

EPHEMERIDES

12 14.9

12 15.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
11263	Pesonen 12 14.9 141°46' 4.8/16.6 18						227075	2005 JQ ₁₀₄ 12 15.0 132°99' 0.8/14.9 18					
11 7	6 7.10	+43 16.2	3.112	3.828	11.4	19.9	11 7	6 4.73	+21 47.5	1.860	2.643	15.7	21.9
11 17	5 59.82	+43 27.1	3.031	3.843	9.5	19.8	11 17	5 58.78	+21 36.1	1.787	2.659	12.3	21.7
11 27	5 50.36	+43 26.4	2.974	3.858	7.4	19.6	11 27	5 50.10	+21 24.1	1.736	2.673	8.2	21.5
12 7	5 39.43	+43 11.2	2.944	3.872	5.6	19.5	12 7	5 39.47	+21 10.8	1.712	2.687	3.8	21.3
12 17	5 27.96	+42 39.7	2.944	3.885	4.8	19.5	12 17	5 28.01	+20 56.5	1.717	2.700	1.3	21.1
12 27	5 16.98	+41 53.1	2.975	3.898	5.7	19.6	12 27	5 17.03	+20 42.3	1.752	2.712	5.6	21.4
1 6	5 7.42	+40 54.5	3.036	3.910	7.5	19.7	1 6	5 7.72	+20 29.9	1.816	2.724	9.7	21.7
1 16	4 59.91	+39 48.7	3.124	3.921	9.5	19.9	1 16	5 0.88	+20 21.2	1.904	2.735	13.3	22.0
211790	2004 CB ₆₀ 12 14.9 329°42' 1°1/14.9 18						273271	2006 OP 12 15.0 256°34' 5°3/16.5 18					
11 7	5 57.87	+20 10.2	1.690	2.493	16.3	20.2	11 7	6 4.37	+43 19.4	2.870	3.596	12.1	21.0
11 17	5 54.01	+20 14.2	1.605	2.487	12.8	20.0	11 17	5 58.28	+43 30.6	2.759	3.576	10.1	20.8
11 27	5 47.27	+20 20.5	1.541	2.482	8.7	19.7	11 27	5 49.71	+43 29.9	2.670	3.557	8.0	20.7
12 7	5 38.32	+20 28.6	1.501	2.477	4.1	19.4	12 7	5 39.32	+43 13.5	2.607	3.537	6.1	20.5
12 17	5 28.21	+20 37.8	1.489	2.472	1.5	19.2	12 17	5 28.04	+42 39.1	2.574	3.517	5.3	20.4
12 27	5 18.32	+20 47.9	1.505	2.467	6.0	19.5	12 27	5 17.02	+41 46.9	2.570	3.496	6.3	20.5
1 6	5 9.96	+20 59.5	1.548	2.463	10.6	19.8	1 6	5 7.35	+40 40.2	2.596	3.475	8.4	20.6
1 16	5 4.10	+21 13.4	1.615	2.460	14.5	20.0	1 16	4 59.83	+39 24.2	2.649	3.454	10.7	20.7
493316	2014 UF ₁₉₅ 12 14.9 287°68' 0°8/15.0 18						197793	2004 PB ₅₈ 12 15.0 118°91' 3°7/14.7 18					
11 7	5 57.59	+24 27.6	2.220	3.006	13.4	21.2	11 7	6 1.78	+13 58.0	1.896	2.677	15.6	21.2
11 17	5 53.22	+24 50.4	2.124	2.997	10.5	21.0	11 17	5 56.31	+13 32.4	1.827	2.694	12.3	21.0
11 27	5 46.46	+25 13.0	2.051	2.989	7.1	20.8	11 27	5 48.36	+13 12.2	1.780	2.710	8.6	20.8
12 7	5 37.88	+25 33.4	2.005	2.980	3.4	20.5	12 7	5 38.67	+12 58.8	1.759	2.725	5.1	20.6
12 17	5 28.33	+25 50.1	1.988	2.971	1.2	20.3	12 17	5 28.23	+12 53.4	1.767	2.740	3.8	20.6
12 27	5 18.89	+26 2.3	2.001	2.962	4.9	20.6	12 27	5 18.23	+12 56.8	1.805	2.755	6.6	20.8
1 6	5 10.61	+26 10.7	2.042	2.953	8.6	20.8	1 6	5 9.72	+13 8.9	1.870	2.768	10.1	21.0
1 16	5 4.35	+26 16.7	2.109	2.944	12.0	21.0	1 16	5 3.45	+13 29.0	1.960	2.782	13.3	21.3
448918	2011 UU ₃₇₉ 12 14.9 40°62' 0°2/14.9 17						26016	2633 P-L 12 15.0 20°16' 3°1/14.8 18					
11 7	5 59.24	+23 10.4	1.498	2.307	17.7	21.3	11 7	5 57.56	+17 57.6	1.143	1.973	20.8	18.3
11 17	5 55.11	+23 6.4	1.437	2.324	13.8	21.1	11 17	5 54.69	+17 34.1	1.082	1.978	16.4	18.0
11 27	5 47.90	+23 1.3	1.397	2.340	9.2	20.9	11 27	5 48.12	+17 14.8	1.038	1.984	11.2	17.8
12 7	5 38.51	+22 54.2	1.382	2.358	4.2	20.6	12 7	5 38.79	+17 1.3	1.017	1.992	5.8	17.5
12 17	5 28.21	+22 44.9	1.392	2.376	1.1	20.5	12 17	5 28.19	+16 54.8	1.020	2.000	3.4	17.4
12 27	5 18.52	+22 34.3	1.431	2.394	6.1	20.8	12 27	5 18.18	+16 56.6	1.047	2.010	8.0	17.7
1 6	5 10.73	+22 24.5	1.496	2.413	10.6	21.2	1 6	5 10.40	+17 7.1	1.098	2.020	13.2	18.0
1 16	5 5.70	+22 17.7	1.583	2.433	14.5	21.4	1 16	5 5.91	+17 26.1	1.170	2.031	17.8	18.3
195869	2002 QK ₁₀₂ 12 15.0 239°12' 0°6/15.1 18						282692	2005 YZ ₁₇₆ 12 15.0 225°60' 0°8/14.9 18					
11 7	5 56.94	+25 11.8	2.452	3.233	12.4	20.8	11 7	6 1.10	+20 59.9	1.913	2.701	15.2	21.6
11 17	5 52.38	+25 16.8	2.359	3.230	9.7	20.6	11 17	5 56.24	+21 1.9	1.820	2.694	12.0	21.4
11 27	5 45.71	+25 19.8	2.289	3.226	6.6	20.4	11 27	5 48.64	+21 4.9	1.748	2.687	8.1	21.1
12 7	5 37.48	+25 19.6	2.247	3.222	3.1	20.2	12 7	5 38.95	+21 8.2	1.703	2.678	3.8	20.8
12 17	5 28.47	+25 15.7	2.235	3.218	0.9	20.0	12 17	5 28.13	+21 11.1	1.687	2.670	1.2	20.6
12 27	5 19.64	+25 8.3	2.253	3.214	4.4	20.3	12 27	5 17.48	+21 13.7	1.700	2.661	5.6	20.9
1 6	5 11.91	+24 58.7	2.300	3.210	7.9	20.5	1 6	5 8.23	+21 16.9	1.741	2.652	9.9	21.2
1 16	5 5.99	+24 48.6	2.373	3.205	10.9	20.7	1 16	5 1.33	+21 22.1	1.807	2.642	13.7	21.4
1348	Michel 12 15.0 341°35' 0°4/15.0 18						269903	2000 HQ ₁₅ 12 15.0 295°88' 10°0/13.9 16					
11 7	5 56.88	+20 56.2	1.649	2.456	16.5	14.9	11 7	6 9.37	+48 45.9	2.306	3.020	15.0	20.3
11 17	5 53.39	+21 16.5	1.564	2.448	13.0	14.7	11 17	6 4.03	+50 43.2	2.215	3.006	13.2	20.2
11 27	5 46.95	+21 39.9	1.499	2.442	8.8	14.4	11 27	5 54.80	+52 30.3	2.146	2.992	11.5	20.0
12 7	5 38.22	+22 4.9	1.459	2.435	4.0	14.1	12 7	5 42.15	+53 57.8	2.101	2.979	10.3	19.9
12 17	5 28.27	+22 29.7	1.446	2.430	1.1	13.9	12 17	5 27.24	+54 57.6	2.082	2.965	10.0	19.9
12 27	5 18.48	+22 53.4	1.461	2.425	6.0	14.2	12 27	5 11.99	+55 25.4	2.090	2.952	10.9	19.9
1 6	5 10.24	+23 15.7	1.503	2.420	10.6	14.5	1 6	4 58.45	+55 22.8	2.122	2.938	12.6	20.0
1 16	5 4.56	+23 37.4	1.568	2.417	14.7	14.7	1 16	4 48.25	+54 56.2	2.175	2.925	14.5	20.1
298166	2002 TF ₁₁₀ 12 15.0 26°09' 10°4/15.6 18						295667	2008 TG ₆₀ 12 15.0 72°14' 0°5/15.1 17					
11 7	5 55.21	+ 1 18.2	1.270	2.067	20.9	19.3	11 7	5 57.42	+24 48.1	2.262	3.048	13.2	21.1
11 17	5 52.09	+ 0 24.9	1.223	2.083	17.6	19.2	11 17	5 52.82	+24 51.8	2.182	3.055	10.3	20.9
11 27	5 45.92	- 0 6.8	1.194	2.101	14.1	19.0	11 27	5 46.01	+24 53.5	2.126	3.063	6.9	20.7
12 7	5 37.63	- 0 11.0	1.186	2.120	11.3	18.9	12 7	5 37.62	+24 52.2	2.096	3.071	3.2	20.5
12 17	5 28.47	+ 0 15.1	1.201	2.140	10.5	18.9	12 17	5 28.50	+24 47.4	2.096	3.079	0.9	20.3
12 27	5 19.93	+ 1 10.0	1.239	2.162	11.9	19.1	12 27	5 19.67	+24 39.5	2.126	3.087	4.6	20.6
1 6	5 13.26	+ 2 28.3	1.300	2.184	14.7	19.3	1 6	5 12.09	+24 29.8	2.184	3.095	8.2	20.8
1 16	5 9.29	+ 4 2.4	1.382	2.207	17.6	19.5	1 16	5 6.45	+24 20.3	2.268	3.103	11.3	21.0
420917	2013 NB ₂ 12 15.0 78°59' 0°7/15.2 18						457915	2009 UU ₂₈ 12 15.0 50°93' 3°2/14.4 18					
11 7	5 58.93	+26 38.0	2.379	3.157	12.8	20.8	11 7	5 56.18	+16 1.7	2.072	2.862	14.1	21.1
11 17	5 53.71	+26 26.7	2.310	3.179	10.0	20.7	11 17	5 51.88	+15 21.4	1.996	2.869	11.1	20.9
11 27	5 46.41	+26 11.5	2.266	3.201	6.7	20.5	11 27	5 45.38	+14 43.6	1.943	2.877	7.7	20.7
12 7	5 37.70	+25 51.7	2.248	3.222	3.1	20.3	12 7	5 37.33	+14 10.1	1.916	2.884	4.4	20.5
12 17	5 28.46	+25 27.6	2.261	3.244	1.0	20.2	12 17	5 28.59	+13 42.9	1.918	2.892	3.4	20.4
12 27	5 19.64	+25 0.4	2.304	3.265	4.4	20.5	12 27	5 20.18	+13 23.8	1.949	2.900	6.0	20.6
1 6	5 12.12	+24 32.3	2.376	3.286	7.7	20.7	1 6	5 13.02	+13 13.7	2.008	2.908	9.4	20.9
1 16	5 6.50	+24 5.6	2.475	3.307	10.6	20.9	1 16	5 7.81	+13 12.8	2.091	2.917	12.4	21.1
263278	2008 BK ₃₃ 12 15.0 7°73' 2°9/15.3 17						415190	2012 GX ₁₅ 12 15.0 129°39' 4°8/15.5 17					
11 7	5 59.07	+29 51.2	1.654	2.453	16.7	20.9	11 7	6 1.97	+37 27.7	2.509	3.263	12.9	21.0
11 17	5 55.18	+30 12.6	1.576	2.454	13.3	20.7	11 17	5 56.55	+38 14.5	2.427	3.270	10.5	20.9
11 27	5 48.15	+30 28.4	1.519	2.455	9.2	20.5	11 27	5 48.63	+38 53.4	2.			

EPHEMERIDES

12 15.0

12 15.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
411159	2010 <i>BN</i> ₅	12 15.0 242°63	2°2/14.9 18				109493	2001 <i>QM</i> ₂₂₈	12 15.0 162°52	8°3/13.5 18			
11 7	5 55.65	+15 9.7	2.535	3.313	12.2	20.9	11 7	5 53.62	- 3 43.0	2.644	3.370	13.0	20.2
11 17	5 51.22	+15 12.6	2.443	3.309	9.6	20.7	11 17	5 49.43	- 4 49.0	2.569	3.371	11.3	20.1
11 27	5 44.87	+15 20.0	2.374	3.305	6.6	20.5	11 27	5 43.56	- 5 42.5	2.516	3.373	9.7	20.0
12 7	5 37.11	+15 32.2	2.332	3.301	3.6	20.3	12 7	5 36.49	- 6 19.3	2.488	3.374	8.6	19.9
12 17	5 28.63	+15 49.1	2.320	3.297	2.4	20.2	12 17	5 28.87	- 6 36.5	2.487	3.375	8.4	19.9
12 27	5 20.28	+16 10.4	2.339	3.293	4.9	20.3	12 27	5 21.43	- 6 32.7	2.512	3.376	9.3	20.0
1 6	5 12.88	+16 35.9	2.386	3.289	8.0	20.5	1 6	5 14.87	- 6 9.0	2.562	3.376	10.7	20.1
1 16	5 7.08	+17 4.9	2.461	3.285	10.8	20.7	1 16	5 9.76	- 5 27.9	2.635	3.377	12.4	20.2
490904	2011 <i>BM</i> ₁₀₉	12 15.0 182°25	0°3/14.9 18				386037	2007 <i>ED</i> ₅₉	12 15.0 282°21	3°7/14.7 18			
11 7	5 56.79	+23 8.3	2.745	3.521	11.4	22.4	11 7	5 59.21	+15 41.1	1.558	2.360	17.5	21.6
11 17	5 51.94	+22 55.2	2.653	3.522	8.9	22.3	11 17	5 55.32	+15 16.2	1.468	2.348	13.9	21.4
11 27	5 45.24	+22 40.4	2.586	3.522	5.9	22.1	11 27	5 48.34	+14 55.7	1.400	2.337	9.8	21.1
12 7	5 37.24	+22 23.8	2.547	3.522	2.7	21.9	12 7	5 38.94	+14 41.5	1.355	2.325	5.5	20.8
12 17	5 28.61	+22 5.7	2.538	3.521	0.8	21.7	12 17	5 28.23	+14 35.2	1.337	2.314	3.9	20.7
12 27	5 20.20	+21 46.9	2.560	3.520	4.1	21.9	12 27	5 17.68	+14 38.1	1.346	2.302	7.5	20.9
1 6	5 12.76	+21 28.8	2.612	3.519	7.2	22.1	1 6	5 8.71	+14 50.6	1.381	2.291	12.1	21.1
1 16	5 6.93	+21 12.9	2.691	3.518	10.0	22.3	1 16	5 2.42	+15 12.4	1.439	2.279	16.2	21.4
265269	2004 <i>FC</i> ₃₆	12 15.0 245°01	1°2/14.9 18				24554	2608 <i>P-L</i>	12 15.0 72°37	4°6/15.5 18			
11 7	6 1.72	+20 16.4	1.757	2.550	16.2	21.5	11 7	6 1.34	+35 41.9	2.209	2.976	14.0	18.6
11 17	5 57.04	+20 12.7	1.661	2.537	12.8	21.3	11 17	5 56.30	+36 26.1	2.134	2.987	11.4	18.4
11 27	5 49.38	+20 10.4	1.586	2.525	8.7	21.0	11 27	5 48.58	+37 2.4	2.081	2.997	8.4	18.3
12 7	5 39.37	+20 9.1	1.536	2.511	4.1	20.7	12 7	5 38.90	+37 26.7	2.054	3.008	5.7	18.1
12 17	5 28.06	+20 8.4	1.515	2.497	1.6	20.5	12 17	5 28.29	+37 36.0	2.055	3.018	4.7	18.1
12 27	5 16.85	+20 8.7	1.522	2.483	6.2	20.8	12 27	5 18.01	+37 29.7	2.086	3.029	6.4	18.2
1 6	5 7.14	+20 11.0	1.557	2.469	10.8	21.0	1 6	5 9.25	+37 10.5	2.144	3.040	9.1	18.4
1 16	4 59.98	+20 16.7	1.616	2.453	14.9	21.2	1 16	5 2.85	+36 42.5	2.228	3.050	11.9	18.6
134103	2004 <i>XS</i> ₁₃₆	12 15.0 259°33	1°9/15.4 18				139410	2001 <i>OR</i> ₁₄	12 15.0 50°41	5°8/16.5 18			
11 7	5 58.56	+29 55.8	2.424	3.200	12.7	20.1	11 7	6 5.98	+38 44.4	1.601	2.378	18.1	18.9
11 17	5 53.80	+29 54.0	2.324	3.189	10.1	19.9	11 17	6 0.53	+38 59.6	1.546	2.403	14.7	18.8
11 27	5 46.75	+29 46.4	2.247	3.178	7.0	19.7	11 27	5 51.57	+38 59.8	1.511	2.428	10.9	18.6
12 7	5 38.01	+29 31.5	2.197	3.167	3.7	19.5	12 7	5 40.20	+38 40.3	1.500	2.453	7.4	18.5
12 17	5 28.42	+29 8.4	2.176	3.156	2.0	19.3	12 17	5 28.02	+37 59.3	1.514	2.479	5.8	18.4
12 27	5 19.02	+28 38.0	2.186	3.145	4.8	19.5	12 27	5 16.79	+36 59.5	1.557	2.504	7.6	18.6
1 6	5 10.81	+28 2.8	2.225	3.133	8.2	19.7	1 6	5 7.95	+35 48.0	1.626	2.530	10.9	18.9
1 16	5 4.56	+27 25.9	2.290	3.122	11.3	19.9	1 16	5 2.31	+34 32.4	1.719	2.557	14.1	19.1
226603	2004 <i>CC</i> ₈₅	12 15.0 262°92	1°2/15.1 18				393500	2002 <i>RQ</i> ₂₂	12 15.0 63°82	3°1/15.4 18			
11 7	6 2.26	+24 23.9	1.576	2.376	17.4	20.8	11 7	6 3.81	+30 35.9	1.667	2.456	17.0	20.7
11 17	5 57.94	+24 51.6	1.486	2.367	13.8	20.5	11 17	5 58.55	+30 58.5	1.608	2.480	13.4	20.5
11 27	5 50.24	+25 19.8	1.418	2.358	9.4	20.2	11 27	5 50.16	+31 14.2	1.570	2.503	9.3	20.3
12 7	5 39.85	+25 45.5	1.373	2.349	4.5	19.9	12 7	5 39.59	+31 19.6	1.557	2.527	5.1	20.1
12 17	5 27.94	+26 5.7	1.357	2.339	1.6	19.7	12 17	5 28.15	+31 12.4	1.572	2.550	3.2	20.0
12 27	5 16.18	+26 19.0	1.368	2.330	6.5	20.0	12 27	5 17.39	+30 53.7	1.616	2.574	6.2	20.3
1 6	5 6.16	+26 26.5	1.405	2.321	11.4	20.3	1 6	5 8.64	+30 27.0	1.686	2.597	10.1	20.6
1 16	4 59.09	+26 30.7	1.466	2.311	15.7	20.5	1 16	5 2.72	+29 57.0	1.781	2.621	13.6	20.8
266444	2007 <i>HP</i> ₈₁	12 15.0 136°40	0°6/15.1 17				367828	2011 <i>BZ</i> ₂₃	12 15.0 106°07	2°1/15.5 17			
11 7	5 58.13	+25 0.3	2.401	3.181	12.7	21.5	11 7	5 59.36	+30 34.2	2.354	3.129	13.1	21.3
11 17	5 53.29	+25 6.5	2.316	3.186	9.9	21.3	11 17	5 54.34	+30 35.9	2.272	3.136	10.3	21.1
11 27	5 46.31	+25 10.8	2.255	3.191	6.7	21.1	11 27	5 47.04	+30 31.6	2.213	3.144	7.1	20.9
12 7	5 37.78	+25 12.0	2.221	3.196	3.1	20.9	12 7	5 38.13	+30 19.6	2.181	3.151	3.8	20.7
12 17	5 28.52	+25 9.5	2.217	3.200	0.9	20.7	12 17	5 28.50	+29 59.0	2.179	3.158	2.2	20.6
12 27	5 19.51	+25 3.5	2.244	3.205	4.5	21.0	12 27	5 19.21	+29 30.8	2.207	3.165	4.8	20.8
1 6	5 11.67	+24 55.3	2.299	3.209	7.9	21.2	1 6	5 11.24	+28 57.5	2.264	3.172	8.1	21.0
1 16	5 5.69	+24 46.6	2.381	3.213	10.9	21.4	1 16	5 5.29	+28 22.5	2.347	3.179	11.0	21.3
58940	1998 <i>QP</i> ₂₁	12 15.0 103°89	2°0/15.2 18				452685	2005 <i>XT</i> ₆₈	12 15.0 41°30	0°9/15.1 18			
11 7	6 6.03	+27 1.3	1.330	2.135	19.7	19.4	11 7	5 58.47	+25 41.8	1.971	2.763	14.7	21.7
11 17	6 1.17	+27 21.3	1.262	2.144	15.6	19.1	11 17	5 54.06	+25 50.3	1.891	2.767	11.5	21.5
11 27	5 52.44	+27 37.7	1.214	2.154	10.6	18.9	11 27	5 47.09	+25 56.3	1.833	2.771	7.8	21.3
12 7	5 40.79	+27 46.5	1.189	2.163	5.2	18.6	12 7	5 38.23	+25 58.3	1.801	2.776	3.7	21.0
12 17	5 27.78	+27 44.7	1.190	2.172	2.3	18.4	12 17	5 28.47	+25 55.1	1.798	2.781	1.2	20.9
12 27	5 15.39	+27 32.8	1.219	2.181	7.1	18.7	12 27	5 19.03	+25 47.2	1.824	2.786	5.2	21.2
1 6	5 5.38	+27 14.3	1.272	2.189	12.2	19.1	1 6	5 11.02	+25 36.3	1.878	2.791	9.1	21.4
1 16	4 58.85	+26 54.1	1.348	2.198	16.6	19.3	1 16	5 5.28	+25 24.7	1.957	2.797	12.6	21.6
251445	2008 <i>CK</i> ₆₈	12 15.0 285°29	1°1/15.3 17				71878	2000 <i>VA</i> ₅₀	12 15.0 63°37	1°7/15.1 18			
11 7	5 59.75	+27 56.9	1.914	2.704	15.1	20.5	11 7	6 6.02	+25 21.8	1.228	2.040	20.7	18.8
11 17	5 55.30	+27 41.7	1.818	2.692	12.0	20.3	11 17	6 1.11	+25 53.2	1.176	2.063	16.2	18.6
11 27	5 48.06	+27 20.4	1.744	2.681	8.2	20.0	11 27	5 52.30	+26 22.9	1.143	2.085	10.9	18.4
12 7	5 38.71	+26 51.4	1.696	2.670	4.0	19.7	12 7	5 40.67	+26 46.7	1.133	2.108	5.2	18.1
12 17	5 28.29	+26 14.6	1.676	2.658	1.4	19.5	12 17	5 27.89	+27 1.0	1.149	2.131	2.1	18.0
12 27	5 18.13	+25 31.9	1.685	2.647	5.5	19.8	12 27	5 15.98	+27 5.7	1.191	2.154	7.1	18.4
1 6	5 9.46	+24 46.9	1.722	2.636	9.8	20.0	1 6	5 6.62	+27 3.6	1.258	2.177	12.1	18.7
1 16	5 3.21	+24 3.6	1.785	2.625	13.6	20.2	1 16	5 0.80	+26 58.6	1.348	2.200	16.4	19.0
393480	2002 <i>ML</i> ₆	12 15.0 178°39	4°1/14.8 18				303092	2004 <i>BU</i> ₂₃	12 15.0 23°73	1°1/15.1 18			

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12 15.0

12 15.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
272581	2005 <i>VN</i> ₃₂		12 15.0 147°94	1.3°/15.1	18		158750	2003 <i>QB</i> ₆₁		12 15.0 29°93	4.2°/15.0	18	
11 7	6 4.39	+25 13.4	1.927	2.709	15.3	21.1	11 7	5 55.99	+12 6.0	1.653	2.453	16.7	19.0
11 17	5 58.76	+25 41.2	1.848	2.718	12.0	20.9	11 17	5 52.20	+11 56.1	1.593	2.470	13.3	18.8
11 27	5 50.29	+26 8.0	1.790	2.726	8.2	20.7	11 27	5 45.83	+11 55.2	1.555	2.487	9.4	18.7
12 7	5 39.72	+26 30.8	1.759	2.733	3.9	20.5	12 7	5 37.65	+12 4.6	1.540	2.506	5.7	18.5
12 17	5 28.12	+26 47.3	1.758	2.740	1.5	20.3	12 17	5 28.69	+12 24.8	1.553	2.526	4.3	18.5
12 27	5 16.84	+26 56.9	1.786	2.747	5.5	20.6	12 27	5 20.18	+12 55.1	1.593	2.546	7.0	18.7
1 6	5 7.15	+27 0.7	1.843	2.752	9.5	20.9	1 6	5 13.21	+13 33.8	1.660	2.566	10.6	18.9
1 16	4 59.94	+27 1.2	1.926	2.758	13.1	21.1	1 16	5 8.54	+14 18.8	1.750	2.588	13.9	19.2
416085	2002 <i>NU</i> ₇₉		12 15.0 97°13	4.1°/15.8	18		223873	2004 <i>TU</i> ₃₄₅		12 15.0 50°23	1.5°/14.7	18	
11 7	6 1.99	+36 41.0	2.552	3.307	12.7	21.4	11 7	5 57.56	+21 20.6	2.065	2.855	14.1	20.1
11 17	5 56.29	+37 5.7	2.480	3.326	10.2	21.2	11 17	5 53.06	+20 43.6	1.985	2.861	11.0	19.9
11 27	5 48.29	+37 21.8	2.432	3.345	7.5	21.1	11 27	5 46.26	+20 5.0	1.928	2.866	7.4	19.6
12 7	5 38.68	+37 26.2	2.411	3.363	5.1	21.0	12 7	5 37.81	+19 25.6	1.897	2.872	3.6	19.4
12 17	5 28.40	+37 17.1	2.419	3.382	4.1	20.9	12 17	5 28.65	+18 47.2	1.896	2.877	1.8	19.3
12 27	5 18.54	+36 55.0	2.457	3.400	5.5	21.1	12 27	5 19.84	+18 11.9	1.924	2.883	5.3	19.6
1 6	5 10.07	+36 22.6	2.524	3.418	8.0	21.2	1 6	5 12.36	+17 41.9	1.981	2.889	9.0	19.8
1 16	5 3.68	+35 43.9	2.617	3.435	10.5	21.4	1 16	5 6.92	+17 19.0	2.062	2.895	12.3	20.0
444541	2006 <i>SC</i> ₂₄₂		12 15.0 59°10	2.6°/15.3	18		277317	2005 <i>SD</i> ₂₁₃		12 15.0 50°80	0.4°/15.1	18	
11 7	6 1.38	+28 53.5	1.747	2.539	16.2	21.3	11 7	6 2.81	+24 12.3	1.273	2.088	19.9	20.2
11 17	5 56.69	+29 22.5	1.677	2.552	12.8	21.1	11 17	5 58.38	+24 13.7	1.220	2.109	15.5	20.0
11 27	5 49.02	+29 47.2	1.629	2.564	8.8	20.9	11 27	5 50.35	+24 13.2	1.186	2.130	10.4	19.8
12 7	5 39.15	+30 4.1	1.606	2.577	4.7	20.7	12 7	5 39.77	+24 8.9	1.176	2.152	4.7	19.5
12 17	5 28.28	+30 10.6	1.610	2.589	2.7	20.6	12 17	5 28.19	+24 0.0	1.191	2.174	1.2	19.3
12 27	5 17.86	+30 6.6	1.643	2.602	6.0	20.8	12 27	5 17.44	+23 47.8	1.233	2.197	6.7	19.8
1 6	5 9.21	+29 54.6	1.704	2.615	10.0	21.1	1 6	5 9.02	+23 35.0	1.300	2.220	11.7	20.1
1 16	5 3.23	+29 38.2	1.788	2.629	13.5	21.3	1 16	5 3.85	+23 24.6	1.389	2.243	15.9	20.4
61956	2000 <i>RS</i> ₁₈		12 15.0 225°73	8.8°/16.5	18		158771	2003 <i>SC</i> ₅₈		12 15.0 101°91	0.1°/15.0	18	
11 7	6 12.99	+48 3.8	2.175	2.890	15.7	20.2	11 7	5 58.12	+22 59.8	2.427	3.207	12.6	20.6
11 17	6 6.40	+48 56.6	2.079	2.879	13.6	20.0	11 17	5 53.18	+23 4.8	2.350	3.220	9.8	20.4
11 27	5 55.96	+49 34.5	2.004	2.867	11.4	19.8	11 27	5 46.19	+23 9.1	2.297	3.234	6.5	20.3
12 7	5 42.49	+49 49.4	1.952	2.855	9.6	19.7	12 7	5 37.75	+23 11.9	2.272	3.247	3.0	20.0
12 17	5 27.44	+49 35.1	1.926	2.842	8.8	19.6	12 17	5 28.67	+23 12.7	2.276	3.260	0.7	19.9
12 27	5 12.76	+48 50.4	1.928	2.828	9.7	19.6	12 27	5 19.88	+23 11.8	2.312	3.273	4.3	20.2
1 6	5 0.27	+47 40.0	1.956	2.813	11.8	19.7	1 6	5 12.26	+23 10.0	2.376	3.285	7.7	20.4
1 16	4 51.20	+46 12.5	2.008	2.798	14.2	19.9	1 16	5 6.44	+23 8.7	2.467	3.297	10.6	20.6
134497	1999 <i>BQ</i> ₁		12 15.0 45°90	5.8°/15.9	18		395211	2010 <i>JJ</i> ₃₅		12 15.0 228°54	2.1°/15.3	18	
11 7	6 3.86	+36 24.5	1.553	2.340	18.2	18.3	11 7	6 2.44	+29 14.8	2.084	2.862	14.4	21.3
11 17	5 59.16	+37 6.4	1.494	2.359	14.7	18.2	11 17	5 57.27	+29 24.0	1.987	2.853	11.5	21.1
11 27	5 50.88	+37 36.8	1.456	2.378	10.9	18.0	11 27	5 49.36	+29 28.1	1.911	2.843	8.0	20.8
12 7	5 40.03	+37 49.8	1.442	2.398	7.3	17.8	12 7	5 39.35	+29 24.6	1.862	2.833	4.2	20.6
12 17	5 28.10	+37 41.8	1.453	2.418	5.9	17.8	12 17	5 28.25	+29 11.8	1.842	2.822	2.2	20.4
12 27	5 16.91	+37 13.6	1.492	2.439	7.9	18.0	12 27	5 17.34	+28 50.0	1.852	2.811	5.5	20.6
1 6	5 8.01	+36 30.7	1.556	2.460	11.3	18.2	1 6	5 7.85	+28 21.9	1.891	2.800	9.4	20.8
1 16	5 2.33	+35 39.9	1.643	2.482	14.6	18.5	1 16	5 0.71	+27 51.1	1.955	2.788	12.9	21.0
339095	2004 <i>RA</i> ₁₅₉		12 15.0 96°91	4.6°/14.4	16		159851	2003 <i>YE</i> ₁₁₁		12 15.0 120°71	0.5°/15.1	18	
11 7	6 1.33	+13 46.4	1.725	2.513	16.6	21.7	11 7	5 57.66	+25 39.8	2.634	3.410	11.8	20.3
11 17	5 56.17	+12 56.1	1.660	2.530	13.2	21.3	11 17	5 52.69	+25 35.6	2.553	3.420	9.2	20.1
11 27	5 48.39	+12 10.7	1.617	2.547	9.3	21.5	11 27	5 45.80	+25 28.8	2.495	3.430	6.2	19.9
12 7	5 38.77	+11 33.2	1.600	2.563	5.8	21.1	12 7	5 37.56	+25 18.4	2.466	3.440	2.9	19.7
12 17	5 28.41	+11 6.2	1.610	2.580	4.7	21.1	12 17	5 28.72	+25 4.3	2.467	3.450	0.8	19.6
12 27	5 18.57	+10 51.5	1.649	2.596	7.4	21.3	12 27	5 20.17	+24 47.4	2.498	3.459	4.1	19.9
1 6	5 10.35	+10 49.5	1.715	2.611	11.0	21.5	1 6	5 12.70	+24 29.1	2.560	3.468	7.2	20.1
1 16	5 4.51	+10 59.6	1.804	2.626	14.3	21.8	1 16	5 6.94	+24 11.2	2.648	3.477	10.0	20.3
105236	2000 <i>PE</i> ₂₀		12 15.0 16°89	5.2°/15.5	18		120296	2004 <i>JH</i> ₁₇		12 15.0 196°85	2.9°/15.2	18	
11 7	6 0.27	+34 26.7	1.663	2.454	17.0	18.8	11 7	6 4.35	+29 9.8	1.765	2.551	16.4	20.3
11 17	5 56.34	+35 13.6	1.589	2.458	13.7	18.5	11 17	5 59.28	+29 45.7	1.679	2.549	13.0	20.1
11 27	5 49.09	+35 52.3	1.536	2.462	10.1	18.3	11 27	5 50.98	+30 18.0	1.615	2.548	9.1	19.9
12 7	5 39.29	+36 17.5	1.508	2.467	6.6	18.2	12 7	5 40.18	+30 42.5	1.576	2.545	5.0	19.6
12 17	5 28.25	+36 25.0	1.505	2.473	5.2	18.1	12 17	5 28.06	+30 55.7	1.565	2.543	3.1	19.5
12 27	5 17.62	+36 14.3	1.530	2.479	7.5	18.2	12 27	5 16.19	+30 56.4	1.583	2.540	6.4	19.7
1 6	5 8.92	+35 48.8	1.580	2.486	11.0	18.5	1 6	5 6.06	+30 46.9	1.628	2.537	10.6	19.9
1 16	5 3.17	+35 14.0	1.654	2.494	14.5	18.7	1 16	4 58.74	+30 31.3	1.697	2.533	14.4	20.2
518659	2008 <i>SF</i> ₁₄₁		12 15.0 119°45	0.9°/14.8	18		156010	2001 <i>RQ</i> ₇₅		12 15.0 26°72	0.5°/15.0	18	
11 7	5 57.92	+21 38.9	2.768	3.541	11.4	21.6	11 7	5 58.71	+21 20.0	1.185	2.012	20.4	18.7
11 17	5 52.65	+21 12.4	2.691	3.557	8.8	21.4	11 17	5 55.58	+21 31.7	1.126	2.022	16.0	18.5
11 27	5 45.63	+20 44.7	2.638	3.573	5.9	21.2	11 27	5 48.75	+21 45.8	1.086	2.033	10.7	18.2
12 7	5 37.43	+20 16.3	2.614	3.588	2.8	21.1	12 7	5 39.17	+22 0.8	1.068	2.045	4.9	17.9
12 17	5 28.74	+19 47.9	2.621	3.603	1.2	20.9	12 17	5 28.34	+22 14.9	1.075	2.058	1.3	17.7
12 27	5 20.38	+19 20.9	2.660	3.618	4.1	21.2	12 27	5 18.13	+22 27.7	1.107	2.073	7.1	18.1
1 6	5 13.05	+18 56.8	2.728	3.632	7.1	21.4	1 6	5 10.18	+22 40.1	1.164	2.088	12.4	18.5
1 16	5 7.31	+18 36.9	2.824	3.646	9.7	21.6	1 16	5 5.54	+22 53.4	1.242	2.104	16.8	18.8
269817	1999 <i>VZ</i> ₁₉₃		12 15.0 51°71	1.0°/15.2	18		322079	2010 <i>VE</i> ₁₁₇		12 15.0			

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12 15.0

12 15.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	
268076	2004 <i>RF</i> ₈₉	12 15.0 151°44' 20°6'/15.5 17						274781	2008 <i>VS</i> ₂₇	12 15.1 215°85' 0°5'/15.1 18				
11 7	6 2.96	-16 52.9	1.238	1.952	25.5	20.2	11 7	5 56.86	+25 28.8	2.759	3.534	11.4	20.8	
11 17	5 58.61	-19 2.0	1.191	1.956	23.7	20.1	11 17	5 52.13	+25 25.6	2.662	3.529	8.9	20.7	
11 27	5 50.67	-20 35.9	1.158	1.959	22.1	19.9	11 27	5 45.50	+25 19.9	2.589	3.524	6.0	20.5	
12 7	5 40.04	-21 21.5	1.140	1.962	20.9	19.9	12 7	5 37.49	+25 10.9	2.544	3.519	2.8	20.3	
12 17	5 28.13	-21 10.0	1.138	1.964	20.6	19.9	12 17	5 28.81	+24 58.4	2.530	3.513	0.8	20.1	
12 27	5 16.73	-19 59.9	1.154	1.966	21.2	19.9	12 27	5 20.29	+24 42.9	2.546	3.507	4.0	20.3	
1 6	5 7.45	-17 58.5	1.187	1.968	22.5	20.0	1 6	5 12.74	+24 25.8	2.593	3.501	7.2	20.5	
1 16	5 1.37	-15 18.6	1.235	1.970	24.2	20.2	1 16	5 6.80	+24 8.9	2.666	3.495	10.0	20.7	
258738	2002 <i>GQ</i> ₁₄₈	12 15.0 238°83' 0°3'/15.1 18						287935	2003 <i>UE</i> ₅₃	12 15.1 296°01' 0°4'/15.2 18				
11 7	6 3.22	+24 29.7	1.547	2.346	17.7	21.1	11 7	6 0.32	+26 57.2	1.719	2.515	16.3	20.3	
11 17	5 58.67	+24 26.4	1.459	2.339	14.0	20.9	11 17	5 56.07	+26 25.6	1.624	2.503	12.9	20.0	
11 27	5 50.72	+24 20.6	1.391	2.331	9.5	20.6	11 27	5 48.78	+25 46.7	1.550	2.490	8.8	19.7	
12 7	5 40.12	+24 10.5	1.348	2.323	4.4	20.3	12 7	5 39.17	+24 59.7	1.502	2.477	4.1	19.4	
12 17	5 28.10	+23 55.4	1.331	2.315	1.1	20.0	12 17	5 28.39	+24 5.5	1.481	2.465	1.0	19.2	
12 27	5 16.34	+23 36.0	1.343	2.306	6.5	20.4	12 27	5 17.88	+23 7.3	1.489	2.452	6.0	19.5	
1 6	5 6.43	+23 15.4	1.382	2.297	11.5	20.6	1 6	5 9.03	+22 9.7	1.525	2.440	10.7	19.7	
1 16	4 59.48	+22 57.0	1.443	2.288	15.9	20.9	1 16	5 2.83	+21 17.5	1.584	2.428	14.8	20.0	
399769	2005 <i>MA</i> ₉	12 15.0 201°18' 2°6'/15.7 18						392799	2012 <i>TS</i> ₁₉₂	12 15.1 241°21' 1°2'/15.3 18				
11 7	6 2.99	+32 48.0	2.339	3.104	13.4	21.3	11 7	6 2.41	+27 36.0	1.708	2.501	16.5	21.2	
11 17	5 57.31	+32 39.3	2.244	3.101	10.7	21.1	11 17	5 57.70	+27 25.9	1.620	2.496	13.1	21.0	
11 27	5 49.14	+32 22.2	2.172	3.097	7.6	20.9	11 27	5 49.87	+27 9.7	1.552	2.490	9.0	20.7	
12 7	5 39.17	+31 54.6	2.127	3.093	4.3	20.7	12 7	5 39.67	+26 45.9	1.510	2.484	4.3	20.5	
12 17	5 28.37	+31 15.6	2.112	3.089	2.6	20.6	12 17	5 28.28	+26 13.8	1.496	2.479	1.5	20.2	
12 27	5 17.91	+30 26.8	2.128	3.084	5.1	20.7	12 27	5 17.23	+25 35.1	1.510	2.473	6.0	20.5	
1 6	5 8.85	+29 31.8	2.173	3.079	8.5	20.9	1 6	5 7.92	+24 53.9	1.552	2.467	10.6	20.8	
1 16	5 1.98	+28 35.0	2.245	3.073	11.6	21.1	1 16	5 1.35	+24 14.4	1.618	2.460	14.6	21.0	
135866	2002 <i>TF</i> ₂₁	12 15.0 125°42' 0°5'/15.1 18						132932	2002 <i>SO</i> ₆₄	12 15.1 229°45' 1°0'/15.4 18				
11 7	6 1.91	+23 57.5	2.197	2.975	13.8	20.6	11 7	6 0.90	+29 44.7	2.722	3.486	11.8	19.3	
11 17	5 56.37	+24 12.1	2.121	2.990	10.8	20.4	11 17	5 55.24	+29 9.1	2.618	3.478	9.3	19.1	
11 27	5 48.45	+24 25.8	2.068	3.004	7.2	20.2	11 27	5 47.54	+28 26.1	2.539	3.469	6.3	18.9	
12 7	5 38.84	+24 36.8	2.042	3.017	3.3	20.0	12 7	5 38.41	+27 35.2	2.488	3.460	3.1	18.7	
12 17	5 28.46	+24 44.1	2.047	3.030	0.9	19.8	12 17	5 28.62	+26 37.2	2.469	3.451	1.2	18.5	
12 27	5 18.41	+24 47.5	2.082	3.042	4.8	20.1	12 27	5 19.12	+25 34.2	2.482	3.442	4.2	18.7	
1 6	5 9.73	+24 48.2	2.146	3.054	8.4	20.4	1 6	5 10.75	+24 29.7	2.525	3.432	7.4	18.9	
1 16	5 3.14	+24 47.8	2.236	3.066	11.6	20.6	1 16	5 4.17	+23 27.2	2.597	3.422	10.3	19.1	
485767	2012 <i>CX</i> ₁₈	12 15.0 309°89' 4°3'/15.7 18						457338	2008 <i>SG</i> ₂₀₃	12 15.1 129°59' 2°7'/14.8 17				
11 7	6 0.23	+34 36.9	1.840	2.624	15.9	20.7	11 7	6 1.32	+16 48.5	1.871	2.657	15.5	21.6	
11 17	5 56.16	+34 54.2	1.744	2.610	12.9	20.4	11 17	5 56.19	+16 28.8	1.796	2.668	12.2	21.4	
11 27	5 48.94	+35 2.3	1.669	2.595	9.4	20.2	11 27	5 48.48	+16 12.5	1.743	2.677	8.4	21.2	
12 7	5 39.28	+34 57.0	1.619	2.581	5.9	20.0	12 7	5 38.91	+16 0.2	1.716	2.687	4.5	21.0	
12 17	5 28.33	+34 35.4	1.595	2.567	4.4	19.8	12 17	5 28.51	+15 53.0	1.718	2.696	2.9	20.9	
12 27	5 17.59	+33 57.9	1.600	2.554	6.8	20.0	12 27	5 18.48	+15 51.5	1.749	2.704	6.1	21.2	
1 6	5 8.54	+33 8.5	1.631	2.540	10.6	20.2	1 6	5 9.94	+15 56.4	1.808	2.713	10.0	21.4	
1 16	5 2.22	+32 12.9	1.687	2.528	14.2	20.4	1 16	5 3.68	+16 7.8	1.891	2.720	13.4	21.6	
227878	2007 <i>EH</i> ₂₂	12 15.0 268°33' 1°3'/14.9 18						451301	2010 <i>TD</i> ₁₂₀	12 15.1 127°37' 0°9'/15.2 17				
11 7	6 0.81	+20 59.3	1.690	2.487	16.5	21.0	11 7	6 0.81	+26 33.9	2.176	2.956	13.8	21.7	
11 17	5 56.53	+20 46.1	1.591	2.471	13.1	20.7	11 17	5 55.59	+26 30.9	2.096	2.965	10.8	21.5	
11 27	5 49.20	+20 32.7	1.514	2.454	8.9	20.5	11 27	5 47.98	+26 24.2	2.039	2.974	7.3	21.3	
12 7	5 39.42	+20 19.1	1.462	2.437	4.3	20.1	12 7	5 38.66	+26 12.5	2.009	2.983	3.5	21.1	
12 17	5 28.28	+20 5.5	1.437	2.420	1.7	19.9	12 17	5 28.58	+25 55.3	2.009	2.991	1.2	21.0	
12 27	5 17.23	+19 53.0	1.441	2.402	6.4	20.2	12 27	5 18.85	+25 33.7	2.038	3.000	4.8	21.2	
1 6	5 7.69	+19 43.4	1.471	2.384	11.2	20.4	1 6	5 10.52	+25 9.9	2.097	3.007	8.5	21.5	
1 16	5 0.78	+19 38.7	1.525	2.366	15.4	20.6	1 16	5 4.31	+24 46.5	2.182	3.015	11.7	21.7	
516755	2009 <i>SO</i> ₂₆₇	12 15.0 352°15' 6°4'/15.4 18						421054	2013 <i>QL</i> ₃	12 15.1 160°08' 0°2'/15.0 17				
11 7	5 54.91	+32 40.5	1.038	1.876	21.9	20.8	11 7	5 57.22	+23 0.3	2.792	3.566	11.3	22.0	
11 17	5 53.99	+33 40.7	0.969	1.866	17.8	20.5	11 17	5 52.27	+22 52.6	2.703	3.570	8.8	21.8	
11 27	5 48.58	+34 33.5	0.917	1.858	13.0	20.2	11 27	5 45.52	+22 43.6	2.640	3.575	5.9	21.6	
12 7	5 39.45	+35 11.1	0.884	1.852	8.4	19.9	12 7	5 37.49	+22 33.0	2.604	3.579	2.7	21.4	
12 17	5 28.27	+35 26.0	0.874	1.847	6.5	19.8	12 17	5 28.86	+22 20.9	2.600	3.583	0.7	21.3	
12 27	5 17.46	+35 16.2	0.886	1.845	9.8	20.0	12 27	5 20.45	+22 7.9	2.626	3.586	4.0	21.5	
1 6	5 9.33	+34 46.4	0.919	1.844	14.8	20.3	1 6	5 13.02	+21 55.3	2.683	3.589	7.0	21.7	
1 16	5 5.37	+34 4.8	0.972	1.845	19.5	20.6	1 16	5 7.16	+21 44.2	2.766	3.592	9.7	21.9	
326000	2010 <i>WN</i> ₈	12 15.1 141°02' 1°7'/15.4 17						439098	2011 <i>SV</i> ₁₅	12 15.1 91°48' 3°7'/16.0 17				
11 7	5 59.74	+29 39.3	2.520	3.291	12.4	21.0	11 7	6 6.56	+35 4.3	1.871	2.642	16.1	21.3	
11 17	5 54.48	+29 36.4	2.436	3.298	9.8	20.9	11 17	6 0.44	+34 57.1	1.803	2.661	12.9	21.2	
11 27	5 47.09	+29 28.1	2.375	3.305	6.7	20.7	11 27	5 51.33	+34 38.4	1.756	2.679	9.2	21.0	
12 7	5 38.20	+29 12.9	2.341	3.312	3.5	20.5	12 7	5 40.16	+34 5.2	1.734	2.698	5.5	20.8	
12 17	5 28.63	+28 50.5	2.338	3.318	1.8	20.4	12 17	5 28.25	+33 16.8	1.742	2.716	3.7	20.7	
12 27	5 19.39	+28 21.7	2.366	3.324	4.5	20.6	12 27	5 17.07	+32 16.0	1.778	2.734	6.1	20.9	
1 6	5 11.36	+27 49.0	2.423	3.330	7.6	20.8	1 6	5 7.87	+31 8.4	1.844	2.751	9.7	21.2	
1 16	5 5.23	+27 15.2	2.506	3.336	10.5	21.0	1 16	5 1.44	+29 59.9	1.934	2.768	12.9	21.4	
463979	2014 <i>WF</i> ₃₅	12 15.1 56°23' 0°2'/15.1 17						78989	2003 <i>UF</i> ₉₅	12 15.1 76°87' 2°3'/15.2 17				
11 7	5 57.68	+25 24.1	2.203	2.989	13.5	21.5	11 7	5 59.42	+28 29.9	2.271	3.050	13.4	19.3	
11 17	5 53.10	+25 5.1	2.123	2.996	10.5	21.3	11 17	5 54.61						

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
164150	2003 YF ₁₁₉	12 15.1 284°20		1°8/15.3 18			147561	2004 FD ₂₆	12 15.1 297°63		1°2/14.9 18		
11 7	5 57.34	+28 33.9	2.421	3.200	12.6	19.9	11 7	5 59.82	+22 0.5	1.448	2.258	18.2	19.8
11 17	5 52.95	+28 46.1	2.321	3.189	10.0	19.7	11 17	5 56.22	+21 38.8	1.359	2.245	14.4	19.5
11 27	5 46.31	+28 54.5	2.244	3.177	6.9	19.5	11 27	5 49.22	+21 15.4	1.289	2.232	9.8	19.2
12 7	5 37.97	+28 57.3	2.194	3.166	3.6	19.3	12 7	5 39.54	+20 50.4	1.244	2.220	4.6	18.9
12 17	5 28.74	+28 53.2	2.174	3.154	1.9	19.1	12 17	5 28.39	+20 24.4	1.224	2.207	1.7	18.7
12 27	5 19.64	+28 42.3	2.184	3.143	4.7	19.3	12 27	5 17.44	+19 59.6	1.232	2.195	7.0	19.0
1 6	5 11.66	+28 26.1	2.222	3.132	8.1	19.5	1 6	5 8.30	+19 38.8	1.265	2.182	12.2	19.2
1 16	5 5.58	+28 7.2	2.287	3.120	11.2	19.7	1 16	5 2.12	+19 24.8	1.320	2.171	16.8	19.5
449476	2014 DN ₈₇	12 15.1 264°57		0°1/15.1 18			113264	2002 RC ₁₅₀	12 15.1 254°41		5°7/15.9 17		
11 7	6 1.01	+23 36.2	1.730	2.526	16.2	21.8	11 7	6 4.70	+38 35.4	2.051	2.811	15.2	19.6
11 17	5 56.65	+23 34.9	1.635	2.513	12.9	21.5	11 17	5 59.52	+39 6.3	1.953	2.799	12.6	19.4
11 27	5 49.25	+23 32.1	1.561	2.500	8.7	21.3	11 27	5 51.17	+39 26.8	1.876	2.786	9.6	19.2
12 7	5 39.46	+23 26.6	1.512	2.487	4.0	20.9	12 7	5 40.34	+39 31.4	1.824	2.772	6.8	19.0
12 17	5 28.37	+23 17.7	1.491	2.474	1.0	20.7	12 17	5 28.20	+39 16.5	1.800	2.759	5.7	18.9
12 27	5 17.41	+23 5.9	1.498	2.461	6.0	21.0	12 27	5 16.29	+38 41.4	1.804	2.745	7.4	19.0
1 6	5 8.01	+22 53.2	1.533	2.447	10.7	21.2	1 6	5 6.07	+37 50.1	1.836	2.731	10.4	19.2
1 16	5 1.22	+22 42.3	1.591	2.433	14.8	21.5	1 16	4 58.61	+36 48.9	1.892	2.717	13.6	19.3
171518	1998 TO	12 15.1 66°84		6°5/15.3 18			421041	2013 PQ ₇₀	12 15.1 98°61		2°7/15.8 16		
11 7	5 59.66	+ 5 44.8	1.715	2.491	17.1	19.9	11 7	6 1.29	+33 43.2	2.544	3.306	12.5	21.8
11 17	5 54.95	+ 5 28.3	1.652	2.507	14.0	19.7	11 17	5 55.63	+33 35.9	2.468	3.322	10.0	21.6
11 27	5 47.66	+ 5 25.6	1.610	2.524	10.6	19.5	11 27	5 47.81	+33 20.4	2.415	3.338	7.0	21.5
12 7	5 38.55	+ 5 39.5	1.592	2.541	7.6	19.4	12 7	5 38.54	+32 55.1	2.390	3.354	4.1	21.3
12 17	5 28.64	+ 6 10.9	1.601	2.557	6.6	19.4	12 17	5 28.69	+32 19.5	2.395	3.370	2.7	21.2
12 27	5 19.16	+ 6 58.6	1.638	2.574	8.4	19.5	12 27	5 19.29	+31 35.3	2.431	3.385	4.7	21.4
1 6	5 11.21	+ 7 59.6	1.701	2.591	11.4	19.7	1 6	5 11.24	+30 45.7	2.496	3.401	7.6	21.6
1 16	5 5.57	+ 9 9.8	1.789	2.608	14.5	20.0	1 16	5 5.17	+29 54.3	2.589	3.416	10.3	21.8
163820	2003 RU ₉	12 15.1 103°36		2°5/15.7 18			157852	1998 TH ₆	12 15.1 28°41		7°8/15.1 17		
11 7	6 5.71	+31 54.3	1.960	2.733	15.4	19.9	11 7	6 4.63	+41 5.0	2.003	2.759	15.7	19.3
11 17	5 59.58	+31 46.3	1.891	2.753	12.2	19.7	11 17	5 59.79	+42 38.7	1.928	2.764	13.1	19.1
11 27	5 50.68	+31 29.7	1.843	2.772	8.4	19.5	11 27	5 51.54	+44 2.9	1.876	2.770	10.5	18.9
12 7	5 39.87	+31 2.1	1.823	2.791	4.6	19.3	12 7	5 40.59	+45 10.1	1.848	2.776	8.4	18.8
12 17	5 28.34	+30 23.2	1.831	2.810	2.6	19.2	12 17	5 28.14	+45 53.6	1.848	2.782	7.8	18.8
12 27	5 17.45	+29 35.2	1.869	2.827	5.5	19.5	12 27	5 15.87	+46 11.1	1.874	2.788	9.1	18.9
1 6	5 8.36	+28 42.4	1.936	2.845	9.2	19.7	1 6	5 5.41	+46 5.1	1.926	2.795	11.4	19.1
1 16	5 1.83	+27 49.6	2.029	2.862	12.5	20.0	1 16	4 57.93	+45 41.4	2.001	2.802	13.9	19.2
220518	2004 EP ₄₃	12 15.1 325°93		5°4/15.8 18			132626	2002 LY ₂₀	12 15.1 146°88		0°9/15.3 18		
11 7	6 0.81	+34 30.4	1.284	2.094	20.1	19.6	11 7	5 58.99	+27 45.6	2.717	3.487	11.6	20.3
11 17	5 57.94	+34 53.7	1.200	2.081	16.4	19.4	11 17	5 53.71	+27 32.3	2.631	3.495	9.1	20.1
11 27	5 50.88	+35 5.6	1.135	2.069	12.0	19.1	11 27	5 46.50	+27 14.5	2.569	3.502	6.2	19.9
12 7	5 40.43	+34 59.9	1.092	2.057	7.5	18.8	12 7	5 37.96	+26 51.6	2.535	3.508	3.0	19.7
12 17	5 28.14	+34 32.0	1.072	2.046	5.5	18.7	12 17	5 28.82	+26 23.5	2.532	3.515	1.1	19.6
12 27	5 16.20	+33 42.4	1.078	2.036	8.6	18.8	12 27	5 19.99	+25 51.5	2.560	3.521	4.1	19.8
1 6	5 6.67	+32 37.8	1.108	2.027	13.4	19.0	1 6	5 12.25	+25 17.7	2.619	3.526	7.1	20.1
1 16	5 0.92	+31 27.2	1.158	2.018	18.0	19.3	1 16	5 6.23	+24 44.5	2.704	3.532	9.9	20.2
248830	2006 ST ₃₅₉	12 15.1 93°40		5°2/14.4 18			122730	2000 SO ₄₅	12 15.1 119°08		1°8/15.6 18		
11 7	5 59.26	+10 2.5	2.057	2.831	14.7	20.9	11 7	6 5.14	+31 3.8	1.726	2.510	16.7	19.8
11 17	5 54.14	+ 9 12.9	1.993	2.851	11.8	20.8	11 17	5 59.62	+30 31.4	1.645	2.515	13.3	19.6
11 27	5 46.86	+ 8 30.3	1.953	2.872	8.7	20.6	11 27	5 50.98	+29 48.3	1.587	2.520	9.1	19.3
12 7	5 38.10	+ 7 57.8	1.939	2.892	6.0	20.5	12 7	5 40.12	+28 53.1	1.553	2.526	4.6	19.1
12 17	5 28.76	+ 7 37.6	1.953	2.912	5.3	20.5	12 17	5 28.32	+27 46.5	1.549	2.530	2.0	18.9
12 27	5 19.84	+ 7 31.0	1.996	2.932	7.2	20.7	12 27	5 17.14	+26 32.4	1.574	2.535	5.9	19.2
1 6	5 12.25	+ 7 37.7	2.067	2.951	10.0	20.9	1 6	5 7.89	+25 16.9	1.627	2.540	10.3	19.4
1 16	5 6.63	+ 7 56.3	2.162	2.969	12.7	21.1	1 16	5 1.47	+24 5.8	1.704	2.544	14.1	19.7
332111	2005 UG ₃₉₇	12 15.1 56°21		1°0/15.1 18			312299	2008 CH ₁₉	12 15.1 277°21		3°2/15.2 18		
11 7	6 5.91	+23 14.9	1.285	2.094	20.1	20.6	11 7	5 59.14	+12 49.2	1.948	2.731	15.1	20.5
11 17	6 0.74	+23 51.0	1.238	2.123	15.6	20.4	11 17	5 54.66	+13 2.3	1.856	2.724	12.1	20.2
11 27	5 51.93	+24 27.7	1.210	2.152	10.4	20.1	11 27	5 47.64	+13 24.2	1.786	2.717	8.5	20.0
12 7	5 40.56	+25 1.1	1.206	2.182	4.8	19.9	12 7	5 38.67	+13 55.2	1.742	2.710	4.9	19.8
12 17	5 28.20	+25 27.7	1.229	2.212	1.5	19.8	12 17	5 28.63	+14 34.8	1.727	2.703	3.3	19.7
12 27	5 16.73	+25 46.6	1.278	2.242	6.7	20.2	12 27	5 18.70	+15 21.5	1.741	2.696	6.2	19.8
1 6	5 7.66	+25 59.4	1.354	2.272	11.5	20.5	1 6	5 10.00	+16 13.7	1.783	2.689	10.0	20.1
1 16	5 1.92	+26 8.8	1.452	2.301	15.6	20.9	1 16	5 3.43	+17 9.5	1.850	2.682	13.5	20.3
304244	2006 RZ ₂₉	12 15.1 14°98		3°1/14.7 18			355012	2006 QN ₈₀	12 15.1 92°35		0°4/15.0 18		
11 7	5 56.23	+17 56.5	1.434	2.250	18.0	20.0	11 7	6 0.27	+22 15.3	1.884	2.676	15.3	21.4
11 17	5 53.01	+17 21.6	1.365	2.254	14.2	19.7	11 17	5 55.51	+22 17.1	1.809	2.685	11.9	21.2
11 27	5 46.75	+16 49.1	1.317	2.259	9.8	19.5	11 27	5 48.12	+22 18.8	1.755	2.694	8.0	20.9
12 7	5 38.25	+16 20.9	1.292	2.265	5.2	19.3	12 7	5 38.81	+22 19.4	1.727	2.703	3.7	20.7
12 17	5 28.73	+15 59.1	1.293	2.272	3.4	19.2	12 17	5 28.63	+22 18.6	1.728	2.712	1.0	20.5
12 27	5 19.65	+15 45.7	1.320	2.279	7.2	19.4	12 27	5 18.80	+22 16.5	1.758	2.720	5.3	20.8
1 6	5 12.36	+15 41.9	1.373	2.288	11.6	19.7	1 6	5 10.48	+22 14.4	1.816	2.729	9.4	21.1
1 16	5 7.75	+15 47.8	1.448	2.297	15.6	20.0	1 16	5 4.48	+22 13.9	1.899	2.738	13.0	21.3
12719	Pingré	12 15.1 138°31		0°3/15.0 18			79611	1998 RC ₅₂	12 15.1 75°73		3°5/15.4 18		
11 7	6 4.34	+22 14.4	1.755	2.543	16.4	18.6	11 7	6 10.44	+30 16.6	1.496	2.282	18.8	

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
145240	2005 <i>JN</i> ₉₁		12 15.1 236°22	1°8/15.3 18			133653	2003 <i>UU</i> ₁₆₅		12 15.1 89°12	0°1/15.1 17		
11 7	6 1.34	+27 58.7	2.136	2.915	14.1	20.8	11 7	5 57.31	+23 49.1	2.319	3.104	13.0	20.8
11 17	5 56.40	+28 13.6	2.038	2.906	11.2	20.6	11 17	5 52.82	+23 49.1	2.233	3.105	10.1	20.7
11 27	5 48.82	+28 25.0	1.962	2.895	7.7	20.3	11 27	5 46.16	+23 47.8	2.170	3.107	6.8	20.5
12 7	5 39.22	+28 30.5	1.913	2.885	3.9	20.1	12 7	5 37.91	+23 44.3	2.133	3.108	3.1	20.2
12 17	5 28.53	+28 28.3	1.893	2.874	1.9	19.9	12 17	5 28.91	+23 38.3	2.126	3.110	0.7	20.0
12 27	5 18.00	+28 18.3	1.903	2.863	5.3	20.1	12 27	5 20.13	+23 30.2	2.150	3.112	4.5	20.3
1 6	5 8.78	+28 2.3	1.942	2.851	9.1	20.3	1 6	5 12.52	+23 21.3	2.202	3.113	8.1	20.5
1 16	5 1.81	+27 43.4	2.006	2.839	12.6	20.5	1 16	5 6.79	+23 13.2	2.280	3.115	11.2	20.8
179259	2001 <i>UR</i> ₁₄₃		12 15.1 147°74	1°8/15.2 18			427786	2005 <i>ER</i> ₉₀		12 15.1 248°81	5°3/15.7 18		
11 7	6 0.50	+27 30.6	2.092	2.875	14.2	20.6	11 7	6 6.66	+35 0.0	1.604	2.386	17.9	21.3
11 17	5 55.66	+27 52.6	2.008	2.878	11.2	20.4	11 17	6 1.85	+35 33.8	1.511	2.375	14.6	21.1
11 27	5 48.25	+28 11.7	1.946	2.880	7.7	20.2	11 27	5 53.21	+35 58.6	1.439	2.363	10.8	20.8
12 7	5 38.91	+28 25.3	1.910	2.882	3.9	20.0	12 7	5 41.47	+36 8.0	1.390	2.350	7.0	20.6
12 17	5 28.62	+28 31.6	1.904	2.884	1.9	19.8	12 17	5 28.02	+35 57.1	1.367	2.337	5.4	20.5
12 27	5 18.59	+28 30.3	1.927	2.886	5.2	20.1	12 27	5 14.79	+35 25.0	1.372	2.324	8.0	20.6
1 6	5 9.94	+28 23.1	1.978	2.888	8.9	20.3	1 6	5 3.64	+34 36.4	1.404	2.310	12.1	20.8
1 16	5 3.53	+28 12.5	2.055	2.890	12.3	20.5	1 16	4 55.88	+33 39.0	1.458	2.296	16.2	21.0
198172	2004 <i>TF</i> ₉₃		12 15.1 210°11	0°6/15.1 18			487778	2015 <i>RB</i> ₂₂₂		12 15.1 65°51	2°9/15.4 17		
11 7	6 2.29	+24 46.9	1.999	2.783	14.8	21.3	11 7	6 1.51	+29 53.9	1.830	2.618	15.8	21.9
11 17	5 57.17	+24 51.4	1.906	2.778	11.7	21.0	11 17	5 56.85	+30 22.2	1.753	2.624	12.5	21.7
11 27	5 49.34	+24 54.0	1.836	2.772	7.9	20.8	11 27	5 49.24	+30 45.7	1.697	2.630	8.7	21.4
12 7	5 39.45	+24 53.0	1.792	2.766	3.7	20.5	12 7	5 39.43	+31 0.7	1.666	2.636	4.8	21.2
12 17	5 28.49	+24 47.4	1.777	2.760	1.0	20.3	12 17	5 28.54	+31 4.7	1.664	2.642	3.0	21.1
12 27	5 17.74	+24 37.4	1.792	2.753	5.3	20.6	12 27	5 18.02	+30 57.5	1.690	2.648	6.0	21.3
1 6	5 8.41	+24 24.9	1.835	2.746	9.5	20.8	1 6	5 9.17	+30 41.4	1.743	2.654	9.9	21.6
1 16	5 1.40	+24 12.5	1.904	2.738	13.1	21.1	1 16	5 2.92	+30 20.5	1.821	2.660	13.4	21.8
353231	2010 <i>BA</i> ₆₈		12 15.1 168°79	13°6/16.1 18			478586	2012 <i>TL</i> ₁₀₀		12 15.1 43°36	6°5/13.7 18		
11 7	5 59.80	-14 33.0	1.938	2.622	18.3	20.7	11 7	5 59.49	+12 58.7	1.480	2.282	18.2	20.7
11 17	5 54.96	-15 29.7	1.871	2.622	16.7	20.5	11 17	5 55.30	+11 25.4	1.413	2.289	14.6	20.5
11 27	5 47.67	-16 1.4	1.822	2.623	15.1	20.4	11 27	5 48.15	+9 55.5	1.366	2.296	10.7	20.3
12 7	5 38.61	-16 1.3	1.792	2.624	14.0	20.4	12 7	5 38.88	+8 35.1	1.344	2.303	7.4	20.1
12 17	5 28.71	-15 25.3	1.784	2.624	13.6	20.3	12 17	5 28.69	+7 30.2	1.348	2.310	6.8	20.1
12 27	5 19.10	-14 13.3	1.800	2.625	14.1	20.4	12 27	5 19.01	+6 45.3	1.379	2.317	9.4	20.2
1 6	5 10.83	-12 29.8	1.838	2.625	15.4	20.5	1 6	5 11.10	+6 22.0	1.435	2.325	13.1	20.5
1 16	5 4.69	-10 22.1	1.898	2.625	17.1	20.6	1 16	5 5.80	+6 19.2	1.512	2.333	16.6	20.7
231654	2009 <i>WD</i> ₁₆₃		12 15.1 111°37	1°0/15.2 18			394980	2009 <i>AF</i> ₄₉		12 15.1 37°65	1°7/15.1 18		
11 7	5 59.26	+25 50.5	2.545	3.319	12.2	21.3	11 7	6 0.19	+17 21.4	1.383	2.194	18.8	20.2
11 17	5 54.07	+26 7.0	2.468	3.334	9.5	21.1	11 17	5 56.23	+17 45.2	1.321	2.207	14.8	19.9
11 27	5 46.85	+26 21.6	2.415	3.349	6.4	20.9	11 27	5 49.00	+18 16.1	1.279	2.221	10.0	19.7
12 7	5 38.17	+26 32.5	2.390	3.363	3.1	20.7	12 7	5 39.35	+18 52.7	1.261	2.236	4.8	19.5
12 17	5 28.84	+26 38.8	2.395	3.377	1.2	20.6	12 17	5 28.58	+19 32.8	1.269	2.251	2.0	19.3
12 27	5 19.80	+26 40.4	2.431	3.391	4.3	20.9	12 27	5 18.32	+20 14.2	1.304	2.267	6.6	19.7
1 6	5 11.89	+26 38.3	2.496	3.404	7.4	21.1	1 6	5 9.99	+20 55.7	1.365	2.283	11.4	20.0
1 16	5 5.79	+26 34.3	2.588	3.417	10.2	21.3	1 16	5 4.59	+21 36.7	1.448	2.300	15.5	20.3
450056	2015 <i>RY</i> ₂₉		12 15.1 156°43	5°7/15.8 18			121869	2000 <i>CF</i> ₉₁		12 15.1 276°24	4°4/14.5 18		
11 7	6 6.72	+38 50.3	2.199	2.950	14.6	21.5	11 7	5 55.42	+10 15.6	2.422	3.195	12.8	19.9
11 17	6 0.77	+39 39.6	2.117	2.956	12.0	21.3	11 17	5 51.27	+9 48.3	2.319	3.177	10.4	19.7
11 27	5 51.82	+40 19.4	2.058	2.962	9.2	21.1	11 27	5 45.14	+9 27.0	2.239	3.160	7.7	19.5
12 7	5 40.59	+40 44.1	2.025	2.968	6.7	21.0	12 7	5 37.49	+9 13.9	2.186	3.142	5.2	19.3
12 17	5 28.25	+40 49.8	2.020	2.972	5.8	21.0	12 17	5 29.03	+9 10.4	2.161	3.124	4.5	19.2
12 27	5 16.25	+40 35.9	2.043	2.977	7.2	21.0	12 27	5 20.62	+9 17.8	2.166	3.106	6.4	19.3
1 6	5 5.93	+40 5.4	2.095	2.981	9.8	21.2	1 6	5 13.13	+9 35.8	2.198	3.087	9.2	19.5
1 16	4 58.25	+39 23.9	2.172	2.984	12.5	21.4	1 16	5 7.26	+10 3.5	2.257	3.069	12.1	19.6
77244	2001 <i>FZ</i> ₄₂		12 15.1 206°86	5°2/15.6 18			253342	2003 <i>FW</i> ₄₅		12 15.1 158°42	3°2/15.4 18		
11 7	6 5.91	+34 20.6	1.586	2.371	17.9	19.6	11 7	6 1.56	+32 10.4	2.328	3.097	13.4	20.8
11 17	6 1.11	+35 2.2	1.504	2.369	14.6	19.4	11 17	5 56.35	+32 40.8	2.242	3.101	10.7	20.6
11 27	5 52.57	+35 35.6	1.443	2.368	10.7	19.1	11 27	5 48.65	+33 5.6	2.179	3.104	7.6	20.4
12 7	5 41.10	+35 54.4	1.405	2.366	6.8	18.9	12 7	5 39.12	+33 21.6	2.144	3.107	4.5	20.2
12 17	5 28.12	+35 53.9	1.394	2.364	5.3	18.8	12 17	5 28.67	+33 26.6	2.137	3.110	3.3	20.1
12 27	5 15.50	+35 33.4	1.411	2.362	7.9	19.0	12 27	5 18.47	+33 20.0	2.160	3.113	5.4	20.3
1 6	5 5.00	+34 57.0	1.453	2.360	11.8	19.2	1 6	5 9.61	+33 4.0	2.212	3.115	8.5	20.5
1 16	4 57.83	+34 11.8	1.519	2.357	15.6	19.4	1 16	5 2.90	+32 41.9	2.290	3.117	11.5	20.7
75388	1999 <i>XS</i> ₉₃		12 15.1 31°94	1°3/15.1 18			480896	2002 <i>PW</i> ₁₁₂		12 15.1 37°43	13°5/16.5 17		
11 7	5 58.98	+18 59.3	1.383	2.197	18.7	18.3	11 7	5 57.61	- 6 30.9	1.368	2.128	21.5	20.7
11 17	5 55.29	+19 14.7	1.321	2.209	14.6	18.0	11 17	5 53.73	- 7 46.5	1.332	2.152	18.8	20.5
11 27	5 48.36	+19 34.8	1.280	2.223	9.8	17.8	11 27	5 46.98	- 8 34.5	1.311	2.177	16.1	20.5
12 7	5 39.05	+19 58.5	1.261	2.237	4.6	17.6	12 7	5 38.30	- 8 47.9	1.311	2.203	14.1	20.4
12 17	5 28.64	+20 24.2	1.269	2.252	1.7	17.4	12 17	5 28.90	- 8 23.4	1.332	2.229	13.5	20.4
12 27	5 18.75	+20 50.8	1.304	2.268	6.5	17.8	12 27	5 20.18	- 7 22.5	1.376	2.257	14.2	20.6
1 6	5 10.80	+21 17.8	1.364	2.284	11.3	18.1	1 6	5 13.29	- 5 52.0	1.441	2.284	16.0	20.8
1 16	5 5.74	+21 45.4	1.447	2.301	15.4	18.4	1 16	5 8.98	- 4 0.9	1.526	2.313	18.1	21.0
323840	2005 <i>SK</i> ₇₅		12 15.1 23°15	0°9/15.2 18			135827	2002 <i>RB</i> ₂₂₉		12 15.1 150°59	6		

EPHEMERIDES

12 15.1

12 15.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
515591	2014 <i>JB</i> ₂₇		12 15.1 137°57'	3°8/14.9	18		484029	2006 <i>DR</i> ₁₉₆		12 15.1 204°99'	6°2/14.5	18	
11 7	5 59.86	+11 24.1	2.245	3.015	13.8	22.0	11 7	5 55.34	- 0 11.3	3.036	3.764	11.4	21.8
11 17	5 54.64	+11 13.1	2.168	3.026	11.0	21.9	11 17	5 50.68	- 0 43.3	2.945	3.759	9.7	21.7
11 27	5 47.30	+11 9.0	2.113	3.036	7.9	21.7	11 27	5 44.47	- 1 5.1	2.877	3.753	7.9	21.5
12 7	5 38.43	+11 13.1	2.085	3.046	4.9	21.5	12 7	5 37.14	- 1 14.2	2.836	3.747	6.6	21.4
12 17	5 28.87	+11 25.7	2.087	3.056	3.9	21.5	12 17	5 29.26	- 1 8.6	2.823	3.740	6.3	21.4
12 27	5 19.57	+11 47.0	2.119	3.065	6.0	21.6	12 27	5 21.48	- 0 48.0	2.839	3.733	7.2	21.5
1 6	5 11.45	+12 16.1	2.179	3.073	9.1	21.8	1 6	5 14.45	- 0 13.1	2.882	3.725	8.9	21.6
1 16	5 5.19	+12 51.6	2.266	3.082	11.9	22.0	1 16	5 8.70	+ 0 33.9	2.951	3.717	10.7	21.7
112697	2002 <i>PC</i> ₁₀₃		12 15.1 44°35'	3°9/14.8	18		386082	2007 <i>LR</i> ₈		12 15.1 301°97'	3°8/14.7	18	
11 7	6 3.04	+17 25.3	1.058	1.885	22.3	18.8	11 7	5 59.05	+15 35.7	1.574	2.376	17.3	21.0
11 17	5 58.72	+16 44.0	1.020	1.914	17.4	18.6	11 17	5 55.17	+15 6.1	1.491	2.370	13.8	20.7
11 27	5 50.62	+16 8.0	1.000	1.943	11.9	18.4	11 27	5 48.30	+14 40.8	1.428	2.364	9.7	20.5
12 7	5 40.00	+15 39.8	1.001	1.974	6.3	18.2	12 7	5 39.15	+14 21.8	1.389	2.359	5.5	20.2
12 17	5 28.56	+15 21.4	1.027	2.006	4.1	18.1	12 17	5 28.80	+14 10.9	1.377	2.353	4.0	20.1
12 27	5 18.22	+15 14.4	1.078	2.037	8.3	18.5	12 27	5 18.70	+14 9.5	1.392	2.347	7.4	20.3
1 6	5 10.46	+15 19.0	1.152	2.070	13.1	18.9	1 6	5 10.19	+14 18.3	1.433	2.342	11.7	20.5
1 16	5 6.07	+15 34.1	1.247	2.102	17.3	19.2	1 16	5 4.27	+14 36.9	1.497	2.337	15.7	20.8
117344	2004 <i>XY</i> ₄₀		12 15.1 348°18'	1°6/15.1	18		147326	2003 <i>BF</i> ₂₅		12 15.1 276°16'	4°6/14.4	17	
11 7	5 58.48	+24 54.2	1.940	2.733	14.8	19.0	11 7	5 56.95	+12 28.3	2.028	2.812	14.6	20.3
11 17	5 54.42	+25 40.5	1.852	2.728	11.7	18.8	11 17	5 52.83	+11 44.5	1.935	2.802	11.7	20.1
11 27	5 47.66	+26 27.9	1.787	2.725	8.0	18.6	11 27	5 46.38	+11 5.2	1.865	2.792	8.5	19.9
12 7	5 38.79	+27 13.2	1.748	2.722	3.9	18.3	12 7	5 38.16	+10 33.1	1.821	2.782	5.6	19.7
12 17	5 28.79	+27 53.2	1.737	2.719	1.8	18.2	12 17	5 29.05	+10 10.6	1.805	2.771	4.7	19.6
12 27	5 18.91	+28 25.9	1.756	2.717	5.5	18.4	12 27	5 20.08	+ 9 59.8	1.817	2.761	7.1	19.7
1 6	5 10.38	+28 51.1	1.802	2.715	9.5	18.7	1 6	5 12.29	+10 1.3	1.857	2.751	10.4	19.9
1 16	5 4.15	+29 10.4	1.873	2.713	13.0	18.9	1 16	5 6.48	+10 14.4	1.921	2.741	13.6	20.1
220752	2004 <i>TG</i> ₇₆		12 15.1 313°79'	0°1/15.1	17		40894	1999 <i>TQ</i> ₁₃₈		12 15.1 120°90'	2°1/15.4	18	
11 7	5 57.17	+23 36.3	1.994	2.788	14.5	21.1	11 7	6 4.30	+28 48.9	2.045	2.821	14.7	20.7
11 17	5 53.22	+23 31.6	1.900	2.778	11.4	20.9	11 17	5 58.58	+29 7.9	1.971	2.837	11.6	20.5
11 27	5 46.73	+23 25.4	1.829	2.768	7.7	20.7	11 27	5 50.18	+29 22.4	1.920	2.851	8.0	20.4
12 7	5 38.32	+23 16.8	1.783	2.759	3.5	20.4	12 7	5 39.85	+29 29.7	1.895	2.866	4.2	20.1
12 17	5 28.91	+23 5.8	1.766	2.749	0.8	20.2	12 17	5 28.67	+29 27.8	1.900	2.880	2.2	20.0
12 27	5 19.68	+22 52.9	1.778	2.740	5.2	20.5	12 27	5 17.92	+29 17.1	1.935	2.893	5.3	20.3
1 6	5 11.74	+22 39.8	1.817	2.732	9.3	20.7	1 6	5 8.74	+29 0.0	1.998	2.906	9.0	20.5
1 16	5 5.97	+22 28.7	1.882	2.723	12.9	20.9	1 16	5 1.95	+28 39.7	2.087	2.918	12.2	20.8
140214	2001 <i>SV</i> ₂₃₄		12 15.1 338°00'	2°3/14.9	17		419481	2010 <i>DE</i> ₆₁		12 15.1 264°44'	1°3/15.0	18	
11 7	5 55.72	+18 49.6	1.597	2.407	16.8	19.5	11 7	6 0.98	+23 33.4	2.354	3.130	13.0	20.7
11 17	5 52.60	+18 30.1	1.511	2.397	13.3	19.3	11 17	5 55.91	+24 30.5	2.259	3.126	10.3	20.5
11 27	5 46.59	+18 12.4	1.445	2.387	9.1	19.0	11 27	5 48.46	+25 29.9	2.187	3.121	7.0	20.3
12 7	5 38.34	+17 57.6	1.404	2.378	4.6	18.7	12 7	5 39.15	+26 28.8	2.144	3.117	3.4	20.1
12 17	5 28.91	+17 46.6	1.389	2.370	2.5	18.6	12 17	5 28.80	+27 23.8	2.131	3.113	1.5	19.9
12 27	5 19.69	+17 40.7	1.402	2.363	6.6	18.8	12 27	5 18.47	+28 12.4	2.150	3.109	4.8	20.1
1 6	5 12.00	+17 41.1	1.440	2.356	11.1	19.0	1 6	5 9.22	+28 53.9	2.198	3.104	8.4	20.3
1 16	5 6.82	+17 48.3	1.501	2.350	15.2	19.3	1 16	5 1.92	+29 28.9	2.273	3.100	11.5	20.5
60572	2000 <i>EB</i> ₁₁₇		12 15.1 213°35'	4°6/14.2	18		185563	2008 <i>AL</i> ₃₄		12 15.1 37°41'	1°2/15.1	18	
11 7	5 58.12	+10 25.1	2.493	3.258	12.7	19.5	11 7	6 1.70	+19 58.4	1.282	2.097	19.8	20.3
11 17	5 53.21	+ 9 39.4	2.397	3.250	10.3	19.3	11 17	5 57.89	+20 4.6	1.213	2.101	15.6	20.1
11 27	5 46.35	+ 8 58.3	2.325	3.242	7.6	19.1	11 27	5 50.44	+20 14.4	1.162	2.106	10.6	19.8
12 7	5 38.04	+ 8 24.4	2.280	3.233	5.3	19.0	12 7	5 40.20	+20 26.8	1.135	2.111	5.0	19.5
12 17	5 29.02	+ 8 0.0	2.265	3.224	4.7	18.9	12 17	5 28.57	+20 40.5	1.133	2.116	1.7	19.3
12 27	5 20.13	+ 7 46.7	2.280	3.214	6.5	19.0	12 27	5 17.40	+20 55.1	1.158	2.122	7.1	19.7
1 6	5 12.21	+ 7 45.0	2.324	3.204	9.2	19.2	1 6	5 8.35	+21 10.9	1.207	2.127	12.4	20.0
1 16	5 5.94	+ 7 54.5	2.393	3.193	11.9	19.3	1 16	5 2.53	+21 29.0	1.278	2.133	16.9	20.3
251483	2008 <i>DR</i> ₈₀		12 15.1 298°06'	1°2/15.2	17		151738	2003 <i>CB</i> ₇		12 15.1 265°59'	0°5/15.1	18	
11 7	5 59.53	+25 35.3	1.955	2.745	14.8	20.9	11 7	6 1.24	+21 53.8	1.684	2.481	16.6	20.6
11 17	5 55.15	+25 54.9	1.867	2.742	11.7	20.7	11 17	5 56.97	+21 57.2	1.590	2.469	13.1	20.3
11 27	5 48.09	+26 13.2	1.800	2.738	8.0	20.4	11 27	5 49.61	+22 1.3	1.516	2.456	8.9	20.1
12 7	5 38.98	+26 27.8	1.760	2.734	3.8	20.2	12 7	5 39.81	+22 5.0	1.468	2.444	4.2	19.7
12 17	5 28.79	+26 36.9	1.748	2.730	1.4	20.0	12 17	5 28.64	+22 7.4	1.447	2.431	1.1	19.5
12 27	5 18.81	+26 40.2	1.765	2.727	5.4	20.3	12 27	5 17.59	+22 8.4	1.455	2.418	6.1	19.8
1 6	5 10.22	+26 38.8	1.810	2.723	9.4	20.5	1 6	5 8.08	+22 9.3	1.490	2.405	10.9	20.1
1 16	5 3.95	+26 35.0	1.880	2.720	13.0	20.7	1 16	5 1.22	+22 11.9	1.548	2.391	15.1	20.3
517324	2014 <i>JK</i> ₁₇		12 15.1 143°71'	3°9/14.9	18		288695	2004 <i>QC</i> ₁₂		12 15.1 65°97'	3°3/15.3	18	
11 7	5 59.83	+10 50.1	2.260	3.028	13.7	22.1	11 7	6 1.88	+30 12.7	2.002	2.783	14.9	19.9
11 17	5 54.64	+10 41.1	2.181	3.038	11.0	21.9	11 17	5 56.91	+31 0.8	1.931	2.797	11.8	19.7
11 27	5 47.33	+10 39.5	2.124	3.047	7.9	21.7	11 27	5 49.20	+31 44.7	1.882	2.812	8.3	19.5
12 7	5 38.49	+10 46.4	2.095	3.055	5.0	21.6	12 7	5 39.46	+32 20.6	1.860	2.826	4.8	19.3
12 17	5 28.93	+11 2.4	2.095	3.063	4.0	21.5	12 17	5 28.76	+32 45.0	1.866	2.841	3.3	19.2
12 27	5 19.63	+11 27.4	2.125	3.070	6.1	21.6	12 27	5 18.40	+32 57.0	1.901	2.855	5.9	19.4
1 6	5 11.47	+12 0.2	2.183	3.077	9.1	21.8	1 6	5 9.60	+32 58.2	1.965	2.870	9.3	19.7
1 16	5 5.17	+12 39.5	2.268	3.083	11.9	22.0	1 16	5 3.21	+32 52.0	2.053	2.885	12.4	19.9
48793	1997 <i>TK</i> ₈		12 15.1 66°34'	2°9/14.7	18		318433	2005 <i>CA</i> ₁₂		12 15.1 11°99'	3°0/15		

