 57.74	+0 35.9	2.561	3.333	12.0	20.1
12 23	7 57.70	+19 35.5	1.767	2.681	9.6	21.6	12 23	7 52.33	+0 6.8	2.491	3.342	9.8	19.9
1 2	7 48.72	+19 55.8	1.708	2.670	5.4	21.3	1 2	7 45.47	-0 7.1	2.446	3.351	7.7	19.8
1 12	7 38.19	+20 19.0	1.677	2.660	0.9	21.0	1 12	7 37.79	-0 4.7	2.427	3.359	6.3	19.7
1 22	7 27.27	+20 41.8	1.675	2.648	4.0	21.2	1 22	7 30.00	+0 13.2	2.437	3.368	6.4	19.8
2 1	7 17.24	+21 1.4	1.703	2.636	8.5	21.4	2 1	7 22.84	+0 44.8	2.475	3.376	7.9	19.9
2 11	7 9.24	+21 16.5	1.756	2.624	12.6	21.7	2 11	7 16.97	+1 26.5	2.540	3.384	10.0	20.0
2 21	7 4.00	+21 26.8	1.832	2.611	16.0	21.9	2 21	7 12.86	+2 14.6	2.628	3.392	12.1	20.2
<b>396620</b>	2001 <i>TX</i> <sub>27</sub>		1 13.4 79°25	0°5°/13.6	16		<b>232247</b>	2002 <i>PJ</i> <sub>19</sub>		1 13.4 116°15	0°4°/13.3	18	R
12 13	8 5.48	+19 32.2	1.815	2.654	13.5	21.3	12 13	8 2.30	+22 52.8	2.201	3.040	11.4	20.5
12 23	7 58.12	+19 38.6	1.770	2.683	9.6	21.1	12 23	7 55.83	+22 52.5	2.131	3.046	8.1	20.3
1 2	7 48.67	+19 49.6	1.750	2.713	5.3	20.9	1 2	7 47.48	+22 53.4	2.088	3.052	4.5	20.1
1 12	7 38.15	+20 2.4	1.759	2.741	0.9	20.7	1 12	7 38.05	+22 53.1	2.074	3.057	0.7	19.8
1 22	7 27.76	+20 14.3	1.797	2.770	3.8	20.9	1 22	7 28.52	+22 49.9	2.090	3.062	3.5	20.1
2 1	7 18.64	+20 23.7	1.864	2.798	7.9	21.2	2 1	7 19.90	+22 42.7	2.136	3.068	7.2	20.3
2 11	7 11.68	+20 29.7	1.958	2.825	11.5	21.5	2 11	7 13.05	+22 31.8	2.209	3.073	10.5	20.5
2 21	7 7.36	+20 32.4	2.074	2.853	14.4	21.8	2 21	7 8.48	+22 17.7	2.305	3.078	13.3	20.7
<b>65102</b>	2002 <i>CY</i> <sub>17</sub>		1 13.4 87°11	2°8°/12.7	18		<b>17932</b>	Viswanathan		1 13.4 130°42	1°4°/12.9	18	
12 13	8 10.02	+27 25.8	1.547	2.394	15.0	18.2	12 13	8 6.04	+23 43.8	1.624	2.473	14.3	18.8
12 23	8 1.75	+27 54.9	1.505	2.422	10.7	18.0	12 23	7 59.09	+24 9.0	1.561	2.480	10.2	18.6
1 2	7 50.78	+28 21.3	1.486	2.449	6.1	17.8	1 2	7 49.49	+24 36.5	1.522	2.487	5.7	18.3
1 12	7 38.42	+28 39.0	1.496	2.475	2.8	17.6	1 12	7 38.32	+25 1.2	1.511	2.493	1.4	18.1
1 22	7 26.24	+28 44.4	1.534	2.501	5.4	17.9	1 22	7 26.98	+25 19.1	1.528	2.499	4.7	18.3
2 1	7 15.75	+28 37.2	1.600	2.526	9.6	18.2	2 1	7 16.92	+25 28.0	1.574	2.505	9.3	18.6
2 11	7 8.05	+28 19.7	1.691	2.551	13.4	18.5	2 11	7 9.32	+25 28.2	1.644	2.511	13.3	18.9
2 21	7 3.63	+27 54.9	1.803	2.575	16.5	18.7	2 21	7 4.82	+25 21.2	1.735	2.516	16.7	19.1
<b>273035</b>	2006 <i>DZ</i> <sub>124</sub>		1 13.4 53°04	2°1°/14.2	18		<b>193963</b>	2001 <i>RM</i> <sub>88</sub>		1 13.4 117°18	3°6°/12.2	18	
12 13	8 0.47	+14 51.9	1.797	2.635	13.6	21.0	12 13	8 8.74	+28 44.3	1.610	2.457	14.5	20.8
12 23	7 54.80	+14 59.7	1.733	2.643	10.0	20.8	12 23	8 1.06	+29 33.1	1.556	2.472	10.5	20.6
1 2	7 47.00	+15 17.5	1.693	2.652	5.9	20.5	1 2	7 50.57	+30 19.2	1.527	2.487	6.3	20.4
1 12	7 37.97	+15 43.1	1.681	2.661	2.3	20.3	1 12	7 38.46	+30 55.4	1.525	2.500	3.6	20.3
1 22	7 28.79	+16 13.5	1.698	2.670	4.1	20.5	1 22	7 26.26	+31 16.7	1.552	2.514	6.0	20.4
2 1	7 20.60	+16 45.4	1.743	2.679	8.1	20.7	2 1	7 15.54	+31 21.8	1.607	2.527	10.0	20.7
2 11	7 14.37	+17 16.2	1.813	2.689	11.8	21.0	2 11	7 7.53	+31 12.6	1.686	2.539	13.8	20.9
2 21	7 10.67	+17 44.0	1.906	2.698	15.0	21.2	2 21	7 2.82	+30 52.8	1.786	2.551	16.9	21.2
<b>401400</b>	2013 <i>CK</i> <sub>54</sub>		1 13.4 315°18	1°8°/13.8	18		<b>8743</b>	Kèneke		1 13.4 196°06	2°6°/15.4	18	
12 13	8 3.29	+18 15.6	1.344	2.199	16.3	20.5	12 13	7 54.16	+8 13.1	3.746	4.543	8.0	18.2
12 23	7 57.63	+17 57.0	1.267	2.187	12.0	20.2	12 23	7 49.51	+8 25.3	3.660	4.540	6.2	18.1
1 2	7 48.92	+17 45.7	1.212	2.175	6.9	19.9	1 2	7 43.86	+8 45.5	3.600	4.538	4.2	17.9
1 12	7 38.24	+17 39.9	1.182	2.164	2.1	19.6	1 12	7 37.62	+9 13.2	3.571	4.535	2.7	17.8
1 22	7 27.08	+17 37.4	1.179	2.153	5.1	19.7	1 22	7 31.25	+9 47.1	3.572	4.532	3.1	17.9
2 1	7 17.15	+17 36.5	1.202	2.143	10.5	20.0	2 1	7 25.25	+10 25.3	3.605	4.529	4.8	18.0
2 11	7 9.88	+17 36.0	1.249	2.133	15.4	20.3	2 11	7 20.09	+11 6.0	3.667	4.526	6.8	18.1
2 21	7 6.08	+17 34.9	1.314	2.124	19.6	20.5	2 21	7 16.11	+11 47.2	3.754	4.522	8.7	18.2
<b>47865</b>	2000 <i>FK</i> <sub>3</sub>		1 13.4 35°95	3°7°/11.6	18		<b>340777</b>	2006 <i>SM</i> <sub>368</sub>		1 13.4 187°73	5°0°/10.9	17	
12 13	8 1.52	+29 7.5	1.939	2.789	12.3	18.0	12 13	8 4.56	+39 52.0	2.931	3.749	9.5	21.3
12 23	7 55.71	+30 13.4	1.877	2.794	8.9	17.8	12 23	7 57.35	+40 29.4	2.861	3.748	7.4	21.2
1 2	7 47.58	+31 18.0	1.840	2.799	5.5	17.6	1 2	7 48.30	+40 58.1	2.818	3.747	5.7	21.1
1 12	7 38.05	+32 14.8	1.832	2.804	3.7	17.5	1 12	7 38.18	+41 13.7	2.804	3.746	5.0	21.0
1 22	7 28.27	+32 58.7	1.852	2.810	5.7	17.6	1 22	7 27.92	+41 13.9	2.820	3.744	6.0	21.1
2 1	7 19.48	+33 27.0	1.900	2.815	9.1	17.9	2 1	7 18.51	+40 58.3	2.865	3.741	7.9	21.2
2 11	7 12.75	+33 40.1	1.974	2.821	12.3	18.1	2 11	7 10.77	+40 28.9	2.936	3.739	9.9	21.3
2 21	7 8.72	+33 40.2	2.069	2.827	15.1	18.3	2 21	7 5.25	+39 49.0	3.030	3.736	11.8	21.5
<b>152594</b>	1995 <i>SV</i> <sub>45</sub>		1 13.4 99°67	1°8°/13.9	17		<b>181721</b>	1995 <i>BT</i> <sub>10</sub>		1 13.4 224°47	0°1°/13.4	18	
12 13	8 5.80	+16 1.7	1.428	2.272	16.2	21.0	12 13	8 6.21	+19 44.1	1.602	2.446	14.7	21.4
12 23	7 58.97	+16 16.2	1.372	2.286	11.8	20.8	12 23	7 59.48	+20 19.4	1.521	2.437	10.7	21.1
1 2	7 49.41	+16 41.8	1.339	2.301	6.8	20.6	1 2	7 49.90	+21 3.0	1.464	2.428	5.9	20.8
1 12	7 38.27	+17 14.8	1.333	2.315	2.1	20.3	1 12	7 38.42	+21 49.9	1.435	2.418	0.7	20.4
1 22	7 27.04	+17 50.9	1.355	2.328	4.7	20.5	1 22	7 26.41	+22 34.5	1.434	2.407	4.6	20.7
2 1	7 17.21	+18 25.9	1.404	2.342	9.6	20.8	2 1	7 15.43	+23 12.7	1.462	2.396	9.6	21.0
2 11	7 9.98	+18 57.3	1.478	2.355	13.9	21.1	2 11	7 6.84	+23 42.4	1.515	2.383	14.1	21.2
2 21	7 5.96	+19 23.4	1.572	2.368	17.5	21.4	2 21	7 1.46	+24 3.4	1.588	2.371	17.9	21.4
<b>112570</b>	2002 <i>PV</i> <sub>50</sub>		1 13.4 81°55	0°5°/13.2	18		<b>466907</b>	2015 <i>EL</i> <sub>24</sub>		1 13.4 119°26	4°1°/11.6	18	
12 13	8 4.81	+20 48.6	1.696	2.541	14.0	19.							

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>232124</b>	2002 <i>AK</i> <sub>85</sub>		1 13.4 277°99	4.1/14.8	18		<b>217024</b>	2001 <i>NJ</i> <sub>14</sub>		1 13.4 113°78	0.1/13.5	18	
12 13	8 1.89	+10 43.1	1.524	2.358	15.9	20.0	12 13	7 56.08	+20 11.8	3.764	4.591	7.4	21.0
12 23	7 56.30	+10 43.1	1.448	2.352	12.1	19.8	12 23	7 50.81	+20 23.9	3.700	4.609	5.2	20.9
1 2	7 48.08	+10 59.4	1.393	2.345	7.8	19.5	1 2	7 44.55	+20 38.1	3.665	4.626	2.9	20.7
1 12	7 38.18	+11 30.8	1.365	2.339	4.4	19.3	1 12	7 37.73	+20 53.0	3.661	4.644	0.4	20.5
1 22	7 27.86	+12 14.4	1.363	2.332	5.6	19.4	1 22	7 30.88	+21 7.3	3.688	4.661	2.1	20.7
2 1	7 18.54	+13 5.4	1.389	2.325	9.8	19.6	2 1	7 24.50	+21 19.9	3.748	4.677	4.5	20.9
2 11	7 11.47	+13 59.2	1.439	2.319	14.1	19.8	2 11	7 19.08	+21 30.0	3.836	4.694	6.6	21.1
2 21	7 7.39	+14 51.3	1.510	2.312	17.8	20.0	2 21	7 14.93	+21 37.5	3.950	4.710	8.4	21.2
<b>292037</b>	2006 <i>QN</i> <sub>176</sub>		1 13.4 35°54	7.0/15.5	18		<b>210315</b>	2007 <i>TW</i> <sub>190</sub>		1 13.4 54°62	1.0/13.7	18	
12 13	8 0.94	+ 6 31.0	1.351	2.181	17.8	20.4	12 13	8 3.83	+18 25.8	1.387	2.240	16.0	20.5
12 23	7 55.50	+ 5 47.9	1.300	2.194	13.9	20.2	12 23	7 57.68	+18 35.6	1.332	2.252	11.5	20.3
1 2	7 47.51	+ 5 25.4	1.269	2.209	10.0	20.0	1 2	7 48.77	+18 53.9	1.299	2.264	6.5	20.0
1 12	7 38.10	+ 5 24.8	1.264	2.224	7.2	19.9	1 12	7 38.28	+19 16.9	1.293	2.276	1.3	19.7
1 22	7 28.62	+ 5 44.7	1.283	2.240	7.7	19.9	1 22	7 27.68	+19 40.6	1.314	2.288	4.6	20.0
2 1	7 20.46	+ 6 21.1	1.328	2.257	10.9	20.2	2 1	7 18.51	+20 2.0	1.362	2.301	9.6	20.3
2 11	7 14.72	+ 7 7.8	1.395	2.274	14.5	20.4	2 11	7 11.94	+20 19.0	1.433	2.314	14.0	20.6
2 21	7 11.97	+ 7 59.1	1.483	2.292	17.8	20.7	2 21	7 8.58	+20 31.2	1.525	2.327	17.7	20.9
<b>492929</b>	2014 <i>RL</i> <sub>45</sub>		1 13.4 63°87	0.0/13.4	18		<b>497771</b>	2006 <i>SU</i> <sub>324</sub>		1 13.4 200°50	3.6/11.4	17	
12 13	8 2.89	+20 33.0	1.685	2.533	13.9	21.2	12 13	8 1.73	+33 50.3	2.978	3.809	9.0	22.3
12 23	7 56.69	+20 45.8	1.623	2.542	10.0	21.0	12 23	7 55.30	+34 30.5	2.902	3.805	6.7	22.1
1 2	7 48.12	+21 3.7	1.587	2.551	5.5	20.8	1 2	7 47.19	+35 6.1	2.853	3.801	4.6	22.0
1 12	7 38.18	+21 22.9	1.577	2.560	0.7	20.5	1 12	7 38.08	+35 33.2	2.834	3.796	3.6	21.9
1 22	7 28.11	+21 40.3	1.596	2.570	4.1	20.7	1 22	7 28.77	+35 49.2	2.846	3.791	4.8	22.0
2 1	7 19.21	+21 53.6	1.643	2.579	8.6	21.0	2 1	7 20.12	+35 53.0	2.887	3.785	7.0	22.1
2 11	7 12.53	+22 1.9	1.716	2.589	12.5	21.3	2 11	7 12.91	+35 45.3	2.956	3.780	9.3	22.3
2 21	7 8.65	+22 5.2	1.809	2.598	15.8	21.5	2 21	7 7.65	+35 28.2	3.048	3.773	11.4	22.4
<b>351675</b>	2006 <i>AA</i> <sub>66</sub>		1 13.4 22°41	15°5/24.6	17		<b>350162</b>	2011 <i>SE</i> <sub>236</sub>		1 13.4 246°97	1°9/14.0	18	
12 13	7 56.15	-14 56.1	0.994	1.761	27.0	19.1	12 13	8 4.34	+16 11.5	1.631	2.470	14.7	21.4
12 23	7 52.70	-14 40.5	0.949	1.775	23.8	19.0	12 23	7 58.03	+16 12.7	1.547	2.459	10.8	21.2
1 2	7 46.21	-13 27.0	0.918	1.791	20.3	18.8	1 2	7 49.05	+16 23.3	1.488	2.448	6.4	20.9
1 12	7 37.95	-11 12.0	0.903	1.809	17.2	18.7	1 12	7 38.34	+16 41.3	1.455	2.436	2.2	20.6
1 22	7 29.55	- 8 2.1	0.909	1.828	15.6	18.7	1 22	7 27.17	+17 3.5	1.451	2.424	4.6	20.7
2 1	7 22.70	- 4 14.1	0.936	1.850	16.1	18.8	2 1	7 16.96	+17 27.0	1.475	2.411	9.3	21.0
2 11	7 18.71	- 0 11.5	0.987	1.873	18.4	19.0	2 11	7 8.99	+17 49.5	1.524	2.398	13.7	21.2
2 21	7 18.23	+ 3 44.2	1.058	1.897	21.3	19.3	2 21	7 4.03	+18 9.3	1.594	2.385	17.5	21.4
<b>406566</b>	2007 <i>YX</i> <sub>66</sub>		1 13.4 51°57	0°1/13.5	18		<b>202013</b>	2004 <i>RS</i> <sub>27</sub>		1 13.4 118°28	0°8/13.2	18	
12 13	8 2.59	+19 28.0	1.521	2.373	14.9	21.0	12 13	8 7.48	+22 32.0	1.732	2.573	13.9	21.1
12 23	7 56.68	+19 55.4	1.462	2.382	10.7	20.8	12 23	7 59.87	+22 56.0	1.676	2.591	9.9	20.9
1 2	7 48.20	+20 30.3	1.426	2.391	5.9	20.5	1 2	7 49.82	+23 22.6	1.645	2.609	5.4	20.7
1 12	7 38.19	+21 8.1	1.418	2.401	0.8	20.2	1 12	7 38.41	+23 47.4	1.643	2.625	1.0	20.4
1 22	7 28.02	+21 44.2	1.437	2.410	4.4	20.5	1 22	7 26.97	+24 6.7	1.670	2.642	4.3	20.7
2 1	7 19.09	+22 15.1	1.483	2.420	9.2	20.8	2 1	7 16.83	+24 18.5	1.726	2.657	8.6	21.0
2 11	7 12.56	+22 39.0	1.554	2.431	13.4	21.1	2 11	7 9.05	+24 22.8	1.808	2.672	12.5	21.3
2 21	7 9.04	+22 55.5	1.645	2.441	16.8	21.3	2 21	7 4.20	+24 20.8	1.912	2.686	15.6	21.5
<b>461796</b>	2005 <i>WF</i> <sub>30</sub>		1 13.4 289°97	3°8/14.3	17		<b>352782</b>	2008 <i>UE</i> <sub>97</sub>		1 13.4 85°14	0°3/13.3	17	
12 13	8 2.27	+12 59.4	1.872	2.700	13.6	20.7	12 13	8 5.93	+19 45.8	1.444	2.293	15.7	21.1
12 23	7 56.22	+12 17.0	1.781	2.683	10.3	20.5	12 23	7 59.09	+20 27.2	1.393	2.312	11.2	20.8
1 2	7 47.92	+11 42.6	1.716	2.667	6.7	20.2	1 2	7 49.51	+21 16.0	1.367	2.331	6.1	20.6
1 12	7 38.18	+11 17.0	1.678	2.651	3.9	20.0	1 12	7 38.38	+22 6.3	1.367	2.350	0.8	20.3
1 22	7 28.05	+11 0.3	1.669	2.634	5.2	20.0	1 22	7 27.19	+22 52.5	1.395	2.368	4.6	20.6
2 1	7 18.73	+10 51.8	1.688	2.618	8.9	20.2	2 1	7 17.45	+23 30.5	1.451	2.387	9.5	20.9
2 11	7 11.28	+10 50.2	1.733	2.602	12.6	20.4	2 11	7 10.35	+23 58.9	1.531	2.404	13.8	21.2
2 21	7 6.39	+10 53.5	1.800	2.586	16.0	20.6	2 21	7 6.46	+24 18.0	1.632	2.422	17.2	21.5
<b>401140</b>	2011 <i>UW</i> <sub>379</sub>		1 13.4 102°63	4°6/14.7	18		<b>487511</b>	2014 <i>TA</i> <sub>40</sub>		1 13.4 184°08	6°5/10.7	18	
12 13	8 4.87	+10 34.3	1.604	2.429	15.6	21.1	12 13	8 8.50	+39 3.1	2.129	2.957	12.2	20.7
12 23	7 58.03	+10 3.6	1.544	2.443	11.8	20.9	12 23	8 0.81	+40 6.2	2.064	2.957	9.6	20.6
1 2	7 48.82	+ 9 46.6	1.509	2.456	7.8	20.7	1 2	7 50.47	+40 59.4	2.024	2.957	7.3	20.4
1 12	7 38.27	+ 9 43.3	1.500	2.469	4.8	20.6	1 12	7 38.52	+41 35.4	2.013	2.957	6.5	20.4
1 22	7 27.64	+ 9 52.4	1.519	2.482	5.9	20.6	1 22	7 26.29	+41 49.8	2.030	2.956	7.8	20.4
2 1	7 18.23	+10 11.2	1.565	2.495	9.4	20.9	2 1	7 15.23	+41 41.8	2.074	2.954	10.3	20.6
2 11	7 11.08	+10 36.3	1.637	2.507	13.2	21.1	2 11	7 6.55	+41 14.6	2.143	2.952	12.9	20.8
2 21	7 6.77	+11 4.2	1.730	2.519	16.4	21.4	2 21	7 0.91	+40 33.3	2.233	2.949	15.3	20.9
<b>504568</b>	2008 <i>TO</i> <sub>26</sub>		1 13.4 91°64	29°1/ 4.2	17		<b>376584</b>	2013 <i>PS</i> <sub>23</sub>		1 13.4 167°70	2°0/14.3	18	
12 13	8 40.59	+60 33.4	0.627	1.462	31.6	21.1	12 13	8 0.51	+14 39.3	2.077	2.908	12.4	21.5
12 23	8 34.13	+64 59.9	0.623	1.474	29.8	21.0	12 23	7 54.70	+14 48.3	2.003	2.909	9.1	21.3
1 2	8 13.57	+68 22.0	0.631	1.486	29.1	21.0	1 2	7 46.97	+15 6.2	1.953	2.910	5.4	21.1
1 12	7 41.59	+70 4.8	0.651	1.498	29.4	21.1	1 12	7 38.07	+15 31.3	1.932	2.911	2.2	20.9
1 22	7 8.79	+69 56.2	0.682	1.510	30.4	21.3	1 22	7 28.96	+16 0.9	1.940	2.912	3.8	21.0
2 1	6 46.53	+68 15.6	0.722	1.521	31.9	21.5	2 1	7 20.65	+16 32.1	1.978	2.913	7.5	21.2
2 11	6 38.34	+65 38.1	0.771	1.532	33.6	21.7	2 11	7 14.04	+17 2.7	2.043	2.913	10.9	21.5
2 21	6 41.55	+62 30.7	0.826	1.542	35.2	21.9	2 21	7 9.70	+17 30.8	2.130	2.913	13.9	21.7
<b>400096</b>	2006 <i>TX</i> <sub>13</sub>		1 13.4 64°27	6°5/10.7	18		<b>460675</b>	2014 <i>UB</i> <sub>165</sub>		1 13.4 177°81	2°3/14.2	18	
12 13	8 6.77	+33 4											

EPHEMERIDES

1 13.4

1 13.4

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>440086</b>	2002 <i>TK</i> <sub>189</sub>		1 13.4	98° 92'	0° 1'/13.5	18	<b>348265</b>	2004 <i>TG</i> <sub>221</sub>		1 13.4	133° 88'	0° 4'/13.6	18
12 13	8 9.64	+20 47.9	1.468	2.313	15.8	21.5	12 13	8 1.59	+18 14.5	2.420	3.250	10.8	21.4
12 23	8 1.57	+20 53.3	1.420	2.336	11.3	21.3	12 23	7 55.23	+18 48.1	2.354	3.263	7.8	21.2
1 2	7 50.77	+21 3.1	1.395	2.359	6.2	21.1	1 2	7 47.18	+19 27.2	2.315	3.276	4.3	21.0
1 12	7 38.54	+21 13.3	1.398	2.381	0.8	20.7	1 12	7 38.15	+20 8.8	2.306	3.289	0.7	20.7
1 22	7 26.40	+21 20.8	1.429	2.402	4.5	21.1	1 22	7 28.99	+20 49.8	2.328	3.301	3.1	20.9
2 1	7 15.89	+21 23.9	1.488	2.423	9.4	21.4	2 1	7 20.58	+21 27.3	2.381	3.312	6.6	21.2
2 11	7 8.13	+21 22.6	1.573	2.443	13.6	21.7	2 11	7 13.72	+21 59.9	2.462	3.323	9.7	21.4
2 21	7 3.64	+21 17.6	1.678	2.463	17.0	22.0	2 21	7 8.90	+22 26.7	2.566	3.333	12.2	21.6
<b>224582</b>	2005 <i>XY</i> <sub>48</sub>		1 13.4	79° 87'	0° 9'/13.2	18	<b>61374</b>	2000 <i>PA</i> <sub>25</sub>		1 13.4	223° 23'	1° 4'/12.9	18
12 13	8 3.23	+23 37.8	1.890	2.736	12.7	20.5	12 13	8 6.60	+24 17.3	1.959	2.798	12.6	19.7
12 23	7 56.81	+23 45.6	1.823	2.740	9.1	20.3	12 23	7 59.41	+24 41.7	1.873	2.787	9.1	19.5
1 2	7 48.16	+23 54.8	1.780	2.745	5.0	20.1	1 2	7 49.75	+25 7.6	1.813	2.776	5.1	19.2
1 12	7 38.22	+24 1.9	1.766	2.749	1.0	19.8	1 12	7 38.50	+25 30.8	1.782	2.763	1.5	19.0
1 22	7 28.15	+24 4.5	1.781	2.753	4.0	20.0	1 22	7 26.84	+25 47.5	1.780	2.750	4.3	19.1
2 1	7 19.13	+24 1.2	1.825	2.758	8.1	20.3	2 1	7 16.09	+25 55.4	1.809	2.736	8.6	19.4
2 11	7 12.17	+23 52.2	1.895	2.762	11.8	20.5	2 11	7 7.40	+25 54.8	1.864	2.721	12.4	19.6
2 21	7 7.85	+23 38.7	1.987	2.766	14.9	20.7	2 21	7 1.51	+25 46.9	1.940	2.706	15.7	19.8
<b>289420</b>	2005 <i>EB</i> <sub>5</sub>		1 13.4	264° 98'	3° 9'/12.2	18	<b>467596</b>	2007 <i>VH</i> <sub>214</sub>		1 13.4	109° 57'	3° 6'/15.2	18
12 13	8 5.83	+29 51.5	1.687	2.536	13.8	20.6	12 13	7 58.49	+ 8 58.2	2.481	3.289	11.3	21.8
12 23	7 59.23	+30 31.1	1.610	2.526	10.1	20.4	12 23	7 52.95	+ 8 50.3	2.411	3.299	8.6	21.6
1 2	7 49.76	+31 8.0	1.557	2.516	6.3	20.1	1 2	7 45.90	+ 8 53.1	2.367	3.308	5.8	21.4
1 12	7 38.45	+31 35.6	1.532	2.506	3.9	20.0	1 12	7 37.99	+ 9 6.3	2.351	3.317	3.8	21.3
1 22	7 26.72	+31 48.8	1.535	2.496	6.2	20.1	1 22	7 29.97	+ 9 28.3	2.366	3.327	4.3	21.4
2 1	7 16.15	+31 45.7	1.565	2.485	10.2	20.3	2 1	7 22.62	+ 9 57.0	2.409	3.336	6.8	21.5
2 11	7 8.08	+31 28.1	1.619	2.475	14.1	20.5	2 11	7 16.65	+10 29.7	2.481	3.344	9.5	21.7
2 21	7 3.26	+30 59.5	1.694	2.464	17.5	20.7	2 21	7 12.51	+11 3.8	2.576	3.353	11.9	21.9
<b>79060</b>	2281 <i>T</i> <sub>-3</sub>		1 13.4	233° 08'	2° 5'/14.3	18	<b>2185</b>	Guangdong		1 13.4	137° 62'	3° 5'/11.8	18
12 13	8 2.28	+14 0.8	2.059	2.885	12.6	20.0	12 13	8 4.58	+30 2.7	2.189	3.029	11.5	16.2
12 23	7 56.08	+13 58.2	1.971	2.875	9.4	19.8	12 23	7 57.71	+30 57.9	2.127	3.039	8.3	16.0
1 2	7 47.80	+14 4.6	1.909	2.864	5.8	19.5	1 2	7 48.68	+31 50.4	2.092	3.048	5.2	15.9
1 12	7 38.19	+14 18.8	1.875	2.852	2.7	19.3	1 12	7 38.38	+32 34.4	2.086	3.057	3.5	15.8
1 22	7 28.25	+14 38.8	1.871	2.840	4.1	19.4	1 22	7 27.90	+33 6.0	2.110	3.066	5.3	15.9
2 1	7 19.04	+15 2.2	1.896	2.828	7.9	19.6	2 1	7 18.39	+33 23.2	2.163	3.074	8.3	16.1
2 11	7 11.56	+15 26.8	1.947	2.815	11.5	19.8	2 11	7 10.82	+33 26.9	2.243	3.082	11.3	16.3
2 21	7 6.46	+15 50.6	2.022	2.802	14.7	20.0	2 21	7 5.79	+33 19.6	2.344	3.089	13.9	16.5
<b>158526</b>	2002 <i>GE</i> <sub>16</sub>		1 13.4	253° 94'	2° 6'/12.3	18	<b>237378</b>	1995 <i>SA</i> <sub>82</sub>		1 13.4	55° 19'	2° 9'/12.3	18
12 13	8 3.22	+28 18.2	2.335	3.174	10.9	20.5	12 13	8 1.79	+29 0.4	2.101	2.947	11.6	20.2
12 23	7 56.78	+28 54.6	2.243	3.155	7.9	20.3	12 23	7 55.66	+29 35.8	2.045	2.961	8.4	20.0
1 2	7 48.21	+29 30.2	2.177	3.137	4.7	20.1	1 2	7 47.51	+30 8.6	2.016	2.975	5.0	19.8
1 12	7 38.26	+30 0.3	2.141	3.117	2.6	19.9	1 12	7 38.23	+30 34.3	2.014	2.990	2.9	19.7
1 22	7 27.90	+30 21.3	2.136	3.098	4.6	20.0	1 22	7 28.87	+30 49.6	2.042	3.004	4.8	19.8
2 1	7 18.25	+30 31.2	2.160	3.078	8.0	20.2	2 1	7 20.54	+30 53.4	2.099	3.019	8.0	20.1
2 11	7 10.31	+30 30.1	2.210	3.057	11.2	20.3	2 11	7 14.13	+30 46.6	2.181	3.034	11.1	20.3
2 21	7 4.75	+30 19.7	2.284	3.036	14.0	20.5	2 21	7 10.17	+30 31.1	2.286	3.049	13.7	20.5
<b>272131</b>	2005 <i>MQ</i> <sub>34</sub>		1 13.4	213° 61'	0° 9'/13.7	18	<b>465068</b>	2006 <i>SR</i> <sub>202</sub>		1 13.4	192° 11'	4° 8'/15.9	17
12 13	8 5.46	+17 24.6	1.608	2.449	14.8	21.5	12 13	7 57.35	+ 4 3.3	2.644	3.432	11.3	21.7
12 23	7 58.87	+17 53.9	1.530	2.444	10.8	21.2	12 23	7 52.15	+ 3 52.7	2.563	3.431	9.0	21.5
1 2	7 49.55	+18 33.4	1.475	2.438	6.1	21.0	1 2	7 45.50	+ 3 55.4	2.507	3.430	6.6	21.4
1 12	7 38.44	+19 19.0	1.449	2.431	1.3	20.6	1 12	7 37.98	+ 4 11.6	2.479	3.429	5.0	21.3
1 22	7 26.87	+20 5.6	1.450	2.424	4.4	20.8	1 22	7 30.29	+ 4 40.1	2.480	3.427	5.2	21.3
2 1	7 16.33	+20 49.0	1.481	2.416	9.4	21.1	2 1	7 23.15	+ 5 18.8	2.510	3.426	7.1	21.4
2 11	7 8.12	+21 26.1	1.536	2.408	13.8	21.3	2 11	7 17.25	+ 6 4.4	2.568	3.424	9.5	21.5
2 21	7 3.02	+21 56.1	1.612	2.399	17.5	21.6	2 21	7 13.05	+ 6 53.7	2.650	3.422	11.8	21.7
<b>98294</b>	2000 <i>SO</i> <sub>230</sub>		1 13.4	58° 75'	2° 0'/12.9	17	<b>387465</b>	2013 <i>XX</i> <sub>10</sub>		1 13.4	40° 23'	0° 9'/13.1	18
12 13	8 7.06	+24 29.5	1.297	2.156	16.5	19.4	12 13	8 0.77	+23 7.3	1.891	2.740	12.6	21.2
12 23	8 0.04	+25 1.6	1.256	2.180	11.7	19.2	12 23	7 55.03	+23 28.3	1.833	2.752	8.9	21.0
1 2	7 50.04	+25 35.1	1.239	2.204	6.5	19.0	1 2	7 47.20	+23 51.6	1.801	2.766	4.9	20.8
1 12	7 38.48	+26 3.5	1.247	2.229	2.0	18.8	1 12	7 38.19	+24 13.5	1.797	2.779	1.1	20.6
1 22	7 27.06	+26 22.0	1.283	2.254	5.4	19.0	1 22	7 29.11	+24 30.9	1.821	2.793	3.9	20.8
2 1	7 17.41	+26 29.0	1.345	2.279	10.3	19.4	2 1	7 21.08	+24 41.8	1.874	2.807	7.9	21.1
2 11	7 10.75	+26 25.5	1.430	2.304	14.5	19.7	2 11	7 15.02	+24 46.0	1.953	2.822	11.4	21.3
2 21	7 7.56	+26 13.9	1.535	2.329	17.9	20.0	2 21	7 11.45	+24 44.1	2.053	2.837	14.4	21.5
<b>229208</b>	2004 <i>VA</i> <sub>35</sub>		1 13.4	74° 98'	0° 2'/13.5	18	<b>404175</b>	2013 <i>CL</i> <sub>86</sub>		1 13.4	320° 33'	1° 4'/13.0	18
12 13	8 1.11	+19 26.9	1.940	2.782	12.6	20.9	12 13	8 2.91	+23 3.7	1.322	2.185	16.0	21.1
12 23	7 55.24	+19 51.2	1.874	2.790	9.0	20.7	12 23	7 57.60	+23 31.6	1.247	2.173	11.6	20.8
1 2	7 47.31	+20 21.3	1.834	2.797	5.0	20.5	1 2	7 49.09	+24 4.6	1.195	2.162	6.5	20.5
1 12	7 38.15	+20 53.8	1.822	2.805	0.7	20.2	1 12	7 38.48	+24 37.1	1.168	2.151	1.5	20.1
1 22	7 28.84	+21 25.3	1.839	2.813	3.7	20.4	1 22	7 27.32	+25 3.5	1.168	2.140	5.4	20.3
2 1	7 20.47	+21 52.9	1.886	2.820	7.7	20.7	2 1	7 17.42	+25 20.1	1.192	2.130	10.9	20.6
2 11	7 13.98	+22 15.1	1.958	2.828	11.4	20.9	2 11	7 10.30	+25 26.2	1.240	2.121	15.7	20.9
2 21	7 9.95	+22 31.5	2.053	2.836	14.4	21.1	2 21	7 6.81	+25 23.0	1.307	2.112	19.9	21.1
<b>457152</b>	2008 <i>FQ</i> <sub>133</sub>		1 13.4	266° 27'	1° 4'/13.9	16	<b>246706</b>	2009 <i>AQ</i> <sub>48</sub>		1 13.4	36° 07'	3° 6'/15.2	18
12 13	8 1.56	+16 43.1											

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1 13.4

1 13.5

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>424908</b>	2008 WZ <sub>72</sub>		1 13.4 143°50	1°3/12.9	18		<b>324664</b>	2007 DP <sub>19</sub>		1 13.5 20°81	1°8/14.1	18	
12 13	8 1.18	+24 32.8	2.381	3.221	10.6	21.6	12 13	8 0.63	+15 31.9	1.688	2.530	14.2	20.5
12 23	7 55.07	+24 58.4	2.311	3.226	7.6	21.4	12 23	7 55.19	+15 47.3	1.619	2.533	10.4	20.2
1 2	7 47.16	+25 24.7	2.267	3.230	4.2	21.2	1 2	7 47.44	+16 13.2	1.575	2.535	6.1	20.0
1 12	7 38.20	+25 48.6	2.253	3.235	1.3	21.0	1 12	7 38.29	+16 46.9	1.557	2.538	2.1	19.7
1 22	7 29.08	+26 7.3	2.270	3.239	3.6	21.2	1 22	7 28.89	+17 24.7	1.568	2.541	4.2	19.9
2 1	7 20.76	+26 19.1	2.316	3.243	7.0	21.4	2 1	7 20.50	+18 3.0	1.606	2.544	8.5	20.1
2 11	7 14.06	+26 23.8	2.389	3.247	10.1	21.6	2 11	7 14.16	+18 38.6	1.670	2.548	12.5	20.4
2 21	7 9.50	+26 22.1	2.485	3.250	12.7	21.8	2 21	7 10.52	+19 9.7	1.755	2.552	15.9	20.6
<b>517180</b>	2013 RC <sub>102</sub>		1 13.4 97°64	0°5/13.6	18		<b>291596</b>	2006 GJ <sub>22</sub>		1 13.5 153°67	3°5/12.1	18	
12 13	8 1.46	+19 18.7	2.058	2.897	12.1	22.1	12 13	8 6.54	+28 26.3	1.781	2.627	13.4	21.0
12 23	7 55.39	+19 31.0	1.991	2.905	8.7	21.9	12 23	7 59.52	+29 20.5	1.716	2.632	9.7	20.8
1 2	7 47.37	+19 48.4	1.950	2.913	4.8	21.7	1 2	7 49.87	+30 13.4	1.677	2.637	5.8	20.6
1 12	7 38.23	+20 8.1	1.938	2.921	0.8	21.4	1 12	7 38.61	+30 58.2	1.667	2.642	3.5	20.5
1 22	7 28.94	+20 27.5	1.956	2.929	3.5	21.6	1 22	7 27.10	+31 29.6	1.685	2.646	5.7	20.6
2 1	7 20.57	+20 44.4	2.002	2.937	7.4	21.9	2 1	7 16.76	+31 45.6	1.731	2.650	9.5	20.8
2 11	7 13.99	+20 57.7	2.076	2.945	10.9	22.1	2 11	7 8.80	+31 46.9	1.802	2.653	13.1	21.1
2 21	7 9.75	+21 7.0	2.172	2.952	13.8	22.3	2 21	7 3.88	+31 36.6	1.895	2.656	16.2	21.3
<b>105434</b>	2000 QA <sub>177</sub>		1 13.5 114°91	2°3/14.4	18		<b>493505</b>	2015 BJ <sub>102</sub>		1 13.5 97°66	1°4/14.1	18	
12 13	8 2.00	+13 53.8	2.101	2.926	12.4	19.6	12 13	7 59.49	+16 4.4	2.324	3.154	11.2	21.5
12 23	7 55.67	+13 59.3	2.037	2.940	9.1	19.4	12 23	7 53.82	+16 14.2	2.255	3.163	8.1	21.3
1 2	7 47.49	+14 13.9	1.999	2.954	5.5	19.2	1 2	7 46.48	+16 30.9	2.213	3.171	4.7	21.1
1 12	7 38.25	+14 35.7	1.990	2.968	2.5	19.0	1 12	7 38.16	+16 52.5	2.199	3.180	1.6	20.9
1 22	7 28.93	+15 2.4	2.011	2.981	3.8	19.1	1 22	7 29.72	+17 16.8	2.216	3.188	3.3	21.1
2 1	7 20.49	+15 31.3	2.061	2.994	7.3	19.4	2 1	7 22.04	+17 41.5	2.262	3.196	6.7	21.3
2 11	7 13.79	+16 0.0	2.139	3.007	10.6	19.6	2 11	7 15.87	+18 4.9	2.336	3.205	9.8	21.5
2 21	7 9.32	+16 26.8	2.239	3.019	13.4	19.8	2 21	7 11.72	+18 25.6	2.433	3.213	12.5	21.7
<b>167659</b>	2004 EO <sub>18</sub>		1 13.5 343°95	13°0/4.9	18		<b>193375</b>	2000 UB <sub>108</sub>		1 13.5 52°86	0°1/13.5	18	
12 13	8 10.07	+54 21.3	1.852	2.644	15.2	18.7	12 13	8 3.19	+18 26.5	1.382	2.237	16.0	19.7
12 23	8 3.62	+56 30.7	1.803	2.635	13.8	18.6	12 23	7 57.40	+19 10.6	1.325	2.246	11.5	19.5
1 2	7 52.85	+58 18.6	1.776	2.627	13.1	18.5	1 2	7 48.78	+20 4.9	1.291	2.256	6.4	19.2
1 12	7 39.01	+59 33.1	1.773	2.620	13.3	18.5	1 12	7 38.48	+21 3.8	1.283	2.266	0.9	18.9
1 22	7 24.28	+60 7.3	1.791	2.614	14.3	18.6	1 22	7 27.95	+22 0.8	1.302	2.276	4.7	19.2
2 1	7 11.25	+60 0.9	1.831	2.608	15.9	18.7	2 1	7 18.75	+22 50.8	1.348	2.286	9.8	19.5
2 11	7 2.05	+59 20.3	1.888	2.603	17.6	18.8	2 11	7 12.15	+23 30.9	1.418	2.297	14.2	19.8
2 21	6 57.70	+58 14.4	1.960	2.599	19.2	18.9	2 21	7 8.81	+24 0.7	1.508	2.308	17.9	20.0
<b>156728</b>	2002 VC <sub>47</sub>		1 13.5 331°81	6°7/15.2	18		<b>126257</b>	2002 AT <sub>72</sub>		1 13.5 342°95	1°8/13.1	18	
12 13	8 0.66	+ 8 29.0	1.179	2.024	18.8	19.9	12 13	8 4.30	+25 4.4	1.243	2.109	16.6	19.8
12 23	7 56.01	+ 7 53.6	1.107	2.014	14.7	19.6	12 23	7 58.66	+25 13.3	1.176	2.102	12.0	19.5
1 2	7 48.24	+ 7 38.7	1.056	2.004	10.3	19.3	1 2	7 49.68	+25 23.2	1.130	2.097	6.8	19.2
1 12	7 38.40	+ 7 46.1	1.027	1.995	6.9	19.1	1 12	7 38.61	+25 28.7	1.110	2.092	1.9	18.9
1 22	7 28.03	+ 8 14.6	1.023	1.987	7.9	19.1	1 22	7 27.17	+25 25.7	1.115	2.087	5.6	19.1
2 1	7 18.87	+ 9 0.1	1.042	1.980	12.1	19.3	2 1	7 17.23	+25 12.7	1.145	2.084	11.1	19.4
2 11	7 12.42	+ 9 55.7	1.083	1.974	16.7	19.5	2 11	7 10.31	+24 51.1	1.198	2.081	16.0	19.7
2 21	7 9.55	+10 54.9	1.143	1.968	20.9	19.8	2 21	7 7.16	+24 23.4	1.269	2.079	20.1	19.9
<b>420497</b>	2012 FR <sub>14</sub>		1 13.5 257°77	2°5/12.2	18		<b>467539</b>	2007 RS <sub>308</sub>		1 13.5 337°41	4°6/15.4	18	
12 13	8 3.71	+26 38.7	2.169	3.010	11.5	20.8	12 13	7 58.27	+ 7 24.7	2.160	2.970	12.7	21.5
12 23	7 57.36	+27 31.1	2.075	2.989	8.4	20.5	12 23	7 53.10	+ 7 11.8	2.082	2.968	9.9	21.3
1 2	7 48.70	+28 25.1	2.007	2.968	4.9	20.3	1 2	7 46.15	+ 7 12.3	2.028	2.966	6.9	21.1
1 12	7 38.45	+29 15.4	1.969	2.946	2.6	20.1	1 12	7 38.14	+ 7 26.3	2.002	2.964	4.8	21.0
1 22	7 27.68	+29 57.4	1.961	2.924	4.8	20.2	1 22	7 29.91	+ 7 52.4	2.004	2.963	5.3	21.0
2 1	7 17.58	+30 27.4	1.982	2.901	8.5	20.4	2 1	7 22.38	+ 8 28.0	2.035	2.961	7.9	21.2
2 11	7 9.27	+30 45.0	2.030	2.878	12.0	20.6	2 11	7 16.37	+ 9 9.6	2.092	2.960	10.8	21.3
2 21	7 3.51	+30 51.4	2.100	2.854	15.0	20.7	2 21	7 12.44	+ 9 53.9	2.173	2.959	13.6	21.5
<b>47410</b>	1999 XE <sub>135</sub>		1 13.5 110°32	1°9/14.2	18		<b>239736</b>	2009 CK <sub>57</sub>		1 13.5 285°90	7°2/16.9	18	
12 13	8 7.16	+14 26.4	1.591	2.424	15.4	19.0	12 13	7 57.05	- 2 10.9	2.421	3.182	12.9	20.4
12 23	7 59.75	+14 56.6	1.538	2.446	11.2	18.8	12 23	7 52.10	- 2 38.6	2.338	3.177	10.8	20.2
1 2	7 49.86	+15 38.8	1.510	2.468	6.5	18.6	1 2	7 45.57	- 2 48.5	2.278	3.171	8.8	20.1
1 12	7 38.57	+16 28.8	1.508	2.489	2.2	18.3	1 12	7 38.07	- 2 39.0	2.244	3.165	7.4	20.0
1 22	7 27.24	+17 21.7	1.537	2.509	4.4	18.5	1 22	7 30.35	- 2 10.3	2.237	3.159	7.4	20.0
2 1	7 17.22	+18 12.7	1.593	2.529	8.9	18.8	2 1	7 23.20	- 1 24.8	2.258	3.154	8.8	20.1
2 11	7 9.60	+18 58.8	1.676	2.547	12.9	19.1	2 11	7 17.36	- 0 26.4	2.305	3.148	10.9	20.2
2 21	7 4.95	+19 38.2	1.781	2.565	16.2	19.4	2 21	7 13.36	+ 0 39.9	2.375	3.143	13.1	20.3
<b>408411</b>	2013 GH <sub>127</sub>		1 13.5 131°26	1°5/14.2	18		<b>206277</b>	2003 AM <sub>9</sub>		1 13.5 301°47	0°2/13.4	18	
12 13	8 2.78	+15 16.9	2.088	2.915	12.4	21.6	12 13	7 59.24	+20 52.9	2.243	3.084	11.2	20.6
12 23	7 56.29	+15 39.3	2.022	2.928	9.0	21.4	12 23	7 53.87	+21 15.5	2.161	3.076	8.0	20.4
1 2	7 47.87	+16 10.4	1.983	2.941	5.3	21.2	1 2	7 46.63	+21 42.5	2.105	3.068	4.4	20.1
1 12	7 38.33	+16 47.4	1.972	2.953	1.8	20.9	1 12	7 38.21	+22 10.8	2.077	3.060	0.6	19.8
1 22	7 28.65	+17 26.9	1.992	2.964	3.6	21.1	1 22	7 29.54	+22 37.4	2.080	3.053	3.4	20.0
2 1	7 19.86	+18 6.0	2.041	2.975	7.3	21.4	2 1	7 21.56	+23 0.0	2.112	3.045	7.1	20.3
2 11	7 12.84	+18 42.1	2.118	2.985	10.7	21.6	2 11	7 15.18	+23 17.3	2.171	3.038	10.5	20.5
2 21	7 8.13	+19 13.9	2.218	2.995	13.6	21.8	2 21	7 10.96	+23 29.1	2.252	3.030	13.4	20.6
<b>394930</b>	2008 WV <sub>94</sub>		1 13.5 84°30	0°6/13.6	15		<b>496524</b>	2014 WY <sub>10</sub>		1 13.5 216°85	6°3/15.5	17	
12 13	8 6.95	+18 58.7	1.467	2.313	15.7	21.8	12 13	8 1.49	+ 4 16.5				

