

EPHEMERIDES

3 3.9

3 4.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
230511	2002 <i>VD</i> ₃₈		3 3.9 139°68	0°6/ 4.5 18			39902	1998 <i>FG</i> ₃₀		3 4.0 239°79	0°6/ 4.5 18		
2 1	11 27.61	+ 2 56.1	1.585	2.423	15.2	21.4	2 1	11 25.11	+ 2 57.6	1.968	2.800	12.9	19.5
2 11	11 21.05	+ 3 18.0	1.519	2.433	11.1	21.1	2 11	11 19.16	+ 3 19.6	1.873	2.784	9.5	19.2
2 21	11 12.11	+ 3 54.3	1.477	2.443	6.4	20.9	2 21	11 11.10	+ 3 54.2	1.803	2.768	5.6	18.9
3 2	11 1.70	+ 4 39.9	1.462	2.452	1.4	20.6	3 2	11 1.58	+ 4 37.8	1.761	2.751	1.3	18.6
3 12	10 51.09	+ 5 27.9	1.476	2.461	3.9	20.8	3 12	10 51.61	+ 5 24.7	1.748	2.733	3.5	18.7
3 22	10 41.52	+ 6 11.2	1.517	2.468	8.7	21.1	3 22	10 42.22	+ 6 9.0	1.764	2.715	7.9	19.0
4 1	10 34.03	+ 6 44.4	1.583	2.476	13.0	21.3	4 1	10 34.40	+ 6 45.5	1.807	2.695	11.9	19.2
4 11	10 29.24	+ 7 4.2	1.670	2.482	16.6	21.6	4 11	10 28.85	+ 7 10.3	1.872	2.676	15.4	19.3
54846	2001 <i>OJ</i> ₅		3 3.9 125°49	5°3/ 9.3 18			312852	2011 <i>UA</i> ₈₅		3 4.0 25°09	2°7/ 5.9 18		
2 1	11 24.49	-11 15.6	2.153	2.917	14.2	19.1	2 1	11 23.02	- 1 5.1	1.344	2.186	17.1	20.6
2 11	11 18.36	-11 32.1	2.079	2.933	11.5	18.9	2 11	11 18.13	- 1 3.9	1.278	2.190	12.9	20.4
2 21	11 10.44	-11 28.3	2.029	2.947	8.6	18.8	2 21	11 10.64	- 0 42.3	1.233	2.194	8.1	20.1
3 2	11 1.42	-11 4.7	2.005	2.961	6.1	18.6	3 2	11 1.50	- 0 3.7	1.213	2.199	3.4	19.9
3 12	10 52.21	-10 24.4	2.009	2.975	5.5	18.6	3 12	10 52.05	+ 0 45.1	1.218	2.204	4.3	19.9
3 22	10 43.73	- 9 32.5	2.042	2.988	7.3	18.8	3 22	10 43.66	+ 1 35.8	1.249	2.210	9.1	20.2
4 1	10 36.78	- 8 35.5	2.102	3.001	10.0	18.9	4 1	10 37.48	+ 2 20.5	1.303	2.216	13.8	20.5
4 11	10 31.89	- 7 39.7	2.186	3.012	12.7	19.1	4 11	10 34.18	+ 2 53.2	1.378	2.222	17.7	20.8
212736	2007 <i>RC</i> ₂₄₄		3 3.9 146°47	1°9/ 2.3 18			178384	1997 <i>SS</i> ₁₈		3 4.0 233°11	0°7/ 3.4 17		
2 1	11 25.76	+ 9 16.6	1.939	2.786	12.4	21.3	2 1	11 24.19	+ 6 30.1	2.016	2.858	12.3	21.3
2 11	11 19.37	+10 5.5	1.876	2.797	8.8	21.1	2 11	11 18.38	+ 6 58.5	1.929	2.847	8.9	21.1
2 21	11 11.03	+11 1.5	1.838	2.808	4.9	20.9	2 21	11 10.59	+ 7 36.2	1.868	2.837	4.9	20.8
3 2	11 1.51	+11 58.2	1.829	2.817	1.9	20.7	3 2	11 1.49	+ 8 18.6	1.835	2.825	0.9	20.5
3 12	10 51.86	+12 48.8	1.850	2.826	4.6	20.9	3 12	10 52.04	+ 9 0.0	1.832	2.814	3.8	20.7
3 22	10 43.07	+13 28.0	1.899	2.834	8.5	21.1	3 22	10 43.23	+ 9 34.9	1.857	2.802	8.0	20.9
4 1	10 36.00	+13 52.6	1.974	2.842	12.0	21.4	4 1	10 35.97	+ 9 59.3	1.908	2.789	11.7	21.1
4 11	10 31.19	+14 1.4	2.071	2.848	15.0	21.6	4 11	10 30.90	+10 10.7	1.982	2.776	15.0	21.3
175789	1999 <i>RG</i> ₅₈		3 4.0 173°86	0°0/ 3.9 18			352657	2008 <i>QS</i> ₃₃		3 4.0 58°65	0°7/ 3.6 18		
2 1	11 23.69	+ 3 24.3	2.054	2.886	12.4	21.6	2 1	11 29.04	+ 7 6.9	1.194	2.056	17.5	20.1
2 11	11 17.88	+ 4 8.1	1.977	2.890	9.0	21.4	2 11	11 22.42	+ 7 16.3	1.149	2.076	12.6	19.8
2 21	11 10.21	+ 5 4.1	1.926	2.893	5.1	21.2	2 21	11 12.95	+ 7 37.0	1.125	2.096	7.0	19.6
3 2	11 1.38	+ 6 7.4	1.904	2.895	0.9	20.8	3 2	11 1.87	+ 8 2.4	1.126	2.116	1.2	19.3
3 12	10 52.32	+ 7 11.6	1.912	2.896	3.4	21.0	3 12	10 50.83	+ 8 24.9	1.153	2.137	5.0	19.6
3 22	10 43.97	+ 8 10.3	1.949	2.897	7.5	21.3	3 22	10 41.34	+ 8 38.3	1.205	2.157	10.4	19.9
4 1	10 37.15	+ 8 58.6	2.013	2.896	11.1	21.5	4 1	10 34.54	+ 8 39.0	1.280	2.178	15.0	20.3
4 11	10 32.42	+ 9 33.3	2.100	2.896	14.2	21.7	4 11	10 30.96	+ 8 25.5	1.373	2.199	18.8	20.6
416923	2005 <i>ST</i> ₅₃		3 4.0 83°39	0°2/ 3.9 18			312076	2007 <i>TH</i> ₄₁		3 4.0 188°99	1°5/ 2.6 18		
2 1	11 24.83	+ 5 40.3	1.762	2.607	13.6	21.1	2 1	11 25.07	+ 8 22.2	2.024	2.869	12.1	21.8
2 11	11 18.84	+ 5 55.2	1.697	2.616	9.8	20.9	2 11	11 18.94	+ 9 10.1	1.948	2.868	8.6	21.6
2 21	11 10.78	+ 6 19.9	1.658	2.626	5.5	20.6	2 21	11 10.87	+10 6.3	1.897	2.867	4.8	21.4
3 2	11 1.47	+ 6 50.0	1.645	2.636	0.9	20.3	3 2	11 1.55	+11 4.9	1.876	2.865	1.6	21.2
3 12	10 52.02	+ 7 19.6	1.661	2.645	3.8	20.6	3 12	10 51.97	+11 59.2	1.884	2.862	4.4	21.3
3 22	10 43.49	+ 7 43.7	1.705	2.655	8.1	20.8	3 22	10 43.12	+12 43.5	1.921	2.858	8.3	21.6
4 1	10 36.79	+ 7 58.3	1.775	2.665	12.0	21.1	4 1	10 35.87	+13 14.1	1.984	2.854	11.9	21.8
4 11	10 32.46	+ 8 1.2	1.866	2.674	15.2	21.3	4 11	10 30.80	+13 29.1	2.069	2.848	14.9	22.0
216268	2006 <i>WY</i> ₇₇		3 4.0 28°74	2°4/ 6.7 17			426773	2013 <i>TW</i> ₁₀₇		3 4.0 136°21	0°8/ 3.2 17		
2 1	11 18.53	- 3 20.8	2.292	3.104	12.0	20.7	2 1	11 21.47	+ 6 33.8	2.121	2.965	11.6	21.7
2 11	11 14.04	- 3 5.5	2.212	3.106	9.2	20.5	2 11	11 16.22	+ 7 15.4	2.051	2.971	8.3	21.5
2 21	11 8.00	- 2 35.4	2.156	3.108	6.0	20.3	2 21	11 9.27	+ 8 5.8	2.007	2.977	4.6	21.3
3 2	11 1.01	- 1 52.9	2.128	3.110	3.0	20.1	3 2	11 1.27	+ 8 59.9	1.992	2.982	1.0	21.0
3 12	10 53.82	- 1 2.4	2.129	3.113	3.1	20.1	3 12	10 53.11	+ 9 51.8	2.006	2.987	3.7	21.2
3 22	10 47.20	- 0 9.0	2.159	3.115	6.2	20.3	3 22	10 45.64	+10 36.2	2.049	2.992	7.4	21.5
4 1	10 41.84	+ 0 42.0	2.215	3.118	9.4	20.5	4 1	10 39.61	+11 9.2	2.118	2.997	10.8	21.7
4 11	10 38.23	+ 1 26.0	2.296	3.121	12.2	20.7	4 11	10 35.54	+11 28.7	2.209	3.001	13.7	21.9
236120	2005 <i>SS</i> ₁₃₇		3 4.0 138°38	0°5/ 4.4 18			212609	2006 <i>SB</i> ₃₂₀		3 4.0 264°61	4°1/ 28.7 17		
2 1	11 25.19	+ 2 6.8	1.577	2.417	15.2	21.1	2 1	11 22.15	+18 10.0	2.302	3.160	10.3	20.6
2 11	11 19.33	+ 2 49.0	1.512	2.427	11.1	20.9	2 11	11 16.67	+18 55.8	2.233	3.157	7.5	20.4
2 21	11 11.16	+ 3 47.7	1.469	2.436	6.4	20.7	2 21	11 9.50	+19 40.8	2.191	3.154	4.9	20.2
3 2	11 1.56	+ 4 56.9	1.454	2.444	1.3	20.3	3 2	11 1.31	+20 19.2	2.178	3.151	4.1	20.2
3 12	10 51.73	+ 6 8.1	1.467	2.452	3.9	20.5	3 12	10 52.96	+20 45.6	2.194	3.148	6.1	20.3
3 22	10 42.90	+ 7 13.3	1.507	2.459	8.8	20.8	3 22	10 45.28	+20 57.0	2.237	3.145	8.9	20.4
4 1	10 36.07	+ 8 5.8	1.573	2.466	13.1	21.1	4 1	10 39.02	+20 51.8	2.306	3.142	11.7	20.6
4 11	10 31.86	+ 8 41.9	1.659	2.472	16.6	21.4	4 11	10 34.68	+20 30.9	2.395	3.139	14.1	20.8
249523	Friedan		3 4.0 164°92	5°2/ 12.2 18			312245	2007 <i>YM</i> ₄₈		3 4.0 102°56	1°1/ 3.1 18		
2 1	11 17.81	-18 8.3	3.066	3.776	11.5	21.3	2 1	11 24.76	+ 6 22.2	1.711	2.559	13.8	21.7
2 11	11 13.24	-17 45.6	2.972	3.780	9.7	21.2	2 11	11 18.78	+ 7 13.0	1.657	2.578	9.8	21.5
2 21	11 7.45	-17 3.2	2.902	3.784	7.7	21.1	2 21	11 10.75	+ 8 14.2	1.627	2.597	5.4	21.3
3 2	11 0.91	-16 1.9	2.857	3.788	6.0	20.9	3 2	11 1.52	+ 9 19.2	1.624	2.615	1.2	21.0
3 12	10 54.23	-14 44.5	2.842	3.791	5.2	20.9	3 12	10 52.23	+10 20.0	1.651	2.632	4.3	21.3
3 22	10 47.99	-13 15.6	2.857	3.794	5.9	20.9	3 22	10 43.93	+11 10.3	1.705	2.649	8.6	21.6
4 1	10 42.74	-11 40.8	2.900	3.796	7.6	21.1	4 1	10 37.51	+11 45.8	1.785	2.666	12.4	21.8
4 11	10 38.88	-10 6.1	2.971	3.798	9.7	21.2	4 11	10 33.49	+12 4.7	1.886	2.682	15.5	22.1
320941	2008 <i>GC</i> ₁₄₃		3 4.0 291°10	1°0/ 3.2 17			500959	2013 <i>QD</i> ₄₂		3 4.0 137°94	0°1/ 4.2 17		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
456681	2007 <i>RO</i> ₁₃₄		3 4.0 146°82	1°3/ 2.7 18			456692	2007 <i>RJ</i> ₂₀₆		3 4.0 93°28	1°1/ 3.1 18		
2 1	11 25.06	+ 7 21.8	2.012	2.854	12.2	22.4	2 1	11 24.91	+ 6 22.4	1.577	2.429	14.5	22.2
2 11	11 18.84	+ 8 15.6	1.947	2.866	8.7	22.2	2 11	11 19.04	+ 7 13.0	1.524	2.447	10.3	22.0
2 21	11 10.75	+ 9 18.2	1.909	2.878	4.8	22.0	2 21	11 10.95	+ 8 14.9	1.495	2.465	5.7	21.8
3 2	11 1.54	+10 23.3	1.899	2.888	1.4	21.8	3 2	11 1.58	+ 9 20.8	1.493	2.483	1.3	21.5
3 12	10 52.18	+11 24.2	1.919	2.898	4.2	22.0	3 12	10 52.14	+10 22.3	1.519	2.500	4.6	21.8
3 22	10 43.65	+12 15.0	1.969	2.907	8.0	22.3	3 22	10 43.78	+11 12.5	1.572	2.517	9.1	22.1
4 1	10 36.73	+12 51.9	2.045	2.915	11.5	22.5	4 1	10 37.43	+11 46.9	1.649	2.533	13.1	22.4
4 11	10 31.98	+13 13.2	2.142	2.922	14.4	22.7	4 11	10 33.63	+12 3.7	1.748	2.550	16.4	22.6
156106	2001 <i>SA</i> ₂₄₄		3 4.0 240°77	3°2/ 1.3 18			437602	2014 <i>BK</i> ₆		3 4.0 65°59	3°1/ 6.9 17		
2 1	11 26.07	+11 52.6	1.723	2.580	13.3	20.7	2 1	11 23.64	- 3 23.8	2.208	3.012	12.7	20.4
2 11	11 20.14	+12 53.6	1.639	2.565	9.5	20.4	2 11	11 17.70	- 3 45.3	2.137	3.025	9.7	20.2
2 21	11 11.77	+14 2.3	1.579	2.549	5.5	20.2	2 21	11 10.08	- 3 53.2	2.091	3.038	6.5	20.0
3 2	11 1.75	+15 10.8	1.548	2.533	3.2	20.0	3 2	11 1.44	- 3 48.7	2.073	3.051	3.6	19.9
3 12	10 51.23	+16 10.3	1.545	2.516	6.2	20.1	3 12	10 52.66	- 3 34.7	2.085	3.065	3.7	19.9
3 22	10 41.46	+16 53.9	1.569	2.498	10.5	20.3	3 22	10 44.59	- 3 15.2	2.125	3.078	6.5	20.1
4 1	10 33.56	+17 17.4	1.618	2.479	14.5	20.5	4 1	10 37.95	- 2 54.5	2.192	3.092	9.6	20.3
4 11	10 28.29	+17 20.1	1.686	2.460	18.0	20.7	4 11	10 33.27	- 2 36.8	2.283	3.105	12.4	20.5
190151	2005 <i>SR</i> ₂₅₇		3 4.0 183°10	0°8/ 4.7 18			415325	2013 <i>HO</i> ₂₁		3 4.0 222°54	1°2/ 2.9 17		
2 1	11 25.86	+ 1 40.8	1.774	2.605	14.1	21.0	2 1	11 23.81	+ 7 2.5	1.963	2.808	12.4	21.7
2 11	11 19.74	+ 2 14.4	1.697	2.607	10.4	20.8	2 11	11 18.18	+ 7 51.0	1.878	2.799	8.9	21.5
2 21	11 11.42	+ 3 3.4	1.643	2.607	6.1	20.5	2 21	11 10.53	+ 8 49.9	1.819	2.789	4.9	21.2
3 2	11 1.67	+ 4 2.9	1.617	2.607	1.5	20.2	3 2	11 1.54	+ 9 53.4	1.789	2.778	1.3	21.0
3 12	10 51.61	+ 5 6.2	1.620	2.605	3.6	20.4	3 12	10 52.20	+10 54.4	1.788	2.767	4.2	21.2
3 22	10 42.36	+ 6 5.8	1.652	2.603	8.2	20.6	3 22	10 43.51	+11 46.6	1.815	2.756	8.4	21.4
4 1	10 34.92	+ 6 55.7	1.710	2.600	12.3	20.9	4 1	10 36.40	+12 25.2	1.868	2.744	12.2	21.6
4 11	10 29.92	+ 7 31.7	1.789	2.597	15.8	21.1	4 11	10 31.51	+12 47.8	1.943	2.731	15.5	21.8
116692	2004 <i>CZ</i> ₈₄		3 4.0 113°01	3°1/29.2 18			134148	2005 <i>AC</i> ₅₆		3 4.0 254°56	0°0/ 3.9 18		
2 1	11 19.07	+13 13.0	2.250	3.109	10.5	19.4	2 1	11 21.17	+ 4 16.7	2.032	2.873	12.2	20.4
2 11	11 14.48	+14 28.9	2.185	3.113	7.4	19.2	2 11	11 16.13	+ 4 44.6	1.956	2.872	8.9	20.1
2 21	11 8.29	+15 48.8	2.148	3.116	4.4	19.0	2 21	11 9.29	+ 5 23.2	1.904	2.871	5.0	19.9
3 2	11 1.12	+17 6.0	2.139	3.120	3.2	18.9	3 2	11 1.32	+ 6 8.4	1.880	2.871	0.9	19.6
3 12	10 53.79	+18 13.8	2.161	3.124	5.4	19.1	3 12	10 53.12	+ 6 54.5	1.886	2.870	3.3	19.8
3 22	10 47.09	+19 7.2	2.210	3.127	8.5	19.3	3 22	10 45.59	+ 7 36.1	1.919	2.869	7.3	20.0
4 1	10 41.72	+19 43.1	2.284	3.130	11.4	19.5	4 1	10 39.54	+ 8 8.7	1.979	2.869	11.0	20.3
4 11	10 38.18	+20 1.0	2.380	3.134	13.9	19.7	4 11	10 35.51	+ 8 29.4	2.061	2.868	14.0	20.5
21710	<i>Nijhawan</i>		3 4.0 103°59	0°8/ 3.2 18			347738	2002 <i>AT</i> ₄₄		3 4.0 189°38	5°5/ 10.4 18		
2 1	11 21.79	+ 6 33.1	1.970	2.817	12.3	19.2	2 1	11 20.60	-13 57.6	2.692	3.433	12.2	20.9
2 11	11 16.55	+ 7 12.5	1.903	2.824	8.8	18.9	2 11	11 15.44	-14 20.5	2.600	3.433	10.2	20.7
2 21	11 9.50	+ 8 1.2	1.861	2.831	4.8	18.7	2 21	11 8.81	-14 26.0	2.532	3.432	8.0	20.6
3 2	11 1.33	+ 8 53.9	1.847	2.837	1.0	18.5	3 2	11 1.24	-14 13.7	2.490	3.431	6.1	20.4
3 12	10 53.00	+ 9 44.2	1.862	2.844	3.8	18.7	3 12	10 53.41	-13 45.3	2.476	3.430	5.5	20.4
3 22	10 45.43	+10 26.7	1.906	2.850	7.8	18.9	3 22	10 46.05	-13 4.4	2.491	3.428	6.6	20.5
4 1	10 39.42	+10 57.2	1.975	2.857	11.3	19.2	4 1	10 39.81	-12 15.7	2.533	3.427	8.7	20.6
4 11	10 35.50	+11 13.8	2.066	2.863	14.3	19.4	4 11	10 35.19	-11 24.7	2.600	3.425	10.9	20.7
427608	2003 <i>SC</i> ₂₈₅		3 4.0 200°60	3°7/ 8.9 17			246933	1999 <i>LN</i> ₅		3 4.0 316°14	13°6/ 16.5 17		
2 1	11 19.21	-10 35.5	2.581	3.348	12.1	21.9	2 1	11 18.55	+30 33.1	1.195	2.080	15.8	19.4
2 11	11 14.47	- 9 59.8	2.485	3.344	9.6	21.7	2 11	11 15.97	+34 5.4	1.137	2.051	14.0	19.2
2 21	11 8.27	- 9 4.6	2.413	3.340	6.9	21.5	2 21	11 10.02	+37 30.8	1.103	2.024	13.9	19.1
3 2	11 1.13	- 7 51.8	2.369	3.335	4.5	21.4	3 2	11 1.53	+40 26.9	1.093	1.997	15.8	19.2
3 12	10 53.76	- 6 25.6	2.355	3.330	3.9	21.3	3 12	10 52.10	+42 35.1	1.103	1.970	19.0	19.3
3 22	10 46.87	- 4 52.0	2.371	3.324	5.9	21.4	3 22	10 43.66	+43 47.2	1.132	1.945	22.4	19.4
4 1	10 41.10	- 3 17.6	2.416	3.318	8.7	21.6	4 1	10 37.97	+44 3.7	1.173	1.920	25.6	19.5
4 11	10 36.96	- 1 48.8	2.486	3.311	11.4	21.8	4 11	10 36.12	+43 32.1	1.225	1.896	28.3	19.7
160443	2005 <i>TP</i> ₃₆		3 4.0 72°61	0°4/ 3.7 18			89167	2001 <i>UF</i> ₅₀		3 4.0 96°89	6°1/ 25.6 18		
2 1	11 22.20	+ 4 54.9	1.705	2.554	13.8	21.1	2 1	11 21.65	+24 55.2	2.342	3.200	10.1	19.2
2 11	11 17.05	+ 5 34.7	1.642	2.563	9.9	20.9	2 11	11 16.29	+26 11.0	2.296	3.210	7.9	19.1
2 21	11 9.84	+ 6 26.7	1.604	2.573	5.5	20.6	2 21	11 9.28	+27 20.8	2.276	3.219	6.3	19.0
3 2	11 1.40	+ 7 24.9	1.592	2.583	0.9	20.3	3 2	11 1.31	+28 17.5	2.285	3.229	6.4	19.0
3 12	10 52.80	+ 8 22.0	1.609	2.593	3.9	20.6	3 12	10 53.25	+28 55.8	2.321	3.238	8.0	19.1
3 22	10 45.09	+ 9 11.4	1.653	2.603	8.4	20.8	3 22	10 45.95	+29 13.2	2.383	3.247	10.2	19.3
4 1	10 39.16	+ 9 48.1	1.723	2.613	12.3	21.1	4 1	10 40.12	+29 9.5	2.468	3.256	12.5	19.5
4 11	10 35.58	+10 9.4	1.813	2.623	15.6	21.3	4 11	10 36.22	+28 46.7	2.573	3.265	14.4	19.6
508601	2017 <i>RQ</i> ₅		3 4.0 174°67	0°2/ 3.8 17			106476	2000 <i>WU</i> ₁₅		3 4.0 211°30	1°8/ 2.4 18		
2 1	11 20.57	+ 4 6.8	2.293	3.128	11.2	22.0	2 1	11 24.92	+ 8 49.0	1.902	2.750	12.6	20.5
2 11	11 15.52	+ 4 53.7	2.216	3.130	8.1	21.8	2 11	11 19.02	+ 9 39.6	1.822	2.744	9.0	20.3
2 21	11 8.87	+ 5 51.2	2.165	3.132	4.5	21.6	2 21	11 11.01	+10 39.1	1.767	2.737	5.0	20.0
3 2	11 1.24	+ 6 54.6	2.142	3.133	0.7	21.3	3 2	11 1.63	+11 41.1	1.741	2.729	1.8	19.8
3 12	10 53.40	+ 7 58.1	2.151	3.134	3.2	21.5	3 12	10 51.92	+12 38.3	1.744	2.721	4.7	20.0
3 22	10 46.16	+ 8 56.3	2.188	3.134	6.8	21.7	3 22	10 42.93	+13 24.4	1.775	2.712	8.9	20.2
4 1	10 40.22	+ 9 44.6	2.252	3.134	10.1	21.9	4 1	10 35.61	+13 55.3	1.832	2.703	12.7	20.4
4 11	10 36.09	+10 20.0	2.340	3.134	13.0	22.1	4 11	10 30.61	+14 9.3	1.911	2.692	15.9	20.6
370961	2005 <i>SA</i> ₉₆		3 4.0 216°37	1°8/ 2.2 17			415921	2001 <i>UK</i> ₁₆₀		3 4.0 131°83	5°7/ 26.7 18		

EPHEMERIDES

3 4.0

3 4.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
217555	2007 <i>HC</i> ₂₈		3 4.0 219°73	1°5/ 2.4 17			455234	2001 <i>SX</i> ₁₃₈		3 4.0 158°27	0°5/ 4.5 18		
2 1	11 21.91	+ 8 52.5	2.312	3.158	10.7	20.9	2 1	11 26.08	+ 2 13.5	1.953	2.781	13.2	22.9
2 11	11 16.54	+ 9 35.9	2.230	3.151	7.7	20.7	2 11	11 19.68	+ 2 49.6	1.881	2.790	9.6	22.7
2 21	11 9.49	+10 26.3	2.173	3.143	4.2	20.5	2 21	11 11.30	+ 3 39.0	1.834	2.798	5.6	22.5
3 2	11 1.37	+11 18.6	2.146	3.135	1.5	20.2	3 2	11 1.72	+ 4 37.0	1.816	2.806	1.2	22.2
3 12	10 52.99	+12 7.3	2.149	3.126	4.0	20.4	3 12	10 51.93	+ 5 37.1	1.828	2.812	3.4	22.4
3 22	10 45.18	+12 47.6	2.181	3.117	7.5	20.6	3 22	10 42.94	+ 6 32.9	1.869	2.818	7.6	22.7
4 1	10 38.70	+13 15.8	2.239	3.108	10.7	20.8	4 1	10 35.63	+ 7 19.2	1.936	2.823	11.3	22.9
4 11	10 34.07	+13 30.4	2.320	3.098	13.5	21.0	4 11	10 30.56	+ 7 52.6	2.027	2.826	14.5	23.1
453080	2007 <i>VA</i> ₅₁		3 4.0 359°11	3°0/ 5.9 18			122280	2000 <i>PQ</i> ₈		3 4.0 263°63	0°8/ 4.7 18		
2 1	11 21.23	- 0 31.9	1.180	2.034	18.2	20.3	2 1	11 23.22	+ 1 13.6	1.668	2.505	14.6	20.4
2 11	11 17.19	- 0 45.3	1.112	2.031	13.8	20.1	2 11	11 18.21	+ 1 52.6	1.572	2.485	10.9	20.1
2 21	11 10.30	- 0 37.6	1.065	2.029	8.7	19.8	2 21	11 10.79	+ 2 50.1	1.500	2.465	6.4	19.8
3 2	11 1.54	- 0 11.6	1.041	2.028	3.8	19.5	3 2	11 1.67	+ 4 1.7	1.454	2.443	1.6	19.5
3 12	10 52.35	+ 0 26.2	1.041	2.028	4.7	19.5	3 12	10 51.95	+ 5 19.7	1.436	2.422	3.9	19.6
3 22	10 44.26	+ 1 7.5	1.065	2.029	9.9	19.8	3 22	10 42.84	+ 6 35.4	1.446	2.400	8.9	19.8
4 1	10 38.55	+ 1 43.8	1.111	2.032	14.9	20.1	4 1	10 35.48	+ 7 40.8	1.481	2.377	13.5	20.0
4 11	10 36.00	+ 2 8.5	1.176	2.035	19.2	20.4	4 11	10 30.71	+ 8 30.2	1.537	2.354	17.5	20.2
5612	<i>Nevskij</i>		3 4.0 56°97	5°3/ 28.9 18			159920	2004 <i>XM</i> ₁₇₂		3 4.0 151°32	0°5/ 4.5 18		
2 1	11 25.46	+17 5.0	1.470	2.341	14.3	16.7	2 1	11 21.80	+ 2 46.3	2.183	3.014	11.8	20.8
2 11	11 19.67	+18 6.3	1.420	2.350	10.3	16.5	2 11	11 16.46	+ 3 15.0	2.108	3.019	8.6	20.6
2 21	11 11.41	+19 7.6	1.394	2.360	6.7	16.3	2 21	11 9.45	+ 3 54.9	2.059	3.024	5.0	20.4
3 2	11 1.69	+19 59.2	1.393	2.370	5.4	16.2	3 2	11 1.40	+ 4 42.2	2.038	3.028	1.1	20.1
3 12	10 51.89	+20 32.9	1.420	2.380	8.0	16.4	3 12	10 53.16	+ 5 31.4	2.047	3.032	3.0	20.3
3 22	10 43.29	+20 44.3	1.471	2.390	11.8	16.6	3 22	10 45.58	+ 6 17.4	2.085	3.036	6.8	20.5
4 1	10 36.92	+20 32.7	1.545	2.401	15.4	16.9	4 1	10 39.39	+ 6 55.7	2.150	3.039	10.2	20.7
4 11	10 33.36	+20 0.1	1.637	2.411	18.4	17.1	4 11	10 35.12	+ 7 23.1	2.238	3.042	13.1	20.9
48843	1998 <i>BN</i> ₄₄		3 4.0 102°18	3°1/ 7.3 18			283457	2001 <i>MQ</i> ₃		3 4.0 194°71	1°3/ 5.4 14 C		
2 1	11 21.34	- 4 50.2	2.329	3.128	12.3	18.3	2 1	11 26.58	- 0 7.8	2.440	3.247	11.5	24.3
2 11	11 16.03	- 4 52.3	2.253	3.137	9.5	18.2	2 11	11 19.83	+ 0 17.3	2.348	3.244	8.6	24.1
2 21	11 9.14	- 4 39.6	2.202	3.147	6.4	18.0	2 21	11 11.34	+ 0 55.0	2.282	3.239	5.2	23.9
3 2	11 1.31	- 4 13.8	2.179	3.156	3.6	17.8	3 2	11 1.74	+ 1 42.1	2.246	3.233	1.8	23.6
3 12	10 53.30	- 3 38.5	2.185	3.165	3.5	17.8	3 12	10 51.83	+ 2 34.2	2.242	3.226	2.9	23.7
3 22	10 45.92	- 2 58.2	2.220	3.174	6.2	18.0	3 22	10 42.49	+ 3 26.1	2.269	3.218	6.4	23.9
4 1	10 39.84	- 2 17.7	2.282	3.183	9.2	18.2	4 1	10 34.47	+ 4 13.0	2.324	3.209	9.8	24.1
4 11	10 35.56	- 1 41.6	2.369	3.192	11.9	18.4	4 11	10 28.34	+ 4 51.2	2.404	3.198	12.7	24.3
459985	2014 <i>OJ</i> ₃₇		3 4.0 143°25	2°1/ 5.8 18			390246	2012 <i>XE</i> ₈₂		3 4.0 172°77	5°5/ 24.7 17		
2 1	11 26.06	- 1 0.5	1.836	2.656	14.2	22.2	2 1	11 21.67	+27 7.4	3.014	3.861	8.4	21.8
2 11	11 19.75	- 0 51.6	1.765	2.666	10.7	22.0	2 11	11 16.09	+28 18.7	2.960	3.864	6.7	21.7
2 21	11 11.36	+ 0 27.0	1.717	2.675	6.6	21.8	2 21	11 9.12	+29 24.0	2.935	3.867	5.6	21.6
3 2	11 1.70	+ 0 10.0	1.697	2.683	2.7	21.6	3 2	11 1.34	+30 17.7	2.938	3.869	5.8	21.6
3 12	10 51.82	+ 0 54.3	1.706	2.691	3.5	21.6	3 12	10 53.43	+30 55.6	2.971	3.871	7.1	21.7
3 22	10 42.80	+ 1 39.8	1.744	2.699	7.6	21.9	3 22	10 46.08	+31 15.6	3.030	3.872	8.9	21.8
4 1	10 35.55	+ 2 20.5	1.808	2.705	11.4	22.1	4 1	10 39.89	+31 17.2	3.113	3.873	10.7	22.0
4 11	10 30.65	+ 2 52.1	1.894	2.711	14.7	22.4	4 11	10 35.31	+31 2.0	3.216	3.873	12.3	22.1
490046	2008 <i>TQ</i> ₆₁		3 4.0 141°15	1°7/ 2.3 16			72332	2001 <i>BC</i> ₆₀		3 4.0 48°12	0°5/ 4.5 18		
2 1	11 22.99	+10 5.9	2.243	3.090	11.0	22.4	2 1	11 22.31	+ 2 11.7	1.329	2.183	16.6	18.9
2 11	11 17.24	+10 40.8	2.175	3.097	7.8	22.2	2 11	11 17.53	+ 2 49.7	1.275	2.197	12.1	18.7
2 21	11 9.83	+11 20.9	2.134	3.103	4.3	22.0	2 21	11 10.29	+ 3 45.8	1.243	2.211	6.9	18.4
3 2	11 1.43	+12 1.2	2.121	3.109	1.7	21.8	3 2	11 1.56	+ 4 53.3	1.235	2.225	1.5	18.1
3 12	10 52.89	+12 36.4	2.139	3.115	4.1	22.0	3 12	10 52.70	+ 6 2.6	1.254	2.240	4.2	18.3
3 22	10 45.05	+13 2.5	2.185	3.121	7.5	22.2	3 22	10 44.99	+ 7 4.8	1.299	2.256	9.3	18.7
4 1	10 38.63	+13 16.8	2.258	3.126	10.7	22.4	4 1	10 39.47	+ 7 53.0	1.367	2.271	13.9	19.0
4 11	10 34.14	+13 18.2	2.353	3.131	13.4	22.6	4 11	10 36.73	+ 8 23.2	1.455	2.287	17.6	19.2
332695	2009 <i>RM</i> ₁		3 4.0 103°80	3°4/ 7.7 18			402856	2007 <i>RM</i> ₈₃		3 4.0 168°68	0°2/ 4.3 18		
2 1	11 22.06	- 6 57.5	2.087	2.881	13.7	20.9	2 1	11 24.52	+ 2 49.8	1.994	2.825	12.8	22.4
2 11	11 16.62	- 6 35.9	2.021	2.901	10.6	20.7	2 11	11 18.57	+ 3 31.8	1.918	2.830	9.3	22.2
2 21	11 9.50	- 5 55.4	1.979	2.921	7.2	20.5	2 21	11 10.70	+ 4 26.8	1.869	2.834	5.3	22.0
3 2	11 1.38	- 4 58.6	1.964	2.940	4.2	20.4	3 2	11 1.64	+ 5 29.8	1.847	2.838	1.0	21.7
3 12	10 53.16	- 3 50.8	1.978	2.958	3.8	20.4	3 12	10 52.35	+ 6 34.2	1.856	2.841	3.4	21.8
3 22	10 45.70	- 2 38.6	2.021	2.977	6.6	20.6	3 22	10 43.79	+ 7 33.7	1.894	2.843	7.5	22.1
4 1	10 39.72	- 1 28.6	2.091	2.994	9.8	20.8	4 1	10 36.83	+ 8 22.9	1.959	2.844	11.3	22.3
4 11	10 35.73	- 0 26.5	2.186	3.012	12.7	21.0	4 11	10 32.03	+ 8 58.4	2.046	2.844	14.4	22.5
68852	2002 <i>HO</i> ₃		3 4.0 247°01	4°0/ 28.5 17			83887	2001 <i>UL</i> ₁₂₆		3 4.0 92°21	1°1/ 5.0 18		
2 1	11 21.14	+15 35.1	2.131	2.992	10.9	19.7	2 1	11 26.76	+ 3 8.0	2.365	3.185	11.4	19.0
2 11	11 16.18	+16 51.0	2.055	2.981	7.9	19.5	2 11	11 19.80	+ 2 52.0	2.297	3.201	8.4	18.8
2 21	11 9.38	+18 10.2	2.005	2.971	5.0	19.3	2 21	11 11.23	+ 2 44.2	2.255	3.216	5.0	18.6
3 2	11 1.39	+19 25.3	1.984	2.960	4.1	19.2	3 2	11 1.72	+ 2 42.4	2.243	3.231	1.6	18.4
3 12	10 53.10	+20 29.0	1.992	2.948	6.4	19.3	3 12	10 52.12	+ 2 43.8	2.262	3.246	2.8	18.5
3 22	10 45.44	+21 15.8	2.028	2.937	9.6	19.5	3 22	10 43.25	+ 2 45.4	2.311	3.261	6.3	18.8
4 1	10 39.21	+21 42.9	2.088	2.925	12.7	19.7	4 1	10 35.84	+ 2 44.4	2.388	3.276	9.4	19.0
4 11	10 35.03	+21 50.0	2.168	2.913	15.3	19.8	4 11	10 30.34	+ 2 38.6	2.489	3.290	12.1	19.2
334030	2000 <i>XA</i> ₄₇		3 4.0 32°58	2°5/ 4.6 18			264656	2001 <i>XO</i> ₉₇		3 4.0 80°29	7°6/ 25.8 18		

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3 4.0

3 4.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
430933	2005 UR ₅₃		3 4.0 132°08	2°0/ 1.9 18			80291	1999 XB ₅₅		3 4.1 164°59	1°1/ 3.2 18		
2 1	11 23.82	+10 23.0	2.288	3.133	10.8	22.1	2 1	11 26.29	+ 6 16.2	1.573	2.422	14.7	20.5
2 11	11 17.77	+11 14.1	2.228	3.149	7.7	21.9	2 11	11 20.27	+ 7 4.4	1.505	2.427	10.6	20.3
2 21	11 10.12	+12 10.0	2.195	3.164	4.3	21.7	2 21	11 11.84	+ 8 5.2	1.460	2.430	5.8	20.0
3 2	11 1.53	+13 5.4	2.192	3.179	2.0	21.6	3 2	11 1.88	+ 9 11.4	1.444	2.434	1.3	19.7
3 12	10 52.85	+13 54.3	2.219	3.192	4.3	21.7	3 12	10 51.65	+10 14.5	1.455	2.436	4.7	20.0
3 22	10 44.91	+14 32.6	2.275	3.206	7.6	22.0	3 22	10 42.40	+11 6.9	1.493	2.438	9.5	20.2
4 1	10 38.41	+14 57.5	2.358	3.218	10.6	22.2	4 1	10 35.19	+11 43.4	1.556	2.440	13.8	20.5
4 11	10 33.80	+15 8.1	2.463	3.230	13.1	22.4	4 11	10 30.68	+12 1.7	1.640	2.441	17.3	20.7
132142	2002 CU ₂₇₂		3 4.0 300°77	7°4/26.8 18			100454	1996 SA ₆		3 4.1 128°65	0°8/ 4.8 18		
2 1	11 23.78	+20 16.6	1.390	2.267	14.5	19.4	2 1	11 24.05	+ 1 3.3	1.782	2.614	14.1	20.5
2 11	11 19.00	+21 48.8	1.321	2.251	11.0	19.2	2 11	11 18.35	+ 1 45.5	1.716	2.626	10.3	20.3
2 21	11 11.37	+23 21.5	1.275	2.235	8.0	18.9	2 21	11 10.62	+ 2 43.3	1.675	2.639	6.0	20.1
3 2	11 1.79	+24 42.0	1.254	2.219	7.8	18.9	3 2	11 1.66	+ 3 51.5	1.661	2.650	1.5	19.8
3 12	10 51.70	+25 38.6	1.259	2.203	10.6	19.0	3 12	10 52.54	+ 5 2.6	1.676	2.661	3.5	20.0
3 22	10 42.61	+26 4.5	1.286	2.188	14.5	19.2	3 22	10 44.28	+ 6 9.3	1.719	2.672	7.8	20.3
4 1	10 35.83	+25 58.1	1.334	2.173	18.3	19.4	4 1	10 37.79	+ 7 5.3	1.789	2.682	11.7	20.5
4 11	10 32.17	+25 22.4	1.398	2.158	21.7	19.6	4 11	10 33.61	+ 7 46.9	1.880	2.691	15.0	20.8
464962	2005 WC ₁₁₉		3 4.0 107°30	7°2/11.5 16			337710	2001 UB ₂₀		3 4.1 147°36	9°6/20.8 17		
2 1	11 21.67	-16 21.3	1.980	2.726	15.9	20.7	2 1	11 31.01	+41 46.7	2.587	3.391	11.0	20.9
2 11	11 16.63	-16 39.7	1.902	2.734	13.4	20.6	2 11	11 23.04	+42 48.9	2.554	3.397	10.0	20.8
2 21	11 9.67	-16 32.5	1.845	2.742	10.6	20.4	2 21	11 13.09	+43 33.4	2.545	3.402	9.6	20.8
3 2	11 1.47	-15 59.0	1.811	2.750	8.2	20.3	3 2	11 2.07	+43 53.7	2.561	3.407	10.0	20.9
3 12	10 53.02	-15 2.2	1.804	2.757	7.2	20.2	3 12	10 51.10	+43 46.5	2.602	3.412	11.1	20.9
3 22	10 45.27	-13 47.9	1.824	2.765	8.4	20.3	3 22	10 41.25	+43 12.1	2.666	3.417	12.5	21.0
4 1	10 39.11	-12 24.3	1.870	2.772	10.8	20.5	4 1	10 33.33	+42 13.6	2.750	3.421	13.9	21.2
4 11	10 35.11	-11 0.1	1.939	2.779	13.5	20.6	4 11	10 27.83	+40 55.7	2.851	3.425	15.1	21.3
186213	2001 WA ₄₃		3 4.0 95°48	5°2/28.4 18			81096	2000 EG ₁₀₆		3 4.1 190°93	1°0/ 2.8 17		
2 1	11 25.64	+18 51.7	1.802	2.665	12.5	20.4	2 1	11 21.71	+ 6 2.6	2.419	3.256	10.6	19.6
2 11	11 19.45	+19 54.7	1.754	2.679	9.1	20.2	2 11	11 16.35	+ 7 10.5	2.338	3.254	7.6	19.4
2 21	11 11.17	+20 55.6	1.731	2.693	6.1	20.0	2 21	11 9.41	+ 8 28.1	2.283	3.252	4.2	19.1
3 2	11 1.71	+21 46.2	1.736	2.706	5.3	20.0	3 2	11 1.46	+ 9 50.0	2.259	3.249	1.1	18.9
3 12	10 52.21	+22 19.7	1.769	2.720	7.5	20.2	3 12	10 53.28	+11 9.8	2.266	3.245	3.6	19.1
3 22	10 43.74	+22 32.7	1.827	2.733	10.7	20.4	3 22	10 45.63	+12 21.5	2.303	3.240	7.1	19.3
4 1	10 37.17	+22 24.6	1.910	2.746	13.7	20.6	4 1	10 39.23	+13 20.6	2.368	3.235	10.3	19.5
4 11	10 33.03	+21 57.4	2.012	2.758	16.3	20.8	4 11	10 34.61	+14 4.5	2.456	3.229	13.0	19.7
192113	2006 CB ₅₇		3 4.0 227°80	0°2/ 4.3 17			452637	2005 TZ ₁₅₆		3 4.1 259°40	2°5/ 5.9 17		
2 1	11 20.79	+ 3 16.3	1.965	2.805	12.6	20.6	2 1	11 24.41	- 1 43.7	1.484	2.316	16.4	22.4
2 11	11 15.95	+ 3 52.2	1.889	2.804	9.2	20.3	2 11	11 19.28	- 1 28.3	1.395	2.301	12.5	22.1
2 21	11 9.26	+ 4 40.7	1.837	2.803	5.2	20.1	2 21	11 11.51	- 0 51.6	1.328	2.287	7.9	21.8
3 2	11 1.41	+ 5 37.1	1.812	2.803	1.0	19.8	3 2	11 1.87	+ 0 3.6	1.286	2.272	3.3	21.5
3 12	10 53.31	+ 6 35.2	1.817	2.802	3.4	20.0	3 12	10 51.60	+ 1 10.4	1.271	2.257	4.2	21.5
3 22	10 45.90	+ 7 28.7	1.850	2.801	7.5	20.2	3 22	10 42.08	+ 2 20.1	1.282	2.241	9.2	21.7
4 1	10 39.99	+ 8 12.5	1.909	2.800	11.2	20.4	4 1	10 34.58	+ 3 23.7	1.318	2.225	14.1	21.9
4 11	10 36.15	+ 8 43.2	1.990	2.799	14.4	20.6	4 11	10 29.94	+ 4 14.1	1.374	2.209	18.3	22.2
210075	2006 QU ₂₂		3 4.1 110°81	0°5/ 3.4 18			383773	2007 VT ₂₉₈		3 4.1 110°14	4°8/26.6 18		
2 1	11 18.84	+ 4 26.9	2.603	3.438	10.0	20.6	2 1	11 20.56	+20 16.1	2.499	3.357	9.6	21.2
2 11	11 14.08	+ 5 30.6	2.540	3.454	7.2	20.4	2 11	11 15.43	+21 46.2	2.453	3.374	7.1	21.1
2 21	11 8.02	+ 6 43.1	2.503	3.471	3.9	20.3	2 21	11 8.82	+23 13.9	2.435	3.390	5.1	21.0
3 2	11 1.18	+ 7 59.8	2.497	3.487	0.7	20.0	3 2	11 1.35	+24 32.3	2.447	3.406	5.0	21.0
3 12	10 54.25	+ 9 14.9	2.521	3.503	3.0	20.2	3 12	10 53.78	+25 35.6	2.488	3.421	6.7	21.2
3 22	10 47.89	+10 23.3	2.576	3.518	6.2	20.5	3 22	10 46.87	+26 20.2	2.557	3.436	9.1	21.3
4 1	10 42.66	+11 21.0	2.658	3.533	9.0	20.7	4 1	10 41.27	+26 45.0	2.650	3.451	11.3	21.5
4 11	10 38.98	+12 5.7	2.764	3.548	11.4	20.9	4 11	10 37.41	+26 50.9	2.763	3.465	13.3	21.7
124565	2001 SD ₂		3 4.1 82°88	0°3/ 4.3 18			350578	2001 HG ₆₅		3 4.1 306°36	4°7/29.9 18		
2 1	11 26.35	+ 3 51.2	1.384	2.234	16.3	20.0	2 1	11 25.04	+13 42.1	1.212	2.089	16.2	20.3
2 11	11 20.45	+ 4 10.2	1.324	2.244	11.8	19.8	2 11	11 20.14	+14 40.0	1.142	2.077	11.7	20.0
2 21	11 11.96	+ 4 43.9	1.286	2.255	6.8	19.5	2 21	11 12.13	+15 45.2	1.093	2.064	7.1	19.7
3 2	11 1.89	+ 5 26.9	1.274	2.265	1.3	19.2	3 2	11 1.98	+16 46.9	1.069	2.052	4.7	19.5
3 12	10 51.63	+ 6 11.3	1.289	2.275	4.3	19.4	3 12	10 51.27	+17 33.7	1.069	2.040	8.2	19.7
3 22	10 42.53	+ 6 49.8	1.330	2.285	9.4	19.7	3 22	10 41.68	+17 57.5	1.093	2.029	13.2	19.9
4 1	10 35.70	+ 7 16.8	1.395	2.295	14.0	20.0	4 1	10 34.63	+17 55.0	1.138	2.018	18.0	20.1
4 11	10 31.79	+ 7 29.0	1.480	2.305	17.7	20.3	4 11	10 30.99	+17 27.1	1.200	2.007	22.1	20.4
419188	2009 UP ₂₇		3 4.1 88°63	3°0/ 7.3 18			41586	2000 SH ₃₈		3 4.1 105°11	2°8/ 2.0 18		
2 1	11 21.07	- 5 47.3	1.978	2.782	13.9	21.4	2 1	11 28.12	+11 40.3	1.564	2.422	14.3	19.8
2 11	11 16.01	- 5 15.4	1.914	2.802	10.7	21.2	2 11	11 21.46	+12 17.1	1.508	2.435	10.2	19.6
2 21	11 9.22	- 4 24.2	1.874	2.821	7.1	21.0	2 21	11 12.42	+12 59.0	1.477	2.447	5.8	19.3
3 2	11 1.40	- 3 17.1	1.861	2.840	3.7	20.9	3 2	11 1.98	+13 38.8	1.473	2.459	2.8	19.2
3 12	10 53.49	- 2 0.3	1.876	2.859	3.6	20.9	3 12	10 51.45	+14 9.0	1.496	2.471	5.7	19.4
3 22	10 46.35	- 0 41.1	1.920	2.878	6.7	21.1	3 22	10 42.08	+14 25.0	1.547	2.483	10.0	19.7
4 1	10 40.74	+ 0 33.7	1.992	2.896	10.2	21.4	4 1	10 34.87	+14 24.3	1.621	2.494	13.9	19.9
4 11	10 37.15	+ 1 38.3	2.087	2.914	13.2	21.6	4 11	10 30.39	+14 7.3	1.716	2.506	17.1	20.2
376000	2010 AU ₄		3 4.1 98°45	4°8/28.1 18			318090	2004 GZ ₇₀		3 4.1 358°03	0°2/ 3.9 18		
2 1	11 22.30	+17 41.8	1.945	2.8									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
18202	2757 <i>P-L</i>		3 4.1 174° 07'	0.4/ 3.5	18		375344	2008 <i>SV₃₁</i>		3 4.1 198° 87'	2.4/ 6.9	17	
2 1	11 19.57	+ 6 0.5	3.057	3.889	8.8	20.2	2 1	11 20.97	- 4 32.1	2.598	3.393	11.2	22.1
2 11	11 14.51	+ 6 34.0	2.978	3.891	6.3	20.0	2 11	11 15.76	- 4 11.8	2.506	3.390	8.6	21.9
2 21	11 8.25	+ 7 13.8	2.926	3.893	3.5	19.8	2 21	11 9.07	- 3 37.0	2.439	3.385	5.7	21.7
3 2	11 1.26	+ 7 56.8	2.904	3.895	0.6	19.6	3 2	11 1.43	- 2 50.0	2.401	3.380	3.0	21.6
3 12	10 54.13	+ 8 39.0	2.914	3.896	2.6	19.8	3 12	10 53.55	- 1 54.6	2.393	3.375	3.0	21.5
3 22	10 47.44	+ 9 16.9	2.954	3.896	5.5	19.9	3 22	10 46.15	- 0 55.5	2.415	3.369	5.8	21.7
4 1	10 41.73	+ 9 47.7	3.022	3.897	8.1	20.1	4 1	10 39.88	+ 0 2.1	2.465	3.362	8.8	21.9
4 11	10 37.38	+10 9.4	3.115	3.896	10.3	20.3	4 11	10 35.25	+ 0 53.6	2.540	3.355	11.5	22.1
29407	1996 <i>UW</i>		3 4.1 215° 67'	2.1/ 1.9	18 R		46362	2001 <i>TO₁₁₈</i>		3 4.1 161° 36'	6.5/ 11.6	18	
2 1	11 25.89	+10 29.8	2.174	3.018	11.4	19.9	2 1	11 20.75	-16 52.6	2.516	3.243	13.4	19.0
2 11	11 19.58	+11 19.0	2.088	3.008	8.1	19.7	2 11	11 15.70	-17 17.7	2.428	3.245	11.3	18.9
2 21	11 11.34	+12 14.6	2.028	2.997	4.6	19.4	2 21	11 9.08	-17 22.6	2.361	3.247	9.1	18.7
3 2	11 1.83	+13 10.8	1.998	2.985	2.1	19.2	3 2	11 1.44	-17 6.3	2.320	3.248	7.2	18.6
3 12	10 51.97	+14 1.2	1.999	2.972	4.7	19.4	3 12	10 53.54	-16 30.7	2.306	3.250	6.5	18.6
3 22	10 42.73	+14 40.7	2.029	2.959	8.4	19.6	3 22	10 46.15	-15 39.5	2.320	3.251	7.4	18.6
4 1	10 34.98	+15 5.7	2.085	2.944	11.8	19.8	4 1	10 39.98	-14 38.5	2.360	3.253	9.3	18.7
4 11	10 29.33	+15 15.0	2.163	2.928	14.8	19.9	4 11	10 35.55	-13 34.0	2.425	3.254	11.5	18.9
498134	2007 <i>TJ₄₁</i>		3 4.1 174° 91'	4.2/ 28.0	17		229994	2000 <i>BJ₉</i>		3 4.1 109° 06'	0.5/ 4.6	17	
2 1	11 22.75	+19 48.8	2.554	3.408	9.5	21.8	2 1	11 21.37	+ 2 40.6	2.147	2.980	12.0	20.8
2 11	11 17.01	+20 41.1	2.490	3.410	7.0	21.7	2 11	11 16.18	+ 3 10.0	2.078	2.989	8.7	20.6
2 21	11 9.73	+21 31.4	2.454	3.411	4.9	21.5	2 21	11 9.33	+ 3 50.6	2.033	2.998	5.0	20.3
3 2	11 1.53	+22 14.2	2.446	3.412	4.4	21.5	3 2	11 1.47	+ 4 38.5	2.017	3.007	1.1	20.1
3 12	10 53.19	+22 44.5	2.468	3.413	6.1	21.6	3 12	10 53.47	+ 5 28.3	2.031	3.016	3.0	20.2
3 22	10 45.49	+22 59.4	2.518	3.414	8.6	21.8	3 22	10 46.15	+ 6 14.6	2.073	3.025	6.8	20.5
4 1	10 39.10	+22 58.0	2.593	3.414	11.0	21.9	4 1	10 40.24	+ 6 53.1	2.143	3.033	10.2	20.7
4 11	10 34.50	+22 41.0	2.690	3.413	13.1	22.1	4 11	10 36.24	+ 7 20.6	2.235	3.042	13.1	20.9
459977	2014 <i>OE₂₃</i>		3 4.1 159° 76'	1° 1/ 3.1	18		495159	2012 <i>FP₆₃</i>		3 4.1 226° 83'	0° 3/ 3.8	17	
2 1	11 23.69	+ 5 47.2	1.642	2.492	14.1	21.7	2 1	11 23.34	+ 5 24.7	2.136	2.973	11.8	21.2
2 11	11 18.33	+ 6 45.0	1.573	2.496	10.1	21.4	2 11	11 17.75	+ 5 54.6	2.049	2.964	8.6	21.0
2 21	11 10.73	+ 7 55.9	1.529	2.499	5.6	21.2	2 21	11 10.31	+ 6 34.3	1.987	2.955	4.8	20.8
3 2	11 1.72	+ 9 12.9	1.512	2.502	1.2	20.9	3 2	11 1.66	+ 7 19.5	1.955	2.945	0.8	20.4
3 12	10 52.44	+10 26.9	1.523	2.505	4.6	21.1	3 12	10 52.70	+ 8 4.8	1.952	2.935	3.4	20.6
3 22	10 44.06	+11 30.2	1.562	2.507	9.2	21.4	3 22	10 44.33	+ 8 44.9	1.978	2.924	7.4	20.8
4 1	10 37.54	+12 17.3	1.625	2.508	13.3	21.6	4 1	10 37.39	+ 9 15.5	2.030	2.913	11.1	21.0
4 11	10 33.54	+12 45.4	1.709	2.510	16.7	21.9	4 11	10 32.49	+ 9 33.8	2.105	2.901	14.2	21.2
110378	2001 <i>SB₃₄₃</i>		3 4.1 214° 74'	3° 0/ 1.1	18		425758	2011 <i>CU₁₃</i>		3 4.1 345° 06'	7° 2/ 25.5	17	
2 1	11 22.96	+12 7.6	2.004	2.860	11.7	20.4	2 1	11 18.21	+19 9.1	1.475	2.357	13.5	20.0
2 11	11 17.56	+13 11.2	1.929	2.855	8.4	20.2	2 11	11 14.74	+21 19.0	1.417	2.351	10.1	19.8
2 21	11 10.22	+14 20.7	1.880	2.849	4.8	20.0	2 21	11 8.87	+23 30.7	1.385	2.345	7.5	19.6
3 2	11 1.63	+15 28.9	1.859	2.843	3.0	19.8	3 2	11 1.42	+25 30.7	1.378	2.339	7.7	19.6
3 12	10 52.75	+16 28.7	1.867	2.836	5.5	20.0	3 12	10 53.63	+27 6.6	1.397	2.335	10.5	19.7
3 22	10 44.57	+17 14.3	1.904	2.829	9.1	20.2	3 22	10 46.75	+28 10.9	1.440	2.331	14.0	19.9
4 1	10 37.95	+17 42.3	1.965	2.821	12.6	20.4	4 1	10 41.87	+28 41.2	1.503	2.328	17.4	20.1
4 11	10 33.48	+17 51.8	2.047	2.813	15.5	20.6	4 11	10 39.66	+28 39.8	1.583	2.325	20.2	20.3
135674	2002 <i>ND₃₁</i>		3 4.1 173° 27'	1° 7/ 2.4	18		167966	2005 <i>EE₂₇₇</i>		3 4.1 194° 48'	2° 0/ 1.7	17	
2 1	11 24.13	+ 8 47.0	2.052	2.898	11.9	20.4	2 1	11 20.34	+10 18.9	2.425	3.275	10.2	20.7
2 11	11 18.28	+ 9 39.8	1.980	2.901	8.5	20.2	2 11	11 15.37	+11 16.4	2.350	3.273	7.2	20.5
2 21	11 10.56	+10 40.4	1.934	2.904	4.7	20.0	2 21	11 8.86	+12 19.7	2.301	3.271	4.0	20.3
3 2	11 1.69	+11 42.7	1.917	2.906	1.7	19.7	3 2	11 1.40	+13 23.5	2.282	3.269	2.0	20.1
3 12	10 52.59	+12 40.0	1.931	2.907	4.4	19.9	3 12	10 53.73	+14 21.9	2.293	3.266	4.2	20.3
3 22	10 44.22	+13 26.7	1.972	2.908	8.2	20.2	3 22	10 46.62	+15 10.1	2.334	3.263	7.4	20.4
4 1	10 37.41	+13 59.1	2.040	2.908	11.7	20.4	4 1	10 40.75	+15 44.9	2.400	3.260	10.4	20.6
4 11	10 32.71	+14 15.6	2.130	2.908	14.6	20.6	4 11	10 36.62	+16 4.8	2.489	3.256	13.0	20.8
49456	1998 <i>YD₂₈</i>		3 4.1 112° 29'	4.7/ 8.4	18		419722	2010 <i>VP₂₄</i>		3 4.1 154° 48'	2° 7/ 6.9	15	
2 1	11 25.30	- 8 28.0	2.001	2.784	14.6	18.7	2 1	11 23.06	- 4 28.5	2.185	2.986	12.9	22.7
2 11	11 19.09	- 8 40.6	1.932	2.802	11.5	18.6	2 11	11 17.41	- 4 6.5	2.107	2.994	9.9	22.5
2 21	11 10.99	- 8 33.8	1.887	2.819	8.2	18.4	2 21	11 10.04	- 3 27.7	2.054	3.002	6.5	22.3
3 2	11 1.75	- 8 8.3	1.868	2.835	5.4	18.3	3 2	11 1.60	- 2 35.0	2.028	3.009	3.3	22.2
3 12	10 52.36	- 7 28.0	1.878	2.851	4.9	18.3	3 12	10 52.97	- 1 33.2	2.033	3.016	3.4	22.2
3 22	10 43.77	- 6 38.6	1.916	2.867	7.3	18.4	3 22	10 45.00	- 0 28.3	2.067	3.022	6.5	22.4
4 1	10 36.82	- 5 46.3	1.981	2.882	10.4	18.6	4 1	10 38.45	+ 0 33.5	2.128	3.027	9.9	22.6
4 11	10 32.04	- 4 57.5	2.069	2.897	13.3	18.9	4 11	10 33.86	+ 1 27.4	2.214	3.032	12.8	22.8
73600	3020 <i>T-₂</i>		3 4.1 179° 51'	2° 3/ 1.5	18		402415	2005 <i>YV₁₉₁</i>		3 4.1 270° 26'	4° 4/ 29.3	17	
2 1	11 24.21	+13 31.8	2.675	3.520	9.5	19.5	2 1	11 23.31	+13 2.8	1.472	2.342	14.3	20.9
2 11	11 17.96	+14 2.5	2.601	3.521	6.8	19.3	2 11	11 18.48	+14 27.3	1.398	2.330	10.3	20.6
2 21	11 10.24	+14 35.0	2.555	3.522	3.9	19.1	2 21	11 11.04	+16 0.7	1.347	2.317	6.2	20.4
3 2	11 1.62	+15 5.0	2.539	3.523	2.3	19.0	3 2	11 1.82	+17 32.3	1.323	2.305	4.5	20.2
3 12	10 52.86	+15 28.3	2.553	3.522	4.2	19.1	3 12	10 52.11	+18 50.8	1.326	2.292	7.7	20.4
3 22	10 44.68	+15 42.0	2.598	3.522	7.1	19.3	3 22	10 43.28	+19 47.5	1.354	2.279	12.1	20.6
4 1	10 37.75	+15 44.2	2.670	3.521	9.8	19.5	4 1	10 36.53	+20 18.0	1.405	2.266	16.3	20.8
4 11	10 32.53	+15 34.6	2.764	3.519	12.1	19.7	4 11	10 32.65	+20 22.0	1.473	2.253	19.9	21.0
182081	2000 <i>HC₂</i>		3 4.1 44° 10'	0° 5/ 3.7	18		207521	2006 <i>JD₄₉</i>		3 4.1 276° 11'			

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
354365	2003 <i>LX</i> ₂		3 4.1 291°88	0°7/ 4.7 17			164610	3840 <i>T</i> ₋₃		3 4.1 160°54	0°7/ 3.3 17		
2 1	11 24.30	+ 0 52.4	1.622	2.458	15.0	21.3	2 1	11 21.41	+ 6 38.3	2.390	3.230	10.7	20.6
2 11	11 19.42	+ 1 38.3	1.502	2.414	11.3	21.0	2 11	11 16.12	+ 7 12.5	2.316	3.233	7.6	20.4
2 21	11 11.80	+ 2 46.7	1.404	2.369	6.8	20.6	2 21	11 9.28	+ 7 54.2	2.268	3.237	4.2	20.2
3 2	11 2.01	+ 4 13.9	1.333	2.323	1.7	20.2	3 2	11 1.51	+ 8 39.3	2.249	3.240	0.8	20.0
3 12	10 51.12	+ 5 51.9	1.291	2.276	4.3	20.2	3 12	10 53.56	+ 9 22.8	2.261	3.243	3.3	20.1
3 22	10 40.48	+ 7 30.5	1.276	2.228	10.0	20.4	3 22	10 46.22	+10 0.3	2.302	3.245	6.7	20.4
4 1	10 31.49	+ 8 59.1	1.286	2.179	15.3	20.6	4 1	10 40.15	+10 28.2	2.369	3.247	9.9	20.6
4 11	10 25.27	+10 9.8	1.316	2.130	20.1	20.7	4 11	10 35.84	+10 44.7	2.460	3.249	12.5	20.8
151601	2002 <i>VJ</i> ₄₇		3 4.1 143°97	0°6/ 3.4 18			105998	2000 <i>SC</i> ₂₈₃		3 4.1 217°83	3°7/ 8.6 18		
2 1	11 23.91	+ 5 32.8	2.297	3.130	11.2	21.9	2 1	11 19.51	- 8 34.7	2.647	3.423	11.6	20.2
2 11	11 17.88	+ 6 20.1	2.230	3.144	8.0	21.7	2 11	11 14.73	- 8 32.8	2.553	3.419	9.2	20.0
2 21	11 10.24	+ 7 16.3	2.190	3.157	4.4	21.5	2 21	11 8.52	- 8 15.1	2.484	3.414	6.6	19.8
3 2	11 1.64	+ 8 16.4	2.179	3.170	0.8	21.2	3 2	11 1.39	- 7 42.6	2.442	3.409	4.3	19.7
3 12	10 52.92	+ 9 14.7	2.199	3.181	3.3	21.5	3 12	10 54.01	- 6 58.3	2.429	3.403	3.9	19.6
3 22	10 44.89	+10 6.0	2.250	3.192	6.9	21.7	3 22	10 47.09	- 6 6.4	2.446	3.398	5.9	19.8
4 1	10 38.26	+10 46.4	2.327	3.202	10.2	21.9	4 1	10 41.25	- 5 11.9	2.490	3.392	8.5	19.9
4 11	10 33.52	+11 13.8	2.427	3.211	12.9	22.1	4 11	10 36.99	- 4 19.7	2.560	3.386	11.0	20.1
106378	2000 <i>VG</i> ₁₄		3 4.1 227°79	3°2/28.5 17			463182	2012 <i>BZ</i> ₁₀₇		3 4.1 240°52	4°9/27.8 16		
2 1	11 20.86	+17 46.3	3.204	4.053	8.0	20.9	2 1	11 22.05	+15 15.3	1.824	2.689	12.2	21.1
2 11	11 15.50	+18 37.5	3.120	4.039	5.8	20.8	2 11	11 17.19	+17 2.8	1.750	2.679	8.8	20.9
2 21	11 8.86	+19 28.9	3.064	4.024	3.8	20.6	2 21	11 10.16	+18 56.1	1.702	2.668	5.8	20.6
3 2	11 1.41	+20 15.9	3.038	4.009	3.2	20.5	3 2	11 1.70	+20 45.2	1.683	2.657	5.1	20.6
3 12	10 53.75	+20 54.4	3.043	3.993	4.8	20.6	3 12	10 52.83	+22 19.6	1.693	2.645	7.7	20.7
3 22	10 46.49	+21 21.4	3.078	3.977	7.0	20.8	3 22	10 44.65	+23 31.9	1.729	2.633	11.3	20.9
4 1	10 40.20	+21 35.4	3.139	3.960	9.3	20.9	4 1	10 38.17	+24 18.3	1.789	2.620	14.7	21.1
4 11	10 35.31	+21 35.9	3.222	3.942	11.2	21.0	4 11	10 34.06	+24 38.7	1.867	2.608	17.6	21.3
15178	7075 <i>P-L</i>		3 4.1 185°73	2°2/ 6.9 18			167206	2003 <i>TP</i> ₅₂		3 4.1 36°56	2°3/ 2.3 18		
2 1	11 19.24	- 4 28.1	2.741	3.538	10.7	19.3	2 1	11 22.37	+ 8 35.2	1.293	2.163	15.9	20.0
2 11	11 14.44	- 4 0.5	2.653	3.537	8.2	19.1	2 11	11 17.73	+ 9 32.3	1.240	2.172	11.3	19.7
2 21	11 8.30	- 3 19.0	2.590	3.537	5.4	18.9	2 21	11 10.52	+10 40.8	1.209	2.182	6.2	19.5
3 2	11 1.32	- 2 26.0	2.555	3.536	2.8	18.8	3 2	11 1.75	+11 51.4	1.204	2.193	2.4	19.3
3 12	10 54.14	- 1 25.5	2.551	3.534	2.8	18.8	3 12	10 52.82	+12 53.8	1.224	2.204	5.9	19.5
3 22	10 47.42	- 0 22.2	2.578	3.532	5.4	18.9	3 22	10 45.07	+13 40.0	1.270	2.215	10.8	19.8
4 1	10 41.76	+ 0 39.1	2.632	3.530	8.3	19.1	4 1	10 39.58	+14 5.6	1.338	2.227	15.2	20.1
4 11	10 37.60	+ 1 34.0	2.712	3.527	10.8	19.3	4 11	10 36.96	+14 9.6	1.424	2.240	18.8	20.4
105595	2000 <i>RK</i> ₈₉		3 4.1 272°67	3°8/ 6.8 18			100597	1997 <i>PY</i> ₄		3 4.1 215°62	5°7/ 9.5 17		
2 1	11 24.50	- 3 43.3	1.527	2.350	16.4	19.7	2 1	11 24.49	-12 1.9	2.225	2.983	14.0	21.2
2 11	11 19.26	- 3 53.4	1.442	2.341	12.8	19.4	2 11	11 18.64	-12 25.8	2.128	2.976	11.5	21.0
2 21	11 11.46	- 3 43.0	1.379	2.331	8.5	19.1	2 21	11 10.88	-12 30.0	2.054	2.967	8.8	20.8
3 2	11 1.91	- 3 13.5	1.340	2.321	4.6	18.9	3 2	11 1.83	-12 13.9	2.006	2.959	6.5	20.7
3 12	10 51.82	- 2 29.5	1.329	2.312	4.7	18.8	3 12	10 52.38	-11 39.5	1.987	2.950	5.8	20.6
3 22	10 42.52	- 1 38.3	1.343	2.302	8.8	19.1	3 22	10 43.44	-10 51.1	1.996	2.940	7.6	20.7
4 1	10 35.18	- 0 47.8	1.383	2.292	13.3	19.3	4 1	10 35.90	- 9 54.9	2.032	2.929	10.3	20.8
4 11	10 30.63	- 0 5.1	1.442	2.283	17.3	19.5	4 11	10 30.41	- 8 57.7	2.092	2.918	13.2	21.0
456795	2007 <i>TK</i> ₂₃₀		3 4.1 162°26	1°1/ 2.9 18			340797	2006 <i>TB</i> ₆₅		3 4.1 94°04	2°0/ 6.4 18		
2 1	11 24.88	+ 6 49.3	1.994	2.836	12.4	22.5	2 1	11 20.18	- 2 32.0	2.479	3.287	11.3	21.2
2 11	11 18.85	+ 7 39.4	1.924	2.843	8.8	22.3	2 11	11 15.13	- 2 12.9	2.411	3.304	8.5	21.0
2 21	11 10.90	+ 8 39.1	1.879	2.849	4.9	22.1	2 21	11 8.69	- 1 40.9	2.369	3.321	5.4	20.8
3 2	11 1.78	+ 9 42.3	1.864	2.854	1.2	21.8	3 2	11 1.42	- 0 58.5	2.355	3.338	2.5	20.7
3 12	10 52.45	+10 42.3	1.878	2.858	4.0	22.0	3 12	10 54.05	- 0 10.1	2.371	3.355	2.8	20.7
3 22	10 43.90	+11 33.1	1.921	2.862	8.0	22.3	3 22	10 47.29	+ 0 39.5	2.416	3.371	5.7	20.9
4 1	10 36.96	+12 10.6	1.991	2.865	11.6	22.5	4 1	10 41.74	+ 1 26.0	2.489	3.387	8.7	21.1
4 11	10 32.19	+12 32.7	2.082	2.867	14.6	22.7	4 11	10 37.84	+ 2 5.5	2.587	3.403	11.2	21.3
429547	2011 <i>CD</i> ₁₈		3 4.1 111°67	3°4/29.5 18			378802	2008 <i>ST</i> ₁₆₄		3 4.1 182°67	1°0/ 5.3 17		
2 1	11 21.17	+12 13.2	1.901	2.762	12.0	20.8	2 1	11 20.56	+ 0 1.0	2.565	3.382	10.7	22.0
2 11	11 16.27	+13 38.9	1.842	2.770	8.5	20.6	2 11	11 15.46	+ 0 39.4	2.481	3.382	8.0	21.8
2 21	11 9.47	+15 10.4	1.809	2.778	5.0	20.4	2 21	11 8.92	+ 1 30.0	2.423	3.382	4.8	21.6
3 2	11 1.53	+16 39.2	1.804	2.786	3.4	20.3	3 2	11 1.47	+ 2 29.3	2.394	3.382	1.5	21.3
3 12	10 53.42	+17 57.0	1.829	2.794	6.0	20.5	3 12	10 53.82	+ 3 32.6	2.396	3.381	2.6	21.4
3 22	10 46.10	+18 57.6	1.881	2.802	9.5	20.7	3 22	10 46.67	+ 4 34.7	2.428	3.380	5.9	21.6
4 1	10 40.39	+19 37.6	1.957	2.809	12.8	21.0	4 1	10 40.68	+ 5 30.8	2.488	3.377	9.0	21.8
4 11	10 36.83	+19 56.7	2.053	2.816	15.5	21.2	4 11	10 36.31	+ 6 17.4	2.572	3.375	11.7	22.0
306652	2000 <i>SJ</i> ₁₃₇		3 4.1 176°35	5°6/10.6 18			79150	1992 <i>UR</i> ₇		3 4.1 280°57	3°8/29.9 18		
2 1	11 21.17	-14 24.8	2.357	3.104	13.7	20.9	2 1	11 24.03	+10 36.9	1.452	2.318	14.7	20.3
2 11	11 16.07	-14 21.5	2.268	3.106	11.3	20.7	2 11	11 19.30	+12 4.1	1.358	2.289	10.7	19.9
2 21	11 9.32	-13 56.4	2.201	3.107	8.7	20.6	2 21	11 11.74	+13 46.3	1.288	2.259	6.2	19.6
3 2	11 1.52	-13 10.0	2.161	3.108	6.4	20.4	3 2	11 2.04	+15 33.6	1.244	2.228	3.9	19.4
3 12	10 53.46	-12 5.3	2.148	3.109	5.6	20.4	3 12	10 51.48	+17 13.3	1.227	2.197	7.5	19.5
3 22	10 45.96	-10 47.7	2.164	3.109	7.0	20.5	3 22	10 41.54	+18 33.8	1.236	2.166	12.6	19.7
4 1	10 39.76	- 9 24.3	2.207	3.108	9.5	20.6	4 1	10 33.63	+19 27.9	1.267	2.134	17.4	19.9
4 11	10 35.39	- 8 2.0	2.276	3.108	12.1	20.8	4 11	10 28.76	+19 53.1	1.316	2.102	21.6	20.1
30684	3237 <i>T</i> ₋₂		3 4.1 31°94	3°9/29.9 18			174027	2001 <i>YZ</i> ₁₄₅		3 4.1 32°63	7°1/27.0 18		

EPHEMERIDES

3 4.1

3 4.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
161531	2004 <i>TA</i> ₂₉₆		3 4.1 248°91	2.4/ 6.1	17		341618	2007 <i>UQ</i> ₁₃₂		3 4.1 75°83	1.3/ 2.8	17	
2 1	11 24.31	- 2 20.6	1.758	2.577	14.7	21.0	2 1	11 20.44	+ 8 7.0	2.201	3.049	11.1	21.1
2 11	11 18.94	- 2 2.0	1.661	2.561	11.3	20.7	2 11	11 15.56	+ 8 47.5	2.130	3.052	7.9	20.9
2 21	11 11.25	- 1 24.2	1.588	2.544	7.2	20.5	2 21	11 9.05	+ 9 35.4	2.085	3.055	4.4	20.7
3 2	11 1.93	- 0 29.8	1.541	2.526	3.2	20.2	3 2	11 1.54	+10 25.6	2.069	3.059	1.3	20.5
3 12	10 52.04	+ 0 35.6	1.523	2.508	3.8	20.2	3 12	10 53.85	+11 12.4	2.082	3.062	3.8	20.7
3 22	10 42.76	+ 1 44.2	1.532	2.489	8.2	20.4	3 22	10 46.81	+11 51.1	2.124	3.065	7.4	20.9
4 1	10 35.18	+ 2 48.5	1.568	2.469	12.6	20.6	4 1	10 41.13	+12 18.2	2.191	3.068	10.6	21.1
4 11	10 30.07	+ 3 41.8	1.625	2.449	16.4	20.8	4 11	10 37.31	+12 31.8	2.281	3.071	13.4	21.3
289946	2005 <i>NT</i> ₄₉		3 4.1 341°42	4.7/ 8.4	17		519965	2013 <i>TH</i> ₁₆₅		3 4.1 173°09	1.2/ 5.3	17	
2 1	11 20.55	- 7 59.4	2.013	2.806	14.1	20.3	2 1	11 22.02	+ 0 38.0	2.162	2.986	12.2	21.6
2 11	11 15.88	- 8 20.2	1.927	2.801	11.3	20.1	2 11	11 16.74	+ 0 58.9	2.083	2.988	9.0	21.4
2 21	11 9.34	- 8 22.6	1.863	2.797	8.2	19.9	2 21	11 9.75	+ 1 32.7	2.028	2.989	5.4	21.2
3 2	11 1.57	- 8 6.7	1.825	2.792	5.4	19.7	3 2	11 1.67	+ 2 16.0	2.002	2.990	1.8	20.9
3 12	10 53.47	- 7 35.5	1.814	2.788	5.0	19.6	3 12	10 53.36	+ 3 3.8	2.005	2.991	3.0	21.0
3 22	10 45.97	- 6 53.8	1.831	2.785	7.3	19.8	3 22	10 45.68	+ 3 50.9	2.037	2.991	6.7	21.2
4 1	10 39.92	+ 1 44.2	1.874	2.781	10.5	20.0	4 1	10 39.39	+ 4 32.2	2.097	2.991	10.2	21.4
4 11	10 35.92	- 5 23.4	1.939	2.779	13.5	20.1	4 11	10 35.04	+ 5 4.1	2.179	2.991	13.2	21.6
308648	2006 <i>BE</i> ₂₂		3 4.1 276°92	2.1/ 5.5	18		462883	2010 <i>VT</i> ₂₀₃		3 4.1 42°06	8.0/ 27.9	16	
2 1	11 25.64	+ 0 22.6	1.499	2.336	16.0	20.6	2 1	11 29.18	+23 59.8	1.344	2.215	15.4	20.7
2 11	11 20.21	+ 0 19.9	1.410	2.320	12.1	20.3	2 11	11 22.47	+24 52.8	1.309	2.233	11.7	20.5
2 21	11 12.10	+ 0 34.2	1.342	2.304	7.5	20.0	2 21	11 13.06	+25 35.9	1.298	2.252	8.7	20.4
3 2	11 2.09	+ 1 3.0	1.300	2.287	2.9	19.7	3 2	11 2.22	+25 59.0	1.311	2.271	8.1	20.4
3 12	10 51.44	+ 1 40.9	1.285	2.271	4.2	19.7	3 12	10 51.55	+25 55.7	1.349	2.291	10.3	20.6
3 22	10 41.52	+ 2 20.7	1.297	2.254	9.2	19.9	3 22	10 42.48	+25 25.0	1.411	2.312	13.5	20.8
4 1	10 33.63	+ 2 55.6	1.332	2.238	14.1	20.2	4 1	10 36.02	+24 29.8	1.494	2.333	16.7	21.1
4 11	10 28.63	+ 3 19.8	1.388	2.221	18.3	20.4	4 11	10 32.63	+23 15.6	1.595	2.354	19.4	21.4
435996	2009 <i>FS</i> ₁₇		3 4.1 297°89	4.7/ 28.8	17		198839	2005 <i>GV</i> ₅₄		3 4.1 196°36	0.1/ 4.2	17	
2 1	11 25.75	+20 15.2	2.183	3.038	10.9	20.9	2 1	11 24.56	+ 3 50.7	2.127	2.958	12.1	21.7
2 11	11 19.52	+20 45.1	2.102	3.022	8.1	20.7	2 11	11 18.64	+ 4 22.4	2.044	2.955	8.8	21.5
2 21	11 11.34	+21 12.0	2.047	3.007	5.6	20.5	2 21	11 10.85	+ 5 5.2	1.986	2.952	5.0	21.3
3 2	11 1.92	+21 30.0	2.021	2.991	4.8	20.4	3 2	11 1.87	+ 5 54.9	1.957	2.948	0.9	21.0
3 12	10 52.22	+21 34.0	2.023	2.975	6.7	20.5	3 12	10 52.61	+ 6 45.8	1.959	2.943	3.3	21.1
3 22	10 43.23	+21 21.2	2.053	2.960	9.6	20.7	3 22	10 43.98	+ 7 32.4	1.989	2.937	7.3	21.4
4 1	10 35.81	+20 51.1	2.108	2.944	12.6	20.8	4 1	10 36.83	+ 8 10.1	2.047	2.931	10.9	21.6
4 11	10 30.56	+20 5.0	2.184	2.929	15.2	21.0	4 11	10 31.74	+ 8 35.8	2.127	2.924	14.0	21.8
393315	2014 <i>AB</i> ₂₄		3 4.1 211°63	0.8/ 3.2	17		502273	2015 <i>BP</i> ₁₂₉		3 4.1 186°83	1.2/ 2.7	17	
2 1	11 19.78	+ 6 38.7	2.541	3.381	10.1	21.6	2 1	11 21.69	+ 7 42.4	2.452	3.292	10.4	22.0
2 11	11 14.95	+ 7 21.2	2.459	3.377	7.2	21.4	2 11	11 16.35	+ 8 32.0	2.373	3.292	7.4	21.8
2 21	11 8.65	+ 8 11.4	2.404	3.373	4.0	21.2	2 21	11 9.47	+ 9 29.1	2.322	3.291	4.1	21.6
3 2	11 1.44	+ 9 5.2	2.378	3.368	0.9	21.0	3 2	11 1.62	+10 28.7	2.300	3.290	1.2	21.4
3 12	10 54.03	+ 9 57.5	2.382	3.363	3.2	21.1	3 12	10 53.57	+11 25.4	2.309	3.288	3.6	21.5
3 22	10 47.11	+10 43.8	2.416	3.358	6.5	21.3	3 22	10 46.07	+12 14.3	2.348	3.285	7.0	21.8
4 1	10 41.34	+11 20.3	2.477	3.353	9.6	21.5	4 1	10 39.81	+12 51.9	2.413	3.282	10.1	21.9
4 11	10 37.21	+11 44.9	2.561	3.347	12.2	21.7	4 11	10 35.29	+13 16.2	2.501	3.278	12.7	22.1
117211	2004 <i>RO</i> ₂₀₅		3 4.1 126°62	4.2/ 28.7	18		278824	2008 <i>SF</i> ₂₆₆		3 4.1 210°09	1.6/ 2.5	18	
2 1	11 25.23	+18 11.2	2.273	3.126	10.6	20.1	2 1	11 21.90	+ 9 0.3	2.066	2.917	11.6	20.6
2 11	11 18.87	+19 4.4	2.220	3.140	7.7	20.0	2 11	11 16.74	+ 9 42.0	1.992	2.916	8.3	20.4
2 21	11 10.82	+19 56.2	2.193	3.155	5.1	19.8	2 21	11 9.78	+10 30.8	1.944	2.914	4.6	20.2
3 2	11 1.81	+20 40.2	2.196	3.168	4.2	19.8	3 2	11 1.68	+11 21.5	1.924	2.913	1.6	20.0
3 12	10 52.74	+21 11.4	2.229	3.181	6.1	19.9	3 12	10 53.37	+12 7.8	1.933	2.911	4.2	20.1
3 22	10 44.49	+21 26.5	2.290	3.194	8.9	20.1	3 22	10 45.72	+12 44.7	1.970	2.909	8.0	20.4
4 1	10 37.77	+21 24.8	2.375	3.206	11.6	20.3	4 1	10 39.56	+13 8.6	2.033	2.907	11.4	20.6
4 11	10 33.05	+21 7.2	2.482	3.217	13.8	20.5	4 11	10 35.42	+13 17.9	2.118	2.906	14.3	20.8
319095	2005 <i>WG</i> ₁₅₀		3 4.1 240°78	1.7/ 2.6	17		67045	1999 <i>XZ</i> ₁₉₁		3 4.1 129°64	0.7/ 4.9	18	
2 1	11 23.33	+ 9 13.6	1.889	2.742	12.5	21.1	2 1	11 23.26	+ 2 29.5	2.325	3.149	11.4	19.9
2 11	11 17.91	+ 9 50.6	1.814	2.738	8.9	20.9	2 11	11 17.45	+ 2 46.6	2.254	3.161	8.4	19.7
2 21	11 10.48	+10 35.1	1.764	2.735	5.0	20.6	2 21	11 10.06	+ 3 13.8	2.209	3.172	4.9	19.5
3 2	11 1.78	+11 21.4	1.742	2.731	1.7	20.4	3 2	11 1.73	+ 3 47.8	2.194	3.183	1.3	19.3
3 12	10 52.80	+12 3.0	1.748	2.727	4.5	20.6	3 12	10 53.26	+ 4 24.2	2.208	3.193	2.8	19.4
3 22	10 44.57	+12 34.6	1.783	2.723	8.6	20.8	3 22	10 45.45	+ 4 58.6	2.252	3.203	6.3	19.7
4 1	10 37.98	+12 52.4	1.842	2.719	12.3	21.0	4 1	10 39.00	+ 5 27.0	2.324	3.213	9.6	19.9
4 11	10 33.64	+12 55.1	1.923	2.715	15.4	21.2	4 11	10 34.39	+ 5 46.8	2.419	3.222	12.3	20.1
144802	2004 <i>HH</i> ₅₅		3 4.1 199°69	3.1/ 28.4	18		103057	1999 <i>XN</i> ₁₃₅		3 4.1 156°59	0.5/ 4.5	18	
2 1	11 19.10	+15 46.4	2.983	3.835	8.4	20.4	2 1	11 25.90	+ 1 48.3	1.696	2.530	14.6	20.5
2 11	11 14.32	+16 59.5	2.909	3.831	6.0	20.2	2 11	11 19.89	+ 2 33.9	1.626	2.538	10.7	20.3
2 21	11 8.25	+18 14.5	2.863	3.827	3.8	20.1	2 21	11 11.66	+ 3 35.6	1.580	2.545	6.2	20.0
3 2	11 1.38	+19 25.9	2.849	3.822	3.2	20.0	3 2	11 2.03	+ 4 47.8	1.561	2.551	1.3	19.7
3 12	10 54.33	+20 28.9	2.865	3.817	4.9	20.1	3 12	10 52.15	+ 6 2.3	1.572	2.557	3.7	19.9
3 22	10 47.71	+21 19.4	2.910	3.812	7.3	20.3	3 22	10 43.18	+ 7 11.2	1.611	2.562	8.4	20.2
4 1	10 42.09	+21 55.3	2.981	3.806	9.6	20.4	4 1	10 36.08	+ 8 8.0	1.675	2.566	12.5	20.4
4 11	10 37.91	+22 15.8	3.075	3.799	11.6	20.5	4 11	10 31.48	+ 8 48.9	1.761	2.569	16.0	20.6
168267	2006 <i>SA</i> ₃₅₃		3 4.1 126°05	1.2/ 2.7	18		63073	2000 <i>WQ</i> ₁₂₅		3 4.1 37°02			

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
369377	2009 <i>UE</i> ₁₃₉		3 4.1 68°60	0°6/ 4.8 18			267496	2002 <i>JY</i> ₈₈		3 4.1 270°84	2°6/ 1.6 17		
2 1	11 21.26	+ 0 49.4	1.767	2.603	14.0	21.0	2 1	11 22.88	+11 57.4	1.994	2.850	11.8	20.5
2 11	11 16.33	+ 1 42.9	1.713	2.626	10.2	20.8	2 11	11 17.61	+12 41.1	1.913	2.838	8.4	20.3
2 21	11 9.52	+ 2 52.0	1.683	2.648	5.9	20.6	2 21	11 10.37	+13 30.1	1.856	2.826	4.8	20.0
3 2	11 1.64	+ 4 10.6	1.681	2.670	1.4	20.4	3 2	11 1.84	+14 18.4	1.828	2.814	2.6	19.8
3 12	10 53.69	+ 5 30.9	1.707	2.692	3.3	20.5	3 12	10 52.99	+14 59.5	1.829	2.802	5.2	20.0
3 22	10 46.64	+ 6 45.1	1.761	2.715	7.6	20.8	3 22	10 44.79	+15 28.4	1.858	2.789	8.9	20.2
4 1	10 41.27	+ 7 47.2	1.841	2.737	11.3	21.1	4 1	10 38.14	+15 41.8	1.911	2.777	12.4	20.4
4 11	10 38.07	+ 8 33.6	1.943	2.759	14.5	21.4	4 11	10 33.66	+15 38.7	1.986	2.765	15.5	20.5
344646	2003 <i>QN</i> ₆₇		3 4.1 240°55	3°9/28.6 17			429744	2011 <i>QN</i> ₅₃		3 4.1 263°60	2°0/ 5.9 17		
2 1	11 24.07	+17 46.4	2.488	3.339	9.9	21.5	2 1	11 24.39	- 0 4.2	2.352	3.165	11.7	21.3
2 11	11 18.19	+18 41.9	2.402	3.322	7.2	21.3	2 11	11 18.46	- 0 18.5	2.255	3.152	8.9	21.1
2 21	11 10.59	+19 38.0	2.343	3.304	4.8	21.2	2 21	11 10.78	- 0 22.2	2.184	3.139	5.6	20.8
3 2	11 1.86	+20 28.6	2.314	3.286	4.0	21.1	3 2	11 1.92	- 0 16.8	2.141	3.126	2.5	20.6
3 12	10 52.82	+21 8.2	2.315	3.267	5.9	21.2	3 12	10 52.71	- 0 5.2	2.128	3.112	3.1	20.6
3 22	10 44.30	+21 32.7	2.345	3.247	8.8	21.3	3 22	10 44.00	+ 0 9.2	2.146	3.099	6.4	20.8
4 1	10 37.08	+21 40.4	2.400	3.227	11.6	21.5	4 1	10 36.58	+ 0 22.6	2.190	3.085	9.8	21.0
4 11	10 31.74	+21 31.3	2.476	3.206	14.0	21.6	4 11	10 31.05	+ 0 31.6	2.259	3.071	12.8	21.2
102748	1999 <i>VL</i> ₁₁₇		3 4.1 273°18	0°4/ 3.6 17			310384	1995 <i>SQ</i> ₂₁		3 4.1 89°71	0°7/ 3.5 18		
2 1	11 19.42	+ 5 35.3	2.491	3.330	10.3	20.7	2 1	11 26.22	+ 6 2.5	1.620	2.468	14.4	20.5
2 11	11 14.80	+ 6 10.9	2.397	3.314	7.4	20.4	2 11	11 20.03	+ 6 38.4	1.567	2.488	10.3	20.3
2 21	11 8.66	+ 6 55.4	2.330	3.298	4.2	20.2	2 21	11 11.66	+ 7 25.0	1.538	2.508	5.7	20.1
3 2	11 1.52	+ 7 44.8	2.291	3.282	0.7	19.9	3 2	11 2.05	+ 8 16.1	1.537	2.527	1.1	19.8
3 12	10 54.09	+ 8 34.3	2.283	3.265	3.1	20.1	3 12	10 52.38	+ 9 4.4	1.563	2.546	4.2	20.1
3 22	10 47.11	+ 9 19.2	2.303	3.249	6.6	20.3	3 22	10 43.79	+ 9 43.5	1.617	2.565	8.7	20.4
4 1	10 41.26	+ 9 55.5	2.351	3.232	9.8	20.4	4 1	10 37.20	+10 9.5	1.697	2.584	12.6	20.7
4 11	10 37.07	+10 20.5	2.422	3.216	12.6	20.6	4 11	10 33.12	+10 20.3	1.797	2.602	15.9	20.9
153926	2001 <i>YL</i> ₅₉		3 4.1 98°75	1°5/ 2.7 18			432169	2009 <i>BV</i> ₁₈₀		3 4.1 155°30	0°2/ 3.9 18		
2 1	11 23.26	+ 8 15.3	1.842	2.693	12.8	20.1	2 1	11 20.10	+ 4 39.6	2.624	3.457	10.0	22.0
2 11	11 17.80	+ 8 59.9	1.780	2.703	9.1	19.9	2 11	11 15.11	+ 5 18.5	2.549	3.462	7.2	21.9
2 21	11 10.40	+ 9 52.8	1.742	2.713	5.0	19.7	2 21	11 8.74	+ 6 5.9	2.501	3.468	4.0	21.7
3 2	11 1.82	+10 47.8	1.733	2.722	1.6	19.5	3 2	11 1.54	+ 6 57.8	2.482	3.472	0.7	21.4
3 12	10 53.09	+11 38.0	1.753	2.732	4.4	19.7	3 12	10 54.18	+ 7 49.6	2.494	3.477	2.8	21.6
3 22	10 45.21	+12 17.8	1.800	2.741	8.4	19.9	3 22	10 47.36	+ 8 36.9	2.535	3.481	6.0	21.8
4 1	10 39.03	+12 43.5	1.872	2.751	12.1	20.2	4 1	10 41.66	+ 9 16.0	2.605	3.485	9.0	22.0
4 11	10 35.08	+12 53.5	1.966	2.760	15.1	20.4	4 11	10 37.54	+ 9 44.4	2.698	3.489	11.5	22.2
272739	2005 <i>YV</i> ₁₀₇		3 4.1 15°03	5°0/28.7 18			163510	2002 <i>TR</i>		3 4.1 66°44	2°1/ 1.9 18		
2 1	11 18.87	+14 13.2	1.362	2.243	14.5	19.7	2 1	11 21.19	+10 1.7	1.982	2.837	11.8	19.8
2 11	11 15.21	+15 42.4	1.311	2.248	10.3	19.5	2 11	11 16.16	+10 58.1	1.929	2.855	8.3	19.6
2 21	11 9.15	+17 16.7	1.284	2.254	6.4	19.3	2 21	11 9.40	+12 0.5	1.902	2.873	4.6	19.4
3 2	11 1.61	+18 44.8	1.282	2.261	5.1	19.2	3 2	11 1.65	+13 2.4	1.903	2.890	2.2	19.3
3 12	10 53.89	+19 55.7	1.305	2.269	8.1	19.4	3 12	10 53.83	+13 57.2	1.933	2.908	4.7	19.5
3 22	10 47.23	+20 42.3	1.353	2.278	12.1	19.7	3 22	10 46.82	+14 39.8	1.991	2.926	8.2	19.7
4 1	10 42.64	+21 1.8	1.422	2.288	15.9	19.9	4 1	10 41.35	+15 7.1	2.074	2.943	11.4	19.9
4 11	10 40.73	+20 55.3	1.509	2.299	19.1	20.2	4 11	10 37.90	+15 18.2	2.179	2.961	14.2	20.2
235420	2003 <i>YA</i> ₃₄		3 4.1 204°55	4°4/28.8 18			172054	2001 <i>XJ</i> ₁₃₂		3 4.1 160°06	3°6/28.4 18		
2 1	11 24.69	+18 43.4	2.166	3.023	10.9	19.9	2 1	11 20.96	+17 39.2	2.670	3.525	9.2	20.6
2 11	11 18.69	+19 26.4	2.100	3.022	8.0	19.7	2 11	11 15.74	+18 37.0	2.607	3.529	6.6	20.4
2 21	11 10.86	+20 7.8	2.059	3.020	5.3	19.5	2 21	11 9.09	+19 34.6	2.571	3.533	4.4	20.3
3 2	11 1.91	+20 41.5	2.047	3.019	4.5	19.4	3 2	11 1.60	+20 26.6	2.565	3.537	3.7	20.2
3 12	10 52.79	+21 2.1	2.064	3.017	6.4	19.6	3 12	10 53.98	+21 8.0	2.589	3.540	5.4	20.4
3 22	10 44.44	+21 6.3	2.108	3.016	9.3	19.7	3 22	10 46.92	+21 35.7	2.641	3.543	7.9	20.5
4 1	10 37.65	+20 53.4	2.177	3.014	12.2	19.9	4 1	10 41.06	+21 48.0	2.718	3.546	10.4	20.7
4 11	10 32.95	+20 24.4	2.267	3.012	14.7	20.1	4 11	10 36.84	+21 45.0	2.818	3.548	12.5	20.8
157444	2004 <i>VV</i> ₁₇		3 4.1 213°07	6°8/25.9 18			226758	2004 <i>RF</i> ₆₂		3 4.1 124°05	0°4/ 3.8 18		
2 1	11 26.16	+26 5.4	2.177	3.030	11.0	20.1	2 1	11 23.92	+ 5 49.4	2.094	2.932	12.0	20.5
2 11	11 19.84	+27 11.8	2.116	3.025	8.7	19.9	2 11	11 18.09	+ 6 15.7	2.026	2.942	8.6	20.3
2 21	11 11.55	+28 11.5	2.080	3.021	7.0	19.8	2 21	11 10.50	+ 6 50.8	1.985	2.953	4.8	20.0
3 2	11 2.03	+28 56.5	2.073	3.015	7.0	19.8	3 2	11 1.85	+ 7 30.2	1.972	2.962	0.8	19.8
3 12	10 52.33	+29 21.1	2.093	3.010	8.8	19.9	3 12	10 53.07	+ 8 8.5	1.989	2.972	3.4	20.0
3 22	10 43.44	+29 22.5	2.139	3.004	11.2	20.0	3 22	10 45.03	+ 8 41.1	2.034	2.981	7.2	20.2
4 1	10 36.23	+29 1.2	2.208	2.998	13.7	20.2	4 1	10 38.51	+ 9 4.3	2.106	2.990	10.7	20.5
4 11	10 31.28	+28 19.8	2.296	2.991	15.8	20.3	4 11	10 34.02	+ 9 15.9	2.201	2.998	13.6	20.7
298808	2004 <i>RV</i> ₃₃		3 4.1 163°01	2°1/ 2.4 18			199282	2006 <i>BS</i> ₄₅		3 4.1 187°33	0°9/ 4.9 17		
2 1	11 27.75	+ 9 55.8	1.843	2.691	13.0	21.2	2 1	11 22.80	+ 2 6.8	2.124	2.952	12.2	20.8
2 11	11 21.09	+10 37.9	1.775	2.697	9.3	21.0	2 11	11 17.36	+ 2 22.5	2.044	2.952	9.0	20.6
2 21	11 12.29	+11 26.8	1.733	2.702	5.2	20.8	2 21	11 10.15	+ 2 49.8	1.989	2.952	5.3	20.4
3 2	11 2.17	+12 15.9	1.719	2.707	2.1	20.6	3 2	11 1.81	+ 3 25.4	1.962	2.951	1.5	20.1
3 12	10 51.85	+12 58.6	1.735	2.711	4.9	20.8	3 12	10 53.22	+ 4 4.4	1.965	2.950	3.0	20.2
3 22	10 42.42	+13 29.4	1.779	2.715	8.9	21.0	3 22	10 45.27	+ 4 41.9	1.996	2.949	6.9	20.5
4 1	10 34.82	+13 45.4	1.848	2.717	12.6	21.3	4 1	10 38.76	+ 5 13.3	2.055	2.948	10.4	20.7
4 11	10 29.65	+13 45.5	1.939	2.719	15.7	21.5	4 11	10 34.25	+ 5 35.2	2.136	2.947	13.5	20.9
50893	2000 <i>GX</i> ₄₁		3 4.1 122°36	2°8/ 7.5 18 R			337741	2001 <i>UR</i> ₈₄		3 4.1 156°70	3°4/ 9.0 18		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
234098	1999 <i>TJ</i> ₂₄₃		3 4.1 123°77	1.4/ 5.6	18		43755	1983 <i>RJ</i> ₁		3 4.1 215°41	0.7/ 4.8	18	
2 1	11 20.98	- 0 30.5	2.013	2.838	12.9	20.8	2 1	11 23.92	+ 1 51.2	2.101	2.928	12.4	19.4
2 11	11 16.11	+ 0 0.6	1.938	2.843	9.6	20.6	2 11	11 18.29	+ 2 23.7	2.012	2.920	9.2	19.2
2 21	11 9.45	+ 0 46.9	1.887	2.848	5.8	20.4	2 21	11 10.76	+ 3 9.6	1.948	2.911	5.4	18.9
3 2	11 1.68	+ 1 44.5	1.864	2.852	2.1	20.2	3 2	11 1.98	+ 4 4.8	1.912	2.901	1.4	18.6
3 12	10 53.70	+ 2 47.5	1.870	2.856	3.1	20.2	3 12	10 52.85	+ 5 3.6	1.906	2.891	3.2	18.7
3 22	10 46.39	+ 3 49.5	1.905	2.860	6.9	20.5	3 22	10 44.30	+ 6 0.0	1.930	2.880	7.2	19.0
4 1	10 40.56	+ 4 44.6	1.966	2.864	10.6	20.7	4 1	10 37.20	+ 6 48.6	1.980	2.869	11.0	19.2
4 11	10 36.73	+ 5 28.6	2.050	2.868	13.7	20.9	4 11	10 32.17	+ 7 25.3	2.053	2.857	14.2	19.3
458985	2011 <i>WC</i> ₇₂		3 4.1 245°00	6°6/27.1	17		215909	2005 <i>JH</i> ₁₃		3 4.1 196°38	3°9/29.7	18	
2 1	11 27.46	+21 21.4	1.738	2.600	12.9	21.0	2 1	11 26.20	+15 9.7	1.897	2.753	12.2	20.7
2 11	11 21.30	+22 39.7	1.665	2.586	9.8	20.8	2 11	11 20.03	+16 2.3	1.827	2.752	8.8	20.5
2 21	11 12.64	+23 56.1	1.617	2.572	7.2	20.6	2 21	11 11.76	+16 57.3	1.783	2.749	5.4	20.3
3 2	11 2.30	+25 0.6	1.596	2.557	6.9	20.6	3 2	11 2.15	+17 47.3	1.767	2.747	3.9	20.2
3 12	10 51.53	+25 44.2	1.602	2.542	9.2	20.7	3 12	10 52.29	+18 25.4	1.780	2.744	6.3	20.3
3 22	10 41.63	+26 2.1	1.634	2.526	12.6	20.8	3 22	10 43.26	+18 47.0	1.820	2.740	9.8	20.5
4 1	10 33.74	+25 53.1	1.689	2.510	15.9	21.0	4 1	10 35.99	+18 50.0	1.885	2.736	13.2	20.7
4 11	10 28.58	+25 19.9	1.761	2.493	18.8	21.2	4 11	10 31.10	+18 34.8	1.970	2.731	16.1	20.9
308340	2005 <i>PB</i> ₂₄		3 4.1 244°39	0°8/ 3.2	17		246567	2008 <i>SD</i> ₂₆₁		3 4.1 61°36	1°0/ 3.1	17	
2 1	11 20.00	+ 6 59.4	2.605	3.444	9.9	21.5	2 1	11 20.92	+ 6 40.8	1.942	2.791	12.3	21.3
2 11	11 15.15	+ 7 35.1	2.516	3.434	7.1	21.3	2 11	11 16.11	+ 7 26.5	1.875	2.797	8.8	21.1
2 21	11 8.84	+ 8 18.2	2.454	3.423	3.9	21.1	2 21	11 9.48	+ 8 21.8	1.832	2.802	4.8	20.9
3 2	11 1.60	+ 9 4.6	2.422	3.412	0.9	20.8	3 2	11 1.74	+ 9 21.1	1.817	2.808	1.1	20.6
3 12	10 54.12	+ 9 49.7	2.420	3.401	3.2	21.0	3 12	10 53.81	+10 17.7	1.832	2.813	3.9	20.8
3 22	10 47.10	+10 29.3	2.447	3.390	6.5	21.2	3 22	10 46.62	+11 5.7	1.874	2.819	7.9	21.1
4 1	10 41.19	+10 59.8	2.502	3.378	9.5	21.4	4 1	10 40.95	+11 40.9	1.942	2.825	11.5	21.3
4 11	10 36.89	+11 19.2	2.580	3.366	12.1	21.5	4 11	10 37.36	+12 1.0	2.031	2.830	14.5	21.5
170254	2003 <i>QV</i> ₅₃		3 4.1 161°10	1°3/ 2.9	18		428737	2008 <i>RY</i> ₁₁₀		3 4.1 109°07	1°4/ 2.7	18	
2 1	11 25.34	+ 7 27.3	1.997	2.840	12.3	21.3	2 1	11 22.33	+ 8 29.7	2.115	2.962	11.5	22.0
2 11	11 19.24	+ 8 15.8	1.928	2.847	8.8	21.1	2 11	11 16.96	+ 9 13.2	2.051	2.973	8.2	21.8
2 21	11 11.22	+ 9 13.1	1.884	2.853	4.9	20.9	2 21	11 9.89	+10 3.7	2.014	2.983	4.5	21.6
3 2	11 2.03	+10 13.3	1.869	2.859	1.3	20.6	3 2	11 1.81	+10 55.7	2.005	2.994	1.5	21.4
3 12	10 52.64	+11 9.7	1.884	2.863	4.1	20.8	3 12	10 53.59	+11 43.4	2.025	3.004	4.0	21.6
3 22	10 44.02	+11 56.6	1.928	2.867	8.1	21.1	3 22	10 46.11	+12 22.0	2.074	3.014	7.6	21.8
4 1	10 37.02	+12 30.1	1.998	2.871	11.6	21.3	4 1	10 40.10	+12 47.9	2.150	3.024	10.9	22.0
4 11	10 32.19	+12 48.3	2.089	2.873	14.6	21.5	4 11	10 36.06	+12 59.9	2.247	3.033	13.7	22.3
348573	2005 <i>WH</i> ₂₀		3 4.1 28°75	5°9/29.3	18		361704	2007 <i>VZ</i> ₂₀₆		3 4.1 82°82	5°0/28.9	18	
2 1	11 26.49	+16 37.0	1.154	2.035	16.6	20.4	2 1	11 25.25	+15 54.4	1.514	2.382	14.1	20.2
2 11	11 21.07	+17 35.7	1.105	2.040	12.1	20.2	2 11	11 19.62	+17 8.3	1.463	2.392	10.1	20.0
2 21	11 12.61	+18 35.5	1.077	2.046	7.7	20.0	2 21	11 11.59	+18 23.9	1.436	2.402	6.4	19.8
3 2	11 2.28	+19 24.7	1.074	2.053	6.0	19.9	3 2	11 2.11	+19 31.5	1.435	2.412	5.1	19.7
3 12	10 51.80	+19 53.2	1.095	2.060	9.0	20.1	3 12	10 52.51	+20 21.8	1.462	2.422	7.8	19.9
3 22	10 42.78	+19 55.8	1.139	2.068	13.5	20.3	3 22	10 44.04	+20 49.7	1.514	2.432	11.6	20.1
4 1	10 36.49	+19 32.1	1.203	2.076	17.7	20.6	4 1	10 37.70	+20 53.7	1.589	2.442	15.2	20.4
4 11	10 33.53	+18 45.4	1.285	2.085	21.2	20.9	4 11	10 34.08	+20 35.4	1.682	2.452	18.2	20.6
356618	2011 <i>UT</i> ₁₄		3 4.1 285°39	1°5/ 3.2	18		432570	2010 <i>NK</i> ₃₇		3 4.1 174°74	0°3/ 3.8	17	
2 1	11 27.51	+ 8 48.7	1.430	2.288	15.4	20.6	2 1	11 19.10	+ 4 18.6	2.719	3.550	9.8	21.6
2 11	11 21.63	+ 9 4.0	1.351	2.276	11.2	20.3	2 11	11 14.40	+ 5 10.5	2.639	3.552	7.0	21.4
2 21	11 12.95	+ 9 28.4	1.294	2.265	6.3	20.0	2 21	11 8.38	+ 6 11.4	2.587	3.554	3.9	21.2
3 2	11 2.38	+ 9 55.9	1.264	2.254	1.6	19.7	3 2	11 1.54	+ 7 17.2	2.565	3.555	0.7	20.9
3 12	10 51.29	+10 19.1	1.261	2.243	5.2	19.9	3 12	10 54.53	+ 8 22.9	2.573	3.556	2.8	21.1
3 22	10 41.14	+10 32.1	1.284	2.232	10.4	20.1	3 22	10 48.00	+ 9 23.6	2.612	3.557	6.0	21.3
4 1	10 33.23	+10 30.7	1.330	2.221	15.1	20.4	4 1	10 42.52	+10 15.5	2.679	3.557	8.9	21.5
4 11	10 28.35	+10 13.7	1.395	2.210	19.1	20.6	4 11	10 38.55	+10 55.8	2.769	3.557	11.3	21.7
462899	2010 <i>XP</i> ₄₃		3 4.1 79°30	0°2/ 3.9	18		419887	2011 <i>AL</i> ₄₅		3 4.1 120°14	8°0/10.1	17	
2 1	11 23.09	+ 3 22.5	1.710	2.553	14.0	21.3	2 1	11 28.48	-14 23.1	1.933	2.681	16.2	20.6
2 11	11 17.70	+ 4 17.5	1.658	2.575	10.1	21.1	2 11	11 21.81	-15 36.9	1.851	2.683	13.6	20.5
2 21	11 10.35	+ 5 26.1	1.630	2.598	5.6	20.9	2 21	11 12.86	-16 29.6	1.790	2.686	10.9	20.3
3 2	11 1.86	+ 6 41.4	1.630	2.621	0.9	20.6	3 2	11 2.38	-16 57.9	1.754	2.689	8.7	20.2
3 12	10 53.33	+ 7 55.3	1.659	2.643	3.7	20.9	3 12	10 51.43	-17 1.9	1.746	2.691	8.1	20.1
3 22	10 45.76	+ 9 0.6	1.715	2.665	8.1	21.2	3 22	10 41.18	-16 44.7	1.764	2.693	9.4	20.2
4 1	10 39.98	+ 9 51.9	1.797	2.687	11.9	21.4	4 1	10 32.66	-16 12.7	1.808	2.696	11.9	20.4
4 11	10 36.50	+10 26.5	1.901	2.708	15.0	21.7	4 11	10 26.60	-15 33.4	1.874	2.698	14.6	20.5
464244	2015 <i>DB</i> ₁₀₀		3 4.1 253°13	1°7/ 5.7	17		179053	2001 <i>ST</i> ₃₉		3 4.1 144°70	5°0/28.4	18	
2 1	11 21.73	- 0 23.8	1.968	2.794	13.2	21.0	2 1	11 27.75	+20 18.6	2.108	2.961	11.3	20.2
2 11	11 16.75	- 0 7.4	1.887	2.791	9.9	20.7	2 11	11 20.88	+21 9.6	2.052	2.970	8.4	20.0
2 21	11 9.88	+ 0 23.8	1.829	2.789	6.1	20.5	2 21	11 12.09	+21 57.3	2.022	2.979	5.8	19.9
3 2	11 1.81	+ 1 6.6	1.799	2.786	2.3	20.3	3 2	11 2.20	+22 34.9	2.021	2.987	5.1	19.8
3 12	10 53.44	+ 1 55.9	1.797	2.783	3.2	20.3	3 12	10 52.22	+22 56.7	2.049	2.995	7.0	20.0
3 22	10 45.72	+ 2 45.7	1.824	2.780	7.1	20.6	3 22	10 43.14	+23 0.2	2.104	3.002	9.8	20.1
4 1	10 39.51	+ 3 30.4	1.877	2.777	10.9	20.8	4 1	10 35.79	+22 44.9	2.184	3.009	12.6	20.3
4 11	10 35.39	+ 4 5.4	1.952	2.775	14.1	21.0	4 11	10 30.68	+22 12.7	2.285	3.015	15.0	20.5
388148	2005 <i>WP</i> ₁₅₉		3 4.1 284°36	1°0/ 2.9	17		317065	2001 <i>ST</i> ₁₄₁		3 4.1 134°90	0°6/ 4.7		