EPHEMERIDES

12 15.1

12 15.1

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
328049	2007 <i>NA</i> ₆	12 15.1 169°67'		5°1/15.8 17			63229	2001 <i>BP</i> ₉	12 15.1 65°73'		1°2/15.1 18		
11 7	6 3.05	+41 2.9	3.024	3.756	11.4	21.8	11 7	5 58.68	+18 26.9	2.083	2.869	14.2	19.2
11 17	5 57.23	+41 48.7	2.936	3.759	9.5	21.6	11 17	5 54.11	+18 44.3	2.003	2.876	11.1	19.0
11 27	5 49.15	+42 25.9	2.872	3.762	7.4	21.5	11 27	5 47.19	+19 5.4	1.947	2.884	7.5	18.8
12 7	5 39.39	+42 50.6	2.835	3.765	5.7	21.4	12 7	5 38.55	+19 29.3	1.917	2.891	3.6	18.6
12 17	5 28.79	+43 0.3	2.826	3.767	5.1	21.4	12 17	5 29.07	+19 55.1	1.916	2.899	1.4	18.4
12 27	5 18.36	+42 54.1	2.848	3.769	6.0	21.4	12 27	5 19.82	+20 21.8	1.946	2.907	5.0	18.7
1 6	5 9.11	+42 33.9	2.899	3.770	7.9	21.6	1 6	5 11.84	+20 49.0	2.003	2.914	8.8	18.9
1 16	5 1.78	+42 3.3	2.975	3.771	9.9	21.7	1 16	5 5.89	+21 16.7	2.087	2.922	12.1	19.2
449808	2014 <i>OJ</i> ₃₂₇	12 15.1 213°90'		1°7/15.0 18			119125	2001 <i>OW</i> ₉₉	12 15.1 116°72'		1°1/15.3 18		
11 7	5 58.79	+18 12.3	2.082	2.868	14.2	21.5	11 7	6 6.26	+26 14.1	1.864	2.644	15.8	21.2
11 17	5 54.24	+18 10.2	1.993	2.866	11.2	21.3	11 17	6 0.20	+26 21.0	1.795	2.664	12.4	21.0
11 27	5 47.31	+18 10.8	1.927	2.863	7.6	21.1	11 27	5 51.31	+26 24.4	1.748	2.683	8.4	20.8
12 7	5 38.59	+18 14.4	1.888	2.861	3.8	20.8	12 7	5 40.41	+26 22.2	1.728	2.701	4.0	20.6
12 17	5 28.97	+18 20.6	1.877	2.858	1.9	20.7	12 17	5 28.66	+26 13.4	1.737	2.719	1.3	20.5
12 27	5 19.54	+18 29.7	1.897	2.856	5.3	20.9	12 27	5 17.45	+25 58.6	1.775	2.736	5.4	20.8
1 6	5 11.34	+18 42.0	1.944	2.853	9.1	21.1	1 6	5 7.99	+25 40.4	1.842	2.753	9.5	21.1
1 16	5 5.18	+18 57.7	2.017	2.850	12.5	21.3	1 16	5 1.10	+25 22.0	1.935	2.768	13.0	21.3
71725	2000 <i>HN</i> ₉	12 15.1 305°64'		0°1/15.1 18			393312	2013 <i>YM</i> ₁₄₃	12 15.1 312°21'		0°7/15.2 18		
11 7	5 56.59	+22 59.0	2.189	2.978	13.5	19.3	11 7	6 1.44	+25 12.5	1.429	2.238	18.4	21.2
11 17	5 52.60	+23 3.7	2.090	2.966	10.6	19.0	11 17	5 57.62	+25 12.1	1.347	2.232	14.6	20.9
11 27	5 46.27	+23 8.1	2.014	2.953	7.2	18.8	11 27	5 50.28	+25 8.6	1.285	2.227	9.9	20.6
12 7	5 38.15	+23 11.2	1.965	2.940	3.3	18.5	12 7	5 40.19	+25 0.2	1.246	2.222	4.7	20.3
12 17	5 29.08	+23 12.5	1.944	2.928	0.8	18.3	12 17	5 28.68	+24 45.8	1.234	2.217	1.2	20.1
12 27	5 20.11	+23 12.0	1.953	2.915	4.9	18.6	12 27	5 17.48	+24 26.4	1.248	2.213	6.7	20.4
1 6	5 12.28	+23 10.6	1.990	2.903	8.7	18.8	1 6	5 8.24	+24 5.0	1.288	2.208	11.8	20.7
1 16	5 6.41	+23 9.9	2.053	2.892	12.1	19.0	1 16	5 2.10	+23 45.4	1.351	2.204	16.3	20.9
210997	Guenat	12 15.1 33°72'		0°2/15.1 18			168223	2006 <i>KY</i> ₁	12 15.1 80°42'		6°2/15.6 18		
11 7	6 2.05	+21 30.0	1.127	1.952	21.3	19.8	11 7	6 10.66	+37 22.4	1.885	2.643	16.4	19.4
11 17	5 58.66	+21 57.8	1.064	1.959	16.8	19.5	11 17	6 4.10	+38 39.2	1.830	2.674	13.4	19.2
11 27	5 51.21	+22 29.5	1.020	1.966	11.3	19.2	11 27	5 54.18	+39 45.9	1.797	2.704	10.1	19.1
12 7	5 40.64	+23 2.1	0.997	1.974	5.2	18.9	12 7	5 41.80	+40 35.7	1.789	2.734	7.3	19.0
12 17	5 28.52	+23 32.3	0.999	1.983	1.2	18.7	12 17	5 28.34	+41 3.4	1.810	2.763	6.3	19.0
12 27	5 16.95	+23 58.1	1.026	1.992	7.5	19.1	12 27	5 15.50	+41 8.1	1.860	2.792	7.8	19.1
1 6	5 7.81	+24 19.9	1.077	2.002	13.1	19.4	1 6	5 4.76	+40 53.8	1.936	2.821	10.5	19.4
1 16	5 2.31	+24 39.6	1.149	2.012	17.9	19.8	1 16	4 57.09	+40 26.6	2.037	2.848	13.3	19.6
209191	2003 <i>UT</i> ₂₁₂	12 15.1 353°99'		0°8/15.2 18			406977	2009 <i>QF</i> ₅₇	12 15.1 15°61'		5°5/15.8 17		
11 7	5 58.40	+25 35.9	1.496	2.306	17.7	19.9	11 7	6 1.23	+36 48.6	1.897	2.673	15.7	21.4
11 17	5 55.01	+25 35.6	1.416	2.303	13.9	19.7	11 17	5 56.92	+37 33.3	1.819	2.675	12.9	21.2
11 27	5 48.37	+25 31.9	1.357	2.300	9.5	19.4	11 27	5 49.50	+38 8.7	1.762	2.678	9.6	21.0
12 7	5 39.23	+25 23.3	1.322	2.298	4.5	19.1	12 7	5 39.74	+38 29.8	1.729	2.681	6.7	20.8
12 17	5 28.85	+25 8.9	1.313	2.297	1.3	18.9	12 17	5 28.80	+38 32.8	1.723	2.685	5.6	20.8
12 27	5 18.81	+24 49.8	1.331	2.296	6.3	19.2	12 27	5 18.21	+38 17.0	1.745	2.689	7.3	20.9
1 6	5 10.60	+24 28.7	1.375	2.296	11.2	19.5	1 6	5 9.37	+37 45.9	1.794	2.693	10.4	21.1
1 16	5 5.26	+24 9.1	1.442	2.296	15.4	19.7	1 16	5 3.25	+37 4.9	1.866	2.698	13.5	21.3
420248	2011 <i>JW</i> ₂	12 15.1 274°14'		1°8/15.2 18			292894	2006 <i>VN</i> ₃₈	12 15.1 307°21'		1°5/15.2 18		
11 7	5 57.62	+15 24.7	2.495	3.270	12.4	21.0	11 7	6 0.51	+25 27.3	1.358	2.171	19.0	21.1
11 17	5 53.03	+15 46.9	2.393	3.258	9.8	20.8	11 17	5 57.32	+25 47.4	1.269	2.157	15.1	20.8
11 27	5 46.39	+16 14.9	2.315	3.247	6.8	20.6	11 27	5 50.40	+26 6.5	1.199	2.142	10.4	20.5
12 7	5 38.18	+16 48.2	2.264	3.235	3.5	20.4	12 7	5 40.40	+26 21.5	1.153	2.128	5.1	20.2
12 17	5 29.09	+17 26.0	2.243	3.223	1.9	20.2	12 17	5 28.62	+26 29.5	1.132	2.115	1.8	19.9
12 27	5 20.03	+18 7.1	2.254	3.211	4.8	20.4	12 27	5 16.93	+26 29.4	1.137	2.101	7.1	20.2
1 6	5 11.89	+18 50.3	2.294	3.200	8.1	20.6	1 6	5 7.20	+26 23.3	1.167	2.089	12.6	20.5
1 16	5 5.41	+19 35.0	2.361	3.188	11.1	20.8	1 16	5 0.77	+26 15.0	1.219	2.076	17.4	20.7
128234	2003 <i>SC</i> ₁₄₉	12 15.1 115°55'		0°3/15.2 18			361820	2008 <i>CG</i> ₁₀₈	12 15.1 252°38'		1°1/15.3 17		
11 7	5 58.40	+24 11.5	2.454	3.232	12.5	20.7	11 7	6 0.43	+27 31.9	2.072	2.856	14.3	20.9
11 17	5 53.54	+24 16.5	2.372	3.242	9.8	20.6	11 17	5 55.74	+27 24.4	1.977	2.848	11.3	20.7
11 27	5 46.61	+24 20.1	2.315	3.251	6.5	20.4	11 27	5 48.44	+27 12.1	1.904	2.840	7.7	20.4
12 7	5 38.20	+24 21.3	2.285	3.260	3.0	20.2	12 7	5 39.19	+26 53.4	1.858	2.831	3.8	20.2
12 17	5 29.12	+24 19.5	2.285	3.269	0.8	20.0	12 17	5 28.95	+26 27.8	1.840	2.823	1.4	20.0
12 27	5 20.29	+24 15.1	2.316	3.277	4.3	20.3	12 27	5 18.93	+25 56.5	1.852	2.814	5.2	20.2
1 6	5 12.61	+24 9.2	2.376	3.286	7.6	20.5	1 6	5 10.29	+25 22.4	1.893	2.805	9.1	20.4
1 16	5 6.73	+24 3.2	2.462	3.294	10.6	20.7	1 16	5 3.88	+24 48.7	1.959	2.796	12.7	20.6
162309	1999 <i>WK</i> ₁₀	12 15.1 54°46'		0°8/15.1 18			323048	2002 <i>RP</i> ₁₄₃	12 15.1 126°41'		2°8/14.9 16		
11 7	6 2.24	+21 51.7	1.465	2.270	18.2	20.3	11 7	6 5.18	+16 28.0	1.946	2.721	15.4	22.7
11 17	5 57.53	+21 45.8	1.410	2.293	14.2	20.1	11 17	5 59.04	+16 5.9	1.877	2.742	12.1	22.5
11 27	5 49.69	+21 40.1	1.375	2.317	9.5	19.8	11 27	5 50.37	+15 47.1	1.831	2.762	8.3	22.3
12 7	5 39.67	+21 33.8	1.365	2.341	4.3	19.6	12 7	5 39.95	+15 32.3	1.811	2.780	4.5	22.1
12 17	5 28.81	+21 26.9	1.382	2.365	1.3	19.5	12 17	5 28.80	+15 22.5	1.821	2.798	2.9	22.0
12 27	5 18.64	+21 20.1	1.427	2.390	6.2	19.8	12 27	5 18.12	+15 18.5	1.861	2.815	6.0	22.3
1 6	5 10.47	+21 15.2	1.498	2.415	10.7	20.2	1 6	5 8.98	+15 20.9	1.930	2.831	9.7	22.5
1 16	5 5.12	+21 13.8	1.592	2.439	14.6	20.5	1 16	5 2.14	+15 29.8	2.024	2.846	12.9	22.8
494305	2016 <i>SV</i> ₁₀	12 15.1 21°07'		1°0/15.2 16			305915	2009 <i>FB</i> ₅₈	12 15.1 129°85'		0°9/15.3 18		
11 7	5 57.72	+25 28.1	1.049	1.887	21.7								

EPHEMERIDES

12 15.1

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
307271	2002 <i>NH</i> ₆₈		12 15.1 137°39'		2°6'/15.7 18"		59454	1999 <i>GO</i> ₃₅		12 15.1 293°37'		5°5'/14.2 18"	
11 7	6 4.64	+32 6.3	2.194	2.961	14.1	21.8	11 7	5 58.43	+13 22.8	1.580	2.380	17.3	19.4
11 17	5 58.71	+32 3.7	2.114	2.972	11.2	21.6	11 17	5 54.77	+12 22.8	1.489	2.365	14.0	19.1
11 27	5 50.21	+31 53.1	2.056	2.983	7.9	21.4	11 27	5 48.15	+11 26.1	1.419	2.350	10.2	18.9
12 7	5 39.90	+31 32.5	2.026	2.993	4.4	21.2	12 7	5 39.21	+10 36.7	1.373	2.336	6.7	18.6
12 17	5 28.81	+31 0.8	2.025	3.003	2.6	21.1	12 17	5 29.01	+9 58.9	1.353	2.321	5.7	18.5
12 27	5 18.19	+30 19.7	2.055	3.012	5.2	21.3	12 27	5 18.95	+9 36.0	1.360	2.306	8.6	18.7
1 6	5 9.12	+29 32.6	2.114	3.020	8.6	21.5	1 6	5 10.39	+9 29.8	1.392	2.292	12.7	18.9
1 16	5 2.36	+28 44.0	2.199	3.028	11.8	21.7	1 16	5 4.37	+9 39.7	1.447	2.278	16.7	19.1
6326	Idamiyoshi		12 15.1 328°79'		7°6'/13.7 18"		206033	2002 <i>QZ</i> ₄		12 15.1 168°88'		1°5'/14.9 18"	
11 7	5 55.68	+8 24.5	1.634	2.428	17.1	16.7	11 7	6 0.87	+19 8.9	2.498	3.268	12.5	21.6
11 17	5 52.36	+7 5.4	1.552	2.418	14.1	16.5	11 17	5 55.37	+18 54.0	2.409	3.274	9.8	21.4
11 27	5 46.34	+5 53.2	1.490	2.409	10.9	16.3	11 27	5 47.83	+18 39.8	2.346	3.278	6.7	21.2
12 7	5 38.28	+4 53.8	1.452	2.400	8.3	16.1	12 7	5 38.83	+18 26.7	2.310	3.282	3.3	21.0
12 17	5 29.16	+4 12.6	1.440	2.391	7.8	16.0	12 17	5 29.13	+18 14.9	2.304	3.285	1.7	20.9
12 27	5 20.25	+3 53.1	1.454	2.383	9.9	16.1	12 27	5 19.66	+18 5.5	2.330	3.287	4.7	21.1
1 6	5 12.76	+3 55.8	1.492	2.376	13.2	16.3	1 6	5 11.30	+17 59.2	2.386	3.289	8.0	21.3
1 16	5 7.59	+4 18.6	1.552	2.369	16.5	16.5	1 16	5 4.70	+17 56.9	2.468	3.290	10.9	21.5
164606	3167 T-3		12 15.1 58°20'		0°9'/15.2 18"		293817	2007 <i>RR</i> ₁₇₄		12 15.1 47°45'		3°7'/14.9 18"	
11 7	6 1.47	+25 8.7	1.636	2.434	16.9	20.4	11 7	5 59.66	+14 59.3	1.487	2.291	18.1	20.8
11 17	5 56.93	+25 21.3	1.568	2.448	13.2	20.2	11 17	5 55.51	+14 41.2	1.427	2.308	14.3	20.6
11 27	5 49.37	+25 31.8	1.522	2.462	8.9	20.0	11 27	5 48.39	+14 29.7	1.388	2.325	9.9	20.4
12 7	5 39.62	+25 38.3	1.501	2.476	4.2	19.7	12 7	5 39.18	+14 26.1	1.372	2.342	5.5	20.2
12 17	5 28.88	+25 39.0	1.507	2.490	1.3	19.6	12 17	5 29.06	+14 31.2	1.383	2.360	3.8	20.1
12 27	5 18.63	+25 34.5	1.541	2.504	5.8	19.9	12 27	5 19.48	+14 45.2	1.421	2.378	7.1	20.4
1 6	5 10.19	+25 26.6	1.603	2.519	10.2	20.2	1 6	5 11.69	+15 7.4	1.486	2.397	11.2	20.7
1 16	5 4.43	+25 18.2	1.688	2.534	14.0	20.5	1 16	5 6.53	+15 36.7	1.573	2.416	15.0	20.9
443359	2014 <i>GY</i> ₃₇		12 15.1 122°77'		1°2'/15.2 18"		493988	2016 <i>AX</i> ₁₀₁		12 15.1 51°53'		1°4'/15.3 17"	
11 7	6 3.19	+25 27.8	1.981	2.763	15.0	21.6	11 7	5 58.90	+26 17.8	2.096	2.882	14.1	21.3
11 17	5 57.84	+25 52.6	1.905	2.775	11.7	21.4	11 17	5 54.39	+26 41.8	2.021	2.893	11.0	21.1
11 27	5 49.80	+26 15.8	1.851	2.786	7.9	21.2	11 27	5 47.44	+27 3.7	1.969	2.904	7.5	20.9
12 7	5 39.79	+26 35.1	1.823	2.797	3.8	21.0	12 7	5 38.71	+27 21.4	1.943	2.916	3.7	20.7
12 17	5 28.84	+26 48.4	1.825	2.807	1.5	20.8	12 17	5 29.16	+27 33.1	1.946	2.927	1.6	20.6
12 27	5 18.23	+26 55.1	1.856	2.817	5.3	21.1	12 27	5 19.90	+27 38.5	1.978	2.939	5.0	20.8
1 6	5 9.13	+26 56.7	1.917	2.827	9.2	21.4	1 6	5 12.01	+27 38.9	2.039	2.951	8.6	21.1
1 16	5 2.40	+26 55.3	2.002	2.836	12.6	21.6	1 16	5 6.25	+27 36.2	2.125	2.963	11.8	21.3
400773	2010 <i>DH</i> ₅₂		12 15.1 205°57'		4°7'/14.9 18"		217710	1999 <i>TJ</i> ₂₃₃		12 15.1 92°83'		16°4'/10.9 18"	
11 7	5 59.67	+9 34.0	2.178	2.946	14.2	21.6	11 7	6 4.54	+0 18.4	1.081	1.873	24.2	19.6
11 17	5 54.77	+9 14.8	2.087	2.942	11.5	21.4	11 17	6 0.10	-3 3.8	1.034	1.882	21.0	19.4
11 27	5 47.61	+9 3.6	2.018	2.937	8.5	21.2	11 27	5 51.86	-6 8.9	1.004	1.890	18.2	19.2
12 7	5 38.78	+9 2.2	1.976	2.932	5.7	21.1	12 7	5 40.87	-8 40.1	0.996	1.899	16.5	19.2
12 17	5 29.07	+9 12.1	1.962	2.926	4.8	21.0	12 17	5 28.68	-10 23.3	1.009	1.907	16.7	19.2
12 27	5 19.50	+9 33.5	1.979	2.920	6.8	21.1	12 27	5 17.20	-11 12.0	1.043	1.915	18.5	19.4
1 6	5 11.06	+10 5.5	2.023	2.913	9.9	21.3	1 6	5 8.09	-11 9.5	1.095	1.923	21.1	19.6
1 16	5 4.51	+10 46.6	2.093	2.906	12.9	21.5	1 16	5 2.35	-10 25.0	1.163	1.931	23.7	19.8
331371	2012 <i>DR</i> ₅₃		12 15.1 124°25'		4°6'/14.7 18"		10374	Etampes		12 15.1 115°71'		2°7'/14.9 18"	
11 7	5 56.49	+9 19.3	2.348	3.118	13.2	20.9	11 7	6 6.11	+17 49.5	1.650	2.437	17.3	17.6
11 17	5 52.02	+8 52.9	2.268	3.124	10.7	20.7	11 17	6 0.21	+17 23.3	1.585	2.457	13.6	17.4
11 27	5 45.60	+8 33.7	2.211	3.129	7.9	20.6	11 27	5 51.38	+16 59.5	1.541	2.476	9.3	17.2
12 7	5 37.79	+8 23.9	2.181	3.134	5.4	20.4	12 7	5 40.50	+16 39.3	1.523	2.495	4.8	17.0
12 17	5 29.31	+8 24.8	2.179	3.139	4.7	20.4	12 17	5 28.77	+16 23.5	1.534	2.513	2.9	16.9
12 27	5 21.05	+8 36.9	2.206	3.144	6.4	20.5	12 27	5 17.63	+16 13.7	1.573	2.530	6.5	17.2
1 6	5 13.84	+8 59.6	2.261	3.149	9.1	20.7	1 6	5 8.32	+16 10.7	1.640	2.546	10.7	17.5
1 16	5 8.31	+9 31.5	2.342	3.153	11.8	20.9	1 16	5 1.67	+16 15.2	1.731	2.562	14.4	17.7
265102	2003 <i>SK</i> ₃₁₉		12 15.1 67°57'		0°7'/15.1 17"		113087	2002 <i>RE</i> ₆₉		12 15.1 147°52'		1°7'/14.9 18"	
11 7	5 57.62	+21 5.0	2.206	2.992	13.5	21.1	11 7	6 0.74	+18 36.4	2.238	3.016	13.6	21.4
11 17	5 53.18	+21 6.5	2.125	2.998	10.5	20.9	11 17	5 55.48	+18 24.2	2.157	3.024	10.7	21.2
11 27	5 46.52	+21 8.7	2.067	3.005	7.1	20.7	11 27	5 48.00	+18 13.6	2.099	3.033	7.2	21.0
12 7	5 38.25	+21 11.2	2.036	3.011	3.3	20.5	12 7	5 38.93	+18 4.8	2.068	3.041	3.6	20.8
12 17	5 29.22	+21 13.5	2.035	3.018	1.0	20.3	12 17	5 29.11	+17 58.3	2.067	3.048	1.9	20.7
12 27	5 20.45	+21 15.8	2.063	3.024	4.7	20.6	12 27	5 19.59	+17 54.6	2.097	3.055	5.1	21.0
1 6	5 12.88	+21 19.0	2.120	3.031	8.4	20.8	1 6	5 11.29	+17 54.6	2.156	3.061	8.6	21.2
1 16	5 7.24	+21 23.8	2.202	3.038	11.5	21.0	1 16	5 4.94	+17 58.8	2.240	3.067	11.7	21.4
457941	2009 <i>VX</i> ₂		12 15.1 11°65'		8°2'/17.0 16"		475249	2005 <i>WM</i> ₃₇		12 15.2 44°17'		0°1'/15.2 18"	
11 7	6 0.00	+42 34.2	1.495	2.278	19.0	20.2	11 7	6 1.96	+21 30.8	1.314	2.128	19.5	21.2
11 17	5 56.89	+43 11.2	1.430	2.284	15.9	20.0	11 17	5 57.95	+21 57.3	1.254	2.142	15.3	21.0
11 27	5 49.88	+43 30.7	1.384	2.291	12.5	19.9	11 27	5 50.40	+22 26.8	1.212	2.156	10.3	20.7
12 7	5 40.00	+43 26.0	1.359	2.299	9.6	19.7	12 7	5 40.22	+22 56.5	1.194	2.171	4.7	20.5
12 17	5 28.85	+42 53.3	1.359	2.309	8.2	19.7	12 17	5 28.83	+23 23.7	1.202	2.186	1.1	20.3
12 27	5 18.43	+41 53.9	1.384	2.321	9.5	19.8	12 27	5 18.00	+23 47.2	1.237	2.202	6.6	20.7
1 6	5 10.44	+40 35.2	1.433	2.334	12.4	20.0	1 6	5 9.31	+24 7.2	1.297	2.218	11.7	21.0
1 16	5 5.88	+39 6.3	1.504	2.347	15.5	20.2	1 16	5 3.78	+24 25.4	1.380	2.235	15.9	21.3
265183	2003 <i>YP</i> ₄₉		12 15.1 151°90'		1°0'/15.2 17"		242604	2005 <i>JU</i> ₇₁		12 15.2 171°27'		1°0'/15.4 18"	
11 7	5 58.50	+25 10.8	2.563	3									

EPHEMERIDES

12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
513972	2014 <i>FU</i> ₅₆		12 15.2 174°46		6°6/14.7 18		360172	2013 <i>CF</i> ₁₁₂		12 15.2 130°78		5°3/15.2 18	
11 7	5 59.57	+ 4 59.1	2.097	2.856	14.9	21.7	11 7	5 59.51	+ 7 7.2	2.129	2.894	14.6	20.8
11 17	5 54.67	+ 4 21.5	2.016	2.858	12.4	21.5	11 17	5 54.57	+ 6 54.3	2.052	2.902	11.9	20.6
11 27	5 47.53	+ 3 54.6	1.956	2.860	9.6	21.4	11 27	5 47.43	+ 6 51.7	1.997	2.910	8.9	20.4
12 7	5 38.75	+ 3 41.7	1.923	2.862	7.3	21.2	12 7	5 38.70	+ 7 1.5	1.968	2.918	6.2	20.3
12 17	5 29.17	+ 3 45.2	1.917	2.862	6.7	21.2	12 17	5 29.21	+ 7 24.6	1.967	2.925	5.4	20.2
12 27	5 19.81	+ 4 5.7	1.939	2.863	8.2	21.3	12 27	5 19.98	+ 8 0.6	1.995	2.932	7.1	20.4
1 6	5 11.63	+ 4 41.9	1.989	2.863	10.8	21.5	1 6	5 11.94	+ 8 47.7	2.052	2.939	9.9	20.5
1 16	5 5.38	+ 5 31.0	2.063	2.862	13.6	21.6	1 16	5 5.80	+ 9 43.2	2.134	2.946	12.7	20.7
152655	1997 <i>WL</i> ₁₈		12 15.2 89°45		0°6/15.2 18		55391	2001 <i>ST</i> ₂₇₇		12 15.2 174°37		5°9/16.1 18	
11 7	6 3.75	+25 41.4	1.627	2.422	17.2	20.3	11 7	6 9.34	+39 30.3	2.109	2.857	15.2	19.4
11 17	5 58.68	+25 31.9	1.558	2.436	13.4	20.1	11 17	6 3.06	+40 10.2	2.023	2.860	12.6	19.3
11 27	5 50.53	+25 18.4	1.511	2.449	9.1	19.8	11 27	5 53.57	+40 39.1	1.960	2.863	9.6	19.1
12 7	5 40.17	+24 59.7	1.488	2.463	4.2	19.6	12 7	5 41.65	+40 51.5	1.922	2.864	7.0	18.9
12 17	5 28.86	+24 35.6	1.493	2.476	1.1	19.4	12 17	5 28.54	+40 43.2	1.912	2.866	5.9	18.9
12 27	5 18.12	+24 7.7	1.526	2.489	5.9	19.8	12 27	5 15.82	+40 14.1	1.931	2.866	7.4	19.0
1 6	5 9.26	+23 39.3	1.587	2.502	10.3	20.1	1 6	5 4.93	+39 28.0	1.978	2.866	10.2	19.1
1 16	5 3.17	+23 13.7	1.672	2.515	14.2	20.3	1 16	4 56.88	+38 31.5	2.050	2.865	13.1	19.3
462453	2008 <i>US</i> ₁₂₄		12 15.2 66°09		0°6/15.3 16		298020	2002 <i>PH</i> ₅₃		12 15.2 66°38		2°1/15.4 18	
11 7	5 59.15	+27 39.4	2.335	3.113	13.1	21.1	11 7	6 3.21	+28 27.4	1.688	2.480	16.8	20.8
11 17	5 54.19	+27 9.0	2.255	3.123	10.2	20.9	11 17	5 58.21	+28 41.0	1.625	2.499	13.2	20.6
11 27	5 47.08	+26 33.1	2.198	3.133	6.9	20.7	11 27	5 50.19	+28 49.5	1.583	2.518	9.0	20.4
12 7	5 38.48	+25 51.3	2.169	3.143	3.2	20.5	12 7	5 40.02	+28 50.2	1.566	2.538	4.6	20.2
12 17	5 29.26	+25 4.5	2.170	3.153	0.9	20.3	12 17	5 28.95	+28 41.4	1.576	2.557	2.2	20.1
12 27	5 20.44	+24 15.1	2.201	3.163	4.5	20.6	12 27	5 18.46	+28 24.1	1.616	2.577	5.8	20.4
1 6	5 12.90	+23 26.0	2.262	3.173	7.9	20.8	1 6	5 9.85	+28 1.3	1.682	2.596	9.9	20.6
1 16	5 7.30	+22 40.2	2.349	3.183	10.9	21.1	1 16	5 3.95	+27 36.9	1.773	2.615	13.5	20.9
77444	2001 <i>HE</i> ₃		12 15.2 154°75		0°1/15.2 18		45338	2000 <i>AT</i> ₈₅		12 15.2 233°68		4°9/15.0 18	
11 7	5 57.87	+23 28.8	2.770	3.543	11.4	20.2	11 7	5 56.51	+ 7 19.8	2.417	3.181	13.1	18.9
11 17	5 52.95	+23 32.8	2.682	3.549	8.9	20.0	11 17	5 52.10	+ 7 6.6	2.328	3.177	10.7	18.7
11 27	5 46.17	+23 36.0	2.619	3.554	5.9	19.8	11 27	5 45.74	+ 7 2.3	2.261	3.173	8.0	18.5
12 7	5 38.07	+23 37.4	2.585	3.559	2.7	19.6	12 7	5 37.94	+ 7 8.9	2.220	3.169	5.7	18.4
12 17	5 29.34	+23 36.6	2.580	3.564	0.6	19.4	12 17	5 29.41	+ 7 27.4	2.208	3.165	4.9	18.3
12 27	5 20.81	+23 33.9	2.607	3.568	3.9	19.7	12 27	5 21.00	+ 7 57.8	2.226	3.161	6.5	18.4
1 6	5 13.25	+23 30.2	2.664	3.572	7.0	19.9	1 6	5 13.56	+ 8 38.9	2.271	3.157	9.1	18.6
1 16	5 7.28	+23 26.6	2.748	3.576	9.7	20.1	1 16	5 7.75	+ 9 28.6	2.343	3.153	11.8	18.8
476701	2008 <i>TX</i> ₁₃₁		12 15.2 9°93		0°2/15.2 18		74074	1998 <i>MC</i> ₂₉		12 15.2 148°38		0°2/15.1 18	
11 7	5 57.71	+25 4.6	1.239	2.065	19.8	20.2	11 7	6 2.40	+23 27.4	2.324	3.098	13.3	20.2
11 17	5 54.96	+24 47.3	1.172	2.066	15.6	20.0	11 17	5 56.73	+23 18.7	2.242	3.109	10.4	20.0
11 27	5 48.57	+24 25.7	1.123	2.069	10.5	19.7	11 27	5 48.83	+23 8.2	2.184	3.119	7.0	19.8
12 7	5 39.45	+23 59.0	1.096	2.073	4.9	19.4	12 7	5 39.33	+22 55.3	2.154	3.128	3.2	19.6
12 17	5 29.03	+23 27.7	1.095	2.078	1.1	19.1	12 17	5 29.11	+22 40.0	2.153	3.137	0.8	19.4
12 27	5 19.16	+22 54.6	1.118	2.084	6.9	19.6	12 27	5 19.22	+22 23.1	2.184	3.145	4.6	19.7
1 6	5 11.45	+22 23.4	1.166	2.092	12.2	19.9	1 6	5 10.60	+22 6.3	2.244	3.152	8.2	19.9
1 16	5 6.96	+21 57.8	1.236	2.100	16.8	20.2	1 16	5 3.96	+21 51.6	2.331	3.159	11.2	20.1
516279	2016 <i>WA</i> ₁₉		12 15.2 77°06		3°2/15.3 18		358174	2006 <i>SR</i> ₅₇		12 15.2 109°93		5°5/16.4 18	
11 7	6 7.30	+28 48.7	1.585	2.374	17.8	21.2	11 7	6 8.28	+40 9.0	2.245	2.989	14.5	20.9
11 17	6 1.65	+29 37.4	1.527	2.399	14.0	21.0	11 17	6 1.74	+40 37.4	2.176	3.010	11.9	20.7
11 27	5 52.62	+30 22.0	1.490	2.423	9.7	20.8	11 27	5 52.35	+40 53.9	2.129	3.030	9.1	20.6
12 7	5 41.16	+30 57.4	1.479	2.448	5.3	20.6	12 7	5 40.96	+40 54.0	2.108	3.050	6.6	20.4
12 17	5 28.66	+31 19.7	1.494	2.472	3.3	20.6	12 17	5 28.76	+40 35.1	2.115	3.069	5.5	20.4
12 27	5 16.79	+31 28.0	1.539	2.496	6.6	20.8	12 27	5 17.16	+39 58.1	2.152	3.087	6.8	20.5
1 6	5 7.04	+31 25.1	1.610	2.520	10.6	21.1	1 6	5 7.36	+39 7.3	2.218	3.105	9.2	20.7
1 16	5 0.35	+31 15.3	1.706	2.543	14.2	21.4	1 16	5 0.17	+38 8.5	2.309	3.123	11.8	20.9
271411	2004 <i>CF</i> ₉₇		12 15.2 313°52		2°1/15.0 18		515457	2013 <i>YX</i> ₁₀		12 15.2 319°39		5°0/15.0 18	
11 7	5 58.66	+19 23.5	1.326	2.144	19.1	20.6	11 7	5 59.10	+12 11.0	1.464	2.266	18.4	21.3
11 17	5 55.73	+19 11.8	1.238	2.129	15.2	20.3	11 17	5 55.49	+11 51.5	1.383	2.260	14.8	21.0
11 27	5 49.25	+19 2.5	1.170	2.114	10.5	20.0	11 27	5 48.74	+11 41.1	1.321	2.254	10.7	20.7
12 7	5 39.89	+18 56.2	1.125	2.100	5.2	19.7	12 7	5 39.55	+11 42.4	1.283	2.248	6.6	20.5
12 17	5 28.89	+18 53.3	1.104	2.086	2.4	19.5	12 17	5 29.04	+11 57.0	1.270	2.243	5.1	20.4
12 27	5 17.99	+18 54.5	1.110	2.073	7.5	19.7	12 27	5 18.73	+12 25.0	1.284	2.237	8.2	20.6
1 6	5 8.94	+19 1.1	1.139	2.060	12.9	20.0	1 6	5 10.07	+13 4.9	1.323	2.232	12.5	20.8
1 16	5 3.00	+19 13.9	1.191	2.048	17.7	20.3	1 16	5 4.14	+13 54.3	1.385	2.228	16.6	21.0
466237	2013 <i>AB</i> ₅₄		12 15.2 113°72		10°1/17.7 18		138476	2000 <i>JJ</i> ₈₅		12 15.2 251°91		2°8/14.6 18	
11 7	6 17.43	+45 23.9	1.247	2.013	22.9	20.7	11 7	5 59.29	+18 3.0	2.075	2.860	14.3	20.2
11 17	6 11.58	+45 55.9	1.181	2.022	19.4	20.5	11 17	5 54.70	+17 17.9	1.978	2.849	11.3	20.0
11 27	6 0.29	+46 4.7	1.132	2.030	15.5	20.3	11 27	5 47.71	+16 32.3	1.903	2.838	7.8	19.7
12 7	5 44.89	+45 38.9	1.103	2.038	11.9	20.1	12 7	5 38.92	+15 48.2	1.856	2.826	4.3	19.5
12 17	5 27.84	+44 31.8	1.098	2.046	10.1	20.0	12 17	5 29.20	+15 7.6	1.837	2.814	3.0	19.4
12 27	5 12.17	+42 46.7	1.118	2.054	11.4	20.1	12 27	5 19.65	+14 33.2	1.848	2.802	6.0	19.5
1 6	5 0.26	+40 37.1	1.162	2.061	14.8	20.3	1 6	5 11.33	+14 7.0	1.888	2.790	9.8	19.7
1 16	4 53.25	+38 19.4	1.228	2.068	18.5	20.6	1 16	5 5.04	+13 50.3	1.952	2.777	13.2	19.9
297956	2002 <i>GC</i> ₁₁₅		12 15.2 153°28		1°8/15.0 18		143413	2003 <i>BF</i> ₄₉		12 15.2 354°36			

EPHEMERIDES

12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
367228	2007 GZ ₄		12 15.2	30°50'	1.5/15.2	18	489235	2006 QA ₅₈		12 15.2	356°92'	67°0'	16.0 17
11 7	6 0.05	+24 46.5	1.887	2.679	15.2	20.1	11 7	4 39.20	-76 16.1	0.454	1.061	68.7	21.2
11 17	5 55.68	+25 30.8	1.808	2.684	12.0	19.9	11 17	4 58.34	-76 17.7	0.469	1.047	69.8	21.3
11 27	5 48.57	+26 15.8	1.752	2.689	8.1	19.6	11 27	5 12.61	-75 41.8	0.472	1.038	70.5	21.3
12 7	5 39.37	+26 58.1	1.722	2.695	4.0	19.4	12 7	5 23.64	-74 32.3	0.462	1.034	70.9	21.3
12 17	5 29.10	+27 34.7	1.720	2.701	1.7	19.3	12 17	5 32.50	-72 44.3	0.440	1.034	71.1	21.2
12 27	5 19.06	+28 3.9	1.747	2.708	5.5	19.5	12 27	5 40.66	-70 3.4	0.406	1.039	70.8	21.0
1 6	5 10.48	+28 25.8	1.802	2.715	9.5	19.8	1 6	5 49.24	-66 3.6	0.362	1.049	69.6	20.7
1 16	5 4.28	+28 42.2	1.882	2.722	13.0	20.0	1 16	5 59.14	-59 52.9	0.313	1.063	67.0	20.4
418731	2008 UX ₁₁₄		12 15.2	21°72'	0°8/15.3	16	125070	2001 TR ₂₄₁		12 15.2	278°01'	0°1/15.2	18
11 7	5 57.27	+26 46.2	1.942	2.736	14.8	21.2	11 7	5 59.33	+23 52.8	1.986	2.776	14.6	20.5
11 17	5 53.28	+26 33.6	1.866	2.743	11.6	21.0	11 17	5 54.93	+23 49.9	1.898	2.774	11.5	20.3
11 27	5 46.76	+26 16.5	1.812	2.750	7.8	20.7	11 27	5 47.96	+23 45.3	1.833	2.771	7.8	20.1
12 7	5 38.45	+25 54.1	1.783	2.758	3.7	20.5	12 7	5 39.07	+23 38.1	1.793	2.768	3.6	19.8
12 17	5 29.33	+25 26.6	1.783	2.766	1.1	20.3	12 17	5 29.22	+23 27.9	1.782	2.766	0.8	19.6
12 27	5 20.59	+24 55.4	1.812	2.775	5.1	20.6	12 27	5 19.60	+23 15.4	1.800	2.763	5.2	19.9
1 6	5 13.31	+24 23.4	1.868	2.784	9.0	20.9	1 6	5 11.35	+23 2.3	1.847	2.760	9.2	20.2
1 16	5 8.24	+23 53.5	1.950	2.794	12.4	21.1	1 16	5 5.31	+22 50.7	1.918	2.758	12.8	20.4
240979	2006 JX ₄₅		12 15.2	154°36'	0°4/15.1	18	414663	2009 WW ₃₄		12 15.2	355°32'	0°6/15.2	17
11 7	6 2.11	+22 37.0	2.434	3.205	12.8	21.8	11 7	5 56.52	+24 23.5	1.867	2.666	15.1	21.0
11 17	5 56.41	+22 27.3	2.350	3.215	10.0	21.6	11 17	5 52.94	+24 32.5	1.783	2.663	11.9	20.8
11 27	5 48.57	+22 16.4	2.290	3.224	6.7	21.4	11 27	5 46.73	+24 40.2	1.720	2.660	8.0	20.6
12 7	5 39.21	+22 3.8	2.258	3.232	3.1	21.2	12 7	5 38.54	+24 45.3	1.683	2.658	3.8	20.3
12 17	5 29.16	+21 49.6	2.256	3.240	0.8	21.1	12 17	5 29.33	+24 46.8	1.674	2.657	1.0	20.1
12 27	5 19.40	+21 34.5	2.286	3.246	4.5	21.3	12 27	5 20.36	+24 44.9	1.693	2.656	5.3	20.4
1 6	5 10.84	+21 20.1	2.346	3.252	7.9	21.6	1 6	5 12.79	+24 40.7	1.739	2.656	9.5	20.6
1 16	5 4.17	+21 7.9	2.433	3.258	10.9	21.8	1 16	5 7.49	+24 36.4	1.810	2.657	13.1	20.9
43272	2000 ED ₃₄		12 15.2	145°29'	1°4/15.2	18	448048	2008 FK ₄₅		12 15.2	327°40'	2°1/15.3	17
11 7	6 3.94	+17 59.9	1.792	2.577	16.2	19.1	11 7	5 58.60	+27 26.5	1.658	2.460	16.6	21.6
11 17	5 58.66	+18 20.4	1.713	2.584	12.7	18.9	11 17	5 55.15	+27 48.6	1.568	2.449	13.2	21.4
11 27	5 50.54	+18 46.0	1.655	2.591	8.7	18.7	11 27	5 48.57	+28 7.8	1.499	2.438	9.1	21.1
12 7	5 40.27	+19 15.4	1.624	2.597	4.2	18.4	12 7	5 39.51	+28 21.3	1.454	2.427	4.7	20.8
12 17	5 28.91	+19 46.9	1.621	2.603	1.6	18.2	12 17	5 29.10	+28 26.5	1.436	2.417	2.3	20.7
12 27	5 17.84	+20 19.1	1.648	2.609	5.8	18.5	12 27	5 18.83	+28 22.7	1.445	2.408	6.2	20.9
1 6	5 8.30	+20 51.4	1.703	2.613	10.1	18.8	1 6	5 10.19	+28 12.0	1.481	2.399	10.7	21.1
1 16	5 1.25	+21 23.8	1.783	2.618	13.8	19.0	1 16	5 4.26	+27 57.8	1.540	2.390	14.8	21.4
322250	2011 CK ₈₈		12 15.2	298°79'	4°1/14.8	17	515557	2014 HT ₂₂		12 15.2	159°60'	5°4/15.0	18
11 7	5 55.90	+11 11.4	2.274	3.051	13.4	21.2	11 7	5 59.77	+6 54.6	2.232	2.992	14.1	21.5
11 17	5 51.77	+10 48.7	2.186	3.048	10.8	21.0	11 17	5 54.71	+6 34.2	2.150	2.997	11.5	21.4
11 27	5 45.58	+10 32.4	2.122	3.045	7.8	20.8	11 27	5 47.52	+6 23.5	2.092	3.002	8.7	21.2
12 7	5 37.90	+10 24.2	2.083	3.043	5.1	20.6	12 7	5 38.78	+6 24.6	2.059	3.007	6.2	21.0
12 17	5 29.46	+10 25.4	2.073	3.040	4.2	20.6	12 17	5 29.30	+6 38.9	2.056	3.011	5.4	21.0
12 27	5 21.19	+10 36.7	2.093	3.037	6.2	20.7	12 27	5 20.03	+7 6.4	2.081	3.015	7.1	21.1
1 6	5 13.95	+10 57.7	2.140	3.034	9.2	20.9	1 6	5 11.90	+7 45.7	2.135	3.018	9.8	21.3
1 16	5 8.45	+11 27.1	2.212	3.032	12.1	21.1	1 16	5 5.60	+8 34.5	2.214	3.020	12.5	21.5
168321	Josephschmidt		12 15.2	86°31'	0°3/15.1	18	59597	1999 JY ₆₀		12 15.2	160°34'	0°6/15.2	18
11 7	6 4.67	+23 27.8	1.802	2.587	16.1	20.7	11 7	6 5.63	+20 41.6	1.741	2.526	16.6	19.4
11 17	5 58.88	+23 15.3	1.741	2.614	12.5	20.5	11 17	6 0.13	+20 57.3	1.660	2.532	13.0	19.2
11 27	5 50.39	+23 0.8	1.703	2.640	8.4	20.3	11 27	5 51.61	+21 15.3	1.601	2.538	8.8	18.9
12 7	5 40.05	+22 43.8	1.691	2.666	3.8	20.1	12 7	5 40.80	+21 34.2	1.568	2.543	4.1	18.7
12 17	5 29.02	+22 24.3	1.708	2.691	0.9	20.0	12 17	5 28.84	+21 52.0	1.564	2.547	1.1	18.5
12 27	5 18.61	+22 4.0	1.755	2.716	5.4	20.3	12 27	5 17.19	+22 8.2	1.589	2.550	5.9	18.8
1 6	5 9.94	+21 45.0	1.829	2.741	9.4	20.6	1 6	5 7.19	+22 23.1	1.642	2.553	10.3	19.1
1 16	5 3.77	+21 29.5	1.929	2.765	12.9	20.9	1 16	4 59.83	+22 38.0	1.720	2.555	14.2	19.3
271570	2004 KY ₁₀		12 15.2	163°68'	4°0/14.9	18	270805	2002 RA ₂₅₄		12 15.2	67°18'	2°0/14.9	17
11 7	6 1.78	+13 25.2	1.818	2.601	16.1	21.1	11 7	5 56.51	+17 57.9	2.321	3.104	13.0	21.2
11 17	5 56.83	+13 2.6	1.737	2.605	12.8	20.9	11 17	5 52.20	+17 40.2	2.237	3.108	10.2	21.1
11 27	5 49.21	+12 46.2	1.679	2.608	9.1	20.7	11 27	5 45.84	+17 24.2	2.177	3.111	7.0	20.9
12 7	5 39.63	+12 37.5	1.646	2.611	5.4	20.5	12 7	5 38.01	+17 10.7	2.143	3.115	3.6	20.7
12 17	5 29.08	+12 37.8	1.641	2.614	4.1	20.4	12 17	5 29.49	+17 0.5	2.139	3.118	2.1	20.6
12 27	5 18.82	+12 47.7	1.665	2.616	6.9	20.6	12 27	5 21.19	+16 54.2	2.165	3.122	5.0	20.8
1 6	5 10.01	+13 6.9	1.716	2.617	10.7	20.8	1 6	5 13.99	+16 52.7	2.219	3.126	8.3	21.0
1 16	5 3.50	+13 34.5	1.792	2.619	14.1	21.1	1 16	5 8.55	+16 56.3	2.299	3.129	11.3	21.2
307936	2004 ED ₆₈		12 15.2	299°08'	8°0/14.3	18	77308	2001 FR ₇₉		12 15.2	194°75'	2°4/15.6	18
11 7	5 56.65	+4 9.4	1.836	2.610	16.3	20.3	11 7	6 5.56	+30 2.3	1.716	2.501	16.8	19.5
11 17	5 52.86	+3 12.3	1.751	2.600	13.6	20.1	11 17	6 0.37	+30 4.9	1.630	2.500	13.4	19.2
11 27	5 46.60	+2 26.6	1.687	2.591	10.9	19.9	11 27	5 51.91	+30 0.5	1.565	2.498	9.3	19.0
12 7	5 38.46	+1 57.2	1.646	2.581	8.6	19.7	12 7	5 40.98	+29 45.8	1.525	2.496	4.9	18.7
12 17	5 29.34	+1 47.9	1.632	2.572	8.1	19.7	12 17	5 28.82	+29 19.4	1.513	2.494	2.5	18.6
12 27	5 20.37	+2 0.6	1.644	2.563	9.8	19.8	12 27	5 17.03	+28 42.3	1.530	2.491	6.2	18.8
1 6	5 12.64	+2 34.1	1.681	2.554	12.5	19.9	1 6	5 7.09	+27 58.8	1.575	2.487	10.6	19.0
1 16	5 7.01	+3 25.4	1.741	2.546	15.4	20.1	1 16	5 0.04	+27 14.2	1.643	2.484	14.5	19.3
485612	2011 UH ₃₁₆		12 15.2	28°10'	0°8/15.1	18	102603	1999 VP ₅		12 15.2	4°52'	0°1/15.2	18
11 7	5 59.55	+22 36.3	1.778	2.574	15.8	21.2							

EPHEMERIDES

12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
84501	2002 <i>TH</i> ₂₈₅		12 15.2 309°16	2.7/15.5	18		324975	2008 <i>AA</i> ₄₆		12 15.2 115°11	1.3/15.4	18	
11 7	5 59.55	+29 47.9	1.700	2.496	16.4	19.3	11 7	6 6.67	+27 18.3	1.488	2.283	18.5	21.2
11 17	5 55.99	+30 0.5	1.599	2.476	13.2	19.1	11 17	6 1.39	+27 12.1	1.418	2.294	14.6	21.0
11 27	5 49.22	+30 7.4	1.520	2.456	9.3	18.8	11 27	5 52.62	+27 0.3	1.367	2.305	9.9	20.7
12 7	5 39.86	+30 5.4	1.465	2.436	5.0	18.5	12 7	5 41.30	+26 40.6	1.342	2.316	4.8	20.5
12 17	5 29.04	+29 52.0	1.437	2.417	2.8	18.3	12 17	5 28.84	+26 12.3	1.343	2.326	1.6	20.3
12 27	5 18.28	+29 27.2	1.436	2.397	6.4	18.5	12 27	5 17.00	+25 37.3	1.373	2.336	6.4	20.6
1 6	5 9.14	+28 54.3	1.462	2.379	11.0	18.7	1 6	5 7.31	+25 0.0	1.429	2.346	11.2	20.9
1 16	5 2.75	+28 17.9	1.511	2.360	15.1	18.9	1 16	5 0.75	+24 25.0	1.509	2.355	15.3	21.2
506779	2006 <i>YY</i> ₂		12 15.2 308°93	16.4/17.8	17 C		349484	2008 <i>EW</i> ₉		12 15.2 350°98	0.1/15.2	17	
11 7	6 11.19	- 9 57.1	1.184	1.918	25.5	20.7	11 7	5 57.22	+24 7.7	1.506	2.318	17.5	21.3
11 17	6 7.36	-10 11.8	1.059	1.867	23.4	20.4	11 17	5 54.13	+24 1.5	1.425	2.313	13.8	21.1
11 27	5 58.79	- 9 47.6	0.947	1.814	20.7	20.0	11 27	5 47.88	+23 53.0	1.365	2.308	9.3	20.8
12 7	5 45.32	- 8 25.1	0.852	1.761	17.9	19.6	12 7	5 39.21	+23 41.4	1.328	2.304	4.3	20.5
12 17	5 27.57	- 5 45.8	0.779	1.707	16.4	19.3	12 17	5 29.30	+23 26.4	1.317	2.301	1.0	20.3
12 27	5 7.44	- 1 40.8	0.731	1.653	17.9	19.1	12 27	5 19.69	+23 9.1	1.334	2.299	6.2	20.6
1 6	4 47.73	+ 3 38.6	0.709	1.599	22.7	19.2	1 6	5 11.81	+22 51.9	1.376	2.298	11.1	20.9
1 16	4 31.22	+ 9 43.1	0.712	1.545	28.8	19.3	1 16	5 6.71	+22 37.6	1.441	2.297	15.3	21.1
494648	2017 <i>DH</i> ₇₉		12 15.2 9°20	7.8/14.5	18		493075	2014 <i>SD</i> ₃₀₁		12 15.2 48°04	0.3/15.2	18	
11 7	5 56.04	+ 5 18.4	1.706	2.489	16.9	20.5	11 7	5 58.28	+24 32.6	2.044	2.834	14.3	21.0
11 17	5 52.46	+ 4 23.6	1.633	2.490	14.1	20.3	11 17	5 53.90	+24 29.9	1.971	2.846	11.1	20.8
11 27	5 46.33	+ 3 40.8	1.581	2.491	11.0	20.2	11 27	5 47.13	+24 25.1	1.920	2.859	7.5	20.6
12 7	5 38.34	+ 3 14.6	1.552	2.493	8.5	20.0	12 7	5 38.67	+24 17.4	1.896	2.871	3.5	20.4
12 17	5 29.44	+ 3 8.6	1.549	2.496	7.9	20.0	12 17	5 29.45	+24 6.4	1.900	2.884	0.8	20.2
12 27	5 20.82	+ 3 24.1	1.573	2.498	9.6	20.1	12 27	5 20.59	+23 53.0	1.934	2.897	4.8	20.6
1 6	5 13.59	+ 3 59.5	1.621	2.502	12.4	20.3	1 6	5 13.11	+23 38.9	1.996	2.910	8.6	20.8
1 16	5 8.56	+ 4 51.2	1.691	2.505	15.4	20.5	1 16	5 7.74	+23 26.0	2.083	2.924	11.9	21.0
141618	2002 <i>JH</i> ₂₅		12 15.2 136°96	1.5/15.2	18		58828	1998 <i>HM</i> ₁₅		12 15.2 99°17	1.1/15.2	18	
11 7	6 7.23	+25 17.7	1.728	2.511	16.7	20.1	11 7	6 0.85	+24 45.4	2.183	2.963	13.8	19.9
11 17	6 1.47	+25 50.0	1.653	2.523	13.2	19.9	11 17	5 55.88	+25 18.4	2.103	2.973	10.8	19.8
11 27	5 52.54	+26 21.3	1.600	2.535	9.0	19.6	11 27	5 48.50	+25 51.0	2.047	2.982	7.3	19.6
12 7	5 41.24	+26 48.3	1.572	2.546	4.3	19.4	12 7	5 39.33	+26 20.8	2.018	2.991	3.5	19.3
12 17	5 28.80	+27 7.9	1.573	2.556	1.7	19.2	12 17	5 29.29	+26 45.8	2.018	3.001	1.3	19.2
12 27	5 16.74	+27 19.2	1.604	2.565	5.9	19.5	12 27	5 19.49	+27 4.8	2.049	3.010	4.8	19.5
1 6	5 6.50	+27 23.5	1.663	2.574	10.3	19.8	1 6	5 10.98	+27 18.6	2.108	3.019	8.5	19.7
1 16	4 59.05	+27 23.9	1.746	2.582	14.0	20.1	1 16	5 4.55	+27 28.5	2.194	3.027	11.6	19.9
265509	2005 <i>JG</i> ₉₂		12 15.2 161°87	2.6/15.6	18		352954	2009 <i>BB</i> ₂₄		12 15.2 11°45	0.6/15.2	18	
11 7	6 6.95	+30 44.3	1.749	2.530	16.7	21.1	11 7	5 59.53	+23 23.9	1.477	2.286	17.9	20.8
11 17	6 1.32	+30 47.2	1.668	2.534	13.3	20.9	11 17	5 55.98	+23 45.9	1.402	2.288	14.1	20.5
11 27	5 52.46	+30 42.4	1.608	2.539	9.3	20.7	11 27	5 49.16	+24 8.7	1.347	2.290	9.5	20.3
12 7	5 41.20	+30 26.7	1.573	2.543	5.0	20.4	12 7	5 39.81	+24 29.9	1.317	2.293	4.5	20.0
12 17	5 28.82	+29 58.6	1.566	2.546	2.7	20.3	12 17	5 29.19	+24 47.3	1.312	2.296	1.2	19.8
12 27	5 16.90	+29 19.4	1.589	2.549	6.1	20.5	12 27	5 18.89	+24 59.9	1.335	2.300	6.3	20.1
1 6	5 6.89	+28 33.6	1.640	2.551	10.4	20.8	1 6	5 10.42	+25 8.8	1.384	2.304	11.1	20.4
1 16	4 59.75	+27 46.5	1.715	2.552	14.2	21.0	1 16	5 4.83	+25 16.0	1.456	2.310	15.3	20.7
521901	2015 <i>TC</i> ₃₈₅		12 15.2 304°67	4.2/14.4	18		148611	2001 <i>RQ</i> ₁₀₄		12 15.2 125°95	0.5/15.2	18	
11 7	5 58.30	+15 31.4	1.783	2.578	15.9	21.3	11 7	6 4.99	+21 33.5	1.898	2.679	15.5	20.9
11 17	5 54.25	+14 35.3	1.697	2.572	12.7	21.0	11 17	5 59.23	+21 38.9	1.826	2.695	12.2	20.7
11 27	5 47.58	+13 41.0	1.632	2.566	9.0	20.8	11 27	5 50.77	+21 44.8	1.775	2.711	8.2	20.5
12 7	5 38.94	+12 51.3	1.593	2.560	5.4	20.6	12 7	5 40.37	+21 50.1	1.751	2.726	3.8	20.2
12 17	5 29.32	+12 9.6	1.582	2.554	4.4	20.5	12 17	5 29.09	+21 53.8	1.757	2.740	1.0	20.1
12 27	5 19.95	+11 38.8	1.599	2.548	7.3	20.7	12 27	5 18.24	+21 56.2	1.793	2.754	5.3	20.4
1 6	5 11.98	+11 20.8	1.642	2.543	11.1	20.9	1 6	5 8.97	+21 58.3	1.857	2.767	9.4	20.7
1 16	5 6.28	+11 15.9	1.709	2.537	14.6	21.1	1 16	5 2.10	+22 1.6	1.946	2.779	12.9	20.9
518311	2017 <i>BG</i> ₅₄		12 15.2 85°30	2.6/15.2	18		445227	2009 <i>HM</i> ₆		12 15.2 71°00	3.2/15.0	18	
11 7	5 59.58	+15 11.3	1.931	2.717	15.1	20.9	11 7	5 59.01	+14 42.5	1.868	2.657	15.5	20.9
11 17	5 55.03	+15 17.1	1.851	2.722	12.0	20.7	11 17	5 54.65	+14 31.9	1.790	2.662	12.3	20.7
11 27	5 47.99	+15 29.0	1.793	2.727	8.3	20.5	11 27	5 47.77	+14 26.9	1.733	2.666	8.6	20.5
12 7	5 39.10	+15 47.1	1.761	2.732	4.4	20.3	12 7	5 39.03	+14 28.5	1.702	2.671	4.8	20.3
12 17	5 29.30	+16 11.0	1.758	2.737	2.7	20.2	12 17	5 29.39	+14 37.4	1.699	2.676	3.3	20.2
12 27	5 19.73	+16 40.0	1.784	2.742	5.8	20.4	12 27	5 20.02	+14 53.4	1.725	2.681	6.2	20.4
1 6	5 11.50	+17 13.2	1.839	2.747	9.6	20.6	1 6	5 12.02	+15 16.3	1.779	2.686	10.0	20.6
1 16	5 5.42	+17 49.8	1.918	2.752	13.0	20.9	1 16	5 6.21	+15 45.2	1.857	2.690	13.4	20.9
435488	2008 <i>GH</i> ₁₁		12 15.2 184°13	3.0/15.3	18		401557	2013 <i>FS</i> ₂		12 15.2 306°60	0.6/15.2	18	
11 7	6 5.81	+28 53.3	1.745	2.529	16.6	21.3	11 7	5 59.15	+20 40.4	1.762	2.560	15.9	20.7
11 17	6 0.64	+29 32.7	1.660	2.530	13.2	21.1	11 17	5 55.25	+20 53.2	1.671	2.550	12.6	20.5
11 27	5 52.19	+30 9.1	1.597	2.530	9.2	20.8	11 27	5 48.49	+21 8.7	1.600	2.540	8.6	20.2
12 7	5 41.18	+30 37.9	1.560	2.529	5.0	20.6	12 7	5 39.50	+21 25.7	1.555	2.531	4.0	19.9
12 17	5 28.82	+30 55.3	1.550	2.528	3.1	20.5	12 17	5 29.27	+21 42.9	1.538	2.521	1.1	19.7
12 27	5 16.70	+31 0.1	1.569	2.527	6.4	20.7	12 27	5 19.15	+21 59.8	1.549	2.512	5.8	20.0
1 6	5 6.33	+30 54.2	1.616	2.525	10.6	20.9	1 6	5 10.45	+22 16.4	1.587	2.503	10.3	20.3
1 16	4 58.82	+30 41.6	1.687	2.523	14.4	21.2	1 16	5 4.18	+22 33.7	1.649	2.494	14.3	20.5
490897	2011 <i>BH</i> ₈₆		12 15.2 357°45	3.5/15.1	17		2003	Harding		12 15.2 318°00	0.3/15.2	18	
11													

EPHEMERIDES

12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
431325	2006 <i>WQ</i> ₁₄₁	12 15.2 176°15		0°3/15.2 18			142642	2002 <i>TX</i> ₁₈₇	12 15.2 48°25		0°7/15.1 18		
11 7	6 4.29	+20 48.1	1.657	2.449	17.0	21.6	11 7	6 0.13	+23 9.2	1.722	2.520	16.2	19.9
11 17	5 59.36	+21 11.9	1.575	2.451	13.4	21.4	11 17	5 55.79	+22 47.2	1.647	2.527	12.7	19.6
11 27	5 51.30	+21 39.1	1.513	2.452	9.1	21.2	11 27	5 48.65	+22 22.9	1.593	2.533	8.6	19.4
12 7	5 40.79	+22 7.5	1.477	2.452	4.2	20.9	12 7	5 39.46	+21 56.3	1.565	2.540	4.0	19.2
12 17	5 29.00	+22 34.9	1.469	2.452	1.0	20.6	12 17	5 29.35	+21 28.2	1.564	2.547	1.1	19.0
12 27	5 17.45	+22 59.8	1.490	2.452	6.0	21.0	12 27	5 19.65	+21 0.5	1.592	2.555	5.7	19.3
1 6	5 7.56	+23 22.2	1.538	2.452	10.7	21.3	1 6	5 11.58	+20 35.6	1.647	2.562	10.0	19.6
1 16	5 0.40	+23 43.4	1.610	2.451	14.8	21.5	1 16	5 5.99	+20 16.0	1.726	2.570	13.8	19.8
401196	2011 <i>WO</i> ₁₃₉	12 15.2 336°62		0°7/15.4 17			328449	2008 <i>TB</i> ₁₀₃	12 15.2 73°30		5°0/14.1 18		
11 7	5 59.27	+27 3.2	1.721	2.519	16.2	20.6	11 7	5 57.39	+10 31.3	2.270	3.043	13.6	20.2
11 17	5 55.37	+26 42.3	1.634	2.513	12.8	20.3	11 17	5 52.70	+9 27.1	2.204	3.061	10.9	20.0
11 27	5 48.52	+26 15.3	1.568	2.508	8.7	20.1	11 27	5 46.08	+8 28.4	2.162	3.080	8.1	19.9
12 7	5 39.46	+25 41.3	1.528	2.502	4.1	19.8	12 7	5 38.14	+7 38.5	2.147	3.098	5.7	19.8
12 17	5 29.32	+25 0.7	1.514	2.498	1.1	19.6	12 17	5 29.66	+7 0.1	2.160	3.116	5.1	19.8
12 27	5 19.49	+24 15.8	1.529	2.493	5.7	19.9	12 27	5 21.55	+6 35.1	2.203	3.134	6.9	19.9
1 6	5 11.30	+23 30.4	1.572	2.489	10.2	20.1	1 6	5 14.59	+6 24.0	2.273	3.152	9.4	20.1
1 16	5 5.67	+22 48.7	1.638	2.486	14.2	20.4	1 16	5 9.36	+6 25.8	2.368	3.170	11.9	20.3
471016	2009 <i>SV</i> ₂₈₂	12 15.2 54°87		0°6/15.2 16			132287	2002 <i>FA</i> ₁₆	12 15.2 135°38		0°6/15.2 18		
11 7	6 3.15	+21 10.7	1.301	2.113	19.7	21.2	11 7	6 4.03	+23 42.4	2.117	2.893	14.3	20.4
11 17	5 58.88	+21 20.9	1.242	2.129	15.4	21.0	11 17	5 58.37	+24 7.1	2.038	2.905	11.2	20.3
11 27	5 51.06	+21 33.3	1.203	2.146	10.4	20.7	11 27	5 50.18	+24 31.7	1.983	2.918	7.6	20.1
12 7	5 40.64	+21 46.3	1.187	2.163	4.8	20.5	12 7	5 40.14	+24 54.0	1.955	2.929	3.5	19.8
12 17	5 29.08	+21 58.2	1.197	2.180	1.2	20.3	12 17	5 29.21	+25 12.1	1.957	2.940	1.0	19.7
12 27	5 18.16	+22 8.8	1.234	2.198	6.7	20.7	12 27	5 18.58	+25 25.4	1.989	2.950	4.9	20.0
1 6	5 9.42	+22 19.0	1.295	2.216	11.7	21.0	1 6	5 9.34	+25 34.6	2.051	2.960	8.7	20.2
1 16	5 3.86	+22 30.4	1.380	2.234	16.0	21.3	1 16	5 2.32	+25 41.5	2.138	2.969	12.0	20.4
232085	2001 <i>WC</i> ₄₉	12 15.2 345°46		0°9/15.3 18			336573	2009 <i>SS</i> ₁₂₅	12 15.2 158°88		0°6/15.3 18		
11 7	5 57.80	+25 0.0	1.274	2.097	19.4	20.5	11 7	6 4.04	+25 25.7	1.630	2.424	17.2	21.7
11 17	5 55.27	+25 7.2	1.196	2.089	15.4	20.2	11 17	5 59.18	+25 19.1	1.550	2.426	13.5	21.5
11 27	5 49.05	+25 12.3	1.136	2.082	10.5	19.9	11 27	5 51.13	+25 9.0	1.490	2.429	9.2	21.2
12 7	5 39.91	+25 13.2	1.099	2.076	5.0	19.6	12 7	5 40.69	+24 53.8	1.456	2.431	4.3	20.9
12 17	5 29.20	+25 8.2	1.087	2.070	1.4	19.3	12 17	5 29.09	+24 32.8	1.450	2.433	1.0	20.7
12 27	5 18.78	+24 57.9	1.100	2.066	7.0	19.7	12 27	5 17.88	+24 7.5	1.472	2.435	6.0	21.0
1 6	5 10.40	+24 44.8	1.138	2.063	12.5	20.0	1 6	5 8.49	+23 41.0	1.521	2.436	10.7	21.3
1 16	5 5.30	+24 32.4	1.196	2.061	17.2	20.3	1 16	5 1.92	+23 16.7	1.594	2.437	14.7	21.6
391200	2006 <i>GH</i> ₁₂	12 15.2 138°47		2°4/15.4 18			133345	2003 <i>SR</i> ₁₀₈	12 15.2 69°43		1°0/15.4 18		
11 7	6 3.91	+28 22.5	1.923	2.704	15.4	21.3	11 7	6 0.17	+26 51.2	2.169	2.950	13.8	19.6
11 17	5 58.73	+28 55.6	1.843	2.711	12.2	21.1	11 17	5 55.20	+26 51.7	2.101	2.970	10.8	19.5
11 27	5 50.66	+29 25.4	1.785	2.717	8.4	20.9	11 27	5 47.91	+26 48.6	2.056	2.991	7.3	19.3
12 7	5 40.43	+29 48.6	1.753	2.723	4.5	20.7	12 7	5 39.02	+26 40.5	2.037	3.011	3.5	19.1
12 17	5 29.11	+30 2.3	1.749	2.728	2.5	20.6	12 17	5 29.48	+26 27.0	2.048	3.031	1.2	18.9
12 27	5 18.08	+30 5.8	1.775	2.734	5.7	20.8	12 27	5 20.35	+26 9.0	2.089	3.051	4.7	19.2
1 6	5 8.63	+30 0.8	1.829	2.739	9.6	21.0	1 6	5 12.62	+25 48.5	2.159	3.071	8.2	19.5
1 16	5 1.71	+29 50.6	1.908	2.743	13.0	21.3	1 16	5 6.96	+25 28.1	2.254	3.091	11.3	19.7
77720	2001 <i>OS</i> ₅₁	12 15.2 5°58		3°9/15.6 17			221286	2005 <i>UJ</i> ₃₇₄	12 15.2 101°30		0°1/15.2 18		
11 7	5 57.96	+9 37.3	2.043	2.819	14.7	18.4	11 7	5 59.55	+23 44.7	2.139	2.924	13.9	21.3
11 17	5 53.68	+10 0.7	1.958	2.819	11.9	18.2	11 17	5 54.85	+23 42.4	2.059	2.931	10.9	21.1
11 27	5 47.08	+10 35.3	1.896	2.820	8.6	18.0	11 27	5 47.79	+23 38.6	2.001	2.938	7.3	20.9
12 7	5 38.74	+11 21.7	1.859	2.822	5.3	17.8	12 7	5 39.03	+23 32.5	1.970	2.945	3.4	20.6
12 17	5 29.48	+12 18.9	1.852	2.823	3.9	17.8	12 17	5 29.47	+23 23.8	1.968	2.952	0.7	20.4
12 27	5 20.37	+13 24.8	1.874	2.826	6.2	17.9	12 27	5 20.21	+23 13.1	1.996	2.958	4.8	20.8
1 6	5 12.43	+14 36.6	1.924	2.828	9.5	18.1	1 6	5 12.26	+23 1.9	2.053	2.965	8.5	21.0
1 16	5 6.44	+15 51.4	2.001	2.831	12.7	18.3	1 16	5 6.36	+22 52.0	2.135	2.972	11.8	21.2
414648	2009 <i>VA</i> ₆₉	12 15.2 22°83		0°1/15.2 17			300546	2007 <i>TB</i> ₂₆₃	12 15.2 295°35		4°4/15.3 18		
11 7	5 57.95	+24 51.8	1.963	2.756	14.7	21.1	11 7	6 2.80	+31 43.1	1.773	2.559	16.3	20.4
11 17	5 53.78	+24 26.6	1.883	2.760	11.5	20.9	11 17	5 58.53	+32 38.4	1.683	2.551	13.1	20.1
11 27	5 47.14	+23 57.6	1.826	2.765	7.7	20.7	11 27	5 50.96	+33 29.8	1.615	2.543	9.5	19.9
12 7	5 38.72	+23 24.8	1.795	2.771	3.6	20.4	12 7	5 40.76	+34 12.1	1.571	2.535	5.9	19.7
12 17	5 29.50	+22 49.0	1.793	2.776	0.8	20.2	12 17	5 29.06	+34 40.2	1.555	2.527	4.5	19.6
12 27	5 20.64	+22 12.4	1.819	2.782	5.1	20.5	12 27	5 17.45	+34 51.8	1.567	2.519	7.1	19.7
1 6	5 13.20	+21 37.6	1.874	2.789	9.0	20.8	1 6	5 7.50	+34 48.7	1.605	2.511	10.9	19.9
1 16	5 7.94	+21 7.2	1.954	2.795	12.5	21.0	1 16	5 0.37	+34 35.0	1.667	2.504	14.6	20.1
515657	2014 <i>OB</i> ₁₀₅	12 15.2 151°25		5°3/15.0 18			482517	2012 <i>TC</i> ₁₆₂	12 15.2 116°11		1°1/15.3 18		
11 7	5 59.77	+6 53.0	2.281	3.040	13.9	21.9	11 7	6 5.20	+25 43.8	1.821	2.605	16.0	21.9
11 17	5 54.68	+6 32.4	2.202	3.048	11.3	21.7	11 17	5 59.63	+25 56.9	1.749	2.620	12.6	21.8
11 27	5 47.51	+6 21.4	2.145	3.055	8.6	21.6	11 27	5 51.18	+26 7.6	1.699	2.635	8.5	21.5
12 7	5 38.85	+6 21.9	2.115	3.062	6.1	21.4	12 7	5 40.63	+26 13.5	1.676	2.650	4.1	21.3
12 17	5 29.48	+6 35.3	2.113	3.068	5.4	21.4	12 17	5 29.14	+26 12.9	1.681	2.664	1.3	21.1
12 27	5 20.34	+7 1.5	2.141	3.073	7.0	21.5	12 27	5 18.11	+26 6.3	1.715	2.677	5.5	21.5
1 6	5 12.31	+7 39.4	2.197	3.079	9.6	21.7	1 6	5 8.79	+25 55.6	1.778	2.690	9.6	21.7
1 16	5 6.06	+8 26.6	2.278	3.083	12.2	21.9	1 16	5 2.05	+25 43.8	1.866	2.703	13.2	22.0
118601	2000 <i>GJ</i> ₁₀₇	12 15.2 176°94		0°6/15.3 18			405753	2005 <i>YF</i> ₁₂₇	12 15.2 339°16		0°6/15.2 17		
11 7	6 4.19	+24 11.6	1.991	2.771									

EPHEMERIDES

12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
288235	2003 YJ ₇₉		12 15.2 348°05	3°2/15.9 18			416417	2003 UB ₁₉₁		12 15.2 54°01	2°0/15.4 18		
11 7	6 1.61	+32 29.7	1.641	2.434	17.1	20.0	11 7	6 0.25	+27 40.3	2.038	2.823	14.5	20.7
11 17	5 57.51	+32 25.9	1.558	2.431	13.7	19.8	11 17	5 55.58	+28 10.4	1.969	2.839	11.4	20.5
11 27	5 50.12	+32 12.1	1.495	2.428	9.7	19.5	11 27	5 48.38	+28 37.5	1.922	2.856	7.8	20.4
12 7	5 40.27	+31 45.3	1.457	2.426	5.5	19.3	12 7	5 39.35	+28 59.0	1.901	2.873	4.0	20.2
12 17	5 29.23	+31 4.2	1.445	2.424	3.3	19.1	12 17	5 29.49	+29 12.6	1.909	2.890	2.1	20.1
12 27	5 18.61	+30 10.8	1.462	2.422	6.4	19.3	12 27	5 19.99	+29 18.1	1.947	2.907	5.2	20.3
1 6	5 9.90	+29 10.4	1.504	2.421	10.7	19.6	1 6	5 11.93	+29 16.9	2.013	2.924	8.7	20.5
1 16	5 4.07	+28 9.2	1.571	2.420	14.6	19.8	1 16	5 6.11	+29 11.5	2.103	2.941	11.9	20.8
445324	2010 GC ₃₀		12 15.2 154°25	1°2/15.4 18			142975	2002 VM ₈₄		12 15.2 7°64	3°9/14.3 18		
11 7	6 3.24	+26 31.8	2.279	3.052	13.5	22.5	11 7	5 53.07	+20 47.1	1.122	1.962	20.4	17.5
11 17	5 57.64	+26 44.0	2.195	3.060	10.6	22.3	11 17	5 51.45	+19 23.3	1.062	1.964	16.1	17.3
11 27	5 49.64	+26 53.3	2.135	3.067	7.2	22.1	11 27	5 46.28	+17 55.3	1.020	1.969	11.0	17.0
12 7	5 39.90	+26 58.0	2.102	3.074	3.5	21.9	12 7	5 38.54	+16 28.5	1.001	1.975	5.9	16.7
12 17	5 29.32	+26 56.7	2.099	3.081	1.3	21.7	12 17	5 29.68	+15 9.1	1.005	1.984	4.2	16.7
12 27	5 19.02	+26 49.6	2.126	3.087	4.7	22.0	12 27	5 21.45	+14 3.9	1.034	1.994	8.5	17.0
1 6	5 10.04	+26 38.3	2.183	3.092	8.3	22.2	1 6	5 15.33	+13 17.1	1.086	2.007	13.4	17.3
1 16	5 3.15	+26 25.2	2.267	3.096	11.4	22.4	1 16	5 12.25	+12 49.8	1.158	2.021	17.7	17.6
401380	2013 CH ₁₈		12 15.2 277°84	4°2/14.9 17			473346	2015 TL ₁₉₃		12 15.2 155°40	5°8/15.9 18		
11 7	5 58.56	+12 18.2	1.900	2.685	15.4	21.1	11 7	6 7.76	+39 37.4	2.302	3.046	14.2	21.4
11 17	5 54.48	+11 59.9	1.804	2.671	12.4	20.9	11 17	6 1.65	+40 25.7	2.220	3.054	11.7	21.3
11 27	5 47.83	+11 48.4	1.730	2.658	9.0	20.6	11 27	5 52.62	+41 4.2	2.161	3.061	9.0	21.1
12 7	5 39.20	+11 45.8	1.680	2.644	5.6	20.4	12 7	5 41.38	+41 27.6	2.128	3.067	6.7	21.0
12 17	5 29.46	+11 53.3	1.659	2.630	4.3	20.3	12 17	5 29.06	+41 32.1	2.123	3.073	5.8	20.9
12 27	5 19.78	+12 11.6	1.666	2.616	7.0	20.4	12 27	5 17.06	+41 17.0	2.147	3.078	7.1	21.0
1 6	5 11.33	+12 40.0	1.700	2.603	10.7	20.6	1 6	5 6.69	+40 45.4	2.200	3.083	9.5	21.2
1 16	5 5.01	+13 17.2	1.759	2.589	14.2	20.8	1 16	4 58.88	+40 2.6	2.277	3.087	12.1	21.4
434576	2005 UX ₄₉		12 15.2 87°71	4°3/15.6 18			248306	2005 MP ₄₂		12 15.2 49°43	6°5/15.1 18		
11 7	6 6.34	+31 57.5	1.573	2.361	17.9	21.1	11 7	5 58.02	+ 6 52.9	1.750	2.531	16.7	20.3
11 17	6 1.30	+32 39.7	1.505	2.374	14.3	20.9	11 17	5 53.87	+ 6 19.7	1.686	2.545	13.6	20.1
11 27	5 52.73	+33 15.2	1.457	2.386	10.2	20.7	11 27	5 47.24	+ 5 58.4	1.643	2.558	10.3	20.0
12 7	5 41.48	+33 38.5	1.433	2.398	6.1	20.5	12 7	5 38.83	+ 5 52.1	1.623	2.572	7.4	19.8
12 17	5 28.98	+33 45.6	1.436	2.410	4.3	20.4	12 17	5 29.64	+ 6 2.7	1.630	2.586	6.6	19.8
12 27	5 17.01	+33 36.0	1.467	2.422	7.1	20.6	12 27	5 20.83	+ 6 30.3	1.665	2.600	8.4	20.0
1 6	5 7.15	+33 13.5	1.525	2.434	11.1	20.8	1 6	5 13.45	+ 7 12.7	1.726	2.615	11.3	20.2
1 16	5 0.46	+32 43.7	1.605	2.446	14.8	21.1	1 16	5 8.25	+ 8 6.7	1.810	2.630	14.3	20.4
481285	2005 YM ₇₉		12 15.2 32°94	1°8/15.2 18			324761	2007 GC ₁₈		12 15.2 126°44	1°4/15.4 17		
11 7	6 0.86	+17 28.8	1.406	2.214	18.7	20.4	11 7	5 59.87	+27 55.2	2.554	3.325	12.3	21.7
11 17	5 57.01	+17 45.6	1.336	2.220	14.8	20.2	11 17	5 54.77	+28 2.3	2.472	3.336	9.6	21.5
11 27	5 49.86	+18 9.1	1.286	2.227	10.1	19.9	11 27	5 47.60	+28 5.6	2.414	3.346	6.6	21.3
12 7	5 40.19	+18 38.5	1.259	2.234	4.9	19.7	12 7	5 38.95	+28 3.9	2.384	3.355	3.3	21.1
12 17	5 29.26	+19 12.1	1.259	2.241	2.1	19.5	12 17	5 29.62	+27 56.1	2.383	3.365	1.5	21.0
12 27	5 18.71	+19 48.1	1.286	2.249	6.7	19.8	12 27	5 20.56	+27 42.8	2.414	3.374	4.3	21.2
1 6	5 10.03	+20 25.3	1.339	2.257	11.6	20.1	1 6	5 12.66	+27 25.6	2.474	3.382	7.4	21.5
1 16	5 4.25	+21 3.4	1.414	2.266	15.8	20.4	1 16	5 6.57	+27 6.8	2.560	3.391	10.3	21.7
391233	2006 KR ₄₄		12 15.2 142°10	0°3/15.2 18			511701	2015 CS ₂₁		12 15.2 142°22	3°9/15.7 18		
11 7	6 3.77	+19 38.5	1.954	2.735	15.2	20.9	11 7	6 8.82	+32 13.9	1.626	2.407	17.8	21.8
11 17	5 58.46	+20 18.4	1.872	2.741	11.9	20.7	11 17	6 3.18	+32 41.8	1.551	2.415	14.2	21.6
11 27	5 50.44	+21 2.7	1.811	2.747	8.1	20.5	11 27	5 53.99	+33 2.1	1.496	2.424	10.1	21.3
12 7	5 40.37	+21 49.3	1.778	2.752	3.7	20.2	12 7	5 42.10	+33 9.8	1.466	2.432	5.9	21.1
12 17	5 29.23	+22 35.4	1.774	2.758	0.9	20.0	12 17	5 28.93	+33 1.4	1.464	2.439	4.0	21.0
12 27	5 18.27	+23 18.9	1.801	2.763	5.3	20.3	12 27	5 16.28	+32 37.1	1.490	2.445	6.9	21.2
1 6	5 8.71	+23 58.8	1.856	2.767	9.4	20.6	1 6	5 5.74	+32 1.3	1.543	2.452	11.1	21.5
1 16	5 1.47	+24 35.5	1.938	2.771	12.9	20.8	1 16	4 58.39	+31 20.1	1.620	2.457	14.9	21.7
162364	2000 AB ₇₀		12 15.2 17°86	3°3/15.4 18			447537	2006 SC ₂₄₀		12 15.2 44°11	3°8/14.9 18		
11 7	5 57.73	+14 25.2	1.292	2.109	19.5	19.2	11 7	5 58.46	+14 39.7	1.762	2.556	16.1	21.2
11 17	5 54.72	+14 37.8	1.228	2.116	15.5	18.9	11 17	5 54.36	+14 10.1	1.688	2.562	12.8	21.0
11 27	5 48.37	+15 0.9	1.183	2.123	10.8	18.7	11 27	5 47.66	+13 45.5	1.635	2.568	9.0	20.8
12 7	5 39.51	+15 34.6	1.160	2.132	5.8	18.4	12 7	5 39.07	+13 27.8	1.607	2.574	5.3	20.6
12 17	5 29.43	+16 17.6	1.163	2.142	3.4	18.3	12 17	5 29.59	+13 18.4	1.606	2.580	3.9	20.5
12 27	5 19.75	+17 7.5	1.191	2.153	7.3	18.6	12 27	5 20.44	+13 18.6	1.634	2.587	6.7	20.7
1 6	5 11.99	+18 1.9	1.245	2.166	12.1	18.9	1 6	5 12.74	+13 28.4	1.688	2.593	10.5	21.0
1 16	5 7.16	+18 58.3	1.321	2.179	16.3	19.2	1 16	5 7.30	+13 47.1	1.766	2.600	14.0	21.2
188755	2005 UN ₂₅₇		12 15.2 343°43	1°2/15.1 18			366257	2013 AB		12 15.2 0°21	10°2/16.7 18		
11 7	5 58.31	+20 23.5	2.005	2.795	14.5	20.5	11 7	6 5.52	+44 35.3	1.466	2.236	19.8	20.1
11 17	5 54.09	+20 14.7	1.919	2.794	11.4	20.2	11 17	6 1.97	+45 44.1	1.394	2.235	16.9	19.9
11 27	5 47.42	+20 6.6	1.855	2.793	7.7	20.0	11 27	5 53.94	+46 36.3	1.340	2.234	13.9	19.7
12 7	5 38.94	+19 59.3	1.818	2.792	3.7	19.8	12 7	5 42.32	+47 2.2	1.307	2.233	11.2	19.5
12 17	5 29.55	+19 52.9	1.809	2.792	1.5	19.6	12 17	5 28.87	+46 54.3	1.297	2.234	10.2	19.5
12 27	5 20.39	+19 48.1	1.830	2.791	5.3	19.9	12 27	5 15.98	+46 11.5	1.312	2.235	11.4	19.5
1 6	5 12.52	+19 45.9	1.878	2.790	9.2	20.1	1 6	5 5.81	+45 0.6	1.350	2.237	14.0	19.7
1 16	5 6.75	+19 47.3	1.951	2.790	12.7	20.3	1 16	4 59.69	+43 32.5	1.410	2.239	17.1	19.9
167974	2005 FN ₁₀		12 15.2 354°94	3°5/14.9 16			401523	2013 EU ₈₆		12 15.2 303°43			

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12 15.2

12 15.2

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
427003	2014 <i>QF</i> ₄₀₉		12 15.2	78°59'	4.7/14.6	18	367271	2007 <i>TH</i> ₁₇₂		12 15.2	49°40'	0.4/15.2	18
11 7	5 58.01	+10 12.3	2.327	3.096	13.4	21.3	11 7	6 3.86	+21 46.8	1.106	1.930	21.7	21.0
11 17	5 53.13	+9 26.6	2.266	3.121	10.7	21.1	11 17	6 0.03	+21 55.9	1.052	1.945	17.0	20.8
11 27	5 46.36	+8 47.4	2.228	3.145	7.9	21.0	11 27	5 52.17	+22 6.8	1.016	1.962	11.5	20.5
12 7	5 38.32	+8 17.0	2.216	3.169	5.4	20.9	12 7	5 41.33	+22 17.6	1.002	1.979	5.3	20.2
12 17	5 29.79	+7 57.3	2.234	3.193	4.7	20.9	12 17	5 29.20	+22 26.5	1.012	1.996	1.2	20.0
12 27	5 21.62	+7 49.5	2.281	3.217	6.4	21.0	12 27	5 17.83	+22 33.4	1.048	2.014	7.3	20.5
1 6	5 14.60	+7 53.3	2.357	3.240	9.0	21.2	1 6	5 9.01	+22 39.7	1.108	2.032	12.8	20.8
1 16	5 9.29	+8 7.6	2.457	3.263	11.4	21.4	1 16	5 3.79	+22 47.6	1.188	2.050	17.5	21.2
67096	2000 <i>AL</i> ₇₀		12 15.2	20°30'	3°2/15.1	18	113837	2002 <i>TT</i> ₂₃₂		12 15.2	196°24'	0°5/15.4	18
11 7	5 57.54	+16 50.0	1.349	2.166	18.9	18.5	11 7	6 2.63	+26 42.3	2.271	3.045	13.5	20.0
11 17	5 54.42	+16 31.8	1.284	2.172	14.9	18.3	11 17	5 57.22	+26 20.6	2.177	3.042	10.7	19.8
11 27	5 48.09	+16 18.7	1.239	2.180	10.3	18.0	11 27	5 49.42	+25 53.9	2.106	3.040	7.2	19.6
12 7	5 39.37	+16 12.1	1.216	2.189	5.5	17.8	12 7	5 39.88	+25 21.5	2.063	3.037	3.4	19.3
12 17	5 29.54	+16 12.9	1.219	2.198	3.3	17.7	12 17	5 29.51	+24 43.6	2.049	3.033	0.8	19.1
12 27	5 20.17	+16 21.6	1.248	2.209	7.2	17.9	12 27	5 19.41	+24 2.1	2.067	3.029	4.7	19.4
1 6	5 12.67	+16 38.2	1.302	2.220	11.9	18.2	1 6	5 10.62	+23 19.8	2.114	3.024	8.5	19.6
1 16	5 7.99	+17 1.9	1.378	2.232	16.0	18.5	1 16	5 3.90	+22 39.9	2.188	3.019	11.8	19.8
321588	2009 <i>UD</i> ₆₆		12 15.2	96°45'	0°6/15.2	18	385737	2005 <i>VQ</i> ₇₉		12 15.2	285°66'	0°4/15.3	18
11 7	5 58.99	+21 17.3	2.256	3.039	13.3	21.2	11 7	6 1.52	+24 46.3	1.571	2.373	17.4	21.7
11 17	5 54.26	+21 19.3	2.178	3.049	10.4	21.0	11 17	5 57.65	+24 41.2	1.477	2.358	13.8	21.4
11 27	5 47.35	+21 21.9	2.123	3.059	7.0	20.8	11 27	5 50.47	+24 33.2	1.403	2.344	9.4	21.1
12 7	5 38.87	+21 24.4	2.095	3.070	3.3	20.6	12 7	5 40.64	+24 20.9	1.354	2.329	4.5	20.8
12 17	5 29.67	+21 26.4	2.097	3.080	0.9	20.4	12 17	5 29.33	+24 3.4	1.331	2.315	1.0	20.5
12 27	5 20.74	+21 28.3	2.128	3.090	4.6	20.7	12 27	5 18.14	+23 41.7	1.336	2.300	6.3	20.8
1 6	5 13.01	+21 30.6	2.189	3.100	8.2	20.9	1 6	5 8.65	+23 18.6	1.368	2.286	11.4	21.1
1 16	5 7.18	+21 34.4	2.276	3.110	11.2	21.1	1 16	5 2.02	+22 57.8	1.422	2.272	15.9	21.3
40518	1999 <i>RZ</i> ₉₃		12 15.2	300°25'	9°2/14.6	18	139595	2001 <i>QN</i> ₁₁₆		12 15.2	50°07'	3°1/15.8	18
11 7	5 58.28	+1 5.2	1.772	2.536	17.1	19.3	11 7	6 3.00	+31 47.6	1.659	2.449	17.1	19.3
11 17	5 54.20	+0 6.4	1.697	2.535	14.6	19.1	11 17	5 58.28	+31 54.1	1.595	2.467	13.5	19.2
11 27	5 47.58	-0 37.8	1.642	2.533	11.9	18.9	11 27	5 50.44	+31 52.1	1.553	2.485	9.5	19.0
12 7	5 39.07	-1 1.8	1.610	2.532	9.8	18.8	12 7	5 40.39	+31 38.6	1.535	2.504	5.3	18.8
12 17	5 29.62	-1 1.8	1.603	2.531	9.3	18.8	12 17	5 29.43	+31 12.4	1.545	2.523	3.2	18.7
12 27	5 20.41	-0 36.5	1.622	2.530	10.7	18.8	12 27	5 19.12	+30 35.2	1.582	2.542	6.1	18.9
1 6	5 12.53	+0 11.8	1.666	2.529	13.1	19.0	1 6	5 10.76	+29 51.5	1.647	2.561	10.1	19.2
1 16	5 6.84	+1 18.8	1.732	2.528	15.9	19.2	1 16	5 5.20	+29 6.3	1.735	2.581	13.6	19.4
231177	2005 <i>UK</i> ₁₉₄		12 15.2	307°31'	0°5/15.3	18 R	217842	2001 <i>OW</i> ₃₁		12 15.2	60°78'	1°4/14.8	17
11 7	6 0.33	+23 39.9	1.452	2.262	18.2	20.9	11 7	6 11.44	+29 31.2	0.989	1.809	24.0	19.3
11 17	5 56.98	+23 51.8	1.362	2.248	14.4	20.6	11 17	6 6.25	+27 36.3	0.929	1.820	19.0	19.0
11 27	5 50.16	+24 3.8	1.292	2.234	9.9	20.3	11 27	5 56.35	+25 21.5	0.887	1.832	12.8	18.7
12 7	5 40.52	+24 13.9	1.245	2.221	4.7	20.0	12 7	5 43.17	+22 50.2	0.868	1.845	5.9	18.4
12 17	5 29.28	+24 20.2	1.224	2.208	1.1	19.7	12 17	5 28.88	+20 12.4	0.874	1.857	2.1	18.2
12 27	5 18.12	+24 22.1	1.231	2.195	6.6	20.1	12 27	5 15.94	+17 43.1	0.907	1.870	8.7	18.6
1 6	5 8.74	+24 21.2	1.262	2.183	11.9	20.3	1 6	5 6.23	+15 35.5	0.964	1.883	14.9	19.0
1 16	5 2.38	+24 20.2	1.316	2.171	16.5	20.6	1 16	5 0.68	+13 56.8	1.041	1.896	19.9	19.4
420245	2011 <i>HQ</i> ₇₈		12 15.2	331°44'	13°0/10.5	16	4310	Strömholm		12 15.2	277°11'	3°0/14.9	18
11 7	5 53.47	-7 7.4	1.926	2.661	16.9	20.7	11 7	6 1.97	+18 4.4	1.363	2.172	19.1	17.3
11 17	5 50.41	-9 16.3	1.849	2.645	15.2	20.6	11 17	5 58.18	+17 39.6	1.281	2.166	15.2	17.1
11 27	5 45.04	-11 10.0	1.792	2.629	13.8	20.5	11 27	5 50.89	+17 17.5	1.219	2.159	10.6	16.8
12 7	5 37.92	-12 40.0	1.757	2.614	13.0	20.4	12 7	5 40.83	+16 59.4	1.180	2.153	5.5	16.5
12 17	5 29.87	-13 39.1	1.745	2.599	13.2	20.4	12 17	5 29.30	+16 46.6	1.166	2.146	3.2	16.3
12 27	5 21.90	-14 3.3	1.756	2.585	14.2	20.4	12 27	5 18.02	+16 40.7	1.179	2.140	7.6	16.6
1 6	5 15.06	-13 52.9	1.787	2.572	15.9	20.5	1 6	5 8.62	+16 43.0	1.217	2.133	12.7	16.8
1 16	5 10.13	-13 11.8	1.837	2.560	17.7	20.6	1 16	5 2.28	+16 54.1	1.277	2.127	17.3	17.1
243017	2006 <i>UN</i> ₁₇₇		12 15.2	37°78'	5°5/14.8	18	305706	2009 <i>BR</i> ₁₇₆		12 15.2	255°90'	2°5/15.5	18
11 7	5 57.79	+10 2.6	1.787	2.574	16.1	20.4	11 7	6 2.26	+29 42.8	1.943	2.726	15.2	21.4
11 17	5 53.78	+9 24.9	1.712	2.578	13.1	20.2	11 17	5 57.65	+29 59.8	1.848	2.716	12.1	21.1
11 27	5 47.26	+8 55.5	1.659	2.583	9.6	20.0	11 27	5 50.14	+30 11.8	1.775	2.707	8.5	20.9
12 7	5 38.90	+8 37.5	1.631	2.588	6.6	19.8	12 7	5 40.38	+30 15.8	1.728	2.698	4.6	20.6
12 17	5 29.67	+8 33.2	1.629	2.593	5.6	19.8	12 17	5 29.41	+30 9.6	1.709	2.688	2.6	20.5
12 27	5 20.74	+8 43.5	1.656	2.598	7.8	19.9	12 27	5 18.60	+29 53.2	1.719	2.678	5.8	20.7
1 6	5 13.19	+9 7.6	1.708	2.603	11.1	20.1	1 6	5 9.29	+29 28.9	1.757	2.668	9.8	20.9
1 16	5 7.81	+9 43.4	1.784	2.609	14.3	20.3	1 16	5 2.45	+29 0.8	1.819	2.658	13.4	21.1
119861	2002 <i>CV</i> ₁₂₀		12 15.2	9°92'	0°7/15.2	18	202312	2005 <i>EF</i> ₁₂		12 15.2	173°24'	4°6/15.9	18
11 7	5 58.55	+21 52.0	1.936	2.728	14.9	20.1	11 7	6 1.71	+38 7.2	2.654	3.403	12.4	20.3
11 17	5 54.39	+21 44.4	1.852	2.729	11.7	19.9	11 17	5 56.54	+38 41.1	2.565	3.405	10.1	20.2
11 27	5 47.70	+21 36.5	1.791	2.730	7.9	19.7	11 27	5 49.01	+39 6.8	2.500	3.405	7.7	20.0
12 7	5 39.13	+21 28.0	1.755	2.730	3.7	19.5	12 7	5 39.72	+39 20.6	2.461	3.406	5.5	19.9
12 17	5 29.63	+21 19.0	1.748	2.731	1.1	19.3	12 17	5 29.57	+39 20.1	2.450	3.407	4.6	19.8
12 27	5 20.39	+21 10.1	1.770	2.733	5.3	19.6	12 27	5 19.63	+39 5.0	2.470	3.407	5.9	19.9
1 6	5 12.52	+21 2.7	1.820	2.734	9.3	19.8	1 6	5 10.94	+38 37.4	2.518	3.408	8.2	20.0
1 16	5 6.84	+20 58.3	1.894	2.736	12.9	20.0	1 16	5 4.28	+38 1.2	2.592	3.408	10.6	20.2
469898	2005 <i>WB</i> ₄₁		12 15.2	47°66'	6°2/13.4	17	463784	2014 <i>SZ</i> ₂₃₁		12 15.2	39°70'	12°5/13.9	18