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>326245</b>	2012 <i>DG</i> <sub>25</sub>		1 13.5 353°85	0°7/13.7	18		<b>464570</b>	2016 <i>CQ</i> <sub>64</sub>		1 13.5 281°36	0°4/13.3	17	
12 13	7 59.72	+17 31.7	1.414	2.271	15.5	19.9	12 13	8 1.52	+19 17.5	1.823	2.668	13.2	21.1
12 23	7 55.01	+18 8.5	1.345	2.267	11.3	19.6	12 23	7 56.01	+20 15.7	1.738	2.655	9.5	20.8
1 2	7 47.55	+18 57.2	1.299	2.264	6.3	19.3	1 2	7 48.06	+21 23.5	1.677	2.641	5.3	20.6
1 12	7 38.36	+19 53.1	1.279	2.261	1.1	19.0	1 12	7 38.48	+22 35.8	1.645	2.628	0.7	20.2
1 22	7 28.78	+20 50.3	1.285	2.260	4.6	19.2	1 22	7 28.39	+23 46.6	1.642	2.615	4.2	20.4
2 1	7 20.31	+21 43.3	1.318	2.259	9.7	19.5	2 1	7 19.05	+24 50.5	1.668	2.602	8.7	20.7
2 11	7 14.25	+22 28.6	1.374	2.259	14.3	19.8	2 11	7 11.66	+25 44.3	1.720	2.588	12.8	20.9
2 21	7 11.34	+23 4.3	1.451	2.259	18.1	20.0	2 21	7 7.00	+26 27.0	1.794	2.575	16.2	21.1
<b>322870</b>	2001 <i>UV</i> <sub>200</sub>		1 13.5 121°45	0°8/13.2	18		<b>259274</b>	2003 <i>DT</i> <sub>4</sub>		1 13.5 316°25	3°1/14.6	18	
12 13	8 3.87	+22 43.3	1.942	2.784	12.6	21.7	12 13	7 59.39	+12 41.4	1.551	2.393	15.2	20.1
12 23	7 57.27	+23 4.1	1.877	2.793	9.0	21.5	12 23	7 54.73	+12 53.3	1.463	2.374	11.4	19.8
1 2	7 48.49	+23 27.4	1.838	2.802	4.9	21.3	1 2	7 47.46	+13 20.5	1.398	2.355	7.1	19.5
1 12	7 38.46	+23 49.5	1.828	2.810	0.9	21.0	1 12	7 38.43	+14 1.3	1.358	2.336	3.4	19.2
1 22	7 28.30	+24 7.1	1.847	2.818	3.9	21.2	1 22	7 28.83	+14 52.1	1.346	2.318	5.0	19.3
2 1	7 19.17	+24 18.3	1.895	2.826	8.0	21.5	2 1	7 20.04	+15 48.0	1.361	2.301	9.6	19.5
2 11	7 12.04	+24 22.9	1.970	2.834	11.6	21.7	2 11	7 13.37	+16 44.2	1.399	2.284	14.1	19.7
2 21	7 7.50	+24 21.5	2.066	2.842	14.6	22.0	2 21	7 9.66	+17 36.7	1.459	2.267	18.0	19.9
<b>124269</b>	2001 <i>QD</i> <sub>18</sub>		1 13.5 139°63	1°9/14.9	18		<b>236871</b>	2007 <i>RP</i> <sub>242</sub>		1 13.5 199°38	1°0/13.1	18	
12 13	7 54.65	+11 22.5	3.938	4.744	7.5	20.6	12 13	8 5.71	+22 42.7	1.982	2.820	12.5	21.1
12 23	7 49.86	+11 29.5	3.864	4.754	5.6	20.5	12 23	7 58.75	+23 15.5	1.903	2.817	9.0	20.9
1 2	7 44.14	+11 42.4	3.818	4.764	3.6	20.3	1 2	7 49.45	+23 51.7	1.850	2.813	5.0	20.6
1 12	7 37.89	+12 0.7	3.802	4.774	2.0	20.2	1 12	7 38.68	+24 26.8	1.826	2.808	1.1	20.3
1 22	7 31.58	+12 23.0	3.818	4.783	2.6	20.3	1 22	7 27.57	+24 56.8	1.832	2.802	4.1	20.5
2 1	7 25.65	+12 48.1	3.865	4.792	4.4	20.4	2 1	7 17.37	+25 19.0	1.867	2.796	8.3	20.8
2 11	7 20.55	+13 14.5	3.941	4.801	6.4	20.6	2 11	7 9.16	+25 32.7	1.930	2.789	12.0	21.0
2 21	7 16.60	+13 40.9	4.043	4.810	8.1	20.7	2 21	7 3.62	+25 38.7	2.014	2.781	15.1	21.2
<b>460752</b>	2014 <i>VL</i> <sub>27</sub>		1 13.5 91°88	2°5/12.4	18		<b>179140</b>	2001 <i>SU</i> <sub>319</sub>		1 13.5 247°65	1°5/14.1	18	
12 13	8 3.38	+26 28.9	1.928	2.775	12.5	21.1	12 13	8 1.77	+16 7.9	1.868	2.705	13.2	20.4
12 23	7 57.01	+27 14.7	1.868	2.785	8.9	20.9	12 23	7 55.96	+16 22.0	1.789	2.700	9.7	20.2
1 2	7 48.39	+28 0.4	1.834	2.796	5.1	20.7	1 2	7 47.92	+16 45.3	1.734	2.694	5.7	19.9
1 12	7 38.46	+28 40.9	1.828	2.807	2.5	20.5	1 12	7 38.48	+17 15.1	1.707	2.688	1.8	19.6
1 22	7 28.36	+29 11.7	1.852	2.817	4.8	20.7	1 22	7 28.71	+17 48.2	1.709	2.682	3.9	19.8
2 1	7 19.33	+29 30.8	1.904	2.827	8.5	20.9	2 1	7 19.80	+18 21.6	1.740	2.676	8.2	20.0
2 11	7 12.36	+29 38.3	1.981	2.837	11.9	21.2	2 11	7 12.78	+18 52.5	1.797	2.670	12.0	20.2
2 21	7 8.05	+29 36.0	2.081	2.848	14.7	21.4	2 21	7 8.32	+19 19.5	1.876	2.664	15.4	20.4
<b>115897</b>	2003 <i>VF</i> <sub>8</sub>		1 13.5 120°55	3°4/12.3	18		<b>54019</b>	2000 <i>GP</i> <sub>99</sub>		1 13.5 305°83	4°5/14.6	18	
12 13	8 4.83	+31 54.0	2.277	3.114	11.2	20.2	12 13	8 3.81	+11 57.2	1.399	2.238	16.7	19.2
12 23	7 57.77	+32 14.3	2.213	3.122	8.2	20.1	12 23	7 57.90	+11 29.0	1.328	2.235	12.7	18.9
1 2	7 48.70	+32 29.1	2.175	3.130	5.2	19.9	1 2	7 49.17	+11 14.7	1.278	2.231	8.2	18.6
1 12	7 38.49	+32 34.6	2.167	3.138	3.4	19.8	1 12	7 38.67	+11 14.4	1.254	2.228	4.7	18.4
1 22	7 28.22	+32 28.4	2.188	3.145	5.0	19.9	1 22	7 27.81	+11 26.7	1.257	2.225	6.1	18.5
2 1	7 18.98	+32 10.1	2.239	3.153	7.9	20.1	2 1	7 18.12	+11 48.5	1.285	2.222	10.4	18.7
2 11	7 11.67	+31 41.5	2.316	3.160	10.8	20.3	2 11	7 10.91	+12 16.3	1.338	2.219	14.8	19.0
2 21	7 6.81	+31 5.6	2.416	3.167	13.4	20.5	2 21	7 6.93	+12 46.3	1.410	2.216	18.7	19.2
<b>82143</b>	2001 <i>FF</i> <sub>134</sub>		1 13.5 233°28	2°6/14.3	18		<b>110121</b>	2001 <i>ST</i> <sub>138</sub>		1 13.5 184°75	0°6/13.8	18	
12 13	8 5.27	+14 30.6	1.626	2.460	15.0	20.0	12 13	7 59.85	+18 54.5	2.395	3.230	10.8	20.4
12 23	7 58.78	+14 31.0	1.542	2.450	11.2	19.8	12 23	7 54.16	+19 2.9	2.319	3.230	7.8	20.2
1 2	7 49.60	+14 42.7	1.482	2.439	6.8	19.5	1 2	7 46.76	+19 15.9	2.268	3.230	4.4	20.0
1 12	7 38.66	+15 3.8	1.449	2.428	2.8	19.2	1 12	7 38.35	+19 31.4	2.247	3.229	0.9	19.7
1 22	7 27.23	+15 31.2	1.445	2.416	4.8	19.3	1 22	7 29.77	+19 47.3	2.256	3.229	3.1	19.9
2 1	7 16.76	+16 1.8	1.468	2.404	9.4	19.6	2 1	7 21.89	+20 1.8	2.295	3.229	6.6	20.1
2 11	7 8.52	+16 32.5	1.517	2.391	13.8	19.8	2 11	7 15.51	+20 13.7	2.361	3.228	9.8	20.3
2 21	7 3.31	+17 1.0	1.587	2.377	17.6	20.0	2 21	7 11.14	+20 22.6	2.451	3.228	12.5	20.5
<b>205660</b>	2001 <i>XK</i> <sub>153</sub>		1 13.5 88°35	1°4/12.9	18		<b>429043</b>	2009 <i>CC</i> <sub>60</sub>		1 13.5 344°34	0°8/13.4	18	
12 13	8 5.35	+22 11.2	1.462	2.315	15.3	20.4	12 13	8 2.99	+25 31.9	1.637	2.491	13.9	19.9
12 23	7 58.92	+23 3.3	1.405	2.326	11.0	20.2	12 23	7 57.13	+24 58.9	1.557	2.478	10.1	19.7
1 2	7 49.65	+24 1.0	1.371	2.336	6.0	19.9	1 2	7 48.66	+24 22.9	1.501	2.466	5.6	19.4
1 12	7 38.67	+24 57.5	1.365	2.347	1.5	19.6	1 12	7 38.63	+23 42.0	1.473	2.455	1.1	19.1
1 22	7 27.48	+25 46.6	1.386	2.357	5.0	19.9	1 22	7 28.34	+22 55.5	1.472	2.445	4.4	19.3
2 1	7 17.63	+26 24.1	1.435	2.368	9.8	20.2	2 1	7 19.22	+22 4.8	1.499	2.437	9.1	19.5
2 11	7 10.41	+26 49.1	1.507	2.378	14.1	20.5	2 11	7 12.42	+21 12.0	1.551	2.429	13.3	19.8
2 21	7 6.48	+27 2.8	1.600	2.388	17.6	20.7	2 21	7 8.62	+20 19.5	1.625	2.423	16.9	20.0
<b>326702</b>	2003 <i>BD</i> <sub>49</sub>		1 13.5 5°01	4°6/15.3	18		<b>177798</b>	2005 <i>LR</i> <sub>45</sub>		1 13.5 116°31	0°4/13.7	18	R
12 13	7 55.03	+ 9 52.2	1.085	1.947	18.8	19.4	12 13	8 4.50	+19 17.7	2.068	2.902	12.3	20.7
12 23	7 52.02	+10 12.0	1.028	1.946	14.3	19.1	12 23	7 57.54	+19 33.2	2.009	2.920	8.8	20.5
1 2	7 46.04	+10 56.4	0.990	1.948	9.3	18.8	1 2	7 48.62	+19 53.5	1.976	2.938	4.9	20.3
1 12	7 38.21	+12 2.6	0.975	1.951	5.0	18.6	1 12	7 38.61	+20 15.6	1.972	2.955	0.8	20.1
1 22	7 30.05	+13 24.2	0.984	1.957	6.1	18.7	1 22	7 28.54	+20 36.7	1.999	2.972	3.5	20.3
2 1	7 23.22	+14 52.3	1.016	1.964	10.9	19.0	2 1	7 19.48	+20 54.7	2.056	2.988	7.3	20.6
2 11	7 19.08	+16 18.1	1.070	1.973	15.7	19.3	2 11	7 12.29	+21 8.7	2.139	3.004	10.8	20.8
2 21	7 18.36	+17 35.2	1.144	1.985	19.9	19.6	2 21	7 7.50	+21 18.3	2.246	3.019	13.6	21.0
<b>269588</b>	2009 <i>WR</i> <sub>260</sub>		1 13.5 339°49	1°2/13.0	18		<b>182582</b>	2001 <i>TK</i> <sub>192</sub>		1 13.5 108°93	6°2/11.0	18	
12 13	8 1.80	+23 40.9</											



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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>351762</b>	2006 <i>DB</i> <sub>202</sub>		1 13.5 329°24	2°5/12.7	17		<b>30709</b>	4107 <i>T</i> <sub>-3</sub>		1 13.5 329°95	2°6/14.4	18	
12 13	8 2.50	+24 34.5	1.217	2.086	16.7	21.1	12 13	8 2.57	+14 8.8	1.341	2.190	16.7	18.6
12 23	7 57.65	+25 16.5	1.145	2.073	12.1	20.8	12 23	7 57.21	+14 24.0	1.270	2.186	12.4	18.4
1 2	7 49.36	+26 3.3	1.095	2.061	6.9	20.5	1 2	7 48.91	+14 54.5	1.222	2.182	7.5	18.1
1 12	7 38.76	+26 47.8	1.069	2.050	2.6	20.2	1 12	7 38.73	+15 37.1	1.199	2.179	2.9	17.8
1 22	7 27.55	+27 22.6	1.068	2.040	6.2	20.4	1 22	7 28.11	+16 27.2	1.202	2.175	5.1	17.9
2 1	7 17.68	+27 43.3	1.093	2.030	11.7	20.6	2 1	7 18.67	+17 19.3	1.231	2.172	10.2	18.2
2 11	7 10.81	+27 49.6	1.138	2.021	16.7	20.9	2 11	7 11.78	+18 8.7	1.284	2.170	15.0	18.5
2 21	7 7.84	+27 43.4	1.202	2.013	21.0	21.1	2 21	7 8.24	+18 52.4	1.356	2.167	19.0	18.7
<b>331825</b>	2003 <i>TC</i> <sub>8</sub>		1 13.5 191°58	0°9/13.2	18		<b>200843</b>	2001 <i>XD</i> <sub>266</sub>		1 13.5 12°09	0°4/13.6	18	
12 13	8 3.06	+24 23.9	2.251	3.090	11.2	20.8	12 13	8 0.77	+18 40.0	1.089	1.960	18.1	20.0
12 23	7 56.57	+24 27.9	2.175	3.090	8.0	20.6	12 23	7 56.29	+19 7.8	1.034	1.963	13.1	19.7
1 2	7 48.13	+24 32.0	2.126	3.089	4.5	20.4	1 2	7 48.50	+19 47.5	1.000	1.967	7.3	19.4
1 12	7 38.56	+24 33.6	2.105	3.088	1.1	20.1	1 12	7 38.68	+20 33.7	0.988	1.971	1.1	19.0
1 22	7 28.83	+24 30.6	2.116	3.087	3.6	20.3	1 22	7 28.57	+21 19.6	1.002	1.978	5.2	19.3
2 1	7 19.96	+24 22.1	2.155	3.085	7.2	20.5	2 1	7 20.01	+21 59.7	1.040	1.985	11.1	19.7
2 11	7 12.82	+24 8.5	2.222	3.084	10.5	20.7	2 11	7 14.47	+22 31.0	1.099	1.993	16.2	20.0
2 21	7 7.98	+23 50.7	2.312	3.082	13.4	20.9	2 21	7 12.68	+22 52.6	1.176	2.003	20.4	20.3
<b>266841</b>	2009 <i>UA</i> <sub>27</sub>		1 13.5 119°68	0°1/13.5	18		<b>343929</b>	2011 <i>KW</i> <sub>10</sub>		1 13.5 121°77	0°1/13.5	18	
12 13	8 2.98	+21 2.3	2.063	2.902	12.1	21.2	12 13	8 0.22	+19 4.6	2.739	3.568	9.8	21.2
12 23	7 56.56	+21 13.9	1.997	2.911	8.7	21.0	12 23	7 54.25	+19 52.9	2.674	3.583	7.0	21.0
1 2	7 48.14	+21 28.9	1.956	2.919	4.8	20.8	1 2	7 46.78	+20 45.9	2.636	3.598	3.8	20.8
1 12	7 38.56	+21 44.5	1.945	2.928	0.6	20.5	1 12	7 38.43	+21 40.4	2.629	3.612	0.5	20.6
1 22	7 28.86	+21 58.0	1.963	2.936	3.5	20.7	1 22	7 29.95	+22 33.0	2.654	3.626	2.8	20.8
2 1	7 20.11	+22 7.7	2.011	2.944	7.5	21.0	2 1	7 22.10	+23 21.1	2.710	3.640	6.0	21.0
2 11	7 13.19	+22 12.9	2.085	2.951	10.9	21.2	2 11	7 15.58	+24 2.8	2.795	3.653	8.7	21.2
2 21	7 8.67	+22 13.9	2.182	2.959	13.8	21.4	2 21	7 10.86	+24 37.6	2.905	3.666	11.1	21.4
<b>258242</b>	2001 <i>TD</i> <sub>141</sub>		1 13.5 156°69	1°6/12.8	18		<b>494229</b>	2016 <i>NY</i> <sub>43</sub>		1 13.5 164°33	0°4/13.8	17	
12 13	8 4.03	+24 34.6	2.134	2.974	11.7	21.1	12 13	7 55.48	+18 30.9	3.830	4.654	7.3	22.6
12 23	7 57.38	+25 13.1	2.065	2.980	8.4	20.9	12 23	7 50.58	+18 45.2	3.751	4.658	5.2	22.4
1 2	7 48.63	+25 53.0	2.023	2.985	4.7	20.7	1 2	7 44.66	+19 2.6	3.701	4.661	2.9	22.3
1 12	7 38.63	+26 29.9	2.009	2.990	1.7	20.5	1 12	7 38.15	+19 21.8	3.682	4.665	0.6	22.1
1 22	7 28.43	+27 0.0	2.027	2.995	4.1	20.7	1 22	7 31.54	+19 41.4	3.695	4.667	2.1	22.2
2 1	7 19.14	+27 21.1	2.073	2.999	7.8	20.9	2 1	7 25.34	+20 0.0	3.739	4.670	4.4	22.4
2 11	7 11.70	+27 32.8	2.147	3.003	11.1	21.1	2 11	7 20.02	+20 16.8	3.812	4.673	6.6	22.6
2 21	7 6.71	+27 36.2	2.243	3.006	13.9	21.3	2 21	7 15.92	+20 31.2	3.911	4.675	8.4	22.7
<b>256034</b>	2006 <i>UM</i> <sub>53</sub>		1 13.5 55°91	3°3/12.4	18		<b>283306</b>	2011 <i>KS</i> <sub>24</sub>		1 13.5 354°53	0°3/13.6	18	
12 13	8 6.17	+27 0.7	1.448	2.304	15.3	20.2	12 13	8 0.32	+19 33.7	2.043	2.885	12.1	20.9
12 23	7 59.39	+27 58.2	1.409	2.330	10.9	20.0	12 23	7 54.79	+19 51.9	1.969	2.884	8.7	20.7
1 2	7 49.83	+28 54.4	1.394	2.356	6.3	19.8	1 2	7 47.25	+20 15.6	1.920	2.883	4.8	20.4
1 12	7 38.78	+29 41.7	1.405	2.383	3.3	19.7	1 12	7 38.51	+20 41.7	1.900	2.883	0.7	20.1
1 22	7 27.79	+30 14.8	1.444	2.410	5.9	19.9	1 22	7 29.53	+21 7.4	1.909	2.883	3.5	20.3
2 1	7 18.41	+30 31.7	1.510	2.436	10.1	20.2	2 1	7 21.38	+21 30.1	1.947	2.882	7.5	20.6
2 11	7 11.77	+30 33.9	1.600	2.463	13.8	20.5	2 11	7 14.98	+21 48.3	2.012	2.882	11.1	20.8
2 21	7 8.40	+30 24.6	1.710	2.490	16.9	20.7	2 21	7 10.92	+22 1.5	2.098	2.882	14.1	21.0
<b>491951</b>	2013 <i>CE</i> <sub>151</sub>		1 13.5 18°16	1°0/13.2	18		<b>296068</b>	2009 <i>AA</i> <sub>48</sub>		1 13.5 42°25	2°2/12.5	18	
12 13	8 2.23	+21 37.9	1.148	2.018	17.4	20.8	12 13	8 0.91	+26 19.5	2.173	3.018	11.3	20.6
12 23	7 57.23	+22 11.5	1.093	2.022	12.5	20.6	12 23	7 55.18	+26 59.5	2.105	3.021	8.1	20.4
1 2	7 48.96	+22 52.5	1.060	2.028	6.9	20.3	1 2	7 47.45	+27 39.7	2.062	3.024	4.7	20.2
1 12	7 38.71	+23 34.3	1.052	2.034	1.2	19.9	1 12	7 38.53	+28 15.8	2.049	3.028	2.2	20.0
1 22	7 28.21	+24 10.7	1.068	2.042	5.4	20.2	1 22	7 29.41	+28 44.2	2.065	3.031	4.3	20.2
2 1	7 19.30	+24 37.2	1.109	2.051	11.0	20.6	2 1	7 21.13	+29 2.8	2.110	3.034	7.7	20.4
2 11	7 13.41	+24 52.9	1.172	2.060	15.9	20.9	2 11	7 14.62	+29 11.2	2.181	3.038	10.9	20.6
2 21	7 11.22	+24 58.3	1.253	2.070	19.9	21.2	2 21	7 10.45	+29 10.8	2.275	3.041	13.6	20.8
<b>227901</b>	2007 <i>EB</i> <sub>141</sub>		1 13.5 182°90	2°0/14.4	18		<b>70655</b>	1999 <i>TR</i> <sub>256</sub>		1 13.5 267°22	4°0/12.2	18	
12 13	8 1.14	+14 26.8	2.388	3.210	11.2	21.3	12 13	8 6.56	+30 7.3	1.665	2.515	14.0	19.2
12 23	7 55.08	+14 30.1	2.308	3.210	8.3	21.1	12 23	7 59.96	+30 47.6	1.587	2.503	10.3	19.0
1 2	7 47.30	+14 40.9	2.255	3.210	5.0	20.9	1 2	7 50.42	+31 25.1	1.532	2.491	6.4	18.7
1 12	7 38.48	+14 58.0	2.232	3.210	2.2	20.7	1 12	7 38.95	+31 52.9	1.505	2.479	4.0	18.5
1 22	7 29.47	+15 19.4	2.239	3.209	3.5	20.8	1 22	7 27.02	+32 5.8	1.506	2.467	6.3	18.6
2 1	7 21.15	+15 42.9	2.276	3.208	6.8	21.0	2 1	7 16.23	+32 1.7	1.534	2.454	10.4	18.8
2 11	7 14.31	+16 6.5	2.340	3.206	9.9	21.2	2 11	7 7.98	+31 42.6	1.586	2.442	14.3	19.1
2 21	7 9.50	+16 28.9	2.429	3.204	12.6	21.4	2 21	7 3.06	+31 12.0	1.659	2.429	17.8	19.3
<b>78770</b>	2002 <i>VD</i> <sub>33</sub>		1 13.5 79°36	3°3/11.8	18		<b>142660</b>	2002 <i>TC</i> <sub>207</sub>		1 13.5 81°64	0°6/13.7	18	
12 13	8 1.73	+29 22.1	2.226	3.069	11.1	19.4	12 13	8 5.54	+19 15.5	1.695	2.537	14.2	20.3
12 23	7 55.77	+30 19.3	2.162	3.076	8.1	19.2	12 23	7 58.55	+19 24.7	1.645	2.559	10.1	20.1
1 2	7 47.77	+31 14.8	2.125	3.083	5.0	19.0	1 2	7 49.27	+19 39.5	1.619	2.582	5.6	19.9
1 12	7 38.55	+32 3.1	2.118	3.090	3.3	18.9	1 12	7 38.76	+19 56.7	1.621	2.604	1.0	19.6
1 22	7 29.13	+32 40.2	2.139	3.097	5.1	19.0	1 22	7 28.29	+20 13.3	1.653	2.626	4.0	19.9
2 1	7 20.57	+33 3.9	2.190	3.104	8.1	19.2	2 1	7 19.09	+20 27.0	1.712	2.648	8.3	20.2
2 11	7 13.81	+33 14.4	2.267	3.111	11.1	19.4	2 11	7 12.15	+20 36.9	1.798	2.669	12.1	20.4
2 21	7 9.44	+33 13.6	2.365	3.117	13.6	19.6	2 21	7 7.99	+20 42.8	1.905	2.691	15.2	20.7
<b>153658</b>	2001 <i>TL</i> <sub>134</sub>		1 13.5 164°59	0°7/13.2	18		<b>282842</b>	2006 <i>UM</i> <sub>184</sub>		1 13.5 62°04	2°1/13.0	18	
12 13	8 6.34	+20 55.3	1.										

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1 13.5

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>258805</b>	2002 <i>LX</i> <sub>56</sub>		1 13.5 211°26	0°1/13.6	18		<b>459755</b>	2013 <i>QJ</i> <sub>46</sub>		1 13.5 186°20	4°7/15.3	18	
12 13	8 4.00	+18 32.5	2.125	2.957	12.1	22.3	12 13	8 1.53	+6 30.0	2.467	3.260	11.8	22.0
12 23	7 57.49	+19 15.4	2.040	2.950	8.7	22.1	12 23	7 55.31	+6 1.8	2.386	3.260	9.3	21.9
1 2	7 48.82	+20 5.9	1.980	2.942	4.9	21.8	1 2	7 47.44	+5 45.2	2.330	3.259	6.7	21.7
1 12	7 38.75	+21 0.0	1.951	2.933	0.7	21.5	1 12	7 38.59	+5 40.8	2.302	3.258	4.8	21.6
1 22	7 28.29	+21 53.3	1.952	2.924	3.6	21.7	1 22	7 29.55	+5 48.1	2.305	3.256	5.3	21.6
2 1	7 18.54	+22 42.1	1.983	2.914	7.7	22.0	2 1	7 21.15	+6 5.5	2.337	3.254	7.5	21.7
2 11	7 10.53	+23 23.9	2.042	2.903	11.3	22.2	2 11	7 14.16	+6 30.5	2.397	3.251	10.2	21.9
2 21	7 4.93	+23 58.0	2.123	2.892	14.4	22.4	2 21	7 9.08	+7 0.2	2.480	3.247	12.6	22.1
<b>14411</b>	Clérambault		1 13.5 43°48	2°0/13.9	18 R		<b>328967</b>	2010 <i>VW</i> <sub>170</sub>		1 13.5 315°57	6°0/10.8	18	
12 13	8 5.68	+17 58.7	1.163	2.022	18.0	17.4	12 13	8 4.62	+33 20.8	1.677	2.528	13.8	20.4
12 23	7 59.45	+17 39.3	1.113	2.035	13.1	17.1	12 23	7 58.69	+34 44.1	1.608	2.521	10.4	20.2
1 2	7 50.07	+17 29.1	1.084	2.048	7.5	16.9	1 2	7 49.79	+36 3.3	1.564	2.515	7.3	20.0
1 12	7 38.92	+17 25.6	1.080	2.062	2.3	16.6	1 12	7 38.94	+37 9.5	1.547	2.508	6.0	19.9
1 22	7 27.74	+17 26.4	1.102	2.076	5.2	16.8	1 22	7 27.58	+37 55.3	1.557	2.502	7.9	20.0
2 1	7 18.28	+17 29.2	1.148	2.091	10.6	17.2	2 1	7 17.35	+38 17.7	1.594	2.497	11.3	20.2
2 11	7 11.83	+17 32.4	1.218	2.106	15.4	17.5	2 11	7 9.68	+38 18.3	1.653	2.491	14.8	20.4
2 21	7 8.98	+17 34.7	1.306	2.121	19.3	17.8	2 21	7 5.37	+38 1.4	1.733	2.486	17.8	20.6
<b>401229</b>	2012 <i>AS</i> <sub>9</sub>		1 13.5 84°26	1°9/14.0	18		<b>114397</b>	2002 <i>YD</i> <sub>10</sub>		1 13.5 263°29	1°8/12.6	18	
12 13	8 5.86	+17 10.1	1.684	2.521	14.4	20.9	12 13	8 2.86	+22 17.4	1.821	2.667	13.1	19.3
12 23	7 58.79	+16 52.5	1.629	2.540	10.5	20.6	12 23	7 57.07	+23 34.9	1.742	2.661	9.4	19.1
1 2	7 49.43	+16 41.9	1.599	2.558	6.1	20.4	1 2	7 48.77	+24 59.6	1.690	2.654	5.2	18.8
1 12	7 38.83	+16 36.6	1.596	2.576	2.1	20.2	1 12	7 38.81	+26 24.8	1.666	2.647	1.8	18.5
1 22	7 28.24	+16 34.9	1.622	2.594	4.2	20.4	1 22	7 28.35	+27 43.5	1.672	2.640	4.8	18.7
2 1	7 18.92	+16 35.4	1.677	2.612	8.5	20.7	2 1	7 18.71	+28 50.1	1.707	2.634	9.0	19.0
2 11	7 11.85	+16 36.7	1.757	2.630	12.3	21.0	2 11	7 11.11	+29 42.3	1.767	2.627	12.9	19.2
2 21	7 7.55	+16 38.0	1.859	2.647	15.5	21.2	2 21	7 6.33	+30 20.1	1.849	2.620	16.2	19.4
<b>217208</b>	2002 <i>TV</i> <sub>256</sub>		1 13.5 88°62	0°7/13.9	18		<b>33369</b>	1999 <i>BE</i> <sub>11</sub>		1 13.5 75°23	2°2/14.4	18	
12 13	7 56.86	+17 31.2	3.328	4.152	8.3	21.0	12 13	8 4.28	+14 5.4	1.402	2.246	16.5	18.5
12 23	7 51.60	+17 42.4	3.268	4.173	6.0	20.8	12 23	7 58.14	+14 35.5	1.347	2.260	12.1	18.2
1 2	7 45.24	+17 57.5	3.236	4.195	3.4	20.7	1 2	7 49.30	+15 20.1	1.315	2.274	7.1	18.0
1 12	7 38.27	+18 15.0	3.234	4.216	0.9	20.5	1 12	7 38.86	+16 14.9	1.309	2.289	2.5	17.8
1 22	7 31.27	+18 33.3	3.264	4.236	2.3	20.7	1 22	7 28.27	+17 14.1	1.330	2.303	4.7	17.9
2 1	7 24.80	+18 51.2	3.325	4.257	4.9	20.9	2 1	7 19.00	+18 12.3	1.378	2.318	9.5	18.2
2 11	7 19.39	+19 7.5	3.414	4.277	7.2	21.0	2 11	7 12.26	+19 5.1	1.451	2.332	13.9	18.5
2 21	7 15.39	+19 21.6	3.529	4.297	9.2	21.2	2 21	7 8.67	+19 50.3	1.545	2.347	17.5	18.8
<b>185913</b>	2000 <i>SS</i> <sub>197</sub>		1 13.5 216°17	6°0/16.3	18		<b>330409</b>	2007 <i>BS</i> <sub>45</sub>		1 13.5 327°22	1°0/13.9	18	
12 13	8 0.29	+2 1.6	2.326	3.105	12.9	20.9	12 13	7 59.78	+17 10.3	1.505	2.358	15.0	21.1
12 23	7 54.57	+1 47.7	2.239	3.098	10.4	20.7	12 23	7 55.14	+17 37.9	1.424	2.343	11.0	20.8
1 2	7 47.11	+1 50.1	2.175	3.091	7.9	20.5	1 2	7 47.81	+18 17.2	1.366	2.329	6.3	20.5
1 12	7 38.54	+2 9.7	2.139	3.083	6.2	20.4	1 12	7 38.69	+19 4.4	1.333	2.316	1.4	20.1
1 22	7 29.69	+2 45.5	2.132	3.074	6.3	20.4	1 22	7 29.05	+19 54.7	1.328	2.303	4.4	20.3
2 1	7 21.45	+3 34.8	2.153	3.065	8.3	20.5	2 1	7 20.33	+20 43.0	1.350	2.291	9.5	20.6
2 11	7 14.62	+4 33.4	2.202	3.056	10.9	20.6	2 11	7 13.87	+21 25.7	1.396	2.280	14.1	20.8
2 21	7 9.78	+5 36.9	2.274	3.046	13.5	20.8	2 21	7 10.47	+22 0.8	1.462	2.269	18.0	21.0
<b>456524</b>	2006 <i>YC</i> <sub>45</sub>		1 13.5 58°22	4°4/11.5	18		<b>17380</b>	1981 <i>EB</i> <sub>10</sub>		1 13.5 299°28	3°5/14.5	18	
12 13	8 4.51	+28 20.9	1.603	2.457	14.2	20.6	12 13	8 2.70	+13 14.4	1.436	2.278	16.2	18.6
12 23	7 58.41	+29 53.9	1.549	2.468	10.3	20.4	12 23	7 57.24	+13 4.2	1.357	2.268	12.2	18.4
1 2	7 49.50	+31 26.7	1.520	2.480	6.4	20.2	1 2	7 48.97	+13 7.4	1.300	2.257	7.6	18.1
1 12	7 38.87	+32 50.1	1.519	2.491	4.4	20.1	1 12	7 38.85	+13 23.1	1.269	2.246	3.8	17.8
1 22	7 27.94	+33 56.6	1.546	2.503	6.7	20.2	1 22	7 28.23	+13 48.8	1.265	2.236	5.4	17.9
2 1	7 18.25	+34 42.3	1.600	2.514	10.5	20.5	2 1	7 18.65	+14 20.9	1.287	2.226	10.1	18.1
2 11	7 11.07	+35 7.7	1.678	2.526	14.1	20.7	2 11	7 11.45	+14 55.5	1.332	2.216	14.7	18.4
2 21	7 7.12	+35 15.9	1.775	2.538	17.0	21.0	2 21	7 7.45	+15 29.4	1.398	2.206	18.7	18.6
<b>104187</b>	2000 <i>EJ</i> <sub>98</sub>		1 13.5 7°83	0°5/13.3	18		<b>148284</b>	2000 <i>GX</i> <sub>157</sub>		1 13.5 314°02	1°3/14.0	18	
12 13	8 1.38	+22 6.1	2.086	2.929	11.8	20.7	12 13	8 0.59	+16 17.6	1.493	2.343	15.2	20.2
12 23	7 55.54	+22 23.2	2.013	2.929	8.5	20.5	12 23	7 55.79	+16 44.6	1.408	2.326	11.2	19.9
1 2	7 47.68	+22 43.3	1.965	2.929	4.7	20.3	1 2	7 48.22	+17 24.5	1.345	2.308	6.5	19.6
1 12	7 38.62	+23 3.3	1.946	2.929	0.8	20.0	1 12	7 38.76	+18 13.9	1.309	2.291	1.7	19.2
1 22	7 29.35	+23 20.3	1.957	2.929	3.6	20.2	1 22	7 28.69	+19 7.9	1.300	2.274	4.5	19.4
2 1	7 20.93	+23 32.4	1.996	2.929	7.5	20.5	2 1	7 19.52	+20 1.0	1.317	2.258	9.7	19.6
2 11	7 14.29	+23 38.8	2.062	2.930	11.0	20.7	2 11	7 12.61	+20 49.2	1.359	2.243	14.4	19.8
2 21	7 10.01	+23 39.8	2.151	2.930	13.9	20.9	2 21	7 8.84	+21 30.0	1.421	2.228	18.5	20.1
<b>59770</b>	1999 <i>NS</i> <sub>15</sub>		1 13.5 116°13	0°0/13.5	18		<b>419080</b>	2009 <i>SG</i> <sub>114</sub>		1 13.5 69°49	3°1/14.6	18	
12 13	8 2.33	+19 6.6	2.174	3.008	11.7	19.6	12 13	8 1.71	+12 48.7	1.831	2.661	13.8	20.9
12 23	7 56.07	+19 49.8	2.110	3.022	8.4	19.4	12 23	7 55.83	+12 38.4	1.766	2.669	10.3	20.7
1 2	7 47.91	+20 38.8	2.074	3.036	4.6	19.2	1 2	7 47.86	+12 38.9	1.725	2.678	6.5	20.5
1 12	7 38.65	+21 29.8	2.067	3.050	0.6	18.9	1 12	7 38.68	+12 49.2	1.712	2.687	3.4	20.3
1 22	7 29.23	+22 18.7	2.090	3.063	3.4	19.2	1 22	7 29.35	+13 7.4	1.727	2.696	4.5	20.4
2 1	7 20.66	+23 2.4	2.144	3.075	7.1	19.4	2 1	7 21.00	+13 30.7	1.771	2.706	8.2	20.7
2 11	7 13.81	+23 39.0	2.224	3.088	10.5	19.6	2 11	7 14.57	+13 56.5	1.841	2.715	11.7	20.9
2 21	7 9.21	+24 8.0	2.328	3.100	13.2	19.9	2 21	7 10.60	+14 22.2	1.932	2.724	14.8	21.1
<b>53550</b>	2000 <i>BF</i> <sub>19</sub>		1 13.5 209°41	2°3/13.1	15		<b>166865</b>	2002 <i>XT</i> <sub>34</sub>		1 13.5 34°68	2°0/14.2	18	
12 13	8 24.93	+25 12.2	1.281	2.115	18.3	22							

EPHEMERIDES

1 13.5

1 13.5

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>489453</b>	2007 <i>BX</i> <sub>48</sub>		1 13.5 141°28	3°4/13.4	17		<b>155605</b>	2000 <i>DO</i> <sub>40</sub>		1 13.5 14°85	2°9/12.9	18	
12 13	8 41.33	+29 13.5	0.917	1.752	23.7	22.2	12 13	8 6.45	+27 8.2	1.126	1.995	17.7	19.4
12 23	8 25.84	+29 5.5	0.869	1.779	17.3	22.0	12 23	8 0.47	+27 19.2	1.070	1.997	12.9	19.1
1 2	8 4.80	+28 45.6	0.843	1.803	9.9	21.7	1 2	7 50.88	+27 28.4	1.035	2.000	7.4	18.8
1 12	7 40.92	+28 3.0	0.843	1.824	3.6	21.4	1 12	7 39.14	+27 29.3	1.023	2.004	2.9	18.6
1 22	7 17.91	+26 56.2	0.872	1.841	7.7	21.7	1 22	7 27.21	+27 17.6	1.037	2.009	6.3	18.8
2 1	6 59.04	+25 34.0	0.928	1.856	14.5	22.1	2 1	7 17.12	+26 53.0	1.076	2.014	11.7	19.1
2 11	6 46.10	+24 8.7	1.007	1.868	20.3	22.5	2 11	7 10.40	+26 18.5	1.136	2.020	16.6	19.4
2 21	6 39.21	+22 49.2	1.103	1.877	24.7	22.8	2 21	7 7.70	+25 37.9	1.214	2.027	20.7	19.7
<b>418348</b>	2008 <i>GL</i> <sub>76</sub>		1 13.5 121°21	2°1/12.7	18		<b>56681</b>	2000 <i>LY</i> <sub>8</sub>		1 13.5 204°29	1°5/14.0	18	
12 13	8 5.27	+26 56.3	2.281	3.117	11.2	21.9	12 13	8 5.18	+16 47.0	1.702	2.539	14.3	19.8
12 23	7 58.10	+27 27.4	2.223	3.135	8.0	21.7	12 23	7 58.65	+16 55.9	1.625	2.536	10.5	19.5
1 2	7 49.00	+27 57.2	2.192	3.153	4.6	21.5	1 2	7 49.61	+17 13.6	1.572	2.532	6.1	19.3
1 12	7 38.83	+28 21.6	2.191	3.169	2.1	21.4	1 12	7 38.98	+17 37.3	1.547	2.529	1.8	19.0
1 22	7 28.61	+28 37.7	2.220	3.186	4.1	21.5	1 22	7 27.99	+18 3.9	1.551	2.524	4.2	19.1
2 1	7 19.36	+28 44.1	2.280	3.201	7.4	21.8	2 1	7 18.01	+18 30.1	1.583	2.520	8.8	19.4
2 11	7 11.96	+28 41.6	2.366	3.217	10.4	22.0	2 11	7 10.20	+18 53.7	1.641	2.514	13.0	19.6
2 21	7 6.90	+28 31.7	2.476	3.231	13.0	22.2	2 21	7 5.27	+19 13.7	1.721	2.509	16.5	19.9
<b>239030</b>	2006 <i>DP</i> <sub>123</sub>		1 13.5 158°01	1°0/13.9	18		<b>367995</b>	2012 <i>FF</i> <sub>36</sub>		1 13.5 279°29	0°5/13.4	18	
12 13	8 5.48	+17 38.7	1.969	2.800	12.9	21.9	12 13	8 3.35	+22 2.8	1.784	2.630	13.3	21.1
12 23	7 58.48	+17 53.1	1.899	2.808	9.4	21.7	12 23	7 57.36	+22 17.5	1.702	2.619	9.6	20.9
1 2	7 49.33	+18 14.2	1.854	2.815	5.3	21.4	1 2	7 48.91	+22 36.0	1.645	2.609	5.3	20.6
1 12	7 38.89	+18 39.3	1.839	2.821	1.3	21.2	1 12	7 38.88	+22 54.7	1.615	2.598	0.8	20.3
1 22	7 28.26	+19 5.2	1.853	2.826	3.7	21.3	1 22	7 28.47	+23 10.1	1.614	2.587	4.1	20.5
2 1	7 18.59	+19 29.3	1.898	2.831	7.8	21.6	2 1	7 18.99	+23 19.9	1.642	2.577	8.7	20.7
2 11	7 10.87	+19 50.0	1.969	2.835	11.5	21.8	2 11	7 11.60	+23 23.4	1.695	2.566	12.8	20.9
2 21	7 5.68	+20 6.6	2.063	2.839	14.6	22.1	2 21	7 7.01	+23 21.2	1.769	2.555	16.2	21.2
<b>306002</b>	2009 <i>VO</i> <sub>72</sub>		1 13.5 88°90	2°9/12.2	18		<b>328775</b>	2009 <i>UB</i> <sub>129</sub>		1 13.5 151°23	5°4/15.7	18	
12 13	8 4.42	+27 20.6	1.969	2.814	12.3	20.7	12 13	8 1.39	+4 37.2	2.382	3.169	12.3	21.0
12 23	7 57.80	+28 20.9	1.917	2.832	8.9	20.5	12 23	7 55.22	+4 4.8	2.309	3.177	9.8	20.9
1 2	7 48.96	+29 20.3	1.890	2.850	5.2	20.3	1 2	7 47.42	+3 45.7	2.261	3.184	7.3	20.7
1 12	7 38.84	+30 13.0	1.892	2.868	2.9	20.2	1 12	7 38.67	+3 40.9	2.241	3.190	5.5	20.6
1 22	7 28.59	+30 54.2	1.924	2.886	5.0	20.3	1 22	7 29.77	+3 49.7	2.251	3.196	5.8	20.6
2 1	7 19.43	+31 21.6	1.985	2.904	8.5	20.6	2 1	7 21.57	+4 10.4	2.289	3.202	7.9	20.8
2 11	7 12.34	+31 35.6	2.071	2.921	11.7	20.8	2 11	7 14.84	+4 40.0	2.355	3.207	10.4	21.0
2 21	7 7.88	+31 38.1	2.180	2.938	14.4	21.0	2 21	7 10.05	+5 15.1	2.444	3.212	12.8	21.1
<b>158847</b>	2004 <i>NB</i> <sub>10</sub>		1 13.5 171°58	0°1/13.6	18		<b>323470</b>	2004 <i>KJ</i> <sub>18</sub>		1 13.5 193°90	4°5/11.4	18	
12 13	8 5.90	+19 2.4	1.841	2.677	13.4	20.7	12 13	8 7.31	+36 28.9	2.683	3.505	10.1	21.9
12 23	7 59.01	+19 39.4	1.769	2.681	9.7	20.5	12 23	7 59.64	+37 9.9	2.607	3.503	7.7	21.8
1 2	7 49.73	+20 23.6	1.722	2.684	5.4	20.3	1 2	7 49.94	+37 43.7	2.559	3.499	5.5	21.6
1 12	7 38.96	+21 10.7	1.704	2.687	0.7	19.9	1 12	7 39.02	+38 5.6	2.540	3.495	4.6	21.5
1 22	7 27.90	+21 55.9	1.716	2.689	3.9	20.2	1 22	7 27.87	+38 12.5	2.552	3.490	5.7	21.6
2 1	7 17.81	+22 35.7	1.757	2.690	8.4	20.5	2 1	7 17.58	+38 3.6	2.594	3.484	8.1	21.7
2 11	7 9.81	+23 8.1	1.825	2.690	12.3	20.7	2 11	7 9.07	+37 40.8	2.663	3.478	10.5	21.9
2 21	7 4.56	+23 32.7	1.914	2.690	15.5	20.9	2 21	7 2.92	+37 7.3	2.754	3.471	12.6	22.1
<b>150259</b>	1999 <i>RD</i> <sub>30</sub>		1 13.5 163°12	4°6/11.8	18		<b>121938</b>	2000 <i>EX</i> <sub>11</sub>		1 13.5 217°78	1°3/13.0	18	
12 13	8 8.35	+37 19.0	2.646	3.466	10.3	20.6	12 13	8 6.09	+21 47.2	1.709	2.553	14.0	19.8
12 23	8 0.26	+37 45.9	2.579	3.473	7.9	20.4	12 23	7 59.51	+22 43.0	1.629	2.546	10.1	19.5
1 2	7 50.18	+38 4.2	2.540	3.479	5.6	20.3	1 2	7 50.20	+23 45.7	1.575	2.539	5.6	19.3
1 12	7 39.01	+38 9.5	2.530	3.484	4.6	20.2	1 12	7 39.08	+24 49.0	1.549	2.531	1.4	19.0
1 22	7 27.77	+37 59.5	2.550	3.489	5.7	20.3	1 22	7 27.44	+25 46.8	1.552	2.522	4.7	19.2
2 1	7 17.53	+37 34.4	2.601	3.493	8.0	20.5	2 1	7 16.75	+26 34.2	1.583	2.513	9.4	19.4
2 11	7 9.18	+36 56.6	2.678	3.496	10.3	20.6	2 11	7 8.32	+27 9.5	1.640	2.504	13.6	19.6
2 21	7 3.25	+36 9.8	2.778	3.499	12.5	20.8	2 21	7 2.94	+27 33.1	1.719	2.493	17.1	19.9
<b>8565</b>	1995 <i>WB</i> <sub>6</sub>		1 13.5 148°86	3°7/15.3	18		<b>400959</b>	2010 <i>VG</i> <sub>182</sub>		1 13.5 109°09	0°9/13.2	18	
12 13	8 0.72	+8 53.8	2.327	3.134	12.0	18.1	12 13	8 5.56	+23 11.5	1.983	2.822	12.5	21.3
12 23	7 54.80	+8 51.0	2.254	3.141	9.2	18.0	12 23	7 58.47	+23 32.2	1.926	2.840	8.9	21.1
1 2	7 47.20	+8 59.9	2.207	3.148	6.2	17.8	1 2	7 49.28	+23 54.5	1.895	2.858	4.9	20.9
1 12	7 38.61	+9 19.9	2.188	3.154	3.9	17.7	1 12	7 38.92	+24 14.8	1.893	2.875	1.1	20.6
1 22	7 29.86	+9 49.2	2.198	3.160	4.5	17.7	1 22	7 28.52	+24 30.0	1.920	2.892	3.8	20.9
2 1	7 21.83	+10 25.2	2.239	3.166	7.2	17.9	2 1	7 19.21	+24 38.5	1.978	2.908	7.8	21.2
2 11	7 15.28	+11 4.8	2.306	3.171	10.1	18.1	2 11	7 11.93	+24 40.2	2.062	2.924	11.2	21.4
2 21	7 10.72	+11 45.2	2.398	3.176	12.7	18.3	2 21	7 7.20	+24 36.2	2.168	2.939	14.1	21.6
<b>291844</b>	2006 <i>ME</i> <sub>13</sub>		1 13.5 170°61	0°6/13.7	18		<b>79479</b>	1998 <i>CJ</i> <sub>2</sub>		1 13.5 350°58	4°8/12.1	18	
12 13	8 5.30	+19 44.9	1.851	2.689	13.3	21.2	12 13	8 3.35	+33 42.7	1.768	2.618	13.3	18.0
12 23	7 58.50	+19 44.9	1.778	2.691	9.6	20.9	12 23	7 57.47	+34 8.2	1.698	2.612	9.9	17.8
1 2	7 49.40	+19 49.5	1.731	2.693	5.4	20.7	1 2	7 48.97	+34 26.5	1.653	2.607	6.6	17.6
1 12	7 38.92	+19 56.0	1.712	2.695	1.0	20.4	1 12	7 38.89	+34 31.9	1.634	2.602	4.8	17.5
1 22	7 28.23	+20 2.2	1.722	2.696	3.9	20.6	1 22	7 28.60	+34 20.9	1.643	2.599	6.5	17.5
2 1	7 18.57	+20 6.3	1.762	2.697	8.2	20.9	2 1	7 19.52	+33 53.2	1.679	2.596	9.9	17.7
2 11	7 10.98	+20 7.5	1.828	2.697	12.1	21.1	2 11	7 12.81	+33 11.6	1.739	2.594	13.3	17.9
2 21	7 6.08	+20 6.0	1.916	2.697	15.3	21.3	2 21	7 9.13	+32 20.3	1.820	2.592	16.3	18.1
<b>132405</b>	2002 <i>GD</i> <sub>108</sub>		1 13.5 196°86	1°0/13.1	18		<b>341497</b>	2007 <i>TL</i> <sub>392</sub>		1 13.5 161°63	4°5/11.3	18	
12 13	8 5.14	+22 23.2	2.008	2.846	12.4								

