

EPHEMERIDES

1 5.9

1 6.0

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
274790	2008 <i>WS</i> ₁₂		1 5.9 89°44	4.4/ 5.1	18		275358	2011 <i>AP</i> ₃₀		1 5.9 160°89	0°6/ 6.2	18	
12 3	7 35.07	+35 34.0	2.233	3.043	12.4	20.3	12 3	7 30.36	+19 8.7	2.055	2.872	13.1	20.9
12 13	7 28.30	+36 2.8	2.174	3.061	9.5	20.1	12 13	7 24.94	+19 30.1	1.977	2.874	9.8	20.7
12 23	7 19.22	+36 24.2	2.140	3.078	6.6	20.0	12 23	7 17.33	+19 57.6	1.923	2.875	6.0	20.5
1 2	7 8.70	+36 33.7	2.133	3.096	4.5	19.9	1 2	7 8.22	+20 28.9	1.897	2.877	1.9	20.2
1 12	6 57.92	+36 28.7	2.157	3.113	5.1	20.0	1 12	6 58.63	+21 1.1	1.900	2.878	2.5	20.3
1 22	6 48.06	+36 9.2	2.209	3.130	7.6	20.1	1 22	6 49.63	+21 31.7	1.933	2.879	6.6	20.5
2 1	6 40.11	+35 37.7	2.288	3.146	10.3	20.3	2 1	6 42.21	+21 59.1	1.994	2.880	10.3	20.8
2 11	6 34.71	+34 57.9	2.391	3.163	12.8	20.5	2 11	6 37.10	+22 22.6	2.079	2.881	13.5	21.0
144539	2004 <i>EZ</i> ₈₅		1 5.9 342°33	2°8/ 5.3	18		473409	2015 <i>VH</i> ₁₁₃		1 5.9 48°26	1°2/ 6.3	15	
12 3	7 30.19	+26 31.1	1.395	2.241	16.5	19.8	12 3	7 33.06	+18 58.0	1.282	2.122	18.0	21.1
12 13	7 25.97	+27 16.5	1.320	2.232	12.4	19.5	12 13	7 27.69	+19 5.6	1.232	2.140	13.5	20.9
12 23	7 18.49	+28 4.9	1.267	2.225	7.7	19.2	12 23	7 19.22	+19 21.9	1.203	2.159	8.2	20.6
1 2	7 8.63	+28 49.9	1.239	2.218	3.4	18.9	1 2	7 8.77	+19 43.7	1.198	2.178	2.7	20.4
1 12	6 57.91	+29 25.2	1.238	2.212	4.7	19.0	1 12	6 57.93	+20 7.4	1.220	2.198	3.5	20.5
1 22	6 48.03	+29 47.3	1.262	2.207	9.5	19.3	1 22	6 48.35	+20 30.2	1.268	2.218	8.7	20.8
2 1	6 40.57	+29 55.9	1.310	2.202	14.1	19.5	2 1	6 41.31	+20 50.3	1.340	2.239	13.4	21.2
2 11	6 36.55	+29 53.3	1.378	2.199	18.1	19.7	2 11	6 37.58	+21 7.2	1.433	2.259	17.2	21.5
234232	2000 <i>SZ</i> ₂₄₅		1 5.9 120°64	1°3/ 5.5	18		110436	2001 <i>TR</i> ₂₈		1 5.9 152°29	7°2/ 4.1	18	
12 3	7 29.02	+25 33.2	2.608	3.423	10.7	20.3	12 3	7 38.61	+41 45.8	2.054	2.854	13.7	20.2
12 13	7 23.55	+26 2.8	2.534	3.430	7.9	20.2	12 13	7 31.61	+42 48.3	1.987	2.858	11.1	20.1
12 23	7 16.30	+26 33.2	2.485	3.438	4.8	20.0	12 23	7 21.58	+43 39.8	1.945	2.862	8.7	19.9
1 2	7 7.88	+27 1.3	2.467	3.446	1.8	19.8	1 2	7 9.48	+44 12.6	1.929	2.866	7.3	19.8
1 12	6 59.11	+27 24.7	2.479	3.453	2.6	19.8	1 12	6 56.79	+44 21.8	1.941	2.869	7.9	19.9
1 22	6 50.87	+27 42.0	2.521	3.460	5.7	20.1	1 22	6 45.09	+44 6.8	1.980	2.872	10.0	20.0
2 1	6 43.94	+27 52.6	2.592	3.467	8.6	20.3	2 1	6 35.72	+43 31.2	2.044	2.875	12.5	20.2
2 11	6 38.91	+27 57.5	2.687	3.474	11.2	20.4	2 11	6 29.57	+42 41.0	2.130	2.878	14.9	20.4
188478	2004 <i>NO</i> ₁₃		1 5.9 263°73	3°2/ 7.3	18		363199	2001 <i>UM</i> ₈₁		1 5.9 117°00	5°2/ 7.7	18	
12 3	7 29.73	+10 50.9	1.968	2.769	14.1	20.2	12 3	7 31.41	+ 5 56.4	2.323	3.094	13.2	22.0
12 13	7 24.64	+11 19.4	1.876	2.758	11.0	20.0	12 13	7 25.20	+ 5 30.3	2.260	3.116	10.5	21.8
12 23	7 17.27	+12 2.7	1.807	2.747	7.4	19.7	12 23	7 17.22	+ 5 17.0	2.221	3.137	7.8	21.7
1 2	7 8.23	+12 59.5	1.766	2.737	4.0	19.5	1 2	7 8.14	+ 5 17.6	2.209	3.157	5.7	21.6
1 12	6 58.51	+14 6.7	1.754	2.726	3.9	19.5	1 12	6 58.84	+ 5 31.5	2.227	3.177	5.5	21.6
1 22	6 49.23	+15 20.0	1.771	2.715	7.3	19.6	1 22	6 50.17	+ 5 57.1	2.275	3.196	7.4	21.7
2 1	6 41.44	+16 34.9	1.817	2.703	11.1	19.8	2 1	6 42.91	+ 6 31.7	2.350	3.214	9.9	21.9
2 11	6 35.99	+17 47.5	1.886	2.692	14.5	20.0	2 11	6 37.61	+ 7 12.1	2.450	3.232	12.3	22.1
123294	2000 <i>UX</i> ₁₀₂		1 5.9 74°75	1°5/ 5.7	18		410487	2008 <i>DE</i> ₃₈		1 5.9 286°21	7°2/ 7.7	18	
12 3	7 32.42	+25 48.9	1.879	2.704	13.7	20.1	12 3	7 28.76	+ 4 23.8	1.806	2.592	15.8	21.1
12 13	7 26.59	+26 7.0	1.813	2.715	10.2	19.9	12 13	7 24.04	+ 3 47.1	1.716	2.578	13.0	20.9
12 23	7 18.33	+26 25.3	1.772	2.726	6.2	19.7	12 23	7 16.96	+ 3 26.9	1.648	2.564	10.0	20.7
1 2	7 8.48	+26 40.4	1.757	2.737	2.2	19.5	1 2	7 8.17	+ 3 26.3	1.605	2.550	7.7	20.5
1 12	6 58.25	+26 49.3	1.772	2.748	3.2	19.6	1 12	6 58.70	+ 3 46.3	1.588	2.536	7.5	20.5
1 22	6 48.86	+26 50.8	1.816	2.759	7.2	19.8	1 22	6 49.70	+ 4 25.1	1.599	2.522	9.7	20.6
2 1	6 41.39	+26 45.5	1.886	2.770	10.9	20.1	2 1	6 42.30	+ 5 19.0	1.634	2.508	12.9	20.7
2 11	6 36.54	+26 35.1	1.980	2.781	14.1	20.3	2 11	6 37.32	+ 6 22.5	1.692	2.494	16.1	20.9
218727	2005 <i>US</i> ₂₁₁		1 5.9 139°06	1°0/ 5.7	18		286072	2001 <i>SC</i> ₃₄₄		1 6.0 32°23	21°1/ 16.5	17	
12 3	7 32.06	+23 57.0	2.093	2.911	12.8	21.6	12 3	7 28.20	-18 37.9	1.129	1.844	27.2	20.0
12 13	7 26.17	+24 23.2	2.019	2.918	9.5	21.4	12 13	7 24.27	-20 57.4	1.102	1.862	25.2	19.9
12 23	7 18.04	+24 51.7	1.970	2.924	5.7	21.2	12 23	7 17.24	-22 28.9	1.086	1.881	23.4	19.9
1 2	7 8.41	+25 18.9	1.950	2.930	1.8	20.9	1 2	7 8.21	-23 2.1	1.085	1.902	22.0	19.8
1 12	6 58.34	+25 41.8	1.959	2.936	2.8	21.0	1 12	6 58.79	-22 33.8	1.098	1.924	21.2	19.9
1 22	6 48.95	+25 58.6	1.998	2.941	6.7	21.2	1 22	6 50.58	-21 9.0	1.128	1.946	21.2	19.9
2 1	6 41.23	+26 8.8	2.065	2.946	10.3	21.5	2 1	6 44.89	-18 58.9	1.173	1.970	22.0	20.1
2 11	6 35.89	+26 13.3	2.156	2.951	13.3	21.7	2 11	6 42.50	-16 19.5	1.235	1.995	23.1	20.3
502401	2015 <i>BR</i> ₂₅₁		1 5.9 221°15	0°6/ 5.8	17		381585	2008 <i>UV</i> ₂₅₅		1 6.0 130°29	4°5/ 4.4	18	
12 3	7 29.06	+24 12.0	2.720	3.532	10.3	22.0	12 3	7 32.89	+34 24.0	2.312	3.125	11.9	21.5
12 13	7 23.57	+24 24.3	2.630	3.526	7.7	21.8	12 13	7 26.88	+35 23.6	2.242	3.130	9.2	21.3
12 23	7 16.33	+24 37.6	2.566	3.519	4.7	21.6	12 23	7 18.53	+36 18.6	2.197	3.136	6.4	21.2
1 2	7 7.91	+24 49.8	2.531	3.512	1.4	21.3	1 2	7 8.59	+37 3.4	2.180	3.141	4.6	21.1
1 12	6 59.09	+24 59.1	2.528	3.504	2.2	21.4	1 12	6 58.14	+37 33.9	2.193	3.146	5.3	21.1
1 22	6 50.71	+25 4.4	2.555	3.497	5.5	21.6	1 22	6 48.34	+37 48.4	2.235	3.151	7.8	21.3
2 1	6 43.54	+25 5.5	2.610	3.489	8.5	21.8	2 1	6 40.24	+37 47.8	2.304	3.156	10.5	21.5
2 11	6 38.19	+25 2.9	2.691	3.480	11.1	21.9	2 11	6 34.61	+37 35.2	2.396	3.160	13.0	21.7
284005	2004 <i>TL</i> ₁₂₇		1 5.9 72°96	1°2/ 6.3	18		64929	2001 <i>YO</i> ₁₀₈		1 6.0 148°32	4°2/ 5.1	18	
12 3	7 36.13	+18 17.0	1.427	2.253	17.2	21.1	12 3	7 38.23	+31 48.3	1.752	2.572	14.8	19.8
12 13	7 29.59	+18 35.8	1.380	2.281	12.8	20.9	12 13	7 31.31	+32 30.7	1.684	2.580	11.3	19.6
12 23	7 20.19	+19 3.0	1.355	2.309	7.8	20.7	12 23	7 21.39	+33 8.8	1.640	2.587	7.4	19.4
1 2	7 9.01	+19 35.3	1.357	2.337	2.6	20.5	1 2	7 9.44	+33 36.2	1.623	2.593	4.4	19.2
1 12	6 57.58	+20 8.5	1.386	2.364	3.3	20.6	1 12	6 56.92	+33 48.2	1.634	2.599	5.3	19.3
1 22	6 47.39	+20 39.5	1.443	2.391	8.2	21.0	1 22	6 45.42	+33 43.5	1.674	2.604	8.8	19.5
2 1	6 39.65	+21 6.7	1.526	2.418	12.5	21.3	2 1	6 36.26	+33 24.5	1.740	2.609	12.5	19.7
2 11	6 35.05	+21 29.4	1.631	2.444	16.1	21.6	2 11	6 30.29	+32 55.5	1.828	2.614	15.7	20.0
79509	1998 <i>HT</i> ₁₃₆		1 5.9 285°60	1°1/ 6.4	18		445872	2012 <i>TU</i> ₂₀₆					

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
82575	2001 <i>OL</i> ₈₅		1 6.0 244°73	1°9/ 6.4	18		141013	2001 <i>WO</i> ₄₃		1 6.0 266°75	6°0/ 7.5	18	
12 3	7 31.70	+17 11.6	1.978	2.791	13.6	20.4	12 3	7 26.76	+ 4 3.2	2.459	3.229	12.6	20.1
12 13	7 26.09	+17 3.9	1.886	2.780	10.4	20.2	12 13	7 21.90	+ 3 20.3	2.375	3.225	10.3	20.0
12 23	7 18.14	+17 2.7	1.819	2.768	6.6	19.9	12 23	7 15.35	+ 2 49.7	2.314	3.221	8.0	19.8
1 2	7 8.51	+17 7.0	1.779	2.756	2.8	19.6	1 2	7 7.68	+ 2 33.5	2.280	3.217	6.3	19.7
1 12	6 58.27	+17 15.4	1.768	2.744	3.2	19.6	1 12	6 59.63	+ 2 32.5	2.274	3.213	6.2	19.7
1 22	6 48.55	+17 26.6	1.786	2.731	7.2	19.9	1 22	6 52.00	+ 2 45.9	2.296	3.209	7.8	19.8
2 1	6 40.46	+17 39.3	1.832	2.718	11.1	20.1	2 1	6 45.54	+ 3 11.8	2.346	3.205	10.1	19.9
2 11	6 34.78	+17 52.6	1.901	2.705	14.5	20.3	2 11	6 40.85	+ 3 46.8	2.419	3.201	12.4	20.1
401371	2013 <i>BR</i> ₆₆		1 6.0 274°47	0°2/ 6.0	17		445951	2013 <i>AS</i> ₇₅		1 6.0 49°70	0°2/ 5.9	18	
12 3	7 34.13	+22 10.8	1.591	2.420	15.7	21.7	12 3	7 32.88	+20 12.1	1.336	2.175	17.5	21.0
12 13	7 28.59	+22 8.0	1.499	2.402	11.8	21.4	12 13	7 27.76	+20 57.0	1.275	2.184	13.0	20.8
12 23	7 19.99	+22 8.5	1.428	2.384	7.3	21.1	12 23	7 19.45	+21 51.1	1.236	2.193	7.9	20.5
1 2	7 9.12	+22 9.7	1.384	2.365	2.2	20.7	1 2	7 8.94	+22 49.2	1.222	2.203	2.3	20.2
1 12	6 57.33	+22 9.1	1.368	2.346	3.2	20.8	1 12	6 57.78	+23 45.1	1.235	2.213	3.5	20.3
1 22	6 46.17	+22 5.4	1.380	2.327	8.5	21.0	1 22	6 47.66	+24 33.6	1.274	2.224	8.9	20.7
2 1	6 37.13	+21 58.5	1.417	2.308	13.3	21.2	2 1	6 40.02	+25 12.7	1.339	2.234	13.6	21.0
2 11	6 31.24	+21 49.8	1.476	2.289	17.5	21.5	2 11	6 35.77	+25 42.2	1.423	2.245	17.6	21.2
459888	2014 <i>KP</i> ₇₈		1 6.0 153°62	1°4/ 6.3	18		469115	2015 <i>DB</i> ₁₁₇		1 6.0 182°38	0°5/ 5.8	18	
12 3	7 34.95	+18 17.0	1.990	2.798	13.7	22.6	12 3	7 29.08	+22 1.5	2.492	3.306	11.1	20.9
12 13	7 28.28	+18 13.9	1.916	2.807	10.3	22.4	12 13	7 23.74	+22 37.4	2.409	3.306	8.3	20.7
12 23	7 19.31	+18 16.3	1.866	2.816	6.4	22.2	12 23	7 16.52	+23 17.0	2.353	3.306	5.0	20.5
1 2	7 8.82	+18 22.7	1.845	2.823	2.4	22.0	1 2	7 8.03	+23 57.5	2.325	3.306	1.5	20.2
1 12	6 57.92	+18 31.4	1.854	2.830	2.9	22.0	1 12	6 59.10	+24 35.9	2.328	3.305	2.3	20.3
1 22	6 47.76	+18 40.8	1.893	2.837	6.9	22.3	1 22	6 50.62	+25 9.9	2.362	3.305	5.8	20.5
2 1	6 39.37	+18 50.3	1.960	2.842	10.6	22.5	2 1	6 43.43	+25 38.3	2.424	3.304	9.0	20.7
2 11	6 33.46	+18 59.3	2.051	2.847	13.8	22.7	2 11	6 38.20	+26 0.9	2.512	3.303	11.7	20.9
368834	2006 <i>DQ</i> ₂₁		1 6.0 118°09	4°2/ 5.3	18		459313	2012 <i>GM</i> ₃₇		1 6.0 245°62	2°0/ 5.5	18	
12 3	7 36.55	+35 44.3	2.262	3.068	12.4	21.1	12 3	7 32.51	+27 17.1	2.002	2.824	13.1	21.6
12 13	7 29.40	+36 0.3	2.195	3.080	9.5	21.0	12 13	7 26.77	+27 38.6	1.919	2.819	9.8	21.4
12 23	7 19.91	+36 8.4	2.153	3.091	6.5	20.8	12 23	7 18.57	+27 59.6	1.860	2.813	6.1	21.2
1 2	7 8.96	+36 4.4	2.139	3.102	4.4	20.7	1 2	7 8.65	+28 16.3	1.829	2.807	2.5	20.9
1 12	6 57.75	+35 46.1	2.155	3.113	4.9	20.7	1 12	6 58.17	+28 25.4	1.827	2.801	3.5	21.0
1 22	6 47.45	+35 13.8	2.200	3.123	7.5	20.9	1 22	6 48.35	+28 25.7	1.854	2.795	7.3	21.2
2 1	6 39.09	+34 30.5	2.273	3.133	10.3	21.1	2 1	6 40.31	+28 17.5	1.909	2.789	11.0	21.4
2 11	6 33.30	+33 40.1	2.370	3.143	12.9	21.3	2 11	6 34.85	+28 3.1	1.986	2.782	14.2	21.6
406381	2007 <i>RK</i> ₃₁₉		1 6.0 192°48	6°0/ 4.6	18		159940	2005 <i>WD</i> ₁₁₆		1 6.0 355°76	0°2/ 5.9	18	
12 3	7 38.40	+36 28.2	1.772	2.589	14.8	21.3	12 3	7 30.11	+19 42.9	1.173	2.023	18.6	19.3
12 13	7 31.71	+37 21.7	1.699	2.588	11.6	21.1	12 13	7 26.22	+20 29.1	1.105	2.020	14.0	19.0
12 23	7 21.78	+38 7.6	1.650	2.587	8.3	20.9	12 23	7 18.82	+21 27.8	1.058	2.017	8.5	18.7
1 2	7 9.60	+38 38.2	1.627	2.585	6.2	20.8	1 2	7 8.82	+22 33.5	1.034	2.015	2.5	18.4
1 12	6 56.72	+38 47.8	1.632	2.584	6.9	20.8	1 12	6 57.90	+23 39.0	1.036	2.014	3.8	18.5
1 22	6 44.81	+38 35.3	1.664	2.581	9.9	21.0	1 22	6 47.93	+24 37.5	1.062	2.014	9.8	18.8
2 1	6 35.37	+38 4.0	1.722	2.579	13.2	21.2	2 1	6 40.62	+25 25.7	1.112	2.015	15.1	19.1
2 11	6 29.31	+37 19.6	1.801	2.576	16.3	21.4	2 11	6 37.04	+26 2.6	1.181	2.017	19.6	19.4
132204	2002 <i>EO</i> ₅₃		1 6.0 264°42	3°3/ 5.5	18		256240	2006 <i>WK</i> ₁₃		1 6.0 65°74	0°4/ 6.1	17	
12 3	7 35.99	+29 59.9	1.593	2.422	15.6	20.2	12 3	7 34.03	+19 43.7	1.604	2.429	15.7	20.6
12 13	7 29.97	+30 19.9	1.514	2.416	11.8	19.9	12 13	7 27.87	+20 10.9	1.556	2.457	11.6	20.4
12 23	7 20.76	+30 36.5	1.458	2.410	7.6	19.7	12 23	7 19.12	+20 44.6	1.530	2.484	7.0	20.2
1 2	7 9.31	+30 44.3	1.429	2.404	3.8	19.4	1 2	7 8.77	+21 21.0	1.531	2.512	2.1	20.0
1 12	6 57.14	+30 39.2	1.427	2.398	4.7	19.5	1 12	6 58.15	+21 56.2	1.561	2.539	2.9	20.1
1 22	6 45.92	+30 20.2	1.453	2.392	9.0	19.7	1 22	6 48.60	+22 27.3	1.620	2.567	7.5	20.4
2 1	6 37.09	+29 49.8	1.504	2.386	13.3	19.9	2 1	6 41.22	+22 53.0	1.704	2.594	11.5	20.7
2 11	6 31.61	+29 12.3	1.576	2.380	17.0	20.2	2 11	6 36.68	+23 13.3	1.811	2.621	14.9	21.0
136290	2004 <i>AH</i> ₆		1 6.0 281°64	3°1/ 7.1	18		242913	2006 <i>MS</i> ₁₃		1 6.0 67°37	3°5/ 4.8	17	
12 3	7 27.33	+11 41.4	2.272	3.072	12.5	20.2	12 3	7 36.63	+26 38.7	1.547	2.377	16.0	19.8
12 13	7 22.52	+11 50.8	2.185	3.067	9.7	20.0	12 13	7 30.20	+28 10.1	1.501	2.404	11.9	19.6
12 23	7 15.82	+12 11.0	2.122	3.062	6.5	19.8	12 23	7 20.75	+29 42.7	1.478	2.431	7.4	19.4
1 2	7 7.82	+12 41.3	2.088	3.058	3.7	19.6	1 2	7 9.29	+31 7.9	1.482	2.457	3.8	19.3
1 12	6 59.36	+13 20.1	2.082	3.053	3.6	19.6	1 12	6 57.36	+32 18.0	1.516	2.484	5.0	19.4
1 22	6 51.34	+14 4.6	2.107	3.048	6.5	19.7	1 22	6 46.56	+33 9.2	1.577	2.510	9.0	19.7
2 1	6 44.61	+14 52.2	2.159	3.043	9.7	19.9	2 1	6 38.21	+33 41.8	1.664	2.537	12.8	20.0
2 11	6 39.84	+15 40.3	2.235	3.039	12.6	20.1	2 11	6 33.11	+33 58.9	1.772	2.563	15.9	20.3
111137	2001 <i>VP</i> ₉₄		1 6.0 64°96	3°2/ 7.3	18		218992	2008 <i>HJ</i> ₁₇		1 6.0 247°59	1°3/ 6.3	18	
12 3	7 30.53	+10 51.6	1.743	2.550	15.4	19.6	12 3	7 31.20	+18 42.2	1.913	2.732	13.8	20.7
12 13	7 25.25	+11 29.1	1.677	2.563	11.9	19.4	12 13	7 25.76	+18 40.6	1.829	2.726	10.4	20.5
12 23	7 17.60	+12 22.3	1.634	2.576	7.9	19.2	12 23	7 17.95	+18 44.7	1.768	2.720	6.5	20.2
1 2	7 8.34	+13 28.8	1.618	2.590	4.1	19.0	1 2	7 8.49	+18 53.2	1.735	2.714	2.4	19.9
1 12	6 58.63	+14 44.3	1.630	2.604	3.9	19.0	1 12	6 58.46	+19 4.2	1.730	2.708	2.9	20.0
1 22	6 49.65	+16 3.3	1.672	2.617	7.5	19.2	1 22	6 49.04	+19 16.0	1.755	2.701	7.1	20.2
2 1	6 42.46	+17 21.0	1.741	2.631	11.3	19.5	2 1	6 41.32	+19 27.6	1.807	2.695	11.1	20.4
2 11	6 37.80	+18 33.8	1.833	2.645	14.6	19.7	2 11	6 36.07	+19 38.4	1.882	2.688	14.5	20.6
241845	2001 <i>TH</i> ₁₄		1 6.0 151°01	5°0/ 7.3	18		48879	1998 <i>HR</i> ₁₂₅		1 6.0 209°95	3°2/ 6.8	18	
12 3	7 27.86	+ 6 27.1	2.622										

EPHEMERIDES

1 6.0

1 6.0

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
305657	2009 <i>BS</i> ₆₉		1 6.0 355°76	1°7/ 5.7 18			90951	1997 <i>VX</i> ₆		1 6.0 1°42	2°6/ 5.5 18		
12 3	7 31.05	+25 24.7	1.204	2.057	18.1	20.4	12 3	7 27.84	+25 38.4	1.007	1.874	19.6	19.0
12 13	7 26.88	+25 40.0	1.137	2.053	13.6	20.1	12 13	7 25.00	+26 12.6	0.947	1.871	14.7	18.7
12 23	7 19.16	+25 57.4	1.090	2.050	8.3	19.8	12 23	7 18.27	+26 50.4	0.907	1.869	9.1	18.4
1 2	7 8.92	+26 11.9	1.067	2.048	2.9	19.5	1 2	7 8.73	+27 25.2	0.889	1.869	3.5	18.0
1 12	6 57.88	+26 18.9	1.069	2.046	4.2	19.6	1 12	6 58.33	+27 50.2	0.894	1.871	5.0	18.1
1 22	6 47.95	+26 16.7	1.096	2.046	9.8	19.9	1 22	6 49.18	+28 2.1	0.922	1.874	10.8	18.5
2 1	6 40.76	+26 6.0	1.145	2.047	14.9	20.2	2 1	6 43.10	+28 1.1	0.971	1.880	16.2	18.8
2 11	6 37.31	+25 49.3	1.215	2.049	19.2	20.5	2 11	6 41.10	+27 50.0	1.038	1.887	20.7	19.1
350678	2001 <i>UG</i> ₁₅₁		1 6.0 50°54	1°9/ 6.4 17			424104	2007 <i>ES</i> ₄₃		1 6.0 196°77	16°5/ 10.9 18		
12 3	7 34.12	+17 31.5	1.182	2.022	19.2	20.4	12 3	7 33.77	-12 40.7	1.374	2.092	23.0	21.5
12 13	7 28.61	+17 39.0	1.137	2.045	14.4	20.1	12 13	7 28.39	-14 7.1	1.308	2.091	20.8	21.3
12 23	7 19.84	+17 57.4	1.112	2.067	8.9	19.9	12 23	7 19.91	-14 58.5	1.258	2.089	18.7	21.2
1 2	7 9.02	+18 23.8	1.111	2.091	3.3	19.7	1 2	7 9.18	-15 5.1	1.225	2.087	17.0	21.0
1 12	6 57.88	+18 54.1	1.137	2.115	3.8	19.8	1 12	6 57.63	-14 22.1	1.213	2.084	16.5	21.0
1 22	6 48.12	+19 24.5	1.188	2.139	9.1	20.1	1 22	6 46.86	-12 52.1	1.222	2.081	17.3	21.0
2 1	6 41.09	+19 52.8	1.263	2.163	13.9	20.5	2 1	6 38.31	-10 43.9	1.252	2.077	19.2	21.1
2 11	6 37.53	+20 17.6	1.358	2.188	17.8	20.8	2 11	6 33.01	- 8 11.2	1.300	2.072	21.6	21.3
497107	2004 <i>CA</i> ₅₃		1 6.0 278°56	6°1/ 5.2 17			17505	1992 <i>GO</i> ₂		1 6.0 158°97	1°8/ 6.4 18		
12 3	7 39.79	+42 35.9	2.392	3.179	12.3	21.5	12 3	7 34.25	+17 22.7	1.835	2.648	14.5	19.1
12 13	7 32.12	+42 47.0	2.297	3.162	10.0	21.4	12 13	7 28.01	+17 20.8	1.760	2.654	11.0	18.8
12 23	7 21.75	+42 45.5	2.227	3.144	7.7	21.2	12 23	7 19.30	+17 25.9	1.709	2.659	6.9	18.6
1 2	7 9.59	+42 26.0	2.184	3.126	6.2	21.1	1 2	7 8.94	+17 36.6	1.685	2.663	2.8	18.4
1 12	6 56.94	+41 45.4	2.170	3.108	6.6	21.0	1 12	6 58.08	+17 50.9	1.691	2.667	3.2	18.4
1 22	6 45.18	+40 44.5	2.186	3.090	8.6	21.1	1 22	6 47.97	+18 6.9	1.726	2.671	7.3	18.7
2 1	6 35.50	+39 27.3	2.230	3.071	11.2	21.3	2 1	6 39.72	+18 23.3	1.788	2.674	11.3	18.9
2 11	6 28.69	+38 0.0	2.297	3.053	13.8	21.4	2 11	6 34.08	+18 39.3	1.873	2.676	14.7	19.1
81938	2000 <i>OT</i> ₃₂		1 6.0 48°49	3°8/ 5.7 18			33423	1999 <i>DK</i>		1 6.0 105°25	2°7/ 6.7 18		
12 3	7 35.79	+35 46.6	2.269	3.077	12.3	18.8	12 3	7 34.98	+15 10.3	1.648	2.462	15.9	18.6
12 13	7 28.82	+35 41.2	2.195	3.082	9.5	18.6	12 13	7 28.59	+15 5.1	1.588	2.480	12.1	18.4
12 23	7 19.58	+35 27.0	2.146	3.087	6.4	18.4	12 23	7 19.63	+15 9.7	1.550	2.497	7.7	18.2
1 2	7 8.92	+35 0.7	2.126	3.092	4.1	18.3	1 2	7 9.01	+15 23.0	1.539	2.514	3.6	18.0
1 12	6 58.01	+34 21.0	2.135	3.097	4.5	18.3	1 12	6 58.03	+15 42.8	1.557	2.531	3.8	18.0
1 22	6 48.03	+33 28.9	2.174	3.102	7.2	18.5	1 22	6 48.01	+16 6.6	1.603	2.547	7.8	18.3
2 1	6 39.94	+32 27.9	2.241	3.108	10.2	18.7	2 1	6 40.06	+16 32.3	1.675	2.563	11.8	18.6
2 11	6 34.39	+31 22.1	2.333	3.113	12.9	18.9	2 11	6 34.90	+16 58.2	1.771	2.578	15.2	18.8
251248	2006 <i>VN</i> ₃₄		1 6.0 102°78	4°9/ 6.9 18			125507	2001 <i>WX</i> ₃₅		1 6.0 15°13	1°1/ 6.3 18		
12 3	7 33.34	+10 38.9	1.925	2.720	14.6	20.2	12 3	7 29.18	+18 42.4	1.068	1.924	19.6	19.2
12 13	7 26.97	+ 9 48.9	1.862	2.737	11.5	20.0	12 13	7 25.55	+18 58.6	1.012	1.928	14.8	18.9
12 23	7 18.46	+ 9 9.3	1.822	2.754	8.1	19.9	12 23	7 18.38	+19 26.5	0.975	1.934	9.1	18.6
1 2	7 8.60	+ 8 41.9	1.809	2.770	5.4	19.7	1 2	7 8.74	+20 2.6	0.960	1.941	3.0	18.3
1 12	6 58.48	+ 8 27.1	1.826	2.786	5.4	19.8	1 12	6 58.40	+20 41.7	0.970	1.949	3.8	18.3
1 22	6 49.16	+ 8 24.3	1.871	2.802	8.0	20.0	1 22	6 49.27	+21 19.2	1.004	1.958	9.8	18.7
2 1	6 41.57	+ 8 31.8	1.944	2.817	11.2	20.2	2 1	6 42.93	+21 52.0	1.060	1.969	15.1	19.0
2 11	6 36.35	+ 8 47.0	2.039	2.832	14.0	20.4	2 11	6 40.33	+22 18.9	1.135	1.981	19.5	19.3
131901	2002 <i>BY</i> ₁		1 6.0 303°51	0°4/ 5.9 18			58167	1990 <i>QM</i> ₃		1 6.0 83°54	4°8/ 5.3 18		
12 3	7 32.61	+22 52.3	1.454	2.291	16.4	19.7	12 3	7 39.47	+32 41.4	1.459	2.288	16.8	18.9
12 13	7 27.64	+23 1.1	1.372	2.280	12.4	19.4	12 13	7 32.57	+33 18.9	1.406	2.305	12.8	18.7
12 23	7 19.50	+23 14.0	1.312	2.269	7.6	19.1	12 23	7 22.28	+33 49.8	1.374	2.321	8.5	18.5
1 2	7 9.04	+23 27.4	1.277	2.258	2.2	18.8	1 2	7 9.80	+34 7.0	1.368	2.338	5.1	18.3
1 12	6 57.72	+23 38.0	1.269	2.247	3.4	18.8	1 12	6 56.92	+34 5.8	1.389	2.354	5.9	18.4
1 22	6 47.19	+23 43.5	1.288	2.237	8.8	19.1	1 22	6 45.44	+33 46.3	1.437	2.370	9.7	18.7
2 1	6 38.95	+23 43.8	1.332	2.227	13.7	19.3	2 1	6 36.79	+33 12.3	1.510	2.386	13.6	19.0
2 11	6 34.02	+23 39.9	1.396	2.217	17.9	19.6	2 11	6 31.76	+32 29.6	1.604	2.402	17.0	19.2
109124	2001 <i>QT</i> ₄₅		1 6.0 21°08	2°9/ 7.1 18			292304	2006 <i>SK</i> ₁₅₁		1 6.0 216°50	1°1/ 6.3 18		
12 3	7 27.46	+12 26.3	2.095	2.901	13.2	19.4	12 3	7 32.36	+18 54.4	1.965	2.780	13.6	21.6
12 13	7 22.73	+12 39.5	2.017	2.903	10.2	19.2	12 13	7 26.61	+18 56.5	1.879	2.775	10.3	21.3
12 23	7 16.01	+13 3.8	1.963	2.906	6.7	19.0	12 23	7 18.49	+19 4.3	1.818	2.769	6.4	21.1
1 2	7 7.94	+13 38.3	1.936	2.908	3.6	18.8	1 2	7 8.72	+19 16.0	1.784	2.764	2.2	20.8
1 12	6 59.43	+14 20.7	1.939	2.911	3.5	18.8	1 12	6 58.39	+19 29.6	1.780	2.757	2.8	20.8
1 22	6 51.45	+15 8.1	1.970	2.914	6.7	19.0	1 22	6 48.65	+19 43.4	1.805	2.751	7.0	21.1
2 1	6 44.90	+15 57.4	2.029	2.917	10.1	19.2	2 1	6 40.58	+19 56.3	1.858	2.744	10.9	21.3
2 11	6 40.45	+16 46.0	2.112	2.921	13.1	19.4	2 11	6 34.98	+20 7.9	1.934	2.737	14.3	21.5
45527	2000 <i>CN</i> ₅		1 6.0 155°70	1°1/ 6.2 18			95767	2003 <i>EY</i> ₄₆		1 6.0 170°21	5°2/ 7.7 18		
12 3	7 36.05	+21 2.5	2.102	2.910	13.1	18.7	12 3	7 29.43	+ 3 55.6	2.847	3.602	11.4	20.5
12 13	7 28.98	+20 31.3	2.025	2.917	9.8	18.5	12 13	7 23.63	+ 3 23.1	2.765	3.607	9.3	20.3
12 23	7 19.70	+20 1.5	1.973	2.923	6.0	18.3	12 23	7 16.32	+ 3 1.8	2.708	3.611	7.1	20.2
1 2	7 9.00	+19 32.3	1.950	2.929	2.1	18.0	1 2	7 8.03	+ 2 53.1	2.679	3.615	5.5	20.1
1 12	6 57.97	+19 3.7	1.958	2.934	2.7	18.1	1 12	6 59.44	+ 2 57.3	2.679	3.618	5.4	20.1
1 22	6 47.72	+18 36.0	1.996	2.939	6.7	18.3	1 22	6 51.27	+ 3 13.4	2.710	3.620	6.9	20.2
2 1	6 39.23	+18 10.2	2.063	2.943	10.3	18.6	2 1	6 44.16	+ 3 39.6	2.769	3.621	8.9	20.3
2 11	6 33.14	+17 47.0	2.154	2.947	13.4	18.8	2 11	6 38.65	+ 4 13.1	2.853	3.622	11.0	20.5
330090	2005 <i>WL</i> ₉₂		1 6.0 37°63	2°0/ 5.5 18			236676	2006 <i>QN</i> ₂₉		1 6.0 119°67	0°3/ 6.2 18		
12 3	7 31.49	+25 38.6	1.688	2.521	1								

EPHEMERIDES

1 6.0

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
192368	1996 <i>AT</i> ₅		1 6.0 157°55	0°3/ 5.9 18			493912	2015 <i>XQ</i> ₃₂₄		1 6.0 352°64	0°2/ 5.9 18		
12 3	7 35.73	+21 15.1	1.828	2.645	14.4	20.6	12 3	7 30.88	+20 15.3	1.402	2.241	16.8	20.8
12 13	7 29.24	+21 50.6	1.755	2.652	10.8	20.4	12 13	7 26.37	+20 58.6	1.329	2.238	12.6	20.5
12 23	7 20.12	+22 31.8	1.705	2.659	6.5	20.2	12 23	7 18.75	+21 51.7	1.279	2.236	7.7	20.2
1 2	7 9.20	+23 14.3	1.684	2.665	1.9	19.9	1 2	7 8.89	+22 49.9	1.253	2.234	2.2	19.9
1 12	6 57.71	+23 54.1	1.692	2.670	2.9	20.0	1 12	6 58.21	+23 47.0	1.255	2.233	3.4	20.0
1 22	6 46.98	+24 28.0	1.730	2.674	7.4	20.3	1 22	6 48.35	+24 38.0	1.283	2.232	8.8	20.3
2 1	6 38.19	+24 54.7	1.796	2.678	11.5	20.5	2 1	6 40.76	+25 20.0	1.336	2.232	13.6	20.6
2 11	6 32.17	+25 14.7	1.884	2.681	14.9	20.7	2 11	6 36.46	+25 52.6	1.409	2.233	17.6	20.8
318040	2004 <i>ED</i> ₉₁		1 6.0 240°21	1°4/ 5.7 18			367880	2011 <i>HR</i> ₁₁		1 6.0 103°83	4°0/ 7.1 18		
12 3	7 33.05	+25 11.6	2.007	2.827	13.2	21.4	12 3	7 28.04	+10 35.0	2.234	3.031	12.8	20.7
12 13	7 27.26	+25 37.6	1.918	2.817	9.9	21.2	12 13	7 23.04	+10 16.1	2.154	3.032	10.0	20.5
12 23	7 18.96	+26 5.3	1.853	2.806	6.1	21.0	12 23	7 16.16	+10 7.5	2.098	3.032	7.0	20.3
1 2	7 8.88	+26 31.0	1.816	2.795	2.2	20.7	1 2	7 8.03	+10 9.5	2.069	3.033	4.4	20.2
1 12	6 58.14	+26 51.1	1.808	2.784	3.1	20.7	1 12	6 59.52	+10 21.6	2.070	3.034	4.4	20.2
1 22	6 47.95	+27 3.6	1.830	2.772	7.3	21.0	1 22	6 51.51	+10 42.5	2.099	3.035	6.9	20.3
2 1	6 39.49	+27 8.3	1.880	2.760	11.1	21.2	2 1	6 44.85	+11 9.9	2.156	3.036	9.9	20.5
2 11	6 33.61	+27 6.5	1.952	2.748	14.5	21.4	2 11	6 40.17	+11 41.4	2.236	3.036	12.7	20.7
180981	2005 <i>NN</i> ₉		1 6.0 102°70	1°7/ 6.5 18			322574	Werckmeister		1 6.0 56°71	3°1/ 6.9 18		
12 3	7 31.36	+17 12.6	1.825	2.643	14.4	20.9	12 3	7 36.89	+13 12.4	1.406	2.222	18.0	19.9
12 13	7 25.89	+17 16.8	1.753	2.649	10.9	20.7	12 13	7 29.94	+13 28.5	1.373	2.265	13.6	19.7
12 23	7 18.03	+17 28.7	1.703	2.654	6.8	20.5	12 23	7 20.32	+13 58.2	1.362	2.308	8.7	19.6
1 2	7 8.58	+17 46.7	1.681	2.659	2.7	20.2	1 2	7 9.18	+14 38.6	1.377	2.351	4.1	19.4
1 12	6 58.65	+18 8.5	1.688	2.664	3.1	20.3	1 12	6 58.02	+15 25.5	1.419	2.394	4.1	19.5
1 22	6 49.44	+18 31.9	1.723	2.670	7.2	20.5	1 22	6 48.21	+16 14.4	1.490	2.436	8.2	19.9
2 1	6 42.02	+18 55.1	1.785	2.675	11.1	20.8	2 1	6 40.83	+17 2.0	1.587	2.478	12.2	20.2
2 11	6 37.12	+19 17.0	1.870	2.680	14.5	21.0	2 11	6 36.46	+17 46.1	1.706	2.519	15.5	20.5
155026	2005 <i>QC</i> ₇₃		1 6.0 75°53	7°3/ 4.4 18			212879	2007 <i>VH</i> ₂₃₀		1 6.0 245°88	0°5/ 5.9 18		
12 3	7 38.51	+40 17.9	1.823	2.632	14.8	19.5	12 3	7 33.65	+23 1.2	1.837	2.659	14.1	20.9
12 13	7 31.66	+41 22.2	1.771	2.649	11.8	19.4	12 13	7 27.88	+23 17.4	1.748	2.648	10.6	20.7
12 23	7 21.67	+42 15.0	1.742	2.666	9.0	19.2	12 23	7 19.44	+23 36.8	1.682	2.636	6.5	20.4
1 2	7 9.64	+42 48.3	1.739	2.683	7.3	19.2	1 2	7 9.06	+23 56.4	1.643	2.624	1.9	20.1
1 12	6 57.17	+42 57.3	1.764	2.700	7.9	19.2	1 12	6 57.96	+24 12.8	1.634	2.612	3.0	20.2
1 22	6 45.91	+42 42.1	1.816	2.717	10.2	19.4	1 22	6 47.45	+24 24.0	1.654	2.599	7.6	20.4
2 1	6 37.21	+42 6.6	1.892	2.734	12.9	19.6	2 1	6 38.79	+24 29.5	1.700	2.586	11.8	20.6
2 11	6 31.86	+41 17.3	1.989	2.750	15.4	19.8	2 11	6 32.90	+24 30.2	1.769	2.572	15.4	20.8
467592	2007 <i>VX</i> ₁₂₂		1 6.0 64°37	7°6/ 3.4 18			459879	2014 <i>JH</i> ₂₂		1 6.0 179°63	1°1/ 5.7 18		
12 3	7 35.75	+43 40.9	2.228	3.024	12.9	21.2	12 3	7 35.74	+23 47.5	2.022	2.835	13.4	22.2
12 13	7 29.45	+44 55.4	2.168	3.031	10.6	21.1	12 13	7 29.13	+24 23.6	1.941	2.837	10.0	22.0
12 23	7 20.33	+45 58.6	2.132	3.039	8.6	20.9	12 23	7 20.04	+25 2.7	1.886	2.839	6.1	21.7
1 2	7 9.28	+46 43.3	2.122	3.046	7.6	20.9	1 2	7 9.21	+25 40.6	1.859	2.839	2.0	21.4
1 12	6 57.63	+47 4.6	2.140	3.053	8.2	20.9	1 12	6 57.79	+26 13.5	1.863	2.839	3.0	21.5
1 22	6 46.85	+47 1.8	2.184	3.061	9.9	21.1	1 22	6 47.02	+26 38.6	1.897	2.838	7.1	21.8
2 1	6 38.21	+46 37.8	2.253	3.069	12.1	21.2	2 1	6 38.04	+26 55.5	1.958	2.836	10.9	22.0
2 11	6 32.54	+45 57.9	2.343	3.076	14.1	21.4	2 11	6 31.66	+27 5.2	2.044	2.833	14.1	22.2
205895	2002 <i>GH</i> ₅₁		1 6.0 308°16	1°9/ 5.6 18			466792	2015 <i>BZ</i> ₂₅		1 6.0 201°63	3°7/ 7.5 18		
12 3	7 32.62	+25 33.8	1.431	2.271	16.5	20.3	12 3	7 26.94	+8 59.8	2.470	3.258	12.0	21.6
12 13	7 27.84	+25 59.6	1.348	2.257	12.4	20.1	12 13	7 22.10	+9 3.6	2.386	3.257	9.4	21.4
12 23	7 19.75	+26 28.1	1.287	2.244	7.7	19.8	12 23	7 15.56	+9 18.7	2.326	3.256	6.6	21.2
1 2	7 9.20	+26 54.1	1.251	2.230	2.8	19.4	1 2	7 7.86	+9 45.0	2.293	3.255	4.2	21.0
1 12	6 57.69	+27 12.6	1.241	2.218	4.1	19.5	1 12	6 59.78	+10 21.4	2.291	3.254	4.1	21.0
1 22	6 46.95	+27 20.9	1.259	2.205	9.3	19.7	1 22	6 52.11	+11 5.4	2.318	3.253	6.4	21.2
2 1	6 38.60	+27 19.2	1.300	2.193	14.1	20.0	2 1	6 45.63	+11 54.4	2.373	3.252	9.2	21.4
2 11	6 33.70	+27 9.6	1.362	2.182	18.3	20.2	2 11	6 40.92	+12 45.5	2.453	3.251	11.8	21.5
193003	2000 <i>EO</i> ₂		1 6.0 339°79	1°4/ 6.4 18 R			94921	2001 <i>YT</i> ₆₂		1 6.0 228°31	2°1/ 5.4 18		
12 3	7 27.78	+17 58.7	1.752	2.580	14.5	19.8	12 3	7 32.40	+26 51.0	2.120	2.939	12.6	19.9
12 13	7 23.48	+18 8.2	1.670	2.572	10.9	19.5	12 13	7 26.68	+27 28.1	2.035	2.933	9.5	19.7
12 23	7 16.73	+18 25.8	1.610	2.564	6.8	19.3	12 23	7 18.57	+28 6.0	1.974	2.926	5.9	19.5
1 2	7 8.24	+18 49.7	1.577	2.556	2.5	19.0	1 2	7 8.79	+28 40.5	1.942	2.920	2.5	19.2
1 12	6 59.14	+19 17.3	1.572	2.550	3.0	19.0	1 12	6 58.40	+29 7.7	1.939	2.912	3.5	19.3
1 22	6 50.64	+19 45.9	1.594	2.544	7.4	19.3	1 22	6 48.57	+29 25.4	1.967	2.905	7.1	19.5
2 1	6 43.87	+20 13.4	1.643	2.538	11.6	19.5	2 1	6 40.39	+29 33.5	2.021	2.897	10.7	19.7
2 11	6 39.67	+20 38.6	1.714	2.533	15.2	19.7	2 11	6 34.67	+29 33.5	2.099	2.889	13.8	19.9
86998	2000 <i>JG</i> ₃₉		1 6.0 281°47	4°3/ 4.9 18			325308	2008 <i>HC</i> ₆₂		1 6.0 302°19	0°7/ 6.3 18		
12 3	7 35.24	+29 41.9	1.460	2.296	16.4	19.5	12 3	7 30.11	+18 56.0	1.721	2.548	14.7	20.7
12 13	7 29.94	+30 39.3	1.379	2.284	12.5	19.2	12 13	7 25.37	+19 18.8	1.634	2.535	11.1	20.5
12 23	7 21.10	+31 37.2	1.321	2.273	8.2	19.0	12 23	7 17.98	+19 50.0	1.569	2.523	6.9	20.2
1 2	7 9.62	+32 27.4	1.288	2.262	4.6	18.7	1 2	7 8.67	+20 26.9	1.531	2.511	2.2	19.9
1 12	6 57.07	+33 2.6	1.282	2.250	5.8	18.8	1 12	6 58.59	+21 5.9	1.521	2.500	2.9	19.9
1 22	6 45.33	+33 19.0	1.303	2.239	10.2	19.0	1 22	6 49.07	+21 43.6	1.540	2.488	7.7	20.2
2 1	6 36.13	+33 17.6	1.348	2.228	14.7	19.2	2 1	6 41.36	+22 17.6	1.584	2.477	12.1	20.4
2 11	6 30.60	+33 2.5	1.413	2.217	18.6	19.4	2 11	6 36.38	+22 46.8	1.651	2.466	15.9	20.6
251115	2006 <i>SW</i> ₃₃₂		1 6.0 118°48	1°6/ 5.6 18			403739	2010 <i>XN</i> ₈₅		1 6.0 42°18	2°7/ 6.8 18		
12 3													

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
325489	2009 <i>RJ</i> ₁₃		1 6.0 179°12	3°3/ 5.1	18		37344	2001 <i>SS</i> ₅₄		1 6.1 145°60	8°5/ 9.9	18	
12 3	7 34.00	+31 5.2	2.198	3.013	12.4	21.2	12 3	7 26.53	- 8 36.2	2.806	3.499	12.8	19.6
12 13	7 27.77	+31 42.1	2.121	3.014	9.4	21.0	12 13	7 21.57	- 9 14.6	2.732	3.506	11.3	19.5
12 23	7 19.18	+32 16.1	2.068	3.015	6.1	20.9	12 23	7 15.15	- 9 35.0	2.680	3.512	9.8	19.4
1 2	7 8.97	+32 42.3	2.044	3.015	3.5	20.7	1 2	7 7.77	- 9 34.7	2.652	3.518	8.8	19.3
1 12	6 58.25	+32 57.4	2.049	3.015	4.3	20.7	1 12	7 0.10	- 9 12.8	2.650	3.524	8.5	19.3
1 22	6 48.20	+32 59.8	2.085	3.015	7.3	20.9	1 22	6 52.84	- 8 31.0	2.675	3.529	9.1	19.4
2 1	6 39.89	+32 50.6	2.147	3.014	10.5	21.1	2 1	6 46.62	- 7 32.2	2.725	3.534	10.4	19.5
2 11	6 34.09	+32 32.4	2.233	3.013	13.4	21.3	2 11	6 41.96	- 6 21.1	2.799	3.539	11.9	19.6
197356	2003 <i>XS</i> ₁₁		1 6.0 79°12	1°9/ 5.3	18		319962	2007 <i>BP</i> ₇₅		1 6.1 83°33	0°5/ 6.2	18	
12 3	7 30.85	+24 58.1	2.137	2.958	12.5	19.6	12 3	7 31.51	+19 49.8	1.832	2.654	14.2	21.0
12 13	7 25.40	+25 56.5	2.067	2.966	9.3	19.5	12 13	7 26.05	+20 10.4	1.762	2.662	10.6	20.8
12 23	7 17.73	+26 57.6	2.021	2.975	5.7	19.2	12 23	7 18.18	+20 37.2	1.716	2.670	6.5	20.6
1 2	7 8.54	+27 56.6	2.005	2.983	2.3	19.0	1 2	7 8.70	+21 7.2	1.697	2.678	2.0	20.3
1 12	6 58.86	+28 49.2	2.018	2.991	3.3	19.1	1 12	6 58.76	+21 37.3	1.708	2.686	2.7	20.4
1 22	6 49.78	+29 32.1	2.061	3.000	6.8	19.4	1 22	6 49.55	+22 4.9	1.747	2.694	7.1	20.7
2 1	6 42.29	+30 4.3	2.132	3.008	10.2	19.6	2 1	6 42.15	+22 28.5	1.813	2.702	11.0	20.9
2 11	6 37.14	+30 26.6	2.226	3.016	13.1	19.8	2 11	6 37.32	+22 47.8	1.902	2.710	14.3	21.2
440071	2002 <i>SV</i> ₁		1 6.1 89°09	2°2/ 6.5	18		425404	2010 <i>CU</i> ₁₀₉		1 6.1 268°37	0°6/ 5.9	17	
12 3	7 37.20	+16 50.7	1.408	2.231	17.6	21.6	12 3	7 29.93	+23 29.6	2.309	3.127	11.8	21.7
12 13	7 30.54	+16 50.0	1.356	2.254	13.3	21.4	12 13	7 24.64	+23 43.6	2.216	3.114	8.8	21.5
12 23	7 20.94	+16 59.0	1.326	2.277	8.3	21.2	12 23	7 17.28	+23 59.7	2.147	3.101	5.4	21.3
1 2	7 9.47	+17 15.4	1.321	2.299	3.3	20.9	1 2	7 8.45	+24 15.4	2.107	3.087	1.6	21.0
1 12	6 57.67	+17 36.5	1.344	2.321	3.7	21.0	1 12	6 59.08	+24 28.5	2.097	3.074	2.5	21.0
1 22	6 47.10	+17 59.4	1.395	2.342	8.5	21.4	1 22	6 50.17	+24 37.5	2.116	3.060	6.3	21.2
2 1	6 39.00	+18 22.3	1.471	2.363	12.9	21.7	2 1	6 42.66	+24 41.8	2.164	3.047	9.8	21.4
2 11	6 34.10	+18 44.0	1.569	2.384	16.6	22.0	2 11	6 37.29	+24 42.1	2.236	3.033	12.8	21.6
317069	2001 <i>SB</i> ₂₀₆		1 6.1 39°52	5°4/ 7.5	18		253933	2004 <i>CM</i> ₈₀		1 6.1 307°00	3°0/ 5.4	18	
12 3	7 29.49	+ 8 41.1	1.665	2.471	16.1	20.5	12 3	7 32.59	+28 7.0	1.587	2.422	15.4	20.7
12 13	7 24.63	+ 8 21.1	1.596	2.476	12.7	20.3	12 13	7 27.64	+28 41.2	1.502	2.408	11.6	20.4
12 23	7 17.35	+ 8 16.5	1.549	2.482	9.1	20.1	12 23	7 19.58	+29 15.7	1.440	2.394	7.4	20.1
1 2	7 8.45	+ 8 28.4	1.526	2.488	6.0	20.0	1 2	7 9.22	+29 44.8	1.403	2.380	3.5	19.9
1 12	6 59.06	+ 8 55.8	1.531	2.494	5.8	20.0	1 12	6 57.97	+30 3.5	1.394	2.367	4.6	19.9
1 22	6 50.41	+ 9 35.9	1.563	2.501	8.7	20.2	1 22	6 47.43	+30 9.1	1.412	2.353	9.0	20.1
2 1	6 43.56	+10 24.6	1.621	2.507	12.2	20.4	2 1	6 39.10	+30 2.3	1.455	2.341	13.4	20.3
2 11	6 39.28	+11 17.7	1.700	2.514	15.5	20.6	2 11	6 34.02	+29 46.0	1.518	2.328	17.2	20.6
335951	2007 <i>TB</i> ₉₃		1 6.1 128°52	4°8/ 8.1	18		219462	2000 <i>YP</i> ₁		1 6.1 22°80	3°1/ 5.9	18	
12 3	7 27.64	+ 3 2.0	3.172	3.921	10.4	22.9	12 3	7 35.95	+31 48.8	1.496	2.329	16.2	19.1
12 13	7 22.14	+ 2 42.2	3.103	3.940	8.5	22.8	12 13	7 29.81	+31 28.9	1.433	2.337	12.3	18.9
12 23	7 15.36	+ 2 33.4	3.058	3.958	6.6	22.7	12 23	7 20.57	+31 0.8	1.393	2.345	7.8	18.6
1 2	7 7.80	+ 2 36.4	3.042	3.975	5.1	22.6	1 2	7 9.39	+30 21.2	1.378	2.355	3.7	18.4
1 12	7 0.04	+ 2 51.1	3.056	3.992	4.9	22.6	1 12	6 57.91	+29 29.1	1.392	2.365	4.4	18.5
1 22	6 52.70	+ 3 16.1	3.099	4.009	6.1	22.7	1 22	6 47.74	+28 26.9	1.432	2.376	8.6	18.8
2 1	6 46.32	+ 3 49.5	3.172	4.024	7.9	22.9	2 1	6 40.15	+27 19.4	1.498	2.388	12.8	19.0
2 11	6 41.34	+ 4 28.6	3.270	4.039	9.8	23.0	2 11	6 35.86	+26 11.5	1.586	2.400	16.4	19.3
149463	2003 <i>EV</i> ₄		1 6.1 243°92	5°5/ 4.7	18		66390	1999 <i>KL</i> ₃		1 6.1 358°59	3°2/ 4.9	18	
12 3	7 36.13	+36 44.5	2.016	2.829	13.4	19.8	12 3	7 30.17	+29 33.5	2.130	2.954	12.4	18.7
12 13	7 29.79	+37 27.5	1.935	2.821	10.5	19.6	12 13	7 25.06	+30 26.8	2.054	2.953	9.3	18.5
12 23	7 20.61	+38 3.2	1.879	2.814	7.6	19.4	12 23	7 17.62	+31 19.5	2.003	2.953	6.0	18.3
1 2	7 9.44	+38 25.3	1.849	2.807	5.6	19.2	1 2	7 8.57	+32 6.4	1.980	2.952	3.4	18.2
1 12	6 57.60	+38 29.2	1.848	2.799	6.3	19.3	1 12	6 58.97	+32 43.1	1.986	2.952	4.3	18.2
1 22	6 46.56	+38 13.9	1.874	2.791	9.0	19.4	1 22	6 49.95	+33 7.4	2.020	2.952	7.4	18.4
2 1	6 37.61	+37 41.8	1.927	2.783	12.1	19.6	2 1	6 42.58	+33 19.1	2.082	2.953	10.7	18.6
2 11	6 31.62	+36 57.9	2.002	2.775	15.0	19.8	2 11	6 37.63	+33 20.1	2.167	2.953	13.5	18.8
82016	2000 <i>RJ</i> ₁₀₁		1 6.1 228°18	6°5/ 4.4	18		269698	1997 <i>MV</i> ₉		1 6.1 82°45	4°7/ 7.3	18	
12 3	7 38.75	+46 49.6	2.950	3.718	10.7	19.4	12 3	7 29.51	+ 8 56.6	2.165	2.955	13.4	20.7
12 13	7 31.08	+47 20.2	2.866	3.709	9.0	19.2	12 13	7 24.05	+ 8 26.5	2.101	2.971	10.5	20.5
12 23	7 21.07	+47 38.8	2.806	3.699	7.4	19.1	12 23	7 16.74	+ 8 7.8	2.060	2.988	7.5	20.4
1 2	7 9.51	+47 40.4	2.774	3.688	6.5	19.0	1 2	7 8.26	+ 8 1.3	2.046	3.004	5.1	20.3
1 12	6 57.55	+47 22.0	2.771	3.678	6.8	19.1	1 12	6 59.51	+ 8 7.0	2.061	3.020	5.0	20.3
1 22	6 46.36	+46 43.9	2.796	3.667	8.2	19.1	1 22	6 51.40	+ 8 23.2	2.105	3.036	7.3	20.5
2 1	6 36.98	+45 48.8	2.848	3.656	10.0	19.2	2 1	6 44.74	+ 8 47.8	2.177	3.052	10.1	20.7
2 11	6 30.12	+44 41.6	2.924	3.644	11.9	19.4	2 11	6 40.11	+ 9 17.9	2.272	3.067	12.7	20.9
41806	2000 <i>WF</i> ₃₂		1 6.1 52°16	0°0/ 5.9	18		190742	2001 <i>QH</i> ₆		1 6.1 80°26	2°3/ 6.7	18	
12 3	7 31.06	+19 34.4	1.700	2.526	14.9	19.0	12 3	7 35.22	+15 24.1	1.412	2.235	17.6	20.4
12 13	7 25.83	+20 20.4	1.639	2.541	11.1	18.8	12 13	7 29.15	+15 40.3	1.358	2.256	13.3	20.2
12 23	7 18.09	+21 14.3	1.602	2.557	6.7	18.6	12 23	7 20.17	+16 8.6	1.326	2.277	8.4	20.0
1 2	7 8.67	+22 11.6	1.592	2.572	2.0	18.3	1 2	7 9.30	+16 46.4	1.320	2.297	3.5	19.7
1 12	6 58.79	+23 7.4	1.610	2.588	2.8	18.4	1 12	6 58.04	+17 29.5	1.341	2.318	3.7	19.8
1 22	6 49.73	+23 57.8	1.657	2.604	7.4	18.7	1 22	6 47.89	+18 13.7	1.390	2.338	8.4	20.1
2 1	6 42.61	+24 40.5	1.731	2.621	11.4	19.0	2 1	6 40.12	+18 56.0	1.464	2.358	12.8	20.4
2 11	6 38.18	+25 15.1	1.827	2.637	14.7	19.2	2 11	6 35.48	+19 34.5	1.560	2.378	16.5	20.7
454485	2014 <i>OG</i> ₁₃₀		1 6.1 272°30	0°8/ 5.9	18		405503	2005 <i>AV</i> ₄₀		1 6.1 334°22	1°5/ 6.5	17	
12 3	7 34.18	+23 54.9	1.581	2.412	15.6								

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
290917	2005 <i>WV</i> ₁₁₄		1 6.1 141°66	0°5/ 5.9	18		388503	2007 <i>EH</i> ₁₃₆		1 6.1 251°29	4°6/ 7.1	18	
12 3	7 31.04	+22 1.2	2.030	2.851	13.1	20.5	12 3	7 32.69	+11 37.2	1.541	2.354	16.8	21.3
12 13	7 25.62	+22 35.2	1.953	2.853	9.7	20.3	12 13	7 27.45	+11 21.0	1.457	2.346	13.2	21.0
12 23	7 17.92	+23 13.8	1.901	2.855	5.9	20.0	12 23	7 19.35	+11 18.6	1.395	2.337	9.1	20.8
1 2	7 8.66	+23 53.5	1.876	2.857	1.8	19.8	1 2	7 9.17	+11 30.7	1.358	2.328	5.3	20.5
1 12	6 58.88	+24 30.6	1.881	2.859	2.7	19.8	1 12	6 58.19	+11 56.1	1.349	2.318	5.3	20.5
1 22	6 49.70	+25 2.5	1.916	2.860	6.8	20.1	1 22	6 47.86	+12 32.1	1.366	2.309	9.1	20.7
2 1	6 42.16	+25 27.9	1.978	2.862	10.5	20.3	2 1	6 39.52	+13 15.2	1.409	2.299	13.5	20.9
2 11	6 37.00	+25 46.9	2.063	2.864	13.6	20.5	2 11	6 34.14	+14 1.6	1.473	2.289	17.4	21.2
456379	2006 <i>US</i> ₇₆		1 6.1 20°94	3°7/ 6.5	16		411255	2010 <i>RW</i> ₁₁₀		1 6.1 148°59	6°7/ 4.4	18	
12 3	7 29.35	+17 7.2	1.084	1.937	19.7	20.3	12 3	7 40.17	+40 39.0	2.091	2.890	13.5	22.1
12 13	7 25.34	+16 19.5	1.038	1.951	14.9	20.1	12 13	7 32.72	+41 35.9	2.026	2.898	10.8	21.9
12 23	7 18.05	+15 41.9	1.011	1.966	9.6	19.8	12 23	7 22.34	+42 22.4	1.985	2.906	8.3	21.8
1 2	7 8.70	+15 15.4	1.007	1.984	4.6	19.6	1 2	7 9.99	+42 51.2	1.971	2.913	6.8	21.7
1 12	6 59.00	+15 0.0	1.028	2.003	4.9	19.7	1 12	6 57.10	+42 57.6	1.986	2.920	7.3	21.8
1 22	6 50.65	+14 54.6	1.072	2.024	9.7	20.0	1 22	6 45.21	+42 41.3	2.028	2.926	9.5	21.9
2 1	6 44.98	+14 57.4	1.139	2.046	14.5	20.4	2 1	6 35.63	+42 5.8	2.097	2.932	12.1	22.1
2 11	6 42.72	+15 5.7	1.226	2.070	18.5	20.7	2 11	6 29.17	+41 16.9	2.187	2.937	14.5	22.3
196885	2003 <i>SP</i> ₃₁₄		1 6.1 166°96	0°1/ 6.0	18		74454	1999 <i>CV</i> ₂₈		1 6.1 322°20	3°3/ 5.4	18	
12 3	7 30.56	+21 46.4	2.580	3.389	10.9	21.5	12 3	7 32.69	+32 10.4	2.147	2.965	12.5	19.1
12 13	7 24.78	+22 5.9	2.500	3.393	8.1	21.3	12 13	7 26.86	+32 25.9	2.067	2.962	9.5	18.9
12 23	7 17.21	+22 28.3	2.445	3.397	4.9	21.1	12 23	7 18.67	+32 36.6	2.012	2.959	6.2	18.7
1 2	7 8.43	+22 51.3	2.419	3.400	1.4	20.9	1 2	7 8.89	+32 38.6	1.985	2.956	3.6	18.5
1 12	6 59.27	+23 12.9	2.425	3.403	2.1	20.9	1 12	6 58.67	+32 29.1	1.986	2.953	4.2	18.5
1 22	6 50.60	+23 31.3	2.462	3.405	5.6	21.2	1 22	6 49.16	+32 8.0	2.017	2.951	7.3	18.7
2 1	6 43.23	+23 45.8	2.527	3.407	8.7	21.4	2 1	6 41.43	+31 36.9	2.075	2.948	10.6	18.9
2 11	6 37.76	+23 56.6	2.618	3.408	11.3	21.6	2 11	6 36.21	+30 59.0	2.156	2.946	13.5	19.1
41133	1999 <i>VF</i> ₉₈		1 6.1 127°62	0°6/ 6.2	18		266222	2006 <i>WD</i> ₂₀₀		1 6.1 25°82	0°3/ 6.0	18	
12 3	7 34.83	+20 12.5	1.995	2.807	13.6	20.5	12 3	7 31.21	+21 37.1	1.581	2.415	15.5	20.6
12 13	7 28.25	+20 21.6	1.928	2.823	10.1	20.3	12 13	7 26.24	+22 1.9	1.513	2.419	11.6	20.3
12 23	7 19.39	+20 35.2	1.886	2.838	6.2	20.1	12 23	7 18.52	+22 32.3	1.467	2.423	7.0	20.1
1 2	7 9.07	+20 50.8	1.872	2.852	1.9	19.9	1 2	7 8.89	+23 4.8	1.446	2.427	2.1	19.8
1 12	6 58.40	+21 6.1	1.888	2.866	2.6	19.9	1 12	6 58.69	+23 35.2	1.454	2.432	3.1	19.9
1 22	6 48.52	+21 19.4	1.934	2.879	6.7	20.2	1 22	6 49.32	+24 0.6	1.489	2.438	7.9	20.2
2 1	6 40.42	+21 30.1	2.008	2.891	10.4	20.5	2 1	6 42.04	+24 19.9	1.550	2.444	12.2	20.4
2 11	6 34.78	+21 38.3	2.106	2.903	13.5	20.7	2 11	6 37.67	+24 33.3	1.633	2.450	15.9	20.7
149234	2002 <i>RE</i> ₁₃₅		1 6.1 49°92	0°1/ 6.1	17		373723	2002 <i>SV</i> ₁₂		1 6.1 47°57	8°1/ 8.8	18	
12 3	7 34.33	+19 36.0	1.124	1.971	19.5	20.1	12 3	7 27.81	+ 0 3.8	1.938	2.703	15.6	20.4
12 13	7 29.20	+20 13.0	1.075	1.987	14.6	19.9	12 13	7 22.99	+ 0 39.5	1.880	2.720	13.0	20.2
12 23	7 20.51	+21 0.5	1.047	2.005	8.8	19.6	12 23	7 16.20	+ 1 3.3	1.843	2.737	10.5	20.1
1 2	7 9.46	+21 52.8	1.041	2.022	2.6	19.3	1 2	7 8.15	+ 1 5.1	1.831	2.755	8.6	20.0
1 12	6 57.89	+22 43.2	1.062	2.041	3.7	19.4	1 12	6 59.82	+ 0 44.6	1.845	2.773	8.2	20.0
1 22	6 47.68	+23 27.0	1.108	2.059	9.5	19.8	1 22	6 52.17	+ 0 4.4	1.885	2.791	9.6	20.1
2 1	6 40.36	+24 1.9	1.177	2.078	14.6	20.2	2 1	6 46.04	+ 0 51.3	1.951	2.810	11.8	20.3
2 11	6 36.79	+24 27.9	1.266	2.098	18.7	20.5	2 11	6 42.06	+ 1 56.8	2.039	2.829	14.2	20.5
255130	2005 <i>UG</i> ₁₃₀		1 6.1 61°88	2°6/ 5.1	18		231950	2001 <i>NW</i> ₁₁		1 6.1 156°98	1°2/ 6.4	18	
12 3	7 34.35	+25 7.7	1.670	2.498	15.1	20.1	12 3	7 29.84	+18 52.3	2.570	3.376	11.1	20.4
12 13	7 28.40	+26 25.9	1.619	2.522	11.1	19.9	12 13	7 24.19	+18 41.9	2.490	3.381	8.3	20.2
12 23	7 19.71	+27 46.8	1.592	2.545	6.8	19.7	12 23	7 16.83	+18 35.1	2.435	3.385	5.2	20.0
1 2	7 9.20	+29 3.4	1.592	2.569	3.0	19.6	1 2	7 8.34	+18 31.0	2.410	3.388	2.0	19.8
1 12	6 58.24	+30 9.0	1.621	2.593	4.2	19.7	1 12	6 59.54	+18 28.8	2.415	3.392	2.3	19.8
1 22	6 48.23	+30 59.9	1.679	2.617	8.1	20.0	1 22	6 51.26	+18 27.8	2.451	3.395	5.5	20.0
2 1	6 40.39	+31 35.6	1.763	2.641	11.9	20.3	2 1	6 44.24	+18 27.4	2.516	3.398	8.6	20.2
2 11	6 35.50	+31 57.8	1.870	2.665	15.0	20.5	2 11	6 39.07	+18 27.5	2.606	3.400	11.3	20.4
93903	2000 <i>WT</i> ₁₄₉		1 6.1 256°86	4°9/ 6.9	18		47186	1999 <i>TC</i> ₁₄₇		1 6.1 228°76	4°0/ 5.1	18	
12 3	7 29.99	+ 9 50.2	2.071	2.866	13.8	19.8	12 3	7 37.27	+29 6.2	1.465	2.297	16.6	19.7
12 13	7 24.72	+ 9 10.7	1.982	2.857	10.9	19.5	12 13	7 31.39	+30 0.7	1.389	2.293	12.6	19.5
12 23	7 17.35	+ 8 41.3	1.917	2.848	7.8	19.3	12 23	7 22.00	+30 55.6	1.336	2.288	8.1	19.2
1 2	7 8.52	+ 8 23.7	1.879	2.839	5.3	19.2	1 2	7 10.02	+31 42.8	1.308	2.283	4.3	19.0
1 12	6 59.16	+ 8 18.5	1.869	2.829	5.3	19.2	1 12	6 57.09	+32 15.5	1.308	2.277	5.5	19.0
1 22	6 50.30	+ 8 24.9	1.888	2.820	7.9	19.3	1 22	6 45.06	+32 30.2	1.335	2.272	9.9	19.3
2 1	6 42.89	+ 8 41.3	1.934	2.810	11.1	19.5	2 1	6 35.62	+32 28.2	1.386	2.266	14.4	19.5
2 11	6 37.66	+ 9 5.2	2.003	2.801	14.1	19.6	2 11	6 29.85	+32 13.6	1.457	2.259	18.2	19.7
191253	2003 <i>BE</i> ₉		1 6.1 23°57	4°3/ 7.1	18		118226	1996 <i>TA</i> ₃₀		1 6.1 19°67	6°3/ 4.5	18	
12 3	7 30.87	+12 44.9	1.204	2.040	19.2	19.6	12 3	7 33.01	+34 25.7	1.461	2.298	16.3	19.0
12 13	7 26.49	+12 39.3	1.142	2.044	14.9	19.4	12 13	7 28.16	+35 35.9	1.403	2.304	12.6	18.8
12 23	7 18.88	+12 50.4	1.100	2.049	9.9	19.1	12 23	7 19.93	+36 40.0	1.367	2.311	8.9	18.6
1 2	7 9.02	+13 17.9	1.081	2.054	5.3	18.9	1 2	7 9.36	+37 29.4	1.356	2.319	6.4	18.5
1 12	6 58.48	+13 58.8	1.087	2.061	5.2	18.9	1 12	6 58.12	+37 57.4	1.371	2.327	7.3	18.6
1 22	6 48.96	+14 48.4	1.118	2.068	9.7	19.2	1 22	6 48.00	+38 2.0	1.411	2.337	10.6	18.8
2 1	6 41.94	+15 41.6	1.172	2.075	14.5	19.4	2 1	6 40.51	+37 46.0	1.476	2.347	14.2	19.0
2 11	6 38.33	+16 34.2	1.247	2.083	18.7	19.7	2 11	6 36.57	+37 15.0	1.560	2.357	17.4	19.2
400040	2006 <i>QK</i> ₁₆₇		1 6.1 96°04	1°7/ 6.6	17		37500	2118 <i>T</i> ₋₂		1 6.1 255°56	1°9/ 6.6	18	

EPHEMERIDES

1 6.1

1 6.1

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
42851	1999 RA ₅₁		1 6.1	13°95	3:7/ 5.5	18	171631	2000 DT ₉₇		1 6.1	18°91	4°0/ 5.3	18
12 3	7 34.88	+30 16.7	1.368	2.209	17.1	17.6	12 3	7 32.15	+29 7.3	1.276	2.125	17.5	19.1
12 13	7 29.53	+30 38.2	1.303	2.210	12.9	17.4	12 13	7 27.66	+29 53.9	1.219	2.131	13.2	18.8
12 23	7 20.74	+30 55.7	1.259	2.213	8.3	17.1	12 23	7 19.69	+30 39.2	1.182	2.137	8.4	18.6
1 2	7 9.60	+31 3.1	1.240	2.215	4.2	16.9	1 2	7 9.34	+31 15.9	1.170	2.145	4.4	18.4
1 12	6 57.82	+30 56.2	1.247	2.219	5.2	16.9	1 12	6 58.34	+31 37.9	1.183	2.154	5.5	18.5
1 22	6 47.22	+30 34.6	1.280	2.222	9.6	17.2	1 22	6 48.54	+31 43.0	1.221	2.164	10.0	18.8
2 1	6 39.33	+30 1.0	1.337	2.227	14.1	17.5	2 1	6 41.47	+31 33.0	1.283	2.175	14.4	19.0
2 11	6 35.05	+29 20.4	1.415	2.232	17.9	17.7	2 11	6 38.04	+31 11.9	1.365	2.186	18.2	19.3
190492	2000 FL ₄₂		1 6.1	17°42	4°0/ 4.8	18	433900	2015 BJ ₄₃₉		1 6.1	341°53	0°4/ 5.9	18
12 3	7 31.84	+32 3.9	2.108	2.929	12.6	19.6	12 3	7 28.89	+22 53.4	1.890	2.719	13.5	21.0
12 13	7 26.38	+32 55.7	2.034	2.930	9.6	19.4	12 13	7 24.25	+23 6.6	1.808	2.712	10.1	20.8
12 23	7 18.48	+33 44.5	1.985	2.931	6.5	19.2	12 23	7 17.24	+23 23.0	1.750	2.706	6.2	20.6
1 2	7 8.90	+34 24.9	1.964	2.932	4.1	19.1	1 2	7 8.58	+23 39.9	1.720	2.700	1.8	20.3
1 12	6 58.77	+34 52.6	1.971	2.933	4.9	19.1	1 12	6 59.36	+23 54.6	1.717	2.695	2.7	20.3
1 22	6 49.30	+35 5.7	2.007	2.934	7.8	19.3	1 22	6 50.76	+24 5.3	1.743	2.691	7.0	20.6
2 1	6 41.59	+35 4.9	2.070	2.935	11.0	19.5	2 1	6 43.85	+24 11.4	1.796	2.686	11.0	20.8
2 11	6 36.43	+34 53.0	2.155	2.937	13.8	19.7	2 11	6 39.43	+24 13.3	1.871	2.683	14.4	21.0
25276	Dimai		1 6.1	26°61	3:7/ 6.9	18	204685	2006 DF ₁₆₆		1 6.1	104°82	0°1/ 6.1	17
12 3	7 29.17	+12 50.5	2.016	2.822	13.7	18.9	12 3	7 36.14	+20 36.9	1.744	2.561	15.0	21.0
12 13	7 24.09	+12 21.1	1.939	2.824	10.6	18.7	12 13	7 29.50	+21 1.9	1.685	2.582	11.1	20.8
12 23	7 16.95	+12 0.7	1.887	2.827	7.2	18.5	12 23	7 20.30	+21 32.2	1.650	2.603	6.7	20.6
1 2	7 8.43	+11 49.7	1.861	2.829	4.2	18.3	1 2	7 9.45	+22 4.2	1.642	2.623	2.0	20.3
1 12	6 59.50	+11 48.2	1.864	2.832	4.3	18.3	1 12	6 58.24	+22 34.2	1.664	2.642	2.8	20.4
1 22	6 51.18	+11 54.9	1.896	2.835	7.2	18.5	1 22	6 47.98	+22 59.8	1.715	2.661	7.3	20.7
2 1	6 44.39	+12 8.4	1.954	2.838	10.6	18.7	2 1	6 39.78	+23 19.9	1.794	2.679	11.3	21.0
2 11	6 39.79	+12 26.6	2.036	2.841	13.6	18.9	2 11	6 34.36	+23 35.0	1.895	2.697	14.6	21.3
227506	2005 XQ ₁₀₆		1 6.1	29°84	1°7/ 6.6	18	240588	2004 TZ ₁₆₈		1 6.1	73°77	0°5/ 5.9	18
12 3	7 29.38	+16 13.6	1.890	2.708	14.0	20.1	12 3	7 36.76	+21 51.7	1.431	2.261	17.0	20.6
12 13	7 24.46	+16 30.9	1.815	2.711	10.6	19.9	12 13	7 30.35	+22 23.4	1.382	2.286	12.6	20.3
12 23	7 17.28	+16 57.4	1.763	2.714	6.7	19.7	12 23	7 20.95	+23 0.3	1.355	2.311	7.6	20.1
1 2	7 8.55	+17 31.1	1.739	2.717	2.7	19.5	1 2	7 9.64	+23 37.4	1.355	2.336	2.2	19.9
1 12	6 59.32	+18 9.3	1.743	2.720	3.0	19.5	1 12	6 58.01	+24 10.0	1.382	2.360	3.3	20.0
1 22	6 50.71	+18 48.9	1.776	2.724	6.9	19.7	1 22	6 47.61	+24 35.3	1.437	2.384	8.3	20.3
2 1	6 43.75	+19 27.4	1.836	2.727	10.8	20.0	2 1	6 39.71	+24 52.8	1.518	2.409	12.6	20.7
2 11	6 39.18	+20 3.1	1.920	2.731	14.1	20.2	2 11	6 35.03	+25 3.7	1.620	2.432	16.2	21.0
8049	1996 FL ₂		1 6.1	205°02	0°5/ 5.9	18	13955	1990 UA ₂		1 6.1	42°84	0°5/ 6.2	18
12 3	7 30.86	+23 12.1	2.176	2.994	12.4	17.8	12 3	7 33.31	+19 13.0	1.249	2.090	18.3	18.3
12 13	7 25.38	+23 25.1	2.095	2.993	9.2	17.6	12 13	7 28.00	+19 43.8	1.208	2.116	13.6	18.1
12 23	7 17.76	+23 40.4	2.038	2.992	5.6	17.4	12 23	7 19.60	+20 23.6	1.187	2.144	8.2	17.9
1 2	7 8.69	+23 55.4	2.010	2.991	1.7	17.1	1 2	7 9.25	+21 7.8	1.190	2.171	2.5	17.6
1 12	6 59.15	+24 7.8	2.012	2.989	2.5	17.2	1 12	6 58.60	+21 51.0	1.221	2.200	3.3	17.8
1 22	6 50.20	+24 16.1	2.043	2.988	6.4	17.4	1 22	6 49.28	+22 29.2	1.277	2.228	8.6	18.2
2 1	6 42.79	+24 19.9	2.102	2.986	10.0	17.6	2 1	6 42.54	+23 0.7	1.358	2.258	13.2	18.5
2 11	6 37.63	+24 19.9	2.185	2.984	13.0	17.8	2 11	6 39.11	+23 25.2	1.460	2.287	16.9	18.8
256396	2007 AZ ₁		1 6.1	43°86	2°0/ 5.1	18	481482	2007 CA ₁₉		1 6.1	249°67	2°3/ 7.1	17
12 3	7 33.69	+21 19.2	1.629	2.456	15.4	19.6	12 3	7 30.86	+11 11.5	3.917	4.682	8.3	24.5
12 13	7 28.25	+23 7.6	1.561	2.464	11.5	19.3	12 13	7 24.58	+11 10.7	3.791	4.652	6.5	24.3
12 23	7 19.89	+25 6.6	1.516	2.472	7.0	19.1	12 23	7 17.00	+11 15.7	3.692	4.621	4.5	24.2
1 2	7 9.39	+27 7.5	1.501	2.480	2.6	18.8	1 2	7 8.48	+11 26.4	3.624	4.589	2.7	24.0
1 12	6 58.08	+29 0.9	1.515	2.489	4.0	19.0	1 12	6 59.55	+11 42.3	3.590	4.555	2.7	24.0
1 22	6 47.45	+30 39.1	1.559	2.498	8.5	19.2	1 22	6 50.75	+12 2.4	3.590	4.520	4.5	24.0
2 1	6 38.89	+31 58.6	1.629	2.507	12.7	19.5	2 1	6 42.66	+12 25.7	3.621	4.485	6.7	24.2
2 11	6 33.38	+32 59.7	1.722	2.517	16.1	19.8	2 11	6 35.74	+12 51.0	3.681	4.448	8.8	24.3
427088	2014 UL ₄₅		1 6.1	149°50	2°5/ 6.7	18	347918	2003 BD ₄₂		1 6.1	289°53	1°7/ 5.9	18
12 3	7 32.03	+14 56.4	2.288	3.087	12.5	21.9	12 3	7 35.76	+26 28.8	1.438	2.273	16.7	20.3
12 13	7 25.96	+14 45.3	2.212	3.096	9.5	21.7	12 13	7 30.38	+26 30.7	1.346	2.252	12.7	20.0
12 23	7 17.97	+14 41.1	2.161	3.104	6.2	21.5	12 23	7 21.51	+26 32.0	1.275	2.231	7.9	19.6
1 2	7 8.73	+14 43.4	2.139	3.112	3.1	21.3	1 2	7 9.98	+26 28.2	1.230	2.209	2.8	19.3
1 12	6 59.14	+14 51.1	2.147	3.119	3.2	21.3	1 12	6 57.35	+26 15.6	1.211	2.188	3.9	19.3
1 22	6 50.14	+15 3.0	2.185	3.126	6.3	21.6	1 22	6 45.44	+25 53.3	1.220	2.167	9.4	19.5
2 1	6 42.58	+15 17.8	2.252	3.132	9.5	21.8	2 1	6 35.98	+25 23.2	1.253	2.146	14.6	19.8
2 11	6 37.09	+15 34.3	2.343	3.138	12.4	22.0	2 11	6 30.13	+24 48.8	1.306	2.125	19.0	20.0
403304	2009 BH ₁₈₂		1 6.1	315°23	6°0/ 5.6	18	66976	1999 XN ₇₈		1 6.1	35°76	0°3/ 6.2	18
12 3	7 38.62	+36 25.8	1.433	2.262	17.0	20.4	12 3	7 30.49	+21 7.2	1.848	2.673	13.9	19.6
12 13	7 32.59	+36 42.4	1.355	2.251	13.4	20.1	12 13	7 25.34	+21 13.9	1.777	2.679	10.4	19.4
12 23	7 22.77	+36 47.9	1.298	2.241	9.4	19.8	12 23	7 17.83	+21 24.8	1.730	2.684	6.3	19.1
1 2	7 10.27	+36 34.8	1.265	2.231	6.3	19.6	1 2	7 8.76	+21 37.8	1.710	2.690	1.9	18.8
1 12	6 56.94	+35 58.3	1.259	2.221	7.0	19.7	1 12	6 59.24	+21 50.3	1.718	2.697	2.6	18.9
1 22	6 44.84	+34 59.3	1.279	2.212	10.7	19.8	1 22	6 50.46	+22 0.8	1.756	2.703	7.0	19.2
2 1	6 35.69	+33 43.8	1.323	2.203	14.9	20.1	2 1	6 43.46	+22 8.5	1.819	2.710	10.9	19.4
2 11	6 30.47	+32 19.8	1.388	2.194	18.8	20.3	2 11	6 38.96	+22 13.6	1.906	2.717	14.2	19.7
142929	2002 VS ₆₁		1 6.1	144°73	0°8/ 5.9	18	83262	2001 RF ₇₃		1 6.1	186°73	6°8/ 4.3	18
12 3	7 34.14	+24 0.2	1.971	2.789	13.5								

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
306030	2010 <i>ET</i> ₁₀₇		1 6.1 167°09	1°3/ 5.8 18			285906	2001 <i>QQ</i> ₁₂₃		1 6.1 131°62	5°5/ 5.0 18		
12 3	7 36.42	+25 33.6	2.127	2.939	12.9	22.1	12 3	7 39.71	+38 20.3	2.159	2.960	13.1	21.4
12 13	7 29.55	+25 54.5	2.050	2.944	9.6	21.9	12 13	7 32.14	+38 57.2	2.095	2.973	10.3	21.2
12 23	7 20.32	+26 15.8	1.997	2.949	5.9	21.7	12 23	7 21.91	+39 24.5	2.056	2.985	7.5	21.1
1 2	7 9.50	+26 33.9	1.974	2.953	2.1	21.5	1 2	7 9.98	+39 36.7	2.044	2.997	5.6	21.0
1 12	6 58.20	+26 45.8	1.981	2.956	2.9	21.5	1 12	6 57.70	+39 30.2	2.062	3.009	6.1	21.0
1 22	6 47.61	+26 50.3	2.018	2.959	6.8	21.8	1 22	6 46.41	+39 5.2	2.109	3.020	8.5	21.2
2 1	6 38.79	+26 47.7	2.084	2.960	10.4	22.0	2 1	6 37.29	+38 25.0	2.182	3.030	11.2	21.4
2 11	6 32.46	+26 39.6	2.174	2.961	13.5	22.2	2 11	6 31.04	+37 34.7	2.279	3.040	13.7	21.6
14702	Benclark		1 6.1 152°01	4°3/ 7.4 18			44530	Horáková		1 6.1 68°67	0°6/ 6.2 18 R		
12 3	7 28.56	+8 33.5	2.457	3.240	12.2	18.2	12 3	7 37.79	+22 47.6	1.598	2.420	15.9	16.9
12 13	7 23.32	+8 13.7	2.378	3.245	9.6	18.1	12 13	7 30.71	+22 16.1	1.545	2.445	11.8	16.7
12 23	7 16.38	+8 4.4	2.323	3.249	6.9	17.9	12 23	7 20.98	+21 45.7	1.516	2.470	7.1	16.5
1 2	7 8.31	+8 6.4	2.296	3.253	4.7	17.8	1 2	7 9.68	+21 15.4	1.514	2.495	2.2	16.2
1 12	6 59.90	+8 19.2	2.298	3.257	4.6	17.8	1 12	6 58.23	+20 44.8	1.541	2.519	3.0	16.3
1 22	6 51.97	+8 41.4	2.330	3.260	6.7	17.9	1 22	6 48.02	+20 14.7	1.597	2.544	7.6	16.7
2 1	6 45.26	+9 10.9	2.390	3.263	9.4	18.1	2 1	6 40.13	+19 46.3	1.679	2.568	11.7	17.0
2 11	6 40.35	+9 45.2	2.474	3.267	11.9	18.3	2 11	6 35.18	+19 20.7	1.784	2.593	15.1	17.3
492039	2013 <i>GE</i> ₉₁		1 6.1 207°55	4°7/ 7.2 17			203890	2003 <i>FQ</i> ₂₅		1 6.1 184°03	0°3/ 6.2 18		
12 3	7 31.58	+8 17.2	2.372	3.150	12.7	22.9	12 3	7 35.43	+20 29.4	1.996	2.807	13.6	21.2
12 13	7 25.69	+7 47.5	2.281	3.144	10.1	22.7	12 13	7 28.96	+20 44.4	1.914	2.808	10.2	21.0
12 23	7 17.89	+7 28.1	2.213	3.137	7.4	22.5	12 23	7 20.07	+21 4.1	1.856	2.808	6.2	20.8
1 2	7 8.78	+7 20.3	2.174	3.129	5.1	22.4	1 2	7 9.50	+21 25.9	1.827	2.807	1.9	20.5
1 12	6 59.20	+7 24.3	2.164	3.121	5.1	22.4	1 12	6 58.36	+21 47.0	1.828	2.806	2.6	20.5
1 22	6 50.04	+7 39.1	2.185	3.111	7.3	22.5	1 22	6 47.86	+22 5.3	1.859	2.803	6.9	20.8
2 1	6 42.18	+8 2.9	2.233	3.101	10.1	22.7	2 1	6 39.11	+22 20.0	1.917	2.800	10.8	21.0
2 11	6 36.27	+8 33.1	2.306	3.091	12.9	22.8	2 11	6 32.88	+22 31.2	2.000	2.796	14.1	21.2
343741	2011 <i>FW</i> ₁₄		1 6.1 151°24	2°4/ 5.6 18			130667	2000 <i>ST</i> ₁₀₉		1 6.1 54°05	0°2/ 6.1 17		
12 3	7 37.73	+26 35.3	1.430	2.263	16.9	21.3	12 3	7 35.90	+22 29.5	1.278	2.117	18.1	19.6
12 13	7 31.55	+27 6.0	1.361	2.266	12.7	21.1	12 13	7 29.96	+22 38.5	1.231	2.140	13.4	19.4
12 23	7 21.99	+27 37.5	1.314	2.269	7.9	20.8	12 23	7 20.83	+22 51.7	1.206	2.163	8.1	19.1
1 2	7 10.06	+28 4.0	1.293	2.272	3.1	20.6	1 2	7 9.68	+23 5.1	1.205	2.186	2.4	18.9
1 12	6 57.41	+28 20.2	1.300	2.275	4.3	20.6	1 12	6 58.25	+23 15.3	1.231	2.210	3.4	19.0
1 22	6 45.83	+28 24.1	1.333	2.277	9.2	20.9	1 22	6 48.19	+23 20.6	1.284	2.234	8.7	19.4
2 1	6 36.85	+28 16.9	1.392	2.279	13.8	21.2	2 1	6 40.82	+23 21.2	1.361	2.258	13.3	19.7
2 11	6 31.43	+28 1.9	1.471	2.281	17.7	21.5	2 11	6 36.87	+23 18.3	1.459	2.282	17.1	20.0
169339	2001 <i>TO</i> ₁₉₁		1 6.1 60°60	2°5/ 5.4 18			350066	2011 <i>GF</i> ₁₂		1 6.1 173°91	2°4/ 5.6 18		
12 3	7 31.05	+28 57.5	2.203	3.024	12.2	19.3	12 3	7 39.00	+27 34.8	1.796	2.613	14.6	22.3
12 13	7 25.49	+29 26.7	2.138	3.036	9.1	19.2	12 13	7 31.96	+28 4.3	1.720	2.617	11.0	22.1
12 23	7 17.80	+29 54.0	2.098	3.049	5.7	19.0	12 23	7 22.03	+28 33.1	1.668	2.620	6.9	21.8
1 2	7 8.74	+30 15.7	2.087	3.062	2.8	18.8	1 2	7 10.10	+28 56.0	1.644	2.622	3.0	21.6
1 12	6 59.33	+30 28.9	2.104	3.075	3.5	18.9	1 12	6 57.56	+29 8.9	1.650	2.623	3.9	21.6
1 22	6 50.63	+30 32.4	2.151	3.088	6.7	19.1	1 22	6 45.88	+29 10.2	1.685	2.623	8.0	21.9
2 1	6 43.58	+30 27.1	2.226	3.101	9.9	19.3	2 1	6 36.37	+29 1.0	1.746	2.623	12.0	22.1
2 11	6 38.82	+30 14.7	2.323	3.115	12.6	19.5	2 11	6 29.90	+28 44.5	1.831	2.622	15.5	22.4
67421	2000 <i>QX</i> ₇₆		1 6.1 160°09	5°0/ 7.6 18			407808	2012 <i>AK</i> ₃		1 6.1 322°89	0°1/ 6.2 18		
12 3	7 32.13	+9 6.8	1.651	2.453	16.4	19.8	12 3	7 31.30	+20 35.6	1.562	2.394	15.7	21.1
12 13	7 26.77	+9 1.5	1.576	2.456	12.9	19.6	12 13	7 26.54	+20 57.2	1.482	2.387	11.8	20.9
12 23	7 18.84	+9 12.3	1.522	2.458	9.1	19.4	12 23	7 18.92	+21 25.9	1.425	2.381	7.2	20.6
1 2	7 9.11	+9 39.5	1.495	2.459	5.7	19.2	1 2	7 9.22	+21 58.5	1.394	2.375	2.2	20.3
1 12	6 58.78	+10 21.4	1.494	2.461	5.5	19.2	1 12	6 58.77	+22 30.9	1.390	2.369	3.1	20.3
1 22	6 49.14	+11 14.2	1.522	2.462	8.6	19.4	1 22	6 49.02	+22 59.9	1.414	2.363	8.1	20.6
2 1	6 41.37	+12 13.6	1.576	2.463	12.5	19.6	2 1	6 41.33	+23 23.7	1.463	2.358	12.7	20.8
2 11	6 36.30	+13 15.1	1.652	2.464	16.0	19.8	2 11	6 36.63	+23 42.1	1.534	2.353	16.6	21.1
178631	2000 <i>HW</i> ₁₁		1 6.1 207°34	3°5/ 6.9 18			343577	2010 <i>FF</i> ₈₈		1 6.1 231°72	0°7/ 5.9 17		
12 3	7 31.62	+13 1.1	2.120	2.919	13.3	20.8	12 3	7 29.58	+24 5.2	2.582	3.395	10.8	21.8
12 13	7 25.92	+12 38.4	2.033	2.915	10.3	20.6	12 13	7 24.24	+24 24.0	2.492	3.388	8.1	21.6
12 23	7 18.12	+12 24.1	1.971	2.911	7.0	20.4	12 23	7 17.05	+24 44.3	2.429	3.381	4.9	21.4
1 2	7 8.87	+12 18.7	1.937	2.906	4.0	20.2	1 2	7 8.59	+25 3.8	2.394	3.374	1.6	21.1
1 12	6 59.13	+12 21.6	1.932	2.901	4.1	20.2	1 12	6 59.69	+25 20.2	2.390	3.367	2.3	21.2
1 22	6 49.92	+12 31.8	1.956	2.895	7.1	20.4	1 22	6 51.23	+25 32.1	2.417	3.359	5.7	21.4
2 1	6 42.19	+12 47.8	2.008	2.889	10.5	20.6	2 1	6 44.03	+25 39.1	2.472	3.352	8.8	21.6
2 11	6 36.66	+13 7.6	2.084	2.883	13.6	20.8	2 11	6 38.73	+25 41.6	2.551	3.344	11.6	21.8
48722	1996 <i>VZ</i> ₂₀		1 6.1 349°72	5°3/ 4.3 18			165728	2001 <i>QV</i> ₁₀₆		1 6.1 131°38	3°6/ 6.9 18		
12 3	7 30.89	+34 12.1	1.891	2.717	13.6	18.3	12 3	7 30.58	+11 1.9	2.780	3.561	11.0	20.5
12 13	7 26.10	+35 20.4	1.817	2.712	10.6	18.1	12 13	7 24.55	+10 18.8	2.706	3.574	8.6	20.3
12 23	7 18.57	+36 24.9	1.766	2.708	7.5	17.9	12 23	7 17.02	+9 42.7	2.657	3.586	6.0	20.2
1 2	7 9.06	+37 18.6	1.743	2.704	5.4	17.8	1 2	7 8.54	+9 14.5	2.638	3.597	4.0	20.1
1 12	6 58.84	+37 55.7	1.747	2.701	6.3	17.9	1 12	6 59.83	+8 54.7	2.649	3.609	4.0	20.1
1 22	6 49.30	+38 13.9	1.778	2.698	9.1	18.0	1 22	6 51.62	+8 43.2	2.692	3.619	6.0	20.2
2 1	6 41.73	+38 13.8	1.835	2.696	12.3	18.2	2 1	6 44.58	+8 39.1	2.763	3.630	8.5	20.4
2 11	6 37.03	+37 59.1	1.913	2.695	15.2	18.4	2 11	6 39.21	+8 41.1	2.860	3.640	10.7	20.6
243396	2008 <i>YZ</i> ₁₇₁		1 6.1 322°24	4°1/ 4.5 18			22639	Nickanthony		1 6.1 190°58	0°6/ 6.3 18		
12 3	7 30.83	+31 43.6	2.150	2.972	12.4	20.2	12 3	7 35.74	+19 8.2</				

