

EPHEMERIDES

11 30.9

12 1.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
274847	2009 <i>QW</i> ₃₈		11 30.9 308°81	5°0/28.9	18		401111	2011 <i>UP</i> ₂₅₃		11 30.9 45°15	1°2/30.6	18	
10 28	4 51.81	+ 9 7.6	2.090	2.923	12.6	20.1	10 28	4 55.65	+19 10.1	1.670	2.512	14.8	21.1
11 7	4 46.97	+ 8 17.4	2.016	2.917	9.7	19.9	11 7	4 50.24	+19 1.3	1.607	2.520	11.0	20.9
11 17	4 40.23	+ 7 31.6	1.965	2.912	6.9	19.7	11 17	4 42.36	+18 50.6	1.567	2.529	6.6	20.7
11 27	4 32.27	+ 6 54.1	1.942	2.907	5.1	19.6	11 27	4 32.93	+18 39.1	1.554	2.538	2.1	20.4
12 7	4 23.98	+ 6 28.4	1.948	2.901	6.0	19.6	12 7	4 23.16	+18 28.6	1.568	2.547	3.3	20.5
12 17	4 16.27	+ 6 16.8	1.981	2.896	8.6	19.8	12 17	4 14.29	+18 21.3	1.611	2.556	7.7	20.8
12 27	4 10.00	+ 6 20.2	2.040	2.891	11.6	20.0	12 27	4 7.40	+18 19.6	1.679	2.565	11.8	21.1
1 6	4 5.74	+ 6 37.9	2.121	2.886	14.3	20.1	1 6	4 3.14	+18 25.1	1.769	2.575	15.2	21.3
373271	2012 <i>HN</i> ₂₃		11 30.9 290°39	2°4/30.3	18		191275	2003 <i>ES</i> ₁₈		11 30.9 226°76	0°0/1.0	18	
10 28	4 57.23	+18 15.6	1.312	2.166	17.3	21.3	10 28	4 58.29	+23 1.7	1.830	2.661	14.2	21.2
11 7	4 52.27	+17 46.5	1.234	2.153	13.1	21.0	11 7	4 52.26	+22 51.9	1.746	2.653	10.7	21.0
11 17	4 44.03	+17 14.3	1.176	2.139	8.1	20.7	11 17	4 43.67	+22 36.2	1.686	2.645	6.5	20.7
11 27	4 37.47	+16 41.5	1.143	2.126	3.1	20.3	11 27	4 33.35	+22 14.8	1.653	2.637	1.9	20.4
12 7	4 22.11	+16 11.8	1.136	2.113	4.7	20.4	12 7	4 22.48	+21 49.2	1.648	2.628	2.8	20.5
12 17	4 11.64	+15 49.5	1.155	2.100	10.1	20.7	12 17	4 12.36	+21 22.5	1.673	2.619	7.4	20.7
12 27	4 3.61	+15 38.7	1.197	2.087	15.2	20.9	12 27	4 4.14	+20 58.4	1.725	2.609	11.6	21.0
1 6	3 58.96	+15 41.4	1.259	2.075	19.6	21.2	1 6	3 58.61	+20 40.6	1.799	2.599	15.2	21.2
183417	2003 <i>AE</i> ₅		11 30.9 336°66	4°0/2.4	17		422127	2014 <i>QA</i> ₄₂₀		11 30.9 3°97	9°0/28.4	18	
10 28	4 54.26	+32 2.3	1.501	2.335	16.6	19.8	10 28	4 48.60	+ 3 9.8	1.396	2.247	16.7	19.6
11 7	4 49.98	+32 7.9	1.419	2.322	12.9	19.5	11 7	4 45.26	+ 2 3.4	1.343	2.246	13.5	19.4
11 17	4 42.59	+31 58.6	1.359	2.310	8.8	19.3	11 17	4 39.46	+ 1 10.6	1.311	2.247	10.6	19.2
11 27	4 33.05	+31 32.0	1.323	2.299	4.9	19.0	11 27	4 32.11	+ 0 38.5	1.301	2.250	9.1	19.1
12 7	4 22.81	+30 48.5	1.313	2.288	4.7	19.0	12 7	4 24.40	+ 0 31.7	1.316	2.255	10.0	19.2
12 17	4 13.50	+29 52.4	1.329	2.278	8.6	19.2	12 17	4 17.55	+ 0 51.8	1.354	2.261	12.6	19.4
12 27	4 6.56	+28 51.1	1.370	2.270	12.9	19.4	12 27	4 12.64	+ 1 36.6	1.414	2.268	15.6	19.6
1 6	4 2.87	+27 52.1	1.433	2.262	16.9	19.7	1 6	4 10.33	+ 2 41.2	1.493	2.278	18.5	19.8
448507	2010 <i>MY</i> ₈₂		11 30.9 54°64	2°1/1.7	18		97756	2000 <i>JY</i>		11 30.9 351°74	9°8/1.8	18	
10 28	4 56.65	+27 33.8	1.847	2.674	14.2	21.2	10 28	5 8.26	- 1 51.5	1.069	1.894	22.4	18.6
11 7	4 50.95	+27 46.6	1.779	2.681	10.8	21.0	11 7	5 0.91	- 1 12.2	1.004	1.893	18.3	18.3
11 17	4 42.78	+27 51.1	1.734	2.689	6.8	20.8	11 17	4 49.47	- 0 1.0	0.958	1.892	13.8	18.1
11 27	4 33.03	+27 45.9	1.716	2.696	3.0	20.5	11 27	4 35.13	+ 1 46.8	0.934	1.891	10.4	17.9
12 7	4 22.90	+27 31.6	1.726	2.704	3.2	20.6	12 7	4 19.82	+ 4 8.2	0.936	1.891	10.4	17.9
12 17	4 13.63	+27 10.4	1.764	2.711	7.0	20.8	12 17	4 5.74	+ 6 53.8	0.964	1.891	14.1	18.1
12 27	4 6.33	+26 46.7	1.830	2.719	10.8	21.1	12 27	3 54.82	+ 9 51.2	1.016	1.891	18.7	18.4
1 6	4 1.66	+26 24.5	1.918	2.727	14.0	21.3	1 6	3 48.11	+12 49.3	1.089	1.891	22.8	18.7
479449	2013 <i>YT</i> ₁₂₀		11 30.9 2°11	0°5/30.9	18		379552	2011 <i>AT</i> ₃₂		11 30.9 357°47	4°5/29.8	18	
10 28	4 53.53	+21 57.3	1.084	1.953	19.0	21.4	10 28	4 54.91	+14 43.2	1.177	2.041	18.2	20.8
11 7	4 49.85	+21 43.5	1.024	1.951	14.3	21.1	11 7	4 50.53	+13 58.4	1.116	2.038	13.8	20.6
11 17	4 42.64	+21 23.1	0.984	1.950	8.6	20.8	11 17	4 42.92	+13 14.8	1.074	2.036	8.8	20.3
11 27	4 33.06	+20 57.5	0.966	1.950	2.5	20.4	11 27	4 33.16	+12 37.2	1.056	2.035	4.8	20.1
12 7	4 22.86	+20 29.9	0.971	1.952	3.9	20.6	12 7	4 22.85	+12 10.8	1.063	2.035	6.2	20.2
12 17	4 13.90	+20 4.9	1.001	1.955	9.9	20.9	12 17	4 13.64	+11 59.4	1.094	2.036	11.0	20.4
12 27	4 7.74	+19 47.5	1.053	1.959	15.3	21.2	12 27	4 6.98	+12 5.1	1.148	2.037	15.8	20.7
1 6	4 5.22	+19 41.0	1.124	1.965	19.8	21.5	1 6	4 3.68	+12 27.3	1.220	2.039	19.9	21.0
386682	2009 <i>VS</i> ₆₄		11 30.9 350°66	1°0/1.3	18		153484	2001 <i>RQ</i> ₈₀		11 30.9 41°94	1°8/30.4	18	
10 28	4 54.05	+24 49.8	1.154	2.017	18.6	20.5	10 28	4 54.51	+18 55.1	1.749	2.591	14.2	19.9
11 7	4 50.25	+24 44.1	1.087	2.010	14.1	20.2	11 7	4 49.29	+18 23.5	1.684	2.597	10.6	19.7
11 17	4 42.92	+24 28.8	1.040	2.004	8.7	19.9	11 17	4 41.75	+17 49.2	1.642	2.603	6.4	19.4
11 27	4 33.17	+24 3.7	1.016	2.000	2.8	19.5	11 27	4 32.76	+17 14.3	1.626	2.609	2.4	19.2
12 7	4 22.71	+23 31.0	1.015	1.996	3.7	19.6	12 7	4 23.47	+16 42.1	1.639	2.616	3.6	19.3
12 17	4 13.39	+22 55.6	1.040	1.994	9.6	19.9	12 17	4 15.04	+16 15.6	1.680	2.623	7.7	19.6
12 27	4 6.82	+22 23.8	1.087	1.993	14.9	20.2	12 27	4 8.46	+15 57.8	1.747	2.630	11.6	19.8
1 6	4 3.91	+22 0.8	1.153	1.993	19.4	20.5	1 6	4 4.37	+15 50.3	1.836	2.637	14.9	20.1
50740	2000 <i>EO</i> ₁₅₇		11 30.9 188°76	6°5/4.6	18 R		60645	2000 <i>FU</i> ₃₈		12 1.0 179°76	0°0/30.8	18	
10 28	4 59.99	+46 30.9	2.961	3.692	11.7	19.6	10 28	4 59.50	+22 17.1	1.934	2.759	13.7	19.7
11 7	4 53.09	+47 4.0	2.877	3.691	9.9	19.5	11 7	4 52.95	+22 16.1	1.857	2.761	10.3	19.5
11 17	4 43.97	+47 21.8	2.815	3.690	8.2	19.4	11 17	4 43.99	+22 10.6	1.803	2.762	6.2	19.3
11 27	4 33.39	+47 20.8	2.779	3.688	6.9	19.3	11 27	4 33.44	+22 0.6	1.778	2.762	1.8	19.0
12 7	4 22.40	+46 59.9	2.771	3.686	6.6	19.2	12 7	4 22.45	+21 47.1	1.782	2.762	2.7	19.0
12 17	4 12.13	+46 20.4	2.791	3.684	7.4	19.3	12 17	4 12.24	+21 32.3	1.816	2.761	7.1	19.3
12 27	4 3.56	+45 26.5	2.839	3.681	9.0	19.4	12 27	4 3.88	+21 19.4	1.878	2.760	11.0	19.6
1 6	3 57.36	+44 24.0	2.912	3.678	10.8	19.5	1 6	3 58.08	+21 11.1	1.963	2.758	14.3	19.8
358898	2008 <i>GC</i> ₅₀		11 30.9 120°42	3°4/29.5	18		84954	2003 <i>XY</i> ₇		12 1.0 43°98	8°5/3.5	18	
10 28	4 53.49	+13 23.0	2.244	3.074	11.9	21.0	10 28	5 3.99	+39 12.3	1.395	2.202	19.1	17.9
11 7	4 48.00	+12 37.0	2.178	3.083	9.0	20.8	11 7	4 57.45	+40 29.9	1.352	2.226	15.5	17.7
11 17	4 40.74	+11 52.3	2.138	3.092	5.8	20.7	11 17	4 47.11	+41 26.7	1.329	2.251	11.8	17.6
11 27	4 32.42	+11 12.0	2.126	3.100	3.5	20.5	11 27	4 34.36	+41 55.1	1.329	2.276	9.1	17.5
12 7	4 23.90	+10 39.1	2.143	3.108	4.4	20.6	12 7	4 21.19	+41 52.7	1.354	2.302	8.6	17.6
12 17	4 16.03	+10 15.9	2.190	3.116	7.3	20.8	12 17	4 9.65	+41 23.4	1.404	2.329	10.7	17.7
12 27	4 9.59	+10 4.1	2.264	3.124	10.3	21.0	12 27	4 1.30	+40 36.1	1.478	2.355	13.7	18.0
1 6	4 5.10	+10 3.8	2.361	3.131	12.9	21.2	1 6	3 56.90	+39 41.2	1.573	2.383	16.6	18.3
313527	2002 <i>XC</i> ₃₇		11 30.9 355°98	10°5/4.7	17		33501	Juliethompson		12 1.0 181°76	2°1/3		

EPHEMERIDES

12 1.0

12 1.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
420209	2011 <i>GH</i> ₈₈	12	1.0 314°62	0°5/30.8	17		348762	2006 <i>HS</i> ₁₁₁	12	1.0 154°38	5°0/2.9	18	
10 28	4 52.62	+21 26.3	2.014	2.850	12.8	21.5	10 28	5 2.56	+37 19.7	2.373	3.151	13.0	21.5
11 7	4 47.91	+21 13.6	1.924	2.834	9.6	21.2	11 7	4 55.13	+37 55.8	2.298	3.160	10.4	21.4
11 17	4 41.00	+20 56.9	1.858	2.819	5.8	21.0	11 17	4 45.26	+38 19.0	2.247	3.169	7.7	21.2
11 27	4 32.60	+20 36.8	1.819	2.803	1.7	20.7	11 27	4 33.82	+38 25.6	2.223	3.176	5.5	21.1
12 7	4 23.68	+20 15.2	1.808	2.788	2.7	20.7	12 7	4 21.96	+38 14.5	2.229	3.184	5.2	21.1
12 17	4 15.33	+19 54.5	1.827	2.773	6.9	20.9	12 17	4 10.92	+37 47.7	2.265	3.190	7.1	21.2
12 27	4 8.54	+19 37.6	1.872	2.759	10.8	21.1	12 27	4 1.77	+37 9.8	2.328	3.196	9.7	21.4
1 6	4 4.03	+19 27.0	1.941	2.745	14.1	21.3	1 6	3 55.20	+36 26.6	2.417	3.201	12.2	21.6
18272	2495 <i>T</i> ₋₃	12	1.0 37°95	1°3/1.4	18		429787	2012 <i>HP</i> ₂₃	12	1.0 149°50	2°0/30.3	16	
10 28	4 57.31	+25 57.8	1.429	2.272	16.8	18.7	10 28	5 0.09	+18 1.7	1.796	2.627	14.4	22.5
11 7	4 51.95	+25 48.8	1.367	2.279	12.6	18.4	11 7	4 53.33	+17 33.1	1.730	2.637	10.7	22.3
11 17	4 43.60	+25 30.0	1.326	2.286	7.8	18.2	11 17	4 44.16	+17 2.5	1.687	2.646	6.5	22.0
11 27	4 33.34	+25 1.5	1.310	2.293	2.7	17.9	11 27	4 33.49	+16 31.9	1.672	2.654	2.5	21.8
12 7	4 22.68	+24 25.2	1.320	2.301	3.3	17.9	12 7	4 22.52	+16 3.9	1.687	2.662	3.7	21.9
12 17	4 13.15	+23 45.8	1.358	2.309	8.3	18.3	12 17	4 12.47	+15 41.6	1.730	2.669	7.9	22.2
12 27	4 6.06	+23 8.8	1.421	2.317	12.8	18.5	12 27	4 4.40	+15 27.7	1.801	2.675	11.8	22.4
1 6	4 2.13	+22 39.0	1.505	2.326	16.6	18.8	1 6	3 58.94	+15 23.7	1.894	2.681	15.0	22.7
348750	2006 <i>HQ</i> ₄₁	12	1.0 3°54	5°2/30.9	18		226279	2003 <i>BN</i>	12	1.0 349°96	1°4/30.7	18	
10 28	4 57.37	+7 43.1	1.229	2.081	18.4	19.4	10 28	4 54.05	+19 22.0	1.147	2.014	18.4	19.7
11 7	4 52.31	+8 18.1	1.167	2.079	14.2	19.1	11 7	4 50.19	+19 16.1	1.081	2.007	13.8	19.4
11 17	4 44.02	+9 8.7	1.124	2.079	9.6	18.9	11 17	4 42.90	+19 8.1	1.035	2.000	8.4	19.1
11 27	4 33.52	+10 16.2	1.105	2.081	5.7	18.7	11 27	4 33.24	+18 59.1	1.011	1.996	2.7	18.7
12 7	4 22.34	+11 38.9	1.112	2.083	6.3	18.7	12 7	4 22.83	+18 51.4	1.012	1.992	4.1	18.8
12 17	4 12.14	+13 12.9	1.145	2.087	10.6	19.0	12 17	4 13.49	+18 48.0	1.037	1.989	10.0	19.1
12 27	4 4.43	+14 53.6	1.202	2.092	15.2	19.2	12 27	4 6.80	+18 52.0	1.085	1.988	15.3	19.4
1 6	4 0.09	+16 37.0	1.280	2.098	19.1	19.5	1 6	4 3.67	+19 5.5	1.152	1.987	19.7	19.7
486568	2013 <i>HA</i> ₁₃₀	12	1.0 64°31	2°6/1.9	17		327790	2006 <i>UH</i> ₂₂₃	12	1.0 128°92	2°9/1.9	18	
10 28	4 56.74	+29 16.0	1.948	2.769	13.8	22.1	10 28	5 2.49	+29 46.6	1.636	2.456	16.1	20.5
11 7	4 51.01	+29 27.2	1.874	2.772	10.6	21.8	11 7	4 55.55	+29 51.5	1.571	2.468	12.3	20.3
11 17	4 42.85	+29 28.8	1.823	2.775	6.9	21.6	11 17	4 45.68	+29 44.2	1.528	2.479	8.0	20.1
11 27	4 33.12	+29 19.5	1.800	2.778	3.4	21.4	11 27	4 33.96	+29 22.8	1.511	2.490	3.8	19.8
12 7	4 22.98	+28 59.5	1.805	2.781	3.4	21.4	12 7	4 21.87	+28 48.4	1.523	2.500	3.8	19.9
12 17	4 13.65	+28 31.6	1.838	2.784	6.9	21.7	12 17	4 10.95	+28 4.9	1.563	2.509	7.9	20.1
12 27	4 6.21	+27 59.9	1.899	2.787	10.5	21.9	12 27	4 2.47	+27 18.8	1.630	2.518	11.9	20.4
1 6	4 1.35	+27 29.3	1.983	2.790	13.7	22.1	1 6	3 57.12	+26 36.1	1.719	2.527	15.5	20.6
124509	2001 <i>RM</i> ₆₅	12	1.0 177°32	2°6/2.0	18		514726	2006 <i>VQ</i> ₁₀₄	12	1.0 40°13	1°5/30.7	18	
10 28	5 1.19	+30 17.0	2.127	2.933	13.4	20.6	10 28	4 56.84	+16 52.6	1.692	2.531	14.7	20.3
11 7	4 54.12	+30 19.8	2.047	2.936	10.2	20.4	11 7	4 51.16	+17 8.6	1.627	2.539	11.0	20.1
11 17	4 44.66	+30 12.1	1.990	2.938	6.7	20.1	11 17	4 42.97	+17 26.2	1.586	2.547	6.7	19.8
11 27	4 33.64	+29 52.4	1.962	2.939	3.4	19.9	11 27	4 33.18	+17 45.4	1.572	2.555	2.3	19.6
12 7	4 22.23	+29 21.2	1.964	2.939	3.3	19.9	12 7	4 22.98	+18 6.5	1.585	2.563	3.4	19.7
12 17	4 11.64	+28 41.5	1.996	2.939	6.7	20.1	12 17	4 13.62	+18 29.9	1.627	2.572	7.7	20.0
12 27	4 2.94	+27 58.0	2.057	2.938	10.2	20.4	12 27	4 6.22	+18 56.5	1.695	2.581	11.7	20.2
1 6	3 56.80	+27 15.9	2.141	2.936	13.3	20.6	1 6	4 1.47	+19 27.2	1.786	2.590	15.1	20.5
409071	2003 <i>SN</i> ₂₄₆	12	1.0 89°79	5°8/28.2	18		151921	2004 <i>EW</i> ₈₆	12	1.0 310°00	5°7/29.4	18	
10 28	4 52.78	+5 7.7	2.368	3.186	11.8	21.4	10 28	4 54.50	+12 6.6	1.306	2.163	17.2	19.5
11 7	4 47.28	+3 59.4	2.320	3.207	9.3	21.3	11 7	4 50.23	+11 14.8	1.226	2.144	13.3	19.2
11 17	4 40.23	+2 58.3	2.296	3.227	7.0	21.2	11 17	4 42.85	+10 25.3	1.167	2.125	9.0	18.9
11 27	4 32.30	+2 8.8	2.301	3.247	5.9	21.1	11 27	4 33.24	+9 43.8	1.132	2.106	5.8	18.6
12 7	4 24.27	+1 34.0	2.334	3.267	6.6	21.2	12 7	4 22.80	+9 16.0	1.122	2.088	7.2	18.7
12 17	4 16.91	+1 15.7	2.396	3.287	8.5	21.4	12 17	4 13.13	+9 6.4	1.137	2.070	11.6	18.9
12 27	4 10.88	+1 14.0	2.483	3.306	10.8	21.6	12 27	4 5.71	+9 16.9	1.174	2.054	16.3	19.1
1 6	4 6.63	+1 27.2	2.593	3.325	12.8	21.7	1 6	4 1.50	+9 46.6	1.230	2.037	20.4	19.3
129486	1994 <i>PV</i> ₃₀	12	1.0 119°26	0°9/1.4	18		171136	2005 <i>GW</i> ₅₂	12	1.0 218°52	1°2/30.5	18	
10 28	4 58.96	+25 36.5	2.134	2.951	12.9	20.9	10 28	4 55.90	+19 29.9	2.334	3.158	11.7	21.0
11 7	4 52.18	+25 24.8	2.071	2.970	9.6	20.7	11 7	4 49.97	+19 6.7	2.245	3.149	8.7	20.7
11 17	4 43.31	+25 5.8	2.032	2.988	5.9	20.5	11 17	4 42.08	+18 40.5	2.182	3.140	5.3	20.5
11 27	4 33.21	+24 39.9	2.022	3.005	2.0	20.3	11 27	4 32.91	+18 12.6	2.147	3.130	1.8	20.3
12 7	4 22.93	+24 8.5	2.043	3.022	2.5	20.3	12 7	4 23.36	+17 45.0	2.143	3.120	2.8	20.3
12 17	4 13.53	+23 34.8	2.093	3.038	6.2	20.6	12 17	4 14.35	+17 20.0	2.169	3.109	6.4	20.5
12 27	4 5.90	+23 2.4	2.172	3.054	9.7	20.8	12 27	4 6.76	+17 0.3	2.223	3.097	9.9	20.7
1 6	4 0.60	+22 34.6	2.276	3.069	12.6	21.1	1 6	4 1.22	+16 47.9	2.302	3.085	12.8	20.9
511132	2013 <i>XA</i> ₁₄	12	1.0 268°23	1°1/1.4	18		496781	2017 <i>EY</i> ₅	12	1.0 186°70	5°4/2.8	17	
10 28	4 58.38	+26 4.0	1.556	2.392	16.0	21.6	10 28	4 59.73	+38 22.9	2.563	3.338	12.2	21.1
11 7	4 52.84	+25 47.2	1.471	2.380	12.1	21.4	11 7	4 53.11	+39 17.2	2.481	3.338	9.9	20.9
11 17	4 44.26	+25 20.0	1.409	2.368	7.6	21.1	11 17	4 44.13	+40 0.0	2.423	3.337	7.6	20.8
11 27	4 33.60	+24 42.0	1.372	2.355	2.6	20.7	11 27	4 33.55	+40 27.4	2.392	3.337	5.8	20.7
12 7	4 22.25	+23 55.5	1.362	2.342	3.2	20.7	12 7	4 22.40	+40 37.4	2.390	3.336	5.6	20.7
12 17	4 11.77	+23 4.9	1.381	2.330	8.3	21.0	12 17	4 11.84	+40 30.7	2.417	3.335	7.2	20.8
12 27	4 3.55	+22 16.7	1.425	2.317	13.1	21.3	12 27	4 2.93	+40 10.7	2.472	3.333	9.5	20.9
1 6	3 58.48	+21 36.2	1.490	2.304	17.1	21.5	1 6	3 56.43	+39 42.7	2.552	3.332	11.8	21.1
518720	2009 <i>DG</i> ₆₀	12	1.0 214°21	2°4/1.8	18		18729	Potentino	12	1.0 98°90	0°9/30.7	18	
10 28	4 58.42	+28											

EPHEMERIDES

12 1.0

12 1.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
398043	2009 <i>FF</i> ₁₅		12 1.0 169°64	4.7/ 3.1	18		394137	2006 <i>JQ</i> ₄₆		12 1.0 157°99	2.4/29.9	18	
10 28	5 0.51	+36 53.3	2.253	3.039	13.3	21.9	10 28	4 55.88	+18 21.7	2.021	2.853	13.0	21.0
11 7	4 53.68	+37 8.9	2.174	3.043	10.6	21.7	11 7	4 50.02	+17 19.5	1.949	2.857	9.7	20.8
11 17	4 44.42	+37 10.5	2.118	3.046	7.7	21.5	11 17	4 42.10	+16 13.5	1.901	2.860	5.9	20.5
11 27	4 33.60	+36 55.3	2.089	3.048	5.3	21.4	11 27	4 32.93	+15 7.1	1.883	2.863	2.7	20.3
12 7	4 22.41	+36 23.1	2.089	3.050	5.0	21.3	12 7	4 23.51	+14 4.5	1.894	2.866	3.9	20.4
12 17	4 12.06	+35 36.6	2.119	3.052	7.1	21.5	12 17	4 14.86	+13 10.2	1.934	2.869	7.5	20.7
12 27	4 3.63	+34 41.2	2.177	3.053	9.9	21.7	12 27	4 7.88	+12 27.5	2.002	2.871	11.0	20.9
1 6	3 57.79	+33 43.1	2.259	3.053	12.7	21.8	1 6	4 3.13	+11 58.3	2.093	2.873	14.0	21.1
348304	2005 <i>AN</i> ₁₉		12 1.0 284°87	25.7/ 7.2	16		151763	2003 <i>ET</i> ₁₂		12 1.0 325°79	8.5/27.4	18	
10 28	5 11.72	-38 3.4	1.495	2.099	25.7	21.7	10 28	4 51.40	+ 3 45.8	1.655	2.492	15.1	19.7
11 7	5 3.68	-39 48.8	1.428	2.062	25.7	21.5	11 7	4 47.19	+ 2 20.3	1.583	2.479	12.3	19.5
11 17	4 51.37	-40 51.7	1.369	2.023	25.8	21.4	11 17	4 40.65	+ 1 3.2	1.534	2.466	9.7	19.3
11 27	4 35.83	-40 55.6	1.321	1.983	26.1	21.3	11 27	4 32.56	+ 0 2.3	1.510	2.454	8.5	19.2
12 7	4 18.95	-39 48.5	1.285	1.942	26.9	21.2	12 7	4 24.00	- 0 36.4	1.511	2.442	9.6	19.3
12 17	4 2.96	-37 25.8	1.261	1.900	28.0	21.1	12 17	4 16.10	- 0 49.4	1.537	2.431	12.2	19.4
12 27	3 49.93	-33 52.4	1.249	1.858	29.4	21.1	12 27	4 9.93	- 0 36.4	1.585	2.420	15.2	19.6
1 6	3 41.07	-29 21.2	1.249	1.815	31.0	21.1	1 6	4 6.18	- 0 0.5	1.653	2.410	18.1	19.7
485926	2012 <i>GV</i> ₃₅		12 1.0 181°52	1.0/ 1.5	17		32290	2000 <i>QH</i> ₅		12 1.0 234°90	7.4/ 3.5	18	
10 28	4 54.28	+25 53.1	2.784	3.597	10.4	23.0	10 28	5 3.60	+40 54.7	1.896	2.675	15.7	18.9
11 7	4 48.52	+25 54.1	2.701	3.597	7.8	22.8	11 7	4 56.87	+41 43.4	1.810	2.666	13.0	18.7
11 17	4 41.10	+25 49.6	2.644	3.598	4.8	22.6	11 17	4 46.82	+42 15.1	1.745	2.657	10.2	18.5
11 27	4 32.63	+25 39.4	2.616	3.598	1.8	22.4	11 27	4 34.42	+42 23.7	1.706	2.647	8.0	18.3
12 7	4 23.86	+25 24.3	2.618	3.597	2.1	22.4	12 7	4 21.21	+42 6.2	1.693	2.637	7.6	18.3
12 17	4 15.61	+25 5.7	2.652	3.596	5.1	22.6	12 17	4 8.89	+41 24.4	1.708	2.627	9.5	18.4
12 27	4 8.60	+24 46.2	2.715	3.595	8.0	22.8	12 27	3 59.03	+40 25.0	1.748	2.617	12.4	18.5
1 6	4 3.37	+24 28.3	2.803	3.593	10.6	23.0	1 6	3 52.58	+39 17.0	1.811	2.606	15.3	18.7
281425	2008 <i>RQ</i> ₁₄₂		12 1.0 341°07	1.7/ 1.8	18		493128	2014 <i>TF</i> ₃₉		12 1.0 89°29	2.1/ 1.8	17	
10 28	4 58.64	+29 38.9	1.586	2.415	16.1	20.2	10 28	4 56.04	+27 49.7	2.318	3.133	12.1	21.3
11 7	4 52.78	+28 53.0	1.511	2.414	12.2	19.9	11 7	4 50.14	+28 11.6	2.247	3.142	9.2	21.2
11 17	4 44.05	+27 51.4	1.458	2.414	7.7	19.7	11 17	4 42.21	+28 26.8	2.201	3.152	5.9	21.0
11 27	4 33.51	+26 34.9	1.432	2.414	3.0	19.4	11 27	4 32.99	+28 33.8	2.183	3.161	2.8	20.8
12 7	4 22.63	+25 7.9	1.434	2.414	3.2	19.4	12 7	4 23.44	+28 32.6	2.194	3.170	2.9	20.8
12 17	4 12.85	+23 37.3	1.464	2.413	7.9	19.7	12 17	4 14.56	+28 24.5	2.236	3.180	6.0	21.0
12 27	4 5.41	+22 11.6	1.521	2.413	12.4	20.0	12 27	4 7.25	+28 12.5	2.305	3.189	9.1	21.2
1 6	4 1.00	+20 57.4	1.600	2.413	16.2	20.2	1 6	4 2.11	+27 59.8	2.399	3.198	11.9	21.4
326323	1999 <i>VY</i> ₂₁₀		12 1.0 33°12	1.0/30.5	18		268688	2006 <i>GO</i> ₂₃		12 1.0 290°66	2.9/ 1.8	18	
10 28	4 54.13	+23 27.3	1.713	2.554	14.5	19.6	10 28	4 56.40	+29 18.5	2.220	3.034	12.6	20.8
11 7	4 48.97	+22 18.8	1.653	2.566	10.7	19.4	11 7	4 50.80	+29 53.7	2.125	3.018	9.7	20.6
11 17	4 41.52	+21 1.8	1.616	2.578	6.4	19.2	11 17	4 42.85	+30 22.0	2.054	3.002	6.5	20.3
11 27	4 32.74	+19 39.9	1.607	2.591	1.9	18.9	11 27	4 33.24	+30 41.1	2.011	2.986	3.5	20.1
12 7	4 23.80	+18 18.6	1.626	2.605	3.2	19.1	12 7	4 22.98	+30 49.6	1.998	2.971	3.6	20.1
12 17	4 15.86	+17 3.6	1.674	2.619	7.6	19.4	12 17	4 13.21	+30 48.2	2.013	2.955	6.7	20.3
12 27	4 9.87	+16 0.4	1.749	2.633	11.5	19.6	12 27	4 5.02	+30 39.8	2.056	2.939	10.1	20.5
1 6	4 6.36	+15 11.7	1.846	2.648	14.8	19.9	1 6	3 59.21	+30 28.4	2.123	2.924	13.2	20.6
215725	2004 <i>BN</i> ₁₁₆		12 1.0 226°82	0.9/ 1.3	18		243566	1995 <i>SA</i>		12 1.0 254°28	7.2/26.8	18	
10 28	4 58.39	+23 19.7	2.168	2.988	12.6	20.6	10 28	4 57.60	- 2 2.4	2.851	3.630	11.0	23.1
11 7	4 52.11	+23 44.6	2.079	2.980	9.5	20.4	11 7	4 50.99	- 3 8.3	2.746	3.597	9.3	22.9
11 17	4 43.54	+24 6.2	2.016	2.972	5.9	20.2	11 17	4 42.68	- 4 6.2	2.667	3.563	7.8	22.7
11 27	4 33.40	+24 23.2	1.980	2.963	2.0	19.9	11 27	4 33.16	- 4 51.5	2.617	3.528	7.2	22.7
12 7	4 22.69	+24 35.0	1.975	2.954	2.6	19.9	12 7	4 23.15	- 5 20.3	2.597	3.491	7.9	22.6
12 17	4 12.53	+24 42.5	2.000	2.945	6.5	20.1	12 17	4 13.42	- 5 30.4	2.605	3.453	9.6	22.7
12 27	4 3.97	+24 47.7	2.053	2.935	10.2	20.4	12 27	4 4.72	- 5 21.2	2.641	3.413	11.6	22.8
1 6	3 57.75	+24 53.3	2.131	2.925	13.3	20.5	1 6	3 57.66	- 4 54.4	2.698	3.372	13.6	22.9
205744	2002 <i>BK</i> ₂₅		12 1.0 121°84	4.2/29.2	16		12110	1998 <i>KL</i> ₅₆		12 1.0 247°25	0.7/ 1.2	18	
10 28	5 1.61	+ 7 19.8	2.831	3.625	10.7	23.9	10 28	4 59.61	+24 25.4	1.549	2.386	16.0	18.0
11 7	4 53.40	+ 6 39.4	2.779	3.659	8.2	23.8	11 7	4 53.77	+24 17.9	1.467	2.376	12.1	17.7
11 17	4 43.76	+ 6 3.9	2.756	3.690	5.8	23.7	11 17	4 44.88	+24 2.5	1.407	2.366	7.5	17.5
11 27	4 33.34	+ 5 35.9	2.763	3.721	4.3	23.6	11 27	4 33.86	+23 38.8	1.372	2.356	2.4	17.1
12 7	4 22.91	+ 5 17.6	2.804	3.749	4.9	23.7	12 7	4 22.15	+23 8.3	1.365	2.346	3.2	17.1
12 17	4 13.20	+ 5 9.9	2.876	3.776	6.9	23.9	12 17	4 11.30	+22 34.6	1.386	2.335	8.4	17.4
12 27	4 4.85	+ 5 13.3	2.978	3.802	9.2	24.1	12 27	4 2.72	+22 3.0	1.433	2.324	13.1	17.7
1 6	3 58.26	+ 5 26.9	3.105	3.826	11.1	24.3	1 6	3 57.31	+21 38.3	1.501	2.312	17.2	17.9
412942	2014 <i>QQ</i> ₂₂₄		12 1.0 8°43	1.4/ 1.6	16		449674	2014 <i>KV</i> ₉₀		12 1.0 217°57	2.0/30.2	18	
10 28	4 52.73	+26 49.0	1.583	2.426	15.4	20.9	10 28	4 55.83	+18 9.5	2.114	2.943	12.6	21.7
11 7	4 48.39	+26 35.5	1.516	2.428	11.6	20.6	11 7	4 50.07	+17 31.7	2.030	2.937	9.4	21.5
11 17	4 41.42	+26 12.1	1.472	2.431	7.2	20.4	11 17	4 42.22	+16 51.1	1.971	2.930	5.8	21.3
11 27	4 32.76	+25 38.9	1.452	2.435	2.7	20.1	11 27	4 33.02	+16 9.9	1.941	2.923	2.4	21.0
12 7	4 23.73	+24 58.4	1.460	2.440	3.0	20.2	12 7	4 23.45	+15 31.1	1.940	2.915	3.5	21.1
12 17	4 15.64	+24 14.7	1.495	2.446	7.6	20.5	12 17	4 14.50	+14 57.7	1.970	2.907	7.2	21.3
12 27	4 9.64	+23 33.1	1.556	2.453	11.8	20.7	12 27	4 7.11	+14 32.8	2.026	2.898	10.7	21.5
1 6	4 6.41	+22 58.1	1.638	2.461	15.4	21.0	1 6	4 1.92	+14 18.0	2.106	2.889	13.8	21.7
399548	2003 <i>QY</i> ₂₇		12 1.0 55°22	5.3/ 3.9	17		239751	2010 <i>AV</i> ₁₈		12 1.0 297°59	0.4/30.9		

EPHEMERIDES

12 1.0

12 1.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
176129	2001 <i>FW</i> ₁		12 1.0 213°34	4°1/29.9	18		118534	2000 <i>ES</i> ₆₉		12 1.0 222°45	1°1/ 1.4	18	
10 28	4 58.33	+12 53.3	1.561	2.401	15.7	19.9	10 28	4 59.68	+25 9.2	1.871	2.696	14.2	20.4
11 7	4 52.49	+12 27.4	1.489	2.399	12.0	19.7	11 7	4 53.39	+25 9.8	1.785	2.688	10.7	20.2
11 17	4 43.94	+12 5.0	1.440	2.396	7.8	19.4	11 17	4 44.47	+25 3.5	1.722	2.679	6.7	19.9
11 27	4 33.56	+11 49.1	1.416	2.393	4.4	19.2	11 27	4 33.76	+24 49.4	1.687	2.670	2.3	19.6
12 7	4 22.67	+11 42.5	1.420	2.390	5.5	19.3	12 7	4 22.46	+24 28.1	1.680	2.660	2.8	19.6
12 17	4 12.61	+11 47.4	1.452	2.386	9.5	19.5	12 17	4 11.88	+24 2.4	1.703	2.650	7.3	19.9
12 27	4 4.63	+12 4.8	1.508	2.382	13.6	19.8	12 27	4 3.23	+23 36.5	1.753	2.639	11.4	20.1
1 6	3 59.50	+12 34.3	1.586	2.378	17.2	20.0	1 6	3 57.30	+23 14.4	1.827	2.627	15.0	20.3
456735	2007 <i>TA</i> ₁₄		12 1.0 75°71	15°4/25.5	17		207875	2007 <i>VR</i> ₂₉₇		12 1.0 172°85	7°7/28.9	18	
10 28	5 1.23	+ 0 11.8	0.938	1.789	22.9	20.3	10 28	4 55.61	+ 1 11.5	1.925	2.739	14.2	20.3
11 7	4 55.04	- 3 8.9	0.914	1.809	19.1	20.2	11 7	4 49.92	+ 0 29.6	1.860	2.740	11.6	20.1
11 17	4 45.42	- 6 4.9	0.910	1.829	16.3	20.1	11 17	4 42.14	- 0 0.1	1.818	2.741	9.1	20.0
11 27	4 33.90	- 8 18.1	0.927	1.849	15.4	20.1	11 27	4 33.03	- 0 12.8	1.802	2.742	7.7	19.9
12 7	4 22.41	- 9 37.6	0.965	1.869	16.8	20.3	12 7	4 23.60	- 0 5.6	1.812	2.742	8.4	20.0
12 17	4 12.70	-10 2.2	1.023	1.889	19.4	20.5	12 17	4 14.85	+ 0 22.2	1.850	2.742	10.6	20.1
12 27	4 6.05	- 9 38.9	1.098	1.909	22.2	20.8	12 27	4 7.72	+ 1 8.9	1.913	2.743	13.2	20.3
1 6	4 3.01	- 8 39.1	1.187	1.928	24.7	21.0	1 6	4 2.83	+ 2 11.2	1.997	2.742	15.7	20.5
166241	2002 <i>GF</i> ₁₂		12 1.0 168°47	0°6/30.8	18		10224	Hisashi		12 1.0 94°73	1°8/30.5	18	R
10 28	4 58.11	+20 24.6	2.196	3.019	12.4	21.0	10 28	4 59.43	+17 56.4	1.640	2.476	15.3	18.2
11 7	4 51.66	+20 21.2	2.120	3.023	9.2	20.8	11 7	4 52.99	+17 40.1	1.584	2.494	11.3	18.0
11 17	4 43.14	+20 15.2	2.069	3.027	5.6	20.6	11 17	4 44.04	+17 22.6	1.552	2.512	6.9	17.8
11 27	4 33.30	+20 6.8	2.046	3.030	1.7	20.4	11 27	4 33.58	+17 5.7	1.546	2.529	2.5	17.5
12 7	4 23.10	+19 57.1	2.054	3.033	2.6	20.4	12 7	4 22.89	+16 51.3	1.569	2.546	3.7	17.7
12 17	4 13.58	+19 48.0	2.092	3.035	6.4	20.7	12 17	4 13.24	+16 42.0	1.620	2.563	8.0	18.0
12 27	4 5.66	+19 41.7	2.159	3.036	9.9	20.9	12 27	4 5.71	+16 39.9	1.698	2.579	12.0	18.2
1 6	3 59.95	+19 40.2	2.249	3.037	12.9	21.1	1 6	4 0.91	+16 46.3	1.798	2.595	15.3	18.5
82950	2001 <i>QB</i> ₁₂₅		12 1.0 169°52	2°7/ 1.9	18		433428	2013 <i>TK</i> ₉₀		12 1.0 35°08	5°6/ 2.6	18	
10 28	4 57.61	+29 28.4	1.956	2.774	13.9	19.9	10 28	5 0.16	+32 41.1	1.096	1.941	20.6	20.4
11 7	4 51.74	+29 42.8	1.879	2.775	10.6	19.7	11 7	4 55.06	+33 14.7	1.046	1.953	16.1	20.1
11 17	4 43.39	+29 47.8	1.825	2.775	7.0	19.4	11 17	4 45.94	+33 30.2	1.014	1.965	11.0	19.9
11 27	4 33.41	+29 41.5	1.798	2.775	3.5	19.2	11 27	4 34.21	+33 23.0	1.005	1.978	6.6	19.7
12 7	4 22.96	+29 24.0	1.800	2.776	3.5	19.2	12 7	4 22.00	+32 52.7	1.019	1.992	6.2	19.7
12 17	4 13.30	+28 57.8	1.831	2.776	7.0	19.4	12 17	4 11.45	+32 5.1	1.058	2.007	10.2	20.0
12 27	4 5.54	+28 27.2	1.889	2.776	10.6	19.7	12 27	4 4.24	+31 9.9	1.119	2.023	14.8	20.3
1 6	4 0.39	+27 57.1	1.970	2.776	13.8	19.9	1 6	4 1.15	+30 16.5	1.200	2.039	18.9	20.6
442440	2011 <i>UO</i> ₁₆₂		12 1.0 66°18	1°3/30.7	18		214914	2007 <i>TQ</i> ₂₄₁		12 1.0 108°66	0°4/ 1.2	15	
10 28	4 57.76	+18 15.4	1.700	2.538	14.8	21.1	10 28	5 1.88	+23 3.4	1.385	2.225	17.4	21.6
11 7	4 51.70	+18 15.8	1.646	2.556	10.9	20.9	11 7	4 55.45	+23 7.5	1.324	2.235	13.0	21.3
11 17	4 43.23	+18 15.6	1.615	2.575	6.6	20.7	11 17	4 45.83	+23 5.6	1.285	2.245	7.9	21.1
11 27	4 33.32	+18 15.4	1.611	2.595	2.2	20.5	11 27	4 34.16	+22 56.9	1.271	2.255	2.4	20.8
12 7	4 23.17	+18 16.4	1.636	2.614	3.2	20.6	12 7	4 22.04	+22 42.8	1.284	2.264	3.3	20.8
12 17	4 14.00	+18 20.0	1.688	2.633	7.5	20.9	12 17	4 11.12	+22 26.2	1.324	2.273	8.6	21.2
12 27	4 6.83	+18 28.2	1.768	2.652	11.4	21.2	12 27	4 2.81	+22 11.7	1.390	2.282	13.3	21.5
1 6	4 2.27	+18 42.2	1.870	2.671	14.6	21.4	1 6	3 57.86	+22 3.2	1.476	2.290	17.3	21.8
199122	2005 <i>YT</i> ₈₂		12 1.0 211°17	0°9/30.7	18		52300	1991 <i>NE</i> ₃		12 1.0 168°25	3°6/29.7	18	
10 28	4 57.81	+20 8.7	1.954	2.784	13.5	21.5	10 28	4 54.51	+12 46.2	2.096	2.927	12.6	18.9
11 7	4 51.75	+19 53.9	1.872	2.779	10.1	21.2	11 7	4 49.01	+12 11.1	2.024	2.929	9.5	18.7
11 17	4 43.35	+19 35.8	1.814	2.773	6.1	21.0	11 17	4 41.56	+11 38.1	1.977	2.931	6.2	18.5
11 27	4 33.40	+19 15.4	1.783	2.767	1.9	20.7	11 27	4 32.88	+11 10.2	1.957	2.932	3.7	18.3
12 7	4 22.98	+18 54.3	1.782	2.761	3.0	20.8	12 7	4 23.88	+10 50.1	1.967	2.933	4.6	18.4
12 17	4 13.24	+18 35.2	1.811	2.754	7.2	21.0	12 17	4 15.54	+10 39.7	2.005	2.934	7.7	18.6
12 27	4 5.25	+18 21.0	1.866	2.746	11.1	21.2	12 27	4 8.70	+10 40.5	2.070	2.934	10.9	18.8
1 6	3 59.71	+18 14.0	1.945	2.738	14.5	21.4	1 6	4 3.96	+10 52.5	2.159	2.935	13.8	19.0
1043	Beate		12 1.0 106°38	4°1/29.4	18	R	255569	2006 <i>KS</i> ₈₅		12 1.0 204°45	7°5/ 5.1	18	
10 28	4 52.46	+10 22.1	2.292	3.120	11.8	14.6	10 28	5 2.18	+49 31.7	2.918	3.631	12.2	20.8
11 7	4 47.32	+ 9 46.0	2.223	3.124	9.0	14.4	11 7	4 55.03	+50 15.3	2.833	3.627	10.6	20.6
11 17	4 40.45	+ 9 13.8	2.179	3.127	6.1	14.2	11 17	4 45.37	+50 42.4	2.769	3.623	9.0	20.5
11 27	4 32.51	+ 8 48.3	2.162	3.131	4.2	14.1	11 27	4 34.03	+50 48.7	2.730	3.618	7.8	20.4
12 7	4 24.32	+ 8 32.1	2.175	3.134	4.9	14.2	12 7	4 22.17	+50 32.4	2.718	3.613	7.5	20.4
12 17	4 16.71	+ 8 26.7	2.217	3.138	7.5	14.4	12 17	4 11.05	+49 54.5	2.733	3.608	8.2	20.4
12 27	4 10.45	+ 8 33.1	2.286	3.141	10.4	14.5	12 27	4 1.80	+48 59.3	2.775	3.602	9.6	20.5
1 6	4 6.05	+ 8 50.5	2.377	3.145	12.9	14.7	1 6	3 55.18	+47 53.3	2.841	3.597	11.3	20.6
358356	2006 <i>WF</i> ₁₁₆		12 1.0 57°05	2°1/ 1.7	18		135685	2002 <i>OM</i> ₆		12 1.0 203°87	1°8/ 1.9	18	
10 28	4 57.30	+27 22.1	1.778	2.606	14.6	21.1	10 28	4 58.50	+29 24.0	2.335	3.142	12.3	21.3
11 7	4 51.55	+27 34.7	1.714	2.616	11.1	20.8	11 7	4 52.01	+29 7.4	2.246	3.138	9.4	21.1
11 17	4 43.26	+27 38.9	1.672	2.627	7.0	20.6	11 17	4 43.40	+28 40.8	2.182	3.132	6.0	20.8
11 27	4 33.36	+27 33.3	1.657	2.638	3.0	20.4	11 27	4 33.43	+28 3.6	2.146	3.126	2.7	20.6
12 7	4 23.10	+27 18.4	1.670	2.648	3.2	20.4	12 7	4 23.10	+27 17.3	2.141	3.119	2.7	20.6
12 17	4 13.77	+26 57.0	1.712	2.659	7.1	20.7	12 17	4 13.45	+26 25.2	2.167	3.111	6.1	20.8
12 27	4 6.48	+26 33.2	1.780	2.671	11.0	21.0	12 27	4 5.42	+25 31.8	2.221	3.103	9.5	21.0
1 6	4 1.89	+26 11.4	1.871	2.682	14.3	21.2	1 6	3 59.67	+24 41.7	2.301	3.094	12.5	21.2
453705	2010 <i>XB</i> ₅₁		12 1.0 80°68	4°2/ 2.3	18		374877	2006 <i>VC</i> ₁₂₉		12 1.0 23°34	4°9/ 2.1	18	

EPHEMERIDES

12 1.0

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
147363	2003 <i>CH</i> ₁₀	12	1.0 298°28	4.8/29.3	17		301209	2009 <i>AU</i> ₄₂	12	1.1 75°44	7.7/4.8	18	
10 28	4 53.29	+11 8.2	1.850	2.689	13.7	19.8	10 28	5 4.88	+43 21.7	1.754	2.528	17.0	20.7
11 7	4 48.51	+10 21.8	1.766	2.672	10.6	19.5	11 7	4 57.51	+43 45.5	1.699	2.550	14.0	20.6
11 17	4 41.48	+9 38.1	1.704	2.656	7.2	19.3	11 17	4 46.94	+43 46.8	1.665	2.572	11.0	20.4
11 27	4 32.91	+9 1.4	1.669	2.640	4.9	19.1	11 27	4 34.46	+43 21.0	1.655	2.593	8.5	20.3
12 7	4 23.83	+8 35.3	1.663	2.624	5.9	19.2	12 7	4 21.82	+42 28.1	1.671	2.615	7.8	20.4
12 17	4 15.31	+8 23.0	1.683	2.608	9.2	19.3	12 17	4 10.69	+41 13.2	1.715	2.636	9.3	20.5
12 27	4 8.41	+8 26.0	1.729	2.592	12.8	19.5	12 27	4 2.37	+39 45.5	1.784	2.658	11.9	20.7
1 6	4 3.83	+8 43.9	1.796	2.577	16.0	19.7	1 6	3 57.49	+38 14.7	1.877	2.679	14.6	20.9
132886	2002 <i>RM</i> ₁₄₉	12	1.1 231°45	6°6/27.2	18		48175	2001 <i>HB</i> ₂₃	12	1.1 134°78	1°7/30.7	18	
10 28	4 51.27	-1 9.1	2.919	3.713	10.4	20.3	10 28	4 59.08	+15 36.5	2.028	2.854	13.2	19.2
11 7	4 46.20	-2 7.9	2.839	3.700	8.7	20.2	11 7	4 52.52	+15 55.7	1.958	2.861	9.9	19.0
11 17	4 39.72	-2 58.2	2.785	3.688	7.2	20.1	11 17	4 43.76	+16 17.2	1.911	2.869	6.1	18.8
11 27	4 32.35	-3 36.0	2.758	3.675	6.6	20.0	11 27	4 33.57	+16 41.0	1.893	2.875	2.3	18.5
12 7	4 24.70	-3 58.5	2.759	3.661	7.2	20.0	12 7	4 22.99	+17 7.1	1.905	2.882	3.2	18.6
12 17	4 17.42	-4 4.2	2.789	3.647	8.7	20.1	12 17	4 13.11	+17 35.5	1.948	2.888	7.0	18.9
12 27	4 11.14	-3 52.9	2.844	3.633	10.5	20.2	12 27	4 4.91	+18 6.9	2.018	2.894	10.6	19.1
1 6	4 6.33	-3 26.2	2.921	3.618	12.2	20.4	1 6	3 59.06	+18 41.6	2.112	2.900	13.7	19.3
175053	2004 <i>FO</i> ₁₁₆	12	1.1 227°61	4.4/29.7	18		484536	2008 <i>FF</i> ₈₁	12	1.1 280°91	3°4/29.6	17	
10 28	4 54.89	+9 44.4	2.062	2.890	12.9	20.3	10 28	4 53.83	+14 27.8	1.980	2.817	13.0	21.9
11 7	4 49.39	+9 18.9	1.986	2.886	9.9	20.1	11 7	4 48.80	+13 42.5	1.893	2.801	9.9	21.7
11 17	4 41.85	+8 58.5	1.933	2.882	6.8	19.9	11 17	4 41.61	+12 56.8	1.829	2.785	6.4	21.4
11 27	4 33.00	+8 46.1	1.908	2.877	4.5	19.8	11 27	4 32.96	+12 14.1	1.793	2.769	3.6	21.2
12 7	4 23.76	+8 43.9	1.912	2.873	5.3	19.8	12 7	4 23.84	+11 37.9	1.785	2.754	4.7	21.3
12 17	4 15.11	+8 53.4	1.944	2.868	8.3	20.0	12 17	4 15.27	+11 11.5	1.806	2.738	8.2	21.4
12 27	4 7.97	+9 14.9	2.003	2.863	11.5	20.2	12 27	4 8.26	+10 57.3	1.854	2.722	11.8	21.6
1 6	4 2.97	+9 47.5	2.085	2.857	14.3	20.4	1 6	4 3.48	+10 56.3	1.923	2.706	15.0	21.8
88406	2001 <i>QY</i> ₂₇	12	1.1 45°47	0°9/1.3	18		454708	2014 <i>SS</i> ₁₁₇	12	1.1 172°82	1°2/1.6	17	
10 28	5 0.07	+23 28.5	1.187	2.040	18.8	18.5	10 28	4 55.34	+26 12.5	2.498	3.313	11.3	22.2
11 7	4 54.23	+23 41.4	1.145	2.062	14.0	18.3	11 7	4 49.53	+26 14.7	2.418	3.315	8.5	22.0
11 17	4 45.07	+23 47.7	1.123	2.086	8.5	18.0	11 17	4 41.86	+26 10.8	2.363	3.317	5.3	21.8
11 27	4 33.92	+23 46.2	1.126	2.110	2.7	17.8	11 27	4 33.00	+26 0.4	2.336	3.318	2.0	21.6
12 7	4 22.57	+23 38.3	1.154	2.135	3.5	17.9	12 7	4 23.82	+25 44.2	2.340	3.319	2.3	21.6
12 17	4 12.74	+23 27.0	1.208	2.160	8.9	18.3	12 17	4 15.23	+25 24.1	2.374	3.320	5.6	21.8
12 27	4 5.76	+23 17.1	1.286	2.186	13.6	18.6	12 27	4 8.04	+25 2.8	2.437	3.320	8.7	22.0
1 6	4 2.28	+23 12.3	1.385	2.212	17.5	18.9	1 6	4 2.84	+24 43.3	2.525	3.320	11.5	22.2
231213	2005 <i>WX</i> ₈₇	12	1.1 238°88	0°8/30.8	18		523425	2017 <i>EW</i> ₁₃	12	1.1 123°42	3°9/29.4	18	
10 28	4 58.20	+20 1.1	1.846	2.678	14.0	20.9	10 28	4 52.61	+11 16.7	2.291	3.120	11.8	20.6
11 7	4 52.27	+19 56.1	1.760	2.668	10.5	20.6	11 7	4 47.45	+10 33.4	2.222	3.124	8.9	20.4
11 17	4 43.81	+19 48.4	1.698	2.658	6.4	20.4	11 17	4 40.56	+9 53.0	2.178	3.128	6.0	20.2
11 27	4 33.62	+19 38.4	1.663	2.647	2.0	20.1	11 27	4 32.61	+9 18.5	2.161	3.131	4.0	20.1
12 7	4 22.83	+19 27.6	1.656	2.635	3.0	20.1	12 7	4 24.41	+8 52.9	2.174	3.134	4.8	20.2
12 17	4 12.69	+19 18.0	1.679	2.624	7.6	20.4	12 17	4 16.80	+8 38.1	2.216	3.138	7.5	20.4
12 27	4 4.38	+19 12.4	1.729	2.612	11.7	20.6	12 27	4 10.54	+8 35.3	2.285	3.141	10.4	20.5
1 6	3 58.67	+19 13.1	1.801	2.599	15.3	20.8	1 6	4 6.16	+8 44.2	2.377	3.144	12.9	20.7
161912	2007 <i>DY</i> ₉₇	12	1.1 207°24	0°2/30.9	18		209866	2005 <i>JK</i> ₆₄	12	1.1 115°87	6°1/3.9	18	
10 28	4 58.70	+22 25.7	1.919	2.746	13.8	21.3	10 28	5 2.45	+40 37.0	2.106	2.881	14.5	20.5
11 7	4 52.49	+22 10.7	1.836	2.742	10.3	21.1	11 7	4 55.32	+40 59.2	2.039	2.894	11.8	20.4
11 17	4 43.85	+21 50.2	1.778	2.737	6.3	20.8	11 17	4 45.52	+41 4.1	1.994	2.908	9.0	20.2
11 27	4 33.61	+21 24.9	1.747	2.731	1.8	20.5	11 27	4 34.07	+40 48.1	1.975	2.921	6.7	20.1
12 7	4 22.88	+20 56.4	1.746	2.725	2.8	20.6	12 7	4 22.33	+40 10.8	1.984	2.933	6.2	20.1
12 17	4 12.89	+20 27.8	1.774	2.718	7.2	20.8	12 17	4 11.66	+39 15.5	2.021	2.946	7.9	20.2
12 27	4 4.73	+20 2.8	1.829	2.711	11.2	21.1	12 27	4 3.22	+38 8.9	2.086	2.958	10.5	20.4
1 6	3 59.11	+19 44.4	1.907	2.703	14.6	21.3	1 6	3 57.66	+36 58.4	2.175	2.969	13.1	20.6
43582	2001 <i>KO</i> ₅₉	12	1.1 32°75	0°5/30.8	18		24398	2000 <i>AZ</i> ₁₈₇	12	1.1 157°83	5°9/28.7	18	
10 28	4 55.32	+24 26.4	1.546	2.390	15.7	17.6	10 28	4 54.93	+7 56.5	1.919	2.749	13.7	18.8
11 7	4 50.18	+23 25.2	1.485	2.399	11.7	17.4	11 7	4 49.43	+6 53.1	1.854	2.752	10.6	18.6
11 17	4 42.44	+22 13.8	1.447	2.409	7.0	17.1	11 17	4 41.86	+5 55.1	1.812	2.754	7.7	18.4
11 27	4 33.15	+20 55.6	1.434	2.419	2.0	16.8	11 27	4 33.00	+5 7.7	1.797	2.757	5.9	18.3
12 7	4 23.65	+19 35.9	1.450	2.430	3.2	17.0	12 7	4 23.85	+4 34.8	1.810	2.759	6.9	18.4
12 17	4 15.23	+18 21.4	1.494	2.441	8.0	17.3	12 17	4 15.42	+4 19.2	1.851	2.761	9.6	18.6
12 27	4 8.98	+17 17.9	1.563	2.453	12.3	17.6	12 27	4 8.62	+4 21.5	1.918	2.762	12.6	18.8
1 6	4 5.49	+16 29.1	1.654	2.465	15.8	17.8	1 6	4 4.03	+4 40.2	2.005	2.764	15.3	19.0
97129	1999 <i>VB</i> ₁₁₀	12	1.1 143°88	0°4/30.9	18		221807	2008 <i>CM</i> ₁₅₆	12	1.1 173°01	2°2/1.7	18	
10 28	4 57.48	+21 40.3	2.015	2.843	13.2	20.0	10 28	5 1.86	+27 33.4	1.769	2.589	15.0	21.4
11 7	4 51.34	+21 25.1	1.945	2.850	9.8	19.8	11 7	4 55.10	+27 45.3	1.693	2.592	11.4	21.2
11 17	4 43.02	+21 5.6	1.898	2.857	5.9	19.5	11 17	4 45.54	+27 48.4	1.641	2.594	7.3	21.0
11 27	4 33.33	+20 42.5	1.880	2.864	1.7	19.3	11 27	4 34.12	+27 40.6	1.616	2.596	3.1	20.7
12 7	4 23.34	+20 17.7	1.891	2.870	2.6	19.4	12 7	4 22.20	+27 22.3	1.619	2.597	3.3	20.7
12 17	4 14.12	+19 53.8	1.932	2.876	6.7	19.6	12 17	4 11.19	+26 56.1	1.652	2.598	7.5	21.0
12 27	4 6.64	+19 33.9	2.000	2.881	10.4	19.9	12 27	4 2.36	+26 27.0	1.711	2.598	11.6	21.2
1 6	4 1.51	+19 20.5	2.092	2.886	13.5	20.1	1 6	3 56.46	+25 59.9	1.794	2.597	15.1	21.5
460570	2014 <i>UB</i>	12	1.1 292°88	1°2/1.4	17		433010	2012 <i>RT</i> ₁₈	12	1.1 84°74	0°9/1.3	18	
10 28	4 55												

EPHEMERIDES

12 1.1

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
81729	2000 <i>JH</i> ₃₇		12 1.1 210°26	0°7/ 1.3 18			231655	2009 <i>WW</i> ₁₆₄		12 1.1 93°44	0°3/ 1.2 18		
10 28	4 56.78	+24 13.9	2.232	3.053	12.3	20.6	10 28	4 54.53	+24 11.7	2.347	3.170	11.7	20.6
11 7	4 50.83	+24 15.1	2.147	3.048	9.2	20.4	11 7	4 48.90	+23 56.2	2.280	3.183	8.7	20.4
11 17	4 42.77	+24 11.0	2.087	3.044	5.7	20.2	11 17	4 41.45	+23 35.3	2.238	3.195	5.3	20.2
11 27	4 33.31	+24 1.3	2.055	3.038	1.9	19.9	11 27	4 32.91	+23 9.4	2.224	3.208	1.6	20.0
12 7	4 23.43	+23 46.8	2.053	3.033	2.4	19.9	12 7	4 24.16	+22 40.3	2.240	3.220	2.2	20.0
12 17	4 14.14	+23 29.4	2.081	3.027	6.2	20.2	12 17	4 16.10	+22 10.4	2.286	3.232	5.7	20.3
12 27	4 6.41	+23 12.1	2.138	3.021	9.8	20.4	12 27	4 9.52	+21 42.7	2.361	3.244	9.0	20.5
1 6	4 0.90	+22 57.8	2.218	3.014	12.8	20.6	1 6	4 4.94	+21 19.8	2.460	3.256	11.7	20.7
8849	Brighton		12 1.1 133°83	3°9/29.3 18 R			27734	1990 <i>RA</i> ₈		12 1.1 48°79	1°9/ 1.6 18		
10 28	4 53.57	+11 26.0	2.293	3.121	11.8	18.1	10 28	5 0.03	+26 3.1	1.249	2.096	18.5	18.9
11 7	4 48.13	+10 39.7	2.227	3.128	9.0	17.9	11 7	4 54.25	+26 14.0	1.201	2.114	13.9	18.7
11 17	4 40.96	+9 56.1	2.185	3.135	6.0	17.8	11 17	4 45.16	+26 15.3	1.173	2.133	8.6	18.5
11 27	4 32.74	+9 18.4	2.172	3.141	4.0	17.6	11 27	4 34.03	+26 5.6	1.170	2.153	3.3	18.2
12 7	4 24.30	+8 49.5	2.188	3.148	4.8	17.7	12 7	4 22.62	+25 46.1	1.193	2.173	3.6	18.3
12 17	4 16.48	+8 31.5	2.233	3.154	7.5	17.9	12 17	4 12.65	+25 20.9	1.242	2.193	8.7	18.7
12 27	4 10.04	+8 25.7	2.305	3.160	10.3	18.1	12 27	4 5.48	+24 55.8	1.315	2.214	13.4	19.0
1 6	4 5.48	+8 31.8	2.401	3.165	12.9	18.3	1 6	4 1.80	+24 35.7	1.409	2.235	17.3	19.3
465741	2009 <i>VR</i> ₇₂		12 1.1 28°00	4°8/30.5 18			430913	2005 <i>SL</i> ₂₅₉		12 1.1 84°34	4°0/30.2 18		
10 28	5 14.28	+19 31.2	0.926	1.776	23.1	20.0	10 28	5 1.87	+12 14.2	1.555	2.389	16.1	20.9
11 7	5 6.97	+22 37.2	0.866	1.781	17.7	19.7	11 7	4 54.70	+11 57.8	1.512	2.418	12.1	20.7
11 17	4 54.19	+25 58.3	0.826	1.786	11.3	19.3	11 17	4 45.03	+11 46.4	1.492	2.446	7.7	20.6
11 27	4 37.01	+29 16.6	0.812	1.792	5.5	19.1	11 27	4 33.94	+11 42.2	1.498	2.474	4.3	20.4
12 7	4 17.88	+32 11.0	0.824	1.799	6.9	19.2	12 7	4 22.76	+11 47.1	1.533	2.502	5.2	20.5
12 17	4 0.04	+34 30.6	0.863	1.806	13.0	19.5	12 17	4 12.79	+12 1.8	1.595	2.529	8.9	20.8
12 27	3 46.41	+36 12.3	0.925	1.814	18.6	19.9	12 27	4 5.05	+12 26.6	1.684	2.555	12.6	21.1
1 6	3 38.54	+37 28.1	1.005	1.823	23.2	20.2	1 6	4 0.11	+13 0.4	1.794	2.581	15.8	21.4
272432	2005 <i>TD</i> ₁₅₆		12 1.1 293°19	1°9/30.4 18			517856	2015 <i>RM</i> ₂₂₁		12 1.1 59°68	0°3/30.9 18		
10 28	4 56.67	+19 59.6	1.496	2.342	16.0	20.7	10 28	4 56.57	+21 8.8	1.774	2.610	14.3	21.1
11 7	4 51.50	+19 17.8	1.420	2.335	12.0	20.4	11 7	4 50.95	+21 8.3	1.709	2.619	10.6	20.9
11 17	4 43.48	+18 30.4	1.367	2.329	7.3	20.1	11 17	4 42.93	+21 4.5	1.668	2.629	6.4	20.7
11 27	4 33.57	+17 40.1	1.339	2.323	2.6	19.8	11 27	4 33.39	+20 57.7	1.654	2.638	1.9	20.4
12 7	4 23.11	+16 51.3	1.339	2.316	4.0	19.9	12 7	4 23.51	+20 49.1	1.668	2.648	2.8	20.5
12 17	4 13.55	+16 8.8	1.365	2.310	8.9	20.2	12 17	4 14.49	+20 40.9	1.711	2.658	7.2	20.8
12 27	4 6.17	+15 37.3	1.417	2.304	13.5	20.5	12 27	4 7.37	+20 35.6	1.780	2.668	11.1	21.1
1 6	4 1.75	+15 19.2	1.490	2.298	17.4	20.7	1 6	4 2.82	+20 35.5	1.872	2.678	14.5	21.3
297967	2002 <i>HU</i> ₁₆		12 1.1 149°80	4°4/ 2.7 18			6330	Koen		12 1.1 257°53	0°9/30.8 18 R		
10 28	5 3.08	+35 19.3	2.469	3.250	12.4	21.9	10 28	4 59.22	+20 58.6	1.495	2.336	16.2	17.9
11 7	4 55.46	+35 58.5	2.395	3.262	9.9	21.7	11 7	4 53.60	+20 40.4	1.412	2.325	12.2	17.6
11 17	4 45.55	+36 26.4	2.346	3.273	7.1	21.5	11 17	4 44.90	+20 17.0	1.351	2.312	7.5	17.3
11 27	4 34.13	+36 39.7	2.325	3.284	4.8	21.4	11 27	4 34.06	+19 49.5	1.316	2.300	2.3	17.0
12 7	4 22.31	+36 37.4	2.334	3.293	4.6	21.4	12 7	4 22.46	+19 20.1	1.308	2.287	3.6	17.0
12 17	4 11.23	+36 20.9	2.374	3.302	6.7	21.6	12 17	4 11.69	+18 52.7	1.327	2.274	8.9	17.3
12 27	4 1.94	+35 54.2	2.442	3.310	9.3	21.8	12 27	4 3.17	+18 31.8	1.372	2.261	13.7	17.5
1 6	3 55.09	+35 22.5	2.535	3.317	11.8	21.9	1 6	3 57.81	+18 20.7	1.437	2.247	17.9	17.8
36494	2000 <i>QM</i> ₄₇		12 1.1 10°38	8°7/28.7 18			112764	2002 <i>PA</i> ₁₅₄		12 1.1 329°80	12°4/ 7.9 17		
10 28	4 51.76	+ 2 51.0	1.470	2.312	16.5	17.4	10 28	5 7.68	+58 32.5	2.149	2.825	17.0	19.5
11 7	4 47.57	+ 1 52.4	1.417	2.314	13.3	17.3	11 7	5 0.81	+59 33.5	2.070	2.817	15.5	19.4
11 17	4 40.95	+ 1 7.3	1.384	2.318	10.4	17.1	11 17	4 49.64	+60 9.0	2.008	2.808	14.0	19.3
11 27	4 32.79	+ 0 42.4	1.375	2.323	8.8	17.0	11 27	4 35.47	+60 10.9	1.966	2.801	12.9	19.2
12 7	4 24.29	+ 0 41.6	1.391	2.329	9.6	17.1	12 7	4 20.47	+59 34.7	1.946	2.793	12.4	19.1
12 17	4 16.66	+ 1 5.9	1.431	2.336	12.1	17.3	12 17	4 7.02	+58 21.9	1.949	2.786	12.8	19.1
12 27	4 10.96	+ 1 53.2	1.494	2.344	15.2	17.5	12 27	3 57.02	+56 40.2	1.975	2.779	13.9	19.2
1 6	4 7.85	+ 2 58.9	1.576	2.353	18.0	17.7	1 6	3 51.42	+54 40.6	2.022	2.773	15.4	19.3
427861	2005 <i>OV</i> ₃₁		12 1.1 117°25	3°3/ 2.1 17			381021	2006 <i>UA</i> ₂₁₀		12 1.1 66°16	3°3/ 2.1 18		
10 28	5 5.66	+30 8.5	1.918	2.722	14.7	21.9	10 28	5 2.39	+29 39.3	1.300	2.136	18.5	20.9
11 7	4 57.58	+30 41.1	1.859	2.746	11.2	21.7	11 7	4 56.00	+29 49.7	1.251	2.156	14.1	20.7
11 17	4 46.86	+31 3.3	1.824	2.769	7.4	21.6	11 17	4 46.22	+29 46.3	1.221	2.175	9.1	20.4
11 27	4 34.50	+31 12.2	1.817	2.791	4.0	21.4	11 27	4 34.36	+29 26.8	1.216	2.195	4.4	20.2
12 7	4 21.86	+31 7.2	1.840	2.813	3.9	21.4	12 7	4 22.24	+28 52.8	1.237	2.215	4.3	20.3
12 17	4 10.30	+30 50.6	1.892	2.833	7.2	21.7	12 17	4 11.64	+28 9.3	1.285	2.235	8.8	20.6
12 27	4 0.98	+30 27.3	1.973	2.852	10.7	21.9	12 27	4 3.93	+27 23.8	1.358	2.254	13.2	20.9
1 6	3 54.55	+30 2.5	2.077	2.871	13.7	22.2	1 6	3 59.80	+26 42.9	1.451	2.274	17.0	21.2
128216	2003 <i>SS</i> ₇₇		12 1.1 127°01	2°1/ 2.1 18			348749	2006 <i>HG</i> ₄₀		12 1.1 278°57	2°0/30.5 18		
10 28	4 55.79	+30 9.5	2.517	3.324	11.5	20.0	10 28	4 56.72	+17 2.4	1.716	2.555	14.6	21.3
11 7	4 49.82	+30 3.5	2.443	3.333	8.8	19.9	11 7	4 51.34	+16 53.1	1.632	2.544	11.0	21.1
11 17	4 42.01	+29 48.5	2.395	3.343	5.7	19.7	11 17	4 43.36	+16 43.8	1.572	2.532	6.8	20.8
11 27	4 33.07	+29 24.1	2.375	3.352	2.8	19.5	11 27	4 33.58	+16 35.8	1.538	2.520	2.7	20.5
12 7	4 23.90	+28 51.2	2.385	3.360	2.7	19.5	12 7	4 23.18	+16 30.9	1.532	2.508	3.8	20.6
12 17	4 15.41	+28 12.4	2.425	3.369	5.6	19.7	12 17	4 13.44	+16 31.0	1.554	2.496	8.2	20.8
12 27	4 8.42	+27 31.4	2.494	3.377	8.5	19.9	12 27	4 5.56	+16 38.3	1.601	2.484	12.5	21.0
1 6	4 3.46	+26 52.0	2.589	3.385	11.2	20.1	1 6	4 0.36	+16 53.8	1.671	2.473	16.1	21.3
11922	1992 <i>UT</i> ₃		12 1.1 352°83	1°2/ 1.2 18 R			395048	2009 <i>DE</i> ₁₃₀		12 1.1 354°48	11°4/25.5 18		
10 28													

EPHEMERIDES

12 1.1

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
18571	1997 WQ ₂₁		12 1.1 125°94	2°8/ 2.4	18		248811	2006 SJ ₁₆₇		12 1.1 150°59	0°3/30.9	18	
10 28	5 1.50	+32 3.2	1.938	2.745	14.4	17.9	10 28	4 56.57	+22 6.3	2.100	2.927	12.8	21.0
11 7	4 54.46	+31 44.3	1.870	2.759	11.1	17.8	11 7	4 50.66	+21 48.1	2.027	2.932	9.5	20.8
11 17	4 44.95	+31 11.8	1.826	2.773	7.3	17.6	11 17	4 42.67	+21 25.2	1.978	2.937	5.7	20.6
11 27	4 33.97	+30 24.8	1.810	2.786	3.7	17.4	11 27	4 33.35	+20 58.5	1.957	2.941	1.7	20.3
12 7	4 22.80	+29 25.6	1.823	2.798	3.5	17.4	12 7	4 23.73	+20 30.0	1.966	2.946	2.5	20.4
12 17	4 12.70	+28 18.9	1.866	2.810	6.9	17.6	12 17	4 14.84	+20 2.2	2.005	2.949	6.5	20.7
12 27	4 4.71	+27 11.0	1.936	2.822	10.5	17.9	12 27	4 7.58	+19 38.3	2.071	2.953	10.1	20.9
1 6	3 59.44	+26 7.9	2.032	2.833	13.6	18.1	1 6	4 2.58	+19 20.9	2.161	2.956	13.2	21.1
365704	2010 VZ ₁₃₂		12 1.1 7°21	0°0/30.9	17		378000	2006 RC ₉₄		12 1.1 338°86	3°7/29.9	18	
10 28	4 53.90	+24 54.1	1.668	2.509	14.9	20.6	10 28	4 56.34	+17 2.9	1.310	2.165	17.3	20.5
11 7	4 49.15	+24 8.5	1.598	2.510	11.1	20.4	11 7	4 51.49	+16 3.4	1.243	2.162	13.0	20.2
11 17	4 41.91	+23 13.2	1.550	2.511	6.7	20.2	11 17	4 43.59	+15 0.7	1.197	2.159	8.2	19.9
11 27	4 33.12	+22 10.3	1.529	2.513	2.0	19.9	11 27	4 33.69	+13 59.6	1.176	2.156	4.0	19.7
12 7	4 23.99	+21 3.9	1.536	2.516	2.9	19.9	12 7	4 23.26	+13 6.0	1.180	2.153	5.5	19.8
12 17	4 15.77	+19 59.4	1.570	2.519	7.5	20.2	12 17	4 13.86	+12 25.6	1.211	2.151	10.3	20.0
12 27	4 9.54	+19 2.4	1.631	2.523	11.7	20.5	12 27	4 6.84	+12 2.2	1.265	2.150	15.0	20.3
1 6	4 5.94	+18 16.9	1.714	2.527	15.3	20.7	1 6	4 3.00	+11 56.9	1.339	2.148	18.9	20.6
448003	2008 DE		12 1.1 210°44	2°6/ 1.5	17		247585	2002 TU ₆₄		12 1.1 182°10	8°6/ 2.4	18	
10 28	5 14.64	+25 44.9	1.601	2.407	17.0	23.4	10 28	5 9.92	+42 10.0	2.075	2.833	15.2	20.1
11 7	5 5.48	+26 33.0	1.507	2.398	13.1	23.2	11 7	5 1.90	+44 3.3	1.998	2.834	12.8	19.9
11 17	4 52.42	+27 16.3	1.436	2.387	8.4	22.9	11 17	4 50.24	+45 42.9	1.943	2.834	10.5	19.8
11 27	4 36.39	+27 49.0	1.393	2.373	3.6	22.5	11 27	4 35.78	+46 59.7	1.915	2.834	8.9	19.7
12 7	4 19.07	+28 7.5	1.381	2.358	4.1	22.5	12 7	4 20.04	+47 47.7	1.915	2.833	8.8	19.7
12 17	4 2.51	+28 11.8	1.399	2.340	9.2	22.8	12 17	4 4.90	+48 5.6	1.944	2.833	10.3	19.8
12 27	3 48.62	+28 6.5	1.445	2.320	14.1	23.0	12 27	3 52.19	+47 58.4	1.997	2.832	12.6	19.9
1 6	3 38.58	+27 58.6	1.514	2.298	18.3	23.3	1 6	3 43.10	+47 34.6	2.074	2.831	14.9	20.1
149795	2005 GG ₁₅₃		12 1.1 196°91	1°4/30.8	18		70725	1999 VH ₂		12 1.1 21°71	2°1/ 1.7	18	
10 28	5 0.46	+18 22.7	1.659	2.493	15.2	20.7	10 28	4 56.10	+27 6.2	1.331	2.179	17.5	17.7
11 7	4 54.13	+18 21.9	1.583	2.491	11.4	20.5	11 7	4 51.40	+27 9.4	1.273	2.186	13.2	17.5
11 17	4 45.04	+18 20.1	1.529	2.489	7.0	20.2	11 17	4 43.54	+27 2.0	1.235	2.194	8.3	17.2
11 27	4 34.09	+18 18.0	1.503	2.487	2.4	19.9	11 27	4 33.66	+26 43.0	1.221	2.203	3.4	17.0
12 7	4 22.56	+18 16.7	1.505	2.484	3.5	20.0	12 7	4 23.34	+26 14.0	1.233	2.212	3.6	17.0
12 17	4 11.86	+18 17.9	1.536	2.480	8.2	20.3	12 17	4 14.20	+25 39.2	1.271	2.223	8.5	17.3
12 27	4 3.23	+18 24.1	1.593	2.476	12.5	20.5	12 27	4 7.60	+25 4.5	1.333	2.234	13.1	17.6
1 6	3 57.47	+18 36.9	1.672	2.472	16.2	20.8	1 6	4 4.29	+24 35.3	1.416	2.246	17.0	17.9
326852	2003 UL ₁₇₅		12 1.1 69°48	1°8/30.3	18		130236	2000 CX ₂₄		12 1.1 207°87	7°7/ 6.0	18 R	
10 28	4 53.12	+18 14.6	2.207	3.040	12.0	20.7	10 28	5 3.89	+52 0.2	3.003	3.697	12.3	20.4
11 7	4 47.95	+17 37.1	2.138	3.046	8.9	20.5	11 7	4 56.29	+52 29.5	2.914	3.691	10.8	20.2
11 17	4 40.94	+16 57.6	2.094	3.053	5.4	20.3	11 17	4 46.16	+52 41.0	2.846	3.686	9.3	20.1
11 27	4 32.81	+16 18.2	2.078	3.060	2.2	20.1	11 27	4 34.40	+52 30.3	2.803	3.679	8.1	20.0
12 7	4 24.46	+15 41.6	2.091	3.066	3.2	20.2	12 7	4 22.23	+51 55.9	2.787	3.673	7.7	20.0
12 17	4 16.76	+15 10.7	2.134	3.073	6.6	20.4	12 17	4 10.94	+50 59.4	2.798	3.666	8.3	20.0
12 27	4 10.52	+14 47.9	2.205	3.080	9.9	20.6	12 27	4 1.65	+49 45.4	2.835	3.659	9.6	20.1
1 6	4 6.27	+14 34.5	2.299	3.087	12.7	20.8	1 6	3 55.05	+48 20.9	2.898	3.651	11.2	20.2
436511	2011 FJ ₄₁		12 1.1 198°28	2°0/30.6	18		290863	2005 WW ₅₁		12 1.1 81°67	0°1/ 1.1	17	
10 28	4 59.76	+16 20.1	1.679	2.514	15.1	21.1	10 28	4 55.29	+22 31.0	2.048	2.878	12.9	21.6
11 7	4 53.56	+16 23.1	1.604	2.512	11.3	20.8	11 7	4 49.76	+22 18.4	1.978	2.885	9.6	21.4
11 17	4 44.67	+16 27.6	1.552	2.511	7.0	20.6	11 17	4 42.14	+22 1.2	1.932	2.892	5.8	21.2
11 27	4 33.99	+16 34.3	1.526	2.509	2.7	20.3	11 27	4 33.20	+21 39.9	1.915	2.899	1.7	20.9
12 7	4 22.74	+16 44.0	1.529	2.506	3.8	20.4	12 7	4 23.97	+21 16.3	1.926	2.906	2.5	21.0
12 17	4 12.27	+16 58.0	1.561	2.503	8.2	20.6	12 17	4 15.47	+20 53.0	1.967	2.913	6.5	21.3
12 27	4 3.81	+17 17.6	1.619	2.500	12.4	20.9	12 27	4 8.64	+20 32.8	2.035	2.920	10.1	21.5
1 6	3 58.14	+17 43.6	1.699	2.497	16.0	21.1	1 6	4 4.06	+20 18.4	2.127	2.927	13.1	21.7
267242	2001 OZ ₃₅		12 1.1 95°66	5°0/ 2.9	18		66504	1999 RN ₈₁		12 1.1 81°97	2°1/ 1.8	18	
10 28	5 5.45	+34 50.4	1.679	2.482	16.5	20.8	10 28	5 0.59	+27 51.5	1.698	2.522	15.4	19.6
11 7	4 57.79	+35 14.5	1.626	2.507	12.9	20.6	11 7	4 54.01	+27 57.1	1.642	2.543	11.6	19.4
11 17	4 47.12	+35 22.6	1.594	2.531	9.0	20.4	11 17	4 44.78	+27 53.0	1.610	2.564	7.3	19.2
11 27	4 34.64	+35 11.2	1.589	2.555	5.7	20.3	11 27	4 33.97	+27 37.9	1.603	2.584	3.1	19.0
12 7	4 21.94	+34 40.4	1.611	2.578	5.3	20.3	12 7	4 22.93	+27 13.1	1.626	2.604	3.3	19.1
12 17	4 10.61	+33 54.5	1.662	2.600	8.2	20.5	12 17	4 13.02	+26 41.9	1.677	2.624	7.3	19.3
12 27	4 1.90	+33 0.7	1.739	2.622	11.6	20.8	12 27	4 5.35	+26 9.4	1.754	2.644	11.2	19.6
1 6	3 56.45	+32 6.7	1.840	2.644	14.7	21.1	1 6	4 0.54	+25 40.3	1.855	2.663	14.5	19.9
440899	2006 UU ₂₂₉		12 1.1 24°09	0°4/30.9	17		156037	2001 SQ		12 1.1 14°17	2°9/ 1.6	18	
10 28	4 55.27	+20 43.2	1.384	2.237	16.7	20.5	10 28	4 54.66	+25 18.6	0.968	1.840	20.6	18.1
11 7	4 50.51	+20 47.1	1.329	2.247	12.4	20.3	11 7	4 51.21	+26 5.1	0.920	1.846	15.6	17.8
11 17	4 42.89	+20 48.1	1.295	2.258	7.5	20.1	11 17	4 43.83	+26 43.8	0.890	1.854	9.8	17.5
11 27	4 33.45	+20 46.4	1.286	2.270	2.2	19.8	11 27	4 33.80	+27 10.8	0.882	1.864	4.2	17.3
12 7	4 23.62	+20 43.2	1.303	2.283	3.2	19.9	12 7	4 23.14	+27 24.6	0.896	1.876	4.5	17.3
12 17	4 14.87	+20 40.9	1.347	2.297	8.3	20.2	12 17	4 13.95	+27 27.3	0.934	1.890	10.1	17.7
12 27	4 8.43	+20 42.2	1.415	2.312	12.8	20.5	12 27	4 7.94	+27 24.4	0.993	1.905	15.3	18.0
1 6	4 5.01	+20 49.3	1.504	2.327	16.5	20.8	1 6	4 5.95	+27 21.5	1.070	1.922	19.7	18.4
373349	2012 KQ ₁		12 1.1 171°03	3°7/29.2	18		223360	Švankmajer		12 1.1 46°82	2°9/29.8	18	
10 28	4 52.16	+10 34.3	2.696	3.518	10.4	22.2	10 28						

EPHEMERIDES

12 1.1

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
411069	2009 VL ₆₄	12	1.1	13°25'	3°8'	2.2 17	178	Belisana	12	1.1	164°37'	0°4'	1.2 18
10 28	4 57.16	+31 2.0	1.928	2.745	14.1	20.6	10 28	4 58.74	+23 11.1	1.725	2.558	14.8	13.5
11 7	4 51.63	+31 42.9	1.855	2.747	11.0	20.4	11 7	4 52.79	+23 10.5	1.652	2.559	11.1	13.2
11 17	4 43.51	+32 14.5	1.804	2.749	7.5	20.2	11 17	4 44.21	+23 4.5	1.601	2.561	6.8	13.0
11 27	4 33.67	+32 33.6	1.780	2.752	4.4	20.0	11 27	4 33.89	+22 52.8	1.578	2.562	2.1	12.7
12 7	4 23.28	+32 39.0	1.784	2.755	4.4	20.0	12 7	4 23.09	+22 36.5	1.583	2.563	2.8	12.7
12 17	4 13.65	+32 32.0	1.816	2.758	7.3	20.2	12 17	4 13.15	+22 18.4	1.616	2.564	7.5	13.0
12 27	4 5.95	+32 16.4	1.875	2.761	10.7	20.4	12 27	4 5.23	+22 1.9	1.676	2.565	11.7	13.3
1 6	4 0.93	+31 57.2	1.957	2.765	13.8	20.7	1 6	4 0.09	+21 50.6	1.759	2.565	15.2	13.5
347350	2012 QK ₂₁	12	1.1	32°63'	5°8'/29.7	18	4231	Fireman	12	1.1	82°65'	1°3'/1.6	18
10 28	4 55.24	+12 14.3	1.092	1.958	19.2	19.2	10 28	5 0.34	+27 52.6	1.391	2.228	17.5	16.7
11 7	4 50.65	+11 18.6	1.054	1.976	14.5	19.0	11 7	4 54.38	+27 17.5	1.327	2.236	13.2	16.4
11 17	4 42.96	+10 29.2	1.036	1.995	9.6	18.8	11 17	4 45.27	+26 28.6	1.285	2.243	8.2	16.2
11 27	4 33.45	+9 52.0	1.041	2.016	6.0	18.7	11 27	4 34.20	+25 26.6	1.268	2.251	2.9	15.9
12 7	4 23.77	+9 31.7	1.070	2.037	7.2	18.8	12 7	4 22.78	+24 15.5	1.278	2.258	3.3	15.9
12 17	4 15.49	+9 30.9	1.123	2.060	11.3	19.1	12 17	4 12.65	+23 2.3	1.315	2.266	8.5	16.3
12 27	4 9.83	+9 49.1	1.197	2.083	15.6	19.4	12 27	4 5.13	+21 54.9	1.378	2.273	13.2	16.5
1 6	4 7.39	+10 23.6	1.291	2.107	19.2	19.7	1 6	4 0.92	+20 59.0	1.462	2.280	17.2	16.8
212163	2005 GL ₁₃	12	1.1	188°25'	0°4'/30.9	18	267646	2002 SL ₇₂	12	1.1	239°30'	5°2'/3.5	18
10 28	4 58.19	+19 51.2	2.277	3.098	12.1	21.3	10 28	4 58.38	+39 57.7	2.726	3.494	11.7	21.2
11 7	4 51.83	+20 2.9	2.195	3.097	9.0	21.1	11 7	4 52.13	+40 27.4	2.631	3.482	9.6	21.0
11 17	4 43.40	+20 13.2	2.139	3.096	5.5	20.8	11 17	4 43.68	+40 44.4	2.560	3.471	7.4	20.9
11 27	4 33.61	+20 21.8	2.111	3.095	1.6	20.6	11 27	4 33.74	+40 45.7	2.516	3.459	5.7	20.8
12 7	4 23.39	+20 29.2	2.113	3.093	2.4	20.6	12 7	4 23.30	+40 30.1	2.501	3.447	5.4	20.7
12 17	4 13.75	+20 36.1	2.147	3.090	6.2	20.9	12 17	4 13.40	+39 58.9	2.515	3.434	6.8	20.8
12 27	4 5.61	+20 44.4	2.209	3.087	9.7	21.1	12 27	4 5.07	+39 15.9	2.556	3.421	9.1	20.9
1 6	3 59.62	+20 55.5	2.295	3.083	12.7	21.3	1 6	3 58.98	+38 26.3	2.623	3.408	11.4	21.1
317928	2003 UP ₃₆₉	12	1.1	50°04'	2°5'/2.1	17	125016	2001 TJ ₁₇₄	12	1.1	318°27'	3°5'/29.9	18
10 28	4 55.61	+29 46.6	2.095	2.913	13.1	20.8	10 28	4 56.06	+16 21.5	1.499	2.347	15.9	20.2
11 7	4 50.09	+29 54.1	2.026	2.921	10.0	20.6	11 7	4 51.00	+15 30.1	1.428	2.343	11.9	19.9
11 17	4 42.39	+29 52.3	1.980	2.930	6.5	20.4	11 17	4 43.20	+14 36.9	1.379	2.339	7.5	19.7
11 27	4 33.30	+29 39.9	1.962	2.939	3.3	20.2	11 27	4 33.62	+13 45.9	1.356	2.336	3.8	19.5
12 7	4 23.89	+29 17.6	1.972	2.948	3.2	20.2	12 7	4 23.54	+13 1.8	1.360	2.333	5.1	19.5
12 17	4 15.26	+28 48.0	2.012	2.958	6.4	20.5	12 17	4 14.36	+12 29.2	1.391	2.329	9.4	19.8
12 27	4 8.37	+28 15.0	2.079	2.967	9.7	20.7	12 27	4 7.28	+12 11.1	1.446	2.326	13.7	20.0
1 6	4 3.84	+27 43.1	2.170	2.977	12.7	20.9	1 6	4 3.06	+12 8.7	1.523	2.324	17.4	20.3
227264	2005 SR ₁₁₅	12	1.1	115°70'	0°5'/1.3	18	327520	2006 BD ₈₈	12	1.1	224°70'	0°7'/30.9	17
10 28	5 1.31	+23 57.3	1.744	2.571	15.0	21.8	10 28	4 54.23	+20 14.1	2.388	3.214	11.4	22.0
11 7	4 54.45	+23 50.5	1.684	2.588	11.1	21.6	11 7	4 48.82	+20 6.0	2.305	3.210	8.5	21.8
11 17	4 45.04	+23 37.1	1.646	2.604	6.8	21.4	11 17	4 41.56	+19 55.4	2.247	3.206	5.2	21.6
11 27	4 34.07	+23 17.1	1.636	2.620	2.1	21.1	11 27	4 33.09	+19 43.0	2.217	3.201	1.6	21.4
12 7	4 22.84	+22 52.2	1.656	2.636	2.8	21.2	12 7	4 24.27	+19 30.2	2.218	3.197	2.4	21.4
12 17	4 12.66	+22 25.5	1.704	2.650	7.3	21.5	12 17	4 15.97	+19 18.5	2.248	3.192	6.0	21.6
12 27	4 4.61	+22 1.2	1.779	2.665	11.3	21.8	12 27	4 9.03	+19 10.1	2.307	3.187	9.3	21.9
1 6	3 59.34	+21 42.6	1.878	2.678	14.6	22.0	1 6	4 4.04	+19 6.7	2.390	3.182	12.1	22.0
52609	1997 TK ₂₄	12	1.1	15°80'	2°2'/1.9	18	132690	2002 NQ ₂₈	12	1.1	227°27'	1°3'/30.5	18
10 28	4 56.76	+28 6.5	1.765	2.594	14.7	18.9	10 28	4 57.05	+19 5.7	2.307	3.130	11.9	21.0
11 7	4 51.35	+28 10.0	1.692	2.595	11.2	18.7	11 7	4 51.00	+18 40.7	2.214	3.118	8.9	20.8
11 17	4 43.33	+28 3.9	1.642	2.596	7.2	18.5	11 17	4 42.94	+18 12.7	2.146	3.104	5.4	20.6
11 27	4 33.61	+27 47.0	1.618	2.598	3.1	18.2	11 27	4 33.52	+17 43.2	2.107	3.090	2.0	20.3
12 7	4 23.44	+27 20.4	1.621	2.600	3.2	18.2	12 7	4 23.65	+17 14.1	2.099	3.076	2.9	20.4
12 17	4 14.13	+26 47.1	1.653	2.602	7.3	18.5	12 17	4 14.31	+16 48.0	2.121	3.060	6.6	20.6
12 27	4 6.84	+26 11.9	1.712	2.604	11.2	18.7	12 27	4 6.39	+16 27.7	2.171	3.044	10.1	20.8
1 6	4 2.30	+25 39.7	1.793	2.606	14.7	19.0	1 6	4 0.56	+16 15.1	2.246	3.027	13.1	20.9
482930	2014 JY ₁₀	12	1.1	6°64'	7°3'/30.1	18	331440	2012 GT ₂₂	12	1.1	209°70'	5°0'/29.0	17
10 28	5 14.53	+27 4.5	1.340	2.158	19.1	19.6	10 28	4 52.39	+ 7 9.4	2.368	3.191	11.6	20.9
11 7	5 6.54	+30 20.9	1.267	2.159	15.0	19.3	11 7	4 47.34	+ 6 28.5	2.296	3.189	9.1	20.7
11 17	4 53.79	+33 41.5	1.218	2.160	10.6	19.1	11 17	4 40.60	+ 5 53.3	2.248	3.188	6.6	20.6
11 27	4 37.05	+36 49.6	1.199	2.162	7.5	18.9	11 27	4 32.81	+ 5 27.1	2.228	3.186	5.0	20.5
12 7	4 18.19	+39 28.2	1.209	2.166	8.3	19.0	12 7	4 24.73	+ 5 12.6	2.237	3.185	5.7	20.5
12 17	3 59.86	+41 27.9	1.250	2.171	12.1	19.2	12 17	4 17.17	+ 5 11.4	2.274	3.183	8.0	20.7
12 27	3 44.67	+42 50.7	1.316	2.176	16.2	19.5	12 27	4 10.88	+ 5 23.8	2.338	3.181	10.6	20.8
1 6	3 34.31	+43 46.5	1.403	2.183	19.7	19.7	1 6	4 6.40	+ 5 48.8	2.424	3.180	13.0	21.0
394191	2006 SY ₅₁	12	1.1	115°51'	6°7'/28.9	18	446026	2013 CY ₆₈	12	1.1	286°07'	2°5'/30.2	18
10 28	4 55.96	+ 2 30.3	2.138	2.949	13.1	21.0	10 28	4 55.31	+16 47.7	1.794	2.634	14.1	21.8
11 7	4 49.93	+ 1 45.6	2.085	2.965	10.5	20.8	11 7	4 50.10	+16 16.2	1.717	2.628	10.5	21.5
11 17	4 42.10	+ 1 11.2	2.056	2.981	8.1	20.7	11 17	4 42.53	+15 43.5	1.664	2.623	6.6	21.3
11 27	4 33.20	+ 0 51.3	2.054	2.996	6.8	20.7	11 27	4 33.42	+15 12.3	1.637	2.618	2.9	21.1
12 7	4 24.13	+ 0 48.2	2.080	3.011	7.4	20.7	12 7	4 23.85	+14 45.3	1.639	2.613	4.0	21.1
12 17	4 15.78	+ 1 2.6	2.133	3.025	9.4	20.9	12 17	4 14.99	+14 25.7	1.669	2.608	8.0	21.4
12 27	4 8.93	+ 1 33.6	2.213	3.039	11.8	21.1	12 27	4 7.91	+14 16.0	1.725	2.603	12.0	21.6
1 6	4 4.11	+ 2 18.5	2.314	3.052	14.0	21.2	1 6	4 3.30	+14 17.2	1.803	2.599	15.3	21.8
133774	Johnkidd	12	1.1	88°06'	0°7'/30.9	18	81485	2000 GN ₁₅₃	12	1.1	128°94'	2°3'/2.1	18
10 28	4 58.29	+20 5.3	1.768	2.602	14.5	20.4	10 28	4 58.11	+				