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>113229</b>	2002 <i>RX</i> <sub>122</sub>		1 13.5	66°34'	4.6°/11.4	18	<b>60578</b>	2000 <i>ED</i> <sub>123</sub>		1 13.6	343°23'	10.6°/9.2	18
12 13	8 3.45	+32 59.7	2.078	2.920	11.9	19.5	12 13	8 6.53	+41 48.3	1.378	2.227	16.4	18.3
12 23	7 57.22	+34 1.3	2.019	2.929	8.8	19.4	12 23	8 0.98	+43 34.6	1.320	2.219	13.4	18.1
1 2	7 48.72	+34 57.8	1.987	2.938	5.9	19.2	1 2	7 51.47	+45 7.1	1.284	2.211	11.1	18.0
1 12	7 38.86	+35 43.2	1.983	2.946	4.6	19.1	1 12	7 39.31	+46 12.6	1.272	2.205	10.6	17.9
1 22	7 28.81	+36 12.9	2.007	2.955	6.2	19.2	1 22	7 26.51	+46 42.5	1.284	2.199	12.3	18.0
2 1	7 19.78	+36 25.5	2.060	2.964	9.1	19.4	2 1	7 15.41	+46 35.0	1.318	2.194	15.2	18.1
2 11	7 12.80	+36 22.3	2.138	2.973	12.0	19.6	2 11	7 7.87	+45 55.9	1.372	2.190	18.3	18.3
2 21	7 8.47	+36 6.4	2.237	2.982	14.5	19.8	2 21	7 4.75	+44 54.0	1.443	2.187	21.1	18.5
<b>24825</b>	1995 <i>QB</i> <sub>2</sub>		1 13.5	70°30'	0°5'/13.4	18	<b>203147</b>	2000 <i>VP</i> <sub>4</sub>		1 13.6	133°93'	0°8'/13.3	18
12 13	8 9.20	+22 13.3	1.251	2.107	17.2	17.5	12 13	8 7.13	+22 33.5	1.864	2.703	13.2	21.5
12 23	8 1.80	+22 20.4	1.207	2.129	12.3	17.3	12 23	7 59.76	+22 57.4	1.802	2.716	9.4	21.3
1 2	7 51.33	+22 31.2	1.185	2.150	6.7	17.0	1 2	7 50.08	+23 23.8	1.766	2.729	5.2	21.0
1 12	7 39.20	+22 41.0	1.189	2.172	1.0	16.7	1 12	7 39.07	+23 48.7	1.759	2.741	1.0	20.8
1 22	7 27.20	+22 46.0	1.219	2.193	5.0	17.1	1 22	7 27.95	+24 8.5	1.781	2.753	4.0	21.0
2 1	7 17.02	+22 44.6	1.276	2.214	10.3	17.4	2 1	7 17.96	+24 21.2	1.833	2.764	8.2	21.3
2 11	7 9.91	+22 37.6	1.357	2.236	14.8	17.7	2 11	7 10.15	+24 26.7	1.912	2.774	11.9	21.5
2 21	7 6.39	+22 26.0	1.457	2.257	18.4	18.0	2 21	7 5.09	+24 25.8	2.012	2.784	15.0	21.8
<b>264163</b>	2010 <i>AO</i> <sub>103</sub>		1 13.5	19°60'	5°1'/11.9	18	<b>257214</b>	2009 <i>AF</i> <sub>14</sub>		1 13.6	231°77'	1°1'/14.1	18
12 13	8 3.36	+33 38.9	1.724	2.575	13.5	20.3	12 13	7 59.22	+16 1.7	2.355	3.185	11.1	20.4
12 23	7 57.44	+34 20.5	1.668	2.582	10.1	20.1	12 23	7 53.87	+16 32.0	2.275	3.183	8.1	20.2
1 2	7 48.92	+34 55.0	1.636	2.589	6.8	19.9	1 2	7 46.79	+17 10.3	2.222	3.181	4.7	19.9
1 12	7 38.89	+35 16.3	1.631	2.597	5.1	19.9	1 12	7 38.64	+17 54.0	2.197	3.178	1.3	19.7
1 22	7 28.74	+35 20.2	1.653	2.605	6.8	20.0	1 22	7 30.24	+18 39.9	2.203	3.176	3.2	19.8
2 1	7 19.90	+35 6.4	1.701	2.614	10.1	20.2	2 1	7 22.48	+19 24.9	2.239	3.174	6.7	20.1
2 11	7 13.48	+34 37.4	1.774	2.624	13.3	20.4	2 11	7 16.17	+20 6.5	2.302	3.171	9.9	20.3
2 21	7 10.08	+33 57.3	1.867	2.635	16.1	20.6	2 21	7 11.87	+20 43.2	2.389	3.169	12.7	20.4
<b>373334</b>	2012 <i>JZ</i> <sub>31</sub>		1 13.5	76°97'	0°1'/13.6	18	<b>28458</b>	2000 <i>AL</i> <sub>144</sub>		1 13.6	294°41'	6°4'/16.6	18
12 13	8 1.84	+19 16.8	1.892	2.735	12.9	20.9	12 13	8 0.28	+ 2 42.5	1.687	2.489	16.0	18.4
12 23	7 56.00	+19 49.5	1.828	2.743	9.2	20.7	12 23	7 55.30	+ 3 2.8	1.594	2.471	12.9	18.1
1 2	7 48.02	+20 28.6	1.789	2.752	5.1	20.5	1 2	7 47.90	+ 3 48.0	1.523	2.453	9.5	17.9
1 12	7 38.78	+21 10.4	1.778	2.761	0.7	20.2	1 12	7 38.82	+ 4 58.5	1.478	2.435	6.8	17.7
1 22	7 29.35	+21 50.7	1.797	2.770	3.7	20.4	1 22	7 29.16	+ 6 30.9	1.460	2.418	6.9	17.7
2 1	7 20.87	+22 26.4	1.844	2.779	7.9	20.7	2 1	7 20.17	+ 8 18.7	1.470	2.400	9.9	17.8
2 11	7 14.32	+22 55.4	1.917	2.788	11.5	20.9	2 11	7 13.07	+10 13.7	1.505	2.382	13.7	18.0
2 21	7 10.27	+23 17.5	2.013	2.797	14.6	21.2	2 21	7 8.68	+12 7.7	1.564	2.365	17.3	18.2
<b>312167</b>	2007 <i>UL</i> <sub>91</sub>		1 13.5	96°66'	1°0'/13.2	18	<b>198980</b>	2005 <i>VW</i> <sub>30</sub>		1 13.6	150°97'	1°3'/13.1	18
12 13	8 6.82	+22 42.8	1.703	2.547	14.0	21.7	12 13	8 7.80	+22 50.1	1.824	2.663	13.4	21.4
12 23	7 59.62	+23 13.3	1.652	2.568	10.0	21.5	12 23	8 0.38	+23 31.1	1.759	2.673	9.6	21.2
1 2	7 50.00	+23 46.6	1.625	2.588	5.5	21.3	1 2	7 50.51	+24 15.4	1.719	2.682	5.3	21.0
1 12	7 39.04	+24 17.9	1.626	2.608	1.2	21.0	1 12	7 39.15	+24 57.6	1.709	2.691	1.4	20.7
1 22	7 28.05	+24 43.0	1.656	2.628	4.3	21.3	1 22	7 27.58	+25 33.3	1.728	2.699	4.3	20.9
2 1	7 18.36	+24 59.9	1.715	2.647	8.6	21.6	2 1	7 17.13	+25 59.5	1.777	2.706	8.6	21.2
2 11	7 11.01	+25 8.3	1.800	2.666	12.4	21.8	2 11	7 8.92	+26 15.7	1.852	2.712	12.4	21.4
2 21	7 6.56	+25 9.4	1.906	2.684	15.5	22.1	2 21	7 3.58	+26 23.1	1.949	2.718	15.5	21.7
<b>38931</b>	2000 <i>SY</i> <sub>234</sub>		1 13.5	42°15'	2°6'/14.8	18	<b>28896</b>	2000 <i>LN</i> <sub>10</sub>		1 13.6	194°27'	6°2'/16.5	18
12 13	8 0.62	+12 13.5	1.601	2.439	15.1	18.0	12 13	8 0.72	+ 0 57.3	2.395	3.167	12.7	19.4
12 23	7 55.33	+12 46.7	1.542	2.450	11.1	17.8	12 23	7 54.85	+ 0 39.0	2.312	3.165	10.4	19.2
1 2	7 47.72	+13 35.1	1.505	2.462	6.8	17.6	1 2	7 47.30	+ 0 37.0	2.253	3.162	8.1	19.0
1 12	7 38.74	+14 35.2	1.496	2.474	3.0	17.3	1 12	7 38.71	+ 0 52.4	2.221	3.159	6.4	18.9
1 22	7 29.57	+15 41.7	1.514	2.487	4.4	17.5	1 22	7 29.89	+ 1 24.3	2.218	3.155	6.5	18.9
2 1	7 21.46	+16 49.2	1.560	2.500	8.6	17.7	2 1	7 21.68	+ 2 10.1	2.244	3.151	8.3	19.0
2 11	7 15.45	+17 52.9	1.632	2.513	12.6	18.0	2 11	7 14.86	+ 3 6.0	2.296	3.146	10.7	19.2
2 21	7 12.17	+18 49.7	1.725	2.527	15.9	18.3	2 21	7 9.98	+ 4 7.4	2.373	3.140	13.1	19.3
<b>411327</b>	2010 <i>UZ</i> <sub>27</sub>		1 13.6	137°68'	2°2'/12.7	18	<b>108708</b>	2001 <i>OH</i> <sub>20</sub>		1 13.6	85°30'	3°6'/14.6	18
12 13	8 4.85	+25 58.2	1.987	2.829	12.3	21.5	12 13	8 3.01	+11 47.4	2.309	3.121	11.9	18.7
12 23	7 58.16	+26 39.6	1.922	2.837	8.9	21.3	12 23	7 56.35	+10 59.4	2.243	3.135	9.0	18.5
1 2	7 49.22	+27 21.4	1.883	2.845	5.1	21.1	1 2	7 48.03	+10 19.4	2.204	3.149	5.9	18.4
1 12	7 38.95	+27 58.5	1.873	2.852	2.2	20.9	1 12	7 38.80	+ 9 48.0	2.194	3.163	3.8	18.3
1 22	7 28.48	+28 26.9	1.893	2.859	4.6	21.1	1 22	7 29.54	+ 9 25.4	2.215	3.176	4.6	18.3
2 1	7 19.02	+28 44.3	1.941	2.866	8.3	21.3	2 1	7 21.13	+ 9 10.9	2.266	3.190	7.3	18.5
2 11	7 11.60	+28 50.9	2.016	2.872	11.7	21.5	2 11	7 14.30	+ 9 3.4	2.344	3.203	10.1	18.7
2 21	7 6.80	+28 48.3	2.113	2.878	14.6	21.7	2 21	7 9.53	+ 9 1.1	2.445	3.216	12.7	18.9
<b>91619</b>	1999 <i>TJ</i> <sub>38</sub>		1 13.6	154°44'	2°7'/14.6	18	<b>190865</b>	2001 <i>TA</i> <sub>19</sub>		1 13.6	91°31'	3°9'/12.3	18
12 13	8 0.76	+12 55.8	2.050	2.876	12.7	19.6	12 13	8 11.24	+28 50.5	1.537	2.383	15.1	20.5
12 23	7 55.09	+12 57.8	1.975	2.877	9.4	19.4	12 23	8 3.03	+29 48.9	1.496	2.411	10.9	20.3
1 2	7 47.49	+13 10.0	1.925	2.878	5.9	19.2	1 2	7 51.95	+30 43.6	1.480	2.439	6.5	20.1
1 12	7 38.71	+13 31.2	1.903	2.879	2.9	19.0	1 12	7 39.34	+31 26.8	1.491	2.466	3.9	20.0
1 22	7 29.72	+13 58.9	1.910	2.880	4.1	19.1	1 22	7 26.81	+31 53.3	1.531	2.492	6.2	20.2
2 1	7 21.52	+14 30.4	1.947	2.881	7.6	19.3	2 1	7 15.97	+32 2.0	1.599	2.518	10.1	20.5
2 11	7 15.00	+15 3.0	2.010	2.882	11.0	19.5	2 11	7 7.99	+31 55.4	1.691	2.543	13.8	20.8
2 21	7 10.75	+15 34.4	2.096	2.883	14.0	19.7	2 21	7 3.40	+31 37.5	1.803	2.567	16.8	21.0
<b>334089</b>	2001 <i>QT</i> <sub>128</sub>		1 13.6	108°94'	5°8'/17.1	18	<b>50291</b>	2000 <i>CX</i> <sub>28</sub>		1 13.6	194°34'	2°2'/14.5	18
12 13	7 58.69	- 0 13.5	2										

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>79059</b>	2014 $T_{-3}$		1 13.6	36°26	1°5/13.0	18							
12 13	8 2.22	+24 45.2	1.896	2.744	12.6	19.6							
12 23	7 56.32	+25 5.6	1.831	2.750	9.0	19.4							
1 2	7 48.23	+25 27.0	1.792	2.756	5.0	19.2							
1 12	7 38.86	+25 45.3	1.781	2.762	1.6	19.0							
1 22	7 29.33	+25 57.5	1.798	2.769	4.2	19.2							
2 1	7 20.83	+26 1.9	1.844	2.776	8.1	19.4							
2 11	7 14.34	+25 58.6	1.916	2.783	11.7	19.6							
2 21	7 10.43	+25 48.8	2.009	2.790	14.7	19.9							
<b>381258</b>	2007 $TR_{159}$		1 13.6	88°48	6°3/16.6	18							
12 13	7 59.94	+0 37.8	2.458	3.228	12.5	21.2							
12 23	7 54.09	+0 3.7	2.400	3.249	10.2	21.1							
1 2	7 46.77	-0 14.6	2.367	3.271	8.0	21.0							
1 12	7 38.65	-0 16.1	2.360	3.292	6.5	20.9							
1 22	7 30.48	-0 1.5	2.382	3.313	6.5	21.0							
2 1	7 23.04	+0 27.0	2.433	3.333	8.0	21.1							
2 11	7 17.00	+1 5.8	2.510	3.354	10.1	21.3							
2 21	7 12.79	+1 51.0	2.610	3.374	12.2	21.5							
<b>449680</b>	2014 $KC_{101}$		1 13.6	246°40	1°0/13.8	18							
12 13	8 6.19	+18 42.0	1.595	2.437	14.8	21.6							
12 23	7 59.66	+18 42.9	1.511	2.426	10.9	21.3							
1 2	7 50.34	+18 50.7	1.452	2.414	6.2	21.0							
1 12	7 39.18	+19 2.6	1.419	2.402	1.4	20.7							
1 22	7 27.53	+19 15.5	1.415	2.389	4.4	20.8							
2 1	7 16.90	+19 26.9	1.439	2.376	9.5	21.1							
2 11	7 8.61	+19 35.5	1.488	2.363	14.0	21.3							
2 21	7 3.47	+19 40.8	1.558	2.349	17.8	21.5							
<b>494723</b>	2005 $SA_{245}$		1 13.6	188°72	6°8/16.5	18							
12 13	8 0.85	+0 42.7	2.198	2.973	13.6	22.1							
12 23	7 55.06	+0 17.2	2.118	2.972	11.2	21.9							
1 2	7 47.46	+0 9.3	2.063	2.971	8.7	21.7							
1 12	7 38.76	+0 20.4	2.033	2.970	7.0	21.6							
1 22	7 29.82	+0 49.8	2.032	2.968	7.1	21.6							
2 1	7 21.56	+1 34.8	2.059	2.966	8.9	21.7							
2 11	7 14.82	+2 31.1	2.113	2.964	11.5	21.9							
2 21	7 10.17	+3 33.7	2.189	2.961	13.9	22.1							
<b>288621</b>	2004 $NL_{20}$		1 13.6	203°80	1°7/14.1	18							
12 13	8 3.80	+16 53.3	2.242	3.068	11.7	20.6							
12 23	7 57.17	+16 36.2	2.159	3.064	8.6	20.4							
1 2	7 48.62	+16 24.2	2.103	3.060	5.1	20.2							
1 12	7 38.93	+16 16.2	2.076	3.055	1.9	19.9							
1 22	7 29.02	+16 11.2	2.079	3.050	3.6	20.1							
2 1	7 19.89	+16 8.1	2.113	3.045	7.2	20.3							
2 11	7 12.42	+16 5.9	2.174	3.039	10.6	20.5							
2 21	7 7.16	+16 4.1	2.258	3.033	13.5	20.7							
<b>281281</b>	2007 $RR_{91}$		1 13.6	169°01	1°1/14.1	18							
12 13	8 0.24	+17 4.4	2.483	3.312	10.6	21.6							
12 23	7 54.48	+17 14.7	2.407	3.314	7.7	21.5							
1 2	7 47.09	+17 30.9	2.357	3.316	4.4	21.3							
1 12	7 38.72	+17 51.0	2.336	3.317	1.3	21.0							
1 22	7 30.18	+18 12.8	2.346	3.319	3.1	21.2							
2 1	7 22.31	+18 34.3	2.386	3.320	6.4	21.4							
2 11	7 15.86	+18 54.0	2.454	3.320	9.5	21.6							
2 21	7 11.34	+19 11.0	2.545	3.321	12.1	21.8							
<b>125358</b>	2001 $VU_{64}$		1 13.6	121°31	6°7/11.2	18							
12 13	8 11.60	+36 7.8	1.661	2.500	14.5	20.0							
12 23	8 3.58	+37 20.9	1.611	2.514	11.1	19.8							
1 2	7 52.44	+38 24.3	1.584	2.528	7.9	19.7							
1 12	7 39.47	+39 8.8	1.585	2.541	6.7	19.6							
1 22	7 26.34	+39 28.9	1.614	2.553	8.3	19.8							
2 1	7 14.80	+39 24.1	1.670	2.565	11.4	20.0							
2 11	7 6.20	+38 58.6	1.749	2.577	14.5	20.2							
2 21	7 1.19	+38 18.6	1.848	2.588	17.3	20.4							
<b>394796</b>	2008 $QL_{39}$		1 13.6	167°76	0°1/13.5	18							
12 13	8 7.50	+20 46.2	1.773	2.611	13.8	22.0							
12 23	8 0.23	+21 2.9	1.702	2.616	9.9	21.8							
1 2	7 50.48	+21 24.2	1.657	2.620	5.5	21.5							
1 12	7 39.22	+21 46.2	1.640	2.623	0.8	21.2							
1 22	7 27.72	+22 5.4	1.653	2.626	4.1	21.5							
2 1	7 17.33	+22 19.5	1.694	2.628	8.6	21.7							
2 11	7 9.17	+22 27.7	1.762	2.629	12.6	22.0							
2 21	7 3.90	+22 30.6	1.852	2.629	15.9	22.2							
<b>301312</b>	2009 $BC_{147}$		1 13.6	40°91	0°7/13.4	18							
12 13	8 5.82	+22 51.2	1.243	2.105	16.9	20.3							
12 23	7 59.54	+22 53.8	1.195	2.119	12.1	20.0							
1 2	7 50.20	+22 59.5	1.168	2.134	6.7	19.8							
1 12	7 39.17	+23 3.9	1.167	2.150	1.1	19.5							
1 22	7 28.14	+23 3.7	1.192	2.166	5.0	19.8							
2 1	7 18.81	+22 57.5	1.242	2.182	10.3	20.1							
2 11	7 12.42	+22 45.8	1.316	2.200	14.8	20.4							
2 21	7 9.54	+22 29.8	1.409	2.217	18.5	20.7							
<b>376673</b>	2013 $QA_{29}$		1 13.6	115°22	1°1/13.2	18							
12 13	8 3.10	+23 36.9	2.015	2.858	12.2	21.6							
12 23	7 56.88	+23 56.7	1.946	2.862	8.7	21.4							
1 2	7 48.54	+24 18.3	1.903	2.866	4.8	21.2							
1 12	7 38.95	+24 38.0	1.888	2.870	1.2	20.9							
1 22	7 29.18	+24 52.9	1.903	2.874	3.9	21.1							
2 1	7 20.36	+25 1.0	1.947	2.878	7.8	21.4							
2 11	7 13.44	+25 2.2	2.017	2.882	11.3	21.6							
2 21	7 9.00	+24 57.4	2.110	2.886	14.3	21.8							
<b>89320</b>	2001 $VT_{42}$		1 13.6	41°51	0°4/13.5	17							
12 13	8 5.21	+21 5.2	1.119	1.986	18.0	19.6							
12 23	7 59.28	+21 26.1	1.076	2.003	12.9	19.3							
1 2	7 50.12	+21 53.7	1.055	2.021	7.1	19.1							
1 12	7 39.16	+22 22.3	1.057	2.040	1.0	18.7							
1 22	7 28.23	+22 46.5	1.086	2.060	5.2	19.1							
2 1	7 19.11	+23 3.2	1.139	2.081	10.7	19.4							
2 11	7 13.11	+23 11.7	1.214	2.102	15.5	19.8							
2 21	7 10.78	+23 12.8	1.308	2.123	19.3	20.1							
<b>235001</b>	2003 $BT_{83}$												

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>245605</b>	2005 <i>WG</i> <sub>28</sub>		1 13.6	90°67	4.4/12.0	18	<b>353767</b>	2012 <i>FF</i> <sub>35</sub>		1 13.6	161°22	3°1/14.9	18
12 13	8 8.67	+28 39.8	1.419	2.273	15.7	20.2	12 13	8 1.37	+11 15.4	1.985	2.807	13.2	21.4
12 23	8 1.63	+29 51.0	1.369	2.288	11.4	20.0	12 23	7 55.64	+11 24.8	1.910	2.809	9.9	21.2
1 2	7 51.44	+31 0.3	1.342	2.302	6.9	19.8	1 2	7 47.91	+11 46.7	1.860	2.810	6.3	21.0
1 12	7 39.39	+31 58.7	1.343	2.317	4.4	19.7	1 12	7 38.94	+12 19.6	1.838	2.812	3.4	20.8
1 22	7 27.17	+32 39.1	1.371	2.331	6.8	19.8	1 22	7 29.74	+13 0.5	1.845	2.813	4.4	20.9
2 1	7 16.53	+32 59.1	1.425	2.345	11.0	20.1	2 1	7 21.33	+13 46.0	1.881	2.815	7.8	21.1
2 11	7 8.84	+33 0.6	1.502	2.359	14.9	20.4	2 11	7 14.65	+14 32.6	1.943	2.816	11.3	21.3
2 21	7 4.76	+32 48.0	1.600	2.373	18.2	20.6	2 21	7 10.31	+15 17.3	2.029	2.817	14.3	21.5
<b>258148</b>	2001 <i>RY</i> <sub>149</sub>		1 13.6	120°16	0°0/13.5	17	<b>103550</b>	2000 <i>BS</i> <sub>24</sub>		1 13.6	129°94	6°4/11.4	18
12 13	7 56.45	+20 32.9	3.654	4.482	7.5	21.4	12 13	8 11.56	+34 54.1	1.580	2.422	14.9	18.9
12 23	7 51.38	+20 51.6	3.586	4.495	5.4	21.3	12 23	8 3.71	+36 5.7	1.526	2.433	11.3	18.7
1 2	7 45.25	+21 12.5	3.546	4.508	3.0	21.1	1 2	7 52.63	+37 8.9	1.496	2.443	7.9	18.6
1 12	7 38.52	+21 34.0	3.537	4.520	0.4	20.9	1 12	7 39.61	+37 54.2	1.494	2.453	6.4	18.5
1 22	7 31.72	+21 54.5	3.560	4.532	2.1	21.1	1 22	7 26.38	+38 15.5	1.518	2.463	8.2	18.6
2 1	7 25.38	+22 12.8	3.614	4.544	4.6	21.3	2 1	7 14.75	+38 12.1	1.570	2.471	11.6	18.9
2 11	7 19.99	+22 28.1	3.697	4.556	6.8	21.4	2 11	7 6.12	+37 47.9	1.645	2.480	15.0	19.1
2 21	7 15.90	+22 39.9	3.805	4.567	8.7	21.6	2 21	7 1.19	+37 9.1	1.739	2.487	17.9	19.3
<b>101562</b>	1999 <i>AD</i> <sub>14</sub>		1 13.6	197°90	1°0/13.3	18	<b>64965</b>	2001 <i>YD</i> <sub>155</sub>		1 13.6	56°81	7°3/10.6	18
12 13	8 6.25	+24 55.6	2.368	3.200	11.0	20.2	12 13	8 7.55	+38 59.1	1.829	2.665	13.5	19.8
12 23	7 58.91	+24 57.1	2.286	3.197	7.9	20.0	12 23	8 0.73	+40 12.6	1.770	2.667	10.6	19.6
1 2	7 49.61	+24 57.9	2.231	3.193	4.4	19.8	1 2	7 50.97	+41 15.5	1.735	2.669	8.2	19.5
1 12	7 39.14	+24 55.3	2.206	3.188	1.1	19.5	1 12	7 39.39	+41 59.6	1.727	2.672	7.3	19.5
1 22	7 28.47	+24 47.4	2.212	3.183	3.5	19.7	1 22	7 27.51	+42 19.2	1.747	2.674	8.8	19.5
2 1	7 18.64	+24 33.6	2.249	3.177	7.1	19.9	2 1	7 16.94	+42 13.6	1.792	2.676	11.4	19.7
2 11	7 10.55	+24 14.5	2.314	3.170	10.4	20.1	2 11	7 9.02	+41 46.2	1.861	2.678	14.2	19.9
2 21	7 4.75	+23 51.4	2.402	3.163	13.2	20.3	2 21	7 4.44	+41 2.9	1.949	2.680	16.7	20.1
<b>355911</b>	2008 <i>XM</i> <sub>35</sub>		1 13.6	84°54	1°0/13.3	17	<b>451414</b>	2011 <i>QR</i> <sub>46</sub>		1 13.6	119°02	4°9/15.1	18
12 13	8 9.28	+22 53.1	1.487	2.334	15.5	21.3	12 13	8 5.94	+9 4.5	1.751	2.565	15.0	21.1
12 23	8 1.57	+23 16.7	1.443	2.360	11.0	21.0	12 23	7 58.92	+8 36.5	1.691	2.581	11.5	20.9
1 2	7 51.17	+23 42.8	1.422	2.386	6.0	20.8	1 2	7 49.69	+8 22.6	1.654	2.596	7.8	20.7
1 12	7 39.35	+24 6.3	1.429	2.411	1.2	20.6	1 12	7 39.20	+8 22.9	1.644	2.611	5.1	20.6
1 22	7 27.62	+24 23.2	1.464	2.436	4.6	20.9	1 22	7 28.63	+8 35.9	1.664	2.625	5.8	20.7
2 1	7 17.48	+24 31.6	1.527	2.461	9.3	21.2	2 1	7 19.16	+8 59.1	1.711	2.638	9.0	20.9
2 11	7 10.04	+24 32.0	1.615	2.484	13.4	21.5	2 11	7 11.78	+9 28.8	1.785	2.651	12.4	21.1
2 21	7 5.83	+24 25.9	1.723	2.508	16.6	21.8	2 21	7 7.05	+10 1.5	1.880	2.664	15.5	21.3
<b>142390</b>	2002 <i>SR</i> <sub>12</sub>		1 13.6	242°50	1°4/13.1	18	<b>322055</b>	2010 <i>VS</i> <sub>73</sub>		1 13.6	22°01	1°4/14.1	18
12 13	8 4.28	+23 29.2	1.755	2.602	13.5	19.7	12 13	8 2.04	+17 12.5	1.542	2.391	14.9	20.9
12 23	7 58.11	+24 0.4	1.680	2.598	9.7	19.4	12 23	7 56.57	+17 21.4	1.477	2.394	10.9	20.6
1 2	7 49.42	+24 34.7	1.630	2.594	5.4	19.2	1 2	7 48.58	+17 39.6	1.436	2.398	6.3	20.4
1 12	7 39.14	+25 7.5	1.608	2.590	1.5	18.9	1 12	7 39.06	+18 4.1	1.421	2.402	1.7	20.1
1 22	7 28.51	+25 34.3	1.614	2.585	4.5	19.1	1 22	7 29.31	+18 31.3	1.433	2.407	4.3	20.3
2 1	7 18.89	+25 52.4	1.649	2.581	8.9	19.3	2 1	7 20.69	+18 57.9	1.472	2.412	9.0	20.6
2 11	7 11.45	+26 1.2	1.709	2.576	12.9	19.6	2 11	7 14.33	+19 21.5	1.536	2.418	13.2	20.8
2 21	7 6.89	+26 1.8	1.790	2.572	16.2	19.8	2 21	7 10.89	+19 40.8	1.621	2.424	16.7	21.1
<b>14558</b>	Wangganchang		1 13.6	91°02	3°7/14.9	18	<b>188936</b>	2007 <i>CD</i> <sub>58</sub>		1 13.6	62°66	1°1/13.0	18
12 13	8 1.09	+10 23.6	2.189	3.003	12.4	17.9	12 13	8 2.68	+20 22.4	1.754	2.600	13.5	19.7
12 23	7 55.16	+10 0.7	2.122	3.014	9.4	17.8	12 23	7 56.93	+21 37.3	1.689	2.606	9.7	19.5
1 2	7 47.51	+9 48.4	2.081	3.025	6.3	17.6	1 2	7 48.78	+23 0.3	1.649	2.613	5.3	19.2
1 12	7 38.87	+9 46.5	2.068	3.036	3.9	17.5	1 12	7 39.11	+24 24.7	1.638	2.620	1.2	18.9
1 22	7 30.12	+9 53.8	2.085	3.047	4.6	17.5	1 22	7 29.12	+25 43.7	1.656	2.627	4.4	19.2
2 1	7 22.19	+10 8.6	2.130	3.058	7.4	17.7	2 1	7 20.10	+26 51.9	1.703	2.634	8.7	19.5
2 11	7 15.85	+10 28.5	2.203	3.069	10.4	17.9	2 11	7 13.16	+27 46.6	1.776	2.641	12.6	19.7
2 21	7 11.59	+10 50.9	2.298	3.080	13.1	18.1	2 21	7 8.98	+28 27.9	1.870	2.649	15.7	19.9
<b>67284</b>	2000 <i>GD</i> <sub>1</sub>		1 13.6	183°83	14°3/21.4	18	<b>433861</b>	2015 <i>BT</i> <sub>291</sub>		1 13.6	307°54	0°2/13.5	18
12 13	8 7.27	-13 56.6	1.367	2.089	22.9	19.3	12 13	8 0.28	+20 53.1	2.099	2.942	11.8	21.5
12 23	8 0.69	-14 2.3	1.294	2.090	20.2	19.1	12 23	7 54.95	+21 15.1	2.016	2.932	8.5	21.2
1 2	7 51.05	-13 23.6	1.237	2.090	17.5	18.9	1 2	7 47.59	+21 41.8	1.959	2.923	4.7	21.0
1 12	7 39.40	-11 54.1	1.200	2.090	15.2	18.7	1 12	7 38.95	+22 10.1	1.930	2.913	0.7	20.7
1 22	7 27.22	-9 35.0	1.186	2.089	14.3	18.7	1 22	7 30.00	+22 36.6	1.931	2.904	3.5	20.9
2 1	7 16.17	-6 35.7	1.197	2.087	15.4	18.7	2 1	7 21.79	+22 59.0	1.961	2.895	7.5	21.1
2 11	7 7.72	-3 12.5	1.233	2.084	17.9	18.9	2 11	7 15.27	+23 15.8	2.017	2.887	11.1	21.3
2 21	7 2.71	+0 17.2	1.291	2.080	20.9	19.1	2 21	7 11.06	+23 26.7	2.095	2.878	14.1	21.5
<b>157970</b>	2000 <i>GJ</i> <sub>30</sub>		1 13.6	131°62	2°6/14.6	18	<b>206770</b>	2004 <i>CO</i> <sub>48</sub>		1 13.6	9°04	5°8/12.4	18
12 13	8 6.37	+13 17.6	1.845	2.667	14.0	20.8	12 13	8 6.65	+36 55.6	1.681	2.526	14.1	19.3
12 23	7 59.19	+13 24.0	1.782	2.683	10.4	20.6	12 23	7 59.93	+37 8.7	1.621	2.528	10.8	19.1
1 2	7 49.82	+13 41.3	1.745	2.699	6.3	20.4	1 2	7 50.41	+37 10.1	1.584	2.531	7.5	19.0
1 12	7 39.19	+14 7.3	1.736	2.714	2.9	20.2	1 12	7 39.33	+36 54.0	1.573	2.535	5.8	18.9
1 22	7 28.45	+14 38.9	1.757	2.728	4.3	20.3	1 22	7 28.22	+36 18.1	1.590	2.540	7.3	19.0
2 1	7 18.78	+15 13.0	1.807	2.741	8.1	20.5	2 1	7 18.63	+35 23.7	1.633	2.546	10.5	19.2
2 11	7 11.15	+15 46.8	1.884	2.753	11.8	20.8	2 11	7 11.73	+34 15.8	1.701	2.552	13.8	19.4
2 21	7 6.13	+16 18.1	1.984	2.764	14.9	21.0	2 21	7 8.06	+32 59.9	1.789	2.559	16.7	19.6
<b>502412</b>	2015 <i>BS</i> <sub>254</sub>		1 13.6	173°75	2°5/15.1	18	<b>212866</b>	2007 <i>VL</i> <sub>123</sub>		1 13.6	344°92	2°0/13.0	18
12 13	7 58.85	+10 43.0	2.789	3.597	10.2								

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>138279</b>	2000 <i>GB</i> <sub>24</sub>		1 13.6 82°93	1.9°/14.3	18		<b>269484</b>	Marcia		1 13.6 60°69	2.1°/14.4	18	
12 13	8 4.03	+15 37.4	1.727	2.562	14.2	19.6	12 13	8 1.80	+15 14.0	1.886	2.720	13.3	21.0
12 23	7 57.63	+15 42.8	1.670	2.579	10.4	19.4	12 23	7 56.03	+15 11.7	1.817	2.725	9.8	20.8
1 2	7 49.01	+15 57.5	1.637	2.596	6.1	19.2	1 2	7 48.17	+15 18.2	1.772	2.729	5.8	20.6
1 12	7 39.14	+16 19.0	1.632	2.613	2.2	19.0	1 12	7 39.07	+15 31.9	1.755	2.734	2.4	20.4
1 22	7 29.19	+16 44.3	1.656	2.629	4.1	19.2	1 22	7 29.79	+15 50.3	1.767	2.739	4.0	20.5
2 1	7 20.36	+17 10.4	1.709	2.645	8.2	19.4	2 1	7 21.42	+16 11.1	1.808	2.744	7.9	20.7
2 11	7 13.64	+17 35.0	1.787	2.662	12.0	19.7	2 11	7 14.91	+16 32.0	1.874	2.749	11.5	21.0
2 21	7 9.58	+17 56.7	1.887	2.678	15.2	20.0	2 21	7 10.86	+16 51.4	1.963	2.754	14.7	21.2
<b>221181</b>	2005 <i>UA</i> <sub>23</sub>		1 13.6 304°65	3°5/12.4	18		<b>96308</b>	1996 <i>XX</i> <sub>22</sub>		1 13.6 250°31	3°1/14.8	18	
12 13	8 4.22	+29 0.4	1.744	2.595	13.4	20.6	12 13	8 2.86	+12 16.1	1.675	2.506	14.8	19.5
12 23	7 58.26	+29 39.1	1.668	2.585	9.8	20.3	12 23	7 57.15	+12 27.8	1.595	2.500	11.1	19.3
1 2	7 49.61	+30 16.2	1.616	2.576	6.0	20.1	1 2	7 48.98	+12 53.5	1.539	2.493	7.0	19.0
1 12	7 39.26	+30 45.6	1.591	2.567	3.5	19.9	1 12	7 39.21	+13 31.5	1.509	2.486	3.4	18.8
1 22	7 28.52	+31 2.5	1.595	2.558	5.7	20.0	1 22	7 29.02	+14 18.2	1.508	2.479	4.7	18.9
2 1	7 18.82	+31 4.9	1.625	2.549	9.7	20.2	2 1	7 19.71	+15 9.2	1.534	2.471	8.9	19.1
2 11	7 11.42	+30 53.7	1.681	2.540	13.5	20.4	2 11	7 12.47	+16 0.3	1.586	2.464	13.1	19.3
2 21	7 7.05	+30 31.7	1.757	2.532	16.7	20.6	2 21	7 8.01	+16 48.1	1.660	2.456	16.7	19.5
<b>182474</b>	2001 <i>SA</i> <sub>110</sub>		1 13.6 135°58	4°9/11.5	18		<b>183364</b>	2002 <i>WT</i> <sub>16</sub>		1 13.6 2°52	6°1/15.9	18	
12 13	8 9.06	+36 33.8	2.435	3.259	11.0	21.2	12 13	7 59.20	+ 3 30.5	2.216	3.007	13.0	20.0
12 23	8 0.99	+37 21.3	2.380	3.276	8.4	21.0	12 23	7 53.92	+ 2 52.7	2.140	3.007	10.5	19.8
1 2	7 50.80	+38 0.5	2.351	3.291	6.0	20.9	1 2	7 46.93	+ 2 29.8	2.088	3.007	8.0	19.7
1 12	7 39.40	+38 26.2	2.352	3.306	4.9	20.9	1 12	7 38.90	+ 2 23.1	2.062	3.007	6.3	19.5
1 22	7 27.94	+38 35.1	2.383	3.320	6.1	21.0	1 22	7 30.67	+ 2 32.5	2.065	3.008	6.5	19.6
2 1	7 17.55	+38 27.1	2.444	3.334	8.5	21.1	2 1	7 23.12	+ 2 56.0	2.095	3.008	8.5	19.7
2 11	7 9.19	+38 4.4	2.530	3.347	10.9	21.3	2 11	7 17.05	+ 3 30.2	2.152	3.008	11.0	19.8
2 21	7 3.40	+37 30.9	2.639	3.358	13.1	21.5	2 21	7 12.98	+ 4 11.2	2.231	3.009	13.5	20.0
<b>231660</b>	2009 <i>XK</i> <sub>2</sub>		1 13.6 345°72	2°2/14.0	18		<b>423318</b>	2005 <i>EV</i> <sub>280</sub>		1 13.6 225°80	6°0/10.5	17	
12 13	8 4.64	+18 6.7	1.169	2.030	17.8	19.8	12 13	8 5.48	+39 19.3	2.439	3.264	10.9	21.0
12 23	7 59.13	+17 38.9	1.102	2.025	13.1	19.5	12 23	7 58.76	+40 21.0	2.368	3.259	8.6	20.8
1 2	7 50.30	+17 19.1	1.056	2.020	7.7	19.2	1 2	7 49.75	+41 14.3	2.323	3.253	6.6	20.7
1 12	7 39.37	+17 5.9	1.035	2.016	2.5	18.9	1 12	7 39.31	+41 53.0	2.307	3.248	6.0	20.6
1 22	7 28.05	+16 57.5	1.039	2.013	5.4	19.0	1 22	7 28.54	+42 13.1	2.319	3.242	7.2	20.7
2 1	7 18.18	+16 52.4	1.067	2.011	11.1	19.3	2 1	7 18.66	+42 13.3	2.359	3.235	9.3	20.8
2 11	7 11.29	+16 49.0	1.117	2.009	16.2	19.6	2 11	7 10.72	+41 55.8	2.424	3.229	11.7	21.0
2 21	7 8.14	+16 46.3	1.186	2.008	20.5	19.9	2 21	7 5.40	+41 24.3	2.510	3.222	13.8	21.1
<b>348788</b>	2006 <i>PK</i> <sub>7</sub>		1 13.6 125°17	4°5/12.2	18		<b>193227</b>	2000 <i>RP</i> <sub>53</sub>		1 13.6 61°10	20°3/23.8	18	
12 13	8 8.23	+37 34.7	2.571	3.393	10.5	20.9	12 13	8 3.15	-19 10.7	1.145	1.860	26.8	19.8
12 23	8 0.23	+37 45.2	2.508	3.402	8.0	20.7	12 23	7 58.04	-20 46.4	1.095	1.865	24.7	19.7
1 2	7 50.30	+37 46.2	2.470	3.411	5.7	20.6	1 2	7 49.71	-21 33.3	1.057	1.871	22.7	19.6
1 12	7 39.33	+37 34.1	2.463	3.419	4.5	20.5	1 12	7 39.32	-21 21.1	1.034	1.876	21.0	19.5
1 22	7 28.41	+37 7.1	2.485	3.427	5.6	20.6	1 22	7 28.52	-20 6.5	1.028	1.881	20.3	19.4
2 1	7 18.57	+36 26.1	2.538	3.435	7.9	20.8	2 1	7 19.09	-17 54.9	1.039	1.887	20.6	19.5
2 11	7 10.67	+35 33.9	2.617	3.443	10.3	20.9	2 11	7 12.54	-15 0.8	1.069	1.893	22.0	19.6
2 21	7 5.19	+34 34.4	2.720	3.451	12.5	21.1	2 21	7 9.68	-11 42.6	1.115	1.899	23.9	19.7
<b>53481</b>	2000 <i>AC</i> <sub>57</sub>		1 13.6 273°52	0°4/13.5	18		<b>396338</b>	2014 <i>DU</i> <sub>64</sub>		1 13.6 247°11	2°5/12.8	18	
12 13	8 6.25	+21 25.3	1.471	2.322	15.4	19.4	12 13	8 7.58	+25 14.2	1.448	2.301	15.5	21.5
12 23	8 0.12	+21 42.5	1.384	2.304	11.2	19.1	12 23	8 1.11	+25 57.3	1.372	2.293	11.2	21.2
1 2	7 50.87	+22 5.7	1.321	2.286	6.3	18.8	1 2	7 51.41	+26 43.4	1.320	2.284	6.4	20.9
1 12	7 39.48	+22 30.4	1.284	2.267	0.9	18.4	1 12	7 39.58	+27 25.5	1.294	2.274	2.6	20.6
1 22	7 27.40	+22 51.8	1.275	2.248	4.8	18.6	1 22	7 27.18	+27 57.2	1.295	2.265	5.7	20.8
2 1	7 16.35	+23 6.7	1.292	2.229	10.3	18.9	2 1	7 15.99	+28 14.9	1.324	2.255	10.7	21.1
2 11	7 7.84	+23 14.0	1.334	2.210	15.2	19.1	2 11	7 7.55	+28 18.7	1.376	2.244	15.3	21.3
2 21	7 2.81	+23 14.4	1.395	2.191	19.3	19.3	2 21	7 2.71	+28 11.3	1.447	2.234	19.2	21.5
<b>31451</b>	Joenicke		1 13.6 212°34	0°6/13.4	18		<b>115334</b>	2003 <i>SX</i> <sub>225</sub>		1 13.6 141°65	0°3/13.8	18	
12 13	8 6.06	+20 43.9	1.733	2.575	13.9	19.3	12 13	8 1.80	+19 35.3	2.339	3.172	11.1	20.4
12 23	7 59.49	+21 23.4	1.655	2.570	10.0	19.1	12 23	7 55.73	+19 49.4	2.268	3.179	7.9	20.3
1 2	7 50.29	+22 9.6	1.601	2.564	5.6	18.8	1 2	7 47.91	+20 7.8	2.223	3.185	4.4	20.0
1 12	7 39.38	+22 57.4	1.575	2.557	0.9	18.5	1 12	7 39.05	+20 28.0	2.208	3.191	0.7	19.8
1 22	7 28.01	+23 41.8	1.578	2.550	4.3	18.7	1 22	7 30.04	+20 47.6	2.223	3.196	3.1	20.0
2 1	7 17.61	+24 18.8	1.610	2.543	9.0	19.0	2 1	7 21.79	+21 4.6	2.268	3.202	6.7	20.2
2 11	7 9.40	+24 46.6	1.668	2.535	13.2	19.2	2 11	7 15.11	+21 18.0	2.341	3.207	9.9	20.4
2 21	7 4.16	+25 5.5	1.747	2.526	16.7	19.4	2 21	7 10.53	+21 27.4	2.437	3.212	12.6	20.6
<b>86863</b>	2000 <i>HY</i> <sub>14</sub>		1 13.6 184°22	0°9/13.2	18		<b>279563</b>	2011 <i>DF</i> <sub>1</sub>		1 13.6 173°20	0°2/13.7	18	
12 13	8 6.53	+21 31.8	1.868	2.706	13.2	20.4	12 13	8 2.79	+20 19.0	2.178	3.014	11.7	21.3
12 23	7 59.63	+22 17.7	1.793	2.707	9.5	20.2	12 23	7 56.59	+20 28.5	2.103	3.015	8.4	21.1
1 2	7 50.28	+23 9.0	1.744	2.707	5.3	19.9	1 2	7 48.44	+20 41.8	2.054	3.016	4.7	20.9
1 12	7 39.37	+24 0.6	1.723	2.706	1.1	19.6	1 12	7 39.13	+20 56.5	2.034	3.017	0.7	20.6
1 22	7 28.10	+24 47.2	1.733	2.704	4.2	19.8	1 22	7 29.62	+21 10.1	2.045	3.018	3.4	20.8
2 1	7 17.78	+25 25.3	1.772	2.702	8.5	20.1	2 1	7 20.94	+21 20.8	2.085	3.018	7.2	21.0
2 11	7 9.54	+25 53.5	1.838	2.699	12.4	20.3	2 11	7 13.95	+21 27.7	2.152	3.018	10.6	21.2
2 21	7 4.10	+26 12.3	1.925	2.696	15.6	20.5	2 21	7 9.24	+21 30.8	2.242	3.018	13.5	21.4
<b>232982</b>	2005 <i>ER</i> <sub>131</sub>		1 13.6 325°41	4°6/11.9	18		<b>176784</b>	2002 <i>SN</i> <sub>8</sub>		1 13.6 73°70	0°0/13.6	18	
12 13	8 4.82	+34 2.0	2.075	2.915	12.0	20.1</							

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1 13.6

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>500198</b>	2012 <i>HV</i> <sub>4</sub>		1 13.6 212°67	1°3/14.3	17		<b>302056</b>	2000 <i>UX</i> <sub>15</sub>		1 13.6 74°41	2°4/12.9	17	
12 13	8 1.61	+15 21.8	2.567	3.388	10.6	22.8	12 13	8 7.69	+25 28.7	1.444	2.298	15.5	21.4
12 23	7 55.58	+15 43.4	2.478	3.380	7.8	22.6	12 23	8 0.75	+26 6.9	1.396	2.316	11.1	21.1
1 2	7 47.86	+16 12.4	2.415	3.371	4.6	22.4	1 2	7 50.96	+26 45.7	1.370	2.334	6.3	20.9
1 12	7 39.06	+16 46.8	2.382	3.362	1.6	22.1	1 12	7 39.55	+27 18.6	1.372	2.352	2.5	20.7
1 22	7 29.97	+17 24.1	2.380	3.352	3.1	22.2	1 22	7 28.10	+27 40.7	1.401	2.370	5.3	20.9
2 1	7 21.45	+18 1.5	2.409	3.342	6.4	22.4	2 1	7 18.19	+27 50.1	1.457	2.388	9.9	21.2
2 11	7 14.28	+18 37.1	2.467	3.331	9.5	22.6	2 11	7 11.03	+27 47.8	1.537	2.406	14.0	21.5
2 21	7 9.01	+19 9.2	2.549	3.319	12.2	22.8	2 21	7 7.20	+27 36.3	1.637	2.423	17.3	21.8
<b>80808</b>	Billmason		1 13.6 10°94	2°3/14.3	18		<b>420867</b>	2013 <i>KU</i> <sub>5</sub>		1 13.6 189°38	5°3/10.9	18	
12 13	8 2.23	+15 32.4	1.447	2.295	15.8	19.2	12 13	8 7.54	+34 56.8	2.194	3.027	11.7	21.3
12 23	7 56.87	+15 31.4	1.381	2.296	11.6	18.9	12 23	8 0.38	+36 9.9	2.125	3.026	8.9	21.1
1 2	7 48.86	+15 41.7	1.337	2.297	6.9	18.7	1 2	7 50.75	+37 17.4	2.081	3.025	6.3	21.0
1 12	7 39.22	+16 1.1	1.319	2.300	2.6	18.4	1 12	7 39.54	+38 12.3	2.067	3.023	5.3	20.9
1 22	7 29.29	+16 26.2	1.328	2.302	4.7	18.5	1 22	7 27.94	+38 49.3	2.082	3.020	6.8	21.0
2 1	7 20.53	+16 53.7	1.364	2.305	9.4	18.8	2 1	7 17.27	+39 6.5	2.126	3.017	9.5	21.2
2 11	7 14.14	+17 20.4	1.424	2.309	13.8	19.1	2 11	7 8.68	+39 5.3	2.195	3.014	12.3	21.3
2 21	7 10.81	+17 44.3	1.504	2.313	17.5	19.3	2 21	7 2.89	+38 49.5	2.285	3.009	14.7	21.5
<b>217574</b>	2007 <i>VN</i> <sub>279</sub>		1 13.6 307°15	0°8/13.3	18		<b>445030</b>	2008 <i>QS</i> <sub>37</sub>		1 13.6 105°62	2°8/14.7	18	
12 13	8 0.37	+22 40.3	2.164	3.007	11.4	20.4	12 13	8 6.79	+12 32.0	1.618	2.445	15.4	21.5
12 23	7 55.02	+23 2.1	2.079	2.995	8.2	20.1	12 23	7 59.73	+12 51.6	1.563	2.466	11.4	21.3
1 2	7 47.67	+23 26.9	2.020	2.983	4.6	19.9	1 2	7 50.27	+13 24.6	1.533	2.488	7.0	21.1
1 12	7 39.05	+23 51.5	1.989	2.972	0.9	19.6	1 12	7 39.45	+14 8.1	1.530	2.508	3.1	20.9
1 22	7 30.12	+24 12.8	1.988	2.961	3.6	19.8	1 22	7 28.56	+14 57.5	1.557	2.528	4.6	21.1
2 1	7 21.90	+24 28.7	2.017	2.949	7.4	20.0	2 1	7 18.90	+15 48.3	1.611	2.547	8.7	21.4
2 11	7 15.34	+24 38.1	2.071	2.938	10.9	20.2	2 11	7 11.53	+16 36.8	1.692	2.566	12.6	21.6
2 21	7 11.06	+24 41.3	2.148	2.928	13.9	20.4	2 21	7 7.03	+17 20.5	1.794	2.584	15.9	21.9
<b>101270</b>	1998 <i>SQ</i> <sub>111</sub>		1 13.6 82°47	6°0/11.9	17		<b>221177</b>	2005 <i>UH</i> <sub>10</sub>		1 13.6 84°55	2°9/14.9	18	
12 13	8 11.52	+33 23.1	1.372	2.223	16.3	19.5	12 13	8 2.01	+12 8.6	1.846	2.673	13.8	20.4
12 23	8 3.83	+34 21.8	1.327	2.241	12.1	19.3	12 23	7 56.19	+12 21.7	1.783	2.685	10.3	20.2
1 2	7 52.75	+35 12.0	1.305	2.258	8.1	19.1	1 2	7 48.30	+12 47.4	1.743	2.696	6.4	20.0
1 12	7 39.77	+35 44.5	1.308	2.275	6.0	19.0	1 12	7 39.19	+13 23.4	1.732	2.708	3.1	19.8
1 22	7 26.78	+35 53.6	1.339	2.292	8.0	19.2	1 22	7 29.91	+14 6.3	1.749	2.719	4.3	19.9
2 1	7 15.68	+35 39.6	1.395	2.308	11.8	19.5	2 1	7 21.58	+14 52.5	1.794	2.731	8.0	20.1
2 11	7 7.85	+35 6.9	1.474	2.325	15.5	19.7	2 11	7 15.12	+15 38.3	1.866	2.742	11.6	20.4
2 21	7 3.87	+34 22.1	1.572	2.341	18.6	20.0	2 21	7 11.12	+16 21.0	1.961	2.753	14.6	20.6
<b>2043</b>	Ortutay		1 13.6 77°83	0°7/13.4	18 R		<b>88721</b>	2001 <i>SD</i> <sub>27</sub>		1 13.6 300°05	4°6/11.7	18	
12 13	8 2.02	+22 57.2	2.199	3.039	11.4	15.6	12 13	8 3.76	+34 27.0	2.220	3.058	11.4	19.5
12 23	7 55.98	+23 11.7	2.136	3.050	8.1	15.4	12 23	7 57.56	+35 8.8	2.146	3.052	8.6	19.3
1 2	7 48.08	+23 28.1	2.098	3.061	4.5	15.2	1 2	7 49.12	+35 44.6	2.098	3.046	5.9	19.1
1 12	7 39.12	+23 43.3	2.090	3.072	0.9	15.0	1 12	7 39.31	+36 9.1	2.078	3.040	4.6	19.0
1 22	7 30.06	+23 54.8	2.111	3.083	3.4	15.2	1 22	7 29.23	+36 18.7	2.086	3.034	6.1	19.1
2 1	7 21.89	+24 1.3	2.162	3.094	7.1	15.4	2 1	7 20.07	+36 12.2	2.123	3.028	8.8	19.2
2 11	7 15.43	+24 2.3	2.240	3.105	10.3	15.7	2 11	7 12.84	+35 51.2	2.186	3.022	11.7	19.4
2 21	7 11.20	+23 58.3	2.341	3.116	13.0	15.9	2 21	7 8.19	+35 19.0	2.270	3.016	14.2	19.6
<b>395369</b>	2011 <i>RY</i> <sub>18</sub>		1 13.6 162°13	2°0/14.5	18		<b>152235</b>	2005 <i>SK</i> <sub>28</sub>		1 13.6 66°58	3°1/12.7	18	
12 13	8 5.54	+14 15.8	2.008	2.830	13.0	21.9	12 13	8 6.06	+28 53.0	1.750	2.598	13.5	20.1
12 23	7 58.64	+14 31.3	1.936	2.838	9.6	21.7	12 23	7 59.36	+29 16.7	1.689	2.605	9.8	19.9
1 2	7 49.63	+14 56.5	1.889	2.844	5.8	21.5	1 2	7 50.13	+29 37.2	1.653	2.613	5.8	19.6
1 12	7 39.35	+15 29.0	1.871	2.850	2.3	21.3	1 12	7 39.45	+29 49.5	1.644	2.621	3.1	19.5
1 22	7 28.85	+16 5.7	1.884	2.855	3.9	21.4	1 22	7 28.66	+29 50.2	1.664	2.629	5.3	19.6
2 1	7 19.23	+16 43.3	1.926	2.859	7.7	21.7	2 1	7 19.11	+29 38.4	1.712	2.638	9.1	19.9
2 11	7 11.47	+17 19.3	1.995	2.863	11.3	21.9	2 11	7 11.92	+29 16.1	1.785	2.646	12.7	20.1
2 21	7 6.16	+17 51.8	2.088	2.865	14.4	22.1	2 21	7 7.68	+28 46.0	1.879	2.654	15.8	20.4
<b>101059</b>	1998 <i>RR</i> <sub>3</sub>		1 13.6 186°54	19°1/24.5	18		<b>197879</b>	2004 <i>RD</i> <sub>15</sub>		1 13.6 48°98	3°3/14.8	17	
12 13	8 4.25	-19 58.1	1.192	1.896	26.5	20.0	12 13	8 3.92	+12 51.7	1.240	2.088	17.9	20.0
12 23	7 58.89	-20 47.4	1.129	1.896	24.3	19.8	12 23	7 58.21	+12 59.3	1.190	2.104	13.2	19.8
1 2	7 50.27	-20 45.7	1.079	1.896	22.1	19.6	1 2	7 49.63	+13 23.4	1.162	2.120	8.1	19.5
1 12	7 39.48	-19 43.0	1.044	1.896	20.1	19.5	1 12	7 39.39	+14 1.1	1.158	2.136	3.7	19.3
1 22	7 28.13	-17 36.4	1.027	1.895	19.1	19.4	1 22	7 29.05	+14 47.4	1.181	2.153	5.3	19.5
2 1	7 18.06	-14 33.1	1.031	1.895	19.5	19.4	2 1	7 20.19	+15 37.0	1.229	2.171	10.1	19.8
2 11	7 10.82	-10 50.0	1.055	1.895	21.1	19.5	2 11	7 14.04	+16 24.8	1.300	2.189	14.6	20.1
2 21	7 7.30	-6 48.5	1.098	1.894	23.5	19.7	2 21	7 11.20	+17 7.7	1.391	2.207	18.4	20.4
<b>241665</b>	2000 <i>OO</i> <sub>26</sub>		1 13.6 154°92	0°1/13.6	18		<b>399759</b>	2005 <i>JH</i> <sub>99</sub>		1 13.6 83°95	1°2/13.1	18	
12 13	8 6.42	+19 37.1	2.008	2.840	12.7	21.1	12 13	8 5.76	+21 21.2	1.742	2.585	13.8	20.9
12 23	7 59.32	+20 15.5	1.940	2.850	9.1	20.9	12 23	7 59.00	+22 25.6	1.693	2.609	9.8	20.7
1 2	7 50.03	+20 59.6	1.897	2.859	5.0	20.7	1 2	7 49.88	+23 35.1	1.670	2.633	5.4	20.5
1 12	7 39.42	+21 45.5	1.884	2.867	0.7	20.4	1 12	7 39.42	+24 43.3	1.675	2.657	1.3	20.2
1 22	7 28.58	+22 28.6	1.902	2.874	3.7	20.6	1 22	7 28.87	+25 44.2	1.709	2.680	4.3	20.5
2 1	7 18.68	+23 5.9	1.949	2.881	7.8	20.9	2 1	7 19.50	+26 34.0	1.773	2.703	8.5	20.8
2 11	7 10.72	+23 35.9	2.024	2.886	11.4	21.1	2 11	7 12.35	+27 11.4	1.862	2.725	12.2	21.1
2 21	7 5.31	+23 58.2	2.122	2.891	14.4	21.4	2 21	7 7.99	+27 37.1	1.973	2.748	15.2	21.3
<b>303529</b>	2005 <i>ED</i> <sub>249</sub>		1 13.6 30°26	0°1/13.6	18		<b>43040</b>	1999 <i>VT</i> <sub>45</sub>		1 13.6 156°74	0°7/13.4	18	
12 13	8 3.69	+20 44.2	1.231	2.094	17.0	20.8							



## EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>411325</b>	2010 <i>UT</i> <sub>21</sub>		1 13.6	40°81	3°5/12.5	18	<b>309371</b>	2007 <i>TZ</i> <sub>112</sub>		1 13.6	13°88	0°6/13.7	18
12 13	8 5.16	+27 14.5	1.340	2.202	15.9	20.3	12 13	8 5.54	+22 47.4	1.118	1.986	17.9	19.4
12 23	7 59.10	+28 6.8	1.299	2.223	11.4	20.1	12 23	7 59.73	+22 1.1	1.064	1.991	13.0	19.1
1 2	7 50.09	+28 57.9	1.281	2.244	6.7	19.9	1 2	7 50.60	+21 15.7	1.030	1.996	7.3	18.8
1 12	7 39.45	+29 40.1	1.289	2.267	3.5	19.8	1 12	7 39.57	+20 30.0	1.020	2.003	1.2	18.4
1 22	7 28.82	+30 8.0	1.323	2.290	6.1	20.0	1 22	7 28.48	+19 43.9	1.036	2.012	5.1	18.7
2 1	7 19.83	+30 19.6	1.384	2.313	10.5	20.3	2 1	7 19.16	+18 59.0	1.077	2.021	10.9	19.1
2 11	7 13.68	+30 16.4	1.467	2.337	14.4	20.6	2 11	7 13.00	+18 16.9	1.139	2.032	15.9	19.4
2 21	7 10.91	+30 1.7	1.570	2.362	17.7	20.9	2 21	7 10.56	+17 38.4	1.221	2.044	20.0	19.7
<b>406113</b>	2006 <i>VZ</i> <sub>36</sub>		1 13.6	69°60	4°2/14.9	18	<b>339537</b>	2005 <i>JO</i> <sub>34</sub>		1 13.6	353°57	8°6/16.9	17
12 13	8 3.70	+11 22.9	1.666	2.493	15.0	20.7	12 13	7 58.35	- 1 55.3	1.963	2.738	15.1	20.4
12 23	7 57.53	+10 53.2	1.603	2.503	11.4	20.5	12 23	7 53.57	- 2 44.9	1.889	2.735	12.7	20.2
1 2	7 49.08	+10 36.1	1.565	2.514	7.5	20.3	1 2	7 46.90	- 3 13.9	1.837	2.732	10.4	20.1
1 12	7 39.32	+10 31.4	1.553	2.524	4.4	20.2	1 12	7 39.05	- 3 19.8	1.808	2.730	8.8	20.0
1 22	7 29.42	+10 37.8	1.569	2.534	5.4	20.2	1 22	7 30.94	- 3 2.0	1.806	2.729	8.8	20.0
2 1	7 20.61	+10 53.1	1.612	2.545	9.0	20.5	2 1	7 23.56	- 2 22.9	1.830	2.728	10.4	20.1
2 11	7 13.91	+11 14.2	1.681	2.555	12.7	20.7	2 11	7 17.79	- 1 27.5	1.878	2.728	12.7	20.2
2 21	7 9.89	+11 37.9	1.771	2.566	15.9	21.0	2 21	7 14.22	- 0 21.7	1.947	2.727	15.1	20.4
<b>184125</b>	2004 <i>HG</i> <sub>72</sub>		1 13.6	208°25	2°4/12.7	18	<b>465709</b>	2009 <i>UX</i> <sub>9</sub>		1 13.6	25°66	1°5/13.0	18
12 13	8 5.12	+27 8.7	2.156	2.995	11.6	21.6	12 13	8 2.59	+23 27.6	1.739	2.589	13.4	21.5
12 23	7 58.48	+27 43.8	2.077	2.990	8.4	21.3	12 23	7 56.95	+24 7.7	1.672	2.592	9.6	21.3
1 2	7 49.63	+28 18.4	2.025	2.985	4.9	21.1	1 2	7 48.88	+24 51.4	1.631	2.595	5.4	21.1
1 12	7 39.42	+28 47.9	2.002	2.980	2.4	20.9	1 12	7 39.34	+25 33.4	1.617	2.598	1.6	20.8
1 22	7 28.89	+29 8.6	2.008	2.974	4.5	21.1	1 22	7 29.53	+26 9.0	1.631	2.602	4.5	21.0
2 1	7 19.22	+29 18.6	2.045	2.967	8.0	21.3	2 1	7 20.75	+26 35.3	1.674	2.606	8.7	21.3
2 11	7 11.41	+29 18.0	2.108	2.960	11.4	21.5	2 11	7 14.11	+26 51.3	1.741	2.610	12.6	21.5
2 21	7 6.12	+29 8.6	2.193	2.953	14.3	21.7	2 21	7 10.26	+26 57.9	1.830	2.615	15.8	21.8
<b>259240</b>	2003 <i>BG</i> <sub>63</sub>		1 13.6	332°60	7°2/16.9	18	<b>207341</b>	Isabelmartin		1 13.6	302°42	0°2/13.7	18
12 13	7 58.13	+ 2 33.9	1.471	2.286	17.3	19.3	12 13	8 0.71	+19 57.1	2.073	2.914	12.0	21.0
12 23	7 54.07	+ 2 40.6	1.388	2.271	14.0	19.1	12 23	7 55.35	+20 10.0	1.986	2.901	8.7	20.8
1 2	7 47.46	+ 3 14.2	1.326	2.257	10.5	18.8	1 2	7 47.94	+20 27.9	1.925	2.887	4.9	20.5
1 12	7 39.13	+ 4 15.7	1.287	2.244	7.6	18.7	1 12	7 39.21	+20 48.2	1.891	2.874	0.8	20.2
1 22	7 30.25	+ 5 41.9	1.274	2.232	7.7	18.6	1 22	7 30.13	+21 8.2	1.887	2.861	3.5	20.4
2 1	7 22.20	+ 7 26.2	1.287	2.221	10.7	18.8	2 1	7 21.76	+21 25.4	1.912	2.848	7.6	20.6
2 11	7 16.23	+ 9 19.2	1.324	2.210	14.6	19.0	2 11	7 15.09	+21 38.6	1.963	2.835	11.2	20.8
2 21	7 13.17	+11 12.1	1.383	2.201	18.3	19.2	2 21	7 10.76	+21 47.3	2.037	2.823	14.4	21.0
<b>144270</b>	2004 <i>CM</i> <sub>96</sub>		1 13.6	278°76	2°2/12.6	18	<b>37825</b>	1998 <i>BM</i> <sub>17</sub>		1 13.6	191°88	0°1/13.6	18
12 13	8 3.65	+23 52.0	1.712	2.562	13.6	19.8	12 13	8 5.51	+20 10.4	2.007	2.841	12.6	19.7
12 23	7 57.92	+24 55.7	1.635	2.554	9.8	19.5	12 23	7 58.79	+20 36.2	1.928	2.840	9.1	19.5
1 2	7 49.55	+26 4.6	1.584	2.547	5.6	19.3	1 2	7 49.83	+21 7.3	1.876	2.838	5.1	19.3
1 12	7 39.42	+27 12.1	1.560	2.540	2.2	19.0	1 12	7 39.48	+21 40.0	1.852	2.835	0.7	18.9
1 22	7 28.81	+28 11.6	1.565	2.533	5.1	19.2	1 22	7 28.81	+22 10.7	1.859	2.832	3.7	19.2
2 1	7 19.11	+28 58.5	1.597	2.526	9.4	19.5	2 1	7 19.00	+22 36.5	1.895	2.828	7.9	19.4
2 11	7 11.62	+29 31.3	1.655	2.519	13.4	19.7	2 11	7 11.09	+22 56.2	1.959	2.823	11.6	19.6
2 21	7 7.10	+29 50.9	1.734	2.511	16.8	19.9	2 21	7 5.74	+23 9.8	2.044	2.818	14.7	19.8
<b>445137</b>	2008 <i>WH</i> <sub>12</sub>		1 13.6	58°22	1°0/13.3	17	<b>262666</b>	2006 <i>WA</i> <sub>111</sub>		1 13.6	107°98	0°5/13.8	18
12 13	8 6.69	+21 12.0	1.241	2.100	17.1	20.9	12 13	8 4.33	+18 55.3	1.887	2.725	13.1	21.0
12 23	8 0.26	+21 56.3	1.198	2.121	12.2	20.7	12 23	7 57.87	+19 15.3	1.825	2.738	9.4	20.8
1 2	7 50.77	+22 47.1	1.177	2.143	6.7	20.4	1 2	7 49.25	+19 41.4	1.789	2.751	5.3	20.6
1 12	7 39.57	+23 37.6	1.182	2.165	1.3	20.1	1 12	7 39.38	+20 10.2	1.781	2.764	0.9	20.3
1 22	7 28.36	+24 21.0	1.214	2.187	5.1	20.4	1 22	7 29.39	+20 38.3	1.802	2.776	3.7	20.5
2 1	7 18.83	+24 53.7	1.271	2.210	10.3	20.8	2 1	7 20.41	+21 3.1	1.853	2.788	7.8	20.8
2 11	7 12.26	+25 14.6	1.352	2.232	14.8	21.1	2 11	7 13.42	+21 23.0	1.930	2.800	11.5	21.1
2 21	7 9.20	+25 25.1	1.453	2.254	18.4	21.4	2 21	7 8.97	+21 37.7	2.029	2.811	14.5	21.3
<b>284644</b>	2007 <i>VZ</i> <sub>333</sub>		1 13.6	96°11	1°9/12.6	18	<b>224573</b>	2005 <i>XQ</i> <sub>8</sub>		1 13.6	23°86	2°0/12.9	18
12 13	8 0.87	+24 55.3	2.374	3.215	10.6	20.4	12 13	8 4.35	+25 54.5	1.764	2.613	13.3	20.7
12 23	7 55.24	+25 52.2	2.305	3.219	7.6	20.2	12 23	7 58.19	+26 18.2	1.696	2.614	9.6	20.5
1 2	7 47.76	+26 51.0	2.262	3.224	4.3	20.0	1 2	7 49.56	+26 42.0	1.653	2.616	5.5	20.2
1 12	7 39.15	+27 47.2	2.249	3.228	1.9	19.8	1 12	7 39.44	+27 1.4	1.637	2.617	2.1	20.0
1 22	7 30.29	+28 36.5	2.267	3.233	4.0	20.0	1 22	7 29.09	+27 12.6	1.650	2.619	4.7	20.2
2 1	7 22.15	+29 16.2	2.314	3.237	7.2	20.2	2 1	7 19.83	+27 13.9	1.690	2.621	8.8	20.4
2 11	7 15.57	+29 45.2	2.388	3.241	10.2	20.4	2 11	7 12.79	+27 5.9	1.756	2.623	12.6	20.7
2 21	7 11.13	+30 4.1	2.485	3.246	12.8	20.6	2 21	7 8.60	+26 50.3	1.843	2.625	15.8	20.9
<b>206833</b>	2004 <i>EU</i> <sub>49</sub>		1 13.6	5°71	0°5/13.4	18	<b>515049</b>	2010 <i>FL</i>		1 13.6	218°71	3°8/11.9	18
12 13	8 0.41	+21 29.3	2.136	2.978	11.6	20.4	12 13	8 16.26	+30 18.9	2.301	3.118	11.8	24.3
12 23	7 55.01	+21 58.3	2.063	2.978	8.3	20.2	12 23	8 6.74	+31 25.3	2.203	3.103	8.7	24.1
1 2	7 47.67	+22 31.4	2.015	2.979	4.6	20.0	1 2	7 54.43	+32 29.8	2.134	3.086	5.6	23.8
1 12	7 39.15	+23 5.2	1.996	2.979	0.8	19.7	1 12	7 40.18	+33 25.4	2.097	3.066	3.8	23.7
1 22	7 30.39	+23 36.2	2.007	2.980	3.5	19.9	1 22	7 25.22	+34 5.8	2.093	3.045	5.7	23.8
2 1	7 22.41	+24 2.0	2.047	2.981	7.3	20.2	2 1	7 11.00	+34 28.1	2.121	3.021	9.0	23.9
2 11	7 16.11	+24 21.2	2.114	2.982	10.7	20.4	2 11	6 58.84	+34 33.3	2.177	2.996	12.4	24.1
2 21	7 12.07	+24 33.7	2.203	2.983	13.6	20.6	2 21	6 49.60	+34 24.9	2.256	2.968	15.2	24.3
<b>123205</b>	2000 <i>UZ</i> <sub>27</sub>		1 13.6	70°65	5°9/15.6	18	<b>66202</b>	1999 <i>BJ</i> <sub>21</sub>		1 13.6	142°79	4°9/12.3	18
12 13	8 1.84	+ 6 11.5	1.877	2.683	14.4	19.6	12 13	8 10.50	+35 21.9	1.996	2.828	12.7	18.2
12 23	7 56.07	+ 5 32.5	1.807	2.688	11.4	19.4	12 23	8 2.41	+35 45.5	1.933	2.835	9.6	18.0
1 2	7 48.26	+ 5 8.7	1.760	2.692	8.3	19.3	1 2	7 51.80	+36 0.1	1.895	2.842	6.5	17.9
1 12	7 39.24	+ 5 1.3	1.741	2.697	6.1	19.1	1 12	7 39.76	+36 0.0	1.885	2.848	4.9	17.8
1 22	7 30.01	+ 5 9.7	1.749	2.701	6.5	19.2	1 22	7 27.67	+35 42.6	1.905	2.854	6.4	17.9
2 1	7 21.66	+ 5 31.9	1.784	2.706	9.1	19.3	2 1	7 16.90	+35 8.3	1.953	2.860	9.3	18.1
2 11	7 15.12	+ 6 4.1	1.845	2.710	12.2	19.5	2 11	7 8.54	+34 20.7	2.027	2.865	12.4	18.3
2 21	7 10.96	+ 6 42.0	1.928	2.715	15.0	19.7	2 21	7 3.17	+33 24.5	2.123	2.870	15.1	18.5



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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>433136</b>	2012	<i>TR</i> <sub>212</sub>	1 13.7 110°34	4°3/15.9 18			<b>116262</b>	2003	<i>YJ</i> <sub>32</sub>	1 13.7 282°10	2°3/12.5 18		
12 13	7 58.79	+ 6 27.6	2.434	3.233	11.8	21.2	12 13	8 1.68	+25 51.1	2.190	3.034	11.3	20.0
<b>56129</b>	1999	<i>CH</i> <sub>43</sub>	1 13.7 53°73	5°3/12.2 18			<b>401049</b>	2011	<i>UA</i> <sub>2</sub>	1 13.7 151°68	1°1/14.1 18		
12 13	8 8.45	+34 12.0	1.653	2.498	14.3	18.8	12 13	8 6.71	+17 21.9	2.025	2.852	12.8	22.3
<b>502418</b>	2015	<i>BB</i> <sub>256</sub>	1 13.7 161°65	0°4/13.8 18			<b>305896</b>	2009	<i>FN</i> <sub>29</sub>	1 13.7 304°19	1°2/13.2 18		
12 13	8 2.26	+20 6.5	2.339	3.172	11.1	21.4	12 13	8 4.47	+22 21.8	1.566	2.417	14.6	20.8
<b>5245</b>	Maslyakov		1 13.7 249°00	1°4/14.1 18			<b>313452</b>	2002	<i>RF</i> <sub>254</sub>	1 13.7 73°75	1°2/13.3 16		
12 13	8 5.99	+16 45.9	1.446	2.290	16.0	17.3	12 13	8 7.00	+23 30.2	1.593	2.440	14.6	21.4
<b>326450</b>	2001	<i>VZ</i> <sub>92</sub>	1 13.7 52°05	3°9/15.4 18			<b>84720</b>	2002	<i>WT</i> <sub>2</sub>	1 13.7 311°05	6°9/16.5 18		
12 13	8 2.96	+ 9 31.6	1.499	2.328	16.3	20.2	12 13	7 58.83	+ 0 54.3	2.190	2.970	13.5	19.4
<b>3977</b>	Maxine		1 13.7 183°73	5°6/15.9 18			<b>283022</b>	2007	<i>VA</i> <sub>234</sub>	1 13.7 58°00	10°6/17.7 18		
12 13	8 2.14	+ 4 3.5	2.294	3.080	12.8	17.0	12 13	8 1.77	- 9 9.3	2.211	2.928	15.2	20.2
<b>301143</b>	2008	<i>XJ</i> <sub>48</sub>	1 13.7 119°16	0°1/13.7 18			<b>347764</b>	2002	<i>CJ</i> <sub>53</sub>	1 13.7 349°02	11°7/21.5 18		
12 13	8 7.23	+19 10.7	1.864	2.697	13.4	21.0	12 13	7 59.25	-11 45.3	1.610	2.343	19.5	20.0
<b>148599</b>	2001	<i>RN</i> <sub>48</sub>	1 13.7 33°19	9°4/11.8 18			<b>191309</b>	2003	<i>HQ</i> <sub>30</sub>	1 13.7 222°78	2°7/12.4 17		
12 13	8 11.20	+42 9.0	1.348	2.191	17.0	19.0	12 13	8 4.77	+28 53.5	2.519	3.352	10.3	21.2
<b>233113</b>	2005	<i>SP</i> <sub>218</sub>	1 13.7 61°33	3°1/12.6 18			<b>499994</b>	2011	<i>OR</i> <sub>41</sub>	1 13.7 167°63	0°1/13.7 17		
12 13	8 7.27	+25 16.6	1.253	2.114	16.8	19.5	12 13	8 3.12	+22 28.1	2.924	3.750	9.3	21.8

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>131502</b>	2001 SW <sub>273</sub>	1 13.7 200°56	0°7/13.2	18			<b>251041</b>	2006 RM <sub>15</sub>	1 13.7 94°84	0°0/13.7	18		
12 13	7 57.23	+24 7.8	3.761	4.591	7.3	21.0	12 13	8 5.84	+20 48.9	1.719	2.561	13.9	20.8
12 23	7 52.15	+24 25.4	3.678	4.588	5.2	20.9	12 23	7 59.19	+20 57.5	1.658	2.573	10.0	20.6
1 2	7 45.95	+24 43.6	3.623	4.584	2.9	20.7	1 2	7 50.16	+21 10.5	1.622	2.585	5.6	20.4
1 12	7 39.09	+25 0.5	3.599	4.581	0.8	20.5	1 12	7 39.76	+21 24.5	1.613	2.596	0.8	20.0
1 22	7 32.10	+25 14.8	3.607	4.577	2.3	20.7	1 22	7 29.24	+21 36.3	1.634	2.608	3.9	20.3
2 1	7 25.52	+25 25.2	3.646	4.573	4.7	20.8	2 1	7 19.89	+21 44.2	1.683	2.619	8.4	20.6
2 11	7 19.87	+25 31.4	3.714	4.568	6.9	21.0	2 11	7 12.75	+21 47.4	1.757	2.630	12.3	20.9
2 21	7 15.53	+25 33.3	3.807	4.564	8.8	21.1	2 21	7 8.41	+21 46.3	1.854	2.641	15.5	21.1
<b>327946</b>	2007 EO <sub>37</sub>	1 13.7 315°02	6°6/16.3	18			<b>430741</b>	2004 HM <sub>56</sub>	1 13.7 259°67	7°7/18.3	17		
12 13	8 0.11	+3 31.1	1.821	2.622	15.0	20.4	12 13	7 58.36	-8 37.8	2.966	3.673	11.9	21.7
12 23	7 55.07	+3 12.0	1.741	2.616	12.1	20.2	12 23	7 53.25	-8 55.6	2.862	3.651	10.4	21.6
1 2	7 47.91	+3 12.0	1.684	2.610	9.1	20.0	1 2	7 46.72	-8 54.9	2.780	3.629	9.0	21.4
1 12	7 39.40	+3 32.2	1.652	2.604	6.8	19.9	1 12	7 39.27	-8 33.9	2.724	3.607	7.9	21.3
1 22	7 30.54	+4 11.4	1.648	2.599	7.0	19.9	1 22	7 31.51	-7 52.5	2.695	3.584	7.8	21.3
2 1	7 22.45	+5 6.1	1.670	2.593	9.5	20.0	2 1	7 24.13	-6 52.4	2.694	3.561	8.7	21.3
2 11	7 16.12	+6 10.8	1.718	2.588	12.7	20.2	2 11	7 17.79	-5 37.3	2.720	3.537	10.2	21.4
2 21	7 12.22	+7 19.9	1.788	2.583	15.7	20.4	2 21	7 12.98	-4 12.1	2.769	3.513	12.0	21.5
<b>209775</b>	2005 EG <sub>325</sub>	1 13.7 21°57	1°5/14.2	18			<b>180887</b>	2005 JY <sub>124</sub>	1 13.7 93°33	6°8/16.9	18		
12 13	8 3.52	+16 56.8	1.443	2.292	15.7	20.9	12 13	8 3.11	+1 25.7	1.878	2.663	15.3	20.4
12 23	7 57.94	+17 5.9	1.378	2.295	11.5	20.6	12 23	7 56.93	+1 14.1	1.822	2.684	12.3	20.3
1 2	7 49.64	+17 25.1	1.335	2.297	6.7	20.3	1 2	7 48.80	+1 23.1	1.788	2.705	9.3	20.1
1 12	7 39.67	+17 51.5	1.318	2.300	1.9	20.0	1 12	7 39.56	+1 52.9	1.780	2.725	7.1	20.1
1 22	7 29.40	+18 21.1	1.329	2.303	4.5	20.2	1 22	7 30.24	+2 41.2	1.801	2.745	7.1	20.1
2 1	7 20.32	+18 50.2	1.366	2.307	9.4	20.5	2 1	7 21.88	+3 43.6	1.849	2.765	9.2	20.3
2 11	7 13.66	+19 16.1	1.427	2.311	13.9	20.8	2 11	7 15.35	+4 54.3	1.923	2.784	11.9	20.5
2 21	7 10.12	+19 37.3	1.509	2.315	17.6	21.0	2 21	7 11.18	+6 7.7	2.020	2.803	14.6	20.7
<b>262959</b>	2007 DN <sub>84</sub>	1 13.7 77°51	0°4/13.6	18			<b>456209</b>	2006 JP <sub>45</sub>	1 13.7 94°19	1°8/14.8	18		
12 13	8 4.69	+22 21.9	1.830	2.673	13.2	20.8	12 13	8 0.68	+12 49.2	2.598	3.413	10.7	21.6
12 23	7 58.32	+22 25.5	1.763	2.678	9.5	20.6	12 23	7 54.83	+13 22.9	2.539	3.436	7.8	21.5
1 2	7 49.66	+22 31.5	1.720	2.683	5.3	20.4	1 2	7 47.52	+14 5.3	2.507	3.459	4.7	21.3
1 12	7 39.66	+22 36.9	1.706	2.688	0.8	20.0	1 12	7 39.38	+14 54.0	2.504	3.482	2.0	21.1
1 22	7 29.49	+22 39.1	1.720	2.694	3.9	20.3	1 22	7 31.16	+15 46.0	2.533	3.504	3.0	21.2
2 1	7 20.38	+22 36.8	1.763	2.699	8.1	20.6	2 1	7 23.62	+16 38.2	2.593	3.526	6.0	21.5
2 11	7 13.35	+22 29.9	1.832	2.704	11.9	20.8	2 11	7 17.43	+17 28.0	2.681	3.548	8.8	21.7
2 21	7 8.99	+22 19.1	1.923	2.709	15.1	21.0	2 21	7 13.03	+18 13.5	2.794	3.569	11.2	21.9
<b>48872</b>	1998 HY <sub>98</sub>	1 13.7 169°38	2°1/14.4	18			<b>171326</b>	2006 JA <sub>1</sub>	1 13.7 198°16	4°1/14.9	18		
12 13	8 7.43	+14 56.9	1.836	2.661	14.0	20.1	12 13	8 5.64	+10 34.6	2.028	2.838	13.4	20.6
12 23	8 0.27	+15 4.0	1.763	2.666	10.3	19.9	12 23	7 58.85	+10 3.8	1.946	2.836	10.2	20.4
1 2	7 50.77	+15 20.8	1.714	2.671	6.2	19.7	1 2	7 49.95	+9 43.3	1.888	2.832	6.9	20.2
1 12	7 39.83	+15 44.8	1.695	2.674	2.4	19.4	1 12	7 39.76	+9 33.7	1.860	2.828	4.3	20.0
1 22	7 28.63	+16 13.0	1.705	2.677	4.1	19.6	1 22	7 29.27	+9 34.2	1.860	2.823	5.1	20.0
2 1	7 18.41	+16 42.4	1.744	2.679	8.3	19.8	2 1	7 19.59	+9 43.3	1.891	2.817	8.3	20.2
2 11	7 10.25	+17 10.5	1.810	2.680	12.2	20.1	2 11	7 11.69	+9 58.7	1.948	2.811	11.7	20.4
2 21	7 4.79	+17 35.9	1.899	2.680	15.5	20.3	2 21	7 6.19	+10 17.9	2.027	2.804	14.7	20.6
<b>419305</b>	2009 WO <sub>59</sub>	1 13.7 202°11	1°4/13.1	18			<b>53982</b>	2000 GG <sub>74</sub>	1 13.7 12°18	3°2/12.5	18 R		
12 13	8 3.14	+23 48.0	2.105	2.946	11.8	21.3	12 13	8 5.20	+27 48.9	1.680	2.530	13.8	18.6
12 23	7 57.12	+24 25.0	2.030	2.944	8.5	21.1	12 23	7 59.08	+28 33.4	1.613	2.531	10.0	18.4
1 2	7 49.00	+25 4.4	1.980	2.943	4.7	20.8	1 2	7 50.28	+29 17.4	1.570	2.531	6.0	18.2
1 12	7 39.57	+25 42.2	1.959	2.941	1.5	20.6	1 12	7 39.81	+29 54.5	1.555	2.532	3.2	18.0
1 22	7 29.85	+26 14.4	1.969	2.939	3.9	20.8	1 22	7 29.03	+30 19.6	1.568	2.532	5.6	18.1
2 1	7 20.95	+26 38.4	2.007	2.936	7.7	21.0	2 1	7 19.39	+30 30.4	1.608	2.533	9.6	18.4
2 11	7 13.83	+26 53.4	2.072	2.934	11.2	21.2	2 11	7 12.11	+30 27.6	1.673	2.534	13.4	18.6
2 21	7 9.13	+27 0.2	2.160	2.931	14.1	21.4	2 21	7 7.91	+30 13.8	1.758	2.535	16.6	18.8
<b>288338</b>	2004 BW <sub>89</sub>	1 13.7 71°62	0°2/13.8	18			<b>243056</b>	2007 DV <sub>22</sub>	1 13.7 127°61	1°9/12.9	18		
12 13	8 4.25	+21 57.7	2.192	3.027	11.6	20.2	12 13	8 5.19	+26 6.2	2.095	2.935	11.9	21.3
12 23	7 57.65	+21 37.4	2.121	3.032	8.4	20.0	12 23	7 58.50	+26 30.7	2.030	2.944	8.6	21.1
1 2	7 49.15	+21 18.2	2.076	3.038	4.7	19.8	1 2	7 49.72	+26 54.7	1.991	2.953	4.9	20.9
1 12	7 39.59	+20 58.6	2.060	3.043	0.7	19.5	1 12	7 39.71	+27 14.3	1.981	2.961	1.9	20.7
1 22	7 29.92	+20 37.8	2.075	3.048	3.3	19.7	1 22	7 29.56	+27 26.3	2.001	2.969	4.1	20.8
2 1	7 21.17	+20 15.4	2.119	3.053	7.1	20.0	2 1	7 20.39	+27 29.4	2.050	2.977	7.7	21.1
2 11	7 14.18	+19 51.9	2.191	3.059	10.4	20.2	2 11	7 13.14	+27 24.0	2.125	2.984	11.1	21.3
2 21	7 9.47	+19 27.8	2.286	3.064	13.2	20.4	2 21	7 8.36	+27 11.6	2.224	2.991	13.9	21.5
<b>323476</b>	2004 LD <sub>7</sub>	1 13.7 120°88	3°2/14.9	18			<b>304106</b>	2006 HX <sub>91</sub>	1 13.7 28°07	1°5/13.1	18		
12 13	8 4.34	+10 52.1	2.523	3.326	11.3	21.2	12 13	8 4.12	+21 31.3	1.390	2.247	15.8	20.0
12 23	7 57.37	+10 31.6	2.461	3.348	8.5	21.1	12 23	7 58.61	+22 30.9	1.328	2.250	11.3	19.8
1 2	7 48.87	+10 19.9	2.426	3.369	5.6	20.9	1 2	7 50.15	+23 38.5	1.289	2.254	6.3	19.5
1 12	7 39.54	+10 16.6	2.421	3.390	3.4	20.8	1 12	7 39.81	+24 46.9	1.276	2.258	1.6	19.2
1 22	7 30.18	+10 20.7	2.447	3.409	4.0	20.9	1 22	7 29.08	+25 48.7	1.290	2.262	5.1	19.5
2 1	7 21.61	+10 30.7	2.503	3.428	6.6	21.1	2 1	7 19.61	+26 38.4	1.331	2.267	10.1	19.8
2 11	7 14.51	+10 44.7	2.588	3.447	9.3	21.3	2 11	7 12.75	+27 14.1	1.396	2.272	14.6	20.0
2 21	7 9.34	+11 0.8	2.697	3.464	11.7	21.5	2 21	7 9.25	+27 36.4	1.480	2.277	18.3	20.3
<b>54958</b>	2001 PK <sub>8</sub>	1 13.7 156°50	5°3/11.9	18			<b>248752</b>	2006 RM <sub>14</sub>	1 13.7 38°65	7°5/17.4	18		
12 13	8 11.32	+33 10.7	1.734	2.574	14.0	19.7	12 13	7 58.46	-1 39.0	2.179	2.947	13.9	20.2
12 23	8 3.49	+34 9.4	1.673	2.581	10.5	19.5	12 23	7 53.54	-2 6.7	2.109	2.953	11.6	20.1
1 2	7 52.71	+35 1.8	1.636	2.587	7.0	19.4	1 2	7 46.92	-2 14.9	2.062	2.960	9.3	19.9
1 12	7 40.14	+35 40.0	1.628	2.593	5.3	19.3	1 12	7 39.31	-2 2.1	2.041	2.966	7.7	19.9
1 22	7 27.30	+35 58.6	1.647	2.598	7.1	19.4	1 22	7 31.52	-1 29.2	2.046	2.973	7.7	19.9
2 1	7 15.82	+35 56.4	1.695	2.602	10.5	19.6	2 1	7 24.42	-0 39.1	2.078	2.980	9.1	20.0
2 11	7 7.03	+35 36.3	1.767	2.606	13.9	19.8	2 11	7 18.79	+0 23.6	2.136	2.988	11.3	20.1
2 21	7 1.60	+35 3.3	1.859	2.609	16.8	20.0	2 21	7 15.14	+1 33.2	2.217	2.995	13.6	20.3

EPHEMERIDES

1 13.7

1 13.7

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>424781</b>	2008 <i>TU</i> <sub>129</sub>		1 13.7	7°29	5°6/11.7	18	<b>496584</b>	2015 <i>BH</i> <sub>76</sub>		1 13.7	29°53	1°2/13.1	18
12 13	8 5.54	+35 36.5	1.886	2.728	12.9	20.5	12 13	8 1.30	+22 13.1	1.996	2.841	12.2	21.0
12 23	7 59.22	+36 22.1	1.822	2.728	9.8	20.3	12 23	7 55.90	+23 3.6	1.927	2.844	8.7	20.8
1 2	7 50.30	+36 59.9	1.783	2.729	6.9	20.2	1 2	7 48.39	+23 58.8	1.884	2.847	4.8	20.6
1 12	7 39.82	+37 23.1	1.771	2.730	5.6	20.1	1 12	7 39.57	+24 53.9	1.869	2.851	1.3	20.3
1 22	7 29.11	+37 27.9	1.786	2.732	7.1	20.2	1 22	7 30.49	+25 44.1	1.884	2.855	3.9	20.5
2 1	7 19.58	+37 13.3	1.829	2.733	10.0	20.3	2 1	7 22.23	+26 25.9	1.927	2.859	7.8	20.8
2 11	7 12.40	+36 42.2	1.896	2.735	13.1	20.5	2 11	7 15.79	+26 57.8	1.997	2.863	11.4	21.0
2 21	7 8.20	+35 59.0	1.983	2.737	15.8	20.7	2 21	7 11.78	+27 19.9	2.089	2.868	14.3	21.2
<b>417213</b>	2005 <i>XY</i> <sub>86</sub>		1 13.7	350°03	2°5/12.8	18	<b>288883</b>	2004 <i>RR</i> <sub>245</sub>		1 13.7	186°96	0°5/13.5	18
12 13	8 3.74	+26 27.5	1.784	2.633	13.2	21.5	12 13	8 3.25	+21 33.7	2.100	2.939	11.9	21.4
12 23	7 57.90	+27 5.7	1.714	2.632	9.5	21.3	12 23	7 57.19	+21 58.6	2.025	2.939	8.6	21.2
1 2	7 49.58	+27 44.5	1.668	2.631	5.5	21.1	1 2	7 49.06	+22 27.5	1.976	2.938	4.8	20.9
1 12	7 39.72	+28 18.5	1.651	2.630	2.5	20.9	1 12	7 39.67	+22 56.7	1.955	2.938	0.8	20.6
1 22	7 29.55	+28 43.2	1.661	2.629	4.9	21.0	1 22	7 30.02	+23 22.9	1.964	2.937	3.6	20.8
2 1	7 20.41	+28 56.1	1.700	2.628	9.0	21.3	2 1	7 21.19	+23 43.8	2.003	2.936	7.5	21.1
2 11	7 13.43	+28 57.4	1.764	2.628	12.7	21.5	2 11	7 14.12	+23 58.3	2.068	2.934	11.0	21.3
2 21	7 9.29	+28 49.0	1.848	2.627	15.9	21.7	2 21	7 9.43	+24 6.5	2.156	2.933	14.0	21.5
<b>9496</b>	Ockels		1 13.7	32°14	0°1/13.7	18	<b>238894</b>	2005 <i>YZ</i> <sub>118</sub>		1 13.7	311°19	0°1/13.8	18
12 13	8 1.77	+20 18.1	1.931	2.774	12.6	17.9	12 13	8 3.48	+18 23.0	1.341	2.197	16.3	20.3
12 23	7 56.22	+20 43.6	1.861	2.776	9.1	17.7	12 23	7 58.37	+19 5.3	1.266	2.187	11.9	20.0
1 2	7 48.54	+21 14.5	1.816	2.779	5.0	17.4	1 2	7 50.17	+20 0.1	1.213	2.177	6.7	19.7
1 12	7 39.57	+21 47.3	1.800	2.783	0.7	17.1	1 12	7 39.88	+21 1.9	1.185	2.168	1.0	19.3
1 22	7 30.36	+22 18.4	1.812	2.786	3.6	17.4	1 22	7 28.95	+22 3.8	1.184	2.159	4.8	19.5
2 1	7 22.04	+22 44.8	1.853	2.789	7.8	17.6	2 1	7 19.12	+22 59.6	1.209	2.150	10.4	19.8
2 11	7 15.58	+23 5.2	1.921	2.793	11.4	17.9	2 11	7 11.89	+23 45.5	1.257	2.141	15.3	20.1
2 21	7 11.58	+23 19.3	2.010	2.797	14.5	18.1	2 21	7 8.15	+24 20.4	1.325	2.133	19.5	20.3
<b>297507</b>	2000 <i>WC</i> <sub>189</sub>		1 13.7	50°09	2°1/13.1	16	<b>143462</b>	2003 <i>BN</i> <sub>89</sub>		1 13.7	30°36	0°3/13.8	18
12 13	8 7.57	+24 40.2	1.230	2.091	17.1	20.6	12 13	8 3.28	+21 40.0	1.994	2.835	12.4	19.3
12 23	8 1.01	+25 11.4	1.189	2.113	12.2	20.3	12 23	7 57.11	+21 19.8	1.929	2.843	8.9	19.1
1 2	7 51.34	+25 44.3	1.170	2.135	6.8	20.1	1 2	7 48.94	+21 1.3	1.888	2.851	5.0	18.9
1 12	7 39.97	+26 11.9	1.177	2.158	2.2	19.9	1 12	7 39.64	+20 43.2	1.876	2.859	0.8	18.6
1 22	7 28.67	+26 29.5	1.209	2.181	5.5	20.2	1 22	7 30.27	+20 24.2	1.894	2.867	3.5	18.8
2 1	7 19.16	+26 35.0	1.268	2.205	10.5	20.5	2 1	7 21.88	+20 4.1	1.940	2.876	7.4	19.1
2 11	7 12.70	+26 29.6	1.350	2.229	14.9	20.8	2 11	7 15.37	+19 43.0	2.013	2.886	11.0	19.3
2 21	7 9.80	+26 15.9	1.451	2.253	18.4	21.1	2 21	7 11.26	+19 21.4	2.109	2.895	13.9	19.5
<b>197997</b>	2004 <i>RC</i> <sub>171</sub>		1 13.7	58°91	1°1/14.0	17	<b>84040</b>	2002 <i>PK</i> <sub>54</sub>		1 13.7	120°00	3°5/12.8	17
12 13	8 6.32	+18 14.7	1.300	2.152	16.9	20.3	12 13	8 11.56	+28 33.5	1.512	2.358	15.3	20.0
12 23	8 0.01	+18 22.6	1.249	2.168	12.2	20.1	12 23	8 3.71	+29 9.3	1.457	2.372	11.1	19.8
1 2	7 50.78	+18 39.5	1.221	2.184	6.9	19.8	1 2	7 52.84	+29 42.2	1.425	2.385	6.6	19.6
1 12	7 39.90	+19 1.7	1.218	2.201	1.6	19.5	1 12	7 40.23	+30 5.2	1.421	2.398	3.5	19.4
1 22	7 28.95	+19 24.8	1.243	2.217	4.6	19.8	1 22	7 27.52	+30 13.7	1.445	2.410	5.9	19.6
2 1	7 19.53	+19 45.7	1.293	2.234	9.8	20.1	2 1	7 16.38	+30 6.8	1.497	2.422	10.2	19.9
2 11	7 12.86	+20 2.3	1.367	2.251	14.3	20.5	2 11	7 8.10	+29 46.8	1.573	2.433	14.2	20.1
2 21	7 9.55	+20 14.1	1.461	2.268	18.0	20.7	2 21	7 3.31	+29 17.8	1.669	2.443	17.5	20.4
<b>445075</b>	2008 <i>TB</i> <sub>18</sub>		1 13.7	98°47	1°3/13.3	15	<b>151839</b>	2003 <i>GK</i> <sub>3</sub>		1 13.7	100°51	3°4/15.0	18
12 13	8 9.60	+23 19.7	1.573	2.417	14.9	21.8	12 13	8 2.21	+11 35.9	1.880	2.704	13.7	20.2
12 23	8 2.00	+23 49.6	1.524	2.440	10.7	21.6	12 23	7 56.50	+11 30.5	1.808	2.708	10.3	20.0
1 2	7 51.75	+24 21.9	1.498	2.462	5.9	21.4	1 2	7 48.69	+11 37.1	1.761	2.711	6.7	19.8
1 12	7 40.04	+24 51.0	1.501	2.483	1.5	21.2	1 12	7 39.62	+11 54.7	1.740	2.714	3.7	19.6
1 22	7 28.32	+25 12.7	1.532	2.504	4.6	21.4	1 22	7 30.32	+12 21.1	1.749	2.717	4.6	19.7
2 1	7 18.05	+25 25.0	1.592	2.524	9.1	21.7	2 1	7 21.88	+12 53.4	1.786	2.720	8.1	19.9
2 11	7 10.36	+25 28.2	1.676	2.544	13.1	22.0	2 11	7 15.27	+13 28.2	1.849	2.724	11.7	20.1
2 21	7 5.80	+25 23.9	1.782	2.563	16.3	22.3	2 21	7 11.08	+14 2.9	1.934	2.727	14.8	20.3
<b>201219</b>	2002 <i>QV</i> <sub>57</sub>		1 13.7	66°84	3°4/15.3	18	<b>173212</b>	1998 <i>SX</i> <sub>99</sub>		1 13.7	38°12	1°0/13.9	18
12 13	8 0.21	+10 0.5	2.074	2.892	12.9	20.4	12 13	8 5.05	+19 10.8	1.248	2.106	17.1	19.5
12 23	7 54.88	+10 9.7	2.006	2.901	9.7	20.3	12 23	7 59.08	+19 4.5	1.204	2.126	12.3	19.3
1 2	7 47.71	+10 31.7	1.962	2.909	6.4	20.1	1 2	7 50.23	+19 5.8	1.182	2.146	6.9	19.0
1 12	7 39.46	+11 5.3	1.946	2.918	3.7	19.9	1 12	7 39.83	+19 11.6	1.185	2.168	1.5	18.8
1 22	7 31.03	+11 47.5	1.959	2.926	4.3	20.0	1 22	7 29.49	+19 18.7	1.215	2.190	4.6	19.0
2 1	7 23.38	+12 35.1	2.001	2.935	7.4	20.2	2 1	7 20.76	+19 24.7	1.270	2.213	9.8	19.4
2 11	7 17.33	+13 24.3	2.070	2.944	10.6	20.4	2 11	7 14.82	+19 28.4	1.348	2.236	14.3	19.7
2 21	7 13.44	+14 12.1	2.162	2.953	13.5	20.6	2 21	7 12.18	+19 29.3	1.447	2.260	17.9	20.0
<b>124723</b>	2001 <i>SW</i> <sub>164</sub>		1 13.7	48°33	4°8/12.5	18	<b>393434</b>	2001 <i>SU</i> <sub>297</sub>		1 13.7	148°15	0°2/13.8	18
12 13	8 8.51	+29 45.1	1.205	2.068	17.2	19.2	12 13	8 8.21	+20 0.0	1.786	2.621	13.8	22.0
12 23	8 2.01	+30 35.2	1.160	2.083	12.6	19.0	12 23	8 0.90	+20 14.7	1.720	2.631	10.0	21.8
1 2	7 52.04	+31 21.1	1.138	2.099	7.7	18.7	1 2	7 51.16	+20 34.5	1.679	2.640	5.6	21.6
1 12	7 40.10	+31 53.7	1.140	2.115	4.8	18.6	1 12	7 39.99	+20 55.8	1.666	2.649	0.9	21.3
1 22	7 28.12	+32 7.4	1.168	2.131	7.3	18.8	1 22	7 28.63	+21 15.2	1.683	2.657	3.9	21.5
2 1	7 18.02	+32 1.0	1.220	2.148	11.7	19.1	2 1	7 18.39	+21 30.4	1.730	2.664	8.4	21.8
2 11	7 11.22	+31 38.0	1.295	2.165	16.0	19.4	2 11	7 10.36	+21 40.5	1.802	2.670	12.3	22.0
2 21	7 8.31	+31 3.5	1.389	2.183	19.5	19.7	2 21	7 5.15	+21 45.7	1.897	2.676	15.5	22.3
<b>194692</b>	2001 <i>X5</i> <sub>226</sub>		1 13.7	60°52	1°7/13.3	18	<b>451686</b>	2013 <i>BR</i> <sub>67</sub>		1 13.7	136°10	3°0/12.6	18
12 13	8 7.95	+24 15.7	1.302	2.159									

