

EPHEMERIDES

2 9.9

2 10.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
90213	2003 <i>AH</i> ₈₁		2 9.9 359°59	10°3/	2.3 18		57105	2001 <i>OJ</i> ₇₂		2 10.0 105°61	0°9/	9.4 18	
1 2	9 59.93	+35 25.6	1.512	2.326	16.9	18.6	1 2	10 3.11	+14 10.0	1.652	2.430	17.3	19.8
1 12	9 57.04	+37 10.7	1.450	2.324	14.1	18.4	1 12	9 58.36	+14 41.7	1.584	2.450	13.5	19.6
1 22	9 50.54	+38 52.1	1.409	2.323	11.6	18.3	1 22	9 50.76	+15 26.0	1.537	2.470	9.2	19.4
2 1	9 41.10	+40 16.6	1.392	2.323	10.3	18.2	2 1	9 40.99	+16 17.5	1.515	2.489	4.4	19.2
2 11	9 30.12	+41 12.2	1.399	2.323	11.1	18.2	2 11	9 30.20	+17 9.2	1.522	2.508	1.2	19.0
2 21	9 19.35	+41 32.3	1.431	2.324	13.4	18.4	2 21	9 19.71	+17 54.4	1.557	2.526	5.8	19.3
3 2	9 10.50	+41 16.4	1.483	2.325	16.2	18.6	3 2	9 10.75	+18 28.3	1.620	2.543	10.2	19.6
3 12	9 4.79	+40 29.7	1.554	2.327	18.9	18.8	3 12	9 4.25	+18 48.7	1.707	2.560	14.0	19.9
492663	2014 <i>PQ</i> ₈		2 9.9 282°93	0°1/10.1	18		160730	2000 <i>QQ</i> ₂₀₉		2 10.0 209°79	0°3/10.2	18	
1 2	9 55.96	+10 23.2	1.504	2.292	18.2	21.3	1 2	10 1.10	+11 55.2	1.945	2.709	15.5	21.3
1 12	9 53.50	+10 59.4	1.406	2.277	14.6	21.0	1 12	9 56.67	+12 9.7	1.846	2.703	12.4	21.0
1 22	9 48.02	+11 56.2	1.327	2.261	10.2	20.7	1 22	9 49.65	+12 36.9	1.769	2.697	8.6	20.8
2 1	9 39.94	+13 10.1	1.272	2.246	5.1	20.4	2 1	9 40.55	+13 13.5	1.718	2.690	4.3	20.5
2 11	9 30.25	+14 33.7	1.243	2.230	0.5	20.0	2 11	9 30.24	+13 54.8	1.696	2.682	0.5	20.2
2 21	9 20.31	+15 57.5	1.242	2.214	6.2	20.4	2 21	9 19.87	+14 35.3	1.703	2.674	5.0	20.5
3 2	9 11.61	+17 12.3	1.267	2.199	11.6	20.6	3 2	9 10.59	+15 10.1	1.739	2.665	9.4	20.8
3 12	9 5.41	+18 11.5	1.314	2.183	16.3	20.9	3 12	9 3.39	+15 35.7	1.800	2.655	13.3	21.0
177626	2004 <i>JH</i> ₅		2 9.9 181°66	1°5/11.6	17		87701	2000 <i>SK</i> ₁₉		2 10.0 202°77	4°6/14.6	18	
1 2	9 53.91	+ 7 10.0	2.975	3.710	11.3	21.8	1 2	9 53.03	- 2 43.3	2.675	3.369	13.3	20.3
1 12	9 49.99	+ 7 19.4	2.874	3.710	9.1	21.6	1 12	9 49.54	- 2 54.7	2.571	3.367	11.3	20.2
1 22	9 44.51	+ 7 39.1	2.796	3.710	6.5	21.5	1 22	9 44.34	- 2 50.1	2.489	3.365	8.9	20.0
2 1	9 37.83	+ 8 7.8	2.746	3.710	3.7	21.3	2 1	9 37.81	- 2 29.0	2.432	3.363	6.4	19.9
2 11	9 30.52	+ 8 42.9	2.727	3.710	1.5	21.1	2 11	9 30.56	- 1 52.6	2.402	3.361	4.7	19.7
2 21	9 23.21	+ 9 21.2	2.738	3.709	3.3	21.3	2 21	9 23.28	- 1 3.9	2.402	3.358	5.1	19.8
3 2	9 16.55	+ 9 59.5	2.779	3.708	6.2	21.4	3 2	9 16.68	- 0 6.9	2.431	3.356	7.1	19.9
3 12	9 11.10	+10 34.7	2.848	3.706	8.8	21.6	3 12	9 11.40	+ 0 53.1	2.486	3.353	9.7	20.0
432140	2009 <i>BP</i> ₈₄		2 9.9 49°71	0°1/	9.9 18		411332	2010 <i>UA</i> ₃₇		2 10.0 125°49	5°0/	5.9 18	
1 2	9 54.68	+12 27.7	2.095	2.868	14.2	21.4	1 2	10 3.07	+26 58.8	2.160	2.944	13.5	21.0
1 12	9 51.25	+12 52.9	2.014	2.878	11.2	21.2	1 12	9 57.88	+28 1.1	2.092	2.960	10.7	20.8
1 22	9 45.68	+13 29.6	1.955	2.887	7.6	21.0	1 22	9 50.22	+29 4.5	2.048	2.975	7.7	20.7
2 1	9 38.47	+14 14.1	1.923	2.896	3.7	20.8	2 1	9 40.68	+30 1.8	2.032	2.990	5.3	20.6
2 11	9 30.45	+15 1.7	1.920	2.906	0.5	20.5	2 11	9 30.26	+30 46.0	2.045	3.005	5.3	20.6
2 21	9 22.52	+15 47.0	1.945	2.916	4.5	20.9	2 21	9 20.06	+31 12.5	2.087	3.018	7.6	20.7
3 2	9 15.62	+16 25.8	1.999	2.926	8.3	21.1	3 2	9 11.15	+31 19.6	2.157	3.031	10.5	20.9
3 12	9 10.47	+16 54.9	2.079	2.936	11.6	21.3	3 12	9 4.37	+31 8.4	2.250	3.044	13.1	21.1
362112	2009 <i>CT</i> ₄₇		2 9.9 292°40	5°9/	6.9 18		133538	2003 <i>TW</i> ₁₀		2 10.0 173°83	4°0/	6.8 18	
1 2	10 5.23	+27 20.1	1.564	2.366	17.0	20.4	1 2	10 0.74	+25 30.9	2.277	3.061	12.9	20.4
1 12	10 0.97	+27 53.0	1.471	2.348	13.7	20.2	1 12	9 56.00	+26 8.5	2.193	3.062	10.2	20.2
1 22	9 53.19	+28 27.7	1.399	2.331	10.0	19.9	1 22	9 48.93	+26 48.0	2.133	3.063	7.2	20.0
2 1	9 42.44	+28 55.3	1.351	2.314	6.7	19.7	2 1	9 40.08	+27 23.5	2.100	3.064	4.6	19.8
2 11	9 30.00	+29 6.6	1.329	2.297	6.3	19.6	2 11	9 30.32	+27 49.2	2.096	3.065	4.3	19.8
2 21	9 17.51	+28 55.6	1.335	2.280	9.5	19.7	2 21	9 20.68	+28 1.1	2.122	3.065	6.7	20.0
3 2	9 6.71	+28 20.5	1.365	2.264	13.7	19.9	3 2	9 12.16	+27 57.5	2.176	3.065	9.7	20.2
3 12	8 58.90	+27 24.3	1.417	2.247	17.6	20.1	3 12	9 5.57	+27 38.7	2.253	3.065	12.5	20.3
411828	2012 <i>DA</i> ₄₇		2 9.9 357°42	6°7/15.5	18		265767	2005 <i>WX</i> ₂₀		2 10.0 235°69	3°7/12.6	17	
1 2	9 50.87	- 5 21.4	1.567	2.296	20.0	20.6	1 2	9 57.34	+ 3 44.1	2.037	2.775	15.7	20.5
1 12	9 49.11	- 5 20.8	1.478	2.294	17.1	20.4	1 12	9 53.51	+ 3 21.7	1.939	2.771	13.0	20.3
1 22	9 44.73	- 4 49.9	1.406	2.292	13.7	20.1	1 22	9 47.37	+ 3 14.6	1.861	2.767	9.7	20.1
2 1	9 38.21	- 3 46.5	1.355	2.291	10.0	19.9	2 1	9 39.40	+ 3 22.9	1.808	2.763	6.2	19.9
2 11	9 30.48	- 2 13.2	1.328	2.291	7.1	19.7	2 11	9 30.39	+ 3 44.9	1.783	2.759	3.8	19.7
2 21	9 22.69	- 0 17.1	1.327	2.291	7.3	19.7	2 21	9 21.34	+ 4 17.1	1.787	2.755	5.2	19.8
3 2	9 16.08	+ 1 50.5	1.353	2.292	10.3	19.9	3 2	9 13.27	+ 4 54.7	1.818	2.750	8.7	20.0
3 12	9 11.65	+ 3 57.7	1.403	2.293	14.1	20.1	3 12	9 7.03	+ 5 32.7	1.875	2.746	12.1	20.2
9581	1990 <i>DM</i> ₃		2 10.0 221°20	1°9/	8.8 18		426949	2013 <i>YY</i> ₂₃		2 10.0 30°71	3°3/	7.4 18	
1 2	10 2.82	+17 12.7	1.766	2.548	16.2	18.5	1 2	9 55.88	+21 9.8	1.985	2.780	14.1	20.6
1 12	9 58.39	+17 40.7	1.671	2.540	12.8	18.3	1 12	9 52.47	+21 59.2	1.908	2.785	11.0	20.4
1 22	9 51.03	+18 19.0	1.597	2.532	8.8	18.0	1 22	9 46.67	+22 54.9	1.854	2.791	7.6	20.2
2 1	9 41.28	+19 2.3	1.549	2.523	4.3	17.7	2 1	9 39.03	+23 50.8	1.826	2.797	4.3	20.0
2 11	9 30.15	+19 43.8	1.529	2.513	2.2	17.6	2 11	9 30.44	+24 40.2	1.826	2.803	3.6	20.0
2 21	9 18.94	+20 17.0	1.538	2.503	6.3	17.8	2 21	9 21.97	+25 17.3	1.855	2.809	6.6	20.2
3 2	9 9.02	+20 37.5	1.575	2.492	10.9	18.1	3 2	9 14.66	+25 39.0	1.911	2.816	10.0	20.4
3 12	9 1.50	+20 43.5	1.635	2.481	14.9	18.3	3 12	9 9.33	+25 44.3	1.991	2.823	13.2	20.6
343620	2010 <i>GY</i> ₁₃₈		2 10.0 347°12	3°9/	6.3 18		380334	2002 <i>PZ</i> ₈₇		2 10.0 119°72	1°0/11.0	18	
1 2	9 54.44	+22 38.2	2.205	3.000	12.9	20.3	1 2	9 55.52	+ 8 12.7	2.655	3.397	12.3	21.8
1 12	9 51.22	+23 48.5	2.121	2.998	10.1	20.1	1 12	9 51.36	+ 8 40.2	2.571	3.414	9.8	21.7
1 22	9 45.78	+25 4.7	2.062	2.997	7.0	19.9	1 22	9 45.48	+ 9 19.3	2.511	3.430	6.9	21.5
2 1	9 38.59	+26 20.6	2.029	2.996	4.4	19.7	2 1	9 38.32	+10 7.6	2.479	3.446	3.6	21.3
2 11	9 30.46	+27 28.8	2.026	2.995	4.3	19.7	2 11	9 30.53	+11 1.1	2.477	3.462	1.0	21.1
2 21	9 22.33	+28 23.5	2.051	2.994	6.9	19.9	2 21	9 22.82	+11 55.8	2.506	3.477	3.6	21.3
3 2	9 15.19	+29 0.8	2.103	2.993	10.0	20.0	3 2	9 15.92	+12 47.4	2.565	3.492	6.7	21.6
3 12	9 9.84	+29 19.9	2.180	2.993	12.8	20.2	3 12	9 10.42	+13 32.6	2.651	3.506	9.5	21.8
425118	2009 <i>SM</i> ₁₇₅		2 10.0 87°93	0°1/	9.9 18		258108	2001 <i>QU</i> ₂₀₀		2 10.0 144°45	0°3/10.3	18	
1 2	9 58.05	+11 10.4	2.046	2.811	14.8	21.2	1						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
171186	2005 <i>JQ</i> ₁₁		2 10.0 185°32	0°9/ 9.2 17			150663	2001 <i>JN</i> ₆		2 10.0 232°86	1°4/ 9.1 18		
1 2	9 55.91	+15 33.3	2.668	3.434	11.7	21.4	1 2	10 1.39	+15 9.6	1.721	2.502	16.5	21.4
1 12	9 51.81	+16 0.5	2.573	3.433	9.2	21.2	1 12	9 57.42	+15 45.3	1.622	2.491	13.2	21.1
1 22	9 45.88	+16 35.0	2.502	3.433	6.2	21.1	1 22	9 50.49	+16 34.3	1.544	2.479	9.0	20.8
2 1	9 38.56	+17 13.7	2.459	3.432	3.0	20.8	2 1	9 41.10	+17 31.9	1.492	2.466	4.4	20.5
2 11	9 30.50	+17 52.4	2.446	3.431	1.1	20.7	2 11	9 30.24	+18 30.6	1.468	2.453	1.7	20.3
2 21	9 22.46	+18 27.3	2.464	3.430	4.2	20.9	2 21	9 19.20	+19 23.0	1.472	2.439	6.3	20.6
3 2	9 15.20	+18 55.2	2.511	3.428	7.4	21.1	3 2	9 9.39	+20 3.0	1.504	2.424	11.1	20.8
3 12	9 9.38	+19 14.1	2.585	3.426	10.2	21.3	3 12	9 1.97	+20 27.6	1.559	2.409	15.3	21.0
339565	2005 <i>KH</i> ₄		2 10.0 265°89	9°3/19.2 17			57008	2000 <i>SV</i> ₃₅₆		2 10.0 140°74	5°0/ 6.1 18		
1 2	9 53.16	-16 7.7	2.478	3.089	16.0	21.3	1 2	10 3.88	+28 33.2	2.293	3.074	12.9	19.4
1 12	9 49.95	-16 58.8	2.375	3.083	14.5	21.1	1 12	9 58.42	+29 21.7	2.220	3.084	10.3	19.2
1 22	9 44.81	-17 28.2	2.288	3.077	12.7	21.0	1 22	9 50.54	+30 9.8	2.171	3.095	7.5	19.1
2 1	9 38.12	-17 32.1	2.222	3.071	11.0	20.9	2 1	9 40.85	+30 50.9	2.149	3.104	5.3	19.0
2 11	9 30.55	-17 9.0	2.180	3.064	9.7	20.8	2 11	9 30.29	+31 18.8	2.156	3.113	5.3	19.0
2 21	9 22.87	-16 19.9	2.162	3.058	9.3	20.7	2 21	9 19.95	+31 29.6	2.193	3.122	7.4	19.1
3 2	9 15.93	-15 8.7	2.171	3.052	10.1	20.8	3 2	9 10.86	+31 22.2	2.257	3.130	10.1	19.3
3 12	9 10.48	-13 42.1	2.204	3.046	11.7	20.8	3 12	9 3.83	+30 58.1	2.346	3.137	12.7	19.5
134625	1999 <i>TM</i> ₂₇₃		2 10.0 180°43	0°4/ 9.7 17			22669	1998 <i>QX</i> ₃₂		2 10.0 114°65	0°9/10.8 18		
1 2	10 0.65	+15 22.9	2.415	3.176	12.9	20.3	1 2	9 56.03	+ 9 43.5	2.172	2.932	14.2	18.8
1 12	9 55.67	+15 26.6	2.320	3.177	10.2	20.1	1 12	9 52.26	+ 9 59.1	2.084	2.937	11.3	18.6
1 22	9 48.58	+15 37.1	2.248	3.177	7.0	19.9	1 22	9 46.38	+10 27.4	2.018	2.943	7.9	18.4
2 1	9 39.89	+15 51.6	2.204	3.177	3.3	19.7	2 1	9 38.87	+11 5.8	1.979	2.949	4.1	18.2
2 11	9 30.37	+16 6.4	2.191	3.177	0.7	19.4	2 11	9 30.51	+11 50.1	1.969	2.954	0.9	18.0
2 21	9 20.89	+16 18.2	2.208	3.176	4.3	19.7	2 21	9 22.20	+12 35.5	1.988	2.960	4.3	18.2
3 2	9 12.38	+16 24.5	2.255	3.175	7.9	19.9	3 2	9 14.86	+13 17.5	2.036	2.965	8.0	18.5
3 12	9 5.55	+16 23.7	2.328	3.174	11.0	20.1	3 12	9 9.24	+13 52.3	2.109	2.970	11.4	18.7
195280	2002 <i>EK</i> ₇₃		2 10.0 284°10	1°7/ 8.8 17			355870	2008 <i>US</i> ₃₅₃		2 10.0 89°91	1°6/ 9.0 18		
1 2	9 58.46	+17 41.1	2.017	2.800	14.4	20.1	1 2	10 1.77	+15 49.7	1.512	2.304	18.0	21.4
1 12	9 54.67	+18 1.6	1.910	2.780	11.4	19.8	1 12	9 57.66	+16 23.4	1.444	2.319	14.1	21.2
1 22	9 48.36	+18 30.3	1.825	2.760	7.8	19.6	1 22	9 50.50	+17 9.4	1.396	2.333	9.5	21.0
2 1	9 39.96	+19 3.1	1.766	2.740	3.9	19.3	2 1	9 40.97	+18 1.7	1.373	2.348	4.6	20.7
2 11	9 30.34	+19 34.5	1.736	2.720	1.9	19.1	2 11	9 30.29	+18 52.3	1.377	2.362	1.9	20.6
2 21	9 20.57	+19 59.3	1.735	2.700	5.7	19.3	2 21	9 19.88	+19 34.0	1.409	2.376	6.5	20.9
3 2	9 11.79	+20 13.7	1.762	2.680	9.8	19.5	3 2	9 11.10	+20 2.1	1.467	2.390	11.1	21.2
3 12	9 5.01	+20 15.7	1.813	2.660	13.6	19.7	3 12	9 4.96	+20 14.7	1.548	2.403	15.1	21.5
445024	2008 <i>NT</i>		2 10.0 124°55	1°5/11.1 18			455210	2001 <i>MR</i> ₁₇		2 10.0 222°79	2°6/ 8.1 18		
1 2	10 4.31	+ 8 38.8	1.899	2.647	16.4	22.3	1 2	9 59.93	+16 37.9	1.707	2.496	16.4	21.6
1 12	9 58.88	+ 8 45.0	1.823	2.668	13.1	22.1	1 12	9 56.29	+17 41.1	1.614	2.488	12.9	21.4
1 22	9 50.92	+ 9 5.5	1.768	2.688	9.2	21.9	1 22	9 49.72	+18 58.5	1.543	2.480	8.8	21.1
2 1	9 41.05	+ 9 37.7	1.740	2.707	4.9	21.7	2 1	9 40.73	+20 23.6	1.498	2.471	4.4	20.8
2 11	9 30.25	+10 17.0	1.741	2.726	1.5	21.5	2 11	9 30.30	+21 47.1	1.480	2.462	3.0	20.7
2 21	9 19.68	+10 58.4	1.772	2.743	4.8	21.7	2 21	9 19.72	+23 0.0	1.492	2.452	7.1	20.9
3 2	9 10.43	+11 36.8	1.832	2.760	8.9	22.0	3 2	9 10.40	+23 55.7	1.530	2.442	11.5	21.2
3 12	9 3.36	+12 8.5	1.917	2.775	12.5	22.3	3 12	9 3.46	+24 31.3	1.592	2.431	15.5	21.4
245984	2006 <i>SX</i> ₂₀₉		2 10.0 231°63	0°0/ 9.9 17			245396	2005 <i>GP</i> ₁₇₁		2 10.0 281°86	4°4/13.7 17		
1 2	9 55.16	+12 22.6	2.917	3.669	11.1	22.6	1 2	9 53.56	- 0 7.3	2.296	3.014	14.7	21.3
1 12	9 51.13	+12 45.8	2.805	3.657	8.8	22.5	1 12	9 50.34	- 0 21.0	2.190	3.005	12.3	21.1
1 22	9 45.40	+13 17.7	2.717	3.643	6.1	22.3	1 22	9 45.12	- 0 17.9	2.104	2.995	9.5	20.9
2 1	9 38.35	+13 55.9	2.658	3.630	3.0	22.0	2 1	9 38.30	+ 0 2.6	2.042	2.986	6.6	20.7
2 11	9 30.54	+14 37.0	2.629	3.616	0.3	21.8	2 11	9 30.58	+ 0 39.0	2.008	2.976	4.5	20.6
2 21	9 22.66	+15 17.3	2.631	3.601	3.6	22.0	2 21	9 22.76	+ 1 27.9	2.003	2.967	5.2	20.6
3 2	9 15.40	+15 53.5	2.664	3.586	6.8	22.2	3 2	9 15.71	+ 2 24.4	2.026	2.957	8.0	20.8
3 12	9 9.42	+16 23.0	2.724	3.570	9.6	22.4	3 12	9 10.21	+ 3 23.1	2.076	2.948	11.1	20.9
471328	2011 <i>KH</i> ₃₄		2 10.0 270°93	2°6/12.2 17			65455	2002 <i>VC</i> ₇₅		2 10.0 14°31	0°0/ 9.9 18		
1 2	9 54.60	+ 4 43.5	2.300	3.039	14.1	22.3	1 2	9 56.22	+10 39.4	1.295	2.095	20.0	19.6
1 12	9 51.22	+ 4 47.0	2.185	3.021	11.6	22.1	1 12	9 53.95	+11 14.0	1.218	2.096	15.9	19.3
1 22	9 45.77	+ 5 5.4	2.092	3.003	8.5	21.9	1 22	9 48.39	+12 10.0	1.160	2.097	11.0	19.0
2 1	9 38.64	+ 5 38.3	2.025	2.985	5.2	21.6	2 1	9 40.13	+13 22.7	1.124	2.098	5.4	18.7
2 11	9 30.50	+ 6 22.9	1.986	2.966	2.7	21.4	2 11	9 30.37	+14 43.4	1.114	2.100	0.6	18.4
2 21	9 22.21	+ 7 15.1	1.977	2.948	4.4	21.5	2 21	9 20.66	+16 1.7	1.130	2.103	6.5	18.8
3 2	9 14.66	+ 8 10.0	1.996	2.929	8.0	21.7	3 2	9 12.55	+17 8.4	1.170	2.105	12.0	19.1
3 12	9 8.67	+ 9 2.4	2.042	2.910	11.4	21.9	3 12	9 7.25	+17 57.7	1.233	2.108	16.7	19.4
412027	2013 <i>CU</i> ₆₄		2 10.0 285°12	1°7/11.0 18			143154	2002 <i>XA</i> ₅₀		2 10.0 317°61	3°7/ 7.6 18		
1 2	9 56.53	+ 8 13.4	1.559	2.336	18.2	21.6	1 2	9 56.42	+20 7.6	1.571	2.378	16.7	19.9
1 12	9 53.90	+ 8 24.6	1.453	2.316	14.8	21.4	1 12	9 53.80	+20 56.9	1.481	2.366	13.2	19.6
1 22	9 48.30	+ 8 55.3	1.367	2.295	10.6	21.1	1 22	9 48.16	+21 56.6	1.413	2.353	9.1	19.3
2 1	9 40.13	+ 9 44.1	1.305	2.274	5.7	20.7	2 1	9 40.00	+22 59.7	1.369	2.341	5.0	19.0
2 11	9 30.33	+10 46.1	1.268	2.254	1.7	20.4	2 11	9 30.40	+23 57.2	1.351	2.330	4.1	19.0
2 21	9 20.20	+11 53.8	1.259	2.233	5.8	20.6	2 21	9 20.70	+24 41.0	1.360	2.319	7.9	19.2
3 2	9 11.21	+12 59.2	1.276	2.212	11.1	20.8	3 2	9 12.36	+25 5.9	1.395	2.308	12.3	19.4
3 12	9 4.62	+13 55.1	1.316	2.191	15.9	21.1	3 12	9 6.55	+25 10.5	1.451	2.298	16.4	19.6
428823	2008 <i>TE</i> ₁₀₉		2 10.0 75°20	0°3/10.3 18			11322	Aquamarine		2 10.0 132°61	1°6/11.5 18		
1													

EPHEMERIDES

2 10.0

2 10.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
138501	2000 <i>KH</i> ₅₂		2 10.0 345°35	5°2/ 6.7	18		274075	2007 <i>XV</i> ₃₈		2 10.0 342°81	6°1/ 5.9	18	
1 2	9 51.37	+21 21.3	1.220	2.054	18.9	18.8	1 2	9 56.87	+24 19.3	1.435	2.254	17.4	19.9
1 12	9 50.61	+22 26.2	1.141	2.041	14.9	18.5	1 12	9 54.48	+25 35.5	1.359	2.248	13.8	19.6
1 22	9 46.41	+23 43.8	1.083	2.029	10.4	18.2	1 22	9 48.78	+26 59.7	1.304	2.243	9.8	19.4
2 1	9 39.28	+25 4.4	1.046	2.019	6.2	17.9	2 1	9 40.35	+28 21.7	1.273	2.239	6.6	19.2
2 11	9 30.47	+26 15.9	1.034	2.010	5.8	17.9	2 11	9 30.41	+29 30.0	1.268	2.235	6.6	19.2
2 21	9 21.62	+27 7.3	1.046	2.003	9.9	18.0	2 21	9 20.51	+30 15.4	1.288	2.232	10.0	19.3
3 2	9 14.46	+27 32.2	1.080	1.997	14.7	18.3	3 2	9 12.23	+30 33.8	1.332	2.229	14.0	19.6
3 12	9 10.31	+27 29.8	1.133	1.993	19.1	18.5	3 12	9 6.78	+30 25.8	1.396	2.227	17.8	19.8
215514	2002 <i>UC</i> ₅₀		2 10.0 83°73	6°3/ 4.8	18		206815	2004 <i>EG</i> ₅		2 10.0 45°15	3°8/ 7.3	18	
1 2	10 0.16	+26 4.4	1.738	2.540	15.6	20.1	1 2	9 58.85	+23 53.9	1.986	2.780	14.2	19.9
1 12	9 56.28	+27 50.9	1.680	2.559	12.2	19.9	1 12	9 54.74	+24 30.4	1.916	2.792	11.1	19.7
1 22	9 49.51	+29 41.2	1.647	2.578	8.9	19.7	1 22	9 48.18	+25 9.8	1.869	2.804	7.7	19.5
2 1	9 40.49	+31 24.8	1.639	2.596	6.5	19.6	2 1	9 39.77	+25 46.2	1.849	2.817	4.6	19.4
2 11	9 30.37	+32 50.9	1.660	2.614	6.9	19.7	2 11	9 30.51	+26 13.3	1.857	2.829	4.1	19.4
2 21	9 20.47	+33 52.4	1.708	2.633	9.5	19.9	2 21	9 21.47	+26 26.8	1.893	2.843	6.8	19.6
3 2	9 12.09	+34 26.5	1.782	2.651	12.6	20.1	3 2	9 13.73	+26 24.9	1.956	2.856	10.1	19.8
3 12	9 6.18	+34 34.9	1.877	2.668	15.4	20.3	3 12	9 8.07	+26 7.9	2.043	2.870	13.1	20.0
158889	2004 <i>PE</i> ₇₈		2 10.0 169°05	1°6/11.3	18		104767	2000 <i>HP</i> ₂₅		2 10.0 174°96	7°3/ 3.9	18	
1 2	10 0.83	+7 26.7	2.087	2.831	15.2	21.7	1 2	10 4.51	+34 8.2	2.142	2.927	13.6	20.4
1 12	9 56.15	+7 43.4	1.994	2.836	12.3	21.5	1 12	9 59.43	+35 23.3	2.069	2.929	11.1	20.2
1 22	9 49.13	+8 15.3	1.923	2.841	8.7	21.3	1 22	9 51.56	+36 35.3	2.020	2.931	8.8	20.1
2 1	9 40.26	+9 0.0	1.879	2.845	4.7	21.0	2 1	9 41.50	+37 35.3	1.998	2.932	7.4	20.0
2 11	9 30.39	+9 53.1	1.863	2.848	1.6	20.8	2 11	9 30.31	+38 15.5	2.003	2.932	7.8	20.0
2 21	9 20.54	+10 49.3	1.878	2.850	4.5	21.0	2 21	9 19.28	+38 31.2	2.036	2.933	9.8	20.1
3 2	9 11.73	+11 43.2	1.923	2.851	8.5	21.3	3 2	9 9.64	+38 21.6	2.094	2.933	12.2	20.3
3 12	9 4.82	+12 30.2	1.994	2.852	12.1	21.5	3 12	9 2.37	+37 49.4	2.173	2.932	14.6	20.4
428163	2006 <i>SU</i> ₃₄₆		2 10.0 200°33	17°2/22.3	18		49321	1998 <i>VY</i> ₂₈		2 10.0 79°79	0°3/ 9.8	18	
1 2	9 58.58	-21 22.4	1.352	1.985	26.5	21.5	1 2	10 2.90	+13 25.0	1.773	2.545	16.5	19.7
1 12	9 56.08	-23 6.7	1.271	1.984	24.6	21.4	1 12	9 57.85	+13 46.9	1.713	2.575	12.9	19.5
1 22	9 50.12	-24 15.1	1.201	1.982	22.4	21.2	1 22	9 50.23	+14 20.3	1.675	2.606	8.8	19.3
2 1	9 41.14	-24 36.2	1.144	1.979	20.0	21.0	2 1	9 40.72	+15 0.6	1.662	2.636	4.2	19.1
2 11	9 30.27	-24 1.7	1.105	1.976	18.1	20.8	2 11	9 30.42	+15 41.9	1.679	2.665	0.7	18.9
2 21	9 19.10	-22 30.4	1.085	1.972	17.2	20.8	2 21	9 20.49	+16 18.7	1.724	2.694	5.1	19.3
3 2	9 9.41	-20 9.4	1.085	1.968	17.7	20.8	3 2	9 12.04	+16 46.9	1.798	2.722	9.3	19.6
3 12	9 2.68	-17 14.9	1.106	1.963	19.6	20.9	3 12	9 5.86	+17 4.3	1.896	2.750	12.8	19.8
464963	2005 <i>WS</i> ₁₂₄		2 10.0 327°91	1°9/11.3	17		371781	2007 <i>JB</i> ₁₅		2 10.0 59°40	1°9/11.4	18	
1 2	9 56.44	+8 32.3	1.836	2.603	16.2	21.8	1 2	9 56.15	+7 43.1	1.943	2.703	15.7	20.9
1 12	9 53.09	+8 27.7	1.744	2.599	13.1	21.5	1 12	9 52.65	+7 46.3	1.856	2.707	12.6	20.7
1 22	9 47.25	+8 37.7	1.671	2.595	9.3	21.3	1 22	9 46.82	+8 4.4	1.789	2.711	9.0	20.4
2 1	9 39.42	+9 0.6	1.624	2.592	5.2	21.0	2 1	9 39.18	+8 35.6	1.748	2.715	5.0	20.2
2 11	9 30.49	+9 32.9	1.604	2.589	1.9	20.8	2 11	9 30.58	+9 15.9	1.735	2.719	1.9	20.0
2 21	9 21.54	+10 9.6	1.613	2.586	4.9	21.0	2 21	9 22.02	+10 0.5	1.751	2.723	4.6	20.2
3 2	9 13.69	+10 45.7	1.649	2.583	9.2	21.3	3 2	9 14.52	+10 44.1	1.794	2.728	8.6	20.4
3 12	9 7.87	+11 16.6	1.709	2.581	13.0	21.5	3 12	9 8.94	+11 22.1	1.863	2.732	12.2	20.7
282862	2007 <i>DE</i> ₃₁		2 10.0 227°64	0°7/10.5	18		282220	2001 <i>XT</i> ₂₁₈		2 10.0 128°33	2°6/11.8	18	
1 2	9 59.49	+9 44.5	1.711	2.480	17.1	21.9	1 2	10 1.34	+6 12.3	1.762	2.513	17.4	21.2
1 12	9 55.85	+10 9.9	1.612	2.471	13.8	21.7	1 12	9 56.89	+6 11.5	1.682	2.526	14.1	21.0
1 22	9 49.38	+10 52.7	1.534	2.462	9.6	21.4	1 22	9 49.79	+6 27.9	1.621	2.538	10.1	20.8
2 1	9 40.57	+11 50.1	1.481	2.452	4.9	21.1	2 1	9 40.64	+6 59.8	1.586	2.550	5.8	20.6
2 11	9 30.35	+12 56.1	1.455	2.442	0.7	20.8	2 11	9 30.43	+7 43.3	1.579	2.561	2.6	20.4
2 21	9 19.98	+14 3.2	1.459	2.431	5.5	21.1	2 21	9 20.35	+8 32.6	1.600	2.572	5.1	20.6
3 2	9 10.77	+15 4.2	1.489	2.419	10.4	21.3	3 2	9 11.57	+9 21.7	1.649	2.582	9.3	20.9
3 12	9 3.85	+15 53.8	1.544	2.407	14.7	21.6	3 12	9 5.01	+10 5.3	1.724	2.591	13.1	21.1
467660	2008 <i>TQ</i> ₁₆₆		2 10.0 248°34	6°2/ 4.9	16		463470	2013 <i>PP</i> ₃₅		2 10.0 151°84	1°0/ 9.2	17	
1 2	10 0.29	+30 45.7	2.125	2.918	13.4	21.6	1 2	10 0.76	+16 43.2	2.488	3.250	12.5	22.5
1 12	9 56.03	+31 48.6	2.048	2.917	10.8	21.5	1 12	9 55.67	+17 0.8	2.400	3.259	9.8	22.3
1 22	9 49.18	+32 50.8	1.994	2.916	8.2	21.3	1 22	9 48.55	+17 24.7	2.337	3.267	6.7	22.1
2 1	9 40.31	+33 44.4	1.967	2.915	6.4	21.2	2 1	9 39.92	+17 51.5	2.302	3.275	3.2	21.9
2 11	9 30.40	+34 22.1	1.968	2.915	6.7	21.2	2 11	9 30.52	+18 17.1	2.297	3.282	1.2	21.8
2 21	9 20.61	+34 39.3	1.996	2.914	8.8	21.3	2 21	9 21.22	+18 37.7	2.324	3.289	4.4	22.0
3 2	9 12.08	+34 34.3	2.051	2.913	11.5	21.5	3 2	9 12.89	+18 50.8	2.380	3.295	7.8	22.2
3 12	9 5.71	+34 9.1	2.127	2.912	14.1	21.7	3 12	9 6.22	+18 55.0	2.462	3.301	10.7	22.4
247851	2003 <i>TY</i> ₅		2 10.0 221°15	0°4/ 9.7	18		211172	Tarantola		2 10.0 262°80	0°6/ 9.6	18	
1 2	10 1.09	+13 56.7	2.054	2.821	14.7	21.8	1 2	9 59.37	+13 41.5	1.833	2.609	15.8	21.6
1 12	9 56.59	+14 15.0	1.952	2.811	11.7	21.6	1 12	9 55.71	+14 6.2	1.724	2.590	12.7	21.3
1 22	9 49.59	+14 44.1	1.871	2.802	8.1	21.4	1 22	9 49.31	+14 44.2	1.637	2.570	8.8	21.0
2 1	9 40.56	+15 20.3	1.818	2.791	3.9	21.1	2 1	9 40.58	+15 31.8	1.576	2.550	4.3	20.7
2 11	9 30.37	+15 58.8	1.794	2.780	0.7	20.8	2 11	9 30.42	+16 23.1	1.543	2.529	0.9	20.4
2 21	9 20.08	+16 34.3	1.799	2.768	5.1	21.1	2 21	9 20.01	+17 11.6	1.539	2.508	5.7	20.7
3 2	9 10.82	+17 2.4	1.833	2.756	9.3	21.3	3 2	9 10.65	+17 51.3	1.562	2.487	10.4	20.9
3 12	9 3.54	+17 20.5	1.893	2.742	13.0	21.5	3 12	9 3.44	+18 18.6	1.609	2.465	14.6	21.1
292586	2006 <i>TG</i> ₉₇		2 10.0 132°82	2°2/11.9	18		78628	2002 <i>TS</i> ₂₄		2 10.0 46°57	0°3/10.3	18	
1 2	9 59.66	+5 33.8	2.312	3.043	14.2	23.3	1 2	9 55.54	+11 51.2	2.0			

EPHEMERIDES

2 10.0

2 10.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
456634	2007 PE ₂₅		2 10.0 177°20	1.8/ 8.5	18		227435	2005 WQ ₁₅		2 10.0 233°55	2.1/ 8.3	17	
1 2	10 1.02	+16 24.3	2.222	2.990	13.7	22.5	1 2	9 58.54	+18 9.3	2.279	3.055	13.1	21.2
1 12	9 56.28	+17 18.8	2.131	2.993	10.7	22.3	1 12	9 54.42	+18 50.8	2.176	3.043	10.3	21.0
1 22	9 49.23	+18 23.3	2.063	2.995	7.3	22.1	1 22	9 48.04	+19 40.5	2.097	3.031	7.1	20.7
2 1	9 40.35	+19 32.6	2.024	2.997	3.6	21.9	2 1	9 39.83	+20 33.8	2.045	3.018	3.6	20.5
2 11	9 30.47	+20 40.0	2.015	2.997	2.1	21.8	2 11	9 30.58	+21 24.9	2.024	3.005	2.3	20.4
2 21	9 20.58	+21 39.6	2.036	2.997	5.5	22.0	2 21	9 21.22	+22 8.4	2.032	2.992	5.5	20.6
3 2	9 11.70	+22 26.7	2.087	2.996	9.1	22.2	3 2	9 12.78	+22 40.2	2.069	2.978	9.1	20.8
3 12	9 4.67	+22 59.1	2.164	2.993	12.3	22.4	3 12	9 6.09	+22 58.4	2.130	2.963	12.4	20.9
400319	2007 TB ₃₅₆		2 10.0 113°01	4.7/ 6.6	18		237649	2001 SQ ₁₅₇		2 10.0 149°18	3.3/ 13.2	17	
1 2	10 2.68	+23 32.3	1.802	2.595	15.5	21.6	1 2	9 54.25	+1 38.0	2.633	3.349	13.0	21.2
1 12	9 58.06	+24 41.8	1.736	2.611	12.1	21.4	1 12	9 50.51	+1 36.0	2.537	3.354	10.8	21.0
1 22	9 50.63	+25 56.5	1.693	2.627	8.5	21.2	1 22	9 45.04	+1 48.3	2.462	3.358	8.1	20.9
2 1	9 41.04	+27 7.9	1.676	2.642	5.3	21.1	2 1	9 38.25	+2 14.4	2.414	3.363	5.3	20.7
2 11	9 30.41	+28 7.2	1.688	2.657	5.1	21.1	2 11	9 30.76	+2 52.2	2.394	3.367	3.4	20.6
2 21	9 20.01	+28 48.3	1.728	2.671	7.9	21.3	2 21	9 23.27	+3 38.4	2.404	3.371	4.2	20.6
3 2	9 11.09	+29 8.3	1.795	2.685	11.4	21.5	3 2	9 16.53	+4 28.8	2.444	3.374	6.8	20.8
3 12	9 4.58	+29 7.9	1.884	2.698	14.5	21.7	3 12	9 11.14	+5 19.1	2.511	3.378	9.6	21.0
455445	2003 SG ₁₈₁		2 10.0 81°97	0.2/ 9.9	18		6433	Enya		2 10.1 66°34	4.9/ 6.8	18	
1 2	10 2.84	+12 44.4	1.662	2.436	17.3	21.6	1 2	10 1.64	+21 23.1	1.401	2.209	18.3	17.6
1 12	9 58.03	+13 6.6	1.600	2.464	13.6	21.5	1 12	9 57.82	+22 47.2	1.350	2.234	14.2	17.4
1 22	9 50.48	+13 41.7	1.560	2.491	9.3	21.3	1 22	9 50.73	+24 19.6	1.320	2.259	9.8	17.2
2 1	9 40.90	+14 25.2	1.545	2.518	4.4	21.0	2 1	9 41.15	+25 49.7	1.315	2.284	5.8	17.1
2 11	9 30.44	+15 10.7	1.558	2.545	0.6	20.8	2 11	9 30.46	+27 6.1	1.336	2.309	5.4	17.1
2 21	9 20.35	+15 52.0	1.600	2.571	5.3	21.2	2 21	9 20.20	+28 0.5	1.385	2.334	8.8	17.3
3 2	9 11.80	+16 24.5	1.670	2.596	9.7	21.5	3 2	9 11.82	+28 29.6	1.458	2.358	12.8	17.6
3 12	9 5.64	+16 45.7	1.764	2.621	13.4	21.8	3 12	9 6.28	+28 34.7	1.552	2.383	16.3	17.9
498969	2009 BG ₁₂₉		2 10.0 24°99	0.4/ 9.6	18		43294	2000 GY ₄		2 10.1 304°88	6.3/ 4.6	18	
1 2	9 50.90	+ 8 57.7	1.714	2.497	16.5	20.1	1 2	9 54.64	+23 0.1	1.585	2.399	16.2	18.2
1 12	9 48.85	+10 21.6	1.640	2.509	13.0	19.9	1 12	9 52.70	+24 53.5	1.490	2.378	12.9	17.9
1 22	9 44.39	+12 6.2	1.588	2.522	8.8	19.7	1 22	9 47.69	+27 1.1	1.419	2.357	9.3	17.6
2 1	9 38.05	+14 5.1	1.562	2.536	4.2	19.5	2 1	9 39.98	+29 12.3	1.373	2.337	6.5	17.4
2 11	9 30.74	+16 9.0	1.564	2.550	0.8	19.2	2 11	9 30.56	+31 13.6	1.354	2.316	7.1	17.4
2 21	9 23.51	+18 7.4	1.596	2.566	5.4	19.6	2 21	9 20.78	+32 52.8	1.362	2.296	10.5	17.5
3 2	9 17.43	+19 51.5	1.655	2.582	9.8	19.9	3 2	9 12.23	+34 1.9	1.395	2.276	14.6	17.7
3 12	9 13.35	+21 15.7	1.739	2.598	13.5	20.2	3 12	9 6.25	+34 39.2	1.447	2.257	18.3	17.9
257456	1981 DA ₃		2 10.0 337°44	2.1/ 11.9	18		168394	1998 BX ₂		2 10.1 6°23	3.8/ 11.2	18	
1 2	9 52.19	+ 6 39.3	2.738	3.480	12.0	20.0	1 2	10 5.13	+11 25.7	1.504	2.278	18.9	18.4
1 12	9 48.89	+ 6 29.1	2.634	3.473	9.7	19.8	1 12	10 0.36	+ 9 48.1	1.421	2.279	15.4	18.2
1 22	9 43.94	+ 6 29.5	2.553	3.466	7.1	19.7	1 22	9 52.43	+ 8 16.7	1.359	2.282	11.1	18.0
2 1	9 37.71	+ 6 39.4	2.498	3.459	4.2	19.5	2 1	9 42.03	+ 6 53.2	1.322	2.287	6.6	17.7
2 11	9 30.79	+ 6 57.2	2.472	3.453	2.1	19.3	2 11	9 30.38	+ 5 39.4	1.312	2.293	3.8	17.5
2 21	9 23.85	+ 7 20.0	2.476	3.447	3.7	19.4	2 21	9 18.94	+ 4 36.0	1.331	2.300	6.4	17.7
3 2	9 17.57	+ 7 44.8	2.510	3.442	6.6	19.6	3 2	9 9.14	+ 3 42.9	1.376	2.309	10.8	18.0
3 12	9 12.57	+ 8 8.4	2.570	3.437	9.4	19.8	3 12	9 2.04	+ 2 58.0	1.445	2.319	14.8	18.3
107161	2001 BY ₁₈		2 10.0 8°98	2.7/ 8.6	18		433573	2013 YM ₂₇		2 10.1 355°77	0.1/ 10.1	15	
1 2	9 56.25	+17 51.9	1.238	2.058	19.6	19.3	1 2	9 53.87	+12 38.2	2.001	2.780	14.6	21.4
1 12	9 54.16	+18 22.5	1.168	2.059	15.4	19.1	1 12	9 50.89	+12 52.1	1.911	2.777	11.6	21.2
1 22	9 48.62	+19 5.6	1.117	2.062	10.5	18.8	1 22	9 45.66	+13 17.4	1.842	2.775	8.0	21.0
2 1	9 40.29	+19 54.4	1.089	2.065	5.2	18.5	2 1	9 38.66	+13 51.1	1.800	2.773	3.9	20.8
2 11	9 30.51	+20 39.5	1.085	2.069	3.0	18.4	2 11	9 30.73	+14 28.7	1.786	2.772	0.4	20.5
2 21	9 20.90	+21 12.8	1.107	2.074	7.7	18.7	2 21	9 22.81	+15 5.1	1.800	2.772	4.7	20.8
3 2	9 13.10	+21 29.0	1.152	2.080	12.8	19.0	3 2	9 15.90	+15 36.0	1.842	2.772	8.7	21.0
3 12	9 8.26	+21 26.6	1.217	2.087	17.3	19.2	3 12	9 10.82	+15 58.2	1.908	2.772	12.2	21.3
462676	2009 UO ₅₁		2 10.0 72°69	1.1/ 10.8	18		519181	2010 OC ₁₀₇		2 10.1 77°72	0.6/ 10.5	17	
1 2	9 58.11	+ 9 34.9	1.897	2.661	15.8	21.5	1 2	9 58.74	+12 40.1	2.349	3.108	13.3	21.4
1 12	9 54.08	+ 9 48.2	1.826	2.681	12.6	21.3	1 12	9 54.24	+12 28.9	2.257	3.111	10.6	21.2
1 22	9 47.70	+10 15.5	1.776	2.702	8.7	21.1	1 22	9 47.68	+12 25.7	2.188	3.114	7.3	21.0
2 1	9 39.56	+10 53.7	1.753	2.723	4.5	20.9	2 1	9 39.56	+12 28.5	2.146	3.117	3.7	20.8
2 11	9 30.60	+11 37.9	1.757	2.743	1.1	20.7	2 11	9 30.64	+12 34.7	2.133	3.120	0.7	20.5
2 21	9 21.85	+12 22.9	1.791	2.763	4.6	21.0	2 21	9 21.79	+12 41.2	2.151	3.123	4.1	20.8
3 2	9 14.32	+13 3.6	1.853	2.784	8.6	21.2	3 2	9 13.89	+12 45.4	2.198	3.126	7.6	21.0
3 12	9 8.77	+13 36.4	1.940	2.804	12.1	21.5	3 12	9 7.65	+12 45.3	2.271	3.129	10.8	21.2
371300	2006 FB ₁		2 10.0 38°57	0.7/ 9.5	17		238477	2004 RQ ₁₀₃		2 10.1 136°65	3.5/ 12.4	18	
1 2	9 56.91	+14 38.3	1.986	2.765	14.7	21.5	1 2	10 0.03	+ 3 49.9	1.773	2.516	17.5	20.9
1 12	9 53.26	+15 0.0	1.900	2.767	11.6	21.3	1 12	9 55.91	+ 3 44.9	1.688	2.525	14.4	20.7
1 22	9 47.26	+15 32.1	1.835	2.769	7.9	21.1	1 22	9 49.19	+ 3 58.8	1.624	2.534	10.6	20.4
2 1	9 39.42	+16 10.6	1.797	2.771	3.8	20.8	2 1	9 40.42	+ 4 30.8	1.584	2.543	6.5	20.2
2 11	9 30.61	+16 50.3	1.787	2.773	1.0	20.6	2 11	9 30.55	+ 5 17.4	1.572	2.551	3.5	20.1
2 21	9 21.86	+17 26.1	1.806	2.776	5.0	20.9	2 21	9 20.76	+ 6 13.1	1.588	2.558	5.4	20.2
3 2	9 14.20	+17 53.7	1.853	2.778	9.0	21.2	3 2	9 12.20	+ 7 11.3	1.631	2.565	9.3	20.4
3 12	9 8.48	+18 10.7	1.925	2.780	12.6	21.4	3 12	9 5.81	+ 8 5.9	1.700	2.572	13.1	20.7
136630	1994 RJ ₅		2 10.0 265°31	0.1/ 10.1	17		371211	2006 AQ ₅₄		2 10.1 39°94	0.8/ 10.7	16	
1 2	9 55.45	+12 54.5	2.519	3.282	12.4	20.7	1 2	9 55.30	+ 9 45.8	1.859	2.631	15.8	22.0
1 12	9 51.65	+											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
238381	2004 <i>CG</i> ₁₀₆		2 10.1 330°71	4°8/14.1	17		266332	2007 <i>DG</i> ₃₈		2 10.1 117°49	0°1/10.1	18	
1 2	9 52.78	- 0 51.1	2.141	2.862	15.5	20.3	1 2	9 58.20	+12 17.3	2.050	2.817	14.7	21.2
1 12	9 49.89	- 1 6.0	2.041	2.857	13.0	20.1	1 12	9 54.14	+12 35.2	1.966	2.825	11.6	21.0
1 22	9 44.93	- 1 2.4	1.961	2.852	10.1	19.9	1 22	9 47.80	+13 4.6	1.904	2.833	8.0	20.8
2 1	9 38.32	- 0 39.7	1.905	2.847	7.1	19.7	2 1	9 39.69	+13 42.0	1.869	2.841	3.9	20.6
2 11	9 30.78	+ 0 0.5	1.876	2.842	4.9	19.6	2 11	9 30.68	+14 22.9	1.862	2.849	0.4	20.3
2 21	9 23.17	+ 0 54.6	1.875	2.838	5.6	19.6	2 21	9 21.76	+15 2.1	1.885	2.856	4.6	20.7
3 2	9 16.42	+ 1 57.2	1.901	2.833	8.3	19.7	3 2	9 13.92	+15 35.3	1.936	2.863	8.6	20.9
3 12	9 11.30	+ 3 1.8	1.954	2.830	11.4	19.9	3 12	9 7.97	+15 59.7	2.013	2.870	12.0	21.1
522454	2016 <i>CJ</i> ₃₂₀		2 10.1 162°06	5°6/ 3.6	17		114395	2002 <i>YQ</i> ₈		2 10.1 55°37	6°6/ 3.2	18	
1 2	10 0.06	+34 15.7	3.007	3.782	10.3	21.8	1 2	9 56.45	+29 15.2	2.069	2.870	13.4	18.8
1 12	9 55.10	+35 20.8	2.934	3.788	8.4	21.7	1 12	9 53.13	+31 11.2	2.009	2.883	10.7	18.7
1 22	9 48.18	+36 22.8	2.887	3.793	6.6	21.6	1 22	9 47.30	+33 8.5	1.974	2.897	8.2	18.6
2 1	9 39.78	+37 15.9	2.868	3.798	5.6	21.5	2 1	9 39.51	+34 57.4	1.966	2.911	6.7	18.5
2 11	9 30.63	+37 55.0	2.878	3.802	6.0	21.6	2 11	9 30.70	+36 28.6	1.987	2.925	7.3	18.6
2 21	9 21.57	+38 16.8	2.916	3.806	7.4	21.7	2 21	9 21.97	+37 35.8	2.036	2.939	9.4	18.7
3 2	9 13.41	+38 20.4	2.982	3.810	9.3	21.8	3 2	9 14.43	+38 16.6	2.109	2.953	11.9	18.9
3 12	9 6.86	+38 6.8	3.071	3.813	11.1	21.9	3 12	9 8.97	+38 32.1	2.205	2.968	14.3	19.1
17568	1994 <i>GT</i> ₈		2 10.1 329°78	11°8/22.2	18		196687	2003 <i>SH</i> ₆₅		2 10.1 197°77	3°0/12.2	18	
1 2	9 51.87	-20 34.0	1.912	2.519	20.3	17.7	1 2	9 58.31	+ 5 51.7	2.149	2.890	14.9	20.2
1 12	9 49.65	-21 8.1	1.814	2.514	18.6	17.6	1 12	9 54.16	+ 5 26.9	2.053	2.890	12.2	20.0
1 22	9 45.04	-21 10.2	1.730	2.508	16.6	17.4	1 22	9 47.80	+ 5 14.9	1.979	2.889	9.0	19.8
2 1	9 38.46	-20 34.3	1.663	2.503	14.5	17.2	2 1	9 39.71	+ 5 15.5	1.930	2.888	5.5	19.6
2 11	9 30.76	-19 17.8	1.616	2.498	12.6	17.1	2 11	9 30.69	+ 5 26.7	1.909	2.888	3.1	19.4
2 21	9 22.95	-17 22.8	1.594	2.494	11.8	17.0	2 21	9 21.66	+ 5 45.6	1.918	2.887	4.7	19.5
3 2	9 16.13	-14 56.7	1.596	2.490	12.4	17.0	3 2	9 13.59	+ 6 8.4	1.955	2.886	8.2	19.7
3 12	9 11.25	-12 11.7	1.624	2.486	14.1	17.1	3 12	9 7.29	+ 6 31.0	2.018	2.886	11.5	19.9
106769	2000 <i>XA</i> ₁₅		2 10.1 99°89	17°0/17.3	18		333684	2008 <i>UJ</i> ₂₇		2 10.1 134°72	1°1/11.0	18	
1 2	10 8.81	-13 33.2	1.254	1.928	26.6	18.7	1 2	9 55.92	+ 8 57.9	2.305	3.058	13.7	21.5
1 12	10 4.23	-16 34.9	1.188	1.939	24.1	18.5	1 12	9 52.11	+ 9 13.2	2.215	3.064	10.9	21.3
1 22	9 55.77	-19 9.6	1.136	1.949	21.5	18.4	1 22	9 46.29	+ 9 41.0	2.147	3.069	7.7	21.1
2 1	9 43.96	-21 4.4	1.101	1.959	19.0	18.2	2 1	9 38.94	+10 18.9	2.106	3.074	4.1	20.9
2 11	9 30.17	-22 9.1	1.087	1.969	17.4	18.2	2 11	9 30.77	+11 3.1	2.093	3.079	1.1	20.7
2 21	9 16.27	-22 20.4	1.093	1.979	17.2	18.2	2 21	9 22.65	+11 49.1	2.111	3.084	4.0	20.9
3 2	9 4.24	-21 43.9	1.119	1.988	18.4	18.3	3 2	9 15.41	+12 32.6	2.158	3.088	7.6	21.2
3 12	8 55.59	-20 32.8	1.164	1.997	20.4	18.4	3 12	9 9.79	+13 9.8	2.232	3.093	10.8	21.4
229178	2004 <i>TD</i> ₁₆₀		2 10.1 220°36	1°7/11.4	18		350584	2001 <i>PP</i> ₁₅		2 10.1 136°01	2°7/ 8.2	18	
1 2	9 56.49	+ 8 4.0	2.102	2.857	14.8	21.1	1 2	10 5.07	+19 20.8	1.840	2.619	15.7	21.9
1 12	9 52.82	+ 8 7.2	2.006	2.855	11.9	20.9	1 12	9 59.83	+20 3.7	1.766	2.634	12.3	21.7
1 22	9 46.92	+ 8 24.0	1.932	2.853	8.5	20.7	1 22	9 51.82	+20 54.4	1.714	2.647	8.4	21.5
2 1	9 39.29	+ 8 52.7	1.884	2.851	4.7	20.5	2 1	9 41.68	+21 46.4	1.689	2.661	4.4	21.2
2 11	9 30.69	+ 9 29.9	1.864	2.849	1.7	20.2	2 11	9 30.50	+22 32.3	1.693	2.673	3.0	21.2
2 21	9 22.08	+10 11.0	1.874	2.847	4.4	20.4	2 21	9 19.52	+23 6.3	1.726	2.684	6.5	21.4
3 2	9 14.42	+10 51.3	1.912	2.844	8.3	20.7	3 2	9 9.99	+23 25.0	1.787	2.695	10.4	21.7
3 12	9 8.54	+11 26.6	1.976	2.842	11.8	20.9	3 12	9 2.82	+23 28.0	1.873	2.705	13.8	21.9
38948	2000 <i>ST</i> ₂₉₂		2 10.1 96°98	0°7/10.5	18		318020	2004 <i>DD</i> ₄₄		2 10.1 316°13	4°6/ 7.1	18	
1 2	10 0.15	+12 16.0	1.977	2.743	15.2	18.9	1 2	9 56.25	+21 42.7	1.473	2.287	17.3	20.9
1 12	9 55.73	+12 9.3	1.891	2.749	12.1	18.7	1 12	9 54.08	+22 37.2	1.378	2.267	13.7	20.7
1 22	9 48.91	+12 12.8	1.827	2.755	8.4	18.5	1 22	9 48.67	+23 42.2	1.305	2.246	9.6	20.4
2 1	9 40.23	+12 24.1	1.790	2.761	4.3	18.2	2 1	9 40.48	+24 49.8	1.255	2.226	5.7	20.1
2 11	9 30.60	+12 39.6	1.781	2.767	0.7	18.0	2 11	9 30.59	+25 49.9	1.231	2.207	5.1	20.0
2 21	9 21.08	+12 55.4	1.801	2.773	4.7	18.3	2 21	9 20.48	+26 33.2	1.233	2.188	8.9	20.2
3 2	9 12.71	+13 8.0	1.849	2.779	8.7	18.5	3 2	9 11.77	+26 54.0	1.259	2.170	13.6	20.4
3 12	9 6.35	+13 14.7	1.923	2.784	12.3	18.8	3 12	9 5.80	+26 51.1	1.306	2.153	17.8	20.6
220343	2003 <i>GZ</i> ₃₄		2 10.1 60°91	7°9/17.8	18		363950	2005 <i>TP</i> ₁₉₆		2 10.1 149°59	0°6/ 9.4	18	
1 2	9 53.20	-11 10.0	1.925	2.595	18.5	20.0	1 2	9 57.67	+12 26.4	2.478	3.234	12.7	21.9
1 12	9 50.46	-11 15.8	1.834	2.601	16.2	19.9	1 12	9 53.35	+13 21.9	2.390	3.245	10.0	21.7
1 22	9 45.42	-10 53.2	1.761	2.606	13.5	19.7	1 22	9 47.08	+14 28.7	2.327	3.255	6.8	21.5
2 1	9 38.58	- 9 59.5	1.708	2.612	10.7	19.5	2 1	9 39.31	+15 42.8	2.292	3.265	3.2	21.3
2 11	9 30.77	- 8 35.7	1.681	2.618	8.5	19.4	2 11	9 30.75	+16 58.4	2.288	3.274	0.9	21.1
2 21	9 22.95	- 6 47.1	1.680	2.623	8.1	19.4	2 21	9 22.21	+18 9.9	2.315	3.282	4.3	21.4
3 2	9 16.14	- 4 42.2	1.706	2.629	9.8	19.5	3 2	9 14.54	+19 12.7	2.373	3.289	7.7	21.6
3 12	9 11.18	- 2 31.7	1.759	2.635	12.5	19.7	3 12	9 8.43	+20 3.5	2.457	3.296	10.7	21.8
187307	2005 <i>UM</i> ₉		2 10.1 267°82	5°8/14.7	18		345584	2006 <i>SX</i> ₄₆		2 10.1 106°82	2°4/12.5	18	
1 2	9 54.57	- 3 30.9	2.010	2.719	16.8	20.1	1 2	9 54.53	+ 4 4.2	2.653	3.379	12.7	21.1
1 12	9 51.58	- 3 43.7	1.900	2.704	14.3	19.9	1 12	9 50.67	+ 4 10.2	2.566	3.393	10.3	21.0
1 22	9 46.28	- 3 34.8	1.809	2.690	11.4	19.6	1 22	9 45.12	+ 4 29.3	2.501	3.407	7.6	20.8
2 1	9 39.07	- 3 2.3	1.741	2.675	8.3	19.4	2 1	9 38.31	+ 5 0.3	2.464	3.420	4.6	20.6
2 11	9 30.72	- 2 7.1	1.700	2.660	6.1	19.2	2 11	9 30.87	+ 5 40.6	2.455	3.434	2.5	20.5
2 21	9 22.16	- 0 53.4	1.686	2.645	6.5	19.2	2 21	9 23.49	+ 6 26.5	2.477	3.447	3.8	20.6
3 2	9 14.47	+ 0 32.4	1.700	2.630	9.2	19.4	3 2	9 16.88	+ 7 13.9	2.529	3.460	6.6	20.8
3 12	9 8.55	+ 2 1.9	1.739	2.615	12.6	19.5	3 12	9 11.64	+ 7 59.1	2.607	3.472	9.3	21.0
186861	2004 <i>GD</i> ₈₆		2 10.1 71°07	5°3/ 6.4	18		113514	2002 <i>TY</i> ₁₂		2 10.1 11°64	1°3/ 9.3	18	
1 2	10 1.03	+24 58.4	1.683	2.485	16.0	20.0							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
522393	2016 <i>CF</i> ₃₀₈		2 10.1 280°55	1°6/ 8.9	17		6428	Barlach		2 10.1 91°99	1°4/10.9	18	
1 2	9 57.29	+16 5.4	1.866	2.652	15.3	22.0	1 2	10 1.50	+10 57.9	1.812	2.577	16.4	17.5
1 12	9 53.98	+16 39.6	1.766	2.638	12.1	21.8	1 12	9 57.02	+10 42.6	1.729	2.585	13.2	17.3
1 22	9 48.07	+17 25.1	1.688	2.624	8.3	21.5	1 22	9 49.93	+10 38.9	1.667	2.593	9.2	17.1
2 1	9 40.01	+18 17.5	1.636	2.610	4.0	21.2	2 1	9 40.81	+10 44.9	1.631	2.601	4.9	16.9
2 11	9 30.68	+19 10.1	1.612	2.596	1.9	21.0	2 11	9 30.67	+10 57.2	1.623	2.608	1.4	16.6
2 21	9 21.22	+19 56.5	1.616	2.582	5.9	21.3	2 21	9 20.65	+11 11.7	1.644	2.616	4.9	16.9
3 2	9 12.83	+20 31.5	1.648	2.568	10.2	21.5	3 2	9 11.92	+11 24.7	1.692	2.624	9.2	17.2
3 12	9 6.54	+20 52.2	1.703	2.554	14.1	21.7	3 12	9 5.38	+11 32.9	1.766	2.631	13.0	17.4
163469	2002 <i>RG</i> ₁₈₀		2 10.1 123°48	2°9/12.8	18		306228	2011 <i>QM</i> ₆₀		2 10.1 275°18	4°8/14.9	17	
1 2	9 53.94	+ 2 38.6	2.342	3.072	14.1	20.0	1 2	9 52.14	- 3 39.9	2.527	3.222	14.0	20.7
1 12	9 50.54	+ 2 50.3	2.248	3.076	11.6	19.8	1 12	9 49.10	- 3 42.2	2.418	3.213	11.9	20.5
1 22	9 45.23	+ 3 18.4	2.176	3.080	8.6	19.6	1 22	9 44.27	- 3 26.4	2.329	3.204	9.4	20.3
2 1	9 38.44	+ 4 1.7	2.129	3.085	5.4	19.4	2 1	9 38.01	- 2 51.7	2.264	3.195	6.9	20.1
2 11	9 30.86	+ 4 57.2	2.111	3.089	3.0	19.3	2 11	9 30.95	- 1 59.5	2.227	3.186	5.0	20.0
2 21	9 23.28	+ 6 0.3	2.123	3.093	4.3	19.4	2 21	9 23.80	- 0 53.4	2.219	3.177	5.3	20.0
3 2	9 16.53	+ 7 5.6	2.164	3.097	7.4	19.6	3 2	9 17.33	+ 0 21.6	2.240	3.168	7.5	20.1
3 12	9 11.30	+ 8 8.1	2.231	3.101	10.5	19.8	3 12	9 12.23	+ 1 39.6	2.288	3.159	10.2	20.2
126034	2001 <i>YL</i> ₆₇		2 10.1 90°16	1°2/ 9.3	18		30283	2000 <i>HS</i> ₅₇		2 10.1 215°85	4°3/ 7.1	18	
1 2	10 4.32	+14 58.6	1.592	2.372	17.7	20.3	1 2	10 2.02	+21 58.2	1.700	2.495	16.1	18.7
1 12	9 59.41	+15 28.7	1.530	2.398	13.9	20.1	1 12	9 58.04	+22 59.6	1.614	2.490	12.8	18.5
1 22	9 51.58	+16 10.6	1.488	2.423	9.4	19.9	1 22	9 51.03	+24 9.5	1.549	2.485	8.9	18.2
2 1	9 41.56	+16 58.6	1.473	2.447	4.5	19.7	2 1	9 41.51	+25 19.8	1.510	2.479	5.3	18.0
2 11	9 30.56	+17 45.5	1.485	2.471	1.4	19.5	2 11	9 30.59	+26 21.3	1.500	2.473	4.8	18.0
2 21	9 19.94	+18 24.9	1.526	2.494	5.9	19.9	2 21	9 19.62	+27 6.1	1.517	2.467	8.1	18.1
3 2	9 10.97	+18 52.3	1.595	2.517	10.4	20.2	3 2	9 10.05	+27 29.8	1.560	2.460	12.2	18.4
3 12	9 4.56	+19 6.0	1.687	2.539	14.2	20.5	3 12	9 3.01	+27 32.2	1.625	2.452	15.9	18.6
427541	2002 <i>RX</i> ₂₈		2 10.1 119°46	5°1/15.2	18		241088	2006 <i>UO</i> ₂₅₄		2 10.1 211°21	4°6/ 4.7	17	
1 2	9 55.21	- 4 29.0	2.583	3.265	14.0	21.6	1 2	9 58.40	+30 37.1	3.087	3.864	10.0	21.7
1 12	9 51.28	- 4 42.0	2.494	3.279	11.9	21.5	1 12	9 53.80	+31 34.0	2.996	3.857	8.0	21.6
1 22	9 45.58	- 4 37.6	2.426	3.292	9.5	21.3	1 22	9 47.35	+32 30.3	2.932	3.849	6.1	21.4
2 1	9 38.56	- 4 15.2	2.382	3.306	7.0	21.2	2 1	9 39.46	+33 20.7	2.895	3.841	4.7	21.3
2 11	9 30.86	- 3 36.2	2.366	3.319	5.3	21.1	2 11	9 30.81	+34 0.3	2.889	3.833	5.0	21.3
2 21	9 23.22	- 2 43.7	2.379	3.331	5.4	21.1	2 21	9 22.14	+34 25.7	2.913	3.824	6.6	21.4
3 2	9 16.36	- 1 42.5	2.421	3.343	7.3	21.3	3 2	9 14.25	+34 35.0	2.964	3.815	8.7	21.6
3 12	9 10.90	- 0 37.8	2.491	3.355	9.7	21.4	3 12	9 7.79	+34 28.8	3.039	3.805	10.7	21.7
354553	2004 <i>TA</i> ₂₄		2 10.1 101°19	2°6/11.9	18		456042	2005 <i>YF</i> ₂₀₀		2 10.1 99°88	2°4/ 7.9	18	
1 2	9 59.66	+ 5 45.0	1.618	2.377	18.3	21.5	1 2	9 57.25	+17 37.2	2.037	2.821	14.2	20.9
1 12	9 55.84	+ 5 49.6	1.542	2.391	14.9	21.3	1 12	9 53.50	+18 38.9	1.961	2.833	11.1	20.7
1 22	9 49.26	+ 6 13.7	1.485	2.404	10.7	21.0	1 22	9 47.43	+19 50.1	1.909	2.845	7.5	20.5
2 1	9 40.51	+ 6 55.4	1.452	2.416	6.2	20.8	2 1	9 39.57	+21 4.7	1.884	2.857	3.8	20.3
2 11	9 30.66	+ 7 49.9	1.446	2.429	2.7	20.6	2 11	9 30.80	+22 15.5	1.888	2.868	2.7	20.3
2 21	9 20.96	+ 8 50.5	1.468	2.441	5.3	20.8	2 21	9 22.13	+23 16.1	1.921	2.879	5.9	20.5
3 2	9 12.63	+ 9 50.0	1.518	2.453	9.7	21.1	3 2	9 14.56	+24 2.0	1.982	2.891	9.5	20.7
3 12	9 6.63	+10 42.5	1.591	2.465	13.7	21.4	3 12	9 8.92	+24 31.5	2.068	2.901	12.7	20.9
348157	2004 <i>GR</i> ₇₇		2 10.1 337°79	6°5/ 3.8	18		346796	2009 <i>BX</i> ₁₅₈		2 10.1 337°97	1°4/11.4	17	
1 2	9 52.71	+26 22.6	1.824	2.637	14.5	19.3	1 2	9 52.91	+ 7 4.2	2.334	3.085	13.6	21.4
1 12	9 50.68	+28 10.6	1.741	2.625	11.5	19.1	1 12	9 49.81	+ 7 29.3	2.237	3.084	10.9	21.2
1 22	9 45.97	+30 5.6	1.681	2.614	8.5	18.9	1 22	9 44.80	+ 8 8.8	2.163	3.083	7.8	21.0
2 1	9 39.04	+31 57.8	1.648	2.604	6.6	18.8	2 1	9 38.27	+ 9 0.7	2.115	3.082	4.3	20.8
2 11	9 30.81	+33 36.1	1.642	2.594	7.2	18.8	2 11	9 30.94	+10 0.8	2.096	3.081	1.4	20.5
2 21	9 22.46	+34 52.1	1.664	2.585	9.9	18.9	2 21	9 23.57	+11 4.2	2.107	3.080	4.0	20.7
3 2	9 15.26	+35 40.8	1.709	2.577	13.1	19.1	3 2	9 17.02	+12 5.6	2.147	3.079	7.5	20.9
3 12	9 10.27	+36 1.8	1.776	2.570	16.1	19.3	3 12	9 11.97	+13 0.5	2.213	3.078	10.7	21.1
208399	2001 <i>SW</i> ₂₀₁		2 10.1 53°39	4°9/ 6.6	18		237512	2000 <i>RP</i> ₉₇		2 10.1 197°73	6°9/19.1	18	
1 2	10 1.66	+28 2.7	2.094	2.884	13.7	20.2	1 2	9 53.48	-16 6.5	3.367	3.950	12.5	21.1
1 12	9 56.90	+28 37.8	2.026	2.896	10.8	20.0	1 12	9 49.67	-16 30.2	3.256	3.947	11.2	20.9
1 22	9 49.66	+29 12.3	1.980	2.909	7.8	19.9	1 22	9 44.40	-16 36.5	3.163	3.942	8.8	20.8
2 1	9 40.59	+29 39.9	1.962	2.921	5.4	19.7	2 1	9 38.00	-16 23.3	3.093	3.938	9.3	20.7
2 11	9 30.68	+29 54.6	1.972	2.934	5.2	19.7	2 11	9 30.98	-15 50.2	3.048	3.932	7.3	20.6
2 21	9 21.06	+29 52.9	2.010	2.947	7.4	19.9	2 21	9 23.91	-14 58.6	3.031	3.927	7.0	20.6
3 2	9 12.78	+29 34.1	2.075	2.960	10.3	20.1	3 2	9 17.37	-13 51.5	3.041	3.920	7.6	20.6
3 12	9 6.62	+28 59.9	2.164	2.974	13.0	20.3	3 12	9 11.91	-12 33.8	3.079	3.913	8.9	20.7
457030	2008 <i>CH</i> ₁₆₀		2 10.1 20°72	1°6/10.9	16		380361	2002 <i>TV</i> ₈₅		2 10.1 148°40	3°9/13.8	17	
1 2	9 56.17	+11 7.0	1.171	1.980	21.1	21.1	1 2	9 54.64	- 0 11.3	2.522	3.230	13.7	21.1
1 12	9 54.00	+10 47.2	1.109	1.990	16.9	20.8	1 12	9 50.95	- 0 15.2	2.426	3.235	11.4	21.0
1 22	9 48.44	+10 44.5	1.065	2.002	11.8	20.6	1 22	9 45.45	- 0 3.1	2.351	3.240	8.8	20.8
2 1	9 40.22	+10 56.5	1.043	2.016	6.2	20.3	2 1	9 38.56	+ 0 24.8	2.302	3.245	6.0	20.6
2 11	9 30.71	+11 18.0	1.044	2.030	1.6	20.0	2 11	9 30.93	+ 1 6.5	2.281	3.249	4.0	20.5
2 21	9 21.54	+11 42.5	1.071	2.046	6.2	20.4	2 21	9 23.30	+ 1 58.5	2.289	3.253	4.7	20.6
3 2	9 14.21	+12 3.8	1.121	2.064	11.5	20.7	3 2	9 16.44	+ 2 56.2	2.327	3.257	7.2	20.7
3 12	9 9.79	+12 17.3	1.193	2.082	16.1	21.0	3 12	9 11.00	+ 3 54.5	2.392	3.260	9.9	20.9
453249	2008 <i>SH</i> ₄₃		2 10.1 215°33	1°1/10.8	18		459562	2013 <i>GQ</i> ₉₆		2 10.1 217°86	0°5/ 9.7	17	
1 2	10 0.88	+ 8 57.0	1.876	2.633	16.2	22.4	1 2	9 59.1					

EPHEMERIDES

2 10.1

2 10.1

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
283159	2009 <i>BW</i> ₉₉		2 10.1 290°61	1.4/ 8.8	18		256344	2006 <i>XC</i> ₃₇		2 10.1 52°47	0°3/ 9.9	18	
1 2	9 53.81	+15 6.5	2.331	3.107	12.9	20.5	1 2	9 58.93	+13 16.4	1.565	2.353	17.6	20.7
1 12	9 50.60	+15 58.8	2.237	3.105	10.1	20.3	1 12	9 55.33	+13 34.4	1.499	2.370	13.9	20.4
1 22	9 45.38	+17 1.7	2.168	3.103	6.8	20.0	1 22	9 48.92	+14 5.8	1.453	2.388	9.5	20.2
2 1	9 38.59	+18 10.7	2.126	3.100	3.3	19.8	2 1	9 40.36	+14 46.1	1.431	2.405	4.6	20.0
2 11	9 30.92	+19 19.9	2.114	3.098	1.6	19.7	2 11	9 30.80	+15 28.9	1.437	2.424	0.6	19.7
2 21	9 23.23	+20 23.7	2.131	3.095	4.9	19.9	2 21	9 21.50	+16 7.8	1.470	2.442	5.6	20.1
3 2	9 16.38	+21 17.3	2.178	3.093	8.4	20.1	3 2	9 13.70	+16 37.8	1.530	2.461	10.1	20.4
3 12	9 11.11	+21 57.9	2.249	3.091	11.5	20.3	3 12	9 8.30	+16 56.0	1.614	2.479	14.0	20.7
377139	2003 <i>NF</i> ₈		2 10.1 188°60	2°3/ 7.8	17		100983	1998 <i>QQ</i> ₂₉		2 10.1 260°68	2°9/ 12.2	18	
1 2	9 57.07	+18 39.7	2.463	3.238	12.3	20.9	1 2	9 56.50	+ 4 45.1	1.809	2.562	16.9	20.3
1 12	9 53.06	+19 36.0	2.371	3.238	9.6	20.8	1 12	9 53.36	+ 4 49.1	1.708	2.552	13.9	20.1
1 22	9 47.01	+20 40.0	2.303	3.237	6.5	20.6	1 22	9 47.67	+ 5 11.9	1.627	2.542	10.2	19.8
2 1	9 39.37	+21 46.7	2.263	3.235	3.4	20.4	2 1	9 39.88	+ 5 53.0	1.570	2.532	6.1	19.6
2 11	9 30.85	+22 50.0	2.254	3.233	2.6	20.3	2 11	9 30.84	+ 6 48.7	1.540	2.522	3.0	19.4
2 21	9 22.31	+23 44.9	2.275	3.231	5.4	20.5	2 21	9 21.64	+ 7 53.2	1.539	2.511	5.2	19.5
3 2	9 14.62	+24 27.3	2.325	3.228	8.6	20.7	3 2	9 13.48	+ 8 59.6	1.565	2.501	9.4	19.7
3 12	9 8.54	+24 55.5	2.400	3.224	11.5	20.8	3 12	9 7.35	+10 1.3	1.616	2.490	13.5	19.9
129006	2004 <i>TV</i> ₂₉₄		2 10.1 88°41	2°2/ 8.4	18		44791	1999 <i>TN</i> ₁₇₆		2 10.1 218°95	1°3/ 9.2	18	
1 2	9 58.98	+19 6.1	2.019	2.804	14.3	20.6	1 2	10 0.70	+15 39.3	2.055	2.827	14.5	20.5
1 12	9 54.91	+19 35.7	1.937	2.808	11.2	20.4	1 12	9 56.38	+16 10.5	1.955	2.819	11.5	20.3
1 22	9 48.42	+20 12.2	1.878	2.813	7.6	20.2	1 22	9 49.57	+16 52.0	1.878	2.810	7.9	20.1
2 1	9 40.08	+20 50.5	1.845	2.818	3.9	19.9	2 1	9 40.75	+17 39.5	1.827	2.800	3.8	19.8
2 11	9 30.78	+21 25.0	1.841	2.823	2.5	19.9	2 11	9 30.76	+18 27.2	1.805	2.790	1.5	19.6
2 21	9 21.60	+21 50.6	1.866	2.828	5.8	20.1	2 21	9 20.68	+19 9.4	1.814	2.780	5.4	19.9
3 2	9 13.57	+22 4.2	1.919	2.832	9.5	20.3	3 2	9 11.63	+19 41.5	1.851	2.769	9.5	20.1
3 12	9 7.54	+22 4.8	1.996	2.837	12.8	20.5	3 12	9 4.56	+20 1.1	1.913	2.757	13.1	20.3
125884	2001 <i>XP</i> ₂₀₇		2 10.1 61°08	0°6/ 9.7	18		194051	2001 <i>SV</i> ₁₀₆		2 10.1 146°10	0°2/ 10.2	18	
1 2	9 59.76	+12 3.8	1.319	2.115	19.9	20.0	1 2	10 3.98	+12 29.5	1.874	2.636	16.1	20.7
1 12	9 56.43	+12 44.6	1.261	2.137	15.6	19.8	1 12	9 58.92	+12 40.2	1.791	2.647	12.8	20.5
1 22	9 49.89	+13 43.5	1.221	2.158	10.6	19.6	1 22	9 51.23	+13 2.6	1.730	2.657	8.8	20.3
2 1	9 40.88	+14 54.2	1.206	2.180	5.1	19.3	2 1	9 41.49	+13 33.4	1.694	2.666	4.3	20.1
2 11	9 30.72	+16 7.4	1.216	2.202	0.9	19.1	2 11	9 30.70	+14 7.4	1.688	2.675	0.4	19.8
2 21	9 20.92	+17 13.8	1.253	2.225	6.3	19.5	2 21	9 20.04	+14 39.6	1.712	2.683	5.0	20.1
3 2	9 12.91	+18 6.5	1.316	2.247	11.3	19.9	3 2	9 10.68	+15 5.6	1.764	2.690	9.3	20.4
3 12	9 7.67	+18 41.9	1.401	2.269	15.6	20.2	3 12	9 3.52	+15 22.7	1.842	2.696	13.1	20.6
126893	2002 <i>EL</i> ₁₀₄		2 10.1 288°42	6°9/ 4.3	18		154737	2004 <i>NM</i> ₁₆		2 10.1 180°27	0°2/ 9.9	18	
1 2	9 59.31	+30 10.7	1.936	2.736	14.3	19.7	1 2	9 56.40	+11 7.1	2.354	3.113	13.3	20.4
1 12	9 55.73	+31 31.5	1.855	2.729	11.5	19.5	1 12	9 52.58	+11 58.7	2.259	3.114	10.5	20.2
1 22	9 49.34	+32 53.5	1.797	2.721	8.8	19.3	1 22	9 46.73	+13 3.6	2.186	3.114	7.2	20.0
2 1	9 40.66	+34 7.8	1.765	2.714	7.0	19.2	2 1	9 39.27	+14 17.8	2.142	3.115	3.5	19.8
2 11	9 30.72	+35 5.2	1.761	2.706	7.4	19.2	2 11	9 30.92	+15 35.8	2.128	3.114	0.5	19.5
2 21	9 20.78	+35 39.4	1.783	2.699	9.8	19.3	2 21	9 22.54	+16 51.5	2.145	3.114	4.4	19.8
3 2	9 12.12	+35 47.9	1.830	2.692	12.7	19.5	3 2	9 14.99	+17 59.5	2.191	3.112	8.0	20.0
3 12	9 5.80	+35 32.2	1.899	2.685	15.5	19.7	3 12	9 9.04	+18 56.0	2.264	3.111	11.2	20.2
134336	4592 <i>T</i> ₋₃		2 10.1 179°98	1°1/ 9.2	18		230412	2002 <i>LV</i> ₂₄		2 10.1 204°48	4°3/ 6.1	18	
1 2	10 0.56	+14 50.1	2.126	2.893	14.2	21.7	1 2	10 0.26	+22 22.2	2.150	2.934	13.6	21.2
1 12	9 56.07	+15 30.3	2.034	2.895	11.2	21.4	1 12	9 56.08	+23 48.0	2.058	2.929	10.7	21.0
1 22	9 49.22	+16 21.3	1.965	2.896	7.6	21.2	1 22	9 49.40	+25 21.8	1.991	2.923	7.5	20.8
2 1	9 40.50	+17 18.6	1.923	2.897	3.7	21.0	2 1	9 40.68	+26 56.1	1.952	2.917	4.8	20.6
2 11	9 30.76	+18 16.2	1.911	2.896	1.4	20.8	2 11	9 30.78	+28 22.2	1.943	2.910	4.7	20.6
2 21	9 21.01	+19 8.3	1.930	2.895	5.1	21.1	2 21	9 20.75	+29 32.8	1.963	2.902	7.5	20.7
3 2	9 12.29	+19 50.2	1.977	2.894	9.0	21.3	3 2	9 11.74	+30 23.3	2.011	2.893	10.8	20.9
3 12	9 5.48	+20 19.3	2.049	2.891	12.5	21.5	3 12	9 4.70	+30 52.6	2.083	2.884	13.8	21.1
104649	2000 <i>GG</i> ₁₃₂		2 10.1 115°13	2°5/ 8.3	18		491289	2011 <i>VF</i> ₁₈		2 10.1 83°46	4°1/ 12.6	18	
1 2	10 0.25	+16 9.6	1.586	2.378	17.3	19.6	1 2	9 59.62	+ 3 46.8	1.553	2.308	19.2	21.1
1 12	9 56.56	+17 12.6	1.512	2.388	13.5	19.4	1 12	9 55.97	+ 3 28.2	1.476	2.319	15.7	20.9
1 22	9 49.92	+18 29.3	1.460	2.398	9.2	19.1	1 22	9 49.46	+ 3 29.9	1.418	2.331	11.7	20.7
2 1	9 40.93	+19 52.5	1.434	2.408	4.5	18.9	2 1	9 40.71	+ 3 51.6	1.383	2.342	7.3	20.5
2 11	9 30.72	+21 12.6	1.435	2.417	2.8	18.8	2 11	9 30.79	+ 4 30.1	1.375	2.353	4.1	20.3
2 21	9 20.63	+22 21.0	1.464	2.427	6.9	19.1	2 21	9 21.00	+ 5 19.8	1.393	2.364	5.9	20.5
3 2	9 12.02	+23 11.6	1.520	2.435	11.3	19.3	3 2	9 12.63	+ 6 13.4	1.438	2.375	10.0	20.7
3 12	9 5.91	+23 42.3	1.599	2.444	15.2	19.6	3 12	9 6.65	+ 7 4.4	1.507	2.386	14.1	21.0
216849	2007 <i>TX</i> ₂₃₁		2 10.1 349°21	5°1/ 13.3	18		409837	2006 <i>QO</i> ₁₃₁		2 10.1 187°89	0°7/ 10.5	18	
1 2	9 55.28	+ 1 38.9	1.495	2.253	19.7	20.3	1 2	10 4.37	+12 39.0	2.070	2.825	15.0	21.9
1 12	9 52.83	+ 1 14.8	1.408	2.250	16.4	20.1	1 12	9 59.07	+12 26.6	1.973	2.824	12.0	21.7
1 22	9 47.51	+ 1 13.4	1.339	2.248	12.5	19.8	1 22	9 51.28	+12 23.1	1.899	2.823	8.4	21.4
2 1	9 39.84	+ 1 35.7	1.292	2.246	8.3	19.6	2 1	9 41.53	+12 26.5	1.852	2.822	4.3	21.2
2 11	9 30.83	+ 2 19.6	1.270	2.244	5.3	19.4	2 11	9 30.71	+12 33.3	1.834	2.820	0.7	20.9
2 21	9 21.76	+ 3 19.6	1.273	2.243	6.6	19.5	2 21	9 19.92	+12 40.3	1.846	2.818	4.7	21.2
3 2	9 13.97	+ 4 27.6	1.302	2.242	10.6	19.7	3 2	9 10.26	+12 44.4	1.888	2.814	8.8	21.4
3 12	9 8.57	+ 5 35.0	1.355	2.242	14.8	19.9	3 12	9 2.62	+12 43.4	1.956	2.811	12.4	21.6
40187	1998 <i>RR</i> ₆₁		2 10.1 87°04	1°1/ 11.2	18		383630	2007 <i>RW</i> ₉₃		2 10.1 65°40	2°7/ 12.6	18	
1 2	9 54.10	+ 8 52.4	2.720	3.467	12.0	18.							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
151570	2002 <i>TO</i> ₂₁₅		2 10.1 110°64	1.8/ 8.8	18		282511	2004 <i>QL</i> ₂₀		2 10.1 119°87	10°2/19.0	18	
1 2	10 2.50	+14 17.9	1.616	2.397	17.4	20.4	1 2	10 3.80	-15 52.4	2.183	2.785	18.1	21.5
1 12	9 58.14	+15 21.7	1.548	2.417	13.7	20.2	1 12	9 58.43	-17 5.6	2.107	2.809	16.3	21.3
1 22	9 50.87	+16 40.2	1.502	2.437	9.2	19.9	1 22	9 50.73	-17 54.8	2.048	2.833	14.1	21.2
2 1	9 41.36	+18 6.3	1.482	2.456	4.4	19.7	2 1	9 41.22	-18 15.5	2.009	2.855	12.1	21.1
2 11	9 30.74	+19 30.7	1.490	2.475	2.1	19.6	2 11	9 30.79	-18 5.8	1.995	2.876	10.6	21.1
2 21	9 20.35	+20 44.5	1.527	2.492	6.4	19.9	2 21	9 20.46	-17 27.4	2.006	2.897	10.2	21.1
3 2	9 11.48	+21 41.9	1.592	2.509	10.8	20.2	3 2	9 11.23	-16 25.2	2.044	2.916	11.1	21.2
3 12	9 5.09	+22 20.4	1.680	2.525	14.6	20.5	3 12	9 3.93	-15 7.2	2.106	2.934	12.7	21.3
286262	2001 <i>VK</i> ₁₇		2 10.1 123°66	4°1/ 7.2	18		325110	2008 <i>EZ</i> ₄₁		2 10.1 241°21	1°9/ 8.7	18	
1 2	10 2.32	+20 55.0	1.650	2.445	16.6	20.9	1 2	9 58.95	+17 13.0	2.000	2.781	14.6	21.6
1 12	9 58.15	+22 2.6	1.579	2.456	13.0	20.7	1 12	9 55.11	+17 48.7	1.903	2.772	11.5	21.4
1 22	9 50.99	+23 19.0	1.530	2.466	8.9	20.5	1 22	9 48.76	+18 33.9	1.828	2.763	7.8	21.2
2 1	9 41.46	+24 35.7	1.507	2.477	5.1	20.3	2 1	9 40.39	+19 23.9	1.780	2.754	3.9	20.9
2 11	9 30.73	+25 43.1	1.512	2.486	4.5	20.3	2 11	9 30.87	+20 12.5	1.761	2.744	2.1	20.8
2 21	9 20.17	+26 33.6	1.544	2.496	7.8	20.5	2 21	9 21.27	+20 53.7	1.771	2.734	5.8	21.0
3 2	9 11.13	+27 3.1	1.603	2.505	11.8	20.7	3 2	9 12.73	+21 23.1	1.809	2.724	9.8	21.2
3 12	9 4.64	+27 11.5	1.685	2.513	15.3	21.0	3 12	9 6.19	+21 38.6	1.871	2.714	13.4	21.4
453783	2011 <i>LR</i> ₁₈		2 10.1 188°74	2°5/ 8.3	18		28985	2001 <i>MP</i> ₅		2 10.1 177°59	0°9/10.7	18	
1 2	10 2.53	+17 24.0	1.761	2.544	16.2	22.0	1 2	10 3.99	+10 19.1	1.997	2.749	15.5	19.5
1 12	9 58.24	+18 15.9	1.673	2.544	12.7	21.8	1 12	9 58.17	+10 28.6	1.903	2.752	12.4	19.3
1 22	9 51.07	+19 19.5	1.607	2.543	8.7	21.5	1 22	9 50.74	+10 51.0	1.831	2.754	8.7	19.1
2 1	9 41.56	+20 28.3	1.568	2.541	4.4	21.3	2 1	9 41.31	+11 23.7	1.786	2.755	4.5	18.9
2 11	9 30.73	+21 34.0	1.557	2.538	2.8	21.2	2 11	9 30.79	+12 2.4	1.769	2.756	0.9	18.6
2 21	9 19.87	+22 29.1	1.574	2.535	6.7	21.4	2 21	9 20.26	+12 41.9	1.783	2.755	4.7	18.9
3 2	9 10.32	+23 8.3	1.619	2.531	11.0	21.7	3 2	9 10.86	+13 17.4	1.826	2.754	9.0	19.1
3 12	9 3.14	+23 29.5	1.688	2.527	14.8	21.9	3 12	9 3.50	+13 45.5	1.895	2.751	12.7	19.3
248838	2006 <i>SW</i> ₄₀₂		2 10.1 200°83	2°9/13.3	18		337486	2001 <i>SL</i> ₈₅		2 10.1 201°46	2°4/ 8.1	17	
1 2	9 53.87	+ 1 28.5	3.115	3.821	11.4	21.7	1 2	10 0.86	+22 10.9	2.643	3.413	11.7	21.5
1 12	9 50.04	+ 1 31.0	3.006	3.816	9.4	21.5	1 12	9 55.84	+22 28.5	2.547	3.411	9.2	21.3
1 22	9 44.70	+ 1 46.1	2.920	3.812	7.1	21.4	1 22	9 48.82	+22 48.8	2.477	3.407	6.3	21.1
2 1	9 38.21	+ 2 13.1	2.860	3.807	4.7	21.2	2 1	9 40.26	+23 7.7	2.434	3.404	3.5	20.9
2 11	9 31.08	+ 2 50.4	2.830	3.802	3.0	21.1	2 11	9 30.91	+23 21.2	2.422	3.400	2.6	20.9
2 21	9 23.90	+ 3 35.2	2.830	3.796	3.7	21.1	2 21	9 21.62	+23 26.2	2.441	3.396	5.1	21.0
3 2	9 17.30	+ 4 23.9	2.861	3.790	6.0	21.2	3 2	9 13.24	+23 20.7	2.489	3.392	8.1	21.2
3 12	9 11.82	+ 5 12.8	2.920	3.783	8.5	21.4	3 12	9 6.46	+23 4.7	2.563	3.387	10.8	21.4
4587	Rees		2 10.1 296°12	8°2/16.6	17 R		29545	1998 <i>BM</i> ₃₁		2 10.1 138°22	0°1/10.0	18	
1 2	9 57.46	-11 7.7	2.234	2.881	16.8	20.2	1 2	9 56.12	+12 49.1	2.742	3.497	11.7	19.2
1 12	9 54.10	-11 22.3	2.081	2.831	15.0	20.0	1 12	9 51.95	+13 11.4	2.653	3.507	9.2	19.1
1 22	9 48.33	-11 12.5	1.945	2.781	12.8	19.7	1 22	9 46.07	+13 42.1	2.589	3.516	6.3	18.9
2 1	9 40.37	-10 33.1	1.832	2.729	10.4	19.5	2 1	9 38.89	+14 18.5	2.552	3.524	3.1	18.7
2 11	9 30.83	- 9 21.7	1.743	2.676	8.5	19.2	2 11	9 31.05	+14 56.8	2.546	3.533	0.3	18.4
2 21	9 20.60	- 7 39.3	1.683	2.622	8.4	19.1	2 21	9 23.27	+15 33.5	2.571	3.541	3.7	18.7
3 2	9 10.80	- 5 31.5	1.652	2.568	10.5	19.1	3 2	9 16.26	+16 5.3	2.626	3.548	6.8	19.0
3 12	9 2.54	- 3 7.9	1.647	2.512	13.8	19.2	3 12	9 10.63	+16 30.0	2.707	3.556	9.6	19.1
193749	2001 <i>KG</i>		2 10.1 181°31	3°9/ 6.9	18		238072	2003 <i>FW</i> ₇		2 10.1 223°59	4°5/ 6.5	18	
1 2	10 5.10	+22 51.5	2.130	2.906	13.9	21.1	1 2	10 4.49	+24 37.8	2.122	2.902	13.9	21.0
1 12	9 59.78	+23 53.2	2.043	2.908	11.0	20.9	1 12	9 59.54	+25 38.6	2.023	2.889	11.0	20.8
1 22	9 51.86	+25 0.6	1.979	2.910	7.7	20.7	1 22	9 51.87	+26 44.6	1.947	2.876	7.9	20.6
2 1	9 41.86	+26 6.6	1.944	2.910	4.7	20.5	2 1	9 41.96	+27 48.5	1.898	2.861	5.1	20.4
2 11	9 30.72	+27 3.7	1.938	2.909	4.3	20.4	2 11	9 30.74	+28 42.5	1.879	2.846	4.9	20.4
2 21	9 19.59	+27 45.8	1.962	2.906	7.1	20.6	2 21	9 19.37	+29 20.2	1.890	2.829	7.7	20.5
3 2	9 9.65	+28 9.6	2.015	2.903	10.4	20.8	3 2	9 9.11	+29 38.0	1.928	2.812	11.1	20.7
3 12	9 1.83	+28 15.1	2.092	2.899	13.5	21.0	3 12	9 0.99	+29 36.1	1.990	2.793	14.3	20.8
353472	2011 <i>SV</i> ₂₇		2 10.1 123°88	0°8/10.7	18		469070	2015 <i>BW</i> ₆₄		2 10.1 67°40	1°9/ 8.8	18	
1 2	9 59.88	+ 8 34.9	1.806	2.566	16.6	20.9	1 2	10 0.65	+19 14.6	2.039	2.820	14.3	21.1
1 12	9 55.79	+ 9 12.0	1.727	2.581	13.3	20.7	1 12	9 56.15	+19 27.5	1.959	2.828	11.2	20.9
1 22	9 49.15	+10 6.4	1.670	2.595	9.2	20.5	1 22	9 49.25	+19 46.1	1.902	2.836	7.6	20.7
2 1	9 40.51	+11 14.4	1.638	2.608	4.7	20.3	2 1	9 40.53	+20 5.8	1.871	2.844	3.8	20.5
2 11	9 30.86	+12 29.4	1.635	2.621	0.8	20.0	2 11	9 30.92	+20 21.9	1.869	2.852	2.1	20.4
2 21	9 21.31	+13 44.0	1.661	2.633	4.9	20.3	2 21	9 21.47	+20 30.3	1.897	2.861	5.4	20.6
3 2	9 13.01	+14 51.5	1.716	2.645	9.3	20.6	3 2	9 13.23	+20 28.7	1.952	2.869	9.1	20.9
3 12	9 6.84	+15 47.1	1.795	2.656	13.1	20.9	3 12	9 7.01	+20 16.5	2.033	2.877	12.4	21.1
457205	2008 <i>JA</i> ₃		2 10.1 238°93	7°4/16.1	17		338312	2002 <i>VK</i> ₃₈		2 10.1 301°58	4°0/13.3	18	
1 2	9 55.86	- 7 42.7	2.141	2.817	16.7	21.8	1 2	9 55.41	+ 1 56.3	2.261	2.986	14.7	20.2
1 12	9 52.46	- 8 18.6	2.035	2.809	14.6	21.6	1 12	9 51.87	+ 1 35.0	2.162	2.984	12.2	20.0
1 22	9 46.85	- 8 33.4	1.948	2.800	12.1	21.4	1 22	9 46.29	+ 1 28.9	2.083	2.981	9.3	19.8
2 1	9 39.44	- 8 24.1	1.883	2.791	9.5	21.2	2 1	9 39.11	+ 1 38.1	2.030	2.979	6.2	19.6
2 11	9 30.96	- 7 50.2	1.843	2.782	7.7	21.1	2 11	9 31.05	+ 2 1.2	2.005	2.976	4.1	19.4
2 21	9 22.32	- 6 54.3	1.831	2.772	7.7	21.1	2 21	9 22.95	+ 2 35.1	2.008	2.974	5.0	19.5
3 2	9 14.53	- 5 41.5	1.846	2.763	9.5	21.2	3 2	9 15.69	+ 3 15.5	2.040	2.971	7.9	19.7
3 12	9 8.44	- 4 19.4	1.886	2.753	12.2	21.3	3 12	9 10.02	+ 3 57.4	2.098	2.969	11.0	19.9
373185	2012 <i>DM</i> ₅₃		2 10.1 261°89	2°8/12.5	17		426225	2012 <i>LM</i> ₂₄		2 10.1 198°98	2°3/12.3	17	
1 2	9 55.05	+ 2 47.2	2.065	2.802	15.6	21.4	1 2	9 55.90	+				