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
504012	2005 <i>JC</i> ₄₆		1 6.1 217°74	6°1/ 1.9 17			135360	2001 <i>TT</i> ₁₁₂		1 6.1 184°99	1°2/ 5.8 18		
12 3	7 39.09	+48 40.6	3.867	4.616	8.7	23.4	12 3	7 30.23	+25 42.2	2.372	3.189	11.5	20.2
12 13	7 31.41	+49 58.9	3.782	4.603	7.5	23.2	12 13	7 24.82	+25 55.2	2.291	3.189	8.6	20.0
12 23	7 21.52	+51 8.4	3.723	4.590	6.5	23.2	12 23	7 17.44	+26 8.4	2.236	3.189	5.2	19.8
1 2	7 9.97	+52 3.8	3.693	4.576	6.1	23.1	1 2	7 8.73	+26 19.2	2.209	3.189	1.8	19.6
1 12	6 57.65	+52 41.6	3.694	4.561	6.5	23.1	1 12	6 59.62	+26 25.5	2.213	3.189	2.6	19.6
1 22	6 45.56	+53 0.3	3.722	4.545	7.5	23.2	1 22	6 51.07	+26 26.2	2.246	3.189	6.1	19.8
2 1	6 34.72	+53 1.0	3.778	4.529	8.8	23.3	2 1	6 43.95	+26 21.4	2.307	3.189	9.3	20.1
2 11	6 25.94	+52 46.7	3.855	4.513	10.1	23.4	2 11	6 38.93	+26 12.2	2.393	3.188	12.1	20.2
40256	1999 <i>CM</i> ₆		1 6.1 352°86	11°0/11.8 18			10241	Miličević		1 6.1 105°32	0°5/ 6.3 18		
12 3	7 33.45	- 6 8.3	0.994	1.779	25.9	17.6	12 3	7 30.38	+20 5.0	2.391	3.201	11.6	18.7
12 13	7 29.28	- 5 10.8	0.922	1.776	22.1	17.3	12 13	7 24.75	+20 15.8	2.322	3.215	8.7	18.6
12 23	7 21.19	- 3 18.6	0.865	1.774	17.5	17.1	12 23	7 17.30	+20 30.4	2.278	3.229	5.3	18.4
1 2	7 10.03	- 0 26.3	0.828	1.772	13.1	16.8	1 2	7 8.68	+20 47.1	2.263	3.243	1.7	18.1
1 12	6 57.55	+ 3 19.3	0.815	1.771	11.0	16.7	1 12	6 59.75	+21 4.0	2.278	3.256	2.2	18.2
1 22	6 45.87	+ 7 37.9	0.828	1.771	13.3	16.8	1 22	6 51.41	+21 19.4	2.324	3.269	5.7	18.5
2 1	6 37.02	+12 3.0	0.865	1.771	18.0	17.1	2 1	6 44.47	+21 32.7	2.398	3.282	8.9	18.7
2 11	6 32.39	+16 11.5	0.925	1.772	22.8	17.4	2 11	6 39.50	+21 43.6	2.497	3.294	11.6	18.9
17786	1998 <i>FL</i> ₃₆		1 6.1 179°18	2°7/ 6.9 18			429863	2012 <i>SQ</i> ₉		1 6.1 170°47	4°0/ 4.8 17		
12 3	7 30.29	+13 24.6	2.270	3.069	12.6	18.3	12 3	7 32.44	+35 1.7	2.646	3.452	10.8	21.7
12 13	7 24.83	+13 24.9	2.187	3.070	9.6	18.1	12 13	7 26.46	+35 42.1	2.569	3.454	8.3	21.5
12 23	7 17.43	+13 34.0	2.129	3.071	6.4	17.9	12 23	7 18.44	+36 17.6	2.519	3.456	5.8	21.4
1 2	7 8.71	+13 51.5	2.099	3.071	3.3	17.7	1 2	7 9.04	+36 43.7	2.497	3.457	4.1	21.3
1 12	6 59.56	+14 15.6	2.099	3.071	3.4	17.7	1 12	6 59.22	+36 57.5	2.505	3.458	4.7	21.3
1 22	6 50.91	+14 44.6	2.129	3.070	6.4	17.9	1 22	6 49.96	+36 57.8	2.542	3.459	6.9	21.4
2 1	6 43.63	+15 16.2	2.187	3.070	9.7	18.1	2 1	6 42.18	+36 45.8	2.607	3.460	9.4	21.6
2 11	6 38.37	+15 48.7	2.269	3.069	12.6	18.3	2 11	6 36.55	+36 24.1	2.696	3.460	11.7	21.8
462751	2010 <i>CU</i> ₁₄₆		1 6.1 161°05	5°9/ 4.7 18			160818	2000 <i>WH</i> ₉₅		1 6.1 68°38	0°5/ 6.0 18		
12 3	7 37.14	+42 16.9	2.557	3.346	11.6	21.4	12 3	7 36.51	+22 49.7	1.433	2.264	16.9	19.4
12 13	7 30.07	+42 49.6	2.485	3.349	9.4	21.2	12 13	7 30.21	+23 7.1	1.383	2.288	12.5	19.1
12 23	7 20.63	+43 11.8	2.437	3.352	7.3	21.1	12 23	7 20.93	+23 28.0	1.355	2.311	7.6	18.9
1 2	7 9.65	+43 18.4	2.417	3.354	6.0	21.0	1 2	7 9.77	+23 48.4	1.354	2.334	2.2	18.7
1 12	6 58.29	+43 6.4	2.426	3.357	6.4	21.0	1 12	6 58.31	+24 4.5	1.380	2.358	3.2	18.8
1 22	6 47.76	+42 35.9	2.464	3.359	8.2	21.2	1 22	6 48.08	+24 14.4	1.433	2.381	8.2	19.1
2 1	6 39.10	+41 49.9	2.529	3.361	10.4	21.3	2 1	6 40.34	+24 18.4	1.512	2.404	12.6	19.4
2 11	6 33.00	+40 52.9	2.617	3.362	12.5	21.5	2 11	6 35.81	+24 17.8	1.612	2.427	16.2	19.7
2304	Slavia		1 6.1 218°82	6°8/ 7.9 18			193061	2000 <i>GP</i>		1 6.1 267°92	0°8/ 6.4 18		
12 3	7 30.17	+ 3 6.0	2.151	2.917	14.2	17.0	12 3	7 29.55	+19 24.4	2.340	3.152	11.8	21.0
12 13	7 24.84	+ 2 28.7	2.064	2.911	11.7	16.8	12 13	7 24.42	+19 31.3	2.243	3.137	8.9	20.7
12 23	7 17.50	+ 2 6.3	1.999	2.905	9.2	16.6	12 23	7 17.28	+19 43.0	2.171	3.122	5.5	20.5
1 2	7 8.75	+ 2 1.5	1.961	2.898	7.2	16.5	1 2	7 8.73	+19 57.9	2.127	3.107	1.9	20.2
1 12	6 59.49	+ 2 14.9	1.951	2.890	7.0	16.5	1 12	6 59.63	+20 14.2	2.113	3.091	2.3	20.2
1 22	6 50.69	+ 2 45.1	1.968	2.883	8.8	16.6	1 22	6 50.93	+20 30.1	2.130	3.076	6.1	20.5
2 1	6 43.25	+ 3 29.1	2.012	2.874	11.4	16.7	2 1	6 43.54	+20 44.8	2.174	3.060	9.6	20.6
2 11	6 37.88	+ 4 22.7	2.080	2.866	14.0	16.9	2 11	6 38.18	+20 57.7	2.243	3.044	12.7	20.8
293953	2007 <i>TR</i> ₃₀		1 6.1 171°17	1°2/ 6.4 18			430899	2005 <i>SW</i> ₂₅		1 6.1 299°92	20°6/ 11.6 18		
12 3	7 33.38	+18 41.4	1.723	2.544	15.0	20.5	12 3	7 31.00	-16 26.8	1.192	1.909	25.9	20.5
12 13	7 27.71	+18 45.8	1.647	2.545	11.3	20.3	12 13	7 26.92	-18 29.7	1.132	1.902	24.1	20.3
12 23	7 19.43	+18 57.1	1.594	2.546	7.0	20.1	12 23	7 19.47	-19 52.9	1.085	1.896	22.4	20.1
1 2	7 9.35	+19 13.2	1.567	2.547	2.5	19.8	1 2	7 9.49	-20 23.3	1.053	1.889	21.1	20.0
1 12	6 58.68	+19 31.5	1.570	2.547	3.0	19.8	1 12	6 58.51	-19 53.0	1.037	1.883	20.6	20.0
1 22	6 48.75	+19 50.0	1.600	2.548	7.6	20.1	1 22	6 48.29	-18 22.8	1.038	1.877	21.2	20.0
2 1	6 40.75	+20 7.2	1.657	2.548	11.8	20.3	2 1	6 40.48	-16 1.5	1.056	1.872	22.7	20.1
2 11	6 35.49	+20 22.5	1.737	2.548	15.4	20.6	2 11	6 36.21	-13 4.8	1.090	1.866	24.7	20.2
234495	2001 <i>TH</i> ₈₇		1 6.1 140°50	1°4/ 5.9 18			95968	2004 <i>LR</i> ₈		1 6.1 167°70	2°1/ 6.9 18		
12 3	7 37.95	+25 33.9	1.723	2.543	15.0	21.3	12 3	7 30.89	+13 39.7	2.362	3.159	12.2	20.4
12 13	7 31.10	+25 47.7	1.654	2.553	11.2	21.1	12 13	7 25.24	+14 4.8	2.280	3.163	9.3	20.2
12 23	7 21.44	+26 1.7	1.609	2.562	6.9	20.9	12 23	7 17.68	+14 39.5	2.223	3.166	6.0	20.0
1 2	7 9.92	+26 12.0	1.591	2.571	2.3	20.6	1 2	7 8.83	+15 22.1	2.194	3.169	2.9	19.8
1 12	6 57.92	+26 15.5	1.603	2.579	3.3	20.7	1 12	6 59.53	+16 10.0	2.197	3.171	2.9	19.8
1 22	6 46.90	+26 11.0	1.644	2.587	7.8	21.0	1 22	6 50.70	+17 0.3	2.230	3.173	6.0	20.0
2 1	6 38.07	+25 59.6	1.711	2.594	11.9	21.3	2 1	6 43.18	+17 50.3	2.292	3.175	9.3	20.2
2 11	6 32.24	+25 43.7	1.801	2.601	15.3	21.5	2 11	6 37.64	+18 38.1	2.379	3.176	12.2	20.4
57484	2001 <i>ST</i> ₁₅₉		1 6.1 317°00	2°9/ 5.7 18			126987	2002 <i>FS</i> ₃₀		1 6.1 160°34	5°5/ 8.3 18		
12 3	7 36.05	+28 43.5	1.388	2.226	17.0	19.0	12 3	7 28.85	+ 3 35.4	2.468	3.231	12.7	20.2
12 13	7 30.53	+28 57.8	1.314	2.221	12.9	18.7	12 13	7 23.57	+ 3 24.6	2.388	3.236	10.3	20.0
12 23	7 21.52	+29 9.7	1.261	2.216	8.1	18.4	12 23	7 16.60	+ 3 28.1	2.332	3.240	7.9	19.8
1 2	7 10.03	+29 13.7	1.233	2.211	3.6	18.1	1 2	7 8.49	+ 3 46.8	2.302	3.244	5.9	19.7
1 12	6 57.74	+29 5.6	1.232	2.206	4.6	18.2	1 12	7 0.02	+ 4 20.0	2.302	3.248	5.7	19.7
1 22	6 46.51	+28 44.5	1.257	2.202	9.5	18.4	1 22	6 52.00	+ 5 5.6	2.331	3.251	7.3	19.8
2 1	6 37.92	+28 13.0	1.307	2.198	14.2	18.7	2 1	6 45.17	+ 6 0.4	2.388	3.254	9.7	20.0
2 11	6 32.97	+27 35.5	1.377	2.194	18.3	18.9	2 11	6 40.13	+ 7 0.6	2.469	3.256	12.1	20.2
458094	2010 <i>AM</i> ₉₅		1 6.1 228°00	0°8/ 5.8 16			26126	1992 <i>RD</i> ₂		1 6.1 93°34	5°6/ 8.4 18		
12 3	7 29.56	+22 47.3	2.670	3.481	10.6	21.3	12 3	7 28					

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
86453	2000 <i>CH</i> ₃₉		1 6.1 31°83	0°6/ 6.1	18		79010	4851 <i>P-L</i>		1 6.1 203°51	3°7/ 4.9	18	
12 3	7 36.49	+24 49.4	1.292	2.132	17.9	19.0	12 3	7 32.98	+33 44.1	2.529	3.338	11.1	19.8
12 13	7 30.76	+24 36.4	1.226	2.134	13.5	18.8	12 13	7 26.96	+34 20.9	2.448	3.335	8.5	19.6
12 23	7 21.58	+24 23.7	1.181	2.138	8.2	18.5	12 23	7 18.80	+34 53.3	2.391	3.332	5.8	19.5
1 2	7 10.04	+24 7.9	1.160	2.141	2.5	18.1	1 2	7 9.19	+35 17.1	2.364	3.329	3.9	19.3
1 12	6 57.89	+23 47.1	1.167	2.145	3.6	18.2	1 12	6 59.10	+35 29.0	2.366	3.325	4.5	19.4
1 22	6 46.95	+23 21.3	1.199	2.149	9.2	18.6	1 22	6 49.57	+35 27.9	2.398	3.321	7.0	19.5
2 1	6 38.74	+22 52.7	1.256	2.153	14.2	18.9	2 1	6 41.56	+35 14.9	2.458	3.317	9.7	19.7
2 11	6 34.16	+22 23.7	1.333	2.158	18.4	19.1	2 11	6 35.78	+34 52.5	2.542	3.312	12.2	19.9
484288	2007 <i>RN</i> ₂₈		1 6.1 116°46	7°9/ 4.9	17		491122	2011 <i>SR</i> ₁₀₇		1 6.1 59°50	4°0/ 6.9	17	
12 3	7 44.86	+42 44.7	1.816	2.612	15.3	21.4	12 3	7 34.93	+14 5.8	1.360	2.183	18.1	20.7
12 13	7 36.58	+43 37.6	1.761	2.628	12.4	21.3	12 13	7 28.96	+13 37.6	1.312	2.207	13.8	20.5
12 23	7 24.88	+44 16.1	1.728	2.644	9.7	21.1	12 23	7 20.15	+13 21.5	1.285	2.231	9.1	20.3
1 2	7 10.97	+44 31.9	1.722	2.659	8.0	21.1	1 2	7 9.56	+13 17.8	1.283	2.256	4.8	20.1
1 12	6 56.66	+44 20.2	1.743	2.674	8.5	21.1	1 12	6 58.72	+13 24.9	1.308	2.280	4.9	20.2
1 22	6 43.79	+43 42.2	1.792	2.688	10.6	21.3	1 22	6 49.10	+13 40.5	1.359	2.305	8.8	20.5
2 1	6 33.82	+42 43.5	1.865	2.701	13.3	21.5	2 1	6 41.87	+14 2.1	1.436	2.330	13.0	20.8
2 11	6 27.53	+41 32.0	1.960	2.715	15.9	21.7	2 11	6 37.72	+14 26.8	1.534	2.354	16.6	21.1
246309	2007 <i>TY</i> ₁₄₇		1 6.1 34°96	8°4/ 3.4	18		206129	2002 <i>SS</i> ₄₅		1 6.1 75°45	1°0/ 5.9	18	
12 3	7 35.61	+42 44.5	1.865	2.673	14.5	19.2	12 3	7 31.55	+24 28.8	2.167	2.985	12.4	20.7
12 13	7 29.88	+44 15.2	1.815	2.687	11.9	19.1	12 13	7 25.82	+24 49.8	2.105	3.003	9.2	20.5
12 23	7 20.96	+45 33.6	1.789	2.701	9.6	19.0	12 23	7 18.03	+25 12.0	2.068	3.021	5.6	20.3
1 2	7 9.86	+46 31.0	1.788	2.716	8.5	18.9	1 2	7 8.94	+25 32.4	2.059	3.039	1.8	20.1
1 12	6 58.12	+47 1.5	1.813	2.731	9.1	19.0	1 12	6 59.54	+25 48.4	2.081	3.057	2.6	20.2
1 22	6 47.43	+47 4.3	1.864	2.747	11.0	19.1	1 22	6 50.86	+25 58.7	2.131	3.075	6.3	20.5
2 1	6 39.22	+46 42.9	1.939	2.763	13.4	19.3	2 1	6 43.80	+26 3.1	2.210	3.093	9.6	20.7
2 11	6 34.35	+46 3.7	2.034	2.780	15.6	19.5	2 11	6 38.98	+26 2.7	2.313	3.110	12.4	20.9
289707	2005 <i>GY</i> ₂₂₇		1 6.1 183°17	2°0/ 6.9	18		443852	2001 <i>RB</i> ₃₉		1 6.1 102°03	0°4/ 6.2	17	
12 3	7 28.27	+14 18.9	2.442	3.244	11.7	20.7	12 3	7 37.18	+20 55.6	1.556	2.379	16.2	21.5
12 13	7 23.27	+14 39.5	2.359	3.244	8.9	20.5	12 13	7 30.59	+21 1.4	1.496	2.396	12.1	21.3
12 23	7 16.49	+15 8.8	2.299	3.244	5.8	20.3	12 23	7 21.16	+21 12.1	1.460	2.413	7.4	21.1
1 2	7 8.48	+15 45.3	2.269	3.244	2.7	20.1	1 2	7 9.89	+21 24.6	1.449	2.430	2.3	20.8
1 12	7 0.05	+16 26.9	2.269	3.244	2.7	20.1	1 12	6 58.23	+21 36.1	1.468	2.446	3.0	20.9
1 22	6 52.04	+17 11.0	2.299	3.243	5.8	20.3	1 22	6 47.64	+21 44.8	1.515	2.462	7.9	21.2
2 1	6 45.27	+17 55.2	2.358	3.243	9.0	20.5	2 1	6 39.36	+21 50.5	1.588	2.478	12.2	21.5
2 11	6 40.34	+18 37.8	2.442	3.242	11.8	20.7	2 11	6 34.14	+21 53.5	1.683	2.493	15.8	21.8
75608	2000 <i>AC</i> ₃₄		1 6.1 238°52	3°4/ 5.6	18		167148	2003 <i>SO</i> ₂₀₈		1 6.1 61°30	1°1/ 5.9	17	
12 3	7 37.72	+32 8.9	1.974	2.788	13.6	18.4	12 3	7 36.30	+24 53.7	1.422	2.256	16.9	20.4
12 13	7 30.97	+32 19.0	1.885	2.778	10.4	18.2	12 13	7 30.16	+24 59.4	1.368	2.274	12.5	20.2
12 23	7 21.45	+32 23.5	1.821	2.767	6.8	17.9	12 23	7 20.97	+25 6.1	1.337	2.293	7.6	20.0
1 2	7 10.00	+32 17.8	1.784	2.756	3.8	17.7	1 2	7 9.84	+25 9.8	1.331	2.311	2.4	19.7
1 12	6 57.93	+31 58.9	1.777	2.745	4.4	17.7	1 12	6 58.37	+25 7.8	1.353	2.330	3.4	19.8
1 22	6 46.63	+31 26.5	1.799	2.733	8.0	17.9	1 22	6 48.15	+24 59.2	1.402	2.349	8.4	20.2
2 1	6 37.36	+30 43.5	1.848	2.721	11.7	18.1	2 1	6 40.45	+24 45.3	1.476	2.368	12.8	20.5
2 11	6 30.99	+29 53.8	1.920	2.709	14.9	18.3	2 11	6 36.02	+24 28.3	1.571	2.388	16.5	20.8
392550	2011 <i>SZ</i> ₄₃		1 6.1 157°24	0°5/ 6.3	18		216742	2005 <i>LX</i> ₅		1 6.1 192°25	1°3/ 5.6	18	
12 3	7 36.28	+20 28.1	2.030	2.838	13.5	22.7	12 3	7 34.00	+23 21.0	2.163	2.976	12.6	20.9
12 13	7 29.47	+20 36.3	1.955	2.847	10.1	22.5	12 13	7 27.94	+24 16.1	2.079	2.975	9.4	20.7
12 23	7 20.33	+20 48.6	1.904	2.855	6.2	22.3	12 23	7 19.54	+25 15.6	2.020	2.973	5.8	20.5
1 2	7 9.63	+21 2.6	1.883	2.863	1.9	22.0	1 2	7 9.46	+26 15.0	1.991	2.970	2.0	20.2
1 12	6 58.49	+21 16.0	1.892	2.869	2.6	22.1	1 12	6 58.74	+27 9.7	1.992	2.967	3.0	20.3
1 22	6 48.07	+21 27.2	1.931	2.875	6.7	22.3	1 22	6 48.51	+27 56.1	2.024	2.963	6.8	20.5
2 1	6 39.42	+21 35.6	1.998	2.880	10.5	22.6	2 1	6 39.86	+28 32.8	2.083	2.959	10.4	20.7
2 11	6 33.26	+21 41.6	2.089	2.884	13.7	22.8	2 11	6 33.58	+29 0.2	2.167	2.955	13.5	20.9
311024	2004 <i>BA</i> ₂₀		1 6.1 25°43	3°1/ 5.4	18		114990	<i>Szeidl</i>		1 6.1 186°73	0°5/ 6.3	18	
12 3	7 32.76	+27 16.6	1.373	2.216	16.8	20.0	12 3	7 34.62	+20 34.5	1.853	2.670	14.3	21.0
12 13	7 27.95	+28 2.5	1.313	2.223	12.6	19.8	12 13	7 28.54	+20 39.3	1.773	2.670	10.7	20.8
12 23	7 19.88	+28 49.5	1.274	2.230	7.9	19.5	12 23	7 19.93	+20 48.7	1.717	2.669	6.6	20.5
1 2	7 9.56	+29 30.7	1.260	2.238	3.6	19.3	1 2	7 9.57	+21 0.4	1.688	2.668	2.1	20.2
1 12	6 58.59	+30 0.4	1.273	2.246	4.7	19.4	1 12	6 58.64	+21 11.9	1.689	2.667	2.7	20.3
1 22	6 48.70	+30 15.8	1.312	2.255	9.3	19.7	1 22	6 48.41	+21 21.5	1.719	2.665	7.2	20.5
2 1	6 41.34	+30 17.6	1.374	2.265	13.7	20.0	2 1	6 40.03	+21 28.7	1.776	2.663	11.3	20.8
2 11	6 37.41	+30 8.9	1.458	2.275	17.4	20.2	2 11	6 34.29	+21 33.6	1.856	2.660	14.8	21.0
344511	2002 <i>RG</i> ₈₅		1 6.1 139°23	1°5/ 5.8	18		196246	2003 <i>DL</i> ₉		1 6.1 322°00	5°5/ 4.9	17	
12 3	7 39.41	+25 23.2	1.724	2.542	15.1	21.7	12 3	7 36.24	+32 2.0	1.372	2.210	17.2	20.2
12 13	7 32.18	+25 44.9	1.658	2.556	11.3	21.5	12 13	7 30.98	+33 4.3	1.302	2.206	13.2	20.0
12 23	7 22.11	+26 7.3	1.616	2.568	6.9	21.3	12 23	7 22.00	+34 4.0	1.253	2.202	8.9	19.7
1 2	7 10.17	+26 25.8	1.601	2.580	2.4	21.0	1 2	7 10.29	+34 51.9	1.228	2.198	5.7	19.5
1 12	6 57.77	+26 37.0	1.615	2.591	3.4	21.1	1 12	6 57.61	+35 20.2	1.230	2.194	6.8	19.6
1 22	6 46.36	+26 39.4	1.659	2.602	7.8	21.4	1 22	6 45.95	+35 26.1	1.258	2.191	10.8	19.8
2 1	6 37.19	+26 33.9	1.730	2.611	11.9	21.7	2 1	6 37.08	+35 11.8	1.309	2.188	15.1	20.0
2 11	6 31.07	+26 22.8	1.823	2.620	15.3	21.9	2 11	6 32.11	+34 42.8	1.380	2.185	18.9	20.3
299578	2006 <i>FX</i> ₃₀		1 6.1 234°63	3°4/ 6.9	18		495499	2014 <i>UQ</i> ₁₅₈		1 6.1 63°16	2°4/ 6.9	18	
12 3	7 32.66	+13 24.0	1.705	2.516	15.5								

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
297498	2000 <i>WH</i> ₄₅		1 6.1 38°11	2°0/ 6.6 16			502540	2015 <i>BM</i> ₄₄₉		1 6.2 261°63	1°5/ 6.8 18		
12 3	7 32.75	+17 30.4	1.129	1.975	19.5	20.6	12 3	7 28.19	+15 50.7	2.406	3.212	11.7	21.5
12 13	7 27.92	+17 34.2	1.085	1.995	14.7	20.4	12 13	7 23.31	+16 12.1	2.319	3.208	8.9	21.3
12 23	7 19.77	+17 49.4	1.061	2.017	9.1	20.2	12 23	7 16.60	+16 41.3	2.256	3.204	5.6	21.0
1 2	7 9.51	+18 13.3	1.060	2.039	3.4	19.9	1 2	7 8.61	+17 16.8	2.223	3.200	2.4	20.8
1 12	6 58.90	+18 41.8	1.084	2.062	3.8	20.0	1 12	7 0.16	+17 56.2	2.219	3.196	2.5	20.8
1 22	6 49.65	+19 11.3	1.133	2.086	9.2	20.4	1 22	6 52.12	+18 37.1	2.246	3.192	5.8	21.0
2 1	6 43.14	+19 39.2	1.206	2.111	14.0	20.7	2 1	6 45.32	+19 17.4	2.301	3.187	9.1	21.2
2 11	6 40.11	+20 3.9	1.299	2.136	18.0	21.1	2 11	6 40.41	+19 55.3	2.381	3.183	12.0	21.4
343972	2011 <i>LL</i> ₁₄		1 6.1 117°72	0°1/ 6.2 18			313175	2001 <i>MB</i> ₁₅		1 6.2 170°46	1°2/ 6.7 18		
12 3	7 29.59	+20 51.0	2.725	3.532	10.5	21.6	12 3	7 32.66	+16 12.5	2.423	3.221	11.9	21.6
12 13	7 24.03	+21 11.9	2.655	3.547	7.8	21.4	12 13	7 26.57	+16 44.6	2.340	3.225	9.0	21.4
12 23	7 16.84	+21 36.0	2.610	3.561	4.7	21.2	12 23	7 18.54	+17 24.4	2.282	3.229	5.6	21.2
1 2	7 8.60	+22 1.3	2.595	3.575	1.4	21.0	1 2	7 9.19	+18 9.7	2.254	3.232	2.2	21.0
1 12	7 0.08	+22 25.7	2.611	3.589	1.9	21.1	1 12	6 59.37	+18 57.6	2.258	3.235	2.4	21.0
1 22	6 52.06	+22 47.6	2.659	3.603	5.1	21.3	1 22	6 50.02	+19 45.2	2.293	3.237	5.9	21.2
2 1	6 45.25	+23 6.3	2.735	3.616	8.0	21.5	2 1	6 41.99	+20 30.2	2.357	3.238	9.2	21.4
2 11	6 40.18	+23 21.5	2.837	3.628	10.5	21.7	2 11	6 35.97	+21 11.4	2.447	3.238	12.0	21.6
502604	2015 <i>CN</i> ₁₄		1 6.2 227°13	0°8/ 6.4 18			202015	2004 <i>RC</i> ₃₃		1 6.2 75°24	5°3/ 5.2 18		
12 3	7 29.22	+19 24.0	2.342	3.154	11.8	21.8	12 3	7 39.03	+33 5.1	1.431	2.262	17.0	20.1
12 13	7 24.09	+19 32.0	2.258	3.153	8.8	21.6	12 13	7 32.61	+33 51.8	1.376	2.275	13.0	19.8
12 23	7 17.05	+19 44.7	2.200	3.151	5.5	21.3	12 23	7 22.70	+34 32.3	1.342	2.289	8.7	19.6
1 2	7 8.71	+20 0.3	2.169	3.149	1.8	21.1	1 2	7 10.46	+34 58.5	1.334	2.303	5.5	19.5
1 12	6 59.94	+20 17.2	2.169	3.147	2.3	21.1	1 12	6 57.70	+35 5.0	1.352	2.316	6.4	19.6
1 22	6 51.66	+20 33.7	2.199	3.145	5.9	21.4	1 22	6 46.27	+34 51.4	1.398	2.330	10.0	19.8
2 1	6 44.73	+20 48.7	2.257	3.143	9.3	21.6	2 1	6 37.69	+34 21.3	1.467	2.343	14.0	20.1
2 11	6 39.79	+21 1.8	2.340	3.141	12.2	21.8	2 11	6 32.79	+33 40.6	1.557	2.357	17.4	20.3
427771	2004 <i>VR</i> ₁		1 6.2 43°13	4°9/ 4.5 16			132002	2002 <i>CP</i> ₉₈		1 6.2 22°26	0°5/ 6.3 18		
12 3	7 33.53	+31 51.5	1.719	2.548	14.7	20.3	12 3	7 31.37	+20 8.2	1.173	2.022	18.7	19.3
12 13	7 28.15	+33 8.0	1.661	2.560	11.2	20.1	12 13	7 27.14	+20 25.1	1.115	2.028	14.0	19.1
12 23	7 19.87	+34 21.7	1.625	2.572	7.6	19.9	12 23	7 19.51	+20 50.9	1.078	2.036	8.6	18.8
1 2	7 9.60	+35 24.8	1.617	2.584	5.0	19.8	1 2	7 9.54	+21 21.7	1.063	2.044	2.7	18.5
1 12	6 58.72	+36 11.2	1.637	2.596	6.0	19.9	1 12	6 58.93	+21 53.0	1.075	2.054	3.5	18.6
1 22	6 48.74	+36 38.2	1.684	2.609	9.2	20.1	1 22	6 49.46	+22 20.8	1.111	2.064	9.3	18.9
2 1	6 40.95	+36 46.7	1.756	2.623	12.5	20.4	2 1	6 42.65	+22 43.3	1.170	2.075	14.4	19.2
2 11	6 36.22	+36 40.6	1.850	2.636	15.5	20.6	2 11	6 39.41	+23 0.3	1.249	2.087	18.6	19.5
180538	2004 <i>EA</i> ₅		1 6.2 276°84	2°3/ 5.6 18			45510	2000 <i>BB</i> ₂₃		1 6.2 192°95	1°5/ 5.9 18 R		
12 3	7 33.68	+27 4.7	1.759	2.586	14.4	20.7	12 3	7 32.75	+27 25.2	2.363	3.176	11.7	19.1
12 13	7 28.18	+27 32.8	1.678	2.580	10.9	20.5	12 13	7 26.74	+27 28.1	2.280	3.175	8.7	18.9
12 23	7 19.89	+28 1.3	1.621	2.574	6.8	20.2	12 23	7 18.66	+27 29.3	2.223	3.174	5.4	18.7
1 2	7 9.62	+28 25.5	1.590	2.568	2.9	20.0	1 2	7 9.21	+27 26.2	2.194	3.173	2.1	18.5
1 12	6 58.66	+28 41.3	1.588	2.562	3.8	20.0	1 12	6 59.37	+27 17.1	2.196	3.172	2.8	18.5
1 22	6 48.41	+28 46.7	1.614	2.556	8.0	20.2	1 22	6 50.14	+27 1.6	2.229	3.170	6.2	18.7
2 1	6 40.18	+28 42.3	1.666	2.550	12.1	20.5	2 1	6 42.44	+26 40.5	2.289	3.168	9.5	18.9
2 11	6 34.85	+28 30.1	1.741	2.544	15.6	20.7	2 11	6 36.92	+26 15.7	2.374	3.166	12.3	19.1
330702	2008 <i>LW</i> ₄		1 6.2 235°18	0°8/ 6.3 18			29864	1999 <i>FM</i> ₄₄		1 6.2 242°78	5°6/ 7.8 18		
12 3	7 31.63	+20 20.4	1.987	2.805	13.4	20.6	12 3	7 30.03	+ 6 5.9	2.115	2.895	14.0	18.8
12 13	7 26.16	+20 15.6	1.907	2.804	10.1	20.4	12 13	7 24.89	+ 5 46.3	2.022	2.884	11.3	18.6
12 23	7 18.42	+20 14.9	1.850	2.803	6.2	20.2	12 23	7 17.67	+ 5 40.8	1.953	2.873	8.4	18.4
1 2	7 9.14	+20 16.5	1.822	2.802	2.1	19.9	1 2	7 8.96	+ 5 50.9	1.910	2.862	6.1	18.3
1 12	6 59.37	+20 18.9	1.822	2.800	2.6	19.9	1 12	6 59.68	+ 6 16.4	1.896	2.850	5.9	18.2
1 22	6 50.24	+20 21.0	1.852	2.799	6.7	20.2	1 22	6 50.82	+ 6 55.5	1.910	2.838	8.1	18.3
2 1	6 42.77	+20 22.2	1.909	2.798	10.6	20.4	2 1	6 43.32	+ 7 44.9	1.951	2.826	11.1	18.5
2 11	6 37.68	+20 22.6	1.990	2.797	13.8	20.6	2 11	6 37.94	+ 8 40.7	2.016	2.813	14.0	18.7
429881	2012 <i>TL</i> ₃		1 6.2 45°11	2°7/ 6.8 18			8700	Gevaert		1 6.2 334°48	0°5/ 6.3 18 R		
12 3	7 29.23	+15 1.7	2.208	3.015	12.6	21.4	12 3	7 28.27	+20 33.0	1.960	2.785	13.3	17.3
12 13	7 24.07	+14 38.0	2.131	3.018	9.6	21.2	12 13	7 23.82	+20 40.6	1.874	2.775	10.0	17.0
12 23	7 17.01	+14 20.9	2.078	3.022	6.3	21.0	12 23	7 17.11	+20 53.0	1.811	2.765	6.1	16.8
1 2	7 8.70	+14 10.7	2.053	3.026	3.3	20.8	1 2	7 8.81	+21 8.4	1.776	2.756	1.9	16.5
1 12	7 0.02	+14 6.8	2.058	3.030	3.4	20.8	1 12	6 59.94	+21 24.3	1.769	2.748	2.5	16.5
1 22	6 51.91	+14 8.5	2.092	3.034	6.5	21.0	1 22	6 51.60	+21 39.1	1.791	2.740	6.8	16.8
2 1	6 45.21	+14 14.7	2.153	3.038	9.7	21.2	2 1	6 44.84	+21 51.6	1.840	2.733	10.7	17.0
2 11	6 40.54	+14 24.1	2.239	3.043	12.6	21.4	2 11	6 40.42	+22 1.4	1.912	2.726	14.0	17.2
424987	2009 <i>BB</i> ₁₈₈		1 6.2 272°21	3°9/ 5.4 18			267511	2002 <i>NA</i> ₂₅		1 6.2 142°99	2°6/ 7.3 18		
12 3	7 34.85	+35 55.4	2.481	3.286	11.5	20.8	12 3	7 29.18	+11 33.3	2.870	3.654	10.6	20.9
12 13	7 28.39	+36 3.3	2.391	3.274	8.9	20.6	12 13	7 23.63	+11 41.6	2.793	3.666	8.2	20.7
12 23	7 19.71	+36 3.9	2.325	3.262	6.2	20.4	12 23	7 16.60	+11 58.2	2.742	3.677	5.5	20.6
1 2	7 9.52	+35 53.2	2.287	3.251	4.1	20.2	1 2	7 8.61	+12 22.3	2.720	3.688	3.1	20.4
1 12	6 58.88	+35 29.0	2.280	3.239	4.6	20.2	1 12	7 0.33	+12 52.7	2.729	3.698	3.0	20.4
1 22	6 48.90	+34 51.5	2.302	3.227	7.1	20.4	1 22	6 52.47	+13 27.3	2.770	3.708	5.3	20.6
2 1	6 40.58	+34 3.0	2.353	3.215	10.0	20.5	2 1	6 45.69	+14 4.5	2.840	3.717	7.9	20.8
2 11	6 34.61	+33 7.2	2.427	3.202	12.6	20.7	2 11	6 40.49	+14 42.2	2.936	3.726	10.3	21.0
460939	2014 <i>WU</i> ₂₅₂		1 6.2 83°62	1°1/ 6.5 18			321457	2009 <i>RJ</i> ₂₂		1 6.2 120°36	3°1/ 6.9 18		
12 3	7 31.40	+17 44.4	1.846	2.664	14.2	21.3							

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
277038	2005 <i>CK</i> ₃₉		1 6.2 292°24	0°8/ 6.5 18			401878	2001 <i>OS</i> ₈₃		1 6.2 39°84	4°8/ 4.9 18		
12 3	7 29.49	+17 50.0	2.115	2.930	12.8	20.5	12 3	7 35.26	+29 11.2	1.293	2.136	17.7	19.4
12 13	7 24.58	+18 23.8	2.029	2.924	9.7	20.3	12 13	7 29.86	+30 35.8	1.254	2.163	13.2	19.2
12 23	7 17.52	+19 5.9	1.967	2.919	6.0	20.1	12 23	7 21.05	+31 58.4	1.238	2.190	8.6	19.1
1 2	7 8.95	+19 53.5	1.934	2.913	2.0	19.8	1 2	7 10.03	+33 9.4	1.246	2.218	5.0	18.9
1 12	6 59.80	+20 43.3	1.930	2.908	2.4	19.8	1 12	6 58.60	+34 1.3	1.281	2.247	6.1	19.1
1 22	6 51.11	+21 31.9	1.956	2.903	6.4	20.1	1 22	6 48.55	+34 31.4	1.342	2.277	10.0	19.4
2 1	6 43.86	+22 16.9	2.010	2.898	10.1	20.3	2 1	6 41.30	+34 41.5	1.426	2.307	14.0	19.7
2 11	6 38.81	+22 56.9	2.087	2.893	13.3	20.5	2 11	6 37.65	+34 36.4	1.531	2.337	17.3	20.0
241824	2001 <i>SV</i> ₁₄₂		1 6.2 84°43	3°5/ 5.4 18			158170	2001 <i>QN</i> ₂₂₁		1 6.2 118°88	2°2/ 7.1 18		
12 3	7 34.44	+33 25.2	2.379	3.189	11.7	20.6	12 3	7 25.11	+12 38.4	3.525	4.311	8.7	20.4
12 13	7 27.91	+33 48.0	2.321	3.209	8.9	20.5	12 13	7 20.42	+12 29.8	3.448	4.323	6.7	20.3
12 23	7 19.30	+34 5.2	2.287	3.230	5.9	20.3	12 23	7 14.59	+12 26.9	3.398	4.334	4.5	20.1
1 2	7 9.41	+34 13.1	2.283	3.250	3.7	20.2	1 2	7 8.04	+12 29.6	3.377	4.345	2.6	20.0
1 12	6 59.28	+34 9.4	2.308	3.270	4.2	20.3	1 12	7 1.29	+12 37.2	3.388	4.356	2.6	20.0
1 22	6 49.97	+33 54.0	2.363	3.290	6.8	20.5	1 22	6 54.87	+12 49.1	3.429	4.366	4.4	20.2
2 1	6 42.37	+33 28.6	2.446	3.310	9.5	20.7	2 1	6 49.29	+13 4.0	3.500	4.376	6.6	20.3
2 11	6 37.07	+32 56.3	2.552	3.330	12.0	20.9	2 11	6 44.94	+13 21.0	3.597	4.387	8.5	20.5
7156	Flaviofusipecci		1 6.2 350°23	4°9/ 5.7 18			323504	2004 <i>QC</i> ₁₃		1 6.2 170°97	0°5/ 6.4 18		
12 3	7 35.54	+34 28.7	1.481	2.315	16.4	17.2	12 3	7 31.81	+19 0.0	2.571	3.373	11.2	21.8
12 13	7 30.10	+34 37.3	1.409	2.309	12.7	16.9	12 13	7 25.89	+19 29.3	2.488	3.377	8.4	21.6
12 23	7 21.26	+34 36.8	1.357	2.305	8.6	16.7	12 23	7 18.14	+20 3.9	2.431	3.380	5.1	21.4
1 2	7 10.10	+34 21.2	1.331	2.301	5.3	16.5	1 2	7 9.15	+20 41.4	2.403	3.383	1.6	21.2
1 12	6 58.30	+33 47.1	1.331	2.298	5.9	16.5	1 12	6 59.73	+21 19.2	2.408	3.385	2.1	21.2
1 22	6 47.66	+32 55.5	1.358	2.295	9.7	16.7	1 22	6 50.75	+21 55.1	2.443	3.387	5.5	21.4
2 1	6 39.67	+31 51.2	1.409	2.294	13.8	16.9	2 1	6 43.04	+22 27.4	2.508	3.388	8.7	21.6
2 11	6 35.21	+30 40.4	1.481	2.293	17.5	17.2	2 11	6 37.22	+22 55.6	2.598	3.388	11.4	21.8
246616	2008 <i>VY</i> ₇₉		1 6.2 250°95	1°3/ 6.5 18			405061	2001 <i>TC</i> ₃₀		1 6.2 95°32	3°4/ 5.4 18		
12 3	7 33.85	+18 27.8	1.663	2.484	15.4	21.3	12 3	7 37.08	+31 4.3	1.951	2.767	13.7	21.2
12 13	7 28.41	+18 36.4	1.575	2.473	11.7	21.1	12 13	7 30.27	+31 39.2	1.894	2.788	10.3	21.1
12 23	7 20.15	+18 52.9	1.510	2.462	7.3	20.8	12 23	7 20.92	+32 10.0	1.861	2.808	6.7	20.9
1 2	7 9.81	+19 15.2	1.471	2.451	2.6	20.5	1 2	7 9.97	+32 31.7	1.857	2.828	3.7	20.8
1 12	6 58.66	+19 40.4	1.461	2.439	3.1	20.5	1 12	6 58.69	+32 40.8	1.881	2.848	4.4	20.8
1 22	6 48.10	+20 5.6	1.479	2.427	8.0	20.7	1 22	6 48.38	+32 36.6	1.935	2.867	7.7	21.1
2 1	6 39.48	+20 29.1	1.523	2.415	12.5	21.0	2 1	6 40.13	+32 20.9	2.016	2.886	11.0	21.3
2 11	6 33.76	+20 50.1	1.590	2.403	16.5	21.2	2 11	6 34.64	+31 57.0	2.119	2.905	13.8	21.5
269705	1997 <i>UR</i> ₂₄		1 6.2 102°65	4°4/ 5.1 18			203803	2002 <i>TO</i> ₁₁₈		1 6.2 113°57	2°5/ 6.8 18		
12 3	7 34.80	+35 14.9	2.267	3.076	12.2	20.5	12 3	7 30.36	+15 6.5	2.421	3.221	11.8	20.2
12 13	7 28.46	+35 48.4	2.200	3.086	9.4	20.3	12 13	7 24.75	+14 46.0	2.348	3.232	9.0	20.0
12 23	7 19.79	+36 15.3	2.158	3.096	6.5	20.1	12 23	7 17.39	+14 31.6	2.300	3.243	5.9	19.8
1 2	7 9.61	+36 31.1	2.144	3.106	4.5	20.0	1 2	7 8.90	+14 23.3	2.281	3.253	3.0	19.7
1 12	6 59.06	+36 32.7	2.159	3.116	5.1	20.1	1 12	7 0.14	+14 20.4	2.292	3.264	3.1	19.7
1 22	6 49.30	+36 19.5	2.204	3.125	7.6	20.2	1 22	6 51.93	+14 22.3	2.333	3.274	6.0	19.9
2 1	6 41.34	+35 53.6	2.275	3.134	10.4	20.4	2 1	6 45.05	+14 27.9	2.402	3.284	9.0	20.1
2 11	6 35.89	+35 18.6	2.370	3.144	12.9	20.6	2 11	6 40.06	+14 36.3	2.496	3.294	11.6	20.3
29201	1991 <i>GO</i> ₄		1 6.2 125°71	5°3/ 4.7 18			377505	2005 <i>EJ</i> ₁₇₉		1 6.2 91°33	7°2/ 4.7 18		
12 3	7 38.02	+36 35.5	2.160	2.966	12.9	18.6	12 3	7 40.44	+45 40.5	2.418	3.197	12.5	20.6
12 13	7 31.04	+37 31.2	2.098	2.980	10.0	18.4	12 13	7 32.71	+46 26.5	2.366	3.217	10.3	20.5
12 23	7 21.45	+38 19.7	2.061	2.993	7.2	18.3	12 23	7 22.37	+46 59.0	2.339	3.238	8.3	20.4
1 2	7 10.13	+38 54.8	2.051	3.006	5.4	18.2	1 2	7 10.39	+47 12.1	2.338	3.258	7.2	20.3
1 12	6 58.34	+39 12.1	2.071	3.019	6.0	18.3	1 12	6 58.15	+47 2.8	2.366	3.278	7.6	20.4
1 22	6 47.43	+39 10.8	2.120	3.031	8.4	18.4	1 22	6 47.01	+46 31.7	2.421	3.297	9.1	20.5
2 1	6 38.53	+38 53.2	2.195	3.043	11.1	18.6	2 1	6 38.07	+45 42.6	2.501	3.316	11.0	20.7
2 11	6 32.41	+38 23.5	2.293	3.054	13.6	18.8	2 11	6 32.01	+44 41.4	2.605	3.335	12.9	20.9
379013	2008 <i>UJ</i> ₃₅₉		1 6.2 356°43	0°2/ 6.2 18			465582	2008 <i>YO</i> ₈₀		1 6.2 170°42	1°6/ 5.8 18		
12 3	7 28.91	+20 48.8	1.809	2.637	14.0	20.7	12 3	7 31.63	+27 58.5	2.546	3.358	11.0	21.4
12 13	7 24.43	+21 6.1	1.732	2.635	10.5	20.5	12 13	7 25.81	+28 6.7	2.465	3.359	8.2	21.3
12 23	7 17.55	+21 28.9	1.678	2.633	6.4	20.2	12 23	7 18.10	+28 13.2	2.410	3.361	5.1	21.1
1 2	7 8.99	+21 54.6	1.651	2.632	2.0	19.9	1 2	7 9.14	+28 15.3	2.384	3.362	2.1	20.9
1 12	6 59.88	+22 20.1	1.652	2.631	2.7	20.0	1 12	6 59.82	+28 11.4	2.389	3.362	2.8	20.9
1 22	6 51.41	+22 43.1	1.682	2.630	7.1	20.3	1 22	6 51.06	+28 0.8	2.424	3.363	5.9	21.1
2 1	6 44.67	+23 2.1	1.737	2.631	11.1	20.5	2 1	6 43.71	+27 44.2	2.487	3.364	8.9	21.3
2 11	6 40.45	+23 16.9	1.816	2.632	14.6	20.7	2 11	6 38.38	+27 23.2	2.575	3.364	11.6	21.5
32624	2001 <i>RQ</i> ₄₄		1 6.2 84°20	0°1/ 6.2 18			30390	2000 <i>KX</i> ₁₇		1 6.2 107°30	0°6/ 6.0 18		
12 3	7 30.10	+21 4.2	2.406	3.218	11.5	19.5	12 3	7 30.64	+23 28.7	2.462	3.275	11.3	19.2
12 13	7 24.61	+21 22.0	2.340	3.235	8.6	19.3	12 13	7 25.04	+23 46.6	2.392	3.287	8.4	19.1
12 23	7 17.31	+21 43.2	2.301	3.253	5.2	19.1	12 23	7 17.61	+24 6.2	2.346	3.299	5.1	18.9
1 2	7 8.86	+22 5.6	2.290	3.270	1.6	18.9	1 2	7 7.99	+24 25.0	2.330	3.311	1.6	18.6
1 12	7 0.12	+22 27.0	2.310	3.288	2.1	18.9	1 12	7 0.05	+24 41.0	2.345	3.322	2.2	18.7
1 22	6 51.99	+22 45.8	2.360	3.305	5.6	19.2	1 22	6 51.68	+24 52.8	2.389	3.333	5.7	19.0
2 1	6 45.24	+23 1.2	2.438	3.322	8.8	19.4	2 1	6 44.68	+25 0.0	2.463	3.344	8.8	19.2
2 11	6 40.44	+23 13.2	2.541	3.339	11.4	19.6	2 11	6 39.66	+25 3.0	2.561	3.355	11.5	19.4
355960	2008 <i>YR</i> ₁₅₃		1 6.2 99°54	0°2/ 6.2 18			23319	2001 <i>BR</i> ₁₄		1 6.2 206°10	3°7/ 5.4 18		
12 3	7 36.36	+22 5.3	1.614	2.438	15.7	2							

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
354877	2006 <i>BO</i> ₆₃		1 6.2 249°74	0°9/ 6.4 17			424977	2009 <i>BP</i> ₁₀₀		1 6.2 105°06	0°7/ 6.4 18		
12 3	7 34.43	+19 6.1	1.756	2.574	14.9	22.5	12 3	7 29.33	+19 25.4	2.431	3.242	11.5	21.8
12 13	7 28.81	+19 18.3	1.662	2.559	11.3	22.2	12 13	7 24.10	+19 34.9	2.356	3.249	8.6	21.6
12 23	7 20.41	+19 37.7	1.592	2.544	7.1	22.0	12 23	7 17.07	+19 48.7	2.305	3.256	5.3	21.4
1 2	7 9.95	+20 2.0	1.548	2.528	2.4	21.6	1 2	7 8.86	+20 5.3	2.283	3.263	1.8	21.2
1 12	6 58.63	+20 28.1	1.534	2.512	3.0	21.6	1 12	7 0.30	+20 22.9	2.291	3.269	2.2	21.2
1 22	6 47.82	+20 53.2	1.548	2.495	7.8	21.9	1 22	6 52.26	+20 39.9	2.330	3.276	5.6	21.5
2 1	6 38.84	+21 15.8	1.589	2.478	12.3	22.1	2 1	6 45.53	+20 55.2	2.397	3.283	8.8	21.7
2 11	6 32.68	+21 35.1	1.652	2.460	16.1	22.3	2 11	6 40.71	+21 8.5	2.489	3.289	11.6	21.9
156044	2001 <i>SA</i> ₁₅		1 6.2 141°36	0°3/ 6.3 18			282158	2001 <i>SY</i> ₁₀₁		1 6.2 184°48	3°8/ 7.1 18		
12 3	7 25.43	+20 40.4	3.669	4.472	8.1	20.6	12 3	7 34.56	+12 26.6	1.775	2.578	15.4	21.2
12 13	7 20.69	+20 48.9	3.588	4.479	6.0	20.5	12 13	7 28.59	+12 13.6	1.695	2.578	11.9	21.0
12 23	7 14.79	+20 59.7	3.535	4.485	3.7	20.3	12 23	7 20.09	+12 12.0	1.638	2.578	8.1	20.8
1 2	7 8.13	+21 11.5	3.512	4.492	1.2	20.2	1 2	7 9.83	+12 21.7	1.608	2.578	4.5	20.6
1 12	7 1.25	+21 23.3	3.520	4.498	1.5	20.2	1 12	6 58.96	+12 41.6	1.606	2.576	4.5	20.6
1 22	6 54.69	+21 34.2	3.560	4.504	4.0	20.4	1 22	6 48.75	+13 9.3	1.633	2.575	8.0	20.8
2 1	6 48.97	+21 43.8	3.630	4.510	6.3	20.6	2 1	6 40.36	+13 42.2	1.687	2.572	11.9	21.0
2 11	6 44.48	+21 51.7	3.726	4.516	8.3	20.7	2 11	6 34.60	+14 17.7	1.764	2.569	15.4	21.2
425326	2010 <i>AS</i> ₅₅		1 6.2 270°83	1°4/ 6.7 18 R			522041	2015 <i>XX</i> ₄₁₀		1 6.2 342°73	1°7/ 6.6 16		
12 3	7 29.21	+16 37.0	2.212	3.022	12.5	21.1	12 3	7 29.76	+17 49.9	1.305	2.146	17.6	21.2
12 13	7 24.27	+16 59.6	2.127	3.019	9.4	20.9	12 13	7 25.91	+17 55.2	1.229	2.138	13.4	20.9
12 23	7 17.31	+17 30.1	2.067	3.016	5.9	20.6	12 23	7 18.88	+18 11.0	1.175	2.130	8.5	20.6
1 2	7 8.95	+18 6.8	2.034	3.012	2.3	20.4	1 2	7 9.53	+18 35.6	1.144	2.123	3.2	20.2
1 12	7 0.08	+18 46.9	2.032	3.009	2.5	20.4	1 12	6 59.33	+19 5.5	1.139	2.118	3.6	20.3
1 22	6 51.68	+19 27.9	2.059	3.006	6.2	20.6	1 22	6 49.92	+19 37.2	1.160	2.113	9.0	20.6
2 1	6 44.65	+20 7.3	2.115	3.003	9.7	20.8	2 1	6 42.81	+20 7.7	1.204	2.108	14.1	20.8
2 11	6 39.69	+20 43.7	2.195	3.000	12.8	21.0	2 11	6 39.04	+20 35.4	1.268	2.105	18.4	21.1
319638	2006 <i>SL</i> ₃₈₈		1 6.2 310°95	4°0/ 4.7 18			296132	2009 <i>BS</i> ₇₆		1 6.2 22°89	2°7/ 6.8 17		
12 3	7 33.44	+28 17.1	1.634	2.467	15.1	20.6	12 3	7 29.75	+16 14.0	1.057	1.909	20.1	20.0
12 13	7 28.47	+29 37.4	1.555	2.459	11.5	20.3	12 13	7 26.07	+16 15.8	1.007	1.920	15.2	19.8
12 23	7 20.40	+31 1.0	1.499	2.451	7.5	20.1	12 23	7 18.95	+16 31.8	0.976	1.932	9.7	19.5
1 2	7 9.99	+32 19.8	1.470	2.443	4.3	19.9	1 2	7 9.50	+17 0.0	0.967	1.945	4.0	19.2
1 12	6 58.59	+33 25.9	1.469	2.436	5.4	19.9	1 12	6 59.50	+17 36.0	0.982	1.960	4.2	19.3
1 22	6 47.82	+34 14.5	1.496	2.429	9.4	20.1	1 22	6 50.75	+18 15.3	1.021	1.976	9.6	19.7
2 1	6 39.19	+34 44.4	1.547	2.422	13.4	20.3	2 1	6 44.73	+18 54.0	1.083	1.994	14.7	20.0
2 11	6 33.78	+34 58.1	1.620	2.416	17.0	20.6	2 11	6 42.30	+19 29.3	1.165	2.012	19.0	20.3
152677	1998 <i>HA</i> ₁₁₄		1 6.2 228°08	2°5/ 5.3 18			234402	2001 <i>QR</i> ₃₃₄		1 6.2 357°03	4°6/ 7.5 18		
12 3	7 32.84	+27 22.3	2.161	2.979	12.5	20.0	12 3	7 27.80	+ 9 1.3	2.170	2.964	13.2	20.6
12 13	7 27.23	+28 12.2	2.076	2.973	9.4	19.8	12 13	7 23.14	+ 8 40.4	2.090	2.963	10.5	20.4
12 23	7 19.24	+29 3.2	2.016	2.967	5.9	19.6	12 23	7 16.58	+ 8 31.0	2.033	2.962	7.5	20.2
1 2	7 9.56	+29 50.7	1.984	2.960	2.8	19.3	1 2	7 8.74	+ 8 34.1	2.002	2.962	5.0	20.1
1 12	6 59.23	+30 30.1	1.983	2.954	3.7	19.4	1 12	7 0.48	+ 8 49.2	2.001	2.962	4.9	20.1
1 22	6 49.40	+30 58.8	2.011	2.947	7.2	19.6	1 22	6 52.70	+ 9 14.8	2.027	2.962	7.2	20.2
2 1	6 41.18	+31 16.2	2.066	2.940	10.6	19.8	2 1	6 46.27	+ 9 48.2	2.081	2.962	10.2	20.4
2 11	6 35.37	+31 23.6	2.145	2.933	13.6	20.0	2 11	6 41.82	+10 26.7	2.159	2.962	13.0	20.6
192030	2005 <i>YS</i> ₂₂₄		1 6.2 220°04	1°1/ 5.9 18			87992	2000 <i>UL</i> ₇		1 6.2 45°30	1°1/ 6.4 18		
12 3	7 32.33	+24 34.8	2.296	3.110	11.9	20.9	12 3	7 31.56	+19 27.5	1.735	2.559	14.7	19.2
12 13	7 26.62	+24 59.7	2.208	3.104	8.9	20.7	12 13	7 26.35	+19 27.1	1.668	2.568	11.1	18.9
12 23	7 18.76	+25 26.3	2.144	3.097	5.5	20.5	12 23	7 18.68	+19 32.5	1.623	2.576	6.8	18.7
1 2	7 9.40	+25 51.6	2.110	3.089	1.9	20.2	1 2	7 9.38	+19 41.7	1.606	2.585	2.4	18.5
1 12	6 59.48	+26 12.7	2.105	3.082	2.7	20.2	1 12	6 59.64	+19 52.8	1.616	2.595	2.8	18.5
1 22	6 50.06	+26 27.6	2.131	3.074	6.4	20.5	1 22	6 50.69	+20 3.9	1.655	2.604	7.2	18.8
2 1	6 42.11	+26 36.1	2.185	3.065	9.8	20.7	2 1	6 43.62	+20 14.1	1.721	2.614	11.3	19.1
2 11	6 36.36	+26 38.8	2.263	3.056	12.8	20.9	2 11	6 39.17	+20 22.8	1.808	2.624	14.7	19.3
371025	2005 <i>UZ</i> ₇₁		1 6.2 1°88	17°8/ 5.9 18			415557	2014 <i>QD</i> ₂₁₇		1 6.2 106°08	1°1/ 5.9 18		
12 3	7 34.20	- 2 49.1	1.009	1.805	24.9	19.9	12 3	7 35.74	+25 19.5	1.803	2.624	14.4	21.8
12 13	7 29.56	- 6 1.3	0.956	1.803	22.0	19.6	12 13	7 29.42	+25 26.6	1.736	2.636	10.7	21.6
12 23	7 21.23	- 8 47.1	0.920	1.802	19.4	19.5	12 23	7 20.51	+25 34.0	1.693	2.647	6.5	21.4
1 2	7 10.24	-10 50.4	0.903	1.802	17.9	19.4	1 2	7 9.92	+25 38.3	1.678	2.658	2.2	21.1
1 12	6 58.36	-12 0.0	0.906	1.803	18.1	19.4	1 12	6 58.92	+25 37.0	1.691	2.668	3.0	21.2
1 22	6 47.56	-12 13.7	0.927	1.805	19.8	19.5	1 22	6 48.83	+25 29.4	1.734	2.679	7.3	21.5
2 1	6 39.56	-11 38.1	0.965	1.807	22.4	19.7	2 1	6 40.77	+25 16.4	1.803	2.689	11.2	21.7
2 11	6 35.45	-10 26.4	1.018	1.810	25.1	19.9	2 11	6 35.47	+24 59.7	1.895	2.699	14.6	22.0
277938	2006 <i>PH</i> ₁₄		1 6.2 158°18	0°9/ 6.6 18			199374	2006 <i>BW</i> ₂₁₈		1 6.2 58°02	1°2/ 6.5 17		
12 3	7 29.40	+17 3.9	2.826	3.625	10.4	20.8	12 3	7 35.13	+17 12.3	1.259	2.093	18.6	20.2
12 13	7 23.97	+17 38.4	2.744	3.630	7.8	20.6	12 13	7 29.58	+17 46.4	1.211	2.116	13.9	19.9
12 23	7 16.93	+18 19.0	2.688	3.636	4.8	20.5	12 23	7 20.85	+18 32.4	1.184	2.138	8.6	19.7
1 2	7 8.82	+19 3.8	2.662	3.640	1.7	20.2	1 2	7 10.04	+19 26.0	1.181	2.161	2.9	19.4
1 12	7 0.33	+19 50.2	2.667	3.645	2.0	20.3	1 12	6 58.80	+20 21.1	1.205	2.184	3.4	19.5
1 22	6 52.22	+20 35.9	2.705	3.649	5.0	20.5	1 22	6 48.80	+21 12.8	1.256	2.207	8.7	19.9
2 1	6 45.21	+21 18.9	2.772	3.653	7.9	20.7	2 1	6 41.39	+21 57.9	1.331	2.230	13.4	20.2
2 11	6 39.85	+21 58.2	2.865	3.656	10.4	20.9	2 11	6 37.37	+22 35.6	1.427	2.253	17.3	20.5
204272	2004 <i>FV</i> ₁₁₉		1 6.2 335°50	0°6/ 6.0 18			30984	1995 <i>SW</i> ₁₉		1 6.2 325°99	0°5/ 6.1 18		
12 3	7 29.20	+23 21.9	1.										

EPHEMERIDES

1 6.2

1 6.2

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
236372	2006 <i>BW</i> ₂₇₈		1 6.2 250°84	1.9°/ 6.7	18		522544	2016 <i>EK</i> ₂₃₉		1 6.2 226°24	2.7°/ 7.1	17	
12 3	7 30.22	+16 35.6	2.120	2.931	12.9	20.9	12 3	7 28.47	+12 7.2	3.096	3.880	9.9	22.6
12 13	7 25.08	+16 35.8	2.035	2.926	9.8	20.7	12 13	7 23.20	+11 57.6	2.995	3.867	7.7	22.5
12 23	7 17.84	+16 43.1	1.973	2.922	6.3	20.5	12 23	7 16.47	+11 54.8	2.920	3.854	5.3	22.3
1 2	7 9.15	+16 56.4	1.940	2.917	2.7	20.2	1 2	7 8.73	+11 58.7	2.874	3.840	3.1	22.1
1 12	6 59.95	+17 14.0	1.936	2.912	2.9	20.3	1 12	7 0.61	+12 8.7	2.859	3.826	3.1	22.1
1 22	6 51.26	+17 34.2	1.961	2.907	6.5	20.5	1 22	6 52.78	+12 23.9	2.875	3.811	5.2	22.2
2 1	6 44.02	+17 55.4	2.013	2.902	10.1	20.7	2 1	6 45.88	+12 43.2	2.921	3.796	7.8	22.4
2 11	6 38.96	+18 16.4	2.090	2.896	13.3	20.9	2 11	6 40.43	+13 5.0	2.992	3.780	10.1	22.5
488187	2015 <i>XM</i> ₁₄₇		1 6.2 193°88	2.1°/ 5.6	18		359673	2011 <i>SL</i> ₁₁₄		1 6.2 84°93	2.4°/ 5.6	18	
12 3	7 35.82	+25 50.5	1.864	2.683	14.1	21.6	12 3	7 37.16	+26 8.5	1.561	2.389	15.9	20.7
12 13	7 29.71	+26 33.4	1.784	2.682	10.6	21.4	12 13	7 30.84	+26 56.1	1.506	2.408	11.9	20.5
12 23	7 20.88	+27 18.3	1.728	2.680	6.6	21.1	12 23	7 21.55	+27 44.9	1.473	2.427	7.3	20.3
1 2	7 10.11	+28 0.3	1.699	2.678	2.7	20.9	1 2	7 10.29	+28 28.7	1.468	2.446	3.1	20.1
1 12	6 58.63	+28 34.6	1.701	2.675	3.6	20.9	1 12	6 58.56	+29 2.3	1.490	2.464	4.1	20.2
1 22	6 47.83	+28 58.4	1.731	2.672	7.7	21.2	1 22	6 47.92	+29 23.1	1.541	2.483	8.4	20.5
2 1	6 38.95	+29 11.3	1.789	2.668	11.7	21.4	2 1	6 39.66	+29 31.8	1.617	2.501	12.5	20.8
2 11	6 32.88	+29 15.1	1.869	2.663	15.1	21.6	2 11	6 34.58	+29 30.9	1.716	2.519	15.9	21.0
1866	<i>Sisyphus</i>		1 6.2 47°45	28°6/11.0	18		83956	<i>Panuzzo</i>		1 6.2 114°20	4.4°/ 7.9	18	
12 3	9 29.80	+61 8.4	0.698	1.443	37.5	13.9	12 3	7 31.89	+7 37.6	2.208	2.987	13.5	19.8
12 13	9 23.78	+69 24.2	0.755	1.522	33.5	14.1	12 13	7 26.00	+7 39.0	2.142	3.006	10.6	19.6
12 23	8 53.69	+75 48.3	0.830	1.599	30.9	14.3	12 23	7 18.23	+7 53.7	2.099	3.025	7.6	19.5
1 2	7 44.21	+79 38.7	0.921	1.674	29.5	14.6	1 2	7 9.25	+8 21.5	2.084	3.043	5.0	19.3
1 12	6 13.04	+80 24.6	1.026	1.747	28.9	14.9	1 12	6 59.96	+9 0.8	2.099	3.060	4.7	19.3
1 22	5 12.86	+79 0.7	1.142	1.818	28.7	15.2	1 22	6 51.28	+9 48.7	2.144	3.077	6.9	19.5
2 1	4 51.07	+76 52.6	1.266	1.887	28.6	15.6	2 1	6 44.04	+10 41.9	2.217	3.094	9.8	19.7
2 11	4 51.79	+74 41.2	1.397	1.953	28.6	15.8	2 11	6 38.84	+11 37.0	2.314	3.110	12.5	19.9
326462	2001 <i>XG</i> ₁₅₃		1 6.2 193°97	0°0/ 6.2	18		43322	2000 <i>JQ</i> ₆₉		1 6.2 285°76	2°3/ 5.3	18	
12 3	7 31.77	+20 48.9	1.918	2.738	13.7	20.7	12 3	7 33.31	+23 52.4	1.723	2.550	14.7	18.3
12 13	7 26.49	+21 18.5	1.839	2.738	10.3	20.5	12 13	7 28.29	+25 7.8	1.631	2.534	11.1	18.1
12 23	7 18.82	+21 54.0	1.784	2.738	6.3	20.2	12 23	7 20.31	+26 31.5	1.563	2.517	6.9	17.8
1 2	7 9.47	+22 32.1	1.757	2.738	1.9	19.9	1 2	7 10.04	+27 56.9	1.522	2.501	2.8	17.5
1 12	6 59.54	+23 9.1	1.759	2.737	2.6	20.0	1 12	6 58.70	+29 16.6	1.511	2.484	4.1	17.5
1 22	6 50.21	+23 42.1	1.790	2.737	6.9	20.3	1 22	6 47.74	+30 24.4	1.528	2.468	8.6	17.8
2 1	6 42.58	+24 9.6	1.848	2.737	10.9	20.5	2 1	6 38.66	+31 17.5	1.571	2.451	12.9	18.0
2 11	6 37.44	+24 31.3	1.930	2.736	14.2	20.7	2 11	6 32.57	+31 56.1	1.636	2.435	16.7	18.2
364451	2006 <i>YA</i> ₇		1 6.2 56°63	8°4/ 8.1	18		467816	2010 <i>FT</i> ₆		1 6.2 42°53	5°7/ 8.1	18	
12 3	7 32.11	+3 34.2	1.584	2.371	17.6	20.4	12 3	7 28.10	+5 54.2	2.016	2.802	14.4	20.8
12 13	7 26.66	+2 26.9	1.532	2.390	14.5	20.2	12 13	7 23.42	+5 32.8	1.946	2.811	11.6	20.6
12 23	7 18.80	+1 39.0	1.500	2.410	11.3	20.1	12 23	7 16.78	+5 26.4	1.900	2.820	8.6	20.4
1 2	7 9.42	+1 14.0	1.492	2.430	8.9	20.0	1 2	7 8.84	+5 36.2	1.879	2.830	6.2	20.3
1 12	6 59.72	+1 13.2	1.510	2.450	8.6	20.0	1 12	7 0.52	+6 1.7	1.886	2.840	5.9	20.3
1 22	6 50.92	+1 34.4	1.554	2.470	10.5	20.2	1 22	6 52.80	+6 40.4	1.921	2.850	8.0	20.5
2 1	6 44.07	+2 13.3	1.623	2.491	13.3	20.4	2 1	6 46.52	+7 28.8	1.982	2.860	10.8	20.6
2 11	6 39.82	+3 3.7	1.712	2.511	16.0	20.6	2 11	6 42.34	+8 22.8	2.067	2.871	13.5	20.8
453136	2008 <i>AL</i> ₅₄		1 6.2 47°54	1°7/ 6.0	16		440046	2002 <i>QY</i> ₇₈		1 6.2 106°86	1°0/ 6.0	17	
12 3	7 38.53	+26 50.7	1.274	2.113	18.2	20.2	12 3	7 39.02	+23 55.7	1.475	2.301	16.8	22.0
12 13	7 31.94	+26 45.9	1.234	2.141	13.5	20.0	12 13	7 32.30	+24 15.8	1.416	2.318	12.5	21.8
12 23	7 22.11	+26 39.4	1.215	2.171	8.2	19.8	12 23	7 22.46	+24 38.4	1.379	2.334	7.6	21.6
1 2	7 10.38	+26 27.3	1.221	2.201	2.8	19.5	1 2	7 10.57	+24 59.0	1.369	2.349	2.4	21.3
1 12	6 58.54	+26 7.5	1.254	2.231	3.7	19.7	1 12	6 58.22	+25 13.5	1.387	2.364	3.4	21.4
1 22	6 48.31	+25 40.9	1.314	2.262	8.7	20.1	1 22	6 47.04	+25 20.1	1.433	2.379	8.4	21.7
2 1	6 40.92	+25 10.1	1.398	2.293	13.2	20.4	2 1	6 38.36	+25 19.6	1.504	2.393	12.8	22.0
2 11	6 37.01	+24 38.1	1.503	2.324	16.8	20.7	2 11	6 33.01	+25 13.7	1.597	2.407	16.5	22.3
332406	2007 <i>LQ</i> ₃₄		1 6.2 163°48	6°0/ 8.4	18		30673	1409 <i>T</i> ₋₂		1 6.2 79°48	0°1/ 6.3	18	
12 3	7 29.03	+2 27.9	2.511	3.267	12.7	22.2	12 3	7 30.65	+21 18.1	2.284	3.097	12.0	20.8
12 13	7 23.78	+2 4.8	2.431	3.271	10.4	22.1	12 13	7 25.15	+21 29.4	2.218	3.113	8.9	20.6
12 23	7 16.87	+1 55.7	2.374	3.275	8.1	21.9	12 23	7 17.74	+21 43.9	2.177	3.129	5.4	20.4
1 2	7 8.84	+2 2.2	2.344	3.279	6.3	21.8	1 2	7 9.11	+21 59.5	2.165	3.145	1.6	20.2
1 12	7 0.45	+2 24.3	2.343	3.282	6.1	21.8	1 12	7 0.19	+22 14.2	2.183	3.161	2.2	20.2
1 22	6 52.50	+3 0.1	2.371	3.284	7.5	21.9	1 22	6 51.91	+22 26.6	2.231	3.177	5.8	20.5
2 1	6 45.72	+3 47.0	2.427	3.286	9.8	22.0	2 1	6 45.08	+22 36.1	2.307	3.192	9.1	20.7
2 11	6 40.69	+4 41.1	2.507	3.288	12.0	22.2	2 11	6 40.32	+22 42.7	2.407	3.208	11.9	21.0
345106	2005 <i>OS</i> ₄		1 6.2 99°21	0°5/ 6.1	18		233118	2005 <i>TW</i> ₇		1 6.2 333°93	2°0/ 6.6	18	
12 3	7 39.66	+21 20.6	1.577	2.395	16.3	21.1	12 3	7 31.62	+17 24.9	1.227	2.069	18.5	20.6
12 13	7 32.47	+22 3.2	1.525	2.423	12.1	20.9	12 13	7 27.50	+17 27.5	1.153	2.062	14.1	20.3
12 23	7 22.41	+22 51.1	1.496	2.449	7.3	20.7	12 23	7 19.98	+17 41.6	1.099	2.054	9.0	20.0
1 2	7 10.52	+23 39.3	1.495	2.475	2.2	20.4	1 2	7 9.94	+18 5.4	1.069	2.048	3.5	19.6
1 12	6 58.26	+24 22.5	1.523	2.500	3.1	20.5	1 12	6 58.97	+18 35.4	1.064	2.042	3.9	19.6
1 22	6 47.13	+24 57.6	1.580	2.525	7.9	20.9	1 22	6 48.84	+19 7.9	1.084	2.037	9.5	19.9
2 1	6 38.37	+25 23.8	1.663	2.548	12.1	21.2	2 1	6 41.19	+19 39.9	1.127	2.032	14.8	20.2
2 11	6 32.72	+25 42.0	1.769	2.571	15.5	21.4	2 11	6 37.11	+20 9.3	1.190	2.028	19.3	20.5
413127	2001 <i>XN</i> ₉₁		1 6.2 352°47	7°9/ 3.2	18		104808	2000 <i>HG</i> ₄₇		1 6.2 202°91	0°7/ 5.9	17	
12 3	7 30.50	+33 53.9	1.296	2.145	17.3	19.6	12 3	7					

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
191362	2003 <i>QG</i> ₈₇		1 6.2 88°02	0°5/ 6.1 18			223809	2004 <i>TC</i> ₆₁		1 6.2 48°77	7°5/ 4.3 18		
12 3	7 32.57	+23 17.3	2.108	2.925	12.8	20.5	12 3	7 37.20	+39 5.3	1.687	2.505	15.4	19.2
12 13	7 26.73	+23 31.2	2.043	2.940	9.5	20.3	12 13	7 31.19	+40 22.7	1.638	2.522	12.2	19.0
12 23	7 18.76	+23 47.0	2.003	2.956	5.7	20.1	12 23	7 21.93	+41 29.5	1.612	2.540	9.2	18.9
1 2	7 9.44	+24 2.1	1.991	2.972	1.7	19.9	1 2	7 10.50	+42 17.1	1.611	2.557	7.5	18.8
1 12	6 59.79	+24 14.2	2.009	2.987	2.5	20.0	1 12	6 58.52	+42 39.7	1.637	2.575	8.2	18.9
1 22	6 50.86	+24 21.8	2.057	3.002	6.3	20.2	1 22	6 47.72	+42 36.7	1.689	2.594	10.6	19.1
2 1	6 43.59	+24 25.0	2.132	3.017	9.8	20.5	2 1	6 39.51	+42 11.8	1.765	2.612	13.4	19.3
2 11	6 38.60	+24 24.3	2.232	3.032	12.7	20.7	2 11	6 34.72	+41 31.3	1.861	2.631	16.0	19.5
366928	2005 <i>UN</i> ₃₇₄		1 6.2 112°32	1°6/ 6.6 18			163764	2003 <i>OX</i> ₂₇		1 6.2 107°22	3°0/ 5.7 18		
12 3	7 32.09	+18 19.0	1.946	2.761	13.7	20.9	12 3	7 38.67	+29 29.3	1.732	2.552	14.9	20.0
12 13	7 26.57	+18 9.0	1.870	2.764	10.4	20.7	12 13	7 31.78	+29 53.7	1.671	2.568	11.2	19.8
12 23	7 18.78	+18 4.6	1.818	2.768	6.5	20.5	12 23	7 22.06	+30 14.9	1.633	2.583	7.1	19.5
1 2	7 9.48	+18 4.7	1.793	2.771	2.6	20.3	1 2	7 10.50	+30 27.9	1.623	2.598	3.4	19.4
1 12	6 59.72	+18 7.8	1.797	2.774	2.9	20.3	1 12	6 58.54	+30 29.2	1.641	2.613	4.2	19.4
1 22	6 50.63	+18 12.8	1.831	2.777	6.8	20.5	1 22	6 47.65	+30 18.2	1.689	2.627	8.1	19.7
2 1	6 43.21	+18 18.9	1.891	2.780	10.6	20.8	2 1	6 39.05	+29 56.9	1.763	2.641	11.9	20.0
2 11	6 38.19	+18 25.4	1.975	2.783	13.9	21.0	2 11	6 33.49	+29 29.0	1.859	2.655	15.1	20.2
285143	1995 <i>UZ</i> ₄		1 6.2 258°61	21°5/ 28.9 16			333409	2002 <i>VF</i> ₂₆		1 6.2 60°73	5°3/ 4.4 18		
12 3	8 1.86	+60 37.0	1.153	1.919	24.1	20.3	12 3	7 34.04	+35 28.6	2.092	2.908	12.9	20.0
12 13	7 56.56	+63 50.9	1.115	1.916	22.6	20.1	12 13	7 28.25	+36 36.0	2.033	2.921	10.0	19.8
12 23	7 41.53	+66 34.1	1.093	1.913	21.7	20.1	12 23	7 19.92	+37 37.5	1.999	2.935	7.2	19.7
1 2	7 17.27	+68 21.2	1.088	1.910	21.6	20.0	1 2	7 9.88	+38 26.7	1.991	2.948	5.3	19.6
1 12	6 48.81	+68 53.6	1.100	1.907	22.4	20.1	1 12	6 59.33	+38 59.0	2.013	2.962	6.0	19.6
1 22	6 23.92	+68 11.6	1.126	1.904	23.8	20.2	1 22	6 49.56	+39 12.8	2.063	2.976	8.5	19.8
2 1	6 8.32	+66 32.3	1.166	1.901	25.5	20.3	2 1	6 41.71	+39 9.5	2.138	2.990	11.2	20.0
2 11	6 3.20	+64 18.2	1.218	1.898	27.2	20.4	2 11	6 36.53	+38 52.9	2.236	3.004	13.7	20.2
290778	2005 <i>VP</i> ₂₈		1 6.2 77°78	1°6/ 6.6 18			138175	2000 <i>EE</i> ₁₀₄		1 6.2 138°14	17°5/ 5.6 18		
12 3	7 32.21	+18 17.5	1.860	2.678	14.2	20.8	12 3	9 9.16	+34 23.1	0.302	1.164	47.6	19.8
12 13	7 26.74	+18 6.9	1.786	2.682	10.7	20.6	12 13	8 49.11	+38 36.7	0.287	1.198	37.1	19.5
12 23	7 18.93	+18 2.0	1.736	2.687	6.7	20.3	12 23	8 13.81	+42 37.5	0.280	1.227	26.0	19.2
1 2	7 9.55	+18 1.9	1.713	2.691	2.7	20.1	1 2	7 26.23	+45 0.6	0.287	1.252	18.2	19.0
1 12	6 59.70	+18 5.1	1.719	2.696	3.0	20.1	1 12	6 39.24	+44 55.1	0.311	1.271	19.4	19.3
1 22	6 50.57	+18 10.4	1.753	2.700	7.0	20.4	1 22	6 5.10	+43 1.4	0.350	1.285	26.4	19.8
2 1	6 43.20	+18 16.8	1.814	2.705	10.9	20.6	2 1	5 46.82	+40 30.7	0.401	1.294	33.5	20.3
2 11	6 38.30	+18 23.7	1.899	2.709	14.3	20.9	2 11	5 41.46	+38 7.0	0.460	1.298	39.3	20.7
123085	2000 <i>ST</i> ₃₂₀		1 6.2 47°78	2°0/ 6.6 18			327291	2005 <i>TV</i> ₁₀₁		1 6.2 81°99	7°1/ 8.8 18		
12 3	7 32.16	+17 49.6	1.642	2.466	15.5	19.4	12 3	7 31.36	+ 2 1.1	1.929	2.696	15.6	20.6
12 13	7 26.82	+17 35.9	1.582	2.481	11.7	19.2	12 13	7 25.81	+ 1 38.8	1.871	2.718	12.8	20.5
12 23	7 18.99	+17 29.3	1.545	2.496	7.3	19.0	12 23	7 18.21	+ 1 35.2	1.835	2.740	9.9	20.3
1 2	7 9.55	+17 28.8	1.534	2.512	3.0	18.7	1 2	7 9.32	+ 1 52.0	1.824	2.761	7.6	20.3
1 12	6 59.75	+17 32.7	1.551	2.528	3.3	18.8	1 12	7 0.14	+ 2 28.2	1.841	2.783	7.2	20.3
1 22	6 50.86	+17 39.5	1.596	2.545	7.5	19.1	1 22	6 51.67	+ 3 20.5	1.886	2.804	8.8	20.4
2 1	6 43.94	+17 48.2	1.667	2.561	11.5	19.4	2 1	6 44.81	+ 4 24.4	1.957	2.825	11.4	20.6
2 11	6 39.70	+17 57.6	1.761	2.578	14.9	19.6	2 11	6 40.18	+ 5 34.5	2.051	2.845	13.9	20.8
86682	2000 <i>FB</i> ₃₅		1 6.2 236°18	1°0/ 6.5 18			372924	2011 <i>BC</i> ₂₁		1 6.2 232°93	1°9/ 6.9 18		
12 3	7 35.28	+18 45.3	1.782	2.597	14.8	20.5	12 3	7 30.71	+15 22.2	2.101	2.908	13.1	21.4
12 13	7 29.43	+18 57.6	1.689	2.584	11.3	20.2	12 13	7 25.55	+15 41.5	2.014	2.903	10.0	21.2
12 23	7 20.83	+19 17.3	1.620	2.571	7.0	19.9	12 23	7 18.22	+16 10.1	1.951	2.898	6.4	21.0
1 2	7 10.20	+19 42.1	1.578	2.558	2.4	19.6	1 2	7 9.38	+16 46.4	1.915	2.892	2.8	20.7
1 12	6 58.73	+20 8.9	1.565	2.543	2.9	19.6	1 12	6 59.97	+17 27.8	1.910	2.886	2.9	20.7
1 22	6 47.78	+20 34.9	1.581	2.528	7.7	19.9	1 22	6 51.01	+18 11.2	1.934	2.880	6.6	20.9
2 1	6 38.66	+20 58.6	1.624	2.512	12.1	20.1	2 1	6 43.51	+18 54.1	1.986	2.874	10.2	21.1
2 11	6 32.32	+21 19.2	1.690	2.496	15.9	20.3	2 11	6 38.21	+19 34.7	2.062	2.868	13.5	21.3
442730	2012 <i>VW</i> ₇₂		1 6.2 39°13	1°1/ 5.9 17			194234	2001 <i>TU</i> ₁₆₀		1 6.2 136°17	0°3/ 6.2 18		
12 3	7 34.25	+22 32.0	1.153	2.001	19.0	21.2	12 3	7 37.79	+22 22.1	1.854	2.667	14.4	21.3
12 13	7 29.48	+23 9.8	1.099	2.012	14.2	20.9	12 13	7 30.90	+22 39.3	1.787	2.682	10.7	21.1
12 23	7 21.11	+23 54.5	1.065	2.023	8.6	20.7	12 23	7 21.46	+22 59.8	1.743	2.696	6.5	20.9
1 2	7 10.27	+24 40.0	1.054	2.035	2.7	20.3	1 2	7 10.33	+23 20.0	1.728	2.708	2.0	20.6
1 12	6 58.77	+25 19.9	1.070	2.048	3.9	20.5	1 12	6 58.77	+23 37.0	1.743	2.721	2.7	20.7
1 22	6 48.54	+25 50.0	1.110	2.061	9.6	20.8	1 22	6 48.07	+23 48.9	1.787	2.732	7.1	21.0
2 1	6 41.15	+26 9.4	1.174	2.075	14.7	21.2	2 1	6 39.36	+23 55.6	1.859	2.742	11.1	21.2
2 11	6 37.53	+26 19.7	1.257	2.089	18.8	21.5	2 11	6 33.37	+23 58.0	1.954	2.752	14.4	21.5
275418	2011 <i>CJ</i> ₅		1 6.2 264°37	4°2/ 5.7 18			460866	2014 <i>WS</i> ₁₂₈		1 6.2 100°22	0°5/ 6.1 18		
12 3	7 37.82	+35 14.8	2.056	2.866	13.3	20.3	12 3	7 33.07	+23 59.3	1.962	2.783	13.4	21.6
12 13	7 31.07	+35 21.1	1.970	2.858	10.3	20.1	12 13	7 27.38	+24 1.9	1.886	2.785	10.0	21.4
12 23	7 21.63	+35 19.1	1.909	2.849	7.1	19.9	12 23	7 19.33	+24 5.7	1.835	2.788	6.1	21.1
1 2	7 10.38	+35 4.3	1.875	2.841	4.5	19.7	1 2	7 9.70	+24 8.2	1.810	2.791	1.9	20.8
1 12	6 58.60	+34 33.9	1.870	2.833	5.0	19.7	1 12	6 59.61	+24 7.4	1.816	2.793	2.6	20.9
1 22	6 47.65	+33 48.5	1.894	2.824	8.0	19.9	1 22	6 50.23	+24 2.4	1.850	2.796	6.8	21.2
2 1	6 38.75	+32 51.3	1.946	2.815	11.4	20.1	2 1	6 42.61	+23 53.4	1.911	2.799	10.6	21.4
2 11	6 32.68	+31 47.3	2.021	2.807	14.4	20.3	2 11	6 37.48	+23 41.5	1.996	2.801	13.9	21.6
459076	2012 <i>BS</i> ₅₁		1 6.2 40°99	3°6/ 7.4 18			362117	2009 <i>CE</i> ₆₃		1 6.2 293°55	2°0/ 6.6 18		
12 3	7 31.03	+11 53.1											