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
288752	2004 RQ <sub>67</sub>		1 13.7 148°89		3°3/12.7 18		496911	2001 ST <sub>188</sub>		1 13.7 147°69		5°1/11.5 18	
12 13	8 9.81	+28 56.5	1.725	2.567	13.9	20.9	12 13	8 7.28	+39 32.4	2.748	3.566	10.1	22.0
12 23	8 2.28	+29 30.6	1.661	2.575	10.1	20.7	12 23	7 59.80	+40 6.3	2.686	3.574	7.9	21.9
1 2	7 52.02	+30 1.8	1.623	2.581	6.1	20.5	1 2	7 50.40	+40 30.8	2.651	3.581	5.9	21.8
1 12	7 40.13	+30 23.9	1.612	2.588	3.4	20.3	1 12	7 39.91	+40 41.7	2.644	3.588	5.1	21.7
1 22	7 28.04	+30 32.9	1.630	2.593	5.5	20.5	1 22	7 29.34	+40 36.5	2.667	3.595	6.1	21.8
2 1	7 17.25	+30 27.4	1.676	2.599	9.5	20.7	2 1	7 19.71	+40 15.3	2.719	3.601	8.0	21.9
2 11	7 8.97	+30 9.4	1.748	2.603	13.2	21.0	2 11	7 11.89	+39 40.3	2.797	3.607	10.2	22.1
2 21	7 3.84	+29 42.3	1.840	2.608	16.4	21.2	2 21	7 6.40	+38 55.2	2.898	3.613	12.1	22.2
186898	2004 KW <sub>14</sub>		1 13.7 196°75		7°2/16.7 18		136110	2003 FZ <sub>60</sub>		1 13.7 134°22		1°8/14.5 18	
12 13	8 1.64	+0 9.9	2.153	2.926	14.0	21.3	12 13	8 2.52	+14 45.6	2.006	2.834	12.8	20.0
12 23	7 55.91	-0 22.9	2.073	2.924	11.5	21.1	12 23	7 56.67	+15 4.8	1.934	2.840	9.4	19.8
1 2	7 48.33	-0 37.7	2.017	2.922	9.1	21.0	1 2	7 48.79	+15 33.7	1.888	2.845	5.6	19.6
1 12	7 39.60	-0 32.7	1.986	2.919	7.4	20.9	1 12	7 39.70	+16 9.8	1.870	2.850	2.1	19.4
1 22	7 30.59	-0 8.3	1.983	2.916	7.5	20.9	1 22	7 30.37	+16 49.7	1.882	2.855	3.7	19.5
2 1	7 22.26	+0 33.0	2.008	2.913	9.2	21.0	2 1	7 21.87	+17 30.3	1.923	2.859	7.5	19.7
2 11	7 15.47	+1 27.0	2.059	2.910	11.7	21.1	2 11	7 15.12	+18 8.6	1.991	2.864	11.0	20.0
2 21	7 10.80	+2 28.4	2.133	2.906	14.2	21.3	2 21	7 10.71	+18 42.8	2.081	2.868	14.1	20.2
418930	2009 DG <sub>2</sub>		1 13.7 235°28		5°0/11.8 18		311056	2004 CX <sub>20</sub>		1 13.7 257°37		1°8/13.1 18	
12 13	8 6.86	+38 36.0	2.617	3.439	10.4	20.6	12 13	8 5.25	+24 44.1	1.789	2.635	13.3	21.4
12 23	7 59.62	+38 59.4	2.541	3.433	8.1	20.5	12 23	7 59.08	+25 15.4	1.709	2.626	9.6	21.2
1 2	7 50.35	+39 13.8	2.491	3.426	5.9	20.3	1 2	7 50.35	+25 48.7	1.654	2.617	5.5	20.9
1 12	7 39.89	+39 14.7	2.469	3.420	5.0	20.3	1 12	7 39.96	+26 19.3	1.627	2.608	1.9	20.7
1 22	7 29.26	+38 59.8	2.478	3.413	6.0	20.3	1 22	7 29.15	+26 42.7	1.629	2.599	4.6	20.8
2 1	7 19.57	+38 28.9	2.515	3.406	8.2	20.4	2 1	7 19.29	+26 56.2	1.659	2.589	8.9	21.1
2 11	7 11.71	+37 44.6	2.579	3.399	10.6	20.6	2 11	7 11.58	+26 59.5	1.714	2.580	12.9	21.3
2 21	7 6.25	+36 50.6	2.666	3.392	12.8	20.7	2 21	7 6.76	+26 54.2	1.790	2.570	16.3	21.5
454458	2014 OC <sub>44</sub>		1 13.7 335°21		1°0/14.1 18		132778	2002 PU <sub>108</sub>		1 13.7 62°74		0°6/13.4 18	
12 13	8 4.18	+17 35.5	1.493	2.340	15.4	21.8	12 13	8 1.65	+20 32.3	2.033	2.875	12.1	19.5
12 23	7 58.49	+17 55.6	1.422	2.338	11.3	21.5	12 23	7 56.10	+21 22.8	1.966	2.881	8.7	19.3
1 2	7 50.05	+18 25.7	1.374	2.337	6.4	21.2	1 2	7 48.51	+22 19.1	1.924	2.887	4.8	19.0
1 12	7 39.87	+19 2.2	1.353	2.336	1.5	20.9	1 12	7 39.67	+23 16.7	1.911	2.894	0.9	18.8
1 22	7 29.31	+19 40.2	1.360	2.334	4.4	21.1	1 22	7 30.58	+24 11.0	1.928	2.901	3.6	19.0
2 1	7 19.85	+20 15.9	1.393	2.333	9.4	21.4	2 1	7 22.32	+24 58.3	1.974	2.907	7.6	19.2
2 11	7 12.78	+20 46.4	1.451	2.332	13.9	21.6	2 11	7 15.81	+25 36.6	2.047	2.914	11.1	19.5
2 21	7 8.82	+21 10.5	1.530	2.332	17.6	21.9	2 21	7 11.67	+26 5.6	2.142	2.921	14.0	19.7
167060	2003 QZ <sub>87</sub>		1 13.7 10°55		2°0/14.3 18		231978	2001 QV <sub>173</sub>		1 13.7 247°72		6°5/16.9 18	
12 13	8 0.94	+16 16.7	1.122	1.987	18.1	18.9	12 13	7 59.06	-0 51.0	2.550	3.312	12.3	20.6
12 23	7 56.63	+16 23.7	1.065	1.989	13.3	18.6	12 23	7 53.92	-1 9.9	2.459	3.301	10.2	20.4
1 2	7 49.16	+16 44.5	1.029	1.993	7.8	18.3	1 2	7 47.20	-1 12.4	2.390	3.289	8.2	20.2
1 12	7 39.74	+17 15.8	1.016	1.997	2.5	18.0	1 12	7 39.48	-0 57.0	2.348	3.277	6.7	20.1
1 22	7 30.02	+17 52.5	1.028	2.004	5.1	18.2	1 22	7 31.47	-0 24.4	2.335	3.265	6.7	20.1
2 1	7 21.74	+18 29.6	1.064	2.011	10.7	18.5	2 1	7 23.96	+0 23.4	2.350	3.252	8.2	20.2
2 11	7 16.31	+19 3.1	1.122	2.019	15.7	18.8	2 11	7 17.68	+1 22.4	2.392	3.239	10.4	20.3
2 21	7 14.45	+19 30.5	1.199	2.029	19.8	19.1	2 21	7 13.16	+2 28.2	2.457	3.226	12.7	20.4
124174	2001 OR <sub>24</sub>		1 13.7 105°49		0°5/13.4 18		131315	2001 FK <sub>177</sub>		1 13.7 270°58		0°5/13.5 18	
12 13	7 58.18	+23 3.7	3.537	4.366	7.7	20.5	12 13	8 2.62	+21 54.6	2.060	2.900	12.0	21.5
12 23	7 52.84	+23 19.8	3.474	4.383	5.5	20.4	12 23	7 56.82	+22 12.4	1.981	2.896	8.7	21.3
1 2	7 46.37	+23 36.8	3.439	4.401	3.0	20.2	1 2	7 48.93	+22 33.6	1.929	2.892	4.8	21.0
1 12	7 39.30	+23 52.9	3.435	4.418	0.6	20.0	1 12	7 39.75	+22 55.1	1.904	2.887	0.8	20.7
1 22	7 32.17	+24 6.7	3.463	4.434	2.3	20.2	1 22	7 30.28	+23 13.7	1.910	2.883	3.6	20.9
2 1	7 25.54	+24 17.0	3.522	4.451	4.8	20.4	2 1	7 21.62	+23 27.3	1.944	2.878	7.6	21.2
2 11	7 19.95	+24 23.3	3.610	4.467	7.0	20.6	2 11	7 14.75	+23 35.1	2.005	2.874	11.2	21.4
2 21	7 15.73	+24 25.8	3.723	4.483	8.9	20.7	2 21	7 10.27	+23 37.4	2.088	2.870	14.2	21.6
473365	2015 TG <sub>303</sub>		1 13.7 64°99		3°8/12.8 17		50932	2000 GE <sub>68</sub>		1 13.7 37°58		9°1/10.4 18	
12 13	8 10.37	+28 58.3	1.346	2.200	16.3	20.7	12 13	8 8.83	+39 55.3	1.440	2.286	15.9	18.0
12 23	8 2.93	+29 32.8	1.304	2.223	11.8	20.5	12 23	8 2.41	+41 29.7	1.396	2.297	12.7	17.8
1 2	7 52.39	+30 3.2	1.285	2.246	7.0	20.3	1 2	7 52.43	+42 50.3	1.375	2.308	10.0	17.7
1 12	7 40.19	+30 22.4	1.292	2.269	3.8	20.2	1 12	7 40.28	+43 45.6	1.379	2.320	9.2	17.6
1 22	7 28.10	+30 26.1	1.326	2.292	6.2	20.4	1 22	7 27.90	+44 9.2	1.407	2.332	10.7	17.8
2 1	7 17.84	+30 14.0	1.387	2.315	10.6	20.7	2 1	7 17.29	+44 0.8	1.460	2.345	13.5	18.0
2 11	7 10.64	+29 49.2	1.471	2.338	14.6	21.0	2 11	7 9.98	+43 26.0	1.534	2.358	16.4	18.2
2 21	7 7.01	+29 15.9	1.575	2.360	17.9	21.3	2 21	7 6.64	+42 32.6	1.626	2.372	19.0	18.4
418371	2008 GU <sub>133</sub>		1 13.7 232°95		4°4/11.3 18		118158	5161 T <sub>-3</sub>		1 13.7 105°25		2°4/12.5 18	
12 13	8 6.34	+32 5.7	2.257	3.092	11.3	21.3	12 13	8 3.37	+26 27.6	2.257	3.096	11.2	19.7
12 23	7 59.68	+33 18.4	2.173	3.080	8.5	21.1	12 23	7 57.20	+27 22.2	2.196	3.109	8.0	19.5
1 2	7 50.64	+34 28.7	2.117	3.067	5.7	20.9	1 2	7 49.06	+28 17.1	2.161	3.121	4.7	19.3
1 12	7 39.98	+35 30.2	2.089	3.053	4.4	20.8	1 12	7 39.77	+29 7.3	2.156	3.134	2.4	19.2
1 22	7 28.80	+36 17.3	2.092	3.039	6.1	20.9	1 22	7 30.28	+29 48.7	2.181	3.146	4.3	19.4
2 1	7 18.34	+36 46.9	2.124	3.025	9.0	21.0	2 1	7 21.64	+30 18.8	2.236	3.157	7.5	19.6
2 11	7 9.73	+36 59.5	2.182	3.010	12.0	21.2	2 11	7 14.73	+30 37.5	2.318	3.169	10.6	19.8
2 21	7 7.37	+36 57.7	2.261	2.994	14.7	21.4	2 21	7 10.12	+30 45.8	2.422	3.180	13.1	20.0
412583	2014 OR <sub>39</sub>		1 13.7 60°75		3°8/13.1 18		431500	2007 TQ <sub>113</sub>		1 13.7 75°14		7°3/10.2 18	
12 13	8 12.58	+31 31.0	1.493	2.339	15.5	21.1	12 13	8 8.12	+42 13.2	2.232	3.052	12.0	20.9
12 23	8 4.17	+31 29.1	1.449	2.363	11.3	20.9	12 23	8 0.92	+43 32.0	2.191	3.072	9.6	20.8
1 2	7 52.92	+31 19.2	1.429	2.387	6.9	20.7	1 2	7 51.23	+44 38.4	2.175	3.093	7.8	20.7
1 12	7 40.26	+30 56.5	1.436	2.412	3.8	20.6	1 12	7 40.10	+45 25.4	2.187	3.113	7.3	20.7
1 22	7 27.89	+30 19.5	1.472	2.436	5.9	20.7	1 22	7 28.82	+45 48.9	2.227	3.133	8.3	20.8
2 1	7 17.37	+29 30.2	1.534	2.461	9.9	21.0	2 1	7 18.75	+45 48.9	2.293	3.153	10.3	21.0
2 11	7 9.82	+28 33.3	1.622	2.486	13.7	21.3	2 11	7 10.99	+45 28.7	2.383	3.172	12.4	21.1
2 21	7 5.68	+27 33.1	1.731	2.510	16.8	21.6	2 21	7 6.13	+44 53.2	2.493	3.192	14.2	21.3

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>453366</b>	2009 <i>BF</i> <sub>31</sub>		1 13.7 275°24	0°6/13.5	18		<b>480391</b>	2015 <i>KE</i> <sub>51</sub>		1 13.7 177°88	0°7/13.3	18	
12 13	8 4.86	+20 57.0	1.604	2.451	14.5	21.9	12 13	7 56.92	+23 44.6	3.998	4.826	6.9	21.7
12 23	7 59.08	+21 29.2	1.520	2.438	10.5	21.6	12 23	7 51.95	+24 4.9	3.918	4.827	4.9	21.6
<b>333197</b>	2012 <i>GF</i> <sub>4</sub>		1 13.7 177°99	0°8/14.0	18		<b>466752</b>	2015 <i>AJ</i> <sub>112</sub>		1 13.7 224°03	0°9/14.1	18	
12 13	8 3.39	+18 33.0	1.933	2.771	12.9	21.4	12 13	8 1.50	+17 49.8	2.245	3.077	11.5	21.7
12 23	7 57.41	+18 42.8	1.859	2.771	9.3	21.2	12 23	7 55.85	+18 2.7	2.165	3.074	8.4	21.5
<b>519065</b>	2010 <i>KB</i> <sub>113</sub>		1 13.7 219°86	5°2/16.2	17		<b>347499</b>	1998 <i>SV</i> <sub>2</sub>		1 13.7 77°66	6°2/13.6	17	
12 13	7 59.45	+3 41.8	2.570	3.353	11.7	21.5	12 13	8 28.54	+38 45.1	1.415	2.237	17.5	20.3
12 23	7 54.15	+3 23.5	2.484	3.348	9.4	21.3	12 23	8 15.41	+38 26.5	1.378	2.273	13.2	20.1
<b>464988</b>	2006 <i>BB</i> <sub>77</sub>		1 13.7 359°44	2°6/14.9	18		<b>394042</b>	2005 <i>WX</i> <sub>102</sub>		1 13.7 75°24	0°5/13.6	17	
12 13	7 59.13	+12 46.1	1.465	2.311	15.7	21.0	12 13	8 8.09	+20 11.1	1.330	2.181	16.7	20.8
12 23	7 54.87	+13 15.6	1.395	2.308	11.7	20.8	12 23	8 1.31	+20 51.0	1.283	2.202	11.9	20.6
<b>360097</b>	2013 <i>BS</i> <sub>63</sub>		1 13.7 241°32	0°8/14.1	18		<b>406469</b>	2007 <i>UL</i> <sub>56</sub>		1 13.7 164°09	0°3/13.9	18	
12 13	8 5.22	+17 24.7	1.843	2.677	13.5	21.3	12 13	8 6.49	+19 25.7	1.999	2.831	12.7	22.3
12 23	7 59.02	+17 53.4	1.753	2.664	9.9	21.1	12 23	7 59.56	+19 42.9	1.927	2.837	9.2	22.1
<b>340625</b>	2006 <i>QL</i> <sub>120</sub>		1 13.7 119°70	1°8/14.5	18		<b>86350</b>	1999 <i>XW</i> <sub>102</sub>		1 13.7 336°10	3°1/12.7	18	
12 13	8 1.10	+15 27.9	2.473	3.296	10.9	20.5	12 13	8 4.61	+24 37.4	1.185	2.053	17.1	18.7
12 23	7 55.31	+15 19.3	2.400	3.303	8.0	20.4	12 23	7 59.63	+25 40.2	1.119	2.046	12.5	18.4
<b>223770</b>	2004 <i>RH</i> <sub>300</sub>		1 13.7 14°77	2°0/13.0	18		<b>460357</b>	2014 <i>RU</i> <sub>45</sub>		1 13.7 119°11	0°1/13.8	18	
12 13	8 3.82	+25 29.5	1.771	2.620	13.3	20.3	12 13	8 5.00	+20 11.2	1.911	2.749	13.0	22.2
12 23	7 57.96	+25 58.1	1.703	2.621	9.6	20.1	12 23	7 58.53	+20 27.5	1.846	2.759	9.3	22.0
<b>153609</b>	2001 <i>SP</i> <sub>333</sub>		1 13.7 226°46	4°3/12.2	18		<b>302867</b>	2003 <i>HJ</i> <sub>4</sub>		1 13.7 211°74	1°2/13.3	18	
12 13	8 9.28	+30 7.5	1.636	2.483	14.3	20.8	12 13	8 7.60	+23 25.0	1.893	2.731	13.0	21.9
12 23	8 2.35	+31 0.4	1.562	2.476	10.6	20.5	12 23	8 0.66	+23 51.7	1.812	2.725	9.4	21.7
<b>234888</b>	2002 <i>TW</i> <sub>106</sub>		1 13.7 123°50	4°4/11.8	18		<b>31059</b>	1996 <i>TQ</i> <sub>5</sub>		1 13.8 144°55	4°6/12.1	18	
12 13	8 5.04	+34 15.8	2.345	3.179	11.0	20.5	12 13	8 9.34	+35 3.6	2.254	3.083	11.6	19.1
12 23	7 58.46	+35 1.3	2.282	3.186	8.3	20.4	12 23	8 1.54	+35 35.5	2.192	3.092	8.7	18.9

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>307641</b>	2003 <i>SK</i> <sub>130</sub>		1 13.8 107°83	8°8/17.7	18		<b>21403</b>	Haken		1 13.8 180°91	1°8/13.1	18	
12 13	8 4.43	− 3 1.5	1.854	2.615	16.3	21.4	12 13	8 7.24	+25 6.7	1.955	2.794	12.7	19.6
12 23	7 57.99	− 3 39.1	1.797	2.634	13.6	21.3	12 23	8 0.29	+25 37.2	1.882	2.795	9.1	19.4
1 2	7 49.52	− 3 53.1	1.761	2.653	11.0	21.1	1 2	7 50.97	+26 8.7	1.834	2.796	5.2	19.2
1 12	7 39.90	− 3 41.6	1.751	2.672	9.2	21.1	1 12	7 40.19	+26 36.4	1.815	2.796	1.9	19.0
1 22	7 30.17	− 3 5.4	1.767	2.690	9.0	21.1	1 22	7 29.12	+26 56.6	1.826	2.795	4.3	19.1
2 1	7 21.41	− 2 8.7	1.810	2.707	10.6	21.2	2 1	7 19.03	+27 7.2	1.866	2.794	8.3	19.4
2 11	7 14.53	− 0 57.5	1.878	2.724	12.9	21.4	2 11	7 10.99	+27 8.2	1.933	2.792	12.0	19.6
2 21	7 10.08	+ 0 21.0	1.968	2.740	15.3	21.6	2 21	7 5.67	+27 1.3	2.021	2.790	15.0	19.8
<b>335657</b>	2006 <i>QU</i> <sub>19</sub>		1 13.8 123°14	5°6/17.6	18		<b>99608</b>	2002 <i>GN</i> <sub>54</sub>		1 13.8 281°53	2°9/14.7	18	
12 13	7 59.16	− 1 8.4	2.802	3.557	11.5	20.6	12 13	8 2.40	+13 38.2	1.980	2.807	13.0	19.5
12 23	7 53.76	− 1 2.7	2.731	3.570	9.4	20.5	12 23	7 56.79	+13 22.2	1.890	2.792	9.8	19.3
1 2	7 47.03	− 0 40.9	2.685	3.584	7.4	20.4	1 2	7 49.04	+13 15.2	1.824	2.777	6.2	19.0
1 12	7 39.52	− 0 3.0	2.665	3.596	5.9	20.3	1 12	7 39.90	+13 16.7	1.787	2.763	3.1	18.8
1 22	7 31.90	+ 0 49.3	2.676	3.609	5.8	20.3	1 22	7 30.38	+13 25.2	1.778	2.748	4.3	18.8
2 1	7 24.83	+ 1 53.0	2.716	3.621	7.1	20.4	2 1	7 21.56	+13 39.0	1.798	2.733	8.0	19.0
2 11	7 18.94	+ 3 4.0	2.783	3.633	9.1	20.5	2 11	7 14.46	+13 55.9	1.844	2.718	11.7	19.2
2 21	7 14.65	+ 4 18.2	2.877	3.644	11.0	20.7	2 21	7 9.74	+14 13.8	1.913	2.703	15.0	19.4
<b>98497</b>	2000 <i>VL</i> <sub>5</sub>		1 13.8 19°58	1°6/14.2	18		<b>50964</b>	2000 <i>GF</i> <sub>85</sub>		1 13.8 235°33	5°1/11.2	18	
12 13	8 3.84	+17 29.9	1.275	2.132	16.9	19.2	12 13	8 6.71	+32 9.1	1.940	2.782	12.6	18.4
12 23	7 58.49	+17 30.2	1.215	2.135	12.4	18.9	12 23	8 0.29	+33 31.9	1.865	2.774	9.5	18.2
1 2	7 50.16	+17 40.7	1.177	2.140	7.2	18.6	1 2	7 51.17	+34 52.4	1.816	2.766	6.4	18.0
1 12	7 40.02	+17 58.3	1.163	2.145	2.0	18.3	1 12	7 40.24	+36 2.5	1.795	2.758	5.1	17.9
1 22	7 29.60	+18 19.4	1.175	2.150	4.8	18.5	1 22	7 28.76	+36 55.6	1.803	2.750	6.9	18.0
2 1	7 20.55	+18 40.4	1.213	2.157	10.1	18.8	2 1	7 18.17	+37 28.3	1.839	2.741	10.1	18.2
2 11	7 14.19	+18 58.8	1.274	2.164	14.8	19.1	2 11	7 9.76	+37 41.1	1.900	2.732	13.4	18.4
2 21	7 11.21	+19 13.3	1.355	2.171	18.7	19.4	2 21	7 4.35	+37 37.5	1.981	2.723	16.2	18.5
<b>49564</b>	1999 <i>CN</i> <sub>103</sub>		1 13.8 258°39	5°5/15.2	18		<b>492559</b>	2014 <i>OV</i> <sub>140</sub>		1 13.8 65°85	0°4/13.6	18	
12 13	8 3.70	+ 8 5.9	1.902	2.712	14.2	18.4	12 13	8 4.78	+19 35.0	1.514	2.363	15.1	21.0
12 23	7 57.68	+ 7 18.6	1.818	2.703	11.1	18.1	12 23	7 58.85	+20 22.2	1.457	2.375	10.9	20.8
1 2	7 49.49	+ 6 43.7	1.758	2.694	7.9	17.9	1 2	7 50.27	+21 17.7	1.423	2.387	6.0	20.5
1 12	7 39.92	+ 6 22.7	1.725	2.685	5.6	17.8	1 12	7 40.09	+22 15.8	1.416	2.399	0.9	20.2
1 22	7 29.99	+ 6 15.9	1.720	2.676	6.3	17.8	1 22	7 29.68	+23 10.3	1.437	2.411	4.3	20.5
2 1	7 20.84	+ 6 22.2	1.743	2.666	9.2	17.9	2 1	7 20.49	+23 56.7	1.486	2.424	9.1	20.8
2 11	7 13.49	+ 6 38.8	1.792	2.657	12.5	18.1	2 11	7 13.69	+24 32.8	1.560	2.436	13.4	21.1
2 21	7 8.58	+ 7 2.3	1.863	2.647	15.6	18.3	2 21	7 9.95	+24 58.6	1.654	2.449	16.8	21.3
<b>33492</b>	Christi Rogers		1 13.8 243°45	3°5/12.4	18		<b>449113</b>	2012 <i>XQ</i> <sub>60</sub>		1 13.8 268°75	2°3/12.9	18	
12 13	8 7.08	+27 20.7	1.614	2.464	14.3	18.2	12 13	8 6.92	+24 5.5	1.403	2.258	15.8	21.4
12 23	8 0.76	+28 19.6	1.539	2.457	10.5	18.0	12 23	8 0.95	+24 54.9	1.327	2.248	11.5	21.1
1 2	7 51.48	+29 19.7	1.489	2.450	6.3	17.7	1 2	7 51.75	+25 49.5	1.275	2.239	6.5	20.8
1 12	7 40.25	+30 13.7	1.466	2.442	3.5	17.5	1 12	7 40.35	+26 42.3	1.249	2.230	2.4	20.5
1 22	7 28.48	+30 54.9	1.471	2.435	6.0	17.6	1 22	7 28.33	+27 25.9	1.250	2.220	5.6	20.7
2 1	7 17.79	+31 19.5	1.503	2.427	10.3	17.9	2 1	7 17.47	+27 55.9	1.277	2.210	10.8	20.9
2 11	7 9.59	+31 27.9	1.560	2.419	14.3	18.1	2 11	7 9.33	+28 11.5	1.328	2.201	15.5	21.2
2 21	7 4.71	+31 22.8	1.636	2.411	17.8	18.3	2 21	7 4.82	+28 14.5	1.398	2.191	19.4	21.4
<b>263759</b>	2008 <i>KT</i> <sub>6</sub>		1 13.8 318°58	3°2/12.4	18		<b>469042</b>	2015 <i>AB</i> <sub>256</sub>		1 13.8 297°97	1°3/14.4	18	
12 13	8 4.11	+27 12.0	1.711	2.562	13.6	20.4	12 13	8 0.25	+15 20.3	2.136	2.968	12.0	20.7
12 23	7 58.43	+28 8.1	1.638	2.557	9.9	20.2	12 23	7 55.13	+15 55.1	2.052	2.960	8.8	20.5
1 2	7 50.09	+29 5.4	1.590	2.552	5.9	19.9	1 2	7 48.07	+16 39.9	1.994	2.952	5.2	20.3
1 12	7 40.03	+29 57.1	1.570	2.547	3.2	19.7	1 12	7 39.76	+17 31.7	1.964	2.945	1.6	20.0
1 22	7 29.53	+30 37.5	1.578	2.542	5.6	19.9	1 22	7 31.11	+18 26.8	1.964	2.938	3.4	20.1
2 1	7 20.05	+31 3.0	1.613	2.538	9.6	20.1	2 1	7 23.10	+19 21.3	1.993	2.930	7.2	20.4
2 11	7 12.82	+31 13.7	1.672	2.533	13.5	20.3	2 11	7 16.66	+20 12.0	2.049	2.923	10.7	20.6
2 21	7 8.60	+31 11.6	1.753	2.529	16.7	20.5	2 21	7 12.40	+20 56.9	2.129	2.916	13.8	20.8
<b>213706</b>	2002 <i>UZ</i>		1 13.8 131°36	4°6/11.6	18		<b>361131</b>	2006 <i>GH</i> <sub>26</sub>		1 13.8 303°54	9°0/16.2	18	
12 13	8 8.13	+31 29.4	1.971	2.809	12.6	20.3	12 13	8 1.78	+ 2 14.7	1.435	2.243	18.0	20.9
12 23	8 1.01	+32 43.9	1.913	2.821	9.3	20.1	12 23	7 57.02	+ 1 25.1	1.348	2.223	14.9	20.6
1 2	7 51.39	+33 54.7	1.881	2.833	6.1	19.9	1 2	7 49.49	+ 0 57.8	1.281	2.204	11.6	20.4
1 12	7 40.24	+34 54.4	1.877	2.844	4.6	19.8	1 12	7 40.02	+ 0 57.1	1.237	2.184	9.3	20.2
1 22	7 28.81	+35 37.5	1.904	2.854	6.3	20.0	1 22	7 29.86	+ 1 24.0	1.218	2.165	9.5	20.1
2 1	7 18.47	+36 1.9	1.958	2.864	9.4	20.2	2 1	7 20.49	+ 2 15.7	1.224	2.146	12.3	20.2
2 11	7 10.34	+36 8.8	2.039	2.873	12.5	20.4	2 11	7 13.31	+ 3 25.7	1.252	2.127	16.1	20.4
2 21	7 5.10	+36 1.6	2.140	2.882	15.1	20.6	2 21	7 9.23	+ 4 46.0	1.300	2.109	19.8	20.6
<b>51703</b>	2001 <i>KM</i> <sub>24</sub>		1 13.8 155°30	2°6/12.7	18		<b>151562</b>	2002 <i>TW</i> <sub>100</sub>		1 13.8 128°32	2°4/14.6	18	
12 13	8 6.92	+27 33.4	2.065	2.904	12.1	19.9	12 13	8 8.52	+14 36.8	1.628	2.457	15.3	20.9
12 23	7 59.94	+28 12.0	1.998	2.910	8.8	19.7	12 23	8 1.26	+14 39.0	1.567	2.472	11.2	20.6
1 2	7 50.71	+28 49.6	1.957	2.916	5.2	19.5	1 2	7 51.50	+14 51.9	1.530	2.486	6.8	20.4
1 12	7 40.13	+29 21.0	1.945	2.922	2.6	19.4	1 12	7 40.28	+15 13.2	1.521	2.500	2.7	20.2
1 22	7 29.33	+29 42.4	1.963	2.927	4.7	19.5	1 22	7 28.92	+15 39.5	1.541	2.513	4.4	20.3
2 1	7 19.51	+29 52.1	2.010	2.932	8.2	19.7	2 1	7 18.77	+16 7.7	1.589	2.525	8.8	20.6
2 11	7 11.69	+29 50.6	2.083	2.936	11.5	19.9	2 11	7 10.94	+16 35.1	1.663	2.537	12.8	20.9
2 21	7 6.49	+29 39.9	2.179	2.939	14.3	20.1	2 21	7 6.04	+16 59.9	1.759	2.547	16.2	21.1
<b>206796</b>	2004 <i>DQ</i> <sub>32</sub>		1 13.8 3°20	3°5/13.1	18		<b>291858</b>	2006 <i>OQ</i> <sub>16</sub>		1 13.8 224°07	1°5/14.4	18	
12 13	8 7.96	+32 20.0	1.877	2.718	13.0	19.5							



EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>10701</b>	1981 PF		1 13.8 121°28	3°6/15.5	18 R		<b>340641</b>	2006 QO <sub>159</sub>		1 13.8 152°03	1°8/14.9	17	
12 13	8 5.91	+ 8 46.9	2.008	2.812	13.7	19.1	12 13	7 59.82	+13 13.1	3.114	3.924	9.2	22.5
12 23	7 58.98	+ 9 9.7	1.947	2.834	10.4	19.0	12 23	7 54.20	+13 21.4	3.039	3.933	6.8	22.4
1 2	7 50.09	+ 9 46.9	1.911	2.855	6.8	18.8	1 2	7 47.31	+13 36.4	2.991	3.941	4.2	22.2
1 12	7 40.06	+10 36.4	1.904	2.875	3.9	18.7	1 12	7 39.68	+13 56.9	2.973	3.949	2.0	22.1
1 22	7 29.92	+11 34.4	1.927	2.894	4.5	18.7	1 22	7 31.93	+14 21.2	2.987	3.957	2.8	22.2
2 1	7 20.72	+12 36.6	1.981	2.912	7.7	19.0	2 1	7 24.70	+14 47.6	3.033	3.964	5.3	22.3
2 11	7 13.33	+13 38.6	2.062	2.929	11.0	19.2	2 11	7 18.56	+15 14.4	3.107	3.971	7.8	22.5
2 21	7 8.29	+14 37.3	2.166	2.946	13.8	19.4	2 21	7 13.93	+15 40.1	3.206	3.977	10.0	22.7
<b>110969</b>	2001 UE <sub>177</sub>		1 13.8 131°44	1°4/14.3	18		<b>279931</b>	2001 SK <sub>32</sub>		1 13.8 161°16	8°3/19.5	17	
12 13	8 4.32	+16 39.7	2.068	2.896	12.5	20.9	12 13	7 58.94	-11 43.3	3.022	3.705	12.2	21.4
12 23	7 57.90	+16 46.8	2.000	2.907	9.1	20.7	12 23	7 53.63	-12 11.2	2.947	3.710	10.8	21.3
1 2	7 49.52	+17 1.0	1.958	2.917	5.3	20.5	1 2	7 47.03	-12 20.0	2.893	3.715	9.4	21.2
1 12	7 39.98	+17 20.0	1.945	2.926	1.7	20.3	1 12	7 39.65	-12 7.7	2.864	3.720	8.5	21.1
1 22	7 30.29	+17 41.3	1.962	2.935	3.5	20.4	1 22	7 32.11	-11 34.5	2.861	3.724	8.3	21.1
2 1	7 21.47	+18 2.5	2.009	2.944	7.3	20.7	2 1	7 25.08	-10 42.3	2.884	3.728	8.9	21.2
2 11	7 14.44	+18 21.9	2.082	2.953	10.8	20.9	2 11	7 19.13	- 9 34.9	2.934	3.731	10.1	21.2
2 21	7 9.72	+18 38.5	2.179	2.961	13.7	21.1	2 21	7 14.70	- 8 17.1	3.006	3.734	11.5	21.4
<b>23170</b>	2000 GZ <sub>178</sub>		1 13.8 16°41	4°4/15.9	18		<b>124584</b>	2001 SN <sub>16</sub>		1 13.8 17°00	0°3/13.9	18	
12 13	8 0.43	+ 7 31.9	1.398	2.230	17.2	18.0	12 13	8 3.77	+19 11.8	1.150	2.015	17.8	19.2
12 23	7 55.88	+ 8 14.7	1.333	2.234	13.2	17.7	12 23	7 58.78	+19 34.9	1.093	2.018	12.9	18.9
1 2	7 48.71	+ 9 21.4	1.290	2.239	8.7	17.5	1 2	7 50.52	+20 8.5	1.056	2.022	7.3	18.6
1 12	7 39.89	+10 49.0	1.271	2.244	4.9	17.3	1 12	7 40.21	+20 47.2	1.044	2.027	1.2	18.2
1 22	7 30.70	+12 30.5	1.280	2.250	5.5	17.3	1 22	7 29.58	+21 25.2	1.057	2.033	5.0	18.5
2 1	7 22.57	+14 17.4	1.315	2.257	9.6	17.6	2 1	7 20.43	+21 57.5	1.095	2.039	10.7	18.8
2 11	7 16.71	+16 1.1	1.375	2.265	13.9	17.9	2 11	7 14.23	+22 21.8	1.155	2.047	15.8	19.1
2 21	7 13.85	+17 35.6	1.457	2.273	17.6	18.1	2 21	7 11.72	+22 37.5	1.233	2.055	19.9	19.4
<b>382220</b>	2012 QE <sub>30</sub>		1 13.8 316°63	1°6/14.4	18		<b>495530</b>	2014 WQ <sub>49</sub>		1 13.8 76°60	3°3/14.9	18	
12 13	8 1.63	+16 33.2	2.244	3.074	11.6	20.8	12 13	8 2.81	+12 9.8	1.860	2.685	13.8	21.4
12 23	7 55.93	+16 22.7	2.167	3.073	8.5	20.6	12 23	7 56.98	+12 1.2	1.794	2.694	10.4	21.2
1 2	7 48.42	+16 18.2	2.115	3.072	5.1	20.4	1 2	7 49.09	+12 4.1	1.753	2.704	6.6	21.0
1 12	7 39.82	+16 18.4	2.091	3.071	1.9	20.2	1 12	7 39.98	+12 17.4	1.739	2.714	3.5	20.8
1 22	7 31.03	+16 21.9	2.098	3.070	3.4	20.3	1 22	7 30.70	+12 38.9	1.754	2.723	4.5	20.9
2 1	7 22.97	+16 27.3	2.134	3.069	6.9	20.5	2 1	7 22.35	+13 5.8	1.798	2.733	8.0	21.1
2 11	7 16.47	+16 33.2	2.197	3.069	10.2	20.7	2 11	7 15.86	+13 35.3	1.867	2.742	11.5	21.4
2 21	7 12.08	+16 38.7	2.283	3.068	13.1	20.9	2 21	7 11.80	+14 4.7	1.959	2.752	14.6	21.6
<b>333812</b>	2012 BS <sub>132</sub>		1 13.8 340°09	0°3/13.8	18		<b>170203</b>	2003 OX <sub>23</sub>		1 13.8 105°59	3°6/15.1	18	
12 13	8 5.13	+23 47.4	1.219	2.084	17.0	19.0	12 13	8 5.75	+11 16.6	1.703	2.526	15.0	21.3
12 23	7 59.84	+22 57.2	1.142	2.067	12.4	18.7	12 23	7 59.18	+11 12.6	1.644	2.542	11.3	21.1
1 2	7 51.15	+22 4.4	1.086	2.052	7.1	18.4	1 2	7 50.33	+11 22.0	1.608	2.558	7.2	20.9
1 12	7 40.28	+21 7.5	1.055	2.038	1.1	17.9	1 12	7 40.17	+11 43.4	1.600	2.573	3.9	20.7
1 22	7 28.92	+20 7.0	1.049	2.025	5.1	18.2	1 22	7 29.89	+12 14.0	1.620	2.589	4.9	20.8
2 1	7 18.96	+19 5.1	1.069	2.014	11.0	18.5	2 1	7 20.70	+12 50.2	1.669	2.603	8.6	21.1
2 11	7 11.95	+18 5.0	1.112	2.004	16.2	18.7	2 11	7 13.62	+13 28.5	1.743	2.617	12.3	21.3
2 21	7 8.71	+17 9.0	1.173	1.996	20.6	19.0	2 21	7 9.22	+14 5.8	1.839	2.631	15.5	21.6
<b>119593</b>	2001 VA <sub>126</sub>		1 13.8 194°84	1°9/14.5	18		<b>207335</b>	2005 GD <sub>209</sub>		1 13.8 183°41	0°6/14.2	18	
12 13	8 3.51	+15 24.0	2.074	2.901	12.5	20.5	12 13	8 0.59	+16 46.2	2.810	3.632	9.7	20.8
12 23	7 57.42	+15 24.2	1.995	2.900	9.2	20.3	12 23	7 54.98	+17 28.5	2.728	3.632	7.1	20.6
1 2	7 49.32	+15 32.5	1.942	2.898	5.5	20.1	1 2	7 47.86	+18 17.5	2.673	3.632	4.0	20.4
1 12	7 39.97	+15 47.0	1.917	2.896	2.2	19.9	1 12	7 39.80	+19 10.4	2.649	3.631	0.9	20.2
1 22	7 30.36	+16 5.6	1.922	2.894	3.7	20.0	1 22	7 31.50	+20 4.1	2.657	3.631	2.7	20.3
2 1	7 21.53	+16 26.1	1.956	2.891	7.5	20.2	2 1	7 23.70	+20 55.5	2.696	3.629	5.8	20.5
2 11	7 14.42	+16 46.4	2.017	2.888	11.0	20.4	2 11	7 17.13	+21 42.6	2.764	3.628	8.7	20.7
2 21	7 9.62	+17 5.1	2.101	2.885	14.0	20.6	2 21	7 12.26	+22 24.0	2.857	3.626	11.1	20.9
<b>205957</b>	2002 JZ <sub>141</sub>		1 13.8 331°98	0°6/13.6	18		<b>182036</b>	2000 CV <sub>43</sub>		1 13.8 307°29	3°8/15.1	18	
12 13	8 4.20	+21 50.7	1.330	2.190	16.2	20.4	12 13	8 1.94	+11 36.3	1.559	2.394	15.5	19.0
12 23	7 58.96	+22 3.9	1.258	2.181	11.8	20.1	12 23	7 56.98	+11 31.4	1.473	2.378	11.8	18.7
1 2	7 50.59	+22 22.8	1.207	2.173	6.6	19.8	1 2	7 49.41	+11 41.2	1.410	2.362	7.7	18.5
1 12	7 40.20	+22 42.6	1.182	2.165	1.1	19.4	1 12	7 40.09	+12 5.1	1.373	2.347	4.2	18.2
1 22	7 29.31	+22 59.0	1.183	2.158	4.9	19.6	1 22	7 30.20	+12 40.7	1.362	2.332	5.3	18.2
2 1	7 19.65	+23 8.9	1.210	2.151	10.3	19.9	2 1	7 21.15	+13 24.0	1.379	2.318	9.5	18.5
2 11	7 12.69	+23 11.4	1.260	2.146	15.2	20.2	2 11	7 14.21	+14 10.6	1.419	2.304	13.9	18.7
2 21	7 9.23	+23 7.2	1.329	2.140	19.3	20.4	2 21	7 10.19	+14 56.5	1.481	2.290	17.8	18.9
<b>266390</b>	2007 EG <sub>139</sub>		1 13.8 106°33	2°8/12.7	18		<b>182448</b>	2001 SP <sub>38</sub>		1 13.8 148°84	6°4/16.8	18	
12 13	8 5.18	+27 37.8	1.968	2.811	12.4	21.0	12 13	8 2.19	+ 1 52.6	2.106	2.887	14.0	20.8
12 23	7 58.79	+28 18.1	1.904	2.818	9.0	20.8	12 23	7 56.39	+ 1 36.6	2.033	2.893	11.3	20.6
1 2	7 50.12	+28 57.4	1.866	2.826	5.3	20.5	1 2	7 48.73	+ 1 38.7	1.983	2.899	8.6	20.5
1 12	7 40.10	+29 30.5	1.856	2.833	2.8	20.4	1 12	7 39.96	+ 1 59.5	1.960	2.904	6.6	20.4
1 22	7 29.87	+29 53.5	1.876	2.840	4.8	20.5	1 22	7 30.97	+ 2 37.7	1.965	2.909	6.7	20.4
2 1	7 20.66	+30 4.3	1.924	2.848	8.4	20.8	2 1	7 22.71	+ 3 30.0	1.999	2.914	8.7	20.5
2 11	7 13.48	+30 3.7	1.998	2.855	11.8	21.0	2 11	7 16.05	+ 4 31.6	2.059	2.918	11.4	20.7
2 21	7 8.95	+29 53.5	2.094	2.861	14.6	21.2	2 21	7 11.54	+ 5 37.5	2.142	2.922	14.0	20.9
<b>183710</b>	2003 YR <sub>57</sub>		1 13.8 16°51	1°3/13.3	18		<b>402889</b>	2007 RJ <sub>324</sub>		1 13.8 192°98	1°9/12.9	18	
12 13	8 5.74	+21 33.3	1.155	2.020	17.7	20.0	12 13	8 7.67	+25 28.3	2.142			

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>357984</b> 2006 <i>CP</i> <sub>13</sub> 1 13.8 232°49 1 <sup>o</sup> 8/13.3 18							<b>106838</b> 2000 <i>YT</i> <sub>9</sub> 1 13.8 26°35 1°0/14.0 18						
12 13	8 8.41	+25 17.5	1.564	2.412	14.8	21.2	12 13	8 5.85	+19 48.1	1.338	2.192	16.4	19.0
12 23	8 1.65	+25 30.5	1.490	2.408	10.7	21.0	12 23	7 59.88	+19 32.7	1.277	2.197	11.9	18.8
1 2	7 51.98	+25 43.8	1.441	2.404	6.1	20.7	1 2	7 50.98	+19 23.1	1.239	2.203	6.8	18.5
1 12	7 40.48	+25 52.6	1.419	2.400	1.9	20.4	1 12	7 40.35	+19 16.9	1.226	2.209	1.5	18.2
1 22	7 28.63	+25 53.2	1.425	2.396	4.9	20.6	1 22	7 29.51	+19 11.9	1.240	2.215	4.6	18.4
2 1	7 18.01	+25 44.2	1.458	2.392	9.6	20.8	2 1	7 20.08	+19 6.3	1.280	2.222	9.8	18.7
2 11	7 9.94	+25 26.5	1.516	2.388	14.0	21.1	2 11	7 13.33	+18 59.6	1.344	2.230	14.4	19.0
2 21	7 5.15	+25 2.5	1.595	2.383	17.6	21.3	2 21	7 9.91	+18 51.6	1.428	2.238	18.2	19.3
<b>173943</b> 2001 <i>WC</i> <sub>62</sub> 1 13.8 304°99 3°3/15.1 18							<b>167132</b> 2003 <i>SX</i> <sub>162</sub> 1 13.8 153°34 0°4/13.9 18						
12 13	8 0.27	+11 18.6	2.305	3.121	11.8	20.1	12 13	8 6.36	+18 56.8	2.018	2.849	12.7	21.2
12 23	7 54.96	+10 58.7	2.222	3.116	9.0	19.9	12 23	7 59.51	+19 17.4	1.949	2.857	9.2	21.0
1 2	7 47.93	+10 48.2	2.164	3.110	5.9	19.7	1 2	7 50.53	+19 43.7	1.905	2.865	5.2	20.8
1 12	7 39.84	+10 46.8	2.135	3.105	3.5	19.5	1 12	7 40.27	+20 12.6	1.890	2.873	0.9	20.5
1 22	7 31.52	+10 53.8	2.134	3.100	4.3	19.6	1 22	7 29.80	+20 40.7	1.906	2.879	3.5	20.7
2 1	7 23.83	+11 7.3	2.164	3.095	7.1	19.8	2 1	7 20.25	+21 5.4	1.951	2.885	7.6	21.0
2 11	7 17.58	+11 25.4	2.220	3.090	10.2	19.9	2 11	7 12.58	+21 25.3	2.023	2.891	11.2	21.2
2 21	7 13.32	+11 45.8	2.299	3.085	12.9	20.1	2 21	7 7.40	+21 40.0	2.119	2.895	14.2	21.4
<b>518880</b> 2010 <i>EA</i> <sub>73</sub> 1 13.8 205°22 0°1/13.7 17							<b>431594</b> 2007 <i>VO</i> <sub>166</sub> 1 13.8 112°39 4°9/10.8 18						
12 13	8 1.40	+20 54.6	2.656	3.487	10.0	22.3	12 13	8 5.68	+36 56.8	2.755	3.578	9.9	21.4
12 23	7 55.65	+21 11.9	2.574	3.484	7.2	22.1	12 23	7 58.83	+38 8.9	2.704	3.597	7.6	21.3
1 2	7 48.27	+21 32.5	2.518	3.480	4.0	21.9	1 2	7 50.08	+39 14.0	2.680	3.615	5.6	21.2
1 12	7 39.90	+21 53.8	2.493	3.476	0.6	21.6	1 12	7 40.20	+40 6.9	2.686	3.633	4.9	21.2
1 22	7 31.30	+22 13.6	2.498	3.471	2.8	21.8	1 22	7 30.12	+40 43.9	2.723	3.650	6.0	21.3
2 1	7 23.31	+22 30.2	2.534	3.466	6.1	22.0	2 1	7 20.85	+41 3.9	2.788	3.667	8.0	21.4
2 11	7 16.66	+22 42.5	2.597	3.461	9.1	22.2	2 11	7 13.24	+41 8.1	2.880	3.684	10.1	21.6
2 21	7 11.87	+22 50.4	2.685	3.456	11.7	22.4	2 21	7 7.84	+40 59.4	2.993	3.700	11.9	21.7
<b>428386</b> 2007 <i>RB</i> <sub>299</sub> 1 13.8 116°66 2°3/12.9 18							<b>502139</b> 2015 <i>BC</i> <sub>26</sub> 1 13.8 232°41 1°8/13.1 18						
12 13	8 4.48	+28 15.2	2.338	3.175	10.9	21.3	12 13	8 3.44	+27 0.9	2.413	3.250	10.6	21.5
12 23	7 57.98	+28 32.1	2.270	3.182	7.9	21.2	12 23	7 57.27	+27 13.5	2.335	3.247	7.7	21.3
1 2	7 49.58	+28 46.6	2.230	3.189	4.6	21.0	1 2	7 49.23	+27 24.8	2.283	3.244	4.4	21.1
1 12	7 40.10	+28 55.4	2.218	3.196	2.3	20.8	1 12	7 40.08	+27 31.6	2.260	3.240	1.9	21.0
1 22	7 30.49	+28 55.9	2.237	3.203	4.1	20.9	1 22	7 30.72	+27 31.8	2.268	3.236	3.7	21.1
2 1	7 21.76	+28 47.6	2.285	3.209	7.2	21.2	2 1	7 22.12	+27 24.3	2.306	3.232	7.0	21.3
2 11	7 14.77	+28 31.1	2.361	3.216	10.3	21.4	2 11	7 15.15	+27 9.6	2.370	3.229	10.1	21.5
2 21	7 10.04	+28 8.2	2.459	3.222	12.8	21.6	2 21	7 10.34	+26 49.0	2.458	3.225	12.7	21.6
<b>219079</b> 1998 <i>HE</i> <sub>14</sub> 1 13.8 319°45 5°2/15.8 18							<b>163073</b> 2002 <i>AX</i> <sub>12</sub> 1 13.8 347°17 1°6/14.3 18						
12 13	8 0.65	+7 12.4	1.772	2.588	14.8	20.1	12 13	8 2.46	+16 47.3	1.227	2.086	17.3	20.1
12 23	7 55.70	+7 3.9	1.691	2.580	11.6	19.9	12 23	7 57.82	+16 57.8	1.158	2.080	12.7	19.8
1 2	7 48.54	+7 12.2	1.633	2.572	8.1	19.7	1 2	7 50.05	+17 21.0	1.111	2.074	7.4	19.5
1 12	7 39.96	+7 37.6	1.601	2.565	5.5	19.5	1 12	7 40.24	+17 53.5	1.088	2.070	2.1	19.1
1 22	7 31.00	+8 18.0	1.596	2.558	5.9	19.5	1 22	7 29.93	+18 30.6	1.091	2.066	4.9	19.3
2 1	7 22.82	+9 9.8	1.619	2.552	9.0	19.7	2 1	7 20.87	+19 7.4	1.118	2.063	10.5	19.6
2 11	7 16.45	+10 8.0	1.668	2.545	12.6	19.9	2 11	7 14.52	+19 40.1	1.168	2.061	15.5	19.9
2 21	7 12.58	+11 7.8	1.738	2.539	15.8	20.1	2 21	7 11.70	+20 6.8	1.237	2.060	19.8	20.1
<b>42432</b> 1134 <i>T</i> <sub>-3</sub> 1 13.8 166°30 1°0/14.1 18							<b>417724</b> 2007 <i>CD</i> <sub>29</sub> 1 13.8 247°31 1°3/13.4 17						
12 13	8 7.02	+18 33.7	1.866	2.699	13.4	20.3	12 13	8 6.21	+25 8.8	1.951	2.791	12.6	21.1
12 23	8 0.11	+18 30.9	1.794	2.703	9.8	20.1	12 23	7 59.62	+25 12.9	1.871	2.785	9.1	20.9
1 2	7 50.91	+18 33.7	1.746	2.706	5.6	19.8	1 2	7 50.69	+25 16.8	1.816	2.778	5.2	20.6
1 12	7 40.32	+18 39.7	1.727	2.709	1.4	19.5	1 12	7 40.31	+25 17.1	1.789	2.771	1.5	20.4
1 22	7 29.50	+18 46.6	1.738	2.711	3.8	19.7	1 22	7 29.65	+25 11.2	1.793	2.764	4.0	20.5
2 1	7 19.68	+18 52.7	1.778	2.713	8.0	20.0	2 1	7 19.93	+24 58.1	1.825	2.757	8.2	20.8
2 11	7 11.89	+18 56.9	1.844	2.715	11.9	20.2	2 11	7 12.22	+24 38.7	1.884	2.750	11.9	21.0
2 21	7 6.77	+18 58.9	1.932	2.715	15.1	20.4	2 21	7 7.19	+24 14.4	1.964	2.743	15.1	21.2
<b>343371</b> 2010 <i>CH</i> <sub>95</sub> 1 13.8 187°92 1°4/14.5 18							<b>1772</b> Gagarin 1 13.8 301°30 1°6/13.2 18 R						
12 13	8 0.56	+15 35.1	2.566	3.389	10.5	21.6	12 13	8 3.96	+22 51.3	1.593	2.445	14.4	16.4
12 23	7 55.05	+15 50.2	2.485	3.388	7.7	21.4	12 23	7 58.54	+23 38.3	1.514	2.434	10.4	16.1
1 2	7 47.94	+16 12.2	2.431	3.388	4.6	21.2	1 2	7 50.35	+24 31.3	1.459	2.423	5.9	15.8
1 12	7 39.86	+16 39.4	2.407	3.387	1.6	21.0	1 12	7 40.29	+25 24.5	1.430	2.412	1.7	15.5
1 22	7 31.56	+17 9.3	2.413	3.385	3.0	21.1	1 22	7 29.68	+26 11.7	1.430	2.402	4.8	15.7
2 1	7 23.85	+17 39.8	2.449	3.384	6.2	21.3	2 1	7 20.02	+26 48.6	1.457	2.391	9.6	15.9
2 11	7 17.47	+18 8.8	2.513	3.382	9.2	21.5	2 11	7 12.65	+27 13.5	1.508	2.381	13.9	16.2
2 21	7 12.94	+18 35.1	2.602	3.380	11.8	21.6	2 21	7 8.41	+27 27.1	1.580	2.371	17.6	16.4
<b>193829</b> 2001 <i>QX</i> <sub>38</sub> 1 13.8 143°63 0°8/13.5 18							<b>457229</b> 2008 <i>KB</i> <sub>40</sub> 1 13.8 185°85 1°7/14.6 18						
12 13	8 9.00	+21 56.9	1.830	2.666	13.5	21.6	12 13	8 2.63	+14 42.7	2.059	2.886	12.6	21.8
12 23	8 1.58	+22 30.6	1.767	2.679	9.7	21.4	12 23	7 56.88	+15 6.4	1.981	2.886	9.3	21.6
1 2	7 51.73	+23 8.2	1.728	2.690	5.4	21.2	1 2	7 49.11	+15 40.0	1.929	2.886	5.5	21.4
1 12	7 40.45	+23 44.8	1.719	2.701	1.1	20.9	1 12	7 40.08	+16 20.9	1.905	2.885	2.0	21.1
1 22	7 28.96	+24 16.1	1.740	2.712	4.0	21.1	1 22	7 30.76	+17 5.7	1.911	2.884	3.6	21.2
2 1	7 18.58	+24 39.5	1.790	2.721	8.3	21.4	2 1	7 22.18	+17 50.9	1.947	2.883	7.4	21.5
2 11	7 10.41	+24 54.3	1.866	2.730	12.1	21.7	2 11	7 15.29	+18 33.6	2.009	2.882	11.0	21.7
2 21	7 5.05	+25 1.4	1.965	2.737	15.3	21.9	2 21	7 10.70	+19 11.7	2.095	2.881	14.0	21.9
<b>247924</b> 2003 <i>WH</i> <sub>74</sub> 1 13.8 36°32 2°9/14.7 18							<b>302874</b> 2003 <i>HM</i> <sub>37</sub> 1 13.8 165°86 9°1/17.4 18						
12 13	8 2.65	+14 19.5	1.887	2.718	13.4	19.8	12 13	8 5.42	-6 15.4	2.318	3.042	14.4	22.0
12 23	7 56.86	+13 51.3	1.821	2.725	10.0	19.6	12 23	7 58.58	-7 14.1	2.245	3.050	12.4	21.8
1 2	7 49.03	+13 31.6	1.779	2.733	6.2	19.4	1 2	7 49.95	-7 52.7	2.195	3.056	10.5	21.7
1 12	7 40.03	+13 20.0	1.765	2.741	3.1	19.2	1 12	7 40.21	-8 8.0	2.170	3.061	9.3	21.6
1 22	7 30.88	+13 15.4	1.779	2.749	4.3	19.3	1 22	7 30.25	-7 59.4	2.173	3.066	9.2	21.6
2 1	7 22.68	+13 16.5	1.822	2.758	7.9	19.6	2 1	7 20.99	-7 28.6	2.203	3.069	10.3	21.7
2 11	7 16.31	+13 21.4	1.891	2.767	11.4	19.8	2 11	7 13.26	-6 40.0	2.258	3.072	12.2	21.8
2 21	7 12.35	+13 28.5	1.982	2.776	14.4	20.0	2 21	7 7.62	-5 39.4	2.336	3.073	14.1	22.0