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
209612	2005 <i>AC</i> ₆		2 10.1 10°45	1°0/ 9.7	18		384773	2012 <i>ON</i> ₅		2 10.1 118°66	1°7/12.2	18	
1 2	9 59.90	+16 30.0	1.247	2.058	20.0	19.5	1 2	9 54.74	+ 4 25.3	3.014	3.734	11.5	21.3
1 12	9 57.06	+16 22.3	1.175	2.060	15.9	19.3	1 12	9 50.67	+ 4 59.3	2.928	3.754	9.2	21.1
1 22	9 50.69	+16 25.6	1.121	2.062	10.9	19.0	1 22	9 45.10	+ 5 45.7	2.866	3.773	6.7	21.0
2 1	9 41.50	+16 35.2	1.090	2.066	5.3	18.7	2 1	9 38.42	+ 6 42.7	2.832	3.792	3.9	20.8
2 11	9 30.84	+16 44.9	1.084	2.070	1.2	18.4	2 11	9 31.19	+ 7 46.9	2.829	3.810	1.7	20.7
2 21	9 20.38	+16 49.1	1.103	2.075	6.8	18.8	2 21	9 24.03	+ 8 54.1	2.857	3.828	3.2	20.8
3 2	9 11.78	+16 43.8	1.146	2.081	12.2	19.1	3 2	9 17.54	+10 0.2	2.917	3.846	5.9	21.0
3 12	9 6.20	+16 27.5	1.211	2.089	16.8	19.4	3 12	9 12.25	+11 1.6	3.005	3.862	8.4	21.2
196018	2002 <i>RP</i> ₂₇₉		2 10.1 147°10	0°1/10.2	17		234242	2000 <i>SC</i> ₃₄₀		2 10.1 220°41	2°7/ 7.9	18	
1 2	9 56.09	+11 58.1	2.275	3.039	13.5	21.5	1 2	10 3.72	+19 53.3	2.216	2.987	13.6	21.2
1 12	9 52.39	+12 20.0	2.183	3.041	10.7	21.3	1 12	9 58.72	+20 38.8	2.111	2.975	10.8	21.0
1 22	9 46.62	+12 52.7	2.115	3.043	7.4	21.1	1 22	9 51.22	+21 32.0	2.030	2.961	7.4	20.7
2 1	9 39.27	+13 33.5	2.073	3.045	3.6	20.8	2 1	9 41.65	+22 27.2	1.977	2.947	4.0	20.5
2 11	9 31.06	+14 17.9	2.060	3.047	0.3	20.6	2 11	9 30.87	+23 18.0	1.953	2.932	3.0	20.4
2 21	9 22.88	+15 1.1	2.078	3.049	4.2	20.9	2 21	9 19.94	+23 58.4	1.960	2.915	6.1	20.6
3 2	9 15.60	+15 39.1	2.124	3.050	7.9	21.1	3 2	9 10.00	+24 24.7	1.996	2.898	9.8	20.8
3 12	9 9.96	+16 8.7	2.196	3.052	11.2	21.3	3 12	9 1.99	+24 35.4	2.057	2.879	13.2	20.9
95553	2002 <i>EU</i> ₉₄		2 10.1 113°01	2°4/ 8.3	18		322184	2010 <i>XX</i> ₅₁		2 10.1 15°35	0°9/ 9.4	18	
1 2	9 59.69	+19 23.5	2.046	2.829	14.2	20.3	1 2	9 56.38	+13 22.1	1.751	2.536	16.2	20.7
1 12	9 55.46	+19 57.2	1.966	2.836	11.1	20.1	1 12	9 53.33	+14 5.4	1.665	2.536	12.8	20.5
1 22	9 48.83	+20 37.6	1.908	2.843	7.6	19.9	1 22	9 47.68	+15 3.2	1.601	2.537	8.7	20.2
2 1	9 40.37	+21 19.5	1.878	2.850	3.9	19.7	2 1	9 39.94	+16 10.7	1.563	2.537	4.2	20.0
2 11	9 30.96	+21 57.0	1.876	2.857	2.6	19.6	2 11	9 31.04	+17 20.8	1.552	2.538	1.2	19.8
2 21	9 21.68	+22 25.1	1.903	2.863	5.8	19.8	2 21	9 22.15	+18 25.8	1.570	2.539	5.7	20.1
3 2	9 13.55	+22 40.7	1.958	2.870	9.4	20.1	3 2	9 14.44	+19 19.6	1.615	2.540	10.1	20.3
3 12	9 7.41	+22 42.8	2.038	2.876	12.7	20.3	3 12	9 8.88	+19 58.4	1.683	2.541	13.9	20.6
79288	1995 <i>SY</i> ₇₁		2 10.1 163°25	0°5/10.5	18		225301	1995 <i>VG</i> ₉		2 10.1 132°63	1°7/ 8.7	18	
1 2	9 55.73	+11 21.6	2.554	3.309	12.4	20.5	1 2	9 58.33	+17 5.5	2.155	2.933	13.8	21.1
1 12	9 51.84	+11 35.7	2.459	3.311	9.9	20.3	1 12	9 54.28	+17 42.5	2.072	2.939	10.8	20.9
1 22	9 46.12	+11 59.5	2.388	3.313	6.8	20.1	1 22	9 47.99	+18 27.9	2.011	2.945	7.3	20.7
2 1	9 38.98	+12 30.6	2.344	3.315	3.4	19.9	2 1	9 39.97	+19 17.0	1.978	2.951	3.6	20.5
2 11	9 31.10	+13 5.5	2.330	3.316	0.5	19.6	2 11	9 31.05	+20 4.2	1.973	2.957	1.9	20.4
2 21	9 23.23	+13 40.5	2.346	3.318	3.8	19.9	2 21	9 22.21	+20 44.2	1.999	2.962	5.2	20.6
3 2	9 16.16	+14 12.0	2.392	3.319	7.1	20.1	3 2	9 14.40	+21 13.4	2.053	2.968	8.9	20.8
3 12	9 10.54	+14 37.2	2.464	3.320	10.1	20.3	3 12	9 8.43	+21 29.9	2.131	2.973	12.1	21.0
380020	2013 <i>PL</i> ₇₄		2 10.1 157°59	6°2/15.9	18		162962	2001 <i>QT</i> ₁₇₁		2 10.1 79°39	3°6/ 7.4	18	
1 2	9 55.68	- 6 39.8	2.350	3.024	15.4	21.6	1 2	10 0.26	+24 18.7	2.254	3.038	13.0	19.7
1 12	9 52.00	- 6 59.9	2.253	3.029	13.3	21.4	1 12	9 55.68	+24 51.1	2.179	3.048	10.2	19.6
1 22	9 46.34	- 7 0.1	2.176	3.033	10.8	21.3	1 22	9 48.85	+25 25.6	2.127	3.059	7.1	19.4
2 1	9 39.13	- 6 38.7	2.123	3.037	8.3	21.1	2 1	9 40.34	+25 56.9	2.103	3.069	4.3	19.2
2 11	9 31.09	- 5 56.6	2.096	3.040	6.5	21.0	2 11	9 31.03	+26 19.6	2.108	3.080	3.8	19.2
2 21	9 23.03	- 4 56.9	2.097	3.044	6.5	21.0	2 21	9 21.90	+26 30.0	2.142	3.090	6.2	19.4
3 2	9 15.79	- 3 44.9	2.127	3.046	8.3	21.1	3 2	9 13.91	+26 26.3	2.204	3.101	9.3	19.6
3 12	9 10.09	- 2 27.2	2.183	3.049	10.8	21.3	3 12	9 7.81	+26 9.0	2.291	3.111	12.1	19.8
158630	2003 <i>BJ</i> ₃₁		2 10.1 17°52	0°4/ 9.9	18		210435	2008 <i>YD</i> ₂₆		2 10.1 46°32	0°3/ 9.9	18	
1 2	9 57.85	+13 55.8	1.132	1.948	21.3	19.3	1 2	10 0.70	+15 56.0	2.269	3.035	13.5	19.9
1 12	9 55.71	+13 59.8	1.064	1.952	16.9	19.0	1 12	9 55.96	+15 46.7	2.178	3.038	10.7	19.7
1 22	9 49.92	+14 20.0	1.015	1.956	11.7	18.7	1 22	9 49.03	+15 43.4	2.110	3.040	7.3	19.5
2 1	9 41.18	+14 51.9	0.987	1.962	5.7	18.4	2 1	9 40.45	+15 43.6	2.069	3.042	3.5	19.2
2 11	9 30.89	+15 27.8	0.983	1.969	0.8	18.1	2 11	9 31.02	+15 44.0	2.058	3.045	0.6	19.0
2 21	9 20.82	+15 59.7	1.003	1.977	6.9	18.5	2 21	9 21.68	+15 41.8	2.077	3.047	4.4	19.3
3 2	9 12.68	+16 21.3	1.047	1.986	12.6	18.8	3 2	9 13.37	+15 34.8	2.126	3.050	8.1	19.5
3 12	9 7.69	+16 29.1	1.111	1.995	17.5	19.1	3 12	9 6.84	+15 21.7	2.200	3.053	11.3	19.7
496349	2013 <i>QZ</i> ₅₃		2 10.1 108°72	1°7/ 8.9	18		463826	2014 <i>TF</i> ₅₃		2 10.1 117°38	0°9/10.9	18	
1 2	10 2.96	+19 5.4	2.167	2.939	13.9	21.5	1 2	9 58.88	+ 9 1.6	2.105	2.859	14.8	22.1
1 12	9 57.75	+19 17.7	2.089	2.953	10.9	21.3	1 12	9 54.62	+ 9 28.8	2.026	2.875	11.8	21.9
1 22	9 50.23	+19 35.2	2.035	2.967	7.4	21.1	1 22	9 48.16	+10 9.9	1.968	2.891	8.2	21.7
2 1	9 40.98	+19 53.6	2.008	2.980	3.7	20.9	2 1	9 40.03	+11 1.9	1.937	2.907	4.2	21.5
2 11	9 30.93	+20 8.3	2.010	2.994	1.9	20.8	2 11	9 31.06	+11 59.7	1.936	2.922	0.9	21.3
2 21	9 21.09	+20 15.8	2.043	3.007	5.1	21.1	2 21	9 22.20	+12 57.7	1.964	2.937	4.3	21.6
3 2	9 12.44	+20 14.0	2.105	3.019	8.7	21.3	3 2	9 14.41	+13 50.9	2.022	2.951	8.1	21.8
3 12	9 5.75	+20 2.2	2.192	3.032	11.8	21.5	3 12	9 8.43	+14 35.3	2.106	2.964	11.5	22.1
172778	2004 <i>EE</i> ₆₄		2 10.1 22°78	4°6/ 6.3	18		385092	2012 <i>VZ</i> ₃		2 10.1 59°74	0°3/ 9.8	18	
1 2	9 58.08	+26 5.3	2.150	2.943	13.3	19.7	1 2	9 53.38	+11 42.4	2.344	3.111	13.1	20.7
1 12	9 54.26	+26 57.8	2.071	2.945	10.5	19.5	1 12	9 50.23	+12 30.9	2.255	3.116	10.3	20.5
1 22	9 48.05	+27 52.7	2.016	2.947	7.5	19.3	1 22	9 45.15	+13 31.7	2.190	3.120	7.0	20.3
2 1	9 40.01	+28 43.3	1.987	2.949	5.1	19.2	2 1	9 38.57	+14 41.0	2.152	3.125	3.4	20.1
2 11	9 31.03	+29 23.1	1.987	2.951	5.0	19.2	2 11	9 31.20	+15 53.5	2.144	3.130	0.6	19.8
2 21	9 22.13	+29 47.3	2.015	2.953	7.3	19.3	2 21	9 23.83	+17 3.3	2.165	3.135	4.3	20.1
3 2	9 14.37	+29 53.6	2.069	2.955	10.3	19.5	3 2	9 17.30	+18 5.5	2.216	3.140	7.8	20.4
3 12	9 8.56	+29 42.4	2.148	2.958	13.1	19.7	3 12	9 12.31	+18 56.4	2.293	3.145	10.9	20.6
412584	2014 <i>OO</i> ₄₂		2 10.1 236°07	1°3/ 9.4	18		305586	2008 <i>YC</i> ₅₃		2 10.1 13°56	2°6/ 8.7	18	
1 2	10 3.41	+16 28.6	1.745	2.525	16.4	21.4	1 2						

EPHEMERIDES

2 10.1

2 10.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
289745	2005 <i>JT</i> ₅₂		2 10.1 242°00	3°9/ 6.3 18			453331	2008 <i>YZ</i> ₄		2 10.1 63°10	0°2/10.3 18		
1 2	9 56.47	+24 0.3	2.405	3.193	12.2	21.1	1 2	10 1.35	+11 56.3	1.377	2.166	19.5	21.5
1 12	9 52.81	+25 3.7	2.316	3.188	9.6	20.9	1 12	9 57.62	+12 10.9	1.314	2.186	15.5	21.2
1 22	9 47.01	+26 11.7	2.250	3.182	6.8	20.7	1 22	9 50.73	+12 41.7	1.271	2.205	10.6	21.0
2 1	9 39.53	+27 18.2	2.212	3.176	4.4	20.5	2 1	9 41.42	+13 24.1	1.252	2.225	5.2	20.8
2 11	9 31.11	+28 16.7	2.204	3.171	4.3	20.5	2 11	9 30.97	+14 11.1	1.259	2.245	0.5	20.5
2 21	9 22.66	+29 2.2	2.225	3.165	6.6	20.6	2 21	9 20.87	+14 55.3	1.292	2.265	5.9	20.9
3 2	9 15.10	+29 31.2	2.274	3.159	9.5	20.8	3 2	9 12.50	+15 30.6	1.352	2.285	10.9	21.2
3 12	9 9.24	+29 43.2	2.346	3.152	12.3	21.0	3 12	9 6.85	+15 53.7	1.434	2.306	15.1	21.5
242370	2004 <i>CM</i> ₇₄		2 10.1 341°19	3°0/12.7 18			499955	2011 <i>JM</i> ₆		2 10.1 321°31	1°6/ 8.9 17		
1 2	9 53.80	+ 4 23.1	2.786	3.512	12.2	19.7	1 2	9 56.78	+16 37.5	1.956	2.741	14.7	21.9
1 12	9 50.20	+ 3 57.4	2.681	3.507	10.0	19.5	1 12	9 53.41	+17 8.4	1.865	2.737	11.6	21.6
1 22	9 44.95	+ 3 42.3	2.600	3.502	7.5	19.3	1 22	9 47.62	+17 49.0	1.797	2.733	7.9	21.4
2 1	9 38.43	+ 3 37.7	2.544	3.497	4.8	19.2	2 1	9 39.89	+18 34.8	1.754	2.729	3.9	21.2
2 11	9 31.22	+ 3 42.5	2.518	3.493	3.0	19.0	2 11	9 31.11	+19 19.7	1.740	2.725	1.8	21.0
2 21	9 23.98	+ 3 54.5	2.522	3.488	4.0	19.1	2 21	9 22.31	+19 58.2	1.755	2.721	5.5	21.2
3 2	9 17.41	+ 4 11.1	2.554	3.484	6.6	19.2	3 2	9 14.60	+20 25.9	1.797	2.718	9.5	21.5
3 12	9 12.09	+ 4 29.2	2.614	3.481	9.2	19.4	3 12	9 8.85	+20 40.6	1.864	2.714	13.1	21.7
219793	2002 <i>AM</i> ₁₀₁		2 10.1 75°01	0°5/10.4 18			237719	2001 <i>VX</i> ₁₂₉		2 10.1 135°79	1°7/ 8.4 17		
1 2	9 59.94	+11 56.3	1.836	2.606	16.1	20.6	1 2	9 55.14	+17 7.7	2.564	3.338	11.9	21.0
1 12	9 55.75	+12 3.4	1.762	2.622	12.7	20.4	1 12	9 51.45	+17 59.2	2.478	3.344	9.3	20.8
1 22	9 49.06	+12 22.7	1.710	2.639	8.8	20.2	1 22	9 45.91	+18 58.6	2.416	3.350	6.3	20.6
2 1	9 40.50	+12 50.8	1.684	2.656	4.4	19.9	2 1	9 38.93	+20 1.3	2.382	3.355	3.1	20.4
2 11	9 31.03	+13 23.0	1.686	2.672	0.5	19.7	2 11	9 31.21	+21 2.1	2.378	3.360	2.0	20.3
2 21	9 21.76	+13 54.3	1.716	2.689	4.8	20.0	2 21	9 23.50	+21 56.1	2.405	3.365	4.8	20.5
3 2	9 13.77	+14 20.4	1.775	2.705	9.0	20.3	3 2	9 16.61	+22 39.7	2.461	3.370	7.9	20.8
3 12	9 7.88	+14 38.3	1.858	2.721	12.6	20.6	3 12	9 11.19	+23 10.7	2.542	3.375	10.6	20.9
140524	2001 <i>TT</i> ₁₇₁		2 10.1 208°98	4°6/13.6 18			497856	2006 <i>UR</i> ₁₁₉		2 10.2 138°50	1°4/11.6 17		
1 2	9 59.07	+ 0 16.4	2.313	3.021	14.8	20.7	1 2	9 54.67	+ 7 28.5	2.880	3.616	11.6	22.2
1 12	9 54.76	- 0 10.4	2.207	3.015	12.5	20.6	1 12	9 50.76	+ 7 43.3	2.788	3.625	9.3	22.0
1 22	9 48.32	- 0 21.9	2.121	3.009	9.7	20.4	1 22	9 45.26	+ 8 8.7	2.719	3.634	6.6	21.9
2 1	9 40.18	- 0 17.1	2.061	3.002	6.7	20.2	2 1	9 38.56	+ 8 43.1	2.678	3.642	3.7	21.7
2 11	9 31.05	+ 0 3.0	2.029	2.995	4.7	20.0	2 11	9 31.25	+ 9 23.6	2.667	3.650	1.4	21.5
2 21	9 21.83	+ 0 35.6	2.027	2.987	5.4	20.1	2 21	9 23.97	+10 6.7	2.686	3.658	3.3	21.7
3 2	9 13.43	+ 1 16.6	2.053	2.979	8.2	20.2	3 2	9 17.38	+10 48.8	2.736	3.666	6.2	21.9
3 12	9 6.65	+ 2 1.0	2.106	2.970	11.2	20.4	3 12	9 12.04	+11 26.9	2.814	3.673	8.9	22.1
238390	2004 <i>DW</i> ₇₈		2 10.1 8°81	10°2/18.5 18			37083	2000 <i>UK</i> ₆₀		2 10.2 335°16	1°3/10.8 18		
1 2	9 49.00	-10 22.2	1.533	2.240	21.3	19.3	1 2	9 57.25	+10 53.9	1.354	2.149	19.5	18.6
1 12	9 47.79	-11 21.6	1.457	2.244	18.8	19.1	1 12	9 54.86	+10 44.4	1.267	2.141	15.8	18.3
1 22	9 44.02	-11 51.3	1.396	2.249	15.9	18.9	1 22	9 49.24	+10 51.1	1.199	2.133	11.1	18.0
2 1	9 38.19	-11 46.6	1.354	2.256	13.0	18.8	2 1	9 40.91	+11 12.1	1.154	2.126	5.9	17.7
2 11	9 31.24	-11 6.4	1.333	2.264	10.8	18.7	2 11	9 31.01	+11 42.5	1.133	2.119	1.3	17.4
2 21	9 24.32	- 9 54.4	1.336	2.274	10.3	18.7	2 21	9 21.04	+12 15.7	1.138	2.113	6.1	17.7
3 2	9 18.59	- 8 18.7	1.362	2.285	11.7	18.8	3 2	9 12.55	+12 45.5	1.169	2.108	11.5	18.0
3 12	9 15.01	- 6 30.8	1.411	2.297	14.3	19.0	3 12	9 6.79	+13 6.7	1.221	2.104	16.3	18.2
463308	2012 <i>JK</i> ₅₀		2 10.1 302°48	8°0/15.9 17			244161	2001 <i>XK</i> ₈		2 10.2 49°48	6°7/15.3 18		
1 2	9 53.37	- 6 28.1	1.788	2.493	18.7	21.4	1 2	9 57.09	- 4 46.6	2.247	2.934	15.8	19.9
1 12	9 51.11	- 7 5.5	1.678	2.473	16.3	21.2	1 12	9 53.14	- 5 45.7	2.161	2.944	13.5	19.7
1 22	9 46.33	- 7 18.9	1.585	2.453	13.5	20.9	1 22	9 47.14	- 6 27.5	2.094	2.955	11.0	19.5
2 1	9 39.40	- 7 4.4	1.513	2.433	10.5	20.7	2 1	9 39.56	- 6 49.7	2.052	2.966	8.6	19.4
2 11	9 31.12	- 6 20.9	1.465	2.413	8.3	20.5	2 11	9 31.16	- 6 51.9	2.036	2.977	6.9	19.3
2 21	9 22.54	- 5 11.0	1.443	2.394	8.4	20.5	2 21	9 22.79	- 6 35.8	2.047	2.988	7.0	19.4
3 2	9 14.85	- 3 41.3	1.447	2.375	10.8	20.6	3 2	9 15.34	- 6 5.2	2.086	3.000	8.8	19.5
3 12	9 9.14	- 2 1.5	1.475	2.356	14.1	20.7	3 12	9 9.53	- 5 25.7	2.150	3.011	11.2	19.6
523667	2012 <i>TM</i> ₁₃₉		2 10.1 158°85	1°3/11.2 18 C			83352	2001 <i>RT</i> ₁₄₈		2 10.2 298°48	3°5/ 7.2 18		
1 2	10 5.76	+ 8 20.2	2.255	2.986	14.6	24.7	1 2	9 55.75	+17 33.9	1.733	2.530	15.8	19.7
1 12	9 59.89	+ 8 34.6	2.164	2.999	11.7	24.5	1 12	9 53.07	+19 2.6	1.646	2.526	12.4	19.4
1 22	9 51.73	+ 9 2.0	2.095	3.010	8.3	24.3	1 22	9 47.68	+20 46.0	1.582	2.521	8.4	19.2
2 1	9 41.79	+ 9 40.0	2.054	3.020	4.4	24.1	2 1	9 40.04	+22 36.0	1.544	2.517	4.6	18.9
2 11	9 30.92	+10 24.5	2.044	3.029	1.3	23.8	2 11	9 31.10	+24 22.4	1.535	2.513	3.9	18.9
2 21	9 20.11	+11 10.8	2.065	3.036	4.3	24.1	2 21	9 22.06	+25 55.2	1.554	2.508	7.5	19.1
3 2	9 10.36	+11 54.3	2.117	3.042	8.1	24.3	3 2	9 14.19	+27 7.4	1.600	2.504	11.6	19.3
3 12	9 2.48	+12 31.3	2.196	3.046	11.4	24.5	3 12	9 8.53	+27 56.0	1.668	2.500	15.3	19.5
67816	2000 <i>VZ</i> ₂₈		2 10.1 165°07	2°7/12.1 18			188092	2001 <i>XR</i> ₁₆₆		2 10.2 104°34	2°2/ 8.3 18		
1 2	9 59.14	+ 4 53.4	1.912	2.655	16.4	19.9	1 2	9 58.91	+17 8.4	2.021	2.801	14.4	20.9
1 12	9 55.20	+ 5 1.0	1.820	2.659	13.4	19.7	1 12	9 54.85	+18 3.9	1.947	2.817	11.3	20.7
1 22	9 48.80	+ 5 26.5	1.750	2.663	9.8	19.5	1 22	9 48.43	+19 8.9	1.897	2.832	7.6	20.5
2 1	9 40.45	+ 6 8.4	1.704	2.666	5.8	19.2	2 1	9 40.21	+20 17.4	1.874	2.847	3.8	20.3
2 11	9 31.04	+ 7 2.8	1.687	2.669	2.7	19.1	2 11	9 31.10	+21 22.5	1.880	2.862	2.4	20.2
2 21	9 21.61	+ 8 4.2	1.699	2.671	4.9	19.2	2 21	9 22.13	+22 18.0	1.916	2.876	5.7	20.5
3 2	9 13.27	+ 9 6.1	1.739	2.672	8.9	19.4	3 2	9 14.30	+22 59.8	1.980	2.891	9.4	20.7
3 12	9 6.91	+10 2.8	1.804	2.673	12.6	19.7	3 12	9 8.44	+23 26.0	2.068	2.904	12.6	20.9
13691	Akie		2 10.1 253°82	0°8/10.8 18			468973	2015 <i>AQ</i> ₈₇		2 10.2 231°38	1°2/11.0 18		
1 2	9 55.48	+ 7 51.5	1.933	2.695	15.6	18.0	1 2	9 57.91	+				

EPHEMERIDES

2 10.2

2 10.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
467780	2009 <i>WV</i> ₆₅		2 10.2 346°22	9°1/ 3.1 18			496735	2016 <i>GX</i> ₂₄₅		2 10.2 24°78	0°5/ 9.8 18		
1 2	9 58.12	+33 13.2	1.588	2.403	16.2	20.6	1 2	9 58.26	+14 32.8	1.935	2.712	15.1	21.4
1 12	9 55.57	+34 47.9	1.518	2.396	13.3	20.4	1 12	9 54.52	+14 47.0	1.847	2.713	11.9	21.2
1 22	9 49.70	+36 21.6	1.470	2.390	10.7	20.2	1 22	9 48.34	+15 11.3	1.782	2.715	8.2	21.0
2 1	9 41.10	+37 42.4	1.445	2.384	9.2	20.1	2 1	9 40.25	+15 42.2	1.742	2.716	4.0	20.7
2 11	9 31.01	+38 39.2	1.446	2.380	9.8	20.1	2 11	9 31.13	+16 14.6	1.731	2.717	0.8	20.5
2 21	9 21.00	+39 4.8	1.471	2.376	12.2	20.2	2 21	9 22.07	+16 43.6	1.748	2.718	5.0	20.8
3 2	9 12.64	+38 57.6	1.518	2.373	15.2	20.4	3 2	9 14.13	+17 5.2	1.794	2.720	9.1	21.1
3 12	9 7.13	+38 21.1	1.585	2.370	18.1	20.6	3 12	9 8.18	+17 16.9	1.863	2.722	12.8	21.3
207753	2007 <i>SA</i> ₁		2 10.2 104°12	0°7/10.8 18			365142	2009 <i>DY</i> ₅₅		2 10.2 306°26	2°1/ 8.9 18		
1 2	9 56.88	+ 9 46.9	2.670	3.415	12.2	21.0	1 2	9 58.22	+16 58.3	1.472	2.274	17.9	20.7
1 12	9 52.53	+10 8.6	2.593	3.438	9.7	20.9	1 12	9 55.60	+17 24.6	1.377	2.258	14.2	20.4
1 22	9 46.46	+10 40.5	2.538	3.459	6.7	20.7	1 22	9 49.78	+18 3.6	1.302	2.242	9.8	20.1
2 1	9 39.14	+11 19.9	2.512	3.481	3.4	20.5	2 1	9 41.23	+18 49.9	1.251	2.226	4.9	19.7
2 11	9 31.22	+12 3.4	2.516	3.502	0.7	20.3	2 11	9 31.03	+19 35.8	1.226	2.210	2.4	19.5
2 21	9 23.42	+12 47.1	2.551	3.522	3.5	20.6	2 21	9 20.62	+20 13.3	1.227	2.195	7.1	19.8
3 2	9 16.44	+13 27.2	2.616	3.543	6.6	20.8	3 2	9 11.60	+20 36.5	1.253	2.180	12.2	20.0
3 12	9 10.88	+14 1.2	2.708	3.562	9.4	21.0	3 12	9 5.23	+20 42.9	1.302	2.165	16.8	20.2
182119	2000 <i>QH</i> ₁₈₆		2 10.2 164°56	1°9/ 8.5 18			458179	2010 <i>NQ</i> ₄		2 10.2 193°85	3°4/12.4 17		
1 2	9 59.71	+18 5.0	2.362	3.134	12.9	21.1	1 2	10 3.47	+ 4 33.9	2.310	3.028	14.6	22.1
1 12	9 55.19	+18 44.1	2.275	3.139	10.1	20.9	1 12	9 58.18	+ 4 6.4	2.205	3.026	12.0	21.9
1 22	9 48.55	+19 30.3	2.211	3.143	6.8	20.7	1 22	9 50.66	+ 3 51.5	2.122	3.023	9.0	21.7
2 1	9 40.26	+20 19.1	2.175	3.147	3.5	20.5	2 1	9 41.35	+ 3 49.0	2.065	3.019	5.7	21.5
2 11	9 31.11	+21 5.1	2.169	3.151	2.1	20.4	2 11	9 31.04	+ 3 57.7	2.038	3.014	3.4	21.4
2 21	9 22.00	+21 43.5	2.193	3.153	5.1	20.6	2 21	9 20.66	+ 4 14.9	2.042	3.008	4.8	21.5
3 2	9 13.85	+22 10.9	2.246	3.156	8.5	20.8	3 2	9 11.18	+ 4 37.0	2.075	3.002	8.1	21.6
3 12	9 7.42	+22 25.9	2.325	3.158	11.5	21.0	3 12	9 3.44	+ 5 0.2	2.136	2.995	11.3	21.8
269773	1999 <i>TL</i> ₈₇		2 10.2 25°77	0°9/ 9.5 18			208638	2002 <i>EJ</i> ₁₀₀		2 10.2 181°56	0°2/10.3 18		
1 2	9 56.16	+14 16.4	1.939	2.720	14.9	20.9	1 2	10 1.68	+11 59.9	2.036	2.796	15.0	21.3
1 12	9 52.88	+14 49.0	1.853	2.722	11.8	20.7	1 12	9 57.10	+12 17.6	1.942	2.797	12.0	21.1
1 22	9 47.22	+15 33.3	1.790	2.724	8.0	20.5	1 22	9 50.07	+12 47.2	1.871	2.798	8.3	20.9
2 1	9 39.69	+16 25.0	1.752	2.726	3.9	20.3	2 1	9 41.10	+13 25.7	1.826	2.798	4.1	20.6
2 11	9 31.16	+17 18.1	1.743	2.728	1.1	20.1	2 11	9 31.07	+14 8.1	1.810	2.797	0.4	20.3
2 21	9 22.67	+18 6.7	1.762	2.731	5.2	20.3	2 21	9 21.02	+14 49.2	1.825	2.795	4.7	20.6
3 2	9 15.25	+18 45.9	1.809	2.733	9.2	20.6	3 2	9 12.05	+15 24.4	1.868	2.793	8.9	20.9
3 12	9 9.78	+19 12.8	1.881	2.736	12.8	20.8	3 12	9 5.06	+15 50.5	1.936	2.790	12.5	21.1
336449	2008 <i>UD</i> ₃₃₉		2 10.2 300°24	1°4/ 8.9 18			146331	2001 <i>NO</i> ₂₀		2 10.2 116°45	5°4/13.8 18		
1 2	9 56.30	+16 23.4	2.142	2.922	13.7	20.9	1 2	10 0.64	- 0 5.1	1.998	2.712	16.7	20.4
1 12	9 52.81	+16 56.1	2.050	2.919	10.8	20.7	1 12	9 56.19	- 0 49.3	1.911	2.722	14.0	20.2
1 22	9 47.08	+17 38.0	1.981	2.916	7.3	20.4	1 22	9 49.37	- 1 16.4	1.845	2.732	10.9	20.0
2 1	9 39.61	+18 24.7	1.938	2.912	3.6	20.2	2 1	9 40.72	- 1 25.0	1.803	2.742	7.7	19.8
2 11	9 31.17	+19 10.9	1.925	2.909	1.7	20.1	2 11	9 31.11	- 1 15.9	1.788	2.751	5.6	19.7
2 21	9 22.73	+19 51.2	1.941	2.906	5.1	20.3	2 21	9 21.54	- 0 51.8	1.801	2.760	6.2	19.8
3 2	9 15.26	+20 21.7	1.984	2.903	8.9	20.5	3 2	9 13.06	- 0 17.4	1.843	2.769	9.0	19.9
3 12	9 9.57	+20 40.1	2.053	2.900	12.2	20.7	3 12	9 6.50	+ 0 21.8	1.910	2.777	12.1	20.2
289171	2004 <i>VT</i> ₆₁		2 10.2 68°41	1°1/10.9 18			503546	2016 <i>FC</i> ₃₅		2 10.2 214°31	4°6/14.1 17		
1 2	10 1.21	+ 9 21.2	1.435	2.213	19.4	21.3	1 2	9 55.30	- 1 8.7	2.192	2.904	15.4	22.0
1 12	9 57.33	+ 9 37.6	1.374	2.237	15.4	21.1	1 12	9 51.92	- 1 16.2	2.091	2.902	13.0	21.8
1 22	9 50.43	+10 12.2	1.332	2.261	10.7	20.9	1 22	9 46.45	- 1 5.0	2.010	2.899	10.1	21.6
2 1	9 41.26	+11 1.1	1.314	2.285	5.5	20.6	2 1	9 39.31	- 0 34.4	1.954	2.895	7.0	21.4
2 11	9 31.03	+11 57.5	1.323	2.309	1.1	20.4	2 11	9 31.23	+ 0 13.5	1.925	2.892	4.8	21.2
2 21	9 21.15	+12 53.6	1.359	2.332	5.5	20.8	2 21	9 23.08	+ 1 14.9	1.925	2.888	5.4	21.3
3 2	9 12.93	+13 42.9	1.421	2.356	10.3	21.1	3 2	9 15.78	+ 2 23.9	1.953	2.885	8.2	21.4
3 12	9 7.30	+14 20.7	1.507	2.379	14.4	21.4	3 12	9 10.10	+ 3 34.3	2.008	2.881	11.3	21.6
270317	2001 <i>XO</i> ₁₉		2 10.2 66°34	3°2/ 7.9 18			334666	2002 <i>XY</i> ₁₀₆		2 10.2 73°67	4°7/13.9 18		
1 2	10 1.04	+20 33.3	1.729	2.523	16.0	20.7	1 2	9 59.43	+ 0 3.7	2.285	2.992	15.0	20.8
1 12	9 56.86	+21 15.8	1.666	2.542	12.5	20.5	1 12	9 54.77	- 0 34.7	2.210	3.016	12.5	20.7
1 22	9 49.95	+22 5.0	1.624	2.560	8.5	20.3	1 22	9 48.12	- 0 57.6	2.156	3.041	9.7	20.5
2 1	9 40.98	+22 54.0	1.608	2.580	4.6	20.1	2 1	9 40.00	- 1 4.5	2.127	3.065	6.8	20.4
2 11	9 31.06	+23 35.6	1.620	2.599	3.5	20.1	2 11	9 31.19	- 0 56.3	2.127	3.089	4.8	20.3
2 21	9 21.44	+24 4.2	1.660	2.618	6.8	20.3	2 21	9 22.54	- 0 35.8	2.155	3.113	5.4	20.4
3 2	9 13.29	+24 16.8	1.727	2.637	10.6	20.6	3 2	9 14.88	- 0 7.0	2.212	3.137	7.8	20.6
3 12	9 7.48	+24 13.3	1.817	2.656	13.9	20.8	3 12	9 8.90	+ 0 25.6	2.296	3.161	10.4	20.8
388842	2008 <i>EA</i> ₇₃		2 10.2 134°31	3°0/ 7.3 18			405944	2006 <i>RH</i> ₅₈		2 10.2 121°59	5°3/15.4 18		
1 2	9 57.29	+23 46.1	2.762	3.540	11.0	21.0	1 2	9 58.23	- 5 27.0	2.253	2.933	15.9	23.1
1 12	9 53.01	+24 19.4	2.677	3.544	8.6	20.9	1 12	9 53.97	- 5 21.4	2.169	2.953	13.5	22.9
1 22	9 46.89	+24 54.9	2.617	3.548	6.0	20.7	1 22	9 47.67	- 4 54.1	2.104	2.972	10.7	22.8
2 1	9 39.40	+25 28.4	2.585	3.551	3.6	20.6	2 1	9 39.83	- 4 4.9	2.064	2.990	7.7	22.6
2 11	9 31.21	+25 55.4	2.582	3.554	3.2	20.5	2 11	9 31.20	- 2 56.3	2.052	3.008	5.6	22.5
2 21	9 23.10	+26 12.6	2.610	3.558	5.3	20.7	2 21	9 22.66	- 1 33.1	2.069	3.025	5.8	22.5
3 2	9 15.83	+26 18.2	2.667	3.561	8.0	20.8	3 2	9 15.07	- 0 2.0	2.115	3.041	8.0	22.7
3 12	9 10.04	+26 11.8	2.749	3.564	10.4	21.0	3 12	9 9.15	+ 1 29.7	2.189	3.057	10.7	22.9
379429	2010 <i>CK</i> ₁₁		2 10.2 4°54	11°9/30.0 18			208715	2002 <i>JW</i> ₉₅		2 10.2 261°40	0°8/ 9.7 18		
1 2	9 58.17	+41 34.1	1.669	2.474	16.0	19.8	1						

EPHEMERIDES

2 10.2

2 10.2

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
209389	2004 <i>EF</i> ₅₂		2 10.2 333°29	0°2/ 9.9 18			144280	2004 <i>CH</i> ₁₀₁		2 10.2 343°76	5°4/14.5 18		
1 2	9 53.37	+11 18.8	2.208	2.978	13.7	20.2	1 2	9 52.48	- 2 13.9	1.592	2.332	19.3	20.0
1 12	9 50.43	+12 3.8	2.114	2.975	10.9	20.0	1 12	9 50.55	- 2 9.4	1.500	2.328	16.3	19.8
1 22	9 45.44	+13 2.4	2.042	2.973	7.5	19.8	1 22	9 46.00	- 1 37.2	1.426	2.324	12.7	19.6
2 1	9 38.81	+14 10.8	1.997	2.970	3.6	19.5	2 1	9 39.27	- 0 36.3	1.373	2.320	8.8	19.3
2 11	9 31.29	+15 23.6	1.981	2.968	0.5	19.2	2 11	9 31.28	+ 0 50.4	1.346	2.317	5.7	19.1
2 21	9 23.72	+16 34.6	1.995	2.966	4.5	19.6	2 21	9 23.20	+ 2 35.6	1.345	2.314	6.4	19.2
3 2	9 17.01	+17 38.3	2.038	2.964	8.2	19.8	3 2	9 16.24	+ 4 28.9	1.371	2.312	10.0	19.4
3 12	9 11.93	+18 30.6	2.106	2.962	11.6	20.0	3 12	9 11.45	+ 6 19.5	1.422	2.310	14.1	19.6
12984	Lowry		2 10.2 118°63	0°4/10.5 18			428200	2006 <i>US</i> ₂₂₀		2 10.2 190°21	3°9/14.4 18		
1 2	9 56.82	+11 0.2	2.181	2.943	14.1	18.8	1 2	9 54.25	- 1 46.9	3.023	3.711	12.0	21.8
1 12	9 53.05	+11 23.1	2.094	2.950	11.2	18.6	1 12	9 50.44	- 1 54.2	2.916	3.710	10.1	21.6
1 22	9 47.15	+11 58.0	2.029	2.956	7.7	18.4	1 22	9 45.09	- 1 47.6	2.831	3.708	7.9	21.5
2 1	9 39.62	+12 41.9	1.992	2.963	3.9	18.2	2 1	9 38.55	- 1 26.9	2.772	3.706	5.6	21.3
2 11	9 31.22	+13 30.3	1.983	2.969	0.4	17.9	2 11	9 31.36	- 0 53.4	2.742	3.703	4.0	21.2
2 21	9 22.88	+14 18.1	2.004	2.976	4.3	18.3	2 21	9 24.13	- 0 9.7	2.742	3.701	4.4	21.2
3 2	9 15.50	+15 0.8	2.054	2.982	8.1	18.5	3 2	9 17.50	+ 0 40.6	2.772	3.697	6.4	21.3
3 12	9 9.83	+15 35.0	2.129	2.988	11.4	18.7	3 12	9 12.03	+ 1 33.4	2.830	3.694	8.7	21.5
330035	2005 <i>UL</i> ₂₁₈		2 10.2 246°03	0°1/10.1 18			449162	2013 <i>AB</i> ₁₃₁		2 10.2 21°38	1°2/ 9.4 17		
1 2	9 59.01	+13 19.1	1.950	2.722	15.2	21.8	1 2	9 55.07	+12 8.1	1.271	2.079	19.9	21.3
1 12	9 55.16	+13 29.7	1.855	2.718	12.1	21.5	1 12	9 53.24	+13 3.1	1.199	2.082	15.7	21.0
1 22	9 48.84	+13 51.2	1.783	2.713	8.3	21.3	1 22	9 48.15	+14 19.5	1.146	2.087	10.7	20.8
2 1	9 40.54	+14 20.6	1.736	2.709	4.1	21.0	2 1	9 40.40	+15 50.8	1.116	2.092	5.1	20.5
2 11	9 31.14	+14 53.1	1.718	2.704	0.4	20.7	2 11	9 31.19	+17 26.4	1.111	2.097	1.5	20.2
2 21	9 21.72	+15 23.8	1.729	2.700	4.9	21.1	2 21	9 22.05	+18 54.6	1.132	2.103	6.9	20.6
3 2	9 13.39	+15 48.4	1.767	2.695	9.2	21.3	3 2	9 14.52	+20 6.2	1.178	2.110	12.3	20.9
3 12	9 7.04	+16 4.1	1.831	2.690	12.9	21.5	3 12	9 9.78	+20 56.1	1.245	2.117	16.9	21.2
219978	2002 <i>LC</i> ₂₂		2 10.2 130°98	1°4/11.1 18			264734	2002 <i>CX</i> ₁₁₄		2 10.2 311°81	3°0/ 7.7 18		
1 2	10 3.92	+ 8 48.1	1.641	2.402	18.1	20.5	1 2	9 55.24	+17 59.3	1.825	2.620	15.2	20.0
1 12	9 59.28	+ 8 58.7	1.564	2.416	14.5	20.3	1 12	9 52.54	+19 6.3	1.734	2.612	11.9	19.8
1 22	9 51.75	+ 9 26.1	1.506	2.430	10.2	20.1	1 22	9 47.26	+20 25.5	1.666	2.604	8.1	19.6
2 1	9 41.97	+10 7.4	1.474	2.443	5.4	19.8	2 1	9 39.86	+21 50.3	1.623	2.596	4.3	19.3
2 11	9 31.03	+10 57.1	1.469	2.455	1.4	19.6	2 11	9 31.24	+23 12.2	1.609	2.589	3.4	19.2
2 21	9 20.24	+11 48.6	1.494	2.466	5.3	19.9	2 21	9 22.52	+24 23.1	1.624	2.581	6.9	19.4
3 2	9 10.90	+12 35.7	1.545	2.477	9.9	20.2	3 2	9 14.90	+25 16.8	1.664	2.574	10.9	19.6
3 12	9 4.00	+13 13.7	1.622	2.487	14.0	20.4	3 12	9 9.37	+25 50.9	1.729	2.567	14.5	19.9
63019	2000 <i>WY</i> ₄₁		2 10.2 152°24	2°3/ 8.2 18			331182	2011 <i>AC</i> ₄₅		2 10.2 193°23	0°5/10.5 18		
1 2	9 58.99	+18 49.6	2.212	2.990	13.4	20.1	1 2	9 58.84	+11 45.7	2.046	2.810	14.8	21.1
1 12	9 54.81	+19 34.7	2.127	2.995	10.5	19.9	1 12	9 54.86	+11 51.9	1.953	2.810	11.8	20.9
1 22	9 48.40	+20 27.0	2.067	3.000	7.1	19.7	1 22	9 48.54	+12 9.3	1.882	2.809	8.2	20.7
2 1	9 40.25	+21 21.6	2.033	3.005	3.7	19.5	2 1	9 40.37	+12 35.3	1.837	2.809	4.2	20.4
2 11	9 31.18	+22 12.4	2.029	3.010	2.6	19.4	2 11	9 31.21	+13 6.0	1.821	2.808	0.6	20.2
2 21	9 22.18	+22 54.1	2.055	3.014	5.6	19.6	2 21	9 22.05	+13 36.7	1.834	2.807	4.6	20.5
3 2	9 14.19	+23 23.2	2.109	3.017	9.0	19.8	3 2	9 13.92	+14 3.3	1.876	2.805	8.6	20.7
3 12	9 8.03	+23 38.2	2.188	3.021	12.1	20.0	3 12	9 7.68	+14 22.7	1.943	2.804	12.2	20.9
410218	2007 <i>RK</i> ₂₉₅		2 10.2 211°82	1°4/11.2 18			427457	2001 <i>SO</i> ₂₁₂		2 10.2 77°70	6°8/18.3 18		
1 2	10 0.28	+ 8 19.3	2.060	2.809	15.2	22.7	1 2	9 53.60	-12 23.3	2.427	3.066	15.7	20.9
1 12	9 56.07	+ 8 33.7	1.957	2.803	12.3	22.4	1 12	9 50.28	-12 16.5	2.340	3.083	13.8	20.8
1 22	9 49.45	+ 9 3.0	1.875	2.795	8.8	22.2	1 22	9 45.13	-11 45.6	2.272	3.100	11.5	20.6
2 1	9 40.86	+ 9 45.0	1.819	2.786	4.7	21.9	2 1	9 38.60	-10 49.4	2.225	3.117	9.1	20.5
2 11	9 31.13	+10 35.6	1.792	2.777	1.4	21.7	2 11	9 31.38	- 9 29.3	2.205	3.133	7.3	20.4
2 21	9 21.27	+11 29.3	1.795	2.767	4.6	21.9	2 21	9 24.22	- 7 49.9	2.214	3.150	6.9	20.4
3 2	9 12.37	+12 20.7	1.827	2.757	8.8	22.1	3 2	9 17.90	- 5 57.8	2.251	3.167	8.2	20.5
3 12	9 5.35	+13 5.1	1.885	2.745	12.5	22.3	3 12	9 13.05	- 4 1.1	2.316	3.183	10.3	20.7
155214	2005 <i>UK</i> ₅₀₈		2 10.2 130°17	0°2/10.0 18 R			407436	2010 <i>TU</i> ₁₆₈		2 10.2 53°81	5°8/ 7.2 18		
1 2	9 59.75	+13 55.1	1.977	2.749	15.0	20.7	1 2	10 6.89	+28 3.2	1.577	2.375	17.1	20.6
1 12	9 55.62	+14 3.6	1.890	2.752	11.9	20.5	1 12	10 1.89	+28 35.0	1.514	2.389	13.6	20.4
1 22	9 49.07	+14 22.2	1.824	2.755	8.2	20.3	1 22	9 53.60	+29 6.1	1.472	2.403	9.8	20.2
2 1	9 40.62	+14 47.5	1.784	2.757	4.0	20.0	2 1	9 42.85	+29 28.2	1.455	2.417	6.6	20.0
2 11	9 31.17	+15 15.0	1.773	2.760	0.5	19.7	2 11	9 31.00	+29 33.4	1.465	2.431	6.1	20.0
2 21	9 21.77	+15 40.1	1.792	2.762	4.8	20.1	2 21	9 19.63	+29 17.8	1.502	2.446	8.8	20.2
3 2	9 13.51	+15 58.9	1.838	2.765	8.9	20.3	3 2	9 10.15	+28 41.6	1.565	2.461	12.4	20.5
3 12	9 7.23	+16 9.1	1.909	2.767	12.5	20.6	3 12	9 3.54	+27 48.2	1.650	2.476	15.7	20.7
128365	2004 <i>HJ</i> ₄₄		2 10.2 179°33	0°5/10.5 18			258117	2001 <i>QM</i> ₂₆₀		2 10.2 156°21	3°1/12.7 18		
1 2	10 3.65	+11 26.6	1.950	2.706	15.7	21.0	1 2	9 59.39	+ 3 37.6	2.344	3.066	14.3	21.2
1 12	9 58.77	+11 38.3	1.857	2.709	12.6	20.8	1 12	9 54.88	+ 3 29.7	2.251	3.074	11.7	21.0
1 22	9 51.29	+12 2.5	1.785	2.710	8.7	20.5	1 22	9 48.33	+ 3 36.2	2.179	3.081	8.7	20.8
2 1	9 41.74	+12 36.3	1.740	2.711	4.4	20.3	2 1	9 40.21	+ 3 56.4	2.133	3.087	5.5	20.6
2 11	9 31.06	+13 14.8	1.724	2.711	0.5	20.0	2 11	9 31.25	+ 4 28.1	2.117	3.093	3.2	20.5
2 21	9 20.37	+13 52.8	1.738	2.710	4.9	20.3	2 21	9 22.31	+ 5 7.5	2.130	3.098	4.5	20.6
3 2	9 10.84	+14 25.6	1.781	2.708	9.2	20.5	3 2	9 14.26	+ 5 50.3	2.173	3.103	7.6	20.8
3 12	9 3.41	+14 49.8	1.849	2.705	13.0	20.8	3 12	9 7.84	+ 6 32.0	2.243	3.107	10.7	21.0
305092	2007 <i>VG</i> ₁₂		2 10.2 85°37	0°5/10.5 18			374483	2005 <i>YV</i> ₅₇		2 10.2 154°42	1°1/10.9 16		
1 2	10 1.52	+10 38.3	1.607	2.380	17.9	21.0	1 2						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
6753	Fursenko		2 10.2 214°20	0°7/10.6	18		239885	2000 QN ₁₄₁		2 10.2 133°82	2°7/ 8.2	18	
1 2	10 2.15	+11 5.3	1.771	2.537	16.7	17.7	1 2	10 4.52	+19 34.3	1.981	2.756	14.9	21.2
1 12	9 57.97	+11 13.5	1.674	2.531	13.4	17.4	1 12	9 59.33	+20 18.4	1.906	2.772	11.6	21.0
1 22	9 50.99	+11 35.7	1.598	2.525	9.4	17.2	1 22	9 51.57	+21 9.4	1.854	2.787	7.9	20.8
2 1	9 41.72	+12 9.1	1.547	2.518	4.8	16.9	2 1	9 41.84	+22 1.5	1.830	2.801	4.2	20.6
2 11	9 31.11	+12 48.9	1.524	2.511	0.7	16.5	2 11	9 31.13	+22 47.6	1.835	2.814	3.0	20.6
2 21	9 20.39	+13 29.3	1.530	2.503	5.3	16.8	2 21	9 20.61	+23 22.3	1.870	2.827	6.1	20.8
3 2	9 10.87	+14 4.8	1.564	2.494	10.0	17.1	3 2	9 11.40	+23 42.6	1.932	2.839	9.8	21.0
3 12	9 3.60	+14 31.4	1.622	2.485	14.1	17.3	3 12	9 4.37	+23 47.6	2.020	2.850	13.1	21.3
108502	2001 KR ₆₆		2 10.2 174°11	3°8/13.6	18		105020	2000 KD ₁₇		2 10.2 195°13	4°3/13.8	18	
1 2	9 59.45	+ 0 13.4	2.688	3.383	13.2	20.8	1 2	9 58.27	- 0 8.2	2.389	3.094	14.5	20.8
1 12	9 54.68	+ 0 0.1	2.586	3.387	11.1	20.6	1 12	9 54.07	- 0 25.0	2.285	3.092	12.2	20.6
1 22	9 48.08	+ 0 0.9	2.506	3.390	8.5	20.4	1 22	9 47.85	- 0 25.9	2.202	3.089	9.4	20.4
2 1	9 40.06	+ 0 16.1	2.452	3.393	5.8	20.3	2 1	9 40.03	- 0 10.4	2.144	3.085	6.5	20.2
2 11	9 31.27	+ 0 44.0	2.427	3.394	3.9	20.1	2 11	9 31.29	+ 0 20.2	2.115	3.081	4.5	20.1
2 21	9 22.46	+ 1 22.0	2.434	3.395	4.6	20.2	2 21	9 22.48	+ 1 2.7	2.115	3.077	5.1	20.1
3 2	9 14.39	+ 2 6.0	2.470	3.395	7.1	20.3	3 2	9 14.47	+ 1 52.6	2.144	3.071	7.8	20.2
3 12	9 7.73	+ 2 51.8	2.534	3.394	9.7	20.5	3 12	9 8.01	+ 2 44.8	2.200	3.066	10.8	20.4
26688	Wangenevieve		2 10.2 225°62	0°2/ 9.9	18		17949	1999 JA ₁₈		2 10.2 194°95	4°4/ 6.5	18	
1 2	9 56.15	+12 40.2	2.172	2.941	13.9	19.3	1 2	10 3.28	+26 57.8	2.389	3.167	12.6	18.6
1 12	9 52.64	+13 7.9	2.079	2.940	11.0	19.1	1 12	9 58.17	+27 42.9	2.301	3.165	10.0	18.5
1 22	9 46.98	+13 47.0	2.008	2.938	7.6	18.9	1 22	9 50.71	+28 29.3	2.236	3.162	7.2	18.3
2 1	9 39.61	+14 34.2	1.964	2.936	3.7	18.7	2 1	9 41.43	+29 10.8	2.199	3.159	4.9	18.1
2 11	9 31.31	+15 24.6	1.948	2.935	0.5	18.4	2 11	9 31.18	+29 41.4	2.192	3.155	4.8	18.1
2 21	9 23.00	+16 12.9	1.963	2.933	4.5	18.7	2 21	9 20.97	+29 56.8	2.215	3.150	7.0	18.2
3 2	9 15.61	+16 54.6	2.005	2.931	8.4	18.9	3 2	9 11.85	+29 55.2	2.266	3.145	9.8	18.4
3 12	9 9.93	+17 26.3	2.074	2.929	11.8	19.1	3 12	9 4.63	+29 37.3	2.341	3.140	12.5	18.6
451020	2008 UY ₂₇₅		2 10.2 44°30	0°5/ 9.9	18		424913	2008 WP ₈₆		2 10.2 107°72	2°7/ 7.9	18	
1 2	9 59.69	+13 21.0	1.232	2.037	20.5	21.7	1 2	10 1.48	+21 27.9	2.327	3.102	12.9	21.6
1 12	9 56.79	+13 39.4	1.170	2.051	16.2	21.5	1 12	9 56.52	+22 1.8	2.254	3.120	10.1	21.4
1 22	9 50.46	+14 14.4	1.127	2.066	11.1	21.2	1 22	9 49.40	+22 39.6	2.206	3.138	6.9	21.2
2 1	9 41.46	+15 0.5	1.106	2.081	5.4	21.0	2 1	9 40.70	+23 16.4	2.185	3.155	3.8	21.0
2 11	9 31.15	+15 49.7	1.111	2.097	0.8	20.7	2 11	9 31.25	+23 47.0	2.195	3.172	2.9	21.0
2 21	9 21.07	+16 33.6	1.141	2.114	6.5	21.1	2 21	9 22.00	+24 7.4	2.234	3.188	5.5	21.2
3 2	9 13.15	+17 5.9	1.195	2.130	11.8	21.4	3 2	9 13.85	+24 15.6	2.302	3.205	8.6	21.4
3 12	9 7.87	+17 23.5	1.272	2.148	16.3	21.8	3 12	9 7.52	+24 11.2	2.395	3.220	11.4	21.6
109935	2001 SC ₃₉		2 10.2 118°33	4°4/ 5.9	18		372421	2009 SO ₁		2 10.2 201°90	1°3/ 9.1	16	
1 2	10 0.43	+28 35.6	2.704	3.482	11.2	20.0	1 2	10 0.23	+16 27.9	2.567	3.328	12.2	22.7
1 12	9 55.52	+29 25.6	2.634	3.497	8.9	19.8	1 12	9 55.53	+17 0.1	2.465	3.323	9.6	22.5
1 22	9 48.64	+30 15.0	2.589	3.512	6.5	19.7	1 22	9 48.80	+17 39.8	2.387	3.317	6.6	22.3
2 1	9 40.30	+30 58.4	2.572	3.526	4.7	19.6	2 1	9 40.48	+18 23.4	2.338	3.310	3.2	22.1
2 11	9 31.26	+31 30.8	2.585	3.540	4.7	19.6	2 11	9 31.27	+19 6.3	2.319	3.303	1.4	21.9
2 21	9 22.38	+31 48.7	2.628	3.554	6.5	19.7	2 21	9 22.00	+19 43.9	2.331	3.295	4.6	22.1
3 2	9 14.49	+31 50.9	2.698	3.567	8.8	19.9	3 2	9 13.54	+20 12.9	2.373	3.286	7.9	22.3
3 12	9 8.25	+31 38.2	2.793	3.580	11.0	20.1	3 12	9 6.65	+20 31.4	2.441	3.276	10.9	22.5
62988	2000 WB ₂		2 10.2 311°08	4°2/14.2	18		164807	1999 JA ₁₁₄		2 10.2 273°83	0°4/ 9.9	18	
1 2	9 53.08	- 0 54.5	2.431	3.142	14.1	19.4	1 2	9 58.64	+12 32.7	1.666	2.448	17.0	20.8
1 12	9 49.97	- 1 0.5	2.330	3.140	11.8	19.2	1 12	9 55.60	+13 1.2	1.561	2.429	13.6	20.5
1 22	9 45.02	- 0 49.7	2.249	3.137	9.2	19.1	1 22	9 49.66	+13 45.9	1.476	2.410	9.5	20.2
2 1	9 38.61	- 0 21.8	2.193	3.134	6.4	18.9	2 1	9 41.22	+14 43.1	1.416	2.390	4.7	19.9
2 11	9 31.41	+ 0 21.4	2.165	3.131	4.4	18.7	2 11	9 31.21	+15 46.2	1.383	2.370	0.7	19.5
2 21	9 24.15	+ 1 16.4	2.166	3.129	4.9	18.8	2 21	9 20.90	+16 47.6	1.378	2.350	5.9	19.8
3 2	9 17.64	+ 2 18.4	2.195	3.126	7.4	18.9	3 2	9 11.69	+17 40.1	1.400	2.329	11.0	20.1
3 12	9 12.55	+ 3 21.8	2.251	3.124	10.3	19.1	3 12	9 4.80	+18 18.8	1.445	2.309	15.5	20.3
35644	1998 KW ₅₉		2 10.2 318°70	3°4/12.7	18		500223	2012 HM ₆₉		2 10.2 196°34	1°9/12.0	17	
1 2	9 52.63	+ 3 28.4	1.708	2.468	17.5	18.8	1 2	9 56.04	+ 4 54.8	2.427	3.160	13.6	22.3
1 12	9 50.60	+ 3 33.7	1.604	2.451	14.5	18.6	1 12	9 52.32	+ 5 23.2	2.324	3.157	11.1	22.1
1 22	9 46.04	+ 4 0.4	1.520	2.435	10.8	18.3	1 22	9 46.66	+ 6 7.3	2.243	3.154	8.0	21.9
2 1	9 39.33	+ 4 48.4	1.459	2.419	6.7	18.0	2 1	9 39.45	+ 7 5.3	2.189	3.151	4.6	21.7
2 11	9 31.33	+ 5 54.4	1.424	2.404	3.5	17.8	2 11	9 31.39	+ 8 13.4	2.164	3.147	1.9	21.5
2 21	9 23.12	+ 7 11.9	1.416	2.390	5.4	17.9	2 21	9 23.25	+ 9 26.4	2.170	3.143	3.9	21.6
3 2	9 15.90	+ 8 33.0	1.435	2.375	9.7	18.1	3 2	9 15.87	+10 38.8	2.206	3.138	7.4	21.8
3 12	9 10.72	+ 9 49.6	1.478	2.362	13.9	18.3	3 12	9 9.99	+11 45.5	2.270	3.133	10.6	22.0
208980	2002 YP ₂₂		2 10.2 21°65	6°4/ 3.4	18		432203	2009 DT ₉₄		2 10.2 303°78	1°7/ 8.7	17	
1 2	9 56.33	+29 29.4	2.190	2.988	12.9	19.8	1 2	9 54.66	+16 56.3	2.275	3.056	13.0	21.4
1 12	9 53.11	+31 13.8	2.117	2.989	10.3	19.7	1 12	9 51.51	+17 35.1	2.175	3.044	10.2	21.2
1 22	9 47.48	+33 0.0	2.069	2.991	7.9	19.5	1 22	9 46.25	+18 22.8	2.098	3.033	7.0	20.9
2 1	9 39.92	+34 39.5	2.048	2.993	6.5	19.4	2 1	9 39.30	+19 15.2	2.048	3.022	3.5	20.7
2 11	9 31.29	+36 3.4	2.056	2.995	7.0	19.5	2 11	9 31.40	+20 6.9	2.027	3.011	1.9	20.6
2 21	9 22.63	+37 5.6	2.091	2.997	9.1	19.6	2 21	9 23.42	+20 52.7	2.036	3.000	5.1	20.8
3 2	9 15.03	+37 43.1	2.152	2.999	11.6	19.8	3 2	9 16.29	+21 28.4	2.073	2.989	8.7	21.0
3 12	9 9.38	+37 56.6	2.235	3.001	14.0	19.9	3 12	9 10.80	+21 51.4	2.134	2.978	11.9	21.1
232702	2004 BW ₂₇		2 10.2 325°16	1°6/ 9.2	18		416591	2004 LC ₂		2 10.2 28°23	19°1/10.6	15	
1 2	9 58.17	+14 41.0	1.264	2.073	19.9	20.6	1 2	14 22.58	+11 25.2	0.205	0.945	94.8	18.3
1 12	9 55.92	+15 15.5											

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
209151	2003 <i>TT</i> ₂₉		2 10.2 329°14	4.6/ 7.5	18		69178	4729 <i>P-L</i>		2 10.2 220°84	0.5/10.6	18	
1 2	10 0.27	+22 38.1	1.458	2.267	17.7	19.8	1 2	9 59.92	+10 24.8	1.936	2.698	15.6	20.9
1 12	9 57.25	+23 22.6	1.376	2.261	14.0	19.6	1 12	9 56.03	+10 49.1	1.835	2.690	12.6	20.7
1 22	9 50.90	+24 14.6	1.315	2.255	9.8	19.3	1 22	9 49.59	+11 28.3	1.755	2.681	8.8	20.5
2 1	9 41.81	+25 6.0	1.279	2.249	5.8	19.1	2 1	9 41.07	+12 19.5	1.701	2.672	4.5	20.2
2 11	9 31.19	+25 47.3	1.268	2.243	5.0	19.0	2 11	9 31.32	+13 17.3	1.675	2.662	0.5	19.9
2 21	9 20.59	+26 10.9	1.283	2.238	8.6	19.2	2 21	9 21.42	+14 15.6	1.680	2.652	4.9	20.2
3 2	9 11.60	+26 13.0	1.322	2.234	13.0	19.4	3 2	9 12.55	+15 8.3	1.712	2.641	9.3	20.4
3 12	9 5.43	+25 54.2	1.383	2.229	17.1	19.6	3 12	9 5.67	+15 51.0	1.770	2.629	13.3	20.6
408654	2014 <i>MX</i> ₁₉		2 10.2 237°51	3.2/ 7.9	18		496569	2014 <i>YR</i> ₂₀		2 10.2 60°13	2.2/11.5	18	
1 2	9 59.93	+18 2.9	1.675	2.468	16.5	21.3	1 2	10 2.78	+ 9 30.9	1.713	2.475	17.4	21.3
1 12	9 56.57	+19 6.3	1.584	2.460	13.0	21.0	1 12	9 58.14	+ 9 2.1	1.642	2.494	13.9	21.2
1 22	9 50.26	+20 22.7	1.514	2.451	8.9	20.7	1 22	9 50.84	+ 8 46.1	1.591	2.513	9.9	21.0
2 1	9 41.47	+21 45.2	1.469	2.442	4.7	20.5	2 1	9 41.54	+ 8 41.7	1.566	2.532	5.5	20.7
2 11	9 31.22	+23 4.4	1.453	2.433	3.5	20.4	2 11	9 31.29	+ 8 45.9	1.568	2.552	2.2	20.6
2 21	9 20.82	+24 11.4	1.465	2.423	7.4	20.6	2 21	9 21.32	+ 8 55.0	1.599	2.571	5.0	20.8
3 2	9 11.69	+24 59.7	1.503	2.413	11.8	20.8	3 2	9 12.76	+ 9 5.1	1.657	2.591	9.2	21.1
3 12	9 4.97	+25 27.1	1.563	2.403	15.8	21.0	3 12	9 6.48	+ 9 12.8	1.740	2.611	12.9	21.3
241726	2000 <i>VE</i> ₇		2 10.2 193°60	4.1/ 7.2	18		29039	4514 <i>T-1</i>		2 10.2 292°72	7.0/15.4	18	
1 2	10 3.08	+22 40.3	1.879	2.667	15.1	20.8	1 2	9 54.84	- 4 49.0	1.816	2.526	18.3	18.5
1 12	9 58.66	+23 36.3	1.793	2.665	11.9	20.6	1 12	9 52.17	- 5 17.1	1.715	2.517	15.7	18.2
1 22	9 51.43	+24 38.8	1.730	2.663	8.3	20.4	1 22	9 47.03	- 5 21.8	1.633	2.508	12.7	18.0
2 1	9 41.94	+25 40.4	1.694	2.661	5.0	20.2	2 1	9 39.84	- 5 0.3	1.572	2.500	9.6	17.8
2 11	9 31.20	+26 33.0	1.685	2.658	4.5	20.2	2 11	9 31.43	- 4 12.9	1.536	2.491	7.3	17.6
2 21	9 20.47	+27 10.0	1.706	2.654	7.5	20.3	2 21	9 22.86	- 3 3.4	1.527	2.483	7.4	17.6
3 2	9 11.03	+27 27.9	1.753	2.650	11.2	20.5	3 2	9 15.26	- 1 38.8	1.544	2.475	10.0	17.8
3 12	9 3.89	+27 26.5	1.824	2.646	14.6	20.7	3 12	9 9.62	- 0 8.1	1.586	2.466	13.4	17.9
376724	1997 <i>UH</i> ₆		2 10.2 72°15	0.9/ 9.5	18		101400	1998 <i>UQ</i> ₄₁		2 10.2 118°75	2.0/ 8.7	18	
1 2	9 58.30	+14 59.3	2.125	2.898	14.1	21.9	1 2	10 0.95	+16 53.3	1.995	2.771	14.7	20.8
1 12	9 54.18	+15 26.2	2.054	2.918	11.0	21.8	1 12	9 56.54	+17 41.2	1.920	2.787	11.5	20.6
1 22	9 47.90	+16 2.1	2.006	2.938	7.4	21.6	1 22	9 49.69	+18 38.5	1.869	2.802	7.8	20.4
2 1	9 40.02	+16 42.9	1.985	2.959	3.6	21.4	2 1	9 40.99	+19 39.6	1.844	2.817	3.9	20.2
2 11	9 31.38	+17 23.6	1.993	2.979	1.1	21.2	2 11	9 31.36	+20 37.8	1.848	2.831	2.2	20.1
2 21	9 22.94	+17 59.4	2.031	2.999	4.7	21.5	2 21	9 21.87	+21 27.1	1.882	2.844	5.6	20.4
3 2	9 15.58	+18 26.8	2.097	3.020	8.3	21.8	3 2	9 13.58	+22 3.4	1.944	2.858	9.4	20.6
3 12	9 10.04	+18 43.7	2.189	3.040	11.4	22.0	3 12	9 7.31	+22 25.0	2.031	2.870	12.7	20.9
406232	2007 <i>BZ</i> ₅₄		2 10.2 74°57	0.5/10.6	18		82385	2001 <i>MV</i> ₂₁		2 10.2 115°58	2.8/ 8.0	18	
1 2	9 57.53	+10 13.1	1.780	2.552	16.4	21.7	1 2	10 2.18	+20 1.5	2.070	2.848	14.2	20.0
1 12	9 54.10	+10 40.5	1.703	2.564	13.1	21.5	1 12	9 57.40	+20 47.2	1.998	2.865	11.1	19.8
1 22	9 48.15	+11 23.3	1.646	2.575	9.1	21.2	1 22	9 50.22	+21 39.2	1.949	2.882	7.6	19.6
2 1	9 40.26	+12 18.0	1.615	2.587	4.6	21.0	2 1	9 41.22	+22 31.7	1.928	2.899	4.1	19.4
2 11	9 31.36	+13 18.4	1.612	2.599	0.5	20.7	2 11	9 31.35	+23 18.1	1.936	2.914	3.0	19.4
2 21	9 22.58	+14 18.1	1.638	2.611	4.9	21.1	2 21	9 21.66	+23 53.4	1.973	2.930	6.0	19.6
3 2	9 15.01	+15 10.8	1.691	2.622	9.2	21.3	3 2	9 13.18	+24 14.4	2.039	2.944	9.4	19.8
3 12	9 9.51	+15 52.6	1.768	2.634	13.0	21.6	3 12	9 6.73	+24 20.6	2.130	2.959	12.5	20.0
146512	2001 <i>SM</i> ₉₂		2 10.2 208°53	0.4/ 9.9	18		436251	2010 <i>BC</i> ₈₄		2 10.2 301°30	1.1/ 9.2	17	
1 2	10 0.00	+13 54.5	2.055	2.823	14.6	21.7	1 2	9 54.10	+14 11.9	2.174	2.952	13.6	21.5
1 12	9 55.85	+14 11.9	1.959	2.820	11.6	21.5	1 12	9 51.19	+14 58.6	2.074	2.942	10.8	21.3
1 22	9 49.30	+14 39.7	1.886	2.816	8.0	21.3	1 22	9 46.11	+15 57.4	1.997	2.931	7.3	21.1
2 1	9 40.84	+15 14.6	1.839	2.812	3.9	21.0	2 1	9 39.31	+17 4.0	1.947	2.921	3.5	20.8
2 11	9 31.31	+15 51.6	1.821	2.807	0.6	20.8	2 11	9 31.50	+18 12.6	1.926	2.911	1.3	20.6
2 21	9 21.75	+16 25.7	1.832	2.802	4.9	21.1	2 21	9 23.60	+19 17.1	1.934	2.901	5.0	20.9
3 2	9 13.23	+16 52.9	1.872	2.797	8.9	21.3	3 2	9 16.55	+20 12.0	1.971	2.891	8.8	21.1
3 12	9 6.62	+17 10.2	1.938	2.792	12.5	21.5	3 12	9 11.17	+20 53.9	2.032	2.882	12.2	21.3
227872	2007 <i>EP</i> ₈		2 10.2 217°05	0.4/ 9.9	18		110236	2001 <i>SQ</i> ₂₃₀		2 10.2 239°88	1.0/ 9.3	17	
1 2	9 57.80	+13 27.1	1.990	2.764	14.9	20.9	1 2	9 56.17	+15 34.7	2.498	3.267	12.3	20.6
1 12	9 54.18	+13 50.2	1.899	2.763	11.8	20.7	1 12	9 52.44	+16 3.8	2.398	3.261	9.7	20.4
1 22	9 48.17	+14 24.8	1.830	2.762	8.1	20.5	1 22	9 46.76	+16 41.1	2.322	3.254	6.6	20.2
2 1	9 40.28	+15 7.3	1.787	2.761	3.9	20.2	2 1	9 39.55	+17 23.3	2.273	3.247	3.2	20.0
2 11	9 31.37	+15 52.4	1.773	2.760	0.6	20.0	2 11	9 31.50	+18 5.9	2.254	3.239	1.2	19.8
2 21	9 22.44	+16 34.7	1.788	2.758	4.9	20.3	2 21	9 23.39	+18 44.4	2.265	3.232	4.4	20.0
3 2	9 14.56	+17 9.5	1.831	2.757	9.0	20.5	3 2	9 16.08	+19 15.3	2.306	3.225	7.8	20.2
3 12	9 8.60	+17 33.7	1.898	2.756	12.6	20.7	3 12	9 10.28	+19 36.3	2.372	3.217	10.9	20.4
523634	2010 <i>AH</i> ₂		2 10.2 318°47	0.1/ 8.9	18		278396	2007 <i>PD</i> ₄₇		2 10.2 170°14	1.5/11.7	17	
1 2	9 35.18	+18 23.0	38.337	39.100	0.9	21.8	1 2	9 54.97	+ 6 18.6	2.528	3.266	13.0	21.3
1 12	9 34.51	+18 27.7	38.238	39.099	0.7	21.8	1 12	9 51.38	+ 6 44.9	2.430	3.269	10.5	21.2
1 22	9 33.74	+18 32.7	38.167	39.099	0.5	21.8	1 22	9 45.97	+ 7 25.1	2.356	3.271	7.5	21.0
2 1	9 32.91	+18 37.8	38.125	39.098	0.2	21.7	2 1	9 39.14	+ 8 17.1	2.308	3.272	4.2	20.8
2 11	9 32.04	+18 42.8	38.113	39.097	0.1	21.7	2 11	9 31.54	+ 9 17.2	2.290	3.274	1.6	20.6
2 21	9 31.17	+18 47.6	38.132	39.096	0.3	21.7	2 21	9 23.91	+10 20.7	2.302	3.275	3.7	20.7
3 2	9 30.34	+18 52.0	38.181	39.095	0.6	21.8	3 2	9 17.04	+11 22.8	2.344	3.275	7.0	20.9
3 12	9 29.58	+18 55.9	38.258	39.094	0.8	21.8	3 12	9 11.58	+12 19.2	2.413	3.276	10.1	21.1
518828	2010 <i>CC</i> ₁₈₄		2 10.2 61°22	7.0/ 3.8	18		406536	2007 <i>VD</i> ₃₂₁		2 10.2 55°11	3.8/ 7.8	18	
1 2	9 59.19	+29 28.5	1.877	2.679	14.6	20.1	1						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
518028	2015 <i>VE</i> ₁₅₇		2 10.2 289°19	3°9/12.2	18		170245	2003 <i>QF</i> ₃₈		2 10.2 205°94	0°4/10.5	18	
1 2	10 0.75	+ 6 6.0	1.497	2.262	19.3	21.3	1 2	10 0.19	+10 36.4	2.035	2.794	15.1	21.4
1 12	9 57.37	+ 5 30.3	1.406	2.256	15.9	21.1	1 12	9 56.09	+11 3.6	1.935	2.789	12.1	21.2
1 22	9 50.89	+ 5 11.5	1.333	2.250	11.8	20.8	1 22	9 49.56	+11 44.9	1.857	2.783	8.4	20.9
2 1	9 41.85	+ 5 10.2	1.283	2.245	7.3	20.5	2 1	9 41.05	+12 37.3	1.806	2.777	4.3	20.7
2 11	9 31.30	+ 5 24.3	1.259	2.239	4.0	20.3	2 11	9 31.41	+13 35.5	1.783	2.770	0.4	20.4
2 21	9 20.62	+ 5 49.8	1.261	2.233	6.2	20.4	2 21	9 21.66	+14 33.5	1.790	2.762	4.7	20.7
3 2	9 11.30	+ 6 20.8	1.290	2.228	10.9	20.7	3 2	9 12.90	+15 25.8	1.827	2.754	9.0	20.9
3 12	9 4.53	+ 6 51.2	1.341	2.222	15.3	20.9	3 12	9 6.04	+16 8.2	1.888	2.745	12.7	21.1
136076	2003 <i>AC</i> ₈		2 10.2 35°11	9°3/ 2.5	18		322036	2010 <i>VE</i> ₃₆		2 10.2 147°01	0°2/10.4	18	
1 2	10 2.71	+39 11.4	1.971	2.761	14.4	18.6	1 2	10 0.24	+11 40.5	2.204	2.960	14.1	21.6
1 12	9 58.55	+40 34.5	1.917	2.770	12.2	18.5	1 12	9 55.75	+12 2.0	2.117	2.970	11.2	21.4
1 22	9 51.38	+41 49.6	1.885	2.780	10.2	18.4	1 22	9 49.07	+12 34.9	2.053	2.979	7.7	21.2
2 1	9 41.89	+42 47.1	1.878	2.790	9.3	18.3	2 1	9 40.70	+13 16.0	2.016	2.987	3.9	21.0
2 11	9 31.32	+43 19.0	1.897	2.801	9.8	18.4	2 11	9 31.45	+14 0.6	2.009	2.995	0.3	20.7
2 21	9 21.06	+43 21.7	1.940	2.812	11.5	18.5	2 21	9 22.26	+14 43.8	2.031	3.002	4.3	21.0
3 2	9 12.44	+42 55.6	2.007	2.823	13.6	18.6	3 2	9 14.08	+15 21.5	2.083	3.009	8.1	21.3
3 12	9 6.40	+42 5.2	2.094	2.835	15.6	18.8	3 12	9 7.67	+15 50.6	2.161	3.015	11.4	21.5
262339	2006 <i>TR</i> ₄₃		2 10.2 156°22	1°0/ 9.5	18		235626	2004 <i>RO</i> ₁₇		2 10.2 162°10	0°9/ 9.5	18	
1 2	10 0.08	+14 57.0	1.970	2.744	15.0	21.3	1 2	10 1.61	+13 29.0	1.968	2.734	15.3	21.3
1 12	9 55.98	+15 26.9	1.883	2.748	11.8	21.1	1 12	9 57.20	+14 15.2	1.881	2.741	12.0	21.1
1 22	9 49.42	+16 7.5	1.819	2.752	8.1	20.9	1 22	9 50.28	+15 14.4	1.817	2.747	8.2	20.9
2 1	9 40.93	+16 54.4	1.782	2.755	3.9	20.6	2 1	9 41.38	+16 21.8	1.780	2.753	4.0	20.6
2 11	9 31.41	+17 41.8	1.773	2.758	1.2	20.4	2 11	9 31.39	+17 30.6	1.772	2.757	1.2	20.4
2 21	9 21.92	+18 24.0	1.793	2.761	5.2	20.7	2 21	9 21.42	+18 33.9	1.794	2.761	5.3	20.7
3 2	9 13.56	+18 56.5	1.842	2.764	9.3	21.0	3 2	9 12.59	+19 26.3	1.845	2.764	9.4	21.0
3 12	9 7.21	+19 16.8	1.916	2.766	12.8	21.2	3 12	9 5.79	+20 4.7	1.921	2.766	13.0	21.2
462869	2010 <i>VR</i> ₈₉		2 10.2 123°45	0°4/10.6	18		33857	2000 <i>HU</i> ₇₄		2 10.2 152°68	0°0/10.3	18	
1 2	10 0.42	+11 10.9	2.075	2.833	14.8	22.1	1 2	10 2.16	+11 24.6	1.937	2.698	15.7	20.5
1 12	9 55.98	+11 28.6	1.994	2.847	11.8	21.9	1 12	9 57.61	+11 54.6	1.852	2.707	12.5	20.3
1 22	9 49.25	+11 58.3	1.935	2.860	8.1	21.7	1 22	9 50.53	+12 38.3	1.789	2.716	8.6	20.1
2 1	9 40.78	+12 36.8	1.902	2.873	4.1	21.5	2 1	9 41.49	+13 31.8	1.752	2.724	4.3	19.9
2 11	9 31.42	+13 19.5	1.899	2.885	0.5	21.2	2 11	9 31.39	+14 29.4	1.744	2.731	0.3	19.6
2 21	9 22.18	+14 1.4	1.925	2.897	4.4	21.5	2 21	9 21.35	+15 24.8	1.766	2.737	4.9	19.9
3 2	9 14.04	+14 38.1	1.981	2.909	8.3	21.8	3 2	9 12.48	+16 12.7	1.817	2.743	9.1	20.2
3 12	9 7.77	+15 6.3	2.062	2.920	11.7	22.0	3 12	9 5.66	+16 49.4	1.894	2.748	12.8	20.4
170708	2004 <i>BD</i> ₃₂		2 10.2 216°05	1°3/ 9.0	18		224685	2006 <i>AU</i> ₈₆		2 10.2 23°66	4°4/12.9	18	
1 2	9 56.36	+16 19.5	2.367	3.140	12.8	20.4	1 2	9 56.62	+ 4 18.9	1.522	2.287	19.1	20.0
1 12	9 52.69	+16 54.4	2.273	3.138	10.0	20.2	1 12	9 53.78	+ 3 41.2	1.448	2.296	15.7	19.8
1 22	9 46.98	+17 37.6	2.203	3.136	6.8	20.0	1 22	9 48.16	+ 3 22.2	1.392	2.306	11.7	19.5
2 1	9 39.68	+18 25.3	2.161	3.134	3.3	19.8	2 1	9 40.38	+ 3 22.5	1.360	2.317	7.5	19.3
2 11	9 31.51	+19 12.4	2.148	3.132	1.6	19.6	2 11	9 31.48	+ 3 39.8	1.353	2.329	4.5	19.2
2 21	9 23.34	+19 54.1	2.164	3.129	4.7	19.9	2 21	9 22.72	+ 4 9.6	1.372	2.342	6.0	19.3
3 2	9 16.02	+20 26.7	2.210	3.127	8.2	20.1	3 2	9 15.33	+ 4 46.0	1.416	2.356	9.9	19.6
3 12	9 10.32	+20 48.0	2.281	3.124	11.3	20.3	3 12	9 10.26	+ 5 22.5	1.485	2.370	13.8	19.8
194050	2001 <i>SF</i> ₁₀₅		2 10.2 108°08	1°4/11.1	18		417552	2006 <i>UL</i> ₇₈		2 10.2 72°67	7°2/ 5.9	18	
1 2	10 4.03	+ 8 55.9	1.724	2.480	17.5	21.4	1 2	10 7.74	+31 4.7	1.660	2.455	16.5	21.4
1 12	9 59.17	+ 9 4.7	1.652	2.502	14.0	21.2	1 12	10 2.51	+32 4.0	1.606	2.476	13.2	21.3
1 22	9 51.59	+ 9 29.1	1.601	2.523	9.8	21.0	1 22	9 54.03	+33 0.6	1.575	2.497	9.9	21.1
2 1	9 41.96	+10 6.1	1.576	2.544	5.2	20.7	2 1	9 43.16	+33 44.5	1.568	2.518	7.5	21.0
2 11	9 31.33	+10 50.5	1.578	2.564	1.4	20.5	2 11	9 31.26	+34 7.3	1.588	2.539	7.6	21.1
2 21	9 20.95	+11 36.5	1.610	2.583	5.0	20.8	2 21	9 19.88	+34 5.0	1.635	2.560	9.8	21.2
3 2	9 11.98	+12 18.4	1.670	2.601	9.3	21.1	3 2	9 10.41	+33 37.9	1.707	2.580	12.8	21.5
3 12	9 5.32	+12 52.1	1.755	2.619	13.1	21.4	3 12	9 3.78	+32 50.3	1.801	2.601	15.7	21.7
212667	2006 <i>UU</i> ₂₅₃		2 10.2 283°13	0°1/10.3	17		452645	2005 <i>UW</i> ₁₂₈		2 10.2 137°89	0°6/10.7	18	
1 2	9 54.95	+12 16.4	2.446	3.209	12.7	21.1	1 2	10 3.60	+10 19.9	1.827	2.585	16.6	22.7
1 12	9 51.52	+12 35.1	2.344	3.201	10.1	20.9	1 12	9 58.82	+10 40.3	1.746	2.599	13.2	22.5
1 22	9 46.16	+13 3.9	2.266	3.194	7.0	20.7	1 22	9 51.39	+11 15.2	1.687	2.612	9.2	22.2
2 1	9 39.28	+13 40.1	2.214	3.186	3.5	20.5	2 1	9 41.90	+12 1.3	1.654	2.625	4.7	22.0
2 11	9 31.56	+14 19.9	2.192	3.178	0.3	20.2	2 11	9 31.36	+12 52.8	1.650	2.636	0.7	21.7
2 21	9 23.78	+14 59.0	2.200	3.171	4.0	20.5	2 21	9 20.94	+13 43.7	1.675	2.647	4.9	22.1
3 2	9 16.78	+15 33.6	2.236	3.163	7.5	20.7	3 2	9 11.81	+14 28.4	1.729	2.657	9.3	22.3
3 12	9 11.27	+16 0.7	2.299	3.156	10.7	20.9	3 12	9 4.88	+15 3.2	1.808	2.666	13.1	22.6
503528	2016 <i>FO</i> ₁₇		2 10.2 150°23	1°6/ 8.4	17		79677	1998 <i>SK</i> ₄₈		2 10.2 11°51	1°3/ 9.5	18	
1 2	9 56.06	+17 4.4	2.780	3.547	11.2	21.8	1 2	9 57.55	+15 35.9	1.391	2.196	18.6	19.5
1 12	9 52.09	+17 57.1	2.693	3.555	8.8	21.6	1 12	9 54.98	+15 52.3	1.316	2.197	14.7	19.2
1 22	9 46.37	+18 56.9	2.630	3.562	5.9	21.4	1 22	9 49.26	+16 21.5	1.261	2.200	10.1	19.0
2 1	9 39.32	+19 59.8	2.596	3.569	3.0	21.2	2 1	9 41.01	+16 58.4	1.229	2.204	4.9	18.7
2 11	9 31.56	+21 0.8	2.594	3.575	1.8	21.2	2 11	9 31.43	+17 36.0	1.222	2.208	1.5	18.5
2 21	9 23.82	+21 55.5	2.622	3.581	4.4	21.4	2 21	9 21.97	+18 7.2	1.242	2.213	6.4	18.8
3 2	9 16.82	+22 40.3	2.679	3.587	7.4	21.5	3 2	9 14.08	+18 26.8	1.287	2.219	11.4	19.1
3 12	9 11.19	+23 13.2	2.764	3.592	10.0	21.7	3 12	9 8.85	+18 32.4	1.354	2.226	15.8	19.4
233090	2005 <i>RM</i> ₂₆		2 10.2 79°41	1°6/ 9.4	18		439764	2015 <i>FC</i> ₃₄₃		2 10.2 311°53	4°1/ 6.4	17	
1 2	10 6.96	+17 1.6	1.373	2.165	19.5	20.4	1						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
212466	2006 QA ₄₁		2 10.2 79°59'	2.3/ 8.4	18		328627	2009 SW ₁₇₀		2 10.2 109°73'	5.7/ 5.8	18	
1 2	9 59.88	+20 46.6	2.312	3.090	12.9	20.5	1 2	10 4.39	+29 26.6	2.122	2.907	13.7	21.2
1 12	9 55.39	+21 6.6	2.232	3.099	10.1	20.4	1 12	9 59.26	+30 25.2	2.058	2.923	10.9	21.1
1 22	9 48.75	+21 30.7	2.175	3.108	6.9	20.2	1 22	9 51.56	+31 23.0	2.016	2.938	8.1	20.9
2 1	9 40.51	+21 54.7	2.146	3.117	3.7	20.0	2 1	9 41.93	+32 12.4	2.002	2.954	6.0	20.8
2 11	9 31.49	+22 13.8	2.146	3.126	2.5	19.9	2 11	9 31.39	+32 46.4	2.016	2.968	6.0	20.9
2 21	9 22.60	+22 24.5	2.176	3.135	5.2	20.1	2 21	9 21.11	+33 1.1	2.059	2.983	8.1	21.0
3 2	9 14.77	+22 24.7	2.234	3.144	8.5	20.3	3 2	9 12.19	+32 55.2	2.128	2.997	10.8	21.2
3 12	9 8.70	+22 13.9	2.318	3.153	11.4	20.5	3 12	9 5.46	+32 30.8	2.220	3.011	13.4	21.4
34744	2001 QS ₈₆		2 10.2 196°15'	2.2/ 11.7	18		163158	2002 CS ₁₃₆		2 10.2 331°84'	4.6/ 12.9	18	
1 2	10 2.79	+ 8 20.5	2.191	2.930	14.7	18.6	1 2	9 57.56	+ 3 11.1	1.486	2.247	19.6	20.0
1 12	9 57.84	+ 7 56.4	2.091	2.928	11.9	18.4	1 12	9 54.84	+ 2 45.7	1.398	2.243	16.3	19.8
1 22	9 50.58	+ 7 43.2	2.012	2.926	8.6	18.1	1 22	9 49.15	+ 2 41.3	1.328	2.240	12.3	19.5
2 1	9 41.50	+ 7 39.9	1.960	2.923	5.0	17.9	2 1	9 41.01	+ 2 59.0	1.280	2.237	7.9	19.2
2 11	9 31.40	+ 7 44.5	1.937	2.920	2.3	17.7	2 11	9 31.46	+ 3 36.2	1.257	2.234	4.7	19.0
2 21	9 21.27	+ 7 54.2	1.945	2.916	4.5	17.9	2 21	9 21.81	+ 4 27.8	1.260	2.232	6.4	19.1
3 2	9 12.12	+ 8 5.8	1.982	2.912	8.2	18.1	3 2	9 13.47	+ 5 26.1	1.290	2.229	10.7	19.4
3 12	9 4.79	+ 8 16.0	2.046	2.907	11.7	18.3	3 12	9 7.57	+ 6 23.4	1.342	2.227	15.0	19.6
133990	2004 TZ ₃₅₆		2 10.2 104°13'	1.0/ 11.1	18		155034	2005 QJ ₁₂₇		2 10.2 10°58'	4.6/ 8.5	18	
1 2	9 55.00	+ 6 54.8	2.044	2.799	15.1	19.8	1 2	10 3.53	+25 10.8	1.243	2.062	19.6	19.3
1 12	9 51.89	+ 7 44.1	1.954	2.804	12.1	19.6	1 12	10 0.12	+25 7.5	1.177	2.065	15.6	19.1
1 22	9 46.59	+ 8 51.5	1.887	2.809	8.5	19.4	1 22	9 52.94	+25 4.9	1.130	2.070	10.9	18.8
2 1	9 39.55	+10 13.6	1.845	2.814	4.5	19.2	2 1	9 42.82	+24 55.7	1.105	2.076	6.3	18.6
2 11	9 31.56	+11 44.4	1.832	2.818	1.0	18.9	2 11	9 31.32	+24 32.9	1.105	2.084	4.8	18.5
2 21	9 23.56	+13 16.6	1.850	2.823	4.4	19.2	2 21	9 20.27	+23 53.0	1.131	2.093	8.5	18.8
3 2	9 16.50	+14 43.0	1.896	2.828	8.4	19.4	3 2	9 11.34	+22 56.5	1.180	2.103	13.2	19.0
3 12	9 11.20	+15 58.2	1.969	2.832	12.0	19.7	3 12	9 5.65	+21 46.9	1.251	2.115	17.3	19.3
407550	2010 WK ₇₁		2 10.2 131°01'	1.8/ 8.7	18		463842	2014 TN ₇₉		2 10.2 1°47'	1.7/ 9.3	18	
1 2	10 2.81	+18 1.9	2.350	3.115	13.1	21.3	1 2	10 0.62	+18 1.8	1.484	2.284	17.9	20.7
1 12	9 57.57	+18 36.6	2.273	3.133	10.3	21.1	1 12	9 57.27	+18 5.9	1.404	2.283	14.2	20.4
1 22	9 50.19	+19 17.8	2.220	3.150	6.9	20.9	1 22	9 50.78	+18 18.6	1.344	2.282	9.7	20.2
2 1	9 41.20	+20 0.9	2.194	3.167	3.5	20.7	2 1	9 41.76	+18 35.1	1.308	2.282	4.8	19.9
2 11	9 31.43	+20 40.6	2.200	3.182	2.0	20.7	2 11	9 31.41	+18 49.1	1.298	2.283	2.0	19.7
2 21	9 21.82	+21 12.7	2.236	3.197	5.0	20.9	2 21	9 21.16	+18 55.3	1.315	2.284	6.5	20.0
3 2	9 13.27	+21 34.2	2.301	3.211	8.3	21.1	3 2	9 12.48	+18 50.3	1.358	2.286	11.3	20.3
3 12	9 6.51	+21 43.9	2.393	3.225	11.2	21.3	3 12	9 6.45	+18 33.1	1.423	2.289	15.5	20.5
168300	1217 T ₋₂		2 10.2 44°20'	1.9/ 8.8	18		234815	2002 QN ₁₁₄		2 10.2 112°74'	2.9/ 13.0	18	
1 2	9 57.69	+18 4.7	1.968	2.754	14.6	19.9	1 2	9 54.96	+ 2 28.7	2.337	3.064	14.2	21.0
1 12	9 53.99	+18 32.9	1.897	2.769	11.4	19.7	1 12	9 51.50	+ 2 42.8	2.246	3.072	11.7	20.8
1 22	9 47.96	+19 8.6	1.848	2.784	7.7	19.5	1 22	9 46.12	+ 3 13.4	2.177	3.080	8.7	20.6
2 1	9 40.16	+19 46.8	1.826	2.799	3.8	19.3	2 1	9 39.27	+ 3 59.4	2.133	3.088	5.4	20.4
2 11	9 31.53	+20 22.0	1.832	2.815	2.1	19.2	2 11	9 31.63	+ 4 57.5	2.118	3.096	3.0	20.3
2 21	9 23.07	+20 49.3	1.867	2.831	5.4	19.5	2 21	9 24.02	+ 6 3.0	2.133	3.104	4.2	20.4
3 2	9 15.80	+21 5.5	1.929	2.847	9.1	19.7	3 2	9 17.23	+ 7 10.4	2.177	3.111	7.3	20.6
3 12	9 10.48	+21 9.5	2.015	2.864	12.4	19.9	3 12	9 11.97	+ 8 14.6	2.248	3.119	10.4	20.8
364366	2006 UM ₃₀₂		2 10.2 184°33'	0.6/ 10.7	17		472404	2015 BP ₂₄₀		2 10.2 329°97'	1.7/ 11.4	18	
1 2	9 59.69	+ 9 56.6	2.206	2.957	14.3	23.2	1 2	9 57.83	+ 9 32.3	1.962	2.724	15.4	21.2
1 12	9 55.43	+10 21.2	2.109	2.958	11.4	23.0	1 12	9 54.26	+ 9 19.7	1.867	2.720	12.5	21.0
1 22	9 48.94	+10 59.0	2.035	2.958	8.0	22.8	1 22	9 48.30	+ 9 19.2	1.792	2.715	8.9	20.7
2 1	9 40.70	+11 47.1	1.987	2.957	4.1	22.5	2 1	9 40.44	+ 9 29.5	1.744	2.711	4.9	20.5
2 11	9 31.48	+12 40.9	1.969	2.956	0.6	22.2	2 11	9 31.53	+ 9 47.5	1.723	2.707	1.7	20.3
2 21	9 22.21	+13 35.2	1.981	2.953	4.3	22.5	2 21	9 22.59	+10 9.3	1.730	2.704	4.6	20.5
3 2	9 13.87	+14 24.9	2.023	2.951	8.2	22.8	3 2	9 14.68	+10 30.8	1.766	2.700	8.7	20.7
3 12	9 7.28	+15 6.2	2.091	2.947	11.7	23.0	3 12	9 8.67	+10 48.3	1.827	2.697	12.4	20.9
33737	Helenlyons		2 10.2 240°52'	1.9/ 8.5	18		337193	1999 VY ₁₉₈		2 10.2 109°43'	1.0/ 10.9	18	
1 2	9 58.44	+17 26.6	2.299	3.073	13.1	19.4	1 2	10 2.32	+ 8 11.1	1.567	2.333	18.6	21.1
1 12	9 54.54	+18 10.2	2.195	3.060	10.3	19.2	1 12	9 58.19	+ 8 43.6	1.496	2.352	14.8	20.9
1 22	9 48.41	+19 2.7	2.114	3.047	7.1	19.0	1 22	9 51.15	+ 9 35.6	1.445	2.370	10.4	20.6
2 1	9 40.48	+19 59.7	2.060	3.033	3.6	18.7	2 1	9 41.86	+10 43.1	1.418	2.388	5.4	20.4
2 11	9 31.49	+20 55.4	2.036	3.018	2.2	18.6	2 11	9 31.43	+11 58.7	1.419	2.405	1.0	20.1
2 21	9 22.37	+21 44.1	2.042	3.004	5.4	18.8	2 21	9 21.19	+13 14.2	1.448	2.422	5.3	20.5
3 2	9 14.10	+22 21.6	2.077	2.988	9.0	19.0	3 2	9 12.43	+14 21.8	1.505	2.438	10.1	20.8
3 12	9 7.54	+22 45.6	2.137	2.973	12.2	19.1	3 12	9 6.14	+15 16.5	1.586	2.453	14.2	21.1
109714	2001 RL ₄₈		2 10.2 216°06'	4.4/ 14.8	18		147978	1995 SA ₃₄		2 10.2 147°21'	0.5/ 10.8	17	
1 2	9 53.50	- 2 55.9	2.588	3.282	13.7	19.5	1 2	9 55.72	+10 29.1	2.819	3.566	11.6	21.7
1 12	9 50.24	- 2 53.5	2.483	3.279	11.6	19.4	1 12	9 51.74	+10 50.7	2.726	3.573	9.2	21.6
1 22	9 45.22	- 2 33.4	2.398	3.276	9.1	19.2	1 22	9 46.10	+11 22.0	2.658	3.580	6.4	21.4
2 1	9 38.82	- 1 55.4	2.339	3.272	6.5	19.0	2 1	9 39.20	+12 0.4	2.618	3.587	3.3	21.2
2 11	9 31.64	- 1 1.3	2.307	3.269	4.6	18.9	2 11	9 31.65	+12 42.7	2.607	3.594	0.5	21.0
2 21	9 24.40	+ 0 5.3	2.305	3.265	4.9	18.9	2 21	9 24.13	+13 25.2	2.628	3.600	3.4	21.2
3 2	9 17.85	+ 1 19.4	2.332	3.261	7.2	19.0	3 2	9 17.32	+14 4.3	2.679	3.606	6.5	21.4
3 12	9 12.64	+ 2 35.3	2.386	3.257	9.8	19.2	3 12	9 11.80	+14 37.4	2.757	3.611	9.2	21.6
397991	2009 BH ₁₁₀		2 10.2 52°25'	0.0/ 10.1	17		467299	2016 EY ₁₉₈		2 10.2 11°11'	1.8/ 8.9	18	
1 2	9 53.80	+10 48.2	2.338	3.102	13.2	21.1	1 2	9 56.84	+15 53.6	1.607	2.404	16.9	21.2

EPHEMERIDES

2 10.2

2 10.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
193923	2001 QY ₂₉₁	2 10.2 142°66' 0°3/10.5 18					229996	2000 CS ₁₇	2 10.2 327°76' 0°4/10.5 18				
1 2	10 3.56	+11 24.5	1.905	2.664	16.0	21.0	1 2	9 53.66	+9 18.0	1.232	2.036	20.6	20.1
1 12	9 58.71	+11 44.3	1.823	2.676	12.7	20.8	1 12	9 52.50	+9 51.7	1.146	2.025	16.6	19.8
1 22	9 51.29	+12 17.3	1.762	2.688	8.8	20.6	1 22	9 48.01	+10 50.5	1.077	2.015	11.7	19.5
2 1	9 41.88	+12 59.8	1.728	2.699	4.4	20.3	2 1	9 40.66	+12 10.9	1.031	2.005	6.0	19.1
2 11	9 31.44	+13 46.5	1.723	2.710	0.4	20.0	2 11	9 31.56	+13 44.4	1.009	1.996	0.5	18.7
2 21	9 21.10	+14 31.6	1.748	2.719	4.8	20.4	2 21	9 22.25	+15 19.3	1.012	1.987	6.6	19.1
3 2	9 12.01	+15 10.2	1.801	2.728	9.1	20.7	3 2	9 14.42	+16 44.2	1.039	1.980	12.5	19.4
3 12	9 5.03	+15 39.1	1.880	2.736	12.8	20.9	3 12	9 9.44	+17 50.8	1.088	1.973	17.7	19.7
212412	2006 KN ₅₆	2 10.2 160°29' 0°7/ 9.7 18					57460	2001 SA ₇₅	2 10.3 272°28' 2°3/ 9.0 18				
1 2	10 0.99	+13 27.2	2.117	2.880	14.4	21.7	1 2	10 3.33	+18 27.2	1.501	2.296	17.9	19.4
1 12	9 56.52	+14 5.6	2.030	2.887	11.4	21.5	1 12	9 59.58	+18 44.6	1.413	2.289	14.3	19.2
1 22	9 49.72	+14 55.5	1.965	2.894	7.8	21.3	1 22	9 52.54	+19 11.5	1.344	2.282	9.8	18.9
2 1	9 41.10	+15 52.8	1.927	2.900	3.8	21.1	2 1	9 42.76	+19 42.4	1.300	2.274	5.0	18.6
2 11	9 31.51	+16 51.6	1.919	2.905	0.9	20.9	2 11	9 31.41	+20 9.8	1.283	2.267	2.6	18.4
2 21	9 21.94	+17 46.1	1.941	2.909	4.8	21.2	2 21	9 20.02	+20 27.1	1.293	2.260	7.0	18.6
3 2	9 13.41	+18 31.5	1.992	2.913	8.7	21.4	3 2	9 10.16	+20 30.4	1.329	2.252	11.9	18.9
3 12	9 6.76	+19 5.0	2.069	2.916	12.2	21.6	3 12	9 3.06	+20 18.5	1.387	2.245	16.3	19.1
256286	2006 WC ₁₁₆	2 10.2 100°01' 1°9/11.7 18					83135	2001 QC ₂₆₁	2 10.3 22°76' 4°1/13.8 18				
1 2	9 58.89	+6 46.0	1.910	2.662	16.2	20.3	1 2	9 54.43	+0 29.0	2.291	3.011	14.7	19.7
1 12	9 54.98	+6 58.0	1.831	2.677	13.0	20.1	1 12	9 51.20	+0 18.3	2.195	3.012	12.2	19.5
1 22	9 48.70	+7 26.1	1.773	2.691	9.3	19.9	1 22	9 46.00	+0 24.3	2.119	3.013	9.4	19.3
2 1	9 40.59	+8 8.4	1.741	2.706	5.2	19.7	2 1	9 39.27	+0 47.0	2.068	3.014	6.4	19.2
2 11	9 31.56	+9 0.2	1.736	2.720	2.0	19.5	2 11	9 31.71	+1 24.5	2.045	3.015	4.2	19.0
2 21	9 22.64	+9 55.8	1.761	2.734	4.6	19.7	2 21	9 24.11	+2 13.2	2.051	3.016	4.9	19.1
3 2	9 14.86	+10 49.5	1.813	2.747	8.5	20.0	3 2	9 17.34	+3 8.3	2.085	3.018	7.7	19.2
3 12	9 9.04	+11 36.5	1.892	2.760	12.1	20.2	3 12	9 12.09	+4 4.3	2.145	3.019	10.7	19.4
265355	2004 RF ₈₃	2 10.2 153°79' 1°1/ 9.4 18					54758	2001 KP ₅₉	2 10.3 161°38' 5°0/14.5 18				
1 2	9 59.64	+15 53.5	2.193	2.963	13.8	21.2	1 2	9 59.15	-2 20.4	2.385	3.076	14.8	19.5
1 12	9 55.38	+16 18.1	2.105	2.967	10.8	21.0	1 12	9 54.77	-2 41.0	2.289	3.083	12.5	19.3
1 22	9 48.89	+16 51.3	2.040	2.972	7.4	20.7	1 22	9 48.38	-2 44.6	2.213	3.089	9.9	19.1
2 1	9 40.68	+17 29.0	2.002	2.975	3.6	20.5	2 1	9 40.43	-2 30.3	2.162	3.094	7.1	18.9
2 11	9 31.55	+18 6.4	1.994	2.979	1.3	20.3	2 11	9 31.61	-1 59.3	2.139	3.099	5.1	18.8
2 21	9 22.48	+18 38.6	2.015	2.982	4.8	20.6	2 21	9 22.79	-1 14.6	2.146	3.103	5.5	18.9
3 2	9 14.42	+19 2.2	2.065	2.985	8.5	20.8	3 2	9 14.80	-0 21.0	2.182	3.106	7.9	19.0
3 12	9 8.16	+19 15.2	2.141	2.988	11.8	21.0	3 12	9 8.39	+0 36.1	2.244	3.109	10.6	19.2
194345	2001 UR ₁₅₄	2 10.2 70°06' 4°2/12.9 18					268319	2005 QR ₁₆₆	2 10.3 204°04' 5°6/15.5 18				
1 2	9 58.56	+2 54.5	1.472	2.231	19.9	20.0	1 2	9 57.97	-6 25.5	3.130	3.779	12.3	21.1
1 12	9 55.49	+2 44.1	1.395	2.240	16.4	19.8	1 12	9 53.41	-7 13.0	3.019	3.774	10.7	21.0
1 22	9 49.49	+2 56.5	1.336	2.249	12.2	19.5	1 22	9 47.24	-7 47.3	2.929	3.769	8.8	20.8
2 1	9 41.13	+3 31.6	1.300	2.258	7.7	19.3	2 1	9 39.82	-8 6.6	2.864	3.764	7.0	20.7
2 11	9 31.52	+4 25.5	1.289	2.267	4.3	19.1	2 11	9 31.67	-8 10.6	2.828	3.758	5.8	20.6
2 21	9 21.99	+5 31.4	1.305	2.277	6.0	19.2	2 21	9 23.43	-8 0.1	2.821	3.752	5.9	20.6
3 2	9 13.87	+6 40.9	1.346	2.286	10.3	19.5	3 2	9 15.76	-7 37.5	2.843	3.745	7.2	20.7
3 12	9 8.22	+7 46.0	1.412	2.295	14.5	19.8	3 12	9 9.26	-7 6.5	2.892	3.738	9.1	20.8
129673	1998 RV ₂₇	2 10.2 152°41' 4°0/14.4 18					113432	2002 SO ₃₉	2 10.3 29°77' 0°5/ 9.9 18				
1 2	9 55.30	-1 49.9	2.536	3.234	13.9	20.8	1 2	9 55.64	+13 30.2	1.680	2.469	16.5	19.5
1 12	9 51.64	-1 39.8	2.439	3.240	11.6	20.6	1 12	9 52.78	+13 54.5	1.611	2.484	13.0	19.3
1 22	9 46.16	-1 12.0	2.363	3.246	9.0	20.4	1 22	9 47.36	+14 31.7	1.563	2.499	8.9	19.1
2 1	9 39.30	-0 26.8	2.312	3.252	6.2	20.3	2 1	9 39.98	+15 17.2	1.540	2.514	4.3	18.8
2 11	9 31.68	+0 33.5	2.290	3.257	4.2	20.1	2 11	9 31.66	+16 4.7	1.544	2.531	0.8	18.6
2 21	9 24.05	+1 44.6	2.298	3.262	4.6	20.2	2 21	9 23.52	+16 48.2	1.576	2.548	5.2	19.0
3 2	9 17.17	+3 1.1	2.336	3.266	7.1	20.3	3 2	9 16.67	+17 22.6	1.635	2.566	9.5	19.2
3 12	9 11.70	+4 17.5	2.401	3.270	9.9	20.5	3 12	9 11.96	+17 45.0	1.717	2.584	13.2	19.5
362511	2010 TP ₈₄	2 10.2 237°48' 1°5/ 9.2 16					161250	2003 EL ₂₀	2 10.3 252°84' 1°6/ 9.2 18				
1 2	10 0.76	+15 59.8	1.972	2.747	14.9	22.0	1 2	10 2.72	+16 17.4	1.773	2.552	16.2	20.6
1 12	9 56.76	+16 32.6	1.870	2.735	11.9	21.8	1 12	9 58.74	+16 43.5	1.667	2.535	12.9	20.3
1 22	9 50.18	+17 16.2	1.790	2.723	8.1	21.5	1 22	9 51.81	+17 21.0	1.583	2.517	8.9	20.0
2 1	9 41.46	+18 6.2	1.737	2.710	4.0	21.2	2 1	9 42.40	+18 5.3	1.524	2.498	4.4	19.7
2 11	9 31.49	+18 56.2	1.712	2.697	1.7	21.0	2 11	9 31.44	+18 49.7	1.494	2.479	1.8	19.5
2 21	9 21.37	+19 40.2	1.717	2.683	5.6	21.3	2 21	9 20.23	+19 27.5	1.492	2.459	6.2	19.7
3 2	9 12.28	+20 13.3	1.750	2.669	9.9	21.5	3 2	9 10.15	+19 53.6	1.518	2.439	10.9	19.9
3 12	9 5.22	+20 32.9	1.807	2.654	13.6	21.7	3 12	9 2.39	+20 5.2	1.567	2.418	15.1	20.1
460179	2014 QL ₅₉	2 10.2 49°68' 0°9/10.9 18					465065	2006 SF ₁₀₇	2 10.3 169°70' 0°9/ 9.2 17				
1 2	9 56.94	+5 44.1	1.377	2.155	20.1	20.7	1 2	9 56.92	+16 34.4	3.231	3.987	10.0	22.7
1 12	9 54.16	+6 54.7	1.322	2.185	16.0	20.5	1 12	9 52.49	+17 1.0	3.136	3.992	7.9	22.5
1 22	9 48.44	+8 30.6	1.286	2.215	11.1	20.3	1 22	9 46.53	+17 32.9	3.067	3.995	5.3	22.4
2 1	9 40.52	+10 25.4	1.275	2.246	5.7	20.0	2 1	9 39.42	+18 7.4	3.026	3.999	2.6	22.2
2 11	9 31.59	+12 28.2	1.290	2.277	0.9	19.8	2 11	9 31.71	+18 41.1	3.017	4.001	1.1	22.1
2 21	9 22.98	+14 26.9	1.334	2.308	5.5	20.2	2 21	9 24.02	+19 11.0	3.039	4.004	3.6	22.3
3 2	9 15.96	+16 11.3	1.404	2.339	10.4	20.5	3 2	9 16.97	+19 34.6	3.092	4.005	6.3	22.4
3 12	9 11.43	+17 35.2	1.498	2.371	14.5	20.9	3 12	9 11.11	+19 50.3	3.172	4.007	8.7	22.6
49485	1999 BL ₁₆	2 10.2 324°65' 4°8/ 7.2 18					216199	2006 UR ₇	2 10.3 133°60' 4°0/13.5 18				
1 2	10 1.16	+26 21.0	1.844	2.641	15.0	18.3	1 2	9 58.27	+0 45.1	2.071	2.791	16.0	21.1
1 12	9 57.37	+26 48.2	1.751	2.626	12.0	18.0							

