

EPHEMERIDES

1 14.9

1 15.0

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>221138</b>	2005 TX <sub>1</sub>		1 14.9 271°53	6°6/12.5 18			<b>294683</b>	2008 AG <sub>108</sub>		1 14.9 81°41	0°5/15.2 18		
12 13	8 15.45	+37 44.2	1.883	2.708	13.7	20.0	12 13	8 11.63	+17 34.6	1.662	2.491	15.0	21.1
12 23	8 8.79	+38 34.1	1.802	2.695	10.8	19.8	12 23	8 5.46	+18 10.7	1.608	2.513	11.0	20.9
1 2	7 59.07	+39 15.7	1.745	2.681	8.0	19.6	1 2	7 56.82	+18 55.9	1.577	2.535	6.5	20.7
1 12	7 47.26	+39 40.9	1.715	2.667	6.6	19.5	1 12	7 46.70	+19 45.5	1.574	2.556	1.6	20.4
1 22	7 34.80	+39 44.1	1.713	2.653	7.8	19.5	1 22	7 36.33	+20 34.5	1.600	2.577	3.3	20.6
2 1	7 23.32	+39 23.7	1.737	2.639	10.7	19.7	2 1	7 27.01	+21 18.6	1.655	2.598	7.8	20.9
2 11	7 14.25	+38 42.6	1.786	2.624	13.8	19.8	2 11	7 19.81	+21 55.4	1.736	2.619	11.8	21.2
2 21	7 8.44	+37 46.4	1.856	2.610	16.7	20.0	2 21	7 15.36	+22 24.0	1.839	2.640	15.1	21.5
<b>428994</b>	2009 BO <sub>4</sub>		1 14.9 2°21	1°3/15.2 18			<b>432018</b>	2008 VT <sub>18</sub>		1 15.0 88°22	3°8/13.2 18		
12 13	8 11.25	+20 33.8	1.795	2.626	14.0	20.1	12 13	8 10.72	+30 34.0	2.166	2.996	11.9	21.3
12 23	8 5.11	+19 42.5	1.719	2.625	10.4	19.8	12 23	8 4.59	+31 30.1	2.108	3.012	8.9	21.1
1 2	7 56.60	+18 52.7	1.668	2.625	6.2	19.6	1 2	7 56.26	+32 23.5	2.077	3.027	5.8	21.0
1 12	7 46.63	+18 4.0	1.645	2.625	2.0	19.3	1 12	7 46.57	+33 8.4	2.073	3.042	3.8	20.9
1 22	7 36.37	+17 16.8	1.650	2.627	3.4	19.4	1 22	7 36.60	+33 40.6	2.100	3.058	5.1	21.0
2 1	7 27.05	+16 31.9	1.685	2.629	7.7	19.7	2 1	7 27.47	+33 57.9	2.155	3.073	8.0	21.2
2 11	7 19.73	+15 50.1	1.746	2.631	11.7	19.9	2 11	7 20.18	+34 1.0	2.236	3.087	10.9	21.4
2 21	7 15.03	+15 12.1	1.830	2.635	15.0	20.2	2 21	7 15.32	+33 52.3	2.340	3.102	13.4	21.6
<b>159873</b>	2004 RE <sub>36</sub>		1 14.9 154°46	0°0/14.9 18			<b>203115</b>	2000 SH <sub>196</sub>		1 15.0 34°19	1°7/14.5 18		
12 13	8 12.72	+19 18.5	1.755	2.582	14.4	21.0	12 13	8 11.69	+23 39.9	1.262	2.116	17.3	19.8
12 23	8 6.36	+19 51.3	1.684	2.589	10.6	20.8	12 23	8 6.30	+24 3.0	1.206	2.124	12.7	19.6
1 2	7 57.44	+20 31.8	1.637	2.595	6.2	20.5	1 2	7 57.65	+24 30.1	1.171	2.133	7.4	19.3
1 12	7 46.86	+21 15.4	1.618	2.600	1.4	20.2	1 12	7 46.93	+24 55.2	1.161	2.142	2.2	19.0
1 22	7 35.82	+21 57.2	1.629	2.605	3.4	20.4	1 22	7 35.81	+25 13.0	1.177	2.153	4.6	19.2
2 1	7 25.67	+22 33.5	1.668	2.609	8.0	20.7	2 1	7 26.05	+25 20.4	1.219	2.163	9.9	19.5
2 11	7 17.58	+23 2.1	1.734	2.613	12.1	20.9	2 11	7 19.08	+25 17.5	1.284	2.175	14.6	19.8
2 21	7 12.26	+23 22.6	1.822	2.616	15.5	21.1	2 21	7 15.63	+25 6.0	1.369	2.186	18.5	20.1
<b>324594</b>	2006 XX <sub>47</sub>		1 14.9 22°62	1°2/15.2 18			<b>6459</b>	Hidesan		1 15.0 75°40	4°1/17.2 18		
12 13	8 12.60	+20 34.5	1.482	2.321	16.0	19.6	12 13	8 6.03	+7 22.4	2.148	2.944	13.2	17.2
12 23	8 6.46	+19 53.2	1.416	2.326	11.8	19.4	12 23	8 0.97	+7 25.4	2.078	2.954	10.3	17.0
1 2	7 57.52	+19 15.0	1.374	2.332	7.0	19.1	1 2	7 54.08	+7 42.9	2.031	2.965	7.2	16.8
1 12	7 46.87	+18 38.8	1.357	2.338	2.1	18.9	1 12	7 46.06	+8 14.0	2.011	2.975	4.6	16.7
1 22	7 35.92	+18 4.1	1.369	2.345	3.8	19.0	1 22	7 37.77	+8 56.3	2.021	2.985	4.6	16.7
2 1	7 26.16	+17 31.1	1.407	2.353	8.7	19.3	2 1	7 30.10	+9 46.5	2.059	2.995	7.1	16.9
2 11	7 18.80	+17 0.3	1.471	2.361	13.1	19.6	2 11	7 23.90	+10 40.5	2.125	3.006	10.1	17.1
2 21	7 14.52	+16 32.0	1.556	2.370	16.8	19.8	2 21	7 19.71	+11 34.6	2.214	3.016	12.9	17.3
<b>469215</b>	2016 GN <sub>251</sub>		1 14.9 328°01	7°2/18.1 18			<b>106924</b>	2000 Y7 <sub>57</sub>		1 15.0 331°76	1°1/15.4 18		
12 13	8 5.46	-0 13.7	2.239	3.000	13.9	21.0	12 13	8 7.42	+17 10.1	1.316	2.164	17.0	19.9
12 23	8 0.56	-0 55.9	2.158	2.998	11.6	20.9	12 23	8 3.28	+17 26.7	1.238	2.152	12.7	19.6
1 2	7 53.86	-1 21.0	2.100	2.997	9.2	20.7	1 2	7 56.04	+17 56.0	1.181	2.141	7.7	19.3
1 12	7 46.01	-1 26.9	2.068	2.995	7.5	20.6	1 12	7 46.61	+18 34.5	1.149	2.131	2.3	18.9
1 22	7 37.81	-1 13.6	2.062	2.994	7.3	20.6	1 22	7 36.41	+19 17.1	1.143	2.121	4.0	19.0
2 1	7 30.14	-0 42.7	2.085	2.992	8.8	20.7	2 1	7 27.09	+19 58.4	1.162	2.112	9.6	19.3
2 11	7 23.83	+0 1.8	2.133	2.991	11.0	20.8	2 11	7 20.18	+20 34.6	1.205	2.104	14.7	19.5
2 21	7 19.44	+0 55.1	2.204	2.990	13.4	21.0	2 21	7 16.62	+21 3.4	1.267	2.097	19.0	19.8
<b>180578</b>	2004 FL <sub>18</sub>		1 14.9 312°25	1°1/14.6 18			<b>3191</b>	Svanetia		1 15.0 235°89	1°3/14.5 18		
12 13	8 7.81	+20 50.7	1.489	2.336	15.5	20.5	12 13	8 8.86	+23 24.5	2.065	2.897	12.4	16.9
12 23	8 3.55	+21 35.7	1.396	2.311	11.5	20.1	12 23	8 3.32	+23 52.9	1.988	2.896	9.1	16.7
1 2	7 56.24	+22 31.1	1.325	2.286	6.8	19.8	1 2	7 55.59	+24 24.2	1.936	2.895	5.3	16.5
1 12	7 46.67	+23 31.7	1.280	2.262	1.8	19.4	1 12	7 46.44	+24 54.6	1.913	2.894	1.6	16.2
1 22	7 36.11	+24 30.5	1.262	2.238	4.3	19.5	1 22	7 36.89	+25 20.3	1.919	2.893	3.4	16.4
2 1	7 26.15	+25 21.5	1.271	2.215	9.6	19.8	2 1	7 28.04	+25 38.7	1.954	2.892	7.3	16.6
2 11	7 18.36	+26 1.0	1.304	2.192	14.6	20.0	2 11	7 20.91	+25 48.9	2.016	2.891	10.8	16.8
2 21	7 13.81	+26 28.0	1.357	2.170	18.9	20.2	2 21	7 16.14	+25 51.4	2.101	2.890	13.9	17.0
<b>393441</b>	2001 TE <sub>162</sub>		1 14.9 96°60	3°8/16.3 17			<b>176968</b>	2002 XO <sub>56</sub>		1 15.0 116°91	3°5/14.1 18		
12 13	8 12.62	+11 37.6	1.516	2.335	16.7	21.4	12 13	8 17.55	+31 20.8	1.919	2.743	13.5	20.3
12 23	8 6.32	+11 26.6	1.457	2.351	12.7	21.2	12 23	8 9.64	+31 28.8	1.856	2.756	10.0	20.1
1 2	7 57.39	+11 30.2	1.420	2.367	8.3	21.0	1 2	7 59.19	+31 31.0	1.818	2.769	6.4	19.9
1 12	7 46.84	+11 47.0	1.409	2.382	4.4	20.8	1 12	7 47.25	+31 22.6	1.809	2.782	3.6	19.8
1 22	7 35.99	+12 14.1	1.426	2.397	4.8	20.9	1 22	7 35.16	+31 1.0	1.829	2.794	4.9	19.9
2 1	7 26.23	+12 47.8	1.470	2.412	8.8	21.1	2 1	7 24.27	+30 26.5	1.879	2.806	8.3	20.1
2 11	7 18.74	+13 24.0	1.540	2.427	12.8	21.4	2 11	7 15.67	+29 42.1	1.956	2.817	11.8	20.3
2 21	7 14.17	+13 59.3	1.631	2.441	16.3	21.7	2 21	7 9.98	+28 51.3	2.055	2.828	14.7	20.5
<b>325882</b>	2010 TT <sub>176</sub>		1 14.9 24°22	4°0/14.2 18			<b>73949</b>	1997 TT <sub>12</sub>		1 15.0 35°75	1°1/14.6 18		
12 13	8 14.77	+31 13.7	1.462	2.305	15.9	19.6	12 13	8 8.58	+23 5.4	1.726	2.567	14.0	18.7
12 23	8 8.30	+31 17.2	1.400	2.311	11.9	19.4	12 23	8 3.25	+23 25.8	1.669	2.581	10.2	18.5
1 2	7 58.67	+31 14.2	1.362	2.317	7.5	19.1	1 2	7 55.55	+23 49.3	1.636	2.596	5.9	18.3
1 12	7 47.14	+30 59.1	1.349	2.324	4.2	19.0	1 12	7 46.42	+24 11.8	1.630	2.612	1.6	18.1
1 22	7 35.34	+30 28.8	1.363	2.331	5.7	19.1	1 22	7 37.04	+24 29.4	1.653	2.628	3.6	18.2
2 1	7 24.96	+29 44.1	1.405	2.339	9.9	19.3	2 1	7 28.66	+24 40.1	1.703	2.645	7.8	18.5
2 11	7 17.34	+28 48.7	1.470	2.348	13.9	19.6	2 11	7 22.31	+24 43.2	1.779	2.662	11.6	18.8
2 21	7 13.14	+27 47.4	1.557	2.357	17.4	19.8	2 21	7 18.59	+24 39.4	1.877	2.680	14.8	19.0
<b>108965</b>	2001 PW <sub>37</sub>		1 14.9 279°63	4°2/12.9 18			<b>199067</b>	2005 XO <sub>32</sub>		1 15.0 48°34	1°2/14.6 17		
12 13	8 9.48	+32 10.0	2.248	3.078	11.6	19.2	12 13	8 11.63	+20 57.9	1.206	2.059	17.9	19.

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>261487</b>	2005 VZ <sub>134</sub>		1 15.0 56°33'	2°3/14.1	18		<b>499791</b>	2011 CJ <sub>58</sub>		1 15.0 299°13'	3°4/14.1	17	
12 13	8 10.52	+25 44.9	1.784	2.622	13.7	20.6	12 13	8 13.24	+30 27.1	1.842	2.676	13.5	21.3
12 23	8 4.79	+26 19.2	1.717	2.628	10.1	20.4	12 23	8 6.97	+30 35.6	1.755	2.661	10.2	21.1
1 2	7 56.53	+26 54.8	1.675	2.633	6.0	20.2	1 2	7 57.94	+30 39.7	1.691	2.645	6.5	20.8
1 12	7 46.68	+27 26.5	1.660	2.639	2.5	20.0	1 12	7 47.08	+30 34.4	1.655	2.630	3.5	20.6
1 22	7 36.43	+27 49.8	1.673	2.645	4.3	20.1	1 22	7 35.66	+30 16.3	1.648	2.615	5.0	20.7
2 1	7 27.12	+28 2.1	1.715	2.651	8.3	20.4	2 1	7 25.12	+29 44.6	1.669	2.601	8.8	20.9
2 11	7 19.87	+28 3.3	1.782	2.657	12.1	20.6	2 11	7 16.75	+29 1.4	1.716	2.586	12.7	21.1
2 21	7 15.38	+27 55.1	1.872	2.663	15.3	20.8	2 21	7 11.32	+28 10.3	1.785	2.572	16.1	21.3
<b>246148</b>	2007 PC <sub>24</sub>		1 15.0 172°76'	1°2/15.5	18		<b>381898</b>	2010 BM <sub>46</sub>		1 15.0 349°49'	5°4/11.8	18	
12 13	8 12.53	+16 49.7	2.060	2.874	13.1	21.7	12 13	8 9.38	+33 30.4	2.105	2.937	12.1	20.3
12 23	8 5.88	+16 58.7	1.981	2.878	9.7	21.5	12 23	8 4.02	+34 57.8	2.035	2.936	9.3	20.1
1 2	7 57.04	+17 15.1	1.928	2.881	5.9	21.3	1 2	7 56.19	+36 22.4	1.991	2.934	6.6	19.9
1 12	7 46.79	+17 36.5	1.904	2.884	1.9	21.0	1 12	7 46.67	+37 36.5	1.975	2.933	5.4	19.9
1 22	7 36.15	+17 59.8	1.909	2.886	3.1	21.1	1 22	7 36.58	+38 34.0	1.989	2.932	6.7	19.9
2 1	7 26.24	+18 22.6	1.946	2.886	7.1	21.4	2 1	7 27.17	+39 11.3	2.030	2.931	9.4	20.1
2 11	7 18.06	+18 42.9	2.009	2.887	10.8	21.6	2 11	7 19.62	+39 28.8	2.096	2.930	12.2	20.3
2 21	7 12.27	+18 59.7	2.097	2.886	13.9	21.8	2 21	7 14.70	+39 29.1	2.183	2.929	14.7	20.5
<b>252597</b>	2001 XU <sub>25</sub>		1 15.0 351°52'	1°2/15.1	18		<b>403103</b>	2008 CS <sub>151</sub>		1 15.0 73°61'	5°9/17.6	18	
12 13	8 12.13	+22 41.2	1.285	2.136	17.2	18.8	12 13	8 7.87	+ 4 54.4	1.728	2.525	15.9	21.3
12 23	8 6.64	+21 30.2	1.211	2.127	12.8	18.5	12 23	8 2.75	+ 4 45.7	1.657	2.530	12.7	21.1
1 2	7 57.89	+20 16.8	1.158	2.119	7.7	18.2	1 2	7 55.33	+ 4 56.5	1.608	2.536	9.2	20.9
1 12	7 47.03	+19 1.4	1.131	2.112	2.2	17.8	1 12	7 46.46	+ 5 26.9	1.585	2.542	6.4	20.7
1 22	7 35.66	+17 45.6	1.130	2.107	4.3	18.0	1 22	7 37.17	+ 6 14.7	1.588	2.548	6.2	20.7
2 1	7 25.56	+16 32.7	1.155	2.104	9.8	18.3	2 1	7 28.66	+ 7 15.5	1.620	2.554	8.8	20.9
2 11	7 18.17	+15 25.7	1.205	2.101	14.9	18.5	2 11	7 21.96	+ 8 23.3	1.677	2.560	12.2	21.1
2 21	7 14.28	+14 26.3	1.274	2.101	19.1	18.8	2 21	7 17.74	+ 9 32.8	1.756	2.566	15.4	21.3
<b>334950</b>	2004 CJ <sub>53</sub>		1 15.0 29°65'	0°9/15.3	18		<b>318606</b>	2005 JN <sub>55</sub>		1 15.0 49°40'	1°6/14.2	18	
12 13	8 8.74	+19 14.3	1.899	2.729	13.4	19.8	12 13	8 7.28	+23 14.1	2.135	2.968	12.0	20.1
12 23	8 3.18	+18 58.5	1.831	2.736	9.9	19.6	12 23	8 2.12	+24 7.7	2.066	2.974	8.7	19.9
1 2	7 55.46	+18 47.4	1.787	2.744	5.9	19.4	1 2	7 54.90	+25 5.3	2.022	2.981	5.1	19.7
1 12	7 46.41	+18 39.4	1.771	2.752	1.7	19.2	1 12	7 46.35	+26 2.0	2.007	2.987	1.8	19.5
1 22	7 37.10	+18 32.9	1.783	2.760	3.1	19.3	1 22	7 37.43	+26 53.1	2.022	2.994	3.5	19.6
2 1	7 28.65	+18 26.5	1.824	2.768	7.2	19.5	2 1	7 29.18	+27 35.1	2.066	3.001	7.1	19.9
2 11	7 22.00	+18 19.5	1.892	2.777	10.9	19.8	2 11	7 22.54	+28 6.5	2.137	3.009	10.5	20.1
2 21	7 17.76	+18 11.5	1.983	2.787	14.1	20.0	2 21	7 18.15	+28 27.4	2.232	3.016	13.3	20.3
<b>243540</b>	2010 GH <sub>75</sub>		1 15.0 268°23'	0°2/14.9	18		<b>388866</b>	2008 QB <sub>11</sub>		1 15.0 167°27'	1°5/15.6	18	
12 13	8 6.39	+19 2.9	2.366	3.189	11.3	20.5	12 13	8 13.09	+15 43.4	1.788	2.606	14.6	21.7
12 23	8 1.36	+19 46.9	2.276	3.179	8.3	20.3	12 23	8 6.60	+15 59.0	1.713	2.611	10.9	21.4
1 2	7 54.42	+20 38.0	2.212	3.169	4.9	20.0	1 2	7 57.62	+16 24.7	1.662	2.616	6.6	21.2
1 12	7 46.20	+21 32.7	2.177	3.159	1.1	19.8	1 12	7 47.01	+16 57.4	1.639	2.619	2.3	20.9
1 22	7 37.50	+22 27.1	2.172	3.148	2.7	19.9	1 22	7 35.95	+17 33.5	1.646	2.622	3.4	21.0
2 1	7 29.27	+23 17.4	2.198	3.138	6.4	20.1	2 1	7 25.72	+18 9.2	1.681	2.624	7.8	21.3
2 11	7 22.38	+24 1.2	2.252	3.128	9.8	20.3	2 11	7 17.46	+18 41.8	1.744	2.625	11.9	21.5
2 21	7 17.50	+24 37.2	2.329	3.117	12.7	20.5	2 21	7 11.90	+19 9.7	1.829	2.626	15.3	21.8
<b>187270</b>	2005 TT <sub>34</sub>		1 15.0 128°37'	0°7/15.3	18		<b>84995</b>	Zselic		1 15.0 65°87'	2°2/13.8	18	
12 13	8 9.64	+17 49.5	1.973	2.797	13.2	21.2	12 13	8 8.37	+24 41.3	2.080	2.914	12.2	19.3
12 23	8 3.84	+18 8.0	1.901	2.804	9.7	21.0	12 23	8 2.97	+25 42.6	2.015	2.924	8.9	19.2
1 2	7 55.87	+18 33.9	1.854	2.810	5.8	20.7	1 2	7 55.41	+26 46.9	1.976	2.934	5.3	19.0
1 12	7 46.52	+19 4.2	1.835	2.817	1.6	20.5	1 12	7 46.48	+27 48.4	1.966	2.945	2.3	18.8
1 22	7 36.82	+19 35.4	1.846	2.823	3.0	20.6	1 22	7 37.18	+28 42.2	1.986	2.955	4.0	18.9
2 1	7 27.88	+20 4.5	1.886	2.829	7.1	20.9	2 1	7 28.61	+29 24.7	2.034	2.966	7.5	19.1
2 11	7 20.69	+20 29.5	1.953	2.835	10.8	21.1	2 11	7 21.75	+29 54.7	2.110	2.976	10.8	19.4
2 21	7 15.87	+20 49.3	2.043	2.840	14.0	21.3	2 21	7 17.24	+30 12.8	2.208	2.987	13.6	19.6
<b>198886</b>	2005 TT <sub>10</sub>		1 15.0 144°52'	4°4/13.6	18		<b>310052</b>	2010 JY <sub>1</sub>		1 15.0 215°01'	0°7/15.3	18	
12 13	8 18.15	+30 58.9	1.722	2.551	14.5	20.7	12 13	8 12.39	+18 21.5	1.905	2.727	13.7	21.7
12 23	8 10.52	+31 43.8	1.659	2.562	10.9	20.5	12 23	8 6.10	+18 32.7	1.818	2.720	10.2	21.4
1 2	7 59.94	+32 24.6	1.621	2.572	7.0	20.3	1 2	7 57.37	+18 50.8	1.757	2.712	6.1	21.2
1 12	7 47.49	+32 54.1	1.610	2.581	4.4	20.2	1 12	7 46.98	+19 13.1	1.723	2.704	1.7	20.9
1 22	7 34.66	+33 7.1	1.629	2.590	5.9	20.3	1 22	7 36.03	+19 36.1	1.719	2.696	3.2	20.9
2 1	7 23.05	+33 2.1	1.675	2.597	9.5	20.5	2 1	7 25.78	+19 57.2	1.744	2.686	7.6	21.2
2 11	7 13.97	+32 41.5	1.747	2.604	13.2	20.8	2 11	7 17.38	+20 14.3	1.797	2.676	11.7	21.4
2 21	7 8.13	+32 9.4	1.841	2.611	16.3	21.0	2 21	7 11.57	+20 27.0	1.872	2.666	15.2	21.6
<b>60909</b>	2000 JH <sub>31</sub>		1 15.0 94°19'	3°3/15.9	18		<b>23495</b>	1991 UQ <sub>1</sub>		1 15.0 35°01'	7°9/12.7	18	
12 13	8 13.22	+13 40.4	1.500	2.323	16.6	18.9	12 13	8 14.06	+33 46.6	1.075	1.937	19.0	17.1
12 23	8 6.82	+13 20.7	1.439	2.337	12.6	18.7	12 23	8 8.81	+35 12.0	1.034	1.950	14.5	16.8
1 2	7 57.72	+13 13.0	1.401	2.351	8.0	18.5	1 2	7 59.44	+36 29.3	1.014	1.965	10.2	16.7
1 12	7 46.97	+13 16.1	1.389	2.365	3.9	18.2	1 12	7 47.47	+37 25.7	1.016	1.980	7.9	16.6
1 22	7 35.91	+13 27.7	1.405	2.378	4.5	18.3	1 22	7 35.10	+37 52.4	1.043	1.997	9.6	16.7
2 1	7 25.98	+13 45.0	1.448	2.391	8.8	18.6	2 1	7 24.64	+37 47.8	1.092	2.014	13.5	17.0
2 11	7 18.36	+14 5.1	1.517	2.404	13.0	18.9	2 11	7 17.79	+37 17.2	1.162	2.032	17.5	17.3
2 21	7 13.73	+14 25.4	1.607	2.417	16.5	19.1	2 21	7 15.23	+36 28.6	1.250	2.050	20.9	17.6
<b>117194</b>	2004 RJ <sub>153</sub>		1 15.0 176°56'	0°4/15.1	18		<b>423356</b>	2005 JM <sub>1</sub>		1 15.0 244°49'	5°0/17.7	17	
12 13	8 14.31	+20 13.0	1.754	2.580	14.5	20.3	12 13	8 5.66	+ 1 10.5	3.278	4.02		

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1 15.0

1 15.0

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>412547</b>	2014 <i>NW</i> <sub>12</sub>		1 15.0 210°75	1.5°/14.4	18		<b>365361</b>	2009 <i>SD</i> <sub>352</sub>		1 15.0 97°66	0°2/15.1	18	
12 13	8 12.18	+22 11.0	1.707	2.541	14.4	21.3	12 13	8 10.98	+18 12.7	2.249	3.065	12.1	21.2
12 23	8 6.28	+23 3.5	1.629	2.538	10.6	21.1	12 23	8 4.48	+18 52.8	2.194	3.093	8.8	21.1
1 2	7 57.62	+24 2.7	1.575	2.534	6.2	20.8	1 2	7 56.12	+19 39.0	2.165	3.121	5.1	20.9
1 12	7 47.07	+25 2.6	1.548	2.530	1.9	20.5	1 12	7 46.66	+20 27.5	2.166	3.148	1.2	20.6
1 22	7 35.86	+25 56.9	1.551	2.525	4.1	20.6	1 22	7 37.02	+21 14.5	2.198	3.174	2.7	20.8
2 1	7 25.44	+26 40.9	1.582	2.520	8.7	20.9	2 1	7 28.16	+21 56.9	2.260	3.200	6.3	21.1
2 11	7 17.13	+27 12.5	1.639	2.514	12.9	21.1	2 11	7 20.92	+22 32.7	2.351	3.225	9.5	21.3
2 21	7 11.75	+27 32.1	1.718	2.509	16.4	21.4	2 21	7 15.82	+23 1.3	2.466	3.249	12.2	21.6
<b>164672</b>	1996 <i>XX</i> <sub>29</sub>		1 15.0 0°75	1°4/14.6	18		<b>43768</b>	<i>Lynevens</i>		1 15.0 101°83	1°0/14.7	18	
12 13	8 8.30	+22 12.7	1.211	2.070	17.5	19.5	12 13	8 10.60	+24 40.2	2.348	3.172	11.3	18.5
12 23	8 4.11	+22 45.9	1.146	2.067	12.9	19.2	12 23	8 4.24	+24 39.6	2.279	3.182	8.3	18.3
1 2	7 56.59	+23 26.6	1.103	2.066	7.6	18.9	1 2	7 55.99	+24 39.1	2.236	3.193	4.8	18.1
1 12	7 46.83	+24 8.5	1.084	2.066	2.1	18.6	1 12	7 46.63	+24 36.0	2.222	3.203	1.4	17.9
1 22	7 36.44	+24 45.1	1.090	2.067	4.7	18.8	1 22	7 37.08	+24 28.6	2.239	3.214	2.9	18.0
2 1	7 27.22	+25 11.5	1.122	2.069	10.2	19.1	2 1	7 28.29	+24 16.0	2.286	3.224	6.4	18.2
2 11	7 20.73	+25 25.9	1.175	2.072	15.2	19.4	2 11	7 21.12	+23 58.6	2.361	3.234	9.6	18.4
2 21	7 17.81	+25 29.3	1.248	2.075	19.4	19.6	2 21	7 16.07	+23 37.3	2.461	3.244	12.3	18.6
<b>55554</b>	2001 <i>XY</i> <sub>257</sub>		1 15.0 192°23	0°5/14.9	18		<b>278782</b>	2008 <i>SY</i> <sub>182</sub>		1 15.0 151°47	2°5/16.2	18	
12 13	8 12.84	+22 55.3	2.226	3.046	12.0	19.3	12 13	8 7.17	+12 27.7	2.315	3.122	12.1	21.7
12 23	8 6.05	+22 51.8	2.143	3.045	8.8	19.1	12 23	8 1.80	+12 29.3	2.237	3.125	9.1	21.5
1 2	7 57.15	+22 49.6	2.086	3.043	5.2	18.8	1 2	7 54.63	+12 40.6	2.183	3.129	5.9	21.3
1 12	7 46.91	+22 46.0	2.059	3.040	1.3	18.6	1 12	7 46.33	+13 0.3	2.158	3.132	3.0	21.2
1 22	7 36.32	+22 39.0	2.062	3.038	2.9	18.7	1 22	7 37.71	+13 26.3	2.162	3.135	3.3	21.2
2 1	7 26.46	+22 27.7	2.095	3.034	6.8	18.9	2 1	7 29.68	+13 56.2	2.197	3.137	6.4	21.4
2 11	7 18.29	+22 12.1	2.157	3.030	10.3	19.1	2 11	7 23.04	+14 27.4	2.259	3.140	9.6	21.6
2 21	7 12.44	+21 53.2	2.243	3.026	13.3	19.3	2 21	7 18.34	+14 57.7	2.346	3.142	12.4	21.8
<b>454079</b>	2012 <i>WF</i> <sub>24</sub>		1 15.0 19°35	4°6/13.5	18		<b>197270</b>	2003 <i>WA</i> <sub>95</sub>		1 15.0 66°03	0°6/15.3	18	
12 13	8 10.79	+27 4.6	1.091	1.956	18.5	20.2	12 13	8 8.66	+18 49.0	2.006	2.832	12.9	20.3
12 23	8 6.31	+28 14.5	1.038	1.960	13.7	19.9	12 23	8 3.07	+18 57.5	1.941	2.845	9.5	20.1
1 2	7 58.01	+29 27.2	1.005	1.966	8.5	19.7	1 2	7 55.42	+19 11.8	1.901	2.857	5.6	19.9
1 12	7 47.18	+30 31.9	0.995	1.972	4.7	19.5	1 12	7 46.52	+19 29.3	1.889	2.870	1.5	19.7
1 22	7 35.72	+31 19.1	1.011	1.979	7.0	19.6	1 22	7 37.36	+19 47.3	1.906	2.883	2.9	19.8
2 1	7 25.76	+31 43.8	1.050	1.987	12.0	19.9	2 1	7 29.01	+20 3.4	1.952	2.896	6.9	20.1
2 11	7 19.02	+31 46.9	1.110	1.996	16.7	20.2	2 11	7 22.37	+20 16.3	2.026	2.909	10.4	20.3
2 21	7 16.32	+31 32.7	1.188	2.006	20.7	20.5	2 21	7 18.02	+20 25.2	2.123	2.922	13.4	20.5
<b>307368</b>	2002 <i>RO</i> <sub>260</sub>		1 15.0 251°20	3°7/13.8	18		<b>372936</b>	2011 <i>BN</i> <sub>51</sub>		1 15.0 159°52	0°7/14.7	18	
12 13	8 13.62	+29 28.2	1.793	2.627	13.8	21.1	12 13	8 9.33	+21 19.0	2.169	2.994	12.1	21.0
12 23	8 7.35	+30 3.4	1.711	2.618	10.3	20.8	12 23	8 3.59	+21 53.2	2.093	2.998	8.8	20.8
1 2	7 58.24	+30 36.8	1.654	2.608	6.6	20.6	1 2	7 55.77	+22 32.1	2.043	3.001	5.1	20.6
1 12	7 47.22	+31 2.3	1.624	2.599	3.8	20.4	1 12	7 46.62	+23 11.8	2.022	3.004	1.3	20.3
1 22	7 35.58	+31 14.8	1.623	2.589	5.3	20.5	1 22	7 37.09	+23 48.5	2.031	3.006	3.0	20.4
2 1	7 24.82	+31 12.0	1.650	2.578	9.2	20.7	2 1	7 28.22	+24 19.2	2.070	3.009	6.9	20.7
2 11	7 16.27	+30 55.1	1.702	2.568	13.0	20.9	2 11	7 20.96	+24 42.5	2.136	3.011	10.3	20.9
2 21	7 10.73	+30 27.1	1.776	2.557	16.4	21.1	2 21	7 15.95	+24 58.2	2.226	3.012	13.3	21.1
<b>521015</b>	2015 <i>CF</i> <sub>68</sub>		1 15.0 1°51	4°6/17.6	17		<b>84722</b>	2002 <i>WV</i> <sub>2</sub>		1 15.0 350°13	13°4/ 8.8	18	
12 13	8 5.00	+ 5 16.6	2.272	3.058	12.9	21.8	12 13	8 23.27	+53 35.0	1.697	2.483	16.6	18.6
12 23	8 0.26	+ 5 24.2	2.189	3.058	10.3	21.6	12 23	8 16.00	+55 23.6	1.649	2.482	14.9	18.5
1 2	7 53.76	+ 5 47.4	2.131	3.058	7.4	21.4	1 2	8 3.98	+56 49.8	1.621	2.480	13.7	18.4
1 12	7 46.12	+ 6 25.8	2.100	3.058	5.0	21.3	1 12	7 48.66	+57 40.7	1.615	2.479	13.5	18.4
1 22	7 38.12	+ 7 17.2	2.097	3.058	4.9	21.2	1 22	7 32.47	+57 48.7	1.632	2.478	14.4	18.4
2 1	7 30.64	+ 8 18.0	2.124	3.058	7.1	21.4	2 1	7 18.20	+57 14.3	1.670	2.477	16.0	18.6
2 11	7 24.48	+ 9 23.8	2.178	3.058	9.9	21.6	2 11	7 8.01	+56 5.0	1.728	2.477	17.9	18.7
2 21	7 20.23	+10 30.4	2.257	3.058	12.7	21.7	2 21	7 2.80	+54 31.6	1.801	2.477	19.7	18.8
<b>268531</b>	2005 <i>YX</i> <sub>274</sub>		1 15.0 3°49	3°3/16.5	18		<b>241317</b>	2007 <i>VL</i> <sub>59</sub>		1 15.0 59°76	1°6/14.3	18	
12 13	8 4.77	+11 15.2	1.454	2.288	16.5	19.7	12 13	8 8.07	+24 58.8	2.257	3.088	11.5	20.5
12 23	8 0.93	+11 35.7	1.385	2.287	12.6	19.5	12 23	8 2.58	+25 23.5	2.186	3.093	8.4	20.3
1 2	7 54.49	+12 14.2	1.336	2.287	8.2	19.2	1 2	7 55.13	+25 49.4	2.141	3.099	5.0	20.1
1 12	7 46.33	+13 8.4	1.313	2.288	4.0	19.0	1 12	7 46.46	+26 12.8	2.124	3.104	1.8	19.9
1 22	7 37.64	+14 13.5	1.316	2.291	4.4	19.0	1 22	7 37.49	+26 30.6	2.138	3.110	3.3	20.0
2 1	7 29.79	+15 23.3	1.345	2.294	8.7	19.2	2 1	7 29.22	+26 40.9	2.180	3.116	6.8	20.3
2 11	7 24.00	+16 31.7	1.399	2.298	13.0	19.5	2 11	7 22.53	+26 43.3	2.250	3.122	10.0	20.5
2 21	7 21.03	+17 34.2	1.475	2.303	16.8	19.8	2 21	7 18.00	+26 38.6	2.343	3.128	12.8	20.7
<b>320873</b>	2008 <i>GM</i> <sub>10</sub>		1 15.0 336°03	2°6/14.0	18		<b>376477</b>	2012 <i>JK</i> <sub>38</sub>		1 15.0 217°19	3°3/16.6	16	
12 13	8 10.74	+26 6.0	1.751	2.590	13.9	21.0	12 13	8 7.81	+ 9 42.6	2.382	3.177	12.1	22.4
12 23	8 5.13	+26 44.3	1.678	2.589	10.2	20.7	12 23	8 2.31	+ 9 42.8	2.291	3.170	9.4	22.2
1 2	7 56.88	+27 24.1	1.629	2.587	6.2	20.5	1 2	7 54.98	+ 9 54.4	2.224	3.162	6.4	22.0
1 12	7 46.89	+27 59.8	1.608	2.586	2.7	20.3	1 12	7 46.45	+10 16.7	2.186	3.154	3.8	21.8
1 22	7 36.40	+28 26.5	1.614	2.585	4.5	20.4	1 22	7 37.50	+10 48.0	2.177	3.145	3.9	21.8
2 1	7 26.79	+28 41.2	1.649	2.584	8.6	20.6	2 1	7 29.02	+11 25.5	2.199	3.136	6.7	22.0
2 11	7 19.27	+28 43.8	1.709	2.583	12.5	20.9	2 11	7 21.86	+12 6.4	2.249	3.126	9.8	22.2
2 21	7 14.61	+28 35.8	1.791	2.582	15.8	21.1	2 21	7 16.63	+12 47.7	2.323	3.116	12.6	22.3
<b>194196</b>	2001 <i>TV</i> <sub>82</sub>		1 15.0 127°60	12°2/21.4	18		<b>380214</b>	2001 <i>PW</i> <sub>32</sub>		1 15.0 83°43	4°0/12.9	18	
12 13	8 11.44	-12 34.0	1.										

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1 15.0

1 15.1

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>214327</b>	2005 <i>JQ</i> <sub>66</sub>		1 15.0 124°02	2°3/14.1	18		<b>506304</b>	2017 <i>OF</i>		1 15.1 229°91	1°3/15.5	18	
12 13	8 13.81	+26 44.0	2.105	2.930	12.4	20.7	12 13	8 10.58	+17 38.9	2.315	3.128	11.8	21.0
12 23	8 6.82	+27 17.5	2.044	2.947	9.1	20.5	12 23	8 4.41	+17 24.6	2.223	3.119	8.8	20.8
1 2	7 57.61	+27 50.6	2.008	2.963	5.5	20.3	1 2	7 56.26	+17 14.9	2.156	3.109	5.4	20.6
1 12	7 47.06	+28 18.4	2.001	2.979	2.5	20.1	1 12	7 46.81	+17 8.7	2.119	3.098	1.9	20.3
1 22	7 36.26	+28 37.3	2.025	2.994	4.0	20.3	1 22	7 36.94	+17 4.6	2.112	3.088	2.9	20.4
2 1	7 26.37	+28 45.5	2.078	3.008	7.4	20.5	2 1	7 27.65	+17 1.3	2.136	3.076	6.5	20.6
2 11	7 18.37	+28 43.4	2.159	3.022	10.7	20.7	2 11	7 19.84	+16 58.1	2.187	3.065	10.0	20.8
2 21	7 12.87	+28 32.9	2.262	3.035	13.5	21.0	2 21	7 14.13	+16 54.3	2.263	3.053	13.0	21.0
<b>2465</b>	Wilson		1 15.0 172°51	0°0/14.9	18		<b>291396</b>	2006 <i>CT</i> <sub>49</sub>		1 15.1 267°90	1°4/14.7	18	
12 13	8 10.17	+20 39.5	2.127	2.951	12.3	17.0	12 13	8 13.56	+23 55.2	1.547	2.386	15.4	21.1
12 23	8 4.20	+20 47.8	2.049	2.953	9.1	16.8	12 23	8 7.58	+24 7.7	1.465	2.376	11.4	20.8
1 2	7 56.13	+21 0.0	1.997	2.954	5.3	16.6	1 2	7 58.54	+24 23.1	1.406	2.365	6.8	20.5
1 12	7 46.73	+21 13.6	1.973	2.955	1.3	16.3	1 12	7 47.41	+24 36.4	1.373	2.355	2.0	20.2
1 22	7 36.98	+21 25.8	1.979	2.955	2.9	16.4	1 22	7 35.57	+24 43.4	1.368	2.344	4.2	20.3
2 1	7 27.93	+21 34.7	2.015	2.956	6.8	16.7	2 1	7 24.67	+24 41.6	1.391	2.333	9.2	20.6
2 11	7 20.55	+21 39.4	2.078	2.956	10.4	16.9	2 11	7 16.13	+24 31.1	1.439	2.322	13.8	20.8
2 21	7 15.44	+21 39.8	2.165	2.956	13.4	17.1	2 21	7 10.85	+24 13.5	1.507	2.311	17.7	21.0
<b>271390</b>	2004 <i>BL</i> <sub>85</sub>		1 15.0 54°56	2°5/14.4	17		<b>34249</b>	Leolo		1 15.1 93°51	1°6/14.4	18	
12 13	8 16.08	+24 47.5	1.075	1.932	19.3	19.7	12 13	8 10.91	+23 37.5	1.922	2.753	13.1	19.3
12 23	8 9.77	+25 20.1	1.034	1.954	14.1	19.4	12 23	8 4.91	+24 18.3	1.860	2.767	9.6	19.1
1 2	7 59.76	+25 55.3	1.015	1.976	8.3	19.2	1 2	7 56.61	+25 2.0	1.823	2.781	5.6	18.9
1 12	7 47.58	+26 24.9	1.019	1.999	3.0	18.9	1 12	7 46.89	+25 43.8	1.814	2.794	1.9	18.7
1 22	7 35.26	+26 42.8	1.048	2.023	5.4	19.2	1 22	7 36.85	+26 19.1	1.834	2.808	3.7	18.8
2 1	7 24.80	+26 46.6	1.102	2.046	10.8	19.5	2 1	7 27.68	+26 45.1	1.884	2.821	7.6	19.1
2 11	7 17.68	+26 37.7	1.179	2.070	15.6	19.9	2 11	7 20.42	+27 1.0	1.960	2.834	11.2	19.3
2 21	7 14.50	+26 19.4	1.274	2.094	19.5	20.2	2 21	7 15.70	+27 7.5	2.059	2.846	14.2	19.5
<b>364475</b>	2000 <i>QV</i> <sub>28</sub>		1 15.0 266°09	3°3/16.3	18		<b>226830</b>	2004 <i>RH</i> <sub>324</sub>		1 15.1 68°70	0°7/15.4	18	
12 13	8 9.62	+11 41.9	1.570	2.391	16.1	18.7	12 13	8 8.69	+17 30.2	1.858	2.686	13.7	20.5
12 23	8 4.48	+11 52.8	1.487	2.384	12.3	18.5	12 23	8 3.32	+17 57.0	1.791	2.696	10.1	20.3
1 2	7 56.63	+12 19.6	1.428	2.376	8.0	18.2	1 2	7 55.70	+18 32.2	1.749	2.705	6.0	20.0
1 12	7 46.91	+13 0.8	1.393	2.369	4.0	18.0	1 12	7 46.68	+19 12.5	1.734	2.715	1.7	19.8
1 22	7 36.52	+13 52.4	1.387	2.361	4.4	18.0	1 22	7 37.31	+19 53.7	1.748	2.725	3.1	19.9
2 1	7 26.86	+14 49.4	1.408	2.353	8.8	18.2	2 1	7 28.74	+20 32.2	1.791	2.735	7.3	20.2
2 11	7 19.24	+15 46.8	1.454	2.345	13.2	18.4	2 11	7 21.97	+21 5.5	1.860	2.745	11.1	20.4
2 21	7 14.50	+16 40.5	1.522	2.338	17.1	18.7	2 21	7 17.66	+21 32.2	1.952	2.754	14.3	20.7
<b>473874</b>	2016 <i>EK</i> <sub>138</sub>		1 15.0 272°06	2°5/14.0	17		<b>95840</b>	2003 <i>FT</i> <sub>107</sub>		1 15.1 228°01	6°5/17.9	18	
12 13	8 10.24	+26 34.5	2.032	2.865	12.5	21.9	12 13	8 7.26	+1 23.3	2.252	3.017	13.7	19.9
12 23	8 4.61	+27 9.8	1.943	2.851	9.3	21.6	12 23	8 2.00	+0 54.2	2.163	3.009	11.3	19.8
1 2	7 56.57	+27 46.4	1.880	2.837	5.6	21.4	1 2	7 54.87	+0 41.5	2.096	3.002	8.8	19.6
1 12	7 46.88	+28 19.3	1.845	2.823	2.6	21.2	1 12	7 46.49	+0 46.9	2.056	2.994	6.9	19.5
1 22	7 36.60	+28 44.0	1.839	2.808	4.2	21.2	1 22	7 37.68	+1 10.0	2.044	2.985	6.7	19.4
2 1	7 26.97	+28 57.8	1.862	2.794	8.0	21.4	2 1	7 29.36	+1 48.8	2.061	2.977	8.4	19.5
2 11	7 19.11	+29 0.3	1.911	2.780	11.7	21.6	2 11	7 22.39	+2 39.3	2.104	2.968	10.9	19.7
2 21	7 13.80	+28 52.7	1.983	2.765	14.8	21.8	2 21	7 17.39	+3 36.9	2.170	2.959	13.5	19.8
<b>364405</b>	2006 <i>VR</i> <sub>115</sub>		1 15.0 157°88	3°9/16.6	18		<b>140233</b>	2001 <i>SA</i> <sub>246</sub>		1 15.1 60°52	0°6/14.8	18	
12 13	8 10.04	+9 39.6	2.085	2.883	13.5	21.8	12 13	8 8.42	+21 45.7	2.117	2.946	12.2	20.0
12 23	8 4.04	+9 21.9	2.008	2.888	10.5	21.6	12 23	8 2.83	+22 7.1	2.058	2.964	8.9	19.8
1 2	7 56.02	+9 16.0	1.956	2.893	7.2	21.4	1 2	7 55.28	+22 31.9	2.024	2.982	5.1	19.6
1 12	7 46.72	+9 21.9	1.931	2.898	4.4	21.2	1 12	7 46.56	+22 56.8	2.019	3.001	1.3	19.4
1 22	7 37.09	+9 38.1	1.936	2.902	4.5	21.2	1 22	7 37.64	+23 18.7	2.044	3.019	2.9	19.6
2 1	7 28.13	+10 2.3	1.970	2.905	7.4	21.4	2 1	7 29.52	+23 35.5	2.098	3.038	6.7	19.8
2 11	7 20.76	+10 31.5	2.031	2.909	10.7	21.6	2 11	7 23.07	+23 46.1	2.179	3.057	10.0	20.1
2 21	7 15.60	+11 2.8	2.116	2.911	13.6	21.8	2 21	7 18.81	+23 50.8	2.283	3.076	12.8	20.3
<b>53203</b>	1999 <i>CA</i> <sub>73</sub>		1 15.0 54°44	7°2/18.2	18		<b>83743</b>	2001 <i>TZ</i> <sub>133</sub>		1 15.1 51°54	2°0/16.2	18	
12 13	8 9.37	+2 56.2	1.509	2.304	17.9	18.4	12 13	8 5.73	+12 39.9	2.193	3.006	12.4	19.5
12 23	8 3.88	+2 32.8	1.461	2.330	14.4	18.3	12 23	8 0.88	+13 9.8	2.120	3.013	9.4	19.3
1 2	7 55.99	+2 32.5	1.434	2.355	10.7	18.1	1 2	7 54.18	+13 51.0	2.072	3.021	5.9	19.1
1 12	7 46.70	+2 55.9	1.431	2.381	7.8	18.0	1 12	7 46.32	+14 41.0	2.052	3.028	2.6	18.9
1 22	7 37.23	+3 40.3	1.454	2.407	7.4	18.1	1 22	7 38.14	+15 36.4	2.061	3.036	3.0	19.0
2 1	7 28.84	+4 40.6	1.503	2.434	9.7	18.3	2 1	7 30.55	+16 33.2	2.101	3.044	6.4	19.2
2 11	7 22.54	+5 49.7	1.577	2.460	12.9	18.5	2 11	7 24.39	+17 27.9	2.168	3.053	9.7	19.4
2 21	7 18.93	+7 1.2	1.673	2.486	15.9	18.8	2 21	7 20.24	+18 17.9	2.259	3.061	12.6	19.6
<b>274308</b>	2008 <i>QN</i> <sub>37</sub>		1 15.1 15°13	0°7/14.8	18		<b>359116</b>	2009 <i>BX</i> <sub>44</sub>		1 15.1 248°42	0°7/15.3	17	
12 13	8 8.98	+21 59.5	1.954	2.787	12.9	20.4	12 13	8 11.24	+18 12.4	1.798	2.624	14.1	22.0
12 23	8 3.53	+22 18.2	1.880	2.787	9.5	20.2	12 23	8 5.50	+18 28.0	1.708	2.612	10.6	21.7
1 2	7 55.83	+22 41.0	1.829	2.788	5.5	20.0	1 2	7 57.19	+18 51.6	1.643	2.600	6.3	21.4
1 12	7 46.69	+23 4.1	1.807	2.789	1.4	19.7	1 12	7 47.10	+19 20.4	1.606	2.587	1.7	21.1
1 22	7 37.16	+23 24.2	1.814	2.790	3.2	19.8	1 22	7 36.35	+19 50.4	1.597	2.574	3.3	21.2
2 1	7 28.39	+23 38.8	1.849	2.791	7.3	20.1	2 1	7 26.26	+20 18.4	1.617	2.560	8.0	21.4
2 11	7 21.39	+23 46.9	1.912	2.792	11.1	20.3	2 11	7 18.06	+20 41.8	1.663	2.546	12.3	21.7
2 21	7 16.83	+23 48.7	1.996	2.793	14.2	20.5	2 21	7 12.57	+20 59.9	1.732	2.532	15.9	21.9
<b>227708</b>	2006 <i>DT</i> <sub>102</sub>		1 15.1 23°95	0°6/15.3	18		<b>434182</b>	2002 <i>WU</i> <sub>26</sub>		1 15.1 89°36	0°6/15.4	18	
12 13	8 8.00	+18 10.5	1.946	2.774	13.2	20.1	12 13	8					

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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>21199</b>	1994 <i>PV</i> <sub>8</sub>		1 15.1	15°66	2°6/16.0	18	<b>492268</b>	2013 <i>WC</i> <sub>106</sub>		1 15.1	42°86	4°6/16.7	18
12 13	8 8.33	+13 39.3	1.168	2.016	18.8	18.0	12 13	8 7.89	+9 20.6	1.855	2.663	14.6	20.4
12 23	8 4.08	+13 57.7	1.107	2.018	14.2	17.8	12 23	8 2.54	+8 46.7	1.797	2.681	11.3	20.2
1 2	7 56.60	+14 34.3	1.065	2.022	8.9	17.5	1 2	7 55.15	+8 26.0	1.763	2.700	7.8	20.0
1 12	7 46.97	+15 25.8	1.047	2.026	3.6	17.2	1 12	7 46.57	+8 18.9	1.755	2.719	5.0	19.9
1 22	7 36.72	+16 25.9	1.054	2.031	4.5	17.2	1 22	7 37.80	+8 24.2	1.775	2.739	5.1	20.0
2 1	7 27.63	+17 27.8	1.086	2.037	9.9	17.6	2 1	7 29.88	+8 39.8	1.823	2.759	7.8	20.2
2 11	7 21.19	+18 25.4	1.141	2.043	15.0	17.9	2 11	7 23.70	+9 2.3	1.897	2.780	11.0	20.4
2 21	7 18.23	+19 14.9	1.215	2.051	19.3	18.2	2 21	7 19.80	+9 28.5	1.994	2.800	13.9	20.6
<b>104609</b>	2000 <i>GT</i> <sub>100</sub>		1 15.1	213°39	4°1/13.3	18	<b>496367</b>	2013 <i>RH</i> <sub>42</sub>		1 15.1	94°22	2°0/14.3	18
12 13	8 13.82	+31 53.8	2.165	2.989	12.1	20.2	12 13	8 11.44	+26 23.0	2.068	2.898	12.4	21.3
12 23	8 7.16	+32 37.6	2.084	2.983	9.2	20.0	12 23	8 5.18	+26 40.7	2.002	2.908	9.1	21.1
1 2	7 58.04	+33 17.9	2.029	2.977	6.1	19.8	1 2	7 56.74	+26 58.1	1.962	2.918	5.4	20.9
1 12	7 47.28	+33 49.0	2.002	2.970	4.1	19.6	1 12	7 46.96	+27 11.0	1.950	2.929	2.2	20.7
1 22	7 36.02	+34 6.4	2.005	2.962	5.4	19.7	1 22	7 36.93	+27 16.6	1.967	2.939	3.7	20.9
2 1	7 25.51	+34 8.1	2.037	2.954	8.4	19.9	2 1	7 27.76	+27 13.4	2.014	2.949	7.3	21.1
2 11	7 16.89	+33 55.1	2.095	2.945	11.6	20.1	2 11	7 20.44	+27 1.9	2.088	2.959	10.7	21.3
2 21	7 10.90	+33 30.3	2.176	2.936	14.4	20.2	2 21	7 15.55	+26 43.7	2.184	2.968	13.6	21.5
<b>465593</b>	2009 <i>BL</i> <sub>26</sub>		1 15.1	237°78	0°3/14.9	18	<b>424132</b>	2007 <i>FZ</i> <sub>5</sub>		1 15.1	138°26	3°4/13.6	18
12 13	8 6.66	+19 29.7	2.459	3.281	11.0	21.4	12 13	8 11.91	+29 32.3	2.082	2.912	12.3	21.8
12 23	8 1.54	+20 17.8	2.373	3.276	8.0	21.2	12 23	8 5.68	+30 13.9	2.013	2.917	9.2	21.6
1 2	7 54.61	+21 12.2	2.314	3.271	4.7	21.0	1 2	7 57.12	+30 53.5	1.969	2.922	5.8	21.4
1 12	7 46.45	+22 9.6	2.284	3.266	1.1	20.7	1 12	7 47.08	+31 25.9	1.954	2.927	3.4	21.2
1 22	7 37.87	+23 5.8	2.285	3.261	2.7	20.8	1 22	7 36.66	+31 46.7	1.968	2.932	4.8	21.3
2 1	7 29.76	+23 57.4	2.317	3.256	6.2	21.1	2 1	7 27.07	+31 54.0	2.011	2.936	8.0	21.5
2 11	7 22.96	+24 41.9	2.377	3.251	9.4	21.3	2 11	7 19.37	+31 48.4	2.081	2.940	11.3	21.7
2 21	7 18.09	+25 18.2	2.461	3.246	12.2	21.4	2 21	7 14.21	+31 32.3	2.173	2.944	14.1	21.9
<b>244832</b>	2003 <i>UC</i> <sub>44</sub>		1 15.1	130°95	0°1/15.1	18	<b>292697</b>	2006 <i>UW</i> <sub>117</sub>		1 15.1	162°02	1°0/15.5	18
12 13	8 13.14	+19 41.8	1.932	2.754	13.5	21.9	12 13	8 11.03	+17 11.3	2.100	2.917	12.8	22.2
12 23	8 6.46	+20 0.5	1.866	2.768	9.9	21.7	12 23	8 4.85	+17 25.2	2.024	2.922	9.5	22.0
1 2	7 57.50	+20 24.8	1.825	2.781	5.8	21.5	1 2	7 56.57	+17 46.4	1.973	2.927	5.7	21.8
1 12	7 47.13	+20 51.1	1.812	2.794	1.4	21.2	1 12	7 46.95	+18 12.2	1.951	2.931	1.8	21.5
1 22	7 36.45	+21 15.8	1.829	2.806	3.1	21.4	1 22	7 36.96	+18 39.6	1.958	2.935	2.9	21.6
2 1	7 26.67	+21 36.4	1.876	2.817	7.3	21.6	2 1	7 27.67	+19 5.8	1.996	2.938	6.8	21.9
2 11	7 18.79	+21 51.6	1.951	2.828	11.0	21.9	2 11	7 20.04	+19 28.9	2.062	2.941	10.4	22.1
2 21	7 13.44	+22 1.2	2.048	2.839	14.1	22.1	2 21	7 14.70	+19 47.9	2.151	2.943	13.5	22.3
<b>401393</b>	2013 <i>CN</i> <sub>43</sub>		1 15.1	242°78	0°7/14.8	18	<b>163539</b>	2002 <i>TP</i> <sub>67</sub>		1 15.1	107°21	3°6/13.6	18
12 13	8 11.47	+20 12.1	1.681	2.514	14.7	21.3	12 13	8 11.63	+31 53.4	2.317	3.142	11.4	20.1
12 23	8 5.87	+20 57.9	1.597	2.505	10.8	21.0	12 23	8 5.23	+32 23.7	2.252	3.152	8.5	19.9
1 2	7 57.50	+21 52.6	1.538	2.496	6.4	20.7	1 2	7 56.74	+32 49.8	2.213	3.161	5.6	19.8
1 12	7 47.20	+22 50.9	1.505	2.487	1.6	20.4	1 12	7 46.97	+33 7.0	2.202	3.171	3.7	19.7
1 22	7 36.17	+23 46.7	1.502	2.478	3.7	20.5	1 22	7 36.96	+33 12.4	2.221	3.180	4.8	19.8
2 1	7 25.86	+24 35.1	1.527	2.468	8.6	20.8	2 1	7 27.77	+33 4.9	2.269	3.189	7.5	19.9
2 11	7 17.60	+25 13.1	1.578	2.458	13.0	21.0	2 11	7 20.34	+32 45.7	2.344	3.198	10.4	20.1
2 21	7 12.27	+25 40.2	1.650	2.448	16.7	21.2	2 21	7 15.24	+32 17.2	2.443	3.206	12.9	20.3
<b>281480</b>	2008 <i>SS</i> <sub>236</sub>		1 15.1	94°01	2°0/14.5	17	<b>301745</b>	2010 <i>HN</i> <sub>79</sub>		1 15.1	226°38	1°3/14.6	18
12 13	8 16.92	+24 42.4	1.498	2.334	16.0	21.2	12 13	8 12.82	+22 33.6	1.676	2.511	14.6	21.1
12 23	8 9.69	+25 12.2	1.446	2.355	11.7	21.0	12 23	8 6.85	+23 6.8	1.596	2.505	10.8	20.9
1 2	7 59.52	+25 43.7	1.418	2.377	6.9	20.8	1 2	7 58.06	+23 45.1	1.540	2.499	6.4	20.6
1 12	7 47.60	+26 10.7	1.417	2.397	2.4	20.5	1 12	7 47.36	+24 23.6	1.511	2.493	1.8	20.3
1 22	7 35.48	+26 28.5	1.444	2.418	4.4	20.7	1 22	7 36.02	+24 56.9	1.511	2.486	3.9	20.4
2 1	7 24.72	+26 34.9	1.499	2.438	9.0	21.0	2 1	7 25.50	+25 21.4	1.539	2.479	8.7	20.7
2 11	7 16.59	+26 30.6	1.580	2.457	13.2	21.3	2 11	7 17.14	+25 35.8	1.593	2.472	13.0	20.9
2 21	7 11.71	+26 18.0	1.681	2.476	16.6	21.6	2 21	7 11.77	+25 40.8	1.668	2.464	16.6	21.2
<b>34795</b>	2001 <i>SB</i> <sub>34</sub>		1 15.1	281°56	0°3/15.2	18	<b>63592</b>	2001 <i>QM</i> <sub>61</sub>		1 15.1	50°50	1°0/14.9	18
12 13	8 6.95	+19 15.5	2.300	3.124	11.5	19.0	12 13	8 15.14	+23 24.7	1.203	2.054	18.1	18.4
12 23	8 1.85	+19 31.6	2.211	3.114	8.5	18.8	12 23	8 8.89	+23 23.2	1.152	2.069	13.3	18.2
1 2	7 54.83	+19 53.1	2.146	3.103	5.0	18.5	1 2	7 59.26	+23 24.7	1.123	2.084	7.8	17.9
1 12	7 46.52	+20 17.7	2.110	3.092	1.3	18.3	1 12	7 47.60	+23 24.2	1.118	2.100	2.0	17.6
1 22	7 37.78	+20 42.5	2.104	3.081	2.7	18.3	1 22	7 35.71	+23 18.3	1.140	2.117	4.4	17.8
2 1	7 29.55	+21 5.0	2.128	3.071	6.4	18.6	2 1	7 25.41	+23 5.6	1.187	2.134	9.9	18.2
2 11	7 22.74	+21 23.7	2.180	3.060	9.9	18.8	2 11	7 18.11	+22 47.0	1.258	2.151	14.7	18.5
2 21	7 17.98	+21 37.7	2.255	3.049	12.9	18.9	2 21	7 14.44	+22 24.2	1.348	2.168	18.6	18.8
<b>259191</b>	2003 <i>AT</i> <sub>31</sub>		1 15.1	14°74	0°4/14.9	18	<b>450302</b>	2004 <i>QF</i> <sub>24</sub>		1 15.1	81°00	8°0/17.2	18
12 13	8 8.72	+19 49.3	1.531	2.374	15.4	20.0	12 13	8 18.89	+4 0.6	1.602	2.380	17.8	20.8
12 23	8 3.86	+20 24.7	1.463	2.375	11.3	19.8	12 23	8 10.53	+2 33.4	1.558	2.415	14.3	20.7
1 2	7 56.27	+21 8.6	1.418	2.378	6.6	19.5	1 2	7 59.75	+1 25.5	1.538	2.450	10.8	20.6
1 12	7 46.89	+21 56.3	1.399	2.381	1.6	19.2	1 12	7 47.67	+0 40.2	1.544	2.485	8.4	20.5
1 22	7 36.99	+22 42.1	1.407	2.384	3.7	19.4	1 22	7 35.61	+0 18.3	1.577	2.518	8.3	20.6
2 1	7 28.02	+23 21.5	1.443	2.388	8.6	19.7	2 1	7 24.86	+0 17.9	1.639	2.551	10.4	20.8
2 11	7 21.23	+23 51.9	1.503	2.392	13.0	19.9	2 11	7 16.44	+0 34.2	1.726	2.583	13.3	21.0
2 21	7 17.39	+24 12.8	1.585	2.397	16.6	20.2	2 21	7 10.88	+1 1.6	1.834	2.614	15.9	21.3
<b>354552</b>	2004 <i>TD</i> <sub>21</sub>		1 15.1	62°60	0°7/15.3	17	<b>409438</b>	2005 <i>OA</i> <sub>16</sub>		1 15.1	79°17	2°1/14.6	18
12 13	8 13.49	+18 20.6	1.328										

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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>238325</b>	2003 YN <sub>173</sub>		1 15.1 342°83	0°7/14.8	15		<b>265004</b>	2003 EU <sub>57</sub>		1 15.1 277°11	4°5/12.7	18	
12 13	8 7.26	+22 1.8	1.731	2.572	13.9	21.0	12 13	8 11.17	+29 33.9	1.863	2.699	13.3	20.2
12 23	8 2.63	+22 18.1	1.651	2.564	10.3	20.8	12 23	8 5.74	+30 56.2	1.781	2.687	10.0	19.9
1 2	7 55.52	+22 39.0	1.596	2.556	6.0	20.5	1 2	7 57.53	+32 20.1	1.724	2.675	6.6	19.7
1 12	7 46.75	+23 0.9	1.567	2.549	1.5	20.2	1 12	7 47.34	+33 37.5	1.694	2.663	4.5	19.6
1 22	7 37.47	+23 20.0	1.566	2.543	3.5	20.3	1 22	7 36.36	+34 40.9	1.694	2.651	6.2	19.6
2 1	7 28.95	+23 33.6	1.593	2.537	8.0	20.6	2 1	7 26.02	+35 25.4	1.721	2.639	9.7	19.8
2 11	7 22.36	+23 40.3	1.645	2.532	12.1	20.8	2 11	7 17.68	+35 50.3	1.774	2.626	13.2	20.0
2 21	7 18.44	+23 40.2	1.719	2.528	15.7	21.0	2 21	7 12.26	+35 57.9	1.848	2.614	16.3	20.2
<b>49243</b>	1998 TE <sub>5</sub>		1 15.1 146°54	2°3/14.1	18		<b>285636</b>	2000 SA		1 15.1 87°90	0°8/15.4	17	
12 13	8 11.45	+24 52.5	1.753	2.590	14.0	18.9	12 13	8 15.17	+18 8.8	1.599	2.425	15.6	20.9
12 23	8 5.70	+25 39.2	1.682	2.592	10.3	18.7	12 23	8 8.15	+18 21.3	1.549	2.452	11.5	20.7
1 2	7 57.32	+26 29.1	1.635	2.593	6.1	18.4	1 2	7 58.56	+18 41.5	1.522	2.478	6.8	20.5
1 12	7 47.19	+27 16.1	1.615	2.594	2.5	18.2	1 12	7 47.49	+19 5.6	1.523	2.504	1.9	20.2
1 22	7 36.55	+27 54.9	1.624	2.595	4.4	18.3	1 22	7 36.27	+19 29.9	1.552	2.529	3.4	20.4
2 1	7 26.77	+28 21.8	1.661	2.596	8.5	18.6	2 1	7 26.26	+19 51.3	1.610	2.554	8.0	20.7
2 11	7 19.08	+28 36.1	1.724	2.597	12.4	18.8	2 11	7 18.55	+20 8.2	1.694	2.578	12.1	21.0
2 21	7 14.22	+28 39.1	1.808	2.598	15.8	19.0	2 21	7 13.74	+20 20.1	1.801	2.602	15.4	21.3
<b>43953</b>	1997 CB <sub>1</sub>		1 15.1 43°08	3°4/16.3	18		<b>493014</b>	2014 SU <sub>214</sub>		1 15.1 136°11	1°4/14.4	18	
12 13	8 10.45	+12 28.4	1.174	2.015	19.2	18.0	12 13	8 10.39	+22 50.7	2.029	2.858	12.7	21.5
12 23	8 5.53	+12 35.7	1.118	2.025	14.5	17.8	12 23	8 4.58	+23 34.6	1.958	2.864	9.3	21.3
1 2	7 57.41	+13 1.7	1.081	2.035	9.3	17.5	1 2	7 56.54	+24 22.7	1.912	2.870	5.4	21.0
1 12	7 47.22	+13 43.5	1.069	2.046	4.3	17.3	1 12	7 47.05	+25 10.0	1.894	2.875	1.7	20.8
1 22	7 36.56	+14 35.8	1.081	2.057	4.9	17.4	1 22	7 37.15	+25 52.1	1.907	2.880	3.5	20.9
2 1	7 27.15	+15 32.2	1.119	2.069	9.9	17.7	2 1	7 27.99	+26 25.6	1.948	2.885	7.4	21.2
2 11	7 20.43	+16 26.7	1.180	2.081	14.8	18.0	2 11	7 20.59	+26 49.2	2.017	2.890	10.9	21.4
2 21	7 17.17	+17 15.4	1.261	2.094	18.9	18.3	2 21	7 15.61	+27 3.2	2.109	2.894	14.0	21.6
<b>451708</b>	2013 CZ <sub>107</sub>		1 15.1 278°12	2°2/14.4	18		<b>288735</b>	2004 RE <sub>47</sub>		1 15.1 148°41	1°1/14.7	18	
12 13	8 13.05	+25 11.7	1.542	2.383	15.3	21.2	12 13	8 15.27	+23 2.9	1.873	2.697	13.7	21.8
12 23	8 7.30	+25 36.9	1.461	2.373	11.4	20.9	12 23	8 8.21	+23 26.5	1.804	2.708	10.1	21.6
1 2	7 58.46	+26 4.5	1.403	2.362	6.8	20.6	1 2	7 58.67	+23 52.9	1.760	2.717	5.9	21.4
1 12	7 47.50	+26 28.8	1.371	2.352	2.5	20.3	1 12	7 47.56	+24 17.8	1.745	2.726	1.7	21.1
1 22	7 35.82	+26 44.7	1.368	2.341	4.6	20.4	1 22	7 36.09	+24 37.1	1.759	2.734	3.5	21.2
2 1	7 25.06	+26 49.1	1.391	2.331	9.4	20.7	2 1	7 25.56	+24 48.6	1.804	2.742	7.8	21.5
2 11	7 16.69	+26 42.1	1.439	2.320	14.0	20.9	2 11	7 17.09	+24 51.9	1.875	2.748	11.6	21.8
2 21	7 11.59	+26 25.8	1.507	2.310	17.8	21.1	2 21	7 11.36	+24 48.1	1.969	2.754	14.8	22.0
<b>125136</b>	2001 UY <sub>61</sub>		1 15.1 305°21	9°0/11.1	18		<b>447018</b>	2004 KH <sub>11</sub>		1 15.1 174°13	1°0/14.7	18	
12 13	8 14.94	+40 39.2	1.646	2.476	15.1	19.3	12 13	8 13.74	+20 44.1	1.746	2.575	14.4	21.5
12 23	8 9.28	+42 0.8	1.564	2.453	12.3	19.1	12 23	8 7.39	+21 35.8	1.672	2.577	10.6	21.2
1 2	7 59.95	+43 13.3	1.506	2.431	9.9	18.9	1 2	7 58.36	+22 35.1	1.622	2.580	6.2	21.0
1 12	7 47.91	+44 5.5	1.472	2.410	9.0	18.8	1 12	7 47.52	+23 36.2	1.600	2.581	1.6	20.7
1 22	7 34.83	+44 28.8	1.464	2.388	10.4	18.8	1 22	7 36.10	+24 32.9	1.607	2.582	3.7	20.8
2 1	7 22.72	+44 20.0	1.480	2.367	13.2	18.9	2 1	7 25.50	+25 20.6	1.644	2.583	8.3	21.1
2 11	7 13.42	+43 42.2	1.519	2.346	16.4	19.0	2 11	7 16.98	+25 57.1	1.707	2.582	12.4	21.4
2 21	7 8.03	+42 42.6	1.576	2.325	19.4	19.2	2 21	7 11.33	+26 22.3	1.792	2.581	15.9	21.6
<b>223762</b>	2004 RA <sub>245</sub>		1 15.1 211°73	1°6/14.4	18		<b>175328</b>	2005 NL <sub>16</sub>		1 15.1 222°71	0°8/14.6	17	
12 13	8 10.38	+24 28.3	1.990	2.822	12.8	21.0	12 13	8 7.04	+22 35.2	2.848	3.668	9.7	21.0
12 23	8 4.63	+24 56.4	1.914	2.821	9.4	20.8	12 23	8 1.67	+23 6.2	2.758	3.660	7.1	20.8
1 2	7 56.58	+25 26.7	1.862	2.820	5.5	20.5	1 2	7 54.67	+23 40.1	2.695	3.651	4.1	20.6
1 12	7 47.01	+25 54.8	1.838	2.819	1.9	20.3	1 12	7 46.60	+24 14.0	2.661	3.643	1.2	20.4
1 22	7 37.01	+26 16.9	1.844	2.817	3.7	20.4	1 22	7 38.16	+24 45.0	2.659	3.633	2.6	20.5
2 1	7 27.77	+26 30.5	1.879	2.816	7.6	20.7	2 1	7 30.15	+25 11.0	2.688	3.624	5.6	20.7
2 11	7 20.33	+26 35.0	1.940	2.814	11.2	20.9	2 11	7 23.30	+25 30.8	2.745	3.614	8.5	20.9
2 21	7 15.39	+26 31.4	2.024	2.813	14.4	21.1	2 21	7 18.16	+25 44.2	2.828	3.604	11.0	21.0
<b>420065</b>	2011 EF <sub>6</sub>		1 15.1 338°25	6°9/13.4	18		<b>491014</b>	2011 KC <sub>46</sub>		1 15.1 171°48	0°6/15.4	17	
12 13	8 15.44	+38 3.4	1.605	2.439	15.2	20.3	12 13	8 7.86	+18 38.8	2.633	3.448	10.5	21.8
12 23	8 9.16	+38 31.0	1.532	2.430	12.0	20.1	12 23	8 2.24	+18 45.1	2.552	3.450	7.8	21.6
1 2	7 59.55	+38 47.2	1.482	2.422	8.8	19.9	1 2	7 54.97	+18 55.9	2.498	3.452	4.6	21.4
1 12	7 47.78	+38 44.1	1.457	2.414	7.0	19.7	1 12	7 46.66	+19 9.3	2.473	3.454	1.3	21.1
1 22	7 35.51	+38 16.9	1.459	2.407	8.1	19.8	1 22	7 38.07	+19 23.3	2.478	3.455	2.4	21.2
2 1	7 24.53	+37 25.8	1.487	2.400	11.2	20.0	2 1	7 30.02	+19 36.1	2.515	3.456	5.7	21.4
2 11	7 16.33	+36 15.6	1.538	2.395	14.7	20.2	2 11	7 23.24	+19 46.7	2.580	3.457	8.7	21.6
2 21	7 11.69	+34 53.3	1.610	2.390	17.9	20.4	2 21	7 18.26	+19 54.3	2.669	3.457	11.3	21.8
<b>365231</b>	2009 HK <sub>104</sub>		1 15.1 146°57	0°3/14.9	18		<b>57366</b>	2001 RA <sub>35</sub>		1 15.1 45°57	5°0/16.8	18	
12 13	8 11.37	+20 18.0	2.325	3.142	11.7	22.0	12 13	8 10.20	+ 9 34.8	1.269	2.098	18.8	19.1
12 23	8 4.96	+20 51.9	2.253	3.153	8.5	21.8	12 23	8 5.17	+ 9 22.5	1.210	2.107	14.5	18.8
1 2	7 56.61	+21 30.5	2.208	3.164	5.0	21.6	1 2	7 57.16	+ 9 30.0	1.171	2.116	9.8	18.6
1 12	7 47.04	+22 10.3	2.193	3.175	1.2	21.4	1 12	7 47.23	+ 9 56.6	1.155	2.126	5.8	18.4
1 22	7 37.15	+22 47.7	2.208	3.184	2.7	21.5	1 22	7 36.85	+10 38.8	1.166	2.137	5.8	18.4
2 1	7 27.93	+23 19.9	2.255	3.193	6.4	21.8	2 1	7 27.60	+11 31.2	1.202	2.147	9.9	18.7
2 11	7 20.26	+23 45.4	2.329	3.201	9.7	22.0	2 11	7 20.84	+12 27.4	1.261	2.158	14.3	19.0
2 21	7 14.73	+24 4.0	2.428	3.209	12.5	22.2	2 21	7 17.30	+13 22.2	1.341	2.170	18.2	19.3
<b>61192</b>	2000 OU		1 15.1 180°59	0°2/15.0	18		<b>116214</b>	2003 XA <sub>37</sub>		1 15.1 227°87	0°9/14.8	18	
12 13	8 16.18	+22 8.2	1.947	2.767	13.5	20.2	12 13	8 10.52	+24 11.6	2.352			

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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>30133</b>	2000 FA <sub>48</sub>		1 15.1 118°81	1.7/15.9	18		<b>466500</b>	2013 WQ <sub>98</sub>		1 15.1 209°55	4.9/12.1	18	
12 13	8 13.21	+13 42.6	1.711	2.527	15.2	19.0	12 13	8 10.09	+33 58.8	2.393	3.218	11.1	20.6
12 23	8 6.78	+14 23.2	1.648	2.544	11.4	18.8	12 23	8 4.40	+35 14.1	2.320	3.217	8.5	20.5
1 2	7 57.86	+15 17.0	1.609	2.561	7.0	18.6	1 2	7 56.50	+36 26.0	2.275	3.216	6.1	20.3
1 12	7 47.38	+16 19.9	1.598	2.577	2.6	18.4	1 12	7 47.10	+37 28.1	2.258	3.214	4.9	20.2
1 22	7 36.53	+17 26.5	1.616	2.592	3.4	18.4	1 22	7 37.19	+38 15.3	2.271	3.213	6.0	20.3
2 1	7 26.61	+18 31.2	1.664	2.607	7.8	18.7	2 1	7 27.90	+38 44.9	2.312	3.212	8.4	20.4
2 11	7 18.74	+19 30.0	1.738	2.621	11.8	19.0	2 11	7 20.25	+38 57.3	2.379	3.210	11.0	20.6
2 21	7 13.58	+20 20.7	1.835	2.635	15.2	19.3	2 21	7 14.95	+38 54.6	2.468	3.209	13.4	20.8
<b>163144</b>	2002 CO <sub>80</sub>		1 15.1 255°92	1.9/15.9	18		<b>456934</b>	2007 YG <sub>43</sub>		1 15.1 32°20	0.4/14.9	18	
12 13	8 10.18	+14 16.1	1.615	2.441	15.5	20.1	12 13	8 8.63	+15 44.5	1.240	2.087	17.9	20.8
12 23	8 4.95	+14 40.7	1.533	2.434	11.7	19.9	12 23	8 4.24	+17 26.5	1.187	2.101	13.2	20.6
1 2	7 57.02	+15 19.1	1.474	2.427	7.3	19.6	1 2	7 56.73	+19 26.8	1.156	2.117	7.7	20.3
1 12	7 47.23	+16 8.5	1.441	2.420	2.8	19.3	1 12	7 47.18	+21 35.5	1.151	2.133	1.8	20.0
1 22	7 36.77	+17 4.2	1.437	2.413	3.7	19.3	1 22	7 37.09	+23 40.7	1.173	2.150	4.2	20.2
2 1	7 27.04	+18 0.8	1.460	2.406	8.4	19.6	2 1	7 28.13	+25 31.7	1.222	2.168	9.7	20.5
2 11	7 19.32	+18 53.9	1.509	2.399	12.9	19.9	2 11	7 21.74	+27 2.5	1.295	2.186	14.4	20.9
2 21	7 14.45	+19 40.6	1.580	2.391	16.7	20.1	2 21	7 18.72	+28 11.9	1.388	2.205	18.3	21.2
<b>499132</b>	2009 PZ <sub>19</sub>		1 15.1 120°27	0.4/15.4	17		<b>335866</b>	2007 RX <sub>54</sub>		1 15.1 70°01	0.4/15.3	18	
12 13	8 3.40	+18 27.9	3.929	4.737	7.5	22.9	12 13	8 9.12	+19 46.3	2.148	2.972	12.2	21.1
12 23	7 58.51	+18 41.2	3.859	4.753	5.5	22.8	12 23	8 3.37	+19 49.7	2.085	2.988	9.0	20.9
1 2	7 52.59	+18 57.5	3.816	4.769	3.2	22.6	1 2	7 55.69	+19 57.6	2.047	3.003	5.3	20.7
1 12	7 46.08	+19 15.5	3.804	4.785	0.9	22.4	1 12	7 46.86	+20 7.6	2.037	3.018	1.4	20.4
1 22	7 39.43	+19 33.9	3.825	4.801	1.6	22.5	1 22	7 37.83	+20 17.3	2.057	3.034	2.7	20.6
2 1	7 33.14	+19 51.3	3.877	4.817	3.9	22.7	2 1	7 29.57	+20 24.9	2.107	3.049	6.5	20.8
2 11	7 27.67	+20 6.8	3.959	4.832	6.0	22.9	2 11	7 22.94	+20 29.6	2.184	3.065	9.8	21.1
2 21	7 23.36	+20 19.8	4.067	4.846	7.9	23.0	2 21	7 18.46	+20 31.0	2.284	3.080	12.7	21.3
<b>80843</b>	2000 DO <sub>17</sub>		1 15.1 32°54	11°0/21.7	18		<b>155773</b>	2000 ST <sub>240</sub>		1 15.1 23°93	18°6/15.1	16	
12 13	8 6.84	- 8 51.7	1.631	2.366	19.2	19.2	12 13	8 40.58	+55 49.4	0.933	1.743	25.3	19.0
12 23	8 2.26	- 9 4.1	1.560	2.371	16.7	19.0	12 23	8 30.93	+56 51.2	0.892	1.747	22.5	18.8
1 2	7 55.31	- 8 43.6	1.508	2.376	14.0	18.9	1 2	8 13.32	+57 12.2	0.867	1.751	20.0	18.7
1 12	7 46.79	- 7 47.0	1.477	2.381	11.9	18.8	1 12	7 51.08	+56 30.5	0.858	1.757	18.7	18.6
1 22	7 37.81	- 6 15.7	1.470	2.387	11.0	18.7	1 22	7 29.34	+54 38.0	0.868	1.763	19.0	18.7
2 1	7 29.59	- 4 15.8	1.489	2.393	12.0	18.8	2 1	7 12.69	+51 45.5	0.898	1.771	20.9	18.8
2 11	7 23.23	- 1 57.4	1.533	2.399	14.2	18.9	2 11	7 3.21	+48 17.0	0.946	1.779	23.6	19.0
2 21	7 19.45	+ 0 28.2	1.599	2.405	16.8	19.1	2 21	7 0.64	+44 36.0	1.011	1.787	26.3	19.3
<b>483560</b>	2004 BV <sub>1</sub>		1 15.1 127°68	3°8/13.9	18		<b>170308</b>	2003 SW <sub>35</sub>		1 15.1 151°00	1°0/14.7	18	
12 13	8 36.19	+21 9.1	0.959	1.791	23.2	21.5	12 13	8 13.15	+22 0.1	1.988	2.812	13.1	21.0
12 23	8 25.41	+23 23.9	0.917	1.824	16.9	21.2	12 23	8 6.61	+22 38.9	1.917	2.821	9.6	20.8
1 2	8 9.50	+25 50.6	0.896	1.853	10.0	20.9	1 2	7 57.75	+23 22.2	1.872	2.829	5.6	20.6
1 12	7 50.24	+28 9.4	0.901	1.880	4.0	20.7	1 12	7 47.39	+24 5.2	1.856	2.837	1.6	20.3
1 22	7 30.45	+30 1.8	0.935	1.905	7.2	21.0	1 22	7 36.64	+24 43.5	1.869	2.844	3.4	20.5
2 1	7 13.19	+31 19.0	0.995	1.926	13.4	21.4	2 1	7 26.68	+25 13.9	1.913	2.850	7.4	20.7
2 11	7 0.66	+32 3.8	1.079	1.945	18.8	21.8	2 11	7 18.59	+25 35.1	1.984	2.856	11.1	21.0
2 21	6 53.60	+32 24.1	1.180	1.961	23.0	22.1	2 21	7 13.02	+25 47.6	2.077	2.861	14.2	21.2
<b>251107</b>	2006 SA <sub>295</sub>		1 15.1 37°86	2°7/16.1	18		<b>170567</b>	2003 WM <sub>174</sub>		1 15.1 178°04	0°6/14.9	18	
12 13	8 9.58	+13 57.9	1.587	2.414	15.7	20.6	12 13	8 12.64	+21 8.7	2.042	2.865	12.8	21.6
12 23	8 4.34	+13 54.6	1.518	2.418	11.9	20.3	12 23	8 6.23	+21 37.8	1.964	2.867	9.4	21.4
1 2	7 56.54	+14 3.5	1.471	2.423	7.5	20.1	1 2	7 57.54	+22 11.6	1.911	2.868	5.5	21.1
1 12	7 47.09	+14 22.7	1.450	2.427	3.4	19.9	1 12	7 47.35	+22 46.4	1.887	2.869	1.4	20.9
1 22	7 37.20	+14 49.4	1.457	2.432	4.0	19.9	1 22	7 36.71	+23 18.2	1.893	2.869	3.1	21.0
2 1	7 28.21	+15 19.9	1.491	2.437	8.3	20.2	2 1	7 26.80	+23 43.9	1.930	2.869	7.3	21.2
2 11	7 21.27	+15 50.9	1.550	2.442	12.5	20.4	2 11	7 18.65	+24 2.2	1.993	2.868	11.0	21.5
2 21	7 17.10	+16 19.8	1.632	2.447	16.1	20.7	2 21	7 12.97	+24 13.3	2.080	2.866	14.1	21.7
<b>195755</b>	2002 PB <sub>105</sub>		1 15.1 326°25	4°7/17.1	18		<b>393886</b>	2005 TO <sub>78</sub>		1 15.1 53°74	4°1/16.5	17	
12 13	8 6.58	+ 7 12.8	2.099	2.894	13.5	19.9	12 13	8 11.37	+11 19.1	1.215	2.050	19.1	20.9
12 23	8 1.65	+ 6 54.3	2.017	2.892	10.7	19.7	12 23	8 6.06	+11 16.7	1.163	2.065	14.5	20.6
1 2	7 54.78	+ 6 49.6	1.959	2.890	7.6	19.5	1 2	7 57.68	+11 33.1	1.130	2.080	9.5	20.4
1 12	7 46.66	+ 6 59.1	1.928	2.888	5.2	19.4	1 12	7 47.39	+12 6.2	1.122	2.096	4.9	20.2
1 22	7 38.15	+ 7 21.5	1.925	2.886	5.1	19.4	1 22	7 36.73	+12 51.5	1.139	2.113	5.2	20.2
2 1	7 30.22	+ 7 54.4	1.950	2.884	7.6	19.5	2 1	7 27.35	+13 43.2	1.181	2.129	9.7	20.5
2 11	7 23.75	+ 8 34.3	2.003	2.883	10.7	19.7	2 11	7 20.60	+14 35.5	1.248	2.146	14.3	20.8
2 21	7 19.36	+ 9 17.4	2.078	2.881	13.5	19.9	2 21	7 17.18	+15 23.9	1.334	2.163	18.3	21.1
<b>428957</b>	2008 YE <sub>70</sub>		1 15.1 298°16	1°5/14.6	18		<b>128000</b>	2003 HQ <sub>51</sub>		1 15.1 48°12	6°4/17.2	18	
12 13	8 10.04	+25 47.4	2.247	3.075	11.6	20.8	12 13	8 10.90	+ 7 41.5	1.228	2.052	19.5	18.6
12 23	8 4.17	+25 51.0	2.165	3.071	8.6	20.6	12 23	8 5.60	+ 7 7.6	1.178	2.070	15.3	18.4
1 2	7 56.24	+25 54.2	2.109	3.066	5.1	20.4	1 2	7 57.34	+ 6 55.2	1.148	2.088	10.8	18.2
1 12	7 47.01	+25 54.0	2.082	3.062	1.8	20.1	1 12	7 47.29	+ 7 4.9	1.142	2.106	7.1	18.0
1 22	7 37.42	+25 48.1	2.084	3.058	3.3	20.2	1 22	7 36.96	+ 7 34.3	1.160	2.126	7.0	18.1
2 1	7 28.54	+25 35.4	2.116	3.053	6.8	20.5	2 1	7 27.91	+ 8 18.4	1.204	2.145	10.4	18.3
2 11	7 21.28	+25 16.4	2.176	3.049	10.2	20.7	2 11	7 21.40	+ 9 10.5	1.271	2.165	14.4	18.6
2 21	7 16.26	+24 52.2	2.259	3.045	13.1	20.9	2 21	7 18.11	+10 4.5	1.358	2.185	18.1	18.9
<b>338076</b>	2002 PW <sub>61</sub>		1 15.1 114°89	3°1/16.2	18		<b>455575</b>	2004 RG <sub>114</sub>		1 15.1 121°27	7°7/12.3	18	
12 13	8 14.81	+12 32.3	1.564	2.379	16.4	21.7	12 13	8 22.84	+46 34				

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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>448777</b>	2011 <i>SW</i> <sub>112</sub>		1 15.1 66°48'	1.9°/14.5	17		<b>54140</b>	2000 <i>HB</i> <sub>37</sub>		1 15.1 97°32'	2°0'/16.2	18	
12 13	8 14.38	+23 38.7	1.408	2.251	16.4	21.0	12 13	8 9.77	+12 8.5	1.865	2.677	14.3	18.2
12 23	8 8.04	+24 17.0	1.360	2.272	12.0	20.8	12 23	8 4.17	+12 58.5	1.797	2.690	10.7	18.0
1 2	7 58.72	+24 58.7	1.334	2.294	7.0	20.5	1 2	7 56.34	+14 2.9	1.754	2.704	6.7	17.8
1 12	7 47.62	+25 37.3	1.335	2.316	2.3	20.3	1 12	7 47.09	+15 17.8	1.739	2.717	2.7	17.6
1 22	7 36.28	+26 7.3	1.364	2.338	4.4	20.5	1 22	7 37.44	+16 37.8	1.753	2.729	3.3	17.6
2 1	7 26.31	+26 25.7	1.419	2.360	9.2	20.8	2 1	7 28.55	+17 57.0	1.798	2.742	7.3	17.9
2 11	7 18.95	+26 32.4	1.499	2.382	13.4	21.1	2 11	7 21.43	+19 10.6	1.870	2.754	11.0	18.1
2 21	7 14.86	+26 29.2	1.600	2.404	16.9	21.4	2 21	7 16.74	+20 15.7	1.965	2.766	14.3	18.4
<b>228737</b>	2002 <i>TB</i> <sub>211</sub>		1 15.1 101°14'	3°5'/13.9	17		<b>450298</b>	2004 <i>PG</i> <sub>55</sub>		1 15.1 139°51'	2°6'/14.2	18	
12 13	8 17.53	+27 18.1	1.459	2.298	16.2	20.2	12 13	8 17.25	+27 16.5	1.942	2.765	13.4	22.2
12 23	8 10.44	+28 9.4	1.406	2.316	11.9	20.0	12 23	8 9.64	+27 48.5	1.878	2.780	9.9	22.0
1 2	8 0.19	+29 0.5	1.377	2.334	7.3	19.8	1 2	7 59.52	+28 19.4	1.839	2.794	6.0	21.8
1 12	7 47.99	+29 43.4	1.375	2.351	3.7	19.6	1 12	7 47.85	+28 44.0	1.830	2.807	2.8	21.6
1 22	7 35.45	+30 11.8	1.400	2.368	5.5	19.7	1 22	7 35.89	+28 58.1	1.850	2.819	4.3	21.8
2 1	7 24.30	+30 23.3	1.452	2.385	9.8	20.0	2 1	7 24.95	+29 0.1	1.900	2.831	8.0	22.0
2 11	7 15.91	+30 19.3	1.530	2.401	13.9	20.3	2 11	7 16.15	+28 50.9	1.978	2.841	11.6	22.3
2 21	7 10.97	+30 3.3	1.627	2.416	17.3	20.6	2 21	7 10.15	+28 33.1	2.078	2.851	14.5	22.5
<b>459288</b>	2012 <i>GK</i> <sub>7</sub>		1 15.1 271°50'	7°4'/11.7	18		<b>9095</b>	1995 <i>WT</i> <sub>2</sub>		1 15.1 108°16'	0°5'/15.3	18	
12 13	8 15.43	+39 26.8	1.970	2.790	13.3	21.2	12 13	8 16.00	+19 15.2	1.557	2.385	15.9	18.1
12 23	8 9.03	+40 36.7	1.888	2.774	10.7	21.0	12 23	8 8.99	+19 24.1	1.499	2.403	11.7	17.9
1 2	7 59.55	+41 38.6	1.831	2.758	8.4	20.8	1 2	7 59.22	+19 39.8	1.464	2.421	6.9	17.7
1 12	7 47.90	+42 23.6	1.800	2.741	7.4	20.7	1 12	7 47.78	+19 58.5	1.457	2.438	1.8	17.4
1 22	7 35.45	+42 45.2	1.797	2.724	8.5	20.7	1 22	7 36.07	+20 16.4	1.478	2.455	3.5	17.5
2 1	7 23.85	+42 41.0	1.820	2.707	11.1	20.9	2 1	7 25.56	+20 30.8	1.527	2.471	8.4	17.9
2 11	7 14.58	+42 13.4	1.868	2.690	14.0	21.0	2 11	7 17.44	+20 40.5	1.603	2.487	12.6	18.2
2 21	7 8.55	+41 27.8	1.935	2.673	16.6	21.2	2 21	7 12.36	+20 45.4	1.700	2.502	16.1	18.4
<b>328663</b>	2009 <i>SR</i> <sub>275</sub>		1 15.1 163°55'	3°6'/13.6	18		<b>312423</b>	2008 <i>GV</i> <sub>60</sub>		1 15.1 340°50'	8°1'/18.4	18	
12 13	8 11.99	+29 40.9	2.007	2.838	12.7	20.9	12 13	8 5.60	+1 50.0	1.490	2.288	18.0	20.1
12 23	8 5.93	+30 27.5	1.935	2.840	9.5	20.7	12 23	8 1.66	+1 24.6	1.412	2.280	14.8	19.9
1 2	7 57.43	+31 12.4	1.889	2.841	6.0	20.5	1 2	7 55.15	+1 23.5	1.353	2.273	11.4	19.6
1 12	7 47.34	+31 49.8	1.870	2.843	3.7	20.4	1 12	7 46.86	+1 49.3	1.318	2.266	8.7	19.5
1 22	7 36.80	+32 15.0	1.881	2.844	5.1	20.5	1 22	7 37.94	+2 41.0	1.307	2.260	8.3	19.4
2 1	7 27.07	+32 25.7	1.920	2.845	8.4	20.7	2 1	7 29.73	+3 53.9	1.322	2.254	10.6	19.5
2 11	7 19.29	+32 22.4	1.986	2.845	11.7	20.9	2 11	7 23.47	+5 20.5	1.360	2.249	14.1	19.7
2 21	7 14.15	+32 7.6	2.073	2.846	14.6	21.1	2 21	7 19.97	+6 52.3	1.420	2.246	17.5	19.9
<b>444323</b>	2005 <i>WX</i> <sub>25</sub>		1 15.1 90°08'	4°8'/13.4	18		<b>196997</b>	2003 <i>UA</i> <sub>90</sub>		1 15.1 190°34'	3°8'/17.1	18	
12 13	8 16.54	+29 33.0	1.429	2.272	16.3	21.1	12 13	8 6.99	+7 29.7	2.485	3.271	11.9	20.8
12 23	8 9.91	+30 41.3	1.377	2.287	12.1	20.9	12 23	8 1.71	+7 29.6	2.399	3.270	9.4	20.6
1 2	7 59.98	+31 47.6	1.348	2.302	7.8	20.7	1 2	7 54.75	+7 41.9	2.338	3.269	6.6	20.4
1 12	7 47.96	+32 42.6	1.346	2.317	4.9	20.6	1 12	7 46.71	+8 6.1	2.305	3.267	4.2	20.3
1 22	7 35.52	+33 19.2	1.370	2.332	6.6	20.7	1 22	7 38.32	+8 40.5	2.302	3.265	4.2	20.3
2 1	7 24.47	+33 34.3	1.421	2.347	10.6	21.0	2 1	7 30.41	+9 22.6	2.329	3.263	6.5	20.4
2 11	7 16.24	+33 30.1	1.496	2.361	14.5	21.3	2 11	7 23.73	+10 9.1	2.384	3.260	9.3	20.6
2 21	7 11.59	+33 11.0	1.591	2.375	17.8	21.5	2 21	7 18.86	+10 56.8	2.463	3.257	11.9	20.7
<b>255934</b>	2006 <i>SU</i> <sub>408</sub>		1 15.1 122°77'	1°8'/16.1	18		<b>129478</b>	1993 <i>TU</i> <sub>27</sub>		1 15.1 78°72'	0°3'/15.3	18	
12 13	8 11.24	+12 53.4	2.235	3.037	12.6	21.0	12 13	8 10.01	+18 54.1	2.071	2.893	12.7	20.5
12 23	8 4.85	+13 30.4	2.169	3.057	9.4	20.8	12 23	8 4.06	+19 16.4	2.014	2.916	9.3	20.4
1 2	7 56.56	+14 18.1	2.129	3.077	5.9	20.6	1 2	7 56.13	+19 44.5	1.982	2.939	5.4	20.2
1 12	7 47.10	+15 13.4	2.118	3.096	2.4	20.5	1 12	7 47.02	+20 15.2	1.979	2.961	1.4	19.9
1 22	7 37.37	+16 12.4	2.139	3.114	2.9	20.5	1 22	7 37.73	+20 45.1	2.006	2.983	2.8	20.1
2 1	7 28.34	+17 11.1	2.190	3.131	6.4	20.8	2 1	7 29.26	+21 11.6	2.063	3.005	6.6	20.4
2 11	7 20.86	+18 6.2	2.270	3.148	9.7	21.0	2 11	7 22.48	+21 33.1	2.147	3.027	10.0	20.6
2 21	7 15.49	+18 55.6	2.375	3.164	12.5	21.2	2 21	7 17.95	+21 49.1	2.254	3.049	12.9	20.8
<b>367202</b>	2007 <i>CZ</i> <sub>4</sub>		1 15.1 95°52'	0°9'/14.8	18		<b>240826</b>	2006 <i>BW</i> <sub>19</sub>		1 15.1 311°36'	3°1'/16.3	18	
12 13	8 11.75	+23 5.2	1.884	2.715	13.4	21.0	12 13	8 8.46	+12 10.0	1.356	2.190	17.5	20.1
12 23	8 5.63	+23 18.0	1.816	2.723	9.8	20.8	12 23	8 4.17	+12 27.3	1.273	2.177	13.4	19.8
1 2	7 57.17	+23 33.4	1.773	2.731	5.8	20.6	1 2	7 56.83	+13 3.4	1.212	2.164	8.7	19.5
1 12	7 47.26	+23 47.6	1.758	2.740	1.6	20.3	1 12	7 47.31	+13 56.1	1.175	2.152	4.0	19.2
1 22	7 37.03	+23 57.4	1.772	2.748	3.3	20.5	1 22	7 36.93	+15 0.6	1.164	2.140	4.6	19.2
2 1	7 27.69	+24 1.1	1.815	2.756	7.5	20.7	2 1	7 27.29	+16 10.4	1.179	2.128	9.6	19.4
2 11	7 20.30	+23 58.2	1.885	2.764	11.3	21.0	2 11	7 19.92	+17 18.9	1.218	2.117	14.6	19.7
2 21	7 15.48	+23 49.6	1.977	2.772	14.4	21.2	2 21	7 15.80	+18 21.3	1.278	2.107	18.9	19.9
<b>384794</b>	2012 <i>QD</i> <sub>21</sub>		1 15.1 48°77'	0°2'/15.1	18		<b>166316</b>	2002 <i>JX</i> <sub>51</sub>		1 15.1 206°22'	0°1'/15.1	18	
12 13	8 9.32	+21 57.8	2.154	2.981	12.1	20.6	12 13	8 12.54	+20 22.3	2.014	2.836	13.0	21.1
12 23	8 3.59	+21 53.7	2.084	2.988	8.9	20.4	12 23	8 6.26	+20 41.1	1.929	2.831	9.6	20.9
1 2	7 55.86	+21 52.0	2.038	2.996	5.2	20.2	1 2	7 57.63	+21 5.1	1.869	2.826	5.7	20.7
1 12	7 46.93	+21 50.5	2.021	3.003	1.2	19.9	1 12	7 47.44	+21 31.0	1.838	2.820	1.4	20.4
1 22	7 37.75	+21 47.0	2.034	3.010	2.8	20.0	1 22	7 36.74	+21 55.2	1.837	2.813	3.1	20.5
2 1	7 29.32	+21 40.6	2.076	3.018	6.6	20.3	2 1	7 26.71	+22 15.0	1.865	2.806	7.3	20.7
2 11	7 22.53	+21 30.8	2.145	3.026	10.0	20.5	2 11	7 18.45	+22 29.1	1.921	2.798	11.2	20.9
2 21	7 17.95	+21 18.1	2.238	3.033	12.9	20.7	2 21	7 12.67	+22 37.2	2.000	2.790	14.5	21.1
<b>334077</b>	2001 <i>QN</i> <sub>36</sub>		1 15.1 119°12'	4°3'/13.8	18		<b>381624</b>	2008 <i>XV</i> <sub>49</sub>		1 15.1 7°80'	2°4'/16.5	18	
12 13	8 16.64	+36 25.3	2.533</										