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>468766</b>	2011 <i>MO</i> <sub>10</sub>		1 13.8 71°72'	0°8/14.3 18			<b>87018</b>	2000 <i>JL</i> <sub>63</sub>		1 13.8 194°44'	1°9/14.4 18		
12 13	8 12.34	+ 6 20.9	0.909	1.749	23.5	20.4	12 13	8 7.30	+16 6.5	1.853	2.681	13.7	20.3
<b>372085</b>	2008 <i>SR</i> <sub>52</sub>		1 13.8 120°84'	2°9/15.1 18			<b>461519</b>	2003 <i>SD</i> <sub>160</sub>		1 13.8 97°55'	0°4/13.9 18		
12 13	8 1.56	+11 34.3	2.209	3.026	12.2	21.6	12 13	8 4.18	+19 46.2	2.226	3.057	11.6	21.2
<b>262187</b>	2006 <i>SK</i> <sub>143</sub>		1 13.8 131°69'	2°1/14.7 18			<b>363873</b>	2005 <i>SG</i> <sub>37</sub>		1 13.8 132°31'	7°6/17.7 18		
12 13	8 5.38	+14 12.6	2.166	2.984	12.4	22.3	12 13	8 2.22	- 2 36.8	2.204	2.960	14.2	21.7
<b>398340</b>	2011 <i>QB</i> <sub>57</sub>		1 13.8 86°17'	2°0/14.5 18			<b>339551</b>	2005 <i>JZ</i> <sub>103</sub>		1 13.8 216°00'	0°3/13.9 17		
12 13	8 8.39	+15 26.6	1.579	2.412	15.5	21.7	12 13	8 1.25	+19 32.2	2.677	3.505	10.0	22.0
<b>322249</b>	2011 <i>CR</i> <sub>86</sub>		1 13.8 181°33'	1°3/14.3 18			<b>485453</b>	2011 <i>RK</i> <sub>2</sub>		1 13.8 44°81'	4°5/15.3 18		
12 13	8 2.89	+16 56.4	2.171	3.000	11.9	21.3	12 13	8 4.01	+10 34.0	1.355	2.192	17.3	21.0
<b>230829</b>	2004 <i>PB</i> <sub>21</sub>		1 13.8 241°02'	2°9/14.9 18			<b>420692</b>	2012 <i>KP</i> <sub>31</sub>		1 13.8 263°33'	0°6/14.1 16		
12 13	8 5.26	+12 33.6	1.661	2.489	15.0	21.1	12 13	8 3.21	+18 30.3	1.938	2.775	12.8	21.9
<b>187856</b>	2000 <i>GL</i> <sub>155</sub>		1 13.8 324°69'	5°9/15.7 18			<b>418592</b>	2008 <i>SY</i> <sub>242</sub>		1 13.8 354°39'	6°9/16.4 18		
12 13	8 1.63	+ 7 18.8	1.558	2.381	16.2	20.4	12 13	7 59.78	+ 3 5.6	1.857	2.655	14.9	20.3
<b>134446</b>	1998 <i>SE</i> <sub>80</sub>		1 13.8 60°98'	6°3/12.4 18			<b>100332</b>	1995 <i>QW</i> <sub>11</sub>		1 13.8 292°93'	0°6/13.9 18		
12 13	8 12.28	+35 55.3	1.487	2.332	15.6	19.4	12 13	8 4.77	+19 26.1	1.560	2.407	14.9	20.4
<b>156556</b>	2002 <i>EE</i> <sub>47</sub>		1 13.8 250°00'	0°3/13.7 18			<b>120253</b>	2004 <i>GO</i> <sub>14</sub>		1 13.8 170°03'	2°4/12.9 18		
12 13	8 3.48	+21 9.6	2.024	2.863	12.3	20.7	12 13	8 7.14	+27 56.4	2.120	2.957	11.9	20.6

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>486010</b>	2012 <i>QS</i> <sub>30</sub>	1 13.8 119°26' 0°8'/13.6 17											
12 13	8 12.93	+23 14.8	1.578	2.416	15.2	22.0	12 13	8 7.83	+17 43.2	1.659	2.495	14.7	21.5
12 23	8 4.56	+23 22.4	1.523	2.436	10.9	21.8	12 23	8 0.78	+18 7.7	1.608	2.519	10.6	21.3
1 2	7 53.47	+23 31.5	1.493	2.455	6.1	21.6	1 2	7 51.33	+18 40.1	1.581	2.542	6.0	21.1
1 12	7 40.85	+23 37.7	1.490	2.473	1.2	21.3	1 12	7 40.55	+19 16.5	1.582	2.564	1.3	20.8
1 22	7 28.23	+23 38.1	1.518	2.490	4.4	21.6	1 22	7 29.72	+19 52.6	1.612	2.586	3.9	21.1
2 1	7 17.12	+23 31.5	1.573	2.507	9.1	21.9	2 1	7 20.13	+20 25.0	1.671	2.608	8.4	21.4
2 11	7 8.67	+23 18.9	1.655	2.523	13.2	22.2	2 11	7 12.84	+20 51.8	1.756	2.629	12.3	21.7
2 21	7 3.46	+23 2.1	1.758	2.537	16.5	22.4	2 21	7 8.38	+21 12.6	1.862	2.650	15.5	21.9
<b>395455</b>	2011 <i>SE</i> <sub>272</sub>	1 13.8 160°81' 1°3'/13.3 18											
12 13	8 8.27	+23 26.5	1.937	2.773	12.9	21.8	12 13	8 6.66	+18 39.6	1.870	2.704	13.4	19.1
12 23	8 1.08	+24 0.5	1.868	2.780	9.3	21.6	12 23	8 0.14	+18 51.5	1.782	2.692	9.8	18.8
1 2	7 51.54	+24 37.0	1.824	2.786	5.2	21.4	1 2	7 51.16	+19 10.1	1.719	2.680	5.6	18.6
1 12	7 40.57	+25 11.2	1.810	2.791	1.4	21.1	1 12	7 40.56	+19 32.4	1.684	2.667	1.2	18.2
1 22	7 29.34	+25 39.1	1.825	2.796	4.1	21.3	1 22	7 29.49	+19 55.2	1.679	2.653	3.8	18.4
2 1	7 19.12	+25 58.2	1.871	2.800	8.2	21.6	2 1	7 19.22	+20 15.6	1.703	2.639	8.3	18.6
2 11	7 10.96	+26 8.2	1.943	2.804	11.8	21.8	2 11	7 10.92	+20 32.2	1.753	2.624	12.4	18.9
2 21	7 5.52	+26 10.3	2.037	2.806	14.9	22.0	2 21	7 5.34	+20 44.3	1.826	2.609	15.9	19.1
<b>10458</b>	Sfranke	1 13.8 232°68' 0°7'/14.1 18											
12 13	8 6.66	+18 39.6	1.870	2.704	13.4	19.1	12 13	8 3.59	+23 26.0	1.965	2.808	12.4	21.2
12 23	8 0.14	+18 51.5	1.782	2.692	9.8	18.8	12 23	7 57.66	+23 48.3	1.900	2.816	8.9	21.0
1 2	7 51.16	+19 10.1	1.719	2.680	5.6	18.6	1 2	7 49.60	+24 12.8	1.861	2.824	5.0	20.8
1 12	7 40.56	+19 32.4	1.684	2.667	1.2	18.2	1 12	7 40.29	+24 35.7	1.850	2.832	1.2	20.6
1 22	7 29.49	+19 55.2	1.679	2.653	3.8	18.4	1 22	7 30.80	+24 53.7	1.868	2.840	3.8	20.8
2 1	7 19.22	+20 15.6	1.703	2.639	8.3	18.6	2 1	7 22.27	+25 4.9	1.915	2.848	7.7	21.0
2 11	7 10.92	+20 32.2	1.753	2.624	12.4	18.9	2 11	7 15.64	+25 8.9	1.988	2.856	11.3	21.3
2 21	7 5.34	+20 44.3	1.826	2.609	15.9	19.1	2 21	7 11.49	+25 6.4	2.083	2.865	14.2	21.5
<b>276548</b>	2003 <i>SR</i> <sub>105</sub>	1 13.8 62°33' 1°1'/13.4 18											
12 13	8 3.59	+23 26.0	1.965	2.808	12.4	21.2	12 13	8 14.08	+28 25.8	1.408	2.255	16.2	21.7
12 23	7 57.66	+23 48.3	1.900	2.816	8.9	21.0	12 23	8 5.74	+29 14.8	1.364	2.280	11.7	21.5
1 2	7 49.60	+24 12.8	1.861	2.824	5.0	20.8	1 2	7 54.24	+30 0.6	1.344	2.304	7.0	21.3
1 12	7 40.29	+24 35.7	1.850	2.832	1.2	20.6	1 12	7 41.01	+30 35.1	1.351	2.327	3.8	21.1
1 22	7 30.80	+24 53.7	1.868	2.840	3.8	20.8	1 22	7 27.82	+30 53.1	1.385	2.350	6.2	21.3
2 1	7 22.27	+25 4.9	1.915	2.848	7.7	21.0	2 1	7 16.43	+30 53.4	1.447	2.372	10.5	21.6
2 11	7 15.64	+25 8.9	1.988	2.856	11.3	21.3	2 11	7 8.13	+30 39.1	1.533	2.393	14.5	21.9
2 21	7 11.49	+25 6.4	2.083	2.865	14.2	21.5	2 21	7 3.49	+30 14.6	1.639	2.414	17.8	22.2
<b>489429</b>	2006 <i>WM</i>	1 13.8 98°75' 3°8'/12.8 18											
12 13	8 14.08	+28 25.8	1.408	2.255	16.2	21.7	12 13	8 5.83	+28 16.8	1.933	2.776	12.6	20.8
12 23	8 5.74	+29 14.8	1.364	2.280	11.7	21.5	12 23	7 59.46	+28 46.6	1.861	2.775	9.2	20.6
1 2	7 54.24	+30 0.6	1.344	2.304	7.0	21.3	1 2	7 50.71	+29 14.7	1.815	2.774	5.5	20.4
1 12	7 41.01	+30 35.1	1.351	2.327	3.8	21.1	1 12	7 40.49	+29 36.1	1.796	2.773	2.9	20.2
1 22	7 27.82	+30 53.1	1.385	2.350	6.2	21.3	1 22	7 29.99	+29 47.1	1.807	2.772	4.9	20.3
2 1	7 16.43	+30 53.4	1.447	2.372	10.5	21.6	2 1	7 20.50	+29 46.1	1.846	2.771	8.6	20.5
2 11	7 8.13	+30 39.1	1.533	2.393	14.5	21.9	2 11	7 13.08	+29 34.1	1.910	2.769	12.1	20.7
2 21	7 3.49	+30 14.6	1.639	2.414	17.8	22.2	2 21	7 8.39	+29 13.4	1.997	2.768	15.1	21.0
<b>346111</b>	2007 <i>VQ</i> <sub>92</sub>	1 13.8 91°30' 1°6'/13.2 18											
12 13	8 5.14	+26 35.5	2.432	3.265	10.7	21.3	12 13	8 5.83	+28 16.8	1.933	2.776	12.6	20.8
12 23	7 58.31	+26 47.5	2.377	3.287	7.6	21.1	12 23	7 59.46	+28 46.6	1.861	2.775	9.2	20.6
1 2	7 49.77	+26 58.1	2.349	3.309	4.4	20.9	1 2	7 50.71	+29 14.7	1.815	2.774	5.5	20.4
1 12	7 40.30	+27 4.2	2.350	3.330	1.7	20.8	1 12	7 40.49	+29 36.1	1.796	2.773	2.9	20.2
1 22	7 30.84	+27 4.0	2.383	3.352	3.5	21.0	1 22	7 29.99	+29 47.1	1.807	2.772	4.9	20.3
2 1	7 22.29	+26 56.8	2.446	3.372	6.7	21.2	2 1	7 20.50	+29 46.1	1.846	2.771	8.6	20.5
2 11	7 15.41	+26 43.2	2.536	3.393	9.6	21.4	2 11	7 13.08	+29 34.1	1.910	2.769	12.1	20.7
2 21	7 10.68	+26 24.6	2.650	3.413	12.0	21.6	2 21	7 8.39	+29 13.4	1.997	2.768	15.1	21.0
<b>282861</b>	2007 <i>DQ</i> <sub>25</sub>	1 13.8 216°09' 2°8'/12.8 18											
12 13	8 5.83	+28 16.8	1.933	2.776	12.6	20.8	12 13	8 5.72	+28 26.3	1.916	2.760	12.7	20.1
12 23	7 59.46	+28 46.6	1.861	2.775	9.2	20.6	12 23	7 59.38	+28 54.3	1.846	2.760	9.2	19.9
1 2	7 50.71	+29 14.7	1.815	2.774	5.5	20.4	1 2	7 50.65	+29 20.2	1.801	2.760	5.5	19.6
1 12	7 40.49	+29 36.1	1.796	2.773	2.9	20.2	1 12	7 40.48	+29 39.3	1.783	2.760	2.9	19.5
1 22	7 29.99	+29 47.1	1.807	2.772	4.9	20.3	1 22	7 30.06	+29 47.9	1.795	2.761	4.9	19.6
2 1	7 20.50	+29 46.1	1.846	2.771	8.6	20.5	2 1	7 20.65	+29 44.6	1.836	2.761	8.6	19.8
2 11	7 13.08	+29 34.1	1.910	2.769	12.1	20.7	2 11	7 13.35	+29 30.3	1.901	2.761	12.1	20.0
2 21	7 8.39	+29 13.4	1.997	2.768	15.1	21.0	2 21	7 8.78	+29 7.6	1.989	2.761	15.1	20.2
<b>93652</b>	2000 <i>UW</i> <sub>97</sub>	1 13.8 44°37' 2°9'/12.8 18											
12 13	8 5.72	+28 26.3	1.916	2.760	12.7	20.1	12 13	8 14.42	+17 8.7	1.804	2.623	14.4	19.1
12 23	7 59.38	+28 54.3	1.846	2.760	9.2	19.9	12 23	8 5.07	+16 27.2	1.755	2.655	10.5	18.9
1 2	7 50.65	+29 20.2	1.801	2.760	5.5	19.6	1 2	7 53.52	+15 51.0	1.732	2.687	6.2	18.7
1 12	7 40.48	+29 39.3	1.783	2.760	2.9	19.5	1 12	7 40.89	+15 19.6	1.739	2.718	2.5	18.5
1 22	7 30.06	+29 47.9	1.795	2.761	4.9	19.6	1 22	7 28.47	+14 52.8	1.777	2.747	4.2	18.7
2 1	7 20.65	+29 44.6	1.836	2.761	8.6	19.8	2 1	7 17.48	+14 30.4	1.845	2.776	8.2	19.0
2 11	7 13.35	+29 30.3	1.901	2.761	12.1	20.0	2 11	7 8.87	+14 12.2	1.941	2.804	11.8	19.3
2 21	7 8.78	+29 7.6	1.989	2.761	15.1	20.2	2 21	7 3.07	+13 57.4	2.059	2.830	14.7	19.6
<b>89486</b>	2001 <i>XL</i> <sub>31</sub>	1 13.8 98°85' 2°2'/14.3 18											
12 13	8 14.42	+17 8.7	1.804	2.623	14.4	19.1	12 13	8 8.38	+28 36.9	1.608	2.456	14.4	18.5
12 23	8 5.07	+16 27.2	1.755	2.655	10.5	18.9	12 23	8 1.79	+29 5.5	1.533	2.449	10.6	18.2
1 2	7 53.52	+15 51.0	1.732	2.687	6.2	18.7	1 2	7 52.22	+29 32.2	1.481	2.441	6.4	18.0
1 12	7 40.89	+15 19.6	1.739	2.718	2.5	18.5	1 12	7 40.75	+29 50.5	1.456	2.433	3.4	17.8
1 22	7 28.47	+14 52.8	1.777	2.747	4.2	18.7	1 22	7 28.84	+29 55.9	1.459	2.425	5.7	17.9
2 1	7 17.48	+14 30.4	1.845	2.									

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>234787</b>	2002 QL <sub>4</sub>		1 13.8 102°12'		1°3'/13.4 18		<b>77083</b>	2001 DS <sub>34</sub>		1 13.8 239°42'		1°3'/14.4 18	
12 13	8 4.70	+25 9.7	2.228	3.065	11.4	20.5	12 13	8 4.42	+16 12.3	1.724	2.561	14.2	19.8
12 23	7 58.22	+25 18.2	2.162	3.075	8.2	20.3	12 23	7 58.62	+16 37.5	1.645	2.555	10.4	19.6
1 2	7 49.82	+25 26.4	2.123	3.085	4.6	20.1	1 2	7 50.35	+17 13.3	1.590	2.549	6.1	19.3
1 12	7 40.34	+25 31.4	2.113	3.094	1.4	19.9	1 12	7 40.47	+17 56.5	1.562	2.543	1.7	19.0
1 22	7 30.74	+25 31.0	2.133	3.104	3.6	20.0	1 22	7 30.16	+18 42.7	1.563	2.537	4.0	19.2
2 1	7 22.06	+25 24.3	2.182	3.113	7.1	20.3	2 1	7 20.71	+19 27.8	1.592	2.531	8.5	19.4
2 11	7 15.14	+25 11.7	2.259	3.122	10.3	20.5	2 11	7 13.30	+20 8.5	1.647	2.524	12.7	19.6
2 21	7 10.50	+24 54.4	2.359	3.131	13.0	20.7	2 21	7 8.67	+20 43.2	1.724	2.517	16.3	19.9
<b>170326</b>	2003 SE <sub>83</sub>		1 13.8 142°31'		0°6'/14.1 18		<b>265372</b>	2004 RD <sub>211</sub>		1 13.8 161°53'		0°2'/13.8 18	
12 13	8 6.80	+18 35.1	1.975	2.805	12.9	22.1	12 13	8 5.32	+22 2.3	2.521	3.348	10.5	21.2
12 23	7 59.89	+18 54.1	1.908	2.817	9.3	21.9	12 23	7 58.50	+22 6.4	2.447	3.355	7.6	21.0
1 2	7 50.84	+19 19.2	1.867	2.827	5.3	21.6	1 2	7 49.94	+22 12.2	2.400	3.361	4.2	20.8
1 12	7 40.51	+19 47.2	1.855	2.838	1.1	21.4	1 12	7 40.38	+22 17.4	2.383	3.366	0.7	20.5
1 22	7 30.00	+20 14.7	1.873	2.847	3.5	21.6	1 22	7 30.68	+22 20.1	2.398	3.371	3.0	20.7
2 1	7 20.44	+20 39.2	1.921	2.856	7.6	21.8	2 1	7 21.73	+22 19.3	2.443	3.375	6.4	21.0
2 11	7 12.81	+20 59.2	1.996	2.864	11.3	22.1	2 11	7 14.33	+22 14.7	2.517	3.378	9.5	21.2
2 21	7 7.70	+21 14.2	2.094	2.872	14.3	22.3	2 21	7 8.97	+22 6.8	2.615	3.381	12.1	21.4
<b>232246</b>	2002 PT <sub>14</sub>		1 13.8 203°60'		0°3'/13.7 18		<b>453166</b>	2008 DE <sub>50</sub>		1 13.8 31°36'		7°6'/12.0 18	
12 13	8 3.55	+22 2.0	2.229	3.064	11.4	20.7	12 13	8 8.17	+34 55.1	1.074	1.943	18.5	19.2
12 23	7 57.48	+22 9.4	2.151	3.063	8.2	20.5	12 23	8 2.25	+36 2.0	1.044	1.965	13.9	19.1
1 2	7 49.48	+22 19.2	2.099	3.061	4.6	20.2	1 2	7 52.53	+36 56.5	1.035	1.988	9.7	18.9
1 12	7 40.30	+22 28.8	2.077	3.060	0.8	19.9	1 12	7 40.78	+37 27.9	1.049	2.013	7.6	18.9
1 22	7 30.89	+22 35.9	2.084	3.058	3.3	20.1	1 22	7 29.20	+37 30.7	1.087	2.039	9.5	19.1
2 1	7 22.27	+22 39.1	2.122	3.056	7.1	20.4	2 1	7 19.87	+37 6.2	1.148	2.066	13.3	19.3
2 11	7 15.31	+22 37.9	2.186	3.054	10.4	20.6	2 11	7 14.19	+36 20.9	1.229	2.095	17.0	19.7
2 21	7 10.58	+22 32.6	2.274	3.051	13.3	20.8	2 21	7 12.58	+35 22.6	1.329	2.123	20.2	20.0
<b>6202</b>	Georgemiley		1 13.8 45°70'		0°2'/13.9 18		<b>220633</b>	2004 QV <sub>19</sub>		1 13.8 78°23'		3°3'/15.0 18	
12 13	8 7.70	+20 24.0	1.112	1.974	18.4	17.2	12 13	8 4.19	+12 23.8	1.895	2.718	13.7	19.8
12 23	8 1.44	+20 31.5	1.072	1.996	13.2	16.9	12 23	7 57.95	+12 5.8	1.837	2.735	10.3	19.7
1 2	7 51.93	+20 46.3	1.053	2.018	7.4	16.7	1 2	7 49.71	+11 58.3	1.803	2.753	6.5	19.5
1 12	7 40.68	+21 3.4	1.058	2.041	1.2	16.3	1 12	7 40.36	+12 0.8	1.796	2.770	3.6	19.3
1 22	7 29.50	+21 18.4	1.089	2.065	4.9	16.7	1 22	7 30.92	+12 11.3	1.819	2.787	4.5	19.4
2 1	7 20.18	+21 28.5	1.145	2.089	10.5	17.1	2 1	7 22.47	+12 27.9	1.870	2.804	7.8	19.7
2 11	7 13.99	+21 33.0	1.223	2.113	15.2	17.4	2 11	7 15.89	+12 47.7	1.948	2.821	11.2	19.9
2 21	7 11.45	+21 32.2	1.321	2.138	19.1	17.7	2 21	7 11.70	+13 8.7	2.048	2.838	14.2	20.1
<b>311701</b>	2006 SP <sub>158</sub>		1 13.8 33°03'		1°7'/13.3 18		<b>37352</b>	2001 TW <sub>64</sub>		1 13.8 203°15'		1°4'/14.4 18	
12 13	8 5.57	+24 11.0	1.632	2.482	14.2	20.8	12 13	8 3.67	+16 26.7	1.959	2.791	12.9	19.1
12 23	7 59.54	+24 42.4	1.564	2.483	10.3	20.6	12 23	7 57.78	+16 39.1	1.881	2.789	9.5	18.9
1 2	7 50.86	+25 16.4	1.521	2.484	5.8	20.3	1 2	7 49.75	+16 59.7	1.829	2.787	5.6	18.7
1 12	7 40.54	+25 47.9	1.504	2.486	1.8	20.1	1 12	7 40.38	+17 26.2	1.804	2.785	1.7	18.4
1 22	7 29.90	+26 12.1	1.516	2.487	4.6	20.3	1 22	7 30.71	+17 55.5	1.809	2.783	3.6	18.6
2 1	7 20.38	+26 26.5	1.555	2.489	9.2	20.6	2 1	7 21.84	+18 24.7	1.843	2.780	7.7	18.8
2 11	7 13.19	+26 30.8	1.619	2.491	13.2	20.8	2 11	7 14.78	+18 51.6	1.904	2.778	11.4	19.0
2 21	7 9.02	+26 26.5	1.704	2.493	16.6	21.0	2 21	7 10.16	+19 14.8	1.987	2.775	14.6	19.2
<b>57943</b>	2002 JO <sub>41</sub>		1 13.8 189°62'		3°9'/12.4 18		<b>418992</b>	2009 ME <sub>3</sub>		1 13.8 141°50'		0°7'/14.1 18	
12 13	8 8.52	+29 51.1	1.841	2.683	13.2	19.4	12 13	8 5.42	+18 47.2	2.242	3.069	11.7	21.8
12 23	8 1.60	+30 42.0	1.771	2.682	9.7	19.2	12 23	7 58.69	+18 51.3	2.174	3.080	8.5	21.6
1 2	7 52.00	+31 30.5	1.725	2.681	6.1	19.0	1 2	7 50.10	+19 0.0	2.131	3.091	4.8	21.4
1 12	7 40.72	+32 10.0	1.707	2.680	3.9	18.9	1 12	7 40.42	+19 11.1	2.118	3.100	1.1	21.2
1 22	7 29.08	+32 35.5	1.719	2.678	5.8	19.0	1 22	7 30.61	+19 22.4	2.136	3.110	3.2	21.3
2 1	7 18.50	+32 44.6	1.758	2.676	9.5	19.2	2 1	7 21.64	+19 32.3	2.184	3.119	6.9	21.6
2 11	7 10.22	+32 38.7	1.823	2.673	13.0	19.4	2 11	7 14.36	+19 39.8	2.260	3.127	10.2	21.8
2 21	7 4.96	+32 20.8	1.909	2.670	16.1	19.6	2 21	7 9.29	+19 44.6	2.359	3.134	13.0	22.0
<b>294442</b>	2007 VV <sub>279</sub>		1 13.8 189°30'		0°1'/13.9 18		<b>78496</b>	2002 RH <sub>67</sub>		1 13.8 286°97'		0°0'/13.8 18	
12 13	8 6.48	+19 54.6	2.021	2.853	12.6	22.0	12 13	8 3.63	+21 39.4	2.140	2.977	11.8	19.1
12 23	7 59.76	+20 12.3	1.942	2.852	9.1	21.7	12 23	7 57.63	+21 33.8	2.058	2.970	8.5	18.9
1 2	7 50.84	+20 35.0	1.890	2.851	5.1	21.5	1 2	7 49.62	+21 30.4	2.001	2.963	4.8	18.7
1 12	7 40.54	+20 59.5	1.866	2.849	0.8	21.2	1 12	7 40.36	+21 27.1	1.973	2.956	0.8	18.4
1 22	7 29.92	+21 22.7	1.872	2.846	3.5	21.4	1 22	7 30.84	+21 22.1	1.975	2.949	3.3	18.6
2 1	7 20.16	+21 42.0	1.909	2.843	7.7	21.6	2 1	7 22.12	+21 14.4	2.007	2.943	7.3	18.8
2 11	7 12.26	+21 56.4	1.972	2.839	11.4	21.8	2 11	7 15.11	+21 3.8	2.065	2.936	10.8	19.0
2 21	7 6.89	+22 5.6	2.058	2.835	14.6	22.0	2 21	7 10.42	+20 50.6	2.147	2.929	13.8	19.2
<b>424988</b>	2009 BS <sub>189</sub>		1 13.8 359°27'		5°0'/16.1 18		<b>196636</b>	2003 SA <sub>4</sub>		1 13.8 18°85'		1°0'/14.3 18	
12 13	7 58.34	+ 7 6.9	1.723	2.545	14.9	20.2	12 13	8 2.18	+17 36.5	1.978	2.814	12.6	20.8
12 23	7 54.11	+ 7 10.2	1.650	2.542	11.6	20.0	12 23	7 56.67	+17 48.2	1.904	2.815	9.2	20.6
1 2	7 47.75	+ 7 31.7	1.599	2.541	8.1	19.8	1 2	7 49.10	+18 6.9	1.856	2.816	5.3	20.3
1 12	7 40.05	+ 8 10.8	1.574	2.540	5.3	19.6	1 12	7 40.28	+18 30.2	1.835	2.817	1.4	20.1
1 22	7 32.04	+ 9 4.7	1.576	2.540	5.7	19.7	1 22	7 31.20	+18 55.3	1.844	2.819	3.5	20.2
2 1	7 24.83	+10 8.7	1.605	2.541	8.7	19.8	2 1	7 22.95	+19 19.4	1.882	2.820	7.5	20.5
2 11	7 19.43	+11 17.3	1.659	2.543	12.3	20.1	2 11	7 16.46	+19 40.7	1.946	2.821	11.1	20.7
2 21	7 16.47	+12 25.3	1.735	2.545	15.5	20.3	2 21	7 12.34	+19 58.2	2.032	2.823	14.2	20.9
<b>256242</b>	2006 WR <sub>13</sub>		1 13.8 104°98'		0°2'/13.9 18		<b>288715</b>	2004 RF <sub>18</sub>		1 13.8 110°60'		0°3'/13.9 18	
12 13	8 5.74	+18 59.9	1.947	2.780	12.9	21.1	12 13	8 7.19	+18 4.4	1.618	2.457	14.8	21.1

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>498873</b>	2008 <i>YM</i> <sub>96</sub>	1 13.8 129°58		0°5/14.1 17			<b>363863</b>	2005 <i>RW</i> <sub>23</sub>	1 13.9 110°93		6°1/16.7 18		
12 13	8 1.18	+16 41.4	2.449	3.276	10.8	21.4	12 13	8 3.93	+ 2 9.1	2.238	3.013	13.4	21.0
12 23	7 55.67	+17 34.4	2.374	3.281	7.9	21.2	12 23	7 57.50	+ 1 41.8	2.178	3.034	10.8	20.9
<b>51885</b>	2001 <i>QD</i> <sub>14</sub>	1 13.8 113°83		0°4/14.1 18			<b>231967</b>	2001 <i>QP</i> <sub>48</sub>	1 13.9 157°41		1°9/14.9 18		
12 13	7 57.70	+18 59.6	3.668	4.490	7.6	20.1	12 13	8 0.63	+13 10.0	2.655	3.470	10.4	20.6
12 23	7 52.65	+19 12.5	3.600	4.505	5.5	20.0	12 23	7 55.11	+13 28.7	2.578	3.475	7.7	20.4
<b>23396</b>	5112 T-3	1 13.9 176°01		0°1/13.8 18			<b>17062</b>	<i>Bardot</i>	1 13.9 185°12		0°0/13.9 18		
12 13	8 3.44	+19 41.6	2.196	3.029	11.7	19.5	12 13	8 1.20	+19 52.6	2.406	3.239	10.8	18.8
12 23	7 57.47	+20 19.3	2.120	3.031	8.4	19.3	12 23	7 55.72	+20 17.3	2.329	3.239	7.8	18.6
<b>9285</b>	<i>Le Corre</i>	1 13.9 63°28		0°2/13.8 18			<b>119515</b>	2001 <i>UL</i> <sub>149</sub>	1 13.9 116°98		1°4/13.3 18		
12 13	8 3.28	+21 11.1	1.984	2.825	12.4	18.0	12 13	8 4.95	+23 16.3	1.906	2.748	12.8	20.2
12 23	7 57.44	+21 26.1	1.916	2.830	9.0	17.8	12 23	7 58.78	+23 54.7	1.840	2.755	9.2	19.9
<b>455830</b>	2005 <i>TX</i> <sub>32</sub>	1 13.9 96°13		1°6/14.5 18			<b>26825</b>	1989 <i>SB</i> <sub>14</sub>	1 13.9 185°40		3°1/14.8 18		
12 13	8 3.78	+15 34.7	1.874	2.705	13.4	21.5	12 13	8 5.82	+13 6.5	2.164	2.978	12.5	19.5
12 23	7 57.82	+15 50.6	1.809	2.716	9.8	21.3	12 23	7 59.08	+12 37.4	2.084	2.978	9.4	19.3
<b>422867</b>	2002 <i>PX</i> <sub>139</sub>	1 13.9 113°87		5°9/11.6 18			<b>169319</b>	2001 <i>TS</i> <sub>133</sub>	1 13.9 26°51		2°4/12.6 18		
12 13	8 10.63	+41 33.3	2.546	3.357	10.9	21.3	12 13	8 1.83	+25 32.9	2.085	2.930	11.7	19.5
12 23	8 2.48	+42 10.7	2.495	3.375	8.7	21.2	12 23	7 56.48	+26 33.9	2.018	2.934	8.4	19.3
<b>117007</b>	2004 <i>HE</i> <sub>61</sub>	1 13.9 235°49		0°8/14.2 17			<b>39957</b>	1998 <i>FG</i> <sub>121</sub>	1 13.9 214°04		1°5/13.3 18		
12 13	8 1.05	+18 16.4	2.593	3.421	10.3	20.6	12 13	8 7.69	+24 35.7	2.060	2.895	12.3	20.2
12 23	7 55.50	+18 19.7	2.508	3.415	7.5	20.4	12 23	8 0.75	+24 59.7	1.977	2.888	8.9	20.0
<b>418202</b>	2008 <i>CW</i> <sub>92</sub>	1 13.9 240°10		4°6/12.3 18			<b>201488</b>	2003 <i>HJ</i> <sub>39</sub>	1 13.9 258°93		0°6/14.1 18		
12 13	8 9.26	+33 36.7	2.023	2.857	12.5	21.5	12 13	8 6.83	+19 5.6	1.676	2.516	14.4	21.0
12 23	8 2.07	+34 9.8	1.942	2.847	9.4	21.2	12 23	8 0.60	+19 15.9	1.586	2.499	10.6	20.8
<b>132349</b>	2002 <i>GF</i> <sub>50</sub>	1 13.9 209°23		2°3/14.7 18			<b>39241</b>	2000 <i>YW</i> <sub>71</sub>	1 13.9 131°78		1°2/14.3 18		
12 13	8 6.30	+14 25.6	2.172	2.989	12.4	20.9	12 13	8 3.28	+17 1.5	2.083	2.914	12.3	19.6
12 23	7 59.53	+14 16.8	2.084	2.982	9.2	20.7	12 23	7 57.35	+17 12.2	2.012	2.920	9.0	19.3

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>142521</b>	2002 <i>TL</i> <sub>42</sub>		1 13.9 238°95	6°9/16.4 18			<b>317018</b>	2001 <i>QB</i> <sub>193</sub>		1 13.9 93°43	0°2/13.8 18		
12 13	8 2.93	+ 2 42.5	1.935	2.723	14.7	19.8	12 13	8 9.30	+22 24.5	1.968	2.800	12.9	20.9
12 23	7 57.30	+ 2 11.5	1.850	2.715	12.0	19.6	12 23	8 1.52	+22 19.5	1.917	2.827	9.2	20.7
1 2	7 49.55	+ 1 58.3	1.788	2.706	9.1	19.4	1 2	7 51.67	+22 15.9	1.891	2.852	5.1	20.5
1 12	7 40.43	+ 2 4.8	1.752	2.698	7.1	19.3	1 12	7 40.75	+22 11.1	1.895	2.878	0.8	20.2
1 22	7 30.92	+ 2 30.5	1.743	2.688	7.3	19.3	1 22	7 29.91	+22 3.5	1.929	2.903	3.5	20.5
2 1	7 22.10	+ 3 12.8	1.763	2.679	9.6	19.4	2 1	7 20.26	+21 52.3	1.994	2.927	7.5	20.8
2 11	7 14.98	+ 4 7.1	1.807	2.669	12.6	19.6	2 11	7 12.70	+21 38.0	2.085	2.951	10.9	21.0
2 21	7 10.22	+ 5 8.0	1.874	2.659	15.5	19.7	2 21	7 7.70	+21 21.4	2.199	2.974	13.8	21.3
<b>423114</b>	2004 <i>BG</i> <sub>96</sub>		1 13.9 351°64	1°1/13.5 18			<b>108032</b>	2001 <i>FJ</i> <sub>153</sub>		1 13.9 112°76	1°0/13.5 18		
12 13	8 4.48	+25 5.2	2.085	2.925	11.9	20.5	12 13	8 8.68	+21 7.4	1.443	2.291	15.8	19.5
12 23	7 58.28	+25 1.8	2.010	2.924	8.6	20.3	12 23	8 1.97	+21 54.5	1.385	2.302	11.4	19.2
1 2	7 50.00	+24 58.0	1.960	2.923	4.9	20.1	1 2	7 52.33	+22 48.3	1.350	2.314	6.4	19.0
1 12	7 40.48	+24 50.9	1.940	2.922	1.3	19.8	1 12	7 40.90	+23 42.6	1.342	2.325	1.3	18.7
1 22	7 30.78	+24 38.8	1.949	2.921	3.7	20.0	1 22	7 29.20	+24 30.8	1.362	2.335	4.7	18.9
2 1	7 21.99	+24 21.0	1.987	2.920	7.5	20.3	2 1	7 18.84	+25 8.8	1.409	2.345	9.7	19.2
2 11	7 15.04	+23 58.3	2.052	2.920	11.0	20.5	2 11	7 11.12	+25 35.1	1.481	2.355	14.1	19.5
2 21	7 10.51	+23 31.9	2.140	2.920	14.0	20.7	2 21	7 6.74	+25 50.8	1.574	2.365	17.7	19.8
<b>488562</b>	2001 <i>VX</i> <sub>9</sub>		1 13.9 89°21	4°1/12.1 18			<b>498838</b>	2008 <i>WL</i> <sub>39</sub>		1 13.9 274°91	0°6/14.1 18		
12 13	8 9.72	+30 56.3	1.979	2.815	12.7	21.5	12 13	8 2.13	+18 41.1	2.211	3.045	11.6	21.3
12 23	8 2.06	+32 0.1	1.937	2.845	9.3	21.3	12 23	7 56.62	+18 52.3	2.121	3.031	8.5	21.0
1 2	7 52.08	+32 59.1	1.922	2.875	5.9	21.2	1 2	7 49.14	+19 9.1	2.057	3.017	4.8	20.8
1 12	7 40.81	+33 46.7	1.935	2.904	4.1	21.1	1 12	7 40.40	+19 29.3	2.021	3.004	1.1	20.5
1 22	7 29.52	+34 18.7	1.978	2.932	5.8	21.3	1 22	7 31.30	+19 50.3	2.016	2.990	3.2	20.6
2 1	7 19.47	+34 33.7	2.050	2.960	8.8	21.5	2 1	7 22.83	+20 9.9	2.039	2.976	7.1	20.8
2 11	7 11.67	+34 33.5	2.148	2.987	11.8	21.8	2 11	7 15.93	+20 26.4	2.090	2.962	10.7	21.0
2 21	7 6.66	+34 21.5	2.268	3.014	14.3	22.0	2 21	7 11.23	+20 39.2	2.164	2.948	13.7	21.2
<b>383673</b>	2007 <i>TY</i> <sub>186</sub>		1 13.9 113°97	1°8/14.8 18			<b>409647</b>	2005 <i>YK</i> <sub>2</sub>		1 13.9 10°42	6°7/10.5 18		
12 13	8 1.38	+13 56.2	2.550	3.367	10.7	21.2	12 13	8 6.36	+35 0.0	1.729	2.575	13.7	20.7
12 23	7 55.64	+14 9.2	2.483	3.382	7.9	21.1	12 23	8 0.47	+36 40.0	1.669	2.576	10.5	20.5
1 2	7 48.38	+14 30.0	2.443	3.396	4.8	20.9	1 2	7 51.62	+38 14.5	1.633	2.577	7.7	20.4
1 12	7 40.23	+14 56.9	2.432	3.410	2.1	20.7	1 12	7 40.82	+39 33.8	1.624	2.578	6.7	20.3
1 22	7 31.96	+15 27.5	2.452	3.424	3.1	20.8	1 22	7 29.50	+40 30.3	1.643	2.579	8.4	20.4
2 1	7 24.35	+15 59.6	2.503	3.437	6.1	21.0	2 1	7 19.30	+41 1.0	1.688	2.581	11.4	20.6
2 11	7 18.11	+16 31.1	2.581	3.450	9.0	21.3	2 11	7 11.61	+41 7.7	1.756	2.583	14.5	20.8
2 21	7 13.70	+17 0.3	2.684	3.463	11.5	21.4	2 21	7 7.24	+40 55.1	1.844	2.585	17.2	21.0
<b>260051</b>	2004 <i>HZ</i> <sub>2</sub>		1 13.9 194°67	0°2/13.9 18			<b>424938</b>	2008 <i>YN</i> <sub>80</sub>		1 13.9 328°48	1°2/13.3 18		
12 13	8 4.40	+19 19.6	2.100	2.932	12.1	21.0	12 13	8 1.56	+23 0.2	2.093	2.936	11.8	20.7
12 23	7 58.26	+19 45.2	2.021	2.931	8.8	20.8	12 23	7 56.31	+23 37.1	2.015	2.931	8.5	20.4
1 2	7 50.04	+20 16.7	1.968	2.929	5.0	20.5	1 2	7 48.99	+24 17.5	1.963	2.926	4.8	20.2
1 12	7 40.51	+20 50.8	1.944	2.927	0.8	20.2	1 12	7 40.38	+24 57.5	1.939	2.921	1.3	19.9
1 22	7 30.67	+21 24.0	1.950	2.924	3.4	20.4	1 22	7 31.44	+25 33.1	1.945	2.917	3.8	20.1
2 1	7 21.60	+21 53.6	1.986	2.921	7.4	20.7	2 1	7 23.25	+26 1.4	1.980	2.912	7.6	20.3
2 11	7 14.26	+22 17.8	2.048	2.917	11.0	20.9	2 11	7 16.76	+26 21.3	2.041	2.908	11.1	20.6
2 21	7 9.28	+22 36.1	2.134	2.913	14.0	21.1	2 21	7 12.61	+26 32.8	2.124	2.904	14.0	20.8
<b>242717</b>	2005 <i>UO</i> <sub>97</sub>		1 13.9 357°52	1°5/14.3 18			<b>12157</b>	Können		1 13.9 207°86	3°3/15.1 18		
12 13	8 3.79	+16 52.8	1.186	2.045	17.7	20.6	12 13	8 4.84	+11 47.5	1.811	2.633	14.2	19.0
12 23	7 58.94	+17 8.5	1.121	2.043	13.1	20.4	12 23	7 58.80	+11 46.7	1.732	2.630	10.8	18.8
1 2	7 50.85	+17 37.3	1.077	2.041	7.6	20.1	1 2	7 50.44	+11 58.6	1.676	2.626	6.9	18.5
1 12	7 40.67	+18 15.5	1.058	2.040	2.1	19.7	1 12	7 40.62	+12 21.8	1.648	2.622	3.6	18.3
1 22	7 30.03	+18 57.4	1.064	2.040	4.9	19.9	1 22	7 30.42	+12 54.0	1.648	2.618	4.7	18.4
2 1	7 20.71	+19 37.9	1.095	2.040	10.6	20.2	2 1	7 21.06	+13 31.7	1.677	2.613	8.5	18.6
2 11	7 14.21	+20 13.1	1.148	2.041	15.7	20.5	2 11	7 13.62	+14 11.4	1.733	2.608	12.3	18.8
2 21	7 11.35	+20 41.1	1.220	2.043	20.0	20.8	2 21	7 8.77	+14 50.2	1.810	2.602	15.7	19.0
<b>493660</b>	2015 <i>RV</i> <sub>89</sub>		1 13.9 72°35	3°4/13.2 17			<b>70802</b>	1999 <i>VV</i> <sub>61</sub>		1 13.9 327°75	2°3/14.7 18		
12 13	8 14.64	+29 33.4	1.377	2.224	16.5	21.0	12 13	8 2.26	+14 58.8	1.877	2.710	13.4	19.3
12 23	8 6.02	+29 44.3	1.337	2.253	11.9	20.8	12 23	7 56.87	+14 53.1	1.799	2.706	9.9	19.1
1 2	7 54.35	+29 49.3	1.321	2.281	7.1	20.6	1 2	7 49.32	+14 56.5	1.745	2.702	6.0	18.8
1 12	7 41.16	+29 42.7	1.331	2.309	3.5	20.5	1 12	7 40.44	+15 7.5	1.719	2.698	2.6	18.6
1 22	7 28.25	+29 22.0	1.369	2.336	5.8	20.7	1 22	7 31.24	+15 24.1	1.721	2.694	4.0	18.7
2 1	7 17.32	+28 48.5	1.434	2.364	10.2	21.0	2 1	7 22.86	+15 43.8	1.752	2.690	7.9	18.9
2 11	7 9.53	+28 6.0	1.524	2.391	14.2	21.3	2 11	7 16.30	+16 4.3	1.808	2.687	11.7	19.1
2 21	7 5.33	+27 19.0	1.634	2.417	17.5	21.6	2 21	7 12.18	+16 23.8	1.887	2.683	15.0	19.4
<b>223808</b>	2004 <i>TF</i> <sub>56</sub>		1 13.9 198°88	3°7/15.4 18			<b>141576</b>	2002 <i>GH</i> <sub>142</sub>		1 13.9 172°56	3°0/12.7 18		
12 13	8 2.76	+ 9 33.3	2.331	3.136	12.0	20.7	12 13	8 7.84	+27 16.9	1.866	2.707	13.1	20.5
12 23	7 56.84	+ 9 21.4	2.247	3.133	9.2	20.6	12 23	8 1.07	+28 8.5	1.796	2.710	9.5	20.3
1 2	7 49.16	+ 9 20.3	2.189	3.130	6.2	20.4	1 2	7 51.75	+29 0.1	1.752	2.712	5.7	20.0
1 12	7 40.37	+ 9 29.9	2.159	3.126	3.9	20.2	1 12	7 40.83	+29 45.6	1.737	2.713	3.0	19.9
1 22	7 31.33	+ 9 48.7	2.159	3.122	4.5	20.2	1 22	7 29.57	+30 19.8	1.750	2.714	5.2	20.0
2 1	7 22.92	+10 14.8	2.189	3.118	7.2	20.4	2 1	7 19.32	+30 40.1	1.792	2.715	9.0	20.2
2 11	7 15.97	+10 45.4	2.246	3.113	10.3	20.6	2 11	7 11.25	+30 46.8	1.860	2.715	12.6	20.5
2 21	7 11.02	+11 17.8	2.327	3.107	13.0	20.8	2 21	7 6.07	+30 42.2	1.950	2.715	15.6	20.7
<b>302387</b>	2002 <i>CK</i> <sub>75</sub>		1 13.9 318°15	0°4/13.7 18			<b>50687</b>	Paultemple		1 13.9 87°19	11°5/ 8.4 18		
12 13	8 4.26	+20 38.6	1.349	2.207	16.1	20.7	12 13	8 16.05	+48 51.6	1.748	2.555	15.3	17.9
12 23	7 59.19	+21 6.7	1.273	2.195	11.8	20.4	12 23	8 8.09	+50 54.6	1.711	2.569	13.2	17.8
1 2	7 51.00	+21 43.3	1.219	2.184	6.6	20.1	1 2	7 56.12	+52 37.1	1.698	2.582	11.8	17.7
1 12	7 40.71	+22 23.2	1.191	2.173	1.1	19.7	1 12	7 41.56	+53 47.3	1.709	2.596	11.6	17.7
1 22	7 29.81	+23 0.7	1.188	2.163	4.8	20.0	1 22	7 26.51	+54 18.8	1.745	2.609	12.7	17.8
2 1	7 20.03	+23 31.4	1.212	2.154	10.3	20.2	2 1	7 13.30	+54 12.4	1.804	2.622	14.5	18.0
2 11	7 12.85	+23 53.0	1.259	2.144	15.2	20.5	2 11	7 3.71	+53 34.9	1.883	2.636	16.5	18.2
2 21	7 9.16	+24 5.5	1.325	2.136	19.4	20.7	2 21	6 58.53	+52 35.8	1.978	2.648	18.3	18.3