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
313184	2001 <i>PZ</i> ₅		1 6.2 150°31	1.4/ 6.7	18		183432	2003 <i>AH</i> ₆₁		1 6.2 260°57	1.7/ 6.6	18	
12 3	7 32.89	+16 24.6	2.297	3.098	12.4	21.3	12 3	7 32.60	+17 49.2	2.072	2.881	13.2	20.1
12 13	7 26.87	+16 44.8	2.221	3.107	9.3	21.1	12 13	7 27.10	+17 42.9	1.972	2.863	10.1	19.9
12 23	7 18.87	+17 12.3	2.169	3.116	5.9	20.9	12 23	7 19.28	+17 42.3	1.896	2.844	6.4	19.6
1 2	7 9.55	+17 45.2	2.147	3.124	2.3	20.7	1 2	7 9.77	+17 46.5	1.847	2.825	2.6	19.4
1 12	6 59.82	+18 20.9	2.155	3.132	2.5	20.7	1 12	6 59.56	+17 54.1	1.829	2.805	2.9	19.3
1 22	6 50.63	+18 57.0	2.194	3.139	6.0	21.0	1 22	6 49.76	+18 3.6	1.840	2.785	6.9	19.6
2 1	6 42.86	+19 31.7	2.262	3.146	9.4	21.2	2 1	6 41.46	+18 14.0	1.878	2.765	10.8	19.8
2 11	6 37.17	+20 3.6	2.355	3.151	12.3	21.4	2 11	6 35.48	+18 24.7	1.941	2.744	14.2	19.9
427829	2005 <i>JD</i> ₁₀₃		1 6.2 223°49	1.5/ 6.9	17		207418	2006 <i>DM</i> ₅₄		1 6.2 62°68	1.1/ 5.9	18	
12 3	7 29.03	+14 51.5	2.663	3.460	11.0	21.8	12 3	7 32.13	+24 31.0	1.956	2.779	13.4	20.4
12 13	7 23.91	+15 23.7	2.570	3.454	8.3	21.6	12 13	7 26.69	+24 50.8	1.887	2.787	10.0	20.2
12 23	7 17.07	+16 4.3	2.502	3.447	5.3	21.4	12 23	7 18.93	+25 12.3	1.841	2.795	6.1	19.9
1 2	7 9.02	+16 51.5	2.464	3.440	2.3	21.2	1 2	7 9.62	+25 32.1	1.823	2.803	2.0	19.7
1 12	7 0.51	+17 42.8	2.457	3.433	2.3	21.2	1 12	6 59.86	+25 47.3	1.835	2.812	2.8	19.8
1 22	6 52.31	+18 35.5	2.481	3.426	5.4	21.4	1 22	6 50.84	+25 56.4	1.875	2.820	6.8	20.0
2 1	6 45.22	+19 27.2	2.535	3.419	8.5	21.6	2 1	6 43.56	+25 59.2	1.942	2.829	10.5	20.3
2 11	6 39.85	+20 15.9	2.615	3.411	11.2	21.7	2 11	6 38.75	+25 56.8	2.033	2.837	13.7	20.5
296797	2009 <i>VA</i> ₃₈		1 6.2 103°37	1.2/ 6.5	18		430353	2013 <i>YA</i> ₁₄₂		1 6.2 27°50	1.4/ 6.5	18	
12 3	7 38.21	+19 0.4	1.432	2.256	17.3	21.5	12 3	7 30.36	+19 10.9	2.222	3.035	12.3	20.9
12 13	7 31.69	+19 6.7	1.374	2.273	13.0	21.2	12 13	7 25.06	+18 49.9	2.144	3.037	9.3	20.7
12 23	7 22.12	+19 20.7	1.337	2.290	8.0	21.0	12 23	7 17.80	+18 32.6	2.090	3.040	5.8	20.5
1 2	7 10.56	+19 39.4	1.327	2.307	2.8	20.7	1 2	7 9.26	+18 18.3	2.064	3.042	2.3	20.2
1 12	6 58.54	+19 59.4	1.344	2.323	3.3	20.8	1 12	7 0.35	+18 6.5	2.068	3.045	2.6	20.3
1 22	6 47.66	+20 18.2	1.390	2.338	8.3	21.1	1 22	6 52.02	+17 56.6	2.102	3.048	6.1	20.5
2 1	6 39.22	+20 34.6	1.460	2.353	12.9	21.4	2 1	6 45.14	+17 48.6	2.163	3.051	9.5	20.7
2 11	6 34.02	+20 48.5	1.553	2.368	16.7	21.7	2 11	6 40.35	+17 42.1	2.249	3.054	12.5	20.9
154795	2004 <i>PW</i> ₇₀		1 6.2 125°67	3.4/ 7.2	18		418391	2008 <i>HP</i> ₆₀		1 6.2 192°23	2.5/ 5.2	18	
12 3	7 35.37	+12 36.8	1.748	2.550	15.6	20.2	12 3	7 34.14	+27 10.0	2.289	3.102	12.0	21.2
12 13	7 29.12	+12 36.0	1.681	2.565	12.0	20.0	12 13	7 28.14	+28 9.4	2.206	3.100	9.0	21.0
12 23	7 20.40	+12 47.3	1.638	2.579	8.0	19.8	12 23	7 19.85	+29 10.3	2.149	3.098	5.7	20.8
1 2	7 10.04	+13 9.6	1.621	2.592	4.3	19.6	1 2	7 9.93	+30 7.7	2.121	3.096	2.8	20.6
1 12	6 59.23	+13 40.9	1.633	2.605	4.1	19.6	1 12	6 59.38	+30 57.0	2.123	3.093	3.6	20.6
1 22	6 49.23	+14 18.0	1.674	2.617	7.7	19.9	1 22	6 49.29	+31 35.1	2.156	3.090	6.9	20.8
2 1	6 41.13	+14 58.0	1.742	2.629	11.5	20.1	2 1	6 40.74	+32 1.4	2.217	3.086	10.2	21.0
2 11	6 35.66	+15 38.3	1.833	2.640	14.9	20.4	2 11	6 34.51	+32 17.0	2.302	3.082	13.0	21.2
430689	2003 <i>XL</i> ₁₀		1 6.2 23°28	14.3/ 5.1	15		143961	2003 <i>YU</i> ₁₂₈		1 6.2 273°06	4.3/ 5.2	18	
12 3	7 42.69	+53 42.8	1.352	2.145	19.8	20.0	12 3	7 36.46	+32 24.1	1.823	2.644	14.3	19.5
12 13	7 36.85	+55 16.4	1.326	2.167	17.4	19.9	12 13	7 30.62	+33 0.8	1.731	2.626	11.0	19.3
12 23	7 25.93	+56 21.5	1.318	2.190	15.4	19.9	12 23	7 21.72	+33 34.0	1.662	2.608	7.4	19.0
1 2	7 11.73	+56 46.1	1.331	2.215	14.4	19.9	1 2	7 10.57	+33 57.4	1.620	2.589	4.6	18.8
1 12	6 57.18	+56 25.0	1.364	2.241	14.6	19.9	1 12	6 58.49	+34 5.8	1.606	2.570	5.4	18.8
1 22	6 45.07	+55 22.3	1.419	2.269	15.9	20.1	1 22	6 47.04	+33 57.4	1.620	2.552	8.9	19.0
2 1	6 37.28	+53 48.1	1.493	2.297	17.7	20.3	2 1	6 37.68	+33 33.7	1.660	2.533	12.8	19.2
2 11	6 34.42	+51 55.0	1.585	2.327	19.5	20.5	2 11	6 31.44	+32 58.9	1.722	2.513	16.3	19.4
409965	2006 <i>VC</i> ₁₈		1 6.2 340°07	0.2/ 6.3	18		246227	2007 <i>RJ</i> ₂₁₇		1 6.2 153°75	2.0/ 6.9	18	
12 3	7 31.01	+22 1.7	1.435	2.275	16.4	20.8	12 3	7 34.85	+15 31.0	2.106	2.906	13.4	21.7
12 13	7 26.70	+21 58.5	1.357	2.265	12.4	20.5	12 13	7 28.46	+15 37.9	2.031	2.916	10.2	21.5
12 23	7 19.34	+21 59.4	1.300	2.257	7.6	20.2	12 23	7 19.91	+15 52.8	1.980	2.925	6.5	21.3
1 2	7 9.81	+22 2.0	1.268	2.249	2.4	19.8	1 2	7 9.91	+16 14.2	1.957	2.933	2.9	21.1
1 12	6 59.50	+22 3.9	1.263	2.242	3.2	19.9	1 12	6 59.47	+16 40.1	1.965	2.941	3.0	21.1
1 22	6 49.99	+22 3.4	1.285	2.236	8.5	20.2	1 22	6 49.67	+17 8.2	2.004	2.947	6.6	21.4
2 1	6 42.69	+22 0.3	1.330	2.231	13.3	20.4	2 1	6 41.45	+17 36.7	2.070	2.953	10.1	21.6
2 11	6 38.56	+21 55.2	1.397	2.226	17.4	20.7	2 11	6 35.52	+18 4.1	2.161	2.959	13.2	21.8
5043	Zadornov		1 6.2 100°63	0.6/ 6.0	18		508569	2017 <i>FP</i> ₁₀₆		1 6.2 250°30	3.8/ 7.1	17	
12 3	7 31.29	+23 40.5	2.425	3.238	11.4	18.0	12 3	7 33.09	+12 34.1	1.889	2.691	14.6	22.3
12 13	7 25.61	+23 59.0	2.357	3.253	8.5	17.8	12 13	7 27.61	+12 16.7	1.793	2.676	11.4	22.0
12 23	7 18.06	+24 19.1	2.315	3.267	5.1	17.6	12 23	7 19.67	+12 9.4	1.720	2.660	7.8	21.8
1 2	7 9.32	+24 38.2	2.302	3.282	1.6	17.4	1 2	7 9.91	+12 12.9	1.674	2.644	4.5	21.5
1 12	7 0.26	+24 54.2	2.319	3.296	2.3	17.5	1 12	6 59.41	+12 26.4	1.657	2.627	4.4	21.5
1 22	6 51.81	+25 5.7	2.366	3.310	5.7	17.7	1 22	6 49.35	+12 48.2	1.668	2.609	7.9	21.7
2 1	6 44.76	+25 12.3	2.442	3.324	8.8	17.9	2 1	6 40.89	+13 16.3	1.707	2.592	11.8	21.8
2 11	6 39.73	+25 14.7	2.542	3.337	11.5	18.1	2 11	6 34.90	+13 48.0	1.768	2.574	15.4	22.0
100987	1998 <i>QR</i> ₃₃		1 6.2 61°92	2.5/ 6.8	18		379879	2012 <i>HB</i> ₄₉		1 6.2 187°05	1.7/ 5.6	18	
12 3	7 36.61	+16 34.6	1.488	2.308	17.0	19.2	12 3	7 32.83	+25 36.6	2.514	3.323	11.2	21.4
12 13	7 30.08	+16 21.5	1.445	2.340	12.8	19.0	12 13	7 26.93	+26 24.7	2.430	3.323	8.3	21.2
12 23	7 20.91	+16 17.5	1.423	2.373	8.1	18.8	12 23	7 19.01	+27 14.5	2.371	3.322	5.2	21.0
1 2	7 10.15	+16 21.1	1.428	2.405	3.5	18.6	1 2	7 9.67	+28 2.4	2.343	3.321	2.1	20.8
1 12	6 59.25	+16 30.5	1.461	2.437	3.7	18.7	1 12	6 59.80	+28 44.5	2.346	3.319	2.9	20.9
1 22	6 49.55	+16 43.5	1.522	2.469	7.9	19.0	1 22	6 50.37	+29 18.4	2.379	3.316	6.1	21.1
2 1	6 42.15	+16 58.6	1.609	2.501	11.9	19.3	2 1	6 42.29	+29 43.2	2.441	3.314	9.2	21.3
2 11	6 37.68	+17 14.4	1.718	2.533	15.3	19.6	2 11	6 36.26	+29 59.8	2.528	3.310	11.9	21.4
181896	1999 <i>RN</i> ₁₆₁		1 6.2 103°14	3.5/ 7.1	18		367348	2008 <i>EZ</i> ₅₆		1 6.2 272°35	1.2/ 6.6	18	
12 3	7 36.17	+13 51.9	1.411	2.229</									

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
375531	2008 <i>UV</i> ₁₈₂		1 6.3 172 ^o 44	6 ^o 2/ 3.8 18			370278	2002 <i>QL</i> ₇₄		1 6.3 103 ^o 54	2 ^o 6/ 5.5 18		
12 3	7 36.94	+41 9.6	2.560	3.352	11.5	21.0	12 3	7 32.76	+29 15.4	2.228	3.045	12.2	21.3
12 13	7 30.32	+42 18.9	2.489	3.354	9.3	20.8	12 13	7 27.03	+29 46.6	2.156	3.052	9.1	21.1
12 23	7 21.22	+43 19.8	2.443	3.356	7.3	20.7	12 23	7 19.12	+30 16.1	2.109	3.058	5.8	20.9
1 2	7 10.38	+44 6.3	2.425	3.358	6.2	20.6	1 2	7 9.73	+30 39.7	2.090	3.065	2.9	20.7
1 12	6 58.92	+44 33.8	2.436	3.359	6.8	20.7	1 12	6 59.91	+30 54.5	2.101	3.072	3.6	20.8
1 22	6 48.07	+44 41.1	2.475	3.360	8.5	20.8	1 22	6 50.75	+30 59.1	2.142	3.078	6.8	21.0
2 1	6 38.96	+44 29.7	2.540	3.361	10.7	20.9	2 1	6 43.22	+30 54.0	2.210	3.084	10.0	21.2
2 11	6 32.41	+44 3.9	2.628	3.361	12.8	21.1	2 11	6 38.01	+30 41.4	2.301	3.091	12.7	21.4
59267	1999 <i>CR</i> ₃₂		1 6.3 350 ^o 89	1 ^o 1/ 6.6 18			304964	2007 <i>TR</i> ₉₉		1 6.3 33 ^o 59	1 ^o 8/ 6.7 18		
12 3	7 31.95	+17 21.0	1.307	2.145	17.9	18.6	12 3	7 32.09	+17 34.9	1.226	2.067	18.6	20.4
12 13	7 27.64	+17 57.0	1.235	2.142	13.6	18.3	12 13	7 27.55	+17 42.5	1.172	2.080	14.0	20.1
12 23	7 20.07	+18 46.6	1.184	2.139	8.5	18.0	12 23	7 19.83	+18 1.1	1.139	2.094	8.7	19.9
1 2	7 10.12	+19 46.0	1.157	2.137	2.9	17.7	1 2	7 9.99	+18 28.1	1.130	2.109	3.3	19.6
1 12	6 59.27	+20 49.3	1.157	2.136	3.4	17.7	1 12	6 59.63	+18 59.6	1.147	2.125	3.6	19.7
1 22	6 49.23	+21 50.5	1.183	2.135	9.0	18.0	1 22	6 50.43	+19 31.7	1.189	2.142	8.8	20.0
2 1	6 41.54	+22 45.4	1.233	2.135	14.0	18.3	2 1	6 43.73	+20 1.8	1.255	2.159	13.7	20.4
2 11	6 37.26	+23 32.0	1.304	2.135	18.3	18.6	2 11	6 40.38	+20 28.4	1.342	2.177	17.7	20.7
114711	2003 <i>GC</i> ₉		1 6.3 73 ^o 07	7 ^o 9/ 3.6 18			66753	1999 <i>TQ</i> ₁₇₃		1 6.3 78 ^o 77	0 ^o 8/ 6.5 18		
12 3	7 38.12	+41 14.7	1.893	2.700	14.4	19.8	12 3	7 31.30	+19 18.6	2.000	2.817	13.4	20.0
12 13	7 31.98	+42 39.9	1.829	2.703	11.7	19.6	12 13	7 26.01	+19 30.9	1.927	2.824	10.0	19.8
12 23	7 22.59	+43 55.2	1.788	2.705	9.3	19.4	12 23	7 18.52	+19 48.9	1.879	2.831	6.2	19.6
1 2	7 10.85	+44 51.5	1.773	2.708	8.0	19.4	1 2	7 9.56	+20 10.4	1.858	2.838	2.1	19.4
1 12	6 58.30	+45 22.4	1.785	2.711	8.6	19.4	1 12	7 0.16	+20 33.1	1.867	2.845	2.5	19.4
1 22	6 46.65	+45 26.3	1.823	2.714	10.8	19.6	1 22	6 51.40	+20 54.7	1.905	2.853	6.5	19.7
2 1	6 37.40	+45 6.1	1.886	2.716	13.4	19.7	2 1	6 44.27	+21 14.1	1.970	2.860	10.2	19.9
2 11	6 31.54	+44 28.0	1.969	2.719	15.9	19.9	2 11	6 39.45	+21 30.6	2.059	2.867	13.4	20.1
187344	2005 <i>UV</i> ₁₅₉		1 6.3 113 ^o 59	1 ^o 4/ 6.7 18			496193	2011 <i>HX</i> ₃₉		1 6.3 175 ^o 86	5 ^o 3/ 7.9 18		
12 3	7 32.46	+17 30.1	2.015	2.826	13.5	20.7	12 3	7 29.00	+ 4 39.6	2.656	3.419	11.9	22.3
12 13	7 26.80	+17 41.2	1.944	2.836	10.2	20.5	12 13	7 23.77	+ 4 8.9	2.573	3.421	9.7	22.2
12 23	7 18.95	+17 59.3	1.898	2.847	6.4	20.3	12 23	7 16.95	+ 3 50.0	2.514	3.422	7.4	22.0
1 2	7 9.67	+18 22.4	1.879	2.857	2.4	20.0	1 2	7 9.07	+ 3 44.0	2.483	3.423	5.6	21.9
1 12	6 59.96	+18 48.3	1.890	2.867	2.7	20.1	1 12	7 0.84	+ 3 51.4	2.480	3.424	5.5	21.9
1 22	6 50.92	+19 14.6	1.931	2.877	6.5	20.3	1 22	6 53.02	+ 4 11.0	2.507	3.424	7.0	22.0
2 1	6 43.50	+19 39.8	1.999	2.887	10.2	20.6	2 1	6 46.30	+ 4 40.7	2.562	3.424	9.3	22.1
2 11	6 38.39	+20 2.7	2.091	2.896	13.3	20.8	2 11	6 41.23	+ 5 17.7	2.642	3.423	11.5	22.3
78037	2002 <i>JR</i> ₉₅		1 6.3 189 ^o 48	0 ^o 7/ 6.1 18			97863	2000 <i>QF</i> ₂₈		1 6.3 137 ^o 29	2 ^o 9/ 5.7 18		
12 3	7 35.39	+23 25.5	2.060	2.873	13.2	21.0	12 3	7 39.04	+29 14.6	1.832	2.648	14.4	20.5
12 13	7 29.14	+23 45.9	1.977	2.872	9.9	20.8	12 13	7 32.06	+29 41.7	1.764	2.659	10.9	20.3
12 23	7 20.49	+24 8.8	1.918	2.871	6.0	20.6	12 23	7 22.32	+30 6.2	1.721	2.670	6.9	20.1
1 2	7 10.16	+24 31.0	1.888	2.869	1.9	20.3	1 2	7 10.74	+30 23.1	1.705	2.680	3.3	19.9
1 12	6 59.27	+24 49.4	1.889	2.866	2.7	20.4	1 12	6 58.68	+30 28.7	1.719	2.690	4.1	20.0
1 22	6 48.98	+25 2.3	1.919	2.863	6.8	20.6	1 22	6 47.57	+30 22.0	1.761	2.699	7.9	20.2
2 1	6 40.40	+25 9.1	1.977	2.859	10.6	20.8	2 1	6 38.62	+30 4.9	1.831	2.707	11.6	20.5
2 11	6 34.29	+25 10.9	2.059	2.855	13.8	21.0	2 11	6 32.62	+29 40.6	1.923	2.715	14.8	20.7
451048	2008 <i>YE</i> ₈₈		1 6.3 44 ^o 22	0 ^o 0/ 6.3 15			497236	2005 <i>EJ</i> ₉₄		1 6.3 256 ^o 41	2 ^o 1/ 5.7 17		
12 3	7 35.75	+22 34.2	1.207	2.051	18.7	21.3	12 3	7 38.61	+28 30.1	2.592	3.390	11.2	24.5
12 13	7 30.26	+22 27.1	1.158	2.068	13.9	21.1	12 13	7 31.46	+28 53.6	2.472	3.359	8.5	24.3
12 23	7 21.42	+22 23.9	1.129	2.086	8.5	20.8	12 23	7 21.97	+29 16.1	2.379	3.326	5.4	24.0
1 2	7 10.43	+22 21.4	1.124	2.105	2.6	20.5	1 2	7 10.70	+29 33.6	2.316	3.291	2.5	23.8
1 12	6 59.06	+22 17.2	1.145	2.124	3.4	20.7	1 12	6 58.59	+29 42.9	2.284	3.256	3.2	23.8
1 22	6 49.07	+22 10.3	1.192	2.144	8.9	21.0	1 22	6 46.73	+29 42.4	2.285	3.219	6.6	23.9
2 1	6 41.85	+22 1.2	1.263	2.164	13.8	21.4	2 1	6 36.23	+29 32.3	2.315	3.181	10.0	24.1
2 11	6 38.16	+21 51.0	1.354	2.185	17.8	21.7	2 11	6 27.94	+29 14.7	2.371	3.141	13.0	24.2
164805	1999 <i>JT</i> ₁₀₉		1 6.3 215 ^o 89	1 ^o 7/ 6.7 18			291699	2006 <i>HP</i> ₁₁₇		1 6.3 208 ^o 69	0 ^o 5/ 6.1 18		
12 3	7 34.66	+16 50.2	2.063	2.867	13.5	21.4	12 3	7 34.61	+21 45.5	1.766	2.587	14.7	20.8
12 13	7 28.59	+16 54.4	1.970	2.859	10.3	21.2	12 13	7 28.96	+22 20.7	1.685	2.585	11.0	20.6
12 23	7 20.18	+17 5.9	1.902	2.849	6.5	21.0	12 23	7 20.60	+23 1.8	1.628	2.581	6.7	20.3
1 2	7 10.09	+17 23.1	1.862	2.839	2.7	20.7	1 2	7 10.28	+23 44.8	1.597	2.578	2.1	20.0
1 12	6 59.35	+17 44.2	1.852	2.828	2.9	20.7	1 12	6 59.23	+24 25.1	1.596	2.574	2.9	20.1
1 22	6 49.09	+18 7.1	1.872	2.817	6.9	20.9	1 22	6 48.81	+24 59.5	1.624	2.570	7.6	20.3
2 1	6 40.39	+18 30.0	1.920	2.804	10.7	21.1	2 1	6 40.29	+25 26.3	1.678	2.566	11.8	20.6
2 11	6 34.06	+18 52.1	1.992	2.791	14.1	21.3	2 11	6 34.58	+25 45.8	1.755	2.561	15.4	20.8
427227	2014 <i>WZ</i> ₄₄		1 6.3 331 ^o 14	4 ^o 3/ 6.9 18			54495	2000 <i>OL</i> ₃₈		1 6.3 283 ^o 08	5 ^o 3/ 7.3 18		
12 3	7 29.20	+13 29.2	1.600	2.421	15.9	20.6	12 3	7 30.79	+ 9 31.7	1.865	2.663	14.9	19.0
12 13	7 25.02	+12 53.7	1.514	2.408	12.4	20.4	12 13	7 25.91	+ 8 56.1	1.772	2.648	11.9	18.8
12 23	7 18.22	+12 28.0	1.451	2.395	8.5	20.1	12 23	7 18.65	+ 8 32.1	1.701	2.633	8.6	18.5
1 2	7 9.52	+12 13.4	1.412	2.383	4.9	19.9	1 2	7 9.69	+ 8 21.8	1.657	2.617	5.8	18.3
1 12	7 0.11	+12 10.4	1.401	2.371	5.0	19.8	1 12	7 0.02	+ 8 25.6	1.640	2.602	5.7	18.3
1 22	6 51.29	+12 17.8	1.416	2.360	8.6	20.0	1 22	6 50.81	+ 8 42.5	1.651	2.586	8.5	18.4
2 1	6 44.28	+12 33.8	1.455	2.350	12.8	20.2	2 1	6 43.16	+ 9 10.2	1.688	2.571	12.1	18.6
2 11	6 39.99	+12 55.7	1.517	2.341	16.6	20.4	2 11	6 37.90	+ 9 45.3	1.748	2.555	15.4	18.8
160173	2001 <i>VR</i> ₁₂₅ </												

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
226770	2004 <i>RF</i> ₁₁₆		1 6.3 318°94	0°7/ 6.1 18			293411	2007 <i>EE</i> ₈₇		1 6.3 16°57 23°7/14.4 18			
12 3	7 32.56	+23 58.8	1.883	2.707	13.8	21.1	12 3	7 30.02	-18 32.3	1.014	1.740	29.1	20.4
12 13	7 27.23	+24 9.5	1.804	2.704	10.3	20.9	12 13	7 26.63	-21 8.5	0.972	1.742	27.3	20.3
12 23	7 19.42	+24 22.1	1.748	2.702	6.3	20.7	12 23	7 19.66	-22 57.2	0.941	1.745	25.6	20.1
1 2	7 9.90	+24 33.7	1.719	2.699	2.0	20.4	1 2	7 10.10	-23 44.3	0.923	1.748	24.3	20.1
1 12	6 59.82	+24 41.6	1.719	2.697	2.8	20.4	1 12	6 59.66	-23 21.8	0.919	1.753	23.7	20.0
1 22	6 50.40	+24 44.4	1.748	2.695	7.1	20.7	1 22	6 50.25	-21 51.7	0.929	1.758	23.9	20.1
2 1	6 42.78	+24 42.1	1.804	2.693	11.1	20.9	2 1	6 43.55	-19 24.8	0.953	1.764	24.9	20.2
2 11	6 37.73	+24 35.6	1.883	2.691	14.4	21.1	2 11	6 40.63	-16 19.0	0.991	1.771	26.4	20.3
120916	1998 <i>SB</i> ₈₃		1 6.3 169°87	2°3/ 5.8 18			455331	2002 <i>PP</i> ₁₁₀		1 6.3 90°75 0°2/ 6.3 18			
12 3	7 39.19	+27 31.4	1.756	2.574	14.9	20.1	12 3	7 37.09	+20 10.4	1.894	2.704	14.3	22.0
12 13	7 32.37	+27 55.6	1.682	2.578	11.2	19.9	12 13	7 30.20	+20 38.3	1.842	2.735	10.6	21.8
12 23	7 22.64	+28 19.0	1.630	2.582	7.0	19.6	12 23	7 21.00	+21 11.2	1.815	2.766	6.4	21.6
1 2	7 10.89	+28 36.6	1.607	2.584	3.0	19.4	1 2	7 10.35	+21 45.7	1.815	2.796	2.0	21.4
1 12	6 58.53	+28 44.6	1.612	2.586	3.8	19.5	1 12	6 59.45	+22 18.2	1.847	2.825	2.5	21.5
1 22	6 47.05	+28 41.4	1.647	2.588	8.0	19.7	1 22	6 49.47	+22 46.4	1.908	2.853	6.7	21.8
2 1	6 37.76	+28 28.5	1.708	2.588	12.1	20.0	2 1	6 41.41	+23 9.3	1.997	2.881	10.4	22.1
2 11	6 31.52	+28 8.8	1.792	2.588	15.5	20.2	2 11	6 35.91	+23 27.2	2.109	2.908	13.4	22.3
204963	1981 <i>EW</i> ₂₉		1 6.3 260°10	7°7/ 4.1 18			491979	2013 <i>EG</i> ₂₁		1 6.3 292°81 5°1/ 7.3 17			
12 3	7 42.26	+49 43.0	2.785	3.542	11.5	20.5	12 3	7 32.02	+11 17.3	1.517	2.332	17.0	21.9
12 13	7 34.40	+50 22.2	2.695	3.524	9.9	20.3	12 13	7 27.32	+10 47.5	1.432	2.320	13.4	21.7
12 23	7 23.76	+50 47.9	2.629	3.505	8.4	20.2	12 23	7 19.77	+10 30.9	1.368	2.308	9.4	21.4
1 2	7 11.22	+50 53.8	2.589	3.486	7.7	20.1	1 2	7 10.12	+10 29.0	1.329	2.296	5.8	21.2
1 12	6 58.09	+50 35.9	2.577	3.467	8.0	20.1	1 12	6 59.63	+10 41.8	1.316	2.284	5.7	21.1
1 22	6 45.77	+49 54.1	2.593	3.448	9.3	20.2	1 22	6 49.74	+11 7.5	1.330	2.272	9.3	21.3
2 1	6 35.53	+48 51.7	2.634	3.428	11.1	20.3	2 1	6 41.79	+11 42.8	1.368	2.261	13.6	21.5
2 11	6 28.18	+47 34.4	2.698	3.408	13.0	20.4	2 11	6 36.78	+12 23.9	1.428	2.250	17.5	21.8
42678	1998 <i>HR</i> ₁₃₀		1 6.3 223°62	0°3/ 6.2 18			315500	2008 <i>AD</i> ₁₆		1 6.3 165°64 0°1/ 6.3 18			
12 3	7 35.15	+22 35.1	1.918	2.734	13.9	20.4	12 3	7 36.65	+23 44.8	2.101	2.911	13.1	20.8
12 13	7 29.21	+22 49.5	1.830	2.726	10.4	20.2	12 13	7 29.91	+23 30.5	2.022	2.915	9.8	20.6
12 23	7 20.69	+23 7.3	1.765	2.718	6.4	19.9	12 23	7 20.89	+23 16.4	1.968	2.919	6.0	20.4
1 2	7 10.32	+23 25.5	1.729	2.709	2.0	19.6	1 2	7 10.36	+23 0.5	1.942	2.922	1.8	20.1
1 12	6 59.27	+23 41.0	1.722	2.700	2.7	19.6	1 12	6 59.42	+22 41.8	1.947	2.925	2.4	20.1
1 22	6 48.80	+23 52.0	1.744	2.690	7.2	19.9	1 22	6 49.21	+22 20.4	1.982	2.928	6.5	20.4
2 1	6 40.10	+23 57.9	1.794	2.680	11.3	20.1	2 1	6 40.74	+21 57.0	2.046	2.929	10.2	20.6
2 11	6 34.03	+23 59.5	1.867	2.669	14.8	20.3	2 11	6 34.71	+21 33.3	2.134	2.931	13.4	20.9
86558	2000 <i>EQ</i> ₁₆		1 6.3 50°87	4°2/ 7.2 17			45775	2000 <i>NP</i> ₂₇		1 6.3 203°56 0°4/ 6.4 18			
12 3	7 33.94	+13 31.0	1.241	2.071	19.1	18.9	12 3	7 32.68	+19 57.3	2.251	3.060	12.3	19.7
12 13	7 28.88	+13 13.6	1.185	2.083	14.7	18.7	12 13	7 26.98	+20 17.2	2.164	3.056	9.3	19.5
12 23	7 20.66	+13 10.6	1.148	2.096	9.8	18.4	12 23	7 19.16	+20 42.2	2.101	3.052	5.7	19.3
1 2	7 10.30	+13 22.0	1.135	2.108	5.2	18.2	1 2	7 9.86	+21 10.0	2.067	3.047	1.8	19.0
1 12	6 59.41	+13 45.6	1.148	2.121	5.0	18.3	1 12	7 0.02	+21 37.9	2.064	3.042	2.3	19.0
1 22	6 49.63	+14 17.8	1.186	2.135	9.4	18.5	1 22	6 50.65	+22 3.7	2.090	3.036	6.2	19.3
2 1	6 42.34	+14 54.9	1.248	2.149	14.0	18.8	2 1	6 42.72	+22 26.2	2.146	3.030	9.8	19.5
2 11	6 38.38	+15 33.4	1.331	2.163	18.0	19.1	2 11	6 36.95	+22 44.9	2.225	3.023	12.8	19.7
191094	2002 <i>EA</i> ₃		1 6.3 268°67	14°0/29.9 08 C			54172	2000 <i>HF</i> ₅₈		1 6.3 55°24 2°4/ 5.7 18			
12 3	8 20.74	+62 41.9	2.304	2.975	15.8	25.1	12 3	7 34.25	+26 54.7	1.666	2.495	15.0	19.6
12 13	8 7.85	+64 34.6	2.199	2.933	14.9	25.0	12 13	7 28.79	+27 31.9	1.599	2.502	11.3	19.4
12 23	7 47.05	+66 8.7	2.115	2.888	14.1	24.8	12 23	7 20.51	+28 9.8	1.556	2.509	7.0	19.2
1 2	7 19.03	+67 5.2	2.054	2.841	14.0	24.7	1 2	7 10.29	+28 43.0	1.539	2.516	3.0	18.9
1 12	6 47.34	+67 8.5	2.017	2.793	14.6	24.7	1 12	6 59.50	+29 7.1	1.550	2.524	3.9	19.0
1 22	6 17.40	+66 14.1	2.004	2.742	16.0	24.7	1 22	6 49.58	+29 19.9	1.589	2.531	8.1	19.3
2 1	5 53.82	+64 31.2	2.011	2.689	17.7	24.7	2 1	6 41.79	+29 21.8	1.654	2.539	12.1	19.5
2 11	5 38.52	+62 17.2	2.038	2.634	19.5	24.7	2 11	6 36.96	+29 15.0	1.740	2.547	15.5	19.8
347294	2011 <i>OF</i> ₃		1 6.3 223°36	2°6/ 5.6 18			269081	2007 <i>HR</i> ₁₁		1 6.3 12°18 2°3/ 6.9 18			
12 3	7 33.50	+31 58.1	2.831	3.635	10.2	21.1	12 3	7 30.69	+15 47.1	1.890	2.704	14.1	21.0
12 13	7 27.27	+32 6.8	2.739	3.626	7.8	20.9	12 13	7 25.72	+15 42.8	1.812	2.704	10.8	20.8
12 23	7 19.16	+32 11.3	2.674	3.618	5.1	20.8	12 23	7 18.47	+15 46.8	1.758	2.705	7.0	20.6
1 2	7 9.81	+32 8.9	2.637	3.609	2.8	20.6	1 2	7 9.66	+15 58.5	1.730	2.706	3.2	20.4
1 12	7 0.06	+31 57.6	2.632	3.599	3.3	20.6	1 12	7 0.34	+16 15.9	1.731	2.707	3.3	20.4
1 22	6 50.81	+31 37.1	2.658	3.590	5.9	20.8	1 22	6 51.63	+16 37.3	1.761	2.708	7.0	20.6
2 1	6 42.88	+31 8.5	2.712	3.579	8.6	20.9	2 1	6 44.55	+17 0.6	1.818	2.709	10.8	20.8
2 11	6 36.91	+30 34.2	2.792	3.569	11.1	21.1	2 11	6 39.85	+17 24.3	1.897	2.711	14.2	21.1
257885	2000 <i>SU</i> ₂₅₆		1 6.3 47°14	3°7/ 7.5 18			245711	2006 <i>CF</i> ₂₆		1 6.3 263°07 1°0/ 6.1 18			
12 3	7 30.66	+11 40.0	1.669	2.481	15.8	19.9	12 3	7 35.83	+23 55.4	1.665	2.490	15.2	21.1
12 13	7 25.79	+11 44.5	1.605	2.493	12.2	19.7	12 13	7 30.23	+24 12.2	1.573	2.474	11.5	20.9
12 23	7 18.52	+12 2.9	1.564	2.506	8.2	19.5	12 23	7 21.61	+24 32.1	1.503	2.457	7.1	20.6
1 2	7 9.64	+12 34.4	1.548	2.519	4.6	19.4	1 2	7 10.71	+24 51.3	1.459	2.439	2.3	20.2
1 12	7 0.31	+13 16.3	1.561	2.533	4.3	19.4	1 12	6 58.86	+25 6.0	1.444	2.422	3.2	20.2
1 22	6 51.75	+14 4.9	1.601	2.546	7.7	19.6	1 22	6 47.58	+25 13.7	1.457	2.404	8.2	20.5
2 1	6 45.01	+14 56.4	1.667	2.561	11.5	19.9	2 1	6 38.33	+25 14.3	1.496	2.386	12.9	20.7
2 11	6 40.82	+15 47.4	1.756	2.575	14.9	20.1	2 11	6 32.16	+25 9.2	1.558	2.367	16.9	20.9
76688	2000 <i>HB</i> ₇₃		1 6.3 164°07	0°0/ 6.1 18			288596	2004 <i>JQ</i> ₂₉		1 6.3 209°39 0°6/ 6.1 18			
12 3	7 30.36	+20 25.3	2.596	3.403</									

EPHEMERIDES

1 6.3

1 6.3

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
206830	2004 EV ₄₁		1 6.3 310°26	2.4/ 6.9	18		165886	2001 SY ₁₈₄		1 6.3 108°50	0.2/ 6.2	18	
12 3	7 28.79	+15 19.5	2.162	2.971	12.8	20.3	12 3	7 31.13	+22 24.4	2.509	3.319	11.2	21.2
12 13	7 24.13	+15 11.0	2.072	2.961	9.8	20.1	12 13	7 25.52	+22 37.8	2.439	3.332	8.3	21.0
12 23	7 17.45	+15 9.9	2.006	2.951	6.4	19.9	12 23	7 18.12	+22 53.3	2.394	3.346	5.0	20.8
1 2	7 9.35	+15 15.9	1.967	2.942	3.1	19.6	1 2	7 9.57	+23 9.0	2.378	3.359	1.5	20.6
1 12	7 0.73	+15 27.9	1.958	2.932	3.2	19.6	1 12	7 0.71	+23 22.8	2.393	3.371	2.1	20.7
1 22	6 52.56	+15 44.3	1.978	2.923	6.5	19.8	1 22	6 52.41	+23 33.5	2.439	3.384	5.5	20.9
2 1	6 45.75	+16 3.7	2.025	2.914	10.0	20.0	2 1	6 45.45	+23 40.7	2.513	3.396	8.6	21.1
2 11	6 41.02	+16 24.5	2.096	2.906	13.1	20.2	2 11	6 40.40	+23 44.7	2.612	3.408	11.2	21.3
264030	2009 QX ₂₅		1 6.3 109°32	1.1/ 6.8	17		350526	2000 FZ ₁₃		1 6.3 77°79	4.9/ 7.5	18	
12 3	7 25.82	+16 39.8	3.716	4.510	8.2	22.1	12 3	7 36.08	+10 56.7	1.409	2.220	18.2	20.4
12 13	7 21.04	+16 46.5	3.645	4.528	6.1	22.0	12 13	7 30.04	+10 39.1	1.357	2.243	14.1	20.2
12 23	7 15.16	+16 57.2	3.601	4.545	3.9	21.8	12 23	7 21.19	+10 37.2	1.326	2.265	9.7	20.0
1 2	7 8.59	+17 11.0	3.586	4.563	1.7	21.7	1 2	7 10.53	+10 51.0	1.319	2.287	5.7	19.9
1 12	7 1.84	+17 26.9	3.604	4.579	1.7	21.7	1 12	6 59.51	+11 18.5	1.340	2.309	5.4	19.9
1 22	6 55.41	+17 43.9	3.653	4.596	3.9	21.9	1 22	6 49.59	+11 56.1	1.388	2.331	9.0	20.2
2 1	6 49.80	+18 1.2	3.732	4.613	6.1	22.1	2 1	6 41.96	+12 39.7	1.461	2.353	13.0	20.4
2 11	6 45.38	+18 18.0	3.837	4.629	8.0	22.2	2 11	6 37.37	+13 25.3	1.556	2.374	16.5	20.7
327443	2005 WD ₁₁₀		1 6.3 105°52	3.7/ 6.9	18		299119	2005 EL ₁₈₂		1 6.3 340°28	21.4/13.3	18	
12 3	7 32.29	+13 25.5	1.966	2.769	14.1	20.6	12 3	7 31.90	-16 42.8	1.087	1.812	27.5	20.5
12 13	7 26.73	+12 49.6	1.890	2.774	10.9	20.4	12 13	7 28.01	-18 44.0	1.033	1.810	25.6	20.3
12 23	7 19.00	+12 22.0	1.839	2.778	7.4	20.2	12 23	7 20.57	-20 1.6	0.991	1.808	23.6	20.2
1 2	7 9.82	+12 3.3	1.814	2.783	4.3	20.0	1 2	7 10.49	-20 21.7	0.963	1.806	22.1	20.1
1 12	7 0.22	+11 53.9	1.818	2.787	4.3	20.0	1 12	6 59.41	-19 36.9	0.950	1.805	21.4	20.0
1 22	6 51.27	+11 52.8	1.852	2.791	7.4	20.2	1 22	6 49.20	-17 48.8	0.954	1.804	21.8	20.0
2 1	6 43.93	+11 59.0	1.912	2.796	10.8	20.4	2 1	6 41.58	-15 8.4	0.975	1.803	23.3	20.1
2 11	6 38.89	+12 10.5	1.995	2.800	13.9	20.6	2 11	6 37.70	-11 53.6	1.012	1.802	25.3	20.3
425351	2010 BP ₄₃		1 6.3 329°82	8.6/ 2.1	15		60276	1999 XL ₈₅		1 6.3 66°88	1.4/ 5.9	18	
12 3	7 34.82	+40 29.5	1.860	2.674	14.3	20.6	12 3	7 36.78	+22 14.9	1.265	2.103	18.3	18.9
12 13	7 29.98	+42 29.9	1.784	2.661	11.8	20.4	12 13	7 31.24	+23 9.2	1.210	2.118	13.7	18.6
12 23	7 21.77	+44 24.5	1.731	2.648	9.5	20.2	12 23	7 22.26	+24 10.8	1.177	2.134	8.3	18.4
1 2	7 10.88	+46 2.6	1.705	2.636	8.6	20.2	1 2	7 10.92	+25 12.7	1.169	2.149	2.7	18.1
1 12	6 58.71	+47 15.1	1.706	2.624	9.5	20.2	1 12	6 58.95	+26 7.8	1.188	2.165	3.8	18.2
1 22	6 47.03	+47 57.6	1.732	2.613	11.8	20.3	1 22	6 48.17	+26 51.3	1.233	2.181	9.2	18.6
2 1	6 37.57	+48 11.2	1.782	2.602	14.6	20.4	2 1	6 40.09	+27 21.9	1.302	2.197	14.0	18.9
2 11	6 31.58	+48 1.3	1.851	2.593	17.1	20.6	2 11	6 35.63	+27 41.3	1.392	2.213	17.9	19.2
82979	2001 QU ₁₄₁		1 6.3 167°13	0.0/ 6.1	18		63651	2001 QS ₁₀₇		1 6.3 64°40	2.4/ 6.9	18	
12 3	7 30.42	+21 59.1	2.370	3.183	11.6	19.8	12 3	7 33.28	+15 21.6	1.668	2.484	15.6	18.5
12 13	7 25.17	+22 6.2	2.288	3.184	8.7	19.6	12 13	7 27.69	+15 27.1	1.613	2.506	11.8	18.4
12 23	7 18.00	+22 16.0	2.232	3.184	5.3	19.4	12 23	7 19.65	+15 42.6	1.580	2.528	7.5	18.1
1 2	7 9.54	+22 26.5	2.204	3.185	1.6	19.1	1 2	7 10.06	+16 6.5	1.573	2.549	3.4	17.9
1 12	7 0.67	+22 36.0	2.207	3.185	2.1	19.2	1 12	7 0.12	+16 36.0	1.595	2.571	3.4	18.0
1 22	6 52.31	+22 43.0	2.239	3.185	5.8	19.4	1 22	6 51.08	+17 8.3	1.645	2.593	7.3	18.3
2 1	6 45.31	+22 47.3	2.299	3.185	9.1	19.6	2 1	6 43.98	+17 40.8	1.722	2.615	11.3	18.6
2 11	6 40.32	+22 48.9	2.384	3.186	12.0	19.8	2 11	6 39.52	+18 11.8	1.822	2.637	14.6	18.8
235651	2004 RB ₁₄₉		1 6.3 129°78	2.4/ 5.7	18		37815	1998 BK ₁		1 6.3 288°24	0.4/ 6.2	18	
12 3	7 39.05	+27 16.8	1.859	2.674	14.3	21.3	12 3	7 33.57	+21 44.1	1.552	2.382	15.9	18.8
12 13	7 32.05	+27 56.4	1.795	2.690	10.7	21.1	12 13	7 28.73	+22 10.1	1.462	2.366	12.0	18.5
12 23	7 22.36	+28 35.7	1.755	2.705	6.7	20.9	12 23	7 20.81	+22 43.0	1.394	2.350	7.4	18.2
1 2	7 10.88	+29 9.4	1.743	2.720	3.0	20.7	1 2	7 10.56	+23 19.0	1.353	2.333	2.3	17.9
1 12	6 58.93	+29 33.2	1.761	2.734	3.8	20.8	1 12	6 59.30	+23 53.3	1.339	2.317	3.2	17.9
1 22	6 47.88	+29 45.3	1.808	2.747	7.6	21.0	1 22	6 48.59	+24 22.4	1.352	2.301	8.5	18.1
2 1	6 38.91	+29 46.5	1.883	2.759	11.3	21.3	2 1	6 39.95	+24 44.6	1.390	2.285	13.3	18.4
2 11	6 32.81	+29 39.2	1.980	2.771	14.5	21.5	2 11	6 34.45	+24 59.9	1.450	2.269	17.5	18.6
406173	2006 WF ₇₂		1 6.3 103°67	0.1/ 6.3	18		10616	Inouetakashi		1 6.3 148°46	1.1/ 6.6	18	
12 3	7 35.40	+21 27.1	1.929	2.743	13.9	21.9	12 3	7 33.48	+18 21.6	2.239	3.044	12.5	19.5
12 13	7 29.06	+21 36.3	1.866	2.761	10.3	21.7	12 13	7 27.45	+18 31.3	2.163	3.053	9.4	19.3
12 23	7 20.41	+21 49.1	1.827	2.779	6.3	21.5	12 23	7 19.40	+18 46.5	2.113	3.061	5.9	19.1
1 2	7 10.26	+22 2.8	1.817	2.797	1.9	21.3	1 2	7 9.99	+19 5.4	2.091	3.069	2.1	18.9
1 12	6 59.78	+22 15.1	1.836	2.814	2.5	21.3	1 12	7 0.17	+19 25.9	2.099	3.077	2.4	18.9
1 22	6 50.12	+22 24.3	1.885	2.831	6.7	21.6	1 22	6 50.94	+19 46.2	2.138	3.084	6.1	19.2
2 1	6 42.28	+22 30.3	1.961	2.847	10.4	21.9	2 1	6 43.20	+20 5.2	2.205	3.090	9.5	19.4
2 11	6 36.96	+22 33.3	2.061	2.863	13.6	22.1	2 11	6 37.60	+20 22.1	2.297	3.096	12.5	19.6
100375	1995 UY ₇₂		1 6.3 18°21	1.2/ 6.6	17		490638	2010 DU ₇₄		1 6.3 265°40	3.6/ 7.1	18	
12 3	7 32.54	+18 52.9	1.129	1.977	19.4	20.1	12 3	7 33.49	+13 30.7	1.545	2.361	16.6	21.3
12 13	7 28.38	+19 3.0	1.068	1.980	14.7	19.8	12 13	7 28.46	+13 23.6	1.459	2.350	12.9	21.0
12 23	7 20.67	+19 23.8	1.027	1.985	9.1	19.6	12 23	7 20.53	+13 29.1	1.394	2.339	8.7	20.8
1 2	7 10.46	+19 52.1	1.010	1.990	3.1	19.2	1 2	7 10.45	+13 47.0	1.354	2.328	4.5	20.5
1 12	6 59.49	+20 23.5	1.017	1.996	3.6	19.3	1 12	6 59.49	+14 15.5	1.342	2.316	4.5	20.5
1 22	6 49.63	+20 53.8	1.048	2.003	9.5	19.6	1 22	6 49.12	+14 51.7	1.358	2.304	8.7	20.7
2 1	6 42.49	+21 20.7	1.103	2.010	14.8	20.0	2 1	6 40.71	+15 32.3	1.398	2.293	13.2	20.9
2 11	6 39.05	+21 43.0	1.177	2.018	19.2	20.3	2 11	6 35.27	+16 14.1	1.460	2.281	17.3	21.1
216221	2006 UZ ₁₀₃		1 6.3 158°00	0.1/ 6.3	18		194617	2001 XU ₁₄₇		1 6.3 45°46	1.6/ 6.6	17	
12 3	7 34.28	+21 33.3	2.115	2.927	12.9	21.5	12 3	7 35.06	+18 37.0	1.160	2.002		

EPHEMERIDES

1 6.3

1 6.3

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
65569	3127 T-2		1 6.3	148°27'	1.3°/5.9	18	428979	2008 YS ₁₆₁		1 6.3	273°23'	0.6°/6.5	15
12 3	7 34.11	+25 22.7	2.259	3.071	12.2	20.6	12 3	7 29.86	+19 56.4	2.388	3.200	11.6	21.9
12 13	7 28.02	+25 46.1	2.184	3.078	9.1	20.4	12 13	7 24.87	+20 5.7	2.293	3.186	8.8	21.7
12 23	7 19.78	+26 10.3	2.134	3.086	5.6	20.2	12 23	7 17.93	+20 19.5	2.222	3.173	5.4	21.5
1 2	7 10.12	+26 32.0	2.113	3.092	2.0	20.0	1 2	7 9.60	+20 36.1	2.179	3.159	1.8	21.2
1 12	7 0.03	+26 48.4	2.123	3.099	2.7	20.1	1 12	7 0.74	+20 53.5	2.167	3.145	2.2	21.2
1 22	6 50.56	+26 58.0	2.162	3.104	6.3	20.3	1 22	6 52.26	+21 10.1	2.185	3.131	5.9	21.4
2 1	6 42.65	+27 0.8	2.230	3.110	9.7	20.5	2 1	6 45.06	+21 24.9	2.231	3.118	9.3	21.6
2 11	6 37.01	+26 58.0	2.322	3.115	12.6	20.7	2 11	6 39.83	+21 37.3	2.301	3.104	12.3	21.8
141498	2002 EZ ₁₆		1 6.3	180°07'	24.7°/3.6	18	493456	2014 WT ₄₀₀		1 6.3	127°99'	4.3°/5.1	18
12 3	8 50.96	+ 2 24.3	0.672	1.407	39.5	19.8	12 3	7 36.90	+34 8.4	2.192	3.000	12.6	21.8
12 13	8 31.72	- 3 4.1	0.606	1.428	33.9	19.5	12 13	7 30.32	+34 52.9	2.125	3.012	9.7	21.7
12 23	8 2.37	- 8 45.0	0.557	1.440	28.1	19.2	12 23	7 21.28	+35 32.0	2.084	3.023	6.7	21.5
1 2	7 23.92	-13 49.6	0.536	1.444	24.8	19.0	1 2	7 10.61	+36 0.4	2.070	3.033	4.5	21.4
1 12	6 41.80	-17 17.6	0.544	1.440	26.6	19.1	1 12	6 59.49	+36 14.2	2.086	3.044	5.1	21.4
1 22	6 3.65	-18 44.3	0.580	1.427	31.9	19.3	1 22	6 49.14	+36 12.4	2.131	3.053	7.7	21.6
2 1	5 34.69	-18 33.4	0.635	1.407	37.7	19.7	2 1	6 40.67	+35 56.9	2.203	3.063	10.6	21.8
2 11	5 15.90	-17 27.2	0.698	1.379	42.7	20.0	2 11	6 34.79	+35 31.0	2.299	3.072	13.3	22.0
151245	2002 AJ ₂₄		1 6.3	34°64'	5.3°/5.6	18	460856	2014 WP ₁₀₉		1 6.3	173°96'	1.5°/6.8	18
12 3	7 37.48	+35 46.5	1.708	2.528	15.1	19.7	12 3	7 31.53	+16 46.2	1.953	2.766	13.8	21.4
12 13	7 31.31	+36 10.7	1.642	2.534	11.7	19.5	12 13	7 26.37	+17 1.9	1.874	2.767	10.4	21.1
12 23	7 22.09	+36 26.1	1.598	2.539	8.2	19.3	12 23	7 18.94	+17 26.0	1.818	2.767	6.6	20.9
1 2	7 10.85	+36 26.8	1.581	2.545	5.5	19.2	1 2	7 9.92	+17 56.8	1.789	2.767	2.6	20.7
1 12	6 59.12	+36 9.0	1.591	2.551	6.1	19.2	1 12	7 0.35	+18 31.3	1.790	2.767	2.8	20.7
1 22	6 48.49	+35 33.2	1.629	2.557	9.1	19.4	1 22	6 51.35	+19 6.9	1.820	2.767	6.8	20.9
2 1	6 40.27	+34 43.2	1.692	2.564	12.6	19.6	2 1	6 43.94	+19 41.2	1.877	2.767	10.6	21.1
2 11	6 35.27	+33 44.6	1.777	2.571	15.7	19.9	2 11	6 38.89	+20 12.9	1.957	2.767	13.9	21.4
56375	2000 EJ ₂₅		1 6.3	94°89'	0.6°/6.4	18	307715	2003 UT ₁₄₂		1 6.3	74°56'	2.8°/6.9	18
12 3	7 37.40	+20 8.2	1.495	2.319	16.7	19.5	12 3	7 31.76	+15 13.1	2.073	2.879	13.4	19.9
12 13	7 31.13	+20 19.7	1.437	2.336	12.5	19.3	12 13	7 26.21	+14 45.4	2.005	2.891	10.2	19.7
12 23	7 21.92	+20 37.5	1.400	2.353	7.7	19.0	12 23	7 18.65	+14 24.6	1.960	2.903	6.7	19.5
1 2	7 10.79	+20 58.5	1.389	2.370	2.5	18.8	1 2	7 9.78	+14 10.8	1.943	2.916	3.5	19.3
1 12	6 59.21	+21 19.1	1.407	2.386	3.0	18.8	1 12	7 0.60	+14 3.7	1.956	2.928	3.5	19.3
1 22	6 48.68	+21 36.9	1.453	2.402	8.0	19.2	1 22	6 52.08	+14 2.6	1.997	2.940	6.7	19.5
2 1	6 40.49	+21 51.0	1.524	2.417	12.4	19.5	2 1	6 45.12	+14 6.2	2.067	2.952	10.0	19.8
2 11	6 35.41	+22 1.7	1.618	2.432	16.1	19.7	2 11	6 40.32	+14 13.5	2.160	2.965	12.9	20.0
276211	2002 QG ₈₇		1 6.3	206°64'	0.5°/6.2	18	291167	2006 AJ ₂₄		1 6.3	204°76'	0.7°/6.1	18
12 3	7 37.84	+22 20.8	1.683	2.501	15.4	21.9	12 3	7 36.87	+22 59.0	1.957	2.770	13.8	21.6
12 13	7 31.58	+22 41.9	1.599	2.497	11.6	21.6	12 13	7 30.52	+23 23.2	1.870	2.765	10.4	21.3
12 23	7 22.36	+23 7.6	1.539	2.492	7.1	21.3	12 23	7 21.58	+23 50.8	1.807	2.759	6.4	21.1
1 2	7 11.00	+23 34.1	1.505	2.486	2.2	21.0	1 2	7 10.77	+24 18.5	1.773	2.753	2.0	20.8
1 12	6 58.83	+23 57.4	1.501	2.479	3.0	21.1	1 12	6 59.27	+24 42.4	1.768	2.746	2.8	20.8
1 22	6 47.35	+24 14.9	1.526	2.472	8.0	21.3	1 22	6 48.34	+25 0.4	1.793	2.737	7.2	21.1
2 1	6 37.96	+24 25.8	1.577	2.464	12.5	21.6	2 1	6 39.19	+25 11.7	1.846	2.729	11.2	21.3
2 11	6 31.60	+24 31.3	1.650	2.456	16.3	21.8	2 11	6 32.69	+25 17.4	1.922	2.719	14.6	21.5
487933	2015 TP ₂₁₃		1 6.3	317°69'	5.9°/5.3	18	231953	2001 OT ₂₅		1 6.3	166°63'	1.8°/7.0	18
12 3	7 38.97	+34 10.3	1.366	2.199	17.5	21.3	12 3	7 29.47	+14 52.9	2.870	3.663	10.4	21.1
12 13	7 33.30	+34 54.3	1.295	2.195	13.6	21.1	12 13	7 24.14	+15 1.4	2.786	3.667	7.9	20.9
12 23	7 23.77	+35 31.9	1.246	2.191	9.4	20.8	12 23	7 17.27	+15 16.2	2.729	3.671	5.1	20.7
1 2	7 11.47	+35 54.1	1.221	2.188	6.2	20.6	1 2	7 9.37	+15 36.6	2.700	3.674	2.4	20.6
1 12	6 58.26	+35 54.4	1.222	2.185	7.0	20.7	1 12	7 1.15	+16 0.9	2.703	3.677	2.4	20.6
1 22	6 46.20	+35 31.7	1.248	2.181	10.9	20.9	1 22	6 53.30	+16 27.7	2.737	3.680	5.1	20.7
2 1	6 37.09	+34 49.9	1.299	2.179	15.1	21.1	2 1	6 46.51	+16 55.5	2.800	3.682	7.8	20.9
2 11	6 31.96	+33 56.2	1.369	2.176	18.9	21.3	2 11	6 41.32	+17 22.9	2.889	3.684	10.3	21.1
373660	2002 QU ₆₉		1 6.3	84°30'	1.0°/6.0	18	408917	2001 XW ₃₂		1 6.3	57°94'	5.6°/7.3	18
12 3	7 32.98	+24 43.9	2.216	3.031	12.3	21.4	12 3	7 33.48	+10 16.1	1.645	2.449	16.4	20.3
12 13	7 27.08	+25 3.3	2.155	3.051	9.1	21.2	12 13	7 27.80	+ 9 20.2	1.588	2.467	12.9	20.1
12 23	7 19.15	+25 23.7	2.118	3.070	5.5	21.0	12 23	7 19.73	+ 8 37.0	1.553	2.486	9.2	19.9
1 2	7 9.92	+25 42.0	2.110	3.089	1.9	20.8	1 2	7 10.14	+ 8 8.5	1.544	2.504	6.2	19.8
1 12	7 0.39	+25 55.8	2.132	3.109	2.5	20.9	1 12	7 0.23	+ 7 55.6	1.562	2.523	6.0	19.9
1 22	6 51.57	+26 3.8	2.184	3.127	6.1	21.1	1 22	6 51.23	+ 7 57.1	1.608	2.542	8.8	20.1
2 1	6 44.35	+26 6.0	2.264	3.146	9.4	21.4	2 1	6 44.14	+ 8 10.7	1.679	2.561	12.1	20.3
2 11	6 39.33	+26 3.6	2.368	3.165	12.2	21.6	2 11	6 39.65	+ 8 32.8	1.772	2.580	15.2	20.5
3062	Wren		1 6.3	68°69'	0.5°/6.5	18	410389	2007 VJ ₃₁₂		1 6.3	344°50'	3.3°/5.6	18
12 3	7 30.85	+18 32.1	2.083	2.897	13.0	15.5	12 3	7 30.34	+27 7.9	1.241	2.093	17.7	20.0
12 13	7 25.69	+19 9.8	2.013	2.908	9.7	15.3	12 13	7 26.95	+27 49.9	1.167	2.082	13.4	19.7
12 23	7 18.42	+19 54.7	1.967	2.919	6.0	15.1	12 23	7 20.01	+28 34.5	1.114	2.071	8.5	19.4
1 2	7 9.73	+20 43.8	1.950	2.930	1.9	14.8	1 2	7 10.40	+29 14.9	1.084	2.062	3.9	19.1
1 12	7 0.60	+21 33.4	1.963	2.941	2.3	14.9	1 12	6 59.77	+29 44.5	1.080	2.054	5.0	19.2
1 22	6 52.05	+22 20.2	2.005	2.953	6.3	15.1	1 22	6 50.01	+29 59.3	1.100	2.048	10.1	19.4
2 1	6 45.03	+23 2.2	2.075	2.964	9.8	15.4	2 1	6 42.86	+29 59.6	1.143	2.043	15.1	19.7
2 11	6 40.22	+23 38.3	2.170	2.975	12.9	15.6	2 11	6 39.45	+29 48.2	1.205	2.039	19.4	19.9
462380	2008 SD ₁₃₄		1 6.3	112°55'	0.6°/6.5	18	418883	2008 YH ₈₈		1 6.3	264°74'	0.0°/6.2	17
12 3	7 32.16	+20 8.0	2.193	3.005	12.5	22.2	12 3	7 31.08	+22 41.2	2.404	3.217	11.5	

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
383638	2007 <i>RT</i> ₂₄₇		1 6.3 87°21	4.7/ 7.5	18		193710	2001 <i>FT</i> ₈₂		1 6.3 301°81	1°8/ 5.9	18	
12 3	7 31.47	+ 8 23.0	2.412	3.190	12.5	21.3	12 3	7 33.22	+27 31.2	1.980	2.802	13.3	19.8
12 13	7 25.65	+ 7 42.4	2.351	3.213	9.9	21.1	12 13	7 27.81	+27 39.0	1.894	2.793	10.0	19.6
12 23	7 18.16	+ 7 12.1	2.315	3.236	7.2	21.0	12 23	7 19.92	+27 45.5	1.832	2.784	6.3	19.3
1 2	7 9.65	+ 6 53.3	2.306	3.259	5.1	20.9	1 2	7 10.30	+27 47.3	1.797	2.775	2.5	19.1
1 12	7 0.93	+ 6 46.3	2.328	3.282	4.9	20.9	1 12	7 0.09	+27 41.9	1.791	2.766	3.2	19.1
1 22	6 52.82	+ 6 50.0	2.378	3.304	6.8	21.1	1 22	6 50.50	+27 28.5	1.814	2.758	7.1	19.3
2 1	6 46.03	+ 7 2.9	2.457	3.326	9.3	21.3	2 1	6 42.68	+27 8.1	1.864	2.749	11.0	19.5
2 11	6 41.08	+ 7 22.4	2.560	3.348	11.7	21.5	2 11	6 37.41	+26 42.7	1.937	2.741	14.3	19.7
408828	2001 <i>QU</i> ₈₉		1 6.3 99°73	8°4/11.4	18		471502	2011 <i>YO</i> ₁₇		1 6.3 355°95	2°5/ 5.9	18	
12 3	7 34.66	- 6 28.8	2.039	2.753	16.5	20.5	12 3	7 31.46	+32 4.3	2.546	3.358	11.0	20.2
12 13	7 28.37	- 6 1.5	1.970	2.772	14.1	20.4	12 13	7 25.92	+31 53.8	2.464	3.355	8.3	20.1
12 23	7 20.00	- 5 7.6	1.921	2.790	11.4	20.3	12 23	7 18.47	+31 38.1	2.406	3.353	5.4	19.9
1 2	7 10.25	- 3 46.3	1.898	2.808	9.3	20.2	1 2	7 9.79	+31 14.8	2.378	3.351	2.8	19.7
1 12	7 0.12	- 1 59.9	1.903	2.826	8.4	20.1	1 12	7 0.81	+30 43.0	2.379	3.350	3.2	19.7
1 22	6 50.64	+ 0 5.4	1.938	2.843	9.5	20.2	1 22	6 52.44	+30 3.0	2.411	3.349	6.0	19.9
2 1	6 42.74	+ 2 21.5	2.002	2.860	11.6	20.4	2 1	6 45.53	+29 16.8	2.471	3.348	8.9	20.1
2 11	6 37.07	+ 4 40.3	2.092	2.876	14.0	20.6	2 11	6 40.66	+28 27.0	2.556	3.348	11.5	20.3
66847	1999 <i>VT</i> ₄		1 6.3 57°12	0°1/ 6.3	17		241253	2007 <i>TE</i> ₂₆₈		1 6.3 33°25	4°8/ 7.7	18	
12 3	7 36.34	+21 48.8	1.387	2.220	17.3	19.5	12 3	7 28.74	+ 8 52.5	2.115	2.908	13.6	20.5
12 13	7 30.43	+22 2.9	1.339	2.244	12.9	19.2	12 13	7 24.03	+ 8 25.4	2.041	2.913	10.8	20.3
12 23	7 21.53	+22 21.9	1.313	2.268	7.8	19.0	12 23	7 17.40	+ 8 10.0	1.990	2.918	7.7	20.2
1 2	7 10.73	+22 41.9	1.312	2.292	2.4	18.8	1 2	7 9.49	+ 8 7.4	1.965	2.924	5.3	20.0
1 12	6 59.61	+22 59.3	1.338	2.317	3.1	18.9	1 12	7 1.19	+ 8 17.3	1.969	2.929	5.1	20.0
1 22	6 49.71	+23 12.0	1.392	2.342	8.2	19.2	1 22	6 53.43	+ 8 38.3	2.002	2.935	7.3	20.2
2 1	6 42.28	+23 19.6	1.470	2.366	12.6	19.6	2 1	6 47.05	+ 9 7.9	2.061	2.942	10.3	20.4
2 11	6 38.05	+23 23.0	1.570	2.391	16.3	19.8	2 11	6 42.70	+ 9 43.1	2.143	2.948	13.0	20.6
115501	2003 <i>UV</i> ₂₇		1 6.3 356°28	5°0/ 7.9	18 R		158245	2001 <i>TF</i> ₆₀		1 6.3 64°02	4°3/ 5.4	17	
12 3	7 28.74	+ 7 59.0	1.954	2.749	14.5	19.6	12 3	7 38.66	+29 27.3	1.316	2.153	17.8	20.2
12 13	7 24.25	+ 7 48.5	1.875	2.747	11.5	19.4	12 13	7 32.71	+30 24.2	1.265	2.170	13.4	20.0
12 23	7 17.64	+ 7 52.4	1.818	2.746	8.3	19.2	12 23	7 23.21	+31 19.3	1.236	2.188	8.7	19.8
1 2	7 9.57	+ 8 11.3	1.787	2.746	5.6	19.0	1 2	7 11.33	+32 4.0	1.232	2.206	4.7	19.6
1 12	7 1.00	+ 8 44.4	1.783	2.745	5.3	19.0	1 12	6 58.89	+32 31.9	1.254	2.224	5.6	19.7
1 22	6 52.94	+ 9 29.0	1.808	2.745	7.7	19.1	1 22	6 47.79	+32 41.1	1.303	2.242	9.9	20.0
2 1	6 46.34	+10 21.4	1.860	2.745	11.0	19.3	2 1	6 39.55	+32 33.7	1.375	2.260	14.1	20.3
2 11	6 41.94	+11 17.7	1.935	2.746	14.0	19.5	2 11	6 35.03	+32 14.5	1.468	2.278	17.7	20.5
278478	2007 <i>TQ</i> ₄₃₄		1 6.3 81°30	2°6/ 7.4	18		395331	2011 <i>QD</i> ₁₈		1 6.3 109°49	5°3/ 5.3	17	
12 3	7 30.26	+12 28.0	2.357	3.151	12.3	21.0	12 3	7 42.76	+35 11.6	1.765	2.576	15.1	21.1
12 13	7 24.90	+12 43.4	2.293	3.173	9.4	20.8	12 13	7 35.09	+35 56.1	1.710	2.597	11.7	20.9
12 23	7 17.79	+13 8.3	2.255	3.194	6.2	20.7	12 23	7 24.35	+36 32.6	1.678	2.617	8.1	20.8
1 2	7 9.57	+13 41.6	2.244	3.215	3.3	20.5	1 2	7 11.63	+36 54.1	1.674	2.636	5.5	20.7
1 12	7 1.07	+14 21.0	2.264	3.237	3.1	20.5	1 12	6 58.53	+36 56.1	1.698	2.655	6.1	20.7
1 22	6 53.13	+15 4.0	2.314	3.257	5.9	20.8	1 22	6 46.64	+36 38.8	1.750	2.673	9.0	21.0
2 1	6 46.52	+15 48.1	2.393	3.278	8.9	21.0	2 1	6 37.28	+36 5.8	1.829	2.691	12.3	21.2
2 11	6 41.79	+16 31.1	2.497	3.299	11.5	21.2	2 11	6 31.21	+35 22.6	1.929	2.708	15.2	21.4
254654	2005 <i>JS</i> ₁₇₅		1 6.3 186°99	6°6/ 4.8	18		370170	2002 <i>AU</i> ₁₃₆		1 6.3 301°47	0°9/ 6.5	18	
12 3	7 43.17	+42 43.2	2.363	3.146	12.6	21.1	12 3	7 33.08	+21 18.4	1.802	2.624	14.4	21.0
12 13	7 35.17	+43 26.0	2.286	3.145	10.3	20.9	12 13	7 27.84	+20 58.6	1.713	2.612	10.9	20.7
12 23	7 24.36	+43 57.5	2.233	3.144	8.0	20.8	12 23	7 20.03	+20 41.3	1.646	2.599	6.8	20.5
1 2	7 11.64	+44 11.2	2.208	3.143	6.7	20.7	1 2	7 10.37	+20 25.2	1.607	2.587	2.3	20.2
1 12	6 58.37	+44 3.0	2.213	3.140	7.1	20.7	1 12	7 0.05	+20 9.3	1.596	2.574	2.8	20.2
1 22	6 45.99	+43 32.8	2.245	3.137	9.0	20.8	1 22	6 50.33	+19 53.3	1.614	2.562	7.4	20.4
2 1	6 35.76	+42 44.0	2.305	3.133	11.4	21.0	2 1	6 42.41	+19 37.6	1.658	2.551	11.6	20.6
2 11	6 28.50	+41 42.5	2.388	3.129	13.7	21.2	2 11	6 37.14	+19 22.7	1.725	2.539	15.3	20.9
392544	2011 <i>SW</i> ₄		1 6.3 119°76	2°4/ 6.9	15		275256	2009 <i>YS</i> ₁		1 6.3 61°89	0°7/ 6.6	18	
12 3	7 36.68	+15 16.1	1.877	2.679	14.7	22.4	12 3	7 31.26	+19 21.3	1.993	2.810	13.4	21.0
12 13	7 30.04	+15 13.6	1.813	2.699	11.2	22.2	12 13	7 26.10	+19 33.8	1.921	2.817	10.0	20.8
12 23	7 21.07	+15 19.8	1.773	2.717	7.2	22.0	12 23	7 18.75	+19 52.0	1.874	2.825	6.2	20.6
1 2	7 10.60	+15 33.4	1.761	2.736	3.3	21.8	1 2	7 9.93	+20 13.8	1.853	2.833	2.1	20.3
1 12	6 59.76	+15 52.3	1.778	2.753	3.3	21.9	1 12	7 0.67	+20 36.6	1.863	2.841	2.4	20.4
1 22	6 49.74	+16 14.6	1.825	2.770	7.0	22.1	1 22	6 52.06	+20 58.5	1.901	2.849	6.5	20.7
2 1	6 41.56	+16 38.3	1.900	2.786	10.8	22.4	2 1	6 45.05	+21 17.9	1.967	2.858	10.2	20.9
2 11	6 35.89	+17 2.0	1.999	2.801	13.9	22.6	2 11	6 40.34	+21 34.5	2.056	2.866	13.3	21.1
3229	Solnhofen		1 6.3 124°99	2°2/ 6.0	18 R		68727	2002 <i>EH</i> ₆		1 6.3 189°89	1°0/ 6.6	18	
12 3	7 40.93	+28 30.7	1.694	2.511	15.4	16.8	12 3	7 35.10	+18 35.7	2.014	2.822	13.6	20.4
12 13	7 33.63	+28 34.3	1.628	2.524	11.5	16.6	12 13	7 29.04	+18 46.8	1.930	2.821	10.3	20.1
12 23	7 23.43	+28 34.7	1.586	2.537	7.2	16.4	12 23	7 20.61	+19 4.1	1.870	2.819	6.4	19.9
1 2	7 11.33	+28 27.6	1.571	2.549	3.0	16.1	1 2	7 10.53	+19 25.6	1.838	2.817	2.3	19.6
1 12	6 58.83	+28 10.6	1.586	2.560	3.7	16.2	1 12	6 59.87	+19 48.7	1.836	2.814	2.6	19.6
1 22	6 47.43	+27 44.0	1.629	2.571	7.9	16.5	1 22	6 49.77	+20 11.4	1.865	2.811	6.8	19.9
2 1	6 38.39	+27 10.2	1.699	2.582	12.0	16.7	2 1	6 41.32	+20 32.0	1.921	2.807	10.6	20.1
2 11	6 32.47	+26 32.8	1.792	2.592	15.4	17.0	2 11	6 35.29	+20 50.2	2.001	2.802	14.0	20.3
502853	2015 <i>DO</i> ₁₇₈		1 6.3 347°90	1°2/ 6.5	18		83837	2001 <i>UA</i> ₃₁		1 6.3 106°12	0°4/ 6.5	18	
12 3	7 31.06	+20 17.3	2.004	2.823	13.3								

EPHEMERIDES

1 6.3

1 6.4

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
196186	2002 <i>YF</i> ₃₁		1 6.3 335°85	1.3/ 6.8 18			503702	2016 <i>JP</i> ₁₁		1 6.4 209°73	2.2/ 7.3 17		
12 3	7 28.69	+17 24.8	2.064	2.881	13.0	19.6	12 3	7 28.81	+13 29.2	2.568	3.364	11.4	21.7
12 13	7 24.25	+17 39.8	1.979	2.874	9.9	19.4	12 13	7 23.91	+13 46.5	2.480	3.362	8.7	21.5
12 23	7 17.69	+18 2.6	1.917	2.868	6.2	19.2	12 23	7 17.30	+14 12.4	2.418	3.359	5.7	21.3
1 2	7 9.65	+18 31.2	1.883	2.862	2.4	18.9	1 2	7 9.52	+14 46.0	2.384	3.357	2.9	21.1
1 12	7 1.05	+19 3.4	1.878	2.856	2.6	18.9	1 12	7 1.31	+15 25.3	2.380	3.354	2.8	21.1
1 22	6 52.92	+19 36.4	1.902	2.851	6.4	19.2	1 22	6 53.47	+16 8.0	2.407	3.352	5.6	21.3
2 1	6 46.24	+20 8.4	1.953	2.846	10.1	19.4	2 1	6 46.76	+16 51.7	2.463	3.349	8.6	21.5
2 11	6 41.72	+20 37.8	2.028	2.842	13.4	19.6	2 11	6 41.80	+17 34.4	2.544	3.346	11.3	21.6
377009	2002 <i>QC</i> ₁₁₉		1 6.3 109°94	1.9/ 5.8 18			173372	2000 <i>AM</i> ₂₀₅		1 6.4 325°41	0.2/ 6.4 18		
12 3	7 33.60	+27 48.5	2.379	3.191	11.7	21.9	12 3	7 31.80	+20 15.6	1.513	2.346	16.1	19.8
12 13	7 27.55	+28 8.5	2.311	3.205	8.7	21.7	12 13	7 27.38	+20 40.0	1.432	2.337	12.2	19.6
12 23	7 19.50	+28 27.0	2.268	3.218	5.4	21.6	12 23	7 20.01	+21 12.5	1.373	2.328	7.5	19.3
1 2	7 10.16	+28 41.1	2.254	3.231	2.3	21.4	1 2	7 10.46	+21 49.8	1.340	2.320	2.4	18.9
1 12	7 0.49	+28 48.3	2.271	3.244	2.9	21.4	1 12	7 0.07	+22 27.5	1.333	2.313	3.0	19.0
1 22	6 51.47	+28 47.8	2.318	3.257	6.1	21.7	1 22	6 50.32	+23 1.9	1.354	2.305	8.2	19.2
2 1	6 43.99	+28 40.1	2.392	3.269	9.2	21.9	2 1	6 42.64	+23 30.8	1.400	2.298	13.0	19.5
2 11	6 38.66	+28 26.8	2.492	3.282	11.9	22.1	2 11	6 38.01	+23 53.6	1.468	2.292	17.0	19.7
58862	1998 <i>HR</i> ₁₀₁		1 6.4 292°29	6.0/ 3.1 18			424871	2008 <i>VO</i> ₅₂		1 6.4 85°10	3.6/ 5.4 18		
12 3	7 34.92	+36 50.0	2.334	3.140	12.0	18.6	12 3	7 34.71	+32 9.3	2.135	2.950	12.7	21.5
12 13	7 29.42	+38 30.3	2.240	3.120	9.6	18.4	12 13	7 28.72	+32 41.9	2.068	2.961	9.6	21.4
12 23	7 21.20	+40 8.5	2.172	3.099	7.3	18.2	12 23	7 20.37	+33 10.2	2.027	2.971	6.4	21.2
1 2	7 10.85	+41 36.7	2.133	3.078	6.1	18.1	1 2	7 10.47	+33 29.8	2.013	2.982	3.8	21.0
1 12	6 59.41	+42 47.9	2.123	3.057	6.9	18.1	1 12	7 0.16	+33 37.3	2.028	2.993	4.4	21.1
1 22	6 48.18	+43 37.9	2.142	3.037	9.2	18.2	1 22	6 50.62	+33 31.9	2.073	3.004	7.3	21.3
2 1	6 38.51	+44 6.3	2.187	3.016	11.9	18.3	2 1	6 42.88	+33 15.0	2.144	3.014	10.4	21.5
2 11	6 31.47	+44 16.0	2.254	2.995	14.4	18.5	2 11	6 37.64	+32 49.6	2.239	3.025	13.2	21.7
170134	2003 <i>AZ</i> ₄₂		1 6.4 72°86	1.1/ 6.1 18			331571	2001 <i>QH</i> ₉₂		1 6.4 69°19	0.3/ 6.2 18		
12 3	7 32.91	+26 44.0	2.321	3.135	11.8	19.7	12 3	7 32.07	+21 28.2	2.185	2.998	12.5	20.8
12 13	7 27.11	+26 38.1	2.242	3.137	8.9	19.5	12 13	7 26.46	+22 3.0	2.127	3.022	9.3	20.7
12 23	7 19.27	+26 30.7	2.188	3.139	5.5	19.3	12 23	7 18.86	+22 41.8	2.094	3.046	5.6	20.5
1 2	7 10.11	+26 19.6	2.162	3.142	2.0	19.1	1 2	7 9.99	+23 21.2	2.090	3.070	1.7	20.3
1 12	7 0.58	+26 3.6	2.167	3.144	2.5	19.1	1 12	7 0.81	+23 58.1	2.116	3.094	2.3	20.3
1 22	6 51.67	+25 42.3	2.202	3.146	6.0	19.4	1 22	6 52.30	+24 30.0	2.172	3.118	6.0	20.6
2 1	6 44.30	+25 17.0	2.265	3.149	9.4	19.6	2 1	6 45.34	+24 56.1	2.256	3.141	9.3	20.9
2 11	6 39.08	+24 49.1	2.353	3.151	12.2	19.8	2 11	6 40.53	+25 16.2	2.365	3.165	12.1	21.1
464456	2016 <i>BA</i> ₄₁		1 6.4 229°47	1.5/ 5.9 16			163831	2003 <i>SB</i> ₂₇		1 6.4 137°08	3.4/ 7.2 18		
12 3	7 34.61	+26 5.5	2.117	2.932	12.8	22.5	12 3	7 34.80	+13 22.9	1.834	2.637	15.0	20.6
12 13	7 28.74	+26 23.4	2.028	2.924	9.6	22.3	12 13	7 28.82	+13 7.0	1.762	2.646	11.5	20.4
12 23	7 20.48	+26 41.6	1.964	2.916	6.0	22.1	12 23	7 20.47	+13 1.1	1.714	2.655	7.7	20.1
1 2	7 10.53	+26 56.9	1.928	2.907	2.3	21.8	1 2	7 10.52	+13 5.2	1.692	2.663	4.2	19.9
1 12	6 59.97	+27 6.1	1.922	2.898	3.0	21.8	1 12	7 0.11	+13 17.9	1.699	2.671	4.1	20.0
1 22	6 49.96	+27 7.9	1.946	2.888	6.8	22.1	1 22	6 50.42	+13 37.4	1.735	2.678	7.5	20.2
2 1	6 41.59	+27 2.5	1.997	2.878	10.5	22.3	2 1	6 42.49	+14 1.5	1.798	2.685	11.2	20.4
2 11	6 35.66	+26 51.4	2.072	2.868	13.7	22.5	2 11	6 37.08	+14 28.2	1.885	2.691	14.5	20.6
201869	2003 <i>YU</i> ₁₅₀		1 6.4 324°94	4.4/ 4.5 18			206344	2003 <i>PA</i> ₈		1 6.4 144°34	0.7/ 6.5 18		
12 3	7 31.74	+30 32.7	1.909	2.735	13.5	19.2	12 3	7 36.23	+20 14.6	1.840	2.654	14.5	21.3
12 13	7 27.15	+31 53.8	1.823	2.722	10.4	18.9	12 13	7 29.97	+20 17.3	1.767	2.662	10.9	21.0
12 23	7 19.81	+33 16.1	1.762	2.709	7.0	18.7	12 23	7 21.21	+20 24.8	1.718	2.669	6.7	20.8
1 2	7 10.40	+34 32.6	1.728	2.696	4.6	18.5	1 2	7 10.76	+20 34.8	1.697	2.677	2.2	20.5
1 12	7 0.07	+35 36.3	1.723	2.684	5.6	18.6	1 12	6 59.81	+20 44.9	1.705	2.683	2.6	20.6
1 22	6 50.19	+36 22.9	1.746	2.673	8.8	18.7	1 22	6 49.63	+20 53.6	1.742	2.690	7.1	20.9
2 1	6 42.08	+36 51.3	1.795	2.662	12.3	18.9	2 1	6 41.33	+21 0.3	1.807	2.695	11.1	21.1
2 11	6 36.76	+37 3.9	1.865	2.651	15.4	19.1	2 11	6 35.68	+21 5.0	1.895	2.701	14.5	21.4
310188	2011 <i>SG</i> ₉₂		1 6.4 100°20	2.1/ 6.8 16			447337	2005 <i>YZ</i> ₈₃		1 6.4 39°64	1.7/ 6.8 17		
12 3	7 37.16	+16 40.3	1.758	2.566	15.3	21.5	12 3	7 33.33	+16 19.3	1.167	2.008	19.4	21.1
12 13	7 30.50	+16 34.8	1.700	2.590	11.5	21.3	12 13	7 28.80	+16 51.7	1.114	2.021	14.6	20.9
12 23	7 21.40	+16 37.1	1.666	2.613	7.3	21.1	12 23	7 20.91	+17 38.9	1.080	2.035	9.2	20.6
1 2	7 10.75	+16 45.6	1.659	2.635	3.1	20.9	1 2	7 10.72	+18 36.5	1.071	2.050	3.4	20.3
1 12	6 59.80	+16 58.6	1.681	2.657	3.2	21.0	1 12	6 59.90	+19 38.4	1.086	2.065	3.6	20.4
1 22	6 49.79	+17 13.9	1.732	2.678	7.2	21.3	1 22	6 50.22	+20 38.3	1.128	2.081	9.1	20.8
2 1	6 41.75	+17 30.3	1.811	2.699	11.1	21.5	2 1	6 43.17	+21 32.1	1.193	2.098	14.1	21.1
2 11	6 36.37	+17 46.7	1.913	2.719	14.3	21.8	2 11	6 39.64	+22 17.8	1.278	2.115	18.3	21.4
496534	2014 <i>WL</i> ₁₅₈		1 6.4 218°16	0.4/ 6.5 18			266435	2007 <i>HF</i> ₆		1 6.4 262°92	1.4/ 5.9 18		
12 3	7 33.04	+20 1.4	1.988	2.803	13.5	21.8	12 3	7 32.93	+25 0.7	2.066	2.885	12.9	21.3
12 13	7 27.60	+20 20.0	1.903	2.799	10.2	21.6	12 13	7 27.59	+25 26.6	1.976	2.874	9.7	21.1
12 23	7 19.79	+20 44.3	1.843	2.795	6.3	21.3	12 23	7 19.84	+25 54.5	1.910	2.863	6.0	20.9
1 2	7 10.33	+21 11.8	1.810	2.790	2.0	21.1	1 2	7 10.38	+26 20.9	1.872	2.852	2.2	20.6
1 12	7 0.25	+21 39.6	1.807	2.786	2.5	21.1	1 12	7 0.24	+26 42.4	1.864	2.840	2.9	20.6
1 22	6 50.71	+22 5.2	1.833	2.781	6.8	21.3	1 22	6 50.61	+26 56.8	1.885	2.829	6.9	20.8
2 1	6 42.79	+22 27.2	1.887	2.776	10.7	21.6	2 1	6 42.57	+27 3.8	1.933	2.817	10.7	21.1
2 11	6 37.29	+22 45.2	1.964	2.770	14.0	21.8	2 11	6 36.97	+27 4.2	2.004	2.805	14.0	21.2
44198	1998 <i>MP</i> ₂₄		1 6.4 67°77	0.4/ 6.3 18			84390	2002 <i>TK</i> ₁₆₁		1 6.4 8°40	2.7/ 7.4 18		
12 3	7 36.36	+23 0.2	1.537	2.364									

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
25859	2000 FW_3		1 6.4 39 $^{\circ}$ 98	1.4/ 6.9	18		357584	2004 TS_{347}		1 6.4 138 $^{\circ}$ 62	10 $^{\circ}$ 1/ 6.8	18	
12 3	7 30.75	+15 21.2	1.791	2.608	14.7	17.1	12 3	7 37.36	+ 2 0.3	1.698	2.463	17.5	20.0
12 13	7 25.94	+16 9.9	1.726	2.621	11.1	16.9	12 13	7 30.86	- 0 0.6	1.628	2.467	14.8	19.8
12 23	7 18.78	+17 10.4	1.685	2.634	7.0	16.7	12 23	7 21.80	- 1 46.2	1.580	2.472	12.1	19.7
1 2	7 10.03	+18 19.1	1.670	2.648	2.7	16.4	1 2	7 11.00	- 3 9.5	1.558	2.476	10.3	19.6
1 12	7 0.79	+19 31.1	1.685	2.663	2.7	16.4	1 12	6 59.65	- 4 5.6	1.563	2.480	10.4	19.6
1 22	6 52.21	+20 41.6	1.728	2.678	6.9	16.7	1 22	6 49.06	- 4 33.0	1.594	2.484	12.1	19.7
2 1	6 45.34	+21 46.7	1.799	2.693	10.8	17.0	2 1	6 40.35	- 4 34.1	1.649	2.487	14.7	19.9
2 11	6 40.95	+22 44.2	1.894	2.709	14.1	17.3	2 11	6 34.33	- 4 14.3	1.725	2.490	17.3	20.1
370592	2003 WN_{35}		1 6.4 68 $^{\circ}$ 28	0 $^{\circ}$ 1/ 6.4	18		310311	2011 UD_{114}		1 6.4 136 $^{\circ}$ 85	0 $^{\circ}$ 4/ 6.3	18	
12 3	7 33.43	+22 54.2	2.037	2.853	13.2	20.3	12 3	7 36.85	+22 21.9	1.933	2.746	13.9	22.3
12 13	7 27.63	+22 41.6	1.967	2.864	9.8	20.1	12 13	7 30.37	+22 45.7	1.864	2.758	10.4	22.1
12 23	7 19.65	+22 30.3	1.922	2.875	6.0	19.9	12 23	7 21.44	+23 13.1	1.818	2.770	6.3	21.9
1 2	7 10.26	+22 18.7	1.905	2.885	1.9	19.6	1 2	7 10.87	+23 40.4	1.801	2.781	2.0	21.6
1 12	7 0.54	+22 5.8	1.918	2.896	2.4	19.7	1 12	6 59.83	+24 4.5	1.814	2.792	2.6	21.7
1 22	6 51.56	+21 51.1	1.960	2.907	6.4	20.0	1 22	6 49.54	+24 23.2	1.857	2.802	6.9	22.0
2 1	6 44.27	+21 35.2	2.029	2.918	10.0	20.2	2 1	6 41.10	+24 36.0	1.927	2.811	10.7	22.2
2 11	6 39.32	+21 18.9	2.123	2.929	13.1	20.4	2 11	6 35.24	+24 43.5	2.021	2.820	13.9	22.5
343834	2011 HT_{27}		1 6.4 210 $^{\circ}$ 26	3 $^{\circ}$ 1/ 7.6	18		128304	2004 BV_{10}		1 6.4 119 $^{\circ}$ 04	3 $^{\circ}$ 2/ 7.6	18	
12 3	7 29.35	+10 49.2	2.494	3.283	11.9	20.8	12 3	7 29.31	+11 17.4	2.350	3.143	12.4	20.1
12 13	7 24.36	+10 57.9	2.406	3.279	9.3	20.6	12 13	7 24.38	+11 22.1	2.270	3.147	9.6	19.9
12 23	7 17.62	+11 16.9	2.341	3.276	6.4	20.4	12 23	7 17.65	+11 37.2	2.215	3.151	6.5	19.7
1 2	7 9.66	+11 45.8	2.305	3.272	3.7	20.2	1 2	7 9.69	+12 2.1	2.187	3.154	3.8	19.5
1 12	7 1.25	+12 23.0	2.299	3.268	3.5	20.2	1 12	7 1.33	+12 35.3	2.189	3.158	3.6	19.5
1 22	6 53.22	+13 6.3	2.323	3.264	6.0	20.4	1 22	6 53.43	+13 14.5	2.220	3.162	6.2	19.7
2 1	6 46.35	+13 53.0	2.376	3.259	9.0	20.6	2 1	6 46.78	+13 57.1	2.280	3.165	9.2	19.9
2 11	6 41.26	+14 40.7	2.454	3.255	11.7	20.7	2 11	6 42.00	+14 40.7	2.365	3.169	12.0	20.1
103162	1999 XZ_{225}		1 6.4 149 $^{\circ}$ 36	0 $^{\circ}$ 8/ 6.2	18		433070	2012 TN_{39}		1 6.4 93 $^{\circ}$ 95	3 $^{\circ}$ 5/ 7.3	18	
12 3	7 40.16	+24 51.2	1.704	2.521	15.3	20.2	12 3	7 29.19	+11 36.3	2.435	3.228	12.0	21.3
12 13	7 33.11	+24 49.5	1.633	2.529	11.5	20.0	12 13	7 24.21	+11 11.5	2.355	3.230	9.4	21.1
12 23	7 23.21	+24 48.0	1.585	2.537	7.1	19.7	12 23	7 17.50	+10 55.0	2.299	3.233	6.5	20.9
1 2	7 11.40	+24 43.5	1.565	2.545	2.3	19.5	1 2	7 9.64	+10 47.3	2.270	3.235	4.0	20.8
1 12	6 59.08	+24 33.5	1.573	2.551	3.0	19.5	1 12	7 1.42	+10 48.4	2.272	3.237	3.9	20.8
1 22	6 47.73	+24 17.6	1.611	2.557	7.7	19.8	1 22	6 53.66	+10 57.1	2.302	3.240	6.3	20.9
2 1	6 38.61	+23 57.3	1.676	2.563	11.9	20.1	2 1	6 47.12	+11 12.1	2.361	3.242	9.2	21.1
2 11	6 32.50	+23 34.7	1.764	2.567	15.5	20.3	2 11	6 42.39	+11 31.5	2.445	3.244	11.8	21.3
30398	2000 KM_{41}		1 6.4 163 $^{\circ}$ 83	4 $^{\circ}$ 7/ 8.2	18		448174	2008 TJ_{147}		1 6.4 329 $^{\circ}$ 77	2 $^{\circ}$ 4/ 5.8	17	
12 3	7 28.20	+ 4 36.1	3.020	3.777	10.7	19.5	12 3	7 35.45	+25 55.7	1.362	2.201	17.2	21.5
12 13	7 23.14	+ 4 14.8	2.938	3.782	8.7	19.3	12 13	7 30.51	+26 32.3	1.290	2.197	13.0	21.2
12 23	7 16.69	+ 4 4.0	2.880	3.786	6.6	19.2	12 23	7 22.12	+27 11.9	1.238	2.194	8.1	20.9
1 2	7 9.34	+ 4 4.9	2.850	3.790	5.0	19.1	1 2	7 11.20	+27 48.2	1.211	2.190	3.3	20.6
1 12	7 1.70	+ 4 17.2	2.850	3.794	4.8	19.1	1 12	6 59.38	+28 15.3	1.211	2.187	4.3	20.7
1 22	6 54.41	+ 4 39.9	2.880	3.797	6.2	19.2	1 22	6 48.45	+28 30.1	1.237	2.184	9.4	21.0
2 1	6 48.07	+ 5 11.1	2.938	3.800	8.2	19.3	2 1	6 40.05	+28 32.7	1.288	2.182	14.2	21.2
2 11	6 43.16	+ 5 48.3	3.022	3.802	10.2	19.5	2 11	6 35.23	+28 25.7	1.358	2.179	18.3	21.5
458186	2010 NU_{72}		1 6.4 34 $^{\circ}$ 40	10 $^{\circ}$ 7/ 4.7	16		518778	2010 AW_{130}		1 6.4 150 $^{\circ}$ 75	6 $^{\circ}$ 3/ 9.2	18	
12 3	7 40.56	+43 52.3	1.298	2.120	18.8	20.8	12 3	7 27.81	- 1 4.8	2.796	3.531	12.0	21.4
12 13	7 34.84	+45 20.0	1.261	2.140	15.5	20.6	12 13	7 22.97	- 1 24.4	2.716	3.536	10.1	21.3
12 23	7 24.81	+46 29.2	1.244	2.161	12.5	20.5	12 23	7 16.66	- 1 29.2	2.659	3.541	8.2	21.1
1 2	7 11.93	+47 8.1	1.250	2.183	10.8	20.5	1 2	7 9.38	- 1 17.7	2.629	3.545	6.7	21.1
1 12	6 58.53	+47 10.1	1.280	2.206	11.3	20.6	1 12	7 1.77	- 0 49.8	2.627	3.549	6.4	21.0
1 22	6 46.97	+46 36.9	1.333	2.229	13.5	20.7	1 22	6 54.54	- 0 7.3	2.653	3.553	7.4	21.1
2 1	6 39.00	+45 36.3	1.407	2.253	16.3	21.0	2 1	6 48.32	+ 0 46.9	2.707	3.557	9.2	21.2
2 11	6 35.39	+44 18.6	1.500	2.278	18.9	21.2	2 11	6 43.62	+ 1 49.1	2.786	3.561	11.1	21.4
202014	2004 RT_{28}		1 6.4 149 $^{\circ}$ 90	1 $^{\circ}$ 9/ 6.9	18		38983	2000 UT_4		1 6.4 214 $^{\circ}$ 66	0 $^{\circ}$ 5/ 6.5	18	
12 3	7 35.81	+16 32.4	1.742	2.554	15.3	21.1	12 3	7 35.83	+20 28.4	1.953	2.764	13.8	19.4
12 13	7 29.80	+16 40.9	1.669	2.561	11.6	20.9	12 13	7 29.77	+20 34.7	1.864	2.757	10.5	19.1
12 23	7 21.19	+16 58.5	1.619	2.567	7.4	20.6	12 23	7 21.21	+20 45.6	1.799	2.750	6.5	18.9
1 2	7 10.80	+17 23.2	1.596	2.573	3.0	20.4	1 2	7 10.86	+20 58.8	1.762	2.742	2.1	18.6
1 12	6 59.85	+17 52.1	1.601	2.578	3.1	20.4	1 12	6 59.84	+21 11.9	1.755	2.733	2.6	18.6
1 22	6 49.62	+18 22.5	1.636	2.583	7.4	20.7	1 22	6 49.37	+21 23.2	1.777	2.724	7.0	18.8
2 1	6 41.30	+18 52.3	1.698	2.588	11.6	20.9	2 1	6 40.62	+21 31.8	1.827	2.714	11.1	19.1
2 11	6 35.69	+19 20.0	1.782	2.592	15.1	21.2	2 11	6 34.41	+21 37.9	1.901	2.704	14.5	19.3
293005	2006 WT_{26}		1 6.4 102 $^{\circ}$ 62	0 $^{\circ}$ 3/ 6.3	18		398166	2010 GG_{32}		1 6.4 194 $^{\circ}$ 60	1 $^{\circ}$ 1/ 6.0	18	
12 3	7 37.10	+20 19.5	2.101	2.906	13.2	21.0	12 3	7 36.76	+23 35.8	2.057	2.867	13.3	21.8
12 13	7 30.26	+21 10.6	2.043	2.934	9.8	20.8	12 13	7 30.41	+24 11.4	1.971	2.865	10.0	21.6
12 23	7 21.23	+22 6.9	2.011	2.962	6.0	20.6	12 23	7 21.58	+24 50.4	1.911	2.862	6.1	21.4
1 2	7 10.77	+23 4.2	2.008	2.989	1.8	20.4	1 2	7 10.97	+25 28.9	1.879	2.858	2.1	21.1
1 12	6 59.97	+23 58.2	2.037	3.015	2.4	20.5	1 12	6 59.69	+26 2.8	1.877	2.854	2.8	21.1
1 22	6 49.92	+24 45.7	2.096	3.040	6.3	20.8	1 22	6 48.96	+26 29.4	1.906	2.849	6.9	21.4
2 1	6 41.57	+25 25.1	2.184	3.065	9.8	21.1	2 1	6 39.92	+26 47.8	1.962	2.842	10.8	21.6
2 11	6 35.61	+25 56.7	2.297	3.088	12.7	21.3	2 11	6 33.41	+26 59.1	2.043	2.836	14.0	21.8
276569	2003 SL_{218}												