EPHEMERIDES

12 1.1

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
441913	2010 <i>FO</i> ₈₇	12	1.1	168°78	1°4/ 1.6	18	478517	2012 <i>SG</i> ₅₀	12	1.1	98°23	5°4/29.1	16
10 28	4 58.74	+25 58.7	1.899	2.723	14.0	22.2	10 28	4 58.11	+10 55.1	1.678	2.513	15.1	21.5
11 7	4 52.64	+26 1.7	1.823	2.725	10.6	22.0	11 7	4 51.92	+9 42.3	1.627	2.531	11.5	21.3
11 17	4 44.07	+25 57.2	1.771	2.726	6.6	21.7	11 17	4 43.45	+8 33.6	1.600	2.549	7.9	21.1
11 27	4 33.88	+25 44.6	1.746	2.728	2.5	21.5	11 27	4 33.66	+7 34.4	1.600	2.567	5.5	21.0
12 7	4 23.25	+25 24.6	1.750	2.729	2.8	21.5	12 7	4 23.73	+6 49.5	1.628	2.584	6.6	21.1
12 17	4 13.41	+24 59.8	1.783	2.730	6.9	21.8	12 17	4 14.80	+6 22.2	1.683	2.601	9.7	21.3
12 27	4 5.49	+24 34.2	1.843	2.731	10.8	22.0	12 27	4 7.82	+6 13.4	1.764	2.618	13.0	21.6
1 6	4 0.17	+24 11.9	1.927	2.731	14.2	22.2	1 6	4 3.35	+6 21.8	1.865	2.634	15.9	21.8
115471	2003 <i>UA</i> ₁	12	1.1	326°20	2°1/ 1.9	17	139902	2001 <i>RH</i> ₁₀₀	12	1.1	265°63	2°0/30.5	18
10 28	4 54.16	+28 18.4	1.963	2.790	13.5	19.5	10 28	4 55.58	+17 3.5	1.919	2.754	13.4	19.9
11 7	4 49.34	+28 20.4	1.877	2.779	10.3	19.2	11 7	4 50.19	+16 48.2	1.842	2.751	10.1	19.7
11 17	4 42.14	+28 13.4	1.814	2.768	6.7	19.0	11 17	4 42.57	+16 32.4	1.788	2.747	6.2	19.4
11 27	4 33.34	+27 56.6	1.778	2.758	3.0	18.8	11 27	4 33.47	+16 17.9	1.762	2.744	2.5	19.2
12 7	4 24.01	+27 30.5	1.770	2.748	3.1	18.7	12 7	4 23.93	+16 6.4	1.765	2.740	3.5	19.3
12 17	4 15.33	+26 57.8	1.790	2.738	6.8	19.0	12 17	4 15.06	+16 0.0	1.796	2.737	7.4	19.5
12 27	4 8.40	+26 22.9	1.837	2.729	10.6	19.2	12 27	4 7.86	+16 0.7	1.854	2.734	11.2	19.7
1 6	4 3.94	+25 50.0	1.908	2.720	13.9	19.4	1 6	4 3.01	+16 9.5	1.935	2.730	14.4	19.9
327057	2004 <i>TX</i> ₁₄₄	12	1.1	30°88	1°5/ 1.6	18	266211	2006 <i>WL</i> ₁₃₅	12	1.1	311°23	3°3/30.0	18
10 28	4 55.52	+25 41.6	1.630	2.468	15.3	20.1	10 28	4 56.69	+17 20.3	1.383	2.235	16.7	20.4
11 7	4 50.42	+25 50.5	1.573	2.483	11.4	19.9	11 7	4 51.72	+16 27.1	1.312	2.229	12.6	20.2
11 17	4 42.75	+25 51.9	1.539	2.498	7.1	19.6	11 17	4 43.79	+15 30.5	1.262	2.223	7.9	19.9
11 27	4 33.48	+25 45.1	1.531	2.514	2.7	19.4	11 27	4 33.88	+14 34.8	1.237	2.218	3.7	19.6
12 7	4 23.91	+25 31.2	1.551	2.531	3.0	19.5	12 7	4 23.40	+13 45.2	1.239	2.213	5.1	19.7
12 17	4 15.33	+25 12.8	1.598	2.548	7.3	19.8	12 17	4 13.88	+13 6.9	1.267	2.208	9.9	20.0
12 27	4 8.84	+24 54.0	1.671	2.566	11.3	20.1	12 27	4 6.64	+12 43.9	1.319	2.204	14.5	20.2
1 6	4 5.09	+24 38.4	1.766	2.584	14.7	20.3	1 6	4 2.48	+12 37.5	1.392	2.199	18.4	20.5
494121	2016 <i>CE</i> ₁₂₆	12	1.1	24°85	9°6/28.0	18	43619	2002 <i>CR</i> ₆₆	12	1.1	71°81	3°5/ 2.2	18
10 28	4 51.47	- 2 27.4	1.788	2.605	15.1	20.2	10 28	5 5.25	+30 18.7	1.232	2.067	19.5	18.7
11 7	4 46.98	- 3 36.1	1.742	2.615	12.6	20.0	11 7	4 58.22	+30 26.6	1.188	2.092	14.8	18.5
11 17	4 40.48	- 4 28.8	1.718	2.626	10.6	19.9	11 17	4 47.62	+30 19.1	1.164	2.117	9.6	18.3
11 27	4 32.79	- 4 59.2	1.718	2.638	9.6	19.9	11 27	4 34.93	+29 53.9	1.164	2.143	4.7	18.1
12 7	4 24.89	- 5 4.0	1.743	2.651	10.3	20.0	12 7	4 22.10	+29 12.9	1.191	2.168	4.5	18.2
12 17	4 17.75	- 4 42.7	1.793	2.664	12.0	20.1	12 17	4 11.01	+28 22.2	1.243	2.193	9.0	18.5
12 27	4 12.24	- 3 57.7	1.865	2.678	14.2	20.3	12 27	4 3.05	+27 30.1	1.321	2.217	13.5	18.8
1 6	4 8.90	- 2 53.6	1.957	2.692	16.4	20.5	1 6	3 58.85	+26 43.7	1.419	2.242	17.4	19.1
383147	2005 <i>UX</i> ₂₃₄	12	1.1	235°28	2°3/30.5	18	121125	1999 <i>HW</i> ₉	12	1.1	253°54	0°0/30.9	18
10 28	4 57.78	+17 3.9	1.610	2.451	15.3	21.3	10 28	4 58.14	+22 57.4	1.775	2.607	14.5	20.2
11 7	4 52.19	+16 44.3	1.537	2.448	11.5	21.1	11 7	4 52.46	+22 43.5	1.687	2.595	10.9	20.0
11 17	4 43.92	+16 24.1	1.486	2.446	7.1	20.8	11 17	4 44.13	+22 23.4	1.623	2.583	6.7	19.7
11 27	4 33.87	+16 5.3	1.461	2.443	2.9	20.6	11 27	4 33.98	+21 57.5	1.586	2.570	2.0	19.4
12 7	4 23.30	+15 50.3	1.464	2.440	4.1	20.6	12 7	4 23.21	+21 27.5	1.577	2.557	2.9	19.4
12 17	4 13.55	+15 41.6	1.495	2.437	8.5	20.9	12 17	4 13.14	+20 56.6	1.597	2.544	7.6	19.7
12 27	4 5.84	+15 41.7	1.552	2.434	12.8	21.1	12 27	4 4.99	+20 29.2	1.644	2.531	11.9	19.9
1 6	4 0.92	+15 51.7	1.630	2.431	16.4	21.4	1 6	3 59.57	+20 8.8	1.713	2.517	15.7	20.1
188187	2002 <i>LA</i> ₂₇	12	1.1	60°37	2°7/29.8	18	230382	2002 <i>GN</i> ₇₈	12	1.1	31°95	1°1/ 1.5	18
10 28	4 55.21	+16 34.2	2.038	2.871	12.9	19.2	10 28	4 57.51	+25 37.9	1.588	2.425	15.7	19.9
11 7	4 49.38	+15 36.0	1.993	2.900	9.5	19.0	11 7	4 52.09	+25 28.4	1.518	2.427	11.8	19.6
11 17	4 41.75	+14 37.4	1.972	2.930	5.9	18.9	11 17	4 43.89	+25 10.2	1.471	2.430	7.3	19.4
11 27	4 33.12	+13 41.8	1.981	2.959	3.0	18.7	11 27	4 33.88	+24 43.1	1.450	2.433	2.5	19.1
12 7	4 24.47	+12 52.9	2.018	2.989	4.0	18.9	12 7	4 23.42	+24 9.0	1.456	2.436	3.0	19.2
12 17	4 16.70	+12 13.7	2.085	3.018	7.2	19.1	12 17	4 13.93	+23 31.9	1.490	2.439	7.8	19.5
12 27	4 10.56	+11 46.3	2.180	3.047	10.3	19.4	12 27	4 6.63	+22 56.8	1.549	2.443	12.1	19.7
1 6	4 6.51	+11 31.3	2.297	3.077	12.9	19.6	1 6	4 2.26	+22 28.1	1.631	2.447	15.8	20.0
241742	2000 <i>YD</i> ₁₁	12	1.1	272°71	3°1/ 2.2	18	384360	2009 <i>UV</i> ₈₀	12	1.1	24°52	0°7/ 1.3	18
10 28	4 58.54	+30 33.2	1.781	2.601	15.0	20.2	10 28	4 55.58	+24 18.1	0.999	1.869	20.3	20.0
11 7	4 52.92	+30 39.7	1.693	2.589	11.6	19.9	11 7	4 51.57	+24 8.8	0.955	1.881	15.1	19.7
11 17	4 44.47	+30 34.6	1.628	2.577	7.7	19.7	11 17	4 43.88	+23 50.0	0.929	1.895	9.2	19.4
11 27	4 34.06	+30 15.6	1.589	2.565	4.0	19.4	11 27	4 33.88	+23 22.4	0.925	1.910	2.9	19.1
12 7	4 23.00	+29 43.0	1.578	2.553	3.9	19.4	12 7	4 23.54	+22 49.3	0.945	1.926	3.7	19.3
12 17	4 12.71	+28 59.8	1.595	2.541	7.7	19.6	12 17	4 14.75	+22 16.1	0.989	1.944	9.7	19.7
12 27	4 4.49	+28 11.9	1.638	2.529	11.7	19.8	12 27	4 8.99	+21 48.8	1.054	1.963	15.0	20.0
1 6	3 59.19	+27 25.4	1.704	2.517	15.4	20.0	1 6	4 6.96	+21 31.6	1.139	1.984	19.3	20.3
439208	2012 <i>RQ</i> ₂₅	12	1.1	120°74	4°7/ 2.7	18	181472	2006 <i>TQ</i> ₇₁	12	1.1	3°66	0°3/ 1.3	18
10 28	5 2.47	+33 46.2	1.670	2.481	16.2	21.4	10 28	4 55.44	+23 54.1	1.673	2.512	14.9	19.9
11 7	4 55.86	+34 7.8	1.602	2.489	12.7	21.2	11 7	4 50.43	+23 41.5	1.601	2.512	11.2	19.7
11 17	4 46.19	+34 14.8	1.556	2.497	8.8	20.9	11 17	4 42.85	+23 22.1	1.551	2.512	6.8	19.5
11 27	4 34.54	+34 3.6	1.536	2.505	5.4	20.8	11 27	4 33.58	+22 56.3	1.528	2.512	2.1	19.2
12 7	4 22.42	+33 34.1	1.544	2.513	5.1	20.8	12 7	4 23.87	+22 26.2	1.533	2.513	2.8	19.2
12 17	4 11.44	+32 49.8	1.579	2.520	8.2	21.0	12 17	4 15.01	+21 55.1	1.565	2.514	7.5	19.5
12 27	4 2.91	+31 57.6	1.640	2.527	12.0	21.2	12 27	4 8.14	+21 27.4	1.623	2.516	11.7	19.8
1 6	3 57.61	+31 5.0	1.724	2.534	15.3	21.4	1 6	4 3.98	+21 6.4	1.704	2.518	15.3	20.0
167572	2004 <i>BD</i> ₆₁	12	1.1	28°62	0°6/30.9	17	295018	2008 <i>ED</i> ₅₈	12	1.1	62°78		

EPHEMERIDES

12 1.1

12 1.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
38538	1999 <i>UZ</i> ₄₇	12	1.1 201°17	4.4/ 2.8	18		129665	1998 <i>QX</i> ₈₄	12	1.1 84°68	5.9/29.0	18	
10 28	4 58.30	+34 59.1	2.329	3.123	12.7	19.1	10 28	4 57.81	+7 44.0	1.861	2.686	14.2	20.4
11 7	4 52.22	+35 29.3	2.247	3.122	10.1	18.9	11 7	4 51.41	+6 38.4	1.820	2.715	11.0	20.3
11 17	4 43.82	+35 48.3	2.188	3.120	7.2	18.7	11 17	4 43.03	+5 40.1	1.803	2.743	7.8	20.1
11 27	4 33.88	+35 53.2	2.156	3.118	4.9	18.6	11 27	4 33.56	+4 53.9	1.813	2.772	6.0	20.1
12 7	4 23.45	+35 43.2	2.154	3.116	4.6	18.5	12 7	4 24.06	+4 23.5	1.852	2.799	6.8	20.2
12 17	4 13.68	+35 19.7	2.180	3.114	6.8	18.7	12 17	4 15.51	+4 10.6	1.918	2.826	9.4	20.4
12 27	4 5.61	+34 46.9	2.235	3.112	9.7	18.8	12 27	4 8.74	+4 15.2	2.010	2.853	12.2	20.6
1 6	3 59.96	+34 10.0	2.313	3.110	12.3	19.0	1 6	4 4.23	+4 35.1	2.124	2.879	14.7	20.9
274696	2008 <i>UG</i> ₅₆	12	1.1 125°99	0°6/30.9	18		417306	2006 <i>BT</i> ₁₀₉	12	1.1 133°34	0°4/ 1.3	17	
10 28	4 53.78	+20 52.2	2.544	3.368	10.9	21.3	10 28	5 2.77	+23 10.8	1.401	2.240	17.3	21.7
11 7	4 48.31	+20 35.4	2.472	3.376	8.1	21.2	11 7	4 56.27	+23 13.4	1.337	2.247	13.0	21.5
11 17	4 41.19	+20 15.7	2.425	3.384	4.9	21.0	11 17	4 46.55	+23 9.8	1.294	2.254	7.9	21.2
11 27	4 33.05	+19 53.9	2.407	3.391	1.5	20.8	11 27	4 34.72	+22 59.4	1.277	2.261	2.4	20.9
12 7	4 24.67	+19 31.6	2.420	3.398	2.2	20.8	12 7	4 22.37	+22 43.2	1.287	2.267	3.3	20.9
12 17	4 16.87	+19 10.7	2.462	3.405	5.6	21.1	12 17	4 11.19	+22 24.4	1.325	2.273	8.6	21.3
12 27	4 10.37	+18 53.5	2.534	3.412	8.6	21.3	12 27	4 2.59	+22 7.8	1.387	2.279	13.4	21.6
1 6	4 5.69	+18 41.7	2.630	3.419	11.2	21.5	1 6	3 57.37	+21 57.3	1.471	2.284	17.3	21.8
141640	2002 <i>JL</i> ₅₅	12	1.1 96°57	1°3/ 1.4	18		174313	2002 <i>TM</i> ₇₅	12	1.1 116°94	1°4/30.7	18	
10 28	5 3.81	+24 13.0	1.480	2.313	16.9	20.1	10 28	4 58.65	+17 40.7	2.216	3.038	12.4	20.7
11 7	4 56.79	+24 35.1	1.425	2.331	12.6	19.9	11 7	4 52.00	+17 33.4	2.155	3.058	9.1	20.5
11 17	4 46.71	+24 50.8	1.392	2.350	7.8	19.6	11 17	4 43.44	+17 25.4	2.120	3.077	5.6	20.3
11 27	4 34.72	+24 58.4	1.385	2.368	2.7	19.4	11 27	4 33.73	+17 17.7	2.114	3.096	2.0	20.1
12 7	4 22.37	+24 57.7	1.406	2.385	3.2	19.4	12 7	4 23.83	+17 11.4	2.138	3.115	2.9	20.2
12 17	4 11.26	+24 51.1	1.454	2.403	8.1	19.8	12 17	4 14.69	+17 8.2	2.193	3.133	6.4	20.5
12 27	4 2.69	+24 42.9	1.529	2.419	12.5	20.1	12 27	4 7.14	+17 9.6	2.276	3.150	9.7	20.7
1 6	3 57.37	+24 37.2	1.626	2.436	16.1	20.4	1 6	4 1.72	+17 16.7	2.383	3.166	12.4	20.9
7741	Fedoseev	12	1.1 43°06	11°5/28.2	18		297701	2001 <i>VF</i> ₇₂	12	1.1 23°15	3°9/30.8	18	
10 28	4 55.72	+0 29.2	1.205	2.047	19.3	16.1	10 28	4 58.02	+10 4.6	1.558	2.396	15.9	19.2
11 7	4 50.77	-1 9.7	1.170	2.063	15.9	16.0	11 7	4 52.33	+10 30.8	1.496	2.403	12.1	19.0
11 17	4 43.00	-2 29.3	1.155	2.081	12.9	15.9	11 17	4 44.01	+11 6.3	1.456	2.410	7.9	18.8
11 27	4 33.59	-3 20.1	1.162	2.098	11.5	15.8	11 27	4 33.96	+11 51.9	1.442	2.419	4.3	18.6
12 7	4 24.01	-3 36.6	1.192	2.117	12.3	15.9	12 7	4 23.46	+12 47.0	1.456	2.428	5.0	18.7
12 17	4 15.69	-3 18.5	1.245	2.136	14.7	16.1	12 17	4 13.82	+13 49.7	1.498	2.437	8.8	18.9
12 27	4 9.75	-2 29.9	1.318	2.155	17.6	16.4	12 27	4 6.22	+14 58.3	1.566	2.447	12.8	19.2
1 6	4 6.78	-1 18.1	1.409	2.175	20.3	16.6	1 6	4 1.41	+16 10.8	1.656	2.458	16.2	19.4
381746	2009 <i>SV</i> ₆₉	12	1.1 295°94	2°4/ 1.8	18		489445	2006 <i>XY</i> ₆₃	12	1.1 346°68	9°6/25.7	17	
10 28	4 59.11	+27 34.1	1.428	2.266	17.1	21.0	10 28	4 45.83	+10 40.5	1.110	1.989	18.0	19.9
11 7	4 53.85	+27 42.0	1.350	2.258	13.1	20.7	11 7	4 44.12	+8 1.1	1.042	1.967	14.3	19.6
11 17	4 45.28	+27 39.5	1.292	2.249	8.4	20.4	11 17	4 39.42	+5 17.4	0.994	1.947	10.9	19.3
11 27	4 34.39	+27 24.5	1.260	2.241	3.6	20.1	11 27	4 32.67	+2 43.8	0.970	1.930	9.6	19.2
12 7	4 22.72	+26 57.4	1.254	2.233	3.8	20.1	12 7	4 25.26	+0 35.5	0.969	1.915	11.7	19.3
12 17	4 12.00	+26 21.9	1.274	2.224	8.7	20.4	12 17	4 18.72	-0 56.1	0.991	1.902	15.5	19.4
12 27	4 3.76	+25 44.2	1.319	2.216	13.5	20.6	12 27	4 14.42	-1 46.1	1.031	1.892	19.6	19.6
1 6	3 58.94	+25 10.6	1.385	2.209	17.7	20.9	1 6	4 13.22	-1 56.9	1.087	1.884	23.2	19.9
135794	2002 <i>RC</i> ₉₇	12	1.1 97°56	6°0/ 3.1	18		378132	2006 <i>VR</i> ₂₅	12	1.1 234°20	1°3/ 1.5	18	
10 28	5 3.76	+37 35.3	1.970	2.757	14.9	20.5	10 28	5 0.66	+24 56.3	1.631	2.462	15.6	21.4
11 7	4 56.60	+38 28.4	1.908	2.774	12.0	20.3	11 7	4 54.62	+25 7.4	1.549	2.455	11.8	21.1
11 17	4 46.57	+39 6.7	1.869	2.791	9.0	20.2	11 17	4 45.60	+25 11.8	1.490	2.447	7.4	20.8
11 27	4 34.69	+39 25.4	1.856	2.807	6.6	20.1	11 27	4 34.49	+25 8.0	1.457	2.440	2.7	20.5
12 7	4 22.36	+39 23.0	1.871	2.824	6.2	20.1	12 7	4 22.67	+24 56.3	1.452	2.431	3.1	20.6
12 17	4 11.06	+39 1.3	1.914	2.840	8.2	20.2	12 17	4 11.66	+24 39.0	1.475	2.423	8.0	20.8
12 27	4 2.03	+38 26.1	1.984	2.855	11.0	20.5	12 27	4 2.84	+24 20.5	1.524	2.414	12.5	21.1
1 6	3 56.03	+37 44.5	2.077	2.871	13.7	20.7	1 6	3 57.09	+24 5.3	1.595	2.405	16.4	21.3
517105	2013 <i>EH</i> ₁₀₂	12	1.1 101°57	7°1/28.4	18		440129	2003 <i>SN</i> ₃₀₂	12	1.1 227°46	6°5/ 3.7	17	
10 28	4 54.18	+1 55.5	2.162	2.974	13.0	21.2	10 28	5 2.48	+40 5.7	1.997	2.777	15.0	21.1
11 7	4 48.66	+0 54.7	2.109	2.988	10.5	21.1	11 7	4 55.90	+40 35.7	1.911	2.770	12.3	20.9
11 17	4 41.40	+0 4.2	2.081	3.002	8.2	21.0	11 17	4 46.32	+40 49.0	1.847	2.763	9.4	20.7
11 27	4 33.10	-0 31.3	2.080	3.016	7.1	20.9	11 27	4 34.70	+40 40.6	1.808	2.756	7.1	20.5
12 7	4 24.64	-0 48.9	2.106	3.030	7.8	21.0	12 7	4 22.43	+40 9.1	1.797	2.748	6.7	20.5
12 17	4 16.85	-0 47.1	2.160	3.043	9.7	21.1	12 17	4 11.04	+39 16.8	1.814	2.740	8.6	20.6
12 27	4 10.51	-0 27.0	2.238	3.056	12.0	21.3	12 27	4 1.92	+38 10.4	1.857	2.731	11.5	20.7
1 6	4 6.11	+0 9.1	2.338	3.069	14.1	21.5	1 6	3 55.90	+36 58.2	1.924	2.722	14.4	20.9
243544	2010 <i>JD</i> ₂₉	12	1.1 243°81	5°6/28.9	18		194941	2002 <i>AW</i> ₁₅₀	12	1.1 286°26	1°2/ 1.5	18	
10 28	4 55.51	+8 39.4	1.924	2.753	13.7	21.3	10 28	4 57.80	+25 35.4	1.635	2.470	15.4	20.4
11 7	4 50.11	+7 42.1	1.844	2.743	10.6	21.1	11 7	4 52.56	+25 33.5	1.547	2.454	11.7	20.1
11 17	4 42.53	+6 49.2	1.788	2.733	7.6	20.9	11 17	4 44.39	+25 23.4	1.480	2.438	7.4	19.8
11 27	4 33.50	+6 5.4	1.759	2.722	5.7	20.8	11 27	4 34.15	+25 4.3	1.439	2.422	2.6	19.5
12 7	4 24.01	+5 34.9	1.759	2.711	6.7	20.8	12 7	4 23.15	+24 37.0	1.426	2.406	3.1	19.5
12 17	4 15.14	+5 20.7	1.786	2.699	9.6	20.9	12 17	4 12.87	+24 4.8	1.441	2.390	8.0	19.7
12 27	4 7.85	+5 23.8	1.838	2.688	12.8	21.1	12 27	4 4.68	+23 32.6	1.481	2.375	12.6	20.0
1 6	4 2.83	+5 43.3	1.912	2.676	15.7	21.3	1 6	3 59.49	+23 5.4	1.544	2.359	16.6	20.2
73490	2002 <i>PR</i> ₁₂₃	12	1.1 193°08	0°2/ 1.2	17		322915	2002 <i>CK</i> ₁₅₂	12	1.1 184°86	3°0/30.3	17	
10 28													

EPHEMERIDES

12 1.1

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V		
303553	2005 <i>GL</i> ₂₁		12	1.1	198°01	5°4/ 2.8	18	19694	Dunkelman		12	1.1	100°46	3°7/29.7	18
10 28	5 2.22	+36 45.6	2.212	2.997	13.6	21.4	10 28	4 51.57	+ 8 45.5	2.784	3.604	10.2	18.4		
11 7	4 55.40	+37 33.4	2.128	2.995	10.9	21.2	11 7	4 46.54	+ 8 26.5	2.716	3.611	7.8	18.2		
11 17	4 45.92	+38 8.9	2.068	2.992	8.1	21.0	11 17	4 40.09	+ 8 12.1	2.674	3.618	5.4	18.1		
11 27	4 34.58	+38 27.9	2.035	2.989	5.9	20.9	11 27	4 32.79	+ 8 4.4	2.660	3.625	3.8	18.0		
12 7	4 22.59	+38 28.3	2.030	2.985	5.6	20.9	12 7	4 25.28	+ 8 4.8	2.676	3.632	4.3	18.0		
12 17	4 11.30	+38 11.2	2.055	2.981	7.7	21.0	12 17	4 18.23	+ 8 14.2	2.721	3.639	6.5	18.2		
12 27	4 1.93	+37 41.1	2.106	2.977	10.5	21.2	12 27	4 12.26	+ 8 32.7	2.795	3.646	8.8	18.3		
1 6	3 55.30	+37 4.1	2.182	2.972	13.2	21.3	1 6	4 7.84	+ 8 59.7	2.892	3.653	11.0	18.5		
71170	1999 <i>XE</i> ₂₀₆		12	1.1	306°44	1°6/ 1.6	18	515584	2014 <i>JC</i> ₁₂		12	1.1	127°62	0°9/30.8	18
10 28	4 56.50	+25 18.6	2.136	2.959	12.7	19.0	10 28	4 57.50	+19 37.7	2.196	3.020	12.4	22.5		
11 7	4 50.94	+25 49.1	2.051	2.952	9.6	18.7	11 7	4 51.28	+19 28.7	2.129	3.033	9.2	22.4		
11 17	4 43.12	+26 15.3	1.991	2.945	6.1	18.5	11 17	4 43.09	+19 17.6	2.087	3.045	5.5	22.2		
11 27	4 33.73	+26 35.2	1.958	2.939	2.5	18.3	11 27	4 33.69	+19 5.0	2.074	3.057	1.8	21.9		
12 7	4 23.79	+26 48.4	1.954	2.932	2.8	18.3	12 7	4 24.04	+18 52.4	2.091	3.069	2.6	22.0		
12 17	4 14.40	+26 55.3	1.980	2.926	6.4	18.5	12 17	4 15.10	+18 41.7	2.137	3.080	6.3	22.3		
12 27	4 6.60	+26 58.4	2.033	2.920	10.0	18.7	12 27	4 7.73	+18 34.9	2.212	3.091	9.7	22.5		
1 6	4 1.13	+27 0.6	2.111	2.914	13.1	18.9	1 6	4 2.52	+18 33.7	2.312	3.101	12.6	22.7		
241850	2001 <i>TH</i> ₈₆		12	1.1	71°15	0°0/30.9	18	108657	2001 <i>NC</i> ₂₀		12	1.1	166°84	4°3/28.9	18
10 28	4 56.69	+23 22.8	1.839	2.671	14.1	20.5	10 28	4 55.29	+10 10.5	2.493	3.311	11.3	20.5		
11 7	4 51.00	+23 3.1	1.777	2.684	10.4	20.3	11 7	4 49.38	+ 9 7.1	2.422	3.316	8.6	20.3		
11 17	4 43.02	+22 37.2	1.738	2.697	6.3	20.0	11 17	4 41.85	+ 8 6.2	2.377	3.321	6.0	20.2		
11 27	4 33.65	+22 6.2	1.726	2.710	1.9	19.8	11 27	4 33.32	+ 7 11.5	2.362	3.325	4.4	20.1		
12 7	4 24.02	+21 32.4	1.743	2.723	2.6	19.9	12 7	4 24.58	+ 6 26.5	2.376	3.328	5.2	20.1		
12 17	4 15.28	+20 59.1	1.789	2.736	6.9	20.2	12 17	4 16.41	+ 5 53.7	2.421	3.331	7.6	20.3		
12 27	4 8.42	+20 30.1	1.861	2.749	10.7	20.4	12 27	4 9.53	+ 5 34.8	2.493	3.333	10.2	20.5		
1 6	4 4.05	+20 8.1	1.957	2.762	14.0	20.7	1 6	4 4.45	+ 5 29.4	2.589	3.335	12.5	20.6		
422513	2014 <i>TO</i> ₆		12	1.1	75°50	5°0/ 2.7	17	271477	2004 <i>FN</i> ₂₀		12	1.2	295°70	5°0/ 2.3	18
10 28	5 0.60	+35 36.4	2.248	3.038	13.2	20.5	10 28	5 0.31	+32 1.8	1.433	2.262	17.5	20.5		
11 7	4 53.96	+36 32.3	2.183	3.053	10.5	20.4	11 7	4 55.13	+32 38.3	1.348	2.246	13.8	20.2		
11 17	4 44.90	+37 16.7	2.142	3.069	7.7	20.2	11 17	4 46.33	+33 2.4	1.284	2.231	9.6	19.9		
11 27	4 34.24	+37 45.7	2.129	3.085	5.5	20.1	11 27	4 34.85	+33 8.8	1.244	2.216	5.8	19.7		
12 7	4 23.14	+37 57.7	2.144	3.100	5.3	20.1	12 7	4 22.31	+32 55.2	1.229	2.201	5.6	19.6		
12 17	4 12.81	+37 53.7	2.188	3.116	7.2	20.3	12 17	4 10.63	+32 23.8	1.241	2.186	9.5	19.8		
12 27	4 4.35	+37 37.6	2.260	3.131	9.8	20.5	12 27	4 1.57	+31 41.5	1.277	2.172	14.0	20.0		
1 6	3 58.44	+37 14.8	2.356	3.147	12.3	20.7	1 6	3 56.23	+30 56.5	1.333	2.157	18.2	20.2		
12189	Dovgyj		12	1.1	89°25	3°9/30.0	18	195852	2002 <i>QN</i> ₇₉		12	1.2	75°44	2°0/ 2.1	17
10 28	4 59.88	+14 40.5	1.443	2.287	16.6	18.0	10 28	4 55.38	+29 19.6	2.258	3.073	12.4	20.7		
11 7	4 53.65	+13 56.5	1.392	2.303	12.5	17.8	11 7	4 49.83	+29 9.2	2.185	3.080	9.4	20.6		
11 17	4 44.72	+13 14.1	1.363	2.320	7.9	17.6	11 17	4 42.27	+28 49.4	2.136	3.087	6.1	20.4		
11 27	4 34.15	+12 37.1	1.359	2.337	4.2	17.4	11 27	4 33.47	+28 19.9	2.115	3.093	2.8	20.2		
12 7	4 23.36	+12 9.4	1.383	2.353	5.4	17.5	12 7	4 24.40	+27 42.3	2.123	3.100	2.7	20.2		
12 17	4 13.74	+11 54.2	1.434	2.370	9.5	17.8	12 17	4 16.05	+26 59.4	2.161	3.107	6.0	20.4		
12 27	4 6.41	+11 52.9	1.509	2.385	13.5	18.1	12 27	4 9.31	+26 15.5	2.227	3.114	9.2	20.6		
1 6	4 2.00	+12 5.4	1.606	2.401	16.9	18.3	1 6	4 4.75	+25 34.4	2.318	3.121	12.1	20.8		
327982	Balducci		12	1.1	222°16	1°1/30.8	17	390462	2013 <i>YE</i> ₁₁₁		12	1.2	259°71	0°8/30.9	18
10 28	4 55.25	+18 3.0	2.422	3.246	11.4	21.4	10 28	4 58.67	+20 19.1	1.715	2.550	14.8	21.4		
11 7	4 49.62	+18 5.9	2.337	3.241	8.5	21.2	11 7	4 53.00	+20 14.0	1.627	2.536	11.1	21.2		
11 17	4 42.13	+18 8.5	2.278	3.235	5.2	21.0	11 17	4 44.59	+20 5.8	1.562	2.522	6.8	20.9		
11 27	4 33.42	+18 11.2	2.247	3.230	1.8	20.7	11 27	4 34.26	+19 55.0	1.524	2.508	2.1	20.6		
12 7	4 24.32	+18 14.7	2.247	3.224	2.6	20.8	12 7	4 23.21	+19 42.9	1.514	2.493	3.1	20.6		
12 17	4 15.70	+18 20.1	2.276	3.218	6.0	21.0	12 17	4 12.82	+19 31.9	1.533	2.479	8.0	20.9		
12 27	4 8.41	+18 28.8	2.335	3.212	9.3	21.2	12 27	4 4.36	+19 25.0	1.577	2.464	12.4	21.1		
1 6	4 3.04	+18 41.8	2.418	3.206	12.1	21.4	1 6	3 58.70	+19 24.9	1.644	2.448	16.2	21.3		
515552	2014 <i>HC</i> ₂		12	1.1	193°64	9°5/24.9	18	458540	2011 <i>DK</i> ₅₀		12	1.2	252°78	4°2/ 3.2	18
10 28	4 55.94	- 3 14.3	2.251	3.042	13.2	21.6	10 28	4 56.85	+36 21.6	2.501	3.289	12.1	20.9		
11 7	4 50.05	- 5 20.4	2.189	3.040	11.3	21.5	11 7	4 51.06	+36 31.7	2.409	3.280	9.7	20.7		
11 17	4 42.33	- 7 15.6	2.152	3.038	9.9	21.4	11 17	4 43.11	+36 29.6	2.342	3.271	7.0	20.5		
11 27	4 33.46	- 8 52.2	2.143	3.035	9.5	21.4	11 27	4 33.76	+36 12.9	2.301	3.262	4.7	20.4		
12 7	4 24.30	-10 4.4	2.162	3.032	10.3	21.4	12 7	4 23.97	+35 41.6	2.290	3.252	4.4	20.3		
12 17	4 15.71	-10 49.0	2.206	3.028	12.0	21.5	12 17	4 14.79	+34 57.8	2.308	3.243	6.4	20.5		
12 27	4 8.52	-11 6.2	2.273	3.024	13.9	21.7	12 27	4 7.20	+34 5.9	2.354	3.233	9.2	20.6		
1 6	4 3.28	-10 58.8	2.360	3.019	15.7	21.8	1 6	4 1.86	+33 11.1	2.426	3.224	11.8	20.8		
254190	2004 <i>RK</i> ₃₉		12	1.1	140°85	0°7/ 1.4	18	390355	2013 <i>CJ</i> ₁₈₅		12	1.2	129°75	0°5/30.9	18
10 28	4 55.95	+24 26.7	2.239	3.061	12.2	20.6	10 28	4 58.80	+19 27.0	2.425	3.242	11.6	20.9		
11 7	4 50.25	+24 24.3	2.163	3.065	9.2	20.4	11 7	4 52.09	+19 37.9	2.358	3.258	8.6	20.7		
11 17	4 42.53	+24 16.5	2.112	3.069	5.6	20.2	11 17	4 43.54	+19 47.4	2.317	3.274	5.2	20.5		
11 27	4 33.54	+24 3.1	2.089	3.073	1.9	20.0	11 27	4 33.85	+19 55.6	2.305	3.289	1.6	20.3		
12 7	4 24.21	+23 45.2	2.096	3.076	2.3	20.0	12 7	4 23.90	+20 2.6	2.324	3.303	2.3	20.4		
12 17	4 15.53	+23 25.0	2.133	3.080	6.0	20.3	12 17	4 14.60	+20 9.6	2.374	3.316	5.8	20.6		
12 27	4 8.39	+23 5.3	2.198	3.083	9.4	20.5	12 27	4 6.76	+20 17.8	2.453	3.329	9.0	20.9		
1 6	4 3.41	+22 48.9	2.287	3.086	12.4	20.7	1 6	4 0.94	+20 28.9	2.558	3.342	11.6	21.1		
207444	2006 <i>EG</i> ₃₁		12	1.1	357°30	4°5/30.2	18	8281	1991 <i>PC</i> ₁₈		12				

EPHEMERIDES

12 1.2

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
52446	1994 TR ₅	12 1.2 65°57'	1.5°/1.5	18			514528	2016 XS ₃	12 1.2 71°72'	1.5°/1.6	18		
10 28	5 1.71	+25 9.8	1.372	2.211	17.5	19.0	10 28	4 59.43	+25 14.7	1.616	2.449	15.6	20.7
11 7	4 55.39	+25 21.9	1.322	2.231	13.1	18.8	11 7	4 53.52	+25 28.7	1.551	2.458	11.8	20.5
11 17	4 45.95	+25 26.0	1.293	2.252	8.1	18.6	11 17	4 44.82	+25 35.7	1.509	2.466	7.3	20.3
11 27	4 34.60	+25 20.8	1.289	2.272	2.9	18.3	11 27	4 34.30	+25 34.6	1.493	2.475	2.7	20.0
12 7	4 22.96	+25 7.1	1.312	2.292	3.3	18.4	12 7	4 23.35	+25 25.6	1.504	2.484	3.1	20.1
12 17	4 12.65	+24 48.3	1.362	2.312	8.3	18.8	12 17	4 13.37	+25 11.2	1.544	2.493	7.6	20.4
12 27	4 4.96	+24 29.3	1.438	2.333	12.8	19.1	12 27	4 5.60	+24 55.6	1.610	2.502	11.8	20.6
1 6	4 0.59	+24 14.7	1.534	2.353	16.5	19.4	1 6	4 0.78	+24 42.7	1.698	2.511	15.4	20.9
61817	2000 QV ₁₉₀	12 1.2 132°53'	1°1/30.9	18			33130	1998 CR ₁	12 1.2 142°36'	2°8/30.2	18		
10 28	4 59.80	+18 40.9	1.799	2.630	14.4	19.5	10 28	4 57.96	+15 3.6	2.051	2.878	13.0	19.0
11 7	4 53.44	+18 43.5	1.731	2.638	10.7	19.3	11 7	4 51.71	+14 35.1	1.984	2.888	9.7	18.8
11 17	4 44.62	+18 45.1	1.687	2.646	6.5	19.0	11 17	4 43.41	+14 7.3	1.942	2.898	6.1	18.6
11 27	4 34.21	+18 46.1	1.671	2.654	2.1	18.8	11 27	4 33.84	+13 42.4	1.928	2.907	3.1	18.5
12 7	4 23.41	+18 47.3	1.683	2.662	3.1	18.9	12 7	4 24.01	+13 22.8	1.944	2.916	4.0	18.5
12 17	4 13.45	+18 50.3	1.724	2.669	7.4	19.2	12 17	4 14.92	+13 10.7	1.990	2.924	7.4	18.8
12 27	4 5.41	+18 57.1	1.793	2.675	11.4	19.4	12 27	4 7.48	+13 7.7	2.062	2.931	10.7	19.0
1 6	3 59.98	+19 9.3	1.884	2.682	14.7	19.6	1 6	4 2.26	+13 14.3	2.158	2.938	13.7	19.2
232174	2002 EV ₅₃	12 1.2 68°02'	1°7/30.6	18			443284	2014 EH ₄₈	12 1.2 114°04'	3°5/2.1	18		
10 28	4 59.21	+18 57.6	1.532	2.373	15.9	19.1	10 28	5 2.50	+29 53.9	1.870	2.682	14.7	20.8
11 7	4 53.05	+18 31.8	1.484	2.396	11.8	18.9	11 7	4 55.64	+30 36.5	1.803	2.694	11.3	20.6
11 17	4 44.31	+18 3.8	1.458	2.419	7.1	18.7	11 17	4 46.06	+31 9.9	1.760	2.706	7.6	20.4
11 27	4 34.08	+17 35.6	1.459	2.442	2.5	18.4	11 27	4 34.68	+31 30.8	1.744	2.718	4.2	20.3
12 7	4 23.69	+17 10.1	1.487	2.465	3.6	18.6	12 7	4 22.83	+31 37.7	1.756	2.729	4.1	20.3
12 17	4 14.46	+16 50.4	1.544	2.488	8.1	18.9	12 17	4 11.88	+31 32.2	1.798	2.740	7.4	20.5
12 27	4 7.44	+16 39.2	1.626	2.511	12.2	19.2	12 27	4 3.05	+31 18.5	1.867	2.750	10.9	20.7
1 6	4 3.22	+16 37.8	1.729	2.533	15.5	19.5	1 6	3 57.09	+31 1.7	1.959	2.761	14.1	21.0
272621	2005 WG ₃₅	12 1.2 314°61'	0°4/1.1	18			447553	2006 SP ₃₂₉	12 1.2 63°04'	0°6/1.4	17		
10 28	4 56.80	+21 12.9	1.404	2.253	16.7	21.0	10 28	4 57.18	+23 35.3	1.857	2.688	14.0	21.7
11 7	4 52.12	+21 12.8	1.323	2.239	12.6	20.7	11 7	4 51.57	+23 40.7	1.784	2.691	10.5	21.5
11 17	4 44.30	+21 9.0	1.264	2.226	7.7	20.4	11 17	4 43.54	+23 41.0	1.735	2.694	6.4	21.2
11 27	4 34.22	+21 1.4	1.229	2.213	2.3	20.0	11 27	4 33.93	+23 35.7	1.713	2.697	2.1	21.0
12 7	4 23.32	+20 51.4	1.221	2.201	3.4	20.1	12 7	4 23.89	+23 25.7	1.720	2.700	2.6	21.0
12 17	4 13.20	+20 41.5	1.239	2.189	8.9	20.4	12 17	4 14.62	+23 13.1	1.756	2.704	6.9	21.3
12 27	4 5.38	+20 35.6	1.281	2.178	13.9	20.6	12 27	4 7.20	+23 1.0	1.818	2.707	10.9	21.5
1 6	4 0.79	+20 36.8	1.344	2.167	18.1	20.9	1 6	4 2.33	+22 52.5	1.903	2.710	14.2	21.8
328873	2010 AA ₀₅	12 1.2 7°49'	0°0/30.9	18			503290	2015 YF ₂	12 1.2 199°52'	1°1/1.7	17		
10 28	4 53.88	+21 43.2	1.644	2.489	14.8	20.3	10 28	5 7.48	+31 54.6	1.139	1.973	20.8	20.5
11 7	4 49.34	+21 46.8	1.576	2.490	11.1	20.1	11 7	5 0.47	+30 12.7	1.065	1.971	15.9	20.2
11 17	4 42.27	+21 46.7	1.531	2.492	6.7	19.8	11 17	4 49.36	+28 0.9	1.012	1.970	10.0	19.8
11 27	4 33.54	+21 43.1	1.511	2.495	2.0	19.5	11 27	4 35.68	+25 21.8	0.985	1.968	3.5	19.5
12 7	4 24.36	+21 37.1	1.519	2.499	2.8	19.6	12 7	4 21.61	+22 26.7	0.985	1.965	3.9	19.5
12 17	4 15.98	+21 30.8	1.554	2.504	7.5	19.9	12 17	4 9.33	+19 33.0	1.012	1.962	10.5	19.9
12 27	4 9.55	+21 27.0	1.615	2.510	11.6	20.1	12 27	4 0.49	+16 58.0	1.065	1.959	16.3	20.2
1 6	4 5.78	+21 28.1	1.698	2.516	15.2	20.4	1 6	3 55.80	+14 52.4	1.139	1.955	21.2	20.5
455329	2002 PO ₆₃	12 1.2 33°14'	12°1/30.9	16			47826	2000 EC ₁₀₅	12 1.2 55°54'	1°0/1.4	18		
10 28	4 57.12	-12 47.6	1.779	2.545	17.1	20.0	10 28	4 56.33	+23 37.6	2.243	3.065	12.2	18.1
11 7	4 51.10	-13 8.6	1.742	2.565	15.0	19.9	11 7	4 50.62	+24 4.1	2.168	3.070	9.1	17.9
11 17	4 42.98	-13 3.5	1.724	2.585	13.2	19.8	11 17	4 42.84	+24 27.1	2.119	3.075	5.6	17.7
11 27	4 33.67	-12 27.7	1.729	2.606	12.2	19.8	11 27	4 33.72	+24 45.4	2.097	3.080	2.0	17.5
12 7	4 24.27	-11 20.5	1.757	2.627	12.3	19.9	12 7	4 24.20	+24 58.8	2.105	3.085	2.4	17.5
12 17	4 15.83	-9 45.0	1.810	2.649	13.5	20.0	12 17	4 15.28	+25 8.0	2.143	3.090	6.0	17.8
12 27	4 9.21	-7 47.1	1.887	2.672	15.1	20.2	12 27	4 7.88	+25 14.8	2.210	3.095	9.4	18.0
1 6	4 4.94	-5 34.4	1.984	2.695	16.9	20.3	1 6	4 2.64	+25 21.7	2.300	3.100	12.3	18.2
517345	2014 JS ₆₆	12 1.2 203°35'	1°7/30.8	18			214768	2006 UQ ₁₀	12 1.2 119°65'	0°9/1.5	18		
10 28	4 58.51	+16 23.7	1.978	2.806	13.4	21.9	10 28	4 58.57	+24 27.5	2.126	2.946	12.9	20.5
11 7	4 52.41	+16 32.6	1.899	2.804	10.0	21.7	11 7	4 52.26	+24 37.0	2.058	2.958	9.6	20.4
11 17	4 44.01	+16 43.0	1.844	2.802	6.2	21.4	11 17	4 43.80	+24 41.3	2.014	2.970	5.9	20.2
11 27	4 34.06	+16 55.2	1.817	2.799	2.4	21.2	11 27	4 33.99	+24 39.6	1.999	2.982	2.1	19.9
12 7	4 23.62	+17 9.8	1.819	2.796	3.2	21.3	12 7	4 23.87	+24 32.5	2.013	2.993	2.4	20.0
12 17	4 13.80	+17 27.4	1.851	2.792	7.2	21.5	12 17	4 14.50	+24 21.8	2.058	3.004	6.2	20.2
12 27	4 5.66	+17 49.2	1.910	2.789	11.0	21.7	12 27	4 6.82	+24 10.3	2.130	3.014	9.7	20.5
1 6	3 59.90	+18 15.7	1.993	2.785	14.2	21.9	1 6	4 1.46	+24 0.9	2.227	3.025	12.7	20.7
75665	2000 AY ₈₃	12 1.2 31°01'	2°4/30.5	18			445802	2012 BD ₄₈	12 1.2 279°81'	5°0/29.9	18		
10 28	4 56.06	+16 48.8	1.572	2.417	15.4	19.5	10 28	4 55.61	+7 34.9	2.017	2.842	13.3	20.8
11 7	4 50.91	+16 29.2	1.508	2.422	11.5	19.3	11 7	4 50.14	+7 21.2	1.941	2.837	10.3	20.6
11 17	4 43.19	+16 9.6	1.467	2.427	7.1	19.1	11 17	4 42.58	+7 15.1	1.888	2.833	7.3	20.4
11 27	4 33.81	+15 52.1	1.451	2.433	3.0	18.8	11 27	4 33.65	+7 19.4	1.863	2.828	5.1	20.2
12 7	4 24.03	+15 39.2	1.463	2.439	4.1	18.9	12 7	4 24.30	+7 35.8	1.866	2.824	5.8	20.3
12 17	4 15.14	+15 33.2	1.502	2.445	8.4	19.2	12 17	4 15.53	+8 4.8	1.897	2.819	8.5	20.4
12 27	4 8.27	+15 36.1	1.566	2.452	12.5	19.5	12 27	4 8.29	+8 46.0	1.956	2.815	11.7	20.6
1 6	4 4.13	+15 48.7	1.652	2.459	16.0	19.7	1 6	4 3.21	+9 37.5	2.036	2.810	14.6	20.8
290484	2005 TW ₁₉₅	12 1.2 31°87'	1°1/30.8	17			261678	2005 YB ₁₈₆	12 1.2 257°75'	1°6/30.6	17		
10 28	4 55.36	+19 22.4	1.821	2.659	13.9	21.2	10						

EPHEMERIDES

12 1.2

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
230867	2004 <i>RE</i> ₁₉₃	12 1.2 46°46'	1°8/1.9	18			484594	2008 <i>RK</i> ₁₀₆	12 1.2 188°83'	0°0/1.2	17		
10 28	4 55.85	+28 41.2	1.984	2.806	13.6	19.7	10 28	4 54.64	+22 36.6	2.632	3.451	10.7	22.6
11 7	4 50.43	+28 26.6	1.913	2.813	10.3	19.5	11 7	4 49.08	+22 32.3	2.549	3.450	8.0	22.4
11 17	4 42.76	+28 2.0	1.866	2.820	6.6	19.3	11 17	4 41.80	+22 24.4	2.492	3.449	4.9	22.2
11 27	4 33.69	+27 27.3	1.846	2.827	2.8	19.1	11 27	4 33.43	+22 12.9	2.464	3.448	1.5	21.9
12 7	4 24.32	+26 44.3	1.855	2.834	2.8	19.1	12 7	4 24.74	+21 59.0	2.466	3.446	2.0	22.0
12 17	4 15.78	+25 56.6	1.893	2.841	6.5	19.3	12 17	4 16.55	+21 44.2	2.499	3.444	5.4	22.2
12 27	4 9.04	+25 9.0	1.958	2.849	10.1	19.6	12 27	4 9.63	+21 30.7	2.561	3.442	8.4	22.4
1 6	4 4.71	+24 25.9	2.047	2.856	13.3	19.8	1 6	4 4.51	+21 20.6	2.648	3.440	11.1	22.6
50584	2000 <i>EK</i> ₄₃	12 1.2 174°05'	0°5/1.4	18			3517	Tatianicheva	12 1.2 48°64'	2°4/30.5	18		
10 28	4 54.15	+24 18.8	2.913	3.727	9.9	20.3	10 28	4 58.66	+18 33.5	1.231	2.086	18.2	16.8
11 7	4 48.55	+24 16.3	2.831	3.729	7.4	20.2	11 7	4 53.39	+18 0.1	1.175	2.095	13.6	16.5
11 17	4 41.40	+24 9.3	2.775	3.730	4.6	20.0	11 17	4 44.91	+17 24.0	1.140	2.103	8.3	16.3
11 27	4 33.27	+23 58.1	2.749	3.732	1.5	19.8	11 27	4 34.40	+16 48.2	1.129	2.112	3.2	16.0
12 7	4 24.87	+23 43.4	2.753	3.733	1.9	19.8	12 7	4 23.48	+16 16.8	1.144	2.122	4.5	16.1
12 17	4 16.95	+23 26.6	2.789	3.734	4.9	20.0	12 17	4 13.80	+15 53.9	1.185	2.132	9.7	16.4
12 27	4 10.18	+23 10.0	2.854	3.734	7.7	20.2	12 27	4 6.73	+15 42.8	1.249	2.142	14.5	16.8
1 6	4 5.07	+22 55.5	2.944	3.734	10.1	20.4	1 6	4 2.98	+15 45.0	1.333	2.152	18.5	17.0
207647	2007 <i>KQ</i> ₈	12 1.2 77°53'	0°0/1.1	18			161072	2002 <i>LQ</i> ₂₈	12 1.2 118°42'	4°4/30.1	18		
10 28	5 3.49	+19 57.6	1.668	2.496	15.5	19.1	10 28	4 58.18	+ 9 41.8	1.914	2.739	13.9	20.3
11 7	4 56.22	+20 36.5	1.616	2.522	11.5	19.0	11 7	4 52.00	+ 9 28.1	1.851	2.750	10.6	20.1
11 17	4 46.30	+21 14.0	1.588	2.547	6.9	18.7	11 17	4 43.67	+ 9 20.7	1.812	2.760	7.1	19.9
11 27	4 34.75	+21 48.3	1.588	2.572	2.1	18.5	11 27	4 33.99	+ 9 21.9	1.800	2.770	4.6	19.8
12 7	4 22.92	+22 18.4	1.617	2.597	2.8	18.6	12 7	4 24.01	+ 9 33.2	1.817	2.780	5.3	19.9
12 17	4 12.16	+22 44.6	1.675	2.621	7.4	18.9	12 17	4 14.80	+ 9 55.4	1.863	2.790	8.3	20.1
12 27	4 3.62	+23 8.5	1.760	2.645	11.4	19.2	12 27	4 7.29	+10 28.0	1.935	2.799	11.6	20.3
1 6	3 57.96	+23 32.5	1.868	2.669	14.7	19.5	1 6	4 2.10	+11 9.9	2.031	2.808	14.5	20.5
378045	2006 <i>TR</i> ₂₃	12 1.2 280°17'	4°7/29.5	18			267117	2000 <i>DE</i> ₁₀	12 1.2 168°86'	4°7/29.7	18		
10 28	4 56.92	+14 26.5	1.460	2.307	16.3	20.7	10 28	4 58.46	+10 56.4	1.746	2.578	14.7	20.9
11 7	4 51.92	+13 20.4	1.380	2.293	12.4	20.4	11 7	4 52.46	+10 17.7	1.678	2.581	11.3	20.7
11 17	4 44.04	+12 12.5	1.322	2.280	8.2	20.2	11 17	4 44.06	+ 9 43.3	1.632	2.583	7.6	20.5
11 27	4 34.16	+11 8.4	1.290	2.266	4.9	19.9	11 27	4 34.13	+ 9 16.8	1.614	2.585	4.9	20.3
12 7	4 23.62	+10 13.9	1.284	2.252	6.3	20.0	12 7	4 23.81	+ 9 1.7	1.624	2.587	5.8	20.4
12 17	4 13.86	+ 9 34.7	1.305	2.238	10.5	20.2	12 17	4 14.28	+ 9 0.0	1.662	2.588	9.2	20.6
12 27	4 6.22	+ 9 14.4	1.350	2.224	15.0	20.4	12 27	4 6.60	+ 9 12.5	1.725	2.588	12.8	20.8
1 6	4 1.55	+ 9 13.4	1.415	2.210	18.8	20.6	1 6	4 1.46	+ 9 38.2	1.810	2.589	15.9	21.0
394128	2006 <i>HR</i> ₃₃	12 1.2 13°28'	4°5/1.9	18			60995	2000 <i>KD</i> ₂₆	12 1.2 122°63'	0°1/1.1	18		
10 28	5 1.49	+30 5.0	1.575	2.399	16.4	20.5	10 28	5 3.86	+22 20.2	1.567	2.397	16.2	20.2
11 7	4 55.56	+31 8.5	1.503	2.400	12.8	20.2	11 7	4 56.68	+22 11.7	1.508	2.414	12.1	20.0
11 17	4 46.37	+32 3.3	1.454	2.401	8.7	20.0	11 17	4 46.66	+21 57.7	1.472	2.430	7.3	19.8
11 27	4 34.88	+32 44.2	1.430	2.402	5.2	19.8	11 27	4 34.89	+21 38.3	1.462	2.446	2.2	19.5
12 7	4 22.60	+33 8.1	1.433	2.404	5.2	19.8	12 7	4 22.82	+21 15.4	1.481	2.461	3.0	19.6
12 17	4 11.20	+33 15.4	1.464	2.406	8.7	20.0	12 17	4 11.92	+20 52.3	1.529	2.475	7.9	19.9
12 27	4 2.23	+33 10.5	1.520	2.408	12.7	20.3	12 27	4 3.39	+20 33.1	1.602	2.488	12.3	20.2
1 6	3 56.61	+32 59.7	1.598	2.411	16.2	20.5	1 6	3 57.91	+20 20.9	1.699	2.501	15.9	20.5
71320	2000 <i>AV</i> ₈₂	12 1.2 89°72'	5°7/29.6	18			43565	2001 <i>FC</i> ₁₁₀	12 1.2 145°50'	0°2/1.1	18		
10 28	4 55.08	+ 3 29.3	2.319	3.129	12.2	19.0	10 28	4 58.04	+21 28.5	2.010	2.837	13.2	19.6
11 7	4 49.28	+ 3 7.1	2.264	3.147	9.7	18.9	11 7	4 52.00	+21 25.6	1.938	2.843	9.9	19.3
11 17	4 41.83	+ 2 54.3	2.234	3.164	7.3	18.8	11 17	4 43.73	+21 19.1	1.890	2.848	6.0	19.1
11 27	4 33.39	+ 2 53.8	2.232	3.181	5.8	18.7	11 27	4 34.03	+21 9.3	1.869	2.853	1.8	18.9
12 7	4 24.78	+ 3 7.1	2.258	3.198	6.3	18.8	12 7	4 23.96	+20 57.3	1.878	2.858	2.5	18.9
12 17	4 16.82	+ 3 34.2	2.313	3.215	8.3	18.9	12 17	4 14.62	+20 45.3	1.917	2.863	6.7	19.2
12 27	4 10.23	+ 4 14.2	2.395	3.232	10.7	19.1	12 27	4 7.01	+20 35.8	1.983	2.867	10.4	19.4
1 6	4 5.49	+ 5 4.9	2.500	3.248	12.9	19.3	1 6	4 1.76	+20 31.1	2.073	2.871	13.5	19.7
291660	2006 <i>HL</i> ₆₅	12 1.2 91°70'	2°9/30.0	18			204505	2005 <i>CE</i> ₄₈	12 1.2 287°07'	1°1/1.6	18		
10 28	4 57.24	+16 39.5	1.785	2.621	14.3	20.2	10 28	4 57.32	+25 31.0	1.728	2.561	14.8	20.8
11 7	4 51.36	+15 47.0	1.727	2.636	10.6	20.0	11 7	4 52.06	+25 26.5	1.642	2.549	11.2	20.5
11 17	4 43.26	+14 53.4	1.693	2.651	6.6	19.8	11 17	4 44.07	+25 14.1	1.579	2.537	7.0	20.2
11 27	4 33.83	+14 2.2	1.686	2.666	3.2	19.6	11 27	4 34.20	+24 53.2	1.542	2.525	2.5	19.9
12 7	4 24.21	+13 17.1	1.708	2.680	4.3	19.7	12 7	4 23.69	+24 25.0	1.533	2.513	2.9	19.9
12 17	4 15.50	+12 42.0	1.759	2.694	8.0	19.9	12 17	4 13.90	+23 52.7	1.552	2.501	7.6	20.2
12 27	4 8.66	+12 19.3	1.836	2.708	11.7	20.2	12 27	4 6.08	+23 20.8	1.597	2.490	11.9	20.4
1 6	4 4.24	+12 9.7	1.935	2.722	14.7	20.4	1 6	4 1.07	+22 53.8	1.665	2.478	15.7	20.6
324252	2006 <i>BT</i> ₁₈₄	12 1.2 66°37'	5°7/3.8	17			284499	2007 <i>PS</i> ₁₄	12 1.2 145°35'	5°5/29.5	18		
10 28	4 59.19	+39 11.4	2.121	2.906	14.1	20.9	10 28	4 57.95	+ 5 55.9	2.168	2.982	12.9	21.4
11 7	4 53.09	+39 33.6	2.052	2.915	11.4	20.7	11 7	4 51.57	+ 5 24.8	2.105	2.993	10.1	21.2
11 17	4 44.46	+39 40.0	2.004	2.924	8.6	20.5	11 17	4 43.31	+ 5 1.5	2.067	3.003	7.3	21.1
11 27	4 34.22	+39 27.5	1.982	2.933	6.3	20.4	11 27	4 33.89	+ 4 49.2	2.056	3.013	5.5	21.0
12 7	4 23.63	+38 55.7	1.988	2.942	5.8	20.4	12 7	4 24.22	+ 4 50.1	2.075	3.022	6.2	21.1
12 17	4 13.97	+38 7.5	2.023	2.952	7.6	20.5	12 17	4 15.24	+ 5 4.9	2.122	3.031	8.6	21.2
12 27	4 6.33	+37 8.8	2.084	2.961	10.3	20.7	12 27	4 7.76	+ 5 33.3	2.196	3.038	11.3	21.4
1 6	4 1.38	+36 6.1	2.169	2.970	12.9	20.9	1 6	4 2.35	+ 6 13.4	2.294	3.046	13.8	21.6
475091	2005 <i>UF</i> ₁₉₄	12 1.2 59°76'	3°3/30.1	16			160392	2004 <i>OJ</i> ₇	12 1.2 130°58'	4°5/29.7	18		
10 28													

EPHEMERIDES

12 1.2

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
1934	Jeffers		12 1.2 23°33'	9°2/ 3.3	18		18378	1991 <i>UX</i> ₂		12 1.2 155°31'	4°1/ 2.0	18	
10 28	5 7.29	- 3 55.3	0.890	1.727	25.0	14.5	10 28	5 3.34	+30 24.7	1.910	2.718	14.6	18.1
11 7	5 0.34	- 2 10.4	0.850	1.745	20.1	14.3	11 7	4 56.48	+31 24.9	1.834	2.721	11.3	17.9
11 17	4 49.32	+ 0 14.4	0.827	1.766	14.7	14.0	11 17	4 46.76	+32 17.1	1.782	2.725	7.7	17.7
11 27	4 35.74	+ 3 16.8	0.826	1.788	10.2	13.9	11 27	4 35.05	+32 56.8	1.757	2.728	4.6	17.5
12 7	4 21.80	+ 6 44.9	0.850	1.813	9.5	14.0	12 7	4 22.65	+33 21.1	1.761	2.730	4.6	17.5
12 17	4 9.69	+10 21.1	0.900	1.840	13.1	14.3	12 17	4 10.99	+33 30.5	1.794	2.733	7.7	17.7
12 27	4 1.09	+13 50.0	0.975	1.868	17.6	14.6	12 27	4 1.41	+33 28.7	1.855	2.735	11.2	17.9
1 6	3 56.78	+17 2.3	1.071	1.898	21.5	15.0	1 6	3 54.75	+33 20.8	1.939	2.737	14.3	18.1
481979	2009 <i>GX</i> ₁		12 1.2 321°27'	2°5/30.6	18		248270	2005 <i>HE</i> ₆		12 1.2 136°83'	4°0/29.4	18	
10 28	4 54.55	+16 36.8	1.438	2.290	16.1	21.0	10 28	4 55.76	+11 55.8	2.228	3.053	12.2	21.0
11 7	4 50.42	+16 25.2	1.351	2.268	12.3	20.7	11 7	4 49.94	+11 1.2	2.164	3.063	9.2	20.8
11 17	4 43.32	+16 14.2	1.285	2.247	7.7	20.4	11 17	4 42.32	+10 8.9	2.124	3.074	6.2	20.7
11 27	4 34.05	+16 5.7	1.244	2.226	3.2	20.0	11 27	4 33.63	+9 22.2	2.113	3.083	4.1	20.5
12 7	4 23.89	+16 2.0	1.229	2.206	4.4	20.1	12 7	4 24.72	+ 8 44.6	2.132	3.092	4.9	20.6
12 17	4 14.35	+16 5.4	1.240	2.187	9.4	20.3	12 17	4 16.48	+ 8 18.5	2.180	3.101	7.7	20.8
12 27	4 6.88	+16 18.3	1.275	2.168	14.2	20.5	12 27	4 9.70	+ 8 5.4	2.256	3.109	10.6	21.0
1 6	4 2.46	+16 41.6	1.331	2.150	18.5	20.7	1 6	4 4.90	+ 8 5.3	2.354	3.117	13.2	21.2
483118	2015 <i>NV</i> ₁₇		12 1.2 306°38'	9°9/ 5.0	16		520821	2014 <i>TE</i> ₉₅		12 1.2 25°56'	1°2/ 1.6	16	
10 28	5 4.47	+46 40.3	1.755	2.515	17.5	21.3	10 28	4 54.85	+25 10.0	1.854	2.687	13.9	21.2
11 7	4 58.22	+47 33.9	1.678	2.511	15.0	21.2	11 7	4 49.85	+25 18.7	1.789	2.696	10.4	21.0
11 17	4 48.18	+48 5.2	1.620	2.507	12.5	21.0	11 17	4 42.52	+25 21.2	1.748	2.706	6.5	20.8
11 27	4 35.49	+48 6.4	1.585	2.502	10.5	20.9	11 27	4 33.72	+25 17.0	1.733	2.715	2.4	20.5
12 7	4 21.99	+47 34.0	1.574	2.498	9.9	20.8	12 7	4 24.57	+25 6.7	1.746	2.726	2.7	20.6
12 17	4 9.70	+46 30.7	1.589	2.494	11.1	20.9	12 17	4 16.21	+24 52.5	1.788	2.737	6.7	20.9
12 27	4 0.36	+45 4.9	1.628	2.490	13.5	21.0	12 27	4 9.68	+24 37.7	1.856	2.748	10.5	21.1
1 6	3 54.91	+43 28.0	1.690	2.486	16.2	21.2	1 6	4 5.60	+24 25.6	1.947	2.760	13.7	21.3
408430	2013 <i>HS</i> ₉		12 1.2 132°08'	0°0/ 1.0	18		493056	2014 <i>SN</i> ₂₈₁		12 1.2 2°98'	3°8/ 2.1	17	
10 28	4 58.77	+20 21.6	2.281	3.100	12.1	20.7	10 28	4 58.44	+30 47.2	2.103	2.913	13.3	21.1
11 7	4 52.34	+20 47.1	2.208	3.109	9.0	20.5	11 7	4 52.62	+31 40.7	2.024	2.913	10.4	20.9
11 17	4 43.88	+21 11.4	2.160	3.117	5.5	20.3	11 17	4 44.32	+32 26.4	1.970	2.913	7.1	20.7
11 27	4 34.10	+21 33.5	2.142	3.125	1.6	20.0	11 27	4 34.32	+33 0.8	1.943	2.913	4.3	20.5
12 7	4 23.94	+21 53.3	2.153	3.133	2.3	20.1	12 7	4 23.71	+33 22.1	1.945	2.914	4.3	20.5
12 17	4 14.40	+22 11.0	2.196	3.141	6.0	20.4	12 17	4 13.72	+33 30.5	1.976	2.914	7.0	20.7
12 27	4 6.38	+22 28.1	2.267	3.148	9.4	20.6	12 27	4 5.49	+33 29.1	2.034	2.916	10.2	20.9
1 6	4 0.51	+22 46.2	2.363	3.155	12.3	20.8	1 6	3 59.79	+33 22.3	2.115	2.917	13.2	21.1
49822	1999 <i>XD</i> ₇₀		12 1.2 287°23'	0°9/30.9	18		510174	2011 <i>AN</i> ₅₆		12 1.2 245°82'	0°1/ 1.2	18	
10 28	4 58.22	+20 59.0	1.478	2.322	16.3	19.0	10 28	5 0.47	+22 56.8	1.768	2.597	14.7	22.4
11 7	4 53.19	+20 42.2	1.387	2.301	12.3	18.7	11 7	4 54.41	+22 49.9	1.676	2.581	11.1	22.2
11 17	4 45.03	+20 20.1	1.318	2.280	7.6	18.3	11 17	4 45.55	+22 37.3	1.607	2.566	6.9	21.9
11 27	4 34.58	+19 53.7	1.275	2.259	2.4	18.0	11 27	4 34.72	+22 18.6	1.565	2.549	2.1	21.5
12 7	4 23.21	+19 25.2	1.258	2.238	3.6	18.0	12 7	4 23.15	+21 55.2	1.552	2.532	2.9	21.6
12 17	4 12.50	+18 58.4	1.268	2.216	9.0	18.3	12 17	4 12.22	+21 29.8	1.567	2.514	7.8	21.8
12 27	4 3.98	+18 37.9	1.303	2.195	14.1	18.5	12 27	4 3.24	+21 6.7	1.610	2.496	12.2	22.1
1 6	3 58.65	+18 27.3	1.359	2.174	18.4	18.7	1 6	3 57.10	+20 49.6	1.675	2.477	16.0	22.3
177653	2004 <i>XM</i> ₁₅₅		12 1.2 130°10'	2°2/ 2.0	17		492967	2014 <i>SN</i> ₁₃₄		12 1.2 35°65'	1°6/ 1.6	17	
10 28	5 4.16	+29 17.7	1.628	2.447	16.2	20.9	10 28	4 56.66	+25 1.2	1.903	2.732	13.8	21.2
11 7	4 56.96	+29 0.2	1.564	2.461	12.3	20.7	11 7	4 51.17	+25 29.5	1.839	2.743	10.4	21.0
11 17	4 46.86	+28 29.7	1.522	2.474	7.9	20.4	11 17	4 43.34	+25 52.6	1.798	2.754	6.5	20.8
11 27	4 34.99	+27 45.6	1.507	2.487	3.4	20.2	11 27	4 34.00	+26 9.0	1.784	2.766	2.5	20.5
12 7	4 22.85	+26 50.4	1.520	2.499	3.3	20.2	12 7	4 24.26	+26 18.3	1.799	2.778	2.8	20.6
12 17	4 11.92	+25 49.2	1.563	2.510	7.7	20.5	12 17	4 15.31	+26 21.7	1.843	2.791	6.7	20.9
12 27	4 3.45	+24 49.0	1.632	2.521	11.9	20.8	12 27	4 8.17	+26 22.0	1.913	2.804	10.3	21.1
1 6	3 58.08	+23 55.9	1.724	2.531	15.5	21.0	1 6	4 3.53	+26 22.1	2.007	2.817	13.5	21.3
121853	2000 <i>CT</i> ₃₄		12 1.2 202°21'	3°1/29.8	18		19587	Keremane		12 1.2 89°57'	0°2/ 1.3	18	
10 28	4 52.98	+12 23.6	2.633	3.456	10.6	20.3	10 28	4 56.30	+22 52.2	2.082	2.909	12.8	18.3
11 7	4 47.78	+11 53.2	2.554	3.454	8.0	20.1	11 7	4 50.69	+22 52.7	2.011	2.915	9.6	18.1
11 17	4 41.00	+11 24.8	2.500	3.451	5.3	19.9	11 17	4 42.96	+22 48.9	1.963	2.921	5.8	17.9
11 27	4 33.23	+11 0.6	2.474	3.447	3.2	19.8	11 27	4 33.87	+22 40.8	1.944	2.927	1.8	17.6
12 7	4 25.18	+10 42.6	2.479	3.444	3.9	19.8	12 7	4 24.44	+22 29.3	1.953	2.933	2.4	17.7
12 17	4 17.59	+10 32.6	2.514	3.440	6.5	20.0	12 17	4 15.71	+22 16.5	1.992	2.939	6.3	17.9
12 27	4 11.16	+10 31.7	2.577	3.436	9.2	20.2	12 27	4 8.60	+22 5.0	2.059	2.945	9.9	18.2
1 6	4 6.40	+10 40.0	2.663	3.431	11.7	20.3	1 6	4 3.76	+21 57.2	2.150	2.951	13.0	18.4
366485	2002 <i>NK</i> ₁₇		12 1.2 55°29'	0°8/ 1.7	15		293600	2007 <i>JV</i> ₄₀		12 1.2 140°67'	3°1/30.2	18	
10 28	4 58.80	+28 55.9	2.006	2.822	13.7	19.7	10 28	4 55.06	+10 21.6	2.701	3.517	10.6	20.9
11 7	4 52.22	+27 45.5	1.951	2.849	10.2	19.5	11 7	4 49.22	+10 17.0	2.631	3.525	8.0	20.7
11 17	4 43.61	+26 23.3	1.922	2.877	6.3	19.3	11 17	4 41.85	+10 16.6	2.586	3.534	5.3	20.5
11 27	4 33.94	+24 52.2	1.922	2.905	2.1	19.1	11 27	4 33.52	+10 21.9	2.571	3.542	3.3	20.4
12 7	4 24.34	+23 16.9	1.953	2.933	2.4	19.2	12 7	4 24.95	+10 33.7	2.586	3.550	3.9	20.5
12 17	4 15.82	+21 43.6	2.014	2.961	6.3	19.5	12 17	4 16.88	+10 52.5	2.632	3.558	6.3	20.6
12 27	4 9.20	+20 18.2	2.104	2.989	9.8	19.7	12 27	4 9.99	+11 18.5	2.706	3.565	8.9	20.8
1 6	4 4.93	+19 5.0	2.219	3.016	12.8	20.0	1 6	4 4.76	+11 51.1	2.806	3.571	11.2	21.0
113812	2002 <i>TK</i> ₂₁₁		12 1.2 28°95'	4°7/30.3	18		215326	2001 <i>UV</i> ₂₆		12 1.2 55°82'	3°7/29.8	18	
10 28	4												

EPHEMERIDES

12 1.2

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
47763	2000 <i>DR</i> ₁₀₁	12 1.2 46°99	8°1/ 3.6 18				53174	1999 <i>CH</i> ₂₈	12 1.2 173°42	7°5/28.7 18			
10 28	5 3.73	+39 29.1	1.555	2.353	17.8	18.1	10 28	4 53.60	- 4 27.0	2.627	3.409	11.7	18.9
11 7	4 57.43	+40 40.9	1.501	2.369	14.6	18.0	11 7	4 48.20	- 4 57.8	2.561	3.410	9.9	18.7
11 17	4 47.56	+41 34.0	1.468	2.386	11.2	17.8	11 17	4 41.26	- 5 15.6	2.518	3.411	8.3	18.6
11 27	4 35.33	+42 1.5	1.458	2.404	8.6	17.7	11 27	4 33.38	- 5 17.1	2.503	3.412	7.5	18.6
12 7	4 22.51	+42 0.5	1.474	2.421	8.2	17.7	12 7	4 25.26	- 5 0.2	2.514	3.412	7.9	18.6
12 17	4 11.00	+41 33.9	1.516	2.439	10.1	17.9	12 17	4 17.62	- 4 24.9	2.553	3.413	9.3	18.7
12 27	4 2.37	+40 49.2	1.582	2.458	13.0	18.1	12 27	4 11.14	- 3 32.6	2.618	3.413	11.1	18.8
1 6	3 57.44	+39 56.1	1.670	2.476	15.9	18.3	1 6	4 6.30	- 2 26.5	2.705	3.413	12.9	19.0
272247	2005 <i>QF</i> ₁₃₁	12 1.2 33°85	0°1/ 1.2 18				316628	2011 <i>WL</i> ₁₁₂	12 1.2 1°24	3°2/ 1.6 18			
10 28	4 58.79	+21 40.9	1.161	2.018	18.9	19.6	10 28	4 57.55	+25 48.3	1.351	2.198	17.4	19.8
11 7	4 53.75	+21 55.3	1.111	2.031	14.1	19.4	11 7	4 52.95	+26 52.5	1.283	2.195	13.3	19.5
11 17	4 45.28	+22 5.7	1.080	2.044	8.6	19.1	11 17	4 45.01	+27 52.3	1.237	2.194	8.6	19.3
11 27	4 34.62	+22 11.3	1.074	2.058	2.6	18.8	11 27	4 34.66	+28 42.9	1.215	2.194	4.1	19.0
12 7	4 23.53	+22 12.8	1.092	2.073	3.5	18.9	12 7	4 23.48	+29 20.9	1.218	2.195	4.4	19.0
12 17	4 13.76	+22 12.5	1.136	2.089	9.1	19.3	12 17	4 13.21	+29 46.1	1.248	2.198	8.9	19.3
12 27	4 6.79	+22 14.1	1.203	2.106	14.1	19.6	12 27	4 5.45	+30 1.6	1.302	2.202	13.5	19.6
1 6	4 3.37	+22 20.7	1.290	2.123	18.2	19.9	1 6	4 1.16	+30 12.2	1.377	2.206	17.4	19.8
506122	2016 <i>BT</i> ₈₁	12 1.2 356°04	25°9/22.8 17				12237	Coughlin	12 1.2 263°31	14°0/23.9 18	R		
10 28	4 53.82	-22 36.7	0.939	1.724	27.7	20.2	10 28	4 56.89	-10 10.8	1.710	2.491	17.1	18.1
11 7	4 50.49	-25 22.5	0.915	1.720	26.6	20.1	11 7	4 51.60	-12 13.1	1.641	2.472	15.4	17.9
11 17	4 43.49	-27 18.2	0.902	1.717	26.0	20.0	11 17	4 43.80	-13 56.6	1.594	2.452	14.2	17.8
11 27	4 34.12	-28 8.3	0.901	1.715	26.0	20.0	11 27	4 34.25	-15 10.8	1.568	2.432	14.0	17.7
12 7	4 24.20	-27 45.6	0.913	1.714	26.5	20.1	12 7	4 24.07	-15 48.0	1.566	2.411	14.9	17.7
12 17	4 15.63	-26 12.3	0.936	1.714	27.5	20.2	12 17	4 14.47	-15 45.2	1.584	2.390	16.7	17.8
12 27	4 9.94	-23 38.6	0.970	1.716	28.8	20.3	12 27	4 6.63	-15 4.2	1.622	2.368	18.8	17.9
1 6	4 7.94	-20 20.5	1.015	1.719	30.1	20.4	1 6	4 1.35	-13 51.2	1.676	2.346	20.9	18.0
408463	2013 <i>HR</i> ₅₉	12 1.2 162°20	0°7/ 1.5 18				379902	2012 <i>JZ</i> ₁₉	12 1.2 169°61	2°4/30.5 18			
10 28	4 56.53	+25 11.1	2.219	3.040	12.4	21.8	10 28	5 0.62	+16 55.4	1.697	2.530	15.0	21.7
11 7	4 50.78	+24 57.2	2.142	3.043	9.3	21.6	11 7	4 54.26	+16 31.0	1.626	2.533	11.3	21.5
11 17	4 42.99	+24 36.8	2.089	3.045	5.7	21.4	11 17	4 45.30	+16 5.8	1.578	2.536	7.0	21.2
11 27	4 33.90	+24 9.9	2.064	3.047	1.9	21.1	11 27	4 34.66	+15 41.8	1.557	2.538	3.0	21.0
12 7	4 24.48	+23 38.3	2.069	3.049	2.3	21.2	12 7	4 23.58	+15 21.7	1.565	2.540	4.0	21.1
12 17	4 15.74	+23 4.5	2.104	3.051	6.1	21.4	12 17	4 13.36	+15 8.0	1.601	2.542	8.3	21.3
12 27	4 8.58	+22 32.1	2.167	3.053	9.6	21.6	12 27	4 5.15	+15 3.3	1.664	2.542	12.4	21.6
1 6	4 3.59	+22 4.4	2.255	3.054	12.5	21.8	1 6	3 59.67	+15 8.7	1.749	2.542	15.8	21.8
234847	2002 <i>RF</i> ₁₈₇	12 1.2 143°24	8°2/ 6.2 17				204542	2005 <i>EP</i> ₁₇₀	12 1.2 262°51	6°3/ 4.1 16			
10 28	5 6.72	+53 39.2	3.071	3.749	12.3	21.2	10 28	5 1.79	+40 20.5	1.894	2.678	15.6	20.0
11 7	4 58.69	+54 31.8	3.000	3.759	10.9	21.1	11 7	4 55.57	+40 28.6	1.806	2.669	12.8	19.8
11 17	4 47.95	+55 6.7	2.950	3.769	9.5	21.1	11 17	4 46.30	+40 17.6	1.739	2.659	9.7	19.6
11 27	4 35.43	+55 19.1	2.924	3.778	8.5	21.0	11 27	4 35.00	+39 43.1	1.698	2.649	7.1	19.4
12 7	4 22.41	+55 7.1	2.924	3.787	8.2	21.0	12 7	4 23.12	+38 44.5	1.683	2.639	6.5	19.3
12 17	4 10.26	+54 32.0	2.950	3.796	8.6	21.0	12 17	4 12.21	+37 25.8	1.697	2.629	8.5	19.4
12 27	4 0.21	+53 38.0	3.002	3.804	9.7	21.1	12 27	4 3.65	+35 55.0	1.737	2.619	11.7	19.6
1 6	3 52.99	+52 31.9	3.078	3.811	11.0	21.2	1 6	3 58.24	+34 21.3	1.801	2.609	14.9	19.8
405461	2004 <i>TR</i> ₂₇₇	12 1.2 88°65	2°4/ 1.9 18				453488	2009 <i>SN</i> ₂₉₃	12 1.2 351°99	4°3/29.4 18			
10 28	4 59.08	+28 4.4	2.223	3.034	12.7	20.9	10 28	4 53.29	+11 55.5	2.018	2.852	12.9	21.1
11 7	4 52.73	+28 39.6	2.157	3.049	9.6	20.7	11 7	4 48.43	+11 2.9	1.946	2.851	9.8	20.9
11 17	4 44.21	+29 7.9	2.115	3.064	6.3	20.5	11 17	4 41.61	+10 12.7	1.899	2.850	6.6	20.7
11 27	4 34.29	+29 27.2	2.101	3.078	3.1	20.4	11 27	4 33.54	+ 9 28.5	1.879	2.849	4.4	20.5
12 7	4 24.01	+29 37.0	2.118	3.093	3.1	20.4	12 7	4 25.14	+ 8 54.0	1.887	2.849	5.3	20.6
12 17	4 14.44	+29 38.1	2.164	3.107	6.2	20.6	12 17	4 17.37	+ 8 32.0	1.924	2.848	8.3	20.8
12 27	4 6.56	+29 33.6	2.238	3.121	9.4	20.8	12 27	4 11.10	+ 8 24.1	1.986	2.848	11.4	21.0
1 6	4 1.00	+29 26.8	2.337	3.135	12.2	21.1	1 6	4 6.92	+ 8 30.0	2.071	2.848	14.3	21.2
405224	2003 <i>SO</i> ₃₂	12 1.2 41°89	2°3/ 2.4 17				351045	2003 <i>SU</i> ₂₂₆	12 1.2 20°17	7°6/ 2.7 18			
10 28	4 57.23	+31 25.0	1.780	2.601	15.0	19.8	10 28	5 3.72	+37 10.9	1.617	2.419	17.1	20.3
11 7	4 51.54	+30 46.1	1.724	2.621	11.4	19.6	11 7	4 57.58	+38 35.6	1.547	2.421	13.9	20.1
11 17	4 43.45	+29 53.1	1.691	2.642	7.3	19.4	11 17	4 47.87	+39 46.3	1.499	2.423	10.6	19.9
11 27	4 34.01	+28 47.1	1.684	2.663	3.4	19.2	11 27	4 35.57	+40 35.3	1.475	2.426	8.0	19.7
12 7	4 24.49	+27 31.5	1.706	2.685	3.1	19.2	12 7	4 22.32	+40 58.1	1.478	2.428	7.8	19.7
12 17	4 16.07	+26 12.3	1.757	2.706	6.8	19.5	12 17	4 10.03	+40 55.1	1.507	2.432	10.1	19.9
12 27	4 9.73	+24 56.1	1.835	2.729	10.5	19.8	12 27	4 0.39	+40 32.4	1.561	2.435	13.2	20.1
1 6	4 5.99	+23 48.2	1.937	2.751	13.7	20.0	1 6	3 54.43	+39 58.5	1.636	2.439	16.3	20.3
130277	2000 <i>DT</i> ₇₉	12 1.2 279°14	1°9/ 1.9 18				426147	2012 <i>HA</i> ₃₉	12 1.2 160°17	0°9/ 1.6 17			
10 28	4 55.73	+27 39.0	2.283	3.100	12.2	19.9	10 28	4 56.11	+24 21.1	2.661	3.474	10.8	21.7
11 7	4 50.36	+27 50.5	2.194	3.090	9.3	19.7	11 7	4 50.25	+24 39.4	2.581	3.478	8.1	21.5
11 17	4 42.85	+27 55.1	2.129	3.080	6.0	19.5	11 17	4 42.63	+24 53.8	2.527	3.481	5.0	21.3
11 27	4 33.91	+27 51.6	2.091	3.071	2.7	19.2	11 27	4 33.85	+25 3.6	2.501	3.484	1.8	21.1
12 7	4 24.48	+27 40.2	2.083	3.061	2.8	19.2	12 7	4 24.73	+25 8.8	2.507	3.486	2.1	21.2
12 17	4 15.58	+27 22.5	2.105	3.051	6.1	19.4	12 17	4 16.11	+25 10.2	2.544	3.489	5.3	21.4
12 27	4 8.18	+27 1.7	2.154	3.041	9.5	19.6	12 27	4 8.77	+25 9.7	2.609	3.491	8.3	21.6
1 6	4 2.97	+26 41.2	2.228	3.031	12.5	19.8	1 6	4 3.28	+25 9.6	2.700	3.493	10.9	21.8
387624	2002 <i>JR</i> ₂₁	12 1.2 142°53	1°7/30.6 18				112268	2002 <i>LX</i> ₂₀	12 1.2 9°48	7°0/ 4.5 18			

EPHEMERIDES

12 1.2

12 1.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
408063	2012 GZ ₇	12	1.2	56°75	3°2/29.8	18	3563	Canterbury	12	1.2	173°15	0°9/1.7	18 R
10 28	4 53.64	+14 43.1	2.128	2.961	12.4	20.5	10 28	4 57.26	+26 21.1	2.473	3.285	11.5	18.0
11 7	4 48.59	+13 55.6	2.058	2.964	9.3	20.3	11 7	4 51.18	+26 5.6	2.392	3.288	8.7	17.8
11 17	4 41.66	+13 8.2	2.012	2.967	6.0	20.1	11 17	4 43.22	+25 43.0	2.336	3.290	5.4	17.6
11 27	4 33.56	+12 24.2	1.994	2.970	3.4	20.0	11 27	4 34.08	+25 13.4	2.310	3.292	2.0	17.3
12 7	4 25.18	+11 46.7	2.005	2.973	4.3	20.1	12 7	4 24.64	+24 38.4	2.314	3.293	2.2	17.4
12 17	4 17.43	+11 18.6	2.045	2.977	7.4	20.3	12 17	4 15.83	+24 0.4	2.348	3.294	5.6	17.6
12 27	4 11.15	+11 1.8	2.112	2.980	10.6	20.5	12 27	4 8.47	+23 23.0	2.412	3.295	8.8	17.8
1 6	4 6.88	+10 57.0	2.202	2.983	13.4	20.7	1 6	4 3.13	+22 49.4	2.501	3.294	11.6	18.0
74192	1998 RV ₄₅	12	1.2	182°66	2°0/2.0	18	79631	1998 RZ ₇₂	12	1.2	105°90	4°1/2.5	18
10 28	4 59.38	+28 29.5	2.269	3.078	12.5	19.7	10 28	5 4.17	+31 47.2	1.623	2.438	16.5	19.2
11 7	4 52.99	+28 32.0	2.187	3.079	9.5	19.5	11 7	4 57.28	+32 15.3	1.562	2.452	12.8	19.0
11 17	4 44.41	+28 26.2	2.129	3.079	6.1	19.3	11 17	4 47.30	+32 30.5	1.522	2.467	8.6	18.8
11 27	4 34.41	+28 10.9	2.100	3.078	2.8	19.0	11 27	4 35.35	+32 29.4	1.509	2.481	4.9	18.6
12 7	4 24.02	+27 46.8	2.100	3.078	2.8	19.0	12 7	4 22.98	+32 11.4	1.523	2.495	4.7	18.6
12 17	4 14.29	+27 16.2	2.131	3.076	6.1	19.3	12 17	4 11.77	+31 39.9	1.565	2.508	8.1	18.8
12 27	4 6.21	+26 43.0	2.190	3.074	9.5	19.5	12 27	4 3.07	+31 1.0	1.633	2.521	11.9	19.1
1 6	4 0.43	+26 11.2	2.274	3.071	12.5	19.7	1 6	3 57.62	+30 21.7	1.724	2.534	15.3	19.3
128050	2003 MJ ₆	12	1.2	58°33	5°8/28.9	18	126546	2002 CX ₉₃	12	1.2	345°64	9°4/28.9	18
10 28	4 53.30	+6 48.8	2.069	2.896	12.9	19.2	10 28	4 53.58	+3 48.6	1.277	2.126	18.0	19.5
11 7	4 48.32	+5 53.6	2.007	2.902	10.1	19.1	11 7	4 49.67	+2 45.4	1.214	2.118	14.6	19.3
11 17	4 41.48	+5 5.1	1.970	2.909	7.4	18.9	11 17	4 42.85	+1 55.2	1.171	2.110	11.3	19.1
11 27	4 33.51	+4 27.5	1.959	2.915	5.8	18.8	11 27	4 34.06	+1 26.1	1.151	2.104	9.4	18.9
12 7	4 25.28	+4 4.3	1.976	2.922	6.6	18.9	12 7	4 24.67	+1 23.7	1.154	2.098	10.3	19.0
12 17	4 17.70	+3 57.2	2.021	2.929	9.0	19.1	12 17	4 16.14	+1 49.8	1.181	2.094	13.4	19.1
12 27	4 11.57	+4 6.6	2.092	2.936	11.7	19.3	12 27	4 9.80	+2 42.5	1.229	2.091	17.0	19.3
1 6	4 7.45	+4 30.9	2.184	2.943	14.2	19.4	1 6	4 6.46	+3 56.5	1.295	2.088	20.3	19.6
26429	Andiwagner	12	1.2	325°65	2°0/1.7	18	478480	2012 QT ₄₉	12	1.2	351°49	3°4/1.9	18
10 28	4 57.47	+25 48.4	1.555	2.393	15.9	18.5	10 28	4 59.60	+27 49.2	1.369	2.209	17.6	20.5
11 7	4 52.56	+26 12.1	1.475	2.383	12.1	18.3	11 7	4 54.53	+28 31.8	1.298	2.206	13.5	20.3
11 17	4 44.63	+26 29.4	1.416	2.374	7.7	18.0	11 17	4 46.02	+29 6.3	1.248	2.203	8.9	20.0
11 27	4 34.58	+26 38.0	1.383	2.365	3.2	17.7	11 27	4 35.07	+29 28.4	1.223	2.201	4.4	19.7
12 7	4 23.75	+26 37.4	1.377	2.356	3.4	17.7	12 7	4 23.29	+29 36.4	1.223	2.200	4.5	19.7
12 17	4 13.68	+26 29.3	1.397	2.348	8.1	17.9	12 17	4 12.48	+29 31.6	1.249	2.199	8.9	20.0
12 27	4 5.79	+26 17.8	1.443	2.340	12.6	18.2	12 27	4 4.26	+29 19.0	1.300	2.198	13.6	20.3
1 6	4 1.00	+26 7.3	1.511	2.333	16.5	18.4	1 6	3 59.58	+29 4.8	1.371	2.198	17.6	20.5
455064	2015 UG ₃₆	12	1.2	43°95	1°3/1.5	18	278531	2008 EJ ₃₂	12	1.2	193°82	1°3/30.7	18
10 28	4 59.08	+23 49.0	1.602	2.438	15.6	20.9	10 28	4 55.81	+20 4.6	2.240	3.066	12.1	20.6
11 7	4 53.30	+24 21.2	1.546	2.454	11.7	20.7	11 7	4 50.22	+19 29.1	2.160	3.065	9.0	20.4
11 17	4 44.79	+24 48.7	1.512	2.470	7.2	20.5	11 17	4 42.70	+18 49.8	2.105	3.064	5.5	20.2
11 27	4 34.54	+25 9.4	1.504	2.487	2.6	20.2	11 27	4 33.95	+18 8.5	2.079	3.062	1.9	20.0
12 7	4 23.91	+25 22.9	1.524	2.504	3.0	20.3	12 7	4 24.87	+17 27.7	2.082	3.060	2.8	20.0
12 17	4 14.27	+25 30.4	1.572	2.521	7.5	20.6	12 17	4 16.41	+16 50.6	2.116	3.057	6.5	20.2
12 27	4 6.81	+25 35.0	1.646	2.539	11.5	20.9	12 27	4 9.42	+16 20.2	2.177	3.055	9.9	20.5
1 6	4 2.24	+25 39.8	1.743	2.558	15.0	21.2	1 6	4 4.49	+15 58.5	2.263	3.052	12.8	20.7
489134	2006 DG ₁₀₃	12	1.2	325°06	5°1/3.1	17	364910	2008 EZ ₁₄₆	12	1.2	248°51	3°1/2.2	17
10 28	4 58.04	+36 15.1	2.132	2.927	13.7	21.5	10 28	4 58.99	+30 22.8	2.174	2.983	13.0	21.7
11 7	4 52.44	+36 47.9	2.050	2.923	11.0	21.3	11 7	4 53.04	+30 51.2	2.084	2.973	10.1	21.5
11 17	4 44.30	+37 8.1	1.990	2.920	8.0	21.1	11 17	4 44.67	+31 11.3	2.018	2.963	6.8	21.3
11 27	4 34.44	+37 12.2	1.957	2.916	5.6	20.9	11 27	4 34.60	+31 20.5	1.979	2.952	3.8	21.1
12 7	4 24.03	+36 59.1	1.952	2.912	5.3	20.9	12 7	4 23.92	+31 17.8	1.969	2.942	3.7	21.1
12 17	4 14.32	+36 30.5	1.975	2.909	7.4	21.0	12 17	4 13.80	+31 4.6	1.988	2.931	6.7	21.2
12 27	4 6.47	+35 51.1	2.025	2.906	10.4	21.2	12 27	4 5.36	+30 44.3	2.036	2.920	10.1	21.4
1 6	4 1.23	+35 6.8	2.099	2.903	13.2	21.4	1 6	3 59.38	+30 21.5	2.107	2.908	13.2	21.6
326278	1996 GA ₁₆	12	1.2	208°96	2°5/30.4	16	300640	2007 UU ₅₉	12	1.2	40°37	3°5/29.7	18
10 28	5 0.55	+17 48.5	1.623	2.458	15.5	21.9	10 28	4 55.99	+17 48.7	1.517	2.364	15.7	20.2
11 7	4 54.43	+17 9.9	1.545	2.454	11.6	21.6	11 7	4 50.88	+16 25.8	1.459	2.374	11.7	20.0
11 17	4 45.55	+16 28.3	1.490	2.449	7.2	21.3	11 17	4 43.26	+14 59.1	1.424	2.384	7.4	19.8
11 27	4 34.82	+15 46.5	1.462	2.443	3.1	21.1	11 27	4 34.11	+13 34.1	1.416	2.395	3.8	19.6
12 7	4 23.55	+15 8.1	1.462	2.437	4.2	21.1	12 7	4 24.74	+12 17.5	1.436	2.407	5.1	19.7
12 17	4 13.10	+14 37.1	1.490	2.430	8.8	21.4	12 17	4 16.39	+11 15.1	1.482	2.419	9.2	20.0
12 27	4 4.73	+14 17.1	1.544	2.423	13.1	21.6	12 27	4 10.12	+10 30.8	1.554	2.431	13.2	20.3
1 6	3 59.22	+14 9.8	1.620	2.415	16.8	21.9	1 6	4 6.53	+10 5.4	1.647	2.443	16.5	20.5
225135	2008 FC ₇₉	12	1.2	125°33	2°5/30.4	18	44542	1999 AD ₇	12	1.2	343°75	0°0/1.0	17
10 28	5 0.42	+17 13.4	1.713	2.546	14.9	21.3	10 28	4 53.76	+23 9.2	2.043	2.876	12.8	18.8
11 7	4 53.94	+16 35.4	1.652	2.559	11.1	21.1	11 7	4 48.97	+22 51.4	1.964	2.872	9.6	18.6
11 17	4 45.02	+15 56.0	1.614	2.572	6.9	20.9	11 17	4 42.07	+22 28.1	1.908	2.868	5.9	18.4
11 27	4 34.61	+15 17.8	1.604	2.585	3.0	20.7	11 27	4 33.78	+22 0.1	1.880	2.864	1.8	18.1
12 7	4 23.93	+14 44.2	1.623	2.597	4.1	20.8	12 7	4 25.10	+21 29.4	1.881	2.861	2.4	18.1
12 17	4 14.22	+14 18.5	1.670	2.609	8.1	21.1	12 17	4 17.06	+20 58.7	1.910	2.858	6.5	18.4
12 27	4 6.52	+14 3.3	1.744	2.620	12.0	21.3	12 27	4 10.60	+20 31.4	1.967	2.856	10.2	18.6
1 6	4 1.46	+13 59.6	1.840	2.630	15.3	21.6	1 6	4 6.35	+20 10.4	2.047	2.854	13.4	18.8
275985	2001 XL ₉₀	12	1.2	50°23	1°8/1.6	18	376645	2013 PZ ₇₂	12	1.2	154°82	2°3/1.9	16
10 28	5 1.12	+24 36.6	1.383	2.224	17.4	19.8	10 28	5 4.92	+28 11.6				