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>422167</b>	2014 <i>RU</i> <sub>15</sub>		1 13.9 120°63'	2°3/14.9 18			<b>345069</b>	2005 <i>JW</i> <sub>32</sub>		1 13.9 191°32'	6°6/17.3 17		
12 13	8 5.19	+12 44.6	2.244	3.057	12.2	22.3	12 13	7 59.96	-3 52.7	3.038	3.770	11.2	22.5
12 23	7 58.49	+12 58.2	2.183	3.078	9.0	22.1	12 23	7 54.52	-4 31.9	2.954	3.769	9.5	22.4
1 2	7 50.01	+13 21.3	2.147	3.098	5.6	22.0	1 2	7 47.78	-4 56.5	2.894	3.767	7.9	22.2
1 12	7 40.54	+13 52.1	2.141	3.118	2.6	21.8	1 12	7 40.23	-5 4.7	2.861	3.764	6.8	22.2
1 22	7 30.96	+14 27.7	2.166	3.136	3.6	21.9	1 22	7 32.49	-4 56.5	2.857	3.761	6.8	22.2
2 1	7 22.22	+15 5.3	2.221	3.154	6.8	22.1	2 1	7 25.20	-4 33.0	2.880	3.758	7.8	22.2
2 11	7 15.11	+15 42.2	2.304	3.172	10.0	22.4	2 11	7 18.97	-3 57.1	2.931	3.754	9.4	22.3
2 21	7 10.14	+16 16.6	2.411	3.188	12.7	22.6	2 21	7 14.23	-3 12.1	3.005	3.750	11.1	22.5
<b>161559</b>	2004 <i>YO</i> <sub>21</sub>		1 13.9 63°09'	0°1/13.8 17			<b>500007</b>	2011 <i>QT</i> <sub>8</sub>		1 13.9 201°80'	4°9/16.8 17		
12 13	8 8.80	+19 52.0	1.351	2.200	16.6	19.9	12 13	7 58.99	+1 41.0	3.013	3.779	10.5	22.9
12 23	8 1.84	+20 24.4	1.312	2.229	11.9	19.7	12 23	7 53.86	+1 32.9	2.925	3.776	8.5	22.8
1 2	7 52.10	+21 3.7	1.295	2.259	6.6	19.4	1 2	7 47.42	+1 37.9	2.863	3.771	6.5	22.7
1 12	7 40.87	+21 44.3	1.306	2.289	1.0	19.1	1 12	7 40.18	+1 56.3	2.828	3.767	5.1	22.6
1 22	7 29.72	+22 20.8	1.343	2.318	4.4	19.5	1 22	7 32.74	+2 27.1	2.823	3.762	5.2	22.6
2 1	7 20.18	+22 49.7	1.408	2.347	9.4	19.8	2 1	7 25.74	+3 8.6	2.847	3.757	6.6	22.6
2 11	7 13.39	+23 10.0	1.498	2.377	13.6	20.1	2 11	7 19.77	+3 57.6	2.899	3.751	8.7	22.8
2 21	7 9.86	+23 22.3	1.607	2.406	17.1	20.4	2 21	7 15.30	+4 50.9	2.977	3.745	10.7	22.9
<b>362886</b>	2012 <i>BG</i> <sub>110</sub>		1 13.9 108°57'	2°6/15.1 18			<b>300330</b>	2007 <i>RG</i> <sub>7</sub>		1 13.9 45°12'	5°4/15.9 17		
12 13	8 3.91	+12 12.1	1.840	2.665	14.0	20.5	12 13	8 4.55	+8 14.9	1.215	2.051	18.9	20.2
12 23	7 57.99	+12 37.3	1.774	2.675	10.4	20.3	12 23	7 58.95	+8 12.4	1.174	2.076	14.5	20.0
1 2	7 49.92	+13 15.7	1.732	2.685	6.4	20.1	1 2	7 50.57	+8 32.0	1.154	2.101	9.7	19.9
1 12	7 40.54	+14 4.5	1.718	2.695	2.9	19.9	1 12	7 40.68	+9 11.9	1.157	2.127	5.9	19.7
1 22	7 30.93	+14 59.7	1.733	2.705	4.1	20.0	1 22	7 30.79	+10 7.0	1.186	2.153	6.4	19.8
2 1	7 22.23	+15 56.7	1.778	2.715	7.9	20.3	2 1	7 22.40	+11 10.8	1.240	2.180	10.3	20.1
2 11	7 15.42	+16 51.6	1.848	2.725	11.6	20.5	2 11	7 16.65	+12 16.5	1.318	2.207	14.4	20.4
2 21	7 11.10	+17 41.7	1.942	2.734	14.8	20.7	2 21	7 14.09	+13 18.6	1.416	2.235	17.9	20.7
<b>448752</b>	2011 <i>PV</i> <sub>10</sub>		1 13.9 97°48'	4°2/12.4 18			<b>331017</b>	2009 <i>UF</i> <sub>136</sub>		1 13.9 52°56'	7°9/16.7 18		
12 13	8 9.94	+29 2.5	1.527	2.376	15.1	21.5	12 13	8 2.35	+1 10.8	1.831	2.618	15.5	20.2
12 23	8 2.88	+30 5.8	1.475	2.391	11.0	21.3	12 23	7 56.80	+0 17.0	1.770	2.629	12.7	20.0
1 2	7 52.84	+31 6.8	1.447	2.405	6.8	21.1	1 2	7 49.23	-0 17.3	1.730	2.640	10.0	19.8
1 12	7 41.02	+31 57.3	1.446	2.420	4.2	21.0	1 12	7 40.48	-0 29.7	1.716	2.652	8.1	19.8
1 22	7 29.00	+32 31.1	1.473	2.434	6.4	21.2	1 22	7 31.56	-0 20.2	1.728	2.663	8.2	19.8
2 1	7 18.42	+32 46.0	1.527	2.448	10.4	21.4	2 1	7 23.53	+0 8.5	1.767	2.675	10.1	19.9
2 11	7 10.59	+32 43.8	1.605	2.461	14.2	21.7	2 11	7 17.31	+0 51.7	1.830	2.687	12.7	20.1
2 21	7 6.17	+32 28.5	1.703	2.474	17.3	21.9	2 21	7 13.45	+1 43.6	1.915	2.700	15.2	20.3
<b>85369</b>	1996 <i>DX</i> <sub>2</sub>		1 13.9 308°25'	1°5/13.3 18			<b>231090</b>	2005 <i>RJ</i> <sub>11</sub>		1 13.9 68°72'	3°5/14.9 18		
12 13	8 3.92	+22 47.2	1.533	2.387	14.7	19.2	12 13	8 8.02	+13 30.9	1.275	2.117	17.9	19.6
12 23	7 58.77	+23 28.1	1.450	2.371	10.7	19.0	12 23	8 1.45	+13 17.9	1.227	2.136	13.3	19.4
1 2	7 50.74	+24 15.3	1.390	2.355	6.1	18.7	1 2	7 52.00	+13 19.1	1.200	2.155	8.2	19.1
1 12	7 40.72	+25 3.0	1.357	2.339	1.7	18.3	1 12	7 40.92	+13 32.9	1.198	2.175	3.9	18.9
1 22	7 30.07	+25 45.5	1.352	2.324	4.9	18.5	1 22	7 29.79	+13 55.7	1.222	2.194	5.4	19.1
2 1	7 20.34	+26 18.1	1.373	2.309	9.9	18.7	2 1	7 20.19	+14 23.7	1.273	2.214	10.0	19.4
2 11	7 12.96	+26 39.1	1.418	2.295	14.4	19.0	2 11	7 13.34	+14 53.1	1.348	2.233	14.4	19.7
2 21	7 8.80	+26 49.2	1.483	2.281	18.3	19.2	2 21	7 9.81	+15 21.1	1.442	2.252	18.1	20.0
<b>138002</b>	2000 <i>CN</i> <sub>84</sub>		1 13.9 329°71'	0°1/13.9 18			<b>94870</b>	2001 <i>XN</i> <sub>225</sub>		1 13.9 253°31'	2°7/14.6 18		
12 13	8 3.68	+19 41.9	1.514	2.365	15.0	19.4	12 13	8 6.82	+15 33.3	1.558	2.395	15.4	20.0
12 23	7 58.43	+20 3.0	1.440	2.358	11.0	19.1	12 23	8 0.58	+15 12.6	1.480	2.388	11.5	19.7
1 2	7 50.44	+20 31.9	1.388	2.352	6.2	18.8	1 2	7 51.62	+15 0.8	1.424	2.381	7.0	19.5
1 12	7 40.67	+21 4.6	1.363	2.346	1.0	18.5	1 12	7 40.90	+14 57.0	1.395	2.374	3.0	19.2
1 22	7 30.45	+21 36.6	1.365	2.340	4.3	18.7	1 22	7 29.75	+14 59.5	1.394	2.367	4.8	19.3
2 1	7 21.26	+22 4.2	1.394	2.335	9.3	19.0	2 1	7 19.62	+15 6.3	1.421	2.359	9.4	19.5
2 11	7 14.39	+22 25.3	1.447	2.330	13.8	19.2	2 11	7 11.78	+15 15.5	1.472	2.352	13.8	19.8
2 21	7 10.60	+22 39.3	1.521	2.325	17.6	19.5	2 21	7 7.00	+15 25.3	1.544	2.344	17.6	20.0
<b>166226</b>	2002 <i>FF</i> <sub>11</sub>		1 13.9 268°99'	4°7/12.1 18			<b>368</b>	<i>Haidea</i>		1 13.9 140°27'	2°7/15.2 18		
12 13	8 7.94	+30 15.2	1.570	2.420	14.6	19.6	12 13	8 1.36	+11 16.8	2.755	3.561	10.4	15.5
12 23	8 1.71	+31 16.5	1.498	2.414	10.9	19.4	12 23	7 55.57	+11 10.9	2.683	3.571	7.8	15.4
1 2	7 52.38	+32 16.1	1.450	2.407	6.9	19.1	1 2	7 48.37	+11 13.3	2.636	3.581	5.1	15.2
1 12	7 41.00	+33 5.6	1.429	2.401	4.7	19.0	1 12	7 40.34	+11 23.3	2.620	3.591	2.9	15.1
1 22	7 29.08	+33 38.4	1.435	2.394	6.9	19.1	1 22	7 32.19	+11 39.5	2.634	3.600	3.5	15.2
2 1	7 18.34	+33 51.2	1.468	2.387	10.9	19.3	2 1	7 24.63	+12 0.2	2.678	3.608	6.0	15.3
2 11	7 10.23	+33 45.6	1.525	2.381	14.8	19.5	2 11	7 18.31	+12 23.4	2.751	3.617	8.6	15.5
2 21	7 5.57	+33 25.4	1.601	2.374	18.2	19.7	2 21	7 13.69	+12 47.4	2.849	3.625	11.0	15.7
<b>167094</b>	2003 <i>SQ</i> <sub>31</sub>		1 13.9 138°66'	0°9/14.2 18			<b>489039</b>	2005 <i>XU</i> <sub>66</sub>		1 13.9 282°53'	3°5/12.6 18		
12 13	8 7.00	+17 47.4	1.986	2.814	12.9	21.5	12 13	8 7.05	+26 13.2	1.435	2.290	15.5	20.9
12 23	8 0.08	+18 0.7	1.920	2.826	9.4	21.3	12 23	8 1.24	+27 17.9	1.363	2.283	11.3	20.7
1 2	7 51.04	+18 20.6	1.879	2.838	5.4	21.1	1 2	7 52.22	+28 26.2	1.314	2.276	6.7	20.4
1 12	7 40.75	+18 44.1	1.868	2.850	1.3	20.8	1 12	7 41.02	+29 29.5	1.291	2.269	3.5	20.2
1 22	7 30.30	+19 8.3	1.886	2.860	3.5	21.0	1 22	7 29.20	+30 20.2	1.295	2.262	6.2	20.3
2 1	7 20.80	+19 30.6	1.935	2.870	7.5	21.3	2 1	7 18.54	+30 53.4	1.326	2.254	10.9	20.6
2 11	7 13.21	+19 49.6	2.010	2.880	11.1	21.5	2 11	7 10.57	+31 8.9	1.380	2.247	15.4	20.8
2 21	7 8.11	+20 4.5	2.109	2.888	14.2	21.7	2 21	7 6.19	+31 9.3	1.454	2.240	19.1	21.0
<b>277239</b>	2005 <i>RT</i> <sub>10</sub>		1 13.9 149°07'	2°4/12.9 18			<b>472304</b>	2014 <i>WP</i> <sub>493</sub>		1 13.9 298°66'	4°8/15.2 18		
12 13	8 9.90	+24 34.3	1.655	2.497	14.4	21.1	12 13	8 2.35	+9 2.1	2.076			



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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>138418</b>	2000 <i>HZ</i> <sub>48</sub>		1 13.9 295°66	6°0/11.3 18			<b>400026</b>	2006 <i>QR</i> <sub>42</sub>		1 13.9 115°34	0°9/13.6 18		
12 13	8 6.88	+33 26.2	1.665	2.513	14.0	19.4	12 13	8 7.46	+22 18.8	1.974	2.809	12.7	21.8
12 23	8 1.05	+34 41.5	1.586	2.497	10.7	19.2	12 23	8 0.46	+22 51.2	1.916	2.827	9.1	21.6
1 2	7 52.11	+35 53.4	1.532	2.482	7.5	18.9	1 2	7 51.29	+23 26.6	1.884	2.845	5.1	21.4
1 12	7 41.01	+36 52.7	1.504	2.467	6.0	18.8	1 12	7 40.88	+24 0.7	1.880	2.863	1.1	21.1
1 22	7 29.23	+37 32.2	1.504	2.452	7.9	18.9	1 22	7 30.35	+24 29.7	1.908	2.880	3.7	21.3
2 1	7 18.47	+37 48.2	1.530	2.437	11.4	19.1	2 1	7 20.86	+24 51.3	1.964	2.896	7.7	21.6
2 11	7 10.25	+37 42.2	1.579	2.422	15.1	19.2	2 11	7 13.37	+25 4.9	2.048	2.912	11.2	21.9
2 21	7 5.47	+37 18.8	1.648	2.408	18.3	19.4	2 21	7 8.43	+25 11.3	2.154	2.927	14.1	22.1
<b>219756</b>	2001 <i>YK</i> <sub>28</sub>		1 13.9 90°50	1°5/14.4 18			<b>196189</b>	2003 <i>AG</i> <sub>28</sub>		1 13.9 8°72	0°3/14.0 18		
12 13	8 4.76	+17 22.1	1.839	2.674	13.5	20.5	12 13	8 0.63	+17 45.3	2.043	2.881	12.2	19.6
12 23	7 58.65	+17 16.1	1.770	2.679	9.9	20.3	12 23	7 55.66	+18 33.4	1.970	2.882	8.9	19.4
1 2	7 50.33	+17 17.0	1.725	2.684	5.8	20.1	1 2	7 48.70	+19 30.2	1.922	2.883	5.0	19.1
1 12	7 40.69	+17 22.7	1.708	2.689	1.8	19.8	1 12	7 40.48	+20 31.6	1.902	2.885	0.9	18.8
1 22	7 30.83	+17 31.2	1.720	2.694	3.8	20.0	1 22	7 31.95	+21 32.9	1.912	2.887	3.3	19.0
2 1	7 21.94	+17 40.5	1.761	2.699	7.9	20.2	2 1	7 24.15	+22 30.1	1.952	2.889	7.3	19.3
2 11	7 15.01	+17 49.1	1.828	2.704	11.7	20.5	2 11	7 18.01	+23 20.1	2.018	2.891	10.9	19.5
2 21	7 10.63	+17 56.0	1.916	2.708	14.9	20.7	2 21	7 14.13	+24 1.6	2.107	2.894	13.9	19.7
<b>347274</b>	2011 <i>KK</i> <sub>43</sub>		1 13.9 85°88	0°7/13.7 17			<b>64000</b>	2001 <i>SD</i> <sub>115</sub>		1 13.9 273°31	2°6/12.9 18		
12 13	8 8.09	+21 2.0	1.333	2.186	16.6	21.3	12 13	8 6.32	+26 47.5	1.920	2.762	12.7	19.2
12 23	8 1.76	+21 37.2	1.275	2.195	12.0	21.1	12 23	8 0.20	+27 27.8	1.826	2.741	9.3	18.9
1 2	7 52.34	+22 19.5	1.239	2.204	6.7	20.8	1 2	7 51.48	+28 9.4	1.758	2.718	5.5	18.6
1 12	7 41.03	+23 2.9	1.230	2.212	1.2	20.4	1 12	7 40.96	+28 46.7	1.718	2.696	2.7	18.4
1 22	7 29.43	+23 41.3	1.247	2.221	4.8	20.7	1 22	7 29.83	+29 14.8	1.707	2.673	5.0	18.5
2 1	7 19.25	+24 10.7	1.291	2.230	10.1	21.0	2 1	7 19.44	+29 30.7	1.724	2.650	9.0	18.7
2 11	7 11.86	+24 30.0	1.359	2.239	14.7	21.3	2 11	7 11.04	+29 34.1	1.767	2.627	12.9	18.9
2 21	7 7.96	+24 39.7	1.446	2.247	18.5	21.6	2 21	7 5.49	+29 26.7	1.832	2.603	16.3	19.1
<b>445101</b>	2008 <i>UR</i> <sub>45</sub>		1 13.9 27°03	1°9/13.3 18			<b>416628</b>	2004 <i>RV</i> <sub>244</sub>		1 13.9 142°65	1°4/13.3 18		
12 13	8 5.39	+23 27.2	1.120	1.989	17.9	21.0	12 13	8 5.13	+24 17.1	2.169	3.006	11.7	22.0
12 23	8 0.20	+24 3.8	1.070	1.997	12.9	20.7	12 23	7 58.76	+24 45.1	2.100	3.013	8.4	21.8
1 2	7 51.59	+24 45.4	1.040	2.006	7.2	20.4	1 2	7 50.36	+25 14.5	2.057	3.019	4.7	21.6
1 12	7 40.91	+25 24.6	1.035	2.016	2.1	20.1	1 12	7 40.75	+25 41.5	2.044	3.025	1.5	21.4
1 22	7 29.99	+25 54.9	1.054	2.028	5.6	20.4	1 22	7 30.93	+26 2.6	2.060	3.031	3.7	21.5
2 1	7 20.73	+26 12.7	1.098	2.039	11.1	20.7	2 1	7 21.97	+26 16.1	2.106	3.036	7.4	21.8
2 11	7 14.61	+26 17.9	1.164	2.052	16.0	21.1	2 11	7 14.79	+26 21.7	2.179	3.041	10.7	22.0
2 21	7 12.27	+26 12.4	1.248	2.065	20.0	21.4	2 21	7 9.96	+26 20.2	2.275	3.046	13.5	22.2
<b>423325</b>	2005 <i>GT</i> <sub>9</sub>		1 13.9 315°91	24°2/ 8.7 16			<b>354980</b>	2006 <i>JP</i> <sub>37</sub>		1 13.9 276°21	0°3/14.1 17		
12 13	8 45.98	+65 20.6	1.008	1.778	26.5	19.8	12 13	7 58.04	+19 11.8	3.188	4.015	8.6	21.2
12 23	8 36.26	+67 18.6	0.965	1.767	25.2	19.6	12 23	7 53.26	+19 30.9	3.095	4.002	6.2	21.0
1 2	8 14.58	+68 32.0	0.935	1.756	24.4	19.5	1 2	7 47.15	+19 53.8	3.028	3.988	3.5	20.8
1 12	7 44.69	+68 31.8	0.919	1.746	24.2	19.5	1 12	7 40.23	+20 18.9	2.992	3.975	0.7	20.6
1 22	7 15.15	+67 3.2	0.917	1.736	24.9	19.5	1 22	7 33.08	+20 44.2	2.988	3.962	2.3	20.7
2 1	6 53.91	+64 14.9	0.930	1.727	26.4	19.5	2 1	7 26.33	+21 8.0	3.014	3.948	5.2	20.9
2 11	6 43.64	+60 32.7	0.957	1.719	28.3	19.6	2 11	7 20.61	+21 28.9	3.068	3.934	7.8	21.1
2 21	6 42.81	+56 22.3	0.997	1.712	30.3	19.8	2 21	7 16.35	+21 46.3	3.148	3.921	10.1	21.2
<b>177544</b>	2004 <i>FS</i> <sub>63</sub>		1 13.9 247°89	1°1/14.4 17			<b>248573</b>	2006 <i>BY</i> <sub>12</sub>		1 13.9 283°50	0°1/13.9 18		
12 13	8 4.41	+16 51.1	2.147	2.974	12.1	21.4	12 13	8 6.57	+20 36.7	1.480	2.329	15.4	20.7
12 23	7 58.40	+17 9.7	2.051	2.957	8.9	21.1	12 23	8 0.70	+20 45.4	1.400	2.318	11.3	20.5
1 2	7 50.27	+17 36.2	1.981	2.940	5.2	20.9	1 2	7 51.86	+21 0.2	1.343	2.306	6.4	20.1
1 12	7 40.72	+18 8.2	1.940	2.922	1.5	20.6	1 12	7 41.04	+21 17.2	1.312	2.294	1.1	19.8
1 22	7 30.69	+18 42.5	1.929	2.903	3.4	20.7	1 22	7 29.66	+21 32.7	1.308	2.283	4.4	20.0
2 1	7 21.26	+19 16.1	1.948	2.884	7.5	20.9	2 1	7 19.33	+21 43.7	1.331	2.271	9.7	20.2
2 11	7 13.45	+19 46.8	1.994	2.864	11.2	21.1	2 11	7 11.47	+21 49.2	1.379	2.260	14.5	20.5
2 21	7 7.95	+20 13.3	2.064	2.844	14.4	21.3	2 21	7 6.92	+21 49.3	1.446	2.248	18.5	20.7
<b>274636</b>	2008 <i>TA</i> <sub>101</sub>		1 13.9 181°90	0°6/14.2 18			<b>293016</b>	2006 <i>WK</i> <sub>48</sub>		1 13.9 177°02	0°7/13.7 18		
12 13	8 2.85	+18 37.2	2.216	3.048	11.6	21.7	12 13	8 5.77	+22 34.1	1.826	2.668	13.3	21.5
12 23	7 57.06	+18 49.2	2.140	3.048	8.4	21.5	12 23	7 59.54	+22 50.5	1.754	2.668	9.6	21.3
1 2	7 49.39	+19 6.6	2.088	3.049	4.8	21.2	1 2	7 50.94	+23 9.9	1.706	2.669	5.4	21.0
1 12	7 40.56	+19 27.2	2.066	3.048	1.1	21.0	1 12	7 40.86	+23 28.7	1.686	2.669	1.1	20.7
1 22	7 31.48	+19 48.2	2.074	3.048	3.2	21.1	1 22	7 30.50	+23 43.4	1.696	2.669	3.9	20.9
2 1	7 23.14	+20 7.6	2.112	3.048	6.9	21.4	2 1	7 21.12	+23 51.9	1.733	2.669	8.2	21.2
2 11	7 16.40	+20 23.8	2.176	3.047	10.3	21.6	2 11	7 13.80	+23 53.8	1.797	2.669	12.1	21.4
2 21	7 11.84	+20 36.3	2.264	3.047	13.2	21.8	2 21	7 9.20	+23 49.8	1.883	2.668	15.4	21.7
<b>257819</b>	2000 <i>GJ</i> <sub>51</sub>		1 13.9 230°83	2°6/12.8 16			<b>467802</b>	2010 <i>BS</i> <sub>35</sub>		1 13.9 283°66	3°2/12.2 18		
12 13	8 6.80	+27 42.3	2.213	3.048	11.5	22.4	12 13	8 3.10	+29 10.5	2.299	3.139	11.0	21.3
12 23	8 0.17	+28 22.1	2.126	3.036	8.4	22.1	12 23	7 57.41	+30 8.4	2.226	3.138	8.0	21.1
1 2	7 51.28	+29 1.6	2.065	3.023	5.0	21.9	1 2	7 49.68	+31 5.4	2.180	3.137	5.0	20.9
1 12	7 40.90	+29 35.8	2.033	3.010	2.6	21.7	1 12	7 40.66	+31 56.1	2.163	3.136	3.2	20.8
1 22	7 30.09	+30 0.8	2.032	2.996	4.6	21.8	1 22	7 31.32	+32 36.4	2.176	3.135	4.9	20.9
2 1	7 20.01	+30 14.1	2.060	2.982	8.1	22.0	2 1	7 22.72	+33 3.5	2.218	3.134	7.9	21.1
2 11	7 11.73	+30 15.9	2.115	2.967	11.4	22.2	2 11	7 15.80	+33 17.5	2.286	3.132	10.9	21.3
2 21	7 5.95	+30 7.9	2.193	2.951	14.3	22.4	2 21	7 11.19	+33 19.8	2.377	3.131	13.4	21.4
<b>266361</b>	2007 <i>EE</i> <sub>42</sub>		1 13.9 60°01	3°2/12.8 18			<b>55187</b>	2001 <i>QX</i> <sub>290</sub>		1 13.9 16°63	1°8/13.3 18		

EPHEMERIDES

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>28187</b>	1998 <i>WP</i> <sub>19</sub>	1 13.9 283°29		5°1/15.1 18			<b>369540</b>	2011 <i>AA</i> <sub>10</sub>	1 13.9 183°65		0°3/13.8 18		
12 13	8 5.17	+ 9 54.4	1.789	2.605	14.6	17.7	12 13	8 3.94	+20 15.6	2.057	2.893	12.2	21.2
12 23	7 59.06	+ 9 1.3	1.710	2.601	11.4	17.4	12 23	7 58.07	+20 51.8	1.981	2.893	8.8	21.0
1 2	7 50.66	+ 8 19.3	1.655	2.596	7.9	17.2	1 2	7 50.09	+21 33.7	1.931	2.893	5.0	20.8
1 12	7 40.83	+ 7 50.2	1.626	2.591	5.3	17.1	1 12	7 40.80	+22 17.4	1.910	2.893	0.8	20.4
1 22	7 30.68	+ 7 34.4	1.626	2.586	6.1	17.1	1 22	7 31.18	+22 59.0	1.919	2.892	3.5	20.7
2 1	7 21.40	+ 7 30.9	1.654	2.582	9.2	17.3	2 1	7 22.34	+23 35.1	1.957	2.892	7.5	20.9
2 11	7 14.05	+ 7 37.6	1.708	2.577	12.8	17.5	2 11	7 15.26	+24 4.1	2.022	2.891	11.1	21.1
2 21	7 9.28	+ 7 51.2	1.782	2.572	16.0	17.7	2 21	7 10.56	+24 25.5	2.110	2.890	14.1	21.3
<b>68476</b>	2001 <i>TJ</i> <sub>9</sub>	1 13.9 53°46		8°8/17.9 18			<b>449849</b>	2014 <i>SF</i> <sub>289</sub>	1 13.9 4°14		2°4/13.6 18		
12 13	8 3.58	- 0 46.7	1.513	2.302	18.2	18.4	12 13	8 9.20	+28 32.4	1.439	2.291	15.6	19.4
12 23	7 57.89	- 1 16.3	1.468	2.327	14.9	18.3	12 23	8 2.50	+28 14.0	1.372	2.291	11.4	19.2
1 2	7 49.92	- 1 19.2	1.443	2.353	11.6	18.2	1 2	7 52.76	+27 50.2	1.329	2.291	6.6	18.9
1 12	7 40.69	- 0 54.4	1.442	2.379	9.2	18.1	1 12	7 41.23	+27 17.3	1.312	2.292	2.6	18.7
1 22	7 31.43	- 0 4.3	1.466	2.405	9.0	18.1	1 22	7 29.53	+26 33.6	1.322	2.293	5.1	18.8
2 1	7 23.35	+ 1 5.4	1.517	2.432	10.9	18.3	2 1	7 19.32	+25 40.7	1.359	2.296	9.9	19.1
2 11	7 17.44	+ 2 26.8	1.591	2.458	13.7	18.5	2 11	7 11.92	+24 42.2	1.421	2.299	14.3	19.4
2 21	7 14.21	+ 3 52.4	1.686	2.485	16.4	18.8	2 21	7 7.95	+23 41.9	1.503	2.302	18.0	19.6
<b>153332</b>	2001 <i>OJ</i> <sub>47</sub>	1 13.9 123°21		1°7/13.5 18			<b>59621</b>	1999 <i>JN</i> <sub>72</sub>	1 13.9 124°47		5°8/16.8 18		
12 13	8 11.41	+25 6.7	1.619	2.460	14.7	20.0	12 13	8 2.87	+ 2 31.0	2.287	3.065	13.1	19.6
12 23	8 3.70	+25 20.7	1.559	2.473	10.6	19.8	12 23	7 56.99	+ 2 13.1	2.221	3.080	10.5	19.4
1 2	7 53.26	+25 34.7	1.525	2.486	6.0	19.6	1 2	7 49.31	+ 2 11.3	2.178	3.094	7.9	19.3
1 12	7 41.26	+25 43.9	1.518	2.499	1.8	19.3	1 12	7 40.65	+ 2 26.0	2.163	3.108	6.1	19.2
1 22	7 29.13	+25 45.0	1.539	2.511	4.6	19.5	1 22	7 31.85	+ 2 55.9	2.177	3.121	6.1	19.2
2 1	7 18.40	+25 37.0	1.590	2.522	9.1	19.8	2 1	7 23.78	+ 3 38.3	2.220	3.134	8.0	19.4
2 11	7 10.22	+25 21.0	1.666	2.533	13.1	20.1	2 11	7 17.20	+ 4 29.1	2.289	3.146	10.5	19.6
2 21	7 5.22	+24 59.4	1.763	2.544	16.5	20.3	2 21	7 12.60	+ 5 24.1	2.382	3.158	12.8	19.7
<b>473969</b>	2016 <i>EM</i> <sub>191</sub>	1 13.9 221°64		2°8/13.1 18			<b>431538</b>	2007 <i>TK</i> <sub>381</sub>	1 13.9 351°55		9°9/17.8 18		
12 13	8 7.63	+29 25.9	2.089	2.926	12.0	21.3	12 13	7 58.39	- 3 52.4	1.799	2.569	16.4	20.3
12 23	8 0.73	+29 37.7	2.011	2.922	8.8	21.0	12 23	7 54.22	- 4 47.3	1.725	2.563	14.0	20.1
1 2	7 51.55	+29 46.0	1.960	2.918	5.3	20.8	1 2	7 47.99	- 5 18.7	1.670	2.558	11.8	20.0
1 12	7 40.98	+29 46.5	1.937	2.914	2.8	20.7	1 12	7 40.46	- 5 23.0	1.639	2.553	10.2	19.9
1 22	7 30.18	+29 36.6	1.944	2.909	4.6	20.8	1 22	7 32.59	- 4 59.5	1.632	2.549	10.0	19.8
2 1	7 20.34	+29 15.9	1.980	2.905	8.1	21.0	2 1	7 25.45	- 4 10.6	1.650	2.546	11.5	19.9
2 11	7 12.51	+28 45.8	2.043	2.900	11.5	21.2	2 11	7 20.00	- 3 2.1	1.691	2.544	13.7	20.1
2 21	7 7.29	+28 9.0	2.129	2.895	14.4	21.4	2 21	7 16.89	- 1 41.4	1.753	2.543	16.2	20.2
<b>279081</b>	2008 <i>WG</i> <sub>99</sub>	1 13.9 37°87		4°2/11.9 18			<b>229184</b>	2004 <i>TV</i> <sub>196</sub>	1 13.9 202°55		2°0/14.7 18		
12 13	8 4.22	+30 30.4	1.925	2.771	12.5	20.1	12 13	8 2.96	+15 2.2	2.028	2.857	12.7	21.1
12 23	7 58.50	+31 38.4	1.864	2.777	9.2	19.9	12 23	7 57.31	+15 4.6	1.952	2.856	9.4	20.9
1 2	7 50.39	+32 43.9	1.829	2.784	5.9	19.7	1 2	7 49.64	+15 15.7	1.900	2.855	5.7	20.6
1 12	7 40.80	+33 40.3	1.822	2.791	4.2	19.6	1 12	7 40.73	+15 33.7	1.876	2.855	2.3	20.4
1 22	7 30.92	+34 22.3	1.843	2.798	6.0	19.7	1 22	7 31.54	+15 56.4	1.881	2.854	3.7	20.5
2 1	7 22.01	+34 47.3	1.892	2.806	9.2	19.9	2 1	7 23.12	+16 21.2	1.916	2.853	7.4	20.7
2 11	7 15.18	+34 55.9	1.966	2.813	12.4	20.2	2 11	7 16.41	+16 45.7	1.977	2.852	11.0	20.9
2 21	7 11.08	+34 50.7	2.061	2.821	15.1	20.4	2 21	7 12.00	+17 8.3	2.061	2.851	14.1	21.1
<b>25229</b>	Karenkitt	1 13.9 130°04		0°9/13.6 18			<b>493840</b>	2015 <i>WP</i>	1 13.9 274°47		0°0/13.9 18		
12 13	8 7.04	+22 53.4	1.928	2.766	12.9	19.1	12 13	8 5.50	+18 27.9	1.483	2.330	15.5	21.2
12 23	8 0.29	+23 15.3	1.863	2.776	9.3	18.9	12 23	7 59.93	+19 12.1	1.407	2.324	11.3	21.0
1 2	7 51.29	+23 39.8	1.824	2.786	5.2	18.7	1 2	7 51.46	+20 7.4	1.355	2.318	6.4	20.7
1 12	7 40.96	+24 2.8	1.813	2.795	1.2	18.4	1 12	7 41.06	+21 8.7	1.328	2.311	1.1	20.3
1 22	7 30.45	+24 20.9	1.832	2.804	3.8	18.6	1 22	7 30.09	+22 9.4	1.330	2.305	4.4	20.5
2 1	7 20.96	+24 32.2	1.880	2.813	7.9	18.9	2 1	7 20.12	+23 4.0	1.359	2.298	9.6	20.8
2 11	7 13.48	+24 36.4	1.955	2.821	11.5	19.1	2 11	7 12.55	+23 49.0	1.412	2.292	14.3	21.1
2 21	7 8.62	+24 34.3	2.052	2.829	14.6	19.3	2 21	7 8.20	+24 23.4	1.486	2.286	18.2	21.3
<b>89080</b>	2001 <i>TA</i> <sub>166</sub>	1 13.9 251°67		1°0/14.2 18			<b>241590</b>	1998 <i>BM</i> <sub>4</sub>	1 13.9 13°57		2°7/13.4 18		
12 13	8 7.79	+18 52.2	1.608	2.448	14.9	19.3	12 13	8 7.10	+29 48.7	1.774	2.620	13.4	19.6
12 23	8 1.39	+18 47.4	1.524	2.436	11.0	19.0	12 23	8 0.51	+29 37.0	1.709	2.623	9.8	19.4
1 2	7 52.19	+18 48.8	1.464	2.425	6.4	18.7	1 2	7 51.46	+29 19.8	1.668	2.627	5.9	19.2
1 12	7 41.15	+18 54.1	1.430	2.412	1.6	18.4	1 12	7 41.02	+28 53.8	1.654	2.632	2.8	19.0
1 22	7 29.59	+19 0.4	1.426	2.400	4.2	18.6	1 22	7 30.49	+28 17.5	1.669	2.638	4.8	19.1
2 1	7 19.00	+19 5.6	1.449	2.387	9.2	18.8	2 1	7 21.21	+27 31.7	1.713	2.644	8.7	19.4
2 11	7 10.71	+19 8.6	1.497	2.374	13.7	19.0	2 11	7 14.24	+26 39.4	1.782	2.651	12.4	19.6
2 21	7 5.51	+19 9.0	1.566	2.361	17.6	19.3	2 21	7 10.13	+25 43.7	1.873	2.658	15.5	19.8
<b>205867</b>	2002 <i>ES</i> <sub>96</sub>	1 13.9 214°26		2°0/14.7 18			<b>262500</b>	2006 <i>UF</i> <sub>240</sub>	1 13.9 286°76		3°8/12.6 18		
12 13	8 5.86	+14 42.1	2.026	2.848	12.9	21.4	12 13	8 6.91	+29 3.5	1.704	2.552	13.8	20.9
12 23	7 59.48	+14 51.3	1.939	2.840	9.6	21.1	12 23	8 0.94	+29 48.2	1.617	2.533	10.2	20.6
1 2	7 50.92	+15 9.9	1.878	2.832	5.8	20.9	1 2	7 52.06	+30 32.2	1.555	2.513	6.3	20.3
1 12	7 40.93	+15 36.0	1.845	2.824	2.3	20.6	1 12	7 41.18	+31 8.9	1.519	2.494	3.8	20.1
1 22	7 30.54	+16 6.7	1.842	2.814	3.8	20.7	1 22	7 29.65	+31 32.4	1.512	2.475	6.0	20.2
2 1	7 20.87	+16 39.0	1.869	2.804	7.7	20.9	2 1	7 19.04	+31 39.7	1.532	2.456	10.1	20.4
2 11	7 12.96	+17 10.5	1.922	2.793	11.5	21.2	2 11	7 10.76	+31 31.6	1.576	2.436	14.2	20.6
2 21	7 7.47	+17 39.3	1.999	2.782	14.7	21.3	2 21	7 5.70	+31 11.0	1.641	2.417	17.7	20.8
<b>502643</b>	2015 <i>CS</i> <sub>41</sub>	1 13.9 301°31		0°3/14.1 17			<b>380126</b>	1996 <i>XU</i> <sub>4</sub>	1 13.9 13°84		1°5/13.5 18		
12 13	8 1.28	+17 52.4	2.172										

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1 13.9

2019/20		$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20		$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>115823</b>	2003	<i>UF</i> <sub>252</sub>		1 13.9 136°55	0°3/14.1 18			<b>490125</b>	2008	<i>UM</i> <sub>87</sub>		1 13.9 26°69	3°6/13.1 17		
12 13	8	3.12	+19 24.8	2.257	3.089	11.4	20.1	12 13	8	8.42	+28 17.3	1.209	2.072	17.2	21.1
12 23	7	57.25	+19 40.7	2.185	3.094	8.3	19.9	12 23	8	2.40	+28 41.9	1.154	2.078	12.6	20.8
1 2	7	49.54	+20 1.4	2.139	3.099	4.7	19.7	1 2	7	52.91	+29 3.8	1.121	2.084	7.5	20.6
1 12	7	40.73	+20 24.3	2.121	3.104	0.9	19.4	1 12	7	41.35	+29 16.1	1.113	2.091	3.7	20.4
1 22	7	31.71	+20 46.7	2.134	3.108	3.1	19.6	1 22	7	29.57	+29 13.7	1.130	2.099	6.3	20.6
2 1	7	23.44	+21 6.5	2.177	3.113	6.8	19.9	2 1	7	19.50	+28 55.9	1.172	2.107	11.3	20.9
2 11	7	16.77	+21 22.4	2.247	3.117	10.1	20.1	2 11	7	12.62	+28 25.4	1.236	2.116	15.9	21.2
2 21	7	12.23	+21 34.0	2.340	3.121	12.9	20.3	2 21	7	9.58	+27 46.6	1.320	2.126	19.7	21.4
<b>45873</b>	2000	<i>VK</i> <sub>61</sub>		1 13.9 185°27	3°8/14.6 18			<b>205492</b>	2001	<i>QM</i> <sub>267</sub>		1 13.9 100°51	0°4/14.1 18		
12 13	8	45.75	+37 23.9	0.974	1.799	23.4	17.9	12 13	8	7.58	+21 46.1	2.483	3.306	10.8	20.0
12 23	8	30.12	+35 25.3	0.898	1.800	17.8	17.6	12 23	8	0.13	+21 14.8	2.417	3.322	7.8	19.8
1 2	8	8.52	+32 46.6	0.845	1.800	11.0	17.2	1 2	7	51.01	+20 44.0	2.378	3.337	4.4	19.6
1 12	7	43.80	+29 21.1	0.821	1.800	4.4	16.8	1 12	7	41.00	+20 12.9	2.370	3.352	0.9	19.3
1 22	7	19.88	+25 20.7	0.828	1.799	7.3	17.0	1 22	7	30.99	+19 41.0	2.394	3.367	2.9	19.5
2 1	7	0.26	+21 12.6	0.866	1.799	14.6	17.4	2 1	7	21.88	+19 8.7	2.449	3.382	6.3	19.8
2 11	6	46.77	+17 23.9	0.930	1.798	20.9	17.7	2 11	7	14.40	+18 36.6	2.533	3.396	9.3	20.0
2 21	6	39.51	+14 8.7	1.014	1.797	25.8	18.1	2 21	7	9.01	+18 5.4	2.642	3.411	11.9	20.2
<b>359125</b>	2009	<i>BL</i> <sub>64</sub>		1 13.9 357°06	0°3/13.8 18			<b>229886</b>	2009	<i>UZ</i> <sub>84</sub>		1 13.9 118°45	0°9/13.6 18		
12 13	8	4.07	+20 1.0	1.302	2.161	16.5	20.4	12 13	8	4.42	+22 13.8	2.102	2.939	12.0	20.9
12 23	7	59.10	+20 34.8	1.236	2.158	12.0	20.2	12 23	7	58.34	+22 48.4	2.035	2.948	8.6	20.7
1 2	7	51.05	+21 17.9	1.192	2.157	6.8	19.9	1 2	7	50.23	+23 26.4	1.995	2.957	4.8	20.5
1 12	7	41.02	+22 5.0	1.173	2.156	1.1	19.5	1 12	7	40.89	+24 3.9	1.983	2.965	1.1	20.2
1 22	7	30.52	+22 49.7	1.180	2.155	4.7	19.7	1 22	7	31.34	+24 37.2	2.001	2.973	3.6	20.4
2 1	7	21.26	+23 27.3	1.213	2.155	10.2	20.0	2 1	7	22.64	+25 3.6	2.048	2.981	7.4	20.7
2 11	7	14.66	+23 55.1	1.269	2.156	15.0	20.3	2 11	7	15.71	+25 22.2	2.123	2.989	10.8	20.9
2 21	7	11.50	+24 13.1	1.345	2.158	19.0	20.6	2 21	7	11.14	+25 33.3	2.220	2.996	13.6	21.1
<b>433121</b>	2012	<i>TD</i> <sub>170</sub>		1 13.9 165°58	5°7/16.7 18			<b>229980</b>	1999	<i>VV</i> <sub>141</sub>		1 13.9 75°25	0°1/13.9 18		
12 13	8	0.54	+1 42.4	2.593	3.365	11.9	21.4	12 13	8	4.07	+20 15.3	1.956	2.795	12.7	20.7
12 23	7	55.17	+1 17.3	2.515	3.367	9.7	21.3	12 23	7	58.15	+20 28.9	1.891	2.803	9.1	20.5
1 2	7	48.30	+1 6.6	2.461	3.370	7.5	21.1	1 2	7	50.14	+20 47.2	1.850	2.812	5.1	20.3
1 12	7	40.53	+1 11.2	2.434	3.372	5.9	21.0	1 12	7	40.89	+21 7.1	1.837	2.820	0.9	20.0
1 22	7	32.56	+1 30.5	2.436	3.374	6.0	21.0	1 22	7	31.45	+21 25.7	1.854	2.829	3.4	20.2
2 1	7	25.16	+2 2.6	2.467	3.375	7.6	21.1	2 1	7	22.94	+21 40.9	1.900	2.837	7.5	20.5
2 11	7	18.99	+2 44.2	2.525	3.377	9.8	21.3	2 11	7	16.29	+21 51.5	1.972	2.846	11.1	20.7
2 21	7	14.56	+3 31.7	2.607	3.378	12.0	21.4	2 21	7	12.06	+21 57.4	2.067	2.855	14.1	21.0
<b>464560</b>	2016	<i>CS</i> <sub>44</sub>		1 13.9 354°25	2°1/13.2 18			<b>307848</b>	2003	<i>YR</i> <sub>141</sub>		1 13.9 340°76	7°9/10.2 18		
12 13	8	5.49	+25 1.5	1.718	2.566	13.7	21.0	12 13	8	7.29	+35 24.0	1.461	2.314	15.4	19.2
12 23	7	59.58	+25 37.6	1.648	2.565	9.9	20.8	12 23	8	1.80	+37 15.8	1.399	2.309	11.9	19.0
1 2	7	51.11	+26 15.6	1.602	2.565	5.7	20.5	1 2	7	52.80	+39 2.3	1.361	2.305	8.9	18.8
1 12	7	41.02	+26 50.3	1.584	2.564	2.1	20.3	1 12	7	41.39	+40 31.4	1.348	2.301	7.9	18.7
1 22	7	30.58	+27 17.0	1.594	2.564	4.7	20.5	1 22	7	29.26	+41 33.2	1.361	2.297	9.9	18.8
2 1	7	21.18	+27 32.9	1.632	2.564	8.9	20.7	2 1	7	18.41	+42 3.8	1.399	2.294	13.2	19.0
2 11	7	13.99	+27 38.0	1.695	2.564	12.9	20.9	2 11	7	10.53	+42 5.7	1.458	2.291	16.7	19.2
2 21	7	9.71	+27 33.7	1.779	2.564	16.2	21.2	2 21	7	6.56	+41 45.1	1.536	2.289	19.7	19.4
<b>426976</b>	2013	<i>YK</i> <sub>141</sub>		1 13.9 76°65	2°4/12.6 18			<b>403774</b>	2011	<i>FO</i> <sub>94</sub>		1 13.9 18°05	0°1/13.9 18		
12 13	8	2.80	+26 25.8	2.274	3.114	11.1	20.5	12 13	8	3.63	+20 52.6	1.941	2.781	12.7	21.6
12 23	7	57.16	+27 22.3	2.207	3.120	8.0	20.4	12 23	7	57.93	+21 6.7	1.868	2.782	9.2	21.4
1 2	7	49.56	+28 19.6	2.166	3.126	4.7	20.2	1 2	7	50.07	+21 25.2	1.821	2.783	5.2	21.2
1 12	7	40.75	+29 12.7	2.155	3.132	2.4	20.0	1 12	7	40.89	+21 44.9	1.801	2.784	0.8	20.8
1 22	7	31.68	+29 57.5	2.174	3.138	4.3	20.2	1 22	7	31.45	+22 2.9	1.811	2.785	3.5	21.1
2 1	7	23.37	+30 31.2	2.222	3.144	7.5	20.4	2 1	7	22.88	+22 16.9	1.849	2.786	7.7	21.3
2 11	7	16.71	+30 53.2	2.296	3.150	10.6	20.6	2 11	7	16.17	+22 25.9	1.914	2.788	11.4	21.5
2 21	7	12.29	+31 4.5	2.394	3.156	13.1	20.8	2 21	7	11.93	+22 29.8	2.001	2.789	14.5	21.7
<b>298825</b>	2004	<i>RD</i> <sub>100</sub>		1 13.9 153°80	1°7/14.5 18			<b>455115</b>	2015	<i>VD</i> <sub>25</sub>		1 13.9 50°98	1°3/13.5 17		
12 13	8	7.91	+16 9.0	1.847	2.674	13.8	21.8	12 13	8	7.31	+21 49.4	1.241	2.100	17.1	21.3
12 23	8	0.98	+16 14.8	1.777	2.682	10.2	21.5	12 23	8	1.26	+22 33.7	1.197	2.120	12.3	21.1
1 2	7	51.74	+16 29.0	1.732	2.689	6.0	21.3	1 2	7	52.12	+23 24.1	1.175	2.140	6.8	20.8
1 12	7	41.12	+16 49.1	1.716	2.696	2.0	21.1	1 12	7	41.22	+24 13.4	1.179	2.161	1.6	20.5
1 22	7	30.26	+17 12.2	1.729	2.703	3.8	21.2	1 22	7	30.24	+24 55.2	1.209	2.183	5.0	20.8
2 1	7	20.39	+17 35.5	1.772	2.708	8.0	21.5	2 1	7	20.88	+25 25.6	1.265	2.204	10.2	21.2
2 11	7	12.54	+17 57.1	1.841	2.713	11.9	21.7	2 11	7	14.42	+25 43.9	1.344	2.226	14.7	21.5
2 21	7	7.34	+18 15.7	1.933	2.717	15.1	21.9	2 21	7	11.45	+25 51.4	1.443	2.249	18.3	21.8
<b>237493</b>	2000	<i>QD</i> <sub>32</sub>		1 13.9 133°61	1°7/13.3 18			<b>367196</b>	2007	<i>AT</i> <sub>28</sub>		1 13.9 272°16	1°2/14.6 18		
12 13	8	9.77	+24 29.0	1.970	2.803	12.8	21.8	12 13	8	3.23	+14 31.9	1.841	2.673	13.7	20.6
12 23	8	2.24	+25 7.4	1.909	2.820	9.2	21.6	12 23	7	57.83	+15 25.6	1.761	2.668	10.1	20.4
1 2	7	52.41	+25 47.0	1.875	2.836	5.2	21.4	1 2	7	50.14	+16 32.7	1.705	2.664	5.9	20.2
1 12	7	41.24	+26 22.9	1.870	2.851	1.8	21.2	1 12	7	40.92	+17 49.1	1.678	2.659	1.7	19.9
1 22	7	29.91	+26 50.8	1.896	2.865	4.1	21.3	1 22	7	31.25	+19 9.2	1.679	2.654	3.7	20.0
2 1	7	19.66	+27 8.8</												