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
233568	2007 <i>PW</i> ₂₀		1 6.4 85°34	1°6/ 6.9 18			113918	2002 <i>TD</i> ₂₈₆		1 6.4 122°50	5°1/ 5.4 18		
12 3	7 30.76	+16 25.0	2.260	3.065	12.4	20.6	12 3	7 42.29	+33 3.9	1.569	2.389	16.3	20.0
12 13	7 25.46	+16 34.3	2.191	3.080	9.4	20.5	12 13	7 35.23	+33 54.4	1.509	2.402	12.5	19.8
12 23	7 18.29	+16 50.5	2.147	3.094	5.9	20.3	12 23	7 24.77	+34 39.4	1.471	2.415	8.4	19.6
1 2	7 9.89	+17 12.3	2.132	3.109	2.5	20.1	1 2	7 12.01	+35 10.9	1.460	2.427	5.4	19.5
1 12	7 1.16	+17 37.5	2.146	3.123	2.5	20.1	1 12	6 58.64	+35 23.2	1.476	2.439	6.1	19.6
1 22	6 53.00	+18 4.3	2.190	3.137	5.9	20.4	1 22	6 46.47	+35 15.3	1.520	2.450	9.6	19.8
2 1	6 46.24	+18 30.8	2.263	3.151	9.2	20.6	2 1	6 36.99	+34 50.4	1.589	2.460	13.4	20.0
2 11	6 41.48	+18 56.0	2.360	3.165	12.0	20.8	2 11	6 31.06	+34 14.3	1.680	2.470	16.7	20.3
408631	2014 <i>LD</i> ₁₁		1 6.4 244°15	1°9/ 6.9 18			292298	2006 <i>SW</i> ₁₄₃		1 6.4 5°32	1°1/ 6.6 18		
12 3	7 34.86	+16 4.5	1.794	2.604	14.9	22.1	12 3	7 31.72	+19 48.9	1.389	2.227	17.0	20.3
12 13	7 29.33	+16 17.6	1.699	2.590	11.5	21.8	12 13	7 27.38	+19 44.4	1.320	2.226	12.9	20.0
12 23	7 21.11	+16 40.8	1.628	2.575	7.4	21.5	12 23	7 20.03	+19 46.6	1.272	2.227	8.0	19.7
1 2	7 10.88	+17 12.4	1.583	2.560	3.1	21.3	1 2	7 10.57	+19 53.7	1.249	2.228	2.8	19.4
1 12	6 59.78	+17 49.6	1.567	2.545	3.2	21.2	1 12	7 0.45	+20 3.2	1.252	2.231	3.2	19.4
1 22	6 49.13	+18 29.1	1.581	2.528	7.6	21.5	1 22	6 51.20	+20 13.0	1.281	2.234	8.4	19.8
2 1	6 40.19	+19 8.1	1.621	2.512	12.0	21.7	2 1	6 44.19	+20 21.9	1.335	2.237	13.1	20.0
2 11	6 33.94	+19 44.9	1.685	2.494	15.8	21.9	2 11	6 40.31	+20 29.4	1.410	2.242	17.1	20.3
238140	2003 <i>RT</i> ₇		1 6.4 134°01	3°7/ 5.2 18			2084	Okayama		1 6.4 56°16	2°5/ 7.0 18		
12 3	7 39.52	+30 46.9	2.063	2.872	13.3	20.9	12 3	7 33.83	+15 27.0	1.421	2.247	17.4	15.6
12 13	7 32.44	+31 45.3	1.999	2.888	10.1	20.8	12 13	7 28.75	+15 35.1	1.359	2.257	13.2	15.4
12 23	7 22.76	+32 41.2	1.959	2.903	6.6	20.6	12 23	7 20.76	+15 55.4	1.317	2.267	8.5	15.2
1 2	7 11.32	+33 28.3	1.948	2.918	3.9	20.4	1 2	7 10.78	+16 26.0	1.300	2.277	3.7	14.9
1 12	6 59.36	+34 1.9	1.968	2.932	4.7	20.5	1 12	7 0.22	+17 3.4	1.311	2.288	3.7	14.9
1 22	6 48.19	+34 20.1	2.017	2.945	7.7	20.7	1 22	6 50.57	+17 43.7	1.348	2.299	8.3	15.2
2 1	6 38.98	+34 23.8	2.094	2.957	11.0	20.9	2 1	6 43.13	+18 23.6	1.411	2.310	12.8	15.5
2 11	6 32.50	+34 16.2	2.193	2.968	13.8	21.2	2 11	6 38.74	+19 1.0	1.495	2.321	16.7	15.8
518426	2002 <i>ON</i> ₄		1 6.4 156°52	2°4/ 7.2 18			424762	2008 <i>TK</i> ₆₉		1 6.4 12°60	6°3/ 8.1 18		
12 3	7 38.15	+13 23.3	2.199	2.984	13.4	23.9	12 3	7 28.86	+ 5 45.8	1.891	2.680	15.1	20.9
12 13	7 31.02	+13 39.7	2.122	2.997	10.3	23.7	12 13	7 24.43	+ 5 12.7	1.817	2.681	12.2	20.7
12 23	7 21.73	+14 5.7	2.069	3.009	6.7	23.5	12 23	7 17.87	+ 4 55.1	1.764	2.683	9.2	20.5
1 2	7 10.98	+14 39.8	2.046	3.019	3.3	23.3	1 2	7 9.86	+ 4 54.8	1.737	2.686	6.8	20.4
1 12	6 59.78	+15 19.4	2.055	3.028	3.2	23.3	1 12	7 1.37	+ 5 12.1	1.737	2.689	6.5	20.3
1 22	6 49.18	+16 1.7	2.094	3.036	6.5	23.5	1 22	6 53.45	+ 5 44.8	1.764	2.692	8.6	20.5
2 1	6 40.13	+16 44.2	2.164	3.043	9.9	23.7	2 1	6 47.03	+ 6 29.5	1.817	2.696	11.5	20.7
2 11	6 33.35	+17 25.1	2.258	3.048	12.9	23.9	2 11	6 42.83	+ 7 21.8	1.892	2.700	14.4	20.9
221708	2007 <i>DB</i> ₁₁₃		1 6.4 87°77	3°0/ 7.2 18			132122	2002 <i>CZ</i> ₂₃₃		1 6.4 247°77	4°0/ 7.2 18		
12 3	7 31.53	+14 3.8	1.932	2.739	14.1	20.3	12 3	7 33.70	+12 44.9	1.689	2.498	15.8	19.9
12 13	7 26.41	+13 54.7	1.854	2.741	10.9	20.1	12 13	7 28.44	+12 24.7	1.604	2.490	12.3	19.6
12 23	7 19.07	+13 54.9	1.799	2.742	7.2	19.9	12 23	7 20.55	+12 15.6	1.541	2.482	8.4	19.4
1 2	7 10.19	+14 4.1	1.771	2.744	3.7	19.7	1 2	7 10.74	+12 18.2	1.504	2.474	4.8	19.2
1 12	7 0.81	+14 21.1	1.772	2.745	3.7	19.7	1 12	7 0.21	+12 31.8	1.495	2.466	4.7	19.1
1 22	6 52.01	+14 43.7	1.801	2.746	7.1	19.9	1 22	6 50.26	+12 54.4	1.513	2.457	8.3	19.3
2 1	6 44.80	+15 10.0	1.858	2.748	10.7	20.1	2 1	6 42.11	+13 23.5	1.558	2.448	12.4	19.5
2 11	6 39.91	+15 37.9	1.938	2.749	14.0	20.3	2 11	6 36.66	+13 56.2	1.625	2.440	16.1	19.8
53555	2000 <i>CG</i> ₅		1 6.4 234°58	1°3/ 6.6 18			364759	2007 <i>WG</i> ₂₀		1 6.4 18°31	3°0/ 5.7 18		
12 3	7 37.16	+19 44.3	1.642	2.460	15.7	19.5	12 3	7 35.02	+28 4.9	1.542	2.375	15.8	20.5
12 13	7 31.19	+19 31.1	1.555	2.451	12.0	19.2	12 13	7 29.81	+28 39.9	1.473	2.377	12.0	20.2
12 23	7 22.29	+19 22.6	1.490	2.441	7.5	18.9	12 23	7 21.51	+29 14.6	1.426	2.379	7.6	20.0
1 2	7 11.26	+19 17.5	1.452	2.431	2.7	18.6	1 2	7 11.04	+29 43.2	1.405	2.381	3.6	19.8
1 12	6 59.42	+19 14.0	1.442	2.420	3.1	18.6	1 12	6 59.88	+30 0.9	1.411	2.384	4.4	19.8
1 22	6 48.24	+19 11.0	1.461	2.409	8.1	18.9	1 22	6 49.62	+30 5.6	1.444	2.387	8.7	20.1
2 1	6 39.11	+19 8.3	1.506	2.397	12.7	19.1	2 1	6 41.66	+29 58.2	1.502	2.390	12.9	20.3
2 11	6 32.97	+19 6.0	1.573	2.385	16.6	19.4	2 11	6 36.92	+29 41.8	1.582	2.394	16.6	20.6
441652	2008 <i>WB</i> ₇₂		1 6.4 74°50	3°3/ 5.8 15			171428	2007 <i>PA</i> ₂₆		1 6.4 146°96	0°8/ 6.6 18		
12 3	7 40.75	+28 34.4	1.413	2.242	17.2	21.5	12 3	7 36.62	+19 19.1	1.994	2.801	13.8	21.4
12 13	7 33.92	+29 11.6	1.366	2.267	12.9	21.3	12 13	7 30.13	+19 28.0	1.921	2.812	10.4	21.2
12 23	7 23.82	+29 46.6	1.341	2.293	8.1	21.1	12 23	7 21.31	+19 42.2	1.873	2.822	6.4	21.0
1 2	7 11.64	+30 12.8	1.342	2.318	3.8	20.9	1 2	7 10.92	+19 59.5	1.852	2.831	2.2	20.8
1 12	6 59.12	+30 25.4	1.370	2.343	4.6	21.0	1 12	7 0.08	+20 17.5	1.862	2.840	2.5	20.8
1 22	6 47.98	+30 23.4	1.426	2.368	8.9	21.3	1 22	6 49.94	+20 34.2	1.902	2.848	6.6	21.1
2 1	6 39.57	+30 9.4	1.507	2.392	13.1	21.6	2 1	6 41.54	+20 48.7	1.970	2.856	10.4	21.3
2 11	6 34.65	+29 47.3	1.609	2.416	16.6	21.9	2 11	6 35.60	+21 0.9	2.062	2.862	13.6	21.5
448109	2008 <i>NZ</i> ₁		1 6.4 182°55	0°4/ 6.5 18			265849	2005 <i>YA</i> ₉₁		1 6.4 341°39	1°2/ 6.7 18		
12 3	7 37.93	+18 53.2	2.059	2.861	13.6	22.4	12 3	7 31.56	+18 20.8	1.947	2.763	13.7	20.9
12 13	7 31.22	+19 31.6	1.974	2.863	10.2	22.2	12 13	7 26.52	+18 28.4	1.867	2.762	10.4	20.7
12 23	7 22.06	+20 17.5	1.914	2.863	6.3	22.0	12 23	7 19.20	+18 42.7	1.811	2.761	6.5	20.5
1 2	7 11.15	+21 7.3	1.883	2.863	2.0	21.7	1 2	7 10.29	+19 1.9	1.782	2.760	2.4	20.2
1 12	6 59.58	+21 57.0	1.883	2.862	2.5	21.7	1 12	7 0.85	+19 23.6	1.782	2.760	2.6	20.2
1 22	6 48.53	+22 43.1	1.914	2.859	6.7	22.0	1 22	6 51.97	+19 45.8	1.811	2.759	6.7	20.5
2 1	6 39.14	+23 23.4	1.974	2.856	10.6	22.2	2 1	6 44.70	+20 6.8	1.867	2.759	10.6	20.7
2 11	6 32.23	+23 57.4	2.058	2.851	13.9	22.4	2 11	6 39.80	+20 25.8	1.946	2.758	13.9	20.9
198859	2005 <i>MP</i> ₃₂		1 6.4 205°13	8°6/ 6.6 16			518130	2016 <i>CP</i> ₂₈₈		1 6.4 45°54			

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
131449	2001 <i>QL</i> ₁₃₄		1 6.4 169°10	1.4/ 6.8 18			239047	2006 <i>DO</i> ₂₁₄		1 6.4 171°16	0°5/ 6.6 18		
12 3	7 30.98	+18 5.8	2.773	3.571	10.5	20.1	12 3	7 36.18	+19 45.0	2.067	2.873	13.4	21.8
12 13	7 25.39	+17 52.4	2.689	3.574	8.0	20.0	12 13	7 29.85	+20 1.2	1.987	2.878	10.1	21.6
12 23	7 18.19	+17 42.5	2.631	3.577	5.0	19.8	12 23	7 21.19	+20 22.6	1.931	2.881	6.2	21.4
1 2	7 9.94	+17 35.7	2.602	3.579	2.1	19.6	1 2	7 10.94	+20 46.9	1.904	2.884	2.1	21.1
1 12	7 1.36	+17 31.3	2.605	3.581	2.2	19.6	1 12	7 0.15	+21 11.1	1.908	2.886	2.4	21.2
1 22	6 53.23	+17 28.6	2.638	3.583	5.2	19.8	1 22	6 49.97	+21 33.2	1.941	2.887	6.6	21.4
2 1	6 46.24	+17 27.3	2.701	3.584	8.1	20.0	2 1	6 41.42	+21 52.1	2.003	2.888	10.3	21.7
2 11	6 40.94	+17 26.9	2.790	3.585	10.6	20.2	2 11	6 35.28	+22 7.5	2.089	2.888	13.5	21.9
14393	1990 <i>SX</i> ₆		1 6.4 148°60	0°4/ 6.3 18			425096	2009 <i>SZ</i> ₆₈		1 6.4 67°47	1°6/ 6.9 18		
12 3	7 35.22	+22 4.3	1.992	2.805	13.5	19.3	12 3	7 32.13	+16 56.9	1.862	2.677	14.3	21.5
12 13	7 29.21	+22 32.3	1.917	2.812	10.1	19.1	12 13	7 26.92	+17 7.6	1.795	2.688	10.8	21.3
12 23	7 20.82	+23 4.5	1.867	2.819	6.2	18.9	12 23	7 19.41	+17 26.3	1.750	2.699	6.8	21.1
1 2	7 10.81	+23 37.3	1.845	2.825	1.9	18.6	1 2	7 10.38	+17 51.4	1.733	2.711	2.7	20.8
1 12	7 0.26	+24 7.4	1.853	2.831	2.5	18.7	1 12	7 0.90	+18 20.1	1.745	2.722	2.8	20.9
1 22	6 50.37	+24 32.3	1.891	2.836	6.7	19.0	1 22	6 52.11	+18 49.9	1.785	2.734	6.8	21.2
2 1	6 42.20	+24 51.0	1.956	2.841	10.5	19.2	2 1	6 45.03	+19 18.7	1.853	2.745	10.6	21.4
2 11	6 36.51	+25 4.0	2.045	2.846	13.7	19.4	2 11	6 40.36	+19 45.3	1.944	2.757	13.9	21.6
217985	2001 <i>VB</i> ₁₁₆		1 6.4 51°84	4°4/ 6.9 18			90279	<i>Devėtsil</i>		1 6.4 101°56	2°5/ 7.4 18		
12 3	7 34.38	+13 58.2	1.704	2.514	15.6	19.6	12 3	7 33.24	+12 38.2	2.031	2.829	13.9	19.3
12 13	7 28.64	+12 58.2	1.637	2.523	12.1	19.4	12 13	7 27.52	+13 6.3	1.964	2.846	10.6	19.1
12 23	7 20.45	+12 5.9	1.592	2.532	8.3	19.2	12 23	7 19.69	+13 46.0	1.921	2.863	7.0	18.9
1 2	7 10.67	+11 23.6	1.574	2.542	5.0	19.0	1 2	7 10.45	+14 35.4	1.907	2.880	3.4	18.7
1 12	7 0.49	+10 52.4	1.584	2.552	5.0	19.1	1 12	7 0.81	+15 31.1	1.922	2.896	3.2	18.7
1 22	6 51.14	+10 32.6	1.623	2.562	8.2	19.3	1 22	6 51.80	+16 29.3	1.967	2.912	6.5	19.0
2 1	6 43.68	+10 23.4	1.687	2.573	11.9	19.5	2 1	6 44.35	+17 26.7	2.040	2.928	10.0	19.2
2 11	6 38.82	+10 22.9	1.774	2.583	15.2	19.7	2 11	6 39.14	+18 20.9	2.138	2.943	13.0	19.5
165282	2000 <i>SW</i> ₃₂₆		1 6.4 172°59	1°4/ 6.0 18			494852	2008 <i>CC</i> ₁₅₄		1 6.4 201°70	0°0/ 6.3 18		
12 3	7 37.71	+25 8.6	2.030	2.841	13.4	21.5	12 3	7 33.76	+20 53.0	2.440	3.244	11.6	22.4
12 13	7 31.10	+25 35.2	1.951	2.845	10.1	21.3	12 13	7 27.84	+21 16.0	2.349	3.239	8.7	22.2
12 23	7 22.00	+26 3.0	1.897	2.848	6.2	21.0	12 23	7 19.90	+21 43.2	2.284	3.234	5.4	22.0
1 2	7 11.18	+26 28.3	1.872	2.851	2.2	20.8	1 2	7 10.54	+22 12.2	2.248	3.228	1.7	21.7
1 12	6 59.79	+26 47.5	1.876	2.852	3.0	20.8	1 12	7 0.65	+22 40.2	2.243	3.222	2.1	21.7
1 22	6 49.07	+26 58.7	1.911	2.853	7.0	21.1	1 22	6 51.18	+23 5.3	2.270	3.215	5.8	22.0
2 1	6 40.13	+27 2.0	1.973	2.854	10.7	21.3	2 1	6 43.03	+23 26.2	2.325	3.207	9.2	22.2
2 11	6 33.79	+26 59.0	2.060	2.853	13.9	21.5	2 11	6 36.91	+23 43.0	2.405	3.198	12.1	22.4
358055	2006 <i>HO</i> ₂₅		1 6.4 337°49	0°3/ 6.3 18			204251	2004 <i>EQ</i> ₂₈		1 6.4 333°66	0°5/ 6.6 18		
12 3	7 31.80	+21 26.7	1.273	2.118	17.8	20.5	12 3	7 30.11	+20 8.5	2.176	2.992	12.5	21.5
12 13	7 27.94	+21 50.9	1.197	2.108	13.5	20.2	12 13	7 25.28	+20 17.6	2.093	2.988	9.4	21.3
12 23	7 20.68	+22 23.2	1.142	2.100	8.3	19.9	12 23	7 18.39	+20 31.3	2.034	2.985	5.8	21.1
1 2	7 10.89	+22 59.6	1.111	2.092	2.6	19.5	1 2	7 10.09	+20 47.8	2.002	2.982	1.9	20.8
1 12	7 0.10	+23 34.8	1.106	2.085	3.4	19.5	1 12	7 1.29	+21 5.0	2.001	2.979	2.3	20.8
1 22	6 50.11	+24 4.7	1.125	2.078	9.2	19.9	1 22	6 52.99	+21 21.2	2.028	2.977	6.1	21.1
2 1	6 42.55	+24 27.3	1.169	2.073	14.4	20.1	2 1	6 46.11	+21 35.3	2.084	2.974	9.7	21.3
2 11	6 38.53	+24 42.6	1.232	2.068	18.9	20.4	2 11	6 41.35	+21 46.8	2.163	2.972	12.8	21.5
202646	2006 <i>JM</i> ₃₄		1 6.4 245°25	0°3/ 6.5 18			230578	2003 <i>CA</i> ₃		1 6.4 319°83	5°9/ 5.0 18		
12 3	7 31.26	+20 47.3	2.206	3.019	12.4	21.3	12 3	7 36.26	+32 15.4	1.299	2.140	17.7	19.9
12 13	7 26.10	+20 57.8	2.122	3.017	9.3	21.1	12 13	7 31.69	+33 17.7	1.225	2.130	13.8	19.7
12 23	7 18.86	+21 12.4	2.064	3.015	5.7	20.8	12 23	7 23.21	+34 17.8	1.171	2.120	9.4	19.4
1 2	7 10.20	+21 29.1	2.033	3.013	1.8	20.6	1 2	7 11.76	+35 6.2	1.141	2.110	6.1	19.2
1 12	7 1.04	+21 45.6	2.032	3.011	2.2	20.6	1 12	6 59.11	+35 34.4	1.137	2.101	7.1	19.2
1 22	6 52.40	+22 0.4	2.061	3.009	6.1	20.8	1 22	6 47.40	+35 38.7	1.157	2.093	11.3	19.4
2 1	6 45.19	+22 12.4	2.118	3.006	9.7	21.1	2 1	6 38.54	+35 21.3	1.201	2.085	15.8	19.7
2 11	6 40.12	+22 21.5	2.199	3.004	12.7	21.3	2 11	6 33.74	+34 48.1	1.263	2.077	19.8	19.9
469240	2016 <i>JH</i> ₁₀		1 6.4 337°79	3°7/ 7.4 18			226099	2002 <i>PV</i> ₁₉		1 6.4 18°42	2°9/ 7.1 18		
12 3	7 28.59	+12 26.9	1.703	2.519	15.3	20.5	12 3	7 32.83	+15 23.2	1.113	1.956	19.9	19.8
12 13	7 24.63	+12 21.6	1.618	2.509	12.0	20.3	12 13	7 28.76	+15 27.2	1.052	1.959	15.3	19.5
12 23	7 18.23	+12 29.1	1.556	2.499	8.1	20.0	12 23	7 21.16	+15 46.4	1.010	1.963	9.9	19.2
1 2	7 10.05	+12 49.3	1.519	2.490	4.5	19.8	1 2	7 11.04	+16 19.2	0.990	1.967	4.4	18.9
1 12	7 1.20	+13 20.7	1.509	2.481	4.3	19.8	1 12	7 0.10	+17 1.4	0.995	1.973	4.3	18.9
1 22	6 52.86	+14 0.4	1.526	2.474	7.9	19.9	1 22	6 50.21	+17 47.8	1.024	1.979	9.7	19.3
2 1	6 46.19	+14 45.0	1.570	2.467	11.9	20.2	2 1	6 42.99	+18 34.1	1.077	1.985	15.0	19.6
2 11	6 42.03	+15 31.2	1.635	2.460	15.5	20.4	2 11	6 39.45	+19 17.1	1.149	1.993	19.4	19.9
331704	2002 <i>RV</i> ₇₂		1 6.4 143°90	2°4/ 7.2 18			347377	2012 <i>RH</i> ₁₄		1 6.4 61°50	3°9/ 5.9 17		
12 3	7 30.49	+13 50.8	2.556	3.350	11.5	21.6	12 3	7 40.64	+30 10.5	1.222	2.061	18.8	20.5
12 13	7 25.14	+13 50.8	2.478	3.357	8.8	21.4	12 13	7 34.44	+30 34.1	1.171	2.077	14.2	20.2
12 23	7 18.09	+13 58.3	2.424	3.365	5.8	21.2	12 23	7 24.46	+30 53.3	1.140	2.092	9.1	20.0
1 2	7 9.93	+14 12.8	2.400	3.372	3.0	21.0	1 2	7 11.99	+31 1.2	1.132	2.108	4.5	19.8
1 12	7 1.42	+14 32.8	2.405	3.378	2.9	21.0	1 12	6 59.03	+30 53.1	1.152	2.124	5.3	19.9
1 22	6 53.37	+14 56.7	2.442	3.384	5.6	21.2	1 22	6 47.61	+30 29.2	1.196	2.141	9.9	20.2
2 1	6 46.51	+15 22.9	2.507	3.390	8.6	21.4	2 1	6 39.28	+29 53.5	1.265	2.157	14.5	20.5
2 11	6 41.43	+15 49.9	2.597	3.396	11.2	21.6	2 11	6 34.88	+29 11.3	1.354	2.173	18.4	20.8
157026	2003 <i>QW</i> ₉₃		1 6.4 82°54	1°1/ 6.1 18			453026	2007 <i>RP</i> ₁₈₇		1 6.4 103°67	0°9/ 6.2 15		
12 3	7 33.55	+24 27.6	2.044	2.862									

EPHEMERIDES

1 6.4

1 6.4

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
37616	1993 <i>FK</i> ₈₂		1 6.4 141°12	4°0/ 7.7 18			302492	2002 <i>GX</i> ₈₈		1 6.4 333°38	0°7/ 6.2 18		
12 3	7 31.41	+ 9 36.4	2.324	3.108	12.8	19.9	12 3	7 31.34	+21 5.2	1.281	2.125	17.7	19.8
12 13	7 25.95	+ 9 21.9	2.248	3.116	10.0	19.8	12 13	7 27.68	+21 48.9	1.202	2.114	13.4	19.5
12 23	7 18.65	+ 9 18.1	2.195	3.124	7.1	19.6	12 23	7 20.63	+22 43.2	1.145	2.103	8.3	19.2
1 2	7 10.14	+ 9 25.3	2.171	3.132	4.6	19.5	1 2	7 10.97	+23 43.0	1.112	2.092	2.6	18.8
1 12	7 1.26	+ 9 42.8	2.176	3.139	4.3	19.5	1 12	7 0.22	+24 41.6	1.104	2.083	3.6	18.8
1 22	6 52.89	+10 8.8	2.210	3.146	6.6	19.6	1 22	6 50.17	+25 33.1	1.122	2.074	9.3	19.2
2 1	6 45.82	+10 41.1	2.273	3.152	9.5	19.8	2 1	6 42.49	+26 14.2	1.164	2.067	14.6	19.4
2 11	6 40.68	+11 17.1	2.361	3.158	12.2	20.0	2 11	6 38.37	+26 44.4	1.225	2.060	19.1	19.7
89305	2001 <i>VR</i> ₃₂		1 6.4 101°29	0°4/ 6.3 18			55778	1993 <i>FW</i> ₂₃		1 6.4 122°12	4°2/ 5.6 18		
12 3	7 39.92	+22 53.7	1.665	2.481	15.6	19.8	12 3	7 39.94	+31 6.4	1.542	2.367	16.2	19.4
12 13	7 32.84	+23 7.2	1.609	2.505	11.6	19.6	12 13	7 33.56	+31 45.2	1.476	2.374	12.4	19.2
12 23	7 23.04	+23 23.4	1.576	2.529	7.1	19.4	12 23	7 23.87	+32 20.4	1.432	2.380	8.1	18.9
1 2	7 11.51	+23 38.7	1.571	2.552	2.2	19.2	1 2	7 11.88	+32 44.9	1.415	2.387	4.6	18.7
1 12	6 59.64	+23 50.0	1.596	2.574	2.8	19.3	1 12	6 59.23	+32 53.7	1.425	2.393	5.3	18.8
1 22	6 48.84	+23 55.8	1.649	2.595	7.5	19.6	1 22	6 47.65	+32 45.3	1.462	2.399	9.2	19.0
2 1	6 40.28	+23 56.4	1.729	2.616	11.5	19.9	2 1	6 38.63	+32 22.4	1.525	2.405	13.3	19.3
2 11	6 34.68	+23 53.1	1.832	2.636	14.9	20.2	2 11	6 33.07	+31 49.8	1.609	2.410	16.8	19.5
373720	2002 <i>RG</i> ₂₇₈		1 6.4 58°37	0°5/ 6.5 18			443857	2001 <i>SB</i> ₄		1 6.4 101°78	0°3/ 6.5 17		
12 3	7 33.44	+20 43.0	1.926	2.742	13.8	20.5	12 3	7 39.30	+21 28.5	1.576	2.395	16.2	21.6
12 13	7 27.68	+20 45.1	1.872	2.768	10.3	20.3	12 13	7 32.54	+21 29.8	1.517	2.414	12.1	21.3
12 23	7 19.75	+20 51.3	1.842	2.793	6.3	20.1	12 23	7 22.96	+21 35.2	1.481	2.433	7.4	21.1
1 2	7 10.47	+20 59.4	1.839	2.819	2.0	19.9	1 2	7 11.54	+21 41.7	1.472	2.452	2.4	20.8
1 12	7 0.94	+21 7.4	1.866	2.845	2.4	20.0	1 12	6 59.73	+21 46.7	1.491	2.470	2.8	20.9
1 22	6 52.25	+21 14.1	1.922	2.870	6.4	20.3	1 22	6 48.99	+21 49.0	1.539	2.487	7.7	21.3
2 1	6 45.32	+21 18.9	2.005	2.896	10.0	20.6	2 1	6 40.54	+21 48.5	1.613	2.504	12.0	21.6
2 11	6 40.76	+21 21.9	2.113	2.922	13.1	20.8	2 11	6 35.14	+21 45.9	1.710	2.521	15.6	21.8
319714	2006 <i>UP</i> ₄₈		1 6.4 38°95	1°1/ 6.3 18			353516	2011 <i>SV</i> ₁₁₆		1 6.4 119°32	3°0/ 7.3 18		
12 3	7 36.37	+25 47.1	1.354	2.191	17.4	20.0	12 3	7 35.41	+13 48.4	1.692	2.500	15.8	21.1
12 13	7 30.75	+25 35.9	1.300	2.207	13.0	19.8	12 13	7 29.55	+13 50.7	1.624	2.512	12.1	20.9
12 23	7 21.97	+25 24.1	1.268	2.224	7.9	19.5	12 23	7 21.14	+14 4.4	1.579	2.523	8.0	20.7
1 2	7 11.20	+25 8.7	1.261	2.241	2.6	19.2	1 2	7 11.00	+14 28.5	1.560	2.534	4.0	20.4
1 12	7 0.06	+24 47.7	1.281	2.259	3.3	19.3	1 12	7 0.35	+15 0.5	1.570	2.544	3.8	20.5
1 22	6 50.20	+24 21.6	1.327	2.278	8.4	19.7	1 22	6 50.47	+15 37.1	1.608	2.554	7.6	20.7
2 1	6 42.90	+23 52.4	1.398	2.297	13.0	20.0	2 1	6 42.50	+16 15.6	1.673	2.564	11.6	21.0
2 11	6 38.90	+23 22.3	1.491	2.316	16.7	20.3	2 11	6 37.23	+16 53.6	1.761	2.573	15.1	21.2
263657	2008 <i>GY</i> ₁₀₁		1 6.4 307°67	0°1/ 6.5 18			241602	1999 <i>RZ</i> ₆₁		1 6.4 168°21	4°6/ 7.9 18		
12 3	7 32.11	+20 25.2	1.682	2.508	15.0	20.8	12 3	7 34.19	+ 7 23.1	2.366	3.136	13.0	22.3
12 13	7 27.48	+20 49.6	1.596	2.497	11.4	20.5	12 13	7 28.02	+ 7 11.3	2.284	3.142	10.4	22.1
12 23	7 20.10	+21 21.4	1.533	2.487	7.0	20.2	12 23	7 19.95	+ 7 11.5	2.227	3.147	7.5	22.0
1 2	7 10.72	+21 57.2	1.496	2.476	2.2	19.9	1 2	7 10.60	+ 7 24.4	2.197	3.152	5.1	21.8
1 12	7 0.51	+22 33.3	1.487	2.466	2.8	19.9	1 12	7 0.83	+ 7 49.1	2.198	3.156	4.8	21.8
1 22	6 50.86	+23 6.3	1.506	2.455	7.7	20.2	1 22	6 51.54	+ 8 23.8	2.228	3.158	7.0	22.0
2 1	6 43.06	+23 34.0	1.551	2.446	12.1	20.4	2 1	6 43.57	+ 9 5.7	2.288	3.160	9.8	22.1
2 11	6 38.05	+23 56.1	1.618	2.436	16.0	20.6	2 11	6 37.56	+ 9 51.7	2.372	3.161	12.4	22.3
455392	2002 <i>XO</i> ₂₀		1 6.4 56°08	7°5/ 4.3 16			60584	2000 <i>EW</i> ₁₃₂		1 6.4 99°74	4°7/ 5.4 18		
12 3	7 41.46	+36 2.4	1.447	2.272	17.1	20.8	12 3	7 39.84	+34 19.6	1.907	2.718	14.1	18.9
12 13	7 34.89	+37 49.9	1.411	2.302	13.4	20.6	12 13	7 32.86	+35 1.5	1.849	2.737	10.9	18.7
12 23	7 24.70	+39 28.0	1.398	2.333	9.7	20.5	12 23	7 23.12	+35 36.8	1.816	2.756	7.4	18.5
1 2	7 12.09	+40 45.5	1.411	2.364	7.6	20.5	1 2	7 11.59	+35 59.4	1.810	2.774	4.9	18.4
1 12	6 58.96	+41 34.7	1.450	2.395	8.4	20.6	1 12	6 59.66	+36 5.4	1.833	2.792	5.5	18.5
1 22	6 47.25	+41 54.3	1.515	2.426	11.2	20.8	1 22	6 48.76	+35 54.4	1.884	2.809	8.4	18.7
2 1	6 38.50	+41 48.5	1.604	2.457	14.3	21.1	2 1	6 40.07	+35 28.9	1.962	2.826	11.5	18.9
2 11	6 33.55	+41 24.6	1.713	2.487	17.0	21.4	2 11	6 34.34	+34 53.6	2.063	2.843	14.3	19.2
429380	2010 <i>MC</i> ₅		1 6.4 226°87	10°2/ 10.9 18			217561	2007 <i>OQ</i> ₂		1 6.4 199°55	0°5/ 6.6 18		
12 3	7 37.37	- 3 46.5	1.261	2.026	22.4	20.7	12 3	7 35.74	+19 17.5	1.835	2.648	14.5	21.0
12 13	7 32.07	- 3 22.5	1.180	2.021	19.0	20.5	12 13	7 29.92	+19 44.8	1.752	2.646	11.0	20.8
12 23	7 23.29	- 2 19.2	1.116	2.016	15.2	20.2	12 23	7 21.48	+20 19.6	1.692	2.643	6.8	20.6
1 2	7 11.81	- 0 31.8	1.073	2.010	11.6	20.0	1 2	7 11.15	+20 58.7	1.659	2.639	2.2	20.3
1 12	6 59.12	+ 1 56.7	1.056	2.004	10.3	19.9	1 12	7 0.11	+21 38.5	1.656	2.635	2.6	20.3
1 22	6 47.02	+ 4 55.4	1.066	1.998	12.4	20.0	1 22	6 49.64	+22 15.4	1.683	2.630	7.2	20.6
2 1	6 37.25	+ 8 8.4	1.101	1.991	16.4	20.2	2 1	6 40.95	+22 47.6	1.736	2.625	11.4	20.8
2 11	6 31.05	+11 19.8	1.159	1.984	20.6	20.4	2 11	6 34.94	+23 14.4	1.813	2.620	15.0	21.0
744	<i>Aguntina</i>		1 6.4 305°19	2°3/ 7.2 18 R			249863	2001 <i>QP</i> ₁₃₃		1 6.4 49°92	3°4/ 6.2 17		
12 3	7 28.95	+14 30.7	2.217	3.023	12.6	15.1	12 3	7 41.97	+31 52.3	1.428	2.254	17.2	19.2
12 13	7 24.42	+14 39.4	2.125	3.012	9.7	14.9	12 13	7 34.63	+31 44.7	1.385	2.284	13.0	19.1
12 23	7 17.91	+14 57.0	2.057	3.001	6.3	14.6	12 23	7 24.15	+31 29.6	1.365	2.314	8.3	18.9
1 2	7 9.99	+15 22.8	2.016	2.991	3.1	14.4	1 2	7 11.84	+31 2.7	1.370	2.345	4.1	18.7
1 12	7 1.50	+15 54.9	2.005	2.980	3.0	14.4	1 12	6 59.49	+30 22.7	1.403	2.375	4.5	18.8
1 22	6 53.41	+16 30.9	2.023	2.970	6.3	14.6	1 22	6 48.75	+29 32.0	1.463	2.406	8.6	19.1
2 1	6 46.60	+17 8.5	2.069	2.960	9.8	14.8	2 1	6 40.81	+28 35.1	1.550	2.437	12.6	19.4
2 11	6 41.80	+17 45.6	2.140	2.950	12.9	15.0	2 11	6 36.28	+27 36.9	1.658	2.468	16.0	19.7
83279	2001 <i>RC</i> ₈₆		1 6.4 184°10	1°9/ 5.9 18			493357	2014 <i>WP</i> ₂₈		1 6.4 181°15	2°7/ 5.6 18		
12 3	7 35.88	+27 23.0	2.29										

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
226717	2004 <i>PK</i> ₂₂		1 6.4 136°85	2°5/ 7.4 18			426290	2012 <i>TC</i> ₅₈		1 6.4 158°40	6°0/ 4.4 18		
12 3	7 32.32	+12 50.1	2.327	3.120	12.5	21.1	12 3	7 36.92	+42 54.7	2.724	3.509	11.1	21.4
12 13	7 26.68	+13 4.6	2.252	3.131	9.6	21.0	12 13	7 30.37	+43 42.8	2.653	3.512	9.0	21.3
12 23	7 19.15	+13 28.7	2.202	3.141	6.4	20.8	12 23	7 21.53	+44 21.3	2.607	3.516	7.2	21.1
1 2	7 10.36	+14 1.1	2.180	3.151	3.3	20.6	1 2	7 11.14	+44 45.0	2.589	3.519	6.1	21.1
1 12	7 1.18	+14 39.9	2.188	3.161	3.1	20.6	1 12	7 0.28	+44 50.6	2.600	3.521	6.5	21.1
1 22	6 52.51	+15 22.3	2.227	3.170	6.0	20.8	1 22	6 50.09	+44 37.6	2.638	3.524	8.1	21.2
2 1	6 45.18	+16 6.0	2.294	3.179	9.2	21.0	2 1	6 41.58	+44 7.9	2.703	3.526	10.1	21.3
2 11	6 39.81	+16 48.7	2.387	3.187	12.0	21.2	2 11	6 35.48	+43 25.7	2.792	3.528	12.0	21.5
376985	2002 <i>OE</i> ₃₃		1 6.4 94°29	0°0/ 6.3 18			286963	2002 <i>PD</i> ₁₉₀		1 6.4 115°95	0°1/ 6.5 18		
12 3	7 33.01	+21 53.6	2.303	3.113	12.1	21.8	12 3	7 33.53	+22 48.6	2.311	3.121	12.0	20.9
12 13	7 27.17	+22 5.1	2.239	3.132	9.0	21.6	12 13	7 27.61	+22 36.6	2.236	3.129	9.0	20.7
12 23	7 19.42	+22 19.3	2.200	3.151	5.5	21.4	12 23	7 19.72	+22 25.7	2.185	3.136	5.5	20.5
1 2	7 10.43	+22 34.0	2.189	3.169	1.7	21.2	1 2	7 10.56	+22 14.4	2.164	3.144	1.7	20.3
1 12	7 1.15	+22 47.1	2.209	3.187	2.1	21.3	1 12	7 1.05	+22 1.8	2.173	3.151	2.1	20.3
1 22	6 52.51	+22 57.3	2.259	3.205	5.8	21.6	1 22	6 52.17	+21 47.5	2.212	3.158	5.8	20.6
2 1	6 45.35	+23 4.3	2.337	3.222	9.0	21.8	2 1	6 44.78	+21 31.9	2.279	3.165	9.2	20.8
2 11	6 40.27	+23 8.1	2.440	3.240	11.8	22.0	2 11	6 39.49	+21 15.7	2.372	3.172	12.1	21.0
41159	1999 <i>VE</i> ₁₆₁		1 6.4 106°44	0°3/ 6.3 18			111491	2001 <i>YZ</i> ₄₆		1 6.4 115°80	1°0/ 6.6 18		
12 3	7 33.06	+22 47.1	2.115	2.930	12.8	20.0	12 3	7 37.15	+20 17.6	2.333	3.132	12.3	20.1
12 13	7 27.49	+22 59.9	2.041	2.937	9.6	19.8	12 13	7 30.09	+19 55.6	2.268	3.154	9.2	19.9
12 23	7 19.75	+23 15.3	1.993	2.945	5.8	19.6	12 23	7 21.12	+19 35.9	2.227	3.175	5.7	19.7
1 2	7 10.57	+23 30.6	1.972	2.952	1.8	19.3	1 2	7 10.97	+19 17.8	2.217	3.196	2.1	19.5
1 12	7 0.95	+23 43.6	1.981	2.960	2.4	19.4	1 12	7 0.60	+19 0.7	2.238	3.215	2.3	19.5
1 22	6 51.98	+23 52.7	2.020	2.967	6.3	19.7	1 22	6 50.97	+18 44.4	2.290	3.235	5.8	19.8
2 1	6 44.59	+23 57.6	2.086	2.974	9.9	19.9	2 1	6 42.91	+18 29.2	2.371	3.253	9.1	20.0
2 11	6 39.47	+23 58.7	2.177	2.981	12.9	20.1	2 11	6 36.98	+18 15.4	2.478	3.271	11.8	20.3
403667	2010 <i>TQ</i> ₁₇₅		1 6.4 146°53	2°2/ 7.2 18			129223	2005 <i>OQ</i> ₁₄		1 6.4 99°30	2°9/ 7.3 18		
12 3	7 34.27	+14 4.3	2.270	3.063	12.8	22.0	12 3	7 38.54	+13 39.0	1.572	2.378	16.9	20.3
12 13	7 28.16	+14 17.5	2.195	3.075	9.8	21.8	12 13	7 31.90	+13 52.3	1.517	2.404	12.9	20.1
12 23	7 20.08	+14 39.5	2.144	3.086	6.4	21.6	12 23	7 22.55	+14 18.4	1.484	2.428	8.3	19.9
1 2	7 10.66	+15 0.0	2.122	3.096	3.1	21.4	1 2	7 11.46	+14 54.8	1.478	2.452	4.0	19.7
1 12	7 0.84	+15 43.6	2.131	3.106	2.9	21.4	1 12	6 59.99	+15 38.2	1.500	2.475	3.8	19.7
1 22	6 51.56	+16 21.0	2.170	3.114	6.1	21.6	1 22	6 49.51	+16 24.4	1.551	2.498	7.8	20.0
2 1	6 43.71	+16 59.0	2.239	3.123	9.4	21.8	2 1	6 41.21	+17 10.2	1.629	2.520	11.9	20.3
2 11	6 37.93	+17 35.7	2.332	3.130	12.3	22.1	2 11	6 35.80	+17 53.3	1.729	2.541	15.4	20.6
227308	2005 <i>TT</i> ₁₂		1 6.4 116°33	2°3/ 7.1 18			339764	2005 <i>SU</i> ₉₆		1 6.4 8°56	7°4/ 8.1 18		
12 3	7 32.93	+15 17.6	2.020	2.825	13.7	21.0	12 3	7 30.90	+7 59.2	1.142	1.969	20.6	19.9
12 13	7 27.38	+15 17.1	1.948	2.835	10.4	20.8	12 13	7 27.18	+7 20.3	1.079	1.970	16.6	19.6
12 23	7 19.69	+15 25.0	1.899	2.844	6.8	20.6	12 23	7 20.18	+7 2.7	1.034	1.971	12.1	19.4
1 2	7 10.55	+15 40.2	1.878	2.853	3.2	20.4	1 2	7 10.83	+7 9.6	1.011	1.973	8.3	19.2
1 12	7 0.99	+16 0.9	1.887	2.862	3.1	20.4	1 12	7 0.69	+7 40.7	1.012	1.976	7.8	19.2
1 22	6 52.06	+16 24.9	1.925	2.871	6.6	20.6	1 22	6 51.48	+8 32.0	1.036	1.981	11.1	19.4
2 1	6 44.70	+16 50.5	1.991	2.879	10.2	20.8	2 1	6 44.71	+9 36.8	1.083	1.986	15.5	19.6
2 11	6 39.60	+17 16.1	2.080	2.888	13.3	21.1	2 11	6 41.36	+10 47.8	1.149	1.991	19.6	19.9
465245	2007 <i>RX</i> ₂₉₃		1 6.4 192°62	2°2/ 5.6 16			146473	2001 <i>RD</i> ₈₁		1 6.4 207°90	0°7/ 6.5 18		
12 3	7 32.94	+29 25.1	2.842	3.647	10.1	22.3	12 3	7 36.82	+22 6.4	2.065	2.873	13.3	20.1
12 13	7 27.08	+29 55.4	2.756	3.645	7.7	22.2	12 13	7 30.37	+21 40.0	1.978	2.870	10.0	19.9
12 23	7 19.39	+30 24.1	2.697	3.643	4.9	22.0	12 23	7 21.57	+21 14.3	1.915	2.865	6.2	19.7
1 2	7 10.46	+30 48.0	2.667	3.640	2.5	21.8	1 2	7 11.19	+20 48.3	1.881	2.861	2.1	19.4
1 12	7 1.09	+31 4.7	2.668	3.637	3.1	21.8	1 12	7 0.29	+20 21.5	1.878	2.856	2.5	19.4
1 22	6 52.15	+31 12.8	2.699	3.633	5.7	22.0	1 22	6 50.05	+19 54.1	1.905	2.851	6.6	19.7
2 1	6 44.44	+31 12.4	2.760	3.629	8.4	22.2	2 1	6 41.50	+19 27.1	1.959	2.845	10.5	19.9
2 11	6 38.59	+31 4.9	2.846	3.624	10.8	22.3	2 11	6 35.38	+19 1.6	2.038	2.839	13.8	20.1
69490	1997 <i>AE</i> ₅		1 6.4 81°43	3°8/ 6.2 18			63654	2001 <i>QD</i> ₁₁₃		1 6.4 306°86	9°6/ 4.6 18		
12 3	7 42.49	+32 52.9	1.593	2.412	16.1	18.3	12 3	7 44.53	+50 30.0	2.139	2.906	14.3	18.3
12 13	7 35.08	+32 51.9	1.534	2.428	12.3	18.1	12 13	7 37.14	+51 12.3	2.055	2.889	12.3	18.1
12 23	7 24.54	+32 43.0	1.497	2.444	8.0	17.9	12 23	7 26.17	+51 37.6	1.992	2.871	10.6	18.0
1 2	7 12.05	+32 21.1	1.487	2.460	4.3	17.7	1 2	7 12.69	+51 37.4	1.953	2.853	9.6	17.9
1 12	6 59.25	+31 44.3	1.506	2.476	4.8	17.8	1 12	6 58.46	+51 6.4	1.941	2.836	10.0	17.8
1 22	6 47.81	+30 54.2	1.553	2.492	8.6	18.0	1 22	6 45.39	+50 4.6	1.955	2.819	11.5	17.9
2 1	6 38.99	+29 55.3	1.626	2.507	12.5	18.3	2 1	6 35.08	+48 37.3	1.993	2.802	13.7	18.0
2 11	6 33.53	+28 53.1	1.721	2.523	15.9	18.6	2 11	6 28.47	+46 52.9	2.052	2.785	15.9	18.1
294130	2007 <i>TU</i> ₂₇₂		1 6.4 43°79	3°4/ 5.5 18			289945	2005 <i>NQ</i> ₄₆		1 6.4 150°56	2°8/ 7.3 18		
12 3	7 35.56	+27 13.5	1.403	2.240	16.9	19.9	12 3	7 33.29	+13 33.5	2.112	2.909	13.4	21.7
12 13	7 30.46	+28 14.1	1.344	2.250	12.7	19.7	12 13	7 27.60	+13 31.4	2.035	2.916	10.3	21.5
12 23	7 22.07	+29 16.5	1.306	2.260	8.0	19.4	12 23	7 19.83	+13 38.4	1.982	2.923	6.9	21.3
1 2	7 11.38	+30 13.1	1.294	2.271	3.9	19.2	1 2	7 10.64	+13 54.1	1.957	2.928	3.6	21.1
1 12	6 59.99	+30 57.0	1.309	2.282	4.9	19.3	1 12	7 1.01	+14 16.8	1.961	2.934	3.4	21.1
1 22	6 49.62	+31 24.7	1.351	2.293	9.3	19.6	1 22	6 51.93	+14 44.3	1.995	2.939	6.6	21.3
2 1	6 41.76	+31 36.6	1.417	2.305	13.6	19.9	2 1	6 44.35	+15 14.7	2.057	2.943	10.0	21.6
2 11	6 37.33	+31 35.6	1.504	2.317	17.2	20.1	2 11	6 38.94	+15 45.9	2.144	2.948	13.1	21.8
491990	2013 <i>ED</i> ₆₆		1 6.4 297°76	3°7/ 6.9 17			88222	2001 <i>AY</i> ₅₁		1 6.4			

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
68517	2001 UC ₂₁₄		1 6.4 141°78	0°9/ 6.0 18			243059	2007 EN ₁₀₅		1 6.5 157°14	0°1/ 6.5 18		
12 3	7 31.74	+22 40.6	2.744	3.549	10.5	19.1	12 3	7 33.05	+21 4.0	2.078	2.892	13.0	21.3
12 13	7 26.18	+23 32.2	2.666	3.557	7.8	18.9	12 13	7 27.59	+21 18.7	1.999	2.895	9.8	21.1
12 23	7 18.86	+24 27.2	2.614	3.565	4.8	18.8	12 23	7 19.92	+21 37.5	1.945	2.897	6.0	20.8
1 2	7 10.34	+25 22.2	2.593	3.572	1.6	18.5	1 2	7 10.72	+21 58.2	1.918	2.899	1.9	20.6
1 12	7 1.38	+26 14.1	2.603	3.579	2.2	18.6	1 12	7 1.01	+22 18.2	1.922	2.900	2.3	20.6
1 22	6 52.82	+27 0.0	2.645	3.586	5.3	18.8	1 22	6 51.88	+22 35.5	1.954	2.902	6.4	20.9
2 1	6 45.43	+27 38.7	2.716	3.593	8.2	19.0	2 1	6 44.32	+22 49.2	2.015	2.903	10.1	21.1
2 11	6 39.82	+28 10.1	2.813	3.599	10.8	19.2	2 11	6 39.05	+22 59.2	2.099	2.905	13.3	21.3
35053	Rojuryij		1 6.4 36°05	1°6/ 6.8 18			234415	2001 RK ₅₉		1 6.5 122°55	7°0/ 4.3 18		
12 3	7 34.27	+18 53.4	1.140	1.985	19.4	17.8	12 3	7 39.03	+45 8.6	2.550	3.330	11.9	20.4
12 13	7 29.58	+18 47.2	1.091	2.001	14.6	17.5	12 13	7 32.17	+46 4.6	2.487	3.338	9.9	20.2
12 23	7 21.50	+18 50.3	1.062	2.018	9.1	17.3	12 23	7 22.74	+46 49.0	2.448	3.346	8.0	20.1
1 2	7 11.20	+19 0.4	1.056	2.036	3.4	17.0	1 2	7 11.59	+47 15.9	2.436	3.355	7.1	20.1
1 12	7 0.43	+19 14.2	1.076	2.055	3.6	17.1	1 12	6 59.95	+47 21.5	2.453	3.363	7.4	20.1
1 22	6 50.94	+19 29.2	1.120	2.074	9.1	17.4	1 22	6 49.12	+47 5.5	2.496	3.370	8.9	20.2
2 1	6 44.17	+19 43.7	1.188	2.094	14.0	17.8	2 1	6 40.23	+46 30.6	2.565	3.378	10.9	20.4
2 11	6 40.92	+19 56.6	1.275	2.115	18.2	18.1	2 11	6 34.04	+45 41.9	2.657	3.385	12.7	20.5
198917	2005 UG ₁₃₁		1 6.4 232°61	2°4/ 6.9 18			465269	2007 TA ₇₄		1 6.5 67°30	4°9/ 7.9 18		
12 3	7 36.17	+17 7.2	1.576	2.394	16.3	20.9	12 3	7 30.11	+7 59.3	2.204	2.988	13.4	21.2
12 13	7 30.56	+16 49.7	1.494	2.388	12.5	20.6	12 13	7 25.06	+7 29.2	2.137	3.002	10.6	21.0
12 23	7 22.04	+16 39.9	1.433	2.382	8.1	20.3	12 23	7 18.19	+7 11.1	2.093	3.016	7.7	20.9
1 2	7 11.42	+16 37.0	1.399	2.376	3.6	20.0	1 2	7 10.14	+7 5.9	2.076	3.031	5.4	20.7
1 12	7 0.03	+16 39.7	1.393	2.369	3.7	20.0	1 12	7 1.77	+7 13.6	2.088	3.045	5.2	20.7
1 22	6 49.34	+16 46.5	1.414	2.362	8.3	20.3	1 22	6 53.96	+7 32.5	2.128	3.059	7.2	20.9
2 1	6 40.69	+16 56.2	1.462	2.355	12.8	20.5	2 1	6 47.52	+8 0.3	2.196	3.073	9.9	21.1
2 11	6 35.04	+17 7.7	1.531	2.348	16.8	20.8	2 11	6 43.02	+8 33.9	2.288	3.088	12.5	21.3
174355	2002 TS ₂₇₆		1 6.4 90°38	1°2/ 6.2 18			382547	2001 UQ ₁₂₉		1 6.5 72°12	6°8/ 4.0 18		
12 3	7 37.27	+24 48.2	1.783	2.602	14.6	20.6	12 3	7 36.57	+41 40.2	2.309	3.106	12.4	20.3
12 13	7 30.87	+25 7.2	1.724	2.622	10.9	20.4	12 13	7 30.53	+42 49.4	2.246	3.113	10.1	20.2
12 23	7 21.91	+25 27.3	1.689	2.642	6.7	20.2	12 23	7 21.85	+43 49.1	2.206	3.120	8.0	20.1
1 2	7 11.29	+25 44.8	1.682	2.661	2.3	19.9	1 2	7 11.34	+44 32.8	2.194	3.127	6.8	20.0
1 12	7 0.31	+25 56.4	1.703	2.680	2.9	20.0	1 12	7 0.24	+44 55.9	2.210	3.134	7.3	20.0
1 22	6 50.26	+26 1.0	1.754	2.699	7.2	20.3	1 22	6 49.86	+44 57.2	2.253	3.141	9.1	20.2
2 1	6 42.25	+25 58.8	1.831	2.718	11.1	20.6	2 1	6 41.41	+44 38.9	2.321	3.148	11.4	20.3
2 11	6 37.00	+25 51.5	1.932	2.736	14.3	20.8	2 11	6 35.68	+44 5.7	2.411	3.155	13.5	20.5
201391	2002 VY ₂₄		1 6.4 117°29	2°6/ 5.8 18			419197	2009 UA ₆₆		1 6.5 14°50	2°8/ 5.6 18		
12 3	7 34.31	+30 29.9	2.352	3.164	11.8	20.2	12 3	7 34.00	+27 53.4	1.921	2.743	13.6	20.7
12 13	7 28.34	+30 45.5	2.278	3.170	8.9	20.0	12 13	7 28.66	+28 39.7	1.845	2.743	10.3	20.5
12 23	7 20.25	+30 57.8	2.229	3.176	5.7	19.8	12 23	7 20.75	+29 26.6	1.793	2.743	6.5	20.3
1 2	7 10.77	+31 3.3	2.208	3.182	3.0	19.6	1 2	7 11.02	+30 8.8	1.768	2.744	3.2	20.0
1 12	7 0.91	+30 59.9	2.218	3.188	3.5	19.7	1 12	7 0.64	+30 41.7	1.772	2.744	4.0	20.1
1 22	6 51.71	+30 46.9	2.257	3.194	6.4	19.9	1 22	6 50.90	+31 2.8	1.805	2.744	7.6	20.3
2 1	6 44.08	+30 25.6	2.324	3.199	9.5	20.1	2 1	6 42.97	+31 11.8	1.865	2.745	11.3	20.5
2 11	6 38.70	+29 58.3	2.415	3.205	12.2	20.3	2 11	6 37.70	+31 10.8	1.947	2.745	14.4	20.8
453858	2011 UU ₅₉		1 6.5 321°51	2°7/ 6.8 18			166069	2002 CJ ₇₉		1 6.5 263°81	1°1/ 6.2 18		
12 3	7 32.97	+17 34.9	1.419	2.250	17.1	21.1	12 3	7 36.16	+24 17.8	1.665	2.489	15.3	20.7
12 13	7 28.48	+17 7.0	1.337	2.238	13.1	20.8	12 13	7 30.69	+24 35.7	1.575	2.476	11.6	20.5
12 23	7 20.91	+16 46.3	1.275	2.227	8.5	20.6	12 23	7 22.24	+24 56.5	1.509	2.462	7.2	20.2
1 2	7 11.11	+16 32.6	1.239	2.216	3.8	20.2	1 2	7 11.56	+25 16.3	1.469	2.449	2.4	19.8
1 12	7 0.44	+16 25.5	1.229	2.206	4.0	20.2	1 12	6 59.96	+25 31.0	1.457	2.435	3.2	19.9
1 22	6 50.48	+16 23.8	1.246	2.196	8.8	20.5	1 22	6 48.97	+25 38.4	1.473	2.420	8.1	20.1
2 1	6 42.67	+16 26.7	1.286	2.187	13.7	20.7	2 1	6 40.00	+25 38.3	1.515	2.406	12.7	20.4
2 11	6 38.02	+16 32.8	1.348	2.179	17.9	21.0	2 11	6 34.08	+25 32.2	1.580	2.392	16.6	20.6
436035	2009 KJ ₂₂		1 6.5 157°80	1°9/ 6.9 15 C			401967	2002 TK ₁₃₅		1 6.5 69°34	0°8/ 6.2 16		
12 3	7 40.72	+16 37.4	2.161	2.949	13.5	24.8	12 3	7 37.75	+22 12.0	1.605	2.427	15.9	21.2
12 13	7 33.04	+16 33.7	2.083	2.963	10.2	24.6	12 13	7 31.35	+22 53.0	1.558	2.457	11.8	21.0
12 23	7 23.11	+16 36.1	2.032	2.975	6.5	24.4	12 23	7 22.25	+23 38.4	1.534	2.487	7.1	20.8
1 2	7 11.68	+16 43.3	2.009	2.985	2.8	24.2	1 2	7 11.43	+24 23.1	1.537	2.518	2.3	20.6
1 12	6 59.82	+16 53.6	2.018	2.994	2.9	24.2	1 12	7 0.30	+25 2.6	1.570	2.547	3.0	20.7
1 22	6 48.65	+17 5.6	2.059	3.002	6.5	24.5	1 22	6 50.24	+25 33.8	1.630	2.577	7.5	21.1
2 1	6 39.16	+17 18.4	2.129	3.008	10.1	24.7	2 1	6 42.40	+25 56.2	1.717	2.606	11.5	21.4
2 11	6 32.06	+17 31.1	2.224	3.013	13.2	24.9	2 11	6 37.48	+26 10.9	1.827	2.635	14.8	21.6
493502	2015 BT ₅₉		1 6.5 17°57	0°0/ 6.3 18			52192	5053 T ₋₂		1 6.5 225°88	0°5/ 6.6 18 R		
12 3	7 31.04	+21 25.6	1.972	2.793	13.4	21.4	12 3	7 35.70	+21 36.2	2.069	2.879	13.2	18.9
12 13	7 26.20	+21 42.1	1.896	2.795	10.0	21.2	12 13	7 29.66	+21 27.2	1.978	2.871	10.0	18.7
12 23	7 19.10	+22 3.1	1.845	2.798	6.1	20.9	12 23	7 21.25	+21 20.5	1.911	2.862	6.2	18.5
1 2	7 10.46	+22 25.8	1.820	2.801	1.9	20.7	1 2	7 11.18	+21 14.6	1.873	2.853	2.0	18.2
1 12	7 1.31	+22 47.6	1.825	2.804	2.4	20.7	1 12	7 0.50	+21 7.8	1.864	2.843	2.4	18.2
1 22	6 52.76	+23 6.4	1.858	2.807	6.6	21.0	1 22	6 50.37	+20 59.5	1.886	2.832	6.7	18.4
2 1	6 45.82	+23 21.2	1.919	2.811	10.3	21.2	2 1	6 41.86	+20 49.8	1.935	2.822	10.5	18.7
2 11	6 41.22	+23 31.8	2.003	2.815	13.6	21.4	2 11	6 35.77	+20 39.3	2.008	2.811	13.9	18.9
391083	2005 UE ₂₁₉		1 6.5 109°58	2°1/ 6.8 17			117916	4271 P-L		1 6.5 64°61	3°6/ 7.4 18		
12 3	7 38.54	+17 51.3	1.545	2.361	16.6	21.4	12 3	7 32.98	+12 51.5	1.736	2.544	15.4	19.6</

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
444393	2005 YC ₂₃₈		1 6.5 66°05	1.2/ 6.6	17		423055	2003 US ₃₁₇		1 6.5 62°82	0°9/ 6.2	18	
12 3	7 37.78	+20 46.8	1.354	2.185	17.8	21.0	12 3	7 33.16	+24 13.8	1.968	2.788	13.4	21.6
12 13	7 31.88	+20 25.6	1.294	2.197	13.4	20.7	12 13	7 27.75	+24 31.6	1.900	2.798	10.0	21.4
12 23	7 22.82	+20 9.0	1.256	2.209	8.3	20.5	12 23	7 20.04	+24 51.2	1.856	2.809	6.1	21.2
1 2	7 11.66	+19 55.4	1.242	2.222	2.9	20.2	1 2	7 10.80	+25 9.5	1.839	2.819	2.1	20.9
1 12	7 0.02	+19 43.3	1.255	2.234	3.3	20.3	1 12	7 1.13	+25 23.6	1.852	2.829	2.6	21.0
1 22	6 49.52	+19 32.0	1.296	2.247	8.5	20.6	1 22	6 52.16	+25 32.0	1.893	2.840	6.7	21.3
2 1	6 41.53	+19 21.9	1.361	2.259	13.2	20.9	2 1	6 44.92	+25 34.6	1.962	2.851	10.3	21.5
2 11	6 36.86	+19 13.2	1.447	2.272	17.2	21.2	2 11	6 40.10	+25 32.2	2.055	2.861	13.5	21.7
201770	2003 WL ₈₁		1 6.5 322°12	1°5/ 6.7	18		200195	1999 RC ₁₈₈		1 6.5 293°03	1°6/ 6.8	18	
12 3	7 32.21	+19 12.0	2.076	2.889	13.1	19.8	12 3	7 33.47	+18 10.6	1.558	2.383	16.1	20.5
12 13	7 26.94	+18 49.3	1.992	2.885	9.9	19.5	12 13	7 28.79	+18 11.5	1.466	2.366	12.3	20.2
12 23	7 19.51	+18 30.4	1.932	2.882	6.3	19.3	12 23	7 21.15	+18 20.8	1.397	2.349	7.9	19.9
1 2	7 10.62	+18 14.6	1.900	2.878	2.5	19.1	1 2	7 11.27	+18 37.0	1.353	2.332	3.0	19.6
1 12	7 1.24	+18 1.4	1.898	2.875	2.7	19.1	1 12	7 0.43	+18 57.3	1.337	2.315	3.2	19.6
1 22	6 52.43	+17 50.3	1.925	2.872	6.5	19.3	1 22	6 50.10	+19 19.2	1.347	2.298	8.3	19.8
2 1	6 45.16	+17 41.3	1.979	2.869	10.2	19.5	2 1	6 41.72	+19 40.8	1.383	2.282	13.1	20.1
2 11	6 40.11	+17 34.0	2.057	2.866	13.4	19.7	2 11	6 36.36	+20 0.8	1.441	2.265	17.3	20.3
250466	2004 BS ₁₃₀		1 6.5 168°59	1°7/ 6.2	18		234623	2002 AA ₁₇₃		1 6.5 260°00	3°3/ 6.1	18	
12 3	7 39.11	+28 10.0	2.093	2.902	13.1	20.9	12 3	7 40.68	+31 14.5	1.661	2.481	15.5	19.8
12 13	7 32.09	+28 4.1	2.014	2.905	9.9	20.7	12 13	7 34.15	+31 14.9	1.574	2.469	11.9	19.6
12 23	7 22.64	+27 55.1	1.959	2.908	6.2	20.5	12 23	7 24.37	+31 9.5	1.508	2.457	7.8	19.3
1 2	7 11.59	+27 40.0	1.933	2.911	2.5	20.2	1 2	7 12.25	+30 53.1	1.470	2.444	3.9	19.0
1 12	7 0.10	+27 17.3	1.937	2.913	3.0	20.3	1 12	6 59.31	+30 22.4	1.459	2.432	4.5	19.0
1 22	6 49.39	+26 47.1	1.972	2.915	6.8	20.5	1 22	6 47.23	+29 37.9	1.478	2.419	8.7	19.3
2 1	6 40.53	+26 11.3	2.035	2.916	10.4	20.7	2 1	6 37.53	+28 43.2	1.522	2.406	13.0	19.5
2 11	6 34.25	+25 32.7	2.123	2.916	13.5	20.9	2 11	6 31.16	+27 43.4	1.589	2.393	16.9	19.7
353786	2012 KZ ₄₅		1 6.5 129°80	0°3/ 6.5	18		6004	1988 XY ₁		1 6.5 346°52	0°9/ 6.3	18	
12 3	7 32.65	+22 1.8	2.460	3.268	11.5	20.5	12 3	7 36.26	+24 10.6	1.328	2.166	17.6	16.9
12 13	7 26.91	+21 50.4	2.382	3.274	8.6	20.3	12 13	7 31.18	+24 16.5	1.256	2.163	13.3	16.6
12 23	7 19.32	+21 40.6	2.329	3.279	5.3	20.1	12 23	7 22.68	+24 25.0	1.205	2.161	8.2	16.4
1 2	7 10.54	+21 31.2	2.305	3.285	1.7	19.9	1 2	7 11.73	+24 32.0	1.179	2.160	2.7	16.0
1 12	7 1.42	+21 21.1	2.312	3.291	2.0	19.9	1 12	6 59.96	+24 34.1	1.180	2.158	3.4	16.1
1 22	6 52.85	+21 9.9	2.350	3.296	5.5	20.2	1 22	6 49.15	+24 29.4	1.206	2.157	9.0	16.4
2 1	6 45.64	+20 57.8	2.416	3.301	8.8	20.4	2 1	6 40.90	+24 18.8	1.257	2.157	14.0	16.7
2 11	6 40.40	+20 45.3	2.507	3.306	11.5	20.6	2 11	6 36.18	+24 4.2	1.328	2.156	18.3	16.9
18510	Chasles		1 6.5 265°78	1°4/ 6.1	18		466432	2013 TX ₄₈		1 6.5 66°87	2°2/ 5.9	18	
12 3	7 34.18	+24 53.2	1.960	2.779	13.5	20.0	12 3	7 33.91	+27 42.5	2.047	2.866	13.0	21.6
12 13	7 28.83	+25 18.4	1.868	2.766	10.2	19.7	12 13	7 28.25	+28 9.7	1.984	2.881	9.7	21.4
12 23	7 20.92	+25 46.0	1.800	2.752	6.3	19.5	12 23	7 20.31	+28 35.9	1.945	2.896	6.1	21.2
1 2	7 11.14	+26 12.2	1.759	2.738	2.3	19.2	1 2	7 10.88	+28 57.4	1.935	2.911	2.7	21.0
1 12	7 0.59	+26 33.5	1.748	2.724	3.0	19.2	1 12	7 1.06	+29 10.9	1.953	2.927	3.3	21.1
1 22	6 50.54	+26 47.4	1.765	2.710	7.2	19.4	1 22	6 52.00	+29 15.3	2.001	2.942	6.8	21.4
2 1	6 42.17	+26 53.5	1.810	2.696	11.2	19.6	2 1	6 44.68	+29 11.1	2.076	2.957	10.2	21.6
2 11	6 36.38	+26 52.9	1.878	2.681	14.7	19.8	2 11	6 39.79	+29 0.1	2.174	2.973	13.1	21.8
203591	2002 CL ₂₇₇		1 6.5 315°68	1°2/ 6.7	18		226922	2004 TC ₂₃₉		1 6.5 67°00	0°5/ 6.6	18	
12 3	7 33.04	+19 28.3	1.368	2.204	17.3	20.8	12 3	7 32.87	+20 35.7	1.927	2.745	13.7	21.0
12 13	7 28.77	+19 26.5	1.285	2.190	13.2	20.5	12 13	7 27.55	+20 41.6	1.856	2.753	10.3	20.8
12 23	7 21.25	+19 32.4	1.222	2.177	8.3	20.2	12 23	7 19.93	+20 52.1	1.809	2.760	6.4	20.6
1 2	7 11.31	+19 44.1	1.184	2.164	3.0	19.8	1 2	7 10.78	+21 4.9	1.788	2.768	2.1	20.3
1 12	7 0.37	+19 58.7	1.173	2.152	3.3	19.8	1 12	7 1.17	+21 17.8	1.797	2.776	2.4	20.4
1 22	6 50.10	+20 13.6	1.187	2.140	8.9	20.1	1 22	6 52.24	+21 29.2	1.835	2.784	6.6	20.6
2 1	6 42.07	+20 27.4	1.225	2.128	14.0	20.4	2 1	6 45.01	+21 38.2	1.901	2.792	10.4	20.9
2 11	6 37.38	+20 39.4	1.284	2.117	18.4	20.6	2 11	6 40.18	+21 44.7	1.989	2.800	13.7	21.1
1407	Lindelöf		1 6.5 53°57	1°1/ 6.7	18		165882	2001 SC ₁₅₄		1 6.5 117°12	3°9/ 5.2	18	
12 3	7 36.73	+20 18.6	1.567	2.389	16.1	14.6	12 3	7 35.02	+35 6.5	2.695	3.496	10.7	20.3
12 13	7 30.48	+20 3.1	1.521	2.419	12.0	14.5	12 13	7 28.72	+35 44.1	2.630	3.511	8.3	20.2
12 23	7 21.64	+19 52.5	1.497	2.449	7.4	14.3	12 23	7 20.46	+36 16.3	2.590	3.525	5.8	20.1
1 2	7 11.24	+19 44.9	1.500	2.479	2.6	14.0	1 2	7 10.91	+36 38.9	2.579	3.540	4.0	20.0
1 12	7 0.66	+19 39.1	1.531	2.510	2.9	14.1	1 12	7 1.02	+36 49.4	2.599	3.553	4.5	20.0
1 22	6 51.22	+19 34.0	1.591	2.540	7.4	14.5	1 22	6 51.75	+36 46.8	2.648	3.567	6.6	20.2
2 1	6 43.98	+19 29.5	1.676	2.571	11.4	14.8	2 1	6 43.96	+36 32.5	2.725	3.580	9.0	20.4
2 11	6 39.55	+19 25.6	1.785	2.601	14.8	15.1	2 11	6 38.28	+36 9.2	2.827	3.593	11.2	20.5
393722	2004 VL ₈₃		1 6.5 129°71	0°5/ 6.6	18		276200	2002 QZ ₅₂		1 6.5 214°45	2°5/ 7.4	18	
12 3	7 37.69	+20 12.7	1.859	2.670	14.5	22.1	12 3	7 30.40	+13 29.4	2.307	3.106	12.4	21.0
12 13	7 31.15	+20 24.2	1.792	2.684	10.9	21.9	12 13	7 25.43	+13 37.5	2.221	3.103	9.6	20.8
12 23	7 22.12	+20 40.7	1.748	2.698	6.7	21.7	12 23	7 18.55	+13 54.7	2.160	3.101	6.3	20.6
1 2	7 11.45	+20 59.5	1.732	2.712	2.2	21.4	1 2	7 10.35	+14 20.3	2.126	3.098	3.3	20.4
1 12	7 0.33	+21 17.9	1.746	2.725	2.5	21.5	1 12	7 1.67	+14 52.5	2.122	3.096	3.1	20.4
1 22	6 50.00	+21 33.8	1.790	2.737	6.9	21.8	1 22	6 53.40	+15 29.0	2.148	3.093	6.1	20.6
2 1	6 41.57	+21 46.5	1.861	2.748	10.9	22.0	2 1	6 46.41	+16 7.5	2.202	3.090	9.4	20.8
2 11	6 35.77	+21 56.0	1.955	2.759	14.2	22.3	2 11	6 41.37	+16 45.9	2.281	3.087	12.3	21.0
464368	2016 AO ₁₅₉		1 6.5 0°76	8°9/ 8.0	18		386906	2011 HY ₅₁		1 6.5 101°16	0°6/ 6.2	18	
12 3	7 30.90	+ 3 36.6	1.562	2.351	17.7	21.4	12 3	7 32.30	+21 46.0	2.589	3.394	11.0	

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
64459	2001 VG ₃₅		1 6.5 185°32	3.4/ 5.5	18		244653	2003 GY ₃₈		1 6.5 24°14	3.4/ 5.6	18	
12 3	7 38.47	+28 27.3	1.744	2.564	14.9	19.5	12 3	7 34.99	+26 13.9	1.211	2.057	18.4	20.2
12 13	7 32.34	+29 22.0	1.668	2.565	11.3	19.3	12 13	7 30.57	+27 17.4	1.151	2.062	13.9	20.0
12 23	7 23.21	+30 17.2	1.615	2.564	7.3	19.0	12 23	7 22.48	+28 25.1	1.112	2.068	8.7	19.7
1 2	7 11.90	+31 6.4	1.589	2.564	3.8	18.8	1 2	7 11.73	+29 28.4	1.097	2.074	4.0	19.5
1 12	6 59.78	+31 43.7	1.593	2.563	4.6	18.9	1 12	7 0.11	+30 19.1	1.108	2.081	5.1	19.5
1 22	6 48.39	+32 6.0	1.624	2.561	8.5	19.1	1 22	6 49.58	+30 52.6	1.143	2.089	10.1	19.8
2 1	6 39.12	+32 13.6	1.682	2.559	12.4	19.3	2 1	6 41.84	+31 8.6	1.202	2.098	14.9	20.1
2 11	6 32.93	+32 9.4	1.762	2.556	15.9	19.5	2 11	6 37.90	+31 10.5	1.281	2.107	18.9	20.4
85505	1997 UU ₃		1 6.5 107°53	11.8/ 9.6	18		459228	2012 EP ₄		1 6.5 324°62	8.2/ 8.9	18	
12 3	7 37.80	- 8 0.4	1.909	2.613	17.8	19.4	12 3	7 29.58	+ 2 26.3	1.614	2.399	17.4	21.3
12 13	7 30.93	- 9 40.0	1.859	2.638	15.6	19.3	12 13	7 25.57	+ 1 56.3	1.531	2.389	14.5	21.0
12 23	7 21.85	-10 55.4	1.829	2.663	13.6	19.2	12 23	7 19.02	+ 1 47.3	1.467	2.378	11.4	20.8
1 2	7 11.36	-11 40.8	1.823	2.687	12.2	19.2	1 2	7 10.61	+ 2 2.9	1.427	2.369	8.8	20.6
1 12	7 0.56	-11 53.5	1.842	2.710	11.9	19.2	1 12	7 1.44	+ 2 43.6	1.413	2.360	8.3	20.6
1 22	6 50.55	-11 35.3	1.886	2.733	12.7	19.3	1 22	6 52.77	+ 3 46.5	1.424	2.351	10.4	20.7
2 1	6 42.29	-10 50.8	1.953	2.754	14.2	19.5	2 1	6 45.79	+ 5 5.8	1.460	2.343	13.6	20.9
2 11	6 36.44	- 9 47.5	2.041	2.775	15.9	19.6	2 11	6 41.41	+ 6 34.5	1.517	2.335	16.9	21.0
285650	2000 SS ₃₄		1 6.5 35°29	4.6/ 7.6	17		186190	2001 VX ₇₅		1 6.5 59°31	1.5/ 6.8	18	
12 3	7 32.83	+12 28.4	1.108	1.945	20.4	19.8	12 3	7 33.51	+18 20.5	1.718	2.537	15.1	20.9
12 13	7 28.49	+12 17.2	1.063	1.964	15.7	19.6	12 13	7 28.24	+18 18.4	1.650	2.546	11.4	20.7
12 23	7 20.87	+12 23.9	1.036	1.984	10.5	19.3	12 23	7 20.46	+18 23.0	1.605	2.555	7.2	20.5
1 2	7 11.12	+12 47.9	1.032	2.005	5.7	19.1	1 2	7 11.00	+18 32.9	1.586	2.565	2.8	20.2
1 12	7 0.91	+13 25.8	1.053	2.027	5.3	19.2	1 12	7 1.06	+18 45.9	1.596	2.574	2.9	20.3
1 22	6 51.95	+14 12.5	1.098	2.049	9.6	19.5	1 22	6 51.88	+19 0.1	1.634	2.584	7.2	20.6
2 1	6 45.60	+15 2.9	1.166	2.073	14.2	19.8	2 1	6 44.58	+19 14.1	1.699	2.593	11.3	20.8
2 11	6 42.65	+15 52.5	1.255	2.097	18.2	20.1	2 11	6 39.91	+19 27.2	1.786	2.603	14.7	21.1
415803	2001 MY ₂₅		1 6.5 148°68	5.6/ 8.1	18		334193	2001 SD ₂₀₆		1 6.5 33°85	3.0/ 5.7	18	
12 3	7 33.94	+ 4 21.3	2.576	3.328	12.5	22.9	12 3	7 33.21	+30 32.7	2.101	2.920	12.7	20.5
12 13	7 27.68	+ 3 40.7	2.501	3.341	10.2	22.8	12 13	7 27.84	+30 59.5	2.030	2.925	9.6	20.3
12 23	7 19.74	+ 3 11.9	2.450	3.354	7.8	22.6	12 23	7 20.15	+31 23.3	1.982	2.930	6.3	20.1
1 2	7 10.70	+ 2 56.8	2.428	3.365	6.0	22.5	1 2	7 10.90	+31 40.1	1.963	2.936	3.4	19.9
1 12	7 1.35	+ 2 55.7	2.435	3.375	5.8	22.5	1 12	7 1.18	+31 46.7	1.972	2.941	4.0	20.0
1 22	6 52.49	+ 3 7.7	2.473	3.385	7.3	22.6	1 22	6 52.16	+31 42.2	2.011	2.947	7.1	20.2
2 1	6 44.86	+ 3 30.7	2.538	3.394	9.5	22.8	2 1	6 44.85	+31 27.5	2.076	2.954	10.4	20.4
2 11	6 39.01	+ 4 1.9	2.628	3.402	11.8	23.0	2 11	6 39.98	+31 5.1	2.164	2.960	13.2	20.6
378515	2007 UU ₅₆		1 6.5 353°45	7.2/ 8.1	18		427509	2002 DA ₁₉		1 6.5 287°55	22.2/ 6.1	16	
12 3	7 29.22	+ 2 26.8	2.208	2.972	14.0	20.2	12 3	8 2.33	+60 38.5	0.926	1.714	27.2	20.0
12 13	7 24.55	+ 1 29.0	2.128	2.971	11.6	20.0	12 13	7 56.50	+62 47.0	0.895	1.719	25.1	19.9
12 23	7 18.00	+ 0 45.3	2.071	2.969	9.3	19.9	12 23	7 40.82	+64 15.8	0.876	1.725	23.3	19.8
1 2	7 10.19	+ 0 18.9	2.040	2.969	7.6	19.8	1 2	7 17.70	+64 40.0	0.871	1.732	22.3	19.8
1 12	7 1.95	+ 0 11.2	2.036	2.968	7.4	19.7	1 12	6 53.38	+63 45.6	0.882	1.739	22.4	19.8
1 22	6 54.15	+ 0 21.6	2.060	2.967	8.8	19.8	1 22	6 34.36	+61 39.3	0.909	1.748	23.5	19.9
2 1	6 47.64	+ 0 47.7	2.109	2.967	11.1	20.0	2 1	6 23.92	+58 42.6	0.951	1.757	25.3	20.1
2 11	6 43.04	+ 1 25.5	2.181	2.967	13.5	20.1	2 11	6 21.95	+55 19.9	1.007	1.767	27.3	20.3
268647	2006 DS ₁₄₆		1 6.5 287°87	4.6/ 5.4	18		275093	2009 VG ₂₀		1 6.5 126°41	0.5/ 6.6	18	
12 3	7 36.24	+35 1.3	2.060	2.873	13.2	20.8	12 3	7 33.48	+20 58.4	2.027	2.841	13.3	20.6
12 13	7 30.33	+35 33.0	1.981	2.869	10.2	20.6	12 13	7 27.96	+20 55.4	1.949	2.844	10.0	20.4
12 23	7 21.79	+35 58.5	1.926	2.865	7.1	20.4	12 23	7 20.20	+20 55.9	1.895	2.846	6.2	20.1
1 2	7 11.42	+36 12.4	1.898	2.862	4.8	20.3	1 2	7 10.92	+20 58.1	1.869	2.849	2.1	19.9
1 12	7 0.46	+36 11.0	1.899	2.858	5.4	20.3	1 12	7 1.16	+21 0.4	1.872	2.851	2.4	19.9
1 22	6 50.22	+35 53.5	1.928	2.854	8.1	20.5	1 22	6 52.03	+21 1.6	1.905	2.854	6.5	20.2
2 1	6 41.91	+35 21.9	1.984	2.851	11.3	20.7	2 1	6 44.52	+21 1.3	1.966	2.856	10.2	20.4
2 11	6 36.32	+34 40.3	2.063	2.847	14.2	20.8	2 11	6 39.35	+20 59.7	2.050	2.858	13.4	20.6
359490	2010 OK ₇₂		1 6.5 83°59	6.0/ 4.9	17		151667	2002 YO ₂₃		1 6.5 341°32	0.4/ 6.6	18	
12 3	7 42.35	+36 40.8	1.872	2.679	14.5	20.5	12 3	7 32.58	+20 11.4	1.620	2.448	15.5	20.2
12 13	7 34.91	+37 53.7	1.828	2.709	11.3	20.4	12 13	7 27.90	+20 29.0	1.542	2.444	11.7	20.0
12 23	7 24.52	+38 57.8	1.808	2.740	8.2	20.2	12 23	7 20.47	+20 53.6	1.487	2.441	7.2	19.7
1 2	7 12.24	+39 45.5	1.816	2.769	6.2	20.2	1 2	7 11.06	+21 22.3	1.457	2.438	2.4	19.4
1 12	6 59.56	+40 11.7	1.852	2.798	6.7	20.3	1 12	7 0.94	+21 51.5	1.456	2.435	2.8	19.4
1 22	6 48.02	+40 15.7	1.916	2.827	9.2	20.5	1 22	6 51.48	+22 18.2	1.482	2.432	7.7	19.7
2 1	6 38.89	+40 0.7	2.007	2.855	12.0	20.7	2 1	6 43.96	+22 40.7	1.533	2.430	12.1	20.0
2 11	6 32.91	+39 32.1	2.119	2.882	14.5	20.9	2 11	6 39.27	+22 58.5	1.607	2.429	15.9	20.2
411321	2010 UZ ₁₁		1 6.5 78°05	6.0/ 4.9	18		147570	2004 FK ₅₃		1 6.5 162°70	1.4/ 6.9	18	
12 3	7 38.53	+35 41.8	1.737	2.555	15.0	21.1	12 3	7 34.55	+17 52.3	2.192	2.995	12.8	21.2
12 13	7 32.45	+36 43.5	1.675	2.564	11.7	20.9	12 13	7 28.57	+17 53.2	2.113	3.000	9.7	21.0
12 23	7 23.25	+37 38.4	1.637	2.574	8.4	20.7	12 23	7 20.50	+17 59.9	2.058	3.005	6.1	20.8
1 2	7 11.90	+38 18.8	1.624	2.583	6.1	20.6	1 2	7 11.00	+18 10.8	2.031	3.009	2.4	20.6
1 12	6 59.91	+38 38.9	1.640	2.593	6.8	20.6	1 12	7 1.06	+18 24.3	2.035	3.013	2.5	20.6
1 22	6 48.91	+38 37.4	1.682	2.602	9.6	20.8	1 22	6 51.68	+18 38.7	2.070	3.016	6.2	20.9
2 1	6 40.27	+38 17.1	1.750	2.611	12.8	21.1	2 1	6 43.79	+18 53.0	2.132	3.019	9.7	21.1
2 11	6 34.88	+37 43.1	1.839	2.621	15.8	21.3	2 11	6 38.08	+19 6.4	2.219	3.021	12.8	21.3
163880	2003 SK ₁₆₉		1 6.5 39°80	1.7/ 6.9	17		522204	2016 AS ₂₆₂		1 6.5 347°96	0.4/ 6.4	18	
12 3	7 33.82	+17 5.9	1.228	2.066	18.8	19.5	12 3	7 33.68	+24 8.1	1			

EPHEMERIDES

1 6.5

1 6.5

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
306534	1999 <i>XS</i> ₂₀₇		1 6.5 62°96	5°5/ 4.9 18			36383	2000 <i>OW</i> ₂₈		1 6.5 75°91	4°2/ 7.6 18		
12 3	7 40.47	+31 52.0	1.468	2.295	16.8	18.4	12 3	7 35.42	+11 42.8	1.464	2.276	17.6	18.6
12 13	7 34.03	+33 19.6	1.426	2.323	12.8	18.3	12 13	7 29.88	+11 37.8	1.406	2.293	13.7	18.4
12 23	7 24.24	+34 42.6	1.406	2.351	8.6	18.1	12 23	7 21.57	+11 47.8	1.369	2.311	9.2	18.2
1 2	7 12.21	+35 51.5	1.413	2.379	5.7	18.0	1 2	7 11.41	+12 12.2	1.358	2.328	5.2	18.0
1 12	6 59.69	+36 39.0	1.448	2.407	6.6	18.1	1 12	7 0.78	+12 48.5	1.373	2.345	4.8	18.0
1 22	6 48.45	+37 3.0	1.509	2.435	9.9	18.4	1 22	6 51.10	+13 32.6	1.416	2.362	8.5	18.3
2 1	6 39.93	+37 6.0	1.595	2.463	13.5	18.6	2 1	6 43.56	+14 20.6	1.484	2.379	12.6	18.6
2 11	6 34.94	+36 53.5	1.701	2.491	16.5	18.9	2 11	6 38.95	+15 8.7	1.574	2.396	16.2	18.9
132180	2002 <i>ET</i> ₂₇		1 6.5 245°73	0°5/ 6.4 18			413489	2005 <i>NO</i> ₄₀		1 6.5 156°62	0°5/ 6.7 18		
12 3	7 35.91	+22 20.5	1.790	2.609	14.6	20.5	12 3	7 34.69	+19 43.0	2.228	3.033	12.6	22.2
12 13	7 30.34	+22 42.8	1.699	2.597	11.1	20.2	12 13	7 28.69	+19 58.9	2.150	3.040	9.4	22.0
12 23	7 21.99	+23 10.0	1.632	2.585	6.8	19.9	12 23	7 20.61	+20 19.7	2.097	3.047	5.8	21.8
1 2	7 11.58	+23 38.4	1.592	2.572	2.2	19.6	1 2	7 11.10	+20 43.1	2.073	3.053	2.0	21.5
1 12	7 0.32	+24 4.4	1.581	2.559	2.8	19.6	1 12	7 1.13	+21 6.7	2.079	3.058	2.2	21.6
1 22	6 49.59	+24 25.1	1.599	2.546	7.6	19.9	1 22	6 51.72	+21 28.5	2.116	3.063	6.1	21.8
2 1	6 40.70	+24 39.4	1.643	2.532	11.9	20.1	2 1	6 43.79	+21 47.3	2.181	3.067	9.6	22.1
2 11	6 34.60	+24 48.0	1.710	2.518	15.7	20.3	2 11	6 38.04	+22 3.0	2.271	3.071	12.6	22.3
8059	Deliyannis		1 6.5 203°26	5°2/ 4.5 18			399477	2002 <i>RF</i> ₂₆₆		1 6.5 53°20	2°2/ 7.2 16		
12 3	7 37.94	+35 14.9	2.180	2.986	12.8	16.7	12 3	7 34.32	+15 7.5	1.436	2.259	17.3	21.3
12 13	7 31.69	+36 25.6	2.100	2.983	10.0	16.5	12 13	7 29.12	+15 29.1	1.383	2.280	13.1	21.1
12 23	7 22.73	+37 32.2	2.045	2.979	7.2	16.4	12 23	7 21.11	+16 3.5	1.351	2.301	8.4	20.8
1 2	7 11.80	+38 27.7	2.018	2.975	5.3	16.2	1 2	7 11.27	+16 47.7	1.345	2.322	3.6	20.6
1 12	7 0.07	+39 6.6	2.021	2.970	6.0	16.3	1 12	7 0.98	+17 37.4	1.367	2.344	3.4	20.7
1 22	6 48.90	+39 26.3	2.052	2.965	8.6	16.4	1 22	6 51.68	+18 28.0	1.415	2.366	7.9	21.0
2 1	6 39.55	+39 27.7	2.110	2.959	11.5	16.6	2 1	6 44.58	+19 16.1	1.489	2.389	12.3	21.3
2 11	6 32.92	+39 14.5	2.191	2.953	14.1	16.8	2 11	6 40.43	+19 59.3	1.586	2.411	15.9	21.6
240122	2002 <i>ED</i> ₁₅₆		1 6.5 84°73	2°5/ 7.1 18			216737	2005 <i>JK</i> ₈₃		1 6.5 6°43	0°1/ 6.5 18		
12 3	7 35.82	+15 23.0	1.555	2.371	16.6	20.6	12 3	7 32.90	+20 40.9	1.422	2.258	16.8	20.1
12 13	7 30.09	+15 25.4	1.495	2.387	12.6	20.4	12 13	7 28.44	+20 59.8	1.352	2.258	12.7	19.9
12 23	7 21.65	+15 38.6	1.456	2.403	8.1	20.2	12 23	7 20.95	+21 26.0	1.303	2.258	7.8	19.6
1 2	7 11.40	+16 1.0	1.443	2.419	3.7	20.0	1 2	7 11.29	+21 56.2	1.279	2.260	2.5	19.3
1 12	7 0.69	+16 29.6	1.459	2.435	3.6	20.0	1 12	7 0.89	+22 26.1	1.282	2.261	3.0	19.3
1 22	6 50.88	+17 1.5	1.502	2.451	7.8	20.3	1 22	6 51.32	+22 52.4	1.312	2.264	8.3	19.6
2 1	6 43.16	+17 34.0	1.571	2.466	12.0	20.6	2 1	6 43.95	+23 13.4	1.366	2.267	13.0	19.9
2 11	6 38.31	+18 5.1	1.663	2.481	15.6	20.8	2 11	6 39.74	+23 29.0	1.441	2.270	17.0	20.2
228742	2002 <i>TA</i> ₂₈₇		1 6.5 68°53	1°0/ 6.6 17			243061	2007 <i>ET</i> ₁₇₂		1 6.5 228°27	2°4/ 5.9 18		
12 3	7 38.01	+21 2.2	1.320	2.152	18.0	20.2	12 3	7 34.58	+27 54.2	1.999	2.818	13.3	21.1
12 13	7 32.25	+20 45.9	1.258	2.161	13.6	20.0	12 13	7 29.04	+28 22.3	1.920	2.817	10.0	20.9
12 23	7 23.20	+20 34.4	1.216	2.170	8.5	19.7	12 23	7 21.02	+28 49.8	1.865	2.816	6.3	20.7
1 2	7 11.92	+20 25.5	1.199	2.179	2.9	19.4	1 2	7 11.27	+29 12.7	1.838	2.814	2.9	20.5
1 12	7 0.06	+20 17.4	1.209	2.188	3.3	19.4	1 12	7 0.93	+29 27.2	1.839	2.813	3.5	20.5
1 22	6 49.33	+20 9.1	1.246	2.198	8.7	19.8	1 22	6 51.22	+29 31.8	1.870	2.811	7.2	20.7
2 1	6 41.16	+20 1.0	1.308	2.207	13.6	20.1	2 1	6 43.27	+29 26.8	1.928	2.810	10.8	20.9
2 11	6 36.42	+19 53.3	1.390	2.217	17.7	20.4	2 11	6 37.88	+29 14.3	2.009	2.808	14.0	21.2
260889	2005 <i>QC</i> ₁₄₇		1 6.5 99°98	0°2/ 6.4 18			386817	2010 <i>GN</i> ₂₄		1 6.5 301°03	4°3/ 5.3 18		
12 3	7 35.42	+21 11.4	1.985	2.797	13.6	21.0	12 3	7 34.78	+34 52.6	2.290	3.099	12.1	21.0
12 13	7 29.37	+21 44.8	1.922	2.816	10.2	20.8	12 13	7 29.03	+35 28.6	2.213	3.099	9.4	20.8
12 23	7 21.04	+22 22.8	1.884	2.835	6.2	20.6	12 23	7 20.94	+35 59.1	2.160	3.098	6.6	20.6
1 2	7 11.20	+23 1.9	1.874	2.854	1.9	20.4	1 2	7 11.24	+36 19.4	2.136	3.098	4.5	20.5
1 12	7 0.95	+23 38.6	1.894	2.872	2.4	20.4	1 12	7 1.01	+36 25.9	2.140	3.097	5.0	20.5
1 22	6 51.43	+24 10.1	1.943	2.890	6.5	20.7	1 22	6 51.43	+36 17.7	2.173	3.097	7.5	20.7
2 1	6 43.64	+24 35.4	2.021	2.907	10.2	21.0	2 1	6 43.53	+35 56.3	2.234	3.096	10.4	20.9
2 11	6 38.28	+24 54.6	2.122	2.924	13.3	21.2	2 11	6 38.07	+35 24.9	2.317	3.096	13.0	21.0
156319	2001 <i>XR</i> ₇₆		1 6.5 107°40	1°7/ 6.9 17			228280	1999 <i>XK</i> ₄₈		1 6.5 35°85	3°3/ 5.5 18		
12 3	7 38.03	+17 35.7	1.650	2.463	15.9	21.1	12 3	7 33.65	+27 9.9	1.580	2.413	15.5	19.4
12 13	7 31.60	+17 38.7	1.589	2.481	12.0	20.9	12 13	7 28.77	+28 16.8	1.524	2.429	11.6	19.2
12 23	7 22.51	+17 49.7	1.551	2.499	7.6	20.7	12 23	7 21.01	+29 25.2	1.492	2.445	7.4	18.9
1 2	7 11.67	+18 6.4	1.539	2.517	3.0	20.4	1 2	7 11.29	+30 27.9	1.486	2.462	3.7	18.8
1 12	7 0.41	+18 26.2	1.557	2.534	3.0	20.5	1 12	7 1.00	+31 18.9	1.508	2.479	4.6	18.9
1 22	6 50.08	+18 46.7	1.603	2.551	7.5	20.8	1 22	6 51.61	+31 54.6	1.557	2.497	8.5	19.1
2 1	6 41.82	+19 6.5	1.675	2.567	11.6	21.1	2 1	6 44.41	+32 14.9	1.632	2.516	12.3	19.4
2 11	6 36.40	+19 24.6	1.771	2.582	15.1	21.3	2 11	6 40.21	+32 22.3	1.728	2.535	15.6	19.7
6160	Minakata		1 6.5 149°76	1°7/ 6.9 18			429361	2010 <i>GF</i> ₁₂₁		1 6.5 283°56	4°6/ 4.9 17		
12 3	7 37.92	+17 50.1	1.862	2.668	14.6	18.1	12 3	7 34.05	+34 40.8	2.316	3.126	12.0	21.4
12 13	7 31.36	+17 42.1	1.789	2.678	11.1	17.9	12 13	7 28.66	+35 31.6	2.226	3.112	9.3	21.2
12 23	7 22.32	+17 40.3	1.739	2.687	7.0	17.7	12 23	7 20.85	+36 18.6	2.160	3.097	6.6	21.0
1 2	7 11.63	+17 43.4	1.717	2.695	2.9	17.4	1 2	7 11.26	+36 56.3	2.122	3.083	4.7	20.9
1 12	7 0.44	+17 49.7	1.725	2.702	2.9	17.4	1 12	7 0.95	+37 20.2	2.114	3.068	5.3	20.9
1 22	6 50.00	+17 57.6	1.763	2.709	7.1	17.7	1 22	6 51.09	+37 28.3	2.134	3.054	7.9	21.0
2 1	6 41.42	+18 6.3	1.828	2.715	11.0	18.0	2 1	6 42.82	+37 21.2	2.180	3.039	10.8	21.2
2 11	6 35.43	+18 15.2	1.916	2.721	14.4	18.2	2 11	6 36.98	+37 1.9	2.250	3.024	13.5	21.3
304791	2007 <i>NN</i> ₇		1 6.5 118°64	4°2/ 5.2 18			86010	1999 <i>JS</i> ₉₄		1 6.5 178°97	4°3/ 8.2 18		
12 3	7 41.18	+31 10.4	1.934	2.743	14.0	21.0							