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12 15.2

12 15.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
107715	2001 <i>FH</i> ₂₂		12 15.2 143°28	3°7/14.9	18		470011	2006 <i>QT</i> ₁₄₁		12 15.3 139°94	0°7/15.3	18	
11 7	6 0.35	+12 2.4	2.404	3.170	13.1	20.3	11 7	6 6.92	+24 44.8	1.732	2.516	16.7	22.2
11 17	5 55.05	+11 39.3	2.326	3.181	10.4	20.1	11 17	6 1.22	+24 52.9	1.656	2.527	13.1	22.0
11 27	5 47.76	+11 21.6	2.271	3.193	7.5	19.9	11 27	5 52.43	+24 59.0	1.602	2.538	8.9	21.7
12 7	5 39.07	+11 10.7	2.243	3.204	4.7	19.8	12 7	5 41.38	+25 1.1	1.574	2.548	4.2	21.5
12 17	5 29.73	+11 7.8	2.246	3.214	3.8	19.7	12 17	5 29.27	+24 57.7	1.575	2.558	1.1	21.3
12 27	5 20.66	+11 13.3	2.278	3.223	5.8	19.9	12 27	5 17.60	+24 49.1	1.605	2.567	5.7	21.6
1 6	5 12.68	+11 27.2	2.340	3.232	8.6	20.1	1 6	5 7.71	+24 37.5	1.663	2.575	10.2	21.9
1 16	5 6.44	+11 48.6	2.428	3.240	11.4	20.3	1 16	5 0.56	+24 26.0	1.745	2.582	14.0	22.2
482307	2011 <i>UT</i> ₁₂₈		12 15.2 45°32	1°7/14.9	17		371830	2007 <i>VS</i> ₆₂		12 15.3 0°77	2°4/15.4	18	
11 7	6 3.42	+23 17.0	1.420	2.225	18.7	20.9	11 7	6 2.37	+26 37.6	1.201	2.021	20.6	21.1
11 17	5 58.47	+22 15.9	1.370	2.253	14.5	20.7	11 17	5 59.20	+27 8.7	1.129	2.020	16.4	20.9
11 27	5 50.40	+21 11.2	1.340	2.282	9.7	20.5	11 27	5 51.96	+27 38.0	1.076	2.019	11.3	20.6
12 7	5 40.28	+20 5.1	1.336	2.311	4.6	20.2	12 7	5 41.46	+28 1.0	1.044	2.019	5.7	20.3
12 17	5 29.51	+19 1.1	1.359	2.341	2.0	20.2	12 17	5 29.23	+28 13.6	1.037	2.019	2.6	20.1
12 27	5 19.63	+18 3.7	1.409	2.371	6.5	20.5	12 27	5 17.39	+28 14.8	1.056	2.020	7.6	20.4
1 6	5 11.84	+17 16.4	1.486	2.401	11.0	20.8	1 6	5 7.89	+28 7.2	1.098	2.022	13.0	20.7
1 16	5 6.88	+16 41.4	1.586	2.431	14.7	21.2	1 16	5 2.04	+27 55.5	1.161	2.024	17.8	21.0
183077	2002 <i>RJ</i> ₄₆		12 15.2 71°45	5°5/15.7	18		79801	1998 <i>VJ</i> ₁₂		12 15.3 68°68	0°2/15.3	18	
11 7	6 7.63	+33 42.0	1.410	2.202	19.4	19.6	11 7	6 7.33	+22 8.6	1.399	2.199	19.2	19.1
11 17	6 2.81	+34 34.4	1.347	2.217	15.7	19.4	11 17	6 1.81	+22 32.0	1.348	2.228	15.0	18.9
11 27	5 54.02	+35 18.4	1.304	2.231	11.4	19.2	11 27	5 52.87	+22 56.5	1.317	2.257	10.0	18.7
12 7	5 42.24	+35 46.8	1.284	2.246	7.2	19.0	12 7	5 41.54	+23 19.5	1.311	2.286	4.6	18.5
12 17	5 29.06	+35 54.6	1.290	2.261	5.5	19.0	12 17	5 29.28	+23 38.6	1.331	2.315	1.0	18.3
12 27	5 16.54	+35 41.4	1.323	2.276	8.1	19.2	12 27	5 17.79	+23 53.0	1.380	2.344	6.3	18.7
1 6	5 6.46	+35 11.8	1.381	2.290	12.1	19.4	1 6	5 8.52	+24 4.2	1.455	2.372	11.0	19.1
1 16	4 59.95	+34 33.3	1.462	2.305	15.9	19.7	1 16	5 2.35	+24 14.0	1.554	2.400	14.9	19.4
500481	2012 <i>TP</i> ₂₄₄		12 15.2 71°68	21°1/10.1	17		108114	2001 <i>GP</i> ₁		12 15.3 125°29	3°5/14.6	18	
11 7	6 2.77	-9 39.6	1.081	1.843	26.0	21.0	11 7	6 0.91	+14 36.8	2.214	2.988	13.8	19.8
11 17	5 58.95	-13 23.5	1.043	1.850	23.8	20.8	11 17	5 55.61	+13 53.2	2.140	3.002	11.0	19.6
11 27	5 51.36	-16 37.2	1.023	1.857	22.0	20.8	11 27	5 48.19	+13 12.7	2.090	3.017	7.7	19.4
12 7	5 40.98	-19 3.0	1.019	1.864	21.2	20.7	12 7	5 39.28	+12 37.4	2.066	3.030	4.7	19.3
12 17	5 29.33	-20 28.1	1.034	1.872	21.4	20.8	12 17	5 29.74	+12 9.2	2.073	3.043	3.7	19.2
12 27	5 18.31	-20 48.5	1.065	1.879	22.5	20.9	12 27	5 20.55	+11 49.7	2.109	3.056	6.0	19.4
1 6	5 9.55	-20 10.3	1.111	1.887	24.1	21.0	1 6	5 12.60	+11 39.8	2.174	3.068	9.1	19.6
1 16	5 4.13	-18 45.5	1.170	1.895	25.8	21.2	1 16	5 6.55	+11 39.5	2.264	3.080	12.0	19.8
2213	Meeus		12 15.3 65°62	3°2/15.2	18		415014	2011 <i>HD</i> ₆₆		12 15.3 215°99	2°0/15.4	18	
11 7	6 6.47	+15 59.9	1.208	2.017	21.2	16.4	11 7	5 58.92	+28 41.4	2.511	3.285	12.4	21.4
11 17	6 1.40	+15 55.4	1.161	2.044	16.6	16.2	11 17	5 54.29	+29 6.7	2.419	3.283	9.8	21.2
11 27	5 52.71	+15 58.6	1.131	2.071	11.4	15.9	11 27	5 47.48	+29 28.9	2.352	3.282	6.8	21.0
12 7	5 41.48	+16 9.5	1.125	2.098	5.9	15.7	12 7	5 39.05	+29 45.9	2.311	3.281	3.6	20.8
12 17	5 29.26	+16 27.5	1.145	2.124	3.4	15.7	12 17	5 29.77	+29 55.8	2.300	3.279	2.1	20.7
12 27	5 17.91	+16 51.7	1.191	2.151	7.5	16.0	12 27	5 20.65	+29 58.3	2.320	3.278	4.6	20.9
1 6	5 8.94	+17 21.0	1.262	2.178	12.4	16.3	1 6	5 12.61	+29 54.4	2.368	3.276	7.8	21.1
1 16	5 3.24	+17 54.7	1.355	2.204	16.5	16.7	1 16	5 6.42	+29 46.3	2.443	3.275	10.7	21.3
486516	2013 <i>GW</i> ₁₂₃		12 15.3 154°17	0°8/15.3	18		195375	2002 <i>FY</i> ₃₂		12 15.3 148°10	1°9/15.6	18	
11 7	6 1.79	+24 13.2	2.385	3.158	13.0	21.5	11 7	6 0.87	+30 14.0	2.901	3.661	11.2	21.2
11 17	5 56.50	+24 41.9	2.298	3.164	10.2	21.4	11 17	5 55.36	+30 23.5	2.816	3.672	8.8	21.1
11 27	5 48.95	+25 10.4	2.236	3.170	6.9	21.2	11 27	5 47.94	+30 28.5	2.755	3.681	6.1	20.9
12 7	5 39.71	+25 36.7	2.201	3.175	3.3	20.9	12 7	5 39.16	+30 27.1	2.723	3.691	3.3	20.7
12 17	5 29.61	+25 59.0	2.197	3.180	1.1	20.8	12 17	5 29.77	+30 18.6	2.721	3.699	1.9	20.6
12 27	5 19.70	+26 16.4	2.224	3.184	4.5	21.0	12 27	5 20.62	+30 3.1	2.751	3.707	4.1	20.8
1 6	5 10.95	+26 29.4	2.280	3.188	8.0	21.3	1 6	5 12.51	+29 42.4	2.810	3.715	6.8	21.0
1 16	5 4.13	+26 39.3	2.362	3.192	11.0	21.5	1 16	5 6.08	+29 18.9	2.898	3.722	9.4	21.2
388112	2005 <i>UF</i> ₄₀₂		12 15.3 354°43	2°5/15.4	18		90415	2003 <i>YU</i> ₁₁₃		12 15.3 337°48	4°8/15.5	18	
11 7	5 57.82	+27 4.5	1.181	2.009	20.4	20.3	11 7	5 57.80	+10 14.5	1.583	2.379	17.5	18.9
11 17	5 55.69	+27 30.7	1.108	2.004	16.2	20.0	11 17	5 54.41	+10 17.6	1.497	2.370	14.2	18.7
11 27	5 49.61	+27 53.9	1.054	1.999	11.2	19.7	11 27	5 48.10	+10 33.0	1.432	2.362	10.3	18.4
12 7	5 40.38	+28 10.4	1.021	1.996	5.7	19.4	12 7	5 39.51	+11 2.8	1.390	2.354	6.5	18.2
12 17	5 29.45	+28 16.6	1.012	1.994	2.7	19.2	12 17	5 29.66	+11 47.0	1.375	2.347	4.9	18.1
12 27	5 18.87	+28 12.0	1.028	1.993	7.5	19.5	12 27	5 19.91	+12 44.1	1.387	2.340	7.6	18.2
1 6	5 10.53	+27 59.4	1.067	1.994	12.9	19.8	1 6	5 11.61	+13 51.2	1.425	2.335	11.7	18.4
1 16	5 5.73	+27 43.5	1.127	1.995	17.7	20.1	1 16	5 5.79	+15 4.7	1.486	2.330	15.6	18.7
251448	2008 <i>CC</i> ₁₁₂		12 15.3 61°11	2°2/15.2	18		414547	2009 <i>SZ</i> ₁₈₄		12 15.3 174°14	0°8/15.1	18	
11 7	5 59.47	+16 50.3	1.866	2.656	15.4	20.6	11 7	5 58.95	+21 31.7	2.724	3.495	11.6	22.0
11 17	5 55.13	+16 49.6	1.787	2.661	12.2	20.4	11 17	5 53.90	+21 17.0	2.633	3.497	9.1	21.8
11 27	5 48.22	+16 53.4	1.731	2.667	8.4	20.2	11 27	5 46.99	+21 1.5	2.566	3.500	6.1	21.6
12 7	5 39.41	+17 1.9	1.700	2.672	4.3	20.0	12 7	5 38.74	+20 45.3	2.527	3.501	2.9	21.4
12 17	5 29.68	+17 14.9	1.698	2.678	2.4	19.9	12 17	5 29.86	+20 28.7	2.520	3.502	1.0	21.3
12 27	5 20.22	+17 32.2	1.724	2.684	5.8	20.1	12 27	5 21.17	+20 12.6	2.543	3.503	4.1	21.5
1 6	5 12.15	+17 53.5	1.778	2.689	9.7	20.3	1 6	5 13.47	+19 58.2	2.597	3.503	7.2	21.7
1 16	5 6.29	+18 18.7	1.857	2.695	13.2	20.6	1 16	5 7.36	+19 46.7	2.677	3.503	10.0	21.9
112393	2002 <i>ND</i> ₃₃		12 15.3 70°15	2°8/15.9	18		473776	2016 <i>EQ</i> ₇₈		12 15.3 298°29	0°9/15.5	18	

EPHEMERIDES

12 15.3

12 15.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
229513	2005 WZ ₁₂₃	12 15.3 277°55	0°9/15.3 18				360131	2013 CK ₃₅	12 15.3 289°36	4°4/15.8 17			
11 7	6 2.23	+24 56.6	1.615	2.413	17.1	21.2	11 7	6 2.77	+33 57.9	1.813	2.594	16.2	21.0
11 17	5 58.20	+25 9.5	1.520	2.399	13.6	20.9	11 17	5 58.56	+34 22.5	1.713	2.577	13.1	20.8
11 27	5 50.88	+25 21.3	1.445	2.385	9.3	20.6	11 27	5 51.08	+34 39.3	1.635	2.560	9.6	20.5
12 7	5 40.89	+25 29.5	1.395	2.370	4.5	20.3	12 7	5 40.97	+34 43.5	1.581	2.543	6.0	20.3
12 17	5 29.38	+25 32.2	1.373	2.356	1.3	20.0	12 17	5 29.40	+34 31.5	1.554	2.526	4.4	20.2
12 27	5 17.94	+25 28.8	1.378	2.341	6.3	20.3	12 27	5 17.94	+34 3.0	1.555	2.509	6.9	20.3
1 6	5 8.14	+25 21.2	1.409	2.327	11.2	20.6	1 6	5 8.14	+33 21.3	1.583	2.492	10.8	20.5
1 16	5 1.17	+25 12.5	1.465	2.312	15.6	20.8	1 16	5 1.16	+32 32.3	1.635	2.476	14.6	20.7
48713	1996 PT ₁	12 15.3 136°03	1°5/15.1 18				369227	2008 UF ₂₀₉	12 15.3 87°57	1°6/14.9 18			
11 7	5 57.39	+17 53.6	2.729	3.502	11.5	19.8	11 7	5 58.48	+19 20.4	2.501	3.278	12.4	21.3
11 17	5 52.64	+17 49.7	2.646	3.511	9.0	19.6	11 17	5 53.52	+18 56.4	2.431	3.298	9.6	21.2
11 27	5 46.13	+17 47.9	2.587	3.519	6.1	19.5	11 27	5 46.69	+18 33.1	2.386	3.319	6.5	21.0
12 7	5 38.34	+17 48.3	2.555	3.527	3.1	19.3	12 7	5 38.59	+18 11.0	2.367	3.340	3.3	20.8
12 17	5 29.96	+17 51.0	2.554	3.534	1.6	19.2	12 17	5 29.97	+17 51.0	2.379	3.360	1.7	20.7
12 27	5 21.78	+17 56.1	2.584	3.542	4.2	19.4	12 27	5 21.68	+17 34.1	2.422	3.380	4.5	21.0
1 6	5 14.53	+18 4.1	2.644	3.549	7.2	19.6	1 6	5 14.50	+17 21.5	2.494	3.400	7.6	21.2
1 16	5 8.80	+18 14.9	2.730	3.556	9.9	19.8	1 16	5 9.01	+17 13.8	2.593	3.419	10.3	21.4
369635	2011 EH ₁₂	12 15.3 260°68	5°6/16.2 18				471028	2009 SO ₃₂₉	12 15.3 72°14	2°6/15.7 18			
11 7	6 3.35	+40 50.5	2.480	3.224	13.3	20.9	11 7	6 6.57	+30 10.7	1.425	2.222	19.1	20.8
11 17	5 58.21	+41 20.8	2.380	3.212	11.1	20.7	11 17	6 1.52	+30 10.3	1.363	2.239	15.1	20.6
11 27	5 50.36	+41 40.8	2.303	3.200	8.7	20.5	11 27	5 52.87	+30 1.6	1.321	2.257	10.4	20.3
12 7	5 40.47	+41 46.2	2.251	3.188	6.5	20.4	12 7	5 41.64	+29 41.5	1.302	2.274	5.4	20.1
12 17	5 29.50	+41 33.6	2.227	3.176	5.6	20.3	12 17	5 29.35	+29 9.0	1.311	2.291	2.7	20.0
12 27	5 18.73	+41 2.9	2.232	3.164	6.8	20.4	12 27	5 17.83	+28 26.5	1.346	2.309	6.6	20.3
1 6	5 9.35	+40 16.9	2.265	3.152	9.1	20.5	1 6	5 8.62	+27 39.2	1.408	2.326	11.2	20.6
1 16	5 2.28	+39 20.5	2.324	3.139	11.7	20.6	1 16	5 2.64	+26 52.9	1.494	2.343	15.2	20.9
273317	2006 SP ₄₀₄	12 15.3 125°26	2°1/15.5 18				484738	2008 YG ₃₇	12 15.3 327°13	8°3/16.3 18			
11 7	6 7.43	+27 54.1	1.699	2.482	17.0	21.7	11 7	6 1.43	+0 12.9	1.711	2.468	17.9	20.8
11 17	6 1.75	+28 13.7	1.626	2.496	13.4	21.5	11 17	5 56.91	+0 11.7	1.628	2.464	15.2	20.6
11 27	5 52.87	+28 29.2	1.575	2.509	9.2	21.3	11 27	5 49.62	+0 30.4	1.565	2.461	12.1	20.4
12 7	5 41.62	+28 37.2	1.550	2.522	4.7	21.1	12 7	5 40.20	+1 12.8	1.525	2.458	9.4	20.2
12 17	5 29.28	+28 35.4	1.553	2.534	2.2	20.9	12 17	5 29.63	+2 20.3	1.511	2.454	8.3	20.1
12 27	5 17.43	+28 24.0	1.585	2.545	6.0	21.2	12 27	5 19.22	+3 50.5	1.524	2.452	9.7	20.2
1 6	5 7.49	+28 5.8	1.644	2.556	10.3	21.5	1 6	5 10.20	+5 38.3	1.565	2.449	12.6	20.4
1 16	5 0.41	+27 45.0	1.728	2.567	14.0	21.7	1 16	5 3.53	+7 36.9	1.630	2.446	15.8	20.6
172537	2003 UH ₂₇	12 15.3 89°30	2°5/15.2 18 R				328434	2008 TM ₁₅	12 15.3 180°23	3°8/14.6 18			
11 7	6 5.80	+16 50.3	1.440	2.237	18.9	20.2	11 7	5 56.50	+11 17.0	2.735	3.500	11.7	21.1
11 17	6 0.58	+16 52.4	1.379	2.256	14.9	20.0	11 17	5 51.94	+10 40.8	2.647	3.501	9.4	21.0
11 27	5 52.10	+17 0.4	1.338	2.275	10.2	19.8	11 27	5 45.67	+10 9.0	2.583	3.502	6.9	20.8
12 7	5 41.25	+17 14.0	1.322	2.295	5.2	19.5	12 7	5 38.17	+9 43.6	2.546	3.502	4.6	20.6
12 17	5 29.37	+17 32.4	1.333	2.313	2.7	19.4	12 17	5 30.09	+9 26.2	2.539	3.502	3.9	20.6
12 27	5 18.08	+17 54.8	1.371	2.332	6.8	19.7	12 27	5 22.16	+9 17.8	2.562	3.501	5.6	20.7
1 6	5 8.79	+18 20.8	1.436	2.350	11.4	20.0	1 6	5 15.11	+9 18.8	2.614	3.500	8.1	20.9
1 16	5 2.44	+18 50.1	1.525	2.367	15.4	20.3	1 16	5 9.52	+9 28.7	2.692	3.499	10.5	21.0
212373	Pietroscella	12 15.3 211°20	1°6/15.1 18				296443	2009 HL ₅₄	12 15.3 196°17	2°0/15.2 18			
11 7	6 4.36	+20 51.6	1.538	2.335	17.9	20.8	11 7	6 5.14	+17 51.7	1.782	2.565	16.3	21.8
11 17	5 59.70	+20 30.5	1.453	2.332	14.2	20.6	11 17	5 59.86	+17 49.0	1.693	2.563	13.0	21.5
11 27	5 51.72	+20 9.0	1.389	2.328	9.7	20.3	11 27	5 51.64	+17 49.9	1.626	2.560	8.9	21.3
12 7	5 41.20	+19 47.4	1.349	2.324	4.7	20.0	12 7	5 41.15	+17 54.3	1.584	2.556	4.5	21.0
12 17	5 29.35	+19 26.1	1.337	2.319	1.9	19.8	12 17	5 29.45	+18 1.9	1.571	2.552	2.2	20.9
12 27	5 17.79	+19 7.1	1.352	2.314	6.7	20.1	12 27	5 17.94	+18 12.7	1.587	2.547	6.2	21.1
1 6	5 8.02	+18 52.5	1.394	2.308	11.6	20.3	1 6	5 7.94	+18 27.0	1.632	2.541	10.6	21.4
1 16	5 1.12	+18 44.5	1.459	2.302	15.9	20.6	1 16	5 0.45	+18 45.3	1.701	2.534	14.5	21.6
10314	1990 RF	12 15.3 50°48	7°3/14.4 18				479792	2014 EB ₅₁	12 15.3 320°04	1°7/15.2 18			
11 7	5 55.11	+1 48.0	2.339	3.091	13.8	17.1	11 7	5 58.48	+19 38.3	1.366	2.182	18.7	21.1
11 17	5 51.10	+0 54.1	2.265	3.096	11.6	16.9	11 17	5 55.67	+19 34.2	1.278	2.167	14.9	20.8
11 27	5 45.19	+0 11.2	2.212	3.100	9.4	16.8	11 27	5 49.39	+19 33.1	1.209	2.153	10.3	20.5
12 7	5 37.95	+0 16.7	2.185	3.105	7.7	16.7	12 7	5 40.31	+19 35.0	1.163	2.138	5.0	20.2
12 17	5 30.07	+0 27.0	2.184	3.109	7.4	16.7	12 17	5 29.61	+19 39.8	1.142	2.125	2.0	20.0
12 27	5 22.40	+0 18.5	2.211	3.114	8.5	16.8	12 27	5 18.99	+19 47.6	1.148	2.112	7.1	20.2
1 6	5 15.73	+0 7.5	2.264	3.119	10.5	16.9	1 6	5 10.12	+19 59.1	1.178	2.100	12.5	20.5
1 16	5 10.68	+0 48.7	2.341	3.124	12.6	17.1	1 16	5 4.27	+20 15.2	1.229	2.088	17.2	20.8
124096	2001 HT ₄₀	12 15.3 263°19	1°1/15.3 18				112900	Tonyhoffman	12 15.3 357°42	1°3/15.2 18			
11 7	5 59.17	+18 2.4	2.490	3.264	12.5	20.0	11 7	5 58.72	+20 13.8	1.587	2.393	17.0	20.0
11 17	5 54.50	+18 24.0	2.382	3.248	9.9	19.8	11 17	5 55.15	+20 10.3	1.507	2.391	13.4	19.8
11 27	5 47.69	+18 49.8	2.298	3.231	6.7	19.6	11 27	5 48.60	+20 8.8	1.448	2.389	9.1	19.5
12 7	5 39.21	+19 18.9	2.242	3.215	3.3	19.3	12 7	5 39.76	+20 8.9	1.414	2.389	4.4	19.2
12 17	5 29.78	+19 50.2	2.215	3.198	1.3	19.1	12 17	5 29.76	+20 10.4	1.406	2.388	1.6	19.0
12 27	5 20.32	+20 22.9	2.220	3.181	4.6	19.3	12 27	5 20.03	+20 13.8	1.425	2.389	6.1	19.3
1 6	5 11.77	+20 56.1	2.255	3.163	8.1	19.5	1 6	5 11.91	+20 19.7	1.471	2.389	10.8	19.6
1 16	5 4.92	+21 29.7	2.316	3.146	11.3	19.7	1 16	5 6.39	+20 29.1	1.540	2.390	14.8	19.9
407413	2010 TM ₉₁	12 15.3 131°49	1°6/15.4 18				4698	Jizera	12 15.3 230°94	0°7/15.4 18			
11 7	6 1.66	+27 30.7	2.143	2.922	14.1	22.0	11 7	6 4.45	+25 24.2	1			

EPHEMERIDES

12 15.3

12 15.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
22813	1999 RY ₁₇		12 15.3	43°50	1.4/15.5	18	360242	2000 EU ₁₆₅		12 15.3	23°29	12.4/14.6	18
11 7	6 2.85	+26 42.0	1.349	2.159	19.3	18.1	11 7	5 57.51	- 8 14.8	1.848	2.573	17.8	20.7
11 17	5 58.63	+26 45.0	1.295	2.180	15.1	17.9	11 17	5 53.54	- 9 34.2	1.782	2.574	15.9	20.6
11 27	5 50.92	+26 43.5	1.261	2.202	10.2	17.7	11 27	5 47.15	-10 33.1	1.735	2.575	14.1	20.5
12 7	5 40.75	+26 35.3	1.250	2.224	4.9	17.4	12 7	5 39.00	-11 4.6	1.709	2.577	12.8	20.4
12 17	5 29.60	+26 19.5	1.265	2.248	1.6	17.3	12 17	5 29.99	-11 3.8	1.706	2.579	12.5	20.4
12 27	5 19.21	+25 57.6	1.306	2.271	6.4	17.7	12 27	5 21.24	-10 29.6	1.727	2.580	13.3	20.4
1 6	5 11.03	+25 33.3	1.374	2.295	11.1	18.0	1 6	5 13.78	- 9 25.1	1.770	2.582	14.9	20.5
1 16	5 5.96	+25 10.3	1.464	2.319	15.2	18.3	1 16	5 8.40	- 7 56.3	1.833	2.585	16.8	20.7
100771	1998 FA ₃₂		12 15.3	192°12	5°0/15.8	18	116665	2004 CM ₄₀		12 15.3	17°42	7°3/14.5	18
11 7	6 8.28	+34 46.4	1.708	2.482	17.3	20.4	11 7	5 57.57	+ 6 31.0	1.754	2.535	16.6	19.9
11 17	6 2.98	+35 22.5	1.623	2.482	14.0	20.2	11 17	5 53.72	+ 5 33.4	1.680	2.536	13.7	19.7
11 27	5 54.08	+35 49.9	1.559	2.480	10.3	20.0	11 27	5 47.34	+ 4 46.2	1.626	2.538	10.6	19.6
12 7	5 42.39	+36 3.0	1.519	2.478	6.6	19.8	12 7	5 39.10	+ 4 13.9	1.596	2.540	8.1	19.4
12 17	5 29.23	+35 57.2	1.507	2.476	5.0	19.7	12 17	5 29.96	+ 4 0.0	1.593	2.542	7.4	19.4
12 27	5 16.42	+35 32.1	1.523	2.473	7.4	19.8	12 27	5 21.10	+ 4 6.3	1.616	2.544	9.2	19.5
1 6	5 5.60	+34 51.9	1.566	2.470	11.2	20.0	1 6	5 13.59	+ 4 31.6	1.665	2.547	12.1	19.7
1 16	4 57.95	+34 3.3	1.632	2.467	14.9	20.3	1 16	5 8.27	+ 5 13.1	1.736	2.550	15.1	19.9
194691	2001 XU ₂₂₅		12 15.3	345°45	0°2/15.3	18	127120	2002 GU ₁₀₁		12 15.3	50°24	5°6/14.9	18
11 7	5 57.42	+24 21.9	1.248	2.073	19.6	20.2	11 7	6 2.11	+13 34.7	1.164	1.981	21.3	19.4
11 17	5 55.11	+24 15.3	1.169	2.064	15.6	19.9	11 17	5 58.22	+12 46.2	1.113	1.998	17.0	19.1
11 27	5 49.10	+24 5.9	1.110	2.056	10.6	19.6	11 27	5 50.75	+12 6.2	1.079	2.016	12.1	18.9
12 7	5 40.18	+23 52.7	1.072	2.049	5.0	19.2	12 7	5 40.72	+11 38.5	1.067	2.034	7.4	18.7
12 17	5 29.69	+23 35.2	1.060	2.043	1.0	18.9	12 17	5 29.65	+11 25.9	1.080	2.053	5.8	18.7
12 27	5 19.50	+23 14.8	1.072	2.039	7.0	19.3	12 27	5 19.32	+11 29.7	1.118	2.072	9.0	18.9
1 6	5 11.35	+22 54.6	1.108	2.035	12.6	19.6	1 6	5 11.22	+11 49.0	1.180	2.092	13.5	19.2
1 16	5 6.47	+22 38.1	1.166	2.033	17.4	19.9	1 16	5 6.30	+12 21.2	1.263	2.111	17.5	19.5
329706	2003 UZ ₃₃₆		12 15.3	11°40	0°8/15.2	17	15050	Heddal		12 15.3	144°62	1°2/15.5	18 R
11 7	5 56.69	+22 3.3	1.784	2.586	15.6	20.1	11 7	5 58.84	+27 37.7	2.752	3.522	11.5	18.9
11 17	5 53.17	+21 49.0	1.707	2.589	12.2	19.9	11 17	5 53.92	+27 41.7	2.665	3.528	9.0	18.8
11 27	5 47.02	+21 33.9	1.652	2.592	8.2	19.6	11 27	5 47.09	+27 42.3	2.602	3.534	6.2	18.6
12 7	5 38.95	+21 18.1	1.621	2.597	3.9	19.4	12 7	5 38.88	+27 38.3	2.568	3.540	3.1	18.4
12 17	5 29.97	+21 2.1	1.619	2.602	1.2	19.2	12 17	5 30.03	+27 29.0	2.563	3.545	1.3	18.3
12 27	5 21.30	+20 47.1	1.644	2.607	5.5	19.5	12 27	5 21.39	+27 15.0	2.590	3.550	4.0	18.5
1 6	5 14.09	+20 34.8	1.696	2.614	9.6	19.8	1 6	5 13.79	+26 57.6	2.646	3.555	7.0	18.7
1 16	5 9.16	+20 26.6	1.773	2.621	13.3	20.0	1 16	5 7.84	+26 38.9	2.730	3.560	9.7	18.9
523644	2010 VX ₁₁		12 15.3	348°82	0°8/14.2	18	357703	2005 PT ₂₃		12 15.3	131°64	2°2/15.6	18
11 7	5 35.49	+ 0 23.1	27.880	28.602	1.4	21.1	11 7	6 3.03	+29 47.5	2.366	3.134	13.2	21.4
11 17	5 34.60	+ 0 18.1	27.792	28.599	1.2	21.1	11 17	5 57.53	+30 6.1	2.286	3.146	10.4	21.2
11 27	5 33.58	+ 0 14.2	27.728	28.596	1.0	21.0	11 27	5 49.67	+30 20.1	2.230	3.158	7.2	21.1
12 7	5 32.48	+ 0 11.6	27.692	28.593	0.8	21.0	12 7	5 40.11	+30 27.0	2.201	3.169	3.9	20.9
12 17	5 31.34	+ 0 10.5	27.684	28.591	0.8	21.0	12 17	5 29.77	+30 25.3	2.201	3.180	2.3	20.8
12 27	5 30.20	+ 0 10.8	27.705	28.588	0.9	21.0	12 27	5 19.74	+30 15.0	2.233	3.190	4.8	21.0
1 6	5 29.13	+ 0 12.7	27.753	28.585	1.1	21.1	1 6	5 11.03	+29 58.2	2.293	3.200	8.0	21.2
1 16	5 28.15	+ 0 15.9	27.828	28.582	1.3	21.1	1 16	5 4.37	+29 37.7	2.380	3.210	11.0	21.4
344152	2000 SS ₅₀		12 15.3	64°66	5°6/14.7	17	279645	2011 EF ₇₅		12 15.3	243°99	9°2/12.8	18
11 7	6 1.61	+12 25.3	1.508	2.304	18.2	21.0	11 7	5 55.38	- 7 12.8	2.799	3.501	12.8	21.7
11 17	5 57.01	+11 27.0	1.451	2.323	14.6	20.9	11 17	5 51.14	- 8 29.8	2.712	3.488	11.4	21.6
11 27	5 49.53	+10 35.9	1.414	2.343	10.5	20.7	11 27	5 45.21	- 9 34.3	2.647	3.475	10.1	21.5
12 7	5 40.05	+ 9 55.6	1.402	2.362	6.9	20.5	12 7	5 38.03	-10 21.5	2.606	3.462	9.3	21.4
12 17	5 29.77	+ 9 29.5	1.416	2.382	5.8	20.5	12 17	5 30.20	-10 47.8	2.591	3.449	9.2	21.4
12 27	5 20.07	+ 9 19.4	1.457	2.402	8.3	20.7	12 27	5 22.45	-10 51.2	2.601	3.435	10.0	21.4
1 6	5 12.15	+ 9 25.1	1.523	2.422	11.9	21.0	1 6	5 15.47	-10 32.4	2.636	3.421	11.3	21.5
1 16	5 6.81	+ 9 44.7	1.613	2.442	15.3	21.2	1 16	5 9.86	- 9 53.7	2.693	3.407	12.8	21.6
336104	2008 HF ₆₆		12 15.3	163°98	1°7/15.4	18	358192	2006 SJ ₁₀₃		12 15.3	166°99	0°6/15.4	18
11 7	6 6.40	+27 10.2	1.935	2.712	15.4	21.9	11 7	6 1.91	+25 9.2	2.241	3.017	13.6	21.8
11 17	6 0.70	+27 28.3	1.852	2.718	12.2	21.7	11 17	5 56.76	+25 13.7	2.154	3.021	10.7	21.6
11 27	5 52.11	+27 43.2	1.790	2.723	8.4	21.5	11 27	5 49.23	+25 16.1	2.090	3.024	7.2	21.4
12 7	5 41.33	+27 52.1	1.755	2.727	4.2	21.3	12 7	5 39.95	+25 14.9	2.053	3.027	3.4	21.2
12 17	5 29.48	+27 53.0	1.749	2.731	1.8	21.1	12 17	5 29.81	+25 9.4	2.046	3.029	0.9	21.0
12 27	5 17.93	+27 45.8	1.774	2.734	5.5	21.4	12 27	5 19.92	+24 59.9	2.069	3.031	4.7	21.3
1 6	5 7.98	+27 32.5	1.826	2.736	9.6	21.6	1 6	5 11.29	+24 47.9	2.121	3.032	8.4	21.5
1 16	5 0.56	+27 16.5	1.904	2.738	13.1	21.9	1 16	5 4.71	+24 35.7	2.200	3.033	11.6	21.7
256266	2006 WG ₇₆		12 15.3	179°27	1°6/15.4	18	346474	2008 TK ₁₈₀		12 15.3	34°07	9°1/15.7	18
11 7	6 2.25	+26 41.5	2.330	3.102	13.2	21.5	11 7	5 58.78	+ 4 2.0	1.254	2.053	21.1	20.0
11 17	5 57.06	+27 11.4	2.239	3.104	10.5	21.3	11 17	5 55.36	+ 3 20.0	1.202	2.068	17.4	19.8
11 27	5 49.47	+27 39.7	2.173	3.104	7.2	21.1	11 27	5 48.73	+ 2 57.1	1.169	2.084	13.6	19.6
12 7	5 40.08	+28 3.9	2.133	3.105	3.6	20.9	12 7	5 39.80	+ 2 58.5	1.156	2.101	10.3	19.5
12 17	5 29.74	+28 21.8	2.124	3.105	1.7	20.7	12 17	5 29.87	+ 3 26.6	1.167	2.118	9.2	19.5
12 27	5 19.55	+28 32.6	2.145	3.104	4.8	20.9	12 27	5 20.51	+ 4 20.0	1.202	2.137	10.9	19.6
1 6	5 10.56	+28 37.2	2.195	3.103	8.3	21.1	1 6	5 13.09	+ 5 33.7	1.261	2.156	14.2	19.9
1 16	5 3.60	+28 37.5	2.272	3.102	11.4	21.3	1 16	5 8.49	+ 7 0.9	1.341	2.176	17.5	20.1
340231	2006 BH ₇₄		12 15.3	270°52	1°1/15.4	18	242342	2003 YL ₁₅₉		12 15.3	126°15	2°7/15.4	18
11 7	6 2.20	+25 7.2</											

EPHEMERIDES

12 15.3

12 15.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
357420	2003 Y ₂₀		12 15.3 350°68	2°5/15.7	17		24862	Hromec		12 15.3 339°86	3°2/15.5	18	
11 7	5 59.41	+29 53.5	1.480	2.286	18.0	20.6	11 7	5 59.44	+29 19.9	1.467	2.275	18.1	18.4
11 17	5 56.21	+29 54.5	1.399	2.281	14.4	20.3	11 17	5 56.43	+29 48.1	1.384	2.266	14.5	18.1
11 27	5 49.58	+29 47.8	1.338	2.277	10.0	20.1	11 27	5 49.90	+30 11.7	1.320	2.258	10.2	17.8
12 7	5 40.32	+29 30.7	1.301	2.273	5.3	19.8	12 7	5 40.58	+30 26.9	1.279	2.250	5.6	17.5
12 17	5 29.74	+29 1.8	1.289	2.270	2.6	19.6	12 17	5 29.72	+30 30.0	1.264	2.243	3.3	17.4
12 27	5 19.51	+28 22.7	1.304	2.268	6.5	19.9	12 27	5 19.08	+30 20.5	1.275	2.237	6.9	17.6
1 6	5 11.22	+27 37.9	1.345	2.267	11.3	20.1	1 6	5 10.32	+30 1.1	1.312	2.232	11.6	17.8
1 16	5 5.92	+26 52.8	1.409	2.266	15.5	20.4	1 16	5 4.65	+29 36.6	1.371	2.228	15.9	18.1
336839	2011 FT ₁₆		12 15.3 263°09	7°4/14.5	18		293183	2007 AZ ₁₄		12 15.3 347°35	1°5/15.3	18	
11 7	5 55.74	- 0 36.3	2.568	3.304	13.1	20.7	11 7	6 1.44	+18 33.9	1.373	2.183	19.0	20.4
11 17	5 51.58	- 1 16.5	2.474	3.292	11.2	20.5	11 17	5 57.83	+18 47.8	1.295	2.181	15.1	20.1
11 27	5 45.59	- 1 44.9	2.403	3.279	9.3	20.4	11 27	5 50.76	+19 7.5	1.237	2.178	10.3	19.8
12 7	5 38.25	- 1 58.1	2.356	3.266	7.8	20.3	12 7	5 40.95	+19 32.1	1.202	2.177	5.0	19.5
12 17	5 30.18	- 1 53.5	2.336	3.253	7.4	20.2	12 17	5 29.66	+20 0.1	1.192	2.175	1.8	19.3
12 27	5 22.18	- 1 30.1	2.344	3.240	8.5	20.3	12 27	5 18.60	+20 29.8	1.210	2.174	6.9	19.6
1 6	5 15.03	- 0 49.2	2.379	3.226	10.3	20.4	1 6	5 9.41	+21 0.7	1.253	2.173	12.0	19.9
1 16	5 9.36	+ 0 6.8	2.438	3.213	12.4	20.5	1 16	5 3.26	+21 32.7	1.318	2.173	16.5	20.2
37335	2001 QX ₂₆₈		12 15.3 76°47	1°6/15.3	18		76678	2000 HA ₆₃		12 15.3 231°62	2°3/14.9	18	
11 7	6 3.51	+18 0.6	1.521	2.319	18.0	18.9	11 7	5 56.64	+16 13.8	2.689	3.463	11.7	20.3
11 17	5 58.85	+18 15.9	1.453	2.332	14.2	18.7	11 17	5 52.24	+15 56.6	2.591	3.455	9.2	20.1
11 27	5 51.05	+18 36.7	1.406	2.344	9.6	18.4	11 27	5 46.01	+15 41.8	2.518	3.448	6.4	19.9
12 7	5 40.90	+19 1.8	1.383	2.357	4.7	18.2	12 7	5 38.45	+15 30.1	2.471	3.440	3.5	19.7
12 17	5 29.64	+19 29.7	1.387	2.370	1.8	18.0	12 17	5 30.19	+15 22.4	2.455	3.432	2.4	19.6
12 27	5 18.80	+19 59.0	1.420	2.382	6.3	18.3	12 27	5 22.05	+15 19.4	2.469	3.423	4.7	19.7
1 6	5 9.78	+20 29.1	1.479	2.395	10.9	18.6	1 6	5 14.78	+15 21.5	2.513	3.415	7.7	19.9
1 16	5 3.54	+21 0.1	1.562	2.408	14.9	18.9	1 16	5 9.01	+15 28.8	2.583	3.406	10.4	20.1
132903	2002 RG ₂₃₄		12 15.3 183°83	0°3/15.3	18		262993	2007 EE ₉₀		12 15.3 111°81	1°1/15.2	18	
11 7	5 58.40	+24 13.9	2.680	3.453	11.7	21.0	11 7	5 59.23	+20 18.6	2.204	2.986	13.6	21.4
11 17	5 53.66	+24 15.4	2.587	3.453	9.2	20.9	11 17	5 54.60	+20 11.1	2.122	2.993	10.7	21.2
11 27	5 46.97	+24 15.4	2.519	3.453	6.2	20.7	11 27	5 47.74	+20 4.4	2.064	3.000	7.2	21.0
12 7	5 38.87	+24 13.1	2.479	3.453	2.9	20.5	12 7	5 39.27	+19 58.4	2.032	3.006	3.5	20.8
12 17	5 30.07	+24 8.1	2.469	3.452	0.6	20.3	12 17	5 30.03	+19 53.1	2.030	3.012	1.3	20.6
12 27	5 21.44	+24 0.7	2.489	3.451	4.0	20.5	12 27	5 21.05	+19 49.2	2.058	3.019	4.8	20.9
1 6	5 13.80	+23 52.1	2.540	3.450	7.2	20.7	1 6	5 13.28	+19 47.5	2.114	3.025	8.4	21.1
1 16	5 7.79	+23 43.5	2.617	3.448	10.1	20.9	1 16	5 7.43	+19 48.9	2.196	3.031	11.6	21.3
59326	1999 CO ₉₈		12 15.3 257°83	3°0/15.6	18		260365	2004 UK ₃		12 15.3 89°76	2°3/15.3	18	
11 7	6 4.31	+30 18.7	1.803	2.586	16.2	19.6	11 7	5 59.57	+15 7.5	2.215	2.992	13.7	20.4
11 17	5 59.70	+30 40.9	1.704	2.572	13.0	19.4	11 17	5 54.76	+15 14.4	2.140	3.006	10.8	20.2
11 27	5 51.85	+30 57.9	1.626	2.557	9.2	19.1	11 27	5 47.79	+15 26.6	2.088	3.019	7.5	20.0
12 7	5 41.41	+31 6.1	1.574	2.542	5.1	18.8	12 7	5 39.28	+15 44.0	2.063	3.033	4.0	19.8
12 17	5 29.52	+31 2.1	1.549	2.527	3.1	18.7	12 17	5 30.05	+16 6.3	2.068	3.046	2.4	19.8
12 27	5 17.70	+30 45.5	1.553	2.512	6.3	18.8	12 27	5 21.07	+16 32.9	2.102	3.059	5.1	20.0
1 6	5 7.50	+30 19.0	1.584	2.496	10.6	19.1	1 6	5 13.27	+17 3.0	2.166	3.072	8.5	20.2
1 16	5 0.04	+29 47.3	1.640	2.480	14.6	19.3	1 16	5 7.34	+17 36.0	2.255	3.085	11.5	20.4
274177	2008 GE ₆₉		12 15.3 160°99	3°6/14.9	16		280356	2003 SY ₃₀₀		12 15.3 339°99	3°9/14.5	17	
11 7	6 3.43	+14 38.8	1.941	2.718	15.4	22.4	11 7	5 56.97	+13 56.6	2.229	3.010	13.5	20.5
11 17	5 58.07	+14 8.9	1.860	2.724	12.3	22.2	11 17	5 52.77	+13 9.6	2.143	3.009	10.8	20.3
11 27	5 50.17	+13 43.0	1.802	2.730	8.6	22.0	11 27	5 46.49	+12 25.6	2.081	3.008	7.7	20.1
12 7	5 40.41	+13 23.0	1.770	2.735	5.1	21.7	12 7	5 38.69	+11 47.2	2.045	3.008	4.9	20.0
12 17	5 29.77	+13 10.3	1.766	2.740	3.7	21.7	12 17	5 30.17	+11 16.4	2.038	3.007	4.0	19.9
12 27	5 19.43	+13 6.0	1.793	2.744	6.5	21.9	12 27	5 21.86	+10 55.3	2.060	3.006	6.2	20.0
1 6	5 10.48	+13 10.6	1.847	2.747	10.1	22.1	1 6	5 14.65	+10 44.8	2.111	3.006	9.3	20.2
1 16	5 3.74	+13 23.9	1.926	2.749	13.5	22.3	1 16	5 9.22	+10 44.8	2.186	3.006	12.2	20.4
377984	2006 QW ₁₂₀		12 15.3 86°50	3°0/15.0	18		311716	2006 ST ₃₅₂		12 15.3 91°34	2°1/15.6	18	
11 7	6 6.43	+17 38.9	1.455	2.250	18.8	21.3	11 7	6 3.65	+29 8.3	1.974	2.753	15.1	21.2
11 17	6 0.91	+17 8.5	1.399	2.275	14.8	21.1	11 17	5 58.37	+29 18.2	1.903	2.770	11.9	21.0
11 27	5 52.23	+16 41.4	1.363	2.299	10.1	20.9	11 27	5 50.40	+29 22.8	1.855	2.787	8.2	20.8
12 7	5 41.34	+16 18.9	1.351	2.323	5.3	20.7	12 7	5 40.52	+29 19.9	1.833	2.803	4.3	20.6
12 17	5 29.61	+16 2.2	1.367	2.346	3.2	20.7	12 17	5 29.81	+29 8.0	1.839	2.819	2.1	20.5
12 27	5 18.59	+15 52.9	1.411	2.369	7.0	20.9	12 27	5 19.56	+28 48.0	1.875	2.835	5.3	20.8
1 6	5 9.60	+15 51.7	1.482	2.392	11.4	21.2	1 6	5 10.91	+28 22.5	1.940	2.851	9.0	21.0
1 16	5 3.49	+15 59.0	1.576	2.414	15.2	21.5	1 16	5 4.65	+27 55.2	2.029	2.867	12.3	21.3
481662	2007 VE ₂₈₂		12 15.3 18°65	5°0/14.7	18		156803	2003 BY ₂₆		12 15.3 347°66	1°6/15.2	18	
11 7	6 5.83	+29 28.5	1.621	2.410	17.5	20.4	11 7	5 55.51	+21 14.7	1.131	1.967	20.6	19.5
11 17	6 1.32	+31 11.3	1.543	2.412	14.0	20.2	11 17	5 53.88	+20 57.3	1.056	1.957	16.3	19.2
11 27	5 53.21	+32 55.1	1.486	2.415	10.1	19.9	11 27	5 48.45	+20 40.0	0.999	1.948	11.2	18.8
12 7	5 42.15	+34 31.8	1.455	2.418	6.4	19.7	12 7	5 39.99	+20 23.3	0.964	1.940	5.4	18.5
12 17	5 29.37	+35 53.2	1.453	2.422	5.1	19.7	12 17	5 29.88	+20 8.1	0.951	1.934	2.0	18.3
12 27	5 16.62	+36 54.0	1.478	2.426	7.9	19.8	12 27	5 20.07	+19 56.2	0.963	1.930	7.6	18.6
1 6	5 5.69	+37 33.9	1.530	2.431	11.7	20.1	1 6	5 12.36	+19 49.8	0.998	1.927	13.4	18.9
1 16	4 57.89	+37 56.8	1.606	2.436	15.3	20.3	1 16	5 8.01	+19 50.5	1.053	1.925	18.4	19.2
46525	1980 UG ₁		12 15.3 103°11	3°1/14.7	18		199965	2007 HG ₆₅		12 15.3 131°71	0°4/15.3	18	
11 7	6 2.69	+16 17.9	2.177	2.950	14.1	1							

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12 15.3

12 15.3

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
457346	2008 SZ ₂₂₂		12 15.3	46°52	4°1/14.6	16	486552	2013 HR ₄₈		12 15.3	315°15	4°5/14.4	17
11 7	5 56.56	+12 54.1	2.186	2.967	13.8	21.8	11 7	5 57.83	+15 41.8	1.715	2.513	16.3	21.3
11 17	5 52.44	+12 11.5	2.108	2.973	11.0	21.7	11 17	5 54.25	+14 39.4	1.624	2.500	13.0	21.1
11 27	5 46.25	+11 33.4	2.053	2.979	7.9	21.5	11 27	5 47.94	+13 37.7	1.554	2.488	9.3	20.9
12 7	5 38.58	+11 2.0	2.024	2.985	5.1	21.3	12 7	5 39.54	+12 40.2	1.510	2.476	5.7	20.6
12 17	5 30.22	+10 39.6	2.024	2.991	4.2	21.3	12 17	5 30.05	+11 50.6	1.492	2.464	4.6	20.5
12 27	5 22.13	+10 27.5	2.053	2.998	6.3	21.4	12 27	5 20.73	+11 12.8	1.503	2.453	7.6	20.7
1 6	5 15.15	+10 26.2	2.109	3.004	9.3	21.6	1 6	5 12.81	+10 49.0	1.539	2.442	11.5	20.9
1 16	5 9.97	+10 35.1	2.190	3.011	12.1	21.8	1 16	5 7.21	+10 39.7	1.599	2.431	15.3	21.1
447641	2006 VQ ₄₉		12 15.3	8°77	4°8/14.9	17	274785	2008 VC ₅₉		12 15.3	204°03	3°9/14.3	18
11 7	5 57.13	+27 48.2	1.175	2.004	20.4	20.0	11 7	5 56.60	+13 10.3	2.570	3.341	12.2	20.4
11 17	5 55.28	+29 19.0	1.113	2.007	16.2	19.7	11 17	5 52.19	+12 15.1	2.481	3.340	9.7	20.2
11 27	5 49.48	+30 50.6	1.070	2.012	11.5	19.5	11 27	5 45.96	+11 22.5	2.416	3.339	7.1	20.1
12 7	5 40.49	+30 15.0	1.050	2.020	6.7	19.2	12 7	5 38.44	+10 34.9	2.379	3.338	4.6	19.9
12 17	5 29.80	+33 24.0	1.053	2.029	5.0	19.2	12 17	5 30.30	+9 54.7	2.372	3.337	4.0	19.9
12 27	5 19.47	+34 12.7	1.081	2.040	8.4	19.4	12 27	5 22.35	+9 24.0	2.395	3.335	5.8	20.0
1 6	5 11.41	+34 41.6	1.133	2.053	13.0	19.7	1 6	5 15.34	+9 3.9	2.446	3.334	8.5	20.1
1 16	5 6.93	+34 55.1	1.206	2.068	17.2	20.0	1 16	5 9.88	+8 54.6	2.524	3.332	11.1	20.3
248314	2005 NB ₆₉		12 15.3	92°36	5°2/16.3	18	414332	2008 SY ₁₃₃		12 15.3	6°63	5°6/14.7	17
11 7	6 7.41	+38 32.3	2.159	2.911	14.8	20.9	11 7	5 54.14	+11 20.5	1.620	2.424	16.8	20.5
11 17	6 1.32	+39 4.5	2.094	2.934	12.1	20.8	11 17	5 51.32	+10 33.0	1.549	2.425	13.6	20.3
11 27	5 52.39	+39 26.0	2.050	2.957	9.1	20.6	11 27	5 45.89	+9 52.9	1.498	2.428	10.0	20.0
12 7	5 41.44	+39 32.1	2.032	2.979	6.4	20.5	12 7	5 38.54	+9 24.0	1.471	2.431	6.7	19.9
12 17	5 29.67	+39 20.3	2.042	3.000	5.2	20.5	12 17	5 30.28	+9 9.2	1.470	2.436	5.7	19.8
12 27	5 18.45	+38 51.2	2.082	3.022	6.6	20.6	12 27	5 22.32	+9 10.1	1.496	2.442	8.1	20.0
1 6	5 9.00	+38 8.8	2.150	3.042	9.2	20.8	1 6	5 15.80	+9 26.2	1.546	2.449	11.5	20.2
1 16	5 2.14	+37 18.4	2.243	3.063	11.9	21.0	1 16	5 11.52	+9 55.6	1.620	2.457	14.9	20.4
480174	2015 FU ₃₁₄		12 15.3	151°90	0°9/15.3	18	156760	2002 YV ₂₈		12 15.3	294°12	1°2/15.4	18
11 7	6 6.18	+23 33.3	1.742	2.527	16.6	21.7	11 7	6 1.69	+25 59.2	1.516	2.320	17.8	20.5
11 17	6 0.85	+24 4.6	1.662	2.534	13.1	21.5	11 17	5 58.16	+26 5.3	1.419	2.300	14.2	20.2
11 27	5 52.42	+24 36.8	1.604	2.540	8.9	21.2	11 27	5 51.15	+26 8.4	1.341	2.281	9.8	19.9
12 7	5 41.62	+25 7.0	1.571	2.545	4.2	21.0	12 7	5 41.26	+26 6.3	1.287	2.262	4.8	19.5
12 17	5 29.60	+25 32.3	1.567	2.550	1.2	20.8	12 17	5 29.70	+25 56.9	1.259	2.243	1.5	19.3
12 27	5 17.86	+25 51.4	1.592	2.555	5.8	21.1	12 27	5 18.14	+25 40.3	1.259	2.223	6.6	19.5
1 6	5 7.79	+26 4.9	1.646	2.559	10.2	21.4	1 6	5 8.30	+25 19.4	1.285	2.205	11.8	19.8
1 16	5 0.41	+26 15.0	1.724	2.562	14.1	21.6	1 16	5 1.46	+24 58.1	1.333	2.186	16.5	20.0
338968	2004 FA ₅₀		12 15.3	227°11	0°3/15.3	18	44561	1999 CF ₅₃		12 15.3	358°82	3°1/15.4	18
11 7	6 4.05	+23 6.8	1.871	2.655	15.6	22.0	11 7	5 54.51	+14 36.0	1.565	2.375	17.0	16.9
11 17	5 59.08	+23 2.1	1.774	2.646	12.4	21.8	11 17	5 51.90	+14 41.7	1.487	2.371	13.6	16.6
11 27	5 51.21	+22 56.2	1.699	2.635	8.4	21.5	11 27	5 46.48	+14 55.7	1.429	2.368	9.5	16.4
12 7	5 41.08	+22 47.9	1.650	2.625	4.0	21.2	12 7	5 38.91	+15 18.8	1.395	2.366	5.2	16.1
12 17	5 29.72	+22 36.8	1.630	2.613	0.9	21.0	12 17	5 30.21	+15 50.6	1.387	2.366	3.2	16.0
12 27	5 18.48	+22 23.4	1.639	2.601	5.6	21.3	12 27	5 21.71	+16 30.0	1.407	2.367	6.6	16.2
1 6	5 8.70	+22 9.6	1.676	2.589	10.1	21.5	1 6	5 14.67	+17 15.1	1.451	2.370	10.9	16.5
1 16	5 1.38	+21 58.0	1.739	2.576	14.0	21.8	1 16	5 10.06	+18 4.3	1.519	2.373	14.8	16.7
235617	2004 PB ₁₀₆		12 15.3	49°78	3°2/15.4	18	108473	2001 KJ ₅₇		12 15.3	142°29	5°5/14.6	18
11 7	6 4.16	+28 12.6	1.448	2.249	18.6	19.6	11 7	5 59.80	+8 39.6	2.184	2.950	14.2	20.6
11 17	5 59.89	+29 0.4	1.383	2.262	14.7	19.4	11 17	5 54.91	+7 51.4	2.107	2.958	11.6	20.4
11 27	5 52.04	+29 45.3	1.338	2.275	10.2	19.2	11 27	5 47.90	+7 10.5	2.053	2.966	8.7	20.2
12 7	5 41.50	+30 22.2	1.317	2.288	5.5	18.9	12 7	5 39.37	+6 39.8	2.026	2.974	6.2	20.1
12 17	5 29.65	+30 46.9	1.323	2.302	3.3	18.8	12 17	5 30.15	+6 21.9	2.027	2.981	5.6	20.1
12 27	5 18.29	+30 57.7	1.356	2.316	6.9	19.1	12 27	5 21.19	+6 18.1	2.056	2.988	7.3	20.2
1 6	5 9.02	+30 57.2	1.414	2.330	11.3	19.4	1 6	5 13.39	+6 28.0	2.114	2.994	10.0	20.4
1 16	5 2.91	+30 49.5	1.495	2.344	15.3	19.7	1 16	5 7.44	+6 50.3	2.196	3.000	12.7	20.5
237784	2002 AP ₁₇₂		12 15.3	329°40	0°2/15.3	18	210825	2001 NL ₁₈		12 15.3	66°60	7°8/14.4	18
11 7	5 59.25	+22 4.0	1.406	2.219	18.4	20.7	11 7	5 59.93	+5 19.7	1.795	2.566	16.7	19.6
11 17	5 56.24	+22 17.5	1.320	2.208	14.6	20.4	11 17	5 55.24	+4 4.4	1.741	2.589	13.7	19.5
11 27	5 49.80	+22 33.0	1.255	2.198	10.0	20.2	11 27	5 48.16	+3 0.6	1.708	2.612	10.8	19.3
12 7	5 40.58	+22 48.9	1.213	2.189	4.7	19.8	12 7	5 39.47	+2 13.2	1.700	2.635	8.4	19.2
12 17	5 29.81	+23 3.5	1.196	2.180	1.0	19.5	12 17	5 30.15	+1 46.1	1.719	2.658	7.9	19.3
12 27	5 19.17	+23 15.9	1.206	2.171	6.6	19.9	12 27	5 21.30	+1 40.5	1.764	2.681	9.4	19.4
1 6	5 10.31	+23 26.8	1.241	2.164	11.9	20.2	1 6	5 13.91	+1 55.3	1.835	2.704	11.9	19.6
1 16	5 4.45	+23 37.8	1.298	2.157	16.5	20.4	1 16	5 8.66	+2 27.1	1.929	2.726	14.4	19.8
334075	2001 QF ₃₃		12 15.3	59°93	4°8/15.9	18	227177	2005 QY ₄₅		12 15.3	352°43	5°4/15.1	18
11 7	6 6.33	+33 12.2	1.423	2.217	19.2	20.5	11 7	5 59.70	+12 2.1	1.402	2.207	18.9	20.4
11 17	6 1.74	+33 50.6	1.360	2.232	15.4	20.3	11 17	5 56.21	+11 31.9	1.327	2.205	15.3	20.2
11 27	5 53.33	+34 20.1	1.317	2.246	11.1	20.0	11 27	5 49.52	+11 10.5	1.271	2.203	11.1	19.9
12 7	5 42.08	+34 35.0	1.298	2.262	6.8	19.8	12 7	5 40.36	+11 1.3	1.238	2.202	7.0	19.7
12 17	5 29.55	+34 31.2	1.304	2.277	4.9	19.8	12 17	5 29.93	+11 6.3	1.230	2.201	5.5	19.6
12 27	5 17.68	+34 9.1	1.337	2.293	7.6	20.0	12 27	5 19.78	+11 26.2	1.248	2.201	8.5	19.8
1 6	5 8.17	+33 33.6	1.396	2.308	11.7	20.3	1 6	5 11.35	+11 59.9	1.291	2.200	12.8	20.0
1 16	5 2.06	+32 51.5	1.477	2.324	15.5	20.5	1 16	5 5.71	+12 44.7	1.356	2.201	16.8	20.3
196368	2003 FO ₁₁₄		12 15.3	226°12	1°1/15.2	18	10130	Ardre		12 15.3	300°94	1°8/15.5	18
11 7	6 3.16	+21 14.1	2.168	2.943	14.0	21.2	11 7						

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
107035	2000 YS ₁₂₆	12 15.3 353°33	5°6/15.8 18				356414	2010 TK ₁₀₈	12 15.3 164°35	0°7/15.4 18			
11 7	5 54.63	+32 40.4	1.103	1.936	21.2	18.4	11 7	6 1.66	+25 5.3	2.371	3.144	13.0	21.7
11 17	5 53.82	+33 23.1	1.031	1.926	17.2	18.1	11 17	5 56.50	+25 15.4	2.283	3.149	10.2	21.5
11 27	5 48.79	+33 57.2	0.977	1.917	12.5	17.8	11 27	5 49.07	+25 23.7	2.219	3.153	6.9	21.3
12 7	5 40.31	+34 16.1	0.943	1.911	7.8	17.5	12 7	5 39.99	+25 28.9	2.182	3.156	3.3	21.1
12 17	5 29.93	+34 14.6	0.931	1.906	5.7	17.4	12 17	5 30.09	+25 29.8	2.176	3.159	0.9	20.9
12 27	5 19.90	+33 51.8	0.943	1.904	8.9	17.6	12 27	5 20.40	+25 26.6	2.200	3.161	4.5	21.2
1 6	5 12.32	+33 12.6	0.976	1.903	13.8	17.8	1 6	5 11.89	+25 20.5	2.253	3.164	8.0	21.4
1 16	5 8.56	+32 25.0	1.030	1.905	18.4	18.1	1 16	5 5.31	+25 13.2	2.333	3.165	11.1	21.6
221370	2005 WK ₁₉₅	12 15.3 56°70	1°5/15.3 18				240806	2005 YE ₁₉₈	12 15.3 250°70	0°8/15.3 18			
11 7	6 1.47	+24 56.6	1.960	2.746	14.9	19.6	11 7	6 2.40	+21 7.1	1.862	2.650	15.6	21.1
11 17	5 56.84	+25 38.2	1.884	2.756	11.7	19.4	11 17	5 57.86	+21 8.7	1.763	2.636	12.3	20.9
11 27	5 49.54	+26 20.0	1.831	2.767	8.0	19.2	11 27	5 50.47	+21 11.4	1.686	2.623	8.4	20.6
12 7	5 40.26	+26 58.8	1.804	2.777	3.9	19.0	12 7	5 40.82	+21 14.5	1.634	2.609	4.0	20.3
12 17	5 29.97	+27 31.8	1.805	2.787	1.6	18.8	12 17	5 29.90	+21 17.1	1.611	2.595	1.1	20.1
12 27	5 19.94	+27 57.5	1.837	2.798	5.2	19.1	12 27	5 19.03	+21 19.3	1.618	2.580	5.7	20.4
1 6	5 11.33	+28 16.2	1.896	2.809	9.1	19.3	1 6	5 9.52	+21 22.1	1.652	2.565	10.2	20.6
1 16	5 5.02	+28 29.9	1.981	2.820	12.5	19.6	1 16	5 2.39	+21 26.9	1.710	2.549	14.1	20.8
287813	2003 SD ₁₈₃	12 15.3 121°85	4°3/15.7 18				227722	2006 EQ	12 15.3 266°13	3°0/15.5 18			
11 7	6 6.46	+33 42.1	1.943	2.713	15.6	21.6	11 7	6 0.77	+30 50.0	2.361	3.133	13.1	20.1
11 17	6 0.98	+34 23.8	1.868	2.724	12.6	21.4	11 17	5 56.15	+31 30.0	2.265	3.126	10.5	19.9
11 27	5 52.45	+34 58.4	1.814	2.735	9.1	21.2	11 27	5 49.07	+32 6.4	2.193	3.119	7.5	19.7
12 7	5 41.63	+35 21.2	1.785	2.745	5.8	21.0	12 7	5 40.09	+32 36.0	2.147	3.112	4.4	19.5
12 17	5 29.70	+35 28.6	1.785	2.755	4.4	20.9	12 17	5 30.07	+32 55.9	2.130	3.104	3.1	19.4
12 27	5 18.15	+35 20.1	1.815	2.764	6.5	21.1	12 27	5 20.12	+33 5.0	2.144	3.097	5.3	19.5
1 6	5 8.33	+34 58.5	1.871	2.774	9.8	21.3	1 6	5 11.34	+33 4.3	2.185	3.090	8.5	19.7
1 16	5 1.20	+34 28.8	1.953	2.782	13.0	21.5	1 16	5 4.60	+32 56.5	2.253	3.083	11.5	19.9
100778	1998 FX ₅₂	12 15.3 181°27	2°1/15.1 18				107632	2001 EX ₁₁	12 15.3 304°23	0°5/15.3 18 R			
11 7	6 4.17	+18 45.1	1.736	2.524	16.5	20.6	11 7	6 0.40	+21 52.9	1.704	2.502	16.4	19.7
11 17	5 59.15	+18 29.0	1.652	2.525	13.1	20.4	11 17	5 56.48	+21 56.2	1.616	2.495	12.9	19.5
11 27	5 51.22	+18 14.8	1.590	2.525	9.0	20.1	11 27	5 49.59	+22 0.2	1.549	2.488	8.8	19.2
12 7	5 41.07	+18 3.0	1.553	2.526	4.5	19.9	12 7	5 40.42	+22 4.0	1.506	2.481	4.1	18.9
12 17	5 29.81	+17 53.9	1.544	2.525	2.3	19.7	12 17	5 30.00	+22 6.7	1.491	2.475	1.0	18.7
12 27	5 18.82	+17 48.6	1.564	2.524	6.2	20.0	12 27	5 19.75	+22 8.5	1.504	2.468	5.8	19.0
1 6	5 9.41	+17 48.1	1.612	2.522	10.6	20.2	1 6	5 11.01	+22 10.3	1.544	2.462	10.4	19.3
1 16	5 2.51	+17 53.4	1.684	2.520	14.5	20.5	1 16	5 4.80	+22 13.8	1.609	2.456	14.5	19.5
157945	2000 AV ₄₉	12 15.3 338°42	9°0/17.5 18				508659	2017 UD ₂	12 15.3 35°37	9°9/12.9 17			
11 7	6 3.41	- 0 37.6	1.234	2.013	22.4	19.4	11 7	6 17.75	+29 8.3	1.072	1.875	23.7	20.1
11 17	5 59.81	- 0 1.9	1.150	2.001	19.1	19.1	11 17	6 13.41	+32 41.6	1.004	1.878	19.3	19.9
11 27	5 52.46	+ 1 6.3	1.082	1.991	15.1	18.8	11 27	6 3.35	+36 28.8	0.955	1.882	14.6	19.6
12 7	5 41.98	+ 2 52.3	1.036	1.981	11.1	18.6	12 7	5 47.81	+40 8.9	0.932	1.886	10.7	19.4
12 17	5 29.58	+ 5 15.5	1.014	1.973	9.0	18.4	12 17	5 28.38	+43 16.4	0.935	1.890	10.3	19.4
12 27	5 17.11	+ 8 8.2	1.019	1.966	10.8	18.5	12 27	5 8.28	+45 33.2	0.965	1.894	13.6	19.6
1 6	5 6.46	+11 17.2	1.050	1.959	15.0	18.7	1 6	4 51.17	+46 57.5	1.017	1.899	18.0	19.9
1 16	4 59.05	+14 28.6	1.105	1.954	19.4	19.0	1 16	4 39.65	+47 40.9	1.089	1.904	22.1	20.1
336107	2008 JD ₇	12 15.3 109°91	2°1/15.0 18				172688	2003 YY ₁₆₃	12 15.3 348°71	0°9/15.4 18			
11 7	6 5.62	+19 20.7	1.800	2.582	16.2	21.6	11 7	6 0.53	+24 22.4	1.638	2.438	16.8	20.9
11 17	5 59.83	+18 50.7	1.733	2.603	12.7	21.4	11 17	5 56.72	+24 40.5	1.555	2.436	13.3	20.7
11 27	5 51.35	+18 21.5	1.689	2.623	8.6	21.2	11 27	5 49.82	+24 58.2	1.494	2.433	9.1	20.4
12 7	5 40.99	+17 53.9	1.671	2.643	4.4	21.0	12 7	5 40.53	+25 13.3	1.457	2.431	4.3	20.1
12 17	5 29.87	+17 29.1	1.682	2.662	2.3	20.9	12 17	5 29.99	+25 23.7	1.447	2.430	1.2	19.9
12 27	5 19.28	+17 8.9	1.723	2.681	5.9	21.2	12 27	5 19.67	+25 29.0	1.465	2.429	5.9	20.2
1 6	5 10.37	+16 54.7	1.791	2.699	9.9	21.5	1 6	5 10.98	+25 30.4	1.509	2.428	10.5	20.5
1 16	5 3.89	+16 47.7	1.885	2.716	13.4	21.7	1 16	5 4.97	+25 30.2	1.577	2.427	14.5	20.7
434031	2001 SW ₁₉₇	12 15.3 129°51	2°6/15.1 16				74603	1999 RL ₆	12 15.3 20°57	3°4/15.7 18			
11 7	6 4.48	+16 36.8	1.952	2.729	15.3	22.7	11 7	6 0.11	+29 49.6	1.256	2.074	20.0	18.5
11 17	5 58.83	+16 19.0	1.879	2.745	12.1	22.5	11 17	5 57.21	+30 15.3	1.194	2.082	15.9	18.2
11 27	5 50.66	+16 4.6	1.829	2.760	8.3	22.3	11 27	5 50.49	+30 34.4	1.151	2.091	11.1	18.0
12 7	5 40.69	+15 54.3	1.805	2.775	4.5	22.1	12 7	5 40.89	+30 42.7	1.130	2.102	6.1	17.8
12 17	5 29.93	+15 48.7	1.811	2.789	2.8	22.0	12 17	5 29.94	+30 37.1	1.134	2.114	3.5	17.6
12 27	5 19.55	+15 48.5	1.847	2.802	5.8	22.2	12 27	5 19.59	+30 18.3	1.164	2.127	7.3	17.9
1 6	5 10.64	+15 54.1	1.911	2.815	9.5	22.5	1 6	5 11.54	+29 50.4	1.217	2.140	12.0	18.2
1 16	5 3.97	+16 5.7	2.000	2.827	12.9	22.7	1 16	5 6.86	+29 19.0	1.293	2.155	16.3	18.5
469786	2005 QK ₁₇₆	12 15.3 77°50	1°2/15.2 18				109247	2001 QN ₁₀₁	12 15.3 357°15	2°9/15.6 18			
11 7	6 6.16	+20 59.5	1.501	2.296	18.3	21.2	11 7	5 57.32	+28 22.9	1.128	1.959	20.9	18.5
11 17	6 0.74	+20 48.5	1.445	2.322	14.3	21.0	11 17	5 55.58	+28 44.0	1.058	1.954	16.7	18.2
11 27	5 52.18	+20 38.3	1.409	2.348	9.6	20.8	11 27	5 49.77	+28 59.9	1.005	1.950	11.6	17.9
12 7	5 41.42	+20 28.3	1.398	2.373	4.5	20.6	12 7	5 40.72	+29 6.6	0.974	1.948	6.1	17.6
12 17	5 29.82	+20 18.7	1.415	2.398	1.5	20.5	12 17	5 29.95	+29 0.9	0.966	1.947	3.0	17.4
12 27	5 18.92	+20 10.4	1.461	2.423	6.2	20.8	12 27	5 19.59	+28 43.0	0.982	1.948	7.7	17.7
1 6	5 10.03	+20 5.1	1.533	2.447	10.7	21.1	1 6	5 11.58	+28 17.0	1.021	1.950	13.1	18.0
1 16	5 3.99	+20 4.2	1.628	2.471	14.5	21.4	1 16	5 7.20	+27 48.4	1.081	1.953	18.0	18.3
513279	2006 VU ₁₅₀	12 15.3 54°37	2°5/15.6 18				49530	1999 CC ₅₀	12 15.3 304°18	6°0/16.0 18			
11 7	6 7.00	+28 44.2	1.199	2.010									

EPHEMERIDES

12 15.3

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
417361	2006 <i>FT</i> ₃₂		12 15.3 150°86	1°0/15.5 17			414607	2009 <i>US</i> ₁₀₈		12 15.3 24°91	3°5/15.4 17		
11 7	5 59.10	+26 24.2	2.830	3.599	11.3	22.2	11 7	6 1.38	+30 29.0	2.051	2.831	14.6	20.8
11 17	5 54.15	+26 38.9	2.743	3.605	8.8	22.1	11 17	5 56.94	+31 21.9	1.969	2.834	11.6	20.6
11 27	5 47.33	+26 51.4	2.679	3.611	6.0	21.9	11 27	5 49.75	+32 11.6	1.909	2.837	8.3	20.4
12 7	5 39.14	+27 0.5	2.644	3.616	3.0	21.7	12 7	5 40.45	+32 53.8	1.876	2.840	4.9	20.2
12 17	5 30.30	+27 5.0	2.640	3.622	1.2	21.6	12 17	5 30.05	+33 24.9	1.871	2.844	3.5	20.2
12 27	5 21.63	+27 5.0	2.666	3.627	3.9	21.8	12 27	5 19.81	+33 43.3	1.895	2.848	5.9	20.3
1 6	5 13.92	+27 1.4	2.723	3.631	6.9	22.0	1 6	5 10.97	+33 49.9	1.947	2.853	9.3	20.5
1 16	5 7.81	+26 55.6	2.806	3.636	9.5	22.2	1 16	5 4.48	+33 47.9	2.023	2.857	12.5	20.8
402154	2004 <i>RF</i> ₁₈₄		12 15.3 32°66	4°9/14.5 18			247301	2001 <i>TW</i> ₅₇		12 15.3 71°71	1°2/15.5 18		
11 7	5 57.52	+11 56.8	2.013	2.796	14.7	20.3	11 7	6 3.01	+26 30.9	1.863	2.649	15.6	20.9
11 17	5 53.42	+11 1.4	1.934	2.798	11.8	20.1	11 17	5 57.97	+26 39.6	1.798	2.669	12.2	20.7
11 27	5 47.06	+10 10.7	1.877	2.801	8.7	19.9	11 27	5 50.22	+26 44.9	1.754	2.690	8.3	20.5
12 7	5 39.07	+9 28.0	1.846	2.804	5.8	19.7	12 7	5 40.55	+26 44.9	1.737	2.710	4.0	20.3
12 17	5 30.31	+8 56.2	1.844	2.807	5.1	19.7	12 17	5 30.06	+26 38.5	1.748	2.731	1.4	20.2
12 27	5 21.82	+8 37.5	1.869	2.810	7.2	19.8	12 27	5 20.06	+26 26.5	1.788	2.751	5.2	20.5
1 6	5 14.54	+8 32.4	1.922	2.814	10.2	20.0	1 6	5 11.69	+26 10.9	1.857	2.771	9.1	20.8
1 16	5 9.20	+8 40.2	1.999	2.817	13.2	20.2	1 16	5 5.75	+25 54.7	1.950	2.791	12.6	21.0
181439	2006 <i>SW</i> ₃₅₉		12 15.3 354°18	5°5/14.7 18			355003	2006 <i>QM</i> ₂₀		12 15.3 112°17	6°2/15.1 18		
11 7	5 56.19	+12 22.5	1.557	2.361	17.4	19.7	11 7	6 0.34	+5 36.1	2.106	2.865	14.9	21.1
11 17	5 53.14	+11 35.1	1.479	2.357	14.0	19.5	11 17	5 55.37	+5 1.9	2.037	2.880	12.2	21.0
11 27	5 47.29	+10 54.1	1.422	2.353	10.2	19.3	11 27	5 48.24	+4 38.4	1.990	2.895	9.4	20.8
12 7	5 39.31	+10 23.2	1.388	2.351	6.7	19.1	12 7	5 39.59	+4 28.4	1.969	2.910	7.0	20.7
12 17	5 30.26	+10 5.5	1.381	2.349	5.6	19.0	12 17	5 30.25	+4 33.8	1.975	2.924	6.3	20.7
12 27	5 21.46	+10 3.0	1.399	2.348	8.2	19.2	12 27	5 21.23	+4 54.9	2.011	2.937	7.8	20.8
1 6	5 14.17	+10 15.8	1.443	2.348	12.0	19.4	1 6	5 13.43	+5 30.1	2.073	2.951	10.3	21.0
1 16	5 9.29	+10 42.1	1.509	2.349	15.7	19.6	1 16	5 7.53	+6 16.7	2.160	2.964	12.9	21.2
167988	2005 <i>GQ</i> ₇₆		12 15.3 309°31	3°9/14.7 18			71241	2000 <i>AG</i> ₈		12 15.3 31°07	4°8/16.1 18		
11 7	5 55.85	+12 38.7	2.371	3.148	12.9	20.1	11 7	6 2.81	+33 54.0	1.364	2.166	19.5	18.6
11 17	5 51.86	+12 2.1	2.281	3.144	10.4	19.9	11 17	5 59.13	+34 19.5	1.303	2.179	15.6	18.4
11 27	5 45.91	+11 29.7	2.215	3.140	7.5	19.8	11 27	5 51.65	+34 34.4	1.262	2.193	11.3	18.2
12 7	5 38.52	+11 3.6	2.175	3.135	4.8	19.6	12 7	5 41.39	+34 33.5	1.243	2.208	6.9	18.0
12 17	5 30.42	+10 45.7	2.164	3.131	4.0	19.5	12 17	5 29.90	+34 14.0	1.249	2.223	4.9	17.9
12 27	5 22.47	+10 37.2	2.182	3.127	6.0	19.6	12 27	5 19.12	+33 37.3	1.282	2.239	7.6	18.1
1 6	5 15.51	+10 38.6	2.229	3.124	8.9	19.8	1 6	5 10.68	+32 49.0	1.339	2.256	11.7	18.4
1 16	5 10.19	+10 49.5	2.300	3.120	11.7	20.0	1 16	5 5.58	+31 56.2	1.419	2.274	15.6	18.7
444947	2008 <i>CG</i> ₉₂		12 15.3 355°30	7°8/16.0 17			414336	2008 <i>SX</i> ₂₁₄		12 15.3 6°13	0°7/15.3 17		
11 7	5 52.53	+36 3.6	1.089	1.922	21.4	20.0	11 7	5 57.56	+21 44.1	2.096	2.886	14.0	21.6
11 17	5 52.43	+37 4.5	1.020	1.910	17.7	19.8	11 17	5 53.57	+21 38.3	2.011	2.886	11.0	21.4
11 27	5 48.01	+37 54.0	0.967	1.901	13.5	19.5	11 27	5 47.26	+21 32.4	1.949	2.887	7.4	21.2
12 7	5 40.03	+38 23.7	0.935	1.895	9.5	19.3	12 7	5 39.22	+21 26.2	1.913	2.888	3.5	20.9
12 17	5 30.09	+38 26.7	0.924	1.891	7.9	19.2	12 17	5 30.34	+21 19.6	1.906	2.889	1.0	20.8
12 27	5 20.51	+38 1.7	0.935	1.890	10.2	19.3	12 27	5 21.67	+21 13.2	1.928	2.890	4.9	21.0
1 6	5 13.47	+37 14.1	0.968	1.890	14.4	19.5	1 6	5 14.23	+21 8.2	1.978	2.892	8.7	21.3
1 16	5 10.37	+36 13.0	1.020	1.894	18.7	19.8	1 16	5 8.78	+21 5.6	2.053	2.894	12.0	21.5
418697	2008 <i>UV</i> ₁₆		12 15.3 182°55	4°7/14.5 17			491481	2012 <i>HQ</i> ₄₃		12 15.3 198°40	0°2/15.4 18		
11 7	5 56.40	+9 42.3	2.541	3.307	12.4	22.0	11 7	5 59.01	+23 51.7	2.753	3.524	11.5	22.8
11 17	5 52.08	+8 55.8	2.455	3.308	10.1	21.8	11 17	5 54.17	+23 57.1	2.657	3.521	9.0	22.7
11 27	5 45.95	+8 14.8	2.393	3.308	7.5	21.6	11 27	5 47.41	+24 1.4	2.585	3.518	6.1	22.5
12 7	5 38.51	+7 41.6	2.357	3.307	5.3	21.5	12 7	5 39.23	+24 3.8	2.541	3.514	2.9	22.3
12 17	5 30.44	+7 18.6	2.351	3.307	4.8	21.5	12 17	5 30.34	+24 3.7	2.527	3.511	0.6	22.1
12 27	5 22.54	+7 7.1	2.374	3.307	6.4	21.6	12 27	5 21.57	+24 1.3	2.545	3.506	3.9	22.3
1 6	5 15.57	+7 7.4	2.425	3.306	8.8	21.7	1 6	5 13.74	+23 57.3	2.592	3.502	7.1	22.5
1 16	5 10.14	+7 18.7	2.501	3.305	11.3	21.9	1 16	5 7.51	+23 53.0	2.667	3.497	9.9	22.7
144243	2004 <i>CA</i> ₇₆		12 15.3 27°99	5°5/15.3 18			333786	2011 <i>FZ</i> ₁₄₆		12 15.3 175°56	2°2/15.7 18		
11 7	5 59.21	+12 53.7	1.101	1.926	21.7	19.2	11 7	6 5.85	+29 31.3	1.814	2.595	16.2	21.1
11 17	5 56.37	+12 25.8	1.046	1.936	17.4	18.9	11 17	6 0.60	+29 35.1	1.729	2.596	12.9	20.9
11 27	5 49.84	+12 8.8	1.008	1.947	12.4	18.7	11 27	5 52.28	+29 32.6	1.666	2.598	8.9	20.7
12 7	5 40.57	+12 5.8	0.991	1.959	7.5	18.5	12 7	5 41.64	+29 21.1	1.628	2.599	4.7	20.4
12 17	5 30.04	+12 18.4	0.998	1.972	5.6	18.4	12 17	5 29.87	+28 59.1	1.618	2.599	2.3	20.3
12 27	5 20.10	+12 46.3	1.029	1.986	9.0	18.7	12 27	5 18.45	+28 27.6	1.638	2.599	5.8	20.5
1 6	5 12.37	+13 27.2	1.083	2.001	13.7	19.0	1 6	5 8.75	+27 50.1	1.686	2.599	10.0	20.8
1 16	5 7.89	+14 17.6	1.157	2.017	18.0	19.3	1 16	5 1.74	+27 11.3	1.758	2.598	13.8	21.0
134395	1997 <i>GA</i> ₈		12 15.3 159°40	3°5/15.6 18			174973	2004 <i>DO</i> ₃₈		12 15.4 325°62	2°1/15.5 17		
11 7	6 5.82	+32 41.0	2.391	3.150	13.3	21.0	11 7	5 58.94	+27 31.5	1.557	2.362	17.3	20.4
11 17	5 59.96	+33 22.5	2.306	3.157	10.7	20.8	11 17	5 55.92	+27 49.1	1.464	2.347	13.8	20.2
11 27	5 51.55	+33 58.8	2.244	3.163	7.7	20.6	11 27	5 49.58	+28 3.4	1.392	2.332	9.6	19.9
12 7	5 41.21	+34 26.1	2.209	3.169	4.8	20.4	12 7	5 40.58	+28 11.6	1.344	2.317	4.9	19.6
12 17	5 29.90	+34 41.2	2.204	3.174	3.5	20.4	12 17	5 30.06	+28 11.0	1.322	2.303	2.2	19.4
12 27	5 18.80	+34 43.4	2.230	3.179	5.5	20.5	12 27	5 19.64	+28 1.3	1.327	2.290	6.4	19.6
1 6	5 9.03	+34 34.5	2.284	3.183	8.5	20.7	1 6	5 10.88	+27 44.7	1.357	2.278	11.2	19.8
1 16	5 1.44	+34 17.7	2.365	3.186	11.3	20.9	1 16	5 5.00	+27 25.1	1.411	2.266	15.6	20.1
402239	2005 <i>GK</i> ₂₂₁		12 15.3 236°74	1°0/15.3 14 C			427028	2014 <i>SZ</i> ₃₀₆		12 15.4 110°29	2°5/14.9 17		

EPHEMERIDES

12 15.4

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
460999	2014 <i>WF</i> ₃₅₈		12 15.4 75°62	4.8/15.9	17		483451	2001 <i>WU</i> ₃₅		12 15.4 32°51	1.6/15.2	18	
11 7	6 3.11	+36 38.1	2.296	3.056	13.8	20.9	11 7	6 4.00	+21 5.4	1.049	1.876	22.4	20.1
11 17	5 58.01	+37 21.5	2.222	3.069	11.2	20.8	11 17	6 0.53	+22 26.7	1.004	1.899	17.5	19.9
11 27	5 50.29	+37 56.9	2.171	3.083	8.4	20.6	11 27	5 52.87	+23 54.5	0.977	1.922	11.8	19.7
12 7	5 40.65	+38 19.8	2.146	3.096	5.8	20.5	12 7	5 42.08	+25 22.0	0.971	1.947	5.6	19.4
12 17	5 30.10	+38 27.6	2.150	3.110	4.8	20.4	12 17	5 29.87	+26 41.3	0.991	1.973	2.0	19.3
12 27	5 19.87	+38 19.6	2.182	3.124	6.2	20.6	12 27	5 18.45	+27 46.9	1.035	2.001	7.5	19.7
1 6	5 11.10	+37 58.5	2.243	3.137	8.8	20.7	1 6	5 9.65	+28 38.1	1.104	2.029	12.8	20.1
1 16	5 4.62	+37 28.3	2.329	3.151	11.4	20.9	1 16	5 4.61	+29 17.4	1.194	2.058	17.3	20.5
199529	2006 <i>DB</i> ₁₈₉		12 15.4 170°63	4.4/15.8	18		442441	2011 <i>UC</i> ₁₆₄		12 15.4 36°07	8.0/15.1	17	
11 7	6 2.19	+36 0.4	2.435	3.194	13.1	20.9	11 7	5 59.30	+ 7 46.8	1.288	2.092	20.3	20.8
11 17	5 57.24	+36 38.6	2.347	3.194	10.7	20.7	11 17	5 55.58	+ 6 41.2	1.246	2.117	16.5	20.6
11 27	5 49.79	+37 9.6	2.282	3.195	7.9	20.6	11 27	5 48.79	+ 5 49.9	1.222	2.144	12.5	20.4
12 7	5 40.44	+37 29.6	2.243	3.196	5.4	20.4	12 7	5 39.94	+ 5 18.1	1.221	2.172	9.1	20.3
12 17	5 30.13	+37 35.7	2.233	3.196	4.4	20.4	12 17	5 30.31	+ 5 9.0	1.244	2.200	8.1	20.4
12 27	5 20.01	+37 27.4	2.253	3.196	5.9	20.5	12 27	5 21.41	+ 5 23.1	1.292	2.230	10.1	20.5
1 6	5 11.19	+37 6.8	2.301	3.197	8.6	20.6	1 6	5 14.43	+ 5 57.4	1.364	2.259	13.3	20.8
1 16	5 4.50	+36 37.5	2.375	3.197	11.2	20.8	1 16	5 10.16	+ 6 47.2	1.457	2.290	16.5	21.1
445761	2011 <i>WT</i> ₉₇		12 15.4 227°46	0.1/15.4	18		84388	2002 <i>TD</i> ₁₅₈		12 15.4 26°23	2.2/15.4	17	
11 7	6 0.96	+22 28.6	1.916	2.705	15.1	21.5	11 7	5 57.76	+15 31.4	2.198	2.980	13.7	19.3
11 17	5 56.54	+22 41.1	1.830	2.704	11.9	21.3	11 17	5 53.57	+15 42.2	2.115	2.984	10.8	19.1
11 27	5 49.45	+22 54.3	1.767	2.704	8.1	21.1	11 27	5 47.20	+15 58.5	2.055	2.987	7.5	18.9
12 7	5 40.33	+23 6.6	1.729	2.704	3.8	20.8	12 7	5 39.22	+16 20.1	2.021	2.991	4.0	18.7
12 17	5 30.16	+23 17.0	1.720	2.703	0.8	20.6	12 17	5 30.42	+16 46.6	2.016	2.995	2.3	18.6
12 27	5 20.19	+23 25.0	1.740	2.703	5.2	20.9	12 27	5 21.80	+17 17.1	2.041	2.999	5.1	18.8
1 6	5 11.60	+23 31.3	1.788	2.702	9.4	21.1	1 6	5 14.28	+17 50.9	2.094	3.004	8.5	19.0
1 16	5 5.30	+23 37.5	1.860	2.702	13.0	21.4	1 16	5 8.60	+18 27.1	2.174	3.009	11.7	19.2
323672	2005 <i>EG</i> ₁₄₀		12 15.4 17°39	4.3/15.7	18		264362	2000 <i>BA</i> ₂₅		12 15.4 298°32	3.6/15.3	18	
11 7	6 4.07	+30 37.1	1.208	2.022	20.9	20.6	11 7	6 0.32	+15 8.7	1.443	2.248	18.5	20.4
11 17	6 0.78	+31 15.0	1.139	2.024	16.7	20.3	11 17	5 57.11	+15 0.8	1.346	2.227	14.9	20.1
11 27	5 53.25	+31 46.8	1.088	2.026	11.9	20.0	11 27	5 50.53	+15 0.3	1.269	2.206	10.6	19.8
12 7	5 42.37	+32 6.4	1.059	2.029	6.8	19.8	12 7	5 41.15	+15 8.6	1.214	2.185	5.9	19.5
12 17	5 29.76	+32 8.9	1.055	2.033	4.4	19.6	12 17	5 30.05	+15 26.4	1.185	2.164	3.7	19.3
12 27	5 17.64	+31 53.7	1.076	2.037	8.1	19.9	12 27	5 18.83	+15 53.7	1.183	2.143	7.7	19.5
1 6	5 8.01	+31 25.3	1.120	2.041	13.1	20.2	1 6	5 9.15	+16 29.6	1.206	2.123	12.8	19.7
1 16	5 2.17	+30 50.7	1.186	2.046	17.6	20.4	1 16	5 2.32	+17 12.8	1.251	2.102	17.5	19.9
141571	2002 <i>GA</i> ₁₂₇		12 15.4 99°53	1.2/15.2	18		170460	2003 <i>UG</i> ₂₀₆		12 15.4 91°05	6.2/13.7	18	
11 7	6 3.85	+20 31.1	1.940	2.721	15.2	20.5	11 7	6 2.27	+12 9.9	1.814	2.594	16.2	19.8
11 17	5 58.38	+20 20.2	1.873	2.743	11.9	20.3	11 17	5 57.23	+10 28.9	1.743	2.605	13.1	19.6
11 27	5 50.39	+20 10.0	1.829	2.764	8.0	20.1	11 27	5 49.67	+ 8 51.0	1.695	2.615	9.7	19.5
12 7	5 40.63	+20 0.2	1.811	2.784	3.8	19.9	12 7	5 40.35	+ 7 21.5	1.673	2.625	6.9	19.3
12 17	5 30.14	+19 51.0	1.822	2.805	1.4	19.7	12 17	5 30.28	+ 6 6.0	1.680	2.635	6.4	19.3
12 27	5 20.11	+19 43.2	1.863	2.824	5.2	20.0	12 27	5 20.64	+ 5 8.9	1.715	2.645	8.6	19.5
1 6	5 11.60	+19 38.0	1.933	2.843	9.1	20.3	1 6	5 12.48	+ 4 32.1	1.777	2.655	11.7	19.7
1 16	5 5.34	+19 36.5	2.028	2.862	12.4	20.6	1 16	5 6.56	+ 4 15.0	1.862	2.665	14.7	19.9
194400	2001 <i>VO</i> ₂₄		12 15.4 75°17	0.8/15.3	18		515817	2015 <i>MZ</i> ₇₄		12 15.4 191°56	2.0/15.2	18	
11 7	6 5.31	+21 50.3	1.528	2.324	18.0	20.1	11 7	6 2.59	+18 23.0	1.863	2.649	15.6	22.3
11 17	6 0.14	+21 44.5	1.470	2.347	14.1	19.9	11 17	5 57.81	+18 13.3	1.777	2.648	12.4	22.1
11 27	5 51.86	+21 38.9	1.432	2.370	9.5	19.7	11 27	5 50.32	+18 6.2	1.712	2.647	8.5	21.9
12 7	5 41.38	+21 32.6	1.418	2.393	4.4	19.4	12 7	5 40.78	+18 1.8	1.673	2.645	4.3	21.6
12 17	5 30.00	+21 25.3	1.432	2.416	1.2	19.3	12 17	5 30.18	+18 0.4	1.662	2.643	2.1	21.5
12 27	5 19.26	+21 17.9	1.475	2.438	6.0	19.6	12 27	5 19.78	+18 2.4	1.681	2.641	5.8	21.7
1 6	5 10.48	+21 12.0	1.544	2.461	10.5	20.0	1 6	5 10.80	+18 8.5	1.728	2.638	10.0	21.9
1 16	5 4.50	+21 9.6	1.638	2.482	14.4	20.3	1 16	5 4.13	+18 19.2	1.799	2.635	13.7	22.2
478698	2012 <i>UQ</i> ₃₄		12 15.4 38°85	3.8/15.0	18		325748	2009 <i>WV</i> ₄₇		12 15.4 76°30	0.2/15.4	18	
11 7	6 0.41	+16 2.3	1.414	2.222	18.7	20.8	11 7	5 59.95	+24 54.2	2.165	2.948	13.8	20.6
11 17	5 56.65	+15 29.8	1.347	2.230	14.8	20.6	11 17	5 55.31	+24 42.9	2.087	2.958	10.8	20.4
11 27	5 49.73	+15 2.1	1.300	2.238	10.3	20.4	11 27	5 48.36	+24 28.8	2.032	2.968	7.3	20.2
12 7	5 40.49	+14 41.2	1.276	2.246	5.8	20.1	12 7	5 39.76	+24 11.4	2.003	2.977	3.4	20.0
12 17	5 30.16	+14 29.0	1.279	2.256	4.0	20.1	12 17	5 30.42	+23 50.6	2.003	2.987	0.7	19.8
12 27	5 20.28	+14 26.9	1.307	2.265	7.4	20.3	12 27	5 21.40	+23 27.8	2.034	2.997	4.6	20.1
1 6	5 12.22	+14 35.2	1.362	2.275	11.9	20.6	1 6	5 13.68	+23 4.8	2.093	3.007	8.3	20.4
1 16	5 6.93	+14 53.2	1.438	2.285	15.9	20.8	1 16	5 7.99	+22 43.9	2.178	3.016	11.5	20.6
386075	2007 <i>HB</i> ₉₁		12 15.4 246°27	3.1/15.0	18		491867	2013 <i>AY</i> ₁₇₅		12 15.4 150°93	6.6/14.4	18	
11 7	6 1.37	+16 52.8	1.689	2.483	16.7	21.3	11 7	5 59.90	+ 6 28.8	2.079	2.843	14.9	22.6
11 17	5 57.13	+16 25.5	1.602	2.477	13.3	21.1	11 17	5 55.19	+ 5 29.2	2.002	2.848	12.3	22.4
11 27	5 49.99	+16 1.1	1.537	2.472	9.3	20.8	11 27	5 48.26	+ 4 38.1	1.948	2.853	9.5	22.3
12 7	5 40.63	+15 41.0	1.496	2.466	5.1	20.6	12 7	5 39.72	+ 3 59.6	1.919	2.858	7.3	22.1
12 17	5 30.12	+15 26.7	1.483	2.461	3.3	20.4	12 17	5 30.43	+ 3 36.9	1.917	2.863	6.7	22.1
12 27	5 19.80	+15 19.7	1.498	2.455	6.7	20.6	12 27	5 21.39	+ 3 31.6	1.944	2.867	8.3	22.2
1 6	5 10.99	+15 20.9	1.539	2.449	11.0	20.9	1 6	5 13.54	+ 3 43.4	1.998	2.870	10.9	22.4
1 16	5 4.65	+15 30.6	1.604	2.443	14.9	21.1	1 16	5 7.61	+ 4 10.2	2.076	2.874	13.5	22.6
125947	2001 <i>XX</i> ₂₅₀		12 15.4 59°10	0.6/15.3	18		55492	2001 <i>UZ</i> ₄₇		12 15.4 154°46	2.8		