EPHEMERIDES

2 10.3

2 10.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
81389	2000 GR ₇₈		2 10.3 175°07	1°5/ 8.9	18		200869	2001 YV ₈₄		2 10.3 41°40	3°4/11.9	18	
1 2	10 0.58	+16 50.7	2.401	3.166	12.9	20.7	1 2	10 1.15	+7 33.7	1.337	2.116	20.6	19.4
1 12	9 55.97	+17 25.7	2.308	3.169	10.1	20.5	1 12	9 57.81	+6 59.1	1.265	2.125	16.7	19.1
1 22	9 49.24	+18 8.5	2.240	3.171	6.9	20.3	1 22	9 51.22	+6 42.3	1.211	2.135	12.1	18.9
2 1	9 40.87	+18 54.8	2.200	3.172	3.4	20.0	2 1	9 42.05	+6 43.0	1.180	2.145	7.1	18.6
2 11	9 31.61	+19 39.7	2.189	3.173	1.7	19.9	2 11	9 31.55	+6 58.0	1.173	2.156	3.4	18.4
2 21	9 22.36	+20 18.4	2.210	3.173	4.8	20.1	2 21	9 21.22	+7 22.1	1.193	2.167	6.1	18.6
3 2	9 14.02	+20 47.4	2.260	3.173	8.2	20.4	3 2	9 12.55	+7 49.2	1.238	2.178	10.9	18.9
3 12	9 7.37	+21 4.9	2.336	3.172	11.3	20.5	3 12	9 6.65	+8 13.6	1.305	2.190	15.4	19.2
89556	2001 XS ₉₈		2 10.3 98°68	0°5/10.6	18		211879	2004 HZ ₅₅		2 10.3 228°37	1°2/ 8.9	18	
1 2	10 3.53	+11 8.4	1.624	2.394	17.8	19.8	1 2	9 54.66	+15 2.1	2.809	3.574	11.2	20.7
1 12	9 59.01	+11 22.8	1.555	2.414	14.2	19.6	1 12	9 51.13	+15 55.4	2.705	3.565	8.8	20.5
1 22	9 51.65	+11 52.0	1.505	2.433	9.8	19.4	1 22	9 45.85	+16 57.8	2.625	3.556	6.0	20.3
2 1	9 42.11	+12 32.1	1.481	2.452	4.9	19.1	2 1	9 39.21	+18 5.8	2.574	3.547	2.9	20.1
2 11	9 31.51	+13 17.2	1.484	2.471	0.6	18.8	2 11	9 31.78	+19 14.3	2.554	3.538	1.4	20.0
2 21	9 21.16	+14 0.8	1.516	2.489	5.2	19.2	2 21	9 24.26	+20 18.6	2.565	3.528	4.2	20.2
3 2	9 12.31	+14 37.7	1.575	2.506	9.8	19.5	3 2	9 17.38	+21 14.5	2.606	3.518	7.3	20.3
3 12	9 5.88	+15 4.2	1.659	2.523	13.8	19.8	3 12	9 11.80	+21 59.3	2.673	3.508	10.1	20.5
324454	2006 TV ₁₂₄		2 10.3 146°55	8°4/ 4.6	18	R	232362	2002 XG ₈₇		2 10.3 80°25	2°1/ 9.1	18	
1 2	10 8.18	+35 18.8	1.821	2.609	15.5	20.6	1 2	10 5.45	+17 17.7	1.384	2.179	19.2	20.5
1 12	10 3.07	+36 24.1	1.751	2.611	12.8	20.5	1 12	10 1.07	+17 43.9	1.322	2.198	15.1	20.3
1 22	9 54.67	+37 24.7	1.704	2.613	10.2	20.3	1 22	9 53.33	+18 21.1	1.279	2.216	10.3	20.0
2 1	9 43.67	+38 10.2	1.681	2.615	8.6	20.2	2 1	9 43.01	+19 2.6	1.261	2.235	5.0	19.8
2 11	9 31.40	+38 31.7	1.685	2.617	8.9	20.2	2 11	9 31.49	+19 40.4	1.269	2.253	2.4	19.6
2 21	9 19.40	+38 24.7	1.715	2.618	10.9	20.3	2 21	9 20.34	+20 7.5	1.304	2.271	6.8	20.0
3 2	9 9.17	+37 49.5	1.770	2.620	13.6	20.5	3 2	9 11.07	+20 20.1	1.365	2.289	11.6	20.3
3 12	9 1.78	+36 50.6	1.846	2.621	16.3	20.7	3 12	9 4.70	+20 17.5	1.449	2.307	15.7	20.6
320328	2007 TY ₆₄		2 10.3 125°43	0°7/10.8	18		141368	2002 AB ₄₅		2 10.3 208°95	1°0/11.2	18	
1 2	10 1.47	+9 43.2	1.963	2.718	15.7	21.8	1 2	9 55.71	+9 42.9	2.788	3.532	11.7	20.3
1 12	9 56.97	+10 6.5	1.884	2.734	12.5	21.6	1 12	9 51.84	+9 49.7	2.685	3.529	9.4	20.1
1 22	9 50.06	+10 43.9	1.826	2.750	8.7	21.4	1 22	9 46.27	+10 6.1	2.606	3.526	6.6	19.9
2 1	9 41.29	+11 32.3	1.795	2.765	4.5	21.2	2 1	9 39.38	+10 30.2	2.554	3.522	3.5	19.7
2 11	9 31.60	+12 26.3	1.793	2.779	0.8	20.9	2 11	9 31.77	+10 59.4	2.533	3.518	1.0	19.5
2 21	9 22.02	+13 20.2	1.820	2.792	4.6	21.2	2 21	9 24.14	+11 30.3	2.542	3.514	3.4	19.7
3 2	9 13.61	+14 8.6	1.876	2.805	8.6	21.5	3 2	9 17.19	+11 59.8	2.580	3.510	6.6	19.9
3 12	9 7.19	+14 47.7	1.958	2.817	12.2	21.7	3 12	9 11.54	+12 25.1	2.646	3.505	9.4	20.1
205847	2002 ED ₄₆		2 10.3 22°98	4°1/12.6	18		168274	2007 PU ₁₆		2 10.3 140°40	1°6/ 8.9	18	
1 2	9 54.83	+4 52.2	1.136	1.931	22.5	19.6	1 2	10 3.06	+16 23.3	2.031	2.800	14.7	20.9
1 12	9 53.28	+4 31.5	1.072	1.940	18.5	19.3	1 12	9 58.23	+17 3.9	1.951	2.814	11.6	20.7
1 22	9 48.34	+4 36.1	1.025	1.950	13.6	19.1	1 22	9 50.93	+17 54.0	1.895	2.826	7.9	20.5
2 1	9 40.69	+5 5.6	0.997	1.962	8.3	18.8	2 1	9 41.74	+18 48.3	1.865	2.838	3.9	20.3
2 11	9 31.64	+5 55.3	0.993	1.975	4.2	18.6	2 11	9 31.59	+19 40.6	1.865	2.849	1.9	20.2
2 21	9 22.78	+6 56.8	1.013	1.989	6.6	18.8	2 21	9 21.54	+20 25.1	1.895	2.859	5.4	20.4
3 2	9 15.68	+8 0.5	1.057	2.004	11.6	19.1	3 2	9 12.68	+20 57.8	1.954	2.869	9.2	20.7
3 12	9 11.47	+8 57.5	1.122	2.020	16.2	19.5	3 12	9 5.86	+21 16.9	2.038	2.878	12.6	20.9
210119	2006 RM ₃₁		2 10.3 146°86	0°6/ 9.7	18		153956	2002 AG ₂₇		2 10.3 33°08	2°1/11.9	18	
1 2	9 56.52	+14 38.5	2.882	3.640	11.1	21.4	1 2	9 53.53	+4 31.8	1.559	2.329	18.5	19.9
1 12	9 52.36	+15 4.6	2.793	3.648	8.7	21.2	1 12	9 51.38	+5 11.0	1.483	2.339	15.0	19.6
1 22	9 46.53	+15 37.8	2.727	3.656	5.9	21.1	1 22	9 46.59	+6 14.2	1.427	2.349	10.7	19.4
2 1	9 39.46	+16 15.3	2.690	3.663	2.9	20.9	2 1	9 39.72	+7 38.3	1.394	2.361	6.0	19.2
2 11	9 31.75	+16 53.3	2.684	3.670	0.7	20.7	2 11	9 31.74	+9 16.2	1.388	2.373	2.1	18.9
2 21	9 24.07	+17 28.3	2.709	3.677	3.7	20.9	2 21	9 23.84	+10 58.5	1.410	2.385	5.1	19.2
3 2	9 17.12	+17 57.4	2.763	3.683	6.7	21.1	3 2	9 17.19	+12 35.5	1.458	2.398	9.7	19.5
3 12	9 11.48	+18 18.6	2.845	3.689	9.3	21.3	3 12	9 12.74	+13 59.6	1.531	2.411	13.8	19.7
373990	2004 BE ₁₄		2 10.3 23°67	1°4/ 9.4	18		301769	2010 JZ ₈₁		2 10.3 214°56	2°5/12.9	18	
1 2	9 57.04	+16 31.9	1.553	2.353	17.2	20.6	1 2	9 54.06	+2 54.0	2.830	3.548	12.2	21.3
1 12	9 54.11	+16 46.1	1.487	2.366	13.5	20.4	1 12	9 50.55	+3 6.4	2.721	3.542	10.0	21.2
1 22	9 48.38	+17 10.3	1.442	2.381	9.2	20.2	1 22	9 45.40	+3 32.5	2.636	3.536	7.4	21.0
2 1	9 40.53	+17 39.7	1.421	2.396	4.4	20.0	2 1	9 38.96	+4 11.3	2.577	3.530	4.7	20.8
2 11	9 31.67	+18 8.1	1.427	2.413	1.6	19.8	2 11	9 31.81	+5 0.5	2.547	3.524	2.6	20.6
2 21	9 23.06	+18 29.9	1.460	2.430	5.8	20.1	2 21	9 24.59	+5 56.4	2.548	3.518	3.7	20.7
3 2	9 15.92	+18 41.3	1.519	2.448	10.2	20.4	3 2	9 17.99	+6 54.8	2.579	3.511	6.4	20.9
3 12	9 11.12	+18 40.6	1.601	2.468	14.0	20.7	3 12	9 12.61	+7 51.6	2.637	3.503	9.2	21.0
292532	2006 TO ₄₄		2 10.3 152°97	0°2/10.4	17		333369	2002 GA ₇₇		2 10.3 299°42	0°9/10.9	17	
1 2	9 55.67	+11 57.9	2.963	3.712	11.0	22.1	1 2	9 54.39	+8 32.4	1.894	2.662	15.7	20.9
1 12	9 51.65	+12 18.3	2.869	3.718	8.7	21.9	1 12	9 51.85	+9 2.6	1.788	2.646	12.7	20.6
1 22	9 46.03	+12 46.9	2.800	3.724	6.0	21.8	1 22	9 46.89	+9 50.4	1.703	2.629	9.0	20.4
2 1	9 39.22	+13 21.5	2.759	3.730	3.0	21.6	2 1	9 39.92	+10 53.5	1.643	2.613	4.7	20.1
2 11	9 31.78	+13 58.6	2.749	3.735	0.2	21.3	2 11	9 31.73	+12 6.6	1.610	2.597	0.9	19.8
2 21	9 24.36	+14 35.1	2.769	3.740	3.3	21.6	2 21	9 23.33	+13 22.8	1.607	2.581	4.8	20.0
3 2	9 17.62	+15 7.7	2.820	3.745	6.3	21.8	3 2	9 15.84	+14 34.9	1.631	2.565	9.3	20.2
3 12	9 12.11	+15 34.2	2.899	3.749	8.9	22.0	3 12	9 10.23	+15 37.0	1.680	2.549	13.3	20.4
120741	lijimayuichi		2 10.3 110°33	1°2/11.3	18		337651	2001 TM ₁₃₂		2 10.3 133°55	5°3/15.9	18	
1 2	9 59.88	+7 59.7	2.162	2.907	14.7	21.0	1 2	9 55.93	-6 25.9	2.926	3.584	13.0	20.9
1 12	9 55.43	+8 23.3	2.085	2.9									

EPHEMERIDES

2 10.3

2 10.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
219458	2000 <i>XU</i> ₂		2 10.3 141°05	0°5/10.6	18		431545	2007 <i>TF</i> ₄₃₃		2 10.3 78°13	0°4/10.6	18	
1 2	10 2.35	+12 46.5	2.209	2.964	14.1	20.0	1 2	9 55.70	+10 47.9	2.292	3.053	13.5	21.6
1 12	9 57.42	+12 39.4	2.119	2.971	11.3	19.8	1 12	9 52.17	+11 12.7	2.208	3.063	10.7	21.4
1 22	9 50.26	+12 41.0	2.053	2.977	7.8	19.6	1 22	9 46.66	+11 49.2	2.146	3.073	7.4	21.2
2 1	9 41.39	+12 49.1	2.013	2.984	4.0	19.4	2 1	9 39.64	+12 34.3	2.112	3.083	3.7	21.0
2 11	9 31.63	+13 0.3	2.003	2.990	0.5	19.1	2 11	9 31.84	+13 23.7	2.106	3.093	0.4	20.8
2 21	9 21.96	+13 11.3	2.024	2.996	4.2	19.4	2 21	9 24.10	+14 12.6	2.130	3.103	4.0	21.1
3 2	9 13.33	+13 19.1	2.074	3.001	8.0	19.6	3 2	9 17.25	+14 56.6	2.183	3.112	7.6	21.3
3 12	9 6.52	+13 21.6	2.149	3.006	11.4	19.9	3 12	9 12.00	+15 32.4	2.263	3.122	10.7	21.5
249194	2008 <i>CP</i> ₂₀₀		2 10.3 183°17	1°6/ 8.4	18		121247	1999 <i>RX</i> ₅₈		2 10.3 103°83	0°6/10.7	18	
1 2	9 55.18	+18 33.0	3.078	3.846	10.2	21.0	1 2	10 1.35	+12 6.2	2.133	2.890	14.5	20.3
1 12	9 51.30	+19 11.0	2.984	3.846	8.0	20.9	1 12	9 56.68	+12 3.5	2.051	2.903	11.5	20.1
1 22	9 45.83	+19 54.3	2.914	3.846	5.4	20.7	1 22	9 49.77	+12 10.7	1.991	2.916	8.0	19.9
2 1	9 39.14	+20 39.4	2.874	3.845	2.8	20.5	2 1	9 41.17	+12 25.1	1.959	2.929	4.1	19.7
2 11	9 31.81	+21 22.4	2.864	3.845	1.8	20.4	2 11	9 31.72	+12 43.4	1.955	2.942	0.6	19.4
2 21	9 24.47	+21 59.7	2.885	3.844	4.1	20.6	2 21	9 22.41	+13 1.6	1.982	2.954	4.3	19.7
3 2	9 17.79	+22 28.6	2.935	3.843	6.8	20.8	3 2	9 14.19	+13 16.6	2.037	2.966	8.1	20.0
3 12	9 12.32	+22 47.6	3.012	3.841	9.2	20.9	3 12	9 7.82	+13 25.8	2.118	2.978	11.4	20.2
211547	2003 <i>SJ</i> ₄₄		2 10.3 177°17	0°3/10.1	18		223680	2004 <i>PF</i> ₈₇		2 10.3 99°20	2°1/ 8.8	18	
1 2	10 3.06	+14 1.7	1.922	2.689	15.6	21.0	1 2	10 1.02	+18 42.2	1.970	2.751	14.7	20.6
1 12	9 58.45	+14 12.4	1.831	2.691	12.4	20.8	1 12	9 56.75	+19 8.6	1.890	2.759	11.6	20.4
1 22	9 51.25	+14 33.6	1.763	2.692	8.5	20.6	1 22	9 50.00	+19 42.2	1.833	2.767	7.9	20.2
2 1	9 41.97	+15 1.7	1.720	2.693	4.2	20.3	2 1	9 41.34	+20 17.9	1.802	2.775	4.0	20.0
2 11	9 31.58	+15 31.8	1.707	2.693	0.5	20.0	2 11	9 31.71	+20 49.9	1.801	2.783	2.3	19.9
2 21	9 21.21	+15 58.8	1.722	2.693	5.0	20.4	2 21	9 22.21	+21 13.4	1.828	2.791	5.7	20.1
3 2	9 12.02	+16 18.8	1.767	2.692	9.3	20.6	3 2	9 13.91	+21 25.3	1.883	2.799	9.5	20.3
3 12	9 4.95	+16 29.4	1.836	2.691	13.1	20.8	3 12	9 7.67	+21 24.5	1.962	2.806	12.8	20.6
203782	2002 <i>TU</i>		2 10.3 158°50	1°2/ 9.1	18		113950	Donbaldwin		2 10.3 256°77	1°1/ 9.3	17	
1 2	9 57.05	+16 0.3	2.447	3.216	12.5	20.6	1 2	9 54.88	+13 44.9	2.303	3.074	13.2	20.6
1 12	9 53.17	+16 36.5	2.357	3.220	9.8	20.4	1 12	9 51.71	+14 38.0	2.205	3.069	10.4	20.4
1 22	9 47.31	+17 21.0	2.291	3.223	6.7	20.2	1 22	9 46.48	+15 43.0	2.131	3.063	7.1	20.2
2 1	9 39.94	+18 9.8	2.252	3.226	3.3	20.0	2 1	9 39.63	+16 55.7	2.084	3.058	3.4	20.0
2 11	9 31.76	+18 58.0	2.244	3.228	1.4	19.9	2 11	9 31.84	+18 10.3	2.067	3.052	1.3	19.8
2 21	9 23.59	+19 41.0	2.265	3.231	4.5	20.1	2 21	9 23.97	+19 20.7	2.080	3.047	4.7	20.0
3 2	9 16.27	+20 15.2	2.316	3.233	7.9	20.3	3 2	9 16.92	+20 21.5	2.122	3.041	8.4	20.2
3 12	9 10.52	+20 38.5	2.393	3.235	10.9	20.5	3 12	9 11.45	+21 9.5	2.189	3.035	11.6	20.4
124835	2001 <i>TX</i> ₃		2 10.3 104°10	2°1/11.6	18		370832	2004 <i>VL</i> ₈₂		2 10.3 158°83	4°0/ 6.9	18	
1 2	10 2.39	+ 7 18.2	1.622	2.382	18.3	20.6	1 2	10 2.40	+25 39.2	2.452	3.228	12.3	21.3
1 12	9 58.17	+ 7 22.0	1.548	2.398	14.7	20.4	1 12	9 57.43	+26 23.2	2.370	3.234	9.7	21.2
1 22	9 51.15	+ 7 43.6	1.494	2.415	10.5	20.2	1 22	9 50.26	+27 9.0	2.313	3.240	6.9	21.0
2 1	9 41.93	+ 8 20.7	1.465	2.431	5.9	19.9	2 1	9 41.41	+27 50.9	2.283	3.245	4.5	20.8
2 11	9 31.62	+ 9 8.3	1.462	2.446	2.1	19.7	2 11	9 31.71	+28 23.2	2.283	3.249	4.2	20.8
2 21	9 21.49	+10 0.1	1.488	2.461	5.2	19.9	2 21	9 22.10	+28 42.0	2.313	3.253	6.4	21.0
3 2	9 12.77	+10 49.7	1.541	2.476	9.7	20.2	3 2	9 13.53	+28 45.4	2.372	3.257	9.2	21.2
3 12	9 6.43	+11 31.7	1.619	2.490	13.7	20.5	3 12	9 6.76	+28 33.7	2.455	3.260	11.8	21.3
162675	2000 <i>SW</i> ₃₂₇		2 10.3 63°31	1°7/11.3	18		157584	2005 <i>UC</i> ₃₈₂		2 10.3 95°17	1°4/ 9.3	17	
1 2	10 1.71	+ 9 17.5	1.439	2.216	19.4	19.6	1 2	10 2.62	+13 14.6	1.518	2.301	18.3	20.0
1 12	9 57.94	+ 9 11.7	1.372	2.233	15.6	19.4	1 12	9 58.58	+14 15.8	1.454	2.323	14.4	19.8
1 22	9 51.12	+ 9 23.0	1.324	2.251	11.0	19.2	1 22	9 51.53	+15 33.3	1.411	2.345	9.7	19.5
2 1	9 41.94	+ 9 48.8	1.300	2.269	5.9	18.9	2 1	9 42.16	+17 0.1	1.393	2.367	4.7	19.3
2 11	9 31.63	+10 23.9	1.302	2.287	1.7	18.7	2 11	9 31.65	+18 26.3	1.402	2.388	1.7	19.1
2 21	9 21.58	+11 2.0	1.331	2.305	5.5	19.0	2 21	9 21.40	+19 42.8	1.441	2.408	6.3	19.5
3 2	9 13.15	+11 37.0	1.386	2.323	10.3	19.3	3 2	9 12.73	+20 43.1	1.506	2.428	10.9	19.8
3 12	9 7.32	+12 4.3	1.464	2.341	14.5	19.6	3 12	9 6.63	+21 24.2	1.594	2.447	14.8	20.1
59752	1999 <i>LW</i> ₁₉		2 10.3 213°77	5°0/ 5.1	18		366381	2000 <i>TY</i> ₂₃		2 10.3 97°58	5°6/15.1	18	
1 2	10 1.55	+28 41.5	2.604	3.382	11.6	20.3	1 2	9 57.63	- 3 22.2	2.101	2.800	16.4	21.2
1 12	9 56.90	+29 51.4	2.511	3.373	9.3	20.2	1 12	9 53.81	- 3 42.3	2.018	2.816	13.9	21.1
1 22	9 50.01	+31 2.8	2.443	3.364	6.9	20.0	1 22	9 47.85	- 3 42.3	1.955	2.831	10.9	20.9
2 1	9 41.35	+32 9.2	2.403	3.354	5.2	19.9	2 1	9 40.25	- 3 21.2	1.916	2.847	7.9	20.7
2 11	9 31.67	+33 4.1	2.394	3.343	5.4	19.9	2 11	9 31.80	- 2 40.8	1.903	2.861	5.8	20.6
2 21	9 21.90	+33 42.4	2.413	3.332	7.4	20.0	2 21	9 23.42	- 1 45.1	1.919	2.876	6.1	20.7
3 2	9 13.03	+34 1.8	2.461	3.320	9.9	20.1	3 2	9 16.03	- 0 39.7	1.963	2.891	8.4	20.9
3 12	9 5.87	+34 2.4	2.532	3.307	12.3	20.3	3 12	9 10.38	+ 0 28.6	2.033	2.905	11.3	21.1
52636	1997 <i>WO</i> ₃₄		2 10.3 107°76	11°3/20.2	18		282870	2007 <i>EV</i> ₃₀		2 10.3 189°87	0°6/ 9.8	18	
1 2	9 57.66	-17 17.3	2.054	2.666	18.9	19.1	1 2	10 2.21	+12 42.8	1.835	2.603	16.1	21.5
1 12	9 54.15	-18 33.9	1.968	2.672	17.2	18.9	1 12	9 58.02	+13 22.0	1.742	2.602	12.8	21.2
1 22	9 48.30	-19 25.3	1.897	2.679	15.2	18.8	1 22	9 51.13	+14 15.9	1.671	2.601	8.9	21.0
2 1	9 40.55	-19 46.4	1.846	2.686	13.3	18.6	2 1	9 42.03	+15 19.8	1.626	2.599	4.3	20.7
2 11	9 31.73	-19 34.2	1.817	2.692	11.8	18.6	2 11	9 31.66	+16 27.1	1.610	2.596	0.9	20.4
2 21	9 22.85	-18 49.7	1.811	2.699	11.3	18.5	2 21	9 21.21	+17 30.3	1.623	2.592	5.5	20.8
3 2	9 14.94	-17 37.6	1.829	2.705	12.0	18.6	3 2	9 11.92	+18 23.5	1.664	2.588	9.9	21.0
3 12	9 8.91	-16 6.4	1.871	2.711	13.5	18.7	3 12	9 4.82	+19 2.7	1.730	2.582	13.9	21.2
74435	1999 <i>BM</i> ₂₆		2 10.3 297°91	0°1/10.2	17		222245	2000 <i>LN</i> ₂₆		2 10.3 206°16	4°2/14.4	17	
1 2	9 56.70	+13 22.4	2.134	2.905	14.1	19.5	1 2	9 57.46	- 2				

EPHEMERIDES

2 10.3

2 10.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
291347	2006 <i>BP</i> ₂₃₈		2 10.3 151°74	1°2/ 9.4	18		408046	2012 <i>FV</i> ₆₇		2 10.3 60°55	1°1/ 9.5	18	
1 2	9 59.63	+16 13.3	2.212	2.983	13.6	21.8	1 2	9 58.63	+14 27.3	1.693	2.479	16.6	21.0
1 12	9 55.40	+16 36.9	2.124	2.987	10.7	21.6	1 12	9 55.23	+15 2.4	1.620	2.491	13.0	20.8
1 22	9 48.97	+17 8.6	2.060	2.991	7.3	21.4	1 22	9 49.15	+15 50.1	1.568	2.503	8.9	20.6
2 1	9 40.81	+17 44.6	2.022	2.995	3.6	21.2	2 1	9 40.99	+16 45.3	1.542	2.516	4.3	20.3
2 11	9 31.76	+18 19.9	2.013	2.998	1.3	21.0	2 11	9 31.79	+17 41.1	1.543	2.529	1.3	20.1
2 21	9 22.76	+18 50.1	2.034	3.001	4.8	21.2	2 21	9 22.74	+18 30.6	1.572	2.541	5.6	20.5
3 2	9 14.76	+19 11.5	2.084	3.004	8.5	21.5	3 2	9 15.01	+19 8.7	1.629	2.555	9.9	20.7
3 12	9 8.54	+19 22.5	2.160	3.007	11.7	21.7	3 12	9 9.51	+19 32.8	1.709	2.568	13.7	21.0
304795	2007 <i>PD</i> ₃		2 10.3 232°58	2°2/ 8.8	18		73880	1997 <i>CC</i> ₂₁		2 10.3 173°38	1°5/ 9.0	18	
1 2	10 3.26	+17 47.3	1.843	2.622	15.7	21.6	1 2	10 1.53	+16 9.0	2.162	2.930	14.0	20.5
1 12	9 59.01	+18 20.3	1.743	2.611	12.5	21.3	1 12	9 57.01	+16 49.3	2.072	2.934	11.0	20.3
1 22	9 51.92	+19 3.2	1.666	2.599	8.6	21.1	1 22	9 50.16	+17 39.2	2.005	2.936	7.5	20.1
2 1	9 42.47	+19 50.8	1.614	2.587	4.4	20.8	2 1	9 41.46	+18 34.0	1.966	2.939	3.7	19.9
2 11	9 31.63	+20 36.2	1.590	2.573	2.4	20.6	2 11	9 31.76	+19 27.6	1.956	2.940	1.7	19.7
2 21	9 20.62	+21 12.8	1.596	2.560	6.3	20.8	2 21	9 22.06	+20 14.6	1.976	2.941	5.2	20.0
3 2	9 10.78	+21 36.0	1.629	2.545	10.7	21.1	3 2	9 13.38	+20 50.6	2.026	2.941	8.9	20.2
3 12	9 3.20	+21 44.0	1.687	2.530	14.6	21.3	3 12	9 6.58	+21 13.6	2.101	2.940	12.3	20.4
36902	2000 <i>SN</i> ₁₇₇		2 10.3 97°27	0°8/ 10.9	18		84694	2002 <i>VR</i> ₁₀₈		2 10.3 106°09	0°8/ 9.7	18	
1 2	9 59.50	+11 12.6	1.971	2.735	15.3	18.9	1 2	10 2.17	+14 44.8	1.935	2.705	15.4	20.4
1 12	9 55.54	+11 13.3	1.883	2.739	12.2	18.7	1 12	9 57.59	+15 7.9	1.860	2.722	12.1	20.3
1 22	9 49.19	+11 25.7	1.817	2.743	8.6	18.5	1 22	9 50.54	+15 41.1	1.808	2.738	8.2	20.0
2 1	9 40.97	+11 47.4	1.777	2.747	4.4	18.2	2 1	9 41.61	+16 20.0	1.782	2.755	4.0	19.8
2 11	9 31.76	+12 14.4	1.765	2.751	0.8	18.0	2 11	9 31.77	+16 59.2	1.784	2.770	1.0	19.6
2 21	9 22.60	+12 42.2	1.782	2.755	4.5	18.3	2 21	9 22.10	+17 33.4	1.817	2.786	5.0	19.9
3 2	9 14.53	+13 6.8	1.828	2.759	8.6	18.5	3 2	9 13.68	+17 58.8	1.877	2.801	9.0	20.2
3 12	9 8.40	+13 24.7	1.898	2.763	12.3	18.7	3 12	9 7.33	+18 13.2	1.963	2.815	12.5	20.5
182525	2001 <i>SX</i> ₃₄₉		2 10.3 131°24	0°3/ 10.0	18		70650	1999 <i>TM</i> ₂₄₇		2 10.3 56°62	2°3/ 8.7	18	
1 2	9 58.20	+12 13.1	1.961	2.731	15.2	20.8	1 2	9 59.01	+16 22.1	1.520	2.318	17.6	18.8
1 12	9 54.58	+12 49.1	1.876	2.737	12.0	20.6	1 12	9 55.91	+17 12.5	1.450	2.328	13.8	18.5
1 22	9 48.57	+13 38.4	1.812	2.743	8.3	20.4	1 22	9 49.83	+18 16.0	1.400	2.338	9.4	18.3
2 1	9 40.68	+14 37.1	1.775	2.748	4.0	20.1	2 1	9 41.41	+19 25.7	1.374	2.349	4.7	18.0
2 11	9 31.79	+15 39.1	1.767	2.753	0.6	19.8	2 11	9 31.78	+20 32.9	1.376	2.359	2.6	17.9
2 21	9 22.93	+16 38.0	1.787	2.758	4.9	20.2	2 21	9 22.30	+21 29.3	1.405	2.370	6.7	18.2
3 2	9 15.13	+17 28.6	1.836	2.763	9.0	20.4	3 2	9 14.30	+22 9.4	1.460	2.381	11.2	18.5
3 12	9 9.26	+18 7.2	1.910	2.767	12.6	20.7	3 12	9 8.79	+22 30.9	1.537	2.392	15.2	18.8
518138	2016 <i>EV</i> ₂₂₃		2 10.3 249°52	1°2/ 11.2	17		65910	1998 <i>FR</i> ₂₁		2 10.3 353°70	0°5/ 9.9	18	
1 2	9 58.54	+ 9 37.8	2.123	2.878	14.6	21.8	1 2	9 55.74	+14 48.0	1.765	2.554	15.9	19.2
1 12	9 54.75	+ 9 40.0	2.019	2.869	11.8	21.5	1 12	9 52.99	+14 52.6	1.677	2.549	12.6	19.0
1 22	9 48.68	+ 9 54.6	1.937	2.859	8.4	21.3	1 22	9 47.68	+15 7.5	1.609	2.545	8.7	18.8
2 1	9 40.77	+10 19.8	1.881	2.849	4.5	21.0	2 1	9 40.33	+15 29.4	1.567	2.541	4.3	18.5
2 11	9 31.78	+10 52.0	1.853	2.839	1.2	20.8	2 11	9 31.87	+15 53.3	1.552	2.539	0.7	18.2
2 21	9 22.69	+11 27.0	1.855	2.828	4.4	21.0	2 21	9 23.42	+16 14.4	1.565	2.537	5.2	18.5
3 2	9 14.50	+12 0.2	1.886	2.818	8.4	21.2	3 2	9 16.12	+16 28.5	1.604	2.536	9.6	18.8
3 12	9 8.08	+12 27.9	1.942	2.807	12.0	21.4	3 12	9 10.91	+16 33.1	1.667	2.536	13.5	19.0
119683	2001 <i>XB</i> ₁₁₀		2 10.3 245°39	5°6/ 5.1	18		362155	2009 <i>DO</i> ₁₂₇		2 10.3 128°85	0°0/ 10.2	18	
1 2	10 0.38	+26 39.2	2.138	2.928	13.4	19.9	1 2	10 0.77	+11 15.7	2.040	2.799	15.0	21.2
1 12	9 56.57	+28 3.9	2.043	2.914	10.7	19.7	1 12	9 56.41	+11 54.2	1.960	2.814	11.9	21.0
1 22	9 50.16	+29 33.7	1.972	2.900	7.9	19.4	1 22	9 49.71	+12 46.1	1.902	2.829	8.2	20.8
2 1	9 41.59	+31 0.7	1.929	2.885	5.8	19.3	2 1	9 41.22	+13 47.3	1.871	2.843	4.0	20.6
2 11	9 31.72	+32 16.0	1.914	2.869	6.1	19.3	2 11	9 31.81	+14 51.9	1.870	2.857	0.3	20.3
2 21	9 21.66	+33 12.4	1.928	2.853	8.5	19.4	2 21	9 22.49	+15 53.7	1.899	2.869	4.6	20.7
3 2	9 12.61	+33 46.2	1.968	2.837	11.6	19.5	3 2	9 14.27	+16 47.4	1.956	2.882	8.6	20.9
3 12	9 5.60	+33 57.0	2.032	2.820	14.5	19.7	3 12	9 7.96	+17 29.7	2.040	2.893	12.0	21.2
357590	2004 <i>VS</i> ₅₇		2 10.3 91°27	4°0/ 12.9	18		368047	2012 <i>HS</i> ₂₆		2 10.3 345°13	1°8/ 11.5	18	
1 2	10 1.31	+ 2 56.6	1.630	2.374	18.8	21.3	1 2	9 54.90	+ 7 56.9	1.570	2.349	18.0	20.6
1 12	9 57.30	+ 2 44.0	1.557	2.392	15.5	21.1	1 12	9 52.66	+ 8 5.1	1.481	2.344	14.6	20.3
1 22	9 50.54	+ 2 51.9	1.503	2.410	11.5	20.9	1 22	9 47.66	+ 8 32.0	1.412	2.339	10.4	20.1
2 1	9 41.67	+ 3 19.8	1.472	2.428	7.3	20.7	2 1	9 40.41	+ 9 15.7	1.366	2.334	5.7	19.8
2 11	9 31.73	+ 4 4.3	1.468	2.446	4.1	20.6	2 11	9 31.86	+10 11.2	1.346	2.331	1.8	19.5
2 21	9 21.97	+ 4 59.3	1.492	2.463	5.7	20.7	2 21	9 23.24	+11 11.6	1.352	2.328	5.3	19.7
3 2	9 13.58	+ 5 57.9	1.544	2.480	9.5	20.9	3 2	9 15.83	+12 9.5	1.386	2.325	10.1	20.0
3 12	9 7.50	+ 6 53.3	1.620	2.496	13.3	21.2	3 12	9 10.67	+12 58.7	1.442	2.323	14.4	20.2
150172	1998 <i>DV</i> ₂₅		2 10.3 112°41	1°8/ 8.9	18		368141	2013 <i>LC</i> ₅		2 10.3 183°43	1°7/ 8.7	18	
1 2	10 1.38	+17 53.2	2.063	2.839	14.3	20.9	1 2	10 0.28	+16 49.1	2.382	3.148	12.9	21.4
1 12	9 56.88	+18 20.6	1.985	2.851	11.3	20.8	1 12	9 55.85	+17 36.0	2.288	3.149	10.2	21.2
1 22	9 50.01	+18 55.4	1.929	2.862	7.6	20.6	1 22	9 49.28	+18 31.6	2.218	3.149	6.9	21.0
2 1	9 41.34	+19 32.9	1.901	2.874	3.8	20.3	2 1	9 41.02	+19 31.3	2.176	3.149	3.5	20.8
2 11	9 31.76	+20 7.4	1.901	2.885	2.0	20.2	2 11	9 31.83	+20 29.4	2.164	3.147	1.9	20.7
2 21	9 22.32	+20 34.4	1.931	2.896	5.3	20.5	2 21	9 22.60	+21 20.6	2.183	3.145	5.0	20.9
3 2	9 14.05	+20 50.5	1.990	2.906	9.0	20.7	3 2	9 14.26	+22 0.8	2.232	3.142	8.5	21.1
3 12	9 7.74	+20 54.7	2.073	2.916	12.3	20.9	3 12	9 7.60	+22 28.0	2.306	3.139	11.6	21.3
313825	2004 <i>CK</i> ₂		2 10.3 161°76	1°2/ 9.9	16		110305	2001 <i>SP</i> ₂₇₂		2 10.3 219°11	1°1/ 9.3	18	
1 2	10 18.63	+19 56.6	1.226	2.012	21.7	20							

EPHEMERIDES

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2 10.3

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
467883	2011 <i>DH</i> ₂₃		2 10.3 279°06	1.7°/ 9.0	17		122584	2000 <i>RY</i> ₂₅		2 10.3 204°40	5°6'/15.4	17	
1 2	9 59.16	+17 40.5	2.037	2.817	14.3	21.7	1 2	9 56.66	- 4 51.6	2.367	3.049	15.1	20.5
1 12	9 55.43	+18 3.6	1.938	2.807	11.3	21.5	1 12	9 53.02	- 5 4.9	2.261	3.046	13.0	20.4
1 22	9 49.25	+18 34.8	1.862	2.796	7.8	21.2	1 22	9 47.36	- 4 59.0	2.175	3.041	10.4	20.2
2 1	9 41.10	+19 9.9	1.812	2.786	3.9	21.0	2 1	9 40.11	- 4 32.5	2.113	3.036	7.8	20.0
2 11	9 31.82	+19 43.4	1.791	2.775	1.9	20.8	2 11	9 31.93	- 3 46.4	2.078	3.031	5.8	19.9
2 21	9 22.47	+20 10.2	1.799	2.764	5.5	21.0	2 21	9 23.65	- 2 44.0	2.072	3.025	6.0	19.9
3 2	9 14.13	+20 26.5	1.834	2.754	9.5	21.2	3 2	9 16.13	- 1 30.5	2.094	3.019	8.1	20.0
3 12	9 7.73	+20 30.6	1.894	2.743	13.0	21.4	3 12	9 10.13	- 0 12.6	2.144	3.012	10.9	20.1
199470	2006 <i>DL</i> ₆₂		2 10.3	1°37' 4°1'/12.4	18		462895	2010 <i>WH</i> ₆₃		2 10.3 55°52	4°2'/ 7.4	18	
1 2	9 47.39	+ 6 43.9	0.898	1.730	24.3	19.6	1 2	10 0.45	+21 19.3	1.566	2.368	17.0	21.1
1 12	9 48.30	+ 6 8.5	0.834	1.725	19.9	19.3	1 12	9 56.89	+22 24.6	1.508	2.389	13.2	21.0
1 22	9 45.50	+ 5 59.1	0.784	1.723	14.7	19.0	1 22	9 50.39	+23 37.4	1.472	2.409	9.1	20.8
2 1	9 39.59	+ 6 16.8	0.753	1.723	8.8	18.7	2 1	9 41.63	+24 49.1	1.461	2.431	5.3	20.6
2 11	9 31.94	+ 6 57.4	0.742	1.725	4.3	18.4	2 11	9 31.83	+25 50.2	1.477	2.452	4.6	20.6
2 21	9 24.34	+ 7 52.1	0.752	1.730	7.2	18.6	2 21	9 22.33	+26 34.0	1.520	2.473	7.8	20.8
3 2	9 18.63	+ 8 49.9	0.782	1.738	13.0	18.9	3 2	9 14.42	+26 56.9	1.589	2.495	11.6	21.1
3 12	9 16.16	+ 9 40.2	0.831	1.747	18.3	19.3	3 12	9 9.02	+26 59.4	1.681	2.517	15.0	21.4
96802	1999 <i>RC</i> ₁₃₄		2 10.3 248°19	1°3'/11.1	18		162849	2001 <i>DN</i> ₃₂		2 10.3 55°46	0°9'/ 9.6	18	
1 2	10 2.79	+10 13.3	1.960	2.714	15.7	20.2	1 2	9 58.78	+10 55.9	1.353	2.145	19.7	19.7
1 12	9 58.46	+10 6.4	1.848	2.697	12.8	19.9	1 12	9 55.81	+12 4.3	1.297	2.172	15.4	19.5
1 22	9 51.49	+10 11.7	1.758	2.679	9.1	19.7	1 22	9 49.76	+13 32.9	1.262	2.198	10.4	19.3
2 1	9 42.30	+10 27.5	1.693	2.661	4.9	19.4	2 1	9 41.36	+15 13.9	1.250	2.225	5.0	19.0
2 11	9 31.74	+10 50.5	1.657	2.642	1.4	19.1	2 11	9 31.86	+16 56.5	1.266	2.252	1.2	18.8
2 21	9 20.94	+11 16.4	1.650	2.623	4.9	19.3	2 21	9 22.68	+18 29.7	1.309	2.279	6.3	19.3
3 2	9 11.10	+11 40.8	1.672	2.602	9.4	19.5	3 2	9 15.18	+19 45.5	1.377	2.306	11.1	19.6
3 12	9 3.28	+11 59.7	1.719	2.582	13.4	19.7	3 12	9 10.29	+20 40.0	1.469	2.334	15.2	19.9
283557	2001 <i>VV</i> ₂		2 10.3 139°57	4°7'/ 6.5	18		95476	2002 <i>EY</i> ₇		2 10.3 14°96	4°4'/14.1	18	
1 2	10 5.70	+24 3.8	2.034	2.814	14.4	20.9	1 2	9 52.67	- 1 18.2	1.697	2.435	18.4	20.1
1 12	10 0.48	+25 21.3	1.964	2.830	11.3	20.7	1 12	9 50.62	- 0 54.5	1.609	2.438	15.4	19.9
1 22	9 52.62	+26 43.4	1.917	2.845	8.0	20.5	1 22	9 46.09	- 0 4.0	1.540	2.441	11.7	19.7
2 1	9 42.70	+28 2.1	1.898	2.860	5.2	20.4	2 1	9 39.59	+ 1 12.9	1.493	2.444	7.7	19.5
2 11	9 31.73	+29 8.9	1.908	2.873	5.0	20.4	2 11	9 31.98	+ 2 51.6	1.473	2.448	4.6	19.3
2 21	9 20.89	+29 57.6	1.948	2.886	7.6	20.6	2 21	9 24.34	+ 4 44.1	1.481	2.452	5.5	19.3
3 2	9 11.37	+30 25.4	2.016	2.897	10.8	20.8	3 2	9 17.77	+ 6 40.2	1.516	2.457	9.2	19.6
3 12	9 4.06	+30 32.8	2.107	2.908	13.7	21.0	3 12	9 13.21	+ 8 30.1	1.576	2.463	13.1	19.8
299562	2006 <i>DQ</i> ₁₇₅		2 10.3 170°45	2°9'/ 8.3	18		402551	2006 <i>KN</i> ₆₂		2 10.3 194°60	0°2'/10.5	18	
1 2	10 4.67	+20 11.5	1.885	2.664	15.4	21.9	1 2	9 59.79	+10 42.4	1.952	2.714	15.5	21.7
1 12	9 59.90	+20 49.0	1.800	2.668	12.1	21.6	1 12	9 55.95	+11 14.1	1.857	2.713	12.4	21.5
1 22	9 52.36	+21 33.7	1.738	2.671	8.3	21.4	1 22	9 49.63	+12 0.7	1.784	2.711	8.6	21.2
2 1	9 42.63	+22 19.4	1.702	2.673	4.5	21.2	2 1	9 41.32	+12 58.7	1.737	2.708	4.3	20.9
2 11	9 31.73	+22 59.1	1.695	2.675	3.2	21.1	2 11	9 31.86	+14 2.4	1.718	2.705	0.3	20.6
2 21	9 20.90	+23 27.2	1.718	2.676	6.5	21.3	2 21	9 22.33	+15 5.4	1.729	2.701	4.8	21.0
3 2	9 11.37	+23 40.1	1.768	2.677	10.4	21.5	3 2	9 13.83	+16 1.5	1.769	2.697	9.1	21.2
3 12	9 4.12	+23 37.4	1.842	2.677	13.9	21.8	3 12	9 7.30	+16 46.6	1.834	2.692	12.9	21.4
234836	2002 <i>RJ</i> ₁₄₄		2 10.3 42°36	2°8'/ 8.5	18		168344	1995 <i>OD</i> ₁₄		2 10.3 162°24	1°7'/11.9	17	
1 2	10 1.32	+21 25.5	1.908	2.695	14.9	20.2	1 2	9 56.10	+ 6 53.9	2.748	3.481	12.2	21.6
1 12	9 57.05	+21 43.0	1.834	2.706	11.7	20.0	1 12	9 52.17	+ 7 1.3	2.651	3.485	9.8	21.5
1 22	9 50.23	+22 4.9	1.783	2.718	8.0	19.8	1 22	9 46.55	+ 7 19.9	2.576	3.489	7.1	21.3
2 1	9 41.49	+22 25.9	1.758	2.729	4.3	19.6	2 1	9 39.62	+ 7 48.3	2.529	3.492	4.0	21.1
2 11	9 31.83	+22 40.6	1.761	2.741	3.0	19.5	2 11	9 32.00	+ 8 23.8	2.512	3.495	1.7	20.9
2 21	9 22.39	+22 44.9	1.793	2.754	6.1	19.7	2 21	9 24.38	+ 9 3.0	2.525	3.498	3.5	21.1
3 2	9 14.26	+22 36.9	1.853	2.766	9.7	20.0	3 2	9 17.45	+ 9 42.3	2.569	3.500	6.5	21.3
3 12	9 8.28	+22 16.5	1.936	2.779	13.0	20.2	3 12	9 11.85	+10 18.3	2.639	3.502	9.3	21.4
491874	2013 <i>BD</i> ₁₃		2 10.3 10°37	3°0'/12.0	18		189864	2003 <i>JO</i> ₉		2 10.3 184°92	5°8'/ 4.2	18	
1 2	9 57.15	+ 6 45.4	1.262	2.050	21.1	21.1	1 2	10 2.48	+32 2.4	2.631	3.408	11.5	21.2
1 12	9 55.02	+ 6 32.2	1.185	2.051	17.2	20.8	1 12	9 57.63	+33 16.4	2.551	3.408	9.4	21.0
1 22	9 49.61	+ 6 40.6	1.126	2.052	12.5	20.6	1 22	9 50.53	+34 29.3	2.496	3.408	7.3	20.9
2 1	9 41.47	+ 7 10.0	1.088	2.055	7.2	20.3	2 1	9 41.67	+35 34.2	2.468	3.407	5.9	20.8
2 11	9 31.82	+ 7 55.7	1.074	2.057	3.1	20.0	2 11	9 31.85	+36 24.6	2.470	3.405	6.2	20.8
2 21	9 22.18	+ 8 50.2	1.085	2.061	6.2	20.2	2 21	9 22.03	+36 56.1	2.501	3.403	8.0	20.9
3 2	9 14.13	+ 9 45.0	1.121	2.065	11.4	20.5	3 2	9 13.19	+37 7.1	2.559	3.400	10.2	21.1
3 12	9 8.86	+10 32.6	1.179	2.070	16.2	20.8	3 12	9 6.15	+36 58.6	2.640	3.397	12.4	21.2
272842	2006 <i>BE</i> ₂₀		2 10.3 341°99	1°1'/10.8	18		120217	2004 <i>FL</i>		2 10.3 132°19	12°7'/20.8	18	
1 2	9 57.61	+13 2.0	1.469	2.264	18.3	19.7	1 2	9 58.82	-17 23.1	1.377	2.035	25.2	19.6
1 12	9 55.11	+12 32.1	1.377	2.250	14.8	19.4	1 12	9 56.23	-18 1.9	1.298	2.043	22.7	19.4
1 22	9 49.54	+12 13.0	1.303	2.237	10.4	19.1	1 22	9 50.41	-18 0.9	1.231	2.051	19.8	19.2
2 1	9 41.42	+12 2.9	1.254	2.226	5.5	18.8	2 1	9 41.89	-17 12.1	1.181	2.058	16.5	19.0
2 11	9 31.82	+11 58.6	1.229	2.215	1.1	18.4	2 11	9 31.83	-15 32.8	1.150	2.065	13.8	18.9
2 21	9 22.12	+11 56.2	1.231	2.206	5.7	18.7	2 21	9 21.70	-13 8.0	1.143	2.072	12.7	18.8
3 2	9 13.77	+11 51.9	1.258	2.198	10.8	19.0	3 2	9 13.06	-10 11.0	1.160	2.078	13.9	18.9
3 12	9 7.95	+11 42.6	1.308	2.192	15.4	19.2	3 12	9 7.16	- 7 0.4	1.201	2.083	16.6	19.1
461971	2006 <i>UF</i> ₂₀₁		2 10.3 124°55	0°1'/10.4	18		365343	2009 <i>SA</i> ₂₅₅		2 10.3 167°31	3°2'/ 6.9	18	
1 2	10 0.42	+11 49.5	1.981	2.745	15.3	22.5	1						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
263355	2008 <i>CG</i> ₁₄₀		2 10.3 197°71	0°4/ 9.9	18		240483	2004 <i>BH</i> ₁₁₀		2 10.3 289°56	3°9/ 6.0	18	
1 2	10 0.78	+13 54.3	2.130	2.894	14.3	21.8	1 2	9 55.09	+20 33.5	2.251	3.039	12.9	20.0
1 12	9 56.50	+14 13.2	2.034	2.892	11.4	21.5	1 12	9 52.20	+22 13.8	2.153	3.027	10.1	19.8
1 22	9 49.88	+14 42.3	1.960	2.889	7.8	21.3	1 22	9 47.07	+24 4.7	2.080	3.015	7.0	19.6
2 1	9 41.40	+15 18.2	1.913	2.886	3.8	21.1	2 1	9 40.10	+25 59.1	2.036	3.002	4.4	19.4
2 11	9 31.88	+15 56.1	1.896	2.882	0.6	20.8	2 11	9 32.01	+27 48.1	2.022	2.990	4.4	19.4
2 21	9 22.33	+16 31.1	1.908	2.878	4.7	21.1	2 21	9 23.72	+29 23.8	2.038	2.978	7.1	19.5
3 2	9 13.77	+16 59.1	1.949	2.874	8.7	21.3	3 2	9 16.23	+30 40.4	2.082	2.966	10.3	19.7
3 12	9 7.06	+17 17.5	2.016	2.869	12.2	21.5	3 12	9 10.43	+31 35.3	2.149	2.954	13.3	19.9
19990	1990 <i>SE</i> ₈		2 10.3 89°08	0°1/10.4	18		359109	2009 <i>BY</i> ₂₃		2 10.3 21°64	2°8/ 8.5	18	
1 2	9 57.50	+11 18.5	2.005	2.772	15.0	19.3	1 2	9 59.01	+17 28.9	1.425	2.230	18.2	21.2
1 12	9 53.93	+11 49.2	1.923	2.782	11.9	19.1	1 12	9 56.27	+18 16.2	1.350	2.232	14.4	20.9
1 22	9 48.09	+12 33.2	1.864	2.793	8.2	18.9	1 22	9 50.34	+19 16.5	1.295	2.235	9.8	20.6
2 1	9 40.48	+13 26.8	1.831	2.803	4.1	18.6	2 1	9 41.82	+20 22.8	1.263	2.237	5.0	20.4
2 11	9 31.95	+14 24.5	1.827	2.813	0.3	18.3	2 11	9 31.90	+21 25.7	1.258	2.241	3.1	20.3
2 21	9 23.50	+15 20.3	1.852	2.824	4.6	18.7	2 21	9 22.04	+22 16.5	1.280	2.244	7.3	20.5
3 2	9 16.10	+16 9.2	1.905	2.834	8.5	18.9	3 2	9 13.73	+22 49.5	1.326	2.248	12.1	20.8
3 12	9 10.55	+16 47.5	1.983	2.844	12.0	19.2	3 12	9 8.11	+23 2.7	1.394	2.252	16.3	21.1
238323	2003 <i>YU</i> ₁₅₃		2 10.3 19°85	5°5/ 6.5	18		130571	2000 <i>RJ</i> ₄₆		2 10.3 121°22	1°6/ 9.2	18	
1 2	10 1.16	+28 2.1	1.898	2.695	14.6	19.9	1 2	10 5.74	+16 58.5	1.931	2.700	15.4	20.5
1 12	9 57.19	+28 45.2	1.825	2.698	11.7	19.7	1 12	10 0.42	+17 26.0	1.858	2.719	12.1	20.3
1 22	9 50.49	+29 28.6	1.774	2.703	8.5	19.5	1 22	9 52.52	+18 1.9	1.807	2.738	8.2	20.1
2 1	9 41.70	+30 5.0	1.748	2.707	6.0	19.3	2 1	9 42.66	+18 41.1	1.783	2.756	4.1	19.9
2 11	9 31.87	+30 27.5	1.751	2.712	5.8	19.3	2 11	9 31.86	+19 17.7	1.788	2.773	1.8	19.8
2 21	9 22.22	+30 31.4	1.780	2.718	8.2	19.5	2 21	9 21.27	+19 46.5	1.824	2.789	5.4	20.1
3 2	9 13.96	+30 15.6	1.836	2.724	11.3	19.7	3 2	9 12.03	+20 4.2	1.887	2.804	9.4	20.3
3 12	9 7.97	+29 41.6	1.914	2.730	14.2	19.9	3 12	9 4.98	+20 9.6	1.976	2.819	12.8	20.6
216018	2005 <i>UJ</i> ₃₄₉		2 10.3 160°27	4°7/ 6.5	18		349955	2010 <i>CO</i> ₁₂₇		2 10.3 305°25	1°7/ 9.6	18	
1 2	10 6.03	+28 31.9	2.434	3.206	12.5	20.5	1 2	10 2.80	+17 48.6	1.351	2.153	19.2	20.5
1 12	10 0.35	+29 14.9	2.354	3.213	10.0	20.3	1 12	9 59.78	+17 46.6	1.256	2.136	15.4	20.2
1 22	9 52.32	+29 57.4	2.298	3.220	7.3	20.2	1 22	9 53.17	+17 54.1	1.180	2.118	10.7	19.9
2 1	9 42.51	+30 33.3	2.270	3.225	5.1	20.1	2 1	9 43.43	+18 6.3	1.126	2.101	5.4	19.5
2 11	9 31.82	+30 56.8	2.273	3.230	5.0	20.0	2 11	9 31.78	+18 16.5	1.099	2.084	1.9	19.2
2 21	9 21.27	+31 4.2	2.304	3.235	7.0	20.2	2 21	9 19.87	+18 18.5	1.097	2.068	7.1	19.5
3 2	9 11.88	+30 54.4	2.365	3.239	9.7	20.4	3 2	9 9.53	+18 8.2	1.120	2.052	12.8	19.8
3 12	9 4.43	+30 28.6	2.449	3.242	12.2	20.5	3 12	9 2.20	+17 44.4	1.164	2.037	17.8	20.0
162702	2000 <i>UT</i> ₄₃		2 10.3 100°90	2°0/11.7	18		34737	2001 <i>QC</i> ₇₁		2 10.3 100°09	3°2/12.6	18	
1 2	10 1.50	+ 7 15.3	1.704	2.461	17.6	20.4	1 2	9 59.61	+ 3 37.1	1.557	2.311	19.2	19.0
1 12	9 57.40	+ 7 22.4	1.629	2.478	14.2	20.2	1 12	9 56.24	+ 3 47.8	1.479	2.323	15.7	18.7
1 22	9 50.62	+ 7 46.8	1.574	2.494	10.1	20.0	1 22	9 50.04	+ 4 21.2	1.421	2.335	11.5	18.5
2 1	9 41.77	+ 8 26.2	1.544	2.510	5.6	19.8	2 1	9 41.58	+ 5 15.9	1.386	2.347	6.9	18.3
2 11	9 31.89	+ 9 15.6	1.541	2.526	2.0	19.6	2 11	9 31.93	+ 6 26.6	1.377	2.358	3.3	18.1
2 21	9 22.15	+10 8.9	1.567	2.541	5.0	19.8	2 21	9 22.37	+ 7 45.7	1.396	2.370	5.5	18.2
3 2	9 13.75	+10 59.7	1.621	2.556	9.3	20.1	3 2	9 14.16	+ 9 4.4	1.442	2.381	9.9	18.5
3 12	9 7.58	+11 43.1	1.700	2.570	13.1	20.4	3 12	9 8.32	+10 15.4	1.513	2.392	14.0	18.8
79799	1998 <i>VU</i> ₁₀		2 10.3 128°48	1°9/11.8	18		238885	2005 <i>YC</i> ₅₁		2 10.3 251°01	2°3/ 8.7	18	
1 2	9 59.67	+ 6 58.9	1.969	2.718	15.8	20.1	1 2	9 59.36	+15 40.4	1.598	2.390	17.2	20.5
1 12	9 55.67	+ 7 7.8	1.884	2.728	12.8	19.9	1 12	9 56.37	+16 37.6	1.507	2.382	13.6	20.3
1 22	9 49.31	+ 7 32.3	1.820	2.737	9.2	19.7	1 22	9 50.39	+17 50.5	1.436	2.374	9.3	20.0
2 1	9 41.11	+ 8 10.4	1.781	2.746	5.2	19.5	2 1	9 41.90	+19 12.7	1.391	2.365	4.7	19.7
2 11	9 31.94	+ 8 58.0	1.771	2.755	1.9	19.3	2 11	9 31.90	+20 35.1	1.373	2.356	2.6	19.5
2 21	9 22.82	+ 9 49.8	1.790	2.763	4.5	19.5	2 21	9 21.73	+21 48.3	1.383	2.347	6.9	19.8
3 2	9 14.78	+10 40.2	1.838	2.771	8.5	19.7	3 2	9 12.83	+22 45.0	1.419	2.338	11.7	20.0
3 12	9 8.65	+11 24.4	1.911	2.779	12.0	20.0	3 12	9 6.38	+23 21.6	1.478	2.329	15.9	20.2
340698	2006 <i>SF</i> ₂₁		2 10.3 105°73	1°8/ 8.8	18		282471	2004 <i>GZ</i> ₄		2 10.3 315°78	3°2/ 8.3	18	
1 2	9 59.28	+19 20.8	2.480	3.252	12.3	20.8	1 2	9 57.60	+16 54.0	1.285	2.098	19.4	19.9
1 12	9 54.87	+19 41.7	2.396	3.260	9.6	20.6	1 12	9 55.71	+17 51.8	1.201	2.089	15.4	19.6
1 22	9 48.49	+20 7.6	2.337	3.269	6.6	20.4	1 22	9 50.35	+19 7.0	1.138	2.080	10.6	19.3
2 1	9 40.61	+20 34.4	2.305	3.277	3.4	20.2	2 1	9 42.01	+20 31.8	1.097	2.072	5.5	19.0
2 11	9 31.98	+20 57.9	2.303	3.285	2.0	20.1	2 11	9 31.90	+21 55.0	1.081	2.063	3.6	18.9
2 21	9 23.45	+21 14.6	2.331	3.293	4.7	20.3	2 21	9 21.62	+23 5.2	1.091	2.056	8.3	19.1
3 2	9 15.85	+21 22.1	2.388	3.301	7.9	20.5	3 2	9 12.92	+23 54.1	1.125	2.048	13.6	19.4
3 12	9 9.87	+21 19.5	2.471	3.309	10.7	20.7	3 12	9 7.18	+24 18.7	1.179	2.042	18.3	19.7
265721	2005 <i>UR</i> ₃₈₁		2 10.3 357°64	10°0/ 3.2	18		240257	2002 <i>VB</i> ₅₄		2 10.3 359°25	7°8/ 4.5	18	
1 2	10 0.21	+34 56.9	1.497	2.311	17.0	19.6	1 2	9 56.98	+31 0.0	1.635	2.449	15.8	19.4
1 12	9 57.65	+36 30.5	1.433	2.308	14.2	19.4	1 12	9 54.59	+32 17.4	1.566	2.446	12.8	19.2
1 22	9 51.50	+38 0.5	1.390	2.306	11.5	19.2	1 22	9 49.13	+33 34.6	1.518	2.444	9.9	19.0
2 1	9 42.44	+39 14.6	1.370	2.305	10.1	19.1	2 1	9 41.20	+34 41.5	1.495	2.443	8.0	18.9
2 11	9 31.84	+40 1.0	1.375	2.304	10.7	19.2	2 11	9 31.97	+35 28.4	1.497	2.444	8.4	18.9
2 21	9 21.41	+40 13.4	1.403	2.305	13.0	19.3	2 21	9 22.87	+35 48.8	1.524	2.445	10.8	19.0
3 2	9 12.85	+39 51.0	1.453	2.306	15.9	19.5	3 2	9 15.28	+35 41.1	1.575	2.447	13.8	19.2
3 12	9 7.34	+38 58.8	1.522	2.308	18.7	19.7	3 12	9 10.27	+35 7.7	1.646	2.450	16.7	19.4
325119	2008 <i>EQ</i> ₆₆		2 10.3 59°18	0°8/10.8	18		231530	2008 <i>SR</i> ₁₀₅		2 10.3 53°01	1°4/ 9.2	18	
1 2	10 0.83	+11 30.0	1.609	2.386	17.7								

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
523596	2002 <i>PH</i> ₈₀		2 10.3 170°02	1°5/ 9.1 18			343044	2009 <i>BB</i> ₁₅₈		2 10.3 351°03	0°2/10.2 18		
1 2	10 7.29	+16 58.2	2.385	3.137	13.3	24.7	1 2	9 54.17	+12 37.4	1.919	2.700	15.1	20.7
1 12	10 1.30	+17 33.7	2.293	3.145	10.5	24.6	1 12	9 51.59	+13 0.4	1.828	2.695	12.0	20.5
1 22	9 53.01	+18 16.9	2.224	3.151	7.2	24.4	1 22	9 46.68	+13 36.1	1.758	2.691	8.3	20.3
2 1	9 42.92	+19 3.1	2.185	3.156	3.6	24.1	2 1	9 39.91	+14 21.0	1.714	2.688	4.1	20.0
2 11	9 31.87	+19 47.0	2.176	3.160	1.7	24.0	2 11	9 32.11	+15 10.0	1.698	2.685	0.4	19.7
2 21	9 20.85	+20 23.7	2.200	3.162	4.9	24.2	2 21	9 24.28	+15 57.4	1.710	2.683	4.8	20.0
3 2	9 10.85	+20 50.0	2.254	3.163	8.5	24.4	3 2	9 17.46	+16 37.8	1.750	2.681	9.0	20.3
3 12	9 2.70	+21 4.3	2.335	3.163	11.6	24.7	3 12	9 12.49	+17 7.8	1.814	2.680	12.7	20.5
21899	1999 <i>VU</i> ₈		2 10.3 108°98	0°0/10.2 18			453371	2009 <i>BN</i> ₅₅		2 10.3 28°02	1°5/ 9.5 18		
1 2	9 56.66	+10 5.5	2.237	2.995	13.9	18.7	1 2	9 57.70	+14 52.0	1.172	1.988	20.7	21.3
1 12	9 53.05	+10 57.5	2.154	3.008	11.0	18.5	1 12	9 55.64	+15 19.9	1.111	1.998	16.4	21.0
1 22	9 47.38	+12 3.4	2.095	3.021	7.6	18.4	1 22	9 50.07	+16 4.1	1.067	2.009	11.2	20.7
2 1	9 40.14	+13 19.2	2.062	3.034	3.7	18.1	2 1	9 41.73	+16 58.2	1.046	2.022	5.4	20.5
2 11	9 32.08	+14 39.1	2.059	3.046	0.3	17.9	2 11	9 31.99	+17 52.7	1.050	2.035	1.7	20.3
2 21	9 24.06	+15 56.8	2.087	3.058	4.2	18.2	2 21	9 22.51	+18 38.6	1.078	2.050	7.0	20.6
3 2	9 16.95	+17 6.7	2.144	3.070	7.9	18.5	3 2	9 14.90	+19 9.6	1.130	2.065	12.3	21.0
3 12	9 11.48	+18 4.8	2.228	3.082	11.1	18.7	3 12	9 10.27	+19 23.0	1.203	2.081	16.9	21.3
178933	2001 <i>QV</i> ₆₆		2 10.3 171°10	4°9/14.7 18			426531	2013 <i>RU</i> ₆₃		2 10.3 131°48	0°7/10.9 16		
1 2	9 55.82	- 2 52.4	1.989	2.699	16.9	20.4	1 2	9 57.83	+ 9 49.3	2.204	2.959	14.2	22.0
1 12	9 52.75	- 2 41.7	1.892	2.700	14.2	20.2	1 12	9 54.01	+10 12.6	2.116	2.966	11.3	21.8
1 22	9 47.41	- 2 7.6	1.815	2.701	11.1	20.0	1 22	9 48.08	+10 48.7	2.050	2.974	7.9	21.6
2 1	9 40.25	- 1 9.7	1.762	2.702	7.7	19.8	2 1	9 40.51	+11 35.0	2.011	2.981	4.1	21.4
2 11	9 32.07	+ 0 9.2	1.735	2.703	5.1	19.7	2 11	9 32.08	+12 26.7	2.002	2.988	0.7	21.1
2 21	9 23.81	+ 1 43.0	1.737	2.703	5.6	19.7	2 21	9 23.67	+13 18.9	2.022	2.995	4.1	21.4
3 2	9 16.49	+ 3 24.1	1.768	2.703	8.6	19.9	3 2	9 16.20	+14 6.7	2.071	3.001	7.9	21.6
3 12	9 10.95	+ 5 4.0	1.825	2.703	12.0	20.1	3 12	9 10.41	+14 46.4	2.146	3.007	11.2	21.8
53127	1999 <i>AH</i> ₂₅		2 10.3 331°96	0°2/10.1 18			30454	2000 <i>NK</i> ₂₆		2 10.3 335°23	3°6/13.6 18		
1 2	9 55.72	+12 44.5	2.202	2.971	13.8	18.9	1 2	9 54.32	+ 1 16.9	2.341	3.063	14.3	19.2
1 12	9 52.45	+13 10.8	2.108	2.969	10.9	18.7	1 12	9 51.19	+ 1 13.8	2.242	3.062	11.9	19.0
1 22	9 47.08	+13 48.3	2.037	2.967	7.5	18.4	1 22	9 46.13	+ 1 27.0	2.164	3.061	9.0	18.8
2 1	9 40.04	+14 33.8	1.992	2.965	3.7	18.2	2 1	9 39.56	+ 1 56.3	2.111	3.060	6.0	18.6
2 11	9 32.09	+15 22.5	1.977	2.963	0.4	17.9	2 11	9 32.15	+ 2 39.5	2.086	3.058	3.8	18.5
2 21	9 24.11	+16 9.2	1.991	2.962	4.4	18.2	2 21	9 24.69	+ 3 32.7	2.090	3.058	4.6	18.5
3 2	9 17.02	+16 49.6	2.033	2.960	8.2	18.5	3 2	9 18.01	+ 4 31.0	2.122	3.057	7.4	18.7
3 12	9 11.59	+17 20.3	2.101	2.959	11.5	18.7	3 12	9 12.81	+ 5 29.0	2.181	3.056	10.5	18.9
462272	2008 <i>ER</i> ₁₃₆		2 10.3 259°96	0°6/ 9.9 17			272577	2005 <i>VY</i> ₁₄		2 10.3 93°38	3°6/ 7.5 18		
1 2	9 58.71	+13 36.7	1.942	2.716	15.2	22.2	1 2	9 59.48	+20 58.0	1.896	2.687	14.9	20.6
1 12	9 55.27	+14 5.1	1.840	2.704	12.1	21.9	1 12	9 55.83	+21 56.0	1.819	2.693	11.7	20.4
1 22	9 49.30	+14 46.0	1.760	2.691	8.4	21.7	1 22	9 49.60	+23 1.4	1.764	2.699	8.0	20.2
2 1	9 41.27	+15 35.9	1.705	2.678	4.1	21.4	2 1	9 41.35	+24 7.4	1.736	2.706	4.6	20.0
2 11	9 32.00	+16 29.0	1.679	2.665	0.8	21.1	2 11	9 32.02	+25 6.3	1.736	2.712	3.9	19.9
2 21	9 22.56	+17 19.1	1.682	2.652	5.2	21.4	2 21	9 22.77	+25 51.6	1.765	2.718	6.9	20.1
3 2	9 14.12	+18 0.8	1.712	2.638	9.5	21.6	3 2	9 14.74	+26 19.5	1.820	2.724	10.5	20.3
3 12	9 7.64	+18 30.6	1.768	2.625	13.4	21.8	3 12	9 8.82	+26 29.3	1.899	2.729	13.8	20.6
240771	2005 <i>PY</i> ₁₇		2 10.3 202°51	1°3/11.7 17			255599	2006 <i>PC</i> ₂		2 10.3 246°41	2°4/11.9 18		
1 2	9 54.95	+ 7 31.6	2.887	3.623	11.6	21.8	1 2	9 59.74	+ 6 32.0	1.902	2.651	16.3	21.2
1 12	9 51.27	+ 7 46.7	2.782	3.619	9.3	21.6	1 12	9 56.12	+ 6 30.7	1.796	2.639	13.4	21.0
1 22	9 45.97	+ 8 12.8	2.701	3.616	6.7	21.5	1 22	9 49.93	+ 6 45.6	1.709	2.625	9.7	20.7
2 1	9 39.40	+ 8 48.2	2.648	3.612	3.7	21.3	2 1	9 41.61	+ 7 15.7	1.648	2.612	5.7	20.4
2 11	9 32.14	+ 9 30.0	2.624	3.608	1.3	21.1	2 11	9 32.00	+ 7 57.8	1.615	2.598	2.4	20.2
2 21	9 24.84	+10 14.9	2.631	3.604	3.3	21.2	2 21	9 22.17	+ 8 46.9	1.610	2.583	4.9	20.3
3 2	9 18.16	+10 59.0	2.668	3.599	6.3	21.4	3 2	9 13.30	+ 9 37.1	1.633	2.568	9.2	20.5
3 12	9 12.70	+11 39.2	2.733	3.594	9.1	21.6	3 12	9 6.41	+10 22.8	1.682	2.553	13.3	20.7
500370	2012 <i>TD</i> ₄₂		2 10.3 29°08	1°9/ 8.9 17			462960	2011 <i>DT</i> ₈		2 10.3 315°84	5°9/ 6.1 17		
1 2	9 59.98	+19 33.6	2.250	3.027	13.3	21.0	1 2	9 59.26	+26 49.5	1.746	2.550	15.4	20.8
1 12	9 55.71	+19 46.8	2.163	3.029	10.4	20.8	1 12	9 56.27	+27 48.0	1.655	2.534	12.4	20.6
1 22	9 49.23	+20 5.0	2.098	3.031	7.1	20.6	1 22	9 50.31	+28 50.7	1.586	2.518	9.1	20.3
2 1	9 41.07	+20 24.1	2.060	3.033	3.6	20.4	2 1	9 41.87	+29 49.1	1.542	2.502	6.4	20.1
2 11	9 32.03	+20 39.8	2.052	3.035	2.1	20.3	2 11	9 31.99	+30 34.1	1.524	2.487	6.4	20.1
2 21	9 23.06	+20 48.3	2.073	3.037	5.1	20.5	2 21	9 21.99	+30 58.8	1.533	2.472	9.1	20.2
3 2	9 15.11	+20 47.3	2.123	3.039	8.5	20.7	3 2	9 13.30	+30 59.9	1.568	2.458	12.7	20.4
3 12	9 8.96	+20 36.1	2.198	3.041	11.7	20.9	3 12	9 7.04	+30 38.0	1.623	2.444	16.2	20.6
245833	2006 <i>KA</i> ₃		2 10.3 235°27	0°2/10.2 17			506205	2016 <i>GW</i> ₂₃₁		2 10.3 173°62	3°1/ 7.1 17		
1 2	9 59.91	+11 42.6	1.986	2.750	15.2	21.6	1 2	9 57.05	+21 32.2	2.498	3.278	12.0	20.8
1 12	9 56.18	+12 18.5	1.880	2.737	12.2	21.4	1 12	9 53.32	+22 33.6	2.411	3.280	9.4	20.6
1 22	9 49.94	+13 9.2	1.795	2.724	8.5	21.1	1 22	9 47.58	+23 40.6	2.348	3.281	6.5	20.4
2 1	9 41.59	+14 11.1	1.738	2.710	4.2	20.8	2 1	9 40.27	+24 47.9	2.314	3.282	3.8	20.3
2 11	9 31.98	+15 18.4	1.708	2.695	0.5	20.5	2 11	9 32.11	+25 49.5	2.309	3.282	3.4	20.2
2 21	9 22.15	+16 24.2	1.709	2.680	5.0	20.8	2 21	9 23.93	+26 40.2	2.335	3.283	5.8	20.4
3 2	9 13.26	+17 22.4	1.738	2.664	9.4	21.1	3 2	9 16.60	+27 16.6	2.389	3.283	8.7	20.6
3 12	9 6.30	+18 8.6	1.793	2.648	13.3	21.3	3 12	9 10.84	+27 37.6	2.467	3.283	11.4	20.7
122654	2000 <i>RH</i> ₉₂		2 10.3 54°52	2°3/ 8.9 18			49031	1998 <i>QT</i> ₁₀₃		2 10.3 213°95	0°0/10.2 18		
1 2	10 2.87	+19 41.8	1.733	2.521	16.2	18.9	1 2						

EPHEMERIDES

2 10.3

2 10.4

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
82902	2001 <i>QV</i> ₉₆		2 10.3 188°15	1.4/11.6	18		350605	2001 <i>RB</i> ₁₃₉		2 10.4 89°46	3.9/ 8.2	18	
1 2	9 59.48	+ 7 36.3	2.590	3.322	12.8	21.1	1 2	10 5.94	+21 38.9	1.466	2.264	18.2	21.0
1 12	9 55.02	+ 7 51.3	2.486	3.321	10.4	20.9	1 12	10 1.60	+22 15.5	1.398	2.275	14.3	20.8
1 22	9 48.66	+ 8 18.4	2.406	3.320	7.4	20.7	1 22	9 53.91	+22 59.0	1.350	2.286	9.9	20.6
2 1	9 40.79	+ 8 55.8	2.353	3.317	4.1	20.5	2 1	9 43.58	+23 41.5	1.326	2.297	5.5	20.4
2 11	9 32.09	+ 9 40.2	2.330	3.314	1.4	20.3	2 11	9 31.95	+24 14.3	1.330	2.308	4.2	20.3
2 21	9 23.32	+10 27.6	2.338	3.311	3.7	20.5	2 21	9 20.60	+24 31.1	1.360	2.319	7.8	20.5
3 2	9 15.31	+11 13.9	2.377	3.306	7.1	20.7	3 2	9 11.05	+24 29.1	1.416	2.329	12.2	20.8
3 12	9 8.75	+11 55.3	2.443	3.301	10.1	20.9	3 12	9 4.37	+24 9.2	1.494	2.340	16.1	21.1
21692	1999 <i>RH</i> ₄₄		2 10.3 130°89	3.9/ 7.6	18		217532	2006 <i>WU</i> ₂₀₁		2 10.4 115°29	0.6/ 9.8	18	
1 2	10 4.51	+22 34.1	1.871	2.656	15.3	18.6	1 2	9 57.77	+11 56.1	1.970	2.740	15.1	20.9
1 12	9 59.78	+23 23.1	1.797	2.667	12.0	18.4	1 12	9 54.29	+12 47.5	1.887	2.749	12.0	20.7
1 22	9 52.29	+24 17.4	1.746	2.678	8.4	18.2	1 22	9 48.47	+13 53.2	1.826	2.757	8.2	20.5
2 1	9 42.67	+25 10.0	1.720	2.688	4.9	18.0	2 1	9 40.80	+15 8.6	1.792	2.765	4.0	20.2
2 11	9 31.97	+25 53.2	1.724	2.698	4.2	18.0	2 11	9 32.15	+16 27.0	1.787	2.774	0.8	20.0
2 21	9 21.42	+26 21.5	1.756	2.707	7.1	18.2	2 21	9 23.51	+17 41.2	1.812	2.781	4.9	20.3
3 2	9 12.26	+26 32.0	1.815	2.716	10.7	18.4	3 2	9 15.94	+18 45.3	1.865	2.789	9.0	20.6
3 12	9 5.41	+26 25.1	1.898	2.724	14.0	18.7	3 12	9 10.25	+19 35.4	1.943	2.797	12.5	20.8
62135	2000 <i>SA</i> ₆		2 10.4 227°06	12.3/28.6	18		512304	2016 <i>HW</i>		2 10.4 282°03	15.1/27.8	17	
1 2	10 12.58	+46 5.8	1.986	2.750	15.2	19.3	1 2	9 55.46	-32 28.0	2.287	2.762	19.7	21.5
1 12	10 7.65	+48 17.3	1.919	2.739	13.6	19.2	1 12	9 52.75	-33 49.2	2.188	2.751	18.9	21.4
1 22	9 58.71	+50 19.7	1.875	2.727	12.5	19.1	1 22	9 47.65	-34 42.6	2.099	2.739	17.9	21.2
2 1	9 46.27	+51 59.2	1.855	2.714	12.3	19.0	2 1	9 40.52	-35 1.0	2.024	2.727	16.9	21.1
2 11	9 31.69	+53 4.3	1.859	2.700	13.2	19.1	2 11	9 32.15	-34 39.0	1.964	2.716	15.9	21.0
2 21	9 16.93	+53 28.7	1.886	2.686	14.8	19.2	2 21	9 23.54	-33 34.8	1.923	2.704	15.3	20.9
3 2	9 4.07	+53 13.0	1.933	2.671	16.8	19.3	3 2	9 15.80	-31 50.6	1.902	2.692	15.2	20.9
3 12	8 54.65	+52 23.3	1.997	2.655	18.6	19.4	3 12	9 9.91	-29 33.7	1.901	2.681	15.7	20.9
236972	2008 <i>AV</i> ₃		2 10.4 358°46	6.2/ 4.2	18		292809	2006 <i>UK</i> ₂₅₀		2 10.4 258°61	1.1/11.4	17	
1 2	9 58.09	+30 57.3	2.305	3.097	12.5	20.3	1 2	9 55.35	+ 8 54.0	2.547	3.295	12.7	21.3
1 12	9 54.53	+32 16.0	2.229	3.097	10.1	20.1	1 12	9 51.89	+ 9 5.7	2.442	3.287	10.2	21.1
1 22	9 48.62	+33 34.5	2.178	3.097	7.8	20.0	1 22	9 46.58	+ 9 28.8	2.359	3.279	7.2	20.9
2 1	9 40.85	+34 45.2	2.153	3.096	6.3	19.9	2 1	9 39.81	+10 1.5	2.303	3.270	3.9	20.6
2 11	9 32.09	+35 41.1	2.156	3.096	6.7	19.9	2 11	9 32.22	+10 40.7	2.277	3.262	1.1	20.4
2 21	9 23.35	+36 17.0	2.187	3.096	8.6	20.0	2 21	9 24.55	+11 22.3	2.280	3.254	3.7	20.6
3 2	9 15.66	+36 30.8	2.244	3.097	11.0	20.2	3 2	9 17.59	+12 2.6	2.313	3.245	7.1	20.8
3 12	9 9.86	+36 23.6	2.323	3.097	13.4	20.4	3 12	9 12.02	+12 37.9	2.373	3.236	10.2	21.0
211539	2003 <i>RD</i> ₁₉		2 10.4 158°38	1.7/11.8	18		343049	2009 <i>BJ</i> ₁₇₀		2 10.4 125°84	1.5/ 9.1	17	
1 2	10 0.51	+ 6 34.8	2.092	2.833	15.3	21.7	1 2	9 59.18	+18 14.6	2.549	3.317	12.1	21.2
1 12	9 56.26	+ 6 54.0	2.001	2.840	12.3	21.5	1 12	9 54.79	+18 32.9	2.462	3.324	9.5	21.0
1 22	9 49.72	+ 7 29.0	1.932	2.847	8.8	21.3	1 22	9 48.47	+18 56.5	2.399	3.330	6.5	20.8
2 1	9 41.38	+ 8 17.6	1.889	2.853	5.0	21.1	2 1	9 40.69	+19 21.9	2.364	3.336	3.2	20.6
2 11	9 32.07	+ 9 15.6	1.875	2.859	1.8	20.9	2 11	9 32.16	+19 45.1	2.359	3.342	1.6	20.5
2 21	9 22.75	+10 17.3	1.891	2.864	4.3	21.1	2 21	9 23.71	+20 2.7	2.384	3.348	4.4	20.7
3 2	9 14.43	+11 17.0	1.936	2.868	8.2	21.3	3 2	9 16.13	+20 12.1	2.438	3.354	7.6	20.9
3 12	9 7.93	+12 9.9	2.007	2.871	11.7	21.5	3 12	9 10.11	+20 12.3	2.519	3.359	10.5	21.1
284387	2006 <i>SU</i> ₃₈₁		2 10.4 108°28	0.6/10.9	18		173717	2001 <i>QC</i> ₁₅₂		2 10.4 125°58	5.9/16.1	18	
1 2	9 55.14	+ 9 41.2	2.580	3.330	12.4	21.1	1 2	9 59.93	- 7 28.1	3.033	3.672	12.9	20.9
1 12	9 51.58	+10 10.4	2.492	3.340	9.9	20.9	1 12	9 54.97	- 8 18.0	2.941	3.688	11.1	20.8
1 22	9 46.25	+10 51.0	2.427	3.349	6.9	20.8	1 22	9 48.40	- 8 53.5	2.871	3.704	9.2	20.6
2 1	9 39.58	+11 40.2	2.389	3.359	3.6	20.6	2 1	9 40.61	- 9 12.8	2.826	3.719	7.4	20.5
2 11	9 32.21	+12 34.1	2.381	3.368	0.6	20.3	2 11	9 32.17	- 9 15.6	2.809	3.734	6.1	20.5
2 21	9 24.87	+13 28.3	2.404	3.377	3.6	20.6	2 21	9 23.75	- 9 3.1	2.821	3.748	6.1	20.5
3 2	9 18.29	+14 18.5	2.457	3.386	6.9	20.8	3 2	9 16.02	- 8 38.2	2.862	3.762	7.3	20.6
3 12	9 13.10	+15 1.5	2.536	3.394	9.8	21.0	3 12	9 9.54	- 8 4.7	2.931	3.775	9.0	20.7
159982	2006 <i>BW</i> ₂₀₇		2 10.4 128°45	1.6/11.7	18		65221	2002 <i>ET</i> ₂₂		2 10.4 53°95	1.6/ 8.9	18	
1 2	9 56.56	+ 7 19.1	2.101	2.852	14.9	20.6	1 2	9 56.49	+14 37.5	1.922	2.704	15.0	20.0
1 12	9 53.18	+ 7 36.8	2.009	2.855	12.0	20.4	1 12	9 53.44	+15 34.3	1.837	2.706	11.8	19.8
1 22	9 47.63	+ 8 9.7	1.939	2.858	8.6	20.2	1 22	9 47.98	+16 44.4	1.774	2.708	8.0	19.6
2 1	9 40.36	+ 8 55.6	1.894	2.860	4.7	20.0	2 1	9 40.60	+18 2.2	1.737	2.711	3.9	19.3
2 11	9 32.16	+ 9 50.3	1.878	2.863	1.6	19.8	2 11	9 32.16	+19 20.4	1.729	2.713	1.8	19.2
2 21	9 23.94	+10 48.6	1.891	2.865	4.2	19.9	2 21	9 23.70	+20 31.7	1.750	2.716	5.6	19.4
3 2	9 16.65	+11 44.8	1.933	2.868	8.1	20.2	3 2	9 16.30	+21 30.3	1.798	2.718	9.6	19.7
3 12	9 11.08	+12 34.3	2.001	2.870	11.6	20.4	3 12	9 10.83	+22 12.7	1.872	2.721	13.1	19.9
3284	Niebuhr		2 10.4 147°20	2.2/ 8.1	18	R	241305	2007 <i>UT</i> ₁₁₃		2 10.4 263°08	8.2/ 2.1	18	
1 2	10 0.40	+20 5.1	2.938	3.700	10.8	18.9	1 2	10 3.42	+39 12.7	2.391	3.169	12.6	20.4
1 12	9 55.47	+20 51.1	2.855	3.714	8.4	18.7	1 12	9 58.94	+40 30.4	2.315	3.160	10.7	20.3
1 22	9 48.79	+21 41.7	2.798	3.727	5.8	18.6	1 22	9 51.78	+41 42.5	2.262	3.152	9.0	20.2
2 1	9 40.80	+22 32.6	2.770	3.739	3.1	18.4	2 1	9 42.49	+42 40.6	2.235	3.143	8.2	20.1
2 11	9 32.13	+23 19.3	2.773	3.751	2.4	18.3	2 11	9 32.04	+43 17.5	2.235	3.135	8.8	20.1
2 21	9 23.53	+23 57.9	2.808	3.761	4.6	18.5	2 21	9 21.62	+43 28.8	2.261	3.126	10.3	20.2
3 2	9 15.70	+24 25.9	2.872	3.771	7.3	18.7	3 2	9 12.43	+43 14.0	2.311	3.118	12.3	20.3
3 12	9 9.27	+24 42.3	2.964	3.781	9.7	18.9	3 12	9 5.44	+42 35.8	2.382	3.109	14.3	20.5
421273	2013 <i>SL</i> ₇₄		2 10.4 141°44	1.5/ 9.2	18		154024	2002 <i>CZ</i> ₃₁		2 10.4 337°62	3.2/ 8.5	18	
1 2	10 0.42	+17 18.8	2.167	2.940	13.8	21.7	1 2</						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
234983	2003 <i>AJ</i> ₃₃		2 10.4 68°12	0°4/10.6	17		41396	2000 <i>AG</i> ₁₇₅		2 10.4 116°06	3°9/14.1	18	
1 2	10 5.72	+12 6.6	1.307	2.093	20.6	20.3	1 2	9 57.48	- 0 29.6	2.484	3.185	14.1	18.2
1 12	10 1.37	+12 10.2	1.250	2.118	16.3	20.1	1 12	9 53.41	- 0 31.0	2.398	3.202	11.7	18.0
1 22	9 53.66	+12 29.6	1.211	2.144	11.2	19.9	1 22	9 47.52	- 0 16.1	2.333	3.219	9.0	17.9
2 1	9 43.40	+13 0.6	1.196	2.169	5.6	19.6	2 1	9 40.23	+ 0 14.9	2.294	3.235	6.1	17.7
2 11	9 31.99	+13 36.3	1.207	2.194	0.5	19.3	2 11	9 32.24	+ 0 59.6	2.283	3.251	4.0	17.6
2 21	9 21.05	+14 9.7	1.245	2.219	5.9	19.8	2 21	9 24.31	+ 1 54.3	2.302	3.267	4.6	17.7
3 2	9 12.03	+14 35.5	1.309	2.244	11.0	20.1	3 2	9 17.20	+ 2 54.0	2.351	3.281	7.1	17.9
3 12	9 5.93	+14 50.5	1.395	2.269	15.3	20.4	3 12	9 11.56	+ 3 53.8	2.427	3.296	9.8	18.1
414814	2010 <i>TL</i> ₇₉		2 10.4 51°00	4°0/13.3	18		171493	1996 <i>VQ</i> ₁₃		2 10.4 112°87	3°7/14.1	18	
1 2	9 56.39	+ 1 47.8	1.586	2.338	19.0	21.7	1 2	9 56.46	- 0 5.0	2.693	3.393	13.1	21.3
1 12	9 53.65	+ 1 51.3	1.511	2.350	15.6	21.5	1 12	9 52.47	- 0 11.2	2.605	3.409	10.9	21.1
1 22	9 48.25	+ 2 18.2	1.455	2.364	11.7	21.3	1 22	9 46.80	- 0 2.8	2.539	3.425	8.3	21.0
2 1	9 40.75	+ 3 7.7	1.421	2.377	7.4	21.1	2 1	9 39.87	+ 0 20.0	2.499	3.440	5.7	20.8
2 11	9 32.17	+ 4 15.3	1.414	2.391	4.2	20.9	2 11	9 32.28	+ 0 55.2	2.488	3.455	3.8	20.7
2 21	9 23.68	+ 5 33.8	1.433	2.405	5.5	21.0	2 21	9 24.75	+ 1 39.7	2.506	3.470	4.3	20.8
3 2	9 16.47	+ 6 54.8	1.480	2.420	9.5	21.3	3 2	9 17.96	+ 2 29.4	2.555	3.484	6.6	20.9
3 12	9 11.46	+ 8 10.3	1.550	2.435	13.4	21.6	3 12	9 12.51	+ 3 20.0	2.630	3.498	9.2	21.1
365370	2009 <i>TD</i> ₃₆		2 10.4 183°64	3°9/14.2	17		315439	2007 <i>VN</i> ₃₃₅		2 10.4 142°64	0°1/10.5	18	
1 2	9 58.20	- 1 9.1	2.789	3.477	13.0	22.4	1 2	10 4.26	+13 36.0	2.087	2.844	14.8	20.7
1 12	9 53.88	- 1 12.1	2.683	3.478	10.9	22.2	1 12	9 59.18	+13 34.6	2.000	2.853	11.8	20.5
1 22	9 47.81	- 1 0.1	2.598	3.478	8.4	22.1	1 22	9 51.71	+13 42.1	1.936	2.862	8.1	20.3
2 1	9 40.38	- 0 32.9	2.540	3.477	5.9	21.9	2 1	9 42.38	+13 55.8	1.898	2.869	4.1	20.1
2 11	9 32.20	+ 0 7.8	2.511	3.475	4.0	21.8	2 11	9 32.11	+14 11.8	1.890	2.877	0.3	19.7
2 21	9 23.95	+ 0 58.8	2.512	3.473	4.5	21.8	2 21	9 21.94	+14 26.2	1.913	2.884	4.5	20.1
3 2	9 16.37	+ 1 56.1	2.543	3.470	6.8	21.9	3 2	9 12.90	+14 35.8	1.964	2.891	8.5	20.4
3 12	9 10.09	+ 2 54.9	2.603	3.466	9.4	22.1	3 12	9 5.83	+14 38.7	2.041	2.897	11.9	20.6
221221	2005 <i>UR</i> ₁₁₄		2 10.4 113°79	4°6/14.6	18		464921	2005 <i>UC</i> ₄₀		2 10.4 23°56	6°8/14.9	18	
1 2	9 56.83	- 2 24.3	2.109	2.814	16.2	21.0	1 2	9 54.65	- 1 30.1	1.427	2.177	20.8	20.8
1 12	9 53.31	- 2 16.2	2.021	2.827	13.6	20.9	1 12	9 52.57	- 2 12.8	1.357	2.188	17.6	20.6
1 22	9 47.67	- 1 46.9	1.954	2.838	10.5	20.7	1 22	9 47.67	- 2 30.3	1.304	2.200	13.8	20.4
2 1	9 40.37	- 0 56.4	1.910	2.850	7.3	20.5	2 1	9 40.53	- 2 20.4	1.272	2.213	9.9	20.2
2 11	9 32.20	+ 0 12.4	1.895	2.861	4.8	20.4	2 11	9 32.24	- 1 44.6	1.263	2.228	7.1	20.1
2 21	9 24.06	+ 1 34.0	1.908	2.872	5.3	20.4	2 21	9 24.06	- 0 48.4	1.279	2.243	7.5	20.1
3 2	9 16.85	+ 3 1.6	1.950	2.883	8.1	20.6	3 2	9 17.25	+ 0 20.1	1.320	2.259	10.5	20.3
3 12	9 11.35	+ 4 27.9	2.019	2.894	11.2	20.8	3 12	9 12.79	+ 1 31.6	1.385	2.277	14.2	20.6
22814	1999 <i>RJ</i> ₁₈		2 10.4 101°42	0°9/ 9.7	18		495112	2011 <i>UH</i> ₂₄₆		2 10.4 76°84	1°2/11.2	18	
1 2	10 2.22	+13 36.1	1.803	2.575	16.2	19.5	1 2	10 1.71	+ 9 5.6	1.564	2.334	18.4	22.2
1 12	9 57.87	+14 15.9	1.733	2.595	12.8	19.3	1 12	9 57.79	+ 9 18.6	1.497	2.355	14.7	22.0
1 22	9 50.92	+15 8.4	1.684	2.616	8.7	19.1	1 22	9 51.04	+ 9 48.9	1.450	2.376	10.3	21.7
2 1	9 41.99	+16 8.3	1.662	2.635	4.2	18.9	2 1	9 42.12	+10 32.9	1.427	2.396	5.4	21.5
2 11	9 32.10	+17 8.9	1.668	2.654	1.1	18.7	2 11	9 32.14	+11 24.7	1.431	2.417	1.2	21.3
2 21	9 22.39	+18 3.4	1.704	2.673	5.3	19.0	2 21	9 22.40	+12 17.4	1.463	2.437	5.1	21.6
3 2	9 14.00	+18 46.9	1.767	2.691	9.5	19.3	3 2	9 14.15	+13 4.8	1.522	2.457	9.7	21.9
3 12	9 7.79	+19 16.6	1.856	2.708	13.1	19.6	3 12	9 8.29	+13 42.3	1.605	2.477	13.7	22.2
405795	2006 <i>AT</i> ₈₆		2 10.4 19°68	1°4/11.3	18		410795	2009 <i>HK</i> ₃₂		2 10.4 93°21	1°5/11.5	18	
1 2	9 51.19	+ 7 23.7	1.226	2.029	20.7	19.9	1 2	9 58.47	+ 7 6.2	1.723	2.484	17.3	21.0
1 12	9 50.24	+ 7 54.6	1.166	2.043	16.6	19.7	1 12	9 55.13	+ 7 34.0	1.643	2.496	13.9	20.8
1 22	9 46.23	+ 8 50.0	1.124	2.058	11.7	19.4	1 22	9 49.21	+ 8 20.7	1.584	2.507	9.9	20.5
2 1	9 39.83	+10 5.4	1.104	2.076	6.2	19.2	2 1	9 41.24	+ 9 23.4	1.550	2.518	5.4	20.3
2 11	9 32.24	+11 32.3	1.109	2.095	1.4	18.9	2 11	9 32.20	+10 35.9	1.543	2.529	1.5	20.1
2 21	9 24.87	+12 59.9	1.138	2.115	5.7	19.3	2 21	9 23.22	+11 50.8	1.565	2.540	4.8	20.3
3 2	9 19.06	+14 18.3	1.193	2.137	10.8	19.6	3 2	9 15.46	+13 0.9	1.615	2.550	9.3	20.6
3 12	9 15.79	+15 20.7	1.269	2.160	15.3	19.9	3 12	9 9.82	+14 0.5	1.689	2.561	13.2	20.8
223619	2004 <i>JR</i> ₁₁		2 10.4 187°84	1°5/11.9	18		400240	2007 <i>HX</i> ₉₅		2 10.4 199°70	2°1/ 8.6	14 C	
1 2	9 57.89	+ 5 58.2	2.693	3.420	12.5	22.0	1 2	10 1.86	+15 49.8	2.098	2.867	14.4	22.9
1 12	9 53.74	+ 6 29.2	2.589	3.419	10.1	21.8	1 12	9 57.60	+16 55.2	2.000	2.863	11.3	22.7
1 22	9 47.77	+ 7 13.8	2.507	3.418	7.3	21.6	1 22	9 50.86	+18 13.0	1.926	2.858	7.8	22.5
2 1	9 40.39	+ 8 10.1	2.453	3.416	4.1	21.4	2 1	9 42.10	+19 37.6	1.879	2.852	3.9	22.2
2 11	9 32.21	+ 9 14.5	2.429	3.413	1.5	21.2	2 11	9 32.14	+21 1.5	1.863	2.845	2.3	22.1
2 21	9 23.96	+10 22.4	2.437	3.409	3.6	21.3	2 21	9 22.03	+22 17.1	1.877	2.837	5.8	22.3
3 2	9 16.39	+11 28.8	2.475	3.405	6.8	21.5	3 2	9 12.89	+23 18.8	1.919	2.829	9.7	22.5
3 12	9 10.18	+12 29.6	2.542	3.400	9.8	21.7	3 12	9 5.67	+24 3.4	1.987	2.819	13.2	22.7
363188	2001 <i>TZ</i> ₂₃₈		2 10.4 123°90	1°8/ 8.7	18		35022	1981 <i>EK</i> ₁₃		2 10.4 110°65	3°8/12.9	18	
1 2	10 1.29	+16 54.6	2.345	3.110	13.1	21.8	1 2	10 1.25	+ 3 31.6	1.675	2.419	18.4	19.4
1 12	9 56.57	+17 46.7	2.269	3.130	10.3	21.6	1 12	9 57.38	+ 3 17.5	1.594	2.430	15.1	19.2
1 22	9 49.75	+18 47.0	2.218	3.149	6.9	21.4	1 22	9 50.78	+ 3 22.9	1.533	2.441	11.2	19.0
2 1	9 41.35	+19 50.3	2.195	3.167	3.5	21.2	2 1	9 42.04	+ 3 47.4	1.495	2.452	7.1	18.7
2 11	9 32.16	+20 50.7	2.202	3.185	2.0	21.2	2 11	9 32.15	+ 4 27.8	1.484	2.462	4.0	18.6
2 21	9 23.07	+21 43.0	2.241	3.202	5.0	21.4	2 21	9 22.34	+ 5 18.8	1.501	2.472	5.6	18.7
3 2	9 14.99	+22 23.5	2.308	3.218	8.3	21.6	3 2	9 13.81	+ 6 13.6	1.546	2.482	9.5	18.9
3 12	9 8.64	+22 50.6	2.402	3.233	11.2	21.8	3 12	9 7.52	+ 7 5.7	1.614	2.491	13.4	19.2
81584	2000 <i>HF</i> ₄₆		2 10.4 270°85	3°7/12.8	18		128865	2004 <i>SK</i> ₃₁		2 10.4 179°36	0°7/11.0	18	
1 2	9 58.43	+ 4 4.2	1.882	2.625	16.7	19.8							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
236448	2006 <i>DY</i> ₂₁₁		2 10.4 155°77	1°5/11.9	18		92479	2000 <i>LZ</i> ₈		2 10.4 175°30	1°3/ 9.3	18	
1 2	9 55.69	+ 5 43.9	2.725	3.454	12.3	21.3	1 2	10 2.91	+15 1.9	2.055	2.821	14.7	20.7
1 12	9 51.95	+ 6 15.5	2.628	3.461	10.0	21.1	1 12	9 58.34	+15 44.4	1.965	2.824	11.6	20.5
1 22	9 46.51	+ 7 0.5	2.555	3.467	7.1	21.0	1 22	9 51.30	+16 38.0	1.897	2.827	8.0	20.3
2 1	9 39.77	+ 7 56.9	2.509	3.472	4.1	20.8	2 1	9 42.29	+17 38.1	1.856	2.829	3.9	20.1
2 11	9 32.32	+ 9 1.0	2.494	3.477	1.5	20.6	2 11	9 32.18	+18 38.1	1.845	2.830	1.5	19.9
2 21	9 24.85	+10 8.3	2.509	3.482	3.4	20.7	2 21	9 22.05	+19 31.9	1.864	2.830	5.3	20.1
3 2	9 18.07	+11 14.2	2.555	3.486	6.5	20.9	3 2	9 12.99	+20 14.6	1.912	2.829	9.2	20.4
3 12	9 12.60	+12 14.5	2.629	3.490	9.4	21.1	3 12	9 5.90	+20 43.7	1.985	2.828	12.8	20.6
233132	2005 <i>UB</i> ₅₁		2 10.4 112°78	0°6/ 9.9	18		28718	Rivergrace		2 10.4 149°20	3°3/ 8.2	18	
1 2	10 5.76	+14 2.5	1.629	2.403	17.6	21.0	1 2	10 6.58	+21 0.9	1.795	2.576	16.0	19.4
1 12	10 0.97	+14 23.1	1.558	2.421	14.0	20.8	1 12	10 1.57	+21 39.6	1.717	2.585	12.6	19.2
1 22	9 53.23	+14 56.2	1.507	2.438	9.6	20.6	1 22	9 53.66	+22 25.0	1.661	2.593	8.7	19.0
2 1	9 43.22	+15 37.0	1.481	2.454	4.7	20.3	2 1	9 43.48	+23 10.2	1.630	2.600	4.8	18.7
2 11	9 32.09	+16 18.8	1.484	2.470	0.8	20.1	2 11	9 32.11	+23 47.8	1.629	2.607	3.6	18.7
2 21	9 21.18	+16 55.4	1.515	2.486	5.6	20.4	2 21	9 20.88	+24 12.1	1.656	2.613	6.8	18.9
3 2	9 11.81	+17 22.2	1.574	2.501	10.2	20.7	3 2	9 11.09	+24 20.1	1.711	2.619	10.8	19.1
3 12	9 4.94	+17 36.7	1.657	2.515	14.1	21.0	3 12	9 3.73	+24 11.7	1.790	2.623	14.3	19.4
396641	2001 <i>WK</i> ₈₇		2 10.4 105°33	3°4/ 8.2	18		12993	1981 <i>EP</i> ₂₇		2 10.4 149°95	4°0/14.2	18	
1 2	10 6.60	+20 21.3	1.660	2.445	16.9	21.7	1 2	9 55.17	- 0 43.8	2.280	2.993	14.9	19.1
1 12	10 1.62	+21 8.0	1.595	2.466	13.2	21.5	1 12	9 51.94	- 0 39.0	2.183	2.995	12.5	18.9
1 22	9 53.66	+22 2.0	1.552	2.485	9.1	21.3	1 22	9 46.73	- 0 15.7	2.107	2.997	9.6	18.7
2 1	9 43.42	+22 56.1	1.534	2.505	4.9	21.1	2 1	9 39.96	+ 0 26.2	2.055	2.999	6.5	18.5
2 11	9 32.09	+23 42.0	1.545	2.524	3.7	21.1	2 11	9 32.34	+ 1 24.0	2.031	3.000	4.2	18.4
2 21	9 21.06	+24 13.5	1.584	2.542	7.0	21.3	2 21	9 24.66	+ 2 33.3	2.036	3.002	4.8	18.4
3 2	9 11.65	+24 27.5	1.650	2.560	11.0	21.6	3 2	9 17.80	+ 3 48.3	2.070	3.004	7.6	18.6
3 12	9 4.80	+24 24.2	1.740	2.577	14.5	21.9	3 12	9 12.47	+ 5 2.8	2.130	3.005	10.7	18.8
369288	2009 <i>RR</i> ₄₃		2 10.4 8°60	2°6/12.2	17		521037	2015 <i>DX</i> ₂₁₅		2 10.4 86°63	5°3/ 6.0	18	
1 2	9 58.15	+ 6 23.2	1.906	2.658	16.2	21.3	1 2	9 59.98	+10 7.5	1.014	1.826	23.5	20.5
1 12	9 54.71	+ 6 15.7	1.814	2.658	13.2	21.1	1 12	9 58.39	+13 34.7	0.949	1.838	18.4	20.3
1 22	9 48.86	+ 6 23.6	1.743	2.658	9.6	20.9	1 22	9 52.72	+17 44.7	0.906	1.850	12.3	20.0
2 1	9 41.08	+ 6 46.1	1.696	2.658	5.7	20.6	2 1	9 43.48	+22 17.4	0.888	1.863	6.5	19.7
2 11	9 32.23	+ 7 20.0	1.677	2.659	2.6	20.4	2 11	9 32.09	+26 41.9	0.899	1.875	6.5	19.7
2 21	9 23.35	+ 8 0.5	1.686	2.659	4.8	20.6	2 21	9 20.59	+30 29.1	0.937	1.887	11.9	20.1
3 2	9 15.51	+ 8 42.5	1.723	2.659	8.7	20.8	3 2	9 11.14	+33 21.7	1.000	1.898	17.4	20.4
3 12	9 9.59	+ 9 20.9	1.785	2.660	12.4	21.0	3 12	9 5.34	+35 17.6	1.082	1.910	22.0	20.7
26603	2000 <i>FT</i> ₁₇		2 10.4 136°65	0°5/ 9.9	18		57567	Crikey		2 10.4 19°78	1°4/11.5	18	
1 2	9 56.25	+12 25.4	2.479	3.239	12.6	18.2	1 2	9 55.12	+ 8 51.4	1.939	2.706	15.5	19.3
1 12	9 52.61	+13 11.7	2.391	3.247	10.0	18.0	1 12	9 52.23	+ 8 56.2	1.856	2.711	12.4	19.1
1 22	9 47.07	+14 9.1	2.325	3.254	6.8	17.8	1 22	9 47.07	+ 9 15.0	1.793	2.717	8.8	18.9
2 1	9 40.08	+15 13.7	2.288	3.261	3.3	17.6	2 1	9 40.17	+ 9 45.8	1.756	2.724	4.8	18.7
2 11	9 32.31	+16 20.5	2.281	3.267	0.6	17.4	2 11	9 32.34	+10 24.6	1.746	2.731	1.4	18.5
2 21	9 24.53	+17 24.3	2.304	3.273	4.1	17.7	2 21	9 24.55	+11 6.3	1.765	2.739	4.4	18.7
3 2	9 17.56	+18 20.5	2.357	3.280	7.5	17.9	3 2	9 17.79	+11 45.9	1.811	2.748	8.3	19.0
3 12	9 12.08	+19 5.9	2.437	3.285	10.5	18.1	3 12	9 12.85	+12 19.4	1.882	2.756	11.9	19.2
325492	2009 <i>RW</i> ₁₇		2 10.4 246°23	6°8/ 5.2	18		464685	2001 <i>UY</i> ₂₁₂		2 10.4 156°98	5°3/ 4.0	17	
1 2	10 5.05	+31 43.7	2.032	2.819	14.2	21.2	1 2	10 1.54	+34 14.7	3.210	3.979	9.8	22.1
1 12	10 0.46	+32 44.3	1.946	2.810	11.5	21.0	1 12	9 56.48	+35 16.2	3.138	3.987	8.0	22.0
1 22	9 52.98	+33 44.0	1.884	2.801	8.9	20.8	1 22	9 49.58	+36 14.7	3.091	3.995	6.3	21.8
2 1	9 43.18	+34 34.2	1.847	2.792	7.0	20.7	2 1	9 41.28	+37 4.7	3.073	4.002	5.3	21.8
2 11	9 32.10	+35 6.8	1.838	2.783	7.2	20.7	2 11	9 32.27	+37 41.6	3.084	4.009	5.6	21.8
2 21	9 21.04	+35 16.6	1.857	2.773	9.4	20.8	2 21	9 23.32	+38 2.4	3.124	4.015	6.9	21.9
3 2	9 11.30	+35 2.0	1.901	2.763	12.2	20.9	3 2	9 15.21	+38 6.1	3.192	4.021	8.7	22.0
3 12	9 3.93	+34 25.3	1.967	2.753	15.0	21.1	3 12	9 8.59	+37 53.6	3.284	4.026	10.4	22.2
324402	2006 <i>SM</i> ₁₅₀		2 10.4 20°88	4°2/13.0	18		417530	2006 <i>TP</i> ₄₆		2 10.4 134°34	7°4/ 4.8	18	
1 2	9 53.20	+ 3 41.0	1.196	1.985	21.9	20.4	1 2	10 4.02	+31 6.4	1.809	2.605	15.3	20.9
1 12	9 51.92	+ 3 27.4	1.133	1.996	18.0	20.2	1 12	9 59.90	+32 24.4	1.738	2.607	12.4	20.7
1 22	9 47.48	+ 3 40.0	1.087	2.009	13.3	20.0	1 22	9 52.71	+33 42.2	1.689	2.610	9.5	20.5
2 1	9 40.52	+ 4 18.2	1.061	2.024	8.3	19.7	2 1	9 43.07	+34 49.8	1.666	2.612	7.6	20.4
2 11	9 32.29	+ 5 16.9	1.059	2.039	4.4	19.6	2 11	9 32.15	+35 37.8	1.670	2.615	7.9	20.5
2 21	9 24.24	+ 6 27.6	1.081	2.057	6.3	19.7	2 21	9 21.34	+36 0.3	1.701	2.617	10.1	20.6
3 2	9 17.81	+ 7 40.3	1.128	2.075	10.9	20.0	3 2	9 12.05	+35 55.6	1.756	2.619	13.1	20.8
3 12	9 14.04	+ 8 45.9	1.196	2.095	15.4	20.3	3 12	9 5.34	+35 26.7	1.833	2.621	15.9	21.0
378368	2007 <i>MR</i> ₅		2 10.4 141°83	1°5/ 8.9	18		488728	2004 <i>QR</i> ₂₇		2 10.4 119°18	0°1/10.3	18	
1 2	9 57.74	+16 20.0	2.467	3.235	12.5	21.1	1 2	10 2.57	+10 24.4	1.914	2.671	16.0	22.1
1 12	9 53.80	+17 5.5	2.381	3.243	9.8	20.9	1 12	9 58.03	+11 13.7	1.839	2.692	12.6	21.9
1 22	9 47.91	+17 59.4	2.319	3.250	6.6	20.7	1 22	9 51.01	+12 18.3	1.787	2.713	8.7	21.7
2 1	9 40.50	+18 57.3	2.284	3.257	3.3	20.5	2 1	9 42.09	+13 33.4	1.761	2.733	4.3	21.5
2 11	9 32.30	+19 54.0	2.280	3.264	1.7	20.4	2 11	9 32.22	+14 52.2	1.765	2.751	0.3	21.2
2 21	9 24.12	+20 44.4	2.307	3.270	4.6	20.6	2 21	9 22.48	+16 7.3	1.799	2.769	4.8	21.6
3 2	9 16.79	+21 25.0	2.362	3.276	7.9	20.8	3 2	9 13.95	+17 12.6	1.862	2.787	8.9	21.9
3 12	9 11.01	+21 53.4	2.444	3.282	10.8	21.0	3 12	9 7.47	+18 4.4	1.950	2.803	12.5	22.1
464202	2015 <i>BW</i> ₈₃		2 10.4 201°07	2°5/ 8.3	17		259346	2003 <i>GO</i> ₂₂		2 10.4 330°80	5°8/ 5.5	18	
1 2	9 59.85	+20 10.1	2.320	3.097	12.9	21.8	1 2	9 55.61	+22 55.3				