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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>333614</b>	2007 <i>RN</i> <sub>247</sub>		1 15.1 114°12	0°3/15.3	18		<b>490040</b>	2008 <i>TB</i> <sub>22</sub>		1 15.1 107°83	1°4/15.6	15	
12 13	8 8.29	+18 55.9	2.367	3.186	11.4	21.5	12 13	8 14.71	+16 33.8	1.640	2.462	15.5	22.5
12 23	8 2.71	+19 16.2	2.296	3.197	8.4	21.3	12 23	8 7.92	+16 44.3	1.581	2.481	11.5	22.3
1 2	7 55.34	+19 41.7	2.251	3.207	4.9	21.1	1 2	7 58.58	+17 4.1	1.546	2.500	6.9	22.1
1 12	7 46.85	+20 9.9	2.235	3.217	1.3	20.9	1 12	7 47.67	+17 30.0	1.538	2.519	2.3	21.8
1 22	7 38.09	+20 37.8	2.250	3.226	2.5	21.0	1 22	7 36.50	+17 58.2	1.560	2.536	3.5	21.9
2 1	7 29.96	+21 3.2	2.294	3.236	6.1	21.2	2 1	7 26.41	+18 25.3	1.610	2.554	8.0	22.2
2 11	7 23.27	+21 24.3	2.367	3.245	9.3	21.4	2 11	7 18.52	+18 49.1	1.686	2.570	12.1	22.5
2 21	7 18.55	+21 40.6	2.464	3.254	12.0	21.6	2 21	7 13.48	+19 8.5	1.784	2.586	15.5	22.8
<b>267509</b>	2002 <i>NH</i> <sub>12</sub>		1 15.1 199°74	0°4/15.3	18		<b>236944</b>	2007 <i>TA</i> <sub>353</sub>		1 15.1 161°22	0°3/15.3	18	
12 13	8 15.61	+19 33.8	1.629	2.456	15.3	21.1	12 13	8 8.06	+19 6.7	2.627	3.442	10.5	21.4
12 23	8 8.94	+19 39.1	1.550	2.454	11.4	20.8	12 23	8 2.45	+19 23.8	2.548	3.447	7.7	21.3
1 2	7 59.38	+19 50.8	1.494	2.450	6.8	20.5	1 2	7 55.17	+19 45.6	2.496	3.451	4.6	21.1
1 12	7 47.90	+20 5.4	1.465	2.446	1.8	20.2	1 12	7 46.85	+20 9.6	2.473	3.455	1.2	20.8
1 22	7 35.81	+20 19.5	1.465	2.442	3.5	20.3	1 22	7 38.24	+20 33.4	2.481	3.458	2.3	20.9
2 1	7 24.63	+20 30.3	1.493	2.436	8.6	20.6	2 1	7 30.16	+20 55.0	2.521	3.461	5.7	21.2
2 11	7 15.70	+20 36.5	1.548	2.430	13.0	20.8	2 11	7 23.36	+21 13.0	2.588	3.464	8.7	21.4
2 21	7 9.83	+20 38.2	1.624	2.424	16.8	21.1	2 21	7 18.37	+21 26.8	2.680	3.466	11.3	21.5
<b>83463</b>	2001 <i>SP</i> <sub>69</sub>		1 15.1 198°38	5°6/17.7	18		<b>427474</b>	2001 <i>WR</i> <sub>68</sub>		1 15.1 106°69	4°1/12.8	18	
12 13	8 8.39	+3 34.2	2.241	3.013	13.5	19.7	12 13	8 10.01	+32 40.3	2.463	3.288	10.8	21.1
12 23	8 2.91	+3 17.3	2.155	3.011	10.9	19.5	12 23	8 4.17	+33 40.2	2.399	3.297	8.2	21.0
1 2	7 55.54	+3 16.1	2.092	3.008	8.2	19.4	1 2	7 56.30	+34 36.5	2.360	3.305	5.6	20.8
1 12	7 46.93	+3 31.3	2.056	3.004	6.0	19.2	1 12	7 47.14	+35 24.1	2.351	3.314	4.1	20.7
1 22	7 37.92	+4 2.0	2.049	3.001	5.8	19.2	1 22	7 37.62	+35 58.7	2.372	3.322	5.2	20.8
2 1	7 29.43	+4 45.5	2.071	2.996	7.8	19.3	2 1	7 28.78	+36 18.2	2.422	3.331	7.7	21.0
2 11	7 22.32	+5 37.9	2.121	2.991	10.6	19.5	2 11	7 21.53	+36 23.2	2.498	3.339	10.3	21.2
2 21	7 17.21	+6 34.8	2.194	2.986	13.3	19.7	2 21	7 16.50	+36 15.8	2.597	3.347	12.6	21.3
<b>28040</b>	1998 <i>FF</i> <sub>80</sub>		1 15.1 114°89	0°1/15.2	18		<b>489629</b>	2007 <i>TZ</i> <sub>345</sub>		1 15.1 52°85	3°1/13.8	18	
12 13	8 7.11	+19 14.7	2.585	3.403	10.6	19.4	12 13	8 9.90	+28 19.9	2.008	2.842	12.5	21.2
12 23	8 1.75	+19 40.9	2.513	3.413	7.8	19.2	12 23	8 4.26	+29 3.5	1.950	2.858	9.2	21.0
1 2	7 54.74	+20 12.1	2.468	3.423	4.5	19.0	1 2	7 56.39	+29 46.0	1.918	2.873	5.7	20.9
1 12	7 46.72	+20 45.4	2.451	3.433	1.1	18.8	1 12	7 47.15	+30 22.0	1.914	2.889	3.2	20.7
1 22	7 38.43	+21 18.1	2.466	3.443	2.4	18.9	1 22	7 37.64	+30 47.4	1.939	2.905	4.6	20.8
2 1	7 30.70	+21 47.8	2.511	3.452	5.7	19.1	2 1	7 29.01	+31 0.3	1.992	2.921	7.8	21.1
2 11	7 24.27	+22 12.9	2.585	3.462	8.7	19.4	2 11	7 22.25	+31 1.0	2.071	2.937	11.0	21.3
2 21	7 19.64	+22 32.7	2.683	3.471	11.2	19.5	2 21	7 17.95	+30 51.2	2.173	2.953	13.8	21.5
<b>99970</b>	1981 <i>DB</i> <sub>2</sub>		1 15.1 352°26	0°6/15.2	18		<b>404170</b>	2013 <i>CZ</i> <sub>79</sub>		1 15.1 259°39	0°5/15.3	17	
12 13	8 8.82	+21 10.3	1.302	2.155	16.9	18.2	12 13	8 12.85	+19 2.8	1.709	2.538	14.7	22.3
12 23	8 4.42	+20 46.3	1.230	2.147	12.6	18.0	12 23	8 7.01	+19 14.6	1.615	2.520	11.0	22.0
1 2	7 56.90	+20 26.5	1.180	2.141	7.5	17.7	1 2	7 58.36	+19 33.9	1.545	2.501	6.6	21.7
1 12	7 47.31	+20 8.5	1.154	2.136	2.0	17.3	1 12	7 47.71	+19 57.5	1.501	2.483	1.7	21.4
1 22	7 37.14	+19 50.5	1.153	2.132	3.9	17.4	1 22	7 36.26	+20 21.7	1.486	2.463	3.5	21.5
2 1	7 28.06	+19 31.4	1.179	2.129	9.4	17.7	2 1	7 25.44	+20 43.0	1.500	2.444	8.5	21.7
2 11	7 21.50	+19 11.1	1.228	2.128	14.4	18.0	2 11	7 16.61	+20 59.5	1.539	2.424	13.0	21.9
2 21	7 18.26	+18 49.8	1.296	2.128	18.5	18.3	2 21	7 10.69	+21 10.4	1.601	2.403	16.9	22.1
<b>171661</b>	2000 <i>JZ</i> <sub>17</sub>		1 15.1 156°61	6°6/19.2	17		<b>277947</b>	2006 <i>QC</i> <sub>119</sub>		1 15.1 129°56	5°7/19.1	18	
12 13	8 6.15	- 6 30.7	3.411	4.107	10.7	21.7	12 13	8 5.47	- 2 3.7	3.034	3.766	11.2	21.1
12 23	8 0.66	- 7 12.0	3.332	4.116	9.2	21.6	12 23	8 0.27	- 2 13.9	2.961	3.781	9.3	21.0
1 2	7 53.96	- 7 38.9	3.278	4.124	7.8	21.5	1 2	7 53.78	- 2 9.3	2.912	3.795	7.4	20.9
1 12	7 46.52	- 7 50.1	3.250	4.132	6.8	21.4	1 12	7 46.50	- 1 49.3	2.889	3.809	6.0	20.8
1 22	7 38.88	- 7 45.1	3.250	4.139	6.6	21.4	1 22	7 39.03	- 1 14.9	2.896	3.823	5.7	20.8
2 1	7 31.60	- 7 25.0	3.279	4.145	7.3	21.5	2 1	7 32.01	- 0 28.1	2.932	3.836	6.7	20.9
2 11	7 25.24	- 6 52.4	3.335	4.152	8.5	21.6	2 11	7 26.00	+ 0 27.5	2.997	3.848	8.4	21.0
2 21	7 20.19	- 6 10.5	3.415	4.157	9.9	21.7	2 21	7 21.43	+ 1 28.3	3.087	3.860	10.2	21.1
<b>107748</b>	2001 <i>FQ</i> <sub>35</sub>		1 15.1 325°19	2°7/16.1	18		<b>185233</b>	2006 <i>TY</i> <sub>109</sub>		1 15.1 327°05	2°9/15.9	18	
12 13	8 8.86	+13 31.3	1.508	2.338	16.2	19.6	12 13	8 6.03	+14 45.7	1.312	2.158	17.2	19.4
12 23	8 4.11	+13 38.9	1.430	2.332	12.3	19.4	12 23	8 2.61	+14 34.8	1.219	2.130	13.2	19.0
1 2	7 56.62	+14 0.7	1.374	2.326	7.8	19.1	1 2	7 56.06	+14 37.2	1.148	2.104	8.5	18.7
1 12	7 47.25	+14 34.8	1.343	2.321	3.5	18.8	1 12	7 47.20	+14 52.2	1.100	2.078	3.8	18.3
1 22	7 37.25	+15 17.3	1.340	2.316	4.1	18.8	1 22	7 37.32	+15 17.2	1.077	2.054	4.7	18.3
2 1	7 28.04	+16 3.7	1.363	2.311	8.7	19.1	2 1	7 28.08	+15 48.5	1.080	2.031	10.0	18.5
2 11	7 20.93	+16 49.4	1.412	2.306	13.3	19.3	2 11	7 21.09	+16 21.6	1.105	2.009	15.2	18.8
2 21	7 16.75	+17 31.1	1.481	2.302	17.2	19.6	2 21	7 17.45	+16 53.1	1.149	1.988	19.9	19.0
<b>152944</b>	2000 <i>FD</i> <sub>25</sub>		1 15.1 205°57	10°5/20.2	18		<b>10309</b>	1990 <i>QC</i> <sub>6</sub>		1 15.1 45°87	0°2/15.1	18	
12 13	8 10.18	- 8 5.6	1.906	2.625	17.3	20.2	12 13	8 12.67	+20 9.7	1.171	2.024	18.4	17.6
12 23	8 4.57	- 8 41.1	1.822	2.621	15.1	20.0	12 23	8 7.21	+20 31.8	1.124	2.041	13.5	17.4
1 2	7 56.69	- 8 50.0	1.757	2.616	12.8	19.9	1 2	7 58.45	+21 2.6	1.098	2.059	7.9	17.1
1 12	7 47.26	- 8 28.5	1.715	2.611	11.0	19.7	1 12	7 47.67	+21 36.2	1.096	2.078	1.9	16.8
1 22	7 37.26	- 7 36.1	1.699	2.604	10.5	19.7	1 22	7 36.61	+22 7.0	1.119	2.097	4.1	17.0
2 1	7 27.85	- 6 15.8	1.709	2.597	11.6	19.7	2 1	7 27.03	+22 30.7	1.169	2.117	9.7	17.4
2 11	7 20.08	- 4 34.8	1.744	2.590	13.7	19.9	2 11	7 20.33	+22 45.9	1.241	2.137	14.6	17.7
2 21	7 14.70	- 2 41.7	1.801	2.582	16.2	20.0	2 21	7 17.16	+22 52.7	1.333	2.158	18.5	18.0
<b>154851</b>	2004 <i>RR</i> <sub>53</sub>		1 15.1 80°32	3°6/13.6	18		<b>400177</b>	2006 <i>WV</i> <sub>94</sub>		1 15.1 72°56	1°4/15.7	18	
12 13	8 11.71	+29 30.6	1.917										

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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>102987</b>	1999 <i>XM</i> <sub>87</sub>		1 15.1 34°18'	2°2/14.3	18		<b>114387</b>	2002 <i>YK</i> <sub>1</sub>		1 15.2 322°28'	0°5/15.3	18	
12 13	8 11.13	+21 45.0	1.094	1.954	18.8	19.2	12 13	8 9.45	+20 55.9	2.046	2.874	12.6	19.1
12 23	8 6.53	+22 51.6	1.042	1.964	13.8	18.9	12 23	8 3.97	+20 34.7	1.957	2.861	9.4	18.9
1 2	7 58.30	+24 8.3	1.011	1.974	8.1	18.7	1 2	7 56.31	+20 15.8	1.892	2.849	5.6	18.6
1 12	7 47.69	+25 25.5	1.003	1.985	2.6	18.4	1 12	7 47.22	+19 57.8	1.855	2.837	1.5	18.3
1 22	7 36.51	+26 33.3	1.021	1.996	5.3	18.6	1 22	7 37.68	+19 39.3	1.848	2.825	2.9	18.4
2 1	7 26.74	+27 24.9	1.063	2.009	10.9	18.9	2 1	7 28.80	+19 19.6	1.870	2.814	7.1	18.6
2 11	7 20.02	+27 58.3	1.128	2.022	15.9	19.3	2 11	7 21.58	+18 58.7	1.919	2.803	10.8	18.8
2 21	7 17.15	+28 14.9	1.211	2.035	20.0	19.6	2 21	7 16.70	+18 36.9	1.991	2.792	14.1	19.0
<b>310356</b>	2011 <i>UM</i> <sub>264</sub>		1 15.1 100°10'	1°3/15.7	18		<b>447780</b>	2007 <i>RZ</i> <sub>146</sub>		1 15.2 68°85'	1°9/15.9	17	
12 13	8 12.15	+15 21.3	1.643	2.467	15.4	20.8	12 13	8 11.96	+14 36.7	1.459	2.289	16.7	20.9
12 23	8 6.15	+15 53.7	1.581	2.482	11.4	20.6	12 23	8 6.17	+14 59.7	1.406	2.309	12.4	20.7
1 2	7 57.61	+16 37.9	1.543	2.497	6.9	20.3	1 2	7 57.68	+15 36.1	1.375	2.329	7.6	20.5
1 12	7 47.48	+17 29.8	1.532	2.512	2.3	20.1	1 12	7 47.53	+16 21.8	1.369	2.349	2.8	20.2
1 22	7 36.98	+18 24.4	1.550	2.527	3.4	20.2	1 22	7 37.09	+17 11.8	1.392	2.369	3.7	20.3
2 1	7 27.44	+19 16.7	1.596	2.541	7.9	20.5	2 1	7 27.78	+18 1.0	1.442	2.389	8.4	20.7
2 11	7 20.00	+20 3.2	1.668	2.555	12.1	20.8	2 11	7 20.78	+18 45.4	1.517	2.408	12.7	21.0
2 21	7 15.33	+20 42.1	1.763	2.568	15.5	21.0	2 21	7 16.74	+19 23.1	1.614	2.428	16.3	21.2
<b>256109</b>	2006 <i>UG</i> <sub>281</sub>		1 15.1 358°78'	3°2/13.9	18		<b>36124</b>	1999 <i>RF</i> <sub>147</sub>		1 15.2 268°82'	1°5/15.6	18	
12 13	8 11.86	+27 15.1	1.709	2.548	14.2	20.8	12 13	8 10.29	+17 27.6	1.996	2.817	13.1	18.7
12 23	8 6.21	+28 3.7	1.638	2.548	10.5	20.6	12 23	8 4.61	+17 13.8	1.909	2.809	9.8	18.5
1 2	7 57.80	+28 53.3	1.591	2.548	6.5	20.3	1 2	7 56.70	+17 6.0	1.847	2.800	6.0	18.2
1 12	7 47.55	+29 37.4	1.572	2.548	3.3	20.1	1 12	7 47.32	+17 2.8	1.812	2.792	2.2	18.0
1 22	7 36.77	+30 10.3	1.580	2.548	5.1	20.2	1 22	7 37.47	+17 2.3	1.807	2.783	3.2	18.0
2 1	7 26.89	+30 28.7	1.616	2.548	9.0	20.5	2 1	7 28.28	+17 3.2	1.831	2.775	7.2	18.3
2 11	7 19.19	+30 32.7	1.677	2.548	12.9	20.7	2 11	7 20.77	+17 4.1	1.882	2.766	11.0	18.5
2 21	7 14.45	+30 24.5	1.760	2.548	16.2	20.9	2 21	7 15.63	+17 4.3	1.956	2.758	14.3	18.7
<b>335858</b>	2007 <i>RB</i> <sub>23</sub>		1 15.1 126°43'	0°3/15.0	18		<b>218380</b>	2004 <i>NF</i> <sub>11</sub>		1 15.2 88°96'	1°4/14.7	18	
12 13	8 9.47	+21 42.9	2.444	3.264	11.1	21.4	12 13	8 15.40	+25 27.5	2.086	2.907	12.6	20.8
12 23	8 3.54	+21 52.5	2.372	3.273	8.1	21.2	12 23	8 7.94	+25 31.7	2.033	2.935	9.2	20.6
1 2	7 55.83	+22 4.8	2.326	3.282	4.7	21.0	1 2	7 58.38	+25 35.1	2.006	2.962	5.4	20.4
1 12	7 47.03	+22 17.3	2.309	3.291	1.1	20.8	1 12	7 47.67	+25 34.7	2.009	2.989	1.8	20.2
1 22	7 37.98	+22 27.6	2.323	3.300	2.6	20.9	1 22	7 36.89	+25 28.1	2.042	3.015	3.3	20.4
2 1	7 29.58	+22 34.2	2.368	3.308	6.0	21.1	2 1	7 27.15	+25 14.9	2.105	3.041	6.9	20.6
2 11	7 22.64	+22 36.4	2.440	3.316	9.2	21.4	2 11	7 19.36	+24 55.7	2.196	3.066	10.3	20.9
2 21	7 17.67	+22 34.3	2.537	3.324	11.9	21.5	2 21	7 14.02	+24 32.3	2.310	3.091	13.0	21.1
<b>374025</b>	2004 <i>EB</i> <sub>62</sub>		1 15.1 5°99'	5°3/17.6	18		<b>243754</b>	2000 <i>QY</i> <sub>159</sub>		1 15.2 196°55'	2°4/16.0	18	
12 13	8 4.41	+ 6 24.1	1.709	2.518	15.6	20.1	12 13	8 13.16	+14 6.1	2.009	2.817	13.6	21.1
12 23	8 0.46	+ 6 18.7	1.637	2.519	12.3	19.9	12 23	8 6.67	+13 59.9	1.924	2.814	10.3	20.9
1 2	7 54.30	+ 6 31.9	1.586	2.520	8.8	19.7	1 2	7 57.90	+14 2.9	1.863	2.810	6.6	20.7
1 12	7 46.70	+ 7 3.5	1.561	2.523	5.9	19.5	1 12	7 47.62	+14 13.8	1.830	2.806	3.0	20.5
1 22	7 38.69	+ 7 51.2	1.562	2.526	5.7	19.5	1 22	7 36.85	+14 30.3	1.827	2.801	3.6	20.5
2 1	7 31.37	+ 8 50.6	1.591	2.531	8.4	19.7	2 1	7 26.75	+14 50.2	1.854	2.795	7.4	20.7
2 11	7 25.77	+ 9 56.0	1.644	2.536	11.9	19.9	2 11	7 18.36	+15 11.1	1.909	2.788	11.1	20.9
2 21	7 22.56	+11 2.2	1.720	2.542	15.1	20.1	2 21	7 12.38	+15 31.3	1.987	2.781	14.4	21.1
<b>318693</b>	2005 <i>QQ</i> <sub>74</sub>		1 15.1 160°72'	5°8/18.3	18		<b>19226</b>	Peiresc		1 15.2 125°59'	3°1/16.8	18	
12 13	8 8.51	+ 1 31.5	2.349	3.109	13.3	21.4	12 13	8 5.38	+ 9 43.9	2.634	3.429	11.1	18.3
12 23	8 2.88	+ 1 24.9	2.270	3.115	10.8	21.2	12 23	8 0.48	+ 9 41.5	2.554	3.432	8.6	18.1
1 2	7 55.49	+ 1 35.2	2.214	3.121	8.3	21.1	1 2	7 54.04	+ 9 49.2	2.499	3.436	5.8	17.9
1 12	7 46.97	+ 2 2.8	2.185	3.126	6.2	21.0	1 12	7 46.65	+10 6.3	2.472	3.439	3.5	17.8
1 22	7 38.12	+ 2 46.3	2.184	3.131	5.9	20.9	1 22	7 38.99	+10 31.4	2.475	3.442	3.6	17.8
2 1	7 29.82	+ 3 42.6	2.214	3.135	7.6	21.1	2 1	7 31.80	+11 2.2	2.508	3.445	5.9	17.9
2 11	7 22.85	+ 4 47.2	2.271	3.138	10.1	21.2	2 11	7 25.77	+11 36.2	2.569	3.448	8.6	18.1
2 21	7 17.79	+ 5 55.5	2.352	3.141	12.6	21.4	2 21	7 21.40	+12 10.9	2.655	3.451	11.1	18.3
<b>378383</b>	2007 <i>QN</i> <sub>14</sub>		1 15.1 55°44'	0°7/14.8	18		<b>293209</b>	2007 <i>BD</i> <sub>19</sub>		1 15.2 35°59'	1°8/14.8	18	
12 13	8 9.13	+21 59.6	1.981	2.812	12.8	21.1	12 13	8 14.80	+26 36.8	1.433	2.277	16.2	19.7
12 23	8 3.62	+22 23.5	1.921	2.828	9.4	20.9	12 23	8 8.38	+26 21.9	1.377	2.289	11.9	19.5
1 2	7 56.00	+22 51.1	1.886	2.845	5.4	20.7	1 2	7 58.99	+26 4.8	1.343	2.303	7.0	19.3
1 12	7 47.10	+23 18.8	1.879	2.861	1.4	20.4	1 12	7 47.86	+25 42.0	1.336	2.317	2.4	19.0
1 22	7 37.96	+23 42.9	1.902	2.878	3.1	20.6	1 22	7 36.53	+25 11.5	1.356	2.332	4.2	19.2
2 1	7 29.65	+24 1.1	1.953	2.895	7.0	20.9	2 1	7 26.61	+24 33.6	1.404	2.347	9.0	19.5
2 11	7 23.12	+24 12.5	2.032	2.912	10.5	21.1	2 11	7 19.32	+23 50.8	1.476	2.363	13.3	19.8
2 21	7 18.92	+24 17.2	2.133	2.929	13.5	21.4	2 21	7 15.28	+23 5.7	1.569	2.379	16.9	20.1
<b>465800</b>	2010 <i>CH</i> <sub>77</sub>		1 15.1 57°61'	4°3/13.6	18		<b>238737</b>	2005 <i>GM</i> <sub>121</sub>		1 15.2 226°28'	0°9/15.7	17	
12 13	8 12.99	+33 28.4	2.087	2.915	12.4	20.6	12 13	8 7.02	+16 40.1	2.948	3.755	9.7	21.8
12 23	8 6.57	+33 53.8	2.021	2.920	9.4	20.4	12 23	8 1.64	+16 52.6	2.851	3.744	7.2	21.6
1 2	7 57.78	+34 13.2	1.980	2.926	6.3	20.2	1 2	7 54.74	+17 10.7	2.780	3.732	4.4	21.4
1 12	7 47.54	+34 21.6	1.966	2.932	4.4	20.1	1 12	7 46.84	+17 32.7	2.740	3.720	1.5	21.1
1 22	7 37.02	+34 15.8	1.981	2.938	5.4	20.2	1 22	7 38.58	+17 56.8	2.731	3.707	2.2	21.2
2 1	7 27.46	+33 55.0	2.025	2.945	8.3	20.4	2 1	7 30.69	+18 20.9	2.753	3.694	5.3	21.4
2 11	7 19.88	+33 21.4	2.095	2.951	11.4	20.6	2 11	7 23.87	+18 43.4	2.804	3.680	8.1	21.5
2 21	7 14.92	+32 38.4	2.188	2.957	14.0	20.8	2 21	7 18.63	+19 3.3	2.881	3.666	10.6	21.7
<b>492536</b>	2014 <i>OZ</i> <sub>93</sub>		1 15.1 24°51'	3°5/16.5	18		<b>215495</b>	2002 <i>TF</i> <sub>161</sub>		1 15.2 70°09'	5°5/18.1	18	
12 13	8 8.02	+11 43.7	1.267	2.10									

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1 15.2

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>67631</b>	2000 <i>ST</i> <sub>202</sub>		1 15.2	18°78'	1°1/14.7	18 R	<b>310339</b>	2011 <i>UZ</i> <sub>200</sub>		1 15.2	85°61'	0°3/15.1	18
12 13	8 10.25	+22 51.9	1.776	2.612	13.9	19.4	12 13	8 14.47	+20 38.4	1.575	2.408	15.5	21.3
12 23	8 4.83	+23 16.5	1.704	2.613	10.2	19.2	12 23	8 7.90	+20 59.2	1.521	2.429	11.4	21.1
1 2	7 56.92	+23 45.1	1.656	2.615	6.0	19.0	1 2	7 58.66	+21 25.7	1.491	2.449	6.6	20.9
1 12	7 47.40	+24 13.2	1.635	2.616	1.7	18.7	1 12	7 47.81	+21 53.5	1.487	2.469	1.6	20.6
1 22	7 37.43	+24 36.8	1.643	2.618	3.6	18.8	1 22	7 36.72	+22 18.1	1.512	2.489	3.5	20.8
2 1	7 28.30	+24 52.9	1.679	2.620	7.9	19.1	2 1	7 26.80	+22 36.6	1.565	2.508	8.2	21.1
2 11	7 21.14	+25 0.7	1.740	2.622	11.9	19.3	2 11	7 19.20	+22 48.2	1.644	2.528	12.4	21.4
2 21	7 16.67	+25 0.8	1.824	2.625	15.2	19.5	2 21	7 14.57	+22 53.0	1.744	2.546	15.8	21.7
<b>245168</b>	2004 <i>TE</i> <sub>104</sub>		1 15.2	29°97'	5°6/13.6	18	<b>166810</b>	2002 <i>VT</i> <sub>78</sub>		1 15.2	69°40'	0°2/15.1	18
12 13	8 15.19	+31 44.2	1.295	2.145	17.1	20.0	12 13	8 7.78	+19 57.9	2.190	3.016	12.0	20.0
12 23	8 9.38	+32 32.2	1.237	2.150	13.0	19.8	12 23	8 2.58	+20 30.0	2.119	3.023	8.8	19.8
1 2	7 59.94	+33 15.4	1.201	2.155	8.6	19.6	1 2	7 55.43	+21 7.6	2.072	3.030	5.1	19.6
1 12	7 48.17	+33 44.7	1.190	2.160	5.7	19.4	1 12	7 47.04	+21 47.4	2.055	3.037	1.2	19.4
1 22	7 35.88	+33 53.4	1.204	2.166	7.3	19.5	1 22	7 38.32	+22 25.7	2.067	3.044	2.8	19.5
2 1	7 25.06	+33 39.8	1.244	2.173	11.4	19.8	2 1	7 30.23	+22 59.6	2.109	3.051	6.5	19.7
2 11	7 17.30	+33 7.2	1.306	2.180	15.6	20.0	2 11	7 23.68	+23 27.0	2.178	3.058	9.9	20.0
2 21	7 13.38	+32 21.5	1.387	2.187	19.2	20.3	2 21	7 19.25	+23 47.6	2.271	3.065	12.8	20.2
<b>323493</b>	2004 <i>PK</i> <sub>73</sub>		1 15.2	190°47'	3°0/14.0	18	<b>34514</b>	2000 <i>SQ</i> <sub>180</sub>		1 15.2	234°49'	2°5/14.2	18
12 13	8 14.06	+30 8.0	2.289	3.110	11.7	21.2	12 13	8 15.63	+27 4.5	1.998	2.823	13.0	18.9
12 23	8 7.22	+30 28.0	2.210	3.109	8.7	21.0	12 23	8 8.82	+27 33.2	1.905	2.808	9.7	18.7
1 2	7 58.16	+30 44.9	2.157	3.108	5.5	20.8	1 2	7 59.36	+28 2.0	1.838	2.793	5.9	18.4
1 12	7 47.69	+30 54.2	2.133	3.106	3.1	20.6	1 12	7 48.06	+28 25.8	1.799	2.776	2.7	18.2
1 22	7 36.86	+30 52.8	2.139	3.104	4.3	20.7	1 22	7 36.07	+28 40.1	1.790	2.760	4.3	18.3
2 1	7 26.81	+30 39.8	2.175	3.101	7.4	20.9	2 1	7 24.77	+28 42.5	1.810	2.742	8.3	18.5
2 11	7 18.53	+30 16.1	2.239	3.098	10.6	21.1	2 11	7 15.40	+28 33.2	1.858	2.723	12.1	18.6
2 21	7 12.66	+29 44.5	2.326	3.094	13.3	21.3	2 21	7 8.78	+28 14.5	1.928	2.704	15.4	18.8
<b>200019</b>	2007 <i>MG</i> <sub>25</sub>		1 15.2	273°81'	0°6/14.9	18	<b>413510</b>	2005 <i>RP</i> <sub>9</sub>		1 15.2	89°62'	6°6/13.2	18
12 13	8 10.57	+22 46.1	2.124	2.951	12.3	20.7	12 13	8 18.48	+38 35.0	1.856	2.677	14.0	20.5
12 23	8 4.84	+22 50.8	2.031	2.936	9.1	20.5	12 23	8 10.92	+39 13.8	1.800	2.689	11.0	20.3
1 2	7 56.87	+22 57.7	1.963	2.920	5.4	20.2	1 2	8 0.46	+39 41.5	1.768	2.701	8.1	20.2
1 12	7 47.40	+23 4.1	1.923	2.905	1.4	19.9	1 12	7 48.26	+39 50.9	1.762	2.713	6.6	20.1
1 22	7 37.42	+23 7.3	1.913	2.890	3.0	20.0	1 22	7 35.83	+39 38.2	1.784	2.725	7.5	20.2
2 1	7 28.03	+23 5.6	1.933	2.874	7.1	20.2	2 1	7 24.74	+39 3.7	1.834	2.736	10.1	20.4
2 11	7 20.27	+22 58.6	1.980	2.858	10.8	20.4	2 11	7 16.21	+38 11.5	1.909	2.748	13.0	20.6
2 21	7 14.86	+22 46.7	2.050	2.843	14.1	20.6	2 21	7 10.90	+37 7.6	2.005	2.759	15.6	20.8
<b>113769</b>	2002 <i>TB</i> <sub>178</sub>		1 15.2	126°65'	0°8/15.4	18	<b>381215</b>	2007 <i>RW</i> <sub>198</sub>		1 15.2	91°35'	0°4/15.3	18
12 13	8 14.35	+19 30.9	1.994	2.812	13.3	19.4	12 13	8 11.74	+20 23.9	2.441	3.255	11.3	20.8
12 23	8 7.37	+19 17.9	1.926	2.825	9.8	19.2	12 23	8 5.05	+20 13.5	2.381	3.279	8.3	20.6
1 2	7 58.19	+19 9.0	1.883	2.837	5.8	19.0	1 2	7 56.67	+20 5.9	2.348	3.303	4.8	20.5
1 12	7 47.68	+19 2.2	1.868	2.849	1.7	18.7	1 12	7 47.32	+19 59.4	2.345	3.326	1.3	20.2
1 22	7 36.93	+18 55.8	1.884	2.861	3.0	18.9	1 22	7 37.86	+19 52.4	2.372	3.349	2.4	20.4
2 1	7 27.08	+18 48.6	1.930	2.872	7.0	19.1	2 1	7 29.19	+19 44.2	2.431	3.372	5.9	20.6
2 11	7 19.11	+18 40.1	2.004	2.883	10.7	19.4	2 11	7 22.04	+19 34.5	2.518	3.394	8.9	20.9
2 21	7 13.60	+18 30.4	2.101	2.893	13.8	19.6	2 21	7 16.90	+19 23.3	2.630	3.416	11.5	21.1
<b>127475</b>	2002 <i>RC</i> <sub>141</sub>		1 15.2	194°33'	2°7/14.1	18	<b>277200</b>	2005 <i>QP</i> <sub>70</sub>		1 15.2	84°74'	3°3/16.4	18
12 13	8 15.29	+24 45.7	1.584	2.420	15.3	20.3	12 13	8 13.98	+12 3.1	1.393	2.216	17.7	20.5
12 23	8 8.99	+25 43.0	1.510	2.419	11.3	20.0	12 23	8 7.72	+12 12.4	1.340	2.237	13.4	20.3
1 2	7 59.61	+26 44.8	1.459	2.417	6.8	19.7	1 2	7 58.64	+12 37.9	1.309	2.258	8.6	20.0
1 12	7 48.11	+27 43.9	1.436	2.415	2.9	19.5	1 12	7 47.84	+13 16.7	1.303	2.279	4.1	19.8
1 22	7 35.90	+28 32.9	1.441	2.412	4.9	19.6	1 22	7 36.75	+14 4.1	1.325	2.299	4.5	19.9
2 1	7 24.62	+29 7.4	1.474	2.409	9.5	19.9	2 1	7 26.87	+14 54.8	1.374	2.319	8.9	20.2
2 11	7 15.72	+29 26.3	1.532	2.405	13.8	20.1	2 11	7 19.43	+15 44.1	1.448	2.339	13.2	20.5
2 21	7 10.08	+29 31.8	1.611	2.400	17.4	20.4	2 21	7 15.10	+16 28.7	1.543	2.358	16.9	20.8
<b>205943</b>	2002 <i>JU</i> <sub>55</sub>		1 15.2	202°42'	0°5/14.9	18	<b>336623</b>	2009 <i>VK</i> <sub>49</sub>		1 15.2	58°51'	3°2/14.3	17
12 13	8 12.85	+21 9.2	2.070	2.891	12.7	21.6	12 13	8 16.94	+26 1.6	1.125	1.979	18.9	20.6
12 23	8 6.50	+21 32.9	1.985	2.887	9.4	21.4	12 23	8 10.57	+26 42.1	1.083	2.000	13.8	20.4
1 2	7 57.84	+22 1.3	1.926	2.882	5.5	21.2	1 2	8 0.53	+27 23.7	1.062	2.022	8.3	20.1
1 12	7 47.64	+22 30.7	1.895	2.877	1.4	20.9	1 12	7 48.30	+27 57.7	1.065	2.044	3.5	19.9
1 22	7 36.93	+22 57.5	1.894	2.870	3.1	21.0	1 22	7 35.86	+28 17.8	1.093	2.066	5.7	20.1
2 1	7 26.89	+23 18.8	1.924	2.864	7.2	21.2	2 1	7 25.21	+28 21.5	1.147	2.088	10.8	20.5
2 11	7 18.56	+23 33.4	1.981	2.856	11.0	21.4	2 11	7 17.83	+28 10.7	1.223	2.111	15.4	20.8
2 21	7 12.68	+23 41.4	2.061	2.848	14.2	21.6	2 21	7 14.35	+27 49.2	1.319	2.133	19.3	21.1
<b>320760</b>	2008 <i>EO</i> <sub>75</sub>		1 15.2	292°01'	1°4/14.6	18	<b>53768</b>	2000 <i>EW</i> <sub>84</sub>		1 15.2	171°33'	2°5/14.5	18
12 13	8 10.41	+22 44.4	1.707	2.545	14.2	21.2	12 13	8 17.63	+27 11.0	1.585	2.419	15.4	19.4
12 23	8 5.25	+23 17.6	1.621	2.532	10.6	20.9	12 23	8 10.55	+27 22.7	1.513	2.421	11.4	19.1
1 2	7 57.36	+23 56.3	1.559	2.518	6.3	20.7	1 2	8 0.42	+27 33.1	1.466	2.422	6.9	18.9
1 12	7 47.56	+24 35.6	1.523	2.505	1.9	20.3	1 12	7 48.31	+27 36.5	1.445	2.424	2.9	18.6
1 22	7 37.06	+25 10.3	1.516	2.491	3.9	20.4	1 22	7 35.72	+27 29.2	1.452	2.424	4.6	18.7
2 1	7 27.25	+25 36.6	1.537	2.478	8.6	20.7	2 1	7 24.30	+27 10.0	1.488	2.425	9.2	19.0
2 11	7 19.46	+25 52.8	1.583	2.465	12.9	20.9	2 11	7 15.42	+26 40.7	1.549	2.425	13.4	19.3
2 21	7 14.54	+25 59.3	1.651	2.452	16.5	21.1	2 21	7 9.83	+26 4.7	1.631	2.425	17.0	19.5
<b>340642</b>	2006 <i>QX</i> <sub>162</sub>		1 15.2	180°12'	2°5/13.8	17	<b>80951</b>	2000 <i>DK</i> <sub>96</sub>		1 15.2	167°31'	2°7/16.4	18
12 13	8 9.95	+30 5											

EPHEMERIDES

1 15.2

1 15.2

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>242902</b>	2006 <i>KQ</i> <sub>114</sub>		1 15.2 139°65	1°0/15.6	18		<b>288428</b>	2004 <i>EZ</i> <sub>16</sub>		1 15.2 318°78	5°8/12.5	18	
12 13	8 11.58	+18 31.9	3.016	3.817	9.7	20.5	12 13	8 10.45	+35 12.0	1.979	2.812	12.8	20.4
12 23	8 4.72	+18 6.7	2.939	3.829	7.2	20.4	12 23	8 5.25	+36 11.8	1.897	2.796	9.9	20.2
1 2	7 56.41	+17 44.0	2.891	3.841	4.3	20.2	1 2	7 57.37	+37 6.7	1.840	2.781	7.2	20.0
1 12	7 47.26	+17 23.0	2.873	3.852	1.5	20.0	1 12	7 47.64	+37 49.8	1.809	2.766	5.8	19.9
1 22	7 37.97	+17 3.2	2.888	3.863	2.3	20.1	1 22	7 37.23	+38 15.2	1.806	2.751	7.0	19.9
2 1	7 29.26	+16 44.3	2.935	3.874	5.1	20.3	2 1	7 27.56	+38 20.2	1.830	2.737	9.8	20.0
2 11	7 21.77	+16 26.0	3.013	3.883	7.8	20.5	2 11	7 19.88	+38 6.0	1.878	2.723	12.9	20.2
2 21	7 15.95	+16 8.2	3.116	3.893	10.1	20.7	2 21	7 15.05	+37 36.1	1.948	2.710	15.8	20.4
<b>14480</b>	1994 <i>PU</i> <sub>1</sub>		1 15.2 84°65	3°2/16.5	18		<b>77612</b>	2001 <i>KM</i> <sub>36</sub>		1 15.2 45°55	3°8/16.1	18	
12 13	8 13.98	+11 35.2	1.463	2.282	17.2	17.8	12 13	8 11.51	+13 6.6	1.859	2.671	14.3	17.0
12 23	8 7.58	+11 51.6	1.412	2.307	13.0	17.6	12 23	8 5.30	+12 12.3	1.800	2.690	10.9	16.8
1 2	7 58.50	+12 24.1	1.383	2.331	8.3	17.4	1 2	7 56.99	+11 26.9	1.765	2.709	7.2	16.6
1 12	7 47.80	+13 9.5	1.380	2.355	4.0	17.2	1 12	7 47.46	+10 51.3	1.758	2.728	4.2	16.5
1 22	7 36.86	+14 3.1	1.404	2.379	4.3	17.3	1 22	7 37.77	+10 25.5	1.779	2.747	4.5	16.5
2 1	7 27.10	+14 59.2	1.457	2.402	8.5	17.6	2 1	7 29.02	+10 8.8	1.829	2.767	7.7	16.8
2 11	7 19.68	+15 53.1	1.535	2.425	12.7	17.9	2 11	7 22.12	+9 59.9	1.906	2.787	11.1	17.0
2 21	7 15.23	+16 41.7	1.635	2.447	16.2	18.2	2 21	7 17.60	+9 56.5	2.006	2.808	14.0	17.3
<b>354126</b>	2002 <i>AV</i> <sub>201</sub>		1 15.2 6°52	6°1/13.1	18		<b>437781</b>	2015 <i>CS</i> <sub>2</sub>		1 15.2 146°61	2°9/14.1	18	
12 13	8 9.53	+29 40.9	1.070	1.938	18.5	19.8	12 13	8 11.69	+29 55.5	2.274	3.100	11.6	20.8
12 23	8 5.80	+30 58.9	1.015	1.938	13.9	19.6	12 23	8 5.49	+30 13.6	2.199	3.101	8.6	20.7
1 2	7 58.15	+32 17.1	0.981	1.940	9.2	19.3	1 2	7 57.18	+30 28.8	2.150	3.102	5.4	20.5
1 12	7 47.82	+33 23.4	0.970	1.942	6.1	19.2	1 12	7 47.53	+30 36.8	2.129	3.103	3.0	20.3
1 22	7 36.76	+34 7.7	0.982	1.946	8.2	19.3	1 22	7 37.57	+30 35.0	2.139	3.104	4.2	20.4
2 1	7 27.16	+34 25.3	1.017	1.951	12.8	19.5	2 1	7 28.38	+30 22.2	2.177	3.105	7.3	20.6
2 11	7 20.83	+34 18.0	1.073	1.958	17.3	19.8	2 11	7 20.90	+29 59.5	2.243	3.106	10.4	20.8
2 21	7 18.63	+33 51.1	1.147	1.966	21.3	20.1	2 21	7 15.74	+29 29.0	2.332	3.107	13.1	21.0
<b>206168</b>	2002 <i>TC</i> <sub>250</sub>		1 15.2 213°50	3°4/13.8	18		<b>62315</b>	2000 <i>SV</i> <sub>119</sub>		1 15.2 157°41	2°0/14.2	18	
12 13	8 13.54	+28 42.8	1.930	2.761	13.1	20.5	12 13	8 11.26	+25 17.6	2.153	2.981	12.1	19.4
12 23	8 7.31	+29 28.5	1.852	2.757	9.8	20.3	12 23	8 5.28	+25 58.4	2.080	2.985	8.9	19.2
1 2	7 58.45	+30 13.7	1.798	2.752	6.2	20.1	1 2	7 57.11	+26 40.9	2.032	2.989	5.3	19.0
1 12	7 47.85	+30 52.2	1.773	2.747	3.5	19.9	1 12	7 47.54	+27 20.4	2.013	2.992	2.2	18.8
1 22	7 36.68	+31 19.0	1.777	2.742	5.0	20.0	1 22	7 37.56	+27 52.7	2.024	2.995	3.7	18.9
2 1	7 26.30	+31 31.3	1.809	2.736	8.6	20.2	2 1	7 28.28	+28 15.3	2.065	2.998	7.3	19.1
2 11	7 17.92	+31 29.4	1.868	2.730	12.2	20.4	2 11	7 20.71	+28 27.4	2.133	3.001	10.6	19.3
2 21	7 12.32	+31 15.7	1.948	2.724	15.3	20.6	2 21	7 15.49	+28 30.0	2.224	3.003	13.5	19.5
<b>274718</b>	2008 <i>UF</i> <sub>142</sub>		1 15.2 96°62	2°0/16.1	18		<b>367606</b>	2009 <i>TV</i> <sub>24</sub>		1 15.2 116°12	3°0/13.6	18	
12 13	8 8.98	+14 14.1	2.280	3.089	12.1	21.1	12 13	8 12.21	+27 17.6	2.196	3.022	11.9	20.8
12 23	8 3.24	+14 14.3	2.214	3.106	9.1	20.9	12 23	8 5.93	+28 24.4	2.134	3.037	8.8	20.7
1 2	7 55.71	+14 22.8	2.174	3.122	5.7	20.7	1 2	7 57.47	+29 31.6	2.099	3.052	5.4	20.5
1 12	7 47.12	+14 38.0	2.162	3.139	2.6	20.5	1 12	7 47.62	+30 33.3	2.093	3.067	3.0	20.3
1 22	7 38.32	+14 57.7	2.180	3.155	3.0	20.6	1 22	7 37.40	+31 24.3	2.117	3.081	4.5	20.5
2 1	7 30.19	+15 19.8	2.229	3.171	6.2	20.8	2 1	7 27.94	+32 1.7	2.172	3.095	7.6	20.7
2 11	7 23.54	+15 42.1	2.305	3.186	9.4	21.1	2 11	7 20.21	+32 24.9	2.253	3.109	10.7	20.9
2 21	7 18.88	+16 3.1	2.405	3.202	12.1	21.3	2 21	7 14.86	+32 35.6	2.357	3.122	13.3	21.1
<b>330924</b>	2009 <i>SL</i> <sub>154</sub>		1 15.2 147°41	2°8/16.4	18		<b>75944</b>	2000 <i>CT</i> <sub>85</sub>		1 15.2 313°12	0°4/15.3	18	
12 13	8 8.83	+12 20.2	1.983	2.794	13.6	21.6	12 13	8 9.51	+18 37.7	1.567	2.405	15.3	19.1
12 23	8 3.50	+12 23.0	1.905	2.796	10.4	21.4	12 23	8 4.70	+18 58.5	1.485	2.394	11.4	18.9
1 2	7 56.05	+12 37.3	1.851	2.798	6.7	21.2	1 2	7 57.12	+19 28.7	1.426	2.384	6.8	18.6
1 12	7 47.24	+13 1.6	1.825	2.800	3.4	21.0	1 12	7 47.60	+20 4.6	1.393	2.375	1.8	18.2
1 22	7 38.03	+13 33.5	1.828	2.801	3.7	21.0	1 22	7 37.40	+20 41.6	1.387	2.365	3.5	18.3
2 1	7 29.48	+14 9.7	1.860	2.803	7.2	21.2	2 1	7 27.96	+21 15.5	1.409	2.356	8.6	18.6
2 11	7 22.55	+14 47.1	1.919	2.804	10.8	21.4	2 11	7 20.60	+21 43.4	1.456	2.347	13.2	18.8
2 21	7 17.88	+15 22.9	2.001	2.805	13.9	21.6	2 21	7 16.19	+22 4.0	1.524	2.339	17.1	19.1
<b>369414</b>	2009 <i>WS</i> <sub>98</sub>		1 15.2 86°01	0°9/15.5	18		<b>157842</b>	1998 <i>MP</i> <sub>1</sub>		1 15.2 313°09	2°4/16.2	18	
12 13	8 10.29	+18 16.5	1.957	2.781	13.3	21.3	12 13	8 8.13	+13 41.5	1.857	2.677	14.0	20.5
12 23	8 4.54	+18 16.9	1.886	2.788	9.8	21.1	12 23	8 3.21	+13 46.0	1.775	2.671	10.6	20.3
1 2	7 56.64	+18 23.4	1.840	2.796	5.9	20.9	1 2	7 56.01	+14 1.8	1.716	2.666	6.8	20.0
1 12	7 47.38	+18 33.9	1.822	2.803	1.8	20.7	1 12	7 47.30	+14 27.3	1.684	2.661	3.1	19.8
1 22	7 37.80	+18 45.7	1.834	2.811	3.0	20.8	1 22	7 38.09	+14 59.6	1.680	2.656	3.6	19.8
2 1	7 29.01	+18 56.9	1.874	2.818	7.0	21.0	2 1	7 29.52	+15 35.4	1.705	2.651	7.5	20.0
2 11	7 21.97	+19 5.9	1.941	2.825	10.7	21.3	2 11	7 22.65	+16 11.4	1.757	2.646	11.4	20.2
2 21	7 17.31	+19 12.0	2.032	2.833	13.9	21.5	2 21	7 18.19	+16 45.0	1.831	2.641	14.8	20.4
<b>82079</b>	2001 <i>BV</i> <sub>2</sub>		1 15.2 66°14	13°8/14.7	17		<b>199417</b>	2006 <i>CJ</i> <sub>57</sub>		1 15.2 99°64	0°9/15.6	18	
12 13	8 36.70	+48 31.2	1.030	1.851	22.7	18.7	12 13	8 9.22	+17 22.0	2.081	2.902	12.7	21.1
12 23	8 26.55	+49 15.5	0.989	1.864	19.1	18.5	12 23	8 3.69	+17 35.5	2.010	2.910	9.4	20.9
1 2	8 10.33	+49 28.7	0.965	1.876	15.7	18.3	1 2	7 56.14	+17 56.2	1.963	2.918	5.7	20.6
1 12	7 50.68	+48 54.1	0.961	1.889	13.9	18.3	1 12	7 47.30	+18 21.5	1.945	2.926	1.8	20.4
1 22	7 31.36	+47 26.3	0.980	1.903	14.4	18.4	1 22	7 38.15	+18 48.4	1.957	2.934	2.8	20.5
2 1	7 15.82	+45 14.1	1.022	1.916	17.0	18.6	2 1	7 29.69	+19 14.3	1.998	2.941	6.7	20.7
2 11	7 5.96	+42 35.8	1.084	1.929	20.3	18.8	2 11	7 22.85	+19 37.1	2.066	2.949	10.2	21.0
2 21	7 1.95	+39 49.0	1.164	1.942	23.4	19.1	2 21	7 18.23	+19 55.7	2.157	2.957	13.2	21.2
<b>261383</b>	2005 <i>UX</i> <sub>372</sub>		1 15.2 324°69	4°5/16.2	18		<b>459689</b>	2013 <i>NG</i> <sub>9</sub>		1 15.2 171°26	1°6/15.8	18	
12 13	8 8.05	+12 18.8	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>16207</b>	Montgomery		1 15.2 139°14	4°1/13.4	18		<b>486062</b>	2012 TK <sub>247</sub>		1 15.2 129°57	2°2/14.5	17	
12 13	8 12.31	+33 6.4	2.359	3.182	11.3	18.6	12 13	8 18.89	+25 29.8	1.662	2.489	15.1	22.3
12 23	8 5.96	+33 45.2	2.290	3.187	8.6	18.4	12 23	8 11.24	+26 1.6	1.602	2.506	11.1	22.1
1 2	7 57.47	+34 19.4	2.247	3.193	5.8	18.2	1 2	8 0.74	+26 34.2	1.566	2.522	6.6	21.9
1 12	7 47.64	+34 44.0	2.233	3.198	4.1	18.1	1 12	7 48.48	+27 1.6	1.558	2.538	2.6	21.7
1 22	7 37.48	+34 55.4	2.249	3.203	5.1	18.2	1 22	7 35.91	+27 19.1	1.580	2.552	4.3	21.8
2 1	7 28.09	+34 52.5	2.293	3.208	7.8	18.4	2 1	7 24.53	+27 24.6	1.630	2.565	8.7	22.1
2 11	7 20.44	+34 36.3	2.365	3.212	10.5	18.6	2 11	7 15.61	+27 19.0	1.707	2.578	12.7	22.4
2 21	7 15.14	+34 9.4	2.459	3.216	13.0	18.8	2 21	7 9.83	+27 4.6	1.805	2.590	16.0	22.6
<b>11053</b>	1991 CQ <sub>6</sub>		1 15.2 82°49	0°9/15.6	18		<b>268087</b>	2004 RL <sub>160</sub>		1 15.2 90°66	0°4/15.1	18	
12 13	8 9.18	+17 31.9	2.028	2.851	12.9	17.1	12 13	8 12.00	+21 41.0	2.022	2.847	12.9	21.5
12 23	8 3.70	+17 44.0	1.958	2.859	9.6	16.9	12 23	8 5.70	+21 51.3	1.961	2.864	9.4	21.3
1 2	7 56.16	+18 3.2	1.913	2.868	5.7	16.7	1 2	7 57.29	+22 4.8	1.925	2.882	5.5	21.1
1 12	7 47.32	+18 27.0	1.895	2.876	1.8	16.4	1 12	7 47.62	+22 18.5	1.917	2.899	1.3	20.8
1 22	7 38.16	+18 52.4	1.908	2.885	2.8	16.5	1 22	7 37.72	+22 29.5	1.939	2.916	2.9	21.0
2 1	7 29.72	+19 16.7	1.949	2.893	6.8	16.8	2 1	7 28.70	+22 35.9	1.991	2.933	6.9	21.2
2 11	7 22.94	+19 38.0	2.017	2.902	10.4	17.0	2 11	7 21.49	+22 37.3	2.070	2.949	10.4	21.5
2 21	7 18.42	+19 55.1	2.109	2.910	13.4	17.2	2 21	7 16.65	+22 34.0	2.172	2.965	13.4	21.7
<b>84608</b>	2002 VX <sub>35</sub>		1 15.2 142°34	1°2/15.6	18		<b>309460</b>	2007 VC		1 15.2 71°03	1°0/15.5	18	
12 13	8 14.45	+17 11.7	1.556	2.383	15.9	20.5	12 13	8 12.74	+17 32.6	1.497	2.330	16.1	21.2
12 23	8 8.12	+17 21.9	1.487	2.390	11.9	20.3	12 23	8 6.81	+17 47.8	1.441	2.347	11.9	21.0
1 2	7 58.99	+17 41.7	1.442	2.397	7.2	20.0	1 2	7 58.16	+18 12.6	1.408	2.365	7.1	20.7
1 12	7 48.05	+18 7.6	1.423	2.403	2.3	19.7	1 12	7 47.85	+18 43.0	1.401	2.382	2.1	20.5
1 22	7 36.62	+18 35.7	1.432	2.409	3.6	19.8	1 22	7 37.24	+19 14.7	1.422	2.399	3.5	20.6
2 1	7 26.20	+19 2.4	1.469	2.414	8.5	20.1	2 1	7 27.75	+19 43.9	1.470	2.417	8.3	20.9
2 11	7 18.05	+19 25.3	1.532	2.419	12.9	20.4	2 11	7 20.57	+20 8.3	1.544	2.434	12.6	21.2
2 21	7 12.92	+19 43.3	1.617	2.424	16.6	20.7	2 21	7 16.36	+20 26.9	1.639	2.451	16.2	21.5
<b>61031</b>	2000 KQ <sub>55</sub>		1 15.2 286°77	0°6/14.9	18		<b>156829</b>	2003 BO <sub>72</sub>		1 15.2 358°86	15°2/27.3	18	
12 13	8 11.56	+20 4.1	1.435	2.277	16.2	19.6	12 13	8 5.89	-19 46.6	1.477	2.153	23.1	19.0
12 23	8 6.57	+20 40.1	1.351	2.263	12.1	19.4	12 23	8 2.07	-19 43.5	1.400	2.149	21.2	18.8
1 2	7 58.42	+21 26.3	1.289	2.249	7.2	19.0	1 2	7 55.58	-18 53.7	1.337	2.147	18.9	18.7
1 12	7 47.98	+22 17.4	1.253	2.235	1.8	18.7	1 12	7 47.27	-17 10.5	1.292	2.146	16.8	18.5
1 22	7 36.63	+23 6.9	1.244	2.221	4.0	18.8	1 22	7 38.35	-14 33.4	1.267	2.146	15.5	18.4
2 1	7 26.05	+23 49.4	1.262	2.207	9.5	19.1	2 1	7 30.20	-11 9.7	1.267	2.147	15.4	18.4
2 11	7 17.82	+24 21.8	1.304	2.194	14.5	19.3	2 11	7 24.12	-7 15.1	1.291	2.149	16.8	18.5
2 21	7 12.92	+24 43.4	1.366	2.180	18.7	19.5	2 21	7 20.91	-3 8.7	1.340	2.153	19.1	18.7
<b>205352</b>	2000 WC <sub>107</sub>		1 15.2 127°29	9°7/ 9.9	18		<b>321548</b>	2009 SV <sub>283</sub>		1 15.2 151°96	0°9/15.6	18	
12 13	8 21.54	+32 8.5	1.168	2.015	18.8	19.6	12 13	8 9.78	+16 46.8	2.164	2.980	12.4	21.6
12 23	8 15.27	+35 31.4	1.116	2.023	14.6	19.4	12 23	8 4.10	+17 9.3	2.087	2.985	9.2	21.4
1 2	8 4.24	+38 56.2	1.089	2.031	10.9	19.2	1 2	7 56.42	+17 39.6	2.037	2.990	5.6	21.2
1 12	7 49.53	+42 0.2	1.088	2.038	9.8	19.2	1 12	7 47.44	+18 15.0	2.014	2.995	1.7	20.9
1 22	7 33.26	+44 23.7	1.113	2.045	12.1	19.3	1 22	7 38.09	+18 52.1	2.022	2.999	2.7	21.0
2 1	7 18.26	+45 57.6	1.164	2.051	16.0	19.6	2 1	7 29.38	+19 27.9	2.060	3.003	6.6	21.3
2 11	7 7.04	+46 45.4	1.235	2.057	19.7	19.8	2 11	7 22.22	+20 0.0	2.125	3.007	10.1	21.5
2 21	7 0.96	+46 57.5	1.322	2.062	22.9	20.1	2 21	7 17.22	+20 27.1	2.215	3.010	13.1	21.7
<b>32627</b>	2001 RO <sub>69</sub>		1 15.2 45°03	1°1/14.7	18		<b>44807</b>	1999 TP <sub>217</sub>		1 15.2 178°76	1°8/15.9	18	
12 13	8 9.10	+23 58.9	2.225	3.053	11.7	18.8	12 13	8 14.33	+15 1.9	1.732	2.548	15.1	19.6
12 23	8 3.58	+24 12.8	2.151	3.056	8.6	18.6	12 23	8 7.90	+15 17.1	1.654	2.551	11.3	19.3
1 2	7 56.07	+24 28.3	2.102	3.060	5.1	18.4	1 2	7 58.87	+15 43.6	1.600	2.552	7.0	19.1
1 12	7 47.30	+24 42.3	2.082	3.063	1.5	18.1	1 12	7 48.09	+16 18.4	1.574	2.553	2.6	18.8
1 22	7 38.23	+24 51.9	2.092	3.066	3.0	18.2	1 22	7 36.77	+16 57.6	1.576	2.553	3.5	18.9
2 1	7 29.84	+24 55.5	2.131	3.070	6.7	18.5	2 1	7 26.24	+17 37.2	1.608	2.552	8.0	19.1
2 11	7 23.03	+24 52.8	2.197	3.073	10.0	18.7	2 11	7 17.73	+18 13.9	1.666	2.550	12.2	19.4
2 21	7 18.40	+24 44.3	2.287	3.077	12.9	18.9	2 21	7 12.00	+18 46.0	1.747	2.548	15.8	19.6
<b>109441</b>	2001 QA <sub>200</sub>		1 15.2 107°47	2°2/15.8	18		<b>175925</b>	2000 DU <sub>40</sub>		1 15.2 357°55	0°9/14.9	16	
12 13	8 14.43	+16 4.5	2.047	2.856	13.3	19.5	12 13	8 8.73	+22 34.2	1.215	2.074	17.4	20.2
12 23	8 7.32	+15 33.9	1.983	2.875	10.0	19.3	12 23	8 4.67	+22 41.6	1.149	2.069	12.9	19.9
1 2	7 58.16	+15 9.5	1.944	2.893	6.2	19.1	1 2	7 57.31	+22 54.2	1.103	2.066	7.6	19.6
1 12	7 47.80	+14 50.6	1.934	2.911	2.7	18.9	1 12	7 47.75	+23 7.3	1.082	2.064	2.0	19.3
1 22	7 37.27	+14 36.3	1.955	2.929	3.4	19.0	1 22	7 37.55	+23 16.5	1.086	2.063	4.3	19.4
2 1	7 27.63	+14 25.7	2.005	2.946	6.9	19.3	2 1	7 28.52	+23 18.7	1.114	2.064	9.9	19.8
2 11	7 19.80	+14 18.0	2.084	2.962	10.4	19.5	2 11	7 22.17	+23 13.2	1.165	2.066	14.9	20.0
2 21	7 14.31	+14 12.0	2.186	2.978	13.3	19.7	2 21	7 19.33	+23 0.9	1.236	2.069	19.1	20.3
<b>452648</b>	2005 UZ <sub>142</sub>		1 15.2 146°50	2°9/16.2	18		<b>74311</b>	1998 TX <sub>37</sub>		1 15.2 26°75	4°2/16.8	18	
12 13	8 14.57	+13 8.3	1.787	2.596	15.0	22.2	12 13	8 8.91	+10 26.7	1.486	2.309	16.8	19.1
12 23	8 7.83	+13 0.2	1.716	2.607	11.4	22.0	12 23	8 4.12	+10 18.6	1.419	2.314	13.0	18.8
1 2	7 58.66	+13 3.2	1.670	2.616	7.3	21.7	1 2	7 56.69	+10 27.0	1.374	2.319	8.7	18.6
1 12	7 47.96	+13 15.8	1.651	2.626	3.5	21.5	1 12	7 47.56	+10 51.1	1.353	2.325	4.9	18.4
1 22	7 36.88	+13 35.7	1.661	2.634	4.0	21.6	1 22	7 37.97	+11 27.9	1.359	2.330	5.0	18.4
2 1	7 26.69	+14 0.0	1.700	2.642	7.9	21.8	2 1	7 29.27	+12 13.1	1.392	2.337	8.8	18.7
2 11	7 18.47	+14 25.7	1.767	2.649	11.7	22.1	2 11	7 22.67	+13 1.6	1.449	2.344	13.0	18.9
2 21	7 12.90	+14 50.7	1.856	2.655	15.1	22.3	2 21	7 18.91	+13 49.1	1.528	2.351	16.6	19.2
<b>402022</b>	2003 SK <sub>83</sub>		1 15.2 164°93	0°8/14.9	18		<b>174006</b>	2001 YT <sub>7</sub>		1 15.2 11°22	1°5/15.7	18	
12 13	8 13.71	+21 59.4	2.007	2.830	13.0	22.7	12 13	8 8.67	+17 23.6	2.188	3.007	12.2	

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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>6644</b>	Jugaku		1 15.2	94°66	2°3/14.1	18	<b>55182</b>	2001 QB <sub>282</sub>		1 15.2	21°57	9°8/17.5	18
12 13	8 9.78	+27 18.4	2.439	3.264	10.9	18.0	12 13	8 11.48	- 1 0.8	1.801	2.561	16.7	17.9
12 23	8 3.95	+27 51.7	2.375	3.278	8.0	17.8	12 23	8 5.65	- 2 39.2	1.727	2.562	14.2	17.7
1 2	7 56.25	+28 24.4	2.337	3.292	4.9	17.6	1 2	7 57.49	- 3 59.2	1.676	2.563	11.7	17.6
1 12	7 47.42	+28 52.6	2.329	3.305	2.4	17.5	1 12	7 47.82	- 4 55.6	1.649	2.564	10.0	17.5
1 22	7 38.34	+29 13.2	2.350	3.319	3.6	17.6	1 22	7 37.67	- 5 25.4	1.648	2.565	10.0	17.5
2 1	7 29.95	+29 24.3	2.402	3.332	6.6	17.8	2 1	7 28.24	- 5 28.9	1.674	2.567	11.5	17.6
2 11	7 23.08	+29 26.1	2.481	3.345	9.5	18.0	2 11	7 20.59	- 5 9.9	1.723	2.568	13.9	17.7
2 21	7 18.28	+29 19.6	2.584	3.358	12.0	18.2	2 21	7 15.41	- 4 34.5	1.792	2.570	16.4	17.9
<b>453794</b>	2011 QF <sub>65</sub>		1 15.2	88°46	2°0/14.6	17	<b>459653</b>	2013 JB <sub>61</sub>		1 15.2	268°15	1°1/14.8	18
12 13	8 17.57	+24 50.2	1.603	2.435	15.3	22.2	12 13	8 11.75	+22 13.1	1.712	2.547	14.4	21.9
12 23	8 10.19	+25 19.3	1.555	2.462	11.2	22.0	12 23	8 6.27	+22 43.9	1.628	2.537	10.6	21.7
1 2	8 0.07	+25 49.6	1.531	2.488	6.6	21.8	1 2	7 58.08	+23 20.3	1.568	2.527	6.3	21.4
1 12	7 48.36	+26 15.3	1.534	2.514	2.4	21.6	1 12	7 48.00	+23 57.6	1.535	2.517	1.8	21.1
1 22	7 36.50	+26 32.0	1.566	2.539	4.1	21.8	1 22	7 37.24	+24 30.8	1.531	2.507	3.7	21.2
2 1	7 25.95	+26 38.0	1.627	2.564	8.5	22.1	2 1	7 27.22	+24 56.2	1.555	2.497	8.4	21.4
2 11	7 17.88	+26 33.8	1.713	2.589	12.4	22.4	2 11	7 19.22	+25 12.1	1.604	2.486	12.7	21.7
2 21	7 12.87	+26 21.6	1.821	2.612	15.6	22.6	2 21	7 14.10	+25 19.0	1.675	2.476	16.4	21.9
<b>205899</b>	2002 GA <sub>66</sub>		1 15.2	195°60	2°4/16.2	18	<b>121018</b>	1999 BC <sub>6</sub>		1 15.2	0°11	5°0/17.1	18
12 13	8 11.77	+13 36.5	1.956	2.766	13.8	21.2	12 13	8 5.77	+ 9 14.7	1.092	1.937	20.0	18.7
12 23	8 5.80	+13 40.5	1.872	2.764	10.5	20.9	12 23	8 2.63	+ 9 20.4	1.028	1.934	15.6	18.4
1 2	7 57.55	+13 55.0	1.813	2.761	6.7	20.7	1 2	7 56.23	+ 9 51.0	0.982	1.932	10.6	18.2
1 12	7 47.79	+14 18.5	1.782	2.758	3.0	20.5	1 12	7 47.57	+10 45.5	0.958	1.931	6.0	17.9
1 22	7 37.54	+14 48.3	1.780	2.755	3.5	20.5	1 22	7 38.18	+11 58.6	0.958	1.932	5.9	17.9
2 1	7 27.93	+15 21.1	1.808	2.751	7.4	20.7	2 1	7 29.83	+13 21.9	0.981	1.934	10.5	18.2
2 11	7 20.04	+15 54.0	1.863	2.746	11.2	20.9	2 11	7 24.08	+14 46.4	1.027	1.937	15.5	18.4
2 21	7 14.55	+16 24.9	1.941	2.741	14.5	21.1	2 21	7 21.85	+16 4.7	1.092	1.942	20.0	18.7
<b>346159</b>	2007 VH <sub>283</sub>		1 15.2	151°28	0°6/14.9	17	<b>318084</b>	2004 GP <sub>27</sub>		1 15.2	311°03	0°1/15.3	17
12 13	8 8.21	+22 14.2	2.773	3.591	10.0	22.0	12 13	8 8.43	+17 28.1	1.493	2.334	15.8	20.8
12 23	8 2.62	+22 37.7	2.697	3.597	7.3	21.9	12 23	8 4.43	+18 16.4	1.390	2.301	11.9	20.4
1 2	7 55.43	+23 3.6	2.647	3.603	4.3	21.7	1 2	7 57.37	+19 20.4	1.310	2.269	7.2	20.1
1 12	7 47.24	+23 29.5	2.628	3.609	1.1	21.5	1 12	7 47.92	+20 35.8	1.255	2.237	1.9	19.7
1 22	7 38.77	+23 52.6	2.639	3.615	2.4	21.6	1 22	7 37.26	+21 55.7	1.227	2.205	3.9	19.7
2 1	7 30.83	+24 11.2	2.682	3.620	5.5	21.8	2 1	7 26.98	+23 12.7	1.226	2.174	9.5	20.0
2 11	7 24.12	+24 24.3	2.753	3.624	8.4	22.0	2 11	7 18.71	+24 20.5	1.250	2.143	14.8	20.2
2 21	7 19.16	+24 31.8	2.848	3.629	10.8	22.2	2 21	7 13.63	+25 16.1	1.294	2.112	19.3	20.4
<b>56739</b>	2000 NG <sub>21</sub>		1 15.2	173°77	2°6/16.1	18	<b>5597</b>	Warren		1 15.2	177°39	1°3/14.7	18
12 13	8 11.55	+13 48.4	2.314	3.116	12.2	18.9	12 13	8 14.49	+24 3.3	2.130	2.951	12.4	18.1
12 23	8 5.25	+13 26.6	2.232	3.119	9.3	18.7	12 23	8 7.70	+24 24.3	2.052	2.953	9.2	17.9
1 2	7 57.05	+13 12.2	2.176	3.121	6.0	18.5	1 2	7 58.63	+24 47.0	1.999	2.955	5.4	17.7
1 12	7 47.65	+13 4.7	2.149	3.123	3.0	18.3	1 12	7 48.10	+25 7.5	1.975	2.956	1.7	17.4
1 22	7 37.93	+13 2.8	2.152	3.124	3.4	18.4	1 22	7 37.15	+25 22.4	1.982	2.956	3.3	17.6
2 1	7 28.83	+13 5.5	2.185	3.124	6.6	18.6	2 1	7 26.96	+25 29.7	2.019	2.956	7.2	17.8
2 11	7 21.20	+13 11.0	2.247	3.124	9.8	18.8	2 11	7 18.54	+25 29.1	2.084	2.955	10.7	18.0
2 21	7 15.62	+13 18.1	2.333	3.124	12.6	19.0	2 21	7 12.57	+25 21.6	2.172	2.953	13.8	18.2
<b>32756</b>	1981 ER <sub>15</sub>		1 15.2	243°07	1°6/15.7	18	<b>79633</b>	1998 RM <sub>73</sub>		1 15.2	39°91	6°7/13.7	18
12 13	8 12.94	+16 53.7	1.677	2.502	15.1	19.5	12 13	8 17.02	+35 24.4	1.324	2.168	17.2	18.4
12 23	8 7.07	+16 48.7	1.592	2.493	11.4	19.3	12 23	8 10.60	+36 5.9	1.279	2.185	13.2	18.2
1 2	7 58.50	+16 52.1	1.530	2.484	7.0	19.0	1 2	8 0.63	+36 37.1	1.256	2.203	9.2	18.0
1 12	7 48.08	+17 1.9	1.495	2.475	2.5	18.7	1 12	7 48.58	+36 49.2	1.258	2.221	6.8	17.9
1 22	7 37.02	+17 15.4	1.488	2.465	3.6	18.8	1 22	7 36.33	+36 37.3	1.285	2.240	8.0	18.1
2 1	7 26.71	+17 29.8	1.510	2.455	8.3	19.0	2 1	7 25.82	+36 2.0	1.337	2.259	11.5	18.3
2 11	7 18.42	+17 43.3	1.558	2.445	12.7	19.3	2 11	7 18.46	+35 8.7	1.413	2.279	15.1	18.6
2 21	7 12.98	+17 54.4	1.627	2.435	16.5	19.5	2 21	7 14.86	+34 4.1	1.508	2.300	18.3	18.8
<b>344079</b>	1998 RO <sub>8</sub>		1 15.2	109°49	2°0/14.6	17	<b>324604</b>	2006 YJ <sub>8</sub>		1 15.2	298°35	0°5/15.1	18
12 13	8 19.04	+25 17.6	1.617	2.446	15.3	21.1	12 13	8 14.32	+23 39.5	1.804	2.633	14.0	19.8
12 23	8 11.33	+25 41.0	1.562	2.468	11.3	20.9	12 23	8 7.86	+23 20.1	1.724	2.630	10.4	19.5
1 2	8 0.80	+26 5.0	1.532	2.489	6.7	20.7	1 2	7 58.83	+23 0.9	1.668	2.626	6.1	19.3
1 12	7 48.59	+26 23.9	1.529	2.509	2.4	20.5	1 12	7 48.15	+22 39.4	1.640	2.622	1.6	19.0
1 22	7 36.16	+26 33.6	1.555	2.529	4.2	20.7	1 22	7 37.05	+22 14.0	1.642	2.619	3.3	19.1
2 1	7 25.03	+26 32.5	1.610	2.548	8.6	21.0	2 1	7 26.86	+21 44.3	1.672	2.615	7.8	19.4
2 11	7 16.41	+26 21.7	1.691	2.566	12.6	21.2	2 11	7 18.73	+21 11.4	1.729	2.612	11.9	19.6
2 21	7 10.94	+26 3.5	1.794	2.583	15.9	21.5	2 21	7 13.37	+20 36.7	1.808	2.608	15.4	19.8
<b>146605</b>	2001 TO <sub>194</sub>		1 15.2	16°25	9°3/11.8	18	<b>393357</b>	1997 BZ <sub>3</sub>		1 15.2	358°15	1°1/14.9	17
12 13	8 14.29	+40 15.5	1.441	2.280	16.4	18.4	12 13	8 13.49	+23 16.6	1.172	2.026	18.3	21.2
12 23	8 8.94	+41 41.3	1.390	2.284	13.2	18.2	12 23	8 8.34	+23 20.7	1.106	2.024	13.6	20.9
1 2	7 59.90	+42 54.7	1.360	2.290	10.5	18.0	1 2	7 59.58	+23 28.8	1.061	2.023	8.0	20.6
1 12	7 48.44	+43 44.3	1.355	2.296	9.3	18.0	1 12	7 48.40	+23 35.8	1.041	2.022	2.2	20.3
1 22	7 36.40	+44 2.8	1.374	2.302	10.5	18.1	1 22	7 36.56	+23 37.0	1.045	2.022	4.5	20.4
2 1	7 25.81	+43 49.1	1.417	2.310	13.2	18.2	2 1	7 26.03	+23 30.1	1.074	2.023	10.4	20.7
2 11	7 18.32	+43 8.0	1.482	2.319	16.2	18.5	2 11	7 18.47	+23 15.3	1.126	2.024	15.6	21.0
2 21	7 14.71	+42 7.3	1.565	2.328	19.0	18.7	2 21	7 14.72	+22 54.5	1.197	2.026	20.0	21.3
<b>314929</b>	2006 WC <sub>53</sub>		1 15.2	88°04	0°7/15.6	18	<b>362076</b>	2009 BC <sub>94</sub>		1 15.2	283°58	1°0/15.6	18
12 13	8 11.29	+15 12.8	1.778	2.598	14.5	20.0	12 13	8 11.10	+17 31.8	1.582	2.414		

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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>197772</b>	2004 <i>PG</i> <sub>45</sub>		1 15.2 108°91	0°7/15.6	18		<b>279346</b>	2009 <i>YL</i> <sub>19</sub>		1 15.2 292°77	2°0/15.9	18	
12 13	8 13.19	+16 30.6	1.591	2.417	15.7	20.8	12 13	8 9.26	+15 43.1	2.001	2.820	13.2	20.9
12 23	8 7.19	+17 11.6	1.527	2.431	11.6	20.6	12 23	8 3.99	+15 30.1	1.913	2.811	10.0	20.7
1 2	7 58.51	+18 4.2	1.488	2.443	6.9	20.3	1 2	7 56.54	+15 24.6	1.850	2.801	6.3	20.5
1 12	7 48.10	+19 3.5	1.475	2.456	2.0	20.0	1 12	7 47.63	+15 25.7	1.814	2.791	2.7	20.2
1 22	7 37.25	+20 3.6	1.490	2.468	3.4	20.2	1 22	7 38.24	+15 31.5	1.807	2.782	3.3	20.2
2 1	7 27.37	+20 59.2	1.535	2.480	8.2	20.5	2 1	7 29.46	+15 40.3	1.829	2.773	7.2	20.5
2 11	7 19.66	+21 46.9	1.605	2.491	12.5	20.8	2 11	7 22.29	+15 50.2	1.877	2.763	10.9	20.7
2 21	7 14.85	+22 25.2	1.697	2.502	16.0	21.0	2 21	7 17.41	+15 59.7	1.949	2.754	14.2	20.9
<b>173033</b>	2006 <i>QX</i> <sub>44</sub>		1 15.2 124°64	2°4/14.2	18		<b>70343</b>	1999 <i>RH</i> <sub>176</sub>		1 15.2 175°20	2°4/16.3	18	
12 13	8 10.74	+28 45.1	2.490	3.314	10.8	20.5	12 13	8 12.09	+13 11.9	2.061	2.867	13.4	20.5
12 23	8 4.68	+29 4.0	2.418	3.319	8.0	20.3	12 23	8 5.92	+13 15.5	1.981	2.870	10.1	20.3
1 2	7 56.73	+29 21.0	2.372	3.325	4.9	20.1	1 2	7 57.60	+13 29.4	1.925	2.872	6.5	20.1
1 12	7 47.62	+29 32.4	2.355	3.331	2.5	19.9	1 12	7 47.89	+13 51.9	1.898	2.873	3.0	19.9
1 22	7 38.25	+29 35.6	2.369	3.336	3.7	20.0	1 22	7 37.75	+14 20.6	1.901	2.874	3.5	19.9
2 1	7 29.56	+29 29.7	2.413	3.342	6.6	20.2	2 1	7 28.27	+14 52.5	1.933	2.875	7.0	20.1
2 11	7 22.41	+29 15.0	2.484	3.347	9.5	20.4	2 11	7 20.43	+15 24.7	1.993	2.874	10.6	20.4
2 21	7 17.33	+28 53.1	2.579	3.352	12.0	20.6	2 21	7 14.87	+15 55.2	2.077	2.873	13.8	20.6
<b>125755</b>	2001 <i>XY</i> <sub>127</sub>		1 15.2 306°20	2°9/15.9	18		<b>304790</b>	2007 <i>NE</i> <sub>5</sub>		1 15.2 104°94	0°7/14.9	18	
12 13	8 10.91	+15 5.5	1.376	2.212	17.1	19.9	12 13	8 15.01	+21 17.8	1.723	2.550	14.6	21.4
12 23	8 6.12	+14 48.0	1.292	2.197	13.1	19.6	12 23	8 8.30	+21 50.3	1.665	2.570	10.7	21.2
1 2	7 58.21	+14 42.0	1.229	2.183	8.3	19.3	1 2	7 59.05	+22 28.0	1.632	2.589	6.2	21.0
1 12	7 48.10	+14 46.6	1.191	2.169	3.7	19.0	1 12	7 48.24	+23 5.8	1.627	2.608	1.6	20.7
1 22	7 37.14	+14 59.5	1.179	2.155	4.5	19.0	1 22	7 37.13	+23 39.0	1.650	2.627	3.4	20.9
2 1	7 26.99	+15 17.5	1.194	2.142	9.6	19.3	2 1	7 27.08	+24 4.6	1.703	2.644	7.9	21.2
2 11	7 19.15	+15 37.7	1.232	2.129	14.6	19.5	2 11	7 19.18	+24 21.5	1.783	2.662	11.8	21.5
2 21	7 14.59	+15 57.3	1.290	2.116	18.9	19.7	2 21	7 14.10	+24 30.3	1.884	2.678	15.1	21.8
<b>11132</b>	Horne		1 15.2 311°09	1°8/15.9	18		<b>506622</b>	2006 <i>FV</i> <sub>55</sub>		1 15.2 208°70	2°1/13.8	17	
12 13	8 7.36	+15 34.5	2.147	2.966	12.4	17.5	12 13	8 5.69	+29 56.2	3.777	4.594	7.6	22.1
12 23	8 2.46	+15 30.6	2.058	2.956	9.4	17.2	12 23	8 0.57	+30 22.5	3.692	4.589	5.6	22.0
1 2	7 55.58	+15 34.5	1.994	2.946	5.9	17.0	1 2	7 54.19	+30 47.2	3.635	4.584	3.6	21.8
1 12	7 47.37	+15 44.8	1.958	2.936	2.4	16.8	1 12	7 47.02	+31 7.8	3.607	4.579	2.1	21.7
1 22	7 38.72	+15 59.6	1.951	2.927	3.1	16.8	1 22	7 39.61	+31 22.3	3.611	4.573	2.9	21.8
2 1	7 30.60	+16 16.7	1.974	2.918	6.7	17.0	2 1	7 32.55	+31 29.7	3.647	4.567	4.9	21.9
2 11	7 23.95	+16 34.1	2.023	2.909	10.3	17.2	2 11	7 26.41	+31 29.8	3.710	4.561	7.0	22.1
2 21	7 19.41	+16 50.1	2.096	2.900	13.4	17.4	2 21	7 21.61	+31 23.0	3.799	4.555	8.8	22.2
<b>403060</b>	2008 <i>AW</i> <sub>137</sub>		1 15.2 68°80	2°2/14.5	18		<b>46464</b>	6602 <i>P-L</i>		1 15.2 81°81	5°2/13.8	17	
12 13	8 13.78	+25 40.6	1.617	2.454	14.9	21.3	12 13	8 19.18	+30 45.3	1.299	2.143	17.5	19.3
12 23	8 7.65	+26 4.3	1.555	2.465	11.0	21.1	12 23	8 12.24	+31 36.2	1.250	2.160	13.1	19.1
1 2	7 58.76	+26 28.7	1.518	2.476	6.6	20.9	1 2	8 1.70	+32 22.8	1.222	2.176	8.5	18.9
1 12	7 48.16	+26 48.8	1.507	2.487	2.5	20.6	1 12	7 48.92	+32 55.6	1.220	2.192	5.3	18.8
1 22	7 37.20	+27 0.2	1.524	2.498	4.3	20.8	1 22	7 35.80	+33 8.4	1.244	2.207	6.9	18.9
2 1	7 27.35	+27 0.9	1.569	2.509	8.6	21.1	2 1	7 24.31	+32 59.5	1.294	2.223	11.1	19.2
2 11	7 19.81	+26 51.4	1.640	2.520	12.6	21.3	2 11	7 15.99	+32 32.6	1.367	2.239	15.2	19.5
2 21	7 15.27	+26 33.9	1.732	2.531	16.0	21.6	2 21	7 11.51	+31 53.4	1.460	2.254	18.7	19.7
<b>87617</b>	2000 <i>RB</i> <sub>48</sub>		1 15.2 125°94	0°7/15.0	18		<b>200140</b>	1997 <i>WH</i> <sub>22</sub>		1 15.2 55°59	3°6/16.5	18	
12 13	8 13.00	+23 7.4	2.150	2.972	12.3	18.8	12 13	8 12.43	+11 56.8	1.875	2.682	14.5	19.3
12 23	8 6.45	+23 10.9	2.080	2.982	9.0	18.6	12 23	8 5.92	+11 23.5	1.830	2.716	11.0	19.2
1 2	7 57.81	+23 15.9	2.036	2.992	5.3	18.4	1 2	7 57.40	+11 1.1	1.808	2.750	7.2	19.0
1 12	7 47.90	+23 19.6	2.021	3.002	1.4	18.1	1 12	7 47.79	+10 49.4	1.814	2.784	4.1	18.9
1 22	7 37.73	+23 19.7	2.036	3.012	2.9	18.2	1 22	7 38.15	+10 47.2	1.849	2.818	4.3	19.0
2 1	7 28.37	+23 14.9	2.081	3.021	6.7	18.5	2 1	7 29.51	+10 52.6	1.913	2.852	7.3	19.2
2 11	7 20.74	+23 5.1	2.154	3.030	10.2	18.7	2 11	7 22.73	+11 3.2	2.004	2.886	10.6	19.5
2 21	7 15.43	+22 51.1	2.251	3.039	13.1	18.9	2 21	7 18.28	+11 16.5	2.118	2.919	13.4	19.7
<b>459180</b>	2012 <i>DP</i> <sub>35</sub>		1 15.2 323°23	1°6/15.9	16		<b>110043</b>	2001 <i>SA</i> <sub>83</sub>		1 15.2 14°46	6°6/17.9	18	
12 13	8 8.96	+15 23.2	1.643	2.473	15.1	21.7	12 13	8 6.11	+ 5 44.0	1.325	2.145	18.6	18.8
12 23	8 4.18	+15 43.2	1.563	2.467	11.4	21.4	12 23	8 2.31	+ 5 27.8	1.263	2.150	14.8	18.6
1 2	7 56.83	+16 15.3	1.507	2.461	7.0	21.2	1 2	7 55.78	+ 5 35.0	1.220	2.156	10.7	18.4
1 12	7 47.73	+16 56.6	1.476	2.456	2.5	20.9	1 12	7 47.48	+ 6 6.1	1.201	2.163	7.3	18.2
1 22	7 38.01	+17 43.0	1.474	2.451	3.5	20.9	1 22	7 38.69	+ 6 58.5	1.206	2.171	6.9	18.2
2 1	7 29.02	+18 29.7	1.499	2.446	8.1	21.2	2 1	7 30.84	+ 8 6.1	1.237	2.180	10.0	18.4
2 11	7 21.96	+19 13.1	1.549	2.442	12.4	21.4	2 11	7 25.18	+ 9 21.4	1.291	2.190	13.9	18.7
2 21	7 17.64	+19 50.5	1.622	2.437	16.2	21.7	2 21	7 22.45	+10 37.1	1.365	2.201	17.5	18.9
<b>119007</b>	2000 <i>YT</i> <sub>75</sub>		1 15.2 312°29	4°1/15.9	18		<b>407766</b>	2011 <i>WB</i> <sub>82</sub>		1 15.2 290°46	0°7/15.5	18	
12 13	8 10.85	+13 33.6	1.708	2.527	15.1	18.3	12 13	8 10.96	+18 13.6	1.565	2.399	15.5	21.4
12 23	8 5.62	+12 37.1	1.607	2.502	11.7	18.0	12 23	8 5.88	+18 30.1	1.481	2.388	11.6	21.2
1 2	7 57.74	+11 47.2	1.530	2.476	7.9	17.8	1 2	7 57.96	+18 56.1	1.420	2.377	7.0	20.9
1 12	7 47.98	+11 5.6	1.479	2.451	4.6	17.5	1 12	7 48.06	+19 28.3	1.385	2.366	2.0	20.5
1 22	7 37.43	+10 33.0	1.456	2.426	5.1	17.5	1 22	7 37.42	+20 2.2	1.378	2.355	3.5	20.6
2 1	7 27.45	+10 9.8	1.461	2.401	9.0	17.6	2 1	7 27.53	+20 33.7	1.398	2.345	8.6	20.9
2 11	7 19.30	+ 9 55.3	1.491	2.377	13.2	17.8	2 11	7 19.75	+21 0.0	1.443	2.334	13.3	21.1
2 21	7 13.88	+ 9 47.6	1.542	2.353	17.1	18.0	2 21	7 14.95	+21 19.9	1.509	2.324	17.2	21.3
<b>467533</b>	2007 <i>RH</i> <sub>117</sub>		1 15.2 92°04	3°2/16.8	18		<b>76954</b>	2001 <i>BJ</i> <sub>28</sub>		1 15.2 272°80	0°2/15.3	18	
12 13	8 7.62	+10 24.3	2.304	3.103									

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1 15.3

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>243780</b>	2000 SC <sub>20</sub>		1 15.2 146°41'	1°6/15.8	18		<b>2446</b>	Lunacharsky		1 15.3 206°32'	1°9/14.5	18	R
12 13	8 14.81	+16 27.7	1.986	2.797	13.6	21.1	12 13	8 14.78	+24 41.8	1.894	2.721	13.5	17.4
12 23	8 7.88	+16 22.1	1.914	2.808	10.2	20.9	12 23	8 8.30	+25 14.8	1.812	2.716	10.0	17.2
1 2	7 58.72	+16 23.5	1.868	2.819	6.2	20.7	1 2	7 59.21	+25 50.4	1.755	2.711	6.0	17.0
1 12	7 48.18	+16 30.2	1.850	2.829	2.3	20.5	1 12	7 48.36	+26 23.4	1.725	2.705	2.2	16.7
1 22	7 37.31	+16 39.9	1.862	2.838	3.2	20.5	1 22	7 36.91	+26 49.1	1.726	2.699	3.9	16.8
2 1	7 27.28	+16 50.5	1.904	2.846	7.1	20.8	2 1	7 26.22	+27 4.6	1.756	2.692	8.1	17.0
2 11	7 19.07	+17 0.5	1.974	2.854	10.8	21.0	2 11	7 17.51	+27 9.5	1.812	2.684	12.0	17.3
2 21	7 13.32	+17 9.0	2.068	2.861	13.9	21.3	2 21	7 11.55	+27 5.0	1.891	2.676	15.4	17.5
<b>378485</b>	2007 TV <sub>157</sub>		1 15.2 26°21'	1°7/14.7	18		<b>451046</b>	2008 YR <sub>12</sub>		1 15.3 318°37'	3°0/14.2	17	
12 13	8 9.48	+24 56.1	1.652	2.496	14.4	20.2	12 13	8 10.41	+24 33.3	1.288	2.143	16.9	21.2
12 23	8 4.37	+25 13.0	1.597	2.510	10.5	20.0	12 23	8 6.22	+25 27.4	1.208	2.126	12.6	20.9
1 2	7 56.78	+25 31.1	1.566	2.525	6.2	19.8	1 2	7 58.53	+26 28.7	1.149	2.110	7.7	20.6
1 12	7 47.69	+25 46.3	1.560	2.541	2.2	19.5	1 12	7 48.28	+27 29.4	1.115	2.095	3.3	20.3
1 22	7 38.35	+25 54.9	1.583	2.558	3.9	19.7	1 22	7 36.98	+28 21.0	1.107	2.080	5.6	20.4
2 1	7 30.04	+25 55.1	1.633	2.575	8.0	20.0	2 1	7 26.55	+28 57.1	1.124	2.065	10.9	20.6
2 11	7 23.85	+25 47.0	1.708	2.593	11.9	20.3	2 11	7 18.75	+29 15.9	1.163	2.052	15.9	20.9
2 21	7 20.37	+25 32.0	1.805	2.612	15.1	20.5	2 21	7 14.69	+29 18.9	1.221	2.039	20.3	21.1
<b>283320</b>	1994 SB <sub>12</sub>		1 15.2 139°88'	2°6/16.3	18		<b>239408</b>	2007 TF <sub>50</sub>		1 15.3 196°57'	4°4/13.1	18	
12 13	8 13.44	+13 10.9	1.707	2.521	15.3	21.8	12 13	8 11.55	+33 44.7	2.368	3.192	11.3	20.6
12 23	8 7.21	+13 19.0	1.637	2.531	11.6	21.6	12 23	8 5.58	+34 29.3	2.295	3.191	8.6	20.4
1 2	7 58.48	+13 39.7	1.591	2.540	7.4	21.4	1 2	7 57.43	+35 9.4	2.247	3.190	5.9	20.2
1 12	7 48.14	+14 10.7	1.572	2.548	3.3	21.1	1 12	7 47.88	+35 39.7	2.228	3.190	4.4	20.1
1 22	7 37.37	+14 48.4	1.581	2.556	3.8	21.2	1 22	7 37.93	+35 56.3	2.238	3.189	5.4	20.2
2 1	7 27.47	+15 29.0	1.620	2.563	7.9	21.5	2 1	7 28.69	+35 57.7	2.277	3.188	8.0	20.4
2 11	7 19.58	+16 8.8	1.684	2.570	12.0	21.7	2 11	7 21.14	+35 44.8	2.342	3.187	10.7	20.5
2 21	7 14.39	+16 45.3	1.772	2.577	15.4	21.9	2 21	7 15.93	+35 20.2	2.430	3.186	13.2	20.7
<b>281325</b>	2007 TZ <sub>186</sub>		1 15.2 61°57'	8°3/19.9	18		<b>379016</b>	2008 VZ <sub>4</sub>		1 15.3 276°12'	17°2/16.3	18	
12 13	8 5.93	- 5 1.0	2.252	2.986	14.6	20.7	12 13	8 15.74	- 6 1.3	1.168	1.934	23.7	20.0
12 23	8 1.21	- 5 33.0	2.180	2.993	12.4	20.5	12 23	8 10.05	- 8 56.5	1.100	1.926	21.1	19.8
1 2	7 54.75	- 5 44.2	2.129	3.001	10.3	20.4	1 2	8 0.76	-11 26.1	1.051	1.918	18.8	19.6
1 12	7 47.19	- 5 32.5	2.103	3.009	8.7	20.3	1 12	7 48.83	-13 16.2	1.021	1.910	17.3	19.5
1 22	7 39.33	- 4 58.2	2.103	3.017	8.3	20.3	1 22	7 35.85	-14 17.1	1.012	1.902	17.4	19.4
2 1	7 32.01	- 4 4.1	2.129	3.025	9.3	20.4	2 1	7 23.76	-14 25.9	1.024	1.894	19.1	19.5
2 11	7 26.04	- 2 54.9	2.181	3.033	11.1	20.5	2 11	7 14.34	-13 49.3	1.053	1.886	21.6	19.6
2 21	7 21.94	- 1 36.8	2.257	3.041	13.2	20.7	2 21	7 8.70	-12 39.3	1.097	1.878	24.4	19.8
<b>389604</b>	2011 HG <sub>9</sub>		1 15.2 176°59'	3°1/16.4	18		<b>46976</b>	1998 SE <sub>140</sub>		1 15.3 116°27'	4°9/13.6	18	
12 13	8 12.93	+12 7.3	1.503	2.323	16.8	21.5	12 13	8 16.69	+33 6.5	1.833	2.662	13.8	18.8
12 23	8 7.24	+12 19.2	1.428	2.324	12.8	21.3	12 23	8 9.72	+33 48.2	1.772	2.672	10.5	18.6
1 2	7 58.70	+12 47.1	1.376	2.325	8.3	21.0	1 2	7 59.99	+34 24.1	1.735	2.681	7.1	18.5
1 12	7 48.23	+13 28.7	1.350	2.326	3.9	20.7	1 12	7 48.52	+34 47.5	1.725	2.691	4.9	18.3
1 22	7 37.14	+14 19.8	1.351	2.326	4.3	20.8	1 22	7 36.70	+34 54.0	1.744	2.700	6.1	18.4
2 1	7 26.92	+15 15.0	1.380	2.326	8.8	21.0	2 1	7 26.00	+34 42.3	1.791	2.709	9.3	18.6
2 11	7 18.89	+16 9.5	1.434	2.325	13.3	21.3	2 11	7 17.63	+34 15.0	1.863	2.718	12.6	18.9
2 21	7 13.89	+16 59.4	1.510	2.324	17.2	21.5	2 21	7 12.28	+33 36.1	1.957	2.726	15.5	19.1
<b>92916</b>	2000 RW <sub>14</sub>		1 15.2 94°03'	4°1/16.6	18		<b>327907</b>	2007 CQ <sub>58</sub>		1 15.3 278°95'	1°1/14.7	18	
12 13	8 13.52	+11 26.3	1.576	2.390	16.4	19.4	12 13	8 9.74	+20 12.5	1.895	2.725	13.4	20.0
12 23	8 7.29	+11 2.6	1.514	2.405	12.6	19.2	12 23	8 4.69	+21 18.8	1.806	2.713	9.9	19.8
1 2	7 58.50	+10 52.4	1.475	2.419	8.4	18.9	1 2	7 57.17	+22 34.7	1.742	2.701	5.8	19.5
1 12	7 48.13	+10 55.4	1.463	2.434	4.7	18.8	1 12	7 47.88	+23 54.7	1.707	2.689	1.6	19.2
1 22	7 37.44	+11 9.5	1.478	2.448	4.9	18.8	1 22	7 37.86	+25 12.3	1.701	2.676	3.6	19.3
2 1	7 27.77	+11 31.8	1.520	2.462	8.6	19.1	2 1	7 28.37	+26 21.6	1.725	2.664	8.0	19.6
2 11	7 20.26	+11 58.8	1.589	2.476	12.5	19.3	2 11	7 20.59	+27 19.1	1.775	2.652	12.0	19.8
2 21	7 15.55	+12 27.1	1.679	2.489	15.9	19.6	2 21	7 15.38	+28 3.7	1.848	2.640	15.4	20.0
<b>427256</b>	2014 WQ <sub>117</sub>		1 15.2 97°06'	7°1/11.5	18		<b>455778</b>	2005 PR <sub>14</sub>		1 15.3 200°85'	3°6/13.8	17	
12 13	8 16.46	+38 49.8	2.040	2.858	13.0	21.2	12 13	8 15.07	+31 3.6	2.244	3.065	11.9	22.1
12 23	8 9.62	+40 24.4	1.991	2.876	10.3	21.0	12 23	8 8.22	+31 37.3	2.163	3.061	8.9	21.9
1 2	7 59.98	+41 49.8	1.968	2.893	8.0	20.9	1 2	7 59.03	+32 7.7	2.108	3.057	5.8	21.7
1 12	7 48.52	+42 57.5	1.973	2.910	7.1	20.9	1 12	7 48.30	+32 29.8	2.082	3.052	3.6	21.6
1 22	7 36.59	+43 41.5	2.005	2.927	8.2	21.0	1 22	7 37.11	+32 39.6	2.086	3.047	4.8	21.6
2 1	7 25.67	+44 0.0	2.065	2.943	10.4	21.2	2 1	7 26.65	+32 35.5	2.119	3.041	7.9	21.8
2 11	7 17.03	+43 55.5	2.149	2.960	12.8	21.4	2 11	7 18.02	+32 18.5	2.180	3.034	11.0	22.0
2 21	7 11.41	+43 33.2	2.254	2.975	15.0	21.6	2 21	7 11.89	+31 51.3	2.264	3.027	13.8	22.2
<b>691</b>	Lehigh		1 15.2 67°16'	2°8/13.7	18		<b>311603</b>	2006 KD <sub>121</sub>		1 15.3 167°81'	5°3/13.1	18	
12 13	8 10.08	+26 10.8	2.041	2.873	12.5	13.9	12 13	8 18.88	+36 39.5	2.314	3.124	11.9	20.5
12 23	8 4.61	+27 18.8	1.978	2.885	9.1	13.7	12 23	8 10.99	+37 24.6	2.245	3.130	9.3	20.4
1 2	7 56.90	+28 28.5	1.942	2.897	5.6	13.5	1 2	8 0.62	+38 2.1	2.201	3.135	6.7	20.2
1 12	7 47.75	+29 34.0	1.933	2.909	2.9	13.4	1 12	7 48.69	+38 25.8	2.186	3.140	5.3	20.1
1 22	7 38.19	+30 29.7	1.955	2.922	4.4	13.5	1 22	7 36.38	+38 31.7	2.201	3.143	6.2	20.2
2 1	7 29.38	+31 12.0	2.005	2.934	7.8	13.7	2 1	7 24.99	+38 19.0	2.246	3.146	8.7	20.3
2 11	7 22.33	+31 40.1	2.082	2.946	11.1	13.9	2 11	7 15.64	+37 49.8	2.317	3.148	11.3	20.5
2 21	7 17.71	+31 55.1	2.182	2.958	13.8	14.1	2 21	7 9.00	+37 8.5	2.411	3.149	13.7	20.7
<b>53147</b>	1999 BB <sub>14</sub>		1 15.2 266°92'	8°1/11.4	18		<b>272105</b>	2005 JW <sub>49</sub>		1 15.3 161°71'	0°9/15.6	18	
12 13	8 18.85	+42 40.5	2.101	2.907	13.1	18.7	12 13	8 15.79	+17 10.5	1.757	2.		