EPHEMERIDES

3 4.1

3 4.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
288766	2004 <i>RB</i> ₉₄		3 4.1 139°51	2.4/ 6.5	16		190038	2004 <i>RK</i> ₈₈		3 4.1 236°79	3.2/ 7.5	17	
2 1	11 23.96	- 2 31.9	2.237	3.044	12.5	21.5	2 1	11 21.28	- 6 1.6	2.238	3.034	12.8	20.9
2 11	11 18.09	- 2 27.9	2.162	3.053	9.4	21.3	2 11	11 16.35	- 5 43.5	2.141	3.022	10.0	20.7
2 21	11 10.53	- 2 9.9	2.111	3.063	6.1	21.1	2 21	11 9.67	- 5 7.4	2.067	3.010	6.8	20.5
3 2	11 1.94	- 1 40.3	2.089	3.071	3.0	20.9	3 2	11 1.82	- 4 15.2	2.020	2.997	3.9	20.3
3 12	10 53.17	- 1 3.0	2.096	3.080	3.2	21.0	3 12	10 53.62	- 3 11.2	2.003	2.984	3.6	20.2
3 22	10 45.06	- 0 22.8	2.133	3.087	6.4	21.2	3 22	10 45.90	- 2 1.3	2.015	2.971	6.6	20.4
4 1	10 38.35	+ 0 15.4	2.197	3.095	9.7	21.4	4 1	10 39.48	+ 0 51.9	2.054	2.957	10.0	20.6
4 11	10 33.57	+ 0 47.4	2.285	3.102	12.5	21.6	4 11	10 34.94	+ 0 11.1	2.118	2.943	13.1	20.7
82054	2000 <i>TG</i> ₃₉		3 4.1 238°46	6.4/26.0	18		54894	2001 <i>OX</i> ₆₉		3 4.1 187°73	0°6/ 3.5	18	
2 1	11 27.15	+28 9.4	2.525	3.369	10.0	19.4	2 1	11 24.24	+ 6 11.2	2.315	3.149	11.1	19.9
2 11	11 20.36	+28 54.1	2.459	3.361	8.0	19.2	2 11	11 18.31	+ 6 45.7	2.234	3.149	8.0	19.7
2 21	11 11.79	+29 30.6	2.420	3.353	6.6	19.1	2 21	11 10.69	+ 7 28.5	2.180	3.147	4.5	19.5
3 2	11 2.16	+29 52.8	2.408	3.344	6.6	19.1	3 2	11 1.99	+ 8 15.4	2.155	3.146	0.8	19.2
3 12	10 52.39	+29 56.3	2.426	3.336	8.0	19.2	3 12	10 53.06	+ 9 1.2	2.161	3.143	3.3	19.4
3 22	10 43.36	+29 39.4	2.470	3.327	10.2	19.3	3 22	10 44.74	+ 9 40.9	2.197	3.140	7.0	19.6
4 1	10 35.87	+29 2.8	2.538	3.318	12.3	19.5	4 1	10 37.77	+10 10.9	2.259	3.136	10.3	19.8
4 11	10 30.41	+28 9.2	2.626	3.309	14.3	19.6	4 11	10 32.71	+10 29.0	2.345	3.131	13.2	20.0
518134	2016 <i>CC</i> ₂₈₉		3 4.1 284°49	4°8/ 8.0	17		44777	1999 <i>TS</i> ₁₅₁		3 4.1 359°82	1°2/ 5.0	18	
2 1	11 22.90	- 7 15.8	1.882	2.679	14.8	21.3	2 1	11 24.51	+ 1 57.3	1.518	2.361	15.5	18.7
2 11	11 17.89	- 7 34.6	1.782	2.661	11.8	21.1	2 11	11 19.21	+ 2 6.6	1.445	2.360	11.5	18.5
2 21	11 10.72	- 7 34.1	1.705	2.643	8.5	20.9	2 21	11 11.47	+ 2 31.5	1.395	2.360	6.8	18.2
3 2	11 2.02	- 7 14.3	1.653	2.624	5.5	20.6	3 2	11 2.16	+ 3 8.0	1.371	2.360	2.0	17.9
3 12	10 52.77	- 6 38.0	1.629	2.605	5.1	20.6	3 12	10 52.50	+ 3 49.6	1.374	2.360	3.8	18.0
3 22	10 44.05	- 5 50.4	1.632	2.587	7.9	20.7	3 22	10 43.76	+ 4 29.4	1.403	2.360	8.7	18.3
4 1	10 36.87	- 4 58.3	1.661	2.568	11.6	20.9	4 1	10 37.02	+ 5 1.2	1.457	2.360	13.2	18.6
4 11	10 31.99	- 4 8.7	1.712	2.550	15.1	21.0	4 11	10 32.98	+ 5 20.7	1.531	2.361	17.0	18.8
385256	2001 <i>OU</i> ₃		3 4.1 191°78	4°8/ 6.6	18		373593	2002 <i>CN</i> ₁₀₉		3 4.1 359°24	0°3/ 3.9	18	
2 1	11 33.63	- 2 58.4	1.337	2.157	18.5	20.7	2 1	11 24.42	+ 6 46.3	1.459	2.316	15.2	19.9
2 11	11 26.24	- 3 48.8	1.260	2.156	14.4	20.4	2 11	11 19.20	+ 6 43.3	1.389	2.314	11.0	19.6
2 21	11 15.67	- 4 20.6	1.205	2.155	9.7	20.1	2 21	11 11.48	+ 6 50.0	1.342	2.312	6.2	19.3
3 2	11 2.92	- 4 33.1	1.174	2.154	5.5	19.9	3 2	11 2.16	+ 7 2.0	1.321	2.311	1.1	19.0
3 12	10 49.55	- 4 28.9	1.171	2.152	5.8	19.9	3 12	10 52.53	+ 7 13.6	1.326	2.312	4.2	19.2
3 22	10 37.29	- 4 13.5	1.194	2.149	10.2	20.1	3 22	10 43.89	+ 7 19.7	1.358	2.313	9.2	19.5
4 1	10 27.59	- 3 54.1	1.241	2.146	14.9	20.4	4 1	10 37.33	+ 7 16.2	1.413	2.314	13.7	19.8
4 11	10 21.34	- 3 37.7	1.308	2.142	19.1	20.6	4 11	10 33.55	+ 7 1.1	1.488	2.317	17.5	20.0
330099	2005 <i>WM</i> ₁₄₄		3 4.1 101°68	4°4/ 9.2	18		141406	2002 <i>AR</i> ₁₆₂		3 4.1 8°94	0°7/ 4.6	18	
2 1	11 22.03	-10 54.0	2.130	2.902	14.1	21.8	2 1	11 21.11	+ 1 48.7	1.242	2.101	17.2	19.6
2 11	11 16.71	-10 28.1	2.063	2.925	11.3	21.6	2 11	11 17.10	+ 2 25.6	1.177	2.101	12.7	19.3
2 21	11 9.74	- 9 40.3	2.020	2.947	8.1	21.4	2 21	11 10.41	+ 3 23.2	1.134	2.102	7.4	19.0
3 2	11 1.80	- 8 33.1	2.003	2.969	5.3	21.3	3 2	11 1.98	+ 4 35.1	1.114	2.104	1.7	18.7
3 12	10 53.76	- 7 11.8	2.015	2.990	4.5	21.3	3 12	10 53.19	+ 5 51.2	1.120	2.107	4.4	18.9
3 22	10 46.46	- 5 43.4	2.056	3.010	6.6	21.5	3 22	10 45.48	+ 7 1.0	1.151	2.110	9.9	19.2
4 1	10 40.63	- 4 15.4	2.125	3.031	9.6	21.7	4 1	10 40.01	+ 7 56.2	1.204	2.114	14.9	19.5
4 11	10 36.74	- 2 54.5	2.219	3.050	12.4	21.9	4 11	10 37.51	+ 8 31.7	1.276	2.118	19.0	19.7
281137	2007 <i>CH</i> ₆₆		3 4.1 27°44	7°9/28.6	18		71014	1999 <i>XW</i> ₅₂		3 4.1 209°30	2°5/ 1.2	18	
2 1	11 29.51	+23 37.7	1.260	2.133	16.0	19.3	2 1	11 22.70	+12 56.3	2.551	3.399	9.8	20.5
2 11	11 22.93	+24 13.6	1.221	2.147	12.1	19.1	2 11	11 17.13	+13 46.8	2.471	3.392	7.0	20.3
2 21	11 13.47	+24 39.5	1.204	2.161	8.9	19.0	2 21	11 10.00	+14 40.7	2.418	3.385	4.1	20.1
3 2	11 2.45	+24 45.7	1.211	2.176	8.0	19.0	3 2	11 1.88	+15 33.0	2.394	3.377	2.5	20.0
3 12	10 51.57	+24 26.0	1.243	2.193	10.2	19.1	3 12	10 53.53	+16 18.3	2.402	3.369	4.6	20.1
3 22	10 42.35	+23 39.9	1.299	2.210	13.7	19.4	3 22	10 45.71	+16 52.7	2.438	3.360	7.6	20.3
4 1	10 35.87	+22 30.8	1.376	2.228	17.1	19.6	4 1	10 39.11	+17 13.5	2.501	3.351	10.4	20.5
4 11	10 32.60	+21 4.2	1.471	2.248	20.0	19.9	4 11	10 34.25	+17 19.9	2.586	3.341	12.9	20.6
175929	2000 <i>DB</i> ₈₈		3 4.1 134°69	0°8/ 3.4	18		95524	2002 <i>EN</i> ₇₀		3 4.1 115°07	1°3/ 5.5	18	
2 1	11 24.35	+ 6 28.6	1.727	2.576	13.6	19.1	2 1	11 20.68	- 0 27.5	1.948	2.776	13.2	19.7
2 11	11 18.80	+ 7 1.9	1.658	2.579	9.8	18.9	2 11	11 15.99	+ 0 8.9	1.872	2.779	9.8	19.5
2 21	11 11.11	+ 7 45.6	1.613	2.582	5.5	18.6	2 21	11 9.47	+ 1 1.3	1.821	2.782	5.9	19.3
3 2	11 2.07	+ 8 34.2	1.595	2.585	1.1	18.3	3 2	11 1.79	+ 2 5.4	1.797	2.785	2.0	19.0
3 12	10 52.79	+ 9 20.7	1.605	2.588	4.1	18.6	3 12	10 53.88	+ 3 14.9	1.802	2.788	3.1	19.1
3 22	10 44.36	+ 9 59.0	1.643	2.590	8.6	18.8	3 22	10 46.66	+ 4 22.9	1.835	2.791	7.1	19.4
4 1	10 37.74	+10 24.7	1.706	2.593	12.6	19.1	4 1	10 40.93	+ 5 23.1	1.894	2.793	10.9	19.6
4 11	10 33.52	+10 35.4	1.790	2.595	15.9	19.3	4 11	10 37.26	+ 6 11.0	1.976	2.796	14.1	19.8
89564	2001 <i>XJ</i> ₁₀₃		3 4.1 143°69	4°3/29.2	18		132018	2002 <i>CD</i> ₁₀₇		3 4.1 32°56	2°8/ 2.2	18	
2 1	11 27.01	+15 6.3	1.822	2.679	12.6	20.4	2 1	11 22.88	+ 9 15.4	1.125	2.003	17.1	19.1
2 11	11 20.58	+16 22.4	1.766	2.691	9.1	20.2	2 11	11 18.41	+10 10.2	1.079	2.014	12.2	18.8
2 21	11 12.04	+17 40.9	1.737	2.702	5.6	20.0	2 21	11 11.10	+11 16.2	1.053	2.027	6.8	18.6
3 2	11 2.22	+18 53.0	1.735	2.713	4.3	19.9	3 2	11 2.08	+12 23.0	1.052	2.040	2.8	18.3
3 12	10 52.27	+19 50.8	1.763	2.723	6.8	20.1	3 12	10 52.95	+13 19.7	1.075	2.054	6.4	18.6
3 22	10 43.28	+20 29.2	1.818	2.732	10.2	20.3	3 22	10 45.20	+13 58.0	1.122	2.069	11.6	18.9
4 1	10 36.16	+20 46.1	1.897	2.740	13.5	20.6	4 1	10 39.97	+14 13.9	1.190	2.085	16.2	19.2
4 11	10 31.47	+20 42.6	1.997	2.747	16.3	20.8	4 11	10 37.85	+14 7.2	1.276	2.101	20.0	19.5
403307	2009 <i>CR</i> ₆		3 4.1 67°38	2°3/ 2.1	18		169343	2001 <i>TD</i> ₂₀₅		3 4.1 77°99	5°0/27.5</		

EPHEMERIDES

3 4.1

3 4.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
42081	2001 AX ₇		3 4.1 108°68	2°6/ 6.5 18			197634	2004 KV ₁₀		3 4.2 266°77	3°3/ 1.5 18		
2 1	11 24.18	- 3 23.5	1.684	2.503	15.3	19.5	2 1	11 24.12	+10 19.7	1.414	2.281	15.0	20.8
2 11	11 18.67	- 2 59.7	1.619	2.517	11.6	19.3	2 11	11 19.25	+11 32.7	1.339	2.269	10.8	20.5
2 21	11 11.02	- 2 15.9	1.576	2.530	7.4	19.0	2 21	11 11.68	+12 57.6	1.286	2.258	6.2	20.2
3 2	11 2.08	- 1 16.0	1.560	2.543	3.4	18.8	3 2	11 2.26	+14 24.6	1.260	2.246	3.4	20.0
3 12	10 52.96	- 0 6.8	1.571	2.556	3.7	18.9	3 12	10 52.32	+15 42.5	1.260	2.234	6.8	20.2
3 22	10 44.74	+ 1 3.9	1.611	2.569	7.7	19.1	3 22	10 43.27	+16 41.9	1.286	2.222	11.6	20.4
4 1	10 38.36	+ 2 8.6	1.676	2.581	11.7	19.4	4 1	10 36.36	+17 17.5	1.334	2.209	16.1	20.6
4 11	10 34.39	+ 3 1.4	1.764	2.593	15.1	19.6	4 11	10 32.40	+17 28.0	1.401	2.197	20.0	20.8
209577	2004 XY ₈₃		3 4.1 25°46	3°2/ 1.9 18			302435	2002 DD ₁₉		3 4.2 101°55	3°1/ 6.5 18		
2 1	11 22.47	+10 28.1	1.078	1.960	17.3	19.5	2 1	11 26.42	- 2 51.9	1.556	2.378	16.2	21.1
2 11	11 18.20	+11 18.3	1.032	1.970	12.3	19.3	2 11	11 20.44	- 2 52.0	1.491	2.391	12.4	20.9
2 21	11 11.01	+12 18.0	1.008	1.982	6.9	19.0	2 21	11 12.10	- 2 32.5	1.449	2.403	8.0	20.7
3 2	11 2.08	+13 16.8	1.007	1.995	3.2	18.8	3 2	11 2.31	- 1 56.3	1.432	2.415	3.9	20.5
3 12	10 53.04	+14 3.9	1.030	2.009	6.8	19.1	3 12	10 52.30	- 1 9.2	1.443	2.427	4.2	20.5
3 22	10 45.42	+14 31.5	1.076	2.024	12.0	19.4	3 22	10 43.30	- 0 18.4	1.481	2.439	8.3	20.8
4 1	10 40.40	+14 36.5	1.143	2.040	16.6	19.7	4 1	10 36.34	+ 0 28.7	1.544	2.450	12.4	21.0
4 11	10 38.56	+14 19.1	1.228	2.057	20.4	20.0	4 11	10 32.04	+ 1 6.5	1.628	2.461	16.0	21.3
169418	2001 XF ₂₀₈		3 4.1 97°31	9°3/19.1 18			117042	2004 JF ₂₆		3 4.2 4°62	2°6/ 6.2 18		
2 1	11 25.75	+40 9.2	2.625	3.441	10.5	20.5	2 1	11 20.11	- 1 54.1	1.370	2.212	16.9	19.1
2 11	11 19.42	+41 50.3	2.613	3.464	9.5	20.5	2 11	11 16.22	- 1 40.9	1.300	2.212	12.8	18.8
2 21	11 11.27	+43 14.4	2.627	3.487	9.3	20.5	2 21	11 9.87	- 1 5.8	1.252	2.212	8.1	18.6
3 2	11 2.11	+44 14.7	2.667	3.509	9.8	20.6	3 2	11 1.93	- 0 12.3	1.227	2.213	3.5	18.3
3 12	10 52.92	+44 47.8	2.731	3.530	10.9	20.7	3 12	10 53.64	+ 0 51.9	1.229	2.216	4.1	18.3
3 22	10 44.63	+44 53.5	2.817	3.552	12.2	20.8	3 22	10 46.28	+ 1 57.9	1.256	2.218	8.8	18.6
4 1	10 38.03	+44 34.0	2.921	3.573	13.5	21.0	4 1	10 40.96	+ 2 56.8	1.306	2.222	13.5	18.9
4 11	10 33.58	+43 53.6	3.041	3.593	14.5	21.1	4 11	10 38.37	+ 3 42.2	1.376	2.227	17.4	19.1
418999	2009 OE ₁₂		3 4.1 283°30	8°2/10.5 17			433217	2012 UD ₁₂₈		3 4.2 187°69	3°1/ 7.5 17		
2 1	11 24.70	-14 39.1	1.775	2.534	17.0	20.8	2 1	11 21.35	- 5 23.0	2.440	3.234	11.9	21.5
2 11	11 19.34	-15 34.8	1.685	2.526	14.4	20.6	2 11	11 16.21	- 5 24.8	2.354	3.234	9.3	21.3
2 21	11 11.61	-16 6.7	1.615	2.518	11.5	20.4	2 21	11 9.53	- 5 12.0	2.292	3.233	6.4	21.1
3 2	11 2.24	-16 11.8	1.570	2.510	9.1	20.2	3 2	11 1.85	- 4 46.0	2.257	3.233	3.7	21.0
3 12	10 52.30	-15 50.6	1.550	2.502	8.3	20.1	3 12	10 53.93	- 4 10.0	2.252	3.232	3.5	20.9
3 22	10 42.99	-15 7.5	1.555	2.494	9.7	20.2	3 22	10 46.54	- 3 28.3	2.276	3.231	6.0	21.1
4 1	10 35.43	-14 10.1	1.586	2.486	12.5	20.3	4 1	10 40.36	- 2 45.9	2.328	3.230	9.0	21.3
4 11	10 30.40	-13 7.4	1.638	2.478	15.6	20.5	4 11	10 35.90	- 2 7.1	2.404	3.228	11.7	21.5
169141	2001 QQ ₉₂		3 4.1 184°58	3°0/29.9 17			57012	2000 TA ₂₁		3 4.2 196°62	1°9/ 1.7 18		
2 1	11 23.08	+14 41.9	2.315	3.168	10.4	20.5	2 1	11 19.08	+10 6.1	2.539	3.388	9.8	19.5
2 11	11 17.48	+15 21.3	2.245	3.168	7.5	20.3	2 11	11 14.53	+11 7.7	2.464	3.387	6.9	19.3
2 21	11 10.22	+16 2.4	2.201	3.168	4.5	20.1	2 21	11 8.55	+12 15.1	2.416	3.386	3.9	19.1
3 2	11 1.94	+16 39.9	2.187	3.168	3.0	20.0	3 2	11 1.67	+13 23.2	2.398	3.384	1.9	19.0
3 12	10 53.49	+17 8.5	2.202	3.167	5.1	20.1	3 12	10 54.60	+14 26.2	2.409	3.382	4.1	19.1
3 22	10 45.70	+17 24.9	2.245	3.167	8.1	20.3	3 22	10 48.04	+15 19.4	2.450	3.380	7.1	19.3
4 1	10 39.30	+17 27.0	2.314	3.166	11.1	20.5	4 1	10 42.62	+15 59.4	2.518	3.378	10.0	19.5
4 11	10 34.79	+17 14.8	2.405	3.165	13.6	20.7	4 11	10 38.82	+16 24.7	2.608	3.376	12.5	19.7
384892	2012 TE ₁₈		3 4.1 128°38	1°0/ 5.4 17			375300	2008 PN ₁₆		3 4.2 187°67	1°6/ 6.2 17		
2 1	11 19.92	+ 0 22.0	2.505	3.325	10.9	21.7	2 1	11 20.51	- 2 49.8	2.603	3.407	11.0	22.1
2 11	11 15.07	+ 0 54.3	2.430	3.334	8.0	21.5	2 11	11 15.53	- 2 4.4	2.514	3.406	8.3	21.9
2 21	11 8.81	+ 1 38.2	2.382	3.342	4.8	21.3	2 21	11 9.11	- 1 4.5	2.452	3.405	5.2	21.7
3 2	11 1.69	+ 2 30.2	2.362	3.351	1.6	21.1	3 2	11 1.78	+ 0 6.6	2.418	3.403	2.2	21.5
3 12	10 54.42	+ 3 25.7	2.373	3.359	2.6	21.2	3 12	10 54.23	+ 1 23.9	2.416	3.401	2.6	21.6
3 22	10 47.71	+ 4 19.9	2.413	3.366	5.8	21.4	3 22	10 47.16	+ 2 41.6	2.444	3.398	5.7	21.8
4 1	10 42.17	+ 5 8.2	2.481	3.374	8.9	21.6	4 1	10 41.21	+ 3 54.5	2.500	3.394	8.8	21.9
4 11	10 38.25	+ 5 47.3	2.573	3.381	11.5	21.8	4 11	10 36.86	+ 4 58.0	2.582	3.389	11.5	22.1
132037	2002 CS ₁₂₇		3 4.1 76°33	2°0/ 2.5 18			172784	2004 EH ₈₃		3 4.2 297°18	1°0/ 3.2 17		
2 1	11 22.67	+ 6 47.9	1.420	2.282	15.3	20.0	2 1	11 23.66	+ 8 45.9	2.195	3.039	11.3	19.7
2 11	11 17.92	+ 8 3.3	1.361	2.289	10.9	19.7	2 11	11 18.00	+ 8 58.6	2.115	3.034	8.1	19.5
2 21	11 10.74	+ 9 32.6	1.325	2.297	6.0	19.5	2 21	11 10.58	+ 9 17.0	2.061	3.030	4.5	19.3
3 2	11 2.05	+11 6.5	1.315	2.304	2.0	19.2	3 2	11 2.05	+ 9 37.1	2.036	3.026	1.1	19.0
3 12	10 53.13	+12 34.0	1.333	2.312	5.5	19.5	3 12	10 53.28	+ 9 54.5	2.040	3.021	3.6	19.2
3 22	10 45.24	+13 45.9	1.376	2.320	10.3	19.8	3 22	10 45.16	+10 5.5	2.073	3.017	7.3	19.4
4 1	10 39.44	+14 36.3	1.443	2.328	14.6	20.1	4 1	10 38.46	+10 7.3	2.133	3.013	10.7	19.6
4 11	10 36.35	+15 3.4	1.530	2.335	18.1	20.3	4 11	10 33.73	+ 9 58.5	2.215	3.008	13.6	19.8
504197	2006 TH ₉₇		3 4.2 185°27	0°4/ 3.6 17			401068	2011 UE ₅₉		3 4.2 240°73	1°3/ 5.3 17		
2 1	11 20.29	+ 5 53.6	2.820	3.653	9.4	22.6	2 1	11 23.05	- 0 41.9	1.623	2.456	15.2	21.5
2 11	11 15.24	+ 6 26.7	2.739	3.653	6.8	22.4	2 11	11 18.19	+ 0 4.5	1.536	2.446	11.3	21.3
2 21	11 8.88	+ 7 6.9	2.685	3.653	3.8	22.2	2 21	11 10.98	+ 1 12.0	1.472	2.435	6.9	21.0
3 2	11 1.71	+ 7 50.6	2.661	3.652	0.7	22.0	3 2	11 2.16	+ 2 35.7	1.435	2.424	2.1	20.7
3 12	10 54.37	+ 8 33.6	2.668	3.650	2.7	22.1	3 12	10 52.84	+ 4 7.2	1.426	2.412	3.7	20.7
3 22	10 47.49	+ 9 12.2	2.705	3.649	5.8	22.3	3 22	10 44.23	+ 5 37.0	1.444	2.400	8.7	21.0
4 1	10 41.66	+ 9 43.1	2.769	3.647	8.6	22.5	4 1	10 37.43	+ 6 56.2	1.487	2.387	13.2	21.2
4 11	10 37.32	+10 4.3	2.858	3.644	11.0	22.7	4 11	10 33.19	+ 7 58.6	1.552	2.374	17.2	21.4
360559	2003 TT ₂		3 4.2 100°13	7°8/26.6 16			421542	2014 OD ₁₇₂		3 4.2 262°52	2°9/ 1.9 18		
2 1	11 33.22	+27 19.1	1.833	2.681	13.0	21.2							

EPHEMERIDES

3 4.2

3 4.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
166680	2002 <i>TN</i> ₁₁₀		3 4.2 79°14	8°3/24.4	18		425110	2009 <i>SW</i> ₁₄₁		3 4.2 187°94	2°4/	1.8	17
2 1	11 28.79	+32 38.4	2.199	3.038	11.5	20.0	2 1	11 26.41	+12 47.1	2.319	3.164	10.7	22.1
2 11	11 21.53	+33 47.6	2.177	3.066	9.5	19.9	2 11	11 19.89	+13 19.9	2.244	3.163	7.7	21.9
2 21	11 12.42	+34 42.7	2.181	3.093	8.4	19.9	2 21	11 11.63	+13 55.7	2.195	3.162	4.4	21.7
3 2	11 2.35	+35 16.6	2.211	3.120	8.6	20.0	3 2	11 2.27	+14 29.3	2.176	3.161	2.4	21.6
3 12	10 52.44	+35 25.3	2.268	3.147	10.0	20.1	3 12	10 52.71	+14 55.8	2.187	3.158	4.6	21.7
3 22	10 43.66	+35 8.9	2.349	3.173	11.8	20.3	3 22	10 43.83	+15 11.5	2.227	3.155	7.9	21.9
4 1	10 36.78	+34 29.7	2.452	3.199	13.6	20.5	4 1	10 36.39	+15 14.4	2.295	3.152	11.0	22.1
4 11	10 32.22	+33 31.9	2.574	3.224	15.2	20.6	4 11	10 30.93	+15 4.0	2.384	3.147	13.6	22.3
182350	2001 <i>QY</i> ₄₃		3 4.2 101°98	0°3/	3.9	18	505909	2015 <i>EZ</i> ₉		3 4.2 3°20	6°7/27.3	18	
2 1	11 24.02	+ 3 53.7	2.017	2.851	12.5	20.4	2 1	11 29.58	+26 53.2	2.105	2.952	11.6	20.3
2 11	11 18.17	+ 4 48.2	1.963	2.876	9.0	20.3	2 11	11 22.32	+27 27.3	2.045	2.952	9.1	20.1
2 21	11 10.60	+ 5 53.7	1.934	2.901	5.0	20.1	2 21	11 13.00	+27 52.2	2.012	2.952	7.2	20.0
3 2	11 2.05	+ 7 4.5	1.935	2.925	0.8	19.8	3 2	11 2.51	+28 1.2	2.006	2.953	6.9	20.0
3 12	10 53.45	+ 8 13.6	1.965	2.948	3.4	20.0	3 12	10 51.95	+27 49.7	2.028	2.953	8.5	20.1
3 22	10 45.70	+ 9 15.0	2.025	2.971	7.3	20.3	3 22	10 42.38	+27 16.4	2.076	2.953	11.0	20.2
4 1	10 39.52	+10 4.2	2.111	2.993	10.7	20.6	4 1	10 34.69	+26 23.1	2.149	2.954	13.5	20.4
4 11	10 35.39	+10 38.7	2.220	3.015	13.6	20.8	4 11	10 29.38	+25 13.1	2.242	2.954	15.7	20.6
435910	2009 <i>BU</i> ₅₂		3 4.2 47°99	2°6/	1.3	18	272914	2006 <i>BD</i> ₁₆₆		3 4.2 9°23	0°2/	4.4	17
2 1	11 19.84	+11 19.2	2.150	3.007	11.0	20.8	2 1	11 21.72	+ 4 4.0	1.590	2.441	14.5	20.6
2 11	11 15.28	+12 22.8	2.083	3.009	7.8	20.6	2 11	11 17.10	+ 4 23.7	1.521	2.442	10.6	20.3
2 21	11 9.05	+13 32.0	2.041	3.011	4.4	20.4	2 21	11 10.27	+ 4 56.6	1.476	2.444	6.1	20.1
3 2	11 1.78	+14 40.6	2.028	3.012	2.6	20.3	3 2	11 2.04	+ 5 37.8	1.456	2.446	1.2	19.7
3 12	10 54.33	+15 41.8	2.044	3.014	4.9	20.5	3 12	10 53.55	+ 6 20.7	1.463	2.449	3.8	19.9
3 22	10 47.51	+16 30.4	2.088	3.016	8.3	20.7	3 22	10 45.93	+ 6 58.7	1.497	2.453	8.5	20.2
4 1	10 42.07	+17 3.1	2.157	3.018	11.4	20.9	4 1	10 40.15	+ 7 26.5	1.556	2.457	12.7	20.5
4 11	10 38.53	+17 18.8	2.248	3.020	14.1	21.1	4 11	10 36.83	+ 7 40.7	1.635	2.461	16.2	20.7
101561	1999 <i>AA</i> ₁₄		3 4.2 186°50	0°4/	3.8	17	188130	2002 <i>CB</i> ₁₁₃		3 4.2 178°27	1°1/	5.2	17
2 1	11 21.03	+ 5 18.8	2.180	3.021	11.5	20.4	2 1	11 25.08	+ 1 50.6	2.268	3.089	11.8	20.5
2 11	11 16.11	+ 5 52.7	2.104	3.021	8.3	20.2	2 11	11 18.97	+ 1 56.1	2.187	3.090	8.8	20.3
2 21	11 9.52	+ 6 36.1	2.053	3.020	4.6	20.0	2 21	11 11.13	+ 2 12.2	2.131	3.091	5.2	20.1
3 2	11 1.88	+ 7 24.6	2.030	3.020	0.8	19.7	3 2	11 2.19	+ 2 36.1	2.104	3.092	1.7	19.9
3 12	10 54.02	+ 8 12.8	2.037	3.020	3.3	19.9	3 12	10 53.03	+ 3 3.8	2.107	3.092	2.9	20.0
3 22	10 46.78	+ 8 55.6	2.072	3.020	7.1	20.1	3 22	10 44.48	+ 3 31.0	2.140	3.092	6.5	20.2
4 1	10 40.90	+ 9 28.7	2.134	3.020	10.5	20.3	4 1	10 37.33	+ 3 53.8	2.200	3.091	9.9	20.4
4 11	10 36.90	+ 9 49.7	2.219	3.019	13.4	20.5	4 11	10 32.12	+ 4 9.1	2.284	3.090	12.9	20.6
64453	2001 <i>VE</i> ₃₁		3 4.2 135°67	1°5/	2.8	18	460074	2014 <i>OR</i> ₂₉₅		3 4.2 150°41	0°4/	3.9	18
2 1	11 23.41	+ 8 11.5	1.934	2.783	12.4	19.4	2 1	11 30.11	+ 7 3.4	1.944	2.778	12.9	21.3
2 11	11 17.96	+ 8 56.7	1.867	2.789	8.8	19.2	2 11	11 22.75	+ 7 7.1	1.873	2.786	9.4	21.1
2 21	11 10.60	+ 9 50.1	1.825	2.795	4.9	19.0	2 21	11 13.30	+ 7 18.1	1.827	2.794	5.3	20.9
3 2	11 2.08	+10 45.8	1.811	2.800	1.5	18.7	3 2	11 2.58	+ 7 32.2	1.810	2.801	0.9	20.6
3 12	10 53.36	+11 37.2	1.826	2.805	4.3	18.9	3 12	10 51.68	+ 7 45.1	1.824	2.807	3.6	20.8
3 22	10 45.41	+12 18.7	1.870	2.810	8.2	19.2	3 22	10 41.67	+ 7 52.7	1.867	2.813	7.8	21.1
4 1	10 39.08	+12 46.5	1.938	2.815	11.8	19.4	4 1	10 33.46	+ 7 52.2	1.937	2.818	11.6	21.3
4 11	10 34.90	+12 58.9	2.029	2.820	14.8	19.6	4 11	10 27.62	+ 7 42.0	2.029	2.823	14.7	21.5
112279	2002 <i>LN</i> ₂₆		3 4.2 251°93	0°4/	3.8	18	281186	2007 <i>EP</i> ₁₆₆		3 4.2 278°54	3°2/29.7	17	
2 1	11 23.95	+ 4 37.1	1.893	2.733	13.0	20.5	2 1	11 21.62	+11 37.9	2.026	2.883	11.6	20.5
2 11	11 18.63	+ 5 22.3	1.798	2.715	9.5	20.3	2 11	11 16.93	+12 58.0	1.929	2.855	8.3	20.3
2 21	11 11.17	+ 6 21.0	1.728	2.696	5.4	20.0	2 21	11 10.21	+14 27.2	1.858	2.827	4.9	20.0
3 2	11 2.21	+ 7 28.0	1.686	2.676	0.9	19.6	3 2	11 2.06	+15 58.2	1.816	2.799	3.2	19.8
3 12	10 52.75	+ 8 36.2	1.673	2.656	3.9	19.8	3 12	10 53.39	+17 22.4	1.803	2.770	5.9	20.0
3 22	10 43.85	+ 9 38.3	1.688	2.635	8.4	20.0	3 22	10 45.19	+18 32.3	1.818	2.741	9.7	20.1
4 1	10 36.52	+10 28.4	1.729	2.614	12.6	20.2	4 1	10 38.41	+19 22.8	1.858	2.711	13.3	20.3
4 11	10 31.48	+11 2.6	1.792	2.592	16.1	20.4	4 11	10 33.77	+19 52.0	1.919	2.681	16.5	20.4
31638	1999 <i>GL</i> ₃₂		3 4.2 166°26	5°7/27.1	18		121236	Adrianagutierrez		3 4.2 198°79	16°2/21.6	18	
2 1	11 28.03	+24 13.3	2.351	3.199	10.5	18.6	2 1	11 43.66	+41 47.2	1.292	2.119	18.6	18.9
2 11	11 21.03	+25 7.9	2.294	3.204	8.1	18.5	2 11	11 34.11	+43 30.0	1.255	2.118	16.9	18.8
2 21	11 12.23	+25 56.5	2.263	3.209	6.1	18.4	2 21	11 20.24	+44 42.5	1.238	2.116	16.2	18.8
3 2	11 2.36	+26 32.7	2.261	3.213	5.9	18.4	3 2	11 3.83	+45 8.6	1.242	2.113	16.8	18.8
3 12	10 52.39	+26 51.3	2.288	3.216	7.5	18.5	3 12	10 47.48	+44 40.4	1.267	2.111	18.5	18.9
3 22	10 43.24	+26 50.3	2.343	3.219	9.9	18.6	3 22	10 33.59	+43 20.9	1.311	2.107	20.8	19.0
4 1	10 35.70	+26 29.8	2.422	3.221	12.3	18.8	4 1	10 23.76	+41 20.2	1.371	2.103	23.1	19.2
4 11	10 30.27	+25 52.1	2.522	3.222	14.4	19.0	4 11	10 18.48	+38 51.2	1.445	2.099	25.2	19.4
429343	2010 <i>FM</i> ₂₅		3 4.2 215°06	1°0/	5.4	17	400384	2007 <i>YX</i> ₄₅		3 4.2 110°78	0°8/	3.4	18
2 1	11 20.15	+ 0 22.2	2.430	3.251	11.1	21.7	2 1	11 25.72	+ 5 36.9	1.938	2.777	12.8	21.7
2 11	11 15.38	+ 0 54.8	2.343	3.246	8.2	21.5	2 11	11 19.47	+ 6 27.8	1.884	2.800	9.1	21.5
2 21	11 9.08	+ 1 39.8	2.281	3.241	5.0	21.3	2 21	11 11.37	+ 7 28.6	1.855	2.823	5.0	21.3
3 2	11 1.81	+ 2 33.9	2.248	3.236	1.6	21.0	3 2	11 2.22	+ 8 33.3	1.855	2.845	1.0	21.1
3 12	10 54.29	+ 3 32.3	2.244	3.230	2.7	21.1	3 12	10 53.02	+ 9 34.8	1.885	2.866	3.8	21.3
3 22	10 47.27	+ 4 29.8	2.271	3.224	6.1	21.3	3 22	10 44.73	+10 27.3	1.943	2.887	7.7	21.6
4 1	10 41.43	+ 5 21.5	2.325	3.218	9.4	21.5	4 1	10 38.11	+11 6.8	2.028	2.907	11.3	21.8
4 11	10 37.29	+ 6 3.7	2.403	3.212	12.2	21.7	4 11	10 33.67	+11 31.3	2.135	2.926	14.2	22.1
44647	1999 <i>RA</i> ₁₂₉		3 4.2 155°58	0°4/	4.6	18	45785	2000 <i>OT</i> ₁₉		3 4.2 217°46	0°6/	4.7</	

EPHEMERIDES

3 4.2

3 4.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
506414	1996 VG ₂₆		3 4.2 166°00	5°1/25.8	17		385319	2001 YM ₁₄₉		3 4.2 141°53	6°6/12.6	18	
2 1	11 22.36	+24 58.7	2.967	3.815	8.5	22.6	2 1	11 22.61	-19 37.2	2.893	3.587	12.5	21.5
2 11	11 16.74	+26 7.0	2.912	3.821	6.6	22.4	2 11	11 17.01	-20 12.3	2.807	3.596	10.7	21.4
2 21	11 9.75	+27 10.6	2.885	3.825	5.3	22.3	2 21	11 9.97	-20 28.7	2.744	3.604	8.9	21.3
3 2	11 1.94	+28 3.8	2.888	3.829	5.3	22.4	3 2	11 2.01	-20 25.1	2.706	3.613	7.3	21.2
3 12	10 54.01	+28 42.3	2.919	3.833	6.7	22.4	3 12	10 53.83	-20 2.8	2.695	3.620	6.6	21.1
3 22	10 46.64	+29 3.8	2.979	3.836	8.6	22.6	3 22	10 46.11	-19 24.5	2.712	3.628	7.2	21.2
4 1	10 40.42	+29 7.6	3.062	3.839	10.5	22.7	4 1	10 39.50	-18 35.1	2.757	3.635	8.6	21.3
4 11	10 35.80	+28 55.1	3.166	3.841	12.2	22.9	4 11	10 34.48	-17 40.0	2.826	3.642	10.4	21.4
15189	3071 T ₋₂		3 4.2 241°05	2°9/ 1.6	18		468510	2005 QM ₅₁		3 4.2 243°29	1°7/ 1.7	16	
2 1	11 24.56	+11 54.4	1.808	2.666	12.7	18.8	2 1	11 18.78	+ 8 29.1	2.780	3.623	9.2	21.8
2 11	11 19.03	+12 42.7	1.733	2.659	9.1	18.5	2 11	11 14.33	+ 9 50.4	2.688	3.608	6.5	21.6
2 21	11 11.35	+13 37.0	1.683	2.653	5.3	18.3	2 21	11 8.49	+11 19.9	2.624	3.593	3.6	21.4
3 2	11 2.26	+14 30.4	1.660	2.646	2.9	18.1	3 2	11 1.75	+12 52.2	2.590	3.577	1.7	21.2
3 12	10 52.85	+15 15.3	1.666	2.639	5.6	18.3	3 12	10 54.73	+14 21.2	2.589	3.561	3.8	21.4
3 22	10 44.21	+15 46.3	1.699	2.632	9.5	18.5	3 22	10 48.08	+15 41.4	2.617	3.545	6.9	21.5
4 1	10 37.32	+16 0.2	1.757	2.624	13.3	18.7	4 1	10 42.44	+16 48.4	2.674	3.528	9.7	21.7
4 11	10 32.81	+15 56.1	1.835	2.617	16.4	18.9	4 11	10 38.28	+17 40.0	2.754	3.511	12.1	21.9
452626	2005 SA ₁₆₈		3 4.2 165°73	2°3/ 6.0	18		401146	2011 VD ₉		3 4.2 148°19	9°3/15.9	18	
2 1	11 28.45	- 1 26.8	1.812	2.627	14.6	22.1	2 1	11 25.21	-26 36.0	2.268	2.922	16.4	21.7
2 11	11 21.75	- 1 18.5	1.736	2.633	11.0	21.9	2 11	11 19.23	-26 49.3	2.185	2.936	14.5	21.6
2 21	11 12.84	- 0 53.9	1.683	2.639	6.9	21.7	2 21	11 11.35	-26 33.3	2.121	2.948	12.4	21.4
3 2	11 2.53	- 0 15.9	1.658	2.643	3.0	21.4	3 2	11 2.27	-25 45.9	2.079	2.959	10.5	21.3
3 12	10 51.92	+ 0 30.3	1.662	2.647	3.6	21.5	3 12	10 52.95	-24 28.7	2.063	2.970	9.4	21.3
3 22	10 42.15	+ 1 18.3	1.695	2.650	7.7	21.7	3 22	10 44.34	-22 47.3	2.073	2.979	9.5	21.3
4 1	10 34.20	+ 2 1.9	1.755	2.652	11.7	22.0	4 1	10 37.31	-20 50.2	2.110	2.988	10.9	21.4
4 11	10 28.71	+ 2 36.2	1.837	2.653	15.1	22.2	4 11	10 32.42	-18 47.4	2.172	2.996	12.8	21.5
499092	2009 FV ₄₂		3 4.2 342°15	7°4/27.9	17		347900	2002 VR ₃		3 4.2 136°20	2°0/ 5.9	18	
2 1	11 34.13	+28 26.2	1.961	2.804	12.5	20.4	2 1	11 27.93	- 1 41.3	1.802	2.617	14.7	22.2
2 11	11 25.74	+28 42.9	1.895	2.798	9.9	20.3	2 11	11 21.27	- 1 16.8	1.735	2.633	11.0	22.0
2 21	11 15.00	+28 47.5	1.855	2.793	7.9	20.1	2 21	11 12.51	- 0 35.2	1.693	2.649	6.8	21.8
3 2	11 2.90	+28 32.9	1.842	2.788	7.5	20.1	3 2	11 2.48	+ 0 19.8	1.678	2.664	2.7	21.5
3 12	10 50.74	+27 55.0	1.857	2.783	9.1	20.2	3 12	10 52.28	+ 1 21.5	1.693	2.678	3.5	21.6
3 22	10 39.76	+26 53.6	1.899	2.779	11.7	20.3	3 22	10 43.00	+ 2 23.0	1.736	2.691	7.6	21.9
4 1	10 30.95	+25 31.6	1.966	2.775	14.4	20.5	4 1	10 35.57	+ 3 17.9	1.807	2.703	11.5	22.1
4 11	10 24.87	+23 54.1	2.054	2.772	16.8	20.7	4 11	10 30.54	+ 4 1.3	1.900	2.714	14.8	22.4
56750	2000 OT ₄		3 4.2 302°23	6°6/ 8.7	18		431258	2006 UF ₂₃		3 4.2 236°36	3°0/ 1.0	17	
2 1	11 24.73	- 9 28.8	1.694	2.484	16.5	18.5	2 1	11 23.30	+15 11.5	2.459	3.310	10.0	21.0
2 11	11 19.52	-10 19.9	1.597	2.466	13.5	18.3	2 11	11 17.63	+15 44.7	2.382	3.305	7.2	20.8
2 21	11 11.85	-10 50.6	1.522	2.449	10.2	18.0	2 21	11 10.36	+16 19.0	2.333	3.299	4.4	20.6
3 2	11 2.39	-10 58.9	1.471	2.432	7.4	17.8	3 2	11 2.09	+16 49.5	2.312	3.293	3.0	20.5
3 12	10 52.26	-10 45.7	1.446	2.415	6.8	17.7	3 12	10 53.62	+17 11.7	2.321	3.286	4.9	20.6
3 22	10 42.70	-10 15.2	1.448	2.398	9.3	17.8	3 22	10 45.74	+17 22.2	2.359	3.280	7.8	20.8
4 1	10 34.89	- 9 34.3	1.474	2.381	12.8	18.0	4 1	10 39.16	+17 19.5	2.423	3.274	10.7	21.0
4 11	10 29.70	- 8 51.1	1.522	2.365	16.4	18.2	4 11	10 34.40	+17 3.2	2.509	3.267	13.1	21.1
255918	2006 SX ₃₆₁		3 4.2 32°10	3°7/ 1.5	18		427801	2005 GP ₈₈		3 4.2 358°24	0°4/ 3.9	15	
2 1	11 23.31	+12 17.1	1.260	2.136	15.8	20.4	2 1	11 20.40	+ 5 39.6	1.598	2.455	14.1	20.8
2 11	11 18.52	+13 10.4	1.215	2.150	11.2	20.2	2 11	11 16.18	+ 6 2.7	1.527	2.452	10.2	20.5
2 21	11 11.12	+14 9.5	1.192	2.164	6.5	20.0	2 21	11 9.78	+ 6 37.6	1.480	2.450	5.8	20.3
3 2	11 2.20	+15 4.8	1.194	2.179	3.7	19.8	3 2	11 2.00	+ 7 19.0	1.458	2.449	1.0	19.9
3 12	10 53.22	+15 46.9	1.221	2.196	6.8	20.1	3 12	10 53.93	+ 8 0.2	1.464	2.448	4.0	20.1
3 22	10 45.54	+16 9.8	1.273	2.213	11.4	20.3	3 22	10 46.69	+ 8 34.8	1.495	2.449	8.7	20.4
4 1	10 40.19	+16 11.1	1.347	2.230	15.5	20.6	4 1	10 41.24	+ 8 57.8	1.551	2.450	12.8	20.7
4 11	10 37.73	+15 51.7	1.439	2.249	18.9	20.9	4 11	10 38.20	+ 9 6.3	1.627	2.452	16.4	20.9
523777	2014 YF ₅₀		3 4.2 359°07	0°5/25.3	18		167551	2004 BF ₉		3 4.2 73°99	2°9/ 1.4	18	
2 1	11 3.02	+26 13.9	34.892	35.741	0.8	21.0	2 1	11 24.24	+13 55.9	2.062	2.917	11.5	20.2
2 11	11 2.22	+26 20.9	34.834	35.740	0.6	21.0	2 11	11 18.42	+14 30.1	2.003	2.927	8.2	20.0
2 21	11 1.35	+26 27.3	34.804	35.740	0.5	21.0	2 21	11 10.82	+15 6.2	1.970	2.938	4.8	19.8
3 2	11 0.43	+26 33.0	34.803	35.739	0.5	21.0	3 2	11 2.17	+15 38.7	1.965	2.948	2.9	19.7
3 12	10 59.50	+26 37.6	34.830	35.738	0.7	21.0	3 12	10 53.43	+16 2.3	1.989	2.958	5.1	19.9
3 22	10 58.60	+26 41.1	34.886	35.737	0.8	21.0	3 22	10 45.50	+16 13.3	2.041	2.969	8.5	20.1
4 1	10 57.76	+26 43.2	34.967	35.736	1.0	21.0	4 1	10 39.15	+16 10.2	2.118	2.979	11.6	20.3
4 11	10 57.02	+26 43.9	35.071	35.735	1.2	21.1	4 11	10 34.88	+15 52.9	2.217	2.990	14.2	20.5
247799	2003 SR ₆₉		3 4.2 236°14	1°7/ 6.1	17		276167	2002 ON ₅		3 4.2 177°77	2°5/ 7.3	17	
2 1	11 20.56	- 2 12.2	2.367	3.178	11.7	21.2	2 1	11 21.35	- 4 53.5	2.753	3.543	10.8	21.3
2 11	11 15.78	- 1 37.9	2.271	3.167	8.8	21.0	2 11	11 16.08	- 4 40.2	2.666	3.545	8.3	21.2
2 21	11 9.38	- 0 48.4	2.199	3.154	5.6	20.8	2 21	11 9.44	- 4 13.6	2.603	3.547	5.6	21.0
3 2	11 1.91	+ 0 13.3	2.156	3.142	2.3	20.5	3 2	11 1.93	- 3 35.4	2.570	3.547	3.1	20.8
3 12	10 54.12	+ 1 22.2	2.143	3.128	2.8	20.5	3 12	10 54.23	- 2 49.1	2.567	3.548	3.0	20.8
3 22	10 46.79	+ 2 32.6	2.160	3.115	6.3	20.7	3 22	10 46.99	- 1 58.9	2.594	3.548	5.4	21.0
4 1	10 40.66	+ 3 38.5	2.204	3.101	9.7	20.9	4 1	10 40.83	- 1 9.3	2.649	3.547	8.2	21.1
4 11	10 36.29	+ 4 35.3	2.272	3.086	12.7	21.1	4 11	10 36.21	- 0 24.4	2.730	3.546	10.7	21.3
166228	2002 FY ₁₂		3 4.2 293°02	3°7/ 1.4	18		308700	2006 FE ₂₇		3 4.2 243°21	2°7/ 1.9	17	
2 1	11 25.06	+12 39.6	1.457	2.324									

EPHEMERIDES

3 4.2

3 4.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
409412	2005 <i>GL</i> ₁₆₃		3 4.2 4°52'	0°1'	4.3 16		109180	2001 <i>QD</i> ₆₇		3 4.2 145°67'	1°2'	2.7 18	
2 1	11 21.56	+ 3 24.9	1.304	2.164	16.5	21.2	2 1	11 21.15	+ 8 35.4	2.718	3.558	9.5	19.9
2 11	11 17.40	+ 3 56.2	1.238	2.163	12.1	21.0	2 11	11 15.91	+ 9 16.4	2.648	3.566	6.7	19.7
2 21	11 10.64	+ 4 45.0	1.194	2.164	6.9	20.7	2 21	11 9.34	+10 2.7	2.606	3.575	3.7	19.5
3 2	11 2.19	+ 5 45.0	1.174	2.164	1.3	20.3	3 2	11 1.97	+10 50.4	2.594	3.583	1.2	19.3
3 12	10 53.39	+ 6 47.2	1.180	2.166	4.4	20.5	3 12	10 54.47	+11 34.7	2.613	3.591	3.3	19.5
3 22	10 45.62	+ 7 42.5	1.211	2.168	9.8	20.8	3 22	10 47.51	+12 12.0	2.661	3.598	6.3	19.7
4 1	10 40.01	+ 8 23.9	1.264	2.171	14.5	21.1	4 1	10 41.67	+12 39.4	2.736	3.605	9.0	19.9
4 11	10 37.28	+ 8 47.1	1.337	2.175	18.6	21.4	4 11	10 37.38	+12 55.4	2.836	3.611	11.4	20.1
55948	1998 <i>HY</i> ₄₅		3 4.2 168°58'	3°7'	29.2 18		417457	2006 <i>QX</i> ₃₄		3 4.2 184°72'	1°0'	3.2 14 C	
2 1	11 23.19	+17 34.8	2.395	3.250	10.1	19.4	2 1	11 25.40	+ 7 12.4	2.092	2.932	11.9	22.6
2 11	11 17.56	+18 15.0	2.328	3.250	7.3	19.2	2 11	11 19.38	+ 7 52.1	2.015	2.932	8.6	22.3
2 21	11 10.32	+18 54.6	2.288	3.251	4.7	19.1	2 21	11 11.48	+ 8 40.5	1.964	2.932	4.8	22.1
3 2	11 2.10	+19 28.1	2.277	3.251	3.8	19.0	3 2	11 2.38	+ 9 32.2	1.941	2.931	1.2	21.8
3 12	10 53.74	+19 50.9	2.295	3.252	5.6	19.1	3 12	10 53.03	+10 21.4	1.949	2.930	3.8	22.0
3 22	10 46.03	+19 59.8	2.341	3.252	8.4	19.3	3 22	10 44.37	+11 2.5	1.986	2.927	7.7	22.3
4 1	10 39.69	+19 53.5	2.412	3.252	11.1	19.5	4 1	10 37.22	+11 31.9	2.049	2.924	11.3	22.5
4 11	10 35.21	+19 32.7	2.505	3.253	13.4	19.6	4 11	10 32.18	+11 47.3	2.134	2.921	14.3	22.7
222471	2001 <i>SF</i> ₁₄		3 4.2 174°54'	0°8'	3.3 16		155509	1999 <i>RP</i> ₇₃		3 4.2 173°45'	2°2'	6.5 18 R	
2 1	11 24.44	+ 6 56.5	2.397	3.232	10.8	22.0	2 1	11 21.05	- 2 53.6	2.029	2.844	13.2	20.1
2 11	11 18.44	+ 7 34.0	2.320	3.235	7.7	21.8	2 11	11 16.31	- 2 27.6	1.948	2.845	10.0	19.9
2 21	11 10.82	+ 8 18.9	2.270	3.238	4.3	21.6	2 21	11 9.76	- 1 44.7	1.891	2.845	6.4	19.6
3 2	11 2.20	+ 9 7.0	2.250	3.240	1.0	21.4	3 2	11 2.07	- 0 47.9	1.861	2.846	2.9	19.4
3 12	10 53.38	+ 9 52.9	2.260	3.241	3.4	21.6	3 12	10 54.12	+ 0 17.2	1.861	2.846	3.2	19.4
3 22	10 45.17	+10 32.2	2.301	3.242	6.9	21.8	3 22	10 46.79	+ 1 24.1	1.889	2.846	6.8	19.7
4 1	10 38.28	+11 1.4	2.368	3.242	10.1	22.0	4 1	10 40.91	+ 2 26.5	1.943	2.846	10.4	19.9
4 11	10 33.22	+11 18.6	2.459	3.241	12.8	22.2	4 11	10 37.02	+ 3 19.1	2.021	2.846	13.6	20.1
455442	2003 <i>SY</i> ₁₃₆		3 4.2 95°58'	1°6'	5.5 18		294404	2007 <i>VR</i> ₁₉₁		3 4.2 152°46'	2°7'	6.7 18	
2 1	11 27.61	+ 0 15.6	1.708	2.533	14.9	22.4	2 1	11 25.50	- 3 24.4	2.054	2.859	13.5	21.0
2 11	11 21.03	+ 0 31.1	1.653	2.558	11.0	22.2	2 11	11 19.43	- 3 14.5	1.978	2.868	10.3	20.8
2 21	11 12.36	+ 1 1.9	1.621	2.582	6.6	22.0	2 21	11 11.49	- 2 48.4	1.926	2.876	6.7	20.6
3 2	11 2.48	+ 1 43.9	1.617	2.605	2.3	21.8	3 2	11 2.38	- 2 8.6	1.902	2.884	3.3	20.4
3 12	10 52.56	+ 2 30.7	1.642	2.628	3.5	21.9	3 12	10 53.05	- 1 19.7	1.907	2.890	3.5	20.4
3 22	10 43.68	+ 3 16.0	1.695	2.650	7.7	22.2	3 22	10 44.43	- 0 27.7	1.941	2.897	6.9	20.7
4 1	10 36.72	+ 3 54.3	1.774	2.672	11.6	22.5	4 1	10 37.37	+ 0 21.8	2.003	2.902	10.4	20.9
4 11	10 32.21	+ 4 21.6	1.875	2.693	14.8	22.7	4 11	10 32.41	+ 1 3.8	2.088	2.907	13.5	21.1
426808	2013 <i>TK</i> ₁₃₈		3 4.2 153°06'	0°2'	4.4 18		96084	2225 <i>T</i> ₋₁		3 4.2 78°45'	4°4'	1.3 18	
2 1	11 21.72	+ 2 52.3	2.185	3.017	11.8	21.9	2 1	11 29.89	+15 5.7	1.379	2.244	15.4	19.0
2 11	11 16.62	+ 3 32.8	2.111	3.022	8.6	21.7	2 11	11 23.14	+15 48.6	1.330	2.259	11.1	18.8
2 21	11 9.86	+ 4 25.1	2.061	3.027	4.9	21.5	2 21	11 13.73	+16 33.0	1.305	2.273	6.7	18.6
3 2	11 2.06	+ 5 24.6	2.041	3.031	1.0	21.2	3 2	11 2.78	+17 9.9	1.306	2.288	4.4	18.5
3 12	10 54.06	+ 6 25.5	2.050	3.035	3.0	21.4	3 12	10 51.80	+17 31.5	1.334	2.303	7.2	18.7
3 22	10 46.70	+ 7 22.1	2.089	3.039	6.8	21.6	3 22	10 42.20	+17 33.5	1.387	2.318	11.4	18.9
4 1	10 40.70	+ 8 9.7	2.154	3.042	10.3	21.8	4 1	10 35.05	+17 15.3	1.463	2.332	15.4	19.2
4 11	10 36.58	+ 8 44.9	2.242	3.045	13.2	22.0	4 11	10 30.93	+16 38.8	1.558	2.346	18.6	19.5
248807	2006 <i>SC</i> ₁₄₈		3 4.2 244°00'	0°5'	3.7 17		143058	2002 <i>WT</i> ₈		3 4.2 66°41'	3°3'	7.7 18	
2 1	11 21.43	+ 6 21.2	2.436	3.274	10.5	21.2	2 1	11 22.64	- 7 38.3	1.578	2.385	16.7	20.0
2 11	11 16.34	+ 6 47.9	2.350	3.266	7.6	21.0	2 11	11 17.56	- 6 39.7	1.529	2.417	12.8	19.8
2 21	11 9.69	+ 7 22.3	2.290	3.258	4.3	20.7	2 21	11 10.44	- 5 15.3	1.501	2.449	8.5	19.6
3 2	11 2.04	+ 8 0.7	2.259	3.250	0.8	20.5	3 2	11 2.17	- 3 31.0	1.500	2.480	4.4	19.4
3 12	10 54.13	+ 8 38.4	2.258	3.241	3.1	20.6	3 12	10 53.91	- 1 36.5	1.527	2.511	4.0	19.5
3 22	10 46.74	+ 9 11.2	2.287	3.233	6.6	20.8	3 22	10 46.70	+ 0 17.5	1.582	2.542	7.6	19.8
4 1	10 40.56	+ 9 35.5	2.342	3.224	9.8	21.0	4 1	10 41.38	+ 2 1.2	1.664	2.573	11.5	20.1
4 11	10 36.11	+ 9 49.1	2.421	3.215	12.6	21.2	4 11	10 38.43	+ 3 28.0	1.768	2.603	14.8	20.3
406351	2007 <i>RL</i> ₁₄₀		3 4.2 171°76'	0°5'	4.7 17		457497	2008 <i>UN</i> ₃₆₉		3 4.2 109°81'	0°9'	5.0 18	
2 1	11 25.34	+ 2 6.5	2.061	2.887	12.7	23.0	2 1	11 26.54	+ 0 34.0	1.680	2.509	14.9	22.4
2 11	11 19.33	+ 2 44.0	1.984	2.891	9.3	22.8	2 11	11 20.35	+ 1 16.8	1.623	2.531	10.9	22.2
2 21	11 11.44	+ 3 34.5	1.931	2.895	5.4	22.6	2 21	11 12.03	+ 2 16.0	1.589	2.552	6.4	21.9
3 2	11 2.36	+ 4 33.6	1.908	2.898	1.3	22.3	3 2	11 2.48	+ 3 26.0	1.584	2.573	1.8	21.7
3 12	10 53.03	+ 5 35.1	1.915	2.900	3.2	22.4	3 12	10 52.83	+ 4 38.7	1.607	2.593	3.5	21.8
3 22	10 44.40	+ 6 32.9	1.951	2.901	7.2	22.7	3 22	10 44.20	+ 5 46.5	1.659	2.612	8.0	22.1
4 1	10 37.31	+ 7 21.6	2.014	2.902	10.9	22.9	4 1	10 37.48	+ 6 43.0	1.736	2.631	12.0	22.4
4 11	10 32.31	+ 7 57.8	2.100	2.901	14.0	23.1	4 11	10 33.21	+ 7 24.5	1.836	2.648	15.3	22.7
368590	2004 <i>RN</i> ₄₃		3 4.2 114°04'	1°3'	5.7 18		412956	2014 <i>QU</i> ₂₇₀		3 4.2 180°88'	3°5'	1.3 18	
2 1	11 21.90	- 1 6.1	2.208	3.025	12.2	21.3	2 1	11 28.18	+13 38.5	1.793	2.647	13.0	21.5
2 11	11 16.66	- 0 22.3	2.142	3.043	9.1	21.1	2 11	11 21.64	+14 28.2	1.724	2.648	9.3	21.3
2 21	11 9.83	+ 0 35.8	2.101	3.060	5.5	20.9	2 21	11 12.85	+15 21.6	1.681	2.649	5.5	21.1
3 2	11 2.05	+ 1 44.1	2.089	3.077	1.9	20.7	3 2	11 2.64	+16 11.4	1.666	2.649	3.5	21.0
3 12	10 54.16	+ 2 56.5	2.107	3.093	2.8	20.8	3 12	10 52.18	+16 50.1	1.680	2.648	6.0	21.1
3 22	10 46.96	+ 4 6.9	2.155	3.109	6.4	21.0	3 22	10 42.63	+17 12.9	1.721	2.647	9.9	21.3
4 1	10 41.12	+ 5 9.8	2.230	3.124	9.7	21.2	4 1	10 34.96	+17 17.5	1.787	2.646	13.5	21.6
4 11	10 37.14	+ 6 1.2	2.328	3.139	12.5	21.5	4 11	10 29.82	+17 4.1	1.874	2.643	16.6	21.8
117274	2004 <i>TR</i> ₁₁₀		3 4.2 144°82'	1°7'	6.1 18		210994	2001 <i>XV</i> ₈		3 4.2 126°43'	0°2'	3.9 17	

EPHEMERIDES

3 4.2

3 4.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
162750	2000 WY ₄₂		3 4.2 124°07'	1°1'	3.2	18	94308	2001 FD ₁₅		3 4.2 64°67'	0°0'	4.1	18
2 1	11 26.14	+ 6 24.6	1.863	2.704	13.1	21.3	2 1	11 18.97	+ 4 5.8	2.531	3.366	10.3	19.4
2 11	11 19.94	+ 7 18.9	1.804	2.722	9.3	21.1	2 11	11 14.49	+ 4 38.6	2.457	3.371	7.5	19.2
2 21	11 11.78	+ 8 23.1	1.771	2.740	5.2	20.9	2 21	11 8.62	+ 5 20.3	2.410	3.376	4.2	19.0
3 2	11 2.46	+ 9 30.7	1.766	2.756	1.2	20.6	3 2	11 1.91	+ 6 7.2	2.391	3.381	0.8	18.8
3 12	10 53.04	+10 34.3	1.791	2.772	4.1	20.9	3 12	10 55.05	+ 6 54.6	2.402	3.386	2.7	18.9
3 22	10 44.52	+11 27.8	1.845	2.787	8.2	21.1	3 22	10 48.71	+ 7 38.3	2.442	3.391	6.0	19.2
4 1	10 37.74	+12 6.9	1.925	2.802	11.8	21.4	4 1	10 43.50	+ 8 14.5	2.509	3.397	9.0	19.4
4 11	10 33.24	+12 29.7	2.026	2.815	14.9	21.6	4 11	10 39.88	+ 8 40.5	2.600	3.402	11.6	19.5
26828	1989 WZ ₁		3 4.2 88°77'	2°1'	2.5	18	18775	Donaldeng		3 4.2 218°13'	1°7'	5.6	18
2 1	11 27.14	+ 9 2.9	1.544	2.400	14.6	18.1	2 1	11 25.20	- 0 0.7	1.713	2.541	14.7	18.7
2 11	11 20.90	+ 9 54.2	1.496	2.421	10.4	17.9	2 11	11 19.67	+ 0 15.7	1.630	2.537	11.0	18.5
2 21	11 12.39	+10 53.7	1.471	2.442	5.7	17.6	2 21	11 11.87	+ 0 48.9	1.571	2.531	6.8	18.2
3 2	11 2.57	+11 53.5	1.474	2.463	2.1	17.4	3 2	11 2.55	+ 1 35.2	1.538	2.526	2.4	17.9
3 12	10 52.73	+12 45.4	1.505	2.483	5.2	17.7	3 12	10 52.81	+ 2 28.5	1.534	2.520	3.6	18.0
3 22	10 44.04	+13 23.3	1.563	2.503	9.5	18.0	3 22	10 43.83	+ 3 22.0	1.557	2.514	8.1	18.2
4 1	10 37.45	+13 44.0	1.644	2.523	13.4	18.3	4 1	10 36.63	+ 4 8.9	1.606	2.507	12.4	18.5
4 11	10 33.48	+13 46.8	1.747	2.542	16.6	18.5	4 11	10 31.91	+ 4 44.3	1.677	2.500	16.0	18.7
246917	1998 UR ₁₈		3 4.2 107°61'	3°5'	7.6	18	267257	2001 QY ₉₁		3 4.2 133°09'	3°5'	29.7	18
2 1	11 24.82	- 6 7.4	1.958	2.755	14.3	20.4	2 1	11 24.11	+13 27.9	1.957	2.813	11.9	20.5
2 11	11 18.94	- 5 55.9	1.893	2.775	11.1	20.2	2 11	11 18.51	+14 38.0	1.898	2.823	8.5	20.3
2 21	11 11.20	- 5 25.3	1.852	2.795	7.5	20.0	2 21	11 11.01	+15 51.9	1.865	2.833	5.1	20.1
3 2	11 2.37	- 4 38.3	1.838	2.814	4.2	19.8	3 2	11 2.36	+17 2.1	1.861	2.842	3.5	20.1
3 12	10 53.41	- 3 39.9	1.852	2.833	4.0	19.9	3 12	10 53.55	+18 1.1	1.886	2.851	5.9	20.2
3 22	10 45.27	- 2 36.7	1.895	2.851	6.9	20.1	3 22	10 45.56	+18 43.7	1.938	2.859	9.3	20.4
4 1	10 38.75	- 1 35.4	1.966	2.869	10.3	20.3	4 1	10 39.21	+19 7.5	2.016	2.867	12.5	20.7
4 11	10 34.37	- 0 41.5	2.059	2.886	13.3	20.5	4 11	10 35.03	+19 12.4	2.113	2.874	15.2	20.9
156742	2002 XJ ₇₁		3 4.2 68°69'	3°8'	6.9	18	221288	2005 UF ₃₈₃		3 4.2 209°96'	0°7'	3.4	17
2 1	11 25.37	- 4 12.9	1.301	2.130	18.4	19.5	2 1	11 21.87	+ 4 37.8	2.384	3.217	10.9	21.2
2 11	11 20.12	- 4 11.1	1.240	2.142	14.1	19.2	2 11	11 16.75	+ 5 43.1	2.296	3.210	7.9	21.0
2 21	11 12.19	- 3 44.7	1.200	2.154	9.3	19.0	2 21	11 10.00	+ 6 59.7	2.235	3.202	4.4	20.8
3 2	11 2.57	- 2 56.7	1.183	2.166	4.8	18.8	3 2	11 2.19	+ 8 22.5	2.203	3.193	0.9	20.5
3 12	10 52.70	- 1 54.4	1.193	2.178	4.8	18.8	3 12	10 54.09	+ 9 44.9	2.203	3.184	3.4	20.7
3 22	10 43.99	- 0 47.2	1.228	2.190	9.1	19.1	3 22	10 46.48	+11 0.7	2.232	3.174	7.0	20.9
4 1	10 37.58	+ 0 15.3	1.287	2.202	13.7	19.3	4 1	10 40.10	+12 4.9	2.289	3.163	10.3	21.1
4 11	10 34.15	+ 1 5.9	1.366	2.214	17.7	19.6	4 11	10 35.49	+12 54.1	2.370	3.152	13.2	21.2
41590	2000 SZ ₅₀		3 4.2 30°55'	2°4'	6.3	18	426604	2013 SL ₄₀		3 4.2 278°31'	9°0'	10.8	17
2 1	11 21.69	- 2 7.3	1.699	2.526	14.8	19.0	2 1	11 26.43	-16 59.8	1.949	2.684	16.5	20.8
2 11	11 17.04	- 1 51.4	1.626	2.529	11.2	18.8	2 11	11 20.73	-18 9.0	1.843	2.663	14.3	20.6
2 21	11 10.30	- 1 17.1	1.576	2.533	7.1	18.5	2 21	11 12.63	-18 56.5	1.758	2.641	11.8	20.4
3 2	11 2.23	- 0 27.7	1.552	2.537	3.1	18.3	3 2	11 2.73	-19 18.0	1.696	2.620	9.8	20.2
3 12	10 53.88	+ 0 30.6	1.555	2.541	3.6	18.3	3 12	10 52.06	-19 12.4	1.660	2.598	9.1	20.1
3 22	10 46.32	+ 1 30.8	1.585	2.545	7.7	18.6	3 22	10 41.79	-18 42.0	1.650	2.576	10.3	20.1
4 1	10 40.48	+ 2 25.6	1.641	2.549	11.7	18.8	4 1	10 33.08	-17 53.1	1.665	2.553	12.7	20.2
4 11	10 36.96	+ 3 9.7	1.719	2.554	15.2	19.1	4 11	10 26.81	-16 54.4	1.702	2.531	15.6	20.3
135119	2001 QB ₁₂₈		3 4.2 171°43'	3°0'	7.8	17	372102	2008 SR ₁₁₉		3 4.2 144°50'	0°4'	4.7	18
2 1	11 20.62	- 6 18.1	2.649	3.435	11.3	20.4	2 1	11 21.80	+ 2 32.5	2.217	3.047	11.7	21.7
2 11	11 15.65	- 6 7.1	2.562	3.438	8.8	20.2	2 11	11 16.70	+ 3 4.5	2.143	3.052	8.6	21.5
2 21	11 9.28	- 5 41.4	2.501	3.440	6.1	20.0	2 21	11 9.95	+ 3 47.8	2.093	3.057	5.0	21.2
3 2	11 2.03	- 5 2.7	2.467	3.442	3.6	19.9	3 2	11 2.18	+ 4 38.6	2.072	3.062	1.2	21.0
3 12	10 54.57	- 4 14.5	2.464	3.443	3.3	19.9	3 12	10 54.22	+ 5 31.5	2.081	3.067	2.9	21.1
3 22	10 47.60	- 3 21.2	2.490	3.444	5.6	20.0	3 22	10 46.88	+ 6 21.1	2.119	3.071	6.6	21.4
4 1	10 41.73	- 2 27.6	2.544	3.445	8.4	20.2	4 1	10 40.88	+ 7 2.8	2.184	3.075	10.0	21.6
4 11	10 37.43	- 1 38.3	2.623	3.445	10.9	20.4	4 11	10 36.75	+ 7 33.6	2.272	3.078	12.9	21.8
352102	2007 AG ₁₂		3 4.2 163°77'	12°8'	22.4	16	174612	2003 SM ₃₉		3 4.2 134°95'	1°4'	2.9	18
2 1	11 41.31	-44 40.9	2.985	3.410	16.0	25.4	2 1	11 27.96	+ 8 40.4	1.934	2.776	12.7	21.3
2 11	11 31.26	-46 10.7	2.899	3.422	15.3	25.3	2 11	11 21.23	+ 9 14.1	1.871	2.790	9.1	21.1
2 21	11 18.50	-47 13.1	2.828	3.433	14.4	25.2	2 21	11 12.53	+ 9 54.9	1.834	2.803	5.0	20.9
3 2	11 3.79	-47 41.9	2.776	3.442	13.6	25.2	3 2	11 2.65	+10 36.9	1.826	2.815	1.5	20.7
3 12	10 48.35	-47 33.9	2.744	3.449	13.1	25.1	3 12	10 52.65	+11 14.3	1.848	2.827	4.2	20.9
3 22	10 33.55	-46 50.3	2.733	3.455	12.8	25.1	3 22	10 43.54	+11 42.1	1.898	2.839	8.2	21.1
4 1	10 20.63	-45 36.2	2.745	3.459	13.0	25.2	4 1	10 36.18	+11 57.4	1.975	2.849	11.7	21.4
4 11	10 10.47	-44 0.2	2.778	3.461	13.6	25.2	4 11	10 31.10	+11 59.0	2.074	2.859	14.7	21.6
295678	2008 TV ₉₄		3 4.2 223°16'	0°4'	4.5	18	225594	2000 WX ₁₃₆		3 4.2 8°45'	5°7'	8.4	18
2 1	11 28.44	+ 3 41.7	1.830	2.661	13.8	21.2	2 1	11 18.84	- 6 34.7	1.233	2.067	18.9	18.9
2 11	11 21.97	+ 4 0.2	1.740	2.650	10.2	21.0	2 11	11 15.57	- 7 4.3	1.170	2.069	15.0	18.7
2 21	11 13.17	+ 4 31.2	1.674	2.638	5.9	20.7	2 21	11 9.71	- 7 7.4	1.126	2.073	10.6	18.4
3 2	11 2.78	+ 5 10.6	1.636	2.626	1.3	20.3	3 2	11 2.17	- 6 44.5	1.104	2.079	6.7	18.2
3 12	10 51.90	+ 5 52.6	1.628	2.612	3.6	20.5	3 12	10 54.28	- 6 0.7	1.106	2.087	6.0	18.2
3 22	10 41.70	+ 6 30.9	1.648	2.598	8.3	20.7	3 22	10 47.42	- 5 4.6	1.132	2.096	9.4	18.4
4 1	10 33.26	+ 7 0.6	1.694	2.583	12.5	21.0	4 1	10 42.73	- 4 6.1	1.180	2.107	13.6	18.7
4 11	10 27.30	+ 7 18.0	1.763	2.567	16.2	21.2	4 11	10 40.91	- 3 14.3	1.248	2.119	17.5	18.9
313626	2003 RB ₁₇		3 4.2 160°65'	1°0'	3.3	18	238893	2005 YE ₉₄		3 4.2 63°31'	4°1'	1.5	18
2 1	11 26.44	+ 6 55.2	2.115	2.951	12.0	22.2	2 1	11 2					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
81888	2000 <i>LH</i> ₂₃		3 4.2 176°78	7°6/12.2	18		169172	2001 <i>QA</i> ₂₃₂		3 4.2 81°49	4°3/8.9	18	
2 1	11 23.91	-18 59.6	2.494	3.201	14.0	19.0	2 1	11 22.64	-8 53.8	2.292	3.069	13.1	20.0
2 11	11 18.27	-19 51.6	2.404	3.201	12.0	18.9	2 11	11 17.20	-9 1.7	2.225	3.090	10.4	19.8
2 21	11 10.90	-20 23.3	2.336	3.202	10.0	18.7	2 21	11 10.20	-8 51.9	2.182	3.110	7.5	19.7
3 2	11 2.38	-20 32.8	2.292	3.202	8.3	18.6	3 2	11 2.26	-8 25.7	2.166	3.131	5.0	19.6
3 12	10 53.50	-20 20.4	2.275	3.202	7.6	18.6	3 12	10 54.20	-7 46.6	2.178	3.151	4.4	19.6
3 22	10 45.10	-19 49.0	2.285	3.202	8.3	18.6	3 22	10 46.81	-6 59.3	2.220	3.171	6.4	19.7
4 1	10 37.98	-19 3.8	2.321	3.202	9.9	18.7	4 1	10 40.79	-6 9.3	2.288	3.191	9.1	19.9
4 11	10 32.71	-18 11.2	2.381	3.202	12.0	18.8	4 11	10 36.59	-5 22.1	2.381	3.211	11.7	20.1
231286	2006 <i>BN</i> ₅₈		3 4.2 266°04	3°6/29.5	18		205247	2000 <i>QD</i> ₂₀₃		3 4.2 168°56	1°7/2.7	18	
2 1	11 21.59	+13 25.5	1.946	2.807	11.8	20.3	2 1	11 26.74	+8 36.3	1.910	2.755	12.7	21.3
2 11	11 16.85	+14 36.8	1.874	2.801	8.4	20.1	2 11	11 20.50	+9 23.3	1.840	2.760	9.1	21.0
2 21	11 10.16	+15 53.3	1.827	2.795	5.1	19.9	2 21	11 12.22	+10 18.4	1.795	2.764	5.1	20.8
3 2	11 2.24	+17 7.4	1.809	2.790	3.6	19.8	3 2	11 2.65	+11 15.5	1.778	2.767	1.7	20.6
3 12	10 54.02	+18 11.2	1.819	2.784	6.0	19.9	3 12	10 52.84	+12 7.6	1.791	2.770	4.5	20.8
3 22	10 46.49	+18 58.9	1.856	2.778	9.6	20.1	3 22	10 43.84	+12 49.0	1.833	2.772	8.5	21.0
4 1	10 40.50	+19 27.2	1.918	2.772	12.9	20.3	4 1	10 36.55	+13 15.9	1.901	2.773	12.2	21.2
4 11	10 36.67	+19 35.4	1.999	2.766	15.8	20.5	4 11	10 31.56	+13 26.8	1.990	2.773	15.3	21.5
88173	2000 <i>XH</i> ₂₉		3 4.2 135°02	3°4/29.9	18		503025	2015 <i>FY</i> ₁₃₅		3 4.2 37°60	1°0/3.1	17	
2 1	11 26.67	+16 3.8	2.297	3.146	10.7	19.5	2 1	11 18.99	+5 21.1	1.989	2.837	12.1	20.5
2 11	11 20.07	+16 42.9	2.238	3.158	7.7	19.3	2 11	11 14.85	+6 28.7	1.920	2.842	8.7	20.3
2 21	11 11.78	+17 22.0	2.205	3.170	4.7	19.1	2 21	11 8.99	+7 48.1	1.876	2.846	4.8	20.0
3 2	11 2.51	+17 55.7	2.203	3.181	3.4	19.1	3 2	11 2.05	+9 12.7	1.861	2.851	1.1	19.8
3 12	10 53.16	+18 18.9	2.230	3.192	5.3	19.2	3 12	10 54.90	+10 35.1	1.874	2.856	3.9	20.0
3 22	10 44.59	+18 28.7	2.285	3.202	8.3	19.4	3 22	10 48.41	+11 48.2	1.916	2.861	7.8	20.2
4 1	10 37.54	+18 23.9	2.367	3.212	11.1	19.6	4 1	10 43.35	+12 46.8	1.984	2.866	11.3	20.5
4 11	10 32.47	+18 5.0	2.471	3.221	13.5	19.8	4 11	10 40.24	+13 28.0	2.074	2.871	14.3	20.7
87038	2000 <i>KU</i> ₄		3 4.2 115°36	12°9/19.4	18		344317	2001 <i>UK</i> ₂₀₂		3 4.2 182°98	2°7/7.7	17	
2 1	11 33.06	+39 47.4	1.690	2.520	14.8	19.1	2 1	11 19.71	-5 50.5	2.635	3.426	11.2	21.4
2 11	11 25.59	+42 0.8	1.676	2.538	13.4	19.0	2 11	11 15.04	-5 29.9	2.547	3.426	8.7	21.2
2 21	11 15.21	+43 49.4	1.685	2.556	13.0	19.0	2 21	11 8.99	-4 54.3	2.484	3.426	5.9	21.0
3 2	11 3.15	+45 1.6	1.718	2.573	13.7	19.1	3 2	11 2.05	-4 5.8	2.449	3.426	3.3	20.8
3 12	10 51.12	+45 31.8	1.773	2.590	15.2	19.2	3 12	10 54.90	-3 8.2	2.444	3.425	3.1	20.8
3 22	10 40.67	+45 21.3	1.848	2.606	16.9	19.4	3 22	10 48.22	-2 6.4	2.469	3.424	5.6	21.0
4 1	10 32.96	+44 35.7	1.939	2.621	18.6	19.6	4 1	10 42.63	-1 5.3	2.521	3.423	8.4	21.2
4 11	10 28.53	+43 22.8	2.044	2.636	20.1	19.8	4 11	10 38.59	-0 9.8	2.599	3.422	11.0	21.3
423236	2004 <i>SW</i> ₄₇		3 4.2 133°72	1°2/2.9	16		499806	2011 <i>CZ</i> ₉₀		3 4.2 184°78	1°9/6.2	17	
2 1	11 25.37	+9 3.2	2.517	3.353	10.3	21.8	2 1	11 21.57	-1 55.9	1.964	2.784	13.4	22.2
2 11	11 19.00	+9 32.6	2.453	3.369	7.3	21.6	2 11	11 16.78	-1 28.6	1.884	2.784	10.1	22.0
2 21	11 11.14	+10 6.9	2.417	3.385	4.1	21.4	2 21	11 10.12	-0 44.4	1.827	2.784	6.4	21.7
3 2	11 2.40	+10 41.8	2.410	3.399	1.3	21.2	3 2	11 2.27	+0 13.2	1.798	2.784	2.6	21.5
3 12	10 53.59	+11 13.1	2.434	3.413	3.4	21.4	3 12	10 54.14	+1 18.3	1.798	2.784	3.2	21.5
3 22	10 45.44	+11 37.0	2.489	3.426	6.6	21.7	3 22	10 46.66	+2 24.2	1.826	2.783	7.0	21.7
4 1	10 38.61	+11 51.3	2.571	3.439	9.5	21.9	4 1	10 40.66	+3 24.6	1.880	2.783	10.8	22.0
4 11	10 33.55	+11 54.6	2.676	3.451	12.0	22.1	4 11	10 36.74	+4 14.4	1.957	2.782	14.0	22.2
79623	1998 <i>RV</i> ₆₃		3 4.2 228°83	0°6/3.7	18		423618	2005 <i>WW</i> ₁₃₇		3 4.2 175°17	0°9/3.3	15	
2 1	11 25.16	+4 12.4	1.762	2.602	13.8	19.6	2 1	11 23.76	+6 51.1	2.377	3.213	10.8	22.6
2 11	11 19.69	+5 10.5	1.674	2.590	10.1	19.3	2 11	11 18.05	+7 32.1	2.300	3.216	7.8	22.4
2 21	11 11.94	+6 24.2	1.610	2.578	5.7	19.0	2 21	11 10.71	+8 20.9	2.250	3.218	4.3	22.2
3 2	11 2.61	+7 47.2	1.574	2.564	1.0	18.7	3 2	11 2.37	+9 12.9	2.230	3.219	1.0	21.9
3 12	10 52.79	+9 11.0	1.567	2.550	4.2	18.9	3 12	10 53.83	+10 2.9	2.240	3.221	3.4	22.1
3 22	10 43.62	+10 27.0	1.588	2.534	8.9	19.1	3 22	10 45.88	+10 46.0	2.279	3.221	6.9	22.3
4 1	10 36.17	+11 28.5	1.635	2.519	13.2	19.3	4 1	10 39.24	+11 18.7	2.346	3.221	10.1	22.5
4 11	10 31.18	+12 11.5	1.703	2.502	16.9	19.5	4 11	10 34.42	+11 38.8	2.437	3.220	12.8	22.7
264542	2001 <i>SE</i> ₅₈		3 4.2 171°67	0°1/4.4	16		240465	2004 <i>BL</i> ₁		3 4.2 328°92	0°8/4.9	17	
2 1	11 23.48	+3 15.6	2.301	3.128	11.4	22.0	2 1	11 20.19	+1 53.7	1.944	2.781	12.8	21.3
2 11	11 17.87	+3 53.8	2.223	3.132	8.3	22.0	2 11	11 15.83	+2 19.8	1.862	2.774	9.5	21.1
2 21	11 10.62	+4 43.0	2.171	3.135	4.8	21.8	2 21	11 9.61	+2 59.5	1.804	2.768	5.6	20.8
3 2	11 2.34	+5 38.7	2.148	3.138	0.9	21.5	3 2	11 2.18	+3 49.0	1.773	2.762	1.5	20.5
3 12	10 53.84	+6 35.6	2.155	3.140	3.0	21.7	3 12	10 54.45	+4 42.3	1.770	2.756	3.1	20.7
3 22	10 45.94	+7 28.3	2.193	3.141	6.7	21.9	3 22	10 47.33	+5 33.5	1.795	2.751	7.3	20.9
4 1	10 39.38	+8 12.5	2.257	3.142	10.0	22.1	4 1	10 41.67	+6 17.0	1.846	2.746	11.1	21.1
4 11	10 34.67	+8 45.0	2.345	3.142	12.9	22.3	4 11	10 38.07	+6 48.7	1.920	2.741	14.4	21.3
293757	2007 <i>RS</i> ₈₈		3 4.2 141°96	0°5/3.8	18		282532	2004 <i>RM</i> ₂₂₄		3 4.2 116°17	1°4/5.6	18	
2 1	11 26.34	+5 7.4	1.880	2.717	13.2	21.9	2 1	11 25.30	-1 13.0	1.735	2.559	14.8	21.3
2 11	11 20.17	+5 46.5	1.813	2.729	9.5	21.7	2 11	11 19.50	-0 27.7	1.674	2.577	10.9	21.1
2 21	11 11.99	+6 36.5	1.772	2.739	5.3	21.5	2 21	11 11.63	+0 35.8	1.636	2.595	6.6	20.8
3 2	11 2.59	+7 31.9	1.759	2.749	0.9	21.2	3 2	11 2.54	+1 52.0	1.625	2.613	2.3	20.6
3 12	10 53.02	+8 26.1	1.776	2.759	3.7	21.4	3 12	10 53.31	+3 13.2	1.644	2.630	3.4	20.7
3 22	10 44.28	+9 13.1	1.821	2.768	7.9	21.7	3 22	10 45.00	+4 31.1	1.691	2.646	7.7	21.0
4 1	10 37.27	+9 48.3	1.892	2.776	11.7	21.9	4 1	10 38.50	+5 38.9	1.764	2.661	11.6	21.3
4 11	10 32.53	+10 9.2	1.985	2.783	14.8	22.1	4 11	10 34.36	+6 31.8	1.859	2.676	15.0	21.5
436694	2011 <i>SR</i> ₂₂₅		3 4.2 239°12	6°0/12.9	17		450484	2005 <i>YO</i> ₂₈		3 4.2 65°08	0°2/4.1	18	
2 1	11 19.00	-19 43.4	2.880	3.580									

EPHEMERIDES

3 4.2

3 4.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
314676	2006 <i>QM</i> ₁₀₆		3 4.2 270°46	1°1/ 5.2 17			134805	2000 <i>EV</i> ₁₁₄		3 4.2 80°80	1°0/ 5.1 18		
2 1	11 24.28	+ 1 17.5	1.704	2.539	14.5	21.0	2 1	11 23.63	+ 0 21.6	1.635	2.470	15.0	20.1
2 11	11 19.20	+ 1 39.2	1.609	2.520	10.8	20.7	2 11	11 18.37	+ 1 6.0	1.579	2.490	11.0	19.9
2 21	11 11.74	+ 2 17.3	1.537	2.500	6.5	20.4	2 21	11 11.03	+ 2 7.4	1.546	2.509	6.5	19.6
3 2	11 2.62	+ 3 8.2	1.492	2.481	1.9	20.1	3 2	11 2.46	+ 3 20.2	1.540	2.529	1.8	19.4
3 12	10 52.92	+ 4 5.5	1.475	2.461	3.6	20.1	3 12	10 53.78	+ 4 36.0	1.562	2.548	3.5	19.5
3 22	10 43.81	+ 5 2.0	1.485	2.440	8.5	20.4	3 22	10 46.07	+ 5 46.9	1.611	2.567	8.0	19.8
4 1	10 36.41	+ 5 50.5	1.520	2.420	13.0	20.6	4 1	10 40.20	+ 6 46.3	1.686	2.586	12.0	20.1
4 11	10 31.53	+ 6 26.0	1.577	2.399	16.9	20.8	4 11	10 36.71	+ 7 30.1	1.783	2.604	15.3	20.4
148575	2001 <i>QA</i> ₂₇₂		3 4.2 71°38	5°7/ 8.7 18			266794	2009 <i>SK</i> ₃₀₂		3 4.2 153°59	1°2/ 3.0 16		
2 1	11 26.24	- 8 38.5	1.712	2.503	16.3	19.8	2 1	11 23.25	+ 7 11.1	2.134	2.976	11.6	21.7
2 11	11 20.35	- 9 16.2	1.641	2.513	13.1	19.6	2 11	11 17.81	+ 7 59.6	2.063	2.982	8.3	21.5
2 21	11 12.23	- 9 32.6	1.592	2.523	9.5	19.4	2 21	11 10.64	+ 8 56.7	2.019	2.988	4.6	21.3
3 2	11 2.68	- 9 27.3	1.569	2.533	6.5	19.3	3 2	11 2.40	+ 9 56.8	2.004	2.993	1.2	21.1
3 12	10 52.84	- 9 3.4	1.572	2.544	5.9	19.3	3 12	10 53.96	+10 53.9	2.018	2.998	3.8	21.3
3 22	10 43.87	- 8 26.2	1.602	2.554	8.3	19.4	3 22	10 46.20	+11 42.3	2.062	3.003	7.5	21.5
4 1	10 36.75	- 7 42.9	1.658	2.565	11.7	19.7	4 1	10 39.89	+12 18.3	2.131	3.007	10.9	21.7
4 11	10 32.13	- 7 0.8	1.735	2.575	14.9	19.9	4 11	10 35.55	+12 39.7	2.223	3.011	13.8	21.9
171981	2001 <i>TB</i> ₁₅₀		3 4.2 41°35	4°9/28.5 18			498369	2007 <i>VW</i> ₃₂₆		3 4.3 89°02	2°4/ 7.1 17		
2 1	11 22.58	+18 35.3	1.913	2.778	11.8	19.5	2 1	11 20.42	- 4 17.0	2.362	3.164	12.0	21.6
2 11	11 17.44	+19 34.5	1.864	2.790	8.6	19.4	2 11	11 15.60	- 3 52.9	2.293	3.181	9.1	21.4
2 21	11 10.42	+20 32.1	1.841	2.803	5.8	19.2	2 21	11 9.31	- 3 13.8	2.250	3.198	6.0	21.3
3 2	11 2.32	+21 20.6	1.845	2.816	5.0	19.2	3 2	11 2.14	- 2 22.4	2.234	3.215	3.0	21.1
3 12	10 54.15	+21 53.9	1.877	2.829	7.0	19.3	3 12	10 54.87	- 1 23.4	2.247	3.231	3.0	21.1
3 22	10 46.86	+22 8.4	1.935	2.843	10.0	19.6	3 22	10 48.20	- 0 22.2	2.290	3.247	5.8	21.3
4 1	10 41.24	+22 3.2	2.016	2.857	12.9	19.8	4 1	10 42.78	+ 0 35.9	2.361	3.263	8.9	21.5
4 11	10 37.78	+21 39.8	2.118	2.871	15.4	20.0	4 11	10 39.06	+ 1 26.5	2.456	3.279	11.6	21.7
253036	2002 <i>SP</i> ₁₇		3 4.2 217°48	1°0/ 5.3 14 C			75096	1999 <i>VW</i> ₃₆		3 4.3 17°41	7°1/27.9 18		
2 1	11 23.58	+ 0 18.7	2.128	2.949	12.5	23.0	2 1	11 24.83	+19 50.0	1.304	2.183	15.2	17.8
2 11	11 18.19	+ 0 55.1	2.036	2.940	9.3	22.8	2 11	11 19.86	+21 4.4	1.255	2.186	11.3	17.6
2 21	11 10.94	+ 1 46.3	1.970	2.931	5.6	22.6	2 21	11 12.12	+22 16.3	1.228	2.190	8.0	17.4
3 2	11 2.46	+ 2 48.4	1.932	2.920	1.7	22.3	3 2	11 2.69	+23 14.0	1.226	2.195	7.2	17.4
3 12	10 53.61	+ 3 55.7	1.924	2.910	3.0	22.3	3 12	10 53.07	+23 47.9	1.248	2.200	9.8	17.5
3 22	10 45.31	+ 5 1.7	1.945	2.898	7.0	22.6	3 22	10 44.72	+23 53.3	1.294	2.206	13.6	17.8
4 1	10 38.41	+ 6 0.5	1.994	2.886	10.8	22.8	4 1	10 38.79	+23 30.4	1.360	2.213	17.3	18.0
4 11	10 33.53	+ 6 47.7	2.066	2.873	14.0	23.0	4 11	10 35.89	+22 43.0	1.444	2.220	20.4	18.2
337821	2001 <i>VG</i> ₂₁		3 4.2 123°34	3°2/ 8.6 17			205295	2000 <i>SF</i> ₂₅₉		3 4.3 90°22	1°1/ 5.3 18		
2 1	11 20.37	- 8 20.1	2.845	3.618	10.9	21.2	2 1	11 23.13	- 0 17.8	1.514	2.352	15.8	20.2
2 11	11 15.37	- 8 5.4	2.770	3.634	8.6	21.1	2 11	11 18.26	+ 0 29.8	1.450	2.362	11.7	20.0
2 21	11 9.10	- 7 36.0	2.719	3.649	6.1	21.0	2 21	11 11.09	+ 1 37.4	1.408	2.372	7.0	19.7
3 2	11 2.09	- 6 53.4	2.696	3.664	3.8	20.8	3 2	11 2.50	+ 2 59.0	1.393	2.382	2.1	19.4
3 12	10 54.96	- 6 1.2	2.703	3.679	3.4	20.8	3 12	10 53.67	+ 4 25.5	1.405	2.392	3.7	19.6
3 22	10 48.33	- 5 3.5	2.740	3.693	5.2	21.0	3 22	10 45.79	+ 5 47.4	1.444	2.401	8.5	19.9
4 1	10 42.75	- 4 5.1	2.806	3.707	7.7	21.1	4 1	10 39.86	+ 6 56.8	1.508	2.411	12.9	20.2
4 11	10 38.63	- 3 10.4	2.897	3.720	10.0	21.3	4 11	10 36.50	+ 7 48.6	1.593	2.420	16.6	20.4
338261	2002 <i>TP</i> ₂₅₁		3 4.2 153°18	4°3/28.3 17			512345	2016 <i>MD</i> ₃		3 4.3 218°67	5°2/11.2 17		
2 1	11 23.77	+19 25.9	2.451	3.305	9.9	20.8	2 1	11 20.46	-15 30.6	3.041	3.765	11.3	22.3
2 11	11 18.02	+20 19.7	2.390	3.310	7.3	20.6	2 11	11 15.54	-15 41.8	2.938	3.757	9.5	22.1
2 21	11 10.68	+21 11.7	2.357	3.315	5.0	20.5	2 21	11 9.29	-15 36.2	2.858	3.748	7.5	22.0
3 2	11 2.39	+21 56.0	2.352	3.320	4.4	20.5	3 2	11 2.16	-15 13.6	2.804	3.739	5.8	21.9
3 12	10 53.97	+22 27.5	2.377	3.324	6.1	20.6	3 12	10 54.76	-14 35.5	2.779	3.729	5.2	21.8
3 22	10 46.22	+22 43.3	2.430	3.328	8.7	20.7	3 22	10 47.72	-13 45.2	2.783	3.719	6.1	21.8
4 1	10 39.83	+22 42.4	2.507	3.332	11.2	20.9	4 1	10 41.63	-12 47.3	2.815	3.708	7.9	22.0
4 11	10 35.29	+22 25.4	2.606	3.335	13.4	21.1	4 11	10 36.96	-11 46.9	2.872	3.697	10.0	22.1
214711	2006 <i>SS</i> ₃₉₃		3 4.2 251°97	5°4/ 9.5 17			54828	2001 <i>NJ</i> ₉		3 4.3 79°51	0°5/ 3.7 18		
2 1	11 22.39	-11 44.7	1.957	2.730	15.2	21.3	2 1	11 25.34	+ 4 7.1	1.782	2.621	13.7	19.0
2 11	11 17.62	-11 33.8	1.853	2.713	12.4	21.0	2 11	11 19.33	+ 5 8.6	1.739	2.655	9.8	18.9
2 21	11 10.76	-10 57.9	1.771	2.695	9.3	20.8	2 21	11 11.44	+ 6 21.8	1.721	2.688	5.4	18.7
3 2	11 2.45	- 9 57.2	1.714	2.677	6.3	20.6	3 2	11 2.54	+ 7 39.5	1.731	2.721	1.0	18.4
3 12	10 53.61	- 8 35.4	1.685	2.658	5.5	20.5	3 12	10 53.67	+ 8 54.0	1.770	2.753	3.7	18.7
3 22	10 45.27	- 6 59.6	1.684	2.638	7.8	20.6	3 22	10 45.82	+ 9 58.3	1.838	2.785	7.9	19.0
4 1	10 38.40	- 5 18.8	1.710	2.619	11.3	20.8	4 1	10 39.75	+10 48.0	1.932	2.816	11.5	19.3
4 11	10 33.75	- 3 42.1	1.759	2.598	14.7	20.9	4 11	10 35.92	+11 21.0	2.048	2.846	14.4	19.5
258153	2001 <i>SB</i> ₂₅		3 4.2 98°24	0°7/ 5.0 18			97767	2000 <i>JB</i> ₄₆		3 4.3 256°02	0°0/ 4.3 18		
2 1	11 24.22	+ 0 52.8	2.010	2.834	13.0	22.2	2 1	11 21.13	+ 3 56.8	2.406	3.238	10.9	20.6
2 11	11 18.43	+ 1 37.5	1.954	2.860	9.5	22.1	2 11	11 16.27	+ 4 27.9	2.312	3.224	7.9	20.4
2 21	11 10.92	+ 2 35.7	1.923	2.885	5.5	21.9	2 21	11 9.80	+ 5 9.1	2.244	3.210	4.5	20.2
3 2	11 2.43	+ 3 42.4	1.921	2.910	1.5	21.6	3 2	11 2.27	+ 5 56.9	2.205	3.195	0.9	19.9
3 12	10 53.88	+ 4 50.9	1.948	2.934	3.0	21.8	3 12	10 54.42	+ 6 46.2	2.196	3.180	2.9	20.0
3 22	10 46.16	+ 5 55.0	2.005	2.958	6.9	22.1	3 22	10 47.03	+ 7 32.2	2.216	3.165	6.5	20.2
4 1	10 40.01	+ 6 49.4	2.089	2.981	10.4	22.3	4 1	10 40.84	+ 8 10.7	2.263	3.150	9.9	20.4
4 11	10 35.90	+ 7 30.8	2.196	3.003	13.3	22.6	4 11	10 36.37	+ 8 38.4	2.333	3.134	12.8	20.6
410033	2006 <i>XK</i> ₅₅		3 4.2 98°73	4°9/28.1 18			288697	2004 <i>QO</i> ₁₇		3 4.3 156°53	10°3/13.7 18		