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
54007	2000 <i>GE</i> ₉₄		2 10.4 163°24	0°4/ 9.9 18			56563	2000 <i>JS</i> ₈		2 10.4 218°81	3°3/12.6 18		
1 2	9 56.21	+12 40.1	2.821	3.574	11.4	19.2	1 2	10 1.53	+ 4 21.8	1.895	2.632	16.8	19.5
1 12	9 52.34	+13 23.1	2.727	3.579	9.0	19.1	1 12	9 57.54	+ 4 12.2	1.792	2.625	13.9	19.3
1 22	9 46.79	+14 15.5	2.657	3.584	6.2	18.9	1 22	9 50.96	+ 4 19.7	1.708	2.616	10.3	19.0
2 1	9 39.93	+15 14.3	2.616	3.588	3.0	18.7	2 1	9 42.23	+ 4 44.1	1.650	2.607	6.4	18.8
2 11	9 32.36	+16 14.9	2.605	3.592	0.6	18.5	2 11	9 32.22	+ 5 22.8	1.618	2.598	3.4	18.5
2 21	9 24.78	+17 13.1	2.626	3.595	3.7	18.7	2 21	9 22.02	+ 6 11.2	1.616	2.587	5.2	18.6
3 2	9 17.88	+18 4.8	2.677	3.598	6.8	18.9	3 2	9 12.82	+ 7 3.4	1.642	2.576	9.2	18.8
3 12	9 12.29	+18 47.4	2.755	3.600	9.5	19.1	3 12	9 5.63	+ 7 53.4	1.693	2.565	13.2	19.1
111661	Mamiegeorge		2 10.4 48°52	15°5/13.4 16			113348	2002 <i>RR</i> ₂₃₃		2 10.4 103°35	0°2/10.5 18		
1 2	10 19.68	- 0 47.9	0.898	1.655	29.9	18.5	1 2	9 57.98	+12 5.6	2.272	3.032	13.6	21.2
1 12	10 14.03	- 4 44.1	0.844	1.671	25.9	18.2	1 12	9 54.10	+12 22.9	2.186	3.041	10.8	21.0
1 22	10 3.43	- 8 22.7	0.806	1.688	21.6	18.0	1 22	9 48.17	+12 50.7	2.123	3.050	7.5	20.8
2 1	9 48.70	-11 26.5	0.787	1.706	17.7	17.9	2 1	9 40.67	+13 25.9	2.087	3.058	3.7	20.6
2 11	9 31.78	-13 39.9	0.790	1.724	15.6	17.8	2 11	9 32.35	+14 4.5	2.080	3.066	0.2	20.3
2 21	9 15.29	-14 56.1	0.814	1.744	16.3	17.9	2 21	9 24.08	+14 42.0	2.103	3.075	4.1	20.6
3 2	9 1.72	-15 20.0	0.859	1.763	19.0	18.2	3 2	9 16.73	+15 14.5	2.154	3.083	7.7	20.9
3 12	8 52.67	-15 6.7	0.922	1.783	22.3	18.5	3 12	9 11.04	+15 39.1	2.232	3.091	10.9	21.1
162766	2000 <i>WU</i> ₁₂₇		2 10.4 106°75	1°1/11.2 18			282089	2000 <i>QK</i> ₁₃₄		2 10.4 142°92	1°3/ 9.5 18		
1 2	10 2.83	+ 9 16.6	1.799	2.556	16.8	20.8	1 2	10 5.44	+16 9.3	1.942	2.709	15.4	21.5
1 12	9 58.35	+ 9 31.3	1.725	2.576	13.4	20.6	1 12	10 0.35	+16 31.9	1.861	2.721	12.2	21.3
1 22	9 51.28	+10 1.1	1.672	2.595	9.4	20.4	1 22	9 52.66	+17 3.5	1.802	2.732	8.3	21.0
2 1	9 42.24	+10 42.9	1.645	2.613	5.0	20.2	2 1	9 42.95	+17 39.7	1.770	2.742	4.1	20.8
2 11	9 32.21	+11 31.4	1.645	2.631	1.1	19.9	2 11	9 32.20	+18 14.6	1.767	2.752	1.4	20.6
2 21	9 22.36	+12 20.7	1.675	2.649	4.7	20.2	2 21	9 21.58	+18 43.1	1.793	2.761	5.3	20.9
3 2	9 13.81	+13 5.3	1.734	2.666	9.0	20.5	3 2	9 12.23	+19 1.6	1.849	2.769	9.3	21.2
3 12	9 7.42	+13 41.2	1.817	2.682	12.7	20.8	3 12	9 5.03	+19 8.6	1.929	2.776	12.9	21.4
268491	2005 <i>YC</i> ₁₆		2 10.4 80°11	1°0/ 9.6 18			381247	2007 <i>TZ</i> ₇₆		2 10.4 61°96	4°6/ 6.7 18		
1 2	9 57.89	+14 10.3	1.946	2.723	15.0	21.1	1 2	10 0.61	+26 31.3	2.166	2.954	13.3	20.4
1 12	9 54.45	+14 49.7	1.865	2.731	11.8	20.9	1 12	9 56.44	+27 17.9	2.093	2.963	10.6	20.2
1 22	9 48.63	+15 41.0	1.806	2.739	8.1	20.6	1 22	9 49.90	+28 5.9	2.043	2.971	7.6	20.1
2 1	9 40.95	+16 39.5	1.773	2.747	3.9	20.4	2 1	9 41.55	+28 48.9	2.019	2.980	5.1	19.9
2 11	9 32.30	+17 39.1	1.769	2.755	1.2	20.2	2 11	9 32.31	+29 20.7	2.025	2.989	4.9	19.9
2 21	9 23.69	+18 33.4	1.794	2.763	5.1	20.5	2 21	9 23.20	+29 37.0	2.058	2.998	7.1	20.1
3 2	9 16.18	+19 17.4	1.847	2.771	9.1	20.8	3 2	9 15.27	+29 36.0	2.119	3.006	10.0	20.3
3 12	9 10.60	+19 48.3	1.925	2.779	12.6	21.0	3 12	9 9.29	+29 18.4	2.204	3.015	12.8	20.5
200574	2001 <i>PV</i> ₃₄		2 10.4 193°27	4°0/13.1 18			187765	1998 <i>BX</i> ₃₈		2 10.4 192°15	0°5/10.9 17		
1 2	10 3.05	+ 2 33.8	2.017	2.738	16.4	21.7	1 2	10 0.29	+10 58.9	2.659	3.400	12.3	21.6
1 12	9 58.50	+ 2 16.4	1.916	2.736	13.6	21.5	1 12	9 55.68	+11 13.2	2.555	3.398	9.9	21.4
1 22	9 51.47	+ 2 15.7	1.835	2.733	10.3	21.3	1 22	9 49.16	+11 37.1	2.475	3.396	6.9	21.2
2 1	9 42.42	+ 2 32.1	1.779	2.730	6.7	21.0	2 1	9 41.17	+12 8.4	2.423	3.392	3.6	21.0
2 11	9 32.20	+ 3 3.6	1.751	2.725	4.1	20.9	2 11	9 32.34	+12 43.7	2.402	3.388	0.5	20.8
2 21	9 21.85	+ 3 46.3	1.753	2.720	5.3	20.9	2 21	9 23.46	+13 19.3	2.411	3.383	3.7	21.0
3 2	9 12.50	+ 4 34.9	1.783	2.714	8.8	21.1	3 2	9 15.33	+13 51.6	2.451	3.377	7.0	21.2
3 12	9 5.07	+ 5 23.6	1.839	2.707	12.4	21.3	3 12	9 8.65	+14 18.0	2.519	3.371	10.1	21.4
411274	2010 <i>RW</i> ₁₇₆		2 10.4 31°92	3°1/12.3 18			296299	2009 <i>DF</i> ₁₁₃		2 10.4 241°95	3°1/13.9 17		
1 2	9 56.42	+ 5 43.8	1.327	2.109	20.5	21.2	1 2	9 53.75	- 0 0.8	2.816	3.520	12.5	21.2
1 12	9 54.15	+ 5 37.9	1.262	2.123	16.7	20.9	1 12	9 50.50	+ 0 17.3	2.702	3.510	10.4	21.0
1 22	9 48.84	+ 5 54.2	1.216	2.139	12.1	20.7	1 22	9 45.61	+ 0 51.3	2.609	3.499	8.0	20.9
2 1	9 41.15	+ 6 31.2	1.191	2.156	7.1	20.5	2 1	9 39.41	+ 1 40.6	2.543	3.489	5.3	20.7
2 11	9 32.29	+ 7 23.5	1.191	2.174	3.2	20.3	2 11	9 32.45	+ 2 42.9	2.505	3.477	3.3	20.5
2 21	9 23.63	+ 8 23.5	1.217	2.192	5.7	20.5	2 21	9 25.39	+ 3 54.3	2.498	3.466	4.0	20.6
3 2	9 16.53	+ 9 22.9	1.268	2.211	10.4	20.8	3 2	9 18.90	+ 5 10.2	2.522	3.455	6.5	20.7
3 12	9 11.98	+10 14.6	1.342	2.231	14.7	21.1	3 12	9 13.62	+ 6 25.2	2.573	3.443	9.3	20.9
62812	2000 <i>UC</i> ₄₃		2 10.4 263°01	1°4/ 9.3 18			187927	2001 <i>BK</i> ₃₉		2 10.4 144°19	2°7/12.5 18		
1 2	9 58.20	+15 31.4	1.970	2.750	14.8	19.5	1 2	9 57.74	+ 5 17.9	2.049	2.792	15.5	20.5
1 12	9 54.78	+16 6.3	1.879	2.747	11.7	19.3	1 12	9 54.22	+ 5 15.9	1.956	2.794	12.6	20.3
1 22	9 48.93	+16 52.1	1.811	2.745	8.0	19.0	1 22	9 48.45	+ 5 29.6	1.884	2.796	9.3	20.1
2 1	9 41.15	+17 44.2	1.769	2.742	3.9	18.8	2 1	9 40.90	+ 5 57.9	1.837	2.797	5.6	19.9
2 11	9 32.29	+18 36.6	1.755	2.740	1.6	18.6	2 11	9 32.37	+ 6 37.8	1.818	2.799	2.7	19.7
2 21	9 23.39	+19 23.3	1.770	2.737	5.3	18.9	2 21	9 23.81	+ 7 24.6	1.828	2.800	4.5	19.8
3 2	9 15.53	+19 59.5	1.813	2.735	9.4	19.1	3 2	9 16.21	+ 8 13.2	1.866	2.802	8.2	20.1
3 12	9 9.61	+20 22.5	1.880	2.732	12.9	19.3	3 12	9 10.38	+ 8 58.5	1.930	2.803	11.7	20.3
381660	2009 <i>BV</i> ₅		2 10.4 29°55	2°7/ 7.9 18			506306	2017 <i>OO</i>		2 10.4 137°39	3°3/13.8 17		
1 2	9 54.87	+17 33.0	1.914	2.707	14.7	20.3	1 2	9 57.25	+ 0 54.7	2.995	3.691	12.0	22.1
1 12	9 52.18	+18 41.0	1.838	2.715	11.5	20.1	1 12	9 52.96	+ 0 41.7	2.901	3.703	9.9	22.0
1 22	9 47.13	+19 59.6	1.785	2.723	7.8	19.9	1 22	9 47.10	+ 0 41.1	2.830	3.715	7.6	21.9
2 1	9 40.23	+21 22.5	1.759	2.732	4.1	19.7	2 1	9 40.07	+ 0 52.6	2.785	3.726	5.2	21.7
2 11	9 32.35	+22 41.7	1.761	2.741	3.0	19.6	2 11	9 32.44	+ 1 14.9	2.769	3.737	3.4	21.6
2 21	9 24.52	+23 50.1	1.792	2.751	6.2	19.8	2 21	9 24.83	+ 1 45.4	2.785	3.747	4.0	21.7
3 2	9 17.77	+24 42.4	1.849	2.761	9.9	20.1	3 2	9 17.88	+ 2 20.9	2.830	3.757	6.1	21.8
3 12	9 12.94	+25 16.6	1.931	2.771	13.2	20.3	3 12	9 12.13	+ 2 57.9	2.903	3.767	8.5	22.0
131696	2001 <i>XT</i> ₂₅₄		2 10.4 3°84	0°0/10.3 17			38042	1998 <i>SA</i> ₁₀		2 10.4 152°57	11°0/25.7 18		

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
137813	1999 YB ₁₆		2 10.4 209°99	0°1/10.5 18			111100	2001 VA ₇₁		2 10.4 169°05	0°8/ 9.8 18		
1 2	10 0.57	+11 22.5	2.153	2.909	14.4	21.5	1 2	10 2.29	+15 33.3	2.312	3.073	13.4	20.3
1 12	9 56.47	+11 50.3	2.051	2.903	11.5	21.3	1 12	9 57.52	+15 49.0	2.220	3.077	10.6	20.1
1 22	9 50.04	+12 31.0	1.971	2.896	8.0	21.0	1 22	9 50.57	+16 12.5	2.152	3.080	7.3	19.9
2 1	9 41.73	+13 21.4	1.917	2.889	4.1	20.8	2 1	9 41.92	+16 40.5	2.110	3.083	3.6	19.7
2 11	9 32.33	+14 16.7	1.894	2.880	0.2	20.4	2 11	9 32.36	+17 8.4	2.099	3.085	0.9	19.5
2 21	9 22.80	+15 11.1	1.900	2.871	4.5	20.8	2 21	9 22.83	+17 32.3	2.118	3.087	4.5	19.8
3 2	9 14.17	+15 59.6	1.935	2.862	8.6	21.0	3 2	9 14.27	+17 49.0	2.167	3.088	8.1	20.0
3 12	9 7.33	+16 38.3	1.997	2.851	12.2	21.2	3 12	9 7.46	+17 56.6	2.241	3.088	11.3	20.2
243157	2007 TE ₆₈		2 10.4 165°44	1°4/ 9.3 18			330028	2005 UW ₁₅₇		2 10.4 164°62	5°8/15.3 18		
1 2	10 2.28	+15 20.8	2.036	2.805	14.8	21.8	1 2	9 57.35	- 3 52.3	2.145	2.840	16.2	21.3
1 12	9 57.87	+16 3.0	1.949	2.810	11.6	21.6	1 12	9 53.84	- 4 13.8	2.048	2.842	13.8	21.1
1 22	9 51.00	+16 56.1	1.884	2.815	8.0	21.4	1 22	9 48.17	- 4 15.5	1.972	2.844	11.0	20.9
2 1	9 42.19	+17 55.2	1.846	2.819	3.9	21.1	2 1	9 40.78	- 3 55.9	1.918	2.846	8.1	20.8
2 11	9 32.31	+18 53.9	1.838	2.823	1.6	21.0	2 11	9 32.43	- 3 16.0	1.892	2.848	6.0	20.6
2 21	9 22.44	+19 46.0	1.859	2.825	5.3	21.2	2 21	9 24.02	- 2 19.4	1.893	2.849	6.2	20.6
3 2	9 13.66	+20 26.8	1.910	2.827	9.2	21.5	3 2	9 16.48	- 1 11.7	1.922	2.850	8.5	20.8
3 12	9 6.85	+20 53.9	1.985	2.829	12.7	21.7	3 12	9 10.63	+ 0 0.4	1.978	2.851	11.5	21.0
422176	2014 RK ₂₀		2 10.4 169°66	0°5/10.8 18			372689	2009 WB ₁₇₇		2 10.4 111°71	3°2/12.9 18		
1 2	10 1.30	+10 32.6	2.065	2.820	15.0	22.5	1 2	9 57.61	+ 3 48.5	2.040	2.777	15.7	21.5
1 12	9 57.03	+10 55.5	1.973	2.824	12.0	22.3	1 12	9 54.11	+ 3 43.8	1.949	2.781	12.9	21.3
1 22	9 50.39	+11 31.7	1.904	2.827	8.4	22.0	1 22	9 48.38	+ 3 55.8	1.878	2.785	9.6	21.1
2 1	9 41.88	+12 18.1	1.860	2.830	4.3	21.8	2 1	9 40.88	+ 4 23.7	1.833	2.789	6.0	20.9
2 11	9 32.34	+13 9.9	1.846	2.832	0.5	21.5	2 11	9 32.43	+ 5 4.7	1.815	2.793	3.3	20.7
2 21	9 22.78	+14 1.4	1.862	2.834	4.5	21.8	2 21	9 23.96	+ 5 54.2	1.826	2.797	4.7	20.8
3 2	9 14.24	+14 47.5	1.906	2.835	8.5	22.1	3 2	9 16.45	+ 6 46.8	1.865	2.801	8.2	21.1
3 12	9 7.57	+15 24.6	1.977	2.835	12.1	22.3	3 12	9 10.71	+ 7 37.0	1.930	2.805	11.6	21.3
225104	2008 DZ ₆₆		2 10.4 224°74	3°1/ 8.2 17			416815	2005 GZ ₂₀₁		2 10.4 220°19	2°4/ 8.8 18		
1 2	10 5.69	+22 49.7	2.190	2.963	13.7	20.6	1 2	10 2.89	+18 46.7	1.887	2.667	15.3	21.4
1 12	10 0.54	+23 12.1	2.091	2.954	10.9	20.4	1 12	9 58.70	+19 16.6	1.794	2.662	12.1	21.1
1 22	9 52.84	+23 38.0	2.015	2.945	7.6	20.2	1 22	9 51.79	+19 54.8	1.723	2.657	8.4	20.9
2 1	9 43.12	+24 2.1	1.967	2.935	4.3	20.0	2 1	9 42.67	+20 36.0	1.678	2.651	4.3	20.6
2 11	9 32.26	+24 18.8	1.948	2.925	3.4	19.9	2 11	9 32.31	+21 13.7	1.662	2.644	2.6	20.5
2 21	9 21.37	+24 23.9	1.959	2.914	6.2	20.1	2 21	9 21.90	+21 42.0	1.675	2.638	6.1	20.7
3 2	9 11.58	+24 15.2	1.999	2.903	9.7	20.3	3 2	9 12.67	+21 57.2	1.715	2.631	10.2	20.9
3 12	9 3.81	+23 52.8	2.064	2.891	12.9	20.4	3 12	9 5.62	+21 57.9	1.780	2.624	13.9	21.1
378866	2008 TH ₉₉		2 10.4 38°03	0°6/10.9 18			40700	1999 RF ₂₃₅		2 10.4 188°56	1°0/ 9.6 18		
1 2	9 57.06	+10 35.9	2.041	2.806	14.8	21.6	1 2	10 0.54	+13 40.8	1.993	2.761	15.0	19.4
1 12	9 53.72	+10 53.6	1.951	2.807	11.9	21.4	1 12	9 56.63	+14 25.2	1.900	2.761	11.9	19.2
1 22	9 48.13	+11 24.4	1.883	2.809	8.3	21.2	1 22	9 50.25	+15 22.6	1.829	2.760	8.2	19.0
2 1	9 40.76	+12 5.4	1.840	2.811	4.3	20.9	2 1	9 41.88	+16 28.4	1.786	2.759	4.0	18.7
2 11	9 32.42	+12 52.1	1.826	2.812	0.6	20.7	2 11	9 32.38	+17 36.2	1.771	2.756	1.2	18.5
2 21	9 24.06	+13 39.2	1.841	2.814	4.4	21.0	2 21	9 22.80	+18 39.1	1.786	2.754	5.2	18.8
3 2	9 16.69	+14 21.7	1.884	2.816	8.4	21.2	3 2	9 14.26	+19 31.5	1.829	2.751	9.3	19.0
3 12	9 11.10	+14 55.9	1.952	2.818	11.9	21.4	3 12	9 7.67	+20 10.1	1.898	2.747	13.0	19.2
431453	2007 RL ₂₀₁		2 10.4 62°87	5°2/15.6 18			334711	2003 FQ ₁₃₂		2 10.4 206°80	3°6/13.3 18		
1 2	9 56.43	- 4 33.5	2.179	2.872	16.1	21.2	1 2	10 0.46	+ 1 38.1	2.109	2.827	15.8	21.8
1 12	9 52.82	- 4 32.7	2.109	2.901	13.5	21.0	1 12	9 56.43	+ 1 43.3	2.002	2.821	13.2	21.6
1 22	9 47.23	- 4 10.8	2.059	2.931	10.6	20.9	1 22	9 50.07	+ 2 7.3	1.916	2.814	9.9	21.4
2 1	9 40.19	- 3 27.7	2.032	2.961	7.7	20.7	2 1	9 41.79	+ 2 49.7	1.855	2.807	6.4	21.2
2 11	9 32.47	- 2 26.4	2.032	2.991	5.5	20.7	2 11	9 32.38	+ 3 47.9	1.822	2.798	3.7	21.0
2 21	9 24.89	- 1 11.7	2.062	3.020	5.6	20.7	2 21	9 22.80	+ 4 56.9	1.819	2.789	4.9	21.0
3 2	9 18.30	+ 0 9.9	2.119	3.049	7.7	20.9	3 2	9 14.09	+ 6 10.3	1.845	2.779	8.5	21.2
3 12	9 13.33	+ 1 31.8	2.204	3.079	10.4	21.1	3 12	9 7.15	+ 7 21.6	1.898	2.767	12.1	21.4
318879	2005 TW ₁₁₃		2 10.4 244°64	1°5/11.5 18			184271	2004 XL ₉₀		2 10.4 215°85	1°4/11.3 18		
1 2	9 58.18	+ 8 10.4	1.976	2.732	15.6	21.4	1 2	10 2.08	+ 9 22.5	1.864	2.620	16.3	21.0
1 12	9 54.77	+ 8 20.7	1.877	2.726	12.6	21.2	1 12	9 58.02	+ 9 22.7	1.765	2.615	13.2	20.8
1 22	9 48.98	+ 8 46.1	1.798	2.719	9.0	21.0	1 22	9 51.32	+ 9 37.1	1.687	2.609	9.4	20.5
2 1	9 41.25	+ 9 24.7	1.745	2.712	5.0	20.7	2 1	9 42.46	+10 3.7	1.635	2.602	5.1	20.3
2 11	9 32.39	+10 12.6	1.720	2.705	1.5	20.4	2 11	9 32.34	+10 38.5	1.610	2.595	1.4	20.0
2 21	9 23.42	+11 4.2	1.724	2.698	4.5	20.6	2 21	9 22.10	+11 16.5	1.614	2.588	4.9	20.2
3 2	9 15.41	+11 54.1	1.757	2.691	8.7	20.9	3 2	9 12.93	+11 52.4	1.647	2.580	9.3	20.5
3 12	9 9.26	+12 37.4	1.814	2.684	12.5	21.1	3 12	9 5.85	+12 22.0	1.705	2.572	13.3	20.7
215030	2009 BF ₁₇₀		2 10.4 137°90	0°4/10.8 17			306596	2000 GU ₁₆₀		2 10.4 276°76	6°3/ 4.2 17		
1 2	9 57.85	+11 39.7	2.701	3.449	12.0	21.7	1 2	10 0.91	+31 19.7	2.362	3.148	12.4	20.9
1 12	9 53.66	+11 51.3	2.610	3.458	9.5	21.5	1 12	9 56.99	+32 32.6	2.262	3.125	10.2	20.7
1 22	9 47.71	+12 11.6	2.543	3.466	6.6	21.3	1 22	9 50.58	+33 46.5	2.185	3.102	7.9	20.5
2 1	9 40.42	+12 38.4	2.504	3.473	3.4	21.1	2 1	9 42.09	+34 53.8	2.136	3.079	6.4	20.4
2 11	9 32.45	+13 8.4	2.494	3.481	0.4	20.9	2 11	9 32.36	+35 46.9	2.115	3.055	6.8	20.4
2 21	9 24.52	+13 38.2	2.516	3.488	3.5	21.2	2 21	9 22.43	+36 20.0	2.123	3.032	8.8	20.4
3 2	9 17.35	+14 4.7	2.568	3.495	6.7	21.4	3 2	9 13.44	+36 30.5	2.156	3.008	11.4	20.6
3 12	9 11.57	+14 25.5	2.646	3.502	9.5	21.6	3 12	9 6.37	+36 18.9	2.212	2.983	14.0	20.7
172478	2003 SM ₈₇		2 10.4 136°06	2°3/ 8.7 18			126070	2001 YW ₈₂		2 10.4 100°68	0°1/10.5 18		
1 2	10 2.75	+17 39.4	1.874	2.653	15								

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
226931	2004 <i>TT</i> ₂₈₀		2 10.4 334°60	1°6/ 9.3 18			361626	2007 <i>TP</i> ₁₄₅		2 10.4 65°12	4°9/ 7.4 18		
1 2	9 58.07	+16 34.9	1.845	2.631	15.4	20.3	1 2	10 4.02	+23 26.9	1.486	2.289	17.7	20.8
1 12	9 54.90	+17 2.0	1.755	2.627	12.2	20.0	1 12	10 0.12	+24 20.8	1.424	2.304	13.9	20.6
1 22	9 49.16	+17 39.1	1.687	2.622	8.3	19.8	1 22	9 52.96	+25 20.3	1.383	2.319	9.8	20.4
2 1	9 41.37	+18 21.7	1.644	2.618	4.1	19.5	2 1	9 43.28	+26 16.4	1.366	2.333	6.0	20.2
2 11	9 32.42	+19 3.6	1.630	2.614	1.8	19.4	2 11	9 32.37	+26 59.8	1.376	2.349	5.3	20.2
2 21	9 23.45	+19 39.1	1.643	2.611	5.6	19.6	2 21	9 21.76	+27 23.9	1.412	2.364	8.5	20.4
3 2	9 15.59	+20 3.7	1.684	2.608	9.8	19.9	3 2	9 12.92	+27 26.2	1.474	2.379	12.4	20.7
3 12	9 9.80	+20 15.0	1.749	2.605	13.6	20.1	3 12	9 6.84	+27 8.1	1.557	2.394	16.0	20.9
146492	2001 <i>SB</i> ₂₀		2 10.4 154°64	2°0/ 8.7 18			33841	2000 <i>GB</i> ₇₅		2 10.4 143°26	1°5/11.9 18		
1 2	10 0.59	+17 18.9	2.190	2.962	13.7	20.9	1 2	10 0.07	+ 6 50.2	2.563	3.291	13.1	20.1
1 12	9 56.37	+18 5.2	2.105	2.969	10.8	20.8	1 12	9 55.47	+ 7 7.4	2.473	3.305	10.5	19.9
1 22	9 49.88	+19 0.2	2.043	2.975	7.3	20.6	1 22	9 49.01	+ 7 37.0	2.407	3.319	7.5	19.8
2 1	9 41.63	+19 58.9	2.008	2.981	3.7	20.3	2 1	9 41.13	+ 8 17.3	2.368	3.331	4.2	19.6
2 11	9 32.42	+20 55.2	2.003	2.986	2.2	20.2	2 11	9 32.51	+ 9 4.6	2.359	3.343	1.6	19.4
2 21	9 23.24	+21 43.5	2.029	2.990	5.3	20.5	2 21	9 23.92	+ 9 54.8	2.382	3.354	3.6	19.6
3 2	9 15.06	+22 19.7	2.082	2.995	8.9	20.7	3 2	9 16.16	+10 43.6	2.434	3.364	6.9	19.8
3 12	9 8.70	+22 42.0	2.161	2.998	12.1	20.9	3 12	9 9.88	+11 27.5	2.515	3.374	9.8	20.0
213244	2001 <i>BN</i> ₂₀		2 10.4 326°98	3°6/ 8.0 18			245900	2006 <i>QX</i> ₉₁		2 10.4 175°01	1°8/12.1 17		
1 2	9 58.29	+19 10.1	1.457	2.265	17.8	19.9	1 2	9 57.79	+ 7 3.2	2.768	3.498	12.2	21.7
1 12	9 55.93	+20 3.2	1.373	2.257	14.1	19.7	1 12	9 53.62	+ 6 59.5	2.668	3.499	9.9	21.5
1 22	9 50.38	+21 8.7	1.310	2.250	9.7	19.4	1 22	9 47.72	+ 7 6.4	2.591	3.501	7.1	21.3
2 1	9 42.16	+22 19.1	1.270	2.243	5.3	19.1	2 1	9 40.49	+ 7 22.6	2.541	3.502	4.2	21.1
2 11	9 32.40	+23 24.6	1.257	2.236	4.0	19.0	2 11	9 32.55	+ 7 45.9	2.521	3.503	1.9	21.0
2 21	9 22.54	+24 16.0	1.269	2.230	7.9	19.2	2 21	9 24.58	+ 8 13.3	2.531	3.503	3.5	21.1
3 2	9 14.12	+24 47.5	1.307	2.225	12.6	19.5	3 2	9 17.32	+ 8 41.7	2.572	3.503	6.5	21.3
3 12	9 8.36	+24 57.2	1.366	2.220	16.8	19.7	3 12	9 11.37	+ 9 7.9	2.640	3.503	9.3	21.4
209748	2005 <i>EG</i> ₂₀₅		2 10.4 326°15	1°7/ 9.4 18			371095	2005 <i>UT</i> ₄₆₈		2 10.4 21°36	5°4/13.9 18		
1 2	9 59.61	+16 27.2	1.463	2.262	18.1	20.6	1 2	9 57.64	+ 0 51.8	1.703	2.441	18.3	20.3
1 12	9 56.88	+16 48.7	1.376	2.254	14.4	20.4	1 12	9 54.62	+ 0 12.3	1.617	2.445	15.4	20.1
1 22	9 50.99	+17 22.7	1.309	2.247	9.9	20.1	1 22	9 49.01	- 0 7.9	1.551	2.449	11.9	19.9
2 1	9 42.45	+18 3.9	1.266	2.240	4.9	19.8	2 1	9 41.32	- 0 7.1	1.507	2.453	8.2	19.7
2 11	9 32.39	+18 44.9	1.249	2.234	2.0	19.6	2 11	9 32.49	+ 0 13.4	1.489	2.458	5.6	19.6
2 21	9 22.24	+19 18.3	1.258	2.228	6.6	19.8	2 21	9 23.65	+ 0 49.8	1.498	2.463	6.4	19.6
3 2	9 13.53	+19 38.8	1.293	2.222	11.7	20.1	3 2	9 15.95	+ 1 36.4	1.533	2.468	9.6	19.8
3 12	9 7.45	+19 43.8	1.349	2.217	16.1	20.4	3 12	9 10.36	+ 2 26.2	1.592	2.474	13.2	20.0
333097	2011 <i>UT</i> ₂₄₈		2 10.4 47°41	0°7/10.9 18			362147	2009 <i>DF</i> ₁₀₉		2 10.4 242°21	2°0/ 8.8 18		
1 2	9 59.76	+10 35.4	1.365	2.155	19.7	21.4	1 2	9 58.73	+14 42.3	1.750	2.534	16.2	20.9
1 12	9 56.79	+10 47.8	1.300	2.170	15.7	21.2	1 12	9 55.71	+15 46.6	1.656	2.526	12.8	20.7
1 22	9 50.69	+11 18.0	1.253	2.186	10.9	21.0	1 22	9 49.94	+17 6.8	1.583	2.519	8.8	20.4
2 1	9 42.16	+12 2.2	1.230	2.202	5.6	20.7	2 1	9 41.88	+18 37.0	1.537	2.511	4.4	20.1
2 11	9 32.42	+12 53.5	1.232	2.219	0.7	20.4	2 11	9 32.46	+20 8.5	1.519	2.503	2.3	20.0
2 21	9 22.91	+13 44.2	1.261	2.236	5.6	20.8	2 21	9 22.85	+21 32.0	1.529	2.494	6.4	20.2
3 2	9 15.02	+14 27.4	1.315	2.253	10.7	21.1	3 2	9 14.35	+22 40.4	1.567	2.485	10.8	20.4
3 12	9 9.75	+14 58.8	1.393	2.271	15.0	21.4	3 12	9 8.04	+23 29.5	1.628	2.476	14.8	20.7
169120	2001 <i>PV</i> ₇		2 10.4 165°00	4°3/ 6.3 18			252884	2002 <i>JV</i> ₇₈		2 10.4 250°25	0°4/10.7 17		
1 2	9 59.74	+26 21.1	2.517	3.299	11.9	20.6	1 2	10 1.35	+11 17.8	1.966	2.727	15.5	21.7
1 12	9 55.53	+27 15.4	2.435	3.301	9.4	20.4	1 12	9 57.50	+11 34.3	1.855	2.709	12.5	21.4
1 22	9 49.22	+28 11.6	2.377	3.303	6.8	20.3	1 22	9 51.05	+12 4.4	1.765	2.691	8.8	21.2
2 1	9 41.28	+29 3.9	2.346	3.305	4.6	20.1	2 1	9 42.42	+12 45.5	1.701	2.671	4.5	20.9
2 11	9 32.48	+29 46.6	2.346	3.307	4.6	20.1	2 11	9 32.43	+13 32.9	1.665	2.652	0.4	20.5
2 21	9 23.72	+30 15.2	2.374	3.309	6.6	20.3	2 21	9 22.15	+14 20.8	1.659	2.631	4.9	20.8
3 2	9 15.89	+30 27.7	2.430	3.310	9.2	20.4	3 2	9 12.80	+15 3.6	1.681	2.610	9.4	21.0
3 12	9 9.73	+30 24.0	2.511	3.311	11.7	20.6	3 12	9 5.41	+15 37.2	1.728	2.589	13.5	21.2
402033	2003 <i>SE</i> ₁₈₇		2 10.4 128°26	1°7/ 9.1 18			280288	2003 <i>HW</i> ₁₄		2 10.4 301°35	8°7/ 3.0 18		
1 2	10 3.44	+16 31.1	1.945	2.717	15.2	22.3	1 2	10 0.75	+32 50.2	1.766	2.569	15.3	20.2
1 12	9 58.81	+17 10.5	1.868	2.731	12.0	22.1	1 12	9 57.79	+34 29.6	1.684	2.555	12.6	20.0
1 22	9 51.64	+17 59.5	1.813	2.745	8.1	21.9	1 22	9 51.65	+36 9.9	1.625	2.542	10.1	19.8
2 1	9 42.52	+18 52.9	1.786	2.758	4.0	21.6	2 1	9 42.82	+37 40.1	1.591	2.528	8.7	19.7
2 11	9 32.41	+19 44.0	1.787	2.771	1.9	21.5	2 11	9 32.40	+38 48.8	1.583	2.515	9.4	19.7
2 21	9 22.42	+20 27.1	1.818	2.783	5.5	21.8	2 21	9 21.83	+39 28.4	1.601	2.501	11.7	19.8
3 2	9 13.66	+20 58.0	1.878	2.795	9.4	22.0	3 2	9 12.66	+39 36.1	1.641	2.489	14.6	20.0
3 12	9 6.99	+21 14.9	1.962	2.806	12.9	22.3	3 12	9 6.12	+39 14.2	1.702	2.476	17.5	20.1
174568	2003 <i>NO</i> ₁₂		2 10.4 158°44	0°7/10.9 18			367537	2009 <i>RH</i> ₁₁		2 10.4 154°85	2°9/12.9 18		
1 2	10 2.36	+10 10.2	2.028	2.780	15.3	21.7	1 2	9 57.86	+ 3 1.9	2.256	2.982	14.7	22.4
1 12	9 57.89	+10 26.2	1.939	2.788	12.3	21.5	1 12	9 54.10	+ 3 12.4	2.162	2.987	12.1	22.2
1 22	9 51.01	+10 55.5	1.872	2.794	8.6	21.3	1 22	9 48.28	+ 3 39.5	2.089	2.993	9.0	22.0
2 1	9 42.23	+11 35.2	1.831	2.800	4.5	21.0	2 1	9 40.85	+ 4 22.1	2.042	2.997	5.6	21.8
2 11	9 32.43	+12 20.7	1.819	2.805	0.7	20.8	2 11	9 32.53	+ 5 17.1	2.024	3.002	3.0	21.6
2 21	9 22.64	+13 6.7	1.837	2.809	4.5	21.1	2 21	9 24.20	+ 6 19.7	2.035	3.006	4.3	21.7
3 2	9 13.92	+13 48.1	1.884	2.813	8.6	21.3	3 2	9 16.72	+ 7 24.3	2.075	3.010	7.6	21.9
3 12	9 7.13	+14 21.4	1.956	2.816	12.2	21.5	3 12	9 10.86	+ 8 25.6	2.143	3.013	10.8	22.1
378902	2008 <i>UZ</i> ₄₅		2 10.4 259°54	6°4/ 4.8 18			298840	2004 <i>RX</i> ₁₈₇		2 10.4 157°38	2°6/12.1 18		
1 2	10 1.77	+31 32.9	2.196	2.985	13.2	21.0							

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
416066	2002 <i>JM</i> ₁₅₀		2 10.4 327°24	8°3/ 3.4	16		187208	2005 <i>SD</i> ₉₆		2 10.4 165°65	1°1/ 9.5	18	
1 2	9 58.37	+31 24.3	1.699	2.509	15.5	20.8	1 2	10 0.79	+15 23.5	2.290	3.054	13.4	21.9
1 12	9 55.92	+33 2.6	1.620	2.497	12.7	20.6	1 12	9 56.43	+15 55.9	2.200	3.058	10.6	21.7
1 22	9 50.35	+34 42.9	1.563	2.486	10.0	20.4	1 22	9 49.89	+16 37.3	2.133	3.062	7.2	21.5
2 1	9 42.16	+36 14.1	1.532	2.475	8.4	20.3	2 1	9 41.66	+17 23.8	2.093	3.066	3.6	21.3
2 11	9 32.45	+37 24.9	1.526	2.464	9.0	20.3	2 11	9 32.51	+18 10.2	2.084	3.069	1.2	21.1
2 21	9 22.63	+38 7.5	1.545	2.455	11.5	20.4	2 21	9 23.38	+18 51.5	2.105	3.072	4.7	21.4
3 2	9 14.21	+38 18.8	1.588	2.445	14.5	20.6	3 2	9 15.18	+19 24.0	2.155	3.074	8.3	21.6
3 12	9 8.38	+38 0.8	1.651	2.437	17.4	20.7	3 12	9 8.70	+19 45.3	2.230	3.075	11.5	21.8
94713	2001 <i>XO</i> ₆₀		2 10.4 70°38	0°9/10.9	17		147274	2002 <i>YB</i> ₂₇		2 10.4 309°81	5°8/13.7	18	
1 2	10 4.63	+10 11.2	1.407	2.184	19.8	20.2	1 2	10 1.13	+ 1 13.5	1.806	2.534	17.8	19.6
1 12	10 0.35	+10 21.7	1.349	2.211	15.8	20.0	1 12	9 57.33	+ 0 14.9	1.710	2.530	15.0	19.4
1 22	9 52.96	+10 49.5	1.310	2.239	11.0	19.8	1 22	9 50.90	- 0 27.7	1.633	2.526	11.7	19.2
2 1	9 43.21	+11 30.5	1.295	2.266	5.6	19.6	2 1	9 42.32	- 0 52.0	1.580	2.522	8.3	19.0
2 11	9 32.41	+12 18.0	1.307	2.293	0.9	19.3	2 11	9 32.47	- 0 57.8	1.553	2.518	5.9	18.8
2 21	9 21.99	+13 4.8	1.346	2.320	5.5	19.7	2 21	9 22.51	- 0 46.9	1.554	2.515	6.7	18.9
3 2	9 13.32	+13 44.8	1.411	2.347	10.3	20.1	3 2	9 13.62	- 0 23.5	1.581	2.511	9.9	19.0
3 12	9 7.34	+14 13.9	1.500	2.373	14.5	20.4	3 12	9 6.81	+ 0 6.5	1.633	2.508	13.4	19.2
489646	2007 <i>TD</i> ₄₄₄		2 10.4 187°88	2°7/ 8.4	18		342706	2008 <i>VD</i> ₈₀		2 10.4 76°59	2°6/12.3	18	
1 2	10 4.36	+19 39.7	2.102	2.874	14.2	22.4	1 2	9 59.76	+ 6 45.3	2.314	3.049	14.1	20.5
1 12	9 59.57	+20 22.3	2.010	2.874	11.2	22.2	1 12	9 55.50	+ 6 18.8	2.220	3.054	11.5	20.4
1 22	9 52.24	+21 12.2	1.941	2.872	7.7	22.0	1 22	9 49.19	+ 6 3.4	2.149	3.058	8.4	20.2
2 1	9 42.89	+22 3.9	1.900	2.871	4.2	21.8	2 1	9 41.29	+ 5 58.9	2.104	3.063	5.1	20.0
2 11	9 32.42	+22 50.8	1.888	2.868	2.9	21.7	2 11	9 32.54	+ 6 3.3	2.088	3.068	2.7	19.8
2 21	9 21.92	+23 27.3	1.907	2.864	6.0	21.9	2 21	9 23.82	+ 6 14.2	2.102	3.073	4.2	19.9
3 2	9 12.51	+23 49.7	1.953	2.860	9.7	22.1	3 2	9 15.98	+ 6 28.3	2.145	3.077	7.5	20.1
3 12	9 5.11	+23 56.9	2.025	2.855	13.0	22.3	3 12	9 9.77	+ 6 42.3	2.214	3.082	10.6	20.3
259192	2003 <i>AN</i> ₃₄		2 10.4 358°20	11°1/15.7	18		282982	2007 <i>TM</i> ₈₀		2 10.4 99°63	0°5/ 9.9	18	
1 2	9 52.53	- 3 22.9	1.172	1.936	23.7	19.1	1 2	9 57.50	+13 29.7	2.413	3.175	12.9	21.3
1 12	9 51.77	- 5 17.9	1.096	1.929	20.7	18.8	1 12	9 53.64	+14 0.7	2.331	3.189	10.1	21.1
1 22	9 47.75	- 6 49.5	1.036	1.925	17.2	18.6	1 22	9 47.84	+14 41.2	2.274	3.202	6.9	20.9
2 1	9 40.96	- 7 50.0	0.994	1.922	13.8	18.4	2 1	9 40.59	+15 27.6	2.243	3.215	3.4	20.7
2 11	9 32.53	- 8 14.5	0.973	1.921	11.4	18.3	2 11	9 32.59	+16 15.3	2.242	3.228	0.6	20.5
2 21	9 23.97	- 8 3.4	0.973	1.923	11.5	18.3	2 21	9 24.66	+17 0.0	2.272	3.241	4.1	20.8
3 2	9 16.90	- 7 22.8	0.994	1.927	13.9	18.4	3 2	9 17.61	+17 37.6	2.330	3.254	7.5	21.0
3 12	9 12.61	- 6 23.6	1.035	1.932	17.3	18.6	3 12	9 12.11	+18 5.8	2.415	3.267	10.5	21.3
449111	2012 <i>XJ</i> ₄₅		2 10.4 328°21	3°5/12.2	18		238067	2003 <i>EH</i> ₃₃		2 10.4 235°72	1°1/11.2	18	
1 2	9 58.96	+ 7 5.4	1.283	2.068	21.0	20.8	1 2	10 0.45	+ 8 37.4	1.825	2.584	16.6	21.1
1 12	9 56.73	+ 6 35.7	1.197	2.060	17.2	20.6	1 12	9 56.93	+ 9 0.8	1.721	2.572	13.4	20.8
1 22	9 51.13	+ 6 25.1	1.128	2.052	12.7	20.3	1 22	9 50.74	+ 9 41.7	1.637	2.560	9.6	20.5
2 1	9 42.64	+ 6 34.0	1.080	2.045	7.6	20.0	2 1	9 42.30	+10 37.8	1.578	2.547	5.1	20.2
2 11	9 32.43	+ 6 59.5	1.056	2.039	3.6	19.7	2 11	9 32.48	+11 43.7	1.548	2.534	1.1	19.9
2 21	9 22.04	+ 7 35.9	1.057	2.033	6.4	19.9	2 21	9 22.42	+12 52.6	1.546	2.520	5.0	20.2
3 2	9 13.13	+ 8 15.9	1.083	2.027	11.7	20.1	3 2	9 13.35	+13 57.5	1.572	2.505	9.7	20.4
3 12	9 7.06	+ 8 52.3	1.131	2.022	16.7	20.4	3 12	9 6.37	+14 52.5	1.624	2.490	13.9	20.6
6553	Seehaus		2 10.4 224°02	0°6/ 9.8	18		137021	1998 <i>TV</i> ₂		2 10.4 42°82	3°8/12.9	18	
1 2	9 55.40	+12 23.3	2.481	3.242	12.6	17.8	1 2	9 58.17	+ 4 7.3	1.518	2.279	19.3	19.7
1 12	9 52.11	+13 12.8	2.381	3.238	10.0	17.6	1 12	9 55.27	+ 3 51.7	1.444	2.291	15.8	19.5
1 22	9 46.90	+14 14.2	2.305	3.234	6.8	17.4	1 22	9 49.56	+ 3 56.8	1.388	2.302	11.7	19.2
2 1	9 40.17	+15 23.7	2.257	3.229	3.3	17.1	2 1	9 41.63	+ 4 22.1	1.355	2.315	7.3	19.0
2 11	9 32.59	+16 36.2	2.238	3.225	0.7	16.9	2 11	9 32.54	+ 5 3.9	1.348	2.327	3.9	18.8
2 21	9 24.92	+17 46.1	2.251	3.220	4.2	17.2	2 21	9 23.55	+ 5 56.3	1.367	2.340	5.7	19.0
3 2	9 17.98	+18 48.5	2.292	3.215	7.7	17.4	3 2	9 15.93	+ 6 51.9	1.413	2.354	9.8	19.2
3 12	9 12.50	+19 39.7	2.360	3.209	10.8	17.6	3 12	9 10.63	+ 7 43.9	1.482	2.367	13.8	19.5
207480	2006 <i>HC</i> ₂₉		2 10.4 242°05	1°8/11.7	17		371055	2005 <i>UX</i> ₂₂₅		2 10.4 105°97	3°5/13.0	18	
1 2	10 0.64	+ 7 24.8	1.993	2.740	15.7	21.4	1 2	9 58.71	+ 3 40.5	1.958	2.696	16.3	21.9
1 12	9 56.85	+ 7 34.6	1.882	2.725	12.8	21.2	1 12	9 55.10	+ 3 28.0	1.869	2.701	13.4	21.7
1 22	9 50.56	+ 8 0.2	1.791	2.709	9.3	20.9	1 22	9 49.15	+ 3 32.3	1.800	2.706	10.0	21.5
2 1	9 42.16	+ 8 40.3	1.727	2.692	5.2	20.7	2 1	9 41.36	+ 3 53.1	1.756	2.711	6.3	21.3
2 11	9 32.46	+ 9 31.0	1.690	2.675	1.8	20.4	2 11	9 32.55	+ 4 27.7	1.739	2.716	3.6	21.1
2 21	9 22.50	+10 27.0	1.683	2.656	4.7	20.6	2 21	9 23.75	+ 5 11.7	1.751	2.721	4.9	21.2
3 2	9 13.42	+11 22.2	1.704	2.638	9.0	20.8	3 2	9 15.96	+ 5 59.7	1.791	2.726	8.5	21.4
3 12	9 6.23	+12 11.3	1.752	2.618	13.0	21.0	3 12	9 10.04	+ 6 46.3	1.856	2.731	12.0	21.6
522575	2016 <i>EC</i> ₂₄₅		2 10.4 311°38	7°5/14.0	18		500579	2012 <i>UZ</i> ₈₃		2 10.4 168°74	2°8/13.4	17	
1 2	10 0.45	- 0 57.1	1.793	2.513	18.2	20.2	1 2	9 56.60	+ 2 33.5	3.090	3.795	11.5	22.2
1 12	9 57.02	- 2 19.6	1.684	2.494	15.6	20.0	1 12	9 52.49	+ 2 27.2	2.989	3.799	9.5	22.0
1 22	9 50.87	- 3 27.6	1.595	2.476	12.7	19.7	1 22	9 46.86	+ 2 32.3	2.909	3.802	7.1	21.8
2 1	9 42.40	- 4 17.0	1.528	2.458	9.6	19.5	2 1	9 40.06	+ 2 48.5	2.857	3.805	4.7	21.7
2 11	9 32.45	- 4 45.5	1.486	2.440	7.6	19.3	2 11	9 32.64	+ 3 14.0	2.835	3.808	2.9	21.6
2 21	9 22.15	- 4 52.9	1.472	2.423	8.2	19.3	2 21	9 25.19	+ 3 46.4	2.843	3.810	3.6	21.6
3 2	9 12.79	- 4 42.0	1.483	2.406	11.0	19.4	3 2	9 18.35	+ 4 22.6	2.882	3.812	5.9	21.8
3 12	9 5.50	- 4 18.6	1.518	2.390	14.4	19.6	3 12	9 12.66	+ 4 59.2	2.949	3.813	8.4	21.9
132196	2002 <i>EU</i> ₄₂		2 10.4 270°46	0°8/10.9	18		345593	2006 <i>SG</i> ₇₅		2 10.4 146°64	0°1/10.3	17	
1 2	9 59.88	+ 9 51.5	1.784	2.550	16.6	20.9							

EPHEMERIDES

2 10.4

2 10.5

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
454330	2014 <i>KZ</i> ₇₅		2 10.4 139°16'	0°5'/10.8 18			122576	2000 <i>RV</i> ₁₇		2 10.5 245°15'	2°8'/12.4 18		
1 2	10 3.87	+10 22.6	2.019	2.769	15.5	22.2	1 2	10 1.45	+5 11.7	1.954	2.692	16.3	20.6
1 12	9 59.02	+10 47.8	1.937	2.784	12.3	22.0	1 12	9 57.60	+5 9.1	1.840	2.674	13.5	20.3
1 22	9 51.75	+11 26.5	1.876	2.799	8.6	21.8	1 22	9 51.16	+5 23.2	1.746	2.656	10.0	20.1
2 1	9 42.61	+12 15.3	1.843	2.812	4.4	21.6	2 1	9 42.54	+5 53.8	1.677	2.637	6.0	19.8
2 11	9 32.50	+13 8.8	1.839	2.825	0.5	21.3	2 11	9 32.52	+6 38.0	1.635	2.617	2.9	19.6
2 21	9 22.47	+14 1.4	1.865	2.837	4.5	21.6	2 21	9 22.18	+7 30.9	1.624	2.596	5.0	19.6
3 2	9 13.58	+14 48.0	1.920	2.848	8.6	21.9	3 2	9 12.71	+8 26.7	1.640	2.574	9.2	19.8
3 12	9 6.67	+15 24.9	2.002	2.858	12.1	22.1	3 12	9 5.18	+9 19.4	1.682	2.552	13.3	20.0
492708	2014 <i>QH</i> ₂₃		2 10.4 206°90'	2°4'/12.1 17			331342	2012 <i>BJ</i> ₁₁₂		2 10.5 83°30'	0°3'/10.6 18		
1 2	10 1.52	+6 22.7	1.981	2.723	16.0	22.6	1 2	10 4.34	+13 42.1	1.728	2.499	16.9	21.2
1 12	9 57.43	+6 21.1	1.880	2.719	13.1	22.4	1 12	9 59.83	+13 31.9	1.648	2.508	13.5	21.0
1 22	9 50.87	+6 35.0	1.800	2.713	9.5	22.2	1 22	9 52.54	+13 31.9	1.589	2.517	9.3	20.7
2 1	9 42.28	+7 3.4	1.745	2.708	5.6	21.9	2 1	9 43.08	+13 39.2	1.555	2.526	4.7	20.5
2 11	9 32.52	+7 42.8	1.719	2.701	2.4	21.7	2 11	9 32.51	+13 49.5	1.549	2.535	0.3	20.1
2 21	9 22.62	+8 28.6	1.721	2.694	4.7	21.8	2 21	9 22.08	+13 58.7	1.571	2.544	5.0	20.5
3 2	9 13.70	+9 15.4	1.753	2.686	8.8	22.1	3 2	9 13.03	+14 3.3	1.622	2.553	9.5	20.8
3 12	9 6.72	+9 58.0	1.810	2.678	12.6	22.3	3 12	9 6.29	+14 0.9	1.697	2.562	13.4	21.1
377137	2003 <i>MO</i> ₅		2 10.5 184°39'	3°7'/13.6 17			18579	Duongtuyenvu		2 10.5 177°87'	0°0'/10.4 18		
1 2	9 59.69	+1 30.3	2.656	3.358	13.2	21.0	1 2	10 0.17	+12 13.6	2.224	2.981	14.0	19.2
1 12	9 55.22	+1 8.6	2.552	3.358	11.0	20.9	1 12	9 56.04	+12 38.0	2.130	2.983	11.1	19.0
1 22	9 48.91	+0 59.9	2.470	3.358	8.4	20.7	1 22	9 49.70	+13 13.7	2.058	2.984	7.7	18.8
2 1	9 41.15	+1 4.4	2.414	3.357	5.7	20.5	2 1	9 41.62	+13 57.5	2.014	2.985	3.8	18.6
2 11	9 32.59	+1 21.0	2.387	3.356	3.8	20.4	2 11	9 32.60	+14 44.7	1.998	2.985	0.2	18.2
2 21	9 23.97	+1 47.2	2.391	3.354	4.5	20.4	2 21	9 23.53	+15 30.2	2.014	2.985	4.3	18.6
3 2	9 16.07	+2 19.6	2.424	3.352	7.0	20.6	3 2	9 15.40	+16 9.7	2.058	2.984	8.2	18.8
3 12	9 9.56	+2 54.1	2.485	3.349	9.8	20.7	3 12	9 8.98	+16 39.9	2.128	2.983	11.5	19.0
271309	2003 <i>UZ</i> ₃₅₆		2 10.5 205°49'	0°2'/10.6 17			285141	1995 <i>TG</i> ₁₂		2 10.5 208°81'	3°6'/13.9 17		
1 2	9 58.11	+12 0.1	2.241	3.001	13.8	21.7	1 2	9 55.55	+0 25.8	2.716	3.421	12.9	21.0
1 12	9 54.40	+12 16.1	2.145	3.000	11.0	21.5	1 12	9 51.99	+0 17.3	2.611	3.418	10.8	20.8
1 22	9 48.56	+12 42.9	2.072	2.999	7.6	21.3	1 22	9 46.70	+0 22.9	2.527	3.414	8.3	20.7
2 1	9 41.04	+13 17.9	2.026	2.997	3.9	21.1	2 1	9 40.08	+0 42.8	2.468	3.411	5.7	20.5
2 11	9 32.60	+13 56.7	2.008	2.995	0.3	20.8	2 11	9 32.70	+1 15.3	2.438	3.407	3.8	20.4
2 21	9 24.12	+14 35.0	2.021	2.993	4.2	21.1	2 21	9 25.25	+1 57.6	2.438	3.403	4.3	20.4
3 2	9 16.53	+15 8.4	2.062	2.991	8.0	21.3	3 2	9 18.45	+2 45.7	2.468	3.399	6.7	20.5
3 12	9 10.60	+15 33.9	2.129	2.989	11.3	21.5	3 12	9 12.94	+3 35.3	2.525	3.394	9.4	20.7
182436	2001 <i>SJ</i> ₁		2 10.5 152°73'	1°0'/9.6 18			106671	2000 <i>WT</i> ₁₅₀		2 10.5 111°78'	9°5'/13.7 18		
1 2	10 2.48	+15 54.1	2.381	3.140	13.1	21.5	1 2	10 13.51	+0 9.1	1.249	1.983	24.0	19.1
1 12	9 57.61	+16 19.1	2.293	3.149	10.3	21.4	1 12	10 8.18	-1 52.3	1.176	1.995	20.5	18.9
1 22	9 50.62	+16 51.9	2.230	3.158	7.1	21.2	1 22	9 58.96	-3 35.1	1.119	2.006	16.3	18.6
2 1	9 42.01	+17 28.6	2.194	3.166	3.5	20.9	2 1	9 46.53	-4 52.7	1.084	2.018	12.2	18.4
2 11	9 32.55	+18 4.6	2.188	3.173	1.2	20.8	2 11	9 32.32	-5 40.1	1.073	2.028	9.6	18.3
2 21	9 23.14	+18 35.7	2.213	3.180	4.5	21.0	2 21	9 18.19	-5 57.2	1.088	2.039	10.4	18.4
3 2	9 14.70	+18 58.6	2.268	3.186	8.0	21.3	3 2	9 6.03	-5 48.7	1.127	2.048	13.8	18.6
3 12	9 7.96	+19 11.5	2.349	3.192	11.0	21.5	3 12	8 57.21	-5 23.8	1.188	2.058	17.7	18.9
89158	2001 <i>UE</i> ₄₄		2 10.5 310°61'	0°5'/10.7 18			175228	2005 <i>GO</i> ₁₂₁		2 10.5 267°00'	2°0'/9.1 18		
1 2	9 57.89	+10 26.5	1.407	2.196	19.2	19.4	1 2	10 0.35	+16 45.1	1.786	2.571	15.9	20.7
1 12	9 55.64	+10 46.8	1.317	2.188	15.5	19.1	1 12	9 57.00	+17 21.5	1.687	2.557	12.6	20.4
1 22	9 50.25	+11 26.6	1.247	2.180	10.9	18.9	1 22	9 50.87	+18 9.5	1.609	2.544	8.7	20.2
2 1	9 42.19	+12 22.8	1.200	2.172	5.6	18.5	2 1	9 42.41	+19 4.0	1.557	2.530	4.4	19.9
2 11	9 32.53	+13 28.5	1.178	2.165	0.5	18.1	2 11	9 32.56	+19 58.1	1.533	2.516	2.2	19.7
2 21	9 22.69	+14 35.0	1.183	2.158	6.0	18.5	2 21	9 22.50	+20 44.6	1.536	2.502	6.2	19.9
3 2	9 14.21	+15 33.8	1.213	2.151	11.4	18.8	3 2	9 13.56	+21 18.0	1.567	2.488	10.7	20.1
3 12	9 8.33	+16 19.0	1.265	2.144	16.2	19.0	3 12	9 6.82	+21 35.8	1.622	2.474	14.7	20.3
412570	2014 <i>NQ</i> ₆₀		2 10.5 207°61'	0°5'/10.8 17			299082	2005 <i>EV</i> ₄₁		2 10.5 86°64'	0°2'/10.6 18		
1 2	10 3.94	+11 35.1	2.137	2.887	14.7	22.3	1 2	10 4.79	+11 39.8	1.668	2.435	17.6	21.2
1 12	9 59.19	+11 44.7	2.032	2.880	11.8	22.1	1 12	10 0.07	+11 57.6	1.603	2.461	13.9	21.0
1 22	9 52.00	+12 5.6	1.950	2.873	8.3	21.8	1 22	9 52.60	+12 29.3	1.560	2.487	9.6	20.8
2 1	9 42.83	+12 35.3	1.895	2.865	4.3	21.6	2 1	9 43.05	+13 10.7	1.542	2.513	4.8	20.6
2 11	9 32.50	+13 9.7	1.869	2.856	0.5	21.2	2 11	9 32.54	+13 55.8	1.552	2.538	0.3	20.2
2 21	9 22.05	+13 44.0	1.874	2.846	4.5	21.5	2 21	9 22.33	+14 38.3	1.590	2.563	5.0	20.7
3 2	9 12.55	+14 13.9	1.908	2.835	8.6	21.8	3 2	9 13.61	+15 13.4	1.657	2.587	9.5	21.0
3 12	9 4.93	+14 36.2	1.968	2.824	12.3	22.0	3 12	9 7.24	+15 37.9	1.748	2.611	13.2	21.3
210797	2001 <i>FS</i> ₇		2 10.5 52°61'	1°9'/9.3 18			502654	2015 <i>CO</i> ₄₄		2 10.5 284°83'	1°0'/11.2 18		
1 2	10 0.84	+16 5.0	1.435	2.233	18.5	20.2	1 2	9 59.46	+11 10.5	2.250	3.005	13.9	20.8
1 12	9 57.62	+16 40.6	1.369	2.247	14.5	20.0	1 12	9 55.44	+11 1.8	2.152	3.002	11.2	20.6
1 22	9 51.28	+17 29.1	1.323	2.261	9.9	19.7	1 22	9 49.27	+11 2.8	2.077	2.999	7.9	20.4
2 1	9 42.51	+18 24.1	1.301	2.276	4.9	19.5	2 1	9 41.41	+11 11.8	2.028	2.996	4.2	20.2
2 11	9 32.53	+19 17.1	1.306	2.290	2.1	19.3	2 11	9 32.63	+11 25.7	2.008	2.993	1.0	19.9
2 21	9 22.77	+20 0.7	1.337	2.306	6.5	19.6	2 21	9 23.82	+11 41.2	2.017	2.990	4.1	20.2
3 2	9 14.61	+20 29.6	1.394	2.321	11.2	19.9	3 2	9 15.90	+11 55.1	2.056	2.988	7.8	20.4
3 12	9 9.09	+20 42.0	1.474	2.337	15.3	20.2	3 12	9 9.66	+12 4.7	2.120	2.985	11.2	20.6
148686	2001 <i>SS</i> ₂₃₅		2 10.5 147°53'	0°8'/9.8 18			290278	2005 <i>SO</i> ₁₄₉		2 10.5 47°39'	2°0'/9.1 18		
1 2	10 1.19	+14 31.3	2.218	2.981	13.9	21.2	1 2	9 59.15	+16 34.0	1.655	2.447	1	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
154875	2004 <i>RW</i> ₁₁₄		2 10.5 152°74	1°7/ 8.9 18			280536	2004 <i>RE</i> ₄₉		2 10.5 138°92	2°5/ 8.6 18		
1 2	10 0.28	+17 18.6	2.497	3.262	12.4	20.9	1 2	10 1.43	+19 41.7	2.070	2.849	14.2	20.5
1 12	9 55.85	+18 0.3	2.411	3.271	9.8	20.7	1 12	9 57.24	+20 13.7	1.986	2.853	11.2	20.3
1 22	9 49.41	+18 49.2	2.348	3.279	6.6	20.5	1 22	9 50.63	+20 52.2	1.924	2.857	7.7	20.0
2 1	9 41.43	+19 41.2	2.314	3.286	3.3	20.3	2 1	9 42.13	+21 32.1	1.889	2.861	4.1	19.8
2 11	9 32.64	+20 31.0	2.310	3.293	1.9	20.2	2 11	9 32.64	+22 7.5	1.884	2.864	2.7	19.7
2 21	9 23.88	+21 14.1	2.337	3.300	4.7	20.4	2 21	9 23.21	+22 33.6	1.907	2.868	5.7	19.9
3 2	9 16.00	+21 47.0	2.394	3.305	7.9	20.7	3 2	9 14.88	+22 47.0	1.958	2.871	9.4	20.2
3 12	9 9.70	+22 8.0	2.476	3.311	10.8	20.8	3 12	9 8.51	+22 47.0	2.034	2.874	12.6	20.4
139673	2001 <i>QS</i> ₂₀₂		2 10.5 55°37	2°5/ 8.8 18			270558	2002 <i>GB</i> ₁₈₅		2 10.5 347°62	7°5/ 5.3 18		
1 2	10 1.41	+17 52.3	1.551	2.346	17.5	19.4	1 2	10 2.06	+31 6.3	1.670	2.474	16.0	20.2
1 12	9 57.79	+18 32.3	1.489	2.365	13.7	19.2	1 12	9 58.73	+32 9.4	1.595	2.469	13.0	20.0
1 22	9 51.23	+19 22.4	1.448	2.385	9.3	19.0	1 22	9 52.19	+33 12.0	1.541	2.465	10.0	19.8
2 1	9 42.44	+20 15.9	1.432	2.405	4.7	18.8	2 1	9 43.08	+34 4.2	1.512	2.461	7.8	19.7
2 11	9 32.59	+21 4.7	1.442	2.425	2.7	18.7	2 11	9 32.58	+34 36.7	1.509	2.458	8.0	19.7
2 21	9 23.02	+21 42.3	1.481	2.446	6.5	19.0	2 21	9 22.19	+34 43.4	1.531	2.456	10.4	19.8
3 2	9 15.00	+22 4.5	1.545	2.466	10.8	19.3	3 2	9 13.37	+34 23.2	1.578	2.454	13.5	20.0
3 12	9 9.45	+22 10.3	1.633	2.487	14.5	19.6	3 12	9 7.24	+33 38.9	1.646	2.452	16.6	20.2
42028	2000 <i>YT</i> ₈₈		2 10.5 249°69	3°8/ 7.6 18			29027	7587 <i>P-L</i>		2 10.5 61°00	2°4/ 8.8 18 R		
1 2	10 0.65	+20 1.0	1.741	2.533	15.9	18.9	1 2	10 0.93	+17 51.8	1.635	2.427	16.8	19.0
1 12	9 57.36	+21 4.3	1.649	2.524	12.6	18.6	1 12	9 57.38	+18 30.6	1.564	2.439	13.2	18.8
1 22	9 51.18	+22 18.6	1.579	2.515	8.8	18.4	1 22	9 50.98	+19 19.4	1.515	2.451	9.0	18.6
2 1	9 42.59	+23 36.4	1.535	2.506	5.0	18.1	2 1	9 42.37	+20 12.0	1.490	2.463	4.6	18.3
2 11	9 32.57	+24 48.6	1.519	2.496	4.1	18.1	2 11	9 32.63	+21 0.8	1.493	2.476	2.7	18.2
2 21	9 22.39	+25 47.0	1.531	2.486	7.5	18.2	2 21	9 23.06	+21 39.1	1.524	2.488	6.4	18.5
3 2	9 13.41	+26 25.9	1.570	2.476	11.7	18.5	3 2	9 14.91	+22 2.6	1.581	2.501	10.6	18.8
3 12	9 6.75	+26 43.8	1.631	2.466	15.4	18.7	3 12	9 9.14	+22 10.1	1.661	2.514	14.3	19.0
15969	Charlesgreen		2 10.5 145°03	0°5/ 9.9 18			87569	2000 <i>RS</i> ₁₂		2 10.5 220°56	1°1/ 11.2 18		
1 2	9 55.83	+13 3.4	2.588	3.349	12.2	17.9	1 2	10 3.44	+11 33.0	2.071	2.825	15.0	19.9
1 12	9 52.30	+13 43.0	2.497	3.353	9.6	17.7	1 12	9 58.80	+11 14.6	1.972	2.821	12.1	19.7
1 22	9 46.96	+14 32.6	2.429	3.357	6.6	17.6	1 22	9 51.73	+11 5.6	1.895	2.817	8.6	19.4
2 1	9 40.22	+15 28.6	2.388	3.361	3.2	17.3	2 1	9 42.71	+11 4.4	1.844	2.813	4.6	19.2
2 11	9 32.72	+16 26.6	2.378	3.364	0.6	17.1	2 11	9 32.61	+11 8.3	1.822	2.808	1.2	18.9
2 21	9 25.21	+17 21.8	2.399	3.368	3.9	17.4	2 21	9 22.46	+11 14.0	1.830	2.803	4.4	19.1
3 2	9 18.44	+18 10.1	2.448	3.371	7.2	17.6	3 2	9 13.34	+11 18.4	1.867	2.799	8.5	19.4
3 12	9 13.08	+18 48.7	2.525	3.374	10.1	17.8	3 12	9 6.14	+11 19.0	1.930	2.793	12.2	19.6
281717	2008 <i>WO</i> ₁₁₃		2 10.5 159°91	6°9/ 16.2 18			188336	2003 <i>QB</i> ₅₈		2 10.5 164°09	0°7/ 9.9 18		
1 2	9 57.61	- 6 37.3	2.347	3.018	15.5	20.7	1 2	10 2.49	+13 44.5	2.056	2.818	14.8	21.7
1 12	9 53.91	- 7 25.9	2.249	3.019	13.5	20.5	1 12	9 58.06	+14 17.6	1.967	2.824	11.7	21.5
1 22	9 48.20	- 7 56.6	2.171	3.020	11.1	20.4	1 22	9 51.20	+15 2.3	1.901	2.829	8.1	21.3
2 1	9 40.90	- 8 7.0	2.115	3.021	8.8	20.2	2 1	9 42.44	+15 54.3	1.862	2.834	4.0	21.1
2 11	9 32.68	- 7 56.6	2.086	3.022	7.1	20.1	2 11	9 32.63	+16 47.8	1.852	2.838	0.9	20.8
2 21	9 24.39	- 7 27.1	2.084	3.023	7.1	20.1	2 21	9 22.83	+17 37.0	1.872	2.841	4.9	21.1
3 2	9 16.88	- 6 42.5	2.110	3.023	8.7	20.2	3 2	9 14.08	+18 17.3	1.921	2.843	8.9	21.4
3 12	9 10.91	- 5 48.6	2.161	3.024	11.1	20.4	3 12	9 7.27	+18 45.7	1.995	2.845	12.4	21.6
300578	2007 <i>TF</i> ₃₆₇		2 10.5 176°29	2°4/ 8.9 18			318341	2004 <i>TQ</i> ₂₃₁		2 10.5 118°13	0°9/ 11.2 18		
1 2	10 5.35	+18 55.2	1.838	2.616	15.8	21.4	1 2	9 59.48	+10 10.9	2.147	2.902	14.5	21.7
1 12	10 0.68	+19 23.6	1.752	2.618	12.5	21.2	1 12	9 55.50	+10 18.9	2.060	2.909	11.6	21.5
1 22	9 53.21	+19 59.9	1.687	2.619	8.6	20.9	1 22	9 49.32	+10 38.8	1.995	2.917	8.2	21.3
2 1	9 43.48	+20 38.6	1.649	2.620	4.4	20.7	2 1	9 41.45	+11 8.3	1.956	2.925	4.3	21.1
2 11	9 32.53	+21 13.1	1.639	2.621	2.6	20.5	2 11	9 32.69	+11 43.5	1.946	2.932	0.9	20.8
2 21	9 21.62	+21 37.7	1.658	2.621	6.2	20.8	2 21	9 23.97	+12 19.8	1.966	2.939	4.1	21.1
3 2	9 12.00	+21 48.9	1.705	2.620	10.3	21.0	3 2	9 16.22	+12 53.1	2.014	2.946	7.9	21.3
3 12	9 4.68	+21 45.8	1.776	2.619	14.0	21.2	3 12	9 10.23	+13 19.9	2.089	2.953	11.3	21.6
171882	2001 <i>QW</i> ₂₉₀		2 10.5 78°40	0°5/ 10.0 18			432174	2009 <i>CS</i> ₁₅		2 10.5 209°06	2°1/ 12.3 17		
1 2	9 57.91	+13 40.0	2.294	3.059	13.4	20.5	1 2	9 59.68	+ 6 58.3	2.919	3.640	11.8	21.8
1 12	9 54.04	+14 8.7	2.218	3.077	10.5	20.3	1 12	9 55.07	+ 6 40.9	2.809	3.635	9.6	21.7
1 22	9 48.18	+14 46.9	2.166	3.095	7.2	20.2	1 22	9 48.76	+ 6 32.6	2.723	3.629	7.0	21.5
2 1	9 40.81	+15 31.1	2.140	3.112	3.5	20.0	2 1	9 41.11	+ 6 32.7	2.664	3.623	4.2	21.3
2 11	9 32.70	+16 16.5	2.143	3.130	0.6	19.7	2 11	9 32.71	+ 6 39.8	2.636	3.616	2.1	21.1
2 21	9 24.70	+16 58.4	2.177	3.147	4.2	20.1	2 21	9 24.26	+ 6 51.5	2.639	3.609	3.5	21.2
3 2	9 17.64	+17 33.0	2.239	3.164	7.7	20.3	3 2	9 16.45	+ 7 5.4	2.673	3.602	6.4	21.4
3 12	9 12.22	+17 58.1	2.328	3.181	10.7	20.5	3 12	9 9.92	+ 7 18.9	2.734	3.594	9.1	21.6
219363	2000 <i>RD</i> ₉₉		2 10.5 143°43	4°6/ 14.5 18			211622	2003 <i>UQ</i> ₁₀₆		2 10.5 213°59	1°4/ 11.3 18		
1 2	9 59.45	- 1 29.1	2.443	3.136	14.5	21.3	1 2	10 2.98	+10 0.5	1.916	2.671	16.0	20.6
1 12	9 55.16	- 1 47.3	2.350	3.146	12.2	21.2	1 12	9 58.70	+ 9 53.6	1.817	2.666	13.0	20.4
1 22	9 48.93	- 1 49.2	2.278	3.156	9.5	21.0	1 22	9 51.82	+ 9 59.3	1.739	2.661	9.2	20.1
2 1	9 41.20	- 1 34.3	2.231	3.166	6.7	20.9	2 1	9 42.83	+10 15.8	1.687	2.655	5.0	19.9
2 11	9 32.68	- 1 3.9	2.213	3.175	4.7	20.7	2 11	9 32.62	+10 39.6	1.663	2.649	1.4	19.6
2 21	9 24.15	- 0 21.4	2.224	3.183	5.1	20.8	2 21	9 22.30	+11 6.1	1.669	2.642	4.7	19.8
3 2	9 16.45	+ 0 29.0	2.264	3.191	7.5	20.9	3 2	9 13.06	+11 31.1	1.702	2.635	9.1	20.1
3 12	9 10.26	+ 1 22.1	2.332	3.199	10.2	21.1	3 12	9 5.86	+11 50.6	1.761	2.628	13.0	20.3
62252	2000 <i>SW</i> ₈₂		2 10.5 137°62	3°8/ 7.5 18			466706	2014 <i>WQ</i> ₄₃₂		2 10.5 323°43	8°5/ 3.8 18		
1 2	10 0.78	+22 30.3	1.984	2.772	14.4	19.7	1 2	10					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
370771	2004 <i>RX</i> ₃₀₉		2 10.5 152°33	0°8/ 9.7 18			157110	2004 <i>LG</i> ₁₁		2 10.5 21°10	3°3/12.5 18		
1 2	9 58.55	+13 13.2	2.379	3.139	13.1	21.4	1 2	9 57.24	+ 4 44.5	1.278	2.058	21.3	20.4
1 12	9 54.61	+14 1.1	2.290	3.146	10.3	21.2	1 12	9 55.26	+ 4 44.5	1.201	2.060	17.5	20.2
1 22	9 48.65	+15 0.1	2.224	3.153	7.1	21.1	1 22	9 50.04	+ 5 9.5	1.141	2.063	12.8	19.9
2 1	9 41.11	+16 6.1	2.187	3.159	3.4	20.8	2 1	9 42.14	+ 5 58.7	1.103	2.067	7.6	19.6
2 11	9 32.72	+17 13.5	2.179	3.165	0.9	20.6	2 11	9 32.72	+ 7 6.9	1.088	2.071	3.5	19.4
2 21	9 24.32	+18 17.0	2.202	3.170	4.4	20.9	2 21	9 23.28	+ 8 25.2	1.100	2.076	6.1	19.6
3 2	9 16.78	+19 11.7	2.255	3.175	7.9	21.1	3 2	9 15.36	+ 9 43.4	1.136	2.081	11.2	19.9
3 12	9 10.81	+19 54.6	2.334	3.180	11.0	21.3	3 12	9 10.16	+10 52.6	1.194	2.086	16.0	20.1
463258	2012 <i>GJ</i> ₁		2 10.5 237°34	2°6/ 8.2 17			121261	1999 <i>RY</i> ₉₇		2 10.5 112°96	1°0/11.3 18		
1 2	9 58.85	+17 57.8	2.169	2.947	13.7	21.3	1 2	9 58.23	+ 8 57.6	2.170	2.922	14.4	20.2
1 12	9 55.30	+18 58.6	2.069	2.937	10.8	21.1	1 12	9 54.51	+ 9 18.9	2.084	2.932	11.6	20.0
1 22	9 49.42	+20 9.7	1.993	2.926	7.4	20.9	1 22	9 48.66	+ 9 53.7	2.021	2.942	8.1	19.8
2 1	9 41.63	+21 25.7	1.943	2.915	3.9	20.6	2 1	9 41.16	+10 39.4	1.984	2.952	4.3	19.6
2 11	9 32.70	+22 39.4	1.924	2.903	2.8	20.5	2 11	9 32.80	+11 31.4	1.975	2.961	1.0	19.4
2 21	9 23.60	+23 44.2	1.933	2.892	5.9	20.7	2 21	9 24.47	+12 24.8	1.997	2.971	4.1	19.6
3 2	9 15.39	+24 34.9	1.972	2.879	9.6	20.9	3 2	9 17.09	+13 14.4	2.047	2.980	7.8	19.9
3 12	9 8.97	+25 8.9	2.035	2.867	12.9	21.1	3 12	9 11.40	+13 56.4	2.124	2.988	11.2	20.1
341596	2007 <i>UA</i> ₉₉		2 10.5 24°64	5°4/14.9 18			405066	2001 <i>TS</i> ₁₈₂		2 10.5 57°00	6°0/ 7.2 18		
1 2	9 55.44	- 2 16.9	2.170	2.877	15.7	20.5	1 2	10 8.30	+27 47.2	1.571	2.367	17.2	20.7
1 12	9 52.34	- 2 45.8	2.078	2.881	13.3	20.4	1 12	10 3.20	+28 32.3	1.522	2.394	13.6	20.5
1 22	9 47.19	- 2 56.5	2.006	2.885	10.5	20.2	1 22	9 54.89	+29 16.9	1.493	2.422	9.8	20.3
2 1	9 40.42	- 2 48.0	1.957	2.889	7.7	20.0	2 1	9 44.24	+29 52.2	1.490	2.449	6.7	20.2
2 11	9 32.77	- 2 21.2	1.934	2.893	5.6	19.9	2 11	9 32.65	+30 10.2	1.513	2.477	6.2	20.3
2 21	9 25.09	- 1 39.1	1.940	2.898	5.9	19.9	2 21	9 21.61	+30 6.9	1.564	2.505	8.8	20.5
3 2	9 18.26	- 0 46.8	1.973	2.903	8.2	20.1	3 2	9 12.50	+29 42.2	1.640	2.533	12.1	20.7
3 12	9 13.04	+ 0 9.9	2.032	2.908	11.1	20.2	3 12	9 6.18	+28 59.6	1.738	2.560	15.2	21.0
225298	1995 <i>UM</i> ₁₆		2 10.5 83°50	1°5/11.6 18			224377	2005 <i>UP</i> ₁₈₂		2 10.5 179°04	2°1/ 8.7 18		
1 2	9 57.59	+ 7 50.3	1.993	2.748	15.5	20.8	1 2	10 1.13	+18 28.9	2.400	3.168	12.8	21.1
1 12	9 54.21	+ 8 6.0	1.907	2.755	12.5	20.6	1 12	9 56.71	+19 9.7	2.308	3.170	10.1	20.9
1 22	9 48.56	+ 8 37.1	1.842	2.762	8.9	20.4	1 22	9 50.15	+19 57.5	2.240	3.171	6.9	20.7
2 1	9 41.13	+ 9 21.1	1.803	2.770	4.9	20.2	2 1	9 41.92	+20 47.8	2.200	3.171	3.6	20.5
2 11	9 32.74	+10 13.6	1.792	2.777	1.5	20.0	2 11	9 32.77	+21 35.2	2.190	3.171	2.3	20.4
2 21	9 24.37	+11 9.1	1.810	2.784	4.3	20.2	2 21	9 23.60	+22 14.7	2.210	3.171	5.1	20.6
3 2	9 17.01	+12 1.9	1.856	2.791	8.3	20.4	3 2	9 15.33	+22 42.9	2.260	3.169	8.4	20.8
3 12	9 11.47	+12 47.5	1.928	2.798	11.8	20.7	3 12	9 8.74	+22 58.4	2.335	3.168	11.4	20.9
3111	Misuzu		2 10.5 92°47	1°1/ 9.8 18			465975	2011 <i>CP</i> ₂₅		2 10.5 313°05	1°7/11.5 18		
1 2	10 4.15	+13 42.2	1.456	2.241	18.9	17.1	1 2	9 59.07	+10 8.7	1.760	2.529	16.7	20.6
1 12	10 0.16	+14 18.4	1.390	2.259	14.9	16.9	1 12	9 55.96	+ 9 51.7	1.657	2.515	13.6	20.4
1 22	9 53.03	+15 9.8	1.344	2.277	10.2	16.7	1 22	9 50.16	+ 9 47.3	1.575	2.500	9.7	20.1
2 1	9 43.44	+16 10.4	1.322	2.295	5.0	16.4	2 1	9 42.13	+ 9 54.3	1.517	2.486	5.4	19.8
2 11	9 32.62	+17 11.9	1.327	2.313	1.2	16.2	2 11	9 32.75	+10 9.7	1.487	2.472	1.7	19.5
2 21	9 22.05	+18 6.1	1.359	2.330	6.1	16.6	2 21	9 23.18	+10 29.1	1.484	2.458	5.0	19.7
3 2	9 13.12	+18 47.1	1.418	2.347	10.9	16.9	3 2	9 14.66	+10 48.2	1.508	2.445	9.6	20.0
3 12	9 6.85	+19 12.2	1.501	2.363	15.1	17.2	3 12	9 8.26	+11 2.8	1.556	2.432	13.8	20.2
345966	2007 <i>TW</i> ₅₃		2 10.5 59°93	2°5/ 8.4 18			186391	2002 <i>LG</i> ₁₇		2 10.5 201°64	0°6/10.1 18		
1 2	9 59.16	+19 51.8	2.121	2.903	13.8	20.6	1 2	10 4.13	+12 47.3	1.773	2.540	16.7	21.5
1 12	9 55.30	+20 28.2	2.048	2.918	10.8	20.5	1 12	9 59.94	+13 21.4	1.677	2.536	13.3	21.2
1 22	9 49.19	+21 10.6	1.999	2.932	7.4	20.3	1 22	9 52.90	+14 10.4	1.603	2.531	9.3	21.0
2 1	9 41.39	+21 53.8	1.976	2.947	3.9	20.1	2 1	9 43.49	+15 10.0	1.553	2.526	4.6	20.7
2 11	9 32.75	+22 32.2	1.982	2.962	2.7	20.0	2 11	9 32.68	+16 13.3	1.533	2.519	0.8	20.4
2 21	9 24.26	+23 1.0	2.017	2.977	5.6	20.2	2 21	9 21.71	+17 13.0	1.542	2.512	5.5	20.7
3 2	9 16.86	+23 17.4	2.080	2.992	8.9	20.5	3 2	9 11.92	+18 2.7	1.579	2.504	10.2	20.9
3 12	9 11.30	+23 20.5	2.168	3.007	12.0	20.7	3 12	9 4.39	+18 38.5	1.640	2.495	14.4	21.2
471106	2010 <i>BY</i> ₇₀		2 10.5 170°29	8°1/30.9 16			91584	1999 <i>SQ</i> ₂₀		2 10.5 189°87	5°9/ 4.1 18		
1 2	10 4.53	+43 55.2	2.938	3.695	10.9	21.8	1 2	10 3.24	+32 38.7	2.703	3.477	11.3	20.1
1 12	9 59.58	+45 24.8	2.877	3.698	9.5	21.7	1 12	9 58.41	+33 53.9	2.622	3.476	9.2	19.9
1 22	9 52.22	+46 46.6	2.840	3.701	8.5	21.6	1 22	9 51.36	+35 7.8	2.565	3.474	7.2	19.8
2 1	9 42.95	+47 53.4	2.831	3.703	8.1	21.6	2 1	9 42.54	+36 13.5	2.536	3.472	6.0	19.7
2 11	9 32.66	+48 39.0	2.848	3.705	8.6	21.6	2 11	9 32.75	+37 4.7	2.537	3.468	6.3	19.7
2 21	9 22.39	+49 0.5	2.890	3.706	9.8	21.7	2 21	9 22.93	+37 37.1	2.567	3.465	8.0	19.8
3 2	9 13.21	+48 57.5	2.956	3.707	11.2	21.8	3 2	9 14.05	+37 48.8	2.623	3.460	10.1	19.9
3 12	9 5.96	+48 32.6	3.043	3.708	12.6	21.9	3 12	9 6.91	+37 41.0	2.703	3.455	12.2	20.1
421116	2013 <i>QS</i> ₇₅		2 10.5 304°93	0°5/10.2 18			30134	2000 <i>FR</i> ₄₉		2 10.5 26°45	6°5/ 7.1 18		
1 2	10 4.28	+16 23.3	1.774	2.550	16.3	20.6	1 2	10 8.80	+29 48.0	1.637	2.430	16.7	17.8
1 12	10 0.00	+16 9.3	1.678	2.542	13.0	20.3	1 12	10 3.92	+30 20.3	1.563	2.433	13.5	17.6
1 22	9 52.86	+16 2.4	1.603	2.534	9.1	20.1	1 22	9 55.68	+30 51.0	1.510	2.435	10.0	17.4
2 1	9 43.40	+15 59.5	1.554	2.526	4.5	19.8	2 1	9 44.81	+31 11.2	1.482	2.438	7.1	17.2
2 11	9 32.64	+15 56.7	1.532	2.519	0.7	19.5	2 11	9 32.64	+31 12.9	1.480	2.442	6.7	17.2
2 21	9 21.82	+15 50.0	1.540	2.511	5.3	19.8	2 21	9 20.75	+30 51.8	1.506	2.445	9.3	17.3
3 2	9 12.27	+15 36.9	1.575	2.504	9.9	20.0	3 2	9 10.66	+30 7.9	1.558	2.449	12.7	17.6
3 12	9 5.01	+15 16.2	1.634	2.497	14.0	20.3	3 12	9 3.44	+29 5.1	1.631	2.453	16.1	17.8
408260	2013 <i>FN</i> ₉		2 10.5 255°20	1°0/11.2 17			185895	2000 <i>RC</i> ₁		2 10.5 186°76	1°8/12.3 18		
1 2	10 1.12	+ 9 48.7	1.817	2.579	16.5	21.9	1 2	9 58.67	+ 5				