EPHEMERIDES

1 15.3

1 15.3

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>154168</b>	2002 <i>GH</i> <sub>67</sub>		1 15.3 75°09	7°1/12.3	18		<b>190737</b>	2001 <i>PD</i> <sub>51</sub>		1 15.3 125°81	3°4/16.3	18	
12 13	8 18.35	+40 3.8	2.039	2.852	13.2	18.9	12 13	8 16.80	+12 37.5	1.852	2.653	14.8	21.3
12 23	8 10.78	+41 18.4	2.002	2.883	10.5	18.8	12 23	8 9.35	+12 11.8	1.788	2.673	11.3	21.1
1 2	8 0.51	+42 21.3	1.991	2.913	8.1	18.7	1 2	7 59.61	+11 56.3	1.749	2.692	7.4	20.9
1 12	7 48.64	+43 4.9	2.007	2.944	7.1	18.7	1 12	7 48.48	+11 50.5	1.737	2.709	3.9	20.7
1 22	7 36.59	+43 24.9	2.051	2.973	8.0	18.8	1 22	7 37.11	+11 52.9	1.756	2.727	4.3	20.8
2 1	7 25.79	+43 21.1	2.122	3.003	10.0	19.0	2 1	7 26.71	+12 1.5	1.804	2.743	7.7	21.0
2 11	7 17.40	+42 57.0	2.218	3.031	12.4	19.2	2 11	7 18.29	+12 14.2	1.880	2.758	11.3	21.3
2 21	7 12.02	+42 17.9	2.334	3.060	14.4	19.4	2 21	7 12.46	+12 28.7	1.979	2.772	14.5	21.5
<b>35100</b>	1991 <i>NK</i>		1 15.3 204°62	4°7/17.2	18		<b>364436</b>	2006 <i>WC</i> <sub>182</sub>		1 15.3 127°48	0°8/15.6	18	
12 13	8 10.01	+ 6 9.7	2.524	3.298	12.1	19.7	12 13	8 12.69	+17 33.1	2.196	3.008	12.4	22.4
12 23	8 4.10	+ 5 41.8	2.432	3.293	9.7	19.6	12 23	8 6.18	+17 45.6	2.130	3.025	9.2	22.3
1 2	7 56.45	+ 5 25.4	2.365	3.286	7.1	19.4	1 2	7 57.69	+18 4.4	2.088	3.041	5.5	22.1
1 12	7 47.66	+ 5 21.4	2.326	3.280	5.0	19.2	1 12	7 48.00	+18 27.0	2.076	3.057	1.7	21.8
1 22	7 38.48	+ 5 29.1	2.317	3.272	5.0	19.2	1 22	7 38.05	+18 50.4	2.095	3.072	2.7	21.9
2 1	7 29.75	+ 5 47.3	2.339	3.264	7.0	19.3	2 1	7 28.85	+19 12.3	2.144	3.086	6.4	22.2
2 11	7 22.27	+ 6 13.3	2.388	3.255	9.7	19.5	2 11	7 21.28	+19 31.2	2.221	3.100	9.8	22.4
2 21	7 16.60	+ 6 44.3	2.462	3.246	12.2	19.6	2 21	7 15.90	+19 46.2	2.322	3.112	12.7	22.6
<b>44480</b>	1998 <i>WU</i> <sub>9</sub>		1 15.3 153°64	1°5/14.7	18		<b>455247</b>	2001 <i>SL</i> <sub>323</sub>		1 15.3 81°45	6°3/13.6	17	
12 13	8 15.92	+25 47.1	2.316	3.131	11.7	19.4	12 13	8 22.20	+38 15.8	1.873	2.688	14.2	20.9
12 23	8 8.52	+25 55.1	2.243	3.141	8.6	19.2	12 23	8 13.51	+38 53.3	1.832	2.718	11.0	20.8
1 2	7 59.04	+26 2.3	2.196	3.151	5.1	19.0	1 2	8 2.04	+39 19.1	1.816	2.749	8.0	20.7
1 12	7 48.30	+26 5.4	2.179	3.159	1.8	18.8	1 12	7 49.05	+39 26.4	1.827	2.779	6.3	20.6
1 22	7 37.29	+26 2.1	2.194	3.167	3.2	18.9	1 22	7 36.09	+39 12.1	1.867	2.808	7.2	20.7
2 1	7 27.09	+25 51.5	2.239	3.174	6.7	19.2	2 1	7 24.66	+38 37.1	1.935	2.837	9.7	20.9
2 11	7 18.62	+25 34.0	2.313	3.180	10.0	19.4	2 11	7 15.88	+37 46.2	2.028	2.865	12.4	21.2
2 21	7 12.47	+25 11.3	2.411	3.186	12.7	19.6	2 21	7 10.30	+36 45.1	2.144	2.893	14.9	21.4
<b>79489</b>	1998 <i>FP</i> <sub>34</sub>		1 15.3 268°10	8°8/20.5	18		<b>138699</b>	2000 <i>SL</i> <sub>77</sub>		1 15.3 23°83	0°2/15.2	18	
12 13	8 5.40	-10 7.1	2.693	3.382	13.4	19.6	12 13	8 8.10	+21 7.0	1.728	2.567	14.1	19.2
12 23	8 0.76	-10 38.0	2.593	3.365	11.9	19.4	12 23	8 3.28	+21 15.4	1.670	2.580	10.3	19.0
1 2	7 54.52	-10 48.8	2.514	3.347	10.3	19.3	1 2	7 56.15	+21 28.5	1.635	2.594	6.0	18.8
1 12	7 47.20	-10 36.8	2.459	3.330	9.2	19.2	1 12	7 47.63	+21 43.1	1.628	2.609	1.5	18.5
1 22	7 39.44	-10 1.2	2.430	3.312	8.8	19.1	1 22	7 38.85	+21 56.1	1.648	2.625	3.1	18.7
2 1	7 32.01	- 9 3.5	2.427	3.294	9.5	19.1	2 1	7 30.98	+22 5.1	1.696	2.642	7.4	19.0
2 11	7 25.63	- 7 47.7	2.450	3.275	10.9	19.2	2 11	7 25.04	+22 9.3	1.770	2.660	11.3	19.3
2 21	7 20.88	- 6 19.3	2.496	3.257	12.7	19.3	2 21	7 21.62	+22 8.4	1.866	2.678	14.5	19.5
<b>101977</b>	1999 <i>RA</i> <sub>52</sub>		1 15.3 142°45	1°1/14.9	18		<b>110042</b>	2001 <i>SL</i> <sub>82</sub>		1 15.3 35°55	4°5/17.5	18	
12 13	8 17.56	+22 34.2	1.615	2.444	15.4	19.7	12 13	8 6.52	+ 7 3.0	2.124	2.918	13.4	19.9
12 23	8 10.47	+22 58.9	1.550	2.455	11.3	19.5	12 23	8 1.79	+ 6 56.1	2.048	2.922	10.6	19.8
1 2	8 0.51	+23 27.7	1.508	2.465	6.7	19.3	1 2	7 55.19	+ 7 3.6	1.996	2.926	7.5	19.6
1 12	7 48.71	+23 55.4	1.493	2.475	1.9	19.0	1 12	7 47.41	+ 7 25.3	1.970	2.931	5.0	19.4
1 22	7 36.48	+24 17.2	1.508	2.484	3.8	19.1	1 22	7 39.28	+ 7 59.4	1.973	2.936	4.8	19.4
2 1	7 25.35	+24 30.4	1.551	2.492	8.5	19.4	2 1	7 31.73	+ 8 42.9	2.005	2.941	7.2	19.6
2 11	7 16.59	+24 34.6	1.620	2.499	12.8	19.7	2 11	7 25.61	+ 9 31.8	2.063	2.946	10.2	19.8
2 21	7 10.95	+24 31.1	1.711	2.506	16.3	19.9	2 21	7 21.50	+10 22.3	2.145	2.952	13.1	20.0
<b>423473</b>	2005 <i>SN</i> <sub>236</sub>		1 15.3 73°75	0°4/15.4	18		<b>394810</b>	2008 <i>RB</i> <sub>137</sub>		1 15.3 207°98	2°0/14.6	18	
12 13	8 11.97	+19 17.7	1.779	2.607	14.2	21.4	12 13	8 16.21	+24 54.4	1.679	2.510	14.8	22.0
12 23	8 6.01	+19 26.5	1.719	2.623	10.5	21.2	12 23	8 9.65	+25 19.5	1.600	2.506	11.0	21.8
1 2	7 57.71	+19 41.4	1.683	2.640	6.2	21.0	1 2	8 0.17	+25 46.8	1.545	2.502	6.6	21.5
1 12	7 47.98	+19 59.2	1.675	2.656	1.6	20.8	1 12	7 48.70	+26 10.8	1.517	2.497	2.4	21.3
1 22	7 37.99	+20 16.8	1.695	2.672	3.1	20.9	1 22	7 36.61	+26 26.7	1.518	2.491	4.2	21.4
2 1	7 28.95	+20 31.7	1.744	2.689	7.4	21.2	2 1	7 25.42	+26 31.9	1.547	2.485	8.8	21.6
2 11	7 21.88	+20 42.4	1.819	2.705	11.3	21.5	2 11	7 16.50	+26 26.5	1.602	2.479	13.0	21.9
2 21	7 17.39	+20 48.7	1.918	2.721	14.5	21.7	2 21	7 10.66	+26 12.4	1.679	2.472	16.7	22.1
<b>412335</b>	2013 <i>KH</i> <sub>18</sub>		1 15.3 223°35	5°0/17.4	18		<b>117582</b>	2005 <i>ED</i> <sub>39</sub>		1 15.3 231°47	5°6/17.6	18	
12 13	8 9.87	+ 6 27.8	2.045	2.833	14.1	21.6	12 13	8 10.21	+ 5 25.3	1.909	2.696	15.0	20.4
12 23	8 4.41	+ 6 14.4	1.956	2.825	11.2	21.4	12 23	8 4.82	+ 5 9.1	1.820	2.688	12.0	20.2
1 2	7 56.83	+ 6 16.2	1.890	2.818	8.1	21.2	1 2	7 57.16	+ 5 9.7	1.754	2.679	8.8	20.0
1 12	7 47.81	+ 6 33.4	1.850	2.809	5.5	21.0	1 12	7 47.94	+ 5 28.0	1.714	2.670	6.1	19.8
1 22	7 38.28	+ 7 4.7	1.840	2.801	5.4	21.0	1 22	7 38.15	+ 6 2.8	1.702	2.661	6.0	19.7
2 1	7 29.28	+ 7 47.4	1.858	2.792	7.9	21.1	2 1	7 28.92	+ 6 50.8	1.718	2.651	8.5	19.9
2 11	7 21.79	+ 8 37.2	1.904	2.783	11.2	21.3	2 11	7 21.30	+ 7 47.4	1.761	2.640	11.9	20.1
2 21	7 16.52	+ 9 29.9	1.972	2.773	14.3	21.5	2 21	7 16.03	+ 8 47.6	1.826	2.630	15.1	20.2
<b>320857</b>	2008 <i>FW</i> <sub>115</sub>		1 15.3 48°21	0°6/15.0	18		<b>82248</b>	2001 <i>KM</i> <sub>1</sub>		1 15.3 170°13	1°4/15.7	18	
12 13	8 10.90	+20 44.8	1.626	2.463	14.9	20.8	12 13	8 15.75	+17 10.8	1.871	2.685	14.2	19.1
12 23	8 5.58	+21 16.0	1.560	2.470	11.0	20.6	12 23	8 8.83	+17 7.3	1.794	2.690	10.6	18.9
1 2	7 57.65	+21 54.0	1.518	2.477	6.4	20.4	1 2	7 59.46	+17 10.9	1.742	2.694	6.5	18.7
1 12	7 48.02	+22 33.9	1.502	2.484	1.6	20.1	1 12	7 48.50	+17 19.3	1.717	2.697	2.2	18.4
1 22	7 37.94	+23 10.9	1.515	2.492	3.5	20.2	1 22	7 37.11	+17 30.1	1.723	2.700	3.2	18.5
2 1	7 28.79	+23 41.2	1.555	2.500	8.2	20.5	2 1	7 26.54	+17 41.0	1.759	2.701	7.5	18.7
2 11	7 21.74	+24 2.8	1.621	2.508	12.3	20.8	2 11	7 17.91	+17 50.5	1.821	2.702	11.5	19.0
2 21	7 17.52	+24 15.9	1.709	2.516	15.8	21.0	2 21	7 11.92	+17 57.7	1.907	2.702	14.9	19.2
<b>159535</b>	2001 <i>HA</i> <sub>57</sub>		1 15.3 330°23	0°8/15.7	18		<b>442732</b>	2012 <i>VJ</i> <sub>92</sub>		1 15.3 37°26	3°2/14.1	18	
12 13	8 7.62	+15 3.3	1.8										

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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>454042</b>	2012 <i>FO</i> <sub>53</sub>		1 15.3 320°72	1°9/16.3	17		<b>328271</b>	2008 <i>GY</i> <sub>47</sub>		1 15.3 339°22	2°1/14.3	18	
12 13	8 7.06	+11 59.9	1.461	2.292	16.6	20.2	12 13	8 10.23	+23 18.7	1.676	2.516	14.4	20.7
12 23	8 3.34	+13 2.9	1.367	2.270	12.7	19.9	12 23	8 5.27	+24 16.0	1.602	2.513	10.6	20.5
1 2	7 56.73	+14 29.1	1.295	2.249	8.0	19.6	1 2	7 57.62	+25 19.3	1.551	2.510	6.3	20.2
1 12	7 47.92	+16 14.5	1.250	2.229	3.0	19.2	1 12	7 48.11	+26 22.4	1.527	2.507	2.4	20.0
1 22	7 38.09	+18 11.5	1.231	2.209	3.8	19.2	1 22	7 37.97	+27 18.7	1.532	2.505	4.3	20.1
2 1	7 28.74	+20 10.2	1.240	2.190	9.1	19.5	2 1	7 28.60	+28 3.4	1.564	2.503	8.7	20.4
2 11	7 21.39	+22 1.4	1.275	2.172	14.2	19.7	2 11	7 21.28	+28 34.5	1.622	2.501	12.8	20.6
2 21	7 17.10	+23 39.1	1.331	2.155	18.6	19.9	2 21	7 16.82	+28 52.4	1.701	2.499	16.3	20.8
<b>288628</b>	2004 <i>PF</i> <sub>6</sub>		1 15.3 148°55	3°6/16.7	18		<b>503644</b>	2016 <i>GU</i> <sub>188</sub>		1 15.3 178°35	2°5/13.9	17	
12 13	8 12.81	+10 33.1	1.746	2.552	15.4	21.0	12 13	8 9.62	+26 56.1	2.442	3.267	10.9	21.8
12 23	8 6.76	+10 36.9	1.674	2.560	11.8	20.8	12 23	8 4.09	+27 47.0	2.365	3.268	8.0	21.6
1 2	7 58.28	+10 55.4	1.624	2.567	7.9	20.6	1 2	7 56.60	+28 38.8	2.314	3.268	5.0	21.4
1 12	7 48.22	+11 27.0	1.602	2.574	4.2	20.4	1 12	7 47.81	+29 26.9	2.293	3.269	2.6	21.3
1 22	7 37.71	+12 8.8	1.608	2.580	4.4	20.4	1 22	7 38.61	+30 7.1	2.302	3.269	3.9	21.3
2 1	7 28.00	+12 56.4	1.643	2.585	8.0	20.6	2 1	7 29.96	+30 36.8	2.341	3.269	6.9	21.5
2 11	7 20.20	+13 45.6	1.705	2.590	11.9	20.8	2 11	7 22.78	+30 55.1	2.407	3.268	9.9	21.7
2 21	7 15.01	+14 32.9	1.789	2.595	15.3	21.1	2 21	7 17.67	+31 3.0	2.497	3.268	12.5	21.9
<b>72262</b>	2001 <i>AD</i> <sub>35</sub>		1 15.3 334°21	4°7/13.5	18		<b>187896</b>	2000 <i>SJ</i> <sub>189</sub>		1 15.3 85°89	7°1/18.2	18	
12 13	8 12.99	+29 2.7	1.470	2.316	15.7	19.2	12 13	8 9.68	+1 50.4	1.942	2.714	15.3	19.9
12 23	8 7.76	+30 8.9	1.401	2.313	11.8	19.0	12 23	8 4.17	+1 5.5	1.875	2.726	12.5	19.7
1 2	7 59.27	+31 15.8	1.354	2.309	7.6	18.7	1 2	7 56.63	+0 38.7	1.831	2.738	9.7	19.5
1 12	7 48.53	+32 14.6	1.333	2.306	4.7	18.5	1 12	7 47.82	+0 32.0	1.812	2.750	7.6	19.4
1 22	7 37.04	+32 57.4	1.339	2.303	6.5	18.6	1 22	7 38.70	+0 45.2	1.821	2.762	7.3	19.4
2 1	7 26.56	+33 20.0	1.372	2.300	10.6	18.9	2 1	7 30.30	+1 15.6	1.856	2.774	9.1	19.6
2 11	7 18.64	+33 22.7	1.427	2.298	14.7	19.1	2 11	7 23.53	+1 59.0	1.918	2.786	11.7	19.8
2 21	7 14.17	+33 9.2	1.503	2.296	18.3	19.3	2 21	7 18.99	+2 50.1	2.002	2.797	14.3	19.9
<b>9128</b>	Takatumuzi		1 15.3 143°77	0°1/15.3	18		<b>45426</b>	2000 <i>AZ</i> <sub>166</sub>		1 15.3 92°56	5°8/17.8	18	
12 13	8 15.83	+18 56.8	1.708	2.531	14.9	18.1	12 13	8 12.73	+5 2.9	1.840	2.624	15.6	19.0
12 23	8 9.08	+19 27.2	1.640	2.542	11.0	17.9	12 23	8 6.36	+4 38.2	1.785	2.649	12.4	18.8
1 2	7 59.68	+20 5.4	1.597	2.553	6.5	17.6	1 2	7 57.87	+4 30.8	1.752	2.674	9.0	18.7
1 12	7 48.58	+20 46.9	1.581	2.563	1.7	17.3	1 12	7 48.12	+4 41.2	1.745	2.699	6.3	18.6
1 22	7 37.03	+21 26.9	1.594	2.572	3.3	17.5	1 22	7 38.17	+5 7.6	1.767	2.723	6.1	18.6
2 1	7 26.42	+22 1.5	1.637	2.580	8.0	17.8	2 1	7 29.12	+5 46.5	1.817	2.746	8.4	18.8
2 11	7 17.95	+22 28.6	1.707	2.588	12.1	18.1	2 11	7 21.90	+6 33.4	1.893	2.769	11.4	19.0
2 21	7 12.35	+22 47.9	1.798	2.594	15.6	18.3	2 21	7 17.07	+7 23.5	1.993	2.791	14.2	19.2
<b>432087</b>	2008 <i>YV</i> <sub>151</sub>		1 15.3 320°45	0°7/15.5	18		<b>402607</b>	2006 <i>SJ</i> <sub>188</sub>		1 15.3 26°86	7°8/13.1	18	
12 13	8 9.22	+19 50.8	1.993	2.821	12.9	20.6	12 13	8 14.78	+36 16.5	1.291	2.139	17.3	20.1
12 23	8 4.08	+19 36.6	1.903	2.807	9.6	20.4	12 23	8 9.34	+37 20.5	1.243	2.150	13.4	19.9
1 2	7 56.70	+19 26.2	1.837	2.793	5.8	20.1	1 2	8 0.21	+38 14.2	1.217	2.161	9.8	19.7
1 12	7 47.84	+19 18.0	1.799	2.780	1.7	19.8	1 12	7 48.76	+38 47.4	1.215	2.174	7.8	19.7
1 22	7 38.47	+19 10.5	1.789	2.767	2.9	19.9	1 22	7 36.91	+38 53.5	1.238	2.187	9.1	19.8
2 1	7 29.72	+19 2.2	1.809	2.754	7.1	20.1	2 1	7 26.67	+38 31.9	1.285	2.201	12.4	20.0
2 11	7 22.63	+18 52.5	1.855	2.742	11.0	20.3	2 11	7 19.60	+37 47.5	1.354	2.216	15.9	20.3
2 21	7 17.88	+18 41.3	1.924	2.730	14.4	20.5	2 21	7 16.39	+36 47.6	1.442	2.232	19.1	20.5
<b>398343</b>	2011 <i>QF</i> <sub>72</sub>		1 15.3 133°96	2°8/14.4	18		<b>119690</b>	2001 <i>XP</i> <sub>130</sub>		1 15.3 145°88	0°1/15.3	18	
12 13	8 17.43	+27 19.6	1.707	2.537	14.6	21.9	12 13	8 11.44	+19 18.7	2.220	3.038	12.1	20.7
12 23	8 10.34	+27 47.5	1.642	2.547	10.8	21.7	12 23	8 5.38	+19 42.2	2.147	3.047	8.9	20.5
1 2	8 0.44	+28 14.6	1.602	2.557	6.6	21.5	1 2	7 57.33	+20 11.4	2.100	3.055	5.3	20.3
1 12	7 48.77	+28 35.0	1.589	2.566	3.0	21.3	1 12	7 48.01	+20 42.9	2.081	3.063	1.3	20.0
1 22	7 36.71	+28 44.4	1.605	2.575	4.6	21.4	1 22	7 38.34	+21 13.5	2.093	3.070	2.7	20.1
2 1	7 25.77	+28 40.9	1.650	2.584	8.7	21.6	2 1	7 29.34	+21 40.6	2.135	3.077	6.5	20.4
2 11	7 17.18	+28 25.9	1.720	2.592	12.6	21.9	2 11	7 21.91	+22 2.5	2.205	3.083	9.9	20.6
2 21	7 11.65	+28 2.0	1.813	2.599	15.9	22.1	2 21	7 16.65	+22 18.7	2.299	3.089	12.8	20.8
<b>136111</b>	2003 <i>FC</i> <sub>79</sub>		1 15.3 354°90	3°2/14.3	18		<b>489622</b>	2007 <i>TS</i> <sub>308</sub>		1 15.3 54°95	0°8/14.9	18	
12 13	8 12.44	+28 10.0	1.634	2.475	14.6	19.5	12 13	8 10.22	+22 55.5	2.027	2.856	12.6	21.3
12 23	8 6.91	+28 36.5	1.563	2.473	10.9	19.2	12 23	8 4.61	+23 8.4	1.962	2.868	9.3	21.1
1 2	7 58.55	+29 1.8	1.515	2.472	6.8	19.0	1 2	7 56.89	+23 23.8	1.923	2.881	5.4	20.9
1 12	7 48.32	+29 20.4	1.494	2.471	3.4	18.8	1 12	7 47.89	+23 38.5	1.912	2.893	1.5	20.6
1 22	7 37.58	+29 27.6	1.500	2.470	5.0	18.9	1 22	7 38.62	+23 49.5	1.930	2.906	3.0	20.8
2 1	7 27.82	+29 21.4	1.534	2.470	9.1	19.1	2 1	7 30.15	+23 55.0	1.977	2.919	6.9	21.0
2 11	7 20.35	+29 2.8	1.592	2.470	13.1	19.3	2 11	7 23.43	+23 54.5	2.051	2.932	10.4	21.3
2 21	7 15.91	+28 34.6	1.672	2.470	16.5	19.6	2 21	7 19.03	+23 48.5	2.148	2.945	13.4	21.5
<b>399529</b>	2003 <i>EJ</i> <sub>31</sub>		1 15.3 274°15	0°5/15.5	18		<b>89435</b>	2001 <i>WK</i> <sub>45</sub>		1 15.3 172°90	0°1/15.2	18	
12 13	8 11.69	+17 20.2	1.484	2.319	16.2	21.0	12 13	8 10.76	+18 28.0	2.056	2.877	12.8	19.6
12 23	8 6.64	+17 57.2	1.402	2.309	12.1	20.7	12 23	8 5.15	+19 18.6	1.978	2.879	9.5	19.4
1 2	7 58.58	+18 47.1	1.342	2.299	7.3	20.4	1 2	7 57.33	+20 17.7	1.924	2.880	5.6	19.2
1 12	7 48.39	+19 45.3	1.308	2.289	2.0	20.0	1 12	7 48.04	+21 21.0	1.900	2.882	1.4	18.9
1 22	7 37.35	+20 45.7	1.301	2.279	3.7	20.1	1 22	7 38.25	+22 23.3	1.906	2.882	2.9	19.0
2 1	7 27.05	+21 42.2	1.322	2.269	9.0	20.4	2 1	7 29.06	+23 20.2	1.941	2.883	7.0	19.3
2 11	7 18.97	+22 30.6	1.368	2.259	13.9	20.6	2 11	7 21.50	+24 8.7	2.005	2.883	10.7	19.5
2 21	7 14.04	+23 9.1	1.434	2.248	18.0	20.9	2 21	7 16.27	+24 47.8	2.092	2.883	13.9	19.7
<b>41830</b>	2000 <i>WT</i> <sub>56</sub>		1 15.3 169°71	3°2/13.9	18		<b>153303</b>	2001 <i>HC</i> <sub>14</sub>		1 15.3 136°73	2°8/16.4	18	
12 13	8 15.00	+27 18.4	1.839	2.669									

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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>126276</b>	2002 <i>AK</i> <sub>96</sub>		1 15.3 17°94	0°9/14.9	18		<b>54210</b>	2000 <i>HV</i> <sub>87</sub>		1 15.3 144°96	4°2/12.8	18	
12 13	8 10.11	+21 29.9	1.744	2.580	14.1	20.2	12 13	8 11.63	+33 53.7	2.668	3.486	10.3	19.8
12 23	8 4.98	+22 5.8	1.672	2.581	10.4	19.9	12 23	8 5.50	+34 51.5	2.601	3.493	7.9	19.6
1 2	7 57.34	+22 47.8	1.624	2.583	6.1	19.7	1 2	7 57.41	+35 45.2	2.560	3.501	5.5	19.5
1 12	7 48.05	+23 31.1	1.603	2.585	1.7	19.4	1 12	7 48.06	+36 29.6	2.549	3.508	4.2	19.4
1 22	7 38.26	+24 10.8	1.611	2.587	3.5	19.5	1 22	7 38.35	+37 1.0	2.568	3.514	5.2	19.5
2 1	7 29.26	+24 43.2	1.646	2.589	7.9	19.8	2 1	7 29.26	+37 17.6	2.617	3.521	7.4	19.7
2 11	7 22.21	+25 6.3	1.708	2.592	12.0	20.1	2 11	7 21.67	+37 19.8	2.692	3.527	9.8	19.8
2 21	7 17.84	+25 20.2	1.791	2.594	15.4	20.3	2 21	7 16.18	+37 9.9	2.791	3.532	12.0	20.0
<b>259164</b>	2002 <i>YR</i> <sub>15</sub>		1 15.3 256°57	0°9/15.5	18		<b>236684</b>	2006 <i>QZ</i> <sub>134</sub>		1 15.3 168°63	3°2/17.2	17	
12 13	8 14.56	+20 24.0	1.813	2.637	14.1	19.9	12 13	8 6.53	+ 8 15.5	2.981	3.761	10.3	22.0
12 23	8 8.06	+19 54.0	1.734	2.635	10.5	19.7	12 23	8 1.37	+ 8 15.3	2.896	3.765	8.0	21.9
1 2	7 59.06	+19 26.6	1.679	2.634	6.3	19.4	1 2	7 54.82	+ 8 25.0	2.838	3.768	5.6	21.7
1 12	7 48.47	+19 0.4	1.651	2.632	1.9	19.1	1 12	7 47.40	+ 8 43.9	2.809	3.771	3.5	21.6
1 22	7 37.46	+18 34.5	1.654	2.631	3.2	19.2	1 22	7 39.72	+ 9 10.7	2.810	3.774	3.5	21.6
2 1	7 27.32	+18 8.5	1.685	2.629	7.7	19.5	2 1	7 32.44	+ 9 43.5	2.842	3.776	5.5	21.7
2 11	7 19.19	+17 42.7	1.743	2.627	11.7	19.7	2 11	7 26.18	+10 19.8	2.902	3.777	7.9	21.9
2 21	7 13.75	+17 17.5	1.824	2.626	15.2	19.9	2 21	7 21.41	+10 57.3	2.989	3.779	10.2	22.0
<b>294433</b>	2007 <i>VO</i> <sub>258</sub>		1 15.3 185°81	2°6/16.4	18		<b>146881</b>	2002 <i>CH</i> <sub>11</sub>		1 15.3 263°74	11°4/12.3	18	
12 13	8 11.62	+12 26.8	1.949	2.756	14.0	21.3	12 13	8 42.00	+56 49.1	2.233	2.965	14.7	19.6
12 23	8 5.80	+12 38.8	1.867	2.756	10.6	21.1	12 23	8 29.16	+57 26.8	2.150	2.947	13.2	19.5
1 2	7 57.72	+13 3.0	1.810	2.756	6.9	20.9	1 2	8 11.80	+57 40.3	2.090	2.929	11.9	19.4
1 12	7 48.15	+13 37.5	1.780	2.755	3.3	20.7	1 12	7 51.68	+57 18.3	2.055	2.910	11.4	19.3
1 22	7 38.07	+14 19.2	1.779	2.753	3.6	20.7	1 22	7 31.39	+56 15.0	2.046	2.891	11.9	19.3
2 1	7 28.64	+15 4.2	1.808	2.752	7.3	20.9	2 1	7 13.53	+54 32.6	2.063	2.872	13.3	19.3
2 11	7 20.89	+15 49.1	1.865	2.749	11.1	21.1	2 11	6 59.90	+52 20.4	2.106	2.853	15.1	19.4
2 21	7 15.53	+16 31.1	1.945	2.746	14.4	21.4	2 21	6 51.12	+49 50.1	2.170	2.833	17.0	19.5
<b>71871</b>	2000 <i>VD</i> <sub>37</sub>		1 15.3 17°73	2°9/16.2	18		<b>278313</b>	2007 <i>HS</i> <sub>23</sub>		1 15.3 294°79	1°8/16.0	17	
12 13	8 9.70	+14 42.7	1.246	2.090	18.1	18.5	12 13	8 9.13	+15 33.7	1.903	2.725	13.7	21.6
12 23	8 5.23	+14 33.0	1.185	2.094	13.7	18.3	12 23	8 4.11	+15 37.2	1.817	2.716	10.3	21.3
1 2	7 57.70	+14 37.1	1.144	2.099	8.7	18.0	1 2	7 56.81	+15 50.0	1.754	2.707	6.4	21.1
1 12	7 48.16	+14 53.3	1.127	2.105	3.8	17.7	1 12	7 47.96	+16 10.3	1.719	2.698	2.5	20.8
1 22	7 38.11	+15 18.1	1.136	2.112	4.5	17.8	1 22	7 38.58	+16 35.4	1.712	2.689	3.2	20.8
2 1	7 29.18	+15 47.2	1.169	2.120	9.4	18.1	2 1	7 29.79	+17 2.3	1.734	2.680	7.3	21.1
2 11	7 22.74	+16 16.7	1.227	2.129	14.2	18.4	2 11	7 22.69	+17 28.4	1.783	2.672	11.3	21.3
2 21	7 19.58	+16 43.5	1.304	2.138	18.3	18.7	2 21	7 17.97	+17 51.8	1.854	2.663	14.7	21.5
<b>57609</b>	2001 <i>TD</i> <sub>116</sub>		1 15.3 78°93	0°3/15.2	18		<b>240585</b>	2004 <i>TD</i> <sub>153</sub>		1 15.3 201°77	4°3/13.7	18	
12 13	8 12.40	+21 13.9	1.792	2.622	14.0	18.7	12 13	8 17.01	+30 28.3	1.772	2.602	14.2	21.3
12 23	8 6.44	+21 23.7	1.728	2.633	10.3	18.5	12 23	8 10.29	+31 16.6	1.696	2.599	10.7	21.1
1 2	7 58.07	+21 37.8	1.687	2.645	6.1	18.2	1 2	8 0.62	+32 2.7	1.645	2.596	7.0	20.9
1 12	7 48.22	+21 52.9	1.674	2.656	1.5	17.9	1 12	7 48.94	+32 39.4	1.621	2.592	4.4	20.7
1 22	7 38.04	+22 5.6	1.690	2.667	3.1	18.1	1 22	7 36.63	+33 0.8	1.626	2.587	5.8	20.8
2 1	7 28.78	+22 13.8	1.734	2.678	7.5	18.4	2 1	7 25.25	+33 4.5	1.658	2.582	9.5	21.0
2 11	7 21.51	+22 16.7	1.805	2.689	11.4	18.6	2 11	7 16.17	+32 51.6	1.717	2.577	13.2	21.2
2 21	7 16.86	+22 14.6	1.899	2.700	14.7	18.9	2 21	7 10.22	+32 25.8	1.796	2.571	16.4	21.4
<b>64605</b>	2001 <i>XD</i> <sub>23</sub>		1 15.3 12°24	5°7/12.9	18		<b>83288</b>	2001 <i>RH</i> <sub>01</sub>		1 15.3 57°05	1°6/16.1	18	
12 13	8 11.15	+31 22.4	1.477	2.325	15.5	19.0	12 13	8 7.69	+14 40.5	2.123	2.940	12.6	19.4
12 23	8 6.37	+32 38.5	1.417	2.328	11.7	18.8	12 23	8 2.68	+14 57.9	2.055	2.951	9.5	19.2
1 2	7 58.43	+33 52.4	1.379	2.331	7.9	18.6	1 2	7 55.76	+15 24.6	2.012	2.963	5.9	19.0
1 12	7 48.37	+34 54.8	1.368	2.335	5.7	18.5	1 12	7 47.66	+15 58.4	1.997	2.976	2.3	18.8
1 22	7 37.69	+35 38.0	1.382	2.339	7.3	18.6	1 22	7 39.26	+16 36.2	2.012	2.988	2.9	18.9
2 1	7 28.11	+35 58.3	1.423	2.345	10.9	18.8	2 1	7 31.52	+17 14.7	2.055	3.000	6.4	19.1
2 11	7 21.07	+35 56.9	1.486	2.351	14.6	19.0	2 11	7 25.29	+17 51.3	2.126	3.013	9.8	19.4
2 21	7 17.40	+35 38.0	1.570	2.358	17.8	19.3	2 21	7 21.13	+18 24.0	2.221	3.026	12.7	19.6
<b>240339</b>	2003 <i>QQ</i> <sub>24</sub>		1 15.3 180°90	1°7/16.0	18		<b>97548</b>	2000 <i>DW</i> <sub>55</sub>		1 15.3 64°55	0°7/14.9	18	
12 13	8 12.92	+15 2.3	2.132	2.939	12.9	21.6	12 13	8 9.72	+22 12.1	2.123	2.950	12.2	19.4
12 23	8 6.58	+15 11.8	2.049	2.940	9.7	21.4	12 23	8 4.30	+22 32.5	2.047	2.952	9.0	19.2
1 2	7 58.11	+15 30.0	1.992	2.941	6.1	21.2	1 2	7 56.79	+22 56.4	1.996	2.953	5.3	19.0
1 12	7 48.25	+15 54.9	1.963	2.941	2.4	21.0	1 12	7 47.93	+23 20.5	1.974	2.955	1.4	18.7
1 22	7 37.95	+16 23.7	1.965	2.941	3.0	21.0	1 22	7 38.70	+23 41.6	1.981	2.957	3.0	18.8
2 1	7 28.28	+16 53.4	1.997	2.939	6.8	21.3	2 1	7 30.13	+23 57.2	2.017	2.959	6.8	19.1
2 11	7 20.20	+17 21.9	2.057	2.937	10.4	21.5	2 11	7 23.18	+24 6.3	2.081	2.961	10.3	19.3
2 21	7 14.39	+17 47.3	2.141	2.934	13.5	21.7	2 21	7 18.48	+24 9.2	2.168	2.962	13.3	19.5
<b>278485</b>	2007 <i>UV</i> <sub>95</sub>		1 15.3 12°10	2°1/14.4	18		<b>430465</b>	2001 <i>QV</i> <sub>99</sub>		1 15.3 107°21	9°9/23.6	18	
12 13	8 9.55	+25 55.2	2.120	2.952	12.1	20.6	12 13	8 7.26	-17 12.3	2.806	3.434	14.0	21.3
12 23	8 4.23	+26 25.1	2.046	2.953	8.9	20.4	12 23	8 1.93	-17 45.6	2.744	3.454	12.7	21.2
1 2	7 56.76	+26 55.9	1.997	2.954	5.4	20.2	1 2	7 55.15	-17 55.8	2.700	3.473	11.4	21.2
1 12	7 47.91	+27 23.5	1.976	2.955	2.3	20.0	1 12	7 47.49	-17 40.7	2.679	3.492	10.4	21.1
1 22	7 38.66	+27 44.3	1.984	2.956	3.7	20.1	1 22	7 39.63	-17 0.0	2.681	3.511	9.9	21.1
2 1	7 30.10	+27 55.8	2.022	2.957	7.2	20.3	2 1	7 32.29	-15 56.1	2.709	3.529	10.1	21.2
2 11	7 23.22	+27 57.9	2.086	2.959	10.6	20.5	2 11	7 26.11	-14 33.6	2.761	3.546	11.0	21.2
2 21	7 18.64	+27 51.5	2.173	2.961	13.5	20.7	2 21	7 21.56	-12 58.3	2.836	3.564	12.1	21.4
<b>310244</b>	2011 <i>UN</i> <sub>7</sub>		1 15.3 199°87	2°9/16.4	18		<b>350425</b>	2012 <i>VX</i> <sub>73</sub>		1 15.3 144°47	6°1/10.9	17	
12 13	8 12.51												

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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>81654</b>	2000 <i>HO</i> <sub>86</sub>		1 15.3 72°31'	6°9/18.4	18		<b>433039</b>	2012 <i>SS</i> <sub>26</sub>		1 15.3 116°93'	3°3/17.0	18	
12 13	8 11.88	+ 2 25.5	1.766	2.543	16.4	18.1	12 13	8 6.81	+ 9 32.5	2.451	3.246	11.8	20.7
12 23	8 5.78	+ 1 56.3	1.717	2.573	13.2	18.0	12 23	8 1.85	+ 9 29.5	2.372	3.250	9.2	20.5
1 2	7 57.56	+ 1 47.4	1.689	2.602	10.0	17.9	1 2	7 55.24	+ 9 37.4	2.317	3.253	6.3	20.4
1 12	7 48.10	+ 1 59.6	1.687	2.632	7.4	17.8	1 12	7 47.57	+ 9 55.7	2.290	3.256	3.8	20.2
1 22	7 38.48	+ 2 31.1	1.712	2.661	7.0	17.8	1 22	7 39.60	+10 22.7	2.292	3.260	3.8	20.2
2 1	7 29.82	+ 3 17.8	1.765	2.689	9.0	18.0	2 1	7 32.12	+10 55.9	2.324	3.263	6.2	20.4
2 11	7 23.02	+ 4 14.3	1.844	2.718	11.7	18.2	2 11	7 25.90	+11 32.6	2.385	3.266	9.1	20.6
2 21	7 18.62	+ 5 15.0	1.945	2.745	14.4	18.5	2 21	7 21.45	+12 9.9	2.470	3.269	11.7	20.8
<b>296066</b>	2009 <i>AN</i> <sub>44</sub>		1 15.3 283°53'	1°3/15.0	18		<b>413660</b>	2005 <i>VO</i> <sub>74</sub>		1 15.3 25°58'	9°0/18.2	18	
12 13	8 16.33	+24 56.8	1.601	2.435	15.2	20.6	12 13	8 8.82	+ 1 23.3	1.561	2.348	17.8	20.1
12 23	8 10.10	+24 49.5	1.505	2.412	11.4	20.3	12 23	8 4.01	+ 0 10.7	1.498	2.356	14.7	20.0
1 2	8 0.70	+24 42.0	1.432	2.390	6.9	20.0	1 2	7 56.77	- 0 40.6	1.457	2.364	11.7	19.8
1 12	7 49.02	+24 30.3	1.385	2.367	2.1	19.6	1 12	7 47.99	- 1 6.9	1.438	2.374	9.4	19.7
1 22	7 36.45	+24 11.1	1.367	2.343	4.0	19.7	1 22	7 38.82	- 1 7.1	1.445	2.383	9.2	19.7
2 1	7 24.65	+23 43.1	1.377	2.320	9.2	19.9	2 1	7 30.50	- 0 43.5	1.477	2.394	11.0	19.8
2 11	7 15.14	+23 7.9	1.412	2.296	14.0	20.2	2 11	7 24.14	- 0 1.6	1.533	2.405	13.8	20.0
2 21	7 8.92	+22 27.9	1.469	2.273	18.1	20.4	2 21	7 20.38	+ 0 51.9	1.609	2.417	16.6	20.2
<b>373182</b>	2012 <i>DB</i> <sub>47</sub>		1 15.3 241°80'	6°1/18.2	17		<b>55070</b>	2001 <i>QZ</i> <sub>85</sub>		1 15.3 250°11'	1°5/14.7	18	
12 13	8 8.77	+ 1 27.4	2.327	3.086	13.4	21.7	12 13	8 12.27	+23 55.7	1.948	2.777	13.1	19.1
12 23	8 3.50	+ 1 11.6	2.227	3.071	11.1	21.5	12 23	8 6.53	+24 25.0	1.861	2.766	9.7	18.9
1 2	7 56.33	+ 1 12.3	2.150	3.056	8.6	21.3	1 2	7 58.32	+24 57.6	1.799	2.756	5.8	18.6
1 12	7 47.85	+ 1 31.0	2.100	3.040	6.6	21.1	1 12	7 48.41	+25 28.9	1.764	2.745	2.0	18.4
1 22	7 38.85	+ 2 7.1	2.078	3.023	6.3	21.1	1 22	7 37.90	+25 54.6	1.759	2.734	3.6	18.5
2 1	7 30.22	+ 2 58.1	2.086	3.006	8.1	21.2	2 1	7 28.03	+26 11.8	1.784	2.722	7.8	18.7
2 11	7 22.86	+ 3 59.9	2.121	2.988	10.7	21.3	2 11	7 19.97	+26 19.6	1.834	2.711	11.7	18.9
2 21	7 17.42	+ 5 7.6	2.179	2.970	13.4	21.4	2 21	7 14.50	+26 18.7	1.908	2.699	15.0	19.1
<b>373153</b>	2012 <i>BM</i> <sub>132</sub>		1 15.3 285°40'	11°6/11.5	18		<b>414280</b>	2008 <i>KD</i> <sub>36</sub>		1 15.3 305°92'	2°6/14.1	18	
12 13	8 34.86	+52 59.9	1.985	2.747	15.3	20.3	12 13	8 10.59	+24 40.2	1.668	2.508	14.4	20.8
12 23	8 24.55	+53 51.4	1.891	2.716	13.6	20.1	12 23	8 5.74	+25 38.6	1.585	2.496	10.7	20.6
1 2	8 9.55	+54 22.1	1.819	2.684	12.1	20.0	1 2	7 58.06	+26 42.4	1.526	2.484	6.5	20.3
1 12	7 51.27	+54 19.2	1.771	2.652	11.6	19.9	1 12	7 48.38	+27 45.1	1.494	2.473	2.9	20.0
1 22	7 32.08	+53 34.6	1.748	2.619	12.3	19.8	1 22	7 37.92	+28 39.8	1.490	2.461	4.7	20.1
2 1	7 14.67	+52 8.2	1.752	2.586	14.2	19.9	2 1	7 28.15	+29 21.5	1.514	2.450	9.1	20.4
2 11	7 1.19	+50 8.1	1.779	2.552	16.6	20.0	2 11	7 20.44	+29 48.2	1.562	2.439	13.3	20.6
2 21	6 52.58	+47 46.2	1.827	2.518	19.0	20.1	2 21	7 15.69	+30 0.9	1.632	2.429	16.9	20.8
<b>418899</b>	2009 <i>AY</i> <sub>49</sub>		1 15.3 270°96'	3°2/17.3	17		<b>186214</b>	2001 <i>WW</i> <sub>47</sub>		1 15.3 11°71'	12°7/20.3	18	
12 13	8 6.37	+ 8 1.4	2.456	3.246	11.9	21.0	12 13	8 8.30	-10 16.8	1.776	2.492	18.5	19.7
12 23	8 1.65	+ 8 30.5	2.361	3.236	9.3	20.8	12 23	8 3.54	-11 44.9	1.707	2.493	16.5	19.5
1 2	7 55.19	+ 9 13.8	2.291	3.227	6.4	20.6	1 2	7 56.50	-12 46.1	1.657	2.494	14.6	19.4
1 12	7 47.56	+10 9.8	2.249	3.217	3.7	20.4	1 12	7 47.94	-13 14.6	1.628	2.496	13.2	19.3
1 22	7 39.48	+11 15.5	2.238	3.207	3.6	20.4	1 22	7 38.89	-13 7.8	1.621	2.498	12.8	19.3
2 1	7 31.79	+12 27.2	2.257	3.198	6.2	20.6	2 1	7 30.49	-12 27.3	1.638	2.500	13.5	19.3
2 11	7 25.28	+13 40.4	2.305	3.188	9.3	20.7	2 11	7 23.80	-11 19.0	1.676	2.502	15.1	19.5
2 21	7 20.56	+14 51.5	2.378	3.178	12.1	20.9	2 21	7 19.53	- 9 51.5	1.734	2.505	17.1	19.6
<b>256860</b>	2008 <i>CU</i> <sub>206</sub>		1 15.3 112°00'	7°2/19.0	18		<b>212031</b>	2005 <i>CH</i> <sub>36</sub>		1 15.3 291°93'	0°3/15.4	18	
12 13	8 9.61	- 0 25.5	1.983	2.742	15.4	21.0	12 13	8 10.91	+17 57.2	1.569	2.403	15.5	20.3
12 23	8 4.14	- 0 41.1	1.914	2.755	12.7	20.9	12 23	8 5.94	+18 34.0	1.489	2.396	11.5	20.1
1 2	7 56.66	- 0 35.8	1.867	2.768	9.9	20.7	1 2	7 58.15	+19 22.2	1.432	2.389	6.9	19.8
1 12	7 47.92	- 0 8.6	1.845	2.780	7.7	20.6	1 12	7 48.41	+20 17.1	1.401	2.383	1.8	19.4
1 22	7 38.84	+ 0 39.1	1.851	2.792	7.3	20.6	1 22	7 37.94	+21 13.1	1.398	2.376	3.5	19.5
2 1	7 30.44	+ 1 43.4	1.884	2.803	8.9	20.7	2 1	7 28.22	+22 4.7	1.423	2.369	8.5	19.8
2 11	7 23.63	+ 2 58.4	1.945	2.814	11.4	20.9	2 11	7 20.58	+22 48.3	1.473	2.363	13.1	20.1
2 21	7 19.01	+ 4 18.0	2.028	2.825	14.0	21.1	2 21	7 15.90	+23 22.3	1.544	2.357	17.0	20.3
<b>142715</b>	2002 <i>TJ</i> <sub>266</sub>		1 15.3 76°99'	4°5/16.6	18		<b>130553</b>	2000 <i>RV</i> <sub>14</sub>		1 15.3 91°64'	4°0/16.6	18	
12 13	8 14.20	+10 47.6	1.716	2.522	15.6	18.6	12 13	8 13.38	+11 31.0	1.554	2.369	16.5	19.4
12 23	8 7.59	+10 3.1	1.660	2.544	12.1	18.5	12 23	8 7.37	+11 10.8	1.491	2.382	12.7	19.2
1 2	7 58.67	+ 9 31.0	1.627	2.566	8.2	18.3	1 2	7 58.75	+11 4.5	1.451	2.395	8.4	19.0
1 12	7 48.41	+ 9 11.8	1.621	2.588	5.0	18.1	1 12	7 48.50	+11 11.4	1.436	2.408	4.6	18.8
1 22	7 37.96	+ 9 4.8	1.644	2.610	5.2	18.2	1 22	7 37.89	+11 29.5	1.449	2.420	4.8	18.8
2 1	7 28.53	+ 9 8.3	1.695	2.632	8.3	18.4	2 1	7 28.27	+11 55.3	1.490	2.433	8.6	19.1
2 11	7 21.12	+ 9 19.5	1.772	2.653	11.7	18.7	2 11	7 20.81	+12 25.3	1.556	2.445	12.6	19.3
2 21	7 16.30	+ 9 35.2	1.871	2.674	14.8	18.9	2 21	7 16.19	+12 56.1	1.644	2.457	16.1	19.6
<b>339557</b>	2005 <i>JE</i> <sub>127</sub>		1 15.3 187°56'	3°9/17.5	17		<b>472281</b>	2014 <i>UG</i> <sub>209</sub>		1 15.3 119°24'	3°3/16.7	18	
12 13	8 6.71	+ 6 2.8	2.985	3.756	10.5	21.8	12 13	8 9.75	+11 30.0	1.948	2.756	13.9	20.6
12 23	8 1.52	+ 5 48.8	2.897	3.755	8.3	21.7	12 23	8 4.39	+11 23.3	1.872	2.759	10.7	20.4
1 2	7 54.94	+ 5 45.3	2.834	3.754	6.1	21.5	1 2	7 56.90	+11 28.4	1.819	2.763	7.1	20.2
1 12	7 47.48	+ 5 52.4	2.799	3.753	4.3	21.4	1 12	7 48.04	+11 44.5	1.794	2.766	3.9	20.0
1 22	7 39.73	+ 6 9.4	2.795	3.751	4.1	21.4	1 22	7 38.76	+12 9.5	1.797	2.769	4.0	20.1
2 1	7 32.37	+ 6 34.5	2.821	3.748	5.9	21.5	2 1	7 30.17	+12 40.5	1.830	2.772	7.3	20.3
2 11	7 26.01	+ 7 5.5	2.876	3.746	8.1	21.6	2 11	7 23.21	+13 14.2	1.889	2.775	10.9	20.5
2 21	7 21.13	+ 7 39.9	2.956	3.742	10.3	21.8	2 21	7 18.54	+13 47.8	1.971	2.778	14.0	20.7
<b>8249</b>	Gershwin		1 15.3 303°42'	1°3/14.8	18		<b>141192</b>	1998 <i>XA</i> <sub>33</sub>		1 15.3 76°55'	4°4/13.6	18	
12 13	8 10.64	+20 57.9	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>419123</b>	2009 <i>SK</i> <sub>214</sub>		1 15.3 101°05	0°4/15.2	18		<b>9943</b>	Bizan		1 15.3 48°80	1°5/14.7	18	
12 13	8 11.25	+20 59.2	1.972	2.798	13.1	21.8	12 13	8 11.84	+22 17.8	1.487	2.330	15.7	17.3
12 23	8 5.51	+21 21.7	1.903	2.807	9.6	21.6	12 23	8 6.50	+23 3.7	1.432	2.345	11.5	17.0
1 2	7 57.56	+21 48.9	1.858	2.815	5.7	21.3	1 2	7 58.35	+23 55.2	1.400	2.360	6.8	16.8
1 12	7 48.20	+22 17.4	1.842	2.824	1.4	21.1	1 12	7 48.44	+24 46.3	1.395	2.376	2.1	16.5
1 22	7 38.48	+22 43.4	1.855	2.832	3.0	21.2	1 22	7 38.13	+25 30.8	1.416	2.392	4.0	16.7
2 1	7 29.53	+23 4.2	1.898	2.840	7.1	21.5	2 1	7 28.93	+26 4.5	1.465	2.408	8.7	17.0
2 11	7 22.36	+23 18.7	1.967	2.848	10.8	21.7	2 11	7 22.05	+26 26.3	1.539	2.425	12.9	17.3
2 21	7 17.59	+23 26.6	2.059	2.856	13.9	21.9	2 21	7 18.21	+26 36.8	1.634	2.442	16.4	17.6
<b>165100</b>	2000 <i>HV</i>		1 15.3 160°84	0°3/15.2	18		<b>51036</b>	2000 <i>GJ</i> <sub>125</sub>		1 15.3 168°02	3°6/17.3	18	
12 13	8 8.90	+20 44.9	2.528	3.347	10.8	20.7	12 13	8 7.11	+7 46.1	2.613	3.397	11.5	19.2
12 23	8 3.43	+21 9.7	2.450	3.350	7.9	20.5	12 23	8 2.01	+7 46.2	2.529	3.399	9.0	19.1
1 2	7 56.20	+21 38.6	2.397	3.353	4.7	20.3	1 2	7 55.33	+7 58.0	2.471	3.402	6.3	18.9
1 12	7 47.85	+22 8.7	2.374	3.356	1.2	20.1	1 12	7 47.65	+8 20.7	2.441	3.404	4.0	18.8
1 22	7 39.17	+22 37.1	2.382	3.359	2.5	20.2	1 22	7 39.65	+8 53.0	2.441	3.405	3.9	18.8
2 1	7 31.02	+23 1.5	2.420	3.361	5.9	20.4	2 1	7 32.11	+9 32.2	2.471	3.407	6.1	18.9
2 11	7 24.20	+23 20.6	2.487	3.363	9.0	20.6	2 11	7 25.73	+10 15.5	2.530	3.408	8.8	19.1
2 21	7 19.26	+23 34.0	2.577	3.365	11.7	20.8	2 21	7 21.03	+10 59.9	2.613	3.409	11.3	19.2
<b>405993</b>	2006 <i>SP</i> <sub>318</sub>		1 15.3 10°80	12°2/11.3	16		<b>298781</b>	2004 <i>PU</i> <sub>43</sub>		1 15.3 211°02	1°1/15.0	18	
12 13	8 12.98	+42 50.9	1.135	1.986	19.0	20.4	12 13	8 16.95	+23 50.9	1.751	2.578	14.5	21.6
12 23	8 8.99	+44 35.1	1.093	1.989	15.8	20.2	12 23	8 10.13	+23 56.5	1.669	2.573	10.7	21.3
1 2	8 0.51	+46 1.4	1.070	1.995	13.1	20.1	1 2	8 0.51	+24 3.7	1.611	2.567	6.4	21.1
1 12	7 49.03	+46 55.4	1.069	2.002	12.2	20.1	1 12	7 49.01	+24 8.6	1.580	2.561	1.9	20.8
1 22	7 36.90	+47 8.1	1.089	2.011	13.4	20.2	1 22	7 36.93	+24 7.7	1.579	2.555	3.6	20.9
2 1	7 26.65	+46 39.3	1.131	2.021	16.0	20.4	2 1	7 25.73	+23 59.4	1.607	2.547	8.3	21.1
2 11	7 20.23	+45 36.8	1.191	2.033	19.0	20.6	2 11	7 16.69	+23 43.8	1.661	2.540	12.5	21.4
2 21	7 18.36	+44 11.2	1.268	2.046	21.8	20.8	2 21	7 10.61	+23 22.8	1.737	2.531	16.1	21.6
<b>280807</b>	2005 <i>TN</i> <sub>164</sub>		1 15.3 167°57	3°6/16.6	18		<b>355858</b>	2008 <i>UD</i> <sub>245</sub>		1 15.3 58°53	5°1/13.9	17	
12 13	8 14.56	+11 24.2	1.770	2.575	15.3	22.1	12 13	8 17.52	+30 31.5	1.283	2.130	17.4	20.3
12 23	8 8.11	+11 11.6	1.694	2.580	11.8	21.9	12 23	8 11.12	+31 23.8	1.238	2.149	13.0	20.1
1 2	7 59.19	+11 11.6	1.641	2.584	7.8	21.7	1 2	8 1.21	+32 11.9	1.214	2.168	8.4	19.9
1 12	7 48.64	+11 23.6	1.616	2.587	4.3	21.5	1 12	7 49.16	+32 46.7	1.216	2.188	5.2	19.8
1 22	7 37.62	+11 45.2	1.619	2.590	4.5	21.5	1 22	7 36.81	+33 1.9	1.243	2.207	6.8	19.9
2 1	7 27.39	+12 13.6	1.651	2.592	8.1	21.7	2 1	7 26.08	+32 56.1	1.296	2.227	10.9	20.2
2 11	7 19.09	+12 45.4	1.710	2.593	12.0	22.0	2 11	7 18.42	+32 32.4	1.373	2.247	15.0	20.5
2 21	7 13.43	+13 17.6	1.791	2.594	15.4	22.2	2 21	7 14.50	+31 56.0	1.469	2.267	18.4	20.8
<b>258556</b>	2002 <i>CJ</i> <sub>63</sub>		1 15.3 293°50	4°7/13.3	18		<b>424224</b>	2007 <i>RT</i> <sub>128</sub>		1 15.3 210°64	3°7/13.5	17	
12 13	8 12.81	+31 51.7	1.857	2.691	13.4	20.6	12 13	8 11.77	+32 9.9	2.471	3.293	10.9	21.6
12 23	8 7.27	+32 42.5	1.772	2.676	10.2	20.3	12 23	8 5.78	+32 49.9	2.393	3.290	8.2	21.5
1 2	7 58.93	+33 30.9	1.712	2.661	6.9	20.1	1 2	7 57.70	+33 26.6	2.340	3.286	5.5	21.3
1 12	7 48.62	+34 9.9	1.679	2.646	4.8	19.9	1 12	7 48.27	+33 55.1	2.316	3.283	3.8	21.2
1 22	7 37.59	+34 33.6	1.674	2.632	6.2	20.0	1 22	7 38.43	+34 11.9	2.322	3.279	4.8	21.2
2 1	7 27.30	+34 39.2	1.696	2.617	9.5	20.2	2 1	7 29.22	+34 15.3	2.358	3.275	7.5	21.4
2 11	7 19.08	+34 27.4	1.744	2.603	13.1	20.3	2 11	7 21.58	+34 5.8	2.420	3.270	10.2	21.5
2 21	7 13.80	+34 1.4	1.812	2.588	16.3	20.5	2 21	7 16.15	+33 45.5	2.506	3.265	12.7	21.7
<b>295465</b>	2008 <i>QQ</i> <sub>1</sub>		1 15.3 109°82	2°1/14.4	18		<b>415102</b>	2012 <i>CD</i> <sub>15</sub>		1 15.3 288°35	2°7/14.6	18	
12 13	8 12.03	+26 17.9	2.162	2.989	12.1	21.0	12 13	8 14.37	+27 39.8	1.717	2.552	14.3	21.4
12 23	8 5.97	+26 48.7	2.096	3.000	8.9	20.8	12 23	8 8.41	+27 53.6	1.633	2.540	10.7	21.2
1 2	7 57.78	+27 19.8	2.055	3.010	5.4	20.6	1 2	7 59.58	+28 6.2	1.572	2.528	6.6	20.9
1 12	7 48.26	+27 46.7	2.042	3.021	2.3	20.4	1 12	7 48.80	+28 12.5	1.539	2.517	3.0	20.6
1 22	7 38.43	+28 6.1	2.060	3.031	3.7	20.5	1 22	7 37.38	+28 8.6	1.534	2.505	4.5	20.7
2 1	7 29.37	+28 15.8	2.107	3.041	7.1	20.8	2 1	7 26.82	+27 52.7	1.557	2.494	8.8	20.9
2 11	7 22.03	+28 16.0	2.181	3.050	10.4	21.0	2 11	7 18.45	+27 25.9	1.605	2.483	13.0	21.2
2 21	7 17.02	+28 7.8	2.278	3.060	13.2	21.2	2 21	7 13.11	+26 51.2	1.675	2.472	16.6	21.4
<b>461815</b>	2005 <i>YF</i> <sub>258</sub>		1 15.3 263°36	2°7/16.1	17		<b>206762</b>	2004 <i>CE</i> <sub>21</sub>		1 15.3 38°36	0°5/15.6	18	R
12 13	8 11.74	+14 32.6	2.088	2.897	13.1	20.8	12 13	8 7.95	+16 2.7	2.196	3.014	12.2	19.8
12 23	8 5.88	+14 1.6	1.992	2.883	10.0	20.5	12 23	8 3.01	+16 59.1	2.117	3.016	9.1	19.6
1 2	7 57.83	+13 37.5	1.922	2.869	6.5	20.3	1 2	7 56.11	+18 5.8	2.063	3.018	5.4	19.4
1 12	7 48.31	+13 20.0	1.880	2.854	3.2	20.1	1 12	7 47.89	+19 18.8	2.039	3.020	1.5	19.1
1 22	7 38.26	+13 8.5	1.867	2.840	3.7	20.1	1 22	7 39.22	+20 33.2	2.044	3.022	2.6	19.2
2 1	7 28.77	+13 2.0	1.884	2.825	7.3	20.3	2 1	7 31.07	+21 44.2	2.081	3.024	6.5	19.5
2 11	7 20.83	+12 59.4	1.928	2.810	10.9	20.5	2 11	7 24.35	+22 48.2	2.145	3.027	10.0	19.7
2 21	7 15.17	+12 59.3	1.996	2.795	14.2	20.6	2 21	7 19.71	+23 43.1	2.233	3.029	13.0	19.9
<b>380396</b>	2002 <i>XB</i> <sub>89</sub>		1 15.3 325°38	5°8/11.1	15		<b>96036</b>	2004 <i>PP</i> <sub>57</sub>		1 15.3 134°78	0°6/15.6	18	
12 13	8 10.44	+30 39.1	1.893	2.730	13.1	19.5	12 13	8 11.51	+18 24.7	2.385	3.197	11.6	21.1
12 23	8 5.78	+32 52.5	1.807	2.712	10.0	19.3	12 23	8 5.32	+18 37.2	2.314	3.210	8.5	20.9
1 2	7 58.25	+35 10.6	1.748	2.694	7.1	19.1	1 2	7 57.31	+18 54.9	2.270	3.223	5.1	20.7
1 12	7 48.52	+37 22.7	1.718	2.677	5.8	19.0	1 12	7 48.17	+19 15.4	2.254	3.235	1.5	20.5
1 22	7 37.69	+39 18.3	1.717	2.660	7.6	19.0	1 22	7 38.76	+19 36.2	2.270	3.247	2.5	20.6
2 1	7 27.21	+40 49.9	1.745	2.644	10.8	19.2	2 1	7 30.00	+19 55.2	2.316	3.258	6.0	20.9
2 11	7 18.59	+41 55.1	1.797	2.628	14.1	19.4	2 11	7 22.71	+20 10.9	2.390	3.268	9.2	21.1
2 21	7 12.90	+42 35.7	1.870	2.613	17.0	19.5	2 21	7 17.43	+20 22.8	2.489	3.278	12.0	21.3
<b>123475</b>	2000 <i>WB</i> <sub>155</sub>		1 15.3 99°99	1°1/15.7	18		<b>492680</b>	2014 <i>PB</i> <sub>36</sub>		1 15.3 247°50	1°2/14.9	17	
12 13	8 13.52	+18 51.2	2.026	2.843</									

EPHEMERIDES

1 15.3

1 15.4

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>122445</b>	2000 <i>QQ</i> <sub>134</sub>		1 15.3 196°09	3°3/14.3	18		<b>13368</b>	Wlodekofman		1 15.4 73°32	1°2/14.8	18	
12 13	8 15.87	+27 38.7	1.614	2.450	15.0	19.9	12 13	8 10.46	+23 16.3	2.046	2.875	12.6	18.5
12 23	8 9.61	+28 15.6	1.541	2.449	11.2	19.7	12 23	8 4.95	+23 45.1	1.977	2.883	9.2	18.3
1 2	8 0.32	+28 52.5	1.492	2.448	6.9	19.4	1 2	7 57.28	+24 16.9	1.934	2.891	5.4	18.1
1 12	7 49.00	+29 22.9	1.470	2.447	3.5	19.2	1 12	7 48.24	+24 47.6	1.918	2.899	1.7	17.8
1 22	7 37.09	+29 41.2	1.476	2.445	5.1	19.3	1 22	7 38.84	+25 13.7	1.932	2.907	3.2	18.0
2 1	7 26.17	+29 44.7	1.509	2.443	9.3	19.6	2 1	7 30.19	+25 32.4	1.976	2.916	7.1	18.2
2 11	7 17.64	+29 34.3	1.568	2.442	13.5	19.8	2 11	7 23.25	+25 43.0	2.046	2.924	10.6	18.5
2 21	7 12.33	+29 12.8	1.647	2.439	17.0	20.0	2 21	7 18.65	+25 45.9	2.139	2.932	13.5	18.7
<b>152635</b>	1997 <i>JF</i> <sub>8</sub>		1 15.3 160°14	0°8/15.7	18		<b>379825</b>	2011 <i>KE</i> <sub>47</sub>		1 15.4 101°12	5°2/17.6	18	
12 13	8 14.80	+16 50.5	1.959	2.771	13.7	21.3	12 13	8 8.01	+5 34.1	2.256	3.037	13.1	20.8
12 23	8 8.16	+17 17.5	1.884	2.779	10.2	21.1	12 23	8 2.90	+5 3.2	2.176	3.039	10.5	20.7
1 2	7 59.18	+17 53.1	1.834	2.787	6.2	20.8	1 2	7 55.98	+4 45.8	2.120	3.041	7.8	20.5
1 12	7 48.69	+18 34.0	1.813	2.793	1.9	20.6	1 12	7 47.90	+4 42.7	2.091	3.043	5.6	20.4
1 22	7 37.74	+19 16.1	1.822	2.799	3.0	20.6	1 22	7 39.48	+4 53.4	2.091	3.045	5.5	20.4
2 1	7 27.55	+19 55.6	1.861	2.804	7.2	20.9	2 1	7 31.60	+5 16.1	2.119	3.047	7.5	20.5
2 11	7 19.16	+20 30.1	1.928	2.808	11.0	21.2	2 11	7 25.08	+5 47.5	2.174	3.048	10.2	20.7
2 21	7 13.28	+20 58.4	2.019	2.811	14.3	21.4	2 21	7 20.49	+6 24.3	2.253	3.050	12.8	20.8
<b>501836</b>	2014 <i>WJ</i> <sub>135</sub>		1 15.3 257°56	0°5/15.1	17		<b>175478</b>	2006 <i>RN</i> <sub>7</sub>		1 15.4 117°62	1°8/16.3	18	
12 13	8 10.53	+20 21.5	2.002	2.828	12.9	21.5	12 13	8 12.63	+13 36.9	2.087	2.892	13.2	21.3
12 23	8 5.21	+20 56.3	1.913	2.817	9.6	21.3	12 23	8 6.33	+14 6.3	2.023	2.912	9.9	21.1
1 2	7 57.56	+21 37.9	1.849	2.806	5.7	21.0	1 2	7 58.00	+14 46.2	1.984	2.932	6.2	20.9
1 12	7 48.30	+22 22.4	1.813	2.795	1.5	20.7	1 12	7 48.41	+15 33.8	1.973	2.951	2.5	20.7
1 22	7 38.44	+23 5.3	1.807	2.783	3.1	20.8	1 22	7 38.53	+16 25.0	1.993	2.969	3.0	20.8
2 1	7 29.13	+23 42.8	1.830	2.772	7.3	21.1	2 1	7 29.40	+17 16.1	2.043	2.986	6.6	21.0
2 11	7 21.47	+24 12.7	1.879	2.760	11.2	21.3	2 11	7 21.91	+18 3.8	2.122	3.003	10.1	21.3
2 21	7 16.23	+24 34.4	1.952	2.748	14.6	21.5	2 21	7 16.66	+18 46.3	2.224	3.019	13.0	21.5
<b>73488</b>	2002 <i>PO</i> <sub>90</sub>		1 15.3 337°34	10°8/20.2	18		<b>212138</b>	2005 <i>EJ</i> <sub>251</sub>		1 15.4 313°48	1°2/14.8	18	
12 13	8 5.43	-6 52.3	1.819	2.559	17.3	18.6	12 13	8 11.04	+20 58.7	1.517	2.358	15.6	20.1
12 23	8 1.48	-7 45.9	1.737	2.549	15.2	18.4	12 23	8 6.22	+21 50.0	1.440	2.351	11.5	19.9
1 2	7 55.35	-8 14.2	1.674	2.540	13.0	18.2	1 2	7 58.45	+22 50.6	1.385	2.344	6.8	19.6
1 12	7 47.74	-8 12.9	1.634	2.532	11.3	18.1	1 12	7 48.62	+23 54.5	1.356	2.338	2.0	19.2
1 22	7 39.57	-7 40.5	1.616	2.524	10.8	18.0	1 22	7 38.02	+24 54.7	1.356	2.332	4.0	19.4
2 1	7 31.94	-6 39.2	1.624	2.516	11.8	18.1	2 1	7 28.20	+25 45.4	1.382	2.326	9.1	19.6
2 11	7 25.89	-5 15.2	1.655	2.510	13.9	18.2	2 11	7 20.59	+26 23.6	1.433	2.320	13.6	19.9
2 21	7 22.12	-3 36.8	1.707	2.504	16.3	18.3	2 21	7 16.08	+26 49.0	1.505	2.315	17.5	20.1
<b>484272</b>	2007 <i>JD</i> <sub>17</sub>		1 15.3 229°87	2°9/16.3	18		<b>467672</b>	2008 <i>UH</i> <sub>128</sub>		1 15.4 18°38	3°2/13.7	18	
12 13	8 13.34	+13 12.8	1.740	2.553	15.1	22.0	12 13	8 10.04	+27 46.2	2.033	2.867	12.5	20.7
12 23	8 7.48	+13 7.7	1.652	2.544	11.6	21.7	12 23	8 4.84	+28 43.6	1.962	2.868	9.2	20.5
1 2	7 58.99	+13 14.3	1.586	2.534	7.5	21.5	1 2	7 57.33	+29 41.8	1.916	2.870	5.8	20.3
1 12	7 48.70	+13 31.5	1.548	2.524	3.6	21.2	1 12	7 48.28	+30 34.9	1.897	2.872	3.3	20.1
1 22	7 37.72	+13 56.8	1.538	2.513	4.1	21.2	1 22	7 38.75	+31 17.7	1.908	2.874	4.7	20.2
2 1	7 27.39	+14 26.9	1.557	2.501	8.2	21.4	2 1	7 29.92	+31 47.1	1.948	2.876	8.0	20.4
2 11	7 18.95	+14 58.7	1.603	2.489	12.4	21.6	2 11	7 22.85	+32 2.4	2.014	2.878	11.3	20.6
2 21	7 13.22	+15 29.4	1.670	2.477	16.2	21.9	2 21	7 18.25	+32 5.2	2.102	2.881	14.2	20.8
<b>154736</b>	2004 <i>NA</i> <sub>16</sub>		1 15.3 162°49	4°3/13.7	18		<b>131584</b>	2001 <i>WT</i> <sub>5</sub>		1 15.4 348°88	5°0/14.3	18	
12 13	8 17.11	+34 47.5	2.395	3.208	11.5	20.3	12 13	8 22.90	+24 49.5	0.902	1.761	22.0	16.9
12 23	8 9.65	+35 12.4	2.323	3.213	8.8	20.2	12 23	8 16.30	+21 31.5	0.824	1.743	16.8	16.5
1 2	7 59.95	+35 30.7	2.277	3.218	6.1	20.0	1 2	8 4.92	+17 47.1	0.768	1.728	10.7	16.1
1 12	7 48.88	+35 37.6	2.260	3.222	4.3	19.9	1 12	7 50.31	+13 45.2	0.737	1.715	5.3	15.7
1 22	7 37.52	+35 29.9	2.274	3.226	5.3	20.0	1 22	7 34.87	+9 44.4	0.733	1.705	7.9	15.8
2 1	7 27.02	+35 7.2	2.317	3.229	7.8	20.1	2 1	7 21.31	+6 7.2	0.755	1.698	14.5	16.2
2 11	7 18.39	+34 31.6	2.388	3.232	10.5	20.3	2 11	7 11.72	+3 8.2	0.798	1.693	20.6	16.5
2 21	7 12.23	+33 46.6	2.482	3.235	13.0	20.5	2 21	7 6.99	+0 50.7	0.859	1.692	25.6	16.8
<b>286002</b>	2001 <i>SX</i> <sub>89</sub>		1 15.3 204°19	5°1/12.8	18		<b>405018</b>	2001 <i>PY</i> <sub>4</sub>		1 15.4 92°62	1°4/15.8	18	
12 13	8 14.97	+39 3.8	2.777	3.582	10.3	21.3	12 13	8 16.03	+17 41.5	1.981	2.793	13.6	21.4
12 23	8 8.03	+39 39.2	2.699	3.578	8.2	21.2	12 23	8 8.72	+17 26.3	1.926	2.821	10.1	21.2
1 2	7 59.00	+40 6.8	2.647	3.573	6.2	21.1	1 2	7 59.32	+17 16.9	1.897	2.848	6.1	21.0
1 12	7 48.66	+40 21.7	2.624	3.568	5.1	21.0	1 12	7 48.73	+17 11.4	1.896	2.875	2.1	20.8
1 22	7 37.96	+40 20.8	2.631	3.563	5.9	21.0	1 22	7 38.03	+17 8.2	1.926	2.902	3.0	20.9
2 1	7 27.96	+40 3.2	2.666	3.557	7.8	21.1	2 1	7 28.33	+17 5.8	1.985	2.928	6.8	21.2
2 11	7 19.59	+39 30.9	2.729	3.551	10.1	21.3	2 11	7 20.52	+17 3.5	2.073	2.953	10.3	21.5
2 21	7 13.48	+38 46.9	2.815	3.545	12.1	21.4	2 21	7 15.14	+17 0.6	2.184	2.978	13.3	21.7
<b>276315</b>	2002 <i>TJ</i> <sub>171</sub>		1 15.4 105°74	5°4/18.1	18		<b>78579</b>	2002 <i>SV</i> <sub>4</sub>		1 15.4 61°47	1°2/14.9	18	
12 13	8 9.08	+2 45.0	2.600	3.359	12.2	20.9	12 13	8 10.37	+23 39.0	2.075	2.904	12.4	19.8
12 23	8 3.33	+2 14.4	2.535	3.380	9.9	20.8	12 23	8 4.83	+24 0.3	2.007	2.913	9.1	19.6
1 2	7 56.06	+1 57.5	2.494	3.400	7.5	20.7	1 2	7 57.19	+24 23.8	1.964	2.922	5.4	19.4
1 12	7 47.89	+1 54.9	2.481	3.420	5.7	20.6	1 12	7 48.23	+24 46.0	1.950	2.931	1.7	19.2
1 22	7 39.53	+2 6.1	2.497	3.440	5.5	20.6	1 22	7 38.95	+25 3.5	1.965	2.940	3.2	19.3
2 1	7 31.74	+2 29.3	2.543	3.459	7.0	20.7	2 1	7 30.43	+25 14.2	2.010	2.950	6.9	19.6
2 11	7 25.19	+3 1.4	2.616	3.478	9.1	20.9	2 11	7 23.60	+25 17.6	2.081	2.959	10.4	19.8
2 21	7 20.35	+3 39.0	2.714	3.496	11.3	21.1	2 21	7 19.07	+25 14.2	2.175	2.969	13.3	20.0
<b>222068</b>	1999 <i>EH</i> <sub>15</sub>		1 15.4 246°50	2°4/14.6	18		<b>233094</b>	2005 <i>RN</i> <sub>45</sub>		1 15.4 32°96	1°0/15.1	18	
12 13	8 14.20	+27 15.5	1.854	2.685	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>27452</b>	Nikhilpatel		1 15.4 155°70	0°5/15.6	18		<b>459303</b>	2012 GS <sub>25</sub>		1 15.4 356°88	10°3/19.4	18	
12 13	8 8.90	+18 23.6	2.732	3.542	10.3	19.8	12 13	8 4.52	- 0 32.4	1.278	2.080	20.2	20.3
12 23	8 3.31	+18 37.7	2.653	3.548	7.6	19.6	12 23	8 1.50	- 1 21.5	1.209	2.074	17.0	20.1
1 2	7 56.14	+18 56.5	2.601	3.554	4.6	19.4	1 2	7 55.69	- 1 41.9	1.159	2.070	13.7	19.9
1 12	7 47.96	+19 18.0	2.579	3.560	1.3	19.2	1 12	7 47.97	- 1 29.1	1.129	2.067	11.0	19.7
1 22	7 39.50	+19 39.9	2.587	3.565	2.2	19.3	1 22	7 39.60	- 0 42.9	1.121	2.066	10.4	19.7
2 1	7 31.55	+20 0.4	2.627	3.569	5.4	19.5	2 1	7 32.04	+ 0 32.1	1.137	2.066	12.3	19.8
2 11	7 24.80	+20 18.0	2.696	3.574	8.3	19.7	2 11	7 26.63	+ 2 6.6	1.175	2.068	15.5	20.0
2 21	7 19.78	+20 32.0	2.789	3.577	10.8	19.9	2 21	7 24.21	+ 3 50.1	1.233	2.071	18.9	20.2
<b>118754</b>	2000 QA <sub>192</sub>		1 15.4 190°64	6°3/12.4	18		<b>16972</b>	Neish		1 15.4 217°69	2°5/14.1	18	
12 13	8 17.62	+39 28.4	2.298	3.108	12.0	20.2	12 13	8 13.30	+25 37.8	2.134	2.958	12.3	18.5
12 23	8 10.44	+40 24.6	2.227	3.107	9.6	20.0	12 23	8 7.26	+26 33.5	2.048	2.950	9.1	18.3
1 2	8 0.66	+41 11.9	2.180	3.105	7.4	19.9	1 2	7 58.83	+27 32.0	1.987	2.942	5.6	18.1
1 12	7 49.16	+41 43.7	2.162	3.103	6.3	19.8	1 12	7 48.75	+28 27.9	1.956	2.933	2.6	17.9
1 22	7 37.18	+41 55.4	2.172	3.100	7.2	19.9	1 22	7 38.04	+29 15.9	1.955	2.924	4.1	18.0
2 1	7 26.05	+41 45.6	2.210	3.097	9.4	20.0	2 1	7 27.90	+29 52.2	1.984	2.914	7.7	18.2
2 11	7 16.97	+41 16.7	2.274	3.094	11.9	20.2	2 11	7 19.44	+30 15.5	2.040	2.903	11.2	18.4
2 21	7 10.66	+40 33.3	2.360	3.090	14.2	20.3	2 21	7 13.43	+30 27.0	2.118	2.892	14.3	18.5
<b>174411</b>	2002 VP <sub>86</sub>		1 15.4 150°16	0°3/15.5	18		<b>168125</b>	2006 FS <sub>44</sub>		1 15.4 242°25	0°8/15.1	18	
12 13	8 13.62	+19 46.1	2.116	2.933	12.7	20.6	12 13	8 14.53	+21 56.8	1.822	2.648	14.0	21.3
12 23	8 7.15	+19 54.1	2.043	2.941	9.4	20.4	12 23	8 8.45	+22 17.6	1.731	2.635	10.4	21.1
1 2	7 58.55	+20 6.9	1.995	2.949	5.6	20.2	1 2	7 59.67	+22 43.3	1.664	2.621	6.2	20.8
1 12	7 48.61	+20 21.5	1.975	2.957	1.5	19.9	1 12	7 48.99	+23 9.8	1.625	2.606	1.7	20.4
1 22	7 38.33	+20 35.4	1.986	2.963	2.7	20.0	1 22	7 37.58	+23 32.8	1.615	2.591	3.4	20.5
2 1	7 28.79	+20 46.5	2.027	2.970	6.7	20.3	2 1	7 26.82	+23 49.1	1.634	2.576	8.1	20.8
2 11	7 20.94	+20 53.6	2.096	2.975	10.3	20.5	2 11	7 17.99	+23 57.6	1.680	2.560	12.4	21.0
2 21	7 15.41	+20 56.7	2.189	2.980	13.3	20.7	2 21	7 11.95	+23 58.6	1.748	2.543	16.0	21.2
<b>53125</b>	1999 AL <sub>24</sub>		1 15.4 23°49	11°7/23.9	18		<b>454127</b>	2013 CD <sub>165</sub>		1 15.4 348°93	4°1/16.8	17	
12 13	8 7.62	-11 39.2	1.348	2.084	22.5	17.7	12 13	8 7.23	+11 30.1	1.168	2.012	19.0	21.2
12 23	8 3.57	-11 4.3	1.284	2.094	19.6	17.5	12 23	8 3.85	+11 30.5	1.097	2.004	14.7	20.9
1 2	7 56.79	- 9 44.5	1.235	2.106	16.3	17.4	1 2	7 57.25	+11 51.1	1.045	1.998	9.8	20.6
1 12	7 48.21	- 7 37.3	1.208	2.118	13.3	17.2	1 12	7 48.40	+12 30.9	1.017	1.992	5.0	20.4
1 22	7 39.13	- 4 47.8	1.204	2.132	11.7	17.2	1 22	7 38.74	+13 25.5	1.012	1.988	5.2	20.3
2 1	7 30.97	- 1 28.3	1.227	2.147	12.4	17.2	2 1	7 30.00	+14 28.4	1.032	1.985	10.1	20.6
2 11	7 25.01	+ 2 3.9	1.276	2.163	14.9	17.4	2 11	7 23.76	+15 32.5	1.075	1.983	15.2	20.9
2 21	7 21.98	+ 5 32.1	1.349	2.180	18.0	17.7	2 21	7 20.96	+16 32.0	1.136	1.982	19.6	21.2
<b>401522</b>	2013 EX <sub>61</sub>		1 15.4 218°61	2°6/16.4	18		<b>145902</b>	1999 TF <sub>239</sub>		1 15.4 142°18	0°6/15.6	18	
12 13	8 11.82	+12 53.7	1.844	2.655	14.5	21.5	12 13	8 16.54	+17 53.4	1.701	2.521	15.1	21.3
12 23	8 6.22	+13 0.4	1.759	2.650	11.1	21.2	12 23	8 9.73	+18 18.7	1.634	2.534	11.2	21.1
1 2	7 58.22	+13 19.3	1.697	2.644	7.1	21.0	1 2	8 0.26	+18 52.7	1.591	2.545	6.7	20.8
1 12	7 48.58	+13 48.8	1.662	2.638	3.4	20.7	1 12	7 49.10	+19 31.2	1.575	2.556	1.9	20.6
1 22	7 38.35	+14 25.9	1.657	2.631	3.7	20.7	1 22	7 37.49	+20 9.6	1.589	2.566	3.2	20.7
2 1	7 28.75	+15 6.8	1.680	2.624	7.7	21.0	2 1	7 26.83	+20 44.1	1.632	2.575	7.9	21.0
2 11	7 20.91	+15 48.1	1.730	2.617	11.7	21.2	2 11	7 18.31	+21 12.4	1.701	2.584	12.1	21.2
2 21	7 15.57	+16 26.8	1.803	2.609	15.2	21.4	2 21	7 12.64	+21 33.9	1.793	2.591	15.6	21.5
<b>60941</b>	2000 JQ <sub>54</sub>		1 15.4 158°57	3°3/16.6	18		<b>83426</b>	2001 SS <sub>44</sub>		1 15.4 156°80	2°9/13.7	18	
12 13	8 13.70	+11 50.7	1.772	2.579	15.1	19.7	12 13	8 10.95	+30 28.0	2.793	3.612	9.9	19.9
12 23	8 7.54	+11 46.0	1.697	2.585	11.6	19.5	12 23	8 4.94	+31 6.4	2.721	3.618	7.4	19.7
1 2	7 58.94	+11 54.0	1.646	2.590	7.6	19.3	1 2	7 57.17	+31 42.5	2.675	3.623	4.8	19.5
1 12	7 48.75	+12 13.6	1.622	2.595	4.0	19.1	1 12	7 48.28	+32 12.4	2.658	3.628	3.0	19.4
1 22	7 38.09	+12 42.0	1.626	2.599	4.2	19.1	1 22	7 39.08	+32 33.0	2.673	3.633	4.0	19.5
2 1	7 28.22	+13 16.1	1.660	2.602	7.9	19.3	2 1	7 30.44	+32 42.8	2.718	3.637	6.4	19.7
2 11	7 20.25	+13 52.1	1.720	2.605	11.8	19.6	2 11	7 23.17	+32 41.9	2.790	3.641	9.0	19.8
2 21	7 14.88	+14 27.2	1.803	2.608	15.2	19.8	2 21	7 17.80	+32 31.7	2.887	3.645	11.2	20.0
<b>53459</b>	1999 XD <sub>156</sub>		1 15.4 233°34	1°1/14.9	18		<b>490302</b>	2009 AG <sub>23</sub>		1 15.4 78°41	1°5/14.8	18	
12 13	8 14.28	+20 36.2	1.559	2.392	15.6	18.9	12 13	8 13.85	+21 30.5	1.480	2.318	16.0	21.0
12 23	8 8.63	+21 26.8	1.477	2.384	11.6	18.6	12 23	8 8.12	+22 26.4	1.421	2.331	11.8	20.8
1 2	7 59.93	+22 26.9	1.418	2.376	6.9	18.4	1 2	7 59.46	+23 29.7	1.386	2.345	6.9	20.6
1 12	7 49.07	+23 30.6	1.386	2.368	1.9	18.0	1 12	7 48.91	+24 33.4	1.377	2.358	2.1	20.3
1 22	7 37.36	+24 30.9	1.383	2.359	4.0	18.1	1 22	7 37.88	+25 30.5	1.396	2.372	4.1	20.5
2 1	7 26.40	+25 21.8	1.407	2.350	9.1	18.4	2 1	7 27.92	+26 16.0	1.443	2.385	8.9	20.8
2 11	7 17.66	+26 0.6	1.457	2.340	13.7	18.7	2 11	7 20.36	+26 48.1	1.515	2.399	13.2	21.1
2 21	7 12.09	+26 26.9	1.528	2.330	17.6	18.9	2 21	7 15.93	+27 7.4	1.608	2.412	16.8	21.3
<b>100024</b>	1990 SW <sub>6</sub>		1 15.4 73°73	5°0/13.6	18		<b>106561</b>	2000 WL <sub>83</sub>		1 15.4 330°49	0°3/15.5	18	
12 13	8 17.98	+31 42.3	1.604	2.437	15.2	19.3	12 13	8 11.39	+20 26.3	1.309	2.157	17.1	19.6
12 23	8 10.95	+32 39.9	1.560	2.463	11.4	19.1	12 23	8 6.81	+20 21.6	1.231	2.145	12.8	19.3
1 2	8 0.97	+33 32.3	1.540	2.489	7.5	19.0	1 2	7 58.96	+20 23.6	1.175	2.134	7.7	18.9
1 12	7 49.23	+34 11.5	1.546	2.514	5.1	18.9	1 12	7 48.84	+20 28.9	1.143	2.124	2.1	18.6
1 22	7 37.29	+34 32.3	1.581	2.540	6.4	19.0	1 22	7 37.92	+20 34.0	1.136	2.115	3.9	18.7
2 1	7 26.70	+34 33.3	1.643	2.565	9.7	19.3	2 1	7 27.95	+20 36.1	1.156	2.106	9.6	19.0
2 11	7 18.73	+34 17.1	1.730	2.589	13.1	19.5	2 11	7 20.49	+20 33.9	1.199	2.098	14.7	19.2
2 21	7 13.98	+33 48.2	1.838	2.614	16.1	19.8	2 21	7 16.48	+20 27.4	1.262	2.091	19.1	19.5
<b>88575</b>	2001 QU <sub>248</sub>		1 15.4 54°74	3°2/16.6	18		<b>380485</b>	2004 BS <sub>29</sub>		1 15.4 340°30	3°0/14.3	18	
12 13	8 11.75	+12 9.4	1.319	2.149	18.1	19.1	12 13	8 12.14	+29 32.3	2.073</			

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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>35319</b>	1997 <i>BU</i> <sub>4</sub>		1 15.4 270°41	3°3/17.1	18		<b>284098</b>	2005 <i>NQ</i> <sub>85</sub>		1 15.4 142°39	0°1/15.4	18	
12 13	8 8.36	+ 9 10.9	2.043	2.844	13.7	19.0	12 13	8 9.74	+21 3.4	2.522	3.339	10.8	20.7
12 23	8 3.53	+ 9 34.4	1.951	2.834	10.6	18.8	12 23	8 4.08	+21 0.7	2.442	3.342	8.0	20.5
1 2	7 56.59	+10 13.4	1.883	2.823	7.2	18.6	1 2	7 56.68	+21 0.5	2.389	3.344	4.7	20.3
1 12	7 48.19	+11 6.5	1.842	2.813	4.0	18.3	1 12	7 48.20	+21 1.1	2.364	3.346	1.2	20.1
1 22	7 39.22	+12 10.4	1.830	2.802	3.9	18.3	1 22	7 39.43	+21 0.7	2.371	3.348	2.4	20.2
2 1	7 30.71	+13 20.6	1.848	2.791	7.2	18.5	2 1	7 31.23	+20 58.1	2.408	3.350	5.8	20.4
2 11	7 23.67	+14 32.0	1.893	2.781	10.8	18.7	2 11	7 24.39	+20 52.7	2.473	3.352	8.9	20.6
2 21	7 18.80	+15 40.4	1.962	2.770	14.1	18.9	2 21	7 19.44	+20 44.6	2.562	3.354	11.6	20.8
<b>28902</b>	2000 <i>LZ</i> <sub>33</sub>		1 15.4 160°35	2°7/16.3	18		<b>96133</b>	2488 <i>T</i> <sub>-3</sub>		1 15.4 175°87	1°4/15.9	18	
12 13	8 14.30	+13 54.4	1.789	2.601	14.8	18.8	12 13	8 11.08	+16 56.7	2.051	2.868	13.0	20.2
12 23	8 7.98	+13 43.4	1.714	2.606	11.3	18.5	12 23	8 5.42	+16 54.8	1.972	2.869	9.7	20.0
1 2	7 59.21	+13 42.8	1.663	2.610	7.2	18.3	1 2	7 57.64	+16 59.8	1.917	2.869	6.0	19.8
1 12	7 48.86	+13 51.0	1.639	2.614	3.4	18.1	1 12	7 48.47	+17 10.0	1.890	2.870	2.1	19.5
1 22	7 38.05	+14 6.1	1.644	2.618	3.8	18.1	1 22	7 38.90	+17 22.9	1.893	2.870	2.9	19.6
2 1	7 28.05	+14 25.3	1.678	2.621	7.8	18.4	2 1	7 29.99	+17 36.6	1.926	2.870	6.8	19.8
2 11	7 19.97	+14 46.1	1.738	2.623	11.7	18.6	2 11	7 22.71	+17 49.1	1.985	2.870	10.5	20.0
2 21	7 14.52	+15 6.4	1.822	2.625	15.1	18.8	2 21	7 17.70	+17 59.5	2.068	2.870	13.6	20.3
<b>406623</b>	2008 <i>CT</i> <sub>133</sub>		1 15.4 31°48	8°1/13.7	18		<b>143324</b>	2003 <i>AO</i> <sub>60</sub>		1 15.4 35°73	1°9/16.1	18	
12 13	8 21.78	+40 55.1	1.545	2.369	16.2	20.8	12 13	8 10.47	+15 36.3	1.420	2.256	16.7	19.6
12 23	8 14.29	+41 25.8	1.486	2.374	13.0	20.6	12 23	8 5.58	+15 43.6	1.361	2.267	12.5	19.4
1 2	8 3.18	+41 41.3	1.449	2.379	9.9	20.4	1 2	7 57.94	+16 3.0	1.324	2.279	7.7	19.1
1 12	7 49.86	+41 32.9	1.437	2.384	8.2	20.3	1 12	7 48.56	+16 31.6	1.312	2.292	2.9	18.9
1 22	7 36.25	+40 56.1	1.451	2.390	9.1	20.4	1 22	7 38.78	+17 5.2	1.328	2.305	3.7	19.0
2 1	7 24.31	+39 52.5	1.491	2.397	11.8	20.6	2 1	7 30.05	+17 39.7	1.370	2.319	8.5	19.3
2 11	7 15.54	+38 28.8	1.556	2.403	15.0	20.8	2 11	7 23.57	+18 11.4	1.436	2.333	12.9	19.6
2 21	7 10.61	+36 53.6	1.640	2.410	17.9	21.0	2 21	7 20.04	+18 38.3	1.524	2.348	16.6	19.9
<b>227557</b>	2005 <i>YN</i> <sub>178</sub>		1 15.4 146°22	1°0/15.9	18		<b>34539</b>	2000 <i>SL</i> <sub>223</sub>		1 15.4 243°02	0°6/15.6	18	
12 13	8 10.39	+16 36.1	2.280	3.092	12.0	21.3	12 13	8 10.81	+18 34.0	1.929	2.753	13.4	19.6
12 23	8 4.70	+16 52.0	2.204	3.099	9.0	21.1	12 23	8 5.40	+18 45.2	1.849	2.751	10.0	19.4
1 2	7 57.10	+17 15.2	2.154	3.106	5.5	20.9	1 2	7 57.70	+19 3.3	1.795	2.750	6.0	19.1
1 12	7 48.30	+17 43.2	2.132	3.112	1.8	20.6	1 12	7 48.51	+19 25.4	1.767	2.748	1.7	18.8
1 22	7 39.15	+18 13.3	2.141	3.118	2.6	20.7	1 22	7 38.84	+19 48.4	1.769	2.747	2.9	18.9
2 1	7 30.60	+18 42.8	2.180	3.124	6.2	20.9	2 1	7 29.85	+20 9.5	1.800	2.745	7.2	19.2
2 11	7 23.52	+19 9.6	2.247	3.129	9.6	21.2	2 11	7 22.60	+20 26.8	1.857	2.743	11.0	19.4
2 21	7 18.48	+19 32.4	2.338	3.134	12.5	21.4	2 21	7 17.76	+20 39.5	1.938	2.742	14.3	19.6
<b>140986</b>	2001 <i>WS</i> <sub>12</sub>		1 15.4 62°29	0°9/15.8	18		<b>78731</b>	2002 <i>TT</i> <sub>239</sub>		1 15.4 8°01	4°9/17.4	18	
12 13	8 11.13	+16 28.9	1.665	2.492	15.0	19.5	12 13	8 7.92	+ 6 50.0	2.152	2.941	13.4	19.5
12 23	8 5.72	+17 2.2	1.607	2.510	11.1	19.3	12 23	8 2.98	+ 6 22.1	2.072	2.942	10.7	19.3
1 2	7 57.87	+17 46.0	1.572	2.528	6.7	19.1	1 2	7 56.14	+ 6 7.5	2.015	2.942	7.7	19.1
1 12	7 48.50	+18 36.2	1.565	2.546	2.0	18.8	1 12	7 48.09	+ 6 6.9	1.985	2.942	5.4	19.0
1 22	7 38.79	+19 27.6	1.586	2.564	3.1	19.0	1 22	7 39.67	+ 6 19.5	1.984	2.943	5.2	19.0
2 1	7 30.01	+20 15.9	1.635	2.582	7.6	19.3	2 1	7 31.80	+ 6 43.3	2.011	2.944	7.5	19.1
2 11	7 23.23	+20 57.7	1.710	2.600	11.6	19.6	2 11	7 25.35	+ 7 15.2	2.065	2.945	10.4	19.3
2 21	7 19.09	+21 31.7	1.808	2.618	15.0	19.8	2 21	7 20.90	+ 7 51.6	2.143	2.946	13.2	19.5
<b>281763</b>	2009 <i>DO</i> <sub>58</sub>		1 15.4 130°98	1°3/14.8	18		<b>160982</b>	2002 <i>CH</i> <sub>85</sub>		1 15.4 184°63	0°0/15.3	18	
12 13	8 14.80	+23 9.6	1.965	2.788	13.2	21.0	12 13	8 13.93	+19 9.4	1.992	2.810	13.3	20.6
12 23	8 8.21	+23 43.2	1.899	2.802	9.7	20.8	12 23	8 7.68	+19 41.9	1.911	2.810	9.9	20.4
1 2	7 59.27	+24 19.8	1.858	2.815	5.7	20.6	1 2	7 59.06	+20 21.6	1.855	2.810	5.9	20.1
1 12	7 48.86	+24 54.9	1.846	2.827	1.8	20.3	1 12	7 48.87	+21 4.6	1.828	2.809	1.5	19.9
1 22	7 38.09	+25 24.3	1.864	2.839	3.4	20.4	1 22	7 38.14	+21 46.5	1.830	2.808	3.0	20.0
2 1	7 28.17	+25 45.2	1.912	2.850	7.4	20.7	2 1	7 28.08	+22 23.6	1.863	2.805	7.2	20.2
2 11	7 20.15	+25 56.9	1.986	2.861	11.0	21.0	2 11	7 19.77	+22 53.8	1.924	2.802	11.1	20.4
2 21	7 14.69	+26 0.3	2.084	2.871	14.1	21.2	2 21	7 13.94	+23 16.5	2.007	2.799	14.4	20.7
<b>189477</b>	1999 <i>TT</i> <sub>313</sub>		1 15.4 31°05	0°9/15.8	18		<b>413494</b>	2005 <i>PU</i> <sub>11</sub>		1 15.4 118°83	0°9/14.9	18	
12 13	8 9.55	+17 27.7	1.938	2.762	13.4	20.8	12 13	8 14.18	+22 48.3	2.317	3.133	11.7	22.1
12 23	8 4.41	+17 42.1	1.863	2.764	10.0	20.6	12 23	8 7.37	+23 14.2	2.256	3.155	8.6	21.9
1 2	7 57.08	+18 4.3	1.812	2.766	6.0	20.4	1 2	7 58.62	+23 42.3	2.221	3.176	5.0	21.8
1 12	7 48.33	+18 31.8	1.788	2.769	1.9	20.1	1 12	7 48.71	+24 9.1	2.215	3.196	1.5	21.5
1 22	7 39.14	+19 1.2	1.793	2.771	2.9	20.2	1 22	7 38.57	+24 31.4	2.240	3.216	2.8	21.7
2 1	7 30.64	+19 29.5	1.827	2.773	7.0	20.4	2 1	7 29.20	+24 47.2	2.297	3.234	6.4	21.9
2 11	7 23.82	+19 54.3	1.888	2.776	10.8	20.7	2 11	7 21.46	+24 56.0	2.381	3.252	9.5	22.2
2 21	7 19.35	+20 14.4	1.972	2.778	14.0	20.9	2 21	7 15.90	+24 58.3	2.490	3.270	12.2	22.4
<b>164842</b>	1999 <i>TV</i> <sub>133</sub>		1 15.4 61°62	0°7/15.6	18		<b>468492</b>	2005 <i>GB</i> <sub>49</sub>		1 15.4 257°96	0°8/15.8	17	
12 13	8 13.34	+18 25.9	1.464	2.299	16.3	20.6	12 13	8 8.63	+17 23.2	2.437	3.251	11.3	21.9
12 23	8 7.60	+18 37.0	1.407	2.314	12.1	20.4	12 23	8 3.47	+17 36.0	2.342	3.238	8.4	21.7
1 2	7 59.08	+18 56.7	1.372	2.329	7.2	20.2	1 2	7 56.46	+17 55.3	2.272	3.225	5.1	21.5
1 12	7 48.83	+19 21.4	1.364	2.345	2.1	19.9	1 12	7 48.20	+18 19.0	2.232	3.212	1.7	21.2
1 22	7 38.24	+19 46.6	1.383	2.361	3.4	20.0	1 22	7 39.47	+18 44.6	2.221	3.199	2.5	21.2
2 1	7 28.76	+20 9.1	1.429	2.377	8.4	20.3	2 1	7 31.18	+19 9.8	2.241	3.185	6.1	21.4
2 11	7 21.62	+20 26.8	1.500	2.393	12.8	20.6	2 11	7 24.17	+19 32.6	2.289	3.171	9.4	21.6
2 21	7 17.49	+20 38.9	1.593	2.409	16.4	20.9	2 21	7 19.08	+19 51.8	2.361	3.157	12.3	21.8
<b>179969</b>	2002 <i>XM</i> <sub>33</sub>		1 15.4 20°15	2°6/14.1	18		<b>439873</b>	1999 <i>VP</i> <sub>142</sub>		1 15.4 121°85	1°1/15.0	17	
12 13	8 8.74	+20 48.4	1.227</										