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
466502	2013 Y _Y ₅₃		1 6.5 141°43	1.8°/ 6.9	18		453276	2008 TR ₂₀		1 6.5 101°21	3.8°/ 7.4	15	
12 3	7 32.26	+17 47.4	2.545	3.344	11.3	20.6	12 3	7 37.06	+13 19.8	1.579	2.387	16.7	22.2
12 13	7 26.59	+17 19.9	2.464	3.349	8.6	20.5	12 13	7 30.96	+12 59.9	1.517	2.403	12.9	22.0
12 23	7 19.19	+16 56.1	2.408	3.353	5.5	20.3	12 23	7 22.19	+12 51.5	1.478	2.420	8.6	21.8
1 2	7 10.65	+16 35.7	2.382	3.357	2.5	20.1	1 2	7 11.65	+12 54.5	1.464	2.435	4.7	21.6
1 12	7 1.79	+16 18.6	2.386	3.361	2.5	20.1	1 12	7 0.67	+13 7.6	1.479	2.451	4.5	21.6
1 22	6 53.43	+16 4.6	2.421	3.365	5.6	20.3	1 22	6 50.61	+13 28.4	1.521	2.466	8.2	21.8
2 1	6 46.33	+15 53.6	2.484	3.369	8.6	20.5	2 1	6 42.62	+13 54.4	1.589	2.480	12.2	22.1
2 11	6 41.06	+15 45.2	2.573	3.372	11.3	20.7	2 11	6 37.46	+14 23.1	1.680	2.494	15.6	22.4
152575	1994 G _Y		1 6.5 300°99	6.7°/ 3.9	16		49260	1998 TU ₃₃		1 6.5 81°57	1°1'/ 6.2	18	
12 3	7 42.37	+37 10.1	2.023	2.824	13.8	21.6	12 3	7 37.30	+23 23.3	1.714	2.534	15.1	19.3
12 13	7 36.07	+38 24.6	1.894	2.772	11.2	21.3	12 13	7 31.07	+23 56.7	1.659	2.557	11.2	19.1
12 23	7 26.20	+39 37.6	1.790	2.718	8.5	21.0	12 23	7 22.22	+24 33.3	1.627	2.580	6.9	18.9
1 2	7 13.21	+40 39.8	1.713	2.663	6.7	20.8	1 2	7 11.65	+25 8.6	1.623	2.603	2.3	18.7
1 12	6 58.33	+41 22.3	1.664	2.607	7.7	20.7	1 12	7 0.70	+25 38.4	1.648	2.625	2.9	18.8
1 22	6 43.28	+41 39.3	1.644	2.550	10.8	20.8	1 22	6 50.69	+26 0.4	1.701	2.648	7.3	19.1
2 1	6 29.99	+41 30.4	1.650	2.492	14.5	20.9	2 1	6 42.76	+26 14.3	1.781	2.669	11.2	19.4
2 11	6 20.03	+41 0.6	1.677	2.433	18.1	21.0	2 11	6 37.63	+26 21.2	1.885	2.691	14.5	19.6
264271	1995 US ₈₀		1 6.5 112°88	2°1'/ 7.1	18		111096	2001 VM ₆₇		1 6.5 286°72	0°4'/ 6.6	18	
12 3	7 32.55	+15 46.3	2.073	2.879	13.4	21.3	12 3	7 37.06	+22 26.1	1.474	2.302	16.7	19.9
12 13	7 27.19	+15 45.3	1.999	2.886	10.2	21.1	12 13	7 31.56	+22 9.5	1.394	2.296	12.7	19.7
12 23	7 19.73	+15 52.1	1.948	2.893	6.6	20.9	12 23	7 22.90	+21 55.2	1.336	2.290	7.9	19.4
1 2	7 10.86	+16 5.7	1.925	2.900	3.0	20.6	1 2	7 11.97	+21 41.2	1.303	2.284	2.6	19.0
1 12	7 1.55	+16 24.2	1.932	2.907	2.9	20.6	1 12	7 0.24	+21 25.7	1.298	2.277	3.0	19.1
1 22	6 52.82	+16 45.8	1.967	2.914	6.4	20.9	1 22	6 49.34	+21 8.3	1.321	2.271	8.4	19.4
2 1	6 45.61	+17 8.8	2.031	2.921	10.0	21.1	2 1	6 40.73	+20 49.8	1.368	2.266	13.3	19.6
2 11	6 40.58	+17 31.8	2.119	2.927	13.0	21.3	2 11	6 35.37	+20 31.5	1.437	2.260	17.4	19.9
289003	2004 TS ₇₅		1 6.5 124°26	3°0'/ 7.2	18		342931	2009 AF ₁₂		1 6.5 1°41	1°1'/ 6.3	18	
12 3	7 36.72	+14 47.8	1.734	2.540	15.5	20.9	12 3	7 32.68	+25 46.6	2.252	3.067	12.1	20.8
12 13	7 30.57	+14 33.2	1.666	2.552	11.9	20.7	12 13	7 27.28	+25 49.7	2.172	3.067	9.1	20.6
12 23	7 21.90	+14 27.9	1.621	2.564	7.8	20.4	12 23	7 19.79	+25 52.4	2.116	3.067	5.6	20.4
1 2	7 11.55	+14 31.5	1.602	2.576	3.9	20.2	1 2	7 10.90	+25 52.6	2.088	3.067	2.0	20.2
1 12	7 0.73	+14 42.4	1.613	2.587	3.8	20.3	1 12	7 1.56	+25 48.3	2.090	3.067	2.5	20.2
1 22	6 50.70	+14 58.8	1.652	2.597	7.6	20.5	1 22	6 52.80	+25 38.8	2.122	3.068	6.1	20.4
2 1	6 42.58	+15 18.8	1.718	2.607	11.5	20.8	2 1	6 45.55	+25 24.6	2.182	3.068	9.5	20.7
2 11	6 37.12	+15 40.5	1.807	2.617	14.9	21.0	2 11	6 40.47	+25 6.9	2.266	3.068	12.5	20.9
518582	2007 QD ₁₈		1 6.5 161°43	2°9'/ 7.6	18		172092	2002 EH ₂₀		1 6.5 304°40	2°2'/ 6.0	18	
12 3	7 30.44	+12 4.5	2.413	3.205	12.1	21.3	12 3	7 35.16	+26 1.6	1.453	2.289	16.5	19.8
12 13	7 25.39	+12 9.2	2.330	3.207	9.4	21.1	12 13	7 30.46	+26 30.0	1.369	2.275	12.5	19.5
12 23	7 18.55	+12 23.4	2.272	3.209	6.4	20.9	12 23	7 22.43	+27 0.9	1.307	2.262	7.9	19.2
1 2	7 10.48	+12 46.6	2.242	3.211	3.6	20.7	1 2	7 11.88	+27 29.1	1.270	2.248	3.2	18.9
1 12	7 1.99	+13 17.3	2.242	3.213	3.3	20.7	1 12	7 0.29	+27 49.1	1.259	2.235	4.0	18.9
1 22	6 53.92	+13 53.2	2.272	3.215	6.0	20.9	1 22	6 49.39	+27 58.1	1.275	2.223	9.0	19.2
2 1	6 47.08	+14 32.2	2.331	3.216	9.0	21.1	2 1	6 40.79	+27 56.1	1.316	2.211	13.9	19.4
2 11	6 42.07	+15 11.9	2.414	3.218	11.8	21.3	2 11	6 35.61	+27 45.4	1.377	2.199	18.1	19.6
461964	2006 UB ₁₀₇		1 6.5 269°96	4°0'/ 5.2	18		420026	2011 CU ₁₀₃		1 6.5 137°06	3°3'/ 5.8	18	
12 3	7 35.98	+30 1.9	1.831	2.652	14.2	21.1	12 3	7 37.48	+33 9.6	2.451	3.254	11.6	21.6
12 13	7 30.62	+31 1.7	1.743	2.639	10.9	20.9	12 13	7 30.70	+33 25.2	2.379	3.264	8.9	21.5
12 23	7 22.31	+32 1.8	1.679	2.627	7.2	20.7	12 23	7 21.79	+33 35.4	2.332	3.274	5.9	21.3
1 2	7 11.79	+32 55.6	1.642	2.613	4.2	20.4	1 2	7 11.51	+33 36.6	2.315	3.283	3.5	21.1
1 12	7 0.32	+33 36.9	1.634	2.600	5.1	20.5	1 12	7 0.88	+33 26.6	2.327	3.292	4.0	21.2
1 22	6 49.36	+34 2.1	1.654	2.587	8.7	20.6	1 22	6 50.97	+33 5.2	2.370	3.301	6.6	21.4
2 1	6 40.33	+34 11.2	1.700	2.573	12.5	20.8	2 1	6 42.71	+32 34.2	2.442	3.309	9.4	21.6
2 11	6 34.27	+34 6.8	1.768	2.560	15.9	21.0	2 11	6 36.75	+31 56.6	2.538	3.317	12.0	21.7
33310	1998 KF ₅₄		1 6.5 158°55	1°5'/ 7.3	18		161088	2002 OJ ₁₀		1 6.5 57°09	0°7'/ 6.7	18	
12 3	7 29.44	+14 48.9	2.902	3.694	10.3	18.8	12 3	7 33.47	+21 22.6	2.062	2.876	13.1	19.4
12 13	7 24.40	+15 15.1	2.818	3.698	7.8	18.6	12 13	7 27.89	+21 4.0	1.988	2.882	9.9	19.2
12 23	7 17.84	+15 48.3	2.759	3.702	5.0	18.5	12 23	7 20.16	+20 47.7	1.938	2.889	6.1	19.0
1 2	7 10.25	+16 27.3	2.730	3.706	2.3	18.3	1 2	7 11.01	+20 32.6	1.916	2.896	2.1	18.8
1 12	7 2.28	+17 10.0	2.733	3.709	2.1	18.3	1 12	7 1.48	+20 17.9	1.924	2.903	2.4	18.8
1 22	6 54.66	+17 54.0	2.767	3.712	4.9	18.5	1 22	6 52.61	+20 3.2	1.961	2.910	6.3	19.1
2 1	6 48.04	+18 37.5	2.830	3.715	7.7	18.7	2 1	6 45.37	+19 48.7	2.026	2.917	10.0	19.3
2 11	6 42.97	+19 18.8	2.920	3.717	10.1	18.8	2 11	6 40.40	+19 35.0	2.116	2.924	13.1	19.5
3287	Olmstead		1 6.5 140°73	5°6'/ 8.1	18	R	333799	2011 HE ₄₈		1 6.5 135°90	2°0'/ 7.3	18	
12 3	7 36.18	+ 6 9.5	2.167	2.933	14.1	19.0	12 3	7 30.78	+14 34.1	2.341	3.141	12.2	20.6
12 13	7 29.65	+ 5 37.2	2.097	2.949	11.4	18.9	12 13	7 25.72	+14 49.7	2.261	3.145	9.3	20.4
12 23	7 21.12	+ 5 18.0	2.050	2.964	8.4	18.7	12 23	7 18.80	+15 13.9	2.206	3.149	6.1	20.2
1 2	7 11.28	+ 5 13.5	2.030	2.978	6.1	18.6	1 2	7 10.60	+15 45.3	2.178	3.153	2.8	20.0
1 12	7 1.08	+ 5 23.5	2.040	2.991	5.8	18.6	1 12	7 1.95	+16 21.8	2.181	3.156	2.7	20.0
1 22	6 51.49	+ 5 46.4	2.080	3.003	7.8	18.7	1 22	6 53.76	+17 0.9	2.213	3.160	5.8	20.2
2 1	6 43.40	+ 6 19.5	2.147	3.015	10.5	18.9	2 1	6 46.85	+17 40.4	2.275	3.163	9.1	20.4
2 11	6 37.44	+ 6 59.3	2.239	3.025	13.2	19.1	2 11	6 41.86	+18 18.4	2.361	3.166	12.0	20.6
248094	2004 RE ₆₄		1 6.5 123°63	0°1'/ 6.5	18		136323	2004 BE ₈₁		1 6.5 69°48	1°2'/ 6.1	18	
12 3	7 34.47	+21 26.8	2.368	3.173	11.9	21.6	12 3	7 36.99	+20 55.0	1.568	2.391	16.1	

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
270023	2001 <i>FO</i> ₁₈₇		1 6.5 212°41'	7°3'	4.4	18	122514	2000 <i>QW</i> ₂₀₂		1 6.5 122°51'	1°2'	6.2	18
12 3	7 40.11	+44 7.9	2.313	3.099	12.8	21.4	12 3	7 39.33	+24 5.7	1.890	2.701	14.2	21.0
12 13	7 33.38	+45 3.4	2.239	3.096	10.6	21.3	12 13	7 32.47	+24 35.8	1.826	2.720	10.6	20.9
12 23	7 23.80	+45 47.5	2.188	3.093	8.5	21.1	12 23	7 23.07	+25 8.0	1.787	2.738	6.5	20.6
1 2	7 12.22	+46 13.5	2.164	3.090	7.4	21.1	1 2	7 11.99	+25 38.1	1.776	2.755	2.2	20.4
1 12	6 59.99	+46 16.7	2.168	3.086	7.8	21.1	1 12	7 0.47	+26 2.4	1.795	2.772	2.9	20.5
1 22	6 48.56	+45 56.6	2.199	3.083	9.6	21.2	1 22	6 49.80	+26 18.8	1.844	2.788	7.0	20.8
2 1	6 39.21	+45 16.0	2.256	3.079	11.8	21.3	2 1	6 41.08	+26 27.4	1.920	2.803	10.8	21.0
2 11	6 32.81	+44 20.5	2.335	3.075	14.0	21.5	2 11	6 35.07	+26 29.6	2.020	2.817	14.0	21.3
118516	2000 <i>DP</i> ₁₀₅		1 6.5 321°96'	0°1'	6.5	18	60636	2000 <i>FH</i> ₃₀		1 6.5 104°14'	7°8'	9.3	18
12 3	7 34.91	+20 30.3	1.347	2.182	17.6	19.8	12 3	7 32.72	+ 0 11.7	1.956	2.712	15.8	18.7
12 13	7 30.27	+21 3.9	1.272	2.178	13.3	19.5	12 13	7 27.32	- 0 20.8	1.891	2.726	13.2	18.5
12 23	7 22.29	+21 47.0	1.218	2.173	8.2	19.2	12 23	7 19.83	- 0 33.9	1.847	2.740	10.5	18.4
1 2	7 11.83	+22 35.1	1.189	2.169	2.6	18.8	1 2	7 10.96	- 0 25.1	1.827	2.754	8.4	18.3
1 12	7 0.41	+23 22.5	1.186	2.166	3.2	18.9	1 12	7 1.70	+ 0 5.5	1.835	2.768	7.9	18.3
1 22	6 49.75	+24 4.2	1.210	2.162	8.9	19.2	1 22	6 53.05	+ 0 55.2	1.870	2.781	9.3	18.4
2 1	6 41.46	+24 37.7	1.259	2.159	14.0	19.5	2 1	6 45.95	+ 1 59.3	1.931	2.794	11.7	18.6
2 11	6 36.61	+25 3.0	1.328	2.156	18.3	19.7	2 11	6 41.05	+ 3 12.1	2.015	2.807	14.2	18.8
397812	2008 <i>RO</i> ₈₆		1 6.5 117°39'	0°3'	6.5	18	243347	2008 <i>UU</i> ₁₆₀		1 6.5 327°15'	2°9'	7.1	18
12 3	7 39.83	+23 30.2	1.599	2.419	16.0	21.5	12 3	7 31.13	+15 39.6	1.999	2.809	13.6	19.8
12 13	7 33.18	+23 27.7	1.534	2.431	12.0	21.3	12 13	7 26.33	+15 9.2	1.912	2.801	10.5	19.6
12 23	7 23.63	+23 27.1	1.491	2.443	7.4	21.0	12 23	7 19.35	+14 45.3	1.849	2.794	7.0	19.4
1 2	7 12.14	+23 25.2	1.475	2.455	2.3	20.8	1 2	7 10.85	+14 28.1	1.814	2.787	3.6	19.2
1 12	7 0.17	+23 19.7	1.488	2.467	2.9	20.8	1 12	7 1.80	+14 17.6	1.807	2.780	3.6	19.1
1 22	6 49.22	+23 9.8	1.529	2.478	7.7	21.1	1 22	6 53.27	+14 13.2	1.828	2.773	7.0	19.3
2 1	6 40.54	+22 56.4	1.597	2.488	12.1	21.4	2 1	6 46.24	+14 14.1	1.877	2.767	10.6	19.5
2 11	6 34.93	+22 41.1	1.687	2.498	15.7	21.7	2 11	6 41.45	+14 19.0	1.948	2.762	13.8	19.7
467919	2011 <i>QU</i> ₇₄		1 6.5 232°25'	3°5'	7.8	17	413555	2005 <i>SO</i> ₂₃₆		1 6.5 129°05'	2°3'	7.1	18
12 3	7 29.21	+ 9 38.8	2.796	3.575	11.0	22.5	12 3	7 33.36	+16 13.0	1.936	2.745	14.0	21.3
12 13	7 24.33	+ 9 32.2	2.699	3.565	8.7	22.3	12 13	7 27.99	+16 0.1	1.859	2.748	10.7	21.1
12 23	7 17.87	+ 9 34.8	2.628	3.555	6.1	22.1	12 23	7 20.35	+15 54.4	1.804	2.750	7.0	20.9
1 2	7 10.31	+ 9 46.8	2.584	3.545	3.9	22.0	1 2	7 11.15	+15 55.4	1.777	2.753	3.2	20.7
1 12	7 2.33	+10 7.7	2.571	3.534	3.7	21.9	1 12	7 1.46	+16 1.9	1.780	2.755	3.2	20.7
1 22	6 54.63	+10 35.8	2.587	3.523	5.8	22.1	1 22	6 52.37	+16 12.4	1.811	2.758	6.9	20.9
2 1	6 47.93	+11 9.4	2.633	3.512	8.4	22.2	2 1	6 44.91	+16 25.6	1.869	2.760	10.6	21.1
2 11	6 42.80	+11 46.2	2.705	3.500	10.9	22.4	2 11	6 39.80	+16 40.1	1.951	2.762	13.9	21.4
283211	2010 <i>MH</i> ₆₉		1 6.5 100°00'	5°4'	5.6	18	160317	2003 <i>JE</i> ₅		1 6.5 320°89'	7°8'	3.5	18
12 3	7 42.15	+36 51.1	1.885	2.692	14.5	21.2	12 3	7 34.85	+36 4.4	1.541	2.371	16.0	20.2
12 13	7 34.79	+37 25.0	1.828	2.710	11.3	21.1	12 13	7 30.71	+37 44.8	1.457	2.351	12.8	19.9
12 23	7 24.52	+37 49.8	1.793	2.728	8.0	20.9	12 23	7 22.92	+39 23.3	1.395	2.331	9.6	19.7
1 2	7 12.41	+37 59.1	1.786	2.745	5.7	20.8	1 2	7 12.19	+40 49.0	1.359	2.312	7.8	19.5
1 12	6 59.92	+37 49.5	1.808	2.762	6.1	20.9	1 12	7 0.03	+41 51.5	1.348	2.293	8.9	19.6
1 22	6 48.57	+37 21.2	1.858	2.779	8.7	21.1	1 22	6 48.38	+42 25.4	1.363	2.275	12.0	19.7
2 1	6 39.59	+36 38.1	1.934	2.795	11.8	21.3	2 1	6 39.16	+42 31.0	1.400	2.258	15.7	19.9
2 11	6 33.71	+35 45.5	2.033	2.811	14.6	21.5	2 11	6 33.75	+42 13.8	1.457	2.242	19.1	20.0
9201	1993 <i>FU</i> ₃₉		1 6.5 218°11'	0°2'	6.5	18	365780	2010 <i>XU</i> ₆₀		1 6.5 105°11'	3°1'	5.3	18
12 3	7 31.06	+22 17.4	2.647	3.454	10.7	18.4	12 3	7 38.11	+27 56.7	2.085	2.895	13.1	21.4
12 13	7 25.84	+22 30.8	2.558	3.449	8.0	18.2	12 13	7 31.55	+29 10.3	2.025	2.916	9.8	21.2
12 23	7 18.84	+22 46.7	2.494	3.445	4.9	18.0	12 23	7 22.53	+30 24.0	1.990	2.937	6.3	21.0
1 2	7 10.62	+23 3.2	2.459	3.439	1.6	17.7	1 2	7 11.85	+31 31.6	1.985	2.958	3.4	20.9
1 12	7 1.96	+23 18.2	2.456	3.434	1.9	17.8	1 12	7 0.65	+32 27.8	2.010	2.978	4.1	21.0
1 22	6 53.70	+23 30.5	2.482	3.428	5.3	18.0	1 22	6 50.16	+33 9.5	2.066	2.997	7.3	21.2
2 1	6 46.61	+23 39.3	2.538	3.423	8.4	18.2	2 1	6 41.48	+33 36.7	2.149	3.016	10.5	21.4
2 11	6 41.34	+23 44.8	2.619	3.417	11.1	18.4	2 11	6 35.35	+33 51.3	2.256	3.035	13.3	21.6
280245	2002 <i>WZ</i> ₂₅		1 6.5 110°45'	0°8'	6.8	18	409587	2005 <i>UJ</i> ₂₅₁		1 6.5 83°02'	4°7'	5.6	18
12 3	7 31.13	+18 51.4	2.372	3.179	11.8	21.1	12 3	7 39.82	+34 40.1	1.890	2.702	14.2	20.5
12 13	7 25.97	+19 6.3	2.295	3.186	8.9	20.9	12 13	7 32.99	+35 14.4	1.835	2.722	10.9	20.4
12 23	7 18.95	+19 26.5	2.243	3.192	5.5	20.7	12 23	7 23.42	+35 41.4	1.803	2.742	7.5	20.2
1 2	7 10.66	+19 50.1	2.219	3.199	2.0	20.5	1 2	7 12.10	+35 55.6	1.798	2.762	5.0	20.1
1 12	7 1.97	+20 15.0	2.226	3.205	2.1	20.5	1 12	7 0.43	+35 53.5	1.822	2.782	5.4	20.2
1 22	6 53.77	+20 39.2	2.263	3.211	5.6	20.8	1 22	6 49.81	+35 34.9	1.874	2.801	8.3	20.4
2 1	6 46.88	+21 1.5	2.329	3.217	8.9	21.0	2 1	6 41.40	+35 2.7	1.953	2.820	11.4	20.6
2 11	6 41.94	+21 21.1	2.419	3.223	11.8	21.2	2 11	6 35.93	+34 21.6	2.055	2.839	14.2	20.8
224558	2005 <i>WC</i> ₁₇₆		1 6.5 98°54'	2°0'	5.9	18	298897	2004 <i>TX</i> ₄₆		1 6.5 182°02'	3°2'	5.7	18
12 3	7 36.18	+26 16.9	2.133	2.945	12.8	20.7	12 3	7 39.26	+29 7.8	1.839	2.655	14.4	21.8
12 13	7 29.93	+27 2.1	2.073	2.967	9.6	20.6	12 13	7 32.85	+29 48.2	1.762	2.656	10.9	21.5
12 23	7 21.42	+27 47.8	2.038	2.988	5.9	20.4	12 23	7 23.56	+30 27.5	1.708	2.656	7.0	21.3
1 2	7 11.45	+28 29.6	2.032	3.009	2.5	20.2	1 2	7 12.23	+31 0.0	1.682	2.656	3.6	21.1
1 12	7 1.08	+29 3.6	2.056	3.029	3.2	20.3	1 12	7 0.18	+31 20.9	1.685	2.655	4.3	21.1
1 22	6 51.43	+29 27.7	2.110	3.049	6.6	20.5	1 22	6 48.86	+31 28.1	1.717	2.654	8.1	21.4
2 1	6 43.48	+29 41.9	2.191	3.069	9.9	20.8	2 1	6 39.60	+31 22.5	1.775	2.652	11.9	21.6
2 11	6 37.93	+29 47.7	2.297	3.088	12.7	21.0	2 11	6 33.30	+31 7.3	1.857	2.650	15.2	21.8
197595	2004 <i>HH</i> ₆₀		1 6.5 182°60'	1°4'	6.9	18	221255	2005 <i>UJ</i> ₂₇₅		1 6.5 120°49'	1°1'	6.8	18
12 3	7 38.12	+18 7.2	2.066	2.866									

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
230599	2003 <i>FJ</i> ₁		1 6.5 62°66'	4.5/ 8.3	10 C		366465	2002 <i>EN</i> ₁₀		1 6.5 327°33'	20°0/15.2	18	
12 3	7 58.51	+ 6 31.8	1.729	2.466	18.2	21.8	12 3	7 32.14	-16 33.8	1.085	1.811	27.5	20.3
12 13	7 45.66	+ 7 8.0	1.704	2.547	14.0	21.7	12 13	7 28.64	-17 48.8	1.022	1.805	25.4	20.1
12 23	7 30.45	+ 8 0.3	1.706	2.625	9.5	21.6	12 23	7 21.56	-18 17.1	0.970	1.799	23.2	19.9
1 2	7 14.13	+ 9 5.1	1.739	2.700	5.5	21.5	1 2	7 11.73	-17 45.5	0.933	1.794	21.2	19.8
1 12	6 58.23	+10 17.1	1.807	2.771	4.9	21.6	1 12	7 0.76	-16 7.2	0.912	1.789	20.1	19.7
1 22	6 44.09	+11 30.7	1.909	2.840	7.8	21.9	1 22	6 50.53	-13 25.7	0.910	1.785	20.3	19.7
2 1	6 32.67	+12 41.8	2.041	2.907	11.1	22.3	2 1	6 42.81	- 9 54.7	0.926	1.781	22.0	19.7
2 11	6 24.43	+13 47.7	2.200	2.970	13.9	22.6	2 11	6 38.84	- 5 55.6	0.961	1.778	24.4	19.9
103610	2000 <i>CS</i> ₂₀		1 6.5 72°13'	1.4/ 6.9	18		49650	1999 <i>JH</i> ₆₁		1 6.5 271°10'	5°6/ 7.8	18	
12 3	7 33.96	+17 34.6	1.676	2.495	15.4	19.7	12 3	7 29.81	+ 5 30.1	2.489	3.258	12.5	18.1
12 13	7 28.80	+17 47.1	1.604	2.500	11.7	19.4	12 13	7 24.98	+ 4 45.8	2.393	3.244	10.2	17.9
12 23	7 21.01	+18 8.4	1.554	2.505	7.4	19.2	12 23	7 18.39	+ 4 12.4	2.320	3.230	7.8	17.7
1 2	7 11.40	+18 36.2	1.531	2.510	2.8	18.9	1 2	7 10.56	+ 3 51.9	2.275	3.216	6.0	17.6
1 12	7 1.19	+19 7.4	1.536	2.515	2.9	18.9	1 12	7 2.24	+ 3 45.4	2.258	3.202	5.8	17.6
1 22	6 51.69	+19 39.0	1.569	2.520	7.4	19.2	1 22	6 54.24	+ 3 52.4	2.269	3.188	7.5	17.6
2 1	6 44.08	+20 8.8	1.629	2.525	11.6	19.5	2 1	6 47.34	+ 4 11.5	2.308	3.174	10.0	17.8
2 11	6 39.18	+20 35.6	1.711	2.530	15.2	19.7	2 11	6 42.19	+ 4 39.7	2.371	3.159	12.5	17.9
73965	1997 <i>XF</i> ₅		1 6.5 338°27'	5.4/ 5.6	18		210231	Wangdemmin		1 6.5 76°34'	1°5/ 6.2	18	
12 3	7 37.21	+38 30.1	2.142	2.947	13.0	18.2	12 3	7 38.56	+24 45.7	1.526	2.352	16.3	20.6
12 13	7 31.07	+38 50.1	2.064	2.943	10.3	18.0	12 13	7 32.34	+25 12.5	1.472	2.373	12.2	20.3
12 23	7 22.31	+39 0.7	2.009	2.940	7.5	17.8	12 23	7 23.17	+25 41.2	1.441	2.394	7.5	20.1
1 2	7 11.79	+38 56.7	1.981	2.936	5.6	17.7	1 2	7 12.07	+26 7.0	1.435	2.415	2.7	19.9
1 12	7 0.76	+38 35.1	1.982	2.933	5.9	17.7	1 12	7 0.55	+26 25.7	1.458	2.435	3.3	20.0
1 22	6 50.55	+37 56.1	2.010	2.930	8.3	17.8	1 22	6 50.13	+26 35.4	1.509	2.456	8.0	20.3
2 1	6 42.32	+37 2.6	2.066	2.927	11.2	18.0	2 1	6 42.06	+26 36.7	1.585	2.476	12.2	20.6
2 11	6 36.82	+35 59.7	2.145	2.924	13.9	18.2	2 11	6 37.12	+26 31.5	1.684	2.496	15.7	20.9
252356	2001 <i>SU</i> ₁₉₄		1 6.5 27°15'	1°9/ 7.0	18		26606	2000 <i>FH</i> ₃₁		1 6.5 7°32'	1°7/ 7.2	18	
12 3	7 32.01	+17 2.4	1.405	2.237	17.1	20.0	12 3	7 30.66	+15 14.5	1.963	2.774	13.8	18.1
12 13	7 27.64	+17 8.0	1.344	2.247	13.0	19.8	12 13	7 26.06	+15 43.5	1.883	2.774	10.5	17.9
12 23	7 20.40	+17 24.1	1.305	2.257	8.2	19.5	12 23	7 19.25	+16 23.1	1.827	2.775	6.7	17.6
1 2	7 11.21	+17 48.6	1.290	2.268	3.3	19.3	1 2	7 10.87	+17 11.2	1.799	2.776	2.9	17.4
1 12	7 1.47	+18 18.3	1.302	2.280	3.3	19.3	1 12	7 1.92	+18 4.3	1.799	2.777	2.7	17.4
1 22	6 52.62	+18 49.8	1.340	2.293	8.1	19.6	1 22	6 53.47	+18 58.9	1.829	2.778	6.6	17.6
2 1	6 45.93	+19 20.4	1.403	2.306	12.6	19.9	2 1	6 46.52	+19 51.5	1.886	2.780	10.4	17.9
2 11	6 42.22	+19 48.3	1.488	2.320	16.4	20.2	2 11	6 41.84	+20 40.1	1.967	2.782	13.6	18.1
363591	2004 <i>DY</i> ₉		1 6.5 339°59'	7°2/ 9.9	18		281576	2008 <i>UZ</i> ₁₁₆		1 6.6 346°46'	1°7/ 6.9	18	
12 3	7 32.20	+ 0 38.3	1.679	2.449	17.5	20.0	12 3	7 32.21	+18 21.1	2.048	2.860	13.3	20.2
12 13	7 27.51	+ 1 1.4	1.596	2.446	14.5	19.8	12 13	7 27.08	+18 1.1	1.966	2.859	10.1	20.0
12 23	7 20.28	+ 1 50.7	1.534	2.443	11.1	19.6	12 23	7 19.79	+17 45.7	1.909	2.857	6.4	19.8
1 2	7 11.21	+ 3 7.3	1.497	2.441	8.2	19.4	1 2	7 11.02	+17 34.5	1.879	2.856	2.7	19.5
1 12	7 1.40	+ 4 48.6	1.486	2.439	7.3	19.3	1 12	7 1.78	+17 26.8	1.878	2.855	2.8	19.5
1 22	6 52.09	+ 6 48.0	1.504	2.437	9.3	19.4	1 22	6 53.10	+17 21.7	1.906	2.854	6.5	19.8
2 1	6 44.47	+ 8 56.8	1.549	2.436	12.7	19.6	2 1	6 45.95	+17 18.9	1.961	2.853	10.2	20.0
2 11	6 39.42	+11 6.4	1.618	2.435	16.0	19.8	2 11	6 41.03	+17 17.9	2.041	2.852	13.4	20.2
301076	2008 <i>UK</i> ₂₂₅		1 6.5 277°86'	3°4/ 5.8	18		243374	2008 <i>XW</i> ₄		1 6.6 317°48'	1°0/ 6.5	18	
12 3	7 37.77	+29 3.0	1.532	2.361	16.1	21.1	12 3	7 34.94	+27 5.2	2.028	2.845	13.2	19.3
12 13	7 32.40	+29 35.8	1.447	2.348	12.3	20.8	12 13	7 29.31	+26 41.9	1.936	2.832	10.0	19.0
12 23	7 23.65	+30 8.0	1.383	2.335	8.0	20.5	12 23	7 21.25	+26 15.5	1.867	2.819	6.2	18.8
1 2	7 12.35	+30 33.3	1.346	2.321	4.0	20.2	1 2	7 11.51	+25 44.0	1.826	2.806	2.2	18.5
1 12	7 0.01	+30 46.1	1.335	2.308	4.8	20.2	1 12	7 1.20	+25 6.5	1.815	2.793	2.6	18.5
1 22	6 48.37	+30 43.9	1.352	2.294	9.2	20.5	1 22	6 51.51	+24 23.6	1.834	2.781	6.8	18.7
2 1	6 39.08	+30 27.9	1.393	2.280	13.8	20.7	2 1	6 43.53	+23 37.4	1.880	2.769	10.7	19.0
2 11	6 33.25	+30 1.9	1.456	2.267	17.8	20.9	2 11	6 38.05	+22 50.5	1.950	2.758	14.0	19.2
230736	Jalyhome		1 6.5 34°34'	0°5/ 6.7	18		487754	2015 <i>RC</i> ₁₃₃		1 6.6 42°98'	5°0/ 5.9	18	
12 3	7 31.39	+18 26.0	1.968	2.784	13.6	20.1	12 3	7 41.28	+32 52.0	1.362	2.193	17.7	21.8
12 13	7 26.60	+19 5.0	1.893	2.788	10.2	19.9	12 13	7 35.23	+33 20.7	1.294	2.194	13.6	21.6
12 23	7 19.55	+19 52.3	1.842	2.793	6.3	19.6	12 23	7 25.41	+33 43.2	1.247	2.194	9.2	21.3
1 2	7 10.94	+20 44.5	1.819	2.798	2.1	19.4	1 2	7 12.90	+33 51.7	1.225	2.195	5.5	21.1
1 12	7 1.77	+21 37.7	1.825	2.804	2.3	19.4	1 12	6 59.58	+33 40.7	1.229	2.196	6.1	21.1
1 22	6 53.15	+22 28.4	1.860	2.809	6.5	19.7	1 22	6 47.48	+33 10.1	1.259	2.197	10.2	21.4
2 1	6 46.08	+23 13.8	1.923	2.815	10.3	19.9	2 1	6 38.28	+32 24.0	1.313	2.199	14.6	21.6
2 11	6 41.34	+23 52.9	2.009	2.821	13.5	20.1	2 11	6 32.99	+31 29.0	1.388	2.200	18.5	21.9
327939	2007 <i>EY</i> ₁₀		1 6.5 356°23'	7°7/ 8.9	18		399518	2002 <i>VN</i> ₁₃₄		1 6.6 84°88'	1°9/ 6.9	18	
12 3	7 28.02	+ 4 48.9	1.391	2.199	18.6	20.0	12 3	7 37.05	+18 19.4	1.748	2.560	15.2	21.0
12 13	7 24.75	+ 4 25.0	1.318	2.194	15.2	19.7	12 13	7 30.76	+17 58.3	1.688	2.580	11.5	20.8
12 23	7 18.73	+ 4 23.3	1.265	2.190	11.6	19.5	12 23	7 22.02	+17 43.0	1.652	2.600	7.2	20.6
1 2	7 10.73	+ 4 46.8	1.235	2.188	8.5	19.3	1 2	7 11.72	+17 32.6	1.642	2.619	3.0	20.4
1 12	7 2.00	+ 5 35.0	1.229	2.186	7.8	19.3	1 12	7 1.09	+17 26.0	1.662	2.639	3.0	20.4
1 22	6 53.91	+ 6 43.5	1.247	2.186	10.3	19.4	1 22	6 51.38	+17 22.2	1.710	2.658	7.1	20.7
2 1	6 47.75	+ 8 5.8	1.290	2.187	13.9	19.6	2 1	6 43.62	+17 20.9	1.785	2.676	11.0	21.0
2 11	6 44.43	+ 9 34.1	1.354	2.189	17.6	19.9	2 11	6 38.49	+17 21.3	1.884	2.695	14.3	21.2
296668	2009 <i>SY</i> ₁₅₉		1 6.5 149°35'	0°7/ 6.3	18		180506	2004 <i>CD</i> ₁₀₁		1 6.6 20°21'	5°3/ 8.1	18	
12 3	7 35.02	+24 4.9	2.361	3.168	11.9								

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
327392	2005 <i>UQ</i> ₄₆₀		1 6.6 357°79	5°0/ 4.9 18			279088	2008 <i>WA</i> ₁₁₆		1 6.6 88°82	3°1/ 5.4 18		
12 3	7 35.32	+32 27.1	1.741	2.566	14.7	20.1	12 3	7 34.27	+29 24.6	2.241	3.055	12.2	20.3
12 13	7 30.23	+33 33.1	1.669	2.565	11.3	19.9	12 13	7 28.68	+30 23.1	2.174	3.067	9.2	20.1
12 23	7 22.15	+34 36.5	1.621	2.565	7.8	19.6	12 23	7 20.84	+31 20.8	2.132	3.078	6.0	20.0
1 2	7 11.90	+35 30.1	1.598	2.564	5.2	19.5	1 2	7 11.46	+32 12.5	2.118	3.090	3.4	19.8
1 12	7 0.85	+36 7.5	1.603	2.564	6.0	19.5	1 12	7 1.58	+32 53.9	2.135	3.101	4.0	19.9
1 22	6 50.53	+36 25.9	1.636	2.564	9.2	19.7	1 22	6 52.28	+33 22.6	2.181	3.113	7.0	20.1
2 1	6 42.33	+36 26.2	1.694	2.565	12.7	19.9	2 1	6 44.57	+33 38.7	2.254	3.124	10.0	20.3
2 11	6 37.19	+36 12.0	1.773	2.565	15.9	20.2	2 11	6 39.18	+33 43.8	2.351	3.135	12.7	20.5
519380	2011 <i>QH</i> ₁₀₀		1 6.6 177°05	2°5/ 5.9 18			305911	2009 <i>FU</i> ₅₂		1 6.6 343°93	0°0/ 6.4 17		
12 3	7 38.94	+27 20.3	1.739	2.558	14.9	22.2	12 3	7 32.32	+20 3.8	1.311	2.152	17.6	20.7
12 13	7 32.71	+27 53.2	1.663	2.560	11.3	21.9	12 13	7 28.47	+20 38.2	1.236	2.145	13.4	20.4
12 23	7 23.56	+28 26.4	1.611	2.561	7.1	21.7	12 23	7 21.34	+21 23.2	1.182	2.139	8.3	20.1
1 2	7 12.33	+28 54.4	1.585	2.562	3.2	21.5	1 2	7 11.76	+22 14.4	1.153	2.133	2.7	19.7
1 12	7 0.39	+29 12.9	1.588	2.562	3.8	21.5	1 12	7 1.20	+23 5.9	1.149	2.129	3.2	19.8
1 22	6 49.22	+29 19.7	1.620	2.562	8.0	21.8	1 22	6 51.37	+23 52.6	1.172	2.125	8.9	20.1
2 1	6 40.16	+29 15.5	1.678	2.561	12.1	22.0	2 1	6 43.85	+24 31.4	1.218	2.122	14.0	20.4
2 11	6 34.12	+29 2.9	1.759	2.560	15.6	22.2	2 11	6 39.74	+25 1.4	1.285	2.120	18.3	20.6
272431	2005 <i>TD</i> ₁₅₄		1 6.6 140°07	2°7/ 6.1 18			401937	2002 <i>CF</i> ₃₁₄		1 6.6 280°48	4°7/ 8.0 18		
12 3	7 42.42	+28 50.6	1.744	2.557	15.2	20.9	12 3	7 33.22	+9 36.3	1.578	2.383	16.9	21.3
12 13	7 35.14	+29 12.7	1.677	2.570	11.5	20.7	12 13	7 28.53	+9 38.5	1.495	2.376	13.4	21.0
12 23	7 24.92	+29 32.3	1.633	2.581	7.3	20.5	12 23	7 21.09	+9 57.7	1.434	2.370	9.4	20.8
1 2	7 12.72	+29 44.4	1.616	2.592	3.4	20.2	1 2	7 11.63	+10 34.5	1.397	2.364	5.7	20.5
1 12	7 0.01	+29 45.0	1.630	2.603	4.0	20.3	1 12	7 1.35	+11 26.4	1.387	2.357	5.2	20.5
1 22	6 48.29	+29 33.6	1.672	2.612	8.0	20.6	1 22	6 51.61	+12 29.3	1.405	2.351	8.6	20.7
2 1	6 38.86	+29 12.1	1.741	2.621	11.9	20.8	2 1	6 43.71	+13 38.0	1.449	2.344	12.8	20.9
2 11	6 32.54	+28 44.0	1.833	2.629	15.3	21.1	2 11	6 38.61	+14 47.6	1.515	2.338	16.6	21.1
375074	2007 <i>RK</i> ₅₉		1 6.6 77°61	2°8/ 7.4 18			413029	2000 <i>UB</i> ₁₀₉		1 6.6 17°27	9°7/ 9.1 18		
12 3	7 31.03	+13 29.1	2.217	3.016	12.8	21.0	12 3	7 28.17	+3 2.7	1.248	2.058	20.2	19.9
12 13	7 25.97	+13 22.3	2.145	3.027	9.9	20.8	12 13	7 24.89	+1 59.1	1.197	2.069	16.7	19.7
12 23	7 19.02	+13 24.2	2.097	3.038	6.6	20.6	12 23	7 18.81	+1 19.9	1.164	2.081	13.2	19.5
1 2	7 10.82	+13 34.4	2.077	3.048	3.5	20.4	1 2	7 10.85	+1 10.0	1.153	2.095	10.4	19.4
1 12	7 2.25	+13 51.7	2.086	3.059	3.3	20.5	1 12	7 2.39	+1 30.0	1.165	2.111	9.8	19.4
1 22	6 54.22	+14 14.2	2.125	3.069	6.2	20.7	1 22	6 54.84	+2 16.4	1.200	2.128	11.7	19.5
2 1	6 47.55	+14 39.9	2.192	3.080	9.4	20.9	2 1	6 49.42	+3 22.2	1.257	2.147	14.8	19.8
2 11	6 42.88	+15 7.2	2.283	3.091	12.2	21.1	2 11	6 46.91	+4 39.0	1.335	2.167	17.9	20.0
110021	2001 <i>SP</i> ₇₁		1 6.6 60°61	5°1/ 5.4 18			51815	2001 <i>OM</i> ₁₀		1 6.6 23°42	2°5/ 6.2 18		
12 3	7 39.27	+31 6.1	1.344	2.178	17.6	18.9	12 3	7 34.61	+29 31.4	1.924	2.745	13.6	18.4
12 13	7 33.66	+32 9.8	1.288	2.190	13.5	18.6	12 13	7 29.13	+29 37.1	1.852	2.749	10.3	18.2
12 23	7 24.41	+33 10.7	1.254	2.202	9.0	18.4	12 23	7 21.18	+29 39.6	1.804	2.754	6.6	18.0
1 2	7 12.63	+33 59.7	1.244	2.215	5.5	18.2	1 2	7 11.58	+29 35.3	1.784	2.760	3.1	17.8
1 12	7 0.13	+34 29.7	1.261	2.227	6.3	18.3	1 12	7 1.52	+29 22.1	1.792	2.765	3.5	17.8
1 22	6 48.83	+34 38.4	1.304	2.240	10.2	18.6	1 22	6 52.26	+28 59.6	1.828	2.771	7.2	18.0
2 1	6 40.35	+34 28.1	1.371	2.253	14.3	18.9	2 1	6 44.86	+28 29.5	1.892	2.778	10.8	18.3
2 11	6 35.64	+34 4.3	1.458	2.266	17.9	19.1	2 11	6 40.06	+27 54.6	1.979	2.785	13.9	18.5
101286	1998 <i>SF</i> ₁₂₄		1 6.6 119°43	5°8/ 5.0 18			241955	2002 <i>ET</i> ₇		1 6.6 220°65	5°1/ 8.1 18		
12 3	7 42.91	+38 17.1	2.160	2.956	13.2	20.6	12 3	7 34.49	+7 24.3	2.118	2.894	14.1	21.0
12 13	7 35.26	+39 14.9	2.103	2.977	10.4	20.4	12 13	7 28.84	+7 10.1	2.023	2.884	11.3	20.8
12 23	7 24.87	+40 3.9	2.071	2.997	7.7	20.3	12 23	7 21.00	+7 9.2	1.951	2.874	8.3	20.6
1 2	7 12.69	+40 37.4	2.067	3.016	5.9	20.2	1 2	7 11.56	+7 22.8	1.906	2.862	5.7	20.4
1 12	7 0.07	+40 51.2	2.093	3.035	6.4	20.3	1 12	7 1.46	+7 50.4	1.890	2.850	5.3	20.4
1 22	6 48.39	+40 44.6	2.147	3.053	8.6	20.5	1 22	6 51.74	+8 30.0	1.904	2.837	7.7	20.5
2 1	6 38.86	+40 20.5	2.228	3.070	11.2	20.7	2 1	6 43.39	+9 18.4	1.945	2.823	10.9	20.7
2 11	6 32.23	+39 44.0	2.331	3.087	13.6	20.9	2 11	6 37.20	+10 11.8	2.011	2.809	14.0	20.9
177637	2004 <i>LY</i> ₁₃		1 6.6 240°52	0°6/ 6.3 18			141633	2002 <i>JQ</i> ₅₀		1 6.6 156°87	0°6/ 6.7 18		
12 3	7 34.33	+20 51.4	2.055	2.867	13.2	20.0	12 3	7 39.72	+20 16.1	1.580	2.397	16.3	20.8
12 13	7 28.97	+21 43.3	1.963	2.858	10.0	19.8	12 13	7 33.34	+20 22.0	1.508	2.403	12.3	20.5
12 23	7 21.19	+22 42.5	1.897	2.848	6.2	19.5	12 23	7 23.97	+20 33.9	1.458	2.409	7.7	20.3
1 2	7 11.61	+23 45.2	1.858	2.838	2.0	19.2	1 2	7 12.52	+20 48.7	1.434	2.414	2.6	20.0
1 12	7 1.25	+24 46.4	1.850	2.828	2.6	19.3	1 12	7 0.41	+21 3.5	1.439	2.418	2.9	20.0
1 22	6 51.27	+25 42.0	1.872	2.818	6.8	19.5	1 22	6 49.15	+21 15.9	1.473	2.422	7.9	20.3
2 1	6 42.80	+26 29.4	1.922	2.807	10.7	19.7	2 1	6 40.10	+21 25.3	1.533	2.425	12.4	20.6
2 11	6 36.73	+27 8.1	1.996	2.796	14.0	19.9	2 11	6 34.13	+21 32.0	1.615	2.428	16.3	20.8
358482	2007 <i>RL</i>		1 6.6 89°07	1°4/ 6.4 18			113274	2002 <i>RY</i> ₁₅₄		1 6.6 38°26	0°7/ 6.3 18		
12 3	7 40.10	+25 51.9	1.612	2.433	15.9	21.1	12 3	7 31.87	+21 31.4	1.983	2.802	13.4	19.0
12 13	7 33.38	+25 57.8	1.554	2.452	11.9	20.9	12 13	7 27.03	+22 19.3	1.911	2.809	10.0	18.8
12 23	7 23.80	+26 3.4	1.520	2.472	7.3	20.7	12 23	7 19.91	+23 12.9	1.864	2.817	6.1	18.6
1 2	7 12.38	+26 4.9	1.512	2.491	2.6	20.5	1 2	7 11.20	+24 8.2	1.845	2.825	2.0	18.3
1 12	7 0.59	+25 59.6	1.532	2.510	3.1	20.5	1 12	7 1.95	+25 0.9	1.855	2.833	2.5	18.4
1 22	6 49.90	+25 47.1	1.581	2.528	7.7	20.9	1 22	6 53.27	+25 47.4	1.894	2.841	6.6	18.7
2 1	6 41.52	+25 28.7	1.657	2.546	11.8	21.1	2 1	6 46.19	+26 25.9	1.961	2.850	10.3	18.9
2 11	6 36.20	+25 6.9	1.755	2.564	15.3	21.4	2 11	6 41.45	+26 56.1	2.051	2.859	13.4	19.1
259237	2003 <i>BU</i> ₅₃		1 6.6 283°78	1°3/ 6.8 18			456612	2007 <i>GD</i> ₁₄		1 6.6 302			

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
44589	1999 <i>LQ</i> ₅		1 6.6 218°92	10°2/11.2	18		416590	2004 <i>LM</i> ₁		1 6.6 284°63	5°8/ 9.4	16	
12 3	7 38.37	− 4 23.1	1.294	2.052	22.3	18.4	12 3	7 30.07	+ 1 13.0	2.506	3.254	12.9	21.0
12 13	7 32.99	− 3 54.7	1.212	2.049	19.0	18.1	12 13	7 25.34	+ 1 27.4	2.398	3.234	10.7	20.8
12 23	7 24.18	− 2 46.6	1.148	2.045	15.2	17.9	12 23	7 18.79	+ 1 59.3	2.313	3.213	8.4	20.6
1 2	7 12.73	− 0 54.5	1.105	2.040	11.6	17.7	1 2	7 10.90	+ 2 49.7	2.254	3.192	6.3	20.5
1 12	7 0.08	+ 1 38.7	1.088	2.036	10.2	17.6	1 12	7 2.41	+ 3 57.6	2.225	3.171	5.8	20.4
1 22	6 48.00	+ 4 41.6	1.099	2.030	12.2	17.7	1 22	6 54.12	+ 5 20.1	2.226	3.150	7.3	20.5
2 1	6 38.19	+ 7 58.3	1.135	2.025	16.0	17.9	2 1	6 46.86	+ 6 52.7	2.256	3.128	9.9	20.6
2 11	6 31.88	+11 12.9	1.195	2.019	20.1	18.1	2 11	6 41.33	+ 8 30.4	2.311	3.107	12.5	20.7
147463	2004 <i>BG</i> ₉₁		1 6.6 237°55	0°8/ 6.5	18		179938	2002 <i>VK</i> ₈₈		1 6.6 100°41	2°4/ 7.0	18	
12 3	7 39.22	+24 11.2	1.528	2.352	16.4	20.8	12 3	7 36.60	+17 3.3	1.864	2.671	14.6	19.8
12 13	7 33.32	+24 15.1	1.444	2.344	12.5	20.5	12 13	7 30.40	+16 35.4	1.798	2.686	11.1	19.6
12 23	7 24.19	+24 20.9	1.383	2.336	7.8	20.2	12 23	7 21.88	+16 13.5	1.755	2.700	7.2	19.4
1 2	7 12.67	+24 25.0	1.347	2.327	2.6	19.9	1 2	7 11.84	+15 57.5	1.740	2.715	3.3	19.2
1 12	7 0.25	+24 24.1	1.340	2.318	3.1	19.9	1 12	7 1.44	+15 46.7	1.754	2.729	3.3	19.2
1 22	6 48.58	+24 16.6	1.360	2.309	8.4	20.2	1 22	6 51.83	+15 40.4	1.797	2.743	7.0	19.5
2 1	6 39.21	+24 3.3	1.406	2.300	13.3	20.4	2 1	6 44.03	+15 38.2	1.867	2.756	10.7	19.7
2 11	6 33.14	+23 46.4	1.474	2.290	17.4	20.7	2 11	6 38.71	+15 39.0	1.962	2.770	13.9	20.0
363843	2005 <i>QC</i> ₅₄		1 6.6 118°95	5°7/ 8.7	18		423348	2005 <i>GL</i> ₁₅₇		1 6.6 148°55	4°3/ 5.2	18	
12 3	7 32.57	+ 5 6.4	1.987	2.762	14.9	20.8	12 3	7 35.28	+35 21.0	2.488	3.292	11.4	21.0
12 13	7 27.35	+ 5 2.2	1.913	2.771	12.1	20.6	12 13	7 29.38	+36 2.8	2.413	3.295	8.9	20.8
12 23	7 20.02	+ 5 14.8	1.861	2.779	9.0	20.5	12 23	7 21.28	+36 39.3	2.364	3.299	6.3	20.6
1 2	7 11.24	+ 5 44.8	1.836	2.787	6.3	20.3	1 2	7 11.68	+37 5.8	2.342	3.302	4.4	20.5
1 12	7 1.99	+ 6 30.9	1.839	2.795	5.8	20.3	1 12	7 1.59	+37 18.9	2.351	3.305	4.9	20.6
1 22	6 53.28	+ 7 29.7	1.870	2.802	7.9	20.5	1 22	6 52.09	+37 17.6	2.388	3.307	7.2	20.7
2 1	6 46.07	+ 8 36.9	1.929	2.810	10.9	20.7	2 1	6 44.14	+37 3.0	2.453	3.310	9.8	20.9
2 11	6 41.05	+ 9 47.6	2.012	2.817	13.8	20.9	2 11	6 38.47	+36 38.0	2.542	3.313	12.2	21.1
294671	2008 <i>AJ</i> ₉₈		1 6.6 180°78	2°7/ 5.9	18		234957	2002 <i>VK</i> ₁₄₇		1 6.6 27°12	1°1/ 6.3	18	
12 3	7 38.15	+29 58.0	2.231	3.038	12.5	21.1	12 3	7 32.62	+24 50.7	2.114	2.932	12.7	20.7
12 13	7 31.60	+30 23.5	2.150	3.040	9.5	20.9	12 13	7 27.49	+25 6.8	2.037	2.934	9.5	20.5
12 23	7 22.67	+30 46.5	2.094	3.040	6.1	20.7	12 23	7 20.16	+25 24.1	1.984	2.936	5.9	20.3
1 2	7 12.10	+31 2.7	2.067	3.040	3.2	20.5	1 2	7 11.33	+25 39.9	1.959	2.939	2.1	20.0
1 12	7 0.99	+31 9.0	2.070	3.040	3.7	20.5	1 12	7 2.01	+25 51.4	1.964	2.941	2.6	20.1
1 22	6 50.52	+31 4.3	2.103	3.039	6.9	20.7	1 22	6 53.28	+25 57.2	1.998	2.944	6.4	20.3
2 1	6 41.73	+30 49.4	2.164	3.037	10.2	20.9	2 1	6 46.11	+25 57.1	2.059	2.947	9.9	20.6
2 11	6 35.40	+30 27.1	2.249	3.035	13.1	21.1	2 11	6 41.22	+25 52.2	2.144	2.950	13.0	20.8
144349	2004 <i>DU</i> ₃₆		1 6.6 93°48	6°8/ 5.7	18		103437	2000 <i>AJ</i> ₁₈₁		1 6.6 330°88	5°4/ 7.1	18	
12 3	7 44.17	+40 37.4	1.825	2.626	15.1	19.0	12 3	7 34.07	+14 0.3	1.218	2.050	19.3	19.5
12 13	7 36.63	+41 10.3	1.766	2.640	12.1	18.9	12 13	7 29.85	+13 2.2	1.142	2.041	15.1	19.2
12 23	7 25.90	+41 30.6	1.729	2.653	9.0	18.7	12 23	7 22.23	+12 14.3	1.086	2.032	10.4	18.9
1 2	7 13.11	+41 31.2	1.719	2.667	7.0	18.6	1 2	7 12.12	+11 39.4	1.054	2.024	6.2	18.6
1 12	6 59.92	+41 8.3	1.736	2.680	7.3	18.7	1 12	7 1.05	+11 19.2	1.046	2.017	6.1	18.6
1 22	6 48.02	+40 23.0	1.781	2.693	9.7	18.8	1 22	6 50.80	+11 13.8	1.063	2.010	10.4	18.8
2 1	6 38.74	+39 20.3	1.852	2.706	12.6	19.0	2 1	6 42.95	+11 21.3	1.102	2.004	15.3	19.1
2 11	6 32.84	+38 7.4	1.945	2.719	15.3	19.3	2 11	6 38.59	+11 38.5	1.161	1.999	19.7	19.3
227780	2006 <i>WY</i> ₇₅		1 6.6 124°23	3°0/ 7.1	18		405396	2004 <i>JU</i> ₄		1 6.6 135°84	5°0/ 4.8	18	
12 3	7 39.42	+15 51.9	1.491	2.305	17.3	21.1	12 3	7 39.08	+35 22.3	2.254	3.057	12.5	21.0
12 13	7 33.07	+15 29.8	1.426	2.316	13.3	20.9	12 13	7 32.45	+36 30.1	2.188	3.069	9.7	20.9
12 23	7 23.77	+15 17.0	1.382	2.328	8.6	20.6	12 23	7 23.28	+37 32.7	2.147	3.080	7.0	20.7
1 2	7 12.48	+15 12.9	1.364	2.339	4.1	20.4	1 2	7 12.35	+38 23.6	2.135	3.091	5.1	20.6
1 12	7 0.64	+15 16.3	1.374	2.349	4.0	20.4	1 12	7 0.83	+38 58.1	2.152	3.101	5.7	20.7
1 22	6 49.75	+15 25.4	1.412	2.359	8.4	20.7	1 22	6 49.97	+39 14.2	2.198	3.111	8.1	20.8
2 1	6 41.13	+15 38.6	1.475	2.368	12.8	21.0	2 1	6 40.94	+39 13.3	2.271	3.120	10.8	21.0
2 11	6 35.59	+15 54.3	1.561	2.377	16.5	21.2	2 11	6 34.52	+38 58.9	2.368	3.129	13.3	21.2
358520	2007 <i>RB</i> ₃₁₀		1 6.6 137°44	0°7/ 6.7	18		391781	2008 <i>PH</i> ₁₆		1 6.6 98°66	2°1/ 6.2	17	
12 3	7 38.43	+20 29.9	1.930	2.738	14.1	21.6	12 3	7 41.72	+26 48.9	1.530	2.352	16.5	21.3
12 13	7 31.80	+20 28.7	1.860	2.750	10.6	21.4	12 13	7 34.82	+27 7.1	1.473	2.371	12.4	21.1
12 23	7 22.77	+20 31.5	1.813	2.763	6.6	21.2	12 23	7 24.83	+27 24.6	1.439	2.390	7.7	20.8
1 2	7 12.13	+20 36.2	1.795	2.774	2.2	20.9	1 2	7 12.83	+27 36.4	1.430	2.409	3.0	20.6
1 12	7 1.05	+20 40.8	1.806	2.785	2.5	21.0	1 12	7 0.38	+27 38.9	1.451	2.427	3.6	20.7
1 22	6 50.74	+20 44.0	1.848	2.795	6.7	21.3	1 22	6 49.11	+27 31.2	1.499	2.444	8.2	21.0
2 1	6 42.25	+20 45.6	1.917	2.805	10.6	21.5	2 1	6 40.32	+27 15.1	1.573	2.462	12.4	21.3
2 11	6 36.31	+20 45.7	2.010	2.814	13.8	21.8	2 11	6 34.81	+26 53.5	1.670	2.478	16.0	21.6
123507	2000 <i>WP</i> ₁₈₂		1 6.6 92°08	1°0/ 7.0	18	R	44171	1998 <i>KR</i> ₈		1 6.6 252°31	1°9/ 7.2	18	
12 3	7 34.84	+16 32.3	2.050	2.854	13.6	19.6	12 3	7 34.63	+15 55.9	1.823	2.632	14.8	18.9
12 13	7 28.99	+17 15.1	1.987	2.875	10.2	19.4	12 13	7 29.44	+16 13.2	1.729	2.619	11.4	18.7
12 23	7 20.99	+18 6.7	1.949	2.896	6.4	19.2	12 23	7 21.64	+16 40.9	1.659	2.606	7.3	18.4
1 2	7 11.56	+19 3.7	1.939	2.917	2.4	19.0	1 2	7 11.89	+17 17.4	1.615	2.592	3.1	18.1
1 12	7 1.72	+20 2.2	1.959	2.937	2.3	19.1	1 12	7 1.30	+17 59.5	1.600	2.578	3.0	18.1
1 22	6 52.52	+20 58.5	2.010	2.958	6.2	19.4	1 22	6 51.12	+18 43.8	1.615	2.564	7.3	18.3
2 1	6 44.92	+21 49.8	2.089	2.977	9.8	19.6	2 1	6 42.59	+19 27.2	1.656	2.549	11.6	18.5
2 11	6 39.58	+22 35.0	2.193	2.997	12.8	19.8	2 11	6 36.65	+20 7.8	1.721	2.534	15.4	18.7
366011	2012 <i>BY</i> ₁₂₀		1 6.6 6°83	9°2/10.9	18		288680	2004 <i>PA</i> ₉₂		1 6.6 74°69	4°1/ 7.5	18	
12 3	7 31.74	− 3 18.8											

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
243115	2007 RR ₁₅₇		1 6.6 166°11	3°3/ 5.7 18			29973	1999 LP ₇		1 6.6 174°85	0°7/ 6.9 18		
12 3	7 39.10	+29 12.6	1.851	2.666	14.3	20.6	12 3	7 26.83	+18 35.4	3.855	4.649	7.9	20.5
12 13	7 32.80	+30 0.4	1.776	2.670	10.9	20.4	12 13	7 22.27	+18 40.7	3.767	4.651	5.9	20.4
12 23	7 23.66	+30 47.3	1.726	2.673	7.0	20.1	12 23	7 16.59	+18 49.0	3.706	4.652	3.7	20.2
1 2	7 12.51	+31 27.4	1.703	2.676	3.7	19.9	1 2	7 10.16	+18 59.6	3.675	4.653	1.4	20.1
1 12	7 0.66	+31 55.6	1.709	2.679	4.4	20.0	1 12	7 3.49	+19 11.3	3.676	4.654	1.4	20.1
1 22	6 49.53	+32 9.5	1.744	2.681	8.0	20.2	1 22	6 57.08	+19 23.4	3.708	4.654	3.7	20.2
2 1	6 40.44	+32 9.8	1.806	2.682	11.8	20.4	2 1	6 51.41	+19 35.2	3.771	4.655	6.0	20.4
2 11	6 34.26	+31 59.5	1.891	2.683	15.0	20.7	2 11	6 46.88	+19 46.2	3.860	4.655	7.9	20.5
152052	2004 PC ₄₀		1 6.6 187°75	6°2/ 8.9 18			47118	1999 CP ₇₂		1 6.6 163°08	5°5/ 8.3 18		
12 3	7 31.49	+2 27.1	2.302	3.059	13.7	20.3	12 3	7 32.93	+5 33.9	2.298	3.065	13.4	19.1
12 13	7 26.37	+2 12.2	2.217	3.058	11.3	20.2	12 13	7 27.40	+5 6.7	2.218	3.070	10.9	18.9
12 23	7 19.38	+2 13.2	2.155	3.058	8.8	20.0	12 23	7 19.98	+4 52.4	2.162	3.074	8.2	18.8
1 2	7 11.09	+2 31.5	2.119	3.057	6.7	19.9	1 2	7 11.29	+4 52.6	2.132	3.078	6.0	18.7
1 12	7 2.32	+3 6.8	2.112	3.055	6.3	19.8	1 12	7 2.17	+5 7.2	2.132	3.082	5.7	18.6
1 22	6 53.96	+3 56.8	2.133	3.053	7.9	19.9	1 22	6 53.52	+5 34.7	2.161	3.085	7.5	18.8
2 1	6 46.83	+4 57.9	2.182	3.051	10.3	20.1	2 1	6 46.17	+6 12.2	2.217	3.088	10.1	18.9
2 11	6 41.60	+6 5.6	2.256	3.049	12.9	20.2	2 11	6 40.75	+6 56.5	2.298	3.090	12.7	19.1
108987	2001 PN ₅₂		1 6.6 248°84	0°9/ 6.2 18			132996	2002 TT ₂₅₃		1 6.6 106°38	4°5/ 5.3 18		
12 3	7 31.93	+23 7.3	2.366	3.178	11.7	19.7	12 3	7 36.12	+34 52.5	2.243	3.052	12.4	19.6
12 13	7 26.88	+23 48.0	2.279	3.173	8.8	19.5	12 13	7 30.19	+35 33.8	2.172	3.057	9.6	19.4
12 23	7 19.79	+24 32.6	2.217	3.169	5.4	19.3	12 23	7 21.87	+36 9.5	2.126	3.063	6.7	19.3
1 2	7 11.25	+25 17.6	2.184	3.164	1.9	19.0	1 2	7 11.92	+36 34.6	2.107	3.068	4.6	19.2
1 12	7 2.14	+25 59.6	2.181	3.159	2.4	19.1	1 12	7 1.46	+36 45.4	2.117	3.074	5.1	19.2
1 22	6 53.42	+26 35.9	2.209	3.154	6.0	19.3	1 22	6 51.69	+36 40.9	2.157	3.079	7.6	19.4
2 1	6 46.01	+27 5.1	2.265	3.148	9.4	19.5	2 1	6 43.66	+36 22.6	2.223	3.085	10.5	19.5
2 11	6 40.65	+27 27.2	2.345	3.143	12.3	19.7	2 11	6 38.12	+35 53.9	2.312	3.090	13.0	19.7
419161	2009 SK ₃₅₄		1 6.6 130°46	2°0/ 7.1 18			205340	2000 VK ₅₅		1 6.6 110°00	1°3/ 6.9 18		
12 3	7 33.32	+16 37.9	2.081	2.886	13.3	21.4	12 3	7 39.80	+19 35.4	1.832	2.638	14.8	20.3
12 13	7 27.92	+16 28.3	2.003	2.891	10.2	21.2	12 13	7 32.80	+19 21.0	1.771	2.660	11.2	20.2
12 23	7 20.39	+16 25.4	1.949	2.895	6.5	21.0	12 23	7 23.36	+19 11.1	1.733	2.681	7.0	20.0
1 2	7 11.42	+16 28.3	1.924	2.899	2.9	20.7	1 2	7 12.37	+19 4.0	1.723	2.701	2.6	19.7
1 12	7 1.99	+16 35.7	1.927	2.903	2.9	20.7	1 12	7 1.06	+18 58.5	1.743	2.721	2.7	19.8
1 22	6 53.13	+16 46.3	1.960	2.907	6.4	21.0	1 22	6 50.66	+18 53.8	1.793	2.740	6.9	20.1
2 1	6 45.79	+16 58.8	2.021	2.911	10.0	21.2	2 1	6 42.23	+18 49.7	1.870	2.759	10.8	20.3
2 11	6 40.65	+17 12.1	2.106	2.915	13.1	21.4	2 11	6 36.43	+18 46.3	1.972	2.776	14.0	20.6
287395	2002 VA ₇₇		1 6.6 40°30	2°1/ 6.1 18			397466	2007 HL ₆₆		1 6.6 218°23	2°6/ 7.3 18		
12 3	7 36.33	+23 25.4	1.172	2.017	19.0	19.9	12 3	7 36.77	+14 35.4	1.991	2.788	14.2	22.6
12 13	7 31.70	+24 21.5	1.116	2.027	14.3	19.7	12 13	7 30.79	+14 34.8	1.896	2.778	11.0	22.4
12 23	7 23.40	+25 24.9	1.080	2.037	8.8	19.4	12 23	7 22.36	+14 43.5	1.826	2.768	7.2	22.1
1 2	7 12.49	+26 27.7	1.068	2.047	3.3	19.1	1 2	7 12.15	+15 0.6	1.783	2.756	3.5	21.9
1 12	7 0.76	+27 22.2	1.081	2.059	4.2	19.2	1 12	7 1.19	+15 24.3	1.770	2.744	3.4	21.9
1 22	6 50.16	+28 3.1	1.120	2.070	9.6	19.6	1 22	6 50.67	+15 52.4	1.786	2.732	7.1	22.1
2 1	6 42.37	+28 29.3	1.182	2.082	14.7	19.9	2 1	6 41.70	+16 22.7	1.831	2.718	11.0	22.3
2 11	6 38.38	+28 42.8	1.264	2.095	18.8	20.2	2 11	6 35.15	+16 53.4	1.899	2.703	14.5	22.5
79269	1995 QG ₁		1 6.6 118°80	0°6/ 6.8 18 R			4750	Mukai		1 6.6 23°69	0°8/ 6.5 18		
12 3	7 31.57	+19 51.1	2.488	3.294	11.4	20.3	12 3	7 38.03	+24 46.8	1.149	1.994	19.3	16.7
12 13	7 26.32	+19 58.3	2.411	3.301	8.6	20.1	12 13	7 33.01	+24 36.9	1.087	1.997	14.6	16.4
12 23	7 19.28	+20 9.5	2.359	3.308	5.3	19.9	12 23	7 24.20	+24 27.9	1.045	2.001	9.1	16.1
1 2	7 11.04	+20 23.1	2.336	3.315	1.8	19.7	1 2	7 12.77	+24 16.4	1.026	2.006	3.0	15.8
1 12	7 2.44	+20 37.4	2.343	3.322	2.0	19.7	1 12	7 0.57	+23 59.5	1.032	2.012	3.5	15.8
1 22	6 54.31	+20 50.8	2.381	3.329	5.4	19.9	1 22	6 49.63	+23 36.9	1.064	2.017	9.5	16.2
2 1	6 47.45	+21 2.7	2.447	3.335	8.6	20.1	2 1	6 41.61	+23 10.7	1.119	2.024	14.8	16.5
2 11	6 42.46	+21 12.5	2.539	3.342	11.3	20.3	2 11	6 37.47	+22 43.4	1.193	2.031	19.3	16.8
205325	2000 UY ₃₈		1 6.6 17°12	3°9/ 7.4 18			234457	2001 SG ₁₈₁		1 6.6 73°24	3°6/ 5.8 18		
12 3	7 33.40	+14 30.4	1.320	2.149	18.2	19.5	12 3	7 35.99	+33 5.3	2.219	3.030	12.4	20.4
12 13	7 28.97	+14 5.9	1.254	2.152	14.1	19.3	12 13	7 29.94	+33 28.4	2.155	3.043	9.5	20.2
12 23	7 21.48	+13 53.6	1.208	2.155	9.4	19.0	12 23	7 21.62	+33 46.3	2.114	3.057	6.4	20.0
1 2	7 11.85	+13 53.7	1.186	2.159	4.9	18.8	1 2	7 11.83	+33 54.9	2.102	3.070	3.9	19.9
1 12	7 1.52	+14 5.0	1.189	2.164	4.7	18.8	1 12	7 1.68	+33 51.5	2.119	3.084	4.3	20.0
1 22	6 52.07	+14 25.1	1.219	2.169	9.0	19.0	1 22	6 52.30	+33 35.8	2.166	3.097	7.0	20.2
2 1	6 44.89	+14 51.1	1.272	2.175	13.6	19.3	2 1	6 44.67	+33 9.6	2.240	3.111	10.0	20.4
2 11	6 40.87	+15 19.9	1.347	2.182	17.6	19.6	2 11	6 39.44	+32 35.8	2.337	3.124	12.6	20.6
45525	2000 CC ₄		1 6.6 33°05	2°3/ 6.9 18			286932	2002 PL ₁₂₂		1 6.6 56°03	3°1/ 7.3 17		
12 3	7 34.93	+18 16.8	0.962	1.816	21.5	17.2	12 3	7 35.40	+15 6.9	1.467	2.287	17.2	20.4
12 13	7 30.72	+18 2.1	0.919	1.832	16.2	16.9	12 13	7 30.01	+14 51.7	1.412	2.306	13.1	20.2
12 23	7 22.71	+17 58.8	0.893	1.850	10.2	16.6	12 23	7 21.86	+14 47.3	1.379	2.325	8.6	20.0
1 2	7 12.21	+18 5.0	0.890	1.869	4.1	16.4	1 2	7 11.93	+14 53.1	1.370	2.345	4.2	19.8
1 12	7 1.21	+18 17.4	0.910	1.889	4.0	16.4	1 12	7 1.59	+15 7.1	1.389	2.365	4.0	19.8
1 22	6 51.69	+18 33.1	0.954	1.910	9.8	16.8	1 22	6 52.24	+15 26.9	1.436	2.385	8.0	20.1
2 1	6 45.21	+18 49.6	1.019	1.932	15.1	17.2	2 1	6 45.04	+15 50.2	1.507	2.405	12.2	20.4
2 11	6 42.58	+19 5.3	1.104	1.955	19.5	17.6	2 11	6 40.74	+16 14.6	1.601	2.425	15.8	20.7
483023	2014 WK ₃₂₁		1 6.6 30°41	4°3/ 8.0 18			334249	2001 TF ₁₇₉		1 6.6 70°44	10°9/ 10.4 18		
12 3	7 31.49	+10 6.5	1.719	2.523	15.7	20.7	12 3	7 30.38	-11 32.8	2.382	3.060	15.2	21.0
12 13</													

EPHEMERIDES

1 6.6

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
334088	2001 <i>QW</i> ₁₂₃		1 6.6 57°80	2.3/ 7.6	18		433143	2012 <i>TC</i> ₂₃₀		1 6.6 198°02	4.4/ 7.8	18	
12 3	7 31.69	+13 20.2	2.055	2.857	13.6	20.2	12 3	7 30.13	+ 8 45.7	2.507	3.286	12.1	21.3
12 13	7 26.63	+13 46.3	1.993	2.877	10.4	20.1	12 13	7 25.23	+ 8 12.6	2.423	3.286	9.6	21.1
12 23	7 19.56	+14 23.3	1.955	2.898	6.8	19.9	12 23	7 18.64	+ 7 49.2	2.363	3.285	7.0	21.0
1 2	7 11.18	+15 9.0	1.945	2.919	3.3	19.7	1 2	7 10.90	+ 7 36.4	2.330	3.285	4.9	20.8
1 12	7 2.43	+16 0.4	1.964	2.940	2.9	19.7	1 12	7 2.78	+ 7 34.6	2.327	3.284	4.7	20.8
1 22	6 54.30	+16 54.0	2.013	2.961	6.2	20.0	1 22	6 55.06	+ 7 42.9	2.353	3.284	6.6	20.9
2 1	6 47.65	+17 46.7	2.090	2.982	9.6	20.2	2 1	6 48.48	+ 7 59.8	2.407	3.283	9.2	21.1
2 11	6 43.13	+18 36.2	2.191	3.003	12.5	20.4	2 11	6 43.63	+ 8 23.0	2.486	3.282	11.7	21.3
247560	2002 <i>SE</i> ₁₀		1 6.6 205°01	2.9/ 5.7	18		204936	2008 <i>UG</i> ₁₄₂		1 6.6 211°27	1.0/ 6.9	18	
12 3	7 34.55	+31 3.4	2.573	3.380	11.0	21.0	12 3	7 37.35	+19 13.7	1.782	2.594	14.9	21.6
12 13	7 28.75	+31 34.2	2.488	3.376	8.4	20.8	12 13	7 31.46	+19 17.0	1.696	2.589	11.4	21.3
12 23	7 20.90	+32 2.5	2.429	3.373	5.5	20.6	12 23	7 22.88	+19 26.5	1.633	2.583	7.2	21.1
1 2	7 11.63	+32 24.4	2.398	3.368	3.2	20.5	1 2	7 12.35	+19 40.0	1.598	2.577	2.6	20.8
1 12	7 1.86	+32 37.0	2.397	3.364	3.6	20.5	1 12	7 1.07	+19 55.2	1.592	2.570	2.7	20.7
1 22	6 52.56	+32 39.1	2.427	3.359	6.3	20.6	1 22	6 50.38	+20 9.9	1.615	2.563	7.4	21.0
2 1	6 44.65	+32 31.2	2.485	3.354	9.2	20.8	2 1	6 41.54	+20 22.9	1.664	2.556	11.7	21.3
2 11	6 38.83	+32 15.1	2.567	3.349	11.8	21.0	2 11	6 35.43	+20 34.0	1.737	2.547	15.4	21.5
92489	2000 <i>MK</i>		1 6.6 288°52	3.1/ 7.1	18		498558	2008 <i>JE</i> ₃		1 6.6 251°79	4.2/ 4.8	17	
12 3	7 35.93	+16 28.2	1.465	2.287	17.1	19.8	12 3	7 37.17	+31 6.1	2.134	2.945	12.8	22.1
12 13	7 30.79	+16 0.0	1.386	2.281	13.2	19.6	12 13	7 31.42	+32 21.4	2.040	2.929	9.9	21.9
12 23	7 22.62	+15 40.0	1.328	2.276	8.7	19.3	12 23	7 22.97	+33 37.3	1.971	2.913	6.7	21.7
1 2	7 12.27	+15 28.2	1.296	2.271	4.2	19.0	1 2	7 12.43	+34 47.0	1.931	2.897	4.4	21.5
1 12	7 1.12	+15 24.1	1.290	2.266	4.1	19.0	1 12	7 0.90	+35 44.2	1.920	2.880	5.2	21.5
1 22	6 50.70	+15 26.4	1.312	2.261	8.6	19.3	1 22	6 49.70	+36 25.0	1.939	2.863	8.2	21.7
2 1	6 42.42	+15 33.8	1.359	2.256	13.3	19.5	2 1	6 40.12	+36 48.5	1.985	2.846	11.6	21.9
2 11	6 37.24	+15 44.8	1.426	2.252	17.4	19.7	2 11	6 33.19	+36 57.0	2.054	2.828	14.6	22.0
122173	2000 <i>KC</i> ₂₈		1 6.6 298°24	3.7/ 7.2	18		331203	2011 <i>BG</i> ₂₂		1 6.6 291°30	1.1/ 6.8	18	
12 3	7 35.58	+15 20.0	1.442	2.263	17.4	19.9	12 3	7 33.88	+20 7.8	1.924	2.739	13.9	20.2
12 13	7 30.55	+14 46.5	1.363	2.257	13.5	19.6	12 13	7 28.65	+19 54.0	1.838	2.732	10.5	20.0
12 23	7 22.49	+14 22.2	1.305	2.252	9.0	19.3	12 23	7 21.03	+19 44.0	1.775	2.726	6.6	19.7
1 2	7 12.23	+14 7.7	1.273	2.246	4.7	19.1	1 2	7 11.73	+19 36.7	1.740	2.719	2.4	19.4
1 12	7 1.16	+14 2.8	1.267	2.241	4.6	19.1	1 12	7 1.82	+19 30.7	1.733	2.712	2.6	19.4
1 22	6 50.82	+14 6.4	1.288	2.236	8.9	19.3	1 22	6 52.48	+19 25.4	1.756	2.705	6.8	19.7
2 1	6 42.62	+14 16.8	1.333	2.231	13.5	19.5	2 1	6 44.78	+19 20.3	1.806	2.699	10.8	19.9
2 11	6 37.52	+14 32.1	1.400	2.226	17.6	19.8	2 11	6 39.53	+19 15.5	1.879	2.692	14.3	20.1
262746	2006 <i>XJ</i> ₅₁		1 6.6 322°57	2.1/ 5.9	18		266698	2009 <i>PF</i> ₂₀		1 6.6 30°46	3.2/ 7.5	18	
12 3	7 33.69	+24 26.1	1.688	2.516	14.9	19.8	12 3	7 31.82	+14 6.2	1.536	2.357	16.5	20.1
12 13	7 29.04	+25 21.7	1.607	2.509	11.3	19.5	12 13	7 27.37	+14 1.9	1.474	2.368	12.7	19.9
12 23	7 21.55	+26 22.6	1.549	2.502	7.0	19.3	12 23	7 20.31	+14 9.7	1.433	2.379	8.4	19.6
1 2	7 11.94	+27 23.4	1.517	2.496	2.8	19.0	1 2	7 11.49	+14 28.8	1.417	2.391	4.2	19.4
1 12	7 1.46	+28 18.1	1.514	2.490	3.6	19.0	1 12	7 2.15	+14 56.9	1.428	2.404	3.9	19.4
1 22	6 51.54	+29 2.2	1.539	2.484	8.1	19.3	1 22	6 53.62	+15 30.8	1.467	2.417	7.8	19.7
2 1	6 43.52	+29 33.9	1.589	2.478	12.3	19.5	2 1	6 47.02	+16 7.4	1.531	2.431	11.9	20.0
2 11	6 38.40	+29 54.1	1.662	2.473	15.9	19.7	2 11	6 43.13	+16 43.9	1.616	2.445	15.5	20.2
402816	2007 <i>EJ</i> ₄₇		1 6.6 222°12	4.9/ 7.7	18		143970	2003 <i>YJ</i> ₁₃₈		1 6.6 64°08	0.5/ 6.8	18	
12 3	7 35.87	+10 21.6	1.724	2.521	16.0	22.2	12 3	7 34.75	+18 11.1	1.602	2.423	15.9	19.7
12 13	7 30.36	+ 9 59.7	1.638	2.514	12.7	21.9	12 13	7 29.65	+18 56.1	1.535	2.432	12.0	19.5
12 23	7 22.20	+ 9 50.8	1.573	2.506	9.0	21.7	12 23	7 21.79	+19 51.4	1.490	2.442	7.4	19.2
1 2	7 12.13	+ 9 56.1	1.534	2.498	5.6	21.5	1 2	7 12.00	+20 52.8	1.472	2.452	2.5	19.0
1 12	7 1.28	+10 15.0	1.523	2.490	5.3	21.4	1 12	7 1.56	+21 54.9	1.482	2.461	2.7	19.0
1 22	6 50.95	+10 45.4	1.540	2.481	8.5	21.6	1 22	6 51.85	+22 52.8	1.521	2.471	7.5	19.3
2 1	6 42.38	+11 24.2	1.584	2.471	12.4	21.8	2 1	6 44.12	+23 43.4	1.585	2.481	11.9	19.6
2 11	6 36.46	+12 7.8	1.650	2.461	16.0	22.0	2 11	6 39.25	+24 25.5	1.673	2.491	15.5	19.9
140277	2001 <i>SP</i> ₂₇₆		1 6.6 316°71	5.0/ 4.6	18		169981	2002 <i>TH</i> ₁₉₇		1 6.6 143°39	7.3/ 9.5	18	
12 3	7 34.90	+29 57.9	1.621	2.451	15.3	18.5	12 3	7 30.24	- 3 1.1	2.679	3.401	12.8	20.9
12 13	7 30.39	+31 30.0	1.538	2.438	11.8	18.3	12 13	7 25.16	- 3 38.7	2.603	3.409	10.9	20.7
12 23	7 22.65	+33 5.2	1.478	2.426	8.0	18.0	12 23	7 18.53	- 4 0.5	2.550	3.417	9.1	20.6
1 2	7 12.38	+34 34.7	1.445	2.414	5.2	17.8	1 2	7 10.87	- 4 4.1	2.523	3.424	7.7	20.5
1 12	7 0.92	+35 49.5	1.440	2.402	6.3	17.9	1 12	7 2.87	- 3 49.0	2.523	3.431	7.3	20.5
1 22	6 49.94	+36 43.7	1.461	2.391	9.9	18.1	1 22	6 55.27	- 3 16.5	2.551	3.438	8.3	20.6
2 1	6 41.07	+37 16.0	1.508	2.380	13.9	18.3	2 1	6 48.74	- 2 29.5	2.606	3.444	9.9	20.7
2 11	6 35.49	+37 29.3	1.575	2.369	17.4	18.5	2 11	6 43.81	- 1 32.0	2.684	3.450	11.7	20.8
141521	2002 <i>ER</i> ₁₄₄		1 6.6 176°39	0.9/ 6.9	18		279910	2001 <i>QO</i> ₂₈₈		1 6.6 130°93	2.5/ 7.3	18	
12 3	7 36.58	+18 50.9	2.099	2.902	13.3	21.2	12 3	7 31.99	+14 42.4	2.641	3.432	11.2	20.8
12 13	7 30.45	+19 4.6	2.017	2.905	10.1	21.0	12 13	7 26.47	+14 20.2	2.563	3.441	8.6	20.6
12 23	7 22.03	+19 24.3	1.959	2.907	6.3	20.8	12 23	7 19.33	+14 3.8	2.511	3.450	5.7	20.4
1 2	7 12.03	+19 47.7	1.930	2.909	2.3	20.5	1 2	7 11.12	+13 53.2	2.488	3.459	3.0	20.3
1 12	7 1.46	+20 12.2	1.931	2.909	2.4	20.5	1 12	7 2.61	+13 48.0	2.496	3.468	2.9	20.3
1 22	6 51.44	+20 35.7	1.962	2.909	6.4	20.8	1 22	6 54.56	+13 47.6	2.534	3.476	5.5	20.5
2 1	6 42.99	+20 56.8	2.021	2.908	10.1	21.0	2 1	6 47.69	+13 51.1	2.601	3.484	8.3	20.7
2 11	6 36.86	+21 14.9	2.105	2.907	13.4	21.2	2 11	6 42.54	+13 57.5	2.693	3.492	10.9	20.8
235445	2003 <i>YF</i> ₁₃₄		1 6.6 162°70	4.4/ 4.7	18		104486	2000 <i>GX</i> ₂₅		1 6.6 133°82	0.9/ 6.3	18	
12 3	7 35.00	+33 9.9	2.352										

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
49130	1998 SQ ₂₄		1 6.6 33°57'	4.6/ 5.6	18		417596	2006 VO ₁₀₄		1 6.6 60°10'	7.7/ 8.9	18	
12 3	7 36.53	+30 41.3	1.382	2.219	17.1	18.5	12 3	7 33.51	+3 44.7	1.600	2.383	17.6	21.2
12 13	7 31.58	+31 34.8	1.325	2.229	13.0	18.3	12 13	7 28.38	+3 4.0	1.544	2.402	14.4	21.1
12 23	7 23.21	+32 25.8	1.290	2.240	8.6	18.1	12 23	7 20.81	+2 43.2	1.509	2.421	11.0	20.9
1 2	7 12.48	+33 6.2	1.279	2.251	5.0	17.9	1 2	7 11.65	+2 44.8	1.498	2.441	8.4	20.8
1 12	7 1.07	+33 30.1	1.295	2.263	5.8	18.0	1 12	7 2.10	+3 8.7	1.513	2.460	7.8	20.8
1 22	6 50.77	+33 35.2	1.336	2.275	9.7	18.2	1 22	6 53.36	+3 51.5	1.554	2.480	9.7	21.0
2 1	6 43.08	+33 23.5	1.402	2.288	13.8	18.5	2 1	6 46.48	+4 48.3	1.620	2.499	12.7	21.2
2 11	6 38.91	+32 59.6	1.488	2.302	17.3	18.8	2 11	6 42.18	+5 53.0	1.709	2.519	15.6	21.4
29577	1998 FA ₅₃		1 6.6 13°99'	2.9/ 5.9	18		378448	2007 RS ₃₁₁		1 6.6 65°88'	1.3/ 6.9	18	
12 3	7 32.83	+29 24.8	1.889	2.714	13.7	17.5	12 3	7 32.83	+18 31.5	2.110	2.919	13.0	21.0
12 13	7 28.00	+29 52.1	1.819	2.718	10.3	17.3	12 13	7 27.47	+18 25.4	2.044	2.935	9.8	20.8
12 23	7 20.67	+30 17.5	1.772	2.722	6.7	17.1	12 23	7 20.08	+18 24.6	2.003	2.951	6.2	20.6
1 2	7 11.62	+30 36.6	1.752	2.727	3.4	16.9	1 2	7 11.40	+18 27.7	1.989	2.967	2.4	20.4
1 12	7 2.05	+30 46.0	1.760	2.732	3.9	17.0	1 12	7 2.38	+18 33.3	2.006	2.984	2.4	20.5
1 22	6 53.19	+30 44.2	1.796	2.737	7.4	17.2	1 22	6 54.01	+18 40.2	2.051	3.000	6.1	20.7
2 1	6 46.16	+30 32.3	1.859	2.744	11.0	17.4	2 1	6 47.17	+18 47.4	2.125	3.016	9.5	21.0
2 11	6 41.72	+30 12.4	1.944	2.751	14.1	17.6	2 11	6 42.47	+18 54.5	2.222	3.032	12.5	21.2
493440	2014 WA ₃₄₀		1 6.6 135°54'	0.5/ 6.4	18		314221	2005 NE ₁₂₂		1 6.6 164°22'	1.4/ 6.4	18	
12 3	7 35.43	+21 15.9	2.201	3.008	12.6	21.2	12 3	7 39.88	+28 0.3	2.198	3.002	12.7	20.7
12 13	7 29.52	+22 3.3	2.127	3.019	9.5	21.0	12 13	7 32.79	+27 47.8	2.118	3.007	9.6	20.6
12 23	7 21.44	+22 55.9	2.079	3.029	5.8	20.8	12 23	7 23.39	+27 32.0	2.062	3.011	6.0	20.3
1 2	7 11.86	+23 49.8	2.059	3.039	1.9	20.5	1 2	7 12.47	+27 10.5	2.036	3.014	2.3	20.1
1 12	7 1.76	+24 41.0	2.071	3.049	2.3	20.6	1 12	7 1.15	+26 42.1	2.041	3.017	2.7	20.1
1 22	6 52.19	+25 26.3	2.113	3.058	6.2	20.8	1 22	6 50.58	+26 7.0	2.076	3.020	6.4	20.4
2 1	6 44.13	+26 3.9	2.183	3.067	9.7	21.1	2 1	6 41.77	+25 27.4	2.141	3.022	9.9	20.6
2 11	6 38.31	+26 33.9	2.278	3.075	12.6	21.3	2 11	6 35.40	+24 45.7	2.230	3.024	13.0	20.8
134849	2000 KO ₆₅		1 6.6 258°47'	5.3/ 8.8	18		601	Nerthus		1 6.6 127°06'	5.8/ 9.1	18	
12 3	7 29.90	+3 55.6	2.504	3.265	12.6	20.3	12 3	7 29.73	+2 3.4	2.578	3.329	12.5	15.1
12 13	7 25.20	+3 49.7	2.405	3.252	10.3	20.1	12 13	7 24.87	+1 47.9	2.500	3.337	10.3	14.9
12 23	7 18.73	+3 58.0	2.330	3.238	7.9	19.9	12 23	7 18.40	+1 46.7	2.446	3.344	8.0	14.8
1 2	7 10.99	+4 21.7	2.281	3.224	5.9	19.8	1 2	7 10.86	+2 1.1	2.418	3.351	6.2	14.7
1 12	7 2.73	+5 0.1	2.261	3.210	5.5	19.7	1 12	7 2.97	+2 30.7	2.419	3.358	5.9	14.7
1 22	6 54.75	+5 51.4	2.270	3.196	7.1	19.8	1 22	6 55.48	+3 13.5	2.449	3.365	7.2	14.8
2 1	6 47.83	+6 52.2	2.308	3.181	9.6	20.0	2 1	6 49.09	+4 6.5	2.506	3.371	9.3	14.9
2 11	6 42.63	+7 58.7	2.370	3.166	12.2	20.1	2 11	6 44.35	+5 6.0	2.589	3.378	11.5	15.1
196702	2003 SS ₈₂		1 6.6 32°92'	3.2/ 7.6	18		90013	2002 TM ₂₄₀		1 6.6 14°12'	2.2/ 5.9	18	
12 3	7 31.38	+13 15.3	1.916	2.722	14.3	20.3	12 3	7 31.12	+22 17.2	1.191	2.042	18.4	18.3
12 13	7 26.65	+13 7.8	1.841	2.726	11.0	20.1	12 13	7 27.82	+23 35.6	1.133	2.047	13.8	18.0
12 23	7 19.73	+13 10.5	1.790	2.731	7.4	19.9	12 23	7 21.09	+25 4.2	1.096	2.054	8.5	17.7
1 2	7 11.32	+13 23.3	1.765	2.736	4.0	19.7	1 2	7 11.87	+26 34.8	1.083	2.063	3.2	17.5
1 12	7 2.41	+13 44.7	1.769	2.741	3.7	19.7	1 12	7 1.79	+27 57.9	1.095	2.072	4.2	17.6
1 22	6 54.08	+14 12.4	1.801	2.747	7.0	19.9	1 22	6 52.64	+29 6.2	1.133	2.084	9.5	17.9
2 1	6 47.30	+14 43.9	1.859	2.753	10.5	20.1	2 1	6 46.05	+29 56.9	1.194	2.096	14.4	18.2
2 11	6 42.78	+15 16.9	1.942	2.758	13.7	20.3	2 11	6 43.02	+30 30.6	1.275	2.110	18.5	18.5
352852	2008 WO ₄₀		1 6.6 171°49'	3.3/ 7.3	18		277581	2005 YK ₂₃₆		1 6.6 2°22'	2.2/ 6.2	18	
12 3	7 37.16	+14 27.7	1.795	2.597	15.3	21.7	12 3	7 34.09	+27 17.5	1.622	2.454	15.3	20.7
12 13	7 31.12	+14 5.8	1.717	2.600	11.8	21.5	12 13	7 29.30	+27 32.1	1.550	2.453	11.5	20.5
12 23	7 22.56	+13 52.8	1.661	2.603	7.9	21.2	12 23	7 21.64	+27 46.2	1.499	2.452	7.3	20.3
1 2	7 12.25	+13 48.5	1.633	2.605	4.1	21.0	1 2	7 11.98	+27 55.5	1.475	2.453	3.0	20.0
1 12	7 1.34	+13 52.3	1.633	2.606	4.0	21.0	1 12	7 1.68	+27 56.7	1.478	2.454	3.6	20.0
1 22	6 51.10	+14 2.6	1.662	2.607	7.6	21.2	1 22	6 52.19	+27 48.6	1.508	2.455	7.9	20.3
2 1	6 42.65	+14 17.9	1.719	2.607	11.5	21.5	2 1	6 44.78	+27 32.1	1.564	2.458	12.1	20.6
2 11	6 36.81	+14 36.3	1.798	2.607	15.0	21.7	2 11	6 40.33	+27 9.6	1.642	2.460	15.8	20.8
196910	2003 TL ₂₉		1 6.6 257°11'	1.2/ 6.3	18		354221	2002 GY ₁₆₀		1 6.6 239°20'	1.0/ 6.4	18	
12 3	7 33.50	+24 54.9	2.168	2.983	12.5	20.2	12 3	7 36.87	+23 21.5	1.858	2.674	14.3	21.6
12 13	7 28.24	+25 15.6	2.082	2.977	9.4	20.0	12 13	7 31.22	+23 52.2	1.766	2.662	10.8	21.3
12 23	7 20.74	+25 37.9	2.020	2.972	5.8	19.8	12 23	7 22.83	+24 27.2	1.699	2.650	6.7	21.1
1 2	7 11.66	+25 58.7	1.986	2.966	2.1	19.5	1 2	7 12.41	+25 2.7	1.658	2.638	2.3	20.8
1 12	7 1.99	+26 15.1	1.983	2.960	2.6	19.5	1 12	7 1.12	+25 34.2	1.647	2.625	2.9	20.8
1 22	6 52.82	+26 25.3	2.008	2.954	6.4	19.8	1 22	6 50.31	+25 58.8	1.666	2.612	7.4	21.0
2 1	6 45.16	+26 29.0	2.061	2.948	10.0	20.0	2 1	6 41.28	+26 15.3	1.711	2.598	11.7	21.3
2 11	6 39.77	+26 27.0	2.139	2.942	13.1	20.2	2 11	6 34.97	+26 24.6	1.779	2.584	15.3	21.5
331446	2012 HN ₆		1 6.6 238°95'	7.5/ 8.7	18		212150	2005 EP ₃₁₀		1 6.6 155°89'	0.7/ 6.5	18	
12 3	7 31.70	-0 30.0	2.429	3.167	13.5	21.5	12 3	7 37.54	+23 30.5	2.063	2.872	13.3	21.4
12 13	7 26.57	-1 14.3	2.332	3.154	11.5	21.3	12 13	7 31.22	+23 49.1	1.987	2.879	10.0	21.2
12 23	7 19.59	-1 43.5	2.258	3.140	9.4	21.2	12 23	7 22.53	+24 10.0	1.935	2.886	6.1	21.0
1 2	7 11.28	-1 54.8	2.209	3.125	7.8	21.1	1 2	7 12.24	+24 30.0	1.912	2.892	2.0	20.8
1 12	7 2.41	-1 46.6	2.188	3.110	7.6	21.0	1 12	7 1.42	+24 46.1	1.919	2.898	2.5	20.8
1 22	6 53.84	-1 19.8	2.195	3.094	8.8	21.1	1 22	6 51.26	+24 56.7	1.957	2.902	6.5	21.1
2 1	6 46.39	-0 36.9	2.229	3.078	11.0	21.2	2 1	6 42.79	+25 1.4	2.022	2.907	10.2	21.3
2 11	6 40.75	+0 17.8	2.287	3.061	13.3	21.3	2 11	6 36.78	+25 1.4	2.111	2.911	13.4	21.5
464481	2016 BR ₅₄		1 6.6 202°85'	1.1/ 6.9	18		359133	2009 BR ₇₈		1 6.6 350°59'	0.1/ 6.7	18	
12 3	7 34.21	+18 25.0	2.335	3.136	12.2	22.1	12 3	7 32.35	+18 54.4	1.271	2.112	18.1	20.2
12 13	7 28.												