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
14105	Nakadai		2 10.5 156°47'	3°6/13.9	18		136965	1998 RA ₃₈		2 10.5 92°63'	0°6/10.9	18	
1 2	9 56.47	+ 0 30.9	2.558	3.265	13.6	18.4	1 2	10 1.46	+11 3.3	1.757	2.525	16.8	20.1
1 12	9 52.82	+ 0 28.2	2.460	3.269	11.3	18.2	1 12	9 57.57	+11 15.2	1.679	2.537	13.4	19.9
1 22	9 47.37	+ 0 40.8	2.384	3.273	8.6	18.1	1 22	9 51.05	+11 41.0	1.622	2.549	9.3	19.7
2 1	9 40.51	+ 1 8.6	2.333	3.277	5.8	17.9	2 1	9 42.47	+12 17.6	1.590	2.561	4.8	19.5
2 11	9 32.89	+ 1 49.5	2.310	3.280	3.7	17.7	2 11	9 32.83	+12 59.5	1.586	2.572	0.6	19.2
2 21	9 25.24	+ 2 40.0	2.317	3.284	4.4	17.8	2 21	9 23.30	+13 41.1	1.610	2.584	4.8	19.5
3 2	9 18.31	+ 3 35.7	2.354	3.286	6.9	18.0	3 2	9 15.02	+14 17.2	1.662	2.595	9.2	19.8
3 12	9 12.76	+ 4 31.7	2.418	3.289	9.7	18.1	3 12	9 8.91	+14 44.1	1.739	2.606	13.1	20.0
132688	2002 NF ₂₇		2 10.5 212°15'	0°5/10.1	17		323779	2005 QJ ₅₆		2 10.5 155°27'	4°6/ 6.9	18	
1 2	10 2.63	+15 49.0	2.582	3.336	12.4	20.3	1 2	10 6.44	+27 18.1	2.318	3.092	13.0	21.4
1 12	9 57.70	+15 48.8	2.479	3.331	9.8	20.1	1 12	10 1.00	+28 1.6	2.239	3.099	10.4	21.3
1 22	9 50.74	+15 54.6	2.399	3.325	6.8	19.9	1 22	9 53.14	+28 45.8	2.183	3.106	7.5	21.1
2 1	9 42.21	+16 3.7	2.347	3.319	3.4	19.7	2 1	9 43.43	+29 24.2	2.155	3.113	5.1	21.0
2 11	9 32.81	+16 12.9	2.326	3.312	0.6	19.4	2 11	9 32.79	+29 50.8	2.157	3.119	4.9	21.0
2 21	9 23.37	+16 19.2	2.335	3.305	4.0	19.7	2 21	9 22.28	+30 1.7	2.188	3.124	7.0	21.1
3 2	9 14.77	+16 20.3	2.375	3.298	7.4	19.9	3 2	9 12.94	+29 55.2	2.248	3.129	9.8	21.3
3 12	9 7.72	+16 14.7	2.442	3.290	10.5	20.1	3 12	9 5.59	+29 32.7	2.332	3.133	12.5	21.5
57718	2001 UJ ₁₂₇		2 10.5 251°67'	2°9/12.9	18		138630	2000 RU		2 10.5 85°90'	7°2/17.2	18	
1 2	9 56.92	+ 3 35.8	1.973	2.713	16.1	19.2	1 2	9 58.97	- 9 18.5	2.575	3.218	14.9	19.2
1 12	9 53.88	+ 3 45.5	1.872	2.707	13.3	19.0	1 12	9 54.71	-10 15.1	2.492	3.236	13.0	19.1
1 22	9 48.51	+ 4 13.9	1.792	2.701	9.8	18.8	1 22	9 48.62	-10 53.9	2.427	3.254	10.9	19.0
2 1	9 41.24	+ 5 0.2	1.736	2.695	6.1	18.5	2 1	9 41.13	-11 12.6	2.386	3.271	8.9	18.9
2 11	9 32.85	+ 6 1.0	1.708	2.688	3.1	18.3	2 11	9 32.91	-11 10.6	2.371	3.289	7.4	18.8
2 21	9 24.33	+ 7 10.7	1.709	2.682	4.7	18.4	2 21	9 24.72	-10 49.5	2.384	3.306	7.3	18.8
3 2	9 16.72	+ 8 22.6	1.738	2.675	8.5	18.6	3 2	9 17.32	-10 12.7	2.424	3.324	8.4	18.9
3 12	9 10.91	+ 9 30.2	1.792	2.669	12.3	18.8	3 12	9 11.36	- 9 25.6	2.490	3.341	10.2	19.1
419052	2009 RS ₆₃		2 10.5 61°89'	1°9/12.3	18		13953	1990 TO ₄		2 10.5 34°39'	6°6/ 5.9	18	
1 2	9 58.83	+ 3 33.4	1.756	2.502	17.6	20.3	1 2	9 58.89	+24 27.7	1.372	2.191	18.1	17.2
1 12	9 55.27	+ 4 26.7	1.695	2.535	14.2	20.2	1 12	9 56.56	+26 1.5	1.314	2.202	14.3	17.0
1 22	9 49.28	+ 5 41.8	1.653	2.568	10.1	20.0	1 22	9 50.89	+27 42.3	1.277	2.214	10.2	16.8
2 1	9 41.49	+ 7 14.5	1.637	2.601	5.7	19.8	2 1	9 42.54	+29 18.4	1.264	2.227	7.1	16.7
2 11	9 32.85	+ 8 57.6	1.649	2.633	2.0	19.6	2 11	9 32.83	+30 37.6	1.276	2.241	7.1	16.7
2 21	9 24.45	+10 42.2	1.691	2.666	4.5	19.9	2 21	9 23.33	+31 30.8	1.314	2.255	10.2	16.9
3 2	9 17.30	+12 19.9	1.762	2.698	8.6	20.2	3 2	9 15.56	+31 54.7	1.376	2.270	13.9	17.2
3 12	9 12.18	+13 44.4	1.859	2.730	12.2	20.5	3 12	9 10.61	+31 50.9	1.457	2.285	17.3	17.4
137556	1999 VA ₈₉		2 10.5 25°32'	1°2/11.2	18		310910	2003 SJ ₆₆		2 10.5 132°98'	3°4/13.1	18	
1 2	9 58.61	+ 9 34.7	1.182	1.982	21.5	19.5	1 2	10 1.27	+ 3 1.8	1.933	2.663	16.7	21.9
1 12	9 56.61	+ 9 41.4	1.111	1.986	17.4	19.2	1 12	9 57.18	+ 2 59.5	1.847	2.674	13.7	21.8
1 22	9 51.10	+10 9.7	1.058	1.992	12.3	19.0	1 22	9 50.67	+ 3 15.4	1.782	2.685	10.2	21.6
2 1	9 42.73	+10 56.3	1.026	1.998	6.5	18.7	2 1	9 42.27	+ 3 48.8	1.741	2.696	6.4	21.3
2 11	9 32.78	+11 54.2	1.018	2.004	1.2	18.3	2 11	9 32.86	+ 4 36.4	1.728	2.706	3.5	21.2
2 21	9 22.90	+12 54.1	1.035	2.011	6.2	18.7	2 21	9 23.47	+ 5 33.1	1.744	2.715	4.9	21.3
3 2	9 14.75	+13 47.2	1.076	2.019	11.9	19.0	3 2	9 15.16	+ 6 32.7	1.789	2.724	8.5	21.5
3 12	9 9.56	+14 27.3	1.138	2.027	16.8	19.3	3 12	9 8.80	+ 7 29.4	1.860	2.733	12.1	21.8
459906	2014 MB ₁₃		2 10.5 149°80'	1°3/11.5	18		128608	Chucklove		2 10.5 139°45'	0°6/10.9	18	
1 2	10 3.48	+ 9 11.3	2.137	2.879	14.9	21.7	1 2	10 1.81	+ 9 53.7	1.695	2.461	17.4	21.0
1 12	9 58.67	+ 9 14.4	2.048	2.889	12.0	21.5	1 12	9 58.05	+10 16.9	1.612	2.468	13.9	20.8
1 22	9 51.56	+ 9 29.9	1.981	2.899	8.5	21.3	1 22	9 51.52	+10 56.8	1.549	2.475	9.8	20.6
2 1	9 42.66	+ 9 55.7	1.941	2.907	4.6	21.1	2 1	9 42.78	+11 49.7	1.511	2.482	5.1	20.3
2 11	9 32.81	+10 28.2	1.930	2.915	1.3	20.8	2 11	9 32.84	+12 49.8	1.501	2.488	0.6	20.0
2 21	9 23.00	+11 2.8	1.950	2.923	4.2	21.1	2 21	9 22.90	+13 49.8	1.520	2.493	5.1	20.3
3 2	9 14.22	+11 35.4	1.999	2.929	8.1	21.3	3 2	9 14.23	+14 43.4	1.566	2.499	9.7	20.6
3 12	9 7.29	+12 2.4	2.074	2.935	11.5	21.5	3 12	9 7.81	+15 25.8	1.636	2.503	13.8	20.9
307351	2002 RD ₁₈₃		2 10.5 93°08'	3°3/12.6	18		110353	2001 SZ ₃₁₄		2 10.5 343°40'	12°0/21.2	18	
1 2	10 5.98	+ 5 48.2	1.885	2.619	16.9	21.0	1 2	9 55.01	-17 49.2	1.836	2.462	20.5	19.4
1 12	10 0.74	+ 5 15.3	1.811	2.641	13.8	20.8	1 12	9 52.71	-18 52.8	1.744	2.459	18.8	19.2
1 22	9 52.99	+ 4 56.9	1.757	2.664	10.1	20.6	1 22	9 47.90	-19 27.5	1.666	2.457	16.6	19.1
2 1	9 43.34	+ 4 52.6	1.729	2.686	6.2	20.4	2 1	9 41.03	-19 27.2	1.606	2.455	14.5	18.9
2 11	9 32.78	+ 5 0.1	1.730	2.708	3.4	20.3	2 11	9 32.92	-18 48.7	1.567	2.453	12.7	18.8
2 21	9 22.42	+ 5 16.0	1.759	2.729	5.0	20.4	2 21	9 24.66	-17 33.2	1.550	2.451	12.0	18.7
3 2	9 13.36	+ 5 36.1	1.818	2.750	8.6	20.7	3 2	9 17.38	-15 46.7	1.558	2.450	12.7	18.8
3 12	9 6.42	+ 5 56.2	1.902	2.770	12.1	20.9	3 12	9 12.08	-13 39.9	1.588	2.449	14.5	18.9
193778	2001 OM ₁₆		2 10.5 200°91'	2°3/12.3	18		519196	2010 PR ₆₈		2 10.5 256°42'	3°9/ 7.4	17	
1 2	10 1.47	+ 5 4.5	1.907	2.647	16.6	21.7	1 2	10 3.52	+26 41.5	2.490	3.265	12.2	21.5
1 12	9 57.59	+ 5 21.1	1.806	2.643	13.6	21.5	1 12	9 58.63	+27 6.1	2.394	3.257	9.7	21.3
1 22	9 51.15	+ 5 56.4	1.726	2.638	9.9	21.2	1 22	9 51.51	+27 31.2	2.323	3.248	7.0	21.1
2 1	9 42.60	+ 6 49.2	1.671	2.633	5.8	21.0	2 1	9 42.65	+27 51.7	2.278	3.240	4.6	20.9
2 11	9 32.81	+ 7 55.1	1.644	2.627	2.4	20.7	2 11	9 32.85	+28 2.5	2.264	3.231	4.1	20.9
2 21	9 22.85	+ 9 7.8	1.647	2.620	4.8	20.9	2 21	9 23.07	+28 0.2	2.279	3.222	6.3	21.0
3 2	9 13.88	+10 20.2	1.678	2.613	9.0	21.1	3 2	9 14.28	+27 43.5	2.323	3.213	9.1	21.2
3 12	9 6.90	+11 26.0	1.735	2.605	13.0	21.3	3 12	9 7.26	+27 12.9	2.392	3.205	11.8	21.3
500778	2013 DR ₁₅		2 10.5 249°94'	2°4/11.9	17		86408	2000 AC ₁₈₅		2 10.5 347°49'	3°8/12.9	18	
1 2	10 3.36	+ 7 39.0	1.914	2.659	16.3	22.0	1 2	9 55.71	+ 3 48.3	1.259	2.039	21.5	19.5
1 12	9 59.23	+											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
68091	2000 YR ₁₀₉	2 10.5 152°51	1.1/11.2 18				337850	2001 VY ₁₀₁	2 10.5 53°44	3°8/13.7 18			
1 2	10 3.91	+10 37.8	1.883	2.639	16.2	20.0	1 2	9 56.91	+2 4.6	2.282	3.005	14.6	20.3
1 12	9 59.39	+10 34.4	1.795	2.645	13.0	19.7	1 12	9 53.39	+1 43.9	2.193	3.012	12.1	20.1
1 22	9 52.28	+10 43.4	1.728	2.650	9.2	19.5	1 22	9 47.89	+1 38.2	2.124	3.020	9.2	20.0
2 1	9 43.11	+11 2.6	1.686	2.655	4.9	19.3	2 1	9 40.85	+1 47.5	2.080	3.028	6.2	19.8
2 11	9 32.83	+11 28.0	1.674	2.659	1.1	19.0	2 11	9 33.01	+2 10.1	2.064	3.036	3.9	19.6
2 21	9 22.58	+11 54.9	1.690	2.664	4.7	19.3	2 21	9 25.17	+2 42.8	2.077	3.044	4.7	19.7
3 2	9 13.50	+12 19.0	1.735	2.667	9.0	19.5	3 2	9 18.17	+3 21.4	2.118	3.052	7.5	19.9
3 12	9 6.52	+12 36.9	1.805	2.670	12.8	19.8	3 12	9 12.74	+4 1.1	2.186	3.060	10.5	20.1
334362	2002 AE ₂₀	2 10.5 329°27	4°7/ 6.0 18				14650	1998 YD ₃	2 10.5 116°80	2°1/ 9.1 18			
1 2	9 46.65	+10 14.2	1.112	1.938	20.9	18.9	1 2	10 4.58	+16 43.8	1.639	2.421	17.2	18.0
1 12	9 47.81	+13 1.3	1.013	1.910	16.6	18.5	1 12	10 0.33	+17 24.0	1.566	2.435	13.6	17.8
1 22	9 45.70	+16 38.5	0.934	1.882	11.4	18.1	1 22	9 53.12	+18 15.6	1.514	2.447	9.3	17.6
2 1	9 40.45	+20 56.3	0.880	1.856	6.0	17.7	2 1	9 43.60	+19 12.3	1.487	2.460	4.6	17.3
2 11	9 32.94	+25 31.8	0.853	1.831	6.0	17.6	2 11	9 32.87	+20 6.2	1.488	2.472	2.3	17.2
2 21	9 24.65	+29 54.3	0.853	1.808	11.9	17.9	2 21	9 22.30	+20 50.2	1.517	2.483	6.3	17.5
3 2	9 17.58	+33 36.5	0.878	1.787	18.2	18.1	3 2	9 13.19	+21 19.6	1.574	2.494	10.7	17.7
3 12	9 13.61	+36 24.2	0.922	1.767	23.6	18.4	3 12	9 6.54	+21 33.0	1.654	2.505	14.5	18.0
519290	2011 BS ₁₆₈	2 10.5 80°60	3°3/ 7.9 18				352646	Blumbahs	2 10.5 242°67	1°6/11.6 18			
1 2	10 1.19	+20 36.3	1.899	2.686	15.0	21.3	1 2	10 0.05	+6 51.4	1.613	2.376	18.2	21.4
1 12	9 57.24	+21 28.9	1.830	2.702	11.7	21.1	1 12	9 57.09	+7 16.5	1.513	2.365	14.9	21.1
1 22	9 50.74	+22 28.3	1.784	2.718	8.1	20.9	1 22	9 51.21	+8 3.1	1.432	2.354	10.7	20.8
2 1	9 42.29	+23 28.0	1.763	2.733	4.5	20.7	2 1	9 42.83	+9 9.4	1.375	2.342	5.9	20.5
2 11	9 32.88	+24 20.6	1.772	2.749	3.6	20.7	2 11	9 32.90	+10 29.6	1.345	2.330	1.7	20.2
2 21	9 23.62	+25 0.3	1.809	2.765	6.5	20.9	2 21	9 22.68	+11 55.3	1.342	2.317	5.4	20.4
3 2	9 15.62	+25 23.7	1.873	2.780	10.1	21.1	3 2	9 13.57	+13 17.6	1.367	2.304	10.5	20.7
3 12	9 9.73	+25 30.2	1.961	2.795	13.2	21.4	3 12	9 6.76	+14 28.9	1.416	2.291	15.1	20.9
449120	2012 YP ₁	2 10.5 24°58	0°0/10.5 17				35283	1996 TB ₁	2 10.5 351°60	0°5/10.9 18			
1 2	9 46.83	-4 18.9	0.821	1.625	28.4	18.8	1 2	9 58.52	+11 8.8	1.819	2.591	16.1	19.5
1 12	9 48.13	-0 52.2	0.770	1.647	22.8	18.5	1 12	9 55.34	+11 22.6	1.730	2.590	12.9	19.3
1 22	9 45.66	+3 41.3	0.736	1.671	15.9	18.2	1 22	9 49.62	+11 50.3	1.661	2.589	9.1	19.1
2 1	9 40.11	+9 5.0	0.725	1.698	7.9	17.9	2 1	9 41.86	+12 29.0	1.617	2.588	4.7	18.8
2 11	9 32.99	+14 43.2	0.740	1.727	0.4	17.5	2 11	9 32.96	+13 13.7	1.601	2.588	0.5	18.5
2 21	9 26.13	+19 54.7	0.783	1.758	8.2	18.2	2 21	9 24.02	+13 58.5	1.614	2.587	4.8	18.8
3 2	9 21.30	+24 9.6	0.852	1.790	14.8	18.6	3 2	9 16.17	+14 38.1	1.653	2.587	9.2	19.1
3 12	9 19.69	+27 17.3	0.942	1.824	20.1	19.1	3 12	9 10.36	+15 8.3	1.718	2.587	13.1	19.3
308077	2004 TF ₂₇₃	2 10.5 132°29	5°8/17.3 18				27732	1990 RH ₇	2 10.5 86°57	0°9/ 9.7 18			
1 2	9 54.32	-9 25.5	3.131	3.768	12.5	21.1	1 2	9 58.84	+14 59.7	2.381	3.146	13.0	19.4
1 12	9 50.83	-9 54.6	3.031	3.773	11.0	21.0	1 12	9 54.76	+15 30.7	2.306	3.165	10.2	19.3
1 22	9 45.86	-10 8.0	2.951	3.778	9.2	20.8	1 22	9 48.72	+16 10.0	2.255	3.185	6.9	19.1
2 1	9 39.76	-10 4.2	2.895	3.784	7.4	20.7	2 1	9 41.22	+16 53.8	2.231	3.204	3.4	18.9
2 11	9 33.04	-9 43.5	2.866	3.789	6.1	20.7	2 11	9 33.00	+17 37.5	2.238	3.223	1.0	18.7
2 21	9 26.29	-9 7.5	2.865	3.794	5.9	20.6	2 21	9 24.90	+18 16.6	2.274	3.242	4.2	19.0
3 2	9 20.11	-8 19.4	2.893	3.798	7.0	20.7	3 2	9 17.73	+18 47.7	2.339	3.261	7.6	19.3
3 12	9 15.03	-7 23.5	2.947	3.803	8.6	20.8	3 12	9 12.15	+19 8.7	2.431	3.279	10.5	19.5
409972	2006 VB ₆₂	2 10.5 83°47	7°4/16.3 18				32209	2000 OW ₉	2 10.5 126°62	3°9/13.8 18			
1 2	10 0.50	-6 6.3	1.861	2.550	18.5	20.8	1 2	10 2.36	+1 5.5	2.455	3.155	14.3	18.4
1 12	9 56.62	-6 52.1	1.785	2.569	15.9	20.7	1 12	9 57.41	+0 41.9	2.369	3.173	11.9	18.2
1 22	9 50.30	-7 15.0	1.727	2.588	13.0	20.5	1 22	9 50.50	+0 32.7	2.304	3.190	9.0	18.0
2 1	9 42.10	-7 12.6	1.692	2.607	9.9	20.4	2 1	9 42.11	+0 38.0	2.265	3.207	6.1	17.9
2 11	9 32.92	-6 45.2	1.681	2.626	7.8	20.3	2 11	9 32.97	+0 56.3	2.255	3.223	4.1	17.8
2 21	9 23.83	-5 56.4	1.697	2.644	7.7	20.3	2 21	9 23.88	+1 24.8	2.275	3.238	4.7	17.8
3 2	9 15.89	-4 52.4	1.740	2.662	9.7	20.5	3 2	9 15.68	+1 59.5	2.325	3.252	7.3	18.0
3 12	9 9.93	-3 41.1	1.808	2.680	12.4	20.7	3 12	9 9.05	+2 36.2	2.402	3.266	10.0	18.2
488506	2000 SU ₂₅₀	2 10.5 131°99	3°2/ 8.2 18				411998	2012 KA ₉	2 10.5 357°78	3°0/ 8.5 18			
1 2	10 5.06	+20 9.8	1.848	2.629	15.6	21.8	1 2	9 52.74	+16 45.6	1.244	2.067	19.3	20.0
1 12	10 0.41	+21 0.1	1.774	2.642	12.3	21.6	1 12	9 52.00	+17 38.5	1.170	2.062	15.2	19.8
1 22	9 53.02	+21 58.0	1.721	2.654	8.4	21.4	1 22	9 47.99	+18 47.8	1.114	2.059	10.5	19.5
2 1	9 43.49	+22 56.8	1.695	2.665	4.6	21.2	2 1	9 41.26	+20 6.0	1.081	2.057	5.4	19.2
2 11	9 32.86	+23 48.8	1.698	2.676	3.5	21.1	2 11	9 32.99	+21 22.5	1.073	2.056	3.4	19.0
2 21	9 22.35	+24 27.6	1.730	2.687	6.6	21.3	2 21	9 24.70	+22 26.5	1.090	2.057	7.8	19.3
3 2	9 13.18	+24 49.9	1.790	2.697	10.4	21.6	3 2	9 17.96	+23 10.5	1.129	2.059	12.9	19.6
3 12	9 6.30	+24 55.0	1.873	2.706	13.8	21.8	3 12	9 13.98	+23 31.3	1.190	2.063	17.4	19.9
152921	2000 EK ₃₂	2 10.5 228°27	2°0/ 9.3 18				246603	2008 UC ₃₄₆	2 10.5 51°93	2°5/ 8.1 18			
1 2	10 4.65	+17 14.7	1.715	2.495	16.6	20.1	1 2	9 56.29	+17 54.2	2.139	2.923	13.6	20.3
1 12	10 0.58	+17 43.0	1.619	2.486	13.3	19.9	1 12	9 53.20	+18 58.6	2.060	2.931	10.7	20.1
1 22	9 53.49	+18 22.1	1.544	2.477	9.2	19.6	1 22	9 47.92	+20 12.4	2.003	2.938	7.3	19.9
2 1	9 43.90	+19 6.6	1.495	2.468	4.7	19.3	2 1	9 40.93	+21 29.7	1.974	2.946	3.8	19.7
2 11	9 32.83	+19 49.5	1.474	2.458	2.2	19.1	2 11	9 33.02	+22 43.5	1.974	2.953	2.8	19.6
2 21	9 21.60	+20 23.9	1.481	2.447	6.3	19.4	2 21	9 25.12	+23 47.6	2.003	2.961	5.7	19.8
3 2	9 11.63	+20 45.0	1.515	2.436	10.9	19.6	3 2	9 18.18	+24 37.4	2.060	2.969	9.1	20.0
3 12	9 4.07	+20 51.0	1.574	2.425	15.1	19.8	3 12	9 12.98	+25 10.7	2.141	2.977	12.2	20.3
44575	1999 GG ₃	2 10.5 243°62	1°1/11.3 18				183586	2003 SF ₂₀₄	2 10.5 102°96	0°9/11.2 18			
1 2	10 0.95	+9 12.3	1.831	2.591	16.5	20.5	1 2	10 2.88	+9 21.4	1.850	2.605	16.5	21.3
1 12	9 57.43	+9 27.8	1.726	2.5									

EPHEMERIDES

2 10.5

2 10.6

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
429375	2010 <i>JC</i> ₁₅₅		2 10.5 276°42	1°9/12.1 17			25788	2000 <i>CE</i> ₅₁		2 10.5 65°35	2°5/12.6 18		
1 2	9 56.34	+ 7 0.2	2.389	3.131	13.5	21.8	1 2	9 56.65	+ 4 57.8	2.092	2.835	15.2	17.9
1 12	9 53.03	+ 7 3.9	2.279	3.118	11.0	21.5	1 12	9 53.41	+ 5 4.9	2.005	2.842	12.4	17.7
1 22	9 47.73	+ 7 20.6	2.192	3.106	8.0	21.3	1 22	9 48.04	+ 5 28.1	1.938	2.850	9.1	17.5
2 1	9 40.85	+ 7 48.9	2.131	3.094	4.6	21.1	2 1	9 41.00	+ 6 6.1	1.897	2.857	5.4	17.3
2 11	9 33.03	+ 8 26.2	2.098	3.081	1.9	20.9	2 11	9 33.07	+ 6 55.2	1.884	2.865	2.6	17.1
2 21	9 25.07	+ 9 8.4	2.095	3.069	3.9	21.0	2 21	9 25.14	+ 7 50.6	1.900	2.873	4.3	17.3
3 2	9 17.84	+ 9 51.3	2.121	3.056	7.4	21.2	3 2	9 18.14	+ 8 46.7	1.944	2.881	7.8	17.5
3 12	9 12.08	+10 30.7	2.174	3.043	10.7	21.4	3 12	9 12.84	+ 9 38.6	2.014	2.889	11.2	17.7
292100	2006 <i>RJ</i> ₄₈		2 10.5 136°95	4°1/15.3 17			313804	2004 <i>BC</i> ₂₁		2 10.5 20°11	0°9/ 9.9 18		
1 2	9 55.57	- 3 28.6	3.013	3.688	12.3	21.5	1 2	9 55.92	+12 51.4	1.279	2.086	19.8	20.7
1 12	9 51.81	- 3 31.8	2.917	3.699	10.4	21.3	1 12	9 54.24	+13 25.8	1.211	2.093	15.7	20.5
1 22	9 46.54	- 3 19.9	2.842	3.710	8.2	21.2	1 22	9 49.35	+14 18.6	1.161	2.101	10.8	20.2
2 1	9 40.11	- 2 53.0	2.794	3.720	6.0	21.1	2 1	9 41.87	+15 24.1	1.135	2.109	5.3	19.9
2 11	9 33.08	- 2 12.6	2.773	3.730	4.3	21.0	2 11	9 33.02	+16 33.3	1.133	2.119	1.1	19.7
2 21	9 26.05	- 1 21.4	2.783	3.739	4.5	21.0	2 21	9 24.29	+17 36.8	1.157	2.130	6.4	20.0
3 2	9 19.63	- 0 23.3	2.823	3.748	6.2	21.1	3 2	9 17.14	+18 26.9	1.205	2.142	11.6	20.4
3 12	9 14.38	+ 0 37.3	2.890	3.757	8.5	21.3	3 12	9 12.67	+18 59.3	1.275	2.154	16.0	20.7
329328	2000 <i>WH</i> ₃₀		2 10.5 85°86	7°1/ 4.4 18			468083	2013 <i>TF</i> ₅₅		2 10.5 208°70	4°9/ 6.7 16		
1 2	10 2.85	+30 47.2	1.955	2.748	14.4	20.6	1 2	10 4.99	+28 9.9	2.306	3.084	13.0	21.6
1 12	9 58.79	+32 22.2	1.897	2.765	11.6	20.4	1 12	10 0.04	+28 51.3	2.218	3.080	10.4	21.4
1 22	9 51.97	+33 56.5	1.863	2.781	8.9	20.3	1 22	9 52.64	+29 33.1	2.153	3.076	7.6	21.3
2 1	9 42.99	+35 20.6	1.855	2.797	7.2	20.2	2 1	9 43.32	+30 8.9	2.115	3.072	5.3	21.1
2 11	9 32.94	+36 25.4	1.875	2.814	7.6	20.3	2 11	9 32.96	+30 32.7	2.107	3.067	5.1	21.1
2 21	9 23.05	+37 5.6	1.922	2.830	9.6	20.4	2 21	9 22.63	+30 40.0	2.127	3.062	7.3	21.2
3 2	9 14.54	+37 19.4	1.994	2.846	12.2	20.6	3 2	9 13.41	+30 29.5	2.176	3.056	10.1	21.4
3 12	9 8.34	+37 9.3	2.087	2.861	14.7	20.8	3 12	9 6.17	+30 2.1	2.248	3.050	12.9	21.5
212730	2007 <i>RG</i> ₁₈₄		2 10.5 96°26	0°8/11.1 18			218864	2006 <i>WF</i> ₁₆₂		2 10.5 258°88	1°8/11.8 18		
1 2	10 0.33	+ 9 16.7	1.621	2.391	17.9	21.2	1 2	9 59.21	+ 7 38.4	1.938	2.691	15.9	21.4
1 12	9 56.99	+ 9 40.5	1.542	2.400	14.3	21.0	1 12	9 55.87	+ 7 44.7	1.832	2.678	13.0	21.1
1 22	9 50.86	+10 22.1	1.483	2.409	10.1	20.7	1 22	9 50.05	+ 8 6.7	1.746	2.664	9.4	20.9
2 1	9 42.51	+11 18.0	1.448	2.418	5.3	20.5	2 1	9 42.16	+ 8 43.0	1.685	2.651	5.3	20.6
2 11	9 32.96	+12 21.9	1.440	2.427	0.8	20.2	2 11	9 33.01	+ 9 29.8	1.652	2.636	1.8	20.3
2 21	9 23.45	+13 26.3	1.461	2.435	5.1	20.5	2 21	9 23.64	+10 21.8	1.648	2.622	4.7	20.5
3 2	9 15.24	+14 24.3	1.509	2.444	9.8	20.8	3 2	9 15.19	+11 13.1	1.672	2.607	9.0	20.7
3 12	9 9.33	+15 10.8	1.581	2.452	13.9	21.0	3 12	9 8.63	+11 58.6	1.721	2.593	13.0	20.9
220452	2003 <i>YN</i> ₁₁₇		2 10.5 94°03	3°4/ 8.7 17			12712	1991 <i>EY</i> ₃		2 10.5 314°82	0°0/10.6 18		
1 2	10 12.57	+20 9.8	1.496	2.277	18.6	20.8	1 2	9 57.56	+12 37.8	1.882	2.657	15.5	18.1
1 12	10 6.62	+20 51.2	1.441	2.309	14.6	20.6	1 12	9 54.62	+12 48.8	1.782	2.645	12.4	17.9
1 22	9 57.36	+21 40.0	1.408	2.340	10.0	20.4	1 22	9 49.20	+13 12.0	1.703	2.633	8.7	17.7
2 1	9 45.62	+22 28.2	1.399	2.370	5.3	20.2	2 1	9 41.72	+13 44.7	1.650	2.622	4.4	17.4
2 11	9 32.84	+23 7.0	1.419	2.399	3.6	20.2	2 11	9 33.04	+14 22.0	1.624	2.610	0.2	17.0
2 21	9 20.59	+23 30.4	1.467	2.427	7.2	20.5	2 21	9 24.21	+14 58.7	1.626	2.599	4.8	17.3
3 2	9 10.31	+23 36.0	1.542	2.454	11.4	20.8	3 2	9 16.38	+15 29.8	1.656	2.589	9.3	17.6
3 12	9 2.96	+23 24.8	1.640	2.480	15.1	21.1	3 12	9 10.50	+15 51.6	1.710	2.578	13.2	17.8
340798	2006 <i>TF</i> ₆₆		2 10.5 194°10	5°1/ 5.6 18			184831	2005 <i>UY</i> ₈		2 10.5 293°54	5°9/15.4 18		
1 2	10 0.99	+29 56.3	2.604	3.383	11.6	21.0	1 2	9 54.96	- 3 54.9	1.847	2.560	17.9	19.4
1 12	9 56.64	+30 50.3	2.521	3.382	9.3	20.9	1 12	9 52.63	- 3 59.2	1.741	2.548	15.3	19.2
1 22	9 50.16	+31 43.9	2.462	3.381	7.0	20.7	1 22	9 47.88	- 3 38.7	1.653	2.536	12.2	18.9
2 1	9 42.02	+32 31.1	2.431	3.380	5.3	20.6	2 1	9 41.10	- 2 51.5	1.588	2.524	8.9	18.7
2 11	9 33.00	+33 6.1	2.429	3.378	5.4	20.6	2 11	9 33.07	- 1 39.0	1.548	2.512	6.2	18.5
2 21	9 24.02	+33 25.2	2.456	3.377	7.2	20.7	2 21	9 24.82	- 0 6.4	1.536	2.500	6.5	18.5
3 2	9 15.97	+33 26.6	2.510	3.375	9.5	20.9	3 2	9 17.46	+ 1 38.1	1.551	2.488	9.4	18.7
3 12	9 9.61	+33 11.0	2.588	3.373	11.8	21.0	3 12	9 11.96	+ 3 25.0	1.591	2.477	13.0	18.8
184443	2005 <i>NC</i> ₄₅		2 10.5 194°28	1°7/ 9.1 18			135480	2001 <i>WQ</i> ₄₈		2 10.5 31°04	8°3/19.3 18		
1 2	10 1.01	+16 18.3	2.149	2.919	14.0	21.3	1 2	9 53.28	-12 57.7	2.158	2.805	17.3	19.1
1 12	9 56.97	+17 3.9	2.055	2.917	11.1	21.1	1 12	9 50.78	-13 21.6	2.069	2.813	15.3	19.0
1 22	9 50.59	+17 59.7	1.984	2.915	7.6	20.9	1 22	9 46.25	-13 20.3	1.998	2.821	13.0	18.8
2 1	9 42.32	+19 0.9	1.940	2.912	3.8	20.6	2 1	9 40.12	-12 51.1	1.947	2.830	10.7	18.7
2 11	9 32.99	+20 1.2	1.925	2.909	1.9	20.5	2 11	9 33.13	-11 54.0	1.920	2.839	8.8	18.6
2 21	9 23.57	+20 54.6	1.941	2.905	5.3	20.7	2 21	9 26.13	-10 32.6	1.919	2.849	8.3	18.6
3 2	9 15.11	+21 36.4	1.985	2.900	9.1	20.9	3 2	9 19.98	- 8 53.0	1.945	2.858	9.4	18.6
3 12	9 8.48	+22 4.1	2.054	2.895	12.4	21.1	3 12	9 15.43	- 7 4.0	1.997	2.869	11.4	18.8
341534	2007 <i>TY</i> ₄₄₄		2 10.5 146°10	3°7/ 7.4 18			221369	2005 <i>WB</i> ₁₈₃		2 10.6 88°65	2°6/ 8.3 18		
1 2	10 0.89	+24 37.6	2.393	3.173	12.5	21.1	1 2	9 58.24	+16 46.9	1.891	2.676	15.1	20.3
1 12	9 56.61	+25 16.5	2.309	3.175	9.9	21.0	1 12	9 55.07	+17 58.9	1.811	2.683	11.9	20.1
1 22	9 50.16	+25 57.9	2.249	3.178	7.0	20.8	1 22	9 49.42	+19 23.0	1.755	2.690	8.1	19.8
2 1	9 42.02	+26 36.5	2.216	3.180	4.4	20.6	2 1	9 41.78	+20 52.6	1.725	2.697	4.2	19.6
2 11	9 33.01	+27 6.8	2.212	3.182	3.9	20.6	2 11	9 33.07	+22 19.1	1.724	2.705	2.9	19.5
2 21	9 24.05	+27 24.8	2.238	3.184	6.2	20.7	2 21	9 24.35	+23 34.7	1.752	2.712	6.2	19.8
3 2	9 16.08	+27 28.2	2.291	3.185	9.1	20.9	3 2	9 16.73	+24 33.8	1.807	2.719	10.1	20.0
3 12	9 9.84	+27 17.1	2.370	3.187	11.8	21.1	3 12	9 11.12	+25 13.9	1.887	2.726	13.5	20.2
413748	2006 <i>CS</i> ₁₄		2 10.5 41°02	0°1/10.6 18			7724	Moroso		2 10.6 214°11	2°3/ 8.8 18		
1 2	9 56.69	+ 9 49.8	1.527	2.311	18.2	20.2	1 2	10					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
306204	2011 QV ₁₀		2 10.6 193°70	0°4/10.2	17		238387	2004 DF ₅₀		2 10.6 55°48	1°5/11.9	18	
1 2	9 57.43	+14 7.9	3.000	3.752	10.8	21.8	1 2	9 55.40	+6 21.5	2.116	2.866	14.8	20.3
1 12	9 53.38	+14 27.5	2.899	3.750	8.6	21.7	1 12	9 52.42	+6 50.9	2.032	2.876	12.0	20.2
1 22	9 47.69	+14 54.2	2.822	3.748	5.9	21.5	1 22	9 47.36	+7 36.7	1.969	2.886	8.6	20.0
2 1	9 40.75	+15 25.5	2.773	3.745	2.9	21.3	2 1	9 40.68	+8 36.1	1.932	2.897	4.8	19.7
2 11	9 33.12	+15 58.1	2.755	3.742	0.4	21.1	2 11	9 33.15	+9 44.7	1.923	2.907	1.6	19.5
2 21	9 25.46	+16 28.7	2.769	3.739	3.4	21.3	2 21	9 25.63	+10 56.3	1.943	2.918	4.0	19.7
3 2	9 18.44	+16 54.4	2.812	3.735	6.4	21.5	3 2	9 19.03	+12 5.0	1.993	2.929	7.7	20.0
3 12	9 12.64	+17 13.3	2.883	3.731	9.1	21.7	3 12	9 14.07	+13 5.8	2.068	2.940	11.1	20.2
243169	2007 TQ ₁₂₃		2 10.6 187°32	0°9/ 9.8	18		207413	2006 DF ₄		2 10.6 266°37	1°1/11.3	18	
1 2	10 2.66	+14 7.6	2.086	2.848	14.6	21.8	1 2	9 58.74	+8 23.8	1.622	2.393	17.8	20.2
1 12	9 58.33	+14 43.2	1.991	2.848	11.6	21.6	1 12	9 56.03	+8 48.2	1.524	2.382	14.5	19.9
1 22	9 51.56	+15 30.2	1.919	2.847	8.0	21.4	1 22	9 50.47	+9 32.3	1.446	2.372	10.3	19.6
2 1	9 42.85	+16 24.5	1.874	2.846	4.0	21.1	2 1	9 42.50	+10 33.7	1.392	2.361	5.5	19.3
2 11	9 33.02	+17 20.3	1.858	2.843	1.1	20.9	2 11	9 33.06	+11 46.5	1.364	2.351	1.1	19.0
2 21	9 23.12	+18 11.5	1.872	2.840	4.9	21.1	2 21	9 23.38	+13 2.8	1.365	2.340	5.3	19.3
3 2	9 14.23	+18 53.4	1.915	2.837	9.0	21.4	3 2	9 14.81	+14 14.2	1.392	2.329	10.3	19.5
3 12	9 7.23	+19 23.0	1.983	2.832	12.5	21.6	3 12	9 8.51	+15 14.2	1.443	2.318	14.8	19.7
186071	2001 SF ₂₀₆		2 10.6 185°42	4°4/ 7.2	18		274517	2008 ST ₁₆₃		2 10.6 211°67	3°1/ 8.0	18	
1 2	10 6.42	+26 13.3	2.242	3.017	13.4	21.5	1 2	10 0.67	+21 31.9	2.159	2.940	13.6	20.6
1 12	10 1.19	+26 52.8	2.155	3.017	10.7	21.3	1 12	9 56.73	+22 12.3	2.070	2.939	10.7	20.4
1 22	9 53.44	+27 34.0	2.091	3.016	7.7	21.1	1 22	9 50.43	+22 58.3	2.005	2.937	7.4	20.2
2 1	9 43.74	+28 10.5	2.055	3.015	5.0	21.0	2 1	9 42.26	+23 44.4	1.966	2.935	4.2	20.0
2 11	9 32.98	+28 36.2	2.048	3.014	4.6	21.0	2 11	9 33.08	+24 24.4	1.957	2.933	3.4	19.9
2 21	9 22.28	+28 46.6	2.070	3.012	6.9	21.1	2 21	9 23.89	+24 53.4	1.976	2.931	6.1	20.1
3 2	9 12.73	+28 40.0	2.121	3.009	10.0	21.3	3 2	9 15.73	+25 8.2	2.023	2.929	9.5	20.3
3 12	9 5.21	+28 17.2	2.196	3.006	12.9	21.5	3 12	9 9.43	+25 7.9	2.095	2.927	12.6	20.5
49033	1998 QL ₁₀₅		2 10.6 328°39	4°4/ 7.9	18		222318	2000 TB ₁₃		2 10.6 196°60	5°1/14.9	18	
1 2	9 59.02	+19 38.7	1.247	2.065	19.6	17.9	1 2	9 56.77	-2 11.7	2.063	2.772	16.4	20.5
1 12	9 57.23	+20 34.6	1.167	2.056	15.6	17.7	1 12	9 53.66	-2 21.4	1.965	2.771	13.9	20.3
1 22	9 51.83	+21 44.5	1.106	2.048	10.8	17.4	1 22	9 48.34	-2 10.7	1.887	2.770	10.9	20.1
2 1	9 43.33	+22 59.9	1.067	2.040	6.1	17.1	2 1	9 41.24	-1 38.6	1.832	2.770	7.7	19.9
2 11	9 32.99	+24 8.8	1.054	2.033	4.7	17.0	2 11	9 33.14	-0 47.0	1.804	2.769	5.3	19.7
2 21	9 22.51	+25 0.6	1.065	2.026	9.0	17.2	2 21	9 24.93	+0 19.8	1.805	2.768	5.7	19.7
3 2	9 13.70	+25 28.5	1.099	2.020	14.1	17.4	3 2	9 17.61	+1 35.5	1.833	2.767	8.4	19.9
3 12	9 7.96	+25 31.2	1.153	2.015	18.7	17.7	3 12	9 11.99	+2 53.1	1.888	2.766	11.7	20.1
85302	1994 VM		2 10.6 90°82	3°4/12.7	18		51841	2001 OO ₆₅		2 10.6 19°70	2°9/11.9	18	
1 2	10 3.50	+4 33.5	1.571	2.321	19.2	19.6	1 2	10 3.69	+9 45.8	1.477	2.250	19.2	18.1
1 12	9 59.41	+4 24.4	1.500	2.341	15.7	19.4	1 12	9 59.93	+8 54.8	1.397	2.254	15.6	17.8
1 22	9 52.46	+4 35.3	1.449	2.360	11.5	19.2	1 22	9 53.06	+8 16.3	1.336	2.259	11.3	17.6
2 1	9 43.30	+5 5.1	1.420	2.380	7.0	19.0	2 1	9 43.70	+7 50.1	1.299	2.265	6.6	17.3
2 11	9 33.01	+5 49.7	1.419	2.399	3.5	18.8	2 11	9 33.02	+7 34.6	1.288	2.271	3.0	17.1
2 21	9 22.91	+6 42.7	1.445	2.418	5.4	19.0	2 21	9 22.43	+7 26.8	1.304	2.278	5.7	17.3
3 2	9 14.25	+7 37.3	1.498	2.436	9.6	19.2	3 2	9 13.34	+7 23.1	1.346	2.285	10.4	17.6
3 12	9 7.99	+8 27.1	1.576	2.454	13.6	19.5	3 12	9 6.83	+7 19.8	1.411	2.293	14.6	17.9
456557	2007 BW ₇₇		2 10.6 235°40	1°5/ 9.6	18		305939	2009 HM		2 10.6 4°73	4°5/13.2	18	
1 2	10 5.09	+18 23.6	2.071	2.840	14.5	21.3	1 2	9 54.27	+4 2.0	1.208	1.996	21.8	20.2
1 12	10 0.28	+18 26.2	1.973	2.833	11.5	21.0	1 12	9 53.14	+3 37.5	1.133	1.995	18.1	19.9
1 22	9 52.93	+18 34.6	1.897	2.827	8.0	20.8	1 22	9 48.77	+3 37.5	1.074	1.995	13.6	19.6
2 1	9 43.53	+18 44.9	1.847	2.819	4.0	20.6	2 1	9 41.71	+4 2.9	1.036	1.997	8.6	19.4
2 11	9 33.00	+18 52.6	1.827	2.812	1.6	20.4	2 11	9 33.11	+4 50.3	1.020	2.000	4.7	19.2
2 21	9 22.44	+18 53.9	1.837	2.805	5.2	20.6	2 21	9 24.48	+5 52.2	1.029	2.004	6.5	19.3
3 2	9 12.96	+18 46.3	1.876	2.797	9.2	20.8	3 2	9 17.37	+6 59.3	1.062	2.010	11.3	19.5
3 12	9 5.51	+18 28.9	1.940	2.789	12.7	21.0	3 12	9 12.98	+8 1.9	1.115	2.016	16.1	19.8
126918	2002 EG ₁₂₉		2 10.6 11°95	1°8/ 9.3	18		465460	2008 SH ₁₁₉		2 10.6 113°13	5°2/ 6.3	18	
1 2	10 0.59	+17 36.5	1.859	2.642	15.4	20.0	1 2	10 3.27	+28 23.6	2.206	2.990	13.3	22.0
1 12	9 56.96	+17 57.8	1.773	2.643	12.2	19.8	1 12	9 58.73	+29 14.9	2.131	2.997	10.6	21.8
1 22	9 50.74	+18 27.5	1.709	2.643	8.4	19.6	1 22	9 51.75	+30 6.4	2.080	3.004	7.8	21.6
2 1	9 42.45	+19 1.2	1.671	2.644	4.2	19.3	2 1	9 42.89	+30 51.5	2.056	3.011	5.6	21.5
2 11	9 33.06	+19 32.9	1.661	2.645	1.9	19.1	2 11	9 33.07	+31 23.5	2.060	3.018	5.5	21.5
2 21	9 23.69	+19 57.3	1.680	2.647	5.6	19.4	2 21	9 23.38	+31 38.2	2.093	3.024	7.6	21.7
3 2	9 15.50	+20 10.7	1.725	2.648	9.7	19.6	3 2	9 14.87	+31 34.0	2.153	3.031	10.3	21.8
3 12	9 9.40	+20 11.6	1.795	2.650	13.3	19.9	3 12	9 8.37	+31 12.1	2.237	3.037	13.0	22.0
140804	2001 UJ ₁₅₂		2 10.6 53°03	3°0/12.7	18		288747	2004 RN ₆₄		2 10.6 113°35	0°8/11.1	18	
1 2	9 57.84	+4 39.4	1.761	2.513	17.3	19.8	1 2	10 4.11	+9 38.2	1.787	2.544	16.9	22.0
1 12	9 54.80	+4 39.2	1.678	2.521	14.2	19.6	1 12	9 59.60	+9 58.7	1.713	2.563	13.5	21.8
1 22	9 49.24	+4 57.7	1.615	2.528	10.4	19.4	1 22	9 52.46	+10 34.4	1.659	2.582	9.5	21.6
2 1	9 41.70	+5 33.8	1.576	2.536	6.3	19.2	2 1	9 43.28	+11 21.9	1.631	2.600	4.9	21.4
2 11	9 33.10	+6 23.7	1.564	2.545	3.1	19.0	2 11	9 33.08	+12 15.6	1.632	2.618	0.8	21.1
2 21	9 24.51	+7 21.5	1.579	2.553	4.9	19.1	2 21	9 23.03	+13 9.2	1.661	2.635	4.7	21.4
3 2	9 17.05	+8 20.7	1.622	2.562	8.9	19.4	3 2	9 14.28	+13 56.9	1.719	2.651	9.1	21.7
3 12	9 11.61	+9 15.1	1.690	2.570	12.7	19.6	3 12	9 7.71	+14 34.8	1.803	2.667	12.8	22.0
218872	2006 YX ₁₄		2 10.6 177°21	1°4/11.6	18		474563	2004 BK ₉₂		2 10.6 21°99	12°1/12.9	18	
1 2	10 0.80	+8 50.9	2.118	2.866	14.9	21.2	1 2	10 12.30	+2 15.6	0.963	1.735	27.2	20.1
1 12	9 56.73	+8 52.9	2.023	2.868									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
64278	2001 <i>TT</i> ₂₂₅		2 10.6 150°17'	1.3°/11.9	18		25037	1998 <i>QC</i> ₃₇		2 10.6 243°77'	2.2°/11.9	18	
1 2	9 59.33	+ 6 17.6	2.486	3.216	13.4	20.4	1 2	10 4.24	+ 7 34.8	1.854	2.600	16.8	19.3
1 12	9 55.17	+ 6 53.1	2.394	3.227	10.8	20.2	1 12	10 0.13	+ 7 29.3	1.740	2.582	13.8	19.1
1 22	9 49.09	+ 7 43.0	2.324	3.237	7.7	20.0	1 22	9 53.23	+ 7 39.2	1.647	2.563	10.1	18.8
2 1	9 41.53	+ 8 44.8	2.282	3.246	4.3	19.8	2 1	9 43.93	+ 8 3.5	1.579	2.543	5.8	18.5
2 11	9 33.17	+ 9 54.4	2.270	3.255	1.4	19.6	2 11	9 33.09	+ 8 39.2	1.539	2.522	2.2	18.2
2 21	9 24.79	+11 6.4	2.289	3.263	3.7	19.8	2 21	9 21.87	+ 9 21.2	1.527	2.501	5.1	18.3
3 2	9 17.21	+12 15.5	2.339	3.270	7.1	20.0	3 2	9 11.60	+10 3.9	1.544	2.478	9.7	18.6
3 12	9 11.12	+13 17.5	2.417	3.277	10.1	20.2	3 12	9 3.42	+10 41.9	1.587	2.455	14.1	18.8
10408	1997 <i>WL</i> ₄₄		2 10.6 75°37'	0.2°/10.8	18		325790	2010 <i>QX</i> ₁		2 10.6 82°43'	7.6°/16.9	18	
1 2	9 58.45	+11 31.1	2.195	2.955	14.1	18.6	1 2	10 1.31	- 7 32.1	1.925	2.600	18.4	20.2
1 12	9 54.68	+11 51.3	2.117	2.971	11.2	18.4	1 12	9 57.17	- 8 14.8	1.853	2.626	15.9	20.1
1 22	9 48.82	+12 22.7	2.062	2.987	7.7	18.2	1 22	9 50.67	- 8 34.0	1.800	2.651	13.0	20.0
2 1	9 41.40	+13 2.1	2.033	3.004	3.9	18.0	2 1	9 42.37	- 8 27.5	1.768	2.677	10.1	19.8
2 11	9 33.18	+13 45.2	2.034	3.020	0.3	17.7	2 11	9 33.18	- 7 55.7	1.762	2.701	8.0	19.7
2 21	9 25.06	+14 27.2	2.064	3.036	4.0	18.1	2 21	9 24.12	- 7 2.4	1.783	2.726	7.8	19.8
3 2	9 17.91	+15 3.9	2.122	3.053	7.7	18.3	3 2	9 16.21	- 5 54.0	1.831	2.750	9.5	19.9
3 12	9 12.44	+15 32.3	2.207	3.069	10.9	18.5	3 12	9 10.23	- 4 38.4	1.905	2.773	12.0	20.1
244580	2002 <i>XU</i> ₈		2 10.6 27°46'	7.6°/ 3.1	18		185433	2006 <i>XJ</i> ₂₇		2 10.6 196°58'	2.0°/ 9.3	18	
1 2	10 0.01	+33 35.8	2.118	2.911	13.4	20.2	1 2	10 4.26	+16 8.5	1.542	2.328	17.9	20.2
1 12	9 56.61	+35 10.8	2.050	2.914	11.0	20.1	1 12	10 0.57	+16 47.0	1.456	2.326	14.3	20.0
1 22	9 50.56	+36 44.0	2.006	2.917	8.8	19.9	1 22	9 53.69	+17 39.1	1.390	2.325	9.8	19.7
2 1	9 42.42	+38 6.3	1.988	2.920	7.6	19.9	2 1	9 44.16	+18 38.8	1.349	2.322	5.0	19.4
2 11	9 33.13	+39 9.3	1.998	2.923	8.1	19.9	2 11	9 33.10	+19 37.6	1.336	2.320	2.2	19.2
2 21	9 23.86	+39 47.6	2.034	2.926	10.0	20.0	2 21	9 21.95	+20 27.3	1.350	2.317	6.7	19.5
3 2	9 15.79	+39 59.4	2.094	2.930	12.4	20.2	3 2	9 12.23	+21 2.0	1.390	2.313	11.5	19.7
3 12	9 9.87	+39 46.7	2.176	2.933	14.6	20.3	3 12	9 5.13	+21 19.3	1.453	2.309	15.8	20.0
6379	<i>Vrba</i>		2 10.6 296°21'	6.8°/ 4.9	18		165679	2001 <i>OU</i> ₅₂		2 10.6 169°69'	3.9°/ 6.6	18	
1 2	10 2.74	+32 24.0	2.134	2.923	13.5	16.4	1 2	9 59.18	+24 35.1	2.535	3.315	11.8	20.2
1 12	9 58.70	+33 26.4	2.052	2.915	11.0	16.2	1 12	9 55.25	+25 35.8	2.451	3.317	9.3	20.1
1 22	9 51.99	+34 27.4	1.992	2.908	8.6	16.0	1 22	9 49.27	+26 40.1	2.391	3.319	6.6	19.9
2 1	9 43.13	+35 19.0	1.958	2.900	7.0	15.9	2 1	9 41.68	+27 42.1	2.359	3.320	4.4	19.8
2 11	9 33.11	+35 53.5	1.952	2.893	7.2	15.9	2 11	9 33.22	+28 35.9	2.356	3.322	4.2	19.7
2 21	9 23.09	+36 6.2	1.973	2.885	9.2	16.0	2 21	9 24.75	+29 16.8	2.384	3.323	6.3	19.9
3 2	9 14.28	+35 55.3	2.020	2.878	11.8	16.1	3 2	9 17.14	+29 41.8	2.439	3.323	9.0	20.1
3 12	9 7.64	+35 23.0	2.089	2.871	14.4	16.3	3 12	9 11.14	+29 50.7	2.519	3.324	11.5	20.2
122189	2000 <i>KP</i> ₇₀		2 10.6 301°62'	6.6°/15.5	18		422661	1998 <i>VA</i> ₄₁		2 10.6 66°26'	1.5°/ 9.3	18	
1 2	9 54.61	- 4 6.5	1.719	2.439	18.8	20.1	1 2	9 59.03	+16 26.5	2.040	2.817	14.4	21.5
1 12	9 52.69	- 4 23.5	1.606	2.416	16.3	19.8	1 12	9 55.42	+16 59.7	1.961	2.827	11.3	21.3
1 22	9 48.18	- 4 15.2	1.511	2.393	13.1	19.6	1 22	9 49.51	+17 42.0	1.904	2.837	7.7	21.1
2 1	9 41.42	- 3 38.3	1.437	2.371	9.7	19.3	2 1	9 41.83	+18 28.8	1.874	2.847	3.8	20.9
2 11	9 33.18	- 2 32.9	1.387	2.349	7.0	19.1	2 11	9 33.22	+19 14.4	1.873	2.857	1.7	20.8
2 21	9 24.54	- 1 3.3	1.364	2.327	7.2	19.0	2 21	9 24.69	+19 53.4	1.901	2.867	5.1	21.0
3 2	9 16.77	+ 0 42.4	1.367	2.305	10.3	19.2	3 2	9 17.22	+20 21.9	1.956	2.878	8.8	21.3
3 12	9 11.00	+ 2 33.5	1.394	2.283	14.3	19.3	3 12	9 11.61	+20 37.9	2.037	2.888	12.1	21.5
56403	2000 <i>FL</i>		2 10.6 33°01'	5.8°/ 7.1	18		231600	2009 <i>AA</i> ₁₉		2 10.6 114°81'	2.3°/ 8.9	18	
1 2	10 0.65	+22 4.8	1.199	2.021	20.0	18.5	1 2	10 2.29	+15 55.6	1.691	2.474	16.7	20.8
1 12	9 58.47	+23 19.8	1.138	2.029	15.8	18.3	1 12	9 58.53	+16 55.4	1.617	2.486	13.2	20.6
1 22	9 52.57	+24 45.4	1.096	2.037	11.1	18.0	1 22	9 51.95	+18 8.2	1.564	2.499	9.0	20.4
2 1	9 43.63	+26 10.3	1.076	2.045	6.8	17.8	2 1	9 43.15	+19 27.4	1.538	2.511	4.5	20.1
2 11	9 33.09	+27 21.5	1.081	2.054	6.2	17.8	2 11	9 33.16	+20 44.1	1.539	2.522	2.5	20.0
2 21	9 22.75	+28 8.9	1.111	2.064	9.9	18.0	2 21	9 23.25	+21 50.2	1.569	2.533	6.3	20.3
3 2	9 14.34	+28 28.1	1.163	2.075	14.4	18.3	3 2	9 14.69	+22 40.1	1.626	2.544	10.6	20.6
3 12	9 9.11	+28 20.2	1.236	2.086	18.5	18.6	3 12	9 8.43	+23 11.5	1.707	2.554	14.3	20.8
362181	2009 <i>FN</i> ₅₁		2 10.6 236°91'	2.4°/12.4	18		463275	2012 <i>GS</i> ₃₈		2 10.6 181°49'	4.4°/ 6.2	16	
1 2	9 58.57	+ 5 9.1	1.796	2.546	17.1	21.5	1 2	10 0.59	+24 25.3	2.356	3.138	12.6	22.0
1 12	9 55.53	+ 5 25.1	1.697	2.540	14.0	21.3	1 12	9 56.60	+25 42.9	2.271	3.138	10.0	21.8
1 22	9 49.92	+ 6 0.9	1.619	2.534	10.2	21.0	1 22	9 50.34	+27 5.3	2.211	3.139	7.1	21.6
2 1	9 42.17	+ 6 55.2	1.565	2.528	6.0	20.8	2 1	9 42.28	+28 25.9	2.178	3.139	4.8	21.5
2 11	9 33.16	+ 8 3.5	1.538	2.521	2.5	20.5	2 11	9 33.21	+29 37.1	2.175	3.138	4.8	21.5
2 21	9 23.97	+ 9 19.1	1.540	2.514	4.9	20.7	2 21	9 24.07	+30 33.3	2.202	3.137	7.0	21.6
3 2	9 15.80	+10 34.5	1.569	2.507	9.3	20.9	3 2	9 15.85	+31 10.9	2.257	3.136	9.9	21.8
3 12	9 9.64	+11 42.8	1.624	2.500	13.4	21.1	3 12	9 9.39	+31 29.3	2.335	3.134	12.5	22.0
275617	2000 <i>AB</i> ₂₂₆		2 10.6 94°26'	1.1°/11.4	17		284905	2009 <i>VZ</i> ₉₃		2 10.6 83°73'	1.6°/11.8	18	
1 2	9 59.78	+10 8.8	2.143	2.897	14.6	21.7	1 2	9 58.06	+ 7 28.6	1.983	2.736	15.6	21.0
1 12	9 55.84	+10 10.2	2.056	2.905	11.7	21.5	1 12	9 54.71	+ 7 44.1	1.898	2.744	12.6	20.8
1 22	9 49.71	+10 23.2	1.991	2.913	8.2	21.3	1 22	9 49.07	+ 8 15.2	1.833	2.752	9.0	20.6
2 1	9 41.89	+10 45.6	1.953	2.921	4.4	21.1	2 1	9 41.64	+ 8 59.6	1.795	2.760	5.0	20.4
2 11	9 33.18	+11 13.9	1.943	2.929	1.1	20.8	2 11	9 33.25	+ 9 52.9	1.784	2.769	1.6	20.2
2 21	9 24.52	+11 43.9	1.963	2.937	4.1	21.1	2 21	9 24.87	+10 49.5	1.802	2.776	4.3	20.4
3 2	9 16.83	+12 11.6	2.011	2.944	7.9	21.3	3 2	9 17.50	+11 43.8	1.849	2.784	8.2	20.6
3 12	9 10.88	+12 33.7	2.086	2.952	11.2	21.5	3 12	9 11.95	+12 31.0	1.921	2.792	11.8	20.9
83420	2001 <i>SH</i> ₄₃		2 10.6 208°20'	0.0°/10.5	17		52171	2127 <i>T</i> ₋₂		2 10.6 219°85'	0.1°/10.5	18	
1 2	9 57.47	+12 28.8	2.441	3.200	12.9	20.6	1 2						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
109240	2001 <i>QD</i> ₉₈		2 10.6 116°19'	1.2°/11.9	18		500494	2012 <i>TK</i> ₂₆₅		2 10.6 111°59'	2.1°/8.5	17	
1 2	9 56.88	+ 6 58.0	2.638	3.373	12.6	19.7	1 2	9 58.28	+19 13.1	2.613	3.384	11.8	21.9
1 12	9 53.11	+ 7 27.1	2.552	3.387	10.1	19.5	1 12	9 54.32	+19 56.4	2.532	3.396	9.2	21.8
1 22	9 47.61	+ 8 9.0	2.488	3.402	7.2	19.4	1 22	9 48.50	+20 45.4	2.476	3.408	6.3	21.6
2 1	9 40.80	+ 9 1.1	2.452	3.416	4.0	19.2	2 1	9 41.26	+21 35.7	2.449	3.419	3.3	21.4
2 11	9 33.31	+ 9 59.9	2.445	3.430	1.3	19.0	2 11	9 33.31	+22 22.5	2.451	3.431	2.3	21.4
2 21	9 25.84	+11 0.7	2.470	3.444	3.4	19.2	2 21	9 25.41	+23 1.5	2.483	3.442	4.8	21.6
3 2	9 19.12	+11 59.1	2.525	3.457	6.5	19.4	3 2	9 18.33	+23 29.7	2.545	3.453	7.7	21.8
3 12	9 13.75	+12 51.3	2.607	3.470	9.4	19.6	3 12	9 12.72	+23 45.9	2.632	3.463	10.3	22.0
69577	1998 <i>CE</i> ₅		2 10.6 280°91'	0.7°/10.2	18		19030	2000 <i>SJ</i> ₂₇₆		2 10.6 121°10'	5.7°/17.0	18	
1 2	10 1.24	+14 12.4	1.620	2.403	17.3	19.5	1 2	9 56.35	- 8 17.1	2.907	3.552	13.3	18.9
1 12	9 58.12	+14 28.2	1.522	2.390	13.9	19.2	1 12	9 52.56	- 8 41.8	2.814	3.565	11.5	18.8
1 22	9 52.00	+14 57.4	1.444	2.377	9.7	18.9	1 22	9 47.18	- 8 49.8	2.741	3.578	9.5	18.7
2 1	9 43.36	+15 36.0	1.390	2.364	4.9	18.6	2 1	9 40.58	- 8 39.8	2.693	3.590	7.5	18.6
2 11	9 33.18	+16 17.8	1.364	2.350	0.8	18.3	2 11	9 33.34	- 8 12.5	2.671	3.603	6.0	18.5
2 21	9 22.78	+16 56.3	1.365	2.337	5.8	18.6	2 21	9 26.10	- 7 29.9	2.678	3.614	5.9	18.5
3 2	9 13.57	+17 25.5	1.392	2.324	10.8	18.8	3 2	9 19.51	- 6 35.7	2.714	3.626	7.1	18.6
3 12	9 6.75	+17 41.9	1.443	2.311	15.3	19.1	3 12	9 14.14	- 5 35.0	2.777	3.637	9.0	18.7
325257	2008 <i>GH</i> ₉₈		2 10.6 312°87'	2.4°/8.8	18		492668	2014 <i>PD</i> ₂₀		2 10.6 264°03'	0.9°/9.9	17	
1 2	9 58.28	+16 48.8	1.730	2.521	16.1	21.0	1 2	10 1.32	+13 12.6	1.688	2.466	17.0	22.3
1 12	9 55.51	+17 39.8	1.641	2.515	12.7	20.7	1 12	9 58.19	+13 47.8	1.581	2.446	13.6	22.0
1 22	9 50.01	+18 43.5	1.573	2.510	8.7	20.5	1 22	9 52.12	+14 39.2	1.494	2.426	9.5	21.7
2 1	9 42.27	+19 53.9	1.531	2.504	4.5	20.2	2 1	9 43.49	+15 42.8	1.432	2.405	4.8	21.4
2 11	9 33.24	+21 3.0	1.516	2.499	2.6	20.1	2 11	9 33.20	+16 51.6	1.398	2.384	1.1	21.1
2 21	9 24.09	+22 3.0	1.530	2.494	6.4	20.3	2 21	9 22.53	+17 57.3	1.392	2.363	5.9	21.4
3 2	9 16.10	+22 47.8	1.569	2.489	10.7	20.5	3 2	9 12.89	+18 52.7	1.413	2.341	11.0	21.6
3 12	9 10.29	+23 14.7	1.633	2.485	14.6	20.8	3 12	9 5.54	+19 32.7	1.458	2.318	15.5	21.8
108949	2001 <i>PG</i> ₂₈		2 10.6 52°24'	0.2°/10.8	18		499094	2009 <i>FQ</i> ₄₉		2 10.6 60°30'	1.2°/11.8	18	
1 2	9 55.60	+ 9 43.0	2.113	2.875	14.5	19.1	1 2	9 54.99	+ 6 57.5	2.325	3.072	13.7	21.1
1 12	9 52.66	+10 25.6	2.028	2.883	11.5	18.9	1 12	9 51.96	+ 7 29.6	2.236	3.079	11.1	20.9
1 22	9 47.60	+11 22.9	1.965	2.891	8.0	18.7	1 22	9 47.01	+ 8 16.5	2.169	3.086	7.9	20.7
2 1	9 40.90	+12 31.3	1.929	2.900	4.1	18.5	2 1	9 40.58	+ 9 15.6	2.128	3.094	4.3	20.5
2 11	9 33.30	+13 45.2	1.922	2.908	0.3	18.2	2 11	9 33.34	+10 22.5	2.116	3.101	1.3	20.3
2 21	9 25.71	+14 58.1	1.944	2.917	4.2	18.5	2 21	9 26.10	+11 31.9	2.134	3.109	3.7	20.5
3 2	9 19.03	+16 4.4	1.995	2.926	8.0	18.8	3 2	9 19.65	+12 38.4	2.182	3.117	7.3	20.7
3 12	9 14.02	+16 59.7	2.071	2.935	11.4	19.0	3 12	9 14.70	+13 37.3	2.256	3.124	10.4	20.9
377355	2004 <i>RS</i> ₆₃		2 10.6 204°71'	2.9°/13.6	17		68705	2002 <i>CM</i> ₂₂₁		2 10.6 188°36'	3.5°/8.1	18	
1 2	9 57.95	+ 1 0.9	2.710	3.412	13.0	22.2	1 2	10 5.20	+21 30.9	1.897	2.678	15.2	19.9
1 12	9 54.06	+ 1 19.8	2.598	3.407	10.8	22.0	1 12	10 0.71	+22 13.6	1.810	2.677	12.1	19.7
1 22	9 48.37	+ 1 54.5	2.508	3.400	8.2	21.8	1 22	9 53.45	+23 2.9	1.745	2.677	8.4	19.4
2 1	9 41.25	+ 2 44.5	2.444	3.393	5.3	21.6	2 1	9 43.94	+23 52.4	1.707	2.675	4.8	19.2
2 11	9 33.29	+ 3 47.0	2.410	3.385	3.1	21.5	2 11	9 33.20	+24 34.6	1.697	2.673	3.8	19.1
2 21	9 25.21	+ 4 58.0	2.406	3.376	3.9	21.5	2 21	9 22.44	+25 3.5	1.716	2.671	6.8	19.3
3 2	9 17.76	+ 6 12.3	2.434	3.366	6.7	21.7	3 2	9 12.92	+25 15.8	1.762	2.668	10.6	19.5
3 12	9 11.61	+ 7 24.9	2.490	3.356	9.6	21.8	3 12	9 5.65	+25 11.0	1.833	2.665	14.1	19.7
35709	1999 <i>FR</i> ₂₈		2 10.6 176°17'	5.5°/6.2	18		186113	2001 <i>TP</i> ₁₀₀		2 10.6 297°43'	3.1°/12.7	18	
1 2	10 9.37	+29 16.2	2.298	3.068	13.2	18.7	1 2	9 57.45	+ 5 7.7	1.768	2.522	17.2	20.0
1 12	10 3.57	+30 14.6	2.215	3.072	10.6	18.5	1 12	9 54.78	+ 5 0.9	1.664	2.508	14.2	19.7
1 22	9 55.16	+31 13.2	2.157	3.074	7.9	18.4	1 22	9 49.51	+ 5 12.1	1.579	2.494	10.5	19.4
2 1	9 44.70	+32 4.5	2.126	3.076	5.8	18.2	2 1	9 42.06	+ 5 41.1	1.519	2.480	6.4	19.2
2 11	9 33.15	+32 41.4	2.125	3.077	5.8	18.2	2 11	9 33.27	+ 6 25.0	1.485	2.466	3.2	18.9
2 21	9 21.65	+32 59.2	2.153	3.077	7.8	18.4	2 21	9 24.24	+ 7 18.7	1.478	2.452	5.1	19.0
3 2	9 11.37	+32 56.5	2.209	3.076	10.6	18.5	3 2	9 16.17	+ 8 15.6	1.498	2.438	9.4	19.2
3 12	9 3.21	+32 34.7	2.290	3.074	13.2	18.7	3 12	9 10.12	+ 9 9.2	1.543	2.425	13.6	19.4
132263	2002 <i>EX</i> ₁₂₃		2 10.6 198°33'	0.9°/11.3	18		134471	1998 <i>UW</i> ₄₁		2 10.6 90°79'	3.6°/7.9	18	
1 2	10 1.68	+ 9 16.0	2.026	2.777	15.4	20.9	1 2	10 5.69	+21 19.3	1.873	2.653	15.4	20.5
1 12	9 57.67	+ 9 35.9	1.927	2.774	12.4	20.7	1 12	10 0.78	+22 15.9	1.813	2.681	12.1	20.4
1 22	9 51.22	+10 10.4	1.850	2.770	8.8	20.4	1 22	9 53.21	+23 18.2	1.776	2.708	8.3	20.2
2 1	9 42.80	+10 57.0	1.798	2.766	4.7	20.2	2 1	9 43.67	+24 19.2	1.766	2.734	4.8	20.0
2 11	9 33.23	+11 51.1	1.775	2.762	0.9	19.9	2 11	9 33.23	+25 11.0	1.785	2.760	3.9	20.0
2 21	9 23.54	+12 46.8	1.783	2.756	4.5	20.1	2 21	9 23.06	+25 48.3	1.833	2.786	6.7	20.2
3 2	9 14.82	+13 38.6	1.819	2.750	8.7	20.4	3 2	9 14.31	+26 8.0	1.908	2.811	10.2	20.5
3 12	9 7.97	+14 22.0	1.880	2.743	12.4	20.6	3 12	9 7.81	+26 10.6	2.008	2.835	13.3	20.7
102257	1999 <i>TZ</i> ₃₀		2 10.6 169°74'	0.2°/10.4	18		462693	2009 <i>VC</i> ₃₆		2 10.6 77°92'	1.5°/9.5	18	
1 2	10 3.35	+12 50.2	2.194	2.948	14.3	21.1	1 2	10 0.95	+16 40.2	1.948	2.725	15.0	21.5
1 12	9 58.70	+13 12.4	2.102	2.953	11.4	20.9	1 12	9 57.09	+17 3.3	1.866	2.732	11.8	21.3
1 22	9 51.74	+13 45.5	2.032	2.957	7.9	20.7	1 22	9 50.77	+17 35.3	1.807	2.739	8.1	21.0
2 1	9 42.98	+14 26.0	1.989	2.960	3.9	20.4	2 1	9 42.52	+18 11.7	1.773	2.746	4.0	20.8
2 11	9 33.23	+15 9.1	1.976	2.963	0.3	20.1	2 11	9 33.27	+18 46.9	1.768	2.752	1.6	20.6
2 21	9 23.46	+15 49.8	1.993	2.964	4.4	20.4	2 21	9 24.08	+19 15.8	1.791	2.759	5.2	20.9
3 2	9 14.66	+16 24.0	2.040	2.966	8.3	20.7	3 2	9 16.03	+19 34.7	1.843	2.766	9.2	21.1
3 12	9 7.68	+16 48.8	2.113	2.966	11.7	20.9	3 12	9 9.98	+19 41.7	1.919	2.773	12.7	21.4
329854	2004 <i>TQ</i> ₂₉₀		2 10.6 239°52'	5.2°/15.1	17		53775	2000 <i>EN</i> ₉₂		2 10.6 43°29'	1.7°/11.5	18	
1 2	9 57.86	- 3 23.5	2.419	3.106	14.7								

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
63819	2001 <i>RJ</i> ₆₄		2 10.6 111°09	2°3/12.6	18		411179	2010 <i>GS</i> ₃₂		2 10.6 296°84	2°8/ 8.8	17	
1 2	9 58.31	+ 5 54.4	2.464	3.195	13.5	20.2	1 2	9 59.51	+16 57.3	1.421	2.224	18.4	21.5
1 12	9 54.40	+ 5 45.9	2.372	3.203	11.0	20.0	1 12	9 57.45	+17 41.8	1.319	2.199	14.8	21.2
1 22	9 48.60	+ 5 49.7	2.302	3.210	8.0	19.8	1 22	9 52.05	+18 42.6	1.236	2.175	10.3	20.9
2 1	9 41.35	+ 6 4.6	2.259	3.217	4.8	19.6	2 1	9 43.65	+19 53.6	1.176	2.150	5.4	20.6
2 11	9 33.33	+ 6 28.5	2.244	3.224	2.4	19.5	2 11	9 33.25	+21 5.5	1.142	2.125	3.1	20.3
2 21	9 25.32	+ 6 58.1	2.260	3.231	3.9	19.6	2 21	9 22.35	+22 7.8	1.134	2.101	7.8	20.5
3 2	9 18.11	+ 7 29.6	2.304	3.238	7.0	19.8	3 2	9 12.67	+22 52.3	1.151	2.077	13.2	20.8
3 12	9 12.36	+ 7 59.5	2.376	3.245	9.9	20.0	3 12	9 5.73	+23 14.9	1.189	2.053	18.1	21.0
426022	2011 <i>LP</i> ₉		2 10.6 147°92	0°3/10.3	18		279996	2001 <i>US</i> ₁₀₄		2 10.6 119°28	4°0/ 6.5	18	
1 2	9 56.82	+12 1.5	2.434	3.192	12.9	21.4	1 2	10 1.14	+26 45.9	2.795	3.568	11.0	21.9
1 12	9 53.36	+12 41.5	2.342	3.196	10.2	21.2	1 12	9 56.49	+27 38.2	2.724	3.585	8.7	21.7
1 22	9 47.96	+13 32.8	2.273	3.200	7.0	21.0	1 22	9 49.94	+28 31.3	2.677	3.601	6.3	21.6
2 1	9 41.07	+14 32.0	2.231	3.203	3.5	20.8	2 1	9 41.99	+29 20.0	2.660	3.617	4.3	21.5
2 11	9 33.34	+15 34.2	2.220	3.206	0.4	20.5	2 11	9 33.34	+29 59.2	2.672	3.632	4.2	21.5
2 21	9 25.59	+16 34.2	2.238	3.209	4.0	20.8	2 21	9 24.79	+30 25.5	2.714	3.647	6.0	21.6
3 2	9 18.62	+17 27.5	2.286	3.212	7.5	21.1	3 2	9 17.12	+30 37.1	2.785	3.661	8.3	21.8
3 12	9 13.14	+18 10.8	2.361	3.215	10.6	21.3	3 12	9 10.99	+30 34.2	2.880	3.675	10.5	22.0
377054	2002 <i>TT</i> ₁₉₀		2 10.6 62°14	0°9/11.2	18		19958	1985 <i>RN</i> ₄		2 10.6 138°87	1°2/ 9.7	18	
1 2	10 5.63	+11 56.7	2.064	2.814	15.2	20.7	1 2	10 4.95	+15 10.1	2.205	2.962	14.1	21.0
1 12	10 0.21	+11 39.1	2.000	2.847	12.0	20.5	1 12	9 59.89	+15 47.2	2.124	2.978	11.1	20.8
1 22	9 52.54	+11 31.0	1.958	2.879	8.4	20.3	1 22	9 52.50	+16 33.7	2.067	2.994	7.6	20.6
2 1	9 43.25	+11 30.3	1.943	2.911	4.4	20.2	2 1	9 43.34	+17 25.2	2.037	3.009	3.8	20.4
2 11	9 33.27	+11 33.7	1.957	2.943	1.0	20.0	2 11	9 33.29	+18 15.9	2.038	3.023	1.3	20.2
2 21	9 23.59	+11 38.3	2.002	2.975	4.1	20.2	2 21	9 23.32	+19 0.5	2.069	3.036	4.7	20.5
3 2	9 15.17	+11 41.3	2.075	3.006	7.8	20.5	3 2	9 14.42	+19 35.3	2.130	3.048	8.4	20.7
3 12	9 8.70	+11 40.5	2.175	3.038	11.0	20.8	3 12	9 7.39	+19 58.1	2.217	3.059	11.6	21.0
522767	2016 <i>NG</i> ₇₆		2 10.6 237°27	2°4/ 7.9	17		144724	2004 <i>GX</i> ₃₄		2 10.6 228°97	5°6/16.6	17	
1 2	9 57.21	+20 18.1	2.870	3.640	10.8	21.7	1 2	9 55.99	- 7 42.1	3.037	3.684	12.7	21.1
1 12	9 53.49	+21 6.4	2.766	3.629	8.5	21.5	1 12	9 52.36	- 8 5.8	2.920	3.674	11.1	20.9
1 22	9 48.00	+22 0.3	2.688	3.618	5.9	21.3	1 22	9 47.14	- 8 13.9	2.823	3.662	9.2	20.8
2 1	9 41.08	+22 55.7	2.637	3.607	3.3	21.1	2 1	9 40.64	- 8 4.9	2.751	3.651	7.2	20.6
2 11	9 33.35	+23 47.7	2.618	3.595	2.6	21.0	2 11	9 33.40	- 7 38.9	2.705	3.639	5.8	20.5
2 21	9 25.52	+24 32.2	2.628	3.582	4.9	21.2	2 21	9 26.02	- 6 57.6	2.689	3.627	5.7	20.5
3 2	9 18.33	+25 5.8	2.668	3.570	7.6	21.3	3 2	9 19.18	- 6 4.3	2.701	3.614	7.1	20.6
3 12	9 12.46	+25 26.9	2.735	3.557	10.3	21.5	3 12	9 13.46	- 5 3.7	2.741	3.601	9.1	20.7
157378	2004 <i>TU</i> ₁₆₃		2 10.6 189°52	0°6/10.1	18		29739	1999 <i>BM</i> ₉		2 10.6 75°49	2°7/ 9.0	18	
1 2	9 59.20	+13 42.5	2.166	2.932	14.1	20.8	1 2	10 4.48	+17 37.7	1.416	2.212	18.8	18.3
1 12	9 55.53	+14 10.4	2.073	2.931	11.2	20.6	1 12	10 0.72	+18 18.9	1.352	2.228	14.8	18.1
1 22	9 49.63	+14 49.0	2.002	2.931	7.7	20.4	1 22	9 53.70	+19 11.7	1.308	2.245	10.1	17.9
2 1	9 41.96	+15 34.8	1.958	2.930	3.8	20.1	2 1	9 44.11	+20 8.8	1.288	2.261	5.2	17.7
2 11	9 33.32	+16 22.7	1.943	2.929	0.7	19.9	2 11	9 33.26	+21 1.2	1.295	2.278	2.9	17.5
2 21	9 24.62	+17 7.5	1.957	2.928	4.5	20.2	2 21	9 22.66	+21 41.2	1.329	2.294	7.0	17.8
3 2	9 16.85	+17 44.8	2.001	2.927	8.4	20.4	3 2	9 13.78	+22 4.3	1.388	2.311	11.6	18.1
3 12	9 10.82	+18 11.5	2.070	2.925	11.8	20.6	3 12	9 7.66	+22 9.5	1.470	2.327	15.6	18.4
296730	2009 <i>TD</i> ₃		2 10.6 64°32	3°1/ 8.6	18		195778	2002 <i>PC</i> ₁₅₆		2 10.6 126°00	0°5/10.1	18	
1 2	10 4.73	+21 10.2	1.780	2.565	15.9	20.8	1 2	9 59.02	+13 55.2	2.345	3.107	13.2	20.9
1 12	10 0.12	+21 41.3	1.719	2.589	12.5	20.6	1 12	9 55.12	+14 21.4	2.258	3.114	10.5	20.7
1 22	9 52.81	+22 17.8	1.680	2.613	8.6	20.4	1 22	9 49.19	+14 57.0	2.194	3.122	7.2	20.5
2 1	9 43.49	+22 53.2	1.667	2.637	4.7	20.2	2 1	9 41.69	+15 38.5	2.157	3.129	3.5	20.3
2 11	9 33.26	+23 21.2	1.682	2.661	3.3	20.2	2 11	9 33.36	+16 21.5	2.150	3.136	0.6	20.1
2 21	9 23.36	+23 36.9	1.725	2.685	6.4	20.4	2 21	9 25.06	+17 1.4	2.173	3.143	4.2	20.3
3 2	9 14.92	+23 38.1	1.796	2.709	10.1	20.7	3 2	9 17.63	+17 34.3	2.224	3.149	7.7	20.6
3 12	9 8.79	+23 25.1	1.891	2.732	13.3	20.9	3 12	9 11.81	+17 57.8	2.302	3.156	10.8	20.8
390861	2004 <i>RL</i> ₃₁₉		2 10.6 200°46	2°9/14.2	17		520996	2015 <i>BB</i> ₃₇₃		2 10.6 176°23	0°7/ 9.9	17	
1 2	9 54.08	+ 0 0.2	3.144	3.840	11.5	21.7	1 2	10 0.48	+14 47.9	2.272	3.036	13.6	22.4
1 12	9 50.74	+ 0 17.0	3.035	3.837	9.6	21.6	1 12	9 56.40	+15 9.9	2.179	3.037	10.7	22.2
1 22	9 45.93	+ 0 47.7	2.948	3.834	7.3	21.4	1 22	9 50.16	+15 40.9	2.109	3.038	7.4	22.0
2 1	9 39.98	+ 1 31.7	2.887	3.831	4.9	21.2	2 1	9 42.22	+16 17.5	2.066	3.039	3.7	21.7
2 11	9 33.41	+ 2 27.0	2.856	3.827	3.1	21.1	2 11	9 33.34	+16 55.1	2.053	3.039	0.8	21.5
2 21	9 26.76	+ 3 30.1	2.856	3.823	3.6	21.1	2 21	9 24.45	+17 29.0	2.069	3.039	4.4	21.8
3 2	9 20.64	+ 4 37.0	2.886	3.819	5.8	21.3	3 2	9 16.47	+17 55.5	2.115	3.039	8.1	22.0
3 12	9 15.59	+ 5 43.5	2.945	3.814	8.2	21.4	3 12	9 10.18	+18 12.3	2.186	3.038	11.4	22.2
178884	2001 <i>OZ</i> ₁₈		2 10.6 170°66	0°4/10.9	18		162920	2001 <i>OF</i> ₉		2 10.6 104°66	2°4/12.7	18	
1 2	10 0.87	+10 31.7	2.250	2.999	14.1	21.3	1 2	10 1.50	+ 5 50.6	2.646	3.365	12.9	19.8
1 12	9 56.70	+10 54.7	2.156	3.003	11.3	21.2	1 12	9 56.64	+ 5 31.5	2.562	3.385	10.5	19.7
1 22	9 50.36	+11 30.0	2.084	3.006	7.9	20.9	1 22	9 49.99	+ 5 23.1	2.501	3.404	7.7	19.5
2 1	9 42.31	+12 14.8	2.039	3.009	4.1	20.7	2 1	9 42.01	+ 5 24.9	2.467	3.423	4.7	19.3
2 11	9 33.31	+13 4.5	2.024	3.010	0.4	20.4	2 11	9 33.37	+ 5 35.0	2.463	3.441	2.5	19.2
2 21	9 24.27	+13 54.2	2.039	3.012	4.1	20.7	2 21	9 24.81	+ 5 50.7	2.489	3.459	3.8	19.3
3 2	9 16.13	+14 39.1	2.084	3.013	7.9	20.9	3 2	9 17.09	+ 6 9.1	2.546	3.477	6.6	19.5
3 12	9 9.68	+15 15.8	2.154	3.013	11.3	21.2	3 12	9 10.81	+ 6 27.2	2.631	3.495	9.3	19.7
65515	4712 <i>P-L</i>		2 10.6 345°51	1°3/11.3	18		336209	2008 <i>SJ</i> ₃₂		2 10.6 265°57	5°7/15.2	17	
1 2	9 55.53	+ 9 49.5	1.236	2.039	20.6	18.3	1 2	9 57					

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
491171	2011 <i>UG</i> ₁		2 10.6 116°45	3°6/ 8.3 18			85684	1998 <i>RN</i> ₄₁		2 10.6 156°10	0°5/10.3 18		
1 2	10 6.73	+21 36.5	1.713	2.498	16.5	21.3	1 2	10 6.26	+13 41.1	1.848	2.610	16.3	20.3
1 12	10 2.04	+22 15.7	1.641	2.511	13.0	21.1	1 12	10 1.45	+14 0.4	1.762	2.618	13.0	20.1
1 22	9 54.39	+23 1.2	1.590	2.522	9.0	20.9	1 22	9 53.92	+14 31.4	1.698	2.626	9.0	19.9
2 1	9 44.41	+23 45.8	1.565	2.534	5.1	20.7	2 1	9 44.21	+15 10.0	1.661	2.632	4.5	19.6
2 11	9 33.27	+24 21.8	1.568	2.545	3.9	20.7	2 11	9 33.34	+15 50.6	1.652	2.638	0.6	19.3
2 21	9 22.31	+24 43.5	1.599	2.556	7.0	20.9	2 21	9 22.51	+16 27.4	1.673	2.644	5.1	19.7
3 2	9 12.85	+24 48.1	1.657	2.566	11.0	21.1	3 2	9 12.92	+16 55.8	1.722	2.648	9.5	19.9
3 12	9 5.89	+24 35.8	1.738	2.576	14.5	21.4	3 12	9 5.55	+17 13.2	1.796	2.652	13.3	20.2
131697	2001 <i>XH</i> ₂₅₅		2 10.6 320°78	0°0/10.6 17			204792	2006 <i>QS</i> ₅₉		2 10.6 217°76	0°5/11.0 17		
1 2	9 37.31	+14 18.9	32.161	32.907	1.1	23.5	1 2	9 59.60	+12 1.2	2.545	3.295	12.6	20.7
1 12	9 36.54	+14 22.6	32.057	32.906	0.9	23.5	1 12	9 55.48	+12 2.2	2.443	3.291	10.1	20.5
1 22	9 35.65	+14 26.8	31.980	32.904	0.6	23.4	1 22	9 49.42	+12 11.9	2.365	3.287	7.1	20.3
2 1	9 34.68	+14 31.4	31.932	32.903	0.3	23.4	2 1	9 41.85	+12 28.2	2.313	3.283	3.7	20.0
2 11	9 33.68	+14 36.2	31.915	32.901	0.0	23.3	2 11	9 33.44	+12 48.1	2.292	3.278	0.5	19.8
2 21	9 32.67	+14 40.9	31.928	32.900	0.3	23.4	2 21	9 24.98	+13 8.3	2.300	3.273	3.7	20.0
3 2	9 31.71	+14 45.4	31.972	32.898	0.6	23.4	3 2	9 17.29	+13 25.8	2.339	3.269	7.1	20.2
3 12	9 30.82	+14 49.5	32.044	32.897	0.9	23.5	3 12	9 11.06	+13 38.0	2.404	3.264	10.2	20.4
433884	2015 <i>BQ</i> ₃₅₆		2 10.6 206°53	0°3/10.3 17			65310	2002 <i>JL</i> ₇₀		2 10.6 258°70	1°0/11.5 18		
1 2	9 57.08	+12 15.0	2.476	3.233	12.7	21.2	1 2	9 56.81	+ 8 2.7	2.177	2.929	14.4	19.8
1 12	9 53.59	+12 50.2	2.377	3.231	10.1	21.0	1 12	9 53.74	+ 8 33.6	2.071	2.918	11.7	19.6
1 22	9 48.17	+13 36.5	2.301	3.228	7.0	20.8	1 22	9 48.50	+ 9 20.2	1.988	2.908	8.3	19.4
2 1	9 41.22	+14 30.5	2.253	3.225	3.5	20.5	2 1	9 41.51	+10 20.1	1.930	2.897	4.5	19.1
2 11	9 33.41	+15 27.7	2.235	3.221	0.4	20.3	2 11	9 33.46	+11 28.7	1.901	2.887	1.0	18.8
2 21	9 25.53	+16 23.3	2.246	3.218	4.0	20.6	2 21	9 25.24	+12 40.2	1.901	2.876	4.1	19.1
3 2	9 18.40	+17 12.6	2.288	3.214	7.5	20.8	3 2	9 17.81	+13 48.3	1.931	2.864	8.1	19.3
3 12	9 12.72	+17 52.5	2.356	3.210	10.6	21.0	3 12	9 12.01	+14 48.1	1.987	2.853	11.7	19.5
370711	2004 <i>PA</i> ₁₀₀		2 10.6 142°29	6°6/ 4.3 18			167972	2005 <i>FB</i> ₁		2 10.6 214°65	4°0/ 6.7 18		
1 2	10 8.13	+36 5.6	2.673	3.437	11.7	21.9	1 2	9 58.68	+23 19.6	2.333	3.117	12.6	20.1
1 12	10 2.28	+37 10.0	2.607	3.451	9.7	21.8	1 12	9 55.15	+24 27.5	2.245	3.114	10.0	19.9
1 22	9 54.09	+38 9.6	2.566	3.463	7.8	21.7	1 22	9 49.41	+25 40.9	2.181	3.112	7.0	19.7
2 1	9 44.14	+38 57.5	2.553	3.476	6.6	21.6	2 1	9 41.92	+26 53.4	2.145	3.109	4.5	19.5
2 11	9 33.31	+39 27.8	2.568	3.487	6.9	21.7	2 11	9 33.45	+27 58.2	2.138	3.106	4.3	19.5
2 21	9 22.66	+39 37.3	2.612	3.498	8.3	21.8	2 21	9 24.90	+28 49.7	2.161	3.103	6.6	19.6
3 2	9 13.18	+39 25.5	2.683	3.508	10.3	21.9	3 2	9 17.25	+29 24.2	2.211	3.100	9.6	19.8
3 12	9 5.65	+38 54.9	2.777	3.517	12.2	22.1	3 12	9 11.30	+29 40.8	2.285	3.097	12.4	20.0
433238	2012 <i>VR</i> ₆₃		2 10.6 182°45	3°8/14.6 17			322106	2010 <i>VM</i> ₁₅₁		2 10.6 93°98	1°0/11.4 18		
1 2	9 56.55	- 1 8.0	2.983	3.670	12.2	21.9	1 2	10 0.37	+ 8 40.9	1.876	2.633	16.2	20.8
1 12	9 52.75	- 1 17.7	2.877	3.670	10.3	21.8	1 12	9 56.64	+ 9 4.5	1.799	2.649	13.0	20.7
1 22	9 47.36	- 1 13.8	2.794	3.670	8.0	21.6	1 22	9 50.48	+ 9 43.8	1.743	2.665	9.2	20.4
2 1	9 40.75	- 0 56.2	2.736	3.670	5.6	21.5	2 1	9 42.44	+10 35.8	1.712	2.681	4.9	20.2
2 11	9 33.46	- 0 26.0	2.707	3.669	3.9	21.3	2 11	9 33.43	+11 34.8	1.710	2.696	1.0	20.0
2 21	9 26.11	+ 0 14.1	2.708	3.668	4.3	21.4	2 21	9 24.51	+12 34.9	1.737	2.711	4.4	20.3
3 2	9 19.35	+ 1 0.7	2.739	3.667	6.3	21.5	3 2	9 16.73	+13 29.9	1.792	2.726	8.6	20.5
3 12	9 13.76	+ 1 49.6	2.798	3.665	8.7	21.6	3 12	9 10.92	+14 15.5	1.872	2.740	12.2	20.8
56160	1999 <i>CY</i> ₁₅₀		2 10.6 86°64	1°7/ 9.5 18			398333	2011 <i>QA</i> ₁₉		2 10.6 131°84	0°6/11.1 18		
1 2	10 4.52	+17 58.5	1.826	2.603	15.9	18.4	1 2	10 2.79	+ 9 10.0	1.851	2.606	16.5	22.2
1 12	10 0.04	+18 11.4	1.748	2.614	12.5	18.2	1 12	9 58.64	+ 9 43.4	1.770	2.620	13.2	22.0
1 22	9 52.88	+18 31.8	1.693	2.625	8.6	18.0	1 22	9 51.92	+10 33.1	1.711	2.633	9.3	21.8
2 1	9 43.64	+18 55.1	1.663	2.635	4.3	17.8	2 1	9 43.20	+11 35.5	1.677	2.646	4.8	21.5
2 11	9 33.35	+19 15.6	1.661	2.646	1.8	17.6	2 11	9 33.40	+12 44.4	1.671	2.658	0.6	21.3
2 21	9 23.21	+19 28.7	1.689	2.656	5.5	17.9	2 21	9 23.65	+13 52.9	1.696	2.669	4.7	21.6
3 2	9 14.39	+19 31.5	1.744	2.666	9.6	18.2	3 2	9 15.08	+14 54.6	1.748	2.680	9.0	21.9
3 12	9 7.80	+19 22.9	1.823	2.677	13.2	18.4	3 12	9 8.58	+15 44.9	1.827	2.690	12.8	22.1
194611	2001 <i>XW</i> ₁₃₅		2 10.6 354°24	5°6/13.9 18			18849	1999 <i>RK</i> ₅₅		2 10.6 178°71	0°5/10.1 18		
1 2	9 57.97	+ 1 47.5	1.358	2.120	21.1	20.1	1 2	9 56.83	+13 49.7	2.842	3.598	11.3	19.1
1 12	9 55.86	+ 1 10.1	1.274	2.117	17.7	19.9	1 12	9 53.09	+14 17.5	2.745	3.598	8.9	19.0
1 22	9 50.63	+ 0 55.7	1.207	2.115	13.6	19.6	1 22	9 47.66	+14 53.4	2.672	3.599	6.1	18.8
2 1	9 42.77	+ 1 6.5	1.161	2.114	9.2	19.4	2 1	9 40.93	+15 34.5	2.628	3.599	3.0	18.6
2 11	9 33.38	+ 1 40.9	1.139	2.113	5.9	19.2	2 11	9 33.49	+16 17.0	2.613	3.599	0.5	18.4
2 21	9 23.86	+ 2 33.7	1.142	2.113	7.0	19.2	2 21	9 26.02	+16 57.3	2.629	3.599	3.6	18.6
3 2	9 15.70	+ 3 36.7	1.170	2.113	11.1	19.5	3 2	9 19.22	+17 32.0	2.675	3.599	6.7	18.8
3 12	9 10.11	+ 4 40.5	1.220	2.114	15.5	19.7	3 12	9 13.69	+17 58.8	2.748	3.598	9.4	19.0
81241	2000 <i>FW</i> ₂₉		2 10.6 348°17	2°8/12.7 18			364122	2006 <i>AY</i> ₁₀₄		2 10.6 104°28	0°1/10.5 18		
1 2	9 57.12	+ 4 48.1	1.677	2.435	17.8	19.9	1 2	9 59.09	+10 53.7	2.161	2.918	14.3	21.4
1 12	9 54.56	+ 4 54.7	1.587	2.433	14.6	19.7	1 12	9 55.33	+11 37.7	2.081	2.934	11.4	21.2
1 22	9 49.36	+ 5 21.7	1.516	2.431	10.8	19.4	1 22	9 49.42	+12 34.8	2.025	2.950	7.8	21.0
2 1	9 42.01	+ 6 7.8	1.468	2.430	6.4	19.2	2 1	9 41.87	+13 41.2	1.995	2.966	3.9	20.8
2 11	9 33.42	+ 7 9.0	1.447	2.429	2.9	18.9	2 11	9 33.46	+14 51.0	1.995	2.982	0.2	20.5
2 21	9 24.72	+ 8 18.6	1.453	2.428	5.0	19.1	2 21	9 25.11	+15 58.3	2.025	2.997	4.2	20.9
3 2	9 17.13	+ 9 28.9	1.487	2.428	9.4	19.3	3 2	9 17.73	+16 57.7	2.084	3.011	8.0	21.2
3 12	9 11.64	+10 33.0	1.544	2.427	13.5	19.6	3 12	9 12.06	+17 45.8	2.169	3.026	11.3	21.4
369891	2012 <i>TY</i> ₃₁		2 10.6 253°41	4°6/ 6.8 17			369846	2012 <i>JJ</i> ₄₁		2 10.6 15°47	7°2/15.5 18		
1 2	10 1.74	+27 22.7	2.363	3.145									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
76822	2000 SA ₅₁		2 10.6 294°72	0°6/11.2	18		156092	2001 SQ ₂₀₇		2 10.6 235°03	1°3/ 9.8	18	
1 2	9 54.54	+10 56.1	3.090	3.836	10.7	19.4	1 2	10 4.13	+15 10.0	1.732	2.507	16.7	21.0
1 12	9 51.19	+11 3.5	2.979	3.824	8.5	19.3	1 12	10 0.27	+15 36.0	1.632	2.496	13.4	20.7
1 22	9 46.32	+11 19.0	2.892	3.812	6.0	19.1	1 22	9 53.47	+16 14.5	1.554	2.485	9.3	20.5
2 1	9 40.26	+11 40.9	2.832	3.800	3.2	18.9	2 1	9 44.18	+17 1.1	1.501	2.473	4.7	20.1
2 11	9 33.53	+12 6.7	2.802	3.788	0.6	18.6	2 11	9 33.39	+17 49.0	1.475	2.461	1.4	19.9
2 21	9 26.72	+12 33.6	2.803	3.776	3.1	18.8	2 21	9 22.38	+18 31.4	1.479	2.448	5.9	20.2
3 2	9 20.46	+12 58.8	2.834	3.765	6.0	19.0	3 2	9 12.53	+19 2.8	1.509	2.435	10.6	20.4
3 12	9 15.30	+13 19.8	2.892	3.753	8.6	19.2	3 12	9 5.00	+19 20.2	1.564	2.421	14.9	20.6
422923	2002 TZ ₁₂₈		2 10.6 128°63	2°0/ 8.7	15		182379	2001 QX ₂₁₅		2 10.6 185°62	0°3/10.9	17	
1 2	10 2.75	+20 35.8	2.829	3.589	11.2	22.0	1 2	10 0.57	+10 46.3	2.356	3.104	13.6	21.5
1 12	9 57.62	+21 0.5	2.749	3.605	8.8	21.9	1 12	9 56.44	+11 14.1	2.258	3.104	10.8	21.3
1 22	9 50.67	+21 28.6	2.694	3.621	6.0	21.7	1 22	9 50.20	+11 53.9	2.182	3.104	7.6	21.1
2 1	9 42.39	+21 56.5	2.667	3.637	3.2	21.6	2 1	9 42.31	+12 42.9	2.133	3.103	3.9	20.9
2 11	9 33.45	+22 20.1	2.672	3.651	2.2	21.5	2 11	9 33.47	+13 36.5	2.114	3.101	0.3	20.6
2 21	9 24.62	+22 36.3	2.707	3.666	4.4	21.7	2 21	9 24.56	+14 29.8	2.126	3.098	4.0	20.9
3 2	9 16.65	+22 43.2	2.773	3.679	7.2	21.9	3 2	9 16.47	+15 18.0	2.168	3.095	7.7	21.1
3 12	9 10.14	+22 40.3	2.865	3.693	9.7	22.1	3 12	9 9.99	+15 57.7	2.236	3.092	11.0	21.3
53130	1999 AY ₃₀		2 10.6 163°14	1°2/ 9.4	18		148030	1998 FF ₁₃		2 10.6 300°85	2°9/ 8.9	18	
1 2	10 0.70	+14 25.2	2.547	3.302	12.5	20.2	1 2	10 4.10	+21 13.5	1.791	2.577	15.8	19.1
1 12	9 56.35	+15 23.4	2.456	3.310	9.8	20.0	1 12	10 0.31	+21 24.8	1.684	2.554	12.7	18.8
1 22	9 50.04	+16 31.7	2.389	3.316	6.7	19.8	1 22	9 53.54	+21 41.5	1.598	2.531	8.9	18.5
2 1	9 42.17	+17 45.8	2.350	3.322	3.3	19.6	2 1	9 44.25	+21 58.4	1.537	2.508	4.9	18.2
2 11	9 33.46	+19 0.0	2.343	3.327	1.4	19.4	2 11	9 33.39	+22 9.3	1.503	2.485	3.1	18.1
2 21	9 24.70	+20 8.7	2.367	3.332	4.4	19.7	2 21	9 22.28	+22 8.9	1.498	2.462	6.6	18.2
3 2	9 16.73	+21 7.3	2.421	3.335	7.7	19.9	3 2	9 12.31	+21 54.1	1.520	2.439	11.1	18.4
3 12	9 10.27	+21 53.2	2.502	3.338	10.7	20.1	3 12	9 4.68	+21 24.7	1.566	2.417	15.1	18.6
57000	2000 SJ ₃₁₉		2 10.6 193°38	3°0/ 7.9	18		319898	2006 WL ₁₉₃		2 10.6 126°79	0°4/10.9	18	
1 2	10 2.32	+24 30.4	2.860	3.627	11.0	19.4	1 2	10 2.20	+10 41.8	2.213	2.961	14.3	22.0
1 12	9 57.42	+24 52.9	2.767	3.626	8.7	19.2	1 12	9 57.68	+11 6.5	2.131	2.978	11.4	21.8
1 22	9 50.64	+25 16.9	2.698	3.624	6.1	19.0	1 22	9 51.00	+11 43.3	2.072	2.994	7.9	21.6
2 1	9 42.43	+25 38.2	2.657	3.622	3.7	18.9	2 1	9 42.66	+12 28.9	2.040	3.010	4.1	21.4
2 11	9 33.46	+25 52.7	2.647	3.620	3.1	18.8	2 11	9 33.47	+13 18.6	2.038	3.025	0.4	21.1
2 21	9 24.51	+25 57.5	2.668	3.617	5.1	18.9	2 21	9 24.35	+14 7.3	2.066	3.039	4.1	21.5
3 2	9 16.39	+25 51.0	2.718	3.614	7.7	19.1	3 2	9 16.22	+14 50.7	2.124	3.052	7.8	21.7
3 12	9 9.75	+25 33.2	2.795	3.611	10.2	19.3	3 12	9 9.85	+15 25.3	2.208	3.065	11.1	21.9
323860	2005 SE ₁₂₇		2 10.6 52°13	9°1/19.4	18		161022	2002 EP ₁₆₁		2 10.6 142°23	0°2/10.7	18	
1 2	9 55.54	-13 32.1	1.908	2.559	19.2	20.7	1 2	10 13.05	+15 14.9	1.899	2.650	16.3	20.4
1 12	9 53.01	-13 54.1	1.817	2.563	17.1	20.5	1 12	10 6.63	+14 48.5	1.812	2.660	13.0	20.2
1 22	9 48.12	-13 47.2	1.741	2.567	14.6	20.4	1 22	9 57.37	+14 28.6	1.746	2.669	9.1	20.0
2 1	9 41.34	-13 7.7	1.686	2.571	11.9	20.2	2 1	9 45.92	+14 12.7	1.708	2.678	4.6	19.7
2 11	9 33.49	-11 55.3	1.653	2.575	9.8	20.1	2 11	9 33.35	+13 57.6	1.699	2.686	0.2	19.4
2 21	9 25.56	-10 14.0	1.647	2.580	9.1	20.1	2 21	9 20.93	+13 40.7	1.722	2.694	4.8	19.7
3 2	9 18.59	-8 11.7	1.667	2.584	10.4	20.1	3 2	9 9.92	+13 20.2	1.774	2.701	9.2	20.0
3 12	9 13.48	-5 59.4	1.712	2.589	12.8	20.3	3 12	9 1.29	+12 55.2	1.853	2.707	13.0	20.3
236918	2007 TM ₁₄₂		2 10.6 162°37	0°0/10.6	17		463668	2014 MV ₅₁		2 10.6 51°84	0°1/10.7	18	
1 2	9 58.67	+12 35.0	2.737	3.487	11.8	21.6	1 2	10 24.95	+18 38.8	1.428	2.186	20.4	20.3
1 12	9 54.56	+12 56.0	2.643	3.491	9.4	21.4	1 12	10 16.14	+17 28.1	1.371	2.222	16.2	20.1
1 22	9 48.69	+13 25.6	2.572	3.496	6.5	21.3	1 22	10 3.77	+16 20.7	1.335	2.259	11.2	19.9
2 1	9 41.46	+14 1.3	2.529	3.500	3.3	21.1	2 1	9 48.92	+15 14.3	1.325	2.295	5.6	19.7
2 11	9 33.50	+14 39.4	2.516	3.503	0.1	20.8	2 11	9 33.26	+14 7.8	1.345	2.332	0.2	19.3
2 21	9 25.53	+15 16.3	2.535	3.506	3.5	21.1	2 21	9 18.58	+13 1.4	1.397	2.369	5.7	19.9
3 2	9 18.28	+15 48.4	2.583	3.509	6.7	21.3	3 2	9 6.38	+11 56.7	1.477	2.406	10.6	20.2
3 12	9 12.39	+16 13.6	2.659	3.511	9.6	21.5	3 12	8 57.53	+10 54.4	1.583	2.442	14.6	20.6
8819	Chrisbondi		2 10.6 155°45	2°4/12.9	18		109818	2001 RM ₁₀₇		2 10.6 307°68	1°2/11.5	18	
1 2	9 58.14	+ 3 36.3	2.482	3.203	13.6	19.0	1 2	9 57.72	+ 8 44.0	1.723	2.492	17.0	19.9
1 12	9 54.33	+ 3 51.4	2.387	3.210	11.2	18.8	1 12	9 55.05	+ 9 1.5	1.628	2.485	13.8	19.6
1 22	9 48.63	+ 4 21.6	2.313	3.216	8.2	18.6	1 22	9 49.74	+ 9 36.6	1.554	2.479	9.8	19.4
2 1	9 41.47	+ 5 5.5	2.265	3.221	5.1	18.4	2 1	9 42.26	+10 26.7	1.504	2.473	5.3	19.1
2 11	9 33.50	+ 6 0.1	2.247	3.226	2.6	18.3	2 11	9 33.49	+11 26.7	1.480	2.466	1.2	18.8
2 21	9 25.50	+ 7 0.9	2.259	3.231	3.8	18.4	2 21	9 24.57	+12 29.8	1.485	2.460	4.9	19.0
3 2	9 18.27	+ 8 3.0	2.301	3.235	6.9	18.6	3 2	9 16.73	+13 29.1	1.517	2.455	9.5	19.3
3 12	9 12.47	+ 9 1.6	2.371	3.239	10.0	18.8	3 12	9 10.97	+14 18.7	1.573	2.449	13.7	19.5
370747	2004 RY ₁₇₉		2 10.6 169°12	5°6/15.8	18		217088	2001 UO ₁₁₄		2 10.6 164°79	4°6/14.8	18	
1 2	9 57.93	- 5 5.1	2.386	3.064	15.1	21.4	1 2	9 59.58	- 1 58.8	2.415	3.106	14.7	21.4
1 12	9 54.30	- 5 20.4	2.286	3.067	13.0	21.2	1 12	9 55.54	- 2 8.7	2.317	3.111	12.4	21.2
1 22	9 48.69	- 5 16.7	2.206	3.069	10.4	21.0	1 22	9 49.52	- 2 1.4	2.239	3.116	9.7	21.1
2 1	9 41.54	- 4 52.7	2.150	3.071	7.8	20.9	2 1	9 41.95	- 1 36.2	2.186	3.120	6.9	20.9
2 11	9 33.50	- 4 9.4	2.122	3.073	5.9	20.7	2 11	9 33.51	- 0 54.8	2.161	3.124	4.8	20.8
2 21	9 25.39	- 3 10.2	2.121	3.075	5.9	20.7	2 21	9 25.01	- 0 0.7	2.166	3.127	5.1	20.8
3 2	9 18.04	- 2 0.2	2.150	3.076	7.9	20.9	3 2	9 17.30	+ 1 1.2	2.200	3.129	7.5	20.9
3 12	9 12.19	- 0 45.7	2.205	3.076	10.5	21.0	3 12	9 11.10	+ 2 5.2	2.261	3.131	10.4	21.1
3091	van den Heuvel		2 10.6 279°64	1°5/11.5	18		59784	1999 NV ₄₄		2 10.6 214°14	1°2/ 9.4	18	
1 2	10 0.26	+ 9 4.8	1.635	2.404	17.8	17.6	1 2	9 58.59	+13 50.9	2.320	3.083	13.3	19.8
1 12	9 57.40	+ 9											