EPHEMERIDES

3 4.3

3 4.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
165719	2001 <i>QB</i> ₅₆		3 4.3 133°62	0°5/ 4.8 17			115298	2003 <i>SS</i> ₂₀₃		3 4.3 52°92	0°9/ 5.1 18		
2 1	11 23.49	+ 3 26.9	2.481	3.305	10.8	20.3	2 1	11 21.68	+ 1 24.4	1.776	2.613	13.8	19.7
2 11	11 17.76	+ 3 36.3	2.406	3.313	7.9	20.2	2 11	11 16.89	+ 1 55.4	1.716	2.629	10.2	19.5
2 21	11 10.53	+ 3 54.2	2.358	3.321	4.6	20.0	2 21	11 10.18	+ 2 41.0	1.680	2.644	6.0	19.3
3 2	11 2.39	+ 4 17.9	2.339	3.328	1.2	19.7	3 2	11 2.34	+ 3 36.2	1.671	2.660	1.6	19.0
3 12	10 54.09	+ 4 43.4	2.350	3.335	2.6	19.9	3 12	10 54.37	+ 4 34.4	1.690	2.676	3.2	19.2
3 22	10 46.38	+ 5 7.1	2.391	3.342	6.0	20.1	3 22	10 47.24	+ 5 29.0	1.737	2.693	7.5	19.5
4 1	10 39.92	+ 5 25.6	2.459	3.348	9.1	20.3	4 1	10 41.77	+ 6 14.4	1.809	2.709	11.2	19.7
4 11	10 35.19	+ 5 36.5	2.552	3.355	11.8	20.5	4 11	10 38.47	+ 6 46.9	1.903	2.726	14.4	20.0
464735	2003 <i>CB</i> ₁₃		3 4.3 315°03	3°2/ 6.2 17			298898	2004 <i>TR</i> ₄₈		3 4.3 168°72	1°0/ 3.3 18		
2 1	11 26.14	- 0 35.5	1.551	2.381	15.8	20.1	2 1	11 26.84	+ 6 33.0	2.023	2.860	12.4	22.4
2 11	11 20.75	- 1 10.6	1.459	2.364	12.2	19.8	2 11	11 20.51	+ 7 18.2	1.950	2.866	8.9	22.1
2 21	11 12.74	- 1 31.3	1.390	2.346	7.9	19.5	2 21	11 12.23	+ 8 13.0	1.903	2.871	5.0	21.9
3 2	11 2.86	- 1 38.2	1.346	2.329	3.9	19.2	3 2	11 2.74	+ 9 11.7	1.885	2.875	1.1	21.6
3 12	10 52.32	- 1 34.2	1.329	2.313	4.5	19.2	3 12	10 53.01	+10 7.7	1.897	2.878	3.9	21.8
3 22	10 42.46	- 1 24.0	1.338	2.297	8.9	19.4	3 22	10 44.03	+10 55.4	1.938	2.880	7.9	22.1
4 1	10 34.53	- 1 13.0	1.372	2.282	13.4	19.7	4 1	10 36.66	+11 30.5	2.006	2.881	11.5	22.3
4 11	10 29.40	- 1 6.8	1.426	2.267	17.5	19.9	4 11	10 31.47	+11 51.0	2.096	2.882	14.5	22.5
325182	2008 <i>FJ</i> ₇₇		3 4.3 113°77	0°6/ 3.7 18			48948	1998 <i>QL</i> ₁₄		3 4.3 222°91	1°8/ 6.0 18	R	
2 1	11 25.23	+ 5 50.6	1.891	2.732	13.0	21.6	2 1	11 23.69	- 1 38.2	2.038	2.854	13.2	20.0
2 11	11 19.35	+ 6 26.7	1.829	2.746	9.3	21.4	2 11	11 18.38	- 1 11.3	1.946	2.845	10.0	19.8
2 21	11 11.54	+ 7 12.8	1.792	2.760	5.2	21.2	2 21	11 11.11	- 0 27.9	1.879	2.835	6.2	19.5
3 2	11 2.58	+ 8 3.2	1.783	2.773	1.0	20.9	3 2	11 2.55	+ 0 28.8	1.839	2.825	2.5	19.3
3 12	10 53.49	+ 8 51.8	1.803	2.786	3.7	21.2	3 12	10 53.60	+ 1 33.3	1.828	2.814	3.2	19.3
3 22	10 45.25	+ 9 32.9	1.852	2.799	7.8	21.4	3 22	10 45.21	+ 2 39.1	1.847	2.802	7.1	19.5
4 1	10 38.68	+10 2.3	1.927	2.811	11.5	21.7	4 1	10 38.27	+ 3 39.7	1.892	2.790	10.9	19.7
4 11	10 34.34	+10 18.0	2.024	2.823	14.5	21.9	4 11	10 33.44	+ 4 30.0	1.960	2.777	14.3	19.9
96916	1999 <i>TL</i> ₁₀₇		3 4.3 294°96	4°1/ 7.3 18			31969	Yihuachen		3 4.3 243°93	0°3/ 3.9 18		
2 1	11 24.65	- 4 32.4	1.546	2.365	16.5	19.2	2 1	11 22.91	+ 4 22.8	1.865	2.707	13.1	19.8
2 11	11 19.56	- 4 46.6	1.464	2.358	12.9	18.9	2 11	11 17.92	+ 5 4.4	1.782	2.699	9.5	19.5
2 21	11 11.98	- 4 40.2	1.403	2.353	8.7	18.7	2 21	11 10.89	+ 5 59.0	1.723	2.691	5.4	19.3
3 2	11 2.71	- 4 14.1	1.368	2.347	4.9	18.4	3 2	11 2.51	+ 7 1.3	1.692	2.682	1.0	18.9
3 12	10 52.94	- 3 32.8	1.358	2.341	4.8	18.4	3 12	10 53.76	+ 8 4.5	1.689	2.673	3.7	19.1
3 22	10 43.96	- 2 43.2	1.376	2.335	8.6	18.6	3 22	10 45.66	+ 9 1.5	1.715	2.665	8.1	19.4
4 1	10 36.92	- 1 53.1	1.417	2.330	12.9	18.9	4 1	10 39.15	+ 9 46.9	1.766	2.655	12.1	19.6
4 11	10 32.57	- 1 9.9	1.480	2.324	16.8	19.1	4 11	10 34.87	+10 17.2	1.839	2.646	15.5	19.8
282499	2004 <i>PE</i> ₅₅		3 4.3 109°35	5°7/26.9 18			150165	1997 <i>UG</i> ₉		3 4.3 68°31	3°9/ 1.2 18		
2 1	11 26.01	+15 52.6	1.713	2.575	13.0	20.4	2 1	11 30.74	+14 43.1	1.664	2.519	13.8	19.6
2 11	11 20.11	+18 23.9	1.673	2.599	9.4	20.2	2 11	11 23.16	+15 37.4	1.637	2.561	9.8	19.4
2 21	11 12.04	+20 56.6	1.661	2.623	6.4	20.1	2 21	11 13.55	+16 31.8	1.635	2.602	5.8	19.3
3 2	11 2.68	+23 17.6	1.679	2.645	6.0	20.1	3 2	11 2.94	+17 18.5	1.661	2.642	3.9	19.3
3 12	10 53.19	+25 15.5	1.726	2.667	8.6	20.3	3 12	10 52.59	+17 50.8	1.716	2.682	6.2	19.5
3 22	10 44.72	+26 43.6	1.801	2.688	11.8	20.5	3 22	10 43.57	+18 5.7	1.799	2.721	9.7	19.8
4 1	10 38.18	+27 40.2	1.898	2.708	14.8	20.8	4 1	10 36.70	+18 2.6	1.905	2.760	13.0	20.1
4 11	10 34.13	+28 7.7	2.014	2.728	17.3	21.0	4 11	10 32.37	+17 43.1	2.032	2.798	15.6	20.3
241155	2007 <i>RN</i> ₅₆		3 4.3 115°72	3°5/ 9.1 18			52773	1998 <i>QU</i> ₁₂		3 4.3 166°96	0°7/ 4.9 18		
2 1	11 19.80	-10 3.1	2.593	3.362	12.0	21.3	2 1	11 26.18	+ 1 6.5	1.819	2.647	14.0	19.8
2 11	11 15.08	- 9 28.0	2.517	3.378	9.5	21.2	2 11	11 20.22	+ 1 49.6	1.745	2.653	10.3	19.6
2 21	11 9.00	- 8 34.8	2.465	3.394	6.8	21.0	2 21	11 12.15	+ 2 48.6	1.695	2.657	6.1	19.3
3 2	11 2.11	- 7 25.9	2.442	3.409	4.3	20.9	3 2	11 2.74	+ 3 58.3	1.672	2.662	1.6	19.0
3 12	10 55.09	- 6 5.6	2.448	3.424	3.7	20.9	3 12	10 53.04	+ 5 11.5	1.679	2.665	3.4	19.2
3 22	10 48.63	- 4 39.8	2.484	3.438	5.6	21.0	3 22	10 44.14	+ 6 20.6	1.715	2.667	7.9	19.5
4 1	10 43.30	- 3 14.6	2.549	3.452	8.2	21.2	4 1	10 36.97	+ 7 19.3	1.777	2.669	11.9	19.7
4 11	10 39.55	- 1 55.6	2.639	3.466	10.7	21.4	4 11	10 32.16	+ 8 3.3	1.862	2.670	15.3	19.9
192326	1994 <i>UT</i> ₈		3 4.3 238°92	1°6/ 5.8 18			998	Bodea		3 4.3 144°80	4°2/ 9.5 18	R	
2 1	11 21.86	- 0 29.7	2.122	2.943	12.5	20.6	2 1	11 22.48	-10 50.0	2.917	3.670	11.1	17.3
2 11	11 16.93	- 0 9.7	2.035	2.937	9.4	20.4	2 11	11 16.93	-11 4.1	2.834	3.680	9.0	17.2
2 21	11 10.23	+ 0 24.5	1.973	2.931	5.8	20.2	2 21	11 10.04	-11 3.4	2.775	3.689	6.7	17.1
3 2	11 2.36	+ 1 9.9	1.938	2.925	2.2	19.9	3 2	11 2.33	-10 48.3	2.743	3.698	4.8	16.9
3 12	10 54.19	+ 2 1.5	1.933	2.919	3.0	20.0	3 12	10 54.44	-10 20.8	2.741	3.706	4.3	16.9
3 22	10 46.58	+ 2 53.7	1.956	2.912	6.7	20.2	3 22	10 47.02	- 9 44.4	2.769	3.714	5.7	17.0
4 1	10 40.34	+ 3 41.0	2.006	2.906	10.4	20.4	4 1	10 40.65	- 9 3.2	2.826	3.721	7.8	17.2
4 11	10 36.06	+ 4 19.0	2.079	2.899	13.5	20.6	4 11	10 35.77	- 8 21.8	2.907	3.728	10.0	17.3
387420	2013 <i>UF</i> ₁₂		3 4.3 118°33	5°6/27.3 18			386639	2009 <i>SP</i> ₂₄₀		3 4.3 245°22	6°3/10.0 17		
2 1	11 27.93	+24 46.0	2.451	3.297	10.2	20.3	2 1	11 23.78	-12 54.0	2.058	2.818	15.0	21.0
2 11	11 20.92	+25 33.4	2.405	3.313	7.8	20.2	2 11	11 18.54	-13 17.1	1.959	2.806	12.4	20.8
2 21	11 12.27	+26 14.2	2.385	3.329	6.0	20.1	2 21	11 11.28	-13 18.6	1.882	2.794	9.6	20.6
3 2	11 2.71	+26 42.4	2.395	3.345	5.7	20.1	3 2	11 2.60	-12 57.2	1.830	2.781	7.1	20.5
3 12	10 53.15	+26 53.8	2.434	3.360	7.2	20.2	3 12	10 53.44	-12 14.9	1.806	2.768	6.3	20.4
3 22	10 44.45	+26 46.9	2.500	3.375	9.4	20.4	3 22	10 44.79	-11 16.7	1.809	2.755	8.0	20.5
4 1	10 37.31	+26 22.1	2.591	3.389	11.6	20.5	4 1	10 37.59	-10 9.4	1.838	2.741	10.9	20.6
4 11	10 32.17	+25 41.8	2.702	3.402	13.6	20.7	4 11	10 32.53	- 9 1.0	1.890	2.727	14.0	20.8
463452	2013 <i>OU</i> ₇		3 4.3 157°28	0°2/ 4.0 16			205686	2001 <i>YK</i> ₉₁		3 4.3 53°33	7°8/26.1 18		
2 1	11 2												

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
432543	2010 <i>HT</i> ₇₈		3 4.3 278°25	2.4/ 1.7	17		459916	2014 <i>MP</i> ₃₀		3 4.3 166°75	1.4/ 5.6	18	
2 1	11 21.56	+11 42.3	2.243	3.096	10.7	21.7	2 1	11 25.82	- 0 29.2	1.880	2.701	13.9	22.8
2 11	11 16.70	+12 28.6	2.158	3.082	7.7	21.5	2 11	11 19.93	+ 0 5.6	1.804	2.706	10.4	22.6
2 21	11 10.11	+13 20.2	2.098	3.067	4.4	21.2	2 21	11 11.99	+ 0 56.9	1.752	2.711	6.3	22.4
3 2	11 2.38	+14 11.5	2.067	3.053	2.4	21.1	3 2	11 2.75	+ 2 0.3	1.728	2.715	2.1	22.1
3 12	10 54.33	+14 56.8	2.066	3.038	4.7	21.2	3 12	10 53.24	+ 3 9.4	1.733	2.719	3.3	22.2
3 22	10 46.83	+15 31.2	2.093	3.024	8.1	21.4	3 22	10 44.48	+ 4 16.8	1.767	2.721	7.5	22.5
4 1	10 40.64	+15 51.5	2.145	3.009	11.3	21.5	4 1	10 37.39	+ 5 16.2	1.827	2.723	11.4	22.7
4 11	10 36.34	+15 56.5	2.219	2.995	14.2	21.7	4 11	10 32.57	+ 6 2.9	1.911	2.724	14.8	22.9
190155	2005 <i>TW</i> ₁₀₃		3 4.3 104°43	3°2/ 6.7	18		363314	2002 <i>NS</i> ₇₇		3 4.3 224°91	2°2/ 2.1	16	
2 1	11 26.93	- 3 38.4	1.475	2.297	17.0	20.6	2 1	11 25.27	+10 8.3	2.014	2.862	12.0	22.0
2 11	11 21.04	- 3 27.0	1.413	2.312	13.0	20.3	2 11	11 19.56	+11 1.8	1.930	2.852	8.6	21.8
2 21	11 12.71	- 2 53.5	1.373	2.327	8.4	20.1	2 21	11 11.82	+12 2.9	1.872	2.841	4.9	21.5
3 2	11 2.86	- 2 1.6	1.358	2.341	4.1	19.9	3 2	11 2.73	+13 5.3	1.842	2.829	2.2	21.3
3 12	10 52.81	- 0 58.2	1.371	2.355	4.2	19.9	3 12	10 53.27	+14 1.8	1.842	2.817	4.9	21.5
3 22	10 43.82	+ 0 8.0	1.410	2.369	8.5	20.2	3 22	10 44.44	+14 46.7	1.871	2.804	8.7	21.7
4 1	10 36.97	+ 1 8.8	1.474	2.382	12.8	20.5	4 1	10 37.16	+15 16.0	1.925	2.790	12.4	21.9
4 11	10 32.86	+ 1 57.8	1.560	2.395	16.4	20.7	4 11	10 32.07	+15 28.2	2.000	2.776	15.5	22.1
29762	Panasiewicz		3 4.3 275°44	2°6/ 2.5	18 R		386184	2007 <i>VA</i> ₈₉		3 4.3 125°77	5°7/ 11.8	17	
2 1	11 27.81	+10 42.5	1.459	2.319	15.0	17.6	2 1	11 21.75	-16 45.6	2.787	3.505	12.4	21.3
2 11	11 22.02	+11 12.7	1.380	2.307	10.9	17.3	2 11	11 16.48	-16 58.0	2.707	3.520	10.4	21.2
2 21	11 13.48	+11 50.8	1.325	2.296	6.2	17.0	2 21	11 9.83	-16 51.5	2.650	3.534	8.3	21.0
3 2	11 3.05	+12 29.4	1.296	2.284	2.6	16.7	3 2	11 2.34	-16 26.0	2.618	3.548	6.5	20.9
3 12	10 52.09	+13 0.6	1.293	2.272	5.8	16.9	3 12	10 54.67	-15 43.7	2.615	3.561	5.7	20.9
3 22	10 42.06	+13 18.0	1.317	2.260	10.7	17.1	3 22	10 47.52	-14 48.6	2.641	3.574	6.5	21.0
4 1	10 34.20	+13 17.9	1.364	2.248	15.3	17.4	4 1	10 41.49	-13 45.7	2.694	3.587	8.3	21.1
4 11	10 29.33	+12 59.6	1.430	2.236	19.2	17.6	4 11	10 37.03	-12 40.9	2.772	3.599	10.3	21.3
123772	2001 <i>BQ</i> ₂		3 4.3 312°48	6°7/ 29.1	17		386557	2009 <i>DU</i> ₆₅		3 4.3 225°85	2°7/ 7.2	17	
2 1	11 35.22	+24 43.0	1.776	2.624	13.4	18.7	2 1	11 22.69	- 3 59.2	2.624	3.419	11.2	21.3
2 11	11 26.97	+24 56.6	1.700	2.611	10.3	18.5	2 11	11 17.28	- 4 5.7	2.529	3.411	8.6	21.1
2 21	11 16.06	+25 0.9	1.649	2.599	7.6	18.3	2 21	11 10.36	- 3 59.7	2.460	3.404	5.8	20.9
3 2	11 3.50	+24 48.0	1.626	2.587	6.7	18.2	3 2	11 2.45	- 3 42.4	2.418	3.396	3.3	20.7
3 12	10 50.68	+24 12.9	1.631	2.576	8.6	18.3	3 12	10 54.26	- 3 16.5	2.407	3.388	3.2	20.7
3 22	10 38.99	+23 14.5	1.664	2.565	11.8	18.5	3 22	10 46.50	- 2 45.8	2.425	3.379	5.8	20.8
4 1	10 29.59	+21 55.6	1.721	2.554	15.1	18.7	4 1	10 39.87	- 2 14.2	2.472	3.370	8.7	21.0
4 11	10 23.13	+20 20.7	1.799	2.543	18.0	18.8	4 11	10 34.87	- 1 45.9	2.543	3.361	11.3	21.2
18153	2000 <i>OC</i> ₆₁		3 4.3 214°76	1°6/ 6.1	18		269143	2007 <i>WZ</i> ₂₃		3 4.3 45°85	2°3/ 1.9	17	
2 1	11 22.88	- 0 30.4	2.904	3.708	9.9	18.3	2 1	11 21.09	+10 50.6	2.036	2.892	11.5	20.7
2 11	11 17.27	- 0 30.2	2.808	3.701	7.5	18.1	2 11	11 16.36	+11 41.7	1.973	2.899	8.2	20.5
2 21	11 10.29	- 0 20.4	2.740	3.693	4.7	17.9	2 21	11 9.88	+12 38.3	1.936	2.906	4.6	20.3
3 2	11 2.42	- 0 2.7	2.700	3.685	2.1	17.7	3 2	11 2.35	+13 34.4	1.927	2.913	2.3	20.1
3 12	10 54.30	+ 0 20.0	2.692	3.676	2.5	17.7	3 12	10 54.66	+14 23.7	1.946	2.920	4.7	20.3
3 22	10 46.60	+ 0 44.4	2.715	3.668	5.3	17.9	3 22	10 47.68	+15 1.2	1.993	2.928	8.2	20.5
4 1	10 39.91	+ 1 7.4	2.766	3.658	8.1	18.1	4 1	10 42.17	+15 23.8	2.066	2.935	11.5	20.7
4 11	10 34.72	+ 1 25.9	2.842	3.648	10.6	18.2	4 11	10 38.64	+15 30.5	2.160	2.943	14.2	20.9
224011	2005 <i>GO</i> ₁₅₄		3 4.3 309°62	3°0/ 29.2	17		422596	2014 <i>TS</i> ₆₉		3 4.3 119°26	2°6/ 1.7	18	
2 1	11 19.03	+16 36.0	2.934	3.789	8.4	20.0	2 1	11 25.91	+11 42.8	2.078	2.926	11.7	21.2
2 11	11 14.50	+17 18.4	2.860	3.783	6.1	19.8	2 11	11 19.69	+12 38.2	2.023	2.945	8.3	21.1
2 21	11 8.69	+18 1.2	2.813	3.777	3.9	19.7	2 21	11 11.70	+13 37.8	1.995	2.963	4.7	20.9
3 2	11 2.11	+18 40.1	2.796	3.771	3.1	19.6	3 2	11 2.69	+14 35.1	1.996	2.981	2.6	20.8
3 12	10 55.36	+19 10.9	2.808	3.766	4.6	19.7	3 12	10 53.59	+15 24.0	2.027	2.998	4.9	20.9
3 22	10 49.07	+19 30.8	2.849	3.761	7.0	19.9	3 22	10 45.34	+15 59.7	2.086	3.015	8.3	21.2
4 1	10 43.79	+19 38.1	2.916	3.755	9.4	20.0	4 1	10 38.68	+16 19.9	2.172	3.030	11.4	21.4
4 11	10 39.95	+19 32.5	3.005	3.750	11.5	20.2	4 11	10 34.10	+16 24.2	2.279	3.045	14.1	21.6
307523	2003 <i>AV</i> ₇₂		3 4.3 0°15 32°1/ 1.0	16			33473	Porterfield		3 4.3 42°78	2°8/ 6.1	18	
2 1	11 47.70	+71 58.0	0.866	1.604	32.1	17.7	2 1	11 26.74	- 0 48.2	1.364	2.201	17.3	18.5
2 11	11 41.69	+72 48.6	0.863	1.593	32.9	17.7	2 11	11 21.19	- 1 0.7	1.296	2.205	13.1	18.2
2 21	11 25.14	+72 31.2	0.865	1.586	33.6	17.7	2 21	11 12.95	- 0 54.4	1.250	2.209	8.3	18.0
3 2	11 4.81	+70 51.8	0.872	1.584	34.1	17.7	3 2	11 2.96	- 0 31.8	1.229	2.214	3.7	17.7
3 12	10 48.22	+67 48.8	0.885	1.587	34.5	17.8	3 12	10 52.61	+ 0 1.4	1.233	2.219	4.3	17.8
3 22	10 38.70	+63 32.6	0.905	1.594	34.9	17.8	3 22	10 43.32	+ 0 37.9	1.264	2.224	9.1	18.1
4 1	10 36.10	+58 19.3	0.934	1.606	35.2	17.9	4 1	10 36.28	+ 1 10.6	1.318	2.229	13.7	18.3
4 11	10 38.87	+52 27.2	0.974	1.622	35.4	18.0	4 11	10 32.21	+ 1 33.8	1.392	2.235	17.7	18.6
323809	2005 <i>RA</i> ₉		3 4.3 163°04	8°6/ 29.9	17		492637	2014 <i>OS</i> ₃₁₈		3 4.3 107°80	0°6/ 3.8	18	
2 1	11 46.61	+24 59.1	1.187	2.039	18.3	20.3	2 1	11 25.57	+ 4 37.0	1.723	2.564	14.0	21.8
2 11	11 36.05	+25 17.9	1.129	2.042	14.1	20.0	2 11	11 19.74	+ 5 28.8	1.665	2.583	10.1	21.6
2 21	11 21.49	+25 22.9	1.093	2.045	10.2	19.8	2 21	11 11.84	+ 6 33.1	1.633	2.601	5.6	21.4
3 2	11 4.53	+25 2.1	1.082	2.047	8.6	19.7	3 2	11 2.72	+ 7 43.1	1.628	2.618	1.0	21.1
3 12	10 47.50	+24 8.5	1.098	2.049	11.0	19.8	3 12	10 53.49	+ 8 51.1	1.652	2.635	3.9	21.4
3 22	10 32.65	+22 43.8	1.139	2.051	15.1	20.1	3 22	10 45.20	+ 9 49.9	1.704	2.652	8.3	21.7
4 1	10 21.54	+20 55.3	1.203	2.052	19.3	20.3	4 1	10 38.75	+10 34.6	1.782	2.668	12.2	21.9
4 11	10 14.77	+18 51.9	1.285	2.052	22.9	20.6	4 11	10 34.66	+11 2.7	1.881	2.683	15.4	22.2
312142	2007 <i>TP</i> ₃₆₂		3 4.3 171°42	4°0/ 29.6	18		55876	1997 <i>VH</i> ₃		3 4.3 124°39	2°1/ 2.4	18	

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
356736	2011 <i>UH</i> ₁₉₇		3 4.3 258°71	1.2°/ 5.2 18			422758	2001 <i>TU</i> ₁₁₆		3 4.3 140°93	4.9°/ 9.7 18		
2 1	11 25.68	+ 1 34.8	1.570	2.408	15.3	21.2	2 1	11 23.48	-11 35.6	2.284	3.045	13.6	21.0
2 11	11 20.33	+ 1 49.3	1.485	2.397	11.4	21.0	2 11	11 17.97	-11 32.6	2.205	3.057	11.0	20.8
2 21	11 12.48	+ 2 20.1	1.423	2.387	6.9	20.7	2 21	11 10.80	-11 9.2	2.149	3.068	8.2	20.7
3 2	11 2.90	+ 3 3.5	1.387	2.376	2.1	20.3	3 2	11 2.58	-10 26.6	2.120	3.078	5.7	20.5
3 12	10 52.80	+ 3 52.9	1.378	2.364	3.8	20.4	3 12	10 54.15	- 9 28.4	2.119	3.088	4.9	20.5
3 22	10 43.45	+ 4 41.1	1.396	2.353	8.8	20.7	3 22	10 46.35	- 8 20.0	2.147	3.097	6.7	20.6
4 1	10 36.02	+ 5 21.1	1.439	2.341	13.4	20.9	4 1	10 39.92	- 7 8.1	2.203	3.106	9.4	20.8
4 11	10 31.29	+ 5 48.1	1.503	2.329	17.4	21.1	4 11	10 35.36	- 5 59.1	2.284	3.114	12.1	21.0
341819	2007 <i>YE</i> ₃₂		3 4.3 176°03	4.8°/27.5 18			259171	2003 <i>AB</i>		3 4.3 8°99	6.3°/28.3 18		
2 1	11 22.29	+20 28.0	2.368	3.226	10.1	20.6	2 1	11 24.09	+18 37.4	1.412	2.287	14.4	19.8
2 11	11 17.10	+21 32.7	2.306	3.227	7.5	20.4	2 11	11 19.25	+19 49.2	1.357	2.288	10.7	19.5
2 21	11 10.27	+22 35.4	2.271	3.227	5.4	20.3	2 21	11 11.82	+21 0.5	1.326	2.290	7.3	19.3
3 2	11 2.44	+23 29.5	2.265	3.227	5.0	20.2	3 2	11 2.78	+22 0.4	1.320	2.292	6.4	19.3
3 12	10 54.44	+24 9.4	2.287	3.228	6.7	20.3	3 12	10 53.51	+22 39.7	1.339	2.294	9.0	19.4
3 22	10 47.08	+24 31.7	2.336	3.228	9.3	20.5	3 22	10 45.36	+22 53.3	1.383	2.297	12.7	19.7
4 1	10 41.09	+24 35.3	2.410	3.228	11.8	20.7	4 1	10 39.42	+22 40.4	1.448	2.301	16.4	19.9
4 11	10 36.96	+24 21.1	2.504	3.227	14.0	20.8	4 11	10 36.33	+22 3.6	1.530	2.306	19.5	20.1
264430	2000 <i>SW</i> ₄₆		3 4.3 204°62	4.4°/ 8.8 17			519553	2012 <i>QQ</i> ₅₃		3 4.3 3°08	4.0°/ 7.9 17		
2 1	11 24.08	- 9 16.9	2.375	3.145	12.9	20.9	2 1	11 21.56	- 6 15.5	1.942	2.744	14.2	20.6
2 11	11 18.45	- 9 25.7	2.280	3.140	10.4	20.7	2 11	11 16.88	- 6 25.1	1.861	2.744	11.2	20.4
2 21	11 11.11	- 9 16.9	2.209	3.135	7.6	20.5	2 21	11 10.31	- 6 16.3	1.802	2.744	7.8	20.2
3 2	11 2.62	- 8 51.2	2.165	3.129	5.1	20.4	3 2	11 2.50	- 5 50.2	1.770	2.744	4.8	20.0
3 12	10 53.80	- 8 11.1	2.150	3.122	4.6	20.3	3 12	10 54.39	- 5 10.6	1.765	2.745	4.4	20.0
3 22	10 45.47	- 7 21.3	2.165	3.115	6.6	20.4	3 22	10 46.93	- 4 23.0	1.788	2.745	7.1	20.2
4 1	10 38.41	- 6 27.3	2.207	3.107	9.5	20.6	4 1	10 40.96	- 3 33.8	1.837	2.747	10.6	20.4
4 11	10 33.21	- 5 34.9	2.273	3.099	12.3	20.8	4 11	10 37.08	- 2 48.9	1.909	2.748	13.7	20.6
396862	2004 <i>TG</i> ₁₇		3 4.3 150°97	3°1'/ 7.9 16			272810	2006 <i>AM</i> ₃₄		3 4.3 51°85	9°1'/25.4 18		
2 1	11 22.58	- 6 41.0	2.526	3.310	11.9	22.1	2 1	11 27.48	+28 25.7	1.612	2.473	13.7	20.1
2 11	11 17.17	- 6 26.9	2.446	3.319	9.3	22.0	2 11	11 21.34	+29 47.3	1.580	2.490	11.0	20.0
2 21	11 10.27	- 5 57.2	2.390	3.328	6.4	21.8	2 21	11 12.80	+30 56.0	1.573	2.508	9.3	19.9
3 2	11 2.45	- 5 13.6	2.362	3.336	3.7	21.6	3 2	11 2.94	+31 41.9	1.591	2.526	9.4	19.9
3 12	10 54.45	- 4 20.1	2.365	3.344	3.4	21.6	3 12	10 53.14	+31 58.7	1.634	2.544	11.2	20.1
3 22	10 47.00	- 3 21.6	2.397	3.351	5.8	21.8	3 22	10 44.64	+31 45.2	1.700	2.562	13.7	20.3
4 1	10 40.75	- 2 23.2	2.457	3.358	8.7	22.0	4 1	10 38.40	+31 4.2	1.787	2.581	16.2	20.5
4 11	10 36.19	- 1 29.8	2.543	3.364	11.3	22.2	4 11	10 34.90	+30 0.9	1.891	2.600	18.4	20.7
162021	1995 <i>FV</i> ₁₁		3 4.3 156°38	0°4'/ 3.9 17			90718	1991 <i>RW</i> ₃		3 4.3 73°48	0°4'/ 4.7 18		
2 1	11 21.95	+ 5 25.9	2.327	3.163	11.0	21.0	2 1	11 23.83	+ 3 32.5	2.114	2.946	12.2	20.0
2 11	11 16.82	+ 5 59.3	2.251	3.166	7.9	20.8	2 11	11 18.15	+ 3 52.3	2.058	2.969	8.8	19.8
2 21	11 10.11	+ 6 41.4	2.202	3.169	4.5	20.6	2 21	11 10.83	+ 4 22.2	2.028	2.992	5.1	19.6
3 2	11 2.43	+ 7 28.1	2.182	3.172	0.8	20.3	3 2	11 2.58	+ 4 58.0	2.025	3.015	1.1	19.4
3 12	10 54.55	+ 8 14.3	2.192	3.175	3.1	20.5	3 12	10 54.27	+ 5 34.9	2.053	3.038	2.9	19.6
3 22	10 47.25	+ 8 55.2	2.230	3.178	6.7	20.8	3 22	10 46.75	+ 6 8.2	2.109	3.061	6.6	19.9
4 1	10 41.25	+ 9 27.1	2.296	3.180	9.9	21.0	4 1	10 40.71	+ 6 34.0	2.192	3.084	10.0	20.1
4 11	10 37.03	+ 9 47.5	2.385	3.182	12.7	21.2	4 11	10 36.62	+ 6 49.9	2.298	3.106	12.7	20.3
78606	2002 <i>SD</i> ₄₆		3 4.3 116°68	1°4'/ 2.8 18			170185	2003 <i>NY</i> ₃		3 4.3 255°23	3°1'/ 6.6 18		
2 1	11 22.29	+ 8 49.9	2.195	3.042	11.2	19.9	2 1	11 25.81	- 2 41.7	1.651	2.470	15.6	20.6
2 11	11 17.14	+ 9 27.7	2.125	3.046	8.0	19.7	2 11	11 20.38	- 2 45.9	1.561	2.459	12.0	20.3
2 21	11 10.32	+10 12.0	2.081	3.051	4.4	19.5	2 21	11 12.51	- 2 31.5	1.495	2.448	7.9	20.1
3 2	11 2.47	+10 57.9	2.066	3.055	1.5	19.3	3 2	11 2.96	- 2 0.3	1.453	2.436	3.9	19.8
3 12	10 54.44	+11 39.9	2.080	3.059	3.9	19.5	3 12	10 52.85	- 1 17.1	1.440	2.424	4.2	19.8
3 22	10 47.06	+12 13.4	2.122	3.063	7.4	19.7	3 22	10 43.42	- 0 28.4	1.454	2.412	8.3	20.0
4 1	10 41.07	+12 35.1	2.191	3.067	10.7	19.9	4 1	10 35.83	+ 0 18.5	1.493	2.400	12.7	20.2
4 11	10 36.97	+12 43.6	2.282	3.070	13.4	20.1	4 11	10 30.84	+ 0 57.2	1.553	2.387	16.6	20.4
288703	2004 <i>RE</i>		3 4.3 148°74	0°3'/ 4.0 18			508480	2016 <i>PF</i> ₃₇		3 4.3 253°47	2°3'/ 7.3 18		
2 1	11 27.53	+ 4 52.4	1.828	2.664	13.6	21.8	2 1	11 19.12	- 5 15.5	2.657	3.452	11.0	22.0
2 11	11 21.16	+ 5 27.2	1.760	2.674	9.8	21.6	2 11	11 14.77	- 4 38.6	2.553	3.435	8.5	21.8
2 21	11 12.69	+ 6 13.4	1.717	2.683	5.5	21.4	2 21	11 8.99	- 3 45.8	2.473	3.419	5.7	21.6
3 2	11 2.92	+ 7 5.6	1.702	2.692	1.0	21.1	3 2	11 2.26	- 2 39.4	2.422	3.402	3.0	21.4
3 12	10 52.95	+ 7 57.1	1.716	2.700	3.7	21.3	3 12	10 55.22	- 1 23.7	2.401	3.384	2.8	21.3
3 22	10 43.84	+ 8 41.8	1.759	2.707	8.1	21.6	3 22	10 48.55	- 0 4.1	2.410	3.366	5.6	21.5
4 1	10 36.52	+ 9 15.0	1.828	2.714	11.9	21.8	4 1	10 42.91	+ 1 13.6	2.448	3.348	8.7	21.7
4 11	10 31.57	+ 9 34.2	1.919	2.719	15.2	22.0	4 11	10 38.80	+ 2 24.2	2.510	3.330	11.5	21.8
413129	2001 <i>XY</i> ₁₄₂		3 4.3 78°79	1.7°/ 2.7 18			1625	The NORC		3 4.3 304°96	3°7'/ 7.3 18		
2 1	11 25.15	+ 8 24.4	1.759	2.609	13.3	22.1	2 1	11 24.34	- 4 11.4	2.173	2.973	13.0	15.2
2 11	11 19.35	+ 9 14.1	1.710	2.633	9.4	21.9	2 11	11 18.91	- 4 43.3	2.067	2.951	10.2	14.9
2 21	11 11.58	+10 11.6	1.686	2.656	5.2	21.7	2 21	11 11.52	- 5 2.0	1.985	2.928	7.1	14.7
3 2	11 2.70	+11 10.1	1.690	2.679	1.8	21.5	3 2	11 2.76	- 5 7.4	1.930	2.906	4.3	14.5
3 12	10 53.78	+12 2.4	1.723	2.702	4.5	21.7	3 12	10 53.48	- 5 1.4	1.905	2.883	4.2	14.4
3 22	10 45.85	+12 42.9	1.783	2.724	8.5	22.0	3 22	10 44.61	- 4 47.5	1.907	2.861	7.1	14.5
4 1	10 39.72	+13 8.3	1.869	2.747	12.1	22.3	4 1	10 37.07	- 4 30.0	1.937	2.839	10.5	14.7
4 11	10 35.89	+13 17.6	1.975	2.769	15.0	22.5	4 11	10 31.55	- 4 13.6	1.990	2.818	13.7	14.9
506383	2017 <i>RV</i> ₃		3 4.3 248°23	0°0'/ 4.1 17			419872	2011 <i>AW</i> ₂₇		3 4.3 84°44	0°5'/ 4.8 18		
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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
92470	2000 <i>KK</i> ₆₃		3 4.3 273°62	2.4/ 2.3	18		415815	2001 <i>QY</i> ₄₈		3 4.3 176°21	0.3/ 4.6	16	
2 1	11 23.05	+ 7 36.7	1.430	2.293	15.1	19.1	2 1	11 24.51	+ 3 11.0	2.324	3.149	11.4	22.4
2 11	11 18.60	+ 8 52.3	1.355	2.284	10.9	18.8	2 11	11 18.70	+ 3 42.1	2.244	3.151	8.4	22.2
2 21	11 11.57	+10 23.1	1.303	2.274	6.1	18.5	2 21	11 11.23	+ 4 23.7	2.190	3.154	4.8	22.0
3 2	11 2.78	+11 59.9	1.277	2.265	2.4	18.3	3 2	11 2.70	+ 5 12.0	2.165	3.155	1.0	21.7
3 12	10 53.50	+13 31.2	1.278	2.256	5.9	18.5	3 12	10 53.95	+ 6 1.8	2.171	3.156	2.9	21.9
3 22	10 45.06	+14 47.0	1.304	2.246	10.9	18.7	3 22	10 45.78	+ 6 48.1	2.206	3.156	6.6	22.1
4 1	10 38.66	+15 40.4	1.354	2.237	15.5	19.0	4 1	10 38.96	+ 7 26.7	2.270	3.155	9.9	22.3
4 11	10 35.08	+16 8.9	1.423	2.228	19.3	19.2	4 11	10 33.99	+ 7 54.6	2.356	3.154	12.8	22.5
503205	2015 <i>HY</i> ₂₃		3 4.3 22°21	4.6/28.8	17		304014	2006 <i>DL</i> ₈		3 4.3 249°55	0°2/ 4.1	17	
2 1	11 23.45	+18 31.1	2.049	2.909	11.3	21.0	2 1	11 27.87	+ 5 36.4	1.622	2.465	14.6	20.8
2 11	11 18.11	+19 19.5	1.988	2.912	8.3	20.8	2 11	11 21.90	+ 5 51.7	1.536	2.454	10.7	20.6
2 21	11 10.92	+20 6.6	1.953	2.915	5.5	20.6	2 21	11 13.39	+ 6 18.6	1.475	2.442	6.1	20.3
3 2	11 2.61	+20 45.9	1.945	2.918	4.6	20.6	3 2	11 3.15	+ 6 52.4	1.440	2.430	1.1	19.9
3 12	10 54.15	+21 11.5	1.966	2.921	6.6	20.7	3 12	10 52.39	+ 7 26.6	1.433	2.418	4.1	20.1
3 22	10 46.47	+21 20.0	2.014	2.924	9.6	20.9	3 22	10 42.39	+ 7 55.1	1.454	2.405	9.1	20.3
4 1	10 40.38	+21 10.5	2.086	2.928	12.5	21.1	4 1	10 34.34	+ 8 12.8	1.499	2.392	13.6	20.6
4 11	10 36.38	+20 43.9	2.178	2.932	15.0	21.3	4 11	10 29.00	+ 8 16.8	1.565	2.379	17.5	20.8
148248	2000 <i>EJ</i> ₁₂₄		3 4.3 126°44	1°0/ 3.3	18		142877	2002 <i>VH</i> ₃₆		3 4.3 124°61	2°1/ 6.5	18	
2 1	11 23.81	+ 6 6.6	1.799	2.646	13.3	19.0	2 1	11 24.54	- 2 51.3	2.100	2.907	13.1	19.7
2 11	11 18.53	+ 6 57.9	1.733	2.654	9.5	18.7	2 11	11 18.77	- 2 26.0	2.031	2.924	9.9	19.5
2 21	11 11.23	+ 8 0.4	1.692	2.661	5.3	18.5	2 21	11 11.26	- 1 44.9	1.988	2.940	6.3	19.3
3 2	11 2.68	+ 9 7.7	1.678	2.668	1.2	18.2	3 2	11 2.70	- 0 51.3	1.972	2.956	2.8	19.1
3 12	10 53.92	+10 12.2	1.693	2.675	4.1	18.5	3 12	10 54.00	+ 0 9.5	1.986	2.971	3.1	19.2
3 22	10 45.96	+11 7.1	1.735	2.681	8.4	18.7	3 22	10 46.02	+ 1 11.2	2.029	2.985	6.6	19.4
4 1	10 39.71	+11 47.8	1.804	2.687	12.2	19.0	4 1	10 39.54	+ 2 8.1	2.100	2.999	10.0	19.6
4 11	10 35.72	+12 11.9	1.893	2.693	15.4	19.2	4 11	10 35.06	+ 2 55.7	2.194	3.012	12.9	19.9
82233	2001 <i>JF</i> ₁		3 4.3 161°30	2°1/ 2.4	18		337359	2001 <i>PL</i> ₁₁		3 4.3 170°35	1°8/ 1.9	17	
2 1	11 29.15	+ 9 59.8	1.957	2.799	12.5	20.3	2 1	11 21.41	+10 42.7	2.828	3.671	9.1	21.8
2 11	11 22.24	+10 50.2	1.890	2.808	9.0	20.1	2 11	11 16.23	+11 30.8	2.755	3.675	6.5	21.6
2 21	11 13.29	+11 47.1	1.848	2.816	5.0	19.9	2 21	11 9.72	+12 23.1	2.710	3.678	3.6	21.4
3 2	11 3.07	+12 44.1	1.836	2.823	2.2	19.7	3 2	11 2.41	+13 15.3	2.694	3.681	1.8	21.3
3 12	10 52.65	+13 34.2	1.854	2.830	4.7	19.9	3 12	10 54.94	+14 2.7	2.710	3.683	3.6	21.4
3 22	10 43.08	+14 12.1	1.901	2.834	8.6	20.1	3 22	10 47.96	+14 41.6	2.755	3.685	6.5	21.6
4 1	10 35.25	+14 34.7	1.974	2.838	12.2	20.4	4 1	10 42.05	+15 9.4	2.828	3.686	9.1	21.8
4 11	10 29.75	+14 41.1	2.069	2.841	15.1	20.6	4 11	10 37.64	+15 24.9	2.923	3.687	11.4	22.0
351594	2005 <i>UR</i> ₅₁₃		3 4.3 66°94	2°6/ 6.4	18		134279	2006 <i>BT</i> ₂₆₄		3 4.3 207°13	0°8/ 3.6	18	
2 1	11 24.03	- 3 18.7	1.273	2.109	18.3	21.2	2 1	11 25.16	+ 5 13.4	1.746	2.589	13.8	21.2
2 11	11 19.21	- 2 42.0	1.218	2.126	13.8	21.0	2 11	11 19.71	+ 6 3.7	1.667	2.585	10.0	20.9
2 21	11 11.79	- 1 39.6	1.184	2.143	8.7	20.7	2 21	11 12.03	+ 7 7.2	1.612	2.581	5.6	20.6
3 2	11 2.79	- 0 17.3	1.174	2.160	3.6	20.5	3 2	11 2.88	+ 8 17.9	1.585	2.575	1.1	20.3
3 12	10 53.62	+ 1 14.7	1.190	2.177	4.1	20.5	3 12	10 53.35	+ 9 27.6	1.587	2.570	4.2	20.5
3 22	10 45.63	+ 2 45.1	1.232	2.194	9.1	20.9	3 22	10 44.57	+10 28.9	1.617	2.564	8.7	20.8
4 1	10 39.92	+ 4 3.9	1.298	2.211	13.7	21.2	4 1	10 37.55	+11 16.0	1.672	2.557	12.9	21.0
4 11	10 37.10	+ 5 4.6	1.384	2.228	17.7	21.5	4 11	10 32.95	+11 45.6	1.748	2.550	16.4	21.2
26602	2000 <i>FQ</i> ₁₁		3 4.3 183°70	6°5/25.7	18		521144	2015 <i>FC</i> ₄₀₆		3 4.3 248°25	6°7/24.4	16	
2 1	11 24.82	+26 4.7	2.328	3.181	10.4	18.5	2 1	11 28.31	+32 0.7	2.893	3.723	9.3	22.2
2 11	11 19.01	+27 15.4	2.272	3.181	8.2	18.4	2 11	11 21.35	+32 50.7	2.820	3.705	7.7	22.0
2 21	11 11.41	+28 19.5	2.242	3.181	6.7	18.3	2 21	11 12.69	+33 31.4	2.775	3.688	6.8	22.0
3 2	11 2.71	+29 10.0	2.240	3.180	6.7	18.3	3 2	11 2.98	+33 56.8	2.758	3.669	7.0	21.9
3 12	10 53.85	+29 41.2	2.266	3.180	8.3	18.4	3 12	10 53.06	+34 3.0	2.769	3.651	8.3	22.0
3 22	10 45.73	+29 50.6	2.318	3.179	10.6	18.5	3 22	10 43.77	+33 48.2	2.807	3.632	10.0	22.1
4 1	10 39.12	+29 38.2	2.393	3.178	12.9	18.7	4 1	10 35.86	+33 13.2	2.868	3.612	11.9	22.2
4 11	10 34.56	+29 6.3	2.487	3.176	14.9	18.8	4 11	10 29.85	+32 20.5	2.949	3.592	13.6	22.3
459038	2011 <i>YF</i> ₆₆		3 4.3 134°45	0°3/ 4.1	18		24588	4733 <i>T</i> ₋₂		3 4.3 251°68	0°4/ 4.7	18	
2 1	11 26.94	+ 5 10.3	1.832	2.670	13.5	21.9	2 1	11 20.48	+ 1 8.3	1.951	2.784	12.9	19.4
2 11	11 20.73	+ 5 37.4	1.765	2.680	9.7	21.7	2 11	11 16.14	+ 2 5.9	1.867	2.778	9.5	19.2
2 21	11 12.45	+ 6 15.1	1.723	2.690	5.5	21.5	2 21	11 9.92	+ 3 19.7	1.807	2.772	5.6	18.9
3 2	11 2.92	+ 6 58.5	1.710	2.700	1.0	21.2	3 2	11 2.48	+ 4 44.7	1.776	2.766	1.3	18.6
3 12	10 53.20	+ 7 41.3	1.725	2.709	3.6	21.4	3 12	10 54.70	+ 6 13.3	1.774	2.759	3.2	18.8
3 22	10 44.34	+ 8 17.8	1.769	2.718	7.9	21.7	3 22	10 47.53	+ 7 37.7	1.800	2.753	7.5	19.0
4 1	10 37.25	+ 8 43.8	1.838	2.726	11.8	21.9	4 1	10 41.81	+ 8 51.1	1.853	2.746	11.4	19.2
4 11	10 32.49	+ 8 56.9	1.930	2.733	15.0	22.1	4 11	10 38.13	+ 9 48.7	1.928	2.740	14.7	19.4
356469	2011 <i>QZ</i> ₄₀		3 4.3 198°40	0°8/ 3.7	18		505089	2011 <i>UH</i> ₃₄₁		3 4.3 101°44	1°6/ 2.3	17	
2 1	11 29.93	+ 7 2.8	1.975	2.809	12.8	21.7	2 1	11 20.49	+10 32.4	2.716	3.561	9.3	21.8
2 11	11 22.92	+ 7 24.5	1.891	2.805	9.3	21.4	2 11	11 15.58	+11 9.9	2.651	3.571	6.6	21.7
2 21	11 13.76	+ 7 54.6	1.834	2.801	5.2	21.2	2 21	11 9.35	+11 51.3	2.612	3.581	3.7	21.5
3 2	11 3.19	+ 8 28.5	1.805	2.795	1.1	20.9	3 2	11 2.34	+12 32.6	2.604	3.591	1.6	21.4
3 12	10 52.27	+ 9 0.4	1.807	2.789	3.8	21.1	3 12	10 55.23	+13 9.3	2.625	3.601	3.5	21.5
3 22	10 42.07	+ 9 25.6	1.837	2.782	8.1	21.3	3 22	10 48.65	+13 38.1	2.676	3.610	6.4	21.7
4 1	10 33.58	+ 9 40.3	1.895	2.773	11.9	21.5	4 1	10 43.18	+13 56.5	2.754	3.620	9.1	21.9
4 11	10 27.44	+ 9 42.6	1.975	2.764	15.2	21.7	4 11	10 39.23	+14 3.5	2.855	3.629	11.3	22.1
331810	2003 <i>SZ</i> ₉₃		3 4.3 131°42	3°5/ 8.7	18		368634	2004 <i>XF</i> ₁₀₇		3 4.3 83°52	3°9/ 8.0	18	

EPHEMERIDES

3 4.3

3 4.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
405904	2006 <i>HW</i> ₇₁		3 4.3 288°79	5°7/28.6	16		35056	Cullers		3 4.3 83°38	0°0/4.3	18	
2 1	11 24.81	+16 29.2	1.461	2.333	14.3	21.4	2 1	11 38.52	+7 13.1	1.672	2.500	15.0	17.9
2 11	11 19.86	+17 50.6	1.394	2.325	10.5	21.1	2 11	11 28.88	+6 54.5	1.625	2.534	10.8	17.8
2 21	11 12.28	+19 15.7	1.351	2.317	6.9	20.9	2 21	11 16.94	+6 43.0	1.603	2.568	6.1	17.5
3 2	11 2.95	+20 33.6	1.333	2.309	5.8	20.8	3 2	11 3.81	+6 34.9	1.611	2.601	1.1	17.3
3 12	10 53.19	+21 33.7	1.342	2.301	8.6	20.9	3 12	10 50.86	+6 26.5	1.649	2.633	3.8	17.5
3 22	10 44.40	+22 8.9	1.376	2.293	12.6	21.1	3 22	10 39.35	+6 14.5	1.717	2.665	8.3	17.9
4 1	10 37.74	+22 16.7	1.431	2.285	16.5	21.4	4 1	10 30.20	+5 57.0	1.813	2.696	12.1	18.2
4 11	10 33.96	+21 58.6	1.504	2.277	19.8	21.6	4 11	10 23.90	+5 32.7	1.930	2.726	15.3	18.4
1392	Pierre		3 4.3 97°46	1°9/2.8	18		72456	2001 <i>DZ</i> ₁₂		3 4.3 175°84	0°3/4.6	18	
2 1	11 29.47	+10 45.1	1.871	2.716	12.9	16.0	2 1	11 26.03	+3 3.6	2.073	2.900	12.5	20.8
2 11	11 22.39	+11 5.9	1.816	2.736	9.2	15.8	2 11	11 19.99	+3 35.1	1.994	2.903	9.2	20.6
2 21	11 13.31	+11 31.2	1.787	2.756	5.2	15.6	2 21	11 12.06	+4 18.4	1.941	2.905	5.3	20.4
3 2	11 3.10	+11 55.4	1.787	2.775	1.9	15.4	3 2	11 2.93	+5 9.4	1.917	2.907	1.2	20.1
3 12	10 52.86	+12 13.5	1.816	2.794	4.5	15.6	3 12	10 53.53	+6 2.1	1.923	2.908	3.2	20.3
3 22	10 43.63	+12 21.5	1.874	2.813	8.3	15.9	3 22	10 44.82	+6 50.9	1.958	2.908	7.2	20.5
4 1	10 36.26	+12 17.5	1.958	2.831	11.8	16.2	4 1	10 37.63	+7 30.9	2.020	2.907	10.9	20.7
4 11	10 31.26	+12 1.2	2.063	2.849	14.7	16.4	4 11	10 32.53	+7 59.0	2.104	2.905	14.0	20.9
125445	2001 <i>VZ</i> ₁₂₀		3 4.3 144°90	4°4/29.5	18		267220	2000 <i>WK</i> ₁₅₅		3 4.3 179°18	1°0/5.5	16	
2 1	11 28.32	+15 29.3	1.716	2.574	13.2	19.8	2 1	11 23.97	+0 42.4	2.690	3.500	10.5	22.1
2 11	11 21.89	+16 35.2	1.659	2.583	9.6	19.6	2 11	11 18.16	+1 3.0	2.605	3.502	7.8	22.0
2 21	11 13.18	+17 43.1	1.626	2.592	6.0	19.4	2 21	11 10.90	+1 33.9	2.546	3.504	4.7	21.8
3 2	11 3.09	+18 44.3	1.622	2.600	4.5	19.3	3 2	11 2.72	+2 12.5	2.517	3.504	1.6	21.5
3 12	10 52.83	+19 30.8	1.646	2.607	6.9	19.5	3 12	10 54.34	+2 54.8	2.519	3.504	2.5	21.6
3 22	10 43.57	+19 57.8	1.696	2.614	10.6	19.7	3 22	10 46.45	+3 36.6	2.552	3.503	5.6	21.8
4 1	10 36.30	+20 3.5	1.771	2.620	14.0	19.9	4 1	10 39.69	+4 14.0	2.613	3.502	8.7	22.0
4 11	10 31.59	+19 49.0	1.865	2.626	17.0	20.1	4 11	10 34.55	+4 44.0	2.699	3.500	11.3	22.2
236129	2005 <i>TJ</i> ₁₇		3 4.3 98°11	1°4/3.3	18		385866	2006 <i>RS</i> ₂₂		3 4.3 127°50	1°1/5.7	17	
2 1	11 29.30	+7 11.2	1.438	2.290	15.7	21.0	2 1	11 21.97	+0 31.0	2.879	3.689	9.9	21.5
2 11	11 22.74	+7 53.7	1.388	2.310	11.2	20.8	2 11	11 16.57	+0 46.6	2.806	3.704	7.3	21.3
2 21	11 13.68	+8 47.1	1.360	2.330	6.2	20.6	2 21	11 9.92	+1 11.6	2.761	3.718	4.4	21.1
3 2	11 3.18	+9 43.6	1.360	2.350	1.6	20.3	3 2	11 2.53	+1 43.4	2.745	3.732	1.6	21.0
3 12	10 52.62	+10 34.8	1.387	2.369	4.8	20.6	3 12	10 55.02	+2 18.6	2.760	3.745	2.3	21.0
3 22	10 43.30	+11 13.9	1.441	2.387	9.6	20.9	3 22	10 48.02	+2 53.5	2.805	3.758	5.1	21.2
4 1	10 36.25	+11 36.8	1.519	2.405	13.9	21.2	4 1	10 42.07	+3 24.9	2.879	3.770	7.9	21.4
4 11	10 32.04	+11 42.2	1.617	2.422	17.3	21.5	4 11	10 37.59	+3 50.0	2.977	3.782	10.2	21.6
278837	2008 <i>SQ</i> ₂₉₅		3 4.3 214°02	3°9/8.1	17		34699	2001 <i>OQ</i> ₂₅		3 4.3 180°02	0°7/3.5	17	
2 1	11 25.02	-7 4.8	2.397	3.177	12.5	21.1	2 1	11 20.12	+5 13.4	2.477	3.314	10.4	19.8
2 11	11 19.16	-7 21.0	2.302	3.170	9.9	20.9	2 11	11 15.52	+6 10.9	2.399	3.314	7.5	19.6
2 21	11 11.56	-7 22.0	2.230	3.163	7.1	20.7	2 21	11 9.44	+7 18.0	2.347	3.315	4.2	19.4
3 2	11 2.81	-7 8.1	2.187	3.156	4.5	20.5	3 2	11 2.45	+8 29.8	2.325	3.315	0.9	19.2
3 12	10 53.70	-6 41.8	2.172	3.148	4.2	20.5	3 12	10 55.25	+9 40.5	2.333	3.315	3.1	19.4
3 22	10 45.07	-6 7.1	2.188	3.139	6.5	20.6	3 22	10 48.55	+10 44.9	2.371	3.314	6.5	19.6
4 1	10 37.71	-5 28.8	2.231	3.130	9.5	20.7	4 1	10 43.01	+11 38.4	2.436	3.314	9.6	19.8
4 11	10 32.21	-4 52.0	2.298	3.120	12.3	20.9	4 11	10 39.11	+12 18.5	2.524	3.313	12.3	19.9
494185	2016 <i>GF</i> ₂₄₇		3 4.3 279°39	2°5/6.6	17		64625	2001 <i>XM</i> ₄₁		3 4.3 234°79	7°9/25.6	18	
2 1	11 22.46	-3 0.6	1.984	2.797	13.5	21.5	2 1	11 27.75	+27 17.5	1.912	2.767	12.2	19.7
2 11	11 17.73	-2 44.4	1.878	2.773	10.4	21.2	2 11	11 21.53	+28 31.0	1.854	2.762	9.8	19.5
2 21	11 10.95	-2 10.5	1.795	2.748	6.8	21.0	2 21	11 13.04	+29 35.9	1.821	2.758	8.1	19.4
3 2	11 2.72	-1 20.8	1.739	2.722	3.3	20.7	3 2	11 3.14	+30 23.3	1.815	2.753	8.2	19.4
3 12	10 53.92	-0 20.1	1.712	2.696	3.5	20.7	3 12	10 53.02	+30 46.3	1.836	2.749	10.0	19.5
3 22	10 45.57	+0 45.2	1.713	2.670	7.4	20.8	3 22	10 43.84	+30 42.2	1.881	2.744	12.6	19.6
4 1	10 38.61	+1 48.2	1.740	2.644	11.4	21.0	4 1	10 36.59	+30 12.1	1.948	2.739	15.2	19.8
4 11	10 33.80	+2 42.6	1.790	2.618	15.0	21.2	4 11	10 31.87	+29 19.7	2.033	2.734	17.5	19.9
420012	2011 <i>CX</i> ₇₁		3 4.3 151°59	3°1/1.5	17		108788	2001 <i>OG</i> ₆₄		3 4.3 214°36	1°5/2.4	17	
2 1	11 24.98	+13 14.1	1.924	2.780	12.1	21.2	2 1	11 20.29	+8 7.3	2.448	3.292	10.3	20.4
2 11	11 19.32	+13 59.6	1.857	2.782	8.7	21.0	2 11	11 15.69	+9 10.7	2.367	3.288	7.3	20.2
2 21	11 11.69	+14 48.8	1.816	2.784	5.1	20.7	2 21	11 9.58	+10 22.1	2.313	3.283	4.1	20.0
3 2	11 2.82	+15 35.1	1.802	2.786	3.1	20.6	3 2	11 2.48	+11 36.1	2.289	3.277	1.5	19.8
3 12	10 53.74	+16 12.0	1.818	2.788	5.5	20.8	3 12	10 55.15	+12 46.7	2.295	3.272	3.8	19.9
3 22	10 45.45	+16 35.0	1.861	2.789	9.1	21.0	3 22	10 48.31	+13 48.4	2.330	3.266	7.1	20.1
4 1	10 38.83	+16 41.6	1.928	2.791	12.5	21.2	4 1	10 42.64	+14 37.3	2.392	3.260	10.2	20.3
4 11	10 34.43	+16 31.6	2.017	2.792	15.4	21.4	4 11	10 38.65	+15 11.1	2.477	3.253	12.8	20.5
57601	2001 <i>TY</i> ₉₆		3 4.3 30°43	9°6/16.9	18		212314	2005 <i>QU</i> ₄₂		3 4.3 191°52	1°1/2.9	18	
2 1	11 17.80	-25 33.5	1.889	2.581	18.3	18.9	2 1	11 21.30	+8 53.1	2.854	3.692	9.1	20.6
2 11	11 14.30	-25 37.5	1.817	2.595	16.1	18.7	2 11	11 16.20	+9 25.5	2.774	3.691	6.5	20.4
2 21	11 8.88	-25 7.5	1.762	2.610	13.6	18.6	2 21	11 9.77	+10 3.0	2.721	3.689	3.6	20.3
3 2	11 2.29	-24 2.1	1.727	2.625	11.3	18.5	3 2	11 2.54	+10 41.8	2.698	3.687	1.2	20.1
3 12	10 55.49	-22 24.5	1.717	2.641	9.8	18.4	3 12	10 55.12	+11 17.9	2.706	3.685	3.1	20.2
3 22	10 49.46	-20 22.0	1.732	2.657	9.9	18.5	3 22	10 48.17	+11 47.7	2.744	3.682	6.0	20.4
4 1	10 45.03	-18 5.2	1.772	2.675	11.3	18.6	4 1	10 42.25	+12 8.7	2.809	3.679	8.8	20.6
4 11	10 42.74	-15 45.9	1.837	2.692	13.5	18.8	4 11	10 37.82	+12 19.2	2.898	3.676	11.1	20.7
267358	2001 <i>XX</i> ₂₁		3 4.3 95°55	10°3/13.0	18		240642	2005 <i>AZ</i> ₅₇		3 4.3 30°11	7°0/28.3	18	
2 1	11 27.60	-21 20.7	1.956	2.659	17.4	19.8	2 1						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
129089	2004 VX ₉₁		3 4.3 44°84'	2.2/ 2.2	18		85721	1998 SL ₆₃		3 4.3 170°24'	1.5/ 5.5	18	
2 1	11 21.96	+ 9 30.4	1.890	2.745	12.3	19.9	2 1	11 28.98	+ 0 49.7	1.761	2.584	14.6	19.9
2 11	11 17.22	+10 28.4	1.821	2.747	8.8	19.7	2 11	11 22.44	+ 0 59.9	1.684	2.588	10.9	19.7
2 21	11 10.57	+11 34.5	1.778	2.748	4.9	19.5	2 21	11 13.63	+ 1 24.8	1.632	2.592	6.6	19.4
3 2	11 2.71	+12 41.9	1.762	2.749	2.2	19.3	3 2	11 3.34	+ 2 0.9	1.607	2.595	2.3	19.2
3 12	10 54.60	+13 43.1	1.774	2.751	4.8	19.5	3 12	10 52.74	+ 2 42.7	1.611	2.597	3.5	19.2
3 22	10 47.22	+14 32.2	1.815	2.752	8.7	19.7	3 22	10 42.96	+ 3 24.0	1.643	2.598	7.9	19.5
4 1	10 41.41	+15 5.0	1.880	2.754	12.2	19.9	4 1	10 35.04	+ 3 59.0	1.702	2.599	12.0	19.8
4 11	10 37.74	+15 20.1	1.966	2.755	15.3	20.1	4 11	10 29.62	+ 4 23.6	1.783	2.598	15.5	20.0
207723	Jiansanjiang		3 4.3 231°39'	2.1/ 2.6	18		172950	2005 JU ₁₆₆		3 4.3 243°79'	3.9/ 8.8	17	
2 1	11 24.73	+ 8 14.7	1.569	2.425	14.3	20.5	2 1	11 20.45	- 8 34.1	2.324	3.106	12.8	20.4
2 11	11 19.62	+ 9 11.4	1.496	2.422	10.3	20.3	2 11	11 15.93	- 8 27.6	2.233	3.102	10.2	20.3
2 21	11 12.11	+10 19.6	1.447	2.418	5.8	20.0	2 21	11 9.79	- 8 3.0	2.166	3.098	7.3	20.1
3 2	11 3.03	+11 31.5	1.425	2.414	2.1	19.7	3 2	11 2.60	- 7 21.4	2.125	3.094	4.7	19.9
3 12	10 53.56	+12 37.9	1.431	2.410	5.2	19.9	3 12	10 55.12	- 6 26.5	2.113	3.089	4.1	19.8
3 22	10 44.94	+13 31.3	1.463	2.406	9.9	20.2	3 22	10 48.14	- 5 23.5	2.130	3.085	6.3	20.0
4 1	10 38.26	+14 6.3	1.520	2.401	14.1	20.4	4 1	10 42.38	- 4 18.4	2.174	3.081	9.3	20.1
4 11	10 34.21	+14 21.0	1.596	2.397	17.7	20.6	4 11	10 38.39	- 3 17.1	2.242	3.076	12.1	20.3
10156	1994 VQ ₇		3 4.3 151°96'	1.5/ 5.7	18		393970	2005 UJ ₂₈₉		3 4.3 215°04'	3.4/ 1.7	18	
2 1	11 26.31	- 0 38.7	1.792	2.614	14.4	18.8	2 1	11 29.81	+12 59.8	1.696	2.549	13.6	21.1
2 11	11 20.42	- 0 8.8	1.719	2.622	10.8	18.5	2 11	11 23.24	+13 47.6	1.619	2.542	9.9	20.8
2 21	11 12.41	+ 0 38.1	1.671	2.630	6.6	18.3	2 21	11 14.18	+14 40.5	1.567	2.534	5.8	20.6
3 2	11 3.07	+ 1 37.6	1.650	2.637	2.3	18.1	3 2	11 3.47	+15 30.9	1.542	2.526	3.4	20.4
3 12	10 53.47	+ 2 43.1	1.657	2.643	3.3	18.1	3 12	10 52.33	+16 10.8	1.546	2.517	6.1	20.5
3 22	10 44.69	+ 3 47.3	1.694	2.649	7.6	18.4	3 22	10 42.05	+16 34.5	1.577	2.507	10.3	20.7
4 1	10 37.65	+ 4 43.6	1.756	2.654	11.6	18.7	4 1	10 33.75	+16 39.3	1.633	2.497	14.3	21.0
4 11	10 32.98	+ 5 27.4	1.841	2.659	15.1	18.9	4 11	10 28.16	+16 25.0	1.709	2.485	17.7	21.2
384825	2012 RP ₂₂		3 4.3 50°82'	0.8/ 3.5	18		502242	2015 BS ₉₈		3 4.3 174°55'	3.5/ 7.9	17	
2 1	11 21.13	+ 6 7.0	1.991	2.837	12.2	21.1	2 1	11 25.46	- 6 16.1	2.469	3.251	12.2	22.1
2 11	11 16.43	+ 6 48.9	1.933	2.853	8.7	20.9	2 11	11 19.40	- 6 26.3	2.382	3.254	9.5	21.9
2 21	11 10.01	+ 7 40.0	1.899	2.868	4.8	20.7	2 21	11 11.71	- 6 21.8	2.320	3.256	6.7	21.7
3 2	11 2.60	+ 8 35.0	1.894	2.884	1.0	20.4	3 2	11 2.97	- 6 3.6	2.286	3.258	4.1	21.5
3 12	10 55.07	+ 9 27.7	1.918	2.901	3.6	20.7	3 12	10 53.96	- 5 34.5	2.282	3.259	3.8	21.5
3 22	10 48.29	+10 12.6	1.970	2.917	7.4	20.9	3 22	10 45.49	- 4 58.5	2.307	3.259	6.1	21.7
4 1	10 42.98	+10 45.7	2.047	2.934	10.8	21.2	4 1	10 38.29	- 4 20.4	2.361	3.259	9.0	21.8
4 11	10 39.64	+11 5.0	2.147	2.950	13.7	21.4	4 11	10 32.87	- 3 44.7	2.439	3.259	11.7	22.0
371984	2008 GY ₉₅		3 4.3 260°11'	0.9/ 3.5	17		431152	2006 QD ₁₆₀		3 4.3 86°22'	0.4/ 4.9	17	
2 1	11 23.09	+ 5 43.3	1.962	2.804	12.5	21.6	2 1	11 19.65	+ 1 38.7	2.264	3.094	11.5	21.4
2 11	11 18.17	+ 6 33.0	1.868	2.787	9.1	21.4	2 11	11 15.28	+ 2 25.7	2.190	3.100	8.4	21.2
2 21	11 11.22	+ 7 34.9	1.800	2.769	5.1	21.1	2 21	11 9.38	+ 3 25.2	2.141	3.105	4.9	21.0
3 2	11 2.87	+ 8 43.6	1.760	2.751	1.1	20.8	3 2	11 2.51	+ 4 32.9	2.121	3.111	1.2	20.8
3 12	10 54.07	+ 9 52.1	1.750	2.732	3.9	21.0	3 12	10 55.46	+ 5 42.7	2.131	3.116	2.8	20.9
3 22	10 45.81	+10 53.3	1.767	2.713	8.2	21.2	3 22	10 48.98	+ 6 48.9	2.169	3.122	6.4	21.1
4 1	10 39.02	+11 41.8	1.811	2.693	12.2	21.4	4 1	10 43.75	+ 7 46.3	2.235	3.127	9.7	21.4
4 11	10 34.39	+12 14.0	1.876	2.674	15.6	21.6	4 11	10 40.26	+ 8 31.4	2.324	3.133	12.6	21.6
495851	2002 TL ₆₈		3 4.3 256°31'	6.6/11.4	17		419753	2010 VP ₉₀		3 4.3 0°94'	8.6/10.8	18	
2 1	11 23.82	-17 0.5	2.239	2.968	14.8	22.4	2 1	11 19.94	-12 51.6	1.303	2.104	20.0	19.7
2 11	11 18.68	-16 50.9	2.118	2.941	12.5	22.2	2 11	11 16.58	-13 39.5	1.231	2.101	16.7	19.5
2 21	11 11.54	-16 15.4	2.019	2.913	10.0	22.0	2 21	11 10.59	-13 56.9	1.177	2.099	13.0	19.2
3 2	11 2.95	-15 12.4	1.944	2.885	7.6	21.8	3 2	11 2.79	-13 41.1	1.144	2.099	9.8	19.0
3 12	10 53.76	-13 44.1	1.898	2.855	6.6	21.7	3 12	10 54.50	-12 54.6	1.134	2.100	8.6	19.0
3 22	10 44.93	-11 56.5	1.880	2.824	7.9	21.7	3 22	10 47.10	-11 45.3	1.147	2.103	10.4	19.1
4 1	10 37.39	- 9 57.9	1.891	2.793	10.7	21.8	4 1	10 41.82	-10 24.2	1.183	2.107	13.9	19.3
4 11	10 31.89	- 7 58.3	1.926	2.760	13.9	21.9	4 11	10 39.46	- 9 3.3	1.239	2.112	17.5	19.5
336535	2008 YF ₁₆₄		3 4.3 121°63'	3.2/ 7.6	17		234873	2002 SJ ₄₈		3 4.3 151°00'	3.7/29.3	17	
2 1	11 22.32	- 5 14.6	2.270	3.067	12.6	20.6	2 1	11 24.90	+17 33.0	2.473	3.323	10.0	20.8
2 11	11 17.21	- 5 13.8	2.190	3.072	9.8	20.4	2 11	11 18.93	+18 16.6	2.410	3.329	7.2	20.7
2 21	11 10.47	- 4 57.4	2.135	3.077	6.7	20.2	2 21	11 11.38	+18 59.5	2.374	3.335	4.7	20.5
3 2	11 2.70	- 4 27.0	2.106	3.083	3.8	20.0	3 2	11 2.90	+19 36.4	2.367	3.341	3.7	20.4
3 12	10 54.71	- 3 46.3	2.107	3.088	3.6	20.0	3 12	10 54.28	+20 2.4	2.390	3.346	5.5	20.6
3 22	10 47.29	- 3 0.3	2.136	3.093	6.2	20.2	3 22	10 46.33	+20 14.6	2.441	3.351	8.2	20.7
4 1	10 41.19	- 2 14.1	2.193	3.097	9.4	20.4	4 1	10 39.72	+20 11.9	2.519	3.355	10.8	20.9
4 11	10 36.91	- 1 32.7	2.274	3.102	12.2	20.6	4 11	10 34.94	+19 54.6	2.618	3.359	13.0	21.1
197069	2003 UM ₁₆₃		3 4.3 151°09'	0.7/ 3.5	18		431189	2006 SH ₈₃		3 4.3 243°39'	6.4/27.0	17	
2 1	11 21.64	+ 5 46.4	2.321	3.159	11.0	20.6	2 1	11 29.02	+27 4.7	2.332	3.176	10.7	20.5
2 11	11 16.68	+ 6 35.8	2.248	3.165	7.9	20.4	2 11	11 22.03	+27 42.4	2.271	3.175	8.4	20.4
2 21	11 10.14	+ 7 34.3	2.202	3.170	4.4	20.2	2 21	11 13.19	+28 11.8	2.236	3.174	6.7	20.3
3 2	11 2.64	+ 8 37.0	2.184	3.175	0.9	20.0	3 2	11 3.25	+28 26.5	2.229	3.172	6.5	20.2
3 12	10 54.96	+ 9 38.2	2.197	3.179	3.3	20.1	3 12	10 53.20	+28 22.4	2.250	3.171	8.0	20.3
3 22	10 47.85	+10 32.4	2.239	3.183	6.8	20.4	3 22	10 44.01	+27 57.8	2.299	3.169	10.3	20.5
4 1	10 42.03	+11 15.8	2.308	3.187	10.0	20.6	4 1	10 36.46	+27 13.8	2.371	3.168	12.6	20.6
4 11	10 37.97	+11 45.8	2.400	3.191	12.8	20.8	4 11	10 31.09	+26 13.4	2.465	3.167	14.7	20.8
285734	2000 SW ₃₆₅		3 4.3 230°63'	4.2/27.3	17		472145	2014 CG ₆		3 4.3 306°86'	1.9/ 5.8	18	
2 1	11 23.80	+22 18.5	3.176	4.021	8.								

EPHEMERIDES

3 4.4

3 4.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
364649	2007 <i>TO</i> ₁₅₃		3 4.4 91°57'	0.4/ 4.7 18			208967	2002 <i>XC</i> ₇₆		3 4.4 62°63'	0.3/ 4.7 18		
2 1	11 27.00	+ 2 56.8	1.593	2.432	15.1	21.2	2 1	11 23.22	+ 3 47.0	2.043	2.878	12.4	20.3
2 11	11 20.99	+ 3 25.7	1.537	2.451	11.0	21.0	2 11	11 17.90	+ 4 6.1	1.982	2.895	9.0	20.1
2 21	11 12.74	+ 4 8.8	1.504	2.470	6.3	20.7	2 21	11 10.87	+ 4 35.5	1.947	2.912	5.2	19.9
3 2	11 3.17	+ 5 0.5	1.498	2.488	1.4	20.4	3 2	11 2.84	+ 5 11.0	1.940	2.930	1.1	19.6
3 12	10 53.49	+ 5 53.5	1.521	2.506	3.7	20.7	3 12	10 54.70	+ 5 47.6	1.962	2.948	3.0	19.8
3 22	10 44.86	+ 6 40.9	1.570	2.524	8.3	21.0	3 22	10 47.33	+ 6 20.6	2.013	2.965	6.8	20.1
4 1	10 38.21	+ 7 17.3	1.645	2.542	12.4	21.2	4 1	10 41.46	+ 6 45.8	2.090	2.983	10.3	20.3
4 11	10 34.11	+ 7 39.6	1.742	2.559	15.8	21.5	4 11	10 37.56	+ 7 0.7	2.189	3.001	13.2	20.6
334608	2002 <i>TK</i> ₃₆₁		3 4.4 123°30'	0.8/ 3.4 17			310122	2011 <i>EN</i> ₁₃		3 4.4 197°82'	0.3/ 4.7 17		
2 1	11 22.21	+ 6 45.3	2.408	3.246	10.6	22.2	2 1	11 22.05	+ 2 20.6	2.252	3.080	11.6	21.4
2 11	11 17.01	+ 7 26.2	2.341	3.258	7.6	22.1	2 11	11 17.10	+ 3 3.0	2.169	3.078	8.5	21.2
2 21	11 10.30	+ 8 14.6	2.301	3.269	4.2	21.9	2 21	11 10.48	+ 3 57.7	2.111	3.075	5.0	21.0
3 2	11 2.71	+ 9 5.8	2.290	3.280	1.0	21.6	3 2	11 2.79	+ 5 0.5	2.082	3.072	1.1	20.7
3 12	10 54.97	+ 9 54.8	2.309	3.290	3.2	21.8	3 12	10 54.83	+ 6 5.5	2.083	3.068	2.9	20.8
3 22	10 47.84	+ 10 37.0	2.357	3.301	6.6	22.1	3 22	10 47.42	+ 7 7.0	2.113	3.065	6.7	21.1
4 1	10 41.98	+ 11 9.1	2.433	3.311	9.7	22.3	4 1	10 41.31	+ 7 59.9	2.171	3.060	10.1	21.3
4 11	10 37.83	+ 11 29.1	2.531	3.320	12.2	22.5	4 11	10 37.03	+ 8 40.6	2.252	3.056	13.1	21.5
180822	2005 <i>GO</i> ₄		3 4.4 144°68'	3.5/ 1.1 18			165322	2000 <i>UN</i> ₇₇		3 4.4 157°54'	1.8/ 2.7 18		
2 1	11 26.45	+ 13 38.9	1.884	2.739	12.4	20.7	2 1	11 26.65	+ 8 32.5	1.958	2.802	12.5	21.1
2 11	11 20.45	+ 14 38.8	1.823	2.747	8.9	20.5	2 11	11 20.54	+ 9 26.7	1.891	2.810	8.9	20.9
2 21	11 12.41	+ 15 42.2	1.788	2.755	5.3	20.3	2 21	11 12.46	+ 10 29.0	1.849	2.817	5.0	20.7
3 2	11 3.12	+ 16 41.7	1.780	2.762	3.5	20.2	3 2	11 3.17	+ 11 33.0	1.836	2.824	1.8	20.5
3 12	10 53.66	+ 17 30.1	1.802	2.769	5.9	20.4	3 12	10 53.66	+ 12 31.8	1.852	2.830	4.4	20.7
3 22	10 45.05	+ 18 2.4	1.851	2.775	9.5	20.6	3 22	10 44.94	+ 13 19.3	1.898	2.835	8.3	20.9
4 1	10 38.18	+ 18 16.3	1.926	2.781	12.8	20.8	4 1	10 37.87	+ 13 51.9	1.969	2.840	11.9	21.2
4 11	10 33.62	+ 18 12.0	2.020	2.786	15.6	21.0	4 11	10 33.01	+ 14 8.1	2.062	2.843	14.9	21.4
383694	2007 <i>TS</i> ₃₈₃		3 4.4 53°77'	0°/ 4.2 18			139505	2001 <i>PF</i> ₄₀		3 4.4 232°01'	4.1/ 8.8 18		
2 1	11 21.50	+ 4 9.2	1.994	2.835	12.4	21.1	2 1	11 21.85	- 8 30.6	2.401	3.179	12.6	20.1
2 11	11 16.72	+ 4 43.0	1.933	2.849	9.0	20.9	2 11	11 16.93	- 8 37.6	2.309	3.174	10.0	19.9
2 21	11 10.22	+ 5 27.7	1.896	2.863	5.1	20.7	2 21	11 10.39	- 8 27.9	2.240	3.169	7.3	19.7
3 2	11 2.70	+ 6 18.3	1.887	2.878	1.0	20.4	3 2	11 2.78	- 8 2.2	2.198	3.164	4.8	19.5
3 12	10 55.04	+ 7 9.0	1.907	2.892	3.2	20.6	3 12	10 54.88	- 7 23.2	2.185	3.159	4.3	19.5
3 22	10 48.12	+ 7 54.3	1.956	2.907	7.1	20.9	3 22	10 47.45	- 6 35.4	2.200	3.153	6.3	19.6
4 1	10 42.68	+ 8 29.7	2.030	2.922	10.6	21.1	4 1	10 41.22	- 5 44.2	2.243	3.147	9.2	19.8
4 11	10 39.21	+ 8 52.6	2.127	2.938	13.5	21.4	4 11	10 36.75	- 4 55.0	2.310	3.141	11.9	19.9
269274	2008 <i>RL</i> ₉₀		3 4.4 181°49'	0.5/ 3.9 17			341368	2007 <i>TT</i> ₉₄		3 4.4 58°16'	7.3/ 26.6 18		
2 1	11 21.44	+ 4 20.1	2.013	2.854	12.3	20.9	2 1	11 27.70	+ 27 4.4	1.979	2.832	11.9	19.7
2 11	11 16.79	+ 5 13.4	1.937	2.854	8.9	20.7	2 11	11 21.20	+ 28 0.7	1.942	2.850	9.4	19.5
2 21	11 10.34	+ 6 19.0	1.886	2.854	5.0	20.5	2 21	11 12.73	+ 28 47.3	1.930	2.869	7.6	19.5
3 2	11 2.74	+ 7 31.3	1.864	2.854	0.9	20.2	3 2	11 3.20	+ 29 16.6	1.946	2.888	7.5	19.5
3 12	10 54.87	+ 8 43.4	1.870	2.854	3.5	20.4	3 12	10 53.72	+ 29 23.8	1.988	2.906	9.0	19.6
3 22	10 47.65	+ 9 48.6	1.906	2.854	7.5	20.6	3 22	10 45.31	+ 29 7.8	2.056	2.925	11.4	19.8
4 1	10 41.86	+ 10 41.7	1.967	2.853	11.2	20.8	4 1	10 38.78	+ 28 30.0	2.146	2.944	13.7	20.0
4 11	10 38.07	+ 11 19.4	2.050	2.853	14.3	21.0	4 11	10 34.59	+ 27 34.1	2.256	2.963	15.8	20.2
340938	2007 <i>EF</i> ₃₇		3 4.4 276°23'	2.1/ 6.6 17			234956	2002 <i>VL</i> ₁₄₀		3 4.4 159°17'	0.2/ 4.1 18		
2 1	11 21.08	- 3 40.1	2.043	2.855	13.3	21.4	2 1	11 23.70	+ 5 48.6	2.525	3.356	10.4	21.1
2 11	11 16.73	- 2 57.2	1.935	2.830	10.2	21.1	2 11	11 18.06	+ 6 7.9	2.448	3.360	7.5	20.9
2 21	11 10.45	- 1 54.0	1.851	2.805	6.6	20.9	2 21	11 10.93	+ 6 34.4	2.398	3.364	4.3	20.7
3 2	11 2.79	- 0 33.5	1.795	2.779	2.9	20.6	3 2	11 2.88	+ 7 4.7	2.378	3.368	0.8	20.5
3 12	10 54.62	+ 0 58.3	1.767	2.753	3.2	20.6	3 12	10 54.65	+ 7 34.6	2.388	3.372	2.8	20.6
3 22	10 46.86	+ 2 33.8	1.769	2.727	7.2	20.7	3 22	10 46.98	+ 8 0.4	2.428	3.375	6.2	20.8
4 1	10 40.43	+ 4 4.6	1.798	2.700	11.2	20.9	4 1	10 40.53	+ 8 19.1	2.495	3.378	9.3	21.0
4 11	10 36.03	+ 5 24.0	1.850	2.673	14.8	21.1	4 11	10 35.77	+ 8 28.5	2.586	3.380	11.9	21.2
456824	2007 <i>TY</i> ₄₁₈		3 4.4 70°33'	5.0/ 29.6 18			258352	2001 <i>WL</i>		3 4.4 93°30'	2.6/ 6.7 18		
2 1	11 27.68	+ 16 3.1	1.456	2.323	14.6	21.6	2 1	11 23.52	- 2 54.9	1.795	2.613	14.6	20.4
2 11	11 21.74	+ 17 1.4	1.406	2.334	10.6	21.4	2 11	11 18.45	- 2 41.4	1.722	2.619	11.1	20.2
2 21	11 13.28	+ 18 0.8	1.379	2.345	6.7	21.2	2 21	11 11.35	- 2 9.8	1.673	2.626	7.2	19.9
3 2	11 3.31	+ 18 52.0	1.378	2.356	5.0	21.1	3 2	11 2.97	- 1 23.2	1.650	2.633	3.4	19.7
3 12	10 53.22	+ 19 26.4	1.404	2.368	7.6	21.3	3 12	10 54.34	- 0 27.2	1.655	2.640	3.6	19.7
3 22	10 44.33	+ 19 39.5	1.455	2.379	11.5	21.5	3 22	10 46.47	+ 0 31.4	1.687	2.646	7.3	20.0
4 1	10 37.68	+ 19 30.0	1.529	2.390	15.2	21.8	4 1	10 40.26	+ 1 25.9	1.746	2.653	11.2	20.2
4 11	10 33.86	+ 19 0.1	1.621	2.402	18.3	22.0	4 11	10 36.30	+ 2 10.8	1.827	2.659	14.6	20.5
384233	2009 <i>DU</i> ₅₅		3 4.4 91°24'	1.3/ 2.9 17			305719	2009 <i>CF</i> ₁₄		3 4.4 74°35'	0.5/ 4.0 18		
2 1	11 21.20	+ 8 0.3	2.278	3.123	10.9	21.1	2 1	11 29.42	+ 6 6.8	1.401	2.251	16.1	20.7
2 11	11 16.39	+ 8 43.9	2.209	3.130	7.8	21.0	2 11	11 22.97	+ 6 22.8	1.349	2.270	11.6	20.4
2 21	11 10.01	+ 9 34.6	2.167	3.136	4.3	20.7	2 21	11 13.96	+ 6 50.2	1.319	2.288	6.6	20.2
3 2	11 2.68	+ 10 27.5	2.153	3.142	1.3	20.5	3 2	11 3.47	+ 7 23.0	1.316	2.307	1.2	19.9
3 12	10 55.17	+ 11 17.0	2.169	3.148	3.6	20.7	3 12	10 52.90	+ 7 54.2	1.340	2.325	4.3	20.2
3 22	10 48.28	+ 11 58.5	2.213	3.155	7.1	20.9	3 22	10 43.59	+ 8 17.5	1.391	2.343	9.3	20.5
4 1	10 42.69	+ 12 28.4	2.284	3.161	10.2	21.1	4 1	10 36.57	+ 8 28.9	1.465	2.362	13.6	20.8
4 11	10 38.88	+ 12 45.0	2.377	3.167	12.9	21.3	4 11	10 32.44	+ 8 26.5	1.560	2.380	17.2	21.1
29557	1998 <i>DV</i> ₃		3 4.4 42°65'	0.2/ 4.6 18			151129	2001 <i>XO</i> ₆		3 4.4			

EPHEMERIDES

3 4.4

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
459738	2013 <i>QT</i> ₉		3 4.4 271°04	0°8/ 5.2	17		325294	2008 <i>HX</i> ₂₃		3 4.4 131°19	0°3/ 4.7	18	
2 1	11 20.77	- 0 25.7	1.817	2.648	13.8	21.6	2 1	11 21.18	+ 0 35.0	1.866	2.699	13.5	20.8
2 11	11 16.63	+ 0 37.0	1.725	2.634	10.3	21.3	2 11	11 16.72	+ 1 48.6	1.793	2.704	9.9	20.6
2 21	11 10.44	+ 2 0.1	1.656	2.619	6.2	21.1	2 21	11 10.37	+ 3 19.8	1.744	2.708	5.7	20.3
3 2	11 2.84	+ 3 38.2	1.615	2.605	1.7	20.7	3 2	11 2.82	+ 5 2.2	1.723	2.713	1.3	20.0
3 12	10 54.78	+ 5 23.0	1.603	2.590	3.4	20.8	3 12	10 55.01	+ 6 47.1	1.732	2.718	3.3	20.2
3 22	10 47.28	+ 7 5.2	1.620	2.575	8.0	21.1	3 22	10 47.89	+ 8 25.6	1.770	2.722	7.7	20.5
4 1	10 41.31	+ 8 36.0	1.662	2.560	12.2	21.3	4 1	10 42.31	+ 9 50.3	1.834	2.726	11.6	20.7
4 11	10 37.56	+ 9 49.5	1.727	2.544	15.9	21.5	4 11	10 38.84	+ 10 56.8	1.920	2.730	14.8	20.9
388411	2006 <i>WF</i> ₁₀₀		3 4.4 183°69	3°9/28.4	18		466633	2014 <i>WZ</i> ₂₂		3 4.4 36°29	0°9/ 3.7	18	
2 1	11 21.57	+ 17 55.6	2.599	3.454	9.4	21.0	2 1	11 24.34	+ 6 38.1	1.492	2.348	15.0	21.4
2 11	11 16.58	+ 18 57.1	2.533	3.454	6.8	20.8	2 11	11 19.31	+ 7 6.6	1.432	2.357	10.8	21.1
2 21	11 10.11	+ 19 58.6	2.494	3.454	4.6	20.7	2 21	11 11.93	+ 7 46.2	1.395	2.365	6.0	20.9
3 2	11 2.74	+ 20 54.2	2.484	3.454	4.0	20.6	3 2	11 3.12	+ 8 30.8	1.385	2.375	1.3	20.6
3 12	10 55.19	+ 21 38.9	2.503	3.453	5.7	20.7	3 12	10 54.11	+ 9 12.9	1.401	2.385	4.4	20.8
3 22	10 48.18	+ 22 9.0	2.551	3.452	8.2	20.9	3 22	10 46.10	+ 9 45.9	1.443	2.395	9.1	21.1
4 1	10 42.37	+ 22 23.0	2.624	3.451	10.7	21.1	4 1	10 40.09	+ 10 5.3	1.510	2.406	13.3	21.4
4 11	10 38.23	+ 22 20.8	2.718	3.450	12.8	21.2	4 11	10 36.69	+ 10 9.1	1.596	2.417	16.8	21.6
158868	2004 <i>PU</i> ₁₇		3 4.4 162°20	1°3/ 3.1	18		425060	2009 <i>RN</i> ₃		3 4.4 114°41	3°7/ 7.8	18	
2 1	11 26.59	+ 6 47.4	1.830	2.673	13.3	21.4	2 1	11 27.72	- 5 50.4	2.181	2.968	13.4	21.5
2 11	11 20.65	+ 7 43.5	1.760	2.679	9.5	21.2	2 11	11 21.12	- 6 8.3	2.112	2.986	10.5	21.4
2 21	11 12.60	+ 8 50.3	1.716	2.685	5.3	21.0	2 21	11 12.73	- 6 10.4	2.066	3.004	7.2	21.2
3 2	11 3.24	+ 10 1.2	1.700	2.690	1.4	20.7	3 2	11 3.27	- 5 57.8	2.048	3.021	4.4	21.0
3 12	10 53.62	+ 11 8.4	1.714	2.694	4.3	20.9	3 12	10 53.64	- 5 33.5	2.060	3.038	4.1	21.1
3 22	10 44.82	+ 12 5.0	1.756	2.698	8.6	21.2	3 22	10 44.75	- 5 2.0	2.101	3.054	6.6	21.2
4 1	10 37.05	+ 12 46.3	1.823	2.700	12.4	21.4	4 1	10 37.38	- 4 28.5	2.170	3.070	9.7	21.5
4 11	10 33.01	+ 13 10.4	1.912	2.702	15.6	21.6	4 11	10 32.04	- 3 57.7	2.263	3.085	12.5	21.7
241517	2009 <i>EK</i>		3 4.4 282°56	4°0/28.9	18		131448	2001 <i>QD</i> ₁₂₈		3 4.4 248°83	3°7/ 8.2	18	
2 1	11 22.09	+ 16 27.9	2.220	3.079	10.6	20.1	2 1	11 21.83	- 6 53.3	2.299	3.088	12.7	19.8
2 11	11 17.26	+ 17 28.0	2.140	3.064	7.7	19.9	2 11	11 16.99	- 6 55.9	2.208	3.083	10.0	19.6
2 21	11 10.65	+ 18 30.1	2.086	3.050	5.0	19.7	2 21	11 10.48	- 6 41.9	2.140	3.077	7.1	19.4
3 2	11 2.87	+ 19 27.7	2.060	3.035	4.1	19.6	3 2	11 2.86	- 6 12.4	2.099	3.071	4.4	19.2
3 12	10 54.77	+ 20 14.4	2.063	3.020	6.1	19.7	3 12	10 54.93	- 5 30.7	2.087	3.065	4.0	19.2
3 22	10 47.23	+ 20 45.4	2.093	3.006	9.2	19.9	3 22	10 47.49	- 4 41.5	2.103	3.059	6.4	19.3
4 1	10 41.05	+ 20 58.5	2.149	2.991	12.2	20.1	4 1	10 41.31	- 3 50.3	2.147	3.052	9.5	19.5
4 11	10 36.81	+ 20 53.4	2.224	2.976	14.8	20.2	4 11	10 36.93	- 3 2.5	2.214	3.046	12.4	19.7
42325	2001 <i>XB</i> ₈₉		3 4.4 353°46	5°4/ 1.0	18		306487	1999 <i>TW</i> ₁₇₈		3 4.4 104°18	1°8/ 2.7	18	
2 1	11 25.75	+ 15 31.0	1.115	1.997	16.9	18.0	2 1	11 26.05	+ 8 6.8	1.729	2.578	13.6	20.5
2 11	11 21.12	+ 16 17.9	1.056	1.992	12.4	17.8	2 11	11 20.22	+ 9 4.2	1.674	2.596	9.7	20.3
2 21	11 13.31	+ 17 8.1	1.018	1.988	7.7	17.5	2 21	11 12.33	+ 10 10.5	1.644	2.614	5.4	20.1
3 2	11 3.41	+ 17 50.6	1.004	1.985	5.5	17.3	3 2	11 3.20	+ 11 18.5	1.642	2.631	1.9	19.9
3 12	10 53.11	+ 18 14.7	1.013	1.984	8.6	17.5	3 12	10 53.97	+ 12 20.2	1.669	2.648	4.7	20.1
3 22	10 44.13	+ 18 14.5	1.045	1.983	13.4	17.8	3 22	10 45.69	+ 13 9.3	1.723	2.664	8.8	20.4
4 1	10 37.83	+ 17 48.5	1.097	1.983	18.0	18.0	4 1	10 39.24	+ 13 41.9	1.803	2.680	12.5	20.7
4 11	10 34.97	+ 16 59.1	1.166	1.984	21.9	18.3	4 11	10 35.16	+ 13 56.9	1.903	2.695	15.6	20.9
313740	2003 <i>UP</i> ₂₁₉		3 4.4 112°42	1°4/ 3.3	18		187794	1999 <i>CM</i> ₂₈		3 4.4 11°22	3°8/ 1.7	18	
2 1	11 27.74	+ 8 6.1	1.685	2.533	13.9	21.6	2 1	11 22.27	+ 12 8.9	1.236	2.115	15.9	18.9
2 11	11 21.53	+ 8 37.9	1.624	2.545	10.0	21.4	2 11	11 18.23	+ 12 59.8	1.182	2.118	11.4	18.6
2 21	11 13.10	+ 9 18.3	1.587	2.556	5.6	21.2	2 21	11 11.49	+ 13 57.8	1.149	2.122	6.6	18.3
3 2	11 3.33	+ 10 1.2	1.578	2.567	1.5	20.9	3 2	11 3.07	+ 14 53.3	1.141	2.127	3.8	18.2
3 12	10 53.39	+ 10 39.6	1.597	2.578	4.4	21.2	3 12	10 54.39	+ 15 36.4	1.158	2.133	6.9	18.4
3 22	10 44.43	+ 11 8.2	1.644	2.589	8.8	21.4	3 22	10 46.88	+ 16 0.4	1.198	2.140	11.6	18.7
4 1	10 37.40	+ 11 23.2	1.716	2.599	12.7	21.7	4 1	10 41.67	+ 16 2.0	1.260	2.149	15.9	18.9
4 11	10 32.86	+ 11 23.4	1.809	2.609	16.0	21.9	4 11	10 39.39	+ 15 41.8	1.340	2.158	19.6	19.2
59478	1999 <i>HR</i> ₄		3 4.4 195°42	1°8/ 2.4	18		365985	2012 <i>BF</i> ₇₄		3 4.4 153°45	0°7/ 3.6	18	
2 1	11 24.36	+ 10 0.5	2.427	3.268	10.4	20.0	2 1	11 24.99	+ 5 12.4	2.013	2.850	12.5	21.6
2 11	11 18.68	+ 10 45.5	2.347	3.265	7.5	19.8	2 11	11 19.33	+ 6 6.9	1.943	2.858	9.0	21.4
2 21	11 11.36	+ 11 36.3	2.294	3.262	4.2	19.5	2 21	11 11.80	+ 7 12.4	1.899	2.866	5.0	21.2
3 2	11 3.00	+ 12 27.7	2.271	3.258	1.8	19.4	3 2	11 3.11	+ 8 23.1	1.883	2.873	1.0	20.9
3 12	10 54.41	+ 13 14.4	2.278	3.253	4.0	19.5	3 12	10 54.21	+ 9 32.1	1.898	2.880	3.7	21.1
3 22	10 46.36	+ 13 51.9	2.315	3.248	7.3	19.7	3 22	10 46.03	+ 10 32.8	1.941	2.886	7.7	21.4
4 1	10 39.60	+ 14 17.2	2.378	3.242	10.4	19.9	4 1	10 39.40	+ 11 20.6	2.011	2.891	11.3	21.6
4 11	10 34.63	+ 14 28.9	2.465	3.236	13.0	20.1	4 11	10 34.86	+ 11 52.9	2.103	2.896	14.3	21.8
340820	2006 <i>UU</i> ₉₆		3 4.4 89°60	1°5/ 2.7	18		208985	2003 <i>AT</i> ₁₁		3 4.4 66°20	0°4/ 4.9	18	
2 1	11 21.16	+ 9 2.2	2.368	3.214	10.5	21.2	2 1	11 21.08	+ 1 16.6	2.079	2.909	12.4	20.1
2 11	11 16.32	+ 9 45.4	2.302	3.222	7.5	21.0	2 11	11 16.33	+ 2 10.3	2.025	2.934	9.0	20.0
2 21	11 9.98	+ 10 34.7	2.261	3.231	4.2	20.8	2 21	11 9.99	+ 3 16.8	1.996	2.959	5.2	19.8
3 2	11 2.73	+ 11 25.0	2.250	3.239	1.5	20.6	3 2	11 2.74	+ 4 31.0	1.995	2.985	1.3	19.6
3 12	10 55.33	+ 12 11.2	2.268	3.247	3.7	20.8	3 12	10 55.43	+ 5 46.1	2.024	3.010	2.9	19.7
3 22	10 48.52	+ 12 49.0	2.316	3.254	7.0	21.0	3 22	10 48.85	+ 6 55.9	2.082	3.035	6.6	20.0
4 1	10 42.98	+ 13 15.2	2.389	3.262	10.0	21.2	4 1	10 43.68	+ 7 55.2	2.166	3.060	10.0	20.3
4 11	10 39.15	+ 13 28.3	2.486	3.270	12.6	21.4	4 11	10 40.37	+ 8 40.7	2.274	3.084	12.8	20.5
352705	2008 <i>SC</i> ₁₅₂		3 4.4 195°73	2°8/ 6.9	18		426932						