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
37178	2000 <i>WD</i> ₄₅		1 6.6 218°60	1°0/ 6.3	18		151551	2002 <i>TR</i> ₂₄		1 6.6 58°09	5°7/ 7.9	17	
12 3	7 34.23	+23 20.7	2.290	3.099	12.1	19.4	12 3	7 36.43	+10 44.9	1.220	2.041	19.9	19.5
12 13	7 28.72	+23 57.8	2.200	3.093	9.1	19.2	12 13	7 31.25	+10 11.9	1.167	2.057	15.6	19.3
12 23	7 21.04	+24 38.6	2.136	3.086	5.6	18.9	12 23	7 22.89	+9 56.4	1.134	2.073	10.9	19.0
1 2	7 11.78	+25 19.6	2.100	3.079	2.0	18.7	1 2	7 12.40	+9 59.5	1.123	2.090	6.7	18.9
1 12	7 1.89	+25 57.2	2.094	3.072	2.5	18.7	1 12	7 1.39	+10 20.0	1.138	2.107	6.2	18.9
1 22	6 52.41	+26 28.8	2.119	3.064	6.2	18.9	1 22	6 51.51	+10 54.2	1.179	2.125	9.8	19.1
2 1	6 44.33	+26 53.1	2.173	3.056	9.7	19.1	2 1	6 44.11	+11 37.5	1.243	2.142	14.2	19.4
2 11	6 38.41	+27 10.3	2.251	3.047	12.8	19.3	2 11	6 40.02	+12 24.8	1.328	2.160	18.0	19.7
63947	2001 <i>ST</i> ₅₈		1 6.6 357°78	5°6/ 7.8	18		89725	2001 <i>YB</i> ₁₃₂		1 6.7 246°55	4°0/ 5.0	18	
12 3	7 33.72	+10 30.1	1.359	2.175	18.5	19.0	12 3	7 36.23	+30 8.3	2.019	2.835	13.3	19.7
12 13	7 29.24	+9 59.9	1.287	2.174	14.6	18.8	12 13	7 30.75	+31 21.6	1.935	2.828	10.2	19.4
12 23	7 21.74	+9 45.6	1.235	2.173	10.3	18.5	12 23	7 22.57	+32 35.7	1.876	2.821	6.8	19.2
1 2	7 12.07	+9 48.8	1.207	2.173	6.5	18.3	1 2	7 12.37	+33 43.7	1.845	2.814	4.2	19.1
1 12	7 1.62	+10 9.2	1.205	2.173	6.1	18.3	1 12	7 1.30	+34 39.5	1.843	2.806	5.0	19.1
1 22	6 51.92	+10 43.7	1.228	2.173	9.6	18.5	1 22	6 50.68	+35 19.3	1.870	2.798	8.2	19.3
2 1	6 44.38	+11 28.2	1.275	2.174	14.0	18.7	2 1	6 41.79	+35 42.5	1.924	2.790	11.6	19.5
2 11	6 39.94	+12 17.8	1.344	2.175	17.9	19.0	2 11	6 35.59	+35 51.3	2.000	2.782	14.6	19.6
3807	PageIs		1 6.6 172°53	2°1/ 7.2	18		62945	2000 <i>VH</i> ₂₈		1 6.7 74°32	2°0/ 6.0	18	
12 3	7 37.74	+15 58.0	1.817	2.621	15.0	17.2	12 3	7 37.06	+24 2.1	1.513	2.342	16.3	18.8
12 13	7 31.61	+16 3.7	1.738	2.624	11.5	17.0	12 13	7 31.66	+24 58.5	1.449	2.351	12.3	18.6
12 23	7 22.91	+16 18.4	1.682	2.627	7.4	16.8	12 23	7 23.19	+26 0.0	1.408	2.361	7.6	18.4
1 2	7 12.40	+16 40.7	1.653	2.629	3.3	16.5	1 2	7 12.55	+27 0.1	1.392	2.371	2.9	18.1
1 12	7 1.25	+17 7.9	1.654	2.631	3.1	16.5	1 12	7 1.18	+27 52.5	1.405	2.381	3.7	18.2
1 22	6 50.74	+17 37.4	1.684	2.632	7.2	16.8	1 22	6 50.68	+28 32.9	1.446	2.391	8.4	18.5
2 1	6 42.02	+18 7.0	1.742	2.632	11.3	17.0	2 1	6 42.44	+29 0.3	1.511	2.402	12.7	18.8
2 11	6 35.93	+18 35.3	1.823	2.631	14.8	17.2	2 11	6 37.38	+29 16.2	1.599	2.412	16.4	19.0
331628	2002 <i>FU</i> ₄		1 6.6 333°03	4°4/ 8.5	18		456990	2008 <i>CY</i> ₂₇		1 6.7 273°31	0°5/ 6.8	17	
12 3	7 29.94	+8 16.4	1.552	2.360	17.0	20.1	12 3	7 34.64	+19 10.6	1.907	2.720	14.1	21.8
12 13	7 26.31	+8 50.7	1.462	2.345	13.5	19.9	12 13	7 29.56	+19 37.5	1.805	2.698	10.7	21.5
12 23	7 19.96	+9 47.2	1.394	2.331	9.5	19.6	12 23	7 21.87	+20 12.6	1.725	2.676	6.8	21.2
1 2	7 11.54	+11 5.4	1.350	2.318	5.6	19.3	1 2	7 12.17	+20 53.3	1.674	2.653	2.3	20.9
1 12	7 2.17	+12 41.2	1.334	2.306	4.8	19.3	1 12	7 1.51	+21 35.8	1.651	2.630	2.5	20.9
1 22	6 53.19	+14 27.7	1.344	2.294	8.4	19.4	1 22	6 51.15	+22 16.7	1.657	2.607	7.2	21.1
2 1	6 45.95	+16 17.1	1.382	2.284	12.8	19.6	2 1	6 42.33	+22 53.4	1.691	2.583	11.5	21.3
2 11	6 41.46	+18 2.5	1.441	2.274	16.8	19.9	2 11	6 36.06	+23 24.8	1.748	2.559	15.3	21.5
109791	2001 <i>RL</i> ₉₁		1 6.6 48°33	0°5/ 6.5	18		78898	2003 <i>SS</i> ₅₈		1 6.7 19°43	8°7/ 7.9	18	
12 3	7 32.66	+22 46.4	1.990	2.809	13.3	19.5	12 3	7 32.66	+6 34.6	1.288	2.099	19.6	19.0
12 13	7 27.55	+23 7.2	1.928	2.826	9.9	19.3	12 13	7 28.39	+5 15.6	1.227	2.104	16.0	18.8
12 23	7 20.24	+23 31.2	1.890	2.843	6.1	19.1	12 23	7 21.16	+4 14.7	1.186	2.110	12.2	18.6
1 2	7 11.49	+23 55.3	1.880	2.860	2.0	18.9	1 2	7 11.89	+3 37.3	1.167	2.117	9.3	18.5
1 12	7 2.36	+24 16.5	1.899	2.877	2.4	19.0	1 12	7 2.00	+3 25.8	1.172	2.124	9.0	18.5
1 22	6 53.93	+24 33.1	1.946	2.895	6.3	19.2	1 22	6 53.00	+3 39.1	1.202	2.133	11.4	18.6
2 1	6 47.14	+24 44.4	2.022	2.913	9.9	19.5	2 1	6 46.19	+4 12.7	1.254	2.142	15.0	18.9
2 11	6 42.66	+24 50.8	2.120	2.931	13.0	19.7	2 11	6 42.46	+4 59.9	1.326	2.152	18.4	19.1
50027	2000 <i>AQ</i> ₄₃		1 6.6 53°33	0°2/ 6.6	18		219378	2000 <i>SX</i> ₆₃		1 6.7 69°86	4°8/ 7.9	18	
12 3	7 38.31	+22 56.2	1.261	2.098	18.4	18.6	12 3	7 32.46	+9 32.0	1.876	2.671	15.0	20.1
12 13	7 32.89	+22 54.6	1.201	2.107	13.9	18.3	12 13	7 27.48	+9 10.8	1.804	2.678	11.8	19.9
12 23	7 24.01	+22 56.7	1.162	2.117	8.6	18.0	12 23	7 20.28	+9 2.6	1.753	2.684	8.4	19.7
1 2	7 12.78	+22 59.0	1.146	2.127	2.8	17.7	1 2	7 11.57	+9 8.3	1.729	2.690	5.5	19.6
1 12	7 0.91	+22 58.4	1.158	2.137	3.2	17.8	1 12	7 2.37	+9 27.0	1.733	2.697	5.1	19.6
1 22	6 50.20	+22 53.5	1.195	2.147	8.8	18.1	1 22	6 53.77	+9 56.7	1.765	2.704	7.7	19.7
2 1	6 42.17	+22 44.9	1.256	2.158	13.8	18.5	2 1	6 46.75	+10 34.3	1.823	2.710	11.0	20.0
2 11	6 37.70	+22 33.9	1.338	2.169	18.0	18.7	2 11	6 42.03	+11 16.3	1.905	2.717	14.1	20.2
419039	2009 <i>RW</i> ₁₁		1 6.6 96°39	1°9/ 7.2	18		427158	2014 <i>UA</i> ₁₈₅		1 6.7 67°73	2°1/ 5.9	18	
12 3	7 33.76	+16 25.2	1.986	2.793	13.8	21.8	12 3	7 34.58	+25 41.1	1.922	2.742	13.7	20.8
12 13	7 28.34	+16 26.8	1.915	2.804	10.5	21.6	12 13	7 29.34	+26 26.9	1.846	2.743	10.3	20.6
12 23	7 20.73	+16 36.1	1.869	2.815	6.7	21.4	12 23	7 21.58	+27 15.2	1.794	2.745	6.4	20.4
1 2	7 11.66	+16 51.7	1.849	2.825	2.9	21.2	1 2	7 12.03	+28 1.2	1.769	2.747	2.7	20.1
1 12	7 2.15	+17 11.7	1.859	2.836	2.8	21.2	1 12	7 1.82	+28 40.3	1.774	2.748	3.4	20.2
1 22	6 53.27	+17 33.9	1.898	2.847	6.5	21.5	1 22	6 52.21	+29 9.4	1.807	2.750	7.2	20.4
2 1	6 45.99	+17 56.8	1.965	2.857	10.1	21.7	2 1	6 44.34	+29 27.9	1.868	2.752	11.0	20.6
2 11	6 40.99	+18 18.9	2.056	2.867	13.3	21.9	2 11	6 39.05	+29 36.9	1.951	2.754	14.2	20.9
351629	2005 <i>XG</i> ₃₇		1 6.6 216°35	1°5/ 6.2	18		78533	2002 <i>RL</i> ₁₀₆		1 6.7 76°01	1°5/ 6.2	18	
12 3	7 38.04	+23 52.9	1.752	2.570	14.9	21.1	12 3	7 33.90	+25 20.8	2.201	3.015	12.4	19.6
12 13	7 32.24	+24 34.3	1.667	2.564	11.3	20.9	12 13	7 28.35	+25 53.2	2.138	3.033	9.2	19.5
12 23	7 23.53	+25 20.5	1.606	2.558	7.0	20.6	12 23	7 20.70	+26 26.6	2.100	3.051	5.7	19.3
1 2	7 12.67	+26 6.4	1.572	2.551	2.6	20.3	1 2	7 11.68	+26 57.6	2.090	3.068	2.2	19.1
1 12	7 0.93	+26 46.8	1.567	2.544	3.2	20.3	1 12	7 2.28	+27 22.9	2.110	3.086	2.7	19.2
1 22	6 49.75	+27 18.1	1.591	2.536	7.8	20.6	1 22	6 53.53	+27 40.9	2.160	3.103	6.2	19.4
2 1	6 40.52	+27 39.3	1.641	2.528	12.1	20.8	2 1	6 46.33	+27 51.2	2.237	3.121	9.5	19.6
2 11	6 34.20	+27 51.3	1.714	2.519	15.8	21.0	2 11	6 41.33	+27 54.9	2.339	3.138	12.3	19.9
126122	2001 <i>YP</i> ₁₁₅		1 6.6 48°22	3°3/ 6.2	18		28450	Saravolz		1 6.7 321°36	3°0/ 7.3	18	
12 3	7 39.17	+29 19.5	1.345	2.180	17.6	19.6	12 3	7 33.78					

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
82750	2001 <i>QB</i> ₇		1 6.7 210°85	1.5°/ 6.4	18		64117	2001 <i>TW</i> ₁₅		1 6.7 13°78	5.4°/ 4.6	18	
12 3	7 40.39	+25 41.2	1.876	2.687	14.3	20.3	12 3	7 34.50	+35 8.8	2.060	2.876	13.1	18.4
12 13	7 33.81	+25 56.9	1.787	2.680	10.9	20.1	12 13	7 29.41	+36 19.7	1.990	2.877	10.2	18.2
12 23	7 24.41	+26 13.4	1.722	2.673	6.8	19.8	12 23	7 21.70	+37 26.2	1.944	2.880	7.4	18.1
1 2	7 12.97	+26 26.6	1.685	2.664	2.5	19.5	1 2	7 12.10	+38 21.5	1.925	2.882	5.5	18.0
1 12	7 0.75	+26 33.0	1.678	2.655	3.1	19.6	1 12	7 1.82	+39 0.4	1.935	2.885	6.1	18.0
1 22	6 49.15	+26 31.0	1.701	2.645	7.5	19.8	1 22	6 52.15	+39 20.3	1.972	2.888	8.6	18.2
2 1	6 39.47	+26 21.3	1.751	2.635	11.6	20.0	2 1	6 44.29	+39 22.1	2.035	2.892	11.5	18.4
2 11	6 32.63	+26 5.9	1.824	2.623	15.2	20.2	2 11	6 39.12	+39 9.3	2.121	2.896	14.1	18.5
296644	2009 <i>SE</i> ₁₁₈		1 6.7 10°86	0°3/ 6.6	18		373896	2003 <i>SO</i> ₃₃₈		1 6.7 79°54	0°9/ 6.9	18	
12 3	7 34.14	+23 0.4	1.750	2.573	14.7	20.8	12 3	7 32.93	+18 51.7	2.068	2.879	13.2	21.2
12 13	7 29.08	+23 3.3	1.674	2.574	11.0	20.6	12 13	7 27.73	+19 3.0	1.996	2.889	9.9	21.0
12 23	7 21.43	+23 9.0	1.622	2.575	6.8	20.3	12 23	7 20.39	+19 20.1	1.948	2.898	6.2	20.8
1 2	7 11.98	+23 14.8	1.597	2.577	2.2	20.0	1 2	7 11.63	+19 41.1	1.928	2.907	2.3	20.6
1 12	7 1.95	+23 18.3	1.600	2.579	2.6	20.1	1 12	7 2.42	+20 3.6	1.938	2.916	2.3	20.6
1 22	6 52.62	+23 18.1	1.631	2.581	7.2	20.3	1 22	6 53.80	+20 25.6	1.976	2.926	6.2	20.9
2 1	6 45.17	+23 14.1	1.688	2.583	11.3	20.6	2 1	6 46.71	+20 45.8	2.043	2.935	9.8	21.1
2 11	6 40.39	+23 7.1	1.768	2.586	14.8	20.8	2 11	6 41.83	+21 3.3	2.133	2.944	12.9	21.3
141425	2002 <i>CV</i> ₁		1 6.7 26°02	4.4°/ 5.8	18		464179	2015 <i>AV</i> ₁₇₈		1 6.7 123°60	1.8°/ 7.5	18	
12 3	7 38.69	+30 56.0	1.416	2.248	17.0	19.9	12 3	7 31.99	+13 51.2	2.580	3.370	11.5	20.9
12 13	7 33.29	+31 35.0	1.349	2.250	13.0	19.7	12 13	7 26.64	+14 24.1	2.503	3.382	8.8	20.7
12 23	7 24.39	+32 11.0	1.303	2.253	8.6	19.4	12 23	7 19.58	+15 5.8	2.452	3.393	5.7	20.6
1 2	7 13.00	+32 36.6	1.283	2.255	4.9	19.2	1 2	7 11.35	+15 54.5	2.430	3.404	2.6	20.4
1 12	7 0.79	+32 46.1	1.289	2.258	5.5	19.3	1 12	7 2.73	+16 47.5	2.439	3.415	2.4	20.4
1 22	6 49.63	+32 37.7	1.321	2.261	9.6	19.5	1 22	6 54.53	+17 41.9	2.479	3.426	5.3	20.6
2 1	6 41.09	+32 14.1	1.377	2.265	13.9	19.8	2 1	6 47.49	+18 35.0	2.549	3.436	8.3	20.8
2 11	6 36.15	+31 39.9	1.455	2.268	17.7	20.0	2 11	6 42.21	+19 25.0	2.645	3.445	11.0	21.0
339522	2005 <i>GZ</i> ₁₅₈		1 6.7 212°28	0°5/ 6.8	18		212142	2005 <i>EN</i> ₂₇₇		1 6.7 255°69	3°9/ 5.4	18	
12 3	7 32.18	+20 43.9	2.596	3.399	11.0	21.3	12 3	7 37.85	+29 33.6	1.827	2.645	14.4	20.7
12 13	7 26.86	+20 44.4	2.506	3.395	8.3	21.1	12 13	7 32.28	+30 34.1	1.737	2.631	11.0	20.5
12 23	7 19.74	+20 47.8	2.442	3.391	5.2	20.9	12 23	7 23.71	+31 35.6	1.670	2.617	7.3	20.2
1 2	7 11.39	+20 52.8	2.407	3.387	1.8	20.7	1 2	7 12.84	+32 31.4	1.631	2.603	4.2	20.0
1 12	7 2.61	+20 58.0	2.403	3.382	1.9	20.7	1 12	7 0.94	+33 15.1	1.620	2.588	5.0	20.0
1 22	6 54.23	+21 2.1	2.429	3.377	5.3	20.9	1 22	6 49.49	+33 42.8	1.638	2.572	8.7	20.2
2 1	6 47.06	+21 4.9	2.484	3.371	8.5	21.1	2 1	6 39.98	+33 54.1	1.682	2.557	12.6	20.4
2 11	6 41.70	+21 6.1	2.565	3.366	11.3	21.3	2 11	6 33.46	+33 51.8	1.748	2.541	16.0	20.6
359190	2009 <i>CT</i> ₆₃		1 6.7 257°30	6°5/ 4.9	18		430294	2013 <i>WA</i> ₇₆		1 6.7 107°40	2°5/ 5.7	18	
12 3	7 41.51	+37 31.2	1.833	2.641	14.7	20.7	12 3	7 33.42	+28 4.1	2.344	3.157	11.8	20.9
12 13	7 35.24	+38 25.7	1.744	2.626	11.8	20.5	12 13	7 28.11	+28 54.6	2.268	3.161	8.9	20.7
12 23	7 25.61	+39 13.4	1.679	2.610	8.7	20.3	12 23	7 20.67	+29 45.4	2.217	3.165	5.7	20.5
1 2	7 13.44	+39 46.0	1.639	2.593	6.6	20.1	1 2	7 11.75	+30 32.0	2.195	3.169	2.9	20.3
1 12	7 0.20	+39 57.0	1.628	2.577	7.2	20.1	1 12	7 2.29	+31 10.6	2.203	3.173	3.5	20.4
1 22	6 47.64	+39 44.2	1.644	2.560	10.1	20.3	1 22	6 53.31	+31 38.7	2.241	3.177	6.5	20.6
2 1	6 37.37	+39 10.1	1.685	2.542	13.5	20.4	2 1	6 45.79	+31 55.9	2.307	3.181	9.6	20.8
2 11	6 30.50	+38 20.8	1.748	2.524	16.7	20.6	2 11	6 40.42	+32 3.6	2.397	3.185	12.3	21.0
54951	2001 <i>PH</i> ₆		1 6.7 103°09	0°4/ 6.5	18		76135	2000 <i>EO</i> ₁₁		1 6.7 42°22	0°5/ 6.8	18	
12 3	7 32.86	+22 50.7	2.457	3.265	11.4	19.2	12 3	7 34.73	+18 33.9	1.325	2.159	17.9	18.9
12 13	7 27.37	+23 9.3	2.386	3.278	8.5	19.1	12 13	7 29.98	+19 11.4	1.273	2.177	13.4	18.7
12 23	7 20.03	+23 30.3	2.341	3.291	5.2	18.9	12 23	7 22.15	+19 59.5	1.242	2.196	8.3	18.5
1 2	7 11.47	+23 51.1	2.325	3.305	1.7	18.6	1 2	7 12.25	+20 53.4	1.235	2.215	2.8	18.2
1 12	7 2.56	+24 9.6	2.339	3.317	2.0	18.7	1 12	7 1.80	+21 47.4	1.256	2.236	2.9	18.2
1 22	6 54.17	+24 24.1	2.384	3.330	5.5	18.9	1 22	6 52.39	+22 36.7	1.303	2.256	8.2	18.6
2 1	6 47.13	+24 34.2	2.457	3.343	8.6	19.2	2 1	6 45.34	+23 18.5	1.375	2.277	12.8	18.9
2 11	6 42.04	+24 40.2	2.555	3.355	11.3	19.4	2 11	6 41.48	+23 52.0	1.468	2.298	16.7	19.2
323152	2003 <i>EL</i> ₆₃		1 6.7 311°14	5°2/ 4.6	18		169359	2001 <i>UN</i> ₆₃		1 6.7 184°61	6°1/ 4.2	18	
12 3	7 35.67	+31 14.9	1.699	2.525	14.9	20.3	12 3	7 36.80	+40 45.6	2.563	3.356	11.5	20.1
12 13	7 30.90	+32 42.9	1.617	2.514	11.5	20.1	12 13	7 30.84	+41 51.6	2.490	3.356	9.3	19.9
12 23	7 22.98	+34 12.2	1.558	2.503	7.9	19.8	12 23	7 22.46	+42 50.0	2.441	3.356	7.2	19.8
1 2	7 12.61	+35 34.1	1.527	2.493	5.4	19.6	1 2	7 12.36	+43 34.8	2.420	3.355	6.1	19.7
1 12	7 1.14	+36 40.2	1.523	2.483	6.3	19.7	1 12	7 1.62	+44 1.5	2.428	3.355	6.6	19.8
1 22	6 50.16	+37 25.6	1.547	2.473	9.8	19.9	1 22	6 51.41	+44 8.8	2.464	3.354	8.3	19.9
2 1	6 41.25	+37 49.6	1.595	2.463	13.5	20.1	2 1	6 42.84	+43 58.0	2.526	3.354	10.5	20.0
2 11	6 35.54	+37 55.4	1.665	2.454	16.8	20.3	2 11	6 36.71	+43 32.8	2.610	3.353	12.6	20.2
391210	2006 <i>HA</i> ₅₁		1 6.7 229°95	3°6/ 8.2	18		467074	2016 <i>DG</i> ₂₀		1 6.7 209°61	0°4/ 6.8	18	
12 3	7 26.28	+ 6 31.6	3.668	4.429	8.9	21.3	12 3	7 33.91	+20 41.2	2.092	2.903	13.0	21.6
12 13	7 21.99	+ 6 16.0	3.572	4.421	7.2	21.1	12 13	7 28.57	+20 48.7	2.008	2.901	9.8	21.4
12 23	7 16.55	+ 6 8.5	3.501	4.413	5.4	21.0	12 23	7 21.00	+21 0.5	1.949	2.899	6.1	21.1
1 2	7 10.34	+ 6 9.5	3.458	4.405	3.9	20.9	1 2	7 11.87	+21 14.5	1.917	2.897	2.1	20.9
1 12	7 3.85	+ 6 19.0	3.445	4.396	3.7	20.9	1 12	7 2.19	+21 28.5	1.916	2.895	2.2	20.9
1 22	6 57.57	+ 6 36.2	3.463	4.388	5.0	20.9	1 22	6 53.04	+21 40.8	1.943	2.892	6.3	21.1
2 1	6 52.01	+ 6 59.8	3.510	4.379	6.8	21.0	2 1	6 45.40	+21 50.5	1.999	2.889	10.1	21.4
2 11	6 47.57	+ 7 28.1	3.583	4.370	8.6	21.2	2 11	6 40.04	+21 57.6	2.078	2.887	13.3	21.6
20328	1998 <i>HS</i> ₄₂		1 6.7 218°42	2°5/ 7.6	18		193266	2000 <i>SN</i> ₁₆₃		1 6.7 23°25	0°8/ 6.8	18	
12 3	7 32.57	+13 1.2	2.678	3.463									

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
221308	2005 VX		1 6.7	91°08	2°9/ 7.5	18	409427	2005 LW ₃₂		1 6.7	85°57	1°3/ 7.2	18
12 3	7 33.53	+14 6.0	1.903	2.708	14.4	20.9	12 3	7 36.88	+15 37.7	1.929	2.730	14.4	21.2
12 13	7 28.30	+14 1.2	1.831	2.716	11.1	20.7	12 13	7 30.66	+16 21.1	1.873	2.759	10.8	21.0
12 23	7 20.82	+14 6.1	1.782	2.724	7.3	20.5	12 23	7 22.19	+17 14.2	1.841	2.787	6.8	20.9
1 2	7 11.81	+14 20.1	1.760	2.733	3.8	20.3	1 2	7 12.24	+18 13.5	1.837	2.814	2.7	20.7
1 12	7 2.31	+14 41.5	1.766	2.741	3.5	20.3	1 12	7 1.93	+19 14.8	1.863	2.841	2.5	20.7
1 22	6 53.43	+15 8.0	1.802	2.749	6.9	20.5	1 22	6 52.37	+20 13.8	1.920	2.868	6.4	21.0
2 1	6 46.18	+15 37.3	1.864	2.757	10.6	20.7	2 1	6 44.54	+21 7.9	2.005	2.894	10.1	21.3
2 11	6 41.26	+16 7.4	1.951	2.764	13.8	20.9	2 11	6 39.11	+21 55.5	2.114	2.920	13.2	21.5
253315	2003 DQ ₅		1 6.7	20°58	2°5/ 5.9	18	340572	2006 KM ₁₂₃		1 6.7	145°60	2°3/ 7.2	18
12 3	7 33.31	+25 7.8	1.337	2.180	17.2	19.8	12 3	7 32.82	+15 42.3	2.657	3.449	11.1	21.1
12 13	7 29.20	+25 59.2	1.278	2.187	13.0	19.6	12 13	7 27.17	+15 14.1	2.576	3.455	8.5	20.9
12 23	7 21.85	+26 54.8	1.240	2.195	8.1	19.3	12 23	7 19.87	+14 50.7	2.521	3.461	5.6	20.8
1 2	7 12.21	+27 48.0	1.226	2.205	3.3	19.1	1 2	7 11.48	+14 32.2	2.495	3.467	2.9	20.6
1 12	7 1.85	+28 32.3	1.239	2.215	4.1	19.2	1 12	7 2.78	+14 18.5	2.499	3.472	2.8	20.6
1 22	6 52.45	+29 3.6	1.278	2.226	8.9	19.5	1 22	6 54.53	+14 9.2	2.535	3.477	5.5	20.8
2 1	6 45.46	+29 21.4	1.341	2.238	13.5	19.8	2 1	6 47.47	+14 3.8	2.599	3.482	8.3	21.0
2 11	6 41.80	+29 27.5	1.424	2.251	17.3	20.0	2 11	6 42.14	+14 1.8	2.689	3.487	10.9	21.1
43357	2000 UM ₁₉		1 6.7	220°59	17°4/ 8.5	18	317017	2001 QJ ₁₈₄		1 6.7	85°30	0°7/ 6.5	18
12 3	7 37.46	- 9 14.5	1.278	2.016	23.5	18.8	12 3	7 37.15	+23 36.8	1.796	2.614	14.6	21.2
12 13	7 32.33	-11 40.7	1.215	2.013	21.3	18.6	12 13	7 31.14	+23 49.2	1.734	2.631	10.9	21.0
12 23	7 23.87	-13 37.5	1.168	2.009	19.2	18.4	12 23	7 22.60	+24 3.8	1.695	2.647	6.7	20.8
1 2	7 12.93	-14 52.6	1.139	2.005	17.7	18.3	1 2	7 12.40	+24 17.3	1.684	2.664	2.2	20.5
1 12	7 0.97	-15 17.8	1.131	2.001	17.5	18.3	1 12	7 1.78	+24 26.9	1.702	2.680	2.6	20.6
1 22	6 49.71	-14 52.2	1.143	1.996	18.6	18.3	1 22	6 52.02	+24 31.2	1.748	2.697	7.0	20.9
2 1	6 40.73	-13 42.1	1.173	1.992	20.6	18.5	2 1	6 44.20	+24 30.3	1.822	2.713	10.9	21.2
2 11	6 35.14	-11 59.6	1.219	1.987	23.0	18.6	2 11	6 39.05	+24 25.3	1.919	2.728	14.2	21.4
468963	2015 AN ₄₃		1 6.7	168°44	1°1/ 6.3	18	495865	2004 JC ₅₄		1 6.7	237°16	4°4/ 4.9	17
12 3	7 33.12	+24 8.6	2.237	3.050	12.2	21.5	12 3	7 38.06	+32 15.2	2.218	3.025	12.5	21.9
12 13	7 27.91	+24 38.9	2.156	3.051	9.2	21.3	12 13	7 32.08	+33 26.3	2.126	3.012	9.7	21.7
12 23	7 20.57	+25 11.7	2.100	3.051	5.7	21.1	12 23	7 23.44	+34 36.6	2.059	2.999	6.7	21.5
1 2	7 11.74	+25 43.8	2.073	3.052	2.0	20.8	1 2	7 12.79	+35 39.6	2.021	2.985	4.5	21.3
1 12	7 2.38	+26 11.9	2.075	3.052	2.5	20.9	1 12	7 1.21	+36 29.2	2.012	2.970	5.2	21.3
1 22	6 53.50	+26 33.8	2.107	3.053	6.2	21.1	1 22	6 49.99	+37 2.1	2.034	2.955	8.1	21.5
2 1	6 46.08	+26 48.9	2.167	3.053	9.6	21.3	2 1	6 40.38	+37 18.1	2.082	2.939	11.3	21.6
2 11	6 40.83	+26 57.6	2.252	3.053	12.6	21.5	2 11	6 33.36	+37 19.6	2.153	2.923	14.1	21.8
334102	2001 QW ₂₀₉		1 6.7	123°80	0°2/ 6.6	18	348617	2005 YL ₂₆		1 6.7	7°54	1°1/ 6.4	18
12 3	7 33.56	+23 4.4	2.719	3.521	10.6	21.8	12 3	7 33.26	+23 49.1	1.676	2.505	15.0	20.8
12 13	7 27.70	+23 6.5	2.646	3.535	7.9	21.6	12 13	7 28.63	+24 14.3	1.603	2.505	11.3	20.6
12 23	7 20.17	+23 9.8	2.600	3.549	4.9	21.4	12 23	7 21.29	+24 43.1	1.552	2.506	7.0	20.4
1 2	7 11.55	+23 12.6	2.582	3.562	1.6	21.2	1 2	7 12.05	+25 11.5	1.528	2.508	2.4	20.1
1 12	7 2.64	+23 13.6	2.597	3.575	1.8	21.3	1 12	7 2.15	+25 35.7	1.532	2.510	2.9	20.1
1 22	6 54.25	+23 11.9	2.642	3.588	5.0	21.5	1 22	6 52.95	+25 53.0	1.563	2.512	7.5	20.4
2 1	6 47.10	+23 7.5	2.716	3.600	8.0	21.7	2 1	6 45.67	+26 2.9	1.620	2.515	11.7	20.7
2 11	6 41.74	+23 0.9	2.816	3.612	10.5	21.9	2 11	6 41.17	+26 6.2	1.700	2.519	15.3	20.9
52737	1998 HS ₈₃		1 6.7	300°68	4°1/ 8.0	18	155753	2000 SJ ₁₁₂		1 6.7	31°26	0°4/ 6.8	18
12 3	7 29.49	+ 9 16.0	2.353	3.140	12.6	19.7	12 3	7 33.65	+20 51.0	1.374	2.211	17.2	19.6
12 13	7 25.01	+ 9 3.5	2.264	3.132	10.0	19.5	12 13	7 29.06	+20 57.7	1.323	2.228	12.9	19.4
12 23	7 18.71	+ 9 1.9	2.197	3.125	7.1	19.3	12 23	7 21.53	+21 10.5	1.292	2.247	7.9	19.2
1 2	7 11.14	+ 9 11.8	2.158	3.118	4.7	19.1	1 2	7 12.09	+21 26.5	1.286	2.266	2.6	18.9
1 12	7 3.07	+ 9 32.7	2.148	3.111	4.4	19.1	1 12	7 2.20	+21 42.4	1.307	2.286	2.8	19.0
1 22	6 55.37	+10 2.8	2.167	3.104	6.6	19.2	1 22	6 53.36	+21 55.9	1.354	2.308	7.9	19.3
2 1	6 48.84	+10 39.7	2.213	3.098	9.5	19.4	2 1	6 46.79	+22 6.0	1.426	2.329	12.4	19.6
2 11	6 44.14	+11 20.7	2.284	3.091	12.3	19.6	2 11	6 43.27	+22 12.7	1.520	2.352	16.1	19.9
203122	2000 SY ₂₂₉		1 6.7	103°12	3°7/ 5.8	18	495850	2002 RK ₂₂₃		1 6.7	78°10	0°1/ 6.6	18
12 3	7 40.46	+29 47.2	1.650	2.470	15.6	20.2	12 3	7 29.56	+21 50.6	3.119	3.921	9.4	21.3
12 13	7 34.06	+30 35.7	1.589	2.485	11.8	20.0	12 13	7 24.56	+22 7.9	3.054	3.943	7.0	21.1
12 23	7 24.60	+31 22.1	1.552	2.499	7.7	19.8	12 23	7 18.19	+22 27.3	3.015	3.965	4.3	21.0
1 2	7 13.07	+31 59.9	1.541	2.514	4.2	19.6	1 2	7 10.94	+22 47.2	3.006	3.986	1.4	20.8
1 12	7 0.95	+32 23.7	1.559	2.528	4.8	19.7	1 12	7 3.45	+23 6.0	3.028	4.007	1.6	20.8
1 22	6 49.82	+32 31.5	1.605	2.542	8.5	19.9	1 22	6 56.38	+23 22.3	3.082	4.028	4.4	21.1
2 1	6 41.03	+32 25.1	1.676	2.555	12.4	20.2	2 1	6 50.33	+23 35.7	3.165	4.049	6.9	21.3
2 11	6 35.41	+32 8.0	1.770	2.568	15.6	20.4	2 11	6 45.75	+23 46.0	3.274	4.070	9.1	21.4
387353	2012 XV ₁₁		1 6.7	30°46	0°6/ 6.8	18	305566	2008 WK ₄₅		1 6.7	193°63	2°1/ 7.1	18
12 3	7 31.06	+20 45.8	2.353	3.164	11.8	21.1	12 3	7 37.98	+17 3.7	1.915	2.717	14.4	21.4
12 13	7 26.14	+20 41.2	2.276	3.168	8.9	20.9	12 13	7 31.76	+16 48.7	1.830	2.716	11.1	21.2
12 23	7 19.36	+20 39.8	2.223	3.173	5.5	20.7	12 23	7 23.06	+16 40.0	1.768	2.713	7.1	20.9
1 2	7 11.33	+20 40.1	2.198	3.178	1.9	20.5	1 2	7 12.61	+16 36.8	1.734	2.710	3.2	20.7
1 12	7 2.91	+20 41.0	2.204	3.183	2.0	20.5	1 12	7 1.53	+16 38.0	1.730	2.707	3.1	20.7
1 22	6 55.01	+20 41.4	2.239	3.188	5.6	20.7	1 22	6 51.03	+16 42.3	1.756	2.702	7.1	20.9
2 1	6 48.43	+20 41.0	2.302	3.193	8.9	20.9	2 1	6 42.25	+16 48.8	1.809	2.697	11.1	21.1
2 11	6 43.79	+20 39.5	2.390	3.199	11.7	21.1	2 11	6 36.00	+16 56.8	1.885	2.691	14.5	21.3
154702	2004 JS ₁₈		1 6.7	156°53	2°4/ 7.3	18	251110	2006 SL ₂₉₇		1 6.7	175°46	1°0/ 6.4	18
12 3	7 38.24	+15 28.4	1.838	2.639	15.0	21.3	12 3	7 36.99	+24 11.4	1.987	2.800	13.6	21.

EPHEMERIDES

1 6.7

1 6.7

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
363858	2005 <i>RD</i> ₃		1 6.7 144°81	5°5/ 5.3 18			356293	2010 <i>EH</i> ₁₂₅		1 6.7 233°77	5°6/ 5.4 18		
12 3	7 41.96	+38 42.8	2.306	3.099	12.6	21.6	12 3	7 42.62	+35 11.9	1.783	2.593	15.0	21.2
12 13	7 34.65	+39 26.0	2.238	3.109	10.0	21.5	12 13	7 36.08	+36 0.7	1.696	2.582	11.8	20.9
12 23	7 24.75	+40 0.6	2.195	3.119	7.4	21.3	12 23	7 26.17	+36 44.0	1.633	2.570	8.4	20.7
1 2	7 13.13	+40 20.8	2.180	3.129	5.6	21.2	1 2	7 13.76	+37 14.0	1.596	2.558	5.8	20.5
1 12	7 1.02	+40 22.8	2.194	3.138	6.0	21.3	1 12	7 0.33	+37 24.3	1.588	2.545	6.5	20.5
1 22	6 49.74	+40 6.1	2.238	3.147	8.2	21.4	1 22	6 47.62	+37 13.0	1.608	2.532	9.6	20.7
2 1	6 40.42	+39 33.5	2.308	3.154	10.7	21.6	2 1	6 37.22	+36 42.5	1.653	2.518	13.3	20.9
2 11	6 33.81	+38 49.4	2.402	3.162	13.1	21.8	2 11	6 30.21	+35 58.5	1.720	2.503	16.6	21.1
329400	2002 <i>AN</i> ₁₇₃		1 6.7 339°81	1°1/ 7.1 16			281128	2007 <i>CW</i> ₁₇		1 6.7 29°50	0°4/ 6.8 17		
12 3	7 31.03	+16 38.2	1.542	2.369	16.1	20.8	12 3	7 34.78	+19 1.6	1.086	1.933	20.0	20.1
12 13	7 27.23	+17 19.4	1.460	2.360	12.3	20.5	12 13	7 30.76	+19 34.3	1.030	1.941	15.1	19.8
12 23	7 20.62	+18 14.1	1.399	2.351	7.8	20.2	12 23	7 23.05	+20 19.5	0.993	1.950	9.4	19.6
1 2	7 11.91	+19 19.1	1.364	2.343	2.9	19.9	1 2	7 12.73	+21 12.1	0.979	1.960	3.1	19.2
1 12	7 2.29	+20 29.1	1.356	2.336	2.8	19.9	1 12	7 1.58	+22 5.4	0.990	1.970	3.4	19.3
1 22	6 53.19	+21 38.4	1.376	2.329	7.8	20.2	1 22	6 51.57	+22 53.6	1.026	1.982	9.4	19.7
2 1	6 45.95	+22 42.5	1.421	2.323	12.5	20.4	2 1	6 44.34	+23 33.5	1.085	1.994	14.8	20.0
2 11	6 41.58	+23 38.6	1.488	2.318	16.5	20.7	2 11	6 40.90	+24 4.2	1.163	2.007	19.3	20.3
208678	2002 <i>GC</i> ₉₄		1 6.7 195°16	0°5/ 6.6 18			347352	2012 <i>QX</i> ₂₂		1 6.7 121°25	3°3/ 7.8 18		
12 3	7 38.03	+23 25.8	2.227	3.031	12.6	21.6	12 3	7 30.72	+11 9.4	2.480	3.267	12.0	21.2
12 13	7 31.60	+23 37.8	2.139	3.028	9.5	21.4	12 13	7 25.78	+11 0.7	2.401	3.273	9.4	21.0
12 23	7 22.88	+23 51.8	2.076	3.025	5.9	21.2	12 23	7 19.12	+11 1.3	2.346	3.279	6.5	20.8
1 2	7 12.55	+24 4.9	2.041	3.021	2.0	20.9	1 2	7 11.32	+11 11.1	2.320	3.285	3.9	20.7
1 12	7 1.64	+24 14.7	2.037	3.016	2.3	20.9	1 12	7 3.15	+11 29.3	2.323	3.290	3.6	20.7
1 22	6 51.24	+24 19.7	2.064	3.010	6.3	21.2	1 22	6 55.40	+11 54.2	2.355	3.296	6.0	20.8
2 1	6 42.39	+24 19.8	2.120	3.003	9.9	21.4	2 1	6 48.82	+12 23.9	2.417	3.301	8.8	21.0
2 11	6 35.85	+24 15.8	2.200	2.996	13.1	21.6	2 11	6 44.01	+12 56.1	2.503	3.306	11.4	21.2
463924	2014 <i>UG</i> ₁₅₆		1 6.7 148°10	1°3/ 6.4 18			126324	2002 <i>AK</i> ₁₄₅		1 6.7 227°78	1°6/ 7.2 18		
12 3	7 35.78	+25 27.5	2.106	2.919	12.9	21.5	12 3	7 33.51	+17 10.1	2.022	2.830	13.6	20.7
12 13	7 29.98	+25 45.7	2.029	2.924	9.7	21.3	12 13	7 28.36	+17 12.9	1.938	2.827	10.3	20.5
12 23	7 21.89	+26 4.6	1.977	2.928	6.0	21.1	12 23	7 20.95	+17 22.9	1.877	2.824	6.6	20.2
1 2	7 12.22	+26 21.1	1.953	2.932	2.2	20.8	1 2	7 11.97	+17 38.7	1.843	2.820	2.8	20.0
1 12	7 2.04	+26 32.2	1.959	2.936	2.7	20.9	1 12	7 2.40	+17 58.3	1.839	2.817	2.7	20.0
1 22	6 52.48	+26 36.6	1.994	2.939	6.5	21.1	1 22	6 53.32	+18 19.8	1.864	2.813	6.5	20.2
2 1	6 44.56	+26 34.4	2.057	2.943	10.1	21.4	2 1	6 45.76	+18 41.5	1.917	2.810	10.3	20.4
2 11	6 39.01	+26 26.8	2.144	2.946	13.2	21.6	2 11	6 40.47	+19 2.2	1.994	2.806	13.6	20.6
131142	2001 <i>BF</i> ₅₇		1 6.7 311°95	4°4/ 7.8 18			315550	2008 <i>BR</i> ₅₂		1 6.7 3°73	6°3/ 8.9 18		
12 3	7 32.63	+11 44.3	1.502	2.317	17.1	19.5	12 3	7 30.66	+ 6 18.6	1.377	2.186	18.7	20.2
12 13	7 28.42	+11 33.3	1.417	2.306	13.5	19.3	12 13	7 26.99	+ 6 21.8	1.305	2.185	15.1	20.0
12 23	7 21.35	+11 36.9	1.353	2.295	9.3	19.0	12 23	7 20.46	+ 6 48.1	1.254	2.185	11.0	19.8
1 2	7 12.15	+11 55.8	1.314	2.284	5.4	18.7	1 2	7 11.87	+ 7 38.4	1.225	2.186	7.3	19.6
1 12	7 2.05	+12 28.6	1.301	2.273	5.0	18.7	1 12	7 2.50	+ 8 50.1	1.222	2.187	6.5	19.5
1 22	6 52.48	+13 11.9	1.315	2.263	8.8	18.9	1 22	6 53.79	+10 17.1	1.244	2.190	9.5	19.7
2 1	6 44.80	+14 1.7	1.354	2.253	13.2	19.1	2 1	6 47.08	+11 51.8	1.292	2.193	13.5	19.9
2 11	6 40.02	+14 53.9	1.414	2.244	17.2	19.3	2 11	6 43.30	+13 26.9	1.360	2.198	17.4	20.2
127864	2003 <i>FM</i> ₁₁₈		1 6.7 282°71	1°8/ 6.1 18			460920	2014 <i>WN</i> ₂₂₀		1 6.7 120°72	1°0/ 6.9 18		
12 3	7 35.11	+25 18.3	1.918	2.737	13.8	20.3	12 3	7 34.95	+19 42.2	1.986	2.797	13.7	21.3
12 13	7 30.06	+25 54.2	1.818	2.715	10.5	20.0	12 13	7 29.37	+19 37.5	1.910	2.802	10.3	21.1
12 23	7 22.30	+26 33.5	1.742	2.693	6.6	19.8	12 23	7 21.53	+19 37.3	1.858	2.808	6.5	20.9
1 2	7 12.47	+27 11.9	1.692	2.671	2.6	19.5	1 2	7 12.13	+19 40.2	1.834	2.813	2.4	20.6
1 12	7 1.68	+27 44.8	1.672	2.648	3.3	19.5	1 12	7 2.26	+19 44.4	1.839	2.818	2.4	20.6
1 22	6 51.23	+28 9.0	1.681	2.626	7.5	19.7	1 22	6 53.01	+19 48.8	1.874	2.823	6.5	20.9
2 1	6 42.43	+28 23.3	1.716	2.603	11.7	19.9	2 1	6 45.40	+19 52.5	1.936	2.828	10.3	21.1
2 11	6 36.29	+28 28.9	1.775	2.580	15.3	20.0	2 11	6 40.15	+19 55.5	2.022	2.832	13.5	21.4
280713	2005 <i>GQ</i> ₈₉		1 6.7 174°23	7°3/ 9.2 18			441841	2009 <i>VB</i> ₃₅		1 6.7 145°47	0°3/ 6.8 17		
12 3	7 29.96	- 1 34.5	2.535	3.269	13.1	20.9	12 3	7 41.17	+21 22.6	1.644	2.458	15.9	22.6
12 13	7 25.18	- 2 15.7	2.453	3.269	11.2	20.7	12 13	7 34.45	+21 26.9	1.574	2.468	12.0	22.4
12 23	7 18.75	- 2 41.3	2.395	3.270	9.2	20.6	12 23	7 24.84	+21 35.6	1.527	2.477	7.5	22.1
1 2	7 11.19	- 2 48.8	2.361	3.271	7.7	20.5	1 2	7 13.24	+21 45.5	1.507	2.486	2.5	21.8
1 12	7 3.23	- 2 37.3	2.355	3.271	7.4	20.5	1 12	7 1.05	+21 53.9	1.515	2.495	2.7	21.9
1 22	6 55.64	- 2 8.0	2.377	3.271	8.4	20.5	1 22	6 49.74	+21 59.1	1.553	2.502	7.6	22.2
2 1	6 49.15	- 1 23.8	2.425	3.272	10.3	20.7	2 1	6 40.61	+22 0.8	1.618	2.509	12.0	22.5
2 11	6 44.33	- 0 28.6	2.497	3.272	12.3	20.8	2 11	6 34.48	+21 59.8	1.705	2.515	15.7	22.7
427162	2014 <i>UC</i> ₁₈₇		1 6.7 273°34	2°1/ 6.2 18			459167	2012 <i>DA</i> ₂₂		1 6.7 280°18	0°7/ 6.5 18		
12 3	7 35.86	+26 54.8	1.878	2.698	14.0	21.0	12 3	7 34.48	+21 27.9	1.839	2.657	14.3	21.4
12 13	7 30.54	+27 20.2	1.789	2.686	10.6	20.8	12 13	7 29.61	+22 11.8	1.743	2.641	10.8	21.1
12 23	7 22.52	+27 46.4	1.723	2.674	6.7	20.5	12 23	7 22.04	+23 3.3	1.671	2.624	6.8	20.8
1 2	7 12.52	+28 9.0	1.685	2.662	2.9	20.3	1 2	7 12.42	+23 58.5	1.627	2.607	2.2	20.5
1 12	7 1.71	+28 24.1	1.675	2.650	3.4	20.3	1 12	7 1.84	+24 52.3	1.611	2.589	2.8	20.5
1 22	6 51.44	+28 29.5	1.693	2.638	7.5	20.5	1 22	6 51.61	+25 40.5	1.624	2.572	7.4	20.7
2 1	6 42.97	+28 25.5	1.739	2.625	11.5	20.7	2 1	6 43.04	+26 20.3	1.664	2.555	11.7	21.0
2 11	6 37.22	+28 13.8	1.807	2.613	15.1	20.9	2 11	6 37.13	+26 51.5	1.727	2.537	15.5	21.2
358572	2007 <i>TD</i> ₃₆₃		1 6.7 241°75	1°6/ 6.2 18			294164	2007 <i>TT</i> ₃₆₅		1 6.7 147°70	1°2/ 7.1 18		
12 3	7 36.56	+24 34.											

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
420517	2012 <i>FN</i> ₄₉		1 6.7 148°30	6°5/ 9.0	18		188730	2005 <i>UK</i> ₅₂		1 6.7 132°60	5°5/ 7.7	18	
12 3	7 32.34	+ 2 49.0	2.112	2.874	14.6	21.8	12 3	7 34.14	+ 9 4.8	1.975	2.762	14.6	19.7
12 13	7 27.26	+ 2 29.5	2.034	2.879	12.0	21.7	12 13	7 28.72	+ 8 12.8	1.898	2.765	11.7	19.5
12 23	7 20.17	+ 2 26.7	1.978	2.883	9.3	21.5	12 23	7 21.13	+ 7 31.7	1.843	2.767	8.5	19.3
1 2	7 11.70	+ 2 42.2	1.948	2.887	7.1	21.4	1 2	7 12.06	+ 7 3.6	1.815	2.770	6.0	19.2
1 12	7 2.75	+ 3 15.8	1.946	2.890	6.6	21.3	1 12	7 2.50	+ 6 49.6	1.815	2.772	5.8	19.2
1 22	6 54.27	+ 4 4.9	1.972	2.894	8.2	21.5	1 22	6 53.50	+ 6 49.2	1.844	2.775	8.1	19.3
2 1	6 47.17	+ 5 5.7	2.025	2.897	10.8	21.6	2 1	6 46.03	+ 7 0.7	1.899	2.777	11.2	19.5
2 11	6 42.10	+ 6 13.2	2.102	2.900	13.5	21.8	2 11	6 40.80	+ 7 21.0	1.977	2.779	14.1	19.7
440417	2005 <i>QS</i> ₈₀		1 6.7 43°85	5°6/ 5.9	17		260368	2004 <i>UU</i> ₈		1 6.7 159°24	2°4/ 6.9	18	
12 3	7 40.71	+32 6.4	1.099	1.945	20.0	20.3	12 3	7 38.84	+17 43.9	2.348	3.138	12.5	20.1
12 13	7 35.35	+32 52.8	1.054	1.962	15.3	20.1	12 13	7 31.85	+16 51.9	2.265	3.143	9.5	19.9
12 23	7 25.86	+33 33.2	1.029	1.979	10.2	19.9	12 23	7 22.87	+16 2.5	2.207	3.148	6.2	19.7
1 2	7 13.60	+33 58.3	1.026	1.998	6.1	19.7	1 2	7 12.59	+15 16.2	2.180	3.153	3.1	19.5
1 12	7 0.76	+34 1.7	1.048	2.017	6.7	19.8	1 12	7 1.95	+14 33.9	2.184	3.157	3.1	19.5
1 22	6 49.56	+33 43.1	1.094	2.036	11.0	20.1	1 22	6 51.92	+13 56.5	2.220	3.161	6.2	19.7
2 1	6 41.71	+33 7.4	1.163	2.056	15.5	20.4	2 1	6 43.38	+13 24.8	2.285	3.164	9.5	19.9
2 11	6 38.05	+32 21.3	1.251	2.077	19.3	20.8	2 11	6 36.96	+12 58.8	2.376	3.167	12.3	20.1
300331	2007 <i>RP</i> ₇		1 6.7 140°91	0°3/ 6.8	18		463636	2013 <i>TH</i> ₁₀₆		1 6.7 92°20	0°2/ 6.7	18	
12 3	7 38.62	+21 14.4	1.893	2.702	14.3	21.8	12 3	7 33.75	+22 19.9	2.173	2.985	12.6	21.7
12 13	7 32.21	+21 19.3	1.821	2.713	10.8	21.5	12 13	7 28.35	+22 30.6	2.099	2.993	9.5	21.5
12 23	7 23.30	+21 28.0	1.773	2.723	6.7	21.3	12 23	7 20.86	+22 44.2	2.050	3.001	5.8	21.3
1 2	7 12.72	+21 38.1	1.753	2.732	2.2	21.1	1 2	7 11.97	+22 58.2	2.030	3.010	1.9	21.1
1 12	7 1.64	+21 47.0	1.762	2.741	2.4	21.1	1 12	7 2.64	+23 10.5	2.039	3.018	2.1	21.1
1 22	6 51.31	+21 53.3	1.801	2.750	6.8	21.4	1 22	6 53.90	+23 19.6	2.078	3.026	6.0	21.4
2 1	6 42.81	+21 56.7	1.868	2.757	10.7	21.6	2 1	6 46.67	+23 25.0	2.145	3.034	9.5	21.6
2 11	6 36.90	+21 57.5	1.959	2.764	14.1	21.9	2 11	6 41.61	+23 27.0	2.236	3.042	12.5	21.8
38011	1998 <i>KL</i> ₅₂		1 6.7 203°43	5°5/ 8.2	18		55479	2001 <i>UO</i> ₁₅		1 6.7 236°88	5°5/ 7.8	18	
12 3	7 32.25	+ 5 59.4	2.339	3.108	13.1	19.0	12 3	7 33.87	+ 8 3.6	2.113	2.893	14.0	19.2
12 13	7 27.07	+ 5 26.1	2.252	3.105	10.7	18.8	12 13	7 28.53	+ 7 20.4	2.021	2.884	11.3	19.0
12 23	7 20.02	+ 5 4.8	2.188	3.101	8.0	18.6	12 23	7 21.06	+ 6 48.1	1.953	2.874	8.4	18.8
1 2	7 11.67	+ 4 57.3	2.151	3.098	5.9	18.5	1 2	7 12.07	+ 6 28.9	1.911	2.864	6.0	18.7
1 12	7 2.85	+ 5 4.0	2.144	3.094	5.6	18.5	1 12	7 2.48	+ 6 23.6	1.898	2.853	5.7	18.6
1 22	6 54.42	+ 5 23.7	2.165	3.089	7.5	18.6	1 22	6 53.30	+ 6 31.6	1.913	2.842	8.0	18.7
2 1	6 47.22	+ 5 54.1	2.213	3.085	10.1	18.7	2 1	6 45.48	+ 6 51.1	1.955	2.831	11.0	18.9
2 11	6 41.89	+ 6 32.1	2.286	3.080	12.7	18.9	2 11	6 39.78	+ 7 19.2	2.021	2.819	14.0	19.1
318952	2005 <i>UX</i> ₂₁₆		1 6.7 134°16	3°8/ 7.8	18		296002	2008 <i>YO</i> ₁₀₁		1 6.7 27°69	1°3/ 7.1	18	
12 3	7 33.40	+11 26.1	2.016	2.811	14.1	20.8	12 3	7 34.05	+17 54.0	1.235	2.074	18.6	20.2
12 13	7 28.16	+11 11.8	1.939	2.815	11.0	20.6	12 13	7 29.84	+18 13.1	1.175	2.081	14.2	19.9
12 23	7 20.78	+11 8.4	1.885	2.820	7.6	20.4	12 23	7 22.35	+18 43.9	1.135	2.090	8.9	19.7
1 2	7 11.93	+11 16.2	1.858	2.824	4.6	20.2	1 2	7 12.54	+19 23.1	1.119	2.099	3.3	19.4
1 12	7 2.59	+11 34.0	1.860	2.829	4.2	20.2	1 12	7 2.01	+20 5.9	1.129	2.109	3.2	19.4
1 22	6 53.79	+11 59.9	1.891	2.833	7.0	20.4	1 22	6 52.45	+20 47.5	1.164	2.119	8.7	19.8
2 1	6 46.49	+12 31.6	1.949	2.837	10.4	20.6	2 1	6 45.34	+21 24.8	1.224	2.130	13.7	20.1
2 11	6 41.38	+13 6.3	2.031	2.840	13.5	20.8	2 11	6 41.61	+21 56.3	1.303	2.142	17.9	20.4
43868	1994 <i>PL</i> ₃₅		1 6.7 50°00	2°0/ 7.2	18		443875	2001 <i>TZ</i> ₁₄₆		1 6.7 88°65	6°3/ 8.7	18	
12 3	7 35.17	+17 22.1	1.489	2.313	16.8	18.9	12 3	7 38.35	+ 5 59.0	1.571	2.355	17.9	21.9
12 13	7 30.09	+17 17.0	1.427	2.324	12.8	18.7	12 13	7 32.07	+ 5 42.9	1.518	2.382	14.3	21.7
12 23	7 22.20	+17 20.9	1.386	2.336	8.1	18.4	12 23	7 23.22	+ 5 45.9	1.487	2.409	10.4	21.5
1 2	7 12.41	+17 32.0	1.371	2.348	3.4	18.2	1 2	7 12.72	+ 6 8.9	1.481	2.436	7.2	21.4
1 12	7 2.09	+17 48.2	1.383	2.361	3.2	18.2	1 12	7 1.87	+ 6 49.8	1.503	2.461	6.5	21.4
1 22	6 52.65	+18 6.8	1.422	2.374	7.8	18.5	1 22	6 51.96	+ 7 44.3	1.552	2.487	9.0	21.6
2 1	6 45.32	+18 26.0	1.487	2.387	12.2	18.8	2 1	6 44.10	+ 8 47.3	1.627	2.511	12.3	21.9
2 11	6 40.92	+18 44.5	1.574	2.400	15.9	19.1	2 11	6 38.99	+ 9 53.4	1.725	2.536	15.5	22.2
37955	1998 <i>HK</i> ₅₀		1 6.7 155°27	5°1/ 8.6	18		306403	1996 <i>TM</i> ₃₁		1 6.7 38°80	2°5/ 6.2	18	
12 3	7 32.15	+ 5 23.9	2.431	3.196	12.8	20.1	12 3	7 36.83	+26 5.0	1.255	2.096	18.2	20.7
12 13	7 26.87	+ 5 7.5	2.351	3.202	10.4	19.9	12 13	7 31.97	+26 41.8	1.201	2.110	13.7	20.5
12 23	7 19.83	+ 5 4.2	2.295	3.207	7.8	19.8	12 23	7 23.64	+27 20.6	1.169	2.124	8.5	20.3
1 2	7 11.60	+ 5 14.8	2.266	3.213	5.6	19.7	1 2	7 12.94	+27 54.8	1.161	2.139	3.5	20.0
1 12	7 2.97	+ 5 38.8	2.266	3.218	5.3	19.6	1 12	7 1.62	+28 18.7	1.178	2.155	4.2	20.1
1 22	6 54.76	+ 6 14.4	2.295	3.222	7.0	19.8	1 22	6 51.48	+28 29.9	1.222	2.171	9.1	20.4
2 1	6 47.75	+ 6 58.8	2.353	3.226	9.5	19.9	2 1	6 44.04	+28 29.2	1.289	2.188	13.8	20.7
2 11	6 42.54	+ 7 48.6	2.435	3.230	12.0	20.1	2 11	6 40.16	+28 19.3	1.377	2.205	17.7	21.0
236236	2005 <i>YB</i> ₃₇		1 6.7 338°66	0°6/ 6.8	18		360795	2005 <i>GA</i> ₉₈		1 6.7 160°98	0°2/ 6.8	18	
12 3	7 33.88	+21 25.3	1.187	2.033	18.8	20.2	12 3	7 36.14	+20 47.8	1.836	2.651	14.5	22.0
12 13	7 30.11	+21 18.6	1.113	2.024	14.3	19.9	12 13	7 30.57	+21 3.2	1.759	2.654	10.9	21.7
12 23	7 22.76	+21 17.7	1.058	2.015	9.0	19.5	12 23	7 22.45	+21 23.9	1.705	2.656	6.8	21.5
1 2	7 12.73	+21 20.3	1.026	2.007	3.0	19.2	1 2	7 12.54	+21 47.0	1.678	2.658	2.2	21.2
1 12	7 1.66	+21 23.2	1.020	1.999	3.3	19.2	1 12	7 2.01	+22 9.5	1.681	2.660	2.4	21.2
1 22	6 51.44	+21 24.5	1.037	1.993	9.4	19.5	1 22	6 52.12	+22 29.0	1.712	2.661	7.0	21.5
2 1	6 43.79	+21 23.6	1.078	1.988	14.9	19.8	2 1	6 44.01	+22 44.4	1.770	2.663	11.0	21.8
2 11	6 39.82	+21 20.8	1.139	1.984	19.5	20.1	2 11	6 38.50	+22 55.7	1.852	2.664	14.5	22.0
18172	2000 <i>QL</i> ₇		1 6.7 5°36	28°1/11.0	17		165949	2001 <i>WY</i> ₁		1 6.7 58°02	13°9/14.9	18	
12 3	22 41.18	+82 56.0	0.393										

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
51896	2001 QY ₃₄		1 6.7 152°03	0°8/ 7.0 18			239482	2007 UM ₅₉		1 6.7 103°99	0°7/ 6.5 18		
12 3	7 31.95	+18 17.1	2.373	3.177	11.9	19.8	12 3	7 32.77	+23 54.1	2.403	3.213	11.6	21.0
12 13	7 26.91	+18 40.0	2.291	3.180	9.0	19.6	12 13	7 27.51	+24 11.4	2.326	3.219	8.7	20.9
12 23	7 19.97	+19 9.2	2.234	3.182	5.6	19.4	12 23	7 20.32	+24 30.5	2.275	3.225	5.4	20.7
1 2	7 11.70	+19 42.5	2.205	3.184	2.1	19.2	1 2	7 11.82	+24 48.8	2.252	3.231	1.8	20.4
1 12	7 2.95	+20 17.4	2.207	3.186	2.0	19.2	1 12	7 2.91	+25 3.9	2.259	3.237	2.2	20.5
1 22	6 54.63	+20 51.6	2.239	3.187	5.6	19.4	1 22	6 54.50	+25 14.6	2.296	3.243	5.7	20.7
2 1	6 47.59	+21 23.2	2.299	3.189	9.0	19.6	2 1	6 47.44	+25 20.2	2.362	3.248	8.9	20.9
2 11	6 42.48	+21 51.4	2.384	3.190	11.8	19.8	2 11	6 42.38	+25 21.5	2.452	3.254	11.7	21.1
168582	1999 XP ₂₂₈		1 6.7 150°94	0°7/ 6.5 18			159099	2004 TH ₃₃₄		1 6.7 241°19	1°0/ 6.4 18		
12 3	7 37.00	+22 47.5	2.019	2.829	13.5	20.9	12 3	7 34.18	+24 7.8	2.082	2.898	13.0	20.8
12 13	7 31.00	+23 14.2	1.943	2.836	10.1	20.7	12 13	7 28.95	+24 32.2	1.999	2.895	9.8	20.5
12 23	7 22.62	+23 44.4	1.892	2.843	6.3	20.4	12 23	7 21.40	+24 59.2	1.941	2.892	6.1	20.3
1 2	7 12.58	+24 14.7	1.869	2.849	2.1	20.2	1 2	7 12.22	+25 25.4	1.910	2.889	2.1	20.1
1 12	7 1.99	+24 41.5	1.876	2.855	2.5	20.2	1 12	7 2.44	+25 47.6	1.908	2.886	2.6	20.1
1 22	6 52.01	+25 2.7	1.913	2.860	6.6	20.5	1 22	6 53.18	+26 3.8	1.936	2.883	6.5	20.3
2 1	6 43.73	+25 17.4	1.978	2.864	10.3	20.7	2 1	6 45.48	+26 13.3	1.992	2.880	10.2	20.5
2 11	6 37.89	+25 26.3	2.066	2.869	13.5	20.9	2 11	6 40.12	+26 16.8	2.071	2.877	13.4	20.8
461327	2015 XG ₂₆₃		1 6.7 225°06	0°9/ 6.5 18			359644	2011 RO ₁₁		1 6.7 54°22	0°0/ 6.6 17		
12 3	7 37.56	+22 48.5	1.760	2.577	14.9	21.8	12 3	7 37.87	+21 49.9	1.334	2.166	17.9	20.6
12 13	7 31.94	+23 20.8	1.674	2.571	11.3	21.6	12 13	7 32.37	+21 56.5	1.280	2.184	13.4	20.4
12 23	7 23.49	+23 58.2	1.612	2.564	7.0	21.3	12 23	7 23.71	+22 8.1	1.248	2.203	8.3	20.2
1 2	7 12.95	+24 36.6	1.576	2.556	2.4	21.0	1 2	7 12.96	+22 21.3	1.241	2.222	2.7	19.9
1 12	7 1.54	+25 11.3	1.570	2.548	2.9	21.0	1 12	7 1.73	+22 32.6	1.261	2.241	2.9	20.0
1 22	6 50.69	+25 39.2	1.592	2.540	7.6	21.3	1 22	6 51.66	+22 40.1	1.308	2.260	8.2	20.3
2 1	6 41.71	+25 58.8	1.641	2.531	11.9	21.5	2 1	6 44.08	+22 43.4	1.379	2.280	12.9	20.6
2 11	6 35.58	+26 11.1	1.713	2.522	15.6	21.7	2 11	6 39.80	+22 43.3	1.471	2.299	16.8	20.9
377962	2006 JN ₈₁		1 6.7 119°22	2°8/ 5.8 18			202661	2006 KR ₄₉		1 6.7 151°05	1°6/ 7.2 18		
12 3	7 34.99	+29 47.1	2.315	3.126	12.0	21.6	12 3	7 32.32	+16 47.3	2.416	3.216	11.9	21.2
12 13	7 29.34	+30 23.0	2.241	3.132	9.1	21.4	12 13	7 27.10	+16 47.0	2.335	3.219	9.0	21.0
12 23	7 21.52	+30 57.1	2.193	3.139	5.9	21.3	12 23	7 20.04	+16 52.8	2.278	3.223	5.8	20.8
1 2	7 12.21	+31 25.3	2.173	3.145	3.2	21.1	1 2	7 11.74	+17 3.6	2.250	3.226	2.5	20.6
1 12	7 2.43	+31 44.3	2.182	3.151	3.6	21.1	1 12	7 3.01	+17 17.9	2.253	3.230	2.4	20.6
1 22	6 53.21	+31 52.6	2.222	3.158	6.6	21.3	1 22	6 54.74	+17 34.2	2.285	3.233	5.6	20.8
2 1	6 45.54	+31 50.5	2.289	3.164	9.7	21.5	2 1	6 47.73	+17 51.3	2.346	3.235	8.8	21.0
2 11	6 40.11	+31 40.0	2.380	3.169	12.4	21.7	2 11	6 42.61	+18 8.2	2.432	3.238	11.7	21.2
355461	2007 VH ₂₃₅		1 6.7 134°85	0°8/ 6.9 18			522644	2016 GX ₂₆₁		1 6.7 290°85	5°9/ 4.2 18		
12 3	7 37.51	+19 30.6	1.963	2.769	14.0	21.8	12 3	7 36.51	+36 57.5	2.201	3.007	12.6	21.6
12 13	7 31.31	+19 38.0	1.891	2.781	10.5	21.6	12 13	7 31.05	+38 19.0	2.123	3.003	10.0	21.4
12 23	7 22.76	+19 50.8	1.844	2.792	6.6	21.4	12 23	7 22.90	+39 35.8	2.071	2.999	7.5	21.2
1 2	7 12.63	+20 6.6	1.824	2.803	2.3	21.1	1 2	7 12.77	+40 40.7	2.047	2.995	6.0	21.1
1 12	7 2.01	+20 23.1	1.835	2.813	2.4	21.1	1 12	7 1.81	+41 27.9	2.051	2.991	6.6	21.1
1 22	6 52.09	+20 38.4	1.875	2.823	6.5	21.4	1 22	6 51.33	+41 54.4	2.083	2.988	8.9	21.3
2 1	6 43.89	+20 51.5	1.943	2.832	10.4	21.7	2 1	6 42.60	+42 1.0	2.141	2.984	11.6	21.4
2 11	6 38.14	+21 2.3	2.035	2.841	13.6	21.9	2 11	6 36.55	+41 51.3	2.221	2.980	14.1	21.6
37588	Lynnecox		1 6.7 156°27	9°9/ 10.6 18			93855	2000 WW ₉₆		1 6.7 51°48	1°2/ 6.4 18		
12 3	7 34.79	- 8 30.1	2.300	2.991	15.4	19.1	12 3	7 34.27	+23 46.5	1.915	2.734	13.8	19.3
12 13	7 28.93	- 9 19.1	2.228	3.001	13.5	19.0	12 13	7 29.15	+24 19.9	1.840	2.737	10.3	19.1
12 23	7 21.16	- 9 46.7	2.176	3.009	11.7	18.9	12 23	7 21.58	+24 56.8	1.788	2.740	6.4	18.8
1 2	7 12.10	- 9 49.2	2.147	3.017	10.3	18.8	1 2	7 12.29	+25 33.3	1.764	2.743	2.3	18.6
1 12	7 2.60	- 9 25.1	2.145	3.024	9.9	18.8	1 12	7 2.40	+26 5.4	1.769	2.747	2.8	18.6
1 22	6 53.57	- 8 36.3	2.168	3.030	10.6	18.9	1 22	6 53.10	+26 30.5	1.803	2.750	6.9	18.9
2 1	6 45.87	- 7 26.9	2.218	3.036	12.2	19.0	2 1	6 45.51	+26 47.6	1.864	2.753	10.7	19.1
2 11	6 40.14	- 6 3.2	2.290	3.040	14.0	19.1	2 11	6 40.43	+26 57.6	1.948	2.756	14.0	19.3
369822	2012 HY ₆₅		1 6.7 188°70	4°4/ 7.8 18			274031	2007 RE ₁₁₃		1 6.7 178°69	0°1/ 6.7 18		
12 3	7 33.51	+ 9 30.4	2.354	3.133	12.8	21.2	12 3	7 32.83	+22 7.9	2.779	3.581	10.4	22.0
12 13	7 28.00	+ 8 56.1	2.269	3.133	10.2	21.0	12 13	7 27.34	+22 22.9	2.694	3.582	7.8	21.8
12 23	7 20.60	+ 8 31.3	2.207	3.132	7.3	20.8	12 23	7 20.13	+22 40.4	2.634	3.583	4.8	21.6
1 2	7 11.92	+ 8 17.1	2.173	3.130	4.9	20.7	1 2	7 11.77	+22 58.4	2.604	3.584	1.6	21.4
1 12	7 2.79	+ 8 13.9	2.168	3.128	4.7	20.7	1 12	7 3.00	+23 14.9	2.605	3.584	1.8	21.4
1 22	6 54.08	+ 8 20.9	2.194	3.126	6.9	20.8	1 22	6 54.62	+23 28.6	2.637	3.583	5.0	21.6
2 1	6 46.64	+ 8 36.5	2.247	3.123	9.7	21.0	2 1	6 47.38	+23 38.9	2.698	3.583	8.0	21.8
2 11	6 41.10	+ 8 58.4	2.324	3.120	12.4	21.1	2 11	6 41.86	+23 45.8	2.786	3.581	10.6	22.0
433824	2015 BF ₁₉₅		1 6.7 241°26	1°5/ 7.4 17			410010	2006 WV ₇₆		1 6.7 7°79	1°4/ 6.4 18		
12 3	7 31.27	+15 7.6	2.588	3.382	11.3	21.8	12 3	7 34.43	+24 3.1	1.541	2.373	15.9	21.2
12 13	7 26.34	+15 33.9	2.492	3.373	8.7	21.6	12 13	7 29.82	+24 35.7	1.470	2.373	12.0	20.9
12 23	7 19.62	+16 8.5	2.421	3.364	5.6	21.4	12 23	7 22.24	+25 12.4	1.420	2.374	7.5	20.7
1 2	7 11.62	+16 49.9	2.378	3.354	2.5	21.2	1 2	7 12.56	+25 48.7	1.396	2.376	2.7	20.4
1 12	7 3.09	+17 35.7	2.367	3.344	2.3	21.1	1 12	7 2.12	+26 19.5	1.400	2.378	3.3	20.4
1 22	6 54.84	+18 23.2	2.386	3.334	5.4	21.3	1 22	6 52.43	+26 41.9	1.430	2.380	8.0	20.7
2 1	6 47.68	+19 10.1	2.435	3.323	8.6	21.5	2 1	6 44.85	+26 55.1	1.486	2.383	12.5	21.0
2 11	6 42.26	+19 54.6	2.509	3.313	11.4	21.7	2 11	6 40.30	+27 0.0	1.564	2.386	16.3	21.2
156754	2002 YR ₁		1 6.7 27°64	2°5/ 6.1 17			345118	2005 QW ₅₉		1 6.7 75°31	0°4/ 6.8 18		
12 3	7 35.53	+24 25.3	1.093										

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
341435	2007 <i>TJ</i> ₂₃₂		1 6.7 84°83	3°4/ 7.7 18			69863	1998 <i>SD</i> ₅₉		1 6.7 82°31	1°0/ 7.0 18		
12 3	7 31.34	+12 1.1	2.365	3.156	12.4	21.0	12 3	7 33.40	+18 48.1	2.083	2.893	13.2	19.0
12 13	7 26.33	+11 41.4	2.290	3.165	9.6	20.8	12 13	7 28.17	+18 55.8	2.011	2.902	9.9	18.8
12 23	7 19.54	+11 30.5	2.239	3.173	6.6	20.7	12 23	7 20.81	+19 9.3	1.963	2.912	6.2	18.6
1 2	7 11.58	+11 28.4	2.216	3.182	4.0	20.5	1 2	7 12.04	+19 26.7	1.943	2.922	2.3	18.3
1 12	7 3.26	+11 34.7	2.223	3.191	3.7	20.5	1 12	7 2.83	+19 45.8	1.953	2.932	2.3	18.3
1 22	6 55.41	+11 48.1	2.259	3.199	6.2	20.7	1 22	6 54.21	+20 4.8	1.992	2.941	6.1	18.6
2 1	6 48.83	+12 6.9	2.323	3.208	9.1	20.9	2 1	6 47.10	+20 22.3	2.059	2.951	9.7	18.9
2 11	6 44.09	+12 29.2	2.411	3.216	11.8	21.1	2 11	6 42.19	+20 37.6	2.150	2.961	12.8	19.1
8880	1993 <i>FT</i> ₃₃		1 6.7 154°90	1°9/ 6.2 18			19570	Jessedouglas		1 6.7 215°30	0°9/ 6.9 18		
12 3	7 35.51	+26 33.6	2.186	2.998	12.5	18.1	12 3	7 37.54	+20 28.3	1.745	2.560	15.1	17.3
12 13	7 29.84	+27 4.4	2.109	3.002	9.4	17.9	12 13	7 31.78	+20 19.3	1.662	2.557	11.5	17.0
12 23	7 21.90	+27 35.7	2.056	3.006	5.9	17.7	12 23	7 23.32	+20 14.6	1.603	2.553	7.2	16.8
1 2	7 12.40	+28 3.8	2.031	3.009	2.5	17.5	1 2	7 12.92	+20 12.4	1.570	2.549	2.6	16.5
1 12	7 2.36	+28 25.3	2.037	3.012	3.0	17.5	1 12	7 1.83	+20 10.9	1.565	2.544	2.7	16.5
1 22	6 52.88	+28 38.4	2.072	3.014	6.5	17.8	1 22	6 51.38	+20 8.8	1.590	2.540	7.3	16.8
2 1	6 44.98	+28 42.9	2.135	3.017	9.9	18.0	2 1	6 42.83	+20 6.0	1.641	2.535	11.7	17.0
2 11	6 39.38	+28 40.2	2.222	3.019	12.9	18.2	2 11	6 37.04	+20 2.6	1.716	2.530	15.4	17.2
400625	2009 <i>DG</i> ₆₄		1 6.7 143°75	3°1/ 5.9 18			380360	2002 <i>TN</i> ₆₂		1 6.7 102°88	4°1/ 5.6 18		
12 3	7 38.48	+28 26.0	1.808	2.625	14.5	21.3	12 3	7 38.31	+35 39.5	2.540	3.337	11.4	21.5
12 13	7 32.55	+29 12.3	1.735	2.631	11.0	21.1	12 13	7 31.61	+36 13.9	2.480	3.358	8.8	21.4
12 23	7 23.80	+29 58.5	1.687	2.635	7.1	20.9	12 23	7 22.81	+36 41.9	2.446	3.379	6.2	21.3
1 2	7 13.06	+30 38.8	1.666	2.640	3.6	20.7	1 2	7 12.66	+36 59.4	2.440	3.399	4.3	21.2
1 12	7 1.63	+31 8.1	1.673	2.644	4.2	20.7	1 12	7 2.19	+37 3.5	2.465	3.419	4.7	21.2
1 22	6 50.92	+31 23.9	1.709	2.648	7.9	20.9	1 22	6 52.45	+36 53.7	2.519	3.439	6.8	21.4
2 1	6 42.23	+31 26.8	1.772	2.652	11.7	21.2	2 1	6 44.34	+36 31.9	2.601	3.458	9.3	21.6
2 11	6 36.43	+31 19.3	1.857	2.656	15.0	21.4	2 11	6 38.49	+36 1.2	2.708	3.477	11.6	21.8
105765	2000 <i>SX</i> ₁₀₆		1 6.7 149°27	1°8/ 7.3 18			457206	2008 <i>JM</i> ₈		1 6.7 286°78	1°0/ 6.4 17		
12 3	7 30.89	+15 53.4	2.728	3.523	10.8	20.3	12 3	7 35.15	+22 49.2	1.809	2.629	14.4	21.5
12 13	7 25.85	+15 51.2	2.646	3.527	8.2	20.1	12 13	7 30.31	+23 25.8	1.707	2.605	11.0	21.2
12 23	7 19.20	+15 54.8	2.589	3.531	5.3	19.9	12 23	7 22.66	+24 8.7	1.628	2.580	6.9	20.9
1 2	7 11.48	+16 3.4	2.561	3.535	2.5	19.8	1 2	7 12.80	+24 53.9	1.576	2.556	2.4	20.6
1 12	7 3.40	+16 16.0	2.564	3.539	2.3	19.8	1 12	7 1.88	+25 36.5	1.553	2.531	2.9	20.6
1 22	6 55.71	+16 31.1	2.597	3.543	5.1	19.9	1 22	6 51.24	+26 12.7	1.558	2.506	7.7	20.8
2 1	6 49.11	+16 47.7	2.659	3.546	8.0	20.1	2 1	6 42.28	+26 40.3	1.591	2.481	12.2	21.0
2 11	6 44.16	+17 4.6	2.747	3.550	10.5	20.3	2 11	6 36.08	+26 59.5	1.645	2.456	16.1	21.2
276235	2002 <i>RP</i> ₃₈		1 6.7 69°06	3°4/ 7.5 18			463853	2014 <i>UZ</i> ₁₂		1 6.7 319°96	6°9/ 7.4 18		
12 3	7 39.01	+14 46.4	1.252	2.076	19.3	20.4	12 3	7 32.26	+9 20.9	1.578	2.384	16.8	20.2
12 13	7 33.24	+14 33.8	1.202	2.097	14.8	20.1	12 13	7 28.11	+8 9.2	1.486	2.364	13.7	19.9
12 23	7 24.25	+14 34.5	1.171	2.118	9.7	19.9	12 23	7 21.23	+7 8.0	1.415	2.344	10.2	19.7
1 2	7 13.17	+14 47.1	1.165	2.140	4.7	19.7	1 2	7 12.30	+6 21.5	1.369	2.325	7.4	19.5
1 12	7 1.62	+15 9.2	1.185	2.161	4.3	19.7	1 12	7 2.48	+5 52.7	1.349	2.306	7.3	19.4
1 22	6 51.26	+15 37.1	1.232	2.182	8.9	20.0	1 22	6 53.11	+5 42.5	1.355	2.288	10.1	19.5
2 1	6 43.46	+16 7.9	1.302	2.203	13.5	20.4	2 1	6 45.47	+5 49.7	1.385	2.271	13.9	19.7
2 11	6 39.02	+16 38.8	1.394	2.224	17.4	20.7	2 11	6 40.57	+6 10.6	1.435	2.254	17.6	19.9
52203	3160 <i>T-3</i>		1 6.7 32°92	0°7/ 6.9 18			79466	1997 <i>YK</i> ₁₇		1 6.7 20°65	0°3/ 6.7 18		
12 3	7 34.44	+19 39.5	1.529	2.356	16.2	19.0	12 3	7 32.11	+22 26.3	1.742	2.569	14.6	19.7
12 13	7 29.67	+19 53.5	1.462	2.362	12.3	18.7	12 13	7 27.63	+22 38.8	1.675	2.576	10.9	19.5
12 23	7 22.07	+20 14.9	1.416	2.368	7.7	18.5	12 23	7 20.67	+22 55.1	1.631	2.584	6.7	19.2
1 2	7 12.50	+20 41.0	1.395	2.375	2.6	18.2	1 2	7 12.03	+23 12.3	1.613	2.593	2.2	19.0
1 12	7 2.28	+21 8.1	1.402	2.382	2.7	18.2	1 12	7 2.89	+23 27.7	1.624	2.603	2.5	19.0
1 22	6 52.85	+21 33.3	1.437	2.389	7.7	18.5	1 22	6 54.46	+23 39.3	1.662	2.613	6.9	19.3
2 1	6 45.47	+21 54.9	1.497	2.397	12.1	18.8	2 1	6 47.84	+23 46.3	1.727	2.624	10.9	19.6
2 11	6 41.02	+22 12.3	1.579	2.405	15.9	19.1	2 11	6 43.78	+23 49.2	1.814	2.636	14.3	19.8
201188	2002 <i>PT</i> ₇₃		1 6.7 107°27	2°2/ 7.2 18			208716	2002 <i>JZ</i> ₉₅		1 6.7 221°36	0°8/ 6.9 18		
12 3	7 33.89	+16 24.8	2.309	3.107	12.4	20.1	12 3	7 36.89	+19 31.7	2.012	2.818	13.7	21.3
12 13	7 28.25	+16 0.7	2.235	3.118	9.5	19.9	12 13	7 31.06	+19 36.7	1.920	2.809	10.4	21.0
12 23	7 20.73	+15 42.0	2.186	3.128	6.2	19.8	12 23	7 22.80	+19 47.1	1.852	2.800	6.6	20.8
1 2	7 11.98	+15 28.6	2.165	3.139	3.0	19.6	1 2	7 12.76	+20 0.8	1.812	2.790	2.4	20.5
1 12	7 2.88	+15 19.9	2.174	3.149	2.9	19.6	1 12	7 2.02	+20 15.7	1.801	2.780	2.4	20.5
1 22	6 54.34	+15 15.4	2.214	3.159	5.9	19.8	1 22	6 51.74	+20 29.7	1.821	2.769	6.7	20.7
2 1	6 47.18	+15 14.4	2.281	3.169	9.1	20.0	2 1	6 43.05	+20 41.9	1.868	2.758	10.7	20.9
2 11	6 42.01	+15 16.0	2.374	3.178	11.9	20.2	2 11	6 36.80	+20 52.0	1.939	2.746	14.2	21.1
373509	2001 <i>KB</i> ₄₄		1 6.7 316°68	2°4/ 7.5 18			317176	2001 <i>XO</i> ₁₂₃		1 6.7 108°78	3°7/ 7.8 18		
12 3	7 30.83	+14 23.2	1.717	2.533	15.2	20.0	12 3	7 31.55	+10 31.2	2.604	3.385	11.6	20.6
12 13	7 27.08	+14 43.3	1.611	2.503	11.9	19.7	12 13	7 26.31	+10 3.8	2.530	3.397	9.1	20.5
12 23	7 20.67	+15 17.2	1.526	2.473	7.9	19.4	12 23	7 19.47	+9 44.8	2.481	3.408	6.5	20.3
1 2	7 12.14	+16 3.9	1.467	2.443	3.7	19.1	1 2	7 11.59	+9 34.9	2.460	3.420	4.2	20.2
1 12	7 2.54	+17 0.3	1.436	2.414	3.3	19.0	1 12	7 3.40	+9 34.0	2.469	3.431	3.9	20.2
1 22	6 53.13	+18 2.2	1.433	2.385	7.7	19.2	1 22	6 55.66	+9 41.1	2.507	3.442	6.0	20.4
2 1	6 45.26	+19 5.3	1.456	2.357	12.4	19.4	2 1	6 49.07	+9 54.7	2.574	3.453	8.6	20.5
2 11	6 40.01	+20 5.8	1.501	2.329	16.5	19.6	2 11	6 44.17	+10 13.1	2.667	3.464	11.0	20.7
127719	2003 <i>EK</i> ₄₀		1 6.7 320°07	12°2/ 12.4 18			54053	2000 <i>GV</i> ₁₂₆		1 6.7 267°53	0°4/ 6.6 18		
12 3	7 31.95	- 7 21.5	1.313	2.067	22.2	18.4	12 3	7 32					