EPHEMERIDES

2 10.6

2 10.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
268125	2004 <i>TM</i> ₈₅		2 10.6	12°10'	1°11.4'	18	205515	2001 <i>SP</i> ₁₂		2 10.6	76°58'	0°7'	11.3 18
1 2	9 57.06	+ 9 50.3	1.623	2.402	17.5	20.8	1 2	9 58.21	+ 9 56.9	2.296	3.048	13.8	20.8
1 12	9 54.56	+ 9 55.5	1.541	2.404	14.1	20.5	1 12	9 54.46	+10 15.4	2.218	3.066	11.0	20.6
1 22	9 49.37	+10 16.7	1.479	2.407	10.0	20.3	1 22	9 48.74	+10 45.6	2.162	3.084	7.7	20.5
2 1	9 42.03	+10 51.3	1.441	2.411	5.3	20.0	2 1	9 41.53	+11 24.8	2.133	3.102	4.0	20.3
2 11	9 33.51	+11 34.2	1.429	2.415	1.2	19.8	2 11	9 33.58	+12 8.9	2.133	3.120	0.7	20.0
2 21	9 24.99	+12 19.4	1.445	2.420	4.9	20.0	2 21	9 25.71	+12 53.3	2.164	3.137	3.8	20.3
3 2	9 17.68	+13 0.7	1.486	2.426	9.5	20.3	3 2	9 18.75	+13 33.9	2.223	3.155	7.3	20.6
3 12	9 12.55	+13 33.5	1.552	2.432	13.6	20.6	3 12	9 13.37	+14 7.4	2.308	3.173	10.4	20.8
122875	2000 <i>SB</i> ₁₄₀		2 10.6	51°98'	6°7'	16.1 18	180080	2003 <i>DZ</i> ₁₀		2 10.7	301°78'	6°7'	2.8 17
1 2	9 57.09	- 4 52.5	1.782	2.489	18.7	19.6	1 2	9 57.73	+29 28.7	2.263	3.056	12.7	19.7
1 12	9 54.23	- 5 19.4	1.704	2.503	16.0	19.4	1 12	9 54.99	+31 23.0	2.159	3.028	10.3	19.5
1 22	9 48.94	- 5 22.2	1.643	2.516	12.8	19.2	1 22	9 49.76	+33 23.2	2.081	3.000	8.1	19.3
2 1	9 41.74	- 4 59.0	1.604	2.530	9.5	19.1	2 1	9 42.36	+35 20.4	2.031	2.972	6.8	19.2
2 11	9 33.52	- 4 11.4	1.590	2.545	7.1	19.0	2 11	9 33.54	+37 4.8	2.010	2.944	7.4	19.2
2 21	9 25.35	- 3 3.9	1.602	2.559	7.1	19.0	2 21	9 24.31	+38 28.2	2.016	2.917	9.7	19.3
3 2	9 18.26	- 1 44.0	1.642	2.574	9.4	19.2	3 2	9 15.84	+39 25.7	2.049	2.889	12.4	19.4
3 12	9 13.14	- 0 20.1	1.706	2.589	12.5	19.4	3 12	9 9.22	+39 56.4	2.103	2.861	15.0	19.5
253074	2002 <i>TK</i> ₁₃₉		2 10.6	76°86'	8°2'	6.1 18 R	348604	2005 <i>XF</i> ₄₁		2 10.7	69°65'	1°1'	11.3 18
1 2	10 14.47	+34 42.7	1.703	2.485	16.7	20.7	1 2	10 5.20	+11 2.3	1.379	2.159	20.0	20.7
1 12	10 8.26	+35 36.0	1.651	2.508	13.6	20.6	1 12	10 1.33	+10 53.4	1.311	2.174	16.0	20.4
1 22	9 58.64	+36 22.8	1.621	2.531	10.6	20.4	1 22	9 54.19	+11 0.2	1.262	2.190	11.3	20.2
2 1	9 46.51	+36 53.2	1.616	2.554	8.5	20.4	2 1	9 44.48	+11 19.9	1.236	2.206	5.9	19.9
2 11	9 33.35	+36 58.9	1.638	2.577	8.5	20.4	2 11	9 33.49	+11 47.0	1.235	2.222	1.2	19.7
2 21	9 20.82	+36 37.0	1.686	2.599	10.4	20.6	2 21	9 22.72	+12 15.4	1.262	2.238	5.6	20.0
3 2	9 10.37	+35 49.3	1.760	2.622	13.1	20.8	3 2	9 13.65	+12 39.5	1.315	2.253	10.6	20.3
3 12	9 2.94	+34 41.3	1.856	2.644	15.7	21.0	3 12	9 7.32	+12 55.4	1.391	2.269	15.0	20.6
183393	2002 <i>XJ</i> ₇₃		2 10.6	11°98'	3°8'	8.5 18	312649	2010 <i>JP</i> ₄₇		2 10.7	172°99'	4°0'	7.0 17
1 2	9 57.05	+19 50.8	1.203	2.027	19.8	18.8	1 2	10 4.17	+22 7.2	2.192	2.966	13.6	22.1
1 12	9 55.56	+20 27.3	1.139	2.031	15.6	18.6	1 12	9 59.63	+23 23.9	2.106	2.971	10.8	21.9
1 22	9 50.56	+21 14.5	1.094	2.037	10.8	18.3	1 22	9 52.61	+24 47.6	2.045	2.974	7.6	21.7
2 1	9 42.76	+22 4.4	1.070	2.044	5.8	18.1	2 1	9 43.62	+26 11.2	2.012	2.977	4.7	21.5
2 11	9 33.49	+22 47.2	1.072	2.053	4.0	18.0	2 11	9 33.52	+27 26.6	2.009	2.979	4.3	21.5
2 21	9 24.40	+23 14.7	1.097	2.063	8.1	18.2	2 21	9 23.34	+28 27.3	2.036	2.980	6.9	21.6
3 2	9 17.10	+23 22.4	1.146	2.074	12.9	18.5	3 2	9 14.20	+29 9.3	2.091	2.980	10.1	21.8
3 12	9 12.72	+23 9.9	1.215	2.087	17.2	18.8	3 12	9 6.98	+29 31.6	2.171	2.979	13.1	22.0
240049	2001 <i>WH</i> ₁₃		2 10.6	129°67'	4°5'	15.1 18	343676	2010 <i>OJ</i> ₉₂		2 10.7	232°36'	1°9'	8.7 17
1 2	9 56.48	- 2 16.8	2.621	3.311	13.7	20.8	1 2	9 57.78	+18 16.0	2.615	3.385	11.8	21.5
1 12	9 52.93	- 2 32.2	2.525	3.317	11.5	20.6	1 12	9 54.14	+18 58.3	2.515	3.378	9.3	21.3
1 22	9 47.63	- 2 31.9	2.449	3.323	9.1	20.5	1 22	9 48.59	+19 47.6	2.440	3.371	6.4	21.1
2 1	9 40.97	- 2 15.2	2.398	3.329	6.6	20.3	2 1	9 41.52	+20 39.9	2.392	3.363	3.3	20.9
2 11	9 33.57	- 1 43.5	2.375	3.334	4.7	20.2	2 11	9 33.60	+21 30.2	2.374	3.355	2.1	20.8
2 21	9 26.14	- 0 59.8	2.381	3.340	4.9	20.2	2 21	9 25.58	+22 13.9	2.386	3.347	4.7	20.9
3 2	9 19.40	- 0 8.0	2.416	3.345	7.0	20.4	3 2	9 18.30	+22 47.5	2.428	3.339	7.9	21.1
3 12	9 14.00	+ 0 46.9	2.478	3.350	9.5	20.5	3 12	9 12.44	+23 9.1	2.495	3.331	10.7	21.3
223256	2003 <i>FL</i> ₈₅		2 10.6	290°33'	4°8'	14.2 18	116441	2003 <i>YU</i> ₁₆₆		2 10.7	136°12'	0°6'	11.1 18
1 2	9 57.29	+ 0 6.7	1.904	2.630	17.0	20.6	1 2	10 0.72	+10 18.5	1.811	2.576	16.5	20.5
1 12	9 54.43	- 0 11.3	1.803	2.622	14.4	20.4	1 12	9 57.19	+10 37.7	1.725	2.580	13.2	20.3
1 22	9 49.17	- 0 9.7	1.721	2.615	11.1	20.2	1 22	9 51.07	+11 11.9	1.659	2.584	9.3	20.1
2 1	9 41.94	+ 0 12.5	1.662	2.607	7.7	19.9	2 1	9 42.88	+11 58.0	1.618	2.588	4.8	19.8
2 11	9 33.53	+ 0 53.9	1.629	2.599	5.1	19.8	2 11	9 33.55	+12 50.6	1.605	2.592	0.6	19.5
2 21	9 24.95	+ 1 50.3	1.625	2.592	5.8	19.8	2 21	9 24.20	+13 43.6	1.621	2.595	4.7	19.8
3 2	9 17.27	+ 2 55.4	1.647	2.584	9.0	20.0	3 2	9 15.97	+14 30.9	1.665	2.598	9.2	20.1
3 12	9 11.44	+ 4 2.1	1.695	2.577	12.6	20.1	3 12	9 9.81	+15 8.4	1.733	2.601	13.1	20.3
207549	2006 <i>LR</i> ₁		2 10.6	187°08'	0°6'	10.1 18	123302	2000 <i>UW</i> ₁₁₂		2 10.7	319°48'	7°5'	4.8 18
1 2	10 2.32	+13 9.7	2.159	2.917	14.3	21.3	1 2	9 59.58	+29 14.6	1.662	2.470	15.9	19.2
1 12	9 58.07	+13 44.9	2.063	2.917	11.4	21.1	1 12	9 57.18	+30 35.9	1.574	2.452	12.9	19.0
1 22	9 51.49	+14 31.9	1.989	2.916	7.9	20.9	1 22	9 51.62	+32 1.1	1.508	2.435	9.9	18.8
2 1	9 43.03	+15 26.9	1.942	2.914	3.9	20.6	2 1	9 43.38	+33 20.0	1.467	2.419	7.7	18.6
2 11	9 33.51	+16 24.4	1.926	2.912	0.7	20.4	2 11	9 33.53	+34 21.8	1.452	2.403	8.1	18.6
2 21	9 23.89	+17 18.5	1.939	2.909	4.6	20.7	2 21	9 23.47	+34 58.2	1.462	2.387	10.7	18.7
3 2	9 15.22	+18 4.4	1.981	2.905	8.6	20.9	3 2	9 14.75	+35 5.4	1.496	2.372	14.1	18.9
3 12	9 8.35	+18 38.7	2.050	2.901	12.1	21.1	3 12	9 8.62	+34 44.7	1.550	2.358	17.4	19.0
206972	2004 <i>TS</i> ₅₄		2 10.6	61°32'	2°6'	9.1 18	15196	3178 <i>T</i> ₋₃		2 10.7	68°59'	0°4'	10.4 18
1 2	10 5.12	+17 30.0	1.346	2.144	19.5	20.3	1 2	9 59.38	+13 14.7	2.056	2.824	14.6	19.7
1 12	10 1.27	+18 10.2	1.291	2.168	15.3	20.1	1 12	9 55.68	+13 37.7	1.980	2.839	11.6	19.6
1 22	9 54.08	+19 2.0	1.256	2.193	10.4	19.9	1 22	9 49.75	+14 11.4	1.925	2.854	8.0	19.4
2 1	9 44.36	+19 57.6	1.244	2.218	5.3	19.6	2 1	9 42.10	+14 52.2	1.897	2.869	4.0	19.1
2 11	9 33.47	+20 48.0	1.259	2.243	2.8	19.5	2 11	9 33.60	+15 35.1	1.898	2.885	0.4	18.9
2 21	9 22.98	+21 25.6	1.301	2.268	7.0	19.9	2 21	9 25.19	+16 15.1	1.928	2.900	4.4	19.2
3 2	9 14.34	+21 46.2	1.368	2.292	11.6	20.2	3 2	9 17.83	+16 47.8	1.986	2.915	8.2	19.5
3 12	9 8.55	+21 49.1	1.458	2.317	15.6	20.5	3 12	9 12.28	+17 10.7	2.070	2.930	11.6	19.7
71675	2000 <i>ER</i> ₁₆₇		2 10.6	51°36'	6°2'	5.5 18	23312	2001 <i>AV</i> ₄₁		2 10.7	123°85'	0°7'	11.1 18
1 2	10 2.76	+30 26.3	2.116	2.904	13.6	18.8	1						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
17910	Munyan		2 10.7 84°00'	4.5/14.2	18		329563	2002 <i>UM</i> ₇₉		2 10.7 20°35'	3.0/12.4	18	
1 2	9 59.06	+ 0 7.8	1.859	2.584	17.4	18.3	1 2	9 59.91	+ 7 0.4	1.551	2.318	18.7	20.6
1 12	9 55.68	- 0 0.1	1.778	2.597	14.5	18.1	1 12	9 56.95	+ 6 38.5	1.469	2.321	15.3	20.4
1 22	9 49.90	+ 0 12.8	1.716	2.611	11.1	17.9	1 22	9 51.13	+ 6 33.5	1.406	2.325	11.2	20.2
2 1	9 42.24	+ 0 46.4	1.678	2.625	7.5	17.8	2 1	9 43.01	+ 6 45.0	1.366	2.329	6.6	19.9
2 11	9 33.60	+ 1 37.9	1.667	2.638	4.7	17.6	2 11	9 33.60	+ 7 9.6	1.351	2.333	3.0	19.7
2 21	9 25.00	+ 2 42.0	1.683	2.652	5.4	17.7	2 21	9 24.19	+ 7 42.4	1.364	2.338	5.4	19.9
3 2	9 17.47	+ 3 51.9	1.728	2.665	8.6	17.9	3 2	9 16.08	+ 8 17.4	1.403	2.344	9.8	20.1
3 12	9 11.87	+ 5 0.6	1.798	2.678	12.1	18.1	3 12	9 10.29	+ 8 49.1	1.465	2.350	14.0	20.4
468774	2011 <i>SN</i> ₂₅₄		2 10.7 192°58'	3.8/14.9	17		39322	2001 <i>VH</i> ₉₈		2 10.7 85°51'	2.7/13.2	18	
1 2	9 56.95	- 2 14.5	3.373	4.045	11.2	22.7	1 2	9 59.43	+ 2 2.6	1.989	2.716	16.4	17.8
1 12	9 52.91	- 2 30.1	3.262	4.043	9.4	22.5	1 12	9 55.71	+ 2 35.4	1.915	2.741	13.4	17.7
1 22	9 47.43	- 2 33.5	3.173	4.040	7.5	22.4	1 22	9 49.77	+ 3 28.3	1.862	2.766	9.8	17.5
2 1	9 40.85	- 2 24.4	3.110	4.037	5.4	22.2	2 1	9 42.13	+ 4 39.2	1.834	2.791	6.0	17.3
2 11	9 33.66	- 2 3.5	3.077	4.033	4.0	22.1	2 11	9 33.64	+ 6 2.9	1.835	2.815	2.9	17.2
2 21	9 26.39	- 1 32.9	3.073	4.028	4.2	22.1	2 21	9 25.28	+ 7 32.4	1.865	2.838	4.3	17.3
3 2	9 19.62	- 0 55.2	3.100	4.024	5.9	22.2	3 2	9 17.96	+ 9 0.5	1.925	2.861	7.9	17.6
3 12	9 13.88	- 0 14.0	3.156	4.018	7.9	22.4	3 12	9 12.46	+ 10 20.8	2.011	2.884	11.3	17.8
468219	2015 <i>BB</i> ₁₀₀		2 10.7 355°38'	1.1/11.4	18		453383	2009 <i>BC</i> ₁₆₆		2 10.7 58°26'	0.4/10.9	18	
1 2	9 59.41	+ 10 24.2	2.026	2.785	15.1	21.7	1 2	10 2.56	+ 11 22.3	1.388	2.173	19.6	21.6
1 12	9 55.88	+ 10 22.7	1.933	2.785	12.2	21.5	1 12	9 59.20	+ 11 34.9	1.323	2.191	15.6	21.4
1 22	9 50.02	+ 10 33.2	1.861	2.784	8.6	21.3	1 22	9 52.70	+ 12 4.3	1.278	2.209	10.9	21.1
2 1	9 42.32	+ 10 53.7	1.815	2.784	4.6	21.0	2 1	9 43.76	+ 12 46.2	1.256	2.228	5.6	20.9
2 11	9 33.60	+ 11 20.6	1.798	2.784	1.1	20.8	2 11	9 33.59	+ 13 33.9	1.260	2.247	0.4	20.5
2 21	9 24.84	+ 11 49.4	1.809	2.783	4.3	21.0	2 21	9 23.67	+ 14 19.8	1.291	2.266	5.5	21.0
3 2	9 17.06	+ 12 16.0	1.848	2.783	8.3	21.2	3 2	9 15.37	+ 14 57.7	1.347	2.285	10.5	21.3
3 12	9 11.09	+ 12 36.9	1.913	2.784	11.9	21.5	3 12	9 9.71	+ 15 23.7	1.427	2.304	14.8	21.6
209140	2003 <i>SN</i> ₂₆₁		2 10.7 222°60'	0.1/10.6	18		201442	2003 <i>EQ</i> ₃₄		2 10.7 288°96'	1.6/11.5	18	
1 2	10 3.13	+ 12 36.3	1.999	2.759	15.3	21.6	1 2	10 1.70	+ 10 3.1	1.502	2.278	18.8	20.3
1 12	9 59.01	+ 12 53.7	1.896	2.750	12.3	21.3	1 12	9 58.92	+ 9 50.8	1.397	2.258	15.4	20.0
1 22	9 52.34	+ 13 23.3	1.815	2.740	8.6	21.1	1 22	9 52.95	+ 9 54.0	1.310	2.237	11.1	19.7
2 1	9 43.57	+ 14 2.0	1.759	2.730	4.4	20.8	2 1	9 44.17	+ 10 11.6	1.247	2.216	6.1	19.4
2 11	9 33.56	+ 14 44.6	1.733	2.720	0.2	20.4	2 11	9 33.57	+ 10 39.7	1.209	2.194	1.7	19.0
2 21	9 23.36	+ 15 25.8	1.736	2.708	4.8	20.8	2 21	9 22.52	+ 11 12.5	1.198	2.173	5.7	19.2
3 2	9 14.14	+ 16 0.7	1.768	2.696	9.1	21.0	3 2	9 12.63	+ 11 44.0	1.213	2.152	11.2	19.5
3 12	9 6.87	+ 16 25.7	1.825	2.684	13.0	21.2	3 12	9 5.25	+ 12 8.6	1.250	2.131	16.2	19.7
229797	2008 <i>RT</i> ₁₃₀		2 10.7 127°68'	2.3/ 8.5	18		268504	2005 <i>YM</i> ₁₁₅		2 10.7 120°31'	1.3/ 9.6	18	
1 2	9 57.90	+ 16 47.2	2.172	2.949	13.7	20.0	1 2	10 1.43	+ 16 13.8	2.134	2.903	14.1	21.3
1 12	9 54.61	+ 17 53.7	2.086	2.953	10.7	19.8	1 12	9 57.30	+ 16 40.9	2.051	2.912	11.1	21.1
1 22	9 49.11	+ 19 10.8	2.024	2.957	7.3	19.6	1 22	9 50.90	+ 17 16.6	1.990	2.920	7.6	20.9
2 1	9 41.85	+ 20 32.9	1.989	2.961	3.8	19.4	2 1	9 42.73	+ 17 56.7	1.957	2.929	3.8	20.6
2 11	9 33.62	+ 21 52.8	1.983	2.964	2.5	19.3	2 11	9 33.63	+ 18 35.9	1.952	2.937	1.4	20.5
2 21	9 25.34	+ 23 3.9	2.008	2.968	5.5	19.5	2 21	9 24.59	+ 19 9.3	1.977	2.945	4.8	20.7
3 2	9 17.98	+ 24 1.2	2.060	2.972	9.0	19.7	3 2	9 16.57	+ 19 33.4	2.031	2.953	8.5	21.0
3 12	9 12.34	+ 24 42.0	2.138	2.975	12.2	20.0	3 12	9 10.38	+ 19 46.1	2.110	2.960	11.8	21.2
496797	2017 <i>HG</i> ₄₆		2 10.7 239°69'	3.0/ 8.4	18		123244	2000 <i>UY</i> ₆₄		2 10.7 100°66'	2.1/12.3	18	
1 2	10 1.63	+ 17 54.6	1.799	2.583	15.8	21.3	1 2	10 0.33	+ 6 30.7	2.063	2.805	15.4	20.7
1 12	9 58.26	+ 18 55.3	1.702	2.573	12.6	21.1	1 12	9 56.42	+ 6 32.5	1.980	2.818	12.5	20.5
1 22	9 52.09	+ 20 8.6	1.628	2.562	8.7	20.8	1 22	9 50.28	+ 6 49.0	1.918	2.831	9.0	20.3
2 1	9 43.54	+ 21 28.0	1.579	2.551	4.7	20.5	2 1	9 42.41	+ 7 18.7	1.882	2.844	5.3	20.1
2 11	9 33.56	+ 22 45.0	1.559	2.539	3.3	20.4	2 11	9 33.64	+ 7 57.9	1.875	2.857	2.2	19.9
2 21	9 23.35	+ 23 51.1	1.567	2.527	6.8	20.6	2 21	9 24.93	+ 8 42.1	1.896	2.870	4.2	20.1
3 2	9 14.23	+ 24 40.1	1.603	2.515	11.1	20.8	3 2	9 17.23	+ 9 26.1	1.946	2.882	7.9	20.3
3 12	9 7.31	+ 25 9.3	1.661	2.502	14.9	21.0	3 12	9 11.31	+ 10 5.7	2.023	2.894	11.3	20.5
82105	2001 <i>FG</i> ₂₆		2 10.7 200°49'	3.1/ 8.5	18		326441	2001 <i>UV</i> ₂₂₈		2 10.7 43°76'	6.0/ 5.9	18	
1 2	10 7.63	+ 20 13.9	1.995	2.765	15.0	19.7	1 2	9 59.81	+ 24 32.8	1.607	2.413	16.4	20.2
1 12	10 2.64	+ 20 57.2	1.900	2.761	11.9	19.5	1 12	9 57.02	+ 26 3.9	1.542	2.423	13.0	20.0
1 22	9 54.89	+ 21 48.2	1.826	2.756	8.3	19.3	1 22	9 51.24	+ 27 41.4	1.500	2.433	9.3	19.8
2 1	9 44.86	+ 22 40.8	1.780	2.750	4.6	19.0	2 1	9 43.06	+ 29 15.1	1.483	2.444	6.4	19.7
2 11	9 33.52	+ 23 27.8	1.764	2.742	3.3	18.9	2 11	9 33.62	+ 30 34.2	1.492	2.455	6.4	19.7
2 21	9 22.06	+ 24 3.0	1.777	2.734	6.4	19.1	2 21	9 24.28	+ 31 30.8	1.529	2.467	9.2	19.9
3 2	9 11.74	+ 24 22.5	1.818	2.725	10.3	19.3	3 2	9 16.39	+ 32 1.0	1.590	2.479	12.7	20.1
3 12	9 3.61	+ 24 25.4	1.885	2.715	13.9	19.5	3 12	9 10.98	+ 32 5.6	1.673	2.491	15.9	20.4
169495	2002 <i>CS</i> ₂₁₂		2 10.7 242°76'	0.5/10.3	18		104831	2000 <i>HQ</i> ₆₃		2 10.7 220°07'	4.0/ 7.4	18	
1 2	10 3.81	+ 14 3.9	1.824	2.593	16.2	20.5	1 2	10 3.41	+ 23 31.1	2.211	2.989	13.4	20.8
1 12	9 59.86	+ 14 16.9	1.722	2.582	13.0	20.3	1 12	9 59.10	+ 24 23.8	2.115	2.981	10.7	20.6
1 22	9 53.12	+ 14 41.5	1.640	2.569	9.1	20.0	1 22	9 52.33	+ 25 21.6	2.043	2.972	7.6	20.4
2 1	9 44.04	+ 15 14.3	1.585	2.557	4.6	19.7	2 1	9 43.55	+ 26 18.4	1.999	2.963	4.7	20.2
2 11	9 33.55	+ 15 49.9	1.557	2.543	0.6	19.4	2 11	9 33.62	+ 27 7.0	1.983	2.953	4.2	20.1
2 21	9 22.84	+ 16 22.6	1.558	2.530	5.3	19.7	2 21	9 23.58	+ 27 42.1	1.997	2.943	6.8	20.3
3 2	9 13.21	+ 16 47.4	1.587	2.516	9.9	20.0	3 2	9 14.52	+ 28 0.1	2.039	2.933	10.0	20.4
3 12	9 5.76	+ 17 1.4	1.641	2.501	14.1	20.2	3 12	9 7.37	+ 28 0.7	2.105	2.921	13.1	20.6
498626	2008 <i>RM</i> ₁₂₂		2 10.7 205°71'	1.8/12.2	18		354884	2006 <i>BZ</i> ₁₁₆		2 10.7 289°79'	0.1/10.7	16	

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
203814	2002 TA ₂₃₅		2 10.7 62°85	1°7/11.8	18		6468	Welzenbach		2 10.7 189°88	0°5/11.1	18	
1 2	10 2.88	+10 5.1	2.095	2.843	15.0	19.7	1 2	9 59.64	+10 24.1	2.114	2.871	14.7	17.8
1 12	9 58.33	+9 41.3	2.014	2.858	12.1	19.5	1 12	9 56.00	+10 44.3	2.019	2.870	11.8	17.6
1 22	9 51.52	+9 27.8	1.956	2.873	8.6	19.3	1 22	9 50.11	+11 17.7	1.946	2.869	8.3	17.4
2 1	9 43.01	+9 23.2	1.923	2.888	4.8	19.1	2 1	9 42.42	+12 1.5	1.899	2.868	4.3	17.2
2 11	9 33.65	+9 25.2	1.919	2.904	1.7	18.9	2 11	9 33.70	+12 51.0	1.880	2.867	0.5	16.9
2 21	9 24.41	+9 30.7	1.946	2.919	4.1	19.1	2 21	9 24.91	+13 41.0	1.892	2.865	4.2	17.1
3 2	9 16.25	+9 36.6	2.001	2.935	7.8	19.4	3 2	9 17.04	+14 26.5	1.932	2.864	8.2	17.4
3 12	9 9.93	+9 40.2	2.082	2.950	11.2	19.6	3 12	9 10.92	+15 3.6	1.998	2.862	11.8	17.6
294073	2007 TB ₁₈₀		2 10.7 45°84	5°8/15.9	18		216563	2001 XS ₂₉		2 10.7 100°94	5°3/15.2	18	
1 2	9 55.94	-4 16.1	2.056	2.756	16.7	20.4	1 2	10 2.46	-2 52.0	2.241	2.927	15.8	19.7
1 12	9 52.98	-4 36.8	1.976	2.772	14.2	20.2	1 12	9 57.81	-3 19.9	2.163	2.952	13.4	19.6
1 22	9 47.92	-4 36.4	1.915	2.788	11.3	20.0	1 22	9 51.08	-3 29.6	2.106	2.977	10.5	19.5
2 1	9 41.23	-4 14.0	1.877	2.804	8.4	19.9	2 1	9 42.78	-3 20.4	2.073	3.001	7.6	19.3
2 11	9 33.71	-3 31.0	1.865	2.821	6.2	19.8	2 11	9 33.70	-2 53.5	2.068	3.024	5.6	19.2
2 21	9 26.22	-2 31.7	1.881	2.838	6.2	19.8	2 21	9 24.72	-2 12.4	2.091	3.047	5.8	19.3
3 2	9 19.68	-1 22.0	1.924	2.855	8.3	20.0	3 2	9 16.72	-1 21.9	2.144	3.070	7.9	19.5
3 12	9 14.81	-0 8.9	1.993	2.872	11.1	20.2	3 12	9 10.42	-0 27.7	2.223	3.091	10.6	19.7
317636	2003 DK ₁₁		2 10.7 313°62	2°6/12.9	18		508583	2017 OK ₃₀		2 10.7 151°30	3°8/14.4	17	
1 2	9 54.70	+2 59.4	1.706	2.460	17.7	20.0	1 2	9 57.31	-0 15.9	2.784	3.479	12.8	22.0
1 12	9 52.77	+3 31.6	1.605	2.449	14.6	19.8	1 12	9 53.50	-0 29.9	2.685	3.484	10.8	21.8
1 22	9 48.28	+4 28.4	1.523	2.438	10.8	19.5	1 22	9 48.01	-0 30.1	2.608	3.490	8.3	21.7
2 1	9 41.64	+5 48.6	1.465	2.427	6.5	19.3	2 1	9 41.23	-0 16.2	2.557	3.494	5.8	21.5
2 11	9 33.69	+7 27.3	1.434	2.417	2.8	19.0	2 11	9 33.75	+0 10.2	2.534	3.499	4.0	21.4
2 21	9 25.50	+9 15.9	1.431	2.407	4.9	19.1	2 21	9 26.23	+0 46.7	2.541	3.503	4.4	21.4
3 2	9 18.27	+11 4.6	1.455	2.397	9.5	19.3	3 2	9 19.37	+1 29.4	2.577	3.507	6.5	21.6
3 12	9 13.05	+12 44.1	1.505	2.388	13.8	19.6	3 12	9 13.77	+2 14.3	2.641	3.511	9.1	21.7
154740	2004 NO ₂₃		2 10.7 126°51	1°1/11.7	18		77462	2001 HN ₁₆		2 10.7 248°63	2°8/8.2	17	
1 2	9 59.40	+7 19.5	2.379	3.116	13.7	21.0	1 2	10 0.03	+20 43.8	2.395	3.171	12.6	20.3
1 12	9 55.39	+7 52.3	2.294	3.131	11.0	20.9	1 12	9 56.21	+21 27.1	2.293	3.159	10.0	20.1
1 22	9 49.43	+8 39.0	2.231	3.146	7.8	20.7	1 22	9 50.22	+22 16.7	2.215	3.146	6.9	19.9
2 1	9 41.95	+9 37.1	2.195	3.160	4.3	20.5	2 1	9 42.48	+23 7.7	2.165	3.134	3.9	19.7
2 11	9 33.69	+10 42.0	2.189	3.174	1.1	20.3	2 11	9 33.71	+23 54.4	2.144	3.121	3.0	19.6
2 21	9 25.45	+11 48.4	2.213	3.187	3.7	20.5	2 21	9 24.81	+24 31.7	2.152	3.108	5.6	19.8
3 2	9 18.06	+12 51.3	2.268	3.200	7.2	20.7	3 2	9 16.73	+24 56.1	2.189	3.094	8.9	20.0
3 12	9 12.22	+13 46.5	2.349	3.212	10.3	20.9	3 12	9 10.29	+25 6.1	2.252	3.081	11.9	20.1
466313	2013 QK ₆₄		2 10.7 198°40	0°9/11.3	16		127747	2003 FR ₁₄		2 10.7 219°10	0°9/11.3	18	
1 2	10 3.92	+11 22.0	2.200	2.948	14.4	22.1	1 2	10 3.00	+9 49.9	1.864	2.620	16.4	20.8
1 12	9 59.26	+11 12.7	2.101	2.945	11.6	21.9	1 12	9 59.11	+10 3.0	1.763	2.613	13.2	20.6
1 22	9 52.29	+11 13.3	2.023	2.943	8.2	21.6	1 22	9 52.55	+10 31.1	1.682	2.604	9.4	20.3
2 1	9 43.48	+11 21.6	1.972	2.940	4.4	21.4	2 1	9 43.78	+11 11.7	1.627	2.596	5.0	20.1
2 11	9 33.64	+11 34.8	1.950	2.936	0.9	21.1	2 11	9 33.66	+12 0.2	1.600	2.586	0.9	19.7
2 21	9 23.73	+11 49.2	1.959	2.932	4.2	21.4	2 21	9 23.35	+12 50.5	1.602	2.577	4.8	20.0
3 2	9 14.77	+12 1.7	1.997	2.928	8.1	21.6	3 2	9 14.07	+13 36.8	1.633	2.566	9.4	20.2
3 12	9 7.60	+12 9.5	2.061	2.923	11.6	21.8	3 12	9 6.85	+14 14.5	1.688	2.555	13.5	20.5
40636	1999 RW ₁₇₉		2 10.7 148°15	0°2/10.5	18		4904	Makio		2 10.7 4°38	8°8/16.1	18	
1 2	10 1.06	+10 30.2	1.988	2.746	15.4	19.7	1 2	9 56.24	-4 7.0	1.340	2.081	22.3	15.9
1 12	9 57.24	+11 19.5	1.902	2.755	12.3	19.5	1 12	9 54.58	-5 10.8	1.260	2.080	19.3	15.7
1 22	9 51.00	+12 24.3	1.837	2.763	8.5	19.3	1 22	9 49.84	-5 48.0	1.196	2.080	15.7	15.4
2 1	9 42.86	+13 40.4	1.799	2.770	4.3	19.1	2 1	9 42.53	-5 53.7	1.151	2.081	12.0	15.2
2 11	9 33.66	+15 1.2	1.790	2.777	0.3	18.8	2 11	9 33.71	-5 26.8	1.128	2.083	9.2	15.1
2 21	9 24.44	+16 19.5	1.812	2.783	4.7	19.1	2 21	9 24.76	-4 30.9	1.128	2.086	9.2	15.1
3 2	9 16.23	+17 28.8	1.862	2.789	8.8	19.4	3 2	9 17.15	-3 14.5	1.152	2.089	12.0	15.2
3 12	9 9.93	+18 24.8	1.938	2.794	12.4	19.6	3 12	9 12.08	-1 49.0	1.199	2.094	15.6	15.5
15239	Stenhammar		2 10.7 234°05	4°1/14.2	18		256078	2006 UQ ₂₀₀		2 10.7 70°14	5°3/7.3	18	
1 2	9 57.75	+0 38.0	2.385	3.095	14.4	18.7	1 2	10 7.15	+25 43.5	1.645	2.438	16.7	20.6
1 12	9 54.23	+0 17.9	2.281	3.091	12.1	18.5	1 12	10 2.48	+26 35.9	1.588	2.461	13.2	20.4
1 22	9 48.74	+0 13.0	2.199	3.087	9.3	18.3	1 22	9 54.76	+27 30.6	1.554	2.483	9.4	20.3
2 1	9 41.67	+0 23.7	2.141	3.083	6.4	18.1	2 1	9 44.73	+28 19.0	1.544	2.506	6.1	20.1
2 11	9 33.71	+0 48.9	2.111	3.079	4.3	17.9	2 11	9 33.65	+28 52.8	1.562	2.529	5.6	20.1
2 21	9 25.64	+1 25.5	2.110	3.075	4.9	18.0	2 21	9 22.96	+29 6.8	1.607	2.552	8.3	20.3
3 2	9 18.32	+2 9.4	2.138	3.071	7.5	18.1	3 2	9 13.95	+28 59.8	1.678	2.574	11.7	20.6
3 12	9 12.47	+2 55.7	2.193	3.066	10.5	18.3	3 12	9 7.57	+28 33.8	1.772	2.597	14.8	20.8
263678	2008 GS ₁₂₂		2 10.7 229°16	4°0/6.4	18		194331	2001 UZ ₁₃₃		2 10.7 23°89	1°2/11.3	18	
1 2	9 58.42	+27 1.3	2.859	3.637	10.7	20.3	1 2	9 57.83	+10 11.0	1.101	1.910	22.2	20.4
1 12	9 54.55	+27 50.6	2.770	3.634	8.5	20.1	1 12	9 56.31	+10 11.7	1.038	1.918	17.9	20.1
1 22	9 48.82	+28 41.3	2.706	3.631	6.2	19.9	1 22	9 51.21	+10 33.6	0.992	1.928	12.6	19.9
2 1	9 41.66	+29 28.3	2.670	3.627	4.3	19.8	2 1	9 43.21	+11 13.4	0.967	1.940	6.7	19.6
2 11	9 33.71	+30 6.8	2.664	3.624	4.2	19.8	2 11	9 33.70	+12 3.7	0.966	1.952	1.2	19.2
2 21	9 25.75	+30 32.9	2.687	3.620	6.0	19.9	2 21	9 24.36	+12 55.5	0.988	1.966	6.2	19.6
3 2	9 18.54	+30 44.6	2.738	3.616	8.4	20.1	3 2	9 16.84	+13 40.3	1.034	1.980	11.9	20.0
3 12	9 12.75	+30 41.8	2.814	3.612	10.7	20.2	3 12	9 12.34	+14 12.3	1.101	1.996	16.8	20.3
462885	2010 VL ₂₁₅		2 10.7 91°01	0°5/11.0	18		461440	2002 CR ₃₁₁		2 10.7 338°28	0°7/10.9	18	
1 2	10 2.64	+10 53.4	1.861	2.621	16.2	22.4	1 2	10 3.81	+14 27.1	1.607	2.387	17.6	20.3
1 12	9 58.46	+11 8.7	1.787	2.640	12.9	22.2	1 12						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
179207	2001 <i>TX</i> ₁₉₆		2 10.7 201°54	2°5/13.1	17		492470	2014 <i>NJ</i> ₃₀		2 10.7 187°55	2°1/12.2	18	
1 2	9 59.32	+ 2 56.0	2.562	3.274	13.4	21.7	1 2	10 2.07	+ 6 19.4	1.952	2.693	16.2	22.5
1 12	9 55.36	+ 3 16.5	2.452	3.270	11.1	21.5	1 12	9 58.15	+ 6 28.6	1.855	2.693	13.2	22.3
1 22	9 49.48	+ 3 52.7	2.364	3.264	8.2	21.3	1 22	9 51.75	+ 6 54.5	1.779	2.692	9.6	22.0
2 1	9 42.06	+ 4 43.6	2.303	3.258	5.1	21.1	2 1	9 43.34	+ 7 35.5	1.728	2.691	5.5	21.8
2 11	9 33.75	+ 5 46.1	2.271	3.250	2.6	20.9	2 11	9 33.75	+ 8 27.6	1.706	2.689	2.2	21.6
2 21	9 25.30	+ 6 55.7	2.271	3.242	3.9	21.0	2 21	9 24.06	+ 9 25.2	1.713	2.687	4.5	21.7
3 2	9 17.52	+ 8 7.1	2.301	3.234	7.0	21.2	3 2	9 15.35	+10 22.2	1.748	2.683	8.7	21.9
3 12	9 11.15	+ 9 15.2	2.358	3.225	10.1	21.4	3 12	9 8.57	+11 13.4	1.809	2.680	12.5	22.2
327865	2006 <i>YN</i> ₃₅		2 10.7 71°58	5°8/ 5.9	18		209354	2004 <i>DS</i> ₂₅		2 10.7 253°80	3°6/ 7.7	17	
1 2	10 1.92	+24 28.8	1.709	2.507	15.9	20.5	1 2	10 1.45	+24 16.4	2.354	3.134	12.7	20.9
1 12	9 58.44	+26 8.7	1.651	2.527	12.5	20.3	1 12	9 57.31	+24 51.5	2.265	3.131	10.0	20.7
1 22	9 52.07	+27 54.0	1.615	2.547	9.0	20.2	1 22	9 50.95	+25 29.6	2.199	3.128	7.1	20.5
2 1	9 43.46	+29 34.7	1.606	2.566	6.2	20.1	2 1	9 42.83	+26 5.2	2.160	3.125	4.4	20.3
2 11	9 33.71	+31 0.1	1.625	2.586	6.3	20.1	2 11	9 33.78	+26 33.0	2.150	3.121	3.8	20.3
2 21	9 24.11	+32 2.8	1.671	2.606	8.9	20.3	2 21	9 24.72	+26 48.8	2.169	3.118	6.1	20.4
3 2	9 15.94	+32 39.4	1.743	2.625	12.1	20.5	3 2	9 16.63	+26 50.2	2.217	3.115	9.1	20.6
3 12	9 10.17	+32 50.8	1.837	2.644	15.1	20.8	3 12	9 10.29	+26 37.2	2.289	3.112	12.0	20.8
359155	2009 <i>BQ</i> ₁₂₉		2 10.7 57°51	1°7/ 9.6	18		75076	1999 <i>VE</i> ₂₂		2 10.7 207°26	3°5/ 8.5	18	
1 2	10 2.08	+15 0.8	1.382	2.178	19.2	20.6	1 2	10 4.62	+19 13.7	1.566	2.357	17.5	19.5
1 12	9 58.95	+15 40.8	1.319	2.195	15.1	20.3	1 12	10 1.02	+20 4.9	1.481	2.355	13.9	19.2
1 22	9 52.63	+16 35.4	1.275	2.212	10.3	20.1	1 22	9 54.22	+21 7.4	1.417	2.352	9.6	18.9
2 1	9 43.80	+17 38.1	1.256	2.229	5.1	19.9	2 1	9 44.74	+22 14.0	1.377	2.348	5.3	18.7
2 11	9 33.71	+18 39.8	1.262	2.247	1.9	19.7	2 11	9 33.72	+23 15.2	1.365	2.344	3.7	18.6
2 21	9 23.86	+19 32.2	1.295	2.265	6.4	20.0	2 21	9 22.58	+24 2.6	1.380	2.340	7.5	18.8
3 2	9 15.65	+20 9.4	1.354	2.283	11.2	20.3	3 2	9 12.87	+24 30.9	1.421	2.336	12.0	19.0
3 12	9 10.11	+20 29.2	1.435	2.302	15.4	20.6	3 12	9 5.77	+24 38.8	1.485	2.331	16.1	19.3
146720	2001 <i>WC</i> ₈₇		2 10.7 17°58	0°3/10.9	18		203792	2002 <i>TM</i> ₆₈		2 10.7 108°65	2°3/12.5	18	
1 2	9 59.17	+12 46.6	1.413	2.206	18.9	19.3	1 2	10 0.40	+ 6 42.4	2.381	3.113	13.8	20.1
1 12	9 56.65	+12 43.0	1.339	2.212	15.1	19.1	1 12	9 56.19	+ 6 29.2	2.292	3.123	11.3	20.0
1 22	9 51.07	+12 53.5	1.285	2.218	10.6	18.8	1 22	9 50.01	+ 6 27.8	2.225	3.134	8.2	19.8
2 1	9 43.05	+13 14.8	1.253	2.226	5.4	18.6	2 1	9 42.30	+ 6 37.3	2.184	3.143	4.9	19.6
2 11	9 33.74	+13 41.5	1.248	2.234	0.3	18.2	2 11	9 33.80	+ 6 55.4	2.172	3.153	2.3	19.4
2 21	9 24.53	+14 7.4	1.268	2.244	5.5	18.6	2 21	9 25.33	+ 7 18.7	2.190	3.163	3.9	19.6
3 2	9 16.79	+14 27.4	1.314	2.254	10.5	18.9	3 2	9 17.71	+ 7 43.9	2.238	3.172	7.1	19.8
3 12	9 11.59	+14 37.9	1.383	2.265	14.8	19.2	3 12	9 11.65	+ 8 7.3	2.312	3.181	10.2	20.0
406155	2006 <i>VU</i> ₁₇₁		2 10.7 63°10	1°0/ 9.8	18		259282	2003 <i>EV</i> ₂		2 10.7 287°91	1°9/ 9.3	17	
1 2	10 0.38	+10 54.9	1.591	2.368	17.9	20.5	1 2	10 1.55	+19 38.7	2.437	3.206	12.6	20.7
1 12	9 57.08	+12 12.3	1.532	2.397	14.0	20.3	1 12	9 57.40	+19 50.5	2.323	3.185	10.0	20.5
1 22	9 51.04	+13 47.9	1.494	2.426	9.5	20.1	1 22	9 51.06	+20 7.3	2.233	3.163	7.0	20.3
2 1	9 42.91	+15 34.3	1.481	2.454	4.6	19.9	2 1	9 42.95	+20 25.2	2.171	3.142	3.7	20.0
2 11	9 33.76	+17 21.7	1.497	2.483	1.2	19.7	2 11	9 33.78	+20 40.2	2.137	3.120	2.0	19.9
2 21	9 24.83	+19 0.0	1.542	2.512	5.6	20.1	2 21	9 24.45	+20 48.3	2.134	3.098	4.9	20.0
3 2	9 17.29	+20 21.9	1.614	2.540	10.0	20.4	3 2	9 15.90	+20 47.0	2.160	3.077	8.4	20.2
3 12	9 12.03	+21 23.6	1.710	2.568	13.7	20.7	3 12	9 8.98	+20 35.3	2.212	3.055	11.6	20.4
276770	2004 <i>HC</i>		2 10.7 68°73	53°2/12.0	18		144586	2004 <i>FP</i> ₃₈		2 10.7 91°09	1°5/ 9.7	18	
1 2	19 39.28	-45 31.1	0.586	0.515	126.4	22.7	1 2	10 6.18	+17 33.0	1.829	2.602	16.0	19.0
1 12	19 39.24	-59 35.8	0.521	0.655	113.0	21.9	1 12	10 1.36	+17 44.7	1.756	2.619	12.6	18.8
1 22	19 32.33	-71 4.8	0.487	0.781	99.2	21.4	1 22	9 53.85	+18 4.0	1.704	2.635	8.7	18.6
2 1	19 21.55	-81 2.8	0.459	0.889	87.8	21.0	2 1	9 44.30	+18 26.3	1.679	2.651	4.3	18.3
2 11	8 59.66	-88 52.1	0.431	0.982	78.0	20.8	2 11	9 33.74	+18 46.2	1.682	2.667	1.6	18.2
2 21	7 39.22	-77 39.6	0.404	1.060	68.9	20.5	2 21	9 23.39	+18 59.1	1.714	2.683	5.4	18.5
3 2	7 39.98	-64 21.2	0.385	1.124	60.3	20.2	3 2	9 14.41	+19 2.2	1.775	2.698	9.4	18.7
3 12	7 46.67	-49 24.6	0.384	1.175	53.2	20.1	3 12	9 7.67	+18 54.4	1.860	2.713	13.0	19.0
217805	2000 <i>XX</i> ₈		2 10.7 68°59	1°7/ 9.6	18		451713	2013 <i>CE</i> ₁₃₂		2 10.7 39°35	1°3/10.1	15	
1 2	10 6.21	+17 44.8	1.863	2.636	15.8	19.6	1 2	10 4.07	+16 6.8	1.157	1.966	21.4	21.4
1 12	10 1.12	+18 4.1	1.804	2.667	12.4	19.5	1 12	10 1.02	+16 11.7	1.101	1.983	16.9	21.2
1 22	9 53.50	+18 30.6	1.767	2.698	8.4	19.3	1 22	9 54.29	+16 29.6	1.063	2.001	11.6	20.9
2 1	9 44.02	+18 59.4	1.757	2.729	4.2	19.1	2 1	9 44.69	+16 54.9	1.046	2.020	5.8	20.7
2 11	9 33.74	+19 24.8	1.775	2.760	1.8	19.0	2 11	9 33.74	+17 19.6	1.054	2.040	1.4	20.5
2 21	9 23.80	+19 42.5	1.823	2.790	5.3	19.3	2 21	9 23.19	+17 36.9	1.088	2.061	6.7	20.9
3 2	9 15.28	+19 49.8	1.899	2.820	9.1	19.6	3 2	9 14.67	+17 42.4	1.145	2.082	12.0	21.2
3 12	9 8.95	+19 46.0	2.000	2.850	12.4	19.8	3 12	9 9.28	+17 34.7	1.224	2.104	16.6	21.5
101665	1999 <i>CV</i> ₈₉		2 10.7 20°69	5°4/ 8.0	18		500392	2012 <i>TK</i> ₈₈		2 10.7 136°46	0°4/10.3	17	
1 2	10 6.80	+26 26.3	1.472	2.274	17.9	18.7	1 2	9 58.78	+14 1.0	2.827	3.578	11.4	22.6
1 12	10 2.80	+26 49.0	1.402	2.279	14.3	18.4	1 12	9 54.63	+14 24.7	2.738	3.589	9.0	22.5
1 22	9 55.35	+27 13.0	1.352	2.284	10.3	18.2	1 22	9 48.78	+14 56.0	2.674	3.599	6.2	22.3
2 1	9 45.20	+27 30.0	1.325	2.290	6.5	18.0	2 1	9 41.64	+15 32.0	2.638	3.609	3.1	22.1
2 11	9 33.69	+27 32.1	1.325	2.297	5.6	18.0	2 11	9 33.84	+16 9.0	2.632	3.619	0.5	21.9
2 21	9 22.46	+27 14.6	1.351	2.304	8.6	18.2	2 21	9 26.05	+16 43.5	2.657	3.628	3.5	22.2
3 2	9 13.05	+26 37.0	1.403	2.312	12.6	18.4	3 2	9 18.99	+17 12.5	2.713	3.636	6.6	22.4
3 12	9 6.55	+25 42.1	1.476	2.320	16.3	18.7	3 12	9 13.24	+17 33.9	2.795	3.645	9.3	22.6
346051	2007 <i>UK</i> ₂₆		2 10.7 145°87	0°2/10.9	17		27723	1990 <i>QA</i>		2 10.7 106°54	7°5/ 3.6	18	
1 2	9 58.75	+11 54.9	2.635	3.384	12.2	21.9	1						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
407331	2010 <i>PR</i> ₇₆		2 10.7 197°66	1°9/12.4	18		10078	Stanthorpe		2 10.7 214°67	4°4/ 7.4	18	
1 2	9 59.61	+ 4 22.1	2.107	2.840	15.4	21.4	1 2	10 7.10	+25 54.1	2.208	2.982	13.6	18.5
1 12	9 56.07	+ 4 59.4	2.004	2.837	12.6	21.2	1 12	10 2.04	+26 32.7	2.113	2.975	10.9	18.3
1 22	9 50.25	+ 5 55.9	1.923	2.834	9.2	21.0	1 22	9 54.39	+27 13.6	2.042	2.967	7.8	18.1
2 1	9 42.58	+ 7 9.7	1.868	2.830	5.3	20.8	2 1	9 44.67	+27 50.5	1.998	2.959	5.1	17.9
2 11	9 33.81	+ 8 36.0	1.842	2.825	2.0	20.5	2 11	9 33.78	+28 16.8	1.984	2.951	4.6	17.8
2 21	9 24.88	+10 8.0	1.846	2.820	4.2	20.7	2 21	9 22.85	+28 27.8	1.998	2.942	7.0	18.0
3 2	9 16.80	+11 38.3	1.880	2.815	8.2	20.9	3 2	9 13.02	+28 21.4	2.041	2.932	10.2	18.1
3 12	9 10.44	+13 0.4	1.941	2.809	11.9	21.1	3 12	9 5.24	+27 58.3	2.109	2.922	13.2	18.3
225587	2000 <i>WS</i> ₇₇		2 10.7 68°66	1°6/ 9.6	18		468410	2016 <i>GU</i> ₁₇₆		2 10.7 201°00	0°7/11.5	17	
1 2	10 2.98	+17 1.1	1.833	2.611	15.8	20.5	1 2	9 57.79	+ 9 6.4	2.993	3.726	11.3	22.5
1 12	9 58.81	+17 25.8	1.765	2.631	12.4	20.3	1 12	9 53.85	+ 9 29.8	2.885	3.722	9.0	22.4
1 22	9 52.08	+17 59.1	1.718	2.650	8.5	20.1	1 22	9 48.29	+10 3.4	2.801	3.716	6.4	22.2
2 1	9 43.41	+18 36.2	1.697	2.670	4.2	19.9	2 1	9 41.45	+10 45.3	2.744	3.711	3.4	22.0
2 11	9 33.80	+19 11.1	1.705	2.690	1.8	19.7	2 11	9 33.88	+11 32.2	2.719	3.705	0.8	21.7
2 21	9 24.39	+19 38.4	1.741	2.709	5.4	20.0	2 21	9 26.23	+12 20.6	2.724	3.698	3.1	21.9
3 2	9 16.28	+19 54.9	1.806	2.729	9.3	20.3	3 2	9 19.15	+13 6.8	2.761	3.690	6.2	22.1
3 12	9 10.30	+19 59.0	1.894	2.748	12.8	20.5	3 12	9 13.26	+13 47.7	2.825	3.683	8.9	22.3
419660	2010 <i>TN</i> ₁₀₁		2 10.7 40°35	7°5/ 5.9	18		109631	2001 <i>QT</i> ₃₂₆		2 10.7 76°64	4°7/ 6.2	18	
1 2	10 5.63	+30 8.9	1.597	2.398	16.8	21.2	1 2	10 0.02	+25 43.9	2.234	3.021	13.0	19.8
1 12	10 1.84	+31 15.6	1.529	2.402	13.6	21.0	1 12	9 56.27	+26 56.1	2.166	3.036	10.3	19.6
1 22	9 54.72	+32 22.4	1.483	2.407	10.3	20.8	1 22	9 50.25	+28 11.1	2.123	3.051	7.4	19.5
2 1	9 44.92	+33 18.9	1.461	2.412	7.8	20.7	2 1	9 42.50	+29 21.9	2.107	3.065	5.1	19.4
2 11	9 33.75	+33 55.3	1.465	2.418	7.9	20.7	2 11	9 33.85	+30 21.5	2.120	3.080	5.1	19.4
2 21	9 22.75	+34 5.4	1.495	2.423	10.3	20.9	2 21	9 25.29	+31 4.7	2.161	3.095	7.2	19.6
3 2	9 13.46	+33 48.3	1.550	2.429	13.5	21.1	3 2	9 17.78	+31 28.9	2.230	3.110	9.9	19.7
3 12	9 6.98	+33 7.1	1.625	2.435	16.6	21.3	3 12	9 12.10	+31 34.3	2.322	3.124	12.5	19.9
405972	2006 <i>SV</i> ₁₁₆		2 10.7 102°12	2°4/ 9.0	18		415704	1998 <i>BY</i> ₅		2 10.7 335°41	1°0/ 9.9	17	
1 2	10 4.92	+18 33.9	1.911	2.686	15.3	21.7	1 2	9 56.91	+13 29.6	1.642	2.431	16.9	21.5
1 12	10 0.28	+19 11.1	1.841	2.705	12.1	21.5	1 12	9 54.67	+14 5.6	1.551	2.423	13.5	21.3
1 22	9 53.08	+19 56.0	1.793	2.724	8.3	21.3	1 22	9 49.70	+14 56.9	1.482	2.416	9.3	21.0
2 1	9 43.91	+20 43.0	1.771	2.742	4.3	21.1	2 1	9 42.45	+15 59.0	1.436	2.410	4.7	20.7
2 11	9 33.79	+21 25.4	1.778	2.760	2.5	21.0	2 11	9 33.87	+17 4.9	1.418	2.404	1.1	20.4
2 21	9 23.83	+21 57.9	1.815	2.778	5.7	21.3	2 21	9 25.15	+18 6.6	1.427	2.399	5.7	20.7
3 2	9 15.17	+22 17.1	1.880	2.795	9.5	21.5	3 2	9 17.57	+18 57.4	1.462	2.394	10.4	21.0
3 12	9 8.65	+22 22.1	1.969	2.811	12.8	21.8	3 12	9 12.19	+19 33.1	1.521	2.389	14.5	21.2
501439	2014 <i>AC</i> ₂₀		2 10.7 120°73	5°2/ 5.6	18		200338	2000 <i>HP</i> ₄₃		2 10.7 225°42	0°4/10.4	18	
1 2	10 0.94	+28 3.3	2.365	3.149	12.5	21.5	1 2	10 3.96	+12 57.3	1.911	2.674	15.8	21.4
1 12	9 56.97	+29 14.7	2.291	3.157	10.0	21.3	1 12	9 59.91	+13 22.0	1.808	2.663	12.7	21.2
1 22	9 50.73	+30 27.5	2.241	3.164	7.4	21.2	1 22	9 53.17	+14 0.0	1.725	2.652	8.9	20.9
2 1	9 42.74	+31 34.8	2.219	3.171	5.5	21.1	2 1	9 44.19	+14 47.6	1.669	2.640	4.5	20.6
2 11	9 33.82	+32 29.6	2.226	3.178	5.5	21.1	2 11	9 33.83	+15 39.1	1.641	2.627	0.5	20.3
2 21	9 24.93	+33 7.3	2.261	3.185	7.5	21.2	2 21	9 23.24	+16 28.2	1.642	2.614	5.1	20.6
3 2	9 17.04	+33 25.5	2.324	3.192	10.1	21.4	3 2	9 13.65	+17 9.4	1.672	2.600	9.6	20.8
3 12	9 10.95	+33 24.6	2.409	3.199	12.5	21.6	3 12	9 6.12	+17 38.9	1.727	2.585	13.6	21.0
153194	2000 <i>VC</i> ₄₉		2 10.7 134°28	2°3/12.6	18		126537	2002 <i>CW</i> ₈₉		2 10.7 138°65	1°5/ 9.7	18	
1 2	9 58.47	+ 5 25.4	2.063	2.804	15.4	20.3	1 2	10 6.74	+18 42.6	2.255	3.016	13.7	20.0
1 12	9 55.12	+ 5 33.4	1.970	2.807	12.6	20.1	1 12	10 1.36	+18 46.2	2.169	3.024	10.9	19.8
1 22	9 49.54	+ 5 57.6	1.899	2.810	9.2	19.9	1 22	9 53.66	+18 54.7	2.105	3.033	7.5	19.6
2 1	9 42.18	+ 6 36.6	1.852	2.813	5.5	19.6	2 1	9 44.20	+19 4.4	2.069	3.040	3.8	19.3
2 11	9 33.84	+ 7 26.8	1.834	2.816	2.4	19.4	2 11	9 33.84	+19 11.1	2.063	3.048	1.6	19.2
2 21	9 25.45	+ 8 23.2	1.845	2.819	4.3	19.6	2 21	9 23.58	+19 11.6	2.088	3.055	4.7	19.4
3 2	9 17.97	+ 9 20.0	1.884	2.821	8.0	19.8	3 2	9 14.41	+19 3.9	2.143	3.061	8.3	19.7
3 12	9 12.22	+10 12.1	1.949	2.823	11.5	20.0	3 12	9 7.13	+18 47.3	2.223	3.068	11.5	19.9
32468	2000 <i>SS</i> ₁₇₆		2 10.7 253°46	4°1/ 7.7	18		114488	2003 <i>AB</i> ₅₈		2 10.7 85°16	2°3/ 9.2	18	
1 2	10 5.53	+24 58.8	2.136	2.913	13.9	18.3	1 2	10 5.34	+15 45.2	1.449	2.237	18.8	19.3
1 12	10 0.94	+25 31.6	2.036	2.900	11.1	18.0	1 12	10 1.39	+16 39.3	1.388	2.259	14.8	19.1
1 22	9 53.72	+26 7.3	1.959	2.886	7.9	17.8	1 22	9 54.26	+17 47.3	1.347	2.282	10.1	18.9
2 1	9 44.36	+26 39.9	1.909	2.873	5.0	17.6	2 1	9 44.66	+19 1.6	1.331	2.304	5.1	18.7
2 11	9 33.78	+27 2.9	1.887	2.858	4.4	17.5	2 11	9 33.85	+20 12.4	1.342	2.325	2.5	18.5
2 21	9 23.08	+27 11.6	1.895	2.844	6.9	17.7	2 21	9 23.30	+21 11.2	1.380	2.347	6.6	18.9
3 2	9 13.46	+27 3.5	1.931	2.829	10.3	17.8	3 2	9 14.43	+21 52.6	1.445	2.368	11.2	19.2
3 12	9 5.89	+26 39.1	1.991	2.814	13.5	18.0	3 12	9 8.24	+22 14.8	1.533	2.388	15.2	19.5
186176	2001 <i>UL</i> ₁₇₂		2 10.7 40°73	1°5/11.8	18		427706	2004 <i>FL</i> ₇₉		2 10.7 159°88	2°7/13.5	17	
1 2	9 58.67	+ 8 9.6	1.769	2.532	16.8	20.6	1 2	9 56.14	+ 2 36.3	2.650	3.366	13.0	22.1
1 12	9 55.68	+ 8 22.0	1.682	2.535	13.6	20.3	1 12	9 52.75	+ 2 47.5	2.550	3.368	10.7	21.9
1 22	9 50.14	+ 8 51.2	1.616	2.539	9.7	20.1	1 22	9 47.63	+ 3 13.1	2.473	3.371	8.0	21.8
2 1	9 42.56	+ 9 34.8	1.575	2.542	5.4	19.9	2 1	9 41.16	+ 3 52.4	2.421	3.373	5.1	21.6
2 11	9 33.84	+10 27.9	1.560	2.546	1.5	19.6	2 11	9 33.95	+ 4 42.6	2.399	3.376	2.8	21.4
2 21	9 25.08	+11 24.4	1.574	2.550	4.6	19.8	2 21	9 26.68	+ 5 39.9	2.407	3.378	3.7	21.5
3 2	9 17.42	+12 18.0	1.615	2.553	9.0	20.1	3 2	9 20.09	+ 6 39.8	2.444	3.379	6.5	21.7
3 12	9 11.80	+13 3.4	1.681	2.558	13.0	20.3	3 12	9 14.79	+ 7 37.6	2.509	3.381	9.4	21.9
279731	1995 <i>OC</i> ₉		2 10.7 230°69	2°0/12.5	18		234849	2002 <i>RH</i> ₁₉₄		2 10.7 52°16	1°1/11.6	18	
1 2	9 57.23	+ 4 54.3	2.058	2.800	15.4	21.0	1 2	9 57					

EPHEMERIDES

2 10.7

2 10.7

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
298866	2004 <i>RA</i> ₃₂₆		2 10.7 128°22	3°7/13.3	18		403854	2011 <i>UD</i> ₃₁₈		2 10.7 145°10	5°3/6.7	18	
1 2	10 4.71	+ 3 19.0	1.882	2.608	17.2	20.9	1 2	10 5.82	+25 11.8	1.846	2.633	15.4	21.8
1 12	10 0.16	+ 3 1.0	1.799	2.622	14.2	20.7	1 12	10 1.47	+26 23.1	1.772	2.641	12.2	21.6
1 22	9 53.08	+ 3 0.4	1.735	2.636	10.6	20.5	1 22	9 54.22	+27 39.0	1.720	2.649	8.8	21.4
2 1	9 44.01	+ 3 16.8	1.697	2.649	6.8	20.3	2 1	9 44.68	+28 51.0	1.695	2.656	5.9	21.2
2 11	9 33.89	+ 3 47.7	1.686	2.662	3.9	20.1	2 11	9 33.90	+29 50.0	1.698	2.662	5.7	21.2
2 21	9 23.81	+ 4 28.6	1.704	2.674	5.1	20.2	2 21	9 23.18	+30 29.4	1.730	2.668	8.3	21.4
3 2	9 14.89	+ 5 14.1	1.751	2.685	8.7	20.5	3 2	9 13.82	+30 46.2	1.787	2.674	11.6	21.6
3 12	9 8.01	+ 5 58.5	1.823	2.696	12.3	20.7	3 12	9 6.82	+30 41.4	1.868	2.679	14.7	21.8
119555	2001 <i>VW</i> ₃₉		2 10.7 192°59	2°5/12.7	18		500389	2012 <i>TF</i> ₈₅		2 10.7 149°83	0°0/10.7	17	
1 2	10 0.43	+ 5 42.0	2.120	2.856	15.2	20.0	1 2	9 58.39	+12 23.4	2.648	3.399	12.1	22.3
1 12	9 56.65	+ 5 36.7	2.022	2.855	12.5	19.7	1 12	9 54.52	+12 43.8	2.555	3.404	9.6	22.1
1 22	9 50.62	+ 5 46.1	1.945	2.854	9.2	19.5	1 22	9 48.85	+13 13.2	2.485	3.409	6.7	21.9
2 1	9 42.79	+ 6 9.3	1.893	2.852	5.5	19.3	2 1	9 41.79	+13 49.1	2.443	3.413	3.4	21.7
2 11	9 33.93	+ 6 43.5	1.870	2.851	2.6	19.1	2 11	9 33.99	+14 27.7	2.431	3.418	0.1	21.4
2 21	9 24.97	+ 7 24.4	1.876	2.849	4.4	19.2	2 21	9 26.17	+15 5.2	2.449	3.422	3.6	21.8
3 2	9 16.91	+ 8 7.3	1.910	2.846	8.0	19.4	3 2	9 19.08	+15 38.0	2.498	3.426	6.8	22.0
3 12	9 10.58	+ 8 47.4	1.971	2.844	11.5	19.6	3 12	9 13.38	+16 3.7	2.573	3.429	9.7	22.2
122985	2000 <i>SE</i> ₂₄₄		2 10.7 280°71	2°9/9.0	18		470879	2009 <i>BP</i> ₃₆		2 10.7 311°83	2°9/7.8	17	
1 2	10 3.47	+18 51.5	1.557	2.350	17.5	19.6	1 2	9 55.12	+17 13.5	2.065	2.852	14.0	20.6
1 12	10 0.31	+19 21.9	1.460	2.334	14.0	19.4	1 12	9 52.84	+18 34.2	1.961	2.834	11.0	20.4
1 22	9 53.92	+20 3.1	1.383	2.318	9.8	19.1	1 22	9 48.26	+20 8.6	1.881	2.816	7.6	20.2
2 1	9 44.76	+20 49.0	1.330	2.302	5.2	18.8	2 1	9 41.72	+21 50.5	1.827	2.799	4.1	19.9
2 11	9 33.87	+21 31.6	1.304	2.286	3.1	18.6	2 11	9 33.98	+23 31.7	1.803	2.782	3.2	19.8
2 21	9 22.70	+22 3.1	1.305	2.270	7.1	18.8	2 21	9 25.98	+25 3.7	1.808	2.765	6.4	20.0
3 2	9 12.83	+22 18.3	1.332	2.254	12.0	19.0	3 2	9 18.77	+26 19.7	1.841	2.748	10.2	20.2
3 12	9 5.56	+22 15.6	1.381	2.238	16.4	19.2	3 12	9 13.32	+27 16.0	1.898	2.732	13.6	20.4
289177	2004 <i>VU</i> ₇₂		2 10.7 76°71	3°9/12.9	18		60018	1999 <i>TN</i> ₃₇		2 10.7 105°07	0°8/10.1	18	
1 2	10 5.75	+ 4 58.0	1.512	2.262	19.8	20.8	1 2	10 3.08	+12 24.4	1.900	2.663	15.8	20.0
1 12	10 1.46	+ 4 27.2	1.444	2.284	16.2	20.6	1 12	9 58.84	+13 15.5	1.829	2.686	12.5	19.8
1 22	9 54.18	+ 4 15.1	1.395	2.305	12.0	20.4	1 22	9 52.13	+14 20.3	1.780	2.707	8.6	19.6
2 1	9 44.60	+ 4 21.6	1.369	2.327	7.4	20.2	2 1	9 43.52	+15 33.7	1.757	2.729	4.2	19.4
2 11	9 33.88	+ 4 43.7	1.369	2.348	4.0	20.0	2 11	9 33.94	+16 48.3	1.763	2.749	0.9	19.2
2 21	9 23.39	+ 5 16.3	1.397	2.369	5.7	20.2	2 21	9 24.49	+17 57.3	1.799	2.769	4.9	19.5
3 2	9 14.42	+ 5 53.2	1.452	2.390	9.8	20.4	3 2	9 16.23	+18 54.9	1.864	2.789	9.0	19.8
3 12	9 7.96	+ 6 28.5	1.530	2.411	13.8	20.7	3 12	9 10.00	+19 38.1	1.954	2.807	12.5	20.0
199798	2006 <i>UF</i> ₂₅₆		2 10.7 144°56	12°4/15.4	17		360484	2002 <i>UR</i> ₅₀		2 10.7 269°52	8°9/16.6	18	
1 2	10 15.28	- 6 27.8	1.377	2.065	24.0	20.3	1 2	9 59.48	- 7 51.9	1.863	2.544	18.8	20.9
1 12	10 9.82	- 8 50.7	1.298	2.074	21.2	20.1	1 12	9 56.51	- 8 50.9	1.754	2.528	16.6	20.7
1 22	10 0.61	-10 53.4	1.235	2.083	17.9	19.9	1 22	9 50.95	- 9 28.4	1.662	2.512	13.9	20.5
2 1	9 48.17	-12 26.5	1.192	2.091	14.7	19.7	2 1	9 43.17	- 9 39.6	1.590	2.495	11.2	20.3
2 11	9 33.78	-13 22.7	1.174	2.098	12.6	19.6	2 11	9 33.95	- 9 22.2	1.543	2.479	9.2	20.1
2 21	9 19.19	-13 39.7	1.180	2.104	12.8	19.6	2 21	9 24.36	- 8 37.4	1.522	2.462	9.1	20.1
3 2	9 6.27	-13 21.7	1.211	2.110	15.0	19.8	3 2	9 15.61	- 7 30.0	1.526	2.445	11.0	20.1
3 12	8 56.48	-12 39.2	1.263	2.115	18.0	20.0	3 12	9 8.79	- 6 8.5	1.555	2.428	14.0	20.3
328769	2009 <i>UG</i> ₁₀₇		2 10.7 184°47	2°0/12.6	18		89031	2001 <i>TF</i> ₁₀₆		2 10.7 30°89	4°4/13.1	18	
1 2	9 59.95	+ 5 35.7	2.529	3.253	13.3	22.0	1 2	9 59.64	+ 4 50.8	1.201	1.983	22.3	18.0
1 12	9 55.87	+ 5 44.0	2.427	3.253	10.9	21.9	1 12	9 57.47	+ 4 17.3	1.134	1.993	18.4	17.7
1 22	9 49.86	+ 6 5.6	2.347	3.253	7.9	21.7	1 22	9 51.93	+ 4 6.8	1.085	2.004	13.6	17.5
2 1	9 42.34	+ 6 39.2	2.293	3.252	4.7	21.5	2 1	9 43.66	+ 4 19.7	1.056	2.017	8.5	17.2
2 11	9 33.96	+ 7 21.8	2.269	3.251	2.1	21.3	2 11	9 33.94	+ 4 52.6	1.050	2.030	4.6	17.0
2 21	9 25.50	+ 8 9.6	2.276	3.249	3.7	21.4	2 21	9 24.35	+ 5 38.8	1.069	2.044	6.4	17.2
3 2	9 17.78	+ 8 58.1	2.313	3.246	7.0	21.6	3 2	9 16.43	+ 6 29.8	1.112	2.058	11.2	17.5
3 12	9 11.49	+ 9 43.3	2.377	3.243	10.1	21.8	3 12	9 11.35	+ 7 17.5	1.177	2.074	15.8	17.8
84875	2003 <i>BW</i> ₆₈		2 10.7 229°89	0°2/10.6	18		496246	2012 <i>HZ</i> ₆₆		2 10.7 324°93	8°3/16.5	18	
1 2	9 56.34	+11 58.9	2.687	3.440	11.9	19.8	1 2	9 55.86	- 6 10.5	1.698	2.405	19.5	20.9
1 12	9 52.98	+12 32.9	2.584	3.435	9.5	19.6	1 12	9 53.78	- 7 0.2	1.599	2.394	17.0	20.7
1 22	9 47.85	+13 17.2	2.504	3.429	6.6	19.4	1 22	9 49.09	- 7 26.3	1.517	2.384	14.1	20.5
2 1	9 41.32	+14 9.0	2.452	3.423	3.3	19.1	2 1	9 42.22	- 7 24.6	1.456	2.374	11.0	20.3
2 11	9 33.99	+15 4.1	2.430	3.417	0.2	18.9	2 11	9 33.98	- 6 53.7	1.418	2.365	8.7	20.1
2 21	9 26.57	+15 58.2	2.439	3.411	3.6	19.1	2 21	9 25.50	- 5 56.3	1.406	2.356	8.6	20.1
3 2	9 19.80	+16 47.0	2.477	3.404	6.9	19.3	3 2	9 17.98	- 4 38.8	1.418	2.348	10.8	20.2
3 12	9 14.34	+17 27.4	2.543	3.398	9.9	19.5	3 12	9 12.49	- 3 10.7	1.455	2.340	14.0	20.4
332423	2007 <i>RE</i> ₂₈₇		2 10.7 92°80	1°0/9.7	18		89490	2001 <i>XW</i> ₃₅		2 10.7 122°23	1°4/11.4	18	
1 2	10 0.16	+15 11.9	2.496	3.255	12.6	21.2	1 2	10 6.32	+11 12.3	1.582	2.349	18.4	19.9
1 12	9 55.90	+15 48.8	2.423	3.279	9.9	21.0	1 12	10 2.08	+10 53.1	1.498	2.353	14.8	19.7
1 22	9 49.75	+16 33.8	2.375	3.303	6.7	20.9	1 22	9 54.78	+10 46.7	1.434	2.358	10.6	19.4
2 1	9 42.20	+17 22.8	2.354	3.326	3.3	20.7	2 1	9 45.03	+10 51.3	1.394	2.362	5.7	19.1
2 11	9 33.97	+18 11.0	2.364	3.349	1.1	20.6	2 11	9 33.91	+11 3.0	1.381	2.367	1.4	18.9
2 21	9 25.85	+18 54.2	2.404	3.372	4.1	20.8	2 21	9 22.82	+11 17.1	1.396	2.371	5.2	19.1
3 2	9 18.62	+19 29.0	2.474	3.394	7.3	21.1	3 2	9 13.14	+11 29.3	1.438	2.374	10.1	19.4
3 12	9 12.92	+19 53.3	2.571	3.416	10.1	21.3	3 12	9 5.96	+11 36.0	1.504	2.378	14.4	19.7
68608	2002 <i>AM</i> ₁₁₇		2 10.7 261°05	2°3/11.7	18		259089	2002 <i>VZ</i> ₆₇		2 10.7 359°05	0°8/10.2	18	
1 2	10 12.16	+11 2.9	1.886	2.626	16								

EPHEMERIDES

2 10.7

2 10.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
233148	2005 <i>UP</i> ₂₁₄		2 10.7 169°54	2°2/12.1	18		371151	2005 <i>XA</i> ₄₃		2 10.8 187°88	4°2/14.6	17	
1 2	10 5.32	+ 7 30.7	1.776	2.523	17.4	21.0	1 2	10 1.22	- 1 6.1	2.739	3.421	13.3	22.4
1 12	10 0.98	+ 7 23.5	1.686	2.527	14.2	20.8	1 12	9 56.72	- 1 25.5	2.631	3.421	11.2	22.3
1 22	9 53.88	+ 7 31.9	1.615	2.530	10.3	20.5	1 22	9 50.40	- 1 30.7	2.545	3.419	8.8	22.1
2 1	9 44.54	+ 7 54.5	1.569	2.533	5.9	20.3	2 1	9 42.64	- 1 21.1	2.484	3.417	6.2	21.9
2 11	9 33.93	+ 8 27.9	1.551	2.535	2.3	20.0	2 11	9 34.04	- 0 57.8	2.452	3.414	4.4	21.8
2 21	9 23.26	+ 9 6.7	1.562	2.536	4.9	20.2	2 21	9 25.35	- 0 23.0	2.451	3.410	4.8	21.8
3 2	9 13.76	+ 9 45.5	1.601	2.537	9.3	20.5	3 2	9 17.31	+ 0 19.4	2.480	3.406	7.0	21.9
3 12	9 6.47	+10 19.4	1.665	2.537	13.3	20.7	3 12	9 10.61	+ 1 5.1	2.536	3.401	9.6	22.1
429930	2012 <i>TX</i> ₂₆₅		2 10.7 115°01	2°1/12.8	17		159042	2004 <i>TU</i> ₉₇		2 10.8 251°11	0°1/10.7	18	
1 2	9 56.48	+ 4 53.9	2.502	3.232	13.3	21.8	1 2	9 59.29	+12 19.9	2.020	2.786	14.9	20.9
1 12	9 53.13	+ 5 7.4	2.408	3.238	10.9	21.6	1 12	9 55.94	+12 42.3	1.927	2.785	11.9	20.7
1 22	9 47.96	+ 5 34.8	2.336	3.243	7.9	21.5	1 22	9 50.24	+13 17.0	1.856	2.783	8.3	20.4
2 1	9 41.38	+ 6 14.9	2.290	3.249	4.8	21.3	2 1	9 42.67	+14 0.7	1.811	2.782	4.2	20.2
2 11	9 34.02	+ 7 4.4	2.273	3.254	2.2	21.1	2 11	9 34.04	+14 48.4	1.794	2.781	0.2	19.8
2 21	9 26.64	+ 7 59.2	2.286	3.260	3.6	21.2	2 21	9 25.34	+15 34.7	1.806	2.779	4.5	20.2
3 2	9 19.99	+ 8 54.6	2.329	3.265	6.8	21.4	3 2	9 17.60	+16 14.4	1.847	2.778	8.6	20.4
3 12	9 14.73	+ 9 46.3	2.399	3.270	9.8	21.6	3 12	9 11.68	+16 44.2	1.913	2.776	12.2	20.7
266848	2009 <i>UB</i> ₅₃		2 10.7 23°12	1°1/ 9.9	18		280513	2004 <i>PD</i> ₂₈		2 10.8 189°92	3°1/13.1	18	
1 2	10 0.53	+15 24.0	1.869	2.647	15.5	21.1	1 2	10 3.09	+ 3 34.9	2.034	2.758	16.1	21.9
1 12	9 57.10	+15 47.2	1.782	2.648	12.3	20.9	1 12	9 58.92	+ 3 35.9	1.933	2.757	13.3	21.7
1 22	9 51.13	+16 20.9	1.717	2.649	8.5	20.7	1 22	9 52.32	+ 3 54.4	1.853	2.756	9.9	21.5
2 1	9 43.12	+17 1.0	1.677	2.650	4.2	20.4	2 1	9 43.75	+ 4 29.7	1.798	2.753	6.2	21.3
2 11	9 33.98	+17 41.6	1.666	2.651	1.2	20.2	2 11	9 34.02	+ 5 18.9	1.771	2.750	3.2	21.1
2 21	9 24.83	+18 17.2	1.682	2.653	5.2	20.5	2 21	9 24.13	+ 6 16.9	1.774	2.746	4.7	21.1
3 2	9 16.79	+18 43.2	1.727	2.654	9.4	20.7	3 2	9 15.18	+ 7 17.8	1.806	2.741	8.5	21.4
3 12	9 10.77	+18 57.1	1.796	2.656	13.1	21.0	3 12	9 8.09	+ 8 15.7	1.864	2.735	12.2	21.6
222347	2000 <i>WX</i> ₇₃		2 10.7 78°10	1°7/ 9.5	18		228405	2001 <i>FL</i> ₂		2 10.8 24°17	3°2/ 8.3	18	
1 2	10 2.16	+17 10.6	1.913	2.690	15.3	20.8	1 2	9 57.39	+18 18.3	1.631	2.431	16.5	19.5
1 12	9 58.22	+17 36.0	1.835	2.701	12.0	20.6	1 12	9 55.01	+19 18.8	1.559	2.438	13.0	19.3
1 22	9 51.77	+18 10.1	1.780	2.712	8.2	20.4	1 22	9 49.88	+20 30.5	1.508	2.446	8.9	19.0
2 1	9 43.38	+18 48.0	1.750	2.723	4.2	20.2	2 1	9 42.55	+21 46.3	1.482	2.454	4.8	18.8
2 11	9 33.98	+19 23.9	1.749	2.734	1.8	20.0	2 11	9 34.04	+22 57.4	1.483	2.463	3.4	18.7
2 21	9 24.68	+19 52.6	1.777	2.745	5.3	20.3	2 21	9 25.59	+23 55.8	1.512	2.473	6.9	19.0
3 2	9 16.57	+20 10.4	1.833	2.755	9.2	20.5	3 2	9 18.42	+24 36.3	1.566	2.483	10.9	19.2
3 12	9 10.49	+20 15.9	1.913	2.766	12.7	20.8	3 12	9 13.49	+24 57.0	1.643	2.494	14.6	19.5
403214	2008 <i>TX</i> ₁₇₁		2 10.7 122°38	2°4/12.3	18		335641	2006 <i>KD</i> ₃₂		2 10.8 210°06	0°5/10.3	17	
1 2	10 4.70	+ 6 29.7	1.721	2.467	17.9	22.4	1 2	9 59.49	+14 5.8	2.343	3.104	13.2	21.5
1 12	10 0.43	+ 6 28.1	1.641	2.481	14.5	22.2	1 12	9 55.75	+14 27.7	2.246	3.102	10.5	21.3
1 22	9 53.43	+ 6 43.9	1.581	2.495	10.5	21.9	1 22	9 49.92	+14 59.0	2.172	3.099	7.3	21.1
2 1	9 44.27	+ 7 15.4	1.546	2.508	6.1	21.7	2 1	9 42.45	+15 36.5	2.125	3.097	3.6	20.8
2 11	9 33.97	+ 7 58.3	1.538	2.521	2.5	21.5	2 11	9 34.06	+16 15.8	2.107	3.094	0.6	20.6
2 21	9 23.73	+ 8 47.0	1.559	2.533	4.9	21.7	2 21	9 25.60	+16 52.4	2.120	3.090	4.2	20.9
3 2	9 14.76	+ 9 35.1	1.607	2.544	9.2	22.0	3 2	9 17.97	+17 22.4	2.161	3.087	7.8	21.1
3 12	9 8.03	+10 17.5	1.681	2.555	13.1	22.2	3 12	9 11.93	+17 43.3	2.228	3.084	11.1	21.3
278986	Chenshuchu		2 10.7 161°47	0°5/10.3	18		496335	2013 <i>PD</i> ₁₈		2 10.8 123°58	0°8/11.3	18	
1 2	9 59.08	+13 17.1	2.329	3.090	13.3	21.1	1 2	10 2.10	+10 56.9	2.083	2.836	14.9	21.8
1 12	9 55.39	+13 47.2	2.237	3.092	10.6	20.9	1 12	9 57.95	+10 59.7	1.995	2.844	12.0	21.6
1 22	9 49.65	+14 27.6	2.168	3.095	7.3	20.7	1 22	9 51.50	+11 13.9	1.930	2.852	8.4	21.4
2 1	9 42.28	+15 15.1	2.126	3.097	3.6	20.4	2 1	9 43.25	+11 37.1	1.891	2.859	4.5	21.2
2 11	9 34.03	+16 4.7	2.113	3.099	0.6	20.2	2 11	9 34.04	+12 5.4	1.880	2.866	0.8	20.9
2 21	9 25.74	+16 51.6	2.130	3.101	4.2	20.5	2 21	9 24.85	+12 34.6	1.899	2.873	4.2	21.2
3 2	9 18.29	+17 31.6	2.176	3.102	7.8	20.7	3 2	9 16.68	+13 0.6	1.947	2.880	8.1	21.4
3 12	9 12.42	+18 1.8	2.249	3.104	11.0	20.9	3 12	9 10.33	+13 20.3	2.021	2.886	11.6	21.6
58372	1995 <i>SQ</i>		2 10.7 190°44	1°0/ 9.9	18		39928	1998 <i>FR</i> ₇₀		2 10.8 358°21	5°7/ 7.8	18	
1 2	10 3.46	+14 44.2	2.158	2.919	14.3	21.5	1 2	10 1.57	+24 4.3	1.240	2.061	19.5	18.1
1 12	9 59.09	+15 15.0	2.062	2.918	11.3	21.3	1 12	9 59.45	+24 46.8	1.168	2.057	15.6	17.9
1 22	9 52.36	+15 56.2	1.988	2.916	7.8	21.1	1 22	9 53.60	+25 35.9	1.116	2.055	11.1	17.6
2 1	9 43.72	+16 43.7	1.942	2.913	3.9	20.8	2 1	9 44.65	+26 22.0	1.086	2.054	6.9	17.4
2 11	9 33.99	+17 32.2	1.924	2.910	1.1	20.6	2 11	9 34.00	+26 54.5	1.079	2.054	6.0	17.3
2 21	9 24.18	+18 16.1	1.938	2.906	4.8	20.9	2 21	9 23.42	+27 5.4	1.098	2.055	9.5	17.5
3 2	9 15.31	+18 51.0	1.980	2.902	8.7	21.1	3 2	9 14.69	+26 51.6	1.139	2.057	14.1	17.8
3 12	9 8.28	+19 14.4	2.048	2.897	12.2	21.3	3 12	9 9.12	+26 15.1	1.201	2.059	18.3	18.0
92423	2000 <i>JZ</i> ₄₉		2 10.7 233°49	1°8/11.9	18		239434	2007 <i>TX</i> ₁₆₁		2 10.8 80°26	5°0/15.6	18	
1 2	10 4.17	+ 8 34.9	1.845	2.595	16.7	20.7	1 2	9 56.15	- 3 35.6	2.320	3.013	15.2	20.5
1 12	10 0.19	+ 8 30.7	1.739	2.584	13.7	20.4	1 12	9 53.05	- 3 43.2	2.227	3.020	12.9	20.3
1 22	9 53.46	+ 8 41.1	1.654	2.572	9.9	20.2	1 22	9 48.01	- 3 31.7	2.154	3.027	10.2	20.1
2 1	9 44.43	+ 9 4.7	1.593	2.559	5.6	19.9	2 1	9 41.46	- 3 0.5	2.105	3.034	7.4	20.0
2 11	9 33.98	+ 9 38.1	1.561	2.546	1.8	19.6	2 11	9 34.09	- 2 11.1	2.083	3.042	5.3	19.8
2 21	9 23.25	+10 16.3	1.557	2.531	4.9	19.8	2 21	9 26.68	- 1 7.6	2.089	3.049	5.4	19.9
3 2	9 13.53	+10 53.7	1.582	2.517	9.4	20.0	3 2	9 20.05	+ 0 4.7	2.124	3.056	7.6	20.0
3 12	9 5.90	+11 25.8	1.631	2.502	13.6	20.2	3 12	9 14.90	+ 1 19.4	2.186	3.063	10.3	20.2
148136	1999 <i>TX</i> ₂₈₇		2 10.7 133°17	1°7/11.8	18		467279	2016 <i>EM</i> ₁₉₂		2 10.8 272°99	6°5/15.7	17	
1 2	10 2.34	+ 7 49.6	1.472	2.241	19.4	20.4	1 2	9 5					