EPHEMERIDES

12 1.2

12 1.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
408772	1998 <i>WU</i> ₂	12 1.2	41°92	1°9/30.3	18		449206	2013 <i>CQ</i> ₅₈	12 1.3	141°69	4°9/ 3.1	18	
10 28	4 54.06	+19 25.9	2.115	2.948	12.5	20.1	10 28	5 1.05	+35 58.7	2.065	2.859	14.1	21.2
11 7	4 48.95	+18 30.4	2.044	2.952	9.3	19.9	11 7	4 54.65	+36 25.0	1.990	2.864	11.3	21.0
11 17	4 41.91	+17 30.9	1.997	2.956	5.7	19.7	11 17	4 45.64	+36 37.7	1.938	2.868	8.1	20.8
11 27	4 33.70	+16 30.3	1.978	2.960	2.3	19.5	11 27	4 34.92	+36 33.5	1.912	2.873	5.5	20.6
12 7	4 25.25	+15 32.4	1.990	2.965	3.3	19.6	12 7	4 23.74	+36 11.8	1.915	2.877	5.2	20.6
12 17	4 17.48	+14 41.0	2.030	2.969	6.9	19.8	12 17	4 13.41	+35 35.0	1.946	2.881	7.4	20.8
12 27	4 11.23	+13 59.5	2.098	2.974	10.3	20.0	12 27	4 5.09	+34 48.4	2.005	2.885	10.5	21.0
1 6	4 7.05	+13 29.8	2.190	2.979	13.2	20.2	1 6	3 59.51	+33 58.5	2.087	2.889	13.3	21.2
241921	2002 <i>AG</i> ₁₈₆	12 1.2	285°22	2°0/30.9	18		140603	2001 <i>UQ</i>	12 1.3	147°72	0°0/ 1.1	18	
10 28	4 59.23	+15 58.6	1.623	2.460	15.4	20.5	10 28	4 57.44	+21 36.2	2.026	2.853	13.1	20.2
11 7	4 53.67	+16 11.4	1.537	2.447	11.6	20.2	11 7	4 51.72	+21 41.6	1.950	2.855	9.8	20.0
11 17	4 45.28	+16 27.1	1.475	2.434	7.3	19.9	11 17	4 43.76	+21 43.9	1.899	2.857	6.0	19.7
11 27	4 34.85	+16 46.3	1.438	2.420	2.8	19.6	11 27	4 34.35	+21 42.9	1.875	2.859	1.8	19.5
12 7	4 23.61	+17 9.1	1.429	2.407	3.7	19.6	12 7	4 24.51	+21 39.4	1.881	2.861	2.5	19.5
12 17	4 12.99	+17 36.1	1.449	2.394	8.5	19.9	12 17	4 15.33	+21 35.0	1.915	2.862	6.6	19.8
12 27	4 4.32	+18 8.0	1.494	2.381	13.0	20.1	12 27	4 7.82	+21 31.9	1.978	2.864	10.3	20.0
1 6	3 58.54	+18 45.4	1.561	2.367	16.8	20.3	1 6	4 2.64	+21 32.5	2.064	2.865	13.5	20.2
142950	2002 <i>VS</i> ₇₃	12 1.3	96°76	3°0/29.9	18		156769	2003 <i>AJ</i> ₃₉	12 1.3	302°44	0°5/ 1.1	18	
10 28	4 57.06	+16 9.7	1.953	2.784	13.4	20.0	10 28	4 58.00	+22 17.6	1.476	2.319	16.3	20.5
11 7	4 51.16	+15 14.0	1.895	2.801	10.0	19.8	11 7	4 52.90	+21 55.2	1.399	2.313	12.3	20.2
11 17	4 43.23	+14 17.4	1.861	2.817	6.3	19.6	11 17	4 44.83	+21 26.1	1.345	2.306	7.5	19.9
11 27	4 34.10	+13 23.6	1.855	2.834	3.2	19.4	11 27	4 34.73	+20 51.4	1.315	2.300	2.3	19.6
12 7	4 24.81	+12 36.2	1.879	2.849	4.2	19.5	12 7	4 23.99	+20 14.0	1.313	2.293	3.3	19.6
12 17	4 16.36	+11 58.6	1.932	2.865	7.6	19.8	12 17	4 14.14	+19 38.1	1.338	2.287	8.5	19.9
12 27	4 9.60	+11 33.3	2.012	2.880	11.0	20.0	12 27	4 6.53	+19 8.6	1.388	2.281	13.3	20.2
1 6	4 5.09	+11 21.0	2.114	2.895	13.9	20.2	1 6	4 1.99	+18 49.0	1.458	2.275	17.3	20.4
157051	2003 <i>SY</i> ₁₂₃	12 1.3	225°56	0°9/30.8	18		293012	2006 <i>WE</i> ₃₈	12 1.3	39°61	2°3/30.6	18	
10 28	4 54.39	+20 29.8	2.312	3.139	11.7	20.1	10 28	4 56.14	+16 22.8	1.738	2.578	14.4	21.1
11 7	4 49.17	+20 3.8	2.231	3.136	8.7	19.9	11 7	4 50.90	+16 9.0	1.673	2.584	10.8	20.9
11 17	4 42.07	+19 34.3	2.175	3.134	5.3	19.7	11 17	4 43.31	+15 55.8	1.631	2.590	6.7	20.6
11 27	4 33.79	+19 2.6	2.148	3.131	1.7	19.5	11 27	4 34.21	+15 44.9	1.616	2.597	2.9	20.4
12 7	4 25.17	+18 30.9	2.150	3.129	2.5	19.5	12 7	4 24.73	+15 38.3	1.628	2.604	3.8	20.5
12 17	4 17.12	+18 1.8	2.183	3.126	6.1	19.7	12 17	4 16.05	+15 37.8	1.669	2.612	7.8	20.7
12 27	4 10.47	+17 37.9	2.243	3.123	9.5	20.0	12 27	4 9.21	+15 44.9	1.736	2.619	11.6	21.0
1 6	4 5.80	+17 21.1	2.327	3.120	12.4	20.1	1 6	4 4.85	+16 0.4	1.825	2.627	14.9	21.2
60808	2000 <i>HQ</i> ₂₆	12 1.3	156°49	1°2/30.7	18		493679	2015 <i>RA</i> ₂₃₆	12 1.3	356°26	6°1/29.7	17	
10 28	4 53.47	+18 52.4	2.704	3.526	10.4	20.2	10 28	4 53.95	+ 7 33.4	1.636	2.476	15.2	21.2
11 7	4 48.20	+18 31.8	2.627	3.530	7.7	20.0	11 7	4 49.40	+ 6 59.3	1.569	2.473	11.8	21.0
11 17	4 41.36	+18 9.5	2.576	3.534	4.7	19.8	11 17	4 42.46	+ 6 33.7	1.525	2.471	8.5	20.8
11 27	4 33.55	+17 46.6	2.554	3.537	1.7	19.6	11 27	4 33.97	+ 6 20.7	1.505	2.470	6.2	20.6
12 7	4 25.50	+17 24.7	2.563	3.540	2.4	19.7	12 7	4 25.03	+ 6 23.6	1.512	2.469	7.0	20.7
12 17	4 17.94	+17 5.7	2.602	3.543	5.5	19.9	12 17	4 16.81	+ 6 43.6	1.545	2.468	10.0	20.9
12 27	4 11.57	+16 51.5	2.670	3.546	8.4	20.1	12 27	4 10.39	+ 7 20.0	1.603	2.469	13.4	21.1
1 6	4 6.87	+16 43.4	2.763	3.548	10.9	20.2	1 6	4 6.44	+ 8 10.4	1.681	2.470	16.6	21.3
418545	2008 <i>SQ</i> ₁₀₇	12 1.3	84°03	1°4/30.6	18		237983	2002 <i>SH</i> ₂	12 1.3	7°48	0°7/ 1.0	17	
10 28	4 53.88	+19 19.4	2.319	3.147	11.7	21.7	10 28	4 53.85	+20 13.6	1.919	2.757	13.3	20.0
11 7	4 48.67	+18 42.3	2.248	3.155	8.6	21.5	11 7	4 49.13	+20 10.0	1.848	2.758	9.9	19.8
11 17	4 41.71	+18 2.5	2.203	3.162	5.3	21.3	11 17	4 42.21	+20 4.1	1.799	2.760	6.0	19.6
11 27	4 33.66	+17 21.8	2.187	3.169	2.0	21.1	11 27	4 33.88	+19 56.5	1.778	2.762	1.9	19.3
12 7	4 25.38	+16 42.9	2.200	3.177	2.8	21.2	12 7	4 25.15	+19 48.6	1.785	2.765	2.7	19.4
12 17	4 17.73	+16 8.6	2.244	3.184	6.2	21.5	12 17	4 17.09	+19 42.2	1.820	2.768	6.8	19.6
12 27	4 11.47	+15 41.4	2.315	3.192	9.4	21.7	12 27	4 10.68	+19 39.5	1.882	2.772	10.5	19.9
1 6	4 7.13	+15 22.9	2.410	3.199	12.1	21.9	1 6	4 6.56	+19 42.3	1.968	2.776	13.8	20.1
101441	1998 <i>VB</i> ₄₂	12 1.3	39°39	0°3/ 1.2	18		322089	2010 <i>VK</i> ₁₂₇	12 1.3	357°19	0°9/ 1.0	18	
10 28	4 59.10	+22 40.5	1.087	1.948	19.6	19.2	10 28	4 55.11	+19 52.2	1.814	2.653	14.0	20.8
11 7	4 53.97	+22 22.7	1.047	1.968	14.6	19.0	11 7	4 50.20	+19 47.6	1.740	2.651	10.4	20.6
11 17	4 45.40	+21 57.8	1.026	1.990	8.8	18.7	11 17	4 42.94	+19 40.8	1.689	2.650	6.4	20.3
11 27	4 34.79	+21 27.5	1.028	2.013	2.6	18.5	11 27	4 34.12	+19 32.5	1.665	2.649	2.0	20.1
12 7	4 23.99	+20 55.2	1.055	2.036	3.6	18.6	12 7	4 24.84	+19 24.1	1.669	2.649	2.9	20.1
12 17	4 14.75	+20 25.6	1.107	2.060	9.3	19.0	12 17	4 16.26	+19 17.7	1.701	2.649	7.2	20.4
12 27	4 8.41	+20 3.8	1.182	2.085	14.3	19.4	12 27	4 9.44	+19 15.5	1.760	2.649	11.2	20.6
1 6	4 5.61	+19 52.6	1.277	2.110	18.3	19.7	1 6	4 5.07	+19 19.5	1.841	2.650	14.5	20.9
210357	2007 <i>UE</i> ₄₇	12 1.3	71°27	1°0/ 1.6	18		221599	2006 <i>WK</i> ₉₆	12 1.3	125°21	0°6/ 1.4	18	
10 28	4 59.13	+25 9.9	1.677	2.508	15.2	20.9	10 28	5 2.84	+23 23.1	1.676	2.503	15.5	21.3
11 7	4 53.23	+25 6.8	1.617	2.523	11.4	20.7	11 7	4 56.02	+23 28.6	1.613	2.517	11.6	21.1
11 17	4 44.72	+24 56.1	1.579	2.537	7.0	20.4	11 17	4 46.47	+23 28.5	1.572	2.529	7.1	20.8
11 27	4 34.60	+24 37.8	1.568	2.551	2.4	20.2	11 27	4 35.17	+23 22.2	1.558	2.542	2.3	20.5
12 7	4 24.17	+24 13.3	1.585	2.566	2.8	20.2	12 7	4 23.50	+23 10.4	1.573	2.554	2.8	20.6
12 17	4 14.74	+23 45.8	1.631	2.580	7.3	20.5	12 17	4 12.83	+22 55.7	1.617	2.565	7.5	20.9
12 27	4 7.43	+23 19.6	1.703	2.594	11.3	20.8	12 27	4 4.37	+22 41.9	1.688	2.576	11.7	21.2
1 6	4 2.89	+22 58.5	1.797	2.609	14.7	21.1	1 6	3 58.81	+22 32.3	1.782	2.586	15.2	21.5
35399	1997 <i>YQ</i> ₁	12 1.3	333°29	2°9/ 1.9	18		462634	2009 <i>RA</i> ₄₈	12 1.3	1°24	7°1/ 3.0		

EPHEMERIDES

12 1.3

12 1.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
458501	2011 <i>CL</i> ₂₅		12 1.3 272°18	4.8/ 3.2	18		20994	Atreya		12 1.3 51°33	2.9/ 2.0	18	
10 28	4 58.15	+36 28.6	2.297	3.087	13.0	21.4	10 28	5 1.64	+27 51.3	1.263	2.104	18.6	17.4
11 7	4 52.38	+36 54.9	2.213	3.083	10.4	21.2	11 7	4 55.99	+28 12.7	1.207	2.116	14.2	17.1
11 17	4 44.25	+37 8.7	2.151	3.079	7.6	21.1	11 17	4 46.83	+28 23.0	1.172	2.128	9.1	16.9
11 27	4 34.53	+37 7.2	2.117	3.075	5.3	20.9	11 27	4 35.39	+28 19.6	1.160	2.141	4.1	16.6
12 7	4 24.31	+36 49.5	2.111	3.071	5.0	20.9	12 7	4 23.46	+28 2.7	1.175	2.153	4.1	16.7
12 17	4 14.76	+36 17.5	2.134	3.067	7.0	21.0	12 17	4 12.86	+27 36.0	1.215	2.167	8.9	17.0
12 27	4 6.93	+35 35.5	2.184	3.063	9.8	21.2	12 27	4 5.11	+27 6.1	1.280	2.180	13.6	17.3
1 6	4 1.55	+34 49.1	2.258	3.059	12.5	21.3	1 6	4 0.99	+26 39.1	1.365	2.194	17.6	17.6
292342	2006 <i>ST</i> ₁₉₆		12 1.3 309°73	0°5/ 1.5	18		313267	2001 <i>XN</i> ₂₁₈		12 1.3 72°31	0°0/ 1.2	17	
10 28	4 56.48	+25 4.6	1.841	2.672	14.1	21.0	10 28	4 58.59	+25 52.0	1.861	2.687	14.2	20.2
11 7	4 51.25	+24 42.7	1.762	2.668	10.6	20.7	11 7	4 52.46	+24 55.4	1.802	2.705	10.6	20.0
11 17	4 43.59	+24 12.6	1.705	2.663	6.6	20.5	11 17	4 44.10	+23 49.2	1.766	2.724	6.4	19.8
11 27	4 34.33	+23 34.9	1.676	2.659	2.1	20.2	11 27	4 34.47	+22 35.7	1.759	2.743	2.0	19.6
12 7	4 24.62	+22 52.0	1.675	2.655	2.6	20.2	12 7	4 24.73	+21 19.4	1.781	2.761	2.5	19.6
12 17	4 15.66	+22 7.6	1.702	2.651	7.0	20.5	12 17	4 16.01	+20 5.6	1.833	2.780	6.8	19.9
12 27	4 8.54	+21 26.4	1.757	2.647	11.1	20.7	12 27	4 9.22	+18 59.8	1.913	2.799	10.6	20.2
1 6	4 3.97	+20 52.2	1.834	2.644	14.6	20.9	1 6	4 4.89	+18 5.5	2.016	2.817	13.8	20.5
431772	2008 <i>JN</i> ₁		12 1.3 101°47	5°4/ 2.8	18		87051	2000 <i>KO</i> ₂₆		12 1.3 84°44	0°7/ 1.5	18	
10 28	5 7.62	+34 8.4	1.680	2.481	16.6	21.4	10 28	5 1.85	+25 10.1	1.594	2.424	16.0	19.3
11 7	4 59.89	+35 0.9	1.624	2.503	13.0	21.2	11 7	4 55.24	+24 53.3	1.541	2.446	11.9	19.1
11 17	4 48.96	+35 39.2	1.590	2.525	9.2	21.0	11 17	4 45.94	+24 28.1	1.511	2.469	7.3	18.9
11 27	4 35.99	+35 58.4	1.582	2.546	6.0	20.9	11 27	4 35.05	+23 55.0	1.507	2.490	2.4	18.6
12 7	4 22.58	+35 56.5	1.602	2.566	5.7	20.9	12 7	4 23.98	+23 16.5	1.531	2.512	2.8	18.7
12 17	4 10.42	+35 36.2	1.651	2.586	8.5	21.1	12 17	4 14.10	+22 36.8	1.584	2.533	7.5	19.1
12 27	4 0.88	+35 3.9	1.726	2.606	11.9	21.4	12 27	4 6.51	+22 0.7	1.664	2.554	11.6	19.4
1 6	3 54.72	+34 27.2	1.823	2.624	15.0	21.6	1 6	4 1.84	+21 32.1	1.765	2.574	15.1	19.6
403355	2009 <i>FY</i> ₇₄		12 1.3 240°46	4°7/ 3.0	18		448890	2011 <i>UV</i> ₂₇₇		12 1.3 251°10	0°4/ 1.4	18	
10 28	5 1.99	+36 43.1	2.505	3.283	12.4	22.1	10 28	4 57.05	+24 22.2	1.948	2.776	13.6	21.1
11 7	4 55.24	+37 10.9	2.401	3.265	10.0	21.9	11 7	4 51.60	+24 6.0	1.867	2.771	10.2	20.9
11 17	4 46.06	+37 26.9	2.322	3.246	7.4	21.7	11 17	4 43.80	+23 43.1	1.809	2.767	6.3	20.7
11 27	4 35.15	+37 27.9	2.270	3.226	5.2	21.6	11 27	4 34.45	+23 13.6	1.778	2.762	2.0	20.4
12 7	4 23.56	+37 12.3	2.247	3.205	4.9	21.5	12 7	4 24.65	+22 39.5	1.777	2.757	2.5	20.4
12 17	4 12.48	+36 41.5	2.255	3.184	6.9	21.6	12 17	4 15.55	+22 3.9	1.804	2.752	6.8	20.7
12 27	4 3.04	+35 59.4	2.291	3.162	9.7	21.7	12 27	4 8.19	+21 30.8	1.859	2.748	10.7	20.9
1 6	3 56.01	+35 11.7	2.352	3.140	12.4	21.9	1 6	4 3.27	+21 3.7	1.937	2.743	14.1	21.1
206032	2002 <i>QS</i> ₄		12 1.3 108°59	1°5/ 1.9	18		192629	1999 <i>KM</i> ₁₁		12 1.3 99°98	1°2/ 30.9	18	
10 28	4 59.21	+27 9.9	1.913	2.734	14.1	20.5	10 28	5 1.92	+18 18.6	1.861	2.686	14.2	20.4
11 7	4 53.11	+27 2.3	1.845	2.744	10.6	20.3	11 7	4 54.93	+18 23.6	1.806	2.709	10.6	20.2
11 17	4 44.62	+26 46.0	1.801	2.755	6.7	20.1	11 17	4 45.64	+18 27.9	1.775	2.733	6.4	20.0
11 27	4 34.65	+26 20.5	1.784	2.765	2.6	19.8	11 27	4 34.96	+18 31.6	1.772	2.755	2.2	19.8
12 7	4 24.36	+25 47.4	1.796	2.775	2.7	19.9	12 7	4 24.06	+18 35.7	1.799	2.777	2.9	19.9
12 17	4 14.95	+25 9.9	1.837	2.785	6.7	20.1	12 17	4 14.10	+18 41.3	1.855	2.799	7.0	20.2
12 27	4 7.45	+24 32.6	1.906	2.795	10.5	20.4	12 27	4 6.06	+18 50.2	1.939	2.819	10.7	20.5
1 6	4 2.51	+23 59.6	1.998	2.804	13.7	20.6	1 6	4 0.56	+19 3.8	2.046	2.840	13.8	20.7
136773	1996 <i>TR</i> ₆		12 1.3 92°83	22°0/ 24.1	18		9633	Cotur		12 1.3 131°63	4°2/ 29.4	18	
10 28	5 9.32	- 5 55.6	0.731	1.576	28.1	20.1	10 28	4 53.89	+ 9 11.1	2.484	3.304	11.2	17.7
11 7	5 1.74	-10 40.4	0.723	1.601	24.7	20.0	11 7	4 48.56	+ 8 29.4	2.418	3.313	8.6	17.5
11 17	4 50.05	-14 38.0	0.733	1.625	22.5	20.0	11 17	4 41.64	+ 7 52.0	2.378	3.321	6.0	17.4
11 27	4 36.20	-17 24.1	0.760	1.648	22.1	20.1	11 27	4 33.75	+ 7 21.8	2.365	3.329	4.3	17.3
12 7	4 22.62	-18 48.9	0.805	1.671	23.3	20.2	12 7	4 25.64	+ 7 1.3	2.383	3.337	5.0	17.3
12 17	4 11.43	-18 57.4	0.864	1.693	25.3	20.5	12 17	4 18.09	+ 6 52.0	2.429	3.344	7.3	17.5
12 27	4 4.05	-18 4.3	0.937	1.714	27.5	20.8	12 27	4 11.77	+ 6 54.8	2.503	3.352	9.8	17.7
1 6	4 0.92	-16 28.0	1.019	1.734	29.4	21.0	1 6	4 7.19	+ 7 8.9	2.600	3.359	12.2	17.8
369140	2008 <i>RG</i> ₁₁₉		12 1.3 90°77	2°3/ 30.2	18		180035	2003 <i>AG</i> ₆₀		12 1.3 348°24	5°8/ 30.5	18	
10 28	4 53.68	+16 28.5	2.343	3.172	11.5	21.4	10 28	4 56.13	+ 6 57.6	1.531	2.369	16.1	19.4
11 7	4 48.52	+15 48.4	2.274	3.179	8.6	21.2	11 7	4 51.30	+ 6 55.9	1.459	2.363	12.6	19.1
11 17	4 41.66	+15 7.5	2.230	3.187	5.4	21.0	11 17	4 43.81	+ 7 5.7	1.409	2.357	8.9	18.9
11 27	4 33.74	+14 28.2	2.215	3.194	2.6	20.8	11 27	4 34.51	+ 7 30.3	1.384	2.352	6.1	18.7
12 7	4 25.59	+13 53.2	2.229	3.201	3.4	20.9	12 7	4 24.60	+ 8 10.9	1.386	2.348	6.7	18.8
12 17	4 18.04	+13 25.0	2.273	3.209	6.5	21.1	12 17	4 15.41	+ 9 6.9	1.414	2.345	10.0	19.0
12 27	4 11.84	+13 5.6	2.345	3.216	9.5	21.3	12 27	4 8.16	+10 16.2	1.467	2.342	13.9	19.2
1 6	4 7.50	+12 55.9	2.441	3.223	12.2	21.5	1 6	4 3.65	+11 35.2	1.541	2.341	17.3	19.4
361860	2008 <i>ED</i> ₆₀		12 1.3 217°76	4°6/ 3.1	17		75285	1999 <i>XY</i> ₂₄		12 1.3 246°85	3°7/ 29.3	18	
10 28	5 0.21	+36 16.6	2.385	3.170	12.7	21.4	10 28	5 0.55	+19 4.6	1.653	2.487	15.3	18.2
11 7	4 53.88	+36 42.4	2.296	3.164	10.2	21.3	11 7	4 54.42	+17 15.7	1.567	2.476	11.5	18.0
11 17	4 45.18	+36 56.1	2.230	3.157	7.4	21.1	11 17	4 45.61	+15 16.6	1.506	2.464	7.3	17.7
11 27	4 34.88	+36 54.8	2.192	3.150	5.1	20.9	11 27	4 35.03	+13 13.4	1.473	2.451	3.9	17.4
12 7	4 24.04	+36 37.5	2.182	3.143	4.8	20.9	12 7	4 23.95	+11 14.7	1.470	2.439	5.4	17.5
12 17	4 13.82	+36 5.9	2.202	3.135	6.9	21.0	12 17	4 13.72	+ 9 29.2	1.496	2.425	9.8	17.7
12 27	4 5.31	+35 24.2	2.250	3.126	9.7	21.2	12 27	4 5.54	+ 8 4.1	1.549	2.412	14.0	18.0
1 6	3 59.24	+34 38.1	2.323	3.118	12.3	21.3	1 6	4 0.15	+ 7 2.5	1.623	2.398	17.6	18.2
179643	2002 <i>PT</i> ₁₃₃		12 1.3 113°66	2°1/ 1.9	18		320063	2007 <i>EN</i> ₃₂		12 1.3 170°64	0°0/ 1.1	18	
10 28	5												

EPHEMERIDES

12 1.3

12 1.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
119400	2001 <i>TM</i> ₅₀	12	1.3	128°30	6°1/29.3	18	438796	2008 <i>YX</i> ₁₄	12	1.3	193°22	0°6/1.6	18
10 28	4 57.28	+ 9 25.2	1.586	2.424	15.7	19.0	10 28	4 59.40	+26 42.1	1.883	2.705	14.2	21.0
11 7	4 51.92	+ 8 25.3	1.522	2.426	12.1	18.8	11 7	4 53.35	+25 57.8	1.803	2.704	10.7	20.8
11 17	4 44.04	+ 7 30.8	1.480	2.427	8.5	18.6	11 17	4 44.85	+25 2.5	1.747	2.703	6.6	20.6
11 27	4 34.55	+ 6 47.1	1.463	2.429	6.2	18.4	11 27	4 34.81	+23 57.5	1.719	2.702	2.2	20.3
12 7	4 24.64	+ 6 18.9	1.474	2.430	7.1	18.5	12 7	4 24.40	+22 46.1	1.720	2.700	2.6	20.3
12 17	4 15.57	+ 6 9.0	1.511	2.431	10.4	18.7	12 17	4 14.86	+21 33.6	1.751	2.698	7.0	20.6
12 27	4 8.45	+ 6 18.1	1.572	2.433	14.0	18.9	12 27	4 7.23	+20 26.2	1.809	2.696	11.0	20.8
1 6	4 3.97	+ 6 44.6	1.654	2.434	17.2	19.1	1 6	4 2.19	+19 28.4	1.891	2.693	14.5	21.1
194584	2001 <i>XU</i> ₁₀₇	12	1.3	44°07	0°7/1.5	18	423347	2005 <i>GQ</i> ₁₅₀	12	1.3	202°68	2°9/30.4	18
10 28	4 59.45	+25 18.2	1.237	2.086	18.5	19.7	10 28	5 0.19	+16 1.0	1.750	2.582	14.7	22.0
11 7	4 54.07	+24 58.3	1.190	2.105	13.8	19.5	11 7	4 54.06	+15 27.1	1.672	2.578	11.1	21.8
11 17	4 45.48	+24 28.3	1.163	2.125	8.4	19.2	11 17	4 45.38	+14 52.4	1.618	2.574	7.0	21.5
11 27	4 34.96	+23 49.4	1.161	2.145	2.7	19.0	11 27	4 35.00	+14 19.6	1.590	2.570	3.3	21.3
12 7	4 24.21	+23 4.8	1.185	2.166	3.2	19.1	12 7	4 24.11	+13 51.9	1.591	2.565	4.4	21.3
12 17	4 14.88	+22 20.2	1.234	2.187	8.6	19.4	12 17	4 13.97	+13 32.3	1.621	2.559	8.4	21.6
12 27	4 8.25	+21 41.3	1.308	2.208	13.3	19.8	12 27	4 5.73	+13 23.5	1.677	2.552	12.5	21.8
1 6	4 4.96	+21 12.5	1.402	2.231	17.2	20.1	1 6	4 0.13	+13 26.5	1.756	2.545	15.9	22.0
262478	2006 <i>UP</i> ₁₈₂	12	1.3	79°87	2°7/30.8	18	514330	2016 <i>NO</i> ₇₀	12	1.3	110°97	0°3/1.4	18
10 28	5 3.22	+15 19.0	1.395	2.235	17.3	20.3	10 28	5 2.46	+21 26.9	1.478	2.314	16.7	21.7
11 7	4 56.43	+15 15.9	1.348	2.258	12.9	20.1	11 7	4 56.22	+21 49.5	1.411	2.320	12.5	21.4
11 17	4 46.75	+15 15.4	1.323	2.281	8.0	19.9	11 17	4 46.90	+22 9.4	1.367	2.326	7.7	21.2
11 27	4 35.34	+15 18.7	1.323	2.304	3.4	19.7	11 27	4 35.50	+22 25.1	1.348	2.332	2.4	20.9
12 7	4 23.70	+15 27.1	1.351	2.327	4.3	19.8	12 7	4 23.49	+22 36.4	1.357	2.337	3.1	20.9
12 17	4 13.31	+15 41.6	1.406	2.349	8.9	20.1	12 17	4 12.48	+22 44.4	1.394	2.343	8.2	21.2
12 27	4 5.38	+16 3.3	1.487	2.371	13.1	20.4	12 27	4 3.84	+22 52.1	1.456	2.348	12.8	21.5
1 6	4 0.55	+16 32.3	1.589	2.393	16.7	20.7	1 6	3 58.41	+23 2.5	1.540	2.353	16.7	21.8
290347	2005 <i>SC</i> ₂₄₈	12	1.3	78°05	0°4/1.5	18	86715	2000 <i>GO</i> ₉	12	1.3	190°83	1°7/30.7	18
10 28	4 56.87	+23 55.4	1.988	2.815	13.4	21.4	10 28	4 59.61	+18 58.2	1.884	2.713	13.9	20.6
11 7	4 51.32	+23 47.8	1.918	2.822	10.0	21.2	11 7	4 53.47	+18 28.6	1.806	2.712	10.4	20.4
11 17	4 43.56	+23 34.6	1.872	2.830	6.1	21.0	11 17	4 44.95	+17 55.8	1.752	2.710	6.4	20.2
11 27	4 34.40	+23 15.8	1.854	2.838	2.0	20.7	11 27	4 34.87	+17 21.8	1.726	2.708	2.4	19.9
12 7	4 24.90	+22 53.1	1.865	2.845	2.4	20.8	12 7	4 24.35	+16 49.2	1.729	2.706	3.4	20.0
12 17	4 16.16	+22 28.9	1.905	2.853	6.5	21.1	12 17	4 14.57	+16 21.2	1.761	2.702	7.5	20.2
12 27	4 9.14	+22 6.5	1.972	2.860	10.2	21.3	12 27	4 6.59	+16 0.9	1.820	2.699	11.4	20.5
1 6	4 4.47	+21 49.0	2.063	2.868	13.3	21.5	1 6	4 1.11	+15 50.3	1.902	2.694	14.8	20.7
378041	2006 <i>SX</i> ₄₁₁	12	1.3	20°88	3°6/2.5	18	49327	1998 <i>VZ</i> ₃₃	12	1.3	43°74	2°2/30.6	18
10 28	5 1.08	+31 2.6	1.368	2.200	18.0	20.4	10 28	4 56.54	+17 56.5	1.623	2.466	15.1	19.5
11 7	4 55.59	+31 3.4	1.299	2.201	13.9	20.2	11 7	4 51.36	+17 27.8	1.561	2.474	11.3	19.3
11 17	4 46.65	+30 48.9	1.250	2.202	9.3	19.9	11 17	4 43.71	+16 57.5	1.522	2.482	6.9	19.1
11 27	4 35.41	+30 16.7	1.226	2.203	4.7	19.7	11 27	4 34.48	+16 28.0	1.509	2.491	2.8	18.9
12 7	4 23.57	+29 28.1	1.227	2.204	4.4	19.6	12 7	4 24.91	+16 2.3	1.523	2.500	3.8	19.0
12 17	4 12.91	+28 28.3	1.256	2.206	8.8	19.9	12 17	4 16.24	+15 43.3	1.566	2.509	8.1	19.2
12 27	4 4.98	+27 25.7	1.309	2.208	13.4	20.2	12 27	4 9.53	+15 33.7	1.633	2.519	12.1	19.5
1 6	4 0.59	+26 28.1	1.383	2.210	17.5	20.4	1 6	4 5.45	+15 34.5	1.723	2.529	15.5	19.7
45726	2000 <i>GL</i> ₈₃	12	1.3	11°10	5°1/29.6	18	306169	2010 <i>NJ</i>	12	1.3	92°99	9°5/1.3	18
10 28	4 53.07	+ 8 48.9	1.947	2.781	13.3	18.5	10 28	5 5.76	- 7 40.7	1.930	2.694	16.0	20.4
11 7	4 48.41	+ 8 9.6	1.881	2.782	10.3	18.4	11 7	4 57.55	- 7 32.5	1.878	2.715	13.5	20.3
11 17	4 41.77	+ 7 36.0	1.838	2.784	7.3	18.2	11 17	4 47.15	- 7 2.9	1.848	2.736	11.1	20.2
11 27	4 33.85	+ 7 12.0	1.822	2.787	5.2	18.1	11 27	4 35.48	- 6 8.4	1.845	2.756	9.6	20.2
12 7	4 25.61	+ 7 0.5	1.833	2.790	6.0	18.1	12 7	4 23.65	- 4 49.3	1.870	2.776	9.7	20.2
12 17	4 18.00	+ 7 3.1	1.872	2.793	8.7	18.3	12 17	4 12.79	- 3 9.0	1.924	2.795	11.3	20.4
12 27	4 11.91	+ 7 20.2	1.936	2.797	11.8	18.5	12 27	4 3.82	- 1 12.8	2.005	2.814	13.5	20.5
1 6	4 7.93	+ 7 50.4	2.023	2.801	14.5	18.7	1 6	3 57.33	+ 0 52.7	2.109	2.833	15.7	20.7
85300	1994 <i>UW</i> ₂	12	1.3	7°82	13°7/22.6	18	193041	2000 <i>ER</i> ₁₆₀	12	1.3	343°82	2°9/30.3	17
10 28	4 51.21	+ 8 8.3	0.922	1.800	20.7	16.9	10 28	4 53.23	+15 13.9	1.915	2.754	13.3	20.2
11 7	4 48.38	+ 3 38.7	0.882	1.801	16.9	16.7	11 7	4 48.71	+14 43.6	1.839	2.749	10.0	20.0
11 17	4 42.21	- 0 46.3	0.865	1.805	14.2	16.6	11 17	4 42.05	+14 13.7	1.786	2.744	6.4	19.7
11 27	4 34.01	- 4 40.5	0.872	1.810	14.0	16.6	11 27	4 34.00	+13 46.9	1.760	2.739	3.2	19.5
12 7	4 25.51	- 7 42.7	0.902	1.818	16.3	16.8	12 7	4 25.52	+13 26.0	1.762	2.735	4.1	19.6
12 17	4 18.34	- 9 42.7	0.952	1.828	19.6	17.0	12 17	4 17.67	+13 13.4	1.793	2.731	7.7	19.8
12 27	4 13.83	-10 41.9	1.019	1.839	22.8	17.3	12 27	4 11.38	+13 11.0	1.849	2.728	11.3	20.0
1 6	4 12.62	-10 50.1	1.099	1.853	25.5	17.5	1 6	4 7.31	+13 19.2	1.928	2.725	14.4	20.2
354678	2005 <i>NB</i> ₁₀₂	12	1.3	161°25	4°1/3.2	18	458474	2011 <i>BW</i> ₈₇	12	1.3	272°48	4°3/29.9	17
10 28	5 0.43	+35 45.7	2.338	3.126	12.9	21.5	10 28	4 54.55	+ 9 4.4	2.241	3.065	12.2	21.5
11 7	4 53.90	+35 53.0	2.259	3.131	10.2	21.3	11 7	4 49.35	+ 8 45.2	2.165	3.062	9.4	21.3
11 17	4 45.11	+35 47.3	2.204	3.135	7.3	21.1	11 17	4 42.31	+ 8 31.6	2.113	3.059	6.5	21.1
11 27	4 34.88	+35 26.4	2.176	3.139	4.7	21.0	11 27	4 34.06	+ 8 25.9	2.088	3.055	4.4	21.0
12 7	4 24.29	+34 50.6	2.177	3.142	4.3	21.0	12 7	4 25.44	+ 8 30.1	2.092	3.052	5.0	21.0
12 17	4 14.49	+34 2.6	2.208	3.145	6.5	21.1	12 17	4 17.35	+ 8 45.2	2.126	3.049	7.7	21.2
12 27	4 6.45	+33 7.4	2.268	3.148	9.4	21.3	12 27	4 10.59	+ 9 11.2	2.186	3.046	10.6	21.4
1 6	4 0.83	+32 10.7	2.352	3.150	12.1	21.5	1 6	4 5.77	+ 9 47.2	2.270	3.043	13.3	21.6
453562	2010 <i>AZ</i> ₁₃₄	12	1.3	16°80	0°7/1.1	16	449707	2014 <i>MQ</i> ₂₄	12	1.3	84°65	3°1/30.4	

EPHEMERIDES

12 1.3

12 1.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
458454	2011 <i>BK</i> ₂₂	12 1.3	9°46'	7.6/	4.9	16	236881	2007 <i>RL</i> ₂₈₈	12 1.3	198°82'	2.2/	1.8	18
10 28	5 0.21	+44 0.7	2.003	2.771	15.4	20.6	10 28	5 2.35	+26 22.0	2.117	2.928	13.2	20.4
11 7	4 54.45	+44 28.7	1.928	2.772	12.9	20.4	11 7	4 55.61	+27 3.5	2.032	2.926	10.1	20.2
11 17	4 45.76	+44 37.1	1.873	2.773	10.3	20.2	11 17	4 46.38	+27 40.1	1.972	2.922	6.5	20.0
11 27	4 35.15	+44 21.4	1.843	2.775	8.2	20.1	11 27	4 35.39	+28 9.1	1.940	2.919	3.0	19.8
12 7	4 24.05	+43 40.4	1.839	2.777	7.6	20.1	12 7	4 23.77	+28 29.0	1.938	2.915	3.1	19.8
12 17	4 13.97	+42 37.2	1.862	2.780	9.0	20.2	12 17	4 12.72	+28 40.0	1.966	2.910	6.7	20.0
12 27	4 6.19	+41 18.7	1.911	2.782	11.3	20.3	12 27	4 3.40	+28 44.7	2.023	2.905	10.3	20.2
1 6	4 1.46	+39 53.4	1.983	2.786	13.9	20.5	1 6	3 56.60	+28 46.6	2.104	2.900	13.4	20.4
257924	2000 <i>WH</i> ₆₈	12 1.3	79°93'	0.4/	1.2	16	471010	2009 <i>SV</i> ₂₆₀	12 1.3	75°85'	3.8/	2.3	16
10 28	5 6.28	+22 50.2	1.374	2.208	17.8	21.3	10 28	5 5.51	+29 51.7	1.408	2.233	17.9	22.3
11 7	4 58.58	+22 22.4	1.335	2.242	13.2	21.1	11 7	4 58.57	+30 26.9	1.358	2.256	13.8	22.1
11 17	4 47.95	+21 47.7	1.317	2.276	7.9	20.9	11 17	4 48.29	+30 49.8	1.329	2.278	9.1	21.9
11 27	4 35.71	+21 7.7	1.325	2.309	2.4	20.7	11 27	4 35.93	+30 56.8	1.325	2.301	4.8	21.7
12 7	4 23.51	+20 26.0	1.362	2.342	3.2	20.8	12 7	4 23.23	+30 47.3	1.348	2.323	4.6	21.8
12 17	4 12.86	+19 47.2	1.426	2.373	8.3	21.2	12 17	4 11.93	+30 24.6	1.399	2.346	8.5	22.1
12 27	4 4.91	+19 16.1	1.516	2.404	12.7	21.6	12 27	4 3.43	+29 55.3	1.475	2.368	12.7	22.4
1 6	4 0.19	+18 55.5	1.628	2.435	16.2	21.9	1 6	3 58.45	+29 26.1	1.572	2.389	16.2	22.7
199611	2006 <i>FS</i> ₃₈	12 1.3	147°87'	2.3/30.3	1.8		472000	2013 <i>WG</i> ₃₀	12 1.3	5°00'	0.1/	1.4	16
10 28	4 53.91	+14 40.5	2.672	3.494	10.5	20.8	10 28	4 55.89	+22 2.9	1.042	1.910	19.7	21.2
11 7	4 48.57	+14 19.1	2.599	3.500	7.9	20.7	11 7	4 52.27	+22 11.5	0.984	1.909	14.9	20.9
11 17	4 41.69	+13 58.6	2.551	3.505	5.0	20.5	11 17	4 44.92	+22 15.2	0.944	1.910	9.1	20.6
11 27	4 33.85	+13 40.7	2.533	3.510	2.5	20.3	11 27	4 35.01	+22 13.6	0.927	1.911	2.8	20.2
12 7	4 25.77	+13 27.1	2.545	3.516	3.2	20.4	12 7	4 24.35	+22 8.0	0.933	1.914	3.7	20.3
12 17	4 18.18	+13 19.1	2.587	3.520	5.9	20.6	12 17	4 14.91	+22 1.3	0.963	1.919	9.8	20.7
12 27	4 11.76	+13 18.0	2.657	3.525	8.7	20.8	12 27	4 8.38	+21 57.9	1.015	1.925	15.3	21.0
1 6	4 7.00	+13 24.3	2.753	3.529	11.1	20.9	1 6	4 5.66	+22 1.2	1.085	1.932	19.9	21.3
466953	2016 <i>AH</i> ₁₂₈	12 1.3	336°80'	1°0/	1.1	18	266152	2006 <i>UG</i> ₅₉	12 1.3	306°52'	1.7/	1.8	18
10 28	4 55.59	+17 7.5	2.243	3.070	12.0	20.2	10 28	4 59.22	+25 58.5	1.347	2.191	17.6	21.3
11 7	4 50.29	+17 32.3	2.159	3.064	9.0	20.0	11 7	4 54.39	+26 5.5	1.268	2.180	13.4	21.0
11 17	4 42.99	+17 58.9	2.100	3.058	5.5	19.8	11 17	4 46.13	+26 3.7	1.209	2.168	8.5	20.7
11 27	4 34.31	+18 26.9	2.069	3.052	1.9	19.5	11 27	4 35.40	+25 51.2	1.174	2.157	3.3	20.3
12 7	4 25.15	+18 56.1	2.068	3.047	2.5	19.6	12 7	4 23.77	+25 28.5	1.166	2.146	3.5	20.3
12 17	4 16.45	+19 26.5	2.097	3.041	6.2	19.8	12 17	4 13.02	+24 59.0	1.183	2.136	8.9	20.6
12 27	4 9.14	+19 58.6	2.153	3.037	9.7	20.0	12 27	4 4.80	+24 28.6	1.225	2.126	14.0	20.9
1 6	4 3.87	+20 32.8	2.235	3.032	12.7	20.2	1 6	4 0.09	+24 3.2	1.287	2.116	18.4	21.1
214811	2006 <i>UV</i> ₂₃₃	12 1.3	329°68'	1°1/30.9	1.8		487175	2014 <i>OU</i> ₂₉₂	12 1.3	92°05'	4.2/	3.1	17
10 28	4 56.15	+20 22.7	1.777	2.615	14.2	20.7	10 28	4 58.59	+34 49.9	2.191	2.988	13.3	21.1
11 7	4 51.08	+19 58.6	1.701	2.611	10.7	20.5	11 7	4 52.71	+35 6.3	2.115	2.993	10.5	20.9
11 17	4 43.59	+19 30.6	1.648	2.608	6.5	20.3	11 17	4 44.50	+35 10.3	2.063	2.998	7.4	20.7
11 27	4 34.50	+19 0.1	1.622	2.606	2.2	20.0	11 27	4 34.78	+34 59.5	2.038	3.003	4.8	20.5
12 7	4 24.95	+18 29.8	1.624	2.603	3.1	20.0	12 7	4 24.66	+34 34.0	2.041	3.007	4.4	20.5
12 17	4 16.14	+18 2.9	1.654	2.600	7.5	20.3	12 17	4 15.31	+33 56.2	2.074	3.012	6.8	20.7
12 27	4 9.13	+17 42.5	1.711	2.598	11.5	20.5	12 27	4 7.75	+33 10.7	2.133	3.017	9.8	20.9
1 6	4 4.65	+17 31.1	1.790	2.596	15.0	20.8	1 6	4 2.66	+32 23.2	2.217	3.022	12.5	21.1
460177	2014 <i>QJ</i> ₃₈	12 1.3	44°01'	1°4/30.7	1.7		511896	2015 <i>HV</i> ₁₅	12 1.3	227°77'	3.9/30.1	1.8	
10 28	4 55.19	+20 46.6	1.877	2.713	13.7	21.2	10 28	4 59.41	+14 43.8	1.546	2.386	15.9	21.5
11 7	4 50.07	+20 0.7	1.812	2.722	10.1	21.0	11 7	4 53.78	+13 58.6	1.471	2.381	12.1	21.2
11 17	4 42.80	+19 10.1	1.772	2.732	6.2	20.8	11 17	4 45.38	+13 13.4	1.418	2.375	7.8	21.0
11 27	4 34.22	+18 17.4	1.758	2.741	2.1	20.6	11 27	4 35.10	+12 32.1	1.391	2.369	4.2	20.8
12 7	4 25.38	+17 26.0	1.774	2.752	3.1	20.7	12 7	4 24.24	+11 58.9	1.392	2.363	5.3	20.8
12 17	4 17.36	+16 40.1	1.818	2.762	7.1	20.9	12 17	4 14.20	+11 37.6	1.420	2.356	9.5	21.1
12 27	4 11.06	+16 3.2	1.889	2.772	10.8	21.2	12 27	4 6.23	+11 30.7	1.473	2.349	13.8	21.3
1 6	4 7.08	+15 37.3	1.983	2.783	14.0	21.4	1 6	4 1.12	+11 38.7	1.547	2.342	17.5	21.5
317700	2003 <i>QY</i>	12 1.3	125°73'	2.8/30.2	1.8		43014	1999 <i>UQ</i> ₅₁	12 1.3	133°41'	2.4/30.6	1.8	
10 28	4 54.92	+13 22.0	2.531	3.352	11.0	21.6	10 28	4 56.12	+14 1.4	2.325	3.148	11.8	18.1
11 7	4 49.34	+12 55.5	2.465	3.364	8.3	21.5	11 7	4 50.45	+13 58.2	2.252	3.154	8.9	18.0
11 17	4 42.16	+12 30.9	2.424	3.376	5.3	21.3	11 17	4 42.96	+13 57.3	2.205	3.159	5.6	17.8
11 27	4 34.01	+12 10.0	2.412	3.388	3.0	21.2	11 27	4 34.29	+13 59.9	2.186	3.164	2.8	17.6
12 7	4 25.65	+11 54.9	2.431	3.399	3.7	21.2	12 7	4 25.31	+14 7.1	2.196	3.169	3.4	17.6
12 17	4 17.85	+11 46.9	2.479	3.409	6.3	21.4	12 17	4 16.89	+14 19.7	2.237	3.174	6.5	17.9
12 27	4 11.31	+11 47.2	2.556	3.420	9.1	21.6	12 27	4 9.83	+14 38.4	2.306	3.178	9.6	18.1
1 6	4 6.52	+11 56.0	2.657	3.430	11.6	21.8	1 6	4 4.71	+15 3.3	2.399	3.183	12.3	18.3
484501	2008 <i>DM</i> ₇₆	12 1.3	353°43'	5.5/	2.9	17	450374	2005 <i>GB</i> ₁₀₇	12 1.3	127°61'	4.3/29.6	1.8	
10 28	4 58.13	+34 26.4	1.574	2.394	16.6	21.1	10 28	4 56.60	+11 37.8	2.050	2.877	13.0	22.0
11 7	4 53.30	+35 1.9	1.500	2.390	13.2	20.8	11 7	4 50.89	+10 46.6	1.986	2.887	9.9	21.8
11 17	4 45.30	+35 23.0	1.447	2.387	9.5	20.6	11 17	4 43.23	+9 58.3	1.947	2.896	6.7	21.7
11 27	4 35.09	+35 25.4	1.418	2.385	6.2	20.4	11 27	4 34.37	+9 16.4	1.936	2.905	4.4	21.5
12 7	4 24.18	+35 7.7	1.415	2.383	5.8	20.4	12 7	4 25.26	+8 44.4	1.953	2.914	5.2	21.6
12 17	4 14.20	+34 32.5	1.439	2.382	8.8	20.6	12 17	4 16.86	+8 24.7	2.000	2.923	8.1	21.8
12 27	4 6.62	+33 46.4	1.488	2.381	12.5	20.8	12 27	4 10.01	+8 18.6	2.073	2.931	11.2	22.0
1 6	4 2.31	+32 56.9	1.558	2.382	16.0	21.0	1 6	4 5.29	+8 25.8	2.168	2.938	13.9	22.2
51579	2001 <i>HY</i> ₈	12 1.3	112°03'	0.5/	1.1	18	166369	2002 <i>LM</i> ₂₈	12 1.3	144°06'	0.9/30.9	1.	

EPHEMERIDES

12 1.3

12 1.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
79120	1989 <i>TS</i> ₄		12 1.3	16°97	1.8/ 1.6	18	327986	2007 <i>GK</i> ₂₂		12 1.3	123°22	1.7/ 1.9	17
10 28	4 56.31	+23 3.4	1.105	1.968	19.2	17.8	10 28	4 57.71	+26 31.7	2.395	3.207	11.8	21.0
11 7	4 52.32	+23 53.0	1.057	1.979	14.4	17.5	11 7	4 51.78	+26 55.0	2.319	3.214	9.0	20.9
11 17	4 44.80	+24 38.6	1.028	1.991	9.0	17.3	11 17	4 43.85	+27 12.8	2.269	3.220	5.7	20.7
11 27	4 34.95	+25 16.8	1.022	2.006	3.3	17.0	11 27	4 34.62	+27 23.8	2.246	3.226	2.5	20.5
12 7	4 24.53	+25 45.8	1.041	2.022	3.7	17.1	12 7	4 25.01	+27 27.6	2.254	3.232	2.5	20.5
12 17	4 15.40	+26 6.2	1.084	2.040	9.1	17.4	12 17	4 15.98	+27 25.4	2.293	3.238	5.7	20.7
12 27	4 9.08	+26 21.6	1.150	2.059	14.1	17.8	12 27	4 8.42	+27 19.7	2.359	3.244	8.9	20.9
1 6	4 6.38	+26 35.7	1.236	2.080	18.1	18.1	1 6	4 2.96	+27 13.3	2.451	3.249	11.7	21.1
452679	2005 <i>XZ</i> ₂₀		12 1.3	32°52	0.4/ 1.5	15	211378	Williamwarneke		12 1.3	213°22	4.8/ 29.5	18
10 28	4 56.64	+23 15.7	1.826	2.660	14.1	21.4	10 28	4 56.03	+10 6.5	2.034	2.861	13.1	21.1
11 7	4 51.40	+23 18.7	1.757	2.665	10.6	21.2	11 7	4 50.63	+9 19.3	1.959	2.858	10.1	20.9
11 17	4 43.77	+23 16.9	1.712	2.670	6.5	21.0	11 17	4 43.19	+8 35.8	1.907	2.854	7.0	20.7
11 27	4 34.58	+23 10.0	1.693	2.676	2.1	20.7	11 27	4 34.43	+7 59.9	1.883	2.850	4.9	20.6
12 7	4 24.99	+22 59.1	1.702	2.682	2.5	20.8	12 7	4 25.27	+7 34.9	1.888	2.846	5.7	20.6
12 17	4 16.17	+22 46.2	1.740	2.689	6.9	21.1	12 17	4 16.72	+7 23.3	1.921	2.841	8.5	20.8
12 27	4 9.18	+22 34.5	1.804	2.696	10.8	21.3	12 27	4 9.69	+7 26.1	1.980	2.837	11.7	21.0
1 6	4 4.70	+22 26.7	1.891	2.703	14.1	21.5	1 6	4 4.78	+7 42.6	2.062	2.832	14.5	21.1
276180	2002 <i>PV</i> ₁₁₉		12 1.3	73°54	7.3/ 5.4	17	35310	1997 <i>AX</i> ₁		12 1.3	20°07	8.0/ 5.1	18
10 28	5 2.54	+45 56.3	2.328	3.074	14.1	20.4	10 28	5 1.53	+44 15.4	1.843	2.615	16.4	17.8
11 7	4 55.75	+46 24.1	2.265	3.091	11.9	20.2	11 7	4 55.65	+44 40.2	1.771	2.618	13.8	17.6
11 17	4 46.35	+46 33.0	2.223	3.107	9.6	20.1	11 17	4 46.61	+44 43.6	1.720	2.621	11.0	17.5
11 27	4 35.34	+46 19.3	2.205	3.124	7.9	20.0	11 27	4 35.50	+44 20.5	1.691	2.625	8.7	17.3
12 7	4 24.07	+45 42.3	2.215	3.141	7.3	20.0	12 7	4 23.93	+43 29.9	1.689	2.629	8.0	17.3
12 17	4 13.84	+44 44.9	2.252	3.157	8.3	20.1	12 17	4 13.52	+42 15.8	1.713	2.634	9.4	17.4
12 27	4 5.78	+43 33.2	2.316	3.174	10.2	20.3	12 27	4 5.65	+40 46.2	1.763	2.639	11.9	17.6
1 6	4 0.51	+42 14.8	2.404	3.191	12.2	20.5	1 6	4 1.06	+39 10.9	1.837	2.644	14.6	17.8
396950	2005 <i>JC</i> ₁₈₅		12 1.3	132°94	4.5/ 29.8	18	397257	2006 <i>QA</i> ₁₃₀		12 1.3	66°11	5.7/ 4.0	17
10 28	4 56.55	+9 42.7	2.126	2.949	12.8	21.9	10 28	5 1.69	+38 44.9	1.789	2.582	16.0	20.1
11 7	4 50.82	+9 6.6	2.061	2.958	9.8	21.8	11 7	4 55.46	+38 47.1	1.722	2.592	12.9	19.9
11 17	4 43.19	+8 35.2	2.021	2.967	6.7	21.6	11 17	4 46.32	+38 30.4	1.676	2.603	9.5	19.7
11 27	4 34.38	+8 11.8	2.008	2.975	4.6	21.5	11 27	4 35.39	+37 51.8	1.655	2.613	6.5	19.6
12 7	4 25.30	+7 58.7	2.025	2.983	5.3	21.5	12 7	4 24.14	+36 52.1	1.661	2.623	5.9	19.6
12 17	4 16.88	+7 57.7	2.070	2.991	8.0	21.7	12 17	4 14.06	+35 36.1	1.696	2.634	8.1	19.7
12 27	4 9.95	+8 9.1	2.142	2.998	11.0	21.9	12 27	4 6.38	+34 11.9	1.757	2.644	11.3	19.9
1 6	4 5.07	+8 32.2	2.237	3.005	13.6	22.1	1 6	4 1.75	+32 48.0	1.842	2.655	14.4	20.2
30151	Susanoffner		12 1.3	313°75	3.4/ 30.2	18	339104	2004 <i>RF</i> ₁₉₇		12 1.3	34°36	4.4/ 29.9	18
10 28	4 57.18	+16 46.4	1.444	2.292	16.4	18.7	10 28	4 56.47	+14 39.0	1.344	2.197	17.0	20.2
11 7	4 52.29	+15 55.8	1.371	2.286	12.3	18.4	11 7	4 51.67	+13 41.9	1.290	2.206	12.8	19.9
11 17	4 44.54	+15 2.8	1.320	2.280	7.8	18.1	11 17	4 44.06	+12 45.9	1.257	2.216	8.3	19.7
11 27	4 34.87	+14 11.4	1.295	2.275	3.8	17.9	11 27	4 34.71	+11 55.9	1.248	2.226	4.7	19.5
12 7	4 24.63	+13 26.5	1.296	2.270	5.0	18.0	12 7	4 25.01	+11 17.3	1.266	2.236	5.9	19.6
12 17	4 15.26	+12 52.8	1.324	2.265	9.6	18.2	12 17	4 16.38	+10 53.7	1.310	2.247	10.0	19.9
12 27	4 8.05	+12 33.8	1.376	2.260	14.0	18.5	12 27	4 10.01	+10 47.3	1.377	2.259	14.2	20.2
1 6	4 3.79	+12 30.6	1.449	2.256	17.9	18.7	1 6	4 6.57	+10 57.4	1.464	2.271	17.7	20.4
294294	2007 <i>VD</i>		12 1.3	176°90	0.9/ 1.1	18	85753	1998 <i>SV</i> ₁₅₃		12 1.3	187°46	3.5/ 30.4	18
10 28	4 59.24	+18 59.9	2.332	3.149	11.9	21.5	10 28	4 59.52	+14 10.2	1.660	2.495	15.2	20.1
11 7	4 52.86	+19 2.1	2.252	3.152	8.9	21.3	11 7	4 53.68	+13 43.6	1.588	2.495	11.5	19.9
11 17	4 44.48	+19 3.1	2.197	3.154	5.5	21.0	11 17	4 45.25	+13 18.9	1.539	2.495	7.4	19.7
11 27	4 34.81	+19 3.1	2.171	3.155	1.8	20.8	11 27	4 35.10	+12 58.8	1.516	2.494	3.9	19.4
12 7	4 24.74	+19 3.0	2.177	3.155	2.5	20.9	12 7	4 24.45	+12 46.1	1.521	2.493	4.8	19.5
12 17	4 15.25	+19 3.8	2.212	3.155	6.1	21.1	12 17	4 14.60	+12 43.0	1.555	2.492	8.8	19.7
12 27	4 7.21	+19 7.4	2.277	3.154	9.5	21.3	12 27	4 6.70	+12 51.2	1.614	2.490	12.8	20.0
1 6	4 1.25	+19 15.1	2.366	3.153	12.4	21.5	1 6	4 1.49	+13 10.7	1.695	2.488	16.3	20.2
361335	2006 <i>UY</i> ₉₀		12 1.3	32°28	2.2/ 1.9	18	363853	2005 <i>QX</i> ₁₂₇		12 1.3	231°72	1.4/ 1.8	17
10 28	4 58.36	+26 29.6	1.559	2.394	16.0	20.4	10 28	4 57.89	+25 59.0	2.059	2.880	13.2	21.4
11 7	4 53.08	+26 55.2	1.498	2.404	12.1	20.2	11 7	4 52.25	+26 8.7	1.978	2.878	10.0	21.2
11 17	4 44.96	+27 13.2	1.459	2.415	7.7	20.0	11 17	4 44.30	+26 12.0	1.921	2.875	6.3	21.0
11 27	4 34.99	+27 21.6	1.446	2.427	3.3	19.8	11 27	4 34.81	+26 7.9	1.891	2.872	2.5	20.7
12 7	4 24.55	+27 20.1	1.460	2.439	3.4	19.8	12 7	4 24.82	+25 56.8	1.890	2.869	2.6	20.8
12 17	4 15.10	+27 10.8	1.501	2.451	7.6	20.1	12 17	4 15.47	+25 40.6	1.918	2.866	6.5	21.0
12 27	4 7.88	+26 58.0	1.568	2.465	11.8	20.4	12 27	4 7.81	+25 22.6	1.974	2.863	10.2	21.2
1 6	4 3.63	+26 46.1	1.657	2.478	15.3	20.6	1 6	4 2.53	+25 6.2	2.054	2.860	13.4	21.4
430598	2002 <i>SZ</i> ₇₄		12 1.3	128°79	0.1/ 1.3	18	279348	2009 <i>YK</i> ₂₂		12 1.3	296°96	4.1/ 29.9	18
10 28	5 2.16	+21 55.7	1.660	2.490	15.4	22.1	10 28	4 53.66	+9 36.9	2.312	3.137	11.8	20.5
11 7	4 55.63	+21 51.9	1.595	2.501	11.6	21.9	11 7	4 48.73	+9 16.2	2.231	3.129	9.1	20.3
11 17	4 46.38	+21 43.6	1.553	2.511	7.0	21.7	11 17	4 42.00	+9 0.3	2.174	3.121	6.3	20.1
11 27	4 35.41	+21 30.8	1.537	2.521	2.1	21.4	11 27	4 34.08	+8 51.7	2.146	3.114	4.2	20.0
12 7	4 24.03	+21 14.9	1.551	2.531	2.8	21.5	12 7	4 25.78	+8 52.3	2.146	3.106	4.8	20.0
12 17	4 13.63	+20 58.5	1.593	2.540	7.6	21.8	12 17	4 17.94	+9 3.3	2.175	3.099	7.5	20.2
12 27	4 5.37	+20 45.3	1.661	2.549	11.8	22.1	12 27	4 11.38	+9 25.1	2.231	3.092	10.4	20.4
1 6	3 59.99	+20 38.0	1.752	2.557	15.3	22.3	1 6	4 6.68	+9 56.8	2.310	3.085	13.0	20.5
52246	Donaldjohanson		12 1.3	326°43	0.9/ 1.6	18	41095	1999 <i>VK</i> ₆₁		12 1.3	43°57	2.1/ 1.9	18
10 28	4 55.46	+25 50.4	1.										

EPHEMERIDES

12 1.3

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	
290237	2005 <i>SN</i> ₈₁	12	1.3	27°79	0°7/	1.1	17	227361	2005 <i>UV</i> ₁₄₈	12	1.3	308°32	1°4/30.8	18
10 28	4 55.94	+20 55.7	1.697	2.537	14.7	20.9	10 28	4 57.86	+21 18.7	1.490	2.334	16.2	20.0	
11 7	4 50.97	+20 42.5	1.632	2.543	11.0	20.7	11 7	4 52.82	+20 36.0	1.414	2.328	12.1	19.7	
11 17	4 43.55	+20 25.6	1.589	2.550	6.7	20.4	11 17	4 44.90	+19 46.4	1.361	2.323	7.4	19.4	
11 27	4 34.57	+20 6.1	1.573	2.557	2.1	20.2	11 27	4 35.06	+18 52.3	1.334	2.317	2.5	19.1	
12 7	4 25.20	+19 46.0	1.585	2.565	2.9	20.2	12 7	4 24.65	+17 57.9	1.333	2.312	3.6	19.2	
12 17	4 16.67	+19 28.0	1.624	2.573	7.4	20.5	12 17	4 15.14	+17 8.6	1.360	2.307	8.6	19.5	
12 27	4 10.04	+19 15.1	1.690	2.581	11.4	20.8	12 27	4 7.81	+16 29.4	1.412	2.303	13.3	19.7	
1 6	4 5.99	+19 9.5	1.778	2.590	14.8	21.0	1 6	4 3.44	+16 3.5	1.485	2.298	17.2	20.0	
133208	2003 <i>QG</i> ₆₈	12	1.3	175°43	2°3/	2.1	18	414320	2008 <i>RO</i> ₁₄₀	12	1.3	104°79	3°7/29.6	18
10 28	5 0.56	+28 36.6	1.937	2.753	14.1	20.8	10 28	4 54.24	+11 6.9	2.527	3.348	11.0	21.4	
11 7	4 54.37	+28 44.4	1.859	2.754	10.8	20.6	11 7	4 48.83	+10 21.2	2.468	3.365	8.4	21.3	
11 17	4 45.64	+28 43.0	1.805	2.755	7.0	20.4	11 17	4 41.88	+9 38.5	2.434	3.381	5.7	21.1	
11 27	4 35.23	+28 30.9	1.777	2.756	3.2	20.2	11 27	4 34.03	+9 1.6	2.429	3.397	3.8	21.0	
12 7	4 24.33	+28 8.4	1.779	2.757	3.2	20.2	12 7	4 26.02	+8 33.0	2.454	3.412	4.5	21.1	
12 17	4 14.21	+27 38.3	1.810	2.757	6.9	20.4	12 17	4 18.60	+8 14.7	2.508	3.428	6.8	21.3	
12 27	4 6.02	+27 4.9	1.868	2.757	10.7	20.6	12 27	4 12.42	+8 7.5	2.590	3.443	9.4	21.5	
1 6	4 0.47	+26 33.1	1.950	2.756	14.0	20.8	1 6	4 7.94	+8 11.4	2.696	3.458	11.7	21.7	
495677	2016 <i>AW</i> ₁₈₉	12	1.3	322°08	5°4/29.8	1.8	18	228511	2001 <i>TZ</i> ₉₃	12	1.3	63°29	1°0/1.6	18
10 28	4 53.72	+8 7.4	1.845	2.679	13.9	20.6	10 28	5 2.44	+25 14.6	1.367	2.206	17.7	20.4	
11 7	4 49.29	+7 42.0	1.759	2.660	10.9	20.3	11 7	4 56.08	+25 5.5	1.321	2.230	13.2	20.2	
11 17	4 42.60	+7 23.7	1.695	2.641	7.8	20.1	11 17	4 46.70	+24 47.5	1.297	2.255	8.1	20.0	
11 27	4 34.32	+7 16.1	1.657	2.623	5.5	19.9	11 27	4 35.53	+24 20.6	1.297	2.280	2.7	19.7	
12 7	4 25.45	+7 22.0	1.647	2.605	6.3	19.9	12 7	4 24.19	+23 47.4	1.325	2.305	3.1	19.8	
12 17	4 17.06	+7 42.9	1.663	2.588	9.3	20.1	12 17	4 14.24	+23 12.2	1.380	2.331	8.1	20.2	
12 27	4 10.22	+8 18.7	1.705	2.572	12.8	20.3	12 27	4 6.88	+22 40.4	1.460	2.355	12.6	20.5	
1 6	4 5.66	+9 7.8	1.769	2.556	15.9	20.4	1 6	4 2.75	+22 16.1	1.561	2.380	16.2	20.8	
223841	2004 <i>TO</i> ₁₆₂	12	1.3	37°64	2°8/	2.1	17	458562	2011 <i>EK</i> ₅₄	12	1.3	262°33	6°8/27.8	18
10 28	4 58.45	+28 35.2	2.069	2.885	13.3	20.4	10 28	4 52.48	+1 4.0	2.555	3.360	11.4	21.9	
11 7	4 52.72	+29 10.2	1.994	2.888	10.2	20.2	11 7	4 47.70	+0 0.8	2.475	3.347	9.4	21.7	
11 17	4 44.62	+29 38.0	1.942	2.891	6.7	20.0	11 17	4 41.33	-0 54.4	2.419	3.333	7.6	21.6	
11 27	4 34.92	+29 56.3	1.918	2.894	3.5	19.8	11 27	4 33.91	-1 37.0	2.390	3.319	6.8	21.5	
12 7	4 24.72	+30 4.2	1.922	2.897	3.4	19.8	12 7	4 26.15	-2 3.7	2.390	3.305	7.4	21.5	
12 17	4 15.17	+30 2.6	1.956	2.901	6.6	20.0	12 17	4 18.78	-2 12.5	2.416	3.291	9.2	21.6	
12 27	4 7.36	+29 54.8	2.017	2.904	10.0	20.2	12 27	4 12.53	-2 3.1	2.468	3.277	11.3	21.7	
1 6	4 2.00	+29 44.5	2.102	2.908	13.1	20.4	1 6	4 7.92	-1 37.1	2.542	3.262	13.3	21.9	
179851	2002 <i>TP</i> ₂₅₃	12	1.3	91°16	0°8/	1.1	18	292336	2006 <i>SW</i> ₁₈₆	12	1.3	56°61	2°2/1.9	18
10 28	5 3.63	+20 24.5	1.557	2.388	16.2	19.9	10 28	4 59.11	+27 12.8	1.857	2.680	14.3	20.8	
11 7	4 56.62	+20 18.8	1.506	2.413	12.0	19.7	11 7	4 53.39	+27 36.7	1.784	2.684	10.9	20.6	
11 17	4 46.90	+20 9.9	1.479	2.438	7.3	19.5	11 17	4 45.10	+27 53.5	1.735	2.688	7.0	20.4	
11 27	4 35.56	+19 58.3	1.478	2.462	2.3	19.3	11 27	4 35.11	+28 1.0	1.713	2.692	3.2	20.1	
12 7	4 24.03	+19 45.6	1.505	2.485	3.1	19.4	12 7	4 24.61	+27 58.9	1.719	2.696	3.2	20.1	
12 17	4 13.67	+19 34.4	1.561	2.508	7.8	19.7	12 17	4 14.88	+27 49.1	1.753	2.701	7.0	20.4	
12 27	4 5.64	+19 27.7	1.644	2.530	12.0	20.0	12 27	4 7.08	+27 35.0	1.815	2.705	10.8	20.6	
1 6	4 0.55	+19 27.7	1.748	2.552	15.4	20.3	1 6	4 1.94	+27 20.9	1.899	2.710	14.1	20.9	
260369	2004 <i>UY</i> ₁₀	12	1.3	59°26	3°3/30.7	1.8	18	93280	2000 <i>SW</i> ₁₈₆	12	1.3	323°86	8°4/4.4	18
10 28	4 57.44	+10 55.3	2.053	2.878	13.1	19.9	10 28	5 0.35	+41 13.6	1.432	2.235	18.8	19.5	
11 7	4 51.63	+11 5.0	1.986	2.886	9.9	19.7	11 7	4 55.71	+41 42.4	1.349	2.221	15.7	19.2	
11 17	4 43.79	+11 20.5	1.944	2.895	6.5	19.5	11 17	4 47.18	+41 48.3	1.286	2.207	12.2	19.0	
11 27	4 34.64	+11 43.0	1.929	2.904	3.7	19.4	11 27	4 35.86	+41 24.5	1.244	2.194	9.2	18.8	
12 7	4 25.13	+12 12.8	1.943	2.913	4.2	19.4	12 7	4 23.59	+40 28.5	1.226	2.181	8.5	18.7	
12 17	4 16.28	+12 49.7	1.987	2.921	7.3	19.7	12 17	4 12.46	+39 4.4	1.234	2.170	10.7	18.8	
12 27	4 8.97	+13 33.3	2.058	2.930	10.6	19.9	12 27	4 4.28	+37 22.6	1.266	2.158	14.3	19.0	
1 6	4 3.82	+14 22.6	2.153	2.940	13.5	20.1	1 6	4 0.07	+35 35.8	1.318	2.148	18.0	19.2	
517021	2012 <i>US</i> ₉₈	12	1.3	171°24	2°9/	2.1	18	232254	2002 <i>PP</i> ₁₀₇	12	1.4	144°73	0°5/1.6	17
10 28	5 2.18	+28 20.5	1.765	2.584	15.1	21.5	10 28	4 55.33	+25 9.8	2.449	3.267	11.4	20.9	
11 7	4 55.89	+28 54.7	1.689	2.585	11.6	21.3	11 7	4 49.91	+24 47.5	2.371	3.270	8.6	20.7	
11 17	4 46.74	+29 20.9	1.636	2.586	7.6	21.1	11 17	4 42.67	+24 18.8	2.318	3.273	5.3	20.5	
11 27	4 35.61	+29 36.0	1.610	2.587	3.8	20.9	11 27	4 34.31	+23 44.3	2.293	3.276	1.7	20.3	
12 7	4 23.85	+29 38.8	1.612	2.588	3.8	20.9	12 7	4 25.67	+23 5.9	2.299	3.279	2.0	20.3	
12 17	4 12.89	+29 30.7	1.643	2.589	7.6	21.1	12 17	4 17.63	+22 26.3	2.335	3.282	5.5	20.6	
12 27	4 4.05	+29 16.0	1.700	2.589	11.5	21.3	12 27	4 10.98	+21 48.8	2.399	3.284	8.8	20.8	
1 6	3 58.16	+28 59.8	1.780	2.589	15.0	21.6	1 6	4 6.27	+21 16.2	2.489	3.287	11.5	21.0	
320138	2007 <i>EN</i> ₂₁₄	12	1.3	71°36	4°2/29.7	1.8	18	422140	2014 <i>QY</i> ₄₃₀	12	1.4	52°35	6°3/29.1	18
10 28	4 54.90	+11 17.7	2.053	2.884	12.9	20.4	10 28	4 54.09	+5 36.6	1.969	2.795	13.5	21.0	
11 7	4 49.64	+10 31.8	1.996	2.898	9.8	20.2	11 7	4 49.10	+4 42.9	1.915	2.808	10.7	20.8	
11 17	4 42.50	+9 49.5	1.962	2.912	6.6	20.1	11 17	4 42.20	+3 57.7	1.885	2.821	7.9	20.7	
11 27	4 34.23	+9 14.3	1.956	2.926	4.4	20.0	11 27	4 34.16	+3 25.2	1.881	2.834	6.3	20.6	
12 7	4 25.75	+8 49.0	1.979	2.940	5.1	20.1	12 7	4 25.90	+3 8.8	1.905	2.848	7.0	20.7	
12 17	4 17.98	+8 35.9	2.030	2.955	7.9	20.2	12 17	4 18.34	+3 9.8	1.955	2.861	9.3	20.9	
12 27	4 11.72	+8 35.8	2.108	2.969	10.9	20.5	12 27	4 12.31	+3 27.8	2.031	2.875	12.0	21.1	
1 6	4 7.51	+8 48.0	2.208	2.983	13.5	20.7	1 6	4 8.33	+4 0.8	2.129	2.889	14.4	21.3	
91010	1998 <i>CD</i> ₁	12	1.3	339°54	1°3/	1.6	18	152030	2004 <i>N7</i> ₂₁	12	1.4			

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
348714	2006 <i>DF</i> ₃₄	12 1.4	63°97	1.3/1.7	18		27553	2000 <i>JB</i> ₃₉	12 1.4	329°12	0.7/1.6	18	
10 28	5 0.33	+25 15.4	1.550	2.384	16.1	20.0	10 28	4 54.69	+23 51.6	1.990	2.822	13.2	18.6
11 7	4 54.47	+25 21.9	1.492	2.398	12.1	19.8	11 7	4 50.01	+23 56.0	1.904	2.811	9.9	18.4
11 17	4 45.78	+25 20.9	1.455	2.412	7.5	19.6	11 17	4 43.04	+23 55.5	1.842	2.800	6.2	18.1
11 27	4 35.30	+25 11.5	1.444	2.427	2.7	19.3	11 27	4 34.52	+23 49.8	1.806	2.790	2.1	17.9
12 7	4 24.45	+24 54.8	1.461	2.441	3.0	19.4	12 7	4 25.45	+23 39.6	1.800	2.780	2.4	17.9
12 17	4 14.66	+24 33.7	1.505	2.456	7.6	19.7	12 17	4 16.94	+23 26.8	1.821	2.771	6.6	18.1
12 27	4 7.15	+24 12.6	1.576	2.470	11.9	20.0	12 27	4 10.04	+23 14.2	1.870	2.762	10.4	18.3
1 6	4 2.63	+23 55.6	1.668	2.485	15.5	20.2	1 6	4 5.47	+23 4.8	1.942	2.754	13.8	18.5
416476	2003 <i>WJ</i> ₁₀₄	12 1.4	7°65	1.7/30.6	17		29844	1999 <i>FM</i> ₁₉	12 1.4	201°03	1.5/30.8	18	
10 28	4 50.97	+21 54.4	1.367	2.227	16.4	19.6	10 28	4 56.59	+18 18.0	2.150	2.977	12.5	18.5
11 7	4 47.70	+20 51.4	1.308	2.230	12.2	19.4	11 7	4 51.07	+18 1.1	2.071	2.976	9.3	18.3
11 17	4 41.72	+19 40.4	1.271	2.235	7.4	19.1	11 17	4 43.52	+17 42.7	2.016	2.974	5.7	18.0
11 27	4 34.06	+18 25.8	1.258	2.242	2.6	18.8	11 27	4 34.63	+17 24.1	1.989	2.972	2.2	17.8
12 7	4 26.06	+17 13.7	1.272	2.251	3.8	18.9	12 7	4 25.34	+17 7.0	1.992	2.969	2.9	17.9
12 17	4 19.04	+16 10.5	1.311	2.261	8.6	19.2	12 17	4 16.65	+16 53.6	2.024	2.967	6.6	18.1
12 27	4 14.14	+15 21.2	1.375	2.272	13.1	19.5	12 27	4 9.45	+16 46.0	2.084	2.964	10.2	18.3
1 6	4 12.01	+14 48.3	1.459	2.285	16.8	19.8	1 6	4 4.39	+16 45.6	2.168	2.961	13.2	18.5
123983	2001 <i>FW</i> ₄₆	12 1.4	225°51	1.3/1.9	18		447643	2006 <i>VY</i> ₅₈	12 1.4	339°22	0.1/1.3	18	
10 28	4 56.13	+27 19.7	2.981	3.785	10.0	21.1	10 28	4 57.98	+19 58.3	1.697	2.534	14.8	20.9
11 7	4 50.37	+27 18.6	2.883	3.773	7.6	20.9	11 7	4 52.76	+20 25.1	1.619	2.528	11.2	20.7
11 17	4 42.95	+27 11.5	2.811	3.760	4.8	20.7	11 17	4 44.87	+20 51.5	1.563	2.523	6.9	20.4
11 27	4 34.42	+26 57.8	2.768	3.748	2.0	20.5	11 27	4 35.11	+21 16.7	1.534	2.518	2.1	20.1
12 7	4 25.52	+26 38.2	2.756	3.734	2.1	20.5	12 7	4 24.69	+21 40.1	1.533	2.514	2.8	20.1
12 17	4 17.02	+26 14.2	2.775	3.720	4.9	20.7	12 17	4 14.92	+22 2.0	1.560	2.510	7.5	20.4
12 27	4 9.66	+25 48.2	2.824	3.706	7.7	20.9	12 27	4 7.06	+22 23.9	1.614	2.506	11.8	20.7
1 6	4 3.99	+25 23.1	2.899	3.691	10.2	21.0	1 6	4 1.94	+22 47.6	1.690	2.503	15.4	20.9
410612	2008 <i>MV</i> ₄	12 1.4	54°70	4.1/29.5	18		116655	2004 <i>CW</i> ₃₃	12 1.4	94°26	3.7/30.3	18	
10 28	4 56.25	+13 45.3	1.890	2.724	13.7	20.6	10 28	5 1.02	+14 30.8	1.540	2.377	16.1	20.3
11 7	4 50.59	+12 32.8	1.848	2.753	10.2	20.5	11 7	4 54.70	+13 53.3	1.488	2.396	12.1	20.1
11 17	4 43.02	+11 22.2	1.830	2.783	6.7	20.3	11 17	4 45.78	+13 17.6	1.458	2.414	7.7	19.9
11 27	4 34.38	+10 18.1	1.840	2.812	4.2	20.2	11 27	4 35.30	+12 47.1	1.454	2.432	4.1	19.7
12 7	4 25.71	+9 24.8	1.878	2.842	5.1	20.4	12 7	4 24.59	+12 25.0	1.479	2.450	5.0	19.8
12 17	4 17.94	+8 45.5	1.946	2.871	8.1	20.6	12 17	4 14.95	+12 14.0	1.531	2.467	8.9	20.1
12 27	4 11.87	+8 21.7	2.039	2.901	11.2	20.9	12 27	4 7.47	+12 15.6	1.608	2.484	12.8	20.4
1 6	4 7.97	+8 13.1	2.155	2.930	13.8	21.1	1 6	4 2.79	+12 29.5	1.707	2.500	16.2	20.6
3128	<i>Obruchev</i>	12 1.4	124°78	0.6/1.1	18 R		374704	2006 <i>RF</i> ₆₈	12 1.4	7°66	2.6/30.7	18	
10 28	4 55.57	+20 12.0	2.590	3.410	10.8	17.5	10 28	4 56.50	+18 22.8	1.103	1.969	19.1	20.3
11 7	4 49.92	+20 3.1	2.520	3.421	8.0	17.3	11 7	4 52.47	+17 52.5	1.045	1.969	14.3	20.0
11 17	4 42.62	+19 52.1	2.475	3.432	4.9	17.2	11 17	4 44.97	+17 19.7	1.006	1.970	8.9	19.7
11 27	4 34.30	+19 39.5	2.459	3.443	1.6	16.9	11 27	4 35.16	+16 47.6	0.989	1.972	3.5	19.4
12 7	4 25.74	+19 26.5	2.474	3.453	2.1	17.0	12 7	4 24.73	+16 20.4	0.997	1.975	4.7	19.5
12 17	4 17.73	+19 14.8	2.519	3.463	5.4	17.2	12 17	4 15.47	+16 2.4	1.029	1.979	10.3	19.8
12 27	4 11.01	+19 6.1	2.593	3.473	8.4	17.5	12 27	4 8.91	+15 57.1	1.083	1.984	15.4	20.1
1 6	4 6.07	+19 1.9	2.693	3.482	11.0	17.6	1 6	4 5.89	+16 5.5	1.156	1.990	19.8	20.4
446503	2014 <i>KC</i> ₆₇	12 1.4	191°90	2.0/30.7	18		211056	2002 <i>CY</i> ₁₁₃	12 1.4	126°41	0.1/1.3	18	
10 28	4 57.64	+17 2.3	2.098	2.925	12.8	22.3	10 28	5 2.09	+21 48.5	1.401	2.241	17.2	20.3
11 7	4 51.87	+16 42.9	2.020	2.924	9.6	22.1	11 7	4 56.15	+21 48.1	1.334	2.245	12.9	20.0
11 17	4 44.00	+16 22.9	1.966	2.923	6.0	21.9	11 17	4 47.03	+21 43.0	1.289	2.249	7.9	19.8
11 27	4 34.76	+16 3.8	1.939	2.921	2.5	21.6	11 27	4 35.78	+21 33.2	1.269	2.253	2.4	19.4
12 7	4 25.12	+15 47.6	1.943	2.919	3.3	21.7	12 7	4 23.93	+21 19.8	1.276	2.256	3.2	19.5
12 17	4 16.09	+15 36.2	1.976	2.916	7.0	21.9	12 17	4 13.13	+21 5.9	1.310	2.260	8.6	19.8
12 27	4 8.61	+15 31.8	2.037	2.913	10.5	22.1	12 27	4 4.80	+20 55.4	1.369	2.263	13.4	20.1
1 6	4 3.32	+15 35.3	2.121	2.910	13.6	22.3	1 6	3 59.76	+20 51.6	1.449	2.266	17.4	20.4
455037	2015 <i>UP</i>	12 1.4	61°16	1.8/1.8	15		152924	2000 <i>EM</i> ₆₅	12 1.4	211°17	2.9/2.3	18	
10 28	5 1.29	+25 25.7	1.727	2.553	15.1	21.3	10 28	5 2.44	+29 36.8	1.850	2.663	14.8	21.1
11 7	4 54.88	+25 54.9	1.676	2.577	11.3	21.1	11 7	4 56.06	+29 53.4	1.766	2.658	11.4	20.9
11 17	4 45.89	+26 17.5	1.647	2.602	7.1	20.9	11 17	4 46.87	+30 0.2	1.705	2.653	7.6	20.6
11 27	4 35.33	+26 31.8	1.645	2.627	2.9	20.7	11 27	4 35.73	+29 54.5	1.670	2.647	3.8	20.4
12 7	4 24.48	+26 37.5	1.672	2.651	3.0	20.7	12 7	4 23.94	+29 36.1	1.665	2.641	3.7	20.4
12 17	4 14.65	+26 36.3	1.728	2.676	7.0	21.0	12 17	4 12.91	+29 7.3	1.688	2.634	7.4	20.6
12 27	4 6.95	+26 31.6	1.810	2.701	10.8	21.3	12 27	4 3.93	+28 33.0	1.738	2.626	11.3	20.8
1 6	4 2.02	+26 27.3	1.915	2.725	14.0	21.6	1 6	3 57.84	+27 58.9	1.812	2.618	14.8	21.0
18008	1999 <i>JV</i> ₉₉	12 1.4	17°21	7.6/29.9	18		318961	2005 <i>UV</i> ₂₄₇	12 1.4	139°99	0.5/1.6	18	
10 28	4 56.03	+ 2 5.7	1.708	2.531	15.4	17.2	10 28	4 57.34	+23 42.6	2.107	2.930	12.8	21.7
11 7	4 50.91	+ 1 40.8	1.647	2.534	12.4	17.0	11 7	4 51.74	+23 44.0	2.030	2.933	9.6	21.5
11 17	4 43.50	+ 1 29.6	1.607	2.538	9.5	16.9	11 17	4 43.98	+23 40.6	1.978	2.935	5.9	21.3
11 27	4 34.62	+ 1 36.4	1.593	2.542	7.7	16.8	11 27	4 34.81	+23 32.0	1.954	2.937	2.0	21.0
12 7	4 25.35	+ 2 3.5	1.605	2.546	8.2	16.8	12 7	4 25.23	+23 19.2	1.959	2.939	2.3	21.1
12 17	4 16.83	+ 2 50.6	1.643	2.551	10.6	17.0	12 17	4 16.31	+23 4.2	1.993	2.941	6.3	21.3
12 27	4 10.05	+ 3 55.2	1.706	2.557	13.6	17.2	12 27	4 8.99	+22 49.7	2.055	2.943	9.9	21.5
1 6	4 5.69	+ 5 13.3	1.791	2.563	16.3	17.4	1 6	4 3.94	+22 38.5	2.141	2.944	13.0	21.8
102872	1999 <i>WE</i> ₁₁	12 1.4	181°39	0.5/1.2	18		119099	2001 <i>OR</i> ₄₀	12 1.4	13°70	2.2/1.0	18	
10 28													

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
361803	2008 <i>CD</i> ₂₄	12 1.4 21°17'	2°7'/30.6	18			460470	2014 <i>SL</i> ₂₆₅	12 1.4 353°32'	5°9'/2.6	17		
10 28	4 56.07	+15 44.4	1.743	2.582	14.4	20.6	10 28	4 56.29	+33 25.3	1.563	2.389	16.4	19.6
11 7	4 51.03	+15 22.3	1.675	2.585	10.8	20.4	11 7	4 52.17	+34 30.7	1.488	2.380	13.1	19.4
11 17	4 43.64	+15 1.0	1.629	2.587	6.8	20.1	11 17	4 44.85	+35 25.1	1.433	2.374	9.5	19.2
11 27	4 34.72	+14 42.7	1.610	2.590	3.2	19.9	11 27	4 35.23	+36 3.0	1.403	2.368	6.5	19.0
12 7	4 25.39	+14 29.8	1.619	2.593	4.1	20.0	12 7	4 24.73	+36 21.1	1.399	2.363	6.3	19.0
12 17	4 16.80	+14 24.4	1.656	2.597	7.9	20.2	12 17	4 14.99	+36 19.8	1.420	2.360	9.1	19.1
12 27	4 10.01	+14 28.3	1.718	2.601	11.8	20.5	12 27	4 7.54	+36 3.8	1.466	2.359	12.7	19.3
1 6	4 5.67	+14 42.0	1.803	2.605	15.1	20.7	1 6	4 3.38	+35 39.9	1.533	2.358	16.2	19.6
112281	2002 <i>LG</i> ₂₈	12 1.4 42°03'	5°1'/30.7	18			474520	2003 <i>UA</i> ₂₃₁	12 1.4 9°69'	2°3'/1.9	17		
10 28	5 0.41	+11 22.0	1.068	1.927	20.0	18.5	10 28	4 53.89	+26 47.6	1.101	1.964	19.3	20.5
11 7	4 55.04	+11 10.4	1.028	1.946	15.2	18.2	11 7	4 50.72	+26 56.0	1.046	1.967	14.6	20.2
11 17	4 46.31	+11 7.6	1.007	1.966	9.9	18.0	11 17	4 44.00	+26 53.3	1.010	1.972	9.3	19.9
11 27	4 35.53	+11 16.8	1.010	1.987	5.6	17.9	11 27	4 34.93	+26 38.1	0.996	1.979	3.8	19.6
12 7	4 24.47	+11 39.4	1.036	2.008	6.4	18.0	12 7	4 25.26	+26 12.2	1.007	1.987	3.8	19.7
12 17	4 14.86	+12 15.2	1.088	2.031	10.9	18.3	12 17	4 16.84	+25 39.9	1.041	1.998	9.2	20.0
12 27	4 8.06	+13 2.8	1.161	2.053	15.4	18.6	12 27	4 11.20	+25 7.9	1.097	2.009	14.2	20.3
1 6	4 4.74	+13 59.6	1.254	2.077	19.2	19.0	1 6	4 9.15	+24 41.6	1.174	2.023	18.5	20.6
331996	2005 <i>GJ</i> ₁₇₃	12 1.4 226°99'	3°0'/2.2	18			259418	2003 <i>QX</i> ₁₀₁	12 1.4 105°43'	3°9'/30.6	18		
10 28	5 1.83	+29 31.2	2.263	3.065	12.8	21.4	10 28	5 3.11	+12 48.9	1.483	2.318	16.7	20.5
11 7	4 55.29	+30 8.9	2.169	3.055	9.9	21.1	11 7	4 56.42	+12 33.7	1.429	2.335	12.6	20.3
11 17	4 46.31	+30 39.7	2.100	3.044	6.6	20.9	11 17	4 46.95	+12 23.1	1.396	2.351	8.1	20.1
11 27	4 35.59	+31 0.7	2.059	3.033	3.6	20.7	11 27	4 35.75	+12 19.4	1.390	2.367	4.4	19.9
12 7	4 24.19	+31 10.3	2.048	3.021	3.6	20.7	12 7	4 24.24	+12 24.5	1.411	2.382	5.2	20.0
12 17	4 13.27	+31 9.2	2.068	3.009	6.6	20.9	12 17	4 13.80	+12 39.7	1.460	2.398	9.2	20.2
12 27	4 3.98	+31 0.3	2.115	2.996	10.0	21.1	12 27	4 5.65	+13 5.1	1.535	2.412	13.2	20.5
1 6	3 57.11	+30 47.8	2.188	2.983	13.0	21.2	1 6	4 0.46	+13 40.1	1.631	2.426	16.7	20.8
18009	Patrickgeer	12 1.4 278°57'	5°2'/29.5	18			449836	2014 <i>QS</i> ₂₇₇	12 1.4 57°94'	0°8'/1.7	17		
10 28	4 55.01	+ 8 45.5	1.999	2.828	13.3	18.4	10 28	4 57.25	+24 40.5	1.935	2.763	13.7	21.0
11 7	4 50.02	+ 8 2.5	1.920	2.819	10.3	18.2	11 7	4 51.78	+24 40.1	1.869	2.772	10.2	20.8
11 17	4 42.96	+ 7 24.5	1.865	2.810	7.3	18.0	11 17	4 44.04	+24 33.8	1.825	2.782	6.3	20.6
11 27	4 34.52	+ 6 55.5	1.837	2.801	5.3	17.9	11 27	4 34.86	+24 21.2	1.809	2.792	2.2	20.4
12 7	4 25.64	+ 6 38.8	1.836	2.792	6.1	17.9	12 7	4 25.33	+24 3.4	1.822	2.802	2.4	20.4
12 17	4 17.31	+ 6 36.5	1.864	2.783	8.9	18.1	12 17	4 16.59	+23 43.0	1.864	2.813	6.5	20.7
12 27	4 10.46	+ 6 49.4	1.917	2.774	12.0	18.3	12 27	4 9.61	+23 23.1	1.932	2.823	10.2	20.9
1 6	4 5.75	+ 7 16.3	1.993	2.765	14.9	18.4	1 6	4 5.04	+23 7.1	2.025	2.834	13.4	21.2
515459	2013 <i>YW</i> ₂₇	12 1.4 291°12'	1°8'/30.9	18			223153	2002 <i>XR</i> ₂₇	12 1.4 104°33'	0°2'/1.5	18		
10 28	4 58.76	+18 3.5	1.491	2.335	16.2	21.8	10 28	5 1.81	+24 42.1	1.592	2.422	16.0	20.1
11 7	4 53.77	+17 54.9	1.404	2.317	12.3	21.5	11 7	4 55.44	+24 13.0	1.531	2.436	11.9	19.9
11 17	4 45.73	+17 45.4	1.339	2.300	7.7	21.2	11 17	4 46.34	+23 35.1	1.492	2.450	7.3	19.6
11 27	4 35.48	+17 36.2	1.300	2.283	2.8	20.9	11 27	4 35.56	+22 49.6	1.480	2.464	2.3	19.4
12 7	4 24.35	+17 29.1	1.287	2.265	3.8	20.9	12 7	4 24.49	+21 59.6	1.496	2.477	2.8	19.4
12 17	4 13.85	+17 26.5	1.301	2.248	8.9	21.1	12 17	4 14.53	+21 10.0	1.541	2.490	7.6	19.8
12 27	4 5.45	+17 31.2	1.340	2.231	13.8	21.4	12 27	4 6.84	+20 26.0	1.612	2.502	11.9	20.1
1 6	4 0.13	+17 44.9	1.400	2.214	18.0	21.6	1 6	4 2.05	+19 51.5	1.706	2.514	15.5	20.3
143453	2003 <i>BO</i> ₈₂	12 1.4 318°69'	3°7'/30.6	18			197022	2003 <i>UY</i> ₁₁₃	12 1.4 345°39'	2°7'/30.7	18		
10 28	4 57.59	+11 4.2	1.857	2.687	14.0	19.8	10 28	4 56.86	+15 44.7	1.551	2.396	15.6	19.7
11 7	4 52.12	+11 5.5	1.780	2.683	10.7	19.6	11 7	4 51.99	+15 31.2	1.479	2.392	11.8	19.5
11 17	4 44.33	+11 12.8	1.726	2.678	7.1	19.3	11 17	4 44.42	+15 19.0	1.429	2.389	7.4	19.2
11 27	4 34.97	+11 27.9	1.700	2.675	4.1	19.2	11 27	4 35.03	+15 10.3	1.405	2.386	3.3	19.0
12 7	4 25.09	+11 51.9	1.701	2.671	4.7	19.2	12 7	4 25.08	+15 7.0	1.407	2.383	4.2	19.0
12 17	4 15.82	+12 24.9	1.732	2.667	8.1	19.4	12 17	4 15.89	+15 11.3	1.437	2.381	8.6	19.3
12 27	4 8.21	+13 6.7	1.789	2.664	11.8	19.6	12 27	4 8.70	+15 24.5	1.492	2.380	12.9	19.5
1 6	4 2.99	+13 56.2	1.869	2.661	15.0	19.8	1 6	4 4.28	+15 47.2	1.568	2.378	16.6	19.7
135559	2002 <i>FE</i> ₃	12 1.4 158°64'	2°8'/2.4	18 R			216664	2003 <i>YZ</i> ₅₁	12 1.4 331°91'	6°1'/30.9	18		
10 28	5 4.96	+30 3.6	1.804	2.613	15.2	21.3	10 28	4 57.15	+ 6 49.2	1.362	2.205	17.4	19.8
11 7	4 57.82	+30 9.9	1.731	2.621	11.7	21.1	11 7	4 52.73	+ 7 0.2	1.279	2.185	13.7	19.5
11 17	4 47.85	+30 4.8	1.681	2.628	7.7	20.9	11 17	4 45.20	+ 7 25.9	1.216	2.166	9.7	19.2
11 27	4 36.04	+29 46.1	1.657	2.634	3.8	20.7	11 27	4 35.37	+ 8 9.7	1.178	2.148	6.4	19.0
12 7	4 23.78	+29 14.5	1.663	2.640	3.6	20.7	12 7	4 24.55	+ 9 12.5	1.165	2.131	7.0	19.0
12 17	4 12.50	+28 33.2	1.699	2.644	7.4	20.9	12 17	4 14.30	+10 32.7	1.178	2.115	10.9	19.2
12 27	4 3.44	+27 48.1	1.761	2.648	11.3	21.1	12 27	4 6.15	+12 6.9	1.215	2.101	15.4	19.4
1 6	3 57.35	+27 5.1	1.847	2.651	14.7	21.4	1 6	4 1.14	+13 50.2	1.272	2.087	19.4	19.6
360137	2013 <i>CO</i> ₃₈	12 1.4 310°56'	8°6'/4.2	17			387696	2002 <i>VU</i> ₉	12 1.4 21°54'	0°3'/1.3	18		
10 28	5 2.25	+42 19.1	1.688	2.472	17.2	20.7	10 28	4 58.36	+25 8.2	1.269	2.119	18.1	19.9
11 7	4 56.84	+43 11.1	1.604	2.460	14.4	20.5	11 7	4 53.52	+24 11.8	1.206	2.122	13.6	19.6
11 17	4 47.81	+43 44.1	1.539	2.448	11.5	20.3	11 17	4 45.46	+23 2.6	1.164	2.126	8.3	19.3
11 27	4 36.16	+43 51.0	1.498	2.436	9.2	20.1	11 27	4 35.34	+21 43.7	1.146	2.131	2.5	19.0
12 7	4 23.53	+43 28.2	1.482	2.425	8.7	20.1	12 7	4 24.79	+20 21.0	1.155	2.136	3.4	19.1
12 17	4 11.83	+42 37.5	1.492	2.413	10.5	20.1	12 17	4 15.46	+19 2.6	1.190	2.141	9.0	19.4
12 27	4 2.79	+41 26.5	1.526	2.403	13.4	20.3	12 27	4 8.72	+17 56.0	1.249	2.148	14.0	19.7
1 6	3 57.44	+40 5.6	1.582	2.392	16.5	20.5	1 6	4 5.28	+17 5.9	1.329	2.154	18.2	20.0
330752	2008 <i>SO</i> ₁₄₇	12 1.4 140°95'	0°5'/1.1	17			401501	2013 <i>ER</i> ₂₄	12 1.4 224°84'	6°1'/28.9	18		