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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>317558</b>	2002 VF <sub>7</sub>		1 15.4 61°94	2°5/14.6	18		<b>167109</b>	2003 SK <sub>74</sub>		1 15.4 169°46	2°3/14.6	18	
12 13	8 15.88	+25 46.3	1.513	2.351	15.7	20.8	12 13	8 16.19	+26 27.8	1.871	2.697	13.7	20.5
12 23	8 9.39	+26 18.5	1.467	2.376	11.5	20.6	12 23	8 9.49	+26 52.6	1.797	2.701	10.1	20.3
1 2	8 0.07	+26 51.3	1.444	2.401	6.9	20.4	1 2	8 0.18	+27 17.4	1.748	2.703	6.2	20.1
1 12	7 49.09	+27 18.6	1.448	2.427	2.8	20.2	1 12	7 49.18	+27 37.3	1.727	2.705	2.6	19.8
1 22	7 37.93	+27 35.9	1.479	2.452	4.5	20.4	1 22	7 37.72	+27 48.2	1.735	2.707	4.1	19.9
2 1	7 28.07	+27 41.0	1.538	2.477	8.8	20.7	2 1	7 27.15	+27 48.2	1.773	2.708	8.1	20.2
2 11	7 20.71	+27 34.9	1.622	2.502	12.7	21.0	2 11	7 18.64	+27 37.7	1.837	2.709	11.9	20.4
2 21	7 16.44	+27 19.8	1.728	2.527	16.0	21.3	2 21	7 12.93	+27 18.9	1.923	2.709	15.1	20.6
<b>333326</b>	2001 QW <sub>187</sub>		1 15.4 61°43	2°2/16.2	18		<b>424756</b>	2008 TZ <sub>44</sub>		1 15.4 16°99	5°5/12.9	18	
12 13	8 12.58	+15 12.9	2.091	2.901	13.1	19.7	12 13	8 12.50	+34 17.9	1.915	2.746	13.2	21.0
12 23	8 6.14	+14 48.7	2.041	2.932	9.8	19.5	12 23	8 6.95	+35 16.9	1.849	2.749	10.1	20.8
1 2	7 57.83	+14 31.8	2.015	2.963	6.1	19.4	1 2	7 58.76	+36 10.8	1.808	2.751	7.2	20.6
1 12	7 48.50	+14 21.5	2.018	2.994	2.8	19.2	1 12	7 48.82	+36 52.4	1.794	2.754	5.5	20.5
1 22	7 39.08	+14 16.4	2.050	3.024	3.2	19.3	1 22	7 38.40	+37 16.5	1.807	2.757	6.7	20.6
2 1	7 30.55	+14 15.1	2.113	3.055	6.5	19.5	2 1	7 28.86	+37 21.0	1.848	2.760	9.5	20.8
2 11	7 23.71	+14 16.2	2.203	3.086	9.7	19.8	2 11	7 21.41	+37 7.3	1.914	2.763	12.5	21.0
2 21	7 19.04	+14 18.5	2.317	3.116	12.5	20.0	2 21	7 16.79	+36 39.1	2.001	2.767	15.3	21.2
<b>217466</b>	2005 VV <sub>4</sub>		1 15.4 129°40	0°4/15.6	18		<b>243740</b>	2000 QM <sub>21</sub>		1 15.4 172°71	4°1/18.2	18	
12 13	8 11.50	+16 29.5	2.065	2.880	13.0	20.8	12 13	8 6.42	+3 50.0	3.042	3.803	10.5	21.7
12 23	8 5.75	+17 25.7	1.993	2.890	9.6	20.6	12 23	8 1.41	+3 56.2	2.955	3.805	8.5	21.5
1 2	7 57.86	+18 31.8	1.946	2.900	5.8	20.4	1 2	7 55.06	+4 14.8	2.894	3.808	6.3	21.4
1 12	7 48.57	+19 43.5	1.928	2.909	1.6	20.1	1 12	7 47.83	+4 45.5	2.860	3.810	4.5	21.3
1 22	7 38.84	+20 55.4	1.941	2.918	2.7	20.3	1 22	7 40.34	+5 26.8	2.857	3.811	4.2	21.3
2 1	7 29.74	+22 2.7	1.984	2.927	6.8	20.5	2 1	7 33.20	+6 16.4	2.885	3.812	5.8	21.4
2 11	7 22.27	+23 1.9	2.055	2.935	10.4	20.8	2 11	7 27.04	+7 11.3	2.942	3.813	7.9	21.5
2 21	7 17.08	+23 51.4	2.151	2.943	13.5	21.0	2 21	7 22.31	+8 8.2	3.025	3.813	10.1	21.7
<b>129808</b>	1999 KF <sub>18</sub>		1 15.4 185°86	5°1/17.9	18		<b>462002</b>	2006 WG <sub>161</sub>		1 15.4 47°62	1°2/15.8	18	
12 13	8 11.90	+4 42.3	2.151	2.925	13.9	20.9	12 13	8 11.40	+17 15.2	1.684	2.512	14.9	21.8
12 23	8 5.95	+4 38.6	2.066	2.925	11.2	20.7	12 23	8 6.05	+17 22.6	1.612	2.515	11.1	21.5
1 2	7 57.95	+4 51.3	2.004	2.925	8.2	20.5	1 2	7 58.19	+17 38.8	1.564	2.519	6.8	21.3
1 12	7 48.60	+5 20.3	1.969	2.923	5.7	20.4	1 12	7 48.68	+18 1.1	1.542	2.522	2.2	21.0
1 22	7 38.78	+6 3.9	1.963	2.921	5.4	20.3	1 22	7 38.71	+18 26.0	1.548	2.526	3.2	21.1
2 1	7 29.49	+6 58.6	1.987	2.918	7.7	20.5	2 1	7 29.56	+18 50.4	1.583	2.530	7.8	21.4
2 11	7 21.69	+8 0.1	2.039	2.914	10.7	20.6	2 11	7 22.38	+19 11.8	1.643	2.534	12.0	21.6
2 21	7 16.01	+9 3.7	2.115	2.910	13.6	20.8	2 21	7 17.89	+19 28.9	1.726	2.538	15.5	21.9
<b>340595</b>	2006 QB <sub>2</sub>		1 15.4 133°17	0°4/15.2	18		<b>235599</b>	2004 PB <sub>52</sub>		1 15.4 107°45	2°2/16.4	18	
12 13	8 9.69	+21 46.4	2.660	3.476	10.4	21.2	12 13	8 13.66	+12 34.6	1.622	2.437	16.0	20.4
12 23	8 3.97	+21 58.3	2.586	3.485	7.6	21.0	12 23	8 7.69	+13 13.3	1.559	2.453	12.0	20.1
1 2	7 56.60	+22 12.7	2.538	3.493	4.5	20.8	1 2	7 59.13	+14 7.4	1.519	2.468	7.6	19.9
1 12	7 48.21	+22 27.3	2.520	3.502	1.2	20.6	1 12	7 48.92	+15 12.7	1.506	2.483	3.1	19.7
1 22	7 39.57	+22 39.7	2.533	3.510	2.3	20.7	1 22	7 38.28	+16 23.6	1.521	2.498	3.6	19.7
2 1	7 31.49	+22 48.6	2.577	3.518	5.6	20.9	2 1	7 28.54	+17 34.0	1.566	2.512	7.9	20.0
2 11	7 24.71	+22 53.0	2.649	3.525	8.5	21.1	2 11	7 20.88	+18 39.1	1.637	2.526	12.1	20.3
2 21	7 19.74	+22 53.2	2.746	3.532	11.1	21.3	2 21	7 16.01	+19 35.9	1.731	2.539	15.6	20.6
<b>108981</b>	2001 PL <sub>48</sub>		1 15.4 106°67	5°5/12.8	18		<b>269059</b>	2007 GU <sub>30</sub>		1 15.4 161°97	1°8/14.6	18	
12 13	8 15.25	+38 40.2	2.468	3.279	11.3	20.2	12 13	8 11.89	+25 18.8	2.210	3.035	11.9	21.6
12 23	8 8.39	+39 26.4	2.411	3.293	8.9	20.1	12 23	8 6.01	+25 50.5	2.135	3.038	8.8	21.4
1 2	7 59.33	+40 4.2	2.379	3.307	6.7	20.0	1 2	7 58.00	+26 23.6	2.085	3.040	5.3	21.1
1 12	7 48.92	+40 28.0	2.376	3.321	5.5	19.9	1 12	7 48.62	+26 53.7	2.064	3.043	2.1	20.9
1 22	7 38.25	+40 34.5	2.402	3.335	6.3	20.0	1 22	7 38.84	+27 17.4	2.073	3.045	3.5	21.0
2 1	7 28.46	+40 23.0	2.456	3.348	8.4	20.2	2 1	7 29.73	+27 32.3	2.111	3.047	7.0	21.3
2 11	7 20.52	+39 55.8	2.536	3.361	10.6	20.3	2 11	7 22.25	+27 37.8	2.177	3.048	10.3	21.5
2 21	7 15.01	+39 16.4	2.639	3.374	12.7	20.5	2 21	7 17.05	+27 35.0	2.267	3.050	13.2	21.7
<b>217944</b>	2001 TX <sub>210</sub>		1 15.4 207°30	4°6/13.9	18		<b>84730</b>	2002 WB <sub>10</sub>		1 15.4 22°93	5°6/12.6	18	
12 13	8 18.15	+34 4.0	2.007	2.828	13.1	20.4	12 13	8 12.58	+29 42.3	1.518	2.363	15.3	19.1
12 23	8 10.93	+34 26.3	1.930	2.825	10.0	20.2	12 23	8 7.60	+31 28.3	1.457	2.367	11.5	18.9
1 2	8 1.03	+34 41.9	1.877	2.821	6.8	20.0	1 2	7 59.45	+33 15.6	1.419	2.370	7.8	18.7
1 12	7 49.39	+34 45.0	1.853	2.818	4.7	19.9	1 12	7 49.08	+34 53.4	1.408	2.375	5.6	18.6
1 22	7 37.32	+34 31.8	1.857	2.814	5.8	19.9	1 22	7 37.94	+36 11.9	1.424	2.379	7.4	18.7
2 1	7 26.21	+34 1.7	1.891	2.810	8.8	20.1	2 1	7 27.74	+37 5.5	1.467	2.385	11.0	18.9
2 11	7 17.28	+33 17.4	1.950	2.805	12.1	20.3	2 11	7 20.01	+37 34.1	1.533	2.390	14.7	19.1
2 21	7 11.23	+32 23.3	2.033	2.801	15.0	20.5	2 21	7 15.65	+37 41.2	1.619	2.396	17.9	19.4
<b>120853</b>	1998 QK <sub>4</sub>		1 15.4 87°85	4°0/13.9	17		<b>422512</b>	2014 TA <sub>6</sub>		1 15.4 84°04	0°5/15.2	18	
12 13	8 18.12	+26 40.1	1.412	2.252	16.6	20.2	12 13	8 12.14	+20 56.1	1.809	2.638	13.9	21.3
12 23	8 11.44	+27 58.4	1.364	2.273	12.2	20.0	12 23	8 6.44	+21 23.9	1.743	2.649	10.3	21.1
1 2	8 1.51	+29 18.1	1.339	2.295	7.6	19.8	1 2	7 58.34	+21 57.2	1.702	2.660	6.0	20.9
1 12	7 49.52	+30 29.5	1.341	2.316	4.1	19.6	1 12	7 48.72	+22 31.8	1.689	2.670	1.6	20.6
1 22	7 37.12	+31 24.6	1.370	2.337	5.9	19.8	1 22	7 38.72	+23 3.5	1.704	2.681	3.2	20.7
2 1	7 26.07	+31 59.3	1.427	2.358	10.1	20.1	2 1	7 29.58	+23 29.1	1.748	2.692	7.5	21.0
2 11	7 17.78	+32 14.4	1.508	2.378	14.1	20.4	2 11	7 22.35	+23 47.1	1.819	2.702	11.4	21.3
2 21	7 12.99	+32 13.5	1.609	2.397	17.5	20.6	2 21	7 17.72	+23 57.6	1.912	2.713	14.6	21.5
<b>53187</b>	1999 CD <sub>48</sub>		1 15.4 216°70	5°1/13.4	18		<b>374189</b>	2005 AR <sub>49</sub>		1 15.4 7°29	1°6/15.8	18	
12 13	8 18.81	+37 0.6	2.417	3.225	11.6	19.3	12 13	8 11.14	+18 2.5	1.813	2.639		

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1 15.4

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>502923</b>	2015 <i>EO</i> <sub>25</sub>		1 15.4 297°27	4°0/13.8	18		<b>411840</b>	2012 <i>DW</i> <sub>55</sub>		1 15.4 333°37	3°6/14.4	18	
12 13	8 12.81	+33 8.3	2.286	3.110	11.6	21.0	12 13	8 13.71	+29 7.4	1.513	2.356	15.5	20.2
12 23	8 6.75	+33 36.2	2.210	3.107	8.8	20.8	12 23	8 8.34	+29 28.4	1.437	2.348	11.6	20.0
1 2	7 58.46	+33 59.1	2.159	3.105	6.0	20.6	1 2	7 59.82	+29 47.2	1.384	2.340	7.3	19.7
1 12	7 48.75	+34 12.5	2.137	3.103	4.1	20.5	1 12	7 49.19	+29 57.7	1.357	2.333	3.8	19.5
1 22	7 38.67	+34 12.9	2.144	3.101	5.1	20.5	1 22	7 37.90	+29 54.9	1.357	2.326	5.4	19.5
2 1	7 29.32	+33 59.2	2.179	3.098	7.8	20.7	2 1	7 27.64	+29 37.1	1.383	2.320	9.7	19.8
2 11	7 21.73	+33 32.7	2.242	3.096	10.7	20.9	2 11	7 19.84	+29 6.0	1.433	2.314	14.0	20.0
2 21	7 16.53	+32 56.3	2.327	3.094	13.3	21.1	2 21	7 15.35	+28 25.2	1.504	2.309	17.7	20.2
<b>421049</b>	2013 <i>QP</i>		1 15.4 77°59	4°6/17.8	18		<b>424949</b>	2008 <i>YW</i> <sub>125</sub>		1 15.4 39°72	0°4/15.2	18	
12 13	8 8.70	+ 6 21.0	1.944	2.736	14.5	21.4	12 13	8 8.78	+20 6.0	1.960	2.789	13.0	20.7
12 23	8 3.72	+ 6 26.9	1.871	2.744	11.5	21.3	12 23	8 3.85	+20 41.7	1.893	2.799	9.6	20.5
1 2	7 56.68	+ 6 49.8	1.821	2.751	8.1	21.1	1 2	7 56.79	+21 23.8	1.852	2.809	5.6	20.2
1 12	7 48.30	+ 7 29.0	1.797	2.759	5.3	20.9	1 12	7 48.35	+22 8.1	1.838	2.820	1.4	20.0
1 22	7 39.53	+ 8 21.7	1.801	2.766	5.0	20.9	1 22	7 39.56	+22 50.5	1.853	2.830	2.9	20.1
2 1	7 31.41	+ 9 23.7	1.834	2.773	7.6	21.1	2 1	7 31.48	+23 27.4	1.897	2.841	7.0	20.4
2 11	7 24.87	+10 29.9	1.895	2.781	10.8	21.3	2 11	7 25.09	+23 56.7	1.968	2.853	10.6	20.6
2 21	7 20.53	+11 35.7	1.978	2.788	13.9	21.5	2 21	7 21.00	+24 18.0	2.062	2.864	13.7	20.8
<b>415688</b>	5113 <i>T</i> <sub>-2</sub>		1 15.4 59°58	4°6/17.0	18		<b>423678</b>	2005 <i>YS</i> <sub>198</sub>		1 15.4 26°42	2°1/15.9	18	
12 13	8 12.87	+ 9 48.1	1.655	2.462	16.1	20.6	12 13	8 12.56	+17 10.1	1.785	2.607	14.4	20.7
12 23	8 6.79	+ 9 17.0	1.605	2.489	12.4	20.4	12 23	8 6.73	+16 37.2	1.711	2.610	10.8	20.4
1 2	7 58.41	+ 9 0.5	1.578	2.516	8.5	20.3	1 2	7 58.52	+16 10.2	1.661	2.613	6.7	20.2
1 12	7 48.71	+ 8 58.3	1.577	2.543	5.2	20.1	1 12	7 48.81	+15 48.6	1.639	2.617	2.8	20.0
1 22	7 38.86	+ 9 8.9	1.603	2.570	5.2	20.2	1 22	7 38.71	+15 31.4	1.645	2.621	3.5	20.0
2 1	7 30.04	+ 9 29.4	1.658	2.598	8.2	20.4	2 1	7 29.46	+15 17.7	1.680	2.625	7.6	20.3
2 11	7 23.23	+ 9 56.1	1.739	2.625	11.7	20.7	2 11	7 22.12	+15 6.8	1.741	2.629	11.5	20.5
2 21	7 18.98	+10 25.4	1.842	2.652	14.7	21.0	2 21	7 17.34	+14 57.6	1.825	2.634	14.9	20.7
<b>304137</b>	2006 <i>KP</i> <sub>70</sub>		1 15.4 18°90	3°1/16.6	18		<b>39006</b>	2000 <i>UH</i> <sub>40</sub>		1 15.4 305°56	3°8/16.6	18	
12 13	8 10.44	+12 41.7	1.383	2.214	17.4	20.5	12 13	8 11.81	+12 19.1	1.523	2.345	16.5	19.0
12 23	8 5.77	+12 47.8	1.315	2.216	13.2	20.3	12 23	8 6.64	+11 59.1	1.445	2.340	12.7	18.8
1 2	7 58.22	+13 10.1	1.268	2.219	8.5	20.0	1 2	7 58.71	+11 52.5	1.389	2.336	8.4	18.5
1 12	7 48.75	+13 46.5	1.246	2.222	4.0	19.8	1 12	7 48.90	+11 58.8	1.358	2.331	4.5	18.3
1 22	7 38.69	+14 32.6	1.250	2.226	4.3	19.8	1 22	7 38.47	+12 16.1	1.354	2.327	4.8	18.3
2 1	7 29.55	+15 23.2	1.281	2.230	8.9	20.1	2 1	7 28.83	+12 41.4	1.378	2.323	8.9	18.5
2 11	7 22.67	+16 13.3	1.336	2.235	13.5	20.4	2 11	7 21.28	+13 10.9	1.426	2.319	13.2	18.8
2 21	7 18.86	+16 59.0	1.411	2.239	17.5	20.6	2 21	7 16.64	+13 41.2	1.495	2.316	17.1	19.0
<b>433810</b>	2015 <i>BF</i> <sub>119</sub>		1 15.4 199°15	3°0/14.1	18		<b>308048</b>	2004 <i>TV</i> <sub>35</sub>		1 15.4 120°89	2°9/16.5	18	
12 13	8 11.81	+30 18.1	2.469	3.292	10.9	21.1	12 13	8 14.03	+12 50.4	1.690	2.502	15.5	21.7
12 23	8 5.84	+30 43.9	2.391	3.290	8.2	20.9	12 23	8 7.87	+12 49.7	1.623	2.515	11.8	21.5
1 2	7 57.86	+31 7.0	2.339	3.289	5.2	20.8	1 2	7 59.22	+13 1.5	1.579	2.526	7.6	21.3
1 12	7 48.60	+31 23.4	2.315	3.287	3.1	20.6	1 12	7 48.99	+13 24.1	1.563	2.538	3.7	21.0
1 22	7 38.99	+31 30.2	2.322	3.286	4.1	20.7	1 22	7 38.37	+13 54.3	1.575	2.549	4.0	21.1
2 1	7 30.02	+31 25.8	2.358	3.284	7.0	20.9	2 1	7 28.64	+14 28.5	1.615	2.560	7.9	21.3
2 11	7 22.59	+31 10.9	2.422	3.282	9.9	21.0	2 11	7 20.92	+15 3.4	1.682	2.570	11.9	21.6
2 21	7 17.31	+30 47.4	2.509	3.280	12.4	21.2	2 21	7 15.89	+15 36.1	1.771	2.579	15.3	21.8
<b>426140</b>	2012 <i>HJ</i> <sub>29</sub>		1 15.4 253°08	7°9/18.2	18		<b>465200</b>	2007 <i>JB</i> <sub>28</sub>		1 15.4 323°86	6°1/17.6	18	
12 13	8 9.52	- 0 9.0	2.078	2.836	14.9	20.9	12 13	8 8.93	+ 5 31.2	1.872	2.664	15.1	21.2
12 23	8 4.30	- 1 5.6	1.992	2.829	12.5	20.7	12 23	8 4.04	+ 4 51.2	1.790	2.659	12.2	21.0
1 2	7 57.05	- 1 45.0	1.928	2.822	10.1	20.5	1 2	7 56.97	+ 4 26.7	1.731	2.654	9.1	20.8
1 12	7 48.42	- 2 4.2	1.890	2.815	8.3	20.4	1 12	7 48.43	+ 4 19.5	1.696	2.649	6.6	20.7
1 22	7 39.31	- 2 2.1	1.878	2.808	8.0	20.4	1 22	7 39.40	+ 4 29.3	1.690	2.645	6.4	20.6
2 1	7 30.70	- 1 40.1	1.894	2.801	9.6	20.5	2 1	7 30.97	+ 4 54.2	1.710	2.641	8.7	20.8
2 11	7 23.55	- 1 1.8	1.935	2.794	12.0	20.6	2 11	7 24.15	+ 5 30.3	1.756	2.637	11.9	20.9
2 21	7 18.51	- 0 12.4	1.999	2.787	14.5	20.7	2 21	7 19.63	+ 6 13.1	1.825	2.633	14.9	21.1
<b>272869</b>	2006 <i>BO</i> <sub>80</sub>		1 15.4 211°78	3°3/13.9	18		<b>271416</b>	2004 <i>CK</i> <sub>111</sub>		1 15.4 262°85	0°3/15.3	18	
12 13	8 13.01	+30 45.0	2.406	3.227	11.2	21.0	12 13	8 12.90	+21 14.5	1.787	2.616	14.1	20.9
12 23	8 6.83	+31 19.7	2.324	3.222	8.4	20.9	12 23	8 7.23	+21 22.9	1.704	2.609	10.5	20.6
1 2	7 58.51	+31 51.8	2.269	3.217	5.5	20.7	1 2	7 58.98	+21 36.1	1.644	2.601	6.3	20.3
1 12	7 48.79	+32 16.7	2.242	3.212	3.4	20.5	1 12	7 48.98	+21 50.6	1.611	2.593	1.6	20.0
1 22	7 38.63	+32 30.8	2.245	3.206	4.5	20.6	1 22	7 38.38	+22 3.0	1.608	2.585	3.2	20.1
2 1	7 29.10	+32 32.3	2.278	3.200	7.4	20.7	2 1	7 28.52	+22 10.9	1.632	2.577	7.8	20.4
2 11	7 21.18	+32 21.7	2.338	3.194	10.3	20.9	2 11	7 20.59	+22 13.2	1.683	2.569	12.0	20.6
2 21	7 15.51	+32 1.1	2.421	3.187	12.9	21.1	2 21	7 15.37	+22 10.2	1.757	2.561	15.6	20.8
<b>500749</b>	2013 <i>AP</i> <sub>60</sub>		1 15.4 176°05	3°9/18.3	18		<b>43867</b>	1994 <i>PO</i> <sub>28</sub>		1 15.4 97°69	1°1/15.0	18	R
12 13	8 8.19	+ 1 8.3	4.287	5.014	8.2	24.1	12 13	8 14.73	+22 31.6	1.770	2.598	14.3	19.7
12 23	8 2.32	+ 0 52.4	4.195	5.018	6.7	24.0	12 23	8 8.34	+23 0.0	1.710	2.615	10.5	19.5
1 2	7 55.45	+ 0 45.6	4.130	5.021	5.2	23.9	1 2	7 59.47	+23 32.1	1.675	2.632	6.2	19.3
1 12	7 47.96	+ 0 48.3	4.095	5.023	4.1	23.8	1 12	7 49.06	+24 3.4	1.667	2.649	1.8	19.0
1 22	7 40.27	+ 1 0.0	4.091	5.024	3.9	23.8	1 22	7 38.33	+24 29.5	1.689	2.665	3.4	19.2
2 1	7 32.86	+ 1 19.7	4.119	5.025	4.9	23.9	2 1	7 28.58	+24 47.6	1.740	2.681	7.7	19.5
2 11	7 26.15	+ 1 45.9	4.178	5.024	6.4	24.0	2 11	7 20.91	+24 57.1	1.816	2.696	11.6	19.8
2 21	7 20.51	+ 2 16.5	4.264	5.023	7.9	24.1	2 21	7 15.96	+24 58.8	1.916	2.712	14.8	20.0
<b>468284</b>	2015 <i>DQ</i> <sub>80</sub>		1 15.4 16°88	0°9/15.0	18		<b>159987</b>	2006 <i>CT</i> <sub>56</sub>		1 15.4 193°41	0°7/15.7	18	
12 13	8 8.90	+21 51.2	2.094										

EPHEMERIDES

1 15.4

1 15.4

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>403551</b>	2010 <i>JX</i> <sub>68</sub>		1 15.4	50°53	2°2/15.2	18	<b>256285</b>	2006 <i>WZ</i> <sub>115</sub>		1 15.4	66°32	0°5/15.6	18
12 13	8 22.11	+28 25.6	1.369	2.205	17.2	20.2	12 13	8 12.00	+18 11.7	1.652	2.482	15.0	20.5
12 23	8 13.98	+27 54.7	1.324	2.231	12.7	20.0	12 23	8 6.50	+18 34.4	1.590	2.495	11.1	20.3
1 2	8 2.74	+27 18.8	1.301	2.258	7.6	19.8	1 2	7 58.48	+19 5.7	1.551	2.508	6.6	20.1
1 12	7 49.84	+26 34.6	1.305	2.285	2.8	19.6	1 12	7 48.86	+19 41.7	1.539	2.521	1.9	19.8
1 22	7 37.05	+25 41.4	1.337	2.312	4.3	19.7	1 22	7 38.87	+20 18.0	1.556	2.534	3.1	19.9
2 1	7 26.03	+24 41.6	1.397	2.340	9.1	20.1	2 1	7 29.79	+20 50.8	1.600	2.547	7.8	20.2
2 11	7 17.99	+23 39.1	1.482	2.368	13.4	20.4	2 11	7 22.76	+21 17.8	1.671	2.560	11.9	20.5
2 21	7 13.42	+22 37.6	1.589	2.396	16.9	20.7	2 21	7 18.45	+21 38.0	1.763	2.573	15.3	20.7
<b>285703</b>	2000 <i>ST</i> <sub>223</sub>		1 15.4	54°11	4°5/14.1	17	<b>368672</b>	2005 <i>OZ</i> <sub>13</sub>		1 15.4	180°44	11°5/21.9	18
12 13	8 17.01	+29 7.4	1.281	2.128	17.4	20.5	12 13	8 14.23	- 8 22.5	1.288	2.035	22.8	21.4
12 23	8 10.82	+29 58.3	1.237	2.149	12.9	20.3	12 23	8 8.89	- 8 7.8	1.212	2.037	19.7	21.2
1 2	8 1.21	+30 46.7	1.215	2.170	8.2	20.1	1 2	8 0.32	- 7 10.1	1.153	2.037	16.1	20.9
1 12	7 49.52	+31 23.8	1.217	2.192	4.7	19.9	1 12	7 49.43	- 5 25.0	1.114	2.037	12.9	20.7
1 22	7 37.56	+31 43.3	1.247	2.214	6.3	20.1	1 22	7 37.67	- 2 55.5	1.100	2.037	11.5	20.7
2 1	7 27.17	+31 43.5	1.301	2.236	10.5	20.4	2 1	7 26.73	+ 0 7.3	1.112	2.036	13.0	20.7
2 11	7 19.76	+31 26.7	1.380	2.258	14.6	20.7	2 11	7 18.21	+ 3 26.1	1.150	2.035	16.4	20.9
2 21	7 15.98	+30 57.6	1.478	2.280	18.1	21.0	2 21	7 13.10	+ 6 43.9	1.210	2.034	20.1	21.2
<b>101468</b>	1998 <i>WJ</i> <sub>16</sub>		1 15.4	86°22	1°9/16.2	18	<b>187735</b>	2008 <i>FD</i> <sub>106</sub>		1 15.4	311°28	1°4/15.9	18
12 13	8 14.30	+14 56.9	1.794	2.608	14.7	20.2	12 13	8 9.41	+16 2.8	1.573	2.406	15.5	20.2
12 23	8 7.80	+15 3.3	1.740	2.634	11.0	20.0	12 23	8 5.04	+16 20.7	1.483	2.389	11.7	20.0
1 2	7 59.04	+15 19.5	1.710	2.660	6.8	19.8	1 2	7 57.92	+16 50.9	1.417	2.372	7.3	19.7
1 12	7 48.94	+15 43.0	1.708	2.686	2.7	19.6	1 12	7 48.80	+17 30.7	1.375	2.356	2.5	19.3
1 22	7 38.65	+16 10.5	1.735	2.711	3.3	19.7	1 22	7 38.87	+18 15.7	1.361	2.339	3.5	19.4
2 1	7 29.33	+16 38.9	1.791	2.736	7.2	20.0	2 1	7 29.53	+19 1.3	1.375	2.324	8.5	19.6
2 11	7 21.97	+17 5.7	1.875	2.760	11.0	20.3	2 11	7 22.17	+19 43.3	1.413	2.309	13.2	19.8
2 21	7 17.14	+17 29.1	1.981	2.784	14.1	20.5	2 21	7 17.68	+20 19.2	1.473	2.294	17.2	20.1
<b>38335</b>	1999 <i>RN</i> <sub>134</sub>		1 15.4	155°97	0°0/15.4	18	<b>309343</b>	2007 <i>TO</i> <sub>25</sub>		1 15.4	78°76	5°3/17.5	18
12 13	8 15.25	+20 37.4	1.908	2.728	13.7	18.8	12 13	8 12.65	+ 7 34.2	1.572	2.375	16.9	21.3
12 23	8 8.65	+20 42.9	1.834	2.735	10.1	18.6	12 23	8 6.91	+ 7 15.8	1.513	2.393	13.3	21.1
1 2	7 59.66	+20 52.7	1.785	2.740	6.0	18.3	1 2	7 58.69	+ 7 15.3	1.476	2.410	9.3	20.9
1 12	7 49.14	+21 3.8	1.764	2.746	1.6	18.0	1 12	7 48.92	+ 7 32.7	1.464	2.428	6.0	20.7
1 22	7 38.21	+21 13.2	1.773	2.750	3.0	18.1	1 22	7 38.82	+ 8 5.4	1.480	2.445	5.8	20.8
2 1	7 28.11	+21 18.9	1.811	2.754	7.3	18.4	2 1	7 29.69	+ 8 49.4	1.523	2.462	8.8	21.0
2 11	7 19.92	+21 20.2	1.877	2.758	11.2	18.7	2 11	7 22.62	+ 9 39.4	1.591	2.479	12.4	21.2
2 21	7 14.31	+21 17.2	1.965	2.761	14.5	18.9	2 21	7 18.26	+10 30.6	1.682	2.496	15.7	21.5
<b>229260</b>	2005 <i>AJ</i> <sub>17</sub>		1 15.4	283°21	0°8/15.9	18	<b>368701</b>	2005 <i>SZ</i> <sub>171</sub>		1 15.4	295°20	7°0/13.0	18
12 13	8 8.86	+15 8.5	2.101	2.917	12.8	20.0	12 13	8 17.24	+37 52.1	1.754	2.580	14.5	20.5
12 23	8 3.95	+16 4.6	2.015	2.912	9.6	19.8	12 23	8 10.99	+38 40.8	1.675	2.567	11.5	20.3
1 2	7 56.94	+17 12.7	1.953	2.907	5.8	19.5	1 2	8 1.47	+39 20.8	1.618	2.554	8.6	20.1
1 12	7 48.47	+18 28.9	1.921	2.901	1.8	19.3	1 12	7 49.71	+39 43.5	1.588	2.540	7.0	19.9
1 22	7 39.43	+19 48.2	1.918	2.896	2.7	19.3	1 22	7 37.22	+39 42.9	1.585	2.527	8.1	20.0
2 1	7 30.88	+21 5.1	1.946	2.891	6.8	19.6	2 1	7 25.72	+39 17.3	1.608	2.514	11.0	20.1
2 11	7 23.80	+22 15.3	2.002	2.886	10.5	19.8	2 11	7 16.76	+38 30.1	1.655	2.501	14.3	20.3
2 21	7 18.89	+23 16.4	2.081	2.880	13.7	20.0	2 21	7 11.21	+37 27.2	1.723	2.488	17.4	20.5
<b>450163</b>	2001 <i>ML</i> <sub>31</sub>		1 15.4	172°85	0°1/15.5	18	<b>103109</b>	1999 <i>XN</i> <sub>177</sub>		1 15.4	322°31	3°4/14.2	18
12 13	8 17.18	+20 23.0	1.975	2.790	13.5	22.1	12 13	8 12.63	+27 1.3	1.514	2.358	15.4	18.7
12 23	8 10.05	+20 30.6	1.897	2.794	10.0	21.9	12 23	8 7.61	+27 45.9	1.438	2.350	11.5	18.5
1 2	8 0.50	+20 42.6	1.844	2.798	6.0	21.6	1 2	7 59.49	+28 32.6	1.385	2.342	7.2	18.2
1 12	7 49.37	+20 55.9	1.819	2.801	1.6	21.3	1 12	7 49.21	+29 14.2	1.357	2.335	3.6	17.9
1 22	7 37.80	+21 7.3	1.825	2.802	2.9	21.4	1 22	7 38.17	+29 44.4	1.357	2.327	5.3	18.0
2 1	7 27.03	+21 14.9	1.862	2.803	7.3	21.7	2 1	7 28.03	+29 59.3	1.384	2.321	9.7	18.3
2 11	7 18.15	+21 17.9	1.926	2.803	11.1	22.0	2 11	7 20.26	+29 58.7	1.434	2.314	14.1	18.5
2 21	7 11.85	+21 16.3	2.013	2.802	14.4	22.2	2 21	7 15.76	+29 45.2	1.505	2.308	17.8	18.7
<b>56204</b>	1999 <i>GQ</i> <sub>22</sub>		1 15.4	327°34	2°8/14.7	18	<b>81371</b>	2000 <i>GB</i> <sub>65</sub>		1 15.4	255°89	7°4/18.3	18
12 13	8 10.63	+26 46.8	1.308	2.163	16.7	18.2	12 13	8 9.69	+ 1 17.1	1.937	2.707	15.4	19.4
12 23	8 6.72	+26 58.1	1.216	2.134	12.6	17.8	12 23	8 4.64	+ 0 40.3	1.848	2.697	12.8	19.2
1 2	7 59.28	+27 9.9	1.145	2.105	7.8	17.5	1 2	7 57.39	+ 0 22.0	1.781	2.686	10.0	19.0
1 12	7 49.20	+27 16.4	1.098	2.078	3.3	17.1	1 12	7 48.63	+ 0 24.6	1.738	2.676	7.9	18.9
1 22	7 37.97	+27 12.0	1.076	2.051	5.2	17.2	1 22	7 39.28	+ 0 48.3	1.723	2.666	7.5	18.9
2 1	7 27.50	+26 53.9	1.080	2.026	10.7	17.4	2 1	7 30.44	+ 1 30.9	1.735	2.655	9.4	18.9
2 11	7 19.62	+26 22.7	1.105	2.002	15.9	17.6	2 11	7 23.14	+ 2 27.5	1.772	2.644	12.3	19.1
2 21	7 15.47	+25 41.8	1.150	1.979	20.6	17.8	2 21	7 18.11	+ 3 32.5	1.832	2.633	15.2	19.3
<b>201671</b>	2003 <i>UZ</i> <sub>70</sub>		1 15.4	115°57	3°2/16.8	18	<b>503310</b>	2016 <i>AF</i> <sub>124</sub>		1 15.4	17°99	2°5/16.7	18
12 13	8 9.69	+11 20.9	2.259	3.059	12.5	20.7	12 13	8 8.60	+11 1.9	1.492	2.317	16.6	20.4
12 23	8 4.20	+11 3.9	2.184	3.066	9.6	20.6	12 23	8 4.32	+11 51.9	1.422	2.320	12.7	20.1
1 2	7 56.88	+10 56.7	2.133	3.073	6.5	20.4	1 2	7 57.38	+13 1.6	1.374	2.325	8.1	19.9
1 12	7 48.42	+10 59.0	2.110	3.080	3.7	20.2	1 12	7 48.63	+14 27.2	1.352	2.329	3.6	19.6
1 22	7 39.64	+11 9.3	2.117	3.087	3.8	20.2	1 22	7 39.30	+16 1.8	1.358	2.335	3.8	19.7
2 1	7 31.47	+11 25.9	2.153	3.093	6.6	20.4	2 1	7 30.74	+17 37.2	1.391	2.341	8.3	19.9
2 11	7 24.72	+11 46.3	2.217	3.100	9.7	20.6	2 11	7 24.22	+19 6.6	1.450	2.347	12.8	20.2
2 21	7 19.94	+12 8.2	2.306	3.106	12.5	20.8	2 21	7 20.54	+20 25.2	1.531	2.354	16.6	20.5
<b>426280</b>	2012 <i>SL</i> <sub>55</sub>		1 15.4	187°35	3°7/17.4	18	<b>10970</b>	de Zeeuw		1 15.4	146°83	0°9/15.1	18
12 13	8 7.22	+ 7 54.1											

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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>293645</b>	2007 PE		1 15.4 118°25	3°7/16.9	18		<b>94044</b>	2000 XW <sub>53</sub>		1 15.4 84°32	1°2/14.9	18	
12 13	8 13.20	+10 39.7	1.728	2.534	15.5	21.0	12 13	8 11.43	+22 19.8	1.927	2.756	13.2	19.8
12 23	8 7.24	+10 36.5	1.660	2.546	11.9	20.8	12 23	8 5.92	+22 59.7	1.859	2.765	9.7	19.6
1 2	7 58.88	+10 47.6	1.616	2.558	8.0	20.5	1 2	7 58.11	+23 44.1	1.816	2.774	5.7	19.4
1 12	7 48.98	+11 11.7	1.598	2.569	4.4	20.4	1 12	7 48.82	+24 28.4	1.801	2.782	1.8	19.1
1 22	7 38.70	+11 45.9	1.609	2.580	4.4	20.4	1 22	7 39.12	+25 8.0	1.815	2.791	3.3	19.3
2 1	7 29.25	+12 26.6	1.648	2.591	7.9	20.6	2 1	7 30.17	+25 39.5	1.859	2.799	7.4	19.5
2 11	7 21.73	+13 9.5	1.714	2.601	11.7	20.9	2 11	7 23.03	+26 1.6	1.929	2.808	11.0	19.8
2 21	7 16.80	+13 51.3	1.802	2.611	15.1	21.1	2 21	7 18.36	+26 14.5	2.021	2.816	14.2	20.0
<b>15617</b>	Fallowfield		1 15.4 170°64	1°7/16.1	18		<b>300388</b>	2007 RT <sub>196</sub>		1 15.4 178°29	1°5/14.9	18	
12 13	8 14.32	+15 36.9	1.724	2.542	15.0	18.8	12 13	8 15.64	+23 53.0	1.720	2.550	14.5	21.7
12 23	8 8.23	+15 45.2	1.648	2.545	11.3	18.6	12 23	8 9.34	+24 16.6	1.646	2.551	10.8	21.5
1 2	7 59.57	+16 3.8	1.596	2.547	7.0	18.4	1 2	8 0.29	+24 43.3	1.595	2.552	6.4	21.2
1 12	7 49.19	+16 30.1	1.570	2.549	2.7	18.1	1 12	7 49.42	+25 7.9	1.572	2.553	2.1	21.0
1 22	7 38.28	+17 0.6	1.574	2.551	3.4	18.1	1 22	7 38.00	+25 26.2	1.577	2.553	3.8	21.1
2 1	7 28.17	+17 31.7	1.606	2.551	7.8	18.4	2 1	7 27.47	+25 35.3	1.612	2.552	8.3	21.3
2 11	7 20.03	+18 0.6	1.665	2.552	12.0	18.7	2 11	7 19.08	+25 35.1	1.672	2.552	12.4	21.6
2 21	7 14.63	+18 25.6	1.746	2.552	15.6	18.9	2 21	7 13.62	+25 26.8	1.754	2.551	15.9	21.8
<b>398413</b>	2011 SC <sub>248</sub>		1 15.4 121°50	0°9/15.1	18		<b>371753</b>	2007 FU <sub>21</sub>		1 15.4 215°80	3°8/17.4	18	
12 13	8 16.75	+22 26.3	1.813	2.636	14.2	21.5	12 13	8 9.39	+7 55.4	2.362	3.148	12.5	21.5
12 23	8 9.81	+22 49.9	1.751	2.653	10.4	21.3	12 23	8 4.07	+7 58.1	2.270	3.141	9.8	21.3
1 2	8 0.37	+23 16.9	1.714	2.670	6.1	21.1	1 2	7 56.92	+8 13.8	2.202	3.134	6.9	21.1
1 12	7 49.37	+23 43.0	1.704	2.685	1.7	20.8	1 12	7 48.52	+8 42.0	2.163	3.126	4.3	20.9
1 22	7 38.05	+24 4.1	1.724	2.700	3.3	21.0	1 22	7 39.67	+9 20.8	2.153	3.118	4.2	20.9
2 1	7 27.72	+24 17.7	1.774	2.715	7.6	21.3	2 1	7 31.25	+10 7.3	2.173	3.110	6.7	21.1
2 11	7 19.48	+24 23.4	1.851	2.729	11.5	21.5	2 11	7 24.12	+10 58.0	2.221	3.101	9.7	21.2
2 21	7 13.98	+24 22.0	1.950	2.742	14.7	21.8	2 21	7 18.88	+11 49.4	2.294	3.092	12.6	21.4
<b>499837</b>	2011 EG		1 15.4 300°13	2°8/16.7	17		<b>356283</b>	2010 CY <sub>217</sub>		1 15.4 316°03	3°4/16.6	18	
12 13	8 8.48	+11 55.0	1.847	2.661	14.3	21.8	12 13	8 9.50	+12 22.0	1.301	2.137	18.0	21.3
12 23	8 3.97	+12 11.8	1.753	2.645	11.0	21.5	12 23	8 5.55	+12 26.5	1.217	2.121	13.9	21.0
1 2	7 57.11	+12 42.9	1.682	2.629	7.2	21.3	1 2	7 58.44	+12 49.1	1.154	2.106	9.1	20.6
1 12	7 48.59	+13 26.7	1.638	2.613	3.5	21.0	1 12	7 49.02	+13 28.5	1.114	2.091	4.4	20.3
1 22	7 39.38	+14 19.9	1.622	2.597	3.7	21.0	1 22	7 38.63	+14 20.7	1.100	2.076	4.7	20.3
2 1	7 30.66	+15 18.0	1.635	2.582	7.6	21.2	2 1	7 28.94	+15 19.9	1.112	2.063	9.7	20.5
2 11	7 23.55	+16 16.3	1.675	2.566	11.7	21.4	2 11	7 21.55	+16 19.8	1.146	2.050	14.9	20.8
2 21	7 18.86	+17 11.2	1.737	2.551	15.3	21.6	2 21	7 17.50	+17 15.5	1.201	2.037	19.4	21.0
<b>457214</b>	2008 JK <sub>30</sub>		1 15.4 261°47	3°2/16.6	17		<b>452419</b>	2002 VQ <sub>85</sub>		1 15.4 64°43	8°6/17.5	18	
12 13	8 10.67	+12 1.5	1.991	2.798	13.7	22.3	12 13	8 22.34	+2 47.8	1.664	2.427	17.8	19.4
12 23	8 5.38	+11 51.7	1.897	2.784	10.6	22.1	12 23	8 13.44	+0 58.1	1.626	2.470	14.5	19.2
1 2	7 57.85	+11 52.9	1.826	2.770	7.1	21.8	1 2	8 2.24	-0 31.8	1.611	2.513	11.2	19.1
1 12	7 48.77	+12 4.6	1.783	2.756	3.8	21.6	1 12	7 49.82	-1 37.5	1.624	2.554	9.0	19.1
1 22	7 39.09	+12 25.1	1.769	2.741	4.0	21.6	1 22	7 37.48	-2 17.3	1.665	2.596	8.8	19.2
2 1	7 29.91	+12 51.8	1.784	2.726	7.4	21.8	2 1	7 26.48	-2 32.5	1.735	2.637	10.6	19.4
2 11	7 22.29	+13 21.8	1.825	2.711	11.2	22.0	2 11	7 17.77	-2 27.9	1.829	2.677	13.1	19.6
2 21	7 16.97	+13 52.3	1.890	2.696	14.6	22.2	2 21	7 11.86	-2 9.3	1.946	2.716	15.5	19.9
<b>166557</b>	2002 RH <sub>97</sub>		1 15.4 158°05	4°7/18.3	18		<b>205779</b>	2002 CR <sub>74</sub>		1 15.4 44°91	1°6/16.1	18	
12 13	8 7.89	+2 39.2	2.962	3.715	11.0	21.9	12 13	8 11.85	+15 18.1	1.294	2.133	17.8	19.9
12 23	8 2.53	+2 28.3	2.880	3.723	8.9	21.8	12 23	8 6.95	+15 44.7	1.236	2.144	13.4	19.7
1 2	7 55.79	+2 30.0	2.824	3.730	6.7	21.6	1 2	7 59.01	+16 26.0	1.199	2.155	8.2	19.4
1 12	7 48.18	+2 44.6	2.795	3.736	5.0	21.5	1 12	7 49.10	+17 17.7	1.187	2.167	2.8	19.1
1 22	7 40.31	+3 11.2	2.797	3.743	4.8	21.5	1 22	7 38.69	+18 13.7	1.202	2.180	3.8	19.2
2 1	7 32.85	+3 47.8	2.828	3.748	6.2	21.6	2 1	7 29.40	+19 7.9	1.243	2.193	9.0	19.6
2 11	7 26.42	+4 31.4	2.888	3.753	8.3	21.8	2 11	7 22.59	+19 55.7	1.307	2.206	13.8	19.9
2 21	7 21.47	+5 19.0	2.974	3.757	10.4	21.9	2 21	7 19.01	+20 34.9	1.393	2.220	17.7	20.2
<b>152667</b>	1998 FR <sub>11</sub>		1 15.4 204°68	0°5/15.8	17		<b>125673</b>	2001 XY <sub>79</sub>		1 15.4 6°76	2°6/14.7	18	
12 13	8 9.68	+17 43.4	3.972	4.764	7.7	23.2	12 13	8 12.39	+24 50.1	1.183	2.040	17.9	19.4
12 23	8 3.63	+18 2.7	3.870	4.756	5.7	23.1	12 23	8 7.88	+25 22.2	1.121	2.040	13.3	19.2
1 2	7 56.37	+18 25.6	3.797	4.746	3.5	22.9	1 2	7 59.81	+25 58.3	1.080	2.041	8.0	18.9
1 12	7 48.33	+18 50.7	3.756	4.736	1.1	22.7	1 12	7 49.35	+26 31.3	1.062	2.042	3.1	18.6
1 22	7 40.01	+19 16.2	3.748	4.725	1.6	22.8	1 22	7 38.20	+26 54.5	1.070	2.045	5.1	18.7
2 1	7 31.94	+19 40.6	3.774	4.712	4.1	22.9	2 1	7 28.31	+27 4.1	1.102	2.048	10.5	19.0
2 11	7 24.66	+20 2.8	3.831	4.699	6.3	23.1	2 11	7 21.30	+27 0.1	1.157	2.053	15.4	19.3
2 21	7 18.59	+20 22.0	3.915	4.685	8.3	23.2	2 21	7 18.02	+26 44.9	1.231	2.058	19.6	19.6
<b>6420</b>	Riheijayya		1 15.4 121°00	0°3/15.6	18		<b>118095</b>	2007 T <sub>-3</sub>		1 15.5 96°15	2°2/14.6	18	
12 13	8 11.58	+20 18.0	2.328	3.145	11.7	17.3	12 13	8 17.70	+26 16.4	1.987	2.807	13.2	20.0
12 23	8 5.59	+20 14.2	2.255	3.153	8.6	17.1	12 23	8 10.24	+26 46.0	1.936	2.837	9.7	19.8
1 2	7 57.72	+20 13.8	2.207	3.161	5.1	16.9	1 2	8 0.49	+27 15.0	1.912	2.866	5.8	19.7
1 12	7 48.69	+20 14.7	2.188	3.169	1.4	16.7	1 12	7 49.42	+27 38.5	1.915	2.894	2.5	19.5
1 22	7 39.38	+20 15.2	2.199	3.177	2.5	16.8	1 22	7 38.20	+27 53.2	1.950	2.921	3.8	19.6
2 1	7 30.74	+20 13.9	2.241	3.184	6.1	17.0	2 1	7 28.03	+27 57.4	2.014	2.948	7.4	19.9
2 11	7 23.60	+20 10.1	2.311	3.191	9.4	17.3	2 11	7 19.91	+27 51.9	2.105	2.974	10.7	20.2
2 21	7 18.52	+20 3.9	2.405	3.198	12.2	17.5	2 21	7 14.38	+27 38.5	2.220	2.999	13.6	20.4
<b>451014</b>	2008 UG <sub>136</sub>		1 15.4 212°56	3°4/14.1	18		<b>468201</b>	2015 BE <sub>27</sub>		1 15.5 117°17	2°9/17.1	18	
12 13	8 16.70	+27 27.8	1.747	2.577	14.3	21.8	12 13	8 7.41	+9 52.1	2.347	3.144	12.2	21.0
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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>425400</b>	2010 <i>CG</i> <sub>93</sub>		1 15.5	6°80	2°3/16.5	18	<b>277978</b>	2006 <i>TB</i> <sub>55</sub>		1 15.5	75°36	7°1/18.9	16
12 13	8 6.53	+13 27.2	1.566	2.398	15.6	20.5	12 13	8 12.50	+1 19.9	1.744	2.516	16.8	21.2
12 23	8 2.69	+13 46.3	1.496	2.399	11.8	20.3	12 23	8 6.52	+1 0.1	1.693	2.545	13.6	21.1
1 2	7 56.37	+14 19.8	1.449	2.401	7.5	20.0	1 2	7 58.36	+1 2.1	1.664	2.574	10.3	20.9
1 12	7 48.42	+15 5.2	1.427	2.404	3.2	19.8	1 12	7 48.92	+1 26.5	1.660	2.602	7.7	20.8
1 22	7 39.97	+15 58.1	1.432	2.409	3.6	19.8	1 22	7 39.28	+2 10.9	1.683	2.630	7.2	20.9
2 1	7 32.28	+16 53.2	1.464	2.414	7.9	20.1	2 1	7 30.57	+3 10.7	1.733	2.658	9.1	21.0
2 11	7 26.50	+17 46.1	1.521	2.420	12.2	20.4	2 11	7 23.73	+4 19.8	1.810	2.686	11.8	21.3
2 21	7 23.36	+18 33.2	1.600	2.427	15.8	20.6	2 21	7 19.32	+5 31.9	1.909	2.713	14.5	21.5
<b>225564</b>	2000 <i>TY</i> <sub>8</sub>		1 15.5	76°59	3°6/14.1	18	<b>56165</b>	1999 <i>EZ</i> <sub>2</sub>		1 15.5	261°64	4°6/13.6	18
12 13	8 13.76	+29 20.3	1.869	2.701	13.4	20.5	12 13	8 16.32	+33 13.3	2.108	2.929	12.5	19.6
12 23	8 7.83	+29 59.0	1.801	2.706	10.0	20.3	12 23	8 9.84	+33 53.4	2.014	2.909	9.6	19.4
1 2	7 59.34	+30 36.0	1.757	2.710	6.4	20.1	1 2	8 0.68	+34 29.6	1.944	2.889	6.6	19.1
1 12	7 49.18	+31 5.5	1.741	2.714	3.7	19.9	1 12	7 49.62	+34 55.5	1.903	2.868	4.7	19.0
1 22	7 38.57	+31 22.8	1.753	2.718	5.0	20.0	1 22	7 37.82	+35 6.1	1.891	2.847	5.8	19.0
2 1	7 28.85	+31 25.9	1.793	2.723	8.5	20.2	2 1	7 26.66	+34 59.1	1.908	2.825	8.9	19.2
2 11	7 21.18	+31 15.5	1.860	2.727	12.0	20.4	2 11	7 17.41	+34 35.7	1.951	2.802	12.2	19.3
2 21	7 16.26	+30 54.2	1.948	2.732	15.0	20.7	2 21	7 10.93	+33 59.4	2.016	2.780	15.2	19.5
<b>456993</b>	2008 <i>CU</i> <sub>35</sub>		1 15.5	270°83	4°7/14.0	18	<b>49300</b>	1998 <i>VZ</i> <sub>5</sub>		1 15.5	126°06	2°8/14.3	18
12 13	8 17.64	+33 6.5	1.822	2.649	14.0	21.0	12 13	8 16.69	+25 2.7	1.630	2.462	15.1	18.7
12 23	8 11.02	+33 30.8	1.736	2.636	10.7	20.8	12 23	8 10.25	+26 2.8	1.568	2.474	11.1	18.4
1 2	8 1.41	+33 49.4	1.674	2.622	7.2	20.5	1 2	8 0.90	+27 6.2	1.529	2.485	6.7	18.2
1 12	7 49.76	+33 55.8	1.639	2.607	4.8	20.4	1 12	7 49.65	+28 5.5	1.518	2.496	3.0	18.0
1 22	7 37.44	+33 45.4	1.633	2.593	6.0	20.4	1 22	7 37.87	+28 54.1	1.536	2.506	4.7	18.1
2 1	7 26.02	+33 16.8	1.654	2.579	9.5	20.6	2 1	7 27.10	+29 27.8	1.582	2.516	9.0	18.4
2 11	7 16.89	+32 32.6	1.702	2.564	13.2	20.8	2 11	7 18.66	+29 46.3	1.653	2.525	13.0	18.7
2 21	7 10.88	+31 37.4	1.771	2.550	16.5	21.0	2 21	7 13.32	+29 51.4	1.746	2.534	16.3	18.9
<b>130682</b>	2000 <i>SM</i> <sub>122</sub>		1 15.5	73°94	5°1/13.6	18 R	<b>10864</b>	Yamagatashi		1 15.5	81°64	1°1/15.1	18
12 13	8 16.90	+30 30.8	1.465	2.305	16.0	18.9	12 13	8 12.73	+25 0.0	2.303	3.124	11.6	17.3
12 23	8 10.69	+31 35.5	1.412	2.319	12.0	18.7	12 23	8 6.45	+24 57.5	2.236	3.137	8.5	17.1
1 2	8 1.23	+32 37.4	1.381	2.333	7.9	18.5	1 2	7 58.25	+24 55.0	2.194	3.149	5.1	16.9
1 12	7 49.69	+33 27.6	1.377	2.347	5.2	18.4	1 12	7 48.90	+24 49.7	2.181	3.162	1.6	16.7
1 22	7 37.69	+33 59.0	1.400	2.361	6.7	18.5	1 22	7 39.34	+24 39.8	2.199	3.175	2.8	16.8
2 1	7 26.97	+34 9.2	1.449	2.375	10.4	18.7	2 1	7 30.54	+24 24.6	2.247	3.187	6.3	17.1
2 11	7 18.96	+34 0.1	1.522	2.388	14.2	19.0	2 11	7 23.36	+24 4.4	2.323	3.200	9.5	17.3
2 21	7 14.41	+33 36.2	1.615	2.402	17.5	19.3	2 21	7 18.33	+23 40.5	2.424	3.212	12.3	17.5
<b>469093</b>	2015 <i>BJ</i> <sub>456</sub>		1 15.5	262°85	1°7/16.4	16	<b>66509</b>	1999 <i>RK</i> <sub>89</sub>		1 15.5	88°08	3°2/16.8	18
12 13	8 7.92	+13 54.0	2.316	3.126	12.0	21.7	12 13	8 12.34	+11 38.8	1.627	2.441	15.9	18.8
12 23	8 3.08	+14 18.7	2.229	3.120	9.0	21.5	12 23	8 6.78	+11 45.4	1.562	2.454	12.2	18.5
1 2	7 56.37	+14 53.5	2.166	3.115	5.7	21.3	1 2	7 58.73	+12 6.7	1.520	2.466	7.9	18.3
1 12	7 48.42	+15 36.2	2.131	3.109	2.4	21.1	1 12	7 49.07	+12 40.6	1.504	2.478	4.0	18.1
1 22	7 40.02	+16 23.7	2.127	3.103	2.7	21.1	1 22	7 39.01	+13 23.7	1.516	2.490	4.1	18.2
2 1	7 32.08	+17 12.6	2.152	3.097	6.2	21.3	2 1	7 29.82	+14 11.2	1.556	2.502	8.0	18.4
2 11	7 25.46	+17 59.8	2.206	3.092	9.6	21.5	2 11	7 22.64	+14 59.0	1.622	2.513	12.0	18.7
2 21	7 20.76	+18 42.9	2.284	3.086	12.5	21.7	2 21	7 18.15	+15 43.6	1.710	2.525	15.5	18.9
<b>89552</b>	2001 <i>XA</i> <sub>98</sub>		1 15.5	52°07	1°1/15.1	17	<b>109408</b>	2001 <i>QL</i> <sub>184</sub>		1 15.5	55°01	1°2/15.8	18
12 13	8 15.56	+21 35.5	1.195	2.043	18.4	18.8	12 13	8 14.83	+19 25.5	1.631	2.459	15.3	19.4
12 23	8 9.76	+22 5.9	1.151	2.066	13.5	18.6	12 23	8 8.59	+18 57.6	1.566	2.469	11.4	19.1
1 2	8 0.63	+22 43.0	1.128	2.088	7.9	18.3	1 2	7 59.76	+18 34.5	1.524	2.479	6.9	18.9
1 12	7 49.52	+23 20.2	1.130	2.112	2.2	18.0	1 12	7 49.33	+18 14.5	1.509	2.489	2.2	18.6
1 22	7 38.14	+23 51.5	1.158	2.136	4.2	18.2	1 22	7 38.57	+17 56.5	1.522	2.500	3.3	18.7
2 1	7 28.27	+24 13.0	1.212	2.160	9.6	18.6	2 1	7 28.85	+17 39.4	1.564	2.510	7.9	19.0
2 11	7 21.28	+24 23.9	1.290	2.184	14.3	19.0	2 11	7 21.30	+17 23.1	1.632	2.521	12.1	19.3
2 21	7 17.82	+24 25.4	1.387	2.208	18.1	19.3	2 21	7 16.57	+17 7.3	1.721	2.532	15.6	19.6
<b>183609</b>	2003 <i>UV</i> <sub>160</sub>		1 15.5	110°61	1°2/15.8	18 R	<b>202352</b>	2005 <i>ET</i> <sub>181</sub>		1 15.5	240°86	1°4/14.8	18
12 13	8 16.84	+17 31.9	1.359	2.191	17.5	20.8	12 13	8 10.41	+24 1.6	2.258	3.083	11.7	20.4
12 23	8 10.55	+17 38.3	1.297	2.202	13.1	20.5	12 23	8 5.02	+24 30.7	2.176	3.079	8.6	20.2
1 2	8 1.13	+17 55.0	1.256	2.212	7.9	20.3	1 2	7 57.58	+25 2.3	2.119	3.076	5.1	20.0
1 12	7 49.69	+18 18.3	1.242	2.222	2.5	20.0	1 12	7 48.77	+25 32.6	2.092	3.072	1.8	19.8
1 22	7 37.74	+18 43.6	1.254	2.232	3.7	20.1	1 22	7 39.53	+25 58.2	2.094	3.068	3.2	19.9
2 1	7 26.98	+19 7.2	1.294	2.242	9.0	20.4	2 1	7 30.86	+26 16.4	2.126	3.064	6.7	20.1
2 11	7 18.80	+19 26.7	1.358	2.251	13.8	20.7	2 11	7 23.70	+26 26.4	2.185	3.060	10.1	20.3
2 21	7 13.97	+19 41.1	1.443	2.260	17.8	21.0	2 21	7 18.72	+26 28.7	2.268	3.056	13.0	20.5
<b>44737</b>	1999 <i>TW</i> <sub>32</sub>		1 15.5	143°88	3°8/17.3	18	<b>460722</b>	2014 <i>VJ</i> <sub>8</sub>		1 15.5	106°06	1°9/14.6	18
12 13	8 9.74	+8 13.8	2.380	3.166	12.4	20.2	12 13	8 11.86	+23 52.2	1.942	2.772	13.1	21.2
12 23	8 4.20	+8 7.5	2.304	3.175	9.7	20.1	12 23	8 6.34	+24 40.8	1.871	2.777	9.7	21.0
1 2	7 56.93	+8 13.1	2.251	3.183	6.8	19.9	1 2	7 58.46	+25 33.2	1.825	2.782	5.8	20.8
1 12	7 48.55	+8 30.3	2.227	3.190	4.3	19.7	1 12	7 49.02	+26 24.0	1.807	2.787	2.2	20.6
1 22	7 39.85	+8 57.4	2.233	3.197	4.2	19.7	1 22	7 39.10	+27 8.3	1.819	2.792	3.7	20.7
2 1	7 31.70	+9 32.0	2.268	3.204	6.5	19.9	2 1	7 29.91	+27 42.4	1.859	2.796	7.6	20.9
2 11	7 24.88	+10 10.8	2.331	3.210	9.4	20.1	2 11	7 22.53	+28 5.1	1.926	2.801	11.3	21.2
2 21	7 19.93	+10 51.0	2.419	3.216	12.0	20.3	2 21	7 17.66	+28 16.9	2.016	2.806	14.4	21.4
<b>16915</b>	Bredthauer		1 15.5	239°83	1°9/14.3	18	<b>131500</b>	2001 <i>SK</i> <sub>270</sub>		1 15.5	123°47	2°5/17.1	18
12 13	8 7.04	+28 33.2	3.510	4.327	8.1	18.5	12						

EPHEMERIDES

1 15.5

1 15.5

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>95314</b>	2002 <i>CM</i> <sub>104</sub>		1 15.5 151°77	2°3/14.5	18		<b>492675</b>	2014 <i>PS</i> <sub>26</sub>		1 15.5 222°07	2°1/14.6	18	
12 13	8 12.74	+26 27.5	2.104	2.931	12.4	20.0	12 13	8 15.53	+24 54.9	1.934	2.759	13.4	22.1
12 23	8 6.84	+27 0.0	2.031	2.934	9.1	19.8	12 23	8 9.25	+25 34.9	1.847	2.750	9.9	21.9
1 2	7 58.68	+27 33.0	1.982	2.937	5.6	19.6	1 2	8 0.33	+26 18.0	1.785	2.740	6.0	21.6
1 12	7 49.07	+28 1.9	1.962	2.940	2.5	19.4	1 12	7 49.57	+26 58.8	1.751	2.730	2.4	21.4
1 22	7 39.04	+28 22.9	1.971	2.942	3.8	19.5	1 22	7 38.13	+27 32.0	1.747	2.719	4.0	21.4
2 1	7 29.72	+28 33.8	2.010	2.944	7.4	19.7	2 1	7 27.32	+27 54.4	1.772	2.707	8.1	21.7
2 11	7 22.15	+28 34.2	2.076	2.947	10.8	19.9	2 11	7 18.41	+28 5.1	1.823	2.695	12.0	21.9
2 21	7 16.99	+28 25.7	2.164	2.948	13.7	20.1	2 21	7 12.21	+28 5.2	1.898	2.682	15.3	22.1
<b>337422</b>	2001 <i>RT</i> <sub>1</sub>		1 15.5 168°82	5°4/18.8	18		<b>364795</b>	2008 <i>AK</i> <sub>92</sub>		1 15.5 60°03	2°5/14.5	18	
12 13	8 7.10	+1 7.0	2.636	3.390	12.2	21.2	12 13	8 13.50	+24 55.8	1.586	2.425	15.1	21.0
12 23	8 2.19	+1 4.1	2.552	3.392	10.0	21.0	12 23	8 7.97	+25 42.5	1.522	2.432	11.2	20.7
1 2	7 55.74	+1 16.8	2.491	3.394	7.7	20.9	1 2	7 59.60	+26 32.4	1.481	2.439	6.7	20.5
1 12	7 48.28	+1 45.4	2.458	3.396	5.8	20.8	1 12	7 49.36	+27 19.1	1.467	2.446	2.8	20.3
1 22	7 40.50	+2 28.5	2.453	3.398	5.5	20.7	1 22	7 38.60	+27 56.6	1.480	2.453	4.5	20.4
2 1	7 33.14	+3 23.6	2.478	3.399	6.9	20.8	2 1	7 28.82	+28 21.3	1.521	2.460	8.9	20.7
2 11	7 26.90	+4 26.7	2.530	3.400	9.1	21.0	2 11	7 21.30	+28 32.5	1.588	2.468	12.9	20.9
2 21	7 22.29	+5 33.6	2.608	3.400	11.4	21.1	2 21	7 16.81	+28 31.9	1.675	2.475	16.4	21.2
<b>87483</b>	2000 <i>QN</i> <sub>149</sub>		1 15.5 48°40	5°5/13.7	18		<b>100307</b>	1995 <i>GJ</i> <sub>8</sub>		1 15.5 222°07	1°8/16.3	18	
12 13	8 15.86	+33 48.9	1.642	2.477	14.9	18.0	12 13	8 11.31	+14 41.6	2.224	3.032	12.5	20.5
12 23	8 9.65	+34 33.2	1.589	2.491	11.3	17.8	12 23	8 5.67	+14 46.9	2.133	3.023	9.4	20.3
1 2	8 0.50	+35 10.7	1.559	2.506	7.8	17.6	1 2	7 57.99	+15 0.8	2.067	3.015	6.0	20.0
1 12	7 49.54	+35 34.1	1.556	2.521	5.6	17.5	1 12	7 48.93	+15 21.7	2.029	3.006	2.5	19.8
1 22	7 38.26	+35 38.6	1.580	2.536	6.7	17.6	1 22	7 39.36	+15 47.3	2.021	2.996	3.0	19.8
2 1	7 28.23	+35 23.5	1.631	2.552	9.9	17.8	2 1	7 30.30	+16 14.9	2.043	2.986	6.6	20.0
2 11	7 20.71	+34 51.7	1.707	2.568	13.2	18.1	2 11	7 22.67	+16 42.2	2.093	2.976	10.1	20.2
2 21	7 16.34	+34 7.7	1.803	2.584	16.2	18.3	2 21	7 17.15	+17 7.4	2.167	2.965	13.2	20.4
<b>157605</b>	2005 <i>WK</i> <sub>22</sub>		1 15.5 335°03	2°6/14.5	18		<b>194493</b>	2001 <i>WY</i> <sub>64</sub>		1 15.5 21°96	2°5/16.2	18	
12 13	8 10.89	+25 48.0	1.592	2.435	14.8	20.2	12 13	8 11.12	+15 29.6	1.131	1.980	19.2	20.2
12 23	8 6.20	+26 23.6	1.514	2.426	11.0	19.9	12 23	8 6.77	+15 22.7	1.074	1.986	14.5	20.0
1 2	7 58.65	+27 1.7	1.459	2.417	6.7	19.6	1 2	7 59.10	+15 30.2	1.037	1.993	9.1	19.7
1 12	7 49.12	+27 36.7	1.430	2.409	2.9	19.4	1 12	7 49.25	+15 49.5	1.022	2.001	3.6	19.4
1 22	7 38.91	+28 2.9	1.429	2.402	4.6	19.5	1 22	7 38.85	+16 16.5	1.033	2.010	4.4	19.5
2 1	7 29.52	+28 17.0	1.455	2.395	9.0	19.7	2 1	7 29.68	+16 46.5	1.068	2.020	9.8	19.8
2 11	7 22.29	+28 18.3	1.505	2.388	13.3	20.0	2 11	7 23.23	+17 15.3	1.125	2.031	14.9	20.1
2 21	7 18.08	+28 8.4	1.576	2.383	16.9	20.2	2 21	7 20.30	+17 40.2	1.202	2.043	19.1	20.4
<b>315597</b>	2008 <i>CO</i> <sub>140</sub>		1 15.5 25°25	4°6/17.5	18		<b>111342</b>	2001 <i>XE</i> <sub>97</sub>		1 15.5 120°33	3°1/16.9	18	
12 13	8 9.39	+8 1.6	1.585	2.395	16.5	20.7	12 13	8 9.99	+10 2.1	2.913	3.695	10.5	19.7
12 23	8 4.77	+8 7.3	1.513	2.398	12.9	20.5	12 23	8 4.05	+9 34.4	2.842	3.711	8.1	19.6
1 2	7 57.64	+8 32.0	1.463	2.402	8.9	20.2	1 2	7 56.71	+9 14.7	2.796	3.728	5.6	19.4
1 12	7 48.84	+9 14.8	1.438	2.406	5.4	20.0	1 12	7 48.54	+9 3.0	2.780	3.743	3.5	19.3
1 22	7 39.51	+10 12.2	1.440	2.410	5.1	20.0	1 22	7 40.18	+8 58.6	2.795	3.759	3.5	19.3
2 1	7 30.94	+11 18.9	1.469	2.414	8.5	20.2	2 1	7 32.33	+9 0.7	2.841	3.774	5.6	19.5
2 11	7 24.29	+12 28.7	1.524	2.419	12.4	20.5	2 11	7 25.62	+9 7.7	2.916	3.788	8.0	19.7
2 21	7 20.30	+13 36.3	1.601	2.424	16.0	20.7	2 21	7 20.47	+9 17.7	3.017	3.802	10.2	19.9
<b>299557</b>	2006 <i>DS</i> <sub>148</sub>		1 15.5 328°25	2°6/16.2	18		<b>307231</b>	2002 <i>GV</i> <sub>173</sub>		1 15.5 286°32	0°2/15.6	18	
12 13	8 10.21	+15 5.9	1.275	2.117	17.9	20.8	12 13	8 12.08	+18 27.6	1.574	2.407	15.5	21.1
12 23	8 6.11	+15 1.6	1.196	2.105	13.6	20.5	12 23	8 7.20	+18 56.6	1.481	2.387	11.7	20.9
1 2	7 58.81	+15 11.1	1.138	2.094	8.7	20.2	1 2	7 59.37	+19 36.5	1.411	2.368	7.1	20.5
1 12	7 49.22	+15 32.8	1.104	2.083	3.6	19.9	1 12	7 49.38	+20 23.2	1.367	2.348	1.9	20.2
1 22	7 38.75	+16 2.9	1.096	2.073	4.3	19.9	1 22	7 38.44	+21 11.6	1.351	2.329	3.5	20.2
2 1	7 29.13	+16 37.0	1.112	2.064	9.6	20.1	2 1	7 28.06	+21 56.3	1.362	2.309	8.8	20.5
2 11	7 21.91	+17 10.8	1.152	2.056	14.8	20.4	2 11	7 19.72	+22 33.7	1.399	2.290	13.6	20.7
2 21	7 18.08	+17 41.0	1.212	2.048	19.3	20.6	2 21	7 14.42	+23 2.4	1.456	2.270	17.8	20.9
<b>189005</b>	5176 <i>T</i> <sub>-3</sub>		1 15.5 79°48	0°8/15.1	18		<b>84569</b>	2002 <i>VC</i> <sub>11</sub>		1 15.5 272°42	3°6/14.2	18	
12 13	8 13.94	+20 42.9	1.938	2.760	13.4	20.4	12 13	8 15.82	+26 54.3	1.426	2.269	16.3	19.2
12 23	8 7.58	+21 31.3	1.888	2.790	9.8	20.2	12 23	8 10.32	+27 43.3	1.346	2.257	12.2	18.9
1 2	7 59.02	+22 24.8	1.864	2.820	5.7	20.1	1 2	8 1.37	+28 35.4	1.289	2.245	7.6	18.7
1 12	7 49.15	+23 18.4	1.868	2.849	1.6	19.8	1 12	7 49.91	+29 22.5	1.256	2.233	3.8	18.4
1 22	7 39.05	+24 7.3	1.902	2.878	3.1	20.0	1 22	7 37.49	+29 57.0	1.251	2.221	5.7	18.5
2 1	7 29.87	+24 48.0	1.965	2.906	7.0	20.3	2 1	7 25.96	+30 14.3	1.272	2.209	10.5	18.7
2 11	7 22.56	+25 19.0	2.056	2.934	10.5	20.6	2 11	7 17.02	+30 14.3	1.318	2.197	15.1	18.9
2 21	7 17.69	+25 40.5	2.171	2.961	13.5	20.8	2 21	7 11.69	+30 0.0	1.382	2.185	19.1	19.2
<b>143522</b>	2003 <i>EG</i> <sub>13</sub>		1 15.5 283°79	2°0/16.4	18		<b>459245</b>	2012 <i>FL</i> <sub>22</sub>		1 15.5 30°36	8°0/19.5	18	
12 13	8 7.60	+14 0.8	2.409	3.218	11.6	20.2	12 13	8 8.34	-0 25.7	1.626	2.402	17.6	21.2
12 23	8 2.79	+14 5.0	2.320	3.210	8.8	20.0	12 23	8 3.90	-0 39.4	1.556	2.408	14.6	21.0
1 2	7 56.20	+14 17.7	2.255	3.202	5.6	19.7	1 2	7 57.09	-0 27.8	1.506	2.413	11.4	20.8
1 12	7 48.44	+14 37.5	2.218	3.195	2.6	19.5	1 12	7 48.71	+0 10.8	1.479	2.419	8.8	20.7
1 22	7 40.27	+15 2.5	2.212	3.187	2.9	19.5	1 22	7 39.85	+1 14.4	1.479	2.426	8.1	20.6
2 1	7 32.54	+15 30.3	2.235	3.179	6.0	19.7	2 1	7 31.72	+2 37.7	1.505	2.432	9.9	20.8
2 11	7 26.08	+15 58.5	2.286	3.172	9.3	19.9	2 11	7 25.40	+4 12.8	1.555	2.439	12.9	21.0
2 21	7 21.47	+16 25.2	2.362	3.164	12.1	20.1	2 21	7 21.61	+5 51.8	1.629	2.447	16.0	21.2
<b>301198</b>	2008 <i>YR</i> <sub>171</sub>		1 15.5 335°64	3°5/14.4	18		<b>417766</b>	2007 <i>DS</i> <sub>92</sub>		1 15.5 7°32	1°7/16.2	18	
12 13	8 12.35	+26 49.4	1.265	2.120	17.2								

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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>325254</b>	2008 <i>GK</i> <sub>91</sub>		1 15.5 179°65	2°0/16.4	18		<b>142741</b>	2002 <i>TE</i> <sub>291</sub>		1 15.5 132°98	1°7/14.8	18	
12 13	8 11.12	+14 7.1	2.079	2.888	13.1	21.7	12 13	8 15.83	+25 5.0	2.269	3.086	11.9	21.2
12 23	8 5.58	+14 15.8	1.998	2.889	9.9	21.5	12 23	8 8.84	+25 33.2	2.204	3.103	8.8	21.1
1 2	7 57.94	+14 34.3	1.941	2.890	6.3	21.2	1 2	7 59.78	+26 2.1	2.165	3.119	5.2	20.9
1 12	7 48.93	+15 0.7	1.913	2.890	2.7	21.0	1 12	7 49.44	+26 27.7	2.155	3.135	2.0	20.7
1 22	7 39.47	+15 32.5	1.914	2.890	3.1	21.0	1 22	7 38.81	+26 46.5	2.177	3.149	3.3	20.8
2 1	7 30.61	+16 6.4	1.945	2.889	6.8	21.3	2 1	7 28.97	+26 56.8	2.228	3.163	6.7	21.0
2 11	7 23.31	+16 39.6	2.003	2.888	10.4	21.5	2 11	7 20.83	+26 58.4	2.308	3.176	9.9	21.3
2 21	7 18.21	+17 10.2	2.085	2.887	13.5	21.7	2 21	7 14.99	+26 52.6	2.412	3.189	12.7	21.5
<b>65958</b>	1998 <i>GG</i> <sub>1</sub>		1 15.5 226°93	3°6/17.1	18		<b>5134</b>	<i>Ebilson</i>		1 15.5 183°80	1°7/14.7	18	
12 13	8 10.05	+9 40.7	2.281	3.074	12.7	20.1	12 13	8 11.40	+23 26.8	2.060	2.887	12.6	16.4
12 23	8 4.67	+9 28.2	2.190	3.066	9.9	19.9	12 23	8 5.97	+24 14.6	1.982	2.887	9.3	16.2
1 2	7 57.37	+9 26.8	2.123	3.058	6.8	19.7	1 2	7 58.29	+25 6.7	1.930	2.887	5.5	16.0
1 12	7 48.79	+9 36.5	2.083	3.050	4.1	19.5	1 12	7 49.09	+25 58.0	1.907	2.887	2.0	15.7
1 22	7 39.75	+9 55.8	2.074	3.041	4.1	19.5	1 22	7 39.38	+26 43.7	1.913	2.887	3.5	15.8
2 1	7 31.18	+10 22.7	2.094	3.032	6.8	19.6	2 1	7 30.30	+27 20.2	1.949	2.886	7.3	16.1
2 11	7 23.95	+10 54.3	2.141	3.022	10.0	19.8	2 11	7 28.89	+27 46.1	2.011	2.886	10.9	16.3
2 21	7 18.70	+11 27.8	2.213	3.013	12.9	20.0	2 21	7 17.85	+28 1.5	2.096	2.885	13.9	16.5
<b>467702</b>	2008 <i>WS</i> <sub>129</sub>		1 15.5 12°98	2°4/14.3	18		<b>155458</b>	1998 <i>QL</i> <sub>111</sub>		1 15.5 81°42	1°2/15.9	18	
12 13	8 10.00	+25 26.1	1.974	2.808	12.8	20.7	12 13	8 18.04	+17 12.8	1.398	2.226	17.4	20.6
12 23	8 5.01	+26 15.2	1.902	2.810	9.4	20.5	12 23	8 11.15	+17 24.1	1.350	2.253	12.9	20.4
1 2	7 57.72	+27 6.7	1.855	2.811	5.7	20.2	1 2	8 1.36	+17 45.3	1.325	2.280	7.8	20.2
1 12	7 48.89	+27 55.6	1.835	2.813	2.6	20.0	1 12	7 49.86	+18 12.5	1.326	2.306	2.5	19.9
1 22	7 39.59	+28 36.8	1.844	2.815	4.0	20.1	1 22	7 38.14	+18 41.1	1.354	2.332	3.5	20.0
2 1	7 30.97	+29 6.9	1.882	2.818	7.7	20.4	2 1	7 27.77	+19 7.3	1.411	2.358	8.5	20.4
2 11	7 24.09	+29 25.0	1.946	2.820	11.2	20.6	2 11	7 19.95	+19 29.0	1.492	2.383	12.9	20.7
2 21	7 19.66	+29 31.8	2.033	2.823	14.2	20.8	2 21	7 15.31	+19 45.2	1.595	2.407	16.5	21.0
<b>442743</b>	2012 <i>WF</i> <sub>9</sub>		1 15.5 65°43	3°1/14.4	17		<b>364008</b>	2005 <i>UC</i> <sub>492</sub>		1 15.5 111°75	1°6/16.4	18	
12 13	8 16.60	+24 14.8	1.247	2.094	17.9	20.9	12 13	8 11.57	+13 4.9	2.113	2.918	13.1	20.8
12 23	8 10.69	+25 23.5	1.200	2.114	13.1	20.7	12 23	8 5.81	+13 47.1	2.045	2.934	9.9	20.6
1 2	8 1.36	+26 36.9	1.175	2.134	7.9	20.5	1 2	7 58.05	+14 41.0	2.002	2.950	6.2	20.4
1 12	7 49.87	+27 45.5	1.176	2.155	3.4	20.2	1 12	7 49.01	+15 43.2	1.988	2.966	2.5	20.2
1 22	7 37.95	+28 41.0	1.203	2.175	5.4	20.4	1 22	7 39.62	+16 49.3	2.004	2.981	2.8	20.3
2 1	7 27.46	+29 18.3	1.256	2.196	10.2	20.8	2 1	7 30.88	+17 54.7	2.051	2.995	6.5	20.5
2 11	7 19.87	+29 37.5	1.333	2.216	14.7	21.1	2 11	7 23.70	+18 55.6	2.126	3.010	9.9	20.8
2 21	7 15.91	+29 41.4	1.429	2.237	18.4	21.4	2 21	7 18.68	+19 49.7	2.225	3.024	12.9	21.0
<b>39903</b>	1998 <i>FL</i> <sub>30</sub>		1 15.5 232°54	1°3/15.9	18		<b>198</b>	<i>Ampella</i>		1 15.5 92°53	2°6/16.3	18	
12 13	8 13.45	+16 48.6	1.859	2.676	14.1	19.2	12 13	8 16.82	+14 59.7	1.723	2.535	15.3	12.4
12 23	8 7.66	+16 55.9	1.770	2.667	10.6	18.9	12 23	8 9.81	+14 36.9	1.666	2.559	11.5	12.2
1 2	7 59.38	+17 11.8	1.705	2.657	6.6	18.7	1 2	8 0.42	+14 23.1	1.634	2.582	7.3	12.0
1 12	7 49.37	+17 33.9	1.667	2.647	2.3	18.4	1 12	7 49.61	+14 17.3	1.629	2.605	3.3	11.8
1 22	7 38.72	+17 59.0	1.659	2.637	3.1	18.4	1 22	7 38.60	+14 17.5	1.653	2.627	3.7	11.9
2 1	7 28.69	+18 24.2	1.680	2.626	7.6	18.7	2 1	7 28.66	+14 21.9	1.706	2.649	7.6	12.2
2 11	7 20.43	+18 46.9	1.728	2.614	11.7	18.9	2 11	7 20.80	+14 28.6	1.786	2.671	11.5	12.4
2 21	7 14.76	+19 5.7	1.798	2.602	15.3	19.1	2 21	7 15.62	+14 36.0	1.888	2.692	14.7	12.7
<b>393393</b>	2000 <i>RV</i> <sub>19</sub>		1 15.5 164°55	2°1/16.4	18		<b>55312</b>	2001 <i>SK</i> <sub>60</sub>		1 15.5 75°79	0°3/15.7	18	
12 13	8 15.00	+14 1.9	2.216	3.014	12.8	22.3	12 13	8 9.88	+19 29.4	2.283	3.103	11.8	19.5
12 23	8 8.25	+14 1.7	2.137	3.022	9.7	22.1	12 23	8 4.48	+19 36.2	2.212	3.112	8.7	19.3
1 2	7 59.45	+14 10.1	2.083	3.029	6.2	21.9	1 2	7 57.21	+19 47.7	2.167	3.122	5.2	19.1
1 12	7 49.34	+14 25.5	2.059	3.035	2.8	21.7	1 12	7 48.78	+20 1.6	2.150	3.131	1.4	18.8
1 22	7 38.86	+14 45.7	2.065	3.040	3.1	21.7	1 22	7 40.07	+20 15.5	2.163	3.141	2.4	18.9
2 1	7 29.01	+15 8.3	2.102	3.044	6.6	21.9	2 1	7 31.99	+20 27.4	2.206	3.150	6.1	19.2
2 11	7 20.74	+15 31.1	2.168	3.047	10.0	22.1	2 11	7 25.39	+20 36.1	2.276	3.160	9.4	19.4
2 21	7 14.67	+15 52.5	2.258	3.049	13.0	22.4	2 21	7 20.80	+20 41.2	2.371	3.169	12.2	19.6
<b>262601</b>	2006 <i>VZ</i> <sub>120</sub>		1 15.5 279°94	2°2/14.6	18		<b>47847</b>	2000 <i>EV</i> <sub>133</sub>		1 15.5 133°01	0°7/15.9	18	
12 13	8 12.77	+24 47.1	1.759	2.594	14.1	20.7	12 13	8 9.21	+16 31.8	2.436	3.248	11.4	19.0
12 23	8 7.41	+25 25.0	1.677	2.584	10.4	20.4	12 23	8 3.94	+17 5.7	2.360	3.255	8.5	18.8
1 2	7 59.34	+26 6.3	1.618	2.575	6.3	20.2	1 2	7 56.90	+17 47.3	2.310	3.262	5.1	18.6
1 12	7 49.39	+26 45.7	1.587	2.566	2.5	19.9	1 12	7 48.72	+18 33.7	2.288	3.269	1.6	18.4
1 22	7 38.76	+27 17.8	1.583	2.557	4.2	20.0	1 22	7 40.18	+19 21.5	2.297	3.275	2.4	18.4
2 1	7 28.83	+27 39.1	1.609	2.547	8.5	20.2	2 1	7 32.16	+20 7.5	2.337	3.281	5.8	18.7
2 11	7 20.89	+27 48.5	1.659	2.538	12.5	20.5	2 11	7 25.45	+20 49.2	2.406	3.287	9.0	18.9
2 21	7 15.79	+27 47.3	1.732	2.529	16.1	20.7	2 21	7 20.62	+21 25.1	2.499	3.293	11.8	19.1
<b>370723</b>	2004 <i>RC</i> <sub>57</sub>		1 15.5 159°17	1°2/16.1	18		<b>29020</b>	6274 <i>P-L</i>		1 15.5 255°45	2°3/16.4	18	
12 13	8 15.08	+15 40.0	2.108	2.913	13.1	22.8	12 13	8 11.79	+13 59.0	1.998	2.808	13.6	19.1
12 23	8 8.45	+16 4.7	2.032	2.922	9.8	22.6	12 23	8 6.34	+13 58.8	1.902	2.793	10.4	18.9
1 2	7 59.64	+16 38.4	1.981	2.931	6.0	22.4	1 2	7 58.59	+14 8.7	1.829	2.777	6.7	18.6
1 12	7 49.42	+17 18.0	1.959	2.939	2.1	22.1	1 12	7 49.22	+14 27.4	1.784	2.760	3.0	18.4
1 22	7 38.78	+17 59.9	1.968	2.945	2.8	22.2	1 22	7 39.20	+14 52.4	1.768	2.743	3.4	18.4
2 1	7 28.81	+18 40.7	2.008	2.951	6.7	22.5	2 1	7 29.66	+15 21.0	1.781	2.726	7.3	18.6
2 11	7 20.50	+19 17.6	2.076	2.955	10.4	22.7	2 11	7 21.69	+15 50.4	1.822	2.708	11.2	18.8
2 21	7 14.50	+19 49.3	2.168	2.959	13.4	22.9	2 21	7 16.05	+16 18.3	1.886	2.690	14.7	18.9
<b>394131</b>	2006 <i>HV</i> <sub>62</sub>		1 15.5 258°15	0°8/14.9	17		<b>146631</b>	2001 <i>UJ</i> <sub>34</sub>		1 15.5 354°92	6°7/12.1	18	R
12 13	8 5.80	+23 6.9	3.299	4.117	8.5	21.7							

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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>277577</b>	2005 <i>YQ</i> <sub>203</sub>		1 15.5 286°12	0°2/15.4	18		<b>231383</b>	2006 <i>JN</i> <sub>42</sub>		1 15.5 270°92	0°2/15.6	18	
12 13	8 11.54	+20 52.2	1.963	2.789	13.1	21.4	12 13	8 9.81	+19 8.6	2.149	2.971	12.3	21.2
12 23	8 6.10	+21 2.7	1.882	2.786	9.8	21.1	12 23	8 4.71	+19 30.3	2.064	2.965	9.2	20.9
1 2	7 58.38	+21 17.9	1.826	2.783	5.8	20.9	1 2	7 57.53	+19 58.3	2.004	2.960	5.5	20.7
1 12	7 49.14	+21 34.7	1.798	2.780	1.5	20.6	1 12	7 48.96	+20 29.7	1.973	2.954	1.5	20.4
1 22	7 39.43	+21 49.9	1.799	2.777	2.9	20.7	1 22	7 39.91	+21 1.3	1.971	2.948	2.6	20.5
2 1	7 30.40	+22 1.4	1.829	2.774	7.1	21.0	2 1	7 31.41	+21 29.9	1.998	2.943	6.6	20.7
2 11	7 23.08	+22 7.8	1.886	2.771	11.0	21.2	2 11	7 24.40	+21 53.7	2.053	2.937	10.2	21.0
2 21	7 18.19	+22 9.0	1.966	2.768	14.2	21.4	2 21	7 19.57	+22 11.8	2.132	2.932	13.3	21.2
<b>66533</b>	1999 <i>RN</i> <sub>111</sub>		1 15.5 138°09	1°9/14.9	18		<b>327921</b>	2007 <i>DX</i> <sub>31</sub>		1 15.5 58°07	4°4/14.2	18	
12 13	8 19.17	+26 39.5	1.998	2.816	13.3	19.6	12 13	8 18.22	+31 16.2	1.607	2.440	15.2	20.1
12 23	8 11.53	+26 46.4	1.931	2.830	9.8	19.4	12 23	8 11.19	+31 51.2	1.566	2.470	11.3	19.9
1 2	8 1.46	+26 52.0	1.888	2.842	5.9	19.2	1 2	8 1.35	+32 20.8	1.548	2.499	7.3	19.8
1 12	7 49.92	+26 52.1	1.875	2.854	2.3	19.0	1 12	7 49.91	+32 38.5	1.557	2.528	4.5	19.7
1 22	7 38.10	+26 44.0	1.892	2.865	3.6	19.1	1 22	7 38.37	+32 40.3	1.594	2.558	5.7	19.8
2 1	7 27.27	+26 27.0	1.939	2.876	7.4	19.4	2 1	7 28.23	+32 25.8	1.659	2.587	9.1	20.1
2 11	7 18.48	+26 2.2	2.014	2.885	11.0	19.6	2 11	7 20.64	+31 57.8	1.749	2.616	12.6	20.3
2 21	7 12.37	+25 31.9	2.113	2.895	14.1	19.8	2 21	7 16.15	+31 20.2	1.860	2.645	15.6	20.6
<b>465675</b>	2009 <i>SC</i> <sub>138</sub>		1 15.5 106°67	3°7/13.9	18		<b>327788</b>	2006 <i>UT</i> <sub>198</sub>		1 15.5 35°49	3°3/16.6	18	
12 13	8 14.14	+30 5.0	1.972	2.801	13.0	21.6	12 13	8 11.18	+13 24.2	1.364	2.196	17.5	20.6
12 23	8 8.10	+30 47.0	1.904	2.806	9.7	21.4	12 23	8 6.30	+13 12.0	1.309	2.210	13.3	20.4
1 2	7 59.58	+31 26.7	1.861	2.812	6.3	21.2	1 2	7 58.64	+13 13.9	1.275	2.225	8.5	20.2
1 12	7 49.46	+31 58.3	1.846	2.817	3.8	21.0	1 12	7 49.25	+13 28.5	1.265	2.241	4.1	19.9
1 22	7 38.90	+32 17.4	1.859	2.823	5.0	21.1	1 22	7 39.50	+13 52.4	1.282	2.258	4.4	20.0
2 1	7 29.20	+32 22.0	1.901	2.828	8.3	21.3	2 1	7 30.84	+14 21.9	1.326	2.275	8.7	20.3
2 11	7 21.45	+32 12.7	1.970	2.833	11.6	21.5	2 11	7 24.48	+14 52.9	1.393	2.293	13.0	20.6
2 21	7 16.36	+31 52.2	2.060	2.838	14.5	21.8	2 21	7 21.09	+15 22.1	1.482	2.311	16.7	20.9
<b>261601</b>	2005 <i>XD</i> <sub>60</sub>		1 15.5 77°83	0°8/15.8	18		<b>249362</b>	2008 <i>YR</i> <sub>137</sub>		1 15.5 196°83	1°0/15.9	18	
12 13	8 12.10	+18 35.3	1.885	2.708	13.7	20.6	12 13	8 10.21	+18 1.0	2.518	3.329	11.1	20.7
12 23	8 6.47	+18 35.6	1.813	2.714	10.2	20.4	12 23	8 4.63	+17 52.8	2.434	3.328	8.3	20.5
1 2	7 58.55	+18 42.2	1.766	2.720	6.2	20.2	1 2	7 57.31	+17 49.1	2.375	3.327	5.0	20.3
1 12	7 49.18	+18 52.6	1.745	2.726	1.9	19.9	1 12	7 48.88	+17 48.6	2.345	3.325	1.7	20.1
1 22	7 39.42	+19 4.1	1.754	2.732	2.9	20.0	1 22	7 40.11	+17 49.7	2.347	3.324	2.4	20.1
2 1	7 30.44	+19 14.7	1.792	2.738	7.1	20.3	2 1	7 31.87	+17 51.2	2.378	3.322	5.8	20.3
2 11	7 23.26	+19 22.7	1.857	2.744	11.0	20.5	2 11	7 24.94	+17 51.9	2.438	3.320	8.9	20.5
2 21	7 18.52	+19 27.6	1.944	2.750	14.2	20.7	2 21	7 19.86	+17 51.4	2.523	3.318	11.7	20.7
<b>125930</b>	2001 <i>XP</i> <sub>238</sub>		1 15.5 62°58	1°0/15.8	18		<b>240830</b>	2006 <i>BD</i> <sub>26</sub>		1 15.5 250°98	0°6/15.7	18	
12 13	8 16.41	+19 31.6	1.377	2.213	17.2	19.1	12 13	8 15.35	+19 6.2	1.800	2.621	14.4	20.5
12 23	8 10.21	+19 12.4	1.317	2.224	12.8	18.9	12 23	8 9.30	+19 9.9	1.704	2.604	10.8	20.2
1 2	8 0.98	+18 59.4	1.278	2.235	7.7	18.6	1 2	8 0.53	+19 20.1	1.631	2.586	6.6	19.9
1 12	7 49.84	+18 50.2	1.265	2.246	2.4	18.3	1 12	7 49.82	+19 34.0	1.587	2.568	1.9	19.6
1 22	7 38.31	+18 42.3	1.279	2.258	3.6	18.4	1 22	7 38.30	+19 48.4	1.571	2.549	3.2	19.6
2 1	7 28.01	+18 34.3	1.321	2.269	8.8	18.8	2 1	7 27.37	+20 0.5	1.584	2.529	8.0	19.9
2 11	7 20.26	+18 25.4	1.387	2.281	13.5	19.1	2 11	7 18.32	+20 8.8	1.624	2.509	12.4	20.1
2 21	7 15.77	+18 15.5	1.474	2.293	17.3	19.4	2 21	7 12.04	+20 12.8	1.687	2.489	16.2	20.3
<b>36330</b>	2000 <i>MF</i> <sub>5</sub>		1 15.5 134°07	0°2/15.4	18		<b>241205</b>	2007 <i>TF</i> <sub>31</sub>		1 15.5 25°88	4°5/13.3	18	
12 13	8 16.29	+20 21.0	1.883	2.701	13.9	19.9	12 13	8 11.83	+32 50.5	2.176	3.004	12.0	20.3
12 23	8 9.54	+20 44.4	1.816	2.716	10.3	19.7	12 23	8 6.34	+33 44.8	2.107	3.006	9.1	20.1
1 2	8 0.38	+21 13.3	1.774	2.729	6.1	19.5	1 2	7 58.54	+34 35.4	2.063	3.008	6.3	19.9
1 12	7 49.69	+21 43.6	1.761	2.742	1.6	19.2	1 12	7 49.23	+35 16.5	2.047	3.010	4.6	19.8
1 22	7 38.63	+22 11.3	1.777	2.754	3.0	19.4	1 22	7 39.47	+35 43.6	2.060	3.013	5.6	19.9
2 1	7 28.44	+22 33.6	1.823	2.766	7.3	19.6	2 1	7 30.42	+35 54.4	2.101	3.016	8.3	20.1
2 11	7 20.21	+22 49.1	1.897	2.777	11.2	19.9	2 11	7 23.14	+35 49.6	2.168	3.018	11.2	20.3
2 21	7 14.59	+22 58.1	1.993	2.787	14.4	20.1	2 21	7 18.31	+35 31.8	2.257	3.021	13.8	20.5
<b>33147</b>	1998 <i>DD</i> <sub>9</sub>		1 15.5 255°79	2°8/16.9	18		<b>275033</b>	2009 <i>UK</i> <sub>45</sub>		1 15.5 139°45	0°5/15.3	18	
12 13	8 9.73	+11 5.2	2.109	2.911	13.2	18.8	12 13	8 11.89	+21 6.0	2.084	2.906	12.6	21.8
12 23	8 4.71	+11 21.4	2.014	2.899	10.2	18.6	12 23	8 6.22	+21 30.2	2.009	2.911	9.3	21.6
1 2	7 57.58	+11 50.6	1.944	2.886	6.8	18.4	1 2	7 58.40	+21 59.0	1.960	2.915	5.5	21.3
1 12	7 48.99	+12 31.5	1.901	2.874	3.5	18.1	1 12	7 49.19	+22 29.0	1.938	2.920	1.5	21.1
1 22	7 39.81	+13 21.2	1.887	2.861	3.6	18.1	1 22	7 39.56	+22 56.5	1.947	2.924	2.8	21.2
2 1	7 31.07	+14 15.7	1.903	2.847	6.9	18.3	2 1	7 30.61	+23 18.9	1.985	2.928	6.8	21.4
2 11	7 23.76	+15 11.2	1.947	2.834	10.6	18.5	2 11	7 23.31	+23 34.9	2.051	2.932	10.4	21.7
2 21	7 18.59	+16 4.3	2.014	2.820	13.8	18.7	2 21	7 18.30	+23 44.2	2.140	2.935	13.5	21.9
<b>180213</b>	2003 <i>UM</i> <sub>8</sub>		1 15.5 121°84	2°0/14.9	17		<b>165720</b>	2001 <i>QX</i> <sub>59</sub>		1 15.5 147°86	0°6/15.2	18	
12 13	8 19.57	+24 44.7	1.406	2.242	16.8	20.4	12 13	8 9.98	+21 46.6	2.728	3.543	10.2	20.5
12 23	8 12.71	+25 6.4	1.345	2.253	12.5	20.1	12 23	8 4.37	+22 11.2	2.653	3.551	7.5	20.3
1 2	8 2.56	+25 30.2	1.305	2.263	7.5	19.9	1 2	7 57.11	+22 38.7	2.603	3.558	4.4	20.1
1 12	7 50.30	+25 50.0	1.292	2.272	2.6	19.6	1 12	7 48.82	+23 6.4	2.584	3.565	1.2	19.9
1 22	7 37.55	+26 0.7	1.306	2.281	4.4	19.8	1 22	7 40.24	+23 31.7	2.596	3.572	2.3	20.0
2 1	7 26.09	+26 0.1	1.348	2.290	9.4	20.1	2 1	7 32.16	+23 52.5	2.638	3.578	5.5	20.2
2 11	7 17.36	+25 48.8	1.415	2.299	14.0	20.4	2 11	7 25.33	+24 7.8	2.709	3.584	8.4	20.4
2 21	7 12.13	+25 29.6	1.502	2.307	17.8	20.6	2 21	7 20.26	+24 17.4	2.805	3.589	10.9	20.6
<b>488528</b>	2001 <i>RJ</i> <sub>16</sub>		1 15.5 112°53	0°8/14.9	17		<b>311037</b>	2004 <i>BR</i> <sub>55</sub>		1 15.5 352°21	1°7/16.2	18	
12 13	8 6.42	+24 13.8											