EPHEMERIDES

12 15.4

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
115526	2003 <i>UL</i> ₄₇	12 15.4 337°16		0°1/15.4 18			134556	1999 <i>RV</i> ₁₆₉	12 15.4 33°57		1°3/15.5 18		
11 7	5 59.05	+20 56.0	2.140	2.925	13.9	19.2	11 7	6 2.33	+26 28.0	1.036	1.867	22.4	18.8
11 17	5 54.85	+21 24.3	2.050	2.922	10.9	19.0	11 17	5 59.31	+26 26.1	0.987	1.883	17.6	18.6
11 27	5 48.25	+21 55.4	1.982	2.918	7.4	18.7	11 27	5 52.05	+26 19.1	0.954	1.900	11.9	18.3
12 7	5 39.82	+22 27.7	1.941	2.915	3.5	18.5	12 7	5 41.72	+26 4.7	0.943	1.919	5.7	18.0
12 17	5 30.41	+22 59.5	1.929	2.913	0.7	18.3	12 17	5 30.13	+25 42.3	0.955	1.939	1.6	17.8
12 27	5 21.09	+23 29.6	1.947	2.910	4.8	18.6	12 27	5 19.44	+25 14.2	0.992	1.959	7.3	18.3
1 6	5 12.93	+23 57.3	1.994	2.908	8.6	18.8	1 6	5 11.45	+24 45.0	1.052	1.981	12.9	18.7
1 16	5 6.75	+24 23.3	2.066	2.905	12.0	19.0	1 16	5 7.14	+24 19.3	1.133	2.003	17.5	19.0
314927	2006 <i>WT</i> ₄₈	12 15.4 48°66		0°2/15.4 18			266659	2008 <i>TR</i> ₁₈₁	12 15.4 243°77		0°6/15.3 18		
11 7	6 0.79	+21 38.2	1.835	2.627	15.6	20.8	11 7	5 58.05	+21 30.0	2.597	3.373	12.0	21.5
11 17	5 56.48	+21 57.0	1.757	2.633	12.2	20.6	11 17	5 53.61	+21 25.1	2.497	3.364	9.4	21.3
11 27	5 49.45	+22 17.5	1.701	2.639	8.3	20.3	11 27	5 47.18	+21 20.2	2.420	3.355	6.4	21.1
12 7	5 40.39	+22 38.2	1.671	2.645	3.9	20.1	12 7	5 39.27	+21 14.9	2.371	3.345	3.0	20.9
12 17	5 30.32	+22 57.6	1.668	2.652	0.8	19.9	12 17	5 30.58	+21 9.2	2.352	3.335	0.9	20.7
12 27	5 20.50	+23 14.7	1.695	2.659	5.3	20.2	12 27	5 21.99	+21 3.5	2.364	3.325	4.2	21.0
1 6	5 12.13	+23 30.1	1.749	2.665	9.5	20.5	1 6	5 14.35	+20 58.6	2.405	3.315	7.6	21.2
1 16	5 6.11	+23 44.6	1.829	2.672	13.1	20.7	1 16	5 8.33	+20 55.7	2.473	3.305	10.5	21.3
393451	2001 <i>UZ</i> ₁₇₄	12 15.4 67°76		5°5/15.1 18			304217	2006 <i>QH</i> ₁₄₂	12 15.4 127°27		1°5/15.2 18		
11 7	6 1.28	+ 9 15.2	1.837	2.613	16.2	20.6	11 7	6 2.35	+19 18.0	2.357	3.128	13.2	21.6
11 17	5 56.30	+ 8 37.1	1.783	2.641	13.0	20.4	11 17	5 56.84	+19 1.3	2.282	3.145	10.3	21.4
11 27	5 48.95	+ 8 8.5	1.751	2.669	9.6	20.3	11 27	5 49.23	+18 45.5	2.230	3.161	7.0	21.3
12 7	5 40.00	+ 7 52.0	1.743	2.696	6.6	20.2	12 7	5 40.16	+18 30.8	2.205	3.177	3.5	21.1
12 17	5 30.42	+ 7 49.3	1.763	2.724	5.6	20.2	12 17	5 30.44	+18 17.7	2.211	3.192	1.7	21.0
12 27	5 21.34	+ 8 0.8	1.812	2.751	7.5	20.3	12 27	5 21.05	+18 7.2	2.248	3.206	4.7	21.2
1 6	5 13.73	+ 8 25.1	1.888	2.778	10.4	20.6	1 6	5 12.86	+18 0.1	2.314	3.220	8.0	21.4
1 16	5 8.27	+ 9 0.0	1.987	2.805	13.3	20.8	1 16	5 6.52	+17 57.3	2.407	3.233	11.0	21.6
47137	1999 <i>FJ</i> ₂₂	12 15.4 0°38		3°3/15.9 18			177394	2004 <i>BV</i> ₈₉	12 15.4 344°51		4°2/16.3 17		
11 7	5 59.96	+33 12.2	2.095	2.873	14.4	18.1	11 7	6 1.57	+34 49.4	1.517	2.312	18.2	19.8
11 17	5 55.76	+33 23.2	2.010	2.872	11.5	17.9	11 17	5 58.12	+34 44.5	1.433	2.305	14.7	19.5
11 27	5 48.92	+33 26.5	1.946	2.872	8.3	17.7	11 27	5 51.10	+34 26.7	1.368	2.298	10.7	19.3
12 7	5 40.13	+33 19.3	1.908	2.872	5.0	17.5	12 7	5 41.33	+33 52.1	1.326	2.292	6.5	19.0
12 17	5 30.39	+32 59.9	1.897	2.872	3.4	17.4	12 17	5 30.20	+32 58.9	1.311	2.287	4.2	18.9
12 27	5 20.93	+32 29.1	1.916	2.873	5.6	17.6	12 27	5 19.51	+31 49.8	1.322	2.282	7.0	19.0
1 6	5 12.91	+31 50.0	1.963	2.874	9.0	17.8	1 6	5 10.86	+30 31.4	1.359	2.278	11.4	19.3
1 16	5 7.17	+31 6.6	2.035	2.875	12.1	18.0	1 16	5 5.35	+29 11.4	1.420	2.276	15.5	19.5
493080	2014 <i>SP</i> ₃₁₀	12 15.4 107°88		3°4/15.6 17			138238	2000 <i>FQ</i> ₃₀	12 15.4 276°25		6°9/15.4 17		
11 7	6 1.87	+32 7.9	2.431	3.197	12.9	21.3	11 7	6 6.19	+38 33.4	1.957	2.718	15.8	20.0
11 17	5 56.92	+32 53.6	2.347	3.203	10.4	21.1	11 17	6 1.58	+39 47.0	1.861	2.705	13.2	19.8
11 27	5 49.56	+33 34.9	2.287	3.209	7.4	21.0	11 27	5 53.52	+40 53.7	1.786	2.691	10.3	19.6
12 7	5 40.41	+34 8.1	2.254	3.215	4.6	20.8	12 7	5 42.58	+41 46.1	1.736	2.677	7.8	19.4
12 17	5 30.33	+34 30.5	2.250	3.221	3.4	20.7	12 17	5 29.92	+42 17.9	1.713	2.663	6.9	19.3
12 27	5 20.41	+34 41.0	2.276	3.227	5.4	20.9	12 27	5 17.20	+42 25.9	1.718	2.649	8.5	19.4
1 6	5 11.72	+34 40.8	2.331	3.232	8.2	21.1	1 6	5 6.10	+42 12.0	1.749	2.635	11.4	19.5
1 16	5 5.04	+34 32.7	2.412	3.238	11.0	21.2	1 16	4 57.94	+41 41.9	1.804	2.620	14.5	19.7
26426	Koechl	12 15.4 252°48		2°3/15.2 18			495758	2017 <i>BQ</i> ₁₃	12 15.4 226°55		6°4/14.7 18		
11 7	6 2.37	+18 32.9	1.539	2.339	17.8	18.8	11 7	5 56.55	- 3 0.2	3.365	4.072	10.8	22.5
11 17	5 58.25	+18 17.9	1.457	2.336	14.1	18.6	11 17	5 51.86	- 3 29.3	3.265	4.058	9.3	22.3
11 27	5 50.95	+18 5.7	1.395	2.333	9.7	18.3	11 27	5 45.72	- 3 48.0	3.188	4.044	7.8	22.2
12 7	5 41.20	+17 56.7	1.357	2.330	4.9	18.0	12 7	5 38.52	- 3 53.7	3.137	4.030	6.7	22.1
12 17	5 30.17	+17 51.5	1.346	2.327	2.5	17.9	12 17	5 30.76	- 3 44.5	3.114	4.015	6.4	22.1
12 27	5 19.38	+17 50.9	1.363	2.324	6.7	18.1	12 27	5 23.04	- 3 19.9	3.120	3.999	7.2	22.1
1 6	5 10.27	+17 55.9	1.406	2.321	11.4	18.4	1 6	5 15.95	- 2 40.9	3.154	3.983	8.6	22.2
1 16	5 3.91	+18 6.9	1.472	2.318	15.6	18.6	1 16	5 10.00	- 1 49.3	3.214	3.966	10.2	22.3
60283	1999 <i>XB</i> ₁₀₁	12 15.4 282°36		1°6/15.6 18			403556	2010 <i>KU</i> ₅₈	12 15.4 258°34		7°0/16.9 17		
11 7	6 3.88	+27 54.2	1.513	2.312	18.0	18.8	11 7	6 7.90	+42 53.5	1.999	2.745	16.0	20.9
11 17	5 59.75	+27 49.1	1.428	2.307	14.4	18.5	11 17	6 2.63	+43 22.0	1.908	2.739	13.5	20.7
11 27	5 52.12	+27 38.1	1.363	2.301	9.9	18.2	11 27	5 53.92	+43 36.6	1.838	2.732	10.7	20.5
12 7	5 41.79	+27 18.6	1.323	2.296	4.9	17.9	12 7	5 42.59	+43 30.9	1.792	2.726	8.2	20.3
12 17	5 30.06	+26 49.6	1.308	2.291	1.7	17.7	12 17	5 29.97	+43 1.0	1.773	2.719	7.0	20.2
12 27	5 18.64	+26 12.6	1.322	2.286	6.4	18.0	12 27	5 17.75	+42 6.9	1.781	2.713	8.2	20.3
1 6	5 9.13	+25 31.9	1.361	2.281	11.4	18.3	1 6	5 7.48	+40 53.8	1.817	2.706	10.9	20.4
1 16	5 2.67	+24 52.4	1.424	2.276	15.7	18.5	1 16	5 0.23	+39 29.5	1.877	2.699	13.8	20.6
127440	2002 <i>PE</i> ₆₆	12 15.4 172°32		2°2/15.1 18			301889	1998 <i>QH</i> ₈₅	12 15.4 89°71		1°9/15.0 18		
11 7	5 57.85	+16 13.8	2.638	3.409	11.9	20.5	11 7	6 3.59	+21 0.3	1.871	2.655	15.6	20.3
11 17	5 53.25	+16 1.4	2.548	3.411	9.4	20.3	11 17	5 58.26	+20 15.8	1.803	2.674	12.2	20.1
11 27	5 46.82	+15 51.7	2.483	3.413	6.5	20.1	11 27	5 50.37	+19 29.8	1.758	2.693	8.3	20.0
12 7	5 39.04	+15 45.5	2.445	3.414	3.6	19.9	12 7	5 40.72	+18 43.8	1.739	2.711	4.1	19.7
12 17	5 30.61	+15 43.1	2.438	3.415	2.3	19.9	12 17	5 30.37	+17 59.7	1.749	2.730	2.1	19.6
12 27	5 22.34	+15 45.2	2.461	3.416	4.6	20.0	12 27	5 20.53	+17 20.1	1.789	2.748	5.6	19.9
1 6	5 14.99	+15 51.8	2.513	3.416	7.6	20.2	1 6	5 12.26	+16 47.5	1.857	2.766	9.5	20.2
1 16	5 9.20	+16 3.2	2.592	3.416	10.3	20.4	1 16	5 6.30	+16 23.6	1.950	2.783	12.9	20.4
209524	2004 <i>SX</i> ₆₀	12 15.4 58°22		0°5/15.4 18			154072	2002 <i>CV</i> ₂₀₀	12 15.4 305°42		0°1/15.4 17		
11 7	6 4.92	+23 12.7	1.232	2.045									

EPHEMERIDES

12 15.4

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
300473	2007 <i>TK</i> ₁₁₄		12 15.4 104 ^o .73	5 ^o .7/16.0	18		54992	2001 <i>QO</i> ₁₁		12 15.4 91 ^o .10	2 ^o .7/15.2	18	
11 7	6 9.11	+37 33.2	1.994	2.750	15.7	20.8	11 7	6 0.12	+16 3.7	1.941	2.726	15.1	19.6
11 17	6 3.16	+38 27.4	1.925	2.769	12.8	20.6	11 17	5 55.68	+15 51.4	1.862	2.733	11.9	19.4
11 27	5 54.04	+39 12.1	1.879	2.787	9.7	20.4	11 27	5 48.78	+15 43.3	1.806	2.739	8.3	19.1
12 7	5 42.57	+39 41.4	1.858	2.805	6.8	20.3	12 7	5 40.08	+15 40.3	1.776	2.745	4.5	18.9
12 17	5 30.00	+39 51.1	1.865	2.822	5.7	20.3	12 17	5 30.50	+15 42.8	1.773	2.752	2.8	18.8
12 27	5 17.88	+39 40.8	1.900	2.839	7.3	20.4	12 27	5 21.19	+15 51.2	1.801	2.758	5.8	19.0
1 6	5 7.63	+39 13.9	1.964	2.855	10.1	20.6	1 6	5 13.20	+16 5.4	1.855	2.764	9.5	19.3
1 16	5 0.20	+38 36.2	2.052	2.871	12.9	20.8	1 16	5 7.32	+16 25.3	1.935	2.770	12.9	19.5
373798	2002 <i>VG</i> ₁₇		12 15.4 10 ^o .45	1 ^o .0/15.4	18		463785	2014 <i>SR</i> ₂₃₂		12 15.4 15 ^o .91	0 ^o .6/15.4	16	
11 7	5 56.98	+22 19.2	0.992	1.835	22.3	19.5	11 7	5 57.55	+21 38.3	1.801	2.600	15.6	21.2
11 17	5 55.55	+23 1.5	0.934	1.838	17.6	19.2	11 17	5 53.98	+21 38.2	1.725	2.605	12.2	21.0
11 27	5 49.92	+23 48.2	0.892	1.842	12.0	18.9	11 27	5 47.79	+21 38.7	1.670	2.610	8.3	20.8
12 7	5 40.96	+24 35.7	0.871	1.848	5.7	18.6	12 7	5 39.65	+21 39.2	1.641	2.616	3.9	20.5
12 17	5 30.29	+25 19.0	0.873	1.856	1.5	18.3	12 17	5 30.58	+21 39.4	1.639	2.623	1.0	20.3
12 27	5 20.10	+25 55.0	0.898	1.866	7.7	18.8	12 27	5 21.80	+21 39.7	1.666	2.630	5.3	20.6
1 6	5 12.38	+26 23.3	0.945	1.878	13.5	19.1	1 6	5 14.45	+21 40.9	1.720	2.638	9.5	20.9
1 16	5 8.42	+26 46.1	1.013	1.891	18.5	19.5	1 16	5 9.36	+21 44.2	1.798	2.647	13.1	21.2
372818	2010 <i>US</i> ₁₃		12 15.4 65 ^o .41	5 ^o .7/15.6	18		325381	2008 <i>SH</i> ₁₈₁		12 15.4 131 ^o .46	4 ^o .8/14.5	18	
11 7	6 8.57	+32 5.3	1.280	2.081	20.6	20.9	11 7	5 57.06	+6 58.1	2.929	3.679	11.3	21.6
11 17	6 4.19	+33 16.1	1.219	2.093	16.6	20.7	11 17	5 52.30	+6 12.9	2.854	3.692	9.3	21.4
11 27	5 55.53	+34 21.2	1.176	2.106	12.0	20.5	11 27	5 46.00	+5 34.3	2.802	3.705	7.1	21.3
12 7	5 43.50	+35 12.2	1.155	2.119	7.6	20.3	12 7	5 38.64	+5 4.4	2.779	3.718	5.3	21.2
12 17	5 29.81	+35 42.1	1.160	2.132	5.7	20.2	12 17	5 30.79	+4 45.1	2.785	3.730	4.9	21.2
12 27	5 16.68	+35 48.6	1.192	2.145	8.6	20.4	12 27	5 23.16	+4 37.4	2.820	3.742	6.1	21.3
1 6	5 6.14	+35 35.7	1.247	2.158	12.9	20.7	1 6	5 16.36	+4 41.3	2.885	3.753	8.0	21.4
1 16	4 59.44	+35 11.0	1.324	2.172	17.0	21.0	1 16	5 10.91	+4 55.7	2.975	3.764	10.1	21.6
139848	2001 <i>RH</i> ₅₄		12 15.4 106 ^o .83	2 ^o .9/15.7	18		363006	2013 <i>DC</i> ₇		12 15.4 338 ^o .46	0 ^o .4/15.4	18	
11 7	6 3.08	+30 19.6	2.009	2.787	14.9	20.3	11 7	6 0.76	+23 0.0	1.736	2.532	16.2	21.1
11 17	5 58.26	+30 49.5	1.928	2.793	11.9	20.1	11 17	5 56.80	+23 20.2	1.651	2.529	12.8	20.9
11 27	5 50.67	+31 14.6	1.869	2.798	8.3	19.9	11 27	5 49.91	+23 41.5	1.587	2.526	8.7	20.6
12 7	5 41.00	+31 31.7	1.836	2.803	4.7	19.7	12 7	5 40.75	+24 1.8	1.549	2.524	4.1	20.3
12 17	5 30.29	+31 38.1	1.831	2.808	3.0	19.6	12 17	5 30.37	+24 19.3	1.537	2.521	0.9	20.1
12 27	5 19.85	+31 33.4	1.856	2.814	5.6	19.7	12 27	5 20.17	+24 33.1	1.555	2.519	5.6	20.4
1 6	5 10.91	+31 19.7	1.909	2.819	9.2	20.0	1 6	5 11.46	+24 43.8	1.599	2.517	10.1	20.7
1 16	5 4.36	+31 0.5	1.987	2.823	12.5	20.2	1 16	5 5.27	+24 52.9	1.668	2.515	14.0	20.9
198593	2005 <i>AK</i> ₁		12 15.4 84 ^o .63	1 ^o .4/15.4	17		172214	2002 <i>QV</i> ₁₁₅		12 15.4 185 ^o .66	0 ^o .2/15.4	18	
11 7	5 59.19	+17 27.5	2.292	3.070	13.3	20.0	11 7	6 2.33	+23 46.0	2.069	2.850	14.4	21.0
11 17	5 54.63	+17 42.2	2.209	3.077	10.4	19.8	11 17	5 57.46	+23 50.3	1.980	2.850	11.4	20.8
11 27	5 47.92	+18 0.9	2.150	3.084	7.1	19.6	11 27	5 50.05	+23 53.7	1.914	2.850	7.7	20.5
12 7	5 39.63	+18 23.0	2.118	3.090	3.6	19.4	12 7	5 40.72	+23 54.7	1.875	2.849	3.6	20.3
12 17	5 30.56	+18 47.8	2.115	3.097	1.6	19.3	12 17	5 30.41	+23 52.5	1.864	2.848	0.7	20.1
12 27	5 21.67	+19 14.4	2.143	3.103	4.7	19.5	12 27	5 20.30	+23 47.3	1.884	2.847	5.0	20.4
1 6	5 13.88	+19 42.4	2.200	3.110	8.2	19.7	1 6	5 11.52	+23 40.5	1.932	2.845	8.9	20.6
1 16	5 7.90	+20 11.6	2.283	3.116	11.2	20.0	1 16	5 4.90	+23 34.1	2.006	2.843	12.4	20.8
133817	2003 <i>WH</i> ₁₇₃		12 15.4 15 ^o .44	0 ^o .6/15.5	17		326174	2012 <i>BL</i> ₁₁₇		12 15.4 307 ^o .32	2 ^o .1/15.2	18	
11 7	5 58.45	+24 29.2	1.968	2.760	14.7	20.1	11 7	5 59.04	+17 36.2	1.963	2.752	14.8	21.3
11 17	5 54.55	+24 38.9	1.887	2.763	11.5	19.9	11 17	5 54.97	+17 27.9	1.874	2.747	11.7	21.1
11 27	5 48.11	+24 47.4	1.828	2.766	7.8	19.7	11 27	5 48.41	+17 22.7	1.808	2.743	8.1	20.8
12 7	5 39.79	+24 53.3	1.795	2.770	3.7	19.4	12 7	5 39.98	+17 21.2	1.767	2.739	4.2	20.6
12 17	5 30.54	+24 55.4	1.790	2.774	0.9	19.2	12 17	5 30.56	+17 23.6	1.755	2.735	2.3	20.5
12 27	5 21.53	+24 54.0	1.814	2.778	5.0	19.5	12 27	5 21.30	+17 30.2	1.772	2.731	5.6	20.7
1 6	5 13.87	+24 50.3	1.866	2.783	8.9	19.8	1 6	5 13.29	+17 41.4	1.816	2.728	9.5	20.9
1 16	5 8.38	+24 46.0	1.943	2.788	12.4	20.0	1 16	5 7.38	+17 57.2	1.885	2.724	13.0	21.1
268155	2004 <i>TO</i> ₃₃₃		12 15.4 10 ^o .44	0 ^o .5/15.4	16		114399	2002 <i>YZ</i> ₁₃		12 15.4 37 ^o .30	0 ^o .1/15.4	18	
11 7	5 56.39	+22 21.2	1.513	2.327	17.3	20.8	11 7	6 2.36	+23 50.1	1.153	1.976	21.1	19.6
11 17	5 53.56	+22 16.2	1.443	2.331	13.6	20.6	11 17	5 58.92	+23 42.0	1.099	1.992	16.5	19.4
11 27	5 47.74	+22 11.0	1.392	2.336	9.2	20.4	11 27	5 51.63	+23 32.1	1.064	2.009	11.1	19.1
12 7	5 39.69	+22 5.2	1.366	2.342	4.3	20.1	12 7	5 41.55	+23 19.2	1.051	2.028	5.2	18.9
12 17	5 30.56	+21 58.6	1.366	2.349	1.0	19.9	12 17	5 30.30	+23 3.0	1.063	2.047	1.0	18.6
12 27	5 21.81	+21 52.1	1.393	2.358	5.9	20.2	12 27	5 19.83	+22 45.4	1.100	2.066	6.9	19.1
1 6	5 14.73	+21 47.1	1.445	2.368	10.5	20.5	1 6	5 11.75	+22 29.2	1.161	2.087	12.2	19.5
1 16	5 10.25	+21 45.2	1.520	2.379	14.5	20.8	1 16	5 7.05	+22 17.4	1.244	2.108	16.7	19.8
414368	2008 <i>UN</i> ₆₈		12 15.4 321 ^o .35	0 ^o .7/15.4	17		43704	3225 <i>T</i> ₋₁		12 15.4 238 ^o .28	0 ^o .1/15.4	18	
11 7	5 57.45	+20 32.2	2.092	2.882	14.0	20.8	11 7	5 59.65	+23 54.6	2.506	3.281	12.4	20.2
11 17	5 53.71	+20 43.0	1.996	2.870	11.1	20.6	11 17	5 55.00	+23 53.8	2.405	3.271	9.7	20.0
11 27	5 47.57	+20 55.8	1.922	2.859	7.5	20.3	11 27	5 48.22	+23 51.5	2.327	3.261	6.6	19.8
12 7	5 39.58	+21 10.1	1.874	2.848	3.6	20.1	12 7	5 39.84	+23 47.0	2.276	3.250	3.1	19.6
12 17	5 30.57	+21 24.9	1.854	2.837	1.0	19.9	12 17	5 30.60	+23 39.8	2.255	3.239	0.6	19.3
12 27	5 21.62	+21 39.8	1.864	2.827	5.0	20.1	12 27	5 21.46	+23 30.3	2.265	3.227	4.3	19.6
1 6	5 13.81	+21 55.0	1.902	2.817	8.9	20.3	1 6	5 13.33	+23 19.7	2.304	3.216	7.8	19.8
1 16	5 7.97	+22 11.1	1.965	2.808	12.4	20.5	1 16	5 6.95	+23 9.7	2.370	3.		

EPHEMERIDES

12 15.4

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
50249	2000 <i>BL</i> ₁₆		12 15.4 249°67	4°0/16.2	18		497587	2006 <i>HX</i> ₆₃		12 15.4 314°03	2°9/15.5	18	
11 7	6 5.18	+35 2.8	2.029	2.796	15.1	19.6	11 7	6 1.13	+29 46.3	2.314	3.088	13.3	21.1
11 17	6 0.16	+35 13.5	1.931	2.786	12.3	19.4	11 17	5 56.55	+30 33.5	2.224	3.086	10.6	21.0
11 27	5 52.13	+35 14.8	1.855	2.775	9.0	19.2	11 27	5 49.49	+31 18.2	2.156	3.083	7.5	20.8
12 7	5 41.79	+35 2.8	1.804	2.764	5.7	18.9	12 7	5 40.54	+31 57.0	2.116	3.081	4.4	20.6
12 17	5 30.24	+34 35.1	1.781	2.752	4.1	18.8	12 17	5 30.54	+32 26.6	2.104	3.079	3.0	20.5
12 27	5 18.91	+33 52.2	1.787	2.741	6.2	18.9	12 27	5 20.62	+32 45.7	2.123	3.077	5.3	20.6
1 6	5 9.17	+32 58.1	1.822	2.729	9.8	19.1	1 6	5 11.88	+32 54.9	2.170	3.075	8.5	20.8
1 16	5 2.01	+31 58.4	1.882	2.717	13.2	19.3	1 16	5 5.19	+32 56.5	2.243	3.074	11.5	21.0
483588	2004 <i>FY</i> ₁₄₁		12 15.4 238°92	5°8/14.4	17		490912	2011 <i>BZ</i> ₁₄₅		12 15.4 109°76	4°1/15.4	18	
11 7	5 58.88	+ 8 9.5	2.235	3.000	14.0	21.8	11 7	5 58.62	+ 9 32.2	2.414	3.178	13.1	21.5
11 17	5 54.46	+ 7 17.1	2.140	2.990	11.5	21.6	11 17	5 53.97	+ 9 24.1	2.336	3.188	10.5	21.3
11 27	5 47.88	+ 6 31.0	2.068	2.979	8.8	21.4	11 27	5 47.38	+ 9 23.9	2.281	3.198	7.7	21.2
12 7	5 39.69	+ 5 54.9	2.022	2.968	6.5	21.3	12 7	5 39.41	+ 9 32.7	2.252	3.208	5.1	21.0
12 17	5 30.65	+ 5 31.5	2.004	2.956	5.9	21.2	12 17	5 30.77	+ 9 51.2	2.252	3.217	4.1	21.0
12 27	5 21.70	+ 5 23.0	2.016	2.944	7.6	21.3	12 27	5 22.34	+10 19.1	2.283	3.226	5.9	21.1
1 6	5 13.77	+ 5 29.5	2.054	2.932	10.3	21.5	1 6	5 14.93	+10 55.3	2.342	3.235	8.6	21.3
1 16	5 7.62	+ 5 49.8	2.117	2.920	13.1	21.6	1 16	5 9.16	+11 38.1	2.427	3.244	11.2	21.5
401134	2011 <i>UX</i> ₃₂₆		12 15.4 38°85	1°8/15.2	18		172339	2002 <i>VL</i> ₅₇		12 15.4 324°08	3°4/15.2	17	
11 7	6 0.41	+20 53.0	1.522	2.327	17.7	20.9	11 7	6 2.42	+27 26.5	1.659	2.454	16.9	19.5
11 17	5 56.48	+20 21.8	1.458	2.341	13.8	20.7	11 17	5 58.69	+28 36.2	1.568	2.443	13.5	19.3
11 27	5 49.55	+19 50.2	1.414	2.355	9.4	20.4	11 27	5 51.62	+29 47.7	1.498	2.433	9.5	19.0
12 7	5 40.50	+19 19.4	1.395	2.370	4.6	20.2	12 7	5 41.79	+30 55.5	1.453	2.423	5.4	18.8
12 17	5 30.52	+18 50.8	1.403	2.385	2.0	20.1	12 17	5 30.28	+31 53.7	1.436	2.413	3.6	18.6
12 27	5 21.07	+18 26.6	1.439	2.401	6.2	20.4	12 27	5 18.69	+32 38.3	1.446	2.404	6.9	18.8
1 6	5 13.40	+18 8.8	1.500	2.417	10.7	20.7	1 6	5 8.68	+33 8.7	1.483	2.395	11.2	19.0
1 16	5 8.36	+17 58.7	1.585	2.434	14.5	20.9	1 16	5 1.50	+33 27.5	1.544	2.387	15.2	19.3
224758	2006 <i>DD</i> ₁₉₆		12 15.4 18°73	2°2/15.4	17		118744	2000 <i>QA</i> ₁₅₅		12 15.4 154°45	3°7/14.8	18	
11 7	5 58.77	+15 39.8	2.028	2.813	14.5	19.4	11 7	5 59.64	+11 32.7	2.739	3.497	11.8	21.5
11 17	5 54.63	+15 50.3	1.945	2.815	11.5	19.2	11 17	5 54.48	+10 57.8	2.656	3.506	9.5	21.4
11 27	5 48.12	+16 6.7	1.884	2.817	8.0	19.0	11 27	5 47.59	+10 27.4	2.598	3.515	6.9	21.2
12 7	5 39.83	+16 28.8	1.849	2.820	4.2	18.8	12 7	5 39.47	+10 3.1	2.567	3.523	4.5	21.1
12 17	5 30.63	+16 56.1	1.843	2.822	2.3	18.6	12 17	5 30.78	+ 9 46.5	2.567	3.531	3.8	21.0
12 27	5 21.60	+17 27.6	1.866	2.825	5.4	18.8	12 27	5 22.30	+ 9 38.6	2.598	3.538	5.5	21.2
1 6	5 13.78	+18 2.5	1.917	2.828	9.1	19.1	1 6	5 14.74	+ 9 39.6	2.657	3.544	8.0	21.3
1 16	5 7.96	+18 40.0	1.994	2.832	12.4	19.3	1 16	5 8.68	+ 9 49.1	2.744	3.549	10.4	21.5
326139	2012 <i>BE</i> ₂₅		12 15.4 359°81	3°0/15.9	17		8470	<i>Dudinskaya</i>		12 15.4 85°48	2°8/15.6	18	
11 7	5 58.41	+31 13.2	1.433	2.243	18.3	20.0	11 7	6 9.26	+28 17.1	1.464	2.255	18.9	17.4
11 17	5 55.68	+31 12.1	1.357	2.240	14.7	19.7	11 17	6 3.79	+28 51.4	1.404	2.277	14.9	17.2
11 27	5 49.47	+31 1.7	1.300	2.238	10.3	19.5	11 27	5 54.72	+29 21.5	1.365	2.299	10.3	16.9
12 7	5 40.63	+30 39.1	1.266	2.237	5.7	19.2	12 7	5 43.00	+29 42.8	1.349	2.320	5.4	16.7
12 17	5 30.49	+30 3.2	1.258	2.238	3.1	19.1	12 17	5 30.13	+29 51.8	1.361	2.341	2.9	16.6
12 27	5 20.78	+29 16.0	1.276	2.239	6.6	19.3	12 27	5 17.93	+29 48.3	1.401	2.362	6.6	16.9
1 6	5 13.04	+28 22.6	1.319	2.242	11.3	19.6	1 6	5 7.97	+29 35.4	1.468	2.383	11.1	17.2
1 16	5 8.32	+27 28.9	1.384	2.246	15.5	19.8	1 16	5 1.25	+29 18.0	1.558	2.403	15.0	17.5
130042	1999 <i>VE</i> ₁₄₇		12 15.4 106°63	3°3/14.8	18		437955	2002 <i>TP</i> ₆₀		12 15.4 31°97	9°2/17.2	17	
11 7	6 3.10	+16 36.7	1.968	2.747	15.1	20.7	11 7	6 1.71	+ 0 52.6	1.194	1.983	22.5	19.6
11 17	5 57.76	+15 46.7	1.899	2.765	12.0	20.5	11 17	5 57.70	+ 0 50.7	1.156	2.013	18.6	19.5
11 27	5 50.03	+14 58.5	1.852	2.782	8.3	20.3	11 27	5 50.42	+ 1 14.2	1.135	2.044	14.5	19.3
12 7	5 40.63	+14 14.4	1.832	2.799	4.8	20.2	12 7	5 40.90	+ 2 5.8	1.134	2.076	10.8	19.2
12 17	5 30.54	+13 36.6	1.841	2.815	3.5	20.1	12 17	5 30.55	+ 3 24.4	1.158	2.109	9.2	19.3
12 27	5 20.89	+13 7.4	1.880	2.831	6.2	20.3	12 27	5 20.97	+ 5 4.7	1.206	2.143	10.6	19.4
1 6	5 12.67	+12 48.2	1.947	2.847	9.6	20.6	1 6	5 13.50	+ 6 58.4	1.279	2.179	13.7	19.7
1 16	5 6.60	+12 39.3	2.039	2.862	12.8	20.8	1 16	5 8.94	+ 8 57.4	1.374	2.214	16.9	20.0
42818	1999 <i>NU</i> ₄		12 15.4 41°29	2°6/15.3	18		142303	2002 <i>RW</i> ₁₅₃		12 15.4 156°48	1°5/15.2	18	
11 7	6 2.27	+18 30.6	1.152	1.974	21.2	18.2	11 7	6 1.62	+19 33.3	2.121	2.901	14.2	21.0
11 17	5 58.79	+18 13.3	1.096	1.987	16.7	18.0	11 17	5 56.71	+19 18.2	2.037	2.906	11.1	20.9
11 27	5 51.56	+18 0.1	1.058	2.002	11.4	17.7	11 27	5 49.44	+19 4.0	1.976	2.910	7.6	20.6
12 7	5 41.57	+17 52.0	1.043	2.017	5.8	17.5	12 7	5 40.44	+18 51.1	1.941	2.914	3.8	20.4
12 17	5 30.36	+17 49.3	1.051	2.033	2.9	17.3	12 17	5 30.61	+18 39.7	1.936	2.918	1.7	20.3
12 27	5 19.81	+17 52.9	1.085	2.049	7.5	17.7	12 27	5 21.02	+18 30.8	1.961	2.921	5.1	20.5
1 6	5 11.55	+18 3.1	1.143	2.066	12.7	18.0	1 6	5 12.69	+18 25.4	2.014	2.924	8.8	20.7
1 16	5 6.59	+18 20.1	1.223	2.083	17.2	18.3	1 16	5 6.39	+18 24.5	2.094	2.926	12.1	21.0
252517	2001 <i>UC</i> ₁₉₉		12 15.4 85°85	3°2/15.8	17		146999	2002 <i>PL</i> ₉₉		12 15.4 115°34	0°9/15.4	18	
11 7	6 2.86	+31 45.2	1.980	2.758	15.1	21.2	11 7	6 6.90	+20 1.1	1.688	2.473	17.0	20.9
11 17	5 58.22	+32 7.5	1.896	2.760	12.1	21.0	11 17	6 1.35	+20 14.0	1.619	2.490	13.4	20.7
11 27	5 50.74	+32 23.6	1.834	2.761	8.6	20.8	11 27	5 52.81	+20 29.7	1.571	2.506	9.1	20.5
12 7	5 41.13	+32 30.2	1.797	2.763	5.0	20.6	12 7	5 42.07	+20 46.8	1.548	2.522	4.3	20.2
12 17	5 30.43	+32 24.7	1.788	2.764	3.3	20.5	12 17	5 30.31	+21 3.7	1.554	2.537	1.2	20.1
12 27	5 20.01	+32 7.3	1.808	2.765	5.8	20.7	12 27	5 18.98	+21 19.7	1.589	2.552	5.7	20.4
1 6	5 11.12	+31 40.6	1.857	2.767	9.4	20.9	1 6	5 9.38	+21 35.3	1.653	2.566	10.1	20.7
1 16	5 4.69	+31 8.7	1.930	2.768	12.8	21.1	1 16	5 2.44	+21 51.5	1.740	2.579	13.9	21.0
481882	2008 <i>YY</i> ₁₅₉		12 15.4 26°82	1°6/15.6	17		94283	2001 <i>DJ</i> ₄₈		12 15.4 37°92	1°4/15.4	18	

EPHEMERIDES

12 15.4

12 15.4

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
307499	2002 <i>XD</i> ₁₁₇	12 15.4 23°42'			0°1'/15.4 18		411530	2011 <i>BX</i> ₉₃	12 15.4 117°66'			2°2'/15.9 17	
11 7	6 0.56	+22 24.9	1.714	2.511	16.3	20.7	11 7	6 0.99	+30 45.0	2.328	3.100	13.3	21.0
11 17	5 56.58	+22 34.7	1.636	2.514	12.8	20.5	11 17	5 56.23	+30 45.1	2.241	3.103	10.5	20.8
11 27	5 49.72	+22 45.1	1.578	2.517	8.7	20.3	11 27	5 49.12	+30 39.1	2.176	3.105	7.4	20.6
12 7	5 40.69	+22 54.9	1.546	2.521	4.1	20.0	12 7	5 40.31	+30 25.2	2.138	3.107	4.0	20.4
12 17	5 30.56	+23 2.8	1.541	2.525	0.8	19.8	12 17	5 30.69	+30 2.4	2.130	3.109	2.2	20.3
12 27	5 20.70	+23 8.6	1.565	2.529	5.6	20.1	12 27	5 21.34	+29 31.7	2.151	3.111	4.8	20.4
1 6	5 12.39	+23 13.3	1.615	2.533	10.0	20.4	1 6	5 13.27	+28 55.8	2.202	3.113	8.1	20.6
1 16	5 6.56	+23 18.3	1.690	2.538	13.8	20.7	1 16	5 7.21	+28 17.9	2.278	3.115	11.2	20.8
3394	Banno	12 15.4 295°44'			5°4'/14.7 18		303504	2005 <i>ES</i> ₁₅₁	12 15.4 68°81'			0°8'/15.4 18	
11 7	5 59.97	+13 56.8	1.468	2.271	18.3	16.7	11 7	6 1.68	+20 50.6	1.761	2.554	16.1	20.4
11 17	5 56.76	+13 4.7	1.370	2.248	14.9	16.4	11 17	5 57.28	+20 54.7	1.686	2.562	12.7	20.2
11 27	5 50.29	+12 15.8	1.292	2.225	10.9	16.1	11 27	5 50.10	+21 0.3	1.632	2.570	8.6	20.0
12 7	5 41.16	+11 33.9	1.238	2.203	6.9	15.8	12 7	5 40.85	+21 6.7	1.603	2.578	4.1	19.8
12 17	5 30.44	+11 3.2	1.209	2.180	5.6	15.7	12 17	5 30.59	+21 13.0	1.603	2.586	1.1	19.6
12 27	5 19.65	+10 47.1	1.206	2.157	8.8	15.8	12 27	5 20.66	+21 19.3	1.631	2.594	5.5	19.9
1 6	5 10.38	+10 47.3	1.228	2.135	13.5	16.0	1 6	5 12.25	+21 26.3	1.687	2.603	9.8	20.2
1 16	5 3.85	+11 3.6	1.271	2.113	17.9	16.2	1 16	5 6.26	+21 35.0	1.767	2.611	13.5	20.4
132889	2002 <i>RV</i> ₁₆₄	12 15.4 174°75'			1°7'/15.2 18		77264	2001 <i>FX</i> ₅₀	12 15.4 215°36'			1°5'/15.2 18	
11 7	5 57.83	+17 52.1	2.756	3.527	11.5	20.8	11 7	6 4.04	+21 12.4	1.675	2.467	16.9	20.0
11 17	5 53.22	+17 37.5	2.665	3.529	9.0	20.7	11 17	5 59.40	+20 47.1	1.588	2.463	13.4	19.7
11 27	5 46.83	+17 24.5	2.599	3.530	6.2	20.5	11 27	5 51.71	+20 20.8	1.521	2.459	9.1	19.5
12 7	5 39.16	+17 13.5	2.561	3.531	3.2	20.3	12 7	5 41.68	+19 53.7	1.480	2.454	4.5	19.2
12 17	5 30.86	+17 5.1	2.552	3.532	1.8	20.2	12 17	5 30.44	+19 26.7	1.467	2.449	1.8	19.0
12 27	5 22.71	+16 59.8	2.575	3.532	4.3	20.4	12 27	5 19.44	+19 1.7	1.482	2.444	6.2	19.3
1 6	5 15.46	+16 58.3	2.628	3.532	7.2	20.6	1 6	5 10.07	+18 41.3	1.524	2.438	10.8	19.5
1 16	5 9.70	+17 1.0	2.707	3.532	9.9	20.7	1 16	5 3.31	+18 27.3	1.591	2.432	14.9	19.8
373001	2011 <i>CW</i> ₉₆	12 15.4 129°15'			0°1'/15.4 17		64384	2001 <i>UA</i> ₁₃₂	12 15.4 258°30'			2°6'/15.1 18	
11 7	5 59.24	+23 52.8	2.600	3.373	12.0	21.9	11 7	6 2.10	+18 36.6	1.767	2.557	16.2	20.0
11 17	5 54.45	+23 47.4	2.516	3.381	9.4	21.8	11 17	5 57.80	+18 5.9	1.670	2.544	12.9	19.8
11 27	5 47.70	+23 40.5	2.456	3.389	6.3	21.6	11 27	5 50.63	+17 35.8	1.595	2.530	9.0	19.5
12 7	5 39.57	+23 31.4	2.423	3.397	3.0	21.4	12 7	5 41.19	+17 7.4	1.545	2.516	4.7	19.3
12 17	5 30.79	+23 20.1	2.421	3.405	0.6	21.2	12 17	5 30.52	+16 42.2	1.523	2.502	2.7	19.1
12 27	5 22.23	+23 7.1	2.450	3.412	4.0	21.5	12 27	5 19.94	+16 22.2	1.529	2.488	6.4	19.3
1 6	5 14.72	+22 53.8	2.508	3.419	7.2	21.7	1 6	5 10.77	+16 9.3	1.563	2.473	10.8	19.5
1 16	5 8.89	+22 41.6	2.593	3.426	10.1	21.9	1 16	5 4.01	+16 4.7	1.620	2.458	14.8	19.7
291896	2006 <i>QW</i> ₃	12 15.4 64°08'			1°8'/15.3 18		251548	2009 <i>BO</i> ₁₇₇	12 15.4 121°45'			0°6'/15.5 18	
11 7	6 3.09	+19 3.7	1.708	2.499	16.6	20.4	11 7	6 8.09	+25 21.7	1.491	2.284	18.5	21.2
11 17	5 58.11	+18 52.8	1.651	2.525	13.0	20.3	11 17	6 2.81	+25 17.4	1.420	2.296	14.6	21.0
11 27	5 50.42	+18 44.3	1.615	2.551	8.8	20.1	11 27	5 54.07	+25 9.8	1.370	2.307	9.9	20.7
12 7	5 40.87	+18 38.2	1.605	2.578	4.3	19.9	12 7	5 42.75	+24 56.9	1.344	2.318	4.7	20.5
12 17	5 30.57	+18 34.7	1.622	2.604	2.0	19.8	12 17	5 30.26	+24 37.7	1.345	2.329	1.0	20.2
12 27	5 20.82	+18 34.4	1.669	2.630	5.7	20.1	12 27	5 18.32	+24 13.9	1.375	2.339	6.2	20.6
1 6	5 12.74	+18 37.9	1.743	2.656	9.7	20.4	1 6	5 8.45	+23 48.5	1.432	2.349	11.1	20.9
1 16	5 7.09	+18 45.8	1.841	2.682	13.2	20.6	1 16	5 1.66	+23 25.6	1.512	2.358	15.3	21.2
274860	Emilylaktawalla	12 15.4 292°43'			5°0'/15.9 18		454218	2013 <i>HB</i> ₁₂₄	12 15.4 157°70'			2°2'/15.8 17	
11 7	6 2.95	+36 39.9	2.183	2.946	14.3	20.7	11 7	6 1.69	+29 27.1	1.805	2.594	15.9	21.6
11 17	5 58.33	+37 21.6	2.093	2.942	11.7	20.5	11 17	5 57.48	+29 31.8	1.723	2.595	12.7	21.4
11 27	5 50.88	+37 55.5	2.025	2.938	8.8	20.3	11 27	5 50.33	+29 30.6	1.663	2.597	8.8	21.2
12 7	5 41.25	+38 16.9	1.982	2.933	6.1	20.1	12 7	5 41.00	+29 21.1	1.627	2.598	4.6	20.9
12 17	5 30.47	+38 22.4	1.968	2.929	5.0	20.0	12 17	5 30.59	+29 1.9	1.620	2.601	2.3	20.8
12 27	5 19.85	+38 11.0	1.982	2.925	6.6	20.1	12 27	5 20.50	+28 34.0	1.641	2.603	5.6	21.0
1 6	5 10.68	+37 45.2	2.023	2.921	9.5	20.3	1 6	5 12.04	+28 0.5	1.689	2.605	9.7	21.3
1 16	5 3.91	+37 9.5	2.090	2.916	12.4	20.5	1 16	5 6.12	+27 25.6	1.762	2.608	13.4	21.5
416198	2002 <i>TR</i> ₂₉₃	12 15.4 39°92'			3°6'/16.4 17		97593	2000 <i>EA</i> ₃₆	12 15.4 28°24'			2°0'/15.6 18	
11 7	6 2.14	+35 35.8	2.251	3.016	13.9	20.5	11 7	6 1.76	+27 6.6	1.134	1.959	21.2	19.5
11 17	5 57.27	+35 34.4	2.167	3.020	11.2	20.3	11 17	5 58.83	+27 18.6	1.077	1.970	16.8	19.2
11 27	5 49.86	+35 23.2	2.106	3.025	8.1	20.1	11 27	5 51.85	+27 26.0	1.037	1.981	11.5	19.0
12 7	5 40.65	+34 59.8	2.070	3.030	5.1	19.9	12 7	5 41.84	+27 25.5	1.019	1.994	5.7	18.7
12 17	5 30.63	+34 23.0	2.063	3.035	3.6	19.8	12 17	5 30.45	+27 15.2	1.025	2.008	2.1	18.5
12 27	5 20.99	+33 34.2	2.086	3.040	5.5	20.0	12 27	5 19.75	+26 56.1	1.057	2.023	7.2	18.9
1 6	5 12.81	+32 37.3	2.138	3.045	8.5	20.2	1 6	5 11.53	+26 32.3	1.112	2.039	12.5	19.2
1 16	5 6.85	+31 37.0	2.215	3.051	11.5	20.4	1 16	5 6.85	+26 8.6	1.188	2.055	17.1	19.5
493334	2014 <i>VP</i> ₁₁	12 15.4 25°21'			0°2'/15.4 17		414737	2010 <i>AU</i> ₇₆	12 15.4 34°16'			4°3'/16.4 18	
11 7	6 4.14	+18 13.1	1.990	2.768	15.0	20.3	11 7	6 3.72	+7 2.7	1.756	2.525	17.1	19.5
11 17	5 59.07	+19 32.0	1.907	2.775	11.8	20.1	11 17	5 58.63	+7 55.6	1.690	2.545	13.8	19.4
11 27	5 51.31	+20 59.0	1.848	2.782	8.0	19.9	11 27	5 50.88	+9 4.6	1.646	2.566	9.9	19.2
12 7	5 41.46	+22 30.5	1.817	2.791	3.8	19.7	12 7	5 41.19	+10 28.9	1.628	2.588	6.2	19.0
12 17	5 30.45	+24 1.5	1.816	2.799	0.7	19.5	12 17	5 30.58	+12 5.2	1.638	2.610	4.3	18.9
12 27	5 19.51	+25 27.5	1.846	2.808	5.1	19.8	12 27	5 20.32	+13 48.6	1.679	2.633	6.5	19.1
1 6	5 9.86	+26 45.7	1.906	2.818	9.1	20.1	1 6	5 11.55	+15 34.1	1.749	2.656	10.1	19.4
1 16	5 2.44	+27 55.2	1.993	2.828	12.6	20.3	1 16	5 5.11	+17 17.2	1.845	2.680	13.4	19.6
481029	2004 <i>XB</i> ₇₆	12 15.4 31°10'			0°4'/15.5 16		454772	2014 <i>WK</i> ₂₈₈	12 15.4 206°19'			1°5'/15.5 18	
11 7	6 1.40	+25 43.8	1.306	2.121	19.5	20.5	11 7	5 59.39	+16 18.9	2.599	3.368	12.1	21.2
11 17	5												

EPHEMERIDES

12 15.4

12 15.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
21189	1994 <i>JB</i>		12 15.4 141°00'		0°5/15.5 18		22545	Brittrusso		12 15.5 36°29'		2°9/15.4 18	
11 7	6 4.48	+24 15.4	2.155	2.929	14.2	19.9	11 7	6 2.29	+16 37.1	1.276	2.088	20.0	18.2
11 17	5 58.98	+24 25.9	2.074	2.940	11.1	19.7	11 17	5 58.71	+16 33.7	1.208	2.094	15.9	18.0
11 27	5 51.01	+24 35.2	2.017	2.950	7.5	19.5	11 27	5 51.58	+16 37.1	1.160	2.100	11.0	17.7
12 7	5 41.23	+24 41.7	1.987	2.960	3.6	19.3	12 7	5 41.74	+16 47.9	1.134	2.107	5.8	17.5
12 17	5 30.58	+24 44.2	1.986	2.969	0.8	19.1	12 17	5 30.54	+17 5.8	1.133	2.114	3.1	17.3
12 27	5 20.22	+24 42.8	2.016	2.978	4.7	19.4	12 27	5 19.74	+17 29.9	1.159	2.121	7.4	17.6
1 6	5 11.21	+24 38.6	2.075	2.986	8.5	19.6	1 6	5 10.97	+17 59.6	1.209	2.129	12.4	17.9
1 16	5 4.35	+24 33.8	2.160	2.994	11.8	19.9	1 16	5 5.30	+18 33.9	1.281	2.137	16.8	18.2
518093	2016 <i>AY</i> ₂₂₈		12 15.4	1°00'	8°1/17.4 16		453748	2011 <i>CC</i> ₃₆		12 15.5 28°11'		7°6/17.2 17	
11 7	6 3.34	+44 27.5	1.789	2.547	17.2	20.1	11 7	6 5.81	+43 54.6	1.904	2.654	16.6	20.8
11 17	5 59.50	+45 0.5	1.711	2.545	14.6	19.9	11 17	6 1.10	+44 29.4	1.830	2.661	14.0	20.6
11 27	5 52.06	+45 17.2	1.652	2.544	11.8	19.7	11 27	5 52.96	+44 48.9	1.777	2.668	11.2	20.5
12 7	5 41.90	+45 11.1	1.615	2.544	9.2	19.6	12 7	5 42.28	+44 47.3	1.747	2.676	8.7	20.3
12 17	5 30.45	+44 38.2	1.603	2.545	8.1	19.5	12 17	5 30.45	+44 20.6	1.743	2.684	7.6	20.3
12 27	5 19.53	+43 39.2	1.618	2.547	9.1	19.6	12 27	5 19.19	+43 29.7	1.766	2.693	8.6	20.4
1 6	5 10.73	+42 19.7	1.658	2.550	11.6	19.7	1 6	5 10.00	+42 19.9	1.814	2.702	11.0	20.5
1 16	5 5.10	+40 48.4	1.722	2.553	14.4	19.9	1 16	5 3.85	+40 58.9	1.888	2.712	13.6	20.7
447563	2006 <i>TG</i> ₃		12 15.4	19°02'	1°0/15.5 18		183458	2003 <i>BU</i> ₄₂		12 15.5 343°65'		1°9/15.4 17	
11 7	6 0.67	+24 4.1	1.616	2.417	17.0	21.0	11 7	5 59.61	+24 39.4	1.546	2.352	17.4	19.7
11 17	5 56.94	+24 30.5	1.540	2.420	13.4	20.7	11 17	5 56.53	+25 28.9	1.460	2.343	13.8	19.5
11 27	5 50.14	+24 57.2	1.485	2.425	9.1	20.5	11 27	5 50.17	+26 20.9	1.395	2.335	9.5	19.2
12 7	5 40.99	+25 21.7	1.455	2.429	4.4	20.2	12 7	5 41.16	+27 11.5	1.354	2.328	4.8	18.9
12 17	5 30.64	+25 41.6	1.451	2.435	1.2	20.0	12 17	5 30.62	+27 56.4	1.339	2.321	2.1	18.7
12 27	5 20.56	+25 55.9	1.476	2.440	5.8	20.3	12 27	5 20.12	+28 32.6	1.352	2.316	6.4	19.0
1 6	5 12.15	+26 5.5	1.527	2.447	10.3	20.6	1 6	5 11.26	+28 59.9	1.391	2.311	11.1	19.2
1 16	5 6.40	+26 12.2	1.602	2.453	14.3	20.9	1 16	5 5.21	+29 19.9	1.453	2.307	15.3	19.5
216950	1999 <i>VF</i> ₄₆		12 15.5	80°09'	7°0/15.8 18		848	Inna		12 15.5 90°63'		0°4/15.4 18	
11 7	6 13.47	+35 57.1	1.458	2.234	19.6	20.2	11 7	5 59.93	+22 22.8	2.373	3.151	12.9	16.4
11 17	6 7.68	+37 20.8	1.403	2.259	16.0	20.0	11 17	5 55.12	+22 18.5	2.299	3.166	10.1	16.3
11 27	5 57.72	+38 35.0	1.368	2.284	12.0	19.8	11 27	5 48.24	+22 13.6	2.247	3.182	6.8	16.1
12 7	5 44.59	+39 30.5	1.357	2.308	8.4	19.7	12 7	5 39.90	+22 7.7	2.223	3.197	3.2	15.9
12 17	5 30.00	+40 0.2	1.372	2.332	7.0	19.6	12 17	5 30.90	+22 0.6	2.229	3.212	0.7	15.7
12 27	5 16.13	+40 2.6	1.415	2.356	9.0	19.8	12 27	5 22.20	+21 53.1	2.265	3.227	4.3	16.0
1 6	5 4.86	+39 42.8	1.483	2.379	12.3	20.1	1 6	5 14.65	+21 46.0	2.330	3.242	7.7	16.2
1 16	4 57.36	+39 9.0	1.573	2.402	15.7	20.3	1 16	5 8.92	+21 40.6	2.422	3.257	10.6	16.5
22601	1998 <i>HD</i> ₁₂₄		12 15.5	102°01'	1°7/15.5 18 R		425031	2009 <i>HF</i> ₁₈		12 15.5 183°91'		1°8/15.3 16	
11 7	6 8.59	+17 26.4	1.740	2.517	16.9	17.4	11 7	6 5.84	+19 34.9	1.647	2.435	17.2	22.6
11 17	6 2.41	+17 39.9	1.678	2.544	13.3	17.2	11 17	6 0.84	+19 22.3	1.563	2.436	13.7	22.4
11 27	5 53.39	+17 58.2	1.638	2.571	9.0	17.0	11 27	5 52.72	+19 11.2	1.500	2.436	9.4	22.1
12 7	5 42.34	+18 20.0	1.624	2.596	4.5	16.8	12 7	5 42.21	+19 1.8	1.462	2.436	4.7	21.9
12 17	5 30.43	+18 44.1	1.639	2.621	1.9	16.7	12 17	5 30.46	+18 54.1	1.453	2.435	2.0	21.7
12 27	5 19.05	+19 9.5	1.685	2.645	5.7	17.0	12 27	5 18.97	+18 49.0	1.472	2.433	6.3	22.0
1 6	5 9.41	+19 35.7	1.758	2.668	9.9	17.3	1 6	5 9.15	+18 47.6	1.518	2.431	10.9	22.2
1 16	5 2.35	+20 3.0	1.857	2.691	13.4	17.6	1 16	5 2.02	+18 51.4	1.588	2.428	15.0	22.5
40556	1999 <i>RS</i> ₁₁₅		12 15.5	145°92'	3°7/15.2 18		512343	2016 <i>ML</i> ₂		12 15.5 86°76'		2°3/15.4 18	
11 7	6 5.12	+14 29.5	1.738	2.519	16.8	18.9	11 7	6 7.54	+17 17.2	1.350	2.149	19.8	21.1
11 17	5 59.88	+14 6.8	1.662	2.528	13.4	18.7	11 17	6 2.42	+17 21.8	1.291	2.169	15.6	20.9
11 27	5 51.82	+13 49.6	1.607	2.536	9.4	18.5	11 27	5 53.82	+17 32.5	1.252	2.189	10.7	20.7
12 7	5 41.68	+13 39.3	1.578	2.544	5.5	18.3	12 7	5 42.67	+17 48.7	1.236	2.209	5.4	20.4
12 17	5 30.55	+13 37.1	1.577	2.552	3.8	18.2	12 17	5 30.40	+18 9.1	1.247	2.228	2.5	20.3
12 27	5 19.75	+13 43.6	1.605	2.559	6.8	18.4	12 27	5 18.75	+18 32.8	1.285	2.247	6.9	20.6
1 6	5 10.51	+13 58.7	1.660	2.565	10.7	18.6	1 6	5 9.22	+18 59.3	1.350	2.266	11.7	20.9
1 16	5 3.73	+14 21.8	1.740	2.570	14.3	18.9	1 16	5 2.80	+19 28.6	1.437	2.284	15.9	21.2
40712	1999 <i>RB</i> ₂₄₆		12 15.5	156°33'	0°2/15.4 18		108023	2001 <i>FH</i> ₁₄₈		12 15.5 339°46'		8°2/13.2 18	
11 7	6 0.91	+21 53.6	2.721	3.488	11.7	20.1	11 7	5 54.48	+12 57.1	1.244	2.068	19.8	18.6
11 17	5 55.69	+22 2.4	2.634	3.496	9.2	19.9	11 17	5 52.75	+11 3.2	1.163	2.050	16.2	18.4
11 27	5 48.57	+22 11.4	2.571	3.503	6.2	19.8	11 27	5 47.68	+9 8.7	1.101	2.034	12.3	18.1
12 7	5 40.05	+22 19.8	2.536	3.510	2.9	19.5	12 7	5 40.00	+7 22.0	1.061	2.019	9.0	17.9
12 17	5 30.85	+22 27.0	2.532	3.516	0.6	19.4	12 17	5 30.87	+5 52.3	1.045	2.005	8.5	17.8
12 27	5 21.83	+22 32.9	2.560	3.521	3.9	19.6	12 27	5 21.94	+4 48.0	1.053	1.993	11.5	17.9
1 6	5 13.78	+22 37.9	2.617	3.526	7.1	19.8	1 6	5 14.73	+4 12.7	1.084	1.983	15.6	18.1
1 16	5 7.35	+22 43.0	2.702	3.530	9.9	20.0	1 16	5 10.40	+4 6.0	1.133	1.974	19.7	18.3
130102	1999 <i>XO</i> ₃₀		12 15.5	70°79'	2°9/15.7 18		435612	2008 <i>SU</i> ₇₇		12 15.5 116°99'		1°2/15.3 16	
11 7	6 4.40	+13 22.1	1.681	2.465	17.2	18.8	11 7	6 5.09	+20 54.4	1.867	2.649	15.7	22.3
11 17	5 59.32	+13 46.3	1.617	2.485	13.6	18.6	11 17	5 59.65	+20 41.4	1.796	2.665	12.3	22.1
11 27	5 51.42	+14 20.0	1.574	2.505	9.4	18.4	11 27	5 51.53	+20 28.5	1.746	2.681	8.4	21.9
12 7	5 41.48	+15 2.4	1.557	2.526	5.2	18.2	12 7	5 41.51	+20 15.8	1.723	2.696	4.0	21.7
12 17	5 30.60	+15 51.8	1.567	2.546	3.0	18.1	12 17	5 30.63	+20 3.2	1.728	2.711	1.4	21.5
12 27	5 20.12	+16 45.7	1.607	2.566	6.2	18.4	12 27	5 20.18	+19 51.8	1.764	2.725	5.4	21.9
1 6	5 11.27	+17 41.9	1.675	2.586	10.2	18.6	1 6	5 11.29	+19 43.2	1.827	2.739	9.5	22.1
1 16	5 4.89	+18 38.6	1.768	2.606	13.8	18.9	1 16	5 4.77	+19 38.5	1.916	2.752	13.0	22.4
190928	2001 <i>UL</i> ₂₁₁		12 15.5	154°36'	1°1/15.6 18		156249	2001 <i>UT</i> ₁₈₉		12 15.5 332°77'		4°4/14.8 18 R	
11 7	6 5.03	+26 8.5	1.75										

EPHEMERIDES

12 15.5

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
442353	2011 <i>SF</i> ₂₂₉		12 15.5	96°63	0°8/15.6	15	430861	2005 <i>NS</i> ₅₆		12 15.5	138°69	0°4/15.4	16 R
11 7	6 4.88	+25 57.1	1.977	2.756	15.1	22.1	11 7	6 6.79	+22 10.4	1.928	2.705	15.5	22.8
11 17	5 59.39	+25 58.0	1.909	2.777	11.8	21.9	11 17	6 1.01	+22 11.1	1.852	2.718	12.2	22.6
11 27	5 51.29	+25 55.7	1.863	2.797	8.0	21.7	11 27	5 52.50	+22 11.5	1.798	2.731	8.2	22.4
12 7	5 41.37	+25 48.8	1.844	2.817	3.8	21.5	12 7	5 42.02	+22 10.7	1.770	2.744	3.9	22.2
12 17	5 30.66	+25 36.4	1.854	2.837	1.0	21.4	12 17	5 30.61	+22 8.0	1.772	2.755	0.8	22.0
12 27	5 20.42	+25 19.5	1.893	2.856	4.9	21.7	12 27	5 19.56	+22 3.6	1.804	2.766	5.2	22.3
1 6	5 11.74	+25 0.4	1.962	2.875	8.8	22.0	1 6	5 10.07	+21 59.0	1.865	2.776	9.3	22.6
1 16	5 5.39	+24 41.6	2.056	2.893	12.1	22.2	1 16	5 2.96	+21 56.0	1.951	2.785	12.8	22.8
373907	2003 <i>UE</i> ₆₃		12 15.5	72°71	0°3/15.5	17	350510	2000 <i>AN</i> ₂₁₂		12 15.5	53°90	1°4/15.4	17
11 7	6 12.18	+21 21.3	1.342	2.135	20.2	21.2	11 7	6 8.23	+22 34.4	1.437	2.233	19.0	20.5
11 17	6 5.81	+21 41.8	1.297	2.173	15.7	21.0	11 17	6 2.85	+23 38.0	1.388	2.264	14.8	20.3
11 27	5 55.88	+22 4.1	1.272	2.210	10.5	20.8	11 27	5 54.06	+24 44.0	1.359	2.296	10.0	20.1
12 7	5 43.52	+22 25.5	1.272	2.246	4.9	20.6	12 7	5 42.79	+25 47.3	1.354	2.328	4.8	19.9
12 17	5 30.30	+22 43.4	1.299	2.283	0.9	20.4	12 17	5 30.48	+26 42.9	1.378	2.360	1.6	19.8
12 27	5 18.03	+22 57.3	1.354	2.318	6.3	20.9	12 27	5 18.83	+27 27.9	1.430	2.393	6.2	20.1
1 6	5 8.17	+23 8.6	1.436	2.353	11.1	21.2	1 6	5 9.32	+28 2.6	1.508	2.425	10.7	20.5
1 16	5 1.59	+23 19.4	1.542	2.386	15.1	21.6	1 16	5 2.89	+28 29.3	1.611	2.457	14.5	20.8
489881	2008 <i>HQ</i> ₁		12 15.5	281°76	4°0/15.0	18	358278	2006 <i>UO</i> ₃₁		12 15.5	295°35	1°4/15.6	18
11 7	5 58.80	+13 7.1	2.061	2.841	14.5	21.6	11 7	6 1.73	+26 26.2	1.930	2.716	15.1	21.5
11 17	5 54.82	+12 40.0	1.958	2.823	11.7	21.3	11 17	5 57.38	+26 41.5	1.843	2.714	12.0	21.3
11 27	5 48.44	+12 17.9	1.877	2.804	8.5	21.1	11 27	5 50.27	+26 54.4	1.777	2.712	8.2	21.1
12 7	5 40.19	+12 2.6	1.822	2.785	5.3	20.9	12 7	5 41.06	+27 2.7	1.738	2.711	4.1	20.8
12 17	5 30.88	+11 55.9	1.795	2.766	4.1	20.8	12 17	5 30.76	+27 4.7	1.726	2.709	1.5	20.6
12 27	5 21.57	+11 59.1	1.797	2.747	6.6	20.9	12 27	5 20.66	+27 0.2	1.744	2.707	5.3	20.9
1 6	5 13.33	+12 12.3	1.826	2.728	10.1	21.0	1 6	5 11.98	+26 50.8	1.790	2.706	9.4	21.1
1 16	5 7.04	+12 35.1	1.880	2.708	13.5	21.2	1 16	5 5.64	+26 39.3	1.861	2.704	13.0	21.4
55882	1997 <i>WY</i> ₁		12 15.5	99°45	1°5/15.3	18	174270	2002 <i>SU</i> ₈		12 15.5	22°59	1°8/15.4	18
11 7	6 4.28	+21 16.3	1.673	2.465	16.9	19.0	11 7	5 58.25	+19 13.8	1.243	2.066	19.8	19.2
11 17	5 59.35	+20 49.7	1.602	2.477	13.3	18.8	11 17	5 55.51	+19 10.8	1.187	2.079	15.6	19.0
11 27	5 51.50	+20 22.5	1.552	2.490	9.0	18.5	11 27	5 49.34	+19 11.6	1.149	2.094	10.6	18.8
12 7	5 41.55	+19 54.9	1.528	2.502	4.4	18.3	12 7	5 40.67	+19 16.3	1.134	2.110	5.2	18.5
12 17	5 30.66	+19 28.1	1.531	2.514	1.7	18.1	12 17	5 30.86	+19 24.5	1.144	2.127	2.0	18.4
12 27	5 20.24	+19 3.8	1.564	2.526	5.9	18.4	12 27	5 21.62	+19 36.2	1.180	2.145	6.8	18.7
1 6	5 11.53	+18 44.4	1.623	2.537	10.3	18.7	1 6	5 14.39	+19 51.3	1.240	2.165	11.7	19.1
1 16	5 5.39	+18 31.5	1.707	2.548	14.0	19.0	1 16	5 10.15	+20 10.2	1.322	2.185	15.9	19.4
472296	2014 <i>WP</i> ₃₈₉		12 15.5	208°51	1°9/15.7	18	223390	2003 <i>SA</i> ₉₁		12 15.5	340°47	5°2/14.6	17
11 7	6 6.45	+28 24.2	1.396	2.196	19.2	20.6	11 7	5 56.36	+11 26.3	1.944	2.731	15.0	19.9
11 17	6 2.12	+28 21.7	1.317	2.195	15.3	20.4	11 17	5 52.87	+10 33.8	1.858	2.724	12.2	19.7
11 27	5 54.00	+28 12.6	1.257	2.194	10.6	20.1	11 27	5 47.06	+9 46.6	1.795	2.718	9.0	19.4
12 7	5 42.95	+27 53.9	1.220	2.193	5.4	19.8	12 7	5 39.50	+9 8.0	1.756	2.713	6.2	19.3
12 17	5 30.39	+27 24.1	1.210	2.192	2.0	19.6	12 17	5 31.06	+8 41.1	1.745	2.708	5.3	19.2
12 27	5 18.24	+26 44.9	1.227	2.191	6.7	19.9	12 27	5 22.79	+8 27.9	1.762	2.704	7.4	19.3
1 6	5 8.25	+26 1.1	1.269	2.189	11.9	20.1	1 6	5 15.71	+8 29.1	1.805	2.699	10.6	19.5
1 16	5 1.58	+25 18.6	1.334	2.188	16.5	20.4	1 16	5 10.58	+8 43.6	1.871	2.696	13.7	19.7
206442	2003 <i>SY</i> ₂₃₃		12 15.5	171°57	1°2/15.4	17	357031	2000 <i>FG</i> ₆		12 15.5	31°08	7°8/15.9	17
11 7	5 58.81	+19 34.9	2.413	3.190	12.7	20.6	11 7	6 7.66	+41 11.5	1.898	2.653	16.4	21.3
11 17	5 54.35	+19 31.5	2.324	3.191	10.0	20.4	11 17	6 2.87	+42 27.6	1.819	2.654	13.8	21.1
11 27	5 47.82	+19 29.4	2.258	3.192	6.8	20.2	11 27	5 54.49	+43 33.4	1.760	2.655	11.0	20.9
12 7	5 39.78	+19 28.7	2.220	3.193	3.3	20.0	12 7	5 43.22	+44 21.4	1.725	2.656	8.6	20.8
12 17	5 30.98	+19 29.2	2.211	3.193	1.3	19.8	12 17	5 30.37	+44 45.1	1.716	2.657	7.8	20.7
12 27	5 22.34	+19 31.2	2.233	3.194	4.5	20.1	12 27	5 17.72	+44 42.4	1.735	2.658	9.1	20.8
1 6	5 14.73	+19 35.3	2.283	3.194	7.9	20.3	1 6	5 6.97	+44 16.5	1.779	2.659	11.6	21.0
1 16	5 8.86	+19 42.0	2.360	3.194	10.9	20.5	1 16	5 49.36	+43 34.2	1.847	2.660	14.4	21.2
296384	2009 <i>FW</i> ₅₇		12 15.5	53°73	2°1/15.2	18	462986	2011 <i>FL</i> ₁₂		12 15.5	341°31	0°8/15.4	16
11 7	6 0.50	+19 11.3	1.802	2.594	15.8	20.9	11 7	5 57.29	+21 15.4	1.868	2.666	15.1	21.3
11 17	5 56.28	+18 47.4	1.724	2.599	12.5	20.7	11 17	5 53.92	+21 14.4	1.778	2.657	12.0	21.1
11 27	5 49.41	+18 24.5	1.668	2.604	8.5	20.5	11 27	5 47.96	+21 14.3	1.711	2.650	8.2	20.9
12 7	5 40.60	+18 3.6	1.637	2.610	4.4	20.2	12 7	5 40.00	+21 14.6	1.668	2.643	3.9	20.6
12 17	5 30.85	+17 45.8	1.634	2.615	2.2	20.1	12 17	5 30.98	+21 15.2	1.653	2.636	1.1	20.4
12 27	5 21.40	+17 32.2	1.660	2.620	5.8	20.4	12 27	5 22.09	+21 16.1	1.666	2.630	5.3	20.6
1 6	5 13.42	+17 24.4	1.713	2.626	9.9	20.6	1 6	5 14.51	+21 18.4	1.707	2.625	9.5	20.9
1 16	5 7.72	+17 23.0	1.790	2.631	13.5	20.8	1 16	5 9.11	+21 23.0	1.772	2.621	13.3	21.1
369781	2012 <i>GO</i> ₂₉		12 15.5	189°76	0°1/15.5	18	34718	Cantagalli		12 15.5	176°80	2°1/15.2	18
11 7	5 59.57	+23 38.6	2.829	3.597	11.3	22.1	11 7	5 57.39	+16 5.1	2.830	3.599	11.2	20.2
11 17	5 54.67	+23 39.0	2.734	3.596	8.8	22.0	11 17	5 52.89	+15 53.7	2.739	3.600	8.9	20.1
11 27	5 47.92	+23 38.2	2.662	3.595	6.0	21.8	11 27	5 46.67	+15 45.0	2.672	3.601	6.2	19.9
12 7	5 39.80	+23 35.6	2.619	3.593	2.8	21.6	12 7	5 39.21	+15 39.6	2.633	3.602	3.4	19.7
12 17	5 31.00	+23 30.8	2.606	3.590	0.5	21.4	12 17	5 31.14	+15 38.0	2.625	3.602	2.2	19.6
12 27	5 22.32	+23 24.1	2.625	3.587	3.8	21.6	12 27	5 23.19	+15 40.5	2.647	3.602	4.3	19.8
1 6	5 14.57	+23 16.4	2.674	3.584	6.9	21.8	1 6	5 16.10	+15 47.4	2.699	3.602	7.2	20.0
1 16	5 8.36	+23 9.0	2.751	3.580	9.7	22.0	1 16	5 10.42	+15 58.6	2.778	3.601	9.8	20.1
302733	2002 <i>TO</i> ₃₇₈		12 15.5	31°97	0°7/15.6	18	476594	2008 <i>SH</i> ₄₀		12 15.5	34°97	0°7/15.5	16

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
95813	2003 <i>FW</i> ₆₈	12 15.5 171°25'	0°1'/15.5 18"				161507	2004 <i>RU</i> ₈₂	12 15.5 146°69'	0°6'/15.5 18"			
11 7	6 4.76	+22 57.1	2.071	2.847	14.6	20.8	11 7	6 4.81	+24 40.7	1.858	2.642	15.8	21.5
11 17	5 59.42	+23 5.9	1.984	2.850	11.5	20.6	11 17	5 59.75	+24 47.0	1.778	2.648	12.4	21.3
11 27	5 51.48	+23 14.5	1.919	2.853	7.8	20.3	11 27	5 51.84	+24 51.7	1.718	2.654	8.5	21.1
12 7	5 41.60	+23 21.6	1.882	2.856	3.7	20.1	12 7	5 41.81	+24 52.8	1.685	2.659	4.0	20.8
12 17	5 30.72	+23 25.8	1.874	2.857	0.7	19.9	12 17	5 30.72	+24 49.3	1.681	2.664	0.9	20.6
12 27	5 20.05	+23 27.2	1.896	2.859	5.0	20.2	12 27	5 19.94	+24 41.3	1.706	2.669	5.3	20.9
1 6	5 10.74	+23 26.8	1.947	2.859	8.9	20.4	1 6	5 10.72	+24 30.8	1.759	2.673	9.6	21.2
1 16	5 3.63	+23 26.4	2.024	2.859	12.4	20.7	1 16	5 3.95	+24 20.2	1.837	2.677	13.2	21.4
439763	2015 <i>FF</i> ₃₃₉	12 15.5 208°38'	3°5'/15.5 18"				192065	2006 <i>BY</i> ₈₃	12 15.5 45°37'	1°4'/15.6 18"			
11 7	6 3.23	+14 7.2	1.655	2.443	17.2	21.0	11 7	6 4.12	+25 47.4	1.304	2.115	19.8	20.0
11 17	5 58.79	+14 4.9	1.571	2.441	13.8	20.8	11 17	6 0.11	+26 2.7	1.248	2.133	15.5	19.8
11 27	5 51.38	+14 10.2	1.508	2.439	9.7	20.6	11 27	5 52.45	+26 15.2	1.211	2.152	10.6	19.5
12 7	5 41.66	+14 24.1	1.469	2.437	5.5	20.3	12 7	5 42.14	+26 22.2	1.197	2.172	5.1	19.3
12 17	5 30.70	+14 46.6	1.458	2.435	3.5	20.2	12 17	5 30.68	+26 21.5	1.209	2.192	1.6	19.1
12 27	5 19.91	+15 17.1	1.475	2.432	6.8	20.4	12 27	5 19.90	+26 13.8	1.247	2.212	6.5	19.5
1 6	5 10.63	+15 54.3	1.519	2.429	11.1	20.6	1 6	5 11.36	+26 1.8	1.311	2.233	11.4	19.8
1 16	5 3.86	+16 36.9	1.586	2.426	15.0	20.9	1 16	5 6.02	+25 49.1	1.397	2.254	15.6	20.1
144361	2004 <i>DV</i> ₄₄	12 15.5 302°52'	8°2'/13.8 18"				415266	2013 <i>BA</i>	12 15.5 61°32'	15°5'/20.2 18"			
11 7	5 59.13	+10 13.8	1.381	2.185	19.2	20.3	11 7	6 10.17	-12 5.9	1.126	1.860	26.6	20.1
11 17	5 56.26	+8 46.3	1.288	2.162	15.9	20.0	11 17	6 5.08	-12 13.8	1.069	1.870	23.6	19.9
11 27	5 50.10	+7 22.6	1.215	2.140	12.3	19.7	11 27	5 56.01	-11 40.8	1.026	1.881	20.4	19.7
12 7	5 41.24	+6 9.4	1.164	2.118	9.1	19.5	12 7	5 43.91	-10 17.3	0.999	1.893	17.4	19.6
12 17	5 30.77	+5 14.2	1.138	2.096	8.4	19.4	12 17	5 30.36	-8 0.6	0.994	1.904	15.6	19.5
12 27	5 20.28	+4 42.7	1.137	2.074	11.1	19.5	12 27	5 17.37	-4 57.5	1.012	1.916	16.0	19.6
1 6	5 11.35	+4 37.3	1.159	2.053	15.3	19.6	1 6	5 6.75	-1 23.8	1.055	1.928	18.3	19.8
1 16	5 5.21	+4 56.5	1.201	2.032	19.4	19.8	1 16	4 59.69	+2 22.1	1.120	1.940	21.3	20.0
210389	2007 <i>VA</i> ₁₄₉	12 15.5 102°70'	1°1'/15.4 16"				448335	2009 <i>EJ</i> ₃₀	12 15.5 312°47'	2°1'/15.2 18"			
11 7	6 9.58	+21 25.2	1.531	2.319	18.4	21.4	11 7	6 0.25	+19 12.7	1.766	2.561	16.0	21.4
11 17	6 3.61	+21 14.4	1.470	2.343	14.4	21.2	11 17	5 56.31	+18 50.5	1.680	2.556	12.7	21.2
11 27	5 54.42	+21 3.9	1.430	2.366	9.7	21.0	11 27	5 49.60	+18 29.5	1.615	2.552	8.7	21.0
12 7	5 42.94	+20 52.8	1.415	2.389	4.6	20.7	12 7	5 40.80	+18 10.3	1.575	2.547	4.5	20.7
12 17	5 30.53	+20 41.2	1.428	2.412	1.4	20.6	12 17	5 30.92	+17 53.9	1.562	2.543	2.2	20.6
12 27	5 18.79	+20 30.0	1.471	2.433	6.1	20.9	12 27	5 21.23	+17 41.7	1.578	2.539	6.0	20.8
1 6	5 9.08	+20 21.2	1.540	2.454	10.7	21.3	1 6	5 12.97	+17 35.1	1.621	2.535	10.3	21.0
1 16	5 2.30	+20 16.6	1.633	2.474	14.6	21.6	1 16	5 7.05	+17 35.0	1.688	2.532	14.1	21.3
249152	2008 <i>AX</i> ₈₀	12 15.5 68°21'	2°8'/16.0 18"				519787	2013 <i>GB</i> ₃₉	12 15.5 194°08'	3°9'/14.9 18"			
11 7	6 5.27	+31 34.2	1.806	2.586	16.3	20.3	11 7	5 59.74	+12 16.4	2.363	3.132	13.2	22.1
11 17	6 0.08	+31 35.3	1.740	2.606	12.9	20.1	11 17	5 55.05	+11 43.6	2.273	3.130	10.6	21.9
11 27	5 51.95	+31 28.3	1.696	2.626	9.0	19.9	11 27	5 48.32	+11 15.5	2.206	3.128	7.7	21.7
12 7	5 41.77	+31 10.7	1.677	2.646	5.0	19.8	12 7	5 40.07	+10 53.9	2.166	3.125	4.9	21.6
12 17	5 30.74	+30 41.4	1.687	2.665	2.8	19.7	12 17	5 31.06	+10 40.6	2.155	3.122	4.0	21.5
12 27	5 20.30	+30 2.4	1.725	2.685	5.7	19.9	12 27	5 22.20	+10 36.7	2.174	3.119	6.0	21.6
1 6	5 11.68	+29 17.7	1.791	2.705	9.5	20.2	1 6	5 14.36	+10 42.4	2.222	3.115	8.9	21.8
1 16	5 5.68	+28 31.9	1.883	2.725	12.9	20.4	1 16	5 8.24	+10 57.2	2.295	3.111	11.8	22.0
83902	2001 <i>UX</i> ₁₆₄	12 15.5 204°47'	3°8'/15.5 18"				459322	2012 <i>HB</i> ₉	12 15.5 129°74'	0°5'/15.5 17"			
11 7	6 5.17	+32 2.5	2.239	3.004	14.0	19.4	11 7	6 0.77	+23 18.5	2.568	3.339	12.2	21.5
11 17	5 59.99	+32 57.6	2.147	3.001	11.2	19.2	11 17	5 55.81	+23 44.3	2.484	3.348	9.6	21.3
11 27	5 52.06	+33 49.1	2.077	2.998	8.1	19.0	11 27	5 48.80	+24 10.4	2.423	3.356	6.5	21.1
12 7	5 41.97	+34 32.4	2.034	2.995	5.1	18.9	12 7	5 40.29	+24 35.2	2.390	3.364	3.1	20.9
12 17	5 30.67	+35 3.6	2.021	2.991	3.9	18.8	12 17	5 31.02	+24 57.2	2.388	3.371	0.7	20.8
12 27	5 19.41	+35 20.8	2.037	2.987	6.0	18.9	12 27	5 21.91	+25 15.7	2.417	3.379	4.1	21.0
1 6	5 9.46	+35 25.0	2.082	2.982	9.1	19.1	1 6	5 13.82	+25 30.9	2.475	3.386	7.3	21.3
1 16	5 1.78	+35 19.3	2.153	2.977	12.2	19.3	1 16	5 7.46	+25 43.8	2.561	3.393	10.2	21.5
243727	2000 <i>JV</i> ₁₈	12 15.5 113°03'	8°3'/14.9 18"				11971	1994 <i>UJ</i> ₂	12 15.5 44°92'	3°8'/15.4 18"			
11 7	6 0.32	-2 56.1	2.480	3.199	13.9	20.8	11 7	6 3.72	+30 14.4	1.882	2.663	15.6	17.0
11 17	5 55.11	-3 56.3	2.421	3.221	12.0	20.7	11 17	5 59.13	+31 20.4	1.810	2.675	12.5	16.8
11 27	5 48.10	-4 42.7	2.384	3.242	10.0	20.6	11 27	5 51.58	+32 23.4	1.760	2.688	8.9	16.6
12 7	5 39.85	-5 11.5	2.372	3.263	8.6	20.5	12 7	5 41.75	+33 18.3	1.736	2.701	5.4	16.4
12 17	5 31.09	-5 20.0	2.386	3.283	8.3	20.5	12 17	5 30.75	+34 0.5	1.741	2.714	3.9	16.3
12 27	5 22.62	-5 7.7	2.428	3.303	9.1	20.6	12 27	5 20.01	+34 27.9	1.774	2.727	6.3	16.5
1 6	5 15.20	-4 36.3	2.497	3.322	10.6	20.8	1 6	5 10.84	+34 41.5	1.835	2.741	9.8	16.7
1 16	5 9.39	-3 48.9	2.588	3.340	12.4	20.9	1 16	5 4.24	+34 44.7	1.920	2.755	13.0	17.0
353000	2009 <i>BQ</i> ₁₂₅	12 15.5 266°39'	1°2'/15.6 18"				325728	2009 <i>VS</i> ₁₈	12 15.5 96°39'	0°8'/15.6 18"			
11 7	6 2.46	+26 29.8	1.870	2.657	15.5	21.4	11 7	6 0.84	+25 59.3	2.318	3.094	13.2	21.4
11 17	5 58.13	+26 34.4	1.775	2.647	12.3	21.2	11 17	5 56.03	+26 2.2	2.239	3.106	10.4	21.3
11 27	5 50.92	+26 35.9	1.702	2.638	8.5	20.9	11 27	5 49.00	+26 2.5	2.184	3.117	7.0	21.1
12 7	5 41.45	+26 32.1	1.654	2.628	4.2	20.7	12 7	5 40.38	+25 58.9	2.155	3.128	3.4	20.9
12 17	5 30.77	+26 21.8	1.635	2.618	1.3	20.4	12 17	5 31.02	+25 50.7	2.157	3.140	1.0	20.7
12 27	5 20.22	+26 5.3	1.644	2.608	5.5	20.7	12 27	5 21.94	+25 38.5	2.188	3.151	4.4	21.0
1 6	5 11.11	+25 44.9	1.682	2.598	9.8	20.9	1 6	5 14.09	+25 23.8	2.249	3.162	7.9	21.2
1 16	5 4.45	+25 23.8	1.743	2.588	13.7	21.2	1 16	5 8.17	+25 8.7	2.335	3.172	10.9	21.4
18252	3282 <i>T-2</i>	12 15.5 140°06'	2°6'/15.7 18"				486897	2014 <i>KX</i> ₈₇	12 15.5 201°69'	0°9'/15.3 18"			
1													