EPHEMERIDES

3 4.4

3 4.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
132329	2002 <i>GL</i> ₃₁		3 4.4 198°75	0°2/ 4.7 17			501587	2014 <i>QE</i> ₁₂₄		3 4.4 270°81	0°3/ 4.6 18		
2 1	11 23.02	+ 3 17.2	2.422	3.248	11.0	21.4	2 1	11 26.13	+ 3 32.3	1.530	2.374	15.3	21.5
2 11	11 17.73	+ 3 47.8	2.337	3.245	8.0	21.2	2 11	11 20.93	+ 3 53.6	1.443	2.359	11.3	21.3
2 21	11 10.85	+ 4 28.6	2.278	3.242	4.7	20.9	2 21	11 13.12	+ 4 30.4	1.378	2.344	6.7	20.9
3 2	11 2.95	+ 5 15.9	2.248	3.238	1.0	20.7	3 2	11 3.48	+ 5 17.8	1.339	2.329	1.5	20.6
3 12	10 54.79	+ 6 4.9	2.248	3.233	2.8	20.8	3 12	10 53.23	+ 6 8.8	1.328	2.314	4.0	20.7
3 22	10 47.15	+ 6 50.8	2.278	3.228	6.3	21.0	3 22	10 43.70	+ 6 55.6	1.343	2.298	9.3	21.0
4 1	10 40.73	+ 7 29.4	2.336	3.223	9.6	21.2	4 1	10 36.12	+ 7 31.6	1.382	2.282	14.0	21.2
4 11	10 36.06	+ 7 57.8	2.417	3.217	12.4	21.4	4 11	10 31.32	+ 7 52.5	1.442	2.266	18.1	21.4
123310	2000 <i>VF</i> ₇		3 4.4 24°65	5°1/29.9 18			303333	2004 <i>TY</i> ₁₃₁		3 4.4 182°17	0°7/ 5.1 18		
2 1	11 25.30	+16 31.0	1.297	2.173	15.4	18.6	2 1	11 25.55	+ 0 55.8	1.960	2.784	13.3	21.4
2 11	11 20.21	+17 13.1	1.253	2.186	11.2	18.4	2 11	11 19.88	+ 1 40.9	1.880	2.785	9.8	21.1
2 21	11 12.49	+17 55.1	1.232	2.200	7.0	18.2	2 21	11 12.22	+ 2 41.3	1.824	2.786	5.8	20.9
3 2	11 3.26	+18 27.9	1.235	2.215	5.2	18.1	3 2	11 3.27	+ 3 52.5	1.796	2.786	1.5	20.6
3 12	10 53.98	+18 43.5	1.263	2.231	7.8	18.3	3 12	10 54.01	+ 5 7.4	1.799	2.785	3.2	20.7
3 22	10 46.02	+18 38.3	1.316	2.248	11.8	18.6	3 22	10 45.42	+ 6 18.8	1.830	2.783	7.4	21.0
4 1	10 40.42	+18 11.8	1.391	2.266	15.6	18.8	4 1	10 38.39	+ 7 20.6	1.889	2.780	11.3	21.2
4 11	10 37.70	+17 26.4	1.483	2.284	18.8	19.1	4 11	10 33.55	+ 8 8.4	1.970	2.777	14.6	21.4
109083	2001 <i>QE</i> ₂₇		3 4.4 106°73	2°1/ 2.1 18			496097	2009 <i>TX</i> ₄₄		3 4.4 157°11	4°5/ 9.6 18		
2 1	11 23.19	+ 8 12.8	1.896	2.746	12.5	19.2	2 1	11 22.80	-11 16.0	2.341	3.104	13.3	22.3
2 11	11 18.08	+ 9 34.4	1.839	2.762	8.9	19.0	2 11	11 17.63	-11 2.5	2.257	3.111	10.7	22.1
2 21	11 11.10	+11 5.0	1.808	2.778	4.9	18.8	2 21	11 10.82	-10 28.9	2.196	3.117	7.9	21.9
3 2	11 3.00	+12 36.9	1.805	2.793	2.1	18.7	3 2	11 2.99	- 9 36.3	2.162	3.123	5.3	21.8
3 12	10 54.75	+14 1.4	1.832	2.808	4.8	18.9	3 12	10 54.92	- 8 28.7	2.157	3.129	4.6	21.7
3 22	10 47.30	+15 11.9	1.888	2.822	8.6	19.1	3 22	10 47.42	- 7 11.9	2.181	3.133	6.4	21.9
4 1	10 41.45	+16 4.1	1.968	2.836	12.0	19.4	4 1	10 41.21	- 5 52.5	2.233	3.138	9.2	22.0
4 11	10 37.73	+16 36.4	2.070	2.850	14.9	19.6	4 11	10 36.81	- 4 37.0	2.310	3.141	11.9	22.2
281276	2007 <i>RV</i> ₃₅		3 4.4 174°50	1°4/ 5.9 17			114670	2003 <i>FT</i> ₄₄		3 4.4 102°42	5°7/28.9 18		
2 1	11 21.58	- 0 39.5	2.389	3.204	11.5	21.3	2 1	11 30.32	+21 5.5	1.817	2.672	12.7	19.1
2 11	11 16.69	- 0 12.5	2.306	3.205	8.6	21.1	2 11	11 23.37	+21 44.5	1.759	2.678	9.5	18.9
2 21	11 10.26	+ 0 27.3	2.249	3.206	5.3	20.9	2 21	11 14.17	+22 19.0	1.726	2.683	6.6	18.7
3 2	11 2.85	+ 1 17.0	2.221	3.207	2.0	20.7	3 2	11 3.64	+22 41.3	1.721	2.689	5.7	18.7
3 12	10 55.21	+ 2 11.8	2.222	3.208	2.6	20.7	3 12	10 52.99	+22 45.9	1.744	2.694	7.7	18.8
3 22	10 48.10	+ 3 6.7	2.253	3.208	6.0	21.0	3 22	10 43.39	+22 30.1	1.793	2.699	10.8	19.0
4 1	10 42.20	+ 3 56.6	2.311	3.208	9.3	21.2	4 1	10 35.79	+21 54.5	1.867	2.704	13.9	19.2
4 11	10 38.02	+ 4 37.8	2.394	3.208	12.1	21.4	4 11	10 30.75	+21 1.8	1.960	2.709	16.6	19.4
325494	2009 <i>RK</i> ₁₈		3 4.4 246°55	0°6/ 5.0 17			203402	2001 <i>XE</i> ₁₆₇		3 4.4 14°78	2°6/ 6.3 18		
2 1	11 22.43	+ 1 6.6	2.020	2.849	12.8	21.1	2 1	11 23.96	- 1 37.8	1.317	2.157	17.6	19.9
2 11	11 17.67	+ 1 51.6	1.928	2.836	9.5	20.8	2 11	11 19.44	- 1 27.7	1.248	2.158	13.3	19.6
2 21	11 10.99	+ 2 52.1	1.860	2.823	5.6	20.6	2 21	11 12.25	- 0 55.3	1.200	2.160	8.4	19.3
3 2	11 3.02	+ 4 3.8	1.820	2.809	1.5	20.2	3 2	11 3.30	- 0 4.3	1.176	2.162	3.6	19.1
3 12	10 54.63	+ 5 20.2	1.809	2.795	3.1	20.3	3 12	10 53.95	+ 0 57.5	1.177	2.164	4.2	19.1
3 22	10 46.77	+ 6 34.1	1.827	2.781	7.4	20.6	3 22	10 45.58	+ 2 1.0	1.204	2.167	9.1	19.4
4 1	10 40.33	+ 7 39.0	1.872	2.766	11.3	20.8	4 1	10 39.39	+ 2 57.4	1.255	2.170	13.9	19.7
4 11	10 35.94	+ 8 30.2	1.939	2.751	14.6	21.0	4 11	10 36.13	+ 3 39.9	1.325	2.174	18.1	19.9
23452	Drew		3 4.4 128°46	2°3/ 2.2 18			6654	Luleå		3 4.4 77°69	0°7/ 3.7 18		
2 1	11 24.14	+ 1 14.5	1.207	2.061	17.9	18.1	2 1	11 21.03	+ 5 26.9	2.239	3.079	11.3	18.2
2 11	11 19.72	+ 4 7.3	1.145	2.070	12.8	17.8	2 11	11 16.29	+ 6 16.5	2.179	3.095	8.1	18.0
2 21	11 12.45	+ 7 30.9	1.107	2.079	7.0	17.5	2 21	11 10.01	+ 7 15.2	2.144	3.112	4.5	17.8
3 2	11 3.32	+11 8.1	1.098	2.087	2.3	17.3	3 2	11 2.83	+ 8 17.8	2.138	3.129	0.9	17.6
3 12	10 53.79	+14 36.5	1.117	2.095	6.7	17.6	3 12	10 55.54	+ 9 18.5	2.162	3.145	3.2	17.8
3 22	10 45.37	+17 36.6	1.165	2.102	12.4	17.9	3 22	10 48.90	+10 12.1	2.215	3.162	6.8	18.0
4 1	10 39.33	+19 56.7	1.236	2.109	17.3	18.2	4 1	10 43.57	+10 54.4	2.295	3.178	9.9	18.3
4 11	10 36.41	+21 34.2	1.325	2.115	21.2	18.5	4 11	10 40.01	+11 23.4	2.398	3.194	12.6	18.5
387807	2004 <i>EM</i> ₉		3 4.4 283°47	9°2/20.9 18			453044	2007 <i>TB</i> ₄₇		3 4.4 67°93	3°3/ 7.2 18		
2 1	11 24.30	+34 24.0	2.241	3.083	11.2	20.3	2 1	11 25.93	- 4 55.0	1.445	2.264	17.4	21.1
2 11	11 19.07	+36 3.3	2.190	3.073	9.7	20.2	2 11	11 20.37	- 4 29.3	1.396	2.293	13.2	20.9
2 21	11 11.78	+37 30.4	2.164	3.063	9.2	20.1	2 21	11 12.50	- 3 40.0	1.369	2.321	8.6	20.7
3 2	11 3.17	+38 36.6	2.164	3.053	9.8	20.1	3 2	11 3.32	- 2 31.7	1.368	2.350	4.3	20.5
3 12	10 54.27	+39 15.9	2.189	3.043	11.3	20.2	3 12	10 54.10	- 1 12.9	1.393	2.378	4.1	20.6
3 22	10 46.12	+39 26.0	2.236	3.033	13.2	20.3	3 22	10 46.05	+ 0 7.1	1.445	2.406	8.1	20.9
4 1	10 39.65	+39 8.0	2.304	3.023	15.1	20.5	4 1	10 40.09	+ 1 19.5	1.523	2.434	12.2	21.2
4 11	10 35.46	+38 25.4	2.387	3.013	16.8	20.6	4 11	10 36.76	+ 2 18.2	1.622	2.462	15.7	21.5
301542	2009 <i>FL</i> ₆₂		3 4.4 352°19	4°4/ 9.1 17			47105	1999 <i>CJ</i> ₁₈		3 4.4 86°37	5°4/27.5 18		
2 1	11 17.25	- 9 21.7	1.840	2.638	15.1	20.2	2 1	11 23.85	+20 52.6	2.104	2.964	11.1	17.8
2 11	11 14.02	- 8 58.1	1.755	2.633	12.0	20.0	2 11	11 18.49	+22 2.4	2.053	2.973	8.3	17.6
2 21	11 8.93	- 8 9.9	1.692	2.628	8.6	19.7	2 21	11 11.33	+23 9.1	2.028	2.983	6.0	17.5
3 2	11 2.62	- 6 59.2	1.653	2.625	5.4	19.5	3 2	11 3.10	+24 5.4	2.030	2.992	5.6	17.5
3 12	10 55.98	- 5 31.5	1.642	2.622	4.6	19.5	3 12	10 54.73	+24 45.0	2.061	3.001	7.4	17.6
3 22	10 49.95	- 3 54.9	1.658	2.620	7.2	19.6	3 22	10 47.16	+25 4.6	2.118	3.010	10.1	17.8
4 1	10 45.37	- 2 18.2	1.700	2.618	10.7	19.8	4 1	10 41.16	+25 3.5	2.199	3.019	12.7	18.0
4 11	10 42.86	- 0 49.9	1.766	2.618	14.1	20.0	4 11	10 37.22	+24 43.3	2.300	3.028	15.0	18.1
120503	1993 <i>RW</i> ₃		3 4.4 178°47	3°7/ 8.3 16			32547	Shandroff		3 4.4 191°28	1°4/ 3.2 18		
2 1	11 25.83	- 7 33											

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
358020	2006 <i>DC</i> ₁₈₅		3 4.4 254°56	0°6/ 4.9 16			386591	2009 <i>FN</i> ₅₂		3 4.4 325°17	1°6/ 2.5 17		
2 1	11 27.03	+ 2 50.5	1.796	2.628	13.9	21.7	2 1	11 17.68	+ 6 23.6	1.938	2.792	12.1	20.0
2 11	11 21.34	+ 3 11.6	1.698	2.608	10.4	21.4	2 11	11 14.31	+ 7 44.9	1.852	2.777	8.7	19.7
2 21	11 13.28	+ 3 46.8	1.624	2.588	6.2	21.1	2 21	11 9.12	+ 9 19.8	1.791	2.762	4.8	19.5
3 2	11 3.54	+ 4 32.3	1.578	2.568	1.5	20.7	3 2	11 2.71	+11 1.2	1.759	2.748	1.7	19.2
3 12	10 53.19	+ 5 21.9	1.560	2.546	3.6	20.8	3 12	10 55.92	+12 40.3	1.756	2.734	4.5	19.4
3 22	10 43.40	+ 6 9.1	1.571	2.524	8.4	21.1	3 22	10 49.67	+14 8.9	1.780	2.721	8.5	19.6
4 1	10 35.28	+ 6 47.8	1.608	2.502	12.8	21.3	4 1	10 44.79	+15 20.7	1.830	2.708	12.3	19.8
4 11	10 29.62	+ 7 13.6	1.666	2.478	16.6	21.5	4 11	10 41.91	+16 12.0	1.901	2.696	15.5	20.0
144426	2004 <i>EG</i> ₂₃		3 4.4 225°04	2°4/ 1.9 17			172566	2003 <i>UH</i> ₁₆₅		3 4.4 248°80	1°8/ 6.1 17		
2 1	11 25.89	+13 44.0	2.489	3.333	10.1	20.1	2 1	11 25.14	- 1 31.4	1.963	2.778	13.6	21.0
2 11	11 19.77	+14 4.8	2.409	3.328	7.3	20.0	2 11	11 19.80	- 1 3.5	1.860	2.759	10.3	20.7
2 21	11 12.02	+14 27.2	2.356	3.322	4.3	19.7	2 21	11 12.34	- 0 18.1	1.782	2.738	6.5	20.4
3 2	11 3.24	+14 47.0	2.332	3.316	2.4	19.6	3 2	11 3.36	+ 0 41.9	1.730	2.717	2.6	20.1
3 12	10 54.25	+15 0.0	2.339	3.310	4.3	19.7	3 12	10 53.83	+ 1 50.9	1.709	2.695	3.3	20.1
3 22	10 45.84	+15 3.1	2.375	3.304	7.4	19.9	3 22	10 44.77	+ 3 1.9	1.716	2.672	7.5	20.3
4 1	10 38.73	+14 54.8	2.438	3.297	10.3	20.1	4 1	10 37.18	+ 4 7.6	1.750	2.648	11.7	20.5
4 11	10 33.45	+14 34.7	2.524	3.290	12.9	20.3	4 11	10 31.81	+ 5 2.3	1.806	2.624	15.3	20.7
500818	2013 <i>GZ</i> ₉₇		3 4.4 310°43	1°4/ 5.4 17			348823	2006 <i>RS</i> ₄₆		3 4.4 231°52	0°5/ 3.8 17		
2 1	11 22.73	+ 1 0.6	1.337	2.187	16.8	21.2	2 1	11 21.28	+ 5 46.8	2.568	3.402	10.3	22.2
2 11	11 18.78	+ 1 17.2	1.249	2.167	12.6	20.9	2 11	11 16.46	+ 6 24.0	2.480	3.394	7.2	22.0
2 21	11 12.06	+ 1 54.1	1.182	2.147	7.7	20.6	2 21	11 10.16	+ 7 9.6	2.418	3.385	4.1	21.7
3 2	11 3.32	+ 2 47.6	1.139	2.128	2.4	20.2	3 2	11 2.91	+ 7 59.5	2.386	3.376	0.8	21.5
3 12	10 53.85	+ 3 50.0	1.121	2.109	4.1	20.2	3 12	10 55.39	+ 8 49.1	2.384	3.367	2.9	21.6
3 22	10 45.09	+ 4 51.9	1.129	2.090	9.8	20.5	3 22	10 48.33	+ 9 33.7	2.412	3.357	6.3	21.8
4 1	10 38.40	+ 5 44.4	1.159	2.072	15.0	20.7	4 1	10 42.39	+10 9.7	2.467	3.347	9.4	22.0
4 11	10 34.72	+ 6 21.0	1.209	2.055	19.6	21.0	4 11	10 38.05	+10 34.4	2.545	3.337	12.1	22.2
381146	2007 <i>FD</i> ₃₃		3 4.4 292°82	0°0/ 4.2 17			18667	1998 <i>FF</i> ₆₂		3 4.4 263°91	1°6/ 3.2 18		
2 1	11 21.27	+ 3 0.6	1.785	2.627	13.5	20.7	2 1	11 26.95	+ 9 45.3	1.913	2.760	12.6	18.3
2 11	11 17.08	+ 3 47.8	1.694	2.611	10.0	20.5	2 11	11 20.98	+10 1.6	1.833	2.753	9.1	18.0
2 21	11 10.78	+ 4 51.0	1.628	2.595	5.8	20.2	2 21	11 12.90	+10 23.6	1.778	2.746	5.1	17.8
3 2	11 3.04	+ 6 4.9	1.588	2.578	1.1	19.8	3 2	11 3.46	+10 46.8	1.750	2.739	1.6	17.5
3 12	10 54.82	+ 7 21.9	1.577	2.562	3.6	20.0	3 12	10 53.68	+11 5.6	1.752	2.733	4.2	17.7
3 22	10 47.18	+ 8 34.0	1.593	2.546	8.3	20.2	3 22	10 44.63	+11 15.7	1.782	2.726	8.3	17.9
4 1	10 41.11	+ 9 34.2	1.634	2.530	12.5	20.4	4 1	10 37.24	+11 14.3	1.838	2.719	12.1	18.1
4 11	10 37.29	+10 18.0	1.697	2.514	16.2	20.6	4 11	10 32.15	+11 0.2	1.915	2.712	15.3	18.3
488259	2016 <i>EN</i> ₁₁₉		3 4.4 192°43	4°5/28.3 18			455178	1999 <i>VL</i> ₂₃₁		3 4.4 111°13	1°0/ 3.5 18		
2 1	11 26.59	+18 58.3	2.398	3.247	10.3	21.1	2 1	11 26.03	+ 5 55.6	1.790	2.632	13.5	22.2
2 11	11 20.38	+20 4.5	2.328	3.245	7.6	20.9	2 11	11 20.21	+ 6 45.3	1.731	2.649	9.7	22.0
2 21	11 12.41	+21 10.0	2.285	3.242	5.2	20.8	2 21	11 12.38	+ 7 45.6	1.697	2.666	5.4	21.8
3 2	11 3.33	+22 8.2	2.272	3.238	4.6	20.7	3 2	11 3.34	+ 8 50.3	1.692	2.682	1.2	21.6
3 12	10 54.01	+22 52.9	2.288	3.234	6.4	20.8	3 12	10 54.16	+ 9 51.8	1.715	2.697	4.0	21.8
3 22	10 45.32	+23 20.6	2.333	3.229	9.1	21.0	3 22	10 45.88	+10 43.7	1.766	2.712	8.2	22.1
4 1	10 38.04	+23 29.7	2.403	3.223	11.8	21.2	4 1	10 39.37	+11 21.6	1.843	2.727	12.0	22.3
4 11	10 32.72	+23 20.9	2.494	3.216	14.1	21.3	4 11	10 35.15	+11 43.4	1.942	2.741	15.1	22.6
497559	2006 <i>DG</i> ₁₃₃		3 4.4 295°24	2°2/ 2.5 17			498581	2008 <i>PA</i> ₁₈		3 4.4 231°25	5°4/ 9.7 17		
2 1	11 25.03	+10 57.5	1.866	2.720	12.6	20.9	2 1	11 24.01	-11 35.1	2.258	3.019	13.8	20.9
2 11	11 19.74	+11 26.0	1.778	2.702	9.1	20.6	2 11	11 18.71	-11 54.8	2.160	3.010	11.3	20.7
2 21	11 12.28	+12 0.5	1.714	2.683	5.2	20.3	2 21	11 11.58	-11 55.2	2.086	3.001	8.6	20.5
3 2	11 3.33	+12 35.5	1.678	2.665	2.2	20.1	3 2	11 3.21	-11 36.0	2.037	2.991	6.2	20.3
3 12	10 53.94	+13 4.7	1.670	2.648	4.9	20.2	3 12	10 54.43	-10 59.4	2.016	2.982	5.5	20.2
3 22	10 45.17	+13 22.9	1.690	2.630	9.0	20.4	3 22	10 46.12	-10 9.6	2.024	2.972	7.2	20.3
4 1	10 38.02	+13 26.9	1.734	2.612	12.9	20.6	4 1	10 39.13	- 9 12.6	2.059	2.961	10.0	20.5
4 11	10 33.21	+13 15.4	1.800	2.595	16.2	20.8	4 11	10 34.07	- 8 15.2	2.117	2.950	12.8	20.6
385903	2006 <i>SU</i> ₃₅₇		3 4.4 344°11	4°7/28.7 17			23763	1998 <i>MP</i> ₇		3 4.4 225°64	2°5/ 6.8 18		
2 1	11 25.12	+20 11.3	2.221	3.076	10.7	20.7	2 1	11 24.25	- 3 25.1	1.979	2.788	13.8	19.1
2 11	11 19.38	+20 50.6	2.155	3.074	8.0	20.6	2 11	11 19.05	- 3 4.0	1.887	2.779	10.6	18.9
2 21	11 11.84	+21 27.3	2.115	3.073	5.5	20.4	2 21	11 11.84	- 2 24.9	1.818	2.769	6.9	18.6
3 2	11 3.21	+21 55.2	2.103	3.071	4.8	20.4	3 2	11 3.27	- 1 30.3	1.776	2.759	3.3	18.4
3 12	10 54.41	+22 9.3	2.120	3.070	6.5	20.5	3 12	10 54.29	- 0 25.5	1.764	2.749	3.4	18.4
3 22	10 46.34	+22 6.9	2.165	3.069	9.3	20.6	3 22	10 45.86	+ 0 42.9	1.780	2.738	7.2	18.6
4 1	10 39.78	+21 47.4	2.234	3.068	12.0	20.8	4 1	10 38.92	+ 1 47.8	1.823	2.726	11.0	18.8
4 11	10 35.24	+21 11.9	2.324	3.067	14.4	21.0	4 11	10 34.13	+ 2 43.4	1.889	2.714	14.4	19.0
60201	1999 <i>VD</i> ₅₈		3 4.4 136°99	2°3/ 2.0 18			382709	2002 <i>WX</i> ₂₂		3 4.4 31°81	9°1/23.3 18		
2 1	11 24.21	+11 20.6	2.206	3.054	11.1	19.4	2 1	11 25.46	+31 56.5	1.962	2.813	12.1	20.2
2 11	11 18.66	+12 6.1	2.140	3.062	7.9	19.2	2 11	11 19.93	+33 22.3	1.922	2.818	10.2	20.1
2 21	11 11.41	+12 56.2	2.101	3.069	4.5	19.0	2 21	11 12.26	+34 35.0	1.907	2.823	9.2	20.1
3 2	11 3.13	+13 45.4	2.090	3.076	2.3	18.9	3 2	11 3.32	+35 26.0	1.917	2.829	9.6	20.1
3 12	10 54.68	+14 27.8	2.110	3.083	4.5	19.1	3 12	10 54.27	+35 49.3	1.952	2.835	11.1	20.2
3 22	10 46.92	+14 59.2	2.158	3.090	7.8	19.3	3 22	10 46.20	+35 43.4	2.011	2.841	13.2	20.4
4 1	10 40.59	+15 16.8	2.231	3.096	10.9	19.5	4 1	10 40.02	+35 10.3	2.090	2.847	15.4	20.5
4 11	10 36.19	+15 19.9	2.327	3.102	13.6	19.7	4 11	10 36.26	+34 14.1	2.185	2.854	17.2	20.7
371048	2005 <i>UD</i> ₁₈₂		3 4.4 210°02	5°8/26.8 17			248745	2006 <i>QJ</i> ₁₆₆		3 4.4 212°78	1°1/		

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
468759	2011 <i>HZ</i> ₆₇		3 4.4 279°97	2°0/ 6.5 17			266300	2007 <i>BN</i> ₉₀		3 4.4 282°72	1°5/ 5.7 17		
2 1	11 21.12	- 2 37.0	2.038	2.854	13.1	21.9	2 1	11 24.20	+ 0 34.7	1.805	2.635	14.0	21.0
2 11	11 16.78	- 2 7.8	1.939	2.836	10.0	21.6	2 11	11 19.25	+ 0 45.1	1.710	2.617	10.6	20.7
2 21	11 10.56	- 1 20.8	1.863	2.817	6.4	21.4	2 21	11 12.08	+ 1 10.8	1.638	2.598	6.5	20.4
3 2	11 3.03	- 0 18.8	1.814	2.799	2.8	21.1	3 2	11 3.36	+ 1 48.9	1.592	2.580	2.3	20.1
3 12	10 55.05	+ 0 52.7	1.794	2.780	3.2	21.1	3 12	10 54.09	+ 2 34.0	1.575	2.561	3.4	20.2
3 22	10 47.54	+ 2 6.9	1.803	2.761	7.0	21.3	3 22	10 45.38	+ 3 20.0	1.585	2.543	7.9	20.4
4 1	10 41.38	+ 3 17.0	1.838	2.742	10.9	21.5	4 1	10 38.27	+ 4 0.7	1.621	2.524	12.1	20.6
4 11	10 37.23	+ 4 16.8	1.896	2.723	14.3	21.7	4 11	10 33.50	+ 4 30.9	1.679	2.506	15.9	20.8
337484	2001 <i>SH</i> ₈₀		3 4.4 188°57	1°2/ 5.9 18			256399	2007 <i>AU</i> ₇		3 4.4 46°55	1°3/ 3.3 18		
2 1	11 20.21	- 1 4.5	2.535	3.348	11.0	21.3	2 1	11 25.98	+ 5 19.7	1.259	2.119	16.9	19.4
2 11	11 15.68	- 0 22.8	2.450	3.348	8.2	21.1	2 11	11 20.44	+ 6 29.7	1.232	2.158	12.0	19.2
2 21	11 9.71	+ 0 32.2	2.390	3.347	5.0	20.9	2 21	11 12.52	+ 7 52.5	1.227	2.198	6.6	19.1
3 2	11 2.83	+ 1 37.1	2.359	3.346	1.8	20.7	3 2	11 3.36	+ 9 18.1	1.248	2.238	1.5	18.8
3 12	10 55.72	+ 2 46.8	2.358	3.344	2.5	20.8	3 12	10 54.40	+ 10 35.6	1.296	2.278	4.9	19.2
3 22	10 49.09	+ 3 56.1	2.387	3.342	5.8	21.0	3 22	10 46.86	+ 11 37.0	1.369	2.319	9.7	19.5
4 1	10 43.56	+ 4 59.7	2.445	3.340	8.9	21.2	4 1	10 41.63	+ 12 17.9	1.466	2.359	13.8	19.9
4 11	10 39.63	+ 5 53.5	2.526	3.338	11.6	21.3	4 11	10 39.13	+ 12 37.6	1.582	2.399	17.1	20.2
132039	2002 <i>CY</i> ₁₂₈		3 4.4 300°72	1°0/ 5.2 17			386944	2011 <i>QO</i> ₄₃		3 4.4 221°11	3°3/ 8.1 17		
2 1	11 23.17	+ 1 19.9	1.401	2.248	16.3	20.1	2 1	11 21.36	- 6 19.0	2.459	3.248	12.0	20.9
2 11	11 19.02	+ 1 44.9	1.312	2.229	12.2	19.8	2 11	11 16.59	- 6 16.0	2.369	3.244	9.4	20.8
2 21	11 12.18	+ 2 29.8	1.245	2.210	7.4	19.4	2 21	11 10.28	- 5 57.5	2.303	3.241	6.5	20.6
3 2	11 3.39	+ 3 30.5	1.202	2.191	2.1	19.0	3 2	11 2.97	- 5 25.0	2.264	3.238	3.9	20.4
3 12	10 53.90	+ 4 38.8	1.185	2.172	4.1	19.1	3 12	10 55.38	- 4 41.8	2.255	3.234	3.6	20.4
3 22	10 45.10	+ 5 45.5	1.194	2.154	9.6	19.4	3 22	10 48.27	- 3 52.3	2.274	3.230	5.9	20.5
4 1	10 38.30	+ 6 41.8	1.226	2.136	14.7	19.6	4 1	10 42.32	- 3 1.8	2.321	3.226	8.9	20.7
4 11	10 34.39	+ 7 21.3	1.278	2.118	19.1	19.8	4 11	10 38.05	- 2 15.2	2.393	3.222	11.6	20.8
454273	2014 <i>HU</i> ₁₀		3 4.4 241°15	0°9/ 3.7 17			292822	1993 <i>FM</i> ₃₉		3 4.4 177°21	2°3/ 2.6 18		
2 1	11 27.26	+ 5 32.4	1.602	2.447	14.7	22.4	2 1	11 29.77	+ 10 36.7	1.763	2.611	13.5	19.5
2 11	11 23.17	+ 6 18.8	1.514	2.433	10.7	22.1	2 11	11 23.11	+ 11 14.3	1.692	2.613	9.7	19.3
2 21	11 17.50	+ 7 19.7	1.450	2.418	6.1	21.8	2 21	11 14.16	+ 11 58.2	1.646	2.615	5.5	19.0
3 2	11 3.65	+ 8 29.1	1.413	2.403	1.3	21.4	3 2	11 3.74	+ 12 41.9	1.628	2.616	2.3	18.8
3 12	10 53.12	+ 9 38.0	1.404	2.387	4.5	21.6	3 12	10 53.03	+ 13 18.5	1.639	2.616	5.0	19.0
3 22	10 43.29	+ 10 38.3	1.422	2.370	9.6	21.9	3 22	10 43.21	+ 13 42.7	1.678	2.616	9.2	19.2
4 1	10 35.37	+ 11 23.3	1.465	2.352	14.2	22.1	4 1	10 35.28	+ 13 51.5	1.742	2.615	13.1	19.5
4 11	10 30.17	+ 11 49.5	1.528	2.334	18.1	22.3	4 11	10 29.91	+ 13 44.1	1.828	2.613	16.4	19.7
343381	2010 <i>CW</i> ₁₃₅		3 4.4 37°58	4°1/28.6 18			278791	2008 <i>SL</i> ₁₉₈		3 4.4 181°25	0°9/ 3.4 17		
2 1	11 20.74	+ 15 39.3	2.080	2.942	11.0	20.2	2 1	11 22.52	+ 6 39.3	2.303	3.142	11.0	21.3
2 11	11 16.33	+ 16 59.7	2.019	2.946	8.0	20.0	2 11	11 17.46	+ 7 23.5	2.226	3.143	7.9	21.1
2 21	11 10.17	+ 18 22.6	1.984	2.949	5.1	19.9	2 21	11 10.77	+ 8 16.1	2.175	3.143	4.4	20.9
3 2	11 2.93	+ 19 40.2	1.978	2.953	4.2	19.8	3 2	11 3.06	+ 9 12.5	2.153	3.143	1.1	20.6
3 12	10 55.48	+ 20 45.3	2.000	2.956	6.4	19.9	3 12	10 55.12	+ 10 6.9	2.161	3.142	3.4	20.8
3 22	10 48.70	+ 21 32.9	2.050	2.960	9.4	20.1	3 22	10 47.75	+ 10 54.3	2.198	3.142	7.0	21.0
4 1	10 43.35	+ 22 0.4	2.123	2.964	12.3	20.3	4 1	10 41.66	+ 11 30.8	2.262	3.141	10.2	21.2
4 11	10 39.96	+ 22 7.8	2.217	2.969	14.8	20.5	4 11	10 37.38	+ 11 54.2	2.349	3.140	13.0	21.4
339520	2005 <i>GV</i> ₁₅₅		3 4.4 219°80	3°6/29.3 17			6137	<i>Johnfletcher</i>		3 4.4 94°13	1°0/ 5.4 18		
2 1	11 23.73	+ 16 42.4	2.438	3.290	10.0	21.4	2 1	11 24.97	+ 2 41.7	2.403	3.224	11.2	16.4
2 11	11 18.29	+ 17 30.8	2.364	3.285	7.3	21.2	2 11	11 19.11	+ 2 36.1	2.327	3.230	8.3	16.3
2 21	11 11.23	+ 18 19.8	2.317	3.280	4.7	21.0	2 21	11 11.66	+ 2 39.4	2.276	3.236	5.0	16.1
3 2	11 3.14	+ 19 3.9	2.299	3.274	3.7	20.9	3 2	11 3.23	+ 2 49.1	2.254	3.242	1.6	15.8
3 12	10 54.83	+ 19 37.8	2.310	3.268	5.5	21.0	3 12	10 54.61	+ 3 2.0	2.262	3.248	2.6	15.9
3 22	10 47.10	+ 19 57.9	2.350	3.262	8.3	21.2	3 22	10 46.60	+ 3 14.6	2.300	3.254	6.1	16.1
4 1	10 40.66	+ 20 2.5	2.415	3.256	11.1	21.4	4 1	10 39.88	+ 3 23.9	2.366	3.260	9.2	16.4
4 11	10 36.03	+ 19 51.5	2.502	3.249	13.4	21.5	4 11	10 34.95	+ 3 27.2	2.455	3.265	12.0	16.5
518890	2010 <i>EL</i> ₁₆₉		3 4.4 258°84	2°6/ 1.8 17			465915	2010 <i>VE</i> ₁₉₂		3 4.4 158°38	2°1/ 6.4 18		
2 1	11 22.99	+ 11 5.5	1.935	2.790	12.1	21.3	2 1	11 25.49	- 1 44.2	2.042	2.854	13.3	21.7
2 11	11 18.08	+ 12 0.8	1.863	2.788	8.6	21.1	2 11	11 19.75	- 1 31.3	1.965	2.860	10.0	21.5
2 21	11 11.24	+ 13 2.6	1.816	2.785	5.0	20.8	2 21	11 12.14	- 1 3.3	1.911	2.865	6.4	21.3
3 2	11 3.15	+ 14 4.3	1.797	2.783	2.6	20.7	3 2	11 3.34	- 0 23.0	1.885	2.870	2.8	21.1
3 12	10 54.79	+ 14 58.7	1.807	2.780	5.1	20.8	3 12	10 54.27	+ 0 24.6	1.889	2.874	3.2	21.1
3 22	10 47.12	+ 15 40.1	1.844	2.777	8.8	21.0	3 22	10 45.88	+ 1 14.0	1.921	2.878	6.8	21.3
4 1	10 41.01	+ 16 5.0	1.906	2.775	12.3	21.3	4 1	10 39.00	+ 1 59.5	1.981	2.881	10.4	21.5
4 11	10 37.03	+ 16 12.3	1.989	2.772	15.3	21.5	4 11	10 34.21	+ 2 36.7	2.064	2.884	13.6	21.8
196846	2003 <i>SR</i> ₂₅₇		3 4.4 137°49	1°0/ 3.4 17			451008	2008 <i>UX</i> ₅₅		3 4.4 96°95	1°0/ 3.7 15		
2 1	11 22.73	+ 6 46.4	2.113	2.956	11.7	20.7	2 1	11 30.14	+ 6 33.9	1.510	2.356	15.4	22.2
2 11	11 17.70	+ 7 28.2	2.041	2.960	8.4	20.5	2 11	11 23.40	+ 7 7.5	1.458	2.378	11.0	22.0
2 21	11 10.93	+ 8 18.8	1.995	2.963	4.7	20.3	2 21	11 14.26	+ 7 51.9	1.431	2.399	6.2	21.8
3 2	11 3.09	+ 9 13.1	1.977	2.967	1.1	20.0	3 2	11 3.74	+ 8 40.3	1.430	2.421	1.3	21.5
3 12	10 55.02	+ 10 5.1	1.988	2.970	3.6	20.2	3 12	10 53.16	+ 9 24.9	1.458	2.441	4.4	21.7
3 22	10 47.60	+ 10 49.5	2.028	2.973	7.4	20.4	3 22	10 43.78	+ 9 59.6	1.513	2.461	9.1	22.1
4 1	10 41.60	+ 11 22.4	2.094	2.976	10.8	20.7	4 1	10 36.59	+ 10 20.2	1.593	2.481	13.2	22.4
4 11	10 37.54	+ 11 41.5	2.183	2.979	13.7	20.9	4 11	10 32.14	+ 10 25.3	1.693	2.500	16.6	22.6
370726	2												

EPHEMERIDES

3 4.4

3 4.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
35729	1999 GZ ₄		3 4.4 305°57	3°0/ 6.7 18			241144	2007 RH ₁₉		3 4.4 244°30	0°1/ 4.5 17		
2 1	11 21.94	- 3 16.3	1.384	2.219	17.2	17.7	2 1	11 26.25	+ 3 12.0	1.815	2.649	13.7	22.0
2 11	11 18.12	- 2 58.3	1.297	2.203	13.3	17.5	2 11	11 20.75	+ 3 48.7	1.720	2.632	10.2	21.7
2 21	11 11.66	- 2 15.5	1.230	2.187	8.7	17.1	2 21	11 12.97	+ 4 40.2	1.650	2.615	5.9	21.4
3 2	11 3.31	- 1 10.5	1.187	2.172	4.0	16.8	3 2	11 3.60	+ 5 41.7	1.607	2.597	1.2	21.1
3 12	10 54.29	+ 0 9.6	1.170	2.157	4.3	16.8	3 12	10 53.66	+ 6 46.4	1.594	2.579	3.6	21.2
3 22	10 45.99	+ 1 34.6	1.178	2.142	9.2	17.0	3 22	10 44.30	+ 7 46.8	1.608	2.560	8.4	21.5
4 1	10 39.67	+ 2 54.0	1.210	2.127	14.2	17.3	4 1	10 36.58	+ 8 36.6	1.649	2.540	12.7	21.7
4 11	10 36.23	+ 3 59.1	1.262	2.114	18.6	17.5	4 11	10 31.26	+ 9 11.5	1.711	2.519	16.4	21.9
306190	2011 NV ₃		3 4.4 133°45	1°4/ 5.7 18			70542	1999 TK ₁₂₃		3 4.4 144°62	1°3/ 3.1 18		
2 1	11 28.56	+ 0 17.1	1.918	2.735	13.8	21.7	2 1	11 26.08	+ 7 14.0	1.996	2.836	12.4	20.0
2 11	11 21.97	+ 0 36.5	1.851	2.751	10.3	21.5	2 11	11 20.18	+ 8 7.2	1.930	2.847	8.9	19.8
2 21	11 13.38	+ 1 10.1	1.808	2.767	6.2	21.3	2 21	11 12.38	+ 9 9.4	1.890	2.858	4.9	19.6
3 2	11 3.58	+ 1 54.2	1.794	2.782	2.1	21.0	3 2	11 3.44	+ 10 14.6	1.878	2.868	1.4	19.3
3 12	10 53.62	+ 2 42.9	1.810	2.796	3.1	21.1	3 12	10 54.30	+ 11 15.8	1.897	2.877	4.0	19.6
3 22	10 44.50	+ 3 30.5	1.855	2.809	7.2	21.4	3 22	10 45.93	+ 12 7.1	1.944	2.885	7.9	19.8
4 1	10 37.09	+ 4 11.4	1.926	2.821	10.9	21.7	4 1	10 39.15	+ 12 44.5	2.018	2.893	11.5	20.0
4 11	10 31.96	+ 4 42.0	2.021	2.833	14.1	21.9	4 11	10 34.51	+ 13 6.1	2.114	2.900	14.4	20.3
411421	2010 VC ₂₀₁		3 4.4 106°13	0°5/ 3.9 18			130432	2000 QM ₄		3 4.4 103°17	0°6/ 3.9 18		
2 1	11 27.44	+ 5 39.1	2.024	2.857	12.5	21.5	2 1	11 24.29	+ 3 25.1	1.555	2.401	15.0	19.5
2 11	11 20.98	+ 6 11.6	1.968	2.881	9.0	21.3	2 11	11 19.28	+ 4 35.7	1.495	2.414	10.8	19.3
2 21	11 12.72	+ 6 53.1	1.938	2.905	5.1	21.1	2 21	11 12.02	+ 6 2.6	1.458	2.426	6.1	19.0
3 2	11 3.44	+ 7 38.6	1.937	2.927	1.0	20.8	3 2	11 3.37	+ 7 37.9	1.448	2.439	1.1	18.7
3 12	10 54.10	+ 8 22.2	1.966	2.949	3.4	21.0	3 12	10 54.51	+ 9 11.3	1.467	2.451	4.2	19.0
3 22	10 45.62	+ 8 59.1	2.024	2.971	7.3	21.3	3 22	10 46.59	+ 10 33.8	1.512	2.462	9.0	19.3
4 1	10 38.77	+ 9 25.5	2.109	2.992	10.7	21.6	4 1	10 40.58	+ 11 38.7	1.583	2.474	13.2	19.5
4 11	10 34.04	+ 9 39.7	2.216	3.012	13.5	21.8	4 11	10 37.08	+ 12 22.7	1.674	2.485	16.6	19.8
145655	4740 P-L		3 4.4 197°34	0°0/ 4.5 18			36003	1999 NX ₂₄		3 4.4 286°37	2°1/ 2.8 18		
2 1	11 21.22	+ 4 7.0	2.724	3.551	9.9	20.7	2 1	11 25.45	+ 8 43.9	1.505	2.364	14.7	18.3
2 11	11 16.33	+ 4 35.1	2.640	3.549	7.2	20.5	2 11	11 20.57	+ 9 28.4	1.418	2.345	10.7	18.0
2 21	11 10.06	+ 5 11.6	2.582	3.547	4.1	20.3	2 21	11 13.04	+ 10 24.6	1.354	2.325	6.1	17.7
3 2	11 2.93	+ 5 53.1	2.554	3.544	0.8	20.0	3 2	11 3.63	+ 11 25.4	1.317	2.305	2.2	17.4
3 12	10 55.59	+ 6 35.6	2.556	3.541	2.5	20.2	3 12	10 53.57	+ 12 21.9	1.306	2.286	5.4	17.5
3 22	10 48.71	+ 7 15.0	2.589	3.538	5.7	20.4	3 22	10 44.22	+ 13 5.9	1.321	2.266	10.5	17.7
4 1	10 42.88	+ 7 47.8	2.649	3.535	8.7	20.5	4 1	10 36.84	+ 13 31.9	1.360	2.246	15.1	18.0
4 11	10 38.57	+ 8 11.6	2.733	3.531	11.2	20.7	4 11	10 32.28	+ 13 37.4	1.417	2.227	19.1	18.2
101883	1999 NT ₃₆		3 4.4 189°62	3°0/ 7.0 18			384992	2012 TG ₁₉₅		3 4.4 47°45	0°0/ 4.3 17		
2 1	11 28.44	- 3 35.3	2.107	2.904	13.4	20.0	2 1	11 21.12	+ 3 51.3	2.148	2.984	11.8	21.7
2 11	11 21.94	- 3 43.4	2.020	2.904	10.4	19.8	2 11	11 16.55	+ 4 27.4	2.073	2.987	8.6	21.4
2 21	11 13.44	- 3 36.4	1.956	2.902	6.9	19.6	2 21	11 10.31	+ 5 14.5	2.024	2.990	4.9	21.2
3 2	11 3.63	- 3 15.6	1.920	2.900	3.7	19.4	3 2	11 3.03	+ 6 8.1	2.002	2.993	1.0	20.9
3 12	10 53.46	- 2 44.7	1.915	2.897	3.7	19.4	3 12	10 55.53	+ 7 2.6	2.010	2.996	3.0	21.1
3 22	10 43.90	- 2 8.5	1.938	2.893	6.9	19.6	3 22	10 48.63	+ 7 52.4	2.047	2.998	6.8	21.4
4 1	10 35.86	- 1 32.1	1.989	2.888	10.5	19.8	4 1	10 43.07	+ 8 33.1	2.110	3.002	10.3	21.6
4 11	10 29.97	- 1 0.6	2.064	2.883	13.6	20.0	4 11	10 39.37	+ 9 1.5	2.196	3.005	13.2	21.8
358015	2006 DD ₁₅₅		3 4.4 289°52	2°6/ 6.5 18			83634	2001 SO ₃₂₄		3 4.4 55°75	4°1/ 9.1 18		
2 1	11 23.20	- 2 33.6	1.463	2.295	16.6	20.9	2 1	11 20.21	- 9 11.6	2.109	2.894	13.8	19.4
2 11	11 18.91	- 2 14.2	1.376	2.281	12.7	20.6	2 11	11 15.93	- 8 57.1	2.033	2.903	11.0	19.2
2 21	11 12.06	- 1 31.9	1.310	2.268	8.2	20.3	2 21	11 9.97	- 8 22.1	1.979	2.912	7.9	19.1
3 2	11 3.40	+ 0 29.8	1.269	2.255	3.6	20.0	3 2	11 2.97	- 7 28.6	1.952	2.920	5.0	18.9
3 12	10 54.13	+ 0 45.2	1.255	2.242	4.0	20.0	3 12	10 55.75	- 6 21.0	1.952	2.930	4.3	18.9
3 22	10 45.57	+ 2 3.6	1.267	2.229	8.9	20.3	3 22	10 49.14	- 5 5.8	1.981	2.939	6.5	19.0
4 1	10 38.95	+ 3 15.9	1.303	2.216	13.7	20.5	4 1	10 43.89	- 3 49.9	2.037	2.948	9.6	19.2
4 11	10 35.09	+ 4 14.4	1.359	2.203	18.0	20.7	4 11	10 40.52	- 2 39.8	2.117	2.957	12.5	19.4
357193	2002 FM ₁₃		3 4.4 27°48	5°0/ 1.5 18			133642	2003 UG ₁₄₇		3 4.4 208°86	3°7/ 9.1 18		
2 1	11 27.04	+ 14 53.5	1.085	1.966	17.4	19.5	2 1	11 20.99	- 9 42.6	2.526	3.296	12.2	20.2
2 11	11 21.92	+ 15 34.3	1.041	1.976	12.5	19.2	2 11	11 16.34	- 9 19.8	2.430	3.291	9.8	20.1
2 21	11 13.72	+ 16 17.7	1.017	1.988	7.6	19.0	2 21	11 10.17	- 8 38.4	2.357	3.285	7.0	19.9
3 2	11 3.68	+ 16 53.2	1.017	2.000	5.0	18.9	3 2	11 3.02	- 7 40.0	2.312	3.279	4.5	19.7
3 12	10 53.55	+ 17 11.2	1.041	2.014	8.0	19.1	3 12	10 55.58	- 6 28.4	2.297	3.273	3.9	19.6
3 22	10 44.94	+ 17 7.0	1.088	2.029	12.7	19.4	3 22	10 48.59	- 5 9.0	2.311	3.266	5.9	19.8
4 1	10 39.09	+ 16 40.0	1.156	2.044	17.1	19.7	4 1	10 42.73	- 3 48.1	2.353	3.259	8.8	19.9
4 11	10 36.55	+ 15 52.7	1.241	2.061	20.8	20.0	4 11	10 38.51	- 2 31.8	2.421	3.251	11.5	20.1
234837	2002 RT ₁₄₄		3 4.4 201°94	0°4/ 4.9 17			341752	2007 VZ ₂₉₄		3 4.4 144°29	2°7/ 7.8 17		
2 1	11 22.15	+ 2 36.8	2.373	3.200	11.2	21.2	2 1	11 20.70	- 5 43.9	2.491	3.283	11.8	21.4
2 11	11 17.19	+ 3 6.3	2.290	3.197	8.2	21.0	2 11	11 16.07	- 5 20.6	2.409	3.289	9.1	21.2
2 21	11 10.64	+ 3 46.7	2.232	3.195	4.8	20.8	2 21	11 9.98	- 4 41.6	2.352	3.294	6.1	21.0
3 2	11 3.08	+ 4 34.3	2.202	3.192	1.2	20.5	3 2	11 2.98	- 3 49.2	2.322	3.299	3.4	20.9
3 12	10 55.27	+ 5 24.3	2.203	3.188	2.7	20.6	3 12	10 55.78	- 2 47.7	2.322	3.304	3.1	20.8
3 22	10 47.98	+ 6 11.7	2.233	3.185	6.3	20.8	3 22	10 49.08	- 1 42.3	2.351	3.309	5.7	21.0
4 1	10 41.91	+ 6 52.1	2.290	3.181	9.6	21.0	4 1	10 43.54	+ 0 38.4	2.409	3.313	8.6	21.2
4 11	10 37.58	+ 7 22.4	2.371	3.177	12.4	21.2	4 11	10 39.62	+ 0 19.1	2.491	3.317	11.3	21.4
110891	2001 UD ₁₁₃		3 4.4 137°81	1°7/ 2.8 18			210871	2001 RY ₁₂₄		3 4.4 80°77	2°1/ 2.4 18		
2 1	11 25.76	+ 9 15.6	2.07										

EPHEMERIDES

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3 4.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
490020	2008 <i>SE</i> ₂₇₀		3 4.4 96°08	4.7/ 1.1	18								
2 1	11 29.59	+15 6.8	1.414	2.279	15.1	21.3							
2 11	11 23.34	+16 1.8	1.361	2.288	10.9	21.1							
2 21	11 14.43	+16 59.2	1.330	2.297	6.7	20.8							
3 2	11 3.89	+17 49.6	1.326	2.306	4.7	20.7							
3 12	10 53.17	+18 24.1	1.348	2.315	7.4	20.9							
3 22	10 43.68	+18 37.6	1.396	2.324	11.6	21.2							
4 1	10 36.53	+18 28.9	1.467	2.333	15.5	21.4							
4 11	10 32.34	+17 59.6	1.556	2.341	18.8	21.7							
415849	2001 <i>SR</i> ₇₉		3 4.4 110°42	2°2/ 6.4	18								
2 1	11 27.09	- 1 25.4	1.976	2.788	13.7	21.4							
2 11	11 20.89	- 1 21.3	1.910	2.806	10.3	21.2							
2 21	11 12.79	- 1 2.6	1.869	2.823	6.5	21.0							
3 2	11 3.56	- 0 32.1	1.855	2.839	2.9	20.8							
3 12	10 54.17	+ 0 5.6	1.870	2.855	3.2	20.9							
3 22	10 45.58	+ 0 44.9	1.914	2.871	6.8	21.1							
4 1	10 38.62	+ 1 20.9	1.985	2.886	10.4	21.4							
4 11	10 33.82	+ 1 49.2	2.080	2.900	13.5	21.6							
158442	2002 <i>CE</i> ₈₅		3 4.5 60°83	1°1/ 3.4	18								
2 1	11 24.34	+ 7 18.7	1.796	2.645	13.2	20.5							
2 11	11 19.16	+ 7 53.0	1.727	2.648	9.5	20.2							
2 21	11 11.93	+ 8 36.8	1.682	2.651	5.3	20.0							
3 2	11 3.41	+ 9 24.3	1.664	2.654	1.3	19.7							
3 12	10 54.63	+10 8.9	1.675	2.657	4.1	19.9							
3 22	10 46.64	+10 44.9	1.713	2.660	8.3	20.2							
4 1	10 40.33	+11 8.1	1.776	2.663	12.1	20.4							
4 11	10 36.30	+11 16.4	1.861	2.667	15.4	20.6							
46732	1997 <i>TD</i> ₁₉		3 4.5 215°37	0°1/ 4.6	18								
2 1	11 21.82	+ 3 30.4	2.386	3.215	11.0	19.3							
2 11	11 16.98	+ 4 5.6	2.301	3.211	8.0	19.1							
2 21	11 10.56	+ 4 51.3	2.242	3.206	4.6	18.9							
3 2	11 3.13	+ 5 43.5	2.211	3.201	1.0	18.6							
3 12	10 55.44	+ 6 37.2	2.211	3.196	2.8	18.7							
3 22	10 48.25	+ 7 27.3	2.240	3.191	6.4	19.0							
4 1	10 42.27	+ 8 9.5	2.296	3.185	9.7	19.2							
4 11	10 38.01	+ 8 40.6	2.376	3.179	12.5	19.3							
258966	2002 <i>SB</i> ₂₃		3 4.5 88°53	0°0/ 4.3	18								
2 1	11 25.88	+ 2 45.6	1.768	2.602	14.0	21.2							
2 11	11 20.08	+ 3 36.4	1.716	2.629	10.1	21.0							
2 21	11 12.33	+ 4 40.5	1.690	2.655	5.8	20.8							
3 2	11 3.47	+ 5 51.9	1.691	2.681	1.2	20.6							
3 12	10 54.55	+ 7 2.7	1.721	2.706	3.4	20.8							
3 22	10 46.58	+ 8 5.9	1.779	2.731	7.7	21.1							
4 1	10 40.38	+ 8 56.4	1.864	2.755	11.5	21.4							
4 11	10 36.44	+ 9 31.3	1.970	2.779	14.6	21.6							
67864	2000 <i>WD</i> ₂₃		3 4.5 181°39	3°2/ 1.4	18								
2 1	11 25.92	+11 33.5	1.802	2.656	12.9	19.8							
2 11	11 20.36	+12 45.4	1.733	2.657	9.2	19.5							
2 21	11 12.65	+14 4.4	1.689	2.658	5.4	19.3							
3 2	11 3.56	+15 22.3	1.674	2.658	3.2	19.2							
3 12	10 54.16	+16 30.6	1.687	2.657	5.8	19.3							
3 22	10 45.56	+17 22.7	1.728	2.656	9.7	19.5							
4 1	10 38.69	+17 55.0	1.794	2.655	13.3	19.8							
4 11	10 34.20	+18 6.6	1.879	2.652	16.4	20.0							
306036	2010 <i>EJ</i> ₁₃₀		3 4.5 190°15	2°4/ 2.3	18								
2 1	11 28.51	+10 52.6	1.997	2.842	12.2	21.7							
2 11	11 22.07	+11 41.1	1.921	2.841	8.8	21.5							
2 21	11 13.57	+12 35.7	1.871	2.839	5.0	21.2							
3 2	11 3.75	+13 30.1	1.850	2.836	2.4	21.1							
3 12	10 53.61	+14 17.6	1.858	2.833	4.9	21.2							
3 22	10 44.20	+14 52.7	1.896	2.828	8.7	21.4							
4 1	10 36.44	+15 12.3	1.959	2.823	12.3	21.6							
4 11	10 30.94	+15 15.6	2.044	2.817	15.3	21.8							
491570	2012 <i>RP</i> ₁₁		3 4.5 80°46	0°3/ 4.2	18								
2 1	11 26.25	+ 6 32.6	2.350	3.181	11.1	20.9							
2 11	11 19.95	+ 6 41.9	2.293	3.205	8.0	20.7							
2 21	11 12.12	+ 6 57.6	2.263	3.228	4.5	20.5							
3 2	11 3.42	+ 7 16.2	2.261	3.252	0.9	20.3							
3 12	10 54.69	+ 7 34.0	2.291	3.275	2.9	20.5							
3 22	10 46.69	+ 7 47.4	2.350	3.298	6.3	20.7							
4 1	10 40.10	+ 7 54.0	2.436	3.320	9.4	21.0							
4 11	10 35.34	+ 7 52.1	2.547	3.343	12.0	21.2							
82408	2001 <i>NR</i> ₁₀		3 4.5 138°97	1°7/ 2.1	18								
2 1	11 21.30	+ 9 45.3	2.779	3.621	9.3	19.7							
2 11	11 16.34	+10 48.5	2.714	3.633	6.6	19.6							
2 21	11 10.07	+11 56.7	2.677	3.645	3.7	19.4							
3 2	11 3.03	+13 5.1	2.669	3.656	1.7	19.3							
3 12	10 55.84	+14 8.4	2.693	3.667	3.6	19.4							
3 22	10 49.17	+15 2.5	2.747	3.677	6.5	19.6							
4 1	10 43.56	+15 44.3	2.828	3.687	9.1	19.8							
4 11	10 39.45	+16 12.5	2.933	3.696	11.3	20.0							
164243	2004 <i>TX</i> ₁₀₁		3 4.5 259°03	4°0/ 1.6	18								
2 1	11 28.92	+13 57.3	1.525	2.386	14.4	20.2							
2 11	11 22.97	+14 41.0	1.451	2.377	10.5	20.0							
2 21	11 14.35	+15 29.1	1.400	2.368	6.3	19.7							
3 2	11 3.93	+16 13.4	1.375	2.358	4.0	19.5							
3 12	10 53.04	+16 45.6	1.378	2.349	6.7	19.7							
3 22	10 43.09	+16 59.7	1.407	2.339	11.1	19.9							
4 1	10 35.26	+16 53.2	1.459	2.329	15.3	20.1							
4 11	10 30.33	+16 26.8	1.530	2.319	18.9	20.3							
56858	2000 <i>QZ</i> ₇₇		3 4.5 270°21	0°4/ 4.1	18								
2 1	11 23.08	+ 4 30.1	1.902	2.743	12.9	20.0							
2 11	11 18.36	+ 5 13.4	1.809	2.726	9.4	19.8							
2 21	11 11.57	+ 6 10.0	1.742	2.709	5.4	19.5							
3 2	11 3.37	+ 7 14.8	1.701	2.692	1.0	19.2							
3 12	10 54.70	+ 8 20.9	1.690	2.674	3.7	19.3							
3 22	10 46.58	+ 9 21.3	1.707	2.657	8.1	19.6							
4 1	10 39.95	+10 10.1	1.749	2.639	12.2	19.8							
4 11	10 35.52	+10 43.4	1.813	2.621	15.6	19.9							
258166	2001 <i>SY</i> ₁₀₄												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
492699	2014 <i>PW</i> ₆₄		3 4.5 231°53	1.8°/ 2.9	17		470523	2008 <i>CS</i> ₁₉₀		3 4.5 36°81	0°1/ 6.8	15	
2 1	11 27.40	+ 8 14.9	1.764	2.611	13.5	22.6	2 1	11 3.90	- 0 3.0	36.539	37.339	0.9	21.8
2 11	11 21.61	+ 9 1.0	1.679	2.599	9.8	22.3	2 11	11 3.16	- 0 0.0	36.453	37.342	0.7	21.8
2 21	11 13.49	+ 9 57.4	1.619	2.588	5.5	22.1	2 21	11 2.35	+ 0 3.7	36.395	37.345	0.4	21.8
3 2	11 3.78	+10 57.7	1.586	2.575	1.8	21.8	3 2	11 1.50	+ 0 7.9	36.366	37.348	0.2	21.7
3 12	10 53.58	+11 54.0	1.582	2.562	4.7	21.9	3 12	11 0.64	+ 0 12.5	36.367	37.352	0.2	21.7
3 22	10 44.06	+12 39.6	1.606	2.548	9.2	22.2	3 22	10 59.81	+ 0 17.3	36.398	37.355	0.4	21.8
4 1	10 36.31	+13 9.6	1.655	2.534	13.4	22.4	4 1	10 59.03	+ 0 22.0	36.459	37.358	0.7	21.8
4 11	10 31.06	+13 22.0	1.725	2.519	16.9	22.6	4 11	10 58.33	+ 0 26.4	36.546	37.361	0.9	21.8
2452	Lyot		3 4.5 331°09	2°2/ 2.5	18		259101	2002 <i>WS</i>		3 4.5 14°62	20°8/ 7.6	16	
2 1	11 25.06	+12 9.4	2.032	2.883	11.8	16.0	2 1	12 19.82	+51 19.0	0.821	1.621	28.9	18.6
2 11	11 19.56	+12 25.9	1.953	2.876	8.5	15.7	2 11	11 59.85	+50 17.6	0.792	1.637	25.8	18.4
2 21	11 12.14	+12 45.9	1.900	2.869	4.9	15.5	2 21	11 34.10	+48 8.9	0.778	1.658	22.9	18.3
3 2	11 3.48	+13 4.5	1.875	2.862	2.2	15.3	3 2	11 7.41	+44 37.3	0.783	1.681	21.1	18.3
3 12	10 54.54	+13 16.7	1.879	2.856	4.5	15.4	3 12	10 44.63	+39 53.2	0.812	1.708	20.9	18.4
3 22	10 46.29	+13 18.9	1.911	2.850	8.2	15.7	3 22	10 28.29	+34 28.4	0.864	1.739	22.5	18.7
4 1	10 39.56	+13 8.9	1.969	2.844	11.7	15.9	4 1	10 18.69	+28 56.5	0.940	1.771	24.8	19.0
4 11	10 34.96	+12 46.2	2.048	2.839	14.7	16.0	4 11	10 14.92	+23 41.2	1.035	1.807	27.1	19.3
341388	2007 <i>TO</i> ₁₂₈		3 4.5 74°52	0°2/ 4.7	18		200675	2001 <i>TA</i> ₁₅₄		3 4.5 154°78	2°5/ 2.1	18	
2 1	11 22.77	+ 3 20.9	2.174	3.006	11.9	21.6	2 1	11 27.26	+ 9 38.2	1.769	2.619	13.3	21.6
2 11	11 17.62	+ 3 50.7	2.115	3.025	8.6	21.4	2 11	11 21.31	+10 47.4	1.705	2.627	9.5	21.4
2 21	11 10.88	+ 4 30.9	2.080	3.045	5.0	21.2	2 21	11 13.19	+12 5.2	1.665	2.634	5.4	21.2
3 2	11 3.21	+ 5 17.1	2.074	3.064	1.1	21.0	3 2	11 3.71	+13 23.6	1.655	2.641	2.5	21.0
3 12	10 55.44	+ 6 4.2	2.098	3.084	2.8	21.1	3 12	10 53.98	+14 33.9	1.673	2.647	5.3	21.2
3 22	10 48.37	+ 6 47.0	2.151	3.103	6.5	21.4	3 22	10 45.12	+15 29.4	1.719	2.653	9.3	21.4
4 1	10 42.68	+ 7 21.7	2.230	3.122	9.8	21.7	4 1	10 38.08	+16 6.1	1.790	2.658	13.1	21.7
4 11	10 38.84	+ 7 45.4	2.333	3.141	12.6	21.9	4 11	10 33.44	+16 23.0	1.882	2.661	16.2	21.9
323773	2005 <i>QW</i> ₃₈		3 4.5 191°96	0°4/ 4.0	16		258118	2001 <i>QG</i> ₂₇₆		3 4.5 158°45	2°6/ 1.8	18	
2 1	11 23.46	+ 4 6.1	2.266	3.096	11.5	22.1	2 1	11 26.51	+12 17.9	2.197	3.043	11.2	21.3
2 11	11 18.24	+ 5 0.8	2.183	3.095	8.3	21.9	2 11	11 20.41	+13 5.6	2.130	3.050	8.0	21.1
2 21	11 11.33	+ 6 6.9	2.127	3.093	4.7	21.7	2 21	11 12.53	+13 57.2	2.089	3.057	4.7	20.9
3 2	11 3.32	+ 7 19.4	2.099	3.090	0.9	21.4	3 2	11 3.57	+14 46.8	2.078	3.062	2.6	20.8
3 12	10 55.03	+ 8 32.1	2.103	3.086	3.2	21.6	3 12	10 54.42	+15 28.6	2.097	3.068	4.8	20.9
3 22	10 47.29	+ 9 38.9	2.136	3.082	7.0	21.8	3 22	10 45.97	+15 58.3	2.144	3.072	8.1	21.2
4 1	10 40.86	+10 34.7	2.196	3.077	10.4	22.0	4 1	10 39.01	+16 13.4	2.218	3.076	11.2	21.4
4 11	10 36.28	+11 16.4	2.279	3.072	13.3	22.2	4 11	10 34.06	+16 13.4	2.313	3.080	13.9	21.6
32776	Nriag		3 4.5 247°34	2°7/ 1.5	18 R		285881	2001 <i>OO</i> ₇₇		3 4.5 200°69	2°0/ 2.3	16	
2 1	11 22.24	+ 9 32.2	2.025	2.877	11.8	18.1	2 1	11 26.28	+10 45.7	2.378	3.218	10.7	21.8
2 11	11 17.65	+11 0.3	1.940	2.863	8.4	17.9	2 11	11 20.23	+11 29.6	2.296	3.214	7.7	21.6
2 21	11 11.13	+12 38.9	1.880	2.850	4.8	17.7	2 21	11 12.46	+12 18.7	2.241	3.208	4.4	21.4
3 2	11 3.30	+14 20.3	1.850	2.836	2.7	17.5	3 2	11 3.57	+13 8.0	2.215	3.202	2.0	21.2
3 12	10 55.06	+15 55.6	1.850	2.821	5.3	17.6	3 12	10 54.41	+13 51.7	2.221	3.195	4.2	21.3
3 22	10 47.35	+17 17.3	1.879	2.807	9.1	17.8	3 22	10 45.81	+14 25.6	2.256	3.187	7.5	21.5
4 1	10 41.07	+18 19.8	1.932	2.791	12.6	18.0	4 1	10 38.53	+14 46.7	2.317	3.179	10.7	21.7
4 11	10 36.84	+19 1.2	2.007	2.776	15.6	18.2	4 11	10 33.15	+14 53.7	2.402	3.170	13.4	21.9
393543	2002 <i>VV</i> ₉₆		3 4.5 117°37	4°8/ 29.6	18		57492	2001 <i>SR</i> ₁₇₉		3 4.5 152°60	1°4/ 3.3	18	
2 1	11 30.25	+15 16.4	1.543	2.403	14.4	21.7	2 1	11 30.07	+ 8 1.1	1.821	2.660	13.4	20.2
2 11	11 23.60	+16 30.7	1.495	2.420	10.4	21.5	2 11	11 23.26	+ 8 37.4	1.754	2.670	9.7	20.0
2 21	11 14.49	+17 47.0	1.471	2.437	6.5	21.3	2 21	11 14.27	+ 9 22.0	1.712	2.680	5.4	19.8
3 2	11 3.94	+18 55.3	1.475	2.453	4.8	21.2	3 2	11 3.94	+10 9.1	1.699	2.688	1.5	19.5
3 12	10 53.29	+19 46.8	1.506	2.468	7.4	21.4	3 12	10 53.39	+10 51.8	1.715	2.695	4.3	19.7
3 22	10 43.84	+20 16.3	1.564	2.483	11.2	21.6	3 22	10 43.74	+11 24.7	1.760	2.702	8.5	20.0
4 1	10 36.59	+20 22.4	1.645	2.497	14.8	21.9	4 1	10 35.93	+11 44.3	1.830	2.708	12.3	20.2
4 11	10 32.12	+20 6.9	1.745	2.511	17.8	22.1	4 11	10 30.57	+11 49.0	1.923	2.713	15.5	20.4
340710	2006 <i>SB</i> ₄₇		3 4.5 157°58	0°9/ 5.5	17		119450	2001 <i>TO</i> ₁₇₄		3 4.5 180°60	4°5/ 28.8	17	
2 1	11 22.67	+ 1 29.8	2.615	3.432	10.5	21.2	2 1	11 28.64	+19 29.1	2.381	3.227	10.4	20.5
2 11	11 17.42	+ 1 44.1	2.535	3.436	7.8	21.1	2 11	11 21.89	+20 20.3	2.313	3.229	7.7	20.3
2 21	11 10.76	+ 2 8.2	2.480	3.440	4.7	20.9	2 21	11 13.37	+21 9.6	2.273	3.230	5.3	20.2
3 2	11 3.20	+ 2 39.3	2.455	3.443	1.5	20.6	3 2	11 3.75	+21 50.8	2.262	3.230	4.5	20.1
3 12	10 55.45	+ 3 13.7	2.461	3.447	2.4	20.7	3 12	10 53.94	+22 18.6	2.281	3.229	6.3	20.2
3 22	10 48.21	+ 3 47.5	2.496	3.450	5.6	20.9	3 22	10 44.83	+22 29.9	2.329	3.228	9.0	20.4
4 1	10 42.10	+ 4 17.0	2.559	3.453	8.6	21.1	4 1	10 37.20	+22 23.8	2.402	3.226	11.7	20.6
4 11	10 37.58	+ 4 39.2	2.647	3.455	11.2	21.3	4 11	10 31.59	+22 1.4	2.497	3.223	14.0	20.7
98106	2000 <i>RK</i> ₉₁		3 4.5 271°17	0°8/ 5.0	18		241434	2008 <i>WU</i> ₁₀₇		3 4.5 59°80	2°8/ 6.7	18	
2 1	11 27.67	+ 3 15.1	1.536	2.377	15.5	19.3	2 1	11 24.10	- 3 27.8	1.318	2.152	17.9	20.5
2 11	11 22.09	+ 3 19.8	1.451	2.365	11.5	19.0	2 11	11 19.49	- 2 59.7	1.259	2.165	13.6	20.3
2 21	11 13.90	+ 3 38.5	1.388	2.353	6.9	18.7	2 21	11 12.32	- 2 6.6	1.221	2.178	8.7	20.0
3 2	11 3.88	+ 4 7.4	1.352	2.341	1.8	18.3	3 2	11 3.56	- 0 53.5	1.207	2.192	3.9	19.8
3 12	10 53.28	+ 4 40.6	1.343	2.329	3.8	18.4	3 12	10 54.55	+ 0 30.6	1.219	2.206	4.1	19.8
3 22	10 43.45	+ 5 11.5	1.360	2.317	9.0	18.7	3 22	10 46.63	+ 1 55.0	1.257	2.220	8.8	20.1
4 1	10 35.60	+ 5 34.3	1.402	2.305	13.7	18.9	4 1	10 40.89	+ 3 10.0	1.319	2.234	13.4	20.4
4 11	10 30.54	+ 5 44.9	1.465	2.292	17.7	19.2	4 11	10 37.96	+ 4 8.7	1.401	2.249	17.3	20.7
466816	2015 <i>BK</i> ₁₃₃		3 4.5 161°05	2°1/ 2.3	17		502408	2015 <i>BS</i> ₂₅₃		3 4.5 284°81	0°2/ 4.7	17	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
313107	2000 <i>WF</i> ₁₅₁		3 4.5 115°91	16°1/18.9	18		68966	2002 <i>RA</i> ₉₄		3 4.5 240°85	0°2/ 4.3	18	
2 1	11 28.97	-29 54.1	1.287	1.973	25.6	20.3	2 1	11 26.36	+ 3 30.1	1.531	2.374	15.3	19.9
2 11	11 23.72	-31 21.3	1.224	1.984	23.3	20.1	2 11	11 21.18	+ 4 16.6	1.446	2.363	11.3	19.7
2 21	11 15.12	-32 4.2	1.173	1.996	20.7	20.0	2 21	11 13.41	+ 5 20.5	1.384	2.351	6.5	19.4
3 2	11 4.18	-31 54.1	1.138	2.006	18.2	19.8	3 2	11 3.84	+ 6 35.8	1.348	2.339	1.3	19.0
3 12	10 52.58	-30 48.8	1.122	2.016	16.5	19.8	3 12	10 53.68	+ 7 53.5	1.341	2.326	4.2	19.1
3 22	10 42.16	-28 54.7	1.125	2.026	16.2	19.8	3 22	10 44.26	+ 9 4.3	1.360	2.312	9.5	19.4
4 1	10 34.49	-26 26.2	1.150	2.035	17.4	19.9	4 1	10 36.78	+10 0.7	1.404	2.298	14.2	19.7
4 11	10 30.47	-23 42.5	1.194	2.044	19.6	20.0	4 11	10 32.07	+10 38.0	1.468	2.284	18.3	19.9
309226	2007 <i>PF</i> ₄₄		3 4.5 153°44	2°8/ 1.7	18		19996	1990 <i>WZ</i>		3 4.5 81°45	2°0/ 6.6	18	
2 1	11 27.53	+11 34.1	2.019	2.865	12.0	21.7	2 1	11 21.27	- 3 5.1	1.942	2.758	13.7	18.3
2 11	11 21.27	+12 38.2	1.955	2.876	8.6	21.5	2 11	11 16.85	- 2 27.3	1.867	2.764	10.4	18.1
2 21	11 13.08	+13 47.7	1.918	2.885	5.0	21.3	2 21	11 10.62	- 1 31.3	1.815	2.770	6.6	17.9
3 2	11 3.70	+14 55.5	1.909	2.894	2.8	21.2	3 2	11 3.23	- 0 20.8	1.791	2.776	2.9	17.7
3 12	10 54.13	+15 54.5	1.931	2.902	5.2	21.4	3 12	10 55.60	+ 0 57.6	1.796	2.782	3.1	17.7
3 22	10 45.35	+16 39.2	1.982	2.909	8.7	21.6	3 22	10 48.64	+ 2 16.6	1.829	2.788	6.8	17.9
4 1	10 38.20	+17 6.7	2.058	2.915	12.0	21.8	4 1	10 43.14	+ 3 29.1	1.888	2.794	10.5	18.2
4 11	10 33.23	+17 16.6	2.155	2.920	14.8	22.0	4 11	10 39.66	+ 4 29.9	1.971	2.800	13.8	18.4
426782	2013 <i>TP</i> ₁₁₆		3 4.5 177°94	0°9/ 5.4	17		377345	2004 <i>RP</i> ₇		3 4.5 213°47	2°4/ 1.4	17	
2 1	11 24.13	+ 1 37.9	2.271	3.092	11.8	21.5	2 1	11 22.51	+10 5.3	2.449	3.293	10.2	21.2
2 11	11 18.71	+ 1 58.0	2.190	3.093	8.7	21.3	2 11	11 17.54	+11 28.3	2.365	3.285	7.3	21.0
2 21	11 11.59	+ 2 29.6	2.134	3.094	5.2	21.1	2 21	11 10.96	+12 58.9	2.309	3.277	4.2	20.8
3 2	11 3.41	+ 3 9.4	2.106	3.095	1.6	20.9	3 2	11 3.31	+14 30.8	2.283	3.267	2.4	20.6
3 12	10 54.98	+ 3 52.7	2.109	3.095	2.7	21.0	3 12	10 55.35	+15 57.0	2.288	3.257	4.6	20.8
3 22	10 47.12	+ 4 34.7	2.141	3.095	6.4	21.2	3 22	10 47.85	+17 11.4	2.323	3.247	7.8	20.9
4 1	10 40.58	+ 5 10.8	2.200	3.094	9.8	21.4	4 1	10 41.55	+18 9.9	2.384	3.236	10.8	21.1
4 11	10 35.90	+ 5 37.6	2.283	3.093	12.7	21.6	4 11	10 36.97	+18 50.6	2.468	3.224	13.4	21.3
370660	2004 <i>CV</i> ₅₁		3 4.5 135°92	0°6/ 5.1	18		343594	2010 <i>GJ</i> ₉₇		3 4.5 281°27	1°4/ 6.0	17	
2 1	11 24.66	- 5 22.1	1.212	2.043	19.3	20.2	2 1	11 20.26	- 1 6.9	2.187	3.007	12.2	21.4
2 11	11 20.20	- 2 54.2	1.143	2.052	14.4	20.0	2 11	11 16.04	- 0 31.2	2.098	2.999	9.2	21.2
2 21	11 12.90	+ 0 13.7	1.097	2.060	8.6	19.7	2 21	11 10.15	+ 0 19.7	2.033	2.991	5.7	21.0
3 2	11 3.71	+ 3 48.9	1.078	2.068	2.1	19.3	3 2	11 3.15	+ 1 22.6	1.996	2.982	2.1	20.7
3 12	10 54.10	+ 7 30.2	1.089	2.075	4.6	19.5	3 12	10 55.83	+ 2 31.8	1.988	2.974	2.8	20.8
3 22	10 45.59	+10 55.4	1.128	2.082	10.8	19.8	3 22	10 49.02	+ 3 41.2	2.009	2.966	6.5	21.0
4 1	10 39.45	+13 47.8	1.192	2.088	16.1	20.2	4 1	10 43.47	+ 4 44.7	2.057	2.958	10.0	21.2
4 11	10 36.42	+15 59.7	1.277	2.094	20.5	20.5	4 11	10 39.74	+ 5 37.6	2.128	2.950	13.1	21.4
195289	2002 <i>EZ</i> ₈₂		3 4.5 180°52	0°8/ 3.8	17		199040	2005 <i>WS</i> ₁₅₄		3 4.5 12°69	3°5/ 2.0	18	
2 1	11 26.95	+ 7 41.5	2.099	2.937	12.0	20.5	2 1	11 25.47	+10 46.5	1.232	2.104	16.4	20.2
2 11	11 20.84	+ 7 55.2	2.022	2.938	8.7	20.3	2 11	11 20.77	+11 44.3	1.172	2.105	11.8	20.0
2 21	11 12.85	+ 8 15.8	1.971	2.938	4.9	20.0	2 21	11 13.21	+12 52.0	1.134	2.106	6.8	19.7
3 2	11 3.67	+ 8 39.2	1.948	2.938	1.1	19.7	3 2	11 3.78	+13 59.6	1.121	2.108	3.5	19.5
3 12	10 54.23	+ 9 0.5	1.955	2.938	3.5	19.9	3 12	10 54.00	+14 56.1	1.133	2.110	6.8	19.7
3 22	10 45.49	+ 9 15.8	1.991	2.937	7.4	20.2	3 22	10 45.37	+15 33.5	1.170	2.113	11.8	20.0
4 1	10 38.26	+ 9 22.0	2.054	2.937	10.9	20.4	4 1	10 39.14	+15 47.5	1.228	2.116	16.4	20.3
4 11	10 33.12	+ 9 17.4	2.139	2.936	13.9	20.6	4 11	10 36.02	+15 38.1	1.304	2.119	20.2	20.5
253076	2002 <i>TD</i> ₁₆₇		3 4.5 156°53	7°8/12.7	18		87876	2000 <i>SB</i> ₂₇₁		3 4.5 229°31	1°7/ 6.3	18	
2 1	11 24.19	-18 41.2	2.016	2.741	16.3	21.1	2 1	11 22.20	- 2 18.4	2.206	3.017	12.4	20.5
2 11	11 19.06	-18 57.2	1.932	2.746	13.9	20.9	2 11	11 17.46	- 1 39.2	2.112	3.008	9.4	20.2
2 21	11 11.94	-18 46.3	1.867	2.750	11.3	20.8	2 21	11 10.99	- 0 43.5	2.043	2.998	5.9	20.0
3 2	11 3.50	-18 7.0	1.827	2.755	8.9	20.6	3 2	11 3.34	+ 0 25.6	2.002	2.988	2.4	19.8
3 12	10 54.71	-17 2.0	1.812	2.759	7.8	20.5	3 12	10 55.34	+ 1 42.2	1.991	2.977	2.9	19.8
3 22	10 46.58	-15 37.1	1.825	2.762	8.6	20.6	3 22	10 47.83	+ 3 0.0	2.009	2.966	6.5	20.0
4 1	10 40.00	-14 0.8	1.864	2.765	10.9	20.7	4 1	10 41.60	+ 4 12.3	2.054	2.954	10.1	20.2
4 11	10 35.60	-12 22.6	1.926	2.768	13.5	20.9	4 11	10 37.24	+ 5 14.0	2.124	2.942	13.3	20.4
4105	<i>Tsia</i>		3 4.5 279°15	2°3/ 6.7	18		293422	2007 <i>EK</i> ₁₁₂		3 4.5 335°01	1°1/ 3.8	17	
2 1	11 22.01	- 2 52.7	1.963	2.778	13.6	17.3	2 1	11 21.65	+ 6 48.6	0.984	1.866	18.7	20.3
2 11	11 17.59	- 2 27.8	1.862	2.759	10.4	17.0	2 11	11 18.75	+ 7 4.6	0.910	1.847	13.8	19.9
2 21	11 11.17	- 1 44.6	1.785	2.739	6.8	16.8	2 21	11 12.48	+ 7 37.1	0.856	1.829	7.9	19.5
3 2	11 3.37	- 0 45.5	1.735	2.720	3.1	16.5	3 2	11 3.73	+ 8 19.4	0.823	1.813	1.7	19.1
3 12	10 55.07	+ 0 24.0	1.714	2.700	3.3	16.5	3 12	10 54.13	+ 9 0.9	0.812	1.798	5.7	19.3
3 22	10 47.24	+ 1 36.9	1.720	2.680	7.2	16.6	3 22	10 45.56	+ 9 31.5	0.823	1.785	12.3	19.6
4 1	10 40.82	+ 2 46.1	1.754	2.659	11.2	16.8	4 1	10 39.67	+ 9 43.8	0.853	1.774	18.2	19.8
4 11	10 36.50	+ 3 45.4	1.809	2.639	14.8	17.0	4 11	10 37.48	+ 9 34.0	0.899	1.764	23.2	20.1
183819	2004 <i>BF</i> ₇₇		3 4.5 174°72	1°3/ 3.4	18		328913	2010 <i>UY</i> ₁₀		3 4.5 89°99	1°5/ 5.9	18	
2 1	11 29.15	+ 6 46.7	1.681	2.523	14.2	21.1	2 1	11 25.81	- 0 43.2	1.822	2.643	14.2	21.6
2 11	11 22.84	+ 7 34.6	1.609	2.527	10.3	20.9	2 11	11 20.07	- 0 12.1	1.766	2.668	10.6	21.4
2 21	11 14.16	+ 8 33.8	1.562	2.530	5.8	20.6	2 21	11 12.40	+ 0 34.8	1.733	2.691	6.4	21.2
3 2	11 3.95	+ 9 37.8	1.542	2.532	1.5	20.4	3 2	11 3.61	+ 1 33.1	1.728	2.715	2.3	21.0
3 12	10 53.41	+10 38.3	1.551	2.533	4.5	20.6	3 12	10 54.73	+ 2 36.1	1.751	2.738	3.1	21.1
3 22	10 43.75	+11 28.4	1.588	2.533	9.1	20.8	3 22	10 46.75	+ 3 37.0	1.804	2.760	7.2	21.4
4 1	10 36.01	+12 3.0	1.651	2.532	13.2	21.1	4 1	10 40.47	+ 4 29.8	1.882	2.782	10.9	21.7
4 11	10 30.87	+12 20.1	1.734	2.530	16.7	21.3	4 11	10 36.41	+ 5 10.6	1.984	2.804	14.0	21.9
39201	2000 <i>XN</i> ₁₂		3 4.5 236°95	1°0/ 3.7									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
462256	2008 <i>DG</i> ₃₇		3 4.5 41°57'	2.4/ 2.9	18		417714	2007 <i>CT</i> ₁₁		3 4.5 3°63'	6.8/ 9.1	17	
2 1	11 30.24	+11 55.5	1.606	2.459	14.2	20.8	2 1	11 26.00	- 8 54.2	1.506	2.305	17.8	20.2
2 11	11 23.68	+12 5.7	1.539	2.462	10.3	20.6	2 11	11 20.91	- 9 52.6	1.430	2.304	14.5	20.0
2 21	11 14.66	+12 19.9	1.496	2.465	5.9	20.3	2 21	11 13.26	-10 28.8	1.374	2.304	10.8	19.8
3 2	11 4.10	+12 32.1	1.480	2.468	2.4	20.1	3 2	11 3.88	-10 40.8	1.342	2.305	7.7	19.6
3 12	10 53.28	+12 36.8	1.492	2.471	5.1	20.3	3 12	10 53.99	-10 30.2	1.336	2.306	7.0	19.6
3 22	10 43.49	+12 30.0	1.532	2.474	9.5	20.5	3 22	10 44.92	-10 2.1	1.355	2.309	9.4	19.7
4 1	10 35.78	+12 9.9	1.596	2.478	13.6	20.8	4 1	10 37.85	- 9 24.2	1.398	2.311	12.9	19.9
4 11	10 30.80	+11 36.4	1.680	2.481	17.0	21.0	4 11	10 33.55	- 8 44.8	1.462	2.315	16.4	20.1
8782	Bakhrakh		3 4.5 169°66'	0.3/ 4.8	18		266255	2006 <i>YB</i> ₉		3 4.5 117°80'	0.4/ 4.9	18	
2 1	11 26.46	+ 2 54.0	2.079	2.905	12.6	18.6	2 1	11 25.65	+ 3 11.3	1.856	2.690	13.5	21.2
2 11	11 20.52	+ 3 24.0	2.002	2.910	9.2	18.3	2 11	11 20.09	+ 3 31.9	1.786	2.697	9.9	21.0
2 21	11 12.71	+ 4 5.7	1.950	2.913	5.4	18.1	2 21	11 12.52	+ 4 4.7	1.740	2.704	5.8	20.7
3 2	11 3.70	+ 4 55.1	1.927	2.916	1.3	17.8	3 2	11 3.69	+ 4 45.5	1.721	2.711	1.4	20.4
3 12	10 54.44	+ 5 46.5	1.933	2.919	3.0	18.0	3 12	10 54.63	+ 5 28.5	1.731	2.717	3.2	20.6
3 22	10 45.84	+ 6 34.2	1.969	2.921	7.1	18.2	3 22	10 46.34	+ 6 7.8	1.769	2.724	7.5	20.9
4 1	10 38.74	+ 7 13.5	2.032	2.922	10.7	18.4	4 1	10 39.70	+ 6 38.7	1.834	2.730	11.4	21.1
4 11	10 33.72	+ 7 41.0	2.118	2.922	13.8	18.6	4 11	10 35.30	+ 6 57.9	1.920	2.736	14.6	21.3
269830	2000 <i>AA</i> ₂₄₉		3 4.5 149°16'	5.6/26.8	18		406245	2007 <i>DP</i> ₁₃		3 4.5 59°42'	9.1/24.9	18	
2 1	11 24.40	+22 3.3	2.264	3.119	10.5	20.7	2 1	11 27.01	+25 50.0	1.497	2.365	14.2	19.7
2 11	11 18.96	+23 24.0	2.209	3.125	8.0	20.6	2 11	11 21.34	+27 55.5	1.479	2.395	11.2	19.5
2 21	11 11.77	+24 41.3	2.181	3.131	6.0	20.4	2 21	11 13.23	+29 48.5	1.485	2.425	9.3	19.5
3 2	11 3.51	+25 47.7	2.182	3.136	5.8	20.4	3 2	11 3.81	+31 17.0	1.517	2.455	9.5	19.6
3 12	10 55.07	+26 37.0	2.211	3.141	7.6	20.6	3 12	10 54.46	+32 12.9	1.575	2.485	11.5	19.8
3 22	10 47.33	+27 5.7	2.267	3.146	10.1	20.7	3 22	10 46.44	+32 34.4	1.655	2.515	14.1	20.0
4 1	10 41.05	+27 13.0	2.346	3.150	12.5	20.9	4 1	10 40.70	+32 24.2	1.755	2.545	16.6	20.2
4 11	10 36.77	+27 0.3	2.445	3.154	14.7	21.1	4 11	10 37.69	+31 47.6	1.871	2.575	18.7	20.5
92666	2000 <i>QO</i> ₅₁		3 4.5 130°12'	0.6/ 3.9	18		437016	2012 <i>TL</i> ₂₆₈		3 4.5 11°24'	3.3/ 7.7	17	
2 1	11 26.01	+ 4 41.3	1.587	2.432	14.8	19.7	2 1	11 22.06	- 4 58.0	2.078	2.881	13.4	21.3
2 11	11 20.63	+ 5 28.1	1.520	2.439	10.7	19.4	2 11	11 17.40	- 4 59.4	1.996	2.882	10.4	21.1
2 21	11 12.93	+ 6 28.9	1.477	2.445	6.1	19.2	2 21	11 10.97	- 4 44.1	1.938	2.883	7.1	20.9
3 2	11 3.76	+ 7 37.1	1.461	2.452	1.2	18.8	3 2	11 3.39	- 4 13.7	1.907	2.884	4.0	20.7
3 12	10 54.31	+ 8 44.1	1.474	2.458	4.1	19.1	3 12	10 55.53	- 3 32.2	1.903	2.885	3.7	20.6
3 22	10 45.77	+ 9 42.3	1.513	2.463	8.9	19.4	3 22	10 48.25	- 2 44.8	1.928	2.887	6.6	20.8
4 1	10 39.15	+10 25.8	1.577	2.469	13.1	19.6	4 1	10 42.36	- 1 57.4	1.980	2.889	10.0	21.0
4 11	10 35.09	+10 51.8	1.662	2.474	16.6	19.9	4 11	10 38.42	- 1 15.3	2.054	2.890	13.0	21.2
393815	2005 <i>SO</i> ₃		3 4.5 229°23'	0.8/ 5.2	17		321255	2009 <i>DL</i> ₁₂		3 4.5 212°01'	3.9/28.8	17	
2 1	11 26.44	+ 0 39.9	1.745	2.572	14.5	22.2	2 1	11 21.71	+16 14.4	2.330	3.187	10.2	20.3
2 11	11 21.02	+ 1 24.7	1.653	2.560	10.8	21.9	2 11	11 17.01	+17 25.1	2.262	3.185	7.4	20.1
2 21	11 13.26	+ 2 28.0	1.585	2.547	6.5	21.6	2 21	11 10.68	+18 37.6	2.220	3.184	4.8	20.0
3 2	11 3.86	+ 3 45.0	1.544	2.533	1.8	21.3	3 2	11 3.33	+19 45.3	2.208	3.182	4.0	19.9
3 12	10 53.91	+ 5 8.0	1.532	2.518	3.5	21.4	3 12	10 55.74	+20 41.9	2.224	3.180	5.9	20.0
3 22	10 44.58	+ 6 28.4	1.548	2.502	8.4	21.6	3 22	10 48.73	+21 22.9	2.269	3.178	8.7	20.2
4 1	10 36.94	+ 7 38.2	1.591	2.486	12.8	21.8	4 1	10 43.02	+21 46.0	2.338	3.176	11.5	20.4
4 11	10 31.78	+ 8 32.2	1.655	2.469	16.6	22.0	4 11	10 39.11	+21 51.1	2.429	3.173	13.9	20.5
171153	Allanrahill		3 4.5 262°66'	1.1/ 3.2	17		116504	2004 <i>BV</i> ₂₃		3 4.5 262°30'	3.0/ 1.7	17	
2 1	11 20.55	+ 6 5.0	2.144	2.988	11.5	20.0	2 1	11 23.87	+10 33.2	1.716	2.575	13.2	20.0
2 11	11 16.26	+ 7 7.3	2.067	2.987	8.3	19.8	2 11	11 19.14	+11 44.5	1.638	2.564	9.5	19.7
2 21	11 10.28	+ 8 20.2	2.016	2.985	4.6	19.6	2 21	11 12.16	+13 5.4	1.583	2.553	5.5	19.5
3 2	11 3.23	+ 9 37.9	1.993	2.983	1.2	19.3	3 2	11 3.66	+14 27.8	1.557	2.542	3.0	19.3
3 12	10 55.91	+10 53.6	2.000	2.981	3.7	19.5	3 12	10 54.72	+15 42.3	1.558	2.531	5.8	19.4
3 22	10 49.16	+12 0.8	2.036	2.980	7.5	19.8	3 22	10 46.47	+16 41.4	1.586	2.519	10.0	19.7
4 1	10 43.72	+12 54.7	2.098	2.978	10.9	20.0	4 1	10 39.94	+17 20.3	1.639	2.508	14.0	19.9
4 11	10 40.14	+13 32.5	2.182	2.976	13.8	20.2	4 11	10 35.84	+17 37.3	1.711	2.496	17.3	20.1
503088	2015 <i>FN</i> ₂₉₄		3 4.5 267°58'	4.6/27.6	17		343489	2010 <i>EA</i> ₉₀		3 4.5 257°00'	3.6/29.7	17	
2 1	11 21.62	+19 18.5	2.418	3.276	9.9	21.6	2 1	11 25.56	+16 42.1	2.332	3.182	10.5	21.1
2 11	11 16.96	+20 31.1	2.344	3.265	7.3	21.5	2 11	11 19.83	+17 21.3	2.250	3.170	7.6	20.9
2 21	11 10.67	+21 43.5	2.297	3.255	5.2	21.3	2 21	11 12.33	+18 1.0	2.194	3.157	4.9	20.7
3 2	11 3.31	+22 49.2	2.279	3.244	4.8	21.3	3 2	11 3.67	+18 35.6	2.167	3.144	3.7	20.6
3 12	10 55.68	+23 41.9	2.290	3.233	6.6	21.3	3 12	10 54.72	+19 0.0	2.170	3.131	5.6	20.7
3 22	10 48.57	+24 17.6	2.328	3.222	9.2	21.5	3 22	10 46.33	+19 10.6	2.201	3.117	8.6	20.9
4 1	10 42.71	+24 34.2	2.390	3.211	11.8	21.6	4 1	10 39.32	+19 5.5	2.257	3.104	11.5	21.0
4 11	10 38.65	+24 32.0	2.473	3.200	14.1	21.8	4 11	10 34.24	+18 45.1	2.336	3.090	14.1	21.2
117776	2005 <i>GY</i> ₁₀₂		3 4.5 18°93'	1.1/ 3.8	18		354823	2005 <i>WM</i> ₁₁₉		3 4.5 59°58'	6.7/ 9.5	18	
2 1	11 24.83	+ 6 50.1	1.272	2.136	16.5	20.3	2 1	11 27.28	- 9 55.9	1.245	2.052	20.4	20.1
2 11	11 20.19	+ 7 15.4	1.212	2.140	12.0	20.0	2 11	11 21.92	-10 20.6	1.193	2.073	16.3	19.9
2 21	11 12.84	+ 7 53.5	1.174	2.145	6.7	19.7	2 21	11 13.79	-10 14.8	1.159	2.094	11.9	19.7
3 2	11 3.76	+ 8 37.3	1.161	2.151	1.5	19.4	3 2	11 3.97	- 9 38.8	1.148	2.115	7.9	19.6
3 12	10 54.39	+ 9 18.3	1.173	2.157	4.8	19.6	3 12	10 53.95	- 8 38.8	1.161	2.137	6.8	19.6
3 22	10 46.14	+ 9 49.1	1.210	2.165	10.1	19.9	3 22	10 45.20	- 7 24.7	1.199	2.159	9.6	19.8
4 1	10 40.17	+10 4.6	1.269	2.173	14.8	20.2	4 1	10 38.87	- 6 7.8	1.261	2.180	13.5	20.1
4 11	10 37.15	+10 2.7	1.348	2.181	18.7	20.5	4 11	10 35.59	- 4 58.2	1.343	2.202	17.2	20.4
508387	2016 <i>FK</i> ₆₃		3 4.5 266°17'	4.3/28.6	17		437531	2013 <i>YX</i> ₁₁₁		3 4.5 347°81'	5.5/ 9.4	17	

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
238538	2004 <i>VU</i> ₁₂		3 4.5 210°74	5°0/28.9	18		30609	2618 <i>P-L</i>		3 4.5 288°56	0°6/ 5.0	18	
2 1	11 27.72	+16 42.9	1.760	2.619	12.9	20.7	2 1	11 23.01	+ 1 55.7	1.710	2.549	14.2	18.5
2 11	11 21.88	+17 59.6	1.690	2.613	9.5	20.5	2 11	11 18.61	+ 2 29.5	1.616	2.530	10.6	18.2
2 21	11 13.69	+19 18.9	1.645	2.608	6.2	20.2	2 21	11 11.94	+ 3 20.2	1.546	2.510	6.3	17.9
3 2	11 3.97	+20 31.3	1.628	2.602	5.1	20.2	3 2	11 3.67	+ 4 23.3	1.501	2.491	1.6	17.6
3 12	10 53.87	+21 28.2	1.639	2.595	7.5	20.3	3 12	10 54.83	+ 5 31.7	1.485	2.472	3.5	17.7
3 22	10 44.58	+22 3.7	1.677	2.588	11.1	20.5	3 22	10 46.56	+ 6 37.6	1.496	2.452	8.4	17.9
4 1	10 37.16	+22 15.5	1.738	2.580	14.6	20.7	4 1	10 39.93	+ 7 33.6	1.532	2.433	12.9	18.1
4 11	10 32.28	+22 4.6	1.818	2.571	17.6	20.9	4 11	10 35.70	+ 8 14.7	1.589	2.414	16.7	18.3
59092	1998 <i>VT</i> ₄₂		3 4.5 266°04	4°1/ 1.4	18		243148	2007 <i>TN</i> ₁₉		3 4.5 114°99	4°0/ 8.9	18	
2 1	11 28.97	+13 27.9	1.556	2.415	14.3	19.2	2 1	11 23.42	- 8 20.0	2.390	3.166	12.7	20.3
2 11	11 23.24	+14 25.1	1.468	2.394	10.5	18.9	2 11	11 18.16	- 8 27.1	2.312	3.177	10.1	20.2
2 21	11 14.73	+15 29.3	1.404	2.372	6.4	18.6	2 21	11 11.32	- 8 17.5	2.258	3.187	7.2	20.0
3 2	11 4.23	+16 31.8	1.366	2.349	4.1	18.4	3 2	11 3.50	- 7 52.3	2.231	3.198	4.7	19.9
3 12	10 53.00	+17 22.9	1.356	2.326	7.0	18.5	3 12	10 55.47	- 7 14.6	2.233	3.207	4.1	19.8
3 22	10 42.49	+17 55.2	1.373	2.302	11.6	18.7	3 22	10 48.01	- 6 29.0	2.264	3.217	6.2	20.0
4 1	10 34.00	+18 4.6	1.412	2.278	16.0	18.9	4 1	10 41.81	- 5 40.7	2.322	3.227	8.9	20.2
4 11	10 28.44	+17 51.1	1.470	2.254	19.8	19.1	4 11	10 37.36	- 4 54.7	2.405	3.236	11.5	20.4
157268	2004 <i>RL</i> ₂₀₀		3 4.5 145°81	2°9/ 1.8	18		94999	2001 <i>YS</i> ₁₃₈		3 4.5 245°64	0°6/ 5.0	17	
2 1	11 28.17	+14 25.1	2.280	3.125	10.9	20.3	2 1	11 24.02	+ 2 34.0	1.952	2.785	13.0	20.5
2 11	11 21.57	+14 54.7	2.214	3.133	7.9	20.2	2 11	11 18.97	+ 2 58.0	1.869	2.779	9.6	20.3
2 21	11 13.23	+15 25.6	2.175	3.141	4.7	20.0	2 21	11 11.96	+ 3 35.0	1.809	2.773	5.7	20.1
3 2	11 3.85	+15 52.6	2.165	3.148	2.9	19.9	3 2	11 3.65	+ 4 20.9	1.777	2.766	1.5	19.8
3 12	10 54.33	+16 11.1	2.186	3.155	4.8	20.0	3 12	10 54.99	+ 5 10.0	1.774	2.760	3.1	19.9
3 22	10 45.54	+16 17.8	2.236	3.161	7.9	20.2	3 22	10 46.94	+ 5 56.5	1.799	2.754	7.4	20.1
4 1	10 38.25	+16 11.3	2.312	3.167	10.9	20.4	4 1	10 40.39	+ 6 35.1	1.850	2.747	11.2	20.3
4 11	10 32.97	+15 51.7	2.410	3.173	13.5	20.6	4 11	10 35.97	+ 7 2.0	1.924	2.740	14.5	20.5
161639	2006 <i>AS</i> ₇₈		3 4.5 232°14	0°9/ 3.6	17		206283	2003 <i>AV</i> ₆₄		3 4.5 93°46	2°1/ 2.1	18	
2 1	11 23.82	+ 6 44.3	2.109	2.950	11.8	20.9	2 1	11 26.03	+12 18.7	2.562	3.403	10.0	20.6
2 11	11 18.69	+ 7 23.0	2.025	2.943	8.5	20.7	2 11	11 19.75	+12 55.4	2.514	3.432	7.1	20.5
2 21	11 11.73	+ 8 10.9	1.967	2.935	4.8	20.4	2 21	11 12.07	+13 34.2	2.494	3.461	4.1	20.4
3 2	11 3.57	+ 9 3.2	1.938	2.928	1.1	20.1	3 2	11 3.63	+14 10.7	2.504	3.489	2.1	20.3
3 12	10 55.08	+ 9 53.9	1.938	2.920	3.6	20.3	3 12	10 55.18	+14 40.5	2.545	3.517	3.9	20.4
3 22	10 47.17	+10 37.6	1.966	2.912	7.5	20.5	3 22	10 47.45	+15 0.6	2.615	3.544	6.8	20.6
4 1	10 40.66	+11 9.8	2.021	2.904	11.1	20.7	4 1	10 41.04	+15 9.4	2.712	3.570	9.4	20.9
4 11	10 36.14	+11 28.3	2.098	2.895	14.2	20.9	4 11	10 36.33	+15 6.3	2.833	3.596	11.7	21.1
241465	2008 <i>YQ</i> ₁₆₉		3 4.5 313°51	1°5/ 2.9	17		498882	2008 <i>YR</i> ₁₁₄		3 4.5 62°60	1°5/ 3.0	18	
2 1	11 21.83	+ 8 33.1	2.067	2.917	11.7	21.2	2 1	11 23.23	+ 8 18.5	1.963	2.812	12.2	21.4
2 11	11 17.28	+ 9 13.7	1.987	2.909	8.4	21.0	2 11	11 18.18	+ 9 2.9	1.908	2.829	8.7	21.3
2 21	11 10.93	+10 2.3	1.932	2.902	4.7	20.7	2 21	11 11.36	+ 9 54.7	1.877	2.847	4.9	21.1
3 2	11 3.40	+10 53.5	1.906	2.895	1.6	20.5	3 2	11 3.50	+10 48.0	1.875	2.864	1.6	20.9
3 12	10 55.58	+11 41.2	1.908	2.888	4.0	20.7	3 12	10 55.54	+11 36.6	1.902	2.882	4.0	21.1
3 22	10 48.34	+12 20.3	1.938	2.881	7.8	20.9	3 22	10 48.36	+12 15.3	1.957	2.899	7.8	21.3
4 1	10 42.50	+12 46.6	1.994	2.874	11.3	21.1	4 1	10 42.72	+12 40.8	2.037	2.917	11.1	21.6
4 11	10 38.63	+12 58.3	2.071	2.868	14.3	21.3	4 11	10 39.11	+12 51.6	2.139	2.935	14.0	21.8
427483	2001 <i>XA</i> ₁₄₅		3 4.5 115°56	4°9/10.2	18		208391	2001 <i>SG</i> ₁₆₅		3 4.5 127°09	0°3/ 4.2	18	
2 1	11 25.44	-12 17.0	2.332	3.084	13.6	22.3	2 1	11 22.73	+ 5 14.4	2.464	3.296	10.6	21.0
2 11	11 19.58	-12 15.1	2.262	3.107	11.0	22.1	2 11	11 17.58	+ 5 45.8	2.393	3.305	7.7	20.8
2 21	11 12.09	-11 53.1	2.215	3.129	8.2	22.0	2 21	11 10.95	+ 6 25.4	2.348	3.314	4.3	20.6
3 2	11 3.63	-11 12.1	2.195	3.150	5.8	21.9	3 2	11 3.43	+ 7 9.2	2.333	3.323	0.8	20.4
3 12	10 55.04	-10 15.6	2.204	3.171	5.0	21.8	3 12	10 55.74	+ 7 52.6	2.347	3.331	2.8	20.6
3 22	10 47.11	- 9 9.2	2.242	3.191	6.5	22.0	3 22	10 48.62	+ 8 31.2	2.392	3.340	6.2	20.8
4 1	10 40.56	- 7 59.2	2.308	3.210	9.1	22.2	4 1	10 42.71	+ 9 1.6	2.463	3.348	9.3	21.0
4 11	10 35.87	- 6 51.9	2.399	3.229	11.6	22.4	4 11	10 38.48	+ 9 21.4	2.558	3.355	11.9	21.2
376748	1999 <i>UC</i> ₁₂		3 4.5 127°54	9°6/29.6	17		286025	2001 <i>SE</i> ₁₅₇		3 4.5 174°16	1°0/ 5.3	18	
2 1	11 46.26	+26 36.6	1.175	2.028	18.4	20.4	2 1	11 28.90	+ 1 42.6	1.795	2.620	14.3	21.1
2 11	11 36.11	+27 5.4	1.123	2.034	14.4	20.2	2 11	11 22.60	+ 1 59.8	1.717	2.623	10.6	20.8
2 21	11 22.04	+27 18.9	1.093	2.040	10.9	20.0	2 21	11 14.07	+ 2 31.0	1.664	2.625	6.3	20.6
3 2	11 5.66	+27 4.3	1.087	2.046	9.6	20.0	3 2	11 4.10	+ 3 12.4	1.638	2.627	1.9	20.3
3 12	10 49.31	+26 14.8	1.107	2.052	11.7	20.1	3 12	10 53.78	+ 3 58.1	1.642	2.628	3.3	20.4
3 22	10 35.15	+24 52.0	1.152	2.057	15.6	20.3	3 22	10 44.25	+ 4 41.8	1.674	2.629	7.8	20.7
4 1	10 24.69	+23 3.5	1.219	2.062	19.5	20.6	4 1	10 36.50	+ 5 18.1	1.732	2.628	11.9	20.9
4 11	10 18.49	+20 58.6	1.303	2.067	22.8	20.8	4 11	10 31.19	+ 5 42.8	1.813	2.627	15.4	21.1
246278	2007 <i>TT</i> ₅₄		3 4.5 95°12	3°5/ 8.8	18		156455	2002 <i>BD</i> ₁₄		3 4.5 7°55	1°5/ 5.7	18	
2 1	11 20.61	- 8 22.3	2.303	3.087	12.9	20.9	2 1	11 22.53	+ 0 43.3	1.505	2.347	15.6	20.0
2 11	11 16.17	- 7 57.3	2.226	3.097	10.1	20.7	2 11	11 18.27	+ 0 55.5	1.434	2.348	11.7	19.7
2 21	11 10.19	- 7 13.6	2.173	3.108	7.1	20.6	2 21	11 11.70	+ 1 25.0	1.386	2.349	7.1	19.5
3 2	11 3.26	- 6 13.5	2.146	3.118	4.3	20.4	3 2	11 3.62	+ 2 7.7	1.363	2.351	2.5	19.2
3 12	10 56.14	- 5 1.5	2.149	3.128	3.7	20.4	3 12	10 55.20	+ 2 57.0	1.367	2.354	3.6	19.3
3 22	10 49.58	- 3 43.8	2.180	3.138	6.0	20.5	3 22	10 47.62	+ 3 45.4	1.396	2.357	8.3	19.6
4 1	10 44.27	- 2 26.9	2.240	3.148	9.0	20.7	4 1	10 41.93	+ 4 26.2	1.450	2.362	12.7	19.8
4 11	10 40.69	- 1 16.4	2.323	3.158	11.8	20.9	4 11	10 38.77	+ 4 54.4	1.525	2.366	16.5	20.1
434925	2006 <i>TG</i> ₁₀₂		3 4.5 50°24	14°6/18.9	16		41782	2000 <i>VM</i> ₅₅		3 4.5 19°53	5°0/29.		