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
429257	2010 <i>BM</i> ₇₃		1 6.7 59°24	3°0/ 8.3 18			175339	2005 <i>NC</i> ₆₇		1 6.8 226°19	0°0/ 6.6 18		
12 3	7 31.45	+ 9 45.2	2.308	3.093	12.8	20.6	12 3	7 36.85	+22 21.0	2.163	2.969	12.9	21.0
12 13	7 26.57	+10 23.8	2.227	3.099	10.0	20.4	12 13	7 30.91	+22 22.4	2.069	2.959	9.7	20.8
12 23	7 19.81	+11 15.7	2.170	3.104	6.8	20.3	12 23	7 22.65	+22 26.3	1.999	2.949	6.1	20.5
1 2	7 11.75	+12 19.6	2.142	3.110	3.8	20.1	1 2	7 12.73	+22 30.3	1.958	2.938	2.0	20.2
1 12	7 3.19	+13 32.1	2.143	3.115	3.3	20.0	1 12	7 2.17	+22 32.6	1.947	2.927	2.2	20.2
1 22	6 55.02	+14 49.3	2.175	3.121	6.0	20.2	1 22	6 52.07	+22 31.9	1.967	2.915	6.4	20.5
2 1	6 48.10	+16 7.0	2.237	3.126	9.2	20.4	2 1	6 43.48	+22 28.1	2.015	2.902	10.1	20.7
2 11	6 43.07	+17 21.8	2.324	3.132	12.0	20.6	2 11	6 37.21	+22 21.7	2.087	2.889	13.4	20.9
273029	2006 <i>DJ</i> ₁₁₃		1 6.8 155°59	0°1/ 6.8 18			37396	2001 <i>XM</i> ₄₂		1 6.8 25°62	5°0/ 5.9 18		
12 3	7 33.43	+20 53.2	2.213	3.023	12.5	20.8	12 3	7 37.83	+33 45.3	1.502	2.331	16.4	18.6
12 13	7 28.20	+21 11.2	2.132	3.025	9.4	20.6	12 13	7 32.53	+34 13.6	1.441	2.339	12.6	18.4
12 23	7 20.88	+21 33.7	2.076	3.026	5.8	20.4	12 23	7 23.96	+34 35.1	1.402	2.347	8.6	18.2
1 2	7 12.11	+21 58.1	2.048	3.028	1.9	20.1	1 2	7 13.17	+34 43.1	1.388	2.356	5.4	18.0
1 12	7 2.82	+22 22.0	2.051	3.030	2.1	20.1	1 12	7 1.80	+34 33.5	1.400	2.366	5.9	18.1
1 22	6 54.03	+22 43.3	2.083	3.031	6.0	20.4	1 22	6 51.54	+34 6.1	1.439	2.376	9.3	18.3
2 1	6 46.67	+23 0.9	2.143	3.033	9.5	20.6	2 1	6 43.80	+33 24.4	1.503	2.387	13.2	18.5
2 11	6 41.44	+23 14.6	2.227	3.034	12.6	20.8	2 11	6 39.42	+32 33.8	1.588	2.399	16.6	18.8
496025	2008 <i>RN</i> ₁₁₆		1 6.8 82°44	0°2/ 6.7 18			59439	1999 <i>GS</i> ₂₃		1 6.8 164°99	5°7/ 5.1 18		
12 3	7 34.56	+22 20.0	2.115	2.927	12.9	22.3	12 3	7 40.93	+38 45.5	2.321	3.115	12.5	19.2
12 13	7 28.99	+22 32.9	2.049	2.943	9.7	22.1	12 13	7 34.09	+39 36.7	2.249	3.120	9.9	19.1
12 23	7 21.30	+22 48.7	2.007	2.958	5.9	21.9	12 23	7 24.64	+40 20.1	2.201	3.124	7.4	18.9
1 2	7 12.22	+23 5.0	1.993	2.973	1.9	21.7	1 2	7 13.38	+40 49.5	2.180	3.128	5.8	18.8
1 12	7 2.75	+23 19.2	2.009	2.988	2.2	21.7	1 12	7 1.53	+41 0.6	2.189	3.131	6.2	18.9
1 22	6 53.93	+23 29.8	2.055	3.003	6.1	22.0	1 22	6 50.38	+40 52.6	2.227	3.134	8.3	19.0
2 1	6 46.69	+23 36.5	2.128	3.018	9.6	22.3	2 1	6 41.10	+40 27.4	2.292	3.136	10.9	19.2
2 11	6 41.69	+23 39.5	2.226	3.033	12.5	22.5	2 11	6 34.52	+39 49.5	2.379	3.137	13.3	19.3
226816	2004 <i>RE</i> ₂₃₅		1 6.8 99°74	9°9/10.9 18			416627	2004 <i>RV</i> ₂₃₇		1 6.8 94°36	2°2/ 7.4 18		
12 3	7 32.11	- 7 22.3	2.166	2.874	15.8	20.6	12 3	7 33.91	+15 51.2	2.004	2.809	13.8	22.0
12 13	7 27.03	- 8 9.4	2.101	2.887	13.8	20.5	12 13	7 28.61	+15 48.1	1.931	2.818	10.5	21.8
12 23	7 20.06	- 8 34.5	2.055	2.901	11.8	20.4	12 23	7 21.14	+15 52.9	1.883	2.827	6.8	21.6
1 2	7 11.81	- 8 33.9	2.034	2.913	10.3	20.3	1 2	7 12.21	+16 4.6	1.861	2.836	3.2	21.4
1 12	7 3.18	- 8 6.6	2.037	2.926	9.9	20.3	1 12	7 2.83	+16 21.6	1.869	2.846	2.9	21.4
1 22	6 55.07	- 7 14.9	2.066	2.939	10.6	20.4	1 22	6 54.05	+16 41.7	1.906	2.855	6.5	21.7
2 1	6 48.31	- 6 3.4	2.120	2.951	12.2	20.5	2 1	6 46.82	+17 3.4	1.971	2.863	10.1	21.9
2 11	6 43.54	- 4 38.3	2.197	2.963	14.0	20.7	2 11	6 41.83	+17 25.1	2.060	2.872	13.2	22.1
246757	2009 <i>BM</i> ₁₇₅		1 6.8 26°38	10°7/ 6.4 18			57015	2000 <i>TH</i> ₄₀		1 6.8 284°57	7°0/ 4.3 18		
12 3	7 49.91	+52 50.6	1.871	2.633	16.2	19.5	12 3	7 38.81	+38 10.4	1.883	2.693	14.3	18.6
12 13	7 41.67	+53 24.5	1.817	2.643	14.0	19.4	12 13	7 33.35	+39 27.4	1.800	2.680	11.5	18.4
12 23	7 29.49	+53 36.4	1.782	2.653	12.1	19.3	12 23	7 24.67	+40 38.5	1.740	2.667	8.8	18.2
1 2	7 14.87	+53 17.6	1.771	2.664	10.9	19.3	1 2	7 13.52	+41 35.1	1.707	2.654	7.1	18.1
1 12	7 0.02	+52 24.1	1.785	2.676	11.0	19.3	1 12	7 1.30	+42 10.1	1.701	2.642	7.8	18.1
1 22	6 47.04	+50 58.6	1.825	2.688	12.2	19.4	1 22	6 49.65	+42 20.4	1.722	2.629	10.3	18.2
2 1	6 37.45	+49 9.3	1.888	2.700	14.2	19.5	2 1	6 40.14	+42 7.6	1.768	2.616	13.4	18.4
2 11	6 31.92	+47 6.1	1.973	2.714	16.2	19.7	2 11	6 33.87	+41 36.7	1.834	2.603	16.3	18.6
379793	2011 <i>HB</i> ₈₄		1 6.8 235°70	0°5/ 6.6 18			344574	2003 <i>AG</i> ₄₂		1 6.8 9°76	1°5/ 6.9 18		
12 3	7 32.85	+21 52.2	2.347	3.156	11.9	20.6	12 3	7 35.00	+20 56.3	1.081	1.931	19.9	19.8
12 13	7 27.78	+22 28.8	2.259	3.151	8.9	20.4	12 13	7 31.03	+20 26.3	1.020	1.932	15.2	19.5
12 23	7 20.65	+23 10.0	2.196	3.146	5.5	20.1	12 23	7 23.35	+20 1.4	0.978	1.934	9.6	19.2
1 2	7 12.06	+23 52.9	2.161	3.141	1.8	19.9	1 2	7 13.05	+19 40.7	0.958	1.938	3.5	18.9
1 12	7 2.88	+24 33.9	2.157	3.135	2.2	19.9	1 12	7 1.95	+19 22.9	0.963	1.942	3.6	18.9
1 22	6 54.07	+25 10.5	2.183	3.129	5.9	20.1	1 22	6 52.01	+19 7.6	0.992	1.948	9.6	19.3
2 1	6 46.57	+25 40.9	2.237	3.123	9.3	20.3	2 1	6 44.86	+18 54.9	1.043	1.955	15.0	19.6
2 11	6 41.11	+26 5.1	2.316	3.117	12.3	20.5	2 11	6 41.49	+18 44.9	1.113	1.963	19.6	19.9
420651	2012 <i>JC</i> ₁₈		1 6.8 103°94	6°2/ 4.7 18			109680	2001 <i>RJ</i> ₂₆		1 6.8 198°31	0°5/ 6.6 18		
12 3	7 38.55	+36 56.8	1.962	2.772	13.9	21.5	12 3	7 32.83	+23 13.7	2.618	3.424	10.9	20.6
12 13	7 32.77	+38 9.5	1.892	2.774	11.0	21.3	12 13	7 27.52	+23 31.7	2.531	3.422	8.2	20.5
12 23	7 24.05	+39 16.1	1.846	2.776	8.1	21.1	12 23	7 20.37	+23 51.9	2.470	3.419	5.1	20.3
1 2	7 13.22	+40 9.0	1.827	2.779	6.3	21.0	1 2	7 11.97	+24 12.0	2.437	3.417	1.7	20.0
1 12	7 1.60	+40 42.2	1.836	2.781	6.9	21.1	1 12	7 3.10	+24 29.7	2.435	3.414	2.0	20.0
1 22	6 50.69	+40 53.5	1.872	2.783	9.4	21.2	1 22	6 54.63	+24 43.6	2.464	3.411	5.3	20.3
2 1	6 41.83	+40 44.5	1.934	2.785	12.3	21.4	2 1	6 47.36	+24 52.9	2.522	3.407	8.5	20.5
2 11	6 35.96	+40 19.9	2.017	2.787	15.0	21.6	2 11	6 41.94	+24 58.1	2.605	3.403	11.2	20.6
449169	2013 <i>BA</i> ₂₆		1 6.8 42°83	0°0/ 6.6 17			341647	2007 <i>VD</i> ₄₆		1 6.8 137°80	2°5/ 7.4 18		
12 3	7 36.55	+20 38.5	1.178	2.019	19.2	20.8	12 3	7 32.29	+14 44.3	2.519	3.312	11.6	20.4
12 13	7 31.77	+21 6.1	1.129	2.037	14.4	20.5	12 13	7 27.00	+14 21.2	2.438	3.317	9.0	20.2
12 23	7 23.56	+21 42.2	1.099	2.055	8.9	20.3	12 23	7 19.99	+14 4.1	2.382	3.321	6.0	20.1
1 2	7 13.03	+22 21.8	1.094	2.074	2.9	20.0	1 2	7 11.82	+13 53.1	2.355	3.325	3.2	19.9
1 12	7 1.93	+22 59.3	1.114	2.094	3.2	20.1	1 12	7 3.29	+13 47.8	2.357	3.330	3.0	19.9
1 22	6 52.04	+23 30.7	1.160	2.114	8.8	20.4	1 22	6 55.22	+13 47.6	2.390	3.334	5.7	20.1
2 1	6 44.83	+23 54.4	1.229	2.135	13.8	20.8	2 1	6 48.34	+13 51.6	2.452	3.337	8.7	20.3
2 11	6 41.17	+24 10.8	1.319	2.156	17.9	21.1	2 11	6 43.26	+13 58.6	2.539	3.341	11.3	20.4
156444	2002 <i>AH</i> ₁₆₃		1 6.8 0°42	5°6/ 8.9 18			321063	2008 <i>SK</i> ₂₅		1 6.8 172°59	2°0/ 7.4 18		
12 3	7 30.33	+ 6 20.1	1.525										

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
38517	1999 TL ₂₄₉		1 6.8 229°94	2°2/ 7.3	18		447175	2005 QZ ₅₀		1 6.8 168°68	2°7/ 7.6	18	
12 3	7 33.99	+15 58.0	2.358	3.154	12.2	19.8	12 3	7 39.03	+13 23.0	2.047	2.835	14.1	22.9
12 13	7 28.53	+15 43.1	2.263	3.145	9.4	19.6	12 13	7 32.47	+13 30.2	1.966	2.841	10.9	22.7
12 23	7 21.08	+15 34.1	2.193	3.135	6.2	19.4	12 23	7 23.59	+13 47.5	1.909	2.847	7.3	22.5
1 2	7 12.23	+15 30.5	2.151	3.125	3.0	19.1	1 2	7 13.08	+14 13.9	1.880	2.852	3.7	22.3
1 12	7 2.83	+15 31.8	2.139	3.114	2.9	19.1	1 12	7 2.00	+14 47.0	1.881	2.855	3.3	22.3
1 22	6 53.81	+15 36.8	2.157	3.103	6.1	19.3	1 22	6 51.46	+15 24.3	1.913	2.858	6.8	22.5
2 1	6 46.08	+15 44.6	2.204	3.091	9.4	19.5	2 1	6 42.52	+16 3.0	1.974	2.859	10.4	22.7
2 11	6 40.31	+15 54.3	2.276	3.079	12.4	19.7	2 11	6 35.93	+16 41.2	2.059	2.859	13.7	22.9
202868	2008 UC ₄₉		1 6.8 137°73	3°9/ 5.4	18		493291	2014 UE ₁₇₃		1 6.8 216°21	2°7/ 5.7	17	
12 3	7 36.25	+33 22.8	2.451	3.255	11.6	20.8	12 3	7 36.88	+26 52.5	2.117	2.928	12.9	21.4
12 13	7 30.33	+34 10.5	2.378	3.263	8.9	20.7	12 13	7 31.20	+27 58.0	2.030	2.923	9.8	21.2
12 23	7 22.21	+34 54.3	2.331	3.269	6.1	20.5	12 23	7 23.01	+29 6.2	1.969	2.917	6.3	21.0
1 2	7 12.59	+35 29.5	2.312	3.276	4.1	20.4	1 2	7 12.95	+30 11.7	1.936	2.911	3.1	20.8
1 12	7 2.46	+35 52.4	2.324	3.282	4.5	20.4	1 12	7 2.08	+31 8.8	1.934	2.904	3.8	20.8
1 22	6 52.88	+36 1.5	2.365	3.288	7.0	20.6	1 22	6 51.61	+31 53.8	1.961	2.897	7.3	21.0
2 1	6 44.84	+35 57.7	2.433	3.294	9.7	20.8	2 1	6 42.72	+32 25.5	2.016	2.890	10.8	21.2
2 11	6 39.05	+35 43.3	2.525	3.300	12.2	20.9	2 11	6 36.31	+32 44.9	2.095	2.883	13.9	21.4
273344	2006 UU ₁₄		1 6.8 113°76	1°2/ 7.1	18		309839	2009 CT ₂₁		1 6.8 229°94	0°8/ 6.9	18	
12 3	7 35.96	+18 24.3	1.890	2.700	14.3	21.1	12 3	7 36.78	+19 24.7	1.896	2.706	14.3	21.9
12 13	7 30.29	+18 31.7	1.820	2.710	10.8	20.9	12 13	7 31.17	+19 32.8	1.806	2.697	10.9	21.6
12 23	7 22.26	+18 45.6	1.772	2.721	6.8	20.7	12 23	7 22.99	+19 47.1	1.738	2.687	6.9	21.4
1 2	7 12.61	+19 4.2	1.752	2.731	2.6	20.5	1 2	7 12.94	+20 5.3	1.698	2.677	2.5	21.1
1 12	7 2.47	+19 24.9	1.762	2.740	2.5	20.5	1 12	7 2.12	+20 24.9	1.688	2.667	2.5	21.0
1 22	6 52.99	+19 45.5	1.800	2.750	6.7	20.8	1 22	6 51.78	+20 43.5	1.707	2.656	7.0	21.3
2 1	6 45.24	+20 4.7	1.866	2.759	10.5	21.0	2 1	6 43.11	+20 59.9	1.753	2.645	11.2	21.5
2 11	6 39.94	+20 21.6	1.956	2.768	13.8	21.3	2 11	6 36.99	+21 13.7	1.822	2.633	14.8	21.7
296116	2009 BS ₆₀		1 6.8 315°08	0°9/ 6.9	18		423108	2004 BC ₁₈		1 6.8 351°63	5°2/ 4.2	18	
12 3	7 34.24	+20 4.2	1.392	2.225	17.2	20.7	12 3	7 30.77	+27 19.8	1.425	2.269	16.3	19.6
12 13	7 30.11	+20 2.8	1.305	2.210	13.2	20.4	12 13	7 27.79	+29 26.5	1.349	2.258	12.5	19.4
12 23	7 22.75	+20 8.4	1.240	2.194	8.4	20.1	12 23	7 21.51	+31 42.2	1.296	2.248	8.3	19.1
1 2	7 12.92	+20 19.0	1.199	2.179	3.0	19.7	1 2	7 12.59	+33 56.0	1.270	2.240	5.4	18.9
1 12	7 2.02	+20 31.7	1.185	2.165	3.1	19.7	1 12	7 2.41	+35 55.6	1.270	2.233	6.7	19.0
1 22	6 51.72	+20 43.9	1.197	2.151	8.6	19.9	1 22	6 52.68	+37 31.9	1.297	2.228	10.7	19.2
2 1	6 43.58	+20 54.4	1.233	2.137	13.8	20.2	2 1	6 45.13	+38 41.2	1.347	2.225	14.9	19.4
2 11	6 38.74	+21 2.6	1.289	2.125	18.3	20.4	2 11	6 41.03	+39 25.4	1.418	2.223	18.5	19.6
88876	2001 SD ₂₆₅		1 6.8 214°30	3°0/ 5.9	18		65989	1998 KZ ₁₂		1 6.8 269°95	1°0/ 6.4	18	
12 3	7 37.52	+29 44.5	2.079	2.891	13.1	20.0	12 3	7 29.47	+25 57.6	3.308	4.112	8.9	19.8
12 13	7 31.65	+30 19.4	1.995	2.886	10.0	19.7	12 13	7 24.76	+26 11.7	3.210	4.100	6.7	19.6
12 23	7 23.22	+30 52.8	1.935	2.881	6.5	19.5	12 23	7 18.60	+26 26.0	3.138	4.087	4.2	19.4
1 2	7 12.97	+31 19.9	1.903	2.876	3.5	19.3	1 2	7 11.43	+26 38.6	3.096	4.074	1.6	19.2
1 12	7 2.04	+31 36.6	1.901	2.871	4.0	19.3	1 12	7 3.87	+26 48.0	3.085	4.061	1.9	19.2
1 22	6 51.67	+31 41.2	1.928	2.865	7.3	19.5	1 22	6 56.59	+26 53.0	3.105	4.048	4.5	19.4
2 1	6 43.03	+31 34.2	1.982	2.859	10.8	19.7	2 1	6 50.21	+26 53.6	3.154	4.035	7.1	19.5
2 11	6 36.96	+31 18.1	2.060	2.853	13.9	19.9	2 11	6 45.27	+26 50.0	3.229	4.022	9.3	19.7
37058	2000 US ₄₂		1 6.8 150°98	2°6/ 7.5	18		454954	2015 TK ₁₉₆		1 6.8 353°07	0°1/ 6.8	18	
12 3	7 33.42	+14 45.8	2.015	2.818	13.8	19.7	12 3	7 34.32	+19 26.9	1.235	2.075	18.5	20.1
12 13	7 28.32	+14 40.3	1.935	2.819	10.6	19.5	12 13	7 30.40	+20 1.4	1.164	2.072	14.1	19.8
12 23	7 21.03	+14 43.5	1.878	2.821	7.0	19.2	12 23	7 23.02	+20 47.6	1.114	2.069	8.8	19.5
1 2	7 12.23	+14 54.7	1.848	2.822	3.5	19.0	1 2	7 13.05	+21 41.1	1.087	2.067	3.0	19.2
1 12	7 2.89	+15 12.5	1.848	2.823	3.2	19.0	1 12	7 2.07	+22 35.7	1.086	2.066	3.2	19.2
1 22	6 54.07	+15 34.9	1.876	2.824	6.6	19.2	1 22	6 51.88	+23 25.5	1.111	2.066	9.0	19.5
2 1	6 46.75	+16 0.0	1.933	2.825	10.3	19.4	2 1	6 44.14	+24 7.3	1.159	2.066	14.3	19.8
2 11	6 41.65	+16 25.8	2.012	2.826	13.5	19.7	2 11	6 39.96	+24 40.1	1.227	2.066	18.8	20.1
332434	2007 UZ ₄		1 6.8 104°71	4°7/ 8.2	18		496178	2011 CN ₇₈		1 6.8 344°06	0°8/ 6.9	16	
12 3	7 32.91	+ 6 52.3	2.674	3.437	11.8	20.7	12 3	7 33.90	+20 10.6	1.857	2.674	14.2	22.1
12 13	7 27.23	+ 6 12.6	2.608	3.458	9.5	20.6	12 13	7 28.94	+20 7.9	1.776	2.672	10.8	21.9
12 23	7 20.01	+ 5 43.1	2.566	3.479	7.1	20.5	12 23	7 21.55	+20 10.1	1.719	2.670	6.8	21.6
1 2	7 11.82	+ 5 25.0	2.552	3.499	5.1	20.4	1 2	7 12.46	+20 15.3	1.689	2.668	2.4	21.3
1 12	7 3.39	+ 5 18.6	2.569	3.518	4.9	20.4	1 12	7 2.76	+20 21.7	1.687	2.667	2.4	21.3
1 22	6 55.44	+ 5 23.1	2.615	3.537	6.5	20.5	1 22	6 53.66	+20 27.8	1.715	2.665	6.8	21.6
2 1	6 48.64	+ 5 36.9	2.689	3.556	8.7	20.7	2 1	6 46.24	+20 32.7	1.768	2.664	10.8	21.8
2 11	6 43.50	+ 5 57.5	2.789	3.574	10.9	20.9	2 11	6 41.30	+20 36.2	1.846	2.663	14.3	22.1
77813	2001 QN ₁₃₄		1 6.8 336°68	8°0/ 5.2	18		267576	2002 QM ₁₀₂		1 6.8 219°44	0°6/ 6.6	18	
12 3	7 43.43	+47 28.5	2.306	3.078	13.2	19.1	12 3	7 40.29	+22 46.6	1.714	2.528	15.4	21.9
12 13	7 36.23	+48 5.9	2.234	3.077	11.1	19.0	12 13	7 34.16	+23 7.6	1.626	2.520	11.7	21.7
12 23	7 26.05	+48 28.9	2.184	3.076	9.2	18.9	12 23	7 25.04	+23 33.2	1.560	2.511	7.3	21.4
1 2	7 13.87	+48 30.8	2.161	3.074	8.1	18.8	1 2	7 13.68	+23 59.2	1.521	2.501	2.5	21.1
1 12	7 1.18	+48 7.6	2.164	3.073	8.3	18.8	1 12	7 1.39	+24 21.7	1.511	2.490	2.8	21.1
1 22	6 49.50	+47 19.8	2.195	3.072	9.9	18.9	1 22	6 49.66	+24 37.9	1.531	2.479	7.8	21.3
2 1	6 40.13	+46 11.5	2.251	3.071	11.9	19.0	2 1	6 39.91	+24 47.0	1.577	2.467	12.3	21.6
2 11	6 33.86	+44 49.4	2.330	3.070	14.0	19.2	2 11	6 33.16	+24 50.2	1.646	2.454	16.2	21.8
456431	2006 VX ₂₇		1 6.8 93°73	0°9/ 7.0	18		36588	2000 QA ₁₂₉		1 6.8 344°15	4°6/ 7.9	18	
12 3	7 37.69	+19 25.6	1.883	2.691	14.4	21.9	12 3	7 33.51	+11 44.6	1.386	2.		

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
279842	2000 UR ₂₂		1 6.8 97°27	0°6/ 6.9 18			280006	2001 US ₁₉₅		1 6.8 115°80	1°0/ 7.1 18		
12 3	7 39.88	+19 16.7	1.728	2.537	15.5	20.9	12 3	7 40.63	+18 29.6	1.802	2.606	15.1	22.5
12 13	7 33.28	+19 36.9	1.671	2.562	11.6	20.7	12 13	7 33.80	+18 43.7	1.741	2.628	11.4	22.3
12 23	7 24.10	+20 3.6	1.638	2.587	7.2	20.5	12 23	7 24.45	+19 4.5	1.703	2.650	7.1	22.1
1 2	7 13.25	+20 33.5	1.633	2.612	2.5	20.2	1 2	7 13.43	+19 29.4	1.692	2.671	2.6	21.9
1 12	7 2.01	+21 3.2	1.656	2.635	2.5	20.3	1 12	7 1.99	+19 55.3	1.712	2.691	2.5	21.9
1 22	6 51.68	+21 30.0	1.709	2.659	7.0	20.6	1 22	6 51.39	+20 19.7	1.761	2.710	6.9	22.2
2 1	6 43.37	+21 52.6	1.790	2.681	11.0	20.9	2 1	6 42.75	+20 41.2	1.839	2.728	10.8	22.5
2 11	6 37.81	+22 10.8	1.893	2.703	14.3	21.2	2 11	6 36.79	+20 59.4	1.940	2.746	14.2	22.7
461782	2005 VS ₁₁		1 6.8 175°25	2°4/ 6.1 18			444068	2004 RE ₂₂₆		1 6.8 86°56	3°3/ 7.7 18		
12 3	7 37.15	+28 28.8	2.249	3.057	12.4	21.8	12 3	7 39.81	+13 23.6	1.599	2.401	16.8	21.6
12 13	7 31.11	+28 57.6	2.169	3.059	9.4	21.6	12 13	7 33.26	+13 19.7	1.548	2.431	12.9	21.4
12 23	7 22.78	+29 25.3	2.114	3.061	6.0	21.4	12 23	7 24.11	+13 27.9	1.518	2.459	8.5	21.2
1 2	7 12.86	+29 48.0	2.087	3.062	2.9	21.2	1 2	7 13.30	+13 46.8	1.515	2.487	4.4	21.1
1 12	7 2.38	+30 2.4	2.090	3.063	3.3	21.3	1 12	7 2.16	+14 13.9	1.541	2.515	3.9	21.1
1 22	6 52.47	+30 7.0	2.123	3.063	6.6	21.5	1 22	6 52.01	+14 46.3	1.595	2.542	7.6	21.4
2 1	6 44.15	+30 2.2	2.185	3.063	9.9	21.7	2 1	6 43.96	+15 20.9	1.676	2.568	11.6	21.7
2 11	6 38.16	+29 49.8	2.270	3.062	12.8	21.9	2 11	6 38.71	+15 55.4	1.779	2.593	14.9	22.0
54854	2001 OU ₂₀		1 6.8 74°31	3°5/ 7.4 18			226711	2004 OM ₁₅		1 6.8 109°27	2°8/ 5.9 18		
12 3	7 34.76	+13 42.1	2.259	3.051	12.9	18.2	12 3	7 38.62	+29 46.9	2.366	3.170	12.0	22.1
12 13	7 28.91	+12 50.9	2.190	3.065	10.0	18.1	12 13	7 31.97	+30 28.4	2.306	3.193	9.0	21.9
12 23	7 21.19	+12 6.3	2.145	3.080	6.8	17.9	12 23	7 23.18	+31 7.5	2.271	3.216	5.9	21.8
1 2	7 12.28	+11 29.3	2.129	3.095	4.1	17.8	1 2	7 13.00	+31 40.0	2.266	3.238	3.2	21.6
1 12	7 3.08	+11 0.8	2.143	3.110	4.0	17.8	1 12	7 2.45	+32 2.5	2.291	3.259	3.6	21.7
1 22	6 54.48	+10 40.8	2.186	3.124	6.5	18.0	1 22	6 52.58	+32 13.7	2.347	3.280	6.4	21.9
2 1	6 47.31	+10 28.7	2.258	3.139	9.5	18.2	2 1	6 44.33	+32 14.2	2.430	3.301	9.4	22.1
2 11	6 42.13	+10 23.4	2.354	3.154	12.2	18.4	2 11	6 38.34	+32 6.1	2.539	3.320	11.9	22.4
260933	2005 RX ₅₁		1 6.8 137°51	0°1/ 6.8 18			7757	Kameya		1 6.8 154°90	9°5/ 8.5 18		
12 3	7 35.93	+20 55.7	2.152	2.958	12.9	21.1	12 3	7 38.79	- 2 12.1	2.072	2.798	15.9	18.1
12 13	7 30.12	+21 24.1	2.077	2.968	9.7	20.9	12 13	7 32.16	- 3 38.3	2.000	2.808	13.6	17.9
12 23	7 22.13	+21 57.4	2.028	2.977	6.0	20.7	12 23	7 23.36	- 4 47.1	1.951	2.817	11.4	17.8
1 2	7 12.64	+22 32.4	2.007	2.986	2.0	20.4	1 2	7 13.09	- 5 33.6	1.927	2.826	9.8	17.7
1 12	7 2.65	+23 5.8	2.016	2.995	2.2	20.5	1 12	7 2.32	- 5 55.0	1.930	2.833	9.6	17.7
1 22	6 53.22	+23 35.4	2.055	3.003	6.1	20.7	1 22	6 52.13	- 5 51.6	1.961	2.840	10.8	17.8
2 1	6 45.31	+23 59.7	2.123	3.011	9.7	21.0	2 1	6 43.47	- 5 26.3	2.017	2.845	12.8	17.9
2 11	6 39.66	+24 18.6	2.215	3.018	12.7	21.2	2 11	6 37.05	- 4 44.4	2.095	2.850	14.9	18.1
340833	2006 UU ₂₇₀		1 6.8 130°14	3°5/ 7.5 17			457856	2009 SR ₁₇₃		1 6.8 76°06	3°5/ 7.5 18		
12 3	7 40.14	+14 20.4	1.538	2.345	17.2	22.0	12 3	7 36.81	+14 10.4	1.913	2.711	14.6	20.9
12 13	7 33.83	+14 1.0	1.471	2.357	13.3	21.8	12 13	7 30.69	+13 30.6	1.854	2.734	11.2	20.7
12 23	7 24.64	+13 52.4	1.426	2.369	8.8	21.5	12 23	7 22.39	+12 58.9	1.819	2.757	7.6	20.5
1 2	7 13.49	+13 54.2	1.407	2.380	4.6	21.3	1 2	7 12.72	+12 36.1	1.811	2.780	4.2	20.4
1 12	7 1.76	+14 5.1	1.416	2.390	4.2	21.3	1 12	7 2.78	+12 22.0	1.832	2.802	4.0	20.4
1 22	6 50.92	+14 22.8	1.453	2.400	8.2	21.6	1 22	6 53.62	+12 16.0	1.882	2.825	7.0	20.6
2 1	6 42.22	+14 45.0	1.517	2.410	12.5	21.9	2 1	6 46.19	+12 17.0	1.960	2.847	10.4	20.9
2 11	6 36.51	+15 9.6	1.602	2.418	16.2	22.1	2 11	6 41.10	+12 23.2	2.061	2.869	13.4	21.1
424357	2007 VM ₁₅₁		1 6.8 250°24	1°9/ 5.9 17			297884	2002 CZ ₁₅₇		1 6.8 304°67	0°4/ 6.9 18		
12 3	7 32.86	+26 17.6	2.489	3.299	11.2	21.5	12 3	7 34.57	+19 33.8	1.428	2.259	17.0	20.0
12 13	7 27.80	+27 3.6	2.401	3.294	8.5	21.3	12 13	7 30.41	+19 59.7	1.340	2.243	13.0	19.8
12 23	7 20.73	+27 51.3	2.339	3.288	5.4	21.1	12 23	7 23.04	+20 35.9	1.274	2.227	8.2	19.4
1 2	7 12.21	+28 36.9	2.306	3.283	2.4	20.9	1 2	7 13.16	+21 19.0	1.232	2.212	2.8	19.1
1 12	7 3.11	+29 16.9	2.304	3.277	2.9	20.9	1 12	7 2.13	+22 4.1	1.216	2.196	3.0	19.0
1 22	6 54.37	+29 48.8	2.331	3.271	6.0	21.1	1 22	6 51.59	+22 46.6	1.228	2.181	8.6	19.3
2 1	6 46.90	+30 11.5	2.387	3.266	9.2	21.3	2 1	6 43.14	+23 23.3	1.264	2.166	13.7	19.6
2 11	6 41.43	+30 25.6	2.468	3.260	11.9	21.4	2 11	6 37.95	+23 53.2	1.321	2.152	18.1	19.8
118286	1998 RR ₆₆		1 6.8 187°34	2°5/ 6.3 18			502754	2015 DN ₅₇		1 6.8 179°22	3°1/ 5.9 18		
12 3	7 41.93	+28 3.2	1.848	2.658	14.6	20.1	12 3	7 35.69	+32 38.2	2.585	3.389	11.1	21.6
12 13	7 35.18	+28 27.9	1.766	2.658	11.1	19.8	12 13	7 29.80	+32 57.5	2.504	3.389	8.5	21.4
12 23	7 25.53	+28 51.7	1.709	2.657	7.1	19.6	12 23	7 21.88	+33 12.7	2.449	3.390	5.7	21.3
1 2	7 13.83	+29 9.6	1.679	2.656	3.2	19.4	1 2	7 12.59	+33 20.2	2.422	3.390	3.4	21.1
1 12	7 1.39	+29 17.5	1.679	2.653	3.7	19.4	1 12	7 2.87	+33 17.6	2.425	3.390	3.7	21.1
1 22	6 49.68	+29 13.9	1.709	2.650	7.7	19.6	1 22	6 53.68	+33 4.2	2.458	3.390	6.3	21.3
2 1	6 40.00	+28 59.8	1.765	2.646	11.7	19.9	2 1	6 45.92	+32 41.2	2.519	3.389	9.1	21.5
2 11	6 33.27	+28 38.4	1.845	2.642	15.1	20.1	2 11	6 40.26	+32 11.0	2.605	3.389	11.6	21.6
495392	2014 QE ₂₅₁		1 6.8 51°63	5°7/ 9.1 18			400826	2010 JU ₁₅₃		1 6.8 179°15	1°4/ 7.3 18		
12 3	7 33.29	+ 5 24.7	1.645	2.433	17.0	20.8	12 3	7 37.21	+16 47.7	2.103	2.901	13.5	22.1
12 13	7 28.57	+ 5 41.5	1.577	2.443	13.7	20.6	12 13	7 31.18	+17 7.0	2.019	2.903	10.3	21.9
12 23	7 21.37	+ 6 19.4	1.529	2.453	10.0	20.4	12 23	7 22.88	+17 34.3	1.959	2.904	6.6	21.7
1 2	7 12.44	+ 7 18.2	1.506	2.464	6.6	20.2	1 2	7 12.97	+18 7.5	1.928	2.905	2.6	21.4
1 12	7 2.92	+ 8 34.6	1.511	2.475	5.8	20.2	1 12	7 2.44	+18 43.8	1.926	2.905	2.5	21.4
1 22	6 54.04	+10 2.9	1.544	2.486	8.4	20.4	1 22	6 52.40	+19 20.4	1.956	2.904	6.4	21.7
2 1	6 46.92	+11 36.5	1.603	2.497	11.9	20.6	2 1	6 43.88	+19 55.1	2.014	2.902	10.1	21.9
2 11	6 42.35	+13 9.4	1.686	2.508	15.2	20.9	2 11	6 37.65	+20 26.7	2.096	2.900	13.3	22.1
127856	2003 FR ₁₁₄		1 6.8 208°63	1°7/ 7.3 18			466765	2015 AR ₁₅₁		1 6.8 232°44	0°8/ 7.1 17		
12 3	7 36.97	+16 17.8	1.844	2.649	14.8	20.3	12 3	7 32.37	+18 6.8	2.376	3.180	11.9	21.6
12													

EPHEMERIDES

1 6.8

1 6.8

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
120499	1993 NA		1 6.8	197°03	2°5/ 7.5	18	142073	2002 QQ ₄₁		1 6.8	64°16	3°1/ 6.2	18
12 3	7 37.59	+15 2.6	1.946	2.744	14.4	21.1	12 3	7 39.56	+28 57.1	1.542	2.367	16.2	19.6
12 13	7 31.63	+14 58.0	1.859	2.741	11.1	20.8	12 13	7 33.61	+29 22.9	1.484	2.383	12.2	19.4
12 23	7 23.24	+15 2.1	1.796	2.738	7.3	20.6	12 23	7 24.59	+29 46.4	1.449	2.400	7.8	19.2
1 2	7 13.10	+15 14.1	1.760	2.734	3.6	20.4	1 2	7 13.54	+30 2.2	1.440	2.416	3.7	19.0
1 12	7 2.29	+15 32.4	1.754	2.729	3.3	20.3	1 12	7 1.98	+30 6.3	1.459	2.433	4.2	19.0
1 22	6 51.99	+15 54.8	1.777	2.724	7.0	20.5	1 22	6 51.51	+29 57.7	1.505	2.449	8.3	19.3
2 1	6 43.31	+16 19.5	1.828	2.717	10.9	20.8	2 1	6 43.42	+29 38.4	1.577	2.466	12.4	19.6
2 11	6 37.07	+16 44.9	1.903	2.711	14.3	21.0	2 11	6 38.53	+29 11.8	1.671	2.483	15.8	19.9
502640	2015 CH ₃₈		1 6.8	266°78	5°2/ 5.4	17	7719	1997 GT ₃₆		1 6.8	32°76	1°1/ 7.1	18
12 3	7 38.47	+38 58.8	2.491	3.285	11.7	21.3	12 3	7 33.41	+18 47.5	1.922	2.736	13.9	18.2
12 13	7 32.25	+39 29.3	2.399	3.270	9.4	21.1	12 13	7 28.50	+18 53.0	1.846	2.739	10.6	18.0
12 23	7 23.60	+39 51.9	2.331	3.255	7.0	20.9	12 23	7 21.27	+19 4.7	1.792	2.742	6.7	17.8
1 2	7 13.21	+40 1.7	2.290	3.240	5.4	20.8	1 2	7 12.45	+19 20.9	1.766	2.745	2.5	17.5
1 12	7 2.18	+39 54.9	2.279	3.224	5.7	20.8	1 12	7 3.08	+19 39.4	1.769	2.748	2.4	17.5
1 22	6 51.70	+39 30.9	2.297	3.209	7.8	20.9	1 22	6 54.29	+19 58.0	1.801	2.751	6.5	17.8
2 1	6 42.88	+38 51.6	2.342	3.193	10.4	21.0	2 1	6 47.11	+20 15.4	1.859	2.755	10.4	18.0
2 11	6 36.50	+38 1.1	2.411	3.177	12.9	21.2	2 11	6 42.28	+20 30.7	1.942	2.759	13.7	18.2
420620	2012 HT ₆₇		1 6.8	289°85	6°5/ 8.6	18	81531	2000 HK ₁₄		1 6.8	205°56	1°9/ 7.4	18
12 3	7 31.93	+ 5 15.6	1.906	2.686	15.3	21.4	12 3	7 34.94	+16 6.3	2.150	2.949	13.2	19.3
12 13	7 27.44	+ 4 45.3	1.816	2.675	12.5	21.2	12 13	7 29.47	+16 9.1	2.061	2.945	10.1	19.1
12 23	7 20.69	+ 4 30.5	1.748	2.663	9.6	21.0	12 23	7 21.83	+16 19.5	1.997	2.941	6.6	18.8
1 2	7 12.27	+ 4 33.7	1.704	2.652	7.1	20.8	1 2	7 12.65	+16 36.3	1.961	2.936	2.9	18.6
1 12	7 3.17	+ 4 55.4	1.688	2.641	6.7	20.7	1 12	7 2.87	+16 57.7	1.954	2.931	2.7	18.6
1 22	6 54.45	+ 5 33.6	1.699	2.629	8.7	20.8	1 22	6 53.54	+17 21.6	1.978	2.926	6.3	18.8
2 1	6 47.17	+ 6 24.9	1.737	2.618	11.9	21.0	2 1	6 45.62	+17 46.4	2.030	2.920	10.0	19.0
2 11	6 42.14	+ 7 24.4	1.797	2.607	15.0	21.2	2 11	6 39.87	+18 10.6	2.106	2.913	13.1	19.2
106300	2000 UX ₈₄		1 6.8	66°34	1°2/ 6.5	17	181759	1996 TX ₅₀		1 6.8	152°68	1°1/ 6.6	18
12 3	7 39.47	+23 4.8	1.403	2.231	17.4	19.9	12 3	7 42.86	+24 35.0	1.748	2.558	15.3	21.3
12 13	7 33.59	+23 42.1	1.352	2.254	13.0	19.7	12 13	7 35.82	+24 50.1	1.676	2.568	11.5	21.1
12 23	7 24.59	+24 23.9	1.324	2.277	8.0	19.5	12 23	7 25.90	+25 6.8	1.628	2.577	7.2	20.8
1 2	7 13.52	+25 4.8	1.321	2.300	2.8	19.2	1 2	7 14.00	+25 20.9	1.607	2.586	2.5	20.6
1 12	7 1.96	+25 39.3	1.345	2.324	3.2	19.3	1 12	7 1.50	+25 29.0	1.615	2.593	2.9	20.6
1 22	6 51.54	+26 4.6	1.397	2.347	8.2	19.6	1 22	6 49.86	+25 29.6	1.654	2.600	7.5	20.9
2 1	6 43.57	+26 20.2	1.474	2.370	12.6	20.0	2 1	6 40.34	+25 23.2	1.719	2.606	11.6	21.2
2 11	6 38.87	+26 27.6	1.573	2.393	16.3	20.3	2 11	6 33.81	+25 12.0	1.808	2.611	15.2	21.4
160767	2000 SS ₁₃₃		1 6.8	155°60	3°3/ 7.5	18	420635	2012 HP ₈₃		1 6.8	219°89	3°3/ 8.1	18
12 3	7 37.95	+14 10.5	1.869	2.667	14.9	20.6	12 3	7 33.05	+10 32.9	2.218	3.005	13.2	21.2
12 13	7 31.82	+13 46.6	1.793	2.673	11.6	20.4	12 13	7 28.01	+10 49.9	2.128	3.000	10.4	21.0
12 23	7 23.29	+13 31.4	1.740	2.679	7.7	20.2	12 23	7 20.92	+11 19.4	2.061	2.995	7.1	20.8
1 2	7 13.09	+13 24.9	1.714	2.685	4.2	20.0	1 2	7 12.36	+12 0.7	2.022	2.989	4.1	20.6
1 12	7 2.36	+13 26.5	1.718	2.690	3.9	20.0	1 12	7 3.21	+12 51.6	2.012	2.983	3.6	20.5
1 22	6 52.28	+13 34.8	1.750	2.694	7.3	20.2	1 22	6 54.41	+13 48.9	2.033	2.977	6.4	20.7
2 1	6 43.93	+13 48.3	1.810	2.698	11.1	20.4	2 1	6 46.90	+14 49.0	2.082	2.971	9.8	20.9
2 11	6 38.07	+14 5.2	1.893	2.701	14.4	20.7	2 11	6 41.39	+15 48.9	2.156	2.964	12.8	21.1
506794	2007 CU ₄₃		1 6.8	238°35	3°1/ 7.8	17	6600	Qwerty		1 6.8	49°38	0°9/ 6.7	18
12 3	7 33.42	+11 56.7	2.322	3.109	12.7	22.5	12 3	7 40.52	+24 8.8	1.107	1.950	20.0	16.5
12 13	7 28.23	+11 58.7	2.223	3.096	9.9	22.3	12 13	7 34.91	+24 12.2	1.063	1.972	15.0	16.2
12 23	7 21.03	+12 10.9	2.148	3.083	6.8	22.1	12 23	7 25.60	+24 18.5	1.038	1.994	9.2	16.0
1 2	7 12.37	+12 32.8	2.101	3.069	3.8	21.9	1 2	7 13.89	+24 23.0	1.037	2.017	3.1	15.7
1 12	7 3.09	+13 3.2	2.084	3.055	3.5	21.9	1 12	7 1.75	+24 22.0	1.061	2.040	3.4	15.8
1 22	6 54.10	+13 39.8	2.097	3.040	6.3	22.0	1 22	6 51.14	+24 14.6	1.110	2.064	9.2	16.2
2 1	6 46.33	+14 20.3	2.138	3.025	9.7	22.2	2 1	6 43.54	+24 1.9	1.183	2.088	14.2	16.6
2 11	6 40.52	+15 2.1	2.205	3.010	12.7	22.4	2 11	6 39.74	+23 46.2	1.276	2.113	18.3	16.9
135402	2001 TP ₂₁₅		1 6.8	205°28	8°8/ 3.5	18	169185	2001 RL ₂		1 6.8	171°88	6°7/ 8.1	18
12 3	7 42.73	+50 17.8	2.511	3.272	12.6	19.3	12 3	7 33.02	+ 1 8.6	2.727	3.464	12.2	20.0
12 13	7 35.95	+51 29.3	2.445	3.271	10.9	19.2	12 13	7 27.47	- 0 0.8	2.645	3.466	10.3	19.9
12 23	7 26.11	+52 27.1	2.401	3.270	9.5	19.1	12 23	7 20.34	- 0 58.6	2.586	3.467	8.4	19.7
1 2	7 14.08	+53 3.7	2.383	3.269	8.8	19.1	1 2	7 12.12	- 1 41.7	2.555	3.469	7.0	19.7
1 12	7 1.27	+53 14.4	2.391	3.268	9.2	19.1	1 12	7 3.52	- 2 8.5	2.553	3.470	6.8	19.6
1 22	6 49.26	+52 58.5	2.425	3.267	10.4	19.2	1 22	6 55.29	- 2 18.7	2.579	3.471	8.0	19.7
2 1	6 39.44	+52 19.1	2.483	3.265	12.1	19.3	2 1	6 48.12	- 2 13.9	2.633	3.471	9.8	19.8
2 11	6 32.74	+51 22.0	2.562	3.264	13.8	19.4	2 11	6 42.57	- 1 56.7	2.710	3.472	11.7	20.0
177396	2004 BY ₉₃		1 6.8	206°79	2°4/ 7.8	18	218960	2008 EQ ₈₃		1 6.8	198°38	0°8/ 6.6	18
12 3	7 34.37	+12 55.6	2.476	3.261	12.1	20.6	12 3	7 37.84	+24 59.4	2.224	3.030	12.6	21.0
12 13	7 28.80	+13 10.5	2.381	3.255	9.4	20.4	12 13	7 31.62	+25 1.3	2.137	3.027	9.5	20.8
12 23	7 21.31	+13 34.9	2.311	3.248	6.3	20.2	12 23	7 23.14	+25 3.4	2.075	3.024	5.9	20.6
1 2	7 12.46	+14 7.7	2.269	3.240	3.2	20.0	1 2	7 13.08	+25 3.2	2.041	3.020	2.1	20.3
1 12	7 3.04	+14 46.9	2.258	3.232	2.9	19.9	1 12	7 2.48	+24 58.7	2.038	3.016	2.3	20.3
1 22	6 53.94	+15 30.2	2.279	3.223	5.8	20.1	1 22	6 52.43	+24 48.9	2.065	3.011	6.2	20.5
2 1	6 46.02	+16 15.0	2.328	3.214	9.0	20.3	2 1	6 43.93	+24 34.5	2.120	3.006	9.8	20.8
2 11	6 39.96	+16 59.2	2.403	3.204	11.9	20.5	2 11	6 37.73	+24 16.9	2.201	3.000	12.9	21.0
7414	Bosch		1 6.8	62°14	0°3/ 6.9	18	55886	1997 WT ₃₅		1 6.8	20°94	5°2/ 7.3	18
12 3	7 34.00	+20 46.4	2.102	2.913	13.0	17.8	12 3	7 35.28	+13 39.2	1.480	2.297	17.2	17.8
12 13	7 2												

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
184078	2004 <i>GY</i> ₂₅		1 6.8 281°17	7°2/ 8.8 18			122480	2000 <i>QR</i> ₁₆₇		1 6.8 129°67	3°1/ 7.6 18		
12 3	7 32.78	+ 3 44.7	1.829	2.604	16.0	20.4	12 3	7 37.90	+14 18.3	1.769	2.570	15.5	20.1
12 13	7 28.10	+ 3 9.9	1.748	2.601	13.2	20.2	12 13	7 31.91	+14 5.9	1.698	2.581	11.9	19.9
12 23	7 21.11	+ 2 52.4	1.687	2.597	10.2	20.0	12 23	7 23.42	+14 3.3	1.651	2.592	7.9	19.7
1 2	7 12.46	+ 2 54.9	1.652	2.594	7.8	19.8	1 2	7 13.22	+14 10.0	1.630	2.603	4.1	19.5
1 12	7 3.17	+ 3 18.0	1.643	2.591	7.3	19.8	1 12	7 2.51	+14 24.4	1.638	2.612	3.7	19.5
1 22	6 54.36	+ 3 59.6	1.662	2.587	9.2	19.9	1 22	6 52.52	+14 44.5	1.675	2.622	7.4	19.7
2 1	6 47.08	+ 4 55.6	1.706	2.584	12.2	20.1	2 1	6 44.35	+15 8.1	1.739	2.631	11.3	20.0
2 11	6 42.14	+ 6 0.6	1.772	2.580	15.2	20.2	2 11	6 38.77	+15 33.3	1.827	2.639	14.7	20.2
357657	2005 <i>JD</i> ₆₈		1 6.8 188°83	2°7/ 5.9 18			187827	1999 <i>UW</i> ₃₃		1 6.8 92°14	4°2/ 7.7 18		
12 3	7 38.78	+29 12.7	2.330	3.133	12.1	22.0	12 3	7 38.74	+13 29.2	1.383	2.197	18.3	20.5
12 13	7 32.38	+29 49.0	2.245	3.133	9.2	21.9	12 13	7 33.07	+13 3.1	1.320	2.209	14.2	20.2
12 23	7 23.65	+30 24.0	2.186	3.131	6.0	21.6	12 23	7 24.35	+12 49.6	1.279	2.221	9.6	20.0
1 2	7 13.29	+30 53.6	2.156	3.129	3.1	21.5	1 2	7 13.56	+12 49.1	1.262	2.233	5.3	19.8
1 12	7 2.30	+31 13.8	2.156	3.126	3.5	21.5	1 12	7 2.17	+13 0.3	1.272	2.245	4.8	19.8
1 22	6 51.83	+31 23.1	2.186	3.122	6.7	21.7	1 22	6 51.73	+13 20.7	1.309	2.257	8.8	20.1
2 1	6 42.91	+31 21.6	2.245	3.118	9.9	21.9	2 1	6 43.58	+13 47.4	1.371	2.268	13.2	20.3
2 11	6 36.33	+31 11.6	2.329	3.113	12.8	22.1	2 11	6 38.59	+14 17.4	1.454	2.279	17.1	20.6
382546	2001 <i>UR</i> ₁₂₆		1 6.8 60°10	2°5/ 6.1 18			252370	2001 <i>SD</i> ₂₅₆		1 6.8 235°29	4°6/ 5.3 18	R	
12 3	7 34.88	+28 7.0	2.128	2.944	12.7	21.0	12 3	7 38.14	+32 40.6	1.943	2.758	13.8	20.2
12 13	7 29.42	+28 44.9	2.069	2.963	9.6	20.9	12 13	7 32.51	+33 39.3	1.863	2.753	10.7	20.0
12 23	7 21.75	+29 21.8	2.033	2.982	6.1	20.7	12 23	7 24.05	+34 35.4	1.807	2.748	7.4	19.8
1 2	7 12.62	+29 53.8	2.026	3.001	2.9	20.5	1 2	7 13.51	+35 22.3	1.778	2.743	4.9	19.7
1 12	7 3.09	+30 17.2	2.048	3.021	3.4	20.6	1 12	7 2.14	+35 54.4	1.778	2.738	5.5	19.7
1 22	6 54.25	+30 30.5	2.100	3.040	6.6	20.8	1 22	6 51.35	+36 9.0	1.806	2.733	8.5	19.9
2 1	6 47.05	+30 34.0	2.179	3.060	9.8	21.1	2 1	6 42.47	+36 6.8	1.860	2.728	11.9	20.0
2 11	6 42.17	+30 29.3	2.281	3.079	12.6	21.3	2 11	6 36.44	+35 51.2	1.936	2.722	14.9	20.2
69147	2003 <i>GR</i> ₁		1 6.8 78°37	4°9/ 8.3 18			133169	2003 <i>QO</i> ₄₁		1 6.8 116°00	1°2/ 7.2 18		
12 3	7 35.47	+ 9 23.9	1.490	2.294	17.7	18.2	12 3	7 38.37	+18 2.8	1.870	2.675	14.6	20.8
12 13	7 30.53	+ 9 23.5	1.421	2.301	14.0	18.0	12 13	7 32.14	+18 15.6	1.805	2.693	11.1	20.6
12 23	7 22.77	+ 9 40.9	1.373	2.308	9.8	17.7	12 23	7 23.49	+18 35.5	1.763	2.710	7.0	20.4
1 2	7 13.04	+10 16.1	1.350	2.315	6.0	17.5	1 2	7 13.23	+19 0.1	1.749	2.727	2.6	20.2
1 12	7 2.63	+11 6.5	1.353	2.323	5.3	17.5	1 12	7 2.52	+19 26.5	1.764	2.743	2.5	20.2
1 22	6 52.94	+12 7.4	1.384	2.330	8.6	17.7	1 22	6 52.55	+19 52.3	1.809	2.758	6.7	20.5
2 1	6 45.25	+13 13.7	1.440	2.337	12.7	18.0	2 1	6 44.37	+20 15.9	1.882	2.773	10.5	20.8
2 11	6 40.43	+14 20.2	1.519	2.345	16.4	18.2	2 11	6 38.73	+20 36.6	1.978	2.787	13.8	21.0
120625	1996 <i>ES</i> ₆		1 6.8 317°54	4°3/ 6.1 18			457031	2008 <i>CD</i> ₁₆₆		1 6.8 230°79	1°2/ 6.5 18		
12 3	7 38.60	+30 33.4	1.331	2.168	17.7	19.7	12 3	7 36.65	+24 41.0	1.987	2.801	13.5	21.9
12 13	7 33.85	+31 6.1	1.254	2.158	13.6	19.4	12 13	7 31.09	+25 1.4	1.900	2.795	10.2	21.7
12 23	7 25.34	+31 36.5	1.198	2.149	9.0	19.2	12 23	7 23.02	+25 23.8	1.837	2.788	6.4	21.4
1 2	7 14.00	+31 57.2	1.166	2.140	4.9	18.9	1 2	7 13.14	+25 44.8	1.802	2.781	2.3	21.2
1 12	7 1.56	+32 1.8	1.159	2.131	5.5	18.9	1 12	7 2.56	+26 1.1	1.796	2.774	2.7	21.2
1 22	6 50.00	+31 48.3	1.179	2.123	10.1	19.1	1 22	6 52.50	+26 10.5	1.819	2.766	6.9	21.4
2 1	6 41.12	+31 19.0	1.222	2.115	14.8	19.4	2 1	6 44.10	+26 13.0	1.870	2.758	10.8	21.6
2 11	6 36.08	+30 39.2	1.285	2.108	19.0	19.6	2 11	6 38.23	+26 9.5	1.944	2.750	14.1	21.8
217784	2000 <i>SF</i> ₁₆₅		1 6.8 61°74	1°6/ 7.1 18			454559	2014 <i>PF</i>		1 6.8 183°92	1°5/ 6.3 18		
12 3	7 37.87	+19 33.6	1.711	2.525	15.4	19.7	12 3	7 39.28	+24 43.1	2.201	3.005	12.8	21.9
12 13	7 31.77	+19 6.3	1.655	2.547	11.6	19.5	12 13	7 32.84	+25 25.4	2.117	3.006	9.6	21.7
12 23	7 23.20	+18 43.6	1.622	2.570	7.3	19.3	12 23	7 24.00	+26 10.4	2.057	3.006	6.0	21.4
1 2	7 13.09	+18 24.7	1.616	2.593	2.9	19.1	1 2	7 13.46	+26 53.8	2.027	3.005	2.3	21.2
1 12	7 2.68	+18 8.9	1.638	2.617	2.8	19.2	1 12	7 2.23	+27 31.4	2.027	3.003	2.8	21.2
1 22	6 53.21	+17 55.8	1.690	2.640	7.0	19.5	1 22	6 51.49	+28 0.5	2.058	3.001	6.6	21.5
2 1	6 45.72	+17 45.3	1.768	2.663	10.9	19.7	2 1	6 42.32	+28 20.3	2.118	2.997	10.1	21.7
2 11	6 40.87	+17 37.1	1.870	2.686	14.2	20.0	2 11	6 35.53	+28 31.7	2.202	2.993	13.2	21.9
343657	2010 <i>LU</i> ₆₀		1 6.8 260°34	1°9/ 7.5 18			446882	2002 <i>DR</i> ₁₃		1 6.8 300°09	4°0/ 7.7 18		
12 3	7 31.01	+15 19.2	2.553	3.350	11.4	21.4	12 3	7 33.95	+13 0.1	1.463	2.281	17.3	21.3
12 13	7 26.28	+15 24.3	2.458	3.340	8.8	21.2	12 13	7 29.81	+12 50.2	1.372	2.263	13.7	21.0
12 23	7 19.77	+15 36.5	2.387	3.330	5.7	21.0	12 23	7 22.64	+12 54.0	1.301	2.245	9.3	20.7
1 2	7 12.00	+15 54.9	2.345	3.319	2.7	20.7	1 2	7 13.12	+13 12.1	1.255	2.227	5.1	20.5
1 12	7 3.73	+16 18.1	2.333	3.309	2.5	20.7	1 12	7 2.52	+13 43.0	1.235	2.209	4.6	20.4
1 22	6 55.77	+16 44.4	2.351	3.299	5.5	20.9	1 22	6 52.34	+14 23.5	1.241	2.192	8.9	20.6
2 1	6 48.91	+17 11.9	2.398	3.288	8.6	21.1	2 1	6 44.07	+15 9.8	1.273	2.175	13.7	20.8
2 11	6 43.80	+17 39.4	2.470	3.277	11.5	21.2	2 11	6 38.85	+15 58.0	1.325	2.158	18.0	21.0
370540	2003 <i>SG</i> ₄₂₉		1 6.8 52°58	5°8/ 5.5 18			401247	2012 <i>BM</i> ₅₂		1 6.8 38°29	11°7/ 13.8 18		
12 3	7 39.26	+38 19.2	2.061	2.865	13.5	20.7	12 3	7 33.98	-10 29.2	1.549	2.266	20.8	20.5
12 13	7 33.14	+38 56.7	1.990	2.868	10.7	20.6	12 13	7 29.25	-10 19.5	1.484	2.278	18.2	20.3
12 23	7 24.26	+39 25.5	1.942	2.871	7.9	20.4	12 23	7 21.91	- 9 33.4	1.435	2.290	15.4	20.1
1 2	7 13.50	+39 39.7	1.922	2.874	5.9	20.3	1 2	7 12.76	- 8 7.3	1.407	2.302	13.0	20.0
1 12	7 2.18	+39 35.2	1.929	2.877	6.3	20.3	1 12	7 3.02	- 6 2.8	1.403	2.315	11.8	20.0
1 22	6 51.67	+39 11.7	1.964	2.881	8.6	20.5	1 22	6 53.99	- 3 27.8	1.426	2.328	12.4	20.0
2 1	6 43.20	+38 31.8	2.026	2.884	11.5	20.6	2 1	6 46.83	- 0 34.0	1.475	2.342	14.4	20.2
2 11	6 37.57	+37 40.6	2.110	2.887	14.1	20.8	2 11	6 42.37	+ 2 25.3	1.547	2.357	17.0	20.4
201976	2004 <i>PA</i> ₃₃		1 6.8 96°13	0°7/ 7.0 16			171294	2006 <i>GX</i> ₃₈		1 6.8 239°66	1°3/ 7.2 18		
12 3	7 40.10	+19 25.4	1.599										

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
206338	2003 <i>OU</i> ₃₀		1 6.8 118°41'	2°5'/ 7.6	18		282843	2006 <i>UX</i> ₁₈₆		1 6.8 132°74'	7°7'/ 9.6	18	
12 3	7 36.72	+14 17.1	1.753	2.557	15.5	20.9	12 3	7 30.99	- 5 54.9	2.986	3.683	12.1	21.1
12 13	7 31.11	+14 28.8	1.683	2.568	11.9	20.7	12 13	7 25.85	- 6 52.3	2.915	3.694	10.5	21.0
12 23	7 22.97	+14 51.9	1.636	2.579	7.8	20.5	12 23	7 19.31	- 7 34.7	2.866	3.705	9.0	20.9
1 2	7 13.10	+15 24.6	1.615	2.589	3.7	20.3	1 2	7 11.84	- 7 59.2	2.842	3.715	8.0	20.9
1 12	7 2.67	+16 4.0	1.623	2.599	3.3	20.3	1 12	7 4.06	- 8 4.8	2.845	3.726	7.7	20.9
1 22	6 52.91	+16 46.7	1.660	2.609	7.2	20.5	1 22	6 56.64	- 7 52.0	2.876	3.736	8.4	20.9
2 1	6 44.95	+17 29.6	1.724	2.619	11.2	20.8	2 1	6 50.18	- 7 23.0	2.933	3.745	9.6	21.0
2 11	6 39.58	+18 10.4	1.812	2.628	14.6	21.0	2 11	6 45.16	- 6 41.5	3.013	3.754	11.1	21.2
503666	2016 <i>GP</i> ₂₄₅		1 6.8 219°21'	1°1'/ 6.5	18		375598	2008 <i>VA</i> ₇₄		1 6.8 125°62'	0°8'/ 7.1	18	
12 3	7 34.11	+24 51.6	2.402	3.210	11.7	21.5	12 3	7 33.36	+19 7.6	2.348	3.152	12.0	21.5
12 13	7 28.77	+25 11.9	2.314	3.206	8.8	21.3	12 13	7 28.08	+19 17.2	2.271	3.159	9.1	21.3
12 23	7 21.38	+25 33.7	2.252	3.202	5.5	21.1	12 23	7 20.89	+19 31.6	2.218	3.166	5.7	21.1
1 2	7 12.57	+25 54.1	2.218	3.197	2.0	20.9	1 2	7 12.39	+19 49.3	2.194	3.172	2.1	20.9
1 12	7 3.22	+26 10.5	2.215	3.192	2.3	20.9	1 12	7 3.47	+20 8.2	2.200	3.179	2.0	20.9
1 22	6 54.30	+26 21.2	2.242	3.187	5.8	21.1	1 22	6 55.03	+20 26.5	2.236	3.185	5.6	21.1
2 1	6 46.72	+26 25.9	2.297	3.182	9.2	21.3	2 1	6 47.92	+20 43.3	2.301	3.191	8.9	21.3
2 11	6 41.19	+26 25.3	2.376	3.176	12.1	21.5	2 11	6 42.78	+20 57.8	2.390	3.197	11.8	21.5
134854	2000 <i>OC</i> ₁₈		1 6.8 152°57'	2°8'/ 6.1	18		164814	1999 <i>LR</i> ₃₂		1 6.8 196°37'	0°8'/ 6.6	18	
12 3	7 36.95	+33 13.8	2.913	3.708	10.2	20.1	12 3	7 38.72	+23 17.5	2.026	2.833	13.6	21.5
12 13	7 30.48	+33 22.4	2.835	3.715	7.8	20.0	12 13	7 32.58	+23 43.7	1.940	2.831	10.2	21.3
12 23	7 22.22	+33 26.1	2.783	3.722	5.2	19.8	12 23	7 23.93	+24 13.2	1.878	2.828	6.4	21.0
1 2	7 12.79	+33 22.1	2.760	3.728	3.1	19.7	1 2	7 13.47	+24 42.6	1.844	2.824	2.2	20.7
1 12	7 3.04	+33 8.8	2.768	3.734	3.4	19.7	1 12	7 2.31	+25 8.1	1.841	2.819	2.5	20.8
1 22	6 53.85	+32 46.0	2.808	3.739	5.6	19.9	1 22	6 51.66	+25 27.4	1.867	2.814	6.7	21.0
2 1	6 45.99	+32 15.0	2.877	3.744	8.2	20.0	2 1	6 42.68	+25 39.7	1.922	2.808	10.6	21.2
2 11	6 40.03	+31 38.2	2.971	3.749	10.4	20.2	2 11	6 36.22	+25 45.9	2.000	2.801	14.0	21.4
180607	2004 <i>FM</i> ₉₄		1 6.8 275°90'	4°0'/ 7.7	18		222323	2000 <i>TE</i> ₇₃		1 6.8 70°47'	0°6'/ 6.6	18	
12 3	7 34.18	+12 54.2	1.889	2.688	14.7	20.7	12 3	7 36.22	+21 45.2	1.812	2.629	14.5	20.6
12 13	7 29.32	+11 44.9	1.790	2.669	11.6	20.4	12 13	7 30.68	+22 24.6	1.753	2.649	10.9	20.4
12 23	7 22.01	+11 35.2	1.713	2.650	8.1	20.2	12 23	7 22.67	+23 9.0	1.717	2.668	6.7	20.2
1 2	7 12.85	+11 36.8	1.663	2.630	4.8	19.9	1 2	7 13.01	+23 54.2	1.708	2.688	2.2	20.0
1 12	7 2.87	+11 49.3	1.641	2.611	4.5	19.9	1 12	7 2.87	+24 36.0	1.729	2.708	2.5	20.0
1 22	6 53.23	+12 11.2	1.647	2.591	7.7	20.0	1 22	6 53.50	+25 11.2	1.779	2.728	6.8	20.3
2 1	6 45.08	+12 40.1	1.681	2.571	11.6	20.2	2 1	6 45.97	+25 38.6	1.856	2.748	10.7	20.6
2 11	6 39.32	+13 13.4	1.737	2.552	15.2	20.4	2 11	6 41.01	+25 58.5	1.956	2.767	13.9	20.9
464039	2014 <i>WN</i> ₁₈₀		1 6.8 16°61'	1°0'/ 6.5	16		493520	2015 <i>DO</i> ₁₀₉		1 6.8 193°86'	4°2'/ 5.3	18	
12 3	7 33.15	+22 7.1	1.448	2.284	16.5	20.9	12 3	7 35.83	+34 13.6	2.417	3.222	11.7	21.1
12 13	7 29.08	+22 51.1	1.383	2.289	12.4	20.6	12 13	7 30.25	+35 2.6	2.338	3.222	9.1	20.9
12 23	7 22.03	+23 42.3	1.339	2.294	7.7	20.4	12 23	7 22.40	+35 47.6	2.285	3.221	6.4	20.7
1 2	7 12.85	+24 35.6	1.321	2.301	2.6	20.1	1 2	7 12.95	+36 23.6	2.259	3.220	4.4	20.6
1 12	7 2.94	+25 25.1	1.329	2.308	3.1	20.1	1 12	7 2.91	+36 46.6	2.263	3.219	4.9	20.6
1 22	6 53.81	+26 6.5	1.365	2.316	8.1	20.5	1 22	6 53.37	+36 55.0	2.296	3.218	7.2	20.8
2 1	6 46.81	+26 37.8	1.425	2.325	12.6	20.7	2 1	6 45.36	+36 49.6	2.357	3.217	10.0	20.9
2 11	6 42.87	+26 59.3	1.507	2.335	16.4	21.0	2 11	6 39.64	+36 32.8	2.441	3.216	12.5	21.1
521849	2015 <i>TG</i> ₃₇₃		1 6.8 91°87'	4°0'/ 7.9	18		214222	Alexacarey		1 6.8 200°78'	0°0'/ 6.7	18	
12 3	7 36.44	+11 38.7	1.583	2.387	16.9	21.9	12 3	7 38.79	+20 38.4	1.467	2.291	17.0	17.9
12 13	7 31.06	+11 35.9	1.517	2.400	13.1	21.7	12 13	7 33.41	+21 4.5	1.391	2.290	12.9	17.7
12 23	7 23.01	+11 47.4	1.473	2.412	8.9	21.5	12 23	7 24.81	+21 38.4	1.336	2.288	8.1	17.4
1 2	7 13.13	+12 12.6	1.455	2.424	5.0	21.3	1 2	7 13.84	+22 16.3	1.306	2.286	2.7	17.1
1 12	7 2.68	+12 49.2	1.464	2.436	4.5	21.3	1 12	7 1.95	+22 53.2	1.305	2.284	2.9	17.1
1 22	6 53.00	+13 33.6	1.501	2.448	8.0	21.5	1 22	6 50.79	+23 25.1	1.331	2.282	8.3	17.4
2 1	6 45.27	+14 21.8	1.564	2.460	12.0	21.8	2 1	6 41.85	+23 50.3	1.382	2.280	13.1	17.7
2 11	6 40.29	+15 10.3	1.650	2.471	15.6	22.0	2 11	6 36.17	+24 8.8	1.455	2.277	17.3	17.9
171956	2001 <i>TO</i> ₁₀		1 6.8 47°37'	0°8'/ 7.1	18		53844	2000 <i>FO</i> ₁₁		1 6.8 210°43'	3°5'/ 5.4	18	
12 3	7 32.82	+19 14.6	2.010	2.823	13.4	20.3	12 3	7 38.33	+28 58.7	2.047	2.859	13.3	18.8
12 13	7 27.87	+19 23.9	1.946	2.840	10.1	20.2	12 13	7 32.53	+30 9.5	1.963	2.854	10.2	18.6
12 23	7 20.81	+19 38.9	1.907	2.856	6.3	20.0	12 23	7 24.05	+31 21.7	1.904	2.849	6.7	18.4
1 2	7 12.35	+19 57.5	1.894	2.873	2.3	19.7	1 2	7 13.58	+32 28.9	1.873	2.844	3.8	18.2
1 12	7 3.52	+20 17.3	1.911	2.891	2.2	19.8	1 12	7 2.23	+33 25.0	1.872	2.839	4.5	18.2
1 22	6 55.33	+20 36.5	1.957	2.908	6.1	20.1	1 22	6 51.31	+34 6.2	1.901	2.833	7.8	18.4
2 1	6 48.69	+20 53.7	2.031	2.926	9.7	20.3	2 1	6 42.10	+34 31.7	1.957	2.826	11.3	18.6
2 11	6 44.27	+21 8.4	2.128	2.944	12.7	20.5	2 11	6 35.53	+34 43.4	2.035	2.819	14.4	18.8
222	Lucia		1 6.8 209°98'	0°4'/ 6.7	18	R	297044	2010 <i>HH</i> ₁₃		1 6.8 199°48'	2°2'/ 7.3	18	
12 3	7 32.68	+22 43.3	2.723	3.526	10.6	14.7	12 3	7 38.01	+16 44.4	2.129	2.924	13.4	21.3
12 13	7 27.46	+23 0.4	2.632	3.522	8.0	14.5	12 13	7 31.80	+16 23.7	2.039	2.921	10.3	21.1
12 23	7 20.47	+23 19.9	2.568	3.517	4.9	14.3	12 23	7 23.33	+16 8.5	1.974	2.916	6.7	20.9
1 2	7 12.26	+23 39.6	2.532	3.512	1.6	14.1	1 2	7 13.27	+15 58.3	1.937	2.911	3.2	20.7
1 12	7 3.58	+23 57.5	2.528	3.507	1.8	14.1	1 12	7 2.63	+15 52.6	1.930	2.906	3.0	20.7
1 22	6 55.26	+24 12.2	2.554	3.501	5.1	14.3	1 22	6 52.48	+15 50.5	1.954	2.899	6.6	20.9
2 1	6 48.07	+24 22.8	2.610	3.495	8.2	14.5	2 1	6 43.84	+15 51.3	2.006	2.892	10.2	21.1
2 11	6 42.64	+24 29.6	2.691	3.489	10.9	14.7	2 11	6 37.48	+15 54.4	2.082	2.885	13.5	21.3
464062	2014 <i>WU</i> ₂₃₉		1 6.8 18°07'	0°9'/ 6.6	18		416667	2004 <i>TH</i> ₃₅₅		1 6.8 42°13'	4°7'/ 5.4	18	
12 3	7 34.28	+22 49.2	1.751	2.575	14.7	21.4	12 3	7 36.92	+30 55.5	1.606	2.433	15.6	19.9
12 13	7 29.50	+23 21.4	1.677	2.577	11.1	21.2	12 13	7 31.78	+32 8.6	1.552	2.450	11.9	19.7
12 23	7 22.11	+23 58.5	1.626	2.579	6.9	20.9	12 23	7 23.63	+33 19.6	1.522	2.468	8.0	19.5
1 2	7 12.86	+24 36.3	1.602	2.581	2.3	20.6	1 2	7 13.40	+34 20.4	1.518	2.486	5.0	19.4
1 12	7 2.94	+25 10.8	1.606	2.584	2.7	20.7	1 12	7 2.54	+35 4.8	1.541	2.505	5.7	19.5
1 22	6 53.65	+25 38.8	1.638	2.587	7.2	21.0	1 22	6 52.60	+35 30.0	1.591	2.524	9.0	19.7
2 1	6 46.18	+25 59.1	1.697	2.591	11.3	21.2	2 1	6 44.92	+35 36.9	1.666	2.543	12.5	20.0
2 11	6 41.38	+26 12.1	1.778	2.595	14.8	21.4	2 11	6 40.35	+35 29.5	1.763	2.563	15.6	20.2

EPHEMERIDES

1 6.8							1 6.9						
2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
415182	2012 GA		1 6.8 278 ^o 52	7 ^o 2/ 8.3 18			258282	2001 UP ₃₆		1 6.9 92 ^o 71	2 ^o 8/ 5.9 18		
12 3	7 33.30	+ 4 3.8	1.985	2.755	15.1	21.0	12 3	7 37.96	+26 54.2	1.879	2.695	14.1	19.9
12 13	7 28.55	+ 3 18.3	1.882	2.732	12.6	20.8	12 13	7 32.15	+27 57.5	1.816	2.710	10.6	19.7
12 23	7 21.51	+ 2 47.2	1.802	2.709	9.9	20.6	12 23	7 23.71	+29 2.2	1.776	2.725	6.8	19.5
1 2	7 12.73	+ 2 33.9	1.747	2.686	7.7	20.4	1 2	7 13.45	+30 2.4	1.765	2.740	3.3	19.3
1 12	7 3.13	+ 2 39.9	1.719	2.663	7.3	20.3	1 12	7 2.59	+30 52.5	1.783	2.754	3.9	19.4
1 22	6 53.80	+ 3 4.7	1.718	2.640	9.3	20.4	1 22	6 52.43	+31 29.3	1.830	2.769	7.5	19.7
2 1	6 45.80	+ 3 45.6	1.744	2.616	12.3	20.5	2 1	6 44.15	+31 52.4	1.904	2.783	11.1	19.9
2 11	6 40.01	+ 4 38.2	1.792	2.592	15.4	20.7	2 11	6 38.57	+32 3.6	2.001	2.797	14.2	20.1
171241	2005 KY ₁₁		1 6.8 116 ^o 93	1 ^o 4/ 6.2 18			109055	2001 QP ₁₆		1 6.9 164 ^o 70	7 ^o 2/ 10.9 18		
12 3	7 33.42	+24 33.4	2.523	3.331	11.2	19.8	12 3	7 31.26	- 5 14.7	2.740	3.445	12.9	20.5
12 13	7 28.16	+25 23.1	2.447	3.338	8.4	19.6	12 13	7 26.27	- 5 19.8	2.655	3.448	11.1	20.4
12 23	7 20.99	+26 15.4	2.396	3.345	5.2	19.5	12 23	7 19.71	- 5 6.7	2.593	3.451	9.2	20.3
1 2	7 12.48	+27 6.6	2.374	3.352	2.1	19.2	1 2	7 12.08	- 4 33.9	2.556	3.454	7.7	20.2
1 12	7 3.48	+27 53.0	2.384	3.359	2.5	19.3	1 12	7 4.06	- 3 41.5	2.547	3.456	7.2	20.2
1 22	6 54.89	+28 32.1	2.424	3.366	5.7	19.5	1 22	6 56.37	- 2 31.9	2.567	3.458	8.0	20.2
2 1	6 47.57	+29 2.7	2.492	3.372	8.8	19.7	2 1	6 49.70	- 1 9.1	2.614	3.460	9.6	20.3
2 11	6 42.18	+29 25.1	2.586	3.379	11.4	19.9	2 11	6 44.61	+ 0 22.0	2.687	3.462	11.5	20.4
482797	2013 QX ₄₆		1 6.8 354 ^o 47	3 ^o 1/ 6.5 16			325184	2008 FT ₈₈		1 6.9 312 ^o 00	2 ^o 4/ 7.4 16		
12 3	7 48.31	+24 51.0	0.972	1.813	22.3	20.0	12 3	7 33.23	+16 13.8	1.618	2.438	15.8	21.2
12 13	7 41.58	+22 43.9	0.903	1.811	17.2	19.7	12 13	7 29.02	+16 10.3	1.528	2.423	12.3	21.0
12 23	7 30.23	+20 24.7	0.854	1.809	11.0	19.3	12 23	7 22.04	+16 16.5	1.460	2.408	8.0	20.7
1 2	7 15.65	+17 57.3	0.829	1.807	4.6	19.0	1 2	7 12.99	+16 31.7	1.417	2.393	3.7	20.4
1 12	7 0.23	+15 30.8	0.830	1.807	5.2	19.0	1 12	7 3.03	+16 53.8	1.401	2.379	3.4	20.3
1 22	6 46.49	+13 16.7	0.856	1.807	11.7	19.4	1 22	6 53.53	+17 20.3	1.413	2.365	7.8	20.6
2 1	6 36.39	+11 24.5	0.905	1.807	17.8	19.7	2 1	6 45.81	+17 48.7	1.450	2.351	12.4	20.8
2 11	6 30.94	+ 9 57.4	0.972	1.809	22.8	20.0	2 11	6 40.85	+18 16.9	1.509	2.338	16.4	21.0
306199	2011 QV ₁		1 6.9 76 ^o 76	5 ^o 9/ 9.6 18			499434	2010 CN ₁₈₁		1 6.9 293 ^o 54	3 ^o 7/ 5.9 17		
12 3	7 29.33	+ 1 0.9	2.667	3.413	12.3	21.1	12 3	7 36.47	+32 47.8	2.151	2.962	12.7	21.4
12 13	7 24.80	+ 0 44.8	2.594	3.424	10.2	21.0	12 13	7 30.97	+33 11.6	2.064	2.953	9.8	21.2
12 23	7 18.76	+ 0 43.3	2.543	3.435	8.1	20.9	12 23	7 22.98	+33 31.2	2.001	2.943	6.7	21.0
1 2	7 11.71	+ 0 57.4	2.518	3.446	6.4	20.8	1 2	7 13.23	+33 41.8	1.965	2.934	4.1	20.8
1 12	7 4.35	+ 1 26.9	2.522	3.457	5.9	20.8	1 12	7 2.83	+33 40.2	1.959	2.924	4.5	20.8
1 22	6 57.36	+ 2 9.7	2.554	3.468	7.1	20.9	1 22	6 52.99	+33 25.2	1.981	2.915	7.4	20.9
2 1	6 51.41	+ 3 3.0	2.614	3.479	9.0	21.0	2 1	6 44.85	+32 58.3	2.031	2.906	10.7	21.1
2 11	6 47.02	+ 4 3.0	2.700	3.490	11.1	21.2	2 11	6 39.22	+32 22.7	2.104	2.897	13.6	21.3
260819	2005 OR ₃₁		1 6.9 125 ^o 88	1 ^o 6/ 7.3 18			293739	2007 RE ₃₇		1 6.9 117 ^o 11	1 ^o 5/ 7.3 18		
12 3	7 36.39	+17 44.2	2.052	2.854	13.6	21.6	12 3	7 38.77	+17 28.6	1.867	2.670	14.7	21.6
12 13	7 30.54	+17 38.0	1.979	2.865	10.3	21.4	12 13	7 32.46	+17 35.2	1.802	2.688	11.2	21.4
12 23	7 22.49	+17 37.7	1.930	2.876	6.6	21.2	12 23	7 23.75	+17 49.1	1.760	2.706	7.1	21.2
1 2	7 12.98	+17 42.1	1.910	2.886	2.8	21.0	1 2	7 13.44	+18 8.2	1.745	2.722	2.8	21.0
1 12	7 3.03	+17 49.7	1.919	2.896	2.6	21.0	1 12	7 2.67	+18 30.2	1.760	2.739	2.6	21.0
1 22	6 53.70	+17 59.0	1.958	2.906	6.3	21.3	1 22	6 52.66	+18 52.6	1.805	2.754	6.7	21.3
2 1	6 45.95	+18 9.0	2.024	2.915	9.9	21.5	2 1	6 44.45	+19 14.0	1.878	2.769	10.6	21.5
2 11	6 40.48	+18 19.0	2.115	2.924	13.1	21.7	2 11	6 38.76	+19 33.5	1.974	2.784	13.8	21.8
144774	2004 HQ ₂₅		1 6.9 231 ^o 65	0 ^o 4/ 6.8 18			47725	2000 DW ₃₉		1 6.9 134 ^o 85	3 ^o 0/ 6.2 18		
12 3	7 35.87	+22 9.7	1.977	2.789	13.6	20.7	12 3	7 36.94	+31 14.7	2.228	3.038	12.4	19.4
12 13	7 30.52	+22 30.3	1.890	2.784	10.3	20.5	12 13	7 31.07	+31 30.8	2.150	3.040	9.5	19.2
12 23	7 22.71	+22 55.3	1.827	2.778	6.4	20.2	12 23	7 22.90	+31 43.0	2.097	3.041	6.2	19.0
1 2	7 13.13	+23 21.5	1.792	2.771	2.1	19.9	1 2	7 13.17	+31 47.8	2.071	3.043	3.4	18.8
1 12	7 2.85	+23 45.7	1.786	2.765	2.4	19.9	1 12	7 2.95	+31 42.3	2.075	3.045	3.7	18.9
1 22	6 53.06	+24 5.6	1.809	2.758	6.7	20.2	1 22	6 53.36	+31 25.9	2.109	3.047	6.8	19.0
2 1	6 44.89	+24 20.0	1.860	2.751	10.7	20.4	2 1	6 45.43	+31 0.2	2.170	3.048	10.0	19.2
2 11	6 39.17	+24 29.3	1.935	2.744	14.1	20.6	2 11	6 39.86	+30 27.7	2.255	3.050	12.8	19.4
5275	Zdislava		1 6.9 93 ^o 04	3 ^o 3/ 7.5 18 R			387588	2001 UO ₂₀₉		1 6.9 146 ^o 51	3 ^o 5/ 5.9 18		
12 3	7 42.73	+15 4.5	1.475	2.281	17.8	17.4	12 3	7 35.93	+33 6.0	2.488	3.293	11.4	21.1
12 13	7 35.69	+14 42.6	1.423	2.309	13.6	17.2	12 13	7 30.16	+33 33.3	2.411	3.296	8.8	20.9
12 23	7 25.79	+14 31.2	1.393	2.336	8.9	17.0	12 23	7 22.28	+33 56.4	2.358	3.298	6.0	20.7
1 2	7 14.07	+14 29.5	1.390	2.363	4.4	16.8	1 2	7 12.96	+34 11.3	2.334	3.301	3.7	20.6
1 12	7 2.02	+14 36.0	1.414	2.389	4.1	16.8	1 12	7 3.17	+34 15.2	2.340	3.303	4.1	20.6
1 22	6 51.10	+14 48.4	1.467	2.414	8.1	17.1	1 22	6 53.94	+34 7.2	2.375	3.306	6.6	20.8
2 1	6 42.53	+15 5.0	1.545	2.438	12.3	17.4	2 1	6 46.20	+33 48.4	2.439	3.308	9.4	21.0
2 11	6 37.03	+15 23.7	1.647	2.462	15.9	17.7	2 11	6 40.64	+33 21.3	2.526	3.310	11.9	21.1
424901	2008 WB ₅₁		1 6.9 320 ^o 68	3 ^o 4/ 5.6 18			221203	2005 UT ₆₅		1 6.9 37 ^o 63	2 ^o 0/ 6.6 18		
12 3	7 34.95	+29 56.3	2.111	2.927	12.8	21.2	12 3	7 37.57	+27 23.7	1.503	2.333	16.3	19.9
12 13	7 29.85	+30 49.2	2.031	2.924	9.8	21.0	12 13	7 32.19	+27 27.4	1.445	2.347	12.3	19.7
12 23	7 22.30	+31 41.6	1.976	2.922	6.4	20.8	12 23	7 23.82	+27 29.7	1.408	2.361	7.7	19.5
1 2	7 13.00	+32 28.0	1.948	2.919	3.7	20.6	1 2	7 13.49	+27 26.5	1.397	2.376	3.1	19.2
1 12	7 3.01	+33 4.0	1.950	2.917	4.3	20.7	1 12	7 2.68	+27 15.2	1.414	2.391	3.4	19.3
1 22	6 53.52	+33 26.8	1.980	2.915	7.4	20.8	1 22	6 52.93	+26 55.5	1.458	2.407	7.9	19.6
2 1	6 45.65	+33 36.4	2.038	2.912	10.7	21.0	2 1	6 45.50	+26 29.2	1.527	2.424	12.2	19.9
2 11	6 40.23	+33 34.6	2.118	2.910	13.6	21.2	2 11	6 41.16	+25 59.0	1.619	2.441	15.8	20.1
3996	Fugaku		1 6.9 225 ^o 02	0 ^o 4/ 6.8 18 R			463912	2014 UA ₁₃₂		1 6.9 9 ^o 99	5 ^o 9/ 5.7 16		