EPHEMERIDES

12 15.5

12 15.5

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	
176256	2001 <i>RV</i> ₅		12 15.5	76°27'	1.8	15.7	406706	2008 <i>FM</i> ₃₉		12 15.5	293°15'	5.7	15.6	17
11 7	6 3.01	+28 10.4	1.898	2.682	15.4	20.8	11 7	6 4.61	+35 56.8	1.976	2.745	15.4	21.5	
11 17	5 58.29	+28 18.3	1.823	2.693	12.2	20.6	11 17	6 0.17	+37 0.3	1.885	2.737	12.7	21.3	
11 27	5 50.81	+28 21.7	1.770	2.704	8.4	20.4	11 27	5 52.55	+37 57.6	1.815	2.729	9.6	21.1	
12 7	5 41.32	+28 18.4	1.743	2.715	4.3	20.2	12 7	5 42.37	+38 42.9	1.771	2.721	6.8	20.9	
12 17	5 30.89	+28 7.1	1.744	2.725	1.8	20.0	12 17	5 30.70	+39 10.8	1.754	2.714	5.7	20.8	
12 27	5 20.84	+27 48.5	1.774	2.736	5.3	20.3	12 27	5 19.07	+39 19.1	1.765	2.706	7.5	20.9	
1 6	5 12.35	+27 25.2	1.832	2.747	9.2	20.5	1 6	5 8.98	+39 9.4	1.803	2.699	10.6	21.1	
1 16	5 6.28	+27 0.5	1.915	2.758	12.7	20.8	1 16	5 1.59	+38 46.5	1.866	2.692	13.7	21.3	
117891	2750 <i>P-L</i>		12 15.5	88°78'	3.0	15.3	197724	2004 <i>PF</i> ₁₆		12 15.5	117°22'	1.8	15.7	18
11 7	6 6.00	+17 8.2	1.414	2.212	19.1	20.2	11 7	6 7.60	+27 41.1	1.945	2.719	15.5	21.5	
11 17	6 1.12	+16 50.0	1.352	2.229	15.1	20.0	11 17	6 1.74	+28 1.1	1.874	2.737	12.2	21.3	
11 27	5 52.94	+16 36.3	1.310	2.246	10.4	19.8	11 27	5 53.08	+28 17.5	1.825	2.756	8.4	21.1	
12 7	5 42.36	+16 28.1	1.291	2.263	5.5	19.6	12 7	5 42.37	+28 27.3	1.802	2.773	4.3	20.9	
12 17	5 30.72	+16 25.8	1.300	2.279	3.1	19.5	12 17	5 30.74	+28 28.7	1.809	2.790	1.9	20.7	
12 27	5 19.64	+16 30.1	1.335	2.295	7.0	19.7	12 27	5 19.54	+28 21.7	1.845	2.806	5.3	21.0	
1 6	5 10.55	+16 41.3	1.397	2.311	11.6	20.1	1 6	5 9.99	+28 8.5	1.911	2.822	9.1	21.3	
1 16	5 4.38	+16 59.2	1.482	2.327	15.6	20.3	1 16	5 2.92	+27 52.3	2.002	2.837	12.5	21.5	
477305	2009 <i>SJ</i> ₂₅₃		12 15.5	151°30'	2.4	15.7	425651	2010 <i>WO</i> ₁₀		12 15.5	33°44'	0.1	15.5	18
11 7	6 8.93	+29 15.6	1.971	2.740	15.5	22.7	11 7	6 3.44	+21 37.5	1.189	2.007	20.8	20.9	
11 17	6 2.92	+29 38.1	1.891	2.751	12.3	22.5	11 17	6 0.09	+22 0.5	1.124	2.014	16.5	20.7	
11 27	5 53.97	+29 56.2	1.833	2.760	8.6	22.3	11 27	5 52.83	+22 26.9	1.077	2.021	11.2	20.4	
12 7	5 42.83	+30 6.2	1.801	2.769	4.6	22.1	12 7	5 42.53	+22 54.2	1.053	2.029	5.3	20.1	
12 17	5 30.63	+30 5.8	1.798	2.777	2.5	22.0	12 17	5 30.70	+23 19.3	1.053	2.037	0.9	19.8	
12 27	5 18.77	+29 54.9	1.826	2.785	5.5	22.2	12 27	5 19.31	+23 40.8	1.079	2.046	7.0	20.2	
1 6	5 8.54	+29 36.0	1.882	2.791	9.4	22.4	1 6	5 10.18	+23 59.0	1.130	2.055	12.5	20.6	
1 16	5 0.89	+29 13.0	1.964	2.797	12.8	22.7	1 16	5 4.50	+24 15.8	1.201	2.065	17.2	20.9	
49516	1999 <i>CJ</i> ₃₂		12 15.5	255°60'	4.6	15.4	435525	2008 <i>KM</i> ₉		12 15.5	161°30'	2.4	15.2	18
11 7	5 57.74	+ 7 2.7	2.651	3.405	12.3	18.7	11 7	6 4.22	+18 48.5	1.715	2.503	16.7	22.2	
11 17	5 53.37	+ 6 53.5	2.550	3.393	10.1	18.5	11 17	5 59.39	+18 19.1	1.634	2.507	13.2	21.9	
11 27	5 47.16	+ 6 52.9	2.472	3.381	7.6	18.4	11 27	5 51.67	+17 50.8	1.575	2.510	9.1	21.7	
12 7	5 39.56	+ 7 2.5	2.421	3.368	5.4	18.2	12 7	5 41.79	+17 24.6	1.541	2.513	4.7	21.4	
12 17	5 31.21	+ 7 23.4	2.399	3.355	4.7	18.1	12 17	5 30.84	+17 1.7	1.535	2.515	2.6	21.3	
12 27	5 22.88	+ 7 55.6	2.407	3.343	6.1	18.2	12 27	5 20.21	+16 44.0	1.558	2.517	6.3	21.6	
1 6	5 15.36	+ 8 37.9	2.444	3.330	8.6	18.3	1 6	5 11.17	+16 33.0	1.608	2.519	10.6	21.8	
1 16	5 9.30	+ 9 28.5	2.507	3.317	11.1	18.5	1 16	5 4.62	+16 29.8	1.683	2.520	14.4	22.0	
477440	2009 <i>WV</i> ₁₆₆		12 15.5	12°91'	0.7	15.5	418778	2008 <i>UJ</i> ₂₇₆		12 15.5	136°19'	2.9	15.8	17
11 7	5 58.22	+19 24.3	1.053	1.889	21.8	19.7	11 7	6 1.46	+31 34.7	2.602	3.366	12.3	21.6	
11 17	5 56.33	+19 56.1	0.993	1.893	17.2	19.5	11 17	5 56.54	+32 7.7	2.516	3.371	9.8	21.5	
11 27	5 50.46	+20 35.2	0.951	1.898	11.7	19.2	11 27	5 49.41	+32 36.3	2.453	3.376	7.0	21.3	
12 7	5 41.46	+21 19.6	0.929	1.906	5.6	18.9	12 7	5 40.65	+32 57.7	2.418	3.381	4.2	21.1	
12 17	5 30.86	+22 5.6	0.931	1.914	1.2	18.6	12 17	5 31.05	+33 9.7	2.412	3.386	2.9	21.1	
12 27	5 20.70	+22 49.9	0.957	1.925	7.3	19.1	12 27	5 21.62	+33 11.7	2.437	3.390	4.8	21.2	
1 6	5 12.85	+23 31.1	1.006	1.937	13.0	19.4	1 6	5 13.30	+33 5.1	2.491	3.395	7.6	21.4	
1 16	5 8.51	+24 9.1	1.075	1.950	17.9	19.7	1 16	5 6.84	+32 52.3	2.571	3.399	10.3	21.6	
397367	2006 <i>UU</i> ₂₀₄		12 15.5	30°76'	2.0	15.2	55654	4093 <i>P-L</i>		12 15.5	200°86'	5.1	14.6	18
11 7	6 0.39	+21 40.3	1.318	2.134	19.3	20.2	11 7	6 2.80	+10 59.4	2.107	2.873	14.7	19.7	
11 17	5 56.82	+20 53.5	1.266	2.155	15.1	20.0	11 17	5 57.72	+10 7.6	2.016	2.870	11.9	19.5	
11 27	5 50.00	+20 5.4	1.234	2.177	10.2	19.8	11 27	5 50.29	+ 9 20.7	1.948	2.865	8.8	19.3	
12 7	5 40.93	+19 17.9	1.225	2.200	5.0	19.6	12 7	5 41.09	+ 8 41.7	1.906	2.860	6.0	19.2	
12 17	5 31.00	+18 33.7	1.242	2.224	2.3	19.5	12 17	5 30.98	+ 8 13.6	1.892	2.854	5.2	19.1	
12 27	5 21.79	+17 56.1	1.286	2.249	6.7	19.8	12 27	5 21.03	+ 7 58.3	1.909	2.847	7.3	19.2	
1 6	5 14.61	+17 27.7	1.354	2.275	11.3	20.1	1 6	5 12.25	+ 7 56.6	1.953	2.839	10.4	19.4	
1 16	5 10.27	+17 9.9	1.446	2.301	15.3	20.5	1 16	5 5.45	+ 8 7.7	2.022	2.831	13.4	19.6	
92076	1999 <i>XZ</i> ₆		12 15.5	2°09'	1.5	15.7	134955	2001 <i>CQ</i> ₃₉		12 15.5	356°84'	0.4	15.5	18
11 7	5 59.79	+27 17.8	1.930	2.720	15.0	19.0	11 7	6 3.44	+21 0.1	1.283	2.096	19.9	18.8	
11 17	5 55.86	+27 25.0	1.846	2.719	11.9	18.8	11 17	6 0.06	+21 41.7	1.207	2.094	15.8	18.6	
11 27	5 49.25	+27 28.7	1.784	2.719	8.2	18.6	11 27	5 52.89	+22 29.4	1.151	2.093	10.8	18.3	
12 7	5 40.64	+27 26.8	1.747	2.719	4.1	18.4	12 7	5 42.65	+23 20.0	1.117	2.092	5.1	18.0	
12 17	5 31.02	+27 18.2	1.738	2.720	1.6	18.2	12 17	5 30.68	+24 9.1	1.108	2.092	1.0	17.7	
12 27	5 21.64	+27 3.4	1.758	2.721	5.2	18.4	12 27	5 18.89	+24 53.2	1.126	2.092	6.9	18.1	
1 6	5 13.67	+26 44.4	1.805	2.722	9.2	18.7	1 6	5 9.12	+25 31.2	1.169	2.093	12.4	18.4	
1 16	5 7.98	+26 24.2	1.877	2.724	12.7	18.9	1 16	5 2.68	+26 4.2	1.234	2.094	17.1	18.7	
367234	2007 <i>HZ</i> ₅₀		12 15.5	98°27'	6.8	14.1	311681	2006 <i>SV</i> ₇₇		12 15.5	83°75'	1.7	15.6	18
11 7	5 58.89	+ 1 8.9	2.764	3.494	12.4	20.8	11 7	6 2.77	+26 37.8	1.911	2.696	15.3	21.0	
11 17	5 53.82	- 0 4.9	2.705	3.520	10.4	20.7	11 17	5 58.23	+27 4.3	1.830	2.700	12.1	20.8	
11 27	5 47.16	- 1 8.8	2.670	3.544	8.5	20.6	11 27	5 50.90	+27 28.9	1.770	2.704	8.3	20.6	
12 7	5 39.43	- 1 59.2	2.662	3.569	7.2	20.5	12 7	5 41.45	+27 48.7	1.737	2.709	4.2	20.3	
12 17	5 31.26	- 2 33.5	2.682	3.592	6.9	20.5	12 17	5 30.92	+28 1.6	1.731	2.713	1.8	20.2	
12 27	5 23.38	- 2 50.2	2.730	3.616	7.8	20.6	12 27	5 20.62	+28 6.7	1.755	2.717	5.4	20.4	
1 6	5 16.43	- 2 50.0	2.806	3.639	9.4	20.8	1 6	5 11.79	+28 5.5	1.806	2.721	9.3	20.7	
1 16	5 10.92	- 2 34.7	2.906	3.661	11.1	20.9	1 16	5 5.35	+28 0.6	1.883	2.725	12.9	20.9	
190007	2004 <i>LM</i> ₁₃		12 15.5	173°85'	1.1	15.4	456177	2006 <i>HJ</i> ₄₁		12 15.5	153°48'	1.2	15.5	18</

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
321741	2010 <i>MW</i> ₅₃		12 15.5 144°58	2°8/15.7 18			260830	2005 <i>QT</i> ₁₄		12 15.5 131°80	2°5/15.3 18		
11 7	6 4.34	+13 24.0	2.009	2.780	15.2	20.5	11 7	6 0.30	+16 30.9	2.090	2.871	14.3	20.9
11 17	5 59.06	+13 43.3	1.927	2.787	12.1	20.3	11 17	5 55.82	+16 17.3	2.007	2.875	11.3	20.7
11 27	5 51.27	+14 10.7	1.867	2.794	8.5	20.1	11 27	5 49.02	+16 7.1	1.947	2.878	7.9	20.5
12 7	5 41.58	+14 46.0	1.833	2.801	4.7	19.9	12 7	5 40.51	+16 1.2	1.912	2.882	4.3	20.3
12 17	5 30.91	+15 28.0	1.829	2.807	2.8	19.7	12 17	5 31.16	+15 59.9	1.907	2.885	2.6	20.2
12 27	5 20.43	+16 15.1	1.855	2.812	5.7	19.9	12 27	5 22.01	+16 4.0	1.931	2.889	5.4	20.4
1 6	5 11.24	+17 5.5	1.911	2.818	9.4	20.2	1 6	5 14.08	+16 13.5	1.984	2.892	9.0	20.6
1 16	5 4.17	+17 57.7	1.992	2.823	12.8	20.4	1 16	5 8.11	+16 28.4	2.062	2.895	12.3	20.8
461626	2005 <i>EG</i> ₇₅		12 15.5 268°86	4°9/14.8 17			515833	2015 <i>MK</i> ₁₃₇		12 15.5 223°89	1°4/15.6 18		
11 7	5 56.55	+ 8 50.5	2.477	3.243	12.7	22.0	11 7	6 4.72	+26 31.4	1.902	2.683	15.5	22.1
11 17	5 52.54	+ 8 13.4	2.384	3.235	10.4	21.8	11 17	5 59.92	+26 47.3	1.808	2.677	12.3	21.9
11 27	5 46.64	+ 7 42.7	2.315	3.228	7.8	21.6	11 27	5 52.17	+27 0.8	1.736	2.670	8.5	21.6
12 7	5 39.34	+ 7 20.9	2.271	3.220	5.6	21.5	12 7	5 42.14	+27 9.4	1.690	2.662	4.3	21.3
12 17	5 31.32	+ 7 9.9	2.256	3.212	4.9	21.4	12 17	5 30.86	+27 11.1	1.672	2.654	1.6	21.1
12 27	5 23.39	+ 7 11.0	2.270	3.205	6.5	21.5	12 27	5 19.69	+27 5.5	1.684	2.646	5.5	21.4
1 6	5 16.37	+ 7 24.0	2.312	3.197	9.0	21.7	1 6	5 9.99	+26 54.3	1.724	2.638	9.7	21.6
1 16	5 10.89	+ 7 47.8	2.379	3.189	11.6	21.8	1 16	5 2.75	+26 40.7	1.788	2.629	13.5	21.8
195946	2002 <i>RB</i> ₁₃₇		12 15.5 134°33	1°0/15.4 17			281222	2007 <i>HO</i> ₅₈		12 15.5 196°72	1°9/15.5 18		
11 7	5 58.80	+20 2.4	2.586	3.360	12.1	21.4	11 7	6 3.71	+17 36.6	1.865	2.647	15.7	20.7
11 17	5 54.20	+19 57.1	2.501	3.367	9.4	21.3	11 17	5 58.93	+17 40.8	1.777	2.646	12.5	20.5
11 27	5 47.69	+19 52.8	2.440	3.373	6.4	21.1	11 27	5 51.39	+17 49.2	1.710	2.644	8.6	20.3
12 7	5 39.80	+19 49.2	2.406	3.379	3.1	20.9	12 7	5 41.74	+18 1.7	1.669	2.641	4.4	20.0
12 17	5 31.25	+19 46.5	2.402	3.385	1.2	20.7	12 17	5 30.96	+18 17.7	1.657	2.639	2.0	19.8
12 27	5 22.88	+19 44.9	2.429	3.390	4.2	21.0	12 27	5 20.32	+18 36.6	1.675	2.635	5.7	20.1
1 6	5 15.50	+19 45.2	2.486	3.395	7.4	21.2	1 6	5 11.05	+18 58.3	1.720	2.632	9.9	20.3
1 16	5 9.73	+19 47.9	2.569	3.401	10.2	21.4	1 16	5 4.09	+19 22.8	1.790	2.628	13.7	20.5
161033	2002 <i>GW</i> ₈₄		12 15.5 90°85	1°1/15.5 18			311026	2004 <i>BV</i> ₂₀		12 15.5 256°06	1°2/15.5 18		
11 7	6 3.82	+23 56.0	1.735	2.525	16.4	19.7	11 7	6 1.63	+19 16.2	2.098	2.878	14.3	20.8
11 17	5 59.38	+24 32.1	1.652	2.526	13.0	19.5	11 17	5 57.15	+19 21.2	1.995	2.864	11.3	20.6
11 27	5 51.88	+25 9.5	1.590	2.527	8.9	19.2	11 27	5 50.15	+19 29.0	1.915	2.849	7.8	20.3
12 7	5 42.01	+25 45.1	1.554	2.527	4.3	19.0	12 7	5 41.17	+19 39.0	1.861	2.834	3.9	20.1
12 17	5 30.85	+26 16.0	1.545	2.528	1.4	18.7	12 17	5 31.06	+19 50.6	1.836	2.818	1.4	19.9
12 27	5 19.86	+26 40.2	1.566	2.529	5.7	19.0	12 27	5 20.94	+20 3.6	1.841	2.803	5.2	20.1
1 6	5 10.42	+26 58.2	1.614	2.530	10.1	19.3	1 6	5 11.95	+20 18.0	1.874	2.787	9.2	20.3
1 16	5 3.59	+27 11.7	1.686	2.531	14.0	19.5	1 16	5 5.00	+20 34.5	1.933	2.770	12.8	20.5
197949	2004 <i>RC</i> ₈₂		12 15.5 119°73	0°1/15.5 18			181179	2005 <i>SV</i> ₇₇		12 15.5 160°75	1°6/15.3 18		
11 7	6 5.90	+23 50.5	1.874	2.654	15.7	21.5	11 7	6 0.83	+18 34.0	2.428	3.200	12.8	21.7
11 17	6 0.44	+23 50.4	1.800	2.669	12.4	21.3	11 17	5 55.91	+18 23.2	2.341	3.205	10.1	21.5
11 27	5 52.22	+23 48.9	1.749	2.684	8.4	21.1	11 27	5 48.92	+18 14.0	2.278	3.210	6.9	21.3
12 7	5 42.01	+23 44.5	1.724	2.698	3.9	20.9	12 7	5 40.43	+18 6.6	2.243	3.214	3.5	21.1
12 17	5 30.88	+23 36.5	1.728	2.712	0.7	20.7	12 17	5 31.21	+18 1.3	2.237	3.218	1.7	21.0
12 27	5 20.16	+23 25.7	1.762	2.725	5.2	21.0	12 27	5 22.18	+17 58.7	2.262	3.221	4.6	21.2
1 6	5 11.04	+23 13.8	1.824	2.737	9.3	21.3	1 6	5 14.22	+17 59.4	2.316	3.224	7.9	21.4
1 16	5 4.35	+23 3.1	1.911	2.749	12.9	21.6	1 16	5 8.00	+18 3.9	2.397	3.226	10.9	21.6
11790	Goode		12 15.5 143°03	1°8/15.7 18			143358	2003 <i>BF</i>		12 15.5 314°33	2°7/15.4 18		
11 7	6 5.94	+28 29.9	2.339	3.103	13.5	18.6	11 7	6 1.77	+25 43.4	1.372	2.182	19.0	19.6
11 17	6 0.07	+28 46.3	2.258	3.116	10.6	18.4	11 17	5 59.02	+26 35.0	1.278	2.163	15.2	19.3
11 27	5 51.79	+28 58.9	2.200	3.128	7.3	18.2	11 27	5 52.46	+27 29.5	1.204	2.144	10.7	19.0
12 7	5 41.77	+29 5.2	2.170	3.139	3.8	18.0	12 7	5 42.65	+28 22.2	1.153	2.126	5.6	18.7
12 17	5 30.92	+29 3.7	2.170	3.150	1.9	17.9	12 17	5 30.77	+29 7.6	1.127	2.108	2.8	18.5
12 27	5 20.37	+28 54.4	2.201	3.160	4.7	18.1	12 27	5 18.69	+29 41.6	1.128	2.091	7.4	18.7
1 6	5 11.14	+28 39.3	2.262	3.170	8.1	18.3	1 6	5 8.39	+30 3.8	1.153	2.075	12.7	18.9
1 16	5 4.00	+28 21.1	2.349	3.179	11.1	18.6	1 16	5 1.41	+30 17.0	1.200	2.059	17.5	19.2
190010	2004 <i>MM</i> ₇		12 15.5 73°57	2°1/15.6 18			336856	2011 <i>FE</i> ₅₆		12 15.5 297°19	2°7/15.7 18		
11 7	6 8.30	+26 54.8	1.544	2.333	18.2	19.9	11 7	6 3.34	+28 26.8	1.446	2.249	18.5	21.3
11 17	6 2.87	+27 28.4	1.487	2.359	14.3	19.7	11 17	6 0.00	+28 49.7	1.353	2.232	14.9	21.0
11 27	5 54.10	+27 59.1	1.451	2.385	9.8	19.5	11 27	5 52.94	+29 8.9	1.278	2.216	10.5	20.7
12 7	5 42.93	+28 22.9	1.439	2.411	5.0	19.3	12 7	5 42.77	+29 20.5	1.227	2.199	5.6	20.4
12 17	5 30.74	+28 36.8	1.456	2.437	2.3	19.2	12 17	5 30.76	+29 20.8	1.202	2.183	2.8	20.2
12 27	5 19.19	+28 40.3	1.500	2.462	6.1	19.5	12 27	5 18.76	+29 8.7	1.204	2.167	7.0	20.4
1 6	5 9.71	+28 36.0	1.572	2.487	10.4	19.8	1 6	5 8.60	+28 47.1	1.230	2.151	12.2	20.6
1 16	5 3.22	+28 27.4	1.667	2.512	14.2	20.1	1 16	5 1.68	+28 20.9	1.280	2.136	16.8	20.9
447656	2006 <i>WZ</i> ₈		12 15.5 322°55	0°4/15.5 17			458110	2010 <i>CF</i> ₆₁		12 15.5 15°84	2°4/15.9 16		
11 7	6 0.68	+21 5.0	1.694	2.491	16.5	20.9	11 7	5 59.84	+30 37.4	1.913	2.700	15.2	21.2
11 17	5 57.16	+21 49.9	1.598	2.477	13.1	20.7	11 17	5 55.95	+30 40.0	1.834	2.704	12.1	21.0
11 27	5 50.59	+22 40.4	1.524	2.463	9.0	20.4	11 27	5 49.34	+30 35.9	1.777	2.709	8.5	20.8
12 7	5 41.52	+23 34.0	1.474	2.449	4.3	20.1	12 7	5 40.72	+30 22.9	1.745	2.714	4.6	20.6
12 17	5 30.94	+24 27.3	1.453	2.436	0.9	19.8	12 17	5 31.17	+30 0.1	1.740	2.720	2.5	20.4
12 27	5 20.27	+25 17.0	1.459	2.424	5.8	20.1	12 27	5 21.95	+29 28.4	1.765	2.726	5.4	20.7
1 6	5 10.98	+26 1.6	1.493	2.412	10.6	20.4	1 6	5 14.25	+28 51.2	1.816	2.733	9.2	20.9
1 16	5 4.24	+26 41.3	1.551	2.401	14.7	20.6	1 16	5 8.89	+28 12.3	1.893	2.741	12.6	21.1
17772	1998 <i>EP</i> ₁₃		12 15.5 120°11	0°1/15.5 18			511722	2015 <i>CM</i> ₆₃		12 15.5 141°57	4°4/15.9 18		
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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
455099	2015 UT_{74}	12 15.5 354°54	6°9/16.6 17				309957	2009 HF_{14}	12 15.5 242°28	0°5/15.6 17			
11 7	6 3.77	+39 35.2	1.673	2.448	17.6	20.7	11 7	6 2.97	+24 0.6	2.285	3.058	13.5	22.1
11 17	6 0.04	+40 16.6	1.593	2.445	14.6	20.5	11 17	5 58.09	+24 16.1	2.179	3.044	10.7	21.9
11 27	5 52.68	+40 45.7	1.532	2.442	11.3	20.3	11 27	5 50.74	+24 31.3	2.095	3.028	7.3	21.6
12 7	5 42.49	+40 56.0	1.495	2.440	8.3	20.1	12 7	5 41.45	+24 44.6	2.039	3.012	3.5	21.4
12 17	5 30.85	+40 42.9	1.482	2.439	6.9	20.0	12 17	5 31.06	+24 54.5	2.012	2.996	0.8	21.1
12 27	5 19.57	+40 5.9	1.497	2.439	8.5	20.1	12 27	5 20.65	+25 0.5	2.017	2.979	4.7	21.4
1 6	5 10.33	+39 10.1	1.537	2.438	11.6	20.3	1 6	5 11.33	+25 3.2	2.050	2.962	8.6	21.6
1 16	5 4.26	+38 2.9	1.600	2.439	14.9	20.5	1 16	5 3.99	+25 4.3	2.109	2.944	12.0	21.8
214774	2006 UC_{67}	12 15.5 122°56	1°5/15.6 18				173674	2001 OC_2	12 15.5 161°75	1°4/15.6 18			
11 7	6 3.82	+26 8.9	2.092	2.869	14.4	20.6	11 7	6 3.62	+26 34.8	2.233	3.005	13.8	20.8
11 17	5 58.76	+26 37.6	2.012	2.878	11.4	20.4	11 17	5 58.49	+26 56.5	2.146	3.010	10.9	20.6
11 27	5 51.13	+27 4.8	1.955	2.887	7.8	20.2	11 27	5 50.90	+27 16.1	2.082	3.013	7.5	20.4
12 7	5 41.56	+27 27.8	1.924	2.896	3.9	20.0	12 7	5 41.46	+27 31.3	2.045	3.017	3.8	20.2
12 17	5 31.03	+27 44.5	1.922	2.904	1.6	19.8	12 17	5 31.07	+27 40.4	2.038	3.020	1.5	20.0
12 27	5 20.73	+27 54.2	1.951	2.912	5.0	20.1	12 27	5 20.88	+27 42.9	2.061	3.023	4.8	20.3
1 6	5 11.80	+27 57.8	2.008	2.920	8.7	20.3	1 6	5 11.95	+27 40.0	2.114	3.025	8.4	20.5
1 16	5 5.08	+27 57.5	2.091	2.927	12.0	20.6	1 16	5 5.10	+27 33.9	2.192	3.027	11.6	20.7
426422	2013 QW_{14}	12 15.5 275°63	0°4/15.5 18				266654	2008 TL_{87}	12 15.5 188°20	0°2/15.6 18			
11 7	5 59.06	+23 30.9	2.359	3.139	12.9	21.0	11 7	5 59.41	+23 24.1	2.785	3.554	11.4	21.3
11 17	5 54.72	+23 11.9	2.265	3.134	10.2	20.8	11 17	5 54.68	+23 32.3	2.690	3.554	8.9	21.1
11 27	5 48.23	+22 50.6	2.195	3.130	6.9	20.6	11 27	5 48.05	+23 39.8	2.620	3.553	6.1	20.9
12 7	5 40.15	+22 27.0	2.151	3.125	3.3	20.4	12 7	5 40.05	+23 45.9	2.578	3.551	2.9	20.7
12 17	5 31.28	+22 1.4	2.137	3.121	0.7	20.1	12 17	5 31.32	+23 49.9	2.566	3.550	0.5	20.5
12 27	5 22.58	+21 35.3	2.154	3.116	4.4	20.4	12 27	5 22.72	+23 51.8	2.585	3.548	3.8	20.8
1 6	5 14.97	+21 10.4	2.199	3.112	8.0	20.6	1 6	5 15.02	+23 52.1	2.635	3.546	7.0	21.0
1 16	5 9.18	+20 48.6	2.270	3.107	11.2	20.8	1 16	5 8.88	+23 52.1	2.711	3.543	9.7	21.1
241805	2001 QA_{328}	12 15.5 84°56	2°3/15.9 18				454952	2015 TM_{193}	12 15.5 93°10	0°7/15.4 15			
11 7	6 3.41	+29 38.2	1.925	2.706	15.4	20.8	11 7	6 3.45	+22 25.8	1.967	2.749	15.0	22.0
11 17	5 58.70	+29 48.9	1.846	2.713	12.2	20.6	11 17	5 58.32	+22 11.0	1.897	2.767	11.8	21.8
11 27	5 51.18	+29 54.2	1.789	2.720	8.5	20.4	11 27	5 50.69	+21 55.1	1.850	2.785	7.9	21.6
12 7	5 41.60	+29 51.5	1.758	2.727	4.6	20.2	12 7	5 41.29	+21 37.9	1.829	2.803	3.8	21.4
12 17	5 31.03	+29 39.1	1.755	2.735	2.4	20.1	12 17	5 31.12	+21 19.8	1.837	2.820	1.0	21.2
12 27	5 20.80	+29 17.7	1.781	2.742	5.4	20.3	12 27	5 21.38	+21 1.8	1.874	2.837	5.0	21.5
1 6	5 12.14	+28 50.1	1.835	2.749	9.3	20.5	1 6	5 13.10	+20 45.7	1.941	2.854	8.9	21.8
1 16	5 5.90	+28 20.1	1.914	2.756	12.7	20.8	1 16	5 7.05	+20 33.3	2.032	2.870	12.2	22.1
267525	2002 OH_{31}	12 15.5 61°30	4°7/15.5 17				125717	2001 XU_{101}	12 15.5 165°90	0°9/15.6 18			
11 7	5 58.33	+8 9.7	2.294	3.059	13.7	20.6	11 7	6 8.39	+24 29.0	1.684	2.467	17.1	19.4
11 17	5 54.04	+8 0.6	2.211	3.061	11.1	20.4	11 17	6 3.01	+24 49.5	1.602	2.472	13.6	19.2
11 27	5 47.72	+8 0.8	2.149	3.064	8.3	20.3	11 27	5 54.37	+25 9.6	1.541	2.476	9.3	18.9
12 7	5 39.90	+8 11.8	2.114	3.066	5.7	20.1	12 7	5 43.22	+25 26.3	1.506	2.480	4.5	18.7
12 17	5 31.33	+8 34.4	2.107	3.069	4.7	20.1	12 17	5 30.77	+25 37.2	1.499	2.482	1.2	18.4
12 27	5 22.90	+9 8.4	2.130	3.072	6.4	20.2	12 27	5 18.59	+25 41.7	1.521	2.484	5.9	18.8
1 6	5 15.49	+9 52.2	2.181	3.074	9.1	20.3	1 6	5 8.15	+25 41.1	1.571	2.486	10.5	19.0
1 16	5 9.77	+10 43.7	2.258	3.077	11.9	20.5	1 16	5 0.53	+25 38.5	1.646	2.487	14.5	19.3
112651	2002 PK_{84}	12 15.5 25°53	4°9/16.2 17				435123	2007 EN_{29}	12 15.5 21°76	2°0/15.5 18			
11 7	6 1.57	+35 17.8	1.819	2.600	16.1	19.0	11 7	5 59.48	+19 8.3	1.087	1.918	21.5	20.2
11 17	5 57.63	+35 55.1	1.750	2.611	13.1	18.9	11 17	5 57.08	+19 3.4	1.029	1.926	17.0	20.0
11 27	5 50.64	+36 23.4	1.701	2.622	9.6	18.7	11 27	5 50.81	+19 2.9	0.990	1.936	11.6	19.7
12 7	5 41.39	+36 38.4	1.677	2.634	6.4	18.5	12 7	5 41.63	+19 7.2	0.971	1.947	5.7	19.4
12 17	5 31.07	+36 36.9	1.680	2.647	4.9	18.5	12 17	5 31.06	+19 15.7	0.976	1.959	2.3	19.3
12 27	5 21.16	+36 18.8	1.710	2.660	6.8	18.6	12 27	5 21.05	+19 28.3	1.006	1.972	7.4	19.6
1 6	5 12.98	+35 47.7	1.767	2.674	10.0	18.8	1 6	5 13.33	+19 45.2	1.059	1.987	12.9	20.0
1 16	5 7.46	+35 8.6	1.848	2.688	13.1	19.0	1 16	5 8.97	+20 6.4	1.133	2.002	17.5	20.3
403153	2008 FU_{89}	12 15.5 258°68	3°5/15.9 18				410850	2009 RZ_{33}	12 15.5 64°91	4°4/15.9 17			
11 7	6 4.37	+33 1.6	2.237	3.003	14.0	21.5	11 7	6 3.91	+34 25.7	2.085	2.853	14.7	20.9
11 17	5 59.49	+33 26.6	2.130	2.985	11.3	21.3	11 17	5 59.07	+35 10.2	2.012	2.866	11.9	20.7
11 27	5 51.85	+33 45.6	2.045	2.966	8.2	21.1	11 27	5 51.44	+35 47.7	1.961	2.879	8.7	20.6
12 7	5 42.02	+33 55.0	1.986	2.947	5.1	20.9	12 7	5 41.75	+36 13.7	1.935	2.892	5.7	20.4
12 17	5 30.94	+33 51.9	1.956	2.928	3.6	20.7	12 17	5 31.05	+36 25.2	1.938	2.905	4.4	20.3
12 27	5 19.88	+33 35.5	1.955	2.909	5.8	20.8	12 27	5 20.66	+36 21.5	1.970	2.918	6.2	20.5
1 6	5 10.08	+33 8.1	1.983	2.889	9.2	21.0	1 6	5 11.81	+36 5.0	2.030	2.931	9.2	20.7
1 16	5 2.55	+32 33.7	2.037	2.869	12.5	21.2	1 16	5 5.37	+35 39.8	2.114	2.945	12.1	20.9
141773	2002 NW_6	12 15.5 25°06	5°8/15.3 18				421572	2014 OP_{193}	12 15.5 25°38	5°5/16.1 17			
11 7	6 1.05	+12 8.0	1.284	2.093	20.1	19.5	11 7	6 3.29	+36 52.5	1.981	2.750	15.4	20.6
11 17	5 57.71	+11 31.8	1.216	2.096	16.2	19.3	11 17	5 58.94	+37 39.4	1.903	2.754	12.6	20.4
11 27	5 50.97	+11 5.1	1.167	2.100	11.8	19.1	11 27	5 51.57	+38 17.5	1.845	2.759	9.5	20.3
12 7	5 41.65	+10 51.3	1.141	2.105	7.5	18.8	12 7	5 41.89	+38 42.0	1.813	2.763	6.6	20.1
12 17	5 31.03	+10 53.0	1.139	2.110	5.8	18.8	12 17	5 31.04	+38 48.9	1.808	2.768	5.5	20.0
12 27	5 20.79	+11 10.9	1.162	2.115	8.8	19.0	12 27	5 20.46	+38 37.5	1.830	2.774	7.1	20.2
1 6	5 12.45	+11 43.6	1.209	2.121	13.2	19.2	1 6	5 11.51	+38 10.7	1.880	2.779	10.0	20.3
1 16	5 7.06	+12 28.3	1.278	2.128	17.3	19.5	1 16	5 5.17	+37 33.6	1.954	2.785	13.0	20.5
459573	2013 GE_{107}	12 15.5 110°62	1°8/15.4 18				340969	2007 EF_{116}	12 15.5 281°64	3°6/15.6 18			
11 7	6 0.87	+16 28.6	2.680	3.444									

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12 15.5

12 15.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
66643	1999 <i>RW</i> ₂₂₉		12 15.5 110°34'	1.6°/15.5 18			259544	2003 <i>UN</i> ₉₈		12 15.5 88°78'	1.2°/15.6 18		
11 7	6 4.16	+18 3.1	1.888	2.669	15.6	19.3	11 7	6 7.44	+18 47.2	1.440	2.235	19.0	20.1
11 17	5 59.05	+18 9.9	1.815	2.683	12.3	19.1	11 17	6 2.39	+19 6.6	1.377	2.253	14.9	19.9
11 27	5 51.32	+18 20.4	1.764	2.697	8.4	18.9	11 27	5 53.97	+19 31.2	1.333	2.271	10.2	19.7
12 7	5 41.66	+18 34.3	1.738	2.711	4.2	18.6	12 7	5 43.04	+19 59.1	1.314	2.288	4.9	19.4
12 17	5 31.10	+18 50.6	1.742	2.724	1.8	18.5	12 17	5 30.94	+20 28.3	1.322	2.305	1.5	19.2
12 27	5 20.85	+19 8.9	1.775	2.736	5.4	18.8	12 27	5 19.33	+20 57.2	1.358	2.322	6.3	19.6
1 6	5 12.06	+19 29.0	1.837	2.749	9.4	19.0	1 6	5 9.71	+21 25.4	1.421	2.339	11.1	19.9
1 16	5 5.54	+19 51.1	1.924	2.761	12.9	19.3	1 16	5 3.08	+21 53.4	1.508	2.355	15.2	20.2
277884	2006 <i>KA</i> ₆		12 15.5 332°16'	2°3'/15.1 17			487466	2014 <i>SJ</i> ₁₃₈		12 15.5 165°07'	2°7'/15.8 17		
11 7	5 58.07	+18 32.5	2.227	3.011	13.5	20.5	11 7	6 2.35	+30 10.1	2.221	2.994	13.8	21.8
11 17	5 54.00	+17 55.4	2.138	3.007	10.6	20.3	11 17	5 57.67	+30 37.7	2.134	2.995	11.0	21.6
11 27	5 47.78	+17 18.5	2.071	3.004	7.4	20.1	11 27	5 50.46	+31 1.1	2.069	2.996	7.8	21.4
12 7	5 39.98	+16 43.3	2.031	3.002	3.9	19.9	12 7	5 41.33	+31 17.3	2.030	2.997	4.4	21.2
12 17	5 31.40	+16 11.3	2.020	2.999	2.4	19.8	12 17	5 31.22	+31 24.2	2.020	2.997	2.7	21.1
12 27	5 23.00	+15 44.3	2.039	2.996	5.2	20.0	12 27	5 21.28	+31 21.2	2.040	2.998	5.2	21.3
1 6	5 15.71	+15 24.0	2.086	2.994	8.7	20.2	1 6	5 12.62	+31 9.9	2.089	2.998	8.6	21.5
1 16	5 10.24	+15 11.3	2.159	2.992	11.8	20.4	1 16	5 6.10	+30 53.3	2.163	2.999	11.7	21.7
336121	2008 <i>OS</i> ₃		12 15.5 70°96'	2°2'/15.3 18			62355	2000 <i>SX</i> ₁₄₄		12 15.6 55°37'	0°6'/15.6 18		
11 7	6 5.64	+19 32.2	1.507	2.303	18.3	19.7	11 7	6 2.68	+25 10.9	1.785	2.575	16.0	19.4
11 17	6 0.56	+19 2.9	1.451	2.327	14.3	19.6	11 17	5 58.04	+25 9.5	1.722	2.596	12.5	19.2
11 27	5 52.42	+18 35.1	1.415	2.352	9.7	19.3	11 27	5 50.66	+25 5.6	1.681	2.618	8.5	19.0
12 7	5 42.16	+18 9.5	1.404	2.376	4.9	19.1	12 7	5 41.36	+24 57.7	1.665	2.639	4.0	18.8
12 17	5 31.06	+17 47.6	1.420	2.401	2.4	19.0	12 17	5 31.25	+24 45.5	1.677	2.661	0.8	18.6
12 27	5 20.61	+17 30.8	1.464	2.425	6.4	19.3	12 27	5 21.63	+24 29.9	1.718	2.683	5.2	18.9
1 6	5 12.09	+17 20.8	1.535	2.449	10.7	19.7	1 6	5 13.64	+24 13.0	1.787	2.704	9.2	19.2
1 16	5 6.30	+17 18.4	1.629	2.473	14.5	19.9	1 16	5 8.07	+23 57.3	1.881	2.726	12.7	19.5
397563	2007 <i>TB</i> ₄₄₅		12 15.5 149°68'	11°0'/13.3 18			319490	2006 <i>QL</i> ₃₀		12 15.6 83°01'	4°2'/16.1 18		
11 7	5 59.93	- 2 27.3	1.882	2.625	17.0	21.0	11 7	6 7.47	+33 42.1	1.912	2.681	15.9	20.7
11 17	5 55.68	- 4 14.6	1.813	2.626	14.8	20.8	11 17	6 1.93	+34 19.2	1.847	2.703	12.7	20.5
11 27	5 49.02	- 5 47.5	1.765	2.628	12.7	20.7	11 27	5 53.39	+34 48.5	1.804	2.725	9.2	20.4
12 7	5 40.59	- 6 58.9	1.740	2.630	11.3	20.6	12 7	5 42.69	+35 5.6	1.787	2.746	5.8	20.2
12 17	5 31.30	- 7 42.7	1.739	2.631	11.1	20.6	12 17	5 31.02	+35 7.6	1.798	2.768	4.2	20.2
12 27	5 22.24	- 7 56.1	1.764	2.633	12.3	20.7	12 27	5 19.85	+34 54.4	1.837	2.789	6.3	20.3
1 6	5 14.44	- 7 40.2	1.811	2.634	14.2	20.8	1 6	5 10.48	+34 29.4	1.905	2.810	9.5	20.6
1 16	5 8.69	- 6 59.0	1.880	2.635	16.3	21.0	1 16	5 3.76	+33 57.3	1.997	2.830	12.6	20.8
363659	2004 <i>SH</i> ₄₈		12 15.5 34°70'	0°4'/15.6 18			139599	2001 <i>QJ</i> ₁₂₂		12 15.6 11°55'	3°8'/15.7 18		
11 7	6 1.22	+25 42.1	1.576	2.377	17.3	19.6	11 7	5 58.75	+13 16.3	1.495	2.298	18.0	18.8
11 17	5 57.15	+25 25.1	1.520	2.400	13.5	19.4	11 17	5 55.56	+13 18.6	1.422	2.300	14.4	18.6
11 27	5 50.14	+25 4.1	1.484	2.424	9.1	19.2	11 27	5 49.38	+13 30.7	1.369	2.304	10.2	18.4
12 7	5 41.09	+24 38.6	1.473	2.448	4.3	19.0	12 7	5 40.93	+13 53.6	1.340	2.308	5.9	18.1
12 17	5 31.24	+24 9.1	1.490	2.473	0.8	18.8	12 17	5 31.30	+14 27.0	1.336	2.313	3.9	18.0
12 27	5 22.01	+23 37.7	1.534	2.499	5.5	19.2	12 27	5 21.93	+15 9.5	1.360	2.320	7.0	18.2
1 6	5 14.60	+23 7.5	1.605	2.526	9.8	19.5	1 6	5 14.15	+15 59.0	1.410	2.326	11.3	18.5
1 16	5 9.78	+22 41.3	1.700	2.553	13.5	19.8	1 16	5 8.94	+16 53.1	1.482	2.334	15.2	18.7
254752	2005 <i>PC</i> ₁₅		12 15.5 125°54'	1°5'/15.7 18			329273	1999 <i>TZ</i> ₂₂₁		12 15.6 50°19'	4°1'/15.4 18		
11 7	6 2.93	+27 1.3	2.140	2.917	14.1	21.3	11 7	6 5.37	+16 9.5	1.130	1.946	21.9	20.7
11 17	5 58.04	+27 19.1	2.058	2.924	11.2	21.1	11 17	6 1.08	+15 36.8	1.086	1.972	17.2	20.5
11 27	5 50.63	+27 34.2	1.999	2.931	7.7	20.9	11 27	5 53.10	+15 10.8	1.060	2.000	11.9	20.3
12 7	5 41.36	+27 44.4	1.966	2.937	3.9	20.7	12 7	5 42.56	+14 53.6	1.057	2.028	6.6	20.1
12 17	5 31.17	+27 48.1	1.962	2.944	1.6	20.5	12 17	5 31.07	+14 46.7	1.078	2.056	4.2	20.0
12 27	5 21.22	+27 45.0	1.988	2.950	4.9	20.8	12 27	5 20.47	+14 50.7	1.125	2.085	8.0	20.3
1 6	5 12.61	+27 36.8	2.043	2.956	8.5	21.0	1 6	5 12.26	+15 5.2	1.195	2.113	12.7	20.7
1 16	5 6.15	+27 25.9	2.124	2.962	11.8	21.2	1 16	5 7.30	+15 28.8	1.288	2.142	16.9	21.0
420693	2012 <i>KS</i> ₃₁		12 15.5 132°43'	3°2'/15.7 17			488184	2015 <i>XK</i> ₁₁₆		12 15.6 266°37'	3°3'/15.3 17		
11 7	6 3.07	+32 17.5	2.664	3.421	12.1	22.1	11 7	5 59.14	+14 10.9	2.111	2.890	14.2	22.2
11 17	5 57.82	+33 2.8	2.579	3.430	9.7	22.0	11 17	5 54.98	+13 51.5	2.023	2.888	11.4	22.0
11 27	5 50.34	+33 43.9	2.519	3.438	7.0	21.8	11 27	5 48.54	+13 36.9	1.958	2.886	8.1	21.8
12 7	5 41.20	+34 17.3	2.487	3.446	4.4	21.7	12 7	5 40.41	+13 28.5	1.918	2.884	4.8	21.6
12 17	5 31.20	+34 40.5	2.484	3.454	3.2	21.6	12 17	5 31.41	+13 27.3	1.907	2.881	3.4	21.5
12 27	5 21.33	+34 52.5	2.512	3.462	5.0	21.7	12 27	5 22.56	+13 34.0	1.926	2.879	5.9	21.7
1 6	5 12.58	+34 54.2	2.570	3.469	7.6	21.9	1 6	5 14.83	+13 48.4	1.972	2.877	9.3	21.9
1 16	5 5.68	+34 48.2	2.654	3.476	10.2	22.1	1 16	5 9.00	+14 10.1	2.044	2.875	12.5	22.1
282565	2004 <i>XZ</i> ₈₀		12 15.5 64°08'	1°3'/15.6 18			298043	2002 <i>PV</i> ₁₉₃		12 15.6 14°37'	10°5'/14.2 18		
11 7	6 7.18	+25 31.5	1.523	2.316	18.2	19.4	11 7	5 56.86	+ 3 16.9	1.422	2.212	19.4	20.1
11 17	6 1.94	+25 50.9	1.470	2.345	14.2	19.2	11 17	5 53.98	+ 1 40.0	1.361	2.216	16.4	19.9
11 27	5 53.45	+26 8.1	1.436	2.373	9.6	19.0	11 27	5 48.21	+ 0 17.3	1.318	2.221	13.4	19.7
12 7	5 42.69	+26 20.1	1.428	2.401	4.7	18.8	12 7	5 40.33	- 0 43.4	1.298	2.227	11.1	19.6
12 17	5 31.00	+26 24.9	1.447	2.430	1.4	18.6	12 17	5 31.44	- 1 15.8	1.301	2.233	10.6	19.6
12 27	5 19.99	+26 22.8	1.494	2.458	5.8	19.0	12 27	5 22.90	- 1 17.3	1.328	2.241	12.2	19.7
1 6	5 11.02	+26 15.9	1.568	2.486	10.3	19.3	1 6	5 15.96	- 0 49.7	1.378	2.250	14.8	19.9
1 16	5 4.96	+26 7.6	1.666	2.513	14.0	19.6	1 16	5 11.50	+ 0 1.9	1.447	2.259	17.7	20.1
329429	2002 <i>NY</i> ₇₆		12 15.5 102°05'	4°9'/15.7 18			2628						

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
172909	2005 <i>GH</i> ₉₅		12 15.6 311 ^o .13	2.6 ^o /15.3 18			249590	1996 <i>UG</i> ₂		12 15.6 29 ^o .48	4.6 ^o /14.8 18		
11 7	5 59.69	+17 50.9	1.663	2.462	16.7	20.2	11 7	5 59.09	+15 22.2	1.529	2.332	17.7	19.6
11 17	5 56.22	+17 30.5	1.572	2.450	13.3	19.9	11 17	5 55.54	+14 20.8	1.465	2.344	14.1	19.4
11 27	5 49.85	+17 12.6	1.501	2.438	9.3	19.6	11 27	5 49.16	+13 22.9	1.422	2.356	10.0	19.2
12 7	5 41.20	+16 58.4	1.455	2.427	4.9	19.4	12 7	5 40.75	+12 32.2	1.404	2.370	6.1	19.0
12 17	5 31.28	+16 48.9	1.436	2.416	2.8	19.2	12 17	5 31.46	+11 52.3	1.411	2.383	4.8	18.9
12 27	5 21.46	+16 45.4	1.445	2.405	6.5	19.4	12 27	5 22.63	+11 26.0	1.446	2.398	7.6	19.1
1 6	5 13.07	+16 48.6	1.479	2.395	10.9	19.6	1 6	5 15.44	+11 14.2	1.506	2.413	11.4	19.4
1 16	5 7.12	+16 59.1	1.538	2.385	15.0	19.9	1 16	5 10.70	+11 16.4	1.589	2.429	15.0	19.7
222512	2001 <i>TU</i> ₅₆		12 15.6 119 ^o .47	14 ^o /11.8 18			240436	2003 <i>WV</i> ₁₅₁		12 15.6 145 ^o .09	1 ^o .8/15.5 18		
11 7	6 6.47	+ 3 37.8	1.176	1.965	22.7	20.0	11 7	6 6.65	+25 56.8	2.231	2.997	13.9	20.7
11 17	6 2.03	+ 0 36.6	1.118	1.970	19.5	19.8	11 17	6 0.95	+26 45.8	2.147	3.007	11.0	20.5
11 27	5 53.94	- 2 13.9	1.079	1.975	16.3	19.6	11 27	5 52.67	+27 34.5	2.087	3.016	7.6	20.3
12 7	5 43.11	- 4 39.4	1.063	1.980	14.3	19.5	12 7	5 42.44	+28 19.6	2.054	3.025	3.9	20.1
12 17	5 30.99	- 6 26.4	1.070	1.985	14.3	19.5	12 17	5 31.17	+28 57.7	2.052	3.033	1.9	20.0
12 27	5 19.42	- 7 27.1	1.099	1.989	16.3	19.7	12 27	5 20.05	+29 27.2	2.081	3.040	4.9	20.2
1 6	5 9.99	- 7 42.2	1.149	1.994	19.2	19.9	1 6	5 10.21	+29 48.3	2.139	3.047	8.5	20.5
1 16	5 3.76	- 7 18.3	1.216	1.998	22.1	20.1	1 16	5 2.53	+30 2.8	2.224	3.053	11.7	20.7
395212	2010 <i>JM</i> ₆₈		12 15.6 79 ^o .55	10 ^o .6/16.7 18			489923	2008 <i>QM</i> ₃₈		12 15.6 54 ^o .26	5 ^o .9/14.9 18		
11 7	6 2.35	- 8 5.3	2.049	2.754	16.8	21.1	11 7	5 57.74	+ 7 26.4	2.120	2.889	14.5	20.7
11 17	5 57.10	- 8 53.4	2.000	2.782	14.8	21.0	11 17	5 53.67	+ 6 39.5	2.051	2.902	11.9	20.5
11 27	5 49.70	- 9 20.8	1.971	2.809	12.7	20.9	11 27	5 47.52	+ 6 1.3	2.004	2.914	9.0	20.3
12 7	5 40.84	- 9 23.1	1.964	2.836	11.2	20.8	12 7	5 39.90	+ 5 35.1	1.982	2.927	6.7	20.2
12 17	5 31.40	- 8 57.9	1.982	2.862	10.6	20.8	12 17	5 31.61	+ 5 23.1	1.988	2.939	6.0	20.2
12 27	5 22.39	- 8 6.0	2.026	2.888	11.2	20.9	12 27	5 23.59	+ 5 26.4	2.022	2.952	7.5	20.3
1 6	5 14.69	- 6 51.4	2.094	2.914	12.6	21.1	1 6	5 16.71	+ 5 44.2	2.083	2.965	10.0	20.5
1 16	5 8.93	- 5 20.0	2.186	2.939	14.3	21.2	1 16	5 11.62	+ 6 14.5	2.168	2.979	12.6	20.7
75780	2000 <i>AU</i> ₂₀₂		12 15.6 306 ^o .56	1 ^o .0/15.3 18			86593	2000 <i>EX</i> ₆₄		12 15.6 186 ^o .48	2 ^o .6/15.3 18		
11 7	6 1.86	+24 25.3	1.721	2.516	16.4	19.2	11 7	6 4.15	+17 4.2	1.945	2.723	15.3	21.2
11 17	5 57.85	+23 35.2	1.626	2.503	13.0	18.9	11 17	5 59.13	+16 42.9	1.857	2.723	12.2	21.0
11 27	5 50.89	+22 38.6	1.552	2.491	8.9	18.6	11 27	5 51.49	+16 24.1	1.791	2.722	8.5	20.7
12 7	5 41.66	+21 36.2	1.504	2.479	4.3	18.3	12 7	5 41.89	+16 9.0	1.752	2.721	4.6	20.5
12 17	5 31.25	+20 30.3	1.484	2.467	1.3	18.1	12 17	5 31.28	+15 58.2	1.741	2.719	2.7	20.4
12 27	5 21.06	+19 24.8	1.492	2.455	6.0	18.4	12 27	5 20.86	+15 53.0	1.760	2.717	5.9	20.6
1 6	5 12.41	+18 24.6	1.528	2.444	10.6	18.6	1 6	5 11.78	+15 54.0	1.807	2.714	9.8	20.8
1 16	5 6.28	+17 33.6	1.587	2.432	14.7	18.9	1 16	5 4.91	+16 1.6	1.879	2.711	13.4	21.0
95260	2002 <i>CS</i> ₅₉		12 15.6 151 ^o .03	5 ^o .8/15.1 18			60702	2000 <i>GU</i> ₅₂		12 15.6 29 ^o .35	5 ^o .4/16.0 18		
11 7	5 58.56	+ 5 30.4	2.419	3.172	13.3	19.6	11 7	6 3.30	+37 23.2	2.195	2.955	14.3	19.0
11 17	5 54.10	+ 4 54.4	2.338	3.177	11.0	19.4	11 17	5 58.76	+38 16.3	2.113	2.959	11.8	18.8
11 27	5 47.73	+ 4 27.4	2.279	3.181	8.5	19.3	11 27	5 51.41	+39 1.5	2.054	2.963	8.9	18.6
12 7	5 39.98	+ 4 12.3	2.247	3.185	6.5	19.2	12 7	5 41.90	+39 33.8	2.021	2.967	6.4	18.5
12 17	5 31.55	+ 4 10.9	2.243	3.189	5.8	19.1	12 17	5 31.27	+39 49.6	2.015	2.971	5.4	18.4
12 27	5 23.29	+ 4 24.0	2.268	3.192	7.2	19.2	12 27	5 20.83	+39 47.6	2.037	2.975	6.8	18.5
1 6	5 16.01	+ 4 50.6	2.320	3.195	9.5	19.4	1 6	5 11.85	+39 30.0	2.087	2.980	9.5	18.7
1 16	5 10.32	+ 5 28.9	2.398	3.198	11.9	19.5	1 16	5 5.26	+39 1.3	2.161	2.985	12.2	18.9
206578	2003 <i>WQ</i>		12 15.6 79 ^o .12	0 ^o .1/15.6 18			519518	2012 <i>FO</i> ₈₆		12 15.6 242 ^o .03	0 ^o .7/15.6 18		
11 7	6 4.29	+22 26.1	1.749	2.537	16.4	20.6	11 7	6 0.82	+24 33.1	2.470	3.243	12.6	22.2
11 17	5 59.45	+22 42.3	1.680	2.553	12.9	20.4	11 17	5 56.22	+24 51.3	2.369	3.234	9.9	22.0
11 27	5 51.76	+22 59.3	1.633	2.570	8.7	20.2	11 27	5 49.40	+25 9.1	2.291	3.224	6.8	21.8
12 7	5 41.98	+23 15.2	1.612	2.586	4.1	20.0	12 7	5 40.89	+25 24.8	2.241	3.214	3.3	21.5
12 17	5 31.22	+23 28.5	1.618	2.602	0.7	19.7	12 17	5 31.44	+25 37.0	2.220	3.204	0.9	21.3
12 27	5 20.86	+23 38.7	1.654	2.618	5.3	20.1	12 27	5 22.03	+25 45.1	2.231	3.193	4.3	21.5
1 6	5 12.12	+23 46.6	1.717	2.634	9.6	20.4	1 6	5 13.62	+25 49.9	2.270	3.182	7.8	21.7
1 16	5 5.88	+23 53.9	1.806	2.650	13.3	20.7	1 16	5 7.00	+25 52.6	2.336	3.171	11.0	21.9
232119	2001 <i>YW</i> ₁₄₁		12 15.6 18 ^o .03	3 ^o .9/16.1 18			73435	2002 <i>MS</i>		12 15.6 86 ^o .16	1 ^o .1/15.7 18		
11 7	6 2.05	+31 17.2	1.222	2.038	20.6	20.1	11 7	6 5.80	+26 4.4	1.842	2.624	15.9	19.4
11 17	5 59.25	+31 36.2	1.158	2.043	16.5	19.9	11 17	6 0.47	+26 14.1	1.777	2.646	12.5	19.2
11 27	5 52.42	+31 46.5	1.111	2.049	11.7	19.6	11 27	5 52.34	+26 21.0	1.733	2.667	8.5	19.0
12 7	5 42.51	+31 43.5	1.087	2.056	6.6	19.3	12 7	5 42.22	+26 23.0	1.716	2.688	4.1	18.8
12 17	5 31.12	+31 24.4	1.086	2.065	3.9	19.2	12 17	5 31.25	+26 18.7	1.727	2.709	1.3	18.6
12 27	5 20.31	+30 50.4	1.111	2.074	7.5	19.5	12 27	5 20.75	+26 8.7	1.767	2.730	5.2	18.9
1 6	5 11.89	+30 6.8	1.160	2.085	12.3	19.8	1 6	5 11.93	+25 55.1	1.836	2.751	9.2	19.2
1 16	5 6.98	+29 20.6	1.230	2.096	16.7	20.0	1 16	5 5.58	+25 40.7	1.929	2.771	12.7	19.5
493183	2014 <i>UJ</i> ₁₄		12 15.6 2 ^o .78	2 ^o .2/15.1 17			40557	1999 <i>RX</i> ₁₁₆		12 15.6 73 ^o .28	8 ^o .3/15.7 18		
11 7	5 58.39	+19 4.7	2.118	2.904	14.0	21.1	11 7	6 2.52	+ 2 44.6	1.668	2.432	18.0	18.8
11 17	5 54.38	+18 26.4	2.032	2.904	11.0	20.9	11 17	5 57.82	+ 2 1.1	1.612	2.453	15.0	18.6
11 27	5 48.12	+17 48.1	1.970	2.904	7.6	20.7	11 27	5 50.50	+ 1 33.4	1.575	2.474	11.9	18.5
12 7	5 40.22	+17 11.2	1.933	2.904	4.0	20.5	12 7	5 41.34	+ 1 25.7	1.562	2.494	9.2	18.4
12 17	5 31.53	+16 37.3	1.925	2.905	2.4	20.4	12 17	5 31.40	+ 1 40.4	1.574	2.515	8.3	18.4
12 27	5 23.06	+16 8.4	1.947	2.906	5.3	20.6	12 27	5 21.90	+ 2 17.0	1.613	2.535	9.7	18.5
1 6	5 15.77	+15 46.2	1.997	2.907	8.9	20.8	1 6	5 13.95	+ 3 12.3	1.678	2.555	12.3	18.7
1 16	5 10.39	+15 31.9	2.072	2.908	12.1	21.0	1 16	5 8.30	+ 4 21.6	1.766	2.576		

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
404861	2014 <i>KX</i> ₂₀		12 15.6 163°02		4.9/15.2 18		398001	2009 <i>BZ</i> ₁₇₆		12 15.6 298°63		3.9/15.3 18	
11 7	6 1.03	+ 8 15.4	2.364	3.120	13.5	21.7	11 7	6 0.49	+14 2.7	1.749	2.539	16.3	21.2
11 17	5 56.09	+ 7 48.7	2.280	3.126	11.0	21.6	11 17	5 56.61	+13 41.6	1.663	2.533	13.1	21.0
11 27	5 49.12	+ 7 30.0	2.220	3.131	8.3	21.4	11 27	5 49.99	+13 26.3	1.597	2.528	9.4	20.8
12 7	5 40.68	+ 7 21.2	2.186	3.135	5.8	21.2	12 7	5 41.28	+13 18.8	1.556	2.523	5.6	20.5
12 17	5 31.50	+ 7 24.0	2.181	3.139	5.0	21.2	12 17	5 31.44	+13 20.2	1.543	2.517	4.0	20.4
12 27	5 22.51	+ 7 38.7	2.206	3.142	6.6	21.3	12 27	5 21.74	+13 31.3	1.557	2.512	6.8	20.6
1 6	5 14.55	+ 8 4.7	2.259	3.144	9.2	21.5	1 6	5 13.40	+13 51.7	1.598	2.507	10.8	20.8
1 16	5 8.29	+ 8 40.3	2.338	3.147	11.9	21.7	1 16	5 7.35	+14 20.6	1.663	2.502	14.5	21.0
265480	2005 <i>CQ</i> ₆₄		12 15.6 319°12		5°0/15.0 17		518207	2016 <i>PB</i> ₉₉		12 15.6 18°91		5°5/15.3 18	
11 7	5 57.05	+ 9 21.4	2.240	3.011	13.7	20.6	11 7	6 0.68	+12 37.0	1.348	2.154	19.5	21.1
11 17	5 53.21	+ 8 45.7	2.152	3.007	11.2	20.4	11 17	5 57.36	+11 58.1	1.278	2.157	15.7	20.9
11 27	5 47.30	+ 8 17.1	2.086	3.002	8.4	20.3	11 27	5 50.77	+11 27.5	1.227	2.160	11.4	20.6
12 7	5 39.86	+ 7 58.0	2.046	2.998	5.9	20.1	12 7	5 41.70	+11 8.5	1.199	2.163	7.2	20.4
12 17	5 31.64	+ 7 50.4	2.034	2.994	5.1	20.0	12 17	5 31.39	+11 3.8	1.196	2.167	5.6	20.3
12 27	5 23.54	+ 7 55.6	2.051	2.990	6.8	20.1	12 27	5 21.41	+11 14.5	1.219	2.172	8.5	20.5
1 6	5 16.44	+ 8 13.0	2.095	2.986	9.6	20.3	1 6	5 13.23	+11 39.9	1.266	2.177	12.8	20.8
1 16	5 11.06	+ 8 41.4	2.164	2.982	12.4	20.5	1 16	5 7.87	+12 17.5	1.335	2.182	16.8	21.0
309745	2008 <i>UE</i> ₂₆₈		12 15.6 291°69		1°5/15.4 16		420950	2013 <i>PY</i> ₄		12 15.6 350°07		0°4/15.7 16	
11 7	6 1.45	+20 16.7	1.638	2.436	16.9	21.7	11 7	5 59.63	+26 5.5	2.191	2.974	13.7	21.4
11 17	5 57.78	+20 4.8	1.544	2.422	13.5	21.4	11 17	5 55.44	+25 48.6	2.102	2.972	10.8	21.2
11 27	5 51.05	+19 53.8	1.470	2.408	9.3	21.2	11 27	5 48.90	+25 27.8	2.036	2.971	7.4	20.9
12 7	5 41.86	+19 44.0	1.421	2.395	4.6	20.9	12 7	5 40.66	+25 2.3	1.996	2.969	3.5	20.7
12 17	5 31.29	+19 35.5	1.398	2.381	1.7	20.6	12 17	5 31.57	+24 32.5	1.985	2.968	0.7	20.5
12 27	5 20.77	+19 29.1	1.404	2.367	6.2	20.9	12 27	5 22.72	+23 59.9	2.003	2.967	4.6	20.8
1 6	5 11.73	+19 26.3	1.436	2.354	11.0	21.1	1 6	5 15.08	+23 26.7	2.051	2.967	8.3	21.0
1 16	5 5.27	+19 28.5	1.491	2.340	15.3	21.4	1 16	5 9.44	+22 55.6	2.124	2.966	11.6	21.2
416081	2002 <i>NE</i> ₇₇		12 15.6 113°77		3°6/15.5 18		307463	2002 <i>VU</i> ₁₃₀		12 15.6 277°79		0°0/15.6 15	
11 7	5 58.88	+11 1.8	2.532	3.296	12.6	21.4	11 7	5 36.24	+23 25.8	38.808	39.574	0.9	22.0
11 17	5 54.28	+10 52.8	2.453	3.306	10.1	21.2	11 17	5 35.49	+23 25.4	38.706	39.569	0.7	21.9
11 27	5 47.83	+10 50.4	2.397	3.316	7.3	21.0	11 27	5 34.63	+23 24.8	38.630	39.563	0.5	21.9
12 7	5 40.05	+10 55.6	2.368	3.326	4.6	20.9	12 7	5 33.71	+23 24.2	38.584	39.557	0.2	21.9
12 17	5 31.63	+11 8.8	2.368	3.336	3.6	20.8	12 17	5 32.75	+23 23.5	38.568	39.552	0.0	21.8
12 27	5 23.40	+11 30.0	2.399	3.346	5.4	21.0	12 27	5 31.80	+23 22.8	38.583	39.546	0.3	21.9
1 6	5 16.13	+11 58.5	2.458	3.355	8.1	21.1	1 6	5 30.90	+23 22.2	38.629	39.540	0.5	21.9
1 16	5 10.42	+12 33.0	2.544	3.364	10.7	21.3	1 16	5 30.07	+23 21.5	38.703	39.535	0.8	22.0
65442	2002 <i>TV</i> ₂₉₁		12 15.6 140°00		4°5/16.1 18		201804	2003 <i>XL</i> ₆		12 15.6 305°22		4°3/16.0 18	
11 7	6 8.47	+37 0.7	2.561	3.303	13.0	19.2	11 7	6 1.67	+35 5.9	2.231	2.999	13.9	19.8
11 17	6 2.22	+37 45.0	2.482	3.317	10.6	19.0	11 17	5 57.47	+35 39.4	2.133	2.986	11.4	19.6
11 27	5 53.43	+38 21.5	2.426	3.331	7.9	18.9	11 27	5 50.58	+36 6.1	2.057	2.974	8.4	19.4
12 7	5 42.76	+38 46.1	2.397	3.344	5.5	18.8	12 7	5 41.58	+36 22.0	2.006	2.962	5.6	19.2
12 17	5 31.18	+38 55.6	2.398	3.356	4.5	18.7	12 17	5 31.42	+36 24.1	1.983	2.950	4.4	19.1
12 27	5 19.86	+38 49.6	2.429	3.368	5.9	18.8	12 27	5 21.34	+36 11.5	1.990	2.938	6.1	19.2
1 6	5 9.90	+38 30.2	2.490	3.379	8.3	19.0	1 6	5 12.55	+35 46.3	2.024	2.927	9.2	19.4
1 16	5 2.14	+38 1.5	2.576	3.389	10.8	19.2	1 16	5 6.00	+35 12.5	2.083	2.916	12.2	19.5
84768	2002 <i>XA</i> ₃₆		12 15.6 302°73		0°6/15.6 18		227212	2005 <i>QN</i> ₁₅₉		12 15.6 93°84		0°4/15.6 18	
11 7	6 1.35	+23 34.2	1.830	2.622	15.7	19.5	11 7	6 5.66	+23 9.3	1.547	2.342	17.9	20.3
11 17	5 57.46	+23 56.5	1.737	2.611	12.4	19.2	11 17	6 1.08	+23 28.8	1.474	2.351	14.1	20.1
11 27	5 50.70	+24 19.7	1.664	2.601	8.5	19.0	11 27	5 53.21	+23 49.0	1.422	2.360	9.6	19.9
12 7	5 41.66	+24 41.8	1.617	2.592	4.1	18.7	12 7	5 42.85	+24 7.6	1.394	2.368	4.6	19.6
12 17	5 31.34	+25 0.6	1.598	2.582	0.9	18.4	12 17	5 31.23	+24 22.2	1.393	2.377	0.9	19.3
12 27	5 21.06	+25 15.1	1.608	2.572	5.4	18.7	12 27	5 19.96	+24 32.2	1.421	2.386	6.0	19.7
1 6	5 12.15	+25 25.8	1.645	2.563	9.9	19.0	1 6	5 10.53	+24 38.6	1.475	2.394	10.7	20.0
1 16	5 5.62	+25 34.2	1.707	2.554	13.8	19.2	1 16	5 3.95	+24 43.7	1.553	2.402	14.8	20.3
376016	2010 <i>AQ</i> ₆₄		12 15.6 302°52		3°5/16.4 18		45798	2000 <i>PH</i> ₁₆		12 15.6 217°23		3°6/16.2 18	
11 7	6 2.09	+35 18.7	2.418	3.179	13.2	21.0	11 7	6 4.45	+33 47.6	2.211	2.976	14.1	19.9
11 17	5 57.35	+35 22.8	2.325	3.175	10.6	20.8	11 17	5 59.48	+34 5.0	2.118	2.972	11.4	19.7
11 27	5 50.18	+35 18.3	2.255	3.172	7.8	20.6	11 27	5 51.82	+34 15.0	2.047	2.968	8.3	19.5
12 7	5 41.24	+35 2.5	2.211	3.169	4.9	20.4	12 7	5 42.11	+34 14.4	2.003	2.964	5.1	19.3
12 17	5 31.44	+34 34.1	2.195	3.166	3.5	20.3	12 17	5 31.36	+34 0.8	1.987	2.959	3.6	19.2
12 27	5 21.89	+33 53.9	2.210	3.163	5.3	20.5	12 27	5 20.81	+33 34.5	2.000	2.954	5.6	19.3
1 6	5 13.63	+33 5.0	2.254	3.160	8.2	20.6	1 6	5 11.65	+32 58.1	2.042	2.949	8.9	19.5
1 16	5 7.44	+32 11.5	2.324	3.157	11.1	20.8	1 16	5 4.78	+32 16.0	2.110	2.944	12.0	19.7
314642	2006 <i>JY</i> ₃₃		12 15.6 115°97		3°3/15.7 15		481584	2007 <i>TA</i> ₁₄₅		12 15.6 21°11		4°1/15.2 17	
11 7	6 8.24	+30 21.3	2.118	2.882	14.7	22.6	11 7	5 57.21	+17 30.5	1.076	1.911	21.5	20.1
11 17	6 2.35	+31 13.7	2.044	2.900	11.7	22.5	11 17	5 55.10	+16 41.7	1.029	1.926	16.9	19.9
11 27	5 53.68	+32 2.4	1.994	2.917	8.3	22.3	11 27	5 49.34	+15 57.2	0.999	1.944	11.7	19.7
12 7	5 42.93	+32 42.8	1.971	2.934	4.9	22.1	12 7	5 41.00	+15 20.4	0.991	1.963	6.5	19.4
12 17	5 31.16	+33 11.4	1.977	2.951	3.3	22.1	12 17	5 31.58	+14 54.4	1.006	1.984	4.3	19.4
12 27	5 19.68	+33 26.8	2.013	2.967	5.6	22.2	12 27	5 22.87	+14 41.4	1.045	2.007	8.1	19.7
1 6	5 9.71	+33 30.6	2.078	2.982	8.9	22.5	1 6	5 16.35	+14 41.9	1.107	2.031	12.9	20.0
1 16	5 2.13	+33 25.9	2.169	2.996	12.0	22.7	1 16	5 12.93	+14 54.7	1.190	2.056	17.1	20.3
334274	2001 <i>UZ</i> ₇₃		12 15.6 46°69		2°2/15.5 18		504283	2006 <i>WZ</i> ₁₃₅		12 15.6 202°34		9°6/12.6 18	
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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
431208	2006 <i>SE</i> ₁₇₉	12 15.6	107°18'	4.7/15.9	18		191556	2003 <i>WM</i> ₄₄	12 15.6	341°11'	3.4/16.2	17	
11 7	6 11.88	+33 0.5	1.615	2.390	18.1	21.4	11 7	6 1.74	+33 53.5	2.176	2.947	14.1	19.6
11 17	6 6.07	+33 48.3	1.550	2.409	14.5	21.2	11 17	5 57.37	+34 3.5	2.086	2.944	11.4	19.4
11 27	5 56.63	+34 28.8	1.505	2.427	10.5	21.0	11 27	5 50.38	+34 5.6	2.019	2.941	8.2	19.2
12 7	5 44.45	+34 55.9	1.484	2.445	6.5	20.8	12 7	5 41.45	+33 56.8	1.977	2.939	5.1	19.0
12 17	5 31.01	+35 4.9	1.491	2.462	4.7	20.7	12 17	5 31.54	+33 35.5	1.963	2.936	3.5	18.9
12 27	5 18.12	+34 55.3	1.526	2.479	7.2	20.9	12 27	5 21.87	+33 2.3	1.979	2.934	5.5	19.1
1 6	5 7.40	+34 31.1	1.588	2.495	11.0	21.2	1 6	5 13.59	+32 20.2	2.023	2.933	8.8	19.3
1 16	4 59.92	+33 58.4	1.675	2.511	14.5	21.4	1 16	5 7.54	+31 33.5	2.092	2.931	11.9	19.5
280280	2003 <i>EB</i> ₂₂	12 15.6	208°34'	5°5/15.3	18		27953	1997 <i>PF</i> ₅	12 15.6	94°87'	1.4/15.5	18	
11 7	6 2.64	+9 8.4	1.922	2.692	15.8	20.7	11 7	6 6.57	+20 12.9	1.696	2.481	17.0	19.1
11 17	5 57.98	+8 38.6	1.834	2.688	12.9	20.5	11 17	6 1.17	+20 2.4	1.632	2.503	13.3	18.9
11 27	5 50.78	+8 17.4	1.767	2.683	9.6	20.3	11 27	5 52.89	+19 53.2	1.589	2.524	9.0	18.7
12 7	5 41.64	+8 7.7	1.725	2.678	6.6	20.1	12 7	5 42.57	+19 45.0	1.572	2.545	4.4	18.5
12 17	5 31.46	+8 11.4	1.711	2.672	5.6	20.0	12 17	5 31.37	+19 37.9	1.584	2.566	1.6	18.4
12 27	5 21.40	+8 29.3	1.725	2.667	7.6	20.2	12 27	5 20.70	+19 32.5	1.624	2.586	5.7	18.7
1 6	5 12.58	+9 0.5	1.767	2.660	10.9	20.3	1 6	5 11.75	+19 30.1	1.692	2.606	9.9	19.0
1 16	5 5.87	+9 42.9	1.833	2.653	14.1	20.5	1 16	5 5.35	+19 31.8	1.785	2.625	13.6	19.2
423300	2005 <i>EV</i> ₁₂₈	12 15.6	266°68'	8.4/14.1	18		181543	2006 <i>UZ</i> ₁₈₉	12 15.6	357°21'	5.3/16.3	17	
11 7	5 56.39	-2 37.2	2.533	3.260	13.5	21.5	11 7	6 3.69	+36 0.9	1.692	2.473	17.1	20.0
11 17	5 52.46	-3 40.5	2.446	3.251	11.7	21.3	11 17	5 59.82	+36 32.1	1.611	2.472	14.0	19.8
11 27	5 46.71	-4 31.7	2.381	3.242	10.0	21.2	11 27	5 52.54	+36 53.4	1.550	2.470	10.4	19.6
12 7	5 39.61	-5 6.7	2.341	3.233	8.7	21.1	12 7	5 42.62	+36 59.6	1.513	2.469	7.0	19.4
12 17	5 31.80	-5 21.9	2.326	3.224	8.4	21.1	12 17	5 31.34	+36 46.9	1.502	2.469	5.4	19.3
12 27	5 24.08	-5 15.8	2.339	3.215	9.3	21.1	12 27	5 20.39	+36 15.4	1.518	2.469	7.4	19.4
1 6	5 17.20	-4 49.2	2.376	3.206	11.0	21.2	1 6	5 11.32	+35 29.2	1.560	2.470	10.9	19.6
1 16	5 11.80	-4 4.6	2.437	3.196	12.9	21.3	1 16	5 5.20	+34 34.8	1.626	2.471	14.4	19.8
79243	1994 <i>RA</i> ₁	12 15.6	96°05'	1°5/15.5	18		94979	2001 <i>YZ</i> ₁₁₄	12 15.6	38°64'	0.7/15.5	18	
11 7	6 7.22	+20 3.6	1.668	2.453	17.2	20.0	11 7	6 4.09	+23 1.2	1.142	1.963	21.4	19.0
11 17	6 1.69	+19 53.7	1.605	2.476	13.5	19.8	11 17	6 0.76	+22 46.0	1.079	1.970	16.9	18.7
11 27	5 53.24	+19 45.3	1.563	2.498	9.2	19.6	11 27	5 53.43	+22 29.2	1.035	1.979	11.5	18.5
12 7	5 42.71	+19 38.1	1.547	2.520	4.5	19.3	12 7	5 43.08	+22 10.5	1.012	1.988	5.5	18.2
12 17	5 31.31	+19 32.0	1.559	2.542	1.6	19.2	12 17	5 31.28	+21 49.8	1.014	1.997	1.2	17.9
12 27	5 20.45	+19 27.7	1.601	2.563	5.8	19.5	12 27	5 20.08	+21 29.1	1.041	2.007	7.2	18.3
1 6	5 11.36	+19 26.4	1.670	2.583	10.0	19.8	1 6	5 11.26	+21 11.6	1.092	2.018	12.8	18.7
1 16	5 4.88	+19 29.2	1.763	2.603	13.7	20.1	1 16	5 5.94	+21 0.0	1.164	2.029	17.5	19.0
380329	2002 <i>OR</i> ₈	12 15.6	102°18'	0°5/15.7	18		26467	Jamespopper	12 15.6	41°64'	3.7/15.2	18	
11 7	6 8.71	+25 35.1	1.606	2.392	17.7	21.8	11 7	6 2.49	+17 58.0	1.287	2.100	19.9	17.7
11 17	6 3.11	+25 23.9	1.540	2.412	13.9	21.6	11 17	5 58.85	+17 10.1	1.225	2.110	15.8	17.4
11 27	5 54.33	+25 8.8	1.495	2.431	9.5	21.4	11 27	5 51.77	+16 24.3	1.181	2.121	10.9	17.2
12 7	5 43.26	+24 48.5	1.475	2.449	4.5	21.2	12 7	5 42.18	+15 43.3	1.161	2.132	6.0	16.9
12 17	5 31.23	+24 22.7	1.484	2.467	0.8	21.0	12 17	5 31.44	+15 10.1	1.165	2.144	3.8	16.8
12 27	5 19.80	+23 53.1	1.521	2.485	5.7	21.3	12 27	5 21.25	+14 47.4	1.196	2.156	7.7	17.1
1 6	5 10.33	+23 23.3	1.586	2.502	10.3	21.7	1 6	5 13.08	+14 36.8	1.252	2.169	12.4	17.4
1 16	5 3.71	+22 56.5	1.675	2.519	14.1	21.9	1 16	5 7.90	+14 38.4	1.329	2.182	16.6	17.7
149829	2005 <i>NP</i> ₆₅	12 15.6	56°34'	1°0/15.5	18		94552	2001 <i>VR</i> ₁₃	12 15.6	217°29'	5.2/15.8	18	
11 7	6 3.85	+21 34.7	1.442	2.245	18.6	20.5	11 7	6 9.38	+35 39.8	2.063	2.820	15.2	19.7
11 17	5 59.82	+21 25.3	1.369	2.251	14.7	20.3	11 17	6 3.91	+36 33.8	1.966	2.812	12.5	19.5
11 27	5 52.45	+21 16.2	1.316	2.256	10.0	20.0	11 27	5 55.21	+37 21.4	1.892	2.804	9.4	19.2
12 7	5 42.53	+21 7.0	1.287	2.261	4.8	19.7	12 7	5 43.92	+37 57.0	1.843	2.795	6.5	19.1
12 17	5 31.35	+20 57.5	1.284	2.267	1.3	19.5	12 17	5 31.12	+38 15.3	1.823	2.785	5.2	19.0
12 27	5 20.55	+20 48.7	1.308	2.273	6.3	19.9	12 27	5 18.35	+38 14.5	1.831	2.774	7.1	19.1
1 6	5 11.62	+20 42.2	1.358	2.278	11.3	20.2	1 6	5 7.12	+37 56.6	1.868	2.763	10.3	19.2
1 16	5 5.61	+20 40.0	1.431	2.284	15.6	20.4	1 16	4 58.59	+37 26.7	1.930	2.752	13.5	19.4
147450	2003 <i>YN</i> ₁₇₂	12 15.6	204°20'	0.4/15.6	18		406996	2009 <i>RU</i> ₄₇	12 15.6	69°37'	5.2/16.2	17	
11 7	6 6.24	+22 53.2	1.704	2.490	16.8	20.5	11 7	6 4.98	+36 49.3	2.116	2.877	14.8	20.9
11 17	6 1.47	+23 14.9	1.616	2.488	13.4	20.3	11 17	6 0.08	+37 36.6	2.041	2.888	12.1	20.8
11 27	5 53.52	+23 38.1	1.549	2.484	9.2	20.0	11 27	5 52.31	+38 15.5	1.988	2.899	9.1	20.6
12 7	5 43.08	+24 0.4	1.507	2.481	4.4	19.8	12 7	5 42.39	+38 41.3	1.961	2.910	6.3	20.5
12 17	5 31.25	+24 19.3	1.493	2.477	0.8	19.5	12 17	5 31.40	+38 50.2	1.962	2.921	5.2	20.4
12 27	5 19.53	+24 33.6	1.509	2.472	5.8	19.8	12 27	5 20.72	+38 41.8	1.991	2.933	6.7	20.5
1 6	5 9.41	+24 44.2	1.551	2.468	10.5	20.1	1 6	5 11.61	+38 18.7	2.047	2.944	9.4	20.7
1 16	5 1.97	+24 52.8	1.619	2.462	14.6	20.3	1 16	5 4.98	+37 45.7	2.129	2.955	12.2	20.9
49156	1998 <i>SN</i> ₅₄	12 15.6	251°46'	4.6/16.1	18		442808	2013 <i>AH</i> ₃₃	12 15.6	354°50'	4.2/15.5	18	
11 7	6 7.07	+33 29.1	1.606	2.389	17.8	18.0	11 7	6 1.41	+28 53.4	1.377	2.187	19.0	20.3
11 17	6 2.67	+34 0.6	1.519	2.384	14.5	17.8	11 17	5 58.66	+29 56.3	1.300	2.182	15.2	20.0
11 27	5 54.63	+34 24.4	1.453	2.379	10.6	17.6	11 27	5 52.17	+30 58.2	1.242	2.178	10.8	19.7
12 7	5 43.68	+34 34.9	1.411	2.373	6.6	17.3	12 7	5 42.63	+31 53.1	1.207	2.176	6.3	19.5
12 17	5 31.15	+34 28.0	1.395	2.368	4.7	17.2	12 17	5 31.34	+32 34.8	1.197	2.174	4.2	19.4
12 27	5 18.85	+34 2.9	1.407	2.362	7.3	17.3	12 27	5 20.18	+32 59.9	1.213	2.173	7.6	19.5
1 6	5 8.50	+33 23.8	1.445	2.357	11.4	17.6	1 6	5 10.98	+33 9.6	1.254	2.173	12.2	19.8
1 16	5 1.33	+32 37.1	1.506	2.351	15.4	17.8	1 16	5 5.07	+33 8.1	1.317	2.174	16.4	20.1
406631	2008 <i>CE</i> ₁₇₈	12 15.6	231°59'	3.9/15.6	18		105059	2000 <i>KN</i> ₆₁	12 15.6	185°98'	0.5/15.6	18	
11 7	6 1.41	+9 58											

EPHEMERIDES

12 15.6

12 15.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
431607	2007 VN ₂₃₈		12 15.6	33°65	1.8/15.4	18	191954	2005 UQ ₁₅₃		12 15.6	116°36	0.5/15.7	18
11 7	6 2.97	+22 15.6	1.080	1.907	21.9	21.1	11 7	6 4.85	+24 35.0	1.630	2.423	17.2	21.3
11 17	5 59.92	+21 38.0	1.022	1.917	17.3	20.9	11 17	6 0.37	+24 39.0	1.552	2.427	13.6	21.1
11 27	5 52.84	+20 58.3	0.982	1.927	11.8	20.6	11 27	5 52.73	+24 41.2	1.494	2.431	9.3	20.8
12 7	5 42.77	+20 17.7	0.963	1.939	5.7	20.3	12 7	5 42.67	+24 40.0	1.461	2.435	4.5	20.5
12 17	5 31.36	+19 38.4	0.968	1.951	2.1	20.1	12 17	5 31.41	+24 33.9	1.455	2.438	0.9	20.3
12 27	5 20.64	+19 4.0	0.998	1.964	7.6	20.5	12 27	5 20.46	+24 23.5	1.477	2.442	5.8	20.6
1 6	5 12.38	+18 38.1	1.052	1.978	13.1	20.9	1 6	5 11.24	+24 10.9	1.527	2.446	10.4	20.9
1 16	5 7.61	+18 22.7	1.126	1.992	17.9	21.2	1 16	5 4.75	+23 58.9	1.601	2.449	14.4	21.2
218386	2004 PC		12 15.6	155°67	5.7/14.9	18	510123	2010 TA ₉₁		12 15.6	78°07	2.4/15.5	18
11 7	5 59.32	+3 49.0	2.773	3.511	12.2	21.6	11 7	6 4.93	+18 42.0	1.332	2.138	19.7	22.0
11 17	5 54.44	+3 9.9	2.693	3.519	10.1	21.4	11 17	6 0.88	+18 25.6	1.262	2.144	15.6	21.7
11 27	5 47.88	+2 39.5	2.636	3.527	8.0	21.3	11 27	5 53.29	+18 12.5	1.210	2.149	10.8	21.5
12 7	5 40.12	+2 20.4	2.606	3.534	6.3	21.2	12 7	5 43.00	+18 3.2	1.182	2.155	5.5	21.2
12 17	5 31.80	+2 14.6	2.605	3.541	5.8	21.2	12 17	5 31.37	+17 58.1	1.180	2.161	2.6	21.0
12 27	5 23.64	+2 22.7	2.634	3.547	6.8	21.3	12 27	5 20.13	+17 58.0	1.204	2.167	7.1	21.3
1 6	5 16.34	+2 44.0	2.690	3.552	8.8	21.4	1 6	5 10.90	+18 3.9	1.254	2.173	12.1	21.6
1 16	5 10.46	+3 16.9	2.772	3.557	10.8	21.6	1 16	5 4.75	+18 16.3	1.326	2.179	16.6	21.9
48510	1993 FP ₁₃		12 15.6	353°14	4.4/15.6	18	161722	2006 RH ₂₀		12 15.6	28°94	10.4/14.4	18
11 7	6 4.99	+29 54.4	1.387	2.189	19.2	19.2	11 7	5 58.19	+2 8.4	1.542	2.320	18.7	19.4
11 17	6 1.49	+30 53.2	1.310	2.187	15.5	18.9	11 17	5 54.81	+0 32.0	1.484	2.329	15.8	19.3
11 27	5 54.11	+31 49.6	1.252	2.185	11.1	18.7	11 27	5 48.72	-0 49.7	1.445	2.339	13.0	19.1
12 7	5 43.55	+32 37.2	1.217	2.184	6.6	18.4	12 7	5 40.69	-1 49.4	1.428	2.350	10.9	19.0
12 17	5 31.20	+33 9.6	1.207	2.183	4.5	18.3	12 17	5 31.76	-2 21.5	1.436	2.361	10.4	19.0
12 27	5 19.03	+33 24.1	1.224	2.183	7.7	18.5	12 27	5 23.21	-2 23.8	1.468	2.373	11.8	19.1
1 6	5 8.94	+33 22.7	1.266	2.183	12.3	18.7	1 6	5 16.17	-1 58.2	1.523	2.386	14.2	19.3
1 16	5 2.28	+33 10.6	1.330	2.183	16.5	19.0	1 16	5 11.46	-1 9.5	1.599	2.399	16.8	19.5
327120	2005 EF ₉₁		12 15.6	83°88	5.6/16.6	18	459818	2013 SP ₃₆		12 15.6	39°24	4.0/16.2	18
11 7	6 12.99	+36 22.9	1.447	2.224	19.7	20.5	11 7	6 2.05	+35 26.3	2.444	3.204	13.1	21.3
11 17	6 7.25	+36 48.4	1.388	2.246	16.0	20.3	11 17	5 57.41	+35 57.0	2.356	3.205	10.6	21.2
11 27	5 57.50	+37 1.1	1.349	2.268	11.7	20.1	11 27	5 50.34	+36 20.7	2.292	3.206	7.8	21.0
12 7	5 44.86	+36 54.9	1.332	2.290	7.6	20.0	12 7	5 41.45	+36 33.8	2.253	3.207	5.2	20.8
12 17	5 31.05	+36 26.3	1.342	2.311	5.6	19.9	12 17	5 31.63	+36 34.1	2.243	3.208	4.1	20.8
12 27	5 18.12	+35 37.3	1.379	2.332	7.8	20.1	12 27	5 21.99	+36 21.1	2.262	3.210	5.6	20.9
1 6	5 7.80	+34 34.8	1.442	2.352	11.6	20.4	1 6	5 13.60	+35 56.9	2.310	3.211	8.3	21.0
1 16	5 1.05	+33 27.5	1.529	2.372	15.3	20.6	1 16	5 7.26	+35 25.2	2.384	3.212	11.0	21.2
432279	2009 SS ₁₅₃		12 15.6	70°02	4.4/15.2	16	201201	2002 PM ₁₃₁		12 15.6	113°22	0.8/15.8	18
11 7	6 4.52	+15 12.8	1.402	2.201	19.2	21.1	11 7	6 2.27	+27 57.5	2.680	3.443	11.9	20.2
11 17	6 0.03	+14 29.7	1.342	2.218	15.3	20.9	11 17	5 56.90	+27 34.7	2.599	3.458	9.4	20.1
11 27	5 52.36	+13 51.8	1.302	2.236	10.7	20.7	11 27	5 49.58	+27 7.1	2.543	3.472	6.4	19.9
12 7	5 42.39	+13 22.1	1.286	2.253	6.3	20.5	12 7	5 40.94	+26 34.1	2.514	3.486	3.1	19.7
12 17	5 31.44	+13 2.7	1.296	2.271	4.5	20.4	12 17	5 31.73	+25 56.3	2.517	3.500	0.9	19.6
12 27	5 21.06	+12 55.4	1.333	2.288	7.7	20.7	12 27	5 22.85	+25 15.0	2.551	3.513	3.9	19.8
1 6	5 12.60	+13 0.3	1.396	2.306	11.9	21.0	1 6	5 15.09	+24 32.8	2.615	3.526	7.0	20.0
1 16	5 6.94	+13 16.6	1.481	2.323	15.7	21.2	1 16	5 9.05	+23 52.3	2.707	3.539	9.7	20.2
164855	1999 TO ₂₀₄		12 15.6	90°85	2.4/15.9	18	444566	2006 TY ₁₉		12 15.6	39°19	4.4/14.9	17
11 7	6 6.25	+29 10.1	1.805	2.585	16.3	20.5	11 7	6 0.67	+15 46.7	1.509	2.311	17.9	21.1
11 17	6 1.11	+29 28.2	1.735	2.601	12.9	20.3	11 17	5 56.79	+14 48.6	1.451	2.328	14.2	20.9
11 27	5 52.98	+29 41.2	1.686	2.617	8.9	20.1	11 27	5 50.04	+13 54.3	1.413	2.347	10.0	20.8
12 7	5 42.69	+29 46.2	1.663	2.633	4.8	19.9	12 7	5 41.28	+13 7.1	1.399	2.365	6.0	20.6
12 17	5 31.40	+29 41.0	1.668	2.648	2.4	19.8	12 17	5 31.68	+12 30.2	1.411	2.385	4.5	20.5
12 27	5 20.55	+29 26.1	1.703	2.664	5.6	20.0	12 27	5 22.60	+12 6.2	1.451	2.405	7.4	20.8
1 6	5 11.44	+29 4.3	1.765	2.679	9.6	20.3	1 6	5 15.25	+11 55.9	1.517	2.425	11.3	21.0
1 16	5 4.94	+28 39.5	1.851	2.694	13.1	20.6	1 16	5 10.39	+11 58.6	1.605	2.446	14.8	21.3
48541	1993 TV ₁₀		12 15.6	192°32	3.7/14.9	18	20935	4265 T ₋₁		12 15.6	337°53	0.7/15.6	18
11 7	6 1.38	+14 13.4	2.306	3.076	13.5	19.1	11 7	6 1.34	+21 22.7	1.233	2.052	20.2	18.3
11 17	5 56.53	+13 28.7	2.216	3.074	10.8	18.9	11 17	5 58.68	+21 29.2	1.155	2.045	16.1	18.0
11 27	5 49.55	+12 46.7	2.149	3.072	7.7	18.7	11 27	5 52.22	+21 38.2	1.095	2.039	11.1	17.7
12 7	5 41.00	+12 9.4	2.108	3.070	4.8	18.6	12 7	5 42.68	+21 48.5	1.057	2.033	5.3	17.4
12 17	5 31.67	+11 39.1	2.097	3.067	3.8	18.5	12 17	5 31.41	+21 58.7	1.044	2.027	1.1	17.1
12 27	5 22.50	+11 17.6	2.117	3.064	6.0	18.6	12 27	5 20.31	+22 8.1	1.056	2.023	7.0	17.5
1 6	5 14.42	+11 5.8	2.165	3.060	9.1	18.8	1 6	5 11.23	+22 17.8	1.092	2.019	12.7	17.8
1 16	5 8.12	+11 4.0	2.239	3.056	12.0	19.0	1 16	5 5.46	+22 29.3	1.150	2.016	17.6	18.0
68971	2002 RK ₁₀₄		12 15.6	47°19	2.8/15.4	18	339057	2004 OJ ₈		12 15.6	75°01	1.2/15.6	18
11 7	6 3.36	+18 42.6	1.260	2.073	20.2	19.3	11 7	6 6.71	+19 22.0	1.555	2.346	18.0	21.0
11 17	5 59.59	+18 13.8	1.201	2.087	15.9	19.1	11 17	6 1.53	+19 31.5	1.497	2.371	14.1	20.9
11 27	5 52.30	+17 47.8	1.162	2.102	11.0	18.8	11 27	5 53.27	+19 44.3	1.459	2.395	9.6	20.6
12 7	5 42.44	+17 26.0	1.145	2.118	5.7	18.6	12 7	5 42.83	+19 59.4	1.446	2.420	4.6	20.4
12 17	5 31.45	+17 9.7	1.153	2.134	3.0	18.5	12 17	5 31.44	+20 15.4	1.461	2.444	1.4	20.3
12 27	5 21.05	+17 0.7	1.187	2.150	7.2	18.8	12 27	5 20.60	+20 31.7	1.505	2.468	5.9	20.6
1 6	5 12.76	+16 59.8	1.246	2.166	12.1	19.1	1 6	5 11.63	+20 48.6	1.576	2.492	10.3	20.9
1 16	5 7.55	+17 7.5	1.328	2.183	16.4	19.4	1 16	5 5.40	+21 6.8	1.671	2.516	14.1	21.2
45984	2001 BK ₅₆		12 15.6	187°31	4.0/16.2	18	247250	2001 RQ ₄₈		12 15.6	80°77	2.6/15.6	16
11 7	6 7.70	+35 44.2	2.470	3.218	13.2	20.5	11 7</						