EPHEMERIDES

3 4.5

3 4.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
282840	2006 <i>US</i> ₁₃₉		3 4.5 76°49	0°5/ 4.9 18			57495	2001 <i>SS</i> ₂₁₁		3 4.5 24°53	7°6/28.7 18		
2 1	11 24.40	+ 1 52.4	1.644	2.482	14.7	20.7	2 1	11 30.63	+23 9.6	1.375	2.243	15.3	18.1
2 11	11 19.34	+ 2 32.6	1.583	2.497	10.8	20.5	2 11	11 24.28	+23 51.7	1.327	2.250	11.6	17.9
2 21	11 12.16	+ 3 28.3	1.547	2.512	6.3	20.2	2 21	11 15.13	+24 25.8	1.302	2.257	8.5	17.7
3 2	11 3.69	+ 4 33.8	1.537	2.527	1.5	19.9	3 2	11 4.33	+24 42.1	1.302	2.266	7.7	17.7
3 12	10 55.05	+ 5 41.5	1.555	2.542	3.4	20.1	3 12	10 53.47	+24 33.8	1.327	2.275	9.8	17.8
3 22	10 47.31	+ 6 43.7	1.601	2.556	8.0	20.4	3 22	10 44.02	+23 59.0	1.376	2.285	13.2	18.1
4 1	10 41.37	+ 7 34.2	1.671	2.571	12.0	20.7	4 1	10 37.08	+23 0.3	1.447	2.296	16.6	18.3
4 11	10 37.81	+ 8 9.5	1.764	2.586	15.4	20.9	4 11	10 33.24	+21 42.2	1.536	2.307	19.6	18.5
264745	2002 <i>CD</i> ₂₀₇		3 4.5 251°20	2°0/ 2.5 18			302496	2002 <i>GK</i> ₉₉		3 4.5 332°52	0°6/ 4.1 18		
2 1	11 23.02	+ 8 51.3	1.910	2.762	12.4	20.5	2 1	11 24.25	+ 5 31.1	1.276	2.138	16.6	20.6
2 11	11 18.27	+ 9 47.7	1.835	2.758	8.9	20.2	2 11	11 20.02	+ 5 55.1	1.202	2.128	12.2	20.3
2 21	11 11.57	+10 53.0	1.785	2.755	5.0	20.0	2 21	11 12.96	+ 6 34.4	1.149	2.120	7.0	20.0
3 2	11 3.59	+12 0.8	1.763	2.751	2.0	19.8	3 2	11 3.96	+ 7 22.7	1.121	2.111	1.4	19.6
3 12	10 55.31	+13 3.5	1.770	2.747	4.6	19.9	3 12	10 54.41	+ 8 11.3	1.118	2.104	4.7	19.8
3 22	10 47.69	+13 55.0	1.804	2.744	8.6	20.2	3 22	10 45.78	+ 8 51.8	1.140	2.097	10.3	20.0
4 1	10 41.60	+14 30.7	1.864	2.740	12.2	20.4	4 1	10 39.38	+ 9 17.5	1.184	2.091	15.3	20.3
4 11	10 37.66	+14 48.9	1.944	2.736	15.3	20.6	4 11	10 36.04	+ 9 25.0	1.246	2.085	19.6	20.6
461735	2005 <i>TG</i> ₁₉₁		3 4.5 165°29	6°2/27.1 18			410748	2009 <i>DP</i> ₂₂		3 4.5 238°97	1°3/ 3.6 16		
2 1	11 29.24	+24 21.8	2.180	3.029	11.2	21.5	2 1	11 28.58	+ 7 58.5	1.664	2.511	14.2	21.7
2 11	11 22.54	+25 24.1	2.124	3.033	8.6	21.3	2 11	11 22.64	+ 8 23.7	1.583	2.502	10.3	21.4
2 21	11 13.89	+26 20.4	2.093	3.038	6.7	21.2	2 21	11 14.25	+ 8 58.4	1.525	2.494	5.9	21.2
3 2	11 4.06	+27 3.4	2.091	3.041	6.4	21.2	3 2	11 4.21	+ 9 36.8	1.495	2.485	1.5	20.9
3 12	10 54.07	+27 27.3	2.117	3.044	8.1	21.3	3 12	10 53.70	+10 12.1	1.493	2.476	4.5	21.0
3 22	10 44.93	+27 29.5	2.170	3.047	10.6	21.5	3 22	10 43.97	+10 38.3	1.519	2.466	9.2	21.3
4 1	10 37.47	+27 10.4	2.247	3.049	13.1	21.6	4 1	10 36.13	+10 51.2	1.570	2.456	13.5	21.5
4 11	10 32.23	+26 32.3	2.344	3.050	15.3	21.8	4 11	10 30.92	+10 48.8	1.641	2.446	17.1	21.7
280789	2005 <i>ST</i> ₂₀₄		3 4.5 223°78	2°1/ 2.7 18			502707	2015 <i>DA</i> ₂₁		3 4.5 232°68	2°5/ 2.0 17		
2 1	11 28.26	+ 8 32.4	1.708	2.555	13.8	21.2	2 1	11 24.19	+12 4.7	2.153	3.003	11.2	21.6
2 11	11 22.40	+ 9 28.5	1.624	2.545	10.0	20.9	2 11	11 18.93	+12 45.8	2.078	3.000	8.1	21.4
2 21	11 14.11	+10 35.5	1.565	2.534	5.7	20.6	2 21	11 11.88	+13 31.4	2.029	2.997	4.7	21.2
3 2	11 4.15	+11 46.3	1.534	2.522	2.1	20.4	3 2	11 3.69	+14 15.7	2.008	2.994	2.5	21.1
3 12	10 53.68	+12 52.3	1.531	2.509	5.1	20.5	3 12	10 55.25	+14 53.2	2.017	2.990	4.7	21.2
3 22	10 43.91	+13 45.7	1.556	2.496	9.7	20.8	3 22	10 47.43	+15 19.3	2.054	2.987	8.1	21.4
4 1	10 35.98	+14 21.6	1.606	2.482	13.9	21.0	4 1	10 41.04	+15 31.2	2.117	2.983	11.4	21.6
4 11	10 30.64	+14 37.9	1.677	2.467	17.4	21.2	4 11	10 36.62	+15 28.3	2.201	2.979	14.2	21.8
156621	2002 <i>GV</i> ₁₄₆		3 4.5 58°11	2°6/ 2.1 18			406578	2008 <i>AD</i> ₄₈		3 4.5 109°48	1°1/ 3.5 18		
2 1	11 23.27	+10 23.7	1.813	2.670	12.7	20.2	2 1	11 26.80	+ 6 26.7	1.779	2.622	13.6	21.7
2 11	11 18.47	+11 22.2	1.749	2.674	9.1	20.0	2 11	11 20.94	+ 7 16.5	1.721	2.640	9.7	21.5
2 21	11 11.67	+12 28.0	1.709	2.679	5.2	19.7	2 21	11 13.04	+ 8 16.6	1.688	2.657	5.4	21.3
3 2	11 3.62	+13 33.8	1.697	2.683	2.6	19.6	3 2	11 3.93	+ 9 20.3	1.683	2.673	1.3	21.1
3 12	10 55.33	+14 32.2	1.713	2.688	5.1	19.7	3 12	10 54.67	+10 20.3	1.708	2.689	4.1	21.3
3 22	10 47.83	+15 17.0	1.757	2.693	9.0	20.0	3 22	10 46.32	+11 10.2	1.760	2.705	8.3	21.6
4 1	10 41.96	+15 44.5	1.825	2.698	12.6	20.2	4 1	10 39.75	+11 45.8	1.837	2.720	12.0	21.8
4 11	10 38.31	+15 53.8	1.914	2.703	15.6	20.4	4 11	10 35.48	+12 5.0	1.937	2.735	15.1	22.1
410760	2009 <i>DP</i> ₈₀		3 4.5 268°27	0°5/ 4.9 16			241609	1999 <i>RZ</i> ₂₃₇		3 4.5 249°05	6°0/24.9 17		
2 1	11 27.74	+ 3 39.8	1.632	2.471	14.8	21.2	2 1	11 28.18	+30 21.9	3.179	4.009	8.5	21.5
2 11	11 22.19	+ 3 51.3	1.540	2.453	11.0	20.9	2 11	11 21.48	+31 13.2	3.099	3.987	7.0	21.4
2 21	11 14.08	+ 4 16.3	1.470	2.435	6.5	20.6	2 21	11 13.23	+31 57.2	3.046	3.964	6.1	21.3
3 2	11 4.16	+ 4 50.9	1.427	2.417	1.6	20.2	3 2	11 3.97	+32 28.4	3.022	3.941	6.2	21.3
3 12	10 53.60	+ 5 29.2	1.412	2.399	3.8	20.3	3 12	10 54.46	+32 42.9	3.028	3.917	7.4	21.3
3 22	10 43.67	+ 6 4.5	1.425	2.380	8.8	20.6	3 22	10 45.43	+32 38.6	3.060	3.892	9.1	21.4
4 1	10 35.58	+ 6 30.9	1.462	2.361	13.5	20.8	4 1	10 37.57	+32 15.8	3.118	3.867	10.9	21.5
4 11	10 30.18	+ 6 44.5	1.520	2.342	17.5	21.0	4 11	10 31.41	+31 36.1	3.195	3.841	12.6	21.6
283917	2004 <i>FF</i> ₁₄₃		3 4.5 83°25	0°3/ 4.9 17			332876	2011 <i>AQ</i> ₆		3 4.5 32°77	0°6/ 5.1 18		
2 1	11 22.64	+ 3 17.8	2.205	3.036	11.7	20.7	2 1	11 23.80	+ 2 38.2	1.455	2.304	15.7	20.7
2 11	11 17.71	+ 3 40.6	2.130	3.040	8.6	20.5	2 11	11 19.17	+ 2 59.0	1.395	2.313	11.6	20.5
2 21	11 11.13	+ 4 13.9	2.080	3.044	5.0	20.3	2 21	11 12.20	+ 3 35.5	1.358	2.324	6.8	20.2
3 2	11 3.51	+ 4 54.0	2.058	3.048	1.2	20.1	3 2	11 3.77	+ 4 22.5	1.345	2.335	1.7	19.9
3 12	10 55.67	+ 5 35.9	2.066	3.052	2.8	20.2	3 12	10 55.11	+ 5 12.4	1.359	2.346	3.7	20.1
3 22	10 48.43	+ 6 14.8	2.102	3.056	6.5	20.4	3 22	10 47.43	+ 5 57.8	1.400	2.359	8.6	20.4
4 1	10 42.52	+ 6 46.5	2.165	3.060	9.9	20.7	4 1	10 41.73	+ 6 32.8	1.464	2.371	12.9	20.7
4 11	10 38.45	+ 7 8.0	2.252	3.063	12.8	20.8	4 11	10 38.62	+ 6 53.4	1.549	2.385	16.6	20.9
275136	2009 <i>VY</i> ₇₁		3 4.5 196°55	2°3/ 6.7 17			427326	2014 <i>WZ</i> ₃₁₀		3 4.5 49°30	0°3/ 4.8 18		
2 1	11 23.87	- 2 22.0	2.038	2.850	13.3	21.5	2 1	11 25.11	+ 3 46.6	1.639	2.482	14.5	21.1
2 11	11 18.79	- 2 9.3	1.955	2.849	10.1	21.3	2 11	11 19.95	+ 4 6.3	1.573	2.489	10.6	20.8
2 21	11 11.84	- 1 40.8	1.895	2.848	6.5	21.1	2 21	11 12.59	+ 4 39.0	1.530	2.496	6.2	20.6
3 2	11 3.67	- 0 59.1	1.863	2.846	3.0	20.8	3 2	11 3.86	+ 5 19.9	1.514	2.504	1.4	20.3
3 12	10 55.18	- 0 9.0	1.859	2.845	3.2	20.8	3 12	10 54.87	+ 6 2.5	1.525	2.511	3.5	20.5
3 22	10 47.29	+ 0 43.7	1.885	2.843	6.8	21.1	3 22	10 46.75	+ 6 40.4	1.564	2.519	8.1	20.7
4 1	10 40.84	+ 1 33.1	1.937	2.841	10.4	21.3	4 1	10 40.46	+ 7 8.5	1.627	2.527	12.3	21.0
4 11	10 36.43	+ 2 14.4	2.012	2.838	13.6	21.5	4 11	10 36.60	+ 7 23.6	1.712	2.536	15.7	21.2
386215	2007 <i>WO</i> ₆		3 4.5 84°88	8°7/14.8 17			9337	1991 <i>FO</i> ₁		3 4.5 90°13			

EPHEMERIDES

3 4.5

3 4.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
73991	1998 <i>FP</i>		3 4.5 214°73	1.2°/ 3.4 17			223259	2003 <i>FP</i> ₉₅		3 4.5 278°75	3°9/ 8.3 17		
2 1	11 26.37	+ 7 0.5	1.994	2.834	12.5	20.9	2 1	11 22.11	- 7 6.9	1.857	2.657	14.9	20.2
2 11	11 20.70	+ 7 46.7	1.910	2.826	9.0	20.7	2 11	11 17.79	- 6 53.5	1.765	2.647	11.8	20.0
2 21	11 13.01	+ 8 43.1	1.850	2.818	5.1	20.4	2 21	11 11.43	- 6 18.2	1.694	2.636	8.2	19.7
3 2	11 3.96	+ 9 43.9	1.820	2.809	1.4	20.1	3 2	11 3.67	- 5 22.5	1.649	2.625	4.8	19.5
3 12	10 54.52	+10 42.4	1.819	2.800	4.0	20.3	3 12	10 55.45	- 4 11.3	1.632	2.614	4.3	19.4
3 22	10 45.69	+11 32.4	1.846	2.790	8.1	20.5	3 22	10 47.79	- 2 51.9	1.643	2.603	7.4	19.6
4 1	10 38.40	+12 9.3	1.900	2.779	11.9	20.7	4 1	10 41.64	- 1 32.3	1.679	2.592	11.2	19.8
4 11	10 33.29	+12 30.6	1.976	2.767	15.1	20.9	4 11	10 37.68	- 0 20.3	1.739	2.581	14.7	20.0
42636	1998 <i>FO</i> ₆₁		3 4.5 290°11	1.7°/ 5.9 18			8316	Wolkenstein		3 4.5 180°23	3°2/ 8.1 18	R	
2 1	11 23.94	- 0 13.8	1.527	2.363	15.8	19.0	2 1	11 23.31	- 6 10.0	2.582	3.365	11.6	17.2
2 11	11 19.51	+ 0 7.7	1.439	2.349	11.9	18.8	2 11	11 18.07	- 6 12.6	2.493	3.366	9.1	17.0
2 21	11 12.58	+ 0 48.9	1.373	2.335	7.4	18.5	2 21	11 11.33	- 6 0.9	2.430	3.366	6.3	16.9
3 2	11 3.91	+ 1 46.0	1.333	2.320	2.6	18.1	3 2	11 3.62	- 5 36.0	2.394	3.366	3.8	16.7
3 12	10 54.63	+ 2 52.1	1.319	2.306	3.7	18.2	3 12	10 55.66	- 5 1.1	2.387	3.366	3.5	16.7
3 22	10 46.04	+ 3 58.6	1.332	2.292	8.7	18.4	3 22	10 48.16	- 4 20.0	2.411	3.366	5.7	16.8
4 1	10 39.29	+ 4 57.3	1.369	2.279	13.5	18.7	4 1	10 41.81	- 3 37.4	2.462	3.365	8.5	17.0
4 11	10 35.22	+ 5 41.8	1.427	2.265	17.6	18.9	4 11	10 37.08	- 2 57.9	2.538	3.364	11.2	17.1
405555	2005 <i>LQ</i> ₁₄		3 4.5 227°53	0°5/ 4.0 16			428989	2009 <i>AO</i> ₂₅		3 4.5 315°70	2°9/ 1.3 17		
2 1	11 23.73	+ 4 1.5	1.870	2.709	13.2	21.9	2 1	11 20.93	+11 30.9	2.037	2.894	11.5	20.6
2 11	11 18.89	+ 4 57.9	1.786	2.702	9.6	21.6	2 11	11 16.71	+12 41.4	1.963	2.889	8.2	20.3
2 21	11 12.01	+ 6 8.6	1.728	2.695	5.5	21.4	2 21	11 10.69	+13 58.7	1.915	2.884	4.8	20.1
3 2	11 3.76	+ 7 27.8	1.697	2.687	1.1	21.1	3 2	11 3.50	+15 15.6	1.895	2.878	2.9	20.0
3 12	10 55.12	+ 8 47.5	1.695	2.679	3.7	21.2	3 12	10 56.02	+16 24.9	1.903	2.873	5.3	20.1
3 22	10 47.10	+10 0.2	1.721	2.670	8.1	21.5	3 22	10 49.13	+17 20.3	1.940	2.869	8.8	20.3
4 1	10 40.63	+10 59.6	1.774	2.662	12.1	21.7	4 1	10 43.65	+17 58.0	2.001	2.864	12.1	20.5
4 11	10 36.37	+11 41.9	1.848	2.652	15.5	21.9	4 11	10 40.14	+18 16.7	2.083	2.859	14.9	20.7
19603	Monier		3 4.5 132°40	2°6/ 7.3 18			505013	2011 <i>PU</i> ₅		3 4.5 219°13	2°9/ 7.7 17		
2 1	11 22.80	- 4 25.1	2.066	2.871	13.4	19.0	2 1	11 22.84	- 5 2.3	2.594	3.383	11.4	21.8
2 11	11 17.96	- 4 0.0	1.989	2.877	10.3	18.8	2 11	11 17.76	- 5 1.7	2.500	3.377	8.9	21.6
2 21	11 11.34	- 3 17.2	1.935	2.884	6.8	18.6	2 21	11 11.18	- 4 47.3	2.430	3.371	6.1	21.4
3 2	11 3.61	- 2 19.5	1.908	2.890	3.4	18.4	3 2	11 3.60	- 4 20.5	2.389	3.364	3.5	21.3
3 12	10 55.63	- 1 12.5	1.911	2.895	3.3	18.4	3 12	10 55.73	- 3 44.4	2.377	3.358	3.2	21.2
3 22	10 48.27	- 0 2.4	1.942	2.901	6.5	18.7	3 22	10 48.28	- 3 3.0	2.395	3.350	5.7	21.4
4 1	10 42.33	+ 1 4.0	2.000	2.906	10.0	18.9	4 1	10 41.95	- 2 20.9	2.440	3.343	8.6	21.5
4 11	10 38.35	+ 2 1.4	2.082	2.911	13.1	19.1	4 11	10 37.23	- 1 42.4	2.511	3.335	11.3	21.7
489593	2007 <i>TJ</i> ₁₄₈		3 4.5 235°67	4°2/ 29.9 17			204237	2004 <i>DR</i> ₃₃		3 4.5 357°95	1°6/ 3.0 18		
2 1	11 29.87	+15 38.1	1.883	2.734	12.6	22.2	2 1	11 22.21	+ 8 38.7	1.912	2.764	12.3	20.0
2 11	11 23.45	+16 32.0	1.799	2.720	9.2	22.0	2 11	11 17.67	+ 9 16.5	1.839	2.763	8.9	19.7
2 21	11 14.69	+17 28.8	1.740	2.705	5.8	21.7	2 21	11 11.25	+10 2.2	1.792	2.762	5.0	19.5
3 2	11 4.33	+18 20.8	1.710	2.689	4.2	21.6	3 2	11 3.62	+10 50.3	1.772	2.761	1.7	19.3
3 12	10 53.48	+19 0.4	1.709	2.672	6.6	21.7	3 12	10 55.72	+11 34.5	1.780	2.761	4.2	19.4
3 22	10 43.33	+19 22.4	1.735	2.654	10.3	21.9	3 22	10 48.50	+12 9.3	1.816	2.761	8.1	19.7
4 1	10 34.94	+19 24.3	1.787	2.636	13.9	22.1	4 1	10 42.80	+12 30.9	1.877	2.761	11.7	19.9
4 11	10 29.05	+19 6.6	1.858	2.617	17.1	22.2	4 11	10 39.20	+12 37.5	1.960	2.762	14.8	20.1
312078	2007 <i>TB</i> ₄₅		3 4.5 226°68	2°4/ 2.4 17			148734	2001 <i>TL</i> ₁₀₂		3 4.5 104°95	1°5/ 5.6 18		
2 1	11 27.47	+10 7.5	1.827	2.675	13.0	21.4	2 1	11 29.24	+ 2 18.2	1.806	2.633	14.1	18.9
2 11	11 21.69	+10 58.2	1.744	2.666	9.4	21.2	2 11	11 22.84	+ 2 3.2	1.731	2.636	10.5	18.7
2 21	11 13.66	+11 57.2	1.687	2.655	5.4	20.9	2 21	11 14.24	+ 1 59.7	1.680	2.640	6.4	18.4
3 2	11 4.11	+12 57.5	1.657	2.645	2.4	20.7	3 2	11 4.24	+ 2 5.1	1.656	2.644	2.2	18.2
3 12	10 54.12	+13 51.7	1.657	2.633	5.1	20.8	3 12	10 53.93	+ 2 15.6	1.661	2.648	3.3	18.2
3 22	10 44.82	+14 33.2	1.684	2.621	9.3	21.0	3 22	10 44.42	+ 2 26.7	1.695	2.651	7.6	18.5
4 1	10 37.22	+14 58.0	1.737	2.608	13.2	21.2	4 1	10 36.70	+ 2 34.3	1.755	2.655	11.5	18.7
4 11	10 32.04	+15 4.6	1.810	2.595	16.5	21.4	4 11	10 31.39	+ 2 34.9	1.837	2.658	14.9	19.0
384917	2012 <i>TZ</i> ₆₅		3 4.5 227°02	1°4/ 5.9 17			11992	1995 <i>XH</i>		3 4.5 151°61	1°9/ 2.6 18		
2 1	11 24.43	+ 0 45.0	2.360	3.176	11.6	20.7	2 1	11 24.55	+10 0.7	2.192	3.037	11.3	18.4
2 11	11 19.00	+ 0 47.6	2.272	3.171	8.7	20.5	2 11	11 19.13	+10 44.9	2.122	3.042	8.1	18.2
2 21	11 11.91	+ 1 1.1	2.209	3.166	5.4	20.3	2 21	11 11.98	+11 35.0	2.079	3.047	4.6	18.0
3 2	11 3.74	+ 1 23.1	2.174	3.161	2.0	20.0	3 2	11 3.76	+12 25.4	2.064	3.051	1.9	17.8
3 12	10 55.27	+ 1 50.1	2.169	3.155	2.7	20.1	3 12	10 55.34	+13 10.6	2.079	3.056	4.2	18.0
3 22	10 47.31	+ 2 17.9	2.194	3.149	6.2	20.3	3 22	10 47.57	+13 45.6	2.123	3.059	7.6	18.2
4 1	10 40.60	+ 2 42.6	2.246	3.143	9.5	20.5	4 1	10 41.21	+14 7.6	2.193	3.063	10.9	18.4
4 11	10 35.69	+ 3 0.6	2.322	3.137	12.4	20.7	4 11	10 36.77	+14 15.3	2.285	3.066	13.6	18.6
30261	2000 <i>HB</i> ₃₆		3 4.5 12°26	0°5/ 5.1 18			300192	2006 <i>WW</i> ₈₇		3 4.5 203°84	3°7/ 28.2 17		
2 1	11 19.55	- 0 55.7	1.472	2.315	15.9	17.9	2 1	11 22.36	+18 56.1	2.994	3.843	8.4	21.7
2 11	11 16.19	+ 0 26.4	1.401	2.316	11.8	17.7	2 11	11 17.25	+19 55.6	2.921	3.838	6.2	21.5
2 21	11 10.58	+ 2 12.9	1.353	2.318	6.9	17.4	2 21	11 10.81	+20 54.6	2.876	3.833	4.3	21.4
3 2	11 3.48	+ 4 16.0	1.331	2.320	1.7	17.1	3 2	11 3.52	+21 47.9	2.860	3.827	3.8	21.4
3 12	10 56.04	+ 6 23.9	1.336	2.323	3.7	17.2	3 12	10 56.04	+22 31.2	2.875	3.821	5.3	21.4
3 22	10 49.40	+ 8 24.4	1.369	2.326	8.8	17.5	3 22	10 48.99	+23 1.1	2.919	3.814	7.5	21.6
4 1	10 44.59	+10 7.2	1.426	2.330	13.4	17.8	4 1	10 42.98	+23 16.2	2.989	3.807	9.8	21.7
4 11	10 42.24	+11 26.1	1.504	2.334	17.2	18.0	4 11	10 38.43	+23 16.4	3.080	3.799	11.7	21.9
209890	2005 <i>LL</i> ₇		3 4.5 261°38	2°0/ 2.2 17			88364	2001 <i>PK</i>		3 4.6 164°96	2°2/ 6.6 18		
2 1	11 21.99	+10 15.4	2										

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3 4.6

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
204413	2004 <i>VH</i> ₄₂		3 4.6 234°89	1°5/ 3.3 18			51870	2001 <i>PC</i> ₆		3 4.6 78°12	1°0/ 3.6 18		
2 1	11 27.53	+ 7 26.8	1.833	2.676	13.2	21.3	2 1	11 25.64	+ 8 28.8	2.163	3.004	11.6	18.7
2 11	11 21.80	+ 8 13.4	1.744	2.662	9.6	21.1	2 11	11 19.87	+ 8 45.9	2.099	3.016	8.3	18.5
2 21	11 13.78	+ 9 11.0	1.679	2.648	5.5	20.8	2 21	11 12.39	+ 9 9.0	2.060	3.027	4.7	18.3
3 2	11 4.19	+10 13.5	1.643	2.632	1.6	20.5	3 2	11 3.89	+ 9 33.7	2.050	3.039	1.2	18.0
3 12	10 54.08	+11 13.3	1.636	2.617	4.4	20.6	3 12	10 55.25	+ 9 55.5	2.069	3.051	3.5	18.2
3 22	10 44.58	+12 3.6	1.657	2.600	8.9	20.9	3 22	10 47.33	+10 10.6	2.117	3.063	7.1	18.5
4 1	10 36.76	+12 39.2	1.704	2.583	13.0	21.1	4 1	10 40.87	+10 16.4	2.192	3.074	10.4	18.7
4 11	10 31.34	+12 57.6	1.771	2.565	16.5	21.3	4 11	10 36.37	+10 11.4	2.289	3.086	13.1	18.9
148769	2001 <i>TE</i> ₂₃₉		3 4.6 57°56	2°6/ 1.9 18			348904	2006 <i>SP</i> ₃₇₄		3 4.6 99°42	5°8/ 26.7 18		
2 1	11 22.21	+ 7 44.0	1.534	2.394	14.4	19.1	2 1	11 24.46	+24 14.2	2.370	3.224	10.2	20.5
2 11	11 17.90	+ 9 22.7	1.484	2.412	10.2	18.9	2 11	11 19.02	+25 17.9	2.317	3.230	7.9	20.3
2 21	11 11.44	+11 13.0	1.459	2.430	5.7	18.7	2 21	11 11.91	+26 16.3	2.291	3.236	6.1	20.2
3 2	11 3.67	+13 4.5	1.461	2.448	2.6	18.5	3 2	11 3.79	+27 2.8	2.293	3.242	6.0	20.2
3 12	10 55.75	+14 46.0	1.491	2.466	5.6	18.8	3 12	10 55.54	+27 32.2	2.322	3.247	7.6	20.3
3 22	10 48.78	+16 9.0	1.547	2.485	9.9	19.1	3 22	10 48.00	+27 41.9	2.378	3.253	9.8	20.5
4 1	10 43.67	+17 8.3	1.628	2.503	13.7	19.3	4 1	10 41.88	+27 31.8	2.458	3.259	12.1	20.6
4 11	10 40.96	+17 42.8	1.728	2.522	16.8	19.6	4 11	10 37.67	+27 3.6	2.558	3.265	14.1	20.8
8117	Yuanlongping		3 4.6 210°57	2°8/ 1.4 18			84316	2002 <i>TP</i> ₄₃		3 4.6 57°08	0°3/ 4.2 18		
2 1	11 24.77	+14 34.1	2.508	3.355	10.0	18.3	2 1	11 23.13	+ 5 11.0	1.980	2.821	12.5	19.6
2 11	11 19.17	+15 11.2	2.431	3.351	7.2	18.1	2 11	11 18.21	+ 5 41.5	1.917	2.833	9.0	19.4
2 21	11 11.97	+15 50.0	2.381	3.347	4.3	17.9	2 21	11 11.50	+ 6 22.1	1.878	2.845	5.1	19.2
3 2	11 3.78	+16 25.7	2.361	3.342	2.8	17.8	3 2	11 3.71	+ 7 7.7	1.867	2.857	1.0	18.9
3 12	10 55.37	+16 53.5	2.370	3.337	4.7	17.9	3 12	10 55.77	+ 7 52.8	1.885	2.870	3.3	19.1
3 22	10 47.51	+17 10.0	2.409	3.332	7.6	18.1	3 22	10 48.55	+ 8 31.9	1.932	2.883	7.2	19.4
4 1	10 40.90	+17 13.3	2.473	3.326	10.4	18.2	4 1	10 42.83	+ 9 0.9	2.004	2.896	10.7	19.6
4 11	10 36.05	+17 3.0	2.561	3.321	12.9	18.4	4 11	10 39.11	+ 9 17.5	2.098	2.909	13.7	19.8
473056	2015 <i>HR</i> ₈₈		3 4.6 283°06	4°8/ 28.2 17			14557	1997 <i>VG</i> ₈		3 4.6 167°68	3°7/ 29.5 18		
2 1	11 23.72	+20 2.5	2.325	3.181	10.3	21.0	2 1	11 24.12	+16 8.5	2.320	3.173	10.4	18.8
2 11	11 18.59	+20 57.3	2.252	3.171	7.7	20.8	2 11	11 18.79	+17 2.3	2.253	3.174	7.6	18.6
2 21	11 11.72	+21 50.5	2.205	3.162	5.4	20.7	2 21	11 11.80	+17 57.2	2.213	3.176	4.8	18.4
3 2	11 3.75	+22 35.9	2.187	3.153	4.9	20.6	3 2	11 3.78	+18 47.1	2.201	3.177	3.7	18.4
3 12	10 55.52	+23 7.8	2.198	3.144	6.6	20.7	3 12	10 55.56	+19 26.5	2.219	3.179	5.6	18.5
3 22	10 47.88	+23 22.7	2.235	3.135	9.3	20.8	3 22	10 47.97	+19 51.5	2.265	3.180	8.4	18.7
4 1	10 41.60	+23 19.2	2.297	3.125	12.0	21.0	4 1	10 41.73	+20 0.3	2.337	3.181	11.3	18.9
4 11	10 37.23	+22 58.2	2.380	3.116	14.3	21.2	4 11	10 37.35	+19 52.8	2.429	3.181	13.7	19.0
341130	2007 <i>MF</i> ₅		3 4.6 297°17	0°2/ 4.8 17			144818	2004 <i>JD</i> ₅		3 4.6 236°98	3°6/ 29.5 18		
2 1	11 21.05	+ 1 44.9	1.806	2.645	13.6	21.2	2 1	11 23.84	+16 51.3	2.431	3.283	10.0	20.1
2 11	11 17.16	+ 2 38.1	1.707	2.621	10.1	20.9	2 11	11 18.56	+17 36.1	2.359	3.279	7.3	19.9
2 21	11 11.17	+ 3 49.5	1.632	2.598	5.9	20.6	2 21	11 11.66	+18 21.2	2.313	3.276	4.7	19.7
3 2	11 3.68	+ 5 14.0	1.584	2.574	1.3	20.2	3 2	11 3.75	+19 1.3	2.296	3.272	3.7	19.6
3 12	10 55.63	+ 6 43.9	1.565	2.551	3.5	20.3	3 12	10 55.63	+19 31.2	2.309	3.268	5.4	19.7
3 22	10 48.06	+ 8 10.5	1.573	2.527	8.2	20.6	3 22	10 48.09	+19 47.5	2.349	3.264	8.2	19.9
4 1	10 41.98	+ 9 25.8	1.606	2.504	12.6	20.8	4 1	10 41.83	+19 48.6	2.416	3.259	11.0	20.1
4 11	10 38.14	+10 24.2	1.662	2.481	16.3	21.0	4 11	10 37.37	+19 34.6	2.504	3.255	13.3	20.2
52399	1993 <i>RM</i> ₁₅		3 4.6 126°41	1°1/ 3.6 18			16699	1995 <i>DC</i>		3 4.6 332°63	2°4/ 3.1 18		
2 1	11 28.08	+ 7 50.0	2.067	2.904	12.2	19.5	2 1	11 23.98	+10 10.9	1.274	2.146	16.0	18.1
2 11	11 21.68	+ 8 18.8	2.003	2.919	8.8	19.3	2 11	11 19.99	+10 29.2	1.193	2.125	11.7	17.7
2 21	11 13.43	+ 8 54.7	1.966	2.933	4.9	19.1	2 21	11 13.10	+10 56.5	1.133	2.105	6.7	17.4
3 2	11 4.09	+ 9 32.8	1.957	2.947	1.3	18.9	3 2	11 4.13	+11 26.0	1.097	2.086	2.4	17.1
3 12	10 54.61	+10 7.5	1.979	2.960	3.7	19.1	3 12	10 54.46	+11 49.2	1.086	2.069	5.8	17.2
3 22	10 45.92	+10 34.5	2.029	2.973	7.5	19.3	3 22	10 45.63	+11 59.3	1.100	2.052	11.2	17.5
4 1	10 38.83	+10 50.6	2.106	2.985	10.9	19.6	4 1	10 39.03	+11 51.8	1.135	2.037	16.2	17.7
4 11	10 33.83	+10 54.4	2.206	2.997	13.7	19.8	4 11	10 35.57	+11 25.3	1.188	2.024	20.5	17.9
453864	2011 <i>UP</i> ₉₈		3 4.6 114°62	2°9/ 6.9 18			298749	2004 <i>GA</i> ₇₉		3 4.6 320°87	1°2/ 5.9 17		
2 1	11 27.46	- 3 7.0	1.634	2.450	15.9	21.8	2 1	11 19.19	- 1 11.7	2.059	2.883	12.7	20.3
2 11	11 21.70	- 3 1.3	1.566	2.461	12.1	21.6	2 11	11 15.47	- 0 22.3	1.971	2.875	9.5	20.1
2 21	11 13.65	- 2 36.3	1.520	2.472	7.9	21.3	2 21	11 10.03	+ 0 44.3	1.907	2.867	5.9	19.9
3 2	11 4.16	- 1 54.8	1.500	2.483	3.8	21.1	3 2	11 3.44	+ 2 3.8	1.871	2.859	2.0	19.6
3 12	10 54.40	- 1 2.7	1.508	2.493	3.9	21.1	3 12	10 56.52	+ 3 29.8	1.865	2.852	2.8	19.6
3 22	10 45.53	- 0 7.2	1.544	2.503	7.8	21.4	3 22	10 50.13	+ 4 54.9	1.886	2.844	6.8	19.9
4 1	10 38.55	+ 0 44.5	1.605	2.513	11.9	21.6	4 1	10 45.03	+ 6 12.1	1.935	2.837	10.5	20.1
4 11	10 34.11	+ 1 26.6	1.688	2.522	15.5	21.9	4 11	10 41.82	+ 7 16.1	2.006	2.831	13.7	20.3
297061	2010 <i>JX</i> ₁		3 4.6 282°12	2°8/ 7.5 17			200559	2001 <i>MQ</i> ₁		3 4.6 218°88	2°7/ 6.9 18		
2 1	11 21.27	- 4 37.1	2.250	3.052	12.5	20.9	2 1	11 26.73	- 4 6.2	1.841	2.647	14.7	21.5
2 11	11 16.90	- 4 23.4	2.150	3.036	9.8	20.7	2 11	11 21.22	- 3 40.8	1.748	2.638	11.4	21.2
2 21	11 10.83	- 3 53.2	2.075	3.021	6.6	20.5	2 21	11 13.48	- 2 54.9	1.678	2.628	7.5	21.0
3 2	11 3.59	- 3 8.3	2.026	3.006	3.5	20.3	3 2	11 4.19	- 1 51.2	1.634	2.617	3.6	20.7
3 12	10 55.96	- 2 12.8	2.007	2.990	3.3	20.2	3 12	10 54.38	- 0 35.5	1.620	2.605	3.6	20.7
3 22	10 48.77	- 1 12.2	2.016	2.975	6.3	20.4	3 22	10 45.16	+ 0 44.3	1.634	2.592	7.6	20.9
4 1	10 42.79	- 0 12.4	2.052	2.960	9.8	20.6	4 1	10 37.56	+ 2 0.1	1.675	2.578	11.8	21.1
4 11	10 38.63	+ 0 41.2	2.113	2.944	12.9	20.7	4 11	10 32.31	+ 3 5.3	1.738	2.564	15.5	21.3
396904	2004 <i>YR</i> ₂₁		3 4.6 163°47	3°0/ 1.6 18			57418	2001 <i>SE</i> ₄		3 4.6 194°75	1°8/ 6.2 18		
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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
353224	2010 <i>AP</i> ₃₀		3 4.6 346°48	5°0/ 7.3 18			215663	2003 <i>UX</i> ₂₁₀		3 4.6 337°49	3°8/ 7.7 18		
2 1	11 21.76	- 2 49.0	0.977	1.835	20.8	20.0	2 1	11 24.13	- 5 13.8	1.549	2.366	16.6	20.2
2 11	11 18.88	- 3 28.9	0.907	1.824	16.3	19.7	2 11	11 19.55	- 5 9.5	1.471	2.364	12.9	20.0
2 21	11 12.69	- 3 43.7	0.854	1.813	11.1	19.3	2 21	11 12.59	- 4 42.4	1.414	2.363	8.8	19.7
3 2	11 4.08	- 3 33.1	0.822	1.805	6.1	19.0	3 2	11 4.03	- 3 54.5	1.382	2.361	4.8	19.5
3 12	10 54.69	- 3 1.8	0.812	1.798	5.9	19.0	3 12	10 55.02	- 2 51.7	1.376	2.360	4.4	19.4
3 22	10 46.33	- 2 18.9	0.823	1.793	10.9	19.2	3 22	10 46.79	- 1 42.0	1.397	2.359	8.2	19.7
4 1	10 40.64	- 1 35.1	0.854	1.789	16.5	19.5	4 1	10 40.43	+ 0 34.1	1.443	2.358	12.5	19.9
4 11	10 38.59	- 1 0.4	0.903	1.787	21.4	19.8	4 11	10 36.64	+ 0 24.1	1.510	2.357	16.3	20.1
207585	Lubar		3 4.6 281°43	0°7/ 5.1 17			288624	2004 <i>OY</i> ₉		3 4.6 315°55	2°9/ 2.5 17		
2 1	11 26.89	+ 2 48.2	1.629	2.466	14.9	20.4	2 1	11 25.26	+ 11 17.9	1.474	2.338	14.6	19.9
2 11	11 21.70	+ 3 0.4	1.531	2.443	11.1	20.2	2 11	11 20.68	+ 11 50.4	1.387	2.315	10.7	19.6
2 21	11 13.95	+ 3 27.4	1.456	2.420	6.7	19.8	2 21	11 13.41	+ 12 30.9	1.322	2.293	6.2	19.3
3 2	11 4.32	+ 4 5.6	1.406	2.396	1.8	19.5	3 2	11 4.24	+ 13 12.2	1.284	2.271	2.9	19.0
3 12	10 53.96	+ 4 49.1	1.385	2.372	3.7	19.5	3 12	10 54.39	+ 13 46.0	1.272	2.250	5.9	19.1
3 22	10 44.11	+ 5 30.7	1.391	2.347	8.9	19.8	3 22	10 45.26	+ 14 5.4	1.285	2.229	10.8	19.4
4 1	10 36.11	+ 6 4.2	1.421	2.323	13.6	20.0	4 1	10 38.11	+ 14 6.3	1.320	2.209	15.4	19.6
4 11	10 30.74	+ 6 24.8	1.473	2.298	17.8	20.2	4 11	10 33.82	+ 13 47.4	1.375	2.189	19.4	19.8
465400	2008 <i>GM</i> ₁₀₈		3 4.6 161°94	5°1/28.5 18			27799	1993 <i>FQ</i> ₂₃		3 4.6 126°02	3°0/ 7.1 18		
2 1	11 29.08	+ 20 31.9	2.180	3.029	11.2	20.9	2 1	11 25.82	- 4 23.4	1.558	2.375	16.5	19.0
2 11	11 22.46	+ 21 29.0	2.119	3.035	8.3	20.7	2 11	11 20.66	- 3 56.8	1.488	2.384	12.6	18.8
2 21	11 13.93	+ 22 23.1	2.086	3.040	5.9	20.6	2 21	11 13.16	- 3 7.3	1.440	2.392	8.2	18.6
3 2	11 4.24	+ 23 7.5	2.081	3.045	5.2	20.5	3 2	11 4.14	- 1 58.5	1.417	2.400	4.0	18.3
3 12	10 54.39	+ 23 36.1	2.105	3.050	7.0	20.7	3 12	10 54.80	+ 0 37.9	1.422	2.407	3.9	18.3
3 22	10 45.33	+ 23 45.9	2.157	3.053	9.7	20.8	3 22	10 46.34	+ 0 45.3	1.454	2.414	8.1	18.6
4 1	10 37.90	+ 23 36.4	2.234	3.056	12.5	21.0	4 1	10 39.80	+ 2 2.1	1.511	2.421	12.4	18.9
4 11	10 32.64	+ 23 9.3	2.331	3.059	14.8	21.2	4 11	10 35.84	+ 3 5.7	1.590	2.428	16.1	19.1
115390	2003 <i>SR</i> ₂₇₉		3 4.6 77°83	6°3/27.8 18			332542	2008 <i>QT</i> ₈		3 4.6 194°02	0°3/ 4.2 17		
2 1	11 29.17	+ 23 51.3	1.965	2.819	12.0	19.2	2 1	11 23.37	+ 4 29.4	2.459	3.288	10.8	21.9
2 11	11 22.56	+ 24 43.8	1.922	2.835	9.2	19.1	2 11	11 18.21	+ 5 12.8	2.375	3.286	7.8	21.7
2 21	11 13.96	+ 25 29.5	1.904	2.852	6.9	19.0	2 21	11 11.50	+ 6 6.0	2.318	3.283	4.5	21.5
3 2	11 4.24	+ 26 0.9	1.913	2.868	6.5	19.0	3 2	11 3.78	+ 7 4.7	2.289	3.280	0.9	21.2
3 12	10 54.50	+ 26 12.8	1.950	2.884	8.2	19.1	3 12	10 55.80	+ 8 3.6	2.292	3.276	2.9	21.4
3 22	10 45.78	+ 26 3.1	2.013	2.900	10.8	19.3	3 22	10 48.32	+ 8 57.7	2.324	3.272	6.4	21.6
4 1	10 38.91	+ 25 32.9	2.100	2.917	13.4	19.5	4 1	10 42.02	+ 9 42.7	2.384	3.267	9.6	21.8
4 11	10 34.37	+ 24 45.1	2.206	2.932	15.6	19.7	4 11	10 37.43	+ 10 15.8	2.467	3.261	12.4	22.0
283937	2004 <i>PY</i> ₃₅		3 4.6 164°17	0°5/ 5.1 18			145361	2005 <i>MF</i> ₂₉		3 4.6 180°94	0°0/ 4.6 18		
2 1	11 26.50	+ 1 0.4	2.018	2.839	13.1	21.1	2 1	11 20.43	+ 2 57.9	2.568	3.395	10.4	20.6
2 11	11 20.70	+ 1 49.9	1.942	2.846	9.6	20.8	2 11	11 16.03	+ 3 44.3	2.487	3.396	7.6	20.4
2 21	11 12.99	+ 2 54.3	1.891	2.852	5.7	20.6	2 21	11 10.22	+ 4 41.1	2.432	3.396	4.4	20.2
3 2	11 4.07	+ 4 8.5	1.869	2.858	1.5	20.3	3 2	11 3.51	+ 5 44.3	2.406	3.396	0.9	19.9
3 12	10 54.88	+ 5 25.7	1.876	2.862	3.0	20.5	3 12	10 56.59	+ 6 48.8	2.410	3.396	2.6	20.0
3 22	10 46.37	+ 6 38.7	1.914	2.866	7.2	20.7	3 22	10 50.14	+ 7 49.6	2.445	3.395	5.9	20.3
4 1	10 39.39	+ 7 41.7	1.978	2.869	10.9	21.0	4 1	10 44.77	+ 8 42.2	2.506	3.395	9.0	20.5
4 11	10 34.52	+ 8 30.6	2.066	2.871	14.1	21.2	4 11	10 40.95	+ 9 23.5	2.592	3.394	11.6	20.6
292716	2006 <i>UU</i> ₁₃₃		3 4.6 188°07	3°1/ 8.5 17			454742	2014 <i>UW</i> ₁₂₄		3 4.6 317°04	9°1/12.7 18		
2 1	11 20.35	- 7 15.0	2.593	3.376	11.6	21.2	2 1	11 22.85	- 18 1.3	1.625	2.374	18.7	20.0
2 11	11 15.98	- 6 54.4	2.504	3.376	9.1	21.0	2 11	11 18.71	- 18 33.9	1.539	2.369	16.1	19.8
2 21	11 10.18	- 6 17.6	2.439	3.375	6.3	20.9	2 21	11 12.18	- 18 35.7	1.472	2.364	13.1	19.6
3 2	11 3.49	- 5 26.6	2.401	3.374	3.8	20.7	3 2	11 3.97	- 18 3.9	1.426	2.359	10.4	19.4
3 12	10 56.55	- 4 25.2	2.393	3.373	3.3	20.7	3 12	10 55.22	- 17 0.1	1.404	2.355	9.1	19.3
3 22	10 50.06	- 3 18.3	2.415	3.372	5.5	20.8	3 22	10 47.14	- 15 30.9	1.407	2.350	10.1	19.3
4 1	10 44.64	- 2 11.4	2.465	3.371	8.4	21.0	4 1	10 40.87	- 13 46.7	1.434	2.346	12.8	19.5
4 11	10 40.78	- 1 9.6	2.540	3.370	11.0	21.1	4 11	10 37.19	- 11 59.5	1.484	2.342	15.9	19.7
473001	2015 <i>HZ</i> ₃₄		3 4.6 254°07	2°2/ 1.9 17			212957	2009 <i>BY</i> ₅₇		3 4.6 328°51	2°8/ 6.1 18		
2 1	11 21.78	+ 11 28.2	2.531	3.378	9.9	21.1	2 1	11 24.31	+ 0 59.9	1.159	2.014	18.4	19.6
2 11	11 17.08	+ 12 17.6	2.446	3.367	7.1	20.9	2 11	11 20.57	+ 0 30.4	1.073	1.992	14.1	19.3
2 21	11 10.85	+ 13 12.0	2.388	3.356	4.1	20.7	2 21	11 13.65	+ 0 18.3	1.006	1.970	9.0	18.9
3 2	11 3.63	+ 14 6.4	2.360	3.345	2.2	20.5	3 2	11 4.34	+ 0 22.2	0.963	1.950	3.8	18.5
3 12	10 56.14	+ 14 55.4	2.361	3.333	4.2	20.7	3 12	10 54.08	+ 0 37.7	0.943	1.930	4.7	18.5
3 22	10 49.10	+ 15 34.6	2.391	3.321	7.3	20.8	3 22	10 44.58	+ 0 57.8	0.946	1.912	10.4	18.8
4 1	10 43.19	+ 16 1.0	2.447	3.309	10.2	21.0	4 1	10 37.44	+ 1 14.9	0.971	1.895	16.1	19.0
4 11	10 38.94	+ 16 13.3	2.526	3.297	12.7	21.2	4 11	10 33.73	+ 1 22.4	1.014	1.880	21.0	19.2
100759	1998 <i>FG</i> ₉		3 4.6 323°37	6°2/27.5 18			112291	2002 <i>LO</i> ₃₃		3 4.6 285°68	4°6/ 7.8 18		
2 1	11 26.01	+ 23 37.7	2.066	2.923	11.4	19.3	2 1	11 26.11	- 5 27.4	1.584	2.395	16.5	19.9
2 11	11 20.45	+ 24 28.1	1.999	2.914	8.8	19.1	2 11	11 21.20	- 5 47.4	1.488	2.376	13.1	19.6
2 21	11 12.88	+ 25 13.5	1.957	2.906	6.7	19.0	2 21	11 13.71	- 5 46.9	1.412	2.357	9.2	19.3
3 2	11 4.06	+ 25 46.4	1.942	2.898	6.3	18.9	3 2	11 4.32	- 5 25.6	1.362	2.338	5.5	19.1
3 12	10 54.98	+ 26 1.2	1.955	2.891	8.1	19.0	3 12	10 54.19	- 4 46.9	1.338	2.319	5.1	19.0
3 22	10 46.67	+ 25 54.9	1.994	2.883	10.8	19.2	3 22	10 44.62	- 3 57.2	1.340	2.300	8.7	19.1
4 1	10 39.99	+ 25 27.4	2.056	2.876	13.5	19.3	4 1	10 36.85	- 3 4.4	1.367	2.280	13.2	19.3
4 11	10 35.52	+ 24 40.9	2.138	2.870	15.9	19.5	4 11	10 31.80	- 2 16.6	1.415	2.261	17.2	19.5
415316	2013 <i>HC</i> ₁₃		3 4.6 211°33	3°6/ 1.1 17			268485	2005 <i>XM</i> _{76</}					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
384938	2012 TV ₁₀₂		3 4.6 200°03	2°3/ 2.2	17		173113	5038 T ₋₂		3 4.6 145°00	2°6/ 6.9	18	
2 1	11 25.56	+12 40.6	2.332	3.178	10.6	21.0	2 1	11 27.44	- 2 56.4	1.903	2.710	14.3	20.6
2 11	11 19.85	+13 8.8	2.257	3.177	7.7	20.8	2 11	11 21.50	- 2 47.9	1.828	2.720	10.9	20.4
2 21	11 12.45	+13 39.9	2.208	3.176	4.5	20.6	2 21	11 13.53	- 2 22.6	1.777	2.728	7.1	20.2
3 2	11 4.00	+14 9.3	2.189	3.174	2.3	20.5	3 2	11 4.27	- 1 43.0	1.754	2.736	3.4	19.9
3 12	10 55.32	+14 32.1	2.199	3.172	4.3	20.6	3 12	10 54.73	- 0 54.2	1.759	2.744	3.5	20.0
3 22	10 47.26	+14 44.8	2.238	3.170	7.6	20.8	3 22	10 45.95	- 0 2.3	1.793	2.751	7.1	20.2
4 1	10 40.54	+14 45.3	2.303	3.168	10.6	21.0	4 1	10 38.80	+ 0 46.5	1.854	2.757	10.8	20.4
4 11	10 35.70	+14 33.0	2.391	3.166	13.3	21.2	4 11	10 33.90	+ 1 27.0	1.937	2.763	14.1	20.6
333602	2007 GA ₂₇		3 4.6 272°54	2°6/ 1.9	17		57863	2001 XT ₂₂₇		3 4.6 238°55	6°5/ 10.9	18	
2 1	11 23.70	+10 54.7	2.005	2.857	11.9	20.9	2 1	11 25.00	-14 25.1	2.159	2.904	14.8	19.2
2 11	11 18.90	+11 52.7	1.916	2.839	8.6	20.7	2 11	11 19.81	-14 49.2	2.058	2.893	12.4	19.0
2 21	11 12.11	+12 58.3	1.853	2.821	5.0	20.4	2 21	11 12.65	-14 51.5	1.979	2.881	9.8	18.8
3 2	11 3.96	+14 5.2	1.817	2.803	2.6	20.2	3 2	11 4.12	-14 30.8	1.925	2.868	7.4	18.6
3 12	10 55.36	+15 5.9	1.811	2.785	5.1	20.3	3 12	10 55.09	-13 48.8	1.898	2.856	6.5	18.6
3 22	10 47.29	+15 54.3	1.833	2.766	8.9	20.5	3 22	10 46.51	-12 49.8	1.899	2.843	7.9	18.6
4 1	10 40.68	+16 26.1	1.879	2.747	12.5	20.7	4 1	10 39.30	-11 40.6	1.927	2.829	10.5	18.8
4 11	10 36.17	+16 39.5	1.947	2.728	15.7	20.9	4 11	10 34.14	-10 29.1	1.978	2.815	13.4	18.9
224375	2005 UU ₁₈₀		3 4.6 150°76	5°3/ 10.4	18		217072	2001 SD ₂₆₄		3 4.6 184°21	6°4/ 11.5	16	
2 1	11 23.17	-12 42.0	2.137	2.897	14.5	20.5	2 1	11 26.47	-16 24.2	2.493	3.213	13.7	21.5
2 11	11 18.30	-12 34.2	2.054	2.902	11.8	20.3	2 11	11 20.58	-16 49.7	2.400	3.214	11.5	21.3
2 21	11 11.65	-12 3.7	1.992	2.908	8.9	20.1	2 21	11 12.95	-16 55.0	2.328	3.214	9.2	21.2
3 2	11 3.84	-11 11.3	1.956	2.913	6.2	20.0	3 2	11 4.16	-16 39.0	2.282	3.213	7.2	21.1
3 12	10 55.75	-10 0.9	1.948	2.917	5.3	19.9	3 12	10 55.02	-16 3.3	2.264	3.211	6.4	21.0
3 22	10 48.26	- 8 38.9	1.969	2.921	7.0	20.0	3 22	10 46.35	-15 11.6	2.275	3.209	7.4	21.1
4 1	10 42.15	- 7 12.6	2.017	2.925	9.8	20.2	4 1	10 38.94	-14 9.8	2.313	3.206	9.5	21.2
4 11	10 38.01	- 5 49.8	2.089	2.929	12.7	20.4	4 11	10 33.36	-13 4.5	2.376	3.202	11.8	21.3
343467	2010 EL ₆₇		3 4.6 167°55	0°1/ 4.4	18		308148	2005 AY ₂₉		3 4.6 331°16	1°2/ 3.7	18	
2 1	11 21.23	+ 3 12.0	2.296	3.127	11.3	20.8	2 1	11 23.25	+ 6 1.8	1.306	2.170	16.2	20.4
2 11	11 16.75	+ 4 5.4	2.218	3.129	8.2	20.6	2 11	11 19.31	+ 6 45.0	1.233	2.160	11.8	20.1
2 21	11 10.70	+ 5 10.4	2.165	3.130	4.7	20.4	2 21	11 12.66	+ 7 44.0	1.181	2.152	6.7	19.8
3 2	11 3.64	+ 6 22.4	2.141	3.132	0.9	20.1	3 2	11 4.14	+ 8 51.5	1.153	2.143	1.6	19.5
3 12	10 56.34	+ 7 35.2	2.148	3.133	2.9	20.2	3 12	10 55.08	+ 9 57.5	1.152	2.136	5.0	19.7
3 22	10 49.58	+ 8 42.9	2.183	3.133	6.6	20.5	3 22	10 46.91	+10 52.6	1.175	2.129	10.4	20.0
4 1	10 44.05	+ 9 40.5	2.246	3.134	9.9	20.7	4 1	10 40.88	+11 29.9	1.220	2.123	15.3	20.2
4 11	10 40.25	+10 24.7	2.332	3.135	12.7	20.9	4 11	10 37.79	+11 46.1	1.284	2.117	19.5	20.5
354748	2005 TW ₁₀₄		3 4.6 124°65	1°9/ 6.1	18		39038	2000 UE ₈₀		3 4.6 265°73	2°6/ 6.7	18	
2 1	11 28.99	- 1 4.4	1.627	2.448	15.7	21.7	2 1	11 25.43	- 2 23.7	1.649	2.470	15.5	18.5
2 11	11 22.81	- 0 42.6	1.562	2.463	11.8	21.4	2 11	11 20.56	- 2 11.8	1.556	2.456	11.9	18.2
2 21	11 14.32	+ 0 2.8	1.520	2.478	7.3	21.2	2 21	11 13.27	- 1 40.1	1.486	2.441	7.7	17.9
3 2	11 4.40	+ 0 51.0	1.505	2.492	2.8	21.0	3 2	11 4.28	- 0 51.0	1.441	2.425	3.5	17.7
3 12	10 54.25	+ 1 51.7	1.519	2.505	3.5	21.0	3 12	10 54.67	+ 0 9.7	1.424	2.410	3.8	17.6
3 22	10 45.07	+ 2 51.7	1.560	2.518	7.9	21.3	3 22	10 45.66	+ 1 14.4	1.434	2.394	8.2	17.9
4 1	10 37.84	+ 3 44.1	1.627	2.530	12.1	21.6	4 1	10 38.40	+ 2 15.1	1.469	2.378	12.7	18.1
4 11	10 33.17	+ 4 24.1	1.717	2.541	15.7	21.9	4 11	10 33.69	+ 3 5.0	1.526	2.362	16.7	18.3
422230	2014 RT ₆₂		3 4.6 145°73	1°7/ 2.9	18		325201	2008 FE ₁₃₁		3 4.6 139°78	0°8/ 5.5	18	
2 1	11 27.01	+ 8 27.9	2.045	2.885	12.1	21.9	2 1	11 23.99	+ 0 1.5	2.096	2.915	12.7	21.5
2 11	11 21.02	+ 9 19.7	1.979	2.897	8.7	21.7	2 11	11 18.83	+ 0 51.5	2.023	2.926	9.4	21.3
2 21	11 13.17	+10 19.1	1.939	2.907	4.9	21.5	2 21	11 11.93	+ 1 56.4	1.976	2.936	5.6	21.1
3 2	11 4.17	+11 20.2	1.928	2.917	1.7	21.3	3 2	11 3.94	+ 3 11.5	1.957	2.946	1.7	20.8
3 12	10 54.98	+12 16.2	1.948	2.926	4.1	21.5	3 12	10 55.74	+ 4 30.1	1.968	2.955	2.8	20.9
3 22	10 46.53	+13 1.8	1.996	2.935	7.9	21.7	3 22	10 48.19	+ 5 45.4	2.009	2.963	6.7	21.2
4 1	10 39.64	+13 33.4	2.070	2.942	11.3	21.9	4 1	10 42.06	+ 6 51.6	2.077	2.971	10.3	21.4
4 11	10 34.85	+13 49.3	2.166	2.949	14.2	22.1	4 11	10 37.87	+ 7 44.4	2.168	2.979	13.3	21.6
237978	2002 RG ₂₄₄		3 4.6 148°72	0°0/ 4.4	18		135515	2001 YT		3 4.6 106°78	7°5/ 22.4	18	
2 1	11 22.80	+ 3 52.9	2.392	3.221	11.0	21.4	2 1	11 24.55	+31 36.2	2.605	3.447	9.8	20.4
2 11	11 17.80	+ 4 30.3	2.317	3.227	8.0	21.2	2 11	11 19.11	+33 21.8	2.577	3.465	8.2	20.3
2 21	11 11.27	+ 5 17.5	2.268	3.232	4.6	21.0	2 21	11 12.02	+34 56.6	2.575	3.483	7.5	20.3
3 2	11 3.78	+ 6 10.5	2.248	3.238	0.9	20.8	3 2	11 3.95	+36 13.7	2.602	3.501	7.9	20.4
3 12	10 56.09	+ 7 4.1	2.258	3.243	2.8	20.9	3 12	10 55.75	+37 7.9	2.656	3.519	9.2	20.5
3 22	10 48.95	+ 7 53.3	2.297	3.247	6.3	21.1	3 22	10 48.25	+37 37.4	2.734	3.536	10.9	20.6
4 1	10 43.04	+ 8 34.1	2.364	3.252	9.5	21.4	4 1	10 42.14	+37 43.0	2.833	3.552	12.6	20.8
4 11	10 38.84	+ 9 3.6	2.454	3.256	12.2	21.5	4 11	10 37.91	+37 27.5	2.950	3.569	14.0	20.9
423783	2006 EK ₇₃		3 4.6 103°42	0°3/ 4.2	18		80204	1999 VF ₅₈		3 4.6 142°32	2°2/ 2.9	18	
2 1	11 23.42	+ 4 7.5	2.109	2.943	12.1	21.4	2 1	11 30.06	+ 8 54.5	1.625	2.472	14.4	20.2
2 11	11 18.35	+ 4 57.2	2.046	2.959	8.7	21.2	2 11	11 23.64	+ 9 47.7	1.563	2.484	10.3	20.0
2 21	11 11.60	+ 5 57.8	2.008	2.974	4.9	21.0	2 21	11 14.84	+10 49.9	1.526	2.494	5.8	19.8
3 2	11 3.84	+ 7 4.0	1.999	2.989	1.0	20.7	3 2	11 4.57	+11 53.5	1.516	2.504	2.2	19.5
3 12	10 55.93	+ 8 9.4	2.019	3.003	3.2	20.9	3 12	10 54.06	+12 50.1	1.535	2.513	5.0	19.8
3 22	10 48.71	+ 9 8.1	2.069	3.018	7.0	21.2	3 22	10 44.55	+13 33.2	1.581	2.522	9.5	20.0
4 1	10 42.90	+ 9 55.6	2.145	3.032	10.3	21.4	4 1	10 37.06	+13 58.7	1.653	2.529	13.5	20.3
4 11	10 38.99	+10 29.2	2.244	3.046	13.2	21.6	4 11	10 32.21	+14 5.8	1.745	2.536	16.8	20.5
367542	2009 RH ₃₂		3 4.6 176°23	1°1/ 5.9	17		133313	2003 SO ₆₉		3 4.6 191°41	0°2/ 4.9	17	
2 1	11 24.42	- 0 12.8	2.680	3.487	10.6								

EPHEMERIDES

3 4.6

3 4.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
211863	2004 GS ₃₁		3 4.6 303°68	3 ⁵ / 1.1 17			124885	2001 TT ₄₂		3 4.6 140°34	1°1/ 5.5 18		
2 1	11 25.16	+15 59.6	2.220	3.072	10.8	20.0	2 1	11 30.14	+1 49.0	1.772	2.596	14.5	20.0
2 11	11 19.68	+16 35.6	2.147	3.069	7.9	19.9	2 11	11 23.55	+1 59.9	1.702	2.607	10.7	19.8
2 21	11 12.42	+17 12.3	2.101	3.066	4.9	19.7	2 21	11 14.76	+2 24.4	1.657	2.617	6.4	19.6
3 2	11 4.06	+17 44.3	2.083	3.062	3.5	19.6	3 2	11 4.58	+2 58.7	1.639	2.627	2.0	19.3
3 12	10 55.46	+18 6.2	2.095	3.059	5.4	19.7	3 12	10 54.15	+3 37.0	1.650	2.636	3.3	19.4
3 22	10 47.52	+18 14.7	2.134	3.056	8.5	19.9	3 22	10 44.59	+4 13.5	1.690	2.645	7.7	19.7
4 1	10 41.00	+18 8.0	2.199	3.053	11.5	20.0	4 1	10 36.88	+4 43.1	1.756	2.653	11.7	20.0
4 11	10 36.44	+17 46.5	2.285	3.050	14.1	20.2	4 11	10 31.62	+5 2.2	1.844	2.660	15.1	20.2
326344	2000 SR ₂₆		3 4.6 211°24	1°7/ 6.6 17			508242	2015 HE ₃₇		3 4.6 244°77	1°2/ 3.0 17		
2 1	11 22.92	- 2 46.1	2.333	3.138	12.0	21.7	2 1	11 21.27	+ 8 9.6	2.660	3.499	9.7	22.0
2 11	11 18.05	- 2 4.6	2.240	3.132	9.1	21.5	2 11	11 16.69	+ 8 55.6	2.571	3.488	7.0	21.8
2 21	11 11.51	- 1 6.9	2.172	3.125	5.8	21.3	2 21	11 10.67	+ 9 48.4	2.509	3.477	3.9	21.6
3 2	11 3.88	+ 0 3.6	2.132	3.117	2.5	21.1	3 2	11 3.72	+10 43.8	2.477	3.466	1.3	21.3
3 12	10 55.92	+ 1 21.6	2.122	3.109	2.7	21.1	3 12	10 56.50	+11 36.9	2.475	3.454	3.3	21.5
3 22	10 48.43	+ 2 40.6	2.143	3.100	6.2	21.3	3 22	10 49.69	+12 23.1	2.503	3.442	6.5	21.7
4 1	10 42.16	+ 3 54.7	2.191	3.090	9.6	21.5	4 1	10 43.93	+12 59.0	2.557	3.430	9.4	21.8
4 11	10 37.66	+ 4 58.6	2.264	3.080	12.6	21.7	4 11	10 39.72	+13 22.5	2.635	3.418	12.0	22.0
185702	1998 HK ₃		3 4.6 242°73	15°2/22.2 18			505014	2011 PP ₁₂		3 4.6 189°07	2°6/ 1.2 17		
2 1	11 51.84	+40 10.5	1.437	2.250	17.8	21.4	2 1	11 22.67	+13 55.8	2.822	3.668	9.0	22.1
2 11	11 41.17	+41 55.1	1.372	2.229	16.1	21.2	2 11	11 17.58	+14 45.8	2.747	3.667	6.5	21.9
2 21	11 25.73	+43 16.2	1.328	2.207	15.2	21.1	2 21	11 11.12	+15 38.3	2.700	3.665	3.9	21.7
3 2	11 6.95	+43 55.1	1.308	2.183	15.8	21.0	3 2	11 3.81	+16 28.4	2.683	3.664	2.6	21.6
3 12	10 47.40	+43 39.7	1.310	2.158	17.7	21.1	3 12	10 56.30	+17 11.5	2.696	3.661	4.3	21.8
3 22	10 29.79	+42 29.3	1.334	2.132	20.4	21.2	3 22	10 49.25	+17 44.1	2.739	3.659	6.9	21.9
4 1	10 16.21	+40 32.6	1.376	2.104	23.2	21.3	4 1	10 43.27	+18 4.0	2.808	3.656	9.5	22.1
4 11	10 7.56	+38 3.2	1.432	2.074	25.8	21.4	4 11	10 38.81	+18 10.4	2.900	3.652	11.7	22.2
503637	2016 GV ₁₇₂		3 4.6 250°24	5°3/28.3 17			450413	2005 TM ₁₂₀		3 4.6 51°62	0°9/ 5.3 18		
2 1	11 26.82	+19 58.2	2.057	2.912	11.5	21.2	2 1	11 25.90	+ 1 1.3	1.136	1.990	18.8	21.4
2 11	11 21.12	+20 57.7	1.983	2.902	8.6	21.0	2 11	11 21.18	+ 1 37.5	1.087	2.008	13.8	21.2
2 21	11 13.37	+21 55.9	1.934	2.891	6.0	20.8	2 21	11 13.63	+ 2 35.4	1.060	2.026	8.2	20.9
3 2	11 4.29	+22 45.3	1.914	2.880	5.4	20.7	3 2	11 4.35	+ 3 47.7	1.055	2.045	2.2	20.6
3 12	10 54.86	+23 19.1	1.921	2.869	7.3	20.8	3 12	10 54.91	+ 5 3.5	1.076	2.064	4.2	20.8
3 22	10 46.12	+23 33.4	1.956	2.857	10.3	21.0	3 22	10 46.79	+ 6 12.1	1.122	2.084	9.8	21.2
4 1	10 38.98	+23 26.7	2.015	2.845	13.3	21.2	4 1	10 41.15	+ 7 5.2	1.190	2.103	14.7	21.5
4 11	10 34.06	+23 0.5	2.093	2.833	16.0	21.3	4 11	10 38.60	+ 7 38.5	1.277	2.123	18.8	21.8
246242	2007 RW ₃₀₉		3 4.6 61°74	0°1/ 4.7 18			133511	2003 SV ₂₉₈		3 4.6 175°86	1°6/ 3.0 18		
2 1	11 21.23	+ 2 28.0	2.030	2.864	12.5	20.6	2 1	11 27.10	+ 8 13.3	2.038	2.878	12.2	20.9
2 11	11 16.88	+ 3 18.7	1.964	2.876	9.1	20.4	2 11	11 21.20	+ 9 4.2	1.964	2.881	8.8	20.7
2 21	11 10.83	+ 4 22.3	1.923	2.888	5.2	20.2	2 21	11 13.37	+10 3.6	1.916	2.883	4.9	20.4
3 2	11 3.74	+ 5 33.6	1.909	2.899	1.1	19.9	3 2	11 4.30	+11 5.3	1.896	2.885	1.7	20.2
3 12	10 56.46	+ 6 46.0	1.926	2.911	3.0	20.0	3 12	10 54.95	+12 2.8	1.907	2.886	4.2	20.4
3 22	10 49.85	+ 7 52.9	1.970	2.923	6.9	20.3	3 22	10 46.28	+12 50.2	1.946	2.886	8.0	20.6
4 1	10 44.64	+ 8 48.9	2.041	2.936	10.4	20.6	4 1	10 39.16	+13 23.6	2.012	2.885	11.6	20.8
4 11	10 41.32	+ 9 30.7	2.135	2.948	13.4	20.8	4 11	10 34.16	+13 41.2	2.100	2.884	14.6	21.0
370769	2004 RM ₃₀₃		3 4.6 313°27	3°5/ 8.0 17			210895	2001 SN ₁₅₄		3 4.6 52°52	3°9/ 9.4 18		
2 1	11 21.38	- 6 23.4	1.771	2.579	15.2	20.7	2 1	11 20.04	-10 2.6	2.017	2.801	14.4	20.1
2 11	11 17.38	- 6 0.6	1.685	2.573	11.9	20.5	2 11	11 16.02	- 9 22.1	1.950	2.820	11.4	19.9
2 21	11 11.32	- 5 15.1	1.621	2.567	8.1	20.3	2 21	11 10.34	- 8 18.7	1.906	2.839	8.1	19.7
3 2	11 3.87	- 4 9.3	1.582	2.561	4.5	20.0	3 2	11 3.65	- 6 55.6	1.888	2.858	5.0	19.6
3 12	10 56.01	- 2 48.9	1.571	2.555	4.0	20.0	3 12	10 56.81	- 5 19.1	1.898	2.878	4.1	19.6
3 22	10 48.77	- 1 22.0	1.587	2.549	7.4	20.2	3 22	10 50.64	- 3 37.3	1.937	2.897	6.4	19.7
4 1	10 43.10	+ 0 2.5	1.630	2.544	11.4	20.4	4 1	10 45.88	- 1 58.2	2.003	2.917	9.6	20.0
4 11	10 39.64	+ 1 17.1	1.695	2.539	14.9	20.6	4 11	10 42.99	- 0 28.9	2.094	2.937	12.5	20.2
456775	2007 TY ₁₄₄		3 4.6 117°38	0°5/ 5.1 18			436709	2011 UT ₁₇		3 4.6 242°14	4°5/27.5 17		
2 1	11 27.87	+ 2 13.5	1.827	2.654	13.9	22.4	2 1	11 24.98	+22 12.6	2.911	3.757	8.8	21.7
2 11	11 21.77	+ 2 47.7	1.765	2.673	10.2	22.2	2 11	11 19.32	+23 5.4	2.829	3.740	6.7	21.5
2 21	11 13.66	+ 3 35.5	1.728	2.691	6.0	22.0	2 21	11 12.17	+23 55.7	2.774	3.723	4.9	21.4
3 2	11 4.33	+ 4 31.8	1.718	2.708	1.5	21.7	3 2	11 4.04	+24 38.2	2.748	3.705	4.7	21.3
3 12	10 54.84	+ 5 29.9	1.738	2.724	3.2	21.9	3 12	10 55.64	+25 8.2	2.753	3.687	6.1	21.4
3 22	10 46.23	+ 6 23.3	1.787	2.740	7.5	22.2	3 22	10 47.69	+25 23.0	2.786	3.668	8.3	21.5
4 1	10 39.35	+ 7 6.7	1.861	2.755	11.3	22.4	4 1	10 40.84	+25 21.3	2.844	3.649	10.5	21.6
4 11	10 34.76	+ 7 36.9	1.959	2.770	14.5	22.7	4 11	10 35.60	+25 3.8	2.924	3.629	12.5	21.8
145305	2005 KT ₁₀		3 4.6 223°67	3°7/29.8 16			434835	2006 SG ₇₀		3 4.6 160°71	3°3/29.9 17		
2 1	11 25.79	+13 46.5	2.010	2.863	11.8	20.7	2 1	11 24.66	+16 22.4	2.535	3.383	9.8	21.7
2 11	11 20.40	+14 58.4	1.932	2.854	8.5	20.5	2 11	11 19.11	+17 2.1	2.466	3.386	7.1	21.5
2 21	11 12.99	+16 15.4	1.879	2.845	5.2	20.3	2 21	11 12.02	+17 42.0	2.425	3.388	4.5	21.4
3 2	11 4.22	+17 30.0	1.855	2.835	3.7	20.2	3 2	11 4.00	+18 17.2	2.413	3.391	3.3	21.3
3 12	10 55.07	+18 34.2	1.860	2.824	6.0	20.3	3 12	10 55.81	+18 43.1	2.431	3.393	5.0	21.4
3 22	10 46.54	+19 22.2	1.893	2.813	9.5	20.5	3 22	10 48.21	+18 56.5	2.478	3.394	7.7	21.6
4 1	10 39.54	+19 50.7	1.951	2.801	12.9	20.6	4 1	10 41.86	+18 55.9	2.551	3.396	10.4	21.8
4 11	10 34.73	+19 59.0	2.030	2.789	15.8	20.8	4 11	10 37.25	+18 41.5	2.645	3.397	12.7	21.9
340346	2006 DL ₆₃		3 4.6 291°27	0°5/ 4.2 17			123751	2001 AR ₂₇		3 4.6 67°14	5°8/28.3 18		
2 1	11 29.92	+ 7 49.1	1.942	2.778	12.9	20							

EPHEMERIDES

3 4.6

3 4.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
372704	2009 <i>WL</i> ₂₄₉		3 4.6 79°38'	2.3/ 6.8	18		285358	1999 <i>RK</i> ₂₅₅		3 4.6 146°07'	2.6/ 7.1	18	
2 1	11 23.99	- 2 22.7	1.899	2.715	14.0	20.5	2 1	11 27.24	- 3 45.6	2.077	2.876	13.5	21.6
2 11	11 19.03	- 2 10.6	1.826	2.722	10.6	20.3	2 11	11 21.23	- 3 31.5	2.002	2.888	10.4	21.4
2 21	11 12.14	- 1 42.0	1.776	2.729	6.8	20.0	2 21	11 13.36	- 3 1.0	1.951	2.899	6.8	21.2
3 2	11 4.04	- 0 59.6	1.753	2.737	3.2	19.8	3 2	11 4.32	- 2 16.5	1.928	2.909	3.4	21.0
3 12	10 55.69	- 0 8.8	1.758	2.744	3.3	19.8	3 12	10 55.05	- 1 23.1	1.934	2.919	3.3	21.0
3 22	10 48.03	+ 0 44.2	1.792	2.751	6.9	20.1	3 22	10 46.46	- 0 26.6	1.970	2.927	6.6	21.2
4 1	10 41.92	+ 1 33.4	1.851	2.759	10.6	20.3	4 1	10 39.39	+ 0 27.1	2.033	2.935	10.1	21.4
4 11	10 37.94	+ 2 13.7	1.934	2.766	13.9	20.5	4 11	10 34.38	+ 1 13.0	2.121	2.942	13.2	21.6
348598	2005 <i>XK</i> ₆		3 4.6 26°59'	3.3/ 2.4	18		286761	2002 <i>GO</i> ₁₈₉		3 4.6 235°80'	1.4/ 3.1	17	
2 1	11 27.01	+10 47.8	1.186	2.058	16.9	20.2	2 1	11 22.66	+ 6 56.6	2.098	2.942	11.8	21.0
2 11	11 22.11	+11 34.6	1.130	2.062	12.2	20.0	2 11	11 18.03	+ 7 56.2	2.016	2.935	8.5	20.7
2 21	11 14.26	+12 30.7	1.095	2.067	7.0	19.7	2 21	11 11.59	+ 9 6.1	1.959	2.928	4.8	20.5
3 2	11 4.51	+13 26.3	1.085	2.072	3.3	19.5	3 2	11 3.96	+10 20.5	1.931	2.920	1.5	20.3
3 12	10 54.45	+14 11.1	1.099	2.078	6.6	19.7	3 12	10 56.00	+11 32.4	1.933	2.913	3.9	20.4
3 22	10 45.62	+14 37.6	1.138	2.084	11.7	20.0	3 22	10 48.59	+12 35.3	1.963	2.905	7.8	20.6
4 1	10 39.30	+14 42.2	1.198	2.091	16.3	20.3	4 1	10 42.55	+13 24.5	2.019	2.897	11.3	20.8
4 11	10 36.16	+14 25.1	1.276	2.098	20.2	20.5	4 11	10 38.45	+13 57.2	2.097	2.889	14.3	21.0
468994	2015 <i>AM</i> ₁₆₉		3 4.6 27°24'	3.6/ 1.0	18		94488	2001 <i>UW</i> ₂₃		3 4.6 89°32'	2.4/ 6.3	18	
2 1	11 22.84	+12 49.4	1.811	2.673	12.5	20.9	2 1	11 29.91	- 0 22.5	1.440	2.269	16.9	19.7
2 11	11 18.32	+14 1.2	1.748	2.675	9.0	20.7	2 11	11 23.78	- 0 29.3	1.377	2.281	12.7	19.4
2 21	11 11.78	+15 18.5	1.709	2.677	5.4	20.4	2 21	11 15.05	- 0 18.4	1.335	2.294	8.0	19.2
3 2	11 3.98	+16 33.4	1.697	2.679	3.6	20.3	3 2	11 4.70	+ 0 7.2	1.320	2.305	3.3	18.9
3 12	10 55.91	+17 37.5	1.714	2.682	6.0	20.5	3 12	10 54.06	+ 0 41.7	1.331	2.317	3.9	19.0
3 22	10 48.59	+18 24.9	1.758	2.685	9.7	20.7	3 22	10 44.50	+ 1 18.0	1.369	2.329	8.6	19.3
4 1	10 42.90	+18 52.1	1.826	2.688	13.1	20.9	4 1	10 37.12	+ 1 49.6	1.432	2.341	13.0	19.6
4 11	10 39.43	+18 58.9	1.913	2.691	16.0	21.1	4 11	10 32.60	+ 2 11.5	1.515	2.352	16.8	19.9
340638	2006 <i>QG</i> ₁₅₅		3 4.6 163°48'	0.9/ 3.5	17		328308	2008 <i>HO</i> ₁₉		3 4.6 316°44'	1.0/ 3.6	17	
2 1	11 23.35	+ 7 53.5	2.736	3.570	9.6	21.8	2 1	11 20.48	+ 3 52.2	1.549	2.402	14.7	20.7
2 11	11 18.06	+ 8 24.6	2.660	3.574	6.9	21.6	2 11	11 17.00	+ 5 8.9	1.467	2.390	10.7	20.4
2 21	11 11.39	+ 9 1.4	2.611	3.578	3.9	21.4	2 21	11 11.25	+ 6 44.6	1.409	2.379	6.1	20.1
3 2	11 3.88	+ 9 40.2	2.592	3.582	1.1	21.2	3 2	11 3.92	+ 8 31.6	1.377	2.367	1.3	19.8
3 12	10 56.19	+10 16.8	2.604	3.585	3.0	21.4	3 12	10 56.11	+10 19.3	1.373	2.356	4.5	19.9
3 22	10 48.99	+10 47.5	2.646	3.588	6.0	21.6	3 22	10 48.96	+11 56.7	1.396	2.346	9.5	20.2
4 1	10 42.89	+11 9.6	2.715	3.590	8.8	21.7	4 1	10 43.56	+13 15.6	1.442	2.336	14.0	20.4
4 11	10 38.33	+11 21.3	2.808	3.593	11.3	21.9	4 11	10 40.63	+14 11.0	1.509	2.326	17.8	20.7
412729	2014 <i>OG</i> ₃₄₄		3 4.6 204°81'	6.0/26.5	18		402955	2007 <i>TN</i> ₃₈₆		3 4.6 119°39'	1.5/ 3.3	18	
2 1	11 25.80	+17 21.2	1.833	2.694	12.4	20.7	2 1	11 28.64	+ 7 48.6	1.883	2.724	13.0	22.2
2 11	11 20.66	+19 42.5	1.766	2.689	9.2	20.5	2 11	11 22.28	+ 8 36.4	1.826	2.743	9.3	22.0
2 21	11 13.26	+22 8.3	1.726	2.684	6.5	20.3	2 21	11 13.94	+ 9 32.4	1.794	2.762	5.2	21.8
3 2	11 4.32	+24 26.3	1.716	2.678	6.4	20.3	3 2	11 4.44	+10 30.4	1.791	2.780	1.6	21.6
3 12	10 54.92	+26 24.7	1.735	2.671	8.9	20.4	3 12	10 54.81	+11 23.4	1.817	2.797	4.1	21.8
3 22	10 46.18	+27 55.6	1.781	2.664	12.2	20.6	3 22	10 46.07	+12 5.9	1.872	2.814	8.1	22.1
4 1	10 39.16	+28 55.6	1.851	2.656	15.3	20.8	4 1	10 39.07	+12 34.3	1.953	2.830	11.7	22.3
4 11	10 34.56	+29 25.8	1.938	2.648	18.0	21.0	4 11	10 34.33	+12 47.1	2.056	2.845	14.7	22.6
96986	1999 <i>TK</i> ₂₁₃		3 4.6 311°34'	5.2/10.3	18		28941	2000 <i>UH</i> ₈		3 4.6 169°06'	5.5/10.9	18	
2 1	11 20.48	-12 19.3	1.911	2.685	15.5	19.0	2 1	11 23.18	-13 54.2	2.284	3.032	14.0	19.4
2 11	11 16.63	-11 54.9	1.821	2.681	12.6	18.8	2 11	11 18.29	-13 50.8	2.196	3.035	11.6	19.2
2 21	11 10.86	-11 4.1	1.753	2.677	9.4	18.6	2 21	11 11.69	-13 25.4	2.130	3.038	8.9	19.1
3 2	11 3.81	- 9 48.1	1.710	2.672	6.3	18.4	3 2	11 3.99	-12 38.5	2.090	3.040	6.4	18.9
3 12	10 56.38	- 8 12.0	1.694	2.669	5.2	18.3	3 12	10 55.99	-11 33.3	2.078	3.042	5.5	18.8
3 22	10 49.55	- 6 23.8	1.706	2.665	7.3	18.4	3 22	10 48.52	-10 15.3	2.094	3.043	6.9	18.9
4 1	10 44.16	- 4 33.2	1.745	2.661	10.6	18.6	4 1	10 42.35	- 8 51.7	2.138	3.044	9.5	19.1
4 11	10 40.86	- 2 49.4	1.808	2.657	13.9	18.8	4 11	10 38.04	- 7 29.6	2.206	3.045	12.2	19.3
463681	2014 <i>OJ</i> ₁₈₇		3 4.6 358°07'	3.1/ 6.8	18		393865	2005 <i>SY</i> ₂₇₀		3 4.6 103°33'	4.1/ 1.4	18	
2 1	11 27.25	- 1 54.4	1.516	2.341	16.4	20.9	2 1	11 28.61	+12 22.0	1.399	2.262	15.3	21.0
2 11	11 21.90	- 2 7.2	1.440	2.341	12.6	20.7	2 11	11 22.88	+13 35.7	1.346	2.274	11.0	20.8
2 21	11 14.04	- 2 1.7	1.386	2.340	8.2	20.4	2 21	11 14.54	+14 56.0	1.318	2.286	6.5	20.6
3 2	11 4.49	- 1 39.8	1.357	2.340	4.0	20.2	3 2	11 4.59	+16 12.5	1.315	2.298	4.1	20.5
3 12	10 54.49	- 1 6.4	1.355	2.340	4.1	20.2	3 12	10 54.43	+17 14.8	1.339	2.310	6.9	20.7
3 22	10 45.34	- 0 28.1	1.379	2.340	8.4	20.4	3 22	10 45.43	+17 56.1	1.389	2.321	11.3	20.9
4 1	10 38.16	+ 0 8.1	1.428	2.340	12.8	20.7	4 1	10 38.69	+18 13.5	1.462	2.332	15.3	21.2
4 11	10 33.72	+ 0 36.3	1.499	2.341	16.7	20.9	4 11	10 34.84	+18 7.8	1.553	2.343	18.6	21.5
87476	2000 <i>QH</i> ₁₄₀		3 4.6 149°86'	0.0/ 4.5	18		360574	2003 <i>UG</i> ₁₅₆		3 4.6 106°81'	0.3/ 4.9	18	
2 1	11 23.92	+ 3 24.2	2.125	2.956	12.1	20.2	2 1	11 25.14	+ 1 29.5	1.686	2.521	14.6	21.0
2 11	11 18.81	+ 4 8.5	2.051	2.962	8.8	20.0	2 11	11 20.00	+ 2 25.4	1.624	2.535	10.7	20.7
2 21	11 11.97	+ 5 4.5	2.003	2.968	5.1	19.8	2 21	11 12.75	+ 3 37.8	1.584	2.549	6.2	20.5
3 2	11 4.03	+ 6 7.4	1.983	2.973	1.1	19.5	3 2	11 4.21	+ 5 0.3	1.573	2.562	1.4	20.2
3 12	10 55.85	+ 7 11.1	1.993	2.978	3.0	19.7	3 12	10 55.45	+ 6 24.5	1.590	2.576	3.4	20.4
3 22	10 48.30	+ 8 9.6	2.032	2.983	6.9	19.9	3 22	10 47.55	+ 7 41.9	1.634	2.589	8.0	20.7
4 1	10 42.15	+ 8 58.0	2.098	2.987	10.4	20.1	4 1	10 41.42	+ 8 45.9	1.705	2.601	12.0	21.0
4 11	10 37.92	+ 9 33.2	2.186	2.991	13.4	20.4	4 11	10 37.63	+ 9 32.7	1.797	2.613	15.4	21.2
44342	1998 <i>RJ</i> ₆₇		3 4.6 63°38'	3.8/ 8.8	18		15371	Steward		3 4.6 235°99'	0.1/ 4.8	1	

EPHEMERIDES

3 4.6

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
367329	2008 <i>BY</i> ₃₅		3 4.6 201°22	1°1/ 3.4	17		241868	2001 <i>TY</i> ₂₂₂		3 4.6 138°66	4°7/10.4	17	
2 1	11 24.43	+ 6 3.1	2.372	3.204	11.0	20.8	2 1	11 21.09	-12 7.3	2.402	3.161	13.1	20.5
2 11	11 19.13	+ 7 5.5	2.286	3.200	7.9	20.6	2 11	11 16.70	-12 0.7	2.314	3.163	10.7	20.3
2 21	11 12.17	+ 8 17.9	2.227	3.194	4.5	20.4	2 21	11 10.77	-11 34.3	2.250	3.165	8.0	20.1
3 2	11 4.10	+ 9 35.0	2.198	3.188	1.2	20.1	3 2	11 3.83	-10 48.9	2.211	3.168	5.6	20.0
3 12	10 55.73	+10 50.4	2.200	3.181	3.5	20.3	3 12	10 56.63	- 9 47.9	2.201	3.170	4.8	19.9
3 22	10 47.85	+11 58.2	2.232	3.173	7.1	20.5	3 22	10 49.93	- 8 36.4	2.219	3.172	6.3	20.0
4 1	10 41.21	+12 53.7	2.291	3.164	10.4	20.7	4 1	10 44.41	- 7 20.9	2.265	3.174	8.9	20.2
4 11	10 36.36	+13 34.2	2.374	3.155	13.2	20.8	4 11	10 40.59	- 6 7.6	2.336	3.176	11.5	20.4
83112	2001 <i>QO</i> ₂₄₁		3 4.6 231°54	2°6/ 7.7	17		435321	2007 <i>UZ</i> ₁₃₉		3 4.6 124°11	5°1/27.8	17	
2 1	11 23.52	- 6 25.7	2.413	3.198	12.3	20.9	2 1	11 24.74	+21 20.0	2.319	3.174	10.4	21.2
2 11	11 18.55	- 5 40.1	2.306	3.182	9.6	20.7	2 11	11 19.34	+22 21.4	2.261	3.178	7.8	21.0
2 21	11 11.89	- 4 35.4	2.224	3.166	6.5	20.4	2 21	11 12.25	+23 19.7	2.230	3.183	5.7	20.9
3 2	11 4.06	- 3 13.9	2.170	3.149	3.4	20.2	3 2	11 4.13	+24 8.3	2.227	3.187	5.3	20.9
3 12	10 55.83	- 1 40.9	2.147	3.131	3.1	20.1	3 12	10 55.85	+24 41.9	2.252	3.192	6.9	21.0
3 22	10 47.99	- 0 3.1	2.155	3.112	6.1	20.3	3 22	10 48.25	+24 57.3	2.305	3.196	9.4	21.2
4 1	10 41.31	+ 1 32.3	2.192	3.093	9.5	20.5	4 1	10 42.06	+24 53.7	2.382	3.200	11.9	21.3
4 11	10 36.38	+ 2 59.0	2.254	3.072	12.6	20.6	4 11	10 37.78	+24 32.4	2.479	3.204	14.1	21.5
155319	2006 <i>AC</i> ₃₁		3 4.6 161°41	3°2/ 1.3	18		285887	2001 <i>PH</i> ₁₉		3 4.6 128°99	2°2/ 2.5	18	
2 1	11 25.01	+13 5.1	2.045	2.898	11.6	20.6	2 1	11 27.62	+10 41.7	2.104	2.947	11.8	21.4
2 11	11 19.70	+14 5.5	1.978	2.901	8.4	20.4	2 11	11 21.44	+11 26.5	2.044	2.962	8.4	21.2
2 21	11 12.53	+15 10.2	1.937	2.903	5.0	20.2	2 21	11 13.45	+12 16.3	2.009	2.977	4.8	21.0
3 2	11 4.18	+16 12.3	1.924	2.906	3.2	20.1	3 2	11 4.39	+13 5.3	2.004	2.990	2.2	20.8
3 12	10 55.59	+17 5.0	1.940	2.908	5.4	20.2	3 12	10 55.18	+13 47.5	2.028	3.004	4.4	21.0
3 22	10 47.69	+17 43.2	1.985	2.910	8.8	20.4	3 22	10 46.75	+14 18.6	2.081	3.016	7.9	21.2
4 1	10 41.31	+18 4.2	2.054	2.912	12.0	20.6	4 1	10 39.86	+14 35.8	2.161	3.028	11.1	21.5
4 11	10 37.00	+18 7.5	2.145	2.913	14.8	20.8	4 11	10 35.04	+14 38.3	2.263	3.040	13.9	21.7
136461	2005 <i>EO</i> ₂₂₄		3 4.6 213°41	1°7/ 2.9	18		400260	2007 <i>RK</i> ₈₇		3 4.6 81°46	0°1/ 4.8	18	
2 1	11 26.59	+ 8 27.4	2.109	2.949	11.8	20.8	2 1	11 27.14	+ 2 32.3	1.520	2.360	15.6	21.1
2 11	11 20.90	+ 9 17.1	2.025	2.942	8.6	20.6	2 11	11 21.53	+ 3 17.2	1.468	2.383	11.4	20.9
2 21	11 13.27	+10 15.2	1.966	2.933	4.9	20.3	2 21	11 13.65	+ 4 17.8	1.440	2.405	6.6	20.7
3 2	11 4.35	+11 16.2	1.936	2.924	1.7	20.1	3 2	11 4.43	+ 5 27.3	1.437	2.427	1.4	20.4
3 12	10 55.06	+12 13.4	1.936	2.914	4.1	20.2	3 12	10 55.10	+ 6 37.1	1.463	2.449	3.7	20.6
3 22	10 46.34	+13 1.1	1.965	2.904	8.0	20.4	3 22	10 46.83	+ 7 39.3	1.516	2.470	8.4	20.9
4 1	10 39.07	+13 35.1	2.020	2.892	11.6	20.6	4 1	10 40.57	+ 8 27.8	1.593	2.492	12.6	21.2
4 11	10 33.88	+13 53.4	2.098	2.880	14.6	20.8	4 11	10 36.87	+ 8 59.5	1.692	2.512	16.0	21.5
310944	2003 <i>TC</i> ₁₂		3 4.6 124°12	1°7/ 3.1	18		323756	2005 <i>OG</i> ₇		3 4.6 114°45	4°1/29.1	18	
2 1	11 27.74	+ 8 7.0	1.882	2.725	12.9	21.3	2 1	11 24.97	+14 26.5	2.009	2.864	11.7	20.9
2 11	11 21.68	+ 9 0.2	1.823	2.741	9.3	21.1	2 11	11 19.64	+16 1.2	1.957	2.881	8.4	20.7
2 21	11 13.64	+10 1.7	1.789	2.757	5.2	20.9	2 21	11 12.47	+17 38.8	1.933	2.897	5.3	20.6
3 2	11 4.41	+11 5.0	1.784	2.772	1.8	20.7	3 2	11 4.18	+19 10.8	1.938	2.914	4.2	20.5
3 12	10 55.02	+12 2.9	1.808	2.787	4.3	20.9	3 12	10 55.75	+20 29.1	1.972	2.929	6.3	20.7
3 22	10 46.49	+12 49.4	1.860	2.801	8.3	21.2	3 22	10 48.08	+21 28.3	2.033	2.944	9.5	20.9
4 1	10 39.66	+13 21.0	1.939	2.814	11.8	21.4	4 1	10 41.98	+22 5.8	2.120	2.959	12.4	21.1
4 11	10 35.08	+13 36.3	2.039	2.827	14.8	21.6	4 11	10 37.97	+22 22.0	2.227	2.973	14.9	21.3
189045	2000 <i>QL</i> ₁₈		3 4.6 200°30	0°3/ 4.9	17		375330	2008 <i>RZ</i> ₁₃₁		3 4.6 144°68	1°8/ 2.7	17	
2 1	11 23.94	+ 2 20.2	2.257	3.082	11.7	21.1	2 1	11 23.88	+ 9 0.3	2.235	3.079	11.1	21.0
2 11	11 18.83	+ 3 1.5	2.172	3.078	8.6	20.9	2 11	11 18.73	+ 9 53.7	2.167	3.086	8.0	20.8
2 21	11 12.02	+ 3 55.2	2.112	3.075	5.1	20.7	2 21	11 11.92	+10 54.1	2.124	3.092	4.5	20.6
3 2	11 4.09	+ 4 57.0	2.081	3.070	1.2	20.4	3 2	11 4.07	+11 55.7	2.111	3.099	1.8	20.4
3 12	10 55.86	+ 6 1.3	2.079	3.065	2.8	20.5	3 12	10 56.03	+12 52.5	2.127	3.105	4.0	20.6
3 22	10 48.15	+ 7 2.2	2.108	3.060	6.6	20.7	3 22	10 48.60	+13 39.3	2.173	3.110	7.4	20.8
4 1	10 41.72	+ 7 54.5	2.164	3.054	10.1	21.0	4 1	10 42.52	+14 12.9	2.244	3.115	10.6	21.0
4 11	10 37.15	+ 8 34.8	2.243	3.048	13.1	21.1	4 11	10 38.29	+14 31.4	2.338	3.120	13.3	21.2
292779	2006 <i>UB</i> ₂₁₅		3 4.6 144°50	1°9/ 6.8	17		214210	2005 <i>EX</i> ₇₁		3 4.6 14°35	2°8/ 2.5	18	
2 1	11 23.11	- 1 44.1	2.532	3.337	11.2	21.0	2 1	11 25.53	+ 9 52.7	1.394	2.258	15.3	20.0
2 11	11 18.03	- 1 38.8	2.450	3.341	8.5	20.9	2 11	11 20.78	+10 45.1	1.331	2.259	11.0	19.8
2 21	11 11.46	- 1 21.7	2.394	3.345	5.5	20.7	2 21	11 13.44	+11 47.3	1.290	2.261	6.3	19.5
3 2	11 3.96	- 0 54.7	2.365	3.348	2.6	20.5	3 2	11 4.43	+12 50.8	1.275	2.262	2.8	19.3
3 12	10 56.24	- 0 21.4	2.367	3.352	2.7	20.5	3 12	10 55.06	+13 45.9	1.286	2.264	5.8	19.5
3 22	10 49.02	+ 0 14.2	2.398	3.355	5.6	20.7	3 22	10 46.69	+14 25.3	1.323	2.267	10.6	19.8
4 1	10 42.95	+ 0 47.9	2.457	3.358	8.6	20.9	4 1	10 40.45	+14 44.6	1.382	2.270	14.9	20.0
4 11	10 38.51	+ 1 16.1	2.540	3.361	11.3	21.1	4 11	10 37.01	+14 42.8	1.461	2.273	18.6	20.3
128309	2004 <i>BV</i> ₉₃		3 4.6 313°59	5°0/ 7.9	18		39430	4264 <i>T</i> ₋₂		3 4.6 264°62	5°5/28.8	18	
2 1	11 27.95	- 5 23.4	1.608	2.415	16.5	19.6	2 1	11 29.23	+20 34.3	1.942	2.796	12.1	19.2
2 11	11 22.45	- 6 5.8	1.523	2.408	13.1	19.4	2 11	11 23.01	+21 20.6	1.867	2.785	9.1	19.0
2 21	11 14.43	- 6 29.7	1.459	2.401	9.3	19.1	2 21	11 14.56	+22 4.4	1.817	2.773	6.4	18.8
3 2	11 4.64	- 6 34.6	1.421	2.394	5.8	18.9	3 2	11 4.66	+22 38.0	1.794	2.761	5.6	18.7
3 12	10 54.28	- 6 22.7	1.409	2.387	5.4	18.9	3 12	10 54.40	+22 55.0	1.800	2.749	7.5	18.8
3 22	10 44.62	- 5 58.8	1.423	2.381	8.6	19.0	3 22	10 44.91	+22 51.7	1.832	2.737	10.7	19.0
4 1	10 36.83	- 5 29.7	1.463	2.375	12.6	19.3	4 1	10 37.18	+22 27.6	1.889	2.725	13.8	19.2
4 11	10 31.72	- 5 2.1	1.524	2.369	16.3	19.5	4 11	10 31.86	+21 44.6	1.965	2.713	16.6	19.3
280488	2004 <i>LL</i> ₃₁		3 4.6 177°62	2°8/ 7.5	18		197560	2004 <i>FH</i> ₁₂₈		3 4.6 219°15	0°0/ 4.5		