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
155351	2007 <i>CY</i> ₂₄		2 10.8	33°90	1.3°/11.9	18	506300	2017 <i>NN</i> ₂		2 10.8	204°24	4.6°/15.1	17
1 2	9 56.27	+ 5 30.0	1.749	2.507	17.2	19.8	1 2	10 0.45	- 2 45.9	2.840	3.512	13.0	21.5
1 12	9 53.90	+ 6 19.9	1.661	2.511	13.9	19.6	1 12	9 56.11	- 3 8.4	2.726	3.506	11.1	21.3
1 22	9 49.02	+ 7 32.2	1.594	2.515	10.0	19.4	1 22	9 50.00	- 3 16.6	2.634	3.499	8.8	21.1
2 1	9 42.13	+ 9 3.6	1.552	2.519	5.5	19.1	2 1	9 42.47	- 3 9.5	2.567	3.491	6.5	21.0
2 11	9 34.08	+10 47.2	1.537	2.523	1.4	18.8	2 11	9 34.11	- 2 47.8	2.528	3.483	4.8	20.8
2 21	9 25.95	+12 34.0	1.552	2.527	4.6	19.1	2 21	9 25.61	- 2 13.6	2.520	3.474	5.0	20.8
3 2	9 18.86	+14 14.8	1.594	2.532	9.1	19.3	3 2	9 17.71	- 1 30.2	2.542	3.465	7.0	20.9
3 12	9 13.75	+15 42.3	1.661	2.537	13.2	19.6	3 12	9 11.07	- 0 42.2	2.591	3.454	9.4	21.1
218900	Gabybuchholz		2 10.8	0°74	4.4°/14.6	18	297167	2010 <i>VS</i> ₈₁		2 10.8	154°75	2°8/ 8.5	18
1 2	9 55.08	- 1 21.8	1.757	2.487	18.1	20.5	1 2	10 3.18	+19 46.8	2.130	2.904	14.0	21.4
1 12	9 52.96	- 1 2.7	1.664	2.487	15.2	20.3	1 12	9 58.90	+20 32.9	2.047	2.911	11.0	21.2
1 22	9 48.39	- 0 17.7	1.589	2.486	11.7	20.1	1 22	9 52.22	+21 26.1	1.986	2.916	7.6	21.0
2 1	9 41.82	+ 0 53.0	1.538	2.486	7.8	19.9	2 1	9 43.66	+22 20.8	1.952	2.922	4.2	20.8
2 11	9 34.09	+ 2 25.7	1.513	2.486	4.7	19.7	2 11	9 34.08	+23 10.6	1.947	2.926	3.0	20.7
2 21	9 26.24	+ 4 12.8	1.515	2.487	5.4	19.7	2 21	9 24.51	+23 50.0	1.973	2.931	5.8	20.9
3 2	9 19.37	+ 6 5.0	1.546	2.488	9.0	19.9	3 2	9 15.98	+24 15.3	2.026	2.935	9.3	21.1
3 12	9 14.43	+ 7 52.5	1.602	2.489	12.8	20.2	3 12	9 9.36	+24 25.5	2.104	2.938	12.5	21.3
335959	2007 <i>TZ</i> ₁₄₅		2 10.8	106°16	4°0/14.8	18	23211	2000 <i>SC</i> ₃₁₁		2 10.8	242°15	3°6/13.0	17
1 2	9 56.86	- 1 12.9	2.471	3.170	14.2	21.3	1 2	10 3.36	+ 5 2.6	2.143	2.869	15.4	19.6
1 12	9 53.44	- 1 11.9	2.380	3.181	11.9	21.1	1 12	9 59.04	+ 4 25.3	2.037	2.861	12.7	19.4
1 22	9 48.18	- 0 53.7	2.309	3.192	9.2	21.0	1 22	9 52.38	+ 4 0.3	1.951	2.853	9.6	19.2
2 1	9 41.52	- 0 18.7	2.264	3.203	6.4	20.8	2 1	9 43.80	+ 3 48.1	1.891	2.844	6.2	18.9
2 11	9 34.10	+ 0 31.1	2.247	3.214	4.2	20.7	2 11	9 34.08	+ 3 47.6	1.859	2.835	3.7	18.8
2 21	9 26.68	+ 1 31.6	2.259	3.224	4.6	20.7	2 21	9 24.19	+ 3 56.4	1.857	2.826	4.9	18.8
3 2	9 20.01	+ 2 37.8	2.301	3.234	7.0	20.9	3 2	9 15.17	+ 4 11.4	1.883	2.816	8.3	19.0
3 12	9 14.74	+ 3 44.4	2.370	3.245	9.7	21.1	3 12	9 7.92	+ 4 28.4	1.936	2.807	11.8	19.2
109404	2001 <i>QD</i> ₁₈₁		2 10.8	197°49	1°1/ 9.9	18	473856	2016 <i>EM</i> ₁₃₁		2 10.8	182°18	0°9/10.1	17
1 2	10 3.09	+15 39.8	2.300	3.059	13.5	20.6	1 2	10 1.80	+15 15.3	2.204	2.968	13.9	22.0
1 12	9 58.66	+16 4.4	2.201	3.056	10.7	20.4	1 12	9 57.70	+15 34.5	2.111	2.968	11.0	21.8
1 22	9 51.99	+16 37.6	2.126	3.053	7.4	20.2	1 22	9 51.35	+16 2.6	2.041	2.969	7.6	21.6
2 1	9 43.53	+17 15.7	2.077	3.049	3.7	20.0	2 1	9 43.22	+16 35.9	1.997	2.968	3.8	21.3
2 11	9 34.06	+17 53.9	2.059	3.044	1.2	19.8	2 11	9 34.10	+17 9.9	1.982	2.968	0.9	21.1
2 21	9 24.50	+18 27.6	2.071	3.039	4.6	20.0	2 21	9 24.95	+17 39.8	1.997	2.967	4.5	21.4
3 2	9 15.84	+18 52.9	2.112	3.033	8.3	20.2	3 2	9 16.73	+18 2.1	2.042	2.966	8.3	21.6
3 12	9 8.89	+19 7.8	2.179	3.027	11.6	20.4	3 12	9 10.27	+18 14.6	2.112	2.965	11.7	21.8
137766	1999 <i>XM</i> ₁₈₄		2 10.8	45°35	5°5/ 6.9	18	273769	2007 <i>EW</i> ₁₇₀		2 10.8	150°33	1°6/ 9.6	18
1 2	10 2.93	+26 7.2	1.693	2.492	16.0	19.2	1 2	10 2.64	+17 9.1	2.048	2.819	14.6	21.6
1 12	9 59.26	+27 5.2	1.634	2.510	12.7	19.0	1 12	9 58.54	+17 33.6	1.960	2.823	11.5	21.4
1 22	9 52.68	+28 5.6	1.597	2.528	9.1	18.8	1 22	9 52.02	+18 6.3	1.895	2.826	7.9	21.2
2 1	9 43.89	+28 59.9	1.586	2.547	6.2	18.7	2 1	9 43.58	+18 43.0	1.857	2.829	4.0	21.0
2 11	9 34.05	+29 39.8	1.601	2.566	5.8	18.7	2 11	9 34.10	+19 18.0	1.848	2.832	1.7	20.8
2 21	9 24.48	+30 0.1	1.643	2.585	8.3	18.9	2 21	9 24.62	+19 46.4	1.867	2.835	5.1	21.0
3 2	9 16.41	+29 58.8	1.711	2.605	11.6	19.2	3 2	9 16.21	+20 4.6	1.916	2.837	9.0	21.3
3 12	9 10.77	+29 37.7	1.801	2.625	14.7	19.4	3 12	9 9.73	+20 11.0	1.989	2.839	12.4	21.5
110486	2001 <i>TC</i> ₆₁		2 10.8	108°72	2°0/ 9.1	18	261297	2005 <i>UR</i> ₁₇₇		2 10.8	326°31	2°1/12.1	18
1 2	10 2.87	+17 12.7	2.057	2.828	14.5	20.7	1 2	9 59.00	+ 8 7.9	1.748	2.511	17.0	20.3
1 12	9 58.58	+17 57.0	1.983	2.845	11.4	20.6	1 12	9 56.14	+ 7 59.4	1.653	2.505	13.9	20.1
1 22	9 51.93	+18 49.9	1.931	2.862	7.8	20.4	1 22	9 50.66	+ 8 6.2	1.578	2.498	10.1	19.8
2 1	9 43.46	+19 46.3	1.907	2.878	4.0	20.2	2 1	9 43.02	+ 8 27.3	1.526	2.492	5.8	19.6
2 11	9 34.07	+20 39.8	1.912	2.894	2.1	20.1	2 11	9 34.11	+ 8 59.0	1.502	2.486	2.1	19.3
2 21	9 24.79	+21 24.7	1.946	2.910	5.3	20.3	2 21	9 25.06	+ 9 36.4	1.505	2.480	4.8	19.5
3 2	9 16.62	+21 57.1	2.009	2.925	8.9	20.5	3 2	9 17.07	+10 14.0	1.535	2.475	9.2	19.7
3 12	9 10.37	+22 15.5	2.097	2.940	12.2	20.8	3 12	9 11.13	+10 46.7	1.590	2.470	13.3	19.9
451653	2012 <i>UO</i> ₅₇		2 10.8	176°82	1°9/11.9	18	414787	2010 <i>RE</i> ₅₇		2 10.8	266°16	0°5/10.5	16
1 2	10 4.74	+ 7 30.8	1.681	2.433	18.0	22.6	1 2	10 5.07	+14 54.5	1.792	2.562	16.4	21.6
1 12	10 0.75	+ 7 37.1	1.590	2.436	14.7	22.4	1 12	10 1.11	+14 55.7	1.684	2.545	13.2	21.3
1 22	9 53.89	+ 8 1.1	1.520	2.437	10.6	22.1	1 22	9 54.25	+15 6.8	1.598	2.527	9.3	21.0
2 1	9 44.65	+ 8 41.0	1.473	2.438	6.0	21.8	2 1	9 44.92	+15 24.9	1.537	2.509	4.7	20.7
2 11	9 34.04	+ 9 32.1	1.454	2.439	2.0	21.6	2 11	9 34.06	+15 44.8	1.504	2.490	0.6	20.4
2 21	9 23.32	+10 27.9	1.464	2.438	5.0	21.8	2 21	9 22.91	+16 1.7	1.499	2.472	5.3	20.7
3 2	9 13.83	+11 21.5	1.501	2.437	9.7	22.1	3 2	9 12.82	+16 11.1	1.522	2.453	10.2	20.9
3 12	9 6.63	+12 7.5	1.563	2.436	14.0	22.3	3 12	9 4.98	+16 10.7	1.570	2.433	14.5	21.1
378803	2008 <i>SW</i> ₁₇₂		2 10.8	122°31	4°9/14.9	18	491109	2011 <i>SR</i> ₆₅		2 10.8	140°70	2°1/12.2	18
1 2	10 1.15	- 1 46.8	2.437	3.125	14.6	21.1	1 2	10 4.77	+ 7 26.3	1.831	2.576	17.0	22.0
1 12	9 56.80	- 2 20.3	2.347	3.138	12.4	21.0	1 12	10 0.40	+ 7 21.8	1.745	2.586	13.8	21.8
1 22	9 50.51	- 2 38.2	2.278	3.151	9.7	20.8	1 22	9 53.40	+ 7 32.6	1.680	2.595	10.0	21.5
2 1	9 42.71	- 2 39.6	2.234	3.163	7.1	20.7	2 1	9 44.31	+ 7 57.2	1.640	2.604	5.7	21.3
2 11	9 34.10	- 2 25.1	2.217	3.175	5.1	20.6	2 11	9 34.08	+ 8 31.9	1.628	2.612	2.2	21.1
2 21	9 25.49	- 1 57.4	2.230	3.187	5.4	20.6	2 21	9 23.87	+ 9 11.5	1.645	2.619	4.7	21.3
3 2	9 17.71	- 1 20.3	2.272	3.198	7.5	20.7	3 2	9 14.83	+ 9 50.8	1.690	2.626	8.9	21.5
3 12	9 11.44	- 0 38.7	2.341	3.208	10.1	20.9	3 12	9 7.91	+10 25.0	1.761	2.633	12.7	21.8
378804	2008 <i>SJ</i> ₁₇₃		2 10.8	180°66	2°8/13.5	17	448088	2008 <i>JT</i> ₁₅		2 10.8	222°53	2°0/ 9.5	18
1 2	9 59.96	+ 2 54.0	2.842	3.546	12.4	22.0	1 2</						

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
12633	Fazio		2 10.8 274°42'	1°9/ 9.5	18		499813	2011 <i>CJ</i> ₁₁₀		2 10.8 171°26'	1°4/11.7	18	
1 2	10 2.16	+16 40.0	1.693	2.478	16.6	18.8	1 2	10 1.05	+ 9 33.5	2.064	2.816	15.1	22.1
1 12	9 58.95	+17 9.4	1.595	2.465	13.3	18.5	1 12	9 57.24	+ 9 29.7	1.970	2.816	12.2	21.9
1 22	9 52.82	+17 50.6	1.517	2.451	9.2	18.3	1 22	9 51.12	+ 9 38.2	1.897	2.817	8.7	21.6
2 1	9 44.21	+18 38.6	1.465	2.438	4.7	18.0	2 1	9 43.15	+ 9 57.1	1.851	2.817	4.8	21.4
2 11	9 34.09	+19 26.3	1.440	2.424	2.1	17.8	2 11	9 34.16	+10 23.1	1.832	2.817	1.4	21.2
2 21	9 23.73	+20 6.7	1.442	2.410	6.2	18.0	2 21	9 25.12	+10 52.0	1.843	2.818	4.2	21.4
3 2	9 14.52	+20 34.2	1.472	2.397	10.9	18.2	3 2	9 17.03	+11 19.6	1.882	2.818	8.2	21.6
3 12	9 7.63	+20 46.3	1.524	2.383	15.1	18.4	3 12	9 10.74	+11 42.2	1.947	2.818	11.7	21.8
98680	2000 <i>WE</i> ₁₇₈		2 10.8 81°43'	1°5/ 9.8	18		463493	2013 <i>QV</i> ₄₁		2 10.8 79°25'	1°6/11.9	18	
1 2	10 4.22	+15 6.0	1.579	2.361	17.8	20.1	1 2	9 59.65	+ 8 9.9	1.941	2.695	15.9	21.7
1 12	10 0.31	+15 42.2	1.513	2.381	14.0	19.9	1 12	9 56.27	+ 8 14.7	1.851	2.698	12.8	21.4
1 22	9 53.46	+16 31.1	1.467	2.400	9.6	19.7	1 22	9 50.52	+ 8 34.3	1.783	2.702	9.2	21.2
2 1	9 44.34	+17 26.9	1.446	2.419	4.8	19.4	2 1	9 42.87	+ 9 6.7	1.739	2.705	5.2	21.0
2 11	9 34.09	+18 21.8	1.452	2.438	1.6	19.3	2 11	9 34.17	+ 9 48.0	1.724	2.708	1.7	20.8
2 21	9 24.04	+19 8.6	1.487	2.456	5.8	19.6	2 21	9 25.43	+10 33.1	1.737	2.712	4.3	21.0
3 2	9 15.48	+19 42.4	1.548	2.475	10.3	19.9	3 2	9 17.70	+11 16.7	1.778	2.715	8.4	21.2
3 12	9 9.36	+20 0.9	1.633	2.493	14.2	20.2	3 12	9 11.83	+11 54.1	1.845	2.719	12.1	21.4
412573	2014 <i>OD</i> ₃		2 10.8 135°60'	0°3/10.9	18		227384	2005 <i>UT</i> ₂₇₅		2 10.8 103°40'	2°8/12.9	18	
1 2	10 1.23	+ 9 44.8	1.889	2.648	16.1	21.3	1 2	10 0.07	+ 5 8.4	1.963	2.704	16.1	20.8
1 12	9 57.58	+10 24.4	1.805	2.657	12.9	21.1	1 12	9 56.54	+ 5 4.1	1.875	2.710	13.2	20.6
1 22	9 51.44	+11 20.3	1.742	2.666	9.0	20.8	1 22	9 50.66	+ 5 16.1	1.807	2.717	9.7	20.4
2 1	9 43.32	+12 28.6	1.704	2.674	4.6	20.6	2 1	9 42.92	+ 5 43.3	1.764	2.723	5.9	20.2
2 11	9 34.12	+13 42.9	1.695	2.682	0.3	20.3	2 11	9 34.17	+ 6 22.5	1.749	2.730	2.9	20.0
2 21	9 24.89	+14 56.0	1.716	2.689	4.6	20.6	2 21	9 25.40	+ 7 9.0	1.763	2.736	4.5	20.1
3 2	9 16.75	+16 1.5	1.765	2.697	8.9	20.9	3 2	9 17.62	+ 7 57.4	1.804	2.742	8.3	20.3
3 12	9 10.58	+16 54.8	1.840	2.703	12.7	21.1	3 12	9 11.69	+ 8 42.4	1.872	2.748	11.8	20.6
89030	2001 <i>TQ</i> ₁₀₅		2 10.8 96°94'	5°1/ 7.6	18		245743	2006 <i>DL</i> ₁₄₀		2 10.8 270°67'	0°3/11.0	18	
1 2	10 7.56	+23 55.3	1.540	2.335	17.6	19.1	1 2	9 59.45	+ 8 54.8	1.714	2.481	17.2	21.0
1 12	10 3.27	+24 51.5	1.475	2.349	13.9	18.9	1 12	9 56.85	+ 9 37.6	1.603	2.460	14.0	20.7
1 22	9 55.70	+25 53.1	1.430	2.362	9.9	18.7	1 22	9 51.45	+10 41.5	1.513	2.439	9.9	20.4
2 1	9 45.54	+26 51.0	1.410	2.375	6.2	18.5	2 1	9 43.61	+12 3.7	1.447	2.417	5.2	20.1
2 11	9 34.07	+27 35.8	1.417	2.388	5.4	18.5	2 11	9 34.15	+13 37.6	1.409	2.395	0.3	19.6
2 21	9 22.82	+28 0.6	1.452	2.401	8.4	18.7	2 21	9 24.25	+15 14.2	1.399	2.373	5.3	19.9
3 2	9 13.28	+28 3.1	1.511	2.414	12.3	18.9	3 2	9 15.26	+16 44.2	1.416	2.350	10.5	20.2
3 12	9 6.52	+27 44.6	1.594	2.426	15.9	19.2	3 12	9 8.39	+18 0.1	1.458	2.327	15.0	20.4
352716	2008 <i>SF</i> ₂₁₁		2 10.8 103°27'	2°1/11.9	18		289661	2005 <i>GY</i> ₁₂₄		2 10.8 330°96'	0°5/11.2	18	
1 2	10 6.03	+ 8 33.7	1.569	2.328	18.8	21.2	1 2	9 53.96	+10 48.5	2.761	3.515	11.6	20.3
1 12	10 1.77	+ 8 20.1	1.493	2.342	15.2	21.0	1 12	9 51.11	+11 5.3	2.656	3.505	9.3	20.2
1 22	9 54.53	+ 8 22.5	1.436	2.355	10.9	20.7	1 22	9 46.60	+11 31.8	2.574	3.497	6.5	20.0
2 1	9 44.93	+ 8 39.2	1.403	2.368	6.2	20.5	2 1	9 40.78	+12 6.1	2.519	3.488	3.4	19.8
2 11	9 34.08	+ 9 6.0	1.397	2.381	2.2	20.3	2 11	9 34.23	+12 44.8	2.493	3.480	0.5	19.5
2 21	9 23.35	+ 9 37.6	1.419	2.394	5.2	20.5	2 21	9 27.59	+13 24.4	2.497	3.472	3.3	19.7
3 2	9 14.06	+10 8.5	1.468	2.406	9.8	20.8	3 2	9 21.56	+14 1.3	2.531	3.464	6.5	19.9
3 12	9 7.24	+10 33.9	1.542	2.418	13.9	21.1	3 12	9 16.76	+14 32.5	2.591	3.456	9.4	20.1
140945	2001 <i>VW</i> ₉₃		2 10.8 103°33'	5°8/17.5	18		458149	2010 <i>JA</i> ₄₈		2 10.8 147°44'	0°6/10.3	18	
1 2	9 56.53	- 8 54.7	2.742	3.387	14.0	20.2	1 2	10 2.85	+12 21.6	1.926	2.688	15.7	22.1
1 12	9 52.98	- 9 5.2	2.653	3.404	12.1	20.1	1 12	9 58.84	+13 3.8	1.841	2.697	12.5	21.9
1 22	9 47.78	- 8 56.9	2.583	3.421	10.0	20.0	1 22	9 52.32	+14 0.0	1.778	2.705	8.6	21.7
2 1	9 41.31	- 8 28.9	2.537	3.437	7.8	19.9	2 1	9 43.79	+15 5.6	1.742	2.713	4.3	21.5
2 11	9 34.18	- 7 42.1	2.518	3.453	6.2	19.8	2 11	9 34.17	+16 14.1	1.734	2.720	0.7	21.2
2 21	9 27.07	- 6 39.6	2.528	3.468	5.9	19.8	2 21	9 24.52	+17 18.6	1.756	2.727	4.9	21.5
3 2	9 20.65	- 5 26.1	2.566	3.484	7.2	19.9	3 2	9 15.97	+18 13.3	1.807	2.733	9.1	21.8
3 12	9 15.50	- 4 7.2	2.632	3.499	9.2	20.0	3 12	9 9.42	+18 54.6	1.882	2.738	12.8	22.0
203605	2002 <i>EW</i> ₂₄		2 10.8 8°47'	1°6/ 9.9	18		294201	2007 <i>TO</i> ₄₂₉		2 10.8 332°15'	5°1/14.6	17	
1 2	9 59.29	+15 52.8	1.184	1.998	20.6	20.3	1 2	9 54.97	+ 0 2.8	1.919	2.649	16.8	20.2
1 12	9 57.55	+16 6.6	1.113	1.999	16.4	20.0	1 12	9 52.76	- 0 25.7	1.814	2.635	14.2	20.0
1 22	9 52.24	+16 34.8	1.060	2.001	11.4	19.7	1 22	9 48.24	- 0 35.8	1.728	2.621	11.1	19.8
2 1	9 43.99	+17 11.9	1.029	2.004	5.7	19.4	2 1	9 41.81	- 0 25.8	1.665	2.608	7.9	19.5
2 11	9 34.12	+17 49.6	1.022	2.008	1.7	19.2	2 11	9 34.21	+ 0 3.3	1.628	2.596	5.4	19.4
2 21	9 24.30	+18 19.8	1.040	2.013	6.9	19.5	2 21	9 26.40	+ 0 48.3	1.618	2.584	5.9	19.4
3 2	9 16.23	+18 36.6	1.081	2.019	12.4	19.8	3 2	9 19.43	+ 1 43.6	1.635	2.573	8.9	19.5
3 12	9 11.16	+18 37.4	1.143	2.027	17.2	20.1	3 12	9 14.22	+ 2 42.7	1.676	2.563	12.4	19.7
132044	2002 <i>CP</i> ₁₃₂		2 10.8 293°69'	0°0/10.8	18		463837	2014 <i>TO</i> ₇₀		2 10.8 106°91'	0°4/10.4	18	
1 2	10 0.68	+12 19.3	1.532	2.316	18.1	20.8	1 2	10 1.02	+12 34.1	1.919	2.686	15.6	21.9
1 12	9 58.07	+12 30.5	1.433	2.301	14.7	20.5	1 12	9 57.36	+13 6.2	1.837	2.696	12.4	21.7
1 22	9 52.40	+12 57.3	1.354	2.285	10.4	20.2	1 22	9 51.26	+13 51.4	1.778	2.706	8.6	21.5
2 1	9 44.08	+13 36.6	1.298	2.270	5.3	19.9	2 1	9 43.24	+14 45.4	1.744	2.716	4.3	21.3
2 11	9 34.12	+14 22.6	1.269	2.255	0.1	19.4	2 11	9 34.19	+15 42.2	1.739	2.725	0.5	21.0
2 21	9 23.84	+15 8.1	1.266	2.241	5.7	19.8	2 21	9 25.16	+16 35.8	1.763	2.735	4.7	21.3
3 2	9 14.75	+15 46.4	1.289	2.226	11.0	20.1	3 2	9 17.24	+17 20.9	1.815	2.744	8.9	21.6
3 12	9 8.10	+16 12.9	1.336	2.212	15.7	20.3	3 12	9 11.26	+17 54.1	1.892	2.753	12.5	21.8
468714	2010 <i>DH</i> ₄₄		2 10.8 289°86'	3°4/14.0	17		371130	2005 <i>WK</i> ₇₇		2 10.8 185°43'	1°9/12.1	18	

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
127111	2002 GG ₉₆		2 10.8	15 ^o 57	4 ^o 9/14.1	18	352718	2008 SK ₂₁₇		2 10.8	61 ^o 75	3 ^o 5/12.7	18
1 2	9 56.09	+ 1 45.5	1.521	2.276	19.5	19.5	1 2	10 3.90	+ 6 31.0	1.414	2.180	20.3	21.2
1 12	9 54.07	+ 1 18.5	1.442	2.281	16.3	19.3	1 12	10 0.52	+ 5 59.6	1.336	2.186	16.6	20.9
1 22	9 49.32	+ 1 13.4	1.381	2.287	12.4	19.0	1 22	9 53.95	+ 5 46.3	1.276	2.193	12.2	20.7
2 1	9 42.37	+ 1 31.1	1.342	2.294	8.3	18.8	2 1	9 44.79	+ 5 51.2	1.239	2.201	7.4	20.4
2 11	9 34.21	+ 2 9.2	1.328	2.302	5.2	18.7	2 11	9 34.20	+ 6 11.2	1.227	2.208	3.6	20.2
2 21	9 26.04	+ 3 2.4	1.340	2.311	6.1	18.7	2 21	9 23.63	+ 6 41.2	1.241	2.215	5.8	20.4
3 2	9 19.08	+ 4 3.1	1.377	2.320	9.7	19.0	3 2	9 14.54	+ 7 15.0	1.281	2.223	10.5	20.6
3 12	9 14.34	+ 5 3.5	1.438	2.331	13.7	19.2	3 12	9 8.08	+ 7 46.4	1.345	2.230	14.9	20.9
465297	2007 TN ₃₆₈		2 10.8	125 ^o 47	3 ^o 5/ 7.3	18	226776	2004 RO ₁₃₈		2 10.8	160 ^o 47	4 ^o 2/13.9	18
1 2	10 2.13	+24 40.7	2.674	3.446	11.5	21.8	1 2	10 2.36	+ 1 44.0	2.298	3.006	14.9	20.8
1 12	9 57.54	+25 27.5	2.599	3.460	9.1	21.7	1 12	9 57.99	+ 1 11.5	2.201	3.010	12.5	20.6
1 22	9 50.99	+26 16.5	2.547	3.473	6.4	21.5	1 22	9 51.50	+ 0 53.1	2.125	3.014	9.6	20.5
2 1	9 42.98	+27 2.5	2.524	3.486	4.1	21.4	2 1	9 43.34	+ 0 49.7	2.074	3.017	6.5	20.3
2 11	9 34.21	+27 40.6	2.532	3.499	3.7	21.4	2 11	9 34.24	+ 1 0.0	2.052	3.021	4.3	20.1
2 21	9 25.53	+28 6.8	2.569	3.511	5.7	21.5	2 21	9 25.07	+ 1 21.6	2.059	3.023	5.0	20.2
3 2	9 17.73	+28 19.2	2.635	3.523	8.3	21.7	3 2	9 16.76	+ 1 50.6	2.095	3.026	7.8	20.4
3 12	9 11.50	+28 17.7	2.726	3.535	10.7	21.9	3 12	9 10.07	+ 2 22.6	2.158	3.028	10.8	20.6
366750	2004 PX ₆		2 10.8	112 ^o 05	0 ^o 7/11.5	18	53194	1999 CA ₅₂		2 10.8	307 ^o 84	4 ^o 1/ 7.9	18
1 2	10 0.27	+ 8 35.8	2.301	3.043	14.0	21.7	1 2	10 0.37	+21 16.8	1.659	2.458	16.3	18.6
1 12	9 56.24	+ 9 10.4	2.220	3.062	11.2	21.6	1 12	9 57.72	+22 5.1	1.564	2.442	13.0	18.4
1 22	9 50.20	+ 9 58.4	2.162	3.080	7.9	21.4	1 22	9 52.08	+23 2.8	1.490	2.426	9.2	18.1
2 1	9 42.61	+10 56.8	2.131	3.098	4.2	21.2	2 1	9 43.92	+24 2.8	1.441	2.411	5.4	17.8
2 11	9 34.22	+12 0.8	2.130	3.116	0.7	20.9	2 11	9 34.22	+24 56.4	1.419	2.396	4.3	17.7
2 21	9 25.89	+13 5.0	2.159	3.133	3.8	21.2	2 21	9 24.29	+25 35.8	1.424	2.381	7.7	17.9
3 2	9 18.45	+14 4.3	2.218	3.149	7.3	21.5	3 2	9 15.55	+25 55.9	1.454	2.367	12.0	18.1
3 12	9 12.62	+14 54.9	2.304	3.165	10.5	21.7	3 12	9 9.20	+25 55.5	1.507	2.353	15.9	18.3
452382	2002 CT ₁₇₆		2 10.8	331 ^o 56	1 ^o 7/ 9.6	18	52391	1993 QP ₅		2 10.8	198 ^o 37	0 ^o 8/10.3	18
1 2	9 54.41	+13 11.2	1.238	2.051	20.0	20.6	1 2	10 5.18	+15 47.1	2.074	2.836	14.7	19.1
1 12	9 53.77	+14 0.4	1.150	2.036	16.0	20.3	1 12	10 0.58	+15 54.0	1.978	2.834	11.7	18.9
1 22	9 49.80	+15 11.9	1.081	2.022	11.2	20.0	1 22	9 53.49	+16 9.1	1.905	2.832	8.1	18.6
2 1	9 42.92	+16 40.3	1.034	2.009	5.6	19.6	2 1	9 44.41	+16 29.0	1.857	2.829	4.1	18.4
2 11	9 34.21	+18 15.2	1.012	1.997	1.9	19.4	2 11	9 34.22	+16 49.0	1.839	2.826	0.9	18.1
2 21	9 25.17	+19 44.4	1.014	1.986	7.3	19.7	2 21	9 23.97	+17 4.9	1.851	2.822	4.7	18.4
3 2	9 17.53	+20 57.0	1.040	1.976	13.0	19.9	3 2	9 14.76	+17 13.4	1.892	2.818	8.8	18.6
3 12	9 12.69	+21 46.6	1.086	1.968	18.1	20.2	3 12	9 7.50	+17 12.7	1.958	2.813	12.4	18.8
229256	2005 AW ₂		2 10.8	302 ^o 98	2 ^o 6/ 8.4	18	338267	2002 TQ ₂₇₁		2 10.8	53 ^o 64	0 ^o 6/10.5	18
1 2	9 58.00	+17 58.6	2.082	2.865	14.0	20.1	1 2	10 5.17	+14 4.6	1.208	2.007	21.2	20.6
1 12	9 55.00	+18 58.5	1.992	2.861	11.0	19.9	1 12	10 1.93	+14 11.0	1.146	2.022	16.9	20.3
1 22	9 49.68	+20 8.4	1.924	2.858	7.6	19.6	1 22	9 55.07	+14 32.7	1.102	2.038	11.7	20.1
2 1	9 42.49	+21 22.9	1.884	2.855	4.1	19.4	2 1	9 45.35	+15 4.6	1.081	2.054	5.9	19.8
2 11	9 34.23	+22 34.7	1.872	2.852	2.8	19.3	2 11	9 34.20	+15 39.1	1.084	2.071	0.6	19.5
2 21	9 25.87	+23 37.2	1.889	2.849	5.9	19.5	2 21	9 23.33	+16 8.7	1.113	2.088	6.3	19.9
3 2	9 18.43	+24 25.4	1.934	2.846	9.5	19.7	3 2	9 14.39	+16 28.0	1.167	2.105	11.7	20.3
3 12	9 12.79	+24 56.8	2.004	2.843	12.8	19.9	3 12	9 8.49	+16 34.1	1.243	2.122	16.4	20.6
79627	1998 RP ₆₇		2 10.8	71 ^o 09	3 ^o 9/ 8.6	18	105482	2000 QJ ₂₁₆		2 10.8	226 ^o 32	0 ^o 6/10.3	17
1 2	10 7.58	+23 13.0	1.684	2.471	16.6	19.3	1 2	10 0.66	+13 19.6	2.283	3.042	13.6	20.9
1 12	10 3.05	+23 34.4	1.606	2.476	13.2	19.1	1 12	9 56.87	+13 51.5	2.178	3.032	10.9	20.7
1 22	9 55.46	+23 59.8	1.550	2.481	9.3	18.8	1 22	9 50.88	+14 34.7	2.096	3.023	7.6	20.5
2 1	9 45.44	+24 22.6	1.519	2.487	5.4	18.6	2 1	9 43.10	+15 25.6	2.041	3.012	3.8	20.2
2 11	9 34.18	+24 35.7	1.515	2.492	4.0	18.6	2 11	9 34.25	+16 19.4	2.015	3.001	0.7	19.9
2 21	9 23.06	+24 34.4	1.540	2.498	7.1	18.7	2 21	9 25.24	+17 10.7	2.020	2.990	4.4	20.2
3 2	9 13.47	+24 16.7	1.591	2.504	11.1	19.0	3 2	9 17.03	+17 54.6	2.053	2.978	8.2	20.4
3 12	9 6.43	+23 43.7	1.666	2.509	14.8	19.2	3 12	9 10.46	+18 28.1	2.113	2.966	11.7	20.6
246788	2009 DC ₈₇		2 10.8	135 ^o 71	2 ^o 5/13.4	18	210391	2007 VN ₁₆₄		2 10.8	266 ^o 66	1 ^o 5/11.8	18
1 2	9 56.04	+ 2 56.5	2.632	3.350	13.0	20.9	1 2	10 1.21	+ 8 53.9	1.759	2.520	17.0	21.0
1 12	9 52.75	+ 3 10.8	2.534	3.355	10.7	20.7	1 12	9 58.04	+ 8 56.9	1.654	2.506	13.9	20.8
1 22	9 47.73	+ 3 39.7	2.459	3.359	7.9	20.5	1 22	9 52.14	+ 9 15.7	1.570	2.492	10.0	20.5
2 1	9 41.37	+ 4 22.1	2.409	3.363	5.0	20.4	2 1	9 43.91	+ 9 48.8	1.510	2.477	5.6	20.2
2 11	9 34.27	+ 5 15.1	2.389	3.367	2.7	20.2	2 11	9 34.23	+10 32.0	1.477	2.463	1.5	19.9
2 21	9 27.12	+ 6 14.7	2.399	3.371	3.7	20.3	2 21	9 24.27	+11 19.6	1.473	2.448	4.9	20.1
3 2	9 20.65	+ 7 16.3	2.439	3.375	6.5	20.5	3 2	9 15.31	+12 5.3	1.495	2.433	9.7	20.3
3 12	9 15.47	+ 8 15.3	2.506	3.378	9.4	20.7	3 12	9 8.46	+12 44.0	1.542	2.418	14.0	20.6
15696	1986 QG ₁		2 10.8	302 ^o 69	1 ^o 6/ 9.7	18	314657	2006 OW ₂₀		2 10.8	196 ^o 44	0 ^o 3/10.6	18
1 2	10 0.88	+14 24.4	1.520	2.310	18.0	18.2	1 2	10 4.61	+13 45.9	1.972	2.733	15.4	21.1
1 12	9 58.13	+15 8.7	1.436	2.308	14.3	17.9	1 12	10 0.28	+13 55.7	1.877	2.731	12.3	20.9
1 22	9 52.34	+16 9.1	1.372	2.307	9.9	17.6	1 22	9 53.37	+14 16.1	1.803	2.729	8.6	20.6
2 1	9 44.01	+17 19.7	1.332	2.306	5.0	17.4	2 1	9 44.39	+14 43.7	1.755	2.726	4.4	20.4
2 11	9 34.21	+18 32.1	1.319	2.305	1.8	17.1	2 11	9 34.23	+15 13.8	1.736	2.723	0.3	20.1
2 21	9 24.31	+19 37.4	1.334	2.303	6.3	17.4	2 21	9 23.99	+15 41.4	1.747	2.719	4.7	20.4
3 2	9 15.72	+20 28.3	1.374	2.302	11.2	17.7	3 2	9 14.80	+16 2.5	1.786	2.715	9.0	20.6
3 12	9 9.62	+21 1.2	1.437	2.301	15.5	17.9	3 12	9 7.63	+16 14.4	1.851	2.711	12.8	20.9
362326	2010 HW ₃₀		2 10.8	112 ^{o</}									

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
137181	1999 <i>JA</i> ₃₀		2 10.8 240°06	9°4/21.5	18		372430	2009 <i>SE</i> ₄₂		2 10.8 141°52	4°2/ 7.2	18	
1 2	9 56.85	-20 45.4	2.898	3.448	14.8	20.4	1 2	10 4.33	+25 10.3	2.326	3.102	12.9	21.7
1 12	9 53.49	-21 37.7	2.785	3.437	13.7	20.3	1 12	9 59.66	+26 1.9	2.248	3.111	10.2	21.5
1 22	9 48.35	-22 9.8	2.689	3.426	12.3	20.2	1 22	9 52.70	+26 56.2	2.194	3.120	7.3	21.3
2 1	9 41.76	-22 18.2	2.612	3.415	11.0	20.0	2 1	9 43.96	+27 47.0	2.168	3.129	4.8	21.2
2 11	9 34.30	-22 0.7	2.558	3.403	9.9	19.9	2 11	9 34.29	+28 28.0	2.171	3.137	4.4	21.2
2 21	9 26.64	-21 17.5	2.528	3.391	9.5	19.9	2 21	9 24.69	+28 54.6	2.204	3.145	6.6	21.3
3 2	9 19.56	-20 11.3	2.523	3.379	9.8	19.9	3 2	9 16.14	+29 4.8	2.264	3.152	9.4	21.5
3 12	9 13.72	-18 47.5	2.544	3.366	10.9	19.9	3 12	9 9.43	+28 58.5	2.349	3.159	12.1	21.7
303989	2006 <i>BD</i> ₁₃₂		2 10.8 264°08	0°5/10.5	18		206489	2003 <i>UO</i> ₇₄		2 10.8 228°39	0°5/10.5	18	
1 2	10 4.43	+14 13.5	1.667	2.442	17.2	21.5	1 2	10 4.66	+14 26.3	1.800	2.570	16.4	20.8
1 12	10 0.84	+14 20.1	1.565	2.427	13.9	21.2	1 12	10 0.64	+14 33.2	1.705	2.564	13.1	20.6
1 22	9 54.24	+14 38.7	1.483	2.413	9.8	20.9	1 22	9 53.82	+14 50.9	1.630	2.558	9.2	20.3
2 1	9 45.04	+15 6.0	1.425	2.397	5.0	20.6	2 1	9 44.72	+15 16.0	1.581	2.552	4.6	20.0
2 11	9 34.25	+15 36.4	1.395	2.382	0.5	20.2	2 11	9 34.27	+15 43.1	1.560	2.546	0.5	19.7
2 21	9 23.17	+16 3.9	1.393	2.366	5.6	20.5	2 21	9 23.70	+16 7.2	1.567	2.540	5.1	20.0
3 2	9 13.24	+16 23.6	1.418	2.350	10.6	20.8	3 2	9 14.29	+16 23.8	1.602	2.533	9.7	20.3
3 12	9 5.68	+16 32.1	1.467	2.334	15.1	21.0	3 12	9 7.07	+16 30.3	1.662	2.526	13.8	20.5
167685	2004 <i>JQ</i>		2 10.8 4°49	12°9/23.2	18		161102	2002 <i>PU</i> ₁₆₅		2 10.8 125°47	0°0/10.7	18	
1 2	9 52.85	-19 37.1	1.821	2.439	20.9	18.8	1 2	10 0.02	+12 23.3	2.443	3.195	13.0	21.1
1 12	9 51.32	-20 59.1	1.736	2.439	19.3	18.6	1 12	9 56.01	+12 42.8	2.356	3.205	10.3	21.0
1 22	9 47.37	-21 52.2	1.666	2.440	17.3	18.5	1 22	9 50.04	+13 11.9	2.291	3.215	7.2	20.8
2 1	9 41.43	-22 10.0	1.613	2.442	15.4	18.3	2 1	9 42.58	+13 47.8	2.254	3.224	3.6	20.6
2 11	9 34.32	-21 48.9	1.578	2.445	13.8	18.2	2 11	9 34.32	+14 26.5	2.247	3.233	0.1	20.2
2 21	9 27.08	-20 49.3	1.565	2.449	13.0	18.2	2 21	9 26.08	+15 3.8	2.270	3.242	3.8	20.6
3 2	9 20.80	-19 16.5	1.575	2.455	13.3	18.2	3 2	9 18.68	+15 36.0	2.322	3.251	7.2	20.8
3 12	9 16.44	-17 20.2	1.606	2.461	14.6	18.3	3 12	9 12.79	+16 0.5	2.401	3.259	10.3	21.0
462674	2009 <i>UG</i> ₂₃		2 10.8 52°61	4°9/14.6	18		420918	2013 <i>NF</i> ₃		2 10.8 123°22	0°0/10.8	18	
1 2	9 58.32	- 0 18.6	1.801	2.527	17.9	20.6	1 2	10 0.67	+11 8.0	2.102	2.859	14.7	21.9
1 12	9 55.33	- 0 35.2	1.722	2.541	14.9	20.4	1 12	9 56.87	+11 39.6	2.018	2.870	11.7	21.7
1 22	9 49.92	- 0 30.7	1.661	2.554	11.5	20.2	1 22	9 50.83	+12 24.1	1.956	2.880	8.2	21.5
2 1	9 42.62	- 0 4.7	1.624	2.568	7.9	20.1	2 1	9 43.04	+13 18.2	1.920	2.890	4.2	21.3
2 11	9 34.31	+ 0 40.5	1.613	2.582	5.2	19.9	2 11	9 34.31	+14 16.3	1.913	2.900	0.1	21.0
2 21	9 26.03	+ 1 39.7	1.629	2.597	5.7	20.0	2 21	9 25.59	+15 12.8	1.936	2.909	4.2	21.3
3 2	9 18.83	+ 2 46.2	1.673	2.611	8.8	20.2	3 2	9 17.84	+16 2.7	1.989	2.919	8.2	21.6
3 12	9 13.57	+ 3 52.9	1.742	2.626	12.2	20.4	3 12	9 11.86	+16 42.3	2.067	2.927	11.6	21.8
93055	2000 <i>SY</i> ₁₂		2 10.8 77°63	1°3/11.6	18		182035	2000 <i>CY</i> ₃₈		2 10.8 344°56	4°7/ 8.7	18	
1 2	10 3.18	+ 8 20.9	1.520	2.287	19.0	19.7	1 2	10 4.94	+24 21.9	1.350	2.159	18.8	19.3
1 12	9 59.55	+ 8 40.3	1.453	2.308	15.2	19.5	1 12	10 1.96	+24 32.7	1.268	2.150	15.1	19.0
1 22	9 53.02	+ 9 18.6	1.406	2.329	10.8	19.3	1 22	9 55.32	+24 46.9	1.206	2.142	10.8	18.7
2 1	9 44.22	+10 12.2	1.382	2.350	5.8	19.0	2 1	9 45.64	+24 56.7	1.166	2.135	6.4	18.5
2 11	9 34.28	+11 14.6	1.385	2.371	1.3	18.8	2 11	9 34.25	+24 54.2	1.151	2.129	4.9	18.4
2 21	9 24.52	+12 18.0	1.416	2.392	5.0	19.1	2 21	9 22.88	+24 33.7	1.162	2.124	8.4	18.5
3 2	9 16.22	+13 15.2	1.474	2.412	9.7	19.4	3 2	9 13.27	+23 53.7	1.198	2.120	13.1	18.8
3 12	9 10.34	+14 1.3	1.556	2.432	13.8	19.7	3 12	9 6.72	+22 56.6	1.255	2.117	17.4	19.0
65990	1998 <i>KR</i> ₁₄		2 10.8 293°06	0°5/11.1	17		424650	2008 <i>QN</i> ₁₁		2 10.8 224°62	2°0/ 9.2	17	
1 2	10 0.25	+11 44.6	1.913	2.679	15.6	19.7	1 2	10 3.32	+19 5.4	2.446	3.210	12.7	21.6
1 12	9 57.10	+11 47.3	1.802	2.659	12.7	19.5	1 12	9 58.82	+19 30.2	2.342	3.200	10.1	21.4
1 22	9 51.39	+12 2.3	1.713	2.639	9.0	19.2	1 22	9 52.15	+20 1.0	2.262	3.190	7.0	21.2
2 1	9 43.52	+12 27.5	1.649	2.619	4.7	18.9	2 1	9 43.73	+20 33.7	2.209	3.179	3.7	21.0
2 11	9 34.29	+12 58.6	1.612	2.599	0.5	18.5	2 11	9 34.30	+21 3.5	2.186	3.168	2.1	20.8
2 21	9 24.78	+13 30.9	1.604	2.579	4.7	18.8	2 21	9 24.77	+21 26.2	2.194	3.157	4.9	21.0
3 2	9 16.16	+13 59.3	1.624	2.559	9.2	19.0	3 2	9 16.06	+21 38.8	2.231	3.145	8.3	21.2
3 12	9 9.47	+14 20.1	1.668	2.539	13.3	19.2	3 12	9 8.99	+21 39.9	2.294	3.132	11.4	21.4
217432	2005 <i>SF</i> ₅₈		2 10.8 102°12	1°7/12.2	18		370547	2003 <i>TZ</i> ₁₈		2 10.8 47°98	5°1/ 7.3	18	
1 2	10 0.71	+ 7 9.3	2.010	2.756	15.7	21.4	1 2	10 4.53	+27 1.2	1.939	2.727	14.7	19.9
1 12	9 56.95	+ 7 21.4	1.928	2.770	12.7	21.2	1 12	10 0.30	+27 41.6	1.865	2.734	11.7	19.8
1 22	9 50.90	+ 7 48.8	1.868	2.783	9.1	21.0	1 22	9 53.38	+28 23.1	1.814	2.741	8.5	19.6
2 1	9 43.07	+ 8 29.4	1.832	2.796	5.1	20.8	2 1	9 44.36	+28 58.8	1.789	2.749	5.7	19.4
2 11	9 34.30	+ 9 18.8	1.825	2.809	1.8	20.6	2 11	9 34.29	+29 21.6	1.792	2.757	5.3	19.4
2 21	9 25.58	+10 11.8	1.847	2.822	4.2	20.8	2 21	9 24.37	+29 27.3	1.823	2.765	7.7	19.6
3 2	9 17.87	+11 2.9	1.898	2.835	8.0	21.0	3 2	9 15.78	+29 14.1	1.880	2.773	10.8	19.8
3 12	9 11.99	+11 47.5	1.975	2.847	11.5	21.3	3 12	9 9.41	+28 43.6	1.961	2.781	13.8	20.0
153337	2001 <i>OP</i> ₆₃		2 10.8 220°45	2°0/ 9.3	18		95394	2002 <i>CX</i> ₁₈₄		2 10.8 117°79	1°0/ 9.9	18	
1 2	10 4.13	+15 39.3	1.836	2.609	16.0	20.9	1 2	9 59.66	+13 37.4	2.044	2.813	14.7	20.3
1 12	10 0.31	+16 29.5	1.737	2.600	12.7	20.6	1 12	9 56.22	+14 22.3	1.960	2.820	11.6	20.1
1 22	9 53.69	+17 33.3	1.659	2.590	8.8	20.4	1 22	9 50.47	+15 19.5	1.897	2.827	8.0	19.9
2 1	9 44.71	+18 45.3	1.608	2.580	4.5	20.1	2 1	9 42.90	+16 24.5	1.861	2.833	4.0	19.7
2 11	9 34.27	+19 57.6	1.585	2.569	2.2	19.9	2 11	9 34.33	+17 31.0	1.854	2.840	1.1	19.5
2 21	9 23.58	+21 2.3	1.591	2.557	6.0	20.1	2 21	9 25.73	+18 32.7	1.877	2.846	4.8	19.7
3 2	9 13.94	+21 53.2	1.625	2.544	10.5	20.3	3 2	9 18.12	+19 24.3	1.928	2.852	8.7	20.0
3 12	9 6.48	+22 26.9	1.684	2.531	14.5	20.6	3 12	9 12.32	+20 2.7	2.004	2.858	12.2	20.2
19998	Binoche		2 10.8 127°81	2°9/ 8.1	18		354097	2001 <i>XY</i> ₂₃₁		2 10.8 64°48	3°7/12.9	18	

EPHEMERIDES

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2 10.8

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
43392	2000 <i>WF</i> ₈₆		2 10.8	65°57'	1.4°/ 9.9	18	419873	2011 <i>AK</i> ₃₂		2 10.8	35°38'	1.8°/ 9.7	18
1 2	10 3.56	+15 16.1	1.481	2.270	18.4	19.1	1 2	10 1.47	+16 18.0	1.329	2.131	19.4	21.2
1 12	10 0.08	+15 44.2	1.413	2.284	14.6	18.9	1 12	9 58.59	+16 44.0	1.275	2.154	15.3	21.0
1 22	9 53.52	+16 25.4	1.365	2.299	10.0	18.6	1 22	9 52.51	+17 22.4	1.240	2.177	10.4	20.8
2 1	9 44.53	+17 14.0	1.341	2.314	5.0	18.4	2 1	9 43.99	+18 6.7	1.228	2.202	5.2	20.6
2 11	9 34.30	+18 2.2	1.343	2.329	1.6	18.2	2 11	9 34.34	+18 48.8	1.242	2.227	2.0	20.4
2 21	9 24.24	+18 42.8	1.373	2.344	6.0	18.5	2 21	9 25.05	+19 21.6	1.282	2.253	6.3	20.8
3 2	9 15.73	+19 10.8	1.429	2.359	10.7	18.8	3 2	9 17.47	+19 40.7	1.348	2.280	11.0	21.1
3 12	9 9.77	+19 23.8	1.508	2.374	14.8	19.1	3 12	9 12.57	+19 44.5	1.436	2.307	15.1	21.4
468429	2001 <i>RQ</i> ₁₁₂		2 10.8	73°57'	4.7°/ 7.4	18	419142	2009 <i>SU</i> ₂₈₂		2 10.8	125°00'	3.6°/ 7.9	18
1 2	10 7.62	+28 26.1	2.263	3.037	13.3	21.0	1 2	10 3.21	+22 19.2	2.086	2.866	14.1	21.6
1 12	10 2.11	+28 56.6	2.200	3.060	10.6	20.8	1 12	9 59.04	+23 8.8	2.008	2.875	11.1	21.4
1 22	9 54.24	+29 25.9	2.161	3.082	7.7	20.7	1 22	9 52.42	+24 3.7	1.953	2.883	7.8	21.2
2 1	9 44.65	+29 48.1	2.149	3.105	5.3	20.6	2 1	9 43.89	+24 57.6	1.925	2.891	4.6	21.0
2 11	9 34.31	+29 57.7	2.166	3.128	4.9	20.6	2 11	9 34.35	+25 43.8	1.925	2.899	3.8	21.0
2 21	9 24.26	+29 52.0	2.212	3.150	6.8	20.7	2 21	9 24.86	+26 17.0	1.955	2.907	6.4	21.2
3 2	9 15.50	+29 30.4	2.287	3.172	9.5	20.9	3 2	9 16.49	+26 34.0	2.012	2.914	9.7	21.4
3 12	9 8.76	+28 54.6	2.386	3.194	12.0	21.1	3 12	9 10.08	+26 34.6	2.094	2.921	12.8	21.6
310376	3318 <i>T</i> ₋₃		2 10.8	128°37'	1.8°/ 9.4	18	211018	2001 <i>YD</i> ₉₉		2 10.8	100°74'	0.7°/10.1	18
1 2	10 5.42	+16 35.8	1.966	2.734	15.2	21.9	1 2	9 58.85	+14 35.1	2.569	3.328	12.3	21.1
1 12	10 0.78	+17 15.5	1.889	2.749	12.0	21.7	1 12	9 54.99	+15 4.0	2.487	3.341	9.7	20.9
1 22	9 53.61	+18 4.8	1.835	2.764	8.2	21.5	1 22	9 49.29	+15 41.0	2.428	3.355	6.6	20.8
2 1	9 44.47	+18 58.4	1.807	2.778	4.2	21.3	2 1	9 42.19	+16 22.8	2.397	3.368	3.3	20.6
2 11	9 34.31	+19 49.7	1.808	2.792	1.9	21.1	2 11	9 34.38	+17 5.1	2.395	3.381	0.8	20.4
2 21	9 24.24	+20 32.8	1.839	2.805	5.4	21.4	2 21	9 26.61	+17 43.9	2.425	3.394	3.9	20.6
3 2	9 15.36	+21 3.7	1.899	2.817	9.2	21.7	3 2	9 19.64	+18 15.7	2.483	3.407	7.1	20.9
3 12	9 8.54	+21 20.6	1.983	2.828	12.7	21.9	3 12	9 14.11	+18 38.4	2.568	3.419	9.9	21.1
376465	2012 <i>JC</i> ₁₃		2 10.8	214°16'	3.4°/ 7.9	18	298790	2004 <i>PC</i> ₉₉		2 10.8	149°65'	3.7°/ 8.0	18
1 2	10 1.71	+21 31.9	2.160	2.940	13.7	21.6	1 2	10 7.05	+21 26.0	1.936	2.712	15.2	21.8
1 12	9 57.90	+22 23.5	2.069	2.936	10.8	21.4	1 12	10 2.28	+22 23.4	1.858	2.722	12.0	21.6
1 22	9 51.69	+23 21.5	2.001	2.932	7.6	21.2	1 22	9 54.79	+23 27.7	1.803	2.732	8.4	21.4
2 1	9 43.56	+24 20.2	1.960	2.928	4.4	21.0	2 1	9 45.14	+24 31.8	1.774	2.741	4.9	21.2
2 11	9 34.33	+25 12.8	1.948	2.923	3.6	20.9	2 11	9 34.33	+25 27.8	1.774	2.749	4.0	21.2
2 21	9 25.01	+25 53.5	1.965	2.918	6.3	21.1	2 21	9 23.56	+26 9.4	1.804	2.756	6.8	21.4
3 2	9 16.67	+26 18.7	2.010	2.913	9.7	21.3	3 2	9 14.06	+26 33.0	1.862	2.763	10.4	21.6
3 12	9 10.19	+26 27.2	2.079	2.908	12.8	21.5	3 12	9 6.77	+26 38.3	1.943	2.769	13.7	21.8
429846	2012 <i>QK</i> ₄₁		2 10.8	239°74'	0.1°/10.9	17	451412	2011 <i>QS</i> ₂₈		2 10.8	247°72'	0.6°/10.5	18
1 2	10 3.79	+14 0.6	2.345	3.097	13.5	20.9	1 2	10 5.40	+14 12.3	1.630	2.405	17.6	21.3
1 12	9 59.22	+13 53.4	2.239	3.088	10.8	20.7	1 12	10 1.69	+14 22.4	1.531	2.393	14.2	21.0
1 22	9 52.44	+13 53.7	2.156	3.079	7.6	20.5	1 22	9 54.87	+14 45.1	1.451	2.381	10.0	20.7
2 1	9 43.89	+13 59.2	2.100	3.070	3.9	20.2	2 1	9 45.41	+15 16.9	1.396	2.368	5.1	20.4
2 11	9 34.33	+14 6.7	2.074	3.061	0.1	19.9	2 11	9 34.32	+15 51.7	1.369	2.355	0.6	20.1
2 21	9 24.67	+14 13.1	2.078	3.051	4.0	20.2	2 21	9 22.96	+16 23.2	1.369	2.342	5.7	20.4
3 2	9 15.85	+14 15.6	2.112	3.041	7.8	20.4	3 2	9 12.80	+16 46.0	1.397	2.328	10.8	20.6
3 12	9 8.71	+14 12.4	2.173	3.031	11.2	20.6	3 12	9 5.10	+16 56.9	1.448	2.314	15.3	20.9
278900	2008 <i>TK</i> ₁₁₄		2 10.8	98°65'	1.4°/12.0	18	491201	2011 <i>UH</i> ₁₁₇		2 10.8	158°03'	2.6°/ 8.9	18
1 2	9 57.99	+ 7 29.8	2.159	2.906	14.7	21.0	1 2	10 6.13	+18 34.8	1.937	2.708	15.3	22.2
1 12	9 54.75	+ 7 47.0	2.066	2.909	11.9	20.8	1 12	10 1.53	+19 17.7	1.853	2.716	12.1	22.0
1 22	9 49.39	+ 8 18.8	1.996	2.913	8.5	20.6	1 22	9 54.26	+20 9.3	1.792	2.722	8.3	21.8
2 1	9 42.35	+ 9 3.2	1.951	2.916	4.8	20.4	2 1	9 44.88	+21 3.7	1.758	2.728	4.4	21.6
2 11	9 34.37	+ 9 56.0	1.934	2.919	1.5	20.2	2 11	9 34.34	+21 53.9	1.752	2.733	2.7	21.5
2 21	9 26.34	+10 52.2	1.947	2.922	4.0	20.3	2 21	9 23.80	+22 33.8	1.776	2.738	6.0	21.7
3 2	9 19.17	+11 46.5	1.989	2.925	7.7	20.6	3 2	9 14.47	+22 59.4	1.828	2.742	9.9	21.9
3 12	9 13.64	+12 34.3	2.057	2.929	11.2	20.8	3 12	9 7.27	+23 9.4	1.905	2.745	13.3	22.2
426317	2012 <i>TJ</i> ₂₇₁		2 10.8	195°41'	1.3°/ 9.4	17	336659	2009 <i>XP</i> ₂₁		2 10.8	16°48'	2.8°/ 8.5	18
1 2	9 59.17	+16 46.1	2.795	3.555	11.4	21.7	1 2	9 58.76	+18 36.3	1.935	2.722	14.8	20.3
1 12	9 55.21	+17 20.7	2.697	3.553	9.0	21.5	1 12	9 55.77	+19 31.5	1.851	2.723	11.6	20.1
1 22	9 49.46	+18 2.4	2.622	3.550	6.2	21.3	1 22	9 50.32	+20 36.5	1.790	2.724	8.0	19.9
2 1	9 42.31	+18 47.4	2.576	3.547	3.1	21.1	2 1	9 42.90	+21 45.0	1.754	2.726	4.3	19.7
2 11	9 34.37	+19 31.7	2.560	3.543	1.4	21.0	2 11	9 34.38	+22 49.8	1.747	2.727	3.1	19.6
2 21	9 26.37	+20 11.2	2.574	3.540	4.1	21.2	2 21	9 25.81	+23 44.2	1.769	2.729	6.2	19.8
3 2	9 19.04	+20 42.5	2.619	3.535	7.1	21.4	3 2	9 18.28	+24 23.3	1.818	2.731	9.9	20.0
3 12	9 13.06	+21 3.9	2.690	3.531	9.9	21.5	3 12	9 12.71	+24 45.3	1.890	2.734	13.3	20.2
42669	1998 <i>HH</i> ₃₃		2 10.8	27°81'	2.7°/ 9.5	18	88873	2001 <i>SY</i> ₂₆₀		2 10.8	129°90'	2.2°/ 9.0	18
1 2	10 2.85	+18 35.9	1.243	2.053	20.1	18.4	1 2	10 3.18	+18 9.5	2.109	2.880	14.2	20.0
1 12	10 0.17	+18 54.1	1.178	2.062	15.9	18.2	1 12	9 58.90	+18 50.3	2.028	2.891	11.2	19.8
1 22	9 53.94	+19 22.9	1.132	2.072	11.0	17.9	1 22	9 52.27	+19 39.0	1.971	2.901	7.7	19.6
2 1	9 44.86	+19 55.5	1.109	2.082	5.7	17.7	2 1	9 43.80	+20 30.5	1.941	2.912	4.0	19.4
2 11	9 34.32	+20 23.6	1.110	2.094	2.8	17.5	2 11	9 34.36	+21 18.7	1.940	2.921	2.3	19.3
2 21	9 24.01	+20 40.2	1.136	2.106	7.2	17.8	2 21	9 24.97	+21 58.0	1.968	2.931	5.4	19.5
3 2	9 15.53	+20 41.2	1.187	2.119	12.2	18.1	3 2	9 16.65	+22 25.0	2.025	2.940	9.0	19.8
3 12	9 10.04	+20 26.1	1.260	2.133	16.6	18.4	3 12	9 10.21	+22 38.1	2.107	2.948	12.2	20.0
176840	2002 <i>TA</i> ₂₁₀		2 10.8	50°54'	3.5°/ 8.4	18	338847	2003 <i>XZ</i> ₂₁		2 10.8	186°14'	0.9°/10.1	18
1 2	10 1.39	+18 10.5	1.437	2.238</									

EPHEMERIDES

2 10.8

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
19473	Marygardner		2 10.8 44°65'	5°1/13.9	18		155764	2000 SS ₁₇₈		2 10.8 96°32'	6°0/6.4	18	
1 2	10 0.90	+ 2 9.2	1.500	2.249	20.0	18.3	1 2	10 8.69	+30 28.3	2.066	2.845	14.2	20.3
1 12	9 57.98	+ 1 34.6	1.420	2.256	16.7	18.1	1 12	10 3.38	+31 20.9	2.004	2.863	11.4	20.1
1 22	9 52.13	+ 1 21.1	1.359	2.263	12.7	17.9	1 22	9 55.38	+32 11.7	1.964	2.882	8.6	20.0
2 1	9 43.91	+ 1 30.0	1.319	2.270	8.5	17.7	2 1	9 45.35	+32 53.0	1.951	2.900	6.4	19.9
2 11	9 34.37	+ 1 59.2	1.305	2.278	5.3	17.5	2 11	9 34.38	+33 17.9	1.967	2.918	6.3	19.9
2 21	9 24.81	+ 2 43.8	1.316	2.287	6.3	17.6	2 21	9 23.67	+33 22.4	2.010	2.935	8.3	20.0
3 2	9 16.57	+ 3 36.8	1.354	2.295	10.1	17.8	3 2	9 14.40	+33 6.1	2.081	2.952	10.9	20.2
3 12	9 10.71	+ 4 30.4	1.415	2.304	14.2	18.1	3 12	9 7.39	+32 31.3	2.175	2.969	13.5	20.4
247806	2003 SV ₁₀₅		2 10.8 175°16'	3°1/13.2	18		90582	2004 HU ₂₈		2 10.8 208°70'	5°7/4.4	18	
1 2	10 3.71	+ 3 45.5	2.211	2.928	15.2	20.8	1 2	10 0.64	+31 45.5	2.709	3.488	11.2	19.9
1 12	9 59.21	+ 3 36.9	2.113	2.932	12.5	20.6	1 12	9 56.73	+32 59.4	2.627	3.485	9.1	19.7
1 22	9 52.47	+ 3 43.4	2.035	2.934	9.4	20.4	1 22	9 50.72	+34 12.8	2.570	3.482	7.1	19.6
2 1	9 43.93	+ 4 4.6	1.983	2.936	5.9	20.2	2 1	9 43.04	+35 19.2	2.540	3.479	5.8	19.5
2 11	9 34.37	+ 4 38.1	1.960	2.937	3.3	20.0	2 11	9 34.42	+36 12.3	2.540	3.475	6.1	19.5
2 21	9 24.72	+ 5 19.9	1.967	2.937	4.5	20.1	2 21	9 25.75	+36 47.9	2.568	3.471	7.7	19.6
3 2	9 15.96	+ 6 5.4	2.003	2.937	7.9	20.3	3 2	9 17.91	+37 3.8	2.622	3.467	9.8	19.7
3 12	9 8.91	+ 6 49.6	2.066	2.936	11.2	20.5	3 12	9 11.68	+37 0.7	2.700	3.463	11.9	19.9
321682	2010 EV ₄₃		2 10.8 30°21'	2°4/12.3	18		400576	2008 YK ₃₇		2 10.8 104°27'	0°7/10.3	18	
1 2	9 59.21	+ 6 26.2	1.283	2.065	21.1	20.9	1 2	10 5.25	+12 55.8	1.744	2.511	16.9	22.3
1 12	9 57.18	+ 6 31.0	1.207	2.069	17.2	20.7	1 12	10 0.88	+13 33.9	1.674	2.532	13.4	22.1
1 22	9 51.88	+ 6 59.4	1.150	2.075	12.5	20.4	1 22	9 53.80	+14 25.6	1.625	2.553	9.2	21.9
2 1	9 43.89	+ 7 49.5	1.114	2.080	7.2	20.2	2 1	9 44.63	+15 25.9	1.602	2.574	4.6	21.7
2 11	9 34.38	+ 8 55.4	1.102	2.086	2.6	19.9	2 11	9 34.40	+16 27.7	1.607	2.594	0.8	21.4
2 21	9 24.83	+10 8.2	1.116	2.093	5.7	20.1	2 21	9 24.32	+17 23.9	1.642	2.613	5.1	21.8
3 2	9 16.80	+11 18.2	1.155	2.100	11.0	20.4	3 2	9 15.59	+18 9.3	1.704	2.632	9.5	22.1
3 12	9 11.47	+12 17.7	1.216	2.108	15.8	20.7	3 12	9 9.09	+18 40.9	1.792	2.650	13.2	22.4
159176	2005 SY ₂₁₃		2 10.8 214°64'	16°4/22.7	18		5229	Irurita		2 10.8 95°75'	0°4/11.2	18	R
1 2	10 0.62	-20 30.5	1.396	2.027	25.9	20.2	1 2	10 0.64	+11 49.4	2.448	3.197	13.1	17.8
1 12	9 58.53	-22 12.8	1.312	2.024	24.0	20.0	1 12	9 56.45	+11 56.6	2.365	3.212	10.4	17.7
1 22	9 53.08	-23 21.0	1.239	2.021	21.8	19.8	1 22	9 50.33	+12 13.1	2.306	3.227	7.3	17.5
2 1	9 44.68	-23 44.4	1.181	2.017	19.4	19.7	2 1	9 42.75	+12 36.4	2.273	3.242	3.8	17.3
2 11	9 34.36	-23 15.0	1.140	2.013	17.4	19.5	2 11	9 34.44	+13 3.1	2.270	3.256	0.4	17.0
2 21	9 23.62	-21 51.2	1.118	2.009	16.4	19.4	2 21	9 26.19	+13 29.6	2.297	3.271	3.6	17.3
3 2	9 14.17	-19 39.6	1.117	2.005	16.9	19.4	3 2	9 18.80	+13 52.5	2.354	3.285	7.0	17.6
3 12	9 7.46	-16 55.2	1.136	2.000	18.8	19.5	3 12	9 12.94	+14 9.5	2.437	3.299	10.0	17.8
503054	2015 FH ₁₆₆		2 10.8 332°58'	6°8/17.6	18		61646	2000 QC ₁₁₀		2 10.8 207°41'	1°2/11.6	18	
1 2	9 54.19	- 8 40.3	2.222	2.892	16.3	20.9	1 2	10 2.46	+ 8 59.8	1.768	2.527	17.0	20.6
1 12	9 51.82	- 8 54.1	2.118	2.886	14.3	20.7	1 12	9 58.94	+ 9 13.1	1.673	2.524	13.8	20.3
1 22	9 47.42	- 8 45.2	2.032	2.881	11.8	20.6	1 22	9 52.70	+ 9 42.7	1.599	2.520	9.9	20.1
2 1	9 41.40	- 8 11.3	1.968	2.875	9.3	20.4	2 1	9 44.22	+10 26.4	1.548	2.516	5.4	19.8
2 11	9 34.43	- 7 12.9	1.930	2.870	7.3	20.2	2 11	9 34.41	+11 19.1	1.526	2.512	1.2	19.5
2 21	9 27.31	- 5 53.5	1.918	2.865	6.9	20.2	2 21	9 24.45	+12 14.6	1.532	2.507	4.8	19.7
3 2	9 20.93	- 4 19.1	1.934	2.861	8.6	20.3	3 2	9 15.57	+13 6.3	1.566	2.502	9.4	20.0
3 12	9 16.06	- 2 37.7	1.977	2.857	11.2	20.5	3 12	9 8.82	+13 49.3	1.625	2.497	13.6	20.2
499151	2009 RC ₅₅		2 10.8 355°78'	9°1/4.1	18		140510	2001 TT ₁₆₅		2 10.8 4°04'	7°1/17.2	18	
1 2	10 8.54	+37 13.8	1.862	2.647	15.3	20.6	1 2	9 56.63	- 7 55.3	2.297	2.964	15.9	19.5
1 12	10 4.11	+38 26.7	1.793	2.647	12.9	20.4	1 12	9 53.62	- 8 38.5	2.200	2.964	13.9	19.4
1 22	9 56.39	+39 34.0	1.745	2.646	10.6	20.3	1 22	9 48.61	- 9 2.3	2.121	2.964	11.6	19.2
2 1	9 46.05	+40 25.4	1.723	2.646	9.2	20.2	2 1	9 42.01	- 9 4.3	2.064	2.965	9.2	19.0
2 11	9 34.34	+40 51.7	1.726	2.646	9.6	20.2	2 11	9 34.48	- 8 43.8	2.032	2.965	7.5	18.9
2 21	9 22.79	+40 48.2	1.755	2.646	11.4	20.3	2 21	9 26.84	- 8 3.1	2.028	2.966	7.3	18.9
3 2	9 12.89	+40 14.9	1.807	2.646	13.9	20.5	3 2	9 19.95	- 7 6.5	2.050	2.967	8.7	19.0
3 12	9 5.73	+39 16.2	1.880	2.646	16.3	20.7	3 12	9 14.57	- 6 0.2	2.098	2.968	11.0	19.2
52127	4681 P-L		2 10.8 313°10'	3°2/8.4	18		62574	2000 SF ₂₇₇		2 10.8 73°85'	6°9/16.9	18	
1 2	10 2.72	+22 39.1	2.160	2.939	13.7	19.2	1 2	9 58.94	- 6 50.1	1.966	2.648	17.8	19.3
1 12	9 58.64	+23 4.7	2.070	2.936	10.8	19.0	1 12	9 55.63	- 7 17.1	1.887	2.666	15.4	19.2
1 22	9 52.16	+23 34.2	2.002	2.933	7.6	18.8	1 22	9 50.06	- 7 20.8	1.826	2.684	12.5	19.0
2 1	9 43.79	+24 2.4	1.962	2.930	4.4	18.6	2 1	9 42.73	- 6 59.3	1.787	2.702	9.6	18.8
2 11	9 34.39	+24 23.9	1.950	2.927	3.4	18.5	2 11	9 34.47	- 6 13.7	1.774	2.720	7.3	18.8
2 21	9 24.99	+24 34.3	1.967	2.924	6.0	18.7	2 21	9 26.24	- 5 8.2	1.787	2.737	7.1	18.8
3 2	9 16.62	+24 31.3	2.013	2.921	9.4	18.9	3 2	9 19.02	- 3 49.3	1.828	2.755	9.0	18.9
3 12	9 10.15	+24 14.5	2.082	2.919	12.5	19.1	3 12	9 13.61	- 2 25.1	1.895	2.773	11.7	19.1
92571	2000 OF ₅₈		2 10.8 120°71'	1°1/10.0	18		491901	2013 CU ₁₆		2 10.8 150°05'	0°3/11.0	18	
1 2	10 3.69	+13 27.6	1.740	2.511	16.8	20.0	1 2	10 6.25	+12 15.7	1.845	2.603	16.4	21.6
1 12	9 59.79	+14 10.8	1.662	2.524	13.3	19.8	1 12	10 1.67	+12 20.7	1.759	2.611	13.2	21.4
1 22	9 53.16	+15 8.1	1.607	2.536	9.2	19.6	1 22	9 54.41	+12 37.7	1.694	2.618	9.2	21.1
2 1	9 44.35	+16 14.2	1.576	2.548	4.6	19.3	2 1	9 45.01	+13 3.5	1.654	2.624	4.8	20.9
2 11	9 34.39	+17 21.7	1.574	2.560	1.2	19.1	2 11	9 34.44	+13 33.5	1.643	2.630	0.3	20.6
2 21	9 24.47	+18 23.2	1.601	2.571	5.4	19.4	2 21	9 23.88	+14 2.6	1.662	2.635	4.7	20.9
3 2	9 15.82	+19 12.7	1.656	2.582	9.8	19.7	3 2	9 14.52	+14 26.3	1.708	2.640	9.1	21.2
3 12	9 9.39	+19 47.1	1.735	2.592	13.6	19.9	3 12	9 7.33	+14 41.6	1.780	2.644	13.0	21.4
113518	2002 TC ₁₄		2 10.8 136°84'	1°5/9.6	18		440623	2005 WH ₂₇		2 10.8 113°45'	1°5/9.8	16	
1 2	10 3.01	+15 39.7	2.024	2.792	14.8	20.6	1 2	10 8.69	+15 21.6	1.807	2.570	16.5	22.8
1 12	9 58.89	+16											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
104160	2000 EF ₇₄		2 10.8 41°33'	1°3'/11.9 18			17524	1993 FS ₄		2 10.8 266°17'	0°5'/10.4 18		
1 2	9 56.64	+ 7 9.5	2.106	2.857	14.9	18.7	1 2	9 57.98	+13 27.0	2.471	3.230	12.7	19.6
1 12	9 53.78	+ 7 38.0	2.015	2.860	12.0	18.5	1 12	9 54.62	+13 53.1	2.364	3.219	10.1	19.4
1 22	9 48.79	+ 8 22.5	1.946	2.864	8.6	18.3	1 22	9 49.28	+14 29.1	2.281	3.207	7.0	19.1
2 1	9 42.11	+ 9 20.5	1.902	2.868	4.8	18.1	2 1	9 42.37	+15 12.1	2.224	3.196	3.5	18.9
2 11	9 34.49	+10 27.4	1.887	2.872	1.3	17.9	2 11	9 34.52	+15 57.7	2.198	3.184	0.5	18.6
2 21	9 26.82	+11 37.3	1.901	2.877	4.0	18.1	2 21	9 26.53	+16 41.4	2.201	3.172	4.0	18.9
3 2	9 20.01	+12 44.0	1.944	2.881	7.8	18.3	3 2	9 19.25	+17 19.2	2.233	3.160	7.6	19.1
3 12	9 14.84	+13 42.6	2.013	2.886	11.3	18.5	3 12	9 13.42	+17 48.0	2.292	3.148	10.8	19.3
467350	2003 JD ₄		2 10.8 307°13'	8°5'/16.8 17			451431	2011 SA ₃		2 10.8 32°73'	0°8'/10.4 18		
1 2	9 56.31	- 7 8.7	1.801	2.496	18.9	21.6	1 2	10 3.56	+14 44.9	1.385	2.178	19.3	21.6
1 12	9 54.20	- 7 59.4	1.691	2.476	16.6	21.4	1 12	10 0.49	+14 53.2	1.309	2.181	15.4	21.3
1 22	9 49.56	- 8 27.4	1.597	2.456	13.9	21.2	1 22	9 54.11	+15 14.9	1.251	2.186	10.7	21.1
2 1	9 42.73	- 8 28.4	1.524	2.436	11.1	20.9	2 1	9 45.03	+15 45.4	1.217	2.190	5.4	20.8
2 11	9 34.48	- 8 0.2	1.475	2.417	8.9	20.8	2 11	9 34.48	+16 18.0	1.209	2.195	0.9	20.5
2 21	9 25.85	- 7 4.5	1.451	2.398	8.8	20.7	2 21	9 23.96	+16 45.8	1.227	2.200	6.0	20.8
3 2	9 18.04	- 5 47.0	1.453	2.380	10.8	20.8	3 2	9 15.01	+17 3.6	1.270	2.206	11.2	21.1
3 12	9 12.14	- 4 16.6	1.478	2.361	14.0	20.9	3 12	9 8.80	+17 8.6	1.336	2.212	15.7	21.4
223722	2004 RY ₁₁₀		2 10.8 202°35'	2°0'/12.5 18			195546	2002 JE ₆₂		2 10.8 279°96'	3°6'/13.7 18		
1 2	9 59.85	+ 6 29.4	2.183	2.922	14.8	20.8	1 2	9 57.77	+ 2 6.9	2.116	2.842	15.5	20.3
1 12	9 56.27	+ 6 34.0	2.084	2.920	12.1	20.6	1 12	9 54.87	+ 2 3.5	2.000	2.823	13.0	20.1
1 22	9 50.51	+ 6 53.0	2.006	2.918	8.8	20.4	1 22	9 49.73	+ 2 17.8	1.905	2.805	9.9	19.9
2 1	9 43.00	+ 7 25.1	1.953	2.915	5.1	20.2	2 1	9 42.72	+ 2 50.0	1.834	2.786	6.5	19.6
2 11	9 34.49	+ 8 7.1	1.929	2.912	2.1	20.0	2 11	9 34.52	+ 3 38.2	1.791	2.766	3.8	19.4
2 21	9 25.86	+ 8 54.4	1.935	2.909	4.1	20.1	2 21	9 26.04	+ 4 38.0	1.776	2.747	4.8	19.5
3 2	9 18.08	+ 9 42.1	1.969	2.906	7.8	20.3	3 2	9 18.29	+ 5 43.8	1.789	2.728	8.3	19.6
3 12	9 11.95	+10 25.6	2.030	2.902	11.3	20.5	3 12	9 12.16	+ 6 49.1	1.829	2.708	11.9	19.8
142938	2002 VV ₆₈		2 10.8 12°55'	2°7'/ 9.6 18			454129	2013 CZ ₁₆₅		2 10.8 20°21'	0°2'/10.9 18		
1 2	10 4.65	+20 18.3	1.382	2.184	18.8	19.2	1 2	9 56.55	+ 8 56.0	1.259	2.056	20.6	20.8
1 12	10 1.38	+20 18.5	1.308	2.186	15.0	18.9	1 12	9 55.19	+ 9 40.0	1.186	2.060	16.6	20.5
1 22	9 54.71	+20 25.3	1.253	2.190	10.4	18.7	1 22	9 50.59	+10 48.8	1.131	2.065	11.7	20.3
2 1	9 45.30	+20 33.0	1.221	2.194	5.5	18.4	2 1	9 43.31	+12 17.4	1.098	2.070	6.0	20.0
2 11	9 34.45	+20 34.8	1.216	2.199	2.8	18.2	2 11	9 34.51	+13 56.4	1.090	2.077	0.2	19.5
2 21	9 23.75	+20 25.9	1.236	2.205	6.8	18.5	2 21	9 25.67	+15 33.9	1.108	2.084	6.0	20.0
3 2	9 14.76	+20 3.9	1.282	2.212	11.7	18.8	3 2	9 18.33	+16 59.3	1.150	2.091	11.5	20.3
3 12	9 8.60	+19 29.2	1.350	2.220	16.0	19.1	3 12	9 13.66	+18 5.3	1.215	2.100	16.3	20.6
133942	2004 TR ₅₄		2 10.8 339°83'	20°8'/29.8 18			445859	2012 SX ₄₆		2 10.8 137°23'	1°4'/11.8 18		
1 2	9 48.77	-27 9.2	1.319	1.933	27.9	18.5	1 2	10 4.64	+ 8 9.9	1.539	2.301	19.0	22.0
1 12	9 49.39	-29 24.3	1.237	1.916	26.7	18.3	1 12	10 0.96	+ 8 25.5	1.458	2.310	15.4	21.8
1 22	9 46.92	-31 3.3	1.164	1.901	25.3	18.1	1 22	9 54.24	+ 9 0.3	1.396	2.318	11.0	21.5
2 1	9 41.65	-31 53.4	1.101	1.887	23.8	17.9	2 1	9 45.05	+ 9 51.5	1.358	2.326	6.0	21.3
2 11	9 34.51	-31 44.0	1.051	1.875	22.3	17.7	2 11	9 34.49	+10 53.1	1.348	2.333	1.5	21.0
2 21	9 26.88	-30 29.1	1.015	1.865	21.2	17.6	2 21	9 23.91	+11 57.4	1.365	2.340	5.2	21.3
3 2	9 20.45	-28 10.4	0.995	1.856	20.8	17.6	3 2	9 14.70	+12 56.7	1.409	2.346	10.1	21.5
3 12	9 16.73	-25 0.2	0.992	1.849	21.4	17.6	3 12	9 7.96	+13 45.4	1.477	2.352	14.5	21.8
313089	2000 UP ₅₆		2 10.8 87°67'	0°7'/10.4 18			222807	2002 CV ₂₅₃		2 10.8 11°36'	2°4'/ 9.2 18		
1 2	10 6.28	+13 43.3	1.622	2.394	17.8	21.1	1 2	9 59.05	+17 26.1	1.570	2.368	17.2	20.5
1 12	10 1.87	+14 5.7	1.555	2.416	14.1	20.9	1 12	9 56.57	+18 2.3	1.493	2.370	13.6	20.2
1 22	9 54.57	+14 41.0	1.509	2.439	9.7	20.7	1 22	9 51.19	+18 50.0	1.435	2.372	9.4	20.0
2 1	9 45.06	+15 24.2	1.489	2.461	4.8	20.4	2 1	9 43.49	+19 43.0	1.403	2.376	4.8	19.7
2 11	9 34.47	+16 8.7	1.496	2.482	0.7	20.2	2 11	9 34.51	+20 33.6	1.396	2.380	2.6	19.6
2 21	9 24.10	+16 48.1	1.531	2.503	5.3	20.6	2 21	9 25.54	+21 14.7	1.417	2.384	6.4	19.8
3 2	9 15.23	+17 17.6	1.594	2.524	9.8	20.9	3 2	9 17.88	+21 41.1	1.463	2.389	10.8	20.1
3 12	9 8.76	+17 34.8	1.681	2.545	13.7	21.1	3 12	9 12.57	+21 50.9	1.532	2.395	14.8	20.3
365808	2011 QK ₆₇		2 10.8 167°32'	1°2'/11.8 18			187902	2000 SJ ₃₃₉		2 10.8 72°89'	2°2'/ 8.9 18		
1 2	10 3.88	+ 8 16.4	1.888	2.636	16.5	22.5	1 2	10 1.63	+15 5.9	1.891	2.665	15.5	19.4
1 12	9 59.80	+ 8 34.5	1.797	2.641	13.3	22.3	1 12	9 57.83	+16 25.9	1.830	2.695	12.1	19.2
1 22	9 53.14	+ 9 8.7	1.727	2.645	9.5	22.0	1 22	9 51.59	+17 58.0	1.792	2.724	8.2	19.0
2 1	9 44.40	+ 9 56.6	1.682	2.649	5.2	21.8	2 1	9 43.51	+19 35.1	1.781	2.753	4.2	18.8
2 11	9 34.48	+10 53.1	1.666	2.651	1.3	21.5	2 11	9 34.52	+21 8.4	1.800	2.782	2.4	18.8
2 21	9 24.48	+11 52.1	1.679	2.653	4.5	21.7	2 21	9 25.69	+22 30.3	1.848	2.811	5.7	19.0
3 2	9 15.55	+12 47.5	1.720	2.655	8.9	22.0	3 2	9 18.05	+23 35.5	1.925	2.839	9.4	19.3
3 12	9 8.64	+13 34.3	1.788	2.655	12.8	22.2	3 12	9 12.41	+24 21.7	2.026	2.867	12.6	19.6
358058	2006 HZ ₃₅		2 10.8 279°34'	3°0'/12.8 17			307665	2003 SM ₂₉₀		2 10.8 172°37'	0°7'/11.4 18		
1 2	10 0.20	+ 5 17.9	1.641	2.396	18.3	21.7	1 2	10 3.72	+10 3.8	2.174	2.919	14.7	22.2
1 12	9 57.58	+ 5 12.5	1.532	2.377	15.2	21.4	1 12	9 59.31	+10 21.6	2.080	2.923	11.8	22.0
1 22	9 52.09	+ 5 26.5	1.443	2.358	11.3	21.2	1 22	9 52.60	+10 52.1	2.007	2.926	8.3	21.8
2 1	9 44.10	+ 6 0.1	1.377	2.338	6.9	20.9	2 1	9 44.07	+11 32.8	1.961	2.928	4.4	21.6
2 11	9 34.48	+ 6 50.2	1.337	2.319	3.2	20.6	2 11	9 34.51	+12 19.2	1.944	2.930	0.7	21.3
2 21	9 24.45	+ 7 51.1	1.324	2.299	5.4	20.7	2 21	9 24.88	+13 6.2	1.957	2.931	4.1	21.6
3 2	9 15.39	+ 8 55.2	1.338	2.279	10.2	20.9	3 2	9 16.18	+13 49.0	2.001	2.932	8.0	21.8
3 12	9 8.52	+ 9 55.1	1.376	2.259	14.8	21.1	3 12	9 9.26	+14 24.1	2.070	2.931	11.6	22.0
105409	2000 QX ₁₅₃		2 10.8 98°06'	1°5'/11.9 18			145552	2006 LZ ₁		2 10.9 160°39'	0°5'/11.3 18		
1 2	10 4.24	+ 7 26.0	1.711	2.463	17.8	20.7	1 2	10 1.94	+ 9 3.1	2.292	3.033	14.1	20.5

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
516392	1999 <i>VH</i> ₁₃₆		2 10.9 164°66	19°0/28.3	18		275426	2011 <i>CT</i> ₁₈		2 10.9 8°11	2°1/ 9.3	18	
1 2	10 24.17	+49 11.0	1.182	1.967	22.4	21.2	1 2	10 0.49	+17 12.9	1.859	2.642	15.4	20.4
1 12	10 20.55	+52 9.0	1.145	1.971	20.5	21.1	1 12	9 57.26	+17 49.2	1.773	2.642	12.2	20.2
1 22	10 10.32	+54 48.9	1.125	1.974	19.2	21.0	1 22	9 51.45	+18 35.6	1.709	2.642	8.4	20.0
2 1	9 54.05	+56 47.3	1.125	1.977	19.1	21.0	2 1	9 43.58	+19 26.8	1.670	2.643	4.3	19.7
2 11	9 34.35	+57 45.3	1.143	1.980	20.0	21.1	2 11	9 34.54	+20 16.4	1.660	2.643	2.2	19.6
2 21	9 15.14	+57 36.4	1.178	1.981	21.8	21.2	2 21	9 25.47	+20 57.9	1.678	2.644	5.7	19.8
3 2	9 0.12	+56 27.8	1.229	1.982	23.8	21.4	3 2	9 17.49	+21 26.9	1.723	2.645	9.8	20.0
3 12	8 51.24	+54 34.9	1.293	1.982	25.8	21.5	3 12	9 11.57	+21 41.2	1.792	2.646	13.4	20.3
4019	Klavetter		2 10.9 75°92	1°6/11.8	18		285194	1996 <i>VG</i> ₁₈		2 10.9 89°01	1°4/12.2	18	
1 2	10 3.76	+ 8 54.0	1.489	2.259	19.2	18.3	1 2	9 56.98	+ 6 55.1	2.362	3.103	13.7	21.3
1 12	10 0.21	+ 8 54.6	1.417	2.273	15.5	18.1	1 12	9 53.77	+ 7 18.1	2.271	3.110	11.1	21.1
1 22	9 53.65	+ 9 12.9	1.364	2.288	11.0	17.9	1 22	9 48.64	+ 7 55.3	2.202	3.116	8.0	20.9
2 1	9 44.71	+ 9 46.1	1.335	2.302	6.1	17.6	2 1	9 42.02	+ 8 44.3	2.159	3.123	4.5	20.7
2 11	9 34.51	+10 28.9	1.331	2.317	1.7	17.4	2 11	9 34.57	+ 9 41.4	2.145	3.129	1.5	20.5
2 21	9 24.43	+11 14.7	1.356	2.331	5.1	17.6	2 21	9 27.09	+10 41.7	2.161	3.136	3.6	20.7
3 2	9 15.82	+11 56.9	1.406	2.346	10.0	17.9	3 2	9 20.39	+11 40.0	2.206	3.142	7.1	20.9
3 12	9 9.70	+12 30.7	1.481	2.360	14.2	18.2	3 12	9 15.16	+12 32.2	2.278	3.149	10.3	21.1
310973	2003 <i>UN</i> ₂₂₈		2 10.9 54°11	0°9/10.2	18		83709	2001 <i>TW</i> ₈₀		2 10.9 45°40	3°5/13.8	18	
1 2	10 1.58	+13 1.0	1.410	2.200	19.1	20.8	1 2	9 57.77	+ 2 46.7	2.177	2.904	15.1	19.5
1 12	9 58.64	+13 39.0	1.347	2.218	15.1	20.6	1 12	9 54.55	+ 2 33.7	2.087	2.911	12.5	19.4
1 22	9 52.62	+14 33.4	1.303	2.237	10.4	20.4	1 22	9 49.26	+ 2 36.4	2.019	2.918	9.4	19.2
2 1	9 44.18	+15 38.2	1.283	2.256	5.2	20.1	2 1	9 42.35	+ 2 54.6	1.975	2.926	6.2	19.0
2 11	9 34.52	+16 45.1	1.289	2.275	1.0	19.9	2 11	9 34.57	+ 3 26.0	1.959	2.934	3.7	18.8
2 21	9 25.05	+17 45.3	1.322	2.295	5.9	20.3	2 21	9 26.76	+ 4 6.9	1.971	2.941	4.5	18.9
3 2	9 17.14	+18 32.3	1.382	2.315	10.7	20.6	3 2	9 19.81	+ 4 52.4	2.012	2.949	7.6	19.1
3 12	9 11.79	+19 2.9	1.464	2.335	14.9	20.9	3 12	9 14.46	+ 5 37.6	2.079	2.958	10.7	19.3
371936	2008 <i>ED</i> ₇₉		2 10.9 296°81	2°8/12.5	17		503847	2017 <i>MF</i> ₈		2 10.9 215°69	1°8/12.5	17	
1 2	10 0.96	+ 7 23.1	1.710	2.468	17.5	21.2	1 2	10 1.89	+ 6 22.8	2.779	3.496	12.4	23.7
1 12	9 58.06	+ 6 59.9	1.600	2.447	14.5	21.0	1 12	9 57.42	+ 6 27.0	2.663	3.486	10.1	23.5
1 22	9 52.35	+ 6 51.4	1.510	2.427	10.7	20.7	1 22	9 51.09	+ 6 42.8	2.569	3.474	7.4	23.3
2 1	9 44.22	+ 6 57.7	1.443	2.406	6.4	20.4	2 1	9 43.27	+ 7 8.9	2.502	3.461	4.4	23.1
2 11	9 34.52	+ 7 16.5	1.403	2.385	2.9	20.1	2 11	9 34.56	+ 7 43.0	2.466	3.448	1.9	22.9
2 21	9 24.45	+ 7 43.8	1.390	2.365	5.3	20.2	2 21	9 25.68	+ 8 21.7	2.461	3.434	3.5	23.0
3 2	9 15.32	+ 8 14.3	1.404	2.344	9.9	20.4	3 2	9 17.42	+ 9 1.5	2.487	3.419	6.6	23.1
3 12	9 8.34	+ 8 42.8	1.442	2.324	14.3	20.6	3 12	9 10.46	+ 9 38.6	2.541	3.403	9.6	23.3
213262	2001 <i>FB</i> ₁₄₈		2 10.9 268°15	0°2/10.8	18		461806	2005 <i>YL</i> ₄₃		2 10.9 316°64	2°2/ 8.9	18	
1 2	10 4.23	+13 56.8	1.790	2.559	16.4	20.5	1 2	9 57.48	+15 42.7	1.838	2.624	15.5	20.7
1 12	10 0.48	+13 57.1	1.686	2.545	13.3	20.2	1 12	9 55.02	+16 43.7	1.745	2.617	12.3	20.4
1 22	9 53.91	+14 8.2	1.603	2.531	9.3	20.0	1 22	9 50.02	+17 58.7	1.675	2.609	8.4	20.2
2 1	9 44.94	+14 27.3	1.545	2.516	4.8	19.7	2 1	9 42.92	+19 21.9	1.630	2.602	4.3	19.9
2 11	9 34.51	+14 49.5	1.515	2.501	0.2	19.2	2 11	9 34.56	+20 45.3	1.613	2.596	2.4	19.8
2 21	9 23.84	+15 9.8	1.513	2.486	5.1	19.6	2 21	9 26.04	+22 0.8	1.624	2.589	6.0	20.0
3 2	9 14.23	+15 23.9	1.539	2.471	9.9	19.8	3 2	9 18.51	+23 1.6	1.663	2.583	10.2	20.2
3 12	9 6.81	+15 28.9	1.589	2.456	14.1	20.1	3 12	9 12.96	+23 44.3	1.725	2.577	13.9	20.4
208998	2003 <i>AW</i> ₈₈		2 10.9 340°37	11°9/16.9	17		234902	2002 <i>TH</i> ₂₁₉		2 10.9 93°57	4°9/15.3	18	
1 2	10 0.83	-11 37.8	1.920	2.571	19.1	18.8	1 2	9 58.82	- 2 21.0	2.363	3.056	14.9	20.3
1 12	9 57.67	-13 46.9	1.818	2.557	17.3	18.6	1 12	9 55.16	- 2 43.1	2.275	3.069	12.6	20.2
1 22	9 51.93	-15 38.9	1.735	2.545	15.3	18.5	1 22	9 49.56	- 2 48.2	2.208	3.082	9.9	20.0
2 1	9 43.95	-17 6.7	1.672	2.533	13.4	18.3	2 1	9 42.47	- 2 35.4	2.165	3.095	7.2	19.9
2 11	9 34.53	-18 4.9	1.633	2.522	12.1	18.2	2 11	9 34.58	- 2 6.0	2.149	3.108	5.2	19.8
2 21	9 24.71	-18 30.8	1.617	2.512	12.0	18.2	2 21	9 26.69	- 1 23.3	2.162	3.120	5.3	19.8
3 2	9 15.71	-18 25.9	1.625	2.503	13.1	18.2	3 2	9 19.61	- 0 31.8	2.203	3.133	7.5	19.9
3 12	9 8.62	-17 56.2	1.655	2.494	15.0	18.3	3 12	9 14.03	+ 0 23.1	2.271	3.145	10.1	20.1
48625	1995 <i>QF</i>		2 10.9 106°98	2°6/12.6	18		293790	2007 <i>RM</i> ₁₃₇		2 10.9 6°05	0°0/10.9	18	
1 2	10 4.59	+ 5 0.9	1.603	2.350	19.0	19.6	1 2	9 58.05	+11 38.6	1.273	2.074	20.2	20.0
1 12	10 0.63	+ 5 12.6	1.529	2.369	15.4	19.4	1 12	9 56.40	+11 55.1	1.197	2.074	16.2	19.7
1 22	9 53.81	+ 5 45.2	1.474	2.387	11.2	19.2	1 22	9 51.47	+12 30.5	1.139	2.074	11.4	19.5
2 1	9 44.75	+ 6 36.4	1.444	2.405	6.6	19.0	2 1	9 43.79	+13 21.0	1.103	2.076	5.9	19.2
2 11	9 34.52	+ 7 40.9	1.440	2.423	2.7	18.8	2 11	9 34.55	+14 18.8	1.091	2.078	0.1	18.7
2 21	9 24.40	+ 8 51.2	1.465	2.440	5.0	19.0	2 21	9 25.27	+15 15.3	1.105	2.082	6.0	19.2
3 2	9 15.63	+ 9 59.7	1.517	2.456	9.4	19.3	3 2	9 17.50	+16 2.5	1.144	2.086	11.5	19.5
3 12	9 9.21	+11 0.0	1.595	2.472	13.5	19.6	3 12	9 12.46	+16 35.0	1.204	2.091	16.3	19.8
502244	2015 <i>BA</i> ₁₀₀		2 10.9 303°08	0°6/11.3	17		502857	2015 <i>DL</i> ₁₈₅		2 10.9 228°18	4°5/ 7.1	17	
1 2	9 59.08	+10 39.2	2.080	2.839	14.8	21.9	1 2	10 3.27	+26 55.0	2.309	3.089	12.9	21.5
1 12	9 55.81	+10 51.8	1.984	2.836	11.9	21.7	1 12	9 59.01	+27 36.9	2.223	3.087	10.3	21.3
1 22	9 50.28	+11 17.0	1.910	2.833	8.4	21.4	1 22	9 52.42	+28 20.2	2.161	3.086	7.5	21.2
2 1	9 42.93	+11 52.2	1.862	2.831	4.4	21.2	2 1	9 43.98	+28 58.8	2.125	3.084	5.1	21.0
2 11	9 34.55	+12 33.4	1.842	2.828	0.6	20.9	2 11	9 34.56	+29 26.9	2.119	3.082	4.8	21.0
2 21	9 26.08	+13 15.6	1.851	2.825	4.2	21.2	2 21	9 25.14	+29 40.1	2.141	3.080	6.9	21.1
3 2	9 18.51	+13 53.9	1.888	2.823	8.2	21.4	3 2	9 16.75	+29 36.4	2.191	3.078	9.7	21.3
3 12	9 12.68	+14 24.6	1.951	2.820	11.8	21.6	3 12	9 10.21	+29 16.4	2.265	3.076	12.5	21.5
504531	2008 <i>RR</i> ₁₄₄		2 10.9 212°90	2°6/13.2	17		69313	1992 <i>SW</i> ₁₈		2 10.9 175°08	2°9/13.1	18	
1 2	9 59.81	+ 4 8.7	2.532	3.250	13.5	22.5							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
466141	2012 <i>HQ</i> ₁₈		2 10.9 209°75	1.7/ 9.3	18		456373	2006 <i>UO</i> ₄₄		2 10.9 141°83	2°3/ 9.2	18	
1 2	9 59.08	+14 32.9	2.086	2.857	14.4	21.6	1 2	10 3.18	+17 50.5	1.904	2.681	15.3	21.8
1 12	9 55.90	+15 34.2	1.992	2.855	11.4	21.4	1 12	9 59.30	+18 28.5	1.820	2.686	12.1	21.6
1 22	9 50.41	+16 48.6	1.921	2.852	7.8	21.1	1 22	9 52.82	+19 15.9	1.759	2.690	8.4	21.4
2 1	9 43.04	+18 11.0	1.877	2.849	3.9	20.9	2 1	9 44.27	+20 7.1	1.723	2.695	4.3	21.1
2 11	9 34.57	+19 34.4	1.862	2.846	1.8	20.7	2 11	9 34.59	+20 55.3	1.716	2.699	2.4	21.0
2 21	9 25.97	+20 51.4	1.877	2.843	5.3	21.0	2 21	9 24.90	+21 34.7	1.738	2.703	5.8	21.2
3 2	9 18.25	+21 56.2	1.920	2.839	9.1	21.2	3 2	9 16.36	+22 0.9	1.788	2.706	9.7	21.5
3 12	9 12.30	+22 45.1	1.989	2.836	12.6	21.4	3 12	9 9.89	+22 12.3	1.862	2.710	13.2	21.7
354074	2001 <i>UY</i> ₁₆₇		2 10.9 76°97	0°6/11.2	17		348918	2006 <i>TV</i> ₁₉		2 10.9 46°37	7°5/16.5	18	
1 2	10 10.14	+12 14.7	1.474	2.242	19.4	21.1	1 2	9 59.37	- 5 2.4	1.467	2.187	21.5	20.8
1 12	10 5.04	+12 10.1	1.414	2.271	15.5	20.9	1 12	9 56.67	- 5 38.8	1.404	2.211	18.4	20.6
1 22	9 56.80	+12 19.2	1.374	2.300	10.8	20.7	1 22	9 51.14	- 5 46.9	1.357	2.235	14.7	20.4
2 1	9 46.20	+12 38.4	1.359	2.329	5.6	20.4	2 1	9 43.42	- 5 24.5	1.331	2.259	10.9	20.3
2 11	9 34.53	+13 2.0	1.370	2.357	0.6	20.2	2 11	9 34.60	- 4 33.3	1.328	2.284	8.0	20.2
2 21	9 23.26	+13 24.5	1.410	2.384	5.2	20.6	2 21	9 25.94	- 3 19.6	1.351	2.310	7.9	20.2
3 2	9 13.75	+13 41.4	1.477	2.412	10.0	20.9	3 2	9 18.67	- 1 52.6	1.399	2.335	10.3	20.4
3 12	9 6.92	+13 49.9	1.568	2.439	14.1	21.2	3 12	9 13.73	- 0 22.6	1.472	2.361	13.6	20.7
98412	2000 <i>UG</i> ₁₅		2 10.9 124°13	0°4/10.5	18		466526	2014 <i>QA</i> ₄₃₂		2 10.9 9°42	9°7/ 4.3	18	
1 2	10 6.17	+13 17.1	1.945	2.702	15.7	19.8	1 2	10 8.42	+36 33.0	1.653	2.447	16.6	20.4
1 12	10 1.39	+13 40.6	1.867	2.720	12.5	19.6	1 12	10 4.44	+37 49.3	1.587	2.447	13.9	20.2
1 22	9 54.08	+14 15.5	1.812	2.737	8.6	19.4	1 22	9 56.90	+39 0.2	1.543	2.448	11.4	20.1
2 1	9 44.82	+14 57.9	1.782	2.753	4.3	19.1	2 1	9 46.48	+39 54.2	1.522	2.450	9.8	20.0
2 11	9 34.56	+15 42.0	1.782	2.769	0.5	18.9	2 11	9 34.56	+40 21.2	1.526	2.451	10.2	20.0
2 21	9 24.40	+16 22.3	1.812	2.783	4.7	19.2	2 21	9 22.84	+40 15.8	1.555	2.453	12.1	20.1
3 2	9 15.43	+16 54.6	1.870	2.797	8.8	19.5	3 2	9 12.96	+39 38.2	1.607	2.455	14.8	20.3
3 12	9 8.53	+17 16.0	1.954	2.811	12.3	19.7	3 12	9 6.09	+38 33.8	1.679	2.458	17.5	20.5
194848	2002 <i>AU</i> ₁₈		2 10.9 51°51	1°4/10.2	18		229986	1999 <i>XZ</i> ₁₂₁		2 10.9 98°93	0°2/10.8	17	
1 2	10 7.06	+16 32.3	1.280	2.077	20.4	18.3	1 2	10 11.23	+12 52.0	1.610	2.370	18.4	21.4
1 12	10 3.25	+16 35.6	1.221	2.095	16.1	18.1	1 12	10 5.71	+13 7.3	1.547	2.400	14.6	21.2
1 22	9 55.92	+16 50.2	1.180	2.115	11.1	17.9	1 22	9 57.20	+13 35.7	1.504	2.429	10.1	21.0
2 1	9 45.88	+17 10.8	1.161	2.135	5.6	17.6	2 1	9 46.42	+14 12.6	1.487	2.457	5.1	20.7
2 11	9 34.54	+17 30.1	1.169	2.155	1.4	17.4	2 11	9 34.59	+14 51.6	1.498	2.484	0.2	20.4
2 21	9 23.57	+17 42.3	1.203	2.175	6.3	17.8	2 21	9 23.10	+15 26.6	1.538	2.511	5.2	20.9
3 2	9 14.51	+17 43.5	1.262	2.196	11.4	18.1	3 2	9 13.24	+15 53.0	1.606	2.536	9.8	21.2
3 12	9 8.43	+17 32.6	1.343	2.217	15.8	18.4	3 12	9 5.94	+16 8.4	1.699	2.560	13.6	21.5
183972	2004 <i>EA</i> ₁₁		2 10.9 16°11	11°1/ 5.1	18		182459	2001 <i>SZ</i> ₇₂		2 10.9 107°45	6°2/ 5.7	18	
1 2	10 13.98	+39 34.6	1.499	2.289	18.2	20.0	1 2	10 6.56	+29 37.8	2.069	2.851	14.1	20.2
1 12	10 9.25	+40 37.1	1.438	2.292	15.4	19.8	1 12	10 1.85	+30 54.0	2.007	2.869	11.3	20.0
1 22	10 0.37	+41 30.0	1.396	2.295	12.9	19.7	1 22	9 54.48	+32 10.1	1.969	2.887	8.5	19.9
2 1	9 48.22	+42 0.3	1.377	2.299	11.3	19.6	2 1	9 45.06	+33 17.6	1.957	2.905	6.5	19.8
2 11	9 34.51	+41 57.6	1.382	2.303	11.5	19.6	2 11	9 34.62	+34 8.6	1.974	2.922	6.6	19.8
2 21	9 21.29	+41 17.6	1.412	2.307	13.3	19.7	2 21	9 24.33	+34 38.0	2.019	2.938	8.6	20.0
3 2	9 10.43	+40 3.4	1.464	2.313	16.0	19.9	3 2	9 15.37	+34 44.5	2.090	2.955	11.2	20.1
3 12	9 3.13	+38 22.7	1.536	2.319	18.7	20.1	3 12	9 8.61	+34 29.8	2.184	2.970	13.7	20.3
149823	2005 <i>NN</i> ₂₇		2 10.9 177°07	3°6/12.8	18		274355	2008 <i>RL</i> ₆₂		2 10.9 194°71	1°9/ 9.3	17	
1 2	10 5.22	+ 5 47.7	1.520	2.273	19.6	21.4	1 2	10 2.37	+18 31.3	2.331	3.098	13.1	21.6
1 12	10 1.55	+ 5 20.2	1.432	2.274	16.2	21.1	1 12	9 58.20	+19 0.3	2.236	3.097	10.4	21.4
1 22	9 54.78	+ 5 10.5	1.362	2.275	12.0	20.9	1 22	9 51.82	+19 36.1	2.166	3.095	7.2	21.2
2 1	9 45.43	+ 5 18.9	1.316	2.275	7.4	20.6	2 1	9 43.71	+20 14.3	2.122	3.093	3.8	20.9
2 11	9 34.56	+ 5 42.7	1.295	2.276	3.7	20.4	2 11	9 34.64	+20 49.9	2.108	3.090	2.1	20.8
2 21	9 23.56	+ 6 17.0	1.302	2.275	5.8	20.5	2 21	9 25.50	+21 18.4	2.124	3.087	4.9	21.0
3 2	9 13.89	+ 6 55.6	1.335	2.275	10.4	20.8	3 2	9 17.27	+21 36.4	2.168	3.084	8.4	21.2
3 12	9 6.73	+ 7 32.2	1.392	2.274	14.8	21.0	3 12	9 10.72	+21 42.6	2.239	3.081	11.5	21.4
256188	2006 <i>VO</i> ₇₉		2 10.9 36°88	0°2/10.7	18		34263	2000 <i>QV</i> ₁₂₁		2 10.9 124°58	0°0/10.8	18	
1 2	9 59.36	+11 49.3	1.485	2.272	18.5	20.3	1 2	10 0.80	+13 36.2	2.683	3.432	12.1	18.8
1 12	9 56.82	+12 15.5	1.413	2.282	14.7	20.1	1 12	9 56.49	+13 41.5	2.593	3.441	9.6	18.7
1 22	9 51.36	+12 58.2	1.361	2.294	10.2	19.8	1 22	9 50.37	+13 54.2	2.526	3.449	6.6	18.5
2 1	9 43.59	+13 53.1	1.333	2.306	5.2	19.6	2 1	9 42.88	+14 11.8	2.487	3.457	3.4	18.3
2 11	9 34.59	+14 52.8	1.331	2.318	0.2	19.2	2 11	9 34.66	+14 31.3	2.478	3.465	0.1	18.0
2 21	9 25.66	+15 49.6	1.356	2.331	5.4	19.6	2 21	9 26.47	+14 49.6	2.500	3.473	3.5	18.3
3 2	9 18.12	+16 36.8	1.408	2.344	10.2	19.9	3 2	9 19.05	+15 3.8	2.552	3.480	6.7	18.5
3 12	9 12.97	+17 10.2	1.482	2.358	14.4	20.2	3 12	9 13.04	+15 12.2	2.631	3.488	9.5	18.7
462038	2007 <i>CD</i> ₆₂		2 10.9 27°40	6°0/14.6	18		163414	2002 <i>RP</i> ₂₆		2 10.9 187°66	2°8/12.9	17	
1 2	9 59.65	+ 0 37.2	1.551	2.292	19.7	20.3	1 2	10 1.15	+ 5 40.9	2.333	3.061	14.2	20.1
1 12	9 56.91	- 0 11.9	1.472	2.300	16.6	20.1	1 12	9 57.13	+ 5 18.9	2.234	3.060	11.7	19.9
1 22	9 51.38	- 0 40.4	1.412	2.309	12.9	19.9	1 22	9 51.04	+ 5 9.0	2.156	3.060	8.7	19.7
2 1	9 43.60	- 0 46.1	1.374	2.318	9.1	19.7	2 1	9 43.31	+ 5 10.9	2.104	3.060	5.4	19.5
2 11	9 34.59	- 0 29.9	1.360	2.327	6.2	19.6	2 11	9 34.67	+ 5 22.8	2.081	3.059	2.9	19.3
2 21	9 25.58	+ 0 4.3	1.372	2.338	6.8	19.6	2 21	9 25.94	+ 5 41.8	2.087	3.059	4.2	19.4
3 2	9 17.81	+ 0 50.2	1.410	2.349	10.0	19.8	3 2	9 18.03	+ 6 4.5	2.123	3.058	7.4	19.6
3 12	9 12.31	+ 1 40.1	1.472	2.360	13.7	20.1	3 12	9 11.68	+ 6 27.1	2.185	3.057	10.6	19.8
130745	2000 <i>ST</i> ₂₅₉		2 10.9 181°06	3°6/ 8.1	18		414830	2010 <i>UC</i> ₆₀		2 10.9 84°10	0°5/11.3	18	
1 2	10 4.63	+20 19.3	1.890	2.670									