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
339340	2004 YS ₃₁	12 1.4 30°98	5°3/29.1 18				518077	2015 YD ₂₄	12 1.4 180°39	2°0/ 2.4 17			
10 28	4 56.31	+15 2.3	1.389	2.240	16.7	19.4	10 28	4 56.16	+29 46.8	2.530	3.337	11.5	21.7
11 7	4 51.50	+13 20.2	1.332	2.247	12.6	19.1	11 7	4 50.63	+29 39.7	2.448	3.337	8.8	21.6
11 17	4 44.00	+11 36.3	1.298	2.255	8.3	18.9	11 17	4 43.22	+29 23.8	2.390	3.338	5.7	21.4
11 27	4 34.85	+9 58.2	1.290	2.264	5.4	18.8	11 27	4 34.62	+28 58.8	2.360	3.338	2.8	21.2
12 7	4 25.41	+8 34.2	1.309	2.273	6.7	18.9	12 7	4 25.70	+28 25.6	2.361	3.337	2.6	21.2
12 17	4 17.03	+7 30.6	1.353	2.282	10.6	19.1	12 17	4 17.36	+27 46.6	2.391	3.337	5.5	21.4
12 27	4 10.82	+6 50.7	1.422	2.292	14.6	19.4	12 27	4 10.44	+27 5.4	2.450	3.337	8.5	21.5
1 6	4 7.42	+6 34.0	1.510	2.303	18.0	19.6	1 6	4 5.50	+26 25.7	2.535	3.336	11.2	21.7
458634	2011 FX ₁₄₆	12 1.4 234°71	3°2/ 2.9 18				420072	2011 EA ₂₇	12 1.4 178°31	5°4/ 3.7 17			
10 28	4 56.90	+34 0.1	2.735	3.526	11.1	21.2	10 28	4 59.80	+39 46.6	2.630	3.398	12.1	21.6
11 7	4 51.21	+34 5.7	2.642	3.517	8.7	21.0	11 7	4 53.61	+40 24.8	2.548	3.398	9.9	21.4
11 17	4 43.60	+34 1.2	2.574	3.509	6.1	20.9	11 17	4 45.19	+40 50.4	2.489	3.399	7.6	21.3
11 27	4 34.74	+33 45.0	2.533	3.500	3.8	20.7	11 27	4 35.26	+41 0.1	2.457	3.399	5.8	21.2
12 7	4 25.48	+33 17.3	2.522	3.490	3.5	20.7	12 7	4 24.85	+40 52.6	2.454	3.399	5.5	21.2
12 17	4 16.74	+32 39.9	2.541	3.481	5.7	20.8	12 17	4 15.04	+40 29.3	2.479	3.399	6.9	21.2
12 27	4 9.36	+31 56.4	2.589	3.471	8.3	20.9	12 27	4 6.84	+39 53.7	2.533	3.399	9.1	21.4
1 6	4 3.96	+31 11.1	2.663	3.461	10.9	21.1	1 6	4 0.94	+39 11.2	2.611	3.398	11.3	21.5
457247	2008 PF ₃	12 1.4 60°05	7°8/ 5.5 17				317256	2002 DC ₁₂	12 1.4 48°56	4°4/ 2.9 18			
10 28	5 3.39	+45 46.1	2.137	2.888	15.0	20.6	10 28	4 59.43	+34 3.4	1.972	2.777	14.3	20.4
11 7	4 56.67	+46 21.5	2.079	2.908	12.7	20.5	11 7	4 53.70	+34 30.3	1.899	2.781	11.3	20.2
11 17	4 47.11	+46 37.1	2.042	2.928	10.3	20.3	11 17	4 45.37	+34 44.8	1.848	2.786	8.0	20.0
11 27	4 35.82	+46 28.4	2.029	2.948	8.4	20.3	11 27	4 35.33	+34 44.0	1.824	2.790	5.1	19.9
12 7	4 24.22	+45 54.7	2.042	2.969	7.8	20.3	12 7	4 24.80	+34 27.4	1.828	2.795	4.7	19.8
12 17	4 13.77	+44 59.0	2.083	2.989	8.8	20.4	12 17	4 15.07	+33 57.1	1.860	2.800	7.3	20.0
12 27	4 5.66	+43 48.1	2.150	3.010	10.8	20.5	12 27	4 7.32	+33 18.1	1.919	2.805	10.5	20.2
1 6	4 0.56	+42 30.1	2.240	3.030	12.9	20.7	1 6	4 2.27	+32 36.4	2.001	2.810	13.5	20.4
363371	2002 TM ₁₇₂	12 1.4 54°32	0°2/ 1.5 17				348310	2005 AX ₄₃	12 1.4 343°79	0°8/ 1.4 18			
10 28	4 57.95	+25 8.3	1.993	2.817	13.5	20.2	10 28	5 1.21	+15 16.1	1.291	2.139	17.9	19.2
11 7	4 51.91	+24 28.0	1.947	2.849	10.0	20.1	11 7	4 56.10	+16 30.4	1.213	2.128	13.6	18.9
11 17	4 43.88	+23 40.6	1.924	2.881	6.0	19.9	11 17	4 47.46	+17 55.3	1.157	2.118	8.5	18.6
11 27	4 34.76	+22 47.7	1.929	2.913	1.9	19.7	11 27	4 36.14	+19 27.8	1.125	2.109	2.8	18.3
12 7	4 25.61	+21 52.5	1.964	2.945	2.3	19.8	12 7	4 23.65	+21 2.8	1.120	2.101	3.5	18.3
12 17	4 17.43	+20 59.2	2.029	2.977	6.2	20.1	12 17	4 11.83	+22 35.6	1.143	2.095	9.3	18.6
12 27	4 11.03	+20 11.7	2.122	3.009	9.7	20.4	12 27	4 2.44	+24 3.4	1.190	2.089	14.5	18.9
1 6	4 6.90	+19 32.8	2.239	3.040	12.5	20.6	1 6	3 56.65	+25 25.9	1.259	2.085	18.9	19.2
197754	2004 PX ₃₃	12 1.4 93°30	0°6/ 1.2 18				172775	2004 EW ₃₀	12 1.4 300°78	2°7/30.5 18			
10 28	5 1.41	+21 21.2	1.671	2.502	15.3	21.3	10 28	4 56.12	+15 41.6	1.823	2.660	14.0	20.3
11 7	4 54.96	+21 5.4	1.615	2.521	11.4	21.1	11 7	4 51.14	+15 19.4	1.742	2.651	10.6	20.1
11 17	4 45.98	+20 45.2	1.582	2.541	6.9	20.9	11 17	4 43.80	+14 57.7	1.685	2.642	6.7	19.8
11 27	4 35.45	+20 21.7	1.576	2.560	2.1	20.7	11 27	4 34.86	+14 38.6	1.654	2.634	3.2	19.6
12 7	4 24.69	+19 56.9	1.598	2.578	2.9	20.8	12 7	4 25.40	+14 24.6	1.651	2.625	4.0	19.7
12 17	4 14.96	+19 34.0	1.650	2.596	7.4	21.1	12 17	4 16.54	+14 17.9	1.677	2.617	7.9	19.9
12 27	4 7.34	+19 16.3	1.727	2.614	11.5	21.4	12 27	4 9.38	+14 20.5	1.728	2.609	11.8	20.1
1 6	4 2.46	+19 6.2	1.828	2.632	14.8	21.6	1 6	4 4.63	+14 33.0	1.802	2.601	15.2	20.3
107050	2000 YM ₁₄₂	12 1.4 270°80	0°8/ 1.7 18				519513	2012 FS ₈₅	12 1.4 270°41	0°0/ 1.3 18			
10 28	4 59.09	+26 24.1	1.906	2.729	14.0	19.9	10 28	4 57.25	+21 1.7	2.291	3.112	12.0	21.1
11 7	4 53.52	+25 56.5	1.807	2.708	10.7	19.6	11 7	4 51.67	+21 22.2	2.201	3.103	9.0	20.9
11 17	4 45.34	+25 18.8	1.731	2.687	6.7	19.3	11 17	4 44.02	+21 41.1	2.137	3.094	5.5	20.6
11 27	4 35.35	+24 30.8	1.682	2.665	2.4	19.0	11 27	4 34.92	+21 58.0	2.101	3.084	1.7	20.4
12 7	4 24.69	+23 34.8	1.663	2.643	2.6	19.0	12 7	4 25.30	+22 12.6	2.094	3.075	2.2	20.4
12 17	4 14.63	+22 35.0	1.672	2.621	7.2	19.2	12 17	4 16.12	+22 25.4	2.118	3.065	6.0	20.6
12 27	4 6.37	+21 37.2	1.709	2.598	11.5	19.4	12 27	4 8.35	+22 38.1	2.171	3.056	9.6	20.8
1 6	4 0.73	+20 46.4	1.770	2.575	15.2	19.6	1 6	4 2.67	+22 52.2	2.248	3.046	12.6	21.0
138335	2000 GW ₁₀₀	12 1.4 240°73	2°1/30.7 18				450403	2005 SJ ₂₂₇	12 1.4 358°67	5°4/29.3 18			
10 28	4 56.98	+16 59.1	1.931	2.763	13.5	20.3	10 28	4 54.12	+10 21.6	1.766	2.605	14.3	21.1
11 7	4 51.61	+16 38.7	1.853	2.760	10.1	20.1	11 7	4 49.53	+9 21.3	1.698	2.603	11.0	20.9
11 17	4 43.99	+16 17.8	1.798	2.756	6.3	19.9	11 17	4 42.73	+8 24.7	1.654	2.603	7.7	20.7
11 27	4 34.89	+15 58.0	1.771	2.753	2.7	19.6	11 27	4 34.52	+7 36.9	1.635	2.602	5.5	20.6
12 7	4 25.33	+15 41.6	1.773	2.749	3.5	19.7	12 7	4 25.92	+7 2.3	1.644	2.602	6.4	20.6
12 17	4 16.40	+15 30.7	1.804	2.745	7.4	19.9	12 17	4 18.01	+6 43.8	1.680	2.602	9.4	20.8
12 27	4 9.13	+15 27.5	1.861	2.741	11.1	20.1	12 27	4 11.78	+6 42.7	1.741	2.603	12.7	21.0
1 6	4 4.18	+15 33.0	1.941	2.737	14.4	20.3	1 6	4 7.86	+6 57.9	1.823	2.604	15.7	21.2
214968	2007 YD ₆₈	12 1.4 28°13	3°0/30.6 18				355525	2008 AK ₆₄	12 1.4 156°64	5°3/29.4 18			
10 28	4 56.86	+14 36.6	1.697	2.536	14.7	20.0	10 28	4 56.11	+5 1.5	2.509	3.317	11.5	21.5
11 7	4 51.69	+14 21.4	1.630	2.540	11.1	19.8	11 7	4 50.34	+4 25.3	2.442	3.324	9.1	21.4
11 17	4 44.09	+14 8.4	1.586	2.543	7.1	19.5	11 17	4 42.94	+3 56.1	2.400	3.331	6.8	21.2
11 27	4 34.92	+13 59.9	1.568	2.547	3.5	19.3	11 27	4 34.54	+3 37.2	2.386	3.337	5.3	21.1
12 7	4 25.31	+13 57.7	1.578	2.551	4.3	19.4	12 7	4 25.90	+3 30.7	2.401	3.343	5.9	21.2
12 17	4 16.47	+14 3.5	1.615	2.556	8.2	19.6	12 17	4 17.79	+3 37.7	2.446	3.348	7.9	21.3
12 27	4 9.47	+14 18.4	1.678	2.560	12.0	19.9	12 27	4 10.92	+3 58.0	2.517	3.352	10.3	21.5
1 6	4 5.00	+14 42.5	1.764	2.565	15.4	20.1	1 6	4 5.79	+4 30.2	2.613	3.356	12.5	21.7
344959	2004 XH	12 1.4 13°50	0°2/ 1.3 17				403394	2009 QP ₅₆	12 1.4 342°13	2°9/ 2.3 17			
10 28	4 52.69	+20 54.1	2.237	3.069	11.9	19.7	10						

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
184667	2005 <i>SO</i> ₅₉	12 1.4 75°92	0°8/ 1.7 18				271947	2005 <i>AO</i> ₅	12 1.4 326°40	1°0/ 1.1 17			
10 28	4 57.40	+24 30.7	2.029	2.853	13.2	20.7	10 28	4 56.22	+18 5.6	2.152	2.980	12.4	20.1
11 7	4 51.93	+24 32.5	1.951	2.854	10.0	20.5	11 7	4 50.93	+18 16.9	2.071	2.976	9.3	19.9
11 17	4 44.21	+24 28.8	1.898	2.854	6.2	20.2	11 17	4 43.58	+18 28.5	2.015	2.973	5.7	19.6
11 27	4 35.00	+24 19.0	1.872	2.855	2.1	20.0	11 27	4 34.83	+18 40.4	1.986	2.969	2.0	19.4
12 7	4 25.34	+24 4.1	1.875	2.855	2.4	20.0	12 7	4 25.62	+18 53.2	1.986	2.965	2.6	19.4
12 17	4 16.36	+23 46.1	1.907	2.856	6.4	20.3	12 17	4 16.92	+19 7.5	2.017	2.962	6.4	19.7
12 27	4 9.04	+23 28.3	1.967	2.856	10.2	20.5	12 27	4 9.69	+19 24.5	2.074	2.959	10.0	19.9
1 6	4 4.08	+23 13.7	2.050	2.856	13.3	20.7	1 6	4 4.58	+19 45.1	2.156	2.956	13.0	20.1
222059	1998 <i>WQ</i> ₃₇	12 1.4 231°73	1°8/ 1.9 17				152587	1994 <i>XH</i> ₄	12 1.4 49°06	4°6/30.3 18			
10 28	4 57.68	+26 33.6	2.382	3.195	11.9	20.6	10 28	4 58.84	+13 8.8	1.296	2.146	17.7	20.4
11 7	4 51.96	+26 59.0	2.297	3.192	9.0	20.4	11 7	4 53.56	+12 31.4	1.247	2.161	13.4	20.2
11 17	4 44.18	+27 19.2	2.237	3.188	5.8	20.2	11 17	4 45.36	+11 58.1	1.218	2.176	8.7	20.0
11 27	4 34.99	+27 32.6	2.205	3.185	2.6	20.0	11 27	4 35.37	+11 33.2	1.215	2.191	5.0	19.8
12 7	4 25.32	+27 38.9	2.203	3.181	2.6	20.0	12 7	4 25.06	+11 20.1	1.237	2.207	5.9	19.9
12 17	4 16.16	+27 38.8	2.231	3.177	5.8	20.2	12 17	4 15.91	+11 21.1	1.285	2.223	10.0	20.2
12 27	4 8.43	+27 34.8	2.288	3.173	9.1	20.4	12 27	4 9.14	+11 36.8	1.356	2.240	14.2	20.5
1 6	4 2.82	+27 29.7	2.369	3.169	12.0	20.6	1 6	4 5.41	+12 5.8	1.448	2.257	17.8	20.8
177172	2003 <i>SK</i> ₁₄₇	12 1.4 28°81	4°3/29.6 18				221859	2008 <i>GT</i> ₂₀	12 1.4 241°22	8°8/26.8 18			
10 28	4 55.98	+16 39.1	1.407	2.258	16.5	19.3	10 28	4 58.90	+ 4 58.6	1.714	2.537	15.3	20.1
11 7	4 51.28	+15 8.7	1.350	2.266	12.4	19.1	11 7	4 53.24	+ 2 53.7	1.638	2.525	12.4	19.9
11 17	4 43.90	+13 35.3	1.316	2.275	8.0	18.8	11 17	4 45.12	+ 0 52.9	1.585	2.512	9.9	19.7
11 27	4 34.89	+12 5.5	1.307	2.285	4.5	18.7	11 27	4 35.33	- 0 54.5	1.560	2.499	8.8	19.7
12 7	4 25.59	+10 46.6	1.326	2.295	5.9	18.8	12 7	4 25.00	- 2 19.9	1.562	2.485	10.0	19.7
12 17	4 17.34	+ 9 44.9	1.370	2.305	9.9	19.0	12 17	4 15.34	- 3 17.5	1.590	2.471	12.7	19.8
12 27	4 11.24	+ 9 4.1	1.439	2.317	14.0	19.3	12 27	4 7.45	- 3 45.3	1.642	2.456	15.8	20.0
1 6	4 7.94	+ 8 44.3	1.529	2.328	17.4	19.6	1 6	4 2.10	- 3 45.5	1.713	2.441	18.6	20.2
365388	2009 <i>VY</i> ₆₃	12 1.4 80°05	0°7/ 1.6 18				159840	2003 <i>UL</i> ₂₄₇	12 1.4 41°73	3°2/30.4 18			
10 28	5 0.46	+22 34.3	2.310	3.124	12.2	21.2	10 28	4 54.73	+13 45.1	1.980	2.815	13.1	19.7
11 7	4 53.76	+23 6.1	2.253	3.150	9.1	21.1	11 7	4 49.75	+13 20.0	1.918	2.825	9.9	19.5
11 17	4 45.10	+23 34.8	2.221	3.175	5.6	20.9	11 17	4 42.77	+12 57.3	1.880	2.835	6.4	19.3
11 27	4 35.24	+23 59.2	2.218	3.201	1.9	20.7	11 27	4 34.55	+12 39.2	1.869	2.846	3.5	19.2
12 7	4 25.13	+24 18.7	2.246	3.226	2.2	20.7	12 7	4 26.05	+12 28.1	1.886	2.856	4.2	19.2
12 17	4 15.73	+24 34.0	2.304	3.250	5.7	21.0	12 17	4 18.24	+12 25.7	1.932	2.868	7.4	19.5
12 27	4 7.90	+24 46.7	2.392	3.275	8.9	21.3	12 27	4 11.98	+12 32.8	2.004	2.879	10.7	19.7
1 6	4 2.22	+24 59.0	2.505	3.299	11.6	21.5	1 6	4 7.84	+12 49.5	2.099	2.891	13.6	19.9
442280	2011 <i>RE</i> ₂	12 1.4 50°03	2°7/30.6 15				380713	2005 <i>NY</i> ₆₇	12 1.4 125°26	0°0/ 1.3 16			
10 28	4 58.33	+16 57.5	1.466	2.311	16.3	21.3	10 28	5 2.70	+22 44.8	1.743	2.569	15.0	22.6
11 7	4 52.87	+16 26.2	1.418	2.332	12.1	21.1	11 7	4 55.96	+22 31.4	1.680	2.584	11.2	22.4
11 17	4 44.79	+15 54.7	1.392	2.352	7.5	20.9	11 17	4 46.67	+22 12.4	1.640	2.598	6.8	22.2
11 27	4 35.15	+15 26.0	1.392	2.373	3.3	20.7	11 27	4 35.77	+21 48.2	1.628	2.611	2.1	21.9
12 7	4 25.30	+15 3.0	1.419	2.395	4.2	20.8	12 7	4 24.55	+21 20.6	1.644	2.624	2.7	22.0
12 17	4 16.55	+14 48.7	1.473	2.417	8.5	21.1	12 17	4 14.32	+20 53.0	1.690	2.637	7.3	22.3
12 27	4 9.97	+14 45.1	1.552	2.439	12.6	21.4	12 27	4 6.17	+20 29.2	1.762	2.648	11.3	22.5
1 6	4 6.17	+14 52.5	1.652	2.461	16.0	21.7	1 6	4 0.76	+20 12.3	1.858	2.660	14.7	22.8
149579	2004 <i>BT</i> ₇₉	12 1.4 267°19	3°4/30.1 17				408330	2013 <i>GE</i> ₆₈	12 1.4 260°77	5°2/29.5 18			
10 28	4 56.70	+14 9.1	2.069	2.897	12.9	20.8	10 28	4 56.09	+ 8 21.9	2.091	2.914	12.9	21.9
11 7	4 51.41	+13 31.0	1.974	2.877	9.8	20.6	11 7	4 50.86	+ 7 41.1	2.004	2.899	10.1	21.7
11 17	4 43.95	+12 53.0	1.903	2.856	6.4	20.4	11 17	4 43.55	+ 7 5.3	1.941	2.884	7.2	21.5
11 27	4 34.96	+12 17.9	1.859	2.835	3.6	20.2	11 27	4 34.84	+ 6 38.2	1.905	2.868	5.3	21.3
12 7	4 25.40	+11 48.9	1.845	2.814	4.5	20.2	12 7	4 25.63	+ 6 23.0	1.898	2.852	6.0	21.3
12 17	4 16.29	+11 28.9	1.860	2.792	7.9	20.3	12 17	4 16.89	+ 6 22.0	1.919	2.836	8.8	21.5
12 27	4 8.65	+11 20.1	1.902	2.770	11.5	20.5	12 27	4 9.56	+ 6 35.9	1.966	2.819	11.9	21.6
1 6	4 3.18	+11 23.4	1.966	2.748	14.7	20.7	1 6	4 4.32	+ 7 3.6	2.035	2.803	14.8	21.8
347470	2012 <i>TS</i> ₃₁₆	12 1.4 55°62	1°8/ 1.1 18				367677	2010 <i>ML</i> ₁₇	12 1.4 70°29	3°8/30.6 17			
10 28	5 0.87	+16 39.8	1.428	2.270	16.8	20.1	10 28	5 3.40	+15 0.7	1.208	2.057	18.9	20.8
11 7	4 55.04	+16 52.4	1.371	2.283	12.6	19.9	11 7	4 56.98	+14 30.7	1.167	2.081	14.1	20.6
11 17	4 46.29	+17 7.0	1.336	2.296	7.8	19.7	11 17	4 47.41	+14 3.3	1.146	2.105	8.9	20.4
11 27	4 35.67	+17 23.7	1.327	2.309	2.9	19.4	11 27	4 35.98	+13 41.9	1.149	2.129	4.3	20.2
12 7	4 24.60	+17 42.9	1.344	2.323	3.7	19.5	12 7	4 24.38	+13 29.4	1.179	2.153	5.3	20.4
12 17	4 14.58	+18 5.2	1.389	2.337	8.5	19.8	12 17	4 14.23	+13 28.3	1.235	2.177	9.9	20.7
12 27	4 6.86	+18 31.7	1.460	2.351	12.9	20.1	12 27	4 6.78	+13 39.8	1.314	2.201	14.4	21.0
1 6	4 2.19	+19 3.1	1.551	2.365	16.6	20.4	1 6	4 2.65	+14 3.2	1.414	2.224	18.1	21.3
445706	2011 <i>UL</i> ₁₉₈	12 1.4 65°87	0°6/ 1.6 18				492738	2014 <i>QL</i> ₁₂₇	12 1.4 15°96	1°5/ 1.9 17			
10 28	4 59.33	+22 54.2	1.796	2.626	14.5	21.4	10 28	4 55.92	+26 48.9	1.799	2.630	14.4	21.3
11 7	4 53.59	+23 12.0	1.726	2.632	10.9	21.2	11 7	4 51.07	+26 44.4	1.729	2.633	10.9	21.1
11 17	4 45.32	+23 25.9	1.680	2.637	6.7	20.9	11 17	4 43.78	+26 31.4	1.682	2.637	6.9	20.8
11 27	4 35.38	+23 35.0	1.660	2.643	2.2	20.7	11 27	4 34.91	+26 9.6	1.660	2.642	2.7	20.6
12 7	4 24.95	+23 39.2	1.669	2.650	2.6	20.7	12 7	4 25.62	+25 40.5	1.667	2.647	2.7	20.6
12 17	4 15.30	+23 40.0	1.707	2.656	7.0	21.0	12 17	4 17.14	+25 7.0	1.702	2.653	6.9	20.9
12 27	4 7.55	+23 40.0	1.771	2.662	11.0	21.3	12 27	4 10.53	+24 33.7	1.763	2.659	10.8	21.1
1 6	4 2.44	+23 42.2	1.858	2.668	14.4	21.5	1 6	4 6.47	+24 4.5	1.848	2.666	14.1	21.4
199928	2007 <i>GB</i> ₃₇	12 1.4 130°46	1°3/ 1.9 18				452174	2015 <i>RO</i> ₈₁	12 1.4 171°82	0°1/ 1.4 18			

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
34703	2001 <i>OZ</i> ₆₇		12 1.4 25°02	1°0/ 1.1 18			155353	2007 <i>CM</i> ₂₅		12 1.4 215°88	0°0/ 1.2 18		
10 28	4 57.29	+21 23.0	1.148	2.008	18.8	18.6	10 28	5 0.63	+23 5.7	1.885	2.709	14.1	21.0
11 7	4 52.94	+20 59.2	1.095	2.017	14.1	18.3	11 7	4 54.56	+22 52.8	1.800	2.703	10.6	20.8
11 17	4 45.24	+20 29.7	1.062	2.026	8.6	18.1	11 17	4 45.95	+22 34.0	1.739	2.696	6.6	20.6
11 27	4 35.39	+19 56.5	1.052	2.036	2.7	17.7	11 27	4 35.63	+22 9.5	1.705	2.689	2.1	20.2
12 7	4 25.09	+19 23.2	1.067	2.048	3.7	17.8	12 7	4 24.74	+21 41.0	1.701	2.681	2.6	20.3
12 17	4 16.05	+18 54.7	1.107	2.060	9.3	18.2	12 17	4 14.54	+21 11.4	1.725	2.673	7.1	20.5
12 27	4 9.69	+18 35.2	1.170	2.073	14.4	18.5	12 27	4 6.18	+20 44.6	1.777	2.664	11.2	20.8
1 6	4 6.75	+18 27.4	1.253	2.087	18.5	18.8	1 6	4 0.42	+20 24.0	1.853	2.654	14.8	21.0
370336	2002 <i>RN</i> ₂₄₀		12 1.4 173°48	1°4/30.7 17			237889	2002 <i>LK</i> ₅₃		12 1.4 191°92	8°1/29.8 18		
10 28	4 54.37	+17 57.7	2.973	3.789	9.7	22.2	10 28	5 0.86	- 4 23.3	2.317	3.091	13.3	20.9
11 7	4 48.95	+17 34.0	2.893	3.792	7.2	22.0	11 7	4 54.06	- 4 40.8	2.243	3.090	11.2	20.8
11 17	4 42.09	+17 9.0	2.839	3.794	4.4	21.9	11 17	4 45.34	- 4 43.4	2.192	3.088	9.2	20.7
11 27	4 34.34	+16 43.9	2.815	3.796	1.8	21.7	11 27	4 35.39	- 4 27.1	2.169	3.085	8.1	20.6
12 7	4 26.35	+16 20.4	2.822	3.798	2.4	21.7	12 7	4 25.07	- 3 50.1	2.174	3.082	8.5	20.6
12 17	4 18.79	+16 0.2	2.860	3.799	5.1	21.9	12 17	4 15.30	- 2 53.1	2.207	3.078	10.1	20.7
12 27	4 12.31	+15 45.0	2.928	3.799	7.8	22.1	12 27	4 6.95	- 1 38.4	2.267	3.073	12.3	20.8
1 6	4 7.35	+15 35.8	3.021	3.799	10.2	22.3	1 6	4 0.60	- 0 10.2	2.351	3.068	14.4	21.0
523766	2014 <i>WF</i> ₅₁₀		12 1.4 22°42	0°6/28.3 18			54006	2000 <i>GM</i> ₉₃		12 1.4 110°11	0°5/ 1.5 18		
10 28	4 34.12	+ 0 58.6	30.828	31.620	1.1	22.1	10 28	5 0.84	+22 8.8	2.070	2.889	13.2	19.4
11 7	4 33.25	+ 0 52.4	30.761	31.624	0.9	22.1	11 7	4 54.37	+22 33.5	2.003	2.903	9.9	19.2
11 17	4 32.29	+ 0 47.1	30.720	31.627	0.7	22.1	11 17	4 45.65	+22 55.3	1.960	2.916	6.1	19.0
11 27	4 31.27	+ 0 42.8	30.707	31.631	0.6	22.1	11 27	4 35.49	+23 13.1	1.946	2.929	2.0	18.7
12 7	4 30.23	+ 0 39.8	30.724	31.635	0.7	22.1	12 7	4 24.95	+23 26.6	1.961	2.942	2.3	18.8
12 17	4 29.22	+ 0 37.9	30.769	31.638	0.8	22.1	12 17	4 15.14	+23 36.6	2.007	2.954	6.3	19.1
12 27	4 28.27	+ 0 37.4	30.841	31.642	1.0	22.1	12 27	4 7.03	+23 45.2	2.081	2.966	9.9	19.3
1 6	4 27.42	+ 0 38.3	30.939	31.645	1.3	22.1	1 6	4 1.30	+23 54.6	2.179	2.978	12.9	19.5
399741	2005 <i>EB</i> ₂₂₇		12 1.4 202°25	1°0/ 1.8 18			175913	2000 <i>BM</i> ₃₂		12 1.4 272°73	1°5/30.9 18		
10 28	4 59.19	+25 20.1	2.024	2.844	13.4	21.9	10 28	4 57.55	+18 40.9	1.880	2.712	13.8	20.6
11 7	4 53.33	+25 18.9	1.942	2.842	10.1	21.7	11 7	4 52.28	+18 25.8	1.791	2.699	10.4	20.4
11 17	4 45.12	+25 11.0	1.884	2.839	6.3	21.4	11 17	4 44.59	+18 8.7	1.726	2.685	6.4	20.1
11 27	4 35.34	+24 56.1	1.854	2.837	2.3	21.2	11 27	4 35.22	+17 50.9	1.688	2.671	2.4	19.8
12 7	4 25.08	+24 34.8	1.853	2.833	2.5	21.2	12 7	4 25.24	+17 34.3	1.679	2.657	3.2	19.9
12 17	4 15.49	+24 9.8	1.882	2.830	6.5	21.4	12 17	4 15.81	+17 21.1	1.698	2.642	7.5	20.1
12 27	4 7.63	+23 44.6	1.938	2.826	10.3	21.7	12 27	4 8.06	+17 14.2	1.744	2.628	11.5	20.3
1 6	4 2.20	+23 22.9	2.018	2.822	13.6	21.9	1 6	4 2.77	+17 15.2	1.812	2.614	15.0	20.5
259856	2004 <i>CL</i> ₈₆		12 1.4 282°14	2°3/ 2.2 18			333227	2012 <i>HR</i> ₄₁		12 1.4 158°12	0°6/ 1.2 17		
10 28	4 58.82	+28 21.5	1.875	2.696	14.3	20.7	10 28	4 55.54	+19 48.2	2.731	3.549	10.4	21.1
11 7	4 53.31	+28 29.7	1.794	2.692	11.0	20.5	11 7	4 49.97	+19 46.0	2.653	3.553	7.7	20.9
11 17	4 45.22	+28 28.9	1.737	2.689	7.1	20.3	11 17	4 42.79	+19 42.1	2.601	3.558	4.7	20.7
11 27	4 35.39	+28 17.6	1.707	2.686	3.3	20.0	11 27	4 34.59	+19 36.9	2.578	3.562	1.5	20.5
12 7	4 25.02	+27 56.2	1.704	2.682	3.2	20.0	12 7	4 26.09	+19 31.4	2.586	3.566	2.0	20.6
12 17	4 15.37	+27 27.2	1.731	2.679	7.0	20.2	12 17	4 18.07	+19 26.8	2.625	3.569	5.2	20.8
12 27	4 7.62	+26 55.1	1.784	2.676	10.9	20.5	12 27	4 11.24	+19 24.5	2.693	3.572	8.1	21.0
1 6	4 2.53	+26 24.7	1.861	2.673	14.3	20.7	1 6	4 6.10	+19 26.1	2.786	3.575	10.7	21.2
239157	2006 <i>KC</i> ₁₆		12 1.4 248°67	3°2/30.4 18			479398	2013 <i>YN</i> ₂₈		12 1.4 26°88	3°1/30.9 18		
10 28	4 57.90	+14 25.0	1.851	2.683	14.0	20.5	10 28	4 59.25	+14 54.7	1.283	2.135	17.8	20.8
11 7	4 52.46	+14 0.2	1.769	2.674	10.6	20.2	11 7	4 54.17	+14 52.1	1.224	2.140	13.4	20.6
11 17	4 44.64	+13 36.7	1.710	2.666	6.8	20.0	11 17	4 45.95	+14 53.2	1.185	2.145	8.5	20.3
11 27	4 35.21	+13 17.0	1.679	2.657	3.6	19.8	11 27	4 35.65	+14 59.7	1.170	2.151	3.8	20.1
12 7	4 25.23	+13 3.6	1.676	2.647	4.4	19.8	12 7	4 24.78	+15 13.0	1.181	2.158	4.7	20.1
12 17	4 15.86	+12 58.7	1.701	2.638	8.1	20.0	12 17	4 14.95	+15 34.1	1.218	2.165	9.5	20.4
12 27	4 8.18	+13 4.1	1.753	2.628	12.0	20.2	12 27	4 7.54	+16 3.7	1.279	2.172	14.2	20.7
1 6	4 2.93	+13 20.0	1.827	2.619	15.3	20.4	1 6	4 3.38	+16 41.5	1.360	2.180	18.1	21.0
274609	2008 <i>TE</i> ₅₅		12 1.4 39°85	2°3/ 2.2 17			141493	2002 <i>ES</i> ₇		12 1.4 168°13	4°5/ 2.9 18		
10 28	4 56.85	+28 25.7	2.052	2.871	13.3	20.7	10 28	5 6.14	+33 43.2	1.752	2.554	16.0	20.9
11 7	4 51.52	+28 41.3	1.984	2.881	10.1	20.5	11 7	4 59.04	+34 4.2	1.677	2.558	12.6	20.7
11 17	4 43.96	+28 48.8	1.940	2.891	6.6	20.3	11 17	4 48.83	+34 11.2	1.624	2.562	8.8	20.5
11 27	4 34.96	+28 46.9	1.923	2.901	3.1	20.1	11 27	4 36.54	+34 0.4	1.597	2.565	5.3	20.3
12 7	4 25.60	+28 36.0	1.935	2.912	3.0	20.2	12 7	4 23.67	+33 31.1	1.598	2.568	4.9	20.3
12 17	4 16.97	+28 18.0	1.975	2.923	6.3	20.4	12 17	4 11.82	+32 46.6	1.628	2.570	8.0	20.5
12 27	4 10.05	+27 56.4	2.043	2.934	9.7	20.6	12 27	4 2.36	+31 53.5	1.685	2.571	11.8	20.7
1 6	4 5.50	+27 35.2	2.135	2.946	12.7	20.8	1 6	3 56.13	+30 59.5	1.765	2.571	15.2	20.9
212606	Janulis		12 1.4 95°40	0°5/ 1.6 18			14942	Stevebaker		12 1.4 356°71	5°7/28.6 18		
10 28	4 58.91	+23 57.1	1.952	2.777	13.7	20.8	10 28	4 52.83	+ 8 26.8	2.062	2.892	12.8	17.9
11 7	4 52.99	+23 50.7	1.887	2.790	10.2	20.6	11 7	4 48.31	+ 7 9.7	1.993	2.891	10.0	17.8
11 17	4 44.81	+23 38.5	1.845	2.802	6.3	20.4	11 17	4 41.91	+ 5 56.7	1.948	2.890	7.3	17.6
11 27	4 35.21	+23 20.8	1.831	2.815	2.0	20.1	11 27	4 34.33	+ 4 52.9	1.931	2.889	5.8	17.5
12 7	4 25.31	+22 58.8	1.846	2.827	2.4	20.2	12 7	4 26.44	+ 4 3.0	1.942	2.888	6.6	17.5
12 17	4 16.22	+22 35.2	1.891	2.839	6.5	20.4	12 17	4 19.14	+ 3 30.2	1.980	2.888	9.1	17.7
12 27	4 8.92	+22 13.3	1.963	2.851	10.2	20.7	12 27	4 13.26	+ 3 15.8	2.044	2.888	11.9	17.9
1 6	4 4.04	+21 56.2	2.058	2.863	13.4	20.9	1 6	4 9.35	+ 3 18.9	2.130	2.889	14.5	18.1
59073	1998 <i>VL</i> ₁₃		12 1.4 90°97	2°6/ 2.0 18			230609	2003 <i>FP</i> ₆₆		12 1.4 222°67	1°4/ 1.0 18		

EPHEMERIDES

12 1.4

12 1.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
121709	1999 XJ ₁₀₆	12	1.4 239°34	2°2/30.8	17		17731	1998 AD ₁₀	12	1.4 119°13	0°5/1.2	18	
10 28	4 55.99	+14 29.6	2.341	3.165	11.7	19.7	10 28	5 3.59	+22 56.5	1.538	2.369	16.4	18.8
11 7	4 50.58	+14 28.4	2.259	3.161	8.8	19.5	11 7	4 56.88	+22 21.9	1.478	2.384	12.2	18.6
11 17	4 43.30	+14 29.2	2.202	3.157	5.6	19.3	11 17	4 47.33	+21 39.8	1.440	2.399	7.5	18.3
11 27	4 34.79	+14 33.3	2.174	3.153	2.7	19.1	11 27	4 36.04	+20 52.0	1.429	2.413	2.3	18.0
12 7	4 25.86	+14 41.6	2.175	3.149	3.3	19.1	12 7	4 24.46	+20 2.0	1.446	2.426	3.1	18.1
12 17	4 17.42	+14 55.0	2.206	3.144	6.4	19.3	12 17	4 14.04	+19 14.7	1.491	2.439	8.0	18.5
12 27	4 10.29	+15 14.1	2.265	3.140	9.7	19.5	12 27	4 5.96	+18 35.0	1.563	2.451	12.4	18.8
1 6	4 5.09	+15 39.2	2.349	3.136	12.5	19.7	1 6	4 0.90	+18 6.4	1.657	2.462	16.1	19.0
44076	1998 FT ₆₉	12	1.4 280°55	2°3/30.8	18		160418	2005 AR ₈	12	1.4 181°81	6°5/5.9	18	
10 28	4 59.45	+18 7.2	1.423	2.268	16.7	19.1	10 28	5 3.89	+49 6.6	3.129	3.836	11.6	20.8
11 7	4 54.35	+17 43.2	1.343	2.257	12.7	18.9	11 7	4 56.45	+49 20.3	3.042	3.837	9.9	20.7
11 17	4 46.15	+17 17.0	1.285	2.245	7.9	18.6	11 17	4 46.83	+49 17.4	2.978	3.837	8.3	20.6
11 27	4 35.77	+16 50.6	1.252	2.234	3.1	18.2	11 27	4 35.87	+48 54.7	2.939	3.837	7.0	20.5
12 7	4 24.60	+16 27.0	1.245	2.223	4.2	18.3	12 7	4 24.63	+48 11.4	2.928	3.836	6.5	20.4
12 17	4 14.21	+16 9.8	1.265	2.212	9.3	18.6	12 17	4 14.20	+47 9.5	2.946	3.835	7.2	20.5
12 27	4 6.05	+16 2.4	1.310	2.200	14.1	18.8	12 27	4 5.52	+45 53.7	2.993	3.834	8.6	20.6
1 6	4 1.04	+16 6.8	1.375	2.189	18.3	19.0	1 6	3 59.22	+44 30.0	3.065	3.832	10.3	20.7
279764	1999 NB ₅₉	12	1.4 93°31	1°3/30.9	18		517442	2014 OQ ₁₃₀	12	1.4 219°54	4°7/29.7	18	
10 28	5 1.60	+20 53.1	1.846	2.671	14.3	20.1	10 28	4 57.09	+7 28.1	2.450	3.262	11.6	22.4
11 7	4 54.78	+20 7.3	1.794	2.698	10.6	19.9	11 7	4 51.30	+6 58.9	2.364	3.252	9.1	22.2
11 17	4 45.76	+19 17.1	1.767	2.725	6.4	19.7	11 17	4 43.71	+6 35.2	2.303	3.242	6.5	22.1
11 27	4 35.49	+18 24.8	1.768	2.751	2.2	19.5	11 27	4 34.93	+6 19.8	2.271	3.231	4.8	21.9
12 7	4 25.13	+17 34.1	1.798	2.776	3.1	19.6	12 7	4 25.74	+6 14.9	2.268	3.220	5.4	22.0
12 17	4 15.81	+16 48.9	1.859	2.801	7.1	19.9	12 17	4 16.99	+6 22.1	2.294	3.208	7.7	22.1
12 27	4 8.43	+16 12.7	1.946	2.825	10.8	20.2	12 27	4 9.48	+6 41.4	2.348	3.195	10.5	22.2
1 6	4 3.53	+15 47.5	2.057	2.849	13.8	20.4	1 6	4 3.79	+7 12.2	2.426	3.181	13.0	22.4
116495	2004 BS ₁₅	12	1.4 151°15	6°2/29.8	18		482692	2013 CP ₁₁₂	12	1.4 159°94	6°3/3.9	18	
10 28	4 57.74	+4 15.7	2.036	2.850	13.6	19.9	10 28	5 3.53	+40 7.4	2.136	2.910	14.4	21.0
11 7	4 51.95	+3 49.7	1.969	2.854	10.8	19.7	11 7	4 56.89	+40 46.9	2.059	2.913	11.8	20.8
11 17	4 44.15	+3 33.5	1.925	2.857	8.0	19.6	11 17	4 47.45	+41 10.9	2.004	2.916	9.1	20.6
11 27	4 35.04	+3 30.6	1.908	2.861	6.3	19.5	11 27	4 36.14	+41 15.0	1.975	2.919	6.9	20.5
12 7	4 25.59	+3 43.1	1.919	2.864	6.8	19.5	12 7	4 24.26	+40 57.5	1.974	2.921	6.5	20.5
12 17	4 16.77	+4 11.5	1.958	2.867	9.2	19.7	12 17	4 13.23	+40 20.4	2.001	2.924	8.1	20.6
12 27	4 9.48	+4 54.6	2.023	2.869	12.0	19.8	12 27	4 4.29	+39 29.3	2.055	2.926	10.7	20.8
1 6	4 4.31	+5 50.1	2.111	2.871	14.6	20.0	1 6	3 58.23	+38 31.4	2.133	2.927	13.3	21.0
8960	Luscinioides	12	1.4 215°63	0°0/1.2	18		487514	2014 TO ₆₆	12	1.4 54°51	3°1/29.9	18	
10 28	4 57.02	+22 1.7	2.290	3.112	12.0	18.3	10 28	4 54.38	+15 19.1	2.141	2.973	12.4	20.8
11 7	4 51.46	+22 0.2	2.206	3.108	9.0	18.1	11 7	4 49.39	+14 24.7	2.073	2.978	9.3	20.6
11 17	4 43.89	+21 55.2	2.147	3.104	5.5	17.9	11 17	4 42.55	+13 29.8	2.029	2.984	6.0	20.4
11 27	4 34.98	+21 46.8	2.116	3.100	1.7	17.6	11 27	4 34.55	+12 37.8	2.014	2.990	3.3	20.2
12 7	4 25.65	+21 36.0	2.115	3.096	2.2	17.6	12 7	4 26.30	+11 52.2	2.027	2.996	4.2	20.3
12 17	4 16.85	+21 24.5	2.144	3.091	6.0	17.9	12 17	4 18.68	+11 16.1	2.070	3.002	7.2	20.5
12 27	4 9.49	+21 14.5	2.201	3.086	9.4	18.1	12 27	4 12.51	+10 51.8	2.140	3.009	10.4	20.7
1 6	4 4.20	+21 8.3	2.283	3.081	12.4	18.3	1 6	4 8.33	+10 39.9	2.233	3.015	13.2	20.9
115289	2003 ST ₁₉₅	12	1.4 333°57	4°1/3.1	17		462303	2008 GV ₁₅	12	1.4 11°63	18°1/22.0	17	
10 28	4 57.41	+34 15.6	2.090	2.893	13.6	19.6	10 28	4 57.69	-4 5.7	0.995	1.837	22.5	20.6
11 7	4 52.17	+34 29.0	2.007	2.889	10.8	19.4	11 7	4 53.37	-7 58.2	0.959	1.837	19.9	20.4
11 17	4 44.49	+34 30.0	1.947	2.884	7.6	19.2	11 17	4 45.59	-11 27.2	0.942	1.838	18.3	20.3
11 27	4 35.19	+34 16.3	1.913	2.880	4.8	19.0	11 27	4 35.59	-14 11.9	0.946	1.839	18.3	20.3
12 7	4 25.39	+33 47.7	1.907	2.876	4.4	19.0	12 7	4 25.09	-15 57.8	0.970	1.841	19.8	20.5
12 17	4 16.29	+33 6.7	1.930	2.872	6.9	19.1	12 17	4 15.86	-16 41.1	1.011	1.844	22.1	20.6
12 27	4 8.97	+32 18.4	1.980	2.868	10.1	19.3	12 27	4 9.35	-16 27.0	1.067	1.847	24.6	20.8
1 6	4 4.18	+31 28.2	2.054	2.865	13.2	19.5	1 6	4 6.34	-15 27.4	1.134	1.850	26.9	21.0
395987	2013 BW ₃₄	12	1.4 186°20	2°6/30.6	18		68460	2001 SS ₁₀₄	12	1.4 297°01	1°1/1.0	18	
10 28	4 57.92	+15 5.0	2.108	2.934	12.8	21.2	10 28	4 58.50	+21 43.4	1.518	2.360	16.0	19.3
11 7	4 52.15	+14 45.2	2.031	2.934	9.6	21.0	11 7	4 53.41	+21 5.4	1.442	2.354	12.1	19.1
11 17	4 44.30	+14 26.4	1.978	2.933	6.1	20.8	11 17	4 45.46	+20 20.4	1.387	2.348	7.4	18.8
11 27	4 35.11	+14 10.3	1.954	2.933	3.0	20.6	11 27	4 35.56	+19 30.5	1.358	2.342	2.4	18.5
12 7	4 25.52	+13 59.0	1.958	2.931	3.7	20.6	12 7	4 25.08	+18 39.4	1.357	2.336	3.4	18.5
12 17	4 16.52	+13 54.2	1.993	2.930	7.1	20.9	12 17	4 15.46	+17 52.1	1.382	2.330	8.4	18.8
12 27	4 9.05	+13 57.3	2.054	2.928	10.6	21.1	12 27	4 7.98	+17 13.8	1.433	2.325	13.1	19.1
1 6	4 3.74	+14 9.1	2.140	2.925	13.6	21.3	1 6	4 3.46	+16 47.7	1.506	2.319	17.0	19.3
381002	2006 TG ₇₈	12	1.4 304°12	5°8/2.9	18		452695	2005 YE ₃₁	12	1.4 48°19	3°4/2.9	18	
10 28	5 2.78	+34 0.2	1.398	2.220	18.2	20.5	10 28	4 58.25	+33 1.1	1.988	2.796	14.1	20.5
11 7	4 57.41	+34 40.2	1.322	2.213	14.5	20.2	11 7	4 52.70	+32 55.8	1.917	2.804	10.9	20.3
11 17	4 48.30	+35 5.4	1.266	2.207	10.4	20.0	11 17	4 44.74	+32 37.4	1.868	2.811	7.5	20.1
11 27	4 36.50	+35 9.9	1.233	2.201	6.7	19.8	11 27	4 35.28	+32 4.8	1.846	2.819	4.2	20.0
12 7	4 23.74	+34 51.4	1.227	2.195	6.3	19.7	12 7	4 25.48	+31 19.2	1.853	2.826	3.8	19.9
12 17	4 12.00	+34 12.7	1.246	2.190	9.6	19.9	12 17	4 16.55	+30 24.1	1.888	2.834	6.7	20.1
12 27	4 3.06	+33 21.3	1.289	2.184	13.9	20.1	12 27	4 9.51	+29 25.3	1.951	2.842	10.1	20.4
1 6	3 57.93	+32 26.9	1.353	2.179	17.9	20.4	1 6	4 5.01	+28 28.3	2.038	2.851	13.2	20.6
519252	2010 XA ₉₃	12	1.4 2°05	1°6/2.1	17		227016	2004 XC ₁₃₇	12	1.4 73°20	1°1/1.7	18	
10 28	4 56.30	+28 4.1	1.962	2.786	13.7	21.1	10 28	4 59.03					

EPHEMERIDES

12 1.4

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V		
14102	1997 <i>SG</i> ₂₅	12	1.4	154°46'	0°0'	1.2	18	61497	2000 <i>QH</i> ₅₀	12	1.4	46°79'	1°1'	1.8	18
10 28	5 1.83	+22 20.1	1.971	2.791	13.7	18.7	10 28	4 57.80	+25 12.0	1.870	2.697	14.1	19.5		
11 7	4 55.22	+22 18.4	1.898	2.799	10.3	18.5	11 7	4 52.42	+25 13.7	1.799	2.703	10.6	19.3		
11 17	4 46.26	+22 12.3	1.850	2.806	6.3	18.3	11 17	4 44.63	+25 8.9	1.752	2.708	6.6	19.1		
11 27	4 35.77	+22 1.8	1.829	2.813	2.0	18.0	11 27	4 35.29	+24 57.1	1.732	2.714	2.4	18.8		
12 7	4 24.87	+21 47.9	1.839	2.819	2.5	18.0	12 7	4 25.54	+24 39.2	1.740	2.720	2.6	18.9		
12 17	4 14.74	+21 32.8	1.878	2.825	6.7	18.3	12 17	4 16.55	+24 17.7	1.776	2.726	6.7	19.1		
12 27	4 6.43	+21 19.4	1.945	2.829	10.5	18.6	12 27	4 9.40	+23 56.3	1.840	2.732	10.6	19.4		
1 6	4 0.61	+21 10.6	2.036	2.833	13.8	18.8	1 6	4 4.75	+23 38.4	1.927	2.739	13.9	19.6		
496430	2014 <i>JB</i> ₃₁	12	1.4	29°68'	22°1'	4.6	17	378031	2006 <i>SZ</i> ₃₅₅	12	1.4	42°21'	3°0'	1.9	18
10 28	5 4.46	-20 0.1	0.904	1.689	28.5	20.3	10 28	5 3.75	+25 30.6	1.101	1.951	20.2	20.5		
11 7	4 58.69	-20 56.0	0.871	1.695	26.1	20.1	11 7	4 58.12	+26 26.5	1.055	1.969	15.3	20.2		
11 17	4 48.92	-21 0.5	0.849	1.703	24.0	20.0	11 17	4 48.62	+27 15.0	1.029	1.987	9.7	20.0		
11 27	4 36.62	-20 0.6	0.842	1.711	22.5	20.0	11 27	4 36.59	+27 51.2	1.025	2.006	4.3	19.7		
12 7	4 23.92	-17 52.7	0.851	1.720	22.2	20.0	12 7	4 24.02	+28 12.7	1.047	2.026	4.4	19.8		
12 17	4 12.89	-14 45.0	0.878	1.730	23.1	20.1	12 17	4 12.96	+28 21.1	1.094	2.047	9.5	20.2		
12 27	4 5.17	-10 54.5	0.923	1.740	24.9	20.3	12 27	4 5.06	+28 21.8	1.164	2.068	14.4	20.5		
1 6	4 1.51	-6 41.9	0.984	1.752	27.0	20.5	1 6	4 1.11	+28 20.8	1.254	2.089	18.5	20.8		
11196	Michanikos	12	1.4	42°17'	0°8'	1.1	18	171527	1999 <i>HT</i> ₉	12	1.4	233°80'	1°5'	30.9	17
10 28	4 57.02	+21 32.8	1.757	2.593	14.5	17.1	10 28	5 1.51	+20 19.6	1.611	2.444	15.7	20.3		
11 7	4 51.84	+21 4.1	1.688	2.598	10.8	16.9	11 7	4 55.61	+19 46.4	1.526	2.434	11.8	20.1		
11 17	4 44.26	+20 30.4	1.643	2.603	6.6	16.7	11 17	4 46.83	+19 7.7	1.465	2.424	7.3	19.8		
11 27	4 35.15	+19 53.2	1.625	2.608	2.1	16.4	11 27	4 36.05	+18 25.3	1.429	2.412	2.6	19.5		
12 7	4 25.67	+19 15.5	1.634	2.614	2.9	16.5	12 7	4 24.58	+17 42.6	1.422	2.401	3.5	19.5		
12 17	4 17.01	+18 40.7	1.673	2.620	7.3	16.7	12 17	4 13.86	+17 3.8	1.443	2.388	8.5	19.8		
12 27	4 10.22	+18 12.6	1.737	2.626	11.3	17.0	12 27	4 5.23	+16 33.6	1.490	2.376	13.1	20.0		
1 6	4 5.94	+17 53.6	1.824	2.633	14.7	17.2	1 6	3 59.54	+16 14.9	1.559	2.362	17.0	20.2		
487869	2015 <i>TW</i> ₁₂₄	12	1.4	22°22'	3°0'	30.8	18	411086	2009 <i>VE</i> ₁₀₀	12	1.4	346°45'	1°1'	1.7	17
10 28	4 57.10	+13 47.4	1.705	2.543	14.7	20.7	10 28	4 57.72	+23 6.4	1.974	2.801	13.4	20.4		
11 7	4 51.95	+13 46.8	1.638	2.547	11.1	20.5	11 7	4 52.42	+23 42.6	1.893	2.796	10.2	20.2		
11 17	4 44.37	+13 50.0	1.595	2.551	7.1	20.3	11 17	4 44.72	+24 16.4	1.836	2.793	6.3	19.9		
11 27	4 35.20	+13 58.6	1.577	2.556	3.5	20.1	11 27	4 35.37	+24 46.1	1.807	2.789	2.3	19.7		
12 7	4 25.59	+14 13.7	1.587	2.562	4.2	20.1	12 7	4 25.42	+25 10.5	1.806	2.786	2.6	19.7		
12 17	4 16.71	+14 35.8	1.626	2.567	8.0	20.4	12 17	4 16.02	+25 29.9	1.835	2.784	6.6	19.9		
12 27	4 9.66	+15 5.5	1.690	2.574	11.9	20.6	12 27	4 8.29	+25 46.0	1.891	2.781	10.4	20.2		
1 6	4 5.13	+15 42.3	1.776	2.580	15.2	20.8	1 6	4 2.99	+26 1.2	1.970	2.780	13.7	20.4		
287342	2002 <i>TN</i> ₃₅₀	12	1.4	219°76'	1°0'	30.9	18	201982	2004 <i>PF</i> ₅₂	12	1.4	83°61'	3°1'	2.4	18
10 28	4 54.79	+20 36.0	2.580	3.402	10.8	21.2	10 28	5 4.53	+29 35.8	1.619	2.437	16.3	20.3		
11 7	4 49.55	+20 3.6	2.495	3.397	8.1	21.0	11 7	4 57.65	+29 55.6	1.565	2.460	12.5	20.1		
11 17	4 42.63	+19 27.5	2.434	3.392	4.9	20.8	11 17	4 47.86	+30 4.1	1.534	2.483	8.2	19.9		
11 27	4 34.63	+18 49.2	2.403	3.386	1.7	20.6	11 27	4 36.29	+29 59.0	1.529	2.505	4.1	19.7		
12 7	4 26.31	+18 10.8	2.402	3.381	2.3	20.6	12 7	4 24.42	+29 40.6	1.552	2.528	3.8	19.7		
12 17	4 18.47	+17 34.8	2.432	3.375	5.7	20.8	12 17	4 13.75	+29 12.2	1.603	2.550	7.6	20.0		
12 27	4 11.88	+17 4.1	2.491	3.369	8.8	21.0	12 27	4 5.51	+28 39.4	1.680	2.571	11.5	20.3		
1 6	4 7.06	+16 40.5	2.574	3.363	11.5	21.2	1 6	4 0.35	+28 7.8	1.781	2.593	14.8	20.5		
8749	Beatles	12	1.4	346°94'	3°8'	2.3	18	199333	2006 <i>BZ</i> ₁₃₁	12	1.4	232°12'	0°2'	1.5	17
10 28	4 55.34	+28 46.7	1.011	1.875	20.5	16.6	10 28	4 55.95	+23 10.8	2.465	3.284	11.3	21.3		
11 7	4 52.56	+29 11.3	0.944	1.864	15.9	16.3	11 7	4 50.59	+23 5.5	2.378	3.278	8.5	21.1		
11 17	4 45.68	+29 22.8	0.895	1.855	10.6	16.0	11 17	4 43.36	+22 56.0	2.316	3.272	5.2	20.9		
11 27	4 35.79	+29 17.3	0.867	1.847	5.2	15.7	11 27	4 34.90	+22 42.3	2.282	3.266	1.7	20.7		
12 7	4 24.83	+28 54.4	0.861	1.840	5.0	15.6	12 7	4 26.04	+22 25.5	2.279	3.259	2.0	20.7		
12 17	4 15.00	+28 18.0	0.878	1.835	10.3	15.9	12 17	4 17.67	+22 7.4	2.305	3.252	5.6	20.9		
12 27	4 8.30	+27 36.4	0.917	1.832	15.9	16.2	12 27	4 10.62	+21 50.5	2.361	3.246	8.9	21.1		
1 6	4 5.81	+26 58.1	0.973	1.830	20.8	16.5	1 6	4 5.49	+21 37.1	2.441	3.238	11.7	21.3		
351099	2003 <i>UZ</i> ₂₄₈	12	1.4	331°22'	7°1'	27.6	18	226298	2003 <i>BY</i> ₆₈	12	1.4	276°41'	2°2'	1.9	18
10 28	4 55.84	+11 53.4	1.513	2.359	15.9	19.9	10 28	5 1.24	+26 41.5	1.627	2.455	15.8	21.1		
11 7	4 51.22	+9 37.9	1.442	2.350	12.3	19.7	11 7	4 55.76	+27 0.2	1.535	2.437	12.2	20.8		
11 17	4 44.01	+7 19.8	1.394	2.342	8.9	19.5	11 17	4 47.15	+27 11.5	1.464	2.419	7.9	20.5		
11 27	4 35.11	+5 8.8	1.373	2.335	7.1	19.4	11 27	4 36.22	+27 13.0	1.419	2.400	3.4	20.2		
12 7	4 25.75	+3 15.2	1.379	2.327	8.6	19.4	12 7	4 24.32	+27 3.9	1.402	2.381	3.4	20.1		
12 17	4 17.20	+1 47.2	1.412	2.321	12.0	19.6	12 17	4 13.03	+26 46.0	1.413	2.362	8.1	20.4		
12 27	4 10.61	+0 48.8	1.469	2.315	15.6	19.8	12 27	4 3.87	+26 23.9	1.449	2.343	12.8	20.6		
1 6	4 6.69	+0 19.4	1.544	2.309	18.8	20.0	1 6	3 57.85	+26 3.0	1.508	2.324	16.8	20.8		
60814	2000 <i>HG</i> ₃₂	12	1.4	247°55'	1°2'	1.8	18	337961	2002 <i>AP</i> ₁₃₂	12	1.5	22°57'	1°5'	1.1	18
10 28	5 1.36	+25 14.7	1.769	2.593	14.9	20.2	10 28	4 57.17	+19 12.7	1.149	2.011	18.7	19.9		
11 7	4 55.48	+25 20.5	1.679	2.580	11.3	20.0	11 7	4 52.90	+19 5.6	1.097	2.019	14.0	19.6		
11 17	4 46.76	+25 19.4	1.612	2.567	7.2	19.7	11 17	4 45.31	+18 56.7	1.065	2.029	8.6	19.4		
11 27	4 36.03	+25 10.4	1.571	2.554	2.7	19.4	11 27	4 35.57	+18 47.5	1.056	2.040	2.9	19.1		
12 7	4 24.53	+24 53.5	1.560	2.540	2.8	19.4	12 7	4 25.34	+18 39.9	1.072	2.052	3.8	19.2		
12 17	4 13.68	+24 31.3	1.576	2.525	7.5	19.6	12 17	4 16.33	+18 36.8	1.113	2.065	9.3	19.5		
12 27	4 4.80	+24 7.9	1.620	2.511	11.9	19.9	12 27	4 9.94	+18 41.0	1.176	2.080	14.3	19.9		
1 6	3 58.77	+23 47.8	1.686	2.495	15.7	20.1	1 6	4 6.94	+18 53.8	1.260	2.095	18.4	20.2		
270722	2002 <i>QE</i> ₁₁₆	12	1.4	30°38'	4°7'	3.1	17	240180	2002 <i>QT</i> ₄₆						

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
164970	2000 AV ₅₃	12 1.5 28°33'	1.4°/ 1.1 18				365389	2009 VX ₇₉	12 1.5 289°36'	3°7'/ 3.3 18			
10 28	4 57.72	+18 58.6	1.477	2.323	16.2	19.2	10 28	4 57.95	+34 53.9	2.240	3.037	13.1	20.1
11 7	4 52.75	+18 51.9	1.416	2.330	12.1	18.9	11 7	4 52.50	+34 47.1	2.147	3.025	10.3	19.9
11 17	4 45.01	+18 43.7	1.377	2.338	7.4	18.7	11 17	4 44.73	+34 26.9	2.077	3.013	7.3	19.7
11 27	4 35.47	+18 35.2	1.362	2.346	2.6	18.4	11 27	4 35.43	+33 51.5	2.034	3.001	4.5	19.5
12 7	4 25.47	+18 27.9	1.375	2.355	3.4	18.5	12 7	4 25.65	+33 1.5	2.020	2.990	4.0	19.5
12 17	4 16.40	+18 24.2	1.415	2.364	8.2	18.8	12 17	4 16.52	+32 0.0	2.035	2.978	6.5	19.6
12 27	4 9.49	+18 26.5	1.479	2.374	12.5	19.1	12 27	4 9.09	+30 52.5	2.078	2.966	9.8	19.8
1 6	4 5.46	+18 36.3	1.566	2.384	16.2	19.3	1 6	4 4.05	+29 44.9	2.146	2.955	12.8	20.0
270735	2002 QE ₁₄₄	12 1.5 357°69'	5°0'/29.6 17				43699	6586 P-L	12 1.5 79°00'	6°7'/29.3 18			
10 28	4 53.66	+ 8 32.6	2.110	2.938	12.7	20.6	10 28	4 58.20	+ 6 17.5	1.736	2.562	15.0	19.0
11 7	4 48.97	+ 7 51.8	2.040	2.937	9.8	20.4	11 7	4 52.43	+ 5 14.5	1.689	2.582	11.8	18.8
11 17	4 42.40	+ 7 16.3	1.993	2.937	7.0	20.3	11 17	4 44.50	+ 4 20.4	1.665	2.603	8.7	18.7
11 27	4 34.62	+ 6 49.7	1.973	2.936	5.1	20.1	11 27	4 35.29	+ 3 40.4	1.668	2.623	6.8	18.6
12 7	4 26.50	+ 6 35.1	1.981	2.936	5.8	20.2	12 7	4 25.92	+ 3 18.2	1.698	2.643	7.5	18.7
12 17	4 18.94	+ 6 34.0	2.017	2.936	8.3	20.3	12 17	4 17.44	+ 3 15.4	1.754	2.663	10.1	18.9
12 27	4 12.77	+ 6 47.1	2.080	2.936	11.2	20.5	12 27	4 10.76	+ 3 31.6	1.836	2.682	13.0	19.1
1 6	4 8.56	+ 7 13.0	2.164	2.937	13.9	20.7	1 6	4 6.45	+ 4 3.9	1.939	2.702	15.6	19.3
189962	2003 UF ₁₂₄	12 1.5 56°04'	4°1'/29.4 18				511990	2015 KL ₁₂₃	12 1.5 109°96'	3°5'/30.6 18			
10 28	4 54.34	+12 33.7	2.170	3.000	12.3	19.6	10 28	5 0.97	+13 30.5	1.650	2.483	15.4	21.2
11 7	4 49.38	+11 28.2	2.100	3.003	9.4	19.4	11 7	4 54.82	+13 13.0	1.589	2.495	11.6	21.0
11 17	4 42.60	+10 23.9	2.056	3.006	6.3	19.2	11 17	4 46.14	+12 58.8	1.551	2.506	7.5	20.8
11 27	4 34.67	+ 9 24.8	2.039	3.009	4.2	19.1	11 27	4 35.85	+12 50.2	1.540	2.517	3.9	20.6
12 7	4 26.48	+ 8 34.9	2.051	3.012	5.0	19.2	12 7	4 25.20	+12 49.3	1.556	2.528	4.7	20.7
12 17	4 18.89	+ 7 57.3	2.093	3.015	7.8	19.4	12 17	4 15.44	+12 57.4	1.601	2.539	8.5	20.9
12 27	4 12.70	+ 7 34.1	2.161	3.018	10.8	19.6	12 27	4 7.67	+13 15.4	1.672	2.549	12.4	21.2
1 6	4 8.45	+ 7 25.3	2.251	3.022	13.4	19.7	1 6	4 2.58	+13 42.9	1.764	2.559	15.7	21.4
104032	2000 ED ₁	12 1.5 241°07'	2°0'/30.9 18				346389	2008 SF ₇₆	12 1.5 110°11'	0°8'/ 1.2 18			
10 28	4 59.95	+18 1.0	1.678	2.512	15.1	20.5	10 28	5 1.76	+21 17.7	1.813	2.639	14.5	22.1
11 7	4 54.33	+17 38.6	1.596	2.504	11.4	20.2	11 7	4 55.19	+20 55.6	1.753	2.657	10.8	21.9
11 17	4 46.01	+17 14.2	1.536	2.495	7.1	19.9	11 17	4 46.24	+20 29.1	1.718	2.675	6.6	21.7
11 27	4 35.83	+16 49.6	1.504	2.486	2.8	19.7	11 27	4 35.86	+19 59.4	1.709	2.693	2.1	21.5
12 7	4 25.01	+16 27.5	1.499	2.476	3.7	19.7	12 7	4 25.22	+19 28.8	1.730	2.710	2.8	21.5
12 17	4 14.88	+16 10.6	1.523	2.466	8.2	19.9	12 17	4 15.54	+19 0.6	1.781	2.727	7.1	21.9
12 27	4 6.69	+16 2.0	1.572	2.456	12.6	20.2	12 27	4 7.82	+18 37.9	1.858	2.742	10.9	22.1
1 6	4 1.25	+16 3.4	1.644	2.446	16.3	20.4	1 6	4 2.67	+18 23.3	1.959	2.758	14.2	22.4
39978	1998 HB ₁₁	12 1.5 111°31'	4°7'/ 2.6 18				436572	2011 HV ₆₅	12 1.5 150°95'	0°1'/ 1.4 18			
10 28	5 7.11	+33 1.3	1.999	2.792	14.6	18.9	10 28	5 1.60	+22 30.9	2.014	2.833	13.5	22.6
11 7	4 59.49	+34 4.7	1.935	2.810	11.4	18.7	11 7	4 55.02	+22 18.8	1.942	2.843	10.1	22.4
11 17	4 49.07	+34 57.4	1.895	2.828	8.1	18.5	11 17	4 46.16	+22 1.8	1.895	2.851	6.2	22.1
11 27	4 36.77	+35 34.7	1.883	2.846	5.3	18.4	11 27	4 35.85	+21 40.3	1.876	2.859	1.9	21.9
12 7	4 23.93	+35 54.1	1.900	2.863	5.1	18.4	12 7	4 25.19	+21 15.8	1.886	2.867	2.4	21.9
12 17	4 11.97	+35 56.5	1.946	2.879	7.6	18.6	12 17	4 15.30	+20 51.0	1.927	2.873	6.6	22.2
12 27	4 2.15	+35 46.2	2.020	2.895	10.6	18.8	12 27	4 7.20	+20 29.1	1.996	2.879	10.3	22.5
1 6	3 55.25	+35 29.2	2.118	2.911	13.5	19.0	1 6	4 1.51	+20 13.0	2.088	2.885	13.5	22.7
245866	2006 PT ₁₇	12 1.5 145°63'	3°8'/ 3.3 18				303084	2004 AU ₂₁	12 1.5 176°77'	0°4'/ 1.3 18			
10 28	5 2.80	+35 28.5	2.544	3.324	12.2	21.5	10 28	4 58.58	+21 28.3	2.054	2.878	13.1	21.1
11 7	4 55.68	+35 41.0	2.470	3.337	9.6	21.3	11 7	4 52.83	+21 20.3	1.976	2.880	9.8	20.9
11 17	4 46.45	+35 41.6	2.420	3.349	6.8	21.2	11 17	4 44.87	+21 8.6	1.923	2.880	6.0	20.7
11 27	4 35.89	+35 28.3	2.398	3.360	4.4	21.0	11 27	4 35.47	+20 53.7	1.897	2.881	1.9	20.4
12 7	4 25.04	+35 1.0	2.407	3.371	4.1	21.0	12 7	4 25.64	+20 37.0	1.901	2.881	2.4	20.5
12 17	4 14.94	+34 22.1	2.446	3.381	6.1	21.2	12 17	4 16.45	+20 20.5	1.934	2.881	6.5	20.7
12 27	4 6.51	+33 36.0	2.514	3.390	8.8	21.3	12 27	4 8.90	+20 7.0	1.995	2.881	10.2	21.0
1 6	4 0.35	+32 47.6	2.607	3.399	11.2	21.5	1 6	4 3.65	+19 58.9	2.080	2.880	13.4	21.2
505366	2013 GV ₆₇	12 1.5 342°00'	12°9'/25.9 18				181495	2006 UZ ₅	12 1.5 339°51'	0°0'/ 1.3 18			
10 28	4 54.75	- 8 38.4	1.722	2.513	16.6	20.8	10 28	4 57.92	+22 18.0	1.868	2.698	14.0	20.8
11 7	4 50.13	-10 25.1	1.669	2.510	14.7	20.6	11 7	4 52.58	+22 17.2	1.791	2.697	10.5	20.6
11 17	4 43.26	-11 51.8	1.637	2.507	13.3	20.5	11 17	4 44.83	+22 12.3	1.738	2.696	6.5	20.3
11 27	4 34.94	-12 49.7	1.627	2.504	12.9	20.5	11 27	4 35.47	+22 3.3	1.711	2.695	2.0	20.1
12 7	4 26.22	-13 13.2	1.641	2.502	13.5	20.5	12 7	4 25.62	+21 51.2	1.714	2.694	2.5	20.1
12 17	4 18.19	-13 1.0	1.676	2.500	15.1	20.6	12 17	4 16.46	+21 38.2	1.745	2.694	6.9	20.4
12 27	4 11.86	-12 15.6	1.731	2.499	17.0	20.8	12 27	4 9.06	+21 27.2	1.803	2.693	10.9	20.6
1 6	4 7.87	-11 3.1	1.804	2.497	18.9	20.9	1 6	4 4.16	+21 20.9	1.884	2.693	14.3	20.8
147465	2004 BQ ₉₁	12 1.5 207°07'	0°0'/ 1.3 18				447651	2006 VS ₈₅	12 1.5 335°85'	0°0'/ 1.3 18			
10 28	5 1.72	+23 7.5	1.891	2.713	14.2	20.7	10 28	4 56.19	+22 53.7	1.660	2.500	15.0	21.3
11 7	4 55.43	+22 54.7	1.807	2.708	10.7	20.4	11 7	4 51.60	+22 39.9	1.581	2.492	11.3	21.1
11 17	4 46.58	+22 36.0	1.746	2.702	6.6	20.2	11 17	4 44.38	+22 20.2	1.525	2.485	7.0	20.8
11 27	4 36.01	+22 11.5	1.712	2.696	2.1	19.9	11 27	4 35.36	+21 55.2	1.494	2.478	2.2	20.5
12 7	4 24.88	+21 42.8	1.709	2.689	2.6	19.9	12 7	4 25.75	+21 26.8	1.491	2.472	2.7	20.5
12 17	4 14.45	+21 12.9	1.734	2.681	7.1	20.2	12 17	4 16.88	+20 58.4	1.516	2.467	7.5	20.8
12 27	4 5.87	+20 45.6	1.787	2.673	11.2	20.4	12 27	4 9.93	+20 34.0	1.566	2.461	11.9	21.1
1 6	3 59.91	+20 24.6	1.864	2.664	14.7	20.6	1 6	4 5.68	+20 16.8	1.639	2.457	15.6	21.3
267873	2003 WS ₁₆₂	12 1.5 29°64'	0°8'/ 1.2 18				121211	Nikeshadavis	12 1.5 87°30'	2°5'/30.7 18			
10 28	4 56.18	+19 9.2	1.986	2.818	13.2								

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
98353	2000 <i>SU</i> ₃₂₈		12 1.5	6°87	4.7/ 2.3	18	362826	2012 <i>AR</i> ₃		12 1.5	290°61	1.2/ 1.9	17
10 28	5 1.54	+29 19.4	1.121	1.968	20.1	19.5	10 28	4 57.61	+26 1.6	1.938	2.763	13.7	21.0
11 7	4 56.96	+30 12.7	1.058	1.968	15.6	19.2	11 7	4 52.42	+25 57.4	1.852	2.754	10.4	20.8
11 17	4 48.30	+30 55.2	1.015	1.969	10.5	19.0	11 17	4 44.80	+25 45.6	1.790	2.745	6.6	20.6
11 27	4 36.70	+31 21.0	0.994	1.970	5.8	18.7	11 27	4 35.52	+25 25.9	1.754	2.736	2.5	20.3
12 7	4 24.12	+31 27.2	0.997	1.973	5.6	18.7	12 7	4 25.69	+24 59.2	1.748	2.728	2.6	20.3
12 17	4 12.77	+31 15.5	1.024	1.976	10.1	19.0	12 17	4 16.50	+24 28.2	1.770	2.719	6.7	20.5
12 27	4 4.56	+30 53.1	1.074	1.979	15.1	19.3	12 27	4 9.04	+23 57.1	1.819	2.711	10.7	20.7
1 6	4 0.53	+30 28.2	1.143	1.984	19.5	19.6	1 6	4 4.06	+23 29.8	1.891	2.703	14.1	20.9
16284	2861 <i>P-L</i>		12 1.5	327°98	0°3/ 1.4	18	174322	2002 <i>TG</i> ₁₁₅		12 1.5	14°72	3°0/ 2.6	17
10 28	4 54.92	+21 52.3	1.889	2.725	13.6	19.1	10 28	4 55.51	+30 33.8	1.219	2.068	18.7	19.5
11 7	4 50.41	+21 42.5	1.804	2.713	10.2	18.9	11 7	4 51.79	+30 17.3	1.163	2.075	14.4	19.2
11 17	4 43.56	+21 28.5	1.742	2.702	6.3	18.6	11 17	4 44.71	+29 44.2	1.127	2.083	9.4	19.0
11 27	4 35.10	+21 10.8	1.707	2.691	2.0	18.3	11 27	4 35.49	+28 54.2	1.114	2.093	4.4	18.7
12 7	4 26.09	+20 51.0	1.699	2.680	2.6	18.4	12 7	4 25.84	+27 50.6	1.125	2.104	3.9	18.7
12 17	4 17.66	+20 31.6	1.720	2.670	6.9	18.6	12 17	4 17.46	+26 40.3	1.162	2.117	8.6	19.0
12 27	4 10.87	+20 15.7	1.768	2.660	10.9	18.8	12 27	4 11.75	+25 32.0	1.222	2.131	13.3	19.4
1 6	4 6.47	+20 5.8	1.839	2.651	14.4	19.1	1 6	4 9.40	+24 32.4	1.303	2.146	17.4	19.6
273516	2007 <i>BP</i> ₁₁		12 1.5	38°12	5°3/ 2.9	18	523458	2017 <i>FX</i> ₇₉		12 1.5	68°21	3°2/ 30.6	18
10 28	5 2.34	+32 28.4	1.233	2.068	19.4	20.2	10 28	4 56.25	+11 41.7	2.234	3.057	12.2	21.1
11 7	4 57.09	+33 5.5	1.178	2.079	15.2	20.0	11 7	4 50.78	+11 37.6	2.169	3.069	9.2	20.9
11 17	4 48.07	+33 26.9	1.143	2.090	10.5	19.8	11 17	4 43.49	+11 37.7	2.129	3.080	6.1	20.8
11 27	4 36.55	+33 27.8	1.131	2.103	6.3	19.6	11 27	4 35.05	+11 43.6	2.117	3.092	3.5	20.6
12 7	4 24.45	+33 7.3	1.143	2.116	5.8	19.6	12 7	4 26.33	+11 56.3	2.135	3.104	4.0	20.7
12 17	4 13.74	+32 29.7	1.181	2.129	9.5	19.8	12 17	4 18.21	+12 16.3	2.182	3.115	6.8	20.9
12 27	4 6.05	+31 43.1	1.243	2.144	13.9	20.1	12 27	4 11.48	+12 43.6	2.257	3.127	9.9	21.1
1 6	4 2.19	+30 56.3	1.325	2.158	17.7	20.4	1 6	4 6.71	+13 17.9	2.355	3.139	12.5	21.3
264878	2002 <i>RS</i> ₂₅₅		12 1.5	230°23	3°1/ 3.2	18	517288	2014 <i>HM</i>		12 1.5	186°41	4°1/ 2.8	18
10 28	4 58.07	+34 17.4	2.693	3.482	11.3	20.9	10 28	5 3.91	+33 50.4	2.386	3.172	12.7	22.5
11 7	4 52.20	+34 10.1	2.599	3.473	8.9	20.7	11 7	4 56.90	+34 31.1	2.301	3.172	10.0	22.4
11 17	4 44.40	+33 51.6	2.529	3.464	6.2	20.5	11 17	4 47.47	+35 1.9	2.240	3.171	7.1	22.2
11 27	4 35.33	+33 20.7	2.487	3.454	3.8	20.3	11 27	4 36.37	+35 19.6	2.207	3.170	4.7	22.0
12 7	4 25.90	+32 37.9	2.475	3.444	3.4	20.3	12 7	4 24.67	+35 22.4	2.204	3.167	4.4	22.0
12 17	4 17.02	+31 45.8	2.493	3.434	5.6	20.4	12 17	4 13.56	+35 11.3	2.231	3.165	6.7	22.1
12 27	4 9.56	+30 48.4	2.541	3.424	8.4	20.6	12 27	4 4.14	+34 49.9	2.286	3.161	9.6	22.3
1 6	4 4.11	+29 50.5	2.615	3.413	11.0	20.7	1 6	3 57.18	+34 23.2	2.367	3.157	12.3	22.5
30181	2000 <i>GR</i> ₈₈		12 1.5	113°30	1°9/ 1.9	18	227807	2007 <i>BL</i> ₁₈		12 1.5	258°31	1°1/ 1.8	18
10 28	5 2.13	+25 55.7	2.092	2.905	13.3	18.9	10 28	5 1.51	+24 41.7	1.698	2.525	15.3	21.3
11 7	4 55.51	+26 32.1	2.024	2.918	10.1	18.7	11 7	4 55.79	+24 48.3	1.607	2.510	11.7	21.0
11 17	4 46.53	+27 3.1	1.979	2.930	6.4	18.5	11 17	4 47.12	+24 48.5	1.539	2.495	7.4	20.8
11 27	4 36.02	+27 26.5	1.963	2.943	2.8	18.3	11 27	4 36.32	+24 41.1	1.497	2.479	2.6	20.4
12 7	4 25.07	+27 41.5	1.977	2.955	2.8	18.3	12 7	4 24.68	+24 26.3	1.483	2.463	2.9	20.4
12 17	4 14.83	+27 48.8	2.020	2.966	6.4	18.6	12 17	4 13.67	+24 6.5	1.497	2.447	7.7	20.7
12 27	4 6.36	+27 51.0	2.092	2.978	9.8	18.8	12 27	4 4.67	+23 45.8	1.538	2.430	12.3	20.9
1 6	4 0.34	+27 51.5	2.189	2.989	12.8	19.0	1 6	3 58.63	+23 28.6	1.601	2.413	16.2	21.1
124667	2001 <i>SU</i> ₉₈		12 1.5	292°00	1°2/ 1.8	18	78260	2002 <i>PP</i> ₁₆		12 1.5	141°03	0°7/ 1.2	18
10 28	4 59.63	+25 26.7	1.512	2.348	16.4	19.9	10 28	4 59.13	+21 10.9	1.982	2.808	13.5	20.5
11 7	4 54.66	+25 25.1	1.424	2.332	12.5	19.7	11 7	4 53.24	+20 52.6	1.910	2.814	10.1	20.3
11 17	4 46.54	+25 15.2	1.358	2.316	7.9	19.3	11 17	4 45.13	+20 30.3	1.863	2.820	6.1	20.1
11 27	4 36.14	+24 56.0	1.318	2.300	2.9	19.0	11 27	4 35.59	+20 4.9	1.843	2.826	2.0	19.8
12 7	4 24.86	+24 28.2	1.304	2.285	3.1	19.0	12 7	4 25.69	+19 38.6	1.852	2.832	2.6	19.9
12 17	4 14.28	+23 55.3	1.317	2.269	8.3	19.3	12 17	4 16.53	+19 13.8	1.891	2.837	6.7	20.2
12 27	4 5.93	+23 22.6	1.356	2.253	13.2	19.5	12 27	4 9.08	+18 53.7	1.957	2.842	10.4	20.4
1 6	4 0.76	+22 55.3	1.415	2.238	17.4	19.7	1 6	4 3.97	+18 40.7	2.047	2.846	13.6	20.6
345309	2005 <i>XM</i> ₂₆		12 1.5	242°20	1°1/ 1.2	18	64254	2001 <i>TX</i> ₁₆₈		12 1.5	51°51	3°2/ 29.9	18
10 28	4 59.93	+19 26.9	1.811	2.641	14.3	21.2	10 28	5 4.87	+26 27.0	0.937	1.796	22.2	17.6
11 7	4 54.23	+19 18.3	1.725	2.631	10.8	21.0	11 7	4 58.97	+23 40.6	0.885	1.806	16.6	17.3
11 17	4 45.96	+19 7.4	1.663	2.621	6.7	20.7	11 17	4 49.05	+20 29.0	0.853	1.817	10.0	17.0
11 27	4 35.90	+18 54.9	1.627	2.611	2.3	20.4	11 27	4 36.79	+17 5.1	0.845	1.828	3.8	16.7
12 7	4 25.19	+18 42.4	1.621	2.600	3.0	20.4	12 7	4 24.45	+13 48.5	0.864	1.840	6.1	16.9
12 17	4 15.11	+18 32.0	1.643	2.589	7.5	20.7	12 17	4 14.06	+10 58.8	0.909	1.853	12.3	17.3
12 27	4 6.83	+18 26.6	1.692	2.578	11.7	20.9	12 27	4 7.09	+ 8 48.4	0.976	1.865	17.9	17.6
1 6	4 1.16	+18 28.1	1.764	2.566	15.3	21.1	1 6	4 4.10	+ 7 19.7	1.061	1.878	22.4	18.0
70372	1999 <i>RN</i> ₂₀₇		12 1.5	210°12	5°2/ 3.6	18	83471	2001 <i>SO</i> ₇₆		12 1.5	238°69	2°5/ 30.6	18
10 28	5 4.06	+37 58.2	2.296	3.072	13.4	19.6	10 28	4 56.74	+16 38.3	1.940	2.772	13.4	19.6
11 7	4 57.18	+38 21.3	2.205	3.065	10.9	19.4	11 7	4 51.52	+16 4.5	1.864	2.771	10.1	19.4
11 17	4 47.69	+38 30.5	2.137	3.057	8.1	19.2	11 17	4 44.12	+15 29.8	1.812	2.769	6.4	19.2
11 27	4 36.43	+38 22.3	2.096	3.049	5.8	19.1	11 27	4 35.29	+14 56.6	1.788	2.768	3.0	19.0
12 7	4 24.57	+37 55.4	2.084	3.041	5.3	19.0	12 7	4 26.06	+14 27.7	1.792	2.767	3.8	19.0
12 17	4 13.41	+37 11.8	2.101	3.031	7.3	19.2	12 17	4 17.47	+14 6.0	1.825	2.765	7.5	19.3
12 27	4 4.12	+36 16.8	2.146	3.021	10.1	19.3	12 27	4 10.51	+13 53.7	1.885	2.764	11.1	19.5
1 6	3 57.49	+35 17.0	2.216	3.010	12.9	19.5	1 6	4 5.82	+13 52.0	1.968	2.762	14.3	19.7
182264	2001 <i>HW</i> ₁₀		12 1.5	162°46	0°6/ 1.3	18	329889	2005 <i>ES</i> ₂₄₅		12 1.5	137°34	2°9/ 3	

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
316238	2010 OY ₂₂	12	1.5 345°09	1°6/ 1.9 18			121942	2000 ES ₂₃	12	1.5 90°00	2°2/30.8 18		
10 28	4 58.33	+25 29.7	1.847	2.674	14.2	20.4	10 28	5 1.10	+18 17.7	1.552	2.389	16.0	19.9
11 7	4 53.06	+25 49.5	1.769	2.671	10.8	20.2	11 7	4 55.04	+17 46.1	1.496	2.405	11.9	19.7
11 17	4 45.24	+26 3.5	1.714	2.669	6.9	19.9	11 17	4 46.32	+17 12.4	1.462	2.421	7.4	19.5
11 27	4 35.69	+26 10.3	1.685	2.667	2.7	19.7	11 27	4 35.98	+16 39.2	1.454	2.436	2.9	19.2
12 7	4 25.56	+26 9.7	1.685	2.665	2.8	19.7	12 7	4 25.34	+16 9.6	1.475	2.452	3.8	19.3
12 17	4 16.10	+26 3.2	1.714	2.664	6.9	19.9	12 17	4 15.75	+15 46.8	1.523	2.467	8.2	19.6
12 27	4 8.48	+25 54.0	1.769	2.662	10.9	20.1	12 27	4 8.32	+15 33.7	1.597	2.482	12.4	19.9
1 6	4 3.46	+25 45.7	1.848	2.661	14.3	20.4	1 6	4 3.69	+15 31.6	1.692	2.496	15.8	20.2
33483	1999 GW ₄	12	1.5 252°73	2°7/ 2.1 18			380358	2002 TB ₂₄	12	1.5 7°53	2°2/30.9 18		
10 28	5 2.42	+27 25.8	1.753	2.573	15.2	19.0	10 28	4 54.57	+19 11.3	1.001	1.875	19.9	20.0
11 7	4 56.46	+28 1.2	1.667	2.564	11.7	18.8	11 7	4 51.47	+18 46.2	0.947	1.875	15.0	19.7
11 17	4 47.54	+28 29.9	1.603	2.554	7.7	18.5	11 17	4 44.75	+18 18.0	0.911	1.877	9.2	19.4
11 27	4 36.47	+28 48.9	1.566	2.544	3.7	18.2	11 27	4 35.59	+17 49.7	0.897	1.881	3.4	19.1
12 7	4 24.56	+28 56.6	1.557	2.534	3.6	18.2	12 7	4 25.79	+17 25.3	0.906	1.886	4.5	19.2
12 17	4 13.29	+28 53.7	1.576	2.523	7.7	18.4	12 17	4 17.21	+17 9.2	0.939	1.893	10.3	19.5
12 27	4 4.06	+28 44.2	1.622	2.513	11.9	18.7	12 27	4 11.44	+17 5.0	0.992	1.901	15.7	19.8
1 6	3 57.81	+28 32.8	1.691	2.502	15.5	18.9	1 6	4 9.32	+17 13.9	1.065	1.911	20.2	20.1
511619	2015 BZ ₂₆	12	1.5 242°63	2°8/30.8 18			265487	2005 EU ₁₂₄	12	1.5 315°37	9°3/ 3.4 18		
10 28	5 1.20	+16 33.4	1.497	2.336	16.4	21.9	10 28	5 4.51	+45 19.2	2.101	2.853	15.2	19.8
11 7	4 55.59	+16 10.4	1.418	2.327	12.4	21.6	11 7	4 58.58	+46 51.7	2.011	2.838	13.1	19.6
11 17	4 46.98	+15 47.1	1.361	2.319	7.8	21.4	11 17	4 49.19	+48 9.4	1.943	2.822	11.1	19.5
11 27	4 36.28	+15 25.6	1.329	2.310	3.5	21.1	11 27	4 37.10	+49 4.4	1.900	2.807	9.6	19.4
12 7	4 24.84	+15 8.7	1.325	2.301	4.4	21.1	12 7	4 23.73	+49 31.3	1.882	2.792	9.4	19.3
12 17	4 14.16	+14 59.5	1.348	2.291	9.1	21.4	12 17	4 10.84	+49 29.0	1.890	2.778	10.6	19.4
12 27	4 5.64	+15 0.4	1.396	2.282	13.8	21.6	12 27	4 0.20	+49 2.1	1.922	2.763	12.7	19.5
1 6	4 0.16	+15 12.8	1.466	2.272	17.8	21.8	1 6	3 52.98	+48 18.4	1.976	2.750	15.0	19.6
216118	2006 SV ₃₈	12	1.5 23°76	0°2/ 1.4 17			262145	2006 SF ₇₂	12	1.5 103°92	1°8/30.8 18		
10 28	4 56.97	+22 48.7	1.571	2.413	15.6	19.9	10 28	4 58.86	+17 46.7	2.078	2.902	13.0	21.7
11 7	4 52.15	+22 28.0	1.506	2.418	11.7	19.7	11 7	4 52.79	+17 23.1	2.017	2.921	9.6	21.5
11 17	4 44.67	+22 1.1	1.463	2.424	7.2	19.5	11 17	4 44.73	+16 58.4	1.982	2.938	5.9	21.3
11 27	4 35.49	+21 29.1	1.446	2.430	2.2	19.2	11 27	4 35.46	+16 34.3	1.974	2.956	2.4	21.1
12 7	4 25.88	+20 54.7	1.456	2.437	2.8	19.2	12 7	4 25.97	+16 12.8	1.996	2.973	3.1	21.2
12 17	4 17.18	+20 21.7	1.494	2.445	7.6	19.6	12 17	4 17.24	+15 56.2	2.048	2.989	6.7	21.4
12 27	4 10.54	+19 54.1	1.557	2.453	11.9	19.8	12 27	4 10.13	+15 46.6	2.128	3.006	10.1	21.7
1 6	4 6.66	+19 35.1	1.642	2.461	15.6	20.1	1 6	4 5.20	+15 44.9	2.231	3.022	12.9	21.9
469980	2006 GT ₁	12	1.5 168°67	0°6/ 1.7 16			354453	2004 BO ₁₆	12	1.5 311°29	8°4/ 4.4 17		
10 28	5 4.96	+23 25.3	1.652	2.476	15.8	22.5	10 28	5 1.62	+42 8.6	1.646	2.434	17.4	20.2
11 7	4 58.16	+23 34.3	1.579	2.480	11.9	22.3	11 7	4 56.64	+42 45.9	1.555	2.414	14.6	20.0
11 17	4 48.42	+23 37.9	1.528	2.484	7.4	22.0	11 17	4 48.01	+43 3.0	1.483	2.395	11.6	19.8
11 27	4 36.70	+23 35.0	1.504	2.487	2.5	21.7	11 27	4 36.70	+42 53.2	1.434	2.376	9.1	19.6
12 7	4 24.38	+23 26.0	1.509	2.489	2.8	21.8	12 7	4 24.35	+42 13.0	1.409	2.357	8.5	19.5
12 17	4 12.96	+23 13.2	1.543	2.491	7.7	22.1	12 17	4 12.88	+41 4.8	1.411	2.339	10.4	19.6
12 27	4 3.76	+23 0.3	1.603	2.492	12.1	22.3	12 27	4 4.06	+39 36.9	1.437	2.321	13.6	19.7
1 6	3 57.59	+22 51.3	1.686	2.492	15.8	22.6	1 6	3 58.94	+38 0.4	1.485	2.304	16.9	19.9
5204	Herakleitos	12	1.5 322°57	0°4/ 1.3 18			113632	2002 TA ₇₂	12	1.5 260°34	13°1/ 3.8 18		
10 28	4 54.90	+21 27.6	2.008	2.841	13.0	17.4	10 28	5 15.91	+51 44.8	1.817	2.536	18.4	19.0
11 7	4 50.27	+21 16.3	1.922	2.829	9.8	17.2	11 7	5 8.71	+53 38.9	1.726	2.516	16.5	18.8
11 17	4 43.45	+21 1.1	1.859	2.818	6.0	17.0	11 17	4 56.34	+55 13.7	1.655	2.496	14.7	18.6
11 27	4 35.12	+20 42.8	1.823	2.807	1.9	16.7	11 27	4 39.61	+56 16.1	1.606	2.476	13.4	18.5
12 7	4 26.28	+20 22.9	1.817	2.797	2.5	16.7	12 7	4 20.60	+56 36.4	1.579	2.455	13.2	18.4
12 17	4 17.97	+20 3.9	1.838	2.787	6.6	16.9	12 17	4 2.28	+56 12.2	1.577	2.433	14.2	18.4
12 27	4 11.22	+19 48.5	1.887	2.777	10.5	17.2	12 27	3 47.54	+55 10.8	1.596	2.411	16.1	18.5
1 6	4 6.71	+19 39.1	1.959	2.768	13.8	17.4	1 6	3 38.06	+53 45.6	1.635	2.389	18.4	18.6
219204	1999 VU ₃₀	12	1.5 60°14	1°2/ 1.8 18			222855	2002 EY ₁₂₁	12	1.5 145°61	1°2/ 1.1 18		
10 28	4 59.94	+23 56.0	1.960	2.782	13.7	19.2	10 28	4 56.46	+19 18.9	2.248	3.073	12.1	21.1
11 7	4 53.92	+24 28.0	1.899	2.799	10.3	19.0	11 7	4 51.07	+19 1.5	2.172	3.076	9.0	20.9
11 17	4 45.58	+24 55.9	1.861	2.816	6.4	18.8	11 17	4 43.75	+18 42.0	2.122	3.079	5.5	20.7
11 27	4 35.76	+25 17.9	1.851	2.834	2.4	18.6	11 27	4 35.20	+18 21.4	2.099	3.082	2.0	20.5
12 7	4 25.56	+25 33.6	1.871	2.851	2.5	18.6	12 7	4 26.31	+18 1.7	2.106	3.085	2.6	20.5
12 17	4 16.14	+25 43.7	1.920	2.868	6.4	18.9	12 17	4 18.01	+17 44.7	2.143	3.087	6.2	20.8
12 27	4 8.51	+25 50.6	1.996	2.886	10.0	19.2	12 27	4 11.14	+17 32.8	2.208	3.090	9.6	21.0
1 6	4 3.33	+25 57.1	2.097	2.903	13.1	19.4	1 6	4 6.29	+17 27.4	2.297	3.092	12.5	21.2
174156	2002 PX ₄₇	12	1.5 130°14	3°7/ 3.2 18			75740	2000 AF ₁₄₈	12	1.5 184°65	2°2/ 2.6 18		
10 28	5 2.42	+34 20.6	2.137	2.930	13.7	20.5	10 28	5 0.51	+30 51.3	1.974	2.784	14.1	19.7
11 7	4 55.71	+34 17.6	2.065	2.942	10.7	20.3	11 7	4 54.46	+30 22.5	1.893	2.784	10.8	19.5
11 17	4 46.62	+34 1.1	2.017	2.954	7.4	20.1	11 17	4 45.96	+29 40.5	1.836	2.784	7.1	19.3
11 27	4 36.06	+33 29.6	1.996	2.965	4.5	20.0	11 27	4 35.91	+28 45.2	1.805	2.784	3.3	19.0
12 7	4 25.22	+32 43.8	2.005	2.975	4.0	19.9	12 7	4 25.48	+27 38.9	1.805	2.783	3.0	19.0
12 17	4 15.27	+31 47.4	2.043	2.986	6.6	20.1	12 17	4 15.90	+26 26.3	1.834	2.782	6.6	19.2
12 27	4 7.25	+30 46.0	2.110	2.995	9.8	20.3	12 27	4 8.23	+25 13.7	1.891	2.781	10.4	19.5
1 6	4 1.77	+29 45.5	2.201	3.004	12.7	20.6	1 6	4 3.13	+24 6.8	1.972	2.780	13.7	19.7
366522	2002 PX ₁₉₉	12	1.5 92°45	4°6/29.8 18			353066	2009 DG ₇₇	12	1.5 263°90	1°0/ 1.9 15		
10 28	4 54.67	+ 8 0.3	2.324	3.144	11.9								