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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>85610</b>	1998 <i>HC</i> <sub>11</sub>		1 15.5 249°16	1.6/14.6	18		<b>359798</b>	2011 <i>UE</i> <sub>211</sub>		1 15.5 277°38	1.6/15.0	18	
12 13	8 9.32	+24 46.1	2.567	3.389	10.5	20.6	12 13	8 15.10	+24 7.7	1.554	2.390	15.5	21.4
12 23	8 4.13	+25 22.4	2.480	3.382	7.8	20.4	12 23	8 9.46	+24 25.0	1.471	2.380	11.5	21.1
1 2	7 57.11	+26 0.8	2.419	3.374	4.7	20.2	1 2	8 0.76	+24 45.4	1.412	2.370	7.0	20.8
1 12	7 48.85	+26 37.6	2.387	3.366	1.9	20.0	1 12	7 49.92	+25 3.9	1.379	2.359	2.3	20.5
1 22	7 40.16	+27 9.6	2.386	3.358	3.1	20.0	1 22	7 38.31	+25 15.8	1.373	2.349	4.1	20.6
2 1	7 31.92	+27 34.2	2.414	3.350	6.2	20.2	2 1	7 27.55	+25 18.3	1.395	2.339	9.0	20.9
2 11	7 24.97	+27 50.2	2.471	3.342	9.3	20.4	2 11	7 19.08	+25 11.1	1.442	2.328	13.6	21.1
2 21	7 19.94	+27 58.0	2.552	3.333	11.9	20.6	2 21	7 13.80	+24 55.7	1.510	2.318	17.5	21.3
<b>366671</b>	2003 <i>UR</i> <sub>15</sub>		1 15.5 36°79	22°8/24.6	18		<b>425229</b>	2009 <i>VS</i> <sub>95</sub>		1 15.5 88°04	1°8/14.6	18	
12 13	8 11.93	-16 40.9	0.969	1.707	29.3	20.1	12 13	8 12.11	+23 19.1	2.030	2.857	12.7	21.0
12 23	8 7.80	-19 36.5	0.932	1.716	27.2	19.9	12 23	8 6.44	+24 16.3	1.968	2.872	9.3	20.8
1 2	7 59.99	-21 43.5	0.906	1.725	25.1	19.8	1 2	7 58.56	+25 17.3	1.931	2.887	5.6	20.6
1 12	7 49.70	-22 48.2	0.894	1.735	23.6	19.8	1 12	7 49.26	+26 16.8	1.922	2.902	2.1	20.4
1 22	7 38.67	-22 44.1	0.896	1.746	22.8	19.8	1 22	7 39.58	+27 9.6	1.944	2.916	3.6	20.5
2 1	7 28.92	-21 33.9	0.913	1.758	23.0	19.8	2 1	7 30.63	+27 52.1	1.995	2.931	7.3	20.8
2 11	7 22.16	-19 30.8	0.945	1.771	24.1	19.9	2 11	7 23.43	+28 22.8	2.072	2.945	10.7	21.0
2 21	7 19.30	-16 53.1	0.991	1.784	25.7	20.1	2 21	7 18.60	+28 42.2	2.173	2.960	13.6	21.2
<b>402741</b>	2006 <i>XL</i>		1 15.5 46°13	4°1/16.4	18		<b>278952</b>	2008 <i>UF</i> <sub>70</sub>		1 15.5 97°65	4°6/13.5	18	
12 13	8 15.88	+13 59.9	1.410	2.234	17.5	19.3	12 13	8 14.51	+34 3.1	2.231	3.052	11.9	20.5
12 23	8 9.47	+13 0.5	1.361	2.257	13.3	19.1	12 23	8 8.17	+34 47.3	2.169	3.063	9.1	20.3
1 2	8 0.36	+12 12.1	1.334	2.281	8.7	18.9	1 2	7 59.55	+35 26.1	2.133	3.075	6.3	20.2
1 12	7 49.68	+11 35.6	1.332	2.305	4.7	18.7	1 12	7 49.51	+35 53.8	2.125	3.086	4.6	20.1
1 22	7 38.85	+11 10.9	1.358	2.330	5.1	18.8	1 22	7 39.15	+36 6.8	2.146	3.097	5.6	20.2
2 1	7 29.31	+10 56.9	1.411	2.355	8.9	19.1	2 1	7 29.62	+36 3.7	2.195	3.108	8.2	20.3
2 11	7 22.17	+10 51.5	1.489	2.380	12.9	19.4	2 11	7 21.95	+35 46.0	2.271	3.119	10.9	20.5
2 21	7 18.01	+10 51.7	1.588	2.406	16.3	19.7	2 21	7 16.75	+35 16.7	2.370	3.130	13.4	20.7
<b>101528</b>	1998 <i>XS</i> <sub>83</sub>		1 15.5 46°93	4°5/17.9	18		<b>363134</b>	2001 <i>QJ</i> <sub>190</sub>		1 15.5 66°56	5°2/17.1	18	
12 13	8 8.66	+ 6 35.6	1.804	2.602	15.3	19.2	12 13	8 14.70	+ 9 18.7	1.665	2.467	16.2	19.7
12 23	8 3.89	+ 6 52.2	1.743	2.620	12.0	19.0	12 23	8 8.32	+ 8 28.1	1.611	2.491	12.6	19.6
1 2	7 57.02	+ 7 27.1	1.705	2.638	8.4	18.8	1 2	7 59.60	+ 7 51.5	1.580	2.514	8.8	19.4
1 12	7 48.82	+ 8 18.6	1.693	2.657	5.2	18.7	1 12	7 49.51	+ 7 30.0	1.575	2.538	5.8	19.3
1 22	7 40.31	+ 9 22.9	1.708	2.676	4.8	18.7	1 22	7 39.22	+ 7 23.2	1.598	2.561	5.7	19.3
2 1	7 32.55	+10 34.8	1.753	2.695	7.6	18.9	2 1	7 29.94	+ 7 29.0	1.649	2.585	8.6	19.5
2 11	7 26.48	+11 48.7	1.824	2.715	10.9	19.2	2 11	7 22.69	+ 7 44.1	1.725	2.608	11.9	19.8
2 21	7 22.70	+12 59.8	1.918	2.734	14.0	19.4	2 21	7 18.04	+ 8 4.8	1.824	2.631	15.0	20.0
<b>186101</b>	2001 <i>TU</i> <sub>31</sub>		1 15.5 51°34	9°9/12.2	18		<b>456294</b>	2006 <i>SS</i> <sub>110</sub>		1 15.5 50°68	12°3/12.2	17	
12 13	8 20.65	+43 32.7	1.562	2.382	16.2	19.8	12 13	8 25.65	+48 57.5	1.478	2.283	17.7	20.2
12 23	8 13.83	+44 57.3	1.523	2.401	13.3	19.7	12 23	8 18.01	+50 23.6	1.443	2.302	15.1	20.0
1 2	8 3.32	+46 5.3	1.506	2.419	10.9	19.6	1 2	8 5.97	+51 26.7	1.429	2.321	13.1	20.0
1 12	7 50.51	+46 46.3	1.513	2.439	9.9	19.6	1 12	7 51.23	+51 54.9	1.438	2.340	12.3	20.0
1 22	7 37.34	+46 54.1	1.546	2.458	10.8	19.7	1 22	7 36.22	+51 42.5	1.471	2.360	13.0	20.1
2 1	7 25.83	+46 29.4	1.602	2.478	13.0	19.9	2 1	7 23.40	+50 51.8	1.526	2.380	14.8	20.2
2 11	7 17.51	+45 38.2	1.681	2.498	15.5	20.1	2 11	7 14.50	+49 31.7	1.602	2.400	17.0	20.4
2 21	7 13.09	+44 29.0	1.779	2.518	17.8	20.3	2 21	7 10.13	+47 53.0	1.696	2.421	19.1	20.6
<b>236952</b>	2007 <i>UW</i> <sub>9</sub>		1 15.5 144°51	3°8/17.8	18		<b>456467</b>	2006 <i>WO</i> <sub>8</sub>		1 15.5 55°61	2°7/16.5	18	
12 13	8 8.00	+ 6 45.8	2.595	3.374	11.7	20.7	12 13	8 12.35	+13 39.1	1.536	2.360	16.3	21.5
12 23	8 2.94	+ 6 50.6	2.515	3.380	9.2	20.6	12 23	8 6.91	+13 38.3	1.480	2.378	12.3	21.3
1 2	7 56.29	+ 7 7.9	2.460	3.386	6.5	20.4	1 2	7 58.92	+13 50.3	1.447	2.397	7.8	21.1
1 12	7 48.64	+ 7 37.1	2.432	3.392	4.3	20.3	1 12	7 49.36	+14 13.1	1.439	2.415	3.6	20.8
1 22	7 40.67	+ 8 16.3	2.435	3.398	4.0	20.3	1 22	7 39.48	+14 43.0	1.459	2.435	3.9	20.9
2 1	7 33.17	+ 9 2.9	2.468	3.403	6.1	20.4	2 1	7 30.62	+15 16.3	1.506	2.454	8.0	21.2
2 11	7 26.82	+ 9 53.4	2.529	3.408	8.7	20.6	2 11	7 23.87	+15 49.5	1.579	2.473	12.1	21.5
2 21	7 22.16	+10 44.8	2.615	3.413	11.2	20.7	2 21	7 19.89	+16 19.7	1.673	2.493	15.6	21.8
<b>231829</b>	2000 <i>KZ</i> <sub>65</sub>		1 15.5 240°89	5°9/18.8	18		<b>91115</b>	1998 <i>HB</i> <sub>73</sub>		1 15.5 350°24	2°7/14.5	18	
12 13	8 7.37	+ 0 37.0	2.556	3.309	12.5	20.7	12 13	8 13.00	+27 1.2	1.806	2.640	13.7	18.9
12 23	8 2.59	+ 0 23.3	2.462	3.300	10.4	20.5	12 23	8 7.48	+27 30.3	1.732	2.639	10.2	18.7
1 2	7 56.15	+ 0 25.3	2.391	3.291	8.1	20.3	1 2	7 59.36	+27 59.6	1.682	2.638	6.3	18.4
1 12	7 48.62	+ 0 44.1	2.346	3.281	6.3	20.2	1 12	7 49.52	+28 24.0	1.659	2.637	2.9	18.2
1 22	7 40.67	+ 1 19.1	2.330	3.271	6.0	20.2	1 22	7 39.16	+28 39.2	1.665	2.636	4.3	18.3
2 1	7 33.08	+ 2 8.0	2.343	3.261	7.4	20.3	2 1	7 29.63	+28 42.6	1.699	2.635	8.3	18.5
2 11	7 26.62	+ 3 7.0	2.383	3.251	9.7	20.4	2 11	7 22.11	+28 34.6	1.758	2.635	12.1	18.8
2 21	7 21.84	+ 4 11.7	2.449	3.241	12.1	20.5	2 21	7 17.35	+28 17.2	1.839	2.635	15.3	19.0
<b>64780</b>	2001 <i>XZ</i> <sub>192</sub>		1 15.5 87°54	0°7/15.8	18		<b>518887</b>	2010 <i>EM</i> <sub>162</sub>		1 15.5 34°41	1°5/16.3	18	
12 13	8 16.39	+17 29.0	1.542	2.367	16.2	18.9	12 13	8 9.54	+14 59.8	1.889	2.709	13.8	20.8
12 23	8 9.87	+17 54.4	1.489	2.391	12.0	18.7	12 23	8 4.67	+15 22.2	1.814	2.712	10.4	20.6
1 2	8 0.66	+18 29.4	1.460	2.415	7.2	18.5	1 2	7 57.59	+15 55.5	1.764	2.716	6.5	20.4
1 12	7 49.80	+19 9.4	1.457	2.438	2.1	18.2	1 12	7 49.05	+16 36.8	1.741	2.720	2.4	20.1
1 22	7 38.66	+19 49.4	1.483	2.461	3.3	18.3	1 22	7 40.06	+17 22.4	1.746	2.724	3.0	20.2
2 1	7 28.65	+20 25.5	1.537	2.483	8.0	18.7	2 1	7 31.72	+18 8.2	1.780	2.728	7.0	20.5
2 11	7 20.94	+20 55.1	1.617	2.505	12.3	19.0	2 11	7 25.06	+18 50.9	1.841	2.732	10.9	20.7
2 21	7 16.17	+21 17.5	1.719	2.527	15.7	19.2	2 21	7 20.73	+19 28.3	1.926	2.737	14.2	20.9
<b>282942</b>	2007 <i>RQ</i> <sub>37</sub>		1 15.5 43°01	2°0/16.5	18		<b>323767</b>	2005 <i>QK</i> <sub>14</sub>		1 15.5 152°86	3°2/14.3	18	
12 13	8 8.64	+13 54.											

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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>397950</b>	2008 YA <sub>56</sub>		1 15.5	47°59	0°1/15.6	17	<b>518940</b>	2010 GW <sub>143</sub>		1 15.5	78°49	1°0/14.9	18
12 13	8 13.42	+17 49.3	1.194	2.040	18.5	20.7	12 13	8 9.18	+22 3.5	2.356	3.179	11.3	20.9
12 23	8 8.36	+18 35.8	1.146	2.059	13.7	20.5	12 23	8 4.11	+22 46.1	2.281	3.184	8.3	20.7
1 2	8 0.05	+19 35.0	1.120	2.079	8.1	20.2	1 2	7 57.16	+23 32.9	2.232	3.188	4.9	20.5
1 12	7 49.72	+20 40.2	1.117	2.099	2.2	19.9	1 12	7 48.97	+24 20.1	2.212	3.193	1.5	20.2
1 22	7 38.96	+21 43.5	1.141	2.120	3.8	20.1	1 22	7 40.39	+25 3.8	2.222	3.198	2.8	20.4
2 1	7 29.53	+22 38.5	1.191	2.141	9.4	20.5	2 1	7 32.35	+25 41.0	2.262	3.202	6.3	20.6
2 11	7 22.83	+23 21.7	1.265	2.163	14.2	20.8	2 11	7 25.72	+26 9.9	2.330	3.207	9.5	20.8
2 21	7 19.55	+23 52.5	1.358	2.185	18.1	21.1	2 21	7 21.08	+26 30.4	2.422	3.211	12.3	21.0
<b>357551</b>	2004 SO <sub>44</sub>		1 15.5	47°21	1°5/15.9	17	<b>378408</b>	2007 RV <sub>108</sub>		1 15.5	309°32	0°8/15.9	18
12 13	8 15.28	+17 20.0	1.162	2.006	19.1	20.5	12 13	8 9.43	+18 11.5	2.035	2.858	12.9	20.8
12 23	8 9.59	+17 18.6	1.119	2.030	14.2	20.3	12 23	8 4.60	+18 18.6	1.946	2.847	9.6	20.5
1 2	8 0.68	+17 28.6	1.097	2.054	8.6	20.1	1 2	7 57.59	+18 32.5	1.881	2.835	5.9	20.3
1 12	7 49.86	+17 46.3	1.099	2.079	2.9	19.8	1 12	7 49.11	+18 50.9	1.843	2.824	1.8	20.0
1 22	7 38.82	+18 7.2	1.126	2.105	3.9	19.9	1 22	7 40.10	+19 11.1	1.835	2.813	2.7	20.1
2 1	7 29.28	+18 27.5	1.180	2.131	9.3	20.3	2 1	7 31.62	+19 30.5	1.856	2.802	6.9	20.3
2 11	7 22.55	+18 44.5	1.256	2.157	14.1	20.7	2 11	7 24.69	+19 47.2	1.903	2.792	10.7	20.5
2 21	7 19.26	+18 57.1	1.353	2.184	18.0	21.0	2 21	7 20.01	+19 59.9	1.974	2.782	14.0	20.7
<b>405929</b>	2006 QG <sub>3</sub>		1 15.5	92°13	5°8/13.8	16	<b>373126</b>	2011 HU <sub>70</sub>		1 15.6	325°44	8°6/18.8	18
12 13	8 22.51	+36 33.5	1.863	2.679	14.2	21.6	12 13	8 7.27	- 0 13.1	1.759	2.533	16.6	20.3
12 23	8 14.24	+37 13.4	1.816	2.705	10.9	21.4	12 23	8 3.23	- 1 0.0	1.671	2.519	14.0	20.1
1 2	8 3.17	+37 43.5	1.794	2.731	7.8	21.3	1 2	7 56.90	- 1 26.0	1.604	2.505	11.3	19.9
1 12	7 50.49	+37 57.0	1.800	2.756	5.9	21.2	1 12	7 48.96	- 1 27.7	1.560	2.492	9.1	19.8
1 22	7 37.69	+37 50.0	1.834	2.781	6.8	21.3	1 22	7 40.38	- 1 4.2	1.541	2.479	8.7	19.7
2 1	7 26.27	+37 23.0	1.897	2.805	9.5	21.6	2 1	7 32.30	- 0 17.6	1.548	2.467	10.4	19.8
2 11	7 17.41	+36 39.8	1.985	2.829	12.4	21.8	2 11	7 25.82	+ 0 46.6	1.579	2.455	13.2	19.9
2 21	7 11.69	+35 45.8	2.095	2.852	15.0	22.0	2 21	7 21.73	+ 2 1.5	1.632	2.444	16.2	20.1
<b>177478</b>	2004 EC <sub>11</sub>		1 15.5	230°17	2°8/16.9	18	<b>166767</b>	2002 UW <sub>49</sub>		1 15.6	53°92	4°3/13.4	18
12 13	8 11.20	+11 4.5	2.235	3.032	12.8	21.1	12 13	8 12.04	+31 42.3	2.140	2.968	12.1	19.9
12 23	8 5.71	+11 16.1	2.139	3.020	9.9	20.9	12 23	8 6.53	+32 39.5	2.074	2.974	9.2	19.8
1 2	7 58.19	+11 39.8	2.067	3.008	6.6	20.7	1 2	7 58.72	+33 33.9	2.033	2.980	6.2	19.6
1 12	7 49.25	+12 14.2	2.023	2.995	3.4	20.4	1 12	7 49.41	+34 19.5	2.021	2.986	4.3	19.5
1 22	7 39.74	+12 56.8	2.009	2.982	3.5	20.4	1 22	7 39.66	+34 51.6	2.037	2.993	5.4	19.6
2 1	7 30.66	+13 44.3	2.026	2.968	6.7	20.6	2 1	7 30.64	+35 7.8	2.082	2.999	8.2	19.8
2 11	7 22.94	+14 33.2	2.070	2.954	10.2	20.8	2 11	7 23.41	+35 8.6	2.152	3.006	11.2	19.9
2 21	7 17.28	+15 20.5	2.139	2.939	13.3	21.0	2 21	7 18.62	+34 56.5	2.245	3.013	13.8	20.1
<b>101096</b>	1998 RL <sub>37</sub>		1 15.5	113°16	0°4/15.4	18	<b>81</b>	Terpsichore		1 15.6	40°36	4°8/14.1	18
12 13	8 15.92	+21 33.3	1.931	2.751	13.6	20.3	12 13	8 15.25	+31 49.6	1.570	2.409	15.2	12.2
12 23	8 9.19	+21 45.0	1.868	2.768	10.0	20.1	12 23	8 9.31	+32 26.7	1.521	2.427	11.4	12.0
1 2	8 0.17	+22 0.3	1.830	2.785	5.9	19.9	1 2	8 0.46	+32 58.6	1.494	2.445	7.5	11.8
1 12	7 49.73	+22 15.6	1.820	2.802	1.6	19.6	1 12	7 49.86	+33 18.4	1.494	2.464	4.9	11.7
1 22	7 39.01	+22 28.0	1.840	2.818	2.9	19.8	1 22	7 38.98	+33 21.7	1.520	2.483	6.1	11.8
2 1	7 29.20	+22 35.4	1.890	2.833	7.1	20.1	2 1	7 29.37	+33 7.5	1.574	2.502	9.5	12.1
2 11	7 21.30	+22 37.2	1.968	2.848	10.8	20.3	2 11	7 22.25	+32 38.5	1.652	2.522	13.1	12.3
2 21	7 15.94	+22 33.9	2.068	2.862	13.9	20.6	2 21	7 18.26	+31 58.8	1.751	2.543	16.1	12.6
<b>281734</b>	2008 YG <sub>1</sub>		1 15.5	64°20	2°5/14.2	18	<b>54569</b>	2000 QV <sub>152</sub>		1 15.6	227°15	0°2/15.6	18
12 13	8 10.94	+25 43.7	2.088	2.917	12.3	20.0	12 13	8 9.93	+20 8.6	2.556	3.371	10.8	19.8
12 23	8 5.63	+26 43.8	2.023	2.928	9.1	19.8	12 23	8 4.52	+20 13.8	2.468	3.366	8.0	19.6
1 2	7 58.13	+27 45.9	1.984	2.940	5.5	19.6	1 2	7 57.35	+20 22.6	2.407	3.361	4.8	19.3
1 12	7 49.22	+28 44.5	1.974	2.951	2.7	19.4	1 12	7 49.04	+20 33.1	2.374	3.355	1.3	19.1
1 22	7 39.89	+29 34.5	1.993	2.962	4.1	19.5	1 22	7 40.35	+20 43.2	2.372	3.350	2.3	19.2
2 1	7 31.26	+30 12.6	2.042	2.974	7.4	19.8	2 1	7 32.15	+20 51.2	2.401	3.344	5.7	19.4
2 11	7 24.31	+30 37.7	2.117	2.985	10.7	20.0	2 11	7 25.24	+20 56.1	2.458	3.339	8.9	19.6
2 21	7 19.70	+30 50.8	2.215	2.997	13.5	20.2	2 21	7 20.17	+20 57.5	2.539	3.333	11.6	19.7
<b>221087</b>	2005 SU <sub>60</sub>		1 15.5	161°71	6°1/18.4	18	<b>56036</b>	1998 WH <sub>31</sub>		1 15.6	90°00	3°0/17.4	18
12 13	8 10.27	+ 2 39.0	2.123	2.892	14.3	20.8	12 13	8 16.83	+ 7 1.9	1.534	2.330	17.6	18.7
12 23	8 4.94	+ 2 18.2	2.044	2.895	11.6	20.7	12 23	8 10.31	+ 8 30.4	1.475	2.355	13.5	18.5
1 2	7 57.66	+ 2 14.4	1.987	2.898	8.8	20.5	1 2	8 1.06	+10 23.0	1.439	2.380	8.8	18.3
1 12	7 49.10	+ 2 28.7	1.957	2.901	6.6	20.4	1 12	7 50.05	+12 33.4	1.431	2.405	4.2	18.1
1 22	7 40.12	+ 3 0.0	1.954	2.903	6.3	20.4	1 22	7 38.58	+14 51.5	1.453	2.429	3.9	18.1
2 1	7 31.71	+ 3 45.6	1.980	2.906	8.1	20.5	2 1	7 28.09	+17 6.8	1.506	2.452	8.2	18.4
2 11	7 24.73	+ 4 41.0	2.033	2.907	10.8	20.6	2 11	7 19.82	+19 10.6	1.587	2.475	12.4	18.7
2 21	7 19.82	+ 5 41.3	2.110	2.909	13.5	20.8	2 21	7 14.49	+20 58.2	1.691	2.497	16.0	19.0
<b>448179</b>	2008 TW <sub>168</sub>		1 15.5	36°78	1°4/15.1	15	<b>516421</b>	2003 GU <sub>21</sub>		1 15.6	104°21	21°1/ 7.7	18
12 13	8 14.07	+22 37.2	1.178	2.031	18.3	21.1	12 13	8 41.02	+58 6.5	1.051	1.844	24.2	21.7
12 23	8 9.02	+23 2.3	1.126	2.043	13.5	20.9	12 23	8 34.09	+61 5.5	1.024	1.850	22.4	21.6
1 2	8 0.54	+23 33.2	1.095	2.055	8.0	20.6	1 2	8 18.12	+63 28.5	1.013	1.856	21.3	21.5
1 12	7 49.89	+24 3.7	1.087	2.069	2.4	20.3	1 12	7 54.98	+64 50.5	1.019	1.861	21.2	21.5
1 22	7 38.78	+24 27.9	1.106	2.083	4.3	20.5	1 22	7 29.86	+64 57.5	1.041	1.867	22.1	21.6
2 1	7 29.05	+24 42.0	1.149	2.098	9.8	20.9	2 1	7 9.18	+63 53.5	1.079	1.872	23.7	21.7
2 11	7 22.19	+24 45.5	1.216	2.113	14.7	21.2	2 11	6 56.86	+61 57.4	1.131	1.877	25.6	21.9
2 21	7 18.91	+24 39.8	1.302	2.129	18.7	21.5	2 21	6 53.22	+59 30.3	1.194	1.882	27.4	22.1
<b>340781</b>	2006 SM <sub>382</sub>		1 15.5	164°40	6°7/10.2	18	<b>231619</b>	2009 SJ <sub>108</sub>		1 15.6	77°40	0°9/15.8	18
12 13	8 16.76	+46 53.3	3.242	4.020	9.6	21.4	12 13	8 18.30	+17 32.4	1.272	2.10		

EPHEMERIDES

1 15.6

1 15.6

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>314906</b>	2006 VY <sub>116</sub>		1 15.6 185°92	1.6/14.8	18		<b>8729</b>	Descour		1 15.6 28°50	1.8/16.2	18	
12 13	8 14.34	+24 20.3	2.193	3.013	12.2	21.4	12 13	8 13.03	+16 10.7	1.508	2.338	16.2	18.5
12 23	8 8.08	+24 52.3	2.112	3.013	9.0	21.2	12 23	8 7.76	+16 10.4	1.437	2.339	12.2	18.3
1 2	7 59.61	+25 26.5	2.058	3.012	5.4	21.0	1 2	7 59.69	+16 20.6	1.387	2.341	7.6	18.0
1 12	7 49.67	+25 58.8	2.032	3.011	2.0	20.8	1 12	7 49.75	+16 39.2	1.364	2.343	2.9	17.7
1 22	7 39.24	+26 25.2	2.036	3.010	3.3	20.9	1 22	7 39.24	+17 2.5	1.367	2.345	3.6	17.8
2 1	7 29.45	+26 43.1	2.071	3.007	7.0	21.1	2 1	7 29.62	+17 27.1	1.398	2.347	8.4	18.1
2 11	7 21.31	+26 51.8	2.133	3.004	10.5	21.3	2 11	7 22.17	+17 50.1	1.454	2.349	12.9	18.3
2 21	7 15.51	+26 52.2	2.218	3.001	13.4	21.5	2 21	7 17.67	+18 9.7	1.532	2.352	16.7	18.6
<b>233603</b>	2007 RL <sub>277</sub>		1 15.6 201°67	1.2/16.0	18		<b>11643</b>	1997 AM <sub>22</sub>		1 15.6 23°74	1.0/15.9	18	
12 13	8 11.26	+17 30.3	2.480	3.288	11.3	20.3	12 13	8 8.97	+16 46.4	0.988	1.850	20.2	16.7
12 23	8 5.49	+17 17.9	2.393	3.286	8.5	20.1	12 23	8 5.52	+17 13.7	0.945	1.865	15.0	16.5
1 2	7 57.92	+17 10.2	2.333	3.283	5.2	19.9	1 2	7 58.58	+17 56.6	0.921	1.882	9.1	16.2
1 12	7 49.19	+17 6.1	2.302	3.281	1.9	19.6	1 12	7 49.45	+18 49.4	0.920	1.901	2.8	15.9
1 22	7 40.12	+17 4.1	2.301	3.278	2.5	19.7	1 22	7 39.90	+19 44.4	0.942	1.921	4.0	16.1
2 1	7 31.57	+17 3.0	2.331	3.274	5.9	19.9	2 1	7 31.79	+20 34.6	0.988	1.943	9.9	16.5
2 11	7 24.35	+17 1.9	2.389	3.271	9.1	20.1	2 11	7 26.60	+21 15.5	1.055	1.966	15.1	16.8
2 21	7 19.04	+17 0.1	2.472	3.267	11.9	20.3	2 21	7 25.00	+21 45.4	1.142	1.991	19.4	17.2
<b>6884</b>	Takeshisato		1 15.6 40°75	0.3/15.6	18		<b>316467</b>	2010 UC <sub>98</sub>		1 15.6 168°14	1.8/16.3	18	
12 13	8 13.50	+18 42.1	1.198	2.046	18.4	17.1	12 13	8 11.64	+14 44.0	1.815	2.632	14.4	21.0
12 23	8 8.58	+19 6.2	1.142	2.056	13.7	16.8	12 23	8 6.37	+15 1.6	1.737	2.633	10.9	20.8
1 2	8 0.32	+19 41.5	1.107	2.066	8.2	16.6	1 2	7 58.72	+15 30.5	1.683	2.634	6.8	20.5
1 12	7 49.90	+20 22.7	1.096	2.077	2.2	16.2	1 12	7 49.48	+16 8.2	1.656	2.634	2.7	20.3
1 22	7 38.93	+21 3.5	1.110	2.089	3.8	16.4	1 22	7 39.72	+16 50.8	1.658	2.635	3.2	20.3
2 1	7 29.21	+21 38.8	1.150	2.101	9.5	16.7	2 1	7 30.62	+17 34.3	1.688	2.635	7.4	20.6
2 11	7 22.22	+22 5.7	1.213	2.113	14.5	17.1	2 11	7 23.30	+18 15.3	1.745	2.635	11.4	20.8
2 21	7 18.73	+22 23.5	1.296	2.126	18.6	17.4	2 21	7 18.48	+18 51.5	1.825	2.636	14.8	21.0
<b>240432</b>	2003 WD <sub>96</sub>		1 15.6 60°69	2.7/14.3	18		<b>157582</b>	2005 UE <sub>373</sub>		1 15.6 26°79	3.9/16.7	18	
12 13	8 11.86	+26 36.4	1.978	2.809	12.8	20.8	12 13	8 11.36	+12 27.4	1.621	2.440	15.8	19.9
12 23	8 6.41	+27 23.7	1.914	2.820	9.5	20.6	12 23	8 6.23	+11 54.3	1.552	2.445	12.2	19.7
1 2	7 58.65	+28 11.8	1.876	2.831	5.8	20.4	1 2	7 58.63	+11 33.0	1.507	2.452	8.1	19.5
1 12	7 49.41	+28 55.5	1.865	2.842	2.9	20.2	1 12	7 49.45	+11 23.5	1.486	2.458	4.5	19.3
1 22	7 39.79	+29 30.0	1.883	2.853	4.2	20.3	1 22	7 39.84	+11 24.7	1.494	2.465	4.7	19.3
2 1	7 30.94	+29 52.6	1.931	2.864	7.7	20.6	2 1	7 31.09	+11 34.4	1.528	2.473	8.3	19.6
2 11	7 23.91	+30 2.8	2.004	2.875	11.1	20.8	2 11	7 24.29	+11 49.8	1.588	2.481	12.2	19.8
2 21	7 19.36	+30 2.1	2.100	2.886	14.0	21.0	2 21	7 20.13	+12 7.9	1.670	2.489	15.6	20.0
<b>367592</b>	2009 SM <sub>279</sub>		1 15.6 127°78	2.6/14.4	18		<b>274611</b>	2008 TM <sub>57</sub>		1 15.6 158°22	1.0/15.1	18	
12 13	8 14.28	+27 19.7	2.212	3.034	12.0	21.9	12 13	8 11.57	+23 2.3	2.203	3.027	12.0	21.5
12 23	8 7.96	+28 0.2	2.146	3.047	8.9	21.7	12 23	8 6.00	+23 26.1	2.126	3.028	8.9	21.3
1 2	7 59.47	+28 40.4	2.106	3.059	5.5	21.5	1 2	7 58.35	+23 52.8	2.074	3.030	5.3	21.1
1 12	7 49.62	+29 15.5	2.094	3.070	2.7	21.3	1 12	7 49.36	+24 18.9	2.051	3.032	1.6	20.9
1 22	7 39.42	+29 41.5	2.113	3.081	3.9	21.4	1 22	7 39.97	+24 41.0	2.057	3.033	2.9	21.0
2 1	7 29.96	+29 56.3	2.161	3.092	7.2	21.7	2 1	7 31.19	+24 56.8	2.094	3.035	6.7	21.2
2 11	7 22.22	+29 59.9	2.237	3.102	10.3	21.9	2 11	7 23.99	+25 5.4	2.157	3.036	10.1	21.4
2 21	7 16.81	+29 53.8	2.336	3.112	13.1	22.1	2 21	7 18.98	+25 7.1	2.245	3.037	13.0	21.6
<b>19437</b>	Jennyblank		1 15.6 116°56	0.3/15.4	18		<b>115623</b>	2003 UE <sub>118</sub>		1 15.6 11°61	3.5/16.6	18	
12 13	8 11.97	+19 55.2	2.128	2.948	12.5	19.0	12 13	8 12.05	+13 43.5	1.399	2.229	17.2	19.2
12 23	8 6.25	+20 27.4	2.059	2.959	9.2	18.8	12 23	8 7.15	+13 19.3	1.330	2.230	13.2	18.9
1 2	7 58.47	+21 5.4	2.015	2.970	5.5	18.6	1 2	7 59.37	+13 7.8	1.282	2.232	8.6	18.7
1 12	7 49.36	+21 45.5	1.999	2.981	1.4	18.4	1 12	7 49.68	+13 8.3	1.259	2.234	4.3	18.4
1 22	7 39.89	+22 23.7	2.014	2.991	2.7	18.5	1 22	7 39.42	+13 18.8	1.262	2.237	4.6	18.5
2 1	7 31.10	+22 56.9	2.058	3.001	6.6	18.8	2 1	7 30.10	+13 36.4	1.292	2.240	9.0	18.7
2 11	7 23.91	+23 23.5	2.130	3.011	10.1	19.0	2 11	7 23.03	+13 57.7	1.345	2.244	13.5	19.0
2 21	7 18.94	+23 42.9	2.226	3.021	13.0	19.2	2 21	7 19.02	+14 19.5	1.420	2.248	17.4	19.2
<b>234489</b>	2001 TM <sub>62</sub>		1 15.6 116°73	3.9/13.5	18		<b>90475</b>	2004 CC <sub>105</sub>		1 15.6 15°99	7.9/20.2	18	
12 13	8 13.46	+33 53.0	2.719	3.533	10.3	20.7	12 13	8 6.18	- 1 59.5	1.807	2.573	16.5	18.3
12 23	8 7.08	+34 35.2	2.658	3.548	7.8	20.5	12 23	8 2.24	- 2 5.7	1.736	2.578	13.8	18.1
1 2	7 58.83	+35 12.5	2.623	3.564	5.4	20.4	1 2	7 56.20	- 1 47.1	1.685	2.584	11.0	18.0
1 12	7 49.44	+35 40.7	2.618	3.579	3.9	20.3	1 12	7 48.81	- 1 2.6	1.658	2.591	8.6	17.9
1 22	7 39.79	+35 56.7	2.644	3.594	4.8	20.4	1 22	7 40.99	+ 0 5.9	1.657	2.598	7.9	17.8
2 1	7 30.81	+35 59.2	2.699	3.608	7.0	20.6	2 1	7 33.79	+ 1 33.4	1.682	2.606	9.4	17.9
2 11	7 23.34	+35 49.2	2.781	3.622	9.3	20.7	2 11	7 28.18	+ 3 12.7	1.733	2.615	11.9	18.1
2 21	7 17.92	+35 28.8	2.887	3.636	11.4	20.9	2 21	7 24.79	+ 4 55.9	1.808	2.625	14.7	18.3
<b>303435</b>	2005 AE <sub>45</sub>		1 15.6 5°49	1.7/15.1	18		<b>288562</b>	2004 HW <sub>10</sub>		1 15.6 225°02	4.4/13.4	18	
12 13	8 12.57	+23 54.3	1.237	2.090	17.6	20.2	12 13	8 14.93	+30 58.7	2.021	2.847	12.8	20.9
12 23	8 8.02	+24 11.0	1.173	2.090	13.1	19.9	12 23	8 8.97	+32 2.5	1.941	2.841	9.7	20.6
1 2	8 0.08	+24 31.8	1.130	2.090	7.8	19.6	1 2	8 0.38	+33 5.2	1.887	2.834	6.5	20.4
1 12	7 49.88	+24 51.0	1.111	2.092	2.5	19.3	1 12	7 49.96	+33 59.7	1.860	2.827	4.5	20.3
1 22	7 39.02	+25 3.2	1.117	2.094	4.4	19.4	1 22	7 38.87	+34 40.1	1.863	2.820	5.7	20.4
2 1	7 29.35	+25 5.5	1.149	2.098	9.9	19.8	2 1	7 28.43	+35 3.0	1.894	2.812	8.9	20.5
2 11	7 22.39	+24 57.7	1.204	2.102	14.8	20.0	2 11	7 19.91	+35 8.6	1.951	2.805	12.2	20.7
2 21	7 18.98	+24 41.4	1.278	2.107	18.9	20.3	2 21	7 14.10	+34 59.5	2.030	2.796	15.1	20.9
<b>188218</b>	2002 TK <sub>46</sub>		1 15.6 124°34	3.8/16.9	17		<b>136424</b>	2005 CW <sub>51</sub>		1 15.6 197°59	1.0/15.9	18	
12 13	8 16.26	+10 49.6	1.639	2.444	16.3	21.0	12 13	8 13.48	+17 0.8	1.892	2.709	13.9	20.4
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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>300296</b>	2007 PD <sub>10</sub>		1 15.6 70°41	0°2/15.7	17		<b>421024</b>	2013 PO <sub>63</sub>		1 15.6 211°04	0°8/15.9	16	
12 13	8 15.68	+18 30.8	1.449	2.281	16.6	20.7	12 13	8 12.98	+18 12.1	2.250	3.061	12.2	21.9
12 23	8 9.56	+19 1.5	1.399	2.305	12.3	20.5	12 23	8 7.01	+18 13.9	2.161	3.056	9.1	21.7
1 2	8 0.62	+19 41.4	1.372	2.329	7.3	20.3	1 2	7 58.99	+18 21.2	2.098	3.050	5.6	21.5
1 12	7 49.97	+20 25.2	1.372	2.353	2.0	20.0	1 12	7 49.59	+18 32.0	2.063	3.043	1.8	21.2
1 22	7 39.03	+21 7.5	1.399	2.377	3.4	20.1	1 22	7 39.72	+18 44.1	2.059	3.036	2.6	21.3
2 1	7 29.28	+21 43.9	1.454	2.401	8.3	20.5	2 1	7 30.40	+18 55.3	2.085	3.029	6.4	21.5
2 11	7 21.93	+22 12.3	1.534	2.424	12.6	20.8	2 11	7 22.56	+19 4.4	2.139	3.021	10.0	21.7
2 21	7 17.63	+22 32.3	1.635	2.448	16.2	21.1	2 21	7 16.87	+19 10.6	2.217	3.012	13.1	21.9
<b>301048</b>	2008 TB <sub>162</sub>		1 15.6 260°79	4°0/14.2	18		<b>355840</b>	2008 UW <sub>51</sub>		1 15.6 11°84	4°4/14.1	18	
12 13	8 16.89	+28 31.9	1.559	2.396	15.4	21.3	12 13	8 14.47	+27 57.9	1.277	2.128	17.2	20.4
12 23	8 11.04	+29 17.8	1.477	2.384	11.6	21.0	12 23	8 9.56	+28 53.4	1.214	2.129	12.9	20.1
1 2	8 1.91	+30 4.3	1.418	2.372	7.4	20.8	1 2	8 1.10	+29 50.2	1.174	2.131	8.2	19.9
1 12	7 50.43	+30 43.8	1.385	2.360	4.1	20.5	1 12	7 50.22	+30 39.2	1.157	2.133	4.5	19.7
1 22	7 38.05	+31 9.4	1.380	2.348	5.7	20.6	1 22	7 38.62	+31 12.6	1.167	2.136	6.3	19.8
2 1	7 26.52	+31 17.5	1.402	2.335	10.0	20.8	2 1	7 28.22	+31 26.3	1.202	2.139	10.9	20.0
2 11	7 17.42	+31 8.6	1.449	2.322	14.4	21.0	2 11	7 20.65	+31 21.1	1.259	2.143	15.4	20.3
2 21	7 11.74	+30 46.0	1.516	2.310	18.1	21.3	2 21	7 16.80	+31 1.0	1.336	2.147	19.2	20.6
<b>239722</b>	2009 BD <sub>51</sub>		1 15.6 351°44	0°2/15.5	18		<b>274833</b>	2009 QQ <sub>1</sub>		1 15.6 125°34	0°7/15.4	17	
12 13	8 8.94	+20 2.8	2.103	2.929	12.4	21.0	12 13	8 21.96	+22 35.6	1.596	2.418	15.9	21.7
12 23	8 4.17	+20 30.5	2.024	2.927	9.2	20.8	12 23	8 14.07	+22 40.5	1.535	2.436	11.7	21.5
1 2	7 57.33	+21 4.3	1.969	2.926	5.5	20.5	1 2	8 3.28	+22 48.2	1.499	2.454	7.0	21.2
1 12	7 49.12	+21 40.7	1.943	2.924	1.4	20.3	1 12	7 50.72	+22 54.4	1.489	2.471	1.9	21.0
1 22	7 40.46	+22 16.2	1.946	2.923	2.7	20.4	1 22	7 37.85	+22 55.6	1.510	2.487	3.5	21.1
2 1	7 32.37	+22 47.5	1.978	2.922	6.7	20.6	2 1	7 26.21	+22 50.2	1.559	2.502	8.3	21.4
2 11	7 25.80	+23 12.7	2.036	2.922	10.3	20.8	2 11	7 17.07	+22 38.8	1.635	2.516	12.6	21.7
2 21	7 21.42	+23 31.0	2.119	2.921	13.3	21.0	2 21	7 11.10	+22 22.8	1.733	2.529	16.1	22.0
<b>7605</b>	Cindygraber		1 15.6 255°75	3°9/14.5	18		<b>102346</b>	1999 TF <sub>122</sub>		1 15.6 93°07	4°6/17.4	18	
12 13	8 18.75	+34 53.8	2.438	3.247	11.4	16.6	12 13	8 12.92	+ 8 51.2	1.673	2.476	16.1	19.9
12 23	8 11.17	+34 50.5	2.353	3.241	8.8	16.4	12 23	8 7.29	+ 8 39.7	1.608	2.489	12.5	19.7
1 2	8 1.36	+34 39.3	2.293	3.234	6.0	16.2	1 2	7 59.24	+ 8 44.3	1.565	2.502	8.6	19.5
1 12	7 50.17	+34 16.4	2.263	3.228	4.0	16.1	1 12	7 49.65	+ 9 4.4	1.549	2.515	5.2	19.3
1 22	7 38.68	+33 39.6	2.263	3.221	4.8	16.1	1 22	7 39.68	+ 9 37.5	1.560	2.528	5.1	19.3
2 1	7 28.02	+32 49.3	2.294	3.214	7.4	16.3	2 1	7 30.54	+10 19.8	1.599	2.540	8.2	19.5
2 11	7 19.20	+31 48.2	2.353	3.207	10.3	16.4	2 11	7 23.34	+11 6.6	1.664	2.553	11.9	19.8
2 21	7 12.82	+30 40.3	2.437	3.200	12.9	16.6	2 21	7 18.72	+11 53.7	1.751	2.565	15.2	20.0
<b>320868</b>	2008 GL <sub>1</sub>		1 15.6 200°76	5°8/12.9	18		<b>168534</b>	1999 VW <sub>45</sub>		1 15.6 80°16	3°4/14.5	18	
12 13	8 17.86	+37 17.2	2.242	3.055	12.2	20.8	12 13	8 17.55	+28 27.4	1.584	2.419	15.3	19.6
12 23	8 10.96	+38 9.7	2.167	3.052	9.6	20.6	12 23	8 11.03	+28 58.5	1.527	2.433	11.4	19.4
1 2	8 1.47	+38 55.0	2.117	3.049	7.1	20.5	1 2	8 1.57	+29 27.9	1.493	2.447	7.1	19.1
1 12	7 50.25	+39 26.6	2.094	3.044	5.8	20.4	1 12	7 50.28	+29 49.0	1.485	2.461	3.6	19.0
1 22	7 38.49	+39 39.7	2.101	3.040	6.7	20.4	1 22	7 38.63	+29 57.4	1.506	2.475	5.0	19.1
2 1	7 27.52	+39 32.7	2.136	3.035	9.1	20.6	2 1	7 28.18	+29 51.3	1.554	2.489	9.0	19.3
2 11	7 18.53	+39 7.5	2.197	3.029	11.8	20.7	2 11	7 20.19	+29 32.3	1.628	2.503	12.9	19.6
2 21	7 12.27	+38 28.3	2.281	3.023	14.3	20.9	2 21	7 15.36	+29 3.8	1.722	2.517	16.2	19.9
<b>165802</b>	2001 RV <sub>54</sub>		1 15.6 138°30	1°4/14.8	18		<b>461082</b>	2015 AJ <sub>86</sub>		1 15.6 56°07	0°8/15.9	18	
12 13	8 10.86	+24 54.5	2.691	3.508	10.2	20.3	12 13	8 11.56	+17 34.4	1.784	2.609	14.3	20.1
12 23	8 5.14	+25 22.2	2.618	3.517	7.5	20.2	12 23	8 6.17	+17 53.5	1.726	2.628	10.6	20.0
1 2	7 57.71	+25 50.9	2.572	3.526	4.5	20.0	1 2	7 58.51	+18 20.9	1.692	2.647	6.4	19.7
1 12	7 49.20	+26 17.3	2.555	3.534	1.7	19.8	1 12	7 49.45	+18 53.1	1.686	2.667	2.0	19.5
1 22	7 40.41	+26 38.8	2.569	3.542	2.8	19.9	1 22	7 40.09	+19 26.3	1.708	2.686	2.9	19.6
2 1	7 32.16	+26 53.5	2.614	3.550	5.8	20.1	2 1	7 31.61	+19 57.2	1.759	2.706	7.1	19.9
2 11	7 25.21	+27 0.9	2.688	3.557	8.6	20.3	2 11	7 24.99	+20 23.6	1.836	2.726	10.9	20.2
2 21	7 20.11	+27 1.3	2.786	3.564	11.1	20.5	2 21	7 20.84	+20 44.2	1.936	2.746	14.1	20.4
<b>163292</b>	2002 GB <sub>151</sub>		1 15.6 7°91	4°3/16.8	18		<b>191933</b>	2005 TL <sub>105</sub>		1 15.6 109°89	1°3/15.2	18	
12 13	8 12.11	+12 3.6	1.382	2.209	17.6	19.6	12 13	8 20.33	+23 46.6	1.602	2.428	15.6	20.8
12 23	8 7.24	+11 36.0	1.312	2.209	13.6	19.4	12 23	8 12.86	+23 59.3	1.545	2.448	11.5	20.6
1 2	7 59.47	+11 22.9	1.263	2.210	9.1	19.1	1 2	8 2.56	+24 14.0	1.512	2.467	6.8	20.4
1 12	7 49.75	+11 24.3	1.238	2.211	5.0	18.9	1 12	7 50.54	+24 25.8	1.505	2.486	2.1	20.1
1 22	7 39.42	+11 38.3	1.240	2.213	5.1	18.9	1 22	7 38.23	+24 31.1	1.528	2.504	3.7	20.3
2 1	7 30.01	+12 1.8	1.268	2.215	9.3	19.2	2 1	7 27.15	+24 28.1	1.580	2.522	8.3	20.6
2 11	7 22.86	+12 30.7	1.319	2.217	13.7	19.4	2 11	7 18.51	+24 17.3	1.658	2.539	12.4	20.9
2 21	7 18.78	+13 1.1	1.392	2.220	17.6	19.7	2 21	7 12.99	+24 0.7	1.757	2.555	15.9	21.1
<b>46986</b>	1998 SR <sub>163</sub>		1 15.6 67°61	1°9/16.3	17		<b>377531</b>	2005 GC <sub>124</sub>		1 15.6 339°22	2°4/16.5	18	
12 13	8 15.08	+14 42.9	1.572	2.392	16.1	19.8	12 13	8 8.34	+14 27.1	1.721	2.547	14.7	20.8
12 23	8 8.81	+15 0.9	1.525	2.423	12.0	19.7	12 23	8 4.13	+14 22.7	1.638	2.537	11.2	20.6
1 2	8 0.05	+15 30.8	1.502	2.453	7.4	19.5	1 2	7 57.51	+14 29.3	1.577	2.528	7.2	20.3
1 12	7 49.83	+16 8.8	1.505	2.483	2.9	19.3	1 12	7 49.24	+14 45.6	1.542	2.519	3.2	20.1
1 22	7 39.41	+16 50.4	1.536	2.513	3.4	19.4	1 22	7 40.39	+15 9.0	1.535	2.511	3.6	20.1
2 1	7 30.11	+17 31.5	1.596	2.543	7.7	19.7	2 1	7 32.15	+15 36.4	1.555	2.504	7.7	20.3
2 11	7 22.98	+18 8.8	1.682	2.573	11.7	20.0	2 11	7 25.67	+16 4.7	1.601	2.497	11.8	20.5
2 21	7 18.62	+18 40.5	1.790	2.602	15.0	20.3	2 21	7 21.71	+16 31.3	1.669	2.491	15.5	20.7
<b>56703</b>	2000 LT <sub>30</sub>		1 15.6 198°10	2°6/16.6	18		<b>1659</b>	Punkharju		1 15.6 65°97	6°8/14.0	18	R
12 13	8 12.66	+13 14.8	2.331	3.129	12.3	18.8	12 13	8 23.70	+39 37.2	1.770	2.584	14.9	

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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>179769</b>	2002 <i>SO</i> <sub>18</sub>		1 15.6 96°48	1.0°/15.2	18		<b>494719</b>	2005 <i>SD</i> <sub>171</sub>		1 15.6 108°89	3°2°/16.9	18	
12 13	8 14.85	+22 23.1	1.748	2.577	14.4	21.0	12 13	8 12.05	+11 32.7	1.967	2.771	14.0	21.8
12 23	8 8.76	+22 50.1	1.685	2.590	10.6	20.8	12 23	8 6.40	+11 25.4	1.897	2.782	10.7	21.6
1 2	8 0.14	+23 21.2	1.646	2.603	6.3	20.5	1 2	7 58.64	+11 29.8	1.851	2.793	7.1	21.4
1 12	7 49.91	+23 51.9	1.635	2.616	1.8	20.3	1 12	7 49.54	+11 44.8	1.832	2.803	3.8	21.2
1 22	7 39.30	+24 17.8	1.652	2.629	3.4	20.4	1 22	7 40.09	+12 8.3	1.842	2.814	3.9	21.2
2 1	7 29.61	+24 36.0	1.698	2.641	7.7	20.7	2 1	7 31.35	+12 37.4	1.881	2.824	7.1	21.4
2 11	7 21.98	+24 45.7	1.771	2.653	11.7	21.0	2 11	7 24.26	+13 9.1	1.947	2.834	10.6	21.7
2 21	7 17.09	+24 47.5	1.865	2.665	15.0	21.2	2 21	7 19.43	+13 40.5	2.037	2.843	13.6	21.9
<b>117126</b>	2004 <i>PN</i> <sub>39</sub>		1 15.6 125°51	1°0°/16.1	18		<b>320737</b>	2008 <i>EL</i> <sub>36</sub>		1 15.6 265°42	0°0°/15.6	16	
12 13	8 12.12	+16 45.2	2.280	3.090	12.1	20.7	12 13	8 12.05	+19 7.6	1.881	2.706	13.7	21.7
12 23	8 6.21	+16 59.2	2.210	3.103	9.0	20.5	12 23	8 6.84	+19 34.9	1.791	2.693	10.2	21.5
1 2	7 58.42	+17 20.1	2.165	3.116	5.5	20.3	1 2	7 59.16	+20 10.3	1.725	2.681	6.2	21.2
1 12	7 49.43	+17 45.5	2.149	3.129	1.9	20.1	1 12	7 49.74	+20 50.1	1.687	2.668	1.7	20.9
1 22	7 40.15	+18 12.7	2.164	3.141	2.5	20.1	1 22	7 39.64	+21 30.0	1.678	2.656	3.0	20.9
2 1	7 31.50	+18 39.2	2.209	3.153	6.1	20.4	2 1	7 30.09	+22 6.1	1.698	2.643	7.5	21.2
2 11	7 24.34	+19 2.9	2.282	3.165	9.4	20.6	2 11	7 22.26	+22 35.9	1.744	2.630	11.6	21.4
2 21	7 19.22	+19 22.9	2.379	3.176	12.2	20.8	2 21	7 16.97	+22 58.3	1.813	2.617	15.2	21.6
<b>299456</b>	2006 <i>BT</i> <sub>62</sub>		1 15.6 309°03	1°3°/16.1	18		<b>417041</b>	2005 <i>UX</i> <sub>118</sub>		1 15.6 121°72	0°9°/15.9	18	
12 13	8 12.31	+15 16.5	1.459	2.289	16.6	20.3	12 13	8 12.36	+17 35.5	1.967	2.785	13.4	22.2
12 23	8 7.48	+15 50.8	1.382	2.286	12.6	20.0	12 23	8 6.73	+17 44.7	1.893	2.791	10.0	22.0
1 2	7 59.71	+16 39.9	1.328	2.283	7.8	19.8	1 2	7 58.89	+18 1.1	1.844	2.797	6.1	21.7
1 12	7 49.89	+17 40.0	1.299	2.280	2.6	19.4	1 12	7 49.62	+18 22.3	1.823	2.803	2.0	21.5
1 22	7 39.31	+18 44.8	1.298	2.277	3.5	19.5	1 22	7 39.95	+18 45.2	1.831	2.809	2.8	21.5
2 1	7 29.50	+19 48.2	1.324	2.274	8.7	19.8	2 1	7 30.98	+19 7.2	1.868	2.814	6.9	21.8
2 11	7 21.88	+20 45.0	1.375	2.271	13.4	20.1	2 11	7 23.71	+19 26.1	1.932	2.819	10.6	22.1
2 21	7 17.33	+21 32.5	1.447	2.268	17.5	20.3	2 21	7 18.79	+19 41.1	2.020	2.824	13.8	22.3
<b>356328</b>	2010 <i>JL</i> <sub>75</sub>		1 15.6 191°23	2°8°/14.5	18		<b>467106</b>	2016 <i>EB</i> <sub>59</sub>		1 15.6 218°98	1°4°/14.9	17	
12 13	8 16.18	+26 14.6	1.698	2.530	14.6	21.0	12 13	8 13.02	+24 31.9	2.350	3.169	11.5	22.3
12 23	8 10.11	+26 58.7	1.624	2.530	10.9	20.7	12 23	8 7.09	+24 56.0	2.262	3.162	8.5	22.1
1 2	8 1.16	+27 44.9	1.573	2.529	6.7	20.5	1 2	7 59.09	+25 21.8	2.200	3.154	5.1	21.8
1 12	7 50.26	+28 26.7	1.550	2.527	3.1	20.3	1 12	7 49.69	+25 45.8	2.166	3.146	1.8	21.6
1 22	7 38.70	+28 58.3	1.555	2.526	4.7	20.4	1 22	7 39.81	+26 4.6	2.164	3.138	3.1	21.7
2 1	7 28.00	+29 16.2	1.589	2.524	8.8	20.6	2 1	7 30.46	+26 16.1	2.191	3.129	6.6	21.9
2 11	7 19.50	+29 20.3	1.647	2.522	12.9	20.9	2 11	7 22.60	+26 19.5	2.247	3.119	10.0	22.1
2 21	7 14.01	+29 12.7	1.728	2.520	16.3	21.1	2 21	7 16.90	+26 15.7	2.326	3.110	12.9	22.3
<b>393740</b>	2005 <i>CC</i> <sub>30</sub>		1 15.6 181°27	0°7°/15.1	17		<b>509012</b>	2005 <i>LE</i> <sub>53</sub>		1 15.6 148°71	0°5°/15.8	18	
12 13	8 5.79	+23 8.7	3.798	4.611	7.6	21.7	12 13	8 18.85	+19 18.2	1.766	2.582	14.8	22.6
12 23	8 1.07	+23 29.9	3.714	4.611	5.6	21.5	12 23	8 11.68	+19 21.2	1.696	2.593	11.0	22.4
1 2	7 55.18	+23 52.6	3.657	4.611	3.3	21.4	1 2	8 1.89	+19 29.9	1.650	2.603	6.6	22.2
1 12	7 48.57	+24 14.8	3.630	4.611	1.0	21.2	1 12	7 50.44	+19 41.2	1.632	2.613	1.9	21.9
1 22	7 41.72	+24 34.9	3.635	4.611	1.8	21.2	1 22	7 38.57	+19 52.1	1.644	2.621	3.1	22.0
2 1	7 35.19	+24 51.5	3.672	4.610	4.2	21.4	2 1	7 27.63	+20 0.2	1.685	2.629	7.7	22.3
2 11	7 29.48	+25 3.7	3.738	4.609	6.4	21.6	2 11	7 18.80	+20 4.6	1.753	2.636	11.8	22.5
2 21	7 24.99	+25 11.4	3.830	4.608	8.3	21.7	2 21	7 12.78	+20 5.2	1.844	2.642	15.2	22.8
<b>168481</b>	1999 <i>RN</i> <sub>85</sub>		1 15.6 121°33	0°0°/15.5	18		<b>43946</b>	1997 <i>AR</i> <sub>6</sub>		1 15.6 4°40	3°4°/16.1	18	
12 13	8 15.37	+19 20.6	1.883	2.701	13.9	20.8	12 13	8 14.65	+16 59.1	1.089	1.938	19.8	17.9
12 23	8 8.96	+19 47.3	1.818	2.717	10.3	20.6	12 23	8 9.77	+16 4.4	1.025	1.937	15.1	17.6
1 2	8 0.20	+20 20.5	1.777	2.732	6.1	20.4	1 2	8 1.27	+15 18.2	0.981	1.937	9.6	17.3
1 12	7 49.96	+20 56.2	1.765	2.747	1.6	20.1	1 12	7 50.34	+14 41.1	0.960	1.938	4.3	17.0
1 22	7 39.34	+21 30.4	1.783	2.761	2.9	20.3	1 22	7 38.74	+14 13.1	0.963	1.940	5.1	17.1
2 1	7 29.57	+21 59.8	1.830	2.774	7.2	20.6	2 1	7 28.42	+13 53.5	0.991	1.942	10.5	17.4
2 11	7 21.69	+22 22.6	1.905	2.787	11.0	20.8	2 11	7 21.03	+13 40.9	1.040	1.946	15.8	17.7
2 21	7 16.36	+22 38.6	2.002	2.800	14.2	21.0	2 21	7 17.41	+13 33.3	1.109	1.950	20.3	18.0
<b>486012</b>	2012 <i>RN</i> <sub>11</sub>		1 15.6 84°55	3°5°/14.8	17		<b>154372</b>	2002 <i>XM</i> <sub>84</sub>		1 15.6 89°76	4°7°/14.0	18	
12 13	8 22.55	+28 20.5	1.338	2.175	17.5	21.2	12 13	8 21.59	+29 48.6	1.454	2.288	16.5	19.4
12 23	8 14.96	+28 46.0	1.291	2.198	13.0	21.0	12 23	8 14.20	+30 51.9	1.409	2.313	12.3	19.2
1 2	8 3.97	+29 8.9	1.265	2.220	8.0	20.8	1 2	8 3.54	+31 52.0	1.387	2.338	7.9	19.0
1 12	7 50.95	+29 21.9	1.266	2.243	3.9	20.6	1 12	7 50.87	+32 39.9	1.392	2.363	4.9	18.9
1 22	7 37.72	+29 20.3	1.294	2.265	5.4	20.8	1 22	7 37.91	+33 9.1	1.424	2.387	6.3	19.0
2 1	7 26.12	+29 3.3	1.349	2.286	9.9	21.1	2 1	7 26.41	+33 17.4	1.483	2.410	10.1	19.3
2 11	7 17.56	+28 33.8	1.428	2.308	14.2	21.4	2 11	7 17.77	+33 7.5	1.568	2.433	13.9	19.6
2 21	7 12.66	+27 56.3	1.528	2.328	17.7	21.7	2 21	7 12.66	+32 43.9	1.672	2.456	17.1	19.9
<b>378449</b>	2007 <i>RP</i> <sub>312</sub>		1 15.6 83°88	5°0°/18.2	18		<b>88281</b>	2001 <i>MV</i> <sub>18</sub>		1 15.6 119°71	5°2°/17.8	18	
12 13	8 8.70	+ 4 41.9	2.283	3.059	13.2	21.3	12 13	8 15.10	+ 6 48.7	1.703	2.494	16.3	20.1
12 23	8 3.67	+ 4 30.4	2.213	3.072	10.5	21.1	12 23	8 8.86	+ 6 38.2	1.639	2.511	12.9	19.9
1 2	7 56.91	+ 4 33.7	2.166	3.085	7.8	21.0	1 2	8 0.19	+ 6 45.4	1.597	2.527	9.1	19.7
1 12	7 49.06	+ 4 52.0	2.147	3.099	5.5	20.9	1 12	7 49.99	+ 7 10.0	1.581	2.542	5.9	19.6
1 22	7 40.93	+ 5 23.7	2.155	3.111	5.2	20.9	1 22	7 39.40	+ 7 49.4	1.593	2.557	5.6	19.6
2 1	7 33.37	+ 6 6.0	2.193	3.124	7.1	21.0	2 1	7 29.68	+ 8 39.4	1.633	2.571	8.4	19.8
2 11	7 27.14	+ 6 55.2	2.259	3.137	9.7	21.2	2 11	7 21.91	+ 9 35.0	1.700	2.585	12.0	20.0
2 21	7 22.77	+ 7 47.1	2.348	3.150	12.2	21.4	2 21	7 16.75	+10 31.2	1.790	2.597	15.2	20.3
<b>445578</b>	2011 <i>QD</i> <sub>64</sub>		1 15.6 47°45	0°7°/15.8	16		<b>62202</b>	2000 <i>SY</i> <sub>54</sub>		1 15.6 270°32	0°8°/15.9	18	
12 13	8												

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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>265859</b>	2005 YZ <sub>159</sub>		1 15.6 203°93	1.9°/16.4	18		<b>193832</b>	2001 QW <sub>42</sub>		1 15.6 92°32	0°3/15.7	17	
12 13	8 11.53	+14 49.3	2.375	3.179	11.9	20.9	12 13	8 16.38	+17 42.1	1.478	2.306	16.6	20.8
12 23	8 5.85	+14 45.3	2.287	3.175	9.0	20.7	12 23	8 10.19	+18 19.6	1.422	2.325	12.3	20.5
1 2	7 58.28	+14 48.8	2.224	3.171	5.7	20.5	1 2	8 1.14	+19 7.7	1.388	2.344	7.4	20.3
1 12	7 49.48	+14 58.4	2.190	3.166	2.5	20.3	1 12	7 50.28	+20 0.9	1.381	2.363	2.1	20.0
1 22	7 40.25	+15 12.4	2.186	3.161	2.9	20.3	1 22	7 39.01	+20 53.3	1.403	2.381	3.3	20.1
2 1	7 31.52	+15 28.9	2.212	3.156	6.2	20.5	2 1	7 28.83	+21 39.8	1.452	2.399	8.4	20.5
2 11	7 24.15	+15 45.9	2.267	3.150	9.5	20.7	2 11	7 21.02	+22 17.6	1.527	2.417	12.8	20.8
2 21	7 18.73	+16 2.0	2.346	3.144	12.4	20.9	2 21	7 16.28	+22 45.9	1.623	2.434	16.4	21.1
<b>452540</b>	2004 TH <sub>275</sub>		1 15.6 105°74	3°0/16.8	16		<b>329004</b>	2010 XC <sub>50</sub>		1 15.6 46°22	0°4/15.8	18	
12 13	8 16.28	+12 26.0	1.742	2.548	15.4	21.9	12 13	8 11.27	+17 2.2	1.608	2.438	15.3	20.5
12 23	8 9.61	+12 21.5	1.683	2.570	11.7	21.7	12 23	8 6.38	+17 48.7	1.542	2.447	11.4	20.3
1 2	8 0.57	+12 29.2	1.647	2.592	7.6	21.5	1 2	7 58.90	+18 46.7	1.500	2.456	6.9	20.0
1 12	7 50.07	+12 47.4	1.639	2.613	3.8	21.3	1 12	7 49.70	+19 51.4	1.484	2.465	1.9	19.7
1 22	7 39.29	+13 13.3	1.659	2.633	3.9	21.4	1 22	7 39.99	+20 56.7	1.496	2.475	3.1	19.9
2 1	7 29.47	+13 43.5	1.709	2.653	7.6	21.6	2 1	7 31.10	+21 56.9	1.537	2.485	7.9	20.2
2 11	7 21.64	+14 14.9	1.786	2.672	11.4	21.9	2 11	7 24.22	+22 48.3	1.603	2.495	12.1	20.4
2 21	7 16.43	+14 44.8	1.885	2.690	14.6	22.1	2 21	7 20.09	+23 29.3	1.692	2.505	15.7	20.7
<b>171445</b>	2007 RT <sub>141</sub>		1 15.6 104°70	1°2/15.2	18		<b>394390</b>	2007 ES <sub>72</sub>		1 15.6 229°95	2°5/16.5	18	
12 13	8 17.28	+22 49.8	1.765	2.589	14.5	20.8	12 13	8 14.36	+13 44.3	1.646	2.463	15.7	22.0
12 23	8 10.47	+23 17.9	1.707	2.610	10.6	20.6	12 23	8 8.77	+13 51.6	1.561	2.455	12.0	21.7
1 2	8 1.13	+23 49.3	1.674	2.630	6.3	20.4	1 2	8 0.43	+14 11.8	1.498	2.447	7.7	21.5
1 12	7 50.23	+24 19.2	1.668	2.649	1.9	20.2	1 12	7 50.15	+14 43.1	1.461	2.438	3.4	21.2
1 22	7 39.02	+24 43.4	1.692	2.668	3.4	20.3	1 22	7 39.12	+15 21.9	1.452	2.429	3.8	21.2
2 1	7 28.83	+24 59.1	1.745	2.687	7.7	20.6	2 1	7 28.75	+16 3.9	1.472	2.419	8.3	21.4
2 11	7 20.77	+25 6.0	1.825	2.705	11.6	20.9	2 11	7 20.34	+16 45.3	1.518	2.409	12.7	21.7
2 21	7 15.49	+25 5.2	1.927	2.722	14.8	21.1	2 21	7 14.76	+17 23.1	1.586	2.399	16.6	21.9
<b>135700</b>	2002 PV <sub>18</sub>		1 15.6 49°05	0°3/15.5	17		<b>144659</b>	2004 FP <sub>116</sub>		1 15.6 312°35	7°1/19.4	18	
12 13	8 17.64	+21 12.5	1.281	2.122	17.9	19.3	12 13	8 6.61	-1 6.0	2.174	2.930	14.4	20.0
12 23	8 11.09	+21 21.0	1.245	2.155	13.1	19.1	12 23	8 2.45	-1 18.8	2.080	2.916	12.1	19.8
1 2	8 1.53	+21 35.1	1.230	2.188	7.7	18.9	1 2	7 56.39	-1 11.8	2.007	2.903	9.6	19.7
1 12	7 50.30	+21 50.1	1.241	2.222	2.0	18.6	1 12	7 49.02	-0 43.1	1.959	2.890	7.6	19.5
1 22	7 39.03	+22 1.8	1.278	2.257	3.6	18.8	1 22	7 41.13	+0 6.4	1.938	2.877	7.1	19.5
2 1	7 29.30	+22 7.8	1.343	2.291	8.7	19.2	2 1	7 33.64	+1 13.9	1.945	2.865	8.6	19.5
2 11	7 22.32	+22 7.8	1.432	2.326	13.2	19.6	2 11	7 27.42	+2 34.1	1.979	2.853	11.1	19.6
2 21	7 18.61	+22 2.4	1.542	2.360	16.7	19.9	2 21	7 23.13	+4 1.0	2.036	2.841	13.7	19.8
<b>104824</b>	2000 HP <sub>56</sub>		1 15.6 265°93	1°4/14.9	18		<b>61593</b>	2000 QZ <sub>87</sub>		1 15.6 118°47	1°4/16.2	18	
12 13	8 10.59	+23 46.5	2.246	3.071	11.7	20.1	12 13	8 12.85	+16 19.0	2.091	2.902	13.0	20.1
12 23	8 5.39	+24 20.1	2.163	3.066	8.7	19.9	12 23	8 6.92	+16 22.8	2.021	2.915	9.7	19.9
1 2	7 58.11	+24 56.8	2.105	3.061	5.2	19.7	1 2	7 58.95	+16 34.2	1.976	2.926	6.0	19.7
1 12	7 49.45	+25 32.7	2.075	3.055	1.8	19.4	1 12	7 49.69	+16 51.0	1.959	2.938	2.2	19.5
1 22	7 40.31	+26 3.9	2.076	3.050	3.1	19.5	1 22	7 40.10	+17 10.6	1.972	2.949	2.8	19.5
2 1	7 31.70	+26 27.7	2.106	3.045	6.8	19.7	2 1	7 31.21	+17 30.7	2.015	2.960	6.5	19.8
2 11	7 24.59	+26 42.9	2.163	3.039	10.1	19.9	2 11	7 23.95	+17 49.4	2.086	2.971	10.0	20.0
2 21	7 19.64	+26 49.7	2.244	3.034	13.1	20.1	2 21	7 18.89	+18 5.3	2.180	2.981	13.1	20.2
<b>51888</b>	2001 QZ <sub>17</sub>		1 15.6 119°77	0°2/15.5	18		<b>209661</b>	2005 CR <sub>35</sub>		1 15.6 289°07	3°3/14.2	18	
12 13	8 6.38	+21 18.1	3.711	4.520	7.9	19.7	12 13	8 13.81	+25 43.5	1.550	2.390	15.3	20.6
12 23	8 1.45	+21 32.0	3.639	4.534	5.8	19.5	12 23	8 8.81	+26 46.3	1.468	2.378	11.5	20.3
1 2	7 55.40	+21 47.8	3.594	4.548	3.4	19.4	1 2	8 0.68	+27 54.3	1.409	2.366	7.1	20.0
1 12	7 48.66	+22 4.1	3.580	4.561	0.9	19.2	1 12	7 50.27	+28 59.9	1.377	2.354	3.5	19.8
1 22	7 41.75	+22 19.1	3.597	4.574	1.7	19.3	1 22	7 38.93	+29 55.2	1.372	2.342	5.3	19.9
2 1	7 35.21	+22 31.8	3.646	4.587	4.1	19.5	2 1	7 28.31	+30 34.6	1.394	2.330	9.8	20.1
2 11	7 29.53	+22 41.3	3.725	4.600	6.3	19.7	2 11	7 19.94	+30 56.6	1.441	2.318	14.2	20.3
2 21	7 25.10	+22 47.3	3.829	4.612	8.2	19.8	2 21	7 14.83	+31 2.9	1.508	2.307	18.0	20.5
<b>467067</b>	2016 DC <sub>19</sub>		1 15.6 323°00	1°5/16.2	18		<b>286155</b>	2001 TM <sub>243</sub>		1 15.6 225°37	1°2/16.1	16	
12 13	8 10.88	+16 11.6	1.730	2.555	14.7	21.3	12 13	8 13.26	+16 46.0	2.226	3.034	12.4	21.9
12 23	8 6.02	+16 20.9	1.649	2.550	11.1	21.1	12 23	8 7.34	+16 49.5	2.131	3.024	9.4	21.7
1 2	7 58.68	+16 40.3	1.592	2.545	6.9	20.8	1 2	7 59.31	+16 59.8	2.062	3.013	5.8	21.4
1 12	7 49.64	+17 7.3	1.561	2.540	2.5	20.6	1 12	7 49.82	+17 15.2	2.022	3.001	2.1	21.2
1 22	7 40.01	+17 38.5	1.558	2.536	3.2	20.6	1 22	7 39.80	+17 33.3	2.011	2.989	2.7	21.2
2 1	7 31.05	+18 10.4	1.583	2.531	7.6	20.9	2 1	7 30.26	+17 51.6	2.032	2.976	6.6	21.4
2 11	7 23.92	+18 39.8	1.634	2.527	11.8	21.1	2 11	7 22.19	+18 8.5	2.080	2.962	10.2	21.6
2 21	7 19.39	+19 5.0	1.708	2.523	15.5	21.3	2 21	7 16.28	+18 22.7	2.152	2.948	13.4	21.8
<b>16715</b>	Trettenero		1 15.6 194°55	2°7/17.0	18		<b>139891</b>	2001 RT <sub>92</sub>		1 15.6 86°13	1°9/16.5	18	
12 13	8 8.68	+10 54.9	2.949	3.736	10.2	20.2	12 13	8 9.42	+14 37.7	2.329	3.137	11.9	19.8
12 23	8 3.41	+10 44.2	2.859	3.734	7.9	20.0	12 23	8 4.27	+14 37.4	2.253	3.143	9.0	19.7
1 2	7 56.70	+10 41.3	2.795	3.731	5.4	19.8	1 2	7 57.33	+14 45.1	2.202	3.150	5.7	19.5
1 12	7 49.05	+10 46.0	2.760	3.728	3.1	19.7	1 12	7 49.26	+14 59.3	2.179	3.156	2.5	19.3
1 22	7 41.09	+10 57.2	2.756	3.725	3.1	19.7	1 22	7 40.86	+15 18.0	2.187	3.162	2.8	19.3
2 1	7 33.52	+11 13.4	2.783	3.721	5.4	19.8	2 1	7 33.02	+15 39.1	2.224	3.169	6.0	19.5
2 11	7 26.97	+11 32.8	2.839	3.717	7.9	20.0	2 11	7 26.54	+16 0.4	2.289	3.175	9.2	19.7
2 21	7 21.94	+11 53.6	2.920	3.712	10.3	20.1	2 21	7 21.97	+16 20.4	2.378	3.182	12.0	19.9
<b>332156</b>	2005 YL <sub>109</sub>		1 15.6 150°11	0°9/15.9	18		<b>62370</b>	2000 SM <sub>150</sub>		1 15.6 179°14	2°0/16.5	18	
12 13	8 12.42	+18 24.3	2.043	2.861	13.0	21.2	12 13	8 14.93	+14 22.6	2.091	2.893		

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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>226749</b>	2004 RY <sub>27</sub>		1 15.6 122°18	1°1/15.2 18			<b>242481</b>	2004 TW <sub>220</sub>		1 15.6 170°71	3°0/14.3 18		
12 13	8 14.03	+23 33.5	2.179	2.999	12.2	21.4	12 13	8 12.59	+32 22.9	2.897	3.711	9.7	19.9
12 23	8 7.79	+23 51.8	2.110	3.011	9.0	21.2	12 23	8 6.43	+32 34.2	2.819	3.712	7.3	19.7
1 2	7 59.47	+24 12.1	2.067	3.023	5.4	21.0	1 2	7 58.55	+32 41.3	2.767	3.712	4.8	19.6
1 12	7 49.85	+24 30.8	2.053	3.034	1.7	20.8	1 12	7 49.62	+32 41.0	2.745	3.713	3.1	19.5
1 22	7 39.91	+24 44.9	2.069	3.045	2.9	20.9	1 22	7 40.44	+32 31.2	2.753	3.714	3.8	19.5
2 1	7 30.71	+24 52.6	2.115	3.056	6.6	21.2	2 1	7 31.84	+32 11.5	2.792	3.714	6.2	19.7
2 11	7 23.18	+24 53.3	2.189	3.066	10.0	21.4	2 11	7 24.59	+31 42.6	2.859	3.715	8.7	19.8
2 21	7 17.91	+24 47.8	2.287	3.076	12.9	21.6	2 21	7 19.22	+31 6.7	2.951	3.715	10.9	20.0
<b>502575</b>	2015 BU <sub>503</sub>		1 15.6 260°56	2°2/16.8 17			<b>439248</b>	2012 TA <sub>258</sub>		1 15.6 148°03	2°5/14.7 17		
12 13	8 8.85	+12 29.4	2.235	3.040	12.5	21.9	12 13	8 19.82	+25 8.0	1.731	2.555	14.7	22.6
12 23	8 4.04	+12 50.8	2.149	3.037	9.5	21.7	12 23	8 12.67	+25 57.6	1.665	2.566	10.9	22.3
1 2	7 57.31	+13 23.6	2.088	3.033	6.1	21.5	1 2	8 2.67	+26 49.7	1.623	2.577	6.6	22.1
1 12	7 49.30	+14 5.8	2.054	3.029	2.9	21.3	1 12	7 50.80	+27 37.6	1.609	2.587	2.8	21.9
1 22	7 40.82	+14 54.3	2.050	3.026	3.0	21.3	1 22	7 38.40	+28 15.4	1.625	2.596	4.4	22.0
2 1	7 32.82	+15 45.6	2.076	3.022	6.3	21.5	2 1	7 26.97	+28 39.7	1.670	2.605	8.5	22.3
2 11	7 26.17	+16 36.2	2.130	3.018	9.7	21.7	2 11	7 17.81	+28 50.4	1.741	2.612	12.5	22.5
2 21	7 21.49	+17 23.3	2.209	3.015	12.7	21.9	2 21	7 11.68	+28 49.4	1.834	2.618	15.8	22.8
<b>323873</b>	2005 SY <sub>167</sub>		1 15.6 98°50	2°0/15.0 18			<b>494073</b>	2016 BZ <sub>70</sub>		1 15.6 182°32	1°1/16.2 18		
12 13	8 18.07	+26 53.9	1.955	2.776	13.4	20.4	12 13	8 11.87	+15 5.6	2.124	2.933	12.9	21.1
12 23	8 10.87	+26 57.9	1.894	2.794	9.9	20.3	12 23	8 6.38	+15 45.6	2.041	2.934	9.7	20.9
1 2	8 1.30	+27 0.3	1.858	2.812	6.0	20.1	1 2	7 58.78	+16 36.3	1.983	2.934	6.0	20.7
1 12	7 50.33	+26 57.2	1.851	2.830	2.4	19.9	1 12	7 49.74	+17 34.4	1.954	2.934	2.1	20.4
1 22	7 39.15	+26 46.3	1.874	2.847	3.6	20.0	1 22	7 40.19	+18 35.6	1.955	2.933	2.7	20.5
2 1	7 28.99	+26 26.9	1.927	2.864	7.4	20.2	2 1	7 31.17	+19 35.4	1.987	2.932	6.6	20.7
2 11	7 20.88	+26 0.2	2.006	2.881	10.9	20.5	2 11	7 23.65	+20 30.2	2.047	2.931	10.3	20.9
2 21	7 15.39	+25 28.5	2.109	2.897	13.9	20.7	2 21	7 18.32	+21 18.1	2.130	2.929	13.4	21.2
<b>309224</b>	2007 PD <sub>33</sub>		1 15.6 162°68	1°2/16.1 18			<b>320633</b>	2008 CR <sub>77</sub>		1 15.6 294°95	2°7/14.7 17		
12 13	8 15.40	+16 31.5	2.093	2.900	13.1	22.2	12 13	8 14.11	+26 2.6	1.664	2.500	14.6	21.2
12 23	8 8.89	+16 44.2	2.015	2.907	9.8	22.0	12 23	8 8.98	+26 36.9	1.567	2.475	11.0	20.9
1 2	8 0.19	+17 4.7	1.963	2.914	6.1	21.8	1 2	8 0.81	+27 14.1	1.494	2.450	6.8	20.6
1 12	7 50.07	+17 30.4	1.940	2.919	2.1	21.5	1 12	7 50.39	+27 48.5	1.447	2.425	3.0	20.3
1 22	7 39.52	+17 58.2	1.947	2.924	2.8	21.6	1 22	7 38.96	+28 14.2	1.428	2.400	4.7	20.4
2 1	7 29.65	+18 25.4	1.984	2.928	6.7	21.8	2 1	7 28.10	+28 27.2	1.436	2.375	9.3	20.6
2 11	7 21.44	+18 49.7	2.050	2.931	10.4	22.1	2 11	7 19.31	+28 26.6	1.469	2.350	13.7	20.8
2 21	7 15.54	+19 10.0	2.139	2.934	13.5	22.3	2 21	7 13.62	+28 14.1	1.523	2.325	17.7	21.0
<b>463350</b>	2012 QK <sub>43</sub>		1 15.6 88°52	1°5/16.2 18			<b>98698</b>	2000 XQ <sub>28</sub>		1 15.6 88°13	6°1/13.5 18		
12 13	8 11.48	+16 46.1	2.310	3.120	12.0	21.0	12 13	8 21.63	+34 21.6	1.639	2.465	15.3	19.5
12 23	8 5.73	+16 33.0	2.239	3.132	9.0	20.8	12 23	8 14.14	+35 30.0	1.595	2.491	11.7	19.3
1 2	7 58.17	+16 25.7	2.194	3.144	5.6	20.6	1 2	8 3.52	+36 30.9	1.575	2.517	8.2	19.2
1 12	7 49.50	+16 22.9	2.178	3.156	2.2	20.4	1 12	7 51.01	+37 15.3	1.582	2.542	6.1	19.1
1 22	7 40.57	+16 23.2	2.192	3.168	2.6	20.5	1 22	7 38.20	+37 37.4	1.617	2.566	7.3	19.2
2 1	7 32.29	+16 25.1	2.236	3.180	6.0	20.7	2 1	7 26.79	+37 36.3	1.679	2.590	10.3	19.4
2 11	7 25.46	+16 27.4	2.308	3.192	9.2	21.0	2 11	7 18.08	+37 15.1	1.765	2.614	13.5	19.7
2 21	7 20.61	+16 29.2	2.404	3.204	12.0	21.2	2 21	7 12.75	+36 39.6	1.873	2.637	16.2	19.9
<b>9796</b>	Robotti		1 15.6 206°10	8°5/11.9 18			<b>351719</b>	2006 BG <sub>260</sub>		1 15.6 297°52	1°3/16.1 18		
12 13	8 19.99	+41 40.4	1.848	2.662	14.3	17.7	12 13	8 12.13	+16 0.0	1.439	2.273	16.7	21.2
12 23	8 13.32	+42 59.4	1.783	2.661	11.7	17.5	12 23	8 7.57	+16 23.2	1.355	2.260	12.6	20.9
1 2	8 3.30	+44 7.2	1.742	2.659	9.4	17.4	1 2	7 59.97	+17 0.3	1.292	2.247	7.9	20.6
1 12	7 50.98	+44 54.4	1.727	2.658	8.5	17.3	1 12	7 50.17	+17 47.9	1.255	2.235	2.7	20.2
1 22	7 37.95	+45 14.1	1.738	2.656	9.5	17.3	1 22	7 39.45	+18 40.7	1.244	2.222	3.6	20.2
2 1	7 25.99	+45 4.6	1.775	2.654	11.8	17.5	2 1	7 29.40	+19 33.1	1.260	2.210	8.9	20.5
2 11	7 16.66	+44 29.6	1.836	2.652	14.4	17.7	2 11	7 21.53	+20 20.4	1.301	2.198	13.9	20.8
2 21	7 10.83	+43 35.6	1.916	2.650	16.9	17.8	2 21	7 16.81	+21 0.0	1.362	2.187	18.2	21.0
<b>489552</b>	2007 RH <sub>292</sub>		1 15.6 187°84	1°7/14.9 18			<b>499499</b>	2010 NS <sub>2</sub>		1 15.6 85°42	2°1/16.3 18		
12 13	8 16.19	+24 2.4	1.915	2.738	13.5	22.4	12 13	8 12.47	+16 3.2	2.345	3.150	12.0	20.7
12 23	8 9.84	+24 35.9	1.836	2.738	10.0	22.2	12 23	8 6.49	+15 28.9	2.265	3.155	9.0	20.5
1 2	8 0.94	+25 12.4	1.781	2.737	6.0	21.9	1 2	7 58.66	+14 59.8	2.212	3.159	5.7	20.3
1 12	7 50.32	+25 47.0	1.755	2.735	2.2	21.7	1 12	7 49.70	+14 35.4	2.187	3.163	2.6	20.1
1 22	7 39.12	+26 15.2	1.759	2.733	3.6	21.8	1 22	7 40.43	+14 15.4	2.193	3.167	3.0	20.1
2 1	7 28.66	+26 33.9	1.792	2.731	7.8	22.0	2 1	7 31.78	+13 59.1	2.229	3.172	6.2	20.3
2 11	7 20.10	+26 42.4	1.852	2.728	11.6	22.2	2 11	7 24.57	+13 45.8	2.293	3.176	9.4	20.5
2 21	7 14.22	+26 41.6	1.935	2.724	14.9	22.4	2 21	7 19.34	+13 34.8	2.382	3.180	12.2	20.7
<b>226046</b>	2002 GV <sub>75</sub>		1 15.6 193°18	1°0/15.9 18			<b>324535</b>	2006 VZ <sub>173</sub>		1 15.6 19°40	2°2/14.6 17		
12 13	8 17.99	+17 30.6	1.812	2.625	14.6	22.0	12 13	8 11.00	+21 53.9	1.424	2.270	16.1	20.1
12 23	8 11.22	+17 39.7	1.728	2.623	11.0	21.8	12 23	8 6.66	+23 7.6	1.361	2.275	11.9	19.9
1 2	8 1.80	+17 56.9	1.668	2.620	6.8	21.5	1 2	7 59.32	+24 30.4	1.320	2.280	7.1	19.6
1 12	7 50.57	+18 19.2	1.637	2.617	2.2	21.2	1 12	7 49.96	+25 54.4	1.305	2.286	2.6	19.4
1 22	7 38.70	+18 43.1	1.635	2.612	3.1	21.3	1 22	7 39.92	+27 11.0	1.318	2.292	4.5	19.5
2 1	7 27.54	+19 5.4	1.662	2.607	7.7	21.5	2 1	7 30.80	+28 13.7	1.357	2.300	9.3	19.8
2 11	7 18.35	+19 24.2	1.717	2.600	12.0	21.8	2 11	7 23.98	+28 59.3	1.421	2.308	13.7	20.1
2 21	7 11.90	+19 38.6	1.795	2.593	15.6	22.0	2 21	7 20.30	+29 28.4	1.505	2.316	17.4	20.3
<b>143124</b>	2002 XU <sub>31</sub>		1 15.6 167°17	2°1/14.7 18			<b>354538</b>	2004 RS <sub>229</sub>		1 15.6 117°58	0°4/15.8 18		
12 13	8 15.64	+26 16.6	2.321	3.138	11.7	20.2	12 13	8 17.30	+18 43.2	1.791			