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
432539	2010 <i>GK</i> ₁₃₂		2 10.9 343°37	1°9/12.4	17		436765	2012 <i>FE</i> ₈₁		2 10.9 208°20	2°8/ 8.5	18	
1 2	9 56.79	+ 6 54.4	2.033	2.785	15.3	21.2	1 2	10 1.00	+ 8 39.7	1.282	2.068	20.9	20.9
1 12	9 54.08	+ 6 59.8	1.936	2.781	12.5	21.0	1 12	9 59.11	+11 3.1	1.195	2.066	16.7	20.7
1 22	9 49.15	+ 7 20.4	1.861	2.777	9.1	20.8	1 22	9 53.73	+14 4.3	1.128	2.064	11.5	20.3
2 1	9 42.43	+ 7 54.8	1.810	2.773	5.3	20.5	2 1	9 45.23	+17 33.3	1.087	2.061	5.7	20.0
2 11	9 34.68	+ 8 39.5	1.787	2.770	2.0	20.3	2 11	9 34.68	+21 11.0	1.075	2.058	3.3	19.8
2 21	9 26.83	+ 9 29.6	1.792	2.767	4.2	20.5	2 21	9 23.69	+24 35.1	1.093	2.055	8.6	20.1
3 2	9 19.84	+10 19.6	1.825	2.765	8.0	20.7	3 2	9 14.06	+27 27.2	1.137	2.052	14.3	20.4
3 12	9 14.55	+11 4.6	1.884	2.763	11.7	20.9	3 12	9 7.33	+29 38.5	1.203	2.048	19.2	20.7
203537	2002 <i>CG</i> ₂₈		2 10.9 67°85	3°6/ 8.9	18		370820	2004 <i>TE</i> ₃₆₆		2 10.9 67°70	3°0/ 8.6	18	
1 2	10 7.44	+20 58.4	1.438	2.234	18.6	19.5	1 2	10 1.97	+20 33.4	1.995	2.777	14.5	20.8
1 12	10 3.44	+21 27.2	1.371	2.246	14.7	19.3	1 12	9 58.30	+21 12.1	1.910	2.778	11.5	20.6
1 22	9 56.07	+22 3.4	1.323	2.258	10.2	19.0	1 22	9 52.12	+21 57.6	1.848	2.780	8.0	20.4
2 1	9 46.03	+22 39.6	1.300	2.270	5.6	18.8	2 1	9 43.96	+22 44.2	1.812	2.782	4.5	20.2
2 11	9 34.64	+23 7.6	1.302	2.283	3.8	18.7	2 11	9 34.71	+23 25.3	1.804	2.783	3.2	20.1
2 21	9 23.48	+23 21.0	1.332	2.295	7.4	19.0	2 21	9 25.44	+23 55.6	1.826	2.785	6.1	20.3
3 2	9 14.07	+23 16.9	1.388	2.308	11.8	19.2	3 2	9 17.27	+24 11.5	1.874	2.787	9.7	20.5
3 12	9 7.49	+22 56.1	1.466	2.320	15.8	19.5	3 12	9 11.08	+24 12.1	1.947	2.788	13.0	20.7
419897	2011 <i>AY</i> ₆₁		2 10.9 59°04	2°3/ 9.3	18		27073	1998 <i>SK</i> ₁₃₂		2 10.9 332°47	0°3/11.1	18	
1 2	10 2.73	+17 29.2	1.673	2.459	16.7	21.9	1 2	10 1.46	+12 45.3	1.551	2.334	18.0	17.9
1 12	9 59.12	+18 6.1	1.607	2.477	13.2	21.7	1 12	9 58.62	+12 41.4	1.461	2.327	14.5	17.7
1 22	9 52.74	+18 52.9	1.562	2.496	9.0	21.5	1 22	9 52.79	+12 50.6	1.390	2.321	10.3	17.4
2 1	9 44.24	+19 43.5	1.542	2.514	4.6	21.2	2 1	9 44.48	+13 10.1	1.343	2.315	5.3	17.1
2 11	9 34.67	+20 30.6	1.550	2.533	2.4	21.1	2 11	9 34.70	+13 35.1	1.322	2.309	0.3	16.7
2 21	9 25.28	+21 7.9	1.585	2.552	6.0	21.4	2 21	9 24.78	+14 0.0	1.329	2.304	5.3	17.1
3 2	9 17.27	+21 31.4	1.648	2.571	10.1	21.7	3 2	9 16.12	+14 19.5	1.361	2.299	10.3	17.3
3 12	9 11.54	+21 39.6	1.734	2.589	13.7	21.9	3 12	9 9.86	+14 29.9	1.417	2.295	14.8	17.6
21463	Nickerson		2 10.9 201°46	2°7/12.8	18		82175	2001 <i>HV</i> ₁₁		2 10.9 278°20	4°5/ 8.3	18	
1 2	10 2.59	+ 5 32.9	1.945	2.682	16.4	19.3	1 2	10 5.30	+21 24.4	1.408	2.210	18.6	19.9
1 12	9 58.80	+ 5 26.2	1.846	2.680	13.5	19.1	1 12	10 2.33	+22 8.7	1.320	2.199	14.9	19.6
1 22	9 52.51	+ 5 35.4	1.768	2.677	9.9	18.8	1 22	9 55.79	+23 3.0	1.251	2.187	10.5	19.4
2 1	9 44.19	+ 5 59.9	1.714	2.673	6.0	18.6	2 1	9 46.18	+23 59.5	1.206	2.176	6.1	19.1
2 11	9 34.67	+ 6 36.7	1.688	2.669	2.9	18.4	2 11	9 34.68	+24 47.7	1.187	2.165	4.7	19.0
2 21	9 25.00	+ 7 21.2	1.692	2.665	4.7	18.5	2 21	9 22.95	+25 18.8	1.194	2.153	8.5	19.1
3 2	9 16.29	+ 8 7.8	1.723	2.660	8.6	18.7	3 2	9 12.74	+25 27.7	1.225	2.142	13.3	19.4
3 12	9 9.49	+ 8 51.4	1.780	2.655	12.4	18.9	3 12	9 5.47	+25 14.2	1.278	2.131	17.8	19.6
498863	2008 <i>YF</i> ₅₂		2 10.9 36°01	0°4/11.1	18		326313	1999 <i>TJ</i> ₁₄₀		2 10.9 135°63	2°7/13.5	18	
1 2	10 1.37	+12 54.5	1.993	2.758	15.2	21.0	1 2	10 0.30	+ 2 57.5	2.591	3.301	13.4	21.6
1 12	9 57.60	+12 47.7	1.911	2.766	12.1	20.8	1 12	9 56.16	+ 3 0.8	2.500	3.314	11.0	21.5
1 22	9 51.49	+12 50.7	1.849	2.775	8.5	20.6	1 22	9 50.20	+ 3 18.1	2.431	3.327	8.2	21.3
2 1	9 43.56	+13 1.0	1.814	2.784	4.4	20.4	2 1	9 42.84	+ 3 48.5	2.388	3.339	5.2	21.1
2 11	9 34.69	+13 15.0	1.807	2.794	0.4	20.1	2 11	9 34.74	+ 4 29.5	2.374	3.351	2.9	21.0
2 21	9 25.87	+13 28.7	1.829	2.803	4.2	20.4	2 21	9 26.64	+ 5 17.3	2.391	3.362	3.8	21.1
3 2	9 18.12	+13 38.9	1.879	2.814	8.2	20.7	3 2	9 19.29	+ 6 7.7	2.438	3.373	6.6	21.3
3 12	9 12.23	+13 43.1	1.954	2.824	11.7	20.9	3 12	9 13.33	+ 6 56.4	2.513	3.383	9.5	21.5
309265	2007 <i>RD</i> ₀₈		2 10.9 184°42	1°3/ 9.8	18		408741	2014 <i>OM</i> ₁₁₁		2 10.9 264°70	1°4/11.8	18	
1 2	10 4.62	+15 4.6	2.147	2.906	14.4	22.0	1 2	10 2.02	+ 8 52.7	1.620	2.386	18.1	21.9
1 12	10 0.19	+15 43.5	2.052	2.907	11.4	21.8	1 12	9 59.09	+ 8 59.2	1.517	2.372	14.8	21.6
1 22	9 53.35	+16 33.3	1.980	2.907	7.9	21.6	1 22	9 53.20	+ 9 23.3	1.434	2.357	10.7	21.3
2 1	9 44.57	+17 29.2	1.935	2.906	4.0	21.3	2 1	9 44.77	+10 3.3	1.375	2.342	5.9	21.0
2 11	9 34.68	+18 25.6	1.919	2.904	1.4	21.1	2 11	9 34.71	+10 54.5	1.342	2.327	1.5	20.7
2 21	9 24.69	+19 16.3	1.934	2.902	4.9	21.4	2 21	9 24.31	+11 50.2	1.336	2.312	5.2	20.9
3 2	9 15.65	+19 56.8	1.978	2.898	8.8	21.6	3 2	9 14.98	+12 43.3	1.358	2.297	10.3	21.1
3 12	9 8.46	+20 24.4	2.048	2.894	12.3	21.8	3 12	9 7.95	+13 27.6	1.403	2.281	14.9	21.4
21614	Grochowski		2 10.9 144°13	3°4/13.4	18		283522	2001 <i>TF</i> ₉₂		2 10.9 135°80	2°7/12.9	18	
1 2	10 3.38	+ 3 3.5	1.926	2.652	16.9	18.6	1 2	10 5.09	+ 4 24.2	1.942	2.669	16.7	22.4
1 12	9 59.31	+ 2 58.9	1.838	2.662	13.9	18.4	1 12	10 0.59	+ 4 29.1	1.858	2.685	13.7	22.2
1 22	9 52.78	+ 3 12.4	1.770	2.671	10.4	18.2	1 22	9 53.61	+ 4 51.6	1.794	2.699	10.1	22.0
2 1	9 44.28	+ 3 43.5	1.726	2.679	6.6	18.0	2 1	9 44.69	+ 5 30.3	1.756	2.713	6.1	21.8
2 11	9 34.69	+ 4 29.2	1.710	2.687	3.6	17.9	2 11	9 34.73	+ 6 21.2	1.745	2.726	2.9	21.6
2 21	9 25.06	+ 5 24.2	1.723	2.695	4.9	17.9	2 21	9 24.79	+ 7 19.1	1.765	2.738	4.6	21.7
3 2	9 16.48	+ 6 22.7	1.764	2.701	8.5	18.2	3 2	9 15.94	+ 8 17.6	1.814	2.749	8.4	22.0
3 12	9 9.85	+ 7 18.4	1.832	2.707	12.1	18.4	3 12	9 9.07	+ 9 11.4	1.888	2.760	12.0	22.2
188675	2005 <i>SY</i> ₂₀₁		2 10.9 0°36	12°3/21.6	18		266386	2007 <i>EK</i> ₁₂₈		2 10.9 352°82	0°9/10.3	18	
1 2	9 57.51	-18 5.5	1.868	2.485	20.5	20.0	1 2	10 1.78	+15 12.5	1.822	2.598	15.9	21.2
1 12	9 55.05	-19 22.1	1.778	2.485	18.7	19.9	1 12	9 58.35	+15 27.0	1.733	2.597	12.7	21.0
1 22	9 50.08	-20 11.3	1.703	2.484	16.7	19.7	1 22	9 52.29	+15 52.0	1.666	2.597	8.8	20.8
2 1	9 43.02	-20 26.9	1.645	2.484	14.6	19.6	2 1	9 44.11	+16 23.6	1.624	2.596	4.4	20.5
2 11	9 34.70	-20 5.1	1.607	2.484	13.0	19.5	2 11	9 34.74	+16 56.3	1.609	2.595	1.0	20.3
2 21	9 26.18	-19 6.4	1.592	2.485	12.3	19.4	2 21	9 25.32	+17 24.7	1.623	2.595	5.1	20.5
3 2	9 18.61	-17 36.1	1.601	2.485	12.8	19.5	3 2	9 17.03	+17 44.5	1.665	2.595	9.4	20.8
3 12	9 12.99	-15 43.8	1.632	2.486	14.5	19.6	3 12	9 10.82	+17 53.1	1.731	2.595	13.3	21.0
91439	1999 <i>RD</i> ₁₂		2 10.9 144°82	2°5/13.5	18		169217	2001 <i>RP</i> ₁₂₁		2 10.9 257°16	4°4/ 7.3	17	
1 2	9 59.19	+ 2 13.6	2.630	3.338	13.2	20.8	1 2	10					

EPHEMERIDES

2 10.9

2 10.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
60893	2000 <i>JH</i> ₂₁		2 10.9 200°12	0°3/11.1	18		432547	2010 <i>JP</i> ₂		2 10.9 3°74	3°0/8.6	17	
1 2	10 2.41	+11 55.1	1.911	2.673	15.8	19.3	1 2	10 0.06	+20 42.7	1.951	2.739	14.6	21.4
1 12	9 58.71	+12 3.4	1.818	2.672	12.7	19.1	1 12	9 56.87	+21 17.7	1.867	2.739	11.6	21.2
1 22	9 52.48	+12 23.9	1.746	2.671	8.9	18.8	1 22	9 51.19	+21 59.3	1.806	2.739	8.0	20.9
2 1	9 44.20	+12 53.8	1.700	2.670	4.6	18.6	2 1	9 43.54	+22 41.9	1.770	2.740	4.5	20.7
2 11	9 34.76	+13 28.6	1.682	2.668	0.3	18.2	2 11	9 34.81	+23 19.1	1.762	2.741	3.2	20.6
2 21	9 25.23	+14 3.2	1.693	2.667	4.5	18.6	2 21	9 26.08	+23 45.7	1.782	2.742	6.1	20.8
3 2	9 16.74	+14 32.8	1.731	2.665	8.9	18.8	3 2	9 18.42	+23 58.1	1.829	2.744	9.8	21.0
3 12	9 10.24	+14 53.9	1.795	2.663	12.7	19.0	3 12	9 12.74	+23 55.4	1.900	2.746	13.1	21.3
148874	2001 <i>VH</i> ₁₁₆		2 10.9 27°81	2°2/9.5	18		166072	2002 <i>CT</i> ₈₁		2 10.9 264°42	1°8/9.7	18	
1 2	10 1.34	+17 41.2	1.529	2.325	17.6	19.7	1 2	10 3.05	+16 7.6	1.648	2.431	17.1	20.8
1 12	9 58.43	+18 6.5	1.457	2.333	13.9	19.5	1 12	9 59.88	+16 38.3	1.553	2.421	13.7	20.6
1 22	9 52.53	+18 42.1	1.405	2.341	9.6	19.2	1 22	9 53.71	+17 21.6	1.478	2.411	9.5	20.3
2 1	9 44.26	+19 22.1	1.377	2.350	4.9	19.0	2 1	9 45.03	+18 12.5	1.428	2.400	4.9	20.0
2 11	9 34.76	+19 59.4	1.376	2.360	2.4	18.8	2 11	9 34.80	+19 3.8	1.405	2.390	1.9	19.8
2 21	9 25.35	+20 27.4	1.401	2.370	6.2	19.1	2 21	9 24.35	+19 47.9	1.410	2.379	6.1	20.0
3 2	9 17.38	+20 42.0	1.453	2.381	10.7	19.4	3 2	9 15.08	+20 19.1	1.441	2.368	10.9	20.2
3 12	9 11.85	+20 41.5	1.527	2.392	14.7	19.6	3 12	9 8.18	+20 34.5	1.496	2.357	15.2	20.5
465481	2008 <i>TJ</i> ₃₃		2 10.9 193°82	4°2/15.2	17		252932	2002 <i>OC</i> ₂₁		2 10.9 227°74	0°7/10.4	17	
1 2	9 58.50	- 2 29.7	2.697	3.380	13.5	22.7	1 2	10 2.50	+13 10.0	2.034	2.796	15.0	21.7
1 12	9 54.81	- 2 30.8	2.589	3.377	11.4	22.5	1 12	9 58.78	+13 42.6	1.931	2.786	12.0	21.5
1 22	9 49.34	- 2 15.5	2.502	3.375	9.0	22.3	1 22	9 52.58	+14 28.1	1.849	2.776	8.4	21.2
2 1	9 42.47	- 1 43.5	2.440	3.371	6.4	22.2	2 1	9 44.33	+15 22.8	1.794	2.765	4.2	21.0
2 11	9 34.78	- 0 56.2	2.406	3.368	4.4	22.0	2 11	9 34.82	+16 20.9	1.767	2.754	0.7	20.7
2 21	9 26.98	+ 0 3.0	2.402	3.364	4.6	22.0	2 21	9 25.10	+17 16.2	1.771	2.742	4.8	20.9
3 2	9 19.80	+ 1 9.6	2.428	3.359	6.8	22.2	3 2	9 16.27	+18 3.1	1.803	2.730	9.1	21.2
3 12	9 13.90	+ 2 18.2	2.482	3.354	9.5	22.3	3 12	9 9.32	+18 38.1	1.860	2.717	12.9	21.4
300246	2007 <i>EE</i> ₉₆		2 10.9 273°27	1°6/11.9	18		34984	3163 <i>T</i> ₋₃		2 10.9 297°97	8°1/3.3	18	
1 2	10 1.31	+ 8 16.2	1.542	2.311	18.7	21.8	1 2	10 6.09	+38 51.2	2.378	3.151	12.7	18.7
1 12	9 58.72	+ 8 24.5	1.438	2.294	15.3	21.5	1 12	10 1.63	+39 57.9	2.301	3.144	10.8	18.6
1 22	9 53.09	+ 8 52.2	1.354	2.278	11.1	21.2	1 22	9 54.48	+40 58.9	2.248	3.138	9.0	18.4
2 1	9 44.79	+ 9 37.8	1.293	2.261	6.2	20.9	2 1	9 45.22	+41 46.2	2.220	3.132	8.1	18.4
2 11	9 34.76	+10 36.5	1.258	2.244	1.6	20.6	2 11	9 34.82	+42 12.6	2.219	3.126	8.5	18.4
2 21	9 24.31	+11 40.9	1.250	2.227	5.4	20.8	2 21	9 24.45	+42 14.4	2.244	3.120	10.0	18.5
3 2	9 14.95	+12 42.9	1.269	2.209	10.7	21.0	3 2	9 15.31	+41 50.9	2.294	3.113	12.0	18.6
3 12	9 7.98	+13 35.6	1.311	2.192	15.6	21.2	3 12	9 8.32	+41 4.9	2.366	3.108	14.0	18.7
218918	2007 <i>TV</i> ₁₃₈		2 10.9 120°09	0°5/10.5	18		503552	2016 <i>FB</i> ₄₃		2 10.9 34°52	3°1/8.7	18	
1 2	10 4.57	+15 48.1	2.488	3.240	12.8	20.5	1 2	10 2.40	+20 23.4	1.918	2.702	15.0	21.0
1 12	9 59.61	+15 44.6	2.400	3.249	10.2	20.3	1 12	9 58.78	+21 1.3	1.833	2.702	11.9	20.8
1 22	9 52.62	+15 47.1	2.335	3.259	7.0	20.1	1 22	9 52.56	+21 46.3	1.771	2.703	8.3	20.6
2 1	9 44.09	+15 52.9	2.297	3.268	3.5	19.9	2 1	9 44.27	+22 32.7	1.734	2.704	4.6	20.4
2 11	9 34.77	+15 58.8	2.290	3.277	0.5	19.7	2 11	9 34.83	+23 13.7	1.726	2.705	3.2	20.3
2 21	9 25.52	+16 2.0	2.314	3.285	3.8	20.0	2 21	9 25.37	+23 43.6	1.745	2.706	6.2	20.5
3 2	9 17.17	+16 0.2	2.368	3.294	7.3	20.2	3 2	9 17.04	+23 58.8	1.793	2.706	10.0	20.7
3 12	9 10.44	+15 52.2	2.448	3.302	10.3	20.4	3 12	9 10.77	+23 58.4	1.864	2.707	13.4	20.9
332797	2009 <i>WH</i> ₆₄		2 10.9 152°49	1°6/12.3	18		68669	2002 <i>CJ</i> ₁₀₉		2 10.9 253°36	1°9/9.6	18	
1 2	9 59.80	+ 7 4.2	2.219	2.959	14.5	21.8	1 2	10 2.49	+15 46.3	1.684	2.466	16.8	20.2
1 12	9 56.21	+ 7 16.1	2.125	2.963	11.8	21.6	1 12	9 59.36	+16 25.4	1.590	2.458	13.4	19.9
1 22	9 50.50	+ 7 42.1	2.053	2.967	8.5	21.4	1 22	9 53.31	+17 18.0	1.516	2.449	9.3	19.7
2 1	9 43.11	+ 8 20.5	2.007	2.970	4.9	21.2	2 1	9 44.82	+18 18.8	1.467	2.440	4.8	19.4
2 11	9 34.79	+ 9 7.7	1.989	2.973	1.7	21.0	2 11	9 34.84	+19 20.1	1.446	2.430	2.0	19.2
2 21	9 26.42	+ 9 58.8	2.001	2.976	3.9	21.1	2 21	9 24.64	+20 14.2	1.453	2.421	6.1	19.4
3 2	9 18.89	+10 49.0	2.043	2.979	7.6	21.4	3 2	9 15.59	+20 54.9	1.486	2.411	10.8	19.6
3 12	9 12.97	+11 33.7	2.110	2.981	10.9	21.6	3 12	9 8.83	+21 19.0	1.543	2.401	14.9	19.9
290372	2005 <i>SR</i> ₂₇₈		2 10.9 53°55	2°2/12.5	18		320842	2008 <i>FA</i> ₇₂		2 10.9 239°73	1°3/9.9	18	
1 2	9 59.49	+ 6 22.8	1.755	2.511	17.2	21.0	1 2	10 1.82	+15 2.3	1.994	2.764	15.0	21.8
1 12	9 56.49	+ 6 28.3	1.674	2.520	14.0	20.8	1 12	9 58.29	+15 35.1	1.895	2.756	11.9	21.6
1 22	9 50.96	+ 6 51.4	1.613	2.529	10.2	20.6	1 22	9 52.26	+16 19.3	1.817	2.747	8.3	21.4
2 1	9 43.42	+ 7 30.5	1.575	2.539	5.9	20.4	2 1	9 44.17	+17 10.9	1.765	2.737	4.2	21.1
2 11	9 34.80	+ 8 21.1	1.565	2.548	2.3	20.2	2 11	9 34.85	+18 3.7	1.742	2.728	1.3	20.9
2 21	9 26.17	+ 9 17.3	1.582	2.558	4.6	20.3	2 21	9 25.35	+18 51.7	1.748	2.718	5.1	21.1
3 2	9 18.66	+10 12.6	1.628	2.568	8.8	20.6	3 2	9 16.79	+19 29.8	1.783	2.708	9.3	21.3
3 12	9 13.16	+11 1.5	1.698	2.578	12.6	20.9	3 12	9 10.14	+19 54.9	1.842	2.697	13.0	21.5
496180	2011 <i>CQ</i> ₁₁₀		2 10.9 167°56	2°4/12.9	17		125562	2001 <i>XP</i> ₁₄		2 10.9 155°90	0°1/10.8	18	
1 2	9 59.08	+ 4 49.8	2.155	2.889	15.1	22.1	1 2	10 7.21	+13 17.4	1.834	2.594	16.5	20.6
1 12	9 55.74	+ 4 58.4	2.059	2.891	12.3	21.9	1 12	10 2.57	+13 25.3	1.747	2.601	13.2	20.4
1 22	9 50.24	+ 5 23.0	1.984	2.892	9.1	21.7	1 22	9 55.19	+13 44.5	1.682	2.607	9.2	20.1
2 1	9 43.02	+ 6 2.5	1.934	2.893	5.5	21.5	2 1	9 45.62	+14 11.8	1.642	2.612	4.7	19.9
2 11	9 34.82	+ 6 53.5	1.913	2.894	2.5	21.3	2 11	9 34.84	+14 42.0	1.630	2.617	0.1	19.5
2 21	9 26.53	+ 7 51.0	1.921	2.895	4.1	21.4	2 21	9 24.06	+15 9.8	1.648	2.621	4.8	19.9
3 2	9 19.09	+ 8 49.7	1.957	2.895	7.7	21.6	3 2	9 14.49	+15 31.0	1.695	2.625	9.3	20.2
3 12	9 13.28	+ 9 44.2	2.020	2.896	11.2	21.8	3 12	9 7.13	+15 42.9	1.766	2.628	13.2	20.4
59971	1999 <i>RP</i> ₂₄₇		2 10.9 129°80	3°2/8.8	18		325243	2008 <i>GY</i> ₇₁		2 10.9 308°95	0°6/10.5	18	
1 2	10 8.69	+18 58.0	1.671	2.449	17.1	19.8	1						

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
160720	2000 <i>QM</i> ₁₅₈		2 10.9 153°44	3°4/12.8	18		340816	2006 <i>UE</i> ₅₆		2 10.9 102°30	3°4/14.2	17	
1 2	10 5.50	+ 6 16.1	1.676	2.422	18.3	20.1	1 2	9 57.88	+ 1 26.7	2.521	3.231	13.7	21.2
1 12	10 1.49	+ 5 43.9	1.586	2.425	15.1	19.9	1 12	9 54.39	+ 1 19.9	2.428	3.239	11.4	21.1
1 22	9 54.62	+ 5 27.2	1.516	2.427	11.2	19.6	1 22	9 49.08	+ 1 27.8	2.356	3.248	8.7	20.9
2 1	9 45.40	+ 5 26.0	1.470	2.429	6.9	19.4	2 1	9 42.38	+ 1 50.1	2.310	3.256	5.8	20.7
2 11	9 34.85	+ 5 38.1	1.451	2.431	3.5	19.2	2 11	9 34.91	+ 2 24.9	2.292	3.264	3.6	20.6
2 21	9 24.21	+ 5 59.7	1.460	2.433	5.4	19.3	2 21	9 27.42	+ 3 8.6	2.304	3.272	4.2	20.7
3 2	9 14.79	+ 6 25.7	1.496	2.434	9.6	19.5	3 2	9 20.65	+ 3 57.2	2.345	3.280	6.8	20.8
3 12	9 7.65	+ 6 51.1	1.557	2.436	13.7	19.8	3 12	9 15.25	+ 4 45.9	2.413	3.288	9.6	21.0
372665	2009 <i>WY</i> ₈₂		2 10.9 104°84	1°1/10.1	18		219805	2002 <i>AN</i> ₁₅₇		2 10.9 33°52	0°8/11.4	18	
1 2	10 2.95	+16 0.9	2.045	2.814	14.7	21.1	1 2	10 1.49	+11 15.0	1.774	2.541	16.6	20.5
1 12	9 58.91	+16 17.4	1.960	2.820	11.7	20.9	1 12	9 58.13	+11 13.6	1.689	2.545	13.4	20.2
1 22	9 52.47	+16 42.6	1.898	2.827	8.0	20.7	1 22	9 52.15	+11 25.0	1.625	2.550	9.5	20.0
2 1	9 44.16	+17 12.5	1.861	2.833	4.1	20.5	2 1	9 44.10	+11 46.8	1.585	2.555	5.0	19.8
2 11	9 34.86	+17 42.1	1.854	2.839	1.2	20.3	2 11	9 34.90	+12 14.7	1.573	2.560	0.8	19.5
2 21	9 25.58	+18 6.8	1.876	2.846	4.7	20.5	2 21	9 25.69	+12 43.7	1.589	2.565	4.6	19.8
3 2	9 17.36	+18 23.0	1.926	2.852	8.6	20.8	3 2	9 17.63	+13 9.0	1.633	2.570	9.0	20.0
3 12	9 11.03	+18 28.8	2.001	2.858	12.1	21.0	3 12	9 11.64	+13 27.1	1.701	2.576	12.9	20.3
178160	2006 <i>UH</i> ₁₁		2 10.9 166°39	1°5/12.1	18		373945	2003 <i>UA</i> ₄₀₃		2 10.9 155°17	0°4/11.3	17	
1 2	10 1.76	+ 7 32.6	2.059	2.802	15.4	21.4	1 2	9 59.82	+10 36.2	2.301	3.052	13.8	21.8
1 12	9 57.97	+ 7 46.2	1.965	2.805	12.5	21.2	1 12	9 56.18	+10 57.0	2.208	3.055	11.0	21.6
1 22	9 51.86	+ 8 15.0	1.893	2.808	9.0	20.9	1 22	9 50.48	+11 29.7	2.137	3.058	7.8	21.4
2 1	9 43.89	+ 8 56.7	1.847	2.811	5.1	20.7	2 1	9 43.15	+12 11.6	2.092	3.061	4.1	21.2
2 11	9 34.86	+ 9 47.4	1.828	2.813	1.6	20.5	2 11	9 34.92	+12 58.5	2.077	3.064	0.4	20.9
2 21	9 25.76	+10 41.7	1.840	2.815	4.2	20.6	2 21	9 26.63	+13 45.5	2.092	3.066	3.8	21.2
3 2	9 17.59	+11 34.1	1.881	2.816	8.1	20.9	3 2	9 19.17	+14 28.2	2.136	3.069	7.5	21.4
3 12	9 11.21	+12 19.9	1.947	2.817	11.8	21.1	3 12	9 13.29	+15 3.2	2.207	3.071	10.8	21.6
166950	2003 <i>JJ</i> ₁₄		2 10.9 250°55	0°4/11.2	17		242601	2005 <i>JW</i> ₅₂		2 10.9 195°67	3°0/ 7.8	17	
1 2	10 2.43	+ 9 46.5	1.916	2.671	16.0	21.2	1 2	9 59.39	+21 13.6	2.564	3.338	11.9	21.1
1 12	9 59.03	+10 18.3	1.802	2.652	13.0	21.0	1 12	9 55.77	+22 9.9	2.473	3.337	9.4	20.9
1 22	9 52.98	+11 7.3	1.709	2.632	9.3	20.7	1 22	9 50.16	+23 12.1	2.405	3.335	6.5	20.7
2 1	9 44.66	+12 10.6	1.642	2.611	4.9	20.4	2 1	9 42.99	+24 15.0	2.366	3.333	3.9	20.5
2 11	9 34.86	+13 22.9	1.603	2.590	0.4	20.0	2 11	9 34.93	+25 12.9	2.357	3.331	3.2	20.5
2 21	9 24.65	+14 36.9	1.594	2.568	4.8	20.3	2 21	9 26.78	+26 0.9	2.377	3.329	5.5	20.6
3 2	9 15.27	+15 45.4	1.613	2.545	9.5	20.5	3 2	9 19.40	+26 35.5	2.427	3.326	8.4	20.8
3 12	9 7.84	+16 42.7	1.657	2.521	13.8	20.7	3 12	9 13.52	+26 55.3	2.501	3.324	11.1	21.0
453784	2011 <i>OT</i> ₂₆		2 10.9 190°36	2°1/ 9.2	18		469103	2015 <i>CW</i> ₅₃		2 10.9 66°34	2°2/13.1	18	
1 2	10 4.14	+15 24.8	1.829	2.601	16.0	21.9	1 2	9 56.84	+ 4 15.9	2.269	3.002	14.4	20.7
1 12	10 0.37	+16 25.2	1.738	2.600	12.7	21.6	1 12	9 53.81	+ 4 35.5	2.181	3.012	11.8	20.5
1 22	9 53.84	+17 39.5	1.668	2.599	8.8	21.4	1 22	9 48.81	+ 5 11.1	2.114	3.021	8.6	20.3
2 1	9 45.03	+19 2.0	1.625	2.597	4.5	21.1	2 1	9 42.29	+ 6 1.2	2.072	3.031	5.2	20.1
2 11	9 34.86	+20 24.2	1.611	2.594	2.3	21.0	2 11	9 34.93	+ 7 2.1	2.059	3.041	2.4	19.9
2 21	9 24.52	+21 37.8	1.626	2.591	6.0	21.2	2 21	9 27.55	+ 8 8.6	2.076	3.051	3.8	20.1
3 2	9 15.28	+22 36.3	1.669	2.586	10.3	21.4	3 2	9 20.98	+ 9 15.1	2.122	3.060	7.2	20.3
3 12	9 8.20	+23 16.5	1.736	2.581	14.2	21.7	3 12	9 15.92	+10 16.7	2.194	3.070	10.4	20.5
167583	2004 <i>BY</i> ₈₉		2 10.9 153°22	3°5/13.9	18		351622	2005 <i>WF</i> ₁₇₉		2 10.9 142°36	3°1/12.9	18	
1 2	9 59.96	+ 2 26.6	2.510	3.220	13.7	20.2	1 2	10 6.41	+ 5 7.0	1.787	2.522	17.7	21.5
1 12	9 56.06	+ 2 5.2	2.411	3.223	11.4	20.1	1 12	10 1.95	+ 4 53.6	1.702	2.532	14.6	21.3
1 22	9 50.26	+ 1 57.0	2.334	3.226	8.7	19.9	1 22	9 54.78	+ 4 57.2	1.636	2.543	10.8	21.1
2 1	9 42.99	+ 2 2.3	2.283	3.229	5.8	19.7	2 1	9 45.44	+ 5 17.1	1.595	2.552	6.6	20.8
2 11	9 34.89	+ 2 19.5	2.260	3.231	3.6	19.6	2 11	9 34.91	+ 5 50.3	1.581	2.561	3.3	20.7
2 21	9 26.72	+ 2 45.9	2.267	3.234	4.3	19.6	2 21	9 24.37	+ 6 31.9	1.596	2.569	5.0	20.8
3 2	9 19.29	+ 3 18.0	2.303	3.236	7.0	19.8	3 2	9 15.02	+ 7 16.0	1.640	2.576	9.0	21.0
3 12	9 13.28	+ 3 51.6	2.366	3.238	9.9	20.0	3 12	9 7.83	+ 7 57.2	1.709	2.583	12.9	21.3
122369	2000 <i>QK</i> ₅₈		2 10.9 166°85	1°9/ 9.5	18		131004	2000 <i>WT</i> ₁₉₅		2 10.9 91°18	1°8/ 9.7	18	
1 2	10 5.81	+16 43.2	1.953	2.720	15.3	21.1	1 2	10 3.94	+15 48.4	1.611	2.394	17.4	20.2
1 12	10 1.39	+17 21.2	1.865	2.725	12.2	20.9	1 12	10 0.35	+16 27.0	1.537	2.405	13.8	20.0
1 22	9 54.35	+18 9.3	1.800	2.729	8.4	20.6	1 22	9 53.84	+17 18.0	1.484	2.417	9.5	19.8
2 1	9 45.20	+19 2.3	1.762	2.733	4.3	20.4	2 1	9 45.00	+18 15.6	1.456	2.428	4.8	19.6
2 11	9 34.88	+19 53.5	1.752	2.736	2.0	20.2	2 11	9 34.92	+19 12.0	1.455	2.439	2.0	19.4
2 21	9 24.51	+20 36.7	1.772	2.738	5.5	20.5	2 21	9 24.91	+19 59.8	1.482	2.450	6.0	19.7
3 2	9 15.27	+21 7.7	1.820	2.740	9.5	20.7	3 2	9 16.28	+20 34.0	1.536	2.461	10.4	20.0
3 12	9 8.11	+21 24.3	1.894	2.740	13.1	20.9	3 12	9 10.05	+20 52.1	1.613	2.472	14.4	20.2
454469	2014 <i>OB</i> ₇₁		2 10.9 228°38	0°9/10.3	18		283907	2004 <i>ES</i> ₉₃		2 10.9 312°27	1°2/11.7	17	
1 2	10 2.40	+12 50.7	1.804	2.573	16.3	21.5	1 2	9 55.56	+ 7 49.8	1.225	2.022	21.1	21.4
1 12	9 59.07	+13 32.4	1.705	2.565	13.1	21.3	1 12	9 54.96	+ 8 12.3	1.127	2.001	17.3	21.1
1 22	9 53.00	+14 29.6	1.628	2.556	9.1	21.0	1 22	9 51.01	+ 9 1.4	1.047	1.979	12.6	20.7
2 1	9 44.65	+15 38.0	1.575	2.547	4.6	20.7	2 1	9 44.01	+10 16.1	0.987	1.958	6.9	20.3
2 11	9 34.89	+16 50.6	1.552	2.538	1.0	20.4	2 11	9 34.92	+11 49.7	0.951	1.937	1.3	19.9
2 21	9 24.88	+17 59.6	1.557	2.528	5.4	20.7	2 21	9 25.26	+13 31.1	0.940	1.918	6.3	20.2
3 2	9 15.90	+18 58.1	1.590	2.517	10.0	21.0	3 2	9 16.82	+15 7.5	0.952	1.899	12.6	20.4
3 12	9 9.03	+19 41.8	1.647	2.506	14.1	21.2	3 12	9 11.18	+16 28.1	0.985	1.880	18.2	20.7
490182	2008 <i>UF</i> ₂₈₃		2 10.9 230°76	3°8/ 8.4	18		328711	2009 <i>TY</i> ₁₂		2 10.9 156°00	6°4/ 5.0	18	
1 2	10 4.91	+20 0.7	1.632	2.421	17.0								

EPHEMERIDES

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
324041	2005 <i>UK</i> ₄₉₅		2 10.9 192°19	3°8/ 7.8 16			468446	2002 <i>XX</i> ₄		2 10.9 103°74	18°1/29.7 16		
1 2	10 6.70	+24 39.8	2.382	3.150	12.9	21.3	1 2	10 28.43	+45 48.2	1.152	1.938	22.8	22.5
1 12	10 1.71	+25 18.8	2.290	3.148	10.2	21.1	1 12	10 23.46	+49 34.7	1.138	1.969	20.2	22.5
1 22	9 54.36	+26 0.6	2.221	3.146	7.3	21.0	1 22	10 12.04	+52 58.5	1.144	2.000	18.5	22.4
2 1	9 45.16	+26 39.5	2.181	3.143	4.6	20.8	2 1	9 54.94	+55 34.7	1.172	2.029	18.1	22.5
2 11	9 34.92	+27 9.8	2.170	3.140	4.0	20.7	2 11	9 34.89	+57 5.9	1.220	2.056	19.0	22.7
2 21	9 24.66	+27 27.0	2.189	3.136	6.3	20.9	2 21	9 15.67	+57 29.1	1.286	2.083	20.6	22.9
3 2	9 15.38	+27 28.8	2.237	3.131	9.3	21.0	3 2	9 0.70	+56 54.0	1.369	2.108	22.4	23.1
3 12	9 7.93	+27 15.5	2.310	3.126	12.1	21.2	3 12	8 51.67	+55 36.9	1.465	2.131	24.1	23.3
369812	2012 <i>HJ</i> ₅₃		2 10.9 185°84	2°5/13.3 16			106070	2000 <i>SK</i> ₃₃₃		2 10.9 199°31	3°4/ 8.3 18		
1 2	9 59.26	+ 3 12.8	2.323	3.044	14.4	21.9	1 2	10 4.73	+19 42.0	1.872	2.652	15.5	20.8
1 12	9 55.75	+ 3 31.3	2.221	3.044	11.9	21.7	1 12	10 0.85	+20 41.6	1.782	2.649	12.3	20.6
1 22	9 50.22	+ 4 6.5	2.141	3.043	8.8	21.5	1 22	9 54.19	+21 51.2	1.715	2.646	8.6	20.4
2 1	9 43.05	+ 4 57.4	2.087	3.042	5.5	21.3	2 1	9 45.25	+23 3.9	1.673	2.642	4.8	20.1
2 11	9 34.94	+ 6 0.5	2.061	3.041	2.7	21.1	2 11	9 34.96	+24 11.4	1.660	2.638	3.7	20.1
2 21	9 26.71	+ 7 10.9	2.066	3.039	4.0	21.2	2 21	9 24.51	+25 6.1	1.676	2.633	6.8	20.2
3 2	9 19.24	+ 8 22.7	2.100	3.037	7.3	21.4	3 2	9 15.20	+25 43.0	1.719	2.627	10.7	20.5
3 12	9 13.29	+ 9 30.5	2.161	3.034	10.6	21.6	3 12	9 8.06	+26 0.6	1.787	2.621	14.3	20.7
25036	Elizabethof		2 10.9 254°88	2°5/12.6 18			172782	2004 <i>EZ</i> ₇₅		2 10.9 240°82	0°2/10.8 18		
1 2	10 1.65	+ 6 41.3	1.822	2.571	16.9	18.8	1 2	9 58.55	+12 35.2	2.688	3.438	12.0	21.1
1 12	9 58.35	+ 6 33.4	1.721	2.563	13.9	18.5	1 12	9 54.98	+12 59.9	2.579	3.428	9.6	20.9
1 22	9 52.44	+ 6 41.6	1.641	2.555	10.2	18.3	1 22	9 49.57	+13 34.2	2.493	3.417	6.7	20.7
2 1	9 44.34	+ 7 5.0	1.584	2.546	6.1	18.0	2 1	9 42.70	+14 15.4	2.435	3.405	3.4	20.4
2 11	9 34.93	+ 7 40.6	1.555	2.538	2.6	17.8	2 11	9 34.97	+14 59.7	2.407	3.394	0.2	20.1
2 21	9 25.30	+ 8 23.4	1.554	2.529	4.8	17.9	2 21	9 27.11	+15 43.0	2.409	3.382	3.6	20.4
3 2	9 16.66	+ 9 7.7	1.581	2.520	9.1	18.1	3 2	9 19.87	+16 21.5	2.442	3.370	7.0	20.6
3 12	9 10.03	+ 9 48.0	1.633	2.511	13.2	18.3	3 12	9 13.96	+16 52.3	2.501	3.357	10.0	20.8
372103	2008 <i>SK</i> ₁₂₀		2 10.9 147°31	0°6/11.4 18			175634	2007 <i>TV</i> ₂₁₆		2 10.9 147°65	5°1/ 5.9 18		
1 2	9 59.95	+10 15.7	2.330	3.079	13.7	21.7	1 2	10 3.30	+29 55.8	2.610	3.385	11.7	20.8
1 12	9 56.25	+10 33.7	2.238	3.083	11.0	21.5	1 12	9 58.86	+30 52.8	2.533	3.391	9.4	20.7
1 22	9 50.51	+11 3.4	2.167	3.088	7.7	21.3	1 22	9 52.29	+31 49.3	2.480	3.396	7.1	20.5
2 1	9 43.17	+11 42.3	2.124	3.092	4.1	21.1	2 1	9 44.06	+32 39.4	2.454	3.401	5.4	20.4
2 11	9 34.94	+12 26.4	2.109	3.096	0.6	20.8	2 11	9 34.97	+33 17.1	2.458	3.406	5.4	20.5
2 21	9 26.68	+13 11.2	2.125	3.099	3.8	21.0	2 21	9 25.91	+33 38.7	2.491	3.411	7.1	20.6
3 2	9 19.23	+13 52.2	2.170	3.103	7.4	21.3	3 2	9 17.78	+33 42.4	2.551	3.415	9.4	20.7
3 12	9 13.35	+14 26.1	2.241	3.106	10.6	21.5	3 12	9 11.33	+33 29.0	2.635	3.419	11.7	20.9
170152	2003 <i>CU</i> ₁₄		2 10.9 36°59	1°6/12.3 18			503019	2015 <i>FT</i> ₁₁₅		2 10.9 284°38	5°0/ 6.9 17		
1 2	9 56.53	+ 6 46.1	2.120	2.869	14.8	19.9	1 2	10 5.62	+29 15.5	2.350	3.126	12.8	20.8
1 12	9 53.74	+ 7 6.6	2.034	2.877	12.0	19.8	1 12	10 1.03	+29 48.8	2.255	3.115	10.3	20.6
1 22	9 48.86	+ 7 42.7	1.968	2.885	8.6	19.6	1 22	9 53.99	+30 21.5	2.184	3.104	7.7	20.4
2 1	9 42.35	+ 8 32.0	1.928	2.893	4.9	19.3	2 1	9 45.02	+30 47.7	2.139	3.092	5.5	20.2
2 11	9 34.95	+ 9 30.5	1.917	2.901	1.6	19.1	2 11	9 34.97	+31 1.5	2.123	3.081	5.3	20.2
2 21	9 27.53	+10 32.5	1.934	2.910	3.9	19.3	2 21	9 24.89	+30 58.9	2.136	3.070	7.3	20.3
3 2	9 20.97	+11 32.5	1.980	2.919	7.6	19.6	3 2	9 15.84	+30 38.4	2.176	3.059	10.0	20.5
3 12	9 16.03	+12 25.7	2.052	2.928	11.0	19.8	3 12	9 8.69	+30 1.3	2.241	3.048	12.7	20.6
258056	2001 <i>OK</i> ₁₈		2 10.9 158°84	3°3/13.5 18			169164	2001 <i>QF</i> ₂₀₉		2 10.9 166°45	0°8/11.8 18		
1 2	10 3.12	+ 3 37.2	2.197	2.916	15.2	20.6	1 2	9 58.14	+ 8 45.6	2.603	3.342	12.6	20.9
1 12	9 58.85	+ 3 21.2	2.102	2.921	12.6	20.4	1 12	9 54.62	+ 9 10.9	2.505	3.345	10.1	20.8
1 22	9 52.38	+ 3 20.0	2.028	2.927	9.5	20.2	1 22	9 49.29	+ 9 48.1	2.431	3.347	7.2	20.6
2 1	9 44.15	+ 3 33.3	1.980	2.931	6.1	20.0	2 1	9 42.54	+10 34.9	2.383	3.349	3.9	20.4
2 11	9 34.94	+ 3 59.1	1.960	2.936	3.5	19.8	2 11	9 35.00	+11 27.6	2.365	3.351	0.9	20.1
2 21	9 25.67	+ 4 33.8	1.969	2.939	4.5	19.9	2 21	9 27.39	+12 21.9	2.378	3.353	3.4	20.3
3 2	9 17.29	+ 5 12.9	2.008	2.942	7.8	20.1	3 2	9 20.47	+13 13.4	2.421	3.354	6.7	20.6
3 12	9 10.60	+ 5 51.7	2.073	2.945	11.0	20.3	3 12	9 14.90	+13 58.4	2.491	3.355	9.7	20.7
463556	2013 <i>RF</i> ₅₈		2 10.9 262°34	1°2/11.8 18			455957	2005 <i>VH</i> ₁₆		2 10.9 63°19	8°4/ 4.6 18		
1 2	10 0.73	+ 9 27.0	1.986	2.741	15.5	21.4	1 2	10 6.23	+33 11.9	1.739	2.534	15.8	20.8
1 12	9 57.32	+ 9 29.6	1.891	2.739	12.6	21.2	1 12	10 2.36	+34 39.8	1.683	2.548	13.0	20.6
1 22	9 51.51	+ 9 45.6	1.816	2.736	9.0	21.0	1 22	9 55.31	+36 4.9	1.648	2.562	10.2	20.5
2 1	9 43.78	+10 13.0	1.767	2.734	4.9	20.7	2 1	9 45.77	+37 16.6	1.639	2.576	8.5	20.4
2 11	9 34.95	+10 48.0	1.746	2.732	1.3	20.5	2 11	9 34.98	+38 5.1	1.656	2.590	8.8	20.5
2 21	9 26.01	+11 25.9	1.754	2.730	4.3	20.7	2 21	9 24.40	+38 25.2	1.698	2.604	10.8	20.6
3 2	9 18.02	+12 1.7	1.790	2.727	8.4	20.9	3 2	9 15.43	+38 16.1	1.765	2.618	13.5	20.8
3 12	9 11.86	+12 31.3	1.852	2.725	12.1	21.1	3 12	9 9.12	+37 41.6	1.852	2.632	16.0	21.0
334534	2002 <i>RA</i> ₂₄₀		2 10.9 196°18	0°1/10.9 17			421265	2013 <i>SJ</i> ₆₇		2 10.9 64°84	0°2/10.8 18		
1 2	10 1.17	+12 40.6	2.777	3.520	11.8	22.1	1 2	10 0.29	+12 27.4	1.963	2.730	15.3	21.4
1 12	9 56.88	+12 53.6	2.674	3.517	9.4	21.9	1 12	9 56.95	+12 48.5	1.877	2.735	12.2	21.2
1 22	9 50.79	+13 14.7	2.594	3.514	6.6	21.7	1 22	9 51.23	+13 22.0	1.813	2.740	8.5	21.0
2 1	9 43.27	+13 41.8	2.541	3.510	3.4	21.5	2 1	9 43.63	+14 4.3	1.774	2.745	4.3	20.7
2 11	9 34.95	+14 11.5	2.519	3.506	0.1	21.2	2 11	9 35.00	+14 50.2	1.764	2.751	0.2	20.4
2 21	9 26.56	+14 40.3	2.529	3.501	3.4	21.5	2 21	9 26.35	+15 34.3	1.783	2.756	4.5	20.7
3 2	9 18.84	+15 5.3	2.568	3.496	6.7	21.7	3 2	9 18.71	+16 11.6	1.830	2.762	8.6	21.0
3 12	9 12.46	+15 23.9	2.635	3.490	9.6	21.8	3 12	9 12.94	+16 38.9	1.901	2.768	12.2	21.2
239458	2007 <i>TC</i> ₂₆₉		2 10.9 270°62	2°1/12.8 17			417066	2005 <i>UP</i> ₂₂₂		2 10.9 24°49	2°2/ 9.6 18		
1 2	9 57.63	+ 5 39.2	2.306	3.042	14.1	20.7</							

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
24547	Stauber		2 10.9 224°48	0°9/11.6	18		8800	Brophy		2 10.9 35°46	1°1/10.1	18	
1 2	10 1.27	+ 8 34.3	1.975	2.726	15.7	19.7	1 2	10 0.36	+15 59.2	1.972	2.748	14.9	19.0
1 12	9 57.88	+ 9 1.7	1.872	2.718	12.8	19.5	1 12	9 56.93	+16 14.9	1.895	2.759	11.8	18.8
1 22	9 52.04	+ 9 45.5	1.790	2.710	9.1	19.2	1 22	9 51.16	+16 39.5	1.839	2.770	8.1	18.6
2 1	9 44.15	+10 43.4	1.734	2.701	4.9	19.0	2 1	9 43.57	+17 8.9	1.810	2.782	4.1	18.4
2 11	9 35.02	+11 50.2	1.706	2.692	0.9	18.7	2 11	9 35.04	+17 38.1	1.808	2.794	1.2	18.2
2 21	9 25.67	+12 59.4	1.707	2.682	4.4	18.9	2 21	9 26.59	+18 2.4	1.835	2.806	4.7	18.5
3 2	9 17.20	+14 4.5	1.738	2.672	8.8	19.1	3 2	9 19.22	+18 18.4	1.890	2.819	8.6	18.7
3 12	9 10.60	+15 0.2	1.794	2.662	12.7	19.3	3 12	9 13.73	+18 24.1	1.970	2.832	12.0	19.0
432153	2009 BS ₁₃₉		2 10.9 181°20	0°2/11.1	17		447296	2005 WR ₇₇		2 10.9 48°22	1°6/11.8	18	
1 2	9 58.56	+11 29.4	2.489	3.240	12.8	22.0	1 2	10 3.75	+ 9 49.4	1.254	2.041	21.2	21.3
1 12	9 55.07	+11 50.9	2.392	3.241	10.2	21.8	1 12	10 0.86	+ 9 40.2	1.188	2.054	17.1	21.0
1 22	9 49.67	+12 23.0	2.318	3.241	7.2	21.6	1 22	9 54.56	+ 9 49.6	1.140	2.068	12.2	20.8
2 1	9 42.77	+13 2.9	2.271	3.241	3.7	21.4	2 1	9 45.51	+10 15.0	1.114	2.083	6.7	20.5
2 11	9 35.03	+13 46.8	2.254	3.241	0.2	21.1	2 11	9 35.03	+10 50.7	1.112	2.098	1.7	20.3
2 21	9 27.22	+14 30.3	2.267	3.240	3.6	21.4	2 21	9 24.72	+11 29.4	1.136	2.113	5.7	20.6
3 2	9 20.15	+15 9.4	2.309	3.240	7.1	21.6	3 2	9 16.12	+12 4.2	1.186	2.129	11.0	20.9
3 12	9 14.51	+15 41.0	2.377	3.239	10.2	21.8	3 12	9 10.37	+12 30.0	1.257	2.145	15.6	21.2
346026	2007 TM ₃₅₅		2 10.9 57°45	0°8/11.7	18		491975	2013 EU ₁₄		2 10.9 217°08	2°2/ 9.5	18	
1 2	9 58.97	+ 7 15.4	2.057	2.805	15.3	20.3	1 2	10 6.88	+18 26.6	1.828	2.601	16.0	21.7
1 12	9 55.55	+ 8 5.8	1.992	2.837	12.2	20.2	1 12	10 2.59	+18 49.8	1.733	2.596	12.8	21.4
1 22	9 50.02	+ 9 12.3	1.949	2.868	8.5	20.0	1 22	9 55.44	+19 21.6	1.660	2.590	8.9	21.2
2 1	9 42.91	+10 30.8	1.932	2.899	4.5	19.8	2 1	9 45.93	+19 56.8	1.613	2.584	4.7	20.9
2 11	9 35.03	+11 55.2	1.945	2.931	0.8	19.6	2 11	9 35.03	+20 28.9	1.594	2.577	2.3	20.7
2 21	9 27.28	+13 18.7	1.987	2.962	3.9	19.9	2 21	9 24.00	+20 52.1	1.604	2.570	5.9	20.9
3 2	9 20.55	+14 35.0	2.059	2.993	7.6	20.2	3 2	9 14.16	+21 2.4	1.641	2.562	10.3	21.2
3 12	9 15.53	+15 39.7	2.157	3.024	10.9	20.5	3 12	9 6.58	+20 58.7	1.703	2.554	14.1	21.4
259179	2003 AJ ₉		2 10.9 43°88	0°5/10.4	18		496614	2015 GX ₂		2 10.9 330°60	3°8/ 7.8	17	
1 2	10 0.38	+ 2 55.2	1.338	2.101	21.3	18.4	1 2	10 1.84	+24 20.6	2.306	3.086	12.9	21.2
1 12	9 57.84	+ 5 30.2	1.281	2.135	16.9	18.2	1 12	9 57.96	+24 57.7	2.219	3.085	10.2	21.0
1 22	9 52.23	+ 8 39.3	1.244	2.170	11.6	18.0	1 22	9 51.82	+25 37.8	2.155	3.083	7.3	20.8
2 1	9 44.23	+12 11.3	1.234	2.205	5.8	17.7	2 1	9 43.91	+26 15.6	2.117	3.081	4.6	20.7
2 11	9 35.02	+15 47.6	1.254	2.241	0.6	17.5	2 11	9 35.04	+26 45.3	2.109	3.080	3.9	20.6
2 21	9 26.01	+19 9.0	1.306	2.277	6.1	17.9	2 21	9 26.16	+27 2.7	2.129	3.078	6.2	20.8
3 2	9 18.55	+22 0.6	1.386	2.313	11.2	18.3	3 2	9 18.23	+27 5.3	2.178	3.077	9.2	20.9
3 12	9 13.64	+24 15.6	1.491	2.349	15.4	18.7	3 12	9 12.06	+26 53.1	2.251	3.076	12.1	21.1
63808	2001 RF ₄₄		2 10.9 111°32	4°5/ 7.8	18		34891	2001 VR ₆₆		2 10.9 190°81	4°3/ 7.9	18	
1 2	10 6.93	+21 41.2	1.630	2.419	17.0	19.5	1 2	10 7.60	+22 46.1	1.813	2.594	15.8	19.3
1 12	10 2.81	+22 49.3	1.563	2.434	13.4	19.3	1 12	10 3.25	+23 38.2	1.726	2.593	12.6	19.1
1 22	9 55.60	+24 5.5	1.517	2.449	9.4	19.1	1 22	9 55.93	+24 36.9	1.662	2.592	8.9	18.9
2 1	9 45.95	+25 21.0	1.496	2.463	5.7	18.9	2 1	9 46.18	+25 34.8	1.624	2.590	5.4	18.7
2 11	9 35.02	+26 26.0	1.504	2.477	4.8	18.9	2 11	9 35.03	+26 23.5	1.614	2.587	4.6	18.6
2 21	9 24.21	+27 13.0	1.539	2.491	7.8	19.1	2 21	9 23.82	+26 56.1	1.633	2.584	7.5	18.8
3 2	9 14.92	+27 38.1	1.600	2.504	11.7	19.3	3 2	9 13.89	+27 9.2	1.678	2.581	11.3	19.0
3 12	9 8.17	+27 41.6	1.684	2.516	15.2	19.6	3 12	9 6.33	+27 2.6	1.747	2.576	14.8	19.2
87434	2000 QX ₁₀₅		2 10.9 156°57	2°2/ 8.6	18		295947	2008 XL ₄₈		2 10.9 157°33	2°2/12.4	18	
1 2	9 58.99	+19 24.2	2.849	3.614	11.0	20.0	1 2	10 3.09	+ 6 56.3	1.700	2.453	17.8	21.5
1 12	9 55.17	+20 11.1	2.759	3.619	8.7	19.8	1 12	9 59.60	+ 6 55.2	1.611	2.456	14.6	21.3
1 22	9 49.61	+21 3.6	2.695	3.624	6.0	19.6	1 22	9 53.35	+ 7 11.7	1.542	2.458	10.6	21.1
2 1	9 42.69	+21 57.6	2.659	3.628	3.3	19.4	2 1	9 44.85	+ 7 44.1	1.497	2.461	6.1	20.8
2 11	9 35.04	+22 48.4	2.653	3.632	2.3	19.4	2 11	9 35.05	+ 8 28.4	1.479	2.463	2.4	20.6
2 21	9 27.35	+23 31.9	2.678	3.636	4.5	19.5	2 21	9 25.15	+ 9 18.7	1.489	2.465	4.9	20.7
3 2	9 20.35	+24 5.1	2.732	3.639	7.3	19.7	3 2	9 16.41	+10 8.6	1.527	2.466	9.3	21.0
3 12	9 14.66	+24 26.3	2.813	3.642	9.8	19.9	3 12	9 9.85	+10 52.5	1.589	2.467	13.5	21.2
28889	2000 KQ ₆₃		2 10.9 73°00	3°1/ 8.1	18		8325	Trigo-Rodríguez		2 10.9 203°79	2°2/ 9.0	18	
1 2	9 59.22	+19 48.4	2.177	2.957	13.5	18.3	1 2	10 0.88	+19 57.1	2.480	3.250	12.4	19.0
1 12	9 55.95	+20 51.1	2.098	2.966	10.6	18.1	1 12	9 56.96	+20 24.7	2.388	3.249	9.8	18.8
1 22	9 50.46	+22 1.6	2.042	2.974	7.3	18.0	1 22	9 51.01	+20 57.5	2.319	3.248	6.8	18.6
2 1	9 43.22	+23 13.9	2.014	2.982	4.2	17.8	2 1	9 43.47	+21 31.4	2.278	3.247	3.7	18.4
2 11	9 35.03	+24 20.9	2.014	2.991	3.3	17.7	2 11	9 35.06	+22 1.8	2.266	3.246	2.3	18.3
2 21	9 26.84	+25 16.9	2.044	2.999	5.9	17.9	2 21	9 26.62	+22 24.6	2.284	3.245	4.9	18.5
3 2	9 19.59	+25 57.6	2.102	3.008	9.2	18.1	3 2	9 19.01	+22 37.0	2.331	3.244	8.0	18.7
3 12	9 14.07	+26 21.6	2.184	3.016	12.1	18.3	3 12	9 12.95	+22 37.9	2.404	3.243	10.9	18.8
227682	2006 CP ₄₈		2 10.9 102°03	1°3/11.9	18		18471	1995 UZ ₄₅		2 10.9 346°50	5°8/15.2	18	
1 2	10 0.46	+ 8 17.7	2.083	2.830	15.1	21.3	1 2	9 55.04	- 1 10.0	1.610	2.349	19.2	17.9
1 12	9 56.87	+ 8 31.2	1.997	2.840	12.2	21.1	1 12	9 53.44	- 1 34.4	1.516	2.342	16.3	17.6
1 22	9 51.07	+ 8 58.8	1.933	2.850	8.7	20.9	1 22	9 49.21	- 1 35.3	1.441	2.335	12.8	17.4
2 1	9 43.52	+ 9 38.2	1.894	2.860	4.8	20.7	2 1	9 42.80	- 1 10.7	1.386	2.329	9.1	17.2
2 11	9 35.03	+10 25.3	1.884	2.869	1.4	20.5	2 11	9 35.06	- 0 21.9	1.356	2.324	6.2	17.0
2 21	9 26.54	+11 14.9	1.903	2.878	4.0	20.7	2 21	9 27.13	+ 0 46.3	1.352	2.320	6.5	17.0
3 2	9 19.00	+12 2.0	1.951	2.888	7.8	20.9	3 2	9 20.22	+ 2 5.9	1.374	2.317	9.8	17.2
3 12	9 13.19	+12 42.3	2.025	2.897	11.3	21.1	3 12	9 15.37	+ 3 27.8	1.419	2.314	13.7	17.4
140622	2001 UO ₁₂		2 10.9 74°06	7°1/18.3	18		492262	2013 WP ₅₆		2 10.9 123°00	4°6/ 6.7	18	
1 2	9 57.31	-10 17.3	2.440	3.085	15.6	19.6	1 2	10 3.21	+26 54.8	2.457	3.233	12.3	21.4
1 12	9 54.07	-10 50.4											

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2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
280255	2002 <i>XJ</i> ₅₃		2 10.9 92°27'	3°5'/ 7.6	18		252963	2002 <i>PS</i> ₁₃₅		2 10.9 189°17'	1°5'/ 9.7	18	
1 2	10 0.72	+22 18.4	2.330	3.109	12.8	20.7	1 2	10 4.62	+16 23.4	2.249	3.009	13.8	22.6
1 12	9 56.95	+23 17.6	2.256	3.122	10.1	20.5	1 12	10 0.17	+16 57.9	2.153	3.008	10.9	22.4
1 22	9 51.04	+24 21.7	2.206	3.136	7.0	20.3	1 22	9 53.41	+17 41.6	2.079	3.006	7.6	22.2
2 1	9 43.49	+25 24.9	2.183	3.149	4.3	20.2	2 1	9 44.79	+18 29.9	2.033	3.004	3.9	22.0
2 11	9 35.07	+26 20.8	2.190	3.162	3.7	20.2	2 11	9 35.11	+19 17.3	2.017	3.001	1.6	21.8
2 21	9 26.70	+27 4.4	2.226	3.175	6.0	20.3	2 21	9 25.32	+19 58.7	2.031	2.998	4.8	22.0
3 2	9 19.27	+27 32.7	2.290	3.187	8.9	20.5	3 2	9 16.44	+20 29.9	2.074	2.993	8.6	22.3
3 12	9 13.52	+27 44.9	2.379	3.200	11.6	20.7	3 12	9 9.32	+20 48.8	2.144	2.988	11.9	22.5
462259	2008 <i>EU</i> ₃		2 10.9 300°30'	5°5'/ 7.9	18		42962	1999 <i>TQ</i> ₁₄₀		2 10.9 175°36'	0°8'/ 10.3	18	
1 2	10 8.22	+26 55.3	1.691	2.482	16.4	21.0	1 2	10 4.86	+14 24.9	2.115	2.872	14.6	20.9
1 12	10 4.14	+27 24.4	1.599	2.469	13.3	20.8	1 12	10 0.46	+14 51.2	2.022	2.875	11.6	20.7
1 22	9 56.79	+27 55.3	1.528	2.456	9.7	20.5	1 22	9 53.65	+15 27.8	1.952	2.877	8.1	20.5
2 1	9 46.71	+28 20.2	1.482	2.444	6.4	20.3	2 1	9 44.92	+16 11.0	1.908	2.879	4.1	20.3
2 11	9 35.06	+28 31.0	1.463	2.432	5.7	20.2	2 11	9 35.11	+16 55.3	1.894	2.880	0.9	20.0
2 21	9 23.32	+28 21.9	1.471	2.419	8.5	20.3	2 21	9 25.22	+17 35.5	1.909	2.880	4.6	20.3
3 2	9 13.01	+27 51.3	1.505	2.408	12.3	20.5	3 2	9 16.32	+18 7.3	1.954	2.879	8.6	20.5
3 12	9 5.35	+27 1.2	1.561	2.396	16.0	20.7	3 12	9 9.28	+18 28.1	2.025	2.878	12.1	20.8
330960	2009 <i>SP</i> ₃₄₄		2 10.9 128°10'	0°1'/ 11.0	18		140835	2001 <i>UL</i> ₁₈₄		2 10.9 26°21'	1°9'/ 9.7	18	
1 2	10 1.11	+11 30.2	2.094	2.851	14.7	21.9	1 2	9 59.48	+15 25.8	1.551	2.344	17.5	20.0
1 12	9 57.44	+11 55.7	2.007	2.859	11.8	21.7	1 12	9 57.03	+16 7.3	1.476	2.350	13.9	19.8
1 22	9 51.50	+12 33.6	1.941	2.866	8.2	21.5	1 22	9 51.69	+17 2.5	1.421	2.356	9.6	19.6
2 1	9 43.78	+13 20.8	1.902	2.872	4.2	21.3	2 1	9 44.04	+18 5.6	1.390	2.363	4.8	19.3
2 11	9 35.08	+14 12.1	1.892	2.879	0.1	20.9	2 11	9 35.11	+19 8.6	1.386	2.371	2.0	19.1
2 21	9 26.35	+15 2.1	1.912	2.885	4.2	21.3	2 21	9 26.19	+20 3.3	1.409	2.379	6.1	19.4
3 2	9 18.57	+15 46.0	1.960	2.891	8.1	21.5	3 2	9 18.58	+20 44.0	1.458	2.387	10.6	19.7
3 12	9 12.56	+16 20.3	2.034	2.897	11.6	21.8	3 12	9 13.30	+21 7.7	1.530	2.396	14.6	19.9
207102	2005 <i>AS</i> ₂₀		2 10.9 66°27'	0°6'/ 10.5	18		116182	2003 <i>XQ</i> ₅		2 10.9 10°59'	4°6'/ 7.7	18	
1 2	10 0.98	+11 20.8	1.494	2.276	18.6	20.3	1 2	10 2.81	+25 3.4	1.876	2.667	15.0	19.3
1 12	9 58.23	+12 8.8	1.422	2.288	14.8	20.1	1 12	9 59.28	+25 43.4	1.797	2.669	11.9	19.1
1 22	9 52.52	+13 15.4	1.370	2.301	10.3	19.9	1 22	9 53.04	+26 26.6	1.740	2.670	8.5	18.9
2 1	9 44.44	+14 35.0	1.342	2.314	5.2	19.6	2 1	9 44.65	+27 6.4	1.709	2.672	5.5	18.7
2 11	9 35.08	+15 59.0	1.341	2.327	0.7	19.3	2 11	9 35.12	+27 35.4	1.705	2.675	4.8	18.7
2 21	9 25.76	+17 17.9	1.367	2.341	5.6	19.7	2 21	9 25.63	+27 48.7	1.729	2.678	7.4	18.9
3 2	9 17.82	+18 24.1	1.421	2.354	10.4	20.0	3 2	9 17.39	+27 43.8	1.779	2.681	10.8	19.1
3 12	9 12.29	+19 12.9	1.497	2.367	14.6	20.3	3 12	9 11.32	+27 21.4	1.852	2.685	14.0	19.3
90231	2003 <i>BJ</i> ₂₅		2 10.9 316°50'	4°8'/ 13.4	18		26342	1998 <i>XM</i> ₅₂		2 10.9 162°54'	5°4'/ 5.4	18	
1 2	10 0.96	+ 4 36.8	1.632	2.383	18.5	19.2	1 2	10 5.73	+28 33.8	2.515	3.286	12.2	18.5
1 12	9 58.27	+ 3 45.1	1.526	2.365	15.5	18.9	1 12	10 0.98	+29 58.6	2.437	3.294	9.8	18.4
1 22	9 52.72	+ 3 8.1	1.440	2.347	11.9	18.7	1 22	9 53.92	+31 25.1	2.384	3.301	7.3	18.2
2 1	9 44.69	+ 2 47.7	1.376	2.330	7.9	18.4	2 1	9 45.03	+32 45.9	2.360	3.307	5.6	18.1
2 11	9 35.08	+ 2 43.6	1.338	2.313	4.9	18.2	2 11	9 35.12	+33 53.8	2.366	3.313	5.7	18.1
2 21	9 25.10	+ 2 53.8	1.326	2.296	6.2	18.2	2 21	9 25.16	+34 43.4	2.402	3.317	7.6	18.3
3 2	9 16.11	+ 3 13.7	1.340	2.280	10.3	18.4	3 2	9 16.13	+35 12.3	2.465	3.321	10.0	18.4
3 12	9 9.34	+ 3 37.7	1.378	2.265	14.5	18.6	3 12	9 8.88	+35 20.9	2.552	3.324	12.3	18.6
493347	2014 <i>WO</i> ₃		2 10.9 168°76'	1°9'/ 9.3	18		508371	2016 <i>EY</i> ₂₁₅		2 10.9 185°84'	4°1'/ 7.2	17	
1 2	10 2.27	+16 17.7	2.139	2.906	14.2	21.6	1 2	10 2.16	+25 11.7	2.410	3.188	12.5	20.9
1 12	9 58.42	+17 9.2	2.049	2.910	11.2	21.4	1 12	9 58.16	+26 2.3	2.324	3.188	9.9	20.7
1 22	9 52.24	+18 11.2	1.983	2.913	7.7	21.2	1 22	9 51.95	+26 55.9	2.262	3.188	7.1	20.5
2 1	9 44.19	+19 18.6	1.944	2.915	4.0	20.9	2 1	9 44.02	+27 46.7	2.226	3.187	4.7	20.4
2 11	9 35.08	+20 24.7	1.934	2.917	2.0	20.8	2 11	9 35.13	+28 28.6	2.221	3.187	4.3	20.3
2 21	9 25.90	+21 23.3	1.954	2.919	5.2	21.0	2 21	9 26.21	+28 57.2	2.244	3.186	6.5	20.5
3 2	9 17.66	+22 9.6	2.003	2.920	8.9	21.2	3 2	9 18.20	+29 9.7	2.295	3.185	9.3	20.6
3 12	9 11.21	+22 41.1	2.077	2.920	12.3	21.4	3 12	9 11.89	+29 6.0	2.371	3.184	11.9	20.8
453033	2007 <i>RD</i> ₃₁₀		2 10.9 108°64'	2°7'/ 8.9	18		135475	2001 <i>WQ</i> ₃₃		2 10.9 133°68'	0°9'/ 11.7	18	
1 2	10 6.06	+17 49.6	1.839	2.613	15.9	21.3	1 2	10 1.00	+ 9 2.2	2.030	2.781	15.3	20.5
1 12	10 1.63	+18 49.2	1.771	2.634	12.5	21.1	1 12	9 57.45	+ 9 21.1	1.941	2.787	12.4	20.3
1 22	9 54.51	+19 58.6	1.725	2.655	8.6	20.9	1 22	9 51.58	+ 9 54.4	1.873	2.793	8.8	20.1
2 1	9 45.33	+21 11.0	1.705	2.676	4.6	20.7	2 1	9 43.87	+10 39.6	1.831	2.798	4.8	19.9
2 11	9 35.08	+22 18.3	1.715	2.695	2.9	20.6	2 11	9 35.13	+11 31.9	1.818	2.803	1.0	19.6
2 21	9 24.97	+23 13.7	1.753	2.714	6.1	20.9	2 21	9 26.35	+12 25.9	1.833	2.809	4.1	19.8
3 2	9 16.15	+23 52.8	1.820	2.733	9.9	21.1	3 2	9 18.53	+13 16.1	1.878	2.813	8.2	20.1
3 12	9 9.53	+24 14.2	1.911	2.750	13.3	21.4	3 12	9 12.50	+13 58.2	1.948	2.818	11.8	20.3
194119	2001 <i>SN</i> ₂₅₈		2 10.9 130°95'	1°3'/ 12.1	18		289813	2005 <i>JQ</i> ₁₇₁		2 10.9 343°67'	1°7'/ 9.9	18	
1 2	10 0.82	+ 9 7.4	2.570	3.306	12.8	20.6	1 2	9 59.11	+15 25.5	1.369	2.172	18.9	20.8
1 12	9 56.70	+ 9 4.6	2.477	3.313	10.4	20.4	1 12	9 57.30	+15 51.8	1.285	2.165	15.2	20.6
1 22	9 50.71	+ 9 11.9	2.407	3.321	7.4	20.3	1 22	9 52.27	+16 32.9	1.221	2.158	10.6	20.3
2 1	9 43.29	+ 9 27.7	2.364	3.328	4.2	20.1	2 1	9 44.51	+17 23.8	1.179	2.153	5.4	20.0
2 11	9 35.10	+ 9 49.3	2.350	3.335	1.3	19.9	2 11	9 35.13	+18 16.2	1.162	2.148	1.8	19.7
2 21	9 26.90	+10 13.5	2.367	3.341	3.4	20.0	2 21	9 25.60	+19 1.8	1.171	2.144	6.5	20.0
3 2	9 19.46	+10 37.2	2.413	3.347	6.7	20.2	3 2	9 17.46	+19 33.9	1.205	2.140	11.7	20.3
3 12	9 13.45	+10 57.3	2.487	3.354	9.7	20.4	3 12	9 11.96	+19 49.0	1.261	2.138	16.4	20.5
140062	2001 <i>SU</i> ₁₀₃		2 10.9 324°61'	0°3'/ 10.8	18		317113	2001 <i>TQ</i> ₂₂₂		2 10.9 282°53'	5°3'/ 7.7	18	
1 2	9 58.87	+13 20.6	2.110	2.877	14.3								

EPHEMERIDES

2 10.9

2 10.9

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
358511	2007 <i>RB</i> ₂₂₂		2 10.9 189°08	0°1/11.0	18		326449	2001 <i>VP</i> ₈₉		2 10.9 169°89	4°9/15.1	18	
1 2	10 4.66	+11 43.5	2.063	2.815	15.1	22.2	1 2	10 2.23	-1 58.5	2.417	3.102	14.8	21.0
1 12	10 0.40	+12 4.5	1.966	2.814	12.1	21.9	1 12	9 58.02	-2 23.9	2.317	3.106	12.6	20.8
1 22	9 53.69	+12 38.1	1.891	2.813	8.5	21.7	1 22	9 51.78	-2 33.1	2.238	3.110	9.9	20.7
2 1	9 44.99	+13 21.2	1.841	2.811	4.4	21.5	2 1	9 43.94	-2 25.1	2.183	3.113	7.2	20.5
2 11	9 35.14	+14 8.6	1.821	2.808	0.1	21.1	2 11	9 35.18	-2 0.8	2.156	3.115	5.1	20.4
2 21	9 25.16	+14 55.0	1.831	2.805	4.4	21.4	2 21	9 26.32	-1 22.8	2.158	3.117	5.4	20.4
3 2	9 16.13	+15 35.4	1.870	2.800	8.6	21.7	3 2	9 18.22	-0 35.5	2.189	3.118	7.6	20.5
3 12	9 8.98	+16 6.3	1.935	2.796	12.3	21.9	3 12	9 11.63	+0 15.8	2.248	3.118	10.4	20.7
46778	1998 <i>HR</i> ₅₁		2 10.9 261°34	2°0/ 9.8	18		261895	2006 <i>HM</i> ₅₁		2 10.9 260°78	3°6/13.2	18	
1 2	10 3.69	+15 21.5	1.487	2.275	18.4	18.8	1 2	10 1.96	+4 27.4	1.725	2.469	17.9	20.9
1 12	10 0.88	+15 59.3	1.391	2.262	14.8	18.5	1 12	9 58.88	+4 11.3	1.622	2.458	14.9	20.6
1 22	9 54.80	+16 52.9	1.315	2.249	10.3	18.2	1 22	9 53.03	+4 13.2	1.538	2.446	11.2	20.4
2 1	9 45.87	+17 56.9	1.263	2.236	5.3	17.9	2 1	9 44.84	+4 33.5	1.477	2.434	7.1	20.1
2 11	9 35.14	+19 2.8	1.238	2.223	2.1	17.6	2 11	9 35.19	+5 9.8	1.443	2.422	3.7	19.9
2 21	9 24.05	+20 1.2	1.239	2.209	6.7	17.9	2 21	9 25.22	+5 57.3	1.436	2.410	5.3	19.9
3 2	9 14.23	+20 44.9	1.267	2.195	11.9	18.1	3 2	9 16.25	+6 49.8	1.457	2.397	9.6	20.1
3 12	9 7.03	+21 10.0	1.317	2.181	16.6	18.4	3 12	9 9.38	+7 40.5	1.502	2.385	13.8	20.4
432500	2010 <i>ED</i> ₁₄₀		2 10.9 355°43	5°6/ 6.8	18		164865	1999 <i>TA</i> ₂₇₃		2 10.9 151°63	15°8/22.9	18	
1 2	10 3.37	+28 21.2	1.984	2.774	14.3	21.0	1 2	10 3.09	-20 39.7	1.476	2.094	25.1	20.0
1 12	9 59.68	+29 8.9	1.904	2.773	11.5	20.8	1 12	10 0.40	-22 24.9	1.398	2.098	23.2	19.8
1 22	9 53.31	+29 57.4	1.846	2.771	8.5	20.6	1 22	9 54.46	-23 37.0	1.331	2.103	21.0	19.7
2 1	9 44.80	+30 39.6	1.815	2.770	6.1	20.5	2 1	9 45.70	-24 6.4	1.278	2.107	18.7	19.5
2 11	9 35.16	+31 8.1	1.810	2.770	5.9	20.5	2 11	9 35.19	-23 46.2	1.244	2.110	16.8	19.4
2 21	9 25.54	+31 18.1	1.833	2.769	8.1	20.6	2 21	9 24.38	-22 35.6	1.230	2.113	15.8	19.3
3 2	9 17.13	+31 7.6	1.882	2.769	11.1	20.8	3 2	9 14.87	-20 41.1	1.237	2.116	16.3	19.4
3 12	9 10.87	+30 38.0	1.955	2.770	14.0	21.0	3 12	9 8.00	-18 16.3	1.265	2.118	17.9	19.5
84853	2003 <i>AE</i> ₃₉		2 10.9 17°86	2°7/ 8.4	18		85346	1995 <i>SE</i> ₇₁		2 10.9 353°98	5°8/15.8	18	
1 2	9 54.39	+14 37.9	1.684	2.479	16.3	18.1	1 2	9 56.77	-3 7.6	2.090	2.793	16.4	19.4
1 12	9 52.80	+16 13.2	1.610	2.487	12.8	17.9	1 12	9 54.10	-3 38.4	1.993	2.791	14.0	19.2
1 22	9 48.67	+18 5.1	1.558	2.496	8.7	17.6	1 22	9 49.29	-3 50.2	1.915	2.789	11.2	19.0
2 1	9 42.49	+20 5.9	1.533	2.506	4.5	17.4	2 1	9 42.75	-3 41.2	1.859	2.787	8.3	18.8
2 11	9 35.16	+22 4.8	1.536	2.517	3.0	17.3	2 11	9 35.19	-3 12.0	1.830	2.786	6.1	18.7
2 21	9 27.80	+23 51.5	1.566	2.529	6.6	17.6	2 21	9 27.51	-2 25.7	1.827	2.786	6.2	18.7
3 2	9 21.53	+25 18.4	1.624	2.541	10.6	17.9	3 2	9 20.64	-1 27.4	1.853	2.785	8.5	18.8
3 12	9 17.28	+26 21.7	1.706	2.555	14.2	18.1	3 12	9 15.39	-0 23.7	1.903	2.785	11.4	19.0
119973	2002 <i>VK</i> ₁₂₄		2 10.9 334°49	2°5/12.5	18		426328	2012 <i>UP</i> ₁₃₉		2 10.9 254°58	0°5/10.6	17	
1 2	9 58.22	+5 57.5	1.290	2.072	21.0	20.2	1 2	10 2.30	+15 2.9	2.444	3.200	12.9	21.1
1 12	9 56.72	+6 5.8	1.205	2.066	17.3	19.9	1 12	9 58.18	+15 7.3	2.338	3.189	10.3	20.9
1 22	9 51.97	+6 38.9	1.137	2.061	12.7	19.6	1 22	9 51.97	+15 19.1	2.254	3.179	7.2	20.7
2 1	9 44.42	+7 35.8	1.090	2.056	7.4	19.3	2 1	9 44.07	+15 35.5	2.197	3.168	3.7	20.5
2 11	9 35.16	+8 50.7	1.067	2.052	2.6	19.0	2 11	9 35.21	+15 53.0	2.170	3.157	0.5	20.2
2 21	9 25.65	+10 14.5	1.070	2.048	5.7	19.2	2 21	9 26.21	+16 8.2	2.174	3.145	4.0	20.4
3 2	9 17.50	+11 36.5	1.098	2.044	11.2	19.5	3 2	9 17.99	+16 17.9	2.206	3.134	7.6	20.6
3 12	9 12.02	+12 47.5	1.148	2.042	16.3	19.7	3 12	9 11.32	+16 20.3	2.266	3.123	10.8	20.8
82017	2000 <i>SX</i> ₆		2 10.9 101°90	8°0/20.3	18		366734	2004 <i>CQ</i> ₂₄		2 10.9 37°92	3°9/ 8.4	18	
1 2	9 56.78	-15 28.8	2.669	3.270	15.1	19.6	1 2	10 0.96	+19 5.0	1.385	2.191	18.6	20.6
1 12	9 53.59	-16 2.7	2.575	3.278	13.6	19.5	1 12	9 58.56	+20 6.6	1.322	2.203	14.6	20.3
1 22	9 48.63	-16 15.5	2.498	3.287	11.8	19.4	1 22	9 52.93	+21 20.0	1.278	2.217	10.1	20.1
2 1	9 42.28	-16 4.8	2.442	3.295	10.0	19.3	2 1	9 44.74	+22 36.5	1.259	2.230	5.6	19.9
2 11	9 35.17	-15 29.8	2.411	3.303	8.6	19.2	2 11	9 35.20	+23 45.6	1.265	2.245	4.1	19.8
2 21	9 28.00	-14 32.4	2.405	3.311	8.0	19.2	2 21	9 25.80	+24 38.6	1.298	2.259	7.7	20.1
3 2	9 21.51	-13 16.9	2.427	3.319	8.7	19.2	3 2	9 17.99	+25 10.3	1.355	2.275	12.1	20.4
3 12	9 16.33	-11 49.6	2.474	3.327	10.2	19.3	3 12	9 12.82	+25 19.8	1.435	2.291	16.0	20.7
57620	2001 <i>TV</i> ₁₄₇		2 10.9 210°27	2°3/12.9	18		431394	2007 <i>FS</i> ₃₅		2 10.9 237°85	0°1/11.1	15	
1 2	9 59.19	+4 37.0	1.994	2.733	16.0	19.8	1 2	10 10.24	+10 55.9	1.795	2.543	17.2	23.7
1 12	9 56.15	+4 57.0	1.896	2.731	13.1	19.6	1 12	10 5.70	+11 20.3	1.676	2.521	14.0	23.4
1 22	9 50.79	+5 35.5	1.818	2.729	9.6	19.4	1 22	9 58.04	+12 1.4	1.578	2.498	10.1	23.1
2 1	9 43.54	+6 31.2	1.766	2.726	5.7	19.2	2 1	9 47.58	+12 56.3	1.505	2.474	5.3	22.8
2 11	9 35.17	+7 39.7	1.741	2.723	2.4	18.9	2 11	9 35.21	+13 59.3	1.460	2.447	0.1	22.3
2 21	9 26.65	+8 55.1	1.745	2.721	4.3	19.1	2 21	9 22.22	+15 2.7	1.446	2.419	5.4	22.7
3 2	9 19.01	+10 10.3	1.778	2.718	8.3	19.3	3 2	9 10.11	+15 59.2	1.461	2.390	10.6	22.9
3 12	9 13.13	+11 19.3	1.837	2.714	12.0	19.5	3 12	9 0.27	+16 43.5	1.501	2.358	15.3	23.1
383628	2007 <i>RF</i> ₆₇		2 10.9 94°54	0°1/11.1	18		424341	2007 <i>UD</i> ₁₃₁		2 10.9 192°56	4°1/ 6.9	18	
1 2	10 1.16	+11 50.9	2.416	3.165	13.2	22.3	1 2	10 0.87	+25 11.8	2.546	3.323	11.9	21.3
1 12	9 57.04	+12 10.3	2.338	3.185	10.5	22.1	1 12	9 57.06	+26 9.2	2.459	3.323	9.4	21.1
1 22	9 50.97	+12 39.7	2.283	3.204	7.3	22.0	1 22	9 51.17	+27 9.8	2.396	3.322	6.8	20.9
2 1	9 43.44	+13 16.0	2.255	3.224	3.8	21.8	2 1	9 43.65	+28 7.9	2.360	3.320	4.6	20.8
2 11	9 35.18	+13 55.3	2.256	3.243	0.1	21.5	2 11	9 35.21	+28 57.6	2.355	3.319	4.3	20.7
2 21	9 26.98	+14 33.3	2.288	3.262	3.6	21.8	2 21	9 26.72	+29 34.2	2.378	3.317	6.3	20.9
3 2	9 19.67	+15 6.3	2.350	3.280	7.1	22.1	3 2	9 19.06	+29 55.0	2.430	3.315	9.0	21.0
3 12	9 13.89	+15 31.9	2.438	3.299	10.1	22.3	3 12	9 12.97	+29 59.6	2.506	3.313	11.5	21.2
280814	2005 <i>UZ</i> ₈		2 10.9 115°94	4°3/ 8.0	17		311951	2007 <i>DY</i> ₆		2 10.9 200°87	4°4/ 7.3	18	
1 2	10 10.12	+22 4.9	1.716	2.495	16.7	21.4	1 2	10 3.05	+1				

EPHEMERIDES

2 10.9

2 11.0

2020	α_{2000}	δ_{2000}	Δ	r	β	V	2020	α_{2000}	δ_{2000}	Δ	r	β	V
469584	2003 YW ₁₇₉		2 10.9	18°47'	0°0'/10.4	15	219827	2002 CQ ₃₅		2 11.0	20°17'	1°7'/12.0	18
1 2	9 38.54	+15 51.6	35.390	36.139	1.0	22.5	1 12	9 57.72	+9 13.3	1.553	2.409	14.4	19.9
1 12	9 37.84	+15 55.5	35.290	36.140	0.8	22.5	1 22	9 52.11	+9 17.9	1.490	2.413	10.3	19.6
1 22	9 37.03	+15 59.8	35.217	36.142	0.5	22.4	2 1	9 44.29	+9 35.7	1.450	2.417	5.8	19.4
2 1	9 36.15	+16 4.3	35.173	36.144	0.3	22.4	2 11	9 35.25	+10 2.8	1.437	2.422	1.8	19.1
2 11	9 35.24	+16 8.9	35.159	36.145	0.0	22.3	2 21	9 26.18	+10 34.0	1.451	2.428	4.8	19.3
2 21	9 34.32	+16 13.4	35.176	36.147	0.3	22.4	3 2	9 18.31	+11 3.9	1.492	2.434	9.3	19.6
3 2	9 33.44	+16 17.7	35.223	36.149	0.6	22.4	3 12	9 12.63	+11 28.0	1.557	2.440	13.4	19.9
3 12	9 32.63	+16 21.5	35.299	36.150	0.8	22.5	3 22	9 9.67	+11 43.4	1.643	2.447	16.9	20.1
325292	2008 HO ₁₅		2 10.9	252°61'	0°1'/11.1	17	46615	1993 TT ₃₂		2 11.0	176°44'	1°3'/9.9	18
1 2	10 0.84	+10 51.1	2.209	2.961	14.2	22.2	1 12	9 56.58	+16 0.6	2.145	3.005	10.8	19.7
1 12	9 57.40	+11 21.9	2.095	2.944	11.5	22.0	1 22	9 50.94	+16 46.8	2.076	3.005	7.5	19.5
1 22	9 51.68	+12 6.6	2.003	2.925	8.1	21.7	2 1	9 43.58	+17 38.6	2.034	3.006	3.8	19.3
2 1	9 44.06	+13 2.2	1.937	2.906	4.2	21.4	2 11	9 35.25	+18 30.8	2.021	3.006	1.4	19.1
2 11	9 35.23	+14 4.1	1.900	2.887	0.1	21.0	2 21	9 26.85	+19 17.9	2.038	3.006	4.6	19.3
2 21	9 26.11	+15 6.5	1.894	2.867	4.3	21.4	3 2	9 19.32	+19 55.7	2.083	3.006	8.3	19.6
3 2	9 17.72	+16 3.5	1.916	2.847	8.4	21.6	3 12	9 13.43	+20 21.6	2.154	3.006	11.5	19.8
3 12	9 10.96	+16 50.9	1.965	2.826	12.1	21.8	3 22	9 9.69	+20 34.9	2.246	3.006	14.3	20.0
495536	2014 WK ₈₂		2 10.9	182°39'	2°8'/8.6	18	467349	2003 HR ₅₂		2 11.0	293°29'	6°9'/5.5	16
1 2	10 3.29	+19 6.1	2.108	2.881	14.2	22.0	1 12	10 0.72	+30 30.6	1.758	2.627	12.3	20.9
1 12	9 59.36	+19 58.9	2.018	2.882	11.2	21.8	1 22	9 54.49	+31 46.4	1.686	2.608	9.4	20.6
1 22	9 52.99	+21 0.3	1.952	2.882	7.8	21.6	2 1	9 45.68	+32 56.5	1.638	2.589	7.2	20.5
2 1	9 44.67	+22 4.6	1.912	2.882	4.3	21.4	2 11	9 35.27	+33 50.9	1.618	2.569	7.4	20.4
2 11	9 35.23	+23 4.8	1.902	2.881	3.0	21.3	2 21	9 24.58	+34 22.4	1.624	2.550	9.8	20.5
2 21	9 25.70	+23 54.7	1.921	2.880	5.9	21.5	3 2	9 15.07	+34 27.3	1.656	2.531	13.1	20.7
3 2	9 17.15	+24 30.1	1.968	2.878	9.5	21.7	3 12	9 7.93	+34 6.6	1.709	2.511	16.2	20.8
3 12	9 10.48	+24 49.3	2.041	2.876	12.7	21.9	3 22	9 3.85	+33 24.3	1.779	2.492	19.0	21.0
136123	2003 QK ₄₀		2 10.9	158°12'	0°4'/10.7	18	413942	2006 YW ₂₁		2 11.0	71°39'	3°7'/8.3	18
1 2	10 5.08	+13 0.9	1.987	2.744	15.4	21.4	1 12	9 59.80	+21 1.9	1.619	2.492	13.0	20.8
1 12	10 0.77	+13 23.3	1.899	2.751	12.3	21.2	1 22	9 53.46	+22 12.6	1.576	2.510	9.0	20.6
1 22	9 53.96	+13 57.6	1.832	2.757	8.6	21.0	2 1	9 44.92	+23 24.3	1.559	2.528	5.1	20.4
2 1	9 45.15	+14 40.0	1.792	2.762	4.4	20.8	2 11	9 35.27	+24 28.2	1.569	2.547	3.9	20.4
2 11	9 35.23	+15 25.1	1.780	2.767	0.4	20.4	2 21	9 25.76	+25 17.3	1.607	2.565	7.0	20.6
2 21	9 25.27	+16 7.4	1.798	2.771	4.6	20.8	3 2	9 17.63	+25 47.5	1.672	2.583	10.8	20.9
3 2	9 16.38	+16 42.1	1.845	2.774	8.8	21.0	3 12	9 11.80	+25 58.2	1.760	2.601	14.2	21.1
3 12	9 9.46	+17 6.4	1.918	2.777	12.4	21.3	3 22	9 8.74	+25 51.3	1.867	2.619	17.0	21.3
468529	2005 YN ₁₉₂		2 10.9	353°14'	0°4'/11.2	18	519860	2013 NW ₂₈		2 11.0	146°52'	1°0'/10.1	18
1 2	10 0.71	+12 28.9	1.723	2.498	16.8	21.4	1 12	9 57.90	+14 42.9	2.206	3.060	10.8	22.0
1 12	9 57.76	+12 27.5	1.634	2.496	13.5	21.1	1 22	9 51.78	+15 35.8	2.142	3.068	7.4	21.8
1 22	9 52.12	+12 38.3	1.565	2.493	9.5	20.9	2 1	9 43.99	+16 35.2	2.106	3.077	3.7	21.6
2 1	9 44.30	+12 58.8	1.521	2.491	5.0	20.6	2 11	9 35.28	+17 35.5	2.099	3.085	1.0	21.4
2 11	9 35.24	+13 24.3	1.503	2.490	0.4	20.2	2 21	9 26.54	+18 31.2	2.123	3.092	4.4	21.7
2 21	9 26.09	+13 49.9	1.514	2.489	4.8	20.6	3 2	9 18.69	+19 17.8	2.176	3.099	8.0	21.9
3 2	9 18.07	+14 10.7	1.551	2.489	9.4	20.9	3 12	9 12.48	+19 52.6	2.255	3.105	11.2	22.1
3 12	9 12.17	+14 23.4	1.612	2.489	13.4	21.1	3 22	9 8.38	+20 14.6	2.357	3.111	13.8	22.3
182144	2000 SN ₄₇		2 10.9	168°01'	4°6'/15.4	18	344569	2002 XL ₁₁₆		2 11.0	0°60'	2°9'/8.7	17
1 2	10 0.34	- 2 58.8	2.534	3.214	14.3	20.7	1 12	9 56.37	+21 2.6	1.976	2.846	11.1	20.2
1 12	9 56.45	- 3 6.0	2.433	3.219	12.1	20.5	1 22	9 50.93	+21 44.5	1.913	2.845	7.7	20.0
1 22	9 50.66	- 2 55.8	2.353	3.223	9.6	20.3	2 1	9 43.62	+22 27.6	1.875	2.845	4.3	19.8
2 1	9 43.37	- 2 27.8	2.297	3.226	6.9	20.2	2 11	9 35.28	+23 6.1	1.866	2.845	3.0	19.7
2 11	9 35.24	- 1 43.5	2.269	3.229	4.9	20.0	2 21	9 26.91	+23 34.7	1.885	2.845	5.8	19.9
2 21	9 27.02	- 0 46.2	2.271	3.231	5.0	20.0	3 2	9 19.53	+23 50.0	1.931	2.846	9.3	20.1
3 2	9 19.50	+ 0 19.2	2.303	3.233	7.2	20.2	3 12	9 13.98	+23 50.8	2.002	2.847	12.6	20.3
3 12	9 13.38	+ 1 27.2	2.362	3.234	9.9	20.4	3 22	9 10.76	+23 37.9	2.093	2.849	15.3	20.5
210299	2007 TE ₁₀₉		2 10.9	226°70'	1°4'/11.9	18	212064	2005 EZ ₃₅		2 11.0	297°59'	3°0'/12.7	17
1 2	10 4.38	+ 8 39.6	1.985	2.729	15.9	21.4	1 12	9 58.73	+ 5 53.5	1.563	2.407	15.0	20.3
1 12	10 0.41	+ 8 43.9	1.877	2.718	13.0	21.2	1 22	9 53.31	+ 5 59.7	1.457	2.372	11.2	20.0
1 22	9 53.89	+ 9 2.5	1.791	2.707	9.4	20.9	2 1	9 45.24	+ 6 24.1	1.375	2.336	6.9	19.6
2 1	9 45.22	+ 9 33.9	1.730	2.695	5.2	20.7	2 11	9 35.28	+ 7 4.6	1.318	2.300	3.1	19.3
2 11	9 35.24	+10 14.1	1.698	2.683	1.5	20.4	2 21	9 24.62	+ 7 56.4	1.289	2.264	5.5	19.4
2 21	9 24.99	+10 58.3	1.695	2.669	4.4	20.6	3 2	9 14.69	+ 8 52.6	1.286	2.228	10.5	19.6
3 2	9 15.64	+11 40.9	1.720	2.656	8.8	20.8	3 12	9 6.86	+ 9 46.1	1.307	2.191	15.4	19.7
3 12	9 8.20	+12 17.4	1.772	2.641	12.8	21.0	3 22	9 2.06	+10 31.2	1.348	2.155	19.8	19.9
55420	2001 TV ₂₀		2 10.9	87°43'	9°0'/19.9	18	29245	1992 PZ		2 11.0	138°82'	0°8'/11.7	18
1 2	9 59.28	-15 23.9	2.553	3.152	15.8	18.5	1 12	9 58.56	+10 0.6	2.008	2.852	12.1	19.4
1 12	9 55.68	-16 30.4	2.462	3.161	14.2	18.4	1 22	9 52.33	+10 26.4	1.941	2.860	8.6	19.2
1 22	9 50.17	-17 16.9	2.388	3.170	12.5	18.2	2 1	9 44.30	+11 2.6	1.900	2.868	4.6	19.0
2 1	9 43.14	-17 39.9	2.336	3.178	10.8	18.1	2 11	9 35.29	+11 44.9	1.889	2.875	0.9	18.7
2 11	9 35.24	-17 37.7	2.307	3.187	9.4	18.1	2 21	9 26.25	+12 28.5	1.907	2.882	4.0	19.0
2 21	9 27.25	-17 11.0	2.303	3.196	9.0	18.0	3 2	9 18.17	+13 8.5	1.954	2.888	8.0	19.2
3 2	9 19.17	-16 23.3	2.326	3.204	9.6	18.1	3 12	9 11.86	+13 41.2	2.026	2.894	11.5	19.4
3 12	9 14.92	-15 20.2	2.373	3.213	11.0	18.2	3 22	9 7.83	+14 4.6	2.121	2.900	14.4	19.7
426436	2013 QN ₃₆		2 10.9	114°77'	0°7'/10.4	18	110012	2001 SL ₆₈		2 11.0	38°29'	4°5'/8.0	18
1 2	10 3.68	+14 45.3	2.276	3.032	13.7	22.4	1 12	9 58.94	+22 25.6	1.377	2.259	14.2	18.3
1													