EPHEMERIDES

3 4.6

3 4.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
165227	2000 <i>SP</i> ₆₂		3 4.6 161°91	0°5/ 5.2	18		180615	2004 <i>FZ</i> ₁₁₇		3 4.6 17°52	2°1/ 3.0	18	
2 1	11 27.47	+ 1 50.2	2.063	2.884	12.8	21.3	2 1	11 25.25	+ 9 2.8	1.439	2.301	15.1	20.2
2 11	11 21.45	+ 2 27.3	1.987	2.891	9.5	21.1	2 11	11 20.49	+ 9 42.4	1.376	2.303	10.9	20.0
2 21	11 13.54	+ 3 17.5	1.937	2.898	5.6	20.9	2 21	11 13.24	+10 31.7	1.336	2.306	6.2	19.7
3 2	11 4.43	+ 4 16.4	1.915	2.905	1.4	20.6	3 2	11 4.41	+11 23.3	1.321	2.310	2.2	19.5
3 12	10 55.06	+ 5 17.9	1.924	2.910	3.0	20.7	3 12	10 55.26	+12 8.7	1.333	2.314	5.2	19.7
3 22	10 46.38	+ 6 15.8	1.962	2.914	7.0	21.0	3 22	10 47.09	+12 41.1	1.371	2.318	9.9	20.0
4 1	10 39.21	+ 7 4.9	2.027	2.918	10.7	21.2	4 1	10 40.96	+12 56.3	1.432	2.323	14.2	20.2
4 11	10 34.13	+ 7 41.5	2.115	2.920	13.8	21.4	4 11	10 37.54	+12 53.0	1.512	2.329	17.8	20.5
217106	2001 <i>XG</i> ₉₆		3 4.6 84°75	0°8/ 5.4	18		501140	2013 <i>TT</i> ₅₂		3 4.6 220°75	4°3/ 9.7	17	
2 1	11 26.35	+ 1 30.7	1.837	2.665	13.9	20.7	2 1	11 24.08	-11 0.3	2.560	3.316	12.4	22.5
2 11	11 20.66	+ 1 59.3	1.781	2.688	10.2	20.6	2 11	11 18.89	-10 50.3	2.455	3.305	10.1	22.3
2 21	11 13.05	+ 2 41.6	1.749	2.710	6.0	20.4	2 21	11 12.07	-10 21.7	2.373	3.292	7.5	22.1
3 2	11 4.31	+ 3 32.8	1.744	2.733	1.7	20.1	3 2	11 4.16	- 9 35.1	2.319	3.279	5.1	21.9
3 12	10 55.47	+ 4 26.6	1.768	2.755	3.0	20.2	3 12	10 55.87	- 8 33.6	2.294	3.265	4.4	21.9
3 22	10 47.50	+ 5 16.9	1.821	2.776	7.2	20.5	3 22	10 47.97	- 7 22.1	2.299	3.251	6.2	21.9
4 1	10 41.21	+ 5 58.4	1.899	2.798	10.9	20.8	4 1	10 41.19	- 6 6.5	2.332	3.236	8.9	22.1
4 11	10 37.12	+ 6 27.8	2.001	2.819	14.0	21.1	4 11	10 36.09	- 4 53.1	2.391	3.219	11.7	22.2
418347	2008 <i>GN</i> ₆₉		3 4.6 316°91	10°5/ 24.3	17		173306	1999 <i>UY</i> ₄₃		3 4.6 124°67	0°9/ 5.4	18	
2 1	11 27.06	+28 7.9	1.422	2.291	14.8	20.1	2 1	11 27.99	+ 1 45.8	1.856	2.681	13.9	21.1
2 11	11 22.38	+29 43.6	1.353	2.266	12.2	19.9	2 11	11 21.94	+ 2 7.3	1.789	2.695	10.2	20.9
2 21	11 14.64	+31 11.2	1.305	2.243	10.6	19.7	2 21	11 13.85	+ 2 42.2	1.747	2.708	6.1	20.7
3 2	11 4.73	+32 16.9	1.282	2.219	11.0	19.7	3 2	11 4.52	+ 3 26.3	1.732	2.721	1.8	20.4
3 12	10 54.16	+32 49.6	1.282	2.196	13.3	19.7	3 12	10 54.98	+ 4 13.8	1.747	2.733	3.1	20.5
3 22	10 44.56	+32 44.1	1.304	2.174	16.6	19.8	3 22	10 46.26	+ 4 58.6	1.790	2.745	7.3	20.8
4 1	10 37.36	+32 1.2	1.344	2.153	19.9	20.0	4 1	10 39.24	+ 5 35.5	1.859	2.756	11.2	21.0
4 11	10 33.42	+30 46.4	1.399	2.132	22.8	20.2	4 11	10 34.50	+ 6 1.0	1.951	2.767	14.4	21.3
462055	2007 <i>EX</i> ₂₆		3 4.6 9°46	5°2/ 1.1	18		355767	2008 <i>RK</i> ₄₅		3 4.6 187°31	1°3/ 3.6	18	
2 1	11 30.23	+18 37.2	1.545	2.407	14.2	20.3	2 1	11 30.58	+ 7 35.0	1.783	2.622	13.7	21.7
2 11	11 23.98	+19 4.4	1.484	2.408	10.5	20.0	2 11	11 24.04	+ 8 7.8	1.706	2.622	10.0	21.5
2 21	11 15.17	+19 29.2	1.447	2.410	6.9	19.8	2 21	11 15.19	+ 8 49.8	1.654	2.621	5.7	21.2
3 2	11 4.79	+19 43.7	1.435	2.411	5.3	19.7	3 2	11 4.83	+ 9 35.5	1.630	2.620	1.5	21.0
3 12	10 54.17	+19 41.4	1.451	2.414	7.5	19.9	3 12	10 54.10	+10 18.0	1.636	2.618	4.2	21.1
3 22	10 44.67	+19 19.5	1.492	2.417	11.2	20.1	3 22	10 44.16	+10 51.4	1.669	2.614	8.7	21.4
4 1	10 37.35	+18 38.0	1.557	2.420	14.9	20.3	4 1	10 36.05	+11 11.6	1.729	2.611	12.7	21.6
4 11	10 32.86	+17 39.6	1.641	2.424	18.0	20.5	4 11	10 30.45	+11 16.7	1.810	2.606	16.1	21.8
81351	2000 <i>GH</i> ₅₀		3 4.6 216°95	2°4/ 7.6	18		468320	2016 <i>CQ</i> ₇₅		3 4.7 340°86	6°3/ 29.7	18	
2 1	11 23.97	- 5 23.9	2.560	3.346	11.6	20.8	2 1	11 27.16	+18 8.6	1.229	2.106	16.0	19.5
2 11	11 18.76	- 4 51.7	2.458	3.335	9.0	20.6	2 11	11 22.44	+18 52.5	1.163	2.095	11.9	19.3
2 21	11 11.98	- 4 3.2	2.381	3.324	6.1	20.4	2 21	11 14.64	+19 36.3	1.119	2.085	7.9	19.0
3 2	11 4.12	- 3 0.6	2.332	3.311	3.2	20.2	3 2	11 4.76	+20 9.2	1.098	2.075	6.3	18.9
3 12	10 55.92	- 1 48.3	2.314	3.298	2.9	20.1	3 12	10 54.38	+20 21.7	1.102	2.067	9.0	19.0
3 22	10 48.11	- 0 31.9	2.327	3.284	5.8	20.3	3 22	10 45.13	+20 8.5	1.130	2.060	13.4	19.2
4 1	10 41.41	+ 0 42.7	2.369	3.269	9.0	20.4	4 1	10 38.40	+19 29.2	1.177	2.054	17.7	19.4
4 11	10 36.38	+ 1 50.2	2.436	3.253	11.8	20.6	4 11	10 34.96	+18 26.8	1.243	2.049	21.5	19.7
106821	2000 <i>XX</i> ₄₅		3 4.6 293°67	6°5/ 2.6	18		58127	1981 <i>EG</i> ₃₇		3 4.7 74°42	3°4/ 7.4	18	
2 1	11 45.11	+20 15.4	1.043	1.905	19.5	18.2	2 1	11 24.54	- 5 14.6	1.331	2.156	18.3	19.8
2 11	11 36.18	+20 6.5	0.975	1.898	14.8	17.9	2 11	11 20.17	- 4 44.9	1.262	2.162	14.1	19.6
2 21	11 22.84	+19 48.5	0.928	1.891	9.7	17.6	2 21	11 13.17	- 3 47.4	1.214	2.167	9.3	19.3
3 2	11 6.49	+19 10.6	0.904	1.884	6.5	17.4	3 2	11 4.43	- 2 26.2	1.190	2.172	4.6	19.1
3 12	10 49.53	+18 5.9	0.906	1.877	9.2	17.5	3 12	10 55.28	- 0 50.1	1.192	2.178	4.3	19.1
3 22	10 34.43	+16 34.9	0.933	1.871	14.6	17.7	3 22	10 47.10	+ 0 49.2	1.219	2.183	8.8	19.3
4 1	10 23.10	+14 43.8	0.982	1.865	19.9	18.0	4 1	10 41.05	+ 2 20.6	1.271	2.189	13.6	19.6
4 11	10 16.39	+12 40.1	1.048	1.859	24.4	18.3	4 11	10 37.86	+ 3 35.6	1.344	2.194	17.7	19.9
93876	2000 <i>WZ</i> ₁₂₅		3 4.6 100°95	3°0/ 2.1	18		264282	1998 <i>FE</i> ₆₃		3 4.7 307°55	4°1/ 1.6	17	
2 1	11 28.30	+13 33.7	1.923	2.774	12.4	19.8	2 1	11 29.17	+16 8.9	1.710	2.567	13.3	19.6
2 11	11 22.11	+14 5.8	1.862	2.783	8.9	19.6	2 11	11 23.20	+16 35.1	1.632	2.555	9.8	19.3
2 21	11 13.92	+14 40.4	1.826	2.793	5.3	19.4	2 21	11 14.80	+17 2.0	1.578	2.543	6.1	19.1
3 2	11 4.52	+15 11.5	1.818	2.802	3.0	19.2	3 2	11 4.77	+17 22.7	1.551	2.531	4.1	18.9
3 12	10 54.96	+15 33.5	1.839	2.811	5.2	19.4	3 12	10 54.33	+17 30.7	1.551	2.520	6.4	19.1
3 22	10 46.25	+15 42.4	1.888	2.820	8.8	19.6	3 22	10 44.71	+17 21.9	1.579	2.509	10.3	19.2
4 1	10 39.27	+15 36.5	1.962	2.829	12.1	19.9	4 1	10 36.99	+16 55.2	1.631	2.498	14.1	19.5
4 11	10 34.54	+15 16.1	2.058	2.837	15.0	20.1	4 11	10 31.90	+16 11.5	1.702	2.487	17.4	19.6
158093	2000 <i>WT</i> ₈₉		3 4.6 162°89	3°1/ 1.5	18		427114	2014 <i>UE</i> ₉₂		3 4.7 31°79	3°0/ 2.2	18	
2 1	11 25.41	+13 10.0	2.097	2.948	11.5	20.5	2 1	11 23.37	+10 4.1	1.378	2.246	15.2	20.5
2 11	11 19.97	+14 3.7	2.029	2.951	8.2	20.3	2 11	11 19.10	+11 6.1	1.327	2.258	10.9	20.3
2 21	11 12.69	+15 1.3	1.987	2.954	4.9	20.1	2 21	11 12.41	+12 17.1	1.299	2.271	6.2	20.0
3 2	11 4.27	+15 56.4	1.974	2.956	3.1	19.9	3 2	11 4.24	+13 27.8	1.297	2.284	3.0	19.9
3 12	10 55.61	+16 42.4	1.990	2.959	5.2	20.1	3 12	10 55.90	+14 28.5	1.321	2.298	5.9	20.1
3 22	10 47.64	+17 14.9	2.034	2.960	8.6	20.3	3 22	10 48.61	+15 11.9	1.370	2.313	10.4	20.4
4 1	10 41.15	+17 31.1	2.103	2.962	11.7	20.5	4 1	10 43.38	+15 34.2	1.442	2.328	14.5	20.6
4 11	10 36.70	+17 30.6	2.194	2.963	14.5	20.7	4 11	10 40.80	+15 35.0	1.533	2.344	17.9	20.9
5558	Johannapier		3 4.6 105°66	7°8/ 26.1	18 R		122201	2000 <i>LG</i> ₂₁		3 4.7 229°32	4°2/ 9.2		

EPHEMERIDES

3 4.7

3 4.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
368144	2013 LZ ₁₅		3 4.7 237°54	7.8/11.3	17		172029	2001 VP ₃₉		3 4.7 132°28	7.7/23.6	18	
2 1	11 29.18	-17 12.8	2.261	2.978	15.0	20.4	2 1	11 26.87	+32 40.5	2.549	3.385	10.2	20.2
2 11	11 22.99	-18 4.4	2.153	2.962	12.9	20.2	2 11	11 20.88	+33 53.5	2.507	3.392	8.6	20.1
2 21	11 14.66	-18 35.5	2.067	2.945	10.6	20.0	2 21	11 13.16	+34 55.5	2.491	3.399	7.7	20.1
3 2	11 4.78	-18 43.1	2.006	2.928	8.6	19.8	3 2	11 4.42	+35 39.8	2.502	3.406	8.0	20.1
3 12	10 54.24	-18 26.9	1.972	2.910	7.8	19.7	3 12	10 55.56	+36 1.9	2.540	3.412	9.3	20.2
3 22	10 44.07	-17 49.9	1.965	2.892	8.8	19.8	3 22	10 47.46	+36 0.5	2.602	3.418	11.0	20.3
4 1	10 35.25	-16 57.7	1.985	2.872	11.1	19.9	4 1	10 40.86	+35 36.7	2.687	3.424	12.8	20.5
4 11	10 28.55	-15 57.8	2.029	2.852	13.7	20.0	4 11	10 36.25	+34 53.3	2.789	3.430	14.3	20.6
56634	2000 KZ ₁₁		3 4.7 140°25	3.5/8.5	18		90220	2003 BQ ₂		3 4.7 297°85	5.3/8.2	17	
2 1	11 24.59	-7 34.7	2.172	2.956	13.5	19.8	2 1	11 27.15	-6 33.8	1.709	2.508	16.0	19.3
2 11	11 19.32	-7 15.3	2.094	2.967	10.6	19.6	2 11	11 22.06	-7 12.8	1.600	2.479	12.9	19.1
2 21	11 12.32	-6 36.9	2.040	2.977	7.4	19.5	2 21	11 14.40	-7 33.8	1.513	2.450	9.4	18.8
3 2	11 4.23	-5 41.7	2.013	2.987	4.4	19.3	3 2	11 4.79	-7 35.2	1.451	2.421	6.1	18.5
3 12	10 55.90	-4 34.3	2.016	2.996	3.8	19.3	3 12	10 54.29	-7 18.5	1.415	2.392	5.7	18.4
3 22	10 48.20	-3 21.2	2.047	3.005	6.4	19.4	3 22	10 44.16	-6 48.1	1.407	2.363	8.8	18.5
4 1	10 41.88	-2 8.8	2.106	3.013	9.6	19.6	4 1	10 35.66	-6 10.3	1.423	2.334	12.9	18.7
4 11	10 37.48	-1 3.3	2.190	3.021	12.5	19.8	4 11	10 29.75	-5 32.9	1.461	2.305	16.9	18.8
20885	2000 WD ₂		3 4.7 199°30	2.9/7.7	18		84397	2002 TP ₁₇₈		3 4.7 148°26	4.1/9.3	18	
2 1	11 25.71	-4 59.4	2.470	3.257	12.0	18.5	2 1	11 22.69	-9 16.3	2.407	3.180	12.7	19.8
2 11	11 20.04	-5 0.2	2.377	3.253	9.4	18.3	2 11	11 17.87	-9 14.7	2.323	3.184	10.2	19.6
2 21	11 12.73	-4 46.6	2.308	3.249	6.4	18.1	2 21	11 11.48	-8 55.4	2.261	3.188	7.4	19.4
3 2	11 4.33	-4 20.1	2.268	3.244	3.6	17.9	3 2	11 4.09	-8 19.7	2.227	3.192	4.9	19.3
3 12	10 55.60	-3 43.8	2.258	3.239	3.3	17.8	3 12	10 56.43	-7 30.7	2.221	3.195	4.2	19.2
3 22	10 47.33	-3 1.9	2.277	3.233	6.0	18.0	3 22	10 49.28	-6 33.3	2.244	3.199	6.1	19.4
4 1	10 40.28	-2 19.3	2.325	3.226	9.0	18.2	4 1	10 43.34	-5 33.2	2.294	3.202	8.9	19.5
4 11	10 34.97	-1 40.7	2.397	3.219	11.9	18.4	4 11	10 39.11	-4 36.0	2.370	3.205	11.5	19.7
63519	2001 OJ ₁₀₇		3 4.7 95°05	2.1/6.2	18		398019	2009 DM ₁₃		3 4.7 54°12	0.0/4.6	18	
2 1	11 30.13	-0 38.1	1.494	2.320	16.6	18.6	2 1	11 26.59	+5 48.5	1.997	2.833	12.6	20.9
2 11	11 23.83	-0 32.8	1.435	2.338	12.4	18.4	2 11	11 20.76	+5 52.9	1.937	2.850	9.1	20.7
2 21	11 15.07	-0 9.5	1.399	2.356	7.8	18.1	2 21	11 13.13	+6 5.4	1.902	2.868	5.2	20.5
3 2	11 4.82	+0 28.1	1.388	2.374	3.1	17.9	3 2	11 4.42	+6 22.5	1.895	2.885	1.1	20.3
3 12	10 54.37	+1 13.3	1.405	2.392	3.7	18.0	3 12	10 55.60	+6 39.5	1.917	2.903	3.1	20.4
3 22	10 45.02	+1 59.0	1.449	2.409	8.3	18.3	3 22	10 47.58	+6 52.6	1.968	2.921	7.0	20.7
4 1	10 37.79	+2 38.4	1.519	2.426	12.6	18.6	4 1	10 41.13	+6 58.5	2.045	2.939	10.5	21.0
4 11	10 33.30	+3 6.8	1.610	2.442	16.2	18.8	4 11	10 36.76	+6 55.4	2.145	2.957	13.4	21.2
26855	2006 BF ₃₁		3 4.7 45°62	1.5/3.3	18		287255	2002 TH ₁₀₃		3 4.7 59°40	3.9/8.9	18	
2 1	11 23.43	+7 23.2	1.813	2.663	13.0	20.4	2 1	11 21.78	-8 22.1	2.007	2.796	14.3	20.2
2 11	11 18.77	+8 13.1	1.744	2.666	9.4	20.2	2 11	11 17.39	-8 6.4	1.936	2.810	11.3	20.0
2 21	11 12.12	+9 13.1	1.701	2.670	5.3	19.9	2 21	11 11.25	-7 30.0	1.889	2.824	7.9	19.8
3 2	11 4.20	+10 16.8	1.684	2.673	1.6	19.7	3 2	11 4.04	-6 35.3	1.867	2.838	4.9	19.6
3 12	10 56.02	+11 16.7	1.696	2.677	4.2	19.9	3 12	10 56.62	-5 27.1	1.873	2.853	4.1	19.6
3 22	10 48.57	+12 6.5	1.735	2.681	8.3	20.1	3 22	10 49.87	-4 12.3	1.908	2.867	6.6	19.8
4 1	10 42.72	+12 41.7	1.800	2.685	12.1	20.3	4 1	10 44.54	-2 58.0	1.969	2.882	9.8	20.0
4 11	10 39.07	+13 0.0	1.886	2.689	15.3	20.6	4 11	10 41.16	-1 50.5	2.054	2.897	12.8	20.2
67853	Iwamura		3 4.7 170°65	1.0/3.6	18		245630	2005 XM ₄₇		3 4.7 123°54	3.6/1.9	18	
2 1	11 26.32	+5 42.2	1.925	2.763	12.9	20.2	2 1	11 30.27	+12 31.1	1.547	2.403	14.5	21.2
2 11	11 20.79	+6 40.2	1.851	2.767	9.3	20.0	2 11	11 23.96	+13 27.8	1.491	2.415	10.5	20.9
2 21	11 13.26	+7 49.7	1.803	2.770	5.3	19.7	2 21	11 15.17	+14 29.7	1.458	2.426	6.2	20.7
3 2	11 4.45	+9 4.7	1.783	2.773	1.3	19.4	3 2	11 4.88	+15 28.3	1.453	2.437	3.6	20.6
3 12	10 55.33	+10 17.4	1.792	2.775	3.9	19.6	3 12	10 54.39	+16 15.0	1.476	2.448	6.2	20.8
3 22	10 46.92	+11 21.0	1.831	2.776	8.0	19.9	3 22	10 44.97	+16 44.0	1.525	2.458	10.4	21.0
4 1	10 40.10	+12 10.3	1.896	2.776	11.8	20.1	4 1	10 37.68	+16 52.7	1.598	2.467	14.3	21.3
4 11	10 35.46	+12 42.8	1.982	2.776	15.0	20.3	4 11	10 33.13	+16 41.9	1.691	2.476	17.5	21.5
496949	2001 XM ₂₄₄		3 4.7 71°94	5.1/10.4	17		472883	2015 FR ₃₁₅		3 4.7 260°56	1.0/3.5	17	
2 1	11 22.68	-11 57.9	2.289	3.049	13.6	21.2	2 1	11 20.98	+6 3.7	2.349	3.188	10.8	21.7
2 11	11 17.87	-12 7.2	2.216	3.064	11.1	21.0	2 11	11 16.71	+7 0.9	2.262	3.179	7.8	21.4
2 21	11 11.46	-11 56.8	2.165	3.079	8.4	20.9	2 21	11 10.86	+8 8.1	2.202	3.170	4.4	21.2
3 2	11 4.05	-11 27.5	2.140	3.094	6.0	20.8	3 2	11 3.97	+9 20.2	2.171	3.161	1.1	20.9
3 12	10 56.45	-10 42.2	2.143	3.109	5.1	20.7	3 12	10 56.77	+10 31.1	2.170	3.151	3.4	21.1
3 22	10 49.43	-9 46.0	2.174	3.124	6.6	20.9	3 22	10 50.04	+11 35.1	2.198	3.142	6.9	21.3
4 1	10 43.71	-8 44.9	2.232	3.139	9.1	21.0	4 1	10 44.47	+12 27.4	2.252	3.132	10.2	21.5
4 11	10 39.78	-7 45.1	2.314	3.154	11.6	21.2	4 11	10 40.62	+13 5.3	2.330	3.123	13.0	21.7
499072	2009 ET ₁₀		3 4.7 301°57	1.6/3.4	17		498587	2008 QS ₂₉		3 4.7 230°41	0.5/4.2	17	
2 1	11 24.69	+7 7.1	1.442	2.300	15.3	21.7	2 1	11 27.71	+6 46.5	2.249	3.080	11.5	21.3
2 11	11 20.35	+7 51.6	1.359	2.285	11.1	21.5	2 11	11 21.66	+7 0.0	2.158	3.070	8.4	21.1
2 21	11 13.37	+8 50.1	1.299	2.269	6.4	21.1	2 21	11 13.74	+7 20.9	2.094	3.059	4.8	20.8
3 2	11 4.53	+9 55.6	1.265	2.254	1.8	20.8	3 2	11 4.59	+7 45.6	2.058	3.048	1.0	20.5
3 12	10 55.08	+10 58.6	1.257	2.239	5.0	21.0	3 12	10 55.08	+8 9.4	2.053	3.037	3.2	20.7
3 22	10 46.36	+11 50.7	1.274	2.225	10.2	21.2	3 22	10 46.10	+8 28.3	2.078	3.026	7.0	20.9
4 1	10 39.63	+12 25.2	1.315	2.210	15.0	21.4	4 1	10 38.49	+8 39.0	2.129	3.013	10.6	21.1
4 11	10 35.70	+12 39.2	1.375	2.196	19.0	21.7	4 11	10 32.87	+8 39.4	2.204	3.001	13.6	21.3
143264	2003 AW ₉		3 4.7 10°79	1.4/5.9	18		173453	2000 QF ₁₆		3 4.7 125°07	1.7/6.6	18	
2 1	11 22.87	+0 56.3	1.891	2.721	13.4	19.2	2 1	11 25.28	-0 45.7	2.726	3.527	10.6	20.7
2 11	11												

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
218652	2005 SY ₁₂₅		3 4.7 129°13	0°0/ 4.5 18			417044	2005 UY ₁₂₇		3 4.7 85°81	0°9/ 3.8 18		
2 1	11 24.40	+ 2 50.4	2.147	2.974	12.1	21.5	2 1	11 26.08	+ 6 35.0	1.810	2.654	13.3	21.9
2 11	11 19.16	+ 3 44.8	2.079	2.988	8.8	21.3	2 11	11 20.62	+ 7 10.9	1.750	2.668	9.6	21.7
2 21	11 12.22	+ 4 51.3	2.037	3.002	5.1	21.1	2 21	11 13.16	+ 7 56.4	1.713	2.681	5.4	21.5
3 2	11 4.25	+ 6 4.7	2.024	3.014	1.1	20.8	3 2	11 4.48	+ 8 45.8	1.705	2.695	1.3	21.2
3 12	10 56.10	+ 7 18.5	2.041	3.027	3.0	21.0	3 12	10 55.63	+ 9 32.6	1.725	2.708	3.8	21.4
3 22	10 48.60	+ 8 26.3	2.088	3.038	6.8	21.2	3 22	10 47.62	+10 11.0	1.773	2.721	8.0	21.7
4 1	10 42.51	+ 9 23.1	2.162	3.050	10.2	21.5	4 1	10 41.31	+10 37.0	1.846	2.735	11.7	21.9
4 11	10 38.31	+10 5.8	2.259	3.060	13.1	21.7	4 11	10 37.23	+10 48.6	1.941	2.748	14.8	22.2
402891	2007 SF ₃		3 4.7 200°01	0°6/ 4.1 17			521062	2015 DL ₂₃₈		3 4.7 231°01	0°3/ 5.0 17		
2 1	11 28.80	+ 5 47.2	2.061	2.891	12.5	22.3	2 1	11 23.22	+ 3 16.8	2.495	3.319	10.8	21.7
2 11	11 22.57	+ 6 19.8	1.976	2.887	9.1	22.1	2 11	11 18.25	+ 3 39.7	2.405	3.312	7.9	21.5
2 21	11 14.32	+ 7 2.3	1.917	2.882	5.2	21.8	2 21	11 11.73	+ 4 12.4	2.342	3.304	4.7	21.2
3 2	11 4.73	+ 7 50.1	1.886	2.876	1.1	21.5	3 2	11 4.19	+ 4 51.4	2.307	3.296	1.1	21.0
3 12	10 54.77	+ 8 37.1	1.886	2.870	3.5	21.7	3 12	10 56.37	+ 5 32.6	2.302	3.288	2.5	21.1
3 22	10 45.44	+ 9 18.0	1.915	2.862	7.6	21.9	3 22	10 48.99	+ 6 11.4	2.327	3.280	6.1	21.3
4 1	10 37.62	+ 9 48.3	1.971	2.854	11.3	22.2	4 1	10 42.77	+ 6 44.0	2.379	3.271	9.3	21.5
4 11	10 31.97	+10 5.4	2.050	2.845	14.5	22.3	4 11	10 38.20	+ 7 7.4	2.456	3.262	12.1	21.6
214238	2005 ES ₁₈₂		3 4.7 64°36	2°1/ 3.1 18			229095	2004 QC ₇		3 4.7 123°48	4°5/ 28.0 18		
2 1	11 28.25	+ 8 37.1	1.388	2.246	15.8	20.1	2 1	11 24.54	+17 0.6	2.245	3.099	10.7	20.9
2 11	11 22.56	+ 9 21.0	1.340	2.266	11.3	19.9	2 11	11 19.26	+18 39.5	2.194	3.115	7.8	20.7
2 21	11 14.37	+10 14.2	1.315	2.285	6.3	19.7	2 21	11 12.29	+20 19.0	2.170	3.130	5.2	20.6
3 2	11 4.72	+11 9.0	1.316	2.305	2.2	19.5	3 2	11 4.30	+21 51.0	2.177	3.145	4.7	20.6
3 12	10 54.97	+11 56.5	1.344	2.325	5.1	19.7	3 12	10 56.14	+23 8.4	2.213	3.159	6.6	20.7
3 22	10 46.42	+12 30.2	1.398	2.345	9.8	20.0	3 22	10 48.66	+24 6.4	2.277	3.173	9.3	20.9
4 1	10 40.09	+12 46.4	1.475	2.365	14.0	20.3	4 1	10 42.58	+24 42.9	2.366	3.186	11.9	21.1
4 11	10 36.53	+12 44.6	1.572	2.385	17.4	20.6	4 11	10 38.42	+24 58.7	2.475	3.199	14.1	21.3
522374	2016 CW ₃₀₂		3 4.7 263°14	0°7/ 5.3 17			204496	2005 CH ₄		3 4.7 309°65	3°3/ 6.3 17		
2 1	11 25.44	+ 2 7.8	1.817	2.648	13.8	21.7	2 1	11 30.79	+ 0 34.1	1.397	2.230	17.1	19.5
2 11	11 20.42	+ 2 29.3	1.727	2.637	10.3	21.5	2 11	11 25.10	- 0 15.4	1.303	2.209	13.2	19.2
2 21	11 13.22	+ 3 5.2	1.661	2.624	6.2	21.2	2 21	11 16.34	- 0 52.2	1.231	2.188	8.6	18.8
3 2	11 4.52	+ 3 51.7	1.623	2.612	1.7	20.9	3 2	11 5.28	- 1 16.3	1.183	2.167	4.1	18.5
3 12	10 55.34	+ 4 42.6	1.613	2.599	3.3	20.9	3 12	10 53.27	- 1 29.9	1.162	2.147	4.7	18.5
3 22	10 46.75	+ 5 31.5	1.630	2.587	7.8	21.2	3 22	10 41.91	- 1 36.7	1.167	2.127	9.6	18.7
4 1	10 39.76	+ 6 12.5	1.673	2.574	12.0	21.4	4 1	10 32.69	- 1 41.9	1.195	2.108	14.7	18.9
4 11	10 35.07	+ 6 41.2	1.739	2.561	15.6	21.6	4 11	10 26.65	- 1 50.7	1.244	2.090	19.2	19.1
372412	2009 RP ₄₃		3 4.7 203°50	1°4/ 6.1 17			488901	2005 TQ ₇₈		3 4.7 250°74	2°3/ 6.6 17		
2 1	11 25.35	- 0 26.5	2.371	3.181	11.7	22.4	2 1	11 27.42	- 2 45.1	1.706	2.521	15.3	22.0
2 11	11 19.86	- 0 4.1	2.280	3.176	8.8	22.2	2 11	11 22.15	- 2 19.1	1.604	2.501	11.8	21.7
2 21	11 12.68	+ 0 31.2	2.214	3.170	5.5	22.0	2 21	11 14.41	- 1 31.9	1.525	2.480	7.6	21.4
3 2	11 4.38	+ 1 16.5	2.177	3.164	2.1	21.7	3 2	11 4.84	- 0 26.0	1.473	2.458	3.3	21.1
3 12	10 55.76	+ 2 7.4	2.170	3.157	2.6	21.8	3 12	10 54.53	+ 0 52.3	1.448	2.435	3.7	21.1
3 22	10 47.62	+ 2 58.8	2.193	3.149	6.2	22.0	3 22	10 44.71	+ 2 14.4	1.452	2.411	8.3	21.3
4 1	10 40.73	+ 3 45.6	2.244	3.141	9.6	22.2	4 1	10 36.58	+ 3 31.5	1.481	2.386	13.0	21.5
4 11	10 35.63	+ 4 24.0	2.320	3.132	12.5	22.3	4 11	10 31.01	+ 4 36.2	1.533	2.361	17.1	21.7
89379	2001 VV ₉₄		3 4.7 198°06	2°8/ 1.4 17			120373	2005 PA ₂		3 4.7 173°34	2°1/ 2.1 18		
2 1	11 24.09	+11 11.5	2.252	3.099	10.9	20.1	2 1	11 23.84	+ 8 33.5	2.306	3.148	10.9	20.2
2 11	11 19.03	+12 30.6	2.175	3.096	7.8	19.9	2 11	11 18.77	+10 0.8	2.233	3.151	7.8	20.0
2 21	11 12.22	+13 56.5	2.125	3.093	4.6	19.7	2 21	11 12.05	+11 36.9	2.186	3.154	4.4	19.8
3 2	11 4.28	+15 22.3	2.105	3.088	2.8	19.6	3 2	11 4.27	+13 14.8	2.170	3.156	2.1	19.6
3 12	10 56.04	+16 40.7	2.115	3.084	5.0	19.7	3 12	10 56.22	+14 47.0	2.184	3.157	4.4	19.8
3 22	10 48.33	+17 45.7	2.154	3.078	8.3	19.9	3 22	10 48.71	+16 7.1	2.229	3.158	7.8	20.0
4 1	10 41.95	+18 33.5	2.219	3.072	11.4	20.1	4 1	10 42.49	+17 10.7	2.300	3.159	10.9	20.2
4 11	10 37.45	+19 2.6	2.306	3.066	14.1	20.2	4 11	10 38.08	+17 55.7	2.394	3.158	13.5	20.4
237312	2008 YT ₁₃₃		3 4.7 348°18	0°6/ 4.1 17			277783	2006 DF ₂₁₁		3 4.7 292°00	0°3/ 5.0 17		
2 1	11 23.43	+ 5 51.0	1.911	2.754	12.7	20.5	2 1	11 22.54	+ 2 21.4	1.954	2.788	12.9	21.3
2 11	11 18.75	+ 6 19.9	1.834	2.752	9.3	20.2	2 11	11 18.11	+ 2 59.8	1.872	2.783	9.5	21.1
2 21	11 12.13	+ 6 58.9	1.783	2.750	5.3	20.0	2 21	11 11.79	+ 3 51.9	1.815	2.779	5.6	20.9
3 2	11 4.27	+ 7 43.3	1.758	2.749	1.1	19.7	3 2	11 4.23	+ 4 53.5	1.785	2.775	1.4	20.6
3 12	10 56.10	+ 8 27.1	1.763	2.747	3.5	19.9	3 12	10 56.33	+ 5 57.9	1.785	2.771	3.1	20.7
3 22	10 48.59	+ 9 4.8	1.795	2.746	7.6	20.1	3 22	10 49.03	+ 6 58.6	1.812	2.767	7.3	20.9
4 1	10 42.59	+ 9 31.7	1.852	2.745	11.4	20.3	4 1	10 43.17	+ 7 49.8	1.865	2.763	11.1	21.2
4 11	10 38.70	+ 9 45.4	1.932	2.744	14.6	20.5	4 11	10 39.36	+ 8 27.5	1.941	2.759	14.4	21.4
259261	2003 CZ ₉		3 4.7 13°59	2°4/ 6.4 18			323810	2005 RU ₁₃		3 4.7 240°75	0°9/ 5.5 17		
2 1	11 22.69	- 0 54.0	1.318	2.163	17.3	19.6	2 1	11 25.70	+ 1 45.1	1.915	2.742	13.4	21.8
2 11	11 18.82	- 0 49.0	1.254	2.167	13.1	19.3	2 11	11 20.49	+ 2 6.1	1.827	2.734	10.0	21.5
2 21	11 12.41	- 0 23.3	1.210	2.171	8.3	19.1	2 21	11 13.22	+ 2 40.9	1.763	2.725	6.0	21.3
3 2	11 4.35	+ 0 19.3	1.191	2.177	3.4	18.8	3 2	11 4.55	+ 3 25.9	1.726	2.715	1.8	21.0
3 12	10 55.93	+ 1 11.8	1.196	2.184	3.9	18.8	3 12	10 55.45	+ 4 15.4	1.719	2.706	3.1	21.0
3 22	10 48.47	+ 2 5.5	1.227	2.192	8.7	19.1	3 22	10 46.94	+ 5 3.4	1.740	2.696	7.4	21.3
4 1	10 43.09	+ 2 52.3	1.281	2.200	13.4	19.4	4 1	10 39.96	+ 5 44.1	1.786	2.685	11.4	21.5
4 11	10 40.47	+ 3 26.3	1.355	2.210	17.4	19.7	4 11	10 35.17	+ 6 13.5	1.856	2.675	14.9	21.7
366428	2001 VB ₄₄		3 4.7 112°36	12°9/ 21.9 18			330958	2009 SK ₃₄₁		3 4.7 266°37	3°8/ 8.1 17		
2 1	11 26.68	-35 36.1	2.191	2.769									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
209997	2006 <i>JN</i> ₁₆		3 4.7 265°32	0°0/ 4.5 16			21479	Marymartha		3 4.7 229°33	1°1/ 3.7 18		
2 1	11 25.87	+ 3 16.8	1.687	2.525	14.4	21.3	2 1	11 27.55	+ 5 23.5	1.695	2.536	14.2	18.3
2 11	11 20.98	+ 3 56.4	1.593	2.507	10.7	21.0	2 11	11 22.15	+ 6 22.1	1.608	2.525	10.4	18.0
2 21	11 13.69	+ 4 52.1	1.522	2.488	6.3	20.7	2 21	11 14.34	+ 7 35.6	1.545	2.513	5.9	17.7
3 2	11 4.70	+ 5 59.0	1.478	2.468	1.4	20.3	3 2	11 4.84	+ 8 57.4	1.510	2.499	1.4	17.4
3 12	10 55.06	+ 7 9.3	1.462	2.448	3.8	20.4	3 12	10 54.78	+10 18.5	1.503	2.486	4.4	17.5
3 22	10 45.99	+ 8 15.0	1.474	2.428	8.7	20.7	3 22	10 45.36	+11 30.2	1.524	2.471	9.2	17.8
4 1	10 38.62	+ 9 8.7	1.511	2.407	13.3	20.9	4 1	10 37.71	+12 25.9	1.571	2.455	13.6	18.0
4 11	10 33.75	+ 9 45.9	1.569	2.386	17.2	21.1	4 11	10 32.60	+13 2.0	1.638	2.439	17.3	18.2
241876	2001 <i>UL</i> ₁₂₁		3 4.7 132°40	4°6/28.2 18			427395	1995 <i>UB</i> ₃₁		3 4.7 145°87	2°1/ 7.1 16		
2 1	11 24.64	+20 20.6	2.465	3.317	9.9	20.5	2 1	11 23.33	- 3 32.2	2.216	3.020	12.6	22.4
2 11	11 19.24	+21 18.2	2.407	3.324	7.4	20.4	2 11	11 18.44	- 3 2.6	2.138	3.027	9.6	22.2
2 21	11 12.26	+22 13.5	2.375	3.330	5.2	20.2	2 21	11 11.88	- 2 16.8	2.083	3.033	6.2	22.0
3 2	11 4.32	+23 0.5	2.372	3.336	4.7	20.2	3 2	11 4.27	- 1 18.0	2.056	3.039	2.9	21.8
3 12	10 56.22	+23 34.1	2.398	3.341	6.3	20.3	3 12	10 56.42	- 0 11.3	2.059	3.045	2.9	21.8
3 22	10 48.76	+23 51.3	2.452	3.347	8.8	20.5	3 22	10 49.13	+ 0 57.2	2.091	3.050	6.2	22.0
4 1	10 42.62	+23 51.1	2.530	3.352	11.2	20.6	4 1	10 43.16	+ 2 1.6	2.151	3.055	9.5	22.2
4 11	10 38.27	+23 34.3	2.630	3.357	13.3	20.8	4 11	10 39.02	+ 2 56.9	2.235	3.060	12.5	22.4
162630	2000 <i>SC</i> ₁₄₆		3 4.7 236°23	0°8/ 5.4 17			8948	1997 <i>CW</i> ₂₇		3 4.7 140°84	0°7/ 5.4 18		
2 1	11 27.24	+ 1 12.9	1.905	2.728	13.6	21.0	2 1	11 27.50	+ 1 40.9	1.978	2.801	13.2	18.6
2 11	11 21.71	+ 1 43.0	1.809	2.714	10.2	20.7	2 11	11 21.57	+ 2 11.1	1.908	2.812	9.8	18.4
2 21	11 14.00	+ 2 28.6	1.738	2.698	6.2	20.4	2 21	11 13.71	+ 2 54.5	1.863	2.824	5.8	18.2
3 2	11 4.75	+ 3 25.7	1.694	2.682	1.8	20.1	3 2	11 4.66	+ 3 46.7	1.845	2.834	1.6	17.9
3 12	10 54.95	+ 4 28.3	1.679	2.665	3.2	20.2	3 12	10 55.39	+ 4 41.9	1.858	2.844	3.0	18.0
3 22	10 45.68	+ 5 29.4	1.693	2.648	7.7	20.4	3 22	10 46.86	+ 5 34.0	1.899	2.853	7.1	18.3
4 1	10 37.96	+ 6 22.6	1.733	2.629	11.9	20.6	4 1	10 39.90	+ 6 17.7	1.968	2.862	10.8	18.5
4 11	10 32.52	+ 7 3.0	1.796	2.610	15.5	20.8	4 11	10 35.09	+ 6 49.6	2.059	2.870	13.9	18.8
80764	2000 <i>CP</i> ₅₅		3 4.7 139°37	0°1/ 4.6 18			399585	2003 <i>SH</i> ₃₃₂		3 4.7 111°34	0°9/ 3.8 18		
2 1	11 28.54	+ 3 15.9	1.649	2.485	14.8	19.8	2 1	11 27.12	+ 5 24.8	1.773	2.613	13.7	21.7
2 11	11 22.63	+ 4 2.8	1.584	2.496	10.8	19.6	2 11	11 21.40	+ 6 19.7	1.715	2.631	9.9	21.5
2 21	11 14.44	+ 5 4.5	1.542	2.507	6.2	19.3	2 21	11 13.64	+ 7 26.2	1.681	2.648	5.6	21.3
3 2	11 4.81	+ 6 14.8	1.527	2.517	1.3	19.0	3 2	11 4.65	+ 8 37.6	1.675	2.665	1.3	21.0
3 12	10 54.91	+ 7 25.5	1.541	2.527	3.7	19.2	3 12	10 55.49	+ 9 45.9	1.698	2.681	3.9	21.3
3 22	10 45.92	+ 8 28.7	1.583	2.535	8.4	19.5	3 22	10 47.21	+10 44.4	1.750	2.697	8.2	21.5
4 1	10 38.83	+ 9 18.5	1.651	2.544	12.6	19.8	4 1	10 40.69	+11 28.3	1.827	2.713	11.9	21.8
4 11	10 34.25	+ 9 51.4	1.740	2.551	16.1	20.0	4 11	10 36.47	+11 55.3	1.926	2.727	15.1	22.0
497779	2006 <i>SV</i> ₃₄₁		3 4.7 143°93	0°1/ 4.6 17			119989	2002 <i>XB</i> ₇₆		3 4.7 156°35	4°6/29.9 18		
2 1	11 23.57	+ 5 3.0	2.781	3.606	9.8	22.0	2 1	11 30.54	+15 10.2	1.602	2.459	14.1	20.1
2 11	11 18.27	+ 5 25.3	2.706	3.614	7.1	21.9	2 11	11 24.23	+16 17.3	1.542	2.465	10.2	19.9
2 21	11 11.64	+ 5 54.7	2.658	3.622	4.1	21.7	2 21	11 15.43	+17 27.5	1.506	2.471	6.4	19.6
3 2	11 4.19	+ 6 28.0	2.640	3.630	0.8	21.4	3 2	11 5.06	+18 31.3	1.497	2.476	4.7	19.5
3 12	10 56.58	+ 7 1.4	2.652	3.637	2.4	21.6	3 12	10 54.41	+19 20.0	1.517	2.480	7.2	19.7
3 22	10 49.45	+ 7 31.4	2.695	3.644	5.5	21.8	3 22	10 44.77	+19 47.9	1.562	2.484	11.0	19.9
4 1	10 43.40	+ 7 55.0	2.765	3.651	8.4	22.0	4 1	10 37.22	+19 53.1	1.632	2.487	14.7	20.2
4 11	10 38.86	+ 8 10.0	2.860	3.657	10.8	22.2	4 11	10 32.40	+19 36.9	1.720	2.490	17.8	20.4
310934	2003 <i>SJ</i> ₂₉₅		3 4.7 85°07	4°8/ 8.8 18			208428	2001 <i>TO</i> ₁₆		3 4.7 119°98	0°9/ 3.5 18		
2 1	11 25.70	- 8 15.5	1.582	2.381	17.1	20.6	2 1	11 21.33	+ 5 28.9	2.598	3.431	10.1	20.8
2 11	11 20.69	- 8 13.7	1.514	2.393	13.5	20.4	2 11	11 16.76	+ 6 35.9	2.531	3.444	7.2	20.6
2 21	11 13.37	- 7 47.0	1.467	2.405	9.6	20.2	2 21	11 10.82	+ 7 51.5	2.491	3.457	4.0	20.4
3 2	11 4.59	- 6 57.2	1.444	2.417	5.9	20.0	3 2	11 4.05	+ 9 10.8	2.480	3.470	1.0	20.2
3 12	10 55.50	- 5 50.0	1.449	2.428	5.1	20.0	3 12	10 57.12	+10 27.8	2.501	3.482	3.0	20.4
3 22	10 47.29	- 4 33.7	1.480	2.440	8.0	20.2	3 22	10 50.71	+11 37.3	2.552	3.494	6.2	20.6
4 1	10 40.97	- 3 17.4	1.536	2.452	11.8	20.4	4 1	10 45.39	+12 35.4	2.630	3.506	9.1	20.8
4 11	10 37.16	- 2 9.1	1.615	2.463	15.4	20.6	4 11	10 41.61	+13 19.6	2.733	3.517	11.5	21.0
189221	2004 <i>EN</i> ₉₀		3 4.7 80°14	1°8/ 3.3 18			426564	2013 <i>RF</i> ₉₇		3 4.7 137°34	2°0/ 2.7 18		
2 1	11 26.09	+ 6 20.7	1.311	2.171	16.4	20.8	2 1	11 26.10	+10 31.1	2.228	3.071	11.2	21.5
2 11	11 21.38	+ 7 24.3	1.248	2.174	11.9	20.5	2 11	11 20.39	+11 11.1	2.161	3.080	8.0	21.3
2 21	11 13.95	+ 8 43.6	1.206	2.177	6.7	20.2	2 21	11 12.98	+11 56.1	2.121	3.088	4.6	21.1
3 2	11 4.73	+10 9.6	1.190	2.179	2.0	19.9	3 2	11 4.52	+12 40.9	2.110	3.097	2.0	20.9
3 12	10 55.12	+11 30.9	1.200	2.182	5.3	20.1	3 12	10 55.88	+13 20.1	2.128	3.105	4.1	21.1
3 22	10 46.52	+12 37.7	1.236	2.185	10.6	20.4	3 22	10 47.92	+13 49.2	2.176	3.112	7.5	21.3
4 1	10 40.15	+13 23.4	1.294	2.188	15.3	20.7	4 1	10 41.36	+14 5.7	2.250	3.120	10.7	21.5
4 11	10 36.72	+13 45.7	1.372	2.191	19.2	21.0	4 11	10 36.72	+14 8.4	2.346	3.126	13.3	21.7
145366	2005 <i>MP</i> ₃₉		3 4.7 239°42	0°6/ 5.4 17			500520	2012 <i>TA</i> ₃₀₄		3 4.7 160°07	0°8/ 3.6 17		
2 1	11 22.11	+ 1 55.3	2.675	3.494	10.3	21.0	2 1	11 22.77	+ 7 0.9	2.856	3.687	9.4	22.4
2 11	11 17.40	+ 2 22.7	2.580	3.482	7.6	20.8	2 11	11 17.70	+ 7 42.8	2.781	3.693	6.7	22.3
2 21	11 11.24	+ 3 0.5	2.510	3.471	4.6	20.6	2 21	11 11.34	+ 8 31.2	2.733	3.699	3.8	22.1
3 2	11 4.12	+ 3 45.5	2.470	3.459	1.3	20.3	3 2	11 4.16	+ 9 22.0	2.715	3.705	1.0	21.9
3 12	10 56.72	+ 4 33.7	2.460	3.446	2.4	20.4	3 12	10 56.82	+10 11.0	2.728	3.710	2.8	22.0
3 22	10 49.70	+ 5 20.5	2.480	3.434	5.7	20.6	3 22	10 49.94	+10 54.1	2.772	3.714	5.8	22.2
4 1	10 43.72	+ 6 2.0	2.528	3.421	8.8	20.8	4 1	10 44.08	+11 28.4	2.843	3.718	8.5	22.4
4 11	10 39.26	+ 6 34.9	2.600	3.408	11.4	20.9	4 11	10 39.68	+11 51.8	2.939	3.722	10.9	22.6
109922	2001 <i>SU</i> ₃₀		3 4.7 89°17	0°0/ 4.5 18			284091	2005 <i>ME</i> ₄		3 4.7 230°06	3°0/29.7 17		</

EPHEMERIDES

3 4.7

3 4.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
323531	2004 <i>RX</i> ₁₇₉		3 4.7 231°82	4.1/ 9.3	18		421709	2014 <i>PH</i> ₂₂		3 4.7 102°83	0.8/ 3.9	18	
2 1	11 23.16	- 9 50.6	2.287	3.058	13.3	20.8	2 1	11 26.88	+ 5 9.1	1.711	2.552	14.1	21.3
2 11	11 18.45	- 9 33.7	2.186	3.047	10.7	20.6	2 11	11 21.32	+ 6 0.5	1.652	2.569	10.2	21.1
2 21	11 11.99	- 8 56.5	2.108	3.036	7.8	20.4	2 21	11 13.64	+ 7 4.0	1.619	2.586	5.7	20.9
3 2	11 4.34	- 8 0.0	2.057	3.024	5.0	20.2	3 2	11 4.70	+ 8 12.9	1.612	2.602	1.2	20.6
3 12	10 56.30	- 6 48.1	2.035	3.011	4.3	20.1	3 12	10 55.59	+ 9 19.3	1.634	2.618	3.9	20.8
3 22	10 48.69	- 5 26.8	2.042	2.998	6.5	20.2	3 22	10 47.37	+10 16.2	1.685	2.634	8.3	21.1
4 1	10 42.31	- 4 3.0	2.077	2.985	9.6	20.4	4 1	10 40.95	+10 58.6	1.760	2.649	12.1	21.4
4 11	10 37.77	- 2 43.6	2.136	2.971	12.6	20.6	4 11	10 36.89	+11 24.2	1.857	2.664	15.4	21.6
270240	2001 <i>UH</i> ₁₀		3 4.7 182°26	2.3/ 2.1	17		89912	2002 <i>EY</i> ₁₃		3 4.7 268°11	1.4/ 6.3	18	
2 1	11 26.29	+11 28.7	2.526	3.365	10.2	22.6	2 1	11 21.02	- 0 51.6	2.473	3.286	11.2	19.7
2 11	11 20.44	+12 22.7	2.450	3.366	7.3	22.4	2 11	11 16.71	- 0 25.8	2.383	3.280	8.4	19.5
2 21	11 13.00	+13 21.3	2.401	3.367	4.2	22.2	2 21	11 10.91	+ 0 12.8	2.319	3.275	5.3	19.3
3 2	11 4.54	+14 19.1	2.382	3.367	2.3	22.1	3 2	11 4.13	+ 1 1.4	2.283	3.269	2.1	19.1
3 12	10 55.85	+15 10.7	2.394	3.365	4.2	22.2	3 12	10 57.07	+ 1 55.6	2.276	3.263	2.5	19.1
3 22	10 47.69	+15 51.8	2.436	3.363	7.3	22.4	3 22	10 50.46	+ 2 50.4	2.299	3.257	5.8	19.3
4 1	10 40.76	+16 19.4	2.505	3.361	10.2	22.6	4 1	10 44.95	+ 3 40.9	2.349	3.251	8.9	19.5
4 11	10 35.59	+16 32.5	2.596	3.357	12.7	22.8	4 11	10 41.05	+ 4 23.3	2.424	3.245	11.8	19.7
341629	2007 <i>VG</i> ₉		3 4.7 120°77	0.5/ 4.1	17		292443	2006 <i>SB</i> ₃₅₂		3 4.7 166°96	3.5/ 9.5	17	
2 1	11 22.30	+ 5 4.3	2.481	3.313	10.6	21.4	2 1	11 21.01	- 9 55.3	2.759	3.523	11.5	21.5
2 11	11 17.51	+ 5 51.1	2.412	3.324	7.6	21.3	2 11	11 16.55	- 9 34.0	2.669	3.526	9.2	21.4
2 21	11 11.28	+ 6 46.6	2.369	3.335	4.3	21.1	2 21	11 10.75	- 8 55.8	2.604	3.529	6.6	21.2
3 2	11 4.17	+ 7 46.5	2.356	3.346	0.9	20.8	3 2	11 4.09	- 8 2.4	2.566	3.531	4.3	21.1
3 12	10 56.89	+ 8 45.3	2.372	3.356	2.9	21.0	3 12	10 57.21	- 6 57.3	2.558	3.533	3.6	21.0
3 22	10 50.15	+ 9 38.4	2.419	3.366	6.2	21.2	3 22	10 50.76	- 5 45.3	2.580	3.535	5.4	21.1
4 1	10 44.58	+10 21.7	2.492	3.376	9.2	21.4	4 1	10 45.32	- 4 31.7	2.630	3.537	7.9	21.3
4 11	10 40.63	+10 53.0	2.590	3.385	11.8	21.6	4 11	10 41.36	- 3 21.9	2.706	3.538	10.4	21.5
406299	2007 <i>GY</i> ₂₃		3 4.7 276°02	0.5/ 4.3	17		121107	1998 <i>KU</i> ₄₆		3 4.7 31°95	3.3/ 7.2	18	
2 1	11 27.34	+ 4 53.8	1.480	2.327	15.5	22.1	2 1	11 25.28	- 4 3.9	1.293	2.124	18.4	17.6
2 11	11 22.40	+ 5 26.7	1.388	2.307	11.5	21.8	2 11	11 20.91	- 3 46.4	1.222	2.125	14.2	17.4
2 21	11 14.70	+ 6 15.4	1.318	2.286	6.7	21.5	2 21	11 13.78	- 3 2.5	1.172	2.127	9.3	17.1
3 2	11 5.00	+ 7 14.3	1.275	2.265	1.4	21.1	3 2	11 4.79	- 1 55.8	1.145	2.129	4.5	16.8
3 12	10 54.52	+ 8 15.0	1.258	2.244	4.4	21.2	3 12	10 55.32	- 0 34.5	1.144	2.130	4.3	16.8
3 22	10 44.67	+ 9 9.0	1.268	2.222	9.8	21.5	3 22	10 46.80	+ 0 50.7	1.168	2.132	9.1	17.1
4 1	10 36.78	+ 9 48.9	1.302	2.200	14.9	21.7	4 1	10 40.47	+ 2 9.0	1.216	2.134	14.0	17.4
4 11	10 31.77	+10 10.6	1.355	2.178	19.1	21.9	4 11	10 37.11	+ 3 12.2	1.283	2.137	18.3	17.6
140598	2001 <i>TD</i> ₂₃₈		3 4.7 71°32	7.0/27.5	18		66404	1999 <i>LK</i> ₂₀		3 4.7 280°99	2.1/ 3.1	18	
2 1	11 28.26	+21 48.5	1.628	2.491	13.5	18.9	2 1	11 26.95	+ 8 33.4	1.540	2.403	14.6	19.8
2 11	11 22.41	+23 13.6	1.591	2.512	10.2	18.8	2 11	11 22.02	+ 9 18.3	1.459	2.382	10.7	19.5
2 21	11 14.26	+24 33.2	1.579	2.532	7.6	18.7	2 21	11 14.45	+10 15.2	1.391	2.361	6.1	19.2
3 2	11 4.80	+25 37.1	1.594	2.553	7.1	18.7	3 2	11 4.97	+11 17.1	1.350	2.339	2.2	18.8
3 12	10 55.31	+26 17.9	1.635	2.573	9.2	18.8	3 12	10 54.78	+12 15.1	1.337	2.317	5.3	19.0
3 22	10 46.95	+26 32.2	1.701	2.593	12.1	19.1	3 22	10 45.21	+13 1.3	1.349	2.295	10.2	19.2
4 1	10 40.66	+26 20.6	1.789	2.614	15.0	19.3	4 1	10 37.54	+13 29.7	1.386	2.273	14.9	19.4
4 11	10 36.95	+25 46.8	1.896	2.634	17.5	19.5	4 11	10 32.63	+13 37.9	1.442	2.250	18.9	19.6
312121	2007 <i>TK</i> ₂₂₀		3 4.7 86°74	0.9/ 3.9	18		335893	2007 <i>RT</i> ₂₀₇		3 4.7 116°10	1.0/ 3.6	18	
2 1	11 28.56	+ 5 38.0	1.555	2.400	15.1	21.6	2 1	11 24.35	+ 7 31.1	2.561	3.395	10.2	21.7
2 11	11 22.62	+ 6 21.4	1.503	2.422	10.9	21.4	2 11	11 18.91	+ 8 8.5	2.498	3.412	7.3	21.5
2 21	11 14.41	+ 7 16.7	1.475	2.443	6.1	21.2	2 21	11 12.06	+ 8 52.1	2.462	3.429	4.1	21.3
3 2	11 4.85	+ 8 17.0	1.474	2.464	1.3	20.9	3 2	11 4.36	+ 9 37.6	2.456	3.445	1.1	21.1
3 12	10 55.18	+ 9 14.2	1.501	2.485	4.1	21.1	3 12	10 56.55	+10 20.5	2.480	3.461	3.1	21.3
3 22	10 46.58	+10 1.3	1.555	2.505	8.7	21.4	3 22	10 49.32	+10 56.6	2.534	3.477	6.2	21.5
4 1	10 39.99	+10 33.7	1.634	2.526	12.8	21.7	4 1	10 43.29	+11 23.1	2.615	3.492	9.1	21.7
4 11	10 35.97	+10 49.5	1.734	2.545	16.1	22.0	4 11	10 38.90	+11 38.3	2.720	3.506	11.5	21.9
197054	2003 <i>UH</i> ₁₄₉		3 4.7 127°00	1.8/ 2.7	18		287458	2002 <i>YG</i> ₂₃		3 4.7 64°37	2.8/ 2.3	18	
2 1	11 24.97	+ 9 49.4	2.369	3.210	10.7	21.1	2 1	11 25.53	+ 9 42.7	1.540	2.399	14.4	20.6
2 11	11 19.48	+10 33.9	2.305	3.223	7.6	20.9	2 11	11 20.49	+10 52.4	1.492	2.418	10.3	20.3
2 21	11 12.42	+11 23.7	2.268	3.235	4.3	20.7	2 21	11 13.22	+12 10.3	1.468	2.438	5.8	20.1
3 2	11 4.42	+12 13.8	2.260	3.247	1.8	20.5	3 2	11 4.62	+13 27.6	1.470	2.457	2.8	20.0
3 12	10 56.27	+12 58.7	2.282	3.259	3.8	20.7	3 12	10 55.91	+14 35.0	1.500	2.476	5.5	20.2
3 22	10 48.74	+13 34.4	2.333	3.270	7.1	20.9	3 22	10 48.21	+15 25.8	1.557	2.496	9.7	20.5
4 1	10 42.52	+13 57.9	2.411	3.281	10.1	21.1	4 1	10 42.45	+15 56.4	1.637	2.515	13.5	20.8
4 11	10 38.08	+14 8.0	2.512	3.291	12.6	21.3	4 11	10 39.18	+16 6.2	1.738	2.535	16.6	21.0
355806	2008 <i>SZ</i> ₂₅₉		3 4.7 222°99	2.1/ 6.4	18		261123	2005 <i>TP</i> ₁₈		3 4.7 90°72	3.2/ 1.9	18	
2 1	11 27.48	- 1 39.0	1.638	2.459	15.6	22.0	2 1	11 26.91	+12 43.5	1.789	2.644	12.9	20.7
2 11	11 22.14	- 1 19.8	1.552	2.452	11.9	21.7	2 11	11 21.32	+13 34.9	1.732	2.656	9.3	20.5
2 21	11 14.36	- 0 41.2	1.488	2.445	7.5	21.4	2 21	11 13.66	+14 30.7	1.699	2.667	5.5	20.3
3 2	11 4.90	+ 0 13.8	1.451	2.436	3.1	21.2	3 2	11 4.73	+15 23.4	1.694	2.678	3.2	20.2
3 12	10 54.89	+ 1 18.5	1.441	2.428	3.6	21.2	3 12	10 55.63	+16 6.1	1.718	2.689	5.6	20.4
3 22	10 45.58	+ 2 25.1	1.459	2.419	8.2	21.4	3 22	10 47.41	+16 33.7	1.768	2.700	9.3	20.6
4 1	10 38.08	+ 3 25.6	1.503	2.409	12.7	21.6	4 1	10 40.95	+16 43.8	1.843	2.711	12.7	20.8
4 11	10 33.16	+ 4 13.9	1.568	2.399	16.6	21.9	4 11	10 36.81	+16 36.4	1.939	2.722	15.7	21.1
368972	2007 <i>CL</i> ₂₉		3 4.7 26°47	1.4/ 3.5	18		65434	2002 <i>TD</i> ₂₄₃		3 4.7 56°00	0.2/		

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3 4.7

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
459602	2013 <i>HD</i> ₂₅		3 4.7 327°73	4°1/ 7.9 16			340613	2006 <i>QO</i> ₆₅		3 4.7 97°55	0°5/ 5.3 17		
2 1	11 23.99	- 5 43.0	1.444	2.263	17.4	21.1	2 1	11 25.16	+ 3 28.7	2.301	3.126	11.5	20.8
2 11	11 19.82	- 5 39.2	1.364	2.258	13.7	20.8	2 11	11 19.71	+ 3 36.3	2.226	3.133	8.5	20.6
2 21	11 13.12	- 5 10.5	1.305	2.253	9.4	20.6	2 21	11 12.63	+ 3 53.1	2.177	3.139	5.0	20.4
3 2	11 4.67	- 4 18.7	1.270	2.249	5.2	20.3	3 2	11 4.53	+ 4 16.1	2.156	3.145	1.3	20.1
3 12	10 55.70	- 3 9.9	1.261	2.245	4.7	20.3	3 12	10 56.22	+ 4 41.2	2.165	3.151	2.6	20.2
3 22	10 47.50	- 1 52.9	1.278	2.241	8.6	20.5	3 22	10 48.50	+ 5 4.4	2.203	3.157	6.2	20.5
4 1	10 41.24	- 0 37.6	1.318	2.238	13.1	20.7	4 1	10 42.09	+ 5 22.2	2.268	3.163	9.5	20.7
4 11	10 37.70	+ 0 27.3	1.380	2.235	17.1	21.0	4 11	10 37.50	+ 5 31.9	2.357	3.169	12.3	20.9
112654	2002 <i>PP</i> ₈₅		3 4.7 178°68	0°7/ 3.9 18			285872	2001 <i>NR</i> ₅		3 4.7 238°85	3°2/ 1.8 18		
2 1	11 26.22	+ 5 29.5	2.142	2.975	12.0	21.0	2 1	11 28.61	+11 10.6	1.803	2.652	13.1	21.8
2 11	11 20.64	+ 6 17.5	2.064	2.977	8.7	20.8	2 11	11 22.92	+12 21.5	1.714	2.636	9.5	21.5
2 21	11 13.24	+ 7 15.9	2.012	2.978	4.9	20.6	2 21	11 14.84	+13 41.8	1.650	2.618	5.6	21.2
3 2	11 4.66	+ 8 19.4	1.989	2.979	1.1	20.3	3 2	11 5.07	+15 3.3	1.615	2.599	3.2	21.0
3 12	10 55.80	+ 9 21.7	1.996	2.979	3.4	20.5	3 12	10 54.70	+16 17.0	1.608	2.580	5.9	21.2
3 22	10 47.55	+10 16.9	2.032	2.978	7.3	20.7	3 22	10 44.92	+17 15.2	1.630	2.559	10.1	21.4
4 1	10 40.71	+11 0.5	2.095	2.977	10.8	21.0	4 1	10 36.84	+17 53.0	1.676	2.538	14.1	21.5
4 11	10 35.85	+11 29.8	2.181	2.975	13.8	21.2	4 11	10 31.25	+18 8.9	1.742	2.515	17.5	21.7
368606	2004 <i>RJ</i> ₂₁₂		3 4.7 103°88	5°9/ 10.4 18			77830	2001 <i>QZ</i> ₂₂₂		3 4.7 188°39	0°0/ 4.5 17		
2 1	11 26.54	-12 10.3	2.071	2.829	14.9	20.6	2 1	11 26.08	+ 5 23.3	2.225	3.056	11.7	19.7
2 11	11 20.93	-12 37.8	1.995	2.842	12.2	20.4	2 11	11 20.47	+ 5 30.7	2.146	3.056	8.5	19.5
2 21	11 13.42	-12 44.3	1.942	2.854	9.3	20.2	2 21	11 13.12	+ 5 46.3	2.091	3.056	4.9	19.2
3 2	11 4.71	-12 29.6	1.914	2.866	6.8	20.1	3 2	11 4.65	+ 6 6.6	2.066	3.056	1.1	19.0
3 12	10 55.70	-11 56.2	1.914	2.878	5.9	20.1	3 12	10 55.91	+ 6 27.4	2.070	3.055	2.9	19.1
3 22	10 47.37	-11 9.0	1.942	2.889	7.5	20.2	3 22	10 47.77	+ 6 44.9	2.103	3.055	6.6	19.3
4 1	10 40.53	-10 14.6	1.996	2.901	10.1	20.4	4 1	10 40.99	+ 6 55.8	2.163	3.055	10.1	19.6
4 11	10 35.78	- 9 19.8	2.074	2.912	12.8	20.6	4 11	10 36.13	+ 6 57.6	2.247	3.054	13.0	19.7
393990	2005 <i>UF</i> ₄₁₆		3 4.7 202°52	4°5/ 29.9 18			295035	2008 <i>EU</i> ₈₃		3 4.7 275°11	0°5/ 5.2 17		
2 1	11 30.41	+15 5.9	1.749	2.602	13.3	21.8	2 1	11 23.03	+ 0 54.4	1.771	2.604	14.1	21.6
2 11	11 24.14	+16 14.2	1.676	2.598	9.7	21.5	2 11	11 18.81	+ 1 46.3	1.678	2.588	10.5	21.4
2 21	11 15.46	+17 26.4	1.629	2.593	6.1	21.3	2 21	11 12.43	+ 2 56.8	1.608	2.572	6.3	21.1
3 2	11 5.17	+18 33.6	1.609	2.587	4.5	21.2	3 2	11 4.54	+ 4 21.1	1.566	2.555	1.6	20.7
3 12	10 54.46	+19 27.2	1.618	2.581	6.9	21.3	3 12	10 56.11	+ 5 51.2	1.552	2.538	3.4	20.8
3 22	10 44.57	+20 1.1	1.655	2.574	10.7	21.5	3 22	10 48.23	+ 7 18.2	1.565	2.522	8.1	21.0
4 1	10 36.58	+20 13.0	1.715	2.566	14.4	21.7	4 1	10 41.89	+ 8 34.1	1.605	2.505	12.5	21.3
4 11	10 31.18	+20 3.3	1.795	2.557	17.5	21.9	4 11	10 37.84	+ 9 33.4	1.666	2.488	16.2	21.5
433853	2015 <i>BF</i> ₂₇₆		3 4.7 101°38	1°2/ 3.5 17			377438	2004 <i>TC</i> ₂₈₈		3 4.7 121°78	3°7/ 9.2 18		
2 1	11 24.53	+ 7 46.5	2.136	2.978	11.7	21.4	2 1	11 24.32	- 9 10.1	2.445	3.214	12.6	21.9
2 11	11 19.33	+ 8 25.0	2.070	2.988	8.4	21.2	2 11	11 19.01	- 8 54.1	2.371	3.232	10.0	21.8
2 21	11 12.43	+ 9 11.1	2.030	2.998	4.7	21.0	2 21	11 12.18	- 8 20.4	2.321	3.249	7.1	21.6
3 2	11 4.48	+ 9 59.5	2.018	3.008	1.4	20.8	3 2	11 4.44	- 7 30.7	2.299	3.266	4.5	21.5
3 12	10 56.34	+10 44.7	2.036	3.017	3.6	21.0	3 12	10 56.52	- 6 29.2	2.306	3.283	3.8	21.5
3 22	10 48.88	+11 21.7	2.082	3.027	7.2	21.2	3 22	10 49.19	- 5 21.2	2.343	3.299	5.8	21.6
4 1	10 42.82	+11 47.2	2.155	3.036	10.6	21.4	4 1	10 43.09	- 4 12.6	2.408	3.314	8.6	21.8
4 11	10 38.68	+11 59.3	2.250	3.046	13.4	21.7	4 11	10 38.71	- 3 8.8	2.499	3.329	11.2	22.0
6708	Bobbievaile		3 4.7 223°63	4°6/ 28.8 18			47281	1999 <i>VS</i> ₁₆₂		3 4.7 4°74	5°0/ 1.4 18		
2 1	11 25.97	+15 35.7	1.970	2.826	11.9	17.5	2 1	11 28.07	+15 50.2	1.309	2.180	15.6	18.7
2 11	11 20.75	+17 5.6	1.894	2.817	8.7	17.3	2 11	11 22.90	+16 33.0	1.250	2.180	11.5	18.5
2 21	11 13.44	+18 39.8	1.844	2.807	5.7	17.1	2 21	11 14.89	+17 17.8	1.212	2.180	7.2	18.2
3 2	11 4.73	+20 9.7	1.823	2.797	4.7	17.0	3 2	11 5.06	+17 55.1	1.200	2.181	5.0	18.1
3 12	10 55.60	+21 26.5	1.831	2.786	7.0	17.2	3 12	10 54.90	+18 16.0	1.213	2.183	7.7	18.3
3 22	10 47.09	+22 23.7	1.866	2.775	10.3	17.3	3 22	10 45.89	+18 15.6	1.251	2.185	12.0	18.5
4 1	10 40.14	+22 58.0	1.926	2.763	13.6	17.5	4 1	10 39.25	+17 52.4	1.310	2.188	16.2	18.8
4 11	10 35.41	+23 9.5	2.005	2.750	16.4	17.7	4 11	10 35.67	+17 8.6	1.388	2.192	19.8	19.0
365119	2009 <i>CJ</i> ₅₇		3 4.7 321°38	3°0/ 2.6 17			89493	2001 <i>XJ</i> ₃₈		3 4.7 163°47	0°4/ 5.0 18		
2 1	11 24.34	+ 9 47.0	1.289	2.158	15.9	20.6	2 1	11 30.40	+ 3 36.4	1.749	2.579	14.4	19.7
2 11	11 20.40	+10 37.6	1.212	2.144	11.6	20.3	2 11	11 24.00	+ 3 51.4	1.675	2.584	10.6	19.5
2 21	11 13.61	+11 40.2	1.158	2.129	6.7	20.0	2 21	11 15.31	+ 4 18.8	1.625	2.588	6.2	19.2
3 2	11 4.81	+12 46.3	1.128	2.115	3.0	19.7	3 2	11 5.14	+ 4 54.3	1.602	2.592	1.5	18.9
3 12	10 55.37	+13 45.2	1.123	2.102	6.3	19.8	3 12	10 54.64	+ 5 32.0	1.609	2.595	3.4	19.0
3 22	10 46.78	+14 27.9	1.142	2.090	11.5	20.1	3 22	10 44.97	+ 6 5.8	1.644	2.597	8.0	19.3
4 1	10 40.38	+14 48.6	1.184	2.078	16.3	20.3	4 1	10 37.13	+ 6 31.1	1.704	2.599	12.1	19.6
4 11	10 37.04	+14 45.6	1.243	2.067	20.5	20.6	4 11	10 31.78	+ 6 44.5	1.787	2.601	15.6	19.8
389257	2009 <i>FY</i> ₅₀		3 4.7 278°52	3°6/ 29.7 17			66588	1999 <i>RX</i> ₁₆₇		3 4.7 255°12	0°1/ 4.6 17		
2 1	11 24.08	+16 13.7	2.371	3.223	10.3	21.4	2 1	11 22.46	+ 2 22.3	2.144	2.973	12.1	19.8
2 11	11 19.06	+17 1.3	2.288	3.209	7.5	21.2	2 11	11 18.06	+ 3 26.4	2.048	2.958	8.9	19.6
2 21	11 12.33	+17 50.5	2.230	3.194	4.8	21.0	2 21	11 11.85	+ 4 45.6	1.977	2.941	5.2	19.4
3 2	11 4.48	+18 35.4	2.202	3.179	3.6	20.9	3 2	11 4.40	+ 6 15.0	1.935	2.925	1.1	19.0
3 12	10 56.30	+19 10.7	2.203	3.164	5.5	21.0	3 12	10 56.52	+ 7 47.2	1.923	2.908	3.2	19.2
3 22	10 48.63	+19 32.2	2.232	3.149	8.4	21.1	3 22	10 49.09	+ 9 14.8	1.940	2.891	7.2	19.4
4 1	10 42.23	+19 37.9	2.286	3.134	11.4	21.3	4 1	10 42.93	+10 31.2	1.985	2.873	11.0	19.6
4 11	10 37.66	+19 27.4	2.362	3.118	13.9	21.4	4 11	10 38.67	+11 31.9	2.053	2.855	14.2	19.7
492510	2014 <i>OZ</i> ₃₃		3 4.7 199°39	2°0/ 2.									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
309404	2007 <i>TG</i> ₂₅₈		3 4.7 60°67	1.5°/ 3.7	18		153925	2001 <i>YT</i> ₅₄		3 4.7 98°18	0.3°/ 4.4	18	
2 1	11 29.74	+ 8 30.3	1.409	2.264	15.8	20.9	2 1	11 27.07	+ 4 48.8	1.952	2.786	12.9	21.2
2 11	11 23.81	+ 8 50.3	1.351	2.274	11.4	20.6	2 11	11 21.23	+ 5 23.6	1.894	2.806	9.4	21.0
2 21	11 15.27	+ 9 19.4	1.316	2.285	6.5	20.4	2 21	11 13.54	+ 6 8.6	1.861	2.827	5.3	20.8
3 2	11 5.13	+ 9 51.0	1.306	2.296	1.8	20.1	3 2	11 4.75	+ 6 58.8	1.857	2.847	1.1	20.6
3 12	10 54.76	+10 18.0	1.324	2.307	4.7	20.3	3 12	10 55.85	+ 7 48.0	1.881	2.866	3.2	20.8
3 22	10 45.52	+10 34.4	1.367	2.318	9.6	20.6	3 22	10 47.76	+ 8 30.7	1.935	2.885	7.3	21.1
4 1	10 38.51	+10 36.9	1.435	2.330	14.0	20.9	4 1	10 41.28	+ 9 2.8	2.015	2.904	10.8	21.3
4 11	10 34.36	+10 24.2	1.522	2.341	17.6	21.2	4 11	10 36.92	+ 9 22.0	2.117	2.922	13.8	21.5
257465	1993 <i>OE</i> ₆		3 4.7 157°39	2°3/ 2.2	18		84789	2002 <i>XF</i> ₈₃		3 4.7 100°72	1°4/ 3.3	18	
2 1	11 25.88	+10 17.8	2.205	3.048	11.3	20.6	2 1	11 26.65	+ 6 30.6	1.931	2.771	12.8	19.5
2 11	11 20.33	+11 22.9	2.137	3.056	8.1	20.4	2 11	11 20.92	+ 7 36.3	1.879	2.795	9.1	19.3
2 21	11 13.03	+12 34.4	2.096	3.063	4.6	20.2	2 21	11 13.35	+ 8 51.6	1.852	2.820	5.1	19.1
3 2	11 4.64	+13 45.8	2.084	3.069	2.3	20.1	3 2	11 4.71	+10 9.4	1.854	2.844	1.5	18.9
3 12	10 56.03	+14 50.4	2.102	3.075	4.5	20.2	3 12	10 55.98	+11 22.2	1.886	2.867	4.0	19.1
3 22	10 48.06	+15 42.9	2.149	3.080	7.9	20.5	3 22	10 48.08	+12 23.8	1.947	2.889	7.8	19.4
4 1	10 41.49	+16 19.9	2.223	3.085	11.1	20.7	4 1	10 41.80	+13 10.0	2.034	2.911	11.3	19.7
4 11	10 36.86	+16 40.1	2.319	3.089	13.8	20.9	4 11	10 37.63	+13 39.1	2.143	2.932	14.1	19.9
242348	2004 <i>BU</i> ₂₁		3 4.7 59°22	3°0/ 1.7	18		241069	2006 <i>SE</i> ₃₇₃		3 4.7 245°21	1°3/ 3.3	17	
2 1	11 23.85	+11 54.4	1.896	2.752	12.3	19.9	2 1	11 22.89	+ 8 8.2	2.331	3.172	10.8	21.4
2 11	11 18.98	+12 56.6	1.844	2.769	8.7	19.7	2 11	11 18.15	+ 8 47.4	2.251	3.168	7.8	21.2
2 21	11 12.27	+14 3.5	1.818	2.787	5.1	19.5	2 21	11 11.79	+ 9 33.9	2.197	3.165	4.4	21.0
3 2	11 4.47	+15 8.0	1.820	2.804	3.0	19.4	3 2	11 4.39	+10 22.9	2.172	3.161	1.4	20.8
3 12	10 56.54	+16 2.9	1.851	2.822	5.2	19.6	3 12	10 56.73	+11 9.2	2.176	3.157	3.5	20.9
3 22	10 49.43	+16 43.2	1.908	2.840	8.7	19.9	3 22	10 49.59	+11 47.9	2.210	3.153	7.0	21.1
4 1	10 43.89	+17 6.0	1.991	2.858	12.0	20.1	4 1	10 43.68	+12 15.7	2.270	3.149	10.2	21.3
4 11	10 40.44	+17 11.1	2.094	2.876	14.7	20.3	4 11	10 39.54	+12 30.4	2.352	3.145	12.9	21.5
200846	2001 <i>YG</i> ₁₄		3 4.7 33°91	0°4/ 4.9	18		208446	2001 <i>TZ</i> ₁₄₅		3 4.7 172°30	2°9/ 1.2	17	
2 1	11 28.80	+ 4 13.3	1.299	2.150	17.1	19.1	2 1	11 23.95	+14 37.2	2.659	3.506	9.5	21.5
2 11	11 23.40	+ 4 17.7	1.235	2.154	12.6	18.9	2 11	11 18.72	+15 26.1	2.589	3.508	6.8	21.3
2 21	11 15.19	+ 4 36.5	1.192	2.159	7.4	18.6	2 21	11 12.03	+16 16.9	2.546	3.510	4.2	21.1
3 2	11 5.15	+ 5 5.0	1.174	2.164	1.8	18.2	3 2	11 4.44	+17 4.5	2.532	3.512	2.9	21.0
3 12	10 54.73	+ 5 36.0	1.182	2.169	4.0	18.4	3 12	10 56.66	+17 44.2	2.549	3.513	4.6	21.2
3 22	10 45.40	+ 6 2.5	1.216	2.175	9.5	18.7	3 22	10 49.40	+18 12.4	2.594	3.514	7.3	21.3
4 1	10 38.39	+ 6 18.7	1.273	2.181	14.3	19.0	4 1	10 43.29	+18 27.0	2.666	3.514	9.9	21.5
4 11	10 34.43	+ 6 21.2	1.349	2.188	18.4	19.3	4 11	10 38.79	+18 27.7	2.761	3.515	12.2	21.7
121250	1999 <i>RF</i> ₆₆		3 4.7 83°31	0°2/ 4.6	18		347432	2012 <i>TP</i> ₂₂		3 4.7 16°31	3°8/ 8.9	17	
2 1	11 28.02	+ 5 17.2	1.968	2.801	12.9	20.2	2 1	11 19.84	- 8 16.4	1.932	2.727	14.5	20.0
2 11	11 21.86	+ 5 36.6	1.913	2.824	9.3	20.0	2 11	11 16.21	- 7 51.3	1.853	2.731	11.5	19.8
2 21	11 13.87	+ 6 5.1	1.883	2.848	5.3	19.8	2 21	11 10.78	- 7 4.1	1.796	2.735	8.1	19.6
3 2	11 4.81	+ 6 38.3	1.880	2.871	1.1	19.5	3 2	11 4.19	- 5 57.0	1.765	2.739	4.8	19.4
3 12	10 55.68	+ 7 10.9	1.908	2.893	3.1	19.7	3 12	10 57.32	- 4 35.7	1.762	2.744	4.0	19.4
3 22	10 47.40	+ 7 38.2	1.964	2.916	7.1	20.0	3 22	10 51.06	- 3 7.6	1.787	2.749	6.7	19.6
4 1	10 40.74	+ 7 56.7	2.047	2.938	10.6	20.3	4 1	10 46.19	- 1 40.8	1.838	2.754	10.2	19.8
4 11	10 36.21	+ 8 4.4	2.152	2.959	13.5	20.5	4 11	10 43.30	- 0 22.4	1.913	2.760	13.4	20.0
461445	2002 <i>GL</i> ₆		3 4.7 285°77	8°8/ 24.8	17		487477	2014 <i>SO</i> ₁₉₆		3 4.7 214°07	4°2/ 1.0	17	
2 1	11 31.97	+30 34.1	2.013	2.855	12.3	21.3	2 1	11 28.91	+15 11.4	1.798	2.652	12.9	21.8
2 11	11 25.38	+31 43.7	1.932	2.827	10.2	21.1	2 11	11 23.01	+16 10.7	1.725	2.647	9.4	21.5
2 21	11 16.26	+32 43.8	1.877	2.799	8.9	21.0	2 21	11 14.80	+17 13.4	1.677	2.641	5.9	21.3
3 2	11 5.40	+33 24.7	1.847	2.771	9.1	21.0	3 2	11 5.09	+18 11.2	1.657	2.635	4.3	21.2
3 12	10 54.00	+33 38.9	1.844	2.742	10.9	21.0	3 12	10 54.98	+18 56.3	1.665	2.629	6.6	21.3
3 22	10 43.35	+33 23.3	1.866	2.713	13.4	21.1	3 22	10 45.66	+19 23.3	1.700	2.622	10.3	21.5
4 1	10 34.59	+32 38.7	1.910	2.684	16.0	21.2	4 1	10 38.13	+19 29.7	1.759	2.614	13.9	21.7
4 11	10 28.50	+31 29.2	1.971	2.655	18.4	21.3	4 11	10 33.08	+19 16.0	1.839	2.606	16.9	21.9
49588	1999 <i>CJ</i> ₁₄₉		3 4.7 91°49	0°2/ 4.9	18		388274	2006 <i>RV</i> ₅₉		3 4.7 128°68	0°2/ 4.4	17	
2 1	11 23.79	+ 3 10.9	2.240	3.068	11.7	19.9	2 1	11 22.76	+ 4 58.4	2.821	3.647	9.6	21.9
2 11	11 18.72	+ 3 41.6	2.175	3.083	8.5	19.7	2 11	11 17.72	+ 5 32.4	2.751	3.660	7.0	21.7
2 21	11 12.06	+ 4 22.8	2.135	3.098	5.0	19.5	2 21	11 11.40	+ 6 13.8	2.708	3.673	4.0	21.6
3 2	11 4.43	+ 5 10.2	2.123	3.113	1.2	19.3	3 2	11 4.31	+ 6 59.0	2.695	3.685	0.8	21.3
3 12	10 56.65	+ 5 58.7	2.141	3.128	2.7	19.4	3 12	10 57.08	+ 7 43.8	2.713	3.697	2.4	21.5
3 22	10 49.51	+ 6 43.4	2.189	3.142	6.3	19.7	3 22	10 50.33	+ 8 24.5	2.761	3.709	5.5	21.7
4 1	10 43.69	+ 7 20.1	2.263	3.156	9.6	19.9	4 1	10 44.63	+ 8 57.7	2.837	3.720	8.2	21.9
4 11	10 39.67	+ 7 46.1	2.361	3.171	12.4	20.1	4 11	10 40.39	+ 9 21.4	2.937	3.731	10.6	22.1
268978	2007 <i>EW</i> ₅₃		3 4.7 82°28	4°1/ 9.3	18		90610	6098 <i>P-L</i>		3 4.7 198°07	0°5/ 5.2	18	
2 1	11 21.95	- 9 52.8	1.894	2.679	15.2	20.2	2 1	11 28.00	+ 2 4.1	1.825	2.652	14.0	20.6
2 11	11 17.74	- 9 17.9	1.817	2.688	12.1	20.0	2 11	11 22.29	+ 2 38.7	1.743	2.650	10.4	20.4
2 21	11 11.65	- 8 18.5	1.763	2.696	8.6	19.8	2 21	11 14.39	+ 3 28.2	1.684	2.646	6.2	20.1
3 2	11 4.36	- 6 57.2	1.734	2.705	5.3	19.6	3 2	11 5.01	+ 4 28.0	1.653	2.642	1.6	19.8
3 12	10 56.81	- 5 20.2	1.733	2.714	4.3	19.5	3 12	10 55.20	+ 5 31.3	1.651	2.637	3.3	19.9
3 22	10 49.92	- 3 36.2	1.761	2.722	6.9	19.7	3 22	10 46.07	+ 6 31.0	1.677	2.631	7.8	20.2
4 1	10 44.53	- 1 54.0	1.816	2.731	10.4	19.9	4 1	10 38.61	+ 7 20.9	1.730	2.625	12.0	20.4
4 11	10 41.20	- 0 21.7	1.895	2.739	13.6	20.2	4 11	10 33.49	+ 7 56.9	1.805	2.618	15.5	20.6
429596	2011 <i>EA</i> ₇₀		3 4.7 84°73	3°7/ 1.4	18		310145	2011 <i>KL</i> ₁₆		3 4.7 34°86	4°6/ 9.8	17	

EPHEMERIDES

3 4.7

3 4.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
415786	2000 <i>WT</i> ₉₃		3 4.7 62°13	5°6/28.9	18		37057	2000 <i>UN</i> ₄₂		3 4.8 334°72	3°0/ 2.6	18	
2 1	11 28.97	+18 32.4	1.660	2.521	13.5	20.6	2 1	11 23.42	+9 38.0	1.194	2.069	16.6	18.0
2 11	11 22.75	+19 45.9	1.630	2.553	9.8	20.4	2 11	11 19.89	+10 28.8	1.122	2.056	12.1	17.6
2 21	11 14.42	+20 56.2	1.625	2.585	6.6	20.3	2 21	11 13.41	+11 32.5	1.072	2.044	7.0	17.3
3 2	11 4.95	+21 54.5	1.648	2.618	5.6	20.3	3 2	11 4.87	+12 39.8	1.045	2.033	3.1	17.0
3 12	10 55.56	+22 33.8	1.698	2.650	7.7	20.5	3 12	10 55.72	+13 39.5	1.043	2.023	6.4	17.2
3 22	10 47.35	+22 50.7	1.773	2.682	10.8	20.8	3 22	10 47.50	+14 22.0	1.065	2.014	11.8	17.5
4 1	10 41.15	+22 45.4	1.873	2.713	13.8	21.0	4 1	10 41.59	+14 41.5	1.107	2.007	16.8	17.7
4 11	10 37.41	+22 20.4	1.991	2.745	16.2	21.3	4 11	10 38.83	+14 36.4	1.167	2.000	21.0	18.0
155255	2005 <i>WO</i> ₇₃		3 4.7 163°84	0°2/ 5.0	18		204702	Péquignat		3 4.8 331°84	5°5/29.2	17	
2 1	11 23.79	+1 29.7	2.499	3.316	11.0	21.0	2 1	11 25.62	+18 2.0	1.612	2.479	13.4	19.5
2 11	11 18.67	+2 29.4	2.420	3.323	8.1	20.8	2 11	11 20.87	+18 56.1	1.542	2.468	10.0	19.2
2 21	11 12.04	+3 41.4	2.367	3.329	4.7	20.6	2 21	11 13.69	+19 50.7	1.495	2.458	6.7	19.0
3 2	11 4.47	+5 1.0	2.344	3.334	1.1	20.3	3 2	11 4.90	+20 37.0	1.474	2.448	5.5	18.9
3 12	10 56.67	+6 22.4	2.353	3.338	2.6	20.5	3 12	10 55.71	+21 6.9	1.479	2.438	7.8	19.0
3 22	10 49.38	+7 39.6	2.392	3.342	6.1	20.7	3 22	10 47.34	+21 15.3	1.510	2.429	11.5	19.2
4 1	10 43.25	+8 47.5	2.459	3.346	9.2	20.9	4 1	10 40.89	+21 0.7	1.563	2.421	15.1	19.4
4 11	10 38.78	+9 42.7	2.551	3.348	11.9	21.1	4 11	10 37.04	+20 24.5	1.635	2.414	18.3	19.6
380489	2004 <i>BS</i> ₉₉		3 4.7 16°31	2°9/ 2.1	18		46298	2001 <i>MU</i> ₁₈		3 4.8 112°22	3°2/ 8.6	18	
2 1	11 20.58	+9 57.5	1.549	2.416	13.9	20.2	2 1	11 21.78	-7 22.0	2.365	3.149	12.5	19.1
2 11	11 17.03	+11 4.5	1.493	2.423	9.9	19.9	2 11	11 17.31	-6 57.8	2.285	3.158	9.8	18.9
2 21	11 11.34	+12 20.4	1.460	2.431	5.7	19.7	2 21	11 11.31	-6 16.0	2.230	3.167	6.8	18.8
3 2	11 4.33	+13 36.6	1.454	2.440	2.9	19.5	3 2	11 4.35	-5 18.9	2.201	3.175	4.0	18.6
3 12	10 57.08	+14 43.9	1.474	2.450	5.6	19.7	3 12	10 57.18	-4 10.9	2.202	3.183	3.4	18.6
3 22	10 50.69	+15 35.4	1.520	2.461	9.7	20.0	3 22	10 50.53	-2 57.9	2.232	3.191	5.8	18.7
4 1	10 46.06	+16 6.7	1.589	2.473	13.5	20.3	4 1	10 45.08	-1 45.8	2.290	3.199	8.8	18.9
4 11	10 43.76	+16 16.8	1.679	2.486	16.7	20.5	4 11	10 41.32	-0 40.3	2.373	3.207	11.6	19.1
504657	2009 <i>AD</i> ₁₈		3 4.7 62°03	5°2/ 9.7	17		61617	2000 <i>QJ</i> ₉₈		3 4.8 95°68	1°1/ 3.9	18	
2 1	11 25.10	-9 56.1	2.053	2.828	14.5	20.9	2 1	11 29.95	+6 31.2	1.602	2.445	14.8	19.2
2 11	11 19.90	-10 20.7	1.980	2.840	11.7	20.8	2 11	11 23.64	+7 12.4	1.550	2.467	10.7	19.0
2 21	11 12.86	-10 25.8	1.930	2.852	8.7	20.6	2 21	11 15.06	+8 4.1	1.522	2.489	6.0	18.8
3 2	11 4.66	-10 11.5	1.905	2.865	6.0	20.5	3 2	11 5.16	+8 59.6	1.521	2.511	1.5	18.5
3 12	10 56.20	-9 40.9	1.907	2.878	5.3	20.4	3 12	10 55.16	+9 51.1	1.549	2.532	4.2	18.7
3 22	10 48.39	-8 58.7	1.938	2.890	7.1	20.6	3 22	10 46.22	+10 32.3	1.604	2.552	8.7	19.1
4 1	10 42.05	-8 11.1	1.995	2.903	9.9	20.8	4 1	10 39.29	+10 59.1	1.684	2.572	12.6	19.3
4 11	10 37.74	-7 24.3	2.075	2.916	12.7	21.0	4 11	10 34.92	+11 9.8	1.786	2.592	15.9	19.6
426367	2013 <i>NX</i> ₂₂		3 4.7 253°74	0°4/ 4.3	17		212575	2006 <i>SH</i> ₁₁₅		3 4.8 122°88	0°4/ 4.3	17	
2 1	11 22.40	+2 8.4	1.845	2.681	13.4	21.4	2 1	11 23.01	+5 19.0	2.471	3.302	10.6	21.4
2 11	11 18.24	+3 27.6	1.758	2.672	9.9	21.1	2 11	11 18.11	+5 50.8	2.398	3.309	7.7	21.2
2 21	11 12.07	+5 5.1	1.696	2.663	5.7	20.8	2 21	11 11.73	+6 30.9	2.351	3.316	4.4	21.0
3 2	11 4.51	+6 54.2	1.663	2.653	1.2	20.5	3 2	11 4.44	+7 15.2	2.333	3.323	0.9	20.8
3 12	10 56.52	+8 45.5	1.658	2.643	3.7	20.7	3 12	10 56.96	+7 59.2	2.345	3.329	2.8	21.0
3 22	10 49.09	+10 29.7	1.682	2.633	8.2	20.9	3 22	10 50.01	+8 38.4	2.386	3.335	6.1	21.2
4 1	10 43.15	+11 58.6	1.733	2.622	12.3	21.1	4 1	10 44.24	+9 9.3	2.455	3.341	9.2	21.4
4 11	10 39.38	+13 7.5	1.805	2.612	15.7	21.3	4 11	10 40.11	+9 29.5	2.547	3.347	11.8	21.6
502106	2015 <i>AX</i> ₂₇₃		3 4.7 227°52	2°1/ 2.7	17		246606	2008 <i>VM</i> ₂₁		3 4.8 170°45	1°5/ 3.1	17	
2 1	11 25.38	+10 16.7	2.104	2.950	11.6	21.7	2 1	11 24.03	+8 26.2	2.327	3.167	10.9	21.3
2 11	11 20.14	+10 59.2	2.025	2.945	8.4	21.5	2 11	11 18.97	+9 13.5	2.252	3.169	7.8	21.1
2 21	11 13.03	+11 48.0	1.971	2.939	4.8	21.2	2 21	11 12.28	+10 7.8	2.204	3.171	4.4	20.9
3 2	11 4.71	+12 37.6	1.946	2.933	2.1	21.0	3 2	11 4.57	+11 4.1	2.185	3.173	1.5	20.7
3 12	10 56.07	+13 21.9	1.950	2.927	4.4	21.2	3 12	10 56.62	+11 56.9	2.195	3.174	3.7	20.9
3 22	10 48.03	+13 55.9	1.983	2.921	8.0	21.4	3 22	10 49.23	+12 41.1	2.235	3.175	7.1	21.1
4 1	10 41.42	+14 16.1	2.042	2.915	11.4	21.6	4 1	10 43.10	+13 13.2	2.302	3.176	10.3	21.3
4 11	10 36.82	+14 21.2	2.122	2.908	14.4	21.8	4 11	10 38.77	+13 31.5	2.391	3.177	13.0	21.5
508658	2017 <i>UC</i> ₂		3 4.8 262°41	4°9/10.6	17		497411	2005 <i>WE</i> ₅₀		3 4.8 236°56	1°5/ 3.2	17	
2 1	11 23.90	-14 17.0	2.314	3.057	14.0	22.8	2 1	11 25.74	+8 12.9	2.156	2.996	11.6	22.5
2 11	11 19.17	-13 33.5	2.191	3.030	11.6	22.6	2 11	11 20.45	+8 58.5	2.067	2.984	8.4	22.2
2 21	11 12.59	-12 23.4	2.090	3.002	8.7	22.4	2 21	11 13.27	+9 52.7	2.003	2.971	4.8	22.0
3 2	11 4.66	-10 47.1	2.016	2.974	6.0	22.2	3 2	11 4.82	+10 50.1	1.968	2.957	1.6	21.7
3 12	10 56.19	-8 48.7	1.972	2.944	4.9	22.0	3 12	10 55.96	+11 44.6	1.963	2.943	3.9	21.9
3 22	10 48.03	-6 35.6	1.959	2.914	6.8	22.1	3 22	10 47.61	+12 30.4	1.987	2.928	7.8	22.1
4 1	10 41.07	-4 17.3	1.975	2.883	10.0	22.2	4 1	10 40.62	+13 3.5	2.037	2.913	11.3	22.3
4 11	10 35.98	-2 3.6	2.017	2.851	13.3	22.4	4 11	10 35.63	+13 21.5	2.110	2.898	14.4	22.4
222769	2002 <i>CS</i> ₈₆		3 4.8 81°97	0°8/ 3.9	18		412752	2014 <i>OE</i> ₃₇₀		3 4.8 169°07	0°6/ 4.2	18	
2 1	11 24.87	+5 15.2	1.818	2.660	13.4	20.7	2 1	11 29.33	+6 9.9	1.802	2.640	13.7	21.7
2 11	11 19.81	+6 7.1	1.759	2.677	9.6	20.5	2 11	11 23.22	+6 34.7	1.729	2.643	10.0	21.4
2 21	11 12.82	+7 10.3	1.726	2.693	5.4	20.3	2 21	11 14.90	+7 9.7	1.679	2.645	5.7	21.2
3 2	11 4.67	+8 18.6	1.720	2.710	1.2	20.0	3 2	11 5.17	+7 49.6	1.657	2.648	1.2	20.9
3 12	10 56.35	+9 24.4	1.743	2.726	3.7	20.2	3 12	10 55.11	+8 28.4	1.665	2.649	3.7	21.1
3 22	10 48.84	+10 21.2	1.793	2.743	7.8	20.5	3 22	10 45.84	+9 0.3	1.701	2.650	8.1	21.3
4 1	10 42.97	+11 4.3	1.870	2.759	11.5	20.8	4 1	10 38.32	+9 21.1	1.762	2.651	12.1	21.6
4 11	10 39.26	+11 31.2	1.968	2.775	14.6	21.0	4 11	10 33.20	+9 28.5	1.845	2.651	15.5	21.8
473929	2016 <i>EX</i> ₁₆₀		3 4.8 325°13	3°4/ 2.3	18		465180	2007 <i>EZ</i> ₁₄₁		3 4.8 13°23	2°5/ 7.2	17	
2 1	11 25.81	+12 13.0	1.447	2.31									

EPHEMERIDES

3 4.8

3 4.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
130852	2000 UR ₆₈		3 4.8 257°30	1.8/ 6.2	18		239904	2000 SV ₁₃₂		3 4.8 189°10	4.4/11.3	18	
2 1	11 27.07	- 0 32.7	1.668	2.493	15.2	20.3	2 1	11 20.90	-14 26.1	2.965	3.697	11.4	21.4
2 11	11 21.94	- 0 18.8	1.576	2.479	11.5	20.1	2 11	11 16.49	-14 2.1	2.867	3.696	9.4	21.2
2 21	11 14.39	+ 0 12.8	1.506	2.464	7.3	19.8	2 21	11 10.80	-13 19.6	2.792	3.695	7.2	21.1
3 2	11 5.11	+ 0 59.4	1.463	2.449	2.8	19.5	3 2	11 4.28	-12 19.7	2.745	3.693	5.2	21.0
3 12	10 55.20	+ 1 54.9	1.447	2.434	3.5	19.5	3 12	10 57.54	-11 5.3	2.727	3.691	4.4	20.9
3 22	10 45.90	+ 2 52.0	1.459	2.418	8.2	19.7	3 22	10 51.17	- 9 41.2	2.739	3.688	5.5	21.0
4 1	10 38.33	+ 3 43.4	1.496	2.402	12.7	19.9	4 1	10 45.76	- 8 12.8	2.780	3.685	7.6	21.1
4 11	10 33.30	+ 4 23.3	1.555	2.386	16.7	20.1	4 11	10 41.73	- 6 46.1	2.848	3.682	9.8	21.2
210697	2000 SQ ₈₀		3 4.8 231°13	1.4/ 6.6	18		372528	2009 SF ₃₅₇		3 4.8 277°72	3°2/ 2.1	17	
2 1	11 21.43	- 1 44.1	2.757	3.561	10.4	20.9	2 1	11 28.14	+13 13.2	1.828	2.681	12.8	20.7
2 11	11 16.96	- 1 12.4	2.659	3.551	7.9	20.7	2 11	11 22.52	+13 48.0	1.743	2.666	9.3	20.5
2 21	11 11.10	- 0 28.0	2.588	3.541	5.0	20.5	2 21	11 14.62	+14 27.2	1.683	2.650	5.6	20.2
3 2	11 4.33	+ 0 26.3	2.545	3.530	2.1	20.3	3 2	11 5.16	+15 4.3	1.651	2.635	3.2	20.0
3 12	10 57.28	+ 1 26.4	2.532	3.519	2.3	20.3	3 12	10 55.22	+15 32.4	1.646	2.619	5.6	20.1
3 22	10 50.60	+ 2 27.7	2.550	3.507	5.3	20.5	3 22	10 45.95	+15 46.6	1.670	2.604	9.5	20.3
4 1	10 44.89	+ 3 25.4	2.596	3.495	8.3	20.7	4 1	10 38.38	+15 44.1	1.718	2.588	13.3	20.5
4 11	10 40.65	+ 4 15.5	2.667	3.483	11.0	20.8	4 11	10 33.22	+15 24.5	1.786	2.573	16.6	20.7
162975	2001 QS ₂₇₉		3 4.8 87°94	5°3/28.3	18		463476	2013 PQ ₅₇		3 4.8 136°15	1°7/ 6.6	16	
2 1	11 30.41	+23 39.0	2.442	3.284	10.4	20.2	2 1	11 24.36	- 2 11.4	2.105	2.915	13.0	22.0
2 11	11 23.31	+24 21.7	2.404	3.311	7.9	20.1	2 11	11 19.33	- 1 35.1	2.030	2.925	9.8	21.8
2 21	11 14.61	+24 58.2	2.392	3.338	5.8	20.0	2 21	11 12.55	- 0 42.7	1.980	2.934	6.2	21.6
3 2	11 5.06	+25 23.0	2.410	3.365	5.3	20.0	3 2	11 4.67	+ 0 22.1	1.957	2.943	2.5	21.4
3 12	10 55.55	+25 32.1	2.457	3.391	6.7	20.1	3 12	10 56.56	+ 1 33.3	1.965	2.951	2.8	21.4
3 22	10 46.93	+25 24.0	2.532	3.416	9.0	20.3	3 22	10 49.07	+ 2 44.4	2.001	2.959	6.4	21.7
4 1	10 39.85	+24 59.2	2.632	3.442	11.2	20.5	4 1	10 42.97	+ 3 49.2	2.065	2.967	10.0	21.9
4 11	10 34.74	+24 19.8	2.754	3.466	13.1	20.7	4 11	10 38.80	+ 4 43.2	2.152	2.974	13.0	22.1
420889	2013 LS ₁₄		3 4.8 215°32	0°3/ 5.1	16		216798	2006 SG ₂₁₈		3 4.8 124°90	2°1/ 7.0	18	
2 1	11 26.93	+ 2 55.0	2.141	2.964	12.3	22.5	2 1	11 26.66	- 3 10.6	2.168	2.968	13.0	21.2
2 11	11 21.30	+ 3 25.2	2.050	2.956	9.1	22.3	2 11	11 20.88	- 2 44.7	2.099	2.987	9.9	21.0
2 21	11 13.76	+ 4 7.5	1.985	2.947	5.4	22.1	2 21	11 13.39	- 2 3.1	2.055	3.004	6.3	20.8
3 2	11 4.94	+ 4 58.0	1.948	2.937	1.3	21.8	3 2	11 4.85	- 1 9.1	2.039	3.022	2.9	20.6
3 12	10 55.71	+ 5 51.1	1.941	2.927	2.9	21.9	3 12	10 56.15	- 0 7.9	2.052	3.038	2.9	20.7
3 22	10 47.01	+ 6 41.1	1.964	2.916	7.0	22.1	3 22	10 48.12	+ 0 54.4	2.096	3.054	6.2	20.9
4 1	10 39.70	+ 7 23.0	2.014	2.905	10.7	22.3	4 1	10 41.52	+ 1 52.3	2.167	3.069	9.6	21.1
4 11	10 34.40	+ 7 53.3	2.086	2.892	13.9	22.5	4 11	10 36.86	+ 2 41.2	2.263	3.083	12.5	21.4
102110	1999 RV ₁₆₆		3 4.8 226°42	2°2/ 2.3	17		143320	2003 AY ₅₆		3 4.8 67°34	4°4/ 8.9	17	
2 1	11 24.77	+12 39.9	2.679	3.520	9.6	20.0	2 1	11 26.04	- 7 40.1	2.271	3.049	13.2	19.5
2 11	11 19.36	+13 9.3	2.597	3.514	6.9	19.8	2 11	11 20.51	- 8 10.0	2.188	3.053	10.5	19.3
2 21	11 12.47	+13 41.4	2.541	3.508	4.0	19.6	2 21	11 13.25	- 8 24.0	2.129	3.058	7.6	19.1
3 2	11 4.64	+14 12.1	2.516	3.501	2.2	19.5	3 2	11 4.84	- 8 22.4	2.097	3.062	5.1	19.0
3 12	10 56.57	+14 37.2	2.521	3.494	3.9	19.6	3 12	10 56.13	- 8 7.4	2.094	3.067	4.5	18.9
3 22	10 48.97	+14 53.3	2.555	3.486	6.8	19.8	3 22	10 47.97	- 7 42.6	2.119	3.072	6.6	19.1
4 1	10 42.51	+14 58.5	2.616	3.479	9.6	19.9	4 1	10 41.14	- 7 12.9	2.171	3.076	9.4	19.2
4 11	10 37.66	+14 51.8	2.701	3.471	12.0	20.1	4 11	10 36.19	- 6 43.3	2.248	3.081	12.1	19.4
366890	2005 TU ₈₉		3 4.8 164°72	1°0/ 3.8	16		91291	1999 FD ₂₇		3 4.8 288°74	0°0/ 4.6	17	
2 1	11 25.77	+ 6 23.3	2.063	2.900	12.2	22.1	2 1	11 22.06	+ 1 26.4	1.793	2.629	13.8	19.7
2 11	11 20.41	+ 7 7.0	1.989	2.904	8.8	21.9	2 11	11 18.20	+ 2 32.8	1.693	2.606	10.2	19.4
2 21	11 13.19	+ 8 0.3	1.940	2.907	5.0	21.7	2 21	11 12.20	+ 3 59.0	1.618	2.583	6.0	19.1
3 2	11 4.81	+ 8 57.9	1.920	2.910	1.2	21.4	3 2	11 4.65	+ 5 39.6	1.569	2.559	1.4	18.7
3 12	10 56.15	+ 9 53.5	1.930	2.913	3.6	21.6	3 12	10 56.52	+ 7 25.9	1.550	2.536	3.6	18.8
3 22	10 48.14	+10 41.3	1.968	2.915	7.5	21.8	3 22	10 48.84	+ 9 8.0	1.558	2.512	8.4	19.0
4 1	10 41.59	+11 17.1	2.033	2.916	11.0	22.1	4 1	10 42.65	+10 37.3	1.592	2.488	12.8	19.2
4 11	10 37.06	+11 38.7	2.120	2.918	14.0	22.3	4 11	10 38.70	+11 47.7	1.648	2.465	16.6	19.4
497736	2006 ST ₂₀₃		3 4.8 147°34	0°4/ 5.4	17		52642	1997 WB ₅₅		3 4.8 181°85	0°4/ 5.2	18	
2 1	11 21.85	+ 1 49.2	2.803	3.619	9.9	22.7	2 1	11 24.75	+ 2 15.4	1.838	2.671	13.6	19.4
2 11	11 17.14	+ 2 27.1	2.725	3.627	7.3	22.5	2 11	11 19.90	+ 2 49.9	1.761	2.671	10.1	19.2
2 21	11 11.14	+ 3 14.7	2.674	3.635	4.3	22.3	2 21	11 13.02	+ 3 38.6	1.707	2.671	6.0	19.0
3 2	11 4.34	+ 4 8.8	2.653	3.642	1.2	22.1	3 2	11 4.81	+ 4 37.1	1.681	2.671	1.5	18.7
3 12	10 57.37	+ 5 4.8	2.662	3.649	2.2	22.2	3 12	10 56.26	+ 5 38.6	1.684	2.671	3.2	18.8
3 22	10 50.84	+ 5 58.5	2.702	3.655	5.3	22.4	3 22	10 48.39	+ 6 36.2	1.715	2.671	7.5	19.0
4 1	10 45.32	+ 6 45.9	2.770	3.661	8.1	22.6	4 1	10 42.09	+ 7 24.2	1.771	2.670	11.5	19.3
4 11	10 41.24	+ 7 24.2	2.863	3.667	10.6	22.8	4 11	10 37.99	+ 7 58.5	1.850	2.670	14.9	19.5
357186	2002 EZ ₁₁₁		3 4.8 276°86	1°3/ 3.7	17		273656	2007 DL ₈₄		3 4.8 321°74	2°0/ 6.8	17	
2 1	11 27.00	+ 6 48.6	1.585	2.434	14.6	21.4	2 1	11 21.41	- 2 54.5	1.722	2.545	14.8	20.7
2 11	11 22.05	+ 7 27.0	1.494	2.415	10.7	21.1	2 11	11 17.65	- 2 15.9	1.637	2.538	11.3	20.5
2 21	11 14.53	+ 8 18.4	1.427	2.395	6.2	20.7	2 21	11 11.81	- 1 16.0	1.575	2.531	7.2	20.2
3 2	11 5.17	+ 9 16.8	1.386	2.376	1.6	20.4	3 2	11 4.56	+ 0 1.2	1.538	2.524	3.1	20.0
3 12	10 55.13	+10 13.8	1.373	2.356	4.6	20.5	3 12	10 56.88	+ 1 28.6	1.530	2.517	3.3	19.9
3 22	10 45.72	+11 1.7	1.386	2.336	9.6	20.8	3 22	10 49.81	+ 2 57.3	1.549	2.511	7.5	20.2
4 1	10 38.15	+11 34.5	1.424	2.316	14.2	21.0	4 1	10 44.30	+ 4 18.9	1.593	2.505	11.8	20.4
4 11	10 33.25	+11 48.8	1.482	2.296	18.2	21.2	4 11	10 41.05	+ 5 26.5	1.660	2.499	15.5	20.6
196537	2003 OK ₂₉		3 4.8 168°57	0°3/ 5.1	18		177629	2004 JM ₂₅		3 4.8 256°24	3°8/28.8	18	
2 1	11 24.57	+ 2 59.1	2.264	3.089	11.								