EPHEMERIDES

1 15.6

1 15.7

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>296274</b>	2009 <i>DV</i> <sub>47</sub>		1 15.6 283°75	4.2/13.4	18		<b>375506</b>	2008 <i>UC</i> <sub>99</sub>		1 15.6 46°09	8.2/19.9	18	
12 13	8 12.14	+32 33.4	2.335	3.158	11.4	20.8	12 13	8 8.38	- 2 37.4	1.959	2.711	15.9	20.3
12 23	8 6.66	+33 25.7	2.258	3.155	8.7	20.7	12 23	8 3.76	- 3 10.2	1.892	2.722	13.4	20.1
1 2	7 58.98	+34 14.9	2.207	3.152	5.9	20.5	1 2	7 57.18	- 3 21.1	1.847	2.734	10.8	20.0
1 12	7 49.84	+34 55.7	2.185	3.149	4.3	20.4	1 12	7 49.35	- 3 7.9	1.825	2.746	8.8	19.9
1 22	7 40.19	+35 23.6	2.192	3.145	5.3	20.4	1 22	7 41.16	- 2 31.4	1.829	2.758	8.3	19.9
2 1	7 31.16	+35 36.4	2.227	3.142	7.9	20.6	2 1	7 33.61	- 1 34.8	1.860	2.771	9.5	20.0
2 11	7 23.73	+35 34.3	2.289	3.139	10.7	20.8	2 11	7 27.57	- 0 23.9	1.916	2.784	11.7	20.1
2 21	7 18.61	+35 19.7	2.373	3.136	13.2	20.9	2 21	7 23.64	+ 0 54.8	1.996	2.797	14.1	20.3
<b>450560</b>	2006 <i>FK</i> <sub>5</sub>		1 15.6 337°84	23°3/29.9	18		<b>197438</b>	2003 <i>YL</i> <sub>85</sub>		1 15.6 94°44	1°4/14.9	18	
12 13	8 24.86	+62 54.8	1.063	1.853	24.2	19.6	12 13	8 11.44	+22 16.4	2.229	3.051	11.9	20.0
12 23	8 23.25	+65 39.3	1.016	1.828	23.5	19.5	12 23	8 5.98	+23 13.6	2.162	3.064	8.8	19.8
1 2	8 12.67	+67 49.1	0.984	1.805	23.4	19.4	1 2	7 58.50	+24 15.3	2.121	3.077	5.2	19.6
1 12	7 54.17	+69 1.6	0.965	1.784	23.9	19.3	1 12	7 49.71	+25 16.6	2.110	3.090	1.8	19.4
1 22	7 32.54	+69 0.6	0.960	1.765	25.1	19.3	1 22	7 40.53	+26 12.9	2.129	3.103	3.1	19.5
2 1	7 14.75	+67 44.2	0.967	1.748	26.7	19.3	2 1	7 31.97	+27 0.6	2.177	3.115	6.6	19.8
2 11	7 5.54	+65 25.6	0.985	1.734	28.5	19.4	2 11	7 24.93	+27 37.7	2.254	3.128	9.9	20.0
2 21	7 5.40	+62 22.6	1.014	1.721	30.3	19.5	2 21	7 20.04	+28 4.4	2.354	3.140	12.7	20.2
<b>211865</b>	2004 <i>GF</i> <sub>37</sub>		1 15.6 249°24	1°1/15.1	17		<b>58283</b>	1993 <i>UO</i> <sub>7</sub>		1 15.6 141°49	2°3/14.6	18	
12 13	8 10.68	+24 12.6	2.589	3.408	10.6	21.0	12 13	8 16.58	+24 10.8	1.789	2.615	14.2	20.4
12 23	8 5.27	+24 29.6	2.499	3.399	7.8	20.8	12 23	8 10.26	+25 7.7	1.721	2.625	10.5	20.1
1 2	7 58.03	+24 48.0	2.434	3.389	4.7	20.6	1 2	8 1.27	+26 8.6	1.678	2.634	6.3	19.9
1 12	7 49.57	+25 5.0	2.399	3.379	1.6	20.3	1 12	7 50.49	+27 7.1	1.663	2.642	2.6	19.7
1 22	7 40.69	+25 18.1	2.394	3.369	2.7	20.4	1 22	7 39.17	+27 56.9	1.677	2.650	4.1	19.8
2 1	7 32.28	+25 25.4	2.420	3.359	6.0	20.6	2 1	7 28.69	+28 34.0	1.721	2.657	8.2	20.1
2 11	7 25.16	+25 26.2	2.473	3.348	9.1	20.8	2 11	7 20.28	+28 57.5	1.791	2.664	12.1	20.3
2 21	7 19.93	+25 21.0	2.551	3.338	11.8	21.0	2 21	7 14.69	+29 8.5	1.883	2.670	15.3	20.6
<b>460934</b>	2014 <i>WM</i> <sub>234</sub>		1 15.6 261°06	1°7/14.9	18		<b>265317</b>	2004 <i>NV</i> <sub>6</sub>		1 15.7 119°50	1°0/16.2	18	
12 13	8 12.70	+24 8.2	1.942	2.771	13.2	21.4	12 13	8 11.98	+15 27.3	2.325	3.131	12.0	20.6
12 23	8 7.24	+24 39.2	1.865	2.770	9.7	21.2	12 23	8 6.18	+16 0.5	2.257	3.147	9.0	20.5
1 2	7 59.40	+25 13.1	1.812	2.769	5.9	21.0	1 2	7 58.53	+16 42.2	2.214	3.163	5.5	20.3
1 12	7 49.96	+25 45.4	1.788	2.768	2.1	20.7	1 12	7 49.71	+17 29.4	2.200	3.179	1.9	20.1
1 22	7 40.01	+26 12.0	1.792	2.767	3.5	20.8	1 22	7 40.57	+18 18.5	2.217	3.194	2.4	20.1
2 1	7 30.76	+26 29.8	1.825	2.766	7.5	21.1	2 1	7 32.03	+19 6.0	2.264	3.209	6.0	20.4
2 11	7 23.30	+26 38.1	1.885	2.765	11.2	21.3	2 11	7 24.92	+19 49.4	2.341	3.223	9.2	20.6
2 21	7 18.34	+26 37.7	1.968	2.764	14.4	21.5	2 21	7 19.80	+20 27.1	2.442	3.237	12.0	20.8
<b>493031</b>	2014 <i>SJ</i> <sub>229</sub>		1 15.6 209°47	4°8/17.7	18		<b>519281</b>	2011 <i>BL</i> <sub>166</sub>		1 15.7 268°42	1°5/16.3	17	
12 13	8 12.74	+ 6 16.6	2.209	2.985	13.5	22.0	12 13	8 10.76	+15 30.0	2.070	2.884	13.0	22.1
12 23	8 6.94	+ 6 3.3	2.116	2.979	10.8	21.8	12 23	8 5.73	+15 44.8	1.976	2.871	9.9	21.9
1 2	7 59.11	+ 6 4.1	2.047	2.971	7.8	21.6	1 2	7 58.51	+16 9.0	1.906	2.857	6.2	21.7
1 12	7 49.88	+ 6 19.4	2.006	2.963	5.3	21.4	1 12	7 49.76	+16 40.7	1.864	2.843	2.4	21.4
1 22	7 40.13	+ 6 47.9	1.994	2.954	5.1	21.4	1 22	7 40.40	+17 16.7	1.851	2.829	2.9	21.4
2 1	7 30.83	+ 7 27.1	2.011	2.944	7.5	21.5	2 1	7 31.51	+17 53.7	1.868	2.815	6.8	21.6
2 11	7 22.92	+ 8 13.4	2.057	2.934	10.6	21.7	2 11	7 24.10	+18 28.8	1.912	2.800	10.7	21.8
2 21	7 17.09	+ 9 2.8	2.126	2.923	13.5	21.8	2 21	7 18.91	+19 0.0	1.980	2.786	14.0	22.0
<b>109075</b>	2001 <i>QO</i> <sub>24</sub>		1 15.6 135°42	5°4/13.6	18		<b>158684</b>	2003 <i>FD</i> <sub>47</sub>		1 15.7 122°70	3°5/14.4	18	
12 13	8 20.06	+36 27.2	2.152	2.964	12.7	20.5	12 13	8 19.67	+28 35.4	1.784	2.609	14.3	20.2
12 23	8 12.52	+37 7.1	2.089	2.975	9.8	20.3	12 23	8 12.47	+29 20.1	1.725	2.625	10.7	20.1
1 2	8 2.43	+37 39.1	2.052	2.987	7.0	20.2	1 2	8 2.51	+30 3.4	1.690	2.642	6.7	19.9
1 12	7 50.75	+37 56.9	2.042	2.997	5.4	20.1	1 12	7 50.81	+30 38.5	1.683	2.657	3.7	19.7
1 22	7 38.74	+37 56.7	2.062	3.008	6.3	20.1	1 22	7 38.73	+31 0.4	1.705	2.672	5.0	19.8
2 1	7 27.74	+37 37.8	2.111	3.017	8.8	20.3	2 1	7 27.72	+31 7.0	1.757	2.686	8.6	20.1
2 11	7 18.87	+37 2.9	2.186	3.027	11.5	20.5	2 11	7 18.98	+30 59.5	1.834	2.700	12.2	20.3
2 21	7 12.78	+36 16.4	2.284	3.035	14.0	20.7	2 21	7 13.23	+30 40.9	1.933	2.712	15.3	20.5
<b>193876</b>	2001 <i>QW</i> <sub>166</sub>		1 15.6 88°86	4°8/14.1	17		<b>706</b>	<i>Hirundo</i>		1 15.7 93°92	4°1/14.5	18	A
12 13	8 20.53	+30 18.6	1.453	2.288	16.4	20.7	12 13	8 20.05	+32 51.8	1.989	2.807	13.3	15.5
12 23	8 13.58	+31 13.6	1.403	2.308	12.3	20.5	12 23	8 12.42	+33 7.8	1.932	2.826	10.0	15.3
1 2	8 3.33	+32 5.2	1.375	2.327	8.0	20.3	1 2	8 2.29	+33 17.3	1.899	2.845	6.6	15.2
1 12	7 51.02	+32 44.8	1.374	2.346	4.9	20.2	1 12	7 50.72	+33 15.4	1.896	2.864	4.2	15.1
1 22	7 38.34	+33 6.1	1.401	2.364	6.3	20.3	1 22	7 38.97	+32 59.2	1.921	2.883	5.1	15.1
2 1	7 27.05	+33 7.2	1.454	2.382	10.2	20.6	2 1	7 28.35	+32 28.7	1.976	2.901	8.2	15.4
2 11	7 18.58	+32 50.5	1.532	2.400	14.0	20.8	2 11	7 19.94	+31 46.7	2.058	2.919	11.3	15.6
2 21	7 13.62	+32 20.9	1.630	2.418	17.3	21.1	2 21	7 14.31	+30 57.1	2.163	2.936	14.0	15.8
<b>463311</b>	2012 <i>JO</i> <sub>26</sub>		1 15.6 262°58	0°4/15.8	17		<b>266351</b>	2007 <i>DU</i> <sub>105</sub>		1 15.7 262°87	1°9/14.9	18	
12 13	8 11.21	+16 45.7	2.055	2.871	13.0	21.1	12 13	8 13.17	+25 2.1	2.044	2.871	12.7	21.0
12 23	8 6.15	+17 34.7	1.960	2.857	9.8	20.9	12 23	8 7.63	+25 32.1	1.955	2.858	9.4	20.8
1 2	7 58.82	+18 34.8	1.889	2.843	5.9	20.6	1 2	7 59.70	+26 4.4	1.890	2.845	5.7	20.5
1 12	7 49.85	+19 42.2	1.847	2.828	1.7	20.3	1 12	7 50.10	+26 34.6	1.853	2.833	2.3	20.3
1 22	7 40.17	+20 51.8	1.835	2.814	2.7	20.4	1 22	7 39.87	+26 58.5	1.846	2.820	3.6	20.3
2 1	7 30.91	+21 58.5	1.854	2.799	7.0	20.6	2 1	7 30.21	+27 13.2	1.868	2.806	7.5	20.5
2 11	7 23.14	+22 58.4	1.899	2.783	10.9	20.8	2 11	7 22.24	+27 17.9	1.917	2.793	11.3	20.7
2 21	7 17.66	+23 49.3	1.969	2.768	14.3	21.0	2 21	7 16.73	+27 13.7	1.988	2.779	14.5	20.9
<b>206990</b>	2004 <i>TV</i> <sub>163</sub>		1 15.6 26°47	5°4/13.9	18		<b>6591</b>	<i>Sabinin</i>		1 15.7 99°17	0°3/15.8	18	
12 13	8 13.55	+28 57.6	1.060	1.924									



EPHEMERIDES

1 15.7

1 15.7

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>360307</b>	2001 <i>SD</i> <sub>3</sub>		1 15.7 143°77	5°5/13.1	18		<b>243725</b>	2000 <i>JK</i> <sub>16</sub>		1 15.7 192°14	3°0/16.9	18	
12 13	8 18.80	+36 47.6	2.297	3.108	12.0	21.2	12 13	8 14.76	+11 36.3	1.935	2.734	14.3	21.3
12 23	8 11.59	+37 45.7	2.235	3.119	9.4	21.0	12 23	8 8.70	+11 39.7	1.850	2.733	11.1	21.1
1 2	8 1.92	+38 36.6	2.198	3.130	6.9	20.9	1 2	8 0.28	+11 55.5	1.789	2.731	7.3	20.9
1 12	7 50.67	+39 14.0	2.190	3.140	5.5	20.8	1 12	7 50.28	+12 22.6	1.755	2.728	3.8	20.7
1 22	7 39.01	+39 33.2	2.211	3.150	6.4	20.9	1 22	7 39.70	+12 58.1	1.751	2.724	3.8	20.6
2 1	7 28.20	+39 33.1	2.261	3.159	8.7	21.1	2 1	7 29.72	+13 38.7	1.777	2.720	7.4	20.9
2 11	7 19.35	+39 15.4	2.338	3.167	11.3	21.2	2 11	7 21.43	+14 20.6	1.830	2.715	11.2	21.1
2 21	7 13.15	+38 44.1	2.436	3.175	13.6	21.4	2 21	7 15.55	+15 1.0	1.906	2.709	14.6	21.3
<b>503923</b>	2002 <i>WL</i> <sub>32</sub>		1 15.7 157°54	3°2/13.2	18		<b>373962</b>	2003 <i>WM</i> <sub>159</sub>		1 15.7 81°35	4°8/13.1	18	
12 13	8 8.62	+34 5.7	3.649	4.460	7.9	21.5	12 13	8 14.93	+32 24.5	2.141	2.964	12.3	20.5
12 23	8 3.38	+34 47.5	3.575	4.464	6.1	21.4	12 23	8 8.77	+33 43.1	2.089	2.985	9.3	20.4
1 2	7 56.75	+35 26.0	3.530	4.468	4.2	21.3	1 2	8 0.25	+34 58.0	2.064	3.007	6.4	20.3
1 12	7 49.24	+35 57.8	3.514	4.472	3.2	21.2	1 12	7 50.24	+36 2.1	2.067	3.028	4.8	20.2
1 22	7 41.45	+36 20.8	3.529	4.475	3.9	21.3	1 22	7 39.83	+36 50.2	2.099	3.049	5.9	20.3
2 1	7 34.04	+36 33.5	3.574	4.479	5.6	21.4	2 1	7 30.24	+37 19.7	2.160	3.069	8.5	20.5
2 11	7 27.64	+36 36.1	3.647	4.482	7.5	21.5	2 11	7 22.52	+37 31.4	2.247	3.090	11.2	20.7
2 21	7 22.70	+36 29.5	3.744	4.485	9.2	21.6	2 21	7 17.32	+37 28.2	2.357	3.110	13.6	20.9
<b>8172</b>	1991 <i>RP</i> <sub>15</sub>		1 15.7 38°28	0°7/15.4	18		<b>421589</b>	2014 <i>OY</i> <sub>203</sub>		1 15.7 164°62	1°2/15.2	18	
12 13	8 10.97	+21 52.4	1.873	2.704	13.5	17.4	12 13	8 15.87	+22 31.1	2.023	2.842	13.1	22.8
12 23	8 5.89	+22 14.7	1.809	2.714	9.9	17.2	12 23	8 9.47	+23 5.7	1.947	2.847	9.7	22.6
1 2	7 58.53	+22 41.4	1.768	2.726	5.9	17.0	1 2	8 0.70	+23 44.4	1.897	2.852	5.8	22.3
1 12	7 49.75	+23 8.7	1.756	2.737	1.7	16.7	1 12	7 50.38	+24 22.6	1.876	2.856	1.8	22.1
1 22	7 40.60	+23 32.7	1.772	2.749	3.0	16.8	1 22	7 39.57	+24 56.1	1.884	2.860	3.2	22.2
2 1	7 32.24	+23 50.9	1.816	2.761	7.1	17.1	2 1	7 29.47	+25 21.6	1.923	2.863	7.2	22.4
2 11	7 25.68	+24 2.0	1.887	2.774	10.9	17.4	2 11	7 21.15	+25 38.2	1.989	2.865	10.9	22.7
2 21	7 21.54	+24 6.2	1.981	2.786	14.0	17.6	2 21	7 15.33	+25 46.2	2.078	2.867	14.0	22.9
<b>255945</b>	2006 <i>TZ</i> <sub>16</sub>		1 15.7 198°34	1°7/16.4	18		<b>351659</b>	2005 <i>YF</i> <sub>193</sub>		1 15.7 218°77	0°3/15.8	18	
12 13	8 13.01	+15 20.3	1.946	2.759	13.8	21.0	12 13	8 14.28	+17 35.3	1.672	2.496	15.2	21.0
12 23	8 7.39	+15 26.5	1.864	2.757	10.4	20.8	12 23	8 8.80	+18 16.4	1.590	2.491	11.4	20.8
1 2	7 59.48	+15 42.0	1.806	2.755	6.5	20.6	1 2	8 0.57	+19 8.9	1.532	2.487	6.9	20.5
1 12	7 50.03	+16 4.9	1.775	2.753	2.6	20.3	1 12	7 50.40	+20 8.1	1.500	2.481	1.9	20.2
1 22	7 40.06	+16 32.3	1.773	2.750	3.1	20.4	1 22	7 39.48	+21 8.3	1.498	2.476	3.2	20.3
2 1	7 30.71	+17 1.0	1.801	2.747	7.1	20.6	2 1	7 29.23	+22 4.0	1.524	2.470	8.1	20.5
2 11	7 23.03	+17 28.5	1.856	2.744	11.0	20.8	2 11	7 20.95	+22 51.4	1.576	2.464	12.5	20.8
2 21	7 17.74	+17 52.9	1.935	2.740	14.3	21.0	2 21	7 15.52	+23 29.1	1.650	2.457	16.3	21.0
<b>195909</b>	2002 <i>RF</i> <sub>70</sub>		1 15.7 119°26	3°4/17.2	18		<b>220606</b>	2004 <i>PH</i> <sub>6</sub>		1 15.7 78°43	2°6/16.8	18	
12 13	8 10.24	+10 2.7	2.355	3.147	12.3	20.2	12 13	8 12.12	+12 42.0	1.902	2.710	14.2	20.5
12 23	8 4.87	+9 49.6	2.280	3.156	9.6	20.0	12 23	8 6.56	+12 45.5	1.839	2.728	10.8	20.3
1 2	7 57.75	+9 47.1	2.229	3.165	6.5	19.8	1 2	7 58.87	+13 0.5	1.801	2.746	7.0	20.1
1 12	7 49.52	+9 54.8	2.207	3.173	3.9	19.7	1 12	7 49.86	+13 25.2	1.789	2.764	3.4	19.9
1 22	7 40.98	+10 11.1	2.214	3.181	3.8	19.7	1 22	7 40.55	+13 56.6	1.807	2.782	3.5	19.9
2 1	7 32.99	+10 34.2	2.250	3.190	6.4	19.9	2 1	7 32.02	+14 31.5	1.854	2.799	7.0	20.2
2 11	7 26.34	+11 1.2	2.315	3.197	9.3	20.1	2 11	7 25.20	+15 6.7	1.928	2.817	10.5	20.4
2 21	7 21.56	+11 29.8	2.404	3.205	12.0	20.3	2 21	7 20.68	+15 39.7	2.025	2.834	13.6	20.7
<b>330466</b>	2007 <i>EV</i> <sub>171</sub>		1 15.7 337°80	8°5/19.3	18		<b>425987</b>	2011 <i>HD</i> <sub>82</sub>		1 15.7 207°43	1°2/14.9	17	
12 13	8 7.82	- 0 6.2	1.624	2.403	17.5	20.5	12 13	8 11.02	+23 48.0	2.832	3.646	9.9	21.8
12 23	8 3.91	- 0 39.2	1.542	2.395	14.7	20.3	12 23	8 5.42	+24 19.9	2.742	3.640	7.3	21.6
1 2	7 57.58	- 0 48.5	1.481	2.387	11.7	20.1	1 2	7 58.11	+24 54.1	2.680	3.633	4.4	21.4
1 12	7 49.55	- 0 31.1	1.442	2.380	9.2	19.9	1 12	7 49.67	+25 27.2	2.647	3.627	1.5	21.2
1 22	7 40.88	+ 0 12.8	1.429	2.373	8.6	19.8	1 22	7 40.82	+25 56.5	2.645	3.619	2.6	21.3
2 1	7 32.78	+ 1 19.6	1.441	2.367	10.4	19.9	2 1	7 32.38	+26 19.7	2.675	3.612	5.6	21.5
2 11	7 26.43	+ 2 42.3	1.477	2.361	13.5	20.1	2 11	7 25.11	+26 35.7	2.734	3.603	8.5	21.7
2 21	7 22.61	+ 4 13.0	1.535	2.357	16.6	20.3	2 21	7 19.59	+26 44.7	2.817	3.595	11.0	21.8
<b>465986</b>	2011 <i>CW</i> <sub>110</sub>		1 15.7 248°32	2°0/16.5	18		<b>374604</b>	2006 <i>DP</i> <sub>131</sub>		1 15.7 246°29	0°1/15.7	18	
12 13	8 11.08	+14 55.4	2.077	2.889	13.1	21.9	12 13	8 10.67	+18 30.4	2.066	2.887	12.8	20.4
12 23	8 5.85	+14 54.1	1.992	2.884	9.9	21.6	12 23	8 5.62	+19 5.0	1.986	2.886	9.5	20.2
1 2	7 58.51	+15 1.6	1.931	2.879	6.3	21.4	1 2	7 58.42	+19 47.3	1.930	2.885	5.7	20.0
1 12	7 49.77	+15 16.3	1.898	2.875	2.7	21.2	1 12	7 49.78	+20 34.0	1.902	2.884	1.6	19.7
1 22	7 40.54	+15 36.1	1.894	2.870	3.1	21.2	1 22	7 40.63	+21 20.7	1.904	2.882	2.7	19.8
2 1	7 31.87	+15 58.3	1.919	2.865	6.7	21.4	2 1	7 32.05	+22 3.8	1.936	2.881	6.7	20.0
2 11	7 24.72	+16 20.8	1.972	2.860	10.4	21.6	2 11	7 25.01	+22 40.6	1.995	2.880	10.4	20.3
2 21	7 19.76	+16 41.6	2.048	2.855	13.6	21.8	2 21	7 20.21	+23 10.0	2.077	2.879	13.6	20.5
<b>194576</b>	2001 <i>XP</i> <sub>97</sub>		1 15.7 50°15	1°9/15.1	17		<b>244014</b>	2001 <i>SB</i> <sub>117</sub>		1 15.7 27°31	4°8/17.5	18	
12 13	8 16.06	+22 55.6	1.196	2.045	18.3	19.8	12 13	8 8.95	+ 8 44.9	1.779	2.585	15.1	19.6
12 23	8 10.54	+23 36.4	1.150	2.065	13.5	19.6	12 23	8 4.36	+ 8 17.2	1.715	2.597	11.9	19.4
1 2	8 1.63	+24 22.9	1.125	2.085	8.0	19.3	1 2	7 57.62	+ 8 4.2	1.674	2.609	8.3	19.2
1 12	7 50.62	+25 7.6	1.125	2.106	2.6	19.1	1 12	7 49.54	+ 8 5.9	1.659	2.623	5.4	19.0
1 22	7 39.23	+25 43.6	1.151	2.127	4.5	19.2	1 22	7 41.12	+ 8 21.1	1.671	2.636	5.2	19.0
2 1	7 29.29	+26 6.8	1.202	2.149	9.8	19.6	2 1	7 33.45	+ 8 47.1	1.710	2.651	7.9	19.2
2 11	7 22.22	+26 16.9	1.277	2.171	14.4	19.9	2 11	7 27.49	+ 9 19.9	1.775	2.666	11.2	19.5
2 21	7 18.73	+26 15.6	1.372	2.193	18.3	20.2	2 21	7 23.82	+ 9 55.6	1.863	2.682	14.2	19.7
<b>239279</b>	2007 <i>OC</i> <sub>1</sub>		1 15.7 120°90	0°4/15.5	18		<b>64616</b>	2001 <i>XO</i> <sub>28</sub>		1 15.7 16°97	5°1/17.2	18	
12 13	8 17.59	+21 0.4	1.878										

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>413979</b>	2007 <i>DX</i> <sub>98</sub>		1 15.7 16°73	2°5/16.8	18		<b>318867</b>	2005 <i>TP</i> <sub>76</sub>		1 15.7 161°41	3°0/17.5	18	
12 13	8 10.11	+12 53.3	1.650	2.471	15.5	20.5	12 13	8 11.76	+8 52.7	2.519	3.300	11.9	22.0
12 23	8 5.56	+13 12.2	1.577	2.473	11.8	20.3	12 23	8 5.97	+9 11.8	2.437	3.307	9.3	21.8
1 2	7 58.52	+13 45.6	1.526	2.475	7.6	20.0	1 2	7 58.44	+9 42.9	2.380	3.314	6.3	21.7
1 12	7 49.83	+14 30.8	1.502	2.478	3.4	19.8	1 12	7 49.79	+10 24.7	2.353	3.320	3.6	21.5
1 22	7 40.60	+15 23.8	1.505	2.482	3.6	19.8	1 22	7 40.77	+11 14.6	2.356	3.326	3.4	21.5
2 1	7 32.08	+16 19.5	1.536	2.485	7.7	20.1	2 1	7 32.23	+12 9.3	2.390	3.330	6.0	21.7
2 11	7 25.42	+17 13.2	1.593	2.489	11.9	20.3	2 11	7 24.94	+13 5.3	2.454	3.334	8.9	21.9
2 21	7 21.37	+18 1.8	1.672	2.494	15.5	20.6	2 21	7 19.45	+13 59.6	2.543	3.337	11.6	22.1
<b>235561</b>	2004 <i>FU</i> <sub>158</sub>		1 15.7 305°36	0°5/15.9	18		<b>143194</b>	2002 <i>XT</i> <sub>84</sub>		1 15.7 0°71	0°6/15.3	18	
12 13	8 9.61	+18 29.4	2.146	2.966	12.4	21.0	12 13	8 9.26	+19 45.3	2.223	3.045	12.0	19.1
12 23	8 4.80	+18 42.9	2.057	2.957	9.2	20.7	12 23	8 4.50	+20 36.9	2.143	3.044	8.8	18.9
1 2	7 57.93	+19 3.1	1.993	2.947	5.6	20.5	1 2	7 57.74	+21 35.6	2.088	3.044	5.3	18.7
1 12	7 49.66	+19 27.4	1.956	2.937	1.7	20.2	1 12	7 49.63	+22 37.3	2.063	3.044	1.4	18.4
1 22	7 40.87	+19 53.0	1.950	2.928	2.6	20.3	1 22	7 41.04	+23 37.4	2.067	3.044	2.7	18.5
2 1	7 32.59	+20 17.0	1.972	2.919	6.5	20.5	2 1	7 32.95	+24 31.8	2.102	3.045	6.5	18.7
2 11	7 25.77	+20 37.4	2.022	2.910	10.2	20.7	2 11	7 26.28	+25 17.7	2.164	3.045	9.9	18.9
2 21	7 21.07	+20 53.3	2.095	2.901	13.4	20.9	2 21	7 21.68	+25 54.2	2.250	3.046	12.9	19.1
<b>341371</b>	2007 <i>TD</i> <sub>101</sub>		1 15.7 155°14	4°0/17.7	18		<b>328601</b>	2009 <i>SC</i> <sub>88</sub>		1 15.7 160°26	2°0/16.7	18	
12 13	8 8.72	+7 26.8	2.416	3.200	12.3	21.0	12 13	8 11.58	+13 28.6	2.274	3.076	12.4	21.6
12 23	8 3.79	+7 21.1	2.334	3.202	9.7	20.8	12 23	8 6.02	+13 41.5	2.194	3.080	9.4	21.4
1 2	7 57.16	+7 27.9	2.276	3.204	6.9	20.6	1 2	7 58.55	+14 4.1	2.139	3.085	6.0	21.2
1 12	7 49.42	+7 46.9	2.245	3.206	4.5	20.5	1 12	7 49.84	+14 34.4	2.113	3.089	2.7	21.0
1 22	7 41.32	+8 16.6	2.244	3.208	4.3	20.5	1 22	7 40.73	+15 9.9	2.117	3.092	2.9	21.0
2 1	7 33.68	+8 54.6	2.273	3.209	6.5	20.6	2 1	7 32.15	+15 47.5	2.151	3.096	6.2	21.2
2 11	7 27.28	+9 37.4	2.329	3.211	9.3	20.8	2 11	7 24.99	+16 24.5	2.214	3.098	9.6	21.4
2 21	7 22.68	+10 22.0	2.410	3.212	11.9	21.0	2 21	7 19.83	+16 58.7	2.300	3.101	12.5	21.6
<b>256320</b>	2006 <i>XK</i> <sub>5</sub>		1 15.7 28°29	8°0/19.4	18		<b>5140</b>	Kida		1 15.7 81°13	3°8/17.8	18	
12 13	8 9.26	+0 49.4	1.529	2.315	18.2	19.8	12 13	8 8.58	+7 27.7	2.340	3.126	12.6	16.7
12 23	8 4.96	+0 29.7	1.462	2.321	15.0	19.6	12 23	8 3.69	+7 34.3	2.268	3.138	9.9	16.5
1 2	7 58.17	+0 35.2	1.415	2.328	11.6	19.4	1 2	7 57.10	+7 54.3	2.220	3.150	6.9	16.3
1 12	7 49.74	+1 7.6	1.391	2.335	8.8	19.3	1 12	7 49.43	+8 26.7	2.199	3.162	4.3	16.2
1 22	7 40.79	+2 4.9	1.392	2.343	8.1	19.2	1 22	7 41.45	+9 9.4	2.208	3.174	4.1	16.2
2 1	7 32.61	+3 22.0	1.419	2.351	10.0	19.4	2 1	7 34.00	+9 59.1	2.246	3.185	6.4	16.4
2 11	7 26.34	+4 50.9	1.471	2.360	13.2	19.6	2 11	7 27.84	+10 52.2	2.312	3.197	9.2	16.6
2 21	7 22.71	+6 23.5	1.545	2.369	16.4	19.8	2 21	7 23.51	+11 45.1	2.403	3.209	11.9	16.8
<b>238451</b>	2004 <i>PA</i> <sub>103</sub>		1 15.7 132°66	0°5/15.5	18		<b>19546</b>	1999 <i>JN</i> <sub>34</sub>		1 15.7 117°13	4°6/13.8	18	
12 13	8 18.49	+21 32.9	1.930	2.746	13.8	20.9	12 13	8 20.79	+32 10.6	1.930	2.749	13.6	19.0
12 23	8 11.31	+21 48.2	1.865	2.762	10.2	20.7	12 23	8 13.21	+33 6.2	1.876	2.771	10.3	18.8
1 2	8 1.74	+22 7.2	1.824	2.778	6.0	20.5	1 2	8 2.95	+33 57.0	1.847	2.791	6.9	18.7
1 12	7 50.67	+22 26.1	1.812	2.793	1.7	20.2	1 12	7 51.03	+34 36.0	1.846	2.811	4.7	18.6
1 22	7 39.27	+22 41.6	1.830	2.807	2.9	20.4	1 22	7 38.78	+34 58.4	1.874	2.831	5.8	18.7
2 1	7 28.77	+22 51.3	1.879	2.821	7.2	20.6	2 1	7 27.60	+35 2.3	1.932	2.849	8.8	18.9
2 11	7 20.24	+22 54.8	1.955	2.833	10.9	20.9	2 11	7 18.67	+34 49.9	2.016	2.867	11.9	19.1
2 21	7 14.32	+22 52.7	2.054	2.845	14.1	21.1	2 21	7 12.66	+34 25.0	2.122	2.884	14.6	19.4
<b>81712</b>	2000 <i>JE</i> <sub>25</sub>		1 15.7 140°06	5°1/17.5	18		<b>374191</b>	2005 <i>AV</i> <sub>68</sub>		1 15.7 1°19	2°4/14.8	18	
12 13	8 13.61	+7 10.3	2.095	2.876	14.0	19.3	12 13	8 11.06	+25 44.8	1.625	2.467	14.6	20.4
12 23	8 7.54	+6 30.0	2.020	2.885	11.1	19.1	12 23	8 6.47	+26 12.7	1.555	2.466	10.9	20.2
1 2	7 59.44	+6 2.3	1.969	2.893	8.1	18.9	1 2	7 59.16	+26 42.4	1.507	2.465	6.6	20.0
1 12	7 50.05	+5 48.4	1.945	2.901	5.6	18.8	1 12	7 50.05	+27 8.7	1.486	2.465	2.8	19.7
1 22	7 40.30	+5 48.0	1.950	2.908	5.4	18.8	1 22	7 40.39	+27 27.0	1.492	2.466	4.2	19.8
2 1	7 31.20	+5 59.5	1.985	2.915	7.7	19.0	2 1	7 31.59	+27 34.3	1.525	2.468	8.5	20.1
2 11	7 23.65	+6 20.0	2.046	2.922	10.7	19.2	2 11	7 24.88	+27 30.5	1.584	2.470	12.6	20.3
2 21	7 18.27	+6 46.2	2.131	2.928	13.5	19.4	2 21	7 21.03	+27 17.1	1.663	2.473	16.1	20.5
<b>4965</b>	Takeda		1 15.7 147°61	0°3/15.8	18		<b>405875</b>	2006 <i>DN</i> <sub>210</sub>		1 15.7 269°99	1°3/15.2	17	
12 13	8 11.48	+19 19.6	2.239	3.056	12.1	18.8	12 13	8 15.62	+22 54.5	1.650	2.481	15.0	22.1
12 23	8 6.00	+19 32.9	2.161	3.059	9.0	18.6	12 23	8 10.06	+23 18.6	1.557	2.463	11.2	21.8
1 2	7 58.55	+19 51.4	2.108	3.062	5.4	18.4	1 2	8 1.50	+23 48.0	1.487	2.444	6.8	21.5
1 12	7 49.82	+20 12.6	2.084	3.065	1.5	18.1	1 12	7 50.75	+24 17.6	1.444	2.425	2.1	21.2
1 22	7 40.70	+20 33.8	2.090	3.068	2.5	18.2	1 22	7 39.07	+24 42.5	1.429	2.406	3.8	21.2
2 1	7 32.16	+20 52.4	2.126	3.070	6.3	18.5	2 1	7 28.01	+24 58.8	1.443	2.386	8.8	21.5
2 11	7 25.11	+21 7.2	2.189	3.073	9.7	18.7	2 11	7 19.02	+25 5.2	1.481	2.366	13.4	21.7
2 21	7 20.15	+21 17.4	2.276	3.075	12.6	18.9	2 21	7 13.10	+25 2.6	1.541	2.346	17.4	21.9
<b>410044</b>	2006 <i>YS</i> <sub>53</sub>		1 15.7 65°13	2°2/16.9	18		<b>119003</b>	2000 <i>YF</i> <sub>69</sub>		1 15.7 299°64	0°9/15.3	18	
12 13	8 11.61	+11 12.8	1.703	2.515	15.5	20.2	12 13	8 11.69	+21 46.0	1.947	2.774	13.2	19.6
12 23	8 6.52	+12 6.6	1.638	2.529	11.7	20.0	12 23	8 6.55	+22 18.4	1.867	2.771	9.8	19.4
1 2	7 59.03	+13 17.3	1.595	2.543	7.5	19.8	1 2	7 59.07	+22 56.0	1.812	2.768	5.8	19.2
1 12	7 49.97	+14 40.8	1.580	2.557	3.3	19.6	1 12	7 50.02	+23 34.8	1.784	2.765	1.7	18.9
1 22	7 40.44	+16 10.7	1.594	2.571	3.3	19.6	1 22	7 40.42	+24 10.4	1.785	2.762	3.1	19.0
2 1	7 31.66	+17 40.2	1.637	2.585	7.4	19.9	2 1	7 31.45	+24 39.4	1.816	2.759	7.3	19.2
2 11	7 24.72	+19 3.4	1.707	2.599	11.5	20.1	2 11	7 24.19	+25 0.1	1.873	2.757	11.1	19.5
2 21	7 20.34	+20 16.7	1.800	2.614	14.9	20.4	2 21	7 19.36	+25 12.3	1.953	2.754	14.4	19.7
<b>4371</b>	Fyodorov		1 15.7 271°47	1°3/15.2	18		<b>521101</b>	2015 <i>DF</i> <sub>244</sub>		1 15.7 48°01	0°2/15.6	18	
12 13	8 14.76	+22 36.2	1.722	2.552	14.5	17.2	12 13	8 14.46	+23 1.0	2.13			

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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>282595</b>	2005 <i>FU</i> <sub>1</sub>		1 15.7 144°44	3°8/17.6	18		<b>27528</b>	2000 <i>HS</i> <sub>54</sub>		1 15.7 192°05	0°6/15.9	18	
12 13	8 8.74	+ 8 12.5	2.291	3.081	12.7	21.0	12 13	8 10.05	+18 5.5	2.418	3.231	11.4	18.8
12 23	8 3.93	+ 8 8.8	2.208	3.081	10.0	20.8	12 23	8 4.87	+18 21.8	2.335	3.231	8.5	18.6
1 2	7 57.32	+ 8 17.9	2.150	3.082	7.0	20.6	1 2	7 57.88	+18 44.0	2.277	3.230	5.1	18.4
1 12	7 49.52	+ 8 39.4	2.118	3.082	4.4	20.5	1 12	7 49.68	+19 10.0	2.248	3.229	1.6	18.1
1 22	7 41.33	+ 9 11.4	2.116	3.082	4.2	20.4	1 22	7 41.10	+19 37.0	2.250	3.228	2.3	18.2
2 1	7 33.62	+ 9 51.3	2.143	3.083	6.6	20.6	2 1	7 33.01	+20 2.5	2.282	3.227	5.9	18.4
2 11	7 27.21	+10 35.7	2.198	3.083	9.6	20.8	2 11	7 26.23	+20 24.8	2.341	3.225	9.1	18.6
2 21	7 22.68	+11 21.3	2.277	3.083	12.4	21.0	2 21	7 21.36	+20 42.8	2.426	3.224	12.0	18.8
<b>146424</b>	2001 <i>QO</i> <sub>231</sub>		1 15.7 39°02	2°4/15.3	18		<b>339004</b>	2004 <i>GC</i> <sub>47</sub>		1 15.7 28°00	2°9/16.6	18	
12 13	8 19.03	+28 9.8	1.421	2.260	16.6	18.9	12 13	8 13.48	+14 9.4	1.212	2.050	18.9	20.8
12 23	8 12.33	+27 52.4	1.366	2.275	12.3	18.7	12 23	8 8.75	+14 5.1	1.149	2.054	14.4	20.6
1 2	8 2.54	+27 31.1	1.334	2.290	7.5	18.5	1 2	8 0.75	+14 16.3	1.105	2.058	9.2	20.3
1 12	7 50.92	+27 2.0	1.327	2.306	3.0	18.2	1 12	7 50.54	+14 40.9	1.086	2.063	4.1	20.0
1 22	7 39.10	+26 23.1	1.348	2.323	4.3	18.4	1 22	7 39.67	+15 14.6	1.091	2.069	4.4	20.1
2 1	7 28.72	+25 35.6	1.397	2.341	8.9	18.7	2 1	7 29.89	+15 52.6	1.123	2.075	9.5	20.4
2 11	7 21.04	+24 42.5	1.470	2.359	13.2	19.0	2 11	7 22.69	+16 30.0	1.177	2.081	14.5	20.7
2 21	7 16.67	+23 47.3	1.565	2.377	16.8	19.2	2 21	7 18.93	+17 3.6	1.252	2.088	18.8	20.9
<b>410765</b>	2009 <i>DH</i> <sub>122</sub>		1 15.7 256°00	1°2/15.2	18		<b>415892</b>	2001 <i>TV</i> <sub>97</sub>		1 15.7 129°32	11°1/22.5	18	
12 13	8 14.63	+22 20.8	1.793	2.621	14.1	21.6	12 13	8 12.46	-15 48.1	2.480	3.119	15.5	21.7
12 23	8 9.05	+22 51.0	1.703	2.607	10.6	21.3	12 23	8 6.49	-16 55.9	2.417	3.136	14.0	21.6
1 2	8 0.76	+23 26.6	1.637	2.594	6.4	21.0	1 2	7 58.76	-17 39.7	2.373	3.152	12.6	21.5
1 12	7 50.53	+24 3.2	1.599	2.580	1.9	20.7	1 12	7 49.91	-17 55.8	2.351	3.168	11.5	21.5
1 22	7 39.53	+24 35.8	1.589	2.565	3.5	20.8	1 22	7 40.75	-17 42.9	2.353	3.183	11.1	21.5
2 1	7 29.12	+25 0.5	1.608	2.551	8.1	21.0	2 1	7 32.13	-17 2.7	2.379	3.197	11.4	21.5
2 11	7 20.62	+25 15.9	1.653	2.536	12.4	21.3	2 11	7 24.85	-15 59.7	2.429	3.211	12.4	21.6
2 21	7 14.89	+25 22.2	1.720	2.521	16.0	21.5	2 21	7 19.45	-14 40.4	2.501	3.224	13.7	21.7
<b>380957</b>	2006 <i>PD</i> <sub>11</sub>		1 15.7 92°56	2°8/17.5	18		<b>256997</b>	2008 <i>EF</i> <sub>148</sub>		1 15.7 80°61	0°5/15.5	18	
12 13	8 8.66	+ 9 11.4	2.417	3.208	12.1	20.8	12 13	8 14.05	+21 17.3	1.750	2.578	14.4	20.9
12 23	8 3.76	+ 9 39.1	2.341	3.218	9.3	20.6	12 23	8 8.35	+21 35.6	1.683	2.587	10.6	20.7
1 2	7 57.16	+10 19.4	2.291	3.228	6.3	20.4	1 2	8 0.15	+21 58.9	1.640	2.596	6.3	20.4
1 12	7 49.47	+11 10.7	2.268	3.238	3.5	20.3	1 12	7 50.33	+22 23.4	1.623	2.605	1.7	20.1
1 22	7 41.44	+12 9.8	2.276	3.248	3.3	20.3	1 22	7 40.07	+22 45.0	1.636	2.614	3.1	20.3
2 1	7 33.91	+13 13.0	2.314	3.258	5.9	20.5	2 1	7 30.68	+23 1.1	1.677	2.622	7.6	20.6
2 11	7 27.62	+14 16.4	2.381	3.268	8.9	20.7	2 11	7 23.27	+23 10.3	1.744	2.631	11.6	20.8
2 21	7 23.13	+15 16.7	2.473	3.277	11.6	20.9	2 21	7 18.53	+23 13.0	1.834	2.640	15.0	21.1
<b>99568</b>	2002 <i>FB</i> <sub>13</sub>		1 15.7 92°22	0°9/16.0	18		<b>159030</b>	2004 <i>TS</i> <sub>60</sub>		1 15.7 17°13	1°3/15.1	18	
12 13	8 15.73	+17 4.6	1.640	2.461	15.5	19.1	12 13	8 12.24	+23 2.6	1.854	2.685	13.6	20.0
12 23	8 9.56	+17 27.9	1.582	2.481	11.5	18.9	12 23	8 7.03	+23 33.0	1.780	2.686	10.1	19.7
1 2	8 0.83	+18 0.7	1.547	2.501	7.0	18.7	1 2	7 59.39	+24 7.5	1.730	2.687	6.0	19.5
1 12	7 50.48	+18 39.1	1.539	2.520	2.2	18.4	1 12	7 50.13	+24 41.6	1.707	2.688	2.0	19.2
1 22	7 39.79	+19 18.6	1.560	2.539	3.1	18.5	1 22	7 40.37	+25 11.0	1.714	2.690	3.4	19.3
2 1	7 30.07	+19 55.1	1.610	2.557	7.7	18.8	2 1	7 31.32	+25 32.4	1.748	2.691	7.6	19.6
2 11	7 22.46	+20 26.1	1.686	2.575	11.8	19.1	2 11	7 24.12	+25 44.7	1.809	2.693	11.4	19.8
2 21	7 17.64	+20 50.4	1.784	2.593	15.2	19.4	2 21	7 19.47	+25 48.4	1.893	2.695	14.7	20.1
<b>376288</b>	2011 <i>FW</i> <sub>82</sub>		1 15.7 196°45	1°5/15.0	18		<b>76910</b>	2000 <i>YX</i> <sub>128</sub>		1 15.7 163°01	1°9/14.9	18	
12 13	8 12.15	+24 4.7	2.224	3.047	11.9	21.3	12 13	8 18.42	+23 32.5	1.551	2.382	15.8	19.8
12 23	8 6.63	+24 34.5	2.144	3.046	8.8	21.1	12 23	8 12.04	+24 14.2	1.481	2.386	11.7	19.6
1 2	7 59.01	+25 6.8	2.090	3.045	5.3	20.9	1 2	8 2.58	+25 0.8	1.434	2.390	7.1	19.3
1 12	7 50.00	+25 37.7	2.064	3.044	1.9	20.6	1 12	7 51.04	+25 45.8	1.414	2.394	2.5	19.0
1 22	7 40.53	+26 3.6	2.068	3.043	3.1	20.7	1 22	7 38.83	+26 22.9	1.422	2.396	4.2	19.1
2 1	7 31.65	+26 21.9	2.102	3.041	6.8	20.9	2 1	7 27.58	+26 48.2	1.458	2.399	9.0	19.4
2 11	7 24.32	+26 31.7	2.163	3.039	10.1	21.1	2 11	7 18.72	+27 0.7	1.519	2.400	13.4	19.7
2 21	7 19.19	+26 33.5	2.248	3.038	13.1	21.3	2 21	7 13.08	+27 2.1	1.602	2.402	17.1	19.9
<b>77721</b>	2001 <i>OB</i> <sub>52</sub>		1 15.7 20°35	1°9/14.7	18		<b>458473</b>	2011 <i>BF</i> <sub>87</sub>		1 15.7 155°21	1°2/16.3	18	
12 13	8 10.31	+23 40.2	1.999	2.830	12.7	18.9	12 13	8 11.03	+15 35.0	1.966	2.783	13.5	21.5
12 23	8 5.50	+24 35.5	1.926	2.832	9.4	18.7	12 23	8 5.87	+16 1.1	1.887	2.783	10.2	21.3
1 2	7 58.43	+25 35.3	1.879	2.835	5.7	18.5	1 2	7 58.70	+16 37.5	1.832	2.784	6.3	21.0
1 12	7 49.86	+26 34.2	1.860	2.839	2.2	18.3	1 12	7 49.95	+17 21.3	1.805	2.784	2.2	20.8
1 22	7 40.78	+27 27.0	1.869	2.842	3.7	18.4	1 22	7 40.69	+18 8.5	1.807	2.785	2.8	20.8
2 1	7 32.33	+28 9.7	1.908	2.846	7.4	18.6	2 1	7 32.03	+18 55.2	1.838	2.785	6.9	21.1
2 11	7 25.55	+28 40.6	1.974	2.851	10.9	18.8	2 11	7 24.98	+19 38.1	1.896	2.785	10.7	21.3
2 21	7 21.13	+28 59.9	2.062	2.855	14.0	19.0	2 21	7 20.22	+20 15.1	1.978	2.786	14.0	21.5
<b>453938</b>	2011 <i>YX</i> <sub>28</sub>		1 15.7 254°64	3°4/15.1	17		<b>321436</b>	2009 <i>QF</i> <sub>45</sub>		1 15.7 111°78	3°1/17.5	18	
12 13	8 25.41	+32 41.1	2.115	2.921	13.1	20.5	12 13	8 11.85	+ 9 2.2	2.153	2.943	13.4	21.0
12 23	8 16.66	+32 24.5	2.014	2.903	10.0	20.3	12 23	8 6.23	+ 9 29.9	2.083	2.960	10.3	20.8
1 2	8 5.11	+31 59.3	1.939	2.885	6.5	20.0	1 2	7 58.69	+10 11.6	2.039	2.976	6.9	20.6
1 12	7 51.68	+31 21.0	1.894	2.866	3.6	19.8	1 12	7 49.92	+11 5.4	2.022	2.992	3.8	20.5
1 22	7 37.70	+30 27.1	1.880	2.847	4.6	19.8	1 22	7 40.80	+12 7.5	2.035	3.007	3.6	20.5
2 1	7 24.63	+29 18.8	1.898	2.827	8.1	20.0	2 1	7 32.31	+13 13.6	2.079	3.022	6.5	20.7
2 11	7 13.72	+27 59.9	1.945	2.807	11.8	20.2	2 11	7 25.30	+14 19.3	2.151	3.036	9.8	20.9
2 21	7 5.77	+26 35.8	2.016	2.786	15.0	20.4	2 21	7 20.35	+15 21.3	2.247	3.051	12.6	21.1
<b>87657</b>	2000 <i>RC</i> <sub>93</sub>		1 15.7 136°36	1°9/16.6	18		<b>147253</b>	2002 <i>XG</i> <sub>86</sub>		1 15.7 336°97	5°2/13.5	18	
12 13	8 12.07	+13 48.6											

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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>368820</b>	2006 <i>BH</i> <sub>44</sub>		1 15.7	66°91	1.8/15.1	18	<b>412757</b>	2014 <i>OW</i> <sub>377</sub>		1 15.7	268°24	0.5/15.9	18
12 13	8 15.01	+25 36.5	1.878	2.706	13.6	20.5	12 13	8 14.92	+19 0.9	1.617	2.444	15.4	21.3
12 23	8 8.85	+25 49.4	1.818	2.722	10.0	20.3	12 23	8 9.49	+19 8.9	1.526	2.429	11.6	21.1
1 2	8 0.32	+26 2.6	1.783	2.738	6.0	20.1	1 2	8 1.15	+19 24.8	1.459	2.414	7.1	20.8
1 12	7 50.36	+26 12.0	1.775	2.754	2.2	19.9	1 12	7 50.71	+19 45.4	1.417	2.398	2.1	20.4
1 22	7 40.11	+26 14.5	1.796	2.771	3.5	20.0	1 22	7 39.41	+20 6.9	1.404	2.382	3.3	20.4
2 1	7 30.82	+26 8.8	1.847	2.787	7.4	20.3	2 1	7 28.74	+20 25.8	1.419	2.366	8.4	20.7
2 11	7 23.49	+25 55.2	1.923	2.804	11.0	20.5	2 11	7 20.12	+20 40.0	1.459	2.350	13.1	20.9
2 21	7 18.74	+25 35.4	2.023	2.820	14.1	20.8	2 21	7 14.48	+20 48.9	1.521	2.334	17.2	21.2
<b>258</b>	Tyche		1 15.7	90°70	7.7/19.3	18 R	<b>350691</b>	2001 <i>VN</i> <sub>63</sub>		1 15.7	68°59	0.2/15.8	18
12 13	8 12.70	- 0 35.3	1.910	2.666	16.1	12.8	12 13	8 19.05	+19 42.7	1.330	2.164	17.8	21.0
12 23	8 6.94	- 1 12.9	1.850	2.687	13.3	12.7	12 23	8 12.31	+19 54.8	1.285	2.192	13.1	20.8
1 2	7 59.12	- 1 29.7	1.812	2.708	10.5	12.6	1 2	8 2.53	+20 14.4	1.263	2.220	7.8	20.6
1 12	7 50.03	- 1 23.9	1.799	2.728	8.3	12.5	1 12	7 50.97	+20 36.7	1.266	2.248	2.1	20.3
1 22	7 40.65	- 0 56.2	1.812	2.748	7.8	12.5	1 22	7 39.22	+20 57.2	1.297	2.276	3.5	20.5
2 1	7 32.03	- 0 10.1	1.854	2.768	9.3	12.6	2 1	7 28.89	+21 12.8	1.355	2.303	8.7	20.9
2 11	7 25.07	+ 0 49.1	1.921	2.788	11.7	12.8	2 11	7 21.25	+21 22.2	1.438	2.331	13.2	21.2
2 21	7 20.37	+ 1 55.4	2.011	2.807	14.2	13.0	2 21	7 16.90	+21 25.8	1.542	2.358	16.8	21.5
<b>252307</b>	2001 <i>RR</i> <sub>83</sub>		1 15.7	119°64	0.5/15.5	18	<b>429352</b>	2010 <i>FT</i> <sub>96</sub>		1 15.7	359°24	4.6/17.9	18
12 13	8 15.18	+21 28.9	2.102	2.919	12.7	21.5	12 13	8 8.28	+ 6 51.3	2.117	2.907	13.6	21.2
12 23	8 8.76	+21 48.8	2.037	2.935	9.4	21.3	12 23	8 3.74	+ 6 40.9	2.036	2.906	10.8	21.0
1 2	8 0.21	+22 12.5	1.996	2.951	5.6	21.1	1 2	7 57.29	+ 6 45.0	1.978	2.906	7.8	20.8
1 12	7 50.33	+22 36.4	1.985	2.966	1.5	20.9	1 12	7 49.57	+ 7 3.7	1.946	2.906	5.2	20.7
1 22	7 40.14	+22 57.2	2.004	2.981	2.7	21.0	1 22	7 41.43	+ 7 35.4	1.943	2.906	4.9	20.7
2 1	7 30.72	+23 12.7	2.053	2.995	6.6	21.2	2 1	7 33.80	+ 8 17.2	1.968	2.906	7.2	20.8
2 11	7 23.02	+23 22.0	2.129	3.009	10.1	21.5	2 11	7 27.56	+ 9 5.3	2.020	2.906	10.3	21.0
2 21	7 17.65	+23 25.2	2.230	3.022	13.1	21.7	2 21	7 23.32	+ 9 55.6	2.096	2.907	13.2	21.2
<b>242934</b>	2006 <i>QB</i> <sub>59</sub>		1 15.7	153°03	5.2/19.4	18	<b>140168</b>	2001 <i>SC</i> <sub>179</sub>		1 15.7	0°50	7.3/12.2	18
12 13	8 8.17	- 0 1.7	2.802	3.544	11.8	20.8	12 13	8 11.74	+32 42.1	1.365	2.216	16.3	18.1
12 23	8 3.20	+ 0 7.4	2.718	3.550	9.7	20.7	12 23	8 7.84	+34 28.5	1.304	2.214	12.6	17.8
1 2	7 56.76	+ 0 32.3	2.658	3.555	7.5	20.5	1 2	8 0.44	+36 13.4	1.265	2.212	9.0	17.6
1 12	7 49.39	+ 1 13.0	2.625	3.560	5.7	20.4	1 12	7 50.55	+37 44.9	1.252	2.212	7.3	17.5
1 22	7 41.70	+ 2 7.9	2.622	3.565	5.3	20.4	1 22	7 39.76	+38 52.6	1.263	2.213	8.9	17.6
2 1	7 34.41	+ 3 14.1	2.649	3.570	6.5	20.5	2 1	7 29.98	+39 30.9	1.300	2.215	12.4	17.8
2 11	7 28.16	+ 4 27.5	2.705	3.574	8.6	20.6	2 11	7 22.90	+39 40.7	1.358	2.218	16.1	18.1
2 21	7 23.44	+ 5 43.7	2.786	3.578	10.8	20.8	2 21	7 19.50	+39 27.1	1.435	2.222	19.3	18.3
<b>424356</b>	2007 <i>VE</i> <sub>146</sub>		1 15.7	292°91	4.4/13.4	18	<b>247842</b>	2003 <i>SM</i> <sub>292</sub>		1 15.7	52°15	4.3/17.2	18
12 13	8 12.16	+32 33.6	2.293	3.118	11.5	20.9	12 13	8 11.63	+10 13.5	1.925	2.726	14.3	20.0
12 23	8 6.89	+33 26.4	2.206	3.104	8.8	20.7	12 23	8 6.26	+ 9 37.6	1.856	2.736	11.2	19.8
1 2	7 59.32	+34 16.8	2.145	3.089	6.1	20.5	1 2	7 58.78	+ 9 13.4	1.810	2.746	7.7	19.6
1 12	7 50.15	+34 59.0	2.111	3.075	4.4	20.3	1 12	7 49.98	+ 9 1.4	1.791	2.756	4.8	19.5
1 22	7 40.36	+35 28.4	2.106	3.060	5.5	20.4	1 22	7 40.85	+ 9 0.8	1.800	2.767	4.7	19.5
2 1	7 31.09	+35 42.2	2.130	3.046	8.2	20.5	2 1	7 32.42	+ 9 9.8	1.838	2.777	7.5	19.7
2 11	7 23.43	+35 40.5	2.181	3.032	11.1	20.7	2 11	7 25.65	+ 9 25.7	1.902	2.788	10.8	19.9
2 21	7 18.12	+35 25.5	2.253	3.018	13.8	20.9	2 21	7 21.13	+ 9 45.7	1.990	2.799	13.8	20.1
<b>170081</b>	2002 <i>WL</i> <sub>9</sub>		1 15.7	99°27	0.6/15.4	18	<b>72233</b>	2001 <i>AJ</i> <sub>16</sub>		1 15.7	45°85	1.7/16.1	18
12 13	8 11.18	+21 36.1	2.332	3.152	11.6	20.5	12 13	8 15.91	+17 21.1	1.206	2.047	18.7	18.2
12 23	8 5.72	+21 58.5	2.262	3.162	8.5	20.4	12 23	8 10.59	+17 14.7	1.144	2.052	14.1	18.0
1 2	7 58.37	+22 24.4	2.216	3.172	5.1	20.2	1 2	8 1.88	+17 19.3	1.102	2.058	8.7	17.7
1 12	7 49.84	+22 50.9	2.200	3.181	1.4	19.9	1 12	7 50.90	+17 32.1	1.084	2.064	3.0	17.4
1 22	7 40.97	+23 14.8	2.214	3.191	2.5	20.0	1 22	7 39.30	+17 49.0	1.092	2.071	4.0	17.4
2 1	7 32.72	+23 34.0	2.258	3.201	6.1	20.3	2 1	7 28.89	+18 6.4	1.126	2.077	9.6	17.8
2 11	7 25.92	+23 47.2	2.330	3.210	9.3	20.5	2 11	7 21.21	+18 21.5	1.183	2.084	14.7	18.1
2 21	7 21.14	+23 54.5	2.426	3.219	12.1	20.7	2 21	7 17.10	+18 33.0	1.259	2.091	19.0	18.4
<b>163569</b>	2002 <i>TY</i> <sub>142</sub>		1 15.7	206°78	4.4/13.2	18	<b>149465</b>	2003 <i>EC</i> <sub>8</sub>		1 15.7	352°32	6.1/19.2	18
12 13	8 13.51	+33 18.8	2.455	3.273	11.1	20.1	12 13	8 7.14	+ 1 0.7	2.241	3.004	13.8	19.8
12 23	8 7.69	+34 16.1	2.377	3.270	8.5	19.9	12 23	8 2.83	+ 0 51.3	2.157	3.002	11.3	19.7
1 2	7 59.70	+35 10.2	2.326	3.267	5.9	19.8	1 2	7 56.72	+ 1 0.0	2.096	3.001	8.8	19.5
1 12	7 50.24	+35 55.5	2.303	3.264	4.4	19.7	1 12	7 49.43	+ 1 27.5	2.060	3.000	6.7	19.4
1 22	7 40.26	+36 27.4	2.311	3.260	5.4	19.7	1 22	7 41.73	+ 2 12.5	2.052	2.999	6.2	19.3
2 1	7 30.85	+36 43.7	2.347	3.257	7.8	19.9	2 1	7 34.48	+ 3 12.1	2.073	2.998	7.8	19.4
2 11	7 23.01	+36 44.7	2.410	3.253	10.5	20.0	2 11	7 28.51	+ 4 21.3	2.120	2.998	10.3	19.6
2 21	7 17.43	+36 32.6	2.495	3.248	12.9	20.2	2 21	7 24.39	+ 5 35.2	2.191	2.997	12.8	19.7
<b>253947</b>	2004 <i>DB</i> <sub>4</sub>		1 15.7	286°28	2.9/14.4	18	<b>122334</b>	2000 <i>QM</i> <sub>28</sub>		1 15.7	123°32	0.5/15.9	18
12 13	8 13.52	+25 32.7	1.709	2.544	14.4	20.3	12 13	8 16.65	+17 49.4	1.857	2.672	14.3	21.2
12 23	8 8.48	+26 29.0	1.622	2.529	10.7	20.0	12 23	8 10.08	+18 14.5	1.793	2.689	10.6	21.0
1 2	8 0.57	+27 30.1	1.558	2.514	6.7	19.8	1 2	8 1.11	+18 47.5	1.753	2.706	6.4	20.8
1 12	7 50.55	+28 29.3	1.522	2.499	3.2	19.5	1 12	7 50.65	+19 24.6	1.742	2.722	1.9	20.5
1 22	7 39.66	+29 19.7	1.513	2.484	4.8	19.6	1 22	7 39.80	+20 1.7	1.760	2.738	2.8	20.6
2 1	7 29.36	+29 56.4	1.533	2.469	9.1	19.8	2 1	7 29.81	+20 35.3	1.808	2.753	7.2	20.9
2 11	7 21.07	+30 17.8	1.578	2.454	13.2	20.0	2 11	7 21.74	+21 3.2	1.883	2.767	11.0	21.2
2 21	7 15.74	+30 25.0	1.644	2.439	16.9	20.2	2 21	7 16.24	+21 24.7	1.981	2.780	14.3	21.4
<b>335981</b>	2007 <i>TZ</i> <sub>239</sub>		1 15.7	55°99	1.0/16.1	18	<b>169707</b>	2002 <i>LL</i> <sub>39</sub>		1 15.7	184°18	3.5/17.3	18
12 13	8 10.88	+17 10.0	2.025										

EPHEMERIDES

1 15.7

1 15.7

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>235534</b>	2004 CS <sub>70</sub>		1 15.7 296°01	0°5/15.5	18		<b>502437</b>	2015 BD <sub>276</sub>		1 15.7 4°47	3°4/17.6	18	
12 13	8 10.24	+21 7.8	2.185	3.008	12.1	20.4	12 13	8 8.23	+9 1.9	2.142	2.939	13.2	20.8
12 23	8 5.34	+21 31.4	2.096	2.998	9.0	20.2	12 23	8 3.74	+9 14.8	2.060	2.939	10.3	20.6
1 2	7 58.35	+21 59.9	2.032	2.988	5.4	20.0	1 2	7 57.33	+9 41.8	2.002	2.940	7.0	20.4
1 12	7 49.93	+22 30.1	1.996	2.977	1.5	19.7	1 12	7 49.65	+10 21.6	1.972	2.940	4.1	20.2
1 22	7 40.98	+22 58.7	1.990	2.967	2.7	19.7	1 22	7 41.54	+11 11.4	1.970	2.941	3.9	20.2
2 1	7 32.53	+23 22.7	2.013	2.958	6.6	20.0	2 1	7 33.93	+12 7.7	1.998	2.941	6.7	20.3
2 11	7 25.54	+23 40.6	2.064	2.948	10.2	20.2	2 11	7 27.69	+13 6.1	2.052	2.943	9.9	20.5
2 21	7 20.70	+23 51.9	2.138	2.938	13.3	20.4	2 21	7 23.44	+14 3.1	2.132	2.944	12.9	20.7
<b>315844</b>	2008 HF <sub>12</sub>		1 15.7 290°45	2°5/14.6	18		<b>119113</b>	2001 OE <sub>77</sub>		1 15.7 41°78	0°7/15.6	18	
12 13	8 13.32	+24 40.1	1.756	2.590	14.1	21.0	12 13	8 17.87	+22 59.2	1.293	2.135	17.7	19.3
12 23	8 8.36	+25 29.8	1.660	2.567	10.6	20.7	12 23	8 11.95	+22 51.2	1.229	2.140	13.2	19.1
1 2	8 0.55	+26 25.2	1.587	2.544	6.5	20.4	1 2	8 2.66	+22 46.3	1.187	2.145	7.9	18.8
1 12	7 50.62	+27 20.1	1.542	2.520	2.8	20.1	1 12	7 51.17	+22 40.4	1.169	2.150	2.2	18.5
1 22	7 39.72	+28 8.3	1.524	2.497	4.4	20.2	1 22	7 39.12	+22 30.1	1.178	2.156	3.8	18.6
2 1	7 29.29	+28 44.7	1.535	2.474	8.8	20.4	2 1	7 28.34	+22 14.0	1.213	2.162	9.4	18.9
2 11	7 20.75	+29 7.2	1.572	2.450	13.1	20.6	2 11	7 20.30	+21 52.7	1.273	2.169	14.3	19.2
2 21	7 15.10	+29 16.5	1.629	2.427	16.9	20.8	2 21	7 15.81	+21 27.9	1.353	2.175	18.4	19.5
<b>325773</b>	2010 NL <sub>35</sub>		1 15.7 32°44	7°2/19.2	18		<b>68571</b>	2001 YR <sub>10</sub>		1 15.7 137°07	4°1/13.8	18	
12 13	8 9.43	+2 29.5	1.426	2.223	18.7	20.6	12 13	8 19.48	+29 30.9	1.947	2.767	13.5	19.4
12 23	8 5.24	+2 21.8	1.365	2.234	15.2	20.4	12 23	8 12.39	+30 39.9	1.885	2.782	10.1	19.2
1 2	7 58.45	+2 39.9	1.324	2.246	11.4	20.2	1 2	8 2.64	+31 47.7	1.848	2.796	6.6	19.1
1 12	7 49.96	+3 24.4	1.307	2.259	8.1	20.0	1 12	7 51.14	+32 46.7	1.840	2.810	4.1	18.9
1 22	7 41.01	+4 32.0	1.314	2.273	7.4	20.0	1 22	7 39.14	+33 31.1	1.862	2.822	5.4	19.0
2 1	7 32.93	+5 56.2	1.348	2.287	9.7	20.2	2 1	7 28.02	+33 57.8	1.913	2.834	8.6	19.3
2 11	7 26.88	+7 28.6	1.406	2.301	13.2	20.4	2 11	7 19.00	+34 7.3	1.991	2.845	11.9	19.5
2 21	7 23.59	+9 1.2	1.486	2.317	16.6	20.7	2 21	7 12.81	+34 2.6	2.091	2.855	14.7	19.7
<b>66908</b>	1999 VY <sub>162</sub>		1 15.7 52°55	0°2/15.6	18		<b>6084</b>	Bascom		1 15.7 44°20	10°4/22.7	18	
12 13	8 12.16	+20 42.2	1.985	2.809	13.1	19.5	12 13	8 12.29	-7 55.9	1.167	1.930	23.9	15.8
12 23	8 6.81	+20 56.4	1.909	2.811	9.7	19.3	12 23	8 7.68	-7 9.6	1.117	1.953	20.2	15.6
1 2	7 59.22	+21 15.7	1.857	2.813	5.8	19.1	1 2	8 0.01	-5 37.7	1.083	1.978	16.0	15.4
1 12	7 50.16	+21 36.7	1.833	2.814	1.6	18.8	1 12	7 50.42	-3 20.4	1.070	2.002	12.3	15.3
1 22	7 40.66	+21 56.2	1.838	2.816	2.8	18.9	1 22	7 40.40	-0 26.4	1.082	2.028	10.4	15.3
2 1	7 31.83	+22 11.7	1.873	2.818	6.9	19.1	2 1	7 31.56	+2 49.0	1.119	2.054	11.8	15.4
2 11	7 24.68	+22 21.9	1.934	2.820	10.7	19.4	2 11	7 25.24	+6 7.5	1.183	2.081	15.0	15.7
2 21	7 19.90	+22 26.6	2.018	2.822	13.9	19.6	2 21	7 22.16	+9 14.0	1.269	2.108	18.4	16.0
<b>95874</b>	2003 GA <sub>44</sub>		1 15.7 108°31	3°3/17.4	18		<b>230965</b>	2004 XA <sub>192</sub>		1 15.7 1°05	0°7/10.7	18	
12 13	8 13.82	+9 15.4	1.603	2.409	16.6	19.3	12 13	7 51.29	+48 31.5	34.703	35.469	1.0	19.8
12 23	8 8.36	+9 54.5	1.534	2.419	12.8	19.1	12 23	7 50.05	+48 35.8	34.639	35.469	0.9	19.8
1 2	8 0.29	+10 53.0	1.488	2.430	8.5	18.9	1 2	7 48.67	+48 39.1	34.601	35.469	0.8	19.8
1 12	7 50.48	+12 7.8	1.468	2.441	4.3	18.7	1 12	7 47.22	+48 41.0	34.591	35.469	0.7	19.8
1 22	7 40.13	+13 33.0	1.476	2.451	4.1	18.7	1 22	7 45.74	+48 41.6	34.608	35.469	0.8	19.8
2 1	7 30.56	+15 1.5	1.514	2.461	8.0	18.9	2 1	7 44.30	+48 40.6	34.653	35.470	0.9	19.8
2 11	7 22.99	+16 26.7	1.577	2.471	12.2	19.2	2 11	7 42.96	+48 38.1	34.723	35.470	1.1	19.8
2 21	7 18.16	+17 44.0	1.664	2.480	15.8	19.4	2 21	7 41.76	+48 34.1	34.816	35.470	1.2	19.8
<b>307308</b>	2002 QS <sub>78</sub>		1 15.7 339°16	1°3/15.3	18		<b>454958</b>	2015 TJ <sub>108</sub>		1 15.7 170°57	3°5/14.2	18	
12 13	8 13.38	+22 44.4	1.504	2.344	15.7	20.5	12 13	8 20.82	+28 8.2	1.904	2.723	13.8	22.8
12 23	8 8.44	+23 8.3	1.429	2.339	11.7	20.2	12 23	8 13.51	+29 6.6	1.831	2.729	10.3	22.6
1 2	8 0.53	+23 37.6	1.377	2.335	7.0	20.0	1 2	8 3.39	+30 5.2	1.783	2.733	6.6	22.3
1 12	7 50.58	+24 7.1	1.351	2.332	2.2	19.6	1 12	7 51.37	+30 56.9	1.764	2.737	3.7	22.2
1 22	7 39.94	+24 31.7	1.351	2.328	3.8	19.7	1 22	7 38.72	+31 35.7	1.775	2.740	5.0	22.3
2 1	7 30.16	+24 48.0	1.379	2.326	8.8	20.0	2 1	7 26.91	+31 58.1	1.815	2.741	8.6	22.5
2 11	7 22.63	+24 54.6	1.432	2.323	13.3	20.3	2 11	7 17.22	+32 4.6	1.882	2.742	12.2	22.7
2 21	7 18.21	+24 52.3	1.505	2.321	17.2	20.5	2 21	7 10.46	+31 57.9	1.972	2.742	15.3	22.9
<b>159472</b>	2000 QA <sub>176</sub>		1 15.7 180°59	1°6/16.4	18		<b>296611</b>	2009 SH <sub>13</sub>		1 15.7 26°58	7°4/13.7	18	
12 13	8 15.93	+15 37.2	2.105	2.909	13.2	21.1	12 13	8 18.65	+38 30.1	1.560	2.390	15.8	19.8
12 23	8 9.44	+15 42.4	2.022	2.911	10.0	20.9	12 23	8 12.44	+39 12.7	1.504	2.397	12.4	19.6
1 2	8 0.75	+15 55.9	1.964	2.912	6.2	20.7	1 2	8 2.87	+39 43.9	1.470	2.405	9.3	19.5
1 12	7 50.59	+16 15.4	1.934	2.912	2.5	20.4	1 12	7 51.20	+39 55.0	1.462	2.414	7.5	19.4
1 22	7 39.95	+16 38.4	1.935	2.912	2.9	20.5	1 22	7 39.12	+39 41.2	1.479	2.423	8.4	19.5
2 1	7 29.91	+17 2.2	1.966	2.910	6.8	20.7	2 1	7 28.44	+39 2.6	1.523	2.433	11.2	19.6
2 11	7 21.50	+17 24.6	2.025	2.908	10.4	20.9	2 11	7 20.57	+38 3.9	1.590	2.444	14.4	19.9
2 21	7 15.39	+17 44.3	2.109	2.905	13.6	21.1	2 21	7 16.22	+36 51.9	1.677	2.455	17.3	20.1
<b>499781</b>	2011 CO <sub>42</sub>		1 15.7 284°46	0°0/15.6	17		<b>62427</b>	2000 SH <sub>187</sub>		1 15.7 82°44	2°8/14.5	18	
12 13	8 13.24	+21 5.4	1.970	2.794	13.2	21.9	12 13	8 14.09	+26 24.5	1.874	2.704	13.5	19.2
12 23	8 7.78	+21 4.3	1.876	2.777	9.9	21.6	12 23	8 8.41	+27 12.8	1.809	2.714	10.0	19.0
1 2	7 59.93	+21 7.1	1.806	2.761	6.0	21.4	1 2	8 0.25	+28 2.3	1.769	2.724	6.2	18.8
1 12	7 50.40	+21 11.1	1.763	2.744	1.7	21.0	1 12	7 50.48	+28 47.4	1.757	2.734	3.0	18.6
1 22	7 40.23	+21 13.7	1.750	2.728	2.8	21.1	1 22	7 40.26	+29 22.8	1.774	2.744	4.3	18.7
2 1	7 30.61	+21 13.1	1.766	2.711	7.2	21.3	2 1	7 30.86	+29 45.6	1.819	2.754	8.0	19.0
2 11	7 22.68	+21 8.4	1.808	2.695	11.3	21.5	2 11	7 23.39	+29 55.3	1.891	2.764	11.5	19.2
2 21	7 17.20	+20 59.8	1.874	2.678	14.7	21.7	2 21	7 18.56	+29 53.7	1.985	2.774	14.6	19.4
<b>422502</b>	2014 TK <sub>3</sub>		1 15.7 203°21	7°3/18.9	18 R		<b>372185</b>	2008 TB <sub>85</sub>		1 15.7 141°56	0°0/15.7	18	
12 13	8 11.42	+0 32.1	1.999	2.760	15.3	21.3	12 13	8 11.96	+20 1.8	2.176	2.995	12.3</	

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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>363754</b>	2005 <i>AW</i> <sub>64</sub>		1 15.7 352°60	0°5/15.9	17		<b>460682</b>	2014 <i>UC</i> <sub>177</sub>		1 15.7 196°69	2°8/14.7	18	
12 13	8 11.30	+19 36.1	1.201	2.053	18.1	20.9	12 13	8 16.81	+27 59.5	2.044	2.866	12.9	21.4
12 23	8 7.39	+19 35.7	1.131	2.047	13.6	20.6	12 23	8 10.37	+28 28.6	1.964	2.864	9.6	21.2
1 2	8 0.12	+19 44.3	1.082	2.042	8.3	20.3	1 2	8 1.44	+28 56.9	1.909	2.861	6.0	21.0
1 12	7 50.52	+19 58.3	1.057	2.038	2.4	19.9	1 12	7 50.85	+29 19.5	1.882	2.858	3.0	20.8
1 22	7 40.15	+20 13.5	1.056	2.035	3.8	20.0	1 22	7 39.73	+29 32.2	1.886	2.855	4.2	20.8
2 1	7 30.80	+20 26.1	1.080	2.034	9.6	20.3	2 1	7 29.34	+29 32.9	1.918	2.851	7.8	21.0
2 11	7 24.05	+20 34.0	1.127	2.033	14.8	20.6	2 11	7 20.81	+29 22.0	1.978	2.847	11.3	21.3
2 21	7 20.80	+20 36.5	1.194	2.034	19.2	20.9	2 21	7 14.88	+29 1.8	2.060	2.842	14.4	21.4
<b>209776</b>	2005 <i>EZ</i> <sub>326</sub>		1 15.7 37°20	8°4/19.6	18		<b>5302</b>	Romanoserra		1 15.7 83°50	1°1/15.4	18	
12 13	8 10.26	+0 54.1	1.324	2.119	20.0	20.1	12 13	8 16.34	+22 28.7	1.476	2.312	16.2	17.5
12 23	8 6.01	+0 37.0	1.266	2.131	16.4	19.9	12 23	8 10.58	+22 48.1	1.408	2.316	12.0	17.3
1 2	7 58.98	+0 48.7	1.227	2.144	12.5	19.7	1 2	8 1.78	+23 12.4	1.363	2.320	7.2	17.0
1 12	7 50.15	+1 30.4	1.210	2.158	9.3	19.6	1 12	7 50.97	+23 36.7	1.343	2.325	2.1	16.7
1 22	7 40.83	+2 39.3	1.218	2.172	8.5	19.6	1 22	7 39.56	+23 56.1	1.352	2.329	3.7	16.8
2 1	7 32.46	+4 8.4	1.251	2.187	10.6	19.8	2 1	7 29.17	+24 7.3	1.387	2.333	8.8	17.1
2 11	7 26.29	+5 48.1	1.308	2.203	14.1	20.0	2 11	7 21.17	+24 9.8	1.448	2.338	13.3	17.4
2 21	7 23.04	+7 29.1	1.386	2.219	17.5	20.3	2 21	7 16.37	+24 4.5	1.529	2.342	17.1	17.7
<b>406138</b>	2006 <i>VM</i> <sub>111</sub>		1 15.7 92°41	0°5/15.5	18		<b>364707</b>	2007 <i>UM</i> <sub>122</sub>		1 15.7 1°84	4°5/17.1	18	
12 13	8 17.06	+21 35.8	1.894	2.713	13.8	21.7	12 13	8 11.34	+11 22.1	1.360	2.187	17.8	21.2
12 23	8 10.25	+21 51.7	1.839	2.738	10.2	21.6	12 23	8 6.95	+10 56.1	1.289	2.186	13.9	20.9
1 2	8 1.16	+22 11.2	1.809	2.763	6.0	21.4	1 2	7 59.66	+10 45.8	1.240	2.185	9.4	20.7
1 12	7 50.69	+22 30.6	1.807	2.788	1.7	21.1	1 12	7 50.40	+10 51.3	1.214	2.185	5.3	20.5
1 22	7 40.00	+22 46.0	1.835	2.812	2.9	21.3	1 22	7 40.49	+11 10.8	1.214	2.186	5.3	20.5
2 1	7 30.28	+22 57.0	1.892	2.835	7.0	21.6	2 1	7 31.45	+11 40.5	1.239	2.188	9.3	20.7
2 11	7 22.52	+23 1.3	1.977	2.858	10.7	21.8	2 11	7 24.64	+12 16.0	1.289	2.190	13.7	20.9
2 21	7 17.31	+23 0.0	2.085	2.881	13.7	22.1	2 21	7 20.87	+12 52.8	1.359	2.193	17.7	21.2
<b>523536</b>	2017 <i>PZ</i> <sub>23</sub>		1 15.7 258°78	2°1/14.7	18		<b>424736</b>	2008 <i>SE</i> <sub>251</sub>		1 15.7 140°36	0°8/16.1	16	
12 13	8 11.32	+27 1.1	2.528	3.349	10.7	21.8	12 13	8 11.38	+17 39.8	2.257	3.070	12.1	22.1
12 23	8 5.93	+27 26.7	2.440	3.340	8.0	21.6	12 23	8 5.98	+17 52.6	2.179	3.075	9.0	21.9
1 2	7 58.62	+27 52.4	2.379	3.332	4.9	21.4	1 2	7 58.64	+18 12.0	2.127	3.079	5.5	21.7
1 12	7 50.03	+28 14.5	2.346	3.323	2.3	21.2	1 12	7 50.05	+18 35.5	2.103	3.083	1.8	21.5
1 22	7 41.00	+28 30.1	2.344	3.314	3.3	21.3	1 22	7 41.08	+19 0.5	2.109	3.087	2.4	21.5
2 1	7 32.46	+28 37.1	2.372	3.306	6.4	21.5	2 1	7 32.67	+19 24.3	2.145	3.091	6.1	21.8
2 11	7 25.29	+28 35.2	2.427	3.297	9.4	21.6	2 11	7 25.71	+19 45.2	2.209	3.094	9.6	22.0
2 21	7 20.11	+28 25.5	2.506	3.288	12.1	21.8	2 21	7 20.79	+20 2.1	2.297	3.098	12.5	22.2
<b>379473</b>	2010 <i>DC</i> <sub>42</sub>		1 15.7 328°96	1°1/16.2	18		<b>234965</b>	2002 <i>XQ</i> <sub>5</sub>		1 15.7 90°52	3°5/17.7	18	
12 13	8 9.64	+16 11.9	1.957	2.778	13.4	21.1	12 13	8 9.87	+8 29.6	2.357	3.144	12.5	20.5
12 23	8 5.04	+16 34.2	1.874	2.772	10.1	20.8	12 23	8 4.66	+8 32.0	2.289	3.161	9.7	20.3
1 2	7 58.25	+17 6.3	1.814	2.767	6.2	20.6	1 2	7 57.75	+8 46.7	2.246	3.178	6.7	20.2
1 12	7 49.95	+17 45.5	1.782	2.762	2.2	20.3	1 12	7 49.79	+9 12.7	2.230	3.195	4.1	20.0
1 22	7 41.12	+18 28.1	1.779	2.757	2.8	20.3	1 22	7 41.56	+9 48.0	2.244	3.211	3.9	20.0
2 1	7 32.82	+19 10.3	1.804	2.753	6.9	20.6	2 1	7 33.89	+10 29.6	2.288	3.228	6.2	20.2
2 11	7 26.11	+19 49.0	1.857	2.748	10.7	20.8	2 11	7 27.54	+11 14.3	2.360	3.244	9.1	20.4
2 21	7 21.67	+20 22.1	1.932	2.744	14.1	21.0	2 21	7 23.03	+11 58.9	2.457	3.260	11.7	20.6
<b>473945</b>	2016 <i>EP</i> <sub>172</sub>		1 15.7 255°19	3°2/14.8	18		<b>76471</b>	2000 <i>FD</i> <sub>57</sub>		1 15.7 102°13	2°4/14.8	18	
12 13	8 17.65	+30 17.3	1.969	2.792	13.2	20.5	12 13	8 14.69	+28 9.9	2.260	3.081	11.8	18.8
12 23	8 11.03	+30 23.9	1.889	2.788	10.0	20.3	12 23	8 8.42	+28 25.1	2.192	3.091	8.8	18.7
1 2	8 1.82	+30 26.4	1.833	2.783	6.4	20.0	1 2	8 0.07	+28 38.5	2.149	3.101	5.4	18.5
1 12	7 50.93	+30 20.3	1.805	2.779	3.4	19.8	1 12	7 50.43	+28 46.4	2.135	3.112	2.6	18.3
1 22	7 39.57	+30 2.3	1.806	2.775	4.5	19.9	1 22	7 40.50	+28 46.0	2.151	3.122	3.6	18.4
2 1	7 29.07	+29 32.0	1.837	2.770	8.0	20.1	2 1	7 31.33	+28 36.2	2.197	3.131	6.8	18.6
2 11	7 20.59	+28 51.3	1.894	2.765	11.6	20.3	2 11	7 23.84	+28 17.8	2.270	3.141	10.0	18.8
2 21	7 14.85	+28 3.3	1.974	2.761	14.7	20.5	2 21	7 18.62	+27 52.4	2.367	3.150	12.7	19.0
<b>152465</b>	2005 <i>VJ</i> <sub>96</sub>		1 15.7 145°97	0°3/15.6	18		<b>466191</b>	2012 <i>KL</i> <sub>45</sub>		1 15.7 161°27	4°4/13.5	16 C	
12 13	8 13.83	+21 7.0	2.082	2.901	12.8	20.6	12 13	8 30.49	+23 22.3	1.422	2.238	17.8	22.2
12 23	8 7.94	+21 23.0	2.007	2.907	9.4	20.4	12 23	8 21.78	+25 49.5	1.354	2.251	13.3	22.0
1 2	7 59.87	+21 43.2	1.957	2.912	5.6	20.1	1 2	8 8.98	+28 28.4	1.311	2.262	8.2	21.7
1 12	7 50.39	+22 4.5	1.935	2.917	1.5	19.9	1 12	7 53.09	+31 3.2	1.298	2.272	4.5	21.5
1 22	7 40.49	+22 23.6	1.944	2.921	2.7	20.0	1 22	7 35.91	+33 18.0	1.316	2.279	6.7	21.7
2 1	7 31.28	+22 38.1	1.982	2.925	6.7	20.2	2 1	7 19.70	+35 2.0	1.365	2.285	11.5	22.0
2 11	7 23.73	+22 47.0	2.047	2.929	10.3	20.5	2 11	7 6.50	+36 13.5	1.440	2.288	16.0	22.3
2 21	7 18.49	+22 50.3	2.136	2.933	13.4	20.7	2 21	6 57.51	+36 57.4	1.536	2.289	19.7	22.5
<b>19625</b>	Ovatt		1 15.7 40°54	0°5/15.6	18		<b>90303</b>	2003 <i>EL</i> <sub>49</sub>		1 15.7 113°58	6°2/13.8	18	
12 13	8 15.22	+21 48.6	1.427	2.266	16.5	17.2	12 13	8 24.26	+36 7.3	1.749	2.566	14.9	19.8
12 23	8 9.74	+21 56.3	1.363	2.272	12.2	17.0	12 23	8 16.15	+36 58.5	1.697	2.586	11.5	19.6
1 2	8 1.25	+22 9.1	1.321	2.279	7.3	16.7	1 2	8 4.92	+37 40.6	1.668	2.605	8.2	19.5
1 12	7 50.80	+22 22.7	1.304	2.286	2.0	16.4	1 12	7 51.79	+38 5.6	1.667	2.624	6.3	19.4
1 22	7 39.84	+22 33.2	1.315	2.293	3.5	16.5	1 22	7 38.35	+38 8.2	1.694	2.642	7.2	19.5
2 1	7 29.94	+22 37.7	1.353	2.301	8.7	16.9	2 1	7 26.27	+37 48.3	1.750	2.659	10.1	19.7
2 11	7 22.46	+22 35.8	1.415	2.309	13.3	17.1	2 11	7 16.88	+37 9.8	1.830	2.676	13.2	19.9
2 21	7 18.16	+22 27.9	1.498	2.317	17.1	17.4	2 21	7 10.87	+36 18.5	1.932	2.691	16.0	20.1
<b>2155</b>	Wodan		1 15.7 77°10	1°3/15.2	18		<b>511</b>	Davida		1 15.7 19°55	1°1/15.1	18	
12 13	8 12.89	+23 22.2	1.973	2.800	13.1	16.9	12 13	8 9.27	+19 31.3				

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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>369349</b>	2009 <i>SV</i> <sub>344</sub>		1 15.7 183°85	4.7/18.3	18		<b>448094</b>	2008 <i>JK</i> <sub>38</sub>		1 15.7 234°92	3.8/17.0	18	
12 13	8 11.13	+ 4 8.2	2.617	3.377	12.1	22.7	12 13	8 15.52	+11 17.5	1.571	2.381	16.6	22.5
12 23	8 5.55	+ 3 59.9	2.528	3.378	9.7	22.5	12 23	8 9.95	+11 11.1	1.483	2.371	12.9	22.2
1 2	7 58.31	+ 4 5.2	2.464	3.378	7.2	22.3	1 2	8 1.50	+11 19.7	1.418	2.361	8.7	21.9
1 12	7 49.97	+ 4 24.1	2.428	3.377	5.2	22.2	1 12	7 50.98	+11 42.8	1.378	2.350	4.7	21.7
1 22	7 41.26	+ 4 55.7	2.421	3.375	4.9	22.2	1 22	7 39.61	+12 17.7	1.366	2.339	4.7	21.6
2 1	7 32.96	+ 5 37.4	2.445	3.373	6.6	22.3	2 1	7 28.87	+13 0.4	1.381	2.327	8.8	21.8
2 11	7 25.81	+ 6 26.1	2.498	3.370	9.1	22.4	2 11	7 20.14	+13 46.1	1.422	2.315	13.3	22.1
2 21	7 20.37	+ 7 18.1	2.576	3.367	11.6	22.6	2 21	7 14.36	+14 31.1	1.485	2.302	17.3	22.3
<b>110947</b>	2001 <i>UW</i> <sub>155</sub>		1 15.7 201°96	1.3/15.2	18		<b>375334</b>	2008 <i>RF</i> <sub>145</sub>		1 15.7 334°62	1.2/15.2	18	
12 13	8 13.65	+23 1.5	1.984	2.809	13.1	19.7	12 13	8 12.22	+23 6.6	2.032	2.859	12.8	21.6
12 23	8 8.05	+23 33.7	1.904	2.807	9.7	19.5	12 23	8 6.91	+23 32.0	1.954	2.858	9.4	21.4
1 2	8 0.07	+24 9.9	1.850	2.805	5.8	19.2	1 2	7 59.36	+24 0.7	1.901	2.857	5.7	21.1
1 12	7 50.50	+24 45.7	1.823	2.803	1.9	19.0	1 12	7 50.32	+24 29.0	1.876	2.857	1.8	20.9
1 22	7 40.39	+25 16.8	1.826	2.801	3.3	19.1	1 22	7 40.79	+24 53.1	1.880	2.856	3.1	21.0
2 1	7 30.93	+25 40.1	1.857	2.799	7.3	19.3	2 1	7 31.91	+25 10.2	1.913	2.855	7.0	21.2
2 11	7 23.20	+25 54.4	1.916	2.796	11.1	19.5	2 11	7 24.69	+25 19.4	1.973	2.855	10.7	21.4
2 21	7 17.94	+26 0.0	1.998	2.793	14.3	19.7	2 21	7 19.83	+25 21.0	2.056	2.854	13.8	21.6
<b>336510</b>	2008 <i>WD</i> <sub>129</sub>		1 15.7 51°96	1.2/16.5	18		<b>362084</b>	2009 <i>BW</i> <sub>128</sub>		1 15.7 62°33	3.2/14.6	18	
12 13	8 10.73	+13 33.8	1.941	2.753	13.8	19.9	12 13	8 16.43	+25 34.3	1.407	2.249	16.5	20.7
12 23	8 5.65	+14 31.6	1.883	2.777	10.3	19.8	12 23	8 10.73	+26 32.0	1.355	2.265	12.2	20.5
1 2	7 58.49	+15 41.7	1.850	2.801	6.4	19.6	1 2	8 1.88	+27 32.6	1.325	2.282	7.5	20.2
1 12	7 50.03	+16 59.8	1.845	2.825	2.3	19.3	1 12	7 51.02	+28 27.8	1.321	2.299	3.5	20.0
1 22	7 41.24	+18 20.3	1.870	2.849	2.7	19.4	1 22	7 39.70	+29 10.7	1.345	2.316	5.1	20.2
2 1	7 33.17	+19 37.6	1.925	2.873	6.6	19.7	2 1	7 29.58	+29 37.4	1.395	2.334	9.5	20.5
2 11	7 26.74	+20 47.6	2.008	2.897	10.2	20.0	2 11	7 22.03	+29 47.8	1.469	2.351	13.7	20.8
2 21	7 22.54	+21 48.0	2.115	2.922	13.2	20.2	2 21	7 17.80	+29 44.7	1.564	2.368	17.2	21.1
<b>229183</b>	2004 <i>TH</i> <sub>188</sub>		1 15.7 199°67	1.9/16.5	18		<b>248678</b>	2006 <i>KC</i> <sub>9</sub>		1 15.7 209°88	0.9/16.1	18	
12 13	8 11.54	+14 59.4	2.027	2.839	13.3	21.4	12 13	8 15.12	+17 32.9	2.011	2.823	13.4	21.8
12 23	8 6.32	+15 2.4	1.946	2.838	10.1	21.2	12 23	8 9.09	+17 45.0	1.922	2.817	10.1	21.6
1 2	7 58.96	+15 14.5	1.889	2.838	6.4	20.9	1 2	8 0.70	+18 4.8	1.859	2.810	6.2	21.4
1 12	7 50.19	+15 34.0	1.860	2.837	2.7	20.7	1 12	7 50.71	+18 29.4	1.823	2.803	2.0	21.1
1 22	7 40.95	+15 58.3	1.860	2.837	3.0	20.7	1 22	7 40.12	+18 55.8	1.818	2.796	2.8	21.1
2 1	7 32.29	+16 24.7	1.889	2.836	6.8	21.0	2 1	7 30.10	+19 20.8	1.842	2.787	7.0	21.4
2 11	7 25.20	+16 50.6	1.946	2.835	10.4	21.2	2 11	7 21.74	+19 42.5	1.894	2.778	10.9	21.6
2 21	7 20.35	+17 14.1	2.026	2.834	13.6	21.4	2 21	7 15.79	+19 59.8	1.969	2.769	14.3	21.8
<b>316836</b>	2000 <i>CQ</i> <sub>132</sub>		1 15.7 34°14	0.6/15.5	18		<b>490183</b>	2008 <i>UL</i> <sub>283</sub>		1 15.7 31°62	0.8/15.4	18	
12 13	8 12.40	+22 10.4	2.034	2.858	12.8	21.1	12 13	8 11.11	+21 32.0	1.732	2.567	14.2	21.0
12 23	8 6.97	+22 20.6	1.958	2.860	9.5	20.9	12 23	8 6.28	+22 1.0	1.670	2.577	10.5	20.8
1 2	7 59.34	+22 34.1	1.906	2.862	5.7	20.6	1 2	7 59.02	+22 35.4	1.631	2.588	6.2	20.6
1 12	7 50.29	+22 47.8	1.883	2.864	1.6	20.4	1 12	7 50.22	+23 10.8	1.619	2.600	1.8	20.3
1 22	7 40.81	+22 58.7	1.888	2.866	2.8	20.5	1 22	7 41.01	+23 42.9	1.635	2.612	3.2	20.5
2 1	7 32.01	+23 4.9	1.924	2.868	6.8	20.7	2 1	7 32.63	+24 8.3	1.679	2.625	7.5	20.8
2 11	7 24.89	+23 5.5	1.986	2.870	10.5	20.9	2 11	7 26.16	+24 25.4	1.749	2.638	11.4	21.0
2 21	7 20.09	+23 0.9	2.071	2.873	13.6	21.2	2 21	7 22.26	+24 34.4	1.841	2.652	14.7	21.3
<b>3896</b>	Pordenone		1 15.7 294°52	4.3/17.4	18		<b>423286</b>	2005 <i>CE</i> <sub>7</sub>		1 15.7 228°27	9.9/21.0	18	
12 13	8 10.04	+ 8 41.6	2.177	2.969	13.2	16.2	12 13	8 15.48	- 4 38.6	1.168	1.941	23.3	20.7
12 23	8 5.07	+ 8 15.2	2.091	2.964	10.4	16.0	12 23	8 10.69	- 4 5.0	1.088	1.937	19.7	20.4
1 2	7 58.16	+ 8 0.6	2.029	2.960	7.4	15.8	1 2	8 2.33	- 2 46.2	1.026	1.933	15.5	20.1
1 12	7 49.96	+ 7 58.1	1.994	2.956	4.8	15.7	1 12	7 51.29	- 0 38.7	0.984	1.928	11.5	19.9
1 22	7 41.33	+ 8 7.0	1.988	2.952	4.7	15.6	1 22	7 39.05	+ 2 12.4	0.967	1.923	9.9	19.8
2 1	7 33.19	+ 8 25.6	2.011	2.948	7.1	15.8	2 1	7 27.53	+ 5 32.9	0.977	1.917	12.3	19.9
2 11	7 26.44	+ 8 51.1	2.060	2.944	10.2	16.0	2 11	7 18.55	+ 9 2.8	1.011	1.912	16.7	20.1
2 21	7 21.69	+ 9 20.3	2.134	2.940	13.1	16.2	2 21	7 13.28	+12 24.2	1.068	1.906	21.2	20.4
<b>358562</b>	2007 <i>TC</i> <sub>235</sub>		1 15.7 242°23	4.6/13.9	18		<b>294859</b>	2008 <i>CQ</i> <sub>193</sub>		1 15.7 103°20	4.1/14.1	18	
12 13	8 17.37	+30 33.2	1.695	2.527	14.6	21.1	12 13	8 18.33	+31 3.3	1.940	2.763	13.4	20.9
12 23	8 11.41	+31 26.1	1.618	2.521	11.1	20.8	12 23	8 11.46	+31 50.0	1.884	2.782	10.1	20.7
1 2	8 2.38	+32 17.6	1.564	2.514	7.4	20.6	1 2	8 2.04	+32 33.0	1.853	2.801	6.6	20.6
1 12	7 51.20	+32 59.9	1.537	2.507	4.7	20.4	1 12	7 51.04	+33 6.1	1.850	2.819	4.2	20.5
1 22	7 39.26	+33 26.7	1.538	2.500	6.0	20.5	1 22	7 39.70	+33 24.8	1.876	2.836	5.3	20.6
2 1	7 28.15	+33 34.6	1.567	2.493	9.7	20.7	2 1	7 29.36	+33 27.3	1.931	2.854	8.4	20.8
2 11	7 19.33	+33 24.6	1.620	2.486	13.6	20.9	2 11	7 21.14	+33 15.2	2.011	2.871	11.6	21.0
2 21	7 13.70	+33 0.2	1.695	2.478	16.9	21.1	2 21	7 15.68	+32 51.6	2.115	2.887	14.4	21.2
<b>89344</b>	2001 <i>VY</i> <sub>63</sub>		1 15.7 132°34	4.4/14.0	18		<b>444147</b>	2004 <i>XZ</i> <sub>14</sub>		1 15.7 59°72	2.1/15.0	17	
12 13	8 19.69	+30 0.4	1.693	2.521	14.8	20.3	12 13	8 17.63	+23 24.9	1.310	2.151	17.5	21.1
12 23	8 12.90	+30 59.4	1.631	2.532	11.1	20.1	12 23	8 11.56	+24 9.4	1.265	2.176	12.9	20.9
1 2	8 3.12	+31 56.5	1.593	2.543	7.3	19.9	1 2	8 2.31	+24 58.3	1.243	2.201	7.7	20.6
1 12	7 51.37	+32 43.9	1.582	2.553	4.5	19.7	1 12	7 51.13	+25 44.3	1.246	2.226	2.7	20.4
1 22	7 39.07	+33 15.1	1.600	2.562	5.8	19.8	1 22	7 39.63	+26 20.7	1.276	2.252	4.4	20.6
2 1	7 27.82	+33 27.6	1.646	2.571	9.4	20.1	2 1	7 29.53	+26 44.1	1.333	2.277	9.3	20.9
2 11	7 18.96	+33 22.4	1.717	2.580	13.1	20.3	2 11	7 22.15	+26 54.3	1.414	2.302	13.7	21.2
2 21	7 13.28	+33 3.5	1.809	2.588	16.2	20.5	2 21	7 18.16	+26 53.2	1.515	2.328	17.3	21.5
<b>192412</b>	1997 <i>HQ</i> <sub>7</sub>		1 15.7 195°98	2.3/14.9	18		<b>372934</b>	2011 <i>BS</i> <sub>46</sub>		1 15.7 102°48	1.7/16.5	18	
12 13	8 18.52	+25 29.9	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>521005</b>	2015 <i>BS</i> <sub>552</sub>		1 15.7 228°85	2°0/16.8	17		<b>466955</b>	2016 <i>AF</i> <sub>129</sub>		1 15.8 75°72	0°4/15.9	18	
12 13	8 9.94	+13 34.1	2.494	3.295	11.5	22.4	12 13	8 11.37	+16 17.0	1.933	2.752	13.6	20.8
12 23	8 4.84	+13 38.4	2.403	3.288	8.7	22.2	12 23	8 6.35	+17 10.8	1.858	2.756	10.2	20.6
1 2	7 57.98	+13 51.1	2.336	3.281	5.6	22.0	1 2	7 59.08	+18 15.8	1.808	2.761	6.2	20.4
1 12	7 49.94	+14 11.1	2.299	3.274	2.7	21.8	1 12	7 50.29	+19 27.6	1.785	2.766	1.8	20.1
1 22	7 41.47	+14 36.3	2.291	3.266	2.8	21.8	1 22	7 40.98	+20 40.7	1.792	2.771	2.7	20.2
2 1	7 33.42	+15 4.4	2.314	3.258	5.9	22.0	2 1	7 32.26	+21 49.7	1.829	2.776	7.0	20.4
2 11	7 26.58	+15 33.2	2.365	3.250	9.0	22.1	2 11	7 25.17	+22 50.7	1.894	2.781	10.8	20.7
2 21	7 21.54	+16 0.7	2.441	3.242	11.8	22.3	2 21	7 20.44	+23 41.9	1.981	2.786	14.1	20.9
<b>492822</b>	2014 <i>QO</i> <sub>282</sub>		1 15.7 58°27	5°9/13.1	18		<b>503681</b>	2016 <i>HL</i> <sub>8</sub>		1 15.8 160°94	1°3/14.9	18	
12 13	8 16.22	+31 21.5	1.543	2.381	15.5	20.7	12 13	8 10.65	+23 3.1	2.779	3.593	10.0	21.4
12 23	8 10.67	+32 55.5	1.490	2.394	11.7	20.5	12 23	8 5.27	+23 52.6	2.700	3.598	7.4	21.3
1 2	8 1.94	+34 27.3	1.460	2.408	8.0	20.3	1 2	7 58.20	+24 45.2	2.648	3.602	4.4	21.1
1 12	7 51.09	+35 46.6	1.457	2.421	5.9	20.2	1 12	7 50.02	+25 37.4	2.626	3.606	1.6	20.9
1 22	7 39.61	+36 45.2	1.481	2.435	7.3	20.3	1 22	7 41.45	+26 25.5	2.636	3.609	2.7	21.0
2 1	7 29.22	+37 19.0	1.532	2.449	10.7	20.5	2 1	7 33.31	+27 6.8	2.676	3.612	5.7	21.2
2 11	7 21.34	+37 29.4	1.607	2.463	14.2	20.8	2 11	7 26.35	+27 39.5	2.746	3.615	8.5	21.4
2 21	7 16.80	+37 20.7	1.701	2.477	17.2	21.0	2 21	7 21.13	+28 3.7	2.840	3.618	10.9	21.5
<b>337813</b>	2001 <i>UX</i> <sub>229</sub>		1 15.7 178°89	3°1/17.5	18		<b>333098</b>	2011 <i>UA</i> <sub>274</sub>		1 15.8 330°65	0°4/15.9	18	
12 13	8 8.82	+ 9 22.0	2.541	3.330	11.6	21.3	12 13	8 13.77	+20 7.8	1.358	2.200	17.0	20.7
12 23	8 3.93	+ 9 29.9	2.456	3.330	9.1	21.2	12 23	8 9.02	+20 2.1	1.281	2.191	12.8	20.4
1 2	7 57.39	+ 9 49.1	2.396	3.331	6.2	21.0	1 2	8 1.08	+20 3.2	1.225	2.183	7.8	20.1
1 12	7 49.77	+10 18.7	2.364	3.331	3.6	20.8	1 12	7 50.91	+20 8.0	1.194	2.175	2.3	19.7
1 22	7 41.78	+10 56.6	2.361	3.331	3.5	20.8	1 22	7 39.95	+20 12.9	1.189	2.168	3.6	19.8
2 1	7 34.21	+11 40.1	2.389	3.331	5.9	21.0	2 1	7 29.88	+20 15.3	1.210	2.161	9.1	20.1
2 11	7 27.80	+12 26.1	2.446	3.330	8.8	21.2	2 11	7 22.22	+20 13.9	1.255	2.155	14.1	20.4
2 21	7 23.11	+13 11.8	2.527	3.330	11.4	21.3	2 21	7 17.87	+20 8.4	1.321	2.150	18.4	20.6
<b>55477</b>	Soroban		1 15.7 142°43	0°0/15.7	18		<b>48456</b>	Wilhelmwien		1 15.8 272°42	7°7/12.5	18	
12 13	8 10.35	+19 43.3	2.860	3.669	9.9	19.8	12 13	8 20.48	+44 38.1	2.285	3.081	12.5	19.1
12 23	8 4.88	+20 4.3	2.784	3.678	7.3	19.7	12 23	8 13.32	+45 24.0	2.211	3.073	10.4	18.9
1 2	7 57.87	+20 29.2	2.735	3.688	4.4	19.5	1 2	8 3.33	+45 57.4	2.160	3.065	8.6	18.8
1 12	7 49.88	+20 55.7	2.715	3.697	1.2	19.3	1 12	7 51.47	+46 11.0	2.136	3.057	7.7	18.7
1 22	7 41.62	+21 21.6	2.727	3.705	2.0	19.4	1 22	7 39.10	+46 0.7	2.139	3.049	8.4	18.8
2 1	7 33.81	+21 44.6	2.770	3.713	5.1	19.6	2 1	7 27.69	+45 25.6	2.170	3.041	10.3	18.9
2 11	7 27.16	+22 3.6	2.842	3.721	7.9	19.8	2 11	7 18.53	+44 29.4	2.225	3.032	12.5	19.0
2 21	7 22.14	+22 18.1	2.940	3.728	10.3	20.0	2 21	7 12.38	+43 17.6	2.301	3.024	14.7	19.1
<b>427914</b>	2005 <i>UF</i> <sub>314</sub>		1 15.7 122°11	9°0/18.4	18		<b>80919</b>	2000 <i>DG</i> <sub>68</sub>		1 15.8 69°85	6°2/18.9	18	
12 13	8 20.20	+ 2 35.2	1.323	2.108	20.5	20.7	12 13	8 12.02	+ 3 17.7	1.644	2.429	17.1	19.0
12 23	8 13.35	+ 1 33.1	1.265	2.124	16.8	20.5	12 23	8 6.88	+ 3 20.4	1.583	2.447	13.7	18.8
1 2	8 3.41	+ 0 55.0	1.226	2.141	12.8	20.4	1 2	7 59.37	+ 3 45.4	1.543	2.464	10.1	18.7
1 12	7 51.47	+ 0 44.7	1.211	2.156	9.7	20.2	1 12	7 50.36	+ 4 32.5	1.528	2.482	7.0	18.5
1 22	7 39.04	+ 1 1.9	1.222	2.170	9.2	20.2	1 22	7 40.96	+ 5 38.2	1.540	2.500	6.3	18.5
2 1	7 27.77	+ 1 43.0	1.258	2.184	11.6	20.4	2 1	7 32.38	+ 6 56.6	1.580	2.517	8.7	18.7
2 11	7 19.03	+ 2 40.4	1.318	2.197	15.1	20.6	2 11	7 25.67	+ 8 20.9	1.646	2.535	12.0	18.9
2 21	7 13.61	+ 3 46.0	1.398	2.209	18.6	20.9	2 21	7 21.50	+ 9 44.4	1.734	2.553	15.2	19.2
<b>128659</b>	2004 <i>RC</i> <sub>52</sub>		1 15.7 77°88	0°9/15.4	18		<b>334014</b>	2000 <i>VD</i> <sub>44</sub>		1 15.8 95°58	5°3/17.9	18	
12 13	8 13.44	+21 50.5	1.901	2.726	13.5	20.1	12 13	8 12.57	+ 6 7.7	2.032	2.814	14.4	20.9
12 23	8 7.80	+22 19.7	1.838	2.741	10.0	19.9	12 23	8 6.89	+ 5 34.1	1.965	2.828	11.5	20.7
1 2	7 59.85	+22 53.4	1.799	2.755	5.9	19.6	1 2	7 59.22	+ 5 15.0	1.921	2.843	8.4	20.6
1 12	7 50.46	+23 27.4	1.788	2.769	1.7	19.4	1 12	7 50.30	+ 5 11.1	1.903	2.857	5.9	20.4
1 22	7 40.69	+23 57.5	1.806	2.783	3.0	19.5	1 22	7 41.07	+ 5 21.8	1.915	2.872	5.6	20.5
2 1	7 31.74	+24 20.8	1.854	2.797	7.1	19.8	2 1	7 32.52	+ 5 44.7	1.954	2.886	7.8	20.6
2 11	7 24.60	+24 36.2	1.928	2.811	10.8	20.0	2 11	7 25.54	+ 6 16.4	2.021	2.899	10.6	20.8
2 21	7 19.93	+24 43.8	2.025	2.825	13.9	20.3	2 21	7 20.71	+ 6 52.9	2.111	2.913	13.4	21.0
<b>146612</b>	2001 <i>TJ</i> <sub>208</sub>		1 15.7 23°39	1°3/16.3	18		<b>520891</b>	2014 <i>WS</i> <sub>525</sub>		1 15.8 87°71	5°1/18.6	18	
12 13	8 10.83	+15 18.5	1.591	2.419	15.6	19.4	12 13	8 10.48	+ 4 11.8	1.990	2.769	14.7	21.6
12 23	8 6.30	+15 52.1	1.521	2.423	11.7	19.1	12 23	8 5.48	+ 4 21.4	1.918	2.780	11.8	21.5
1 2	7 59.18	+16 38.9	1.474	2.428	7.2	18.9	1 2	7 58.45	+ 4 49.5	1.869	2.791	8.6	21.3
1 12	7 50.32	+17 35.1	1.453	2.433	2.5	18.6	1 12	7 50.12	+ 5 35.5	1.846	2.801	5.9	21.1
1 22	7 40.89	+18 35.2	1.459	2.438	3.1	18.7	1 22	7 41.38	+ 6 36.7	1.851	2.812	5.3	21.1
2 1	7 32.23	+19 33.8	1.494	2.444	7.8	19.0	2 1	7 33.25	+ 7 48.3	1.885	2.822	7.5	21.3
2 11	7 25.52	+20 26.6	1.554	2.450	12.1	19.2	2 11	7 26.65	+ 9 4.9	1.947	2.833	10.6	21.5
2 21	7 21.53	+21 11.0	1.636	2.457	15.8	19.5	2 21	7 22.18	+10 21.4	2.032	2.843	13.5	21.7
<b>368588</b>	Lazrek		1 15.8 184°86	3°5/14.3	18		<b>319526</b>	2006 <i>RB</i> <sub>45</sub>		1 15.8 79°19	0°1/15.7	18	
12 13	8 18.26	+33 2.6	2.698	3.504	10.5	21.6	12 13	8 14.95	+19 46.9	1.678	2.505	15.0	21.6
12 23	8 10.93	+33 24.0	2.616	3.504	8.0	21.5	12 23	8 9.12	+20 9.1	1.618	2.521	11.1	21.3
1 2	8 1.58	+33 40.5	2.562	3.504	5.4	21.3	1 2	8 0.74	+20 38.2	1.581	2.537	6.6	21.1
1 12	7 50.94	+33 48.1	2.537	3.502	3.6	21.2	1 12	7 50.76	+21 9.8	1.571	2.553	1.8	20.8
1 22	7 39.95	+33 43.9	2.543	3.501	4.4	21.2	1 22	7 40.39	+21 39.8	1.590	2.568	3.0	21.0
2 1	7 29.62	+33 27.0	2.580	3.498	6.8	21.4	2 1	7 30.96	+22 4.9	1.637	2.584	7.6	21.3
2 11	7 20.85	+32 58.8	2.646	3.495	9.5	21.6	2 11	7 23.59	+22 23.2	1.711	2.600	11.7	21.6
2 21	7 14.24	+32 21.9	2.736	3.491	11.9	21.7	2 21	7 18.95	+22 34.6	1.807	2.615	15.0	21.8
<b>29354</b>	1995 <i>OR</i> <sub>1</sub>		1 15.8 141°08	0°3/15.6	18		<b>379129</b>	2009 <i>BV</i> <sub>183</sub>		1 15.8 343°17	7°4/11.7	18	
12 13	8 10.81	+20 56.9	2.657	3.470	10.5								