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>251593</b>	2009 <i>HC</i> <sub>25</sub>		1 13.9 320°40'		3°7'/15.0 18 <sup>m</sup>		<b>281362</b>	2007 <i>YE</i> <sub>34</sub>		1 13.9 115°68'		2°4'/12.6 18 <sup>m</sup>	
12 13	8 3.88	+12 48.2	1.507	2.344	15.9	20.6	12 13	8 4.11	+29 3.1	2.905	3.734	9.2	21.6
12 23	7 58.61	+12 29.2	1.429	2.336	12.0	20.3	12 23	7 57.68	+29 41.8	2.847	3.754	6.7	21.4
1 2	7 50.68	+12 22.9	1.375	2.328	7.7	20.1	1 2	7 49.70	+30 18.3	2.818	3.773	4.1	21.3
1 12	7 41.03	+12 29.0	1.345	2.321	4.1	19.8	1 12	7 40.86	+30 49.1	2.818	3.792	2.4	21.2
1 22	7 30.91	+12 45.5	1.343	2.313	5.3	19.9	1 22	7 31.91	+31 11.6	2.851	3.811	3.7	21.3
2 1	7 21.76	+13 9.5	1.367	2.307	9.6	20.1	2 1	7 23.66	+31 24.6	2.913	3.829	6.2	21.5
2 11	7 14.84	+13 37.6	1.415	2.300	13.9	20.4	2 11	7 16.81	+31 28.4	3.004	3.847	8.7	21.7
2 21	7 10.89	+14 6.6	1.484	2.294	17.7	20.6	2 21	7 11.82	+31 24.3	3.118	3.864	10.7	21.9
<b>492667</b>	2014 <i>PD</i> <sub>17</sub>		1 13.9 225°65'		0°0'/13.9 18		<b>235067</b>	2003 <i>FN</i> <sub>131</sub>		1 13.9 231°22'		1°5'/14.5 18	
12 13	8 6.84	+19 47.6	1.822	2.658	13.6	22.4	12 13	8 6.77	+16 23.4	1.765	2.597	14.1	21.3
12 23	8 0.50	+20 11.9	1.739	2.650	9.9	22.2	12 23	8 0.51	+16 37.3	1.680	2.587	10.5	21.1
1 2	7 51.66	+20 42.7	1.680	2.642	5.6	21.9	1 2	7 51.72	+17 0.7	1.619	2.577	6.2	20.8
1 12	7 41.19	+21 16.3	1.650	2.633	0.9	21.5	1 12	7 41.24	+17 31.0	1.585	2.566	1.9	20.5
1 22	7 30.24	+21 48.5	1.649	2.623	3.8	21.7	1 22	7 30.26	+18 4.6	1.580	2.555	4.0	20.6
2 1	7 20.14	+22 16.2	1.677	2.613	8.4	22.0	2 1	7 20.09	+18 37.8	1.605	2.543	8.6	20.8
2 11	7 12.06	+22 37.6	1.731	2.602	12.5	22.2	2 11	7 11.95	+19 8.2	1.655	2.530	12.8	21.1
2 21	7 6.76	+22 52.3	1.807	2.591	16.0	22.4	2 21	7 6.60	+19 34.2	1.727	2.517	16.4	21.3
<b>113448</b>	2002 <i>SZ</i> <sub>45</sub>		1 13.9 71°36'		3°7'/12.2 18		<b>262747</b>	2006 <i>XN</i> <sub>51</sub>		1 13.9 322°48'		1°6'/14.4 18	
12 13	8 4.45	+30 33.7	2.166	3.007	11.5	19.7	12 13	8 4.17	+17 19.4	1.648	2.490	14.5	20.6
12 23	7 58.50	+31 25.0	2.100	3.010	8.5	19.5	12 23	7 58.67	+17 15.4	1.571	2.484	10.7	20.3
1 2	7 50.39	+32 13.7	2.059	3.014	5.4	19.3	1 2	7 50.66	+17 19.4	1.518	2.478	6.3	20.1
1 12	7 40.96	+32 54.3	2.047	3.018	3.7	19.2	1 12	7 41.06	+17 29.4	1.491	2.472	2.0	19.8
1 22	7 31.26	+33 22.6	2.065	3.021	5.3	19.3	1 22	7 31.06	+17 42.6	1.492	2.466	4.1	19.9
2 1	7 22.43	+33 36.8	2.110	3.025	8.3	19.5	2 1	7 22.02	+17 56.8	1.520	2.461	8.7	20.2
2 11	7 15.45	+33 37.4	2.182	3.029	11.3	19.7	2 11	7 15.08	+18 9.8	1.574	2.456	12.9	20.4
2 21	7 10.94	+33 26.7	2.276	3.033	13.9	19.9	2 21	7 10.96	+18 20.5	1.649	2.452	16.5	20.6
<b>245924</b>	2006 <i>RJ</i> <sub>13</sub>		1 13.9 140°69'		1°5'/14.7 18		<b>247605</b>	2002 <i>TP</i> <sub>254</sub>		1 13.9 130°24'		2°9'/12.7 18	
12 13	8 2.12	+15 43.4	2.845	3.661	9.8	21.4	12 13	8 8.51	+27 53.1	2.124	2.959	12.0	21.1
12 23	7 56.18	+15 37.6	2.772	3.671	7.2	21.3	12 23	8 1.32	+28 43.8	2.065	2.974	8.7	20.9
1 2	7 48.84	+15 37.0	2.727	3.680	4.3	21.1	1 2	7 51.93	+29 33.2	2.032	2.990	5.2	20.7
1 12	7 40.68	+15 40.7	2.711	3.690	1.7	20.9	1 12	7 41.25	+30 15.7	2.029	3.004	2.9	20.6
1 22	7 32.42	+15 47.2	2.727	3.698	2.8	21.0	1 22	7 30.38	+30 47.3	2.055	3.018	4.7	20.8
2 1	7 24.75	+15 55.3	2.773	3.707	5.6	21.2	2 1	7 20.50	+31 6.0	2.112	3.031	8.0	21.0
2 11	7 18.33	+16 3.8	2.848	3.715	8.3	21.4	2 11	7 12.60	+31 12.3	2.195	3.044	11.2	21.2
2 21	7 13.58	+16 11.9	2.949	3.722	10.7	21.6	2 21	7 7.25	+31 8.2	2.301	3.056	13.8	21.4
<b>92815</b>	2000 <i>QC</i> <sub>172</sub>		1 13.9 51°00'		0°4'/13.9 18		<b>522513</b>	2016 <i>ED</i> <sub>234</sub>		1 13.9 247°89'		4°5'/11.7 18	
12 13	8 7.91	+21 43.2	1.284	2.140	16.9	19.2	12 13	8 5.08	+33 2.7	2.243	3.080	11.3	21.7
12 23	8 1.62	+21 53.1	1.235	2.156	12.2	19.0	12 23	7 59.04	+34 2.1	2.170	3.076	8.5	21.5
1 2	7 52.31	+22 7.8	1.207	2.172	6.8	18.7	1 2	7 50.77	+34 57.6	2.124	3.073	5.8	21.3
1 12	7 41.27	+22 22.8	1.205	2.188	1.1	18.4	1 12	7 41.07	+35 43.3	2.106	3.069	4.5	21.2
1 22	7 30.16	+22 34.0	1.230	2.205	4.6	18.7	1 22	7 31.01	+36 14.6	2.117	3.065	5.9	21.3
2 1	7 20.63	+22 39.2	1.281	2.222	9.9	19.0	2 1	7 21.76	+36 29.5	2.156	3.061	8.7	21.5
2 11	7 13.93	+22 38.1	1.355	2.240	14.4	19.3	2 11	7 14.36	+36 28.8	2.222	3.057	11.6	21.7
2 21	7 10.66	+22 31.5	1.449	2.258	18.1	19.6	2 21	7 9.47	+36 15.1	2.308	3.053	14.1	21.8
<b>17908</b>	<i>Chriskuyu</i>		1 13.9 289°61'		3°4'/15.1 18		<b>184061</b>	2004 <i>FR</i> <sub>146</sub>		1 13.9 282°79'		8°9'/17.9 18	
12 13	8 4.17	+12 12.5	1.489	2.324	16.1	19.1	12 13	8 1.68	- 2 57.9	1.835	2.602	16.2	20.4
12 23	7 59.06	+12 21.5	1.399	2.306	12.2	18.8	12 23	7 56.71	- 3 21.8	1.746	2.589	13.7	20.2
1 2	7 51.10	+12 46.7	1.332	2.287	7.8	18.5	1 2	7 49.54	- 3 21.4	1.679	2.575	11.2	20.0
1 12	7 41.14	+13 26.8	1.291	2.268	3.8	18.2	1 12	7 40.88	- 2 53.9	1.635	2.561	9.3	19.8
1 22	7 30.45	+14 18.0	1.276	2.249	5.1	18.2	1 22	7 31.73	- 1 59.7	1.617	2.547	9.1	19.8
2 1	7 20.54	+15 15.2	1.288	2.230	9.8	18.4	2 1	7 23.22	- 0 42.2	1.626	2.533	10.9	19.9
2 11	7 12.85	+16 13.2	1.325	2.211	14.6	18.7	2 11	7 16.42	+ 0 51.7	1.659	2.519	13.6	20.0
2 21	7 8.29	+17 7.9	1.382	2.192	18.7	18.9	2 21	7 12.06	+ 2 34.1	1.715	2.505	16.5	20.1
<b>378399</b>	2007 <i>RY</i> <sub>55</sub>		1 13.9 89°49'		5°5'/11.9 18		<b>187447</b>	2005 <i>WD</i> <sub>117</sub>		1 13.9 139°41'		2°7'/12.5 18	
12 13	8 9.81	+39 8.8	2.372	3.192	11.3	20.6	12 13	8 6.51	+27 12.9	2.333	3.166	11.1	20.6
12 23	8 2.10	+39 44.0	2.323	3.213	8.8	20.5	12 23	7 59.81	+28 18.1	2.269	3.178	8.0	20.5
1 2	7 52.25	+40 8.8	2.301	3.233	6.5	20.4	1 2	7 51.09	+29 23.3	2.232	3.190	4.8	20.3
1 12	7 41.25	+40 18.3	2.306	3.253	5.5	20.3	1 12	7 41.12	+30 23.0	2.225	3.200	2.7	20.2
1 22	7 30.28	+40 9.9	2.341	3.273	6.5	20.4	1 22	7 30.89	+31 12.6	2.250	3.211	4.5	20.3
2 1	7 20.48	+39 44.3	2.404	3.293	8.7	20.6	2 1	7 21.45	+31 49.4	2.304	3.221	7.6	20.5
2 11	7 12.77	+39 4.3	2.494	3.312	11.0	20.8	2 11	7 13.74	+32 13.2	2.385	3.230	10.6	20.7
2 21	7 7.67	+38 14.4	2.605	3.331	13.1	21.0	2 21	7 8.34	+32 25.3	2.490	3.239	13.1	20.9
<b>51232</b>	2000 <i>JX</i> <sub>30</sub>		1 13.9 190°76'		2°0'/14.7 18		<b>24086</b>	1999 <i>UT</i>		1 13.9 47°24'		3°0'/15.1 18	
12 13	8 2.51	+15 5.6	2.417	3.238	11.2	19.3	12 13	8 2.52	+12 33.7	1.929	2.754	13.4	18.8
12 23	7 56.74	+14 53.4	2.337	3.237	8.3	19.1	12 23	7 57.07	+12 29.3	1.857	2.758	10.1	18.6
1 2	7 49.27	+14 47.7	2.283	3.237	5.1	18.9	1 2	7 49.59	+12 35.9	1.810	2.762	6.4	18.4
1 12	7 40.79	+14 47.6	2.258	3.236	2.2	18.7	1 12	7 40.88	+12 52.3	1.791	2.766	3.3	18.2
1 22	7 32.09	+14 51.8	2.264	3.235	3.3	18.8	1 22	7 31.92	+13 16.3	1.800	2.770	4.2	18.3
2 1	7 24.06	+14 58.9	2.299	3.234	6.5	19.0	2 1	7 23.79	+13 45.2	1.837	2.774	7.7	18.5
2 11	7 17.45	+15 7.4	2.362	3.232	9.6	19.1	2 11	7 17.41	+14 16.0	1.901	2.779	11.3	18.7
2 21	7 12.80	+15 16.2	2.449	3.231	12.3	19.3	2 21	7 13.37	+14 46.2	1.988	2.784	14.3	18.9
<b>124290</b>	2001 <i>QD</i> <sub>51</sub>		1 13.9 165°34'		0°4'/13.8 18		<b>469064</b>	2015 <i>BB</i> <sub>6</sub>		1 13.9 320°83'		1°8'/13.2 18	
12 13	8 8.98	+20 35.1	1.852	2.685	13.5	20.9	12 13	8 3.21	+25 1.2	2.020	2.864	12.1	20.7
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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$		
<b>421513</b>	2014	<i>OV</i> <sub>101</sub>	1 13.9	222°78	1°5	14.6	18	<b>486071</b>	2012	<i>UY</i> <sub>1</sub>	1 13.9	349°56	0°0	13.9	18
12 13	8 5.51	+15 26.4	1.844	2.673	13.7	22.0	12 13	8 7.34	+20 3.7	1.273	2.128	17.0	21.6		
12 23	7 59.50	+15 50.7	1.761	2.667	10.1	21.7	12 23	8 1.57	+20 24.4	1.207	2.127	12.4	21.3		
1 2	7 51.11	+16 25.8	1.702	2.659	6.0	21.5	1 2	7 52.55	+20 53.5	1.162	2.126	7.0	21.0		
1 12	7 41.16	+17 8.5	1.671	2.652	2.0	21.2	1 12	7 41.44	+21 26.2	1.143	2.126	1.2	20.6		
1 22	7 30.76	+17 55.1	1.669	2.644	3.8	21.3	1 22	7 29.85	+21 56.8	1.150	2.125	4.8	20.8		
2 1	7 21.13	+18 41.3	1.697	2.635	8.2	21.5	2 1	7 19.60	+22 21.5	1.182	2.125	10.4	21.2		
2 11	7 13.41	+19 24.1	1.751	2.626	12.2	21.7	2 11	7 12.17	+22 38.3	1.238	2.125	15.4	21.4		
2 21	7 8.32	+20 1.4	1.827	2.617	15.6	22.0	2 21	7 8.37	+22 47.5	1.314	2.125	19.5	21.7		
<b>2373</b>	Immo		1 13.9	91°26	2°8	15.4	18	<b>79352</b>	1997	<i>AO</i> <sub>6</sub>	1 13.9	347°45	1°6	13.5	18
12 13	8 3.45	+11 16.9	2.019	2.836	13.2	17.0	12 13	8 3.93	+21 42.8	1.079	1.950	18.2	19.0		
12 23	7 57.58	+11 38.9	1.958	2.854	9.9	16.8	12 23	7 59.63	+22 30.1	1.015	1.944	13.3	18.6		
1 2	7 49.80	+12 13.2	1.921	2.871	6.2	16.6	1 2	7 51.70	+23 27.6	0.971	1.938	7.5	18.3		
1 12	7 40.91	+12 57.7	1.913	2.888	3.1	16.4	1 12	7 41.32	+24 27.5	0.951	1.934	1.8	17.9		
1 22	7 31.87	+13 48.7	1.934	2.904	3.9	16.5	1 22	7 30.29	+25 21.1	0.955	1.930	5.8	18.2		
2 1	7 23.68	+14 42.4	1.984	2.921	7.3	16.7	2 1	7 20.67	+26 2.2	0.983	1.927	11.8	18.5		
2 11	7 17.19	+15 35.1	2.062	2.937	10.6	17.0	2 11	7 14.21	+26 28.5	1.032	1.925	17.1	18.8		
2 21	7 12.95	+16 24.0	2.163	2.953	13.5	17.2	2 21	7 11.79	+26 40.8	1.099	1.925	21.6	19.1		
<b>36952</b>	2000	<i>SM</i> <sub>266</sub>	1 13.9	35°80	2°2	14.9	18	<b>204258</b>	2004	<i>EL</i> <sub>84</sub>	1 13.9	35°11	0°6	13.7	18
12 13	8 2.84	+14 2.4	1.792	2.624	13.9	19.5	12 13	8 2.26	+21 36.7	2.089	2.930	11.9	20.3		
12 23	7 57.48	+14 16.3	1.721	2.627	10.3	19.2	12 23	7 56.86	+22 6.0	2.020	2.934	8.6	20.1		
1 2	7 49.89	+14 41.6	1.674	2.630	6.3	19.0	1 2	7 49.48	+22 39.3	1.976	2.938	4.8	19.8		
1 12	7 40.95	+15 16.0	1.654	2.633	2.6	18.8	1 12	7 40.89	+23 13.1	1.960	2.943	0.9	19.6		
1 22	7 31.70	+15 56.1	1.663	2.637	4.0	18.9	1 22	7 32.06	+23 43.9	1.974	2.947	3.4	19.8		
2 1	7 23.34	+16 38.1	1.700	2.640	8.0	19.1	2 1	7 24.04	+24 9.1	2.017	2.952	7.3	20.0		
2 11	7 16.86	+17 18.6	1.764	2.644	11.8	19.4	2 11	7 17.71	+24 27.5	2.086	2.957	10.7	20.2		
2 21	7 12.91	+17 55.4	1.849	2.648	15.1	19.6	2 21	7 13.67	+24 39.0	2.179	2.962	13.6	20.4		
<b>340869</b>	2007	<i>BJ</i> <sub>69</sub>	1 13.9	45°73	3°1	13.4	17	<b>303551</b>	2005	<i>GG</i> <sub>9</sub>	1 13.9	293°51	20°8	21.9	18
12 13	8 10.89	+27 40.9	1.141	2.003	18.1	20.1	12 13	8 3.70	-17 25.0	1.113	1.843	26.7	20.6		
12 23	8 4.22	+27 53.4	1.091	2.015	13.1	19.9	12 23	7 59.34	-19 11.4	1.049	1.833	24.8	20.4		
1 2	7 53.95	+28 3.2	1.063	2.027	7.7	19.6	1 2	7 51.54	-20 12.3	0.998	1.824	22.8	20.2		
1 12	7 41.61	+28 3.6	1.060	2.040	3.2	19.4	1 12	7 41.31	-20 15.1	0.961	1.814	21.3	20.0		
1 22	7 29.21	+27 50.5	1.082	2.053	6.1	19.6	1 22	7 30.21	-19 13.0	0.940	1.805	20.8	20.0		
2 1	7 18.74	+27 24.0	1.128	2.066	11.3	19.9	2 1	7 20.18	-17 8.2	0.936	1.796	21.4	20.0		
2 11	7 11.66	+26 47.6	1.198	2.080	16.1	20.3	2 11	7 12.96	-14 13.4	0.950	1.787	23.1	20.0		
2 21	7 8.56	+26 5.3	1.285	2.095	19.9	20.5	2 21	7 9.61	-10 47.6	0.980	1.779	25.5	20.2		
<b>424305</b>	2007	<i>TH</i> <sub>289</sub>	1 13.9	59°19	4°3	12.4	18	<b>56873</b>	2000	<i>QG</i> <sub>110</sub>	1 13.9	244°64	3°2	12.9	18
12 13	8 6.18	+33 38.8	2.166	3.002	11.7	20.6	12 13	8 8.65	+30 17.6	2.067	2.902	12.2	19.6		
12 23	7 59.72	+34 11.2	2.102	3.008	8.8	20.4	12 23	8 1.69	+30 36.1	1.982	2.891	9.0	19.4		
1 2	7 51.07	+34 37.5	2.063	3.013	5.9	20.2	1 2	7 52.31	+30 50.6	1.924	2.880	5.6	19.2		
1 12	7 41.13	+34 52.7	2.053	3.019	4.3	20.1	1 12	7 41.38	+30 56.5	1.894	2.868	3.2	19.0		
1 22	7 31.02	+34 53.9	2.072	3.025	5.7	20.2	1 22	7 30.10	+30 50.5	1.893	2.856	5.0	19.1		
2 1	7 21.92	+34 40.2	2.120	3.031	8.5	20.4	2 1	7 19.73	+30 31.7	1.922	2.844	8.5	19.3		
2 11	7 14.80	+34 13.7	2.193	3.037	11.4	20.6	2 11	7 11.41	+30 1.9	1.977	2.831	12.0	19.5		
2 21	7 10.24	+33 37.6	2.288	3.043	13.9	20.8	2 21	7 5.82	+29 24.0	2.055	2.818	15.0	19.6		
<b>278470</b>	2007	<i>TN</i> <sub>225</sub>	1 13.9	245°47	1°6	13.3	18	<b>133181</b>	2003	<i>QO</i> <sub>50</sub>	1 13.9	179°76	2°9	12.8	18
12 13	8 3.62	+24 59.4	2.227	3.066	11.3	21.2	12 13	8 9.46	+28 15.4	2.083	2.917	12.2	21.3		
12 23	7 57.82	+25 27.0	2.149	3.062	8.2	21.0	12 23	8 2.18	+28 55.8	2.010	2.919	8.9	21.0		
1 2	7 50.02	+25 55.9	2.097	3.059	4.7	20.7	1 2	7 52.54	+29 34.8	1.962	2.920	5.4	20.8		
1 12	7 40.97	+26 22.1	2.075	3.055	1.7	20.5	1 12	7 41.43	+30 7.0	1.944	2.920	2.9	20.7		
1 22	7 31.63	+26 42.4	2.082	3.052	3.8	20.7	1 22	7 30.00	+30 28.3	1.957	2.920	4.8	20.8		
2 1	7 23.05	+26 54.9	2.118	3.048	7.3	20.9	2 1	7 19.50	+30 36.8	1.998	2.919	8.3	21.0		
2 11	7 16.14	+26 59.2	2.182	3.045	10.6	21.1	2 11	7 11.03	+30 33.2	2.067	2.917	11.7	21.2		
2 21	7 11.50	+26 56.2	2.268	3.041	13.5	21.3	2 21	7 5.24	+30 19.9	2.157	2.915	14.6	21.4		
<b>108668</b>	2001	<i>OX</i> <sub>1</sub>	1 13.9	118°48	1°6	13.1	18	<b>373891</b>	2003	<i>SU</i> <sub>328</sub>	1 13.9	108°98	1°2	13.5	18
12 13	8 3.43	+24 56.3	2.547	3.380	10.2	19.9	12 13	8 4.32	+23 44.7	2.152	2.990	11.7	21.8		
12 23	7 57.40	+25 39.7	2.483	3.394	7.3	19.8	12 23	7 58.29	+24 13.5	2.085	2.998	8.4	21.6		
1 2	7 49.65	+26 23.9	2.446	3.407	4.2	19.6	1 2	7 50.26	+24 44.2	2.044	3.006	4.7	21.3		
1 12	7 40.90	+27 5.4	2.439	3.419	1.7	19.4	1 12	7 41.04	+25 13.1	2.032	3.013	1.4	21.1		
1 22	7 31.97	+27 40.6	2.464	3.432	3.5	19.6	1 22	7 31.62	+25 36.8	2.050	3.021	3.6	21.3		
2 1	7 23.75	+28 7.7	2.518	3.444	6.6	19.8	2 1	7 23.04	+25 53.3	2.097	3.028	7.3	21.5		
2 11	7 17.02	+28 25.8	2.600	3.455	9.4	20.0	2 11	7 16.21	+26 2.0	2.170	3.035	10.6	21.8		
2 21	7 12.29	+28 35.8	2.706	3.467	11.8	20.2	2 21	7 11.69	+26 3.6	2.267	3.043	13.4	22.0		
<b>252318</b>	2001	<i>RV</i> <sub>135</sub>	1 13.9	55°65	1°4	13.5	18	<b>163447</b>	2002	<i>RD</i> <sub>106</sub>	1 13.9	50°09	6°0	11.8	18
12 13	8 7.28	+22 56.3	1.499	2.349	15.2	20.1	12 13	8 8.35	+36 18.0	1.829	2.668	13.4	18.9		
12 23	8 0.81	+23 34.8	1.457	2.375	10.9	19.9	12 23	8 1.51	+37 17.6	1.791	2.694	10.2	18.8		
1 2	7 51.73	+24 16.4	1.438	2.402	6.0	19.7	1 2	7 52.12	+38 7.5	1.778	2.720	7.3	18.7		
1 12	7 41.23	+24 55.5	1.447	2.429	1.6	19.4	1 12	7 41.33	+38 40.8	1.792	2.747	6.0	18.6		
1 22	7 30.74	+25 27.1	1.483	2.456	4.5	19.7	1 22	7 30.55	+38 53.7	1.833	2.774	7.3	18.8		
2 1	7 21.66	+25 48.6	1.547	2.483	9.0	20.0	2 1	7 21.16	+38 46.0	1.902	2.801	10.0	19.0		
2 11	7 15.08	+25 59.9	1.635	2.510	13.0	20.3	2 11	7 14.23	+38 21.1	1.995	2.828	12.8	19.2		
2 21	7 11.54	+26 2.3	1.745	2.537	16.2	20.6	2 21	7 10.29	+37 43.7	2.108	2.856	15.2	19.4		
<b>542</b>	Susanna		1 13.9	87°39	3°7	15.9	18	<b>126111</b>	2001	<i>YA</i> <sub>111</sub>	1 13.9	249°37	4°6	12.5	18

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2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>149624</b>	2004 <i>EC</i> <sub>37</sub>		1 13.9 303°19	6°2/12.1	18		<b>49431</b>	1998 <i>XB</i> <sub>99</sub>		1 13.9 48°80	7°5/16.1	18	
12 13	8 10.27	+32 34.8	1.305	2.161	16.6	19.6	12 13	8 4.66	+4 48.2	1.543	2.352	16.9	17.4
12 23	8 4.10	+33 34.4	1.237	2.154	12.6	19.4	12 23	7 58.88	+3 49.7	1.485	2.363	13.6	17.2
1 2	7 54.18	+34 29.1	1.192	2.147	8.4	19.1	1 2	7 50.72	+3 10.2	1.448	2.375	10.1	17.0
1 12	7 41.76	+35 8.5	1.171	2.140	6.2	19.0	1 12	7 41.15	+2 52.3	1.436	2.387	7.8	16.9
1 22	7 28.73	+35 25.0	1.177	2.133	8.4	19.1	1 22	7 31.39	+2 55.8	1.450	2.399	8.0	17.0
2 1	7 17.22	+35 16.2	1.207	2.127	12.6	19.3	2 1	7 22.73	+3 18.2	1.490	2.411	10.6	17.1
2 11	7 8.96	+34 45.8	1.259	2.120	16.9	19.5	2 11	7 16.23	+3 54.3	1.554	2.424	13.8	17.4
2 21	7 4.83	+34 0.0	1.329	2.114	20.6	19.8	2 21	7 12.48	+4 38.5	1.639	2.437	16.8	17.6
<b>502145</b>	2015 <i>BH</i> <sub>28</sub>		1 13.9 177°13	0°3/13.9	18		<b>256146</b>	2006 <i>VM</i> <sub>30</sub>		1 13.9 150°22	0°9/14.4	18	
12 13	8 3.54	+22 18.3	2.352	3.186	11.0	21.3	12 13	8 6.34	+17 53.9	2.300	3.122	11.6	21.2
12 23	7 57.59	+22 19.0	2.275	3.186	7.9	21.1	12 23	7 59.54	+18 1.0	2.229	3.133	8.4	21.0
1 2	7 49.83	+22 21.5	2.225	3.186	4.4	20.8	1 2	7 50.90	+18 13.5	2.185	3.143	4.9	20.8
1 12	7 40.98	+22 23.7	2.203	3.186	0.8	20.6	1 12	7 41.17	+18 29.0	2.170	3.152	1.3	20.6
1 22	7 31.94	+22 23.5	2.212	3.186	3.1	20.8	1 22	7 31.27	+18 45.3	2.186	3.160	3.1	20.7
2 1	7 23.65	+22 19.9	2.251	3.186	6.7	21.0	2 1	7 22.17	+19 0.5	2.233	3.168	6.7	21.0
2 11	7 16.91	+22 12.7	2.318	3.186	9.9	21.2	2 11	7 14.71	+19 13.4	2.308	3.175	10.0	21.2
2 21	7 12.28	+22 2.2	2.408	3.186	12.6	21.4	2 21	7 9.41	+19 23.5	2.407	3.181	12.8	21.4
<b>13941</b>	1989 <i>TF</i> <sub>14</sub>		1 13.9 203°38	1°2/13.5	18		<b>256041</b>	2006 <i>UX</i> <sub>81</sub>		1 13.9 332°71	0°8/13.7	18	
12 13	8 5.98	+23 3.0	1.920	2.760	12.8	18.3	12 13	8 3.64	+21 17.6	1.505	2.358	15.0	20.4
12 23	7 59.79	+23 36.5	1.844	2.758	9.3	18.0	12 23	7 58.64	+21 51.7	1.430	2.350	10.9	20.1
1 2	7 51.26	+24 13.4	1.793	2.755	5.2	17.8	1 2	7 50.84	+22 32.9	1.378	2.342	6.1	19.8
1 12	7 41.24	+24 49.4	1.771	2.753	1.4	17.5	1 12	7 41.21	+23 16.2	1.352	2.335	1.2	19.5
1 22	7 30.86	+25 20.1	1.778	2.750	4.0	17.7	1 22	7 31.07	+23 56.1	1.354	2.328	4.5	19.7
2 1	7 21.35	+25 42.8	1.814	2.747	8.1	18.0	2 1	7 21.93	+24 28.5	1.383	2.322	9.5	20.0
2 11	7 13.80	+25 56.6	1.876	2.743	11.9	18.2	2 11	7 15.13	+24 51.3	1.435	2.317	14.0	20.2
2 21	7 8.89	+26 2.1	1.960	2.739	15.1	18.4	2 21	7 11.46	+25 4.7	1.508	2.311	17.7	20.4
<b>197376</b>	2003 <i>XB</i> <sub>39</sub>		1 13.9 33°23	3°0/12.7	18		<b>431510</b>	2007 <i>TR</i> <sub>179</sub>		1 13.9 10°42	0°6/13.8	18	
12 13	8 3.75	+27 13.6	1.813	2.662	13.0	19.5	12 13	8 1.54	+21 44.5	1.740	2.590	13.4	20.9
12 23	7 58.25	+28 4.3	1.754	2.671	9.4	19.3	12 23	7 56.66	+22 5.2	1.674	2.593	9.7	20.7
1 2	7 50.38	+28 55.0	1.720	2.680	5.6	19.1	1 2	7 49.50	+22 30.5	1.633	2.597	5.4	20.5
1 12	7 41.08	+29 39.7	1.713	2.690	3.0	18.9	1 12	7 40.96	+22 56.4	1.618	2.601	1.0	20.2
1 22	7 31.56	+30 13.8	1.735	2.701	5.1	19.1	1 22	7 32.18	+23 19.4	1.632	2.607	3.8	20.4
2 1	7 23.07	+30 34.6	1.785	2.711	8.7	19.3	2 1	7 24.35	+23 36.9	1.673	2.613	8.2	20.7
2 11	7 16.66	+30 42.3	1.860	2.723	12.2	19.6	2 11	7 18.52	+23 47.6	1.740	2.620	12.0	20.9
2 21	7 12.97	+30 38.8	1.956	2.734	15.2	19.8	2 21	7 15.31	+23 51.8	1.828	2.627	15.3	21.2
<b>90585</b>	2032 <i>P-L</i>		1 13.9 68°59	2°1/13.4	18		<b>205218</b>	2000 <i>OB</i> <sub>46</sub>		1 13.9 53°90	13°3/23.1	18	
12 13	8 8.23	+25 49.2	1.604	2.452	14.5	19.2	12 13	8 5.14	-13 19.1	1.338	2.069	22.9	18.8
12 23	8 1.52	+26 12.5	1.552	2.468	10.5	19.0	12 23	7 59.33	-13 22.4	1.297	2.099	19.9	18.7
1 2	7 52.19	+26 35.6	1.523	2.485	6.0	18.8	1 2	7 50.96	-12 42.9	1.273	2.129	16.9	18.6
1 12	7 41.38	+26 53.4	1.521	2.502	2.2	18.6	1 12	7 41.19	-11 18.2	1.268	2.159	14.4	18.5
1 22	7 30.49	+27 2.3	1.548	2.519	4.7	18.8	1 22	7 31.41	-9 13.0	1.286	2.190	13.3	18.5
2 1	7 20.94	+27 0.9	1.602	2.535	9.0	19.1	2 1	7 23.02	-6 37.9	1.329	2.221	14.0	18.6
2 11	7 13.84	+26 50.1	1.682	2.552	12.9	19.3	2 11	7 17.09	-3 47.3	1.395	2.251	15.9	18.9
2 21	7 9.78	+26 32.2	1.783	2.569	16.1	19.6	2 21	7 14.16	-0 55.1	1.484	2.282	18.3	19.1
<b>459437</b>	2012 <i>TH</i> <sub>89</sub>		1 13.9 141°21	2°9/15.5	18		<b>429264</b>	2010 <i>CO</i> <sub>14</sub>		1 13.9 239°87	5°4/17.7	17	
12 13	8 1.06	+10 15.0	2.911	3.712	10.0	22.0	12 13	7 59.96	-0 45.2	2.865	3.619	11.3	21.8
12 23	7 55.44	+10 7.6	2.838	3.722	7.6	21.9	12 23	7 54.82	-0 33.7	2.767	3.607	9.3	21.6
1 2	7 48.49	+10 8.7	2.790	3.732	5.1	21.7	1 2	7 48.25	-0 5.9	2.693	3.594	7.3	21.5
1 12	7 40.76	+10 17.6	2.773	3.741	3.1	21.6	1 12	7 40.75	+0 38.5	2.647	3.581	5.7	21.3
1 22	7 32.90	+10 33.2	2.786	3.750	3.5	21.6	1 22	7 32.97	+1 37.9	2.631	3.568	5.6	21.3
2 1	7 25.59	+10 53.9	2.830	3.758	5.8	21.8	2 1	7 25.59	+2 49.4	2.645	3.555	7.1	21.4
2 11	7 19.43	+11 17.6	2.902	3.767	8.3	22.0	2 11	7 19.28	+4 9.0	2.687	3.541	9.2	21.5
2 21	7 14.86	+11 42.6	2.999	3.774	10.5	22.1	2 21	7 14.54	+5 32.3	2.755	3.526	11.4	21.6
<b>111341</b>	2001 <i>XO</i> <sub>96</sub>		1 13.9 108°29	3°7/12.2	18		<b>101236</b>	1998 <i>SV</i> <sub>78</sub>		1 13.9 147°50	1°4/14.5	18	
12 13	8 7.70	+29 18.5	2.035	2.873	12.3	19.9	12 13	8 6.19	+16 31.0	1.995	2.822	12.9	20.7
12 23	8 0.91	+30 27.8	1.980	2.890	9.0	19.7	12 23	7 59.69	+16 38.1	1.925	2.830	9.5	20.5
1 2	7 51.81	+31 35.2	1.951	2.907	5.6	19.5	1 2	7 51.09	+16 52.8	1.880	2.837	5.6	20.3
1 12	7 41.33	+32 34.0	1.951	2.923	3.7	19.4	1 12	7 41.23	+17 12.6	1.863	2.844	1.8	20.0
1 22	7 30.62	+33 19.1	1.981	2.938	5.4	19.6	1 22	7 31.15	+17 35.0	1.877	2.851	3.5	20.2
2 1	7 20.92	+33 48.1	2.040	2.954	8.6	19.8	2 1	7 21.95	+17 57.4	1.920	2.857	7.5	20.4
2 11	7 13.27	+34 1.7	2.125	2.969	11.7	20.0	2 11	7 14.58	+18 17.9	1.990	2.862	11.1	20.7
2 21	7 8.27	+34 2.3	2.232	2.983	14.3	20.2	2 21	7 9.64	+18 35.4	2.083	2.867	14.2	20.9
<b>394398</b>	2007 <i>EZ</i> <sub>135</sub>		1 13.9 235°39	3°3/15.1	18		<b>192232</b>	2008 <i>CN</i> <sub>48</sub>		1 13.9 104°87	1°5/13.5	18	
12 13	8 6.47	+12 23.3	1.613	2.441	15.4	21.8	12 13	8 7.84	+24 33.4	1.893	2.731	13.0	20.5
12 23	8 0.47	+12 25.8	1.530	2.432	11.7	21.6	12 23	8 0.96	+24 56.9	1.834	2.747	9.4	20.3
1 2	7 51.80	+12 42.3	1.471	2.423	7.4	21.3	1 2	7 51.80	+25 21.3	1.801	2.762	5.3	20.1
1 12	7 41.36	+13 11.3	1.437	2.413	3.7	21.0	1 12	7 41.34	+25 42.4	1.796	2.777	1.6	19.9
1 22	7 30.38	+13 49.5	1.432	2.404	4.9	21.1	1 22	7 30.76	+25 56.6	1.821	2.792	4.0	20.1
2 1	7 20.27	+14 33.1	1.455	2.393	9.2	21.3	2 1	7 21.28	+26 2.5	1.875	2.806	8.0	20.4
2 11	7 12.30	+15 17.7	1.503	2.383	13.6	21.6	2 11	7 13.90	+26 0.3	1.955	2.820	11.6	20.6
2 21	7 7.28	+16 0.3	1.572	2.371	17.3	21.8	2 21	7 9.18	+25 51.4	2.057	2.834	14.6	20.8
<b>301815</b>	2011 <i>PF</i> <sub>4</sub>		1 13.9 162°08	1°5/13.5	18		<b>94759</b>	2001 <i>XR</i> <sub>98</sub>		1 13.9 39°14	0°1/14.0	18	
12 13	8 10.87	+24 54.0	1.839	2.674	13.5	21.0	12 13						

EPHEMERIDES

1 13.9

1 14.0

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$		
<b>126354</b>	2002 <i>AL</i> <sub>169</sub>						1 13.9 231°09 1.4/13.5 18	<b>99419</b>	2002 <i>AO</i> <sub>153</sub>						1 13.9 312°32 1.2/13.7 18
12 13	8 8.17	+23 46.8	1.603	2.449	14.6	20.3	12 13	8 5.90	+23 5.7	1.355	2.213	16.1	19.1		
12 23	8 1.77	+24 10.1	1.529	2.445	10.6	20.0	12 23	8 0.65	+23 24.4	1.276	2.198	11.8	18.8		
1 2	7 52.54	+24 36.2	1.478	2.441	6.0	19.8	1 2	7 52.17	+23 47.8	1.218	2.183	6.7	18.4		
1 12	7 41.50	+25 0.2	1.454	2.436	1.6	19.5	1 12	7 41.50	+24 10.7	1.186	2.168	1.6	18.1		
1 22	7 30.02	+25 17.6	1.459	2.431	4.6	19.6	1 22	7 30.16	+24 28.0	1.180	2.155	5.0	18.2		
2 1	7 19.64	+25 25.9	1.491	2.426	9.3	19.9	2 1	7 19.92	+24 36.6	1.201	2.141	10.5	18.5		
2 11	7 11.66	+25 25.0	1.548	2.421	13.7	20.2	2 11	7 12.36	+24 35.8	1.244	2.128	15.5	18.8		
2 21	7 6.84	+25 16.4	1.626	2.416	17.3	20.4	2 21	7 8.38	+24 26.9	1.306	2.116	19.7	19.0		
<b>312273</b>	2008 <i>AE</i> <sub>100</sub>						1 13.9 317°25 2.4/14.6 18	<b>438121</b>	2005 <i>QL</i> <sub>14</sub>						1 13.9 138°52 2°6/13.3 18
12 13	8 3.63	+16 0.7	1.465	2.312	15.7	20.6	12 13	8 12.83	+27 17.0	1.622	2.462	14.7	21.3		
12 23	7 58.69	+15 48.3	1.381	2.295	11.7	20.3	12 23	8 4.95	+27 39.6	1.560	2.473	10.7	21.1		
1 2	7 50.92	+15 45.9	1.319	2.278	7.1	20.0	1 2	7 54.22	+28 0.3	1.523	2.483	6.3	20.9		
1 12	7 41.25	+15 52.1	1.282	2.262	2.8	19.7	1 12	7 41.79	+28 13.4	1.514	2.493	2.7	20.7		
1 22	7 30.97	+16 4.6	1.272	2.247	4.7	19.8	1 22	7 29.20	+28 15.1	1.534	2.502	5.1	20.8		
2 1	7 21.60	+16 20.7	1.289	2.232	9.7	20.0	2 1	7 18.00	+28 4.5	1.582	2.511	9.4	21.1		
2 11	7 14.52	+16 37.9	1.329	2.217	14.4	20.3	2 11	7 9.45	+27 43.3	1.655	2.518	13.4	21.4		
2 21	7 10.58	+16 53.9	1.390	2.204	18.5	20.5	2 21	7 4.17	+27 15.0	1.750	2.526	16.8	21.6		
<b>68374</b>	2001 <i>PM</i> <sub>14</sub>						1 13.9 101°86 1°6/15.1 18	<b>159107</b>	2004 <i>VS</i> <sub>3</sub>						1 13.9 26°68 0°8/14.3 18
12 13	7 57.86	+13 9.1	3.414	4.224	8.5	19.7	12 13	8 3.30	+18 6.6	1.893	2.730	13.1	20.3		
12 23	7 53.04	+13 23.9	3.345	4.238	6.3	19.5	12 23	7 57.79	+18 21.9	1.821	2.732	9.5	20.1		
1 2	7 47.11	+13 45.0	3.303	4.253	3.9	19.4	1 2	7 50.12	+18 44.4	1.773	2.734	5.5	19.9		
1 12	7 40.55	+14 11.1	3.291	4.267	1.8	19.3	1 12	7 41.12	+19 11.3	1.753	2.736	1.3	19.6		
1 22	7 33.89	+14 40.7	3.310	4.281	2.5	19.3	1 22	7 31.84	+19 39.2	1.763	2.738	3.5	19.8		
2 1	7 27.68	+15 11.9	3.361	4.295	4.7	19.5	2 1	7 23.41	+20 5.3	1.801	2.740	7.7	20.0		
2 11	7 22.42	+15 43.0	3.440	4.308	7.0	19.7	2 11	7 16.83	+20 27.6	1.865	2.742	11.5	20.2		
2 21	7 18.47	+16 12.8	3.545	4.322	9.0	19.8	2 21	7 12.71	+20 45.3	1.951	2.745	14.6	20.5		
<b>197479</b>	2004 <i>BG</i> <sub>4</sub>						1 13.9 44°42 5°5/14.3 16	<b>458227</b>	2010 <i>RT</i> <sub>180</sub>						1 13.9 80°26 4°1/12.7 18
12 13	8 26.46	+36 28.1	0.888	1.746	22.4	19.1	12 13	8 9.93	+31 5.1	1.707	2.549	14.0	21.4		
12 23	8 16.10	+35 25.2	0.839	1.756	16.9	18.8	12 23	8 2.75	+31 41.3	1.655	2.566	10.3	21.2		
1 2	8 0.71	+35 57.9	0.810	1.767	10.7	18.6	1 2	7 52.91	+32 12.3	1.628	2.583	6.5	21.0		
1 12	7 42.80	+32 0.2	0.803	1.779	5.8	18.3	1 12	7 41.57	+32 31.8	1.628	2.600	4.1	20.9		
1 22	7 25.56	+29 36.6	0.822	1.792	7.9	18.5	1 22	7 30.16	+32 36.2	1.657	2.617	5.9	21.1		
2 1	7 11.80	+27 0.9	0.866	1.805	13.7	18.9	2 1	7 20.13	+32 24.8	1.713	2.633	9.5	21.3		
2 11	7 3.09	+24 28.6	0.932	1.819	19.1	19.2	2 11	7 12.61	+32 0.1	1.794	2.650	12.9	21.5		
2 21	6 59.63	+22 10.1	1.015	1.833	23.5	19.6	2 21	7 8.18	+31 26.0	1.896	2.666	15.9	21.8		
<b>33671</b>	1999 <i>JV</i> <sub>98</sub>						1 13.9 73°78 3°3/15.6 18	<b>90531</b>	2004 <i>FY</i> <sub>25</sub>						1 14.0 319°26 3°2/13.1 18
12 13	8 3.75	+10 16.1	1.816	2.635	14.3	17.7	12 13	8 7.48	+26 9.1	1.230	2.093	17.0	19.7		
12 23	7 57.98	+10 37.7	1.758	2.654	10.8	17.5	12 23	8 2.07	+26 49.2	1.160	2.084	12.5	19.4		
1 2	7 50.13	+11 13.9	1.724	2.673	6.9	17.3	1 2	7 53.07	+27 31.7	1.111	2.075	7.3	19.0		
1 12	7 41.07	+12 2.4	1.718	2.691	3.7	17.2	1 12	7 41.66	+28 8.9	1.087	2.067	3.2	18.8		
1 22	7 31.87	+12 58.9	1.740	2.710	4.4	17.3	1 22	7 29.61	+28 33.6	1.089	2.059	6.3	18.9		
2 1	7 23.61	+13 59.1	1.791	2.729	7.9	17.5	2 1	7 18.92	+28 42.3	1.116	2.052	11.6	19.2		
2 11	7 17.24	+14 58.4	1.869	2.747	11.4	17.8	2 11	7 11.30	+28 35.6	1.164	2.045	16.6	19.5		
2 21	7 13.29	+15 53.6	1.969	2.766	14.4	18.0	2 21	7 7.64	+28 16.9	1.231	2.039	20.7	19.7		
<b>465501</b>	2008 <i>UR</i> <sub>15</sub>						1 13.9 102°34 1°2/13.6 18	<b>188828</b>	2005 <i>YH</i> <sub>277</sub>						1 14.0 164°31 0°3/14.1 18
12 13	8 5.01	+24 11.3	2.150	2.987	11.7	22.0	12 13	8 4.93	+19 34.0	2.300	3.128	11.4	21.7		
12 23	7 58.77	+24 28.3	2.084	2.996	8.4	21.8	12 23	7 58.63	+19 50.6	2.225	3.133	8.2	21.5		
1 2	7 50.54	+24 46.4	2.044	3.005	4.8	21.5	1 2	7 50.47	+20 11.8	2.177	3.137	4.7	21.3		
1 12	7 41.15	+25 2.1	2.033	3.014	1.3	21.3	1 12	7 41.17	+20 34.8	2.158	3.140	0.9	21.0		
1 22	7 31.60	+25 12.9	2.051	3.023	3.6	21.5	1 22	7 31.65	+20 57.1	2.170	3.144	3.1	21.2		
2 1	7 22.94	+25 17.0	2.099	3.032	7.2	21.7	2 1	7 22.87	+21 16.4	2.211	3.146	6.8	21.4		
2 11	7 16.05	+25 14.6	2.174	3.040	10.6	22.0	2 11	7 15.68	+21 31.6	2.281	3.148	10.1	21.6		
2 21	7 11.49	+25 6.4	2.272	3.049	13.4	22.2	2 21	7 10.65	+21 42.4	2.374	3.150	12.9	21.8		
<b>482799</b>	2013 <i>RQ</i> <sub>4</sub>						1 13.9 24°23 19°7/26.0 17	<b>56084</b>	1999 <i>AN</i> <sub>19</sub>						1 14.0 147°53 1°5/14.6 18
12 13	8 2.21	-19 9.7	1.074	1.799	27.7	20.6	12 13	8 7.33	+15 15.0	1.819	2.646	14.0	19.3		
12 23	7 58.11	-20 12.6	1.022	1.803	25.4	20.4	12 23	8 0.72	+15 44.7	1.750	2.655	10.3	19.1		
1 2	7 50.73	-20 22.4	0.981	1.807	23.1	20.2	1 2	7 51.78	+16 25.1	1.706	2.663	6.1	18.9		
1 12	7 41.24	-19 29.0	0.954	1.813	21.0	20.1	1 12	7 41.41	+17 12.6	1.691	2.672	1.9	18.6		
1 22	7 31.25	-17 30.1	0.944	1.819	19.8	20.1	1 22	7 30.75	+18 2.8	1.705	2.679	3.7	18.7		
2 1	7 22.60	-14 33.5	0.953	1.825	20.0	20.1	2 1	7 21.04	+18 51.5	1.748	2.686	8.0	19.0		
2 11	7 16.82	-10 56.8	0.981	1.833	21.4	20.2	2 11	7 13.34	+19 35.6	1.818	2.692	11.9	19.3		
2 21	7 14.73	-7 1.9	1.027	1.841	23.6	20.4	2 21	7 8.29	+20 13.6	1.911	2.697	15.2	19.5		
<b>190207</b>	2005 <i>YF</i> <sub>269</sub>						1 13.9 98°34 2°3/13.4 18	<b>18200</b>	2714 <i>P-L</i>						1 14.0 357°61 2°6/13.4 18
12 13	8 9.15	+28 44.2	2.099	2.933	12.1	20.0	12 13	7 57.86	+24 58.1	0.857	1.750	19.5	17.3		
12 23	8 1.70	+28 45.8	2.039	2.948	8.8	19.8	12 23	7 55.75	+25 19.9	0.802	1.741	14.2	16.9		
1 2	7 52.14	+28 43.7	2.005	2.963	5.2	19.6	1 2	7 49.71	+25 45.5	0.766	1.735	8.2	16.6		
1 12	7 41.42	+28 34.6	1.999	2.978	2.4	19.4	1 12	7 41.11	+26 7.5	0.750	1.731	2.8	16.3		
1 22	7 30.68	+28 16.5	2.025	2.992	4.2	19.6	1 22	7 31.98	+26 19.3	0.755	1.730	6.5	16.5		
2 1	7 21.06	+27 49.7	2.079	3.006	7.7	19.8	2 1	7 24.56	+26 17.4	0.781	1.732	12.7	16.8		
2 11	7 13.47	+27 15.8	2.161	3.020	10.9	20.1	2 11	7 20.64	+26 2.2	0.826	1.736	18.3	17.1		
2 21	7 8.43	+26 37.5	2.266	3.034	13.6	20.3	2 21	7 20.99	+25 36.1	0.887	1.743	22.9	17.4		
<b>15632</b>	Magee-Sauer						1 13.9 341°64 2°0/13.3 18	<b>90711</b>	Stotternheim						1 14.0 60°37 2°2/13.5 18
12 13	8 5.28	+22 43.7	1.234	2.097	16.9	17.7	12 13	8 9.77	+25 24.3	1.310	2.166	16.6	19.7		
12 23	8 0.34	+23 37.4	1.167	2.092	12.3	17.4	12 23	8 3.10	+25 46.0	1.260	2.181	12.0	19.4		
1 2	7 52.03	+24 39.0	1.121	2.087											