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
288822	2004 <i>RS</i> ₁₈₃		3 4.8 108°15	1°3/ 5.8 18			160820	2000 <i>WD</i> ₁₂₅		3 4.8 154°00	2°7/ 2.1 18		
2 1	11 30.27	+ 0 26.1	1.724	2.545	14.9	22.0	2 1	11 27.93	+10 25.6	1.932	2.778	12.5	21.0
2 11	11 23.79	+ 0 49.7	1.665	2.567	11.1	21.8	2 11	11 22.07	+11 34.2	1.867	2.787	9.0	20.8
2 21	11 15.17	+ 1 28.7	1.631	2.590	6.7	21.6	2 21	11 14.21	+12 50.0	1.828	2.795	5.2	20.6
3 2	11 5.26	+ 2 18.6	1.623	2.611	2.2	21.4	3 2	11 5.09	+14 5.4	1.817	2.803	2.7	20.4
3 12	10 55.22	+ 3 12.9	1.645	2.632	3.2	21.5	3 12	10 55.72	+15 12.6	1.836	2.809	5.1	20.6
3 22	10 46.14	+ 4 4.7	1.695	2.652	7.5	21.8	3 22	10 47.11	+16 5.6	1.884	2.815	8.8	20.8
4 1	10 38.93	+ 4 48.2	1.772	2.672	11.5	22.1	4 1	10 40.14	+16 40.8	1.957	2.821	12.3	21.0
4 11	10 34.16	+ 5 19.7	1.871	2.690	14.8	22.3	4 11	10 35.38	+16 57.2	2.051	2.825	15.2	21.3
109473	2001 <i>QV</i> ₂₁₈		3 4.8 16°61	0°4/ 5.0 18			290833	2005 <i>WH</i> ₂		3 4.8 165°63	6°7/26.0 18		
2 1	11 31.20	+ 5 46.2	1.481	2.325	15.8	19.0	2 1	11 27.41	+24 50.5	2.165	3.016	11.1	21.0
2 11	11 24.96	+ 5 23.8	1.412	2.327	11.6	18.8	2 11	11 21.65	+26 18.0	2.111	3.020	8.7	20.8
2 21	11 16.08	+ 5 10.9	1.365	2.330	6.9	18.5	2 21	11 13.95	+27 40.1	2.084	3.024	7.0	20.7
3 2	11 5.50	+ 5 4.1	1.344	2.334	1.7	18.2	3 2	11 5.04	+28 48.2	2.084	3.027	7.0	20.7
3 12	10 54.55	+ 4 59.2	1.351	2.337	3.7	18.3	3 12	10 55.89	+29 35.7	2.113	3.030	8.7	20.8
3 22	10 44.59	+ 4 51.9	1.384	2.342	8.8	18.6	3 22	10 47.49	+29 59.4	2.167	3.032	11.1	21.0
4 1	10 36.79	+ 4 38.8	1.442	2.347	13.3	18.9	4 1	10 40.68	+29 58.9	2.245	3.034	13.5	21.1
4 11	10 31.85	+ 4 17.6	1.521	2.352	17.0	19.2	4 11	10 36.03	+29 36.7	2.341	3.035	15.6	21.3
84957	2003 <i>XN</i> ₁₃		3 4.8 110°86	1°2/ 6.2 18			157269	2004 <i>RB</i> ₂₀₉		3 4.8 70°40	6°6/11.6 17		
2 1	11 23.59	- 0 54.9	2.407	3.217	11.6	20.0	2 1	11 23.10	-14 46.8	1.903	2.659	16.2	20.0
2 11	11 18.53	- 0 18.2	2.339	3.235	8.6	19.8	2 11	11 18.75	-14 53.0	1.820	2.662	13.4	19.8
2 21	11 12.00	+ 0 31.4	2.297	3.252	5.3	19.6	2 21	11 12.39	-14 33.3	1.757	2.664	10.5	19.6
3 2	11 4.56	+ 1 30.2	2.283	3.270	2.0	19.4	3 2	11 4.72	-13 47.2	1.719	2.667	7.7	19.5
3 12	10 56.99	+ 2 33.2	2.300	3.287	2.4	19.5	3 12	10 56.67	-12 38.3	1.706	2.669	6.6	19.4
3 22	10 50.00	+ 3 34.9	2.347	3.303	5.7	19.7	3 22	10 49.25	-11 13.3	1.721	2.672	7.9	19.5
4 1	10 44.23	+ 4 30.5	2.421	3.319	8.9	19.9	4 1	10 43.35	- 9 40.7	1.761	2.674	10.7	19.6
4 11	10 40.15	+ 5 16.3	2.520	3.335	11.6	20.1	4 11	10 39.60	- 8 9.7	1.826	2.677	13.7	19.8
21121	1992 <i>WV</i>		3 4.8 92°62	3°2/ 7.6 18			518675	2008 <i>TW</i> ₁₉₂		3 4.8 228°86	1°2/ 5.9 17		
2 1	11 26.81	- 5 1.5	1.637	2.446	16.1	18.4	2 1	11 24.53	+ 0 41.0	2.158	2.978	12.4	22.1
2 11	11 21.46	- 4 42.8	1.574	2.464	12.4	18.2	2 11	11 19.54	+ 0 59.5	2.071	2.973	9.3	21.9
2 21	11 13.91	- 4 2.5	1.533	2.481	8.2	18.0	2 21	11 12.76	+ 1 31.1	2.009	2.968	5.7	21.6
3 2	11 5.01	- 3 3.8	1.518	2.499	4.3	17.8	3 2	11 4.80	+ 2 12.5	1.975	2.962	2.0	21.4
3 12	10 55.89	- 1 53.6	1.531	2.516	3.9	17.8	3 12	10 56.49	+ 2 58.9	1.970	2.956	2.7	21.4
3 22	10 47.66	- 0 39.9	1.571	2.532	7.6	18.0	3 22	10 48.71	+ 3 44.9	1.993	2.951	6.5	21.6
4 1	10 41.28	+ 0 29.0	1.637	2.549	11.5	18.3	4 1	10 42.26	+ 4 25.7	2.044	2.945	10.1	21.9
4 11	10 37.33	+ 1 26.9	1.726	2.565	15.0	18.6	4 11	10 37.73	+ 4 57.1	2.118	2.938	13.3	22.0
418226	2008 <i>CK</i> ₂₀₃		3 4.8 171°96	2°1/ 2.6 18			379254	2009 <i>TT</i> ₃₉		3 4.8 208°26	5°3/10.5 17		
2 1	11 27.26	+10 16.5	2.250	3.090	11.2	20.9	2 1	11 23.61	-12 40.5	2.121	2.881	14.6	21.1
2 11	11 21.38	+11 4.6	2.177	3.094	8.1	20.7	2 11	11 18.97	-12 34.7	2.029	2.878	12.0	21.0
2 21	11 13.73	+11 58.5	2.131	3.098	4.6	20.5	2 21	11 12.47	-12 5.9	1.959	2.874	9.0	20.8
3 2	11 4.97	+12 52.6	2.113	3.100	2.1	20.3	3 2	11 4.74	-11 14.6	1.914	2.870	6.4	20.6
3 12	10 55.97	+13 41.0	2.126	3.102	4.2	20.5	3 12	10 56.62	-10 4.3	1.896	2.866	5.4	20.5
3 22	10 47.58	+14 19.0	2.169	3.103	7.6	20.7	3 22	10 49.03	- 8 41.2	1.907	2.861	7.1	20.6
4 1	10 40.60	+14 43.4	2.237	3.104	10.8	20.9	4 1	10 42.78	- 7 13.0	1.946	2.856	10.0	20.8
4 11	10 35.55	+14 53.1	2.329	3.104	13.6	21.1	4 11	10 38.51	- 5 47.7	2.008	2.851	13.0	21.0
130951	2000 <i>WQ</i> ₇₄		3 4.8 187°63	1°0/ 3.9 18			492623	2014 <i>OC</i> ₂₆₁		3 4.8 229°06	4°5/ 1.1 17		
2 1	11 29.07	+ 6 42.9	2.011	2.845	12.6	20.6	2 1	11 29.52	+14 53.1	1.664	2.521	13.6	22.0
2 11	11 22.91	+ 7 18.9	1.932	2.845	9.2	20.4	2 11	11 23.71	+15 55.9	1.590	2.513	10.0	21.8
2 21	11 14.72	+ 8 4.3	1.878	2.844	5.2	20.2	2 21	11 15.40	+17 3.0	1.539	2.504	6.3	21.5
3 2	11 5.21	+ 8 54.0	1.852	2.842	1.3	19.9	3 2	11 5.40	+18 5.7	1.516	2.495	4.5	21.4
3 12	10 55.35	+ 9 41.6	1.857	2.839	3.7	20.1	3 12	10 54.94	+18 55.0	1.521	2.486	7.0	21.5
3 22	10 46.16	+10 21.6	1.890	2.836	7.8	20.3	3 22	10 45.27	+19 24.8	1.552	2.476	10.9	21.7
4 1	10 38.53	+10 49.9	1.950	2.832	11.5	20.5	4 1	10 37.54	+19 32.3	1.607	2.466	14.8	21.9
4 11	10 33.10	+11 4.4	2.033	2.827	14.6	20.7	4 11	10 32.47	+19 18.1	1.682	2.455	18.1	22.1
402072	2003 <i>UW</i> ₃₂		3 4.8 122°82	1°4/ 3.6 18			5991	Ivavladis		3 4.8 334°94	2°7/ 2.8 18		
2 1	11 28.82	+ 7 24.4	1.849	2.689	13.3	22.1	2 1	11 24.91	+ 9 39.1	1.287	2.156	16.0	17.2
2 11	11 22.69	+ 8 8.2	1.788	2.705	9.5	21.9	2 11	11 20.82	+10 22.0	1.215	2.146	11.7	16.9
2 21	11 14.54	+ 9 1.0	1.752	2.720	5.4	21.6	2 21	11 13.93	+11 15.9	1.165	2.137	6.7	16.6
3 2	11 5.15	+ 9 56.5	1.745	2.734	1.5	21.4	3 2	11 5.10	+12 12.8	1.140	2.128	2.8	16.3
3 12	10 55.58	+10 47.8	1.767	2.748	4.0	21.6	3 12	10 55.71	+13 2.7	1.140	2.120	5.9	16.5
3 22	10 46.87	+11 29.3	1.817	2.762	8.1	21.9	3 22	10 47.24	+13 37.3	1.164	2.113	11.1	16.7
4 1	10 39.89	+11 57.1	1.893	2.775	11.8	22.1	4 1	10 40.98	+13 51.5	1.210	2.107	15.9	17.0
4 11	10 35.20	+12 9.6	1.991	2.787	14.9	22.3	4 11	10 37.74	+13 43.9	1.275	2.102	19.9	17.2
144489	2004 <i>EW</i> ₆₃		3 4.8 194°67	1°3/ 6.5 18			143529	2003 <i>EU</i> ₁₈		3 4.8 197°73	0°1/ 4.9 17		
2 1	11 21.32	- 1 44.2	2.698	3.503	10.6	20.5	2 1	11 24.39	+ 4 26.5	2.574	3.399	10.5	20.3
2 11	11 16.89	- 1 5.4	2.609	3.502	8.0	20.4	2 11	11 19.14	+ 4 40.5	2.490	3.397	7.7	20.1
2 21	11 11.08	- 0 13.7	2.546	3.499	5.0	20.2	2 21	11 12.40	+ 5 2.5	2.433	3.396	4.5	19.9
3 2	11 4.39	+ 0 47.9	2.511	3.497	2.0	20.0	3 2	11 4.70	+ 5 29.5	2.404	3.394	1.0	19.6
3 12	10 57.47	+ 1 54.9	2.508	3.494	2.3	20.0	3 12	10 56.77	+ 5 57.6	2.406	3.392	2.5	19.7
3 22	10 50.95	+ 3 2.2	2.534	3.491	5.3	20.2	3 22	10 49.30	+ 6 23.1	2.438	3.390	5.9	19.9
4 1	10 45.45	+ 4 4.9	2.589	3.488	8.3	20.4	4 1	10 42.98	+ 6 42.8	2.497	3.387	8.9	20.1
4 11	10 41.43	+ 4 59.1	2.669	3.484	11.0	20.5	4 11	10 38.28	+ 6 54.2	2.580	3.385	11.6	20.3
501270	2013 <i>WE</i> ₁₉		3 4.8 12°60	4°6/28.8 18			260828	2005 <i>QJ</i> ₁₄		3 4.8 86°05	0°4/ 4.3 18		</

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
195444	2002 GG ₇₇		3 4.8 235°06	5°1/28.3	18		195444	2007 YP ₄₁		3 4.8 93°44	2°9/ 7.1	18	
2 1	11 28.14	+21 6.8	2.316	3.164	10.6	20.8	2 1	11 27.86	- 2 37.1	1.657	2.474	15.7	20.4
2 11	11 22.14	+22 2.1	2.239	3.153	8.0	20.6	2 11	11 22.29	- 2 38.4	1.588	2.484	12.0	20.2
2 21	11 14.25	+22 55.2	2.188	3.141	5.8	20.4	2 21	11 14.47	- 2 21.5	1.542	2.494	7.8	20.0
3 2	11 5.13	+23 39.3	2.166	3.128	5.2	20.4	3 2	11 5.21	- 1 48.9	1.521	2.504	3.8	19.8
3 12	10 55.68	+24 8.6	2.173	3.115	7.0	20.5	3 12	10 55.64	- 1 6.0	1.528	2.514	3.7	19.8
3 22	10 46.84	+24 19.6	2.208	3.102	9.6	20.6	3 22	10 46.92	- 0 19.3	1.563	2.523	7.6	20.0
4 1	10 39.43	+24 11.1	2.267	3.088	12.4	20.8	4 1	10 40.03	+ 0 24.4	1.623	2.533	11.7	20.3
4 11	10 34.05	+23 44.5	2.347	3.074	14.8	20.9	4 11	10 35.62	+ 0 59.6	1.705	2.542	15.2	20.5
249833	2001 OP ₄₁		3 4.8 73°30	2°2/ 3.4	18		205883	2002 EH ₁₅₅		3 4.8 358°63	3°1/ 2.8	18	
2 1	11 35.08	+11 48.7	1.649	2.492	14.4	19.4	2 1	11 27.95	+11 8.8	1.277	2.145	16.2	20.1
2 11	11 27.23	+11 54.1	1.601	2.519	10.4	19.2	2 11	11 22.98	+11 42.5	1.213	2.143	11.8	19.8
2 21	11 17.11	+12 2.8	1.578	2.545	5.9	19.0	2 21	11 15.13	+12 24.2	1.171	2.142	6.9	19.5
3 2	11 5.72	+12 9.4	1.583	2.570	2.3	18.8	3 2	11 5.38	+13 5.5	1.154	2.141	3.1	19.3
3 12	10 54.37	+12 8.8	1.617	2.596	4.7	19.0	3 12	10 55.21	+13 37.4	1.162	2.141	6.1	19.5
3 22	10 44.26	+11 58.1	1.679	2.621	8.8	19.3	3 22	10 46.12	+13 53.3	1.195	2.142	11.1	19.7
4 1	10 36.32	+11 36.1	1.766	2.646	12.6	19.6	4 1	10 39.38	+13 49.8	1.250	2.143	15.7	20.0
4 11	10 31.06	+11 3.0	1.876	2.671	15.6	19.9	4 11	10 35.73	+13 26.7	1.323	2.145	19.6	20.3
334706	2003 FW ₃₀		3 4.8 320°81	4°8/ 1.4	17		453333	2008 YY ₃₅		3 4.8 75°19	2°2/ 3.1	18	
2 1	11 26.14	+14 50.1	1.376	2.247	15.1	19.9	2 1	11 29.22	+ 8 13.2	1.393	2.249	15.9	20.9
2 11	11 21.98	+15 33.1	1.280	2.211	11.2	19.6	2 11	11 23.39	+ 9 10.7	1.348	2.272	11.3	20.7
2 21	11 14.82	+16 22.1	1.207	2.175	7.1	19.2	2 21	11 15.07	+10 18.3	1.326	2.296	6.4	20.5
3 2	11 5.37	+17 8.2	1.157	2.140	4.8	19.0	3 2	11 5.32	+11 27.2	1.331	2.319	2.3	20.3
3 12	10 54.92	+17 41.2	1.134	2.105	7.8	19.0	3 12	10 55.48	+12 27.8	1.362	2.342	5.2	20.6
3 22	10 45.03	+17 53.1	1.134	2.071	12.7	19.2	3 22	10 46.87	+13 13.1	1.420	2.365	9.8	20.9
4 1	10 37.23	+17 39.9	1.155	2.038	17.6	19.4	4 1	10 40.46	+13 39.2	1.501	2.388	14.0	21.2
4 11	10 32.58	+17 1.5	1.194	2.006	21.9	19.6	4 11	10 36.83	+13 45.4	1.602	2.410	17.3	21.4
135299	2001 SO ₂₂₂		3 4.8 262°12	0°5/ 5.4	18		364193	2006 QA ₃		3 4.8 191°50	0°5/ 4.3	18	
2 1	11 21.16	+ 0 53.7	2.250	3.075	11.8	19.8	2 1	11 26.52	+ 4 34.9	2.125	2.955	12.2	22.2
2 11	11 17.01	+ 1 42.4	2.167	3.073	8.7	19.6	2 11	11 21.01	+ 5 20.6	2.043	2.953	8.9	22.0
2 21	11 11.26	+ 2 44.8	2.109	3.071	5.2	19.4	2 21	11 13.63	+ 6 17.6	1.986	2.951	5.1	21.8
3 2	11 4.47	+ 3 56.8	2.080	3.069	1.4	19.1	3 2	11 5.03	+ 7 20.9	1.958	2.948	1.1	21.5
3 12	10 57.40	+ 5 12.3	2.080	3.067	2.6	19.2	3 12	10 56.09	+ 8 24.2	1.961	2.945	3.2	21.6
3 22	10 50.83	+ 6 24.9	2.109	3.065	6.4	19.4	3 22	10 47.74	+ 9 21.5	1.992	2.941	7.2	21.9
4 1	10 45.47	+ 7 29.2	2.166	3.063	9.8	19.6	4 1	10 40.80	+10 7.9	2.051	2.936	10.9	22.1
4 11	10 41.85	+ 8 20.9	2.246	3.061	12.8	19.8	4 11	10 35.85	+10 40.2	2.132	2.930	13.9	22.3
222276	2000 SY ₆		3 4.8 73°33	7°2/12.0	18		199146	2005 YQ ₁₃₆		3 4.8 143°96	1°6/ 6.2	18	
2 1	11 24.36	-15 47.9	1.852	2.602	16.7	20.1	2 1	11 30.48	- 0 28.6	1.872	2.685	14.3	21.5
2 11	11 19.66	-16 6.0	1.779	2.613	14.0	19.9	2 11	11 23.97	- 0 10.5	1.801	2.698	10.7	21.3
2 21	11 12.91	-15 57.5	1.725	2.625	11.0	19.8	2 21	11 15.34	+ 0 23.0	1.755	2.711	6.6	21.1
3 2	11 4.85	-15 21.7	1.695	2.636	8.4	19.6	3 2	11 5.40	+ 1 8.2	1.736	2.722	2.5	20.8
3 12	10 56.48	-14 22.0	1.690	2.648	7.2	19.6	3 12	10 55.20	+ 1 59.3	1.747	2.733	3.1	20.9
3 22	10 48.82	-13 4.8	1.713	2.660	8.3	19.7	3 22	10 45.81	+ 2 50.1	1.786	2.743	7.2	21.2
4 1	10 42.78	-11 38.7	1.761	2.671	10.9	19.8	4 1	10 38.14	+ 3 34.8	1.853	2.752	11.1	21.4
4 11	10 38.96	-10 12.9	1.832	2.683	13.7	20.0	4 11	10 32.80	+ 4 9.1	1.943	2.760	14.4	21.7
59939	1999 RW ₁₉₂		3 4.8 270°46	1°1/ 3.3	18		25298	Fionapaine		3 4.8 76°55	0°9/ 3.8	18	
2 1	11 20.85	+ 6 11.6	2.482	3.320	10.4	19.9	2 1	11 23.55	+ 6 15.2	2.030	2.872	12.2	18.7
2 11	11 16.75	+ 7 16.6	2.388	3.304	7.5	19.7	2 11	11 18.85	+ 6 58.8	1.960	2.877	8.8	18.5
2 21	11 11.12	+ 8 31.8	2.320	3.288	4.2	19.5	2 21	11 12.36	+ 7 52.2	1.914	2.882	5.0	18.2
3 2	11 4.46	+ 9 52.3	2.282	3.271	1.2	19.2	3 2	11 4.74	+ 8 49.9	1.897	2.887	1.2	18.0
3 12	10 57.45	+11 11.7	2.274	3.255	3.4	19.4	3 12	10 56.88	+ 9 45.8	1.908	2.891	3.5	18.1
3 22	10 50.84	+12 24.2	2.296	3.239	6.8	19.6	3 22	10 49.65	+10 34.0	1.948	2.896	7.4	18.4
4 1	10 45.29	+13 25.0	2.345	3.222	10.0	19.7	4 1	10 43.85	+11 10.2	2.014	2.901	10.9	18.6
4 11	10 41.36	+14 11.0	2.418	3.205	12.8	19.9	4 11	10 40.02	+11 32.1	2.102	2.906	13.9	18.8
282140	2001 QK ₁₆₆		3 4.8 242°39	2°4/ 1.8	17		371020	2005 UP ₅₈		3 4.8 128°64	0°7/ 4.1	16	
2 1	11 22.62	+11 1.4	2.497	3.342	10.0	21.2	2 1	11 26.28	+ 5 58.1	1.983	2.820	12.6	22.4
2 11	11 18.02	+12 8.1	2.410	3.330	7.2	21.0	2 11	11 20.84	+ 6 34.1	1.914	2.829	9.1	22.2
2 21	11 11.84	+13 21.1	2.349	3.317	4.2	20.7	2 21	11 13.50	+ 7 19.7	1.870	2.837	5.2	22.0
3 2	11 4.62	+14 34.8	2.319	3.303	2.4	20.6	3 2	11 4.99	+ 8 10.0	1.854	2.844	1.2	21.7
3 12	10 57.06	+15 43.1	2.318	3.289	4.4	20.7	3 12	10 56.25	+ 8 58.7	1.868	2.852	3.4	21.9
3 22	10 49.93	+16 40.6	2.347	3.275	7.5	20.9	3 22	10 48.21	+ 9 40.3	1.910	2.859	7.5	22.1
4 1	10 43.92	+17 23.7	2.402	3.260	10.5	21.0	4 1	10 41.71	+10 10.7	1.978	2.866	11.1	22.4
4 11	10 39.57	+17 50.6	2.480	3.246	13.1	21.2	4 11	10 37.29	+10 27.5	2.069	2.872	14.1	22.6
40459	Rektorys		3 4.8 54°26	5°0/ 9.5	18 R		94611	2001 VK ₁₁₂		3 4.8 251°38	3°9/ 7.8	18	
2 1	11 24.13	- 9 14.7	1.782	2.571	15.8	18.9	2 1	11 27.77	- 5 2.5	1.624	2.432	16.3	19.2
2 11	11 19.49	- 9 21.0	1.711	2.581	12.7	18.7	2 11	11 22.58	- 5 9.0	1.532	2.420	12.8	18.9
2 21	11 12.81	- 9 4.6	1.661	2.592	9.2	18.5	2 21	11 14.87	- 4 54.4	1.462	2.407	8.8	18.6
3 2	11 4.83	- 8 26.6	1.636	2.603	6.0	18.3	3 2	11 5.36	- 4 19.7	1.417	2.395	4.9	18.4
3 12	10 56.57	- 7 31.4	1.638	2.614	5.1	18.3	3 12	10 55.19	- 3 29.2	1.399	2.382	4.5	18.3
3 22	10 49.03	- 6 25.8	1.667	2.626	7.5	18.4	3 22	10 45.63	- 2 30.1	1.408	2.369	8.3	18.5
4 1	10 43.13	- 5 17.7	1.722	2.637	10.8	18.7	4 1	10 37.87	- 1 30.5	1.442	2.355	12.7	18.7
4 11	10 39.46	- 4 14.5	1.800	2.649	14.0	18.9	4 11	10 32.75	- 0 38.0	1.498	2.341	16.7	18.9
50919	2000 GX ₅₇		3 4.8 279°28	3°4/ 8.6	18		445883	2012 UR ₁₃₃		3 4.8 136°17	2°4/ 2.9	18	</

EPHEMERIDES

3 4.8

3 4.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
307513	2003 AU ₂₁		3 4.8 348°62	6°2/ 8.2 18			382828	2003 YW ₂		3 4.8 152°64	0°9/ 3.8 18		
2 1	11 27.50	- 5 17.7	1.328	2.149	18.6	19.2	2 1	11 23.94	+ 6 32.6	2.317	3.153	11.1	21.3
2 11	11 22.76	- 6 28.2	1.249	2.141	14.9	19.0	2 11	11 18.96	+ 7 16.5	2.244	3.158	8.0	21.1
2 21	11 15.13	- 7 19.5	1.191	2.133	10.7	18.7	2 21	11 12.37	+ 8 8.8	2.196	3.163	4.5	20.9
3 2	11 5.43	- 7 49.2	1.155	2.127	7.1	18.5	3 2	11 4.78	+ 9 4.7	2.177	3.167	1.1	20.7
3 12	10 55.03	- 7 58.3	1.144	2.122	6.6	18.4	3 12	10 56.95	+ 9 58.6	2.188	3.171	3.2	20.8
3 22	10 45.43	- 7 51.0	1.158	2.118	9.8	18.6	3 22	10 49.69	+10 45.7	2.229	3.174	6.8	21.1
4 1	10 38.01	- 7 34.2	1.195	2.115	14.1	18.8	4 1	10 43.69	+11 21.9	2.296	3.178	10.0	21.3
4 11	10 33.68	- 7 16.0	1.251	2.113	18.1	19.0	4 11	10 39.45	+11 45.1	2.386	3.181	12.7	21.5
119728	2001 XT ₂₅₉		3 4.8 288°99	7°6/26.3 18			500717	2012 XJ ₂₀		3 4.8 199°51	4°3/28.5 17		
2 1	11 26.86	+23 39.8	1.723	2.586	12.9	19.5	2 1	11 24.00	+18 59.8	2.528	3.380	9.7	21.3
2 11	11 21.77	+25 8.8	1.661	2.579	10.1	19.3	2 11	11 18.96	+19 59.1	2.460	3.378	7.2	21.1
2 21	11 14.27	+26 33.6	1.624	2.571	8.0	19.2	2 21	11 12.36	+20 57.7	2.419	3.376	5.0	21.0
3 2	11 5.20	+27 43.7	1.612	2.563	7.9	19.1	3 2	11 4.77	+21 49.6	2.407	3.375	4.3	20.9
3 12	10 55.74	+28 30.3	1.627	2.556	10.0	19.2	3 12	10 56.97	+22 29.5	2.425	3.372	6.0	21.0
3 22	10 47.12	+28 48.9	1.667	2.549	12.9	19.4	3 22	10 49.71	+22 54.1	2.470	3.370	8.5	21.2
4 1	10 40.42	+28 39.0	1.728	2.541	15.9	19.6	4 1	10 43.67	+23 1.7	2.540	3.368	11.0	21.3
4 11	10 36.30	+28 3.6	1.806	2.534	18.5	19.8	4 11	10 39.36	+22 52.6	2.632	3.365	13.2	21.5
214946	2007 VX ₂₈₃		3 4.8 307°41	1°4/ 5.9 18			234716	2002 JY ₈₅		3 4.8 343°21	1°7/ 3.3 18		
2 1	11 24.44	+ 0 31.8	1.430	2.271	16.3	20.4	2 1	11 25.85	+ 9 3.9	1.923	2.770	12.5	20.2
2 11	11 20.38	+ 0 49.8	1.342	2.255	12.4	20.1	2 11	11 20.66	+ 9 37.3	1.850	2.770	9.0	20.0
2 21	11 13.69	+ 1 27.5	1.277	2.239	7.6	19.8	2 21	11 13.48	+10 18.1	1.801	2.769	5.2	19.7
3 2	11 5.12	+ 2 21.2	1.236	2.224	2.6	19.5	3 2	11 5.04	+11 0.8	1.781	2.769	1.8	19.5
3 12	10 55.86	+ 3 23.5	1.221	2.209	3.7	19.5	3 12	10 56.30	+11 39.1	1.789	2.769	4.1	19.6
3 22	10 47.27	+ 4 25.7	1.232	2.194	9.0	19.8	3 22	10 48.25	+12 8.0	1.824	2.769	8.1	19.9
4 1	10 40.61	+ 5 19.4	1.266	2.179	14.0	20.0	4 1	10 41.75	+12 24.0	1.886	2.769	11.8	20.1
4 11	10 36.75	+ 5 58.2	1.321	2.166	18.3	20.2	4 11	10 37.42	+12 25.4	1.969	2.769	14.9	20.3
31329	1998 HU ₅₇		3 4.8 84°74	1°8/ 2.9 18			357169	2002 CG ₂₈₈		3 4.8 110°81	1°7/ 6.0 18		
2 1	11 24.49	+10 16.4	2.304	3.148	10.8	18.6	2 1	11 29.33	+ 0 47.5	1.519	2.350	16.1	20.6
2 11	11 19.33	+10 48.8	2.236	3.155	7.8	18.4	2 11	11 23.61	+ 0 49.2	1.449	2.355	12.1	20.4
2 21	11 12.55	+11 26.1	2.194	3.162	4.4	18.2	2 21	11 15.36	+ 1 7.2	1.400	2.360	7.5	20.1
3 2	11 4.79	+12 3.6	2.181	3.169	1.8	18.0	3 2	11 5.48	+ 1 38.0	1.378	2.365	2.7	19.9
3 12	10 56.84	+12 36.4	2.197	3.175	3.8	18.2	3 12	10 55.20	+ 2 15.7	1.382	2.370	3.6	19.9
3 22	10 49.50	+13 0.4	2.243	3.182	7.1	18.4	3 22	10 45.84	+ 2 53.5	1.414	2.374	8.4	20.2
4 1	10 43.47	+13 13.0	2.314	3.189	10.2	18.6	4 1	10 38.49	+ 3 25.2	1.471	2.379	12.8	20.5
4 11	10 39.24	+13 13.1	2.408	3.196	12.8	18.8	4 11	10 33.86	+ 3 45.9	1.549	2.383	16.6	20.7
205527	2001 SD ₁₁₇		3 4.8 180°89	2°4/ 7.5 18			248411	2005 SV ₁₅₉		3 4.8 221°91	3°3/ 9.1 17		
2 1	11 24.01	- 3 29.2	2.496	3.292	11.6	20.8	2 1	11 21.80	- 8 20.6	2.857	3.627	11.0	20.6
2 11	11 18.95	- 3 24.8	2.409	3.293	8.9	20.6	2 11	11 17.25	- 8 13.3	2.759	3.620	8.7	20.4
2 21	11 12.35	- 3 7.2	2.347	3.293	5.9	20.4	2 21	11 11.35	- 7 51.2	2.684	3.613	6.3	20.2
3 2	11 4.76	- 2 38.1	2.313	3.293	3.1	20.2	3 2	11 4.56	- 7 15.5	2.638	3.605	4.0	20.1
3 12	10 56.90	- 2 0.9	2.309	3.293	2.9	20.2	3 12	10 57.50	- 6 28.8	2.621	3.597	3.5	20.0
3 22	10 49.51	- 1 19.9	2.334	3.292	5.7	20.4	3 22	10 50.79	- 5 35.3	2.634	3.589	5.3	20.1
4 1	10 43.27	- 0 39.7	2.388	3.292	8.7	20.6	4 1	10 45.03	- 4 39.5	2.675	3.581	7.8	20.3
4 11	10 38.69	- 0 4.5	2.465	3.291	11.5	20.8	4 11	10 40.71	- 3 46.1	2.742	3.572	10.3	20.4
165460	2000 YE ₁₃₄		3 4.8 43°82	0°0/ 4.6 18			204198	2004 BG ₁₃₇		3 4.8 124°79	1°3/ 3.4 18		
2 1	11 26.58	+ 3 58.8	1.294	2.148	16.9	20.1	2 1	11 24.18	+ 8 2.6	2.357	3.195	10.8	21.2
2 11	11 21.75	+ 4 26.4	1.239	2.161	12.4	19.9	2 11	11 19.08	+ 8 44.3	2.288	3.204	7.8	21.0
2 21	11 14.30	+ 5 9.9	1.206	2.174	7.2	19.6	2 21	11 12.42	+ 9 32.8	2.246	3.213	4.4	20.8
3 2	11 5.21	+ 6 2.6	1.198	2.188	1.6	19.3	3 2	11 4.79	+10 23.3	2.233	3.222	1.4	20.6
3 12	10 55.88	+ 6 55.9	1.215	2.202	4.1	19.5	3 12	10 56.98	+11 10.5	2.250	3.230	3.4	20.7
3 22	10 47.67	+ 7 41.6	1.258	2.216	9.3	19.8	3 22	10 49.76	+11 49.9	2.296	3.238	6.8	21.0
4 1	10 41.69	+ 8 13.5	1.324	2.231	14.0	20.1	4 1	10 43.80	+12 18.3	2.369	3.246	9.9	21.2
4 11	10 38.57	+ 8 28.4	1.410	2.247	17.8	20.4	4 11	10 39.58	+12 33.8	2.464	3.254	12.5	21.4
235970	2005 EH ₂₄₀		3 4.8 211°82	2°3/ 2.5 17			189806	2002 JX ₁₄₈		3 4.8 92°60	0°4/ 5.2 18		
2 1	11 26.80	+12 16.8	2.324	3.167	10.8	21.0	2 1	11 25.88	+ 3 13.2	1.969	2.799	13.0	20.3
2 11	11 21.07	+12 44.6	2.246	3.164	7.8	20.8	2 11	11 20.57	+ 3 34.3	1.900	2.809	9.5	20.1
2 21	11 13.61	+13 15.8	2.194	3.160	4.6	20.6	2 21	11 13.38	+ 4 7.0	1.856	2.819	5.6	19.8
3 2	11 5.05	+13 45.5	2.171	3.157	2.3	20.4	3 2	11 5.03	+ 4 47.0	1.840	2.829	1.4	19.6
3 12	10 56.23	+14 9.0	2.178	3.153	4.2	20.6	3 12	10 56.45	+ 5 28.9	1.852	2.839	2.9	19.7
3 22	10 47.99	+14 22.7	2.214	3.149	7.5	20.8	3 22	10 48.59	+ 6 7.4	1.893	2.848	7.0	20.0
4 1	10 41.10	+14 24.3	2.277	3.145	10.6	20.9	4 1	10 42.24	+ 6 37.9	1.961	2.858	10.7	20.2
4 11	10 36.09	+14 13.1	2.362	3.140	13.3	21.1	4 11	10 37.98	+ 6 57.3	2.051	2.867	13.8	20.4
172070	2002 AR ₇₀		3 4.8 355°33	3°0/ 1.7 17			334651	2002 XY ₂₆		3 4.8 106°57	3°2/ 8.2 17		
2 1	11 22.78	+12 52.1	2.039	2.896	11.5	19.7	2 1	11 25.28	- 5 37.0	2.396	3.183	12.3	21.0
2 11	11 18.35	+13 42.8	1.969	2.894	8.3	19.5	2 11	11 19.86	- 5 41.1	2.322	3.197	9.6	20.9
2 21	11 12.11	+14 37.9	1.925	2.892	4.9	19.2	2 21	11 12.87	- 5 30.5	2.272	3.211	6.6	20.7
3 2	11 4.72	+15 31.1	1.908	2.891	3.0	19.1	3 2	11 4.91	- 5 6.5	2.250	3.224	3.9	20.6
3 12	10 57.07	+16 16.0	1.920	2.890	5.2	19.2	3 12	10 56.76	- 4 32.6	2.257	3.238	3.4	20.6
3 22	10 50.04	+16 47.7	1.959	2.890	8.5	19.5	3 22	10 49.17	- 3 53.1	2.294	3.251	5.8	20.7
4 1	10 44.44	+17 3.4	2.023	2.890	11.8	19.7	4 1	10 42.84	- 3 12.7	2.358	3.263	8.7	20.9
4 11	10 40.82	+17 2.3	2.108	2.890	14.6	19.8	4 11	10 38.26	- 2 36.1	2.447	3.276	11.4	21.1
409845	2006 SR ₂₉		3 4.8 289°03	3°6/ 7.8 18			135267	2001 SC ₈₀		3 4.8 154°04	1°2/ 6.3 18		
2 1	11 25.11	- 4 51.8	1.590	2.405									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
54644	2000 <i>SN</i> ₂₈₄		3 4.8 349°95	1.5°/ 6.8	18		318780	2005 <i>SL</i> ₁₀₀		3 4.8 26°79	2.1°/ 6.2	18	
2 1	11 20.58	- 0 57.2	2.991	3.797	9.7	18.9	2 1	11 26.74	- 0 6.6	1.181	2.029	18.7	20.4
2 11	11 16.27	- 0 49.6	2.904	3.796	7.3	18.7	2 11	11 22.24	- 0 1.0	1.118	2.033	14.1	20.1
2 21	11 10.74	- 0 32.2	2.843	3.795	4.7	18.6	2 21	11 14.80	+ 0 26.4	1.075	2.038	8.8	19.8
3 2	11 4.44	- 0 7.0	2.810	3.794	2.1	18.4	3 2	11 5.42	+ 1 11.5	1.056	2.043	3.3	19.5
3 12	10 57.94	+ 0 23.1	2.807	3.793	2.2	18.4	3 12	10 55.58	+ 2 5.9	1.061	2.049	4.1	19.6
3 22	10 51.81	+ 0 54.8	2.834	3.792	4.8	18.6	3 22	10 46.85	+ 3 0.3	1.091	2.055	9.6	19.9
4 1	10 46.59	+ 1 24.7	2.890	3.792	7.4	18.7	4 1	10 40.52	+ 3 45.9	1.143	2.062	14.7	20.2
4 11	10 42.68	+ 1 49.8	2.970	3.791	9.8	18.9	4 11	10 37.33	+ 4 16.6	1.214	2.070	19.0	20.5
213935	2003 <i>VZ</i> ₅		3 4.8 293°68	4.2°/ 1.5	18		168898	2000 <i>WQ</i> ₁₃₇		3 4.8 17°01	4.4°/ 1.9	18	
2 1	11 27.71	+13 51.3	1.506	2.369	14.4	20.4	2 1	11 26.29	+13 8.7	1.172	2.049	16.7	18.5
2 11	11 22.62	+14 45.7	1.433	2.360	10.5	20.1	2 11	11 21.88	+13 57.6	1.119	2.053	12.1	18.2
2 21	11 14.91	+15 45.7	1.383	2.351	6.5	19.9	2 21	11 14.54	+14 52.5	1.088	2.058	7.2	18.0
3 2	11 5.43	+16 42.4	1.359	2.342	4.2	19.7	3 2	11 5.34	+15 43.2	1.080	2.065	4.4	17.8
3 12	10 55.45	+17 26.6	1.362	2.332	6.9	19.8	3 12	10 55.84	+16 19.5	1.097	2.072	7.3	18.0
3 22	10 46.32	+17 51.9	1.391	2.324	11.2	20.0	3 22	10 47.57	+16 34.9	1.138	2.080	12.0	18.3
4 1	10 39.22	+17 54.9	1.442	2.315	15.3	20.3	4 1	10 41.76	+16 27.0	1.199	2.089	16.5	18.6
4 11	10 34.92	+17 36.2	1.512	2.306	18.8	20.5	4 11	10 39.08	+15 56.9	1.279	2.099	20.2	18.9
352137	2007 <i>HQ</i> ₉₇		3 4.8 284°94	5.1°/29.5	18		3827	Zdeněkhorský		3 4.8 150°25	0.4°/ 5.2	18	
2 1	11 25.85	+13 21.6	1.382	2.251	15.1	20.8	2 1	11 26.14	+ 3 3.6	2.214	3.038	12.0	17.9
2 11	11 21.60	+14 53.6	1.303	2.233	11.1	20.5	2 11	11 20.62	+ 3 26.0	2.139	3.044	8.8	17.7
2 21	11 14.51	+16 36.4	1.247	2.215	6.9	20.2	2 21	11 13.38	+ 3 59.0	2.088	3.050	5.2	17.5
3 2	11 5.37	+18 18.3	1.217	2.197	5.2	20.1	3 2	11 5.06	+ 4 38.9	2.067	3.056	1.3	17.2
3 12	10 55.51	+19 46.3	1.213	2.178	8.3	20.2	3 12	10 56.49	+ 5 20.8	2.075	3.061	2.7	17.3
3 22	10 46.40	+20 50.3	1.234	2.160	12.9	20.4	3 22	10 48.53	+ 5 59.8	2.112	3.066	6.5	17.6
4 1	10 39.40	+21 24.8	1.276	2.142	17.3	20.6	4 1	10 41.93	+ 6 31.7	2.177	3.070	9.9	17.8
4 11	10 35.40	+21 29.6	1.335	2.124	21.2	20.8	4 11	10 37.22	+ 6 53.5	2.265	3.074	12.8	18.0
102616	1999 <i>VC</i> ₂₂		3 4.8 110°36	0°8/ 4.1	18		83489	2001 <i>SW</i> ₁₀₅		3 4.8 143°89	2°5/ 8.0	18	
2 1	11 27.41	+ 5 3.0	1.787	2.625	13.7	19.6	2 1	11 22.46	- 5 20.8	2.725	3.511	11.0	19.9
2 11	11 21.78	+ 5 54.4	1.728	2.643	9.9	19.4	2 11	11 17.71	- 5 0.8	2.643	3.519	8.5	19.7
2 21	11 14.11	+ 6 57.6	1.693	2.659	5.6	19.2	2 21	11 11.60	- 4 26.8	2.586	3.527	5.8	19.6
3 2	11 5.20	+ 8 6.1	1.686	2.676	1.2	18.9	3 2	11 4.66	- 3 41.0	2.558	3.535	3.2	19.4
3 12	10 56.11	+ 9 12.4	1.708	2.692	3.7	19.2	3 12	10 57.51	- 2 47.0	2.559	3.542	2.8	19.4
3 22	10 47.87	+10 9.6	1.758	2.707	8.0	19.4	3 22	10 50.82	- 1 49.5	2.591	3.549	5.2	19.5
4 1	10 41.36	+10 53.0	1.834	2.722	11.8	19.7	4 1	10 45.17	- 0 53.1	2.651	3.555	7.9	19.7
4 11	10 37.12	+11 20.0	1.932	2.736	14.9	19.9	4 11	10 41.01	- 0 2.1	2.736	3.561	10.5	19.9
141280	2001 <i>YS</i> ₅₃		3 4.8 10°44	4.7°/29.0	18		199076	2005 <i>XX</i> ₆₅		3 4.8 38°07	5°3/ 8.8	18	
2 1	11 23.28	+17 30.0	1.958	2.820	11.6	18.7	2 1	11 25.98	- 7 42.4	1.330	2.144	18.9	19.9
2 11	11 18.78	+18 31.8	1.897	2.822	8.5	18.5	2 11	11 21.51	- 7 52.6	1.260	2.148	15.1	19.7
2 21	11 12.39	+19 34.1	1.862	2.824	5.7	18.4	2 21	11 14.33	- 7 35.3	1.210	2.152	10.7	19.5
3 2	11 4.83	+20 29.3	1.854	2.827	4.7	18.3	3 2	11 5.32	- 6 51.3	1.182	2.156	6.6	19.2
3 12	10 57.03	+21 10.7	1.874	2.830	6.7	18.4	3 12	10 55.83	- 5 46.3	1.180	2.161	5.6	19.2
3 22	10 49.95	+21 34.1	1.920	2.833	9.8	18.6	3 22	10 47.26	- 4 29.8	1.202	2.166	9.0	19.4
4 1	10 44.40	+21 37.7	1.989	2.837	12.8	18.8	4 1	10 40.86	- 3 12.5	1.249	2.171	13.4	19.6
4 11	10 40.93	+21 22.1	2.079	2.842	15.4	19.0	4 11	10 37.37	- 2 4.0	1.315	2.176	17.4	19.9
32296	Aninsayana		3 4.8 201°91	0°3/ 5.2	18		98158	2000 <i>ST</i> ₇₅		3 4.8 260°10	4°5/ 1.1	18	
2 1	11 22.67	+ 2 49.5	2.462	3.287	10.9	19.9	2 1	11 28.86	+14 30.8	1.617	2.476	13.9	19.0
2 11	11 18.02	+ 3 20.9	2.379	3.285	8.0	19.7	2 11	11 23.42	+15 33.1	1.537	2.461	10.2	18.7
2 21	11 11.85	+ 4 2.7	2.321	3.283	4.7	19.5	2 21	11 15.39	+16 40.9	1.480	2.446	6.4	18.5
3 2	11 4.71	+ 4 51.2	2.292	3.281	1.2	19.3	3 2	11 5.57	+17 45.2	1.451	2.431	4.5	18.3
3 12	10 57.30	+ 5 41.9	2.293	3.279	2.5	19.4	3 12	10 55.16	+18 36.8	1.449	2.415	7.1	18.4
3 22	10 50.37	+ 6 29.8	2.323	3.277	6.0	19.6	3 22	10 45.49	+19 8.8	1.473	2.399	11.2	18.6
4 1	10 44.58	+ 7 10.7	2.381	3.274	9.2	19.8	4 1	10 37.74	+19 17.9	1.520	2.383	15.2	18.8
4 11	10 40.43	+ 7 41.6	2.463	3.272	12.0	20.0	4 11	10 32.73	+19 4.3	1.587	2.366	18.7	19.0
421391	2013 <i>UX</i> ₁₃		3 4.8 125°84	7°5/12.7	17		191817	2004 <i>TY</i> ₃₀₂		3 4.8 181°43	2°3/ 2.3	18	
2 1	11 26.92	-18 7.0	2.256	2.971	15.1	20.9	2 1	11 25.69	+11 6.4	2.247	3.092	11.1	20.5
2 11	11 21.32	-18 48.7	2.174	2.980	12.9	20.7	2 11	11 20.33	+11 56.5	2.173	3.092	7.9	20.3
2 21	11 13.86	-19 7.9	2.114	2.989	10.5	20.6	2 21	11 13.24	+12 51.9	2.126	3.093	4.6	20.1
3 2	11 5.17	-19 2.9	2.078	2.998	8.5	20.5	3 2	11 5.04	+13 47.0	2.107	3.093	2.3	19.9
3 12	10 56.14	-18 35.0	2.068	3.006	7.5	20.4	3 12	10 56.58	+14 35.8	2.118	3.092	4.4	20.1
3 22	10 47.68	-17 48.2	2.086	3.015	8.3	20.5	3 22	10 48.71	+15 13.5	2.158	3.091	7.8	20.3
4 1	10 40.61	-16 48.6	2.130	3.022	10.1	20.6	4 1	10 42.19	+15 37.1	2.224	3.090	10.9	20.5
4 11	10 35.55	-15 43.7	2.197	3.030	12.4	20.8	4 11	10 37.56	+15 45.6	2.313	3.088	13.6	20.7
10441	van Rijckevoersel		3 4.8 118°26	3°4/ 8.6	18		55523	2001 <i>VB</i> ₅₁		3 4.8 231°17	2°0/ 2.7	18	
2 1	11 24.63	- 8 8.6	2.036	2.821	14.3	17.9	2 1	11 25.83	+11 39.4	2.508	3.349	10.2	18.9
2 11	11 19.62	- 7 31.0	1.964	2.837	11.2	17.7	2 11	11 20.31	+12 6.4	2.425	3.342	7.3	18.7
2 21	11 12.83	- 6 32.1	1.915	2.852	7.7	17.5	2 21	11 13.18	+12 37.1	2.368	3.335	4.3	18.5
3 2	11 4.93	- 5 14.9	1.892	2.867	4.4	17.4	3 2	11 5.03	+13 7.1	2.341	3.327	2.0	18.3
3 12	10 56.81	- 3 45.5	1.899	2.881	3.7	17.3	3 12	10 56.60	+13 32.0	2.344	3.320	3.9	18.4
3 22	10 49.37	- 2 11.5	1.935	2.895	6.5	17.5	3 22	10 48.68	+13 48.2	2.376	3.312	7.0	18.6
4 1	10 43.38	- 0 40.9	1.999	2.909	9.9	17.8	4 1	10 41.96	+13 53.4	2.435	3.304	10.0	18.8
4 11	10 39.38	+ 0 39.9	2.088	2.921	12.9	18.0	4 11	10 36.98	+13 46.6	2.518	3.295	12.6	18.9
94895	2001 <i>YF</i> ₇		3 4.8 247°61	0°9/ 4.2	18		51372	2000 <i>YM</i> ₁₈		3 4.8 205°65	3°2/ 7.6	18	
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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
6388	1989 <i>WL</i> ₁		3 4.8 104°45'	6°3/11.4	18		366411	2001 <i>TL</i> ₁		3 4.8 202°76'	1°9/2.7	16	
2 1	11 25.29	-14 31.0	1.940	2.692	16.0	17.1	2 1	11 26.83	+10 5.5	2.513	3.348	10.3	22.5
2 11	11 20.26	-14 34.3	1.867	2.707	13.2	16.9	2 11	11 21.06	+10 53.7	2.428	3.343	7.4	22.3
2 21	11 13.28	-14 12.4	1.814	2.721	10.2	16.7	2 21	11 13.65	+11 47.6	2.370	3.336	4.3	22.1
3 2	11 5.06	-13 25.3	1.786	2.735	7.4	16.6	3 2	11 5.16	+12 42.4	2.342	3.329	1.9	21.9
3 12	10 56.58	-12 17.1	1.785	2.748	6.3	16.5	3 12	10 56.37	+13 32.5	2.345	3.321	3.9	22.0
3 22	10 48.80	-10 54.5	1.811	2.762	7.7	16.6	3 22	10 48.06	+14 13.5	2.378	3.312	7.1	22.2
4 1	10 42.58	-9 26.0	1.864	2.775	10.4	16.8	4 1	10 40.96	+14 42.2	2.438	3.302	10.2	22.4
4 11	10 38.51	-8 0.1	1.941	2.787	13.3	17.0	4 11	10 35.61	+14 57.0	2.522	3.292	12.8	22.5
358022	2006 <i>DR</i> ₂₀₇		3 4.8 222°27'	0°9/4.1	18		393920	2005 <i>UV</i> ₆₆		3 4.8 155°25'	4°2/1.2	18	
2 1	11 30.32	+7 2.4	1.742	2.582	14.0	20.9	2 1	11 29.04	+12 53.4	1.557	2.415	14.3	21.2
2 11	11 24.22	+7 23.8	1.660	2.575	10.2	20.6	2 11	11 23.40	+14 13.5	1.495	2.420	10.4	21.0
2 21	11 15.74	+7 54.9	1.601	2.568	5.9	20.3	2 21	11 15.27	+15 40.2	1.458	2.425	6.3	20.7
3 2	11 5.65	+8 30.6	1.570	2.560	1.4	20.0	3 2	11 5.54	+17 3.5	1.448	2.430	4.2	20.6
3 12	10 55.07	+9 4.6	1.568	2.552	4.0	20.2	3 12	10 55.48	+18 13.2	1.466	2.434	6.9	20.8
3 22	10 45.23	+9 31.1	1.594	2.544	8.6	20.4	3 22	10 46.37	+19 2.4	1.511	2.438	10.9	21.0
4 1	10 37.18	+9 45.8	1.645	2.535	12.8	20.7	4 1	10 39.28	+19 27.6	1.578	2.441	14.8	21.3
4 11	10 31.67	+9 46.6	1.718	2.525	16.4	20.9	4 11	10 34.90	+19 29.3	1.665	2.443	18.0	21.5
190147	2005 <i>SA</i> ₁₉₁		3 4.8 171°12'	0°1/4.7	18		376473	2012 <i>JH</i> ₂₇		3 4.8 198°67'	4°8/27.7	17	
2 1	11 28.94	+3 14.7	1.731	2.563	14.4	21.4	2 1	11 25.07	+18 48.3	2.395	3.247	10.2	21.1
2 11	11 23.13	+4 0.2	1.657	2.568	10.6	21.2	2 11	11 19.90	+20 16.8	2.326	3.244	7.6	20.9
2 21	11 15.04	+5 0.4	1.607	2.571	6.2	21.0	2 21	11 13.02	+21 45.9	2.284	3.240	5.3	20.8
3 2	11 5.48	+6 9.6	1.584	2.574	1.3	20.6	3 2	11 5.02	+23 7.9	2.272	3.236	4.9	20.7
3 12	10 55.54	+7 20.0	1.590	2.576	3.6	20.8	3 12	10 56.73	+24 16.2	2.289	3.231	6.7	20.9
3 22	10 46.38	+8 23.7	1.624	2.577	8.2	21.1	3 22	10 48.96	+25 6.0	2.335	3.225	9.3	21.0
4 1	10 39.01	+9 14.8	1.685	2.577	12.4	21.3	4 1	10 42.49	+25 35.3	2.405	3.219	11.9	21.2
4 11	10 34.08	+9 49.7	1.767	2.577	15.9	21.6	4 11	10 37.86	+25 44.3	2.495	3.212	14.2	21.3
498847	2008 <i>WT</i> ₁₀₅		3 4.8 177°12'	4°8/28.3	17		286223	2001 <i>UV</i> ₁₂₄		3 4.8 129°86'	3°5/29.1	18	
2 1	11 24.70	+19 0.7	2.208	3.064	10.8	21.0	2 1	11 23.13	+16 1.8	2.616	3.466	9.5	20.8
2 11	11 19.68	+20 9.7	2.144	3.064	8.0	20.9	2 11	11 18.26	+17 14.5	2.557	3.477	6.9	20.7
2 21	11 12.89	+21 18.1	2.107	3.065	5.6	20.7	2 21	11 11.95	+18 28.3	2.526	3.488	4.4	20.5
3 2	11 4.98	+22 18.8	2.098	3.065	4.9	20.7	3 2	11 4.77	+19 37.3	2.524	3.498	3.6	20.5
3 12	10 56.82	+23 5.3	2.118	3.065	6.7	20.8	3 12	10 57.42	+20 35.9	2.553	3.508	5.3	20.6
3 22	10 49.31	+23 33.8	2.164	3.065	9.5	20.9	3 22	10 50.61	+21 20.3	2.610	3.517	7.8	20.8
4 1	10 43.20	+23 42.5	2.235	3.065	12.2	21.1	4 1	10 44.96	+21 48.4	2.693	3.527	10.3	20.9
4 11	10 39.05	+23 32.3	2.326	3.065	14.6	21.3	4 11	10 40.91	+22 0.0	2.798	3.536	12.4	21.1
207964	1995 <i>SC</i> ₇₉		3 4.8 56°47'	0°6/4.3	17		416826	2005 <i>JK</i> ₃₄		3 4.8 324°19'	10°2/24.0	18	
2 1	11 26.46	+7 7.2	2.136	2.973	11.9	20.2	2 1	11 27.88	+28 24.5	1.514	2.378	14.3	20.9
2 11	11 20.89	+7 17.3	2.065	2.979	8.6	20.0	2 11	11 22.89	+30 16.0	1.464	2.373	11.8	20.7
2 21	11 13.55	+7 34.3	2.020	2.986	4.9	19.8	2 21	11 15.11	+31 57.6	1.437	2.369	10.3	20.6
3 2	11 5.12	+7 54.6	2.003	2.993	1.1	19.6	3 2	11 5.52	+33 16.0	1.435	2.365	10.7	20.6
3 12	10 56.48	+8 13.6	2.015	3.000	3.1	19.7	3 12	10 55.55	+34 1.6	1.457	2.361	12.8	20.7
3 22	10 48.50	+8 27.5	2.056	3.007	6.9	20.0	3 22	10 46.65	+34 10.8	1.501	2.358	15.6	20.9
4 1	10 41.96	+8 33.3	2.124	3.014	10.3	20.2	4 1	10 40.02	+33 45.0	1.565	2.354	18.4	21.1
4 11	10 37.38	+8 29.2	2.215	3.021	13.2	20.4	4 11	10 36.37	+32 49.6	1.643	2.351	20.8	21.3
5377	Komori		3 4.8 348°14'	0°3/5.1	18		115632	2003 <i>UV</i> ₁₂₄		3 4.8 204°20'	0°6/4.2	18	
2 1	11 28.12	+3 49.8	1.208	2.063	17.8	16.6	2 1	11 23.91	+5 17.0	2.197	3.032	11.6	20.1
2 11	11 23.32	+4 0.6	1.139	2.060	13.2	16.3	2 11	11 19.10	+5 58.9	2.117	3.030	8.5	19.9
2 21	11 15.51	+4 28.2	1.091	2.058	7.8	16.0	2 21	11 12.58	+6 51.0	2.062	3.028	4.8	19.7
3 2	11 5.62	+5 7.4	1.066	2.056	1.9	15.6	3 2	11 4.93	+7 48.5	2.035	3.025	1.1	19.4
3 12	10 55.18	+5 49.8	1.067	2.055	4.3	15.8	3 12	10 57.00	+8 45.5	2.039	3.023	3.2	19.6
3 22	10 45.78	+6 27.1	1.093	2.054	10.1	16.1	3 22	10 49.60	+9 36.6	2.071	3.020	7.0	19.8
4 1	10 38.79	+6 52.3	1.141	2.053	15.3	16.4	4 1	10 43.51	+10 17.3	2.129	3.017	10.4	20.0
4 11	10 35.02	+7 1.4	1.207	2.053	19.7	16.7	4 11	10 39.28	+10 44.7	2.211	3.013	13.4	20.2
96618	1999 <i>CL</i> ₁₀₂		3 4.8 307°21'	3°5/2.4	18		414911	2010 <i>YE</i> ₁		3 4.8 40°85'	2°3/2.9	18	
2 1	11 27.82	+11 38.6	1.351	2.216	15.7	19.0	2 1	11 24.30	+8 11.7	1.431	2.293	15.2	20.9
2 11	11 22.97	+12 24.2	1.277	2.206	11.4	18.8	2 11	11 19.92	+9 13.6	1.380	2.308	10.8	20.7
2 21	11 15.26	+13 18.3	1.226	2.196	6.7	18.5	2 21	11 13.20	+10 26.3	1.353	2.323	6.1	20.5
3 2	11 5.57	+14 12.3	1.200	2.186	3.5	18.2	3 2	11 5.07	+11 41.0	1.351	2.339	2.3	20.3
3 12	10 55.31	+14 56.2	1.199	2.176	6.5	18.4	3 12	10 56.75	+12 48.1	1.376	2.356	5.2	20.5
3 22	10 45.95	+15 22.8	1.224	2.167	11.4	18.6	3 22	10 49.44	+13 40.0	1.427	2.373	9.7	20.8
4 1	10 38.80	+15 27.9	1.271	2.158	16.0	18.9	4 1	10 44.12	+14 12.3	1.501	2.391	13.8	21.1
4 11	10 34.70	+15 11.1	1.336	2.149	19.9	19.1	4 11	10 41.35	+14 23.8	1.595	2.409	17.2	21.3
385321	2002 <i>AX</i> ₁₄₁		3 4.8 179°20'	6°4/10.5	17		506659	2006 <i>SS</i> ₂₀₀		3 4.8 233°49'	3°4/29.8	17	
2 1	11 26.30	-12 28.6	1.956	2.717	15.6	20.6	2 1	11 26.42	+17 12.3	2.709	3.553	9.4	22.3
2 11	11 21.12	-13 0.5	1.870	2.717	12.9	20.4	2 11	11 20.69	+17 50.8	2.626	3.542	6.9	22.2
2 21	11 13.88	-13 10.5	1.806	2.717	9.9	20.2	2 21	11 13.41	+18 29.5	2.569	3.530	4.5	22.0
3 2	11 5.23	-12 57.7	1.767	2.718	7.3	20.0	3 2	11 5.11	+19 3.3	2.543	3.518	3.4	21.9
3 12	10 56.16	-12 24.0	1.754	2.718	6.4	20.0	3 12	10 56.55	+19 27.9	2.546	3.505	5.0	22.0
3 22	10 47.67	-11 34.5	1.769	2.717	8.0	20.1	3 22	10 48.46	+19 40.0	2.579	3.492	7.6	22.1
4 1	10 40.70	-10 36.1	1.810	2.717	10.8	20.2	4 1	10 41.52	+19 38.2	2.638	3.479	10.2	22.3
4 11	10 35.94	-9 36.5	1.873	2.717	13.8	20.4	4 11	10 36.26	+19 22.4	2.720	3.465	12.5	22.4
331063	2009 <i>WD</i> ₂₂		3 4.8 167°31'	5°4/27.5	18		104365	2000 <i>FP</i> ₂₆		3 4.8 240°08'	2°9/2.3	17	
2 1	11 26.89	+21 12.6											

EPHEMERIDES

3 4.8

3 4.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
357346	2003 <i>QC</i> ₄₁		3 4.8 194°82	0°3/ 4.5 17			118222	1996 <i>RR</i> ₁₁		3 4.8 72°88	1°1/ 3.9 18		
2 1	11 29.56	+ 5 17.1	2.163	2.989	12.1	22.0	2 1	11 26.58	+ 7 4.2	1.757	2.602	13.6	19.7
2 11	11 23.25	+ 5 44.2	2.078	2.986	8.9	21.8	2 11	11 21.36	+ 7 35.7	1.688	2.606	9.9	19.5
2 21	11 15.01	+ 6 21.0	2.019	2.983	5.1	21.5	2 21	11 14.00	+ 8 17.0	1.642	2.610	5.6	19.2
3 2	11 5.49	+ 7 3.0	1.988	2.978	1.1	21.2	3 2	11 5.29	+ 9 2.5	1.624	2.614	1.4	18.9
3 12	10 55.62	+ 7 45.0	1.988	2.973	3.1	21.4	3 12	10 56.28	+ 9 45.4	1.634	2.618	3.9	19.1
3 22	10 46.33	+ 8 22.0	2.018	2.967	7.1	21.6	3 22	10 48.05	+10 19.9	1.672	2.622	8.3	19.4
4 1	10 38.50	+ 8 49.7	2.076	2.960	10.8	21.8	4 1	10 41.53	+10 41.8	1.735	2.626	12.2	19.6
4 11	10 32.72	+ 9 5.7	2.156	2.952	13.8	22.0	4 11	10 37.32	+10 49.0	1.819	2.630	15.5	19.8
316347	2010 <i>RE</i> ₁₅₁		3 4.8 1°11	0°3/ 4.6 18			17746	Haigha		3 4.8 52°75	4°4/ 7.8 18		
2 1	11 28.22	+ 5 41.3	1.484	2.332	15.5	20.8	2 1	11 29.83	- 4 6.8	1.312	2.135	18.6	17.2
2 11	11 22.92	+ 5 52.4	1.412	2.331	11.4	20.6	2 11	11 24.19	- 4 36.1	1.255	2.151	14.5	17.0
2 21	11 15.07	+ 6 15.3	1.364	2.331	6.6	20.3	2 21	11 15.81	- 4 42.9	1.218	2.167	9.8	16.7
3 2	11 5.53	+ 6 45.1	1.341	2.331	1.4	20.0	3 2	11 5.71	- 4 28.7	1.205	2.184	5.5	16.5
3 12	10 55.58	+ 7 15.0	1.345	2.331	3.9	20.1	3 12	10 55.33	- 3 58.4	1.217	2.201	5.0	16.6
3 22	10 46.53	+ 7 38.9	1.375	2.332	9.0	20.4	3 22	10 46.10	- 3 19.5	1.256	2.218	8.9	16.8
4 1	10 39.50	+ 7 52.0	1.430	2.332	13.5	20.7	4 1	10 39.19	- 2 40.1	1.318	2.236	13.2	17.1
4 11	10 35.21	+ 7 51.3	1.505	2.334	17.3	20.9	4 11	10 35.25	- 2 7.4	1.400	2.254	17.0	17.4
143506	2003 <i>DO</i> ₁₇		3 4.8 316°70	1°0/ 5.9 18			492698	2014 <i>PE</i> ₆₄		3 4.9 229°05	0°6/ 4.4 17		
2 1	11 24.70	+ 1 53.7	2.303	3.124	11.7	19.8	2 1	11 28.58	+ 5 1.9	1.758	2.595	14.0	22.4
2 11	11 19.61	+ 1 57.9	2.219	3.122	8.7	19.6	2 11	11 23.01	+ 5 38.3	1.671	2.585	10.3	22.1
2 21	11 12.85	+ 2 12.4	2.161	3.120	5.3	19.4	2 21	11 15.11	+ 6 27.6	1.608	2.574	6.0	21.9
3 2	11 5.02	+ 2 34.7	2.130	3.118	1.8	19.1	3 2	11 5.59	+ 7 24.6	1.573	2.563	1.3	21.5
3 12	10 56.90	+ 3 0.9	2.130	3.117	2.6	19.2	3 12	10 55.54	+ 8 22.1	1.567	2.551	3.8	21.7
3 22	10 49.30	+ 3 26.8	2.158	3.115	6.1	19.4	3 22	10 46.13	+ 9 12.9	1.588	2.539	8.5	21.9
4 1	10 42.95	+ 3 48.6	2.213	3.113	9.5	19.6	4 1	10 38.43	+ 9 51.4	1.635	2.526	12.8	22.1
4 11	10 38.40	+ 4 3.0	2.292	3.112	12.4	19.8	4 11	10 33.19	+10 14.2	1.704	2.513	16.4	22.3
58369	1995 <i>QZ</i> ₂		3 4.8 170°05	0°2/ 4.6 18			466018	2011 <i>HR</i> ₂₁		3 4.9 194°84	5°5/ 26.8 17		
2 1	11 23.40	+ 4 50.0	2.741	3.566	9.9	20.1	2 1	11 26.54	+23 59.3	2.633	3.480	9.6	21.4
2 11	11 18.41	+ 5 21.3	2.661	3.569	7.2	19.9	2 11	11 20.84	+25 6.8	2.569	3.477	7.4	21.3
2 21	11 12.05	+ 6 0.5	2.607	3.571	4.1	19.7	2 21	11 13.52	+26 10.2	2.532	3.474	5.8	21.2
3 2	11 4.82	+ 6 44.0	2.583	3.573	0.9	19.5	3 2	11 5.18	+27 3.2	2.523	3.471	5.6	21.2
3 12	10 57.39	+ 7 27.7	2.590	3.575	2.5	19.6	3 12	10 56.61	+27 40.5	2.544	3.467	7.1	21.3
3 22	10 50.42	+ 8 7.6	2.627	3.577	5.7	19.8	3 22	10 48.60	+27 59.3	2.592	3.462	9.3	21.4
4 1	10 44.49	+ 8 40.2	2.692	3.578	8.5	20.0	4 1	10 41.87	+27 58.9	2.664	3.458	11.5	21.5
4 11	10 40.06	+ 9 3.3	2.781	3.578	11.0	20.2	4 11	10 36.91	+27 40.5	2.757	3.452	13.4	21.7
83434	2001 <i>SY</i> ₅₀		3 4.8 234°91	2°8/ 1.9 18			239053	2006 <i>EX</i> ₄₈		3 4.9 182°37	1°6/ 3.2 18		
2 1	11 26.60	+11 39.0	2.164	3.010	11.4	20.7	2 1	11 28.47	+ 7 48.5	2.019	2.856	12.4	21.5
2 11	11 21.21	+12 38.0	2.077	2.996	8.2	20.4	2 11	11 22.57	+ 8 44.2	1.942	2.858	9.0	21.3
2 21	11 13.89	+13 43.4	2.015	2.982	4.9	20.2	2 21	11 14.66	+ 9 49.3	1.891	2.858	5.1	21.1
3 2	11 5.27	+14 48.8	1.982	2.967	2.8	20.0	3 2	11 5.46	+10 57.4	1.869	2.858	1.7	20.9
3 12	10 56.22	+15 47.5	1.980	2.951	5.0	20.2	3 12	10 55.92	+12 1.5	1.877	2.857	4.1	21.0
3 22	10 47.68	+16 33.8	2.005	2.935	8.5	20.3	3 22	10 47.04	+12 55.3	1.914	2.855	8.1	21.3
4 1	10 40.52	+17 3.9	2.057	2.918	11.9	20.5	4 1	10 39.69	+13 34.6	1.978	2.852	11.7	21.5
4 11	10 35.37	+17 16.4	2.131	2.901	14.8	20.7	4 11	10 34.50	+13 57.3	2.063	2.848	14.8	21.7
357125	2001 <i>XL</i> ₂₄₄		3 4.8 102°68	0°7/ 5.4 18			110795	2001 <i>UN</i> ₃₇		3 4.9 247°26	5°9/ 10.8 17		
2 1	11 30.82	+ 1 46.6	1.627	2.455	15.4	21.6	2 1	11 24.67	-13 23.8	2.074	2.828	15.0	20.5
2 11	11 24.38	+ 2 15.1	1.572	2.478	11.3	21.4	2 11	11 19.97	-13 26.1	1.970	2.814	12.5	20.3
2 21	11 15.68	+ 2 58.7	1.539	2.501	6.7	21.1	2 21	11 13.28	-13 4.7	1.889	2.800	9.6	20.0
3 2	11 5.64	+ 3 52.0	1.534	2.523	1.9	20.9	3 2	11 5.18	-12 19.2	1.832	2.785	6.9	19.9
3 12	10 55.47	+ 4 47.7	1.558	2.545	3.3	21.0	3 12	10 56.55	-11 12.2	1.802	2.769	5.9	19.8
3 22	10 46.33	+ 5 38.9	1.610	2.566	7.9	21.3	3 22	10 48.35	- 9 49.7	1.801	2.753	7.6	19.8
4 1	10 39.16	+ 6 20.0	1.687	2.586	12.0	21.6	4 1	10 41.53	- 8 19.6	1.826	2.737	10.6	20.0
4 11	10 34.53	+ 6 47.3	1.787	2.606	15.4	21.9	4 11	10 36.76	- 6 50.4	1.876	2.720	13.7	20.1
165096	2000 <i>GX</i> ₁₂₈		3 4.8 170°81	2°6/ 8.2 17			193793	2001 <i>OR</i> ₇₉		3 4.9 259°92	3°6/ 2.1 18		
2 1	11 22.16	- 6 21.8	2.640	3.423	11.4	21.3	2 1	11 30.23	+12 12.6	1.536	2.392	14.6	21.2
2 11	11 17.59	- 5 49.3	2.552	3.426	8.9	21.1	2 11	11 24.62	+13 4.1	1.451	2.375	10.7	21.0
2 21	11 11.62	- 5 1.1	2.489	3.429	6.0	20.9	2 21	11 16.23	+14 3.5	1.390	2.357	6.4	20.7
3 2	11 4.74	- 3 59.4	2.454	3.431	3.3	20.8	3 2	11 5.87	+15 2.5	1.355	2.340	3.6	20.4
3 12	10 57.63	- 2 48.5	2.449	3.432	2.9	20.7	3 12	10 54.82	+15 51.8	1.348	2.321	6.4	20.6
3 22	10 50.95	- 1 33.8	2.475	3.434	5.3	20.9	3 22	10 44.50	+16 24.0	1.367	2.303	11.0	20.8
4 1	10 45.34	- 0 20.7	2.529	3.435	8.2	21.1	4 1	10 36.20	+16 34.8	1.409	2.284	15.5	21.0
4 11	10 41.25	+ 0 45.8	2.609	3.435	10.9	21.2	4 11	10 30.79	+16 23.9	1.471	2.264	19.3	21.2
406143	2006 <i>VK</i> ₁₁₈		3 4.8 48°89	3°3/ 2.5 16			222692	2002 <i>AF</i> ₈		3 4.9 152°84	0°3/ 4.6 16		
2 1	11 28.86	+11 22.8	1.334	2.198	15.9	21.1	2 1	11 25.08	+ 4 12.4	2.001	2.835	12.6	21.3
2 11	11 23.20	+12 12.0	1.296	2.224	11.4	20.9	2 11	11 20.08	+ 4 52.5	1.927	2.839	9.2	21.1
2 21	11 15.04	+13 7.0	1.282	2.251	6.5	20.7	2 21	11 13.20	+ 5 44.3	1.877	2.842	5.3	20.9
3 2	11 5.48	+13 58.8	1.293	2.279	3.3	20.6	3 2	11 5.13	+ 6 42.7	1.855	2.845	1.1	20.6
3 12	10 55.94	+14 38.9	1.330	2.307	6.0	20.8	3 12	10 56.77	+ 7 41.5	1.863	2.848	3.2	20.7
3 22	10 47.72	+15 1.8	1.393	2.335	10.3	21.1	3 22	10 49.05	+ 8 34.6	1.899	2.851	7.3	21.0
4 1	10 41.77	+15 5.4	1.479	2.364	14.3	21.4	4 1	10 42.80	+ 9 17.0	1.961	2.853	10.9	21.2
4 11	10 38.59	+14 50.4	1.584	2.392	17.5	21.7	4 11	10 38.57	+ 9 45.7	2.046	2.855	14.1	21.4
356350	2010 <i>LX</i> ₆₁		3 4.8 284°34	2°6/ 7.0 18			79992	1999 <i>FS</i> ₄		3 4.9 165°37	1°9/ 7.3 18		

EPHEMERIDES

3 4.9

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
79048	4200 T ₋₂		3 4.9 191°59	1°3/ 3.6 18			69880	1998 SQ ₈₁		3 4.9 100°98	0°0/ 4.7 18		
2 1	11 27.50	+ 7 2.5	2.040	2.877	12.3	21.0	2 1	11 24.05	+ 3 33.1	2.057	2.889	12.4	19.0
2 11	11 21.86	+ 7 53.0	1.960	2.875	8.9	20.8	2 11	11 19.27	+ 4 10.5	1.985	2.895	9.1	18.8
2 21	11 14.26	+ 8 53.3	1.906	2.873	5.1	20.5	2 21	11 12.73	+ 4 59.4	1.937	2.901	5.3	18.6
3 2	11 5.38	+ 9 57.7	1.881	2.870	1.5	20.3	3 2	11 5.06	+ 5 55.4	1.918	2.907	1.2	18.3
3 12	10 56.14	+10 59.3	1.886	2.867	3.9	20.4	3 12	10 57.14	+ 6 52.4	1.927	2.913	3.0	18.5
3 22	10 47.53	+11 52.0	1.919	2.863	7.8	20.7	3 22	10 49.85	+ 7 44.5	1.966	2.919	6.9	18.7
4 1	10 40.40	+12 31.3	1.979	2.858	11.5	20.9	4 1	10 43.96	+ 8 26.9	2.030	2.925	10.5	18.9
4 11	10 35.38	+12 55.0	2.062	2.852	14.6	21.1	4 11	10 40.01	+ 8 56.6	2.118	2.931	13.5	19.1
465146	2007 CZ ₂		3 4.9 40°27	0°3/ 4.6 16			274552	2008 SC ₂₅₇		3 4.9 149°81	6°4/ 25.8 18		
2 1	11 23.89	+ 3 15.2	1.365	2.218	16.3	21.4	2 1	11 26.98	+25 57.1	2.425	3.273	10.2	20.6
2 11	11 19.70	+ 4 6.5	1.315	2.236	11.8	21.2	2 11	11 21.26	+27 18.0	2.375	3.280	8.1	20.4
2 21	11 13.12	+ 5 14.4	1.287	2.255	6.8	20.9	2 21	11 13.81	+28 32.6	2.352	3.288	6.6	20.3
3 2	11 5.11	+ 6 31.2	1.284	2.275	1.4	20.6	3 2	11 5.30	+29 33.8	2.357	3.295	6.6	20.4
3 12	10 56.93	+ 7 47.1	1.308	2.295	4.0	20.9	3 12	10 56.61	+30 15.9	2.391	3.301	8.1	20.5
3 22	10 49.79	+ 8 53.2	1.358	2.315	8.9	21.2	3 22	10 48.59	+30 36.2	2.450	3.307	10.3	20.6
4 1	10 44.68	+ 9 42.9	1.431	2.336	13.3	21.5	4 1	10 42.01	+30 34.7	2.533	3.313	12.4	20.8
4 11	10 42.15	+10 13.2	1.525	2.358	16.9	21.8	4 11	10 37.36	+30 13.3	2.635	3.318	14.3	20.9
459673	2013 LQ ₂₂		3 4.9 292°73	3°4/ 7.6 16			277688	2006 BB ₂₇₇		3 4.9 8°62	0°0/ 4.7 17		
2 1	11 25.01	- 4 25.5	1.572	2.389	16.3	21.7	2 1	11 25.69	+ 4 20.6	1.822	2.660	13.5	21.6
2 11	11 20.61	- 4 17.9	1.487	2.382	12.7	21.4	2 11	11 20.71	+ 4 40.5	1.746	2.660	9.9	21.4
2 21	11 13.80	- 3 48.1	1.424	2.374	8.5	21.1	2 21	11 13.67	+ 5 12.0	1.695	2.660	5.8	21.1
3 2	11 5.31	- 2 58.2	1.386	2.367	4.5	20.9	3 2	11 5.29	+ 5 50.6	1.671	2.661	1.3	20.8
3 12	10 56.28	- 1 54.1	1.374	2.359	4.1	20.8	3 12	10 56.58	+ 6 30.6	1.675	2.662	3.2	21.0
3 22	10 47.93	- 0 43.7	1.389	2.352	8.1	21.0	3 22	10 48.57	+ 7 6.2	1.707	2.662	7.6	21.2
4 1	10 41.36	+ 0 24.3	1.429	2.345	12.5	21.3	4 1	10 42.17	+ 7 32.6	1.765	2.663	11.6	21.5
4 11	10 37.35	+ 1 22.1	1.490	2.338	16.5	21.5	4 11	10 37.99	+ 7 46.7	1.844	2.665	14.9	21.7
403881	2011 WF ₈₅		3 4.9 97°77	0°0/ 4.8 18			70226	1999 RN ₅₀		3 4.9 213°79	0°6/ 5.4 17		
2 1	11 27.69	+ 2 56.5	1.597	2.434	15.1	22.1	2 1	11 30.30	+ 3 1.3	2.107	2.926	12.7	19.9
2 11	11 22.24	+ 3 36.8	1.536	2.449	11.1	21.9	2 11	11 23.94	+ 3 13.4	2.015	2.917	9.4	19.7
2 21	11 14.54	+ 4 32.1	1.499	2.464	6.4	21.6	2 21	11 15.53	+ 3 36.4	1.948	2.908	5.7	19.4
3 2	11 5.44	+ 5 36.3	1.488	2.478	1.5	21.3	3 2	11 5.73	+ 4 7.2	1.909	2.898	1.6	19.1
3 12	10 56.12	+ 6 41.4	1.506	2.492	3.5	21.5	3 12	10 55.49	+ 4 41.0	1.901	2.888	2.9	19.2
3 22	10 47.72	+ 7 39.8	1.551	2.506	8.2	21.8	3 22	10 45.79	+ 5 13.0	1.923	2.876	7.1	19.4
4 1	10 41.21	+ 8 25.5	1.621	2.520	12.4	22.1	4 1	10 37.56	+ 5 38.5	1.972	2.864	10.9	19.6
4 11	10 37.19	+ 8 55.2	1.713	2.533	15.9	22.4	4 11	10 31.46	+ 5 54.5	2.044	2.851	14.1	19.8
502972	2015 FE ₃₉		3 4.9 75°69	2°0/ 7.2 17			176648	2002 NC ₄₀		3 4.9 201°24	2°4/ 7.1 16		
2 1	11 21.54	- 3 23.8	2.272	3.079	12.3	21.4	2 1	11 28.76	- 2 31.3	2.153	2.953	13.1	20.7
2 11	11 17.31	- 2 49.7	2.196	3.086	9.4	21.2	2 11	11 22.76	- 2 29.3	2.062	2.949	10.1	20.5
2 21	11 11.53	- 1 59.8	2.144	3.094	6.0	21.0	2 21	11 14.82	- 2 12.7	1.995	2.944	6.6	20.2
3 2	11 4.76	- 0 57.4	2.119	3.102	2.8	20.8	3 2	11 5.57	- 1 43.4	1.957	2.939	3.2	20.0
3 12	10 57.77	+ 0 12.2	2.124	3.110	2.7	20.8	3 12	10 55.91	- 1 5.3	1.948	2.932	3.2	20.0
3 22	10 51.32	+ 1 23.2	2.158	3.118	5.9	21.0	3 22	10 46.78	- 0 23.5	1.968	2.925	6.6	20.2
4 1	10 46.09	+ 2 29.5	2.220	3.126	9.1	21.2	4 1	10 39.06	+ 0 16.8	2.016	2.918	10.2	20.4
4 11	10 42.56	+ 3 26.5	2.305	3.134	12.0	21.4	4 11	10 33.39	+ 0 50.8	2.088	2.910	13.4	20.6
85649	1998 ZQ ₁		3 4.9 152°34	0°7/ 5.5 18			147629	2004 HE ₄₈		3 4.9 223°11	4°2/ 8.9 18		
2 1	11 29.10	+ 0 53.9	1.849	2.670	14.1	20.5	2 1	11 27.92	- 8 14.5	2.395	3.163	12.9	20.7
2 11	11 23.10	+ 1 35.7	1.777	2.680	10.5	20.3	2 11	11 22.08	- 8 28.1	2.292	3.152	10.3	20.5
2 21	11 15.00	+ 2 33.1	1.730	2.690	6.3	20.0	2 21	11 14.42	- 8 25.4	2.213	3.140	7.5	20.2
3 2	11 5.56	+ 3 41.1	1.710	2.699	1.8	19.7	3 2	11 5.49	- 8 6.6	2.161	3.127	4.9	20.1
3 12	10 55.84	+ 4 52.5	1.720	2.707	3.1	19.9	3 12	10 56.10	- 7 34.1	2.139	3.113	4.3	20.0
3 22	10 46.88	+ 6 0.1	1.759	2.714	7.5	20.1	3 22	10 47.11	- 6 51.9	2.146	3.099	6.5	20.1
4 1	10 39.61	+ 6 57.6	1.825	2.720	11.4	20.4	4 1	10 39.34	- 6 5.4	2.182	3.084	9.5	20.3
4 11	10 34.63	+ 7 40.9	1.913	2.725	14.8	20.6	4 11	10 33.43	- 5 20.0	2.242	3.068	12.4	20.4
337512	2001 SK ₁₃₉		3 4.9 112°49	1°1/ 6.2 17			401102	2011 UQ ₂₀₂		3 4.9 175°11	4°3/ 29.9 18		
2 1	11 23.00	- 0 7.4	2.457	3.271	11.3	21.2	2 1	11 29.64	+15 5.3	1.844	2.696	12.7	21.4
2 11	11 18.24	+ 0 22.3	2.384	3.282	8.4	21.0	2 11	11 23.60	+16 13.3	1.778	2.699	9.3	21.0
2 21	11 12.01	+ 1 4.0	2.336	3.293	5.2	20.9	2 21	11 15.36	+17 24.5	1.737	2.701	5.9	21.0
3 2	11 4.87	+ 1 54.4	2.317	3.304	1.9	20.6	3 2	11 5.70	+18 30.5	1.724	2.702	4.3	20.9
3 12	10 57.56	+ 2 48.8	2.328	3.315	2.4	20.7	3 12	10 55.72	+19 23.4	1.741	2.703	6.5	21.1
3 22	10 50.77	+ 3 42.3	2.368	3.325	5.7	20.9	3 22	10 46.55	+19 57.8	1.784	2.703	10.1	21.3
4 1	10 45.14	+ 4 30.3	2.436	3.336	8.8	21.1	4 1	10 39.14	+20 11.4	1.852	2.703	13.5	21.5
4 11	10 41.15	+ 5 9.4	2.529	3.346	11.5	21.3	4 11	10 34.14	+20 4.6	1.940	2.702	16.4	21.7
10342	1991 TQ		3 4.9 213°46	2°9/ 1.5 18			76574	2000 GM ₁₁₄		3 4.9 70°66	3°6/ 1.8 18		
2 1	11 24.47	+13 41.2	2.482	3.329	10.1	18.5	2 1	11 29.76	+16 13.0	2.041	2.889	11.8	18.6
2 11	11 19.40	+14 31.8	2.405	3.324	7.3	18.3	2 11	11 23.39	+16 36.5	1.978	2.897	8.6	18.4
2 21	11 12.73	+15 25.4	2.354	3.319	4.4	18.2	2 21	11 15.09	+16 59.7	1.941	2.904	5.4	18.2
3 2	11 5.05	+16 16.9	2.333	3.314	2.9	18.0	3 2	11 5.61	+17 17.2	1.932	2.911	3.6	18.1
3 12	10 57.10	+17 0.7	2.341	3.308	4.7	18.1	3 12	10 55.97	+17 24.0	1.952	2.919	5.5	18.2
3 22	10 49.66	+17 32.9	2.378	3.303	7.6	18.3	3 22	10 47.15	+17 17.1	2.000	2.927	8.7	18.4
4 1	10 43.42	+17 50.8	2.442	3.296	10.5	18.5	4 1	10 39.98	+16 55.8	2.074	2.934	11.8	18.6
4 11	10 38.89	+17 53.8	2.528	3.290	12.9	18.7	4 11	10 34.99	+16 20.8	2.170	2.942	14.5	18.8
517121	2013 GN ₁₃₉		3 4.9 263°73	0°7/ 5.4 16			56973	2000 SA ₁₄₂		3 4.9 205°95	3°0/ 8.6 18		
2 1	11 26.85	+ 2 7.7	1.597	2.434	15.2								