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
405308	2003 <i>UQ</i> ₃₅		1 6.9 27°14'	2°9'/ 7.4 18			497145	2004 <i>RG</i> ₇₁		1 6.9 224°58'	2°2'/ 6.2 17		
12 3	7 35.87	+16 3.0	1.530	2.349	16.7	21.2	12 3	7 38.16	+29 19.8	2.659	3.457	11.0	22.6
12 13	7 30.88	+15 41.0	1.458	2.351	12.9	20.9	12 13	7 31.79	+29 41.4	2.559	3.444	8.4	22.4
12 23	7 23.07	+15 28.0	1.406	2.353	8.5	20.7	12 23	7 23.32	+30 1.2	2.485	3.430	5.4	22.2
1 2	7 13.29	+15 23.8	1.380	2.355	4.1	20.4	1 2	7 13.36	+30 16.0	2.441	3.415	2.7	22.0
1 12	7 2.83	+15 27.1	1.382	2.358	3.8	20.4	1 12	7 2.78	+30 22.8	2.428	3.399	3.1	22.0
1 22	6 53.11	+15 36.5	1.411	2.361	8.0	20.7	1 22	6 52.58	+30 20.4	2.446	3.383	6.0	22.2
2 1	6 45.40	+15 50.1	1.465	2.364	12.4	20.9	2 1	6 43.69	+30 9.3	2.493	3.366	9.0	22.3
2 11	6 40.57	+16 6.1	1.541	2.367	16.2	21.2	2 11	6 36.85	+29 51.2	2.566	3.348	11.8	22.5
466215	2012 <i>SV</i> ₃₆		1 6.9 110°93'	2°4'/ 7.7 18			228406	2001 <i>FH</i> ₁₃₉		1 6.9 334°98'	0°6'/ 6.7 18		
12 3	7 31.84	+13 35.3	2.598	3.387	11.4	21.6	12 3	7 34.48	+23 30.3	2.055	2.870	13.1	20.5
12 13	7 26.75	+13 32.8	2.523	3.399	8.8	21.5	12 13	7 29.35	+23 43.9	1.974	2.869	9.9	20.3
12 23	7 20.01	+13 37.7	2.473	3.410	5.9	21.3	12 23	7 21.92	+23 59.9	1.917	2.868	6.1	20.1
1 2	7 12.18	+13 49.7	2.452	3.422	3.1	21.1	1 2	7 12.90	+24 15.6	1.888	2.867	2.1	19.8
1 12	7 4.01	+14 7.4	2.460	3.433	2.8	21.1	1 12	7 3.30	+24 28.4	1.888	2.867	2.3	19.8
1 22	6 56.28	+14 29.3	2.500	3.444	5.4	21.3	1 22	6 54.25	+24 36.6	1.917	2.866	6.4	20.1
2 1	6 49.70	+14 53.9	2.568	3.455	8.2	21.5	2 1	6 46.76	+24 39.7	1.974	2.865	10.1	20.3
2 11	6 44.81	+15 19.4	2.661	3.466	10.8	21.7	2 11	6 41.60	+24 38.5	2.055	2.865	13.3	20.5
76391	2000 <i>FP</i> ₇		1 6.9 228°51'	0°9'/ 7.3 18			490055	2008 <i>TQ</i> ₈₄		1 6.9 35°04'	5°4'/ 5.9 17		
12 3	7 32.60	+17 22.4	2.695	3.491	10.9	19.8	12 3	7 39.48	+31 43.2	1.181	2.024	19.1	21.2
12 13	7 27.48	+17 47.8	2.598	3.481	8.3	19.6	12 13	7 34.63	+32 33.6	1.129	2.034	14.6	20.9
12 23	7 20.58	+18 19.6	2.525	3.470	5.3	19.3	12 23	7 25.83	+33 19.8	1.096	2.046	9.8	20.7
1 2	7 12.42	+18 56.1	2.482	3.460	2.1	19.1	1 2	7 14.27	+33 52.6	1.086	2.058	5.9	20.5
1 12	7 3.72	+19 35.1	2.470	3.449	1.9	19.1	1 12	7 1.94	+34 5.2	1.102	2.070	6.5	20.6
1 22	6 55.28	+20 14.1	2.489	3.437	5.2	19.3	1 22	6 50.97	+33 56.0	1.142	2.084	10.7	20.9
2 1	6 47.90	+20 51.2	2.538	3.425	8.3	19.5	2 1	6 43.05	+33 28.8	1.205	2.098	15.1	21.2
2 11	6 42.23	+21 25.4	2.612	3.413	11.1	19.6	2 11	6 39.14	+32 49.6	1.288	2.112	18.9	21.4
195443	2002 <i>GF</i> ₇₆		1 6.9 305°32'	0°4'/ 7.0 18			351549	2005 <i>TJ</i> ₇₃		1 6.9 85°46'	3°2'/ 7.8 18		
12 3	7 35.05	+17 31.7	1.496	2.320	16.7	19.4	12 3	7 41.65	+12 50.2	1.503	2.304	17.7	21.6
12 13	7 30.70	+18 27.2	1.411	2.309	12.8	19.1	12 13	7 34.86	+13 4.4	1.454	2.337	13.6	21.4
12 23	7 23.28	+19 37.2	1.347	2.299	8.1	18.8	12 23	7 25.30	+13 32.5	1.428	2.369	8.9	21.2
1 2	7 13.47	+20 57.4	1.309	2.289	2.8	18.5	1 2	7 13.97	+14 12.2	1.427	2.400	4.4	21.1
1 12	7 2.55	+22 20.9	1.300	2.279	2.8	18.5	1 12	7 2.30	+14 59.5	1.456	2.431	3.9	21.1
1 22	6 52.09	+23 40.8	1.317	2.270	8.2	18.8	1 22	6 51.70	+15 49.9	1.512	2.461	7.8	21.4
2 1	6 43.59	+24 51.9	1.361	2.261	13.1	19.0	2 1	6 43.36	+16 39.8	1.595	2.490	11.9	21.7
2 11	6 38.20	+25 52.0	1.427	2.252	17.4	19.2	2 11	6 37.98	+17 26.6	1.702	2.518	15.4	22.0
272916	2006 <i>BL</i> ₁₇₉		1 6.9 332°81'	0°8'/ 7.1 18			88071	<i>Taniguchijiro</i>		1 6.9 73°34'	3°5'/ 8.7 18		
12 3	7 33.51	+18 59.2	1.939	2.753	13.8	20.6	12 3	7 31.85	+ 7 52.2	2.480	3.253	12.4	19.5
12 13	7 28.72	+19 15.7	1.857	2.751	10.5	20.4	12 13	7 26.82	+ 8 22.7	2.409	3.271	9.7	19.3
12 23	7 21.58	+19 39.2	1.799	2.749	6.6	20.2	12 23	7 20.09	+ 9 6.1	2.363	3.289	6.8	19.2
1 2	7 12.79	+20 7.2	1.768	2.747	2.4	19.9	1 2	7 12.24	+10 1.4	2.345	3.307	4.2	19.0
1 12	7 3.36	+20 37.0	1.766	2.745	2.3	19.9	1 12	7 4.04	+11 5.8	2.358	3.325	3.7	19.0
1 22	6 54.43	+21 5.8	1.792	2.743	6.5	20.2	1 22	6 56.27	+12 15.9	2.401	3.342	5.8	19.2
2 1	6 47.08	+21 31.9	1.846	2.742	10.5	20.4	2 1	6 49.67	+13 28.0	2.473	3.360	8.5	19.4
2 11	6 42.08	+21 54.4	1.924	2.741	13.9	20.6	2 11	6 44.81	+14 38.8	2.572	3.378	11.1	19.6
380917	2006 <i>EU</i> ₇₃		1 6.9 220°38'	2°9'/ 5.4 17			155393	1995 <i>BN</i> ₅		1 6.9 66°58'	0°3'/ 6.9 18		
12 3	7 31.39	+35 16.7	3.865	4.657	7.9	21.4	12 3	7 40.56	+19 40.9	1.337	2.162	18.3	20.1
12 13	7 26.20	+35 45.2	3.774	4.649	6.2	21.3	12 13	7 34.47	+20 8.5	1.290	2.190	13.7	19.9
12 23	7 19.60	+36 9.9	3.709	4.641	4.3	21.2	12 23	7 25.24	+20 44.3	1.266	2.218	8.5	19.7
1 2	7 12.05	+36 28.3	3.675	4.633	3.1	21.1	1 2	7 13.98	+21 23.6	1.266	2.246	2.8	19.5
1 12	7 4.15	+36 38.5	3.671	4.624	3.3	21.1	1 12	7 2.30	+22 1.4	1.294	2.273	2.8	19.5
1 22	6 56.51	+36 39.7	3.698	4.615	4.9	21.2	1 22	6 51.84	+22 34.0	1.349	2.301	8.1	19.9
2 1	6 49.77	+36 32.2	3.753	4.606	6.8	21.3	2 1	6 43.89	+23 0.1	1.429	2.329	12.7	20.3
2 11	6 44.41	+36 17.2	3.835	4.597	8.6	21.4	2 11	6 39.24	+23 19.8	1.531	2.356	16.4	20.6
469635	2004 <i>SD</i> ₂₃		1 6.9 96°60'	4°6'/ 5.9 16			193712	2001 <i>FO</i> ₈₄		1 6.9 59°47'	5°2'/ 5.5 18		
12 3	7 43.50	+32 22.6	1.601	2.418	16.1	21.5	12 3	7 38.19	+35 49.2	2.019	2.829	13.5	20.2
12 13	7 36.69	+33 6.4	1.545	2.436	12.4	21.3	12 13	7 32.42	+36 34.3	1.949	2.833	10.6	20.0
12 23	7 26.65	+33 45.1	1.511	2.454	8.3	21.1	12 23	7 23.94	+37 13.0	1.903	2.838	7.5	19.8
1 2	7 14.46	+34 11.6	1.503	2.472	5.0	21.0	1 2	7 13.59	+37 39.4	1.883	2.842	5.4	19.7
1 12	7 1.72	+34 20.8	1.524	2.489	5.5	21.0	1 12	7 2.63	+37 49.0	1.892	2.846	5.8	19.7
1 22	6 50.13	+34 11.9	1.572	2.506	8.9	21.3	1 22	6 52.41	+37 40.8	1.928	2.851	8.4	19.9
2 1	6 41.06	+33 47.8	1.646	2.523	12.7	21.5	2 1	6 44.14	+37 16.6	1.991	2.855	11.4	20.1
2 11	6 35.36	+33 13.5	1.742	2.539	15.9	21.8	2 11	6 38.65	+36 40.8	2.077	2.860	14.2	20.3
487925	2015 <i>TO</i> ₂₀₆		1 6.9 101°77'	4°3'/ 5.8 18			228273	1999 <i>UJ</i> ₂₈		1 6.9 355°33'	8°8'/ 4.0 18		
12 3	7 41.81	+30 31.9	1.560	2.382	16.3	21.3	12 3	7 39.22	+42 3.8	1.732	2.541	15.4	20.0
12 13	7 35.58	+31 25.3	1.499	2.395	12.4	21.1	12 13	7 34.11	+43 31.1	1.666	2.539	12.7	19.8
12 23	7 26.08	+32 16.3	1.461	2.407	8.2	20.9	12 23	7 25.47	+44 48.2	1.622	2.537	10.2	19.6
1 2	7 14.31	+32 57.5	1.449	2.420	4.7	20.7	1 2	7 14.21	+45 45.0	1.603	2.535	8.9	19.5
1 12	7 1.84	+33 22.9	1.465	2.432	5.3	20.8	1 12	7 1.93	+46 14.2	1.609	2.534	9.5	19.6
1 22	6 50.38	+33 30.4	1.508	2.444	9.0	21.0	1 22	6 50.49	+46 13.7	1.641	2.534	11.6	19.7
2 1	6 41.39	+33 21.7	1.576	2.456	12.9	21.3	2 1	6 41.58	+45 46.5	1.696	2.534	14.4	19.9
2 11	6 35.76	+33 1.2	1.666	2.467	16.3	21.5	2 11	6 36.27	+44 59.6	1.771	2.535	17.0	20.1
241138	2007 <i>QG</i> ₁₄		1 6.9 119°68'	0°6'/ 6.7 18			403570	2010 <i>NK</i> ₄₂		1 6.9 58°64'	2°0'/ 6.6 18		
12 3	7 38.60	+21 18.9	1.725	2.540	15.2	20.7							

EPHEMERIDES

1 6.9

1 6.9

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
54760	2001 <i>KD</i> ₆₀		1 6.9 62°78' 7.4/ 8.9 18				10228	1997 <i>VY</i> ₈		1 6.9 82°75' 1.3/ 6.6 18			
12 3	7 36.50	+ 4 40.6	1.630	2.410	17.5	18.5	12 3	7 36.14	+26 42.2	2.211	3.021	12.5	17.9
12 13	7 30.78	+ 3 52.1	1.581	2.438	14.2	18.3	12 13	7 30.34	+26 44.1	2.139	3.031	9.4	17.7
12 23	7 22.69	+ 3 22.2	1.554	2.467	10.8	18.2	12 23	7 22.41	+26 44.9	2.092	3.042	5.9	17.5
1 2	7 13.11	+ 3 13.5	1.552	2.496	8.0	18.1	1 2	7 13.08	+26 42.2	2.074	3.052	2.3	17.3
1 12	7 3.23	+ 3 25.7	1.576	2.524	7.5	18.1	1 12	7 3.36	+26 34.0	2.085	3.062	2.5	17.3
1 22	6 54.25	+ 3 56.0	1.627	2.553	9.4	18.3	1 22	6 54.29	+26 20.0	2.126	3.073	6.1	17.6
2 1	6 47.15	+ 4 40.1	1.703	2.581	12.3	18.6	2 1	6 46.81	+26 0.8	2.196	3.083	9.4	17.8
2 11	6 42.59	+ 5 32.4	1.802	2.609	15.0	18.8	2 11	6 41.57	+25 38.3	2.290	3.093	12.4	18.0
72335	2001 <i>BJ</i> ₆₁		1 6.9 309°33' 6.7/ 7.4 18				207790	2007 <i>TF</i> ₁₄₇		1 6.9 62°39' 4.4/ 5.6 18			
12 3	7 35.09	+10 24.5	1.512	2.318	17.4	18.9	12 3	7 36.54	+33 53.1	2.150	2.960	12.8	20.3
12 13	7 30.50	+ 9 9.0	1.423	2.302	14.0	18.7	12 13	7 30.96	+34 38.6	2.083	2.970	9.9	20.1
12 23	7 23.03	+ 8 3.1	1.356	2.287	10.4	18.4	12 23	7 22.95	+35 19.4	2.042	2.980	6.8	19.9
1 2	7 13.38	+ 7 11.2	1.313	2.271	7.3	18.2	1 2	7 13.30	+35 50.2	2.027	2.991	4.6	19.8
1 12	7 2.82	+ 6 36.3	1.296	2.256	7.2	18.2	1 12	7 3.12	+36 7.0	2.042	3.001	5.0	19.9
1 22	6 52.76	+ 6 19.8	1.306	2.242	10.2	18.3	1 22	6 53.63	+36 8.7	2.085	3.011	7.6	20.0
2 1	6 44.58	+ 6 20.6	1.340	2.227	14.2	18.5	2 1	6 45.89	+35 56.3	2.155	3.022	10.5	20.2
2 11	6 39.30	+ 6 35.2	1.394	2.214	18.0	18.7	2 11	6 40.65	+35 33.3	2.248	3.032	13.2	20.4
125439	2001 <i>VV</i> ₁₁₆		1 6.9 355°03' 3.0/ 6.1 18				258403	2001 <i>XG</i> ₁₂₅		1 6.9 278°99' 4.1/ 5.4 18			
12 3	7 35.61	+27 53.9	1.646	2.474	15.2	19.8	12 3	7 37.20	+30 0.1	1.862	2.681	14.1	20.3
12 13	7 30.89	+28 36.1	1.572	2.472	11.6	19.6	12 13	7 31.95	+31 10.8	1.785	2.679	10.8	20.1
12 23	7 23.22	+29 19.2	1.520	2.471	7.4	19.3	12 23	7 23.87	+32 21.8	1.731	2.677	7.2	19.9
1 2	7 13.42	+29 57.4	1.494	2.470	3.6	19.1	1 2	7 13.69	+33 26.4	1.705	2.674	4.4	19.7
1 12	7 2.83	+30 25.4	1.496	2.469	4.2	19.1	1 12	7 2.65	+34 18.1	1.707	2.672	5.1	19.7
1 22	6 52.94	+30 40.5	1.525	2.469	8.2	19.4	1 22	6 52.14	+34 53.2	1.738	2.670	8.4	19.9
2 1	6 45.09	+30 42.8	1.580	2.469	12.3	19.6	2 1	6 43.52	+35 11.2	1.795	2.668	12.0	20.1
2 11	6 40.23	+30 34.6	1.656	2.469	15.9	19.8	2 11	6 37.74	+35 14.9	1.874	2.666	15.1	20.3
413012	2000 <i>GU</i> ₁₄₉		1 6.9 181°16' 7.4/ 4.8 18				54465	2000 <i>OE</i> ₄		1 6.9 177°63' 3.6/ 8.0 18			
12 3	7 44.81	+43 32.3	2.225	3.007	13.3	21.4	12 3	7 34.40	+10 46.5	2.357	3.138	12.7	19.1
12 13	7 37.54	+44 32.7	2.153	3.008	11.0	21.2	12 13	7 28.91	+10 34.8	2.272	3.140	10.0	18.9
12 23	7 27.22	+45 22.0	2.104	3.009	8.8	21.1	12 23	7 21.51	+10 33.0	2.211	3.141	7.0	18.7
1 2	7 14.73	+45 52.6	2.082	3.009	7.5	21.0	1 2	7 12.81	+10 41.1	2.178	3.142	4.3	18.6
1 12	7 1.50	+45 59.4	2.088	3.008	7.9	21.0	1 12	7 3.62	+10 58.5	2.175	3.142	3.9	18.5
1 22	6 49.08	+45 41.4	2.121	3.007	9.7	21.2	1 22	6 54.85	+11 23.4	2.202	3.142	6.4	18.7
2 1	6 38.88	+45 2.0	2.180	3.006	12.1	21.3	2 1	6 47.34	+11 53.7	2.258	3.141	9.4	18.9
2 11	6 31.79	+44 7.1	2.262	3.004	14.3	21.5	2 11	6 41.74	+12 27.1	2.338	3.140	12.2	19.1
464026	2014 <i>WW</i> ₁₃₀		1 6.9 32°35' 2.3/ 6.2 18				185742	1999 <i>EE</i> ₁₃		1 6.9 254°10' 1.0/ 7.2 18			
12 3	7 35.65	+26 32.0	1.811	2.633	14.3	21.3	12 3	7 35.19	+18 40.7	2.011	2.819	13.6	21.6
12 13	7 30.59	+27 10.2	1.738	2.636	10.8	21.1	12 13	7 30.04	+18 51.1	1.917	2.807	10.4	21.3
12 23	7 22.88	+27 49.9	1.688	2.639	6.8	20.9	12 23	7 22.51	+19 8.2	1.846	2.794	6.6	21.1
1 2	7 13.29	+28 26.2	1.665	2.643	3.0	20.6	1 2	7 13.21	+19 30.0	1.803	2.782	2.5	20.8
1 12	7 3.05	+28 54.7	1.671	2.646	3.5	20.7	1 12	7 3.17	+19 54.1	1.790	2.769	2.4	20.7
1 22	6 53.45	+29 12.9	1.705	2.650	7.4	20.9	1 22	6 53.53	+20 18.2	1.805	2.755	6.6	21.0
2 1	6 45.71	+29 20.4	1.766	2.654	11.3	21.2	2 1	6 45.37	+20 40.5	1.849	2.742	10.6	21.2
2 11	6 40.67	+29 19.0	1.849	2.658	14.6	21.4	2 11	6 39.57	+21 0.2	1.916	2.728	14.1	21.4
261528	2005 <i>WO</i> ₈₆		1 6.9 61°99' 1.9/ 6.3 18				497265	2005 <i>JK</i> ₁₂₀		1 6.9 168°58' 5.4/ 9.1 17			
12 3	7 35.77	+25 12.9	1.850	2.670	14.2	20.1	12 3	7 30.39	- 0 57.1	3.574	4.290	9.9	23.4
12 13	7 30.61	+25 56.4	1.777	2.674	10.7	19.9	12 13	7 25.30	- 1 32.7	3.490	4.295	8.4	23.3
12 23	7 22.86	+26 42.8	1.728	2.679	6.7	19.6	12 23	7 19.01	- 1 57.4	3.430	4.299	6.9	23.2
1 2	7 13.29	+27 27.2	1.706	2.684	2.7	19.4	1 2	7 11.94	- 2 9.7	3.397	4.303	5.7	23.1
1 12	7 3.05	+28 5.0	1.713	2.689	3.2	19.4	1 12	7 4.59	- 2 8.9	3.394	4.307	5.5	23.1
1 22	6 53.44	+28 33.2	1.749	2.694	7.2	19.7	1 22	6 57.50	- 1 55.7	3.420	4.310	6.3	23.1
2 1	6 45.63	+28 51.0	1.811	2.699	11.1	19.9	2 1	6 51.18	- 1 31.7	3.475	4.312	7.7	23.2
2 11	6 40.45	+28 59.6	1.897	2.705	14.4	20.2	2 11	6 46.07	- 0 59.3	3.555	4.314	9.2	23.3
62034	2000 <i>RE</i> ₆₀		1 6.9 112°78' 1.2/ 7.2 18				292263	2006 <i>SY</i> ₉₉		1 6.9 64°85' 0.8/ 7.1 18			
12 3	7 39.35	+18 22.6	1.762	2.569	15.3	19.9	12 3	7 36.17	+19 34.9	1.658	2.477	15.6	21.2
12 13	7 33.07	+18 30.1	1.697	2.586	11.6	19.7	12 13	7 30.97	+19 42.3	1.589	2.485	11.8	21.0
12 23	7 24.24	+18 44.5	1.656	2.604	7.3	19.5	12 23	7 23.10	+19 56.3	1.543	2.493	7.4	20.8
1 2	7 13.70	+19 3.7	1.642	2.620	2.8	19.3	1 2	7 13.39	+20 14.5	1.523	2.502	2.7	20.5
1 12	7 2.68	+19 24.7	1.657	2.636	2.6	19.3	1 12	7 3.09	+20 33.9	1.531	2.511	2.6	20.5
1 22	6 52.47	+19 45.3	1.702	2.652	6.9	19.6	1 22	6 53.54	+20 52.1	1.567	2.519	7.2	20.8
2 1	6 44.18	+20 4.0	1.774	2.667	11.0	19.9	2 1	6 45.91	+21 7.9	1.630	2.528	11.5	21.1
2 11	6 38.55	+20 20.4	1.869	2.681	14.4	20.1	2 11	6 41.03	+21 20.7	1.716	2.537	15.1	21.3
153981	2002 <i>AO</i> ₁₁₉		1 6.9 0°86' 2.4/ 7.9 18				235429	2003 <i>YM</i> ₇₉		1 6.9 38°07' 1.4/ 6.6 18			
12 3	7 31.68	+12 22.4	1.464	2.285	17.2	19.2	12 3	7 35.30	+26 13.6	1.870	2.691	14.0	20.0
12 13	7 28.02	+13 16.2	1.389	2.283	13.3	19.0	12 13	7 30.08	+26 21.3	1.804	2.701	10.5	19.8
12 23	7 21.51	+14 29.3	1.335	2.282	8.8	18.7	12 23	7 22.42	+26 28.9	1.761	2.712	6.6	19.6
1 2	7 12.90	+15 58.8	1.306	2.281	4.0	18.4	1 2	7 13.13	+26 33.2	1.745	2.724	2.5	19.4
1 12	7 3.42	+17 38.0	1.304	2.282	3.3	18.4	1 12	7 3.38	+26 31.8	1.758	2.735	2.8	19.4
1 22	6 54.50	+19 19.3	1.330	2.284	7.9	18.7	1 22	6 54.39	+26 23.7	1.799	2.747	6.8	19.7
2 1	6 47.47	+20 55.7	1.381	2.287	12.5	18.9	2 1	6 47.22	+26 9.7	1.867	2.759	10.5	19.9
2 11	6 43.34	+22 22.3	1.456	2.291	16.6	19.2	2 11	6 42.58	+25 51.4	1.958	2.772	13.8	20.2
473830	2016 <i>EO</i> ₁₂₂		1 6.9 22°37' 2.1/ 7.4 18				281352	2007 <i>VP</i> ₃₀		1 6.9 95°10' 2.0/ 7.4 18			
12 3	7 33.71	+16 48.3	1.770	2.584	14.9	21.5	12 3	7 33.42	+16 25.5	2.399	3.196	12.0	20.7
12 13	7 28.98	+16 41.9	1.695	2.587	11.4	21.3	12 13	7 28.08	+16 7.7	2.325	3.207	9.2	20.6
12 23	7 21.80	+16 43.6	1.643	2.590	7.4	21.1	12 23	7 20.93	+15 55.4	2.276	3.218	6.0	20.4
1 2	7 12.92	+16 52.3	1.618	2.594	3.3	20.8	1 2	7 12.60	+15 48.2	2.255	3.229	2.9	20.2
1 12	7 3.47	+17 6.3	1.620	2.598	3.0	20.8	1 12	7 3.92	+15 45.5	2.264	3.239	2.6	20.2
1 22	6 54.64	+17 23.4	1.651	2.602	7.0	21.1	1 22	6 55.75	+15 46.4	2.303	3.250	5.6	20.4
2 1	6 47.52	+17 42.1	1.708	2.606	11.0	21.3	2 1	6 48.88	+15 50.0	2.371	3.260	8.7	20.6
2 11	6 42.89	+18 0.7	1.788	2.611	14.5	21.6	2 11	6 43.88	+15 55.4	2.464	3.271	11.5	20.8

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
426355	2013 <i>MA</i> ₄		1 6.9 58°94	0°3/ 6.9 15			473823	2016 <i>EM</i> ₁₁₅		1 6.9 179°49	2°6/ 7.9 18		
12 3	7 41.16	+24 37.8	1.868	2.677	14.5	20.8	12 3	7 33.17	+12 49.2	2.297	3.088	12.7	21.2
12 13	7 34.01	+24 16.3	1.822	2.713	10.8	20.6	12 13	7 28.10	+12 59.1	2.213	3.089	9.8	21.0
12 23	7 24.55	+23 54.5	1.800	2.749	6.6	20.5	12 23	7 21.09	+13 18.8	2.152	3.089	6.6	20.8
1 2	7 13.75	+23 31.0	1.806	2.785	2.2	20.3	1 2	7 12.72	+13 47.5	2.119	3.090	3.5	20.6
1 12	7 2.85	+23 4.8	1.842	2.821	2.3	20.3	1 12	7 3.84	+14 23.3	2.116	3.090	3.1	20.6
1 22	6 53.03	+22 36.6	1.907	2.856	6.4	20.7	1 22	6 55.36	+15 3.7	2.143	3.089	6.0	20.8
2 1	6 45.21	+22 7.5	2.001	2.891	10.1	21.0	2 1	6 48.14	+15 46.1	2.199	3.089	9.3	21.0
2 11	6 39.98	+21 39.2	2.119	2.926	13.1	21.2	2 11	6 42.86	+16 28.3	2.279	3.088	12.2	21.2
202617	2006 <i>HC</i> ₆₇		1 6.9 68°46	1°9/ 7.4 18			366018	2012 <i>BZ</i> ₁₂₉		1 6.9 181°26	0°4/ 7.1 18		
12 3	7 33.39	+16 31.1	2.090	2.895	13.3	20.5	12 3	7 36.06	+18 51.0	2.068	2.873	13.4	21.0
12 13	7 28.35	+16 28.2	2.017	2.904	10.1	20.3	12 13	7 30.57	+19 27.0	1.985	2.874	10.2	20.8
12 23	7 21.24	+16 32.4	1.968	2.913	6.5	20.1	12 23	7 22.77	+20 10.6	1.926	2.874	6.4	20.6
1 2	7 12.74	+16 42.6	1.947	2.922	2.9	19.9	1 2	7 13.32	+20 58.6	1.895	2.874	2.2	20.3
1 12	7 3.80	+16 57.3	1.955	2.932	2.7	19.9	1 12	7 3.21	+21 47.4	1.894	2.874	2.2	20.3
1 22	6 55.41	+17 14.7	1.992	2.941	6.1	20.1	1 22	6 53.55	+22 33.3	1.924	2.873	6.3	20.6
2 1	6 48.49	+17 33.2	2.057	2.951	9.7	20.3	2 1	6 45.40	+23 14.2	1.981	2.872	10.1	20.8
2 11	6 43.70	+17 51.7	2.146	2.960	12.7	20.6	2 11	6 39.55	+23 49.1	2.063	2.870	13.4	21.0
165170	2000 <i>QL</i> ₁₁₃		1 6.9 232°84	3°7/ 7.9 18			404167	2013 <i>CX</i> ₇₅		1 6.9 254°04	0°5/ 6.9 18		
12 3	7 36.74	+11 39.4	1.865	2.658	15.1	20.9	12 3	7 38.48	+21 17.9	1.739	2.553	15.2	21.0
12 13	7 31.33	+11 36.6	1.771	2.647	11.9	20.7	12 13	7 32.92	+21 14.5	1.645	2.539	11.6	20.7
12 23	7 23.38	+11 46.4	1.699	2.635	8.2	20.4	12 23	7 24.51	+21 15.1	1.575	2.525	7.3	20.4
1 2	7 13.55	+12 8.6	1.654	2.623	4.7	20.2	1 2	7 13.97	+21 17.5	1.531	2.511	2.5	20.1
1 12	7 2.88	+12 41.8	1.638	2.609	4.2	20.1	1 12	7 2.52	+21 19.3	1.516	2.496	2.6	20.1
1 22	6 52.59	+13 23.0	1.651	2.596	7.6	20.3	1 22	6 51.57	+21 19.1	1.530	2.481	7.5	20.3
2 1	6 43.86	+14 9.1	1.691	2.581	11.6	20.5	2 1	6 42.48	+21 16.5	1.570	2.465	12.0	20.6
2 11	6 37.61	+14 56.9	1.754	2.567	15.2	20.7	2 11	6 36.21	+21 12.1	1.633	2.449	16.0	20.8
296144	2009 <i>BA</i> ₉₇		1 6.9 39°34	2°9/ 6.3 18			287249	2002 <i>TJ</i> ₉₀		1 6.9 76°28	3°7/ 5.9 18		
12 3	7 38.07	+26 50.3	1.297	2.135	17.9	20.6	12 3	7 37.13	+32 50.6	2.190	3.000	12.6	20.4
12 13	7 33.18	+27 27.7	1.239	2.145	13.6	20.4	12 13	7 31.29	+33 19.9	2.123	3.010	9.7	20.3
12 23	7 24.81	+28 6.4	1.202	2.156	8.6	20.2	12 23	7 23.12	+33 44.7	2.080	3.021	6.5	20.1
1 2	7 14.02	+28 39.9	1.190	2.167	3.8	19.9	1 2	7 13.39	+34 0.4	2.065	3.032	4.0	19.9
1 12	7 2.50	+29 2.3	1.203	2.179	4.3	20.0	1 12	7 3.21	+34 4.0	2.079	3.043	4.4	20.0
1 22	6 52.08	+29 11.2	1.243	2.191	9.1	20.3	1 22	6 53.74	+33 54.6	2.122	3.054	7.1	20.2
2 1	6 44.28	+29 7.4	1.307	2.204	13.7	20.6	2 1	6 45.99	+33 33.8	2.192	3.065	10.1	20.4
2 11	6 40.03	+28 54.1	1.391	2.217	17.7	20.9	2 11	6 40.67	+33 4.5	2.286	3.076	12.8	20.6
54451	2000 <i>NV</i> ₁₀		1 6.9 180°71	3°4/ 5.8 18			101537	1998 <i>YX</i> ₁₄		1 6.9 74°07	2°3/ 6.2 18		
12 3	7 36.12	+34 17.4	2.860	3.657	10.3	19.2	12 3	7 38.74	+24 55.8	1.650	2.471	15.5	19.5
12 13	7 30.14	+34 45.4	2.778	3.658	8.0	19.0	12 13	7 32.98	+25 56.7	1.593	2.491	11.6	19.3
12 23	7 22.25	+35 8.9	2.722	3.658	5.5	18.8	12 23	7 24.39	+27 0.9	1.559	2.510	7.3	19.1
1 2	7 13.07	+35 24.3	2.695	3.658	3.6	18.7	1 2	7 13.85	+28 2.0	1.553	2.530	3.1	18.9
1 12	7 3.45	+35 29.0	2.699	3.658	4.0	18.7	1 12	7 2.73	+28 53.9	1.575	2.550	3.6	19.0
1 22	6 54.30	+35 22.2	2.732	3.657	6.1	18.9	1 22	6 52.48	+29 33.2	1.626	2.570	7.8	19.3
2 1	6 46.46	+35 4.8	2.794	3.656	8.6	19.0	2 1	6 44.33	+29 59.1	1.703	2.589	11.7	19.5
2 11	6 40.56	+34 39.1	2.882	3.655	10.8	19.2	2 11	6 39.13	+30 13.4	1.802	2.609	15.1	19.8
245804	2006 <i>HH</i> ₉₀		1 6.9 167°98	2°2/ 6.4 18			2007	McCuskey		1 6.9 274°91	2°1/ 6.4 18		
12 3	7 37.07	+31 17.7	2.981	3.776	10.0	20.7	12 3	7 38.20	+26 6.7	1.606	2.430	15.7	15.9
12 13	7 30.62	+31 21.2	2.898	3.780	7.6	20.5	12 13	7 33.05	+26 34.6	1.518	2.418	12.0	15.6
12 23	7 22.43	+31 21.0	2.841	3.783	5.0	20.4	12 23	7 24.76	+27 4.7	1.453	2.405	7.6	15.4
1 2	7 13.11	+31 14.5	2.814	3.786	2.6	20.2	1 2	7 14.08	+27 32.0	1.414	2.392	3.1	15.1
1 12	7 3.45	+31 0.2	2.819	3.789	2.8	20.2	1 12	7 2.39	+27 51.5	1.403	2.380	3.6	15.1
1 22	6 54.30	+30 37.9	2.855	3.791	5.3	20.4	1 22	6 51.27	+28 0.5	1.420	2.367	8.3	15.3
2 1	6 46.41	+30 8.8	2.921	3.793	7.9	20.6	2 1	6 42.24	+27 58.8	1.462	2.354	12.9	15.5
2 11	6 40.34	+29 34.8	3.013	3.795	10.2	20.7	2 11	6 36.37	+27 48.8	1.525	2.341	16.9	15.8
75860	2000 <i>CH</i> ₁₂		1 6.9 324°21	1°8/ 7.4 18			58666	1997 <i>YJ</i> ₂		1 6.9 9°26	0°2/ 6.9 18		
12 3	7 32.45	+16 50.0	1.920	2.732	14.0	19.5	12 3	7 37.89	+24 40.2	1.647	2.469	15.5	18.3
12 13	7 28.00	+16 51.7	1.833	2.724	10.7	19.3	12 13	7 32.35	+24 14.9	1.571	2.470	11.7	18.1
12 23	7 21.23	+17 1.4	1.770	2.717	7.0	19.0	12 23	7 24.01	+23 48.9	1.519	2.471	7.3	17.8
1 2	7 12.80	+17 18.0	1.733	2.709	3.0	18.8	1 2	7 13.74	+23 20.5	1.492	2.472	2.5	17.5
1 12	7 3.71	+17 39.4	1.725	2.703	2.7	18.7	1 12	7 2.88	+22 48.6	1.494	2.474	2.6	17.5
1 22	6 55.07	+18 3.4	1.745	2.696	6.7	19.0	1 22	6 52.85	+22 14.0	1.525	2.476	7.4	17.8
2 1	6 47.95	+18 28.1	1.792	2.690	10.6	19.2	2 1	6 44.89	+21 38.3	1.581	2.479	11.8	18.1
2 11	6 43.14	+18 51.9	1.863	2.684	14.1	19.4	2 11	6 39.81	+21 3.5	1.660	2.482	15.5	18.3
205478	2001 <i>QP</i> ₁₉₀		1 6.9 95°45	5°4/ 6.4 18			422447	2014 <i>SY</i> ₃₀₅		1 6.9 102°92	1°9/ 7.4 18		
12 3	7 44.61	+41 18.5	2.402	3.185	12.5	19.7	12 3	7 37.29	+16 46.3	1.995	2.795	14.0	21.8
12 13	7 36.68	+41 21.4	2.331	3.194	10.0	19.5	12 13	7 31.25	+16 41.1	1.930	2.815	10.6	21.6
12 23	7 26.29	+41 12.5	2.284	3.203	7.4	19.4	12 23	7 23.02	+16 42.8	1.889	2.834	6.8	21.5
1 2	7 14.38	+40 47.2	2.266	3.212	5.6	19.3	1 2	7 13.35	+16 50.2	1.876	2.852	3.0	21.2
1 12	7 2.22	+40 3.7	2.277	3.222	5.8	19.3	1 12	7 3.30	+17 1.6	1.893	2.870	2.7	21.3
1 22	6 51.06	+39 3.2	2.318	3.231	7.7	19.4	1 22	6 53.95	+17 15.4	1.940	2.888	6.4	21.5
2 1	6 41.93	+37 49.9	2.387	3.240	10.2	19.6	2 1	6 46.26	+17 30.2	2.014	2.905	10.0	21.8
2 11	6 35.48	+36 29.2	2.481	3.248	12.6	19.8	2 11	6 40.88	+17 45.0	2.113	2.922	13.0	22.0
348440	2005 <i>QV</i> ₇₄		1 6.9 85°59	4°0/ 6.3 17			311887	2006 <i>XD</i> ₃₃		1 6.9 325°76	0°9/ 7.0 18		
12 3	7 44.80	+30 41.1	1.411	2.234	17.6								

EPHEMERIDES

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
329713	2003 <i>WO</i> ₇		1 6.9	79°42	1°3/ 6.6	14 C	111579	2002 <i>AT</i> ₂₇		1 6.9	6°21	5°3/ 5.7	18
12 3	7 50.27	+22 17.2	1.425	2.232	18.2	22.3	12 3	7 37.08	+33 24.9	1.580	2.407	15.8	19.2
12 13	7 41.42	+23 16.7	1.390	2.281	13.5	22.1	12 13	7 32.26	+34 12.5	1.511	2.407	12.3	18.9
12 23	7 29.38	+24 20.0	1.379	2.328	8.3	21.9	12 23	7 24.23	+34 55.4	1.464	2.408	8.5	18.7
1 2	7 15.42	+25 19.8	1.395	2.374	2.9	21.7	1 2	7 13.89	+35 26.5	1.443	2.410	5.6	18.6
1 12	7 1.30	+26 9.6	1.440	2.418	3.2	21.8	1 12	7 2.76	+35 39.9	1.449	2.412	6.1	18.6
1 22	6 48.71	+26 46.3	1.515	2.461	8.1	22.2	1 22	6 52.50	+35 34.0	1.481	2.414	9.4	18.8
2 1	6 38.93	+27 10.3	1.617	2.502	12.3	22.6	2 1	6 44.56	+35 10.9	1.537	2.417	13.2	19.0
2 11	6 32.65	+27 24.2	1.741	2.542	15.7	22.9	2 11	6 39.91	+34 35.2	1.615	2.421	16.5	19.2
132882	2002 <i>RL</i> ₁₃₅		1 6.9	64°35	0°1/ 6.9	18	350669	2001 <i>UA</i> ₇₁		1 6.9	317°07	5°9/ 7.6	18
12 3	7 33.57	+20 56.0	2.118	2.929	12.9	20.0	12 3	7 33.15	+12 29.7	1.247	2.076	19.1	20.3
12 13	7 28.60	+21 23.5	2.042	2.936	9.7	19.8	12 13	7 29.80	+11 37.0	1.156	2.051	15.3	20.0
12 23	7 21.48	+21 55.9	1.992	2.942	6.0	19.6	12 23	7 23.07	+10 55.6	1.085	2.027	10.9	19.7
1 2	7 12.89	+22 30.5	1.969	2.948	2.0	19.4	1 2	7 13.64	+10 28.9	1.036	2.004	6.8	19.4
1 12	7 3.77	+23 4.2	1.975	2.955	2.1	19.4	1 12	7 2.90	+10 19.1	1.011	1.981	6.5	19.3
1 22	6 55.17	+23 34.3	2.012	2.961	6.1	19.6	1 22	6 52.57	+10 25.8	1.011	1.959	10.7	19.5
2 1	6 48.03	+23 59.4	2.076	2.968	9.7	19.9	2 1	6 44.39	+10 47.0	1.033	1.938	15.8	19.7
2 11	6 43.09	+24 19.2	2.164	2.975	12.7	20.1	2 11	6 39.64	+11 18.6	1.074	1.918	20.5	19.9
146567	2001 <i>TW</i> ₄₈		1 6.9	15°47	1°1/ 6.9	18	4542	Mossotti		1 6.9	218°88	0°1/ 6.9	18
12 3	7 43.78	+29 14.2	1.552	2.370	16.5	18.8	12 3	7 33.44	+20 29.0	2.341	3.147	12.0	16.6
12 13	7 36.85	+28 16.7	1.477	2.372	12.5	18.6	12 13	7 28.42	+21 5.8	2.254	3.145	9.1	16.4
12 23	7 26.77	+27 11.2	1.425	2.376	7.9	18.3	12 23	7 21.37	+21 48.2	2.192	3.142	5.6	16.1
1 2	7 14.64	+25 56.0	1.400	2.379	2.9	18.0	1 2	7 12.88	+22 33.4	2.159	3.139	1.9	15.9
1 12	7 2.06	+24 32.5	1.405	2.384	2.9	18.0	1 12	7 3.80	+23 18.0	2.157	3.136	2.0	15.9
1 22	6 50.64	+23 4.6	1.438	2.388	7.9	18.3	1 22	6 55.09	+23 59.1	2.184	3.133	5.8	16.1
2 1	6 41.71	+21 37.7	1.498	2.394	12.5	18.6	2 1	6 47.67	+24 35.0	2.240	3.129	9.2	16.3
2 11	6 36.06	+20 16.7	1.582	2.400	16.3	18.9	2 11	6 42.25	+25 4.8	2.321	3.126	12.2	16.5
117001	2004 <i>HX</i> ₅₅		1 6.9	188°43	3°6/ 8.3	18	179801	2002 <i>TX</i> ₃₈		1 6.9	102°83	5°2/ 5.5	18
12 3	7 34.43	+ 9 46.5	2.344	3.122	12.9	21.2	12 3	7 40.99	+34 8.9	1.823	2.635	14.6	20.1
12 13	7 29.02	+ 9 51.7	2.256	3.121	10.1	21.0	12 13	7 34.76	+35 6.8	1.760	2.647	11.4	19.9
12 23	7 21.67	+10 8.4	2.191	3.120	7.1	20.8	12 23	7 25.56	+35 59.4	1.721	2.659	7.9	19.8
1 2	7 12.95	+10 36.5	2.155	3.118	4.3	20.6	1 2	7 14.30	+36 39.7	1.708	2.670	5.4	19.6
1 12	7 3.70	+11 14.4	2.148	3.116	3.9	20.6	1 12	7 2.39	+37 2.2	1.724	2.681	5.9	19.7
1 22	6 54.81	+11 59.6	2.172	3.113	6.3	20.7	1 22	6 51.35	+37 5.4	1.767	2.692	8.8	19.9
2 1	6 47.17	+12 49.2	2.225	3.110	9.4	20.9	2 1	6 42.50	+36 51.2	1.837	2.703	12.1	20.1
2 11	6 41.44	+13 40.2	2.303	3.106	12.3	21.1	2 11	6 36.70	+36 24.2	1.929	2.714	15.0	20.3
107074	Ansonsylva		1 6.9	49°89	1°4/ 6.6	18	222945	2002 <i>PA</i> ₂₇		1 6.9	135°34	0°7/ 6.8	18
12 3	7 39.21	+23 20.0	1.137	1.980	19.6	19.1	12 3	7 41.20	+24 4.6	1.408	2.234	17.5	20.3
12 13	7 34.32	+23 53.0	1.083	1.992	14.8	18.8	12 13	7 35.35	+24 6.4	1.337	2.237	13.2	20.0
12 23	7 25.66	+24 31.9	1.049	2.004	9.2	18.5	12 23	7 26.13	+24 10.5	1.288	2.240	8.3	19.8
1 2	7 14.37	+25 10.5	1.037	2.017	3.2	18.2	1 2	7 14.54	+24 13.0	1.264	2.243	2.8	19.5
1 12	7 2.30	+25 42.5	1.052	2.031	3.7	18.3	1 12	7 2.15	+24 10.5	1.267	2.246	3.0	19.5
1 22	6 51.46	+26 4.1	1.091	2.044	9.4	18.7	1 22	6 50.72	+24 1.9	1.297	2.249	8.4	19.8
2 1	6 43.49	+26 15.0	1.154	2.058	14.6	19.0	2 1	6 41.76	+23 47.9	1.353	2.251	13.3	20.1
2 11	6 39.37	+26 17.1	1.237	2.073	18.8	19.3	2 11	6 36.23	+23 30.8	1.430	2.254	17.4	20.4
131476	2001 <i>RB</i> ₉₂		1 6.9	177°73	1°6/ 6.3	18	241159	2007 <i>RW</i> ₈₅		1 6.9	221°95	2°1/ 6.3	18
12 3	7 34.28	+27 42.0	3.156	3.954	9.4	21.6	12 3	7 39.11	+25 33.5	1.830	2.644	14.5	21.3
12 13	7 28.53	+28 4.3	3.071	3.956	7.1	21.4	12 13	7 33.39	+26 17.3	1.743	2.637	11.0	21.1
12 23	7 21.18	+28 25.9	3.011	3.957	4.5	21.3	12 23	7 24.81	+27 4.3	1.680	2.630	7.0	20.8
1 2	7 12.75	+28 44.2	2.982	3.958	2.0	21.1	1 2	7 14.12	+27 49.4	1.644	2.622	2.9	20.6
1 12	7 3.93	+28 57.2	2.985	3.958	2.3	21.1	1 12	7 2.52	+28 27.3	1.638	2.613	3.4	20.6
1 22	6 55.47	+29 4.0	3.019	3.958	4.9	21.3	1 22	6 51.42	+28 54.6	1.661	2.605	7.7	20.8
2 1	6 48.07	+29 4.3	3.083	3.958	7.4	21.5	2 1	6 42.17	+29 10.5	1.710	2.595	11.8	21.1
2 11	6 42.28	+28 59.0	3.172	3.957	9.7	21.6	2 11	6 35.75	+29 16.6	1.782	2.585	15.4	21.3
335994	2007 <i>TA</i> ₃₅₄		1 6.9	42°40	2°3/ 7.8	18	240322	2003 <i>KM</i> ₁₇		1 6.9	217°91	2°4/ 7.5	18
12 3	7 32.93	+14 14.6	1.830	2.639	14.7	20.4	12 3	7 38.05	+15 32.3	2.003	2.799	14.1	21.4
12 13	7 28.17	+14 35.4	1.774	2.661	11.3	20.3	12 13	7 32.16	+15 24.0	1.909	2.791	10.9	21.2
12 23	7 21.19	+15 7.3	1.740	2.684	7.3	20.1	12 23	7 23.84	+15 23.5	1.839	2.781	7.2	21.0
1 2	7 12.77	+15 48.0	1.733	2.708	3.4	19.9	1 2	7 13.75	+15 30.1	1.797	2.771	3.5	20.7
1 12	7 3.96	+16 34.3	1.755	2.732	2.9	19.9	1 12	7 2.93	+15 42.6	1.784	2.760	3.2	20.7
1 22	6 55.84	+17 22.7	1.805	2.756	6.5	20.2	1 22	6 52.53	+15 59.0	1.801	2.748	6.9	20.9
2 1	6 49.36	+18 10.1	1.883	2.781	10.2	20.4	2 1	6 43.67	+16 17.9	1.846	2.736	10.8	21.1
2 11	6 45.20	+18 54.1	1.984	2.805	13.3	20.7	2 11	6 37.19	+16 37.9	1.915	2.722	14.3	21.3
53634	2000 <i>DF</i> ₁		1 6.9	215°89	3°5/ 5.9	18	444047	2004 <i>RD</i> ₃₀		1 6.9	78°81	1°5/ 7.3	18
12 3	7 41.20	+29 6.6	1.727	2.543	15.2	18.5	12 3	7 41.21	+17 52.1	1.488	2.302	17.3	21.6
12 13	7 35.18	+29 52.9	1.644	2.537	11.6	18.2	12 13	7 34.71	+17 59.8	1.438	2.331	13.0	21.4
12 23	7 26.02	+30 39.3	1.584	2.531	7.6	18.0	12 23	7 25.37	+18 16.2	1.411	2.359	8.2	21.2
1 2	7 14.52	+31 19.3	1.551	2.524	4.0	17.7	1 2	7 14.20	+18 38.3	1.409	2.387	3.2	21.0
1 12	7 2.06	+31 47.0	1.546	2.517	4.6	17.7	1 12	7 2.67	+19 2.8	1.436	2.415	2.9	21.0
1 22	6 50.23	+31 59.5	1.570	2.509	8.5	18.0	1 22	6 52.24	+19 26.9	1.491	2.442	7.6	21.4
2 1	6 40.51	+31 57.2	1.620	2.501	12.6	18.2	2 1	6 44.10	+19 48.9	1.572	2.469	11.9	21.7
2 11	6 33.94	+31 43.5	1.693	2.492	16.2	18.4	2 11	6 38.98	+20 8.1	1.676	2.496	15.5	22.0
244521	2002 <i>TM</i> ₂₁₂		1 6.9	97°51	1°6/ 7.5	18	354204	2002 <i>ER</i> ₁₂₈		1 6.9	11°25	0°9/ 6.7	18
12 3	7 38.20	+15 13.9	1.916	2.714	14.6	21.2	12						

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
221241	2005 <i>UK</i> ₂₁₅		1 6.9 145°28	1.7/ 6.3	18		323121	2003 <i>AE</i> ₅₉		1 6.9 309°70	5.8/ 6.0	18	
12 3	7 36.83	+24 19.4	2.111	2.921	13.0	20.3	12 3	7 40.23	+35 57.0	1.613	2.432	15.9	19.5
12 13	7 31.20	+25 13.9	2.035	2.927	9.8	20.1	12 13	7 35.01	+36 21.2	1.518	2.408	12.6	19.3
12 23	7 23.21	+26 12.0	1.983	2.933	6.1	19.9	12 23	7 26.24	+36 37.3	1.445	2.384	9.0	19.0
1 2	7 13.54	+27 9.1	1.960	2.938	2.5	19.7	1 2	7 14.75	+36 38.1	1.397	2.361	6.2	18.8
1 12	7 3.24	+28 0.4	1.967	2.943	2.9	19.7	1 12	7 2.09	+36 17.8	1.375	2.337	6.6	18.7
1 22	6 53.43	+28 42.5	2.004	2.948	6.6	20.0	1 22	6 50.11	+35 35.3	1.381	2.314	10.0	18.9
2 1	6 45.19	+29 14.3	2.070	2.952	10.2	20.2	2 1	6 40.53	+34 34.1	1.411	2.292	14.1	19.1
2 11	6 39.32	+29 36.2	2.159	2.956	13.2	20.4	2 11	6 34.52	+33 21.0	1.462	2.270	17.9	19.2
496588	2015 <i>BU</i> ₁₆₇		1 6.9 342°80	1.4/ 6.5	18		321796	2010 <i>PO</i> ₅₄		1 6.9 241°73	6.5/ 8.5	18	
12 3	7 34.10	+25 22.1	2.014	2.832	13.2	20.9	12 3	7 34.45	+ 5 16.9	2.011	2.782	14.9	20.8
12 13	7 29.25	+25 43.2	1.933	2.829	10.0	20.6	12 13	7 29.40	+ 4 37.0	1.920	2.773	12.2	20.6
12 23	7 22.03	+26 5.8	1.875	2.827	6.3	20.4	12 23	7 22.13	+ 4 11.2	1.851	2.763	9.4	20.4
1 2	7 13.15	+26 26.5	1.845	2.824	2.4	20.2	1 2	7 13.24	+ 4 1.9	1.808	2.752	7.0	20.2
1 12	7 3.66	+26 42.2	1.844	2.822	2.7	20.2	1 12	7 3.68	+ 4 10.1	1.792	2.742	6.6	20.2
1 22	6 54.70	+26 51.1	1.872	2.820	6.6	20.4	1 22	6 54.49	+ 4 34.7	1.805	2.731	8.6	20.3
2 1	6 47.33	+26 52.8	1.927	2.818	10.4	20.6	2 1	6 46.70	+ 5 12.9	1.844	2.719	11.6	20.4
2 11	6 42.36	+26 48.4	2.006	2.816	13.6	20.8	2 11	6 41.09	+ 6 0.4	1.906	2.708	14.6	20.6
149435	2003 <i>BU</i> ₇₂		1 6.9 273°86	1.2/ 6.5	18		194421	2001 <i>VM</i> ₆₁		1 6.9 356°68	5.5/ 6.1	17	
12 3	7 36.12	+22 8.1	1.983	2.795	13.6	20.0	12 3	7 34.90	+31 23.6	1.057	1.913	19.8	19.6
12 13	7 31.08	+23 4.6	1.881	2.775	10.4	19.7	12 13	7 31.85	+32 3.7	0.994	1.907	15.3	19.3
12 23	7 23.43	+24 9.0	1.804	2.754	6.5	19.5	12 23	7 24.60	+32 40.4	0.950	1.903	10.3	19.0
1 2	7 13.73	+25 16.8	1.754	2.733	2.4	19.2	1 2	7 14.22	+33 4.7	0.928	1.901	6.0	18.8
1 12	7 3.00	+26 22.5	1.734	2.712	2.8	19.2	1 12	7 2.71	+33 9.2	0.929	1.900	6.6	18.8
1 22	6 52.49	+27 21.1	1.745	2.691	7.2	19.4	1 22	6 52.37	+32 51.7	0.952	1.900	11.3	19.1
2 1	6 43.48	+28 9.9	1.782	2.669	11.3	19.6	2 1	6 45.16	+32 15.8	0.998	1.902	16.3	19.4
2 11	6 36.96	+28 48.3	1.844	2.647	14.9	19.8	2 11	6 42.20	+31 27.8	1.061	1.906	20.7	19.7
113920	2002 <i>TK</i> ₂₈₆		1 6.9 146°45	5.5/ 5.3	18		100248	1994 <i>RB</i> ₁₃		1 6.9 78°71	2.2/ 7.5	18	
12 3	7 41.82	+36 10.4	2.033	2.836	13.7	19.6	12 3	7 36.62	+16 17.5	1.654	2.466	15.9	20.1
12 13	7 35.27	+37 9.0	1.964	2.844	10.7	19.4	12 13	7 31.29	+16 18.3	1.588	2.478	12.1	19.9
12 23	7 25.87	+38 1.4	1.919	2.851	7.8	19.2	12 23	7 23.35	+16 28.4	1.544	2.490	7.8	19.7
1 2	7 14.46	+38 40.6	1.902	2.857	5.7	19.1	1 2	7 13.63	+16 46.4	1.526	2.502	3.5	19.4
1 12	7 2.37	+39 1.5	1.913	2.863	6.2	19.2	1 12	7 3.36	+17 9.8	1.537	2.514	3.1	19.4
1 22	6 51.03	+39 2.6	1.953	2.869	8.7	19.3	1 22	6 53.84	+17 35.8	1.575	2.526	7.3	19.7
2 1	6 41.74	+38 45.7	2.019	2.874	11.6	19.5	2 1	6 46.23	+18 2.3	1.640	2.538	11.4	20.0
2 11	6 35.35	+38 15.5	2.107	2.879	14.3	19.7	2 11	6 41.31	+18 27.6	1.728	2.550	15.0	20.3
243257	2007 <i>XS</i> ₁₁		1 6.9 330°64	6.4/ 4.1	18		415131	2012 <i>DP</i> ₃₈		1 6.9 1°52	11.6/ 4.9	18	
12 3	7 36.61	+37 41.3	2.150	2.957	12.9	20.5	12 3	7 51.52	+52 29.6	1.821	2.584	16.5	20.7
12 13	7 31.53	+39 8.6	2.073	2.951	10.3	20.3	12 13	7 43.85	+53 35.8	1.759	2.584	14.5	20.5
12 23	7 23.70	+40 31.0	2.021	2.946	7.9	20.1	12 23	7 31.75	+54 22.1	1.717	2.584	12.7	20.4
1 2	7 13.80	+41 41.1	1.995	2.941	6.4	20.0	1 2	7 16.53	+54 37.2	1.698	2.584	11.7	20.3
1 12	7 2.99	+42 32.4	1.999	2.936	7.1	20.1	1 12	7 0.46	+54 14.7	1.703	2.584	11.9	20.3
1 22	6 52.64	+43 1.9	2.029	2.931	9.3	20.2	1 22	6 45.99	+53 15.1	1.732	2.584	13.4	20.4
2 1	6 44.04	+43 10.2	2.085	2.927	11.9	20.3	2 1	6 35.04	+51 45.7	1.784	2.585	15.4	20.6
2 11	6 38.17	+43 0.8	2.163	2.922	14.4	20.5	2 11	6 28.58	+49 57.1	1.856	2.585	17.5	20.7
347065	2010 <i>FT</i> ₂₈		1 6.9 242°47	1.2/ 6.4	18		10248	Fichtelgebirge		1 6.9 310°12	0.7/ 6.7	18	R
12 3	7 33.73	+23 39.1	2.661	3.465	10.8	20.3	12 3	7 34.46	+22 1.6	1.558	2.387	15.9	18.2
12 13	7 28.57	+24 30.4	2.565	3.454	8.1	20.1	12 13	7 30.38	+22 32.3	1.465	2.367	12.2	17.9
12 23	7 21.48	+25 25.7	2.494	3.443	5.1	19.9	12 23	7 23.25	+23 10.4	1.394	2.348	7.7	17.6
1 2	7 12.99	+26 21.4	2.453	3.432	2.0	19.7	1 2	7 13.75	+23 52.1	1.349	2.329	2.6	17.3
1 12	7 3.86	+27 13.8	2.444	3.420	2.3	19.7	1 12	7 3.12	+24 32.2	1.331	2.310	2.9	17.2
1 22	6 54.97	+28 0.1	2.465	3.408	5.6	19.9	1 22	6 52.90	+25 6.8	1.340	2.292	8.2	17.5
2 1	6 47.20	+28 38.4	2.516	3.396	8.7	20.1	2 1	6 44.59	+25 33.4	1.374	2.274	13.0	17.7
2 11	6 41.26	+29 8.7	2.592	3.384	11.4	20.2	2 11	6 39.33	+25 52.0	1.430	2.257	17.2	18.0
99838	2002 <i>NX</i> ₂₃		1 6.9 124°98	1.0/ 6.7	18		27482	2000 <i>GA</i> ₉₂		1 6.9 10°42	8.8/ 9.8	18	
12 3	7 36.40	+25 50.4	2.259	3.067	12.3	19.3	12 3	7 32.48	+ 0 28.8	1.634	2.405	17.8	18.0
12 13	7 30.61	+25 49.2	2.181	3.072	9.3	19.1	12 13	7 28.25	- 0 6.1	1.561	2.405	15.0	17.8
12 23	7 22.70	+25 47.4	2.127	3.077	5.8	18.9	12 23	7 21.54	- 0 18.6	1.507	2.406	12.0	17.6
1 2	7 13.36	+25 42.9	2.102	3.081	2.1	18.7	1 2	7 13.06	- 0 5.1	1.476	2.408	9.5	17.5
1 12	7 3.58	+25 33.8	2.107	3.085	2.3	18.7	1 12	7 3.92	+ 0 34.8	1.470	2.410	8.9	17.4
1 22	6 54.40	+25 19.6	2.143	3.090	6.0	19.0	1 22	6 55.33	+ 1 38.0	1.491	2.412	10.5	17.5
2 1	6 46.74	+25 1.0	2.206	3.094	9.4	19.2	2 1	6 48.42	+ 2 58.5	1.535	2.414	13.3	17.7
2 11	6 41.27	+24 39.5	2.294	3.098	12.3	19.4	2 11	6 44.03	+ 4 28.8	1.602	2.417	16.3	17.9
106913	2000 <i>YF</i> ₅₀		1 6.9 64°09	1.3/ 6.7	18		328668	2009 <i>SA</i> ₂₈₃		1 6.9 150°22	0.3/ 7.1	18	
12 3	7 40.36	+24 10.5	1.250	2.085	18.7	19.4	12 3	7 35.48	+19 59.8	2.146	2.952	13.0	21.7
12 13	7 35.06	+24 28.3	1.187	2.092	14.1	19.2	12 13	7 30.05	+20 20.7	2.067	2.956	9.8	21.5
12 23	7 26.14	+24 49.8	1.144	2.098	8.8	18.9	12 23	7 22.44	+20 47.1	2.012	2.961	6.1	21.3
1 2	7 14.64	+25 9.9	1.125	2.105	3.1	18.6	1 2	7 13.33	+21 16.4	1.986	2.965	2.1	21.0
1 12	7 2.31	+25 23.6	1.133	2.112	3.4	18.6	1 12	7 3.67	+21 45.7	1.990	2.969	2.1	21.0
1 22	6 51.05	+25 28.6	1.167	2.119	9.0	19.0	1 22	6 54.51	+22 12.7	2.023	2.973	6.0	21.3
2 1	6 42.51	+25 25.3	1.224	2.126	14.1	19.3	2 1	6 46.82	+22 35.8	2.085	2.976	9.7	21.5
2 11	6 37.67	+25 16.0	1.302	2.133	18.4	19.6	2 11	6 41.34	+22 54.8	2.171	2.979	12.8	21.7
281654	2008 <i>UJ</i> ₃₅₃		1 6.9 288°57	1.4/ 6.5	18		413212	2003 <i>GX</i> ₃₅		1 6.9 337°18	4.6/ 8.7	16	
12 3	7 34.26	+25 23.9	2.205	3.01									

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2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
84744	2002 XX ₂		1 6.9 58°57'	1.9°/ 6.1	18		222728	2002 AE ₁₇₀		1 6.9 311°30'	1.7°/ 6.5	18	
12 3	7 36.34	+23 46.8	1.997	2.810	13.5	18.6	12 3	7 35.83	+25 28.5	1.849	2.669	14.2	20.7
12 13	7 30.81	+24 59.7	1.941	2.835	10.1	18.5	12 13	7 30.82	+25 57.6	1.767	2.665	10.7	20.4
12 23	7 22.94	+26 16.3	1.910	2.860	6.3	18.3	12 23	7 23.19	+26 29.0	1.710	2.661	6.7	20.2
1 2	7 13.49	+27 30.9	1.907	2.885	2.6	18.1	1 2	7 13.66	+26 58.3	1.679	2.657	2.7	19.9
1 12	7 3.55	+28 38.1	1.935	2.910	3.1	18.2	1 12	7 3.40	+27 21.7	1.676	2.653	3.1	20.0
1 22	6 54.27	+29 34.1	1.993	2.935	6.7	18.4	1 22	6 53.71	+27 36.7	1.703	2.650	7.2	20.2
2 1	6 46.68	+30 17.5	2.078	2.961	10.1	18.7	2 1	6 45.78	+27 42.7	1.755	2.646	11.2	20.4
2 11	6 41.49	+30 49.0	2.187	2.986	13.0	18.9	2 11	6 40.50	+27 41.2	1.831	2.643	14.7	20.6
239380	2007 SQ		1 6.9 168°19'	1.6°/ 6.4	18		85972	1999 GJ ₇		1 6.9 257°20'	5.3°/ 8.7	18	
12 3	7 40.02	+25 7.8	2.075	2.880	13.4	21.0	12 3	7 34.15	+ 5 51.6	2.277	3.043	13.5	20.0
12 13	7 33.64	+25 46.2	1.996	2.885	10.1	20.8	12 13	7 29.08	+ 5 40.4	2.170	3.022	11.0	19.8
12 23	7 24.77	+26 26.8	1.941	2.890	6.3	20.5	12 23	7 21.94	+ 5 43.1	2.085	3.000	8.3	19.6
1 2	7 14.15	+27 5.2	1.916	2.893	2.5	20.3	1 2	7 13.24	+ 6 1.0	2.028	2.978	5.9	19.4
1 12	7 2.87	+27 37.2	1.920	2.896	2.9	20.3	1 12	7 3.80	+ 6 34.0	1.999	2.955	5.4	19.3
1 22	6 52.16	+28 0.3	1.955	2.899	6.7	20.6	1 22	6 54.56	+ 7 20.0	2.000	2.931	7.5	19.4
2 1	6 43.14	+28 14.0	2.018	2.900	10.4	20.8	2 1	6 46.48	+ 8 16.0	2.028	2.907	10.5	19.5
2 11	6 36.63	+28 19.6	2.105	2.901	13.6	21.0	2 11	6 40.34	+ 9 17.9	2.082	2.883	13.5	19.7
355951	2008 YD ₁₂₆		1 6.9 203°52'	0.5°/ 6.8	18		503524	2016 FW ₁₅		1 6.9 189°72'	0.9°/ 6.6	17	
12 3	7 38.58	+22 5.4	1.961	2.769	13.9	21.7	12 3	7 34.42	+24 14.7	2.602	3.406	11.0	22.4
12 13	7 32.72	+22 31.6	1.874	2.765	10.5	21.4	12 13	7 29.01	+24 39.7	2.516	3.405	8.3	22.2
12 23	7 24.30	+23 2.4	1.811	2.761	6.6	21.2	12 23	7 21.72	+25 6.5	2.455	3.403	5.2	22.0
1 2	7 14.02	+23 34.6	1.776	2.756	2.2	20.9	1 2	7 13.11	+25 32.5	2.423	3.402	1.9	21.8
1 12	7 2.98	+24 4.2	1.771	2.750	2.4	20.9	1 12	7 4.01	+25 55.1	2.422	3.400	2.1	21.8
1 22	6 52.43	+24 28.7	1.796	2.744	6.8	21.2	1 22	6 55.29	+26 12.5	2.452	3.398	5.4	22.0
2 1	6 43.56	+24 46.8	1.848	2.737	10.8	21.4	2 1	6 47.80	+26 24.1	2.511	3.395	8.5	22.2
2 11	6 37.22	+24 59.0	1.924	2.730	14.3	21.6	2 11	6 42.18	+26 30.3	2.595	3.392	11.2	22.4
327394	2005 UE ₄₆₇		1 6.9 357°17'	8.7°/ 4.2	18		372172	2008 TH ₅₁		1 6.9 42°56'	3.3°/ 7.9	18	
12 3	7 40.27	+41 18.2	1.706	2.515	15.6	20.4	12 3	7 33.14	+13 16.6	1.824	2.630	14.9	20.6
12 13	7 35.03	+42 46.1	1.639	2.514	12.8	20.2	12 13	7 28.44	+13 7.7	1.758	2.643	11.5	20.4
12 23	7 26.22	+44 4.3	1.595	2.513	10.2	20.1	12 23	7 21.50	+13 9.6	1.716	2.656	7.8	20.2
1 2	7 14.75	+45 2.8	1.576	2.512	8.7	20.0	1 2	7 13.04	+13 21.9	1.699	2.670	4.2	20.1
1 12	7 2.23	+45 33.9	1.583	2.512	9.3	20.0	1 12	7 4.13	+13 43.0	1.710	2.684	3.7	20.1
1 22	6 50.56	+45 35.2	1.615	2.512	11.6	20.2	1 22	6 55.87	+14 10.4	1.750	2.698	7.0	20.3
2 1	6 41.44	+45 10.0	1.671	2.512	14.4	20.3	2 1	6 49.23	+14 41.6	1.817	2.713	10.6	20.5
2 11	6 35.94	+44 25.0	1.747	2.513	17.1	20.5	2 11	6 44.91	+15 14.0	1.906	2.728	13.8	20.8
256252	2006 WC ₂₉		1 6.9 325°78'	1.3°/ 7.2	18		164661	1996 ST ₇		1 6.9 61°52'	0.2°/ 7.0	18	
12 3	7 35.20	+19 23.4	1.644	2.465	15.6	20.9	12 3	7 34.80	+22 8.7	2.164	2.974	12.7	19.8
12 13	7 30.50	+19 15.9	1.562	2.459	11.9	20.6	12 13	7 29.45	+22 0.9	2.091	2.983	9.6	19.6
12 23	7 23.05	+19 14.4	1.502	2.453	7.6	20.4	12 23	7 22.02	+21 55.4	2.042	2.991	6.0	19.4
1 2	7 13.62	+19 17.5	1.469	2.447	2.9	20.1	1 2	7 13.20	+21 50.4	2.021	3.000	2.0	19.2
1 12	7 3.42	+19 23.1	1.463	2.442	2.7	20.1	1 12	7 3.98	+21 44.7	2.029	3.009	2.0	19.2
1 22	6 53.84	+19 29.6	1.484	2.437	7.4	20.3	1 22	6 55.35	+21 37.6	2.068	3.018	5.9	19.4
2 1	6 46.11	+19 35.9	1.532	2.432	11.9	20.6	2 1	6 48.22	+21 28.9	2.134	3.027	9.4	19.7
2 11	6 41.15	+19 41.6	1.602	2.428	15.7	20.8	2 11	6 43.25	+21 19.2	2.225	3.036	12.4	19.9
234387	2001 QP ₁₃₅		1 6.9 200°54'	6.1°/ 4.4	17		313150	2001 DG ₁₈		1 6.9 337°92'	19.9°/ 5.7	17	
12 3	7 42.16	+47 6.5	3.360	4.115	9.8	21.2	12 3	7 57.20	+56 58.3	0.977	1.774	25.4	19.5
12 13	7 34.82	+47 51.4	3.278	4.110	8.2	21.1	12 13	7 52.38	+58 39.9	0.925	1.765	23.2	19.3
12 23	7 25.31	+48 26.3	3.222	4.104	6.9	21.0	12 23	7 39.22	+59 49.2	0.886	1.757	21.2	19.1
1 2	7 14.30	+48 46.3	3.193	4.098	6.1	21.0	1 2	7 19.46	+60 2.7	0.864	1.749	20.0	19.0
1 12	7 2.76	+48 48.4	3.194	4.091	6.4	21.0	1 12	6 57.83	+59 4.3	0.858	1.743	20.2	19.0
1 22	6 51.73	+48 32.0	3.223	4.083	7.5	21.0	1 22	6 39.76	+56 55.9	0.870	1.738	21.8	19.1
2 1	6 42.19	+47 58.9	3.279	4.075	9.1	21.1	2 1	6 28.74	+53 55.5	0.899	1.734	24.2	19.2
2 11	6 34.85	+47 12.8	3.358	4.067	10.7	21.3	2 11	6 25.44	+50 27.1	0.943	1.731	26.9	19.4
451013	2008 UK ₁₃₁		1 6.9 48°44'	3.8°/ 7.7	17		417143	2005 VY ₈₃		1 6.9 93°20'	1.6°/ 6.6	18	
12 3	7 37.62	+14 57.6	1.248	2.074	19.2	21.4	12 3	7 37.18	+25 41.2	1.903	2.719	14.0	21.3
12 13	7 32.59	+14 28.4	1.193	2.090	14.8	21.2	12 13	7 31.62	+26 3.1	1.831	2.726	10.5	21.1
12 23	7 24.37	+14 11.4	1.159	2.106	9.8	21.0	12 23	7 23.56	+26 26.1	1.783	2.734	6.6	20.8
1 2	7 14.02	+14 6.7	1.149	2.122	5.1	20.8	1 2	7 13.76	+26 46.4	1.762	2.741	2.6	20.6
1 12	7 3.12	+14 13.0	1.164	2.139	4.6	20.8	1 12	7 3.41	+27 0.5	1.771	2.748	2.9	20.6
1 22	6 53.31	+14 27.8	1.205	2.157	8.9	21.1	1 22	6 53.73	+27 6.8	1.808	2.755	6.9	20.9
2 1	6 45.94	+14 48.4	1.271	2.175	13.5	21.4	2 1	6 45.85	+27 5.4	1.872	2.762	10.7	21.1
2 11	6 41.86	+15 11.9	1.357	2.193	17.5	21.7	2 11	6 40.54	+26 57.8	1.960	2.769	13.9	21.4
187909	2000 UG ₆₅		1 6.9 117°74'	2.6°/ 7.6	18		108640	2001 NZ ₈		1 6.9 47°54'	0.5°/ 7.2	18	
12 3	7 35.79	+15 6.0	2.115	2.911	13.4	20.3	12 3	7 33.78	+17 12.7	1.978	2.787	13.8	18.8
12 13	7 30.15	+14 47.2	2.041	2.922	10.3	20.1	12 13	7 28.92	+18 9.1	1.909	2.800	10.4	18.6
12 23	7 22.43	+14 35.7	1.992	2.932	6.9	19.9	12 23	7 21.83	+19 15.3	1.864	2.813	6.5	18.4
1 2	7 13.32	+14 31.2	1.970	2.943	3.5	19.8	1 2	7 13.18	+20 27.3	1.847	2.826	2.3	18.1
1 12	7 3.79	+14 32.9	1.979	2.953	3.2	19.8	1 12	7 3.98	+21 40.3	1.861	2.840	2.1	18.2
1 22	6 54.84	+14 39.6	2.016	2.962	6.4	20.0	1 22	6 55.31	+22 49.6	1.904	2.854	6.2	18.5
2 1	6 47.38	+14 50.1	2.082	2.972	9.8	20.2	2 1	6 48.17	+23 51.9	1.975	2.869	10.0	18.7
2 11	6 42.06	+15 2.9	2.172	2.981	12.8	20.4	2 11	6 43.30	+24 45.6	2.070	2.883	13.1	18.9
222106	1999 TO ₂₅₇		1 6.9 71°95'	1.7°/ 6.6	18		343859	2011 HU ₅₂		1 6.9 172°03'	4.4°/ 8.9	18	
12 3	7 41.28	+23 51.4	1.260	2.093	18.7	20.3	12 3	7 31.16	+ 4 27.8	3.086			

EPHEMERIDES

1 6.9

1 6.9

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
400606	2009 <i>BR</i> ₁₄₆		1 6.9	5°59	3°4/ 7.6	18	567	Eleutheria		1 6.9	282°87	3°1/ 5.8	18 R
12 3	7 32.64	+15 32.0	1.169	2.009	19.4	20.4	12 3	7 34.74	+29 55.8	2.312	3.123	12.0	14.2
12 13	7 29.30	+15 15.8	1.105	2.009	15.0	20.2	12 13	7 29.71	+30 43.0	2.224	3.115	9.1	14.0
12 23	7 22.63	+15 12.6	1.059	2.010	9.9	19.9	12 23	7 22.40	+31 29.6	2.161	3.106	6.1	13.8
1 2	7 13.55	+15 22.3	1.036	2.012	4.8	19.6	1 2	7 13.45	+32 11.1	2.126	3.097	3.4	13.6
1 12	7 3.62	+15 42.6	1.038	2.015	4.3	19.6	1 12	7 3.81	+32 43.3	2.121	3.088	3.9	13.6
1 22	6 54.56	+16 10.3	1.064	2.020	9.2	19.9	1 22	6 54.56	+33 3.8	2.145	3.079	6.9	13.8
2 1	6 47.90	+16 41.8	1.113	2.025	14.2	20.2	2 1	6 46.74	+33 12.3	2.196	3.071	10.0	14.0
2 11	6 44.64	+17 13.8	1.182	2.032	18.6	20.5	2 11	6 41.15	+33 10.4	2.271	3.062	12.9	14.1
495151	2012 <i>DF</i> ₈₈		1 6.9	211°46	6°0/ 9.2	18	401916	2001 <i>VV</i> ₃₈		1 6.9	39°08	5°0/ 7.7	15
12 3	7 33.93	+ 3 47.3	2.109	2.872	14.6	21.4	12 3	7 37.64	+14 24.8	1.153	1.984	20.2	20.6
12 13	7 28.91	+ 3 39.0	2.021	2.869	11.9	21.2	12 13	7 32.77	+13 28.8	1.102	1.999	15.7	20.4
12 23	7 21.80	+ 3 47.4	1.955	2.864	9.1	21.1	12 23	7 24.56	+12 45.2	1.071	2.016	10.6	20.1
1 2	7 13.19	+ 4 13.8	1.915	2.860	6.7	20.9	1 2	7 14.15	+12 16.0	1.062	2.033	6.0	19.9
1 12	7 3.96	+ 4 57.7	1.903	2.855	6.1	20.9	1 12	7 3.23	+12 1.7	1.079	2.051	5.6	20.0
1 22	6 55.11	+ 5 56.1	1.920	2.849	7.9	21.0	1 22	6 53.50	+12 0.9	1.120	2.070	9.7	20.3
2 1	6 47.57	+ 7 4.9	1.965	2.844	10.8	21.1	2 1	6 46.35	+12 11.1	1.185	2.089	14.3	20.6
2 11	6 42.11	+ 8 19.2	2.034	2.838	13.7	21.3	2 11	6 42.62	+12 28.7	1.269	2.109	18.2	20.9
154329	2002 <i>VA</i> ₉₂		1 6.9	129°17	3°8/ 8.1	18	69409	1995 <i>UQ</i>		1 6.9	209°32	3°0/ 6.3	18
12 3	7 40.04	+11 30.0	1.744	2.534	16.1	20.6	12 3	7 41.45	+30 24.5	2.071	2.876	13.4	19.8
12 13	7 33.69	+11 27.5	1.677	2.551	12.6	20.4	12 13	7 34.90	+30 46.6	1.983	2.871	10.3	19.5
12 23	7 24.80	+11 38.0	1.632	2.567	8.6	20.2	12 23	7 25.68	+31 5.7	1.920	2.864	6.7	19.3
1 2	7 14.18	+12 1.0	1.614	2.582	4.8	20.0	1 2	7 14.56	+31 17.3	1.884	2.857	3.5	19.1
1 12	7 3.04	+12 34.3	1.625	2.596	4.3	20.0	1 12	7 2.71	+31 17.7	1.879	2.849	3.9	19.1
1 22	6 52.63	+13 14.5	1.665	2.610	7.6	20.2	1 22	6 51.47	+31 5.8	1.903	2.841	7.3	19.3
2 1	6 44.08	+13 58.4	1.732	2.622	11.4	20.5	2 1	6 42.03	+30 42.8	1.955	2.832	10.9	19.5
2 11	6 38.17	+14 42.9	1.823	2.634	14.7	20.7	2 11	6 35.27	+30 12.1	2.030	2.823	14.1	19.7
271227	2003 <i>TY</i> ₅₂		1 6.9	170°02	6°1/ 4.6	18	66598	1999 <i>RF</i> ₁₈₂		1 6.9	142°69	2°1/ 6.5	18
12 3	7 40.11	+40 12.2	2.446	3.236	12.0	20.8	12 3	7 41.00	+27 28.7	1.994	2.802	13.7	20.0
12 13	7 33.82	+41 17.7	2.373	3.239	9.7	20.7	12 13	7 34.41	+27 54.0	1.923	2.813	10.4	19.8
12 23	7 24.96	+42 15.6	2.325	3.241	7.5	20.5	12 23	7 25.27	+28 18.6	1.875	2.823	6.6	19.6
1 2	7 14.28	+42 59.4	2.304	3.242	6.2	20.4	1 2	7 14.39	+28 38.2	1.856	2.832	2.9	19.4
1 12	7 2.90	+43 24.7	2.313	3.244	6.6	20.5	1 12	7 2.96	+28 49.3	1.867	2.841	3.2	19.4
1 22	6 52.09	+43 29.6	2.350	3.245	8.5	20.6	1 22	6 52.26	+28 50.6	1.907	2.850	6.9	19.7
2 1	6 43.02	+43 16.0	2.413	3.246	10.8	20.7	2 1	6 43.41	+28 42.7	1.975	2.858	10.6	19.9
2 11	6 36.51	+42 47.8	2.498	3.246	13.0	20.9	2 11	6 37.20	+28 27.9	2.067	2.865	13.7	20.2
351711	2006 <i>BY</i> ₂₂₂		1 6.9	280°01	0°0/ 6.8	18	184108	2004 <i>HG</i> ₃₀		1 6.9	192°81	0°7/ 7.2	18
12 3	7 37.73	+21 50.4	1.539	2.363	16.3	21.6	12 3	7 36.43	+19 42.9	2.285	3.085	12.4	21.4
12 13	7 32.83	+21 59.4	1.449	2.348	12.5	21.3	12 13	7 30.71	+19 50.6	2.198	3.084	9.4	21.2
12 23	7 24.77	+22 13.7	1.382	2.334	7.9	21.0	12 23	7 22.89	+20 3.0	2.135	3.082	6.0	21.0
1 2	7 14.33	+22 30.3	1.339	2.319	2.7	20.6	1 2	7 13.59	+20 18.1	2.100	3.079	2.2	20.7
1 12	7 2.82	+22 45.6	1.325	2.305	2.8	20.6	1 12	7 3.73	+20 33.9	2.097	3.076	2.0	20.7
1 22	6 51.84	+22 57.0	1.338	2.290	8.1	20.9	1 22	6 54.30	+20 48.7	2.123	3.072	5.9	20.9
2 1	6 42.91	+23 3.5	1.376	2.275	13.1	21.1	2 1	6 46.26	+21 1.4	2.178	3.068	9.4	21.1
2 11	6 37.11	+23 5.7	1.436	2.261	17.3	21.4	2 11	6 40.32	+21 11.9	2.259	3.063	12.5	21.3
166280	2002 <i>GE</i> ₁₁₁		1 6.9	242°04	0°8/ 6.7	18	289023	2004 <i>TG</i> ₁₁₆		1 6.9	51°64	4°2/ 7.7	18
12 3	7 37.42	+21 55.2	1.683	2.502	15.4	20.3	12 3	7 37.39	+14 7.7	1.365	2.185	18.3	20.3
12 13	7 32.29	+22 36.7	1.600	2.497	11.7	20.0	12 13	7 32.31	+13 32.1	1.304	2.195	14.2	20.1
12 23	7 24.29	+23 25.3	1.540	2.492	7.3	19.8	12 23	7 24.22	+13 8.2	1.262	2.206	9.6	19.9
1 2	7 14.13	+24 16.3	1.507	2.487	2.5	19.4	1 2	7 14.07	+12 56.6	1.246	2.217	5.3	19.6
1 12	7 3.07	+25 4.6	1.503	2.481	2.8	19.5	1 12	7 3.32	+12 56.8	1.255	2.228	4.8	19.6
1 22	6 52.54	+25 45.8	1.526	2.476	7.6	19.7	1 22	6 53.49	+13 7.0	1.291	2.240	8.8	19.9
2 1	6 43.90	+26 18.0	1.577	2.470	12.1	20.0	2 1	6 45.90	+13 24.8	1.351	2.252	13.2	20.2
2 11	6 38.14	+26 41.3	1.650	2.465	15.9	20.2	2 11	6 41.40	+13 47.2	1.433	2.264	17.0	20.5
144632	2004 <i>FM</i> ₇₉		1 6.9	43°70	3°8/ 7.9	17	433325	2013 <i>QM</i> ₆₆		1 6.9	169°61	0°6/ 6.9	18
12 3	7 36.06	+13 17.0	1.344	2.164	18.4	19.9	12 3	7 36.82	+24 5.3	2.102	2.912	13.0	21.6
12 13	7 31.15	+13 8.0	1.296	2.188	14.2	19.7	12 13	7 31.17	+24 7.0	2.022	2.913	9.9	21.4
12 23	7 23.36	+13 13.4	1.268	2.212	9.5	19.5	12 23	7 23.23	+24 9.8	1.965	2.915	6.1	21.2
1 2	7 13.71	+13 32.2	1.265	2.238	5.0	19.3	1 2	7 13.71	+24 11.4	1.936	2.915	2.1	20.9
1 12	7 3.64	+14 1.6	1.288	2.263	4.4	19.3	1 12	7 3.66	+24 9.7	1.937	2.916	2.2	20.9
1 22	6 54.61	+14 37.9	1.338	2.289	8.3	19.6	1 22	6 54.19	+24 3.8	1.968	2.917	6.2	21.2
2 1	6 47.82	+15 17.2	1.413	2.316	12.5	19.9	2 1	6 46.30	+23 53.8	2.027	2.917	9.9	21.4
2 11	6 44.00	+15 56.4	1.509	2.343	16.1	20.2	2 11	6 40.74	+23 40.9	2.109	2.917	13.1	21.6
473897	2016 <i>EB</i> ₁₄₇		1 6.9	123°51	4°6/ 8.7	18	395337	2011 <i>QD</i> ₃₂		1 6.9	140°89	1°1/ 6.7	18
12 3	7 32.12	+ 7 12.6	2.337	3.111	13.0	21.2	12 3	7 40.97	+23 45.4	1.933	2.740	14.2	21.8
12 13	7 27.30	+ 7 0.8	2.258	3.116	10.4	21.0	12 13	7 34.41	+24 14.9	1.863	2.753	10.7	21.6
12 23	7 20.67	+ 7 1.5	2.201	3.121	7.6	20.8	12 23	7 25.30	+24 47.2	1.816	2.765	6.6	21.4
1 2	7 12.80	+ 7 15.3	2.172	3.125	5.3	20.7	1 2	7 14.42	+25 18.2	1.797	2.776	2.4	21.2
1 12	7 4.48	+ 7 41.6	2.171	3.130	4.8	20.7	1 12	7 2.98	+25 44.1	1.809	2.787	2.6	21.2
1 22	6 56.58	+ 8 18.2	2.200	3.134	6.7	20.8	1 22	6 52.23	+26 2.6	1.850	2.797	6.8	21.5
2 1	6 49.88	+ 9 2.4	2.256	3.138	9.4	21.0	2 1	6 43.33	+26 13.4	1.920	2.806	10.6	21.7
2 11	6 45.01	+ 9 50.8	2.337	3.143	12.1	21.2	2 11	6 37.06	+26 17.5	2.013	2.814	13.9	22.0
18712	1998 <i>HN</i> ₁₀₈		1 6.9	211°18	1°3/ 6.5	18	131442	2001 <i>QX</i> ₈₆		1 6.9	99°82	2°6/ 6.5	18
12 3	7 36.03	+24 26.2	2.422	3.226	11.7								

EPHEMERIDES

1 6.9

1 7.0

2019/20	α_{2000}	δ_{2000}	Δ	r	β	V	2019/20	α_{2000}	δ_{2000}	Δ	r	β	V
461237	2015 <i>WP</i> ₆		1 6.9 58° 97'	0.8/ 6.8	16		408764	1998 <i>BC</i> ₂₂		1 7.0 60° 65'	1.9/ 6.8	18	
12 3	7 39.10	+22 11.4	1.363	2.193	17.7	21.4	12 3	7 41.55	+28 14.4	1.640	2.459	15.7	20.7
12 13	7 33.69	+22 44.5	1.311	2.213	13.3	21.2	12 13	7 35.03	+28 6.3	1.584	2.480	11.9	20.5
12 23	7 25.11	+23 23.5	1.279	2.233	8.2	21.0	12 23	7 25.69	+27 55.1	1.551	2.501	7.5	20.3
1 2	7 14.38	+24 3.2	1.273	2.253	2.8	20.7	1 2	7 14.58	+27 37.5	1.545	2.523	3.0	20.1
1 12	7 3.09	+24 38.3	1.294	2.273	3.0	20.7	1 12	7 3.14	+27 11.8	1.567	2.544	3.2	20.1
1 22	6 52.87	+25 5.5	1.342	2.294	8.1	21.1	1 22	6 52.81	+26 38.7	1.618	2.566	7.4	20.4
2 1	6 45.09	+25 23.9	1.415	2.315	12.7	21.4	2 1	6 44.75	+26 0.6	1.695	2.588	11.4	20.7
2 11	6 40.58	+25 34.5	1.509	2.335	16.5	21.7	2 11	6 39.68	+25 20.5	1.795	2.609	14.8	21.0
465281	2007 <i>TM</i> ₁₉₀		1 6.9 138° 78'	0.6/ 7.2	16		85904	1999 <i>CH</i> ₇₀		1 7.0 356° 69'	2.2/ 7.4	18	R
12 3	7 34.02	+19 46.3	2.499	3.299	11.5	22.3	12 3	7 35.85	+18 10.6	1.612	2.431	15.9	18.8
12 13	7 28.68	+19 53.6	2.420	3.306	8.7	22.1	12 13	7 30.99	+17 44.0	1.535	2.430	12.2	18.6
12 23	7 21.52	+20 4.9	2.366	3.313	5.4	21.9	12 23	7 23.41	+17 23.4	1.480	2.428	7.9	18.3
1 2	7 13.12	+20 18.6	2.341	3.319	2.0	21.7	1 2	7 13.90	+17 8.4	1.451	2.428	3.5	18.1
1 12	7 4.31	+20 33.0	2.346	3.325	1.8	21.7	1 12	7 3.71	+16 58.3	1.450	2.427	3.2	18.1
1 22	6 55.95	+20 46.6	2.382	3.331	5.3	21.9	1 22	6 54.21	+16 52.3	1.476	2.427	7.6	18.3
2 1	6 48.84	+20 58.6	2.447	3.337	8.5	22.1	2 1	6 46.61	+16 49.8	1.528	2.428	11.9	18.6
2 11	6 43.58	+21 8.5	2.537	3.342	11.2	22.3	2 11	6 41.78	+16 50.0	1.602	2.429	15.7	18.8
81893	2000 <i>LR</i> ₂₉		1 6.9 141° 51'	5.6/ 8.7	18		325168	2008 <i>FS</i> ₄₉		1 7.0 332° 13'	0.6/ 7.1	18	
12 3	7 35.00	+5 41.3	2.210	2.976	13.9	20.5	12 3	7 33.90	+20 21.5	1.457	2.289	16.7	21.0
12 13	7 29.51	+5 10.6	2.134	2.985	11.3	20.3	12 13	7 30.02	+20 28.5	1.374	2.277	12.7	20.7
12 23	7 22.07	+4 53.3	2.082	2.993	8.5	20.2	12 23	7 23.09	+20 42.6	1.313	2.266	8.1	20.4
1 2	7 13.32	+4 50.9	2.056	3.002	6.2	20.0	1 2	7 13.88	+21 1.4	1.276	2.256	2.9	20.1
1 12	7 4.13	+5 3.3	2.059	3.009	5.8	20.0	1 12	7 3.71	+21 21.6	1.266	2.246	2.7	20.1
1 22	6 55.42	+5 29.0	2.090	3.017	7.6	20.1	1 22	6 54.12	+21 40.4	1.282	2.237	8.1	20.4
2 1	6 48.05	+6 5.3	2.149	3.024	10.2	20.3	2 1	6 46.56	+21 55.9	1.323	2.228	13.0	20.6
2 11	6 42.67	+6 48.4	2.233	3.030	12.8	20.5	2 11	6 42.08	+22 7.8	1.385	2.221	17.2	20.8
453876	2011 <i>UE</i> ₁₂₇		1 6.9 91° 82'	0.3/ 6.9	17		147528	2004 <i>DO</i> ₅₂		1 7.0 266° 68'	0.7/ 7.1	18	
12 3	7 40.32	+21 35.8	1.640	2.455	15.9	21.6	12 3	7 38.93	+20 27.7	1.434	2.259	17.3	20.7
12 13	7 34.13	+21 59.3	1.581	2.476	11.9	21.4	12 13	7 33.89	+20 29.5	1.350	2.249	13.2	20.4
12 23	7 25.18	+22 27.8	1.546	2.496	7.4	21.2	12 23	7 25.56	+20 37.9	1.288	2.239	8.4	20.1
1 2	7 14.39	+22 57.4	1.537	2.516	2.5	20.9	1 2	7 14.74	+20 50.3	1.250	2.229	3.0	19.7
1 12	7 3.11	+23 24.1	1.557	2.536	2.5	21.0	1 12	7 2.86	+21 3.4	1.239	2.219	2.9	19.7
1 22	6 52.73	+23 45.4	1.605	2.556	7.2	21.3	1 22	6 51.61	+21 14.7	1.256	2.209	8.4	20.0
2 1	6 44.46	+24 0.5	1.681	2.575	11.4	21.6	2 1	6 42.56	+21 23.1	1.297	2.199	13.5	20.3
2 11	6 39.08	+24 10.0	1.779	2.593	14.9	21.9	2 11	6 36.82	+21 28.8	1.360	2.189	17.9	20.5
221853	2008 <i>GB</i>		1 6.9 179° 12'	3.2/ 8.2	18		242946	2006 <i>RY</i> ₃₈		1 7.0 184° 25'	1.9/ 7.8	18	
12 3	7 34.66	+11 20.4	2.248	3.033	13.1	21.1	12 3	7 31.95	+14 5.7	2.990	3.773	10.2	21.3
12 13	7 29.36	+11 28.5	2.163	3.034	10.3	20.9	12 13	7 26.92	+14 17.7	2.900	3.773	7.9	21.2
12 23	7 22.06	+11 47.7	2.101	3.035	7.0	20.7	12 23	7 20.39	+14 36.5	2.835	3.773	5.2	21.0
1 2	7 13.35	+12 17.4	2.068	3.035	4.0	20.6	1 2	7 12.81	+15 1.3	2.800	3.772	2.6	20.8
1 12	7 4.09	+12 55.7	2.064	3.035	3.5	20.5	1 12	7 4.84	+15 30.7	2.796	3.771	2.3	20.8
1 22	6 55.23	+13 40.0	2.090	3.035	6.3	20.7	1 22	6 57.15	+16 2.9	2.823	3.769	4.8	20.9
2 1	6 47.67	+14 27.4	2.145	3.034	9.5	20.9	2 1	6 50.40	+16 36.1	2.880	3.767	7.5	21.1
2 11	6 42.11	+15 15.1	2.225	3.033	12.5	21.1	2 11	6 45.14	+17 9.0	2.964	3.765	9.9	21.3
127778	2003 <i>FY</i> ₅₃		1 6.9 172° 01'	1.1/ 6.6	18		226969	2004 <i>VB</i> ₁₀₇		1 7.0 25° 63'	4.5/ 7.9	18	
12 3	7 36.52	+23 45.1	2.507	3.307	11.5	20.5	12 3	7 33.55	+12 17.3	1.651	2.460	16.1	20.7
12 13	7 30.70	+24 25.5	2.423	3.311	8.6	20.3	12 13	7 29.04	+11 41.7	1.584	2.467	12.6	20.5
12 23	7 22.87	+25 8.7	2.366	3.314	5.4	20.1	12 23	7 22.07	+11 17.5	1.538	2.475	8.7	20.3
1 2	7 13.63	+25 51.5	2.338	3.316	2.0	19.9	1 2	7 13.43	+11 5.8	1.517	2.484	5.3	20.1
1 12	7 3.84	+26 30.2	2.341	3.318	2.3	19.9	1 12	7 4.25	+11 6.4	1.524	2.493	4.9	20.1
1 22	6 54.46	+27 2.6	2.375	3.319	5.7	20.1	1 22	6 55.76	+11 17.8	1.558	2.503	7.9	20.3
2 1	6 46.36	+27 27.5	2.438	3.320	8.9	20.3	2 1	6 49.03	+11 37.6	1.617	2.513	11.6	20.6
2 11	6 40.25	+27 45.3	2.527	3.320	11.6	20.5	2 11	6 44.83	+12 2.8	1.699	2.524	15.0	20.8
31715	1999 <i>JX</i> ₅₆		1 6.9 184° 63'	2.1/ 6.1	18		276586	2003 <i>SN</i> ₃₂₅		1 7.0 6° 62'	1.0/ 6.7	18	
12 3	7 34.18	+27 7.4	2.590	3.397	11.0	19.5	12 3	7 35.04	+23 59.4	2.052	2.867	13.2	20.9
12 13	7 28.98	+27 53.4	2.507	3.396	8.3	19.3	12 13	7 29.99	+24 21.9	1.972	2.867	9.9	20.7
12 23	7 21.82	+28 40.3	2.449	3.396	5.3	19.1	12 23	7 22.62	+24 47.0	1.916	2.867	6.2	20.5
1 2	7 13.28	+29 24.5	2.421	3.396	2.5	18.9	1 2	7 13.63	+25 11.6	1.888	2.867	2.2	20.2
1 12	7 4.20	+30 2.3	2.423	3.395	2.9	19.0	1 12	7 4.04	+25 32.4	1.889	2.867	2.4	20.2
1 22	6 55.48	+30 31.6	2.456	3.395	5.8	19.2	1 22	6 54.96	+25 47.4	1.919	2.868	6.4	20.5
2 1	6 48.00	+30 51.5	2.517	3.394	8.8	19.4	2 1	6 47.45	+25 56.0	1.977	2.868	10.1	20.7
2 11	6 42.45	+31 2.8	2.603	3.393	11.4	19.5	2 11	6 42.27	+25 58.8	2.058	2.868	13.3	20.9
319634	2006 <i>SR</i> ₃₆₆		1 6.9 61° 59'	2.0/ 6.7	18		179214	2001 <i>TR</i> ₂₁₈		1 7.0 155° 94'	3.0/ 8.1	18	
12 3	7 41.20	+27 47.6	1.551	2.373	16.3	20.9	12 3	7 35.77	+11 41.4	2.496	3.274	12.2	21.6
12 13	7 34.96	+27 47.8	1.494	2.391	12.3	20.7	12 13	7 29.95	+11 39.1	2.416	3.283	9.5	21.4
12 23	7 25.74	+27 45.8	1.460	2.410	7.7	20.5	12 23	7 22.33	+11 45.9	2.360	3.291	6.5	21.2
1 2	7 14.59	+27 37.7	1.452	2.429	3.1	20.3	1 2	7 13.48	+12 1.3	2.333	3.299	3.8	21.1
1 12	7 3.04	+27 21.0	1.472	2.449	3.3	20.3	1 12	7 4.21	+12 24.2	2.336	3.306	3.3	21.1
1 22	6 52.60	+26 55.8	1.519	2.468	7.8	20.6	1 22	6 55.37	+12 52.8	2.371	3.313	5.8	21.2
2 1	6 44.53	+26 24.5	1.593	2.487	11.9	20.9	2 1	6 47.75	+13 24.8	2.434	3.318	8.8	21.4
2 11	6 39.56	+25 50.0	1.690	2.507	15.5	21.2	2 11	6 41.96	+13 58.4	2.523	3.323	11.4	21.6
87579	2000 <i>RX</i> ₁₅		1 6.9 231° 17'	1.3/ 6.7	18		346946	2010 <i>AF</i> ₇₆		1 7.0 11° 45'	2.2/ 7.7	18	
12 3	7 38.89	+26 43.4	2.191	2.997									