EPHEMERIDES

12 15.6

12 15.6

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
402804	2007 <i>DJ</i> ₇₂		12 15.6	42°25'	1°15/15.7	17	332034	2005 <i>QS</i> ₅		12 15.6	111°86'	4°15/15.5	18
11 7	6 1.36	+25 47.9	1.902	2.690	15.3	21.3	11 7	6 4.91	+13 22.7	1.645	2.429	17.4	21.6
11 17	5 57.18	+26 0.9	1.825	2.698	12.0	21.1	11 17	6 0.05	+13 3.8	1.575	2.441	13.9	21.4
11 27	5 50.32	+26 11.8	1.770	2.706	8.2	20.9	11 27	5 52.30	+12 52.2	1.525	2.454	9.9	21.2
12 7	5 41.47	+26 18.6	1.741	2.714	4.0	20.6	12 7	5 42.43	+12 49.5	1.500	2.465	5.9	21.0
12 17	5 31.65	+26 20.1	1.739	2.722	1.2	20.5	12 17	5 31.55	+12 56.5	1.503	2.477	4.2	20.9
12 27	5 22.12	+26 16.2	1.767	2.731	5.1	20.7	12 27	5 21.04	+13 13.3	1.534	2.488	7.0	21.1
1 6	5 14.03	+26 8.5	1.823	2.740	9.1	21.0	1 6	5 12.13	+13 39.2	1.591	2.498	10.9	21.4
1 16	5 8.24	+25 59.3	1.903	2.749	12.6	21.2	1 16	5 5.73	+14 12.7	1.673	2.509	14.6	21.6
173548	2000 <i>XH</i> ₃₁		12 15.6	13°17'	6°5/15.8	18	218395	2004 <i>PB</i> ₈₁		12 15.6	121°32'	1°0/15.8	18
11 7	6 5.99	+33 29.3	1.224	2.031	21.0	19.5	11 7	6 2.65	+26 28.4	2.360	3.131	13.1	21.0
11 17	6 2.92	+34 39.0	1.155	2.032	17.1	19.3	11 17	5 57.61	+26 36.7	2.279	3.143	10.3	20.8
11 27	5 55.42	+35 42.4	1.104	2.034	12.7	19.0	11 27	5 50.32	+26 42.2	2.222	3.154	7.1	20.6
12 7	5 44.29	+36 30.7	1.075	2.036	8.4	18.8	12 7	5 41.41	+26 43.6	2.192	3.164	3.5	20.4
12 17	5 31.18	+36 56.1	1.070	2.040	6.6	18.7	12 17	5 31.72	+26 39.7	2.192	3.175	1.2	20.3
12 27	5 18.41	+36 55.9	1.090	2.043	9.3	18.9	12 27	5 22.30	+26 30.8	2.222	3.185	4.4	20.5
1 6	5 8.18	+36 34.2	1.133	2.048	13.6	19.1	1 6	5 14.08	+26 18.5	2.282	3.195	7.8	20.8
1 16	5 1.91	+35 59.0	1.197	2.053	17.8	19.4	1 16	5 7.79	+26 4.8	2.368	3.204	10.8	21.0
35793	1999 <i>JN</i> ₃₀		12 15.6	86°66'	1°4/15.8	18	354255	2002 <i>QA</i> ₂₇		12 15.6	64°69'	7°7/17.1	17
11 7	6 6.22	+27 42.3	1.675	2.462	17.1	18.6	11 7	6 10.53	+42 18.3	1.718	2.473	17.9	20.8
11 17	6 1.22	+27 36.7	1.605	2.477	13.5	18.4	11 17	6 5.24	+43 6.3	1.655	2.491	15.0	20.6
11 27	5 53.13	+27 25.8	1.557	2.491	9.2	18.2	11 27	5 56.17	+43 39.5	1.613	2.509	11.8	20.5
12 7	5 42.80	+27 7.6	1.533	2.505	4.6	17.9	12 7	5 44.33	+43 50.8	1.594	2.527	9.0	20.3
12 17	5 31.47	+26 41.6	1.537	2.519	1.5	17.7	12 17	5 31.27	+43 35.7	1.600	2.546	7.7	20.3
12 27	5 20.66	+26 9.4	1.569	2.533	5.6	18.0	12 27	5 18.90	+42 54.8	1.633	2.564	8.9	20.4
1 6	5 11.68	+25 34.5	1.630	2.547	10.0	18.3	1 6	5 8.87	+41 54.1	1.692	2.583	11.5	20.6
1 16	5 5.43	+25 0.9	1.714	2.561	13.7	18.6	1 16	5 2.19	+40 41.9	1.775	2.601	14.3	20.8
391642	2007 <i>VF</i> ₂₆₇		12 15.6	93°29'	15°7/12.5	18	510004	2009 <i>WT</i> ₁₇		12 15.6	166°52'	1°0/15.7	18
11 7	6 8.51	+ 0 32.7	1.093	1.877	24.4	20.1	11 7	6 6.30	+23 48.1	1.681	2.469	17.0	21.6
11 17	6 3.69	- 2 38.1	1.050	1.893	21.1	19.9	11 17	6 1.56	+24 18.4	1.599	2.471	13.5	21.4
11 27	5 55.09	- 5 30.2	1.024	1.908	18.0	19.8	11 27	5 53.63	+24 49.8	1.537	2.473	9.2	21.1
12 7	5 43.78	- 7 48.2	1.019	1.924	16.0	19.7	12 7	5 43.20	+25 19.3	1.501	2.474	4.5	20.8
12 17	5 31.33	- 9 19.4	1.036	1.939	15.9	19.8	12 17	5 31.43	+25 44.0	1.492	2.476	1.2	20.6
12 27	5 19.65	- 9 58.5	1.075	1.953	17.5	19.9	12 27	5 19.84	+26 2.3	1.513	2.477	5.8	20.9
1 6	5 10.33	- 9 49.4	1.133	1.968	20.0	20.1	1 6	5 9.90	+26 14.9	1.561	2.477	10.4	21.2
1 16	5 4.36	- 9 1.4	1.207	1.981	22.6	20.4	1 16	5 2.68	+26 23.9	1.633	2.478	14.4	21.4
212154	2005 <i>EK</i> ₃₂₅		12 15.6	115°41'	0°3/15.6	18	418436	2008 <i>PG</i> ₁₀		12 15.6	85°94'	1°4/15.4	18
11 7	6 3.39	+22 33.0	2.014	2.795	14.8	21.5	11 7	6 1.11	+20 4.9	2.389	3.163	12.9	21.8
11 17	5 58.49	+22 31.8	1.936	2.805	11.6	21.3	11 17	5 56.12	+19 44.5	2.320	3.185	10.1	21.6
11 27	5 51.06	+22 30.2	1.881	2.816	7.9	21.1	11 27	5 49.14	+19 24.5	2.275	3.207	6.9	21.4
12 7	5 41.79	+22 27.4	1.852	2.826	3.7	20.8	12 7	5 40.79	+19 5.3	2.257	3.229	3.4	21.2
12 17	5 31.64	+22 22.8	1.852	2.835	0.7	20.6	12 17	5 31.85	+18 47.4	2.268	3.250	1.5	21.1
12 27	5 21.79	+22 16.9	1.882	2.845	4.9	21.0	12 27	5 23.25	+18 32.1	2.311	3.271	4.4	21.4
1 6	5 13.31	+22 11.0	1.940	2.854	8.8	21.2	1 6	5 15.81	+18 20.2	2.383	3.292	7.7	21.6
1 16	5 7.01	+22 6.7	2.024	2.863	12.2	21.4	1 16	5 10.13	+18 12.7	2.481	3.313	10.5	21.8
158692	2003 <i>FS</i> ₆₅		12 15.6	179°94'	2°4/15.3	18	137663	1999 <i>XH</i> ₁₉		12 15.6	78°00'	3°4/15.7	18
11 7	6 3.65	+18 21.2	1.836	2.620	15.9	20.6	11 7	6 8.99	+28 19.9	1.412	2.206	19.3	19.5
11 17	5 58.96	+17 56.3	1.751	2.621	12.6	20.4	11 17	6 4.20	+29 11.1	1.348	2.222	15.3	19.3
11 27	5 51.55	+17 33.1	1.688	2.622	8.7	20.1	11 27	5 55.63	+29 59.5	1.305	2.238	10.7	19.1
12 7	5 42.09	+17 12.4	1.651	2.622	4.6	19.9	12 7	5 44.17	+30 39.4	1.285	2.254	5.9	18.9
12 17	5 31.59	+16 55.2	1.642	2.622	2.5	19.7	12 17	5 31.30	+31 5.9	1.291	2.270	3.4	18.8
12 27	5 21.33	+16 42.9	1.662	2.621	5.9	20.0	12 27	5 18.94	+31 17.2	1.326	2.286	7.0	19.0
1 6	5 12.49	+16 36.6	1.710	2.620	10.1	20.2	1 6	5 8.80	+31 15.9	1.386	2.302	11.5	19.3
1 16	5 5.96	+16 37.4	1.782	2.619	13.7	20.4	1 16	5 1.99	+31 6.8	1.469	2.317	15.5	19.6
29937	1999 <i>JB</i> ₅₀		12 15.6	315°76'	0°8/15.6	18	311692	2006 <i>SD</i> ₁₂₀		12 15.6	54°90'	4°6/15.5	18
11 7	6 1.71	+22 58.7	1.834	2.624	15.7	17.9	11 7	6 1.79	+11 51.0	1.653	2.441	17.2	20.5
11 17	5 57.81	+23 35.9	1.741	2.615	12.4	17.6	11 17	5 57.44	+11 29.4	1.594	2.461	13.8	20.4
11 27	5 51.05	+24 15.9	1.670	2.607	8.5	17.4	11 27	5 50.41	+11 16.5	1.555	2.482	9.9	20.2
12 7	5 41.98	+24 55.9	1.624	2.598	4.1	17.1	12 7	5 41.49	+11 14.2	1.541	2.503	6.2	20.0
12 17	5 31.59	+25 33.1	1.606	2.590	1.1	16.9	12 17	5 31.75	+11 23.5	1.554	2.525	4.7	20.0
12 27	5 21.20	+26 5.3	1.617	2.581	5.4	17.1	12 27	5 22.45	+11 44.2	1.595	2.546	7.1	20.2
1 6	5 12.15	+26 32.2	1.656	2.574	9.8	17.4	1 6	5 14.71	+12 14.9	1.662	2.568	10.6	20.4
1 16	5 5.48	+26 54.7	1.720	2.566	13.7	17.6	1 16	5 9.32	+12 53.6	1.754	2.590	14.0	20.7
45317	2000 <i>AC</i> ₆₃		12 15.6	34°77'	2°8/15.3	18	332889	2011 <i>AH</i> ₇₄		12 15.6	17°71'	1°1/15.6	17
11 7	5 59.94	+13 58.7	1.915	2.699	15.3	18.3	11 7	6 1.52	+24 4.8	2.018	2.802	14.6	20.4
11 17	5 55.86	+14 11.9	1.840	2.708	12.2	18.1	11 17	5 57.28	+24 41.6	1.933	2.804	11.6	20.2
11 27	5 49.34	+14 32.8	1.787	2.718	8.5	17.9	11 27	5 50.45	+25 19.3	1.871	2.805	7.9	20.0
12 7	5 41.00	+15 1.3	1.760	2.728	4.7	17.7	12 7	5 41.61	+25 55.4	1.834	2.808	3.9	19.7
12 17	5 31.77	+15 36.7	1.761	2.739	2.8	17.6	12 17	5 31.70	+26 27.4	1.827	2.810	1.2	19.5
12 27	5 22.76	+16 17.6	1.791	2.750	5.6	17.8	12 27	5 21.92	+26 53.7	1.849	2.812	5.0	19.8
1 6	5 15.03	+17 2.5	1.849	2.761	9.3	18.1	1 6	5 13.42	+27 14.3	1.900	2.815	8.9	20.0
1 16	5 9.38	+17 49.8	1.932	2.773	12.7	18.3	1 16	5 7.10	+27 30.5	1.975	2.818	12.3	20.3
274960	2009 <i>SD</i> ₃₂₀		12 15.6	336°27'	2°5/15.7	18	108178	2001 <i>HZ</i> ₁₂		12 15.6	193°40'	3°6/	

EPHEMERIDES

12 15.6

12 15.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
485526	2011 <i>UZ</i> ₃₅	12 15.6 43°72'		4.6°/15.1 17'			63220	2001 <i>AU</i> ₃₂	12 15.6 49°01'		0.5°/15.6 18'		
11 7	6 2.72	+15 37.9	1.406	2.209	19.0	21.1	11 7	6 2.83	+22 0.5	1.855	2.642	15.6	18.9
11 17	5 58.43	+14 37.5	1.358	2.236	15.0	20.9	11 17	5 58.36	+22 41.4	1.784	2.656	12.3	18.7
11 27	5 51.14	+13 41.9	1.330	2.264	10.5	20.8	11 27	5 51.17	+23 24.8	1.735	2.671	8.3	18.5
12 7	5 41.80	+12 54.6	1.325	2.292	6.3	20.6	12 7	5 41.95	+24 8.2	1.711	2.685	4.0	18.3
12 17	5 31.71	+12 18.9	1.347	2.320	4.7	20.6	12 17	5 31.73	+24 48.5	1.717	2.700	0.8	18.1
12 27	5 22.32	+11 57.1	1.396	2.349	7.6	20.8	12 27	5 21.76	+25 24.0	1.751	2.716	5.1	18.4
1 6	5 14.83	+11 49.6	1.470	2.379	11.5	21.1	1 6	5 13.25	+25 54.2	1.814	2.731	9.2	18.7
1 16	5 9.99	+11 55.4	1.567	2.408	15.1	21.4	1 16	5 7.07	+26 20.2	1.902	2.747	12.7	18.9
175442	2006 <i>QU</i> ₄₃	12 15.6 62°64'		0.5°/15.6 18'			220712	2004 <i>SL</i> ₁₄	12 15.6 38°42'		5°2'/15.6 18'		
11 7	6 3.92	+21 5.5	1.681	2.473	16.8	20.1	11 7	5 59.05	+ 9 5.4	1.890	2.668	15.7	19.5
11 17	5 59.28	+21 18.9	1.618	2.492	13.2	19.9	11 17	5 55.13	+ 8 45.6	1.818	2.677	12.7	19.3
11 27	5 51.77	+21 34.2	1.575	2.512	8.9	19.7	11 27	5 48.82	+ 8 35.7	1.767	2.686	9.4	19.1
12 7	5 42.18	+21 50.0	1.558	2.532	4.2	19.5	12 7	5 40.79	+ 8 37.9	1.741	2.696	6.4	18.9
12 17	5 31.64	+22 4.7	1.568	2.552	0.8	19.2	12 17	5 31.92	+ 8 53.3	1.742	2.706	5.2	18.9
12 27	5 21.54	+22 18.1	1.607	2.572	5.4	19.6	12 27	5 23.29	+ 9 21.7	1.771	2.716	7.1	19.0
1 6	5 13.10	+22 30.4	1.674	2.592	9.7	19.9	1 6	5 15.94	+10 1.7	1.827	2.727	10.2	19.2
1 16	5 7.18	+22 43.0	1.765	2.612	13.4	20.2	1 16	5 10.60	+10 50.6	1.908	2.737	13.3	19.5
12671	Thörnqvist	12 15.6 224°96'		4.4°/16.1 18'			29047	2278 <i>T</i> ₋₂	12 15.6 135°54'		0°2'/15.7 17'		
11 7	6 8.54	+33 20.0	1.737	2.512	17.0	18.4	11 7	5 59.80	+23 47.2	2.656	3.427	11.8	20.2
11 17	6 3.65	+33 51.4	1.646	2.505	13.8	18.2	11 17	5 55.17	+23 52.5	2.569	3.433	9.3	20.0
11 27	5 55.25	+34 15.7	1.575	2.498	10.1	17.9	11 27	5 48.60	+23 56.9	2.507	3.439	6.3	19.9
12 7	5 44.06	+34 27.6	1.529	2.491	6.3	17.7	12 7	5 40.62	+23 59.5	2.472	3.445	3.0	19.7
12 17	5 31.32	+34 23.0	1.510	2.483	4.4	17.6	12 17	5 31.95	+23 59.7	2.467	3.450	0.5	19.5
12 27	5 18.74	+34 1.1	1.519	2.474	7.0	17.7	12 27	5 23.45	+23 57.7	2.493	3.456	3.9	19.7
1 6	5 7.97	+33 25.3	1.556	2.465	11.0	17.9	1 6	5 15.93	+23 54.3	2.548	3.461	7.1	19.9
1 16	5 2.02	+32 41.8	1.617	2.456	14.8	18.1	1 16	5 10.03	+23 50.7	2.631	3.466	9.9	20.1
330791	2008 <i>UQ</i> ₁₃₆	12 15.6 103°80'		1°6'/15.8 17'			286729	2002 <i>GX</i> ₁₁₈	12 15.6 199°20'		0°2'/15.7 18'		
11 7	6 1.46	+27 54.8	2.575	3.343	12.3	20.9	11 7	6 7.42	+22 43.8	1.722	2.505	16.8	21.6
11 17	5 56.55	+28 15.9	2.496	3.356	9.7	20.7	11 17	6 2.41	+23 1.5	1.632	2.503	13.3	21.3
11 27	5 49.56	+28 34.1	2.440	3.369	6.7	20.6	11 27	5 54.23	+23 20.4	1.565	2.499	9.2	21.1
12 7	5 41.06	+28 47.5	2.412	3.382	3.5	20.4	12 7	5 43.55	+23 38.2	1.522	2.496	4.4	20.8
12 17	5 31.84	+28 54.7	2.414	3.394	1.7	20.3	12 17	5 31.48	+23 52.9	1.508	2.491	0.7	20.5
12 27	5 22.83	+28 55.5	2.446	3.406	4.2	20.5	12 27	5 19.53	+24 3.6	1.523	2.486	5.7	20.8
1 6	5 14.92	+28 50.9	2.508	3.418	7.3	20.7	1 6	5 9.16	+24 10.9	1.565	2.481	10.4	21.1
1 16	5 8.78	+28 43.0	2.597	3.430	10.0	20.9	1 16	5 1.47	+24 17.1	1.633	2.475	14.5	21.3
474149	1998 <i>SW</i> ₁₆	12 15.6 349°96'		1°8'/15.8 18'			190472	2000 <i>DF</i> ₄₄	12 15.6 335°59'		8°1'/15.1 17'		
11 7	6 0.12	+26 4.0	1.197	2.020	20.4	20.8	11 7	5 57.05	+ 0 48.3	2.119	2.870	15.1	19.4
11 17	5 57.97	+26 24.6	1.121	2.014	16.3	20.5	11 17	5 53.39	+ 0 0.2	2.037	2.865	12.8	19.2
11 27	5 51.89	+26 43.4	1.064	2.008	11.3	20.2	11 27	5 47.60	+ 0 34.9	1.975	2.861	10.5	19.0
12 7	5 42.61	+26 57.0	1.029	2.003	5.7	19.9	12 7	5 40.23	+ 0 52.8	1.938	2.857	8.7	18.9
12 17	5 31.57	+27 2.3	1.017	2.000	2.0	19.7	12 17	5 32.03	+ 0 50.3	1.927	2.853	8.1	18.9
12 27	5 20.75	+26 58.7	1.031	1.998	7.2	20.0	12 27	5 23.95	+ 0 26.6	1.942	2.849	9.3	18.9
1 6	5 12.09	+26 48.7	1.068	1.996	12.7	20.3	1 6	5 16.91	+ 0 16.9	1.983	2.846	11.4	19.1
1 16	5 6.89	+26 36.3	1.126	1.996	17.6	20.6	1 16	5 11.63	+ 0 16.7	2.048	2.843	13.8	19.2
335345	2005 <i>SB</i> ₃₉	12 15.6 112°09'		1°4'/15.8 18'			398462	2011 <i>UT</i> ₁₀₁	12 15.7 121°67'		1°1'/15.6 18'		
11 7	6 9.01	+26 37.7	1.805	2.581	16.4	21.6	11 7	6 2.55	+20 0.8	1.949	2.732	15.1	21.4
11 17	6 3.18	+26 51.7	1.736	2.601	12.9	21.4	11 17	5 58.00	+20 3.2	1.867	2.737	11.9	21.2
11 27	5 54.37	+27 2.6	1.689	2.621	8.8	21.2	11 27	5 50.87	+20 7.7	1.807	2.742	8.1	20.9
12 7	5 43.41	+27 7.7	1.668	2.640	4.4	21.0	12 7	5 41.82	+20 13.6	1.773	2.747	4.0	20.7
12 17	5 31.48	+27 5.1	1.676	2.658	1.5	20.8	12 17	5 31.79	+20 20.4	1.768	2.751	1.2	20.5
12 27	5 20.04	+26 55.3	1.713	2.676	5.4	21.1	12 27	5 21.98	+20 27.9	1.793	2.756	5.1	20.8
1 6	5 10.35	+26 40.5	1.779	2.693	9.5	21.4	1 6	5 13.51	+20 36.7	1.845	2.760	9.2	21.0
1 16	5 3.30	+26 24.2	1.870	2.709	13.1	21.7	1 16	5 7.22	+20 47.6	1.923	2.764	12.7	21.3
426214	2012 <i>KO</i> ₄₆	12 15.6 195°54'		0°1'/15.6 17'			302670	2002 <i>SQ</i> ₄₈	12 15.7 149°04'		6°0'/15.9 18'		
11 7	6 0.94	+21 42.3	2.834	3.598	11.3	21.7	11 7	6 9.08	+37 55.1	2.125	2.876	15.0	20.6
11 17	5 56.01	+22 7.8	2.736	3.596	8.9	21.6	11 17	6 3.61	+39 3.4	2.044	2.882	12.4	20.4
11 27	5 49.17	+22 34.6	2.663	3.594	6.1	21.4	11 27	5 54.99	+40 3.9	1.984	2.887	9.5	20.2
12 7	5 40.91	+23 1.6	2.618	3.591	2.9	21.2	12 7	5 43.90	+40 50.6	1.951	2.892	7.0	20.1
12 17	5 31.87	+23 27.4	2.604	3.587	0.5	20.9	12 17	5 31.46	+41 18.3	1.945	2.897	6.0	20.0
12 27	5 22.87	+23 51.2	2.622	3.584	3.8	21.2	12 27	5 19.17	+41 24.9	1.968	2.901	7.5	20.1
1 6	5 14.72	+24 12.7	2.670	3.580	6.9	21.4	1 6	5 8.48	+41 12.8	2.019	2.905	10.1	20.3
1 16	5 8.09	+24 32.6	2.746	3.576	9.7	21.6	1 16	5 0.46	+40 47.1	2.094	2.908	12.8	20.5
160146	2001 <i>HU</i> ₂₂	12 15.6 136°43'		2°7'/15.5 18'			375203	2008 <i>EB</i> ₉₆	12 15.7 311°59'		5°3'/15.7 18'		
11 7	6 5.55	+29 54.1	2.872	3.623	11.5	20.2	11 7	6 6.14	+31 35.6	1.369	2.169	19.6	21.0
11 17	5 59.72	+30 55.7	2.786	3.634	9.2	20.0	11 17	6 2.73	+32 36.8	1.287	2.161	15.9	20.8
11 27	5 51.75	+31 55.2	2.725	3.644	6.5	19.9	11 27	5 55.23	+33 34.5	1.224	2.154	11.6	20.5
12 7	5 42.15	+32 49.1	2.692	3.654	3.9	19.7	12 7	5 44.30	+34 21.5	1.183	2.148	7.2	20.3
12 17	5 31.67	+33 34.2	2.692	3.664	2.8	19.7	12 17	5 31.37	+34 50.8	1.168	2.141	5.3	20.1
12 27	5 21.25	+34 8.9	2.723	3.673	4.6	19.8	12 27	5 18.51	+34 59.0	1.179	2.135	8.3	20.3
1 6	5 11.80	+34 33.3	2.785	3.682	7.2	20.0	1 6	5 7.78	+34 48.7	1.214	2.129	12.9	20.5
1 16	5 4.06	+34 49.0	2.875	3.691	9.7	20.2	1 16	5 0.65	+34 26.1	1.272	2.123	17.2	20.8
276803	2004 <i>PJ</i> ₁₀	12 15.6 151°29'		0°8'/15.6 18'			230802	2004 <i>FR</i> ₁₃	12 15.7 153°92'		1°3'/15.9 18'		
11 7	6 5.60	+21 5.6	1.988	2.764	15.1								

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
83869	2001 UA_{89}		12 15.7 192°30	0°6/15.7 18			272859	2006 BO_{50}		12 15.7 17°54	4°2/16.3 17		
11 7	6 3.13	+19 45.8	2.409	3.178	13.0	20.0	11 7	6 3.33	+34 55.3	2.053	2.823	14.9	20.9
11 17	5 58.06	+20 8.8	2.314	3.176	10.3	19.8	11 17	5 58.90	+35 16.6	1.969	2.824	12.1	20.8
11 27	5 50.76	+20 34.6	2.243	3.174	7.0	19.6	11 27	5 51.65	+35 29.6	1.906	2.826	8.8	20.6
12 7	5 41.76	+21 2.1	2.199	3.172	3.4	19.3	12 7	5 42.28	+35 30.6	1.869	2.827	5.7	20.4
12 17	5 31.84	+21 29.9	2.186	3.169	0.8	19.1	12 17	5 31.85	+35 17.0	1.860	2.829	4.2	20.3
12 27	5 21.98	+21 57.1	2.204	3.166	4.4	19.4	12 27	5 21.70	+34 49.2	1.879	2.832	6.1	20.4
1 6	5 13.15	+22 23.1	2.251	3.162	8.0	19.6	1 6	5 13.07	+34 10.4	1.926	2.834	9.3	20.6
1 16	5 6.12	+22 48.2	2.326	3.158	11.1	19.8	1 16	5 6.85	+33 25.2	1.998	2.836	12.4	20.8
144151	2004 BP_{96}		12 15.7 9°31	1°7/15.6 18			7961	Ercolepoli		12 15.7 82°06	1°6/15.7 18		
11 7	5 58.07	+20 22.6	1.014	1.853	22.2	19.3	11 7	6 10.66	+25 10.2	1.339	2.136	20.1	17.3
11 17	5 56.54	+20 14.5	0.953	1.855	17.6	19.1	11 17	6 5.44	+25 43.8	1.281	2.158	15.8	17.1
11 27	5 50.94	+20 9.2	0.909	1.857	12.1	18.8	11 27	5 56.42	+26 16.5	1.243	2.180	10.8	16.8
12 7	5 42.17	+20 7.0	0.886	1.862	5.9	18.5	12 7	5 44.60	+26 44.1	1.229	2.202	5.3	16.6
12 17	5 31.78	+20 7.8	0.885	1.868	1.9	18.2	12 17	5 31.52	+27 2.7	1.241	2.224	1.8	16.4
12 27	5 21.85	+20 12.0	0.907	1.875	7.6	18.6	12 27	5 19.11	+27 11.7	1.281	2.246	6.5	16.8
1 6	5 14.27	+20 20.5	0.952	1.884	13.4	18.9	1 6	5 9.02	+27 13.0	1.347	2.267	11.5	17.1
1 16	5 10.22	+20 34.1	1.017	1.894	18.4	19.3	1 16	5 2.31	+27 10.6	1.436	2.287	15.6	17.4
449296	2013 EU_{105}		12 15.7 131°58	6°6/16.9 17			448861	2011 UJ_{150}		12 15.7 85°57	2°2/15.4 18		
11 7	6 9.65	+42 4.4	2.112	2.853	15.4	20.9	11 7	6 2.15	+18 54.6	1.801	2.590	16.0	21.9
11 17	6 4.02	+42 42.7	2.033	2.860	12.9	20.8	11 17	5 57.86	+18 27.8	1.721	2.594	12.6	21.7
11 27	5 55.18	+43 8.4	1.974	2.867	10.1	20.6	11 27	5 50.88	+18 2.3	1.662	2.597	8.7	21.5
12 7	5 43.93	+43 16.0	1.941	2.873	7.7	20.5	12 7	5 41.90	+17 38.9	1.629	2.601	4.5	21.2
12 17	5 31.52	+43 1.5	1.934	2.880	6.6	20.4	12 17	5 31.93	+17 18.8	1.624	2.604	2.4	21.1
12 27	5 19.53	+42 25.0	1.956	2.886	7.7	20.5	12 27	5 22.23	+17 3.6	1.647	2.607	5.8	21.3
1 6	5 9.38	+41 30.7	2.005	2.891	10.1	20.7	1 6	5 13.98	+16 54.4	1.698	2.611	9.9	21.6
1 16	5 2.04	+40 25.1	2.079	2.897	12.8	20.9	1 16	5 8.02	+16 52.3	1.773	2.614	13.6	21.8
91531	1999 RH_{195}		12 15.7 99°26	3°4/15.1 18			84873	2003 BW_{55}		12 15.7 221°46	3°9/15.2 18		
11 7	6 1.26	+15 2.3	2.289	3.061	13.5	19.8	11 7	5 56.61	+10 1.2	2.823	3.583	11.5	19.8
11 17	5 56.33	+14 17.7	2.218	3.078	10.7	19.6	11 17	5 52.53	+9 36.6	2.731	3.580	9.3	19.7
11 27	5 49.36	+13 35.9	2.170	3.095	7.6	19.5	11 27	5 46.78	+9 17.6	2.662	3.577	6.9	19.5
12 7	5 40.99	+12 58.9	2.149	3.112	4.6	19.3	12 7	5 39.83	+9 5.9	2.621	3.574	4.7	19.4
12 17	5 32.00	+12 28.6	2.157	3.129	3.4	19.3	12 17	5 32.25	+9 2.6	2.609	3.570	3.9	19.3
12 27	5 23.34	+12 6.7	2.196	3.145	5.6	19.4	12 27	5 24.77	+9 8.4	2.627	3.567	5.4	19.4
1 6	5 15.83	+11 54.0	2.263	3.161	8.6	19.7	1 6	5 18.07	+9 23.2	2.673	3.563	7.8	19.5
1 16	5 10.10	+11 50.5	2.356	3.177	11.4	19.9	1 16	5 12.72	+9 46.1	2.746	3.559	10.2	19.7
11091	Thelonius		12 15.7 37°52	0°8/15.6 18			78729	2002 TF_{237}		12 15.7 133°88	0°5/15.8 18		
11 7	6 2.53	+21 38.2	1.370	2.179	19.0	17.4	11 7	6 5.10	+27 9.8	2.049	2.824	14.7	19.2
11 17	5 58.93	+21 34.0	1.306	2.191	15.0	17.2	11 17	5 59.86	+26 39.2	1.965	2.830	11.6	19.0
11 27	5 51.94	+21 30.7	1.261	2.202	10.2	17.0	11 27	5 52.05	+26 2.8	1.904	2.836	8.0	18.8
12 7	5 42.45	+21 27.6	1.240	2.215	4.9	16.7	12 7	5 42.38	+25 19.9	1.869	2.842	3.8	18.6
12 17	5 31.78	+21 24.1	1.244	2.228	1.1	16.5	12 17	5 31.87	+24 31.4	1.864	2.848	0.7	18.3
12 27	5 21.58	+21 21.0	1.276	2.242	6.3	16.9	12 27	5 21.73	+23 39.7	1.890	2.853	4.8	18.7
1 6	5 13.34	+21 19.6	1.333	2.256	11.2	17.2	1 6	5 13.06	+22 48.5	1.944	2.858	8.8	18.9
1 16	5 8.03	+21 21.6	1.412	2.270	15.4	17.5	1 16	5 6.63	+22 1.3	2.024	2.863	12.3	19.2
517895	2015 TJ_{71}		12 15.7 71°80	0°9/15.5 18			252071	2000 SM_{208}		12 15.7 21°28	4°1/16.1 18 R		
11 7	6 2.94	+21 50.1	1.882	2.668	15.5	21.3	11 7	6 4.69	+30 47.1	1.144	1.961	21.6	19.7
11 17	5 58.20	+21 32.9	1.814	2.686	12.1	21.1	11 17	6 1.82	+31 16.0	1.079	1.965	17.3	19.4
11 27	5 50.91	+21 15.2	1.768	2.704	8.2	20.9	11 27	5 54.61	+31 37.5	1.031	1.969	12.3	19.2
12 7	5 41.80	+20 56.9	1.748	2.722	3.9	20.7	12 7	5 43.97	+31 46.1	1.005	1.975	7.0	18.9
12 17	5 31.90	+20 38.4	1.756	2.740	1.1	20.5	12 17	5 31.61	+31 37.4	1.003	1.981	4.2	18.8
12 27	5 22.41	+20 21.2	1.794	2.757	5.1	20.8	12 27	5 19.78	+31 11.7	1.025	1.988	7.9	19.0
1 6	5 14.41	+20 6.7	1.860	2.775	9.1	21.1	1 6	5 10.52	+30 34.4	1.071	1.996	13.1	19.3
1 16	5 8.66	+19 56.4	1.951	2.793	12.5	21.3	1 16	5 5.09	+29 52.6	1.137	2.004	17.7	19.6
517346	2014 JG_{67}		12 15.7 205°95	3°1/15.5 18			97181	1999 VV_{228}		12 15.7 42°09	3°7/16.4 18		
11 7	6 6.90	+28 14.2	1.977	2.751	15.3	21.8	11 7	6 5.61	+33 20.6	1.631	2.416	17.5	19.4
11 17	6 1.89	+29 16.7	1.886	2.748	12.2	21.6	11 17	6 1.23	+33 26.8	1.555	2.421	14.1	19.2
11 27	5 53.88	+30 19.1	1.818	2.746	8.6	21.4	11 27	5 53.48	+33 23.3	1.499	2.427	10.1	19.0
12 7	5 43.45	+31 16.5	1.776	2.743	4.9	21.2	12 7	5 43.21	+33 6.3	1.468	2.433	6.0	18.7
12 17	5 31.62	+32 4.0	1.763	2.740	3.2	21.0	12 17	5 31.74	+32 33.8	1.463	2.439	3.8	18.6
12 27	5 19.79	+32 38.8	1.781	2.737	6.0	21.2	12 27	5 20.74	+31 47.4	1.486	2.446	6.5	18.8
1 6	5 9.35	+33 1.0	1.826	2.733	9.7	21.4	1 6	5 11.70	+30 52.2	1.536	2.452	10.5	19.0
1 16	5 1.38	+33 13.1	1.897	2.729	13.2	21.6	1 16	5 5.60	+29 54.3	1.610	2.459	14.3	19.3
123447	2000 WZ_{131}		12 15.7 331°15	0°2/15.7 18			237864	2002 HF_4		12 15.7 166°42	0°3/15.7 18		
11 7	6 1.00	+22 27.6	2.062	2.846	14.4	20.2	11 7	6 5.96	+21 34.7	2.105	2.877	14.5	20.6
11 17	5 56.78	+22 34.9	1.974	2.845	11.3	19.9	11 17	6 0.65	+22 11.3	2.017	2.881	11.5	20.4
11 27	5 50.08	+22 42.6	1.908	2.844	7.7	19.7	11 27	5 52.73	+22 50.6	1.952	2.884	7.8	20.2
12 7	5 41.50	+22 49.6	1.869	2.843	3.7	19.5	12 7	5 42.80	+23 30.4	1.914	2.887	3.7	20.0
12 17	5 31.95	+22 55.0	1.858	2.842	0.6	19.2	12 17	5 31.79	+24 8.0	1.906	2.890	0.6	19.7
12 27	5 22.54	+22 58.7	1.877	2.841	4.8	19.5	12 27	5 20.88	+24 41.7	1.929	2.892	4.8	20.0
1 6	5 14.36	+23 1.4	1.924	2.840	8.8	19.8	1 6	5 11.23	+25 11.1	1.981	2.893	8.8	20.3
1 16	5 8.26	+23 4.5	1.997	2.840	12.2	20.0	1 16	5 3.73	+25 37.0	2.059	2.894	12.2	20.5
168245	2006 KX_{98}		12 15.7 161°51	1°6/15.6 18			429429	2010 UV_{77}		12 15.7 164°33	2°6/16.1 18		
11 7	6 3.59	+18 35.0	2.207	2.980	13.9	21.3	11 7						

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
520528	2014 <i>MD</i> ₇₃		12 15.7 190°32	0°8/15.6	18		318443	2005 <i>CO</i> ₅₂		12 15.7 13°66	3°2/15.8	18	
11 7	6 2.43	+20 58.0	2.450	3.220	12.8	23.0	11 7	6 0.77	+27 56.9	1.246	2.064	20.1	19.5
11 17	5 57.44	+20 53.3	2.356	3.218	10.1	22.8	11 17	5 58.32	+28 37.4	1.180	2.069	16.0	19.2
11 27	5 50.31	+20 49.0	2.285	3.217	6.9	22.6	11 27	5 52.02	+29 15.0	1.133	2.074	11.2	18.9
12 7	5 41.58	+20 44.6	2.242	3.215	3.3	22.4	12 7	5 42.72	+29 45.0	1.109	2.081	6.0	18.7
12 17	5 32.03	+20 40.0	2.229	3.212	1.0	22.2	12 17	5 31.88	+30 3.2	1.109	2.089	3.2	18.5
12 27	5 22.60	+20 35.7	2.247	3.209	4.4	22.5	12 27	5 21.44	+30 8.1	1.134	2.098	7.2	18.8
1 6	5 14.22	+20 32.4	2.294	3.205	7.8	22.7	1 6	5 13.17	+30 2.2	1.183	2.109	12.1	19.1
1 16	5 7.60	+20 31.2	2.369	3.201	10.9	22.9	1 16	5 8.25	+29 50.0	1.254	2.120	16.4	19.4
490975	2011 <i>EL</i> ₅₈		12 15.7 138°01	2°6/15.6	17		240700	2005 <i>GK</i> ₂₈		12 15.7 180°30	6°6/14.4	18	
11 7	5 59.35	+13 56.1	2.513	3.281	12.5	21.8	11 7	6 1.14	+5 6.7	2.363	3.111	13.8	21.2
11 17	5 54.90	+13 57.7	2.426	3.284	10.0	21.7	11 17	5 56.31	+4 0.4	2.280	3.113	11.5	21.1
11 27	5 48.51	+14 4.5	2.362	3.288	7.0	21.5	11 27	5 49.47	+3 1.9	2.219	3.113	9.1	20.9
12 7	5 40.70	+14 17.0	2.325	3.291	4.0	21.3	12 7	5 41.17	+2 15.2	2.184	3.114	7.2	20.8
12 17	5 32.17	+14 35.3	2.318	3.294	2.7	21.2	12 17	5 32.13	+1 43.5	2.178	3.113	6.7	20.8
12 27	5 23.76	+14 58.9	2.342	3.297	4.8	21.3	12 27	5 23.26	+1 29.0	2.200	3.112	8.0	20.8
1 6	5 16.28	+15 27.3	2.395	3.300	7.8	21.5	1 6	5 15.40	+1 31.6	2.250	3.111	10.3	21.0
1 16	5 10.40	+15 59.7	2.474	3.303	10.6	21.7	1 16	5 9.21	+1 49.8	2.324	3.109	12.7	21.1
489822	2008 <i>EO</i> ₃₃		12 15.7 304°90	7°1/14.8	17		100263	1994 <i>TL</i> ₁₁		12 15.7 13°64	11°1/13.9	18	
11 7	5 58.43	+7 0.2	1.830	2.607	16.2	21.2	11 7	5 57.53	+3 9.1	1.394	2.185	19.7	18.6
11 17	5 55.02	+6 6.7	1.737	2.592	13.5	20.9	11 17	5 54.72	+1 15.9	1.334	2.188	16.8	18.4
11 27	5 49.07	+5 22.1	1.664	2.576	10.5	20.7	11 27	5 48.98	-0 23.7	1.293	2.193	13.8	18.3
12 7	5 41.14	+4 50.7	1.616	2.560	7.9	20.5	12 7	5 41.08	-1 40.8	1.273	2.198	11.6	18.1
12 17	5 32.09	+4 36.5	1.593	2.545	7.2	20.5	12 17	5 32.15	-2 28.2	1.277	2.205	11.2	18.1
12 27	5 23.06	+4 41.6	1.598	2.530	9.0	20.5	12 27	5 23.57	-2 42.3	1.305	2.213	12.8	18.3
1 6	5 15.19	+5 5.7	1.628	2.515	12.0	20.7	1 6	5 16.60	-2 24.5	1.354	2.221	15.4	18.4
1 16	5 9.40	+5 46.5	1.681	2.500	15.3	20.9	1 16	5 12.14	-1 40.1	1.423	2.230	18.2	18.6
116208	2003 <i>XY</i> ₃₄		12 15.7 317°11	8°8/16.9	18		468862	2013 <i>NG</i> ₂₁		12 15.7 97°24	0°5/15.7	16	
11 7	6 8.83	+43 53.0	1.723	2.477	17.9	19.3	11 7	6 10.30	+21 24.5	1.453	2.244	19.1	22.2
11 17	6 4.55	+44 47.7	1.639	2.471	15.3	19.1	11 17	6 4.74	+21 35.6	1.392	2.266	15.0	22.0
11 27	5 56.26	+45 28.1	1.574	2.465	12.4	18.9	11 27	5 55.76	+21 48.3	1.352	2.288	10.2	21.8
12 7	5 44.76	+45 46.2	1.531	2.459	9.9	18.7	12 7	5 44.27	+22 0.8	1.335	2.309	4.8	21.6
12 17	5 31.53	+45 35.4	1.514	2.453	8.8	18.6	12 17	5 31.68	+22 11.4	1.347	2.330	0.9	21.3
12 27	5 18.61	+44 54.5	1.522	2.447	9.9	18.7	12 27	5 19.68	+22 19.6	1.386	2.351	6.1	21.7
1 6	5 7.93	+43 48.7	1.555	2.442	12.5	18.8	1 6	5 9.76	+22 26.6	1.453	2.370	10.9	22.1
1 16	5 0.76	+42 27.0	1.612	2.437	15.5	19.0	1 16	5 2.89	+22 34.2	1.543	2.389	15.0	22.4
277064	2005 <i>ET</i> ₈₅		12 15.7 328°10	3°4/15.9	16		490032	2008 <i>TQ</i> ₄		12 15.7 124°34	1°0/15.8	17	
11 7	5 59.75	+30 31.0	1.859	2.649	15.5	20.5	11 7	6 1.55	+26 44.8	2.708	3.474	11.8	22.2
11 17	5 56.58	+31 7.1	1.760	2.631	12.5	20.3	11 17	5 56.52	+26 51.4	2.626	3.486	9.3	22.0
11 27	5 50.45	+31 39.5	1.682	2.613	9.0	20.0	11 27	5 49.55	+26 55.2	2.569	3.498	6.3	21.9
12 7	5 41.91	+32 4.6	1.629	2.596	5.3	19.8	12 7	5 41.17	+26 55.1	2.539	3.510	3.2	21.7
12 17	5 31.96	+32 18.8	1.603	2.580	3.5	19.6	12 17	5 32.15	+26 50.2	2.539	3.522	1.1	21.5
12 27	5 21.98	+32 20.6	1.605	2.564	6.2	19.8	12 27	5 23.34	+26 40.9	2.571	3.533	3.9	21.7
1 6	5 13.37	+32 11.5	1.634	2.549	10.1	19.9	1 6	5 15.57	+26 28.4	2.633	3.544	6.9	22.0
1 16	5 7.23	+31 54.8	1.686	2.535	13.8	20.1	1 16	5 9.46	+26 14.6	2.721	3.555	9.6	22.2
447975	2008 <i>CA</i> ₁₁₅		12 15.7 346°61	4°6/16.5	17		300596	2007 <i>TN</i> ₄₁₉		12 15.7 130°19	0°4/15.7	18	
11 7	6 3.25	+35 5.8	1.624	2.411	17.5	20.7	11 7	6 3.75	+23 20.3	1.934	2.716	15.2	21.0
11 17	5 59.66	+35 18.2	1.540	2.406	14.3	20.5	11 17	5 59.12	+23 36.3	1.851	2.721	12.0	20.8
11 27	5 52.62	+35 19.8	1.476	2.401	10.5	20.2	11 27	5 51.77	+23 52.4	1.791	2.725	8.2	20.6
12 7	5 42.91	+35 6.1	1.435	2.397	6.6	20.0	12 7	5 42.39	+24 7.0	1.756	2.729	3.9	20.4
12 17	5 31.84	+34 34.5	1.420	2.393	4.6	19.9	12 17	5 31.95	+24 18.3	1.750	2.733	0.7	20.1
12 27	5 21.10	+33 45.9	1.433	2.390	7.0	20.0	12 27	5 21.71	+24 26.1	1.773	2.737	5.0	20.5
1 6	5 12.25	+32 45.4	1.472	2.388	10.9	20.2	1 6	5 12.87	+24 31.0	1.825	2.741	9.2	20.7
1 16	5 6.39	+31 39.9	1.534	2.386	14.8	20.4	1 16	5 6.32	+24 34.8	1.902	2.745	12.7	20.9
363735	2004 <i>XC</i> ₆₆		12 15.7 38°31	3°0/15.9	18		355401	2007 <i>UX</i> ₄₆		12 15.7 49°54	1°3/15.7	18	
11 7	6 1.72	+12 51.7	1.735	2.521	16.6	20.0	11 7	6 4.77	+24 40.2	1.512	2.310	18.1	20.4
11 17	5 57.45	+13 15.9	1.673	2.541	13.2	19.8	11 17	6 0.47	+25 12.2	1.451	2.329	14.2	20.1
11 27	5 50.55	+13 49.7	1.631	2.561	9.2	19.6	11 27	5 52.91	+25 43.9	1.411	2.348	9.7	19.9
12 7	5 41.74	+14 32.8	1.614	2.582	5.2	19.4	12 7	5 42.95	+26 11.9	1.394	2.368	4.7	19.7
12 17	5 32.05	+15 23.4	1.626	2.603	3.1	19.3	12 17	5 31.88	+26 33.4	1.405	2.388	1.5	19.5
12 27	5 22.69	+16 19.2	1.666	2.625	5.9	19.6	12 27	5 21.28	+26 47.4	1.444	2.408	5.9	19.9
1 6	5 14.81	+17 17.8	1.734	2.648	9.7	19.8	1 6	5 12.58	+26 55.2	1.509	2.429	10.4	20.2
1 16	5 9.19	+18 17.1	1.826	2.670	13.1	20.1	1 16	5 6.73	+26 59.3	1.597	2.450	14.3	20.5
476976	2008 <i>YQ</i> ₃₈		12 15.7 22°67	0°7/15.9	18		109267	2001 <i>QM</i> ₁₁₁		12 15.7 351°15	6°5/15.5	18	
11 7	6 1.68	+30 10.2	1.005	1.837	22.8	18.6	11 7	5 57.51	+8 44.7	1.549	2.344	17.9	18.8
11 17	5 59.14	+29 4.0	0.958	1.855	18.0	18.4	11 17	5 54.67	+8 10.9	1.470	2.338	14.6	18.6
11 27	5 52.35	+27 44.0	0.929	1.875	12.2	18.1	11 27	5 49.01	+7 48.2	1.410	2.333	11.1	18.4
12 7	5 42.66	+26 11.7	0.921	1.897	5.9	17.9	12 7	5 41.16	+7 40.4	1.374	2.329	7.7	18.2
12 17	5 31.94	+24 32.3	0.937	1.921	1.0	17.6	12 17	5 32.14	+7 50.1	1.363	2.326	6.5	18.1
12 27	5 22.31	+22 54.2	0.978	1.946	7.1	18.1	12 27	5 23.28	+8 17.9	1.378	2.324	8.7	18.2
1 6	5 15.38	+21 26.2	1.042	1.973	12.6	18.5	1 6	5 15.84	+9 2.0	1.418	2.322	12.2	18.4
1 16	5 11.98	+20 14.1	1.127	2.002	17.3	18.9	1 16	5 10.79	+9 59.1	1.481	2.322	15.8	18.6
451567	2011 <i>YR</i> ₆₈		12 15.7 151°94	0°6/15.6	18		441196	2007 <i>UO</i> ₄₂		12 15.7 22°66	3°3/16.0	17	
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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
117645	2005 <i>ER</i> ₁₃₉	12 15.7 205°74		0°0/15.7 18			479589	2014 <i>CM</i> ₂₂	12 15.7 291°42		5°0/15.2 18		
11 7	5 58.93	+23 15.8	3.260	4.022	10.0	21.2	11 7	6 1.25	+13 36.1	1.564	2.359	17.7	21.5
11 17	5 54.24	+23 18.9	3.157	4.016	7.9	21.1	11 17	5 57.84	+12 55.4	1.469	2.342	14.4	21.2
11 27	5 47.92	+23 21.2	3.080	4.010	5.4	20.9	11 27	5 51.35	+12 19.5	1.395	2.326	10.5	20.9
12 7	5 40.41	+23 22.2	3.031	4.004	2.6	20.7	12 7	5 42.40	+11 51.8	1.345	2.309	6.6	20.7
12 17	5 32.28	+23 21.5	3.013	3.997	0.4	20.5	12 17	5 32.00	+11 35.0	1.320	2.292	5.1	20.5
12 27	5 24.21	+23 19.3	3.028	3.990	3.3	20.7	12 27	5 21.60	+11 31.6	1.323	2.276	8.0	20.7
1 6	5 16.88	+23 16.1	3.072	3.982	6.1	20.9	1 6	5 12.63	+11 42.0	1.351	2.260	12.4	20.9
1 16	5 10.84	+23 13.0	3.145	3.974	8.6	21.1	1 16	5 6.21	+12 5.6	1.402	2.243	16.5	21.1
456688	2007 <i>RR</i> ₁₆₃	12 15.7 287°65		1°7/15.9 16			361349	2006 <i>UW</i> ₁₈₄	12 15.7 31°19		2°3/16.1 18		
11 7	6 0.47	+29 11.1	2.409	3.182	12.9	21.3	11 7	6 3.03	+29 50.0	1.611	2.405	17.3	20.7
11 17	5 56.17	+29 13.5	2.311	3.174	10.2	21.1	11 17	5 59.10	+29 48.4	1.539	2.413	13.8	20.4
11 27	5 49.60	+29 11.2	2.236	3.165	7.1	20.9	11 27	5 52.00	+29 39.8	1.488	2.422	9.6	20.2
12 7	5 41.32	+29 2.6	2.188	3.157	3.8	20.7	12 7	5 42.55	+29 21.7	1.461	2.432	5.1	20.0
12 17	5 32.14	+28 46.8	2.168	3.149	1.8	20.5	12 17	5 32.01	+28 53.2	1.461	2.442	2.3	19.8
12 27	5 23.09	+28 24.2	2.179	3.141	4.5	20.7	12 27	5 21.93	+28 16.0	1.488	2.452	5.8	20.1
1 6	5 15.14	+27 56.8	2.219	3.133	7.9	20.9	1 6	5 13.67	+27 34.1	1.542	2.463	10.2	20.4
1 16	5 9.08	+27 27.4	2.285	3.125	11.0	21.1	1 16	5 8.17	+26 52.1	1.621	2.474	14.0	20.6
464460	2016 <i>BP</i> ₄₃	12 15.7 327°18		0°9/15.6 17			124574	2001 <i>ST</i> ₉	12 15.7 338°76		0°3/15.7 18		
11 7	5 58.61	+21 3.5	1.987	2.778	14.6	21.4	11 7	6 0.60	+24 18.6	1.328	2.143	19.2	19.4
11 17	5 55.10	+20 59.9	1.892	2.767	11.6	21.2	11 17	5 57.99	+24 15.6	1.246	2.134	15.3	19.2
11 27	5 49.09	+20 57.1	1.820	2.757	7.9	21.0	11 27	5 51.78	+24 10.5	1.183	2.126	10.5	18.9
12 7	5 41.15	+20 54.9	1.773	2.747	3.9	20.7	12 7	5 42.67	+24 2.0	1.143	2.118	5.1	18.5
12 17	5 32.16	+20 53.0	1.754	2.737	1.1	20.5	12 17	5 31.97	+23 49.3	1.128	2.112	0.8	18.2
12 27	5 23.25	+20 51.8	1.764	2.728	5.1	20.7	12 27	5 21.45	+23 33.0	1.139	2.106	6.6	18.6
1 6	5 15.52	+20 52.1	1.802	2.720	9.1	21.0	1 6	5 12.82	+23 16.1	1.174	2.101	12.0	18.9
1 16	5 9.86	+20 55.1	1.865	2.712	12.8	21.2	1 16	5 7.31	+23 1.6	1.231	2.097	16.7	19.2
216690	2004 <i>HM</i> ₁₁	12 15.7 145°93		3°1/15.3 18			274987	2009 <i>TB</i> ₇	12 15.7 38°78		0°5/15.6 18		
11 7	6 1.33	+14 15.5	2.500	3.265	12.7	21.3	11 7	6 0.89	+23 53.9	1.911	2.700	15.2	19.9
11 17	5 56.35	+13 49.7	2.418	3.274	10.1	21.1	11 17	5 56.73	+23 26.7	1.836	2.710	11.9	19.7
11 27	5 49.44	+13 27.5	2.360	3.283	7.2	21.0	11 27	5 50.03	+22 56.7	1.784	2.720	8.1	19.5
12 7	5 41.14	+13 10.2	2.329	3.292	4.3	20.8	12 7	5 41.51	+22 23.9	1.757	2.731	3.8	19.3
12 17	5 32.19	+12 59.0	2.328	3.300	3.1	20.7	12 17	5 32.17	+21 49.3	1.758	2.742	0.8	19.0
12 27	5 23.44	+12 54.6	2.357	3.308	5.2	20.9	12 27	5 23.20	+21 15.1	1.789	2.753	5.0	19.4
1 6	5 15.70	+12 57.3	2.416	3.315	8.1	21.1	1 6	5 15.65	+20 43.6	1.848	2.765	9.0	19.6
1 16	5 9.60	+13 6.9	2.501	3.322	10.8	21.3	1 16	5 10.28	+20 17.1	1.931	2.777	12.5	19.9
410624	2008 <i>QF</i> ₃₄	12 15.7 105°43		6°2/15.1 18			84910	2003 <i>UG</i> ₁₉₀	12 15.7 0°72		4°5/16.9 17		
11 7	5 58.82	+3 8.1	2.635	3.376	12.7	21.3	11 7	5 58.51	+35 56.8	1.140	1.960	21.4	18.1
11 17	5 54.18	+2 21.2	2.568	3.394	10.6	21.2	11 17	5 57.06	+35 31.1	1.070	1.956	17.4	17.8
11 27	5 47.85	+1 44.0	2.523	3.411	8.4	21.1	11 27	5 51.37	+34 46.1	1.017	1.954	12.7	17.5
12 7	5 40.35	+1 19.4	2.505	3.428	6.7	21.0	12 7	5 42.45	+33 38.4	0.985	1.953	7.6	17.3
12 17	5 32.32	+1 9.2	2.514	3.445	6.2	21.0	12 17	5 32.03	+32 8.0	0.977	1.955	4.5	17.1
12 27	5 24.52	+1 14.4	2.553	3.462	7.2	21.1	12 27	5 22.26	+30 21.3	0.993	1.959	7.6	17.3
1 6	5 17.64	+1 34.0	2.619	3.478	9.1	21.2	1 6	5 15.01	+28 29.0	1.033	1.964	12.7	17.6
1 16	5 12.23	+2 6.0	2.710	3.494	11.1	21.4	1 16	5 11.36	+26 41.9	1.094	1.972	17.4	17.9
116032	2003 <i>WQ</i> ₉₂	12 15.7 241°35		0°4/15.8 18			368643	2005 <i>CO</i> ₄₄	12 15.7 128°89		8°8/18.4 17		
11 7	6 3.98	+26 22.5	1.854	2.638	15.7	20.0	11 7	6 15.39	+55 23.9	2.854	3.514	13.4	20.9
11 17	5 59.44	+26 0.6	1.765	2.636	12.5	19.8	11 17	6 8.46	+56 13.8	2.780	3.524	11.9	20.8
11 27	5 52.06	+25 33.6	1.699	2.634	8.6	19.5	11 27	5 58.18	+56 47.9	2.726	3.533	10.5	20.7
12 7	5 42.56	+25 0.6	1.657	2.631	4.1	19.3	12 7	5 45.44	+57 0.0	2.695	3.542	9.3	20.6
12 17	5 31.98	+24 21.8	1.645	2.628	0.7	19.0	12 17	5 31.59	+56 46.2	2.688	3.551	8.8	20.6
12 27	5 21.67	+23 39.5	1.661	2.626	5.3	19.3	12 27	5 18.27	+56 6.0	2.708	3.560	9.1	20.6
1 6	5 12.87	+22 56.9	1.706	2.623	9.6	19.6	1 6	5 6.96	+55 3.3	2.754	3.568	10.1	20.7
1 16	5 6.50	+22 17.8	1.775	2.620	13.4	19.8	1 16	4 58.63	+53 44.3	2.824	3.576	11.5	20.8
448906	2011 <i>UT</i> ₃₁₈	12 15.7 261°15		0°9/15.8 18			133661	2003 <i>UP</i> ₁₇₅	12 15.7 91°63		1°3/15.5 18		
11 7	6 3.04	+24 32.0	1.915	2.700	15.3	21.8	11 7	6 4.36	+21 2.9	1.811	2.596	16.0	21.0
11 17	5 58.72	+24 52.6	1.826	2.697	12.1	21.6	11 17	5 59.49	+20 42.9	1.740	2.611	12.6	20.8
11 27	5 51.63	+25 12.9	1.760	2.695	8.3	21.4	11 27	5 51.93	+20 22.8	1.691	2.626	8.6	20.6
12 7	5 42.39	+25 30.7	1.719	2.692	4.1	21.1	12 7	5 42.42	+20 2.9	1.668	2.641	4.2	20.4
12 17	5 32.00	+25 44.2	1.707	2.690	1.1	20.9	12 17	5 32.04	+19 43.6	1.673	2.655	1.5	20.2
12 27	5 21.72	+25 52.4	1.724	2.688	5.2	21.2	12 27	5 22.07	+19 26.4	1.707	2.670	5.4	20.5
1 6	5 12.82	+25 56.4	1.768	2.685	9.4	21.4	1 6	5 13.64	+19 12.8	1.769	2.684	9.5	20.8
1 16	5 6.24	+25 58.1	1.838	2.683	13.0	21.6	1 16	5 7.56	+19 4.4	1.856	2.698	13.1	21.1
310354	2011 <i>UD</i> ₂₅₉	12 15.7 66°48		3°4/15.9 18			272182	2005 <i>PT</i> ₆	12 15.7 167°69		1°5/15.8 18		
11 7	6 5.27	+30 50.0	1.782	2.564	16.4	21.1	11 7	6 8.90	+26 15.9	2.045	2.813	15.0	21.8
11 17	6 0.71	+31 25.7	1.708	2.574	13.1	20.9	11 17	6 3.10	+26 42.3	1.958	2.818	11.9	21.6
11 27	5 53.06	+31 56.4	1.655	2.583	9.3	20.7	11 27	5 54.49	+27 7.1	1.894	2.823	8.2	21.4
12 7	5 43.07	+32 17.7	1.627	2.593	5.4	20.5	12 7	5 43.73	+27 27.3	1.857	2.828	4.2	21.2
12 17	5 31.91	+32 26.4	1.627	2.603	3.5	20.4	12 17	5 31.84	+27 40.4	1.849	2.831	1.6	21.0
12 27	5 21.07	+32 22.0	1.655	2.613	6.1	20.6	12 27	5 20.14	+27 45.7	1.872	2.833	5.1	21.3
1 6	5 11.94	+32 6.9	1.711	2.623	9.9	20.8	1 6	5 9.89	+27 44.4	1.924	2.835	9.1	21.5
1 16	5 5.49	+31 45.3	1.790	2.633	13.4	21.0	1 16	5 2.01	+27 39.3	2.002	2.836	12.6	21.7
191866	2004 <i>XW</i> ₃₁	12 15.7 270°47		0°2/15.7 17			132849	2002 <i>RZ</i> ₄₉					

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
337802	2001 <i>UD</i> ₂₁₄	12 15.7	20°33'	0.8/15.7	18		133172	2003 <i>QH</i> ₄₂	12 15.7	19°60'	1.3/15.6	18	
11 7	6 0.70	+22 19.3	1.184	2.008	20.6	20.8	11 7	5 58.14	+20 7.2	1.517	2.326	17.5	18.7
11 17	5 58.09	+22 9.6	1.122	2.014	16.3	20.5	11 17	5 55.18	+20 3.3	1.454	2.339	13.7	18.4
11 27	5 51.74	+21 59.8	1.078	2.022	11.1	20.3	11 27	5 49.29	+20 1.6	1.411	2.352	9.4	18.2
12 7	5 42.57	+21 49.5	1.056	2.031	5.3	20.0	12 7	5 41.27	+20 2.1	1.393	2.367	4.6	18.0
12 17	5 32.03	+21 38.5	1.058	2.042	1.1	19.7	12 17	5 32.25	+20 4.6	1.400	2.383	1.5	17.8
12 27	5 21.99	+21 28.1	1.085	2.053	6.8	20.1	12 27	5 23.63	+20 9.3	1.435	2.400	5.8	18.1
1 6	5 14.11	+21 20.3	1.137	2.065	12.2	20.5	1 6	5 16.66	+20 16.8	1.495	2.418	10.2	18.4
1 16	5 9.46	+21 17.1	1.210	2.078	16.8	20.8	1 16	5 12.19	+20 27.6	1.579	2.437	14.1	18.7
30401	2000 <i>KO</i> ₄₇	12 15.7	262°37'	4.5/15.7	18		200515	2001 <i>BF</i> ₅₈	12 15.7	301°26'	0.1/15.7	18	
11 7	5 58.63	+7 50.3	2.531	3.287	12.7	18.0	11 7	6 2.43	+24 4.0	1.686	2.481	16.6	20.1
11 17	5 54.39	+7 43.1	2.435	3.280	10.4	17.8	11 17	5 58.63	+23 56.2	1.595	2.472	13.2	19.8
11 27	5 48.25	+7 44.6	2.361	3.272	7.8	17.6	11 27	5 51.79	+23 46.2	1.526	2.464	9.1	19.6
12 7	5 40.67	+7 56.3	2.315	3.265	5.4	17.4	12 7	5 42.56	+23 33.1	1.481	2.455	4.4	19.3
12 17	5 32.31	+8 19.0	2.297	3.257	4.5	17.4	12 17	5 32.04	+23 16.5	1.464	2.447	0.7	19.0
12 27	5 23.99	+8 52.7	2.309	3.249	6.0	17.4	12 27	5 21.67	+22 57.3	1.474	2.439	5.7	19.3
1 6	5 16.53	+9 36.0	2.350	3.241	8.6	17.6	1 6	5 12.82	+22 37.9	1.512	2.432	10.4	19.6
1 16	5 10.59	+10 27.0	2.417	3.233	11.3	17.8	1 16	5 6.55	+22 20.9	1.573	2.424	14.5	19.8
208207	2000 <i>SU</i> ₄₃	12 15.7	169°75'	9.4/13.6	18		215368	2001 <i>YR</i> ₃₄	12 15.7	64°39'	0.7/15.8	18	
11 7	6 0.22	-11 23.9	3.046	3.707	12.6	20.6	11 7	6 7.20	+23 54.3	1.442	2.240	18.9	20.3
11 17	5 55.15	-12 44.4	2.976	3.713	11.4	20.5	11 17	6 2.42	+24 12.9	1.385	2.262	14.8	20.1
11 27	5 48.49	-13 50.7	2.927	3.717	10.3	20.4	11 27	5 54.25	+24 31.1	1.348	2.285	10.0	19.9
12 7	5 40.69	-14 38.3	2.903	3.721	9.6	20.4	12 7	5 43.62	+24 46.3	1.334	2.308	4.8	19.7
12 17	5 32.32	-15 4.2	2.903	3.724	9.5	20.4	12 17	5 31.92	+24 56.2	1.348	2.331	1.0	19.4
12 27	5 24.08	-15 6.7	2.929	3.727	10.0	20.4	12 27	5 20.82	+25 0.6	1.389	2.355	6.0	19.8
1 6	5 16.63	-14 47.1	2.979	3.729	11.0	20.5	1 6	5 11.78	+25 1.3	1.457	2.378	10.7	20.2
1 16	5 10.50	-14 7.9	3.051	3.730	12.1	20.6	1 16	5 5.72	+25 0.8	1.549	2.400	14.7	20.5
492792	2014 <i>QW</i> ₂₃₇	12 15.7	44°72'	1.6/15.6	18		280997	2006 <i>DS</i> ₁₂₂	12 15.7	232°14'	2.2/15.7	18	
11 7	6 0.30	+18 36.5	2.061	2.845	14.4	21.6	11 7	6 0.79	+14 35.8	2.642	3.405	12.1	20.7
11 17	5 56.16	+18 31.6	1.978	2.848	11.4	21.4	11 17	5 56.09	+14 48.0	2.539	3.396	9.7	20.5
11 27	5 49.64	+18 29.3	1.917	2.851	7.8	21.1	11 27	5 49.42	+15 5.5	2.460	3.386	6.8	20.3
12 7	5 41.37	+18 29.6	1.882	2.854	4.0	20.9	12 7	5 41.26	+15 28.4	2.409	3.376	3.8	20.1
12 17	5 32.21	+18 32.4	1.876	2.858	1.7	20.8	12 17	5 32.26	+15 56.2	2.387	3.365	2.2	20.0
12 27	5 23.23	+18 38.2	1.899	2.861	5.0	21.0	12 27	5 23.25	+16 28.2	2.398	3.355	4.6	20.1
1 6	5 15.46	+18 47.0	1.951	2.865	8.8	21.2	1 6	5 15.08	+17 3.7	2.438	3.344	7.7	20.3
1 16	5 9.67	+18 59.4	2.028	2.868	12.2	21.5	1 16	5 8.45	+17 41.8	2.505	3.332	10.6	20.5
148220	2000 <i>DB</i> ₄₇	12 15.7	250°83'	0.7/15.8	18		235903	2005 <i>EG</i>	12 15.7	266°13'	0.8/15.7	16	
11 7	6 5.66	+25 10.6	1.778	2.563	16.3	21.3	11 7	6 3.16	+22 59.3	2.630	3.394	12.1	20.4
11 17	6 1.17	+25 12.8	1.678	2.549	13.0	21.0	11 17	5 58.23	+23 46.4	2.517	3.376	9.6	20.2
11 27	5 53.56	+25 12.8	1.600	2.535	9.0	20.7	11 27	5 51.08	+24 36.2	2.428	3.358	6.6	20.0
12 7	5 43.44	+25 8.7	1.546	2.520	4.4	20.4	12 7	5 42.14	+25 26.3	2.367	3.339	3.3	19.7
12 17	5 31.88	+24 58.9	1.521	2.504	0.9	20.1	12 17	5 32.12	+26 14.3	2.338	3.320	1.0	19.5
12 27	5 20.34	+24 43.9	1.524	2.488	5.7	20.4	12 27	5 21.93	+26 58.0	2.340	3.301	4.2	19.7
1 6	5 10.27	+24 25.7	1.555	2.472	10.4	20.7	1 6	5 12.57	+27 36.5	2.373	3.282	7.7	19.9
1 16	5 2.79	+24 7.5	1.611	2.456	14.5	20.9	1 16	5 4.87	+28 10.0	2.433	3.263	10.8	20.1
235886	2005 <i>CR</i> ₂₃	12 15.7	101°30'	6.6/18.2	17		52832	1998 <i>RD</i> ₄₉	12 15.7	104°29'	1.5/15.6	18	
11 7	6 12.38	+47 38.4	2.643	3.345	13.5	19.7	11 7	6 6.80	+20 11.2	1.643	2.430	17.3	20.1
11 17	6 5.42	+47 51.1	2.568	3.362	11.5	19.6	11 17	6 1.68	+19 58.9	1.574	2.446	13.7	19.9
11 27	5 55.71	+47 48.8	2.514	3.378	9.4	19.5	11 27	5 53.57	+19 47.8	1.527	2.462	9.3	19.7
12 7	5 44.12	+47 27.1	2.486	3.395	7.5	19.4	12 7	5 43.27	+19 37.9	1.504	2.477	4.6	19.5
12 17	5 31.83	+46 43.9	2.485	3.410	6.6	19.3	12 17	5 31.99	+19 29.3	1.510	2.492	1.7	19.3
12 27	5 20.19	+45 40.4	2.514	3.426	7.2	19.4	12 27	5 21.14	+19 22.7	1.544	2.507	5.8	19.6
1 6	5 10.35	+44 21.2	2.571	3.442	8.8	19.5	1 6	5 12.04	+19 19.4	1.606	2.521	10.2	19.9
1 16	5 3.04	+42 52.6	2.656	3.457	10.8	19.7	1 16	5 5.56	+19 20.6	1.692	2.535	14.1	20.2
184571	2005 <i>QU</i> ₉₀	12 15.7	91°66'	2.9/16.0	18		119096	2001 <i>OT</i> ₂₈	12 15.7	91°84'	7.9/17.6	18	
11 7	6 4.11	+30 40.6	2.035	2.809	14.8	21.0	11 7	6 18.74	+43 54.9	1.752	2.488	18.3	19.9
11 17	5 59.43	+31 4.9	1.954	2.816	11.8	20.8	11 17	6 11.58	+44 37.8	1.696	2.517	15.3	19.8
11 27	5 52.01	+31 24.0	1.895	2.822	8.4	20.6	11 27	6 0.46	+45 3.9	1.659	2.546	12.1	19.7
12 7	5 42.54	+31 34.9	1.862	2.828	4.8	20.4	12 7	5 46.53	+45 5.7	1.646	2.573	9.3	19.6
12 17	5 32.04	+31 35.1	1.857	2.834	2.9	20.3	12 17	5 31.53	+44 38.9	1.659	2.601	7.9	19.5
12 27	5 21.80	+31 24.6	1.881	2.840	5.4	20.5	12 27	5 17.52	+43 45.0	1.700	2.627	8.9	19.7
1 6	5 13.02	+31 5.5	1.934	2.846	9.0	20.7	1 6	5 6.16	+42 31.2	1.768	2.653	11.4	19.9
1 16	5 6.57	+30 41.5	2.012	2.852	12.3	20.9	1 16	4 58.41	+41 7.0	1.861	2.678	14.1	20.1
275527	1997 <i>WT</i> ₂₈	12 15.7	4°02'	1.3/15.7	17		341964	2008 <i>QU</i> ₆	12 15.7	163°35'	0.5/15.7	18	
11 7	5 58.94	+23 21.5	1.638	2.441	16.7	19.9	11 7	6 6.39	+22 21.6	2.068	2.841	14.7	22.4
11 17	5 55.97	+24 9.3	1.560	2.441	13.2	19.7	11 17	6 0.93	+22 16.7	1.983	2.847	11.6	22.2
11 27	5 50.01	+24 59.9	1.503	2.442	9.0	19.4	11 27	5 52.89	+22 11.3	1.920	2.853	7.9	22.0
12 7	5 41.72	+25 50.2	1.470	2.444	4.5	19.2	12 7	5 42.94	+22 4.5	1.884	2.858	3.8	21.7
12 17	5 32.16	+26 36.4	1.464	2.447	1.5	19.0	12 17	5 32.03	+21 55.8	1.878	2.862	0.7	21.5
12 27	5 22.72	+27 16.1	1.487	2.452	5.7	19.3	12 27	5 21.37	+21 46.0	1.902	2.865	4.9	21.8
1 6	5 14.80	+27 48.5	1.535	2.457	10.1	19.5	1 6	5 12.06	+21 36.4	1.955	2.868	8.9	22.0
1 16	5 9.40	+28 14.8	1.608	2.464	14.0	19.8	1 16	5 4.95	+21 28.8	2.035	2.870	12.3	22.3
42145	2001 <i>BF</i> ₄₁	12 15.7	22°84'	5.1/15.5	18		13952	Nykqvist	12 15.7	129°52'	1.9/15.6	18	R
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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
520564	2014 <i>NH</i> ₃₅		12 15.7 116°19		0°1/15.7 18								
11 7	6 4.19	+21 8.0	2.292	3.062	13.5	21.8							
11 17	5 58.99	+21 43.1	2.212	3.074	10.6	21.6							
11 27	5 51.48	+22 20.5	2.154	3.086	7.2	21.4							
12 7	5 42.25	+22 58.5	2.125	3.098	3.4	21.2							
12 17	5 32.15	+23 34.7	2.125	3.109	0.5	21.0							
12 27	5 22.21	+24 7.8	2.157	3.120	4.4	21.3							
1 6	5 13.43	+24 37.5	2.218	3.131	8.0	21.6							
1 16	5 6.58	+25 4.1	2.306	3.141	11.1	21.8							
73413	2002 <i>LE</i> ₂₈		12 15.7 79°79		1°8/15.6 18								
11 7	6 0.94	+17 33.5	2.267	3.043	13.5	19.9							
11 17	5 56.28	+17 31.9	2.195	3.060	10.6	19.7							
11 27	5 49.52	+17 33.4	2.146	3.078	7.3	19.5							
12 7	5 41.26	+17 38.1	2.124	3.095	3.8	19.3							
12 17	5 32.31	+17 45.6	2.132	3.112	1.8	19.2							
12 27	5 23.62	+17 56.2	2.169	3.129	4.7	19.5							
1 6	5 16.08	+18 9.7	2.236	3.146	8.0	19.7							
1 16	5 10.35	+18 26.3	2.328	3.163	11.0	19.9							
44883	1999 <i>UW</i> ₅₂		12 15.7 289°59		8°7/14.4 18								
11 7	5 59.77	+ 3 58.9	1.786	2.554	16.9	18.7							
11 17	5 56.06	+ 2 44.1	1.702	2.546	14.2	18.5							
11 27	5 49.78	+ 1 39.8	1.639	2.537	11.5	18.3							
12 7	5 41.55	+ 0 51.9	1.599	2.529	9.3	18.2							
12 17	5 32.25	+ 0 25.1	1.586	2.521	8.8	18.1							
12 27	5 23.07	+ 0 22.4	1.598	2.513	10.3	18.2							
1 6	5 15.13	+ 0 43.3	1.635	2.505	13.0	18.3							
1 16	5 9.32	+ 1 24.6	1.694	2.497	15.9	18.5							
301788	2010 <i>KF</i> ₁₂₇		12 15.7 248°24		1°9/15.9 18								
11 7	6 5.34	+28 14.2	2.031	2.805	14.9	21.1							
11 17	6 0.61	+28 26.4	1.927	2.791	11.9	20.9							
11 27	5 53.01	+28 34.8	1.846	2.776	8.3	20.6							
12 7	5 43.16	+28 36.8	1.790	2.760	4.4	20.4							
12 17	5 32.01	+28 30.5	1.763	2.745	1.9	20.2							
12 27	5 20.88	+28 15.5	1.766	2.728	5.3	20.4							
1 6	5 11.07	+27 54.0	1.798	2.712	9.4	20.6							
1 16	5 3.60	+27 29.4	1.855	2.695	13.1	20.8							
512862	2016 <i>VR</i> ₁₇		12 15.7 108°23		1°8/15.6 18								
11 7	6 5.04	+19 8.2	1.726	2.512	16.7	21.5							
11 17	6 0.24	+18 57.4	1.653	2.524	13.1	21.3							
11 27	5 52.59	+18 48.7	1.601	2.535	9.0	21.0							
12 7	5 42.84	+18 42.4	1.574	2.546	4.5	20.8							
12 17	5 32.08	+18 38.4	1.575	2.557	1.9	20.7							
12 27	5 21.68	+18 37.4	1.606	2.568	5.8	20.9							
1 6	5 12.85	+18 40.2	1.663	2.578	10.0	21.2							
1 16	5 6.49	+18 47.6	1.746	2.588	13.7	21.5							
517885	2015 <i>SJ</i> ₂₃		12 15.7 113°51		2°3/15.8 18								
11 7	6 6.03	+27 33.8	2.069	2.841	14.7	22.0							
11 17	6 0.84	+28 16.9	1.991	2.853	11.7	21.8							
11 27	5 52.96	+28 58.2	1.935	2.864	8.1	21.6							
12 7	5 43.03	+29 34.2	1.906	2.875	4.4	21.4							
12 17	5 32.05	+30 1.8	1.907	2.886	2.3	21.3							
12 27	5 21.29	+30 19.5	1.937	2.897	5.2	21.5							
1 6	5 11.94	+30 28.4	1.996	2.907	8.8	21.7							
1 16	5 4.88	+30 30.8	2.081	2.917	12.1	21.9							
494439	2016 <i>UP</i> ₉₆		12 15.7 122°79		1°1/15.6 18								
11 7	6 7.21	+21 22.8	1.784	2.565	16.4	22.1							
11 17	6 1.81	+21 6.5	1.711	2.580	12.9	21.9							
11 27	5 53.58	+20 49.9	1.660	2.594	8.8	21.7							
12 7	5 43.28	+20 33.0	1.634	2.607	4.3	21.4							
12 17	5 32.05	+20 15.8	1.638	2.621	1.3	21.2							
12 27	5 21.22	+19 59.7	1.671	2.633	5.5	21.6							
1 6	5 12.02	+19 46.4	1.731	2.645	9.7	21.8							
1 16	5 5.30	+19 37.6	1.817	2.656	13.4	22.1							
199917	2007 <i>GL</i> ₂₆		12 15.7 234°63		0°2/15.7 18								
11 7	6 4.91	+22 58.9	1.855	2.638	15.8	21.7							
11 17	6 0.33	+22 57.4	1.759	2.629	12.5	21.5							
11 27	5 52.85	+22 55.3	1.685	2.620	8.6	21.2							
12 7	5 43.09	+22 51.3	1.636	2.610	4.2	20.9							
12 17	5 32.06	+22 44.9	1.616	2.600	0.7	20.6							
12 27	5 21.11	+22 36.2	1.625	2.589	5.4	21.0							
1 6	5 11.56	+22 26.8	1.662	2.578	9.9	21.2							
1 16	5 4.42	+22 19.1	1.724	2.567	13.8	21.4							
236394	2006 <i>DE</i> ₃₈		12 15.7 321°56		2°6/15.9 18								
11 7	6 3.59	+28 21.8	1.524	2.323	18.0	20.5							
11 17	6 0.11	+28 47.2	1.438	2.315	14.4	20.2							
11 27	5 53.14	+29 9.2	1.372	2.308	10.1	20.0							
12 7	5 43.37	+29 24.0	1.330	2.301	5.4	19.7							
12 17	5 32.03	+29 28.3	1.314	2.295	2.7	19.5							
12 27	5 20.82	+29 21.3	1.325	2.288	6.5	19.7							
1 6	5 11.39	+29 5.4	1.362	2.283	11.2	20.0							
1 16	5 4.96	+28 44.9	1.422	2.277	15.5	20.2							
403089	2008 <i>CB</i> ₆₁		12 15.7 202°30		0°7/15.7 18								
11 7	6 2.08	+20 55.9	2.121	2.900	14.2	21.4							
11 17	5 57.61	+20 59.6	2.031	2.899	11.2	21.2							
11 27	5 50.71	+21 4.5	1.964	2.897	7.7	21.0							
12 7	5 41.97	+21 10.0	1.922	2.896	3.7	20.8							
12 17	5 32.26	+21 15.3	1.910	2.894	0.9	20.6							
12 27	5 22.68	+21 20.5	1.928	2.892	4.8	20.8							
1 6	5 14.29	+21 26.1	1.975	2.890	8.7	21.1							
1 16	5 7.91	+21 33.2	2.047	2.887	12.1	21.3							
273722	2007 <i>EZ</i> ₉₀		12 15.7 145°15		3°8/15.4 18								
11 7	6 4.31	+14 13.9	1.833	2.611	16.1	21.5							
11 17	5 59.49	+13 45.1	1.754	2.618	12.9	21.3							
11 27	5 52.02	+13 21.3	1.697	2.624	9.2	21.1							
12 7	5 42.59	+13 4.4	1.666	2.630	5.5	20.9							
12 17	5 32.19	+12 55.8	1.663	2.636	3.9	20.8							
12 27	5 22.05	+12 56.5	1.688	2.641	6.6	20.9							
1 6	5 13.32	+13 6.6	1.741	2.646	10.3	21.2							
1 16	5 6.85	+13 25.5	1.819	2.651	13.7	2							

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12 15.7

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
451295	2010 <i>TM</i> ₃₃		12 15.7 359°01		2°5/15.5 18		139611	2001 <i>QG</i> ₁₃₃		12 15.7 66°22		7°1/15.2 18	
11 7	6 0.45	+17 30.5	1.911	2.699	15.2	21.6	11 7	6 1.95	+6 30.2	1.800	2.569	16.7	20.4
11 17	5 56.51	+17 10.9	1.827	2.698	12.1	21.4	11 17	5 57.38	+5 28.9	1.743	2.592	13.7	20.3
11 27	5 50.04	+16 53.9	1.764	2.698	8.4	21.2	11 27	5 50.40	+4 38.6	1.708	2.615	10.6	20.1
12 7	5 41.68	+16 40.6	1.727	2.698	4.5	20.9	12 7	5 41.75	+4 3.5	1.698	2.638	7.9	20.0
12 17	5 32.35	+16 31.7	1.718	2.698	2.5	20.8	12 17	5 32.40	+3 46.5	1.714	2.661	7.1	20.0
12 27	5 23.21	+16 28.2	1.738	2.698	5.7	21.0	12 27	5 23.48	+3 48.8	1.757	2.684	8.7	20.2
1 6	5 15.34	+16 30.8	1.785	2.698	9.6	21.2	1 6	5 15.99	+4 9.0	1.827	2.707	11.3	20.4
1 16	5 9.59	+16 39.6	1.857	2.699	13.1	21.5	1 16	5 10.61	+4 44.0	1.920	2.730	14.0	20.6
256192	2006 <i>VU</i> ₈₅		12 15.7 10°99		0°9/15.8 18		150730	2001 <i>QN</i> ₄₄		12 15.7 46°22		1°1/15.8 18	
11 7	6 2.27	+24 57.3	1.816	2.605	15.8	21.1	11 7	6 5.66	+25 17.5	1.255	2.066	20.4	19.8
11 17	5 58.27	+25 13.4	1.733	2.606	12.5	20.9	11 17	6 1.77	+25 29.8	1.199	2.084	16.0	19.6
11 27	5 51.42	+25 28.4	1.671	2.607	8.6	20.7	11 27	5 54.13	+25 40.0	1.163	2.103	10.9	19.3
12 7	5 42.41	+25 40.4	1.635	2.608	4.2	20.4	12 7	5 43.73	+25 45.2	1.149	2.123	5.3	19.1
12 17	5 32.25	+25 47.5	1.626	2.609	1.1	20.2	12 17	5 32.11	+25 43.6	1.160	2.144	1.3	18.9
12 27	5 22.28	+25 49.5	1.646	2.611	5.3	20.5	12 27	5 21.17	+25 35.6	1.198	2.164	6.5	19.3
1 6	5 13.76	+25 47.5	1.694	2.613	9.5	20.8	1 6	5 12.50	+25 24.1	1.261	2.186	11.5	19.6
1 16	5 7.65	+25 43.8	1.766	2.615	13.3	21.0	1 16	5 7.12	+25 12.4	1.346	2.207	15.8	19.9
138389	2000 <i>GS</i> ₁₇₄		12 15.7 351°13		0°9/15.7 18		213829	2003 <i>QN</i> ₇₆		12 15.7 107°65		1°2/15.6 18 R	
11 7	6 1.33	+21 39.7	1.727	2.522	16.3	20.0	11 7	6 9.60	+21 33.0	1.583	2.368	18.0	20.5
11 17	5 57.58	+21 29.9	1.643	2.520	12.9	19.7	11 17	6 3.96	+21 15.7	1.518	2.389	14.1	20.3
11 27	5 50.98	+21 20.2	1.580	2.518	8.8	19.5	11 27	5 55.16	+20 58.2	1.474	2.409	9.6	20.1
12 7	5 42.20	+21 10.1	1.543	2.517	4.3	19.2	12 7	5 44.10	+20 40.2	1.455	2.428	4.7	19.8
12 17	5 32.28	+20 59.9	1.532	2.516	1.1	19.0	12 17	5 32.07	+20 21.8	1.464	2.447	1.4	19.7
12 27	5 22.57	+20 50.2	1.550	2.515	5.6	19.3	12 27	5 20.59	+20 4.5	1.502	2.465	5.9	20.0
1 6	5 14.34	+20 42.5	1.595	2.514	10.0	19.6	1 6	5 11.02	+19 50.4	1.567	2.482	10.5	20.3
1 16	5 8.51	+20 38.5	1.664	2.514	13.9	19.8	1 16	5 4.25	+19 41.4	1.657	2.499	14.3	20.6
136206	2003 <i>WN</i> ₁₉		12 15.7 73°52		4°9/16.2 18		462734	2010 <i>AZ</i> ₆₁		12 15.7 19°06		9°8/16.5 17	
11 7	6 10.68	+32 51.3	1.357	2.148	20.1	19.5	11 7	5 59.12	-8 37.1	2.375	3.073	15.0	20.4
11 17	6 5.90	+33 33.4	1.297	2.166	16.2	19.3	11 17	5 54.83	-9 10.4	2.299	3.074	13.3	20.3
11 27	5 57.06	+34 7.2	1.256	2.183	11.7	19.1	11 27	5 48.58	-9 25.5	2.243	3.075	11.6	20.2
12 7	5 45.17	+34 26.3	1.238	2.201	7.1	18.9	12 7	5 40.90	-9 18.1	2.209	3.077	10.3	20.1
12 17	5 31.87	+34 25.8	1.245	2.219	4.9	18.8	12 17	5 32.52	-8 45.8	2.200	3.078	9.8	20.1
12 27	5 19.25	+34 6.0	1.279	2.236	7.7	19.0	12 27	5 24.28	-7 48.6	2.217	3.080	10.4	20.1
1 6	5 9.10	+33 31.8	1.339	2.254	11.9	19.3	1 6	5 17.02	-6 29.4	2.260	3.082	11.8	20.2
1 16	5 2.53	+32 50.6	1.421	2.271	15.9	19.6	1 16	5 11.38	-4 52.9	2.327	3.084	13.5	20.4
138500	2000 <i>KF</i> ₅₁		12 15.7 120°78		0°6/15.7 18		40923	1999 <i>TB</i> ₁₇₃		12 15.7 8°01		5°4/15.0 18	
11 7	6 3.14	+22 18.6	2.109	2.887	14.3	20.5	11 7	5 58.45	+10 34.4	1.942	2.723	15.3	18.5
11 17	5 58.33	+22 9.6	2.029	2.896	11.2	20.3	11 17	5 54.78	+9 44.6	1.862	2.724	12.4	18.3
11 27	5 51.10	+22 0.0	1.972	2.905	7.6	20.1	11 27	5 48.79	+9 1.1	1.804	2.724	9.2	18.1
12 7	5 42.13	+21 49.3	1.941	2.914	3.7	19.9	12 7	5 41.07	+8 27.4	1.772	2.726	6.4	17.9
12 17	5 32.32	+21 37.5	1.939	2.922	0.8	19.7	12 17	5 32.49	+8 6.2	1.766	2.727	5.5	17.9
12 27	5 22.77	+21 25.3	1.967	2.931	4.7	20.0	12 27	5 24.11	+7 59.3	1.788	2.729	7.4	18.0
1 6	5 14.52	+21 14.1	2.024	2.938	8.5	20.3	1 6	5 16.92	+8 6.8	1.837	2.732	10.4	18.2
1 16	5 8.31	+21 5.5	2.107	2.946	11.8	20.5	1 16	5 11.69	+8 27.2	1.910	2.734	13.5	18.4
91249	1999 <i>CQ</i> ₄₄		12 15.7 222°86		0°6/15.7 18		332308	2006 <i>VT</i> ₇₅		12 15.7 342°59		1°5/15.7 18	
11 7	6 5.03	+20 17.1	1.780	2.565	16.3	20.0	11 7	6 1.92	+23 21.0	1.221	2.041	20.3	20.5
11 17	6 0.52	+20 35.9	1.690	2.560	12.9	19.7	11 17	5 59.53	+24 4.5	1.143	2.033	16.2	20.2
11 27	5 53.06	+20 58.3	1.621	2.556	8.9	19.5	11 27	5 53.20	+24 52.1	1.083	2.026	11.2	19.9
12 7	5 43.25	+21 22.7	1.578	2.551	4.3	19.2	12 7	5 43.61	+25 40.2	1.044	2.019	5.6	19.6
12 17	5 32.14	+21 47.3	1.562	2.546	0.9	18.9	12 17	5 32.09	+26 23.6	1.031	2.014	1.7	19.3
12 27	5 21.08	+22 10.9	1.576	2.541	5.5	19.3	12 27	5 20.62	+26 59.0	1.043	2.010	7.1	19.6
1 6	5 11.45	+22 33.3	1.618	2.535	10.1	19.5	1 6	5 11.17	+27 25.9	1.079	2.006	12.8	19.9
1 16	5 4.28	+22 55.2	1.685	2.529	14.0	19.7	1 16	5 5.18	+27 46.3	1.136	2.004	17.7	20.2
211286	2002 <i>RD</i> ₁₅₇		12 15.7 141°15		0°1/15.7 18		2030	Belyaev		12 15.7 215°93		1°8/15.6 18	
11 7	6 3.63	+23 36.1	1.972	2.754	15.0	21.3	11 7	6 5.68	+19 38.1	1.649	2.438	17.2	17.4
11 17	5 58.97	+23 29.3	1.888	2.758	11.9	21.1	11 17	6 1.18	+19 25.2	1.561	2.433	13.7	17.2
11 27	5 51.69	+23 20.9	1.827	2.761	8.1	20.9	11 27	5 53.57	+19 13.9	1.493	2.429	9.5	16.9
12 7	5 42.47	+23 10.1	1.791	2.765	3.9	20.6	12 7	5 43.51	+19 4.3	1.451	2.423	4.8	16.6
12 17	5 32.27	+22 56.7	1.785	2.769	0.6	20.4	12 17	5 32.13	+18 56.6	1.436	2.418	1.9	16.4
12 27	5 22.32	+22 41.4	1.808	2.772	5.0	20.7	12 27	5 20.89	+18 51.5	1.449	2.412	6.2	16.7
1 6	5 13.75	+22 26.1	1.859	2.775	9.0	21.0	1 6	5 11.21	+18 50.3	1.490	2.405	10.9	17.0
1 16	5 7.40	+22 12.8	1.935	2.778	12.6	21.2	1 16	5 4.17	+18 54.1	1.554	2.399	15.0	17.2
97703	2000 <i>GS</i> ₆₉		12 15.7 175°69		1°0/15.7 18		397520	2007 <i>TT</i> ₈₇		12 15.7 1°35		9°5/14.8 18	
11 7	6 8.58	+21 25.2	1.690	2.472	17.1	20.5	11 7	6 12.78	+41 30.6	1.779	2.530	17.5	20.6
11 17	6 3.30	+21 14.6	1.606	2.475	13.6	20.3	11 17	6 8.03	+43 37.6	1.701	2.530	14.9	20.4
11 27	5 54.89	+21 4.1	1.543	2.477	9.3	20.0	11 27	5 59.10	+45 37.4	1.644	2.530	12.2	20.2
12 7	5 44.08	+20 53.0	1.506	2.479	4.5	19.8	12 7	5 46.54	+47 19.2	1.611	2.530	10.1	20.1
12 17	5 32.03	+20 41.1	1.496	2.480	1.2	19.5	12 17	5 31.65	+48 32.5	1.605	2.530	9.5	20.1
12 27	5 20.23	+20 29.2	1.516	2.479	5.9	19.8	12 27	5 16.53	+49 12.1	1.625	2.530	10.9	20.2
1 6	5 10.10	+20 19.2	1.564	2.479	10.5	20.1	1 6	5 3.38	+49 19.8	1.670	2.530	13.3	20.3
1 16	5 2.65	+20 13.1	1.636	2.477	14.6	20.4	1 16	4 53.87	+49 2.8	1.737	2.531	15.9	20.5
196410	2003 <i>GN</i> ₄₉		12 15.7 311°61		2°6/15.6 18		385406	2002 <i>XP</i> ₃₄		12 15.7 66°38		6°6/16.5 18	
11 7	6 1.33	+17 19.7	1.463	2.267	18.3	19.9	11 7	6 15.52	+36 12.2	1.367	2.146	20.6	20.4
11 17	5 58.23	+17 12.6	1.373	2.254	14.7	19.7	11 17	6 9.60	+37 14.8	1.322	2.179	16.7	20.2
11 27	5 51.85	+17 10.5	1.303	2.241	10.3	19.4	11 27	5 59.44	+38 5.6	1.295	2.212	12.4	20.0
12 7	5 42.80	+17 14.2	1.256	2.229	5.5	19.1	12 7	5 46.22	+38 36.2	1.292	2.245	8.4	19.9
12 17	5 32.20	+17 23.9	1.236	2.217	2.7	18.9	12 17	5 31.78	+38 41.2	1.314	2.278	6.6	19.9
12 27	5 21.60	+17 39.6	1.242	2.205	6.9	19.1	12 27	5 18.34	+38 21.2	1.363	2.310	8.6	20.1
1 6	5 12.58	+18 1.2	1.273	2.193	11.9	19.3	1 6	5 7.69	+37 42.7	1.437	2.342	12.1	20.4
1 16	5												