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
421161	2013 <i>RV</i> ₄₂		12 1.5 202°90	1°2/30.9	17		207257	2005 <i>EH</i> ₂₄₈		12 1.5 219°94	0°6/1.3	18	
10 28	4 54.49	+19 52.5	2.638	3.459	10.6	21.6	10 28	4 58.65	+21 5.3	1.930	2.758	13.7	21.4
11 7	4 49.36	+19 18.7	2.555	3.457	7.9	21.4	11 7	4 53.09	+20 52.1	1.850	2.755	10.3	21.2
11 17	4 42.61	+18 41.7	2.498	3.455	4.9	21.2	11 17	4 45.19	+20 35.1	1.794	2.752	6.3	21.0
11 27	4 34.83	+18 3.2	2.470	3.452	1.8	21.0	11 27	4 35.72	+20 15.0	1.764	2.748	2.0	20.7
12 7	4 26.76	+17 25.3	2.472	3.450	2.4	21.0	12 7	4 25.75	+19 53.5	1.764	2.744	2.6	20.7
12 17	4 19.18	+16 50.6	2.505	3.447	5.6	21.2	12 17	4 16.44	+19 33.1	1.793	2.740	6.9	21.0
12 27	4 12.79	+16 21.5	2.567	3.444	8.6	21.4	12 27	4 8.84	+19 17.0	1.849	2.736	10.8	21.2
1 6	4 8.12	+15 59.7	2.654	3.441	11.2	21.6	1 6	4 3.66	+19 7.4	1.929	2.732	14.2	21.4
86658	2000 <i>EQ</i> ₁₈₅		12 1.5 331°25	0°3/1.6	18		282923	2007 <i>PO</i> ₃		12 1.5 45°72	11°1/30.1	18	
10 28	5 1.02	+22 0.4	1.461	2.300	16.7	19.4	10 28	4 58.73	- 3 57.0	1.428	2.241	18.4	19.9
11 7	4 55.60	+22 15.9	1.388	2.298	12.6	19.2	11 7	4 53.25	- 4 46.0	1.389	2.259	15.4	19.7
11 17	4 47.05	+22 28.1	1.337	2.296	7.8	18.9	11 17	4 45.22	- 5 12.9	1.369	2.277	12.7	19.6
11 27	4 36.34	+22 35.7	1.311	2.294	2.5	18.6	11 27	4 35.67	- 5 11.5	1.373	2.296	11.2	19.6
12 7	4 24.90	+22 38.9	1.312	2.293	3.0	18.6	12 7	4 25.91	- 4 39.3	1.400	2.316	11.6	19.7
12 17	4 14.32	+22 39.4	1.340	2.291	8.2	18.9	12 17	4 17.20	- 3 38.0	1.451	2.336	13.5	19.8
12 27	4 6.03	+22 40.3	1.393	2.290	13.0	19.2	12 27	4 10.60	- 2 12.8	1.525	2.356	16.0	20.0
1 6	4 0.92	+22 45.0	1.468	2.288	17.0	19.4	1 6	4 6.72	- 0 30.9	1.619	2.376	18.4	20.3
137276	1999 <i>RT</i> ₁₆₂		12 1.5 76°96	1°3/1.9	18		18237	Kenfreeman		12 1.5 194°93	1°3/1.1	18	
10 28	5 4.70	+26 30.5	1.361	2.195	18.0	19.8	10 28	5 0.08	+19 20.6	2.012	2.836	13.4	20.1
11 7	4 58.06	+26 15.8	1.312	2.218	13.5	19.6	11 7	4 54.04	+19 1.0	1.931	2.834	10.0	19.8
11 17	4 48.28	+25 50.4	1.284	2.241	8.4	19.4	11 17	4 45.71	+18 38.6	1.874	2.831	6.2	19.6
11 27	4 36.61	+25 14.4	1.282	2.264	3.1	19.1	11 27	4 35.88	+18 14.7	1.846	2.828	2.2	19.3
12 7	4 24.74	+24 30.4	1.306	2.287	3.1	19.2	12 7	4 25.59	+17 51.3	1.846	2.825	2.9	19.4
12 17	4 14.29	+23 43.8	1.358	2.310	8.1	19.6	12 17	4 15.94	+17 30.9	1.877	2.821	7.0	19.6
12 27	4 6.52	+23 0.7	1.436	2.332	12.7	19.9	12 27	4 7.95	+17 16.3	1.935	2.816	10.7	19.9
1 6	4 2.07	+22 26.0	1.535	2.354	16.5	20.2	1 6	4 2.31	+17 9.3	2.017	2.811	14.0	20.1
401576	2013 <i>FC</i> ₂₅		12 1.5 260°55	1°4/2.0	18		135010	2001 <i>JA</i> ₉		12 1.5 78°58	6°0/29.9	18	
10 28	4 58.56	+26 22.0	1.966	2.788	13.7	21.2	10 28	4 58.04	+ 6 54.6	1.787	2.612	14.7	20.1
11 7	4 53.09	+26 25.0	1.885	2.785	10.4	21.0	11 7	4 52.42	+ 6 15.0	1.732	2.627	11.5	19.9
11 17	4 45.20	+26 20.7	1.828	2.782	6.6	20.7	11 17	4 44.63	+ 5 43.9	1.701	2.642	8.2	19.7
11 27	4 35.71	+26 8.3	1.797	2.778	2.6	20.5	11 27	4 35.50	+ 5 25.3	1.696	2.657	6.1	19.6
12 7	4 25.70	+25 48.5	1.796	2.775	2.6	20.5	12 7	4 26.12	+ 5 22.0	1.719	2.671	6.8	19.7
12 17	4 16.35	+25 23.6	1.823	2.772	6.6	20.7	12 17	4 17.54	+ 5 34.9	1.769	2.686	9.4	19.9
12 27	4 8.77	+24 57.6	1.878	2.769	10.4	20.9	12 27	4 10.71	+ 6 3.4	1.844	2.700	12.5	20.1
1 6	4 3.66	+24 34.2	1.956	2.766	13.8	21.2	1 6	4 6.21	+ 6 45.2	1.942	2.715	15.2	20.4
50402	2000 <i>CN</i> ₁₁₁		12 1.5 97°95	0°8/1.3	18		368068	2012 <i>JL</i> ₈		12 1.5 142°45	1°6/30.7	18	
10 28	4 59.80	+20 8.4	1.931	2.757	13.7	18.7	10 28	4 54.97	+18 45.9	2.424	3.248	11.3	20.8
11 7	4 53.72	+20 1.8	1.869	2.773	10.2	18.5	11 7	4 49.82	+18 9.0	2.347	3.251	8.5	20.6
11 17	4 45.42	+19 52.7	1.831	2.788	6.2	18.3	11 17	4 42.94	+17 29.7	2.296	3.253	5.2	20.4
11 27	4 35.73	+19 41.8	1.820	2.804	2.0	18.1	11 27	4 34.97	+16 49.8	2.274	3.256	2.1	20.2
12 7	4 25.74	+19 30.3	1.839	2.818	2.6	18.2	12 7	4 26.73	+16 11.9	2.282	3.258	2.8	20.2
12 17	4 16.56	+19 20.3	1.887	2.833	6.7	18.4	12 17	4 19.03	+15 38.5	2.320	3.260	6.0	20.5
12 27	4 9.15	+19 14.2	1.962	2.848	10.4	18.7	12 27	4 12.64	+15 12.2	2.386	3.262	9.2	20.7
1 6	4 4.12	+19 13.8	2.061	2.862	13.5	18.9	1 6	4 8.08	+14 54.5	2.476	3.264	11.9	20.9
181101	2005 <i>QA</i> ₇₀		12 1.5 139°29	1°1/1.9	18		363411	2003 <i>QR</i> ₄₆		12 1.5 102°19	5°3/30.6	18	
10 28	5 3.81	+25 24.7	1.850	2.667	14.6	21.4	10 28	5 3.88	+ 9 15.8	1.468	2.298	17.1	20.5
11 7	4 56.94	+25 27.8	1.782	2.680	11.0	21.2	11 7	4 57.17	+ 8 58.5	1.415	2.316	13.1	20.3
11 17	4 47.49	+25 23.8	1.737	2.691	6.9	21.0	11 17	4 47.69	+ 8 49.6	1.384	2.333	8.9	20.1
11 27	4 36.40	+25 11.8	1.720	2.702	2.5	20.7	11 27	4 36.49	+ 8 52.4	1.379	2.350	5.7	20.0
12 7	4 24.92	+24 52.7	1.732	2.712	2.6	20.7	12 7	4 24.96	+ 9 8.4	1.401	2.366	6.3	20.1
12 17	4 14.33	+24 29.0	1.774	2.722	6.9	21.0	12 17	4 14.50	+ 9 38.1	1.451	2.382	9.8	20.3
12 27	4 5.77	+24 4.9	1.843	2.731	10.8	21.3	12 27	4 6.31	+10 20.3	1.525	2.397	13.7	20.6
1 6	3 59.92	+23 44.4	1.936	2.739	14.2	21.5	1 6	4 1.07	+11 12.8	1.622	2.412	17.0	20.9
491741	2012 <i>VD</i> ₃₄		12 1.5 23°50	3°0/30.0	17		80768	2000 <i>CP</i> ₆₀		12 1.5 11°43	2°0/30.9	18	
10 28	4 51.41	+13 49.5	2.502	3.331	10.9	20.3	10 28	4 57.88	+20 38.1	1.264	2.118	17.8	18.8
11 7	4 47.07	+13 5.9	2.435	3.339	8.2	20.1	11 7	4 53.37	+19 50.0	1.201	2.119	13.4	18.5
11 17	4 41.20	+12 23.3	2.394	3.346	5.3	20.0	11 17	4 45.68	+18 55.3	1.158	2.121	8.3	18.2
11 27	4 34.39	+11 44.6	2.380	3.355	3.2	19.8	11 27	4 35.91	+17 57.6	1.140	2.123	3.0	17.9
12 7	4 27.36	+11 12.2	2.396	3.363	3.8	19.9	12 7	4 25.62	+17 2.0	1.148	2.126	4.1	18.0
12 17	4 20.83	+10 48.4	2.442	3.372	6.4	20.1	12 17	4 16.40	+16 14.5	1.181	2.130	9.4	18.3
12 27	4 15.48	+10 34.5	2.514	3.381	9.1	20.3	12 27	4 9.65	+15 40.1	1.238	2.134	14.3	18.6
1 6	4 11.77	+10 30.9	2.611	3.391	11.5	20.4	1 6	4 6.12	+15 21.3	1.314	2.139	18.4	18.9
249753	2000 <i>SO</i> ₃₀₇		12 1.5 33°22	3°7/2.7	18		184868	2005 <i>UJ</i> ₁₁₃		12 1.5 151°48	0°6/1.7	18	
10 28	5 0.79	+30 42.4	1.045	1.897	20.9	19.5	10 28	4 57.47	+24 18.9	2.109	2.932	12.9	21.3
11 7	4 56.19	+30 39.3	0.996	1.908	16.1	19.3	11 7	4 52.06	+24 15.2	2.031	2.932	9.7	21.1
11 17	4 47.61	+30 18.4	0.964	1.920	10.6	19.0	11 17	4 44.48	+24 5.8	1.977	2.933	6.0	20.9
11 27	4 36.50	+29 37.8	0.955	1.934	5.2	18.8	11 27	4 35.50	+23 50.9	1.950	2.933	2.1	20.6
12 7	4 24.92	+28 40.3	0.969	1.948	4.6	18.8	12 7	4 26.09	+23 31.4	1.953	2.934	2.3	20.6
12 17	4 14.97	+27 33.4	1.008	1.963	9.6	19.1	12 17	4 17.31	+23 9.5	1.985	2.934	6.2	20.9
12 27	4 8.25	+26 27.2	1.069	1.979	14.7	19.5	12 27	4 10.13	+22 48.5	2.045	2.935	9.8	21.1
1 6	4 5.49	+25 29.7	1.150	1.996	19.1	19.8	1 6	4 5.19	+22 31.3	2.129	2.935	12.9	21.3
443171	2014 <i>DA</i> ₁₅		12 1.5 150°35	1°8/30.9	18		147945	4021 <i>T</i> ₋₃		12 1.5 30°80	0°1/1.5	18	

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
295485	2008 <i>QB</i> ₄₈	12	1.5 184°61	1.4/ 2.2	17		89410	2001 <i>WQ</i> ₁₃	12	1.5 80°89	4.8/30.3	18	
10 28	4 56.77	+27 49.2	2.405	3.217	11.8	20.6	10 28	4 59.97	+11 35.5	1.554	2.391	16.0	19.2
11 7	4 51.31	+27 33.8	2.323	3.217	9.0	20.4	11 7	4 54.16	+10 56.9	1.501	2.406	12.2	19.0
11 17	4 43.92	+27 10.3	2.265	3.216	5.7	20.2	11 17	4 45.82	+10 23.1	1.469	2.421	8.1	18.8
11 27	4 35.30	+26 38.7	2.236	3.216	2.4	19.9	11 27	4 35.92	+9 58.1	1.464	2.436	5.1	18.7
12 7	4 26.35	+26 0.5	2.236	3.216	2.3	19.9	12 7	4 25.72	+9 44.9	1.485	2.451	5.8	18.8
12 17	4 17.99	+25 18.3	2.267	3.215	5.6	20.2	12 17	4 16.49	+9 45.4	1.534	2.466	9.3	19.0
12 27	4 11.08	+24 35.9	2.327	3.215	8.9	20.4	12 27	4 9.32	+10 0.3	1.608	2.481	13.0	19.3
1 6	4 6.20	+23 56.8	2.411	3.214	11.7	20.6	1 6	4 4.82	+10 28.1	1.704	2.496	16.3	19.5
236993	2008 <i>RC</i> ₁₀	12	1.5 329°72	0°3/ 1.6	17		451488	2011 <i>UB</i> ₁₇₆	12	1.5 240°93	0°2/ 1.6	18	
10 28	4 55.33	+23 11.5	1.959	2.791	13.3	20.6	10 28	4 58.34	+24 9.1	1.940	2.766	13.7	21.1
11 7	4 50.72	+23 11.3	1.874	2.780	10.1	20.3	11 7	4 52.89	+23 47.2	1.858	2.762	10.3	20.9
11 17	4 43.81	+23 6.4	1.812	2.770	6.2	20.1	11 17	4 45.09	+23 18.3	1.800	2.757	6.4	20.7
11 27	4 35.33	+22 56.9	1.777	2.760	2.0	19.8	11 27	4 35.72	+22 43.0	1.769	2.753	2.1	20.4
12 7	4 26.29	+22 43.7	1.770	2.751	2.4	19.8	12 7	4 25.89	+22 3.5	1.767	2.748	2.4	20.4
12 17	4 17.81	+22 28.8	1.792	2.742	6.6	20.1	12 17	4 16.73	+21 23.1	1.794	2.743	6.8	20.7
12 27	4 10.94	+22 15.1	1.840	2.733	10.5	20.3	12 27	4 9.32	+20 46.0	1.849	2.738	10.7	20.9
1 6	4 6.41	+22 5.5	1.912	2.725	13.9	20.5	1 6	4 4.34	+20 15.8	1.927	2.733	14.1	21.1
252191	2001 <i>EY</i> ₂₀	12	1.5 277°48	0°6/ 1.7	18		41542	2000 <i>RZ</i> ₃₈	12	1.5 6°96	1°5/ 2.1	18	
10 28	5 0.62	+24 55.9	1.473	2.310	16.7	20.6	10 28	4 58.25	+28 12.9	1.103	1.958	19.8	17.2
11 7	4 55.46	+24 38.4	1.387	2.296	12.7	20.3	11 7	4 54.22	+27 36.4	1.041	1.958	15.1	16.9
11 17	4 47.09	+24 11.5	1.323	2.282	8.0	20.0	11 17	4 46.45	+26 43.2	0.998	1.959	9.6	16.6
11 27	4 36.44	+23 35.0	1.284	2.268	2.7	19.6	11 27	4 36.21	+25 33.9	0.977	1.960	3.6	16.3
12 7	4 24.94	+22 51.0	1.272	2.253	3.0	19.6	12 7	4 25.37	+24 13.7	0.982	1.963	3.5	16.3
12 17	4 14.22	+22 4.0	1.288	2.239	8.5	19.9	12 17	4 15.85	+22 51.3	1.010	1.967	9.4	16.6
12 27	4 5.80	+21 20.3	1.328	2.225	13.5	20.1	12 27	4 9.26	+21 36.5	1.062	1.971	14.9	16.9
1 6	4 0.62	+20 45.3	1.389	2.210	17.8	20.4	1 6	4 6.42	+20 36.3	1.134	1.977	19.4	17.2
202957	1999 <i>RF</i> ₁₀₃	12	1.5 51°65	6°0/ 4.2	18		296320	2009 <i>EX</i> ₇	12	1.5 347°90	8°9/29.4	18	
10 28	5 5.61	+38 9.5	1.390	2.198	19.1	19.1	10 28	4 55.06	+3 20.2	1.399	2.238	17.3	19.6
11 7	4 58.92	+38 7.0	1.347	2.227	15.1	18.9	11 7	4 50.96	+2 27.1	1.334	2.231	14.0	19.4
11 17	4 48.82	+37 42.2	1.323	2.256	10.9	18.8	11 17	4 44.13	+1 47.1	1.290	2.225	10.8	19.2
11 27	4 36.80	+36 52.2	1.323	2.286	7.1	18.6	11 27	4 35.46	+1 27.3	1.269	2.220	8.9	19.1
12 7	4 24.75	+35 39.7	1.349	2.316	6.2	18.7	12 7	4 26.21	+1 32.2	1.272	2.216	9.7	19.1
12 17	4 14.41	+34 12.2	1.402	2.346	8.8	18.9	12 17	4 17.72	+2 3.1	1.300	2.213	12.5	19.2
12 27	4 7.05	+32 40.2	1.481	2.376	12.4	19.2	12 27	4 11.24	+2 58.0	1.350	2.210	15.9	19.4
1 6	4 3.22	+31 13.0	1.582	2.406	15.8	19.5	1 6	4 7.55	+4 12.1	1.420	2.209	19.1	19.7
515340	2013 <i>AD</i> ₁₇₀	12	1.5 53°06	6°2/29.6	18		351011	2003 <i>QX</i> ₃₄	12	1.5 44°36	8°2/ 4.4	18	
10 28	4 56.96	+8 34.5	1.626	2.462	15.4	21.2	10 28	5 4.40	+40 31.1	1.458	2.256	18.8	19.5
11 7	4 51.87	+7 36.9	1.569	2.471	12.0	21.0	11 7	4 58.54	+41 20.4	1.403	2.271	15.4	19.4
11 17	4 44.41	+6 46.1	1.534	2.479	8.5	20.8	11 17	4 48.98	+41 48.3	1.367	2.286	11.9	19.2
11 27	4 35.47	+6 7.1	1.525	2.488	6.3	20.7	11 27	4 36.98	+41 48.6	1.355	2.302	9.0	19.1
12 7	4 26.20	+5 44.2	1.543	2.497	7.1	20.8	12 7	4 24.46	+41 19.5	1.367	2.318	8.3	19.1
12 17	4 17.77	+5 39.6	1.587	2.507	10.1	20.9	12 17	4 13.35	+40 25.2	1.405	2.335	10.2	19.2
12 27	4 11.19	+5 53.4	1.655	2.516	13.4	21.2	12 27	4 5.24	+39 15.0	1.467	2.352	13.3	19.5
1 6	4 7.09	+6 23.6	1.745	2.526	16.4	21.4	1 6	4 0.91	+37 59.5	1.551	2.369	16.3	19.7
324689	2007 <i>EP</i> ₁₆	12	1.5 337°89	9°6/ 3.2	17		238593	<i>Paysdegex</i>	12	1.5 206°61	1°8/30.9	18	
10 28	5 1.11	+41 3.6	1.573	2.368	17.7	20.7	10 28	4 58.97	+17 29.9	2.150	2.973	12.6	20.9
11 7	4 56.62	+42 38.8	1.491	2.353	15.0	20.5	11 7	4 53.10	+17 10.1	2.066	2.968	9.5	20.7
11 17	4 48.29	+43 59.0	1.429	2.339	12.2	20.3	11 17	4 45.12	+16 49.1	2.007	2.963	5.9	20.4
11 27	4 36.95	+44 55.0	1.391	2.325	10.1	20.1	11 27	4 35.73	+16 28.4	1.976	2.957	2.4	20.2
12 7	4 24.23	+45 20.5	1.376	2.313	9.8	20.1	12 7	4 25.89	+16 9.9	1.975	2.951	3.1	20.2
12 17	4 12.19	+45 14.5	1.386	2.301	11.6	20.1	12 17	4 16.61	+15 55.8	2.003	2.944	6.8	20.5
12 27	4 2.84	+44 42.7	1.420	2.291	14.5	20.3	12 27	4 8.83	+15 48.2	2.060	2.937	10.4	20.7
1 6	3 57.45	+43 54.9	1.473	2.282	17.5	20.5	1 6	4 3.22	+15 48.4	2.140	2.929	13.5	20.9
492358	2014 <i>HF</i> ₂₈	12	1.5 195°25	3°5/30.1	18		420152	2011 <i>FO</i> ₁₄₀	12	1.5 243°17	3°4/29.9	17	
10 28	4 58.06	+13 55.2	2.068	2.893	13.0	22.5	10 28	4 53.96	+12 32.8	2.454	3.278	11.2	21.6
11 7	4 52.39	+13 11.2	1.990	2.892	9.8	22.3	11 7	4 49.07	+11 50.1	2.374	3.274	8.5	21.4
11 17	4 44.65	+12 27.9	1.937	2.890	6.4	22.1	11 17	4 42.52	+11 8.9	2.320	3.270	5.7	21.3
11 27	4 35.56	+11 48.3	1.912	2.887	3.7	22.0	11 27	4 34.88	+10 32.0	2.294	3.266	3.6	21.1
12 7	4 26.08	+11 15.7	1.916	2.884	4.5	22.0	12 7	4 26.93	+10 2.2	2.297	3.261	4.3	21.2
12 17	4 17.20	+10 52.8	1.950	2.880	7.7	22.2	12 17	4 19.44	+9 41.7	2.331	3.257	6.9	21.3
12 27	4 9.86	+10 41.5	2.010	2.877	11.1	22.4	12 27	4 13.17	+9 32.0	2.391	3.253	9.7	21.5
1 6	4 4.68	+10 42.5	2.093	2.872	14.1	22.6	1 6	4 8.64	+9 33.4	2.475	3.248	12.3	21.7
519879	2013 <i>NY</i> ₃₂	12	1.5 141°73	2°5/ 2.7	17		397612	2007 <i>VM</i> ₂₁₂	12	1.5 95°52	1°3/ 1.2	18	
10 28	4 57.39	+31 17.1	2.531	3.332	11.6	22.1	10 28	4 59.54	+18 37.3	1.829	2.659	14.2	21.1
11 7	4 51.73	+31 13.6	2.451	3.336	9.0	22.0	11 7	4 53.74	+18 34.5	1.762	2.668	10.6	20.9
11 17	4 44.16	+31 0.6	2.397	3.340	6.0	21.8	11 17	4 45.56	+18 30.7	1.719	2.677	6.5	20.7
11 27	4 35.39	+30 37.4	2.370	3.344	3.2	21.6	11 27	4 35.87	+18 26.5	1.703	2.686	2.3	20.5
12 7	4 26.30	+30 4.7	2.373	3.348	2.9	21.6	12 7	4 25.77	+18 23.2	1.716	2.695	2.9	20.5
12 17	4 17.83	+29 25.0	2.406	3.351	5.5	21.8	12 17	4 16.45	+18 22.4	1.758	2.704	7.1	20.8
12 27	4 10.80	+28 41.9	2.468	3.355	8.5	22.0	12 27	4 8.95	+18 26.2	1.826	2.712	11.0	21.1
1 6	4 5.80	+27 59.6	2.556	3.358	11.1	22.2	1 6	4 3.93	+18 35.8	1.918	2.721	14.3	21.3
485952	2012 <i>HK</i> ₅₁	12	1.5 194°61	4°2/29.9	17		100045	1991 <i>TK</i> ₁	12	1.5 348°45	25°7/10.4	18	

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
515491	2014 <i>DV</i> ₂₆	12	1.5 278°93	0°4/ 1.4 18			291607	2006 <i>GM</i> ₃₈	12	1.5 201°56	3°9/29.7 18		
10 28	4 59.51	+22 19.8	1.589	2.426	15.7	22.0	10 28	4 54.21	+6 45.0	3.152	3.956	9.5	21.4
11 7	4 54.35	+22 2.8	1.504	2.414	11.9	21.7	11 7	4 48.93	+6 21.0	3.069	3.952	7.4	21.3
11 17	4 46.28	+21 39.8	1.442	2.401	7.4	21.4	11 17	4 42.32	+6 1.9	3.012	3.947	5.4	21.1
11 27	4 36.19	+21 11.3	1.405	2.389	2.3	21.1	11 27	4 34.86	+5 49.7	2.984	3.941	4.0	21.0
12 7	4 25.35	+20 39.5	1.396	2.377	3.0	21.1	12 7	4 27.12	+5 46.2	2.987	3.935	4.5	21.0
12 17	4 15.23	+20 8.0	1.415	2.364	8.1	21.4	12 17	4 19.73	+5 52.2	3.019	3.928	6.3	21.2
12 27	4 7.16	+19 41.3	1.459	2.352	12.7	21.6	12 27	4 13.26	+6 7.9	3.081	3.921	8.4	21.3
1 6	4 2.04	+19 23.1	1.525	2.340	16.7	21.9	1 6	4 8.16	+6 32.9	3.167	3.914	10.4	21.4
244796	2003 <i>SS</i> ₂₄₅	12	1.5 251°28	2°6/ 2.4 18			303664	2005 <i>MY</i> ₁₁	12	1.5 28°42	2°4/30.5 18		
10 28	5 1.13	+29 11.3	1.968	2.781	14.0	20.2	10 28	4 56.74	+20 15.4	1.541	2.385	15.7	19.6
11 7	4 55.26	+29 23.0	1.875	2.767	10.9	20.0	11 7	4 51.92	+19 2.4	1.479	2.393	11.7	19.4
11 17	4 46.73	+29 25.5	1.804	2.753	7.2	19.7	11 17	4 44.54	+17 43.1	1.440	2.401	7.2	19.1
11 27	4 36.31	+29 16.8	1.761	2.738	3.5	19.5	11 27	4 35.58	+16 22.2	1.427	2.409	3.0	18.9
12 7	4 25.18	+28 56.7	1.746	2.723	3.3	19.4	12 7	4 26.32	+15 5.7	1.442	2.418	4.1	19.0
12 17	4 14.64	+28 27.2	1.760	2.707	7.0	19.6	12 17	4 18.02	+13 59.5	1.484	2.428	8.5	19.3
12 27	4 5.92	+27 52.8	1.802	2.692	10.9	19.8	12 27	4 11.77	+13 8.3	1.552	2.438	12.6	19.5
1 6	3 59.87	+27 18.8	1.868	2.676	14.4	20.0	1 6	4 8.18	+12 34.3	1.642	2.448	16.1	19.8
223312	2003 <i>PM</i> ₂	12	1.5 137°17	3°9/ 3.3 18			261797	2006 <i>BU</i> ₂₀₇	12	1.5 249°08	3°6/ 3.2 18		
10 28	4 59.52	+35 0.1	2.369	3.160	12.6	20.5	10 28	4 58.57	+34 12.0	2.394	3.188	12.4	20.8
11 7	4 53.53	+35 9.6	2.291	3.165	10.0	20.3	11 7	4 52.91	+34 15.5	2.304	3.181	9.8	20.6
11 17	4 45.37	+35 7.1	2.237	3.169	7.1	20.2	11 17	4 45.07	+34 7.4	2.237	3.173	6.9	20.4
11 27	4 35.80	+34 50.7	2.210	3.174	4.5	20.0	11 27	4 35.77	+33 46.0	2.198	3.165	4.2	20.2
12 7	4 25.87	+34 20.4	2.212	3.178	4.1	20.0	12 7	4 26.02	+33 11.3	2.187	3.157	3.8	20.2
12 17	4 16.64	+33 38.9	2.243	3.183	6.3	20.2	12 17	4 16.87	+32 25.8	2.207	3.148	6.2	20.3
12 27	4 9.07	+32 50.4	2.303	3.187	9.1	20.3	12 27	4 9.29	+31 33.9	2.255	3.140	9.2	20.5
1 6	4 3.80	+32 0.1	2.388	3.191	11.8	20.5	1 6	4 3.96	+30 40.8	2.327	3.132	12.0	20.6
265526	2005 <i>NA</i>	12	1.5 71°70	0°8/ 1.8 18			74628	1999 <i>RV</i> ₄₂	12	1.5 171°89	1°9/ 2.1 18		
10 28	5 4.43	+24 49.7	1.406	2.240	17.5	20.3	10 28	5 4.43	+26 36.6	1.718	2.537	15.5	19.3
11 7	4 57.76	+24 42.9	1.360	2.266	13.1	20.1	11 7	4 57.83	+26 52.3	1.642	2.540	11.8	19.1
11 17	4 48.08	+24 28.0	1.335	2.293	8.1	19.9	11 17	4 48.33	+27 0.4	1.590	2.542	7.5	18.9
11 27	4 36.63	+24 4.7	1.336	2.319	2.7	19.6	11 27	4 36.85	+26 58.6	1.564	2.544	3.2	18.6
12 7	4 25.00	+23 35.3	1.364	2.345	2.9	19.7	12 7	4 24.75	+26 46.9	1.566	2.546	3.1	18.6
12 17	4 14.72	+23 3.9	1.420	2.371	7.9	20.1	12 17	4 13.52	+26 27.6	1.598	2.546	7.5	18.9
12 27	4 7.02	+22 35.4	1.502	2.397	12.3	20.4	12 27	4 4.46	+26 5.2	1.656	2.547	11.7	19.1
1 6	4 2.50	+22 13.8	1.605	2.422	16.0	20.7	1 6	3 58.38	+25 44.5	1.738	2.546	15.3	19.4
233110	2005 <i>SG</i> ₁₅₈	12	1.5 11°59	0°8/ 1.3 18			18930	<i>Athreya</i>	12	1.5 250°30	0°8/ 1.8 18 R		
10 28	4 56.30	+21 56.3	1.112	1.976	19.1	20.1	10 28	4 58.11	+24 38.8	2.025	2.849	13.3	18.8
11 7	4 52.57	+21 32.6	1.055	1.978	14.3	19.8	11 7	4 52.68	+24 39.8	1.947	2.848	10.0	18.6
11 17	4 45.38	+21 2.0	1.017	1.982	8.8	19.5	11 17	4 44.98	+24 35.0	1.892	2.847	6.3	18.3
11 27	4 35.89	+20 26.7	1.002	1.987	2.8	19.2	11 27	4 35.76	+24 24.1	1.864	2.847	2.2	18.1
12 7	4 25.81	+19 50.4	1.012	1.993	3.6	19.3	12 7	4 26.07	+24 8.0	1.865	2.846	2.4	18.1
12 17	4 16.93	+19 18.1	1.046	2.000	9.5	19.6	12 17	4 17.02	+23 48.6	1.896	2.845	6.4	18.4
12 27	4 10.74	+18 54.9	1.102	2.009	14.7	19.9	12 27	4 9.64	+23 29.4	1.954	2.845	10.1	18.6
1 6	4 8.05	+18 43.8	1.178	2.018	19.0	20.2	1 6	4 4.62	+23 13.4	2.036	2.844	13.4	18.8
246	<i>Asporina</i>	12	1.5 165°13	7°4/28.6 18 R			233928	2009 <i>UY</i> ₅₇	12	1.5 63°60	1°6/ 1.9 18		
10 28	4 56.59	+1 16.1	2.166	2.972	13.2	13.4	10 28	5 4.53	+25 55.6	1.316	2.153	18.3	20.5
11 7	4 51.12	+0 15.1	2.102	2.975	10.8	13.3	11 7	4 58.09	+26 2.3	1.271	2.178	13.8	20.3
11 17	4 43.80	-0 35.8	2.061	2.978	8.6	13.1	11 17	4 48.43	+25 59.8	1.246	2.203	8.6	20.1
11 27	4 35.30	-1 11.5	2.048	2.981	7.4	13.1	11 27	4 36.81	+25 46.8	1.246	2.229	3.3	19.8
12 7	4 26.50	-1 28.7	2.061	2.983	8.0	13.1	12 7	4 24.95	+25 24.7	1.273	2.254	3.2	19.9
12 17	4 18.29	-1 25.9	2.102	2.985	10.0	13.3	12 17	4 14.52	+24 57.6	1.327	2.279	8.2	20.3
12 27	4 11.47	-1 3.5	2.168	2.986	12.3	13.4	12 27	4 6.82	+24 31.0	1.406	2.305	12.8	20.6
1 6	4 6.61	-0 24.3	2.255	2.987	14.5	13.6	1 6	4 2.50	+24 9.6	1.507	2.330	16.5	20.9
144733	2004 <i>GS</i> ₄₀	12	1.5 266°59	2°4/30.7 18			328023	2007 <i>JZ</i> ₁₅	12	1.5 299°05	2°5/30.4 17		
10 28	4 57.05	+16 7.5	1.960	2.792	13.4	20.3	10 28	4 55.00	+17 19.0	2.122	2.953	12.5	21.1
11 7	4 51.84	+15 46.6	1.881	2.787	10.1	20.0	11 7	4 50.17	+16 29.2	2.039	2.945	9.4	20.9
11 17	4 44.43	+15 25.9	1.826	2.782	6.4	19.8	11 17	4 43.35	+15 36.8	1.981	2.938	5.9	20.7
11 27	4 35.54	+15 7.1	1.797	2.777	2.9	19.6	11 27	4 35.22	+14 44.8	1.951	2.930	2.8	20.5
12 7	4 26.19	+14 52.6	1.798	2.773	3.6	19.6	12 7	4 26.71	+13 56.6	1.950	2.923	3.7	20.5
12 17	4 17.42	+14 44.4	1.827	2.768	7.4	19.9	12 17	4 18.75	+13 15.7	1.978	2.916	7.1	20.7
12 27	4 10.25	+14 44.3	1.883	2.763	11.0	20.1	12 27	4 12.24	+12 45.1	2.033	2.909	10.6	20.9
1 6	4 5.34	+14 53.2	1.962	2.758	14.3	20.3	1 6	4 7.78	+12 26.3	2.112	2.902	13.6	21.1
364039	2005 <i>WK</i> ₅₉	12	1.5 29°81	0°2/ 1.5 16			283835	2003 <i>UT</i> ₃₄	12	1.5 20°09	1°7/ 1.0 18		
10 28	4 57.29	+21 20.9	1.887	2.719	13.8	21.5	10 28	4 55.30	+20 49.8	1.154	2.018	18.5	19.9
11 7	4 52.10	+21 20.9	1.816	2.722	10.3	21.3	11 7	4 51.54	+20 10.8	1.105	2.028	13.8	19.6
11 17	4 44.61	+21 17.7	1.768	2.726	6.3	21.1	11 17	4 44.59	+19 26.4	1.075	2.040	8.5	19.4
11 27	4 35.60	+21 11.6	1.746	2.730	2.0	20.8	11 27	4 35.64	+18 39.9	1.069	2.053	2.9	19.1
12 7	4 26.15	+21 3.6	1.754	2.735	2.5	20.9	12 7	4 26.31	+17 56.0	1.088	2.068	3.9	19.2
12 17	4 17.40	+20 55.7	1.790	2.739	6.7	21.2	12 17	4 18.20	+17 20.0	1.131	2.084	9.2	19.6
12 27	4 10.37	+20 50.2	1.853	2.744	10.6	21.4	12 27	4 12.63	+16 56.0	1.198	2.101	14.1	19.9
1 6	4 5.75	+20 49.4	1.940	2.749	13.9	21.6	1 6	4 10.27	+16 45.9	1.284	2.119	18.1	20.2
174471	2003 <i>AM</i> ₁₂	12	1.5 6°97	7°2/29.8 18			452175	2015 <i>RX</i> ₈₅	12	1.5 99°03	0°7/ 1.9 15		
10 28	4 54.73												

EPHEMERIDES

12 1.5

12 1.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
391253	2006 QA ₁₂₉	12 1.5	97°59	4.3/2.9	18		243919	2001 KB ₅₇	12 1.5	142°59	3.3/30.3	18	
10 28	5 4.03	+33 15.1	1.996	2.794	14.4	21.3	10 28	4 58.58	+11 44.2	2.467	3.281	11.5	21.4
11 7	4 57.19	+33 52.5	1.934	2.813	11.3	21.2	11 7	4 52.38	+11 18.6	2.401	3.294	8.7	21.3
11 17	4 47.74	+34 18.4	1.895	2.831	7.9	21.0	11 17	4 44.50	+10 56.0	2.359	3.307	5.8	21.1
11 27	4 36.62	+34 29.3	1.883	2.849	5.0	20.9	11 27	4 35.56	+10 38.4	2.347	3.319	3.5	21.0
12 7	4 25.09	+34 24.3	1.900	2.867	4.6	20.9	12 7	4 26.40	+10 27.8	2.366	3.330	4.1	21.1
12 17	4 14.47	+34 5.4	1.946	2.884	7.1	21.1	12 17	4 17.81	+10 25.4	2.414	3.341	6.7	21.2
12 27	4 5.91	+33 37.4	2.019	2.902	10.3	21.3	12 27	4 10.55	+10 32.1	2.491	3.351	9.5	21.4
1 6	4 0.09	+33 5.8	2.116	2.918	13.1	21.5	1 6	4 5.12	+10 47.6	2.593	3.360	12.0	21.6
158783	2003 SO ₁₀₂	12 1.5	78°17	2.0/30.7	18		449129	2013 AQ ₁₈	12 1.5	267°15	4.1/3.1	16	
10 28	4 55.72	+18 4.6	2.197	3.025	12.2	19.5	10 28	5 1.00	+33 29.2	1.818	2.627	15.2	21.4
11 7	4 50.49	+17 23.5	2.131	3.036	9.1	19.4	11 7	4 55.30	+33 37.4	1.738	2.624	11.9	21.2
11 17	4 43.42	+16 40.5	2.089	3.046	5.7	19.2	11 17	4 46.79	+33 31.9	1.680	2.621	8.3	21.0
11 27	4 35.22	+15 57.8	2.076	3.057	2.4	19.0	11 27	4 36.38	+33 10.0	1.648	2.619	4.9	20.8
12 7	4 26.77	+15 18.4	2.092	3.067	3.2	19.1	12 7	4 25.40	+32 31.9	1.644	2.616	4.5	20.8
12 17	4 18.97	+14 45.2	2.138	3.078	6.5	19.3	12 17	4 15.26	+31 40.9	1.668	2.614	7.5	20.9
12 27	4 12.63	+14 20.4	2.211	3.088	9.8	19.5	12 27	4 7.24	+30 43.3	1.719	2.611	11.2	21.2
1 6	4 8.28	+14 5.5	2.308	3.098	12.6	19.7	1 6	4 2.11	+29 45.8	1.793	2.608	14.6	21.4
256452	2007 CN ₄₇	12 1.5	53°02	2.2/2.4	18		134172	2005 BW ₂₆	12 1.5	265°41	2.5/30.5	18	
10 28	4 58.57	+28 54.7	1.912	2.731	14.1	20.8	10 28	4 54.69	+14 46.9	2.422	3.247	11.3	19.9
11 7	4 53.12	+28 52.3	1.841	2.738	10.8	20.6	11 7	4 49.74	+14 23.7	2.337	3.239	8.6	19.7
11 17	4 45.25	+28 40.0	1.793	2.744	7.0	20.4	11 17	4 43.02	+14 1.3	2.276	3.230	5.5	19.5
11 27	4 35.83	+28 17.0	1.772	2.751	3.2	20.2	11 27	4 35.14	+13 41.5	2.244	3.222	2.8	19.3
12 7	4 26.02	+27 44.6	1.779	2.758	3.0	20.2	12 7	4 26.86	+13 26.3	2.242	3.213	3.5	19.3
12 17	4 17.01	+27 5.7	1.815	2.765	6.6	20.4	12 17	4 19.03	+13 17.5	2.269	3.205	6.5	19.5
12 27	4 9.87	+26 25.2	1.878	2.772	10.3	20.6	12 27	4 12.43	+13 16.5	2.323	3.196	9.5	19.7
1 6	4 5.26	+25 47.6	1.965	2.779	13.6	20.9	1 6	4 7.63	+13 23.9	2.402	3.187	12.3	19.9
300354	2007 RV ₅₇	12 1.5	29°54	1.2/1.2	17		457957	2009 VE ₆₅	12 1.5	10°82	0.5/1.8	17	
10 28	4 57.68	+20 21.2	1.463	2.309	16.3	21.0	10 28	4 56.08	+25 36.6	2.043	2.869	13.1	21.1
11 7	4 52.85	+20 1.5	1.403	2.317	12.2	20.8	11 7	4 51.08	+25 5.3	1.967	2.869	9.9	20.9
11 17	4 45.24	+19 38.2	1.364	2.325	7.5	20.5	11 17	4 43.93	+24 25.9	1.914	2.871	6.1	20.7
11 27	4 35.85	+19 12.8	1.350	2.334	2.5	20.3	11 27	4 35.42	+23 39.4	1.889	2.872	2.1	20.4
12 7	4 26.02	+18 48.0	1.363	2.343	3.3	20.3	12 7	4 26.57	+22 48.3	1.893	2.874	2.3	20.4
12 17	4 17.17	+18 27.1	1.404	2.353	8.1	20.7	12 17	4 18.41	+21 56.5	1.926	2.876	6.3	20.7
12 27	4 10.48	+18 13.5	1.469	2.364	12.5	20.9	12 27	4 11.88	+21 8.2	1.987	2.878	10.0	20.9
1 6	4 6.66	+18 9.2	1.555	2.375	16.2	21.2	1 6	4 7.60	+20 27.1	2.072	2.880	13.1	21.1
252068	2000 SW ₁₄₉	12 1.5	84°21	4.0/30.4	16		403721	2010 WK ₂₄	12 1.5	93°44	0.6/1.8	17	
10 28	5 5.17	+15 15.7	1.382	2.219	17.6	20.5	10 28	4 58.21	+24 7.9	2.108	2.930	12.9	21.6
11 7	4 58.03	+14 18.2	1.342	2.249	13.2	20.3	11 7	4 52.59	+24 9.4	2.037	2.938	9.7	21.4
11 17	4 48.13	+13 22.0	1.323	2.279	8.4	20.1	11 17	4 44.83	+24 5.8	1.990	2.946	6.0	21.2
11 27	4 36.67	+12 31.7	1.331	2.309	4.4	19.9	11 27	4 35.71	+23 56.8	1.971	2.954	2.1	21.0
12 7	4 25.17	+11 51.7	1.367	2.338	5.4	20.1	12 7	4 26.22	+23 43.2	1.981	2.962	2.2	21.0
12 17	4 15.04	+11 25.6	1.430	2.366	9.5	20.4	12 17	4 17.41	+23 27.2	2.021	2.970	6.1	21.3
12 27	4 7.38	+11 15.2	1.517	2.393	13.5	20.7	12 27	4 10.21	+23 11.5	2.088	2.977	9.7	21.5
1 6	4 2.75	+11 20.0	1.626	2.420	16.8	21.0	1 6	4 5.26	+22 59.0	2.180	2.985	12.7	21.7
358742	2008 CC ₀₃	12 1.5	338°40	2.7/30.8	18		410598	2008 HN ₃₇	12 1.5	161°51	4.1/30.2	18	
10 28	4 56.98	+15 22.3	1.712	2.551	14.7	20.5	10 28	4 56.85	+ 8 11.4	2.505	3.317	11.4	22.3
11 7	4 52.10	+15 9.0	1.637	2.546	11.1	20.3	11 7	4 51.16	+ 7 53.9	2.432	3.322	8.8	22.1
11 17	4 44.74	+14 57.3	1.584	2.542	7.0	20.0	11 17	4 43.79	+ 7 42.0	2.385	3.326	6.2	22.0
11 27	4 35.71	+14 49.1	1.558	2.538	3.3	19.8	11 27	4 35.36	+ 7 37.9	2.365	3.330	4.3	21.9
12 7	4 26.14	+14 46.3	1.559	2.535	4.0	19.9	12 7	4 26.63	+ 7 43.0	2.376	3.333	4.8	21.9
12 17	4 17.23	+14 50.7	1.588	2.531	8.0	20.1	12 17	4 18.39	+ 7 58.3	2.417	3.336	7.1	22.1
12 27	4 10.10	+15 3.7	1.643	2.529	12.1	20.3	12 27	4 11.39	+ 8 23.7	2.485	3.339	9.7	22.2
1 6	4 5.51	+15 25.6	1.720	2.526	15.5	20.5	1 6	4 6.15	+ 8 58.2	2.577	3.341	12.1	22.4
232104	2001 XQ ₂₀₆	12 1.5	33°50	4.2/30.7	18		241595	1998 WJ ₃₉	12 1.5	347°77	0.9/1.3	16	
10 28	4 58.44	+13 54.8	1.180	2.037	18.6	19.5	10 28	4 55.14	+20 8.5	1.846	2.683	13.8	21.1
11 7	4 53.72	+13 30.4	1.133	2.051	14.1	19.2	11 7	4 50.63	+19 59.9	1.768	2.678	10.4	20.8
11 17	4 45.86	+13 10.4	1.106	2.066	9.0	19.0	11 17	4 43.81	+19 48.8	1.714	2.673	6.4	20.6
11 27	4 36.04	+12 58.1	1.103	2.082	4.7	18.8	11 27	4 35.42	+19 36.0	1.685	2.669	2.1	20.3
12 7	4 25.85	+12 56.4	1.124	2.098	5.6	18.9	12 7	4 26.54	+19 23.1	1.685	2.665	2.7	20.4
12 17	4 16.87	+13 7.1	1.171	2.116	10.0	19.2	12 17	4 18.27	+19 12.2	1.713	2.662	7.0	20.6
12 27	4 10.41	+13 30.5	1.241	2.134	14.5	19.5	12 27	4 11.68	+19 5.9	1.768	2.660	11.0	20.8
1 6	4 7.16	+14 5.3	1.330	2.153	18.3	19.8	1 6	4 7.46	+19 6.1	1.845	2.658	14.4	21.1
97051	1999 UO ₄₉	12 1.5	338°16	0.2/1.5	18		89440	2001 WQ ₄₉	12 1.5	174°35	0.6/1.8	18	
10 28	4 56.70	+24 31.5	1.433	2.278	16.6	18.4	10 28	5 1.91	+24 4.6	1.884	2.705	14.2	20.4
11 7	4 52.41	+23 48.4	1.356	2.270	12.6	18.1	11 7	4 55.65	+24 4.6	1.807	2.707	10.7	20.2
11 17	4 45.15	+22 54.5	1.301	2.262	7.8	17.8	11 17	4 46.86	+23 58.7	1.753	2.709	6.7	20.0
11 27	4 35.87	+21 51.6	1.271	2.255	2.5	17.5	11 27	4 36.39	+23 46.5	1.727	2.710	2.3	19.7
12 7	4 25.98	+20 44.1	1.268	2.249	3.1	17.5	12 7	4 25.41	+23 28.8	1.730	2.711	2.5	19.7
12 17	4 16.97	+19 38.3	1.291	2.243	8.4	17.8	12 17	4 15.18	+23 8.1	1.763	2.711	6.9	20.0
12 27	4 10.20	+18 40.8	1.339	2.238	13.2	18.1	12 27	4 6.84	+22 47.9	1.823	2.711	10.9	20.3
1 6	4 6.46	+17 56.4	1.408	2.233	17.3	18.3	1 6	4 1.10	+22 31.9	1.906	2.710	14.3	20.5
49983	1999 YX ₂₂	12 1.5	27°46	2.1/1.9	18		275897	2001 TL ₇₆	12 1.5	41°15	0.3/1.6	18	
10 28	5 0.47	+25 5.4	1.109	1.964	19.7	18.4							

EPHEMERIDES

12 1.5

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
73451	2002 <i>NN</i> ₃₀		12 1.5 105°87	3°8/29.9	18		324336	2006 <i>PC</i> ₁₁		12 1.6 109°36	0°1/1.6	16	
10 28	4 54.75	+11 18.9	2.388	3.211	11.5	19.3	10 28	5 4.91	+23 31.3	1.568	2.396	16.3	21.5
11 7	4 49.64	+10 36.6	2.321	3.219	8.8	19.2	11 7	4 58.02	+23 17.1	1.511	2.415	12.2	21.2
11 17	4 42.87	+9 57.2	2.279	3.227	6.0	19.0	11 17	4 48.31	+22 56.1	1.476	2.433	7.5	21.0
11 27	4 35.06	+9 23.7	2.266	3.235	3.9	18.9	11 27	4 36.85	+22 28.6	1.468	2.451	2.4	20.7
12 7	4 27.02	+8 58.5	2.282	3.243	4.6	18.9	12 7	4 25.10	+21 56.9	1.488	2.468	2.8	20.8
12 17	4 19.52	+8 43.7	2.327	3.250	7.1	19.1	12 17	4 14.50	+21 24.6	1.536	2.485	7.7	21.2
12 27	4 13.29	+8 40.3	2.399	3.258	9.8	19.3	12 27	4 6.23	+20 56.4	1.611	2.501	12.0	21.5
1 6	4 8.85	+8 48.1	2.495	3.266	12.3	19.5	1 6	4 0.97	+20 35.8	1.709	2.517	15.5	21.7
482979	2014 <i>MO</i> ₂₃		12 1.5 298°47	2°8/3.0	18		426473	2013 <i>QS</i> ₉₃		12 1.6 142°28	0°6/1.4	16	
10 28	5 1.55	+33 46.5	1.662	2.474	16.2	20.3	10 28	5 4.23	+21 27.0	1.584	2.414	16.1	22.4
11 7	4 55.94	+32 51.6	1.566	2.457	12.7	20.1	11 7	4 57.63	+21 13.5	1.518	2.423	12.1	22.2
11 17	4 47.27	+31 35.4	1.493	2.440	8.5	19.8	11 17	4 48.16	+20 55.3	1.474	2.432	7.4	21.9
11 27	4 36.55	+29 57.3	1.446	2.423	4.2	19.5	11 27	4 36.85	+20 33.0	1.457	2.441	2.4	21.6
12 7	4 25.23	+28 0.8	1.428	2.406	3.5	19.4	12 7	4 25.07	+20 8.5	1.468	2.448	3.0	21.7
12 17	4 14.86	+25 54.4	1.439	2.390	7.8	19.6	12 17	4 14.29	+19 45.1	1.508	2.456	7.9	22.0
12 27	4 6.79	+23 48.9	1.477	2.374	12.4	19.9	12 27	4 5.76	+19 26.6	1.574	2.462	12.3	22.3
1 6	4 1.82	+21 54.2	1.540	2.357	16.5	20.1	1 6	4 0.21	+19 16.0	1.662	2.468	16.0	22.5
414299	2008 <i>RV</i> ₁₁		12 1.5 145°32	3°6/2.9	17		505645	2014 <i>OB</i> ₃₀₀		12 1.6 266°63	15°2/3.6	17	
10 28	4 58.97	+32 49.6	2.406	3.203	12.3	21.8	10 28	5 14.87	+47 3.2	1.187	1.967	23.2	21.1
11 7	4 53.19	+33 17.1	2.326	3.205	9.6	21.6	11 7	5 9.31	+49 22.6	1.116	1.957	20.4	20.9
11 17	4 45.25	+33 35.3	2.269	3.206	6.7	21.4	11 17	4 57.53	+51 20.7	1.062	1.946	17.7	20.7
11 27	4 35.88	+33 41.6	2.241	3.208	4.2	21.3	11 27	4 40.37	+52 39.4	1.027	1.936	15.7	20.5
12 7	4 26.04	+33 35.6	2.241	3.210	3.9	21.2	12 7	4 20.54	+53 4.8	1.013	1.925	15.4	20.5
12 17	4 16.78	+33 18.6	2.271	3.211	6.2	21.4	12 17	4 1.93	+52 34.2	1.020	1.914	17.0	20.6
12 27	4 9.07	+32 53.9	2.329	3.212	9.1	21.6	12 27	3 48.14	+51 19.6	1.047	1.902	19.8	20.7
1 6	4 3.58	+32 25.9	2.412	3.214	11.7	21.8	1 6	3 40.95	+49 40.7	1.090	1.891	22.9	20.9
179209	2001 <i>TX</i> ₁₉₉		12 1.6 27°92	6°4/30.0	18		421002	2013 <i>PQ</i> ₄₅		12 1.6 29°13	3°7/3.4	17	
10 28	4 56.16	+7 19.3	1.534	2.373	16.0	19.3	10 28	4 57.65	+34 22.6	2.079	2.883	13.7	20.5
11 7	4 51.45	+6 41.0	1.480	2.382	12.5	19.1	11 7	4 52.37	+34 15.8	2.007	2.889	10.8	20.3
11 17	4 44.28	+6 12.1	1.447	2.392	9.0	18.9	11 17	4 44.79	+33 55.5	1.957	2.896	7.5	20.1
11 27	4 35.56	+5 57.2	1.439	2.402	6.6	18.8	11 27	4 35.75	+33 20.4	1.934	2.903	4.5	19.9
12 7	4 26.50	+5 59.3	1.457	2.414	7.2	18.9	12 7	4 26.39	+32 31.7	1.939	2.911	4.0	19.9
12 17	4 18.29	+6 19.4	1.501	2.425	10.2	19.1	12 17	4 17.84	+31 32.9	1.973	2.919	6.5	20.1
12 27	4 11.99	+6 56.3	1.570	2.438	13.6	19.3	12 27	4 11.10	+30 29.7	2.035	2.927	9.7	20.3
1 6	4 8.25	+7 47.2	1.659	2.451	16.6	19.5	1 6	4 6.79	+29 27.7	2.121	2.935	12.7	20.5
118810	2000 <i>SD</i> ₆₉		12 1.6 91°55	0°7/1.8	18		335380	2005 <i>SO</i> ₂₁₄		12 1.6 15°19	0°6/1.4	18	
10 28	4 58.54	+24 30.8	2.046	2.869	13.2	20.0	10 28	4 55.86	+23 50.4	1.071	1.936	19.5	19.7
11 7	4 52.90	+24 30.6	1.976	2.877	9.9	19.8	11 7	4 52.33	+23 7.1	1.017	1.941	14.7	19.4
11 17	4 45.06	+24 24.7	1.930	2.885	6.2	19.6	11 17	4 45.28	+22 13.1	0.983	1.947	9.0	19.1
11 27	4 35.81	+24 13.0	1.911	2.893	2.2	19.4	11 27	4 35.98	+21 11.4	0.971	1.955	2.8	18.8
12 7	4 26.19	+23 56.3	1.921	2.902	2.3	19.4	12 7	4 26.18	+20 7.9	0.983	1.964	3.6	18.9
12 17	4 17.28	+23 36.9	1.961	2.910	6.2	19.7	12 17	4 17.68	+19 9.6	1.019	1.975	9.5	19.2
12 27	4 10.04	+23 18.0	2.028	2.918	9.9	19.9	12 27	4 11.95	+18 23.4	1.078	1.987	14.8	19.6
1 6	4 5.12	+23 2.5	2.119	2.926	13.0	20.1	1 6	4 9.72	+17 52.9	1.157	2.000	19.2	19.9
7317	Cabot		12 1.6 195°16	2°1/30.8	18		153150	2000 <i>SK</i> ₂₅₄		12 1.6 139°31	4°1/29.9	18	
10 28	5 1.10	+17 46.4	1.855	2.682	14.2	18.3	10 28	5 0.01	+12 13.1	2.077	2.897	13.1	21.1
11 7	4 55.00	+17 17.4	1.776	2.680	10.7	18.1	11 7	4 53.71	+11 20.1	2.014	2.911	10.0	20.9
11 17	4 46.45	+16 46.5	1.721	2.677	6.7	17.8	11 17	4 45.43	+10 29.2	1.975	2.923	6.7	20.7
11 27	4 36.28	+16 15.5	1.693	2.674	2.8	17.6	11 27	4 35.94	+9 44.2	1.965	2.935	4.3	20.6
12 7	4 25.61	+15 47.2	1.694	2.671	3.6	17.6	12 7	4 26.20	+9 8.3	1.984	2.947	5.0	20.7
12 17	4 15.64	+15 24.5	1.725	2.666	7.7	17.9	12 17	4 17.19	+8 44.3	2.033	2.957	7.9	20.9
12 27	4 7.46	+15 10.2	1.783	2.661	11.6	18.1	12 27	4 9.77	+8 33.7	2.109	2.967	11.0	21.1
1 6	4 1.80	+15 6.0	1.863	2.656	15.0	18.3	1 6	4 4.51	+8 36.1	2.208	2.976	13.8	21.3
14810	1981 <i>EM</i> ₃₁		12 1.6 114°20	0°8/1.3	18		274519	2008 <i>SV</i> ₁₇₂		12 1.6 28°87	3°3/30.3	17	
10 28	5 1.52	+20 49.0	1.676	2.507	15.3	19.6	10 28	4 54.49	+13 30.4	2.079	2.911	12.7	20.6
11 7	4 55.42	+20 33.9	1.612	2.518	11.4	19.3	11 7	4 49.75	+12 57.8	2.012	2.917	9.6	20.4
11 17	4 46.72	+20 14.8	1.570	2.528	7.0	19.1	11 17	4 43.09	+12 27.1	1.969	2.922	6.3	20.2
11 27	4 36.35	+19 52.9	1.555	2.539	2.3	18.8	11 27	4 35.21	+12 1.1	1.952	2.928	3.6	20.0
12 7	4 25.59	+19 30.1	1.569	2.549	2.9	18.9	12 7	4 27.03	+11 42.3	1.965	2.934	4.3	20.1
12 17	4 15.75	+19 9.3	1.611	2.558	7.5	19.2	12 17	4 19.45	+11 32.8	2.006	2.940	7.3	20.3
12 27	4 7.96	+18 53.9	1.679	2.567	11.7	19.5	12 27	4 13.32	+11 33.7	2.074	2.947	10.5	20.5
1 6	4 2.90	+18 46.2	1.770	2.576	15.2	19.7	1 6	4 9.20	+11 45.0	2.165	2.954	13.3	20.7
395519	2011 <i>UY</i> ₁₃₃		12 1.6 123°63	1°8/1.2	18		301905	1998 <i>WR</i> ₄₁		12 1.6 24°37	0°3/1.4	17	
10 28	5 0.89	+15 48.4	1.944	2.768	13.7	21.0	10 28	4 57.17	+25 57.3	1.325	2.173	17.5	19.2
11 7	4 54.69	+16 1.7	1.874	2.776	10.3	20.8	11 7	4 52.65	+24 46.7	1.269	2.184	13.1	19.0
11 17	4 46.20	+16 17.2	1.827	2.783	6.4	20.6	11 17	4 45.16	+23 23.0	1.234	2.195	8.0	18.7
11 27	4 36.20	+16 35.1	1.808	2.790	2.6	20.4	11 27	4 35.88	+21 50.1	1.224	2.208	2.5	18.4
12 7	4 25.75	+16 55.6	1.819	2.797	3.1	20.4	12 7	4 26.33	+20 14.9	1.240	2.221	3.1	18.5
12 17	4 15.99	+17 19.0	1.860	2.803	7.0	20.7	12 17	4 17.99	+18 45.7	1.284	2.236	8.4	18.9
12 27	4 7.92	+17 46.2	1.928	2.810	10.7	20.9	12 27	4 12.06	+17 29.9	1.352	2.251	13.1	19.2
1 6	4 2.25	+18 17.5	2.020	2.816	13.9	21.2	1 6	4 9.16	+16 31.7	1.442	2.268	17.0	19.5
249939	2001 <i>TX</i> ₁₄₁		12 1.6 88°16	1°0/1.8	18		23097	1999 <i>XF</i> ₁₅₇		12 1.6 57°26	2°8/30.8	18 R	
10 28													

EPHEMERIDES

12 1.6

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
53623	2000 <i>CT</i> ₉₃	12	1.6 173°00	1°2/ 1.2 18			82185	2001 <i>HD</i> ₂₃	12	1.6 134°54	1°6/ 2.1 18		
10 28	5 1.97	+19 20.8	1.983	2.804	13.6	20.0	10 28	5 4.69	+26 40.4	1.866	2.680	14.7	20.3
11 7	4 55.50	+19 8.3	1.907	2.808	10.2	19.8	11 7	4 57.69	+26 46.5	1.799	2.694	11.1	20.1
11 17	4 46.72	+18 53.4	1.854	2.811	6.3	19.6	11 17	4 48.09	+26 44.5	1.755	2.707	7.0	19.9
11 27	4 36.40	+18 37.1	1.830	2.813	2.2	19.3	11 27	4 36.85	+26 33.2	1.739	2.720	2.9	19.7
12 7	4 25.64	+18 20.9	1.836	2.814	2.8	19.4	12 7	4 25.23	+26 13.3	1.753	2.732	2.8	19.7
12 17	4 15.58	+18 7.1	1.871	2.815	6.9	19.6	12 17	4 14.52	+25 47.5	1.796	2.744	6.8	20.0
12 27	4 7.25	+17 58.0	1.934	2.815	10.7	19.9	12 27	4 5.86	+25 20.1	1.867	2.754	10.7	20.2
1 6	4 1.34	+17 55.7	2.021	2.815	14.0	20.1	1 6	3 59.93	+24 55.5	1.961	2.764	14.0	20.5
122171	2000 <i>KZ</i> ₁₃	12	1.6 179°71	1°4/ 1.1 18			343985	2011 <i>OX</i>	12	1.6 184°25	3°2/30.5 18		
10 28	5 0.19	+20 45.6	1.664	2.498	15.2	19.8	10 28	4 59.27	+14 46.1	1.866	2.696	14.0	21.4
11 7	4 54.56	+20 9.2	1.590	2.498	11.4	19.6	11 7	4 53.58	+14 10.5	1.792	2.696	10.6	21.2
11 17	4 46.29	+19 27.5	1.540	2.498	7.0	19.3	11 17	4 45.58	+13 35.6	1.741	2.696	6.8	21.0
11 27	4 36.29	+18 42.6	1.515	2.499	2.5	19.1	11 27	4 36.07	+13 4.0	1.718	2.695	3.6	20.8
12 7	4 25.81	+17 57.8	1.520	2.499	3.3	19.1	12 7	4 26.12	+12 38.9	1.723	2.695	4.4	20.8
12 17	4 16.16	+17 17.4	1.552	2.498	7.9	19.4	12 17	4 16.86	+12 22.9	1.758	2.694	8.0	21.0
12 27	4 8.52	+16 45.5	1.611	2.498	12.1	19.7	12 27	4 9.31	+12 18.0	1.818	2.692	11.7	21.3
1 6	4 3.60	+16 24.7	1.692	2.497	15.8	19.9	1 6	4 4.14	+12 24.6	1.901	2.690	14.9	21.5
3005	<i>Pervictoralex</i>	12	1.6 170°52	1°2/ 1.2 18			344627	2003 <i>JL</i> ₂	12	1.6 121°13	2°2/30.8 18		
10 28	5 1.67	+19 42.5	1.969	2.791	13.7	18.2	10 28	5 0.74	+17 31.0	1.884	2.711	14.0	21.6
11 7	4 55.28	+19 22.5	1.893	2.795	10.3	18.0	11 7	4 54.51	+17 1.0	1.822	2.725	10.5	21.4
11 17	4 46.57	+18 59.4	1.842	2.798	6.3	17.7	11 17	4 46.04	+16 29.6	1.783	2.739	6.5	21.2
11 27	4 36.36	+18 34.5	1.818	2.801	2.2	17.5	11 27	4 36.18	+15 59.1	1.771	2.752	2.8	21.0
12 7	4 25.72	+18 9.7	1.824	2.803	2.9	17.5	12 7	4 26.04	+15 32.0	1.789	2.765	3.5	21.1
12 17	4 15.81	+17 47.7	1.860	2.804	7.0	17.8	12 17	4 16.71	+15 11.1	1.836	2.777	7.3	21.4
12 27	4 7.64	+17 31.3	1.924	2.805	10.8	18.0	12 27	4 9.19	+14 58.6	1.911	2.789	11.0	21.6
1 6	4 1.90	+17 22.7	2.011	2.805	14.0	18.3	1 6	4 4.06	+14 55.8	2.008	2.800	14.1	21.9
448993	2012 <i>BP</i> ₂₈	12	1.6 315°45	2°4/30.9 18			88302	2001 <i>OO</i> ₃	12	1.6 215°51	1°1/ 1.3 18		
10 28	4 57.24	+15 44.4	1.848	2.682	13.9	21.0	10 28	5 1.69	+19 27.0	1.738	2.567	14.9	20.2
11 7	4 52.20	+15 35.0	1.769	2.676	10.5	20.7	11 7	4 55.73	+19 22.0	1.657	2.562	11.2	19.9
11 17	4 44.81	+15 26.9	1.713	2.670	6.7	20.5	11 17	4 47.09	+19 14.8	1.599	2.557	7.0	19.7
11 27	4 35.84	+15 21.6	1.684	2.665	3.0	20.3	11 27	4 36.60	+19 6.2	1.568	2.551	2.4	19.4
12 7	4 26.32	+15 20.7	1.683	2.659	3.7	20.3	12 7	4 25.47	+18 57.3	1.566	2.545	3.0	19.4
12 17	4 17.39	+15 25.9	1.711	2.654	7.6	20.5	12 17	4 15.03	+18 50.3	1.592	2.539	7.7	19.7
12 27	4 10.13	+15 38.4	1.765	2.649	11.4	20.8	12 27	4 6.50	+18 47.7	1.645	2.532	11.9	19.9
1 6	4 5.26	+15 58.8	1.841	2.644	14.8	21.0	1 6	4 0.70	+18 51.9	1.721	2.525	15.6	20.1
458683	2011 <i>HD</i> ₄₀	12	1.6 321°81	0°3/ 1.5 18			487037	2014 <i>OF</i> ₃₉	12	1.6 2°45	0°7/ 1.8 17		
10 28	4 57.64	+19 20.9	2.074	2.901	12.9	20.9	10 28	4 57.84	+24 0.2	1.838	2.668	14.2	21.7
11 7	4 52.43	+19 49.1	1.986	2.890	9.7	20.6	11 7	4 52.73	+24 3.8	1.763	2.667	10.7	21.4
11 17	4 44.97	+20 17.9	1.921	2.879	6.0	20.4	11 17	4 45.17	+24 2.0	1.710	2.667	6.7	21.2
11 27	4 35.90	+20 46.4	1.885	2.868	1.9	20.1	11 27	4 35.96	+23 54.4	1.685	2.668	2.3	20.9
12 7	4 26.21	+21 14.1	1.877	2.858	2.4	20.1	12 7	4 26.25	+23 41.8	1.687	2.668	2.5	20.9
12 17	4 16.95	+21 40.9	1.900	2.848	6.5	20.4	12 17	4 17.23	+23 26.4	1.718	2.669	6.8	21.2
12 27	4 9.19	+22 7.8	1.949	2.838	10.3	20.6	12 27	4 10.02	+23 11.4	1.776	2.670	10.8	21.5
1 6	4 3.68	+22 35.9	2.023	2.829	13.5	20.8	1 6	4 5.33	+23 0.1	1.857	2.671	14.2	21.7
485709	2012 <i>AH</i> ₄	12	1.6 2°59	4°0/30.6 18			19249	1994 <i>PO</i> ₂₅	12	1.6 152°16	0°4/ 1.7 18		
10 28	4 57.60	+11 5.1	1.864	2.694	14.0	20.9	10 28	4 58.04	+23 28.8	2.230	3.050	12.4	19.2
11 7	4 52.35	+10 54.4	1.791	2.693	10.7	20.7	11 7	4 52.45	+23 29.1	2.152	3.052	9.3	19.0
11 17	4 44.84	+10 49.1	1.742	2.693	7.2	20.5	11 17	4 44.80	+23 24.9	2.099	3.055	5.7	18.8
11 27	4 35.83	+10 51.4	1.720	2.694	4.3	20.3	11 27	4 35.82	+23 16.1	2.074	3.057	1.9	18.5
12 7	4 26.36	+11 3.0	1.726	2.694	4.9	20.4	12 7	4 26.44	+23 3.5	2.079	3.060	2.1	18.6
12 17	4 17.53	+11 24.6	1.760	2.694	8.1	20.5	12 17	4 17.65	+22 48.9	2.113	3.062	5.9	18.8
12 27	4 10.32	+11 56.4	1.820	2.695	11.7	20.8	12 27	4 10.36	+22 34.9	2.176	3.064	9.4	19.0
1 6	4 5.44	+12 37.2	1.904	2.696	14.8	21.0	1 6	4 5.21	+22 24.2	2.263	3.065	12.4	19.2
102708	1999 <i>VB</i> ₉₁	12	1.6 172°12	1°6/ 2.1 18			132502	2002 <i>JQ</i> ₃₅	12	1.6 168°37	0°6/ 1.4 18		
10 28	5 1.80	+26 7.4	2.090	2.903	13.3	19.9	10 28	5 0.62	+20 20.6	2.222	3.039	12.5	20.8
11 7	4 55.46	+26 24.9	2.011	2.905	10.1	19.7	11 7	4 54.32	+20 18.9	2.144	3.044	9.4	20.6
11 17	4 46.75	+26 36.3	1.956	2.908	6.4	19.5	11 17	4 45.93	+20 14.9	2.092	3.047	5.7	20.4
11 27	4 36.45	+26 40.0	1.929	2.909	2.7	19.2	11 27	4 36.18	+20 8.6	2.067	3.051	1.9	20.1
12 7	4 25.64	+26 36.0	1.932	2.911	2.6	19.2	12 7	4 26.03	+20 1.2	2.073	3.053	2.3	20.2
12 17	4 15.48	+26 25.8	1.964	2.912	6.4	19.5	12 17	4 16.48	+19 54.1	2.110	3.055	6.2	20.4
12 27	4 7.05	+26 12.5	2.025	2.912	10.0	19.7	12 27	4 8.46	+19 49.5	2.175	3.057	9.7	20.6
1 6	4 1.06	+25 59.8	2.110	2.912	13.2	19.9	1 6	4 2.62	+19 49.3	2.264	3.058	12.7	20.9
485928	2012 <i>GV</i> ₃₆	12	1.6 161°77	3°8/ 2.9 17			126592	2002 <i>CU</i> ₁₂₈	12	1.6 16°08	5°0/ 3.7 18		
10 28	4 59.72	+33 26.8	2.447	3.240	12.2	21.4	10 28	5 0.28	+36 56.1	1.993	2.787	14.6	20.0
11 7	4 53.79	+33 59.8	2.366	3.242	9.6	21.3	11 7	4 54.65	+37 8.4	1.915	2.788	11.7	19.8
11 17	4 45.68	+34 23.4	2.310	3.244	6.8	21.1	11 17	4 46.37	+37 5.5	1.859	2.789	8.5	19.7
11 27	4 36.10	+34 34.8	2.280	3.245	4.4	20.9	11 27	4 36.35	+36 44.5	1.830	2.790	5.8	19.5
12 7	4 26.04	+34 33.3	2.280	3.246	4.1	20.9	12 7	4 25.85	+36 5.4	1.827	2.791	5.2	19.5
12 17	4 16.53	+34 20.0	2.310	3.247	6.3	21.1	12 17	4 16.19	+35 11.3	1.854	2.792	7.4	19.6
12 27	4 8.58	+33 58.1	2.368	3.248	9.0	21.2	12 27	4 8.54	+34 8.1	1.907	2.794	10.5	19.8
1 6	4 2.84	+33 31.9	2.450	3.249	11.7	21.4	1 6	4 3.63	+33 2.9	1.984	2.796	13.5	20.0
65844	1997 <i>AV</i> ₁₅	12	1.6 210°86	16°9/30.1 17			51535	2001 <i>FD</i> ₁₃₃	12	1.6 140°07	3°2/30.5 18		
10 28													

EPHEMERIDES

12 1.6

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
355256	2007 <i>KN</i> ₄	12 1.6 80°36	1.1°/30.9	13 C			393651	2004 <i>PS</i> ₁₁₁	12 1.6 167°40	21°3/26.1	17		
10 28	4 58.51	+18 53.0	3.246	4.050	9.2	23.1	10 28	5 2.64	-19 32.3	1.180	1.942	24.3	20.5
11 7	4 51.83	+18 23.0	3.203	4.096	6.8	23.0	11 7	4 57.07	-21 51.2	1.146	1.943	22.8	20.4
11 17	4 43.96	+17 51.5	3.187	4.141	4.1	22.9	11 17	4 48.11	-23 30.8	1.127	1.944	21.7	20.4
11 27	4 35.47	+17 19.8	3.203	4.184	1.6	22.7	11 27	4 36.95	-24 17.2	1.124	1.945	21.3	20.3
12 7	4 26.98	+16 49.6	3.251	4.228	2.0	22.8	12 7	4 25.26	-24 3.6	1.137	1.945	21.8	20.4
12 17	4 19.10	+16 22.5	3.332	4.270	4.5	23.1	12 17	4 14.78	-22 51.2	1.166	1.946	23.0	20.5
12 27	4 12.36	+16 0.2	3.443	4.311	6.9	23.3	12 27	4 6.95	-20 48.3	1.210	1.946	24.5	20.6
1 6	4 7.10	+15 43.6	3.581	4.352	8.9	23.5	1 6	4 2.58	-18 8.5	1.267	1.946	26.2	20.7
447170	2005 <i>NW</i> ₄₆	12 1.6 91°27	3°5/3.2	18			202901	1995 <i>OJ</i> ₁₇	12 1.6 195°74	4°4/30.4	18		
10 28	5 0.63	+33 36.3	1.968	2.772	14.4	21.0	10 28	4 59.18	+10 40.3	1.848	2.675	14.2	20.4
11 7	4 54.71	+33 24.6	1.894	2.778	11.2	20.8	11 7	4 53.55	+10 15.8	1.775	2.674	10.9	20.2
11 17	4 46.29	+32 58.9	1.843	2.784	7.7	20.6	11 17	4 45.60	+9 56.2	1.724	2.673	7.4	20.0
11 27	4 36.31	+32 17.8	1.818	2.790	4.4	20.4	11 27	4 36.13	+9 44.5	1.700	2.672	4.7	19.8
12 7	4 25.97	+31 22.8	1.822	2.796	3.8	20.4	12 7	4 26.17	+9 43.2	1.705	2.670	5.3	19.8
12 17	4 16.53	+30 18.0	1.855	2.802	6.8	20.6	12 17	4 16.87	+9 53.6	1.738	2.668	8.6	20.0
12 27	4 9.05	+29 9.7	1.916	2.808	10.3	20.8	12 27	4 9.24	+10 16.3	1.797	2.666	12.1	20.2
1 6	4 4.20	+28 3.9	2.002	2.814	13.4	21.0	1 6	4 4.00	+10 50.1	1.879	2.664	15.2	20.4
355429	2007 <i>VC</i> ₃₇	12 1.6 25°57	9°2/30.0	18			481720	2008 <i>EP</i> ₁₁₇	12 1.6 252°84	12°0/27.7	18		
10 28	4 56.47	+2 29.4	1.305	2.145	18.2	19.9	10 28	4 57.65	-13 10.4	2.107	2.857	15.3	21.1
11 7	4 51.98	+1 41.5	1.260	2.156	14.7	19.7	11 7	4 52.16	-14 10.9	2.043	2.849	13.7	21.0
11 17	4 44.76	+1 9.9	1.234	2.169	11.4	19.5	11 17	4 44.64	-14 50.6	2.000	2.841	12.5	20.9
11 27	4 35.83	+1 1.0	1.232	2.182	9.3	19.5	11 27	4 35.80	-15 3.0	1.980	2.833	12.0	20.9
12 7	4 26.55	+1 18.0	1.253	2.196	9.8	19.5	12 7	4 26.56	-14 44.6	1.983	2.825	12.4	20.9
12 17	4 18.29	+2 0.6	1.298	2.211	12.4	19.7	12 17	4 17.88	-13 55.1	2.009	2.816	13.6	20.9
12 27	4 12.20	+3 5.3	1.366	2.227	15.6	20.0	12 27	4 10.67	-12 37.5	2.058	2.808	15.2	21.0
1 6	4 8.94	+4 26.3	1.453	2.244	18.6	20.2	1 6	4 5.54	-10 57.6	2.126	2.799	16.9	21.2
103073	1999 <i>XO</i> ₁₅₁	12 1.6 280°97	1°5/2.1	17			419233	2009 <i>VW</i> ₂₃	12 1.6 28°48	1°7/2.3	17		
10 28	4 59.32	+26 33.2	1.842	2.666	14.4	20.5	10 28	4 56.87	+28 9.6	1.897	2.721	14.0	21.0
11 7	4 54.08	+26 31.5	1.749	2.649	11.0	20.2	11 7	4 51.89	+27 55.3	1.828	2.728	10.7	20.8
11 17	4 46.16	+26 21.5	1.678	2.633	7.0	19.9	11 17	4 44.57	+27 31.3	1.782	2.736	6.8	20.5
11 27	4 36.35	+26 2.4	1.635	2.616	2.8	19.6	11 27	4 35.79	+26 57.6	1.763	2.744	2.9	20.3
12 7	4 25.82	+25 34.8	1.619	2.600	2.8	19.6	12 7	4 26.66	+26 16.0	1.773	2.753	2.7	20.3
12 17	4 15.86	+25 1.5	1.633	2.583	7.1	19.9	12 17	4 18.33	+25 30.2	1.811	2.762	6.5	20.6
12 27	4 7.74	+24 27.1	1.673	2.566	11.4	20.1	12 27	4 11.81	+24 44.8	1.876	2.771	10.2	20.8
1 6	4 2.30	+23 56.1	1.736	2.550	15.1	20.3	1 6	4 7.73	+24 4.2	1.964	2.781	13.5	21.1
161130	2002 <i>RL</i> ₈₂	12 1.6 133°40	4°5/3.5	17			18081	2000 <i>GB</i> ₁₂₆	12 1.6 121°92	3°1/1.9	18		
10 28	5 0.16	+36 52.2	2.618	3.396	11.9	20.3	10 28	5 10.15	+26 28.3	1.862	2.666	15.1	16.9
11 7	4 54.02	+37 24.1	2.541	3.403	9.5	20.1	11 7	5 2.08	+27 45.6	1.794	2.682	11.5	16.7
11 17	4 45.78	+37 44.8	2.487	3.409	7.0	20.0	11 17	4 51.03	+28 58.2	1.750	2.696	7.6	16.5
11 27	4 36.16	+37 51.6	2.461	3.415	5.0	19.8	11 27	4 37.92	+30 0.8	1.735	2.711	3.9	16.3
12 7	4 26.11	+37 43.7	2.465	3.421	4.7	19.8	12 7	4 24.11	+30 49.7	1.751	2.725	3.9	16.4
12 17	4 16.66	+37 22.4	2.497	3.427	6.3	19.9	12 17	4 11.11	+31 24.1	1.797	2.738	7.4	16.6
12 27	4 8.74	+36 51.3	2.558	3.433	8.7	20.1	12 27	4 0.27	+31 46.7	1.871	2.751	11.1	16.8
1 6	4 3.01	+36 15.0	2.644	3.438	11.0	20.3	1 6	3 52.47	+32 2.0	1.970	2.763	14.3	17.1
314301	2005 <i>SJ</i> ₁₀₉	12 1.6 106°53	0°6/1.8	18			22313	1991 <i>GP</i> ₃	12 1.6 144°38	0°5/1.4	18		
10 28	4 58.87	+24 24.1	2.128	2.948	12.9	21.6	10 28	4 56.60	+21 4.2	2.778	3.592	10.4	19.2
11 7	4 53.08	+24 20.2	2.059	2.958	9.7	21.5	11 7	4 50.93	+20 48.6	2.704	3.602	7.7	19.0
11 17	4 45.18	+24 10.6	2.013	2.968	6.0	21.3	11 17	4 43.69	+20 30.1	2.655	3.611	4.7	18.8
11 27	4 35.95	+23 55.4	1.996	2.979	2.1	21.0	11 27	4 35.48	+20 9.5	2.637	3.620	1.5	18.6
12 7	4 26.38	+23 35.7	2.008	2.989	2.2	21.0	12 7	4 27.02	+19 48.0	2.649	3.628	1.9	18.6
12 17	4 17.52	+23 13.8	2.050	2.998	6.0	21.3	12 17	4 19.07	+19 27.5	2.692	3.636	5.1	18.9
12 27	4 10.28	+22 52.7	2.119	3.008	9.6	21.6	12 27	4 12.32	+19 10.1	2.764	3.644	7.9	19.1
1 6	4 5.27	+22 35.3	2.213	3.017	12.6	21.8	1 6	4 7.25	+18 57.3	2.862	3.651	10.4	19.3
449519	2014 <i>HU</i> ₉	12 1.6 125°35	3°0/30.3	18			413442	2005 <i>CJ</i> ₂₂	12 1.6 244°99	0°4/1.4	18		
10 28	4 58.54	+13 51.8	2.424	3.241	11.6	22.2	10 28	4 55.75	+22 32.3	2.827	3.641	10.2	21.4
11 7	4 52.39	+13 12.3	2.363	3.259	8.7	22.0	11 7	4 50.42	+21 59.8	2.728	3.626	7.7	21.2
11 17	4 44.55	+12 33.9	2.327	3.277	5.7	21.9	11 17	4 43.46	+21 22.3	2.655	3.610	4.7	21.0
11 27	4 35.71	+11 59.3	2.320	3.294	3.2	21.7	11 27	4 35.43	+20 40.9	2.611	3.595	1.5	20.8
12 7	4 26.69	+11 30.8	2.344	3.311	3.8	21.8	12 7	4 27.04	+19 57.6	2.599	3.578	1.9	20.8
12 17	4 18.31	+11 10.4	2.398	3.327	6.6	22.0	12 17	4 19.05	+19 14.8	2.617	3.562	5.2	21.0
12 27	4 11.30	+10 59.6	2.480	3.342	9.4	22.2	12 27	4 12.18	+18 35.5	2.666	3.545	8.2	21.1
1 6	4 6.15	+10 58.7	2.587	3.357	11.9	22.4	1 6	4 6.97	+18 2.0	2.739	3.528	10.8	21.3
210644	2000 <i>HS</i> ₁₀	12 1.6 186°63	0°3/1.7	18			821	Fanny	12 1.6 188°84	1°4/30.9	18		
10 28	4 59.33	+23 5.7	2.572	3.383	11.2	21.3	10 28	4 57.65	+18 36.4	2.543	3.360	11.1	17.2
11 7	4 53.19	+23 6.3	2.487	3.382	8.4	21.1	11 7	4 51.88	+18 9.9	2.460	3.359	8.3	17.0
11 17	4 45.19	+23 3.0	2.427	3.381	5.2	20.9	11 17	4 44.36	+17 41.4	2.402	3.358	5.1	16.8
11 27	4 35.96	+22 55.6	2.397	3.380	1.7	20.7	11 27	4 35.71	+17 12.1	2.374	3.356	2.0	16.6
12 7	4 26.35	+22 44.8	2.397	3.378	1.9	20.7	12 7	4 26.73	+16 44.1	2.376	3.353	2.6	16.6
12 17	4 17.23	+22 32.1	2.429	3.375	5.4	20.9	12 17	4 18.25	+16 19.5	2.409	3.350	5.8	16.8
12 27	4 9.43	+22 19.8	2.489	3.371	8.6	21.1	12 27	4 11.04	+16 0.5	2.471	3.346	8.9	17.0
1 6	4 3.55	+22 10.1	2.575	3.367	11.4	21.3	1 6	4 5.66	+15 48.6	2.558	3.342	11.6	17.2
217393	2005 <i>EU</i> ₇₉	12 1.6 283°75	1°1/1.2	18			371849	2007 <i>YE</i> ₃₈	12 1.6 49°40	2°5/2.2	18		
10 28	4 5												

EPHEMERIDES

12 1.6

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
304154	2006 <i>OW</i> ₁₇	12 1.6 93°67	0°6/ 1.8 18				243032	2006 <i>VD</i> ₂₃	12 1.6 7°29	0°4/ 1.7 18			
10 28	5 4.05	+22 26.3	2.025	2.839	13.6	21.0	10 28	4 58.50	+22 52.0	1.789	2.620	14.4	20.8
11 7	4 56.93	+22 55.2	1.968	2.865	10.2	20.8	11 7	4 53.31	+22 57.9	1.715	2.621	10.9	20.5
11 17	4 47.53	+23 20.8	1.936	2.890	6.3	20.6	11 17	4 45.61	+22 59.5	1.663	2.621	6.7	20.3
11 27	4 36.73	+23 41.6	1.932	2.915	2.1	20.4	11 27	4 36.21	+22 56.3	1.638	2.622	2.2	20.0
12 7	4 25.63	+23 57.0	1.959	2.939	2.3	20.5	12 7	4 26.28	+22 49.2	1.642	2.623	2.5	20.0
12 17	4 15.37	+24 8.1	2.016	2.963	6.3	20.8	12 17	4 17.06	+22 40.0	1.673	2.624	7.0	20.3
12 27	4 6.95	+24 16.9	2.101	2.986	9.8	21.0	12 27	4 9.69	+22 31.7	1.732	2.625	11.0	20.6
1 6	4 0.99	+24 25.9	2.211	3.009	12.8	21.3	1 6	4 4.89	+22 27.2	1.813	2.627	14.5	20.8
278250	2007 <i>EM</i> ₁₇₀	12 1.6 233°73	3°7/30.5 18				369003	2007 <i>HP</i> ₇₉	12 1.6 168°67	0°6/ 1.3 17			
10 28	5 0.16	+13 40.6	1.751	2.581	14.7	21.8	10 28	4 56.01	+20 34.8	3.044	3.856	9.6	22.6
11 7	4 54.52	+13 11.6	1.669	2.573	11.3	21.6	11 7	4 50.41	+20 17.8	2.963	3.860	7.2	22.4
11 17	4 46.35	+12 44.4	1.611	2.565	7.4	21.3	11 17	4 43.38	+19 58.1	2.909	3.864	4.4	22.2
11 27	4 36.43	+12 22.0	1.579	2.556	4.0	21.1	11 27	4 35.43	+19 36.7	2.884	3.867	1.5	22.0
12 7	4 25.90	+12 7.2	1.576	2.547	4.8	21.1	12 7	4 27.24	+19 14.9	2.891	3.870	1.9	22.1
12 17	4 16.00	+12 2.4	1.601	2.537	8.6	21.3	12 17	4 19.47	+18 54.1	2.929	3.873	4.8	22.3
12 27	4 7.89	+12 9.3	1.652	2.527	12.6	21.5	12 27	4 12.78	+18 36.4	2.997	3.875	7.5	22.5
1 6	4 2.35	+12 28.0	1.725	2.517	16.1	21.8	1 6	4 7.61	+18 23.2	3.091	3.876	9.8	22.6
69396	1995 <i>FN</i> ₁₇	12 1.6 63°45	3°0/30.9 18				50134	2000 <i>AM</i> ₁₂₆	12 1.6 244°71	0°9/ 1.3 18			
10 28	5 2.16	+15 52.4	1.269	2.117	18.2	19.3	10 28	5 0.76	+21 34.2	1.636	2.470	15.5	19.2
11 7	4 56.47	+15 37.0	1.217	2.131	13.7	19.1	11 7	4 55.25	+21 7.8	1.554	2.462	11.7	18.9
11 17	4 47.64	+15 23.4	1.185	2.145	8.6	18.8	11 17	4 46.93	+20 35.7	1.495	2.454	7.2	18.7
11 27	4 36.81	+15 13.8	1.178	2.159	3.8	18.6	11 27	4 36.68	+19 58.9	1.462	2.445	2.4	18.3
12 7	4 25.56	+15 10.5	1.197	2.174	4.6	18.7	12 7	4 25.78	+19 20.2	1.456	2.436	3.1	18.4
12 17	4 15.49	+15 15.5	1.242	2.188	9.4	19.0	12 17	4 15.62	+18 43.7	1.479	2.428	8.0	18.6
12 27	4 7.94	+15 30.2	1.311	2.203	14.0	19.3	12 27	4 7.49	+18 13.6	1.528	2.418	12.5	18.9
1 6	4 3.66	+15 54.8	1.401	2.218	17.9	19.6	1 6	4 2.21	+17 53.4	1.600	2.409	16.3	19.1
218068	2002 <i>FX</i> ₁	12 1.6 222°18	7°2/28.2 18				99584	2002 <i>GR</i> ₇	12 1.6 133°50	2°4/ 1.0 17			
10 28	4 54.83	+ 2 6.9	2.255	3.064	12.6	20.6	10 28	5 3.76	+16 29.5	1.652	2.480	15.6	20.0
11 7	4 49.90	+ 0 56.9	2.185	3.061	10.3	20.5	11 7	4 57.15	+16 14.2	1.588	2.492	11.7	19.8
11 17	4 43.20	- 0 4.5	2.140	3.058	8.2	20.4	11 17	4 47.88	+15 59.2	1.548	2.504	7.3	19.6
11 27	4 35.36	- 0 52.3	2.121	3.055	7.2	20.3	11 27	4 36.93	+15 46.2	1.534	2.515	3.1	19.3
12 7	4 27.19	- 1 22.6	2.130	3.052	7.8	20.3	12 7	4 25.57	+15 37.1	1.549	2.525	3.8	19.4
12 17	4 19.52	- 1 33.3	2.166	3.049	9.7	20.4	12 17	4 15.13	+15 33.8	1.593	2.535	8.1	19.7
12 27	4 13.15	- 1 24.2	2.227	3.045	12.0	20.6	12 27	4 6.77	+15 38.5	1.663	2.544	12.2	20.0
1 6	4 8.62	- 0 57.6	2.310	3.042	14.2	20.7	1 6	4 1.18	+15 51.8	1.755	2.553	15.6	20.2
436440	2011 <i>CA</i> ₈	12 1.6 246°82	4°0/30.4 18				82712	2001 <i>PD</i> ₄₆	12 1.6 55°44	4°5/ 2.6 18			
10 28	4 59.88	+14 18.1	1.540	2.379	16.0	21.5	10 28	5 3.64	+31 9.2	1.733	2.546	15.7	19.3
11 7	4 54.56	+13 35.5	1.465	2.374	12.2	21.2	11 7	4 57.45	+32 10.1	1.670	2.558	12.2	19.1
11 17	4 46.46	+12 53.7	1.412	2.368	8.0	21.0	11 17	4 48.29	+33 1.4	1.629	2.571	8.5	18.9
11 27	4 36.47	+12 16.5	1.385	2.362	4.4	20.8	11 27	4 37.12	+33 38.3	1.614	2.584	5.2	18.7
12 7	4 25.88	+11 47.9	1.386	2.356	5.3	20.8	12 7	4 25.33	+33 58.4	1.628	2.597	4.9	18.7
12 17	4 16.04	+11 31.5	1.413	2.351	9.4	21.0	12 17	4 14.42	+34 2.5	1.669	2.610	7.9	19.0
12 27	4 8.24	+11 29.4	1.465	2.344	13.7	21.3	12 27	4 5.74	+33 55.0	1.737	2.624	11.4	19.2
1 6	4 3.26	+11 41.8	1.539	2.338	17.4	21.5	1 6	4 0.11	+33 41.5	1.827	2.637	14.6	19.4
171557	1999 <i>TO</i> ₁₄₀	12 1.6 100°12	2°7/ 2.4 18				9069	Hovland	12 1.6 6°42	0°7/ 1.2 18			
10 28	5 2.92	+28 56.2	1.836	2.650	14.8	20.3	10 28	5 2.17	+32 52.1	0.825	1.688	24.1	16.1
11 7	4 56.51	+29 14.4	1.772	2.665	11.4	20.1	11 7	4 57.97	+30 4.8	0.765	1.687	18.4	15.8
11 17	4 47.47	+29 23.2	1.731	2.679	7.4	19.9	11 17	4 49.10	+26 33.7	0.724	1.688	11.4	15.4
11 27	4 36.75	+29 20.6	1.717	2.694	3.6	19.7	11 27	4 37.35	+22 28.7	0.705	1.689	3.5	15.0
12 7	4 25.63	+29 6.7	1.731	2.708	3.4	19.7	12 7	4 25.27	+18 13.7	0.711	1.692	4.8	15.1
12 17	4 15.42	+28 43.9	1.774	2.722	6.9	19.9	12 17	4 15.23	+14 17.9	0.742	1.696	12.4	15.5
12 27	4 7.28	+28 16.8	1.845	2.735	10.7	20.2	12 27	4 8.93	+11 4.7	0.795	1.701	19.0	15.9
1 6	4 1.89	+27 50.2	1.939	2.748	13.9	20.4	1 6	4 7.00	+ 8 42.5	0.867	1.707	24.2	16.3
411645	2011 <i>UH</i> ₃₁₁	12 1.6 153°14	2°8/ 2.4 18				361817	2008 <i>CC</i> ₉₄	12 1.6 330°02	1°1/ 1.3 18			
10 28	5 2.99	+29 25.1	2.232	3.034	13.0	21.4	10 28	4 57.03	+19 7.3	1.586	2.428	15.4	20.7
11 7	4 56.33	+29 59.2	2.156	3.041	10.0	21.2	11 7	4 52.59	+19 8.4	1.504	2.416	11.7	20.4
11 17	4 47.31	+30 25.7	2.103	3.047	6.7	21.0	11 17	4 45.39	+19 8.5	1.445	2.405	7.2	20.1
11 27	4 36.72	+30 42.1	2.079	3.053	3.6	20.9	11 27	4 36.23	+19 8.2	1.410	2.394	2.5	19.8
12 7	4 25.63	+30 47.4	2.085	3.059	3.4	20.9	12 7	4 26.33	+19 8.5	1.403	2.384	3.1	19.8
12 17	4 15.19	+30 42.7	2.121	3.064	6.3	21.1	12 17	4 17.06	+19 11.2	1.424	2.374	8.0	20.1
12 27	4 6.44	+30 31.1	2.185	3.068	9.6	21.3	12 27	4 9.72	+19 18.4	1.469	2.365	12.5	20.3
1 6	4 0.09	+30 16.7	2.274	3.073	12.5	21.5	1 6	4 5.16	+19 32.1	1.536	2.357	16.4	20.6
288512	2004 <i>FF</i> ₁₁₂	12 1.6 129°28	5°1/29.4 18				108647	2001 <i>NA</i> ₁₃	12 1.6 69°09	1°3/ 1.2 18			
10 28	4 57.07	+ 7 21.5	2.359	3.173	12.0	21.8	10 28	5 2.00	+20 35.2	1.404	2.245	17.1	19.9
11 7	4 51.37	+ 6 28.0	2.299	3.186	9.3	21.6	11 7	4 56.10	+20 7.9	1.353	2.264	12.8	19.7
11 17	4 44.00	+ 5 40.1	2.263	3.199	6.8	21.5	11 17	4 47.31	+19 36.5	1.323	2.282	7.8	19.5
11 27	4 35.60	+ 5 1.4	2.256	3.212	5.2	21.4	11 27	4 36.74	+19 2.7	1.318	2.301	2.7	19.2
12 7	4 27.00	+ 4 34.8	2.278	3.224	5.8	21.5	12 7	4 25.89	+18 29.8	1.340	2.320	3.4	19.3
12 17	4 18.99	+ 4 22.2	2.328	3.236	8.0	21.6	12 17	4 16.21	+18 1.7	1.390	2.339	8.3	19.6
12 27	4 12.30	+ 4 24.0	2.406	3.247	10.5	21.8	12 27	4 8.92	+17 42.0	1.465	2.357	12.7	19.9
1 6	4 7.45	+ 4 39.1	2.507	3.257	12.8	22.0	1 6	4 4.66	+17 32.9	1.561	2.376	16.4	20.2
360912	2005 <i>ST</i> ₂₃₉	12 1.6 172°60	3°0/30.4 18				521500	2015 <i>OM</i> ₉₅	12 1.6 47°13	2°5/30.7 18			
10 28</													