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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>264230</b>	2010 <i>SP</i> <sub>10</sub>		1 15.8 129°55'	8°2/19.1	18		<b>380063</b>	2013 <i>SO</i> <sub>15</sub>		1 15.8 13°46'	0°9/16.2	18	
12 13	8 12.10	- 0 18.1	1.856	2.617	16.3	21.0	12 13	8 11.24	+17 28.1	1.933	2.755	13.5	21.0
12 23	8 6.84	- 1 5.0	1.782	2.621	13.6	20.8	12 23	8 6.24	+17 38.4	1.856	2.755	10.1	20.8
1 2	7 59.35	- 1 31.6	1.729	2.626	10.9	20.7	1 2	7 59.01	+17 56.5	1.803	2.756	6.2	20.6
1 12	7 50.40	- 1 35.1	1.700	2.630	8.7	20.5	1 12	7 50.32	+18 19.9	1.777	2.757	2.1	20.3
1 22	7 40.96	- 1 15.4	1.698	2.634	8.3	20.5	1 22	7 41.15	+18 45.5	1.780	2.759	2.7	20.3
2 1	7 32.16	- 0 34.9	1.723	2.638	9.8	20.6	2 1	7 32.63	+19 10.4	1.812	2.760	6.9	20.6
2 11	7 25.00	+ 0 21.0	1.773	2.641	12.4	20.8	2 11	7 25.76	+19 32.2	1.871	2.762	10.7	20.8
2 21	7 20.16	+ 1 26.3	1.845	2.645	15.1	21.0	2 21	7 21.21	+19 49.8	1.953	2.764	14.0	21.1
<b>427304</b>	2014 <i>WE</i> <sub>266</sub>		1 15.8 145°47'	0°1/15.7	18		<b>53235</b>	1999 <i>CZ</i> <sub>117</sub>		1 15.8 266°31'	0°2/15.9	18	
12 13	8 12.24	+18 35.2	1.980	2.800	13.3	20.7	12 13	8 13.99	+20 9.3	1.902	2.725	13.7	18.6
12 23	8 6.99	+19 20.1	1.903	2.803	9.9	20.5	12 23	8 8.45	+20 11.2	1.813	2.713	10.2	18.3
1 2	7 59.48	+20 13.6	1.851	2.805	5.9	20.2	1 2	8 0.45	+20 18.1	1.748	2.702	6.2	18.1
1 12	7 50.44	+21 11.4	1.826	2.808	1.6	20.0	1 12	7 50.75	+20 27.5	1.710	2.691	1.8	17.7
1 22	7 40.87	+22 8.4	1.832	2.810	2.8	20.0	1 22	7 40.42	+20 36.3	1.701	2.679	2.8	17.8
2 1	7 31.90	+23 0.4	1.867	2.812	7.0	20.3	2 1	7 30.69	+20 42.5	1.721	2.668	7.3	18.0
2 11	7 24.57	+23 44.4	1.929	2.814	10.8	20.6	2 11	7 22.71	+20 44.7	1.768	2.656	11.4	18.3
2 21	7 19.59	+24 19.3	2.015	2.816	14.0	20.8	2 21	7 17.26	+20 42.9	1.838	2.644	14.9	18.5
<b>202809</b>	2008 <i>SQ</i> <sub>33</sub>		1 15.8 102°31'	0°2/15.7	18		<b>415456</b>	2014 <i>HQ</i> <sub>12</sub>		1 15.8 216°04'	0°4/16.0	15	
12 13	8 12.78	+20 45.3	2.091	2.911	12.7	20.9	12 13	8 5.92	+18 34.2	3.859	4.662	7.7	22.6
12 23	8 7.18	+21 1.2	2.019	2.919	9.4	20.7	12 23	8 1.39	+18 46.1	3.765	4.656	5.7	22.5
1 2	7 59.47	+21 21.6	1.972	2.927	5.6	20.5	1 2	7 55.73	+19 1.4	3.699	4.650	3.5	22.3
1 12	7 50.41	+21 43.5	1.954	2.935	1.5	20.2	1 12	7 49.36	+19 18.7	3.663	4.643	1.1	22.1
1 22	7 40.97	+22 3.7	1.965	2.943	2.6	20.3	1 22	7 42.74	+19 36.6	3.658	4.636	1.5	22.1
2 1	7 32.21	+22 19.8	2.005	2.950	6.6	20.6	2 1	7 36.39	+19 53.7	3.685	4.629	3.9	22.3
2 11	7 25.07	+22 30.5	2.073	2.958	10.1	20.8	2 11	7 30.79	+20 9.1	3.742	4.621	6.2	22.5
2 21	7 20.19	+22 35.8	2.165	2.965	13.2	21.0	2 21	7 26.34	+20 21.9	3.825	4.614	8.1	22.6
<b>45714</b>	2000 <i>FV</i> <sub>58</sub>		1 15.8 112°98'	3°2/17.6	18		<b>311031</b>	2004 <i>BM</i> <sub>35</sub>		1 15.8 48°35'	1°5/15.3	18	
12 13	8 9.78	+ 9 6.2	2.344	3.133	12.5	19.1	12 13	8 16.86	+23 16.4	1.311	2.154	17.4	19.9
12 23	8 4.73	+ 9 16.7	2.268	3.142	9.7	18.9	12 23	8 10.96	+23 37.1	1.267	2.178	12.8	19.7
1 2	7 57.91	+ 9 39.7	2.216	3.151	6.6	18.7	1 2	8 1.95	+24 1.6	1.245	2.203	7.6	19.4
1 12	7 49.97	+10 13.9	2.193	3.160	3.9	18.6	1 12	7 51.11	+24 24.2	1.247	2.228	2.4	19.2
1 22	7 41.69	+10 56.9	2.199	3.169	3.6	18.6	1 22	7 40.02	+24 39.9	1.277	2.254	3.9	19.4
2 1	7 33.91	+11 45.5	2.235	3.177	6.2	18.7	2 1	7 30.34	+24 46.4	1.333	2.280	8.9	19.7
2 11	7 27.44	+12 36.2	2.300	3.185	9.2	18.9	2 11	7 23.32	+24 43.7	1.414	2.307	13.3	20.0
2 21	7 22.82	+13 25.8	2.389	3.194	11.9	19.1	2 21	7 19.59	+24 33.3	1.515	2.333	17.0	20.3
<b>193989</b>	2001 <i>RC</i> <sub>141</sub>		1 15.8 119°76'	3°3/14.5	17		<b>85124</b>	1978 <i>VF</i> <sub>8</sub>		1 15.8 86°41'	4°5/14.1	18	
12 13	8 19.98	+27 11.7	1.697	2.523	14.9	21.1	12 13	8 19.55	+28 8.1	1.399	2.238	16.8	19.5
12 23	8 12.99	+28 3.8	1.639	2.540	11.0	20.9	12 23	8 13.20	+29 20.3	1.348	2.256	12.5	19.3
1 2	8 3.13	+28 56.2	1.604	2.557	6.9	20.7	1 2	8 3.48	+30 32.7	1.320	2.273	8.0	19.0
1 12	7 51.44	+29 41.7	1.597	2.573	3.5	20.5	1 12	7 51.59	+31 35.5	1.317	2.291	4.6	18.9
1 22	7 39.31	+30 14.6	1.620	2.588	4.9	20.6	1 22	7 39.18	+32 21.0	1.342	2.308	6.2	19.0
2 1	7 28.25	+30 31.9	1.671	2.603	8.8	20.9	2 1	7 28.06	+32 45.5	1.394	2.325	10.3	19.3
2 11	7 19.51	+30 34.3	1.747	2.617	12.5	21.1	2 11	7 19.72	+32 50.1	1.470	2.342	14.3	19.6
2 21	7 13.84	+30 24.6	1.846	2.630	15.7	21.4	2 21	7 14.91	+32 38.9	1.566	2.358	17.7	19.9
<b>305046</b>	2007 <i>UL</i> <sub>16</sub>		1 15.8 309°18'	2°0/15.1	18		<b>296802</b>	2009 <i>VV</i> <sub>53</sub>		1 15.8 104°32'	2°2/14.8	18	
12 13	8 14.21	+24 4.0	1.453	2.295	16.1	20.8	12 13	8 14.13	+25 54.8	1.995	2.822	12.9	20.9
12 23	8 9.38	+24 34.8	1.372	2.283	12.0	20.5	12 23	8 8.39	+26 29.3	1.925	2.828	9.6	20.7
1 2	8 1.35	+25 10.5	1.313	2.271	7.3	20.2	1 2	8 0.30	+27 5.0	1.880	2.835	5.9	20.5
1 12	7 51.05	+25 45.2	1.280	2.260	2.7	19.9	1 12	7 50.69	+27 37.1	1.863	2.841	2.6	20.3
1 22	7 39.85	+26 12.9	1.273	2.249	4.3	20.0	1 22	7 40.64	+28 1.3	1.875	2.848	3.8	20.4
2 1	7 29.45	+26 29.5	1.294	2.238	9.4	20.2	2 1	7 31.33	+28 15.2	1.917	2.854	7.5	20.6
2 11	7 21.40	+26 33.9	1.338	2.228	14.2	20.5	2 11	7 23.84	+28 18.3	1.985	2.860	11.0	20.9
2 21	7 16.66	+26 27.4	1.402	2.218	18.2	20.7	2 21	7 18.82	+28 12.2	2.075	2.866	14.0	21.1
<b>400011</b>	2006 <i>JF</i> <sub>81</sub>		1 15.8 153°54'	0°8/16.1	18		<b>338384</b>	2003 <i>AA</i> <sub>1</sub>		1 15.8 306°91'	1°0/16.1	18	
12 13	8 15.28	+17 7.5	2.065	2.874	13.2	22.1	12 13	8 12.30	+19 13.5	2.146	2.963	12.5	20.0
12 23	8 9.04	+17 26.7	1.990	2.883	9.9	21.9	12 23	8 6.99	+18 50.5	2.044	2.942	9.4	19.7
1 2	8 0.61	+17 53.6	1.939	2.891	6.0	21.7	1 2	7 59.50	+18 30.8	1.967	2.920	5.8	19.5
1 12	7 50.74	+18 25.4	1.918	2.898	2.0	21.5	1 12	7 50.49	+18 13.3	1.918	2.898	2.0	19.2
1 22	7 40.45	+18 58.5	1.927	2.905	2.6	21.5	1 22	7 40.89	+17 56.9	1.899	2.877	2.7	19.2
2 1	7 30.82	+19 29.8	1.965	2.911	6.7	21.8	2 1	7 31.76	+17 40.6	1.910	2.856	6.7	19.4
2 11	7 22.85	+19 57.2	2.032	2.916	10.3	22.0	2 11	7 24.12	+17 24.1	1.947	2.835	10.5	19.6
2 21	7 17.20	+20 19.5	2.123	2.920	13.5	22.2	2 21	7 18.68	+17 7.4	2.009	2.815	13.8	19.8
<b>490363</b>	2009 <i>HA</i> <sub>24</sub>		1 15.8 165°25'	0°6/16.1	18		<b>53328</b>	1999 <i>JS</i> <sub>26</sub>		1 15.8 7°35'	11°4/11.1	18	
12 13	8 13.77	+17 0.4	2.010	2.823	13.4	21.8	12 13	8 12.29	+40 9.6	1.158	2.012	18.4	17.3
12 23	8 8.05	+17 32.4	1.932	2.827	10.0	21.6	12 23	8 9.09	+42 10.7	1.112	2.014	15.1	17.1
1 2	8 0.09	+18 13.5	1.878	2.831	6.1	21.4	1 2	8 1.63	+43 59.2	1.087	2.017	12.3	16.9
1 12	7 50.62	+19 0.0	1.853	2.834	1.9	21.1	1 12	7 51.18	+45 20.0	1.083	2.022	11.4	16.9
1 22	7 40.64	+19 47.9	1.858	2.836	2.7	21.2	1 22	7 39.82	+46 2.5	1.102	2.028	12.7	17.0
2 1	7 31.27	+20 33.2	1.892	2.838	6.8	21.5	2 1	7 29.96	+46 3.9	1.142	2.037	15.6	17.2
2 11	7 23.55	+21 12.9	1.954	2.840	10.6	21.7	2 11	7 23.57	+45 29.6	1.202	2.047	18.7	17.4
2 21	7 18.16	+21 45.8	2.040	2.841	13.8	21.9	2 21	7 21.56	+44 29.0	1.278	2.058	21.6	17.6
<b>260835</b>	2005 <i>QD</i> <sub>29</sub>		1 15.8 98°20'	2°1/16.7	18		<b>312265</b>	2008 <i>AF</i> <sub>29</sub>		1 15.8 50°59'	3°1/14.1	18	
12 13	8 12.44	+14 4.3											

EPHEMERIDES

1 15.8

1 15.8

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>318002</b>	2004 CZ <sub>41</sub>		1 15.8	39°59	3°8/14.2	18	<b>236025</b>	2005 GN <sub>133</sub>		1 15.8	206°92	2°5/14.4	17
12 13	8 14.35	+25 25.8	1.260	2.111	17.5	19.8	12 13	8 12.12	+28 9.5	2.701	3.518	10.2	21.4
12 23	8 9.49	+26 45.3	1.215	2.130	12.9	19.6	12 23	8 6.51	+28 48.8	2.617	3.514	7.6	21.3
1 2	8 1.31	+28 8.6	1.192	2.150	7.9	19.4	1 2	7 59.05	+29 27.8	2.559	3.509	4.8	21.1
1 12	7 51.00	+29 25.5	1.193	2.170	4.0	19.2	1 12	7 50.36	+30 2.6	2.530	3.504	2.6	20.9
1 22	7 40.20	+30 27.4	1.221	2.192	5.8	19.4	1 22	7 41.24	+30 29.8	2.533	3.499	3.6	21.0
2 1	7 30.70	+31 9.1	1.275	2.214	10.2	19.7	2 1	7 32.58	+30 47.1	2.566	3.494	6.3	21.1
2 11	7 23.94	+31 30.5	1.352	2.236	14.5	20.0	2 11	7 25.22	+30 54.3	2.626	3.488	9.1	21.3
2 21	7 20.65	+31 34.6	1.449	2.259	18.0	20.3	2 21	7 19.75	+30 52.1	2.711	3.482	11.6	21.5
<b>229234</b>	2004 XN <sub>65</sub>		1 15.8	84°88	1°0/15.4	18	<b>215771</b>	2004 GR <sub>18</sub>		1 15.8	311°05	4°2/17.9	18
12 13	8 13.33	+22 37.3	2.011	2.835	13.0	20.6	12 13	8 8.01	+7 24.9	2.130	2.922	13.4	20.5
12 23	8 7.67	+23 0.2	1.944	2.846	9.6	20.4	12 23	8 3.78	+7 26.3	2.034	2.907	10.7	20.3
1 2	7 59.81	+23 26.5	1.902	2.857	5.7	20.2	1 2	7 57.58	+7 42.6	1.961	2.893	7.6	20.1
1 12	7 50.55	+23 52.3	1.887	2.868	1.7	20.0	1 12	7 49.99	+8 13.7	1.915	2.878	4.9	19.9
1 22	7 40.91	+24 14.2	1.902	2.879	3.0	20.1	1 22	7 41.84	+8 57.6	1.897	2.864	4.5	19.9
2 1	7 32.02	+24 29.6	1.947	2.890	6.9	20.4	2 1	7 34.08	+9 51.2	1.909	2.850	7.1	20.0
2 11	7 24.86	+24 37.8	2.018	2.900	10.5	20.6	2 11	7 27.64	+10 50.1	1.947	2.837	10.4	20.2
2 21	7 20.06	+24 38.9	2.112	2.911	13.5	20.8	2 21	7 23.20	+11 50.2	2.009	2.823	13.5	20.3
<b>267510</b>	2002 NO <sub>15</sub>		1 15.8	183°09	2°2/14.9	18	<b>463366</b>	2012 TX <sub>159</sub>		1 15.8	209°61	4°5/18.5	17
12 13	8 19.92	+24 52.2	1.782	2.603	14.5	22.0	12 13	8 8.963	+3 13.7	2.963	3.717	10.9	22.3
12 23	8 13.02	+25 30.1	1.704	2.605	10.8	21.8	12 23	8 3.87	+3 5.4	2.867	3.710	8.9	22.1
1 2	8 3.27	+26 10.8	1.651	2.605	6.6	21.6	1 2	7 57.36	+3 9.5	2.795	3.703	6.7	22.0
1 12	7 51.57	+26 48.4	1.626	2.605	2.6	21.3	1 12	7 49.89	+3 26.4	2.751	3.695	5.0	21.9
1 22	7 39.21	+27 17.4	1.630	2.603	4.0	21.4	1 22	7 42.05	+3 55.2	2.737	3.687	4.7	21.8
2 1	7 27.66	+27 34.6	1.664	2.601	8.4	21.7	2 1	7 34.53	+4 34.1	2.754	3.678	6.1	21.9
2 11	7 18.26	+27 39.7	1.724	2.598	12.4	21.9	2 11	7 27.97	+5 20.2	2.799	3.669	8.3	22.0
2 21	7 11.82	+27 34.4	1.806	2.594	15.9	22.1	2 21	7 22.87	+6 10.2	2.869	3.659	10.5	22.2
<b>188473</b>	2004 LC <sub>27</sub>		1 15.8	151°34	2°8/17.2	18	<b>24293</b>	1999 XW <sub>191</sub>		1 15.8	107°77	3°4/14.7	18
12 13	8 12.18	+10 38.2	2.597	3.382	11.5	21.2	12 13	8 21.91	+27 28.5	1.543	2.372	16.0	18.8
12 23	8 6.32	+10 37.3	2.519	3.393	8.9	21.1	12 23	8 14.58	+28 12.3	1.490	2.393	11.9	18.6
1 2	7 58.82	+10 46.0	2.466	3.402	6.0	20.9	1 2	8 4.15	+28 55.5	1.459	2.413	7.4	18.4
1 12	7 50.26	+11 3.4	2.443	3.411	3.4	20.7	1 12	7 51.79	+29 30.8	1.456	2.432	3.7	18.2
1 22	7 41.40	+11 27.8	2.449	3.420	3.3	20.7	1 22	7 39.06	+29 52.5	1.481	2.451	5.0	18.3
2 1	7 33.03	+11 57.0	2.487	3.427	5.8	20.9	2 1	7 27.61	+29 58.3	1.534	2.469	9.2	18.6
2 11	7 25.89	+12 28.4	2.554	3.434	8.6	21.1	2 11	7 18.77	+29 49.7	1.613	2.486	13.2	18.9
2 21	7 20.51	+13 0.0	2.646	3.441	11.2	21.3	2 21	7 13.25	+29 30.1	1.713	2.503	16.5	19.1
<b>302512</b>	2002 HJ <sub>2</sub>		1 15.8	316°32	5°2/13.7	18	<b>285610</b>	2000 QD <sub>213</sub>		1 15.8	77°82	2°6/16.9	18
12 13	8 15.69	+29 48.0	1.466	2.308	15.9	20.2	12 13	8 14.47	+12 34.7	1.485	2.304	17.0	20.3
12 23	8 10.63	+31 0.5	1.394	2.302	12.1	20.0	12 23	8 9.02	+12 55.3	1.424	2.319	12.9	20.1
1 2	8 2.18	+32 13.8	1.345	2.297	8.0	19.7	1 2	8 0.84	+13 31.6	1.386	2.334	8.3	19.8
1 12	7 51.33	+33 18.4	1.321	2.292	5.3	19.5	1 12	7 50.89	+14 20.4	1.373	2.350	3.7	19.6
1 22	7 39.57	+34 5.8	1.325	2.287	6.8	19.6	1 22	7 40.48	+15 16.6	1.388	2.365	3.8	19.6
2 1	7 28.72	+34 31.2	1.354	2.282	10.8	19.8	2 1	7 31.03	+16 14.7	1.431	2.380	8.2	19.9
2 11	7 20.41	+34 34.7	1.407	2.277	14.9	20.1	2 11	7 23.75	+17 9.7	1.499	2.395	12.5	20.2
2 21	7 15.61	+34 20.3	1.479	2.273	18.5	20.3	2 21	7 19.36	+17 58.4	1.589	2.410	16.2	20.5
<b>154385</b>	2003 AS <sub>6</sub>		1 15.8	249°00	2°3/14.8	18	<b>492812</b>	2014 QH <sub>267</sub>		1 15.8	136°85	2°0/16.8	18
12 13	8 15.90	+22 54.9	1.504	2.340	15.9	20.0	12 13	8 14.08	+13 19.8	2.203	3.001	12.9	22.4
12 23	8 10.60	+23 57.1	1.424	2.332	11.9	19.7	12 23	8 7.99	+13 33.8	2.131	3.015	9.8	22.2
1 2	8 2.12	+25 7.6	1.367	2.324	7.2	19.4	1 2	7 59.93	+13 57.8	2.084	3.028	6.2	22.0
1 12	7 51.32	+26 19.0	1.337	2.317	2.8	19.1	1 12	7 50.61	+14 29.6	2.065	3.041	2.8	21.8
1 22	7 39.57	+27 23.4	1.334	2.308	4.6	19.2	1 22	7 40.94	+15 6.3	2.077	3.053	2.9	21.8
2 1	7 28.55	+28 14.2	1.359	2.300	9.5	19.5	2 1	7 31.89	+15 44.7	2.119	3.064	6.3	22.0
2 11	7 19.82	+28 49.1	1.409	2.292	14.1	19.7	2 11	7 24.36	+16 22.2	2.190	3.074	9.7	22.3
2 21	7 14.38	+29 8.7	1.480	2.283	18.0	20.0	2 21	7 18.93	+16 56.5	2.285	3.084	12.6	22.5
<b>57794</b>	2001 VK <sub>97</sub>		1 15.8	121°09	1°3/16.7	18	<b>103881</b>	2000 DS <sub>49</sub>		1 15.8	142°10	3°4/17.7	18
12 13	8 9.68	+12 53.7	2.580	3.378	11.2	19.2	12 13	8 9.87	+8 26.4	2.463	3.248	12.1	20.3
12 23	8 4.61	+13 46.0	2.500	3.385	8.5	19.0	12 23	8 4.76	+8 34.4	2.384	3.254	9.4	20.2
1 2	7 57.87	+14 48.9	2.445	3.391	5.3	18.8	1 2	7 57.96	+8 54.5	2.328	3.260	6.5	20.0
1 12	7 50.02	+15 59.5	2.420	3.397	2.1	18.6	1 12	7 50.07	+9 25.9	2.301	3.267	4.0	19.8
1 22	7 41.78	+17 13.8	2.426	3.404	2.3	18.6	1 22	7 41.83	+10 6.4	2.304	3.272	3.7	19.8
2 1	7 33.94	+18 27.6	2.464	3.410	5.5	18.9	2 1	7 34.05	+10 53.1	2.337	3.278	6.1	20.0
2 11	7 27.29	+19 37.4	2.532	3.416	8.6	19.1	2 11	7 27.50	+11 42.6	2.399	3.283	9.0	20.2
2 21	7 22.36	+20 40.5	2.625	3.421	11.2	19.3	2 21	7 22.73	+12 31.8	2.485	3.288	11.6	20.4
<b>54604</b>	2000 RG <sub>18</sub>		1 15.8	270°41	1°4/15.2	18	<b>343455</b>	2010 EO <sub>39</sub>		1 15.8	277°63	2°7/17.3	18
12 13	8 12.84	+25 44.5	2.449	3.267	11.1	19.2	12 13	8 9.02	+10 44.8	2.288	3.086	12.4	20.4
12 23	8 7.15	+25 50.1	2.357	3.256	8.3	19.0	12 23	8 4.35	+11 2.0	2.201	3.083	9.6	20.2
1 2	7 59.47	+25 55.5	2.291	3.244	5.0	18.8	1 2	7 57.83	+11 31.3	2.138	3.079	6.4	20.0
1 12	7 50.48	+25 58.0	2.253	3.233	1.9	18.5	1 12	7 50.06	+12 11.3	2.103	3.075	3.4	19.8
1 22	7 41.04	+25 55.1	2.247	3.221	2.9	18.6	1 22	7 41.83	+12 59.3	2.097	3.071	3.3	19.8
2 1	7 32.12	+25 45.5	2.270	3.209	6.3	18.8	2 1	7 34.04	+13 51.8	2.122	3.067	6.2	20.0
2 11	7 24.63	+25 29.3	2.321	3.198	9.6	19.0	2 11	7 27.53	+14 45.2	2.174	3.063	9.5	20.1
2 21	7 19.18	+25 7.6	2.397	3.186	12.4	19.2	2 21	7 22.92	+15 36.5	2.251	3.059	12.5	20.3
<b>155274</b>	2005 WM <sub>146</sub>		1 15.8	35°68	1°2/15.3	18	<b>343315</b>	2010 BK <sub>61</sub>		1 15.8	124°76	7°0/19.6	18
12 13	8 13.39	+23 3.7	1.805	2.635	13.9	20.7	12 13	8 8.81	-2 39.0	2.599	3.330	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>32225</b>	2000 <i>OL</i> <sub>23</sub>		1 15.8 236°75	0°1/15.9	18		<b>456799</b>	2007 <i>TC</i> <sub>246</sub>		1 15.8 194°31	9°8/19.6	18	
12 13	8 10.43	+19 21.9	2.556	3.368	10.9	19.6	12 13	8 14.69	- 7 45.2	2.298	2.995	15.2	22.1
12 23	8 5.28	+19 41.5	2.464	3.360	8.1	19.4	12 23	8 8.53	- 8 54.1	2.212	2.992	13.4	22.0
1 2	7 58.35	+20 6.1	2.399	3.352	4.9	19.1	1 2	8 0.35	- 9 43.0	2.147	2.989	11.5	21.8
1 12	7 50.21	+20 33.5	2.362	3.343	1.4	18.9	1 12	7 50.81	-10 7.8	2.107	2.985	10.1	21.7
1 22	7 41.62	+21 0.8	2.357	3.335	2.2	18.9	1 22	7 40.74	-10 6.8	2.093	2.980	9.8	21.7
2 1	7 33.45	+21 25.7	2.381	3.326	5.7	19.2	2 1	7 31.10	- 9 40.7	2.106	2.974	10.7	21.8
2 11	7 26.51	+21 46.4	2.434	3.316	8.9	19.3	2 11	7 22.82	- 8 53.4	2.144	2.967	12.4	21.9
2 21	7 21.39	+22 2.4	2.512	3.307	11.7	19.5	2 21	7 16.56	- 7 51.0	2.205	2.959	14.4	22.0
<b>364635</b>	2007 <i>TZ</i> <sub>103</sub>		1 15.8 339°92	4°8/13.9	18		<b>132144</b>	2002 <i>CM</i> <sub>280</sub>		1 15.8 210°99	1°0/16.2	18	
12 13	8 14.01	+28 40.3	1.388	2.236	16.3	20.5	12 13	8 15.35	+17 4.5	1.924	2.737	13.9	20.9
12 23	8 9.48	+29 47.7	1.318	2.230	12.3	20.3	12 23	8 9.43	+17 17.5	1.837	2.732	10.5	20.7
1 2	8 1.55	+30 57.0	1.269	2.224	8.0	20.0	1 2	8 1.08	+17 39.1	1.774	2.725	6.5	20.4
1 12	7 51.21	+31 59.0	1.246	2.219	4.9	19.8	1 12	7 51.04	+18 6.4	1.739	2.719	2.2	20.1
1 22	7 39.97	+32 45.2	1.249	2.214	6.5	19.9	1 22	7 40.37	+18 36.0	1.733	2.711	2.9	20.2
2 1	7 29.67	+33 10.7	1.277	2.210	10.8	20.1	2 1	7 30.29	+19 4.7	1.757	2.703	7.2	20.4
2 11	7 21.93	+33 15.2	1.329	2.207	15.1	20.4	2 11	7 21.92	+19 30.0	1.809	2.695	11.3	20.6
2 21	7 17.74	+33 2.3	1.400	2.204	18.8	20.6	2 21	7 16.06	+19 50.6	1.883	2.686	14.7	20.8
<b>149940</b>	2005 <i>ST</i> <sub>219</sub>		1 15.8 272°55	1°4/15.3	18		<b>299979</b>	2006 <i>TT</i> <sub>119</sub>		1 15.8 198°25	6°8/20.9	17	
12 13	8 14.49	+23 57.4	1.832	2.661	13.8	20.4	12 13	8 7.64	- 9 14.8	3.540	4.212	10.7	22.1
12 23	8 8.91	+24 16.4	1.753	2.657	10.3	20.2	12 23	8 2.74	- 9 39.5	3.446	4.207	9.4	22.0
1 2	8 0.78	+24 38.1	1.698	2.654	6.2	20.0	1 2	7 56.63	- 9 49.0	3.375	4.202	8.1	21.9
1 12	7 50.92	+24 58.3	1.670	2.650	2.1	19.7	1 12	7 49.73	- 9 41.7	3.329	4.197	7.1	21.8
1 22	7 40.49	+25 13.0	1.671	2.647	3.4	19.8	1 22	7 42.54	- 9 17.4	3.311	4.191	6.8	21.8
2 1	7 30.79	+25 19.8	1.700	2.643	7.7	20.0	2 1	7 35.62	- 8 37.3	3.321	4.184	7.3	21.8
2 11	7 23.00	+25 18.0	1.756	2.639	11.7	20.2	2 11	7 29.50	- 7 44.2	3.357	4.177	8.4	21.9
2 21	7 17.87	+25 8.8	1.834	2.636	15.1	20.5	2 21	7 24.59	- 6 41.6	3.419	4.170	9.8	22.0
<b>442651</b>	2012 <i>TR</i> <sub>132</sub>		1 15.8 81°61	1°7/15.5	17		<b>114458</b>	2003 <i>AZ</i> <sub>29</sub>		1 15.8 78°81	1°1/16.2	18	
12 13	8 23.37	+25 21.9	1.298	2.133	18.0	21.1	12 13	8 18.28	+15 37.5	1.387	2.211	17.7	19.1
12 23	8 15.88	+25 17.9	1.246	2.153	13.4	20.9	12 23	8 11.87	+16 17.2	1.339	2.239	13.1	18.9
1 2	8 4.98	+25 13.8	1.217	2.174	8.0	20.7	1 2	8 2.53	+17 9.9	1.314	2.267	8.0	18.6
1 12	7 52.04	+25 4.7	1.213	2.194	2.6	20.4	1 12	7 51.40	+18 10.2	1.314	2.295	2.6	18.4
1 22	7 38.86	+24 47.3	1.237	2.214	4.1	20.6	1 22	7 39.95	+19 11.4	1.343	2.322	3.3	18.5
2 1	7 27.27	+24 21.1	1.288	2.233	9.4	20.9	2 1	7 29.73	+20 7.7	1.400	2.348	8.4	18.9
2 11	7 18.67	+23 48.4	1.363	2.253	14.0	21.2	2 11	7 22.00	+20 55.4	1.481	2.375	12.8	19.2
2 21	7 13.72	+23 12.2	1.459	2.272	17.8	21.5	2 21	7 17.42	+21 33.2	1.585	2.400	16.5	19.5
<b>256152</b>	2006 <i>VU</i> <sub>36</sub>		1 15.8 153°38	2°5/14.6	18		<b>245448</b>	2005 <i>KH</i> <sub>8</sub>		1 15.8 182°33	2°9/17.4	17	
12 13	8 15.57	+25 52.9	2.002	2.826	13.0	20.8	12 13	8 9.40	+ 9 54.2	2.993	3.774	10.2	21.4
12 23	8 9.54	+26 43.1	1.930	2.831	9.7	20.6	12 23	8 4.18	+ 9 44.4	2.905	3.775	8.0	21.3
1 2	8 1.08	+27 35.3	1.883	2.836	5.9	20.4	1 2	7 57.55	+ 9 43.1	2.843	3.775	5.5	21.1
1 12	7 51.00	+28 23.8	1.864	2.841	2.8	20.2	1 12	7 50.00	+ 9 49.9	2.809	3.775	3.3	21.0
1 22	7 40.39	+29 3.5	1.875	2.845	4.1	20.3	1 22	7 42.14	+10 3.7	2.807	3.774	3.2	20.9
2 1	7 30.49	+29 31.2	1.916	2.849	7.7	20.5	2 1	7 34.66	+10 23.1	2.835	3.773	5.3	21.1
2 11	7 22.42	+29 46.1	1.983	2.853	11.2	20.8	2 11	7 28.17	+10 46.0	2.892	3.771	7.8	21.2
2 21	7 16.89	+29 49.6	2.073	2.856	14.2	21.0	2 21	7 23.16	+11 10.5	2.975	3.769	10.1	21.4
<b>498012</b>	2007 <i>EF</i> <sub>147</sub>		1 15.8 274°60	2°8/17.1	17		<b>351237</b>	2004 <i>QL</i> <sub>12</sub>		1 15.8 140°74	6°4/13.3	18	
12 13	8 11.03	+11 42.4	2.012	2.816	13.7	22.4	12 13	8 24.60	+37 53.8	2.051	2.857	13.4	21.4
12 23	8 6.20	+11 52.7	1.914	2.800	10.6	22.1	12 23	8 16.32	+38 55.4	1.993	2.873	10.5	21.3
1 2	7 59.14	+12 16.0	1.840	2.783	7.0	21.9	1 2	8 5.16	+39 47.9	1.960	2.888	7.8	21.1
1 12	7 50.50	+12 51.0	1.793	2.766	3.6	21.6	1 12	7 52.15	+40 23.5	1.955	2.902	6.4	21.1
1 22	7 41.18	+13 34.8	1.775	2.749	3.6	21.6	1 22	7 38.71	+40 37.0	1.979	2.915	7.3	21.1
2 1	7 32.26	+14 23.9	1.786	2.732	7.1	21.8	2 1	7 26.38	+40 27.6	2.032	2.927	9.7	21.3
2 11	7 24.81	+15 14.3	1.825	2.715	11.0	22.0	2 11	7 16.44	+39 58.3	2.111	2.938	12.4	21.5
2 21	7 19.59	+16 2.7	1.886	2.698	14.4	22.1	2 21	7 9.60	+39 14.7	2.211	2.948	14.8	21.7
<b>463268</b>	2012 <i>GT</i> <sub>13</sub>		1 15.8 111°66	1°1/15.2	18		<b>135137</b>	2001 <i>QX</i> <sub>182</sub>		1 15.8 55°77	0°2/15.8	18	
12 13	8 12.43	+20 27.6	1.970	2.793	13.2	20.6	12 13	8 16.38	+23 25.2	2.166	2.982	12.5	18.6
12 23	8 7.25	+21 33.4	1.894	2.796	9.8	20.4	12 23	8 9.70	+22 55.0	2.094	2.991	9.2	18.4
1 2	7 59.75	+22 47.2	1.843	2.799	5.8	20.1	1 2	8 0.95	+22 24.6	2.047	3.001	5.5	18.2
1 12	7 50.66	+24 3.4	1.821	2.802	1.8	19.9	1 12	7 50.95	+21 52.6	2.030	3.011	1.5	17.9
1 22	7 40.98	+25 16.1	1.829	2.805	3.2	20.0	1 22	7 40.71	+21 18.2	2.043	3.021	2.5	18.0
2 1	7 31.88	+26 20.0	1.866	2.807	7.3	20.2	2 1	7 31.29	+20 41.7	2.087	3.031	6.4	18.3
2 11	7 24.44	+27 12.1	1.931	2.810	11.0	20.5	2 11	7 23.59	+20 3.9	2.159	3.042	9.9	18.5
2 21	7 19.41	+27 51.8	2.019	2.813	14.2	20.7	2 21	7 18.17	+19 25.9	2.255	3.052	12.8	18.7
<b>133560</b>	2003 <i>UW</i> <sub>11</sub>		1 15.8 48°50	5°8/13.1	18		<b>79674</b>	1998 <i>SP</i> <sub>44</sub>		1 15.8 111°82	2°7/14.9	18	
12 13	8 15.04	+35 2.2	1.947	2.774	13.2	19.2	12 13	8 20.43	+25 55.7	1.593	2.421	15.6	19.5
12 23	8 9.39	+36 9.0	1.887	2.782	10.2	19.1	12 23	8 13.46	+26 36.3	1.536	2.439	11.5	19.3
1 2	8 1.08	+37 10.1	1.851	2.789	7.4	18.9	1 2	8 3.52	+27 18.0	1.502	2.457	7.1	19.1
1 12	7 51.02	+37 58.2	1.842	2.798	5.8	18.8	1 12	7 51.71	+27 54.3	1.495	2.473	3.1	18.9
1 22	7 40.45	+38 27.9	1.861	2.806	6.9	18.9	1 22	7 39.48	+28 19.6	1.517	2.490	4.5	19.0
2 1	7 30.75	+38 36.9	1.907	2.815	9.5	19.1	2 1	7 28.40	+28 31.2	1.568	2.505	8.8	19.3
2 11	7 23.11	+38 26.7	1.978	2.823	12.4	19.3	2 11	7 19.77	+28 29.7	1.644	2.520	12.8	19.5
2 21	7 18.29	+38 1.1	2.070	2.832	15.0	19.5	2 21	7 14.30	+28 17.7	1.741	2.535	16.1	19.8
<b>464363</b>	2016 <i>AO</i> <sub>147</sub>		1 15.8 225°33	6°8/19.1	18		<b>414823</b>	2010 <i>UC</i> <sub>34</sub>		1 15.8 92°89	8°5/12.5	18	
12 13	8 11.20	+ 1 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>128401</b>	2004 <i>LO</i> <sub>9</sub>		1 15.8 206°24	0°4/16.0	18		<b>382232</b>	2012 <i>RZ</i> <sub>27</sub>		1 15.8 161°38	1°3/15.3	18	
12 13	8 13.66	+18 43.7	2.271	3.082	12.1	21.1	12 13	8 13.56	+25 14.8	2.482	3.298	11.0	20.6
12 23	8 7.86	+18 57.1	2.183	3.077	9.1	20.8	12 23	8 7.59	+25 21.4	2.402	3.300	8.2	20.4
1 2	7 59.99	+19 16.3	2.120	3.072	5.5	20.6	1 2	7 59.72	+25 28.2	2.349	3.303	4.9	20.2
1 12	7 50.74	+19 38.7	2.086	3.066	1.7	20.3	1 12	7 50.66	+25 32.3	2.325	3.305	1.8	19.9
1 22	7 41.00	+20 1.6	2.082	3.060	2.4	20.4	1 22	7 41.26	+25 31.5	2.332	3.307	2.8	20.0
2 1	7 31.76	+20 22.4	2.109	3.054	6.3	20.6	2 1	7 32.45	+25 24.6	2.369	3.309	6.1	20.2
2 11	7 23.97	+20 39.5	2.164	3.046	9.8	20.8	2 11	7 25.09	+25 11.6	2.434	3.310	9.2	20.4
2 21	7 18.29	+20 52.1	2.243	3.039	12.9	21.0	2 21	7 19.74	+24 53.5	2.524	3.312	11.9	20.6
<b>394432</b>	2007 <i>NC</i>		1 15.8 98°68	7°9/19.3	17		<b>348623</b>	2005 <i>YS</i> <sub>65</sub>		1 15.8 222°78	1°3/15.2	18	
12 13	8 15.21	+0 1.7	1.747	2.507	17.2	21.4	12 13	8 15.69	+21 3.3	1.634	2.463	15.2	21.2
12 23	8 9.11	-0 35.5	1.689	2.530	14.2	21.3	12 23	8 10.20	+21 56.6	1.554	2.458	11.3	20.9
1 2	8 0.72	-0 50.5	1.651	2.552	11.1	21.1	1 2	8 1.81	+22 58.9	1.497	2.453	6.8	20.6
1 12	7 50.92	-0 41.5	1.639	2.573	8.6	21.0	1 12	7 51.34	+24 3.9	1.467	2.448	2.1	20.3
1 22	7 40.80	-0 9.6	1.653	2.594	8.0	21.0	1 22	7 40.06	+25 4.9	1.466	2.442	3.7	20.4
2 1	7 31.52	+0 41.4	1.695	2.614	9.7	21.2	2 1	7 29.45	+25 56.2	1.493	2.436	8.6	20.7
2 11	7 24.11	+1 45.4	1.762	2.634	12.3	21.4	2 11	7 20.93	+26 34.9	1.546	2.429	13.0	20.9
2 21	7 19.16	+2 55.7	1.852	2.653	15.0	21.6	2 21	7 15.39	+27 1.0	1.620	2.423	16.8	21.2
<b>473176</b>	2015 <i>KF</i> <sub>57</sub>		1 15.8 19°42	4°0/12.9	18		<b>121275</b>	1999 <i>RC</i> <sub>126</sub>		1 15.8 130°08	1°0/15.4	18	
12 13	8 12.92	+24 52.5	1.831	2.663	13.7	19.6	12 13	8 15.30	+23 55.5	2.436	3.249	11.3	20.1
12 23	8 8.01	+27 8.7	1.763	2.669	10.1	19.4	12 23	8 8.80	+24 8.9	2.367	3.263	8.4	19.9
1 2	8 0.43	+29 32.3	1.722	2.675	6.4	19.2	1 2	8 0.40	+24 23.4	2.324	3.277	5.0	19.7
1 12	7 50.93	+31 52.9	1.711	2.682	4.0	19.1	1 12	7 50.84	+24 36.1	2.311	3.291	1.6	19.5
1 22	7 40.63	+34 0.0	1.730	2.690	5.7	19.2	1 22	7 41.00	+24 44.3	2.328	3.304	2.6	19.6
2 1	7 30.86	+35 45.8	1.779	2.698	9.3	19.4	2 1	7 31.83	+24 46.6	2.377	3.317	6.0	19.9
2 11	7 22.94	+37 7.3	1.854	2.707	12.7	19.7	2 11	7 24.18	+24 42.8	2.454	3.329	9.2	20.1
2 21	7 17.77	+38 5.4	1.952	2.717	15.6	19.9	2 21	7 18.59	+24 33.7	2.555	3.340	11.8	20.3
<b>110172</b>	2001 <i>SW</i> <sub>171</sub>		1 15.8 198°32	0°9/15.4	18		<b>66995</b>	1999 <i>XN</i> <sub>109</sub>		1 15.8 1°05	1°8/16.6	18	
12 13	8 10.89	+22 19.7	2.447	3.266	11.1	20.0	12 13	8 10.78	+15 5.2	1.853	2.672	14.1	19.4
12 23	8 5.70	+22 48.1	2.365	3.265	8.2	19.8	12 23	8 6.05	+15 14.0	1.776	2.672	10.7	19.2
1 2	7 58.65	+23 20.1	2.309	3.264	4.9	19.6	1 2	7 59.04	+15 33.0	1.721	2.672	6.7	18.9
1 12	7 50.36	+23 52.3	2.282	3.263	1.5	19.4	1 12	7 50.51	+16 0.3	1.693	2.672	2.7	18.7
1 22	7 41.65	+24 21.6	2.285	3.261	2.6	19.4	1 22	7 41.47	+16 32.6	1.694	2.672	3.0	18.7
2 1	7 33.43	+24 45.3	2.318	3.260	6.0	19.7	2 1	7 33.05	+17 6.6	1.724	2.672	7.1	18.9
2 11	7 26.55	+25 2.4	2.380	3.259	9.2	19.9	2 11	7 26.31	+17 39.2	1.779	2.673	11.0	19.2
2 21	7 21.61	+25 12.5	2.465	3.257	12.0	20.0	2 21	7 21.94	+18 8.2	1.858	2.674	14.4	19.4
<b>381244</b>	2007 <i>TQ</i> <sub>65</sub>		1 15.8 70°36	2°2/14.9	18		<b>141944</b>	2002 <i>PZ</i> <sub>101</sub>		1 15.8 156°78	3°6/17.6	18	
12 13	8 14.37	+27 25.6	2.180	3.002	12.1	21.2	12 13	8 10.42	+8 54.9	2.385	3.172	12.3	20.4
12 23	8 8.30	+27 44.0	2.120	3.020	9.0	21.0	12 23	8 5.27	+8 46.8	2.304	3.175	9.7	20.3
1 2	8 0.15	+28 1.2	2.085	3.038	5.5	20.9	1 2	7 58.35	+8 50.3	2.246	3.178	6.7	20.1
1 12	7 50.75	+28 13.4	2.079	3.056	2.5	20.7	1 12	7 50.29	+9 4.9	2.217	3.181	4.2	19.9
1 22	7 41.10	+28 17.7	2.103	3.074	3.6	20.8	1 22	7 41.86	+9 29.1	2.217	3.184	4.0	19.9
2 1	7 32.26	+28 12.9	2.156	3.092	6.8	21.0	2 1	7 33.91	+10 0.5	2.247	3.186	6.4	20.1
2 11	7 25.14	+27 59.6	2.237	3.110	10.0	21.3	2 11	7 27.23	+10 36.3	2.305	3.189	9.3	20.2
2 21	7 20.29	+27 39.2	2.341	3.128	12.7	21.5	2 21	7 22.39	+11 13.4	2.388	3.191	12.0	20.4
<b>19514</b>	1998 <i>QB</i> <sub>75</sub>		1 15.8 55°40	0°0/15.8	18		<b>502602</b>	2015 <i>CD</i> <sub>14</sub>		1 15.8 234°21	1°9/16.9	17	
12 13	8 19.42	+22 36.2	1.463	2.294	16.5	17.3	12 13	8 9.49	+12 26.9	2.370	3.171	12.0	21.0
12 23	8 12.63	+22 7.5	1.408	2.313	12.3	17.1	12 23	8 4.70	+12 56.7	2.283	3.168	9.1	20.8
1 2	8 2.94	+21 40.9	1.375	2.331	7.3	16.9	1 2	7 58.08	+13 37.8	2.220	3.165	5.9	20.6
1 12	7 51.54	+21 13.9	1.369	2.350	2.1	16.6	1 12	7 50.23	+14 28.0	2.186	3.162	2.7	20.4
1 22	7 39.90	+20 45.1	1.391	2.369	3.3	16.7	1 22	7 41.93	+15 23.9	2.182	3.159	2.7	20.4
2 1	7 29.57	+20 14.4	1.441	2.389	8.3	17.1	2 1	7 34.03	+16 22.0	2.209	3.155	6.0	20.6
2 11	7 21.74	+19 42.8	1.516	2.408	12.6	17.4	2 11	7 27.39	+17 18.6	2.264	3.152	9.2	20.8
2 21	7 17.05	+19 11.5	1.613	2.428	16.3	17.6	2 21	7 22.62	+18 10.9	2.344	3.148	12.1	21.0
<b>354626</b>	2005 <i>EY</i> <sub>235</sub>		1 15.8 280°12	1°0/15.2	16		<b>96744</b>	1999 <i>OW</i> <sub>3</sub>		1 15.8 340°00	37°0/13.0	17	
12 13	8 7.76	+23 56.2	3.163	3.979	8.9	21.5	12 13	8 18.88	-42 17.0	1.064	1.598	37.0	17.3
12 23	8 3.08	+24 16.5	3.070	3.969	6.6	21.3	12 23	8 19.54	-49 23.1	0.932	1.479	40.8	17.0
1 2	7 56.95	+24 38.4	3.004	3.958	4.0	21.1	1 2	8 14.84	-57 25.1	0.812	1.354	46.0	16.7
1 12	7 49.87	+24 59.6	2.967	3.947	1.4	20.9	1 12	7 59.34	-66 35.4	0.703	1.223	53.5	16.3
1 22	7 42.45	+25 17.8	2.961	3.936	2.2	21.0	1 22	7 5.60	-77 7.6	0.606	1.086	64.0	16.1
2 1	7 35.36	+25 31.5	2.986	3.925	5.0	21.2	2 1	1 13.04	-83 4.4	0.524	0.942	78.8	15.9
2 11	7 29.25	+25 39.8	3.039	3.914	7.6	21.3	2 11	21 58.15	-66 48.8	0.470	0.795	99.4	16.2
2 21	7 24.62	+25 42.6	3.118	3.903	9.9	21.5	2 21	21 25.76	-43 0.3	0.476	0.649	122.2	17.2
<b>464576</b>	2016 <i>CS</i> <sub>70</sub>		1 15.8 328°49	4°6/13.3	18		<b>231136</b>	2005 <i>TV</i> <sub>71</sub>		1 15.8 138°41	1°8/15.1	18	
12 13	8 10.39	+25 21.6	1.377	2.229	16.2	20.2	12 13	8 19.51	+23 10.1	1.736	2.558	14.8	21.0
12 23	8 7.04	+27 9.1	1.293	2.209	12.2	19.9	12 23	8 12.67	+23 56.8	1.671	2.571	10.9	20.7
1 2	8 0.34	+29 8.0	1.232	2.190	7.8	19.6	1 2	8 3.06	+24 47.8	1.629	2.584	6.6	20.5
1 12	7 51.02	+31 8.0	1.197	2.171	4.7	19.4	1 12	7 51.65	+25 37.1	1.616	2.596	2.3	20.3
1 22	7 40.43	+32 56.8	1.188	2.154	6.8	19.4	1 22	7 39.73	+26 18.8	1.633	2.608	3.8	20.4
2 1	7 30.36	+34 24.2	1.205	2.137	11.4	19.7	2 1	7 28.73	+26 49.4	1.679	2.618	8.1	20.7
2 11	7 22.62	+35 25.8	1.245	2.121	16.0	19.9	2 11	7 19.90	+27 7.8	1.751	2.628	12.1	20.9
2 21	7 18.45	+36 2.3	1.304	2.107	20.0	20.1	2 21	7 13.99	+27 15.3	1.846	2.637	15.5	21.2
<b>236953</b>	2007 <i>UF</i> <sub>14</sub>		1 15.8 168°65	6°6/11.9	18		<b>147217</b>	2002 <i>XT</i> <sub>7</sub>		1 15.8 19°01	4°9/16.8	18	
12 13	8 16.44	+41 19.2	2.508	3.312	11.3</								

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1 15.8

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>127795</b>	2003 <i>FU</i> <sub>73</sub>		1 15.8 123°60	1°6/15.1	18		<b>314735</b>	2006 <i>SO</i> <sub>101</sub>		1 15.8 56°24	1°2/16.3	18	
12 13	8 17.08	+21 58.9	1.678	2.504	15.0	19.5	12 13	8 14.18	+16 47.7	1.505	2.334	16.3	21.0
12 23	8 10.97	+22 55.8	1.613	2.516	11.1	19.2	12 23	8 8.84	+17 1.6	1.447	2.350	12.2	20.8
1 2	8 2.10	+23 59.1	1.572	2.528	6.6	19.0	1 2	8 0.79	+17 25.9	1.412	2.366	7.5	20.6
1 12	7 51.40	+25 2.5	1.558	2.539	2.2	18.7	1 12	7 51.03	+17 57.2	1.403	2.383	2.5	20.3
1 22	7 40.14	+25 59.3	1.574	2.549	3.8	18.9	1 22	7 40.88	+18 31.1	1.421	2.400	3.2	20.4
2 1	7 29.76	+26 44.9	1.619	2.560	8.2	19.2	2 1	7 31.72	+19 3.6	1.467	2.417	8.0	20.7
2 11	7 21.50	+27 17.3	1.689	2.569	12.3	19.4	2 11	7 24.74	+19 31.7	1.538	2.434	12.3	21.0
2 21	7 16.15	+27 37.3	1.782	2.578	15.7	19.7	2 21	7 20.63	+19 54.0	1.631	2.451	15.9	21.3
<b>172581</b>	2003 <i>UC</i> <sub>250</sub>		1 15.8 322°48	2°9/16.7	18		<b>213691</b>	2002 <i>TA</i> <sub>231</sub>		1 15.8 113°84	2°2/14.8	18	
12 13	8 13.72	+14 41.5	1.528	2.352	16.3	20.0	12 13	8 17.24	+24 52.7	2.007	2.827	13.1	20.8
12 23	8 8.68	+14 21.2	1.449	2.347	12.5	19.7	12 23	8 10.65	+25 44.1	1.947	2.847	9.7	20.7
1 2	8 0.84	+14 11.6	1.392	2.342	8.1	19.4	1 2	8 1.71	+26 37.5	1.913	2.867	5.9	20.5
1 12	7 51.08	+14 11.8	1.361	2.337	3.8	19.2	1 12	7 51.28	+27 27.4	1.908	2.886	2.5	20.3
1 22	7 40.63	+14 20.0	1.356	2.332	4.0	19.2	1 22	7 40.47	+28 8.7	1.932	2.904	3.8	20.4
2 1	7 30.95	+14 33.6	1.379	2.328	8.5	19.4	2 1	7 30.50	+28 38.5	1.987	2.922	7.4	20.7
2 11	7 23.35	+14 49.7	1.427	2.324	13.0	19.7	2 11	7 22.40	+28 56.1	2.068	2.939	10.8	20.9
2 21	7 18.65	+15 5.9	1.496	2.320	16.9	19.9	2 21	7 16.82	+29 2.9	2.173	2.955	13.7	21.1
<b>397912</b>	2008 <i>VS</i> <sub>23</sub>		1 15.8 58°79	6°3/13.6	18		<b>268512</b>	2005 <i>YJ</i> <sub>156</sub>		1 15.8 53°21	1°2/16.3	18	
12 13	8 21.81	+30 27.6	1.224	2.067	18.3	20.0	12 13	8 13.04	+17 35.3	1.875	2.695	13.9	20.6
12 23	8 15.13	+32 9.0	1.193	2.101	13.7	19.8	12 23	8 7.66	+17 32.2	1.801	2.699	10.5	20.4
1 2	8 4.74	+33 45.8	1.184	2.134	9.1	19.6	1 2	7 59.98	+17 36.1	1.751	2.703	6.4	20.2
1 12	7 52.11	+35 5.5	1.200	2.168	6.3	19.6	1 12	7 50.81	+17 45.1	1.727	2.707	2.3	19.9
1 22	7 39.19	+35 59.1	1.243	2.201	7.8	19.7	1 22	7 41.20	+17 56.6	1.733	2.711	2.8	20.0
2 1	7 28.00	+36 24.2	1.311	2.234	11.6	20.0	2 1	7 32.29	+18 8.3	1.768	2.716	7.0	20.2
2 11	7 20.05	+36 24.2	1.402	2.267	15.3	20.4	2 11	7 25.14	+18 18.5	1.829	2.720	10.9	20.5
2 21	7 15.98	+36 5.5	1.513	2.300	18.4	20.7	2 21	7 20.41	+18 26.2	1.913	2.724	14.2	20.7
<b>109824</b>	2001 <i>RC</i> <sub>114</sub>		1 15.8 137°21	1°6/15.1	18		<b>204674</b>	2006 <i>DQ</i> <sub>57</sub>		1 15.8 174°25	0°1/15.9	18	
12 13	8 16.04	+24 32.4	2.196	3.013	12.3	20.7	12 13	8 12.38	+19 50.1	2.213	3.030	12.2	21.1
12 23	8 9.61	+25 3.2	2.127	3.025	9.1	20.6	12 23	8 6.94	+20 4.0	2.133	3.031	9.1	20.9
1 2	8 1.02	+25 35.7	2.083	3.037	5.5	20.4	1 2	7 59.47	+20 23.1	2.078	3.032	5.5	20.6
1 12	7 51.06	+26 5.6	2.069	3.048	2.0	20.1	1 12	7 50.67	+20 44.4	2.051	3.032	1.6	20.4
1 22	7 40.73	+26 29.3	2.085	3.059	3.2	20.2	1 22	7 41.43	+21 5.2	2.054	3.033	2.5	20.4
2 1	7 31.11	+26 44.4	2.131	3.069	6.8	20.5	2 1	7 32.76	+21 23.1	2.087	3.033	6.3	20.7
2 11	7 23.17	+26 50.7	2.205	3.078	10.1	20.7	2 11	7 25.59	+21 36.6	2.148	3.033	9.8	20.9
2 21	7 17.53	+26 48.9	2.303	3.087	13.0	20.9	2 21	7 20.53	+21 45.2	2.233	3.033	12.8	21.1
<b>299435</b>	2006 <i>AL</i> <sub>53</sub>		1 15.8 275°67	1°1/16.1	18		<b>291860</b>	2006 <i>OZ</i> <sub>20</sub>		1 15.8 99°06	4°6/13.6	18	
12 13	8 15.81	+18 31.9	1.518	2.347	16.2	20.9	12 13	8 18.38	+30 1.0	1.850	2.675	13.9	20.6
12 23	8 10.42	+18 26.3	1.433	2.336	12.2	20.7	12 23	8 11.84	+31 24.1	1.796	2.695	10.4	20.4
1 2	8 2.01	+18 28.4	1.370	2.324	7.6	20.4	1 2	8 2.58	+32 45.6	1.768	2.716	6.9	20.2
1 12	7 51.44	+18 35.7	1.332	2.312	2.5	20.0	1 12	7 51.56	+33 57.1	1.768	2.736	4.6	20.1
1 22	7 40.04	+18 45.0	1.322	2.301	3.4	20.0	1 22	7 40.06	+34 52.1	1.798	2.755	5.9	20.2
2 1	7 29.37	+18 53.5	1.340	2.289	8.6	20.3	2 1	7 29.50	+35 27.3	1.856	2.774	9.0	20.5
2 11	7 20.87	+18 59.5	1.382	2.277	13.5	20.6	2 11	7 21.09	+35 43.1	1.940	2.793	12.2	20.7
2 21	7 15.48	+19 2.2	1.446	2.265	17.6	20.8	2 21	7 15.56	+35 42.9	2.045	2.811	15.0	20.9
<b>280780</b>	2005 <i>SC</i> <sub>124</sub>		1 15.8 85°00	1°8/16.4	17		<b>120637</b>	1996 <i>JC</i> <sub>12</sub>		1 15.8 100°13	0°5/15.6	18	
12 13	8 17.10	+15 50.2	1.384	2.211	17.5	21.2	12 13	8 18.64	+19 56.9	1.700	2.520	15.1	20.7
12 23	8 11.19	+15 58.8	1.326	2.227	13.2	21.0	12 23	8 11.86	+20 36.5	1.646	2.545	11.2	20.5
1 2	8 2.28	+16 19.6	1.290	2.242	8.2	20.8	1 2	8 2.48	+21 22.8	1.615	2.570	6.6	20.3
1 12	7 51.46	+16 49.3	1.278	2.258	3.0	20.5	1 12	7 51.51	+22 10.6	1.613	2.594	1.8	20.0
1 22	7 40.17	+17 23.1	1.295	2.273	3.6	20.6	1 22	7 40.20	+22 54.5	1.639	2.617	3.1	20.2
2 1	7 30.00	+17 56.7	1.338	2.288	8.6	20.9	2 1	7 29.91	+23 30.8	1.696	2.640	7.6	20.5
2 11	7 22.26	+18 26.8	1.406	2.303	13.2	21.2	2 11	7 21.78	+23 57.8	1.778	2.662	11.6	20.8
2 21	7 17.69	+18 51.6	1.496	2.317	17.0	21.5	2 21	7 16.45	+24 15.7	1.884	2.683	14.9	21.0
<b>367780</b>	2010 <i>XM</i> <sub>66</sub>		1 15.8 151°53	1°0/15.2	18		<b>237957</b>	2002 <i>RQ</i> <sub>89</sub>		1 15.8 96°30	3°0/17.5	18	
12 13	8 13.48	+20 14.1	2.133	2.951	12.6	20.8	12 13	8 10.17	+10 3.5	2.246	3.040	12.8	20.6
12 23	8 7.90	+21 20.7	2.057	2.956	9.3	20.6	12 23	8 5.18	+10 14.2	2.171	3.049	9.9	20.4
1 2	8 0.13	+22 34.9	2.006	2.960	5.5	20.4	1 2	7 58.36	+10 37.0	2.120	3.058	6.6	20.3
1 12	7 50.86	+23 51.3	1.984	2.965	1.7	20.2	1 12	7 50.36	+11 10.8	2.097	3.067	3.7	20.1
1 22	7 41.04	+25 4.2	1.993	2.969	3.0	20.3	1 22	7 41.99	+11 52.9	2.104	3.075	3.5	20.1
2 1	7 31.76	+26 8.9	2.033	2.973	6.9	20.5	2 1	7 34.16	+12 40.0	2.140	3.084	6.3	20.3
2 11	7 24.03	+27 2.4	2.101	2.977	10.4	20.7	2 11	7 27.69	+13 28.6	2.204	3.093	9.4	20.5
2 21	7 18.56	+27 44.1	2.192	2.980	13.4	21.0	2 21	7 23.15	+14 15.7	2.293	3.101	12.3	20.7
<b>396611</b>	2001 <i>SG</i> <sub>98</sub>		1 15.8 30°26	5°1/17.5	18		<b>428119</b>	2006 <i>RC</i> <sub>104</sub>		1 15.8 86°94	6°6/12.5	18	
12 13	8 13.41	+ 9 35.5	1.329	2.149	18.5	20.5	12 13	8 16.59	+41 20.8	2.427	3.232	11.6	20.9
12 23	8 8.64	+ 9 13.8	1.262	2.153	14.5	20.3	12 23	8 10.27	+42 16.1	2.364	3.237	9.4	20.7
1 2	8 0.88	+ 9 10.6	1.215	2.156	10.0	20.0	1 2	8 1.55	+43 1.7	2.325	3.242	7.4	20.6
1 12	7 51.11	+ 9 26.0	1.192	2.160	6.0	19.8	1 12	7 51.27	+43 31.7	2.314	3.246	6.6	20.6
1 22	7 40.68	+ 9 57.6	1.194	2.165	5.7	19.8	1 22	7 40.56	+43 42.0	2.331	3.251	7.3	20.6
2 1	7 31.17	+10 40.9	1.222	2.170	9.5	20.0	2 1	7 30.65	+43 31.5	2.376	3.256	9.1	20.8
2 11	7 23.97	+11 30.2	1.275	2.175	13.9	20.3	2 11	7 22.62	+43 2.5	2.445	3.261	11.3	20.9
2 21	7 19.89	+12 20.2	1.347	2.180	17.9	20.6	2 21	7 17.14	+42 19.0	2.537	3.265	13.3	21.1
<b>242109</b>	2002 <i>VL</i> <sub>69</sub>		1 15.8 80°53	0°1/15.9	17		<b>95355</b>	2002 <i>CQ</i> <sub>141</sub>		1 15.8 291°79	0°2/15.9	18	
12 13	8 18.72	+20											

EPHEMERIDES

1 15.8

1 15.9

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>400593</b>	2009 AT <sub>21</sub>		1 15.8 238°26	0°3/15.9	18		<b>351604</b>	2005 VL <sub>112</sub>		1 15.9 88°98	3°0/16.7	18	
12 13	8 14.46	+17 30.1	1.712	2.534	14.9	21.3	12 13	8 17.79	+14 26.2	1.431	2.252	17.4	20.4
12 23	8 9.16	+18 8.2	1.626	2.526	11.2	21.1	12 23	8 11.62	+14 4.6	1.370	2.265	13.3	20.1
1 2	8 1.16	+18 57.5	1.564	2.519	6.9	20.8	1 2	8 2.54	+13 54.7	1.331	2.279	8.5	19.9
1 12	7 51.24	+19 53.7	1.529	2.510	2.0	20.5	1 12	7 51.62	+13 55.4	1.317	2.293	4.0	19.7
1 22	7 40.53	+20 51.5	1.523	2.502	3.0	20.5	1 22	7 40.26	+14 4.1	1.331	2.307	4.2	19.7
2 1	7 30.40	+21 45.5	1.546	2.493	7.9	20.8	2 1	7 29.99	+14 18.1	1.372	2.320	8.6	20.0
2 11	7 22.17	+22 31.9	1.595	2.484	12.3	21.0	2 11	7 22.08	+14 34.4	1.438	2.333	13.0	20.3
2 21	7 16.69	+23 9.2	1.666	2.474	16.1	21.2	2 21	7 17.25	+14 50.8	1.526	2.346	16.8	20.6
<b>77119</b>	2001 DB <sub>81</sub>		1 15.8 287°15	6°7/13.1	18		<b>24748</b>	Nernst		1 15.9 53°55	2°3/16.9	18	
12 13	8 18.27	+34 55.7	1.646	2.476	15.0	19.1	12 13	8 10.60	+12 57.1	1.982	2.792	13.7	18.1
12 23	8 12.68	+36 1.2	1.559	2.456	11.8	18.8	12 23	8 5.74	+13 9.0	1.912	2.801	10.4	17.9
1 2	8 3.63	+37 2.7	1.495	2.436	8.6	18.6	1 2	7 58.81	+13 32.4	1.865	2.811	6.7	17.7
1 12	7 52.00	+37 50.8	1.457	2.415	6.7	18.4	1 12	7 50.56	+14 5.2	1.846	2.821	3.1	17.5
1 22	7 39.28	+38 17.2	1.446	2.395	8.0	18.5	1 22	7 41.91	+14 44.4	1.856	2.832	3.2	17.5
2 1	7 27.29	+38 18.1	1.461	2.374	11.4	18.6	2 1	7 33.90	+15 26.4	1.894	2.842	6.7	17.8
2 11	7 17.76	+37 54.9	1.500	2.354	15.1	18.8	2 11	7 27.46	+16 7.8	1.960	2.853	10.2	18.0
2 21	7 11.78	+37 13.0	1.558	2.334	18.5	19.0	2 21	7 23.18	+16 46.1	2.050	2.863	13.3	18.2
<b>463318</b>	2012 JQ <sub>52</sub>		1 15.8 320°46	0°3/15.7	17		<b>502758</b>	2015 DN <sub>65</sub>		1 15.9 280°55	1°6/16.7	17	
12 13	8 11.52	+19 54.5	1.578	2.415	15.3	21.5	12 13	8 9.70	+13 57.3	2.266	3.073	12.3	21.6
12 23	8 7.21	+20 21.1	1.493	2.401	11.5	21.3	12 23	8 4.99	+14 24.0	2.180	3.070	9.3	21.4
1 2	8 0.09	+20 56.5	1.430	2.387	7.0	21.0	1 2	7 58.36	+15 1.2	2.118	3.066	5.9	21.2
1 12	7 50.96	+21 36.7	1.393	2.374	2.0	20.6	1 12	7 50.45	+15 46.5	2.085	3.062	2.4	21.0
1 22	7 41.01	+22 16.5	1.383	2.362	3.3	20.7	1 22	7 42.05	+16 36.6	2.081	3.059	2.6	21.0
2 1	7 31.67	+22 51.3	1.401	2.350	8.4	21.0	2 1	7 34.10	+17 27.8	2.108	3.055	6.1	21.2
2 11	7 24.33	+23 18.3	1.443	2.338	13.0	21.2	2 11	7 27.47	+18 16.9	2.162	3.051	9.6	21.4
2 21	7 19.89	+23 36.5	1.507	2.327	16.9	21.4	2 21	7 22.79	+19 1.5	2.241	3.048	12.6	21.6
<b>261461</b>	2005 VQ <sub>72</sub>		1 15.8 234°98	4°0/13.6	18		<b>460954</b>	2014 WB <sub>270</sub>		1 15.9 336°04	3°0/14.2	16	
12 13	8 15.01	+29 51.4	2.122	2.946	12.4	20.3	12 13	8 12.80	+24 55.6	1.789	2.622	13.9	21.3
12 23	8 9.34	+30 59.6	2.039	2.938	9.4	20.1	12 23	8 7.96	+26 12.7	1.713	2.619	10.3	21.0
1 2	8 1.17	+32 8.1	1.981	2.929	6.2	19.9	1 2	8 0.47	+27 35.2	1.661	2.617	6.4	20.8
1 12	7 51.24	+33 10.3	1.952	2.920	4.1	19.8	1 12	7 51.10	+28 56.1	1.637	2.614	3.2	20.6
1 22	7 40.59	+34 0.1	1.952	2.911	5.3	19.8	1 22	7 40.99	+30 7.9	1.642	2.611	4.7	20.7
2 1	7 30.47	+34 33.8	1.982	2.902	8.4	20.0	2 1	7 31.50	+31 5.1	1.675	2.609	8.6	20.9
2 11	7 22.07	+34 50.8	2.037	2.892	11.6	20.2	2 11	7 23.90	+31 45.5	1.734	2.607	12.4	21.1
2 21	7 16.20	+34 52.9	2.115	2.882	14.5	20.3	2 21	7 19.04	+32 9.9	1.815	2.605	15.7	21.3
<b>463081</b>	2011 OA <sub>31</sub>		1 15.8 141°64	1°2/15.1	17		<b>85571</b>	1998 BV <sub>21</sub>		1 15.9 88°89	0°2/15.8	18	
12 13	8 10.59	+21 54.2	2.531	3.348	10.8	20.6	12 13	8 15.73	+21 51.3	2.581	3.387	11.0	19.0
12 23	8 5.50	+22 50.5	2.452	3.351	8.0	20.4	12 23	8 8.89	+21 50.1	2.526	3.418	8.1	18.8
1 2	7 58.59	+23 51.6	2.400	3.354	4.8	20.2	1 2	8 0.39	+21 50.7	2.497	3.449	4.8	18.7
1 12	7 50.46	+24 53.3	2.377	3.357	1.6	20.0	1 12	7 50.95	+21 51.0	2.499	3.480	1.3	18.5
1 22	7 41.89	+25 51.4	2.385	3.360	2.7	20.1	1 22	7 41.40	+21 49.4	2.532	3.510	2.2	18.6
2 1	7 33.76	+26 42.4	2.424	3.363	6.0	20.3	2 1	7 32.58	+21 44.7	2.596	3.539	5.4	18.9
2 11	7 26.89	+27 24.2	2.492	3.365	9.1	20.5	2 11	7 25.22	+21 36.9	2.690	3.568	8.4	19.1
2 21	7 21.89	+27 56.4	2.583	3.368	11.7	20.7	2 21	7 19.78	+21 26.2	2.809	3.596	10.8	19.3
<b>193701</b>	2001 FH <sub>58</sub>		1 15.8 218°53	3°8/14.3	18		<b>104930</b>	2000 JO <sub>28</sub>		1 15.9 204°60	4°3/13.8	18	
12 13	8 20.21	+28 32.9	1.820	2.643	14.2	21.2	12 13	8 17.30	+32 14.1	2.221	3.038	12.1	20.3
12 23	8 13.56	+29 28.6	1.734	2.633	10.7	21.0	12 23	8 10.91	+33 6.1	2.140	3.034	9.3	20.1
1 2	8 3.89	+30 25.2	1.673	2.623	6.9	20.7	1 2	8 2.06	+33 55.2	2.086	3.029	6.3	19.9
1 12	7 52.04	+31 15.4	1.639	2.612	4.0	20.5	1 12	7 51.52	+34 35.3	2.059	3.024	4.4	19.8
1 22	7 39.31	+31 52.5	1.635	2.600	5.3	20.6	1 22	7 40.38	+35 1.5	2.062	3.018	5.4	19.8
2 1	7 27.26	+32 12.6	1.660	2.588	9.2	20.8	2 1	7 29.87	+35 11.4	2.095	3.012	8.2	20.0
2 11	7 17.33	+32 15.7	1.710	2.574	13.1	21.0	2 11	7 21.14	+35 5.4	2.154	3.005	11.3	20.2
2 21	7 10.47	+32 4.5	1.783	2.560	16.5	21.2	2 21	7 14.94	+34 46.4	2.236	2.997	14.0	20.3
<b>308750</b>	2006 JE <sub>49</sub>		1 15.8 116°00	0°3/15.7	18		<b>333119</b>	2011 WF <sub>7</sub>		1 15.9 153°70	0°3/15.7	18	
12 13	8 17.03	+19 40.3	1.925	2.740	13.8	21.6	12 13	8 17.16	+20 31.8	1.982	2.797	13.5	22.3
12 23	8 10.50	+20 17.0	1.863	2.760	10.2	21.4	12 23	8 10.66	+20 52.7	1.909	2.806	10.0	22.1
1 2	8 1.65	+21 0.0	1.826	2.779	6.1	21.2	1 2	8 1.81	+21 18.8	1.860	2.813	6.0	21.9
1 12	7 51.32	+21 44.9	1.817	2.798	1.7	20.9	1 12	7 51.43	+21 46.3	1.840	2.821	1.7	21.6
1 22	7 40.62	+22 27.1	1.839	2.816	2.8	21.1	1 22	7 40.58	+22 11.5	1.849	2.827	2.8	21.7
2 1	7 30.75	+23 3.2	1.890	2.834	7.0	21.4	2 1	7 30.47	+22 31.7	1.889	2.833	7.0	22.0
2 11	7 22.75	+23 31.3	1.969	2.850	10.7	21.6	2 11	7 22.16	+22 45.5	1.956	2.838	10.8	22.2
2 21	7 17.24	+23 51.2	2.071	2.866	13.9	21.9	2 21	7 16.34	+22 53.0	2.047	2.843	14.0	22.4
<b>248032</b>	2004 GV <sub>5</sub>		1 15.8 318°76	4°4/17.3	18		<b>343492</b>	2010 EC <sub>100</sub>		1 15.9 239°40	4°3/13.7	18	
12 13	8 10.29	+ 9 33.9	2.097	2.894	13.5	19.9	12 13	8 13.92	+33 37.6	2.470	3.288	11.0	21.0
12 23	8 5.51	+ 8 56.6	2.006	2.883	10.6	19.7	12 23	8 8.19	+34 21.1	2.391	3.283	8.5	20.9
1 2	7 58.70	+ 8 30.0	1.939	2.872	7.5	19.5	1 2	8 0.31	+35 0.7	2.337	3.278	5.9	20.7
1 12	7 50.52	+ 8 15.0	1.899	2.862	4.9	19.3	1 12	7 51.01	+35 31.4	2.312	3.273	4.3	20.6
1 22	7 41.82	+ 8 11.4	1.887	2.852	4.8	19.3	1 22	7 41.23	+35 49.1	2.316	3.268	5.2	20.6
2 1	7 33.60	+ 8 18.0	1.904	2.842	7.4	19.4	2 1	7 32.02	+35 52.1	2.349	3.263	7.6	20.8
2 11	7 26.78	+ 8 32.3	1.947	2.833	10.6	19.6	2 11	7 24.37	+35 41.0	2.409	3.258	10.3	20.9
2 21	7 22.05	+ 8 51.7	2.014	2.824	13.7	19.8	2 21	7 18.94	+35 18.1	2.492	3.252	12.8	21.1
<b>117246</b>	2004 SN <sub>33</sub>		1 15.9 103°94	2°3/16.8	18		<b>485085</b>	2010 EC <sub>132</sub>		1 15.9 220°38	3°3/14.5	18	
12 13	8 16.07	+13 25.3	1.639	2.452	15.9	20.3	12 13	8 18.75	+28 2.4	1.912	2.734		

EPHEMERIDES

1 15.9

1 15.9

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>101121</b>	1998 <i>RO</i> <sub>54</sub>		1 15.9	75°24	2°1/16.5	17	<b>262994</b>	2007 <i>EJ</i> <sub>92</sub>		1 15.9	160°24	0°5/15.6	18
12 13	8 17.87	+16 5.4	1.348	2.176	17.9	19.1	12 13	8 13.62	+20 50.9	2.061	2.881	12.8	21.1
12 23	8 11.80	+15 57.2	1.292	2.193	13.5	18.8	12 23	8 8.08	+21 18.3	1.984	2.883	9.5	20.9
1 2	8 2.69	+16 0.2	1.258	2.210	8.4	18.6	1 2	8 0.31	+21 51.1	1.931	2.886	5.7	20.7
1 12	7 51.69	+16 11.9	1.249	2.228	3.3	18.3	1 12	7 51.07	+22 25.4	1.907	2.888	1.6	20.4
1 22	7 40.28	+16 28.8	1.267	2.245	3.8	18.4	1 22	7 41.34	+22 57.5	1.912	2.890	2.7	20.5
2 1	7 30.07	+16 47.5	1.312	2.262	8.7	18.8	2 1	7 32.24	+23 24.4	1.947	2.892	6.8	20.8
2 11	7 22.37	+17 5.2	1.382	2.279	13.3	19.1	2 11	7 24.76	+23 44.3	2.010	2.893	10.5	21.0
2 21	7 17.88	+17 20.2	1.473	2.296	17.1	19.4	2 21	7 19.59	+23 57.0	2.096	2.895	13.6	21.2
<b>204387</b>	2004 <i>TR</i> <sub>143</sub>		1 15.9	139°59	1°7/16.5	18	<b>169647</b>	2002 <i>JV</i> <sub>36</sub>		1 15.9	205°89	1°1/15.4	18
12 13	8 16.89	+15 37.2	1.833	2.643	14.6	20.9	12 13	8 15.73	+21 38.8	1.941	2.761	13.5	20.3
12 23	8 10.54	+15 43.6	1.762	2.654	11.0	20.7	12 23	8 9.89	+22 22.2	1.857	2.757	10.1	20.1
1 2	8 1.77	+15 59.5	1.715	2.664	6.9	20.5	1 2	8 1.55	+23 11.7	1.798	2.752	6.1	19.8
1 12	7 51.43	+16 22.3	1.696	2.675	2.7	20.3	1 12	7 51.46	+24 2.6	1.767	2.747	1.9	19.6
1 22	7 40.65	+16 48.8	1.706	2.684	3.1	20.3	1 22	7 40.70	+24 49.6	1.765	2.742	3.2	19.6
2 1	7 30.65	+17 15.9	1.746	2.693	7.2	20.6	2 1	7 30.52	+25 28.7	1.794	2.735	7.5	19.9
2 11	7 22.53	+17 41.0	1.813	2.701	11.2	20.8	2 11	7 22.10	+25 57.7	1.849	2.729	11.4	20.1
2 21	7 16.97	+18 2.7	1.903	2.708	14.5	21.1	2 21	7 16.23	+26 16.6	1.927	2.721	14.8	20.3
<b>407352</b>	2010 <i>RB</i> <sub>100</sub>		1 15.9	71°51	0°6/16.1	18	<b>232963</b>	2005 <i>EV</i> <sub>48</sub>		1 15.9	267°79	4°2/14.1	18
12 13	8 15.65	+18 51.8	1.648	2.473	15.3	21.7	12 13	8 16.11	+33 22.7	2.274	3.092	11.9	20.1
12 23	8 9.77	+18 55.8	1.588	2.489	11.4	21.5	12 23	8 10.00	+33 51.0	2.187	3.080	9.1	19.9
1 2	8 1.33	+19 6.8	1.551	2.505	6.9	21.3	1 2	8 1.51	+34 14.7	2.125	3.068	6.2	19.7
1 12	7 51.30	+19 21.7	1.541	2.521	2.1	21.0	1 12	7 51.42	+34 28.6	2.091	3.056	4.3	19.5
1 22	7 40.90	+19 37.2	1.559	2.538	3.0	21.1	1 22	7 40.79	+34 28.8	2.087	3.044	5.2	19.5
2 1	7 31.47	+19 50.6	1.606	2.554	7.6	21.4	2 1	7 30.79	+34 14.1	2.111	3.032	8.0	19.7
2 11	7 24.12	+20 0.3	1.678	2.570	11.7	21.7	2 11	7 22.53	+33 45.5	2.163	3.019	11.0	19.9
2 21	7 19.51	+20 5.8	1.773	2.586	15.1	21.9	2 21	7 16.72	+33 6.0	2.237	3.007	13.7	20.0
<b>467186</b>	2016 <i>EW</i> <sub>116</sub>		1 15.9	24°35	10°6/22.8	18	<b>236015</b>	2005 <i>GM</i> <sub>89</sub>		1 15.9	200°24	0°6/15.6	17
12 13	8 9.82	-10 50.2	1.941	2.643	17.5	20.4	12 13	8 11.49	+21 53.6	2.661	3.474	10.5	21.7
12 23	8 5.29	-11 6.9	1.863	2.644	15.5	20.2	12 23	8 6.09	+22 15.6	2.574	3.471	7.8	21.5
1 2	7 58.64	-10 54.4	1.802	2.646	13.3	20.1	1 2	7 58.96	+22 40.7	2.514	3.468	4.7	21.3
1 12	7 50.57	-10 9.5	1.764	2.648	11.5	20.0	1 12	7 50.67	+23 6.2	2.484	3.465	1.4	21.1
1 22	7 42.00	-8 52.5	1.750	2.650	10.6	19.9	1 22	7 41.99	+23 29.5	2.484	3.461	2.3	21.1
2 1	7 33.96	-7 7.5	1.762	2.652	11.2	19.9	2 1	7 33.74	+23 48.4	2.515	3.457	5.6	21.3
2 11	7 27.44	-5 2.6	1.799	2.654	13.0	20.1	2 11	7 26.72	+24 1.8	2.575	3.453	8.7	21.5
2 21	7 23.11	-2 47.2	1.861	2.656	15.2	20.2	2 21	7 21.49	+24 9.4	2.659	3.448	11.3	21.7
<b>117768</b>	2005 <i>GK</i> <sub>81</sub>		1 15.9	222°32	10°6/21.5	18	<b>167666</b>	2004 <i>EM</i> <sub>70</sub>		1 15.9	23°46	1°3/15.3	18
12 13	8 16.60	-6 14.4	1.272	2.027	22.7	20.1	12 13	8 12.20	+24 12.3	2.151	2.975	12.2	20.4
12 23	8 11.50	-5 55.4	1.188	2.022	19.4	19.9	12 23	8 6.95	+24 29.5	2.075	2.977	9.0	20.2
1 2	8 3.00	-4 54.2	1.121	2.015	15.6	19.6	1 2	7 59.58	+24 48.6	2.025	2.980	5.4	19.9
1 12	7 51.94	-3 6.0	1.076	2.009	12.1	19.4	1 12	7 50.86	+25 6.1	2.002	2.982	1.9	19.7
1 22	7 39.71	-0 33.7	1.055	2.001	10.6	19.3	1 22	7 41.72	+25 18.9	2.009	2.985	3.0	19.8
2 1	7 28.10	+2 31.5	1.061	1.993	12.5	19.4	2 1	7 33.22	+25 25.1	2.045	2.987	6.7	20.0
2 11	7 18.84	+5 51.9	1.092	1.985	16.4	19.6	2 11	7 26.30	+25 24.0	2.108	2.990	10.1	20.3
2 21	7 13.08	+9 10.1	1.146	1.976	20.6	19.8	2 21	7 21.59	+25 16.3	2.195	2.993	13.1	20.5
<b>129337</b>	2005 <i>UE</i> <sub>74</sub>		1 15.9	92°95	3°3/16.9	18	<b>351001</b>	2003 <i>HM</i> <sub>42</sub>		1 15.9	248°05	0°2/15.8	18
12 13	8 16.88	+12 52.8	1.458	2.275	17.3	20.2	12 13	8 15.83	+19 14.7	1.757	2.579	14.6	21.1
12 23	8 10.94	+12 43.7	1.397	2.290	13.3	20.0	12 23	8 10.29	+19 48.3	1.664	2.564	11.0	20.8
1 2	8 2.16	+12 48.5	1.357	2.304	8.6	19.8	1 2	8 1.97	+20 31.1	1.595	2.549	6.7	20.6
1 12	7 51.57	+13 5.7	1.343	2.318	4.2	19.5	1 12	7 51.63	+21 18.9	1.552	2.534	1.9	20.2
1 22	7 40.52	+13 32.0	1.357	2.332	4.3	19.6	1 22	7 40.40	+22 6.4	1.539	2.517	3.1	20.3
2 1	7 30.49	+14 3.6	1.398	2.346	8.5	19.9	2 1	7 29.67	+22 48.9	1.555	2.501	8.0	20.5
2 11	7 22.74	+14 36.6	1.464	2.359	12.8	20.1	2 11	7 20.81	+23 23.3	1.597	2.483	12.5	20.7
2 21	7 17.98	+15 7.8	1.552	2.372	16.5	20.4	2 21	7 14.73	+23 48.9	1.661	2.466	16.3	20.9
<b>66203</b>	1999 <i>BV</i> <sub>24</sub>		1 15.9	341°33	5°8/17.9	18	<b>459473</b>	2013 <i>CF</i> <sub>16</sub>		1 15.9	36°56	1°0/16.3	18
12 13	8 9.26	+6 19.6	1.836	2.632	15.2	18.3	12 13	8 13.22	+15 44.2	1.297	2.134	17.9	20.8
12 23	8 5.00	+5 42.3	1.753	2.624	12.2	18.0	12 23	8 8.70	+16 23.7	1.235	2.142	13.5	20.6
1 2	7 58.54	+5 20.3	1.691	2.617	9.0	17.8	1 2	8 1.08	+17 18.7	1.194	2.150	8.3	20.3
1 12	7 50.57	+5 15.1	1.655	2.610	6.4	17.7	1 12	7 51.35	+18 24.1	1.178	2.158	2.7	20.0
1 22	7 42.04	+5 26.5	1.645	2.604	6.1	17.6	1 22	7 40.96	+19 32.7	1.188	2.167	3.5	20.1
2 1	7 34.05	+5 52.4	1.663	2.599	8.5	17.8	2 1	7 31.56	+20 37.4	1.224	2.177	8.9	20.4
2 11	7 27.63	+6 29.0	1.706	2.594	11.7	17.9	2 11	7 24.57	+21 33.2	1.285	2.186	13.8	20.7
2 21	7 23.49	+7 11.6	1.771	2.590	14.9	18.1	2 21	7 20.83	+22 17.9	1.367	2.197	17.8	21.0
<b>16311</b>	1102 <i>T</i> <sub>-1</sub>		1 15.9	215°95	4°0/17.3	18	<b>252946</b>	2002 <i>PE</i> <sub>58</sub>		1 15.9	122°12	2°6/16.9	18
12 13	8 14.99	+10 40.9	1.706	2.510	15.8	18.9	12 13	8 15.49	+13 14.6	1.971	2.773	14.0	21.2
12 23	8 9.44	+10 25.4	1.623	2.506	12.3	18.7	12 23	8 9.31	+13 8.4	1.903	2.788	10.7	21.0
1 2	8 1.30	+10 23.7	1.562	2.501	8.4	18.4	1 2	8 0.97	+13 12.4	1.858	2.802	6.9	20.8
1 12	7 51.37	+10 35.6	1.527	2.496	4.8	18.2	1 12	7 51.25	+13 25.1	1.841	2.815	3.4	20.6
1 22	7 40.78	+10 59.1	1.520	2.491	4.7	18.2	1 22	7 41.17	+13 44.4	1.854	2.829	3.4	20.6
2 1	7 30.82	+11 31.2	1.541	2.485	8.2	18.4	2 1	7 31.83	+14 7.5	1.897	2.841	6.9	20.9
2 11	7 22.70	+12 8.0	1.589	2.479	12.3	18.6	2 11	7 24.19	+14 31.9	1.966	2.853	10.5	21.1
2 21	7 17.25	+12 45.7	1.658	2.473	15.9	18.8	2 21	7 18.88	+14 55.4	2.060	2.865	13.6	21.3
<b>235690</b>	2004 <i>SR</i> <sub>22</sub>		1 15.9	150°14	4°7/14.1	18	<b>153868</b>	2001 <i>XR</i> <sub>83</sub>		1 15.9	17°38	6°9/17.8	18
12 13	8 20.42	+31 13.5	1.751	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>490497</b>	2009 <i>UM</i> <sub>19</sub>		1 15.9 78°55	2.7/15.1	17		<b>50723</b>	2000 <i>EG</i> <sub>143</sub>		1 15.9 281°06	6.1/17.6	18	
12 13	8 21.30	+25 1.9	1.270	2.110	18.1	21.4	12 13	8 13.51	+7 3.1	1.768	2.560	15.8	19.2
12 23	8 14.65	+25 40.7	1.223	2.132	13.4	21.2	12 23	8 8.34	+6 11.2	1.677	2.547	12.7	19.0
1 2	8 4.54	+26 22.0	1.197	2.153	8.1	20.9	1 2	8 0.69	+5 32.9	1.609	2.534	9.4	18.8
1 12	7 52.28	+26 58.0	1.196	2.175	3.2	20.7	1 12	7 51.29	+5 10.8	1.565	2.521	6.7	18.6
1 22	7 39.65	+27 22.4	1.222	2.196	4.8	20.9	1 22	7 41.17	+5 5.3	1.549	2.508	6.5	18.5
2 1	7 28.51	+27 32.3	1.275	2.217	9.7	21.2	2 1	7 31.57	+5 15.6	1.561	2.495	9.1	18.7
2 11	7 20.31	+27 28.5	1.351	2.238	14.3	21.5	2 11	7 23.67	+5 38.3	1.598	2.481	12.7	18.8
2 21	7 15.75	+27 14.2	1.448	2.259	18.0	21.8	2 21	7 18.28	+6 9.2	1.657	2.468	16.1	19.0
<b>323155</b>	2003 <i>FH</i> <sub>20</sub>		1 15.9 293°99	7.0/12.7	18		<b>1543</b>	<i>Bourgeois</i>		1 15.9 145°36	0.6/16.1	18	
12 13	8 17.71	+37 8.7	1.821	2.645	14.1	20.2	12 13	8 16.28	+19 0.9	2.557	3.358	11.2	17.4
12 23	8 11.89	+38 23.6	1.752	2.642	11.2	20.0	12 23	8 9.50	+18 59.6	2.483	3.371	8.4	17.2
1 2	8 2.98	+39 31.9	1.706	2.639	8.4	19.8	1 2	8 0.94	+19 2.1	2.435	3.384	5.1	17.0
1 12	7 51.92	+40 24.6	1.687	2.636	7.0	19.8	1 12	7 51.27	+19 6.6	2.417	3.397	1.6	16.8
1 22	7 40.11	+40 54.8	1.695	2.632	8.1	19.8	1 22	7 41.32	+19 11.1	2.430	3.408	2.2	16.8
2 1	7 29.16	+40 59.9	1.729	2.629	10.8	20.0	2 1	7 31.98	+19 14.3	2.475	3.419	5.6	17.1
2 11	7 20.54	+40 42.0	1.788	2.626	13.8	20.1	2 11	7 24.04	+19 15.4	2.550	3.429	8.7	17.3
2 21	7 15.12	+40 5.9	1.867	2.623	16.5	20.3	2 21	7 18.04	+19 14.2	2.650	3.438	11.4	17.5
<b>106529</b>	2000 <i>WZ</i> <sub>57</sub>		1 15.9 354°66	1.6/15.3	18		<b>350723</b>	2001 <i>XB</i> <sub>155</sub>		1 15.9 50°05	1.2/15.4	18	
12 13	8 10.53	+21 52.2	1.144	2.003	18.3	18.7	12 13	8 16.61	+19 54.7	1.155	2.002	19.0	19.9
12 23	8 7.28	+22 30.9	1.078	1.997	13.7	18.5	12 23	8 11.30	+20 55.0	1.113	2.026	14.0	19.7
1 2	8 0.52	+23 19.1	1.031	1.993	8.3	18.1	1 2	8 2.60	+22 5.6	1.093	2.052	8.3	19.4
1 12	7 51.27	+24 10.3	1.008	1.989	2.6	17.8	1 12	7 51.79	+23 18.0	1.097	2.078	2.4	19.2
1 22	7 41.13	+24 56.7	1.009	1.987	4.4	17.9	1 22	7 40.59	+24 23.4	1.127	2.105	4.1	19.3
2 1	7 32.00	+25 32.1	1.035	1.986	10.2	18.2	2 1	7 30.82	+25 15.5	1.183	2.132	9.6	19.7
2 11	7 25.57	+25 53.8	1.082	1.987	15.4	18.5	2 11	7 23.91	+25 52.1	1.262	2.159	14.3	20.1
2 21	7 22.80	+26 2.1	1.149	1.989	19.9	18.8	2 21	7 20.54	+26 14.1	1.361	2.186	18.2	20.4
<b>439313</b>	2012 <i>VE</i> <sub>82</sub>		1 15.9 173°00	0.3/15.7	18		<b>456489</b>	2006 <i>WE</i> <sub>139</sub>		1 15.9 60°84	0.2/15.9	16	
12 13	8 20.45	+19 39.5	2.442	3.238	11.8	24.7	12 13	8 17.76	+17 34.5	1.523	2.346	16.4	21.0
12 23	8 12.82	+20 21.1	2.357	3.245	8.8	24.5	12 23	8 11.30	+18 20.6	1.483	2.384	12.1	20.9
1 2	8 3.07	+21 8.3	2.300	3.250	5.3	24.3	1 2	8 2.23	+19 16.0	1.467	2.422	7.2	20.7
1 12	7 51.89	+21 57.0	2.274	3.254	1.5	24.0	1 12	7 51.63	+20 15.1	1.478	2.459	2.1	20.4
1 22	7 40.20	+22 43.1	2.280	3.257	2.5	24.1	1 22	7 40.85	+21 11.7	1.517	2.496	3.0	20.6
2 1	7 29.04	+23 23.3	2.319	3.258	6.2	24.4	2 1	7 31.27	+22 1.0	1.585	2.533	7.7	21.0
2 11	7 19.40	+23 55.8	2.388	3.257	9.6	24.6	2 11	7 23.99	+22 40.7	1.680	2.569	11.8	21.3
2 21	7 11.92	+24 20.4	2.482	3.255	12.5	24.8	2 21	7 19.57	+23 10.3	1.796	2.605	15.1	21.6
<b>461770</b>	2005 <i>UT</i> <sub>328</sub>		1 15.9 101°61	3.2/17.2	18		<b>51989</b>	2001 <i>ST</i> <sub>286</sub>		1 15.9 316°26	9.9/9.1	18	
12 13	8 12.51	+11 37.6	1.907	2.712	14.3	21.7	12 13	8 18.90	+48 6.4	2.170	2.962	13.2	17.4
12 23	8 7.29	+11 31.5	1.831	2.716	11.1	21.5	12 23	8 13.07	+49 54.0	2.106	2.954	11.5	17.3
1 2	7 59.86	+11 37.6	1.779	2.721	7.4	21.3	1 2	8 3.90	+51 28.8	2.066	2.946	10.2	17.2
1 12	7 50.98	+11 54.8	1.754	2.725	4.0	21.1	1 12	7 52.27	+52 41.1	2.052	2.938	10.0	17.1
1 22	7 41.64	+12 21.0	1.757	2.730	3.8	21.1	1 22	7 39.61	+53 23.9	2.063	2.930	10.9	17.2
2 1	7 32.94	+12 53.0	1.789	2.734	7.2	21.3	2 1	7 27.70	+53 34.9	2.098	2.922	12.5	17.3
2 11	7 25.88	+13 27.5	1.848	2.739	10.8	21.5	2 11	7 18.20	+53 16.9	2.155	2.915	14.4	17.4
2 21	7 21.13	+14 1.6	1.930	2.743	14.0	21.7	2 21	7 12.14	+52 35.9	2.230	2.908	16.2	17.5
<b>48436</b>	1989 <i>VK</i>		1 15.9 43°01	1.2/16.2	18		<b>160190</b>	2001 <i>XA</i> <sub>204</sub>		1 15.9 64°74	0.8/16.2	18	
12 13	8 17.21	+18 6.8	1.252	2.090	18.4	17.7	12 13	8 13.08	+17 1.0	1.734	2.557	14.7	20.3
12 23	8 11.23	+18 2.8	1.215	2.122	13.6	17.5	12 23	8 7.92	+17 28.6	1.668	2.568	11.0	20.0
1 2	8 2.27	+18 8.4	1.200	2.155	8.2	17.3	1 2	8 0.32	+18 6.0	1.625	2.579	6.7	19.8
1 12	7 51.61	+18 20.0	1.209	2.189	2.7	17.1	1 12	7 51.14	+18 49.6	1.609	2.590	2.1	19.5
1 22	7 40.85	+18 33.7	1.244	2.223	3.4	17.2	1 22	7 41.50	+19 34.6	1.622	2.601	2.8	19.6
2 1	7 31.54	+18 46.5	1.306	2.257	8.5	17.6	2 1	7 32.63	+20 17.1	1.663	2.612	7.3	19.9
2 11	7 24.87	+18 56.3	1.392	2.292	13.0	18.0	2 11	7 25.64	+20 53.8	1.731	2.623	11.3	20.2
2 21	7 21.39	+19 2.5	1.499	2.327	16.7	18.3	2 21	7 21.20	+21 23.4	1.821	2.635	14.7	20.4
<b>105670</b>	2000 <i>SK</i> <sub>40</sub>		1 15.9 158°62	5.8/12.3	18		<b>256330</b>	2006 <i>XF</i> <sub>25</sub>		1 15.9 122°50	1.6/15.2	18	
12 13	8 16.13	+41 20.1	2.906	3.704	10.1	20.4	12 13	8 15.09	+23 23.3	1.877	2.703	13.7	20.6
12 23	8 9.70	+42 16.7	2.840	3.708	8.2	20.3	12 23	8 9.38	+24 0.1	1.806	2.709	10.1	20.4
1 2	8 1.19	+43 5.1	2.800	3.713	6.5	20.2	1 2	8 1.21	+24 40.9	1.760	2.715	6.1	20.2
1 12	7 51.35	+43 40.2	2.789	3.717	5.8	20.1	1 12	7 51.40	+25 20.5	1.741	2.721	2.1	19.9
1 22	7 41.09	+43 58.3	2.806	3.721	6.4	20.2	1 22	7 41.09	+25 54.3	1.752	2.727	3.4	20.0
2 1	7 31.44	+43 58.3	2.852	3.725	8.0	20.3	2 1	7 31.52	+26 19.1	1.791	2.733	7.5	20.3
2 11	7 23.33	+43 41.6	2.923	3.728	9.9	20.4	2 11	7 23.82	+26 33.8	1.857	2.738	11.3	20.5
2 21	7 17.39	+43 11.4	3.018	3.731	11.7	20.6	2 21	7 18.70	+26 39.0	1.946	2.743	14.5	20.8
<b>363260</b>	2002 <i>DY</i> <sub>5</sub>		1 15.9 316°13	1.0/16.1	18		<b>134252</b>	2006 <i>AK</i> <sub>41</sub>		1 15.9 341°97	2.6/16.8	18	
12 13	8 17.51	+19 58.2	1.466	2.296	16.6	20.3	12 13	8 11.77	+14 4.9	1.248	2.086	18.4	19.5
12 23	8 11.71	+19 31.4	1.388	2.292	12.5	20.1	12 23	8 7.89	+14 12.2	1.174	2.080	14.1	19.2
1 2	8 2.85	+19 9.2	1.333	2.288	7.7	19.8	1 2	8 0.78	+14 36.0	1.120	2.074	9.1	18.9
1 12	7 51.89	+18 49.6	1.303	2.284	2.5	19.4	1 12	7 51.37	+15 14.1	1.090	2.068	3.9	18.6
1 22	7 40.26	+18 30.9	1.301	2.280	3.4	19.5	1 22	7 41.08	+16 1.7	1.085	2.064	4.1	18.6
2 1	7 29.55	+18 12.1	1.327	2.277	8.7	19.8	2 1	7 31.62	+16 52.9	1.106	2.060	9.4	18.9
2 11	7 21.19	+17 53.1	1.377	2.273	13.4	20.1	2 11	7 24.56	+17 42.2	1.150	2.057	14.5	19.2
2 21	7 16.02	+17 34.0	1.449	2.270	17.5	20.3	2 21	7 20.86	+18 25.6	1.214	2.054	19.0	19.5
<b>108356</b>	2001 <i>KK</i> <sub>11</sub>		1 15.9 123°19	4.4/17.9	18		<b>187349</b>	2005 <i>UT</i> <sub>200</sub>		1 15.9 205°			