EPHEMERIDES

12 15.7

12 15.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
117739	2005 <i>GD</i> ₂₉	12 15.7	171°31'	1°2'	15.9	18	104248	2000 <i>EJ</i> ₁₃₆	12 15.8	329°97'	1°5'	15.6	18
11 7	6 4.71	+26 50.5	2.262	3.032	13.7	20.6	11 7	5 57.86	+19 42.0	1.827	2.625	15.4	20.0
11 17	5 59.57	+26 57.9	2.173	3.035	10.8	20.4	11 17	5 54.86	+19 34.9	1.730	2.608	12.3	19.7
11 27	5 51.99	+27 2.3	2.107	3.037	7.5	20.2	11 27	5 49.20	+19 29.7	1.655	2.592	8.5	19.4
12 7	5 42.60	+27 1.9	2.068	3.039	3.8	19.9	12 7	5 41.44	+19 26.5	1.604	2.577	4.3	19.2
12 17	5 32.28	+26 55.5	2.058	3.041	1.3	19.8	12 17	5 32.49	+19 25.4	1.580	2.562	1.6	18.9
12 27	5 22.16	+26 43.4	2.079	3.042	4.6	20.0	12 27	5 23.55	+19 27.1	1.584	2.548	5.5	19.2
1 6	5 13.28	+26 27.2	2.129	3.042	8.2	20.2	1 6	5 15.83	+19 32.0	1.616	2.535	9.9	19.4
1 16	5 6.45	+26 9.5	2.206	3.042	11.5	20.4	1 16	5 10.31	+19 41.0	1.671	2.523	13.8	19.6
266462	2007 <i>LO</i> ₂₄	12 15.7	138°57'	0°5'	15.7	18	17722	1997 <i>YT</i> ₁	12 15.8	60°06'	2°0'	15.3	18
11 7	6 0.70	+21 37.9	2.670	3.438	11.9	21.7	11 7	6 7.73	+22 49.6	1.423	2.220	19.1	17.2
11 17	5 55.92	+21 36.4	2.584	3.447	9.3	21.6	11 17	6 2.58	+21 46.5	1.368	2.246	14.9	17.0
11 27	5 49.25	+21 35.0	2.523	3.455	6.3	21.4	11 27	5 54.20	+20 39.9	1.333	2.271	10.1	16.8
12 7	5 41.20	+21 33.2	2.490	3.463	3.0	21.2	12 7	5 43.61	+19 32.0	1.323	2.297	5.0	16.5
12 17	5 32.49	+21 30.8	2.487	3.470	0.7	21.0	12 17	5 32.22	+18 26.2	1.341	2.322	2.2	16.4
12 27	5 23.95	+21 28.0	2.515	3.477	3.9	21.3	12 27	5 21.63	+17 27.2	1.386	2.348	6.5	16.8
1 6	5 16.39	+21 25.7	2.573	3.484	7.1	21.5	1 6	5 13.13	+16 38.7	1.458	2.374	11.0	17.1
1 16	5 10.41	+21 24.8	2.657	3.491	9.8	21.7	1 16	5 7.51	+16 3.0	1.553	2.399	14.9	17.4
329467	2002 <i>QM</i> ₂₉	12 15.7	65°39'	5°3'	15.8	18	105485	2000 <i>QW</i> ₂₁₆	12 15.8	156°83'	3°4'	16.1	18
11 7	5 59.33	+6 25.1	2.259	3.018	14.0	20.7	11 7	6 8.51	+31 47.4	2.001	2.767	15.3	20.8
11 17	5 55.06	+6 10.8	2.183	3.028	11.5	20.5	11 17	6 3.07	+32 19.1	1.918	2.774	12.3	20.6
11 27	5 48.76	+6 6.8	2.129	3.037	8.7	20.3	11 27	5 54.66	+32 45.2	1.856	2.779	8.8	20.4
12 7	5 41.00	+6 15.1	2.101	3.046	6.3	20.2	12 7	5 43.98	+33 1.7	1.821	2.784	5.3	20.2
12 17	5 32.52	+6 36.6	2.101	3.056	5.3	20.2	12 17	5 32.14	+33 5.3	1.814	2.789	3.5	20.1
12 27	5 24.24	+7 11.1	2.130	3.066	6.8	20.3	12 27	5 20.56	+32 55.6	1.837	2.793	5.9	20.2
1 6	5 16.98	+7 56.8	2.186	3.075	9.3	20.5	1 6	5 10.54	+32 35.0	1.889	2.797	9.4	20.4
1 16	5 11.44	+8 51.2	2.269	3.085	11.9	20.6	1 16	5 3.06	+32 7.8	1.965	2.800	12.8	20.7
283689	2002 <i>RZ</i> ₃₄	12 15.7	116°60'	3°8'	16.5	17	329420	2002 <i>NX</i> ₂₀	12 15.8	124°74'	0°4'	15.8	18
11 7	6 4.18	+36 4.7	2.588	3.339	12.6	21.4	11 7	6 9.70	+25 38.0	1.779	2.556	16.6	21.5
11 17	5 58.98	+36 23.7	2.506	3.349	10.2	21.3	11 17	6 3.86	+25 23.8	1.707	2.572	13.1	21.3
11 27	5 51.47	+36 34.9	2.447	3.358	7.6	21.1	11 27	5 55.03	+25 5.6	1.656	2.588	8.9	21.1
12 7	5 42.30	+36 35.2	2.415	3.368	5.0	21.0	12 7	5 44.07	+24 42.3	1.631	2.604	4.3	20.8
12 17	5 32.34	+36 22.9	2.411	3.377	3.8	20.9	12 17	5 32.15	+24 13.7	1.634	2.618	0.7	20.6
12 27	5 22.66	+35 58.2	2.438	3.386	5.2	21.0	12 27	5 20.73	+23 41.5	1.668	2.632	5.3	20.9
1 6	5 14.23	+35 23.7	2.494	3.395	7.8	21.2	1 6	5 11.07	+23 9.0	1.730	2.645	9.7	21.2
1 16	5 7.78	+34 43.0	2.577	3.404	10.3	21.4	1 16	5 4.04	+22 39.4	1.817	2.658	13.4	21.5
343919	2011 <i>JK</i> ₃₀	12 15.8	269°81'	0°2'	15.7	18	104704	2000 <i>GM</i> ₁₆₇	12 15.8	249°27'	3°6'	15.0	18
11 7	6 4.41	+24 3.7	1.606	2.400	17.4	20.5	11 7	6 1.81	+15 52.1	2.068	2.846	14.6	19.9
11 17	6 0.35	+23 51.3	1.519	2.396	13.8	20.3	11 17	5 57.43	+15 3.1	1.971	2.835	11.7	19.6
11 27	5 53.07	+23 36.2	1.453	2.391	9.5	20.0	11 27	5 50.64	+14 15.3	1.897	2.825	8.3	19.4
12 7	5 43.30	+23 17.7	1.411	2.385	4.6	19.7	12 7	5 42.03	+13 31.0	1.849	2.814	5.0	19.2
12 17	5 32.20	+22 55.5	1.397	2.380	0.7	19.4	12 17	5 32.43	+12 52.6	1.830	2.803	3.7	19.1
12 27	5 21.30	+22 31.0	1.410	2.375	5.9	19.8	12 27	5 22.94	+12 22.7	1.840	2.792	6.3	19.2
1 6	5 12.06	+22 6.9	1.450	2.370	10.7	20.1	1 6	5 14.60	+12 3.0	1.879	2.781	9.8	19.4
1 16	5 5.55	+21 46.3	1.514	2.365	15.0	20.3	1 16	5 8.24	+11 54.1	1.942	2.769	13.2	19.6
479623	2014 <i>DY</i> ₃₂	12 15.8	307°79'	3°8'	15.7	18	257136	2008 <i>GK</i> ₁₄₂	12 15.8	238°33'	3°2'	15.2	17
11 7	6 2.01	+14 13.6	1.526	2.322	18.0	21.3	11 7	6 0.95	+15 53.0	2.169	2.946	14.0	20.9
11 17	5 58.53	+14 5.7	1.439	2.313	14.5	21.0	11 17	5 56.61	+15 15.6	2.075	2.939	11.2	20.7
11 27	5 51.92	+14 5.7	1.372	2.305	10.4	20.8	11 27	5 50.01	+14 40.3	2.004	2.932	7.9	20.5
12 7	5 42.80	+14 15.0	1.328	2.297	6.0	20.5	12 7	5 41.69	+14 8.9	1.959	2.925	4.6	20.3
12 17	5 32.26	+14 34.2	1.311	2.289	3.8	20.3	12 17	5 32.48	+13 43.0	1.943	2.918	3.3	20.2
12 27	5 21.78	+15 3.0	1.321	2.281	7.1	20.5	12 27	5 23.39	+13 24.5	1.957	2.911	5.8	20.3
1 6	5 12.80	+15 40.0	1.357	2.273	11.7	20.8	1 6	5 15.40	+13 14.5	1.999	2.903	9.2	20.5
1 16	5 6.46	+16 23.8	1.416	2.266	15.9	21.0	1 16	5 9.27	+13 13.4	2.067	2.895	12.4	20.7
223015	2002 <i>SK</i> ₃	12 15.8	161°94'	1°8'	15.9	18	83592	2001 <i>SO</i> ₂₄₉	12 15.8	127°44'	3°3'	15.4	18
11 7	6 8.68	+27 20.7	1.823	2.599	16.3	21.8	11 7	6 1.00	+15 17.8	2.025	2.805	14.7	19.7
11 17	6 3.32	+27 38.1	1.740	2.605	12.9	21.5	11 17	5 56.74	+14 49.7	1.941	2.807	11.8	19.5
11 27	5 54.88	+27 52.4	1.679	2.610	9.0	21.3	11 27	5 50.12	+14 25.3	1.880	2.809	8.3	19.3
12 7	5 44.09	+28 0.5	1.643	2.614	4.6	21.1	12 7	5 41.74	+14 6.1	1.845	2.811	4.8	19.1
12 17	5 32.10	+28 0.2	1.636	2.618	1.8	20.9	12 17	5 32.48	+13 53.5	1.837	2.812	3.3	19.0
12 27	5 20.36	+27 51.2	1.658	2.621	5.5	21.1	12 27	5 23.41	+13 48.7	1.859	2.814	5.9	19.2
1 6	5 10.27	+27 35.7	1.709	2.623	9.8	21.4	1 6	5 15.55	+13 52.0	1.909	2.816	9.4	19.4
1 16	5 2.82	+27 17.5	1.784	2.625	13.6	21.6	1 16	5 9.67	+14 3.3	1.984	2.818	12.7	19.6
116547	2004 <i>BK</i> ₇₄	12 15.8	26°11'	7°4'	16.0	18	77028	2001 <i>CO</i> ₂₇	12 15.8	189°55'	1°7'	15.8	18
11 7	6 0.67	+4 34.6	1.684	2.456	17.6	19.6	11 7	6 4.68	+16 36.5	2.194	2.962	14.1	20.1
11 17	5 56.87	+4 9.9	1.610	2.460	14.6	19.4	11 17	5 59.58	+16 54.0	2.101	2.961	11.2	19.9
11 27	5 50.40	+3 59.8	1.557	2.464	11.3	19.2	11 27	5 52.07	+17 16.8	2.031	2.960	7.8	19.6
12 7	5 41.92	+4 8.0	1.526	2.469	8.5	19.1	12 7	5 42.71	+17 44.1	1.988	2.958	4.0	19.4
12 17	5 32.42	+4 36.5	1.522	2.474	7.4	19.0	12 17	5 32.34	+18 15.0	1.975	2.956	1.8	19.3
12 27	5 23.14	+5 24.7	1.544	2.479	8.9	19.1	12 27	5 22.03	+18 48.2	1.993	2.953	5.0	19.5
1 6	5 15.23	+6 29.4	1.592	2.485	11.9	19.3	1 6	5 12.83	+19 23.0	2.040	2.950	8.7	19.7
1 16	5 9.58	+7 46.2	1.664	2.491	15.1	19.5	1 16	5 5.60	+19 58.8	2.113	2.946	12.0	19.9
245957	2006 <i>SX</i> ₄₈	12 15.8	29°23'	0°1'	15.8	18	492187	2013 <i>QU</i> ₇₉	12 15.8	114°21'	4°3'	16.5	17

EPHEMERIDES

12 15.8

12 15.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
84922	2003 <i>VS</i> ₂		12 15.8	26°47'	0°3'/16.2	15	218366	2004 <i>HU</i> ₆₂		12 15.8	33°58'	2°5'/15.5	18
11 7	5 37.55	+32 52.7	35.979	36.728	1.0	20.0	11 7	6 3.54	+21 16.8	1.000	1.832	22.9	18.4
11 17	5 36.68	+32 53.3	35.883	36.729	0.8	19.9	11 17	6 0.40	+20 29.7	0.960	1.857	18.0	18.2
11 27	5 35.69	+32 53.3	35.814	36.730	0.6	19.9	11 27	5 53.23	+19 42.9	0.937	1.883	12.2	18.0
12 7	5 34.62	+32 52.9	35.773	36.731	0.4	19.9	12 7	5 43.29	+18 58.5	0.936	1.910	6.1	17.7
12 17	5 33.51	+32 51.9	35.762	36.732	0.3	19.9	12 17	5 32.34	+18 19.3	0.957	1.939	2.7	17.6
12 27	5 32.41	+32 50.3	35.781	36.733	0.4	19.9	12 27	5 22.38	+17 48.8	1.004	1.969	7.6	18.0
1 6	5 31.36	+32 48.3	35.831	36.734	0.6	19.9	1 6	5 15.00	+17 29.2	1.073	2.000	12.8	18.4
1 16	5 30.40	+32 45.9	35.909	36.735	0.8	19.9	1 16	5 11.05	+17 21.3	1.163	2.032	17.3	18.8
9666	1997 <i>GM</i> ₂₂		12 15.8	102°54'	5°2'/16.1	18	108545	2001 <i>LZ</i> ₉		12 15.8	141°79'	2°4'/15.6	18
11 7	6 9.96	+35 43.5	2.022	2.779	15.5	18.3	11 7	6 3.04	+16 11.3	2.153	2.926	14.2	20.5
11 17	6 4.27	+36 42.1	1.952	2.797	12.6	18.1	11 17	5 58.18	+16 3.2	2.071	2.934	11.3	20.3
11 27	5 55.48	+37 33.1	1.904	2.815	9.4	18.0	11 27	5 51.02	+15 58.9	2.012	2.941	7.9	20.1
12 7	5 44.37	+38 10.8	1.882	2.833	6.4	17.8	12 7	5 42.16	+15 59.1	1.980	2.948	4.3	19.9
12 17	5 32.11	+38 30.9	1.888	2.850	5.2	17.8	12 17	5 32.47	+16 3.8	1.976	2.955	2.5	19.8
12 27	5 20.20	+38 32.3	1.924	2.866	6.8	17.9	12 27	5 22.97	+16 13.4	2.003	2.961	5.2	20.0
1 6	5 9.99	+38 17.6	1.987	2.883	9.7	18.1	1 6	5 14.66	+16 27.7	2.059	2.967	8.7	20.2
1 16	5 2.46	+37 52.0	2.075	2.899	12.6	18.3	1 16	5 8.29	+16 46.5	2.140	2.973	11.9	20.4
191188	2002 <i>OD</i> ₁₆		12 15.8	86°55'	1°8'/15.4	18	279116	2009 <i>JK</i>		12 15.8	224°39'	3°3'/15.1	18
11 7	6 0.37	+19 20.5	2.319	3.096	13.2	19.9	11 7	6 2.23	+15 13.2	2.438	3.203	12.9	21.5
11 17	5 55.88	+18 49.0	2.240	3.106	10.4	19.7	11 17	5 57.37	+14 30.5	2.336	3.193	10.4	21.3
11 27	5 49.32	+18 17.7	2.183	3.115	7.1	19.5	11 27	5 50.42	+13 49.5	2.258	3.181	7.4	21.1
12 7	5 41.28	+17 47.7	2.154	3.125	3.7	19.3	12 7	5 41.88	+13 11.8	2.207	3.170	4.5	20.9
12 17	5 32.57	+17 20.1	2.154	3.134	1.9	19.2	12 17	5 32.51	+12 39.5	2.185	3.157	3.4	20.8
12 27	5 24.10	+16 56.5	2.184	3.144	4.7	19.4	12 27	5 23.21	+12 14.4	2.195	3.145	5.6	20.9
1 6	5 16.75	+16 38.1	2.244	3.153	8.1	19.6	1 6	5 14.87	+11 57.9	2.234	3.131	8.7	21.1
1 16	5 11.17	+16 25.9	2.329	3.162	11.1	19.8	1 16	5 8.24	+11 50.4	2.299	3.117	11.7	21.3
481820	2008 <i>UV</i> ₁₁₄		12 15.8	94°38'	0°9'/15.9	18	77067	2001 <i>DC</i> ₂₁		12 15.8	6°25'	3°4'/15.8	18
11 7	6 6.77	+26 45.3	1.718	2.502	16.8	21.2	11 7	6 5.40	+27 15.0	1.288	2.097	20.1	18.7
11 17	6 1.75	+26 36.6	1.646	2.516	13.3	21.0	11 17	6 2.17	+28 10.0	1.214	2.097	16.1	18.4
11 27	5 53.71	+26 23.4	1.596	2.530	9.1	20.7	11 27	5 54.94	+29 5.1	1.159	2.097	11.3	18.1
12 7	5 43.48	+26 4.0	1.571	2.544	4.4	20.5	12 7	5 44.46	+29 54.4	1.127	2.098	6.2	17.8
12 17	5 32.26	+25 38.2	1.574	2.557	1.1	20.3	12 17	5 32.14	+30 31.9	1.120	2.099	3.4	17.7
12 27	5 21.50	+25 7.4	1.606	2.571	5.4	20.6	12 27	5 20.02	+30 54.5	1.138	2.101	7.4	17.9
1 6	5 12.51	+24 34.9	1.666	2.584	9.7	20.9	1 6	5 10.04	+31 3.4	1.182	2.104	12.5	18.2
1 16	5 6.15	+24 4.4	1.750	2.597	13.5	21.2	1 16	5 3.56	+31 3.0	1.247	2.106	17.0	18.5
197208	2003 <i>WY</i> ₇		12 15.8	18°70'	3°2'/14.7	17	385711	2005 <i>UH</i> ₈₄		12 15.8	341°68'	3°7'/15.3	18
11 7	6 1.35	+20 0.3	1.886	2.674	15.4	19.2	11 7	5 59.48	+17 57.9	1.276	2.094	19.7	20.9
11 17	5 57.07	+18 34.9	1.807	2.679	12.2	19.0	11 17	5 57.09	+17 16.3	1.197	2.085	15.8	20.6
11 27	5 50.30	+17 6.1	1.752	2.685	8.5	18.7	11 27	5 51.22	+16 36.2	1.137	2.078	11.1	20.4
12 7	5 41.79	+15 37.3	1.723	2.692	4.7	18.5	12 7	5 42.57	+16 0.3	1.099	2.071	6.1	20.1
12 17	5 32.50	+14 12.9	1.723	2.699	3.4	18.5	12 17	5 32.42	+15 31.4	1.085	2.064	3.8	19.9
12 27	5 23.59	+12 57.9	1.753	2.707	6.3	18.7	12 27	5 22.47	+15 12.4	1.097	2.059	7.8	20.1
1 6	5 16.08	+11 55.7	1.811	2.715	10.0	18.9	1 6	5 14.34	+15 5.2	1.133	2.055	12.9	20.4
1 16	5 10.71	+11 8.5	1.893	2.724	13.3	19.1	1 16	5 9.20	+15 10.2	1.190	2.052	17.5	20.7
458004	2009 <i>WM</i> ₈₄		12 15.8	328°21'	5°5'/15.4	17	309949	2009 <i>GD</i> ₃		12 15.8	185°02'	0°1'/15.8	18
11 7	6 3.89	+33 44.1	1.951	2.726	15.4	21.0	11 7	6 3.81	+22 31.9	2.222	2.995	13.8	21.8
11 17	6 0.04	+35 4.4	1.857	2.714	12.6	20.8	11 17	5 58.94	+22 46.5	2.131	2.995	10.9	21.6
11 27	5 53.05	+36 22.0	1.785	2.703	9.5	20.5	11 27	5 51.65	+23 1.8	2.063	2.995	7.4	21.4
12 7	5 43.44	+37 30.7	1.738	2.692	6.6	20.3	12 7	5 42.54	+23 16.2	2.021	2.994	3.6	21.2
12 17	5 32.23	+38 24.4	1.719	2.681	5.5	20.3	12 17	5 32.44	+23 28.6	2.009	2.993	0.5	20.9
12 27	5 20.86	+38 59.3	1.728	2.672	7.4	20.4	12 27	5 22.46	+23 38.5	2.028	2.992	4.6	21.2
1 6	5 10.86	+39 15.7	1.764	2.662	10.6	20.5	1 6	5 13.64	+23 46.3	2.076	2.990	8.3	21.4
1 16	5 3.46	+39 17.1	1.824	2.653	13.8	20.7	1 16	5 6.81	+23 53.4	2.150	2.988	11.7	21.7
210127	2006 <i>RB</i> ₆₇		12 15.8	255°47'	1°3'/15.9	18	156534	2002 <i>CK</i> ₂₈₃		12 15.8	308°33'	1°2'/15.7	18
11 7	6 4.60	+27 57.7	2.018	2.795	14.9	20.8	11 7	6 0.83	+20 16.2	2.103	2.885	14.2	20.4
11 17	5 59.99	+27 50.7	1.917	2.782	11.9	20.6	11 17	5 56.67	+20 8.6	2.015	2.884	11.2	20.2
11 27	5 52.60	+27 38.6	1.837	2.769	8.3	20.3	11 27	5 50.13	+20 2.0	1.949	2.883	7.7	20.0
12 7	5 43.05	+27 19.6	1.784	2.755	4.2	20.0	12 7	5 41.80	+19 56.4	1.909	2.882	3.8	19.8
12 17	5 32.31	+26 52.7	1.759	2.741	1.4	19.8	12 17	5 32.55	+19 51.8	1.898	2.881	1.3	19.6
12 27	5 21.66	+26 18.9	1.763	2.727	5.1	20.0	12 27	5 23.45	+19 48.6	1.917	2.880	4.9	19.8
1 6	5 12.37	+25 41.3	1.797	2.713	9.3	20.3	1 6	5 15.53	+19 47.7	1.963	2.878	8.7	20.1
1 16	5 5.38	+25 3.6	1.855	2.698	13.0	20.5	1 16	5 9.58	+19 50.1	2.036	2.877	12.1	20.3
323367	2003 <i>WC</i> ₆₀		12 15.8	67°27'	0°4'/15.8	18	323301	2003 <i>UG</i> ₂₃		12 15.8	90°42'	3°2'/15.9	18
11 7	6 1.59	+24 9.5	2.198	2.976	13.8	20.7	11 7	6 11.81	+28 54.7	1.473	2.259	19.1	20.7
11 17	5 57.05	+24 17.2	2.124	2.992	10.8	20.5	11 17	6 6.34	+29 36.5	1.413	2.281	15.1	20.5
11 27	5 50.22	+24 23.8	2.074	3.007	7.3	20.3	11 27	5 57.17	+30 14.1	1.372	2.303	10.6	20.3
12 7	5 41.75	+24 28.1	2.050	3.023	3.5	20.1	12 7	5 45.26	+30 42.3	1.355	2.324	5.8	20.1
12 17	5 32.51	+24 29.2	2.055	3.039	0.6	19.9	12 17	5 32.08	+30 56.9	1.366	2.345	3.2	19.9
12 27	5 23.55	+24 27.3	2.090	3.054	4.4	20.2	12 27	5 19.50	+30 57.1	1.405	2.365	6.6	20.2
1 6	5 15.84	+24 23.6	2.154	3.070	8.0	20.5	1 6	5 9.14	+30 46.1	1.470	2.385	11.0	20.5
1 16	5 10.08	+24 19.5	2.244	3.086	11.1	20.7	1 16	5 2.05	+30 29.0	1.559	2.405	14.9	20.8
460646	2014 <i>UH</i> ₁₂₅		12 15.8	43°52'	4°5'/16.5	17	128266	2003 <i>TB</i> ₁		12 15.8	155°62'	1°8'/	

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
61155	2000 <i>NH</i> ₁₄		12 15.8 121°37'	3°4/15.6	18		236292	2006 <i>AD</i> ₅₇		12 15.8 326°60'	9°5/16.2	18	
11 7	6 4.26	+14 38.3	1.762	2.544	16.5	19.0	11 7	6 4.05	+40 3.9	1.330	2.122	20.4	19.8
11 17	5 59.64	+14 25.1	1.685	2.552	13.2	18.8	11 17	6 2.04	+41 18.9	1.243	2.104	17.3	19.5
11 27	5 52.27	+14 17.9	1.630	2.559	9.3	18.6	11 27	5 55.51	+42 23.4	1.174	2.086	13.8	19.2
12 7	5 42.86	+14 17.7	1.600	2.567	5.3	18.4	12 7	5 45.03	+43 7.4	1.126	2.069	10.7	19.0
12 17	5 32.42	+14 25.2	1.598	2.574	3.5	18.3	12 17	5 32.09	+43 21.2	1.100	2.053	9.5	18.9
12 27	5 22.24	+14 40.4	1.624	2.581	6.3	18.5	12 27	5 19.09	+43 0.6	1.099	2.038	11.2	18.9
1 6	5 13.51	+15 2.9	1.678	2.588	10.3	18.7	1 6	5 8.47	+42 10.1	1.120	2.024	14.8	19.1
1 16	5 7.12	+15 31.7	1.756	2.594	13.9	19.0	1 16	5 1.96	+40 59.3	1.161	2.011	18.7	19.3
420714	2012 <i>MG</i> ₅		12 15.8 164°33'	6°2/15.2	17		414366	2008 <i>UG</i> ₉		12 15.8 59°59'	5°1/15.1	18	
11 7	5 58.05	+ 2 48.2	2.660	3.401	12.6	21.7	11 7	5 58.69	+ 9 38.7	2.216	2.986	13.9	21.2
11 17	5 53.80	+ 2 10.3	2.578	3.403	10.5	21.6	11 17	5 54.62	+ 8 51.9	2.141	2.995	11.3	21.0
11 27	5 47.83	+ 1 42.1	2.517	3.405	8.4	21.4	11 27	5 48.52	+ 8 11.8	2.089	3.004	8.5	20.9
12 7	5 40.60	+ 1 26.5	2.483	3.407	6.7	21.3	12 7	5 40.97	+ 7 41.2	2.063	3.014	6.0	20.7
12 17	5 32.74	+ 1 25.4	2.476	3.409	6.2	21.3	12 17	5 32.73	+ 7 22.4	2.065	3.023	5.2	20.7
12 27	5 25.01	+ 1 39.5	2.498	3.410	7.2	21.4	12 27	5 24.71	+ 7 16.7	2.096	3.033	6.8	20.8
1 6	5 18.11	+ 2 7.9	2.548	3.411	9.2	21.5	1 6	5 17.77	+ 7 23.9	2.154	3.043	9.4	21.0
1 16	5 12.64	+ 2 48.7	2.623	3.412	11.3	21.7	1 16	5 12.54	+ 7 42.7	2.237	3.053	12.1	21.2
360775	2005 <i>EK</i> ₂₀		12 15.8 340°89'	4°7/15.6	18		455996	2005 <i>XE</i> ₆₇		12 15.8 68°94'	0°8/15.9	18	
11 7	5 56.91	+13 56.5	1.295	2.113	19.5	20.4	11 7	6 2.41	+25 8.1	2.047	2.828	14.6	21.4
11 17	5 55.06	+13 32.7	1.212	2.099	15.8	20.1	11 17	5 58.02	+25 20.6	1.966	2.835	11.5	21.2
11 27	5 49.87	+13 16.9	1.148	2.086	11.4	19.8	11 27	5 51.10	+25 31.5	1.908	2.841	7.9	21.0
12 7	5 41.98	+13 12.0	1.106	2.074	6.9	19.5	12 7	5 42.29	+25 39.2	1.875	2.848	3.8	20.8
12 17	5 32.52	+13 20.1	1.088	2.064	4.8	19.4	12 17	5 32.54	+25 42.4	1.872	2.855	1.0	20.6
12 27	5 23.11	+13 41.8	1.095	2.055	8.2	19.5	12 27	5 23.01	+25 41.1	1.898	2.862	4.8	20.9
1 6	5 15.35	+14 16.2	1.125	2.047	13.0	19.8	1 6	5 14.81	+25 36.4	1.952	2.869	8.6	21.1
1 16	5 10.45	+15 1.0	1.177	2.040	17.5	20.0	1 16	5 8.74	+25 30.4	2.032	2.876	12.0	21.4
143672	2003 <i>SN</i> ₁₅₅		12 15.8 128°32'	4°2/16.2	18		269861	2000 <i>EJ</i> ₆		12 15.8 4°34'	6°6/16.4	17	
11 7	6 11.94	+32 23.3	1.647	2.421	17.8	20.8	11 7	6 5.17	+40 37.7	2.140	2.892	14.9	20.6
11 17	6 6.35	+33 0.1	1.574	2.434	14.4	20.6	11 17	6 0.76	+41 32.7	2.057	2.892	12.5	20.4
11 27	5 57.19	+33 29.9	1.522	2.446	10.3	20.4	11 27	5 53.30	+42 17.9	1.995	2.892	9.8	20.2
12 7	5 45.31	+33 47.5	1.495	2.458	6.2	20.2	12 7	5 43.47	+42 47.4	1.958	2.893	7.5	20.1
12 17	5 32.08	+33 48.6	1.495	2.469	4.2	20.1	12 17	5 32.36	+42 57.0	1.948	2.894	6.6	20.1
12 27	5 19.30	+33 33.0	1.523	2.479	6.8	20.3	12 27	5 21.44	+42 45.4	1.965	2.895	7.7	20.1
1 6	5 8.57	+33 4.4	1.579	2.489	10.8	20.6	1 6	5 12.08	+42 15.3	2.009	2.896	10.1	20.3
1 16	5 0.98	+32 28.6	1.659	2.499	14.5	20.8	1 16	5 5.32	+41 32.1	2.078	2.898	12.7	20.4
469312	1999 <i>SK</i> ₂₅		12 15.8 64°75'	2°5/16.0	16		255263	2005 <i>VG</i> ₂₆		12 15.8 224°98'	0°5/15.7	18	
11 7	6 10.76	+28 2.1	1.288	2.086	20.6	21.6	11 7	6 2.07	+22 49.9	2.155	2.933	14.0	21.1
11 17	6 5.77	+28 24.9	1.237	2.114	16.3	21.4	11 17	5 57.63	+22 38.5	2.062	2.930	11.1	20.9
11 27	5 56.80	+28 42.7	1.205	2.141	11.2	21.2	11 27	5 50.79	+22 25.7	1.993	2.927	7.6	20.7
12 7	5 45.04	+28 51.4	1.197	2.169	5.8	20.9	12 7	5 42.15	+22 11.3	1.950	2.923	3.6	20.4
12 17	5 32.15	+28 48.1	1.214	2.196	2.5	20.8	12 17	5 32.56	+21 55.3	1.936	2.919	0.7	20.2
12 27	5 20.11	+28 33.6	1.259	2.223	6.6	21.1	12 27	5 23.13	+21 38.5	1.952	2.915	4.7	20.5
1 6	5 10.55	+28 11.9	1.329	2.250	11.4	21.5	1 6	5 14.89	+21 22.6	1.996	2.911	8.6	20.7
1 16	5 4.43	+27 48.2	1.422	2.277	15.6	21.8	1 16	5 8.65	+21 9.3	2.067	2.907	12.0	20.9
514352	2016 <i>PL</i> ₉₆		12 15.8 221°59'	0°5/15.8	18		302527	2002 <i>LR</i> ₂₂		12 15.8 190°69'	1°4/15.8	18	
11 7	6 6.65	+24 43.0	1.631	2.420	17.4	22.1	11 7	6 6.47	+25 37.4	2.253	3.020	13.8	21.7
11 17	6 2.17	+24 44.0	1.543	2.416	13.8	21.8	11 17	6 1.14	+26 11.7	2.159	3.018	11.0	21.5
11 27	5 54.40	+24 42.9	1.475	2.410	9.5	21.6	11 27	5 53.25	+26 45.6	2.087	3.017	7.6	21.2
12 7	5 44.04	+24 37.9	1.431	2.405	4.6	21.3	12 7	5 43.37	+27 16.5	2.043	3.014	3.9	21.0
12 17	5 32.26	+24 27.8	1.416	2.399	0.8	21.0	12 17	5 32.39	+27 41.7	2.029	3.011	1.5	20.8
12 27	5 20.64	+24 13.0	1.428	2.393	5.9	21.3	12 27	5 21.46	+28 0.0	2.046	3.008	4.8	21.1
1 6	5 10.70	+23 55.8	1.468	2.387	10.7	21.6	1 6	5 11.71	+28 11.6	2.093	3.004	8.5	21.3
1 16	5 3.55	+23 39.4	1.531	2.380	15.0	21.8	1 16	5 4.05	+28 18.5	2.166	2.999	11.8	21.5
194990	2002 <i>BS</i> ₇		12 15.8 333°62'	1°5/15.7	18		154813	2004 <i>QA</i>		12 15.8 139°92'	1°4/15.7	18	
11 7	6 0.49	+19 21.5	1.383	2.194	18.8	20.4	11 7	6 5.48	+20 1.8	1.865	2.645	15.8	21.1
11 17	5 57.81	+19 24.7	1.298	2.184	15.0	20.1	11 17	6 0.51	+19 50.7	1.785	2.653	12.5	20.9
11 27	5 51.71	+19 32.1	1.233	2.174	10.4	19.8	11 27	5 52.83	+19 40.8	1.728	2.661	8.6	20.7
12 7	5 42.86	+19 43.4	1.190	2.165	5.2	19.5	12 7	5 43.13	+19 31.9	1.696	2.669	4.3	20.5
12 17	5 32.42	+19 57.9	1.173	2.156	1.7	19.2	12 17	5 32.44	+19 24.2	1.693	2.675	1.6	20.3
12 27	5 22.03	+20 14.9	1.183	2.149	6.6	19.5	12 27	5 22.02	+19 18.3	1.720	2.682	5.4	20.6
1 6	5 13.34	+20 34.5	1.217	2.142	11.9	19.8	1 6	5 13.07	+19 15.4	1.774	2.688	9.5	20.8
1 16	5 7.56	+20 57.0	1.273	2.136	16.5	20.1	1 16	5 6.43	+19 16.5	1.854	2.694	13.2	21.1
418672	2008 <i>TS</i> ₁₃₈		12 15.8 29°08'	8°1/16.2	17		446479	2014 <i>KU</i> ₁₇		12 15.8 175°34'	0°4/15.8	18	
11 7	6 7.91	+44 48.1	2.238	2.970	14.9	21.2	11 7	6 5.37	+23 1.8	2.365	3.131	13.3	21.7
11 17	6 3.12	+46 8.1	2.160	2.973	12.7	21.1	11 17	6 0.04	+23 28.2	2.273	3.134	10.5	21.5
11 27	5 55.05	+47 17.1	2.104	2.977	10.5	21.0	11 27	5 52.36	+23 55.5	2.205	3.136	7.2	21.3
12 7	5 44.36	+48 8.0	2.071	2.981	8.7	20.8	12 7	5 42.90	+24 21.7	2.165	3.137	3.5	21.1
12 17	5 32.21	+48 35.2	2.066	2.985	8.1	20.8	12 17	5 32.48	+24 45.0	2.154	3.138	0.6	20.9
12 27	5 20.18	+48 36.9	2.087	2.990	8.9	20.9	12 27	5 22.15	+25 4.4	2.175	3.138	4.4	21.2
1 6	5 9.80	+48 15.5	2.134	2.994	10.8	21.0	1 6	5 12.93	+25 20.0	2.226	3.138	8.0	21.4
1 16	5 2.22	+47 36.8	2.204	2.999	12.9	21.2	1 16	5 5.62	+25 33.1	2.304	3.137	11.2	21.6
133504	2003 <i>SC</i> ₂₉₀		12 15.8 1°74'	8°6/15.4	17		58789	1998 <i>FK</i> ₈₀		12 15.8 27°86'	8°6/16.1		

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
149993	2005 <i>UN</i> ₇₂		12 15.8 143°73	2°6/15.9	18		36490	2000 <i>QJ</i> ₄₅		12 15.8 220°42	1°2/15.9	18	
11 7	6 4.73	+29 43.6	2.304	3.070	13.6	20.0	11 7	6 6.23	+26 15.4	1.946	2.722	15.4	19.6
11 17	5 59.73	+30 20.6	2.218	3.076	10.8	19.8	11 17	6 1.38	+26 24.3	1.850	2.715	12.2	19.3
11 27	5 52.24	+30 54.2	2.156	3.081	7.6	19.7	11 27	5 53.66	+26 30.7	1.776	2.708	8.5	19.1
12 7	5 42.86	+31 21.4	2.120	3.086	4.4	19.5	12 7	5 43.67	+26 32.3	1.728	2.700	4.3	18.8
12 17	5 32.49	+31 39.5	2.114	3.091	2.7	19.4	12 17	5 32.45	+26 27.5	1.709	2.692	1.3	18.6
12 27	5 22.26	+31 47.5	2.138	3.095	5.0	19.5	12 27	5 21.31	+26 16.2	1.719	2.683	5.2	18.9
1 6	5 13.27	+31 46.5	2.191	3.100	8.3	19.7	1 6	5 11.57	+26 0.4	1.758	2.674	9.5	19.1
1 16	5 6.35	+31 39.3	2.270	3.104	11.3	19.9	1 16	5 4.23	+25 43.1	1.822	2.664	13.3	19.3
349715	2008 <i>YT</i> ₁₆		12 15.8 33°99	1°3/15.9	18		11700	1998 <i>FT</i> ₁₁₅		12 15.8 220°47	1°1/15.9	18	
11 7	6 3.71	+27 6.8	1.265	2.078	20.1	19.7	11 7	6 3.11	+27 16.9	2.563	3.328	12.4	18.5
11 17	6 0.27	+27 0.6	1.209	2.095	15.9	19.5	11 17	5 58.19	+27 19.5	2.461	3.320	9.8	18.3
11 27	5 53.15	+26 49.1	1.172	2.113	10.9	19.3	11 27	5 51.08	+27 18.9	2.382	3.311	6.8	18.1
12 7	5 43.36	+26 30.4	1.158	2.132	5.4	19.0	12 7	5 42.31	+27 13.5	2.331	3.302	3.5	17.9
12 17	5 32.44	+26 4.0	1.169	2.152	1.4	18.8	12 17	5 32.65	+27 2.4	2.310	3.292	1.2	17.7
12 27	5 22.20	+25 32.1	1.206	2.173	6.3	19.2	12 27	5 23.08	+26 46.1	2.320	3.282	4.2	17.9
1 6	5 14.20	+24 58.9	1.268	2.195	11.3	19.5	1 6	5 14.53	+26 26.0	2.360	3.272	7.6	18.1
1 16	5 9.38	+24 28.5	1.353	2.217	15.6	19.8	1 16	5 7.77	+26 4.4	2.426	3.261	10.6	18.3
70095	1999 <i>JH</i> ₁₁₈		12 15.8 60°15	0°4/15.8	18		282361	2003 <i>KD</i> ₁₉		12 15.8 92°05	6°6/15.9	18	
11 7	6 8.25	+19 59.3	1.225	2.032	21.0	18.3	11 7	6 3.54	+6 7.0	1.775	2.541	17.0	20.3
11 17	6 3.87	+20 31.2	1.170	2.052	16.5	18.1	11 17	5 58.90	+5 38.2	1.708	2.556	14.0	20.1
11 27	5 55.68	+21 8.4	1.133	2.073	11.2	17.9	11 27	5 51.68	+5 22.0	1.661	2.570	10.7	19.9
12 7	5 44.62	+21 47.9	1.120	2.095	5.4	17.6	12 7	5 42.60	+5 21.5	1.638	2.583	7.8	19.8
12 17	5 32.26	+22 26.2	1.132	2.116	0.9	17.3	12 17	5 32.62	+5 38.2	1.643	2.597	6.6	19.8
12 27	5 20.50	+23 0.8	1.171	2.137	6.6	17.8	12 27	5 22.97	+6 12.1	1.675	2.611	8.3	19.9
1 6	5 11.04	+23 31.4	1.235	2.159	11.9	18.1	1 6	5 14.72	+7 0.7	1.734	2.624	11.2	20.1
1 16	5 4.93	+23 59.2	1.322	2.181	16.3	18.5	1 16	5 8.68	+8 0.4	1.816	2.637	14.2	20.3
435472	2008 <i>FS</i> ₇₅		12 15.8 247°29	2°0/15.9	18		128087	2003 <i>PH</i>		12 15.8 123°82	2°0/15.9	18	
11 7	6 7.24	+27 37.6	1.698	2.482	17.0	22.0	11 7	6 8.09	+28 18.8	2.069	2.837	14.9	20.6
11 17	6 2.77	+27 53.1	1.600	2.469	13.6	21.8	11 17	6 2.43	+28 41.0	1.994	2.853	11.8	20.4
11 27	5 54.94	+28 5.3	1.524	2.457	9.5	21.5	11 27	5 54.08	+28 59.6	1.941	2.869	8.2	20.2
12 7	5 44.39	+28 11.1	1.472	2.443	5.0	21.2	12 7	5 43.74	+29 11.6	1.915	2.884	4.3	20.0
12 17	5 32.26	+28 7.6	1.448	2.430	2.0	21.0	12 17	5 32.47	+29 14.9	1.918	2.898	2.1	19.9
12 27	5 20.14	+27 54.5	1.452	2.416	6.0	21.2	12 27	5 21.52	+29 9.5	1.951	2.912	5.0	20.1
1 6	5 9.63	+27 34.2	1.484	2.401	10.8	21.4	1 6	5 12.06	+28 57.3	2.013	2.925	8.7	20.3
1 16	5 1.93	+27 10.6	1.539	2.386	15.0	21.7	1 16	5 4.94	+28 41.4	2.102	2.938	12.0	20.6
209762	2005 <i>EN</i> ₂₄₅		12 15.8 199°55	1°5/15.9	18		312693	2010 <i>NU</i> ₁₁₀		12 15.8 80°63	1°8/15.7	18	
11 7	6 4.58	+27 15.1	1.928	2.708	15.4	20.9	11 7	6 2.05	+17 58.0	1.983	2.765	14.9	20.9
11 17	6 0.04	+27 26.4	1.840	2.707	12.2	20.7	11 17	5 57.68	+17 55.4	1.905	2.773	11.8	20.7
11 27	5 52.67	+27 34.5	1.774	2.706	8.5	20.5	11 27	5 50.86	+17 56.2	1.848	2.781	8.1	20.5
12 7	5 43.14	+27 37.0	1.733	2.705	4.3	20.2	12 7	5 42.22	+18 0.3	1.818	2.789	4.2	20.3
12 17	5 32.48	+27 32.3	1.721	2.704	1.6	20.0	12 17	5 32.67	+18 7.5	1.816	2.797	1.9	20.2
12 27	5 21.99	+27 20.5	1.739	2.702	5.2	20.3	12 27	5 23.35	+18 17.9	1.844	2.805	5.2	20.4
1 6	5 12.95	+27 3.4	1.784	2.700	9.3	20.5	1 6	5 15.31	+18 31.6	1.899	2.813	9.0	20.6
1 16	5 6.28	+26 44.4	1.854	2.699	13.0	20.8	1 16	5 9.34	+18 48.7	1.980	2.821	12.4	20.9
53810	2000 <i>EU</i> ₁₃₄		12 15.8 221°08	3°4/15.5	18		297532	2001 <i>FH</i> ₁₁₅		12 15.8 296°93	5°3/15.2	18	
11 7	6 1.85	+13 51.4	2.252	3.021	13.8	20.0	11 7	6 0.60	+11 53.6	1.720	2.507	16.7	21.1
11 17	5 57.30	+13 30.5	2.156	3.014	11.0	19.8	11 17	5 57.06	+11 11.4	1.628	2.494	13.6	20.8
11 27	5 50.52	+13 14.2	2.083	3.007	7.9	19.5	11 27	5 50.78	+10 35.3	1.557	2.482	10.0	20.6
12 7	5 42.05	+13 3.8	2.036	2.999	4.8	19.3	12 7	5 42.32	+10 8.5	1.510	2.469	6.6	20.4
12 17	5 32.65	+13 0.3	2.018	2.991	3.4	19.2	12 17	5 32.65	+9 53.9	1.489	2.457	5.4	20.3
12 27	5 23.33	+13 4.6	2.030	2.982	5.7	19.4	12 27	5 23.02	+9 53.5	1.496	2.445	7.8	20.4
1 6	5 15.03	+13 16.6	2.070	2.973	9.0	19.6	1 6	5 14.69	+10 7.3	1.530	2.433	11.6	20.6
1 16	5 8.54	+13 36.1	2.137	2.964	12.2	19.7	1 16	5 8.63	+10 34.3	1.586	2.421	15.2	20.8
81242	2000 <i>FB</i> ₃₀		12 15.8 89°37	4°9/15.3	18		75906	2000 <i>CY</i> ₅₀		12 15.8 337°74	8°5/17.4	17	
11 7	6 2.21	+11 7.0	1.960	2.733	15.4	19.4	11 7	6 6.87	+43 4.2	1.566	2.333	18.9	19.3
11 17	5 57.60	+10 25.3	1.892	2.749	12.4	19.2	11 17	6 3.40	+43 41.8	1.482	2.324	16.0	19.1
11 27	5 50.65	+9 50.4	1.845	2.764	9.1	19.0	11 27	5 55.80	+44 3.4	1.416	2.316	12.8	18.8
12 7	5 42.04	+9 25.0	1.824	2.780	6.1	18.9	12 7	5 44.92	+44 1.1	1.372	2.308	9.9	18.6
12 17	5 32.68	+9 11.1	1.830	2.795	5.0	18.9	12 17	5 32.30	+43 29.1	1.353	2.301	8.5	18.5
12 27	5 23.63	+9 9.9	1.866	2.810	6.9	19.0	12 27	5 20.07	+42 27.2	1.358	2.295	9.7	18.6
1 6	5 15.88	+9 20.9	1.929	2.824	10.0	19.2	1 6	5 10.16	+41 1.8	1.389	2.289	12.7	18.8
1 16	5 10.15	+9 42.9	2.016	2.839	12.9	19.4	1 16	5 3.85	+39 23.2	1.442	2.285	16.1	19.0
196925	2003 <i>UF</i> ₄		12 15.8 69°06	5°2/14.4	18		426649	2013 <i>SD</i> ₇₉		12 15.8 20°61	0°9/15.9	18	
11 7	6 1.44	+11 53.4	2.196	2.965	14.1	19.5	11 7	6 5.09	+27 50.9	1.204	2.018	20.9	20.5
11 17	5 56.68	+10 29.3	2.126	2.980	11.4	19.3	11 17	6 1.82	+27 22.9	1.134	2.021	16.6	20.2
11 27	5 49.86	+9 8.8	2.079	2.995	8.4	19.2	11 27	5 54.55	+26 46.2	1.083	2.025	11.5	19.9
12 7	5 41.61	+7 55.9	2.060	3.011	5.9	19.0	12 7	5 44.22	+25 59.7	1.055	2.029	5.6	19.6
12 17	5 32.75	+6 54.4	2.070	3.026	5.3	19.0	12 17	5 32.42	+25 4.1	1.050	2.034	1.1	19.3
12 27	5 24.22	+6 7.4	2.109	3.041	7.1	19.2	12 27	5 21.18	+24 3.5	1.072	2.040	6.8	19.7
1 6	5 16.86	+5 36.2	2.176	3.057	9.7	19.4	1 6	5 12.28	+23 4.3	1.119	2.046	12.4	20.0
1 16	5 11.30	+5 20.3	2.268	3.072	12.3	19.6	1 16	5 6.86	+22 12.4	1.187	2.053	17.2	20.3
447861	2007 <i>VM</i> ₅₅		12 15.8 32°20	3°6/15.5	18		411501	2011 <i></i>					

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
157517	2005 <i>SV</i> ₁₄₁		12 15.8 344°62	2°2/15.7 18			78778	2002 <i>VL</i> ₆₅		12 15.8 35°56	6°7/16.6 17		
11 7	5 58.61	+19 9.1	1.188	2.014	20.4	20.5	11 7	6 6.02	+42 31.5	2.336	3.075	14.2	19.5
11 17	5 56.82	+18 58.3	1.110	2.004	16.3	20.2	11 17	6 1.26	+43 27.2	2.255	3.078	11.9	19.3
11 27	5 51.32	+18 51.0	1.051	1.995	11.4	19.9	11 27	5 53.58	+44 12.4	2.195	3.081	9.6	19.2
12 7	5 42.82	+18 48.2	1.012	1.987	5.8	19.6	12 7	5 43.66	+44 41.6	2.160	3.085	7.5	19.1
12 17	5 32.61	+18 49.9	0.998	1.980	2.4	19.3	12 17	5 32.56	+44 50.7	2.152	3.089	6.7	19.0
12 27	5 22.53	+18 56.9	1.008	1.975	7.3	19.6	12 27	5 21.65	+44 38.7	2.172	3.093	7.7	19.1
1 6	5 14.36	+19 9.6	1.042	1.971	12.9	19.9	1 6	5 12.24	+44 8.2	2.219	3.097	9.7	19.2
1 16	5 9.41	+19 28.3	1.096	1.968	17.9	20.2	1 16	5 5.31	+43 24.3	2.291	3.101	12.0	19.4
365404	2009 <i>XD</i> ₂₂		12 15.8 41°92	8°2/17.8 18			199835	2007 <i>EK</i> ₂₅		12 15.8 214°85	0°2/15.8 18		
11 7	6 4.39	-2 41.7	1.857	2.589	17.5	19.4	11 7	6 5.97	+24 2.5	1.916	2.694	15.5	21.6
11 17	5 59.30	-2 29.7	1.800	2.615	14.8	19.3	11 17	6 1.17	+24 3.8	1.821	2.689	12.3	21.4
11 27	5 51.79	-1 57.0	1.762	2.641	11.9	19.2	11 27	5 53.51	+24 3.8	1.749	2.683	8.5	21.1
12 7	5 42.60	-1 1.2	1.749	2.668	9.4	19.1	12 7	5 43.64	+24 1.1	1.703	2.676	4.1	20.9
12 17	5 32.68	+0 17.2	1.762	2.695	8.2	19.1	12 17	5 32.56	+23 54.5	1.685	2.669	0.6	20.6
12 27	5 23.17	+1 54.9	1.804	2.722	9.1	19.2	12 27	5 21.58	+23 44.3	1.697	2.662	5.2	20.9
1 6	5 15.06	+3 46.1	1.873	2.750	11.3	19.4	1 6	5 11.99	+23 32.4	1.738	2.654	9.5	21.1
1 16	5 9.07	+5 44.5	1.968	2.778	13.7	19.6	1 16	5 4.77	+23 21.0	1.803	2.645	13.4	21.4
159949	2005 <i>YO</i> ₈₂		12 15.8 164°51	2°7/15.7 18			342324	2008 <i>TK</i> ₉₂		12 15.8 121°13	1°9/15.7 18		
11 7	6 5.28	+15 0.9	2.106	2.874	14.6	21.3	11 7	6 6.35	+18 41.0	1.908	2.684	15.7	22.3
11 17	6 0.07	+14 59.6	2.021	2.879	11.7	21.1	11 17	6 1.05	+18 27.0	1.835	2.700	12.4	22.1
11 27	5 52.45	+15 3.7	1.958	2.884	8.2	20.9	11 27	5 53.13	+18 15.1	1.783	2.715	8.5	21.9
12 7	5 43.00	+15 13.4	1.921	2.888	4.6	20.7	12 7	5 43.32	+18 5.6	1.758	2.729	4.4	21.7
12 17	5 32.62	+15 28.7	1.914	2.892	2.7	20.6	12 17	5 32.63	+17 58.6	1.762	2.744	2.0	21.6
12 27	5 22.39	+15 49.3	1.938	2.895	5.4	20.8	12 27	5 22.29	+17 55.0	1.796	2.757	5.4	21.8
1 6	5 13.36	+16 14.5	1.990	2.897	9.1	21.0	1 6	5 13.40	+17 55.4	1.858	2.770	9.3	22.1
1 16	5 6.36	+16 43.9	2.068	2.899	12.4	21.2	1 16	5 6.78	+18 0.6	1.946	2.782	12.8	22.3
328594	2009 <i>SU</i> ₆₉		12 15.8 220°59	2°5/15.5 17			488814	2005 <i>KX</i> ₄		12 15.8 303°64	4°0/15.5 17		
11 7	6 0.46	+17 2.4	2.238	3.014	13.6	21.6	11 7	6 5.25	+28 18.5	1.678	2.467	17.0	21.0
11 17	5 56.21	+16 38.2	2.148	3.012	10.8	21.4	11 17	6 1.68	+29 31.8	1.574	2.444	13.8	20.7
11 27	5 49.77	+16 16.1	2.080	3.010	7.6	21.2	11 27	5 54.63	+30 47.9	1.491	2.422	9.9	20.4
12 7	5 41.70	+15 57.2	2.040	3.008	4.2	21.0	12 7	5 44.53	+32 1.1	1.433	2.400	5.9	20.1
12 17	5 32.79	+15 42.6	2.028	3.006	2.5	20.9	12 17	5 32.41	+33 4.5	1.402	2.378	4.1	20.0
12 27	5 24.02	+15 33.3	2.046	3.004	5.2	21.1	12 27	5 19.90	+33 53.1	1.399	2.356	7.2	20.1
1 6	5 16.33	+15 30.1	2.093	3.001	8.6	21.3	1 6	5 8.77	+34 25.7	1.423	2.334	11.6	20.3
1 16	5 10.44	+15 33.3	2.165	2.999	11.8	21.5	1 16	5 0.51	+34 44.7	1.470	2.313	15.8	20.5
243695	2000 <i>AJ</i> ₇₂		12 15.8 20°35	1°2/15.6 18			441536	2008 <i>SG</i> ₃₀₇		12 15.8 66°38	1°0/15.9 16		
11 7	6 2.27	+22 19.7	1.569	2.369	17.4	19.9	11 7	6 8.10	+24 7.0	1.504	2.296	18.4	21.4
11 17	5 58.59	+21 51.2	1.493	2.372	13.8	19.6	11 17	6 3.16	+24 35.0	1.446	2.320	14.5	21.2
11 27	5 51.84	+21 20.9	1.437	2.376	9.4	19.4	11 27	5 54.91	+25 2.8	1.409	2.345	9.9	21.0
12 7	5 42.81	+20 49.2	1.405	2.379	4.6	19.1	12 7	5 44.25	+25 27.4	1.396	2.369	4.8	20.8
12 17	5 32.65	+20 17.2	1.401	2.384	1.4	18.9	12 17	5 32.52	+25 45.9	1.410	2.393	1.2	20.6
12 27	5 22.83	+19 47.2	1.424	2.388	5.9	19.2	12 27	5 21.35	+25 57.5	1.453	2.418	5.8	21.0
1 6	5 14.67	+19 21.9	1.473	2.394	10.6	19.5	1 6	5 12.15	+26 3.8	1.522	2.442	10.4	21.3
1 16	5 9.13	+19 3.3	1.546	2.399	14.6	19.8	1 16	5 5.86	+26 7.2	1.616	2.466	14.2	21.6
405473	2004 <i>VY</i> ₆₈		12 15.8 30°76	0°7/15.8 18			428650	2008 <i>GW</i> ₃₅		12 15.8 140°77	4°2/16.2 18		
11 7	6 0.55	+21 49.1	1.733	2.529	16.2	20.8	11 7	6 12.02	+33 25.3	1.970	2.729	15.8	22.1
11 17	5 56.86	+21 44.7	1.664	2.541	12.7	20.6	11 17	6 5.95	+34 5.8	1.893	2.742	12.8	21.9
11 27	5 50.46	+21 40.7	1.616	2.554	8.7	20.4	11 27	5 56.75	+34 39.5	1.837	2.755	9.3	21.7
12 7	5 42.08	+21 36.6	1.593	2.567	4.2	20.1	12 7	5 45.16	+35 1.6	1.808	2.766	5.8	21.6
12 17	5 32.76	+21 32.1	1.598	2.581	0.9	19.9	12 17	5 32.40	+35 8.2	1.807	2.777	4.2	21.5
12 27	5 23.79	+21 27.8	1.631	2.596	5.2	20.3	12 27	5 19.97	+34 58.7	1.836	2.788	6.3	21.6
1 6	5 16.31	+21 24.9	1.691	2.611	9.4	20.5	1 6	5 9.27	+34 36.1	1.893	2.797	9.7	21.9
1 16	5 11.16	+21 24.5	1.775	2.627	13.1	20.8	1 16	5 1.29	+34 5.2	1.976	2.806	12.9	22.1
363550	2003 <i>WR</i> ₃₆		12 15.8 56°98	1°0/15.6 17			449811	2014 <i>OH</i> ₃₄₄		12 15.8 131°14	5°0/15.8 18		
11 7	6 4.67	+23 14.9	2.005	2.783	14.9	20.0	11 7	6 1.63	+6 53.6	2.371	3.123	13.6	21.4
11 17	5 59.35	+22 31.4	1.947	2.815	11.6	19.8	11 17	5 56.84	+6 38.4	2.293	3.133	11.2	21.3
11 27	5 51.70	+21 45.3	1.912	2.846	7.9	19.6	11 27	5 50.05	+6 32.6	2.237	3.143	8.4	21.1
12 7	5 42.49	+20 57.7	1.904	2.877	3.8	19.4	12 7	5 41.81	+6 38.1	2.206	3.152	6.0	21.0
12 17	5 32.73	+20 10.2	1.926	2.908	1.2	19.3	12 17	5 32.86	+6 55.9	2.205	3.161	5.1	20.9
12 27	5 23.52	+19 25.5	1.977	2.940	4.8	19.6	12 27	5 24.08	+7 25.7	2.234	3.170	6.5	21.0
1 6	5 15.80	+18 46.1	2.058	2.971	8.5	19.9	1 6	5 16.32	+8 6.1	2.291	3.178	9.0	21.2
1 16	5 10.21	+18 13.9	2.164	3.002	11.6	20.2	1 16	5 10.23	+8 55.1	2.374	3.186	11.6	21.4
387841	2004 <i>LD</i>		12 15.8 138°53	18°0/16.9 17			337434	2001 <i>RO</i> ₃₀		12 15.8 73°49	4°1/15.7 18		
11 7	6 9.88	-14 42.3	1.376	2.074	24.0	20.9	11 7	6 8.27	+13 51.0	1.510	2.295	18.7	21.2
11 17	6 4.61	-16 35.3	1.328	2.087	21.9	20.8	11 17	6 2.82	+13 28.0	1.460	2.326	14.8	21.0
11 27	5 55.96	-17 56.8	1.295	2.099	20.0	20.7	11 27	5 54.39	+13 12.5	1.429	2.358	10.5	20.8
12 7	5 44.78	-18 35.7	1.279	2.110	18.6	20.6	12 7	5 43.90	+13 6.0	1.423	2.389	6.1	20.6
12 17	5 32.42	-18 24.6	1.282	2.120	18.0	20.6	12 17	5 32.60	+13 9.3	1.445	2.419	4.2	20.6
12 27	5 20.53	-17 22.6	1.305	2.129	18.5	20.7	12 27	5 21.96	+13 22.3	1.494	2.449	7.0	20.8
1 6	5 10.61	-15 36.6	1.347	2.137	19.9	20.8	1 6	5 13.19	+13 44.2	1.570	2.479	10.9	21.1
1 16	5 3.66	-13 17.7	1.408	2.144	21.7	21.0	1 16	5 7.10	+14 13.6	1.670	2.508	14.5	21.4
490553	2009 <i>VB</i> ₉₉		12 15.8 94°94	1°5/15.7 18			239489	2007 <i>UA</i> ₁₁₃		12 15.8 134°77	2°4/15.9 18		
11													

EPHEMERIDES

12 15.8

12 15.8

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
273442	2006 <i>WB</i> ₁₇₄		12 15.8 329°19	0°3/15.8 18			72407	2001 <i>CK</i> ₂₇		12 15.8 316°00	0°5/15.8 18		
11 7	6 4.20	+21 28.0	1.366	2.172	19.2	20.9	11 7	6 3.80	+22 14.4	1.661	2.454	16.9	18.9
11 17	6 0.93	+22 0.6	1.284	2.166	15.3	20.7	11 17	5 59.98	+22 47.5	1.572	2.448	13.5	18.7
11 27	5 54.03	+22 38.1	1.221	2.161	10.6	20.4	11 27	5 53.04	+23 23.9	1.505	2.442	9.3	18.4
12 7	5 44.15	+23 17.7	1.181	2.156	5.1	20.1	12 7	5 43.58	+24 1.1	1.462	2.436	4.5	18.2
12 17	5 32.53	+23 56.1	1.167	2.151	0.7	19.7	12 17	5 32.68	+24 36.0	1.447	2.431	0.8	17.9
12 27	5 20.95	+24 30.4	1.180	2.147	6.5	20.1	12 27	5 21.80	+25 6.6	1.460	2.426	5.7	18.2
1 6	5 11.19	+25 0.0	1.218	2.143	11.9	20.4	1 6	5 12.41	+25 32.5	1.501	2.421	10.4	18.5
1 16	5 4.56	+25 26.1	1.279	2.139	16.6	20.7	1 16	5 5.64	+25 54.8	1.565	2.416	14.5	18.7
289361	2005 <i>BZ</i> ₄₁		12 15.8 285°29	1°6/15.9 18			257741	2000 <i>AE</i> ₁₅₀		12 15.8 331°04	5°8/15.5 18		
11 7	6 6.03	+26 34.6	1.385	2.187	19.2	21.8	11 7	5 56.70	+10 2.1	1.692	2.485	16.7	19.6
11 17	6 2.44	+26 43.8	1.300	2.180	15.4	21.5	11 17	5 54.17	+9 30.8	1.595	2.463	13.7	19.4
11 27	5 55.07	+26 49.9	1.235	2.173	10.7	21.2	11 27	5 48.96	+9 8.2	1.519	2.443	10.3	19.1
12 7	5 44.63	+26 49.8	1.192	2.166	5.4	20.9	12 7	5 41.59	+8 57.9	1.466	2.423	7.1	18.9
12 17	5 32.48	+26 41.0	1.175	2.158	1.7	20.6	12 17	5 32.94	+9 2.5	1.439	2.405	5.8	18.8
12 27	5 20.46	+26 23.7	1.185	2.151	6.6	20.9	12 27	5 24.24	+9 23.2	1.438	2.387	8.1	18.8
1 6	5 10.41	+26 1.0	1.221	2.144	12.0	21.2	1 6	5 16.73	+9 59.2	1.463	2.370	11.7	19.0
1 16	5 3.61	+25 37.4	1.278	2.137	16.7	21.5	1 16	5 11.41	+10 48.3	1.511	2.354	15.4	19.2
373941	2003 <i>UL</i> ₃₆₃		12 15.8 120°26	1°4/15.7 18			129885	1999 <i>TW</i> ₇		12 15.8 98°51	7°3/15.6 18		
11 7	6 0.83	+18 35.8	2.467	3.238	12.6	21.6	11 7	6 5.34	+3 8.0	2.074	2.815	15.6	20.5
11 17	5 56.27	+18 35.9	2.384	3.246	10.0	21.4	11 17	5 59.75	+2 18.1	2.017	2.845	13.0	20.4
11 27	5 49.70	+18 38.1	2.324	3.254	6.8	21.2	11 27	5 51.98	+1 40.7	1.983	2.873	10.2	20.2
12 7	5 41.67	+18 42.5	2.291	3.262	3.5	21.0	12 7	5 42.72	+1 19.2	1.974	2.901	8.0	20.2
12 17	5 32.91	+18 48.8	2.288	3.270	1.4	20.9	12 17	5 32.86	+1 16.0	1.992	2.927	7.3	20.2
12 27	5 24.31	+18 57.0	2.316	3.277	4.3	21.1	12 27	5 23.40	+1 31.4	2.039	2.954	8.5	20.3
1 6	5 16.73	+19 7.4	2.373	3.284	7.6	21.3	1 6	5 15.24	+2 3.5	2.113	2.979	10.7	20.5
1 16	5 10.81	+19 20.1	2.456	3.291	10.5	21.5	1 16	5 9.03	+2 49.2	2.212	3.004	13.0	20.7
516847	2011 <i>BX</i> ₁₆₄		12 15.8 170°58	4°5/15.3 17			302629	2002 <i>RL</i> ₃₆		12 15.8 128°11	3°0/16.4 18		
11 7	5 58.98	+10 30.8	2.341	3.108	13.4	22.0	11 7	6 8.24	+32 45.4	2.212	2.971	14.3	21.4
11 17	5 54.90	+9 55.3	2.255	3.108	10.8	21.8	11 17	6 2.50	+32 57.3	2.134	2.985	11.4	21.2
11 27	5 48.82	+9 25.8	2.192	3.109	8.0	21.6	11 27	5 54.13	+33 1.9	2.078	2.998	8.2	21.0
12 7	5 41.26	+9 4.5	2.155	3.109	5.5	21.5	12 7	5 43.85	+32 56.5	2.049	3.011	4.8	20.9
12 17	5 32.97	+8 53.2	2.146	3.109	4.6	21.4	12 17	5 32.71	+32 39.2	2.049	3.024	3.0	20.8
12 27	5 24.81	+8 53.1	2.167	3.109	6.3	21.5	12 27	5 21.92	+32 10.7	2.079	3.036	5.2	20.9
1 6	5 17.62	+9 4.0	2.216	3.109	9.0	21.7	1 6	5 12.62	+31 34.1	2.139	3.048	8.4	21.2
1 16	5 12.08	+9 24.9	2.290	3.109	11.7	21.9	1 16	5 5.61	+30 53.5	2.225	3.059	11.5	21.4
343860	2011 <i>HP</i> ₅₅		12 15.8 171°60	2°1/15.7 18			463523	2013 <i>QD</i> ₉₂		12 15.8 80°67	1°4/16.1 17		
11 7	6 5.77	+17 8.9	2.003	2.775	15.1	21.9	11 7	6 2.08	+28 37.2	2.359	3.130	13.2	21.7
11 17	6 0.66	+17 5.7	1.916	2.779	12.0	21.7	11 17	5 57.48	+28 31.8	2.275	3.137	10.4	21.5
11 27	5 52.98	+17 6.3	1.852	2.782	8.4	21.4	11 27	5 50.63	+28 21.7	2.214	3.144	7.2	21.3
12 7	5 43.34	+17 10.8	1.814	2.784	4.4	21.2	12 7	5 42.17	+28 5.6	2.180	3.151	3.7	21.1
12 17	5 32.69	+17 19.1	1.805	2.786	2.2	21.1	12 17	5 32.93	+27 43.0	2.176	3.158	1.4	21.0
12 27	5 22.19	+17 31.0	1.827	2.787	5.4	21.3	12 27	5 23.94	+27 14.8	2.201	3.165	4.3	21.2
1 6	5 12.98	+17 46.5	1.876	2.787	9.3	21.5	1 6	5 16.15	+26 43.4	2.256	3.171	7.7	21.4
1 16	5 5.92	+18 5.9	1.952	2.787	12.8	21.7	1 16	5 10.27	+26 11.6	2.338	3.178	10.7	21.6
184334	2005 <i>GY</i> ₁₂₇		12 15.8 163°74	5°4/15.9 18			110364	2001 <i>SJ</i> ₃₂₅		12 15.8 142°99	4°1/15.6 18		
11 7	6 9.09	+35 33.3	2.084	2.841	15.1	20.4	11 7	6 1.96	+11 15.6	2.253	3.017	13.9	20.4
11 17	6 3.87	+36 42.2	1.999	2.843	12.4	20.2	11 17	5 57.28	+10 55.8	2.171	3.024	11.2	20.2
11 27	5 55.53	+37 45.5	1.936	2.846	9.3	20.0	11 27	5 50.46	+10 42.6	2.112	3.031	8.2	20.0
12 7	5 44.72	+38 37.0	1.899	2.848	6.5	19.9	12 7	5 42.09	+10 37.6	2.079	3.037	5.3	19.8
12 17	5 32.50	+39 11.6	1.891	2.850	5.4	19.8	12 17	5 32.94	+10 41.9	2.076	3.043	4.1	19.8
12 27	5 20.34	+39 26.8	1.912	2.852	7.1	19.9	12 27	5 23.96	+10 55.7	2.102	3.049	6.0	19.9
1 6	5 9.69	+39 24.4	1.960	2.853	10.0	20.1	1 6	5 16.06	+11 18.5	2.156	3.054	8.9	20.1
1 16	5 1.64	+39 8.6	2.033	2.854	12.9	20.3	1 16	5 9.94	+11 49.1	2.236	3.059	11.8	20.3
277037	2005 <i>CT</i> ₃₇		12 15.8 333°68	0°7/15.9 18			447482	2006 <i>RL</i> ₂₀		12 15.8 72°35	2°6/15.5 15		
11 7	5 58.90	+19 31.3	1.791	2.587	15.8	19.9	11 7	6 5.93	+18 3.4	1.831	2.610	16.1	21.5
11 17	5 55.90	+19 55.0	1.693	2.571	12.5	19.6	11 17	6 0.57	+17 27.0	1.774	2.640	12.6	21.3
11 27	5 50.15	+20 23.7	1.617	2.555	8.7	19.4	11 27	5 52.68	+16 52.8	1.740	2.671	8.7	21.1
12 7	5 42.16	+20 56.2	1.566	2.540	4.3	19.1	12 7	5 43.08	+16 22.0	1.731	2.701	4.7	21.0
12 17	5 32.84	+21 31.0	1.543	2.526	0.9	18.8	12 17	5 32.83	+15 56.2	1.752	2.730	2.7	20.9
12 27	5 23.46	+22 6.2	1.547	2.513	5.4	19.1	12 27	5 23.11	+15 36.8	1.802	2.760	5.7	21.1
1 6	5 15.29	+22 41.0	1.579	2.500	9.9	19.3	1 6	5 14.96	+15 25.1	1.879	2.789	9.4	21.4
1 16	5 9.39	+23 15.1	1.635	2.489	13.9	19.5	1 16	5 9.08	+15 21.3	1.982	2.817	12.6	21.7
306510	1999 <i>VW</i> ₁₁₈		12 15.8 29°60	6°8/15.9 17			174731	2003 <i>UH</i> ₁₈₃		12 15.8 113°86	1°0/15.9 18		
11 7	6 6.66	+38 34.0	1.945	2.706	15.9	20.6	11 7	6 10.74	+24 54.2	1.626	2.408	17.7	20.7
11 17	6 2.28	+39 50.9	1.869	2.711	13.2	20.4	11 17	6 5.16	+25 14.4	1.558	2.426	14.0	20.5
11 27	5 54.61	+40 59.7	1.814	2.717	10.3	20.2	11 27	5 56.30	+25 33.4	1.510	2.443	9.6	20.3
12 7	5 44.31	+41 53.5	1.784	2.723	7.7	20.1	12 7	5 45.01	+25 48.3	1.488	2.460	4.7	20.0
12 17	5 32.56	+42 26.7	1.780	2.729	6.8	20.0	12 17	5 32.56	+25 56.7	1.493	2.477	1.2	19.8
12 27	5 20.95	+42 37.0	1.804	2.735	8.2	20.1	12 27	5 20.56	+25 58.2	1.528	2.492	5.7	20.2
1 6	5 11.02	+42 26.6	1.854	2.742	10.8	20.3	1 6	5 10.45	+25 54.6	1.591	2.508	10.2	20.5
1 16	5 3.90	+42 0.9	1.928	2.749	13.5	20.5	1 16	5 3.21	+25 49.0	1.678	2.522	14.1	20.7
30615	2818 <i>P-L</i>		12 15.8 241°07	1°9/15.9 18			404910	2014 <i>KP</i> ₉₅		12 15.8 163°10	6°1/14.8 18		

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
82402	2001 <i>NG</i> ₆		12 15.8 142°17	4°0/16.7 18			211307	2002 <i>SJ</i> ₂₂		12 15.9 309°87	7°6/16.2 17		
11 7	6 8.22	+35 55.1	2.152	2.908	14.7	19.7	11 7	6 8.14	+39 59.5	1.811	2.572	16.9	20.0
11 17	6 2.71	+36 2.1	2.068	2.915	12.0	19.5	11 17	6 3.95	+41 11.4	1.725	2.566	14.2	19.8
26945	Sushko		12 15.8 163°61	2°4/16.0 18			227673	2006 <i>CQ</i> ₁₂		12 15.9 254°75	1°0/15.8 17		
11 7	6 9.65	+28 59.8	2.069	2.833	15.0	19.0	11 7	6 0.76	+20 27.7	2.269	3.047	13.4	21.7
11 17	6 3.91	+29 28.7	1.983	2.840	11.9	18.8	11 17	5 56.55	+20 22.5	2.177	3.044	10.6	21.5
64209	2001 <i>TV</i> ₁₀₀		12 15.8 354°70	0°6/15.8 18			477283	2009 <i>SV</i> ₁₄₄		12 15.9 2°48	5°1/16.2 18		
11 7	6 2.15	+22 45.7	1.914	2.701	15.2	19.7	11 7	6 7.26	+32 27.1	1.369	2.166	19.7	20.4
11 17	5 58.05	+22 31.0	1.828	2.700	12.0	19.5	11 17	6 3.64	+33 15.4	1.296	2.168	16.0	20.1
75106	1999 <i>VL</i> ₅₂		12 15.8 68°65	0°7/15.9 18			276139	2002 <i>HY</i> ₆		12 15.9 171°24	5°2/16.4 18		
11 7	6 4.58	+25 40.2	1.729	2.518	16.5	19.2	11 7	6 10.88	+38 37.3	2.422	3.159	13.7	21.7
11 17	6 0.24	+25 36.8	1.652	2.525	13.1	19.0	11 17	6 4.81	+39 22.1	2.334	3.164	11.4	21.5
226243	2002 <i>XC</i> ₄₅		12 15.8 36°38	3°0/15.9 18			374671	2006 <i>KC</i> ₁₁₄		12 15.9 160°53	1°3/15.8 18		
11 7	6 3.78	+15 29.7	1.323	2.128	19.8	19.8	11 7	6 0.70	+16 56.8	3.129	3.885	10.5	21.4
11 17	6 0.27	+15 34.4	1.255	2.136	15.8	19.6	11 17	5 55.77	+17 8.2	3.038	3.892	8.3	21.2
444496	2006 <i>RL</i> ₃₂		12 15.9 66°00	2°9/15.5 18			23923	1998 <i>SA</i> ₁₃₇		12 15.9 201°90	4°7/16.0 18		
11 7	6 1.89	+16 49.9	1.878	2.663	15.5	21.3	11 7	6 9.35	+35 46.0	2.405	3.152	13.6	19.2
11 17	5 57.75	+16 20.3	1.797	2.666	12.4	21.1	11 17	6 3.71	+36 41.5	2.309	3.147	11.2	19.0
86230	1999 <i>TH</i> ₁₀₈		12 15.9 273°42	4°2/16.7 18			226581	2003 <i>YK</i> ₁₄₀		12 15.9 340°15	5°6/17.1 18		
11 7	6 5.48	+36 25.6	2.177	2.936	14.5	18.2	11 7	6 4.18	+39 39.4	1.997	2.758	15.6	19.3
11 17	6 0.73	+36 36.3	2.084	2.931	11.8	18.0	11 17	6 0.12	+39 52.2	1.905	2.750	12.9	19.1
521616	2015 <i>PR</i> ₃₂₀		12 15.9 75°45	1°4/15.8 18			152967	2000 <i>GV</i> ₁₀₅		12 15.9 197°88	5°0/16.3 18		
11 7	6 3.66	+18 56.5	1.845	2.629	15.8	21.4	11 7	6 11.20	+36 4.0	2.115	2.866	15.1	20.5
11 17	5 59.16	+19 1.5	1.773	2.642	12.5	21.2	11 17	6 5.51	+36 49.3	2.022	2.863	12.4	20.4
204732	2006 <i>HH</i> ₄₉		12 15.9 170°74	1°1/15.8 18			226664	2004 <i>GK</i> ₁₇		12 15.9 236°61	1°0/15.9 18		
11 7	6 4.91	+20 8.6	2.144	2.916	14.3	21.4	11 7	6 7.17	+24 58.5	1.847	2.626	16.0	21.9
11 17	5 59.87	+20 5.8	2.056	2.919	11.3	21.2	11 17	6 2.46	+25 16.3	1.747	2.614	12.8	21.7

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
736	Harvard		12 15.9	86°01'	2°7'/15.8	18	400622	2009 DD ₃₂		12 15.9	54°26'	1°6'/15.8	18
11 7	6 8.47	+17 15.2	1.384	2.179	19.6	15.0	11 7	6 3.11	+18 57.6	1.686	2.478	16.8	20.8
11 17	6 3.62	+17 6.4	1.324	2.199	15.5	14.8	11 17	5 59.01	+18 56.1	1.614	2.488	13.2	20.6
11 27	5 55.36	+17 2.7	1.283	2.218	10.7	14.6	11 27	5 52.07	+18 57.8	1.563	2.499	9.1	20.4
12 7	5 44.60	+17 4.7	1.265	2.236	5.6	14.4	12 7	5 43.03	+19 2.4	1.537	2.510	4.6	20.1
12 17	5 32.72	+17 11.9	1.274	2.255	2.8	14.2	12 17	5 32.94	+19 9.6	1.539	2.521	1.7	20.0
12 27	5 21.36	+17 24.3	1.311	2.273	6.7	14.5	12 27	5 23.17	+19 19.3	1.569	2.533	5.6	20.2
1 6	5 12.02	+17 41.8	1.374	2.291	11.4	14.8	1 6	5 14.92	+19 31.8	1.626	2.544	9.9	20.5
1 16	5 5.66	+18 4.2	1.460	2.309	15.5	15.1	1 16	5 9.10	+19 47.4	1.707	2.556	13.7	20.8
420203	2011 GP ₇₇		12 15.9	261°03'	3°7'/15.4	18	147324	2003 BD ₁₆		12 15.9	158°55'	5°0'/16.6	18
11 7	5 58.56	+11 47.0	2.627	3.390	12.2	21.6	11 7	6 12.39	+37 51.4	2.228	2.970	14.7	19.8
11 17	5 54.49	+11 20.2	2.524	3.377	9.8	21.4	11 17	6 6.09	+38 24.8	2.144	2.979	12.1	19.7
11 27	5 48.56	+10 58.1	2.446	3.364	7.2	21.2	11 27	5 56.81	+38 48.8	2.083	2.986	9.1	19.5
12 7	5 41.24	+10 42.4	2.394	3.351	4.7	21.0	12 7	5 45.29	+38 58.4	2.047	2.993	6.3	19.3
12 17	5 33.14	+10 34.4	2.371	3.338	3.8	20.9	12 17	5 32.66	+38 50.2	2.040	3.000	5.0	19.3
12 27	5 25.07	+10 35.2	2.378	3.324	5.5	21.0	12 27	5 20.34	+38 24.1	2.063	3.005	6.5	19.4
1 6	5 17.81	+10 44.8	2.414	3.310	8.2	21.2	1 6	5 9.65	+37 43.3	2.115	3.010	9.3	19.5
1 16	5 12.01	+11 2.7	2.476	3.296	10.9	21.3	1 16	5 1.54	+36 53.4	2.192	3.013	12.1	19.7
482457	2012 FH ₄₄		12 15.9	183°07'	6°6'/16.2	17	140605	2001 UG ₃		12 15.9	215°84'	4°1'/15.9	18
11 7	6 9.31	+43 52.8	2.744	3.462	12.7	21.2	11 7	6 7.12	+33 10.4	2.333	3.090	13.7	20.3
11 17	6 3.65	+45 2.1	2.655	3.462	10.8	21.1	11 17	6 1.98	+34 5.3	2.236	3.084	11.1	20.1
11 27	5 55.22	+46 2.1	2.590	3.462	8.8	21.0	11 27	5 54.12	+34 56.2	2.163	3.078	8.2	19.9
12 7	5 44.58	+46 47.5	2.550	3.461	7.2	20.9	12 7	5 44.09	+35 38.6	2.115	3.072	5.3	19.7
12 17	5 32.70	+47 13.8	2.538	3.461	6.6	20.8	12 17	5 32.80	+36 8.4	2.098	3.065	4.1	19.6
12 27	5 20.82	+47 19.1	2.555	3.460	7.4	20.9	12 27	5 21.47	+36 23.6	2.110	3.058	5.9	19.7
1 6	5 10.22	+47 5.2	2.599	3.458	9.2	21.0	1 6	5 11.35	+36 25.3	2.151	3.050	8.9	19.9
1 16	5 1.89	+46 36.4	2.669	3.457	11.1	21.1	1 16	5 3.43	+36 16.5	2.217	3.042	11.9	20.1
330447	2007 DF ₁₀₉		12 15.9	250°13'	6°6'/15.8	18	432239	2009 PX		12 15.9	160°19'	1°2'/15.8	18
11 7	6 9.30	+41 25.4	2.475	3.206	13.6	20.7	11 7	6 8.52	+20 12.6	1.942	2.714	15.6	22.8
11 17	6 4.04	+42 37.0	2.372	3.192	11.5	20.5	11 17	6 2.92	+20 6.4	1.859	2.722	12.3	22.6
11 27	5 55.75	+43 41.2	2.291	3.176	9.3	20.3	11 27	5 54.59	+20 1.4	1.798	2.729	8.5	22.3
12 7	5 44.97	+44 31.9	2.236	3.161	7.3	20.2	12 7	5 44.21	+19 57.1	1.763	2.735	4.2	22.1
12 17	5 32.64	+45 3.5	2.209	3.145	6.7	20.1	12 17	5 32.80	+19 53.1	1.758	2.741	1.4	21.9
12 27	5 20.14	+45 13.3	2.212	3.128	7.8	20.2	12 27	5 21.64	+19 50.0	1.783	2.745	5.2	22.2
1 6	5 8.91	+45 2.7	2.241	3.112	9.9	20.3	1 6	5 11.91	+19 48.7	1.837	2.749	9.4	22.4
1 16	5 0.08	+44 36.0	2.295	3.095	12.4	20.4	1 16	5 4.51	+19 50.5	1.917	2.752	13.0	22.7
510116	2010 TP ₆		12 15.9	59°04'	4°9'/16.2	18	119087	2001 NK ₂₁		12 15.9	68°24'	5°4'/16.0	18
11 7	6 11.91	+31 2.6	1.168	1.971	22.0	20.8	11 7	6 8.01	+10 18.6	1.450	2.233	19.5	19.3
11 17	6 7.40	+31 57.7	1.119	1.995	17.6	20.6	11 17	6 2.78	+10 2.1	1.401	2.264	15.6	19.2
11 27	5 58.47	+32 46.0	1.087	2.019	12.5	20.4	11 27	5 54.50	+9 57.3	1.371	2.294	11.3	19.0
12 7	5 46.23	+33 20.1	1.078	2.044	7.4	20.2	12 7	5 44.10	+10 6.1	1.365	2.325	7.2	18.8
12 17	5 32.52	+33 34.1	1.093	2.069	4.9	20.1	12 17	5 32.85	+10 28.7	1.386	2.355	5.4	18.8
12 27	5 19.66	+33 27.6	1.134	2.093	8.0	20.3	12 27	5 22.23	+11 4.1	1.434	2.385	7.7	19.0
1 6	5 9.60	+33 5.8	1.199	2.118	12.6	20.7	1 6	5 13.50	+11 49.6	1.509	2.415	11.5	19.3
1 16	5 3.44	+32 35.8	1.286	2.143	16.7	21.0	1 16	5 7.49	+12 42.2	1.607	2.444	15.0	19.6
253414	2003 QM ₃₃		12 15.9	59°04'	1°4'/15.8	18	161998	1988 PA		12 15.9	105°32'	4°7'/15.7	16 R
11 7	6 7.06	+21 25.4	1.222	2.032	20.9	20.5	11 7	6 12.92	+11 40.0	1.781	2.539	17.3	21.7
11 17	6 2.98	+21 8.7	1.165	2.050	16.5	20.3	11 17	6 6.00	+11 10.4	1.725	2.574	13.8	21.5
11 27	5 55.14	+20 52.6	1.127	2.067	11.2	20.0	11 27	5 56.38	+10 48.6	1.690	2.608	9.9	21.4
12 7	5 44.55	+20 37.0	1.111	2.085	5.5	19.8	12 7	5 44.92	+10 36.5	1.682	2.640	6.2	21.2
12 17	5 32.74	+20 21.9	1.120	2.103	1.6	19.6	12 17	5 32.75	+10 35.1	1.703	2.672	4.7	21.2
12 27	5 21.58	+20 9.0	1.156	2.122	6.8	20.0	12 27	5 21.18	+10 44.7	1.754	2.701	7.0	21.4
1 6	5 12.68	+20 0.3	1.216	2.140	12.0	20.3	1 6	5 11.34	+11 4.4	1.834	2.730	10.4	21.7
1 16	5 7.06	+19 57.4	1.299	2.159	16.4	20.6	1 16	5 3.97	+11 32.8	1.939	2.757	13.6	21.9
325864	2010 TA ₁₁₉		12 15.9	153°06'	0°5'/15.9	16	6102	Visby		12 15.9	118°48'	0°7'/15.9	18
11 7	6 10.89	+24 43.8	1.786	2.559	16.7	22.4	11 7	6 6.24	+25 24.2	2.036	2.809	14.9	18.4
11 17	6 5.09	+24 46.2	1.706	2.570	13.2	22.2	11 17	6 1.02	+25 26.7	1.959	2.823	11.7	18.2
11 27	5 56.21	+24 46.6	1.647	2.579	9.0	21.9	11 27	5 53.21	+25 26.8	1.905	2.837	8.0	18.0
12 7	5 45.01	+24 43.0	1.615	2.587	4.4	21.7	12 7	5 43.51	+25 23.0	1.877	2.850	3.9	17.8
12 17	5 32.67	+24 34.0	1.611	2.595	0.7	21.4	12 17	5 32.91	+25 14.3	1.879	2.863	0.8	17.6
12 27	5 20.66	+24 20.3	1.638	2.602	5.4	21.8	12 27	5 22.63	+25 1.4	1.911	2.875	4.7	17.9
1 6	5 10.34	+24 4.1	1.692	2.607	9.8	22.1	1 6	5 13.79	+24 46.0	1.971	2.887	8.6	18.2
1 16	5 2.68	+23 48.3	1.772	2.612	13.7	22.3	1 16	5 7.17	+24 30.6	2.057	2.898	12.0	18.4
134404	1997 UG ₈		12 15.9	81°89'	8°2'/16.1	18	325931	2010 VD ₁₈		12 15.9	30°30'	5°1'/15.4	18
11 7	6 4.10	- 0 1.4	2.010	2.747	16.2	19.9	11 7	6 3.15	+15 19.2	1.191	2.006	21.0	20.1
11 17	5 58.88	- 0 46.8	1.958	2.776	13.7	19.8	11 17	6 0.05	+14 28.8	1.127	2.011	16.9	19.9
11 27	5 51.46	- 1 16.7	1.926	2.805	11.1	19.7	11 27	5 53.30	+13 43.7	1.080	2.017	12.0	19.6
12 7	5 42.54	- 1 27.6	1.919	2.834	9.0	19.6	12 7	5 43.77	+13 7.5	1.056	2.024	7.2	19.4
12 17	5 33.01	- 1 17.2	1.938	2.862	8.3	19.6	12 17	5 32.88	+12 43.8	1.055	2.031	5.2	19.3
12 27	5 23.88	- 0 45.9	1.985	2.890	9.2	19.7	12 27	5 22.41	+12 34.9	1.080	2.038	8.6	19.5
1 6	5 16.07	+ 0 3.5	2.059	2.917	11.2	19.9	1 6	5 14.00	+12 41.3	1.129	2.046	13.4	19.8
1 16	5 10.22	+ 1 7.0	2.156	2.944	13.4	20.1	1 16	5 8.72	+13 1.6	1.198	2.055	17.7	20.1
199652	2006 GW ₃₂		12 15.9	187°13'	1°0'/15.7	18	398736	2012 XC ₁₄₅		12 15.9	120°95'	6°5'/17.8	18
11 7	6 0.51	+2											