EPHEMERIDES

12 1.6

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
8070	DeMeo		12 1.6 33°81'	1.9°/ 1.1 18			333768	2011 ER		12 1.6 205°98'	2.5°/ 2.4 18		
10 28	4 58.15	+18 25.7	1.353	2.204	17.1	17.3	10 28	5 3.52	+28 20.4	1.678	2.497	15.8	21.1
11 7	4 53.29	+18 10.0	1.307	2.223	12.8	17.1	11 7	4 57.44	+28 33.8	1.598	2.495	12.1	20.8
11 17	4 45.60	+17 53.3	1.282	2.243	7.8	16.8	11 17	4 48.36	+28 37.6	1.541	2.492	7.9	20.6
11 27	4 36.20	+17 37.3	1.281	2.264	2.9	16.6	11 27	4 37.19	+28 29.7	1.510	2.489	3.7	20.3
12 7	4 26.52	+17 24.7	1.307	2.286	3.6	16.7	12 7	4 25.33	+28 9.8	1.507	2.485	3.4	20.3
12 17	4 17.95	+17 17.7	1.359	2.309	8.4	17.1	12 17	4 14.28	+27 40.6	1.532	2.481	7.6	20.5
12 27	4 11.67	+17 18.6	1.436	2.332	12.7	17.4	12 27	4 5.43	+27 7.3	1.583	2.476	11.9	20.8
1 6	4 8.31	+17 28.4	1.534	2.356	16.3	17.7	1 6	3 59.64	+26 35.7	1.658	2.472	15.7	21.0
386882	2011 FV ₆₅		12 1.6 126°86'	0°5/ 1.8 18			400635	2009 DT ₁₃₆		12 1.6 256°32'	5°0/ 30.2 18		
10 28	5 3.11	+24 57.9	1.894	2.712	14.3	21.0	10 28	4 58.80	+ 8 6.5	2.066	2.884	13.3	21.5
11 7	4 56.43	+24 40.9	1.829	2.727	10.8	20.8	11 7	4 53.25	+ 7 42.4	1.975	2.867	10.4	21.3
11 17	4 47.33	+24 16.4	1.787	2.742	6.7	20.6	11 17	4 45.52	+ 7 24.5	1.909	2.851	7.4	21.1
11 27	4 36.75	+23 44.8	1.773	2.756	2.3	20.3	11 27	4 36.26	+ 7 16.1	1.869	2.833	5.2	20.9
12 7	4 25.86	+23 8.0	1.788	2.769	2.4	20.3	12 7	4 26.40	+ 7 19.6	1.858	2.816	5.8	21.0
12 17	4 15.89	+22 29.5	1.834	2.782	6.7	20.6	12 17	4 16.97	+ 7 36.3	1.876	2.798	8.6	21.1
12 27	4 7.85	+21 53.6	1.906	2.794	10.5	20.9	12 27	4 8.97	+ 8 6.4	1.921	2.780	11.9	21.3
1 6	4 2.39	+21 24.0	2.003	2.805	13.8	21.1	1 6	4 3.14	+ 8 48.7	1.988	2.761	14.9	21.4
489166	2006 FS ₂₀		12 1.6 103°12'	9°3/ 6.6 18			476712	2008 TS ₁₇₂		12 1.6 31°88'	3°5/ 30.1 18		
10 28	5 12.05	+54 29.4	2.743	3.417	13.7	21.3	10 28	4 58.18	+19 34.6	1.358	2.208	17.1	19.8
11 7	5 3.79	+55 44.8	2.683	3.435	12.2	21.3	11 7	4 53.33	+17 57.2	1.301	2.217	12.8	19.6
11 17	4 52.25	+56 40.8	2.643	3.453	10.8	21.2	11 17	4 45.65	+16 12.8	1.266	2.226	8.0	19.3
11 27	4 38.42	+57 11.4	2.627	3.470	9.7	21.1	11 27	4 36.25	+14 28.1	1.256	2.236	3.9	19.1
12 7	4 23.85	+57 13.6	2.635	3.488	9.3	21.1	12 7	4 26.55	+12 51.3	1.274	2.247	5.2	19.2
12 17	4 10.23	+56 48.3	2.670	3.505	9.8	21.2	12 17	4 17.97	+11 30.3	1.318	2.258	9.7	19.5
12 27	3 59.06	+56 0.7	2.728	3.521	10.8	21.3	12 27	4 11.67	+10 30.3	1.387	2.270	14.0	19.8
1 6	3 51.24	+54 58.4	2.810	3.537	12.0	21.4	1 6	4 8.27	+ 9 52.7	1.476	2.282	17.6	20.1
288075	2003 UY ₄₁₂		12 1.6 305°33'	5°6/ 28.7 18			120207	2004 EG ₃₁		12 1.6 171°51'	4°3/ 30.0 18 R		
10 28	4 58.03	+13 8.7	1.736	2.571	14.7	20.1	10 28	5 0.58	+12 38.1	1.851	2.677	14.3	20.4
11 7	4 52.77	+11 17.2	1.663	2.568	11.3	19.8	11 7	4 54.56	+11 44.6	1.780	2.680	10.9	20.2
11 17	4 45.18	+ 9 23.7	1.616	2.565	7.8	19.6	11 17	4 46.25	+10 52.7	1.733	2.683	7.3	20.0
11 27	4 36.09	+ 7 35.4	1.596	2.562	5.6	19.5	11 27	4 36.45	+10 6.4	1.713	2.685	4.6	19.8
12 7	4 26.61	+ 6 0.0	1.605	2.560	6.8	19.6	12 7	4 26.25	+ 9 29.8	1.722	2.686	5.4	19.9
12 17	4 17.90	+ 4 43.8	1.641	2.557	10.1	19.8	12 17	4 16.79	+ 9 6.0	1.760	2.687	8.7	20.1
12 27	4 10.96	+ 3 50.5	1.703	2.555	13.5	20.0	12 27	4 9.07	+ 8 56.8	1.824	2.688	12.2	20.3
1 6	4 6.45	+ 3 20.4	1.786	2.553	16.6	20.2	1 6	4 3.75	+ 9 2.0	1.910	2.687	15.3	20.5
511032	2013 RH ₃		12 1.6 29°43'	3°5/ 2.4 18			153793	2001 VF ₇₈		12 1.6 30°90'	8°4/ 29.3 18		
10 28	5 1.63	+27 57.6	1.084	1.936	20.3	20.6	10 28	4 56.57	+ 8 34.9	1.095	1.956	19.5	18.4
11 7	4 57.01	+28 30.3	1.031	1.945	15.6	20.4	11 7	4 52.40	+ 7 4.1	1.058	1.972	15.2	18.2
11 17	4 48.44	+28 51.7	0.997	1.955	10.2	20.1	11 17	4 45.17	+ 5 43.4	1.040	1.989	11.0	18.1
11 27	4 37.22	+28 57.9	0.986	1.966	4.9	19.8	11 27	4 36.10	+ 4 41.7	1.045	2.008	8.5	18.0
12 7	4 25.33	+28 48.3	0.999	1.977	4.5	19.9	12 7	4 26.77	+ 4 5.7	1.073	2.027	9.4	18.1
12 17	4 14.84	+28 26.5	1.035	1.990	9.5	20.2	12 17	4 18.72	+ 3 58.0	1.124	2.048	12.8	18.4
12 27	4 7.46	+27 59.5	1.095	2.004	14.6	20.5	12 27	4 13.16	+ 4 17.1	1.196	2.070	16.5	18.7
1 6	4 4.06	+27 34.3	1.174	2.018	18.9	20.8	1 6	4 10.71	+ 4 58.1	1.287	2.092	19.8	18.9
404981	1999 XR ₂₅₁		12 1.6 348°72'	1°2/ 1.2 17			408065	2012 GV ₁₃		12 1.6 303°29'	7°4/ 28.2 17		
10 28	4 55.09	+20 11.8	1.726	2.567	14.4	21.0	10 28	4 54.08	+ 2 20.3	2.161	2.975	12.9	20.5
11 7	4 50.82	+19 48.5	1.649	2.561	10.8	20.8	11 7	4 49.49	+ 1 9.0	2.089	2.968	10.6	20.3
11 17	4 44.12	+19 21.6	1.596	2.556	6.7	20.6	11 17	4 43.06	+ 0 6.2	2.041	2.961	8.4	20.2
11 27	4 35.79	+18 52.7	1.568	2.551	2.3	20.3	11 27	4 35.43	- 0 42.7	2.019	2.954	7.4	20.1
12 7	4 26.94	+18 24.3	1.568	2.547	3.0	20.3	12 7	4 27.43	- 1 13.6	2.024	2.948	8.0	20.1
12 17	4 18.77	+17 59.7	1.595	2.544	7.4	20.6	12 17	4 19.92	- 1 24.1	2.056	2.941	10.0	20.3
12 27	4 12.36	+17 41.9	1.649	2.542	11.5	20.8	12 27	4 13.73	- 1 14.1	2.113	2.935	12.4	20.4
1 6	4 8.44	+17 33.1	1.724	2.540	15.1	21.0	1 6	4 9.43	- 0 45.8	2.191	2.929	14.7	20.6
399447	2002 GR ₉₇		12 1.6 238°53'	6°4/ 28.9 18			520671	2014 QU ₄₅₀		12 1.6 94°12'	3°2/ 30.8 18		
10 28	4 57.59	+ 9 4.7	1.746	2.577	14.7	20.8	10 28	4 58.39	+10 39.5	2.426	3.240	11.7	21.3
11 7	4 52.46	+ 7 40.8	1.676	2.575	11.5	20.6	11 7	4 52.39	+10 42.3	2.365	3.258	8.9	21.1
11 17	4 45.01	+ 6 20.5	1.629	2.572	8.4	20.4	11 17	4 44.68	+10 49.8	2.328	3.275	5.9	21.0
11 27	4 36.05	+ 5 10.0	1.609	2.569	6.4	20.3	11 27	4 35.92	+11 3.2	2.320	3.293	3.5	20.8
12 7	4 26.66	+ 4 15.2	1.616	2.566	7.4	20.3	12 7	4 26.91	+11 23.2	2.343	3.310	3.9	20.9
12 17	4 17.97	+ 3 40.2	1.651	2.563	10.3	20.5	12 17	4 18.49	+11 49.9	2.396	3.327	6.5	21.1
12 27	4 11.01	+ 3 26.5	1.710	2.560	13.6	20.7	12 27	4 11.39	+12 23.2	2.477	3.343	9.3	21.3
1 6	4 6.43	+ 3 33.1	1.790	2.557	16.5	20.9	1 6	4 6.13	+13 2.2	2.583	3.360	11.7	21.5
456145	2006 EN ₉		12 1.6 319°49'	4°5/ 3.2 17			128155	2003 QY ₈₈		12 1.6 100°90'	3°1/ 2.5 18		
10 28	4 59.76	+34 42.7	2.200	2.996	13.3	21.5	10 28	5 1.54	+29 45.9	2.305	3.107	12.6	19.6
11 7	4 54.17	+35 16.4	2.118	2.993	10.6	21.3	11 7	4 55.25	+30 32.8	2.231	3.115	9.7	19.4
11 17	4 46.15	+35 39.0	2.058	2.990	7.6	21.1	11 17	4 46.71	+31 12.8	2.182	3.124	6.6	19.3
11 27	4 36.45	+35 47.4	2.025	2.987	5.1	20.9	11 27	4 36.63	+31 42.9	2.161	3.133	3.7	19.1
12 7	4 26.17	+35 40.5	2.021	2.985	4.7	20.9	12 7	4 26.06	+32 1.6	2.169	3.141	3.6	19.1
12 17	4 16.50	+35 19.6	2.045	2.982	7.0	21.0	12 17	4 16.06	+32 9.5	2.208	3.149	6.2	19.3
12 27	4 8.56	+34 48.7	2.097	2.980	9.9	21.2	12 27	4 7.68	+32 9.1	2.275	3.157	9.3	19.5
1 6	4 3.10	+34 13.1	2.172	2.978	12.7	21.4	1 6	4 1.60	+32 4.3	2.367	3.166	12.0	19.7
347276	2011 LF ₃		12 1.6 54°64'	9°3/ 29.7 18			349178	2007 RX ₇₄		12 1.6 343°04'	3°2/ 2.4 18		
10 28	4 59.49	+ 1 43.0	1.414	2.242									

EPHEMERIDES

12 1.6

12 1.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
34475	2000 SC ₁₁₈	12	1.6	71°13	1°1/ 1.2	18	176326	2001 SR ₂₄₂	12	1.6	79°95	0°4/ 1.7	18
10 28	4 57.66	+19 40.7	1.977	2.806	13.3	19.1	10 28	4 59.80	+22 40.3	1.903	2.729	13.9	20.2
11 7	4 52.34	+19 24.2	1.908	2.814	10.0	18.9	11 7	4 54.11	+22 49.9	1.834	2.737	10.5	20.0
11 17	4 44.87	+19 5.2	1.863	2.821	6.1	18.7	11 17	4 46.06	+22 55.6	1.788	2.745	6.5	19.7
11 27	4 36.02	+18 45.0	1.846	2.829	2.1	18.4	11 27	4 36.45	+22 56.9	1.770	2.753	2.1	19.5
12 7	4 26.81	+18 25.4	1.857	2.837	2.7	18.5	12 7	4 26.41	+22 54.3	1.780	2.761	2.4	19.5
12 17	4 18.30	+18 8.7	1.898	2.844	6.7	18.8	12 17	4 17.10	+22 49.4	1.820	2.769	6.6	19.8
12 27	4 11.43	+17 57.4	1.966	2.852	10.3	19.0	12 27	4 9.57	+22 44.9	1.886	2.777	10.4	20.1
1 6	4 6.81	+17 53.2	2.057	2.860	13.4	19.2	1 6	4 4.50	+22 43.3	1.977	2.786	13.7	20.3
93828	2000 WJ ₇₆	12	1.6	54°57	1°1/ 1.9	18	53488	2000 AG ₆₁	12	1.6	228°74	4°1/ 3.5	18
10 28	5 1.13	+25 38.7	1.458	2.294	16.9	19.0	10 28	4 59.36	+35 41.3	2.463	3.250	12.3	19.0
11 7	4 55.59	+25 31.3	1.401	2.308	12.7	18.8	11 7	4 53.62	+35 54.5	2.375	3.245	9.8	18.8
11 17	4 47.10	+25 15.2	1.366	2.323	7.9	18.6	11 17	4 45.71	+35 55.9	2.312	3.241	7.1	18.6
11 27	4 36.76	+24 50.1	1.356	2.338	2.9	18.3	11 27	4 36.34	+35 43.4	2.275	3.237	4.7	18.4
12 7	4 26.03	+24 18.0	1.373	2.354	2.9	18.3	12 7	4 26.52	+35 16.7	2.268	3.232	4.3	18.4
12 17	4 16.43	+23 42.9	1.417	2.369	7.7	18.7	12 17	4 17.29	+34 37.8	2.290	3.227	6.3	18.5
12 27	4 9.19	+23 10.0	1.487	2.385	12.2	19.0	12 27	4 9.63	+33 50.8	2.340	3.222	9.1	18.7
1 6	4 5.01	+22 43.7	1.578	2.401	15.9	19.3	1 6	4 4.20	+33 0.9	2.415	3.217	11.7	18.9
127239	2002 JA ₂₁	12	1.6	288°09	2°5/ 2.3	17	349965	2010 DP ₆₅	12	1.6	289°55	1°1/ 1.0	18
10 28	4 59.61	+28 5.9	2.130	2.943	13.1	20.3	10 28	5 1.56	+25 45.8	1.686	2.512	15.4	19.7
11 7	4 54.06	+28 39.3	2.043	2.935	10.1	20.0	11 7	4 55.77	+24 6.9	1.593	2.497	11.7	19.4
11 17	4 46.11	+29 6.4	1.980	2.928	6.7	19.8	11 17	4 47.22	+22 11.2	1.525	2.482	7.2	19.1
11 27	4 36.49	+29 24.9	1.944	2.921	3.4	19.6	11 27	4 36.85	+20 2.5	1.484	2.468	2.4	18.8
12 7	4 26.22	+29 33.8	1.938	2.914	3.2	19.6	12 7	4 25.96	+17 48.4	1.474	2.453	3.3	18.8
12 17	4 16.47	+29 33.7	1.960	2.907	6.5	19.8	12 17	4 15.93	+15 38.7	1.494	2.438	8.3	19.1
12 27	4 8.34	+29 27.5	2.011	2.900	10.0	20.0	12 27	4 7.95	+13 42.9	1.542	2.424	12.9	19.3
1 6	4 2.60	+29 18.8	2.085	2.893	13.1	20.2	1 6	4 2.80	+12 7.3	1.613	2.409	16.8	19.5
168234	2006 KX ₆₇	12	1.6	152°34	3°8/30.3	18	311765	2006 TT ₁₁₃	12	1.6	27°55	2°9/30.9	18
10 28	4 59.16	+11 33.4	2.166	2.985	12.7	21.2	10 28	4 58.57	+14 1.8	1.737	2.571	14.7	20.7
11 7	4 53.20	+11 2.2	2.097	2.993	9.7	21.0	11 7	4 53.31	+13 59.1	1.668	2.575	11.1	20.5
11 17	4 45.29	+10 34.3	2.052	3.000	6.5	20.8	11 17	4 45.63	+13 59.8	1.622	2.578	7.1	20.2
11 27	4 36.15	+10 12.4	2.036	3.007	4.0	20.7	11 27	4 36.33	+14 5.4	1.603	2.582	3.5	20.0
12 7	4 26.69	+9 58.7	2.049	3.013	4.6	20.8	12 7	4 26.56	+14 17.3	1.611	2.586	4.1	20.1
12 17	4 17.85	+9 55.1	2.091	3.019	7.5	20.9	12 17	4 17.48	+14 36.2	1.648	2.590	7.9	20.3
12 27	4 10.49	+9 20.3	2.161	3.024	10.6	21.1	12 27	4 10.20	+15 2.6	1.710	2.594	11.7	20.6
1 6	4 5.18	+10 20.1	2.254	3.028	13.3	21.3	1 6	4 5.41	+15 36.4	1.796	2.599	15.1	20.8
263071	2007 KT ₈	12	1.6	194°95	1°5/ 1.1	17	183196	2002 TN ₇	12	1.6	107°72	1°8/ 2.2	18
10 28	4 57.03	+16 54.0	2.580	3.397	10.9	20.8	10 28	5 3.31	+26 37.4	1.520	2.349	16.7	20.2
11 7	4 51.49	+16 50.0	2.496	3.395	8.2	20.6	11 7	4 57.35	+26 43.3	1.453	2.355	12.7	19.9
11 17	4 44.22	+16 46.3	2.439	3.393	5.1	20.4	11 17	4 48.30	+26 40.2	1.407	2.362	8.1	19.7
11 27	4 35.82	+16 43.5	2.410	3.391	2.1	20.2	11 27	4 37.22	+26 26.6	1.387	2.369	3.3	19.4
12 7	4 27.04	+16 42.6	2.411	3.388	2.6	20.2	12 7	4 25.58	+26 3.3	1.395	2.375	3.1	19.4
12 17	4 18.71	+16 44.7	2.444	3.385	5.7	20.4	12 17	4 14.95	+25 33.7	1.430	2.381	7.8	19.7
12 27	4 11.58	+16 51.1	2.505	3.382	8.8	20.6	12 27	4 6.69	+25 2.9	1.491	2.388	12.3	20.0
1 6	4 6.23	+17 2.6	2.591	3.378	11.4	20.8	1 6	4 1.59	+24 36.2	1.574	2.394	16.1	20.3
237157	2008 UJ ₁₀₃	12	1.6	136°04	4°5/28.8	18	409304	2004 TS ₅₈	12	1.6	63°37	5°2/ 3.3	17
10 28	4 55.16	+7 42.0	2.909	3.717	10.1	20.8	10 28	5 1.96	+35 41.8	2.052	2.845	14.2	21.5
11 7	4 49.73	+6 31.4	2.845	3.729	7.9	20.7	11 7	4 55.95	+36 27.3	1.982	2.854	11.4	21.4
11 17	4 42.95	+5 24.6	2.808	3.741	5.8	20.6	11 17	4 47.31	+37 0.4	1.935	2.863	8.3	21.2
11 27	4 35.37	+4 25.1	2.800	3.752	4.6	20.5	11 27	4 36.90	+37 17.4	1.915	2.873	5.8	21.1
12 7	4 27.62	+3 36.1	2.823	3.763	5.2	20.6	12 7	4 25.95	+37 16.6	1.923	2.882	5.4	21.1
12 17	4 20.34	+2 59.8	2.876	3.774	7.0	20.7	12 17	4 15.77	+36 59.5	1.958	2.892	7.5	21.2
12 27	4 14.12	+2 37.1	2.956	3.784	9.1	20.9	12 27	4 7.54	+36 30.7	2.021	2.902	10.4	21.4
1 6	4 9.39	+2 27.9	3.060	3.793	11.0	21.0	1 6	4 2.02	+35 56.0	2.108	2.912	13.1	21.6
70008	1998 XA ₅₃	12	1.6	14°14	6°5/30.7	18	340205	2006 AE ₃₃	12	1.6	236°84	4°7/ 3.4	18
10 28	4 58.32	+1 21.8	2.074	2.879	13.7	17.4	10 28	5 3.65	+35 14.0	1.851	2.650	15.3	20.5
11 7	4 52.69	+1 21.8	2.004	2.881	11.1	17.2	11 7	4 57.54	+35 23.0	1.763	2.641	12.2	20.3
11 17	4 45.05	+1 34.8	1.958	2.883	8.4	17.0	11 17	4 48.45	+35 17.0	1.698	2.633	8.7	20.0
11 27	4 36.11	+2 3.6	1.938	2.885	6.7	16.9	11 27	4 37.30	+34 52.4	1.657	2.623	5.5	19.8
12 7	4 26.77	+2 49.2	1.946	2.888	7.0	17.0	12 7	4 25.47	+34 9.0	1.645	2.614	5.0	19.8
12 17	4 18.00	+3 50.6	1.983	2.891	9.1	17.1	12 17	4 14.45	+33 10.0	1.662	2.604	7.8	19.9
12 27	4 10.70	+5 5.5	2.046	2.894	11.8	17.3	12 27	4 5.60	+32 2.2	1.705	2.594	11.5	20.1
1 6	4 5.48	+6 30.1	2.133	2.897	14.3	17.5	1 6	3 59.77	+30 53.4	1.772	2.584	14.9	20.3
268863	2006 YJ ₆	12	1.6	255°36	0°9/ 1.9	18	196814	2003 SU ₂₂₅	12	1.6	103°29	3°2/30.2	18
10 28	5 1.75	+25 26.8	1.616	2.445	15.8	21.4	10 28	4 55.36	+13 44.2	2.340	3.165	11.7	19.8
11 7	4 56.21	+25 15.6	1.531	2.435	12.1	21.2	11 7	4 50.28	+13 1.1	2.271	3.171	8.8	19.6
11 17	4 47.68	+24 55.6	1.467	2.423	7.6	20.9	11 17	4 43.48	+12 19.1	2.226	3.178	5.8	19.4
11 27	4 37.04	+24 26.4	1.429	2.412	2.7	20.6	11 27	4 35.61	+11 40.9	2.210	3.184	3.4	19.3
12 7	4 25.65	+23 49.4	1.419	2.400	2.8	20.6	12 7	4 27.46	+11 9.4	2.223	3.190	4.0	19.3
12 17	4 14.99	+23 8.3	1.437	2.388	7.8	20.8	12 17	4 19.87	+10 46.8	2.266	3.197	6.8	19.5
12 27	4 6.47	+22 28.7	1.482	2.376	12.5	21.1	12 27	4 13.59	+10 34.7	2.336	3.203	9.8	19.7
1 6	4 0.96	+21 55.6	1.548	2.364	16.5	21.3	1 6	4 9.14	+10 33.4	2.430	3.209	12.3	19.9
180803	2005 EN ₁₁₇	12	1.6	147°69	3°7/ 2.7	18	47385	1999 XA ₁₀₁	12	1.6	348°87	2°4/ 1.3	18
10 28	5 6.46	+30 46.6	1.698	2.507	16.0	20.4	10 28						

EPHEMERIDES

12 1.6

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
289481	2005 <i>EL</i> ₈₃	12	1.6 132°70	3°9/30.4	17		257039	2008 <i>FR</i> ₅₄	12	1.7 114°95	0°3/1.8	18	
10 28	5 2.71	+13 50.8	1.707	2.534	15.2	21.4	10 28	4 58.73	+23 0.1	2.131	2.952	12.8	21.0
11 7	4 56.25	+13 8.5	1.646	2.548	11.5	21.2	11 7	4 53.12	+23 0.8	2.057	2.958	9.6	20.9
11 17	4 47.32	+12 27.9	1.608	2.560	7.5	21.0	11 17	4 45.40	+22 57.2	2.008	2.964	5.9	20.6
11 27	4 36.86	+11 52.5	1.597	2.572	4.2	20.8	11 27	4 36.29	+22 49.3	1.986	2.969	2.0	20.4
12 7	4 26.07	+11 25.5	1.614	2.583	5.0	20.9	12 7	4 26.79	+22 37.9	1.994	2.975	2.2	20.4
12 17	4 16.18	+11 9.8	1.661	2.594	8.6	21.2	12 17	4 17.92	+22 24.9	2.031	2.980	6.1	20.7
12 27	4 8.25	+11 7.0	1.733	2.604	12.3	21.4	12 27	4 10.63	+22 12.9	2.097	2.985	9.6	20.9
1 6	4 2.93	+11 17.1	1.827	2.613	15.5	21.6	1 6	4 5.54	+22 4.4	2.186	2.990	12.7	21.1
405867	2006 <i>DJ</i> ₁₁₁	12	1.6 63°46	8°3/5.5	17		457018	2008 <i>CT</i> ₁₂₀	12	1.7 26°83	24°9/5.1	17	
10 28	5 6.39	+46 27.6	2.165	2.908	15.1	20.6	10 28	5 2.89	-24 42.9	0.927	1.691	29.4	20.1
11 7	4 59.42	+47 23.3	2.110	2.930	12.8	20.5	11 7	4 57.79	-26 10.3	0.903	1.697	27.7	20.0
11 17	4 49.46	+47 59.5	2.076	2.953	10.6	20.4	11 17	4 48.80	-26 43.6	0.888	1.705	26.2	19.9
11 27	4 37.58	+48 11.0	2.066	2.976	8.8	20.3	11 27	4 37.41	-26 9.3	0.886	1.713	25.2	19.9
12 7	4 25.25	+47 56.1	2.082	2.998	8.3	20.4	12 7	4 25.65	-24 23.2	0.897	1.723	24.9	19.9
12 17	4 14.02	+47 17.1	2.125	3.021	9.2	20.5	12 17	4 15.52	-21 31.5	0.923	1.733	25.5	20.0
12 27	4 5.17	+46 20.2	2.193	3.044	11.0	20.6	12 27	4 8.56	-17 49.3	0.964	1.745	26.6	20.1
1 6	3 59.43	+45 13.5	2.285	3.066	13.0	20.8	1 6	4 5.49	-13 36.3	1.020	1.757	28.1	20.3
489076	2006 <i>AR</i> ₃₈	12	1.6 28°36	1°8/1.3	16		391213	2006 <i>HN</i> ₇₂	12	1.7 186°67	2°3/1.0	18	
10 28	4 59.02	+18 10.8	1.180	2.037	18.6	21.1	10 28	4 59.95	+15 56.7	1.874	2.702	14.0	21.3
11 7	4 54.47	+18 6.7	1.129	2.048	14.0	20.8	11 7	4 54.26	+15 46.9	1.798	2.702	10.6	21.1
11 17	4 46.65	+18 2.4	1.098	2.060	8.6	20.6	11 17	4 46.22	+15 38.0	1.746	2.702	6.7	20.9
11 27	4 36.71	+17 59.2	1.090	2.074	3.2	20.3	11 27	4 36.59	+15 31.6	1.721	2.701	3.0	20.6
12 7	4 26.28	+17 58.7	1.108	2.088	3.8	20.4	12 7	4 26.46	+15 29.1	1.724	2.700	3.6	20.7
12 17	4 17.03	+18 3.2	1.150	2.103	9.2	20.7	12 17	4 16.97	+15 32.2	1.757	2.699	7.5	20.9
12 27	4 10.36	+18 14.6	1.217	2.118	14.0	21.1	12 27	4 9.19	+15 42.2	1.817	2.698	11.3	21.1
1 6	4 7.03	+18 34.1	1.303	2.135	18.1	21.4	1 6	4 3.83	+15 59.9	1.899	2.697	14.6	21.4
191639	2004 <i>PU</i> ₂₃	12	1.7 12°02	0°0/1.5	18		381053	2006 <i>WA</i> ₂₃	12	1.7 2°69	2°1/1.4	18	
10 28	4 52.26	+21 7.3	0.851	1.737	21.3	18.4	10 28	5 1.19	+16 22.1	1.289	2.137	17.9	20.2
11 7	4 50.34	+21 20.4	0.809	1.743	16.0	18.1	11 7	4 56.15	+16 35.0	1.222	2.136	13.6	20.0
11 17	4 44.51	+21 29.8	0.785	1.753	9.9	17.8	11 17	4 47.82	+16 51.1	1.176	2.136	8.5	19.7
11 27	4 36.08	+21 35.4	0.780	1.765	3.2	17.5	11 27	4 37.18	+17 10.8	1.154	2.136	3.3	19.4
12 7	4 27.04	+21 38.7	0.798	1.780	3.6	17.6	12 7	4 25.77	+17 34.2	1.158	2.137	3.9	19.4
12 17	4 19.41	+21 42.1	0.837	1.797	10.0	18.0	12 17	4 15.27	+18 1.8	1.188	2.138	9.2	19.7
12 27	4 14.83	+21 49.2	0.896	1.817	15.5	18.4	12 27	4 7.19	+18 34.4	1.242	2.140	14.1	20.0
1 6	4 14.08	+22 2.2	0.974	1.839	20.1	18.8	1 6	4 2.48	+19 12.6	1.317	2.142	18.3	20.3
331215	2011 <i>BA</i> ₄₀	12	1.7 281°86	0°4/1.6	17		22405	Gavioliremo	12	1.7 112°89	0°6/1.9	18	
10 28	4 58.13	+19 51.2	2.251	3.073	12.2	20.7	10 28	5 4.70	+25 12.6	1.632	2.456	16.0	19.2
11 7	4 52.65	+20 8.0	2.169	3.070	9.2	20.5	11 7	4 57.96	+24 51.5	1.572	2.473	12.0	19.0
11 17	4 45.13	+20 24.0	2.111	3.067	5.6	20.3	11 17	4 48.46	+24 21.7	1.534	2.489	7.4	18.7
11 27	4 36.21	+20 38.8	2.081	3.064	1.8	20.0	11 27	4 37.27	+23 43.8	1.523	2.506	2.5	18.5
12 7	4 26.80	+20 52.5	2.081	3.061	2.2	20.1	12 7	4 25.78	+23 0.2	1.540	2.521	2.6	18.5
12 17	4 17.88	+21 5.7	2.111	3.058	6.0	20.3	12 17	4 15.38	+22 15.3	1.587	2.536	7.4	18.9
12 27	4 10.37	+21 19.8	2.169	3.056	9.5	20.5	12 27	4 7.23	+21 34.2	1.660	2.551	11.6	19.1
1 6	4 4.93	+21 36.1	2.252	3.053	12.5	20.7	1 6	4 2.01	+21 1.2	1.756	2.564	15.1	19.4
209841	2005 <i>GG</i> ₁₆₃	12	1.7 284°78	2°5/1.2	18		370349	2002 <i>RM</i> ₂₆₉	12	1.7 197°91	3°1/2.9	18	
10 28	5 0.67	+14 10.6	1.767	2.596	14.7	20.2	10 28	4 58.66	+32 32.8	2.532	3.328	11.8	21.0
11 7	4 55.13	+14 24.1	1.678	2.582	11.2	20.0	11 7	4 52.99	+32 46.6	2.448	3.327	9.2	20.9
11 17	4 46.96	+14 42.1	1.613	2.568	7.2	19.7	11 17	4 45.31	+32 51.0	2.387	3.325	6.4	20.7
11 27	4 36.88	+15 5.3	1.574	2.555	3.3	19.4	11 27	4 36.28	+32 44.3	2.354	3.324	3.8	20.5
12 7	4 26.00	+15 34.2	1.564	2.541	3.8	19.5	12 7	4 26.82	+32 26.4	2.351	3.322	3.4	20.5
12 17	4 15.63	+16 8.7	1.583	2.527	8.0	19.7	12 17	4 17.91	+31 59.0	2.378	3.320	5.8	20.6
12 27	4 6.98	+16 48.9	1.628	2.513	12.2	19.9	12 27	4 10.44	+31 25.6	2.433	3.318	8.7	20.8
1 6	4 0.95	+17 34.7	1.696	2.499	15.8	20.1	1 6	4 5.05	+30 50.2	2.513	3.316	11.3	21.0
448001	2008 <i>CS</i> ₂₀₇	12	1.7 189°91	2°5/30.8	18		474808	2005 <i>SW</i> ₁₃	12	1.7 72°70	7°7/29.4	16	
10 28	4 57.54	+16 21.5	1.992	2.822	13.2	21.4	10 28	5 3.27	+ 6 45.2	1.447	2.276	17.4	21.8
11 7	4 52.30	+15 53.0	1.917	2.821	10.0	21.2	11 7	4 56.56	+ 5 18.1	1.416	2.310	13.5	21.7
11 17	4 44.92	+15 24.2	1.865	2.821	6.3	21.0	11 17	4 47.38	+ 4 1.9	1.406	2.344	9.9	21.5
11 27	4 36.13	+14 57.2	1.841	2.821	2.9	20.8	11 27	4 36.85	+ 3 3.2	1.422	2.377	7.8	21.5
12 7	4 26.94	+14 34.4	1.846	2.821	3.6	20.8	12 7	4 26.33	+ 2 27.0	1.465	2.409	8.5	21.6
12 17	4 18.36	+14 18.4	1.880	2.820	7.2	21.1	12 17	4 17.05	+ 2 15.0	1.534	2.442	11.3	21.9
12 27	4 11.34	+14 11.1	1.941	2.820	10.8	21.3	12 27	4 10.01	+ 2 26.0	1.627	2.473	14.3	22.1
1 6	4 6.55	+14 13.4	2.024	2.819	13.9	21.5	1 6	4 5.69	+ 2 56.0	1.739	2.504	17.0	22.4
449541	2014 <i>HE</i> ₁₂₃	12	1.7 157°55	1°9/2.4	18		252790	2002 <i>EM</i> ₁₅₄	12	1.7 330°52	2°3/30.8	18	
10 28	5 1.55	+28 13.8	2.300	3.105	12.5	22.1	10 28	4 56.29	+17 18.7	1.986	2.818	13.2	20.0
11 7	4 55.15	+28 18.7	2.223	3.112	9.6	21.9	11 7	4 51.40	+16 44.4	1.909	2.815	9.9	19.8
11 17	4 46.60	+28 15.8	2.170	3.118	6.2	21.7	11 17	4 44.39	+16 8.5	1.856	2.813	6.2	19.6
11 27	4 36.67	+28 4.0	2.146	3.124	2.8	21.5	11 27	4 35.99	+15 33.5	1.830	2.810	2.8	19.3
12 7	4 26.34	+27 43.8	2.151	3.129	2.6	21.5	12 7	4 27.17	+15 2.2	1.833	2.808	3.5	19.4
12 17	4 16.68	+27 17.2	2.187	3.134	5.9	21.7	12 17	4 18.94	+14 37.4	1.864	2.806	7.2	19.6
12 27	4 8.63	+26 48.0	2.252	3.138	9.2	22.0	12 27	4 12.27	+14 21.5	1.922	2.804	10.8	19.8
1 6	4 2.81	+26 19.8	2.342	3.142	12.1	22.2	1 6	4 7.79	+14 15.9	2.004	2.802	13.9	20.0
408674	2014 <i>MC</i> ₃₈	12	1.7 71°89	4°1/30.7	18		14602	1998 <i>SW</i> ₇₄	12	1.7 345°22	2°1/1.9	18	

EPHEMERIDES

12 1.7

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
1912	Anubis	12	1.7	27°86	0°2/ 1.6	18 R	233780	2008 TR ₁₆₇	12	1.7	1°82	2°8/ 2.9	17
10 28	4 57.93	+21 29.7	1.827	2.659	14.1	15.9	10 28	4 57.57	+31 11.6	2.275	3.082	12.6	20.2
11 7	4 52.84	+21 30.4	1.757	2.663	10.6	15.7	11 7	4 52.35	+31 17.3	2.195	3.082	9.8	20.0
11 17	4 45.36	+21 27.9	1.710	2.668	6.5	15.5	11 17	4 44.99	+31 13.4	2.138	3.082	6.6	19.8
11 27	4 36.32	+21 22.2	1.689	2.673	2.1	15.2	11 27	4 36.22	+30 58.6	2.108	3.082	3.6	19.6
12 7	4 26.82	+21 14.5	1.697	2.678	2.5	15.3	12 7	4 27.04	+30 33.1	2.107	3.082	3.2	19.6
12 17	4 18.03	+21 6.6	1.734	2.684	6.8	15.5	12 17	4 18.46	+29 59.3	2.136	3.082	6.0	19.8
12 27	4 11.01	+21 1.1	1.797	2.690	10.8	15.8	12 27	4 11.45	+29 21.1	2.192	3.083	9.2	20.0
1 6	4 6.45	+21 0.3	1.883	2.696	14.1	16.0	1 6	4 6.64	+28 42.8	2.273	3.083	12.1	20.2
174343	2002 TX ₂₁₁	12	1.7	28°00	0°9/ 1.8	18	99298	2001 RV ₄₆	12	1.7	320°83	15°5/30.4	18
10 28	5 2.49	+21 14.2	1.609	2.440	15.8	19.5	10 28	5 17.08	+39 53.4	1.017	1.830	24.2	18.7
11 7	4 56.68	+22 5.1	1.539	2.445	11.9	19.3	11 7	5 11.90	+43 32.6	0.952	1.822	20.8	18.4
11 17	4 47.96	+22 55.7	1.492	2.450	7.4	19.1	11 17	5 0.08	+47 3.9	0.906	1.814	17.6	18.2
11 27	4 37.21	+23 43.1	1.472	2.455	2.6	18.8	11 27	4 41.94	+50 3.0	0.882	1.807	15.6	18.1
12 7	4 25.77	+24 25.2	1.480	2.461	2.8	18.8	12 7	4 19.92	+52 7.0	0.880	1.800	16.0	18.1
12 17	4 15.09	+25 1.1	1.516	2.467	7.5	19.1	12 17	3 58.29	+53 6.4	0.899	1.794	18.5	18.2
12 27	4 6.51	+25 32.4	1.579	2.473	11.9	19.4	12 27	3 41.58	+53 10.8	0.936	1.788	21.9	18.4
1 6	4 0.89	+26 1.4	1.664	2.480	15.5	19.6	1 6	3 32.34	+52 41.3	0.989	1.783	25.2	18.6
79172	1993 FX ₃₈	12	1.7	201°25	1°5/ 1.2	18	390221	2012 XE ₃₇	12	1.7	19°51	1°4/ 1.4	18
10 28	5 1.76	+18 49.9	1.885	2.709	14.1	21.2	10 28	4 59.12	+18 33.2	1.373	2.221	17.1	20.0
11 7	4 55.67	+18 32.3	1.803	2.706	10.6	21.0	11 7	4 54.36	+18 35.1	1.311	2.225	12.8	19.8
11 17	4 47.12	+18 12.5	1.745	2.702	6.6	20.8	11 17	4 46.59	+18 36.5	1.269	2.230	7.9	19.5
11 27	4 36.91	+17 51.6	1.715	2.697	2.5	20.5	11 27	4 36.80	+18 38.2	1.252	2.236	2.8	19.2
12 7	4 26.14	+17 31.1	1.714	2.692	3.1	20.5	12 7	4 26.42	+18 41.3	1.262	2.242	3.4	19.3
12 17	4 16.03	+17 15.1	1.742	2.687	7.3	20.8	12 17	4 16.98	+18 47.5	1.298	2.249	8.5	19.6
12 27	4 7.69	+17 4.6	1.798	2.681	11.3	21.0	12 27	4 9.81	+18 59.0	1.358	2.256	13.1	19.9
1 6	4 1.85	+17 2.3	1.877	2.674	14.8	21.2	1 6	4 5.72	+19 17.0	1.439	2.264	17.0	20.2
155542	1999 TE ₂₆₀	12	1.7	26°43	1°1/ 2.0	18	361416	2006 WE ₁₆₁	12	1.7	261°23	0°5/ 1.6	17
10 28	4 57.82	+25 20.8	1.838	2.666	14.2	20.0	10 28	4 59.64	+19 47.3	2.059	2.882	13.1	21.1
11 7	4 52.79	+25 20.8	1.768	2.671	10.8	19.7	11 7	4 54.07	+20 0.5	1.970	2.872	9.9	20.9
11 17	4 45.34	+25 14.0	1.721	2.677	6.8	19.5	11 17	4 46.18	+20 12.9	1.905	2.862	6.1	20.7
11 27	4 36.32	+25 0.1	1.700	2.682	2.5	19.3	11 27	4 36.66	+20 24.1	1.868	2.851	2.0	20.4
12 7	4 26.85	+24 40.2	1.707	2.688	2.5	19.3	12 7	4 26.52	+20 34.2	1.860	2.841	2.4	20.4
12 17	4 18.13	+24 16.8	1.743	2.695	6.7	19.6	12 17	4 16.86	+20 44.2	1.882	2.830	6.6	20.6
12 27	4 11.23	+23 53.6	1.806	2.701	10.6	19.8	12 27	4 8.74	+20 55.6	1.932	2.819	10.4	20.8
1 6	4 6.82	+23 34.2	1.892	2.708	13.9	20.0	1 6	4 2.92	+21 10.1	2.005	2.808	13.7	21.0
21363	Jotwani	12	1.7	313°74	2°7/ 2.4	18	143206	2002 XS ₉₂	12	1.7	54°33	1°9/ 2.1	18
10 28	4 59.81	+28 25.8	2.096	2.908	13.3	19.3	10 28	5 2.21	+25 30.2	1.621	2.449	15.8	20.1
11 7	4 54.25	+28 58.7	2.013	2.905	10.2	19.1	11 7	4 56.30	+26 2.0	1.565	2.467	12.0	19.9
11 17	4 46.29	+29 24.9	1.955	2.902	6.8	18.9	11 17	4 47.60	+26 27.4	1.530	2.485	7.6	19.6
11 27	4 36.66	+29 42.1	1.923	2.900	3.5	18.7	11 27	4 37.10	+26 44.2	1.522	2.503	3.2	19.4
12 7	4 26.43	+29 49.1	1.921	2.897	3.3	18.7	12 7	4 26.16	+26 51.9	1.541	2.521	3.1	19.5
12 17	4 16.77	+29 46.9	1.948	2.894	6.5	18.9	12 17	4 16.19	+26 52.0	1.589	2.540	7.3	19.8
12 27	4 8.77	+29 38.5	2.002	2.892	10.0	19.1	12 27	4 8.42	+26 48.1	1.663	2.558	11.3	20.0
1 6	4 3.19	+29 27.8	2.081	2.889	13.1	19.3	1 6	4 3.54	+26 44.1	1.760	2.577	14.7	20.3
309036	2006 UH ₁₈₉	12	1.7	108°93	1°2/ 2.3	18	76528	2000 GB ₅₉	12	1.7	354°87	7°0/ 2.7	18
10 28	5 0.66	+28 6.3	2.030	2.844	13.6	20.9	10 28	5 2.22	+33 59.5	1.449	2.269	17.8	17.8
11 7	4 54.58	+27 34.7	1.961	2.855	10.3	20.7	11 7	4 57.41	+35 27.4	1.376	2.264	14.3	17.6
11 17	4 46.26	+26 52.9	1.915	2.867	6.5	20.5	11 17	4 48.94	+36 44.6	1.325	2.261	10.6	17.4
11 27	4 36.58	+26 1.4	1.897	2.878	2.6	20.3	11 27	4 37.71	+37 43.3	1.298	2.258	7.6	17.2
12 7	4 26.64	+25 3.0	1.908	2.889	2.4	20.3	12 7	4 25.33	+38 18.2	1.296	2.257	7.3	17.2
12 17	4 17.54	+24 1.9	1.950	2.900	6.2	20.5	12 17	4 13.76	+38 28.6	1.320	2.256	10.1	17.3
12 27	4 10.24	+23 3.1	2.020	2.910	9.9	20.8	12 27	4 4.79	+38 19.6	1.367	2.256	13.8	17.5
1 6	4 5.33	+22 11.1	2.114	2.920	13.0	21.0	1 6	3 59.58	+37 59.2	1.436	2.257	17.3	17.8
125593	2001 XU ₃₄	12	1.7	32°30	6°0/ 3.2	18	442406	2011 UT ₇₂	12	1.7	5°22	1°4/ 1.2	18
10 28	5 4.27	+34 41.2	1.532	2.343	17.4	19.5	10 28	4 57.44	+20 40.8	1.610	2.451	15.3	21.0
11 7	4 58.56	+35 32.1	1.462	2.346	13.9	19.3	11 7	4 52.74	+20 6.3	1.539	2.450	11.5	20.8
11 17	4 49.37	+36 9.0	1.412	2.348	10.1	19.1	11 17	4 45.43	+19 26.8	1.491	2.451	7.1	20.5
11 27	4 37.73	+36 26.2	1.387	2.351	6.8	18.9	11 27	4 36.41	+18 44.7	1.468	2.452	2.5	20.3
12 7	4 25.27	+36 21.0	1.388	2.353	6.3	18.9	12 7	4 26.91	+18 3.2	1.474	2.453	3.2	20.3
12 17	4 13.79	+35 55.5	1.416	2.356	9.1	19.0	12 17	4 18.22	+17 26.4	1.506	2.455	7.8	20.6
12 27	4 4.92	+35 16.3	1.469	2.360	12.9	19.3	12 27	4 11.48	+16 58.2	1.564	2.457	12.1	20.9
1 6	3 59.58	+34 31.7	1.543	2.363	16.4	19.5	1 6	4 7.41	+16 41.1	1.644	2.459	15.7	21.1
417863	2007 JN ₄₅	12	1.7	94°83	0°8/ 1.5	18	119206	2001 QW ₁₄₅	12	1.7	14°34	1°2/ 2.0	18
10 28	4 59.73	+17 41.2	2.405	3.221	11.7	21.4	10 28	4 57.85	+25 11.1	1.107	1.966	19.5	19.2
11 7	4 53.58	+18 4.5	2.337	3.235	8.7	21.2	11 7	4 54.08	+25 10.1	1.051	1.970	14.8	18.9
11 17	4 45.58	+18 28.4	2.295	3.250	5.4	21.0	11 17	4 46.69	+24 59.5	1.014	1.975	9.3	18.6
11 27	4 36.39	+18 52.5	2.281	3.264	1.9	20.8	11 27	4 36.88	+24 38.9	0.999	1.982	3.4	18.3
12 7	4 26.86	+19 16.7	2.298	3.278	2.2	20.8	12 7	4 26.42	+24 10.4	1.008	1.990	3.3	18.3
12 17	4 17.89	+19 41.0	2.346	3.292	5.7	21.1	12 17	4 17.19	+23 38.4	1.042	1.999	9.1	18.7
12 27	4 10.30	+20 6.2	2.424	3.305	8.8	21.3	12 27	4 10.76	+23 9.2	1.098	2.009	14.4	19.0
1 6	4 4.66	+20 33.1	2.526	3.319	11.5	21.5	1 6	4 7.96	+22 47.7	1.174	2.020	18.7	19.3
111211	2001 WW ₃₂	12	1.7	59°63	3°2/30.9	18	27094	Salgari	12	1.7	43°75	2°5/ 2.5	18
10 28	5 4.07	+17 0.0	1.084	1.939	20.1	18.9	10 28	5 1.8					

EPHEMERIDES

12 1.7

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
264491	2001 <i>PL</i> ₄₄		12	1.7 181°23	2°1/ 2.5 18		474965	2005 <i>TW</i> ₅₈		12	1.7 113°10	2°5/ 2.3 18	
10 28	5 4.15	+28 42.0	1.987	2.795	14.1	21.3	10 28	5 5.03	+27 32.8	1.667	2.486	15.9	21.8
11 7	4 57.50	+28 43.3	1.906	2.796	10.8	21.1	11 7	4 58.50	+27 59.9	1.601	2.497	12.2	21.5
11 17	4 48.28	+28 35.0	1.848	2.797	7.1	20.9	11 17	4 49.04	+28 18.6	1.558	2.509	7.9	21.3
11 27	4 37.35	+28 15.8	1.818	2.797	3.2	20.7	11 27	4 37.63	+28 26.5	1.541	2.520	3.7	21.1
12 7	4 25.91	+27 46.2	1.818	2.796	2.9	20.6	12 7	4 25.69	+28 22.8	1.553	2.531	3.4	21.1
12 17	4 15.21	+27 9.0	1.847	2.795	6.7	20.9	12 17	4 14.70	+28 9.7	1.593	2.542	7.5	21.4
12 27	4 6.42	+26 29.1	1.904	2.793	10.5	21.1	12 27	4 5.96	+27 51.6	1.660	2.552	11.5	21.6
1 6	4 0.28	+25 51.3	1.986	2.790	13.8	21.3	1 6	4 0.25	+27 33.5	1.749	2.562	15.0	21.9
476445	2008 <i>EW</i> ₃₉		12	1.7 264°08	5°4/ 3.1 18		33815	2000 <i>AG</i> ₃₁		12	1.7 158°06	3°6/30.7 18	
10 28	5 4.72	+33 54.1	1.532	2.344	17.3	21.2	10 28	5 0.04	+10 21.5	2.321	3.133	12.2	18.9
11 7	4 59.06	+34 27.7	1.447	2.334	13.8	20.9	11 7	4 53.85	+10 10.3	2.248	3.140	9.3	18.8
11 17	4 49.83	+34 47.3	1.384	2.323	9.9	20.7	11 17	4 45.79	+10 3.9	2.201	3.146	6.3	18.6
11 27	4 37.98	+34 47.7	1.345	2.312	6.3	20.4	11 27	4 36.53	+10 4.0	2.182	3.152	3.9	18.4
12 7	4 25.12	+34 26.6	1.332	2.301	5.8	20.4	12 7	4 26.93	+10 12.0	2.193	3.157	4.4	18.5
12 17	4 13.10	+33 46.4	1.346	2.290	9.1	20.6	12 17	4 17.88	+10 28.6	2.234	3.162	7.1	18.7
12 27	4 3.62	+32 54.1	1.385	2.279	13.3	20.8	12 27	4 10.20	+10 53.9	2.303	3.166	10.0	18.9
1 6	3 57.74	+31 58.7	1.446	2.267	17.2	21.0	1 6	4 4.48	+11 27.2	2.397	3.169	12.7	19.1
367845	2011 <i>BA</i> ₁₂₁		12	1.7 332°87	0°6/ 1.4 17		491518	2012 <i>JP</i> ₄₅		12	1.7 131°54	1°1/ 1.4 17	
10 28	4 56.19	+22 18.6	2.046	2.874	13.0	20.8	10 28	4 57.33	+17 49.5	2.489	3.308	11.3	21.0
11 7	4 51.37	+21 47.6	1.965	2.870	9.7	20.6	11 7	4 51.84	+17 57.3	2.412	3.311	8.4	20.8
11 17	4 44.43	+21 11.0	1.908	2.866	6.0	20.4	11 17	4 44.58	+18 5.2	2.360	3.315	5.2	20.6
11 27	4 36.09	+20 30.4	1.879	2.862	2.0	20.1	11 27	4 36.15	+18 13.5	2.336	3.319	1.9	20.4
12 7	4 27.33	+19 48.2	1.878	2.858	2.4	20.1	12 7	4 27.35	+18 22.7	2.343	3.322	2.3	20.4
12 17	4 19.18	+19 7.7	1.907	2.855	6.5	20.4	12 17	4 19.03	+18 33.5	2.380	3.325	5.6	20.6
12 27	4 12.58	+18 32.7	1.963	2.852	10.2	20.6	12 27	4 11.97	+18 46.9	2.446	3.328	8.7	20.8
1 6	4 8.17	+18 5.8	2.042	2.849	13.4	20.8	1 6	4 6.74	+19 3.9	2.537	3.331	11.5	21.0
318246	2004 <i>RJ</i> ₂₉₈		12	1.7 112°89	1°1/ 1.3 18		264966	2003 <i>AD</i>		12	1.7 328°88	22°9/ 1.3 17	
10 28	4 57.36	+19 37.5	2.157	2.983	12.5	21.5	10 28	5 4.38	-21 15.3	1.023	1.790	27.0	19.6
11 7	4 52.08	+19 21.8	2.082	2.986	9.4	21.3	11 7	4 59.12	-22 38.4	0.978	1.783	25.3	19.5
11 17	4 44.79	+19 3.8	2.032	2.989	5.8	21.1	11 17	4 49.93	-23 15.6	0.944	1.776	23.8	19.3
11 27	4 36.19	+18 44.6	2.009	2.992	2.0	20.8	11 27	4 38.02	-22 51.6	0.925	1.770	23.0	19.3
12 7	4 27.22	+18 25.8	2.015	2.995	2.5	20.9	12 7	4 25.28	-21 18.8	0.921	1.764	23.0	19.2
12 17	4 18.85	+18 9.6	2.052	2.997	6.3	21.1	12 17	4 13.76	-18 39.9	0.934	1.759	24.1	19.3
12 27	4 11.95	+17 58.3	2.115	3.000	9.8	21.4	12 27	4 5.22	-15 7.3	0.963	1.755	25.9	19.4
1 6	4 7.14	+17 53.4	2.203	3.003	12.8	21.6	1 6	4 0.62	-11 0.0	1.008	1.752	28.0	19.6
310068	2010 <i>KG</i> ₉		12	1.7 102°56	4°0/30.8 18		9701	Mak		12	1.7 241°26	1°2/ 1.3 18	
10 28	5 1.71	+ 9 21.0	2.095	2.909	13.3	21.1	10 28	5 1.43	+20 22.1	1.711	2.541	15.0	19.2
11 7	4 55.10	+ 9 15.9	2.039	2.931	10.2	20.9	11 7	4 55.80	+19 59.1	1.625	2.531	11.4	19.0
11 17	4 46.51	+ 9 16.9	2.008	2.952	6.9	20.8	11 17	4 47.44	+19 31.7	1.562	2.520	7.1	18.7
11 27	4 36.72	+ 9 26.0	2.004	2.974	4.3	20.7	11 27	4 37.17	+19 1.3	1.526	2.509	2.5	18.4
12 7	4 26.70	+ 9 44.0	2.031	2.994	4.7	20.7	12 7	4 26.21	+18 30.1	1.518	2.497	3.1	18.4
12 17	4 17.41	+10 11.1	2.087	3.015	7.5	20.9	12 17	4 15.91	+18 1.6	1.539	2.486	7.8	18.7
12 27	4 9.72	+10 46.7	2.171	3.034	10.5	21.2	12 27	4 7.52	+17 39.7	1.586	2.473	12.3	18.9
1 6	4 4.18	+11 29.8	2.278	3.053	13.2	21.4	1 6	4 1.88	+17 27.0	1.655	2.461	16.0	19.1
464514	2016 <i>CN</i>		12	1.7 349°76	4°4/30.3 16		411577	2011 <i>EG</i> ₁₁		12	1.7 273°47	3°3/30.3 18	
10 28	4 54.34	+11 38.1	1.812	2.650	14.0	21.0	10 28	4 55.27	+12 46.3	2.372	3.195	11.6	21.3
11 7	4 50.15	+11 2.5	1.739	2.645	10.7	20.8	11 7	4 50.43	+12 12.3	2.283	3.182	8.9	21.1
11 17	4 43.76	+10 30.6	1.688	2.640	7.3	20.6	11 17	4 43.79	+11 39.9	2.219	3.169	5.9	20.9
11 27	4 35.90	+10 5.9	1.663	2.635	4.6	20.4	11 27	4 35.92	+11 11.7	2.183	3.156	3.6	20.7
12 7	4 27.57	+ 9 51.5	1.666	2.632	5.3	20.4	12 7	4 27.63	+10 50.1	2.176	3.143	4.2	20.8
12 17	4 19.82	+ 9 49.5	1.696	2.629	8.5	20.6	12 17	4 19.74	+10 37.3	2.199	3.129	7.0	20.9
12 27	4 13.66	+10 1.0	1.751	2.627	12.0	20.8	12 27	4 13.08	+10 34.7	2.249	3.116	10.1	21.1
1 6	4 9.75	+10 25.2	1.829	2.625	15.1	21.0	1 6	4 8.24	+10 42.7	2.322	3.102	12.8	21.2
411951	2012 <i>HE</i> ₁₅		12	1.7 176°22	3°7/29.9 17		159334	2006 <i>DT</i> ₄₁		12	1.7 144°02	0°8/ 1.4 18	
10 28	4 55.35	+11 27.7	2.535	3.354	11.1	21.6	10 28	4 57.13	+20 10.5	2.362	3.183	11.7	20.8
11 7	4 50.25	+10 42.4	2.460	3.355	8.5	21.5	11 7	4 51.78	+20 0.0	2.285	3.187	8.8	20.6
11 17	4 43.52	+ 9 59.3	2.410	3.356	5.8	21.3	11 17	4 44.57	+19 47.1	2.233	3.190	5.4	20.4
11 27	4 35.77	+ 9 21.3	2.388	3.357	3.8	21.2	11 27	4 36.16	+19 32.6	2.210	3.193	1.8	20.2
12 7	4 27.73	+ 8 51.1	2.397	3.357	4.4	21.2	12 7	4 27.40	+19 17.8	2.216	3.196	2.2	20.2
12 17	4 20.16	+ 8 30.9	2.435	3.357	6.9	21.4	12 17	4 19.17	+19 4.4	2.253	3.199	5.8	20.4
12 27	4 13.78	+ 8 21.8	2.500	3.357	9.5	21.5	12 27	4 12.30	+18 54.7	2.317	3.201	9.1	20.7
1 6	4 9.09	+ 8 24.0	2.590	3.357	12.0	21.7	1 6	4 7.36	+18 50.1	2.407	3.204	11.9	20.9
35482	1998 <i>FJ</i> ₁₁		12	1.7 178°91	1°0/ 1.4 18		273432	2006 <i>WC</i> ₁₂₁		12	1.7 129°34	3°1/30.9 18	
10 28	5 1.33	+18 46.6	2.199	3.016	12.6	19.8	10 28	5 3.32	+14 34.1	1.714	2.540	15.2	21.4
11 7	4 55.05	+18 45.8	2.119	3.018	9.5	19.6	11 7	4 56.83	+14 14.7	1.651	2.553	11.5	21.2
11 17	4 46.64	+18 43.8	2.064	3.019	5.9	19.3	11 17	4 47.83	+13 57.2	1.612	2.566	7.3	21.0
11 27	4 36.82	+18 41.1	2.037	3.020	2.1	19.1	11 27	4 37.23	+13 43.9	1.599	2.577	3.6	20.8
12 7	4 26.55	+18 38.6	2.041	3.020	2.5	19.1	12 7	4 26.26	+13 36.8	1.616	2.589	4.3	20.9
12 17	4 16.85	+18 37.6	2.075	3.019	6.3	19.4	12 17	4 16.15	+13 37.6	1.660	2.600	8.1	21.1
12 27	4 8.67	+18 39.9	2.137	3.018	9.9	19.6	12 27	4 8.00	+13 47.7	1.732	2.610	12.0	21.4
1 6	4 2.67	+18 47.0	2.224	3.016	12.9	19.8	1 6	4 2.49	+14 7.2	1.826	2.619	15.3	21.6
254775	2005 <i>QZ</i> ₄₁		12	1.7 20°78	9°0/ 5.2 17 R		216835	2006 <i>WC</i> ₄₂		12	1.7 91°60	2°0/ 1.2 17	
10 28													

EPHEMERIDES

12 1.7

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
391520	2007 RZ ₁₇₇	12	1.7 208°35	3°6/30.5	18		176966	2002 XA ₅₅	12	1.7 52°43	2°7/	1.0	18
10 28	4 59.07	+13 10.1	1.931	2.758	13.7	21.4	10 28	4 58.79	+14 57.7	1.794	2.627	14.4	20.1
11 7	4 53.58	+12 40.0	1.854	2.755	10.5	21.2	11 7	4 53.48	+14 46.5	1.726	2.631	10.8	19.9
11 17	4 45.84	+12 12.2	1.800	2.752	6.9	21.0	11 17	4 45.83	+14 37.4	1.681	2.636	6.9	19.6
11 27	4 36.61	+11 49.3	1.774	2.749	3.9	20.8	11 27	4 36.63	+14 32.0	1.662	2.641	3.3	19.4
12 7	4 26.91	+11 34.0	1.776	2.745	4.6	20.8	12 7	4 26.99	+14 32.1	1.672	2.646	3.9	19.5
12 17	4 17.81	+11 28.5	1.807	2.742	8.0	21.0	12 17	4 18.04	+14 39.0	1.710	2.652	7.6	19.7
12 27	4 10.32	+11 34.1	1.865	2.738	11.5	21.2	12 27	4 10.84	+14 53.8	1.774	2.657	11.4	20.0
1 6	4 5.11	+11 50.8	1.945	2.733	14.7	21.4	1 6	4 6.07	+15 16.7	1.861	2.663	14.7	20.2
94699	2001 XH ₄₃	12	1.7 154°84	5°4/	3.3	18	220074	2002 RB ₁₉₄	12	1.7 124°43	3°9/	2.9	18
10 28	5 4.77	+34 49.9	1.702	2.505	16.3	19.4	10 28	5 6.51	+31 41.4	1.655	2.465	16.4	20.8
11 7	4 58.66	+35 28.1	1.627	2.507	13.0	19.2	11 7	4 59.74	+32 5.2	1.589	2.476	12.8	20.6
11 17	4 49.35	+35 52.6	1.574	2.508	9.4	19.0	11 17	4 49.88	+32 16.6	1.545	2.488	8.7	20.4
11 27	4 37.82	+35 58.6	1.546	2.510	6.2	18.8	11 27	4 37.97	+32 12.1	1.526	2.499	4.9	20.2
12 7	4 25.56	+35 44.2	1.545	2.511	5.7	18.8	12 7	4 25.52	+31 51.2	1.536	2.509	4.4	20.2
12 17	4 14.21	+35 11.9	1.572	2.512	8.4	19.0	12 17	4 14.14	+31 16.9	1.573	2.519	7.8	20.4
12 27	4 5.22	+34 27.7	1.625	2.513	12.0	19.2	12 27	4 5.16	+30 35.5	1.638	2.529	11.7	20.7
1 6	3 59.49	+33 39.4	1.700	2.514	15.3	19.4	1 6	3 59.39	+29 53.8	1.725	2.538	15.2	20.9
428506	2007 XU ₅₂	12	1.7 312°08	3°2/	1.1	18	98862	2001 AN ₄₄	12	1.7 330°38	1°6/	1.3	18
10 28	5 0.70	+15 21.0	1.288	2.136	17.9	20.8	10 28	4 58.06	+18 28.8	1.454	2.300	16.4	18.9
11 7	4 55.93	+15 9.4	1.214	2.128	13.7	20.5	11 7	4 53.68	+18 23.2	1.376	2.290	12.4	18.6
11 17	4 47.84	+15 0.3	1.161	2.120	8.8	20.3	11 17	4 46.34	+18 16.6	1.319	2.280	7.8	18.3
11 27	4 37.37	+14 55.9	1.132	2.112	4.0	20.0	11 27	4 36.89	+18 10.4	1.288	2.271	2.9	18.0
12 7	4 26.03	+14 58.6	1.128	2.105	4.8	20.0	12 7	4 26.65	+18 6.0	1.282	2.262	3.5	18.0
12 17	4 15.50	+15 10.1	1.151	2.098	9.8	20.3	12 17	4 17.12	+18 5.6	1.303	2.254	8.5	18.3
12 27	4 7.34	+15 32.0	1.196	2.091	14.8	20.5	12 27	4 9.67	+18 11.8	1.349	2.246	13.3	18.6
1 6	4 2.52	+16 4.5	1.262	2.085	19.1	20.8	1 6	4 5.22	+18 26.1	1.416	2.239	17.3	18.8
284598	2007 TN ₃₇₂	12	1.7 75°57	1°7/	2.6	15	10508	1988 RM ₄	12	1.7 120°63	1°4/	1.2	18
10 28	5 4.83	+30 39.9	1.718	2.529	15.8	20.7	10 28	5 2.04	+19 17.6	1.908	2.731	14.0	18.9
11 7	4 57.83	+29 45.9	1.663	2.556	12.0	20.5	11 7	4 55.68	+18 56.4	1.844	2.746	10.5	18.7
11 17	4 48.27	+28 37.4	1.632	2.582	7.6	20.3	11 17	4 47.05	+18 32.8	1.805	2.761	6.4	18.5
11 27	4 37.30	+27 15.9	1.628	2.608	3.2	20.1	11 27	4 37.00	+18 8.0	1.793	2.776	2.4	18.2
12 7	4 26.31	+25 46.1	1.653	2.633	2.7	20.1	12 7	4 26.65	+17 44.4	1.811	2.790	2.9	18.3
12 17	4 16.57	+24 14.8	1.708	2.659	6.9	20.4	12 17	4 17.12	+17 24.3	1.859	2.803	6.9	18.6
12 27	4 9.11	+22 49.4	1.792	2.684	10.8	20.7	12 27	4 9.39	+17 10.4	1.934	2.816	10.7	18.9
1 6	4 4.43	+21 35.2	1.899	2.708	14.1	21.0	1 6	4 4.09	+17 4.6	2.032	2.829	13.8	19.1
222505	2001 TJ ₁₃	12	1.7 348°31	16°8/22.8	18		223909	2004 VJ ₆₄	12	1.7 90°85	3°8/30.9	18	
10 28	4 56.92	+ 1 13.7	0.904	1.766	22.6	19.3	10 28	4 59.55	+ 8 49.6	2.220	3.033	12.6	19.8
11 7	4 53.53	- 2 43.9	0.860	1.761	19.4	19.1	11 7	4 53.59	+ 8 58.7	2.150	3.041	9.7	19.6
11 17	4 46.44	- 6 28.3	0.836	1.756	17.2	18.9	11 17	4 45.71	+ 9 14.7	2.105	3.049	6.6	19.4
11 27	4 36.89	- 9 35.8	0.833	1.753	17.0	18.9	11 27	4 36.58	+ 9 39.0	2.088	3.058	4.1	19.3
12 7	4 26.68	-11 47.9	0.850	1.751	18.9	19.0	12 7	4 27.08	+10 12.0	2.101	3.066	4.5	19.3
12 17	4 17.68	-12 56.5	0.885	1.749	21.8	19.2	12 17	4 18.15	+10 53.2	2.143	3.074	7.2	19.5
12 27	4 11.49	-13 4.5	0.935	1.748	25.0	19.4	12 27	4 10.63	+11 42.0	2.214	3.081	10.2	19.7
1 6	4 8.96	-12 23.2	0.997	1.749	27.8	19.6	1 6	4 5.12	+12 37.0	2.310	3.089	12.9	19.9
94038	2000 XX ₄₈	12	1.7 296°95	6°1/	4.1	17	452668	2005 WQ ₉₂	12	1.7 211°23	0°2/	1.6	18
10 28	5 1.72	+39 22.1	2.117	2.897	14.3	19.3	10 28	4 57.76	+23 36.5	2.264	3.083	12.2	21.6
11 7	4 55.99	+39 54.8	2.033	2.892	11.7	19.2	11 7	4 52.37	+23 4.0	2.181	3.081	9.2	21.4
11 17	4 47.54	+40 12.8	1.971	2.887	8.9	19.0	11 17	4 45.01	+22 25.1	2.123	3.079	5.7	21.1
11 27	4 37.22	+40 11.7	1.935	2.883	6.7	18.8	11 27	4 36.35	+21 41.2	2.092	3.076	1.8	20.9
12 7	4 26.25	+39 50.3	1.926	2.878	6.2	18.8	12 7	4 27.34	+20 54.5	2.092	3.073	2.1	20.9
12 17	4 16.00	+39 10.2	1.945	2.874	7.9	18.9	12 17	4 18.90	+20 8.3	2.122	3.070	6.0	21.1
12 27	4 7.71	+38 16.9	1.991	2.869	10.6	19.1	12 27	4 11.93	+19 26.2	2.181	3.067	9.5	21.4
1 6	4 2.19	+37 17.2	2.061	2.865	13.4	19.2	1 6	4 7.01	+18 51.3	2.263	3.063	12.5	21.5
305049	2007 UZ ₂₃	12	1.7 319°65	1°9/	1.2	18	134870	2000 QQ ₈₂	12	1.7 58°53	4°2/	3.6	18
10 28	4 57.34	+18 21.8	1.557	2.401	15.6	20.7	10 28	4 58.58	+36 8.4	2.546	3.331	12.0	19.8
11 7	4 52.98	+18 3.4	1.474	2.386	11.8	20.5	11 7	4 53.05	+36 28.9	2.467	3.334	9.6	19.6
11 17	4 45.83	+17 43.2	1.413	2.373	7.4	20.2	11 17	4 45.46	+36 38.2	2.411	3.337	7.0	19.4
11 27	4 36.69	+17 22.9	1.377	2.359	2.9	19.9	11 27	4 36.51	+36 33.9	2.382	3.340	4.8	19.3
12 7	4 26.81	+17 4.9	1.368	2.346	3.6	19.9	12 7	4 27.15	+36 15.8	2.382	3.344	4.4	19.3
12 17	4 17.55	+16 52.2	1.386	2.334	8.4	20.1	12 17	4 18.38	+35 45.6	2.411	3.347	6.2	19.4
12 27	4 10.23	+16 47.7	1.429	2.322	12.9	20.4	12 27	4 11.11	+35 6.9	2.469	3.350	8.7	19.6
1 6	4 5.71	+16 53.0	1.493	2.311	16.9	20.6	1 6	4 5.98	+34 24.4	2.551	3.353	11.2	19.8
35988	1999 NO ₉	12	1.7 27°40	3°0/	2.9	18	485944	2012 HR ₃₈	12	1.7 206°23	3°9/30.1	18	
10 28	4 59.37	+31 35.6	1.983	2.794	14.0	18.0	10 28	4 55.62	+ 8 12.7	2.825	3.634	10.3	22.1
11 7	4 53.99	+31 34.7	1.907	2.796	10.9	17.8	11 7	4 50.37	+ 7 47.8	2.742	3.629	8.0	22.0
11 17	4 46.16	+31 22.2	1.853	2.798	7.3	17.6	11 17	4 43.62	+ 7 27.4	2.685	3.624	5.7	21.8
11 27	4 36.73	+30 56.8	1.825	2.800	4.0	17.4	11 27	4 35.89	+ 7 13.8	2.656	3.618	4.1	21.7
12 7	4 26.85	+30 19.1	1.827	2.802	3.5	17.4	12 7	4 27.84	+ 7 8.9	2.658	3.612	4.5	21.7
12 17	4 17.74	+29 32.4	1.856	2.804	6.6	17.6	12 17	4 20.17	+ 7 13.6	2.690	3.606	6.6	21.8
12 27	4 10.45	+28 41.8	1.914	2.807	10.2	17.8	12 27	4 13.53	+ 7 28.4	2.749	3.599	9.0	22.0
1 6	4 5.70	+27 52.7	1.995	2.810	13.3	18.0	1 6	4 8.42	+ 7 52.8	2.833	3.592	11.2	22.1
46912	1998 RY ₇₂	12	1.7 354°58	1°7/	1.2	18	298551	2003 WV ₁₄₉	12	1.7 9°57	4°1/29.5	18	
10 28	4 57.40	+19 13.4	1.516	2.36									

EPHEMERIDES

12 1.7

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
267765	2003 <i>QC</i> ₅₈	12	1.7	20°03	9°0/ 5.0	17	318390	2004 <i>XU</i> ₄₃	12	1.7	63°19	0°0/ 1.7	17
10 28	5 2.57	+43 54.2	1.736	2.511	17.1	19.6	10 28	5 5.78	+20 57.5	1.158	2.005	19.6	20.7
11 7	4 57.32	+44 57.6	1.673	2.519	14.4	19.4	11 7	4 59.67	+21 13.2	1.111	2.025	14.7	20.5
11 17	4 48.66	+45 41.1	1.630	2.528	11.7	19.3	11 17	4 49.99	+21 25.9	1.084	2.045	9.0	20.2
11 27	4 37.64	+45 58.0	1.610	2.537	9.6	19.2	11 27	4 38.04	+21 34.4	1.081	2.065	2.9	19.9
12 7	4 25.91	+45 45.7	1.615	2.547	9.0	19.2	12 7	4 25.66	+21 39.0	1.104	2.085	3.2	20.0
12 17	4 15.25	+45 6.2	1.646	2.558	10.3	19.3	12 17	4 14.70	+21 41.8	1.152	2.106	9.0	20.4
12 27	4 7.20	+44 6.9	1.700	2.570	12.6	19.4	12 27	4 6.66	+21 46.5	1.225	2.126	14.0	20.8
1 6	4 2.62	+42 57.1	1.777	2.582	15.1	19.6	1 6	4 2.29	+21 55.9	1.318	2.147	18.1	21.1
199345	2006 <i>BS</i> ₁₅₈	12	1.7	60°05	0°4/ 1.8	18	242	<i>Kriemhild</i>	12	1.7	313°14	4°4/29.8	18
10 28	5 3.29	+22 52.9	1.396	2.234	17.4	20.3	10 28	4 55.74	+13 20.4	1.846	2.682	13.9	13.6
11 7	4 57.33	+23 0.5	1.346	2.255	13.0	20.1	11 7	4 51.24	+12 14.9	1.765	2.671	10.6	13.3
11 17	4 48.33	+23 2.7	1.317	2.276	8.0	19.8	11 17	4 44.51	+11 9.3	1.708	2.660	7.2	13.1
11 27	4 37.45	+22 59.1	1.313	2.297	2.7	19.6	11 27	4 36.26	+10 8.1	1.677	2.649	4.6	12.9
12 7	4 26.21	+22 50.5	1.337	2.318	2.8	19.7	12 7	4 27.52	+9 16.2	1.674	2.639	5.5	13.0
12 17	4 16.16	+22 39.6	1.387	2.339	7.9	20.0	12 17	4 19.35	+8 37.6	1.699	2.628	8.8	13.1
12 27	4 8.57	+22 30.3	1.463	2.361	12.4	20.3	12 27	4 12.77	+8 15.1	1.750	2.619	12.4	13.3
1 6	4 4.13	+22 25.8	1.560	2.382	16.1	20.6	1 6	4 8.45	+8 9.2	1.822	2.609	15.5	13.5
158368	2001 <i>XM</i> ₁₆₁	12	1.7	304°51	1°2/ 1.4	18	479475	2014 <i>AC</i> ₆	12	1.7	255°58	1°4/ 2.1	18
10 28	5 0.66	+19 2.5	1.570	2.407	15.8	20.2	10 28	5 2.75	+25 8.2	1.724	2.548	15.2	21.7
11 7	4 55.38	+19 1.2	1.494	2.403	12.0	20.0	11 7	4 57.04	+25 21.5	1.634	2.534	11.7	21.4
11 17	4 47.27	+18 58.6	1.441	2.400	7.4	19.7	11 17	4 48.39	+25 28.9	1.566	2.521	7.4	21.1
11 27	4 37.18	+18 55.3	1.413	2.396	2.6	19.4	11 27	4 37.62	+25 28.4	1.525	2.507	2.9	20.8
12 7	4 26.41	+18 52.5	1.413	2.393	3.1	19.5	12 7	4 25.97	+25 20.0	1.512	2.492	2.8	20.8
12 17	4 16.39	+18 52.1	1.441	2.390	8.0	19.7	12 17	4 14.92	+25 5.5	1.527	2.477	7.5	21.0
12 27	4 8.41	+18 56.6	1.494	2.387	12.5	20.0	12 27	4 5.85	+24 48.7	1.569	2.462	12.0	21.3
1 6	4 3.31	+19 7.7	1.569	2.384	16.4	20.2	1 6	3 59.69	+24 34.1	1.633	2.447	15.9	21.5
103205	1999 <i>XJ</i> ₂₅₂	12	1.7	275°90	0°7/ 1.5	18	282272	2002 <i>NT</i> ₇₅	12	1.7	1°68	1°8/30.9	17
10 28	4 56.90	+20 25.5	2.317	3.139	11.9	20.0	10 28	4 55.45	+19 22.9	1.965	2.799	13.2	20.3
11 7	4 51.84	+20 16.7	2.222	3.124	8.9	19.8	11 7	4 50.87	+18 39.7	1.890	2.798	9.9	20.1
11 17	4 44.77	+20 5.2	2.152	3.108	5.5	19.6	11 17	4 44.18	+17 52.8	1.840	2.798	6.2	19.8
11 27	4 36.33	+19 51.8	2.109	3.093	1.9	19.3	11 27	4 36.14	+17 4.9	1.816	2.798	2.5	19.6
12 7	4 27.36	+19 37.5	2.097	3.077	2.3	19.3	12 7	4 27.72	+16 19.1	1.821	2.799	3.2	19.7
12 17	4 18.80	+19 24.3	2.114	3.061	6.0	19.5	12 17	4 19.93	+15 39.1	1.855	2.800	7.0	19.9
12 27	4 11.56	+19 14.3	2.160	3.045	9.6	19.7	12 27	4 13.71	+15 8.1	1.916	2.801	10.6	20.1
1 6	4 6.31	+19 9.4	2.229	3.029	12.6	19.9	1 6	4 9.66	+14 48.0	2.000	2.803	13.8	20.3
230260	2001 <i>WT</i> ₃₃	12	1.7	296°39	2°1/ 1.1	18	426413	2013 <i>QL</i> ₂	12	1.7	121°35	2°9/ 2.7	17
10 28	4 59.31	+18 4.3	1.528	2.369	16.0	20.2	10 28	5 5.89	+30 0.4	1.427	2.250	17.8	21.8
11 7	4 54.51	+17 43.1	1.445	2.356	12.1	19.9	11 7	4 59.61	+29 58.0	1.361	2.259	13.8	21.5
11 17	4 46.82	+17 20.0	1.384	2.343	7.6	19.6	11 17	4 49.95	+29 41.9	1.316	2.267	9.0	21.3
11 27	4 37.06	+16 56.9	1.349	2.331	3.1	19.3	11 27	4 38.07	+29 9.9	1.296	2.274	4.3	21.0
12 7	4 26.52	+16 36.6	1.340	2.318	3.8	19.3	12 7	4 25.65	+28 23.5	1.303	2.282	3.8	21.0
12 17	4 16.64	+16 22.0	1.358	2.306	8.6	19.6	12 17	4 14.43	+27 27.7	1.338	2.289	8.3	21.3
12 27	4 8.77	+16 16.3	1.402	2.294	13.3	19.8	12 27	4 5.86	+26 30.1	1.398	2.296	12.9	21.6
1 6	4 3.82	+16 21.2	1.467	2.282	17.3	20.0	1 6	4 0.75	+25 38.0	1.480	2.302	16.8	21.9
184665	2005 <i>SX</i> ₅₅	12	1.7	113°93	1°0/ 1.4	17	335474	2005 <i>WS</i> ₀₄	12	1.7	38°82	1°6/ 1.4	18
10 28	4 58.21	+20 5.8	2.090	2.916	12.9	21.4	10 28	5 1.25	+18 16.6	1.179	2.032	18.9	20.0
11 7	4 52.80	+19 49.6	2.017	2.921	9.6	21.2	11 7	4 56.17	+18 18.9	1.132	2.049	14.1	19.7
11 17	4 45.31	+19 30.6	1.968	2.925	5.9	21.0	11 17	4 47.80	+18 21.2	1.106	2.067	8.7	19.5
11 27	4 36.48	+19 9.9	1.947	2.930	2.1	20.7	11 27	4 37.35	+18 24.1	1.103	2.086	3.1	19.2
12 7	4 27.27	+18 49.3	1.955	2.935	2.5	20.8	12 7	4 26.49	+18 28.8	1.126	2.106	3.7	19.3
12 17	4 18.70	+18 31.0	1.993	2.939	6.4	21.0	12 17	4 16.89	+18 37.2	1.174	2.126	9.0	19.7
12 27	4 11.67	+18 17.5	2.058	2.944	10.0	21.3	12 27	4 9.94	+18 51.1	1.245	2.147	13.8	20.0
1 6	4 6.81	+18 10.6	2.147	2.948	13.0	21.5	1 6	4 6.35	+19 11.8	1.338	2.168	17.8	20.3
403297	2009 <i>BF</i> ₁₁₆	12	1.7	244°85	3°3/30.8	18	127508	2002 <i>TU</i> ₂₁₆	12	1.7	316°40	4°9/30.4	18
10 28	4 59.34	+13 46.0	1.836	2.665	14.2	21.3	10 28	4 56.59	+6 14.7	2.273	3.088	12.3	19.5
11 7	4 53.95	+13 27.8	1.757	2.661	10.8	21.0	11 7	4 51.44	+6 3.0	2.196	3.084	9.7	19.3
11 17	4 46.19	+13 12.1	1.702	2.656	7.0	20.8	11 17	4 44.46	+5 59.1	2.142	3.080	7.0	19.1
11 27	4 36.81	+13 1.2	1.674	2.651	3.7	20.6	11 27	4 36.24	+6 5.7	2.116	3.076	5.1	19.0
12 7	4 26.88	+12 57.1	1.674	2.646	4.3	20.6	12 7	4 27.62	+6 24.2	2.118	3.072	5.5	19.0
12 17	4 17.56	+13 1.6	1.702	2.641	8.0	20.8	12 17	4 19.46	+6 55.1	2.150	3.069	7.9	19.2
12 27	4 9.91	+13 15.8	1.757	2.636	11.8	21.0	12 27	4 12.58	+7 37.5	2.208	3.065	10.6	19.3
1 6	4 4.68	+13 39.7	1.834	2.630	15.1	21.3	1 6	4 7.59	+8 29.9	2.290	3.062	13.2	19.5
107720	2001 <i>FR</i> ₂₃	12	1.7	213°35	5°9/29.2	18	224599	2005 <i>YE</i> ₂₄	12	1.7	187°94	0°7/ 1.5	18
10 28	4 57.98	+5 25.5	2.323	3.132	12.3	20.4	10 28	4 57.46	+20 37.7	2.214	3.038	12.3	21.0
11 7	4 52.42	+4 29.4	2.243	3.124	9.8	20.3	11 7	4 52.22	+20 26.2	2.135	3.038	9.2	20.8
11 17	4 45.02	+3 39.4	2.187	3.117	7.4	20.1	11 17	4 44.98	+20 11.8	2.081	3.038	5.7	20.6
11 27	4 36.39	+2 59.6	2.159	3.108	6.0	20.0	11 27	4 36.41	+19 55.2	2.054	3.037	1.9	20.3
12 7	4 27.36	+2 33.6	2.160	3.099	6.6	20.0	12 7	4 27.45	+19 38.0	2.057	3.037	2.3	20.3
12 17	4 18.80	+2 23.6	2.189	3.089	8.8	20.1	12 17	4 19.03	+19 22.1	2.089	3.037	6.1	20.6
12 27	4 11.52	+2 30.0	2.245	3.079	11.4	20.3	12 27	4 12.06	+19 9.8	2.150	3.036	9.6	20.8
1 6	4 6.11	+2 51.8	2.324	3.068	13.8	20.5	1 6	4 7.14	+19 3.2	2.235	3.036	12.6	21.0
101647	1999 <i>CP</i> ₅₇	12	1.7	343°40	9°8/28.5	17	54806	2001 <i>MX</i> ₂₂	12	1.7	168°91	4°7/ 4.5	18
10 28	4												

EPHEMERIDES

12 1.7

12 1.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
384923	2012 <i>TX</i> ₈₂	12	1.7 259°52	0°0/ 1.8 18			485946	2012 <i>HE</i> ₄₅	12	1.7 164°04	0°8/ 1.4 17		
10 28	5 1.12	+23 14.7	1.735	2.563	15.0	21.2	10 28	4 56.48	+19 44.3	2.729	3.544	10.5	22.5
11 7	4 55.68	+23 3.9	1.646	2.550	11.4	20.9	11 7	4 51.11	+19 30.1	2.649	3.548	7.8	22.3
11 17	4 47.47	+22 46.9	1.580	2.537	7.1	20.6	11 17	4 44.14	+19 13.8	2.596	3.551	4.8	22.1
11 27	4 37.31	+22 23.8	1.541	2.524	2.4	20.3	11 27	4 36.14	+18 56.3	2.571	3.554	1.7	21.9
12 7	4 26.42	+21 56.1	1.530	2.511	2.6	20.3	12 7	4 27.85	+18 38.9	2.578	3.557	2.1	22.0
12 17	4 16.14	+21 26.8	1.547	2.497	7.5	20.6	12 17	4 20.01	+18 23.3	2.615	3.559	5.2	22.2
12 27	4 7.78	+21 0.2	1.591	2.483	11.9	20.8	12 27	4 13.34	+18 11.2	2.681	3.561	8.1	22.4
1 6	4 2.18	+20 40.0	1.657	2.469	15.8	21.0	1 6	4 8.34	+18 4.2	2.772	3.563	10.7	22.5
513588	2011 <i>CP</i> ₂₇	12	1.7 343°51	4°6/ 2.8 18			339043	2004 <i>JH</i> ₃₄	12	1.7 130°04	1°8/ 1.2 18		
10 28	4 59.72	+30 17.8	1.145	1.992	19.8	21.3	10 28	5 3.35	+17 9.9	1.913	2.733	14.1	21.4
11 7	4 56.02	+30 52.6	1.074	1.984	15.5	21.0	11 7	4 56.70	+17 0.6	1.848	2.748	10.6	21.2
11 17	4 48.33	+31 14.8	1.022	1.976	10.6	20.7	11 17	4 47.75	+16 51.1	1.808	2.763	6.6	21.0
11 27	4 37.71	+31 19.3	0.993	1.969	5.8	20.4	11 27	4 37.34	+16 42.6	1.795	2.777	2.6	20.8
12 7	4 25.98	+31 4.2	0.987	1.963	5.3	20.4	12 7	4 26.58	+16 36.3	1.812	2.790	3.2	20.8
12 17	4 15.29	+30 32.6	1.005	1.959	9.9	20.6	12 17	4 16.61	+16 34.1	1.859	2.802	7.1	21.1
12 27	4 7.55	+29 52.2	1.045	1.955	15.0	20.9	12 27	4 8.45	+16 37.6	1.933	2.814	10.8	21.4
1 6	4 3.86	+29 11.5	1.105	1.953	19.5	21.2	1 6	4 2.72	+16 48.0	2.031	2.825	13.9	21.6
331844	2003 <i>UT</i> ₂₁₆	12	1.7 353°42	5°0/ 29.2 17			446639	2015 <i>MS</i> ₁₂₀	12	1.7 71°26	8°3/ 29.5 18		
10 28	4 53.95	+14 3.2	1.699	2.543	14.5	19.6	10 28	4 58.87	+1 44.0	1.727	2.543	15.5	21.2
11 7	4 49.99	+12 27.3	1.628	2.538	11.1	19.4	11 7	4 53.35	+0 43.8	1.681	2.562	12.6	21.0
11 17	4 43.75	+10 49.5	1.580	2.533	7.5	19.2	11 17	4 45.64	-0 3.2	1.658	2.580	9.9	20.9
11 27	4 36.04	+9 16.2	1.558	2.529	5.1	19.0	11 27	4 36.63	-0 31.4	1.659	2.598	8.3	20.9
12 7	4 27.91	+7 54.4	1.565	2.526	6.2	19.1	12 7	4 27.39	-0 37.7	1.687	2.617	8.9	20.9
12 17	4 20.48	+6 49.6	1.598	2.524	9.5	19.3	12 17	4 18.98	-0 21.2	1.740	2.635	11.0	21.1
12 27	4 14.72	+6 5.5	1.657	2.523	13.1	19.5	12 27	4 12.35	+0 16.1	1.818	2.653	13.6	21.3
1 6	4 11.30	+5 42.4	1.736	2.523	16.2	19.7	1 6	4 8.04	+1 10.3	1.917	2.671	16.0	21.5
182662	2001 <i>UG</i> ₂₀₃	12	1.7 278°25	0°7/ 1.9 18			255576	2006 <i>KU</i> ₁₂₀	12	1.7 111°31	2°6/ 1.2 15		
10 28	4 59.11	+24 38.0	1.963	2.786	13.7	20.6	10 28	5 5.53	+16 3.0	1.515	2.345	16.6	21.1
11 7	4 53.77	+24 34.7	1.883	2.784	10.3	20.4	11 7	4 58.77	+15 50.9	1.458	2.363	12.5	20.9
11 17	4 46.08	+24 25.4	1.828	2.783	6.5	20.1	11 17	4 49.19	+15 40.0	1.424	2.380	7.9	20.7
11 27	4 36.81	+24 9.7	1.799	2.782	2.3	19.9	11 27	4 37.82	+15 31.9	1.416	2.397	3.4	20.5
12 7	4 27.04	+23 48.7	1.799	2.780	2.3	19.9	12 7	4 26.08	+15 28.3	1.436	2.413	4.0	20.6
12 17	4 17.91	+23 24.9	1.828	2.779	6.5	20.1	12 17	4 15.40	+15 31.0	1.485	2.428	8.4	20.9
12 27	4 10.49	+23 1.7	1.885	2.777	10.4	20.4	12 27	4 6.98	+15 41.6	1.559	2.443	12.7	21.2
1 6	4 5.48	+22 42.5	1.965	2.776	13.7	20.6	1 6	4 1.53	+16 0.8	1.655	2.457	16.2	21.4
145019	2005 <i>EB</i> ₂₅₀	12	1.7 69°25	3°2/ 30.9 18			353981	2000 <i>ER</i> ₉	12	1.7 221°31	2°2/ 30.8 18		
10 28	5 0.69	+14 28.0	1.652	2.486	15.3	19.3	10 28	4 58.77	+16 7.6	2.461	3.277	11.5	22.2
11 7	4 54.88	+14 5.6	1.600	2.506	11.5	19.1	11 7	4 53.04	+15 40.0	2.369	3.266	8.7	22.0
11 17	4 46.65	+13 45.6	1.571	2.526	7.4	18.9	11 17	4 45.46	+15 11.9	2.302	3.255	5.5	21.8
11 27	4 36.95	+13 30.4	1.568	2.546	3.7	18.8	11 27	4 36.61	+14 44.8	2.265	3.244	2.6	21.6
12 7	4 26.98	+13 22.3	1.593	2.567	4.3	18.8	12 7	4 27.33	+14 20.9	2.258	3.231	3.2	21.6
12 17	4 17.93	+13 22.8	1.646	2.587	8.1	19.1	12 17	4 18.47	+14 2.4	2.281	3.218	6.4	21.8
12 27	4 10.84	+13 33.2	1.725	2.607	11.8	19.4	12 27	4 10.88	+13 51.0	2.333	3.205	9.6	22.0
1 6	4 6.31	+13 53.1	1.827	2.627	15.0	19.6	1 6	4 5.15	+13 48.1	2.410	3.191	12.4	22.2
183721	2003 <i>YN</i> ₈₄	12	1.7 295°98	2°8/ 30.9 18			73324	2002 <i>JX</i> ₉₉	12	1.7 266°31	7°9/ 28.8 18		
10 28	4 58.67	+15 25.7	1.744	2.579	14.6	20.0	10 28	4 57.66	+3 59.7	1.775	2.597	15.0	19.7
11 7	4 53.64	+15 9.0	1.664	2.571	11.1	19.7	11 7	4 52.71	+2 47.2	1.703	2.589	12.1	19.5
11 17	4 46.12	+14 53.3	1.607	2.563	7.1	19.5	11 17	4 45.45	+1 43.3	1.653	2.581	9.4	19.3
11 27	4 36.86	+14 40.9	1.575	2.555	3.4	19.3	11 27	4 36.64	+0 54.4	1.628	2.574	7.9	19.2
12 7	4 26.99	+14 33.9	1.572	2.547	4.0	19.3	12 7	4 27.33	+0 25.5	1.631	2.566	8.7	19.2
12 17	4 17.72	+14 34.2	1.597	2.540	8.0	19.5	12 17	4 18.61	+0 19.5	1.659	2.558	11.2	19.3
12 27	4 10.20	+14 43.4	1.648	2.532	12.1	19.7	12 27	4 11.54	+0 36.4	1.712	2.550	14.1	19.5
1 6	4 5.21	+15 2.1	1.721	2.525	15.6	19.9	1 6	4 6.80	+1 13.6	1.784	2.542	16.9	19.7
105568	2000 <i>RN</i> ₆₄	12	1.7 95°46	1°1/ 1.4 18			273223	2006 <i>JZ</i> ₅₁	12	1.7 307°41	5°8/ 29.0 17		
10 28	4 58.48	+19 48.3	2.042	2.868	13.1	19.7	10 28	4 54.43	+5 46.5	2.305	3.122	12.1	21.2
11 7	4 53.04	+19 31.8	1.973	2.876	9.8	19.5	11 7	4 49.79	+4 46.5	2.232	3.119	9.6	21.0
11 17	4 45.49	+19 12.9	1.927	2.884	6.0	19.3	11 17	4 43.42	+3 52.6	2.184	3.116	7.3	20.9
11 27	4 36.59	+18 52.5	1.908	2.891	2.1	19.1	11 27	4 35.94	+3 9.0	2.163	3.113	5.9	20.8
12 7	4 27.34	+18 32.6	1.920	2.899	2.6	19.1	12 7	4 28.12	+2 39.2	2.170	3.110	6.5	20.8
12 17	4 18.75	+18 15.3	1.960	2.906	6.5	19.4	12 17	4 20.78	+2 25.5	2.205	3.107	8.6	21.0
12 27	4 11.75	+18 3.2	2.028	2.914	10.1	19.6	12 27	4 14.68	+2 28.4	2.266	3.104	11.1	21.1
1 6	4 6.96	+17 57.8	2.119	2.921	13.1	19.8	1 6	4 10.36	+2 46.6	2.349	3.101	13.5	21.3
100003	1983 <i>RN</i> ₃	12	1.7 91°85	2°2/ 2.5 18			368010	2012 <i>FW</i> ₅₉	12	1.7 213°64	1°7/ 1.3 17		
10 28	5 6.63	+28 24.4	1.630	2.446	16.3	19.6	10 28	4 58.29	+15 49.3	2.258	3.080	12.2	20.4
11 7	4 59.50	+28 23.5	1.577	2.472	12.4	19.4	11 7	4 52.81	+15 57.1	2.179	3.079	9.2	20.2
11 17	4 49.54	+28 11.7	1.547	2.498	7.9	19.2	11 17	4 45.36	+16 6.7	2.124	3.079	5.8	20.0
11 27	4 37.89	+27 48.0	1.543	2.523	3.5	19.0	11 27	4 36.60	+16 18.6	2.097	3.078	2.4	19.8
12 7	4 26.00	+27 13.9	1.568	2.547	3.1	19.0	12 7	4 27.38	+16 33.2	2.100	3.078	2.8	19.8
12 17	4 15.33	+26 33.3	1.621	2.571	7.2	19.3	12 17	4 18.66	+16 51.3	2.134	3.077	6.3	20.1
12 27	4 7.04	+25 52.0	1.701	2.594	11.3	19.6	12 27	4 11.31	+17 13.4	2.195	3.076	9.6	20.3
1 6	4 1.77	+25 15.2	1.805	2.617	14.7	19.9	1 6	4 5.96	+17 40.0	2.281	3.076	12.5	20.5
96944	1999 <i>TK</i> ₁₆₁	12	1.7 67°11	0°0/ 1.5 18			483091	2015 <i>MG</i> ₇₂	12	1.7 60°93	5°7/ 30.3 18		</