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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>100208</b>	1994 <i>JD</i> <sub>2</sub>		1 15.9 264°94	1.6°/16.7	18		<b>461545</b>	2003 <i>UP</i> <sub>345</sub>		1 15.9 281°90	0.6°/15.7	18	
12 13	8 10.47	+15 8.1	2.343	3.151	11.9	20.6	12 13	8 12.88	+21 46.4	2.052	2.875	12.8	21.3
12 23	8 5.56	+15 13.9	2.253	3.143	9.0	20.4	12 23	8 7.62	+22 1.9	1.968	2.869	9.5	21.1
1 2	7 58.77	+15 27.8	2.187	3.134	5.7	20.1	1 2	8 0.12	+22 21.4	1.909	2.864	5.7	20.8
1 12	7 50.70	+15 48.1	2.149	3.126	2.4	19.9	1 12	7 51.11	+22 41.9	1.878	2.859	1.7	20.6
1 22	7 42.16	+16 12.7	2.141	3.118	2.6	19.9	1 22	7 41.58	+22 59.9	1.877	2.854	2.8	20.6
2 1	7 34.05	+16 39.0	2.163	3.110	6.0	20.1	2 1	7 32.63	+23 13.0	1.904	2.849	6.8	20.9
2 11	7 27.24	+17 4.9	2.213	3.101	9.4	20.3	2 11	7 25.29	+23 20.0	1.959	2.844	10.6	21.1
2 21	7 22.33	+17 28.6	2.287	3.093	12.4	20.5	2 21	7 20.27	+23 21.0	2.037	2.839	13.8	21.3
<b>139268</b>	2001 <i>HZ</i> <sub>56</sub>		1 15.9 190°88	0.5°/15.7	18		<b>89426</b>	2001 <i>WU</i> <sub>38</sub>		1 15.9 90°30	0.5°/16.1	17	
12 13	8 19.17	+21 20.0	1.821	2.638	14.4	20.7	12 13	8 18.03	+17 8.2	1.542	2.364	16.3	20.5
12 23	8 12.52	+21 36.2	1.739	2.637	10.8	20.5	12 23	8 11.69	+17 44.9	1.488	2.387	12.1	20.3
1 2	8 3.17	+21 57.4	1.681	2.635	6.5	20.2	1 2	8 2.60	+18 32.1	1.457	2.411	7.3	20.1
1 12	7 51.99	+22 19.4	1.652	2.633	1.9	19.9	1 12	7 51.80	+19 24.7	1.453	2.434	2.2	19.8
1 22	7 40.16	+22 38.2	1.652	2.629	3.1	20.0	1 22	7 40.61	+20 17.0	1.478	2.456	3.1	19.9
2 1	7 29.07	+22 51.2	1.681	2.625	7.7	20.3	2 1	7 30.49	+21 4.1	1.531	2.479	7.9	20.3
2 11	7 19.97	+22 57.2	1.738	2.620	11.9	20.5	2 11	7 22.63	+21 43.1	1.610	2.500	12.2	20.6
2 21	7 13.64	+22 56.7	1.817	2.615	15.4	20.7	2 21	7 17.70	+22 13.1	1.711	2.521	15.7	20.8
<b>3919</b>	Maryanning		1 15.9 176°86	1.6°/16.5	18		<b>347411</b>	2012 <i>SV</i> <sub>32</sub>		1 15.9 2°83	2.3°/16.6	18	
12 13	8 17.35	+15 11.7	1.824	2.632	14.7	17.9	12 13	8 12.38	+15 4.8	1.083	1.932	19.8	20.6
12 23	8 11.07	+15 28.3	1.744	2.635	11.2	17.7	12 23	8 8.64	+15 11.6	1.019	1.931	15.1	20.3
1 2	8 2.26	+15 55.7	1.688	2.637	7.0	17.5	1 2	8 1.34	+15 35.3	0.974	1.930	9.6	20.0
1 12	7 51.72	+16 30.9	1.660	2.638	2.7	17.2	1 12	7 51.55	+16 12.9	0.951	1.931	3.8	19.7
1 22	7 40.58	+17 10.2	1.661	2.639	3.1	17.2	1 22	7 40.90	+16 59.0	0.953	1.932	4.2	19.7
2 1	7 30.12	+17 49.6	1.692	2.638	7.4	17.5	2 1	7 31.31	+17 46.9	0.979	1.934	10.0	20.0
2 11	7 21.50	+18 26.0	1.750	2.637	11.5	17.7	2 11	7 24.47	+18 31.2	1.027	1.937	15.5	20.3
2 21	7 15.51	+18 57.5	1.831	2.635	15.0	18.0	2 21	7 21.34	+19 8.4	1.093	1.941	20.1	20.6
<b>8036</b>	Maehara		1 15.9 124°07	2.2°/14.7	18		<b>37099</b>	2000 <i>UM</i> <sub>94</sub>		1 15.9 245°37	2.7°/16.9	18	
12 13	8 13.48	+26 40.8	2.467	3.285	11.0	18.0	12 13	8 13.55	+13 12.9	2.254	3.051	12.6	19.5
12 23	8 7.68	+27 21.6	2.398	3.297	8.2	17.9	12 23	8 7.93	+12 55.0	2.155	3.038	9.7	19.3
1 2	7 59.97	+28 2.7	2.356	3.308	5.1	17.7	1 2	8 0.26	+12 45.3	2.081	3.023	6.5	19.1
1 12	7 51.02	+28 40.0	2.342	3.318	2.4	17.5	1 12	7 51.16	+12 43.4	2.036	3.008	3.4	18.9
1 22	7 41.72	+29 9.9	2.359	3.329	3.4	17.6	1 22	7 41.50	+12 48.1	2.020	2.993	3.4	18.8
2 1	7 33.00	+29 30.1	2.407	3.339	6.4	17.8	2 1	7 32.27	+12 57.8	2.035	2.978	6.6	19.0
2 11	7 25.74	+29 40.1	2.482	3.349	9.4	18.0	2 11	7 24.40	+13 10.6	2.077	2.962	10.1	19.2
2 21	7 20.51	+29 41.0	2.581	3.358	11.9	18.2	2 21	7 18.59	+13 24.7	2.143	2.945	13.2	19.4
<b>404301</b>	2013 <i>EE</i> <sub>115</sub>		1 15.9 257°05	0.8°/16.2	18		<b>419001</b>	2009 <i>OW</i> <sub>21</sub>		1 15.9 140°84	3.5°/17.6	18	
12 13	8 15.47	+17 52.9	1.684	2.506	15.1	21.7	12 13	8 13.74	+ 8 50.7	2.591	3.366	11.8	22.8
12 23	8 10.06	+18 4.4	1.594	2.493	11.5	21.4	12 23	8 7.59	+ 8 37.9	2.516	3.381	9.2	22.7
1 2	8 1.86	+18 25.0	1.526	2.480	7.1	21.1	1 2	7 59.80	+ 8 35.4	2.467	3.395	6.4	22.5
1 12	7 51.66	+18 51.6	1.486	2.466	2.3	20.8	1 12	7 50.98	+ 8 42.8	2.446	3.409	4.0	22.4
1 22	7 40.62	+19 20.5	1.473	2.452	3.1	20.8	1 22	7 41.87	+ 8 58.9	2.456	3.422	3.8	22.4
2 1	7 30.16	+19 47.7	1.489	2.438	8.0	21.1	2 1	7 33.29	+ 9 21.8	2.497	3.434	6.0	22.5
2 11	7 21.63	+20 10.8	1.531	2.423	12.6	21.3	2 11	7 25.97	+ 9 48.9	2.567	3.445	8.7	22.7
2 21	7 15.93	+20 28.4	1.595	2.408	16.5	21.5	2 21	7 20.41	+10 17.9	2.663	3.455	11.2	22.9
<b>371955</b>	2008 <i>HJ</i> <sub>9</sub>		1 15.9 292°78	2.0°/16.6	17		<b>42462</b>	5278 <i>T</i> <sub>-3</sub>		1 15.9 98°03	1.4°/15.3	18	
12 13	8 12.92	+15 28.4	1.723	2.543	14.9	21.6	12 13	8 16.69	+21 9.5	1.648	2.475	15.2	19.5
12 23	8 8.16	+15 28.2	1.624	2.521	11.5	21.4	12 23	8 10.77	+22 7.4	1.587	2.491	11.2	19.3
1 2	8 0.73	+15 38.6	1.549	2.499	7.3	21.1	1 2	8 2.12	+23 12.6	1.551	2.506	6.7	19.1
1 12	7 51.35	+15 57.7	1.499	2.478	3.0	20.8	1 12	7 51.69	+24 18.5	1.541	2.522	2.1	18.8
1 22	7 41.08	+16 23.0	1.478	2.456	3.4	20.7	1 22	7 40.76	+25 18.5	1.561	2.537	3.6	18.9
2 1	7 31.27	+16 50.9	1.485	2.434	8.0	21.0	2 1	7 30.73	+26 7.7	1.609	2.552	8.1	19.2
2 11	7 23.21	+17 18.4	1.517	2.412	12.5	21.2	2 11	7 22.83	+26 44.1	1.684	2.567	12.2	19.5
2 21	7 17.82	+17 43.3	1.571	2.390	16.4	21.4	2 21	7 17.81	+27 8.0	1.780	2.581	15.6	19.8
<b>337156</b>	1999 <i>TY</i> <sub>335</sub>		1 15.9 86°79	3.6°/14.8	17		<b>208385</b>	2001 <i>SB</i> <sub>130</sub>		1 15.9 14°59	5.7°/13.9	18	
12 13	8 21.94	+27 2.3	1.355	2.191	17.4	21.6	12 13	8 15.74	+35 49.2	1.868	2.695	13.7	19.5
12 23	8 15.06	+27 51.0	1.306	2.213	12.9	21.4	12 23	8 10.08	+36 23.9	1.803	2.698	10.6	19.3
1 2	8 4.80	+28 40.0	1.279	2.234	8.0	21.1	1 2	8 1.69	+36 50.9	1.763	2.703	7.6	19.1
1 12	7 52.42	+29 20.8	1.279	2.255	3.9	21.0	1 12	7 51.56	+37 4.0	1.748	2.707	5.7	19.0
1 22	7 39.65	+29 46.9	1.306	2.276	5.4	21.1	1 22	7 41.00	+36 59.1	1.762	2.713	6.6	19.1
2 1	7 28.30	+29 55.7	1.359	2.297	9.8	21.4	2 1	7 31.43	+36 35.1	1.802	2.719	9.3	19.3
2 11	7 19.83	+29 48.7	1.437	2.317	14.1	21.7	2 11	7 24.02	+35 54.7	1.867	2.725	12.4	19.5
2 21	7 14.94	+29 29.8	1.536	2.337	17.6	22.0	2 21	7 19.49	+35 2.4	1.954	2.732	15.2	19.7
<b>99626</b>	2002 <i>GT</i> <sub>91</sub>		1 15.9 204°84	3.1°/14.6	18		<b>189626</b>	2001 <i>HV</i> <sub>25</sub>		1 15.9 192°17	4.5°/14.2	18	
12 13	8 17.70	+27 21.0	1.940	2.763	13.4	20.4	12 13	8 20.84	+30 5.9	1.706	2.532	14.8	21.0
12 23	8 11.47	+28 8.3	1.859	2.759	10.1	20.2	12 23	8 14.19	+31 3.4	1.631	2.531	11.3	20.8
1 2	8 2.57	+28 56.8	1.802	2.754	6.3	20.0	1 2	8 4.39	+31 59.9	1.580	2.529	7.4	20.5
1 12	7 51.83	+29 40.4	1.774	2.749	3.3	19.8	1 12	7 52.39	+32 47.3	1.557	2.527	4.6	20.4
1 22	7 40.41	+30 13.5	1.775	2.743	4.5	19.8	1 22	7 39.63	+33 18.8	1.561	2.524	5.9	20.4
2 1	7 29.65	+30 33.0	1.805	2.737	8.2	20.0	2 1	7 27.73	+33 31.0	1.594	2.520	9.6	20.7
2 11	7 20.81	+30 38.4	1.862	2.730	11.9	20.3	2 11	7 18.18	+33 24.9	1.652	2.516	13.5	20.9
2 21	7 14.70	+30 31.8	1.941	2.723	15.1	20.5	2 21	7 11.87	+33 4.2	1.732	2.511	16.8	21.1
<b>109425</b>	2001 <i>QU</i> <sub>194</sub>		1 15.9 352°73	0.7°/15.8	18		<b>209496</b>	2004 <i>JJ</i> <sub>11</sub>		1 15.9 235°19	0.3°/15.7	18	
12 13	8 17.19	+24 35.7	1.508										

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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>408532</b>	2013 <i>JF</i> <sub>48</sub>		1 15.9 140°89		1°0/15.4 18		<b>163632</b>	2002 <i>UG</i> <sub>18</sub>		1 15.9 135°25		8°3/20.7 18	
12 13	8 14.76	+20 36.1	2.029	2.847	13.1	21.1	12 13	8 10.07	- 7 40.4	2.656	3.353	13.4	20.1
12 23	8 9.00	+21 32.4	1.957	2.856	9.7	20.9	12 23	8 4.95	- 8 26.4	2.581	3.362	11.7	20.0
1 2	8 0.95	+22 35.6	1.909	2.863	5.8	20.6	1 2	7 58.28	- 8 53.8	2.528	3.370	10.0	19.9
1 12	7 51.37	+23 40.5	1.890	2.871	1.8	20.4	1 12	7 50.60	- 9 0.2	2.499	3.379	8.7	19.8
1 22	7 41.26	+24 41.7	1.902	2.878	3.0	20.5	1 22	7 42.60	- 8 45.1	2.496	3.387	8.3	19.8
2 1	7 31.77	+25 34.8	1.943	2.884	7.0	20.8	2 1	7 35.02	- 8 10.1	2.521	3.395	8.9	19.9
2 11	7 23.95	+26 17.3	2.012	2.891	10.7	21.0	2 11	7 28.58	- 7 18.9	2.571	3.402	10.3	20.0
2 21	7 18.51	+26 48.8	2.105	2.896	13.8	21.2	2 21	7 23.76	- 6 16.5	2.645	3.409	12.0	20.1
<b>34007</b>	2000 <i>OS</i> <sub>11</sub>		1 15.9 152°74		0°7/16.2 18		<b>282891</b>	2007 <i>GE</i> <sub>8</sub>		1 15.9 153°99		2°4/16.9 18	
12 13	8 14.48	+17 58.5	2.343	3.149	11.9	19.9	12 13	8 17.02	+13 37.2	1.824	2.629	14.9	21.8
12 23	8 8.41	+18 7.9	2.266	3.157	8.9	19.7	12 23	8 10.75	+13 41.8	1.750	2.637	11.3	21.6
1 2	8 0.41	+18 23.0	2.215	3.165	5.5	19.5	1 2	8 2.04	+13 57.7	1.699	2.644	7.3	21.4
1 12	7 51.18	+18 41.5	2.192	3.172	1.8	19.2	1 12	7 51.71	+14 22.9	1.675	2.651	3.3	21.2
1 22	7 41.59	+19 1.0	2.201	3.179	2.3	19.3	1 22	7 40.88	+14 54.2	1.681	2.657	3.4	21.2
2 1	7 32.57	+19 19.2	2.240	3.185	6.0	19.5	2 1	7 30.78	+15 28.3	1.717	2.663	7.4	21.4
2 11	7 25.00	+19 34.5	2.307	3.191	9.3	19.8	2 11	7 22.53	+16 1.9	1.779	2.668	11.3	21.7
2 21	7 19.46	+19 46.3	2.400	3.195	12.2	20.0	2 21	7 16.83	+16 32.8	1.865	2.672	14.7	21.9
<b>39376</b>	2002 <i>CU</i> <sub>105</sub>		1 15.9 152°93		0°4/15.7 18		<b>446860</b>	2001 <i>UU</i> <sub>214</sub>		1 15.9 88°78		1°5/15.4 15	
12 13	8 17.08	+20 38.9	2.056	2.869	13.1	19.3	12 13	8 20.15	+22 40.5	1.513	2.341	16.3	22.3
12 23	8 10.62	+21 6.5	1.982	2.878	9.7	19.1	12 23	8 13.37	+23 19.6	1.463	2.366	12.0	22.1
1 2	8 1.86	+21 39.3	1.934	2.887	5.8	18.9	1 2	8 3.67	+24 3.2	1.435	2.391	7.2	21.9
1 12	7 51.62	+22 13.3	1.914	2.895	1.7	18.6	1 12	7 52.17	+24 45.0	1.435	2.415	2.3	21.7
1 22	7 40.91	+22 44.7	1.925	2.902	2.7	18.7	1 22	7 40.33	+25 19.4	1.463	2.439	3.8	21.8
2 1	7 30.91	+23 10.4	1.966	2.909	6.8	19.0	2 1	7 29.70	+25 43.0	1.519	2.462	8.4	22.1
2 11	7 22.63	+23 29.1	2.034	2.915	10.5	19.2	2 11	7 21.53	+25 55.2	1.600	2.485	12.6	22.4
2 21	7 16.76	+23 40.7	2.127	2.920	13.6	19.4	2 21	7 16.48	+25 57.6	1.704	2.507	16.0	22.7
<b>170227</b>	2003 <i>QL</i> <sub>18</sub>		1 15.9 81°57		0°7/16.2 18		<b>283943</b>	2004 <i>PL</i> <sub>61</sub>		1 15.9 102°80		3°6/17.4 18	
12 13	8 17.12	+17 48.2	1.576	2.399	16.0	20.5	12 13	8 15.50	+10 44.2	1.570	2.379	16.7	21.0
12 23	8 10.96	+18 5.8	1.521	2.421	11.9	20.3	12 23	8 9.88	+10 48.9	1.505	2.391	12.9	20.7
1 2	8 2.15	+18 32.2	1.489	2.443	7.2	20.0	1 2	8 1.61	+11 9.7	1.461	2.404	8.6	20.5
1 12	7 51.69	+19 3.7	1.483	2.464	2.3	19.8	1 12	7 51.61	+11 44.9	1.444	2.416	4.6	20.3
1 22	7 40.88	+19 35.7	1.506	2.485	3.0	19.9	1 22	7 41.12	+12 30.6	1.454	2.428	4.3	20.3
2 1	7 31.11	+20 4.6	1.557	2.506	7.7	20.2	2 1	7 31.49	+13 22.1	1.492	2.439	8.1	20.6
2 11	7 23.53	+20 28.2	1.634	2.526	11.9	20.5	2 11	7 23.91	+14 14.4	1.556	2.450	12.2	20.8
2 21	7 18.80	+20 45.6	1.734	2.546	15.4	20.8	2 21	7 19.11	+15 3.7	1.642	2.461	15.8	21.1
<b>255844</b>	2006 <i>SH</i> <sub>117</sub>		1 15.9 32°46		8°9/19.6 18		<b>414252</b>	2008 <i>GN</i> <sub>37</sub>		1 15.9 91°68		6°2/12.9 18	
12 13	8 11.18	- 0 36.4	1.614	2.386	17.9	20.4	12 13	8 17.01	+34 36.6	1.839	2.666	13.9	20.5
12 23	8 6.63	- 1 20.3	1.544	2.390	15.0	20.2	12 23	8 11.29	+35 54.7	1.772	2.667	10.8	20.3
1 2	7 59.63	- 1 40.5	1.494	2.395	12.0	20.0	1 2	8 2.63	+37 8.4	1.729	2.668	7.8	20.2
1 12	7 51.01	- 1 33.8	1.468	2.400	9.6	19.9	1 12	7 51.95	+38 9.1	1.713	2.669	6.2	20.1
1 22	7 41.85	- 1 0.6	1.466	2.405	8.9	19.8	1 22	7 40.55	+38 50.0	1.725	2.670	7.3	20.1
2 1	7 33.38	- 0 4.3	1.490	2.411	10.5	19.9	2 1	7 29.98	+39 7.9	1.764	2.671	10.2	20.3
2 11	7 26.73	+ 1 8.3	1.538	2.417	13.3	20.1	2 11	7 21.60	+39 4.1	1.827	2.672	13.2	20.5
2 21	7 22.63	+ 2 29.5	1.608	2.424	16.3	20.3	2 21	7 16.25	+38 42.7	1.912	2.673	16.0	20.7
<b>502487</b>	2015 <i>BJ</i> <sub>356</sub>		1 15.9 258°13		3°1/17.7 18		<b>73540</b>	2003 <i>OZ</i> <sub>20</sub>		1 15.9 153°49		0°1/15.9 18	
12 13	8 9.38	+ 9 11.7	2.389	3.179	12.2	21.1	12 13	8 16.83	+18 51.4	2.078	2.888	13.1	20.8
12 23	8 4.73	+ 9 27.7	2.298	3.173	9.6	20.9	12 23	8 10.41	+19 18.8	2.003	2.897	9.8	20.6
1 2	7 58.28	+ 9 56.6	2.230	3.166	6.5	20.7	1 2	8 1.76	+19 52.8	1.954	2.906	5.9	20.3
1 12	7 50.61	+10 37.1	2.191	3.159	3.8	20.6	1 12	7 51.64	+20 29.9	1.934	2.915	1.7	20.1
1 22	7 42.46	+11 26.8	2.181	3.152	3.5	20.5	1 22	7 41.06	+21 6.1	1.944	2.922	2.6	20.1
2 1	7 34.70	+12 22.4	2.201	3.145	6.2	20.7	2 1	7 31.15	+21 38.2	1.984	2.929	6.7	20.4
2 11	7 28.14	+13 20.1	2.249	3.138	9.3	20.9	2 11	7 22.92	+22 4.4	2.053	2.935	10.3	20.7
2 21	7 23.39	+14 16.6	2.323	3.130	12.1	21.0	2 21	7 17.04	+22 23.9	2.145	2.940	13.5	20.9
<b>253120</b>	2002 <i>VT</i> <sub>1</sub>		1 15.9 142°43		0°3/16.0 18		<b>483535</b>	2003 <i>UM</i> <sub>86</sub>		1 15.9 63°50		0°7/16.2 17	
12 13	8 15.37	+18 49.9	2.058	2.871	13.1	21.8	12 13	8 21.23	+17 2.2	1.097	1.935	20.4	20.8
12 23	8 9.32	+19 10.2	1.985	2.881	9.8	21.6	12 23	8 14.63	+17 35.3	1.061	1.968	15.1	20.6
1 2	8 1.07	+19 36.8	1.937	2.890	5.9	21.4	1 2	8 4.54	+18 21.7	1.045	2.002	9.1	20.4
1 12	7 51.39	+20 6.6	1.917	2.898	1.7	21.1	1 12	7 52.40	+19 14.4	1.054	2.035	2.8	20.1
1 22	7 41.29	+20 36.0	1.928	2.906	2.6	21.2	1 22	7 40.09	+20 5.9	1.089	2.068	3.7	20.3
2 1	7 31.86	+21 2.3	1.968	2.913	6.6	21.5	2 1	7 29.45	+20 50.6	1.149	2.101	9.4	20.7
2 11	7 24.10	+21 23.5	2.036	2.920	10.3	21.7	2 11	7 21.91	+21 25.5	1.233	2.133	14.4	21.1
2 21	7 18.65	+21 39.1	2.128	2.927	13.4	21.9	2 21	7 18.05	+21 50.2	1.338	2.165	18.3	21.5
<b>401043</b>	2011 <i>SZ</i> <sub>260</sub>		1 15.9 199°12		3°0/14.8 18		<b>423089</b>	2003 <i>YV</i> <sub>88</sub>		1 15.9 10°99		2°8/14.5 15	
12 13	8 17.36	+26 18.8	1.658	2.489	14.9	21.2	12 13	8 8.99	+22 58.5	1.434	2.284	15.8	20.3
12 23	8 11.54	+27 4.8	1.584	2.488	11.2	21.0	12 23	8 5.56	+24 20.9	1.374	2.289	11.7	20.1
1 2	8 2.76	+27 53.1	1.532	2.487	6.9	20.7	1 2	7 59.25	+25 51.4	1.336	2.295	7.1	19.9
1 12	7 51.94	+28 37.1	1.508	2.485	3.3	20.5	1 12	7 50.99	+27 21.7	1.324	2.303	3.1	19.6
1 22	7 40.41	+29 10.7	1.512	2.484	4.7	20.6	1 22	7 42.08	+28 43.0	1.339	2.312	4.8	19.8
2 1	7 29.71	+29 30.1	1.544	2.481	8.9	20.8	2 1	7 34.00	+29 48.5	1.381	2.322	9.3	20.0
2 11	7 21.20	+29 35.0	1.602	2.479	13.0	21.1	2 11	7 28.11	+30 35.5	1.446	2.334	13.4	20.3
2 21	7 15.75	+29 27.5	1.681	2.477	16.5	21.3	2 21	7 25.22	+31 4.3	1.532	2.347	17.0	20.6
<b>281132</b>	2007 <i>CL</i> <sub>44</sub>		1 15.9 41°51		3°1/17.0 17		<b>522053</b>	2015 <i>XB</i> <sub>415</sub>		1 15.9 292°89		3°0/16.6 18	
12 13	8 14.09	+12 42.4											

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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>23136</b>	2000 <i>AD</i> <sub>148</sub>		1 15.9 190°99	0°6/16.3	18		<b>499396</b>	2010 <i>BK</i> <sub>26</sub>		1 15.9 316°78	6°4/20.3	17	
12 13	8 11.49	+16 2.1	2.463	3.268	11.5	18.9	12 13	8 9.56	- 1 44.6	2.117	2.865	14.9	20.9
12 23	8 6.29	+16 46.6	2.377	3.267	8.6	18.7	12 23	8 5.14	- 1 11.9	2.020	2.855	12.4	20.7
1 2	7 59.24	+17 40.0	2.316	3.266	5.3	18.5	1 2	7 58.70	- 0 14.8	1.944	2.844	9.7	20.5
1 12	7 50.94	+18 39.1	2.284	3.264	1.7	18.3	1 12	7 50.84	+ 1 7.1	1.895	2.834	7.2	20.4
1 22	7 42.15	+19 40.2	2.284	3.262	2.2	18.3	1 22	7 42.39	+ 2 50.8	1.874	2.824	6.4	20.3
2 1	7 33.77	+20 39.2	2.315	3.260	5.8	18.5	2 1	7 34.29	+ 4 50.8	1.883	2.814	8.0	20.4
2 11	7 26.64	+21 33.1	2.374	3.258	9.1	18.8	2 11	7 27.50	+ 6 59.0	1.920	2.805	10.8	20.5
2 21	7 21.37	+22 20.2	2.459	3.255	11.9	18.9	2 21	7 22.73	+ 9 7.9	1.984	2.796	13.7	20.7
<b>485070</b>	2010 <i>EM</i> <sub>40</sub>		1 15.9 329°02	5°2/17.6	17		<b>101008</b>	1998 <i>QO</i> <sub>48</sub>		1 15.9 117°19	2°7/16.9	18	
12 13	8 12.05	+ 9 32.6	1.279	2.104	18.9	21.3	12 13	8 17.30	+13 5.8	1.587	2.398	16.4	20.4
12 23	8 8.05	+ 9 14.0	1.202	2.095	14.9	21.0	12 23	8 11.20	+13 13.8	1.522	2.413	12.5	20.2
1 2	8 0.92	+ 9 14.8	1.144	2.087	10.4	20.8	1 2	8 2.42	+13 35.5	1.480	2.426	8.1	19.9
1 12	7 51.52	+ 9 35.8	1.110	2.079	6.2	20.5	1 12	7 51.89	+14 8.2	1.464	2.439	3.7	19.7
1 22	7 41.23	+10 14.5	1.100	2.072	5.8	20.5	1 22	7 40.88	+14 48.2	1.476	2.452	3.7	19.7
2 1	7 31.68	+11 6.1	1.116	2.066	9.9	20.7	2 1	7 30.77	+15 30.9	1.517	2.464	8.0	20.0
2 11	7 24.42	+12 4.2	1.155	2.060	14.7	20.9	2 11	7 22.77	+16 12.5	1.583	2.476	12.2	20.3
2 21	7 20.41	+13 2.7	1.214	2.055	19.0	21.2	2 21	7 17.61	+16 50.1	1.672	2.487	15.8	20.6
<b>110833</b>	2001 <i>UB</i> <sub>59</sub>		1 15.9 223°39	2°3/16.8	18		<b>309231</b>	2007 <i>QT</i> <sub>9</sub>		1 15.9 84°08	0°6/16.1	17	
12 13	8 13.25	+14 8.8	1.890	2.701	14.2	20.1	12 13	8 17.52	+18 21.8	1.576	2.399	15.9	20.9
12 23	8 7.99	+14 5.4	1.809	2.699	10.8	19.9	12 23	8 11.32	+18 37.9	1.520	2.420	11.9	20.6
1 2	8 0.43	+14 12.3	1.751	2.697	7.0	19.7	1 2	8 2.43	+19 2.3	1.487	2.441	7.2	20.4
1 12	7 51.30	+14 27.9	1.720	2.695	3.2	19.4	1 12	7 51.87	+19 31.0	1.480	2.461	2.2	20.2
1 22	7 41.64	+14 49.9	1.717	2.693	3.3	19.5	1 22	7 40.96	+19 59.8	1.502	2.481	3.0	20.3
2 1	7 32.58	+15 15.4	1.744	2.691	7.2	19.7	2 1	7 31.09	+20 25.1	1.552	2.501	7.8	20.6
2 11	7 25.18	+15 41.6	1.797	2.689	11.0	19.9	2 11	7 23.42	+20 45.0	1.629	2.520	12.0	20.9
2 21	7 20.17	+16 6.2	1.874	2.687	14.4	20.1	2 21	7 18.62	+20 58.8	1.727	2.539	15.5	21.2
<b>23708</b>	1997 <i>TR</i> <sub>18</sub>		1 15.9 348°20	4°9/18.1	18		<b>294369</b>	2007 <i>VF</i> <sub>117</sub>		1 15.9 120°39	2°0/16.8	18	
12 13	8 10.04	+ 6 37.8	2.065	2.852	14.0	17.7	12 13	8 11.80	+14 45.7	2.511	3.311	11.4	20.7
12 23	8 5.40	+ 6 19.6	1.982	2.851	11.2	17.6	12 23	8 6.33	+14 28.4	2.432	3.317	8.7	20.5
1 2	7 58.78	+ 6 16.1	1.923	2.849	8.1	17.4	1 2	7 59.17	+14 17.6	2.378	3.322	5.6	20.3
1 12	7 50.82	+ 6 27.6	1.890	2.848	5.5	17.2	1 12	7 50.92	+14 12.6	2.353	3.328	2.7	20.2
1 22	7 42.40	+ 6 52.9	1.885	2.847	5.1	17.2	1 22	7 42.37	+14 12.1	2.358	3.333	2.8	20.2
2 1	7 34.48	+ 7 29.4	1.909	2.846	7.4	17.3	2 1	7 34.33	+14 15.0	2.394	3.339	5.7	20.4
2 11	7 27.98	+ 8 13.3	1.959	2.846	10.5	17.5	2 11	7 27.55	+14 19.8	2.458	3.344	8.7	20.6
2 21	7 23.54	+ 9 0.5	2.033	2.845	13.5	17.7	2 21	7 22.58	+14 25.2	2.548	3.349	11.4	20.8
<b>460301</b>	2014 <i>QM</i> <sub>371</sub>		1 15.9 87°82	0°4/15.8	18		<b>209972</b>	2006 <i>HM</i> <sub>25</sub>		1 15.9 145°21	0°3/16.1	18	
12 13	8 15.08	+20 13.0	1.735	2.560	14.6	21.6	12 13	8 16.35	+18 15.5	2.049	2.859	13.3	21.5
12 23	8 9.48	+20 41.0	1.669	2.571	10.9	21.3	12 23	8 10.08	+18 41.7	1.976	2.870	9.9	21.3
1 2	8 1.35	+21 15.7	1.626	2.582	6.5	21.1	1 2	8 1.59	+19 15.1	1.928	2.880	6.0	21.1
1 12	7 51.57	+21 52.7	1.611	2.592	1.8	20.8	1 12	7 51.64	+19 52.1	1.909	2.890	1.8	20.8
1 22	7 41.32	+22 27.5	1.625	2.603	3.0	20.9	1 22	7 41.26	+20 28.9	1.921	2.899	2.6	20.9
2 1	7 31.90	+22 56.5	1.667	2.614	7.5	21.2	2 1	7 31.55	+21 2.3	1.962	2.907	6.7	21.2
2 11	7 24.44	+23 17.9	1.736	2.624	11.5	21.5	2 11	7 23.52	+21 30.2	2.031	2.915	10.4	21.4
2 21	7 19.65	+23 31.4	1.827	2.635	14.9	21.7	2 21	7 17.84	+21 51.7	2.125	2.922	13.5	21.6
<b>93249</b>	2000 <i>SL</i> <sub>157</sub>		1 15.9 252°88	4°7/13.9	18		<b>122185</b>	2000 <i>KF</i> <sub>58</sub>		1 15.9 199°08	0°4/15.8	18	
12 13	8 17.58	+33 7.2	2.062	2.882	12.8	20.0	12 13	8 16.40	+19 3.4	1.705	2.527	15.0	20.1
12 23	8 11.45	+33 50.0	1.976	2.870	9.9	19.8	12 23	8 10.73	+19 48.4	1.625	2.525	11.2	19.9
1 2	8 2.64	+34 28.9	1.915	2.858	6.8	19.6	1 2	8 2.29	+20 43.3	1.568	2.522	6.8	19.6
1 12	7 51.98	+34 57.7	1.882	2.846	4.8	19.5	1 12	7 51.92	+21 43.0	1.538	2.519	1.9	19.3
1 22	7 40.63	+35 11.2	1.877	2.834	5.8	19.5	1 22	7 40.79	+22 41.4	1.538	2.516	3.2	19.4
2 1	7 29.94	+35 7.2	1.902	2.821	8.8	19.6	2 1	7 30.31	+23 33.2	1.566	2.512	8.0	19.6
2 11	7 21.17	+34 46.8	1.952	2.808	12.0	19.8	2 11	7 21.80	+24 15.3	1.621	2.508	12.3	19.9
2 21	7 15.13	+34 13.4	2.024	2.794	15.0	20.0	2 21	7 16.12	+24 46.8	1.698	2.503	16.0	20.1
<b>169258</b>	2001 <i>SH</i> <sub>157</sub>		1 15.9 97°82	0°4/16.1	18		<b>260688</b>	2005 <i>JE</i> <sub>91</sub>		1 15.9 148°94	6°0/18.2	18	
12 13	8 12.69	+19 24.8	2.489	3.298	11.2	20.4	12 13	8 14.62	+ 4 44.3	2.047	2.818	14.6	21.3
12 23	8 6.96	+19 28.7	2.421	3.315	8.3	20.2	12 23	8 8.72	+ 4 1.6	1.970	2.825	11.8	21.1
1 2	7 59.50	+19 36.7	2.380	3.332	5.0	20.0	1 2	8 0.74	+ 3 33.7	1.917	2.832	8.9	21.0
1 12	7 51.00	+19 46.7	2.367	3.348	1.5	19.8	1 12	7 51.41	+ 3 22.2	1.890	2.838	6.5	20.8
1 22	7 42.24	+19 56.7	2.385	3.364	2.1	19.9	1 22	7 41.64	+ 3 27.0	1.892	2.843	6.2	20.8
2 1	7 34.07	+20 5.1	2.434	3.380	5.5	20.1	2 1	7 32.48	+ 3 46.2	1.922	2.849	8.2	21.0
2 11	7 27.27	+20 10.8	2.511	3.395	8.6	20.3	2 11	7 24.87	+ 4 16.4	1.979	2.853	11.0	21.1
2 21	7 22.34	+20 13.4	2.613	3.410	11.3	20.5	2 21	7 19.44	+ 4 53.3	2.060	2.858	13.8	21.3
<b>500563</b>	2012 <i>UN</i> <sub>58</sub>		1 15.9 124°53	1°7/16.5	17		<b>457021</b>	2008 <i>CL</i> <sub>134</sub>		1 15.9 193°79	2°3/15.3	18	
12 13	8 19.07	+16 10.4	1.564	2.381	16.4	21.9	12 13	8 19.70	+27 51.6	2.003	2.820	13.2	21.1
12 23	8 12.56	+16 11.1	1.499	2.394	12.4	21.7	12 23	8 12.76	+27 54.2	1.922	2.819	9.9	20.9
1 2	8 3.24	+16 21.8	1.457	2.407	7.7	21.5	1 2	8 3.28	+27 54.5	1.866	2.818	6.2	20.7
1 12	7 52.12	+16 39.9	1.441	2.419	2.9	21.2	1 12	7 52.15	+27 48.5	1.838	2.816	2.7	20.5
1 22	7 40.52	+17 1.9	1.453	2.431	3.4	21.3	1 22	7 40.55	+27 33.4	1.841	2.813	3.7	20.5
2 1	7 29.90	+17 24.3	1.494	2.442	8.0	21.6	2 1	7 29.75	+27 8.3	1.873	2.811	7.5	20.7
2 11	7 21.51	+17 44.6	1.561	2.453	12.4	21.9	2 11	7 20.92	+26 34.6	1.932	2.808	11.2	21.0
2 21	7 16.08	+18 1.6	1.650	2.463	16.1	22.1	2 21	7 14.75	+25 55.0	2.015	2.804	14.4	21.2
<b>178109</b>	2006 <i>SN</i> <sub>313</sub>		1 15.9 137°71	2°7/14.8	18		<b>11093</b>	1994 <i>HD</i>		1 15.9 336°03	19°2/24.4	18	
12 13	8 16.88	+26 36.5											

EPHEMERIDES

1 15.9

1 15.9

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>271717</b>	2004 <i>RY</i> <sub>215</sub>		1 15.9 182°26	3°4/14.5	18		<b>466489</b>	2013 <i>WQ</i> <sub>6</sub>		1 15.9 79°14	4°9/13.3	18	
12 13	8 18.88	+32 37.9	2.662	3.468	10.7	20.7	12 13	8 14.61	+33 34.0	2.204	3.026	12.0	20.9
12 23	8 11.68	+32 58.6	2.581	3.469	8.1	20.5	12 23	8 9.05	+34 37.7	2.135	3.029	9.3	20.8
1 2	8 2.44	+33 14.7	2.527	3.469	5.4	20.4	1 2	8 1.12	+35 37.7	2.092	3.032	6.5	20.6
1 12	7 51.90	+33 22.2	2.502	3.469	3.5	20.2	1 12	7 51.59	+36 27.7	2.076	3.036	4.9	20.5
1 22	7 40.99	+33 18.1	2.509	3.468	4.3	20.3	1 22	7 41.54	+37 2.6	2.090	3.039	5.9	20.6
2 1	7 30.73	+33 1.7	2.546	3.466	6.8	20.4	2 1	7 32.15	+37 19.9	2.132	3.042	8.5	20.7
2 11	7 22.03	+32 34.1	2.612	3.464	9.5	20.6	2 11	7 24.51	+37 20.1	2.199	3.046	11.2	20.9
2 21	7 15.49	+31 57.8	2.702	3.461	11.9	20.8	2 21	7 19.32	+37 6.0	2.289	3.049	13.7	21.1
<b>347123</b>	2010 <i>JF</i> <sub>155</sub>		1 15.9 187°03	3°5/13.9	18		<b>460188</b>	2014 <i>QK</i> <sub>121</sub>		1 15.9 67°83	0°0/15.9	18	
12 13	8 13.07	+31 4.4	2.596	3.414	10.6	21.1	12 13	8 14.98	+19 18.5	1.617	2.445	15.4	21.5
12 23	8 7.54	+31 51.5	2.519	3.414	8.0	20.9	12 23	8 9.54	+19 46.1	1.556	2.459	11.4	21.3
1 2	8 0.04	+32 36.5	2.468	3.413	5.3	20.8	1 2	8 1.46	+20 21.7	1.517	2.473	6.9	21.1
1 12	7 51.24	+33 15.0	2.445	3.413	3.5	20.6	1 12	7 51.69	+21 0.9	1.506	2.487	2.0	20.8
1 22	7 41.99	+33 43.0	2.453	3.412	4.4	20.7	1 22	7 41.46	+21 38.7	1.522	2.501	3.0	20.9
2 1	7 33.25	+33 58.5	2.491	3.411	6.9	20.9	2 1	7 32.13	+22 11.3	1.567	2.515	7.7	21.2
2 11	7 25.92	+34 1.3	2.556	3.410	9.6	21.0	2 11	7 24.88	+22 36.4	1.637	2.529	11.9	21.5
2 21	7 20.60	+33 53.2	2.644	3.408	12.0	21.2	2 21	7 20.41	+22 53.6	1.730	2.543	15.4	21.8
<b>235621</b>	Kratochvíle		1 15.9 141°08	3°1/14.9	18		<b>3988</b>	Huma		1 15.9 142°89	9°5/18.4	17	
12 13	8 20.53	+27 54.4	1.696	2.521	14.9	21.2	12 13	8 31.59	+3 4.2	1.135	1.915	23.5	20.6
12 23	8 13.74	+28 25.5	1.628	2.529	11.2	21.0	12 23	8 22.55	+2 0.5	1.078	1.937	19.1	20.4
1 2	8 4.03	+28 55.8	1.584	2.537	7.0	20.7	1 2	8 9.60	+1 23.2	1.040	1.957	14.3	20.2
1 12	7 52.41	+29 19.1	1.568	2.544	3.5	20.5	1 12	7 54.06	+1 16.7	1.026	1.974	10.4	20.0
1 22	7 40.26	+29 30.4	1.580	2.551	4.7	20.6	1 22	7 37.90	+1 40.8	1.037	1.990	9.8	20.0
2 1	7 29.12	+29 27.8	1.621	2.557	8.7	20.9	2 1	7 23.29	+2 30.4	1.074	2.003	12.9	20.2
2 11	7 20.30	+29 12.3	1.688	2.563	12.6	21.1	2 11	7 11.95	+3 36.2	1.135	2.013	17.1	20.5
2 21	7 14.55	+28 46.9	1.777	2.568	15.9	21.4	2 21	7 4.77	+4 49.0	1.216	2.022	21.1	20.8
<b>89810</b>	2002 <i>AF</i> <sub>170</sub>		1 15.9 75°33	1°9/15.3	17		<b>245837</b>	2006 <i>KT</i> <sub>23</sub>		1 15.9 286°95	1°1/15.5	18	
12 13	8 20.61	+23 55.4	1.426	2.259	16.8	20.1	12 13	8 14.99	+21 26.6	1.543	2.377	15.7	20.8
12 23	8 13.83	+24 28.4	1.380	2.285	12.4	19.9	12 23	8 10.16	+22 0.9	1.452	2.359	11.8	20.5
1 2	8 4.02	+25 4.5	1.356	2.312	7.4	19.7	1 2	8 2.24	+22 43.5	1.384	2.341	7.2	20.2
1 12	7 52.37	+25 37.1	1.358	2.338	2.6	19.5	1 12	7 52.03	+23 29.3	1.342	2.323	2.2	19.8
1 22	7 40.44	+26 0.9	1.388	2.364	4.0	19.6	1 22	7 40.79	+24 12.2	1.327	2.305	3.7	19.9
2 1	7 29.84	+26 13.2	1.446	2.390	8.7	20.0	2 1	7 30.12	+24 47.2	1.340	2.287	8.9	20.1
2 11	7 21.86	+26 14.4	1.529	2.415	13.0	20.3	2 11	7 21.55	+25 11.4	1.378	2.269	13.8	20.4
2 21	7 17.13	+26 6.3	1.633	2.440	16.5	20.6	2 21	7 16.11	+25 24.9	1.436	2.251	17.9	20.6
<b>79070</b>	3282 <i>T</i> <sub>-3</sub>		1 15.9 215°13	0°5/16.2	18		<b>216456</b>	2009 <i>HF</i> <sub>34</sub>		1 15.9 172°30	0°9/16.4	18	
12 13	8 11.82	+18 16.0	2.244	3.058	12.1	20.3	12 13	8 14.37	+16 45.1	1.836	2.653	14.3	20.5
12 23	8 6.69	+18 32.5	2.161	3.056	9.1	20.1	12 23	8 8.96	+17 6.7	1.758	2.655	10.8	20.3
1 2	7 59.56	+18 55.6	2.102	3.055	5.5	19.9	1 2	8 1.11	+17 37.9	1.704	2.656	6.6	20.1
1 12	7 51.12	+19 22.6	2.072	3.053	1.7	19.6	1 12	7 51.61	+18 15.6	1.677	2.656	2.2	19.8
1 22	7 42.21	+19 50.6	2.072	3.051	2.4	19.7	1 22	7 41.54	+18 55.8	1.678	2.657	2.8	19.8
2 1	7 33.80	+20 16.8	2.102	3.049	6.2	19.9	2 1	7 32.12	+19 34.5	1.709	2.657	7.2	20.1
2 11	7 26.81	+20 39.3	2.159	3.046	9.7	20.1	2 11	7 24.46	+20 8.7	1.767	2.658	11.3	20.4
2 21	7 21.87	+20 57.1	2.241	3.044	12.7	20.3	2 21	7 19.31	+20 37.0	1.848	2.657	14.7	20.6
<b>1411</b>	Brauna		1 15.9 89°10	0°7/16.2	18		<b>136471</b>	2005 <i>FJ</i> <sub>7</sub>		1 15.9 250°71	3°7/17.4	18	
12 13	8 13.45	+19 3.2	2.180	2.994	12.4	15.8	12 13	8 13.78	+10 43.0	1.800	2.603	15.1	20.3
12 23	8 7.83	+18 55.6	2.104	3.000	9.3	15.6	12 23	8 8.62	+10 36.7	1.709	2.592	11.8	20.1
1 2	8 0.19	+18 52.7	2.054	3.006	5.7	15.4	1 2	8 0.99	+10 44.3	1.642	2.582	8.0	19.8
1 12	7 51.28	+18 52.6	2.031	3.011	1.8	15.2	1 12	7 51.61	+11 5.2	1.601	2.571	4.5	19.6
1 22	7 42.00	+18 53.4	2.038	3.017	2.4	15.2	1 22	7 41.51	+11 37.2	1.587	2.560	4.3	19.5
2 1	7 33.36	+18 53.7	2.076	3.023	6.2	15.5	2 1	7 31.92	+12 17.0	1.603	2.548	7.9	19.7
2 11	7 26.25	+18 52.3	2.141	3.028	9.7	15.7	2 11	7 24.02	+13 0.5	1.645	2.537	11.9	19.9
2 21	7 21.26	+18 49.0	2.230	3.034	12.7	15.9	2 21	7 18.62	+13 43.9	1.709	2.525	15.5	20.1
<b>260805</b>	2005 <i>ND</i> <sub>123</sub>		1 15.9 236°22	0°5/16.1	18		<b>68377</b>	2001 <i>PD</i> <sub>27</sub>		1 15.9 112°11	2°3/16.9	18	
12 13	8 14.64	+19 8.2	1.880	2.700	13.9	21.0	12 13	8 17.84	+13 29.2	1.663	2.472	15.9	20.4
12 23	8 9.13	+19 13.2	1.797	2.696	10.4	20.8	12 23	8 11.48	+13 42.1	1.601	2.490	12.1	20.2
1 2	8 1.20	+19 24.4	1.739	2.692	6.4	20.5	1 2	8 2.56	+14 7.7	1.562	2.509	7.7	20.0
1 12	7 51.62	+19 39.2	1.708	2.688	2.0	20.2	1 12	7 52.00	+14 43.2	1.550	2.527	3.4	19.8
1 22	7 41.46	+19 54.5	1.705	2.684	2.7	20.3	1 22	7 41.03	+15 24.6	1.567	2.544	3.4	19.8
2 1	7 31.95	+20 7.8	1.732	2.680	7.2	20.6	2 1	7 30.98	+16 7.5	1.613	2.560	7.6	20.1
2 11	7 24.20	+20 17.4	1.786	2.676	11.2	20.8	2 11	7 22.97	+16 48.4	1.685	2.576	11.7	20.4
2 21	7 18.94	+20 22.9	1.862	2.671	14.7	21.0	2 21	7 17.69	+17 24.7	1.781	2.591	15.1	20.7
<b>324543</b>	2006 <i>WW</i> <sub>41</sub>		1 15.9 353°38	1°0/16.3	18		<b>376530</b>	2012 <i>QN</i> <sub>48</sub>		1 15.9 19°23	4°7/18.1	18	
12 13	8 11.16	+17 2.1	1.418	2.256	16.6	20.8	12 13	8 10.20	+7 4.2	2.108	2.896	13.7	20.5
12 23	8 7.18	+17 22.1	1.344	2.251	12.5	20.5	12 23	8 5.50	+6 45.8	2.028	2.897	10.9	20.3
1 2	8 0.31	+17 54.2	1.292	2.248	7.7	20.3	1 2	7 58.87	+6 41.3	1.971	2.898	7.9	20.1
1 12	7 51.41	+18 35.0	1.265	2.245	2.6	19.9	1 12	7 50.95	+6 51.1	1.941	2.900	5.3	20.0
1 22	7 41.78	+19 19.4	1.264	2.243	3.3	20.0	1 22	7 42.60	+7 13.9	1.939	2.902	4.9	20.0
2 1	7 32.93	+20 2.1	1.289	2.242	8.5	20.3	2 1	7 34.76	+7 47.2	1.966	2.904	7.2	20.1
2 11	7 26.23	+20 39.3	1.340	2.242	13.2	20.6	2 11	7 28.33	+8 27.4	2.019	2.906	10.3	20.3
2 21	7 22.54	+21 9.0	1.410	2.242	17.3	20.8	2 21	7 23.90	+9 10.8	2.097	2.908	13.1	20.5
<b>191942</b>	2005 <i>UH</i> <sub>43</sub>		1 15.9 122°71	1°8/15.4	18		<b>225378</b>	1999 <i>SJ</i> <sub>13</sub>		1 15.9 109°24	1°4/16.4	18	
12 13	8 20.89	+24 24.5	1.619	2.444	15.5	20.8	12 13	8 20.58					

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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>92813</b>	2000 QO <sub>170</sub>		1 15.9 346°22	1°9/15.5	18		<b>334180</b>	2001 SV <sub>156</sub>		1 15.9 91°77	6°8/20.2	18	
12 13	8 17.04	+25 8.1	1.322	2.165	17.2	18.0	12 13	8 10.16	- 2 47.4	2.514	3.243	13.3	20.9
12 23	8 11.85	+25 10.9	1.250	2.161	12.9	17.7	12 23	8 5.09	- 3 11.8	2.447	3.262	11.2	20.8
1 2	8 3.25	+25 15.0	1.199	2.157	7.9	17.4	1 2	7 58.45	- 3 18.6	2.403	3.281	9.0	20.7
1 12	7 52.29	+25 15.4	1.174	2.154	2.8	17.1	1 12	7 50.84	- 3 6.4	2.384	3.300	7.3	20.6
1 22	7 40.59	+25 7.9	1.174	2.152	4.2	17.2	1 22	7 42.97	- 2 36.0	2.393	3.318	6.9	20.6
2 1	7 29.96	+24 50.5	1.201	2.150	9.5	17.5	2 1	7 35.60	- 1 49.9	2.430	3.336	7.8	20.7
2 11	7 21.97	+24 24.4	1.252	2.148	14.4	17.8	2 11	7 29.42	- 0 52.3	2.495	3.354	9.6	20.8
2 21	7 17.52	+23 52.0	1.322	2.147	18.6	18.0	2 21	7 24.93	+ 0 12.2	2.584	3.371	11.6	21.0
<b>79870</b>	1998 YO <sub>6</sub>		1 15.9 23°26	3°6/14.3	18		<b>447114</b>	2004 TZ <sub>239</sub>		1 15.9 52°40	5°2/14.2	18	
12 13	8 12.65	+24 7.6	1.311	2.161	17.0	18.2	12 13	8 18.66	+30 14.5	1.332	2.175	17.2	20.5
12 23	8 8.58	+25 37.4	1.254	2.169	12.6	17.9	12 23	8 13.04	+31 14.9	1.279	2.187	13.0	20.3
1 2	8 1.27	+27 14.6	1.220	2.178	7.7	17.7	1 2	8 3.92	+32 13.2	1.248	2.200	8.5	20.1
1 12	7 51.72	+28 49.2	1.210	2.188	3.8	17.5	1 12	7 52.50	+32 59.8	1.241	2.212	5.4	19.9
1 22	7 41.45	+30 11.3	1.227	2.198	5.6	17.6	1 22	7 40.50	+33 27.3	1.261	2.225	6.7	20.0
2 1	7 32.18	+31 13.7	1.271	2.210	10.2	17.9	2 1	7 29.80	+33 32.8	1.307	2.239	10.7	20.3
2 11	7 25.42	+31 54.4	1.337	2.222	14.5	18.2	2 11	7 21.96	+33 18.5	1.376	2.252	14.8	20.6
2 21	7 22.04	+32 15.2	1.423	2.235	18.2	18.5	2 21	7 17.75	+32 49.3	1.464	2.266	18.3	20.8
<b>194015</b>	2001 SK <sub>29</sub>		1 15.9 137°66	1°8/16.7	18		<b>116415</b>	2003 YX <sub>141</sub>		1 15.9 229°36	4°9/13.3	18	
12 13	8 17.81	+14 46.8	1.820	2.627	14.8	21.6	12 13	8 15.06	+34 34.9	2.362	3.180	11.5	20.0
12 23	8 11.37	+14 58.9	1.751	2.640	11.2	21.4	12 23	8 9.35	+35 33.9	2.285	3.176	8.9	19.8
1 2	8 2.48	+15 21.7	1.705	2.653	7.1	21.2	1 2	8 1.33	+36 28.7	2.234	3.171	6.4	19.6
1 12	7 52.00	+15 52.3	1.687	2.665	2.9	21.0	1 12	7 51.74	+37 13.5	2.210	3.167	4.9	19.5
1 22	7 41.07	+16 27.1	1.699	2.676	3.1	21.0	1 22	7 41.57	+37 43.5	2.216	3.163	5.8	19.6
2 1	7 30.93	+17 2.6	1.740	2.687	7.2	21.3	2 1	7 31.99	+37 56.3	2.251	3.158	8.3	19.7
2 11	7 22.68	+17 35.7	1.808	2.696	11.2	21.5	2 11	7 24.04	+37 52.4	2.311	3.153	10.9	19.9
2 21	7 17.00	+18 4.7	1.900	2.705	14.5	21.8	2 21	7 18.46	+37 34.6	2.395	3.148	13.4	20.1
<b>377507</b>	2005 EY <sub>212</sub>		1 15.9 46°05	4°5/18.2	18		<b>473662</b>	2015 XX <sub>344</sub>		1 15.9 159°98	1°4/16.5	18	
12 13	8 10.10	+ 6 53.0	1.989	2.779	14.3	20.7	12 13	8 18.15	+16 32.1	2.082	2.884	13.4	22.1
12 23	8 5.49	+ 6 51.9	1.917	2.788	11.3	20.5	12 23	8 11.40	+16 32.2	2.005	2.893	10.1	21.9
1 2	7 58.88	+ 7 6.6	1.868	2.797	8.1	20.4	1 2	8 2.44	+16 39.5	1.953	2.901	6.3	21.7
1 12	7 50.96	+ 7 36.8	1.845	2.806	5.2	20.2	1 12	7 52.03	+16 51.8	1.929	2.907	2.4	21.4
1 22	7 42.64	+ 8 19.9	1.850	2.816	4.8	20.2	1 22	7 41.18	+17 6.8	1.936	2.913	2.7	21.4
2 1	7 34.91	+ 9 12.3	1.884	2.825	7.2	20.4	2 1	7 31.02	+17 22.0	1.973	2.918	6.6	21.7
2 11	7 28.66	+10 9.4	1.944	2.835	10.4	20.6	2 11	7 22.53	+17 35.8	2.039	2.922	10.3	21.9
2 21	7 24.52	+11 7.0	2.029	2.845	13.3	20.8	2 21	7 16.38	+17 47.2	2.128	2.926	13.5	22.2
<b>61601</b>	2000 QW <sub>91</sub>		1 15.9 104°25	1°2/16.4	18		<b>283379</b>	2000 QY <sub>2</sub>		1 15.9 118°67	1°4/16.6	18	
12 13	8 14.71	+17 48.0	1.915	2.731	13.8	19.8	12 13	8 17.67	+15 10.1	1.883	2.688	14.5	21.7
12 23	8 9.02	+17 41.8	1.841	2.737	10.4	19.6	12 23	8 11.14	+15 32.7	1.819	2.709	10.9	21.5
1 2	8 1.05	+17 42.3	1.791	2.742	6.4	19.3	1 2	8 2.29	+16 5.4	1.780	2.728	6.8	21.3
1 12	7 51.59	+17 47.3	1.768	2.747	2.3	19.1	1 12	7 51.98	+16 45.0	1.769	2.747	2.6	21.1
1 22	7 41.69	+17 54.6	1.774	2.752	2.8	19.1	1 22	7 41.29	+17 27.4	1.788	2.766	2.8	21.2
2 1	7 32.51	+18 2.1	1.810	2.757	6.9	19.4	2 1	7 31.41	+18 8.8	1.836	2.783	6.9	21.5
2 11	7 25.06	+18 8.3	1.872	2.762	10.7	19.6	2 11	7 23.38	+18 46.3	1.913	2.800	10.7	21.7
2 21	7 20.02	+18 12.4	1.958	2.767	14.0	19.9	2 21	7 17.83	+19 18.3	2.013	2.816	13.9	22.0
<b>144342</b>	2004 DW <sub>32</sub>		1 15.9 248°32	1°5/16.6	18		<b>333095</b>	2011 UA <sub>246</sub>		1 15.9 212°99	3°0/14.6	18	
12 13	8 13.17	+15 1.5	1.836	2.651	14.4	20.1	12 13	8 17.09	+25 54.4	1.754	2.582	14.4	20.7
12 23	8 8.14	+15 25.7	1.751	2.645	10.9	19.9	12 23	8 11.37	+26 52.1	1.675	2.578	10.8	20.5
1 2	8 0.69	+16 1.6	1.689	2.639	6.9	19.7	1 2	8 2.80	+27 53.5	1.620	2.574	6.7	20.2
1 12	7 51.54	+16 46.5	1.655	2.633	2.6	19.4	1 12	7 52.21	+28 51.5	1.593	2.570	3.3	20.0
1 22	7 41.73	+17 36.1	1.649	2.627	2.9	19.4	1 22	7 40.86	+29 39.7	1.595	2.565	4.7	20.1
2 1	7 32.46	+18 26.1	1.672	2.621	7.3	19.6	2 1	7 30.18	+30 13.5	1.625	2.560	8.7	20.3
2 11	7 24.89	+19 12.6	1.723	2.615	11.4	19.9	2 11	7 21.55	+30 31.9	1.681	2.555	12.7	20.5
2 21	7 19.80	+19 53.2	1.796	2.609	14.9	20.1	2 21	7 15.84	+30 36.4	1.758	2.549	16.1	20.7
<b>81675</b>	2000 JO		1 15.9 121°54	2°5/17.2	18 R		<b>340657</b>	2006 RW <sub>15</sub>		1 15.9 115°26	0°9/16.4	18	
12 13	8 11.79	+12 24.7	2.573	3.365	11.4	19.8	12 13	8 12.79	+18 11.7	2.592	3.397	11.0	20.8
12 23	8 6.30	+12 15.0	2.499	3.377	8.7	19.6	12 23	8 7.05	+18 1.9	2.517	3.407	8.2	20.6
1 2	7 59.17	+12 13.5	2.450	3.389	5.8	19.5	1 2	7 59.65	+17 56.3	2.468	3.417	5.0	20.5
1 12	7 51.03	+12 19.4	2.429	3.401	3.1	19.3	1 12	7 51.20	+17 53.6	2.448	3.427	1.8	20.2
1 22	7 42.60	+12 31.3	2.439	3.412	3.0	19.3	1 22	7 42.49	+17 52.4	2.459	3.437	2.2	20.3
2 1	7 34.68	+12 47.5	2.480	3.423	5.6	19.5	2 1	7 34.32	+17 51.5	2.501	3.447	5.4	20.5
2 11	7 27.99	+13 5.9	2.549	3.433	8.5	19.7	2 11	7 27.43	+17 49.9	2.572	3.456	8.4	20.7
2 21	7 23.04	+13 24.9	2.643	3.444	11.0	19.9	2 21	7 22.34	+17 47.1	2.668	3.466	11.0	20.9
<b>109586</b>	2001 QG <sub>277</sub>		1 15.9 242°87	3°6/13.9	18		<b>311682</b>	2006 SB <sub>79</sub>		1 15.9 103°17	0°8/16.2	18	
12 13	8 13.16	+29 51.1	2.309	3.132	11.5	19.6	12 13	8 19.71	+20 4.6	1.834	2.647	14.5	20.4
12 23	8 7.87	+30 48.5	2.232	3.131	8.7	19.4	12 23	8 12.67	+19 39.3	1.768	2.663	10.8	20.2
1 2	8 0.40	+31 45.4	2.181	3.129	5.7	19.2	1 2	8 3.20	+19 17.6	1.726	2.678	6.6	20.0
1 12	7 51.44	+32 36.1	2.158	3.127	3.7	19.1	1 12	7 52.24	+18 57.7	1.713	2.693	2.1	19.8
1 22	7 41.95	+33 16.0	2.164	3.125	4.7	19.2	1 22	7 40.98	+18 38.3	1.729	2.707	2.8	19.8
2 1	7 32.99	+33 42.2	2.200	3.123	7.5	19.3	2 1	7 30.67	+18 18.8	1.775	2.721	7.1	20.1
2 11	7 25.57	+33 54.1	2.263	3.121	10.5	19.5	2 11	7 22.38	+17 59.1	1.849	2.735	11.0	20.4
2 21	7 20.39	+33 53.4	2.348	3.119	13.1	19.7	2 21	7 16.73	+17 39.5	1.945	2.749	14.3	20.7
<b>172924</b>	2005 GE <sub>144</sub>		1 15.9 176°88	0°9/15.4	18 R		<b>270675</b>	2002 QB <sub>10</sub>		1 15.9 105°82	5°3/18.7	18	
12 13	8 11.55	+22 21.0	2.765	3.577	10.2	20.5	12 13	8 10.67	+ 4 4.0				

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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>317255</b>	2002 <i>DJ</i> <sub>5</sub>		1 15.9 206°51	4.4/14.8	17		<b>157224</b>	2004 <i>RO</i> <sub>64</sub>		1 15.9 50°81	2.3/16.9	18	
12 13	8 43.00	+27 23.0	1.392	2.192	18.9	23.2	12 13	8 12.33	+13 49.6	1.860	2.673	14.3	20.3
12 23	8 32.16	+28 27.3	1.298	2.185	14.5	22.9	12 23	8 7.36	+13 53.9	1.786	2.677	10.9	20.1
1 2	8 16.26	+29 35.2	1.228	2.174	9.4	22.6	1 2	8 0.13	+14 9.4	1.735	2.682	7.0	19.9
1 12	7 56.32	+30 33.6	1.186	2.161	4.7	22.3	1 12	7 51.42	+14 34.1	1.711	2.687	3.2	19.6
1 22	7 34.50	+31 9.7	1.176	2.143	6.5	22.3	1 22	7 42.23	+15 5.1	1.716	2.692	3.2	19.6
2 1	7 13.66	+31 17.5	1.196	2.122	12.1	22.6	2 1	7 33.69	+15 39.2	1.749	2.698	7.0	19.9
2 11	6 56.42	+31 0.0	1.243	2.098	17.6	22.8	2 11	7 26.82	+16 13.0	1.809	2.703	10.8	20.1
2 21	6 44.22	+30 25.8	1.311	2.069	22.2	23.0	2 21	7 22.30	+16 44.2	1.892	2.709	14.2	20.4
<b>250156</b>	2002 <i>TY</i> <sub>30</sub>		1 15.9 31°70	9°3/19.7	18		<b>467719</b>	2009 <i>CW</i> <sub>48</sub>		1 15.9 345°23	1°5/16.9	17	
12 13	8 11.35	- 0 17.8	1.471	2.251	19.0	19.7	12 13	8 9.98	+13 42.9	2.196	3.003	12.6	21.0
12 23	8 6.98	- 1 9.7	1.409	2.259	15.9	19.5	12 23	8 5.42	+14 17.9	2.112	3.002	9.6	20.8
1 2	8 0.03	- 1 36.4	1.365	2.269	12.7	19.3	1 2	7 58.91	+15 4.2	2.053	3.000	6.1	20.6
1 12	7 51.38	- 1 34.5	1.344	2.279	10.1	19.2	1 12	7 51.07	+15 59.2	2.021	2.999	2.5	20.4
1 22	7 42.21	- 1 4.1	1.348	2.289	9.4	19.2	1 22	7 42.73	+16 59.1	2.020	2.998	2.6	20.4
2 1	7 33.85	- 0 9.2	1.376	2.300	11.1	19.3	2 1	7 34.85	+17 59.6	2.049	2.997	6.2	20.6
2 11	7 27.46	+ 1 3.0	1.428	2.311	13.9	19.5	2 11	7 28.31	+18 57.1	2.105	2.996	9.7	20.8
2 21	7 23.77	+ 2 23.9	1.501	2.324	16.9	19.7	2 21	7 23.77	+19 48.8	2.186	2.995	12.7	21.0
<b>16988</b>	1999 <i>BK</i> <sub>14</sub>		1 15.9 203°41	1°7/15.0	18		<b>396755</b>	2003 <i>UJ</i> <sub>56</sub>		1 15.9 65°26	0°4/16.1	18	
12 13	8 12.11	+25 20.3	2.704	3.519	10.3	19.1	12 13	8 18.49	+17 20.0	1.452	2.277	17.0	20.9
12 23	8 6.73	+25 54.2	2.619	3.516	7.6	19.0	12 23	8 12.13	+18 2.3	1.409	2.310	12.6	20.7
1 2	7 59.56	+26 29.4	2.560	3.513	4.7	18.8	1 2	8 3.00	+18 54.9	1.390	2.344	7.5	20.5
1 12	7 51.21	+27 2.7	2.531	3.509	2.0	18.6	1 12	7 52.22	+19 52.1	1.397	2.377	2.2	20.3
1 22	7 42.44	+27 30.7	2.533	3.505	2.9	18.6	1 22	7 41.20	+20 47.6	1.432	2.411	3.1	20.4
2 1	7 34.09	+27 51.2	2.565	3.501	5.9	18.8	2 1	7 31.39	+21 36.3	1.495	2.444	8.0	20.8
2 11	7 26.98	+28 3.5	2.625	3.496	8.8	19.0	2 11	7 23.97	+22 15.7	1.584	2.476	12.2	21.1
2 21	7 21.69	+28 7.8	2.710	3.491	11.3	19.2	2 21	7 19.54	+22 45.1	1.695	2.508	15.7	21.4
<b>222264</b>	2000 <i>QU</i> <sub>175</sub>		1 15.9 164°04	4°1/18.3	18		<b>212458</b>	2006 <i>QF</i> <sub>24</sub>		1 15.9 105°37	5°0/13.8	18	
12 13	8 12.42	+ 5 46.6	2.576	3.342	12.1	21.7	12 13	8 17.01	+37 4.0	2.486	3.295	11.2	20.0
12 23	8 6.83	+ 5 47.7	2.492	3.348	9.6	21.5	12 23	8 10.54	+37 37.1	2.419	3.303	8.8	19.8
1 2	7 59.56	+ 6 1.9	2.434	3.354	7.0	21.4	1 2	8 1.90	+38 3.0	2.378	3.310	6.4	19.7
1 12	7 51.20	+ 6 28.9	2.403	3.359	4.7	21.2	1 12	7 51.91	+38 16.8	2.365	3.318	5.0	19.6
1 22	7 42.48	+ 7 6.9	2.403	3.363	4.3	21.2	1 22	7 41.59	+38 15.2	2.382	3.325	5.7	19.6
2 1	7 34.18	+ 7 53.2	2.433	3.367	6.3	21.3	2 1	7 32.03	+37 57.5	2.427	3.333	7.8	19.8
2 11	7 27.07	+ 8 44.5	2.492	3.370	8.9	21.5	2 11	7 24.20	+37 25.5	2.500	3.340	10.3	20.0
2 21	7 21.69	+ 9 37.2	2.576	3.373	11.4	21.7	2 21	7 18.68	+36 42.6	2.595	3.347	12.5	20.1
<b>277721</b>	2006 <i>DS</i> <sub>50</sub>		1 15.9 106°39	2°5/17.3	18		<b>221527</b>	2006 <i>SD</i> <sub>411</sub>		1 15.9 157°28	3°3/13.9	18	
12 13	8 12.08	+11 44.3	2.072	2.873	13.5	20.9	12 13	8 15.59	+24 43.3	1.927	2.752	13.4	20.0
12 23	8 6.94	+12 0.8	1.998	2.882	10.3	20.7	12 23	8 10.11	+26 26.7	1.851	2.753	10.0	19.8
1 2	7 59.78	+12 29.4	1.947	2.890	6.8	20.5	1 2	8 2.02	+28 16.5	1.802	2.755	6.2	19.6
1 12	7 51.28	+13 8.4	1.925	2.898	3.4	20.3	1 12	7 52.04	+30 4.5	1.782	2.756	3.4	19.4
1 22	7 42.36	+13 54.5	1.931	2.906	3.2	20.3	1 22	7 41.27	+31 42.0	1.792	2.758	4.9	19.5
2 1	7 34.02	+14 43.9	1.967	2.914	6.5	20.5	2 1	7 31.02	+33 2.8	1.832	2.759	8.5	19.7
2 11	7 27.17	+15 33.0	2.031	2.922	10.0	20.7	2 11	7 22.55	+34 4.2	1.899	2.760	12.1	19.9
2 21	7 22.44	+16 19.0	2.119	2.930	13.1	20.9	2 21	7 16.72	+34 46.7	1.988	2.761	15.1	20.1
<b>203752</b>	2002 <i>RL</i> <sub>96</sub>		1 15.9 44°14	8°1/20.3	18		<b>367555</b>	2009 <i>SQ</i> <sub>34</sub>		1 15.9 104°48	0°7/15.7	18	
12 13	8 9.47	- 2 55.4	2.066	2.810	15.4	19.8	12 13	8 15.21	+22 5.9	2.015	2.835	13.1	21.4
12 23	8 4.98	- 3 27.6	1.994	2.818	13.0	19.6	12 23	8 9.35	+22 21.8	1.946	2.845	9.7	21.3
1 2	7 58.58	- 3 38.8	1.944	2.827	10.6	19.5	1 2	8 1.26	+22 41.3	1.901	2.856	5.8	21.0
1 12	7 50.93	- 3 26.8	1.917	2.835	8.7	19.4	1 12	7 51.74	+23 0.9	1.885	2.866	1.7	20.8
1 22	7 42.90	- 2 52.0	1.917	2.844	8.1	19.3	1 22	7 41.84	+23 17.2	1.898	2.876	2.8	20.9
2 1	7 35.40	- 1 57.5	1.943	2.853	9.2	19.4	2 1	7 32.66	+23 28.1	1.941	2.886	6.8	21.1
2 11	7 29.31	- 0 48.6	1.995	2.862	11.3	19.6	2 11	7 25.22	+23 32.6	2.011	2.896	10.4	21.4
2 21	7 25.21	+ 0 28.7	2.071	2.872	13.6	19.8	2 21	7 20.14	+23 31.2	2.105	2.905	13.5	21.6
<b>273049</b>	2006 <i>DC</i> <sub>145</sub>		1 15.9 314°23	1°2/15.5	18		<b>157561</b>	2005 <i>UK</i> <sub>118</sub>		1 15.9 216°85	2°0/15.3	18	
12 13	8 13.49	+23 9.7	2.026	2.850	12.9	21.0	12 13	8 18.47	+24 0.7	1.550	2.381	15.8	20.9
12 23	8 8.20	+23 34.6	1.948	2.850	9.6	20.8	12 23	8 12.64	+24 33.9	1.472	2.377	11.8	20.6
1 2	8 0.64	+24 3.0	1.894	2.849	5.8	20.5	1 2	8 3.68	+25 11.6	1.418	2.373	7.2	20.4
1 12	7 51.55	+24 31.0	1.868	2.848	1.9	20.3	1 12	7 52.53	+25 47.6	1.389	2.369	2.7	20.1
1 22	7 41.95	+24 54.6	1.871	2.847	3.0	20.3	1 22	7 40.58	+26 16.3	1.389	2.365	4.1	20.2
2 1	7 32.97	+25 11.3	1.903	2.847	7.0	20.6	2 1	7 29.47	+26 33.6	1.417	2.360	8.9	20.4
2 11	7 25.66	+25 19.9	1.963	2.846	10.7	20.8	2 11	7 20.65	+26 38.9	1.469	2.355	13.4	20.7
2 21	7 20.70	+25 20.9	2.045	2.845	13.8	21.0	2 21	7 15.05	+26 33.6	1.543	2.350	17.3	20.9
<b>492715</b>	2014 <i>QS</i> <sub>35</sub>		1 15.9 53°82	3°7/17.3	18		<b>238871</b>	2005 <i>XS</i> <sub>49</sub>		1 15.9 263°93	4°1/14.4	18	
12 13	8 14.22	+11 53.9	1.509	2.326	16.9	21.3	12 13	8 18.09	+28 4.2	1.550	2.385	15.6	20.5
12 23	8 9.10	+11 40.7	1.444	2.335	13.0	21.1	12 23	8 12.62	+29 2.0	1.467	2.373	11.8	20.2
1 2	8 1.31	+11 41.9	1.400	2.344	8.7	20.9	1 2	8 3.84	+30 2.2	1.407	2.360	7.6	20.0
1 12	7 51.75	+11 56.7	1.381	2.354	4.6	20.7	1 12	7 52.63	+30 56.6	1.374	2.348	4.3	19.7
1 22	7 41.69	+12 22.3	1.390	2.364	4.4	20.7	1 22	7 40.39	+31 37.5	1.368	2.335	5.8	19.8
2 1	7 32.50	+12 55.0	1.425	2.374	8.3	20.9	2 1	7 28.87	+32 0.1	1.389	2.322	10.1	20.0
2 11	7 25.39	+13 30.6	1.486	2.384	12.5	21.2	2 11	7 19.71	+32 3.8	1.434	2.309	14.4	20.2
2 21	7 21.09	+14 5.6	1.569	2.394	16.1	21.4	2 21	7 13.94	+31 51.8	1.499	2.295	18.2	20.4
<b>353274</b>	2010 <i>FX</i> <sub>27</sub>		1 15.9 271°71	5°3/13.8	18		<b>104558</b>	2000 <i>GQ</i> <sub>68</sub>		1 15.9 292°73	1°4/16.6	18	
12 13	8 18.58	+30 21.6											

EPHEMERIDES

1 15.9

1 16.0

2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$	2019/20	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\beta$	$V$
<b>440012</b>	2002 <i>LE</i> <sub>27</sub>		1 15.9 145°43	1.4/16.6	18		<b>218011</b>	2001 <i>XS</i> <sub>224</sub>		1 15.9 351°34	0.3/16.1	18	
12 13	8 20.48	+15 38.1	2.242	3.033	12.9	24.2	12 13	8 14.76	+19 55.3	1.803	2.626	14.2	20.1
12 23	8 12.94	+15 51.2	2.170	3.051	9.7	24.0	12 23	8 9.34	+19 55.4	1.725	2.626	10.7	19.9
1 2	8 3.30	+16 11.8	2.123	3.069	6.1	23.8	1 2	8 1.43	+20 1.0	1.671	2.625	6.5	19.6
1 12	7 52.33	+16 37.6	2.107	3.085	2.3	23.6	1 12	7 51.87	+20 9.4	1.644	2.625	2.0	19.3
1 22	7 41.01	+17 5.5	2.122	3.099	2.6	23.7	1 22	7 41.77	+20 17.6	1.646	2.625	2.8	19.4
2 1	7 30.38	+17 32.9	2.169	3.112	6.3	23.9	2 1	7 32.38	+20 23.5	1.676	2.624	7.3	19.6
2 11	7 21.39	+17 57.7	2.245	3.124	9.7	24.2	2 11	7 24.84	+20 25.8	1.733	2.624	11.4	19.9
2 21	7 14.65	+18 19.0	2.347	3.135	12.6	24.4	2 21	7 19.88	+20 24.2	1.812	2.624	14.9	20.1
<b>109495</b>	2001 <i>QX</i> <sub>228</sub>		1 15.9 156°66	3.1/17.5	18		<b>490247</b>	2008 <i>WK</i> <sub>85</sub>		1 15.9 19°43	2.5/15.1	18	
12 13	8 10.87	+10 24.7	2.554	3.342	11.6	20.2	12 13	8 12.37	+22 15.2	1.088	1.947	19.0	20.4
12 23	8 5.73	+10 15.2	2.471	3.345	9.0	20.0	12 23	8 8.81	+23 19.0	1.034	1.954	14.1	20.1
1 2	7 58.94	+10 15.4	2.414	3.348	6.2	19.8	1 2	8 1.64	+24 32.8	1.001	1.962	8.5	19.9
1 12	7 51.08	+10 24.8	2.384	3.351	3.6	19.7	1 12	7 52.00	+25 47.4	0.990	1.971	3.1	19.6
1 22	7 42.87	+10 42.0	2.385	3.354	3.4	19.6	1 22	7 41.61	+26 52.9	1.005	1.981	5.0	19.7
2 1	7 35.10	+11 5.1	2.416	3.357	5.9	19.8	2 1	7 32.43	+27 42.3	1.044	1.993	10.5	20.1
2 11	7 28.51	+11 31.7	2.475	3.359	8.7	20.0	2 11	7 26.12	+28 13.1	1.104	2.005	15.5	20.4
2 21	7 23.64	+11 59.5	2.559	3.361	11.3	20.2	2 21	7 23.54	+28 26.6	1.184	2.019	19.7	20.7
<b>186903</b>	2004 <i>LH</i> <sub>15</sub>		1 15.9 184°85	2.4/14.6	18		<b>138479</b>	2000 <i>KU</i> <sub>2</sub>		1 15.9 227°54	3.0/18.0	18	
12 13	8 15.38	+26 20.9	2.498	3.312	11.1	21.1	12 13	8 9.92	+ 7 34.4	3.174	3.942	10.0	20.8
12 23	8 9.34	+27 12.9	2.416	3.312	8.2	20.9	12 23	8 8.81	+ 7 48.8	3.068	3.928	7.9	20.7
1 2	8 1.25	+28 6.5	2.361	3.311	5.1	20.7	1 2	7 58.41	+ 8 13.7	2.988	3.914	5.6	20.5
1 12	7 51.78	+28 56.8	2.335	3.310	2.5	20.5	1 12	7 50.97	+ 8 48.4	2.937	3.899	3.5	20.3
1 22	7 41.79	+29 39.6	2.340	3.309	3.6	20.6	1 22	7 43.12	+ 9 31.3	2.917	3.883	3.2	20.3
2 1	7 32.27	+30 11.9	2.376	3.306	6.6	20.8	2 1	7 35.51	+10 20.1	2.929	3.867	5.1	20.4
2 11	7 24.16	+30 32.8	2.440	3.304	9.7	21.0	2 11	7 28.77	+11 12.0	2.971	3.851	7.6	20.5
2 21	7 18.12	+30 43.0	2.529	3.300	12.3	21.1	2 21	7 23.40	+12 4.4	3.040	3.834	9.9	20.7
<b>4557</b>	<i>Mika</i>		1 15.9 329°06	0.2/15.9	18		<b>156509</b>	2002 <i>CJ</i> <sub>168</sub>		1 15.9 300°49	5.8/13.9	18	
12 13	8 11.08	+18 38.5	2.089	2.909	12.7	16.7	12 13	8 18.46	+35 39.3	1.888	2.710	13.7	19.6
12 23	8 6.41	+19 24.7	2.006	2.906	9.5	16.5	12 23	8 12.38	+36 21.0	1.813	2.705	10.7	19.4
1 2	7 59.60	+20 19.4	1.949	2.903	5.7	16.2	1 2	8 3.40	+36 56.0	1.761	2.700	7.7	19.2
1 12	7 51.32	+21 18.7	1.919	2.900	1.6	15.9	1 12	7 52.48	+37 17.2	1.736	2.695	5.8	19.1
1 22	7 42.48	+22 17.7	1.919	2.897	2.6	16.0	1 22	7 40.92	+37 19.5	1.739	2.689	6.8	19.2
2 1	7 34.12	+23 12.2	1.949	2.895	6.6	16.3	2 1	7 30.24	+37 1.4	1.770	2.684	9.6	19.3
2 11	7 27.24	+23 59.0	2.006	2.893	10.3	16.5	2 11	7 21.76	+36 25.1	1.825	2.680	12.8	19.5
2 21	7 22.54	+24 36.8	2.086	2.890	13.5	16.7	2 21	7 16.27	+35 35.2	1.902	2.675	15.7	19.7
<b>270636</b>	2002 <i>PA</i> <sub>76</sub>		1 15.9 133°58	0.4/16.2	18		<b>10819</b>	<i>Mahakala</i>		1 15.9 263°36	0.6/15.7	18	
12 13	8 11.95	+17 13.7	2.361	3.170	11.8	20.9	12 13	8 11.72	+21 43.1	2.473	3.288	11.1	18.8
12 23	8 6.73	+17 52.8	2.284	3.177	8.8	20.7	12 23	8 6.64	+22 3.4	2.379	3.276	8.3	18.6
1 2	7 59.63	+18 39.6	2.233	3.184	5.3	20.5	1 2	7 59.65	+22 27.5	2.311	3.265	5.0	18.4
1 12	7 51.30	+19 31.0	2.210	3.191	1.6	20.3	1 12	7 51.36	+22 52.5	2.272	3.253	1.5	18.1
1 22	7 42.54	+20 23.0	2.218	3.197	2.2	20.3	1 22	7 42.57	+23 15.6	2.263	3.240	2.4	18.2
2 1	7 34.28	+21 12.3	2.257	3.203	5.9	20.6	2 1	7 34.18	+23 34.4	2.284	3.228	6.0	18.4
2 11	7 27.35	+21 56.0	2.324	3.209	9.2	20.8	2 11	7 27.07	+23 47.4	2.334	3.216	9.3	18.6
2 21	7 22.36	+22 32.9	2.416	3.214	12.0	21.0	2 21	7 21.88	+23 54.6	2.408	3.203	12.1	18.8
<b>120378</b>	2005 <i>QL</i> <sub>9</sub>		1 15.9 115°81	3.1/14.7	18		<b>203773</b>	<i>Magyarics</i>		1 15.9 171°78	0.4/16.2	18	
12 13	8 18.11	+28 50.4	2.093	2.911	12.7	21.0	12 13	8 12.31	+18 54.2	2.387	3.199	11.6	21.0
12 23	8 11.50	+29 28.5	2.031	2.928	9.5	20.8	12 23	8 6.99	+19 7.5	2.306	3.200	8.6	20.8
1 2	8 2.55	+30 4.9	1.994	2.943	6.0	20.6	1 2	7 59.81	+19 26.1	2.249	3.201	5.3	20.6
1 12	7 52.13	+30 34.5	1.985	2.959	3.3	20.5	1 12	7 51.39	+19 47.6	2.222	3.202	1.6	20.4
1 22	7 41.35	+30 53.1	2.007	2.973	4.3	20.6	1 22	7 42.56	+20 9.6	2.224	3.203	2.2	20.4
2 1	7 31.40	+30 58.8	2.058	2.988	7.5	20.8	2 1	7 34.23	+20 29.5	2.257	3.203	5.8	20.7
2 11	7 23.31	+30 52.4	2.136	3.002	10.7	21.0	2 11	7 27.25	+20 46.0	2.318	3.204	9.2	20.9
2 21	7 17.72	+30 36.0	2.237	3.015	13.5	21.2	2 21	7 22.20	+20 58.2	2.404	3.204	12.0	21.1
<b>466590</b>	2014 <i>UT</i> <sub>117</sub>		1 15.9 17°88	5.7/13.8	18		<b>363195</b>	2001 <i>UJ</i> <sub>55</sub>		1 16.0 127°39	6.6/19.0	18	
12 13	8 13.79	+31 16.7	1.396	2.243	16.3	20.1	12 13	8 13.66	+ 1 27.3	2.148	2.903	14.5	21.5
12 23	8 9.43	+32 25.0	1.341	2.250	12.4	19.8	12 23	8 8.00	+ 0 53.4	2.076	2.916	12.0	21.3
1 2	8 1.79	+33 30.7	1.308	2.258	8.4	19.6	1 2	8 0.40	+ 0 36.6	2.027	2.928	9.3	21.2
1 12	7 51.99	+34 24.5	1.299	2.267	5.8	19.5	1 12	7 51.56	+ 0 38.4	2.004	2.940	7.1	21.1
1 22	7 41.56	+34 59.1	1.317	2.277	7.1	19.6	1 22	7 42.35	+ 0 58.3	2.009	2.951	6.7	21.1
2 1	7 32.24	+35 11.2	1.360	2.289	10.7	19.8	2 1	7 33.72	+ 1 33.8	2.042	2.962	8.2	21.2
2 11	7 25.50	+35 2.1	1.426	2.301	14.5	20.1	2 11	7 26.54	+ 2 20.7	2.102	2.972	10.7	21.4
2 21	7 22.14	+34 36.3	1.512	2.314	17.8	20.3	2 21	7 21.40	+ 3 14.3	2.186	2.982	13.2	21.5
<b>223687</b>	2004 <i>QN</i> <sub>11</sub>		1 15.9 137°32	4.1/14.1	18		<b>77884</b>	2001 <i>SG</i> <sub>126</sub>		1 16.0 146°57	0.3/16.2	18	
12 13	8 17.90	+32 32.0	2.268	3.084	12.0	20.8	12 13	8 8.01	+19 5.0	3.793	4.594	7.9	19.7
12 23	8 11.33	+33 15.1	2.202	3.094	9.1	20.7	12 23	8 3.18	+19 9.2	3.712	4.601	5.8	19.5
1 2	8 2.47	+33 54.1	2.160	3.103	6.2	20.5	1 2	7 57.24	+19 16.2	3.658	4.608	3.5	19.4
1 12	7 52.12	+34 23.6	2.148	3.112	4.2	20.4	1 12	7 50.61	+19 24.8	3.635	4.615	1.1	19.2
1 22	7 41.37	+34 39.6	2.165	3.121	5.1	20.5	1 22	7 43.77	+19 33.8	3.643	4.621	1.5	19.2
2 1	7 31.38	+34 40.4	2.211	3.129	7.8	20.7	2 1	7 37.25	+19 41.9	3.683	4.628	3.9	19.4
2 11	7 23.16	+34 27.1	2.284	3.137	10.6	20.8	2 11	7 31.53	+19 48.5	3.753	4.634	6.1	19.6
2 21	7 17.38	+34 2.4	2.380	3.145	13.2	21.0	2 21	7 27.00	+19 52.9	3.849	4.640	8.1	19.7
<b>405050</b>	2001 <i>SM</i> <sub>198</sub>		1 15.9 103°67	1.0/16.5	18		<b>207503</b>	2006 <i>HY</i> <sub>120</sub>		1 16.0 6°84	5.4/17.9	18	
12 13	8 15.58	+16 34.9	2.013	2.822	13.5								