EPHEMERIDES

3 4.9

3 4.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
27759	1991 <i>RE</i> ₆		3 4.9 220°05	3°6/ 1.0	18		326443	2001 <i>VT</i> ₂₁		3 4.9 100°80	5°2/10.7	18	
2 1	11 26.31	+16 26.0	2.375	3.224	10.4	18.1	2 1	11 25.85	-12 40.7	2.050	2.808	15.1	21.1
2 11	11 20.80	+17 9.3	2.301	3.220	7.6	17.9	2 11	11 20.57	-12 32.2	1.981	2.829	12.2	21.0
2 21	11 13.59	+17 53.4	2.253	3.215	4.9	17.7	2 21	11 13.49	-12 0.5	1.935	2.850	9.1	20.8
3 2	11 5.30	+18 32.6	2.234	3.210	3.6	17.6	3 2	11 5.29	-11 7.0	1.914	2.870	6.3	20.7
3 12	10 56.75	+19 1.8	2.244	3.205	5.4	17.7	3 12	10 56.91	-9 56.0	1.921	2.890	5.3	20.7
3 22	10 48.77	+19 17.4	2.283	3.200	8.2	17.9	3 22	10 49.24	-8 34.4	1.956	2.910	6.9	20.8
4 1	10 42.11	+19 17.6	2.347	3.195	11.1	18.1	4 1	10 43.06	-7 9.9	2.019	2.929	9.7	21.0
4 11	10 37.30	+19 2.5	2.433	3.189	13.6	18.2	4 11	10 38.90	-5 49.9	2.106	2.947	12.5	21.2
290303	2005 <i>SA</i> ₁₈₁		3 4.9 244°71	3°4/ 1.2	18		51765	2001 <i>LT</i> ₁₀		3 4.9 144°28	7°1/12.4	18	
2 1	11 27.54	+17 30.3	2.652	3.495	9.6	20.7	2 1	11 26.45	-17 10.7	2.100	2.827	15.7	19.2
2 11	11 21.56	+17 57.7	2.570	3.485	7.1	20.5	2 11	11 21.15	-17 29.8	2.018	2.836	13.2	19.1
2 21	11 13.98	+18 24.5	2.515	3.476	4.6	20.3	2 21	11 13.92	-17 24.3	1.956	2.844	10.6	18.9
3 2	11 5.40	+18 46.0	2.490	3.466	3.4	20.2	3 2	11 5.42	-16 53.1	1.918	2.851	8.2	18.8
3 12	10 56.55	+18 58.0	2.495	3.456	5.0	20.3	3 12	10 56.56	-15 58.6	1.908	2.858	7.1	18.7
3 22	10 48.23	+18 57.8	2.529	3.445	7.6	20.4	3 22	10 48.32	-14 46.3	1.924	2.864	8.1	18.8
4 1	10 41.12	+18 44.3	2.590	3.435	10.3	20.6	4 1	10 41.55	-13 23.7	1.968	2.870	10.3	18.9
4 11	10 35.73	+18 17.6	2.674	3.424	12.6	20.8	4 11	10 36.86	-11 59.3	2.035	2.876	12.9	19.1
102354	1999 <i>TD</i> ₁₃₀		3 4.9 181°75	0°0/ 4.8	18		94492	2001 <i>UV</i> ₃₆		3 4.9 331°40	4°0/ 1.6	18	
2 1	11 27.83	+ 3 30.8	1.864	2.695	13.6	20.8	2 1	11 25.85	+11 2.8	1.347	2.215	15.5	18.9
2 11	11 22.27	+ 4 2.3	1.786	2.696	10.0	20.6	2 11	11 21.50	+12 23.4	1.282	2.213	11.2	18.7
2 21	11 14.60	+ 4 46.7	1.733	2.696	5.9	20.3	2 21	11 14.44	+13 54.9	1.240	2.210	6.6	18.4
3 2	11 5.56	+ 5 39.2	1.706	2.696	1.4	20.0	3 2	11 5.56	+15 26.5	1.224	2.208	4.0	18.2
3 12	10 56.15	+ 6 33.3	1.710	2.696	3.2	20.1	3 12	10 56.22	+16 46.2	1.233	2.206	7.0	18.4
3 22	10 47.43	+ 7 22.8	1.741	2.695	7.6	20.4	3 22	10 47.82	+17 44.9	1.268	2.205	11.7	18.6
4 1	10 40.32	+ 8 2.2	1.799	2.693	11.6	20.6	4 1	10 41.57	+18 17.8	1.324	2.203	16.0	18.9
4 11	10 35.48	+ 8 28.1	1.879	2.691	15.0	20.9	4 11	10 38.21	+18 24.3	1.399	2.202	19.7	19.1
94517	2001 <i>UH</i> ₁₀₉		3 4.9 75°36	3°3/ 7.5	18		101664	1999 <i>CS</i> ₈₈		3 4.9 41°33	5°8/28.0	18	
2 1	11 27.41	- 4 30.1	1.393	2.214	17.8	19.3	2 1	11 26.00	+21 3.1	1.963	2.822	11.8	19.4
2 11	11 22.33	- 4 12.2	1.334	2.231	13.7	19.1	2 11	11 20.84	+22 8.8	1.908	2.827	8.9	19.3
2 21	11 14.74	- 3 30.1	1.296	2.248	9.0	18.8	2 21	11 13.70	+23 11.4	1.878	2.832	6.4	19.1
3 2	11 5.58	- 2 27.7	1.283	2.265	4.5	18.6	3 2	11 5.35	+24 3.1	1.875	2.837	5.9	19.1
3 12	10 56.17	- 1 12.8	1.296	2.282	4.1	18.6	3 12	10 56.80	+24 37.4	1.900	2.843	7.7	19.2
3 22	10 47.79	+ 0 4.9	1.336	2.299	8.3	18.9	3 22	10 49.04	+24 50.7	1.951	2.848	10.5	19.4
4 1	10 41.53	+ 1 16.1	1.400	2.316	12.7	19.2	4 1	10 42.91	+24 42.3	2.025	2.854	13.3	19.6
4 11	10 38.00	+ 2 13.8	1.485	2.333	16.5	19.5	4 11	10 38.97	+24 14.1	2.119	2.860	15.7	19.8
297292	1998 <i>FW</i> ₁₀₅		3 4.9 339°52	0°9/ 4.2	17		473998	2016 <i>FM</i> ₂₃		3 4.9 290°40	0°5/ 5.4	17	
2 1	11 26.43	+ 8 19.6	1.747	2.596	13.5	19.9	2 1	11 23.75	+ 1 28.6	1.751	2.586	14.1	21.5
2 11	11 21.45	+ 8 17.8	1.664	2.583	9.9	19.6	2 11	11 19.63	+ 2 9.4	1.653	2.564	10.6	21.2
2 21	11 14.22	+ 8 23.0	1.604	2.572	5.7	19.3	2 21	11 13.27	+ 3 7.9	1.579	2.542	6.4	20.9
3 2	11 5.49	+ 8 30.9	1.571	2.561	1.4	19.0	3 2	11 5.32	+ 4 19.7	1.531	2.520	1.7	20.5
3 12	10 56.31	+ 8 36.8	1.566	2.551	3.8	19.2	3 12	10 56.74	+ 5 37.6	1.510	2.498	3.3	20.6
3 22	10 47.80	+ 8 36.4	1.588	2.541	8.3	19.4	3 22	10 48.64	+ 6 53.3	1.518	2.475	8.2	20.8
4 1	10 40.97	+ 8 26.6	1.635	2.533	12.4	19.6	4 1	10 42.08	+ 7 58.9	1.551	2.453	12.6	21.0
4 11	10 36.52	+ 8 5.7	1.703	2.525	15.9	19.8	4 11	10 37.84	+ 8 49.0	1.605	2.431	16.5	21.2
384886	2012 <i>TN</i> ₃		3 4.9 66°94	3°8/ 9.1	18		73761	1994 <i>GP</i> ₅		3 4.9 282°95	2°2/ 6.8	18	
2 1	11 22.81	- 8 5.8	2.076	2.863	14.0	21.1	2 1	11 24.42	- 2 28.5	1.585	2.410	15.8	19.7
2 11	11 18.41	- 7 53.7	2.000	2.872	11.0	20.9	2 11	11 20.18	- 1 59.4	1.500	2.402	12.1	19.4
2 21	11 12.26	- 7 21.7	1.947	2.882	7.8	20.7	2 21	11 13.60	- 1 8.5	1.438	2.394	7.8	19.1
3 2	11 5.01	- 6 31.9	1.920	2.891	4.8	20.5	3 2	11 5.38	+ 0 0.6	1.401	2.386	3.3	18.8
3 12	10 57.51	- 5 28.8	1.921	2.901	4.0	20.5	3 12	10 56.63	+ 1 20.6	1.391	2.378	3.5	18.8
3 22	10 50.61	- 4 18.7	1.951	2.911	6.4	20.7	3 22	10 48.55	+ 2 42.4	1.408	2.370	8.1	19.1
4 1	10 45.08	- 3 8.4	2.007	2.920	9.6	20.9	4 1	10 42.21	+ 3 57.2	1.450	2.363	12.6	19.3
4 11	10 41.45	- 2 4.1	2.088	2.930	12.6	21.1	4 11	10 38.39	+ 4 57.9	1.514	2.355	16.6	19.5
291165	2006 <i>AC</i> ₁₅		3 4.9 272°81	13°3/11.1	18		121913	2000 <i>DN</i> ₆₈		3 4.9 298°82	0°1/ 5.0	18	R
2 1	11 34.92	-16 52.5	1.219	1.983	23.1	20.5	2 1	11 27.70	+ 4 1.2	1.317	2.168	16.9	19.6
2 11	11 28.97	-19 2.2	1.141	1.976	20.1	20.3	2 11	11 23.10	+ 4 16.0	1.233	2.153	12.6	19.3
2 21	11 19.32	-20 44.2	1.079	1.970	16.9	20.0	2 21	11 15.55	+ 4 47.2	1.171	2.138	7.5	18.9
3 2	11 6.77	-21 48.6	1.038	1.964	14.3	19.9	3 2	11 5.86	+ 5 29.9	1.133	2.122	1.8	18.5
3 12	10 52.97	-22 10.1	1.019	1.957	13.3	19.8	3 12	10 55.41	+ 6 16.3	1.120	2.108	4.2	18.6
3 22	10 39.92	-21 50.6	1.022	1.951	14.7	19.8	3 22	10 45.71	+ 6 57.9	1.133	2.093	10.0	18.9
4 1	10 29.52	-20 59.9	1.046	1.945	17.6	20.0	4 1	10 38.19	+ 7 27.6	1.169	2.079	15.2	19.2
4 11	10 23.01	-19 52.6	1.088	1.938	21.0	20.2	4 11	10 33.77	+ 7 40.7	1.224	2.065	19.7	19.4
327859	2006 <i>YA</i> ₄		3 4.9 48°86	8°9/25.9	18		466420	2013 <i>TF</i> ₁₀		3 4.9 161°41	0°8/ 3.9	17	
2 1	11 28.41	+26 0.7	1.538	2.402	14.1	20.4	2 1	11 24.23	+ 5 17.1	2.117	2.953	12.0	21.6
2 11	11 23.05	+27 34.6	1.497	2.412	11.2	20.3	2 11	11 19.43	+ 6 12.0	2.042	2.956	8.7	21.4
2 21	11 15.13	+28 59.2	1.480	2.422	9.2	20.2	2 21	11 12.87	+ 7 17.7	1.993	2.959	4.9	21.2
3 2	11 5.67	+30 3.1	1.489	2.432	9.2	20.2	3 2	11 5.18	+ 8 28.9	1.972	2.962	1.2	20.9
3 12	10 56.04	+30 38.1	1.522	2.443	11.2	20.3	3 12	10 57.22	+ 9 38.7	1.981	2.964	3.4	21.1
3 22	10 47.57	+30 41.4	1.579	2.453	13.9	20.5	3 22	10 49.84	+10 41.0	2.019	2.966	7.2	21.3
4 1	10 41.30	+30 14.6	1.656	2.464	16.7	20.7	4 1	10 43.83	+11 30.9	2.083	2.968	10.7	21.5
4 11	10 37.81	+29 22.6	1.750	2.476	19.1	21.0	4 11	10 39.72	+12 5.7	2.170	2.970	13.7	21.7
105511	2000 <i>RF</i> ₁₃		3 4.9 52°87	5°8/10.4	18		421321	2013 <i>TA</i> ₆₃		3 4.9 246°12	0°8/ 5.7</		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
214229	2005 <i>EG</i> ₁₅₁		3 4.9 356°21	2°8/ 2.9 18			83250	2001 <i>RF</i> ₆₂		3 4.9 52°47	1°9/ 2.9 18		
2 1	11 25.09	+ 9 43.0	1.251	2.121	16.3	19.9	2 1	11 22.70	+ 8 31.5	2.000	2.849	12.0	19.5
2 11	11 21.06	+10 27.5	1.187	2.118	11.8	19.6	2 11	11 18.34	+ 9 31.9	1.940	2.861	8.6	19.3
2 21	11 14.23	+11 22.9	1.144	2.115	6.8	19.3	2 21	11 12.23	+10 40.3	1.904	2.873	4.9	19.1
3 2	11 5.53	+12 20.5	1.125	2.113	2.9	19.1	3 2	11 5.04	+11 50.2	1.897	2.885	1.9	18.9
3 12	10 56.37	+13 10.3	1.132	2.113	6.0	19.3	3 12	10 57.66	+12 54.8	1.919	2.897	4.2	19.1
3 22	10 48.22	+13 44.0	1.163	2.113	11.0	19.5	3 22	10 50.96	+13 48.1	1.968	2.910	7.8	19.3
4 1	10 42.31	+13 57.2	1.216	2.113	15.7	19.8	4 1	10 45.68	+14 26.2	2.044	2.922	11.2	19.6
4 11	10 39.40	+13 48.5	1.287	2.115	19.7	20.1	4 11	10 42.34	+14 47.6	2.141	2.935	14.0	19.8
385932	2006 <i>UX</i> ₇₂		3 4.9 87°61	0°5/ 4.4 17			455518	2003 <i>WH</i> ₁₇₈		3 4.9 121°35	1°3/ 3.8 18		
2 1	11 25.30	+ 6 42.5	2.339	3.173	11.1	21.2	2 1	11 29.11	+ 6 59.2	1.840	2.678	13.4	22.4
2 11	11 20.03	+ 6 59.0	2.264	3.176	8.0	21.0	2 11	11 23.07	+ 7 43.9	1.779	2.694	9.7	22.2
2 21	11 13.14	+ 7 22.5	2.214	3.179	4.6	20.8	2 21	11 15.00	+ 8 38.0	1.743	2.710	5.5	22.0
3 2	11 5.24	+ 7 49.4	2.193	3.183	1.0	20.6	3 2	11 5.67	+ 9 35.4	1.735	2.725	1.5	21.8
3 12	10 57.11	+ 8 15.4	2.201	3.186	2.9	20.7	3 12	10 56.16	+10 29.0	1.757	2.739	3.9	22.0
3 22	10 49.54	+ 8 36.5	2.239	3.189	6.5	21.0	3 22	10 47.50	+11 12.9	1.807	2.753	8.0	22.2
4 1	10 43.25	+ 8 49.7	2.304	3.192	9.7	21.2	4 1	10 40.56	+11 43.1	1.883	2.766	11.8	22.5
4 11	10 38.73	+ 8 53.0	2.392	3.195	12.4	21.4	4 11	10 35.90	+11 57.9	1.980	2.778	14.8	22.7
193774	2001 <i>OK</i> ₅		3 4.9 174°97	3°8/ 8.3 18			523676	2013 <i>UL</i> ₁₀		3 4.9 66°27	1°9/12.6 18		
2 1	11 27.95	- 6 49.7	1.779	2.573	15.7	20.6	2 1	11 11.71	-15 5.0	9.022	9.723	4.2	22.9
2 11	11 22.50	- 6 35.6	1.697	2.576	12.3	20.3	2 11	11 9.36	-15 0.5	8.942	9.744	3.5	22.8
2 21	11 14.82	- 5 59.2	1.637	2.578	8.5	20.1	2 21	11 6.66	-14 50.3	8.887	9.765	2.8	22.8
3 2	11 5.65	- 5 2.5	1.603	2.579	4.9	19.9	3 2	11 3.76	-14 34.9	8.859	9.785	2.2	22.7
3 12	10 56.07	- 3 51.1	1.598	2.580	4.2	19.9	3 12	11 0.82	-14 15.0	8.861	9.806	1.9	22.7
3 22	10 47.17	- 2 32.5	1.620	2.580	7.5	20.0	3 22	10 57.99	-13 51.5	8.892	9.827	2.1	22.8
4 1	10 39.97	- 1 15.4	1.670	2.580	11.4	20.3	4 1	10 55.43	-13 25.7	8.953	9.848	2.7	22.8
4 11	10 35.13	- 0 6.9	1.742	2.579	14.9	20.5	4 11	10 53.27	-12 58.8	9.040	9.869	3.4	22.9
66905	1999 <i>VC</i> ₁₆₀		3 4.9 218°65	4°0/ 9.6 18			301999	2000 <i>QC</i> ₁₅₇		3 4.9 132°89	3°7/ 8.1 18		
2 1	11 23.69	-10 8.2	2.437	3.201	12.8	20.1	2 1	11 28.17	- 6 1.7	1.748	2.546	15.7	20.5
2 11	11 18.96	- 9 53.3	2.337	3.194	10.3	19.9	2 11	11 22.60	- 5 53.0	1.675	2.557	12.3	20.3
2 21	11 12.60	- 9 19.3	2.261	3.185	7.5	19.7	2 21	11 14.83	- 5 23.2	1.624	2.567	8.4	20.1
3 2	11 5.14	- 8 27.2	2.212	3.176	4.9	19.6	3 2	11 5.66	- 4 34.4	1.600	2.577	4.7	19.9
3 12	10 57.32	- 7 20.7	2.192	3.167	4.1	19.5	3 12	10 56.17	- 3 32.2	1.603	2.586	4.1	19.9
3 22	10 49.91	- 6 5.0	2.201	3.157	6.1	19.6	3 22	10 47.45	- 2 23.9	1.634	2.595	7.4	20.1
4 1	10 43.65	- 4 46.5	2.239	3.147	9.0	19.7	4 1	10 40.48	- 1 17.4	1.692	2.603	11.2	20.3
4 11	10 39.10	- 3 31.7	2.301	3.136	11.8	19.9	4 11	10 35.89	- 0 19.3	1.773	2.610	14.7	20.5
334345	2001 <i>XC</i> ₂₆₄		3 4.9 69°74	5°4/ 8.9 18			354043	2001 <i>SA</i> ₂₉		3 4.9 127°95	1°7/ 3.5 18		
2 1	11 28.24	- 7 58.1	1.384	2.190	18.7	21.1	2 1	11 31.59	+ 8 22.8	1.683	2.526	14.2	21.9
2 11	11 23.04	- 8 12.9	1.323	2.205	14.9	20.9	2 11	11 25.05	+ 9 2.3	1.623	2.540	10.3	21.7
2 21	11 15.23	- 8 1.2	1.281	2.219	10.6	20.6	2 21	11 16.21	+ 9 50.3	1.587	2.554	5.9	21.5
3 2	11 5.74	- 7 24.2	1.262	2.234	6.6	20.5	3 2	11 5.96	+10 40.3	1.578	2.567	1.9	21.3
3 12	10 55.93	- 6 27.5	1.269	2.249	5.6	20.4	3 12	10 55.50	+11 25.0	1.599	2.580	4.4	21.5
3 22	10 47.14	- 5 19.7	1.302	2.264	8.7	20.6	3 22	10 46.01	+11 58.4	1.647	2.592	8.8	21.7
4 1	10 40.51	- 4 10.7	1.360	2.279	12.8	20.9	4 1	10 38.47	+12 17.1	1.721	2.603	12.7	22.0
4 11	10 36.71	- 3 9.2	1.438	2.294	16.5	21.2	4 11	10 33.47	+12 19.7	1.816	2.614	16.0	22.2
300208	2006 <i>WF</i> ₁₃₉		3 4.9 172°41	2°2/ 1.9 18			94451	2001 <i>TD</i> ₁₀₅		3 4.9 137°51	2°5/ 7.2 18		
2 1	11 23.11	+12 32.8	2.996	3.837	8.7	21.8	2 1	11 27.33	- 3 42.2	1.638	2.452	15.9	20.5
2 11	11 18.17	+13 20.4	2.922	3.839	6.2	21.6	2 11	11 22.11	- 3 13.4	1.566	2.460	12.2	20.3
2 21	11 11.97	+14 10.8	2.876	3.842	3.7	21.5	2 21	11 14.61	- 2 23.2	1.516	2.468	7.9	20.0
3 2	11 4.97	+15 0.0	2.861	3.844	2.2	21.4	3 2	11 5.62	- 1 15.3	1.492	2.476	3.6	19.8
3 12	10 57.79	+15 43.5	2.876	3.845	3.7	21.5	3 12	10 56.29	+ 0 3.0	1.496	2.483	3.5	19.8
3 22	10 51.04	+16 18.0	2.920	3.846	6.3	21.6	3 22	10 47.76	+ 1 23.2	1.528	2.489	7.7	20.1
4 1	10 45.26	+16 41.2	2.992	3.847	8.7	21.8	4 1	10 41.04	+ 2 36.7	1.586	2.495	11.9	20.3
4 11	10 40.88	+16 52.2	3.088	3.848	10.9	22.0	4 11	10 36.80	+ 3 37.3	1.666	2.501	15.6	20.6
152242	2005 <i>SX</i> ₇₀		3 4.9 82°42	2°6/ 2.5 18			361580	2007 <i>RW</i> ₁₈₄		3 4.9 150°53	2°2/ 6.9 18		
2 1	11 26.02	+10 14.0	1.734	2.587	13.3	20.4	2 1	11 26.81	- 2 59.2	1.788	2.600	14.9	21.3
2 11	11 21.01	+11 11.1	1.671	2.595	9.6	20.2	2 11	11 21.59	- 2 27.7	1.712	2.606	11.3	21.0
2 21	11 13.89	+12 15.7	1.633	2.602	5.5	20.0	2 21	11 14.26	- 1 36.6	1.660	2.613	7.3	20.8
3 2	11 5.43	+13 20.5	1.622	2.609	2.6	19.8	3 2	11 5.55	- 0 30.0	1.634	2.618	3.2	20.6
3 12	10 56.71	+14 17.6	1.640	2.616	5.1	20.0	3 12	10 56.50	+ 0 45.5	1.637	2.624	3.2	20.6
3 22	10 48.80	+15 0.7	1.684	2.623	9.1	20.2	3 22	10 48.18	+ 2 2.1	1.668	2.629	7.3	20.8
4 1	10 42.61	+15 26.2	1.753	2.630	12.8	20.5	4 1	10 41.51	+ 3 12.2	1.726	2.633	11.3	21.1
4 11	10 38.75	+15 33.1	1.843	2.637	15.9	20.7	4 11	10 37.13	+ 4 10.0	1.807	2.637	14.8	21.3
458197	2010 <i>QK</i> ₄		3 4.9 210°23	3°4/ 8.4 17			405179	2002 <i>WT</i> ₁		3 4.9 82°75	1°4/ 6.2 18		
2 1	11 27.03	- 7 6.7	2.275	3.054	13.1	22.4	2 1	11 28.31	- 0 28.3	1.738	2.558	14.9	21.9
2 11	11 21.50	- 6 51.9	2.176	3.046	10.4	22.2	2 11	11 22.49	+ 0 0.1	1.684	2.585	11.1	21.7
2 21	11 14.13	- 6 18.7	2.101	3.037	7.2	22.0	2 21	11 14.64	+ 0 44.7	1.654	2.612	6.8	21.5
3 2	11 5.50	- 5 28.7	2.054	3.027	4.3	21.7	3 2	11 5.60	+ 1 40.8	1.651	2.638	2.4	21.3
3 12	10 56.44	- 4 25.9	2.036	3.017	3.7	21.7	3 12	10 56.47	+ 2 41.5	1.677	2.664	3.0	21.4
3 22	10 47.84	- 3 16.1	2.048	3.005	6.4	21.8	3 22	10 48.26	+ 3 39.9	1.731	2.690	7.2	21.7
4 1	10 40.52	- 2 5.6	2.088	2.993	9.7	22.0	4 1	10 41.84	+ 4 29.9	1.811	2.715	11.0	21.9
4 11	10 35.10	- 1 0.8	2.153	2.979	12.8	22.2	4 11	10 37.71	+ 5 7.6	1.914	2.739	14.3	22.2
83557	2001 <i>SP</i> ₁₈₄		3 4.9 30°24	0°1/ 5.0 18			381678	2009 <i>BD</i> ₉₁		3 4.9 99°66	0°8/ 4.1 18</		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
112165	2002 <i>JO</i> ₈₀		3 4.9 30°80	2.1/ 3.4	18		470303	2007 <i>HX</i> ₄₆		3 4.9 256°06	3.2/ 1.6	17	
2 1	11 27.67	+ 8 39.7	1.337	2.198	16.1	19.5	2 1	11 25.94	+13 11.2	2.051	2.902	11.7	21.5
2 11	11 22.74	+ 9 17.4	1.276	2.202	11.6	19.3	2 11	11 20.88	+14 6.2	1.969	2.891	8.5	21.3
2 21	11 15.12	+10 5.7	1.237	2.207	6.7	19.0	2 21	11 13.84	+15 6.2	1.912	2.879	5.1	21.0
3 2	11 5.76	+10 57.0	1.223	2.212	2.3	18.7	3 2	11 5.48	+16 4.5	1.884	2.866	3.3	20.9
3 12	10 56.05	+11 42.2	1.236	2.218	5.2	18.9	3 12	10 56.73	+16 54.3	1.885	2.854	5.4	21.0
3 22	10 47.39	+12 14.0	1.273	2.224	10.2	19.2	3 22	10 48.54	+17 30.1	1.913	2.841	8.9	21.2
4 1	10 40.93	+12 28.2	1.334	2.230	14.7	19.5	4 1	10 41.80	+17 48.8	1.967	2.828	12.3	21.4
4 11	10 37.38	+12 23.3	1.414	2.237	18.5	19.8	4 11	10 37.14	+17 49.5	2.041	2.815	15.3	21.5
241893	2001 <i>WF</i> ₁₂		3 4.9 164°61	2.1/ 2.2	18		379991	2012 <i>US</i> ₁₆₆		3 4.9 15°31	3.2/ 8.1	17	
2 1	11 23.44	+11 33.6	2.692	3.534	9.5	21.1	2 1	11 24.23	- 4 56.0	2.188	2.985	13.0	20.6
2 11	11 18.54	+12 24.3	2.620	3.538	6.8	20.9	2 11	11 19.44	- 5 1.3	2.104	2.985	10.2	20.4
2 21	11 12.24	+13 19.0	2.574	3.541	4.0	20.8	2 21	11 12.92	- 4 51.0	2.044	2.986	7.0	20.2
3 2	11 5.07	+14 12.9	2.559	3.544	2.1	20.6	3 2	11 5.27	- 4 26.5	2.011	2.987	4.0	20.1
3 12	10 57.69	+15 1.3	2.574	3.546	3.9	20.8	3 12	10 57.30	- 3 51.2	2.006	2.988	3.5	20.0
3 22	10 50.80	+15 40.1	2.619	3.549	6.7	20.9	3 22	10 49.86	- 3 9.9	2.029	2.989	6.3	20.2
4 1	10 44.99	+16 6.6	2.690	3.551	9.4	21.1	4 1	10 43.72	- 2 27.9	2.080	2.990	9.5	20.4
4 11	10 40.72	+16 19.8	2.784	3.552	11.7	21.3	4 11	10 39.44	- 1 50.2	2.155	2.991	12.5	20.6
62840	2000 <i>UB</i> ₆₁		3 4.9 54°59	2.3/ 6.9	18		167774	2005 <i>AH</i> ₈		3 4.9 71°88	2.6/ 2.8	18	
2 1	11 25.42	- 1 59.3	1.782	2.601	14.6	19.5	2 1	11 28.55	+ 9 17.7	1.418	2.276	15.5	20.5
2 11	11 20.57	- 1 51.1	1.709	2.606	11.1	19.2	2 11	11 23.10	+10 16.6	1.370	2.295	11.1	20.3
2 21	11 13.66	- 1 25.7	1.658	2.612	7.2	19.0	2 21	11 15.18	+11 24.6	1.344	2.313	6.3	20.1
3 2	11 5.42	- 0 46.3	1.634	2.618	3.3	18.8	3 2	11 5.77	+12 32.8	1.344	2.332	2.7	19.9
3 12	10 56.86	+ 0 2.0	1.638	2.624	3.3	18.8	3 12	10 56.21	+13 32.0	1.372	2.351	5.5	20.1
3 22	10 49.01	+ 0 52.6	1.669	2.630	7.2	19.0	3 22	10 47.78	+14 15.0	1.426	2.369	10.0	20.4
4 1	10 42.79	+ 1 39.2	1.726	2.637	11.1	19.3	4 1	10 41.49	+14 38.2	1.503	2.388	14.1	20.7
4 11	10 38.80	+ 2 16.6	1.806	2.643	14.5	19.5	4 11	10 37.92	+14 41.1	1.600	2.406	17.4	20.9
164172	2004 <i>BY</i> ₅		3 4.9 116°24	2.5/ 1.9	17		105528	2000 <i>RZ</i> ₂₆		3 4.9 130°93	3.6/ 7.9	18	
2 1	11 23.52	+10 57.9	2.302	3.149	10.7	20.2	2 1	11 28.98	- 5 18.6	1.730	2.530	15.8	20.3
2 11	11 18.78	+12 5.1	2.239	3.159	7.7	20.0	2 11	11 23.23	- 5 18.3	1.657	2.541	12.3	20.1
2 21	11 12.44	+13 17.6	2.202	3.169	4.5	19.8	2 21	11 15.24	- 4 57.8	1.607	2.550	8.3	19.8
3 2	11 5.13	+14 29.4	2.194	3.179	2.5	19.7	3 2	11 5.82	- 4 19.1	1.582	2.560	4.6	19.6
3 12	10 57.62	+15 34.1	2.216	3.188	4.5	19.8	3 12	10 56.05	- 3 27.2	1.586	2.569	4.1	19.6
3 22	10 50.70	+16 26.7	2.267	3.197	7.6	20.0	3 22	10 47.09	- 2 29.1	1.617	2.577	7.5	19.8
4 1	10 45.05	+17 3.9	2.344	3.206	10.6	20.2	4 1	10 39.90	- 1 32.0	1.675	2.585	11.4	20.1
4 11	10 41.16	+17 24.7	2.443	3.215	13.1	20.4	4 11	10 35.13	- 0 42.6	1.755	2.593	14.8	20.3
52697	1998 <i>FJ</i> ₅₁		3 4.9 40°79	2.3/ 2.8	18		383396	2006 <i>TB</i> ₆₃		3 4.9 182°71	0°0/ 4.9	17	
2 1	11 25.60	+11 19.2	1.976	2.826	12.1	19.0	2 1	11 25.18	+ 4 39.4	2.543	3.367	10.6	20.8
2 11	11 20.47	+11 50.8	1.914	2.836	8.7	18.8	2 11	11 19.89	+ 4 54.0	2.461	3.367	7.8	20.6
2 21	11 13.48	+12 26.9	1.877	2.845	5.0	18.6	2 21	11 13.08	+ 5 16.5	2.404	3.367	4.5	20.4
3 2	11 5.37	+13 2.1	1.868	2.855	2.3	18.4	3 2	11 5.31	+ 5 43.8	2.377	3.367	1.1	20.2
3 12	10 57.07	+13 30.8	1.888	2.865	4.4	18.6	3 12	10 57.29	+ 6 12.0	2.381	3.367	2.5	20.3
3 22	10 49.51	+13 48.8	1.935	2.876	8.0	18.8	3 22	10 49.76	+ 6 37.4	2.414	3.366	5.9	20.5
4 1	10 43.49	+13 53.5	2.008	2.886	11.4	19.0	4 1	10 43.38	+ 6 56.7	2.474	3.365	9.0	20.7
4 11	10 39.52	+13 44.2	2.103	2.897	14.2	19.2	4 11	10 38.65	+ 7 7.5	2.559	3.364	11.7	20.9
100361	1995 <i>UC</i> ₁₄		3 4.9 189°36	0°1/ 5.0	18		316590	2011 <i>UX</i> ₁₆₂		3 4.9 164°59	3°8/ 1.6	18	
2 1	11 27.53	+ 3 7.1	2.102	2.926	12.5	20.7	2 1	11 30.97	+14 18.5	1.842	2.691	12.9	20.9
2 11	11 21.90	+ 3 43.3	2.019	2.925	9.2	20.5	2 11	11 24.59	+15 14.1	1.776	2.696	9.4	20.7
2 21	11 14.38	+ 4 31.8	1.961	2.923	5.4	20.2	2 21	11 15.99	+16 13.0	1.736	2.701	5.8	20.5
3 2	11 5.60	+ 5 28.0	1.931	2.921	1.3	19.9	3 2	11 5.99	+17 7.5	1.724	2.705	3.8	20.4
3 12	10 56.47	+ 6 26.1	1.932	2.918	3.0	20.1	3 12	10 55.71	+17 50.1	1.741	2.708	6.0	20.5
3 22	10 47.92	+ 7 20.0	1.962	2.915	7.0	20.3	3 22	10 46.27	+18 16.0	1.786	2.711	9.7	20.8
4 1	10 40.80	+ 8 4.8	2.019	2.910	10.7	20.5	4 1	10 38.63	+18 23.0	1.856	2.713	13.1	21.0
4 11	10 35.71	+ 8 37.0	2.100	2.905	13.9	20.7	4 11	10 33.41	+18 11.4	1.946	2.714	16.1	21.2
370631	2003 <i>YK</i> ₁₁₇		3 4.9 141°92	16°0/15.2	18		343145	2009 <i>FO</i> ₄₂		3 4.9 51°15	5°3/28.6	18	
2 1	11 36.30	-25 24.1	1.298	2.003	24.7	20.7	2 1	11 26.80	+20 58.0	2.066	2.922	11.4	20.2
2 11	11 29.89	-27 37.1	1.230	2.009	22.2	20.5	2 11	11 21.30	+21 50.1	2.016	2.934	8.6	20.0
2 21	11 19.80	-29 14.0	1.178	2.016	19.6	20.4	2 21	11 13.95	+22 38.7	1.991	2.946	6.1	19.9
3 2	11 6.95	-30 4.3	1.143	2.021	17.3	20.2	3 2	11 5.51	+23 16.8	1.994	2.958	5.4	19.9
3 12	10 53.05	-30 2.8	1.128	2.027	16.1	20.2	3 12	10 56.95	+23 38.9	2.025	2.970	7.1	20.0
3 22	10 40.09	-29 12.7	1.134	2.032	16.4	20.2	3 22	10 49.20	+23 42.4	2.082	2.983	9.8	20.2
4 1	10 29.91	-27 45.5	1.160	2.036	18.0	20.3	4 1	10 43.04	+23 26.7	2.163	2.996	12.5	20.4
4 11	10 23.62	-25 58.1	1.205	2.040	20.4	20.5	4 11	10 38.97	+22 53.6	2.265	3.009	14.8	20.6
42661	1998 <i>FT</i> ₁₂₆		3 4.9 338°40	7°2/28.5	18		109591	2001 <i>QV</i> ₂₇₉		3 4.9 168°84	4°2/28.8	18	
2 1	11 29.51	+22 28.6	1.543	2.407	14.1	18.5	2 1	11 24.10	+17 31.8	2.365	3.219	10.2	19.8
2 11	11 24.00	+23 20.3	1.479	2.399	10.8	18.2	2 11	11 19.26	+18 41.8	2.300	3.220	7.5	19.6
2 21	11 15.83	+24 7.1	1.438	2.392	8.0	18.0	2 21	11 12.77	+19 52.5	2.262	3.221	5.1	19.4
3 2	11 5.94	+24 39.2	1.422	2.386	7.3	18.0	3 2	11 5.26	+20 57.1	2.252	3.222	4.3	19.4
3 12	10 55.68	+24 48.9	1.433	2.380	9.4	18.1	3 12	10 57.50	+21 49.7	2.272	3.223	6.1	19.5
3 22	10 46.42	+24 32.5	1.468	2.374	12.7	18.3	3 22	10 50.31	+22 26.0	2.319	3.224	8.7	19.7
4 1	10 39.32	+23 50.6	1.524	2.369	16.1	18.5	4 1	10 44.41	+22 44.2	2.391	3.225	11.4	19.8
4 11	10 35.06	+22 46.7	1.600	2.365	19.1	18.7	4 11	10 40.29	+22 44.4	2.485	3.225	13.7	20.0
164291	2004 <i>XK</i> ₁₀₈		3 4.9 95°86	2°3/ 6.6	18		337798	2001 <i>UY</i> ₂₁₀		3 4.9 171°57			

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
195394	2002 <i>GF</i> ₁₄		3 4.9 275°02	2°9/ 7.9 18			367523	2009 <i>QV</i> ₃		3 4.9 143°60	4°7/ 9.8 16		
2 1	11 22.97	- 5 22.2	2.009	2.810	13.8	20.1	2 1	11 28.07	-10 17.6	2.332	3.090	13.5	21.9
2 11	11 18.78	- 4 59.3	1.914	2.799	10.8	19.8	2 11	11 22.14	-10 34.1	2.251	3.101	10.9	21.7
2 21	11 12.68	- 4 16.8	1.842	2.788	7.3	19.6	2 21	11 14.47	-10 32.6	2.193	3.111	8.1	21.5
3 2	11 5.27	- 3 16.9	1.797	2.777	3.9	19.4	3 2	11 5.68	-10 13.5	2.163	3.121	5.6	21.4
3 12	10 57.42	- 2 4.6	1.781	2.765	3.4	19.3	3 12	10 56.61	- 9 39.3	2.161	3.130	4.8	21.4
3 22	10 50.06	- 0 46.9	1.792	2.754	6.7	19.5	3 22	10 48.11	- 8 54.6	2.188	3.139	6.5	21.5
4 1	10 44.05	+ 0 29.0	1.830	2.742	10.5	19.7	4 1	10 40.94	- 8 4.9	2.244	3.147	9.2	21.7
4 11	10 40.04	+ 1 36.3	1.892	2.731	13.9	19.9	4 11	10 35.65	- 7 16.0	2.323	3.154	11.9	21.8
130446	2000 <i>QO</i> ₃₆		3 4.9 179°54	0°4/ 4.6 18			156385	2001 <i>YC</i> ₈₃		3 4.9 336°77	5°5/ 8.7 17		
2 1	11 27.46	+ 3 30.2	1.918	2.748	13.3	21.2	2 1	11 26.66	- 6 45.2	1.591	2.395	16.8	19.4
2 11	11 22.01	+ 4 25.0	1.839	2.749	9.7	21.0	2 11	11 21.93	- 7 27.8	1.506	2.386	13.5	19.2
2 21	11 14.52	+ 5 33.6	1.786	2.751	5.6	20.7	2 21	11 14.74	- 7 50.6	1.442	2.379	9.8	18.9
3 2	11 5.68	+ 6 50.4	1.761	2.751	1.2	20.4	3 2	11 5.80	- 7 52.6	1.402	2.372	6.4	18.7
3 12	10 56.49	+ 8 7.7	1.766	2.751	3.4	20.6	3 12	10 56.27	- 7 35.9	1.388	2.365	5.7	18.6
3 22	10 47.95	+ 9 18.2	1.800	2.750	7.7	20.8	3 22	10 47.38	- 7 5.8	1.400	2.359	8.5	18.8
4 1	10 40.97	+ 10 16.1	1.860	2.748	11.6	21.1	4 1	10 40.30	- 6 29.1	1.437	2.354	12.4	19.0
4 11	10 36.17	+ 10 57.7	1.942	2.746	14.9	21.3	4 11	10 35.81	- 5 53.4	1.495	2.349	16.1	19.2
22609	1998 <i>JT</i> ₁		3 4.9 221°59	1°5/ 3.5 18			85705	1998 <i>SO</i> ₂₁		3 4.9 242°86	0°0/ 4.7 18		
2 1	11 27.46	+ 7 29.2	2.019	2.857	12.4	19.0	2 1	11 29.90	+ 3 52.4	1.698	2.531	14.6	20.1
2 11	11 22.02	+ 8 20.3	1.932	2.847	9.0	18.8	2 11	11 24.24	+ 4 20.6	1.605	2.516	10.8	19.8
2 21	11 14.55	+ 9 21.4	1.870	2.837	5.2	18.6	2 21	11 16.07	+ 5 3.1	1.536	2.500	6.4	19.5
3 2	11 5.70	+ 10 26.7	1.838	2.826	1.6	18.3	3 2	11 6.12	+ 5 55.2	1.494	2.483	1.5	19.1
3 12	10 56.41	+ 11 29.3	1.834	2.815	4.0	18.4	3 12	10 55.50	+ 6 50.0	1.480	2.466	3.6	19.3
3 22	10 47.67	+ 12 22.8	1.860	2.803	8.1	18.7	3 22	10 45.47	+ 7 40.2	1.494	2.448	8.6	19.5
4 1	10 40.40	+ 13 2.3	1.912	2.790	11.8	18.9	4 1	10 37.19	+ 8 19.4	1.534	2.429	13.2	19.7
4 11	10 35.27	+ 13 25.6	1.986	2.777	15.1	19.0	4 11	10 31.49	+ 8 43.8	1.595	2.410	17.1	19.9
173733	2001 <i>QH</i> ₂₃₈		3 4.9 162°32	0°8/ 4.0 17			502753	2015 <i>DM</i> ₅₃		3 4.9 265°47	1°1/ 3.8 17		
2 1	11 25.12	+ 7 18.3	2.563	3.395	10.3	20.7	2 1	11 23.79	+ 6 42.2	2.119	2.960	11.8	20.8
2 11	11 19.83	+ 7 45.4	2.486	3.398	7.4	20.5	2 11	11 19.22	+ 7 26.1	2.038	2.954	8.5	20.6
2 21	11 13.04	+ 8 18.9	2.436	3.402	4.2	20.3	2 21	11 12.86	+ 8 19.4	1.982	2.949	4.9	20.3
3 2	11 5.32	+ 8 55.0	2.415	3.405	1.1	20.0	3 2	11 5.33	+ 9 17.3	1.954	2.943	1.3	20.1
3 12	10 57.39	+ 9 29.4	2.424	3.407	2.9	20.2	3 12	10 57.47	+ 10 13.4	1.955	2.938	3.5	20.2
3 22	10 49.96	+ 9 58.2	2.463	3.410	6.2	20.4	3 22	10 50.14	+ 11 2.2	1.985	2.932	7.3	20.5
4 1	10 43.69	+ 10 18.5	2.530	3.412	9.2	20.6	4 1	10 44.15	+ 11 39.1	2.041	2.926	10.9	20.7
4 11	10 39.05	+ 10 28.4	2.620	3.414	11.8	20.8	4 11	10 40.07	+ 12 1.7	2.119	2.921	13.9	20.9
416100	2002 <i>PN</i> ₃₀		3 4.9 203°91	1°7/ 6.5 16			358990	2008 <i>SF</i> ₂₅₅		3 4.9 158°02	1°4/ 3.6 18		
2 1	11 28.31	- 0 51.4	2.152	2.959	12.9	22.7	2 1	11 28.56	+ 6 6.5	1.717	2.558	14.1	21.6
2 11	11 22.50	- 0 38.6	2.061	2.954	9.8	22.5	2 11	11 22.97	+ 7 9.1	1.648	2.564	10.2	21.4
2 21	11 14.77	- 0 11.8	1.995	2.949	6.2	22.2	2 21	11 15.14	+ 8 24.2	1.603	2.570	5.8	21.1
3 2	11 5.75	+ 0 26.3	1.957	2.942	2.5	22.0	3 2	11 5.86	+ 9 44.5	1.586	2.576	1.6	20.9
3 12	10 56.33	+ 1 11.2	1.949	2.935	2.9	22.0	3 12	10 56.25	+ 11 1.4	1.599	2.581	4.3	21.1
3 22	10 47.43	+ 1 57.6	1.970	2.928	6.6	22.2	3 22	10 47.44	+ 12 7.1	1.639	2.585	8.7	21.3
4 1	10 39.92	+ 2 40.2	2.019	2.919	10.3	22.4	4 1	10 40.41	+ 12 56.1	1.705	2.588	12.8	21.6
4 11	10 34.42	+ 3 14.6	2.092	2.910	13.5	22.6	4 11	10 35.81	+ 13 26.0	1.792	2.591	16.1	21.8
498773	2008 <i>UV</i> ₉₂		3 4.9 198°18	0°3/ 5.3 17			223225	2003 <i>DW</i> ₇		3 4.9 314°39	0°5/ 5.4 17		
2 1	11 23.92	+ 1 53.2	2.750	3.564	10.2	22.6	2 1	11 23.90	+ 2 2.9	1.616	2.457	14.8	20.6
2 11	11 18.94	+ 2 39.3	2.659	3.559	7.5	22.4	2 11	11 19.83	+ 2 32.9	1.531	2.445	11.1	20.4
2 21	11 12.54	+ 3 36.1	2.595	3.555	4.5	22.2	2 21	11 13.47	+ 3 19.7	1.469	2.433	6.6	20.1
3 2	11 5.22	+ 4 40.2	2.560	3.549	1.2	22.0	3 2	11 5.51	+ 4 18.7	1.433	2.422	1.8	19.7
3 12	10 57.62	+ 5 46.6	2.557	3.543	2.3	22.0	3 12	10 57.02	+ 5 22.6	1.424	2.411	3.4	19.8
3 22	10 50.42	+ 6 50.4	2.585	3.537	5.6	22.3	3 22	10 49.17	+ 6 23.5	1.441	2.401	8.3	20.1
4 1	10 44.24	+ 7 47.2	2.641	3.529	8.6	22.4	4 1	10 43.01	+ 7 14.1	1.484	2.391	12.8	20.3
4 11	10 39.56	+ 8 33.7	2.722	3.521	11.2	22.6	4 11	10 39.30	+ 7 49.6	1.547	2.381	16.6	20.5
80212	1999 <i>VQ</i> ₉₆		3 4.9 65°34	2°5/ 3.2 18			465123	2006 <i>WL</i> ₁₇₀		3 4.9 60°88	0°8/ 5.6 18		
2 1	11 29.19	+ 8 48.1	1.273	2.135	16.7	19.7	2 1	11 26.59	+ 1 18.8	1.536	2.372	15.7	22.1
2 11	11 24.02	+ 9 36.0	1.212	2.139	12.1	19.4	2 11	11 21.57	+ 1 49.0	1.480	2.391	11.6	21.9
2 21	11 15.98	+ 10 35.6	1.172	2.142	6.9	19.1	2 21	11 14.29	+ 2 35.6	1.447	2.409	6.9	21.6
3 2	11 6.04	+ 11 38.0	1.158	2.146	2.6	18.9	3 2	11 5.65	+ 3 33.3	1.440	2.428	2.0	21.4
3 12	10 55.71	+ 12 33.1	1.169	2.151	5.7	19.1	3 12	10 56.83	+ 4 34.3	1.460	2.448	3.3	21.5
3 22	10 46.47	+ 13 12.6	1.206	2.155	10.8	19.4	3 22	10 48.96	+ 5 30.9	1.507	2.467	8.0	21.8
4 1	10 39.59	+ 13 31.8	1.265	2.159	15.5	19.6	4 1	10 43.00	+ 6 16.8	1.579	2.486	12.2	22.1
4 11	10 35.79	+ 13 29.7	1.343	2.163	19.4	19.9	4 11	10 39.51	+ 6 48.2	1.673	2.505	15.7	22.4
340700	2006 <i>SC</i> ₂₃		3 4.9 121°44	4°9/ 27.7 17			264728	2002 <i>CG</i> ₈₄		3 4.9 55°39	1°7/ 3.2 18		
2 1	11 26.31	+ 22 44.3	2.669	3.516	9.4	20.9	2 1	11 23.16	+ 5 43.2	1.629	2.481	14.2	19.8
2 11	11 20.62	+ 23 41.4	2.618	3.529	7.2	20.8	2 11	11 19.03	+ 7 7.8	1.573	2.496	10.1	19.6
2 21	11 13.46	+ 24 34.4	2.595	3.542	5.4	20.7	2 21	11 12.81	+ 8 45.8	1.542	2.511	5.7	19.4
3 2	11 5.41	+ 25 17.7	2.600	3.554	5.0	20.7	3 2	11 5.32	+ 10 28.3	1.538	2.527	1.8	19.2
3 12	10 57.26	+ 25 46.7	2.634	3.566	6.4	20.8	3 12	10 57.61	+ 12 5.2	1.562	2.543	4.6	19.4
3 22	10 49.72	+ 25 59.1	2.696	3.578	8.6	20.9	3 22	10 50.74	+ 13 28.0	1.613	2.559	8.9	19.7
4 1	10 43.45	+ 25 54.5	2.783	3.590	10.7	21.1	4 1	10 45.57	+ 14 30.8	1.689	2.575	12.7	19.9
4 11	10 38.88	+ 25 33.9	2.891	3.601	12.6	21.2	4 11	10 42.68	+ 15 11.5	1.786	2.592	15.9	20.2
34761	2001 <i>QM</i> ₁												

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
29392	1996 <i>MN</i> ₁		3 4.9 246°69	7.1/26.2	18		66884	1999 <i>VX</i> ₇₀		3 4.9 176°71	0.3/4.7	18	
2 1	11 27.25	+23 5.7	1.919	2.777	12.1	18.7	2 1	11 25.00	+4 29.1	2.200	3.031	11.8	20.1
2 11	11 22.10	+24 43.3	1.851	2.766	9.4	18.5	2 11	11 20.01	+5 5.4	2.122	3.032	8.6	19.9
2 21	11 14.70	+26 18.4	1.808	2.754	7.4	18.3	2 21	11 13.30	+5 52.1	2.068	3.033	5.0	19.7
3 2	11 5.79	+27 40.9	1.793	2.743	7.3	18.3	3 2	11 5.48	+6 44.8	2.043	3.033	1.1	19.4
3 12	10 56.43	+28 42.3	1.805	2.731	9.4	18.4	3 12	10 57.37	+7 37.8	2.048	3.033	2.9	19.6
3 22	10 47.75	+29 17.5	1.843	2.718	12.2	18.5	3 22	10 49.82	+8 25.9	2.082	3.033	6.7	19.8
4 1	10 40.76	+29 25.0	1.902	2.705	15.1	18.7	4 1	10 43.58	+9 4.5	2.143	3.033	10.2	20.0
4 11	10 36.15	+29 7.2	1.980	2.692	17.6	18.9	4 11	10 39.20	+9 30.8	2.227	3.033	13.2	20.2
123678	2000 <i>YP</i> ₉₁		3 4.9 59°62	3.1/1.9	18 R		52452	1994 <i>VQ</i> ₁		3 4.9 66°84	3.1/7.6	18	
2 1	11 25.53	+12 15.6	1.870	2.725	12.5	19.5	2 1	11 27.73	-4 10.3	1.557	2.372	16.6	18.9
2 11	11 20.63	+13 11.5	1.804	2.728	9.0	19.3	2 11	11 22.35	-3 56.3	1.504	2.397	12.7	18.7
2 21	11 13.73	+14 12.7	1.763	2.730	5.3	19.1	2 21	11 14.73	-3 21.1	1.472	2.422	8.3	18.5
3 2	11 5.55	+15 12.3	1.749	2.733	3.1	18.9	3 2	11 5.79	-2 28.5	1.466	2.447	4.1	18.3
3 12	10 57.09	+16 2.8	1.764	2.736	5.4	19.1	3 12	10 56.71	-1 25.4	1.487	2.472	3.8	18.4
3 22	10 49.35	+16 38.9	1.806	2.739	9.0	19.3	3 22	10 48.63	-0 19.8	1.535	2.497	7.6	18.7
4 1	10 43.21	+16 57.5	1.873	2.742	12.5	19.5	4 1	10 42.46	+0 40.5	1.609	2.522	11.5	18.9
4 11	10 39.25	+16 57.9	1.961	2.745	15.4	19.7	4 11	10 38.78	+1 29.8	1.705	2.547	15.0	19.2
505238	2012 <i>UU</i> ₆₀		3 4.9 188°55	3.8/28.9	17		421237	2013 <i>SL</i> ₄₃		3 4.9 156°56	3.8/1.2	17	
2 1	11 25.37	+18 54.7	2.854	3.699	8.9	22.2	2 1	11 26.38	+14 40.2	2.007	2.860	11.8	20.8
2 11	11 19.95	+19 47.9	2.783	3.698	6.6	22.1	2 11	11 21.16	+15 39.9	1.940	2.862	8.6	20.6
2 21	11 13.12	+20 40.1	2.740	3.696	4.5	21.9	2 21	11 14.02	+16 42.6	1.900	2.864	5.3	20.4
3 2	11 5.39	+21 26.4	2.727	3.695	3.9	21.9	3 2	11 5.65	+17 41.1	1.887	2.866	3.8	20.3
3 12	10 57.46	+22 2.2	2.744	3.692	5.3	22.0	3 12	10 57.00	+18 28.7	1.903	2.868	5.8	20.4
3 22	10 50.00	+22 24.4	2.789	3.689	7.6	22.1	3 22	10 49.05	+19 0.4	1.947	2.869	9.1	20.6
4 1	10 43.64	+22 31.7	2.861	3.686	10.0	22.3	4 1	10 42.63	+19 14.0	2.015	2.871	12.3	20.8
4 11	10 38.84	+22 24.1	2.955	3.683	12.0	22.4	4 11	10 38.32	+19 9.2	2.104	2.872	15.1	21.0
32047	Wenji		3 4.9 235°18	1.4/6.2	18		223290	2003 <i>HR</i> ₄₇		3 4.9 202°78	6.8/26.4	18	
2 1	11 27.13	+0 18.3	2.089	2.905	12.9	19.9	2 1	11 29.37	+25 50.4	2.219	3.065	11.1	20.7
2 11	11 21.76	+0 32.7	1.995	2.893	9.7	19.6	2 11	11 23.31	+27 2.5	2.157	3.062	8.8	20.5
2 21	11 14.42	+1 0.8	1.925	2.882	6.1	19.4	2 21	11 15.25	+28 8.6	2.121	3.058	7.1	20.4
3 2	11 5.73	+1 39.8	1.883	2.870	2.2	19.1	3 2	11 5.93	+29 0.7	2.113	3.054	7.0	20.4
3 12	10 56.58	+2 24.7	1.870	2.857	2.8	19.1	3 12	10 56.33	+29 32.6	2.133	3.049	8.6	20.5
3 22	10 47.92	+3 10.3	1.886	2.844	6.8	19.4	3 22	10 47.45	+29 41.5	2.178	3.044	11.0	20.6
4 1	10 40.64	+3 51.1	1.929	2.830	10.6	19.6	4 1	10 40.15	+29 27.1	2.247	3.039	13.4	20.7
4 11	10 35.41	+4 22.7	1.996	2.816	13.9	19.7	4 11	10 35.03	+28 52.0	2.336	3.033	15.5	20.9
432217	2009 <i>FJ</i> ₄₀		3 4.9 36°41	8.2/26.8	18		209476	2004 <i>HH</i> ₄		3 4.9 38°23	4.6/29.6	18	
2 1	11 30.93	+29 9.8	1.872	2.721	12.7	20.3	2 1	11 26.80	+18 13.1	2.000	2.856	11.7	19.6
2 11	11 24.49	+30 1.4	1.832	2.734	10.3	20.2	2 11	11 21.42	+18 58.3	1.942	2.863	8.6	19.4
2 21	11 15.86	+30 41.3	1.816	2.747	8.5	20.1	2 21	11 14.12	+19 42.4	1.909	2.869	5.7	19.3
3 2	11 6.00	+31 1.5	1.826	2.760	8.4	20.1	3 2	11 5.66	+20 18.8	1.904	2.877	4.6	19.2
3 12	10 56.13	+30 57.0	1.862	2.775	9.9	20.2	3 12	10 57.02	+20 41.6	1.926	2.884	6.5	19.3
3 22	10 47.36	+30 27.1	1.922	2.789	12.2	20.4	3 22	10 49.16	+20 47.4	1.976	2.891	9.4	19.5
4 1	10 40.58	+29 33.8	2.006	2.804	14.6	20.6	4 1	10 42.89	+20 35.3	2.050	2.899	12.4	19.7
4 11	10 36.29	+28 21.7	2.108	2.819	16.6	20.8	4 11	10 38.75	+20 6.4	2.145	2.907	15.0	19.9
107612	2001 <i>EV</i> ₄		3 4.9 36°56	1.7/3.7	18		185423	2006 <i>XM</i>		3 4.9 83°02	5.3/10.4	18	
2 1	11 27.44	+7 48.7	1.237	2.101	16.9	19.5	2 1	11 24.85	-12 1.4	1.758	2.533	16.6	19.7
2 11	11 22.65	+8 22.2	1.186	2.113	12.2	19.2	2 11	11 20.20	-11 42.4	1.690	2.550	13.4	19.5
2 21	11 15.11	+9 7.2	1.156	2.127	7.0	19.0	2 21	11 13.50	-10 56.6	1.643	2.567	9.9	19.4
3 2	11 5.88	+9 56.0	1.151	2.141	2.0	18.7	3 2	11 5.53	-9 46.0	1.621	2.584	6.6	19.2
3 12	10 56.42	+10 39.4	1.171	2.155	5.0	18.9	3 12	10 57.32	-8 16.5	1.626	2.601	5.3	19.2
3 22	10 48.15	+11 10.0	1.216	2.170	10.2	19.3	3 22	10 49.88	-6 36.8	1.659	2.618	7.4	19.3
4 1	10 42.21	+11 23.5	1.284	2.186	14.7	19.6	4 1	10 44.12	-4 56.5	1.718	2.635	10.7	19.6
4 11	10 39.23	+11 18.4	1.371	2.203	18.5	19.9	4 11	10 40.59	-3 24.3	1.801	2.651	13.9	19.8
206322	2003 <i>NV</i> ₁₀		3 4.9 132°20	0.1/5.1	18		32907	1994 <i>RL</i> ₂		3 4.9 221°75	0.8/5.9	18	
2 1	11 26.79	+1 49.7	1.742	2.573	14.4	21.2	2 1	11 24.94	+1 45.5	2.842	3.652	10.0	19.4
2 11	11 21.62	+2 43.6	1.674	2.583	10.6	20.9	2 11	11 19.68	+1 55.6	2.746	3.643	7.5	19.2
2 21	11 14.33	+3 53.6	1.630	2.593	6.2	20.7	2 21	11 13.01	+2 14.6	2.677	3.634	4.6	19.0
3 2	11 5.70	+5 13.5	1.613	2.602	1.5	20.4	3 2	11 5.42	+2 40.1	2.638	3.625	1.5	18.8
3 12	10 56.77	+6 35.3	1.624	2.611	3.3	20.6	3 12	10 57.53	+3 9.0	2.629	3.616	2.2	18.8
3 22	10 48.62	+7 50.8	1.665	2.619	7.8	20.9	3 22	10 50.03	+3 37.6	2.650	3.606	5.3	19.0
4 1	10 42.17	+8 53.4	1.731	2.627	11.9	21.1	4 1	10 43.51	+4 2.7	2.700	3.595	8.2	19.2
4 11	10 38.03	+9 39.3	1.819	2.634	15.3	21.3	4 11	10 38.47	+4 21.5	2.776	3.584	10.8	19.4
239980	2001 <i>RB</i> ₉₆		3 4.9 70°65	2.9/2.9	18		211224	2002 <i>PO</i> ₉₆		3 4.9 232°31	1.5/3.6	18	
2 1	11 30.94	+10 27.8	1.317	2.177	16.3	20.7	2 1	11 27.29	+7 17.6	1.959	2.799	12.6	21.2
2 11	11 25.07	+11 9.4	1.265	2.191	11.8	20.4	2 11	11 22.00	+8 7.4	1.871	2.787	9.2	21.0
2 21	11 16.47	+11 58.8	1.237	2.206	6.8	20.2	2 21	11 14.62	+9 7.8	1.809	2.776	5.3	20.7
3 2	11 6.18	+12 47.6	1.233	2.221	2.9	20.0	3 2	11 5.82	+10 12.9	1.774	2.763	1.6	20.5
3 12	10 55.71	+13 26.8	1.256	2.235	5.8	20.2	3 12	10 56.55	+11 15.6	1.769	2.750	4.1	20.6
3 22	10 46.46	+13 50.1	1.305	2.250	10.5	20.5	3 22	10 47.82	+12 9.3	1.792	2.736	8.2	20.8
4 1	10 39.59	+13 54.4	1.376	2.265	14.9	20.8	4 1	10 40.60	+12 48.9	1.841	2.722	12.1	21.0
4 11	10 35.70	+13 39.9	1.467	2.280	18.4	21.1	4 11	10 35.55	+13 12.0	1.912	2.708	15.4	21.2
14652	1998 <i>YT</i> ₈		3 4.9 139°40	1.3/3.5	18		138607	2000 <i>QF</i> ₁₈₄		3 4.9 148°02	0.5/5.5	17	
2 1	11 24.68	+7 44.9	2.285	3.124	11.1	18.7							

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
15605	2000 GY ₁₁₄		3 4.9 251°38	7.7/26.2	18		40419	1999 RV ₂₀		3 4.9 105°20	1.4/ 6.4	18	
2 1	11 30.04	+25 49.5	1.927	2.779	12.3	17.5	2 1	11 25.14	- 0 38.6	2.027	2.844	13.2	19.5
2 11	11 24.15	+27 9.1	1.858	2.766	9.8	17.3	2 11	11 20.20	- 0 13.9	1.954	2.853	9.9	19.3
2 21	11 15.92	+28 22.9	1.814	2.753	8.0	17.2	2 21	11 13.45	+ 0 25.4	1.906	2.862	6.2	19.1
3 2	11 6.12	+29 21.4	1.798	2.740	7.9	17.1	3 2	11 5.56	+ 1 15.9	1.885	2.871	2.4	18.8
3 12	10 55.89	+29 56.6	1.808	2.727	9.8	17.2	3 12	10 57.41	+ 2 12.1	1.893	2.880	2.8	18.9
3 22	10 46.42	+30 5.0	1.843	2.713	12.5	17.3	3 22	10 49.90	+ 3 7.8	1.929	2.889	6.5	19.1
4 1	10 38.75	+29 46.2	1.900	2.699	15.3	17.5	4 1	10 43.83	+ 3 57.5	1.993	2.897	10.2	19.4
4 11	10 33.59	+29 3.4	1.976	2.684	17.7	17.6	4 11	10 39.73	+ 4 37.0	2.080	2.906	13.3	19.6
33345	Nataliedessay		3 4.9 348°51	4.1/ 1.7	18		22130	2000 UT ₃		3 4.9 129°66	0.4/ 4.6	18	
2 1	11 22.53	+11 44.1	1.241	2.118	15.9	16.9	2 1	11 27.45	+ 3 10.7	1.908	2.737	13.4	19.0
2 11	11 19.34	+12 49.6	1.175	2.109	11.5	16.6	2 11	11 21.93	+ 4 12.0	1.843	2.752	9.7	18.8
2 21	11 13.40	+14 5.3	1.131	2.102	6.9	16.3	2 21	11 14.46	+ 5 26.6	1.803	2.767	5.6	18.5
3 2	11 5.56	+15 20.6	1.110	2.095	4.1	16.1	3 2	11 5.79	+ 6 48.6	1.791	2.781	1.2	18.3
3 12	10 57.22	+16 24.1	1.115	2.090	7.2	16.3	3 12	10 56.89	+ 8 9.9	1.810	2.795	3.3	18.4
3 22	10 49.80	+17 6.9	1.143	2.086	12.0	16.5	3 22	10 48.75	+ 9 23.4	1.857	2.808	7.5	18.7
4 1	10 44.56	+17 24.2	1.193	2.083	16.5	16.8	4 1	10 42.20	+10 23.4	1.931	2.820	11.2	19.0
4 11	10 42.27	+17 15.4	1.260	2.082	20.4	17.0	4 11	10 37.79	+11 6.8	2.028	2.831	14.4	19.2
8693	Matsuki		3 4.9 147°04	2.2/ 2.7	18		409014	2003 AK ₈₁		3 4.9 33°05	0.7/ 4.6	18	
2 1	11 27.51	+ 8 45.2	1.870	2.715	12.9	17.3	2 1	11 32.39	+ 8 17.2	1.341	2.193	16.5	19.6
2 11	11 22.06	+ 9 53.6	1.804	2.723	9.3	17.1	2 11	11 26.12	+ 8 1.4	1.285	2.206	12.1	19.4
2 21	11 14.57	+11 11.0	1.764	2.731	5.3	16.9	2 21	11 17.10	+ 7 53.4	1.251	2.218	7.0	19.1
3 2	11 5.79	+12 30.1	1.752	2.739	2.3	16.7	3 2	11 6.41	+ 7 48.8	1.242	2.232	1.6	18.8
3 12	10 56.74	+13 42.6	1.769	2.746	4.7	16.8	3 12	10 55.51	+ 7 42.4	1.261	2.247	4.2	19.0
3 22	10 48.43	+14 42.0	1.815	2.753	8.6	17.1	3 22	10 45.83	+ 7 30.0	1.305	2.262	9.3	19.4
4 1	10 41.76	+15 23.9	1.886	2.759	12.2	17.3	4 1	10 38.52	+ 7 9.0	1.373	2.277	13.8	19.7
4 11	10 37.31	+15 46.9	1.978	2.764	15.3	17.5	4 11	10 34.20	+ 6 38.2	1.462	2.294	17.5	19.9
85882	1999 CA ₂₅		3 4.9 77°05	7.8/27.3	18		27631	3106 P-L		3 4.9 201°44	3.6/ 9.3	18	
2 1	11 29.33	+20 5.3	1.343	2.214	15.4	18.6	2 1	11 23.41	- 8 41.9	2.565	3.336	12.1	19.4
2 11	11 23.93	+22 2.0	1.308	2.233	11.5	18.4	2 11	11 18.73	- 8 34.9	2.472	3.333	9.6	19.2
2 21	11 15.81	+23 55.1	1.295	2.251	8.5	18.3	2 21	11 12.54	- 8 11.3	2.402	3.330	6.9	19.0
3 2	11 6.07	+25 30.9	1.309	2.270	8.0	18.3	3 2	11 5.36	- 7 32.3	2.360	3.326	4.5	18.9
3 12	10 56.19	+26 38.5	1.348	2.289	10.4	18.5	3 12	10 57.87	- 6 41.0	2.346	3.323	3.8	18.8
3 22	10 47.59	+27 13.0	1.410	2.307	13.8	18.8	3 22	10 50.79	- 5 42.1	2.362	3.319	5.7	18.9
4 1	10 41.36	+27 15.0	1.494	2.326	17.1	19.0	4 1	10 44.80	- 4 40.8	2.407	3.315	8.5	19.1
4 11	10 38.08	+26 48.8	1.594	2.344	19.8	19.3	4 11	10 40.42	- 3 42.6	2.476	3.310	11.1	19.3
465413	2008 KK ₃		3 4.9 196°93	1.2/ 6.3	17		110839	2001 UR ₆₈		3 4.9 119°15	6.3/27.4	18	
2 1	11 25.16	- 0 39.5	2.360	3.169	11.8	22.4	2 1	11 31.12	+24 13.4	2.168	3.014	11.3	20.1
2 11	11 20.08	- 0 4.8	2.271	3.166	8.9	22.2	2 11	11 24.40	+25 23.1	2.125	3.032	8.7	19.9
2 21	11 13.34	+ 0 43.6	2.207	3.163	5.5	22.0	2 21	11 15.79	+26 26.3	2.108	3.051	6.7	19.8
3 2	11 5.51	+ 1 42.5	2.172	3.159	2.0	21.7	3 2	11 6.08	+27 15.6	2.120	3.068	6.4	19.9
3 12	10 57.36	+ 2 46.7	2.167	3.154	2.5	21.7	3 12	10 56.29	+27 45.4	2.160	3.086	8.0	20.0
3 22	10 49.68	+ 3 50.6	2.192	3.149	6.1	22.0	3 22	10 47.39	+27 53.3	2.226	3.102	10.4	20.2
4 1	10 43.20	+ 4 48.8	2.245	3.143	9.5	22.2	4 1	10 40.17	+27 39.6	2.317	3.118	12.8	20.3
4 11	10 38.49	+ 5 37.2	2.322	3.136	12.4	22.4	4 11	10 35.14	+27 7.2	2.428	3.133	14.8	20.5
467658	2008 TE ₁₅₁		3 4.9 275°04	3.1/ 2.1	17		371171	2005 YH ₄₂		3 4.9 120°68	1.0/ 4.0	18	
2 1	11 26.79	+13 6.9	1.957	2.808	12.1	21.1	2 1	11 26.89	+ 6 43.1	1.994	2.832	12.5	21.4
2 11	11 21.53	+13 49.9	1.885	2.807	8.8	20.9	2 11	11 21.48	+ 7 20.4	1.927	2.842	9.1	21.2
2 21	11 14.27	+14 36.9	1.838	2.805	5.3	20.7	2 21	11 14.19	+ 8 6.7	1.884	2.851	5.2	21.0
3 2	11 5.73	+15 21.6	1.820	2.803	3.1	20.6	3 2	11 5.74	+ 8 56.8	1.870	2.860	1.3	20.7
3 12	10 56.89	+15 57.6	1.830	2.801	5.2	20.7	3 12	10 57.04	+ 9 44.5	1.885	2.868	3.5	20.9
3 22	10 48.73	+16 20.1	1.867	2.800	8.8	20.9	3 22	10 49.05	+10 24.4	1.929	2.877	7.5	21.2
4 1	10 42.13	+16 26.5	1.930	2.798	12.2	21.1	4 1	10 42.58	+10 52.6	1.998	2.885	11.0	21.4
4 11	10 37.69	+16 16.5	2.013	2.796	15.1	21.3	4 11	10 38.17	+11 7.0	2.091	2.893	14.0	21.6
151800	2003 FE ₅₇		3 4.9 271°57	2.8/ 2.8	17		82945	2001 QN ₁₁₇		3 4.9 205°72	2.3/ 7.5	18	
2 1	11 29.37	+12 16.3	1.796	2.646	13.1	20.2	2 1	11 25.15	- 3 1.6	2.543	3.338	11.5	19.8
2 11	11 23.58	+12 44.2	1.721	2.642	9.5	19.9	2 11	11 19.98	- 3 1.6	2.452	3.335	8.8	19.7
2 21	11 15.54	+13 16.6	1.671	2.638	5.6	19.7	2 21	11 13.27	- 2 49.0	2.386	3.332	5.9	19.5
3 2	11 6.04	+13 47.4	1.648	2.634	2.8	19.5	3 2	11 5.53	- 2 25.4	2.348	3.328	3.0	19.3
3 12	10 56.17	+14 10.2	1.653	2.629	5.1	19.6	3 12	10 57.49	- 1 54.1	2.340	3.324	2.8	19.2
3 22	10 47.05	+14 20.5	1.686	2.625	9.1	19.8	3 22	10 49.88	- 1 19.0	2.362	3.320	5.6	19.4
4 1	10 39.69	+14 15.7	1.744	2.621	12.9	20.1	4 1	10 43.40	- 0 44.3	2.412	3.316	8.6	19.6
4 11	10 34.74	+13 55.5	1.823	2.617	16.1	20.3	4 11	10 38.55	- 0 14.1	2.487	3.311	11.4	19.8
406195	2006 WR ₁₈₅		3 4.9 104°94	9.0/24.9	18		217079	2001 TJ ₅₇		3 4.9 128°31	0.6/ 5.5	18	
2 1	11 30.16	+28 24.7	1.755	2.608	13.2	20.6	2 1	11 26.59	+ 1 50.3	1.949	2.774	13.3	21.2
2 11	11 24.22	+30 5.8	1.716	2.620	10.7	20.4	2 11	11 21.32	+ 2 20.8	1.877	2.783	9.8	21.0
2 21	11 15.88	+31 36.0	1.702	2.631	9.2	20.4	2 21	11 14.13	+ 3 4.6	1.830	2.791	5.9	20.8
3 2	11 6.09	+32 44.7	1.714	2.642	9.4	20.4	3 2	11 5.73	+ 3 57.6	1.811	2.800	1.7	20.5
3 12	10 56.13	+33 24.5	1.751	2.652	11.1	20.5	3 12	10 57.06	+ 4 53.5	1.820	2.807	2.9	20.6
3 22	10 47.23	+33 33.1	1.812	2.663	13.6	20.7	3 22	10 49.08	+ 5 46.2	1.859	2.815	7.0	20.9
4 1	10 40.39	+33 12.0	1.894	2.673	16.0	20.9	4 1	10 42.62	+ 6 30.5	1.923	2.822	10.8	21.2
4 11	10 36.19	+32 26.0	1.993	2.683	18.1	21.1	4 11	10 38.25	+ 7 2.6	2.011	2.829	13.9	21.4
399254	2014 HA ₃₁		3 4.9 178°13	3.8/ 2.1	18		128113	2003 QK ₁₉		3 4.9 277°02	1.1/ 5.9	17	

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
324525	2006 VZ ₁₁₁		3 4.9 95°33	1.2°/ 3.9	18		354794	2005 UJ ₄₇₃		3 4.9 111°87	3°6/ 8.0	18	
2 1	11 30.43	+ 7 27.8	1.837	2.675	13.4	21.2	2 1	11 30.17	- 5 39.4	1.613	2.414	16.7	21.7
2 11	11 24.04	+ 7 59.3	1.783	2.697	9.7	21.0	2 11	11 24.20	- 5 27.6	1.549	2.433	12.9	21.5
2 21	11 15.64	+ 8 38.8	1.754	2.720	5.5	20.8	2 21	11 15.91	- 4 53.5	1.507	2.452	8.7	21.3
3 2	11 6.06	+ 9 20.8	1.752	2.742	1.5	20.6	3 2	11 6.16	- 3 59.9	1.491	2.470	4.7	21.1
3 12	10 56.37	+ 9 59.1	1.780	2.763	3.8	20.8	3 12	10 56.17	- 2 53.4	1.503	2.487	4.1	21.1
3 22	10 47.61	+10 28.7	1.837	2.784	7.8	21.1	3 22	10 47.11	- 1 42.0	1.543	2.503	7.7	21.4
4 1	10 40.61	+10 46.2	1.920	2.805	11.5	21.4	4 1	10 39.99	- 0 34.1	1.608	2.519	11.7	21.7
4 11	10 35.90	+10 50.2	2.024	2.825	14.5	21.6	4 11	10 35.42	+ 0 23.6	1.696	2.535	15.2	21.9
473944	2016 EL ₁₇₂		3 4.9 256°24	2°4/ 2.5	17		143073	2002 WD ₁₇		3 4.9 114°55	0°7/ 4.2	18	
2 1	11 24.59	+ 9 22.1	1.898	2.749	12.5	21.5	2 1	11 27.38	+ 4 42.7	2.069	2.899	12.4	20.2
2 11	11 20.05	+10 27.5	1.820	2.742	9.0	21.3	2 11	11 21.71	+ 5 41.1	2.010	2.921	9.0	20.0
2 21	11 13.50	+11 42.2	1.767	2.735	5.2	21.1	2 21	11 14.27	+ 6 50.1	1.977	2.942	5.1	19.8
3 2	11 5.61	+12 59.2	1.741	2.728	2.4	20.9	3 2	11 5.77	+ 8 3.8	1.973	2.963	1.2	19.6
3 12	10 57.32	+14 10.6	1.745	2.721	4.8	21.0	3 12	10 57.12	+ 9 15.2	1.999	2.982	3.3	19.8
3 22	10 49.63	+15 9.4	1.776	2.714	8.8	21.2	3 22	10 49.21	+10 18.3	2.054	3.001	7.1	20.1
4 1	10 43.45	+15 50.9	1.832	2.707	12.5	21.4	4 1	10 42.80	+11 8.4	2.136	3.020	10.5	20.3
4 11	10 39.41	+16 13.3	1.909	2.700	15.6	21.6	4 11	10 38.37	+11 43.3	2.241	3.037	13.4	20.5
331921	2004 RQ ₂₀₁		3 4.9 81°49	2°3/ 7.5	18		329980	2005 SW ₁₅₆		3 4.9 83°78	0°9/ 5.9	18	
2 1	11 25.60	- 4 12.3	1.989	2.791	13.9	20.4	2 1	11 26.05	+ 0 10.1	1.826	2.651	14.1	21.1
2 11	11 20.45	- 3 39.8	1.930	2.817	10.6	20.2	2 11	11 20.93	+ 0 51.1	1.767	2.671	10.4	20.9
2 21	11 13.53	- 2 49.6	1.894	2.843	6.9	20.1	2 21	11 13.89	+ 1 47.8	1.732	2.692	6.3	20.7
3 2	11 5.58	- 1 45.6	1.886	2.868	3.3	19.9	3 2	11 5.69	+ 2 55.0	1.724	2.712	2.0	20.5
3 12	10 57.50	- 0 33.8	1.907	2.893	3.0	19.9	3 12	10 57.32	+ 4 5.6	1.745	2.732	2.9	20.6
3 22	10 50.17	+ 0 38.8	1.957	2.918	6.4	20.2	3 22	10 49.76	+ 5 12.5	1.794	2.752	7.1	20.9
4 1	10 44.33	+ 1 45.8	2.034	2.942	9.8	20.4	4 1	10 43.80	+ 6 9.7	1.870	2.772	10.8	21.2
4 11	10 40.48	+ 2 42.4	2.135	2.966	12.8	20.7	4 11	10 40.00	+ 6 53.1	1.968	2.791	14.0	21.4
31020	Skarupa		3 4.9 345°79	0°4/ 4.5	18		26982	1997 UY ₂₁		3 4.9 193°49	4°2/ 10.5	18	
2 1	11 21.28	+ 6 4.3	2.701	3.534	9.8	18.5	2 1	11 24.14	-11 59.0	2.989	3.730	11.2	19.2
2 11	11 17.08	+ 6 26.6	2.618	3.530	7.1	18.4	2 11	11 19.10	-11 59.2	2.890	3.728	9.1	19.1
2 21	11 11.54	+ 6 56.0	2.561	3.526	4.1	18.1	2 21	11 12.71	-11 43.7	2.816	3.725	6.9	18.9
3 2	11 5.13	+ 7 29.0	2.533	3.523	0.9	17.9	3 2	11 5.43	-11 12.9	2.769	3.721	4.9	18.8
3 12	10 58.50	+ 8 1.7	2.535	3.520	2.5	18.0	3 12	10 57.87	-10 29.0	2.751	3.717	4.2	18.7
3 22	10 52.28	+ 8 30.5	2.566	3.517	5.7	18.2	3 22	10 50.66	- 9 35.8	2.763	3.712	5.4	18.8
4 1	10 47.06	+ 8 52.4	2.624	3.514	8.6	18.4	4 1	10 44.40	- 8 37.8	2.804	3.706	7.6	18.9
4 11	10 43.31	+ 9 5.0	2.707	3.512	11.1	18.6	4 11	10 39.56	- 7 39.9	2.871	3.700	9.9	19.1
84380	2002 TJ ₁₃₈		3 4.9 85°59	5°7/ 10.2	18		173312	1999 VM ₃₉		3 4.9 160°30	1°2/ 3.8	18	
2 1	11 27.53	-10 57.7	1.740	2.516	16.7	19.5	2 1	11 28.41	+ 6 54.7	2.063	2.897	12.3	21.1
2 11	11 22.21	-11 12.1	1.673	2.533	13.5	19.3	2 11	11 22.59	+ 7 40.9	1.991	2.904	8.9	20.9
2 21	11 14.73	-11 2.3	1.626	2.549	10.0	19.1	2 21	11 14.87	+ 8 36.3	1.944	2.910	5.1	20.7
3 2	11 5.89	-10 28.7	1.604	2.565	6.9	19.0	3 2	11 5.94	+ 9 35.2	1.926	2.916	1.4	20.4
3 12	10 56.76	- 9 35.6	1.609	2.581	5.8	19.0	3 12	10 56.74	+10 31.3	1.939	2.921	3.6	20.6
3 22	10 48.43	- 8 29.7	1.641	2.597	7.8	19.1	3 22	10 48.22	+11 18.8	1.980	2.925	7.5	20.9
4 1	10 41.86	- 7 19.4	1.700	2.613	11.0	19.3	4 1	10 41.18	+11 53.6	2.048	2.929	11.1	21.1
4 11	10 37.64	- 6 12.8	1.780	2.628	14.2	19.6	4 11	10 36.22	+12 13.8	2.139	2.931	14.1	21.3
290128	2005 QD ₁₅₀		3 4.9 83°90	1°0/ 4.1	18		315473	2007 YQ ₁₂		3 4.9 59°62	4°9/ 1.1	18	
2 1	11 26.54	+ 3 42.2	1.324	2.176	16.8	20.4	2 1	11 28.76	+15 38.6	1.506	2.369	14.4	20.5
2 11	11 21.98	+ 4 54.5	1.265	2.186	12.2	20.1	2 11	11 23.39	+16 40.7	1.450	2.376	10.5	20.3
2 21	11 14.79	+ 6 25.7	1.228	2.196	7.0	19.9	2 21	11 15.53	+17 45.0	1.418	2.383	6.7	20.0
3 2	11 5.92	+ 8 6.4	1.217	2.207	1.6	19.6	3 2	11 6.11	+18 42.4	1.412	2.391	4.9	20.0
3 12	10 56.71	+ 9 44.8	1.232	2.217	4.6	19.8	3 12	10 56.42	+19 23.9	1.434	2.398	7.3	20.1
3 22	10 48.52	+11 10.0	1.273	2.227	9.9	20.1	3 22	10 47.75	+19 44.3	1.480	2.406	11.2	20.4
4 1	10 42.48	+12 14.4	1.338	2.237	14.5	20.4	4 1	10 41.17	+19 41.9	1.549	2.414	14.9	20.6
4 11	10 39.26	+12 54.7	1.423	2.247	18.4	20.7	4 11	10 37.29	+19 18.0	1.638	2.422	18.0	20.8
368627	2004 TS ₃₅₅		3 4.9 177°48	3°3/ 29.8	16		293176	2006 YR ₅₂		3 4.9 339°10	1°2/ 5.9	17	
2 1	11 25.87	+14 46.6	2.553	3.398	9.9	21.5	2 1	11 26.15	+ 0 59.7	1.722	2.552	14.6	20.7
2 11	11 20.49	+15 54.5	2.482	3.400	7.2	21.4	2 11	11 21.33	+ 1 16.6	1.644	2.550	10.9	20.5
2 21	11 13.54	+17 5.0	2.439	3.402	4.5	21.2	2 21	11 14.31	+ 1 48.9	1.589	2.550	6.7	20.2
3 2	11 5.60	+18 12.0	2.426	3.403	3.3	21.1	3 2	11 5.84	+ 2 32.8	1.561	2.549	2.2	20.0
3 12	10 57.42	+19 9.8	2.443	3.403	5.1	21.2	3 12	10 56.97	+ 3 22.3	1.560	2.548	3.1	20.0
3 22	10 49.74	+19 54.0	2.489	3.403	7.8	21.4	3 22	10 48.79	+ 4 10.8	1.587	2.547	7.6	20.3
4 1	10 43.27	+20 22.2	2.561	3.402	10.5	21.6	4 1	10 42.28	+ 4 52.0	1.640	2.547	11.8	20.5
4 11	10 38.49	+20 34.0	2.656	3.400	12.8	21.7	4 11	10 38.11	+ 5 21.5	1.714	2.546	15.4	20.7
31954	Georgiebotev		3 4.9 244°86	1°7/ 3.5	18		15060	1999 AD		3 4.9 83°78	1°2/ 5.9	18	
2 1	11 26.65	+ 6 3.8	1.607	2.455	14.5	18.5	2 1	11 27.50	- 0 11.0	1.391	2.227	17.0	17.7
2 11	11 21.94	+ 7 11.1	1.524	2.444	10.6	18.2	2 11	11 22.58	+ 0 26.5	1.330	2.240	12.7	17.4
2 21	11 14.80	+ 8 33.9	1.464	2.433	6.1	17.9	2 21	11 15.11	+ 1 24.7	1.290	2.252	7.7	17.2
3 2	11 5.95	+10 4.5	1.432	2.421	1.8	17.6	3 2	11 6.02	+ 2 37.8	1.275	2.264	2.5	16.9
3 12	10 56.53	+11 33.1	1.428	2.409	4.7	17.8	3 12	10 56.62	+ 3 56.5	1.288	2.276	3.5	17.0
3 22	10 47.76	+12 50.3	1.450	2.397	9.6	18.0	3 22	10 48.21	+ 5 11.2	1.327	2.288	8.6	17.3
4 1	10 40.78	+13 49.1	1.498	2.384	14.0	18.3	4 1	10 41.89	+ 6 13.6	1.390	2.300	13.3	17.6
4 11	10 36.36	+14 26.0	1.565	2.371	17.8	18.5	4 11	10 38.31	+ 6 58.7	1.473	2.311	17.1	17.9
375319	2008 RK ₈₂		3 4.9 323°30	2°3/ 6.8	17		192145	2006 FG ₂₁		3 4.9 171°44	0°7/ 4.2	18	
2 1	11 25.07	- 0 52.1	1.650	2.478	15.2	20							

EPHEMERIDES

3 4.9

3 4.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
411389	2010 <i>VH</i> ₈₇		3 4.9 108°01'	0°1'	4.9 18		283465	2001 <i>QD</i> ₁₁₁		3 4.9 228°11'	7°0'	13.9 18	
2 1	11 28.93	+ 4 5.7	1.980	2.807	13.0	21.6	2 1	11 27.10	-22 56.8	3.228	3.880	12.0	21.4
2 11	11 22.90	+ 4 37.7	1.919	2.828	9.5	21.4	2 11	11 21.37	-23 37.1	3.114	3.866	10.6	21.3
2 21	11 14.99	+ 5 20.4	1.884	2.848	5.5	21.2	2 21	11 14.14	-23 59.8	3.022	3.850	9.1	21.1
3 2	11 5.97	+ 6 9.1	1.877	2.867	1.2	20.9	3 2	11 5.83	-24 2.8	2.954	3.835	7.7	21.0
3 12	10 56.79	+ 6 57.6	1.900	2.886	3.0	21.1	3 12	10 57.09	-23 46.0	2.913	3.818	7.1	21.0
3 22	10 48.41	+ 7 40.7	1.952	2.904	7.1	21.4	3 22	10 48.60	-23 11.5	2.900	3.801	7.4	20.9
4 1	10 41.61	+ 8 13.9	2.031	2.922	10.6	21.6	4 1	10 41.01	-22 22.9	2.915	3.783	8.6	21.0
4 11	10 36.93	+ 8 34.7	2.132	2.939	13.6	21.9	4 11	10 34.88	-21 25.5	2.955	3.764	10.2	21.1
458840	2011 <i>UW</i> ₄₅		3 4.9 88°15'	3°0'	2.7 18		425212	2009 <i>VW</i> ₄₈		3 4.9 164°01'	3°3'	1.5 17	
2 1	11 31.49	+11 8.5	1.522	2.375	14.9	21.3	2 1	11 25.63	+13 2.1	2.038	2.890	11.7	21.5
2 11	11 25.18	+11 57.2	1.473	2.395	10.7	21.1	2 11	11 20.66	+14 7.3	1.970	2.891	8.5	21.3
2 21	11 16.46	+12 51.9	1.448	2.416	6.2	20.9	2 21	11 13.80	+15 17.3	1.927	2.893	5.1	21.1
3 2	11 6.32	+13 44.6	1.450	2.436	3.0	20.7	3 2	11 5.74	+16 24.8	1.913	2.895	3.3	20.9
3 12	10 56.06	+14 27.1	1.480	2.456	5.5	21.0	3 12	10 57.40	+17 22.9	1.928	2.896	5.4	21.1
3 22	10 46.94	+14 54.0	1.536	2.476	9.8	21.2	3 22	10 49.70	+18 6.2	1.971	2.897	8.8	21.3
4 1	10 39.94	+15 2.7	1.617	2.495	13.6	21.5	4 1	10 43.47	+18 31.6	2.039	2.898	12.0	21.5
4 11	10 35.63	+14 53.3	1.718	2.514	16.8	21.8	4 11	10 39.28	+18 38.5	2.127	2.899	14.8	21.7
373499	2000 <i>YT</i> ₁₆		3 4.9 103°35'	14°2'	14.4 18		85740	1998 <i>SO</i> ₁₀₆		3 4.9 178°22'	0°7'	5.7 18	
2 1	11 36.18	-22 7.1	1.231	1.962	24.5	20.7	2 1	11 28.60	+ 0 32.0	1.855	2.675	14.1	20.5
2 11	11 29.71	-24 0.9	1.171	1.977	21.6	20.5	2 11	11 22.99	+ 1 17.6	1.775	2.678	10.5	20.3
2 21	11 19.69	-25 17.2	1.127	1.991	18.4	20.3	2 21	11 15.25	+ 2 19.8	1.719	2.679	6.3	20.0
3 2	11 7.17	-25 47.5	1.101	2.005	15.7	20.2	3 2	11 6.10	+ 3 33.8	1.692	2.680	1.9	19.7
3 12	10 53.91	-25 29.3	1.097	2.019	14.3	20.1	3 12	10 56.55	+ 4 52.2	1.693	2.680	3.1	19.8
3 22	10 41.83	-24 28.5	1.114	2.032	14.8	20.2	3 22	10 47.68	+ 6 7.2	1.724	2.680	7.5	20.1
4 1	10 32.59	-22 58.2	1.152	2.045	16.8	20.4	4 1	10 40.42	+ 7 12.0	1.781	2.678	11.6	20.3
4 11	10 27.13	-21 15.0	1.209	2.057	19.5	20.6	4 11	10 35.44	+ 8 2.1	1.861	2.676	15.0	20.5
49368	1998 <i>WN</i> ₁₉		3 4.9 96°07'	5°9'	10.8 18		210188	2006 <i>VE</i> ₁₃₇		3 4.9 220°33'	0°3'	4.6 17	
2 1	11 29.64	-12 43.4	1.985	2.738	15.7	18.6	2 1	11 23.52	+ 5 17.0	2.826	3.651	9.6	22.0
2 11	11 23.49	-13 3.2	1.920	2.763	12.8	18.5	2 11	11 18.70	+ 5 48.1	2.735	3.643	7.0	21.8
2 21	11 15.38	-13 0.3	1.878	2.788	9.7	18.3	2 21	11 12.52	+ 6 27.0	2.671	3.635	4.1	21.6
3 2	11 6.08	-12 35.0	1.861	2.812	7.0	18.2	3 2	11 5.44	+ 7 10.1	2.637	3.627	0.9	21.3
3 12	10 56.57	-11 50.5	1.871	2.836	5.9	18.2	3 12	10 58.09	+ 7 53.4	2.633	3.618	2.5	21.5
3 22	10 47.86	-10 52.7	1.910	2.859	7.5	18.3	3 22	10 51.12	+ 8 33.0	2.660	3.609	5.6	21.7
4 1	10 40.78	- 9 48.9	1.976	2.882	10.1	18.5	4 1	10 45.13	+ 9 5.4	2.714	3.599	8.5	21.8
4 11	10 35.88	- 8 46.3	2.065	2.904	12.9	18.7	4 11	10 40.59	+ 9 28.3	2.793	3.590	11.0	22.0
14230	<i>Mariahines</i>		3 4.9 350°81'	2°9'	6.8 18		253404	2003 <i>PF</i> ₇		3 4.9 199°75'	0°5'	4.5 18	
2 1	11 27.13	- 1 1.4	1.175	2.019	19.0	17.5	2 1	11 27.45	+ 3 59.0	1.927	2.758	13.2	21.0
2 11	11 22.90	- 1 9.7	1.104	2.016	14.5	17.3	2 11	11 22.13	+ 4 50.6	1.845	2.755	9.7	20.8
2 21	11 15.62	- 0 55.9	1.053	2.013	9.4	17.0	2 21	11 14.75	+ 5 55.6	1.787	2.751	5.6	20.5
3 2	11 6.21	- 0 22.5	1.025	2.011	4.1	16.6	3 2	11 5.99	+ 7 8.7	1.757	2.747	1.2	20.2
3 12	10 56.17	+ 0 23.7	1.021	2.009	4.3	16.6	3 12	10 56.81	+ 8 22.3	1.757	2.742	3.4	20.3
3 22	10 47.10	+ 1 13.5	1.042	2.008	9.6	16.9	3 22	10 48.23	+ 9 29.4	1.785	2.736	7.8	20.6
4 1	10 40.41	+ 1 57.9	1.084	2.008	14.9	17.2	4 1	10 41.19	+10 24.0	1.840	2.729	11.7	20.8
4 11	10 36.96	+ 2 29.6	1.146	2.008	19.4	17.5	4 11	10 36.32	+11 2.6	1.917	2.722	15.0	21.0
175433	2006 <i>QS</i> ₂₅		3 4.9 104°79'	1°5'	3.3 18		362731	2011 <i>UW</i> ₂₈₂		3 4.9 271°10'	3°7'	8.1 18	
2 1	11 25.24	+ 9 26.6	2.556	3.392	10.1	20.5	2 1	11 25.24	- 6 0.1	1.545	2.357	16.8	20.6
2 11	11 19.92	+10 1.7	2.493	3.408	7.3	20.4	2 11	11 21.03	- 5 42.2	1.457	2.347	13.2	20.3
2 21	11 13.16	+10 41.6	2.458	3.424	4.1	20.2	2 21	11 14.35	- 4 58.9	1.390	2.337	9.1	20.1
3 2	11 5.55	+11 22.0	2.452	3.440	1.5	20.0	3 2	11 5.93	- 3 52.5	1.348	2.327	4.9	19.8
3 12	10 57.81	+11 58.4	2.476	3.456	3.3	20.2	3 12	10 56.89	- 2 29.0	1.332	2.317	4.2	19.7
3 22	10 50.64	+12 27.1	2.530	3.471	6.4	20.4	3 22	10 48.48	- 0 57.9	1.343	2.307	8.2	19.9
4 1	10 44.65	+12 45.5	2.611	3.486	9.2	20.6	4 1	10 41.87	+ 0 30.6	1.378	2.296	12.7	20.2
4 11	10 40.30	+12 52.5	2.716	3.500	11.6	20.8	4 11	10 37.85	+ 1 47.6	1.436	2.286	16.8	20.4
473123	2015 <i>JS</i> ₂		3 4.9 261°09'	2°7'	1.5 17		181861	1998 <i>XS</i> ₃₃		3 4.9 199°67'	0°7'	4.3 18	
2 1	11 22.90	+12 38.9	2.633	3.479	9.6	21.2	2 1	11 27.85	+ 5 48.7	2.120	2.951	12.1	19.6
2 11	11 18.42	+13 40.4	2.542	3.461	6.9	21.0	2 11	11 22.24	+ 6 23.7	2.037	2.948	8.9	19.4
2 21	11 12.43	+14 46.7	2.478	3.444	4.2	20.8	2 21	11 14.74	+ 7 8.5	1.979	2.944	5.1	19.2
3 2	11 5.41	+15 52.5	2.444	3.426	2.7	20.7	3 2	11 5.97	+ 7 58.4	1.950	2.940	1.2	18.9
3 12	10 58.05	+16 52.2	2.440	3.408	4.5	20.8	3 12	10 56.85	+ 8 47.5	1.951	2.935	3.3	19.0
3 22	10 51.07	+17 41.1	2.465	3.390	7.4	20.9	3 22	10 48.30	+ 9 30.6	1.980	2.929	7.2	19.2
4 1	10 45.13	+18 16.0	2.517	3.371	10.2	21.1	4 1	10 41.16	+10 3.1	2.037	2.923	10.9	19.5
4 11	10 40.77	+18 35.3	2.591	3.352	12.7	21.2	4 11	10 36.04	+10 22.6	2.116	2.916	14.0	19.6
136814	1997 <i>HB</i> ₃		3 4.9 290°65'	0°4'	5.3 17		437539	2013 <i>YF</i> ₁₁₉		3 4.9 62°57'	6°4'	25.8 18	
2 1	11 25.94	+ 2 37.7	1.595	2.434	15.0	20.9	2 1	11 23.48	+22 42.9	2.147	3.006	10.9	20.4
2 11	11 21.51	+ 3 4.8	1.504	2.417	11.2	20.6	2 11	11 19.10	+24 28.9	2.095	3.011	8.4	20.3
2 21	11 14.63	+ 3 48.3	1.436	2.400	6.8	20.3	2 21	11 12.90	+26 11.6	2.070	3.015	6.6	20.2
3 2	11 5.98	+ 4 43.9	1.393	2.383	1.8	19.9	3 2	11 5.53	+27 42.2	2.073	3.020	6.7	20.2
3 12	10 56.68	+ 5 44.2	1.378	2.365	3.5	20.0	3 12	10 57.91	+28 53.2	2.103	3.025	8.5	20.3
3 22	10 47.97	+ 6 41.5	1.390	2.348	8.6	20.3	3 22	10 50.93	+29 40.4	2.160	3.029	10.9	20.5
4 1	10 40.99	+ 7 28.4	1.426	2.331	13.3	20.5	4 1	10 45.38	+30 2.6	2.239	3.034	13.3	20.6
4 11	10 36.58	+ 8 0.0	1.483	2.314	17.4	20.7	4 11	10 41.81	+30 1.3	2.337	3.039	15.4	20.8
384926	2012 <i>TL</i> ₈₇		3 4.9 175°78'	0°7'	4.2 17		274066	2007 <i>TB</i> ₂₈₇		3 4.9 285°40'	0°3'	4.7 17	

EPHEMERIDES

3 4.9

3 5.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
495841	2001 <i>XD</i> ₁₅		3 4.9 135°28	5°7/27.0	18		456838	2007 <i>UU</i> ₄		3 4.9 96°81	0°7/ 5.6	18	
2 1	11 27.36	+21 7.1	2.242	3.093	10.8	21.5	2 1	11 29.68	+1 55.1	1.647	2.476	15.1	21.9
2 11	11 21.76	+22 46.3	2.193	3.107	8.2	21.3	2 11	11 23.78	+2 22.8	1.588	2.496	11.2	21.7
2 21	11 14.37	+24 22.7	2.172	3.121	6.1	21.2	2 21	11 15.66	+3 5.3	1.553	2.515	6.7	21.5
3 2	11 5.87	+25 48.1	2.179	3.134	5.9	21.2	3 2	11 6.19	+3 57.6	1.545	2.534	1.9	21.2
3 12	10 57.17	+26 55.5	2.216	3.146	7.6	21.4	3 12	10 56.54	+4 52.5	1.565	2.552	3.2	21.3
3 22	10 49.17	+27 40.9	2.280	3.157	10.1	21.5	3 22	10 47.82	+5 43.2	1.613	2.571	7.8	21.6
4 1	10 42.63	+28 3.3	2.368	3.168	12.5	21.7	4 1	10 40.99	+6 23.8	1.687	2.588	11.9	21.9
4 11	10 38.09	+28 4.1	2.475	3.179	14.6	21.9	4 11	10 36.62	+6 50.9	1.782	2.605	15.2	22.2
422193	2014 <i>RS</i> ₄₁		3 4.9 146°66	0°1/ 5.1	18		394372	2007 <i>DZ</i> ₅₆		3 4.9 150°00	0°7/ 4.4	18	
2 1	11 28.52	+3 11.2	2.029	2.853	12.9	21.9	2 1	11 29.87	+4 12.5	1.703	2.537	14.5	22.0
2 11	11 22.69	+3 46.4	1.957	2.863	9.5	21.7	2 11	11 23.99	+5 7.8	1.635	2.547	10.6	21.8
2 21	11 14.95	+4 33.4	1.911	2.873	5.6	21.4	2 21	11 15.85	+6 17.1	1.592	2.557	6.1	21.5
3 2	11 6.02	+5 27.7	1.893	2.882	1.3	21.2	3 2	11 6.25	+7 33.7	1.575	2.565	1.4	21.2
3 12	10 56.83	+6 23.3	1.905	2.891	2.9	21.3	3 12	10 56.34	+8 49.3	1.589	2.573	3.8	21.4
3 22	10 48.33	+7 14.1	1.946	2.899	7.0	21.6	3 22	10 47.27	+9 55.9	1.630	2.580	8.4	21.7
4 1	10 41.34	+7 55.4	2.014	2.906	10.7	21.8	4 1	10 40.01	+10 47.8	1.697	2.586	12.5	22.0
4 11	10 36.44	+8 24.2	2.105	2.912	13.8	22.0	4 11	10 35.21	+11 21.9	1.786	2.591	15.9	22.2
178626	2000 <i>GT</i> ₆₈		3 4.9 236°69	2°8/ 2.5	18		203462	2001 <i>YM</i> ₁₂₄		3 4.9 142°63	3°2/ 7.5	18	
2 1	11 27.79	+11 23.3	1.837	2.687	12.9	20.5	2 1	11 30.36	-3 45.1	1.707	2.513	15.7	20.0
2 11	11 22.47	+12 10.1	1.760	2.681	9.3	20.3	2 11	11 24.39	-3 46.5	1.633	2.521	12.2	19.8
2 21	11 14.98	+13 3.4	1.708	2.675	5.5	20.0	2 21	11 16.11	-3 29.1	1.581	2.529	8.1	19.6
3 2	11 6.05	+13 56.4	1.684	2.670	2.8	19.9	3 2	11 6.33	-2 54.8	1.556	2.537	4.2	19.4
3 12	10 56.72	+14 41.9	1.688	2.663	5.1	20.0	3 12	10 56.17	-2 8.9	1.559	2.544	3.8	19.3
3 22	10 48.07	+15 14.3	1.720	2.657	9.1	20.2	3 22	10 46.81	-1 17.9	1.590	2.550	7.6	19.6
4 1	10 41.07	+15 29.9	1.776	2.651	12.8	20.4	4 1	10 39.26	-0 28.8	1.647	2.556	11.6	19.8
4 11	10 36.39	+15 27.9	1.854	2.644	16.0	20.6	4 11	10 34.20	+0 12.4	1.726	2.561	15.1	20.1
307245	2002 <i>JK</i> ₁₂₅		3 4.9 339°06	2°2/ 3.5	18		80229	1999 <i>VA</i> ₁₇₁		3 4.9 179°06	0°3/ 4.7	18	
2 1	11 29.69	+9 44.6	1.411	2.268	15.6	19.9	2 1	11 31.35	+4 28.4	1.752	2.582	14.3	20.6
2 11	11 24.35	+10 8.7	1.341	2.265	11.4	19.6	2 11	11 25.11	+5 1.8	1.675	2.585	10.5	20.3
2 21	11 16.27	+10 41.4	1.293	2.262	6.6	19.3	2 21	11 16.55	+5 47.9	1.622	2.586	6.1	20.1
3 2	11 6.37	+11 15.7	1.271	2.260	2.4	19.1	3 2	11 6.44	+6 41.4	1.597	2.587	1.4	19.8
3 12	10 56.00	+11 43.9	1.275	2.257	5.1	19.2	3 12	10 55.92	+7 35.3	1.601	2.587	3.6	19.9
3 22	10 46.57	+11 59.8	1.306	2.255	10.1	19.5	3 22	10 46.16	+8 22.9	1.634	2.586	8.2	20.2
4 1	10 39.30	+11 59.7	1.359	2.254	14.6	19.8	4 1	10 38.20	+8 58.8	1.692	2.584	12.4	20.4
4 11	10 34.93	+11 42.5	1.432	2.252	18.5	20.0	4 11	10 32.74	+9 19.9	1.773	2.581	15.9	20.7
71033	1999 <i>XU</i> ₇₀		3 4.9 120°26	0°4/ 5.4	18		227820	2007 <i>BL</i> ₁₀₁		3 4.9 207°26	1°0/ 4.0	17	
2 1	11 24.97	+2 17.0	2.112	2.938	12.4	19.4	2 1	11 26.69	+6 48.7	2.100	2.936	12.0	21.3
2 11	11 20.07	+2 49.1	2.039	2.945	9.1	19.2	2 11	11 21.42	+7 25.9	2.019	2.933	8.8	21.1
2 21	11 13.43	+3 33.3	1.990	2.951	5.4	19.0	2 21	11 14.28	+8 12.1	1.963	2.929	5.0	20.8
3 2	11 5.67	+4 25.7	1.968	2.958	1.5	18.7	3 2	11 5.90	+9 2.5	1.935	2.925	1.3	20.5
3 12	10 57.66	+5 20.4	1.977	2.964	2.7	18.8	3 12	10 57.18	+9 51.2	1.937	2.920	3.5	20.7
3 22	10 50.25	+6 11.9	2.014	2.970	6.6	19.1	3 22	10 49.02	+10 32.7	1.968	2.915	7.4	20.9
4 1	10 44.20	+6 55.2	2.078	2.976	10.1	19.3	4 1	10 42.27	+11 2.9	2.025	2.910	11.0	21.1
4 11	10 40.06	+7 27.0	2.165	2.982	13.1	19.5	4 11	10 37.51	+11 19.4	2.105	2.904	14.0	21.3
129806	1999 <i>KL</i> ₁₁		3 4.9 260°32	1°7/ 3.5	16		363012	1988 <i>PH</i> ₄		3 5.0 185°82	0°8/ 6.2	17	
2 1	11 27.29	+7 3.7	1.668	2.515	14.1	20.7	2 1	11 25.61	-0 19.0	2.951	3.751	9.9	22.5
2 11	11 22.42	+7 57.9	1.579	2.499	10.3	20.4	2 11	11 20.15	+0 21.9	2.860	3.751	7.4	22.3
2 21	11 15.14	+9 5.4	1.515	2.483	6.0	20.1	2 21	11 13.35	+1 13.9	2.795	3.750	4.6	22.1
3 2	11 6.13	+10 19.3	1.477	2.466	1.9	19.8	3 2	11 5.66	+2 13.9	2.761	3.748	1.6	21.9
3 12	10 56.50	+11 31.0	1.467	2.449	4.6	20.0	3 12	10 57.73	+3 17.7	2.758	3.745	2.1	21.9
3 22	10 47.46	+12 32.2	1.485	2.432	9.4	20.2	3 22	10 50.18	+4 20.8	2.787	3.741	5.1	22.1
4 1	10 40.14	+13 16.7	1.527	2.414	13.8	20.4	4 1	10 43.61	+5 18.8	2.846	3.737	8.0	22.3
4 11	10 35.35	+13 41.4	1.590	2.396	17.5	20.6	4 11	10 38.47	+6 8.4	2.930	3.731	10.4	22.5
418281	2008 <i>EC</i> ₁₁₃		3 4.9 328°18	4°7/ 9.7	16		23668	<i>Eunbekim</i>		3 5.0 351°23	0°6/ 4.6	18	R
2 1	11 21.99	-10 33.3	1.637	2.429	16.9	21.7	2 1	11 25.97	+5 42.6	1.299	2.158	16.6	18.3
2 11	11 18.48	-9 57.8	1.551	2.425	13.6	21.5	2 11	11 21.80	+6 2.1	1.229	2.153	12.2	18.0
2 21	11 12.77	-8 52.8	1.486	2.421	9.8	21.2	2 21	11 14.88	+6 35.8	1.180	2.149	7.1	17.7
3 2	11 5.56	-7 20.1	1.446	2.417	6.1	21.0	3 2	11 6.08	+7 17.7	1.155	2.146	1.6	17.4
3 12	10 57.88	-5 26.6	1.432	2.413	4.8	20.9	3 12	10 56.77	+7 59.6	1.156	2.143	4.3	17.6
3 22	10 50.84	-3 22.7	1.446	2.410	7.7	21.1	3 22	10 48.37	+8 33.7	1.182	2.141	9.7	17.9
4 1	10 45.44	-1 20.2	1.485	2.407	11.7	21.3	4 1	10 42.12	+8 53.9	1.231	2.141	14.6	18.1
4 11	10 42.40	+0 30.6	1.548	2.404	15.5	21.5	4 11	10 38.81	+8 57.1	1.299	2.141	18.8	18.4
350606	2001 <i>SK</i> ₁₁		3 4.9 81°90	2°0/ 6.4	18		225611	2000 <i>YY</i> ₇₇		3 5.0 128°70	3°4/ 8.7	18	
2 1	11 33.89	+0 3.5	1.430	2.255	17.2	21.2	2 1	11 26.50	-6 52.5	2.286	3.066	13.0	20.5
2 11	11 27.00	+0 1.7	1.380	2.282	12.9	20.9	2 11	11 21.07	-6 48.5	2.209	3.079	10.2	20.3
2 21	11 17.57	+0 17.4	1.351	2.309	8.0	20.7	2 21	11 13.97	-6 27.7	2.157	3.092	7.1	20.1
3 2	11 6.63	+0 46.5	1.348	2.335	3.1	20.5	3 2	11 5.82	-5 51.7	2.131	3.104	4.3	20.0
3 12	10 55.58	+1 22.9	1.373	2.360	3.6	20.6	3 12	10 57.42	-5 4.4	2.135	3.115	3.7	20.0
3 22	10 45.77	+1 59.4	1.425	2.386	8.3	20.9	3 22	10 49.61	-4 10.8	2.169	3.126	6.1	20.1
4 1	10 38.23	+2 29.9	1.503	2.410	12.6	21.2	4 1	10 43.11	-3 16.7	2.230	3.137	9.1	20.3
4 11	10 33.54	+2 50.0	1.601	2.435	16.2	21.5	4 11	10 38.44	-2 27.1	2.315	3.147	11.9	20.5
12932	<i>Conedera</i>		3 4.9 174°14	1°3/ 3.7	18		87046	2000 <i>KT</i> ₁₂		3 5.0 131°09	3°6/ 8.0	18	
2 1	11 28.01	+7 3.6	2.072	2.907	12.2	19.4	2 1						