EPHEMERIDES

12 1.7

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
48006	2001 <i>BF</i> ₆₇	12	1.7 268°13	4°1/30.3	18		16814	1997 <i>UY</i> ₈	12	1.8 73°39	0°9/1.9	18	
10 28	5 0.65	+14 52.3	1.561	2.398	15.9	19.3	10 28	5 7.66	+23 8.0	1.256	2.094	19.0	17.9
11 7	4 55.50	+13 59.8	1.473	2.381	12.2	19.1	11 7	5 0.91	+23 30.2	1.210	2.118	14.3	17.6
11 17	4 47.48	+13 5.9	1.407	2.362	8.0	18.8	11 17	4 50.73	+23 46.9	1.184	2.142	8.8	17.4
11 27	4 37.38	+12 14.6	1.367	2.344	4.5	18.5	11 27	4 38.38	+23 56.1	1.183	2.166	3.1	17.2
12 7	4 26.47	+11 30.9	1.355	2.325	5.5	18.5	12 7	4 25.68	+23 57.7	1.209	2.190	3.1	17.2
12 17	4 16.16	+10 59.4	1.369	2.306	9.7	18.7	12 17	4 14.39	+23 54.2	1.261	2.213	8.5	17.6
12 27	4 7.80	+10 43.6	1.409	2.287	14.2	18.9	12 27	4 5.95	+23 49.9	1.338	2.237	13.3	18.0
1 6	4 2.29	+10 44.5	1.469	2.267	18.1	19.2	1 6	4 1.08	+23 48.9	1.437	2.260	17.2	18.3
78888	2003 <i>SC</i> ₃₃	12	1.7 68°85	0°6/1.5	18		514040	2014 <i>MQ</i> ₁₇	12	1.8 166°50	9°8/27.8	18	
10 28	4 58.27	+20 39.4	2.126	2.950	12.7	19.7	10 28	4 58.55	-11 54.8	2.635	3.374	12.8	22.6
11 7	4 52.76	+20 32.8	2.065	2.967	9.5	19.6	11 7	4 52.58	-12 55.4	2.579	3.379	11.4	22.5
11 17	4 45.26	+20 23.6	2.028	2.984	5.8	19.4	11 17	4 45.03	-13 39.5	2.546	3.385	10.2	22.4
11 27	4 36.53	+20 12.5	2.019	3.002	1.9	19.1	11 27	4 36.48	-14 2.1	2.538	3.389	9.8	22.4
12 7	4 27.53	+20 0.6	2.039	3.019	2.3	19.2	12 7	4 27.68	-14 0.7	2.556	3.393	10.1	22.4
12 17	4 19.22	+19 49.8	2.089	3.037	6.0	19.5	12 17	4 19.39	-13 34.9	2.598	3.396	11.1	22.5
12 27	4 12.47	+19 42.3	2.167	3.054	9.4	19.7	12 27	4 12.31	-12 46.7	2.664	3.398	12.5	22.6
1 6	4 7.83	+19 39.7	2.269	3.072	12.3	20.0	1 6	4 6.93	-11 39.9	2.750	3.400	13.9	22.7
110316	2001 <i>SZ</i> ₂₇₉	12	1.7 5°81	1°7/1.2	18		187108	2005 <i>QT</i> ₄₈	12	1.8 90°41	0°6/1.6	18	
10 28	4 57.41	+18 58.1	1.724	2.562	14.6	19.1	10 28	5 4.73	+20 49.2	1.559	2.388	16.3	20.5
11 7	4 52.66	+18 32.6	1.653	2.562	11.0	18.9	11 7	4 58.16	+20 46.7	1.505	2.410	12.2	20.3
11 17	4 45.47	+18 4.7	1.604	2.562	6.8	18.7	11 17	4 48.81	+20 40.8	1.473	2.430	7.5	20.1
11 27	4 36.66	+17 36.2	1.581	2.563	2.6	18.4	11 27	4 37.74	+20 31.8	1.467	2.451	2.4	19.8
12 7	4 27.38	+17 9.8	1.586	2.565	3.2	18.5	12 7	4 26.35	+20 21.0	1.490	2.471	2.8	19.9
12 17	4 18.82	+16 48.3	1.619	2.566	7.5	18.7	12 17	4 16.04	+20 10.9	1.541	2.491	7.6	20.3
12 27	4 12.05	+16 34.7	1.678	2.568	11.6	19.0	12 27	4 7.98	+20 4.5	1.619	2.510	11.8	20.6
1 6	4 7.78	+16 30.6	1.760	2.571	15.0	19.2	1 6	4 2.84	+20 4.3	1.719	2.529	15.4	20.8
517234	2014 <i>CE</i> ₂	12	1.7 256°81	0°4/1.6	18		199244	2006 <i>AK</i> ₉₁	12	1.8 85°23	4°2/30.7	18	
10 28	5 1.18	+21 56.0	1.710	2.540	15.1	22.1	10 28	5 1.29	+12 18.6	1.602	2.434	15.8	21.0
11 7	4 55.75	+21 41.9	1.623	2.528	11.4	21.9	11 7	4 55.48	+11 50.3	1.545	2.449	12.0	20.8
11 17	4 47.55	+21 22.7	1.558	2.516	7.1	21.6	11 17	4 47.13	+11 26.4	1.511	2.463	7.9	20.6
11 27	4 37.40	+20 58.7	1.520	2.504	2.3	21.3	11 27	4 37.20	+11 9.9	1.503	2.477	4.6	20.5
12 7	4 26.53	+20 31.9	1.511	2.491	2.7	21.3	12 7	4 26.92	+11 3.5	1.522	2.491	5.2	20.5
12 17	4 16.29	+20 5.3	1.529	2.479	7.6	21.5	12 17	4 17.55	+11 8.7	1.569	2.505	8.8	20.8
12 27	4 7.96	+19 42.8	1.574	2.466	12.1	21.8	12 27	4 10.16	+11 26.0	1.642	2.519	12.6	21.0
1 6	4 2.40	+19 27.8	1.642	2.453	15.9	22.0	1 6	4 5.42	+11 54.6	1.736	2.532	15.8	21.3
182964	2002 <i>JE</i> ₁₃₈	12	1.7 189°04	0°0/1.7	17		40066	1998 <i>KF</i> ₅₁	12	1.8 295°47	5°6/29.1	18	
10 28	5 4.01	+23 3.1	1.674	2.499	15.6	21.8	10 28	4 57.74	+12 44.3	1.635	2.473	15.2	17.7
11 7	4 57.81	+22 54.5	1.596	2.499	11.8	21.5	11 7	4 53.04	+11 12.1	1.555	2.461	11.8	17.4
11 17	4 48.76	+22 39.9	1.541	2.498	7.3	21.3	11 17	4 45.80	+9 38.3	1.498	2.448	8.2	17.2
11 27	4 37.77	+22 19.4	1.513	2.496	2.4	21.0	11 27	4 36.83	+8 9.6	1.468	2.436	5.7	17.0
12 7	4 26.16	+21 54.3	1.513	2.494	2.7	21.0	12 7	4 27.27	+6 52.9	1.465	2.424	6.9	17.1
12 17	4 15.36	+21 27.8	1.542	2.492	7.6	21.3	12 17	4 18.38	+5 54.4	1.489	2.411	10.3	17.2
12 27	4 6.64	+21 4.1	1.598	2.489	12.0	21.5	12 27	4 11.29	+5 17.8	1.537	2.399	14.1	17.4
1 6	4 0.81	+20 46.8	1.676	2.485	15.7	21.8	1 6	4 6.77	+5 3.3	1.606	2.388	17.5	17.6
84999	2003 <i>YM</i> ₁₂₃	12	1.7 15°66	2°8/1.1	18		128218	2003 <i>SX</i> ₇₉	12	1.8 75°57	1°9/2.5	18	
10 28	4 55.45	+17 16.2	1.152	2.016	18.5	18.6	10 28	4 59.27	+28 26.3	2.196	3.007	12.8	19.9
11 7	4 51.98	+16 50.9	1.101	2.024	13.9	18.3	11 7	4 53.59	+28 27.0	2.131	3.023	9.8	19.7
11 17	4 45.34	+16 25.6	1.070	2.033	8.7	18.1	11 17	4 45.83	+28 19.5	2.089	3.038	6.3	19.5
11 27	4 36.65	+16 3.4	1.062	2.044	3.7	17.8	11 27	4 36.76	+28 3.1	2.075	3.054	2.9	19.3
12 7	4 27.47	+15 47.7	1.079	2.057	4.5	17.9	12 7	4 27.40	+27 38.8	2.091	3.069	2.6	19.3
12 17	4 19.40	+15 41.4	1.120	2.071	9.5	18.3	12 17	4 18.76	+27 9.0	2.136	3.085	5.8	19.6
12 27	4 13.78	+15 46.8	1.184	2.087	14.2	18.6	12 27	4 11.75	+26 37.3	2.209	3.100	9.1	19.8
1 6	4 11.33	+16 3.8	1.267	2.104	18.2	18.9	1 6	4 6.95	+26 7.5	2.307	3.115	12.0	20.0
484387	2007 <i>VB</i> ₃₁₃	12	1.7 315°48	0°1/1.7	17		142582	2002 <i>TE</i> ₉₅	12	1.8 5°92	1°2/2.1	18	
10 28	4 58.25	+23 17.7	1.664	2.499	15.2	21.7	10 28	5 0.09	+25 34.6	1.794	2.620	14.7	20.3
11 7	4 53.57	+22 55.0	1.581	2.489	11.5	21.5	11 7	4 54.76	+25 37.7	1.718	2.620	11.1	20.1
11 17	4 46.19	+22 25.3	1.521	2.480	7.1	21.2	11 17	4 46.83	+25 33.8	1.665	2.620	7.0	19.8
11 27	4 36.95	+21 49.4	1.487	2.470	2.3	20.9	11 27	4 37.16	+25 22.1	1.638	2.620	2.7	19.6
12 7	4 27.06	+21 9.8	1.480	2.461	2.7	20.9	12 7	4 26.93	+25 3.5	1.640	2.621	2.6	19.5
12 17	4 17.86	+20 30.3	1.501	2.452	7.5	21.2	12 17	4 17.43	+24 40.3	1.670	2.621	6.9	19.8
12 27	4 10.59	+19 55.5	1.548	2.444	12.0	21.4	12 27	4 9.82	+24 16.7	1.726	2.621	11.0	20.1
1 6	4 6.03	+19 29.2	1.617	2.436	15.8	21.6	1 6	4 4.86	+23 56.4	1.806	2.622	14.5	20.3
328061	2007 <i>UL</i> ₄₈	12	1.8 341°76	0°4/1.7	18		81781	2000 <i>JA</i> ₇₄	12	1.8 174°23	3°3/30.2	18	R
10 28	5 0.85	+20 44.4	1.162	2.016	19.0	20.9	10 28	4 58.08	+14 34.1	2.214	3.036	12.3	19.8
11 7	4 56.48	+20 51.5	1.093	2.011	14.5	20.6	11 7	4 52.59	+13 40.6	2.138	3.038	9.4	19.6
11 17	4 48.45	+20 55.8	1.044	2.006	9.0	20.3	11 17	4 45.19	+12 46.9	2.088	3.039	6.1	19.4
11 27	4 37.78	+20 57.2	1.018	2.002	3.0	20.0	11 27	4 36.57	+11 56.1	2.066	3.040	3.5	19.2
12 7	4 26.16	+20 56.4	1.017	1.998	3.4	20.0	12 7	4 27.62	+11 11.9	2.073	3.041	4.2	19.3
12 17	4 15.51	+20 55.6	1.040	1.995	9.5	20.3	12 17	4 19.25	+10 37.1	2.111	3.041	7.2	19.5
12 27	4 7.54	+20 58.5	1.087	1.993	14.9	20.6	12 27	4 12.30	+10 14.0	2.175	3.041	10.4	19.7
1 6	4 3.28	+21 8.1	1.153	1.991	19.5	20.9	1 6	4 7.34	+10 3.4	2.264	3.041	13.2	19.9
522023	2015 <i>XM</i> ₄₀₄	12	1.8 268°16	4°2/30.6	17		66140	1998 <i>SQ</i> ₁₃₉	12	1.8 1°79	0°0/1.6	18	
10													

EPHEMERIDES

12 1.8

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
183799	2004 <i>BJ</i> ₄₀	12	1.8 309°48	2°6/ 1.1 18			335370	2005 <i>SW</i> ₁₅₃	12	1.8 133°67	1°9/ 1.1 17		
10 28	4 59.73	+17 31.2	1.340	2.188	17.4	20.1	10 28	5 3.26	+18 31.6	1.894	2.715	14.2	22.4
11 7	4 55.21	+17 6.1	1.263	2.177	13.2	19.9	11 7	4 56.67	+17 57.2	1.829	2.730	10.6	22.2
11 17	4 47.49	+16 39.5	1.206	2.166	8.4	19.6	11 17	4 47.78	+17 20.4	1.789	2.744	6.6	22.0
11 27	4 37.47	+16 14.0	1.174	2.156	3.6	19.3	11 27	4 37.46	+16 43.3	1.776	2.758	2.7	21.7
12 7	4 26.61	+15 52.6	1.168	2.146	4.3	19.3	12 7	4 26.84	+16 8.6	1.794	2.770	3.3	21.8
12 17	4 16.51	+15 39.0	1.188	2.136	9.5	19.5	12 17	4 17.06	+15 39.5	1.840	2.782	7.2	22.1
12 27	4 8.68	+15 36.4	1.232	2.127	14.4	19.8	12 27	4 9.11	+15 18.8	1.915	2.794	10.9	22.3
1 6	4 4.07	+15 46.1	1.295	2.118	18.7	20.1	1 6	4 3.61	+15 8.1	2.012	2.804	14.1	22.6
429813	2012 <i>JW</i> ₅₈	12	1.8 17°78	4°5/ 2.2 18			213044	1998 <i>OG</i> ₁₀	12	1.8 90°02	5°1/ 3.9 18		
10 28	5 2.76	+26 28.9	1.001	1.858	21.2	20.0	10 28	5 5.65	+36 53.4	1.868	2.658	15.6	20.7
11 7	4 58.54	+27 50.2	0.947	1.863	16.4	19.7	11 7	4 58.87	+37 8.0	1.807	2.677	12.4	20.6
11 17	4 50.01	+29 5.4	0.913	1.870	10.9	19.4	11 17	4 49.29	+37 6.4	1.769	2.697	9.0	20.4
11 27	4 38.36	+30 7.2	0.899	1.878	5.7	19.2	11 27	4 37.97	+36 45.6	1.756	2.716	6.0	20.3
12 7	4 25.68	+30 49.9	0.910	1.887	5.5	19.2	12 7	4 26.33	+36 5.9	1.771	2.735	5.3	20.3
12 17	4 14.30	+31 13.3	0.944	1.897	10.4	19.5	12 17	4 15.80	+35 11.0	1.814	2.753	7.6	20.4
12 27	4 6.24	+31 22.5	0.999	1.909	15.6	19.9	12 27	4 7.55	+34 7.8	1.885	2.772	10.7	20.7
1 6	4 2.56	+31 24.9	1.074	1.922	20.0	20.2	1 6	4 2.24	+33 3.5	1.980	2.790	13.6	20.9
53189	1999 <i>CR</i> ₄₉	12	1.8 143°57	1°2/ 1.4 18			199741	Weidner	12	1.8 290°87	0°1/ 1.8 17		
10 28	5 0.40	+17 43.2	2.212	3.031	12.5	19.4	10 28	4 56.97	+22 41.6	2.305	3.126	12.0	21.3
11 7	4 54.40	+17 48.7	2.138	3.037	9.4	19.2	11 7	4 51.95	+22 39.6	2.219	3.119	9.0	21.1
11 17	4 46.36	+17 54.3	2.089	3.044	5.8	19.0	11 17	4 44.94	+22 33.8	2.157	3.112	5.6	20.9
11 27	4 36.99	+18 0.3	2.068	3.050	2.2	18.7	11 27	4 36.58	+22 24.2	2.123	3.106	1.9	20.6
12 7	4 27.22	+18 7.2	2.077	3.056	2.5	18.8	12 7	4 27.77	+22 11.9	2.118	3.099	2.0	20.6
12 17	4 18.02	+18 16.1	2.117	3.062	6.2	19.0	12 17	4 19.42	+21 58.3	2.144	3.093	5.8	20.9
12 27	4 10.30	+18 28.2	2.185	3.067	9.6	19.3	12 27	4 12.45	+21 46.1	2.197	3.087	9.2	21.1
1 6	4 4.69	+18 44.4	2.277	3.072	12.6	19.5	1 6	4 7.49	+21 37.3	2.275	3.081	12.2	21.3
357700	2005 <i>PY</i> ₁₀	12	1.8 174°97	5°5/ 4.2 17			116031	2003 <i>WR</i> ₉₁	12	1.8 229°70	2°2/ 30.9 18		
10 28	5 4.35	+39 53.9	2.433	3.198	13.1	21.4	10 28	4 56.22	+15 30.1	2.438	3.260	11.4	19.9
11 7	4 57.66	+40 20.9	2.351	3.200	10.7	21.3	11 7	4 51.17	+15 12.8	2.357	3.257	8.6	19.7
11 17	4 48.51	+40 33.8	2.292	3.202	8.2	21.1	11 17	4 44.35	+14 56.2	2.300	3.254	5.5	19.5
11 27	4 37.73	+40 29.1	2.259	3.203	6.1	21.0	11 27	4 36.38	+14 41.8	2.272	3.251	2.6	19.3
12 7	4 26.44	+40 5.6	2.255	3.204	5.6	20.9	12 7	4 28.03	+14 31.2	2.274	3.248	3.1	19.4
12 17	4 15.86	+39 25.4	2.280	3.205	7.1	21.0	12 17	4 20.13	+14 25.9	2.305	3.245	6.1	19.5
12 27	4 7.08	+38 33.0	2.333	3.204	9.5	21.2	12 27	4 13.46	+14 27.2	2.365	3.241	9.2	19.7
1 6	4 0.82	+37 34.9	2.411	3.204	12.0	21.4	1 6	4 8.59	+14 35.9	2.449	3.238	12.0	19.9
295486	2008 <i>RP</i> ₂	12	1.8 85°00	4°8/ 3.8 17			448965	2011 <i>WK</i> ₁₂₉	12	1.8 50°73	0°2/ 1.9 17		
10 28	5 1.01	+37 4.6	2.341	3.124	13.0	21.1	10 28	4 59.34	+24 16.5	1.801	2.629	14.5	21.4
11 7	4 55.10	+37 30.3	2.268	3.133	10.4	20.9	11 7	4 54.08	+23 56.1	1.730	2.633	10.9	21.2
11 17	4 46.89	+37 43.3	2.218	3.142	7.7	20.8	11 17	4 46.37	+23 28.7	1.681	2.638	6.8	20.9
11 27	4 37.19	+37 40.8	2.195	3.151	5.4	20.6	11 27	4 37.06	+22 54.8	1.659	2.642	2.3	20.7
12 7	4 27.06	+37 22.4	2.201	3.159	4.9	20.6	12 7	4 27.32	+22 16.8	1.666	2.647	2.4	20.7
12 17	4 17.64	+36 49.8	2.235	3.168	6.7	20.8	12 17	4 18.36	+21 38.2	1.701	2.652	6.8	21.0
12 27	4 9.94	+36 7.6	2.297	3.177	9.3	20.9	12 27	4 11.25	+21 3.2	1.763	2.656	10.9	21.2
1 6	4 4.62	+35 21.1	2.384	3.186	11.8	21.1	1 6	4 6.68	+20 35.3	1.848	2.661	14.3	21.5
490993	2011 <i>FS</i> ₁₃₃	12	1.8 266°18	2°9/ 2.9 18			33354	1998 <i>YZ</i> ₁₆	12	1.8 228°57	1°1/ 1.5 18		
10 28	4 58.70	+31 13.0	2.393	3.195	12.2	21.8	10 28	5 1.63	+20 4.2	1.835	2.661	14.4	19.7
11 7	4 53.32	+31 26.6	2.304	3.188	9.5	21.7	11 7	4 55.89	+19 49.8	1.750	2.653	10.9	19.4
11 17	4 45.82	+31 31.3	2.239	3.181	6.5	21.5	11 17	4 47.59	+19 32.2	1.688	2.645	6.8	19.2
11 27	4 36.86	+31 25.4	2.201	3.174	3.6	21.3	11 27	4 37.52	+19 12.3	1.653	2.636	2.4	18.9
12 7	4 27.39	+31 8.9	2.193	3.166	3.3	21.2	12 7	4 26.81	+18 51.8	1.647	2.627	2.8	18.9
12 17	4 18.43	+30 43.3	2.214	3.159	5.9	21.4	12 17	4 16.71	+18 33.3	1.670	2.617	7.3	19.1
12 27	4 10.94	+30 12.2	2.263	3.152	9.0	21.6	12 27	4 8.39	+18 19.9	1.720	2.607	11.5	19.4
1 6	4 5.60	+29 39.6	2.338	3.145	11.9	21.8	1 6	4 2.64	+18 13.9	1.793	2.597	15.1	19.6
414573	2009 <i>SO</i> ₃₅₄	12	1.8 264°16	1°4/ 2.2 18			415641	2014 <i>QD</i> ₃₈₅	12	1.8 61°07	5°8/ 3.9 17		
10 28	4 58.66	+25 46.7	2.309	3.123	12.2	21.4	10 28	5 2.77	+38 9.3	2.087	2.871	14.3	21.3
11 7	4 53.29	+26 1.4	2.221	3.116	9.3	21.2	11 7	4 56.76	+38 52.8	2.020	2.882	11.6	21.1
11 17	4 45.80	+26 11.0	2.156	3.108	5.9	21.0	11 17	4 48.09	+39 22.2	1.975	2.894	8.8	21.0
11 27	4 36.86	+26 14.4	2.120	3.100	2.4	20.8	11 27	4 37.66	+39 33.6	1.956	2.906	6.4	20.9
12 7	4 27.38	+26 11.5	2.113	3.093	2.3	20.7	12 7	4 26.71	+39 25.4	1.965	2.918	5.9	20.9
12 17	4 18.37	+26 3.5	2.136	3.085	5.8	21.0	12 17	4 16.57	+38 59.6	2.001	2.930	7.7	21.0
12 27	4 10.79	+25 53.0	2.187	3.077	9.3	21.2	12 27	4 8.42	+38 21.0	2.065	2.942	10.3	21.2
1 6	4 5.32	+25 43.0	2.263	3.069	12.3	21.3	1 6	4 3.01	+37 36.1	2.152	2.955	12.9	21.4
475921	2007 <i>EV</i> ₂₉	12	1.8 235°44	2°6/ 2.4 18			160861	2001 <i>FE</i> ₁₈₆	12	1.8 239°26	5°6/ 29.9 17		
10 28	5 3.56	+27 41.6	1.666	2.487	15.8	21.6	10 28	4 56.53	+ 4 28.1	2.395	3.203	12.0	19.7
11 7	4 57.76	+28 5.8	1.585	2.482	12.2	21.4	11 7	4 51.38	+ 4 0.2	2.316	3.197	9.6	19.6
11 17	4 48.93	+28 22.2	1.526	2.477	8.0	21.2	11 17	4 44.49	+ 3 40.3	2.262	3.192	7.2	19.4
11 27	4 37.96	+28 27.8	1.494	2.472	3.8	20.9	11 27	4 36.44	+ 3 31.5	2.235	3.186	5.7	19.3
12 7	4 26.19	+28 21.8	1.489	2.467	3.5	20.9	12 7	4 28.01	+ 3 36.0	2.237	3.180	6.1	19.3
12 17	4 15.16	+28 6.0	1.512	2.462	7.7	21.1	12 17	4 20.01	+ 3 54.7	2.267	3.174	8.2	19.5
12 27	4 6.27	+27 44.9	1.562	2.457	12.0	21.3	12 27	4 13.21	+ 4 27.2	2.324	3.168	10.7	19.6
1 6	4 0.44	+27 23.8	1.634	2.451	15.7	21.6	1 6	4 8.20	+ 5 11.9	2.405	3.162	13.1	19.8
29015	4544 <i>P-L</i>	12	1.8 94°07	2°2/ 2.4 18			51520	2001 <i>FL</i> ₁₁₂	12	1.8 101°89	4°0/ 30.2 18		
10 2													

EPHEMERIDES

12 1.8

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
102016	1999 RY ₈₇	12	1.8 127°90	3.4/ 2.8	18		218177	2002 TV ₆	12	1.8 348°14	5°0/ 2.8	18	
10 28	5 7.40	+30 21.2	1.681	2.490	16.2	20.0	10 28	5 4.30	+31 9.0	1.376	2.203	18.2	19.5
11 7	5 0.44	+30 44.2	1.615	2.504	12.5	19.8	11 7	4 59.04	+32 1.8	1.304	2.200	14.3	19.2
11 17	4 50.43	+30 56.0	1.572	2.517	8.4	19.6	11 17	4 50.10	+32 43.8	1.253	2.199	10.0	18.9
11 27	4 38.43	+30 53.4	1.554	2.529	4.4	19.4	11 27	4 38.46	+33 9.2	1.225	2.197	6.0	18.7
12 7	4 25.91	+30 36.2	1.565	2.541	4.0	19.4	12 7	4 25.83	+33 15.0	1.224	2.196	5.6	18.7
12 17	4 14.42	+30 7.1	1.605	2.552	7.6	19.6	12 17	4 14.13	+33 2.4	1.248	2.195	9.3	18.9
12 27	4 5.29	+29 31.7	1.671	2.562	11.5	19.9	12 27	4 5.12	+32 37.6	1.296	2.194	13.7	19.2
1 6	3 59.30	+28 56.4	1.761	2.572	15.0	20.1	1 6	3 59.84	+32 8.2	1.366	2.194	17.6	19.4
435606	2008 SE ₆₂	12	1.8 45°34	1.7/ 2.3	18		113289	2002 RR ₁₇₁	12	1.8 17°31	8°9/ 29.7	18	
10 28	5 1.83	+26 47.6	1.350	2.189	17.8	20.8	10 28	4 57.58	+ 1 21.0	1.584	2.407	16.4	19.0
11 7	4 56.59	+26 43.5	1.294	2.201	13.5	20.6	11 7	4 52.83	+ 0 29.4	1.525	2.410	13.4	18.8
11 17	4 48.16	+26 29.0	1.258	2.215	8.6	20.3	11 17	4 45.64	- 0 8.0	1.488	2.413	10.6	18.6
11 27	4 37.68	+26 3.5	1.247	2.229	3.4	20.1	11 27	4 36.86	- 0 25.2	1.474	2.416	8.9	18.6
12 7	4 26.75	+25 28.9	1.262	2.243	3.1	20.1	12 7	4 27.64	- 0 18.4	1.486	2.420	9.5	18.6
12 17	4 17.00	+24 49.6	1.304	2.258	8.1	20.4	12 17	4 19.18	+ 0 13.0	1.523	2.425	11.8	18.8
12 27	4 9.78	+24 11.6	1.370	2.273	12.7	20.7	12 27	4 12.53	+ 1 6.9	1.583	2.430	14.7	18.9
1 6	4 5.81	+23 40.1	1.458	2.288	16.6	21.0	1 6	4 8.39	+ 2 18.5	1.664	2.435	17.4	19.2
59350	1999 CT ₁₄₂	12	1.8 234°11	1.6/ 1.3	18		327513	2006 BJ ₄₆	12	1.8 231°27	1°0/ 1.4	17	
10 28	5 1.48	+18 29.0	1.877	2.703	14.1	20.7	10 28	4 57.06	+19 31.4	2.417	3.237	11.5	21.7
11 7	4 55.74	+18 13.5	1.790	2.692	10.7	20.5	11 7	4 51.88	+19 17.4	2.332	3.232	8.6	21.5
11 17	4 47.50	+17 56.1	1.725	2.682	6.7	20.2	11 17	4 44.85	+19 1.3	2.271	3.227	5.4	21.3
11 27	4 37.50	+17 38.1	1.689	2.671	2.6	19.9	11 27	4 36.59	+18 44.0	2.239	3.221	1.9	21.0
12 7	4 26.86	+17 21.2	1.681	2.659	3.1	20.0	12 7	4 27.91	+18 27.0	2.237	3.216	2.3	21.0
12 17	4 16.77	+17 7.9	1.702	2.647	7.4	20.2	12 17	4 19.70	+18 12.1	2.265	3.210	5.8	21.3
12 27	4 8.39	+17 0.8	1.750	2.634	11.5	20.4	12 27	4 12.77	+18 1.3	2.321	3.204	9.1	21.5
1 6	4 2.51	+17 1.6	1.821	2.621	15.0	20.6	1 6	4 7.72	+17 56.3	2.402	3.198	11.9	21.6
371298	2006 EB ₆₆	12	1.8 179°87	5°0/ 29.1	17		196030	2002 SJ ₂₀	12	1.8 115°66	4°0/ 3.5	18	
10 28	4 54.72	+ 4 54.6	2.961	3.763	10.1	22.7	10 28	5 1.16	+35 34.3	2.691	3.470	11.6	20.5
11 7	4 49.68	+ 4 1.7	2.887	3.764	8.0	22.5	11 7	4 54.92	+36 3.2	2.619	3.483	9.2	20.3
11 17	4 43.28	+ 3 14.2	2.839	3.765	6.1	22.4	11 17	4 46.70	+36 21.7	2.571	3.496	6.7	20.2
11 27	4 36.02	+ 2 35.3	2.820	3.765	5.0	22.4	11 27	4 37.18	+36 27.5	2.551	3.509	4.5	20.1
12 7	4 28.51	+ 2 7.7	2.831	3.765	5.5	22.4	12 7	4 27.30	+36 20.1	2.561	3.522	4.2	20.1
12 17	4 21.39	+ 1 52.9	2.871	3.764	7.2	22.5	12 17	4 18.01	+36 0.7	2.601	3.534	5.9	20.2
12 27	4 15.25	+ 1 51.5	2.938	3.763	9.2	22.6	12 27	4 10.20	+35 32.8	2.669	3.546	8.3	20.4
1 6	4 10.53	+ 2 2.6	3.028	3.762	11.1	22.8	1 6	4 4.46	+35 0.5	2.762	3.558	10.6	20.5
108782	2001 OR ₆₀	12	1.8 95°21	5°5/ 30.3	18		38483	1999 TW ₁₀₀	12	1.8 114°06	2°5/ 1.0	18	
10 28	5 2.92	+ 9 39.8	1.633	2.459	15.8	20.2	10 28	5 2.30	+15 14.6	2.061	2.879	13.3	19.6
11 7	4 56.52	+ 8 51.7	1.584	2.481	12.2	20.0	11 7	4 55.77	+14 58.2	2.001	2.899	10.0	19.5
11 17	4 47.42	+ 8 10.0	1.558	2.504	8.4	19.8	11 17	4 47.17	+14 43.0	1.967	2.920	6.3	19.3
11 27	4 37.47	+ 7 39.1	1.559	2.526	5.7	19.7	11 27	4 37.32	+14 30.6	1.960	2.939	3.0	19.1
12 7	4 27.01	+ 7 22.2	1.587	2.547	6.4	19.8	12 7	4 27.22	+14 22.6	1.984	2.958	3.5	19.2
12 17	4 17.54	+ 7 21.1	1.643	2.568	9.4	20.0	12 17	4 17.88	+14 20.6	2.037	2.976	6.9	19.4
12 27	4 10.06	+ 7 35.8	1.725	2.588	12.8	20.3	12 27	4 10.19	+14 25.7	2.119	2.994	10.2	19.7
1 6	4 5.17	+ 8 4.5	1.828	2.608	15.8	20.6	1 6	4 4.71	+14 38.5	2.224	3.011	13.1	19.9
109145	2001 QO ₅₇	12	1.8 156°82	5°7/ 29.7	18		334481	2002 QM ₆	12	1.8 199°41	20°4/ 27.8	17	
10 28	4 58.55	+ 3 46.4	2.508	3.308	11.7	20.7	10 28	5 5.28	-17 45.2	1.178	1.944	24.1	20.4
11 7	4 52.69	+ 3 8.0	2.441	3.316	9.4	20.6	11 7	4 59.43	-19 44.2	1.137	1.943	22.3	20.3
11 17	4 45.19	+ 2 37.5	2.399	3.323	7.1	20.4	11 17	4 50.08	-21 6.2	1.110	1.942	21.0	20.2
11 27	4 36.65	+ 2 18.2	2.385	3.330	5.7	20.4	11 27	4 38.40	-21 37.1	1.100	1.940	20.4	20.2
12 7	4 27.84	+ 2 12.3	2.400	3.336	6.2	20.4	12 7	4 26.06	-21 9.8	1.107	1.938	20.8	20.2
12 17	4 19.54	+ 2 20.8	2.444	3.342	8.1	20.5	12 17	4 14.86	-19 44.9	1.131	1.935	22.1	20.3
12 27	4 12.48	+ 2 43.5	2.515	3.347	10.4	20.7	12 27	4 6.33	-17 31.2	1.172	1.932	23.9	20.4
1 6	4 7.15	+ 3 18.7	2.610	3.351	12.5	20.9	1 6	4 1.32	-14 42.3	1.228	1.929	25.9	20.6
220886	2004 XE ₁₀₃	12	1.8 36°85	0°6/ 1.7	18		120192	2004 CM ₁₀₆	12	1.8 191°20	5°4/ 28.9	18	
10 28	5 1.81	+17 24.5	1.784	2.611	14.6	18.7	10 28	4 57.26	+ 4 21.5	2.798	3.596	10.7	21.2
11 7	4 55.89	+18 10.8	1.723	2.626	11.0	18.5	11 7	4 51.66	+ 3 24.9	2.720	3.594	8.6	21.0
11 17	4 47.49	+18 59.3	1.685	2.642	6.8	18.3	11 17	4 44.55	+ 2 34.2	2.669	3.592	6.6	20.9
11 27	4 37.46	+19 48.5	1.675	2.658	2.3	18.0	11 27	4 36.48	+ 1 52.8	2.646	3.588	5.4	20.8
12 7	4 26.96	+20 36.7	1.694	2.675	2.5	18.1	12 7	4 28.11	+ 1 23.7	2.653	3.584	6.0	20.9
12 17	4 17.21	+21 23.0	1.743	2.692	6.8	18.4	12 17	4 20.15	+ 1 8.7	2.689	3.580	7.7	21.0
12 27	4 9.31	+22 7.4	1.819	2.710	10.7	18.6	12 27	4 13.26	+ 1 8.4	2.753	3.574	9.9	21.1
1 6	4 3.98	+22 51.0	1.918	2.728	14.0	18.9	1 6	4 7.92	+ 1 21.7	2.840	3.568	11.9	21.2
418644	2008 TU ₆₁	12	1.8 210°84	0°7/ 1.5	18		389498	2010 FW ₂₅	12	1.8 147°03	2°6/ 2.7	18	
10 28	4 56.36	+20 30.7	2.727	3.542	10.5	21.8	10 28	5 3.05	+29 28.4	1.948	2.757	14.3	21.3
11 7	4 51.15	+20 12.6	2.640	3.538	7.9	21.6	11 7	4 56.89	+29 41.0	1.873	2.762	11.0	21.1
11 17	4 44.30	+19 51.8	2.578	3.533	4.8	21.4	11 17	4 48.16	+29 44.2	1.821	2.768	7.3	20.8
11 27	4 36.38	+19 29.0	2.545	3.528	1.7	21.2	11 27	4 37.72	+29 36.0	1.796	2.773	3.6	20.6
12 7	4 28.12	+19 5.9	2.543	3.523	2.0	21.2	12 7	4 26.78	+29 16.5	1.800	2.777	3.3	20.6
12 17	4 20.27	+18 44.1	2.572	3.517	5.2	21.4	12 17	4 16.61	+28 48.2	1.834	2.781	6.7	20.8
12 27	4 13.57	+18 25.9	2.630	3.511	8.2	21.6	12 27	4 8.33	+28 15.5	1.894	2.785	10.4	21.1
1 6	4 8.54	+18 12.9	2.713	3.505	10.8	21.8	1 6	4 2.70	+27 43.2	1.979	2.789	13.6	21.3
487365	2014 QB ₂₄₈	12	1.8 130°45	5°5/ 29.8	18		354657	2005 JT ₁₅₇	12	1.8 253°46	2°4/ 30.8	18	
10 28	4 56.90	+ 5 14.4	2.370	3.180</									

EPHEMERIDES

12 1.8

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
517319	2014 <i>JJ</i> ₁₂	12	1.8 167°90	3°6/30.1	18		138235	2000 <i>FV</i> ₂₄	12	1.8 165°22	3°0/ 1.0	18	
10 28	4 59.03	+13 19.3	2.297	3.115	12.1	22.0	10 28	4 59.95	+13 7.8	2.051	2.873	13.2	20.1
11 7	4 53.25	+12 21.2	2.223	3.119	9.2	21.8	11 7	4 54.24	+13 0.5	1.976	2.875	10.0	19.9
11 17	4 45.63	+11 23.6	2.174	3.123	6.2	21.6	11 17	4 46.41	+12 56.5	1.925	2.877	6.5	19.7
11 27	4 36.85	+10 29.9	2.155	3.126	3.8	21.5	11 27	4 37.16	+12 57.4	1.902	2.878	3.5	19.5
12 7	4 27.76	+9 43.8	2.165	3.129	4.5	21.5	12 7	4 27.46	+13 4.6	1.908	2.880	3.9	19.6
12 17	4 19.25	+9 8.1	2.205	3.131	7.3	21.7	12 17	4 18.34	+13 18.9	1.943	2.881	7.2	19.8
12 27	4 12.12	+8 44.8	2.273	3.132	10.3	21.9	12 27	4 10.74	+13 40.9	2.006	2.882	10.7	20.0
1 6	4 6.93	+8 34.6	2.364	3.133	12.9	22.1	1 6	4 5.32	+14 10.5	2.092	2.883	13.7	20.2
22202	4715 <i>P-L</i>	12	1.8 183°54	1°6/ 1.3	18		343833	2011 <i>HR</i> ₂₇	12	1.8 170°21	1°1/ 1.5	18	
10 28	5 2.08	+18 32.9	1.893	2.716	14.1	20.1	10 28	5 2.66	+19 20.5	1.957	2.777	13.8	21.8
11 7	4 56.04	+18 13.7	1.815	2.717	10.6	19.8	11 7	4 56.42	+19 11.5	1.880	2.781	10.4	21.6
11 17	4 47.60	+17 52.6	1.761	2.717	6.6	19.6	11 17	4 47.81	+19 0.6	1.828	2.784	6.4	21.3
11 27	4 37.55	+17 30.8	1.734	2.716	2.6	19.3	11 27	4 37.64	+18 48.2	1.804	2.786	2.3	21.1
12 7	4 26.99	+17 10.5	1.737	2.715	3.1	19.4	12 7	4 26.98	+18 36.0	1.809	2.788	2.7	21.1
12 17	4 17.11	+16 54.0	1.769	2.714	7.2	19.6	12 17	4 17.00	+18 25.7	1.844	2.790	6.9	21.4
12 27	4 8.98	+16 44.0	1.829	2.712	11.1	19.9	12 27	4 8.74	+18 19.9	1.906	2.790	10.7	21.6
1 6	4 3.31	+16 42.2	1.911	2.709	14.5	20.1	1 6	4 2.90	+18 20.4	1.992	2.790	14.0	21.8
75692	2000 <i>AW</i> ₁₀₃	12	1.8 139°57	4°9/30.9	18		260941	2005 <i>ST</i> ₁₁	12	1.8 72°49	0°9/ 1.5	15	
10 28	5 1.57	+7 44.5	1.930	2.746	14.2	18.8	10 28	5 0.86	+20 14.4	1.927	2.752	13.8	21.7
11 7	4 55.49	+7 39.7	1.860	2.751	11.0	18.6	11 7	4 54.82	+19 59.1	1.875	2.778	10.3	21.5
11 17	4 47.18	+7 43.3	1.814	2.756	7.7	18.4	11 17	4 46.64	+19 41.1	1.847	2.804	6.3	21.4
11 27	4 37.40	+7 57.4	1.794	2.761	5.1	18.3	11 27	4 37.19	+19 21.5	1.846	2.829	2.2	21.1
12 7	4 27.17	+8 23.3	1.804	2.765	5.5	18.3	12 7	4 27.54	+19 2.1	1.875	2.855	2.5	21.2
12 17	4 17.58	+9 0.9	1.842	2.770	8.4	18.5	12 17	4 18.74	+18 45.1	1.933	2.880	6.5	21.5
12 27	4 9.62	+9 49.2	1.908	2.774	11.6	18.7	12 27	4 11.71	+18 33.1	2.018	2.905	10.1	21.8
1 6	4 3.96	+10 46.2	1.997	2.777	14.6	18.9	1 6	4 7.00	+18 27.7	2.127	2.930	13.1	22.0
474825	2005 <i>SX</i> ₄₃	12	1.8 51°67	0°0/ 1.7	18		227070	2005 <i>HV</i> ₁	12	1.8 128°50	1°1/ 2.1	18	
10 28	5 2.61	+23 29.4	1.273	2.117	18.3	21.0	10 28	5 6.75	+24 27.1	1.794	2.609	15.1	21.3
11 7	4 57.15	+23 13.7	1.223	2.136	13.8	20.8	11 7	4 59.65	+24 43.6	1.729	2.625	11.4	21.1
11 17	4 48.48	+22 50.8	1.195	2.155	8.5	20.5	11 17	4 49.85	+24 54.5	1.688	2.641	7.2	20.9
11 27	4 37.82	+22 21.4	1.190	2.174	2.8	20.3	11 27	4 38.30	+24 58.2	1.673	2.655	2.7	20.6
12 7	4 26.82	+21 48.2	1.212	2.194	3.0	20.3	12 7	4 26.31	+24 54.6	1.689	2.669	2.6	20.6
12 17	4 17.10	+21 15.8	1.261	2.214	8.4	20.7	12 17	4 15.23	+24 45.7	1.734	2.682	6.9	21.0
12 27	4 9.98	+20 48.9	1.333	2.235	13.1	21.0	12 27	4 6.23	+24 35.0	1.806	2.695	10.9	21.2
1 6	4 6.15	+20 31.1	1.427	2.255	17.0	21.3	1 6	4 0.05	+24 26.3	1.902	2.707	14.3	21.5
405738	2005 <i>YT</i> ₃₀	12	1.8 0°77	2°4/ 2.7	17		514195	2015 <i>MV</i> ₁₁₀	12	1.8 191°43	0°7/ 1.6	18	
10 28	4 58.36	+29 18.1	1.854	2.674	14.4	20.6	10 28	5 1.91	+21 5.9	1.973	2.794	13.7	22.1
11 7	4 53.51	+29 15.9	1.777	2.674	11.1	20.4	11 7	4 55.90	+20 51.3	1.892	2.793	10.3	21.9
11 17	4 46.13	+29 3.5	1.723	2.673	7.3	20.1	11 17	4 47.52	+20 32.9	1.835	2.791	6.4	21.6
11 27	4 37.08	+28 39.9	1.695	2.673	3.5	19.9	11 27	4 37.56	+20 11.2	1.806	2.789	2.1	21.4
12 7	4 27.52	+28 5.9	1.695	2.673	3.1	19.9	12 7	4 27.08	+19 48.0	1.806	2.787	2.5	21.4
12 17	4 18.69	+27 24.9	1.723	2.674	6.7	20.1	12 17	4 17.25	+19 25.8	1.836	2.784	6.8	21.6
12 27	4 11.71	+26 41.6	1.778	2.675	10.6	20.4	12 27	4 9.11	+19 7.7	1.894	2.780	10.7	21.9
1 6	4 7.30	+26 1.0	1.857	2.677	14.0	20.6	1 6	4 3.39	+18 56.1	1.975	2.776	14.0	22.1
517982	2015 <i>UD</i> ₂₀	12	1.8 131°79	1°9/ 2.4	18		35267	1996 <i>PO</i> ₇	12	1.8 40°55	1°3/ 2.2	18	
10 28	5 2.52	+27 8.8	2.160	2.968	13.1	21.9	10 28	5 1.38	+25 45.7	1.441	2.278	17.0	19.4
11 7	4 56.22	+27 29.8	2.087	2.978	10.0	21.7	11 7	4 56.22	+25 44.2	1.378	2.285	12.9	19.1
11 17	4 47.64	+27 44.1	2.039	2.988	6.5	21.5	11 17	4 47.99	+25 34.1	1.335	2.292	8.2	18.9
11 27	4 37.56	+27 50.3	2.018	2.997	2.9	21.3	11 27	4 37.73	+25 14.7	1.318	2.300	3.1	18.6
12 7	4 27.04	+27 48.0	2.027	3.006	2.7	21.3	12 7	4 26.93	+24 47.3	1.327	2.308	2.9	18.6
12 17	4 17.18	+27 38.6	2.067	3.014	6.1	21.5	12 17	4 17.14	+24 15.7	1.363	2.317	7.9	19.0
12 27	4 9.01	+27 25.4	2.134	3.022	9.5	21.8	12 27	4 9.70	+23 45.0	1.425	2.325	12.4	19.2
1 6	4 3.18	+27 11.8	2.226	3.030	12.5	22.0	1 6	4 5.39	+23 20.0	1.508	2.335	16.3	19.5
392015	2009 <i>AO</i> ₁₄	12	1.8 1°75	6°0/30.8	18		181362	2006 <i>RA</i> ₈₉	12	1.8 299°63	0°9/ 2.1	18	
10 28	4 57.88	+8 47.9	1.343	2.189	17.5	20.1	10 28	5 2.62	+24 50.4	1.413	2.250	17.3	20.7
11 7	4 53.60	+8 28.3	1.279	2.187	13.6	19.8	11 7	4 57.35	+24 44.8	1.340	2.248	13.2	20.5
11 17	4 46.40	+8 18.4	1.236	2.186	9.5	19.6	11 17	4 48.83	+24 31.1	1.288	2.246	8.3	20.2
11 27	4 37.22	+8 22.4	1.216	2.187	6.3	19.4	11 27	4 38.06	+24 8.5	1.261	2.244	3.0	19.9
12 7	4 27.40	+8 42.6	1.222	2.188	6.9	19.4	12 7	4 26.56	+23 38.6	1.261	2.242	2.9	19.9
12 17	4 18.39	+9 19.7	1.253	2.190	10.5	19.7	12 17	4 15.98	+23 5.3	1.287	2.240	8.3	20.2
12 27	4 11.52	+10 12.0	1.308	2.193	14.6	19.9	12 27	4 7.80	+22 33.9	1.339	2.239	13.1	20.5
1 6	4 7.60	+11 16.5	1.383	2.197	18.2	20.2	1 6	4 2.90	+22 9.2	1.411	2.237	17.3	20.7
458403	2010 <i>XV</i> ₆₄	12	1.8 14°53	2°2/30.9	17		175183	2005 <i>EO</i> ₁₇₆	12	1.8 143°59	0°6/ 2.1	18	
10 28	4 55.83	+19 57.6	1.524	2.371	15.7	20.3	10 28	5 1.43	+24 35.0	2.286	3.097	12.4	21.2
11 7	4 51.71	+18 59.0	1.462	2.376	11.8	20.1	11 7	4 55.20	+24 31.2	2.213	3.107	9.3	21.0
11 17	4 45.02	+17 55.3	1.421	2.382	7.3	19.9	11 17	4 46.91	+24 21.9	2.164	3.117	5.8	20.8
11 27	4 36.70	+16 50.4	1.407	2.389	3.0	19.6	11 27	4 37.32	+24 6.9	2.144	3.126	2.1	20.6
12 7	4 28.00	+15 49.2	1.419	2.397	3.8	19.7	12 7	4 27.38	+23 47.3	2.154	3.135	2.0	20.6
12 17	4 20.16	+14 57.0	1.459	2.405	8.2	20.0	12 17	4 18.09	+23 25.0	2.195	3.143	5.7	20.9
12 27	4 14.30	+14 17.9	1.523	2.415	12.4	20.3	12 27	4 10.34	+23 3.0	2.264	3.151	9.1	21.1
1 6	4 11.06	+13 53.8	1.609	2.426	15.9	20.5	1 6	4 4.74	+22 44.3	2.358	3.158	12.0	21.3
216552	2001 <i>UD</i> ₂₉	12	1.8 48°77	0°0/ 1.6	18		291233	2006 <i>BO</i> ₂₉	12	1.8 354°96	5°0/ 3.3	18	
10 2													

EPHEMERIDES

12 1.8

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
255919	2006 SB ₃₆₃	12	1.8 341 ^o .79	6 ^o .7/28.8	18		276684	2003 YS ₃₆	12	1.8	0 ^o .03	4 ^o .0/ 2.9	18
10 28	4 54.02	+11 40.3	1.434	2.286	16.2	19.7	10 28	5 0.29	+30 37.7	1.144	1.991	19.9	20.3
11 7	4 50.60	+9 59.7	1.361	2.273	12.7	19.4	11 7	4 56.38	+30 49.0	1.079	1.988	15.5	20.0
11 17	4 44.52	+8 18.8	1.310	2.261	9.0	19.2	11 17	4 48.58	+30 45.0	1.033	1.987	10.4	19.7
11 27	4 36.62	+6 45.6	1.284	2.250	6.8	19.0	11 27	4 38.06	+30 22.1	1.009	1.986	5.4	19.5
12 7	4 28.13	+5 28.6	1.284	2.241	7.9	19.1	12 7	4 26.67	+29 41.1	1.009	1.987	4.7	19.4
12 17	4 20.33	+4 34.0	1.309	2.232	11.4	19.2	12 17	4 16.47	+28 47.0	1.033	1.988	9.4	19.7
12 27	4 14.44	+4 5.3	1.357	2.225	15.3	19.4	12 27	4 9.22	+27 48.8	1.080	1.991	14.5	20.0
1 6	4 11.24	+4 1.6	1.424	2.218	18.7	19.7	1 6	4 5.85	+26 55.1	1.147	1.994	19.0	20.3
94742	2001 XC ₇₈	12	1.8 247 ^o .75	2 ^o .9/ 1.3	18		47290	1999 VS ₁₈₈	12	1.8	97 ^o .27	1 ^o .1/ 1.6	18
10 28	5 2.65	+13 42.5	1.798	2.623	14.7	19.5	10 28	5 5.11	+18 29.0	1.495	2.328	16.7	19.0
11 7	4 56.77	+13 47.3	1.711	2.611	11.2	19.2	11 7	4 58.77	+18 40.6	1.435	2.341	12.6	18.8
11 17	4 48.27	+13 56.1	1.647	2.600	7.3	19.0	11 17	4 49.48	+18 52.0	1.397	2.354	7.8	18.5
11 27	4 37.88	+14 10.4	1.609	2.588	3.5	18.7	11 27	4 38.25	+19 3.1	1.385	2.368	2.7	18.3
12 7	4 26.73	+14 30.7	1.601	2.576	4.0	18.7	12 7	4 26.51	+19 14.2	1.400	2.380	3.1	18.3
12 17	4 16.09	+14 57.6	1.621	2.563	8.0	19.0	12 17	4 15.75	+19 26.4	1.444	2.393	8.0	18.7
12 27	4 7.18	+15 31.5	1.668	2.550	12.1	19.2	12 27	4 7.28	+19 41.5	1.513	2.406	12.4	18.9
1 6	4 0.86	+16 12.3	1.739	2.537	15.7	19.4	1 6	4 1.86	+20 1.2	1.605	2.418	16.2	19.2
400992	2011 CJ ₄₂	12	1.8 331 ^o .51	23 ^o .9/25.6	17		286646	2002 EC ₆₄	12	1.8	349 ^o .58	5 ^o .5/ 3.3	18
10 28	5 1.31	-21 7.4	1.041	1.811	26.4	20.2	10 28	5 0.37	+33 12.3	1.321	2.152	18.6	20.1
11 7	4 56.83	-23 36.2	1.007	1.807	25.1	20.1	11 7	4 56.25	+33 47.8	1.249	2.146	14.8	19.9
11 17	4 48.67	-25 21.3	0.987	1.803	24.2	20.0	11 17	4 48.46	+34 8.5	1.196	2.141	10.5	19.6
11 27	4 38.03	-26 7.0	0.981	1.800	23.9	20.0	11 27	4 38.04	+34 9.5	1.166	2.137	6.5	19.4
12 7	4 26.68	-25 45.3	0.988	1.797	24.4	20.0	12 7	4 26.66	+33 49.0	1.161	2.133	5.9	19.3
12 17	4 16.52	-24 17.0	1.009	1.794	25.5	20.1	12 17	4 16.27	+33 9.9	1.181	2.131	9.4	19.5
12 27	4 9.15	-21 51.4	1.044	1.792	27.0	20.2	12 27	4 8.57	+32 19.8	1.225	2.129	13.8	19.8
1 6	4 5.46	-18 43.7	1.090	1.790	28.6	20.3	1 6	4 4.58	+31 27.5	1.290	2.129	17.8	20.0
32966	1996 PE ₅	12	1.8 201 ^o .71	3 ^o .5/ 3.0	18		12749	Odokaigan	12	1.8	235 ^o .35	3 ^o .1/30.9	18
10 28	5 4.47	+32 7.2	2.033	2.831	14.2	20.0	10 28	5 1.76	+15 0.0	1.739	2.568	14.9	18.5
11 7	4 58.06	+32 21.8	1.947	2.828	11.1	19.8	11 7	4 56.12	+14 35.4	1.656	2.559	11.4	18.2
11 17	4 48.99	+32 25.2	1.884	2.824	7.6	19.6	11 17	4 47.85	+14 11.6	1.595	2.549	7.4	18.0
11 27	4 38.09	+32 14.8	1.848	2.819	4.4	19.4	11 27	4 37.75	+13 51.2	1.561	2.539	3.7	17.7
12 7	4 26.56	+31 50.3	1.841	2.814	3.9	19.3	12 7	4 26.98	+13 36.5	1.555	2.528	4.3	17.8
12 17	4 15.72	+31 13.8	1.864	2.809	6.9	19.5	12 17	4 16.80	+13 30.2	1.577	2.517	8.4	18.0
12 27	4 6.78	+30 30.3	1.914	2.802	10.5	19.7	12 27	4 8.42	+13 34.2	1.626	2.506	12.5	18.2
1 6	4 0.53	+29 45.8	1.989	2.795	13.7	19.9	1 6	4 2.66	+13 49.1	1.697	2.494	16.1	18.4
147898	2006 SH ₁₃	12	1.8 82 ^o .84	0 ^o .2/ 1.9	18		454776	2014 WL ₄₀₀	12	1.8	303 ^o .96	5 ^o .6/ 4.8	17
10 28	5 0.31	+23 31.9	1.857	2.682	14.2	20.2	10 28	5 1.55	+40 54.3	2.290	3.059	13.6	20.7
11 7	4 54.76	+23 23.5	1.788	2.691	10.7	20.0	11 7	4 55.76	+40 59.4	2.203	3.055	11.2	20.5
11 17	4 46.82	+23 9.5	1.743	2.699	6.7	19.8	11 17	4 47.48	+40 48.1	2.139	3.051	8.6	20.4
11 27	4 37.33	+22 50.2	1.724	2.707	2.2	19.5	11 27	4 37.58	+40 17.3	2.101	3.047	6.3	20.2
12 7	4 27.43	+22 27.0	1.734	2.716	2.3	19.5	12 7	4 27.22	+39 26.9	2.090	3.043	5.7	20.2
12 17	4 18.29	+22 2.7	1.774	2.724	6.6	19.8	12 17	4 17.63	+38 19.8	2.108	3.039	7.2	20.3
12 27	4 10.96	+21 40.6	1.840	2.732	10.6	20.1	12 27	4 9.89	+37 1.8	2.155	3.035	9.8	20.4
1 6	4 6.12	+21 23.9	1.929	2.741	13.9	20.3	1 6	4 4.70	+35 40.1	2.226	3.031	12.4	20.6
477883	2011 HQ ₉₇	12	1.8 155 ^o .20	3 ^o .6/ 3.0	18		125160	2001 UZ ₉₃	12	1.8	65 ^o .37	1 ^o .8/ 1.6	18
10 28	5 4.92	+31 44.8	1.797	2.603	15.4	21.5	10 28	5 6.25	+16 23.1	1.393	2.228	17.6	19.4
11 7	4 58.57	+31 57.9	1.722	2.608	12.0	21.1	11 7	4 59.53	+16 43.0	1.348	2.255	13.2	19.2
11 17	4 49.35	+31 58.9	1.670	2.612	8.2	21.1	11 17	4 49.84	+17 5.0	1.324	2.282	8.2	19.0
11 27	4 38.20	+31 45.0	1.644	2.616	4.6	20.9	11 27	4 38.33	+17 28.9	1.327	2.309	3.1	18.7
12 7	4 26.49	+31 16.4	1.646	2.620	4.0	20.8	12 7	4 26.53	+17 54.4	1.357	2.336	3.4	18.8
12 17	4 15.66	+30 35.9	1.677	2.623	7.3	21.1	12 17	4 15.94	+18 21.7	1.415	2.363	8.2	19.2
12 27	4 6.98	+29 49.3	1.734	2.626	11.2	21.3	12 27	4 7.80	+18 51.6	1.498	2.390	12.6	19.5
1 6	4 1.25	+29 3.0	1.816	2.628	14.6	21.5	1 6	4 2.77	+19 25.0	1.603	2.417	16.1	19.8
358304	2006 UW ₁₆₅	12	1.8 65 ^o .74	2 ^o .5/ 1.0	18		401054	2011 UG ₁₇	12	1.8	105 ^o .65	1 ^o .7/ 2.3	18
10 28	4 59.21	+16 20.1	1.787	2.619	14.4	21.3	10 28	5 1.89	+26 5.6	1.905	2.723	14.2	21.7
11 7	4 53.87	+15 56.4	1.725	2.630	10.8	21.1	11 7	4 56.06	+26 24.6	1.833	2.729	10.8	21.5
11 17	4 46.23	+15 33.0	1.686	2.642	6.8	20.9	11 17	4 47.71	+26 37.4	1.783	2.735	6.9	21.3
11 27	4 37.13	+15 12.0	1.674	2.654	3.1	20.7	11 27	4 37.68	+26 42.4	1.761	2.741	2.9	21.0
12 7	4 27.67	+14 55.8	1.690	2.666	3.7	20.7	12 7	4 27.13	+26 39.2	1.767	2.747	2.7	21.0
12 17	4 18.98	+14 46.6	1.734	2.677	7.5	21.0	12 17	4 17.28	+26 29.7	1.803	2.752	6.6	21.3
12 27	4 12.06	+14 46.0	1.805	2.689	11.2	21.2	12 27	4 9.28	+26 17.1	1.865	2.758	10.4	21.5
1 6	4 7.55	+14 54.7	1.899	2.701	14.4	21.5	1 6	4 3.85	+26 5.1	1.952	2.763	13.7	21.7
413443	2005 CX ₂₆	12	1.8 315 ^o .22	5 ^o .2/ 3.7	18		24150	1999 VN ₁₇₄	12	1.8	193 ^o .06	7 ^o .2/28.8	18
10 28	4 59.59	+36 24.5	2.054	2.849	14.2	20.2	10 28	4 57.97	+6 6.5	1.820	2.644	14.6	19.0
11 7	4 54.64	+36 51.4	1.960	2.833	11.4	20.0	11 7	4 52.91	+4 42.1	1.753	2.643	11.6	18.8
11 17	4 47.01	+37 5.4	1.889	2.817	8.5	19.8	11 17	4 45.66	+3 24.1	1.710	2.643	8.8	18.7
11 27	4 37.48	+37 2.7	1.843	2.802	5.9	19.6	11 27	4 36.98	+2 18.9	1.693	2.643	7.3	18.6
12 7	4 27.20	+36 42.1	1.825	2.787	5.4	19.6	12 7	4 27.90	+1 32.0	1.703	2.642	8.1	18.6
12 17	4 17.49	+36 5.2	1.835	2.773	7.6	19.7	12 17	4 19.47	+1 6.6	1.740	2.642	10.6	18.8
12 27	4 9.59	+35 16.7	1.871	2.759	10.7	19.8	12 27	4 12.66	+1 3.6	1.802	2.641	13.5	19.0
1 6	4 4.37	+34 23.3	1.931	2.745	13.8	20.0	1 6	4 8.11	+1 20.8	1.884	2.641	16.2	19.2
441062	2007 QV ₁₄	12	1.8 121 ^o .57	1 ^{o</}									

EPHEMERIDES

12 1.8

12 1.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
156160	2001 TY ₁₀₄	12	1.8 307°27	3°0/30.8	18		78899	2003 SA ₆₂	12	1.8 59°80	1°3/ 2.1	18	
10 28	4 59.44	+17 36.0	1.494	2.336	16.2	20.1	10 28	5 3.08	+23 52.2	1.578	2.407	16.1	19.5
11 7	4 54.68	+16 48.9	1.418	2.329	12.3	19.8	11 7	4 57.29	+24 19.7	1.516	2.419	12.2	19.3
11 17	4 47.07	+15 58.6	1.364	2.323	7.8	19.6	11 17	4 48.61	+24 42.6	1.476	2.432	7.7	19.0
11 27	4 37.52	+15 8.8	1.336	2.316	3.6	19.3	11 27	4 38.02	+24 58.8	1.462	2.444	2.9	18.8
12 7	4 27.32	+14 23.8	1.334	2.310	4.5	19.3	12 7	4 26.89	+25 7.8	1.476	2.457	2.8	18.8
12 17	4 17.88	+13 48.3	1.360	2.304	9.0	19.6	12 17	4 16.67	+25 10.9	1.518	2.470	7.4	19.1
12 27	4 10.50	+13 26.0	1.410	2.298	13.5	19.8	12 27	4 8.64	+25 11.5	1.586	2.483	11.7	19.4
1 6	4 5.99	+13 18.4	1.481	2.292	17.3	20.1	1 6	4 3.58	+25 12.8	1.677	2.496	15.3	19.7
493276	2014 UP ₁₄₃	12	1.8 343°09	1°3/ 1.2	17		219248	1999 XT ₁₃₀	12	1.8 32°83	5°1/ 3.9	18	
10 28	4 55.90	+20 41.7	2.085	2.914	12.7	21.8	10 28	5 1.04	+35 23.9	1.571	2.384	17.0	19.1
11 7	4 51.29	+20 0.2	2.005	2.910	9.6	21.6	11 7	4 55.86	+35 38.2	1.519	2.404	13.4	18.9
11 17	4 44.64	+19 13.9	1.949	2.907	5.9	21.3	11 17	4 47.70	+35 35.8	1.488	2.425	9.5	18.7
11 27	4 36.65	+18 25.1	1.921	2.903	2.2	21.1	11 27	4 37.68	+35 14.0	1.480	2.446	6.1	18.6
12 7	4 28.27	+17 36.9	1.921	2.900	2.7	21.1	12 7	4 27.33	+34 33.6	1.500	2.469	5.3	18.6
12 17	4 20.46	+16 52.7	1.951	2.897	6.5	21.4	12 17	4 18.16	+33 39.2	1.546	2.492	8.0	18.8
12 27	4 14.13	+16 16.1	2.008	2.895	10.1	21.6	12 27	4 11.38	+32 37.9	1.618	2.515	11.4	19.1
1 6	4 9.90	+15 49.2	2.089	2.893	13.2	21.8	1 6	4 7.66	+31 37.1	1.712	2.539	14.7	19.3
414686	2009 WH ₁₃₉	12	1.8 40°25	5°0/ 3.3	18		330742	2008 SH ₆₅	12	1.8 119°66	2°2/30.7	17	
10 28	5 2.28	+34 1.0	1.854	2.658	15.1	20.3	10 28	4 55.95	+16 35.9	2.469	3.290	11.2	20.7
11 7	4 56.60	+34 52.2	1.792	2.672	12.0	20.1	11 7	4 50.95	+15 55.2	2.394	3.295	8.4	20.6
11 17	4 48.15	+35 31.5	1.753	2.687	8.6	20.0	11 17	4 44.26	+15 13.5	2.345	3.299	5.4	20.4
11 27	4 37.85	+35 54.8	1.739	2.702	5.7	19.8	11 27	4 36.52	+14 33.1	2.324	3.303	2.6	20.2
12 7	4 27.00	+36 0.5	1.753	2.718	5.3	19.8	12 7	4 28.50	+13 56.6	2.334	3.307	3.2	20.3
12 17	4 17.01	+35 50.0	1.795	2.734	7.7	20.0	12 17	4 20.98	+13 26.4	2.373	3.311	6.1	20.5
12 27	4 9.09	+35 27.9	1.863	2.750	10.8	20.2	12 27	4 14.71	+13 4.5	2.441	3.315	9.1	20.6
1 6	4 4.01	+35 0.2	1.955	2.767	13.7	20.5	1 6	4 10.19	+12 52.1	2.533	3.318	11.7	20.8
34077	Yoshiakifuse	12	1.8 122°22	1°1/ 1.5	18		246728	2009 BO ₅₂	12	1.8 134°13	7°9/29.4	18	
10 28	4 59.55	+19 5.7	2.074	2.897	13.0	19.7	10 28	4 58.82	+ 0 28.2	2.005	2.809	14.1	20.4
11 7	4 53.98	+18 58.6	2.001	2.903	9.8	19.5	11 7	4 53.33	- 0 26.0	1.944	2.815	11.6	20.2
11 17	4 46.28	+18 50.0	1.953	2.909	6.1	19.2	11 17	4 45.83	- 1 8.3	1.907	2.821	9.3	20.1
11 27	4 37.19	+18 40.7	1.932	2.914	2.2	19.0	11 27	4 37.05	- 1 33.6	1.895	2.827	8.0	20.0
12 7	4 27.70	+18 31.9	1.941	2.920	2.6	19.0	12 7	4 27.95	- 1 38.5	1.910	2.833	8.5	20.1
12 17	4 18.83	+18 25.3	1.979	2.925	6.4	19.3	12 17	4 19.47	- 1 22.2	1.952	2.839	10.4	20.2
12 27	4 11.52	+18 23.0	2.045	2.931	10.0	19.5	12 27	4 12.50	- 0 45.9	2.019	2.844	12.8	20.4
1 6	4 6.40	+18 26.3	2.135	2.936	13.1	19.7	1 6	4 7.62	+ 0 7.1	2.107	2.849	15.1	20.5
523450	2017 FO ₄₂	12	1.8 66°41	7°9/28.6	18		295313	2008 GE ₁₃₀	12	1.8 236°93	4°5/30.7	18	
10 28	4 55.06	- 1 19.4	2.297	3.095	12.7	20.8	10 28	5 1.58	+12 27.6	1.541	2.376	16.2	20.8
11 7	4 50.29	- 2 23.7	2.241	3.103	10.6	20.7	11 7	4 56.18	+11 56.8	1.467	2.372	12.5	20.5
11 17	4 43.84	- 3 16.3	2.207	3.111	8.8	20.6	11 17	4 47.98	+11 29.6	1.415	2.368	8.3	20.3
11 27	4 36.36	- 3 52.5	2.200	3.119	7.9	20.5	11 27	4 37.85	+11 9.5	1.388	2.363	4.9	20.1
12 7	4 28.61	- 4 9.1	2.220	3.127	8.4	20.6	12 7	4 27.06	+10 59.8	1.389	2.358	5.6	20.1
12 17	4 21.39	- 4 4.9	2.266	3.135	9.9	20.7	12 17	4 17.00	+11 2.8	1.416	2.353	9.4	20.3
12 27	4 15.43	- 3 40.7	2.336	3.143	11.9	20.9	12 27	4 8.93	+11 19.5	1.469	2.348	13.6	20.6
1 6	4 11.24	- 2 59.5	2.428	3.151	13.8	21.0	1 6	4 3.69	+11 49.2	1.543	2.343	17.3	20.8
120923	1998 SM ₉₉	12	1.8 34°71	4°9/ 3.5	17		38449	1999 SM ₂₂	12	1.8 198°21	3°0/30.8	18	
10 28	5 1.21	+35 25.1	2.042	2.837	14.2	19.6	10 28	5 0.13	+14 58.7	2.006	2.830	13.4	19.6
11 7	4 55.68	+36 1.1	1.968	2.842	11.3	19.4	11 7	4 54.49	+14 25.0	1.927	2.827	10.2	19.4
11 17	4 47.55	+36 24.9	1.917	2.847	8.2	19.3	11 17	4 46.65	+13 51.5	1.872	2.825	6.6	19.2
11 27	4 37.66	+36 32.8	1.893	2.853	5.6	19.1	11 27	4 37.36	+13 21.0	1.845	2.822	3.4	19.0
12 7	4 27.22	+36 23.8	1.896	2.858	5.1	19.1	12 7	4 27.60	+12 56.0	1.847	2.819	4.1	19.1
12 17	4 17.50	+35 59.6	1.927	2.864	7.3	19.2	12 17	4 18.43	+12 39.2	1.878	2.815	7.5	19.3
12 27	4 9.67	+35 24.7	1.985	2.870	10.3	19.4	12 27	4 10.82	+12 32.6	1.936	2.810	11.1	19.5
1 6	4 4.48	+34 45.0	2.066	2.877	13.1	19.6	1 6	4 5.45	+12 36.7	2.017	2.806	14.2	19.7
77228	2001 FF ₃₅	12	1.8 226°49	2°8/ 2.8	18		3509	Sanshui	12	1.8 53°62	4°3/30.1	18	
10 28	5 2.71	+30 1.0	2.128	2.932	13.4	20.5	10 28	4 59.53	+15 53.3	1.525	2.365	16.0	15.7
11 7	4 56.68	+30 15.7	2.037	2.923	10.4	20.2	11 7	4 54.32	+14 30.6	1.470	2.380	12.1	15.4
11 17	4 48.15	+30 21.4	1.970	2.914	7.0	20.0	11 17	4 46.58	+13 6.6	1.439	2.395	7.9	15.2
11 27	4 37.88	+30 16.0	1.929	2.904	3.7	19.8	11 27	4 37.31	+11 47.1	1.434	2.410	4.5	15.1
12 7	4 26.97	+29 59.1	1.919	2.894	3.3	19.7	12 7	4 27.78	+10 38.3	1.456	2.425	5.5	15.2
12 17	4 16.61	+29 32.6	1.937	2.884	6.5	19.9	12 17	4 19.23	+ 9 45.3	1.506	2.441	9.2	15.4
12 27	4 7.95	+29 0.4	1.984	2.873	10.1	20.1	12 27	4 12.71	+ 9 11.1	1.581	2.456	13.0	15.7
1 6	4 1.78	+28 27.5	2.055	2.862	13.3	20.3	1 6	4 8.83	+ 8 55.7	1.677	2.472	16.3	16.0
477485	2010 BU ₃	12	1.8 4°83	2°1/ 1.4	16		404944	3493 T ₋₃	12	1.8 62°95	0°6/ 2.1	14	C
10 28	4 56.67	+18 5.7	1.075	1.942	19.4	20.8	10 28	5 3.62	+24 10.4	2.012	2.826	13.7	21.6
11 7	4 53.42	+17 59.1	1.017	1.941	14.7	20.5	11 7	4 56.74	+24 8.9	1.971	2.867	10.2	21.4
11 17	4 46.65	+17 52.3	0.977	1.941	9.2	20.2	11 17	4 47.78	+24 1.9	1.955	2.908	6.3	21.3
11 27	4 37.44	+17 47.3	0.960	1.943	3.5	19.9	11 27	4 37.65	+23 49.3	1.966	2.949	2.2	21.1
12 7	4 27.48	+17 46.0	0.967	1.947	4.1	19.9	12 7	4 27.46	+23 32.3	2.008	2.989	2.1	21.1
12 17	4 18.56	+17 50.9	0.997	1.952	9.7	20.3	12 17	4 18.24	+23 13.4	2.079	3.028	5.9	21.5
12 27	4 12.28	+18 4.3	1.049	1.959	15.0	20.6	12 27	4 10.87	+22 55.5	2.179	3.067	9.3	21.7
1 6	4 9.54	+18 26.9	1.121	1.967	19.5	20.9	1 6	4 5.83	+22 41.4	2.303	3.106	12.2	22.0
383187	2005 XV ₈	12	1.8 98°48	1°3/ 2.3	18		518763	2009 UN ₁₅₉	12	1.8 128°49	2°9/30.2	18	
10 28	5 4.26	+26 53.8	1.624	2.447	16.1	21.0	10 28						

EPHEMERIDES

12 1.8

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
2608 Seneca		12	1.8 284°58	7.1/28.4	18	R	327732 2006 SP ₂₈₃		12	1.9 61°18	5°0/30.8	18	
10 28	5 2.77	+ 3 22.5	2.282	3.077	12.9	22.5	10 28	5 3.22	+12 50.2	1.237	2.083	18.7	20.1
11 7	4 56.63	+ 2 15.6	2.159	3.029	10.6	22.3	11 7	4 57.49	+12 8.7	1.194	2.104	14.2	19.9
11 17	4 48.20	+ 1 13.3	2.061	2.981	8.4	22.0	11 17	4 48.70	+11 32.2	1.171	2.126	9.3	19.7
11 27	4 38.01	+ 0 21.1	1.991	2.930	7.2	21.9	11 27	4 38.07	+11 5.0	1.173	2.148	5.4	19.5
12 7	4 26.88	- 0 15.9	1.950	2.879	8.0	21.8	12 7	4 27.17	+10 50.8	1.200	2.170	6.1	19.7
12 17	4 15.83	- 0 33.8	1.938	2.826	10.4	21.9	12 17	4 17.53	+10 51.7	1.253	2.192	10.1	19.9
12 27	4 5.93	- 0 30.8	1.953	2.771	13.5	22.0	12 27	4 10.39	+11 8.1	1.330	2.215	14.4	20.3
1 6	3 58.03	- 0 7.5	1.990	2.715	16.4	22.1	1 6	4 6.41	+11 38.1	1.426	2.237	17.9	20.6
240957 2006 HZ ₅₄		12	1.8 155°32	5°7/30.1	18		98867 2001 BG ₄		12	1.9 279°47	0°4/ 1.8	18	
10 28	4 59.86	+ 6 49.9	2.003	2.819	13.7	20.5	10 28	5 1.83	+20 5.2	1.798	2.625	14.6	19.4
11 7	4 54.17	+ 6 10.1	1.935	2.824	10.8	20.4	11 7	4 56.43	+20 20.9	1.703	2.606	11.1	19.1
11 17	4 46.40	+ 5 37.6	1.891	2.828	7.8	20.2	11 17	4 48.28	+20 35.8	1.630	2.587	7.0	18.8
11 27	4 37.30	+ 5 16.0	1.874	2.832	5.8	20.1	11 27	4 38.09	+20 49.4	1.584	2.567	2.4	18.5
12 7	4 27.81	+ 5 8.4	1.885	2.836	6.4	20.1	12 7	4 26.99	+21 1.5	1.567	2.548	2.6	18.5
12 17	4 18.94	+ 5 16.1	1.925	2.840	8.9	20.3	12 17	4 16.31	+21 12.8	1.578	2.528	7.4	18.7
12 27	4 11.61	+ 5 38.9	1.990	2.843	11.8	20.5	12 27	4 7.36	+21 25.4	1.616	2.508	11.8	19.0
1 6	4 6.43	+ 6 15.2	2.078	2.845	14.5	20.7	1 6	4 1.08	+21 41.2	1.678	2.488	15.6	19.2
7046 Reshetnev		12	1.8 132°64	3°8/ 3.3	18		42097 2001 AO ₂₈		12	1.9 51°21	3°1/ 2.6	18	
10 28	5 1.59	+33 46.9	2.408	3.198	12.5	17.4	10 28	5 6.02	+27 41.4	1.357	2.188	18.2	18.0
11 7	4 55.57	+34 16.4	2.331	3.204	9.8	17.2	11 7	4 59.75	+28 20.7	1.314	2.215	13.9	17.8
11 17	4 47.33	+34 35.9	2.278	3.210	7.0	17.0	11 17	4 50.21	+28 50.3	1.291	2.243	9.0	17.6
11 27	4 37.63	+34 42.9	2.252	3.216	4.5	16.9	11 27	4 38.62	+29 6.6	1.293	2.271	4.3	17.4
12 7	4 27.45	+34 36.5	2.255	3.222	4.1	16.9	12 7	4 26.67	+29 8.9	1.321	2.299	3.9	17.5
12 17	4 17.87	+34 18.1	2.288	3.227	6.2	17.0	12 17	4 16.06	+28 59.9	1.377	2.328	8.1	17.8
12 27	4 9.88	+33 51.3	2.349	3.232	9.0	17.2	12 27	4 8.13	+28 44.8	1.457	2.356	12.3	18.1
1 6	4 4.14	+33 20.7	2.435	3.237	11.6	17.4	1 6	4 3.59	+28 29.3	1.560	2.385	15.9	18.4
124556 2001 RK ₁₃₇		12	1.9 153°58	1°4/ 1.4	18		511790 2015 FC ₁		12	1.9 164°88	2°0/ 2.3	17	
10 28	5 3.26	+18 57.9	1.968	2.787	13.8	20.5	10 28	5 7.00	+25 41.1	1.566	2.387	16.6	21.4
11 7	4 56.83	+18 41.5	1.896	2.796	10.4	20.3	11 7	5 0.54	+26 11.4	1.492	2.391	12.7	21.1
11 17	4 48.10	+18 23.0	1.849	2.804	6.4	20.1	11 17	4 50.86	+26 35.5	1.441	2.394	8.2	20.9
11 27	4 37.87	+18 3.5	1.829	2.811	2.4	19.8	11 27	4 38.93	+26 50.5	1.416	2.396	3.5	20.6
12 7	4 27.24	+17 44.8	1.839	2.818	2.8	19.9	12 7	4 26.23	+26 55.1	1.419	2.398	3.2	20.6
12 17	4 17.32	+17 29.2	1.879	2.824	6.9	20.1	12 17	4 14.39	+26 50.9	1.450	2.400	7.9	20.9
12 27	4 9.14	+17 19.1	1.946	2.829	10.6	20.4	12 27	4 4.88	+26 41.8	1.507	2.401	12.4	21.1
1 6	4 3.35	+17 16.4	2.038	2.833	13.8	20.6	1 6	3 58.62	+26 32.8	1.587	2.402	16.2	21.4
112537 2002 PK ₃₉		12	1.9 8°89	3°3/30.9	18		357456 2004 DP ₃₉		12	1.9 222°64	3°0/ 3.1	18	
10 28	4 58.75	+14 42.4	1.567	2.407	15.7	19.5	10 28	5 1.99	+31 50.1	2.272	3.069	12.9	21.4
11 7	4 53.98	+14 19.9	1.499	2.408	11.9	19.3	11 7	4 56.02	+31 56.9	2.181	3.062	10.1	21.2
11 17	4 46.58	+13 59.4	1.453	2.409	7.7	19.1	11 17	4 47.72	+31 53.4	2.114	3.054	6.9	21.0
11 27	4 37.42	+13 43.7	1.432	2.410	3.9	18.9	11 27	4 37.83	+31 37.8	2.074	3.046	3.9	20.8
12 7	4 27.71	+13 35.2	1.438	2.412	4.5	18.9	12 7	4 27.38	+31 10.1	2.063	3.037	3.4	20.7
12 17	4 18.75	+13 36.1	1.471	2.415	8.5	19.1	12 17	4 17.50	+30 32.4	2.082	3.028	6.2	20.9
12 27	4 11.71	+13 47.7	1.530	2.417	12.7	19.4	12 27	4 9.24	+29 49.0	2.130	3.018	9.5	21.1
1 6	4 7.36	+14 10.0	1.610	2.420	16.2	19.6	1 6	4 3.33	+29 4.9	2.203	3.008	12.6	21.3
54757 2001 KY ₅₈		12	1.9 143°62	3°5/30.9	18		397926 2008 WP ₃₀		12	1.9 329°77	1°7/ 2.3	18	
10 28	5 3.39	+13 1.1	1.820	2.641	14.6	19.6	10 28	4 59.20	+25 58.5	1.408	2.249	17.1	20.8
11 7	4 57.01	+12 41.6	1.753	2.651	11.1	19.4	11 7	4 55.06	+26 7.3	1.327	2.236	13.1	20.5
11 17	4 48.24	+12 25.3	1.710	2.660	7.3	19.2	11 17	4 47.67	+26 7.9	1.267	2.225	8.5	20.2
11 27	4 37.93	+12 14.6	1.694	2.669	4.0	19.0	11 27	4 37.92	+25 58.8	1.232	2.213	3.4	19.9
12 7	4 27.19	+12 11.3	1.707	2.677	4.5	19.1	12 7	4 27.26	+25 40.4	1.222	2.203	3.1	19.9
12 17	4 17.22	+12 17.0	1.748	2.685	8.0	19.3	12 17	4 17.33	+25 15.3	1.238	2.193	8.3	20.1
12 27	4 9.05	+12 32.5	1.817	2.692	11.7	19.6	12 27	4 9.69	+24 48.9	1.279	2.184	13.2	20.4
1 6	4 3.37	+12 57.6	1.909	2.698	14.9	19.8	1 6	4 5.31	+24 26.3	1.341	2.176	17.5	20.6
319781 2006 UK ₂₈₄		12	1.9 10°84	1°0/ 1.5	18		484038 2006 EN ₂₄		12	1.9 63°42	3°7/ 3.4	17	
10 28	4 58.69	+21 3.9	1.849	2.679	14.1	20.9	10 28	5 0.29	+33 33.8	2.264	3.060	13.0	21.8
11 7	4 53.63	+20 34.6	1.774	2.680	10.6	20.7	11 7	4 54.75	+33 51.3	2.183	3.060	10.2	21.6
11 17	4 46.23	+20 0.8	1.722	2.680	6.6	20.4	11 17	4 46.92	+33 58.1	2.125	3.060	7.2	21.4
11 27	4 37.28	+19 23.9	1.697	2.681	2.3	20.1	11 27	4 37.56	+33 51.8	2.093	3.060	4.5	21.2
12 7	4 27.87	+18 46.7	1.701	2.681	2.7	20.2	12 7	4 27.70	+33 32.2	2.091	3.060	4.0	21.2
12 17	4 19.15	+18 12.6	1.734	2.682	7.0	20.5	12 17	4 18.46	+33 1.1	2.118	3.061	6.4	21.3
12 27	4 12.16	+17 45.1	1.793	2.683	10.9	20.7	12 27	4 10.85	+32 22.8	2.173	3.061	9.4	21.5
1 6	4 7.58	+17 26.5	1.875	2.684	14.3	20.9	1 6	4 5.58	+31 42.0	2.252	3.061	12.2	21.7
420624 2012 HL ₇₀		12	1.9 117°50	2°1/ 2.6	17		364965 2008 GJ ₁₃₉		12	1.9 277°79	2°1/ 2.5	17	
10 28	5 0.59	+28 11.5	2.649	3.448	11.2	21.7	10 28	5 0.56	+27 25.2	2.008	2.823	13.7	21.7
11 7	4 54.51	+28 41.3	2.576	3.460	8.6	21.5	11 7	4 55.21	+27 42.9	1.919	2.814	10.5	21.4
11 17	4 46.55	+29 5.4	2.527	3.472	5.6	21.4	11 17	4 47.36	+27 53.8	1.854	2.804	6.9	21.2
11 27	4 37.36	+29 21.9	2.508	3.483	2.8	21.2	11 27	4 37.75	+27 56.1	1.815	2.794	3.2	20.9
12 7	4 27.78	+29 30.3	2.519	3.495	2.6	21.2	12 7	4 27.46	+27 49.4	1.805	2.784	2.9	20.9
12 17	4 18.72	+29 31.4	2.560	3.506	5.2	21.4	12 17	4 17.70	+27 35.1	1.824	2.774	6.6	21.1
12 27	4 11.00	+29 27.5	2.631	3.516	8.1	21.6	12 27	4 9.63	+27 16.7	1.871	2.764	10.4	21.3
1 6	4 5.21	+29 21.3	2.728	3.527	10.6	21.8	1 6	4 4.03	+26 58.2	1.941	2.754	13.7	21.5
193702 2001 FS ₆₂		12	1.9 292°04	2°1/ 1.3	18		477232 2009 RG ₁₂		12	1.9 79°78	1°8/ 1.4	16	
10 28	4 59.73	+17 16.5	1.695	2.529	15.0	20.3</							

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
215767	2004 FZ ₁₂₄	12	1.9 138°47'	2°9/ 3.0 18			189905	2003 SO ₉₉	12	1.9 90°08'	4°4/ 3.8 17		
10 28	5 2.67	+31 23.6	2.422	3.216	12.3	21.1	10 28	5 1.08	+36 4.8	2.305	3.091	13.1	19.8
11 7	4 56.25	+31 40.0	2.348	3.227	9.5	20.9	11 7	4 55.30	+36 21.4	2.229	3.098	10.4	19.7
11 17	4 47.71	+31 47.3	2.298	3.238	6.5	20.8	11 17	4 47.22	+36 25.4	2.177	3.105	7.5	19.5
11 27	4 37.80	+31 43.6	2.277	3.248	3.6	20.6	11 27	4 37.66	+36 14.6	2.151	3.111	5.1	19.4
12 7	4 27.51	+31 29.0	2.285	3.258	3.2	20.6	12 7	4 27.69	+35 48.6	2.154	3.118	4.5	19.3
12 17	4 17.86	+31 5.2	2.323	3.267	5.8	20.8	12 17	4 18.40	+35 9.8	2.187	3.125	6.5	19.5
12 27	4 9.78	+30 35.7	2.391	3.276	8.8	21.0	12 27	4 10.82	+34 22.6	2.247	3.131	9.3	19.7
1 6	4 3.91	+30 4.7	2.483	3.284	11.5	21.2	1 6	4 5.60	+33 32.5	2.331	3.138	11.9	19.8
418832	2008 WM ₈	12	1.9 313°08'	1°1/ 1.4 17			483126	2015 OQ ₁₀	12	1.9 27°43'	2°5/ 1.3 18		
10 28	4 56.28	+19 22.6	2.264	3.089	12.0	21.6	10 28	5 0.79	+15 49.2	1.609	2.444	15.6	21.1
11 7	4 51.54	+19 7.3	2.180	3.082	9.0	21.4	11 7	4 55.53	+15 44.7	1.539	2.446	11.8	20.9
11 17	4 44.86	+18 50.0	2.119	3.076	5.6	21.2	11 17	4 47.59	+15 41.9	1.491	2.448	7.5	20.7
11 27	4 36.87	+18 31.7	2.087	3.069	2.1	21.0	11 27	4 37.83	+15 42.4	1.469	2.450	3.3	20.4
12 7	4 28.45	+18 14.0	2.084	3.063	2.4	21.0	12 7	4 27.50	+15 47.6	1.475	2.452	3.8	20.4
12 17	4 20.49	+17 58.9	2.110	3.057	6.1	21.2	12 17	4 17.90	+15 58.7	1.509	2.455	8.1	20.7
12 27	4 13.86	+17 48.6	2.164	3.051	9.5	21.4	12 27	4 10.25	+16 16.9	1.568	2.457	12.3	21.0
1 6	4 9.19	+17 44.6	2.242	3.045	12.5	21.6	1 6	4 5.31	+16 42.7	1.649	2.460	15.9	21.2
328382	2008 RT ₄₆	12	1.9 160°08'	1°4/ 1.3 17			57947	2002 JB ₆₂	12	1.9 237°19'	3°4/30.8 18		
10 28	4 56.78	+18 32.3	2.513	3.332	11.1	21.5	10 28	5 0.09	+13 59.8	1.868	2.696	14.1	19.7
11 7	4 51.64	+18 11.2	2.435	3.334	8.4	21.3	11 7	4 54.72	+13 30.7	1.787	2.689	10.8	19.5
11 17	4 44.78	+17 48.6	2.381	3.336	5.2	21.1	11 17	4 46.99	+13 3.0	1.729	2.681	7.1	19.3
11 27	4 36.82	+17 25.7	2.357	3.338	2.0	20.9	11 27	4 37.63	+12 39.6	1.698	2.674	3.8	19.0
12 7	4 28.53	+17 4.2	2.362	3.340	2.5	21.0	12 7	4 27.71	+12 23.0	1.695	2.666	4.4	19.1
12 17	4 20.72	+16 46.0	2.398	3.342	5.7	21.2	12 17	4 18.36	+12 15.7	1.721	2.658	8.0	19.3
12 27	4 14.14	+16 33.1	2.462	3.343	8.7	21.4	12 27	4 10.64	+12 19.2	1.773	2.650	11.8	19.5
1 6	4 9.33	+16 26.7	2.551	3.344	11.4	21.6	1 6	4 5.30	+12 33.9	1.848	2.642	15.1	19.7
413304	2003 UR ₂₂₉	12	1.9 30°33'	1°0/ 1.4 18			233372	2006 DQ ₁₈₂	12	1.9 122°20'	0°4/ 2.0 18		
10 28	4 56.90	+21 32.0	1.904	2.736	13.7	20.3	10 28	5 1.90	+24 0.6	1.758	2.583	14.9	21.0
11 7	4 52.16	+20 51.8	1.838	2.744	10.2	20.1	11 7	4 56.22	+23 51.7	1.686	2.588	11.3	20.8
11 17	4 45.25	+20 6.6	1.795	2.753	6.3	19.9	11 17	4 47.94	+23 36.4	1.637	2.593	7.0	20.6
11 27	4 36.98	+19 18.5	1.779	2.762	2.2	19.6	11 27	4 37.94	+23 14.8	1.614	2.597	2.4	20.3
12 7	4 28.39	+18 30.7	1.792	2.772	2.6	19.7	12 7	4 27.44	+22 48.3	1.620	2.602	2.4	20.3
12 17	4 20.53	+17 47.0	1.833	2.782	6.7	19.9	12 17	4 17.73	+22 20.1	1.655	2.606	7.0	20.6
12 27	4 14.32	+17 10.9	1.902	2.792	10.4	20.2	12 27	4 9.96	+21 54.0	1.717	2.610	11.1	20.8
1 6	4 10.37	+16 44.8	1.994	2.803	13.6	20.4	1 6	4 4.86	+21 33.6	1.801	2.614	14.6	21.1
281773	2009 RG ₇₄	12	1.9 200°02'	3°7/ 2.8 18			130005	1999 VE ₄₃	12	1.9 143°20'	0°6/ 1.7 18		
10 28	5 6.19	+30 20.8	1.732	2.541	15.8	21.4	10 28	5 1.99	+20 26.0	2.080	2.898	13.2	20.8
11 7	4 59.87	+30 54.1	1.651	2.539	12.3	21.1	11 7	4 55.86	+20 22.7	2.007	2.906	9.9	20.6
11 17	4 50.45	+31 17.7	1.592	2.537	8.4	20.9	11 17	4 47.53	+20 16.8	1.959	2.915	6.1	20.4
11 27	4 38.82	+31 27.9	1.560	2.534	4.6	20.7	11 27	4 37.78	+20 8.8	1.939	2.922	2.1	20.1
12 7	4 26.39	+31 23.0	1.556	2.530	4.2	20.7	12 7	4 27.61	+19 59.6	1.949	2.930	2.3	20.1
12 17	4 14.70	+31 4.6	1.580	2.526	7.8	20.9	12 17	4 18.11	+19 51.0	1.989	2.937	6.3	20.4
12 27	4 5.20	+30 37.7	1.631	2.522	11.8	21.1	12 27	4 10.23	+19 45.2	2.057	2.943	9.9	20.7
1 6	3 58.81	+30 8.4	1.704	2.517	15.4	21.3	1 6	4 4.62	+19 44.3	2.149	2.949	13.0	20.9
73580	6285 P-L	12	1.9 112°26'	2°8/ 2.7 18			485468	2011 SY ₂₂	12	1.9 3°98'	2°2/ 1.3 17		
10 28	5 8.24	+29 2.0	1.566	2.381	16.9	20.2	10 28	4 51.02	+19 55.1	0.997	1.876	19.5	19.4
11 7	5 1.22	+29 14.8	1.506	2.399	13.0	20.0	11 7	4 49.35	+19 20.9	0.944	1.874	14.7	19.2
11 17	4 51.08	+29 16.6	1.468	2.416	8.5	19.7	11 17	4 44.23	+18 42.0	0.908	1.875	9.2	18.9
11 27	4 38.95	+29 5.0	1.455	2.433	4.1	19.5	11 27	4 36.79	+18 2.1	0.894	1.878	3.5	18.6
12 7	4 26.37	+28 40.2	1.471	2.449	3.6	19.5	12 7	4 28.67	+17 26.4	0.903	1.884	4.2	18.6
12 17	4 14.95	+28 5.8	1.515	2.465	7.7	19.8	12 17	4 21.64	+16 59.8	0.935	1.892	9.9	19.0
12 27	4 6.02	+27 27.9	1.586	2.480	11.9	20.1	12 27	4 17.18	+16 46.5	0.988	1.903	15.1	19.3
1 6	4 0.33	+26 52.4	1.680	2.494	15.5	20.4	1 6	4 16.11	+16 47.6	1.059	1.915	19.5	19.6
302792	2002 XX ₈₇	12	1.9 34°51'	6°6/ 3.1 18			198776	2005 ET ₁₀₁	12	1.9 278°78'	2°7/30.7 18		
10 28	5 6.90	+32 49.1	1.237	2.064	19.8	18.7	10 28	4 55.58	+15 2.1	2.422	3.246	11.4	20.1
11 7	5 1.00	+34 17.7	1.199	2.092	15.6	18.6	11 7	4 50.84	+14 26.5	2.339	3.239	8.6	19.9
11 17	4 51.27	+35 31.1	1.181	2.121	11.1	18.4	11 17	4 44.35	+13 50.9	2.281	3.233	5.6	19.7
11 27	4 39.05	+36 21.7	1.187	2.152	7.4	18.3	11 27	4 36.72	+13 17.8	2.251	3.227	3.0	19.5
12 7	4 26.30	+36 46.0	1.218	2.183	6.9	18.3	12 7	4 28.71	+12 49.4	2.250	3.221	3.5	19.5
12 17	4 15.06	+36 46.4	1.274	2.215	9.8	18.6	12 17	4 21.14	+12 28.2	2.279	3.215	6.4	19.7
12 27	4 6.93	+36 30.0	1.354	2.248	13.5	18.9	12 27	4 14.79	+12 15.8	2.336	3.209	9.5	19.9
1 6	4 2.68	+36 5.8	1.454	2.281	16.8	19.2	1 6	4 10.21	+12 13.1	2.417	3.203	12.2	20.1
145400	2005 NN ₆₅	12	1.9 201°17'	1°2/ 1.4 18			443394	2014 HU ₂₄	12	1.9 154°41'	5°1/29.7 18		
10 28	4 59.15	+19 37.9	2.081	2.905	13.0	20.8	10 28	4 59.46	+11 1.3	1.960	2.783	13.7	21.7
11 7	4 53.79	+19 16.7	2.002	2.904	9.8	20.6	11 7	4 53.94	+9 49.4	1.891	2.787	10.6	21.5
11 17	4 46.28	+18 52.8	1.946	2.902	6.1	20.3	11 17	4 46.32	+8 39.8	1.847	2.791	7.4	21.3
11 27	4 37.36	+18 27.4	1.918	2.901	2.2	20.1	11 27	4 37.37	+7 37.4	1.830	2.795	5.2	21.2
12 7	4 27.98	+18 2.5	1.920	2.899	2.6	20.1	12 7	4 28.07	+6 46.7	1.842	2.799	5.9	21.2
12 17	4 19.18	+17 40.7	1.950	2.897	6.5	20.4	12 17	4 19.42	+6 11.4	1.882	2.802	8.8	21.4
12 27	4 11.91	+17 24.4	2.009	2.894	10.2	20.6	12 27	4 12.36	+5 53.0	1.949	2.804	11.9	21.6
1 6	4 6.83	+17 15.6	2.091	2.892	13.3	20.8	1 6	4 7.48	+5 51.3	2.038	2.807	14.7	21.8
278117	2007 CA ₅	12	1.9 287°22'	1°0/ 1.6 18			508930	2004 GW ₉	12	1.9 190°14'	9°0/29.4 18		
10 28	5 1.09	+20 32.0	1.503	2.342	16.3	21.6	1						