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
402242	2005 <i>JV</i> ₁₂₅	12 15.9	257°45'	6°6'	15.3	17	74581	1999 <i>NS</i> ₃₈	12 15.9	155°87'	0°1'	15.9	18
11 7	6 1.74	+ 5 30.3	2.137	2.892	14.8	22.3	11 7	6 9.01	+22 24.5	1.764	2.542	16.7	20.7
11 17	5 57.49	+ 4 52.4	2.036	2.875	12.4	22.1	11 17	6 3.72	+22 39.0	1.683	2.550	13.2	20.5
11 27	5 50.91	+ 4 24.0	1.956	2.858	9.7	21.9	11 27	5 55.38	+22 54.4	1.623	2.556	9.0	20.3
12 7	5 42.51	+ 4 8.8	1.901	2.840	7.4	21.7	12 7	5 44.71	+23 8.9	1.589	2.562	4.4	20.0
12 17	5 33.06	+ 4 9.5	1.874	2.822	6.6	21.6	12 17	5 32.82	+23 20.6	1.583	2.567	0.6	19.8
12 27	5 23.56	+ 4 27.4	1.875	2.803	8.1	21.7	12 27	5 21.16	+23 28.9	1.607	2.572	5.4	20.1
1 6	5 15.03	+ 5 1.7	1.903	2.784	10.9	21.8	1 6	5 11.09	+23 34.8	1.659	2.576	9.9	20.4
1 16	5 8.33	+ 5 50.3	1.955	2.764	13.8	22.0	1 16	5 3.61	+23 39.9	1.737	2.579	13.8	20.6
311846	2006 <i>VA</i> ₈₅	12 15.9	44°71'	1°7'	16.1	18	328393	2008 <i>RY</i> ₁₁₈	12 15.9	80°09'	1°2'	16.0	18
11 7	6 3.76	+27 58.8	1.826	2.611	15.9	21.3	11 7	6 6.69	+16 2.5	2.430	3.186	13.2	20.1
11 17	5 59.56	+28 5.5	1.747	2.617	12.6	21.0	11 17	6 0.80	+16 48.0	2.360	3.214	10.4	20.0
11 27	5 52.49	+28 7.9	1.690	2.623	8.8	20.8	11 27	5 52.80	+17 39.0	2.315	3.241	7.1	19.8
12 7	5 43.26	+28 3.8	1.657	2.629	4.5	20.6	12 7	5 43.28	+18 33.7	2.298	3.269	3.6	19.6
12 17	5 32.97	+27 51.8	1.653	2.635	1.8	20.4	12 17	5 33.03	+19 29.9	2.313	3.296	1.2	19.5
12 27	5 22.97	+27 32.5	1.677	2.641	5.3	20.7	12 27	5 23.02	+20 25.4	2.360	3.322	4.2	19.7
1 6	5 14.51	+27 8.5	1.729	2.648	9.4	20.9	1 6	5 14.14	+21 18.9	2.438	3.348	7.5	20.0
1 16	5 8.50	+26 43.1	1.806	2.655	13.0	21.2	1 16	5 7.06	+22 9.5	2.544	3.374	10.3	20.2
292075	2006 <i>RL</i> ₂₁	12 15.9	85°29'	4°1'	16.4	18	45075	1999 <i>XB</i> ₃₈	12 15.9	1°01'	0°1'	15.9	17
11 7	6 8.51	+33 37.9	1.948	2.714	15.7	21.0	11 7	6 2.00	+25 13.3	2.119	2.899	14.2	19.2
11 17	6 3.15	+34 12.1	1.881	2.734	12.6	20.8	11 17	5 57.71	+24 48.6	2.030	2.899	11.2	19.0
11 27	5 54.83	+34 38.9	1.835	2.755	9.1	20.6	11 27	5 51.00	+24 20.1	1.965	2.898	7.7	18.8
12 7	5 44.33	+34 53.9	1.815	2.774	5.7	20.5	12 7	5 42.51	+23 47.5	1.925	2.898	3.7	18.6
12 17	5 32.85	+34 54.3	1.823	2.794	4.1	20.4	12 17	5 33.14	+23 11.4	1.915	2.899	0.5	18.3
12 27	5 21.79	+34 40.0	1.860	2.813	6.1	20.6	12 27	5 23.99	+22 33.5	1.934	2.899	4.6	18.6
1 6	5 12.44	+34 14.1	1.925	2.833	9.3	20.8	1 6	5 16.11	+21 56.7	1.982	2.899	8.5	18.9
1 16	5 5.67	+33 41.4	2.016	2.851	12.4	21.0	1 16	5 10.26	+21 23.3	2.056	2.900	11.9	19.1
281913	2011 <i>EZ</i> ₅₃	12 15.9	102°41'	6°1'	16.2	18	311770	2006 <i>UB</i> ₃	12 15.9	7°97'	0°6'	15.9	18
11 7	6 14.44	+36 36.2	1.846	2.600	16.9	20.8	11 7	6 2.41	+23 11.8	1.686	2.481	16.6	20.1
11 17	6 8.29	+37 49.6	1.781	2.623	13.8	20.6	11 17	5 58.78	+23 37.1	1.605	2.481	13.2	19.9
11 27	5 58.62	+38 54.6	1.738	2.645	10.4	20.5	11 27	5 52.17	+24 3.8	1.545	2.482	9.1	19.6
12 7	5 46.27	+39 44.0	1.721	2.667	7.4	20.3	12 7	5 43.23	+24 29.5	1.510	2.484	4.4	19.4
12 17	5 32.60	+40 12.1	1.731	2.688	6.1	20.3	12 17	5 33.03	+24 52.1	1.502	2.486	0.8	19.1
12 27	5 19.33	+40 17.3	1.770	2.708	7.7	20.5	12 27	5 22.99	+25 10.3	1.522	2.488	5.5	19.4
1 6	5 8.07	+40 2.9	1.836	2.728	10.6	20.7	1 6	5 14.46	+25 24.4	1.569	2.491	10.0	19.7
1 16	4 59.88	+39 35.2	1.927	2.747	13.5	20.9	1 16	5 8.44	+25 36.0	1.641	2.494	13.9	20.0
77926	2002 <i>EJ</i> ₁₄₀	12 15.9	117°57'	4°3'	16.4	18 R	274814	2009 <i>JB</i> ₁₆	12 15.9	191°79'	2°1'	15.7	18
11 7	6 11.19	+35 4.8	2.102	2.855	15.1	20.3	11 7	6 2.40	+18 13.7	2.066	2.845	14.5	21.2
11 17	6 5.10	+35 39.9	2.030	2.875	12.2	20.2	11 17	5 58.03	+17 56.9	1.978	2.845	11.5	21.0
11 27	5 56.09	+36 7.0	1.981	2.893	9.0	20.0	11 27	5 51.25	+17 42.0	1.912	2.844	8.0	20.7
12 7	5 44.93	+36 21.5	1.957	2.912	5.8	19.8	12 7	5 42.66	+17 29.8	1.873	2.843	4.2	20.5
12 17	5 32.78	+36 20.4	1.962	2.929	4.4	19.8	12 17	5 33.12	+17 20.7	1.862	2.842	2.1	20.4
12 27	5 21.04	+36 3.4	1.997	2.946	6.1	19.9	12 27	5 23.73	+17 15.6	1.881	2.841	5.2	20.6
1 6	5 10.96	+35 33.9	2.061	2.963	9.1	20.1	1 6	5 15.53	+17 15.3	1.928	2.840	9.0	20.8
1 16	5 3.44	+34 56.7	2.150	2.978	12.1	20.4	1 16	5 9.33	+17 20.2	2.000	2.838	12.4	21.0
42574	1997 <i>AE</i> ₃	12 15.9	313°69'	2°6'	16.1	18	183460	2003 <i>BT</i> ₅₂	12 15.9	233°11'	3°4'	15.8	18 R
11 7	6 3.67	+14 8.2	1.611	2.400	17.5	18.2	11 7	6 2.31	+11 53.6	2.364	3.126	13.4	20.6
11 17	5 59.95	+14 38.2	1.519	2.389	14.1	17.9	11 17	5 57.71	+11 51.6	2.263	3.116	10.8	20.4
11 27	5 53.13	+15 19.5	1.447	2.379	10.0	17.6	11 27	5 50.94	+11 56.5	2.185	3.105	7.8	20.2
12 7	5 43.78	+16 11.7	1.400	2.370	5.4	17.3	12 7	5 42.51	+12 9.2	2.134	3.095	4.8	20.0
12 17	5 32.90	+17 12.8	1.380	2.360	2.6	17.1	12 17	5 33.13	+12 30.2	2.112	3.083	3.5	19.9
12 27	5 21.93	+18 19.8	1.388	2.351	6.3	17.4	12 27	5 23.75	+12 59.1	2.120	3.072	5.5	20.0
1 6	5 12.34	+19 29.3	1.424	2.342	11.0	17.6	1 6	5 15.29	+13 35.1	2.157	3.060	8.7	20.2
1 16	5 5.31	+20 38.9	1.483	2.334	15.3	17.8	1 16	5 8.53	+14 16.8	2.221	3.048	11.8	20.4
266078	2006 <i>RC</i> ₉₇	12 15.9	40°47'	2°9'	15.6	18	222028	1998 <i>SW</i> ₁₄₈	12 15.9	45°66'	2°1'	16.0	18
11 7	6 4.12	+19 6.3	1.213	2.028	20.7	20.5	11 7	6 7.27	+26 46.2	1.192	2.004	21.2	19.8
11 17	6 0.75	+18 32.6	1.152	2.039	16.4	20.2	11 17	6 3.43	+27 8.2	1.141	2.025	16.7	19.6
11 27	5 53.72	+18 0.9	1.109	2.050	11.4	20.0	11 27	5 55.62	+27 26.7	1.107	2.047	11.5	19.4
12 7	5 43.95	+17 33.0	1.089	2.061	6.0	19.7	12 7	5 44.88	+27 38.1	1.096	2.069	5.8	19.1
12 17	5 32.91	+17 10.6	1.093	2.074	3.0	19.6	12 17	5 32.87	+27 39.3	1.110	2.092	2.1	19.0
12 27	5 22.39	+16 55.8	1.123	2.087	7.3	19.9	12 27	5 21.59	+27 30.9	1.149	2.116	6.7	19.3
1 6	5 14.00	+16 50.2	1.177	2.100	12.4	20.2	1 6	5 12.75	+27 16.0	1.214	2.140	11.8	19.7
1 16	5 8.76	+16 54.1	1.253	2.114	16.8	20.5	1 16	5 7.37	+26 59.4	1.300	2.164	16.1	20.0
217867	2001 <i>QD</i> ₁₅₁	12 15.9	64°17'	1°7'	15.4	18	323948	2005 <i>UC</i> ₂₈	12 15.9	106°89'	0°4'	15.9	18
11 7	6 14.38	+28 41.0	1.005	1.819	24.1	18.8	11 7	6 2.67	+22 35.2	2.134	2.913	14.1	21.6
11 17	6 9.44	+26 48.0	0.944	1.831	19.2	18.6	11 17	5 58.16	+22 30.0	2.052	2.919	11.1	21.4
11 27	5 59.81	+24 36.7	0.901	1.843	13.1	18.3	11 27	5 51.28	+22 24.2	1.992	2.925	7.6	21.2
12 7	5 46.83	+22 10.7	0.880	1.856	6.3	18.0	12 7	5 42.64	+22 17.2	1.958	2.931	3.7	20.9
12 17	5 32.57	+19 39.3	0.885	1.868	2.1	17.7	12 17	5 33.14	+22 8.9	1.954	2.937	0.6	20.7
12 27	5 19.48	+17 16.5	0.917	1.881	8.4	18.2	12 27	5 23.85	+21 59.7	1.979	2.944	4.6	21.0
1 6	5 9.48	+15 14.8	0.972	1.894	14.5	18.5	1 6	5 15.79	+21 51.0	2.033	2.949	8.4	21.3
1 16	5 3.56	+13 41.1	1.049	1.907	19.6	18.9	1 16	5 9.73	+21 44.1	2.113	2.955	11.7	21.5
216580	2002 <i>GH</i> ₃₈	12 15.9	138°37'	3°7'	15.5	18	450406	2005 <i>SO</i> ₂₇₈	12 15.9	53°74'	2°5'	15.3	

EPHEMERIDES

12 15.9

12 15.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
330196	2006 <i>DA</i> ₁₇₃		12 15.9 145°24'		3°9/15.5 17		101056	1998 <i>RF</i> ₁		12 15.9 62°49'		4°2/16.5 18	
11 7	5 59.59	+10 39.7	2.604	3.363	12.4	22.0	11 7	6 11.68	+32 42.0	1.343	2.134	20.3	18.9
11 17	5 55.20	+10 15.7	2.519	3.369	10.0	21.9	11 17	6 6.63	+33 4.8	1.290	2.159	16.3	18.7
11 27	5 48.99	+9 57.7	2.458	3.374	7.3	21.7	11 27	5 57.64	+33 18.0	1.257	2.185	11.6	18.5
12 7	5 41.47	+9 47.0	2.424	3.379	4.9	21.6	12 7	5 45.80	+33 16.4	1.246	2.211	6.8	18.3
12 17	5 33.30	+9 45.0	2.419	3.383	3.9	21.5	12 17	5 32.82	+32 57.1	1.261	2.237	4.3	18.2
12 27	5 25.26	+9 52.2	2.444	3.388	5.5	21.6	12 27	5 20.69	+32 21.7	1.303	2.263	7.1	18.5
1 6	5 18.11	+10 8.2	2.498	3.392	8.1	21.8	1 6	5 11.07	+31 36.1	1.371	2.289	11.4	18.8
1 16	5 12.46	+10 32.2	2.578	3.396	10.6	22.0	1 16	5 4.93	+30 47.3	1.462	2.315	15.3	19.1
199473	2006 <i>DW</i> ₆₄		12 15.9 157°41'		3°1/15.7 18		395227	2010 <i>LQ</i> ₁₀₉		12 15.9 186°52'		2°7/15.6 18	
11 7	6 0.33	+12 52.4	2.484	3.249	12.7	20.7	11 7	6 3.56	+16 31.1	2.096	2.869	14.5	22.0
11 17	5 55.93	+12 42.9	2.397	3.252	10.2	20.5	11 17	5 58.89	+16 9.7	2.007	2.869	11.6	21.8
11 27	5 49.58	+12 39.0	2.332	3.255	7.3	20.3	11 27	5 51.83	+15 51.2	1.940	2.869	8.1	21.6
12 7	5 41.79	+12 41.4	2.295	3.257	4.5	20.2	12 7	5 42.96	+15 36.5	1.900	2.868	4.5	21.4
12 17	5 33.26	+12 50.8	2.287	3.259	3.2	20.1	12 17	5 33.16	+15 26.8	1.889	2.867	2.7	21.3
12 27	5 24.85	+13 7.1	2.309	3.261	5.1	20.2	12 27	5 23.50	+15 22.7	1.907	2.865	5.5	21.4
1 6	5 17.37	+13 70.0	2.360	3.263	8.0	20.4	1 6	5 15.01	+15 25.0	1.954	2.863	9.1	21.7
1 16	5 11.48	+13 58.6	2.438	3.265	10.8	20.6	1 16	5 8.51	+15 33.8	2.027	2.860	12.5	21.9
179273	2001 <i>UX</i> ₂₀₃		12 15.9 349°64'		0°1/15.9 18		272080	2005 <i>EH</i> ₂₈₇		12 15.9 234°89'		5°4/15.7 18	
11 7	6 2.20	+23 59.9	1.841	2.630	15.7	20.2	11 7	5 58.99	+3 53.5	2.841	3.579	11.9	20.8
11 17	5 58.32	+23 53.0	1.755	2.628	12.4	20.0	11 17	5 54.67	+3 34.5	2.743	3.570	9.9	20.6
11 27	5 51.68	+23 44.2	1.691	2.626	8.5	19.7	11 27	5 48.64	+3 24.7	2.667	3.560	7.8	20.4
12 7	5 42.95	+23 32.7	1.651	2.625	4.1	19.5	12 7	5 41.35	+3 26.4	2.618	3.550	6.0	20.3
12 17	5 33.12	+23 18.3	1.640	2.624	0.5	19.2	12 17	5 33.36	+3 40.8	2.598	3.540	5.4	20.3
12 27	5 23.49	+23 1.8	1.658	2.623	5.1	19.5	12 27	5 25.40	+4 8.2	2.607	3.529	6.4	20.3
1 6	5 15.25	+22 45.0	1.703	2.623	9.4	19.8	1 6	5 18.17	+4 47.8	2.645	3.519	8.5	20.4
1 16	5 9.33	+22 30.3	1.772	2.622	13.2	20.0	1 16	5 12.26	+5 37.4	2.709	3.508	10.7	20.6
353112	2009 <i>FO</i> ₈		12 15.9 288°98'		2°5/15.7 17		139504	2001 <i>PU</i> ₃₉		12 15.9 19°99'		1°8/16.2 18	
11 7	6 1.97	+17 20.6	1.800	2.588	16.0	21.5	11 7	6 3.79	+29 22.3	1.713	2.501	16.7	19.7
11 17	5 58.29	+17 6.1	1.701	2.572	12.8	21.3	11 17	5 59.82	+29 13.3	1.633	2.504	13.3	19.5
11 27	5 51.82	+16 54.7	1.622	2.555	9.0	21.0	11 27	5 52.80	+28 57.5	1.575	2.508	9.3	19.3
12 7	5 43.11	+16 47.6	1.569	2.539	4.9	20.7	12 7	5 43.51	+28 32.9	1.541	2.512	4.8	19.1
12 17	5 33.09	+16 45.2	1.543	2.522	2.6	20.5	12 17	5 33.10	+27 58.9	1.534	2.516	1.9	18.9
12 27	5 23.03	+16 48.3	1.545	2.506	6.1	20.7	12 27	5 23.03	+27 17.3	1.555	2.520	5.5	19.1
1 6	5 14.22	+16 57.4	1.574	2.490	10.4	20.9	1 6	5 14.64	+26 31.9	1.604	2.525	9.8	19.4
1 16	5 7.67	+17 12.8	1.628	2.473	14.4	21.1	1 16	5 8.85	+25 47.4	1.677	2.531	13.7	19.6
162884	2001 <i>FR</i> ₇₃		12 15.9 310°01'		1°4/15.9 17		522118	2016 <i>AR</i> ₂₄₀		12 15.9 59°01'		6°2/17.1 17	
11 7	6 2.34	+24 50.8	1.558	2.359	17.5	20.1	11 7	6 7.19	+41 54.0	2.240	2.981	14.6	21.4
11 17	5 59.47	+25 18.2	1.454	2.334	14.1	19.9	11 17	6 2.22	+42 26.8	2.159	2.986	12.2	21.3
11 27	5 53.19	+25 46.9	1.371	2.309	9.9	19.5	11 27	5 54.30	+42 47.7	2.099	2.992	9.6	21.1
12 7	5 44.01	+26 14.1	1.310	2.284	5.0	19.2	12 7	5 44.20	+42 51.9	2.064	2.997	7.3	21.0
12 17	5 32.97	+26 36.3	1.277	2.260	1.5	18.9	12 17	5 33.02	+42 36.2	2.056	3.003	6.2	20.9
12 27	5 21.66	+26 51.7	1.270	2.236	6.3	19.2	12 27	5 22.18	+42 0.6	2.076	3.008	7.2	21.0
1 6	5 11.79	+27 0.5	1.289	2.212	11.5	19.4	1 6	5 12.96	+41 8.7	2.124	3.014	9.5	21.2
1 16	5 4.75	+27 5.1	1.331	2.190	16.2	19.6	1 16	5 6.26	+40 6.3	2.197	3.019	12.0	21.3
397294	2006 <i>SK</i> ₁₂₄		12 15.9 59°31'		7°1/16.2 18		23693	1997 <i>KU</i> ₂		12 15.9 294°60'		6°5/15.9 18	
11 7	6 2.78	+4 35.7	1.730	2.496	17.4	20.5	11 7	6 1.67	+6 43.3	1.770	2.542	16.8	18.0
11 17	5 58.41	+4 9.2	1.670	2.516	14.4	20.3	11 17	5 57.94	+6 22.7	1.678	2.531	14.0	17.7
11 27	5 51.49	+3 57.1	1.630	2.535	11.1	20.2	11 27	5 51.52	+6 14.4	1.607	2.519	10.7	17.5
12 7	5 42.75	+4 2.6	1.614	2.555	8.2	20.1	12 7	5 42.96	+6 21.8	1.559	2.508	7.7	17.3
12 17	5 33.18	+4 27.0	1.625	2.575	7.1	20.0	12 17	5 33.16	+6 46.8	1.537	2.496	6.5	17.2
12 27	5 23.97	+5 9.7	1.662	2.595	8.6	20.2	12 27	5 23.36	+7 29.6	1.543	2.485	8.3	17.3
1 6	5 16.20	+6 7.4	1.726	2.616	11.3	20.4	1 6	5 14.76	+8 27.8	1.576	2.474	11.6	17.5
1 16	5 10.63	+7 16.1	1.814	2.636	14.2	20.6	1 16	5 8.36	+9 38.0	1.632	2.463	15.1	17.7
249929	2001 <i>TD</i> ₁₄		12 15.9 29°70'		2°4/16.1 18		519817	2013 <i>HN</i> ₁₅₇		12 15.9 98°46'		0°1/15.9 18	
11 7	6 3.91	+28 39.2	1.822	2.607	16.0	20.8	11 7	6 2.99	+24 25.4	2.144	2.921	14.1	21.4
11 17	5 59.83	+29 2.2	1.741	2.610	12.7	20.5	11 17	5 58.42	+24 14.8	2.062	2.929	11.1	21.2
11 27	5 52.80	+29 21.6	1.682	2.613	8.9	20.3	11 27	5 51.46	+24 2.0	2.003	2.936	7.6	21.0
12 7	5 43.52	+29 34.1	1.647	2.617	4.8	20.1	12 7	5 42.76	+23 46.2	1.970	2.943	3.7	20.8
12 17	5 33.07	+29 37.4	1.641	2.621	2.4	19.9	12 17	5 33.21	+23 27.5	1.967	2.951	0.5	20.5
12 27	5 22.83	+29 31.2	1.662	2.625	5.5	20.1	12 27	5 23.91	+23 6.7	1.993	2.958	4.5	20.8
1 6	5 14.13	+29 17.5	1.711	2.629	9.6	20.4	1 6	5 15.88	+22 45.9	2.048	2.965	8.3	21.1
1 16	5 7.92	+28 59.6	1.785	2.633	13.2	20.6	1 16	5 9.86	+22 27.0	2.129	2.971	11.6	21.3
156340	2001 <i>XU</i> ₁₅₀		12 15.9 36°60'		1°1/15.8 18		337779	2001 <i>UO</i> ₁₇₇		12 15.9 35°93'		4°7/16.0 18	
11 7	6 4.04	+22 3.7	1.174	1.992	21.0	19.9	11 7	6 6.92	+30 58.7	1.406	2.203	19.3	20.1
11 17	6 0.73	+21 47.8	1.122	2.011	16.5	19.7	11 17	6 3.23	+31 56.2	1.336	2.209	15.5	19.9
11 27	5 53.69	+21 31.9	1.088	2.031	11.3	19.4	11 27	5 55.70	+32 49.5	1.286	2.216	11.2	19.7
12 7	5 43.94	+21 16.0	1.077	2.052	5.4	19.2	12 7	5 45.11	+33 32.1	1.259	2.224	6.8	19.4
12 17	5 33.03	+21 0.4	1.090	2.073	1.3	19.0	12 17	5 32.90	+33 58.1	1.258	2.232	4.7	19.3
12 27	5 22.82	+20 46.5	1.129	2.096	6.6	19.4	12 27	5 21.00	+34 5.5	1.283	2.241	7.5	19.5
1 6	5 14.87	+20 36.5	1.192	2.119	11.8	19.7	1 6	5 11.22	+33 57.0	1.333	2.250	11.8	19.8
1 16	5 10.13	+20 32.1	1.277	2.143	16.2	20.1	1 16	5 4.78	+33 38.2	1.406	2.259	15.8	20.1
71570	2000 <i>DR</i> ₄₀		12 15.9 217°26'		4°3/15.5 18		48						

EPHEMERIDES

12 15.9

12 15.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
302605	2002 <i>QH</i> ₉₃		12 15.9 138°19'	5°5'	16.6	18	481290	2005 <i>YF</i> ₉₁		12 15.9 331°50'	4°1'	15.9	18
11 7	6 10.57	+38 35.8	2.218	2.962	14.7	21.4	11 7	6 2.56	+13 18.6	1.518	2.313	18.2	21.4
11 17	6 4.78	+39 18.3	2.139	2.973	12.1	21.2	11 17	5 59.11	+13 10.6	1.435	2.308	14.7	21.1
11 27	5 56.03	+39 51.3	2.082	2.983	9.2	21.1	11 27	5 52.55	+13 11.4	1.372	2.303	10.5	20.9
12 7	5 45.04	+40 9.8	2.050	2.993	6.6	20.9	12 7	5 43.54	+13 22.8	1.333	2.299	6.3	20.6
12 17	5 32.94	+40 10.1	2.047	3.002	5.5	20.9	12 17	5 33.16	+13 45.1	1.319	2.295	4.1	20.5
12 27	5 21.14	+39 51.6	2.072	3.011	6.8	21.0	12 27	5 22.87	+14 18.0	1.333	2.292	7.2	20.7
1 6	5 10.95	+39 17.6	2.126	3.019	9.3	21.2	1 6	5 14.10	+14 59.8	1.373	2.289	11.6	20.9
1 16	5 3.30	+38 33.2	2.206	3.027	12.1	21.3	1 16	5 7.93	+15 48.4	1.436	2.286	15.7	21.1
281995	2011 <i>HC</i> ₂₉		12 15.9 140°63'	0°9'	15.9	18	521633	2015 <i>QD</i> ₁₅		12 15.9 180°67'	0°9'	15.8	18
11 7	6 8.11	+24 48.7	1.957	2.730	15.4	21.7	11 7	6 5.85	+21 31.9	2.055	2.828	14.8	21.9
11 17	6 2.75	+25 8.8	1.877	2.741	12.2	21.5	11 17	6 0.82	+21 20.0	1.965	2.830	11.7	21.7
11 27	5 54.60	+25 27.9	1.820	2.751	8.4	21.3	11 27	5 53.22	+21 7.7	1.898	2.830	8.0	21.5
12 7	5 44.35	+25 43.8	1.788	2.760	4.1	21.0	12 7	5 43.69	+20 54.8	1.858	2.830	3.9	21.3
12 17	5 33.03	+25 54.5	1.786	2.769	1.0	20.8	12 17	5 33.16	+20 41.3	1.847	2.830	1.0	21.0
12 27	5 21.96	+25 59.3	1.813	2.777	5.0	21.1	12 27	5 22.80	+20 28.0	1.866	2.829	4.9	21.3
1 6	5 12.35	+25 59.6	1.870	2.785	9.0	21.4	1 6	5 13.74	+20 16.3	1.914	2.827	8.9	21.6
1 16	5 5.11	+25 57.4	1.952	2.792	12.6	21.6	1 16	5 6.81	+20 8.0	1.987	2.825	12.5	21.8
446056	2013 <i>CD</i> ₁₂₄		12 15.9 9°63'	9°4'	17.2	17	458684	2011 <i>HK</i> ₄₀		12 15.9 205°29'	1°3'	15.9	18
11 7	6 9.14	+44 12.0	1.621	2.379	18.7	20.9	11 7	6 0.03	+18 10.2	2.564	3.334	12.2	21.4
11 17	6 5.30	+45 17.5	1.548	2.380	16.0	20.7	11 17	5 55.76	+18 16.2	2.471	3.333	9.7	21.2
11 27	5 57.28	+46 8.2	1.492	2.381	13.0	20.5	11 27	5 49.54	+18 25.0	2.402	3.332	6.7	21.0
12 7	5 45.93	+46 35.4	1.459	2.383	10.5	20.4	12 7	5 41.85	+18 36.4	2.360	3.331	3.4	20.8
12 17	5 32.82	+46 32.3	1.450	2.386	9.4	20.3	12 17	5 33.39	+18 50.0	2.348	3.330	1.4	20.7
12 27	5 20.09	+45 57.5	1.466	2.389	10.4	20.4	12 27	5 25.00	+19 5.5	2.367	3.329	4.2	20.9
1 6	5 9.73	+44 56.5	1.506	2.392	12.9	20.5	1 6	5 17.52	+19 22.9	2.415	3.328	7.4	21.1
1 16	5 3.02	+43 38.6	1.569	2.396	15.8	20.7	1 16	5 11.61	+19 42.2	2.490	3.327	10.3	21.3
447472	2006 <i>QQ</i> ₆₈		12 15.9 71°55'	1°8'	15.8	18	89526	2001 <i>XY</i> ₆₈		12 15.9 218°70'	0°4'	15.9	18
11 7	6 2.76	+18 38.8	1.875	2.660	15.6	21.8	11 7	6 3.76	+23 26.4	2.254	3.027	13.6	19.7
11 17	5 58.62	+18 30.4	1.790	2.660	12.4	21.6	11 17	5 59.12	+23 42.7	2.158	3.022	10.8	19.5
11 27	5 51.83	+18 24.5	1.727	2.660	8.6	21.4	11 27	5 52.08	+23 59.2	2.085	3.016	7.4	19.2
12 7	5 43.04	+18 21.4	1.689	2.661	4.4	21.2	12 7	5 43.17	+24 14.4	2.038	3.011	3.6	19.0
12 17	5 33.19	+18 21.3	1.680	2.661	1.9	21.0	12 17	5 33.23	+24 26.8	2.021	3.004	0.6	18.7
12 27	5 23.51	+18 24.4	1.699	2.662	5.4	21.2	12 27	5 23.34	+24 35.9	2.034	2.998	4.5	19.0
1 6	5 15.14	+18 31.3	1.746	2.662	9.5	21.5	1 6	5 14.55	+24 42.2	2.076	2.991	8.3	19.2
1 16	5 8.98	+18 42.4	1.818	2.663	13.2	21.7	1 16	5 7.70	+24 47.0	2.145	2.984	11.6	19.4
17830	1998 <i>HR</i> ₃₅		12 15.9 147°83'	1°1'	15.8	18	211340	2002 <i>TT</i> ₃₇		12 15.9 81°18'	2°6'	16.1	18
11 7	6 2.08	+20 6.1	2.159	2.937	14.0	18.5	11 7	6 8.14	+28 41.0	1.874	2.649	16.0	20.4
11 17	5 57.73	+20 3.2	2.072	2.939	11.1	18.3	11 17	6 2.87	+29 16.6	1.809	2.671	12.6	20.3
11 27	5 51.04	+20 1.8	2.008	2.941	7.6	18.1	11 27	5 54.69	+29 48.7	1.766	2.694	8.8	20.1
12 7	5 42.60	+20 1.5	1.970	2.942	3.8	17.9	12 7	5 44.39	+30 13.5	1.748	2.716	4.8	19.9
12 17	5 33.26	+20 2.1	1.961	2.944	1.2	17.7	12 17	5 33.10	+30 28.1	1.759	2.738	2.6	19.8
12 27	5 24.06	+20 3.9	1.982	2.945	4.7	17.9	12 27	5 22.21	+30 31.9	1.799	2.760	5.4	20.0
1 6	5 16.01	+20 7.5	2.031	2.946	8.4	18.2	1 6	5 12.97	+30 26.9	1.868	2.781	9.2	20.3
1 16	5 9.89	+20 13.5	2.107	2.948	11.8	18.4	1 16	5 6.26	+30 16.4	1.962	2.802	12.5	20.5
174155	2002 <i>PH</i> ₄₇		12 15.9 89°37'	3°8'	16.8	18	297950	2002 <i>FF</i> ₄₁		12 15.9 195°07'	3°7'	15.5	18
11 7	6 11.19	+35 6.9	1.975	2.733	15.8	19.6	11 7	6 3.64	+14 13.5	1.981	2.755	15.2	21.6
11 17	6 5.04	+35 10.3	1.910	2.758	12.7	19.5	11 17	5 59.11	+13 43.6	1.893	2.754	12.2	21.4
11 27	5 55.98	+35 3.4	1.866	2.783	9.2	19.3	11 27	5 52.08	+13 18.0	1.826	2.752	8.8	21.2
12 7	5 44.89	+34 43.2	1.848	2.807	5.6	19.1	12 7	5 43.16	+12 58.7	1.786	2.750	5.3	21.0
12 17	5 33.00	+34 8.1	1.859	2.831	3.8	19.1	12 17	5 33.24	+12 47.1	1.774	2.747	3.8	20.9
12 27	5 21.73	+33 20.1	1.899	2.855	5.7	19.2	12 27	5 23.47	+12 44.5	1.792	2.745	6.3	21.0
1 6	5 12.30	+32 23.7	1.969	2.878	9.0	19.5	1 6	5 14.91	+12 51.1	1.837	2.741	9.8	21.3
1 16	5 5.48	+31 24.5	2.064	2.901	12.1	19.7	1 16	5 8.41	+13 6.7	1.907	2.738	13.2	21.5
42744	1998 <i>RH</i> ₇₄		12 15.9 104°98'	0°3'	15.9	18	261315	2005 <i>UN</i> ₂₀₄		12 15.9 194°14'	2°5'	15.5	18
11 7	6 2.80	+24 58.8	2.406	3.176	12.9	18.2	11 7	6 1.45	+17 36.6	2.207	2.983	13.8	21.1
11 17	5 57.97	+24 53.7	2.327	3.189	10.2	18.0	11 17	5 57.13	+17 6.1	2.118	2.983	11.0	20.9
11 27	5 51.00	+24 46.2	2.271	3.202	6.9	17.8	11 27	5 50.58	+16 37.0	2.052	2.982	7.7	20.7
12 7	5 42.50	+24 35.8	2.242	3.215	3.4	17.6	12 7	5 42.38	+16 10.5	2.013	2.981	4.2	20.5
12 17	5 33.28	+24 22.0	2.243	3.227	0.5	17.4	12 17	5 33.35	+15 47.9	2.002	2.980	2.5	20.4
12 27	5 24.32	+24 5.7	2.275	3.239	4.1	17.7	12 27	5 24.47	+15 30.6	2.022	2.979	5.2	20.5
1 6	5 16.50	+23 48.2	2.336	3.251	7.5	17.9	1 6	5 16.69	+15 19.7	2.070	2.978	8.7	20.7
1 16	5 10.51	+23 31.6	2.424	3.263	10.5	18.2	1 16	5 10.75	+15 15.9	2.143	2.977	11.8	20.9
408010	2012 <i>DQ</i> ₉₇		12 15.9 344°44'	1°5'	15.9	17	410588	2008 <i>GR</i> ₁₃₂		12 15.9 150°68'	2°7'	16.1	17
11 7	6 1.55	+18 16.2	1.987	2.770	14.9	21.0	11 7	6 5.16	+30 10.0	2.367	3.130	13.3	22.0
11 17	5 57.58	+18 23.9	1.899	2.768	11.8	20.8	11 17	6 0.19	+30 47.0	2.280	3.135	10.7	21.8
11 27	5 51.09	+18 35.4	1.833	2.766	8.2	20.6	11 27	5 52.77	+31 20.5	2.216	3.139	7.6	21.7
12 7	5 42.69	+18 50.4	1.793	2.765	4.2	20.4	12 7	5 43.48	+31 47.4	2.179	3.144	4.4	21.5
12 17	5 33.25	+19 8.3	1.782	2.764	1.6	20.2	12 17	5 33.21	+32 5.1	2.172	3.148	2.8	21.4
12 27	5 23.91	+19 28.4	1.799	2.763	5.1	20.4	12 27	5 23.05	+32 12.5	2.194	3.151	4.9	21.5
1 6	5 15.76	+19 50.5	1.845	2.762	9.0	20.6	1 6	5 14.08	+32 10.9	2.246	3.155	8.1	21.7
1 16	5 9.68	+20 14.5	1.916	2.761	12.6	20.9	1 16	5 7.13	+32 2.7	2.324	3.158	11.1	21.9
288518	2004 <i>FU</i> ₁₃₆		12 15.9 252°94'	1°0'	15.9	17	50180	2000 <i>AD</i> ₁₆₄		12 15.9 186°30'	0°3'	15.9	

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
383601	2007 <i>HF</i> ₂₉	12 15.9	286°26'	1.2°/15.9	18		31889	2000 <i>FW</i> ₃₅	12 15.9	53°81'	3°1'/16.3	18	
11 7	6 4.96	+25 13.0	1.576	2.371	17.6	21.6	11 7	6 10.08	+12 38.3	1.263	2.057	21.2	16.8
11 17	6 1.38	+25 29.9	1.480	2.355	14.1	21.3	11 17	6 5.06	+13 19.3	1.215	2.087	16.8	16.6
11 27	5 54.39	+25 46.1	1.403	2.340	9.9	21.0	11 27	5 56.48	+14 13.8	1.186	2.118	11.7	16.4
12 7	5 44.58	+25 59.1	1.351	2.324	5.0	20.7	12 7	5 45.33	+15 19.7	1.180	2.149	6.3	16.2
12 17	5 33.07	+26 6.1	1.325	2.308	1.3	20.4	12 17	5 33.07	+16 32.9	1.200	2.181	3.1	16.1
12 27	5 21.48	+26 6.4	1.327	2.293	6.1	20.7	12 27	5 21.47	+17 48.7	1.249	2.212	6.8	16.4
1 6	5 11.47	+26 1.2	1.355	2.277	11.2	20.9	1 6	5 12.06	+19 3.1	1.323	2.243	11.6	16.8
1 16	5 4.30	+25 53.7	1.407	2.262	15.7	21.2	1 16	5 5.81	+20 13.9	1.421	2.275	15.6	17.1
411940	2012 <i>GA</i> ₂₂	12 15.9	215°12'	0°8'/15.8	17		391243	2006 <i>PF</i> ₁₃	12 15.9	175°16'	9°8'/15.8	18	
11 7	6 1.30	+21 36.8	2.386	3.160	12.9	21.7	11 7	6 3.56	-12 1.6	2.775	3.432	13.8	21.8
11 17	5 56.93	+21 24.2	2.293	3.157	10.2	21.6	11 17	5 58.18	-12 51.0	2.700	3.436	12.4	21.7
11 27	5 50.42	+21 11.2	2.223	3.155	7.0	21.3	11 27	5 51.01	-13 23.8	2.644	3.439	11.1	21.6
12 7	5 42.31	+20 57.6	2.179	3.152	3.4	21.1	12 7	5 42.53	-13 35.4	2.611	3.441	10.2	21.5
12 17	5 33.38	+20 43.8	2.166	3.149	0.9	20.9	12 17	5 33.40	-13 23.1	2.603	3.442	9.9	21.5
12 27	5 24.57	+20 30.4	2.183	3.146	4.3	21.2	12 27	5 24.40	-12 46.2	2.621	3.443	10.3	21.5
1 6	5 16.79	+20 18.6	2.229	3.143	7.8	21.4	1 6	5 16.28	-11 46.9	2.665	3.442	11.4	21.6
1 16	5 10.77	+20 9.8	2.301	3.140	11.0	21.6	1 16	5 9.65	-10 28.9	2.732	3.441	12.8	21.7
26148	1994 <i>PN</i> ₃₇	12 15.9	148°71'	3°3'/15.7	18		86525	2000 <i>DD</i> ₇₆	12 15.9	225°28'	3°0'/15.7	18	
11 7	6 6.63	+14 58.1	1.930	2.701	15.7	19.1	11 7	6 5.31	+16 19.2	1.863	2.641	15.9	20.6
11 17	6 1.41	+14 38.1	1.851	2.710	12.5	18.9	11 17	6 0.75	+15 59.2	1.768	2.632	12.8	20.4
11 27	5 53.60	+14 22.8	1.793	2.719	8.9	18.7	11 27	5 53.42	+15 42.8	1.695	2.624	9.0	20.1
12 7	5 43.88	+14 13.3	1.762	2.727	5.1	18.5	12 7	5 43.93	+15 30.9	1.647	2.615	5.1	19.9
12 17	5 33.20	+14 10.5	1.759	2.735	3.3	18.4	12 17	5 33.22	+15 24.7	1.627	2.605	3.0	19.7
12 27	5 22.76	+14 15.0	1.786	2.742	6.0	18.6	12 27	5 22.55	+15 24.9	1.637	2.595	6.1	19.9
1 6	5 13.68	+14 26.8	1.842	2.748	9.7	18.9	1 6	5 13.17	+15 32.1	1.674	2.584	10.3	20.1
1 16	5 6.80	+14 45.6	1.922	2.754	13.1	19.1	1 16	5 6.06	+15 46.4	1.736	2.573	14.0	20.3
116250	2003 <i>YK</i> ₂₂	12 15.9	86°14'	1°7'/16.1	18		350480	1999 <i>SB</i>	12 15.9	32°39'	3°3'/16.0	17	
11 7	6 5.34	+27 20.2	1.813	2.596	16.1	20.2	11 7	6 5.86	+27 23.9	1.126	1.944	21.8	20.0
11 17	6 0.91	+27 32.9	1.733	2.602	12.8	20.0	11 17	6 2.58	+28 17.3	1.083	1.970	17.2	19.8
11 27	5 53.53	+27 42.3	1.675	2.607	8.9	19.8	11 27	5 55.20	+29 7.5	1.057	1.997	11.9	19.5
12 7	5 43.93	+27 45.8	1.641	2.612	4.6	19.6	12 7	5 44.82	+29 48.7	1.054	2.025	6.4	19.3
12 17	5 33.19	+27 41.8	1.636	2.618	1.7	19.4	12 17	5 33.14	+30 16.0	1.075	2.055	3.4	19.2
12 27	5 22.72	+27 30.2	1.659	2.623	5.3	19.6	12 27	5 22.25	+30 28.0	1.121	2.085	7.2	19.6
1 6	5 13.79	+27 13.3	1.710	2.629	9.5	19.9	1 6	5 13.90	+30 27.9	1.191	2.117	12.0	19.9
1 16	5 7.37	+26 54.3	1.786	2.634	13.2	20.1	1 16	5 9.10	+30 20.6	1.283	2.149	16.2	20.3
454199	2013 <i>GC</i> ₁₂₆	12 15.9	123°66'	1°2'/15.9	18		452667	2005 <i>WO</i> ₆₆	12 15.9	112°01'	0°5'/15.9	18	
11 7	6 4.54	+25 11.7	2.395	3.162	13.1	21.6	11 7	6 2.40	+22 16.9	2.154	2.932	14.0	21.9
11 17	5 59.50	+25 43.6	2.312	3.172	10.3	21.4	11 17	5 58.01	+22 11.0	2.069	2.936	11.1	21.7
11 27	5 52.19	+26 15.1	2.253	3.182	7.1	21.2	11 27	5 51.26	+22 4.7	2.006	2.939	7.6	21.5
12 7	5 43.18	+26 43.7	2.221	3.192	3.6	21.0	12 7	5 42.76	+21 57.5	1.970	2.943	3.7	21.3
12 17	5 33.29	+27 7.5	2.220	3.202	1.2	20.8	12 17	5 33.38	+21 49.3	1.963	2.947	0.7	21.0
12 27	5 23.54	+27 25.5	2.249	3.211	4.3	21.1	12 27	5 24.17	+21 40.5	1.986	2.950	4.6	21.3
1 6	5 14.92	+27 38.1	2.308	3.220	7.7	21.3	1 6	5 16.17	+21 32.5	2.037	2.954	8.3	21.6
1 16	5 8.19	+27 46.7	2.393	3.229	10.7	21.5	1 16	5 10.13	+21 26.5	2.115	2.957	11.7	21.8
45189	1999 <i>XC</i> ₁₆₀	12 15.9	255°17'	0°9'/15.7	18		188127	2002 <i>CM</i> ₆₄	12 15.9	63°54'	0°3'/15.9	18	
11 7	6 4.87	+23 49.2	1.975	2.754	15.1	18.3	11 7	6 2.25	+22 3.7	2.087	2.867	14.3	20.3
11 17	6 0.27	+23 8.3	1.876	2.744	12.0	18.1	11 17	5 58.02	+22 8.9	2.001	2.869	11.3	20.1
11 27	5 52.98	+22 22.8	1.800	2.733	8.3	17.8	11 27	5 51.35	+22 14.7	1.938	2.872	7.8	19.9
12 7	5 43.65	+21 32.9	1.749	2.722	4.1	17.6	12 7	5 42.84	+22 20.1	1.901	2.874	3.8	19.6
12 17	5 33.23	+20 40.2	1.728	2.711	1.1	17.3	12 17	5 33.37	+22 24.4	1.893	2.877	0.6	19.4
12 27	5 22.96	+19 47.6	1.737	2.700	5.2	17.6	12 27	5 24.06	+22 27.5	1.914	2.879	4.6	19.7
1 6	5 14.01	+18 58.4	1.774	2.689	9.5	17.8	1 6	5 15.95	+22 30.1	1.964	2.881	8.5	19.9
1 16	5 7.30	+18 16.1	1.837	2.677	13.2	18.0	1 16	5 9.87	+22 33.5	2.039	2.884	11.9	20.2
273126	2006 <i>GS</i> ₁₆	12 15.9	327°69'	5°7'/16.1	17		264184	2010 <i>EV</i> ₁₂₀	12 15.9	183°69'	2°8'/16.3	18	
11 7	6 5.87	+37 43.3	2.254	3.008	14.2	20.8	11 7	6 1.65	+32 56.9	2.920	3.675	11.3	21.2
11 17	6 1.32	+38 47.6	2.166	3.005	11.7	20.6	11 17	5 57.01	+33 17.0	2.827	3.675	9.0	21.1
11 27	5 53.90	+39 45.2	2.100	3.003	9.1	20.4	11 27	5 50.40	+33 32.0	2.757	3.675	6.5	20.9
12 7	5 44.18	+40 30.6	2.059	3.001	6.7	20.3	12 7	5 42.31	+33 39.6	2.715	3.675	4.0	20.8
12 17	5 33.16	+40 59.1	2.046	2.999	5.7	20.2	12 17	5 33.46	+33 38.2	2.702	3.674	2.8	20.7
12 27	5 22.15	+41 8.8	2.062	2.997	7.1	20.3	12 27	5 24.73	+33 27.8	2.720	3.674	4.3	20.8
1 6	5 12.50	+41 1.2	2.106	2.995	9.6	20.4	1 6	5 16.94	+33 9.7	2.767	3.673	6.9	20.9
1 16	5 5.21	+40 40.4	2.174	2.993	12.2	20.6	1 16	5 10.77	+32 46.3	2.842	3.672	9.4	21.1
63598	2001 <i>QJ</i> ₆₅	12 15.9	128°68'	0°3'/15.9	18		308260	2005 <i>GQ</i> ₉₀	12 15.9	170°80'	0°1'/15.9	18	
11 7	6 4.57	+24 7.4	2.062	2.838	14.6	19.5	11 7	6 4.67	+23 35.2	2.126	2.900	14.3	21.8
11 17	5 59.76	+23 47.6	1.979	2.845	11.5	19.3	11 17	5 59.86	+23 27.6	2.037	2.902	11.3	21.6
11 27	5 52.45	+23 25.1	1.919	2.851	7.9	19.0	11 27	5 52.57	+23 18.5	1.972	2.904	7.7	21.3
12 7	5 43.31	+22 59.6	1.885	2.858	3.8	18.8	12 7	5 43.42	+23 7.1	1.933	2.906	3.8	21.1
12 17	5 33.28	+22 31.4	1.880	2.864	0.5	18.6	12 17	5 33.33	+22 53.1	1.923	2.907	0.5	20.8
12 27	5 23.53	+22 2.1	1.905	2.870	4.7	18.9	12 27	5 23.42	+22 37.2	1.943	2.908	4.6	21.2
1 6	5 15.12	+21 33.8	1.959	2.875	8.6	19.1	1 6	5 14.78	+22 21.2	1.993	2.908	8.5	21.4
1 16	5 8.83	+21 9.0	2.039	2.880	12.1	19.4	1 16	5 8.20	+22 7.1	2.068	2.908	12.0	21.6
244348	2002 <i>LB</i> ₂₇	12 15.9	84°61'	4°1'/16.1									

EPHEMERIDES

12 15.9

12 15.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
354260	2002 <i>QA</i> ₁₁₄		12 15.9 228°53	1°3/16.2 18			514431	2016 <i>UO</i> ₁₉		12 15.9 78°92	5°6/15.7 18		
11 7	6 5.93	+28 1.3	2.107	2.878	14.5	21.4	11 7	6 5.10	+11 1.3	1.509	2.295	18.7	21.5
11 17	6 1.08	+27 53.6	2.008	2.870	11.6	21.2	11 17	6 0.79	+10 26.2	1.444	2.309	15.1	21.3
11 27	5 53.54	+27 40.9	1.932	2.862	8.1	21.0	11 27	5 53.46	+10 0.6	1.398	2.322	11.1	21.0
12 7	5 43.96	+27 21.4	1.882	2.853	4.1	20.7	12 7	5 43.92	+9 47.4	1.377	2.336	7.2	20.9
12 17	5 33.27	+26 54.4	1.861	2.844	1.3	20.5	12 17	5 33.32	+9 48.7	1.381	2.349	5.7	20.8
12 27	5 22.72	+26 21.0	1.870	2.834	4.9	20.7	12 27	5 23.11	+10 4.9	1.413	2.363	8.0	21.0
1 6	5 13.48	+25 43.8	1.908	2.824	8.8	21.0	1 6	5 14.57	+10 34.6	1.471	2.376	11.8	21.2
1 16	5 6.45	+25 6.5	1.972	2.814	12.4	21.2	1 16	5 8.62	+11 15.4	1.551	2.390	15.4	21.5
146311	2001 <i>KS</i> ₃₇		12 15.9 136°27	0°9/15.9 18			61857	2000 <i>QL</i> ₂₀₅		12 15.9 119°86	0°8/15.9 18		
11 7	6 8.12	+19 42.7	1.769	2.548	16.6	20.7	11 7	6 2.92	+21 18.1	2.150	2.926	14.1	19.7
11 17	6 3.00	+19 57.6	1.691	2.558	13.1	20.4	11 17	5 58.39	+21 10.6	2.066	2.932	11.1	19.5
11 27	5 54.94	+20 15.9	1.635	2.567	9.0	20.2	11 27	5 51.52	+21 3.4	2.006	2.938	7.6	19.3
12 7	5 44.65	+20 36.1	1.604	2.576	4.4	20.0	12 7	5 42.92	+20 56.2	1.972	2.944	3.7	19.1
12 17	5 33.21	+20 56.9	1.602	2.585	1.1	19.7	12 17	5 33.44	+20 48.9	1.967	2.950	1.0	18.9
12 27	5 22.00	+21 17.1	1.629	2.593	5.4	20.1	12 27	5 24.17	+20 41.9	1.992	2.955	4.6	19.1
1 6	5 12.33	+21 36.7	1.684	2.600	9.8	20.3	1 6	5 16.09	+20 36.5	2.045	2.961	8.4	19.4
1 16	5 5.15	+21 56.5	1.765	2.607	13.6	20.6	1 16	5 9.99	+20 33.7	2.125	2.966	11.7	19.6
482346	2011 <i>WX</i> ₁₇		12 15.9 332°95	7°3/14.3 17			405709	2005 <i>VR</i> ₉₁		12 15.9 11°95	1°1/15.8 17		
11 7	5 57.71	+12 23.6	1.407	2.215	18.7	20.6	11 7	6 1.66	+20 49.7	1.949	2.735	15.0	22.0
11 17	5 55.56	+10 52.1	1.319	2.197	15.4	20.4	11 17	5 57.72	+20 41.1	1.864	2.735	11.9	21.8
11 27	5 50.31	+9 22.2	1.251	2.180	11.6	20.1	11 27	5 51.24	+20 33.2	1.802	2.736	8.2	21.5
12 7	5 42.58	+8 0.5	1.206	2.163	8.3	19.9	12 7	5 42.84	+20 25.8	1.764	2.737	4.0	21.3
12 17	5 33.44	+6 53.9	1.186	2.148	7.5	19.8	12 17	5 33.46	+20 19.1	1.756	2.739	1.2	21.1
12 27	5 24.34	+6 8.4	1.191	2.133	10.1	19.9	12 27	5 24.25	+20 13.6	1.776	2.740	5.0	21.4
1 6	5 16.74	+5 46.8	1.219	2.120	14.0	20.1	1 6	5 16.31	+20 10.4	1.824	2.742	9.0	21.6
1 16	5 11.74	+5 48.5	1.268	2.108	18.0	20.3	1 16	5 10.48	+20 10.4	1.897	2.744	12.6	21.8
324129	2005 <i>YX</i> ₅₂		12 15.9 298°13	1°2/16.2 17			99981	1981 <i>EF</i> ₂₀		12 15.9 273°98	4°4/15.5 18		
11 7	6 2.96	+28 14.3	2.152	2.928	14.1	20.5	11 7	6 1.24	+12 25.0	2.015	2.791	14.9	19.9
11 17	5 58.62	+28 3.2	2.060	2.924	11.2	20.3	11 17	5 57.33	+11 53.8	1.918	2.778	12.1	19.7
11 27	5 51.78	+27 46.9	1.989	2.920	7.8	20.1	11 27	5 50.99	+11 27.9	1.843	2.766	8.9	19.4
12 7	5 43.07	+27 24.0	1.945	2.916	4.0	19.8	12 7	5 42.76	+11 9.9	1.793	2.753	5.7	19.2
12 17	5 33.40	+26 54.3	1.929	2.912	1.3	19.6	12 17	5 33.47	+11 1.4	1.772	2.741	4.4	19.1
12 27	5 23.91	+26 18.9	1.944	2.908	4.6	19.9	12 27	5 24.20	+11 3.9	1.778	2.728	6.6	19.2
1 6	5 15.68	+25 40.6	1.987	2.905	8.4	20.1	1 6	5 16.02	+11 17.4	1.813	2.715	10.1	19.4
1 16	5 9.54	+25 2.6	2.056	2.901	11.8	20.3	1 16	5 9.79	+11 41.1	1.871	2.703	13.4	19.6
377151	2003 <i>SO</i> ₆₈		12 15.9 53°93	0°6/16.0 13 C			345801	2007 <i>GJ</i> ₃₆		12 15.9 104°99	2°2/16.0 18		
11 7	6 7.91	+25 38.1	1.195	2.006	21.2	21.3	11 7	6 8.06	+26 38.0	1.693	2.476	17.1	20.8
11 17	6 3.97	+25 29.9	1.138	2.023	16.8	21.1	11 17	6 3.34	+27 17.5	1.617	2.485	13.6	20.6
11 27	5 56.08	+25 18.0	1.100	2.040	11.5	20.9	11 27	5 55.39	+27 55.9	1.562	2.494	9.4	20.4
12 7	5 45.26	+25 0.4	1.083	2.058	5.6	20.6	12 7	5 44.96	+28 29.3	1.532	2.503	5.0	20.1
12 17	5 33.15	+24 36.5	1.092	2.076	0.9	20.3	12 17	5 33.21	+28 54.0	1.530	2.511	2.2	20.0
12 27	5 21.75	+24 8.4	1.126	2.094	6.6	20.8	12 27	5 21.71	+29 8.6	1.557	2.519	5.8	20.2
1 6	5 12.75	+23 40.0	1.186	2.112	11.9	21.1	1 6	5 11.90	+29 14.1	1.611	2.528	10.1	20.5
1 16	5 7.18	+23 15.4	1.267	2.131	16.5	21.4	1 16	5 4.83	+29 13.7	1.689	2.536	13.9	20.8
187938	2001 <i>FM</i> ₁₄₉		12 15.9 226°80	4°0/15.7 18			270985	2002 <i>WD</i> ₂₉		12 15.9 9°16	3°6/15.6 18		
11 7	6 5.28	+14 18.1	1.694	2.476	17.1	20.8	11 7	6 0.94	+18 15.1	1.180	2.002	20.8	20.4
11 17	6 0.97	+13 54.7	1.604	2.470	13.8	20.6	11 17	5 58.57	+17 32.3	1.112	2.003	16.6	20.1
11 27	5 53.72	+13 37.1	1.535	2.463	9.9	20.3	11 27	5 52.54	+16 51.5	1.063	2.005	11.6	19.9
12 7	5 44.14	+13 26.9	1.491	2.456	5.9	20.1	12 7	5 43.68	+16 15.5	1.036	2.008	6.4	19.6
12 17	5 33.26	+13 25.5	1.474	2.449	4.0	20.0	12 17	5 33.38	+15 47.0	1.032	2.012	3.8	19.4
12 27	5 22.45	+13 33.8	1.485	2.441	6.9	20.1	12 27	5 23.44	+15 28.9	1.053	2.017	7.8	19.7
1 6	5 13.05	+13 51.7	1.523	2.433	11.1	20.3	1 6	5 15.52	+15 22.8	1.098	2.023	12.9	20.0
1 16	5 6.08	+14 18.4	1.585	2.425	15.0	20.6	1 16	5 10.73	+15 28.9	1.164	2.029	17.5	20.3
285745	2000 <i>TP</i> ₃₁		12 15.9 262°13	0°8/15.8 18			56761	2000 <i>OH</i> ₁₉		12 15.9 120°31	0°2/15.9 18		
11 7	6 4.81	+22 43.2	1.798	2.583	16.1	21.1	11 7	6 8.15	+23 53.4	1.905	2.680	15.7	19.3
11 17	6 0.63	+22 25.1	1.700	2.570	12.9	20.9	11 17	6 2.70	+23 41.3	1.831	2.696	12.4	19.1
11 27	5 53.51	+22 5.2	1.622	2.557	8.9	20.6	11 27	5 54.52	+23 27.1	1.779	2.711	8.5	18.9
12 7	5 44.05	+21 43.1	1.570	2.544	4.4	20.3	12 7	5 44.37	+23 9.9	1.753	2.726	4.1	18.7
12 17	5 33.27	+21 19.0	1.546	2.530	1.0	20.0	12 17	5 33.31	+22 49.7	1.756	2.740	0.5	18.4
12 27	5 22.54	+20 54.3	1.551	2.516	5.5	20.3	12 27	5 22.64	+22 27.8	1.790	2.754	5.0	18.8
1 6	5 13.19	+20 31.4	1.584	2.502	10.2	20.5	1 6	5 13.51	+22 6.2	1.851	2.767	9.1	19.1
1 16	5 6.27	+20 12.7	1.641	2.487	14.2	20.8	1 16	5 6.74	+21 47.4	1.939	2.780	12.6	19.3
78892	2003 <i>SH</i> ₄₆		12 15.9 72°86	0°4/15.9 18			151609	2002 <i>VZ</i> ₇₄		12 15.9 27°22	2°7/15.8 18		
11 7	6 3.70	+24 17.3	2.199	2.973	13.9	20.2	11 7	6 3.70	+17 44.1	1.337	2.144	19.6	20.4
11 17	5 58.83	+24 22.7	2.131	2.996	10.9	20.0	11 17	6 0.37	+17 32.0	1.267	2.148	15.6	20.1
11 27	5 51.68	+24 26.8	2.086	3.018	7.4	19.8	11 27	5 53.59	+17 24.6	1.215	2.153	10.9	19.9
12 7	5 42.92	+24 28.4	2.068	3.041	3.6	19.6	12 7	5 44.15	+17 22.8	1.186	2.158	5.7	19.6
12 17	5 33.43	+24 26.7	2.080	3.063	0.5	19.4	12 17	5 33.33	+17 26.7	1.182	2.163	2.8	19.4
12 27	5 24.28	+24 22.0	2.121	3.086	4.3	19.8	12 27	5 22.81	+17 36.5	1.205	2.169	6.9	19.7
1 6	5 16.40	+24 15.6	2.191	3.108	7.8	20.0	1 6	5 14.15	+17 52.4	1.253	2.175	11.8	20.0
1 16	5 10.50	+24 9.1	2.288	3.130	10.9	20.3	1 16	5 8.43	+18 14.2	1.323	2.182	16.2	20.3
164836	1999 <i>TW</i> ₇₅		12 15.9 329°42	1°6/16.1 18			395376	2011 <i>SF</i> ₃₄		12 15.9 42°86	6		

EPHEMERIDES

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2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
449692	2014 <i>LS</i> ₂₀		12 15.9	92°57'	3°8'/15.7	18	68361	2001 <i>OX</i> ₃₂		12 15.9	155°38'	6°6'/17.1	18
11 7	6 2.99	+13 23.8	1.983	2.758	15.2	21.1	11 7	6 10.74	+41 47.4	2.127	2.866	15.4	20.0
11 17	5 58.45	+12 57.1	1.911	2.771	12.2	21.0	11 17	6 5.33	+42 27.6	2.044	2.870	12.9	19.8
11 27	5 51.55	+12 36.0	1.860	2.785	8.7	20.8	11 27	5 56.69	+42 56.1	1.982	2.873	10.2	19.6
12 7	5 42.93	+12 22.3	1.835	2.798	5.3	20.6	12 7	5 45.59	+43 7.1	1.944	2.876	7.7	19.5
12 17	5 33.50	+12 17.1	1.839	2.811	3.9	20.5	12 17	5 33.24	+42 56.3	1.933	2.879	6.6	19.4
12 27	5 24.34	+12 11.2	1.871	2.824	6.1	20.7	12 27	5 21.20	+42 23.4	1.951	2.882	7.7	19.5
1 6	5 16.45	+12 34.3	1.932	2.836	9.4	20.9	1 6	5 10.91	+41 32.3	1.996	2.884	10.1	19.7
1 16	5 10.57	+12 55.6	2.017	2.849	12.6	21.1	1 16	5 3.39	+40 29.3	2.066	2.886	12.8	19.8
368655	2005 <i>EV</i> ₁₉₀		12 15.9	192°16'	2°6'/16.4	18	404501	2013 <i>HD</i> ₃₃		12 15.9	131°46'	2°3'/16.3	17
11 7	6 3.17	+32 8.6	2.571	3.331	12.5	21.0	11 7	6 4.99	+29 51.2	2.067	2.840	14.7	22.0
11 17	5 58.45	+32 18.1	2.478	3.331	10.0	20.8	11 17	6 0.39	+30 2.3	1.981	2.843	11.7	21.8
11 27	5 51.51	+32 21.7	2.409	3.330	7.2	20.6	11 27	5 53.11	+30 8.2	1.918	2.845	8.3	21.6
12 7	5 42.93	+32 17.4	2.366	3.329	4.2	20.5	12 7	5 43.80	+30 6.5	1.880	2.848	4.5	21.3
12 17	5 33.50	+32 3.7	2.352	3.328	2.6	20.3	12 17	5 33.46	+29 55.6	1.870	2.850	2.3	21.2
12 27	5 24.23	+31 40.9	2.369	3.327	4.5	20.5	12 27	5 23.34	+29 35.6	1.891	2.852	5.1	21.4
1 6	5 16.06	+31 11.1	2.415	3.326	7.5	20.7	1 6	5 14.60	+29 9.1	1.939	2.855	8.8	21.6
1 16	5 9.74	+30 37.3	2.488	3.324	10.3	20.8	1 16	5 8.11	+28 39.5	2.013	2.857	12.1	21.8
265472	2005 <i>AC</i> ₆₄		12 15.9	193°36'	3°3'/15.8	18	491846	2013 <i>AR</i> ₆₇		12 15.9	346°83'	0°6'/16.0	18
11 7	6 0.19	+11 37.3	2.697	3.455	12.0	20.7	11 7	6 4.52	+25 23.8	1.642	2.434	17.1	20.7
11 17	5 55.76	+11 30.6	2.604	3.454	9.7	20.5	11 17	6 0.63	+25 19.8	1.558	2.433	13.6	20.5
11 27	5 49.52	+11 29.7	2.534	3.452	7.0	20.3	11 27	5 53.60	+25 12.7	1.496	2.432	9.4	20.2
12 7	5 41.93	+11 35.6	2.492	3.450	4.4	20.2	12 7	5 44.15	+25 1.3	1.457	2.431	4.6	19.9
12 17	5 33.62	+11 48.8	2.479	3.448	3.3	20.1	12 17	5 33.42	+24 44.5	1.446	2.430	0.8	19.7
12 27	5 25.38	+12 9.4	2.496	3.446	5.0	20.2	12 27	5 22.91	+24 23.4	1.463	2.429	5.6	20.0
1 6	5 17.96	+12 36.6	2.544	3.443	7.7	20.4	1 6	5 14.03	+24 0.6	1.507	2.429	10.3	20.3
1 16	5 11.99	+13 9.6	2.617	3.441	10.3	20.5	1 16	5 7.80	+23 39.1	1.574	2.428	14.4	20.5
283015	2007 <i>VT</i> ₉₈		12 15.9	70°11'	1°4'/16.1	18	271084	2003 <i>PE</i> ₈		12 15.9	121°63'	4°3'/16.9	18
11 7	6 11.40	+26 14.6	1.235	2.037	21.1	21.3	11 7	6 7.14	+37 59.3	2.533	3.276	13.1	20.9
11 17	6 6.57	+26 23.1	1.182	2.061	16.7	21.1	11 17	6 1.65	+38 17.7	2.452	3.287	10.7	20.7
11 27	5 57.77	+26 28.1	1.147	2.084	11.4	20.9	11 27	5 53.71	+38 27.0	2.394	3.298	8.1	20.6
12 7	5 46.08	+26 26.4	1.135	2.108	5.7	20.6	12 7	5 43.99	+38 23.7	2.361	3.309	5.5	20.4
12 17	5 33.15	+26 16.1	1.148	2.131	1.5	20.4	12 17	5 33.46	+38 5.9	2.358	3.319	4.3	20.4
12 27	5 21.02	+25 58.2	1.188	2.155	6.5	20.8	12 27	5 23.23	+37 33.9	2.385	3.329	5.6	20.4
1 6	5 11.36	+25 36.6	1.254	2.178	11.7	21.2	1 6	5 14.35	+36 50.7	2.441	3.339	8.0	20.6
1 16	5 5.20	+25 15.6	1.342	2.201	16.1	21.5	1 16	5 7.57	+36 0.6	2.523	3.349	10.6	20.8
356168	2009 <i>HR</i> ₅₆		12 15.9	15°84'	9°1'/15.2	18	478593	2012 <i>TQ</i> ₁₁₅		12 15.9	144°14'	0°6'/16.1	18
11 7	6 0.66	+ 1 51.2	1.797	2.556	17.1	20.6	11 7	6 7.90	+26 5.2	1.838	2.616	16.1	21.5
11 17	5 56.94	+ 0 43.2	1.722	2.557	14.5	20.4	11 17	6 2.81	+25 55.3	1.757	2.623	12.8	21.3
11 27	5 50.71	- 0 11.4	1.668	2.558	11.9	20.3	11 27	5 54.80	+25 41.4	1.697	2.630	8.8	21.0
12 7	5 42.61	- 0 47.2	1.637	2.559	9.7	20.1	12 7	5 44.63	+25 22.3	1.664	2.636	4.3	20.8
12 17	5 33.55	- 0 59.7	1.632	2.560	9.1	20.1	12 17	5 33.38	+24 57.4	1.658	2.642	0.8	20.5
12 27	5 24.66	- 0 47.4	1.652	2.562	10.4	20.2	12 27	5 22.46	+24 28.1	1.682	2.647	5.2	20.9
1 6	5 17.03	- 0 11.6	1.697	2.563	12.8	20.3	1 6	5 13.11	+23 57.2	1.735	2.652	9.5	21.1
1 16	5 11.47	+ 0 43.5	1.764	2.565	15.4	20.5	1 16	5 6.26	+23 28.1	1.812	2.657	13.2	21.4
145185	2005 <i>JP</i> ₂₁		12 15.9	207°88'	1°4'/15.8	18	473732	2016 <i>CY</i> ₂₀₀		12 15.9	338°64'	4°8'/16.6	16
11 7	6 7.73	+21 15.5	1.830	2.607	16.2	21.2	11 7	6 2.49	+35 38.0	1.893	2.669	15.8	21.1
11 17	6 2.76	+20 53.1	1.736	2.602	12.9	20.9	11 17	5 59.07	+36 5.1	1.801	2.658	12.9	20.9
11 27	5 54.86	+20 29.7	1.664	2.597	8.9	20.7	11 27	5 52.59	+36 23.6	1.730	2.649	9.6	20.6
12 7	5 44.69	+20 5.4	1.618	2.590	4.5	20.4	12 7	5 43.70	+36 29.2	1.683	2.640	6.4	20.4
12 17	5 33.30	+19 40.8	1.601	2.583	1.5	20.2	12 17	5 33.49	+36 18.4	1.664	2.632	4.8	20.3
12 27	5 22.03	+19 17.4	1.613	2.576	5.6	20.4	12 27	5 23.41	+35 51.0	1.671	2.624	6.7	20.4
1 6	5 12.20	+18 57.4	1.653	2.568	10.1	20.7	1 6	5 14.85	+35 10.2	1.706	2.617	10.0	20.6
1 16	5 4.81	+18 42.8	1.718	2.559	14.0	20.9	1 16	5 8.87	+34 21.0	1.765	2.611	13.4	20.8
228432	2001 <i>QD</i> ₃₈		12 15.9	108°61'	0°4'/16.0	18	452274	2015 <i>TE</i> ₁₅₈		12 15.9	299°24'	0°8'/15.9	17
11 7	6 9.51	+24 43.3	1.768	2.545	16.7	21.2	11 7	6 2.58	+22 1.7	1.768	2.559	16.1	21.7
11 17	6 3.98	+24 43.1	1.699	2.565	13.1	21.0	11 17	5 58.95	+21 51.6	1.673	2.547	12.9	21.4
11 27	5 55.51	+24 40.8	1.651	2.584	9.0	20.8	11 27	5 52.42	+21 41.0	1.599	2.535	8.9	21.1
12 7	5 44.89	+24 34.7	1.629	2.602	4.4	20.5	12 7	5 43.61	+21 29.6	1.549	2.523	4.4	20.8
12 17	5 33.30	+24 24.0	1.636	2.620	0.6	20.3	12 17	5 33.50	+21 17.4	1.528	2.511	1.0	20.6
12 27	5 22.15	+24 9.2	1.672	2.637	5.2	20.7	12 27	5 23.43	+21 5.1	1.534	2.500	5.5	20.9
1 6	5 12.71	+23 52.8	1.737	2.654	9.5	20.9	1 6	5 14.73	+20 54.4	1.568	2.489	10.1	21.1
1 16	5 5.86	+23 37.4	1.826	2.670	13.2	21.2	1 16	5 8.40	+20 47.1	1.626	2.477	14.1	21.3
95606	2002 <i>FW</i> ₃₀		12 15.9	57°04'	3°0'/16.2	18	467046	2016 <i>CM</i> ₂₅₅		12 15.9	129°85'	5°7'/15.9	17
11 7	6 3.22	+12 51.3	1.951	2.725	15.4	18.9	11 7	5 59.80	+ 5 11.0	2.394	3.145	13.5	21.4
11 17	5 58.77	+13 9.4	1.877	2.738	12.3	18.7	11 17	5 55.65	+ 4 50.2	2.309	3.146	11.2	21.2
11 27	5 51.88	+13 36.2	1.824	2.750	8.7	18.5	11 27	5 49.55	+ 4 39.6	2.246	3.147	8.7	21.0
12 7	5 43.15	+14 11.6	1.797	2.763	5.0	18.3	12 7	5 42.00	+ 4 41.4	2.209	3.148	6.5	20.9
12 17	5 33.50	+14 54.5	1.799	2.776	3.0	18.2	12 17	5 33.70	+ 4 57.1	2.200	3.149	5.7	20.9
12 27	5 24.06	+15 43.3	1.830	2.789	5.6	18.4	12 27	5 25.50	+ 5 26.9	2.219	3.149	6.9	20.9
1 6	5 15.86	+16 35.8	1.890	2.802	9.2	18.6	1 6	5 18.22	+ 6 9.3	2.267	3.150	9.3	21.1
1 16	5 9.73	+17 30.4	1.975	2.815	12.5	18.9	1 16	5 12.53	+ 7 2.0	2.340	3.151	11.8	21.3
501552	2014 <i>LQ</i> ₉		12 15.9	108°79'	18°2'/20.1	17	51509	2001 <i>FP</i> ₉₇		12 15.9	133°81'	2	

EPHEMERIDES

12 15.9

12 15.9

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V
59831	1999 <i>RR</i> ₃₆		12 15.9	11°70'	0°9'/16.1	18	193082	2000 <i>GS</i> ₃₇		12 15.9	154°20'	0°2'/15.9	18
11 7	6 2.46	+25 44.2	2.035	2.816	14.6	18.8	11 7	6 7.82	+22 58.9	1.981	2.754	15.3	21.5
11 17	5 58.39	+25 51.7	1.949	2.817	11.6	18.6	11 17	6 2.51	+22 56.6	1.898	2.762	12.1	21.3
11 27	5 51.75	+25 57.0	1.885	2.818	8.0	18.4	11 27	5 54.51	+22 53.6	1.838	2.769	8.3	21.1
12 7	5 43.17	+25 58.6	1.846	2.819	4.0	18.1	12 7	5 44.49	+22 48.7	1.803	2.776	4.0	20.9
12 17	5 33.57	+25 55.3	1.836	2.820	1.0	17.9	12 17	5 33.46	+22 41.4	1.798	2.782	0.5	20.6
12 27	5 24.14	+25 47.3	1.856	2.821	4.7	18.2	12 27	5 22.67	+22 32.0	1.823	2.787	4.9	20.9
1 6	5 15.99	+25 36.1	1.904	2.822	8.7	18.4	1 6	5 13.29	+22 22.0	1.876	2.792	9.0	21.2
1 16	5 9.97	+25 24.0	1.977	2.824	12.1	18.7	1 16	5 6.19	+22 13.6	1.956	2.796	12.6	21.4
271587	2004 <i>NU</i> ₅		12 15.9	94°28'	0°1'/15.9	18	274621	2008 <i>TH</i> ₆₈		12 15.9	182°56'	2°6'/16.1	18
11 7	6 8.89	+22 22.3	1.714	2.495	17.0	20.7	11 7	6 3.38	+30 20.4	2.552	3.314	12.5	21.0
11 17	6 3.61	+22 41.7	1.648	2.516	13.4	20.5	11 17	5 58.73	+30 56.0	2.460	3.314	10.0	20.8
11 27	5 55.35	+23 2.2	1.603	2.536	9.1	20.3	11 27	5 51.82	+31 28.3	2.392	3.314	7.1	20.6
12 7	5 44.88	+23 21.6	1.584	2.556	4.4	20.0	12 7	5 43.18	+31 54.5	2.350	3.314	4.2	20.4
12 17	5 33.39	+23 37.9	1.592	2.576	0.5	19.8	12 17	5 33.61	+32 12.3	2.338	3.314	2.6	20.3
12 27	5 22.30	+23 50.5	1.631	2.596	5.3	20.2	12 27	5 24.10	+32 20.7	2.357	3.314	4.7	20.5
1 6	5 12.90	+24 0.1	1.697	2.614	9.6	20.5	1 6	5 15.63	+32 20.6	2.405	3.313	7.6	20.7
1 16	5 6.09	+24 8.3	1.788	2.633	13.3	20.7	1 16	5 8.98	+32 14.1	2.479	3.313	10.5	20.8
328407	2008 <i>SH</i> ₆₁		12 15.9	83°11'	7°8'/18.6	17	436886	2012 <i>TQ</i> ₃₀		12 15.9	130°80'	0°9'/15.9	16
11 7	6 15.58	+50 7.8	2.494	3.186	14.4	20.4	11 7	6 7.83	+21 1.1	1.910	2.684	15.7	22.7
11 17	6 8.66	+50 40.9	2.430	3.210	12.5	20.3	11 17	6 2.51	+20 57.6	1.833	2.698	12.4	22.5
11 27	5 58.60	+50 58.0	2.387	3.234	10.4	20.2	11 27	5 54.48	+20 55.0	1.779	2.710	8.5	22.3
12 7	5 46.34	+50 53.5	2.367	3.258	8.7	20.1	12 7	5 44.46	+20 52.5	1.751	2.723	4.2	22.1
12 17	5 33.24	+50 24.3	2.374	3.281	7.8	20.1	12 17	5 33.47	+20 49.6	1.751	2.735	1.0	21.9
12 27	5 20.84	+49 31.1	2.410	3.305	8.3	20.2	12 27	5 22.78	+20 46.7	1.782	2.746	5.1	22.2
1 6	5 10.46	+48 18.8	2.472	3.328	9.7	20.3	1 6	5 13.56	+20 44.9	1.841	2.756	9.2	22.4
1 16	5 2.93	+46 54.3	2.560	3.350	11.5	20.5	1 16	5 6.65	+20 45.5	1.926	2.766	12.7	22.7
351191	2004 <i>CF</i> ₆₇		12 15.9	240°55'	7°9'/15.9	18	177286	2003 <i>WX</i> ₁₆₂		12 15.9	71°94'	0°6'/15.9	18
11 7	6 3.03	- 2 13.5	2.468	3.183	14.1	20.8	11 7	6 10.84	+21 54.9	1.330	2.126	20.2	19.6
11 17	5 58.24	- 2 42.4	2.367	3.168	12.2	20.6	11 17	6 5.95	+22 34.2	1.273	2.149	15.9	19.4
11 27	5 51.40	- 2 57.6	2.287	3.152	10.1	20.4	11 27	5 57.35	+23 16.7	1.235	2.172	10.8	19.1
12 7	5 42.96	- 2 55.2	2.232	3.136	8.5	20.3	12 7	5 45.98	+23 58.6	1.222	2.195	5.3	18.9
12 17	5 33.61	- 2 32.8	2.204	3.119	7.9	20.2	12 17	5 33.31	+24 35.8	1.234	2.218	0.8	18.6
12 27	5 24.22	- 1 49.7	2.204	3.101	8.8	20.3	12 27	5 21.20	+25 6.1	1.275	2.241	6.2	19.1
1 6	5 15.67	- 0 47.7	2.232	3.083	10.8	20.4	1 6	5 11.28	+25 30.0	1.341	2.263	11.3	19.4
1 16	5 8.71	+ 0 29.6	2.285	3.064	13.0	20.5	1 16	5 4.62	+25 49.4	1.431	2.286	15.5	19.7
10265	Gunnarsson		12 15.9	353°33'	4°3'/16.6	18	162013	1994 <i>PC</i> ₁₇		12 15.9	27°61'	4°7'/16.8	18
11 7	6 3.42	+35 45.0	2.190	2.954	14.3	17.5	11 7	6 5.74	+33 26.8	1.031	1.852	23.2	18.4
11 17	5 59.25	+36 8.4	2.102	2.952	11.6	17.3	11 17	6 2.83	+33 38.5	0.994	1.880	18.5	18.2
11 27	5 52.40	+36 23.6	2.035	2.950	8.6	17.1	11 27	5 55.46	+33 37.1	0.974	1.910	13.1	18.0
12 7	5 43.50	+36 27.0	1.994	2.949	5.7	16.9	12 7	5 45.01	+33 18.0	0.974	1.942	7.7	17.8
12 17	5 33.55	+36 16.1	1.981	2.948	4.3	16.8	12 17	5 33.45	+32 40.0	0.998	1.975	4.7	17.8
12 27	5 23.79	+35 50.9	1.996	2.947	5.9	16.9	12 27	5 23.03	+31 46.8	1.046	2.010	7.7	18.1
1 6	5 15.39	+35 14.1	2.040	2.947	8.9	17.1	1 6	5 15.46	+30 46.3	1.117	2.045	12.3	18.4
1 16	5 9.24	+34 30.1	2.109	2.947	11.9	17.3	1 16	5 11.61	+29 46.3	1.210	2.082	16.5	18.8
257882	2000 <i>SK</i> ₁₉₂		12 15.9	56°28'	8°3'/15.2	17	291934	2006 <i>QN</i> ₃₀		12 15.9	42°67'	1°4'/16.1	18
11 7	6 0.70	+ 3 16.8	1.884	2.644	16.4	21.2	11 7	6 7.84	+25 46.8	1.050	1.871	22.8	20.3
11 17	5 56.71	+ 2 6.0	1.820	2.657	13.7	21.0	11 17	6 4.30	+25 58.4	1.005	1.895	18.0	20.0
11 27	5 50.41	+ 1 7.5	1.777	2.670	11.1	20.9	11 27	5 56.49	+26 7.1	0.977	1.919	12.3	19.8
12 7	5 42.44	+ 0 26.1	1.758	2.684	8.9	20.8	12 7	5 45.58	+26 9.6	0.970	1.944	6.1	19.6
12 17	5 33.69	+ 0 5.6	1.765	2.698	8.3	20.8	12 17	5 33.38	+26 3.8	0.987	1.970	1.5	19.3
12 27	5 25.23	+ 0 7.5	1.799	2.711	9.5	20.9	12 27	5 22.07	+25 50.6	1.029	1.997	6.9	19.8
1 6	5 18.02	+ 0 30.4	1.858	2.725	11.8	21.0	1 6	5 13.45	+25 33.9	1.095	2.024	12.4	20.2
1 16	5 12.79	+ 1 11.0	1.940	2.739	14.3	21.2	1 16	5 8.51	+25 17.7	1.182	2.052	17.0	20.5
268892	2007 <i>BD</i> ₃₀		12 15.9	341°18'	3°4'/16.0	18	177716	2005 <i>GH</i> ₁₆₀		12 15.9	156°59'	0°5'/15.9	18
11 7	6 3.47	+14 59.9	1.401	2.202	19.1	20.0	11 7	6 9.31	+21 41.7	1.975	2.744	15.4	21.9
11 17	6 0.20	+14 58.4	1.321	2.198	15.4	19.8	11 17	6 3.69	+21 46.0	1.892	2.753	12.2	21.7
11 27	5 53.57	+15 5.4	1.260	2.195	10.9	19.5	11 27	5 55.33	+21 50.9	1.831	2.762	8.4	21.5
12 7	5 44.27	+15 21.8	1.223	2.192	6.1	19.2	12 7	5 44.91	+21 55.3	1.797	2.769	4.1	21.3
12 17	5 33.46	+15 47.4	1.210	2.190	3.4	19.0	12 17	5 33.44	+21 58.1	1.792	2.776	0.7	21.0
12 27	5 22.76	+16 21.3	1.225	2.187	7.1	19.3	12 27	5 22.20	+21 59.3	1.818	2.781	5.0	21.3
1 6	5 13.72	+17 1.9	1.265	2.186	11.9	19.5	1 6	5 12.37	+21 59.8	1.872	2.786	9.1	21.6
1 16	5 7.51	+17 47.4	1.327	2.184	16.3	19.8	1 16	5 4.86	+22 1.4	1.953	2.790	12.7	21.8
78150	2002 <i>NO</i> ₂₄		12 15.9	70°91'	10°8'/17.3	18	332964	2011 <i>EH</i> ₅₃		12 15.9	5°31'	7°3'/15.5	17
11 7	6 1.12	-12 9.8	2.356	3.031	15.6	18.7	11 7	5 58.25	+ 3 18.9	2.094	2.852	15.0	20.3
11 17	5 56.56	-12 54.4	2.298	3.048	14.0	18.6	11 17	5 54.73	+ 2 33.4	2.015	2.852	12.6	20.1
11 27	5 50.05	-13 18.9	2.260	3.065	12.4	18.5	11 27	5 49.08	+ 1 59.5	1.958	2.852	10.1	20.0
12 7	5 42.20	-13 18.7	2.243	3.082	11.3	18.5	12 7	5 41.85	+ 1 41.0	1.924	2.853	8.0	19.9
12 17	5 33.73	-12 51.4	2.250	3.098	10.8	18.5	12 17	5 33.80	+ 1 40.7	1.917	2.855	7.3	19.8
12 27	5 25.52	-11 57.2	2.281	3.115	11.2	18.6	12 27	5 25.89	+ 1 59.5	1.937	2.857	8.5	19.9
1 6	5 18.36	-10 39.5	2.337	3.132	12.3	18.7	1 6	5 19.01	+ 2 36.0	1.984	2.859	10.8	20.0
1 16	5 12.86	- 9 3.4	2.416	3.149	13.7	18.8	1 16	5 13.89	+ 3 27.3	2.054	2.861	13.3	20.2
164082	2003 <i>WX</i> ₁₀₂		12 15.9	33°45'	11°7'/17.8	18	486526	2013 <i>HK</i> ₆		12 15.9	225°18'	5°0'/15.7	

EPHEMERIDES

12 15.9

12 16.0

2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	2020/21	α_{2000}	δ_{2000}	Δ	r	β	V	
486428	2013 <i>FU</i> ₄	12 15.9 212°88' 6°2/16.4 17						354658	2005 <i>JV</i> ₁₆₂	12 15.9 261°04' 1°4/15.8 17				
11 7	6 9.28	+39 37.5	2.211	2.955	14.7	22.0	11 7	6 3.52	+20 29.2	1.997	2.777	14.9	21.7	
288536	2004 <i>GV</i> ₁₉	12 15.9 248°90' 5°0/16.5 18						291288	2006 <i>BA</i> ₁₂₇	12 16.0 180°11' 2°8/16.4 18				
11 7	6 5.24	+6 2.0	2.262	3.006	14.4	20.4	11 7	6 8.41	+31 5.8	2.027	2.794	15.2	21.9	
101478	1998 <i>WN</i> ₂₇	12 15.9 84°91' 0°6/15.9 18						209236	2003 <i>WT</i> ₉₉	12 16.0 40°25' 3°1/16.7 18				
11 7	6 5.13	+22 23.7	1.844	2.627	15.9	20.4	11 7	6 7.58	+33 7.3	1.694	2.473	17.2	19.7	
420149	2011 <i>FK</i> ₁₂₈	12 15.9 288°12' 1°8/15.9 18						486108	2012 <i>VH</i> ₆₀	12 16.0 108°72' 2°4/15.9 18				
11 7	6 0.97	+16 51.6	2.297	3.070	13.4	21.1	11 7	6 7.43	+26 29.2	1.692	2.476	17.0	21.2	
296871	2009 <i>YN</i> ₆	12 15.9 266°80' 2°7/15.9 18						400382	2007 <i>YA</i> ₃₂	12 16.0 50°06' 13°0/20.3 17				
11 7	6 0.52	+14 15.5	2.368	3.138	13.2	20.4	11 7	6 14.17	-8 6.9	0.971	1.730	28.4	20.1	
231046	2005 <i>GZ</i> ₂₉	12 15.9 270°79' 0°7/15.9 18						133944	2004 <i>TN</i> ₆₈	12 16.0 24°07' 4°7/15.8 18				
11 7	6 0.57	+20 32.2	2.508	3.280	12.4	20.6	11 7	6 0.29	+10 44.6	1.956	2.733	15.3	19.9	
342015	2008 <i>RQ</i> ₇₄	12 15.9 84°59' 1°7/16.1 18						195715	2002 <i>PE</i> ₅₇	12 16.0 88°64' 6°4/15.6 18				
11 7	6 9.39	+26 54.9	1.640	2.423	17.5	21.5	11 7	6 0.41	+2 37.6	2.536	3.274	13.2	20.3	
198003	2004 <i>RS</i> ₁₈₁	12 15.9 124°99' 1°6/15.8 18						68380	2001 <i>PZ</i> ₆₁	12 16.0 195°30' 1°3/16.2 18				
11 7	6 6.62	+20 23.7	1.846	2.625	16.0	20.8	11 7	6 4.91	+27 4.3	2.072	2.847	14.6	19.9	
290570	2005 <i>UW</i> ₁₁₉	12 15.9 89°97' 0°2/16.0 18						74797	1999 <i>SM</i> ₁₅	12 16.0 107°73' 3°0/16.4 18				
11 7	6 3.53	+24 5.2	2.076	2.855	14.5	21.4	11 7	6 12.20	+31 4.5	1.610	2.386	18.1	19.3	