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
212246	2005 <i>JV</i> ₆₅		12 1.9 190° 97	0° 6 / 2.1 18			269448	2009 <i>SA</i> ₂₅₀		12 1.9 341° 63	0° 7 / 1.7 17		
10 28	5 0.91	+25 36.9	2.129	2.944	13.1	20.6	10 28	4 56.00	+21 32.0	1.709	2.548	14.6	20.5
11 7	4 55.12	+25 13.9	2.047	2.943	9.9	20.3	11 7	4 51.99	+21 14.0	1.627	2.538	11.1	20.3
11 17	4 47.12	+24 43.2	1.988	2.942	6.2	20.1	11 17	4 45.46	+20 51.5	1.569	2.528	6.9	20.0
11 27	4 37.66	+24 5.1	1.958	2.940	2.2	19.9	11 27	4 37.19	+20 25.4	1.535	2.519	2.3	19.7
12 7	4 27.77	+23 21.7	1.957	2.938	2.1	19.8	12 7	4 28.31	+19 58.0	1.530	2.511	2.6	19.7
12 17	4 18.52	+22 36.1	1.986	2.936	6.1	20.1	12 17	4 20.03	+19 32.3	1.551	2.503	7.3	20.0
12 27	4 10.89	+21 52.6	2.044	2.933	9.8	20.3	12 27	4 13.51	+19 11.9	1.599	2.497	11.5	20.2
1 6	4 5.53	+21 14.9	2.126	2.930	13.0	20.5	1 6	4 9.53	+18 59.4	1.669	2.491	15.2	20.4
329141	2011 <i>EW</i> ₈		12 1.9 221° 81	4° 0 / 30.4 17			169726	2002 <i>NE</i> ₃₂		12 1.9 86° 33	2° 0 / 1.0 18		
10 28	4 56.60	+9 31.5	2.436	3.252	11.6	21.3	10 28	5 3.00	+19 16.3	1.923	2.744	14.0	20.6
11 7	4 51.55	+9 6.1	2.356	3.248	9.0	21.1	11 7	4 56.39	+18 22.1	1.873	2.773	10.4	20.4
11 17	4 44.78	+8 45.1	2.302	3.245	6.2	20.9	11 17	4 47.69	+17 24.9	1.848	2.803	6.4	20.3
11 27	4 36.87	+8 31.1	2.276	3.242	4.2	20.8	11 27	4 37.80	+16 27.7	1.850	2.831	2.7	20.1
12 7	4 28.59	+8 26.1	2.278	3.238	4.7	20.8	12 7	4 27.81	+15 34.3	1.883	2.860	3.3	20.2
12 17	4 20.74	+8 31.2	2.311	3.235	7.1	21.0	12 17	4 18.77	+14 48.3	1.946	2.887	6.9	20.5
12 27	4 14.09	+8 47.1	2.370	3.231	9.9	21.2	12 27	4 11.54	+14 12.8	2.036	2.914	10.4	20.7
1 6	4 9.19	+9 13.0	2.454	3.227	12.4	21.3	1 6	4 6.63	+13 49.3	2.150	2.941	13.4	21.0
91113	1998 <i>HA</i> ₅₃		12 1.9 39° 37	10° 4 / 4.4 18			192171	2007 <i>DC</i> ₈₃		12 1.9 240° 05	2° 7 / 2.7 18		
10 28	5 9.31	+42 33.2	1.453	2.238	19.4	17.5	10 28	5 4.35	+29 1.0	1.835	2.647	14.9	21.0
11 7	5 3.39	+44 16.4	1.396	2.249	16.4	17.4	11 7	4 58.38	+29 14.8	1.744	2.635	11.6	20.7
11 17	4 53.19	+45 39.6	1.360	2.261	13.3	17.2	11 17	4 49.53	+29 19.5	1.675	2.623	7.7	20.5
11 27	4 39.86	+46 32.5	1.346	2.274	11.0	17.1	11 27	4 38.59	+29 12.4	1.633	2.610	3.8	20.2
12 7	4 25.45	+46 49.4	1.355	2.287	10.5	17.1	12 7	4 26.84	+28 53.1	1.620	2.597	3.4	20.1
12 17	4 12.26	+46 31.5	1.390	2.300	12.0	17.2	12 17	4 15.69	+28 23.8	1.635	2.584	7.3	20.4
12 27	4 2.34	+45 47.4	1.447	2.314	14.6	17.4	12 27	4 6.50	+27 49.1	1.677	2.570	11.4	20.6
1 6	3 56.73	+44 48.7	1.525	2.329	17.3	17.7	1 6	4 0.17	+27 14.9	1.743	2.555	15.1	20.8
452206	2015 <i>RB</i> ₁₉₇		12 1.9 341° 45	3° 6 / 2.6 17			324740	2007 <i>EU</i> ₂₀₂		12 1.9 197° 14	4° 5 / 29.9 18		
10 28	5 1.43	+28 50.9	1.641	2.465	15.9	20.7	10 28	4 56.68	+9 26.3	2.387	3.203	11.7	21.8
11 7	4 56.45	+29 36.7	1.562	2.459	12.4	20.5	11 7	4 51.62	+8 40.1	2.310	3.202	9.1	21.7
11 17	4 48.44	+30 15.0	1.505	2.454	8.3	20.2	11 17	4 44.83	+7 57.6	2.259	3.200	6.4	21.5
11 27	4 38.22	+30 42.1	1.473	2.449	4.5	20.0	11 27	4 36.92	+7 22.1	2.235	3.198	4.6	21.4
12 7	4 27.14	+30 55.8	1.469	2.444	4.2	20.0	12 7	4 28.65	+6 56.5	2.241	3.196	5.1	21.4
12 17	4 16.72	+30 56.8	1.492	2.440	7.9	20.2	12 17	4 20.86	+6 42.9	2.276	3.194	7.5	21.5
12 27	4 8.40	+30 48.7	1.540	2.437	11.9	20.4	12 27	4 14.30	+6 42.3	2.337	3.192	10.2	21.7
1 6	4 3.14	+30 36.8	1.611	2.434	15.6	20.6	1 6	4 9.51	+6 54.2	2.423	3.189	12.7	21.9
362227	2009 <i>HW</i> ₉₃		12 1.9 264° 67	4° 6 / 30.6 18			405713	2005 <i>WK</i> ₃₅		12 1.9 292° 84	0° 0 / 1.7 17		
10 28	4 59.44	+9 31.6	1.991	2.812	13.6	21.3	10 28	4 58.32	+24 7.9	2.065	2.888	13.1	21.0
11 7	4 54.15	+9 11.6	1.904	2.799	10.6	21.1	11 7	4 53.28	+23 37.8	1.981	2.882	9.9	20.8
11 17	4 46.63	+8 57.2	1.841	2.786	7.3	20.9	11 17	4 46.04	+23 0.7	1.921	2.877	6.2	20.6
11 27	4 37.55	+8 51.4	1.805	2.773	4.8	20.7	11 27	4 37.35	+22 17.5	1.889	2.872	2.1	20.3
12 7	4 27.87	+8 56.4	1.797	2.760	5.3	20.7	12 7	4 28.20	+21 30.7	1.885	2.867	2.2	20.3
12 17	4 18.64	+9 13.4	1.818	2.747	8.3	20.9	12 17	4 19.65	+20 43.8	1.911	2.861	6.3	20.6
12 27	4 10.88	+9 42.7	1.865	2.733	11.7	21.1	12 27	4 12.67	+20 0.9	1.965	2.856	10.1	20.8
1 6	4 5.33	+10 23.1	1.935	2.720	14.9	21.2	1 6	4 7.93	+19 25.4	2.043	2.851	13.3	21.0
74146	1998 <i>QS</i> ₈₄		12 1.9 88° 07	2° 0 / 1.1 18			60939	2000 <i>JH</i> ₅₄		12 1.9 164° 76	0° 3 / 1.8 18		
10 28	5 2.91	+19 11.4	1.907	2.729	14.1	19.5	10 28	5 3.69	+21 25.1	1.933	2.751	14.0	20.4
11 7	4 56.35	+18 20.5	1.857	2.757	10.5	19.3	11 7	4 57.37	+21 23.0	1.857	2.756	10.6	20.2
11 17	4 47.68	+17 26.8	1.830	2.785	6.5	19.1	11 17	4 48.60	+21 17.3	1.806	2.761	6.6	20.0
11 27	4 37.78	+16 33.0	1.832	2.813	2.7	18.9	11 27	4 38.21	+21 8.3	1.781	2.764	2.2	19.7
12 7	4 27.77	+15 42.8	1.863	2.840	3.3	19.0	12 7	4 27.32	+20 56.7	1.787	2.767	2.4	19.7
12 17	4 18.70	+14 59.7	1.925	2.866	7.0	19.3	12 17	4 17.12	+20 44.7	1.822	2.770	6.7	20.0
12 27	4 11.45	+14 26.9	2.013	2.892	10.5	19.6	12 27	4 8.70	+20 35.0	1.884	2.772	10.6	20.3
1 6	4 6.54	+14 5.6	2.126	2.918	13.4	19.8	1 6	4 2.77	+20 30.1	1.971	2.773	14.0	20.5
331005	2009 <i>UU</i> ₈₁		12 1.9 4° 93	2° 6 / 2.6 17			257260	2009 <i>FK</i> ₄₆		12 1.9 127° 48	0° 0 / 1.7 18		
10 28	4 59.98	+28 26.3	2.037	2.852	13.6	20.4	10 28	5 7.01	+21 50.7	1.638	2.460	16.0	20.9
11 7	4 54.71	+28 54.5	1.959	2.852	10.5	20.2	11 7	5 0.11	+21 56.0	1.574	2.475	12.0	20.7
11 17	4 47.02	+29 15.6	1.904	2.852	6.9	20.0	11 17	4 50.38	+21 57.5	1.534	2.489	7.5	20.4
11 27	4 37.69	+29 27.5	1.876	2.852	3.5	19.8	11 27	4 38.80	+21 54.3	1.520	2.503	2.5	20.2
12 7	4 27.78	+29 29.4	1.876	2.853	3.2	19.8	12 7	4 26.75	+21 47.4	1.534	2.516	2.6	20.2
12 17	4 18.46	+29 22.5	1.906	2.854	6.5	20.0	12 17	4 15.66	+21 38.7	1.578	2.528	7.4	20.5
12 27	4 10.82	+29 10.0	1.962	2.855	10.0	20.2	12 27	4 6.78	+21 31.6	1.649	2.539	11.7	20.8
1 6	4 5.62	+28 55.8	2.043	2.857	13.1	20.4	1 6	4 0.83	+21 29.1	1.742	2.550	15.3	21.1
84118	<i>Bracalicioci</i>		12 1.9 67° 12	1° 9 / 2.3 18			278640	2008 <i>RZ</i> ₅		12 1.9 53° 84	4° 8 / 3.9 17		
10 28	5 6.91	+25 21.0	1.323	2.157	18.4	18.9	10 28	5 1.12	+36 49.2	2.189	2.977	13.6	20.9
11 7	5 0.54	+25 48.5	1.274	2.179	14.0	18.7	11 7	4 55.50	+37 10.9	2.116	2.984	10.9	20.7
11 17	4 50.80	+26 8.5	1.246	2.201	8.8	18.5	11 17	4 47.45	+37 19.4	2.065	2.991	8.0	20.5
11 27	4 38.92	+26 18.4	1.242	2.223	3.6	18.2	11 27	4 37.82	+37 11.8	2.040	2.998	5.5	20.4
12 7	4 26.61	+26 17.8	1.265	2.246	3.3	18.3	12 7	4 27.74	+36 47.6	2.044	3.005	5.0	20.4
12 17	4 15.60	+26 9.3	1.315	2.268	8.2	18.6	12 17	4 18.39	+36 9.1	2.076	3.013	6.9	20.5
12 27	4 7.30	+25 57.7	1.390	2.290	12.8	19.0	12 27	4 10.83	+35 21.2	2.135	3.020	9.7	20.7
1 6	4 2.46	+25 47.8	1.487	2.312	16.6	19.3	1 6	4 5.77	+34 29.6	2.219	3.028	12.4	20.9
398187	2010 <i>KK</i> ₁₂₈		12 1.9 263° 16	5° 6 / 29.2 18			118855	2000 <i>SC</i> ₂₉₈		12 1.9 356° 75			

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
213148	2000 <i>JB</i> ₆₇		12 1.9 104°83	3°9/ 2.9 18			145172	2005 <i>JX</i> ₃		12 1.9 131°64	1°1/ 1.5 18		
10 28	5 4.08	+31 9.0	1.940	2.745	14.5	20.3	10 28	5 0.89	+19 45.8	2.134	2.953	12.9	20.8
11 7	4 57.98	+31 55.4	1.866	2.750	11.4	20.2	11 7	4 54.95	+19 27.7	2.064	2.964	9.6	20.6
11 17	4 49.16	+32 32.8	1.814	2.754	7.9	20.0	11 17	4 46.95	+19 7.1	2.019	2.974	6.0	20.4
11 27	4 38.44	+32 57.5	1.789	2.759	4.7	19.8	11 27	4 37.64	+18 45.1	2.002	2.984	2.1	20.1
12 7	4 27.06	+33 7.7	1.793	2.764	4.3	19.8	12 7	4 27.99	+18 23.4	2.015	2.994	2.5	20.2
12 17	4 16.37	+33 4.3	1.826	2.768	7.2	19.9	12 17	4 19.00	+18 4.2	2.058	3.003	6.3	20.4
12 27	4 7.60	+32 51.0	1.885	2.773	10.6	20.2	12 27	4 11.57	+17 50.1	2.128	3.012	9.8	20.7
1 6	4 1.60	+32 33.1	1.969	2.777	13.7	20.4	1 6	4 6.31	+17 42.6	2.223	3.021	12.8	20.9
481975	2009 <i>FS</i> ₆₃		12 1.9 231°66	3°2/ 2.7 17			239686	2008 <i>YE</i> ₉₀		12 1.9 180°81	2°6/ 1.1 18		
10 28	5 3.69	+30 0.2	2.166	2.966	13.3	21.8	10 28	5 0.95	+14 53.5	2.049	2.870	13.3	20.8
11 7	4 57.55	+30 37.6	2.074	2.958	10.4	21.6	11 7	4 55.14	+14 38.5	1.971	2.871	10.1	20.6
11 17	4 48.87	+31 7.7	2.006	2.948	7.1	21.4	11 17	4 47.17	+14 25.0	1.918	2.871	6.5	20.4
11 27	4 38.36	+31 27.4	1.966	2.939	4.0	21.2	11 27	4 37.74	+14 14.5	1.893	2.871	3.2	20.2
12 7	4 27.11	+31 35.1	1.956	2.929	3.7	21.1	12 7	4 27.85	+14 8.9	1.897	2.871	3.6	20.2
12 17	4 16.33	+31 31.4	1.975	2.919	6.6	21.3	12 17	4 18.53	+14 9.7	1.930	2.870	7.1	20.4
12 27	4 7.20	+31 19.5	2.022	2.908	10.1	21.5	12 27	4 10.75	+14 18.1	1.991	2.869	10.6	20.7
1 6	4 0.57	+31 3.8	2.093	2.897	13.2	21.7	1 6	4 5.19	+14 34.6	2.076	2.867	13.7	20.9
1054	Forsytia		12 1.9 36°18	1°9/ 1.5 18			483399	1997 <i>HZ</i> ₃		12 1.9 192°18	3°9/30.4 17		
10 28	5 0.06	+15 55.1	1.769	2.600	14.6	14.5	10 28	4 57.28	+ 8 23.3	2.809	3.615	10.5	22.6
11 7	4 54.74	+16 9.2	1.704	2.609	11.0	14.3	11 7	4 51.85	+ 8 0.7	2.728	3.613	8.1	22.4
11 17	4 47.01	+16 25.7	1.662	2.618	6.9	14.1	11 17	4 44.90	+ 7 42.6	2.672	3.611	5.7	22.3
11 27	4 37.69	+16 45.1	1.646	2.628	2.8	13.9	11 27	4 36.95	+ 7 31.3	2.645	3.608	4.0	22.2
12 7	4 27.89	+17 7.4	1.659	2.638	3.1	13.9	12 7	4 28.68	+ 7 28.4	2.649	3.605	4.4	22.2
12 17	4 18.80	+17 33.1	1.701	2.648	7.2	14.2	12 17	4 20.79	+ 7 35.0	2.683	3.601	6.5	22.3
12 27	4 11.49	+18 2.6	1.769	2.659	11.1	14.5	12 27	4 13.95	+ 7 51.3	2.745	3.597	9.0	22.5
1 6	4 6.64	+18 36.3	1.860	2.670	14.4	14.7	1 6	4 8.66	+ 8 16.8	2.831	3.592	11.2	22.6
146294	2001 <i>HP</i> ₃₀		12 1.9 343°74	3°5/ 1.3 18			262300	2006 <i>SV</i> ₄₁₁		12 1.9 39°73	0°9/ 2.1 18		
10 28	5 1.51	+14 4.7	1.332	2.177	17.7	19.9	10 28	5 1.44	+23 27.0	1.764	2.591	14.8	20.5
11 7	4 56.63	+13 59.4	1.263	2.174	13.5	19.7	11 7	4 55.99	+23 49.2	1.692	2.595	11.2	20.3
11 17	4 48.58	+13 58.5	1.214	2.171	8.8	19.4	11 17	4 47.91	+24 7.5	1.643	2.599	7.1	20.1
11 27	4 38.30	+14 4.2	1.189	2.169	4.3	19.1	11 27	4 38.04	+24 20.4	1.621	2.603	2.6	19.8
12 7	4 27.23	+14 18.1	1.190	2.166	4.8	19.2	12 7	4 27.57	+24 27.7	1.626	2.607	2.5	19.8
12 17	4 16.97	+14 41.2	1.218	2.165	9.5	19.4	12 17	4 17.81	+24 30.5	1.660	2.612	6.9	20.1
12 27	4 8.99	+15 14.0	1.269	2.163	14.2	19.7	12 27	4 9.94	+24 31.5	1.721	2.617	11.0	20.4
1 6	4 4.19	+15 55.9	1.342	2.162	18.3	20.0	1 6	4 4.75	+24 33.7	1.805	2.622	14.5	20.6
294900	2008 <i>DJ</i> ₂₁		12 1.9 225°31	1°4/ 2.3 18			361765	2008 <i>AE</i> ₅		12 1.9 262°23	3°8/ 3.4 17		
10 28	5 0.84	+25 43.7	1.993	2.811	13.7	21.6	10 28	5 2.06	+33 30.9	2.064	2.862	14.0	21.2
11 7	4 55.34	+25 57.3	1.913	2.810	10.4	21.4	11 7	4 56.44	+33 40.9	1.971	2.850	11.1	20.9
11 17	4 47.42	+26 5.0	1.857	2.809	6.7	21.2	11 17	4 48.21	+33 38.7	1.900	2.838	7.8	20.7
11 27	4 37.85	+26 5.5	1.827	2.808	2.7	20.9	11 27	4 38.15	+33 21.7	1.856	2.825	4.7	20.5
12 7	4 27.71	+25 59.0	1.827	2.807	2.5	20.9	12 7	4 27.42	+32 49.7	1.841	2.812	4.1	20.4
12 17	4 18.18	+25 47.0	1.855	2.806	6.4	21.2	12 17	4 17.28	+32 4.9	1.855	2.799	6.9	20.6
12 27	4 10.35	+25 32.7	1.912	2.805	10.2	21.4	12 27	4 8.95	+31 12.6	1.896	2.786	10.4	20.8
1 6	4 4.96	+25 19.7	1.992	2.804	13.5	21.6	1 6	4 3.22	+30 18.8	1.961	2.773	13.7	21.0
185488	2007 <i>EF</i> ₁₅₉		12 1.9 71°72	1°4/ 1.4 18			190201	2005 <i>YX</i> ₁₄₅		12 1.9 291°85	4°6/ 3.9 17		
10 28	4 58.55	+18 44.6	2.034	2.861	13.1	20.7	10 28	5 0.98	+36 16.9	2.176	2.966	13.6	19.9
11 7	4 53.36	+18 28.8	1.962	2.865	9.9	20.5	11 7	4 55.49	+36 28.3	2.090	2.961	10.9	19.7
11 17	4 46.04	+18 11.3	1.913	2.870	6.1	20.3	11 17	4 47.53	+36 26.2	2.027	2.955	7.9	19.5
11 27	4 37.35	+17 53.6	1.892	2.874	2.3	20.0	11 27	4 37.90	+36 7.9	1.990	2.950	5.3	19.4
12 7	4 28.25	+17 37.3	1.900	2.879	2.7	20.1	12 7	4 27.72	+35 33.3	1.981	2.945	4.7	19.3
12 17	4 19.77	+17 24.4	1.937	2.884	6.5	20.3	12 17	4 18.21	+34 44.7	2.000	2.940	6.9	19.5
12 27	4 12.84	+17 17.2	2.002	2.888	10.1	20.6	12 27	4 10.47	+33 47.3	2.048	2.936	9.9	19.6
1 6	4 8.08	+17 17.0	2.090	2.893	13.2	20.8	1 6	4 5.23	+32 47.3	2.120	2.931	12.8	19.8
287015	2002 <i>QJ</i> ₈₃		12 1.9 215°45	1°0/ 1.5 18			397316	2006 <i>SW</i> ₃₈₁		12 1.9 157°69	5°8/29.6 18		
10 28	5 0.52	+20 25.1	2.104	2.924	13.0	21.4	10 28	4 58.66	+ 5 17.5	2.347	3.153	12.2	22.2
11 7	4 54.88	+20 3.5	2.018	2.919	9.8	21.2	11 7	4 53.05	+ 4 24.6	2.279	3.160	9.7	22.0
11 17	4 47.03	+19 38.4	1.957	2.913	6.1	21.0	11 17	4 45.69	+ 3 38.5	2.237	3.166	7.3	21.9
11 27	4 37.70	+19 10.8	1.923	2.906	2.2	20.7	11 27	4 37.23	+ 3 3.1	2.222	3.171	5.8	21.8
12 7	4 27.87	+18 42.6	1.919	2.899	2.5	20.7	12 7	4 28.47	+ 2 41.5	2.236	3.176	6.4	21.8
12 17	4 18.58	+18 16.5	1.945	2.892	6.5	20.9	12 17	4 20.23	+ 2 35.3	2.279	3.181	8.4	22.0
12 27	4 10.83	+17 55.5	1.999	2.884	10.2	21.2	12 27	4 13.30	+ 2 44.8	2.349	3.185	10.9	22.2
1 6	4 5.29	+17 41.7	2.077	2.876	13.5	21.4	1 6	4 8.20	+ 3 8.4	2.441	3.188	13.2	22.3
305136	2007 <i>VO</i> ₁₅₅		12 1.9 288°43	2°2/ 2.5 17			135483	2001 <i>WM</i> ₉₉		12 1.9 23°15	5°1/30.2 17		
10 28	5 1.18	+27 37.6	1.794	2.615	14.9	20.8	10 28	4 55.15	+ 7 2.9	2.219	3.039	12.4	19.4
11 7	4 56.06	+27 51.4	1.702	2.599	11.5	20.5	11 7	4 50.58	+ 6 29.6	2.152	3.043	9.7	19.2
11 17	4 48.13	+27 57.4	1.632	2.583	7.5	20.3	11 17	4 44.24	+ 6 3.1	2.110	3.048	7.1	19.1
11 27	4 38.16	+27 53.4	1.589	2.568	3.5	20.0	11 27	4 36.76	+ 5 46.5	2.094	3.053	5.3	19.0
12 7	4 27.34	+27 39.1	1.573	2.552	3.1	19.9	12 7	4 28.97	+ 5 42.2	2.107	3.059	5.7	19.0
12 17	4 17.07	+27 16.5	1.585	2.536	7.2	20.2	12 17	4 21.68	+ 5 51.2	2.148	3.065	8.0	19.2
12 27	4 8.67	+26 49.8	1.625	2.521	11.5	20.4	12 27	4 15.69	+ 6 13.6	2.215	3.071	10.6	19.3
1 6	4 3.06	+26 23.9	1.687	2.506	15.2	20.6	1 6	4 11.53	+ 6 47.9	2.305	3.078	13.1	19.5
373883	2003 <i>SB</i> ₂₃₄		12 1.9 115°76	1°5/ 1.5 16			364404	2006 <i>VB</i> ₁₁₂		12 1.9 350°88	6°9/30.9 18		

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
457364	2008 SZ ₂₈₈	12 1.9	0°15	3°9/ 3.3	17		101804	1999 JR ₄	12 1.9	181°12	2°4/ 2.4	18	
10 28	5 0.40	+33 28.1	2.289	3.084	12.9	21.2	10 28	5 7.35	+26 19.4	1.581	2.401	16.6	20.2
11 7	4 54.92	+33 59.3	2.208	3.084	10.2	21.0	11 7	5 0.94	+26 56.5	1.505	2.402	12.7	19.9
11 17	4 47.15	+34 20.6	2.150	3.084	7.2	20.8	11 17	4 51.28	+27 27.5	1.451	2.403	8.3	19.7
11 27	4 37.80	+34 29.3	2.119	3.084	4.6	20.7	11 27	4 39.29	+27 48.8	1.423	2.403	3.7	19.4
12 7	4 27.90	+34 24.5	2.117	3.084	4.2	20.7	12 7	4 26.45	+27 58.7	1.423	2.402	3.4	19.4
12 17	4 18.57	+34 7.5	2.144	3.084	6.5	20.8	12 17	4 14.41	+27 58.1	1.452	2.401	7.9	19.7
12 27	4 10.83	+33 41.7	2.198	3.084	9.4	21.0	12 27	4 4.67	+27 51.1	1.506	2.400	12.4	19.9
1 6	4 5.41	+33 11.9	2.277	3.085	12.2	21.2	1 6	3 58.20	+27 42.8	1.583	2.398	16.2	20.2
273119	2006 FO ₅₃	12 1.9	166°88	1°4/ 1.3	17		438920	2010 CZ ₄₂	12 1.9	307°74	0°0/ 1.7	18	
10 28	4 56.68	+18 19.1	2.719	3.534	10.5	21.6	10 28	4 59.76	+25 4.0	1.441	2.281	16.8	20.6
11 7	4 51.49	+17 55.0	2.639	3.537	7.9	21.4	11 7	4 55.45	+24 24.2	1.353	2.263	12.9	20.3
11 17	4 44.72	+17 29.3	2.585	3.540	4.9	21.2	11 17	4 47.96	+23 32.5	1.286	2.245	8.1	20.0
11 27	4 36.93	+17 3.5	2.561	3.542	2.0	21.0	11 27	4 38.20	+22 29.9	1.244	2.227	2.8	19.6
12 7	4 28.84	+16 39.3	2.566	3.544	2.4	21.1	12 7	4 27.56	+21 20.3	1.229	2.210	2.9	19.6
12 17	4 21.20	+16 18.4	2.603	3.545	5.3	21.3	12 17	4 17.64	+20 10.0	1.240	2.193	8.5	19.9
12 27	4 14.69	+16 2.7	2.668	3.547	8.2	21.5	12 27	4 9.93	+19 6.3	1.276	2.177	13.6	20.1
1 6	4 9.83	+15 53.6	2.759	3.548	10.8	21.6	1 6	4 5.37	+18 15.1	1.334	2.161	18.0	20.3
488664	2003 SZ ₃₅₁	12 1.9	20°50	10°9/ 26.4	17		520525	2014 MG ₄₂	12 1.9	338°37	3°2/ 2.0	18	
10 28	4 54.82	- 2 55.5	1.771	2.580	15.5	20.7	10 28	5 8.25	+24 42.3	1.648	2.466	16.1	20.5
11 7	4 50.64	- 5 0.9	1.724	2.587	13.3	20.6	11 7	5 1.76	+26 15.3	1.567	2.462	12.4	20.3
11 17	4 44.39	- 6 51.2	1.701	2.595	11.5	20.5	11 17	4 51.95	+27 48.3	1.510	2.459	8.2	20.0
11 27	4 36.83	- 8 17.8	1.702	2.603	10.9	20.5	11 27	4 39.60	+29 15.1	1.479	2.457	4.1	19.8
12 7	4 28.97	- 9 14.6	1.727	2.612	11.7	20.6	12 7	4 26.08	+30 30.0	1.478	2.454	4.1	19.8
12 17	4 21.79	- 9 39.1	1.776	2.622	13.4	20.7	12 17	4 13.08	+31 29.8	1.507	2.452	8.2	20.0
12 27	4 16.19	- 9 32.7	1.846	2.633	15.4	20.9	12 27	4 2.23	+32 15.6	1.562	2.450	12.4	20.3
1 6	4 12.73	- 9 0.0	1.935	2.644	17.3	21.1	1 6	3 54.63	+32 51.3	1.641	2.449	16.1	20.5
318914	2005 UV ₄₆	12 1.9	339°76	1°3/ 1.5	18		217832	2001 KN ₂₆	12 1.9	183°06	0°1/ 1.9	18	
10 28	4 58.10	+19 21.8	1.920	2.750	13.6	20.7	10 28	5 4.07	+23 51.3	1.831	2.650	14.7	20.9
11 7	4 53.24	+19 4.6	1.842	2.747	10.3	20.5	11 7	4 57.87	+23 34.5	1.752	2.651	11.1	20.6
11 17	4 46.11	+18 45.1	1.787	2.745	6.4	20.2	11 17	4 49.05	+23 10.9	1.696	2.651	7.0	20.4
11 27	4 37.45	+18 24.7	1.760	2.742	2.4	20.0	11 27	4 38.49	+22 40.7	1.668	2.651	2.4	20.1
12 7	4 28.30	+18 5.1	1.761	2.740	2.8	20.0	12 7	4 27.38	+22 5.9	1.668	2.650	2.4	20.1
12 17	4 19.74	+17 48.8	1.790	2.738	6.8	20.3	12 17	4 17.02	+21 29.7	1.698	2.648	7.0	20.4
12 27	4 12.79	+17 38.2	1.847	2.736	10.7	20.5	12 27	4 8.56	+20 56.5	1.756	2.646	11.1	20.6
1 6	4 8.14	+17 35.3	1.926	2.735	14.0	20.7	1 6	4 2.76	+20 29.9	1.837	2.643	14.7	20.9
320893	2008 GP ₅₉	12 1.9	193°20	0°7/ 1.7	18		490455	2009 SO ₂₁₄	12 1.9	34°04	1°7/ 1.5	18	
10 28	4 59.13	+20 11.3	2.087	2.910	13.0	21.5	10 28	5 0.81	+19 45.1	1.106	1.964	19.6	20.9
11 7	4 53.85	+20 5.4	2.008	2.910	9.8	21.3	11 7	4 56.32	+19 24.5	1.059	1.978	14.7	20.6
11 17	4 46.42	+19 57.2	1.954	2.910	6.1	21.0	11 17	4 48.39	+19 0.9	1.031	1.994	9.1	20.4
11 27	4 37.55	+19 47.3	1.927	2.910	2.1	20.8	11 27	4 38.27	+18 36.4	1.027	2.010	3.3	20.1
12 7	4 28.21	+19 36.8	1.929	2.910	2.3	20.8	12 7	4 27.70	+18 14.2	1.047	2.027	3.8	20.2
12 17	4 19.43	+19 27.6	1.961	2.909	6.3	21.1	12 17	4 18.42	+17 58.0	1.092	2.046	9.3	20.6
12 27	4 12.17	+19 21.8	2.020	2.909	10.0	21.3	12 27	4 11.87	+17 51.3	1.160	2.064	14.3	20.9
1 6	4 7.10	+19 21.3	2.103	2.908	13.1	21.5	1 6	4 8.75	+17 55.4	1.247	2.084	18.4	21.2
346212	2007 YS ₁₄	12 1.9	317°07	3°5/ 1.3	16		171650	2000 FW ₇₁	12 1.9	233°95	1°1/ 1.7	18	
10 28	5 15.95	+16 42.9	0.933	1.780	23.3	20.0	10 28	5 2.63	+17 23.5	2.049	2.867	13.4	20.1
11 7	5 10.16	+19 32.1	0.854	1.766	18.1	19.6	11 7	4 56.64	+17 46.8	1.962	2.861	10.1	19.9
11 17	4 58.79	+22 49.1	0.794	1.753	11.7	19.2	11 17	4 48.28	+18 11.9	1.900	2.854	6.3	19.7
11 27	4 42.34	+26 21.4	0.759	1.741	4.9	18.8	11 27	4 38.26	+18 38.2	1.865	2.848	2.3	19.4
12 7	4 22.80	+29 47.4	0.751	1.730	5.8	18.8	12 7	4 27.57	+19 5.4	1.861	2.840	2.5	19.4
12 17	4 3.36	+32 46.5	0.769	1.719	13.0	19.2	12 17	4 17.35	+19 33.5	1.886	2.833	6.6	19.6
12 27	3 47.47	+35 10.6	0.811	1.709	19.7	19.5	12 27	4 8.67	+20 3.0	1.940	2.826	10.5	19.9
1 6	3 37.40	+37 4.4	0.871	1.700	25.1	19.8	1 6	4 2.31	+20 34.9	2.018	2.818	13.8	20.1
102159	1999 RY ₂₁₃	12 1.9	186°23	1°4/ 1.5	18		19299	1996 SZ ₄	12 1.9	14°52	0°1/ 2.5	08 C	
10 28	5 4.10	+19 30.7	1.683	2.510	15.4	20.5	10 28	4 36.93	+26 3.8	29.106	29.908	1.1	22.8
11 7	4 58.02	+19 11.3	1.607	2.510	11.7	20.2	11 7	4 35.93	+26 2.8	29.022	29.911	0.9	22.7
11 17	4 49.20	+18 48.9	1.553	2.510	7.3	20.0	11 17	4 34.81	+26 1.3	28.965	29.914	0.5	22.7
11 27	4 38.52	+18 24.7	1.526	2.509	2.7	19.7	11 27	4 33.62	+25 59.4	28.937	29.917	0.2	22.6
12 7	4 27.24	+18 0.9	1.528	2.507	3.1	19.7	12 7	4 32.41	+25 57.1	28.940	29.920	0.2	22.6
12 17	4 16.71	+17 40.4	1.558	2.505	7.8	20.0	12 17	4 31.22	+25 54.6	28.974	29.923	0.5	22.7
12 27	4 8.17	+17 26.5	1.615	2.503	12.1	20.3	12 27	4 30.10	+25 52.0	29.038	29.926	0.8	22.7
1 6	4 2.40	+17 21.5	1.694	2.499	15.8	20.5	1 6	4 29.11	+25 49.4	29.130	29.929	1.1	22.8
152715	1998 SV ₁₂₀	12 1.9	97°08	5°2/ 29.8	18		447998	2008 CE ₂₀₂	12 1.9	356°14	2°2/ 2.6	18	
10 28	4 56.97	+ 6 55.3	2.312	3.126	12.2	20.0	10 28	5 0.83	+27 42.1	1.850	2.669	14.5	21.8
11 7	4 51.79	+ 6 7.1	2.252	3.139	9.5	19.9	11 7	4 55.57	+27 56.8	1.772	2.668	11.2	21.6
11 17	4 44.92	+ 5 25.1	2.217	3.152	7.0	19.7	11 17	4 47.71	+28 3.6	1.717	2.668	7.3	21.3
11 27	4 37.00	+ 4 52.8	2.208	3.164	5.3	19.7	11 27	4 38.06	+28 0.8	1.688	2.667	3.4	21.1
12 7	4 28.84	+ 4 33.1	2.229	3.176	5.8	19.7	12 7	4 27.82	+27 48.5	1.688	2.667	3.0	21.1
12 17	4 21.23	+ 4 27.4	2.278	3.189	8.0	19.9	12 17	4 18.25	+27 28.6	1.716	2.667	6.8	21.3
12 27	4 14.92	+ 4 36.0	2.354	3.201	10.5	20.1	12 27	4 10.53	+27 5.1	1.771	2.667	10.7	21.5
1 6	4 10.42	+ 4 57.6	2.453	3.212	12.8	20.2	1 6	4 5.45	+26 42.4	1.850	2.667	14.1	21.8
9634	1993 XB	12 1.9	78°19	2°3/ 30.9	18		517226	2014 BT ₃₃	12 1.9	313°00	1°1/ 1.7	18	
10 28	4 57.62	+16 52.7	2.193										

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
37741	1996 <i>WR</i> ₁	12 1.9 72°42'	1.3°/ 1.5 18				31917	Lukashohne	12 1.9 135°20'	0.1°/ 1.9 18			
10 28	5 2.32	+20 17.9	1.575	2.408	16.0	18.4	10 28	5 4.05	+22 35.9	1.844	2.664	14.6	19.3
11 7	4 56.57	+19 51.1	1.519	2.426	12.0	18.2	11 7	4 57.71	+22 24.8	1.776	2.675	11.0	19.1
11 17	4 48.19	+19 20.7	1.486	2.444	7.4	17.9	11 17	4 48.88	+22 8.7	1.730	2.686	6.8	18.8
11 27	4 38.16	+18 48.4	1.478	2.461	2.6	17.7	11 27	4 38.44	+21 47.9	1.713	2.696	2.3	18.6
12 7	4 27.81	+18 17.1	1.499	2.479	3.1	17.8	12 7	4 27.59	+21 23.9	1.724	2.705	2.4	18.6
12 17	4 18.44	+17 50.3	1.548	2.496	7.6	18.1	12 17	4 17.54	+20 59.5	1.765	2.714	6.8	18.9
12 27	4 11.18	+17 31.1	1.622	2.514	11.8	18.4	12 27	4 9.39	+20 38.2	1.833	2.722	10.8	19.2
1 6	4 6.67	+17 21.5	1.719	2.531	15.3	18.6	1 6	4 3.83	+20 22.9	1.925	2.730	14.1	19.4
352156	2007 <i>PE</i> ₄₈	12 1.9 94°87'	5.4°/ 1.1 18				351338	2004 <i>XR</i> ₁₆₃	12 1.9 264°84'	0.9°/ 1.7 18			
10 28	5 3.00	+7 5.2	1.766	2.583	15.2	20.0	10 28	5 1.57	+19 36.6	1.861	2.686	14.2	20.8
11 7	4 56.81	+6 58.8	1.706	2.596	11.9	19.9	11 7	4 56.15	+19 38.4	1.769	2.672	10.8	20.6
11 17	4 48.26	+7 1.9	1.668	2.609	8.3	19.7	11 17	4 48.15	+19 38.8	1.701	2.657	6.8	20.3
11 27	4 38.19	+7 17.1	1.657	2.622	5.7	19.5	11 27	4 38.29	+19 37.8	1.659	2.642	2.4	20.0
12 7	4 27.74	+7 45.5	1.675	2.635	6.0	19.6	12 7	4 27.65	+19 36.3	1.646	2.627	2.6	20.0
12 17	4 18.05	+8 26.8	1.721	2.648	8.9	19.8	12 17	4 17.49	+19 35.8	1.662	2.611	7.2	20.2
12 27	4 10.16	+9 19.4	1.793	2.660	12.2	20.0	12 27	4 9.01	+19 38.5	1.706	2.596	11.4	20.4
1 6	4 4.74	+10 20.9	1.888	2.672	15.2	20.3	1 6	4 3.07	+19 46.4	1.772	2.580	15.1	20.6
86433	2000 <i>CU</i> ₂	12 1.9 235°80'	0.5°/ 1.8 18				104900	2000 <i>JL</i> ₇	12 1.9 4°87'	0.3°/ 2.0 17			
10 28	5 3.14	+21 28.6	1.779	2.603	14.8	20.5	10 28	4 57.27	+23 8.5	1.876	2.707	13.9	19.2
11 7	4 57.38	+21 19.9	1.691	2.593	11.3	20.2	11 7	4 52.75	+23 6.5	1.802	2.707	10.5	19.0
11 17	4 48.90	+21 7.0	1.626	2.582	7.0	19.9	11 17	4 45.89	+22 59.9	1.751	2.707	6.5	18.8
11 27	4 38.50	+20 50.3	1.588	2.571	2.4	19.6	11 27	4 37.47	+22 48.6	1.726	2.709	2.2	18.5
12 7	4 27.35	+20 30.9	1.579	2.560	2.6	19.6	12 7	4 28.55	+22 34.0	1.729	2.711	2.2	18.5
12 17	4 16.79	+20 11.4	1.598	2.548	7.4	19.9	12 17	4 20.27	+22 18.0	1.761	2.713	6.5	18.8
12 27	4 8.08	+19 55.4	1.644	2.535	11.7	20.1	12 27	4 13.65	+22 3.7	1.819	2.716	10.4	19.0
1 6	4 2.08	+19 45.8	1.714	2.522	15.5	20.3	1 6	4 9.41	+21 53.8	1.901	2.720	13.7	19.3
363697	2004 <i>TS</i> ₂₃₈	12 1.9 63°74'	3.9°/ 3.2 18				516782	2009 <i>XZ</i> ₅	12 1.9 339°91'	2.8°/ 2.7 18			
10 28	5 2.73	+32 9.2	2.017	2.819	14.1	20.7	10 28	4 57.79	+28 37.7	1.161	2.013	19.3	20.2
11 7	4 56.77	+32 45.9	1.953	2.835	11.0	20.5	11 7	4 54.70	+28 38.7	1.086	2.000	15.0	19.9
11 17	4 48.32	+33 12.3	1.912	2.851	7.7	20.3	11 17	4 47.87	+28 26.0	1.030	1.988	9.9	19.6
11 27	4 38.23	+33 25.5	1.899	2.867	4.7	20.2	11 27	4 38.29	+27 57.4	0.996	1.977	4.5	19.3
12 7	4 27.69	+33 24.5	1.913	2.883	4.2	20.2	12 7	4 27.68	+27 14.2	0.986	1.967	3.9	19.2
12 17	4 17.92	+33 11.1	1.957	2.899	6.8	20.4	12 17	4 17.98	+26 21.1	1.001	1.959	9.2	19.5
12 27	4 10.03	+32 49.2	2.027	2.916	9.9	20.6	12 27	4 11.00	+25 26.6	1.038	1.952	14.7	19.8
1 6	4 4.71	+32 23.8	2.122	2.932	12.8	20.8	1 6	4 7.78	+24 38.3	1.094	1.946	19.4	20.0
295721	2008 <i>UZ</i> ₄₂	12 1.9 113°29'	0.4°/ 1.8 18				273453	2006 <i>XW</i> ₁₇	12 1.9 332°91'	1.7°/ 2.3 18			
10 28	5 3.03	+21 4.8	1.748	2.574	15.0	21.0	10 28	4 59.31	+24 55.4	1.179	2.032	18.9	20.3
11 7	4 57.09	+21 6.2	1.680	2.583	11.3	20.8	11 7	4 55.81	+25 13.5	1.103	2.018	14.6	20.0
11 17	4 48.56	+21 4.4	1.635	2.592	7.0	20.6	11 17	4 48.58	+25 24.8	1.045	2.005	9.4	19.6
11 27	4 38.32	+20 59.6	1.617	2.600	2.3	20.3	11 27	4 38.56	+25 27.2	1.010	1.993	3.7	19.3
12 7	4 27.60	+20 52.7	1.628	2.609	2.5	20.3	12 7	4 27.37	+25 20.0	1.000	1.981	3.4	19.2
12 17	4 17.67	+20 45.6	1.667	2.617	7.0	20.6	12 17	4 16.97	+25 5.9	1.014	1.971	9.3	19.5
12 27	4 9.66	+20 40.9	1.733	2.625	11.1	20.9	12 27	4 9.20	+24 49.9	1.051	1.962	14.8	19.8
1 6	4 4.32	+20 41.2	1.822	2.633	14.6	21.1	1 6	4 5.20	+24 37.5	1.107	1.954	19.5	20.1
241932	2002 <i>CF</i> ₄₆	12 1.9 311°31'	5.1°/ 3.9 17				248040	2004 <i>GW</i> ₈₃	12 1.9 174°04'	2.7°/ 3.1 18			
10 28	5 1.77	+35 54.9	1.451	2.267	18.0	19.9	10 28	5 2.11	+31 34.4	2.517	3.309	11.9	21.4
11 7	4 57.41	+35 43.2	1.356	2.244	14.5	19.6	11 7	4 55.91	+31 42.5	2.434	3.312	9.3	21.2
11 17	4 49.42	+35 10.4	1.280	2.221	10.4	19.3	11 17	4 47.65	+31 41.3	2.375	3.314	6.3	21.1
11 27	4 38.77	+34 12.2	1.228	2.198	6.4	19.0	11 27	4 38.04	+31 29.4	2.344	3.316	3.5	20.9
12 7	4 27.07	+32 48.8	1.202	2.175	5.4	18.9	12 7	4 28.00	+31 6.9	2.343	3.317	3.1	20.9
12 17	4 16.19	+31 5.9	1.202	2.153	9.0	19.1	12 17	4 18.53	+30 35.7	2.373	3.317	5.6	21.0
12 27	4 7.86	+29 14.5	1.227	2.132	13.7	19.3	12 27	4 10.54	+29 59.3	2.431	3.318	8.6	21.2
1 6	4 3.14	+27 26.3	1.274	2.111	18.1	19.5	1 6	4 4.66	+29 22.1	2.516	3.317	11.3	21.4
514182	2015 <i>MT</i> ₇₆	12 1.9 175°71'	3.7°/ 30.7 18				516067	2015 <i>TX</i> ₂₁₅	12 1.9 91°06'	2.6°/ 1.0 18			
10 28	5 1.67	+12 23.4	2.076	2.893	13.2	22.4	10 28	4 59.45	+16 32.0	1.871	2.700	14.0	21.0
11 7	4 55.64	+11 52.7	2.001	2.896	10.1	22.2	11 7	4 54.19	+15 57.8	1.801	2.705	10.6	21.0
11 17	4 47.50	+11 24.6	1.950	2.898	6.8	22.0	11 17	4 46.69	+15 22.9	1.755	2.711	6.7	20.8
11 27	4 37.96	+11 1.8	1.926	2.899	4.0	21.8	11 27	4 37.72	+14 49.9	1.737	2.716	3.2	20.6
12 7	4 28.00	+10 46.8	1.933	2.900	4.5	21.8	12 7	4 28.36	+14 21.8	1.747	2.721	3.7	20.6
12 17	4 18.62	+10 41.4	1.968	2.900	7.6	22.0	12 17	4 19.68	+14 1.1	1.785	2.727	7.4	20.9
12 27	4 10.78	+10 46.9	2.032	2.899	10.9	22.2	12 27	4 12.66	+13 50.2	1.850	2.732	11.1	21.1
1 6	4 5.10	+11 3.1	2.118	2.898	13.9	22.4	1 6	4 7.97	+13 50.0	1.938	2.737	14.3	21.3
359565	2010 <i>TY</i> ₁₀₄	12 1.9 173°32'	1.3°/ 2.5 18				478353	2011 <i>WA</i> ₁₅₀	12 1.9 355°52'	6.6°/ 5.0 18			
10 28	5 1.05	+26 59.3	2.419	3.224	12.0	21.8	10 28	5 3.02	+40 24.1	1.603	2.397	17.5	20.2
11 7	4 55.09	+26 57.3	2.337	3.227	9.1	21.6	11 7	4 57.89	+40 21.9	1.527	2.395	14.4	20.0
11 17	4 47.12	+26 48.6	2.280	3.229	5.8	21.4	11 17	4 49.40	+39 57.4	1.470	2.393	10.8	19.8
11 27	4 37.84	+26 32.4	2.251	3.231	2.4	21.2	11 27	4 38.69	+39 6.7	1.436	2.391	7.7	19.6
12 7	4 28.14	+26 9.6	2.252	3.232	2.2	21.2	12 7	4 27.39	+37 49.9	1.429	2.390	6.7	19.6
12 17	4 19.01	+25 42.2	2.284	3.233	5.5	21.4	12 17	4 17.22	+36 12.8	1.449	2.390	8.8	19.7
12 27	4 11.31	+25 13.3	2.345	3.233	8.8	21.6	12 27	4 9.61	+34 25.1	1.494	2.390	12.3	19.9
1 6	4 5.68	+24 46.4	2.431	3.233	11.6	21.8	1 6	4 5.36	+32 37.7	1.563	2.391	15.8	20.1
438341	2006 <i>QX</i> ₁₂₃	12 1.9 53°92'	3.6°/ 30.6 17 R				413446	2005 <i>CP</i> ₄₄	12 1.9 342°76'	7.2°/ 29.9 17			

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
339824	2005 <i>SV</i> ₂₄₄	12	1.9 147°51	0°5/ 2.1	18	R	508997	2005 <i>FL</i> ₄	12	1.9 208°48	0°5/ 2.2	18	C
10 28	5 4.85	+24 5.8	1.875	2.691	14.5	21.7	10 28	5 3.12	+23 55.8	3.732	4.516	8.5	23.7
11 7	4 58.34	+24 1.1	1.804	2.700	11.0	21.5	11 7	4 56.05	+24 7.1	3.626	4.506	6.5	23.6
11 17	4 49.31	+23 50.4	1.755	2.709	6.9	21.3	11 17	4 47.53	+24 15.1	3.547	4.495	4.1	23.4
11 27	4 38.62	+23 33.3	1.735	2.717	2.4	21.0	11 27	4 38.02	+24 19.4	3.501	4.482	1.5	23.2
12 7	4 27.47	+23 10.9	1.743	2.725	2.3	21.0	12 7	4 28.12	+24 19.8	3.489	4.469	1.4	23.2
12 17	4 17.11	+22 46.0	1.782	2.731	6.7	21.3	12 17	4 18.47	+24 17.0	3.510	4.454	4.0	23.3
12 27	4 8.66	+22 22.3	1.847	2.738	10.7	21.6	12 27	4 9.71	+24 12.5	3.564	4.439	6.5	23.5
1 6	4 2.83	+22 3.2	1.937	2.743	14.0	21.8	1 6	4 2.34	+24 7.9	3.646	4.422	8.6	23.6
219203	1999 <i>VA</i> ₁₇	12	1.9 22°17	0°6/ 2.2	18		108283	2001 <i>HZ</i> ₆₀	12	1.9 116°30	5°9/ 30.5	18	
10 28	4 58.90	+24 43.5	2.078	2.899	13.1	20.9	10 28	5 4.33	+ 6 37.8	1.824	2.636	15.0	20.6
11 7	4 53.77	+24 36.0	2.000	2.899	9.9	20.7	11 7	4 57.64	+ 6 2.7	1.771	2.657	11.7	20.5
11 17	4 46.44	+24 22.6	1.946	2.900	6.2	20.4	11 17	4 48.71	+ 5 36.2	1.740	2.676	8.4	20.3
11 27	4 37.66	+24 3.1	1.919	2.901	2.3	20.2	11 27	4 38.40	+ 5 22.2	1.737	2.696	6.1	20.2
12 7	4 28.43	+23 38.9	1.921	2.903	2.1	20.2	12 7	4 27.82	+ 5 22.9	1.761	2.714	6.6	20.3
12 17	4 19.80	+23 12.3	1.953	2.904	6.1	20.4	12 17	4 18.09	+ 5 39.2	1.815	2.732	9.2	20.5
12 27	4 12.75	+22 46.7	2.012	2.905	9.8	20.7	12 27	4 10.16	+ 6 10.2	1.894	2.749	12.2	20.7
1 6	4 7.94	+22 25.2	2.095	2.907	12.9	20.9	1 6	4 4.63	+ 6 53.7	1.996	2.765	15.0	20.9
76425	2000 <i>FR</i> ₂₁	12	1.9 174°72	2°7/ 1.1	18		302695	2002 <i>TX</i> ₁₁₅	12	1.9 91°14	3°5/ 3.4	18	
10 28	5 0.40	+13 47.6	2.269	3.085	12.3	20.4	10 28	5 4.67	+32 55.3	1.922	2.722	14.8	20.4
11 7	4 54.59	+13 36.0	2.191	3.087	9.3	20.2	11 7	4 58.21	+32 59.5	1.860	2.741	11.5	20.2
11 17	4 46.83	+13 26.6	2.138	3.088	6.1	20.0	11 17	4 49.19	+32 50.9	1.821	2.760	7.9	20.1
11 27	4 37.78	+13 21.0	2.113	3.090	3.2	19.8	11 27	4 38.58	+32 27.6	1.808	2.779	4.5	19.9
12 7	4 28.31	+13 20.5	2.118	3.091	3.6	19.8	12 7	4 27.65	+31 50.4	1.824	2.797	3.9	19.9
12 17	4 19.35	+13 26.4	2.154	3.091	6.6	20.0	12 17	4 17.68	+31 2.8	1.869	2.815	6.7	20.1
12 27	4 11.77	+13 39.6	2.217	3.091	9.9	20.2	12 27	4 9.76	+30 10.4	1.942	2.833	10.2	20.4
1 6	4 6.19	+14 0.2	2.304	3.090	12.7	20.4	1 6	4 4.53	+29 19.2	2.038	2.850	13.2	20.6
477439	2009 <i>WK</i> ₁₆₁	12	1.9 56°08	2°1/ 2.4	18		132750	2002 <i>PM</i> ₄₈	12	1.9 166°43	1°0/ 2.4	18	
10 28	5 4.72	+25 37.4	1.385	2.218	17.7	21.2	10 28	4 58.27	+26 44.6	2.512	3.321	11.5	19.5
11 7	4 59.09	+26 8.0	1.325	2.229	13.5	20.9	11 7	4 52.95	+26 27.6	2.430	3.322	8.7	19.3
11 17	4 50.15	+26 31.8	1.285	2.240	8.7	20.7	11 17	4 45.79	+26 3.7	2.372	3.323	5.5	19.1
11 27	4 38.97	+26 45.9	1.271	2.252	3.7	20.4	11 27	4 37.44	+25 32.9	2.343	3.324	2.2	18.9
12 7	4 27.14	+26 49.5	1.283	2.263	3.3	20.4	12 7	4 28.75	+24 56.7	2.345	3.325	1.9	18.9
12 17	4 16.36	+26 44.5	1.322	2.275	8.1	20.8	12 17	4 20.59	+24 17.6	2.376	3.326	5.2	19.1
12 27	4 8.10	+26 35.3	1.386	2.287	12.7	21.1	12 27	4 13.77	+23 38.8	2.437	3.327	8.4	19.3
1 6	4 3.20	+26 26.8	1.472	2.299	16.6	21.3	1 6	4 8.85	+23 3.6	2.523	3.328	11.2	19.5
65406	2002 <i>RS</i> ₁₁₂	12	1.9 210°73	1°8/ 1.1	18		265414	2004 <i>TG</i> ₁₅₇	12	1.9 359°27	0°5/ 2.1	18	
10 28	5 0.05	+19 12.4	2.176	2.996	12.6	19.6	10 28	4 57.36	+23 9.1	1.606	2.445	15.4	20.2
11 7	4 54.45	+18 25.2	2.091	2.991	9.5	19.4	11 7	4 53.24	+23 15.0	1.533	2.443	11.7	20.0
11 17	4 46.80	+17 34.1	2.031	2.986	6.0	19.2	11 17	4 46.42	+23 16.2	1.482	2.441	7.3	19.7
11 27	4 37.78	+16 41.4	1.999	2.980	2.5	18.9	11 27	4 37.74	+23 12.3	1.457	2.440	2.6	19.4
12 7	4 28.33	+15 50.2	1.997	2.974	3.1	19.0	12 7	4 28.44	+23 4.3	1.458	2.440	2.5	19.4
12 17	4 19.44	+15 4.1	2.026	2.967	6.7	19.2	12 17	4 19.85	+22 54.0	1.487	2.441	7.2	19.7
12 27	4 12.02	+14 26.6	2.082	2.960	10.2	19.4	12 27	4 13.17	+22 44.9	1.541	2.443	11.6	20.0
1 6	4 6.71	+13 59.7	2.163	2.953	13.3	19.6	1 6	4 9.21	+22 39.9	1.617	2.446	15.3	20.2
93094	2000 <i>GF</i> ₃₉	12	1.9 218°80	0°7/ 2.1	18		244399	2002 <i>PX</i> ₁₁₇	12	1.9 130°62	2°1/ 1.1	18	
10 28	5 3.49	+23 3.9	1.832	2.652	14.6	18.9	10 28	5 1.42	+16 53.0	2.250	3.065	12.4	22.2
11 7	4 57.62	+23 21.0	1.749	2.648	11.1	18.6	11 7	4 55.24	+16 21.8	2.184	3.081	9.3	22.1
11 17	4 49.06	+23 34.4	1.689	2.643	7.0	18.4	11 17	4 47.15	+15 49.8	2.143	3.096	5.9	21.9
11 27	4 38.61	+23 42.8	1.656	2.639	2.5	18.1	11 27	4 37.89	+15 18.9	2.131	3.111	2.7	21.7
12 7	4 27.44	+23 46.1	1.652	2.633	2.4	18.1	12 7	4 28.36	+14 51.5	2.149	3.124	3.1	21.7
12 17	4 16.89	+23 45.4	1.677	2.628	6.9	18.3	12 17	4 19.48	+14 29.9	2.198	3.137	6.4	22.0
12 27	4 8.16	+23 43.5	1.730	2.622	11.1	18.6	12 27	4 12.09	+14 15.9	2.275	3.150	9.6	22.2
1 6	4 2.11	+23 43.5	1.805	2.616	14.7	18.8	1 6	4 6.73	+14 10.6	2.376	3.162	12.4	22.4
228481	2001 <i>SB</i> ₇₈	12	1.9 4°71	1°3/ 1.6	18		110431	2001 <i>TK</i> ₂₆	12	1.9 307°15	1°7/ 2.6	18	
10 28	4 57.10	+20 38.7	1.096	1.960	19.3	19.8	10 28	5 0.59	+27 21.2	1.944	2.762	14.0	19.7
11 7	4 53.87	+20 18.6	1.036	1.959	14.6	19.6	11 7	4 55.28	+27 21.6	1.865	2.760	10.7	19.5
11 17	4 47.14	+19 53.8	0.996	1.959	9.1	19.3	11 17	4 47.51	+27 13.8	1.808	2.759	6.9	19.3
11 27	4 38.00	+19 26.3	0.977	1.961	3.2	18.9	11 27	4 38.09	+26 57.0	1.778	2.758	3.0	19.1
12 7	4 28.12	+18 59.5	0.983	1.964	3.6	19.0	12 7	4 28.12	+26 31.9	1.777	2.757	2.6	19.0
12 17	4 19.29	+18 37.7	1.013	1.969	9.5	19.3	12 17	4 18.81	+26 1.1	1.804	2.756	6.5	19.3
12 27	4 13.09	+18 25.1	1.065	1.975	14.8	19.6	12 27	4 11.26	+25 28.6	1.859	2.754	10.3	19.5
1 6	4 10.38	+18 24.2	1.136	1.982	19.2	19.9	1 6	4 6.19	+24 58.8	1.938	2.753	13.7	19.7
510548	2012 <i>KE</i> ₁₅	12	1.9 304°06	1°7/ 1.6	18		450263	2003 <i>WD</i> ₁₅₈	12	1.9 275°61	11°2/ 1.3	18	
10 28	5 3.60	+17 48.1	1.401	2.240	17.3	21.4	10 28	5 21.55	+ 3 17.6	0.906	1.733	25.4	20.9
11 7	4 58.21	+17 51.3	1.329	2.239	13.1	21.1	11 7	5 15.51	+ 2 52.4	0.798	1.691	21.3	20.5
11 17	4 49.64	+17 55.2	1.279	2.237	8.3	20.9	11 17	5 3.25	+ 2 47.7	0.705	1.645	16.4	20.0
11 27	4 38.83	+18 0.1	1.254	2.236	3.1	20.6	11 27	4 44.51	+ 3 17.4	0.631	1.596	11.9	19.5
12 7	4 27.24	+18 7.0	1.255	2.235	3.5	20.6	12 7	4 20.52	+ 4 33.5	0.581	1.544	12.5	19.3
12 17	4 16.47	+18 17.2	1.284	2.234	8.6	20.9	12 17	3 54.28	+ 6 39.9	0.554	1.489	19.4	19.4
12 27	4 7.98	+18 32.8	1.337	2.233	13.5	21.2	12 27	3 29.98	+ 9 29.2	0.549	1.432	28.3	19.5
1 6	4 2.68	+18 55.1	1.412	2.232	17.6	21.4	1 6	3 10.96	+12 47.1	0.560	1.372	36.9	19.7
450422	2005 <i>UM</i> ₁₃	12	1.9 75°35	0°3/ 1.9	15		319120	2005 <i>XV</i> ₇₃	12	1.9 145°78	0°0/ 1		

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
285109	1995 JS	12 1.9	66°68	0°5/ 2.1	17		148392	2000 TQ ₆₈	12 1.9	18°04	10°4/29.7	18	
10 28	4 59.71	+22 36.2	2.250	3.067	12.4	20.0	10 28	4 57.44	- 4 4.4	1.700	2.503	16.3	19.3
11 7	4 54.22	+22 56.1	2.176	3.074	9.3	19.8	11 7	4 52.80	- 4 58.1	1.646	2.507	13.8	19.2
11 17	4 46.68	+23 13.2	2.127	3.081	5.8	19.6	11 17	4 45.90	- 5 33.6	1.612	2.512	11.6	19.0
11 27	4 37.79	+23 26.6	2.106	3.088	2.1	19.4	11 27	4 37.54	- 5 44.6	1.601	2.518	10.5	19.0
12 7	4 28.45	+23 36.4	2.114	3.095	2.0	19.4	12 7	4 28.78	- 5 27.8	1.615	2.524	10.8	19.0
12 17	4 19.66	+23 43.2	2.153	3.103	5.7	19.7	12 17	4 20.73	- 4 43.2	1.654	2.530	12.6	19.2
12 27	4 12.32	+23 48.9	2.219	3.110	9.1	19.9	12 27	4 14.35	- 3 34.1	1.715	2.537	14.9	19.3
1 6	4 7.06	+23 55.5	2.311	3.118	12.0	20.1	1 6	4 10.30	- 2 6.0	1.797	2.545	17.1	19.5
484334	2007 TQ ₄₃₅	12 1.9	28°31	2°5/ 2.6	18		427034	2014 SS ₃₂₅	12 1.9	89°54	6°1/28.5	18	
10 28	5 1.66	+27 20.5	1.501	2.333	16.7	21.1	10 28	4 57.57	+ 5 40.6	2.384	3.193	12.0	21.3
11 7	4 56.67	+27 45.0	1.437	2.339	12.8	20.9	11 7	4 52.19	+ 4 7.1	2.330	3.210	9.6	21.2
11 17	4 48.61	+28 1.1	1.394	2.347	8.4	20.7	11 17	4 45.19	+ 2 39.6	2.302	3.227	7.3	21.1
11 27	4 38.50	+28 6.5	1.376	2.355	3.9	20.4	11 27	4 37.24	+ 1 23.4	2.302	3.244	6.2	21.0
12 7	4 27.75	+28 0.7	1.384	2.363	3.4	20.4	12 7	4 29.11	+ 0 22.7	2.332	3.261	6.8	21.1
12 17	4 17.92	+27 46.0	1.420	2.373	7.7	20.7	12 17	4 21.57	- 0 19.7	2.390	3.278	8.7	21.3
12 27	4 10.37	+27 26.9	1.481	2.382	12.0	21.0	12 27	4 15.31	- 0 43.1	2.475	3.295	10.9	21.4
1 6	4 5.90	+27 8.5	1.564	2.392	15.7	21.2	1 6	4 10.79	- 0 48.8	2.581	3.311	12.9	21.6
512563	2016 SR ₂₃	12 1.9	115°62	0°9/ 1.7	18		137348	1999 TZ ₉₄	12 1.9	17°12	0°2/ 1.9	18	
10 28	5 5.01	+21 4.1	1.701	2.525	15.4	22.3	10 28	4 59.45	+18 42.6	0.890	1.764	21.7	18.2
11 7	4 58.51	+20 42.4	1.640	2.542	11.6	22.1	11 7	4 56.19	+19 27.1	0.845	1.772	16.4	18.0
11 17	4 49.41	+20 16.4	1.602	2.558	7.1	21.9	11 17	4 48.83	+20 14.0	0.817	1.782	10.2	17.7
11 27	4 38.69	+19 47.3	1.591	2.574	2.5	21.6	11 27	4 38.66	+21 1.0	0.810	1.794	3.4	17.3
12 7	4 27.61	+19 17.4	1.609	2.589	2.7	21.7	12 7	4 27.69	+21 45.5	0.826	1.808	3.5	17.4
12 17	4 17.48	+18 49.9	1.655	2.603	7.3	22.0	12 17	4 18.08	+22 26.6	0.864	1.823	10.0	17.8
12 27	4 9.40	+18 28.4	1.729	2.617	11.4	22.3	12 27	4 11.62	+23 5.6	0.923	1.841	15.6	18.2
1 6	4 4.04	+18 15.3	1.825	2.631	14.8	22.5	1 6	4 9.24	+23 44.2	1.001	1.860	20.2	18.6
46730	1997 TY ₁₆	12 1.9	286°24	6°3/28.7	18		512033	2015 ME ₆₆	12 1.9	99°35	8°2/30.6	18	
10 28	4 55.46	+ 5 18.3	2.305	3.119	12.2	18.5	10 28	5 2.99	- 1 33.7	1.934	2.725	15.0	20.9
11 7	4 50.90	+ 4 5.3	2.226	3.109	9.8	18.3	11 7	4 56.52	- 2 3.3	1.884	2.746	12.4	20.8
11 17	4 44.58	+ 2 57.7	2.171	3.099	7.5	18.2	11 17	4 47.99	- 2 17.6	1.857	2.766	9.9	20.7
11 27	4 37.07	+ 2 0.5	2.144	3.089	6.3	18.1	11 27	4 38.20	- 2 12.5	1.856	2.785	8.3	20.6
12 7	4 29.18	+ 1 17.9	2.145	3.080	6.9	18.1	12 7	4 28.18	- 1 46.4	1.882	2.805	8.6	20.7
12 17	4 21.70	+ 0 52.6	2.174	3.070	9.0	18.2	12 17	4 18.93	- 0 59.9	1.935	2.823	10.4	20.9
12 27	4 15.44	+ 0 45.7	2.228	3.060	11.5	18.4	12 27	4 11.35	+ 0 4.2	2.014	2.842	12.7	21.0
1 6	4 10.96	+ 0 56.0	2.304	3.051	13.9	18.5	1 6	4 6.00	+ 1 21.5	2.116	2.860	15.0	21.2
403443	2009 SW ₂₃₈	12 1.9	1°20	7°4/30.7	18		163281	2002 GL ₁₁₇	12 1.9	116°43	1°0/ 1.7	18	
10 28	4 53.42	+ 6 16.6	1.291	2.143	17.6	19.4	10 28	5 3.65	+19 17.7	2.056	2.871	13.4	20.8
11 7	4 50.51	+ 5 45.9	1.231	2.140	14.0	19.2	11 7	4 57.12	+19 14.8	1.993	2.890	10.0	20.7
11 17	4 44.81	+ 5 27.6	1.192	2.138	10.3	19.0	11 17	4 48.43	+19 10.4	1.954	2.908	6.2	20.5
11 27	4 37.23	+ 5 27.2	1.175	2.139	7.7	18.8	11 27	4 38.38	+19 4.8	1.944	2.926	2.2	20.2
12 7	4 29.04	+ 5 48.0	1.182	2.141	8.1	18.9	12 7	4 28.01	+18 59.1	1.963	2.943	2.4	20.3
12 17	4 21.62	+ 6 30.1	1.213	2.145	11.2	19.1	12 17	4 18.38	+18 54.7	2.013	2.960	6.3	20.6
12 27	4 16.21	+ 7 31.3	1.267	2.151	15.0	19.3	12 27	4 10.43	+18 53.8	2.091	2.976	9.9	20.8
1 6	4 13.61	+ 8 47.1	1.340	2.159	18.4	19.6	1 6	4 4.77	+18 57.9	2.193	2.991	12.9	21.0
11897	Lemaire	12 1.9	275°00	2°7/ 2.5	18		166542	2002 RU ₄₀	12 1.9	112°72	0°5/ 2.1	18	
10 28	5 4.60	+27 11.0	1.481	2.309	17.1	18.3	10 28	5 3.13	+23 45.9	2.055	2.870	13.5	20.6
11 7	4 59.30	+27 39.2	1.396	2.296	13.3	18.0	11 7	4 56.83	+23 45.9	1.990	2.886	10.1	20.4
11 17	4 50.57	+28 0.0	1.332	2.284	8.7	17.7	11 17	4 48.29	+23 40.9	1.949	2.903	6.3	20.2
11 27	4 39.27	+28 10.0	1.293	2.272	4.1	17.4	11 27	4 38.34	+23 30.5	1.936	2.919	2.2	20.0
12 7	4 26.88	+28 7.6	1.280	2.259	3.7	17.4	12 7	4 28.06	+23 15.7	1.953	2.934	2.1	20.0
12 17	4 15.17	+27 54.4	1.295	2.247	8.4	17.6	12 17	4 18.52	+22 58.6	1.999	2.949	6.1	20.3
12 27	4 5.78	+27 35.0	1.335	2.234	13.2	17.8	12 27	4 10.70	+22 42.1	2.074	2.964	9.7	20.6
1 6	3 59.80	+27 15.6	1.396	2.222	17.4	18.1	1 6	4 5.22	+22 29.2	2.173	2.978	12.8	20.8
66185	1998 XM ₄₇	12 1.9	353°79	5°6/ 4.5	18		18584	1997 YB ₂	12 1.9	152°18	0°6/ 2.2	18	
10 28	4 59.62	+38 10.8	1.808	2.605	15.7	17.4	10 28	5 5.62	+24 38.4	1.609	2.432	16.2	18.8
11 7	4 55.01	+38 15.7	1.728	2.601	12.7	17.2	11 7	4 59.38	+24 29.2	1.538	2.438	12.3	18.6
11 17	4 47.53	+38 3.0	1.670	2.597	9.4	17.0	11 17	4 50.19	+24 12.5	1.489	2.444	7.7	18.4
11 27	4 38.13	+37 29.5	1.636	2.594	6.5	16.8	11 27	4 39.05	+23 47.9	1.466	2.449	2.7	18.1
12 7	4 28.15	+36 35.4	1.628	2.592	5.7	16.8	12 7	4 27.33	+23 16.9	1.472	2.453	2.6	18.1
12 17	4 19.02	+35 24.5	1.648	2.590	7.9	16.9	12 17	4 16.53	+22 43.2	1.506	2.457	7.5	18.4
12 27	4 12.01	+34 4.1	1.695	2.590	11.1	17.1	12 27	4 7.93	+22 11.4	1.566	2.461	12.0	18.7
1 6	4 7.89	+32 42.3	1.764	2.590	14.4	17.3	1 6	4 2.33	+21 46.1	1.650	2.464	15.7	18.9
452065	2014 OC ₃₁₃	12 1.9	52°41	0°9/ 2.3	17		402332	2005 UX ₁₉₇	12 1.9	46°08	1°2/ 1.6	17	
10 28	5 0.22	+24 54.5	1.896	2.719	14.1	22.0	10 28	4 59.06	+19 45.2	1.875	2.705	13.9	21.6
11 7	4 54.93	+24 56.6	1.825	2.725	10.7	21.8	11 7	4 54.00	+19 27.8	1.806	2.711	10.5	21.4
11 17	4 47.25	+24 52.8	1.778	2.732	6.7	21.5	11 17	4 46.65	+19 7.7	1.760	2.717	6.5	21.2
11 27	4 38.00	+24 42.4	1.757	2.739	2.5	21.3	11 27	4 37.83	+18 46.4	1.741	2.723	2.4	20.9
12 7	4 28.28	+24 26.3	1.765	2.746	2.3	21.3	12 7	4 28.57	+18 25.8	1.750	2.730	2.7	21.0
12 17	4 19.27	+24 6.8	1.802	2.754	6.4	21.6	12 17	4 20.00	+18 8.2	1.788	2.736	6.8	21.3
12 27	4 12.03	+23 47.4	1.866	2.761	10.3	21.8	12 27	4 13.12	+17 56.4	1.853	2.743	10.6	21.5
1 6	4 7.23	+23 31.2	1.953	2.769	13.6	22.0	1 6	4 8.57	+17 52.1	1.941	2.750	13.9	21.7
107800	2001 FA ₅₇	12 1.9	254°12	3°7/ 2.8	18		37295	2001 BB ₄₆	12 1.9	40°28	2°6/30.9	18	
10 28	5 4.65	+30 9.1	1.968	2.773	14.3	1							

EPHEMERIDES

12 1.9

12 1.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
487391	2014 <i>QF</i> ₃₁₁	12	1.9 103°29	3°8/ 3.3 18			329499	2002 <i>RL</i> ₁₂₃	12	1.9 74°72	3°4/ 2.7 18		
10 28	5 3.60	+32 40.1	2.150	2.945	13.6	21.6	10 28	5 8.03	+28 32.6	1.391	2.215	18.2	20.5
11 7	4 57.40	+33 10.8	2.080	2.958	10.6	21.4	11 7	5 1.60	+29 12.6	1.337	2.234	14.0	20.3
11 17	4 48.77	+33 31.2	2.034	2.970	7.4	21.2	11 17	4 51.73	+29 42.6	1.304	2.253	9.2	20.1
11 27	4 38.55	+33 38.5	2.014	2.982	4.5	21.1	11 27	4 39.61	+29 58.5	1.296	2.272	4.7	19.8
12 7	4 27.86	+33 32.0	2.024	2.993	4.1	21.1	12 7	4 26.92	+29 59.1	1.314	2.291	4.2	19.9
12 17	4 17.88	+33 13.4	2.063	3.005	6.5	21.3	12 17	4 15.46	+29 46.7	1.360	2.310	8.3	20.2
12 27	4 9.69	+32 46.6	2.129	3.016	9.6	21.5	12 27	4 6.70	+29 27.0	1.431	2.329	12.6	20.5
1 6	4 3.98	+32 16.6	2.221	3.027	12.5	21.7	1 6	4 1.44	+29 6.3	1.524	2.347	16.3	20.7
141417	2002 <i>BM</i> ₂₀	12	1.9 318°07	22°5/28.8 18			516540	2006 <i>SL</i> ₂₆₉	12	1.9 184°18	2°2/ 2.6 18		
10 28	5 3.44	-21 6.3	1.112	1.871	25.7	19.1	10 28	5 2.96	+27 52.2	2.261	3.064	12.7	21.7
11 7	4 58.63	-22 51.9	1.067	1.863	24.2	18.9	11 7	4 56.84	+28 17.8	2.177	3.065	9.8	21.5
11 17	4 50.15	-23 55.8	1.034	1.854	23.0	18.8	11 17	4 48.45	+28 37.0	2.118	3.065	6.4	21.3
11 27	4 39.13	-24 3.3	1.017	1.846	22.5	18.7	11 27	4 38.49	+28 47.9	2.087	3.064	3.1	21.0
12 7	4 27.27	-23 6.4	1.014	1.839	22.7	18.7	12 7	4 27.96	+28 49.8	2.086	3.063	2.8	21.0
12 17	4 16.45	-21 5.7	1.028	1.832	23.8	18.8	12 17	4 17.96	+28 43.6	2.114	3.062	6.0	21.2
12 27	4 8.32	-18 10.8	1.057	1.826	25.5	18.9	12 27	4 9.52	+28 32.3	2.172	3.060	9.4	21.4
1 6	4 3.83	-14 37.4	1.100	1.820	27.4	19.0	1 6	4 3.36	+28 19.5	2.254	3.058	12.4	21.6
458675	2011 <i>HJ</i> ₁₇	12	1.9 307°23	1°7/ 1.7 17			307305	2002 <i>QR</i> ₇₆	12	1.9 129°94	5°9/29.0 18		
10 28	5 0.03	+15 15.8	2.087	2.909	13.0	20.9	10 28	4 56.25	+3 31.8	2.627	3.429	11.2	21.0
11 7	4 54.81	+15 38.9	1.991	2.891	9.9	20.6	11 7	4 51.18	+2 28.9	2.565	3.439	9.0	20.8
11 17	4 47.30	+16 5.7	1.918	2.873	6.3	20.4	11 17	4 44.61	+1 33.2	2.528	3.448	7.0	20.7
11 27	4 38.13	+16 36.5	1.874	2.855	2.6	20.1	11 27	4 37.12	+0 48.5	2.519	3.457	5.9	20.7
12 7	4 28.21	+17 10.9	1.858	2.837	2.9	20.1	12 7	4 29.39	+0 17.9	2.538	3.466	6.4	20.7
12 17	4 18.62	+17 48.6	1.873	2.819	6.7	20.3	12 17	4 22.12	+0 2.9	2.586	3.474	8.1	20.8
12 27	4 10.42	+18 29.8	1.915	2.802	10.5	20.5	12 27	4 15.98	+0 4.0	2.661	3.483	10.2	21.0
1 6	4 4.40	+19 14.4	1.982	2.785	13.9	20.7	1 6	4 11.41	+0 19.6	2.758	3.491	12.1	21.1
420906	2013 <i>MW</i> ₃	12	1.9 318°77	2°5/ 2.8 18			440755	2006 <i>DG</i> ₁₆₈	12	1.9 168°46	7°0/29.5 18		
10 28	5 4.33	+29 40.2	1.283	2.117	18.9	20.7	10 28	5 0.24	+3 21.9	2.066	2.872	13.7	22.1
11 7	4 59.25	+29 22.4	1.211	2.114	14.6	20.5	11 7	4 54.58	+2 26.1	1.999	2.876	11.1	21.9
11 17	4 50.51	+28 48.9	1.158	2.112	9.6	20.2	11 17	4 46.90	+1 39.4	1.955	2.879	8.5	21.7
11 27	4 39.24	+27 58.3	1.129	2.109	4.3	19.9	11 27	4 37.92	+1 6.6	1.938	2.881	7.0	21.7
12 7	4 27.18	+26 52.9	1.127	2.107	3.6	19.8	12 7	4 28.57	+0 51.0	1.949	2.883	7.6	21.7
12 17	4 16.24	+25 39.4	1.150	2.105	8.7	20.1	12 17	4 19.79	+0 54.5	1.988	2.885	9.7	21.8
12 27	4 8.04	+24 26.8	1.198	2.103	13.9	20.4	12 27	4 12.48	+1 16.6	2.052	2.886	12.3	22.0
1 6	4 3.49	+23 23.3	1.267	2.101	18.3	20.7	1 6	4 7.25	+1 54.8	2.138	2.887	14.7	22.2
461522	2003 <i>SG</i> ₂₂₉	12	1.9 130°62	13°5/ 3.3 18			127236	2002 <i>JS</i> ₁₈	12	1.9 171°13	0°9/ 2.3 17		
10 28	5 21.61	+44 3.1	1.278	2.053	22.2	21.2	10 28	5 0.74	+24 3.5	2.615	3.421	11.2	20.5
11 7	5 14.43	+46 44.1	1.218	2.059	19.1	21.0	11 7	4 54.82	+24 24.1	2.532	3.423	8.4	20.3
11 17	5 1.35	+49 6.3	1.177	2.065	16.1	20.8	11 17	4 47.03	+24 41.2	2.475	3.425	5.3	20.1
11 27	4 43.30	+50 52.1	1.158	2.071	13.9	20.7	11 27	4 37.98	+24 54.0	2.446	3.427	2.0	19.9
12 7	4 22.86	+51 48.2	1.163	2.076	13.7	20.7	12 7	4 28.49	+25 2.1	2.448	3.429	1.9	19.8
12 17	4 3.61	+51 52.5	1.191	2.081	15.3	20.8	12 17	4 19.43	+25 6.2	2.481	3.430	5.2	20.1
12 27	3 48.79	+51 16.0	1.240	2.086	17.9	21.0	12 27	4 11.64	+25 8.2	2.544	3.431	8.3	20.3
1 6	3 40.05	+50 16.2	1.307	2.090	20.7	21.2	1 6	4 5.73	+25 10.1	2.632	3.431	10.9	20.5
152843	1999 <i>VR</i> ₁₂₁	12	1.9 183°64	2°5/ 2.8 17			84096	Reginaldglencie	12	1.9 41°67	4°3/ 3.2 18		
10 28	5 1.38	+28 49.8	2.340	3.143	12.4	20.2	10 28	5 4.45	+31 28.6	1.204	2.039	19.8	19.4
11 7	4 55.61	+29 16.6	2.257	3.143	9.6	20.0	11 7	4 59.39	+31 46.2	1.150	2.051	15.4	19.2
11 17	4 47.65	+29 36.6	2.198	3.143	6.4	19.8	11 17	4 50.56	+31 48.2	1.115	2.064	10.4	19.0
11 27	4 38.20	+29 47.9	2.167	3.143	3.3	19.6	11 27	4 39.24	+31 31.1	1.103	2.078	5.7	18.8
12 7	4 28.21	+29 49.9	2.166	3.142	2.9	19.6	12 7	4 27.34	+30 55.4	1.116	2.092	4.9	18.8
12 17	4 18.73	+29 43.4	2.195	3.142	5.9	19.8	12 17	4 16.80	+30 6.2	1.154	2.107	9.0	19.0
12 27	4 10.73	+29 31.4	2.252	3.141	9.1	20.0	12 27	4 9.23	+29 12.0	1.216	2.123	13.6	19.3
1 6	4 4.92	+29 17.3	2.334	3.140	11.9	20.1	1 6	4 5.41	+28 21.0	1.299	2.138	17.7	19.6
342012	2008 <i>RL</i> ₆₅	12	1.9 82°63	7°8/ 4.6 18			132557	2002 <i>JD</i> ₈₆	12	1.9 90°38	1°7/ 2.5 18		
10 28	5 12.10	+40 26.6	1.655	2.433	17.7	21.3	10 28	5 5.70	+26 30.6	1.882	2.693	14.6	20.6
11 7	5 4.65	+41 29.2	1.604	2.458	14.5	21.1	11 7	4 58.91	+26 44.2	1.826	2.719	11.1	20.5
11 17	4 53.61	+42 12.8	1.572	2.482	11.2	21.0	11 17	4 49.64	+26 50.4	1.794	2.744	7.1	20.3
11 27	4 40.23	+42 30.4	1.565	2.507	8.6	20.9	11 27	4 38.84	+26 47.9	1.789	2.769	3.0	20.1
12 7	4 26.29	+42 19.7	1.585	2.531	7.9	20.9	12 7	4 27.74	+26 37.1	1.813	2.793	2.6	20.1
12 17	4 13.69	+41 43.7	1.631	2.554	9.6	21.0	12 17	4 17.57	+26 20.1	1.867	2.817	6.4	20.4
12 27	4 3.96	+40 50.4	1.703	2.578	12.3	21.2	12 27	4 9.39	+26 0.9	1.949	2.840	10.1	20.7
1 6	3 57.89	+39 49.5	1.798	2.600	15.1	21.5	1 6	4 3.84	+25 43.2	2.055	2.863	13.2	20.9
127485	2002 <i>ST</i> ₅₄	12	1.9 69°78	2°2/ 2.4 18			329015	2011 <i>AG</i>	12	1.9 310°24	2°7/ 1.2 17		
10 28	5 7.12	+25 11.0	1.356	2.187	18.2	19.2	10 28	4 57.71	+14 48.0	2.016	2.844	13.2	20.9
11 7	5 0.94	+25 50.8	1.300	2.204	13.8	19.0	11 7	4 52.99	+14 32.4	1.931	2.834	10.0	20.6
11 17	4 51.35	+26 24.3	1.265	2.220	8.8	18.7	11 17	4 46.10	+14 18.4	1.870	2.824	6.5	20.4
11 27	4 39.48	+26 48.2	1.256	2.236	3.7	18.5	11 27	4 37.72	+14 7.8	1.836	2.814	3.3	20.2
12 7	4 27.01	+27 0.9	1.273	2.253	3.4	18.5	12 7	4 28.79	+14 2.6	1.831	2.805	3.7	20.2
12 17	4 15.68	+27 3.9	1.317	2.269	8.2	18.8	12 17	4 20.32	+14 4.3	1.854	2.796	7.2	20.4
12 27	4 6.99	+27 1.5	1.386	2.286	12.8	19.2	12 27	4 13.30	+14 14.2	1.904	2.787	10.8	20.6
1 6	4 1.77	+26 58.7	1.477	2.302	16.7	19.4	1 6	4 8.44	+14 32.8	1.977	2.778	14.0	20.8
144258	2004 <i>CN</i> ₉₀	12	1.9 151°23	1°5/ 1.4 18			441236	2007 <i>VN</i> ₁₈₈	12	1.9 24°91	2°1/ 1.5 17		
10 28													

EPHEMERIDES

12 1.9

12 2.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
279157	2009 <i>SG</i> ₁₁₃	12	1.9 317°32	6°3/ 3.4 18			163861	2003 <i>SK</i> ₉₇	12	1.9 249°08	6°6/29.5 18		
10 28	5 2.16	+34 4.5	1.281	2.110	19.2	20.2	10 28	4 59.14	+7 5.9	1.819	2.642	14.6	20.0
11 7	4 58.29	+34 46.4	1.196	2.091	15.5	19.9	11 7	4 54.13	+5 58.8	1.744	2.636	11.6	19.8
11 17	4 50.41	+35 13.6	1.130	2.072	11.2	19.6	11 17	4 46.84	+4 57.4	1.693	2.630	8.6	19.6
11 27	4 39.41	+35 19.6	1.086	2.054	7.3	19.4	11 27	4 38.00	+4 7.5	1.668	2.623	6.7	19.5
12 7	4 27.02	+35 0.8	1.067	2.037	6.6	19.3	12 7	4 28.65	+3 33.8	1.670	2.617	7.4	19.5
12 17	4 15.37	+34 18.8	1.072	2.020	10.2	19.4	12 17	4 19.88	+3 19.3	1.699	2.611	10.1	19.7
12 27	4 6.51	+33 21.8	1.100	2.005	14.9	19.6	12 27	4 12.71	+3 24.9	1.753	2.604	13.2	19.9
1 6	4 1.72	+32 20.2	1.148	1.990	19.3	19.9	1 6	4 7.85	+3 48.9	1.828	2.597	16.2	20.1
515621	2014 <i>KB</i> ₁₀₄	12	1.9 103°99	0°9/ 2.2 18			308834	2006 <i>RJ</i> ₃₆	12	1.9 18°11	5°1/ 3.8 17		
10 28	5 5.22	+22 16.1	2.001	2.814	13.8	21.0	10 28	5 1.62	+34 38.5	1.559	2.373	17.0	20.1
11 7	4 58.64	+23 0.3	1.931	2.826	10.5	20.9	11 7	4 56.81	+34 58.9	1.491	2.378	13.5	19.9
11 17	4 49.60	+23 42.7	1.885	2.838	6.6	20.6	11 17	4 48.83	+35 3.7	1.444	2.382	9.6	19.7
11 27	4 38.90	+24 20.9	1.868	2.850	2.4	20.4	11 27	4 38.71	+34 49.5	1.421	2.388	6.1	19.5
12 7	4 27.65	+24 53.4	1.880	2.861	2.3	20.4	12 7	4 27.97	+34 16.0	1.424	2.394	5.3	19.5
12 17	4 17.05	+25 20.1	1.923	2.872	6.3	20.7	12 17	4 18.21	+33 26.7	1.454	2.401	8.2	19.7
12 27	4 8.20	+25 42.5	1.994	2.883	10.1	20.9	12 27	4 10.82	+32 28.7	1.509	2.409	12.0	19.9
1 6	4 1.84	+26 2.9	2.090	2.894	13.2	21.2	1 6	4 6.61	+31 29.7	1.587	2.417	15.5	20.2
454705	2014 <i>SJ</i> ₁₀₇	12	1.9 312°72	5°1/ 3.3 18			484418	2007 <i>YZ</i> ₆₅	12	1.9 343°26	1°0/ 2.3 18		
10 28	5 1.81	+34 31.9	1.999	2.797	14.4	20.8	10 28	5 0.02	+25 40.6	1.721	2.549	15.1	21.2
11 7	4 56.65	+35 19.8	1.908	2.784	11.5	20.6	11 7	4 55.15	+25 29.6	1.644	2.546	11.5	21.0
11 17	4 48.69	+35 57.4	1.840	2.771	8.4	20.4	11 17	4 47.63	+25 10.6	1.588	2.544	7.3	20.8
11 27	4 38.68	+36 20.3	1.797	2.758	5.8	20.2	11 27	4 38.29	+24 43.4	1.559	2.541	2.7	20.5
12 7	4 27.80	+36 26.1	1.783	2.746	5.3	20.2	12 7	4 28.37	+24 9.5	1.557	2.539	2.4	20.5
12 17	4 17.40	+36 15.3	1.796	2.734	7.7	20.3	12 17	4 19.16	+23 32.3	1.584	2.537	7.0	20.7
12 27	4 8.83	+35 51.7	1.835	2.722	10.9	20.5	12 27	4 11.86	+22 56.5	1.637	2.535	11.3	21.0
1 6	4 3.00	+35 21.1	1.898	2.711	14.0	20.7	1 6	4 7.24	+22 26.3	1.713	2.534	14.9	21.2
344962	2004 <i>XR</i> ₁₁	12	1.9 33°19	0°8/ 2.2 18			337679	2001 <i>TR</i> ₂₀₃	12	1.9 141°13	9°1/ 4.5 18		
10 28	5 1.42	+24 37.8	1.458	2.295	16.8	20.1	10 28	5 16.76	+45 4.5	2.040	2.777	16.1	21.1
11 7	4 56.47	+24 32.7	1.394	2.301	12.8	19.9	11 7	5 8.38	+46 37.3	1.972	2.790	13.7	21.0
11 17	4 48.52	+24 20.2	1.350	2.308	8.0	19.6	11 17	4 56.23	+47 52.7	1.926	2.802	11.3	20.9
11 27	4 38.57	+23 59.9	1.332	2.315	2.9	19.3	11 27	4 41.31	+48 41.9	1.905	2.813	9.5	20.8
12 7	4 28.05	+23 33.5	1.340	2.322	2.7	19.3	12 7	4 25.30	+48 59.8	1.910	2.824	9.1	20.8
12 17	4 18.48	+23 4.6	1.376	2.330	7.7	19.7	12 17	4 10.20	+48 47.0	1.944	2.833	10.3	20.9
12 27	4 11.16	+22 37.8	1.437	2.338	12.3	20.0	12 27	3 57.79	+48 9.7	2.003	2.843	12.3	21.0
1 6	4 6.88	+22 17.1	1.519	2.347	16.2	20.2	1 6	3 49.14	+47 17.7	2.084	2.851	14.5	21.2
3327	Campins	12	1.9 107°79	0°0/ 1.8 18			460739	2014 <i>VD</i> ₁₉	12	1.9 343°81	1°9/ 2.7 17		
10 28	4 58.45	+22 29.3	2.449	3.264	11.5	17.0	10 28	4 57.91	+27 58.7	1.944	2.765	13.9	20.4
11 7	4 53.12	+22 24.4	2.375	3.272	8.7	16.8	11 7	4 53.38	+27 57.5	1.861	2.759	10.6	20.2
11 17	4 45.96	+22 15.9	2.326	3.281	5.4	16.7	11 17	4 46.45	+27 47.7	1.802	2.753	6.9	20.0
11 27	4 37.64	+22 4.1	2.306	3.289	1.8	16.4	11 27	4 37.89	+27 28.5	1.768	2.748	3.1	19.7
12 7	4 28.97	+21 50.0	2.315	3.296	1.8	16.4	12 7	4 28.76	+27 0.7	1.763	2.743	2.7	19.7
12 17	4 20.84	+21 35.3	2.355	3.304	5.3	16.7	12 17	4 20.24	+26 26.9	1.787	2.739	6.4	19.9
12 27	4 14.02	+21 22.1	2.423	3.312	8.5	16.9	12 27	4 13.40	+25 51.4	1.837	2.735	10.2	20.2
1 6	4 9.09	+21 12.5	2.516	3.319	11.3	17.1	1 6	4 8.97	+25 18.4	1.911	2.732	13.6	20.4
376077	2010 <i>UN</i> ₅₂	12	1.9 116°66	2°0/ 2.4 18			44188	1998 <i>KJ</i> ₅₈	12	1.9 340°61	0°9/ 1.7 18		
10 28	5 7.18	+25 17.2	1.442	2.269	17.5	20.9	10 28	5 1.10	+22 37.4	1.295	2.141	18.0	18.5
11 7	5 1.01	+25 49.9	1.375	2.276	13.4	20.7	11 7	4 56.62	+22 0.9	1.224	2.137	13.6	18.3
11 17	4 51.48	+26 16.5	1.329	2.283	8.6	20.4	11 17	4 48.83	+21 16.0	1.173	2.134	8.5	18.0
11 27	4 39.62	+26 34.1	1.309	2.289	3.6	20.1	11 27	4 38.75	+20 24.6	1.147	2.131	2.9	17.6
12 7	4 26.98	+26 41.2	1.316	2.296	3.2	20.1	12 7	4 27.94	+19 30.9	1.147	2.128	3.3	17.7
12 17	4 15.31	+26 39.4	1.350	2.302	8.1	20.4	12 17	4 18.06	+18 40.5	1.172	2.125	8.9	18.0
12 27	4 6.13	+26 32.9	1.410	2.308	12.8	20.7	12 27	4 10.62	+17 59.6	1.222	2.123	14.0	18.3
1 6	4 0.34	+26 26.5	1.492	2.314	16.7	21.0	1 6	4 6.48	+17 31.9	1.292	2.122	18.3	18.5
490960	2011 <i>DQ</i> ₃₀	12	1.9 292°12	4°8/30.9 18			477896	2011 <i>KB</i> ₆	12	2.0 270°70	0°3/ 1.9 18		
10 28	4 59.07	+6 57.5	2.204	3.016	12.7	20.8	10 28	5 2.11	+22 41.0	1.596	2.427	15.9	21.4
11 7	4 53.87	+6 52.4	2.112	2.999	10.1	20.6	11 7	4 56.99	+22 21.5	1.511	2.416	12.1	21.1
11 17	4 46.62	+6 55.3	2.043	2.982	7.2	20.4	11 17	4 48.93	+21 55.6	1.448	2.405	7.6	20.9
11 27	4 37.93	+7 8.6	2.002	2.965	5.0	20.2	11 27	4 38.79	+21 23.7	1.411	2.394	2.6	20.5
12 7	4 28.64	+7 33.8	1.990	2.948	5.4	20.2	12 7	4 27.87	+20 48.1	1.401	2.383	2.7	20.5
12 17	4 19.70	+8 11.3	2.007	2.931	8.0	20.3	12 17	4 17.61	+20 12.5	1.420	2.371	7.8	20.8
12 27	4 12.03	+9 0.3	2.051	2.915	11.0	20.5	12 27	4 9.39	+19 41.7	1.464	2.360	12.5	21.0
1 6	4 6.35	+9 59.2	2.119	2.898	13.9	20.6	1 6	4 4.07	+19 19.5	1.530	2.348	16.5	21.3
329187	2012 <i>DM</i> ₂₉	12	1.9 334°63	1°0/ 1.7 18			359310	2009 <i>HH</i> ₁₀₃	12	2.0 146°70	1°6/ 1.5 18		
10 28	4 58.53	+19 32.3	1.947	2.775	13.5	20.2	10 28	5 0.36	+17 37.8	2.016	2.840	13.3	21.6
11 7	4 53.68	+19 24.7	1.867	2.771	10.2	20.0	11 7	4 54.91	+17 29.8	1.941	2.842	10.1	21.4
11 17	4 46.57	+19 15.1	1.811	2.768	6.4	19.8	11 17	4 47.26	+17 21.4	1.889	2.844	6.3	21.1
11 27	4 37.90	+19 4.6	1.781	2.764	2.3	19.5	11 27	4 38.15	+17 13.7	1.865	2.846	2.5	20.9
12 7	4 28.70	+18 54.3	1.781	2.761	2.6	19.5	12 7	4 28.57	+17 8.0	1.870	2.848	2.9	20.9
12 17	4 20.06	+18 46.2	1.809	2.758	6.7	19.8	12 17	4 19.57	+17 5.9	1.904	2.850	6.7	21.2
12 27	4 12.99	+18 42.5	1.864	2.755	10.5	20.0	12 27	4 12.14	+17 9.1	1.966	2.852	10.3	21.4
1 6	4 8.21	+18 44.9	1.942	2.752	13.8	20.2	1 6	4 6.93	+17 18.8	2.052	2.854	13.5	21.6
264481	2001 <i>OU</i> ₁₅	12	1.9 197°88	0°1/ 2.0 18			415254	2012 <i>JB</i> ₆₃	12	2.0 196°77	0°3/ 